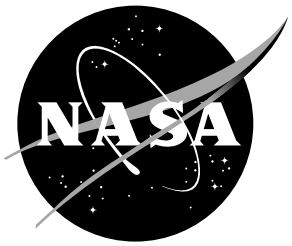
NASA/TM—2017–219094



Blade Displacement Measurements During the NFAC UH-60A Airloads Test

Volume II—Selected Data and Plots

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August 2017

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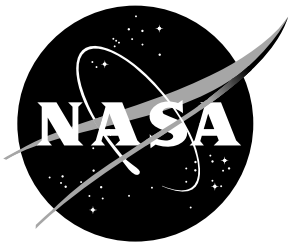
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Overview

This is the second volume of the final report for the Blade Displacement (BD) measurements taken during the National Full-Scale Aerodynamics Complex (NFAC) UH-60A Airloads Test. Selected plots and data for all of the primary blade displacement data sets are presented. Plots and data are also included for selected secondary data sets and for several reference data sets where the rotor was set to a common reference condition. The BD data presented here are averages derived from multiple image sets and have estimated corrections applied that account for registration errors due to blade elasticity. This document comes with a companion, text-file database that has this same averaged data formatted as comma separated values (cvs), along with the data for the individual image sets and the values of the corrections used.

Due to the large number of pages in this volume of the report, it is only intended to be used as an electronic document. (Printing it out in its entirety would require several reams of paper, so it is not recommended.) Most PDF readers should be able to display this document and allow use of the Table of Contents to quickly navigate to any desired chapter or section. Navigation sidebars, such as the one shown in Figure A for Adobe Acrobat Reader, are another convenient method for rapid navigation of this document. In some PDF readers, such as Preview for Apple OS X, using the up and down arrow keys within the sidebar enables a fast, movie-like iteration over the plots.

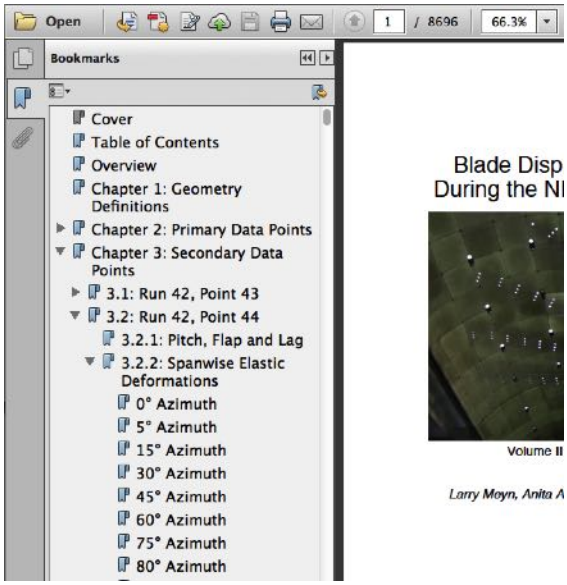


Figure A. PDF naviation sidebar in Adobe Acrobat Reader.

Data Issues

While the BD team has high confidence in most of the data presented here, there are a couple of caveats. First, the estimate lag angle values may have significant offset errors due to the potential that the rotor azimuth values used in data reduction may have had errors of 1 to 2 degrees. This was initially suspected because the estimated lag values differed by 1 to 2 degrees from the lag measured using hub mounted instrumentation. Examination of targets on the instrumentation hat, as presented in Volume I: Appendix E.3, show run-to-run discrepancies of hat target locations for identical rotor azimuth values. This indicates that there may be an issue with the value of the rotor azimuth used in reducing the data. The source of this discrepancy is not known, but it may be due to a time lag in either receiving the azimuth value from the wind tunnel data system or in triggering the photogrammetry data acquisitions. This may be correctable by using the hat targets to determine azimuth, but this process was not developed due to time and resource constraints.

The second caveat is that there are occasional data outliers. Some of these may be due to centroiding errors, but an effort was made to find and correct most of these. A second source of outliers in spanwise deformation data is

when the data is determined from more than one set of camera combinations. Each camera calibration has bias errors, which lead to bias errors in target positions determined for each set of camera combinations. When the same set of cameras is used for all targets on a blade, they have a common bias error. This common bias error will affect pitch, flap, and lag estimates, but should not affect the spanwise variation of elastic deformation estimates. However, if the inboard targets use one set of cameras and the outboard targets use a different set of cameras, the different bias errors for the two sets may cause a discontinuity in the spanwise distribution of estimated target positions, which results in a discontinuity in the spanwise variation of elastic deformation estimates. For most of the data presented, only one set of cameras was used for all targets on a blade for a specific azimuth and test condition. However, there are some cases where all the targets were not visible to each camera, so more than one camera combination was used to get data for all of the visible targets. In these cases the differing bias errors can result in discontinuities in the spanwise variation of elastic deformation estimates.

Be aware that if outliers are present in the first few spanwise radial stations of the elastic deformation data for a blade, their presence may lead to errors in the corresponding estimates of the pitch, flap, and lag angles.

Refer to Volume I for more information on data issues.

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1 Geometry

This chapter gives a quick overview of the geometric definitions and procedures used for the data presented in the following chapters. For more extensive information, please refer to Volume I.

Blade Position and Orientation

For the UH-60A Airloads Wind Tunnel Test, the rotor hub and blades were mounted to the Large Rotor Test Apparatus (LRTA), which was mounted on struts in the wind tunnel test section. The tail strut was extended or retracted to change the angle of attack, α. The test section turntable was not used to change the yaw angle. Geometrically, all measurements are referenced to the center and plane of rotation of the rotor hub. When the LRTA is at a nonzero angle of attack, the reference coordinate system moves with the hub center and its plane of rotation as they are rotated about ball sockets on the main strut tips. The UH-60A has four rotor blades numbered 1 through 4 as shown in Fig. 1.1. The rotor hub/shaft rotation angle or shaft azimuth, ψ_{shaft}, is defined as zero when the principal quarter-chord line of blade 1, at zero lag angle, is aligned with the aft centerline of the LRTA. Blade position and orientation are defined by four rigid body rotation angles applied with respect to the reference orientation of each blade at 0° azimuth. These four angles, in the order of application, are pitch, θ, flap, β, lag, ζ, and blade azimuth, ψ.

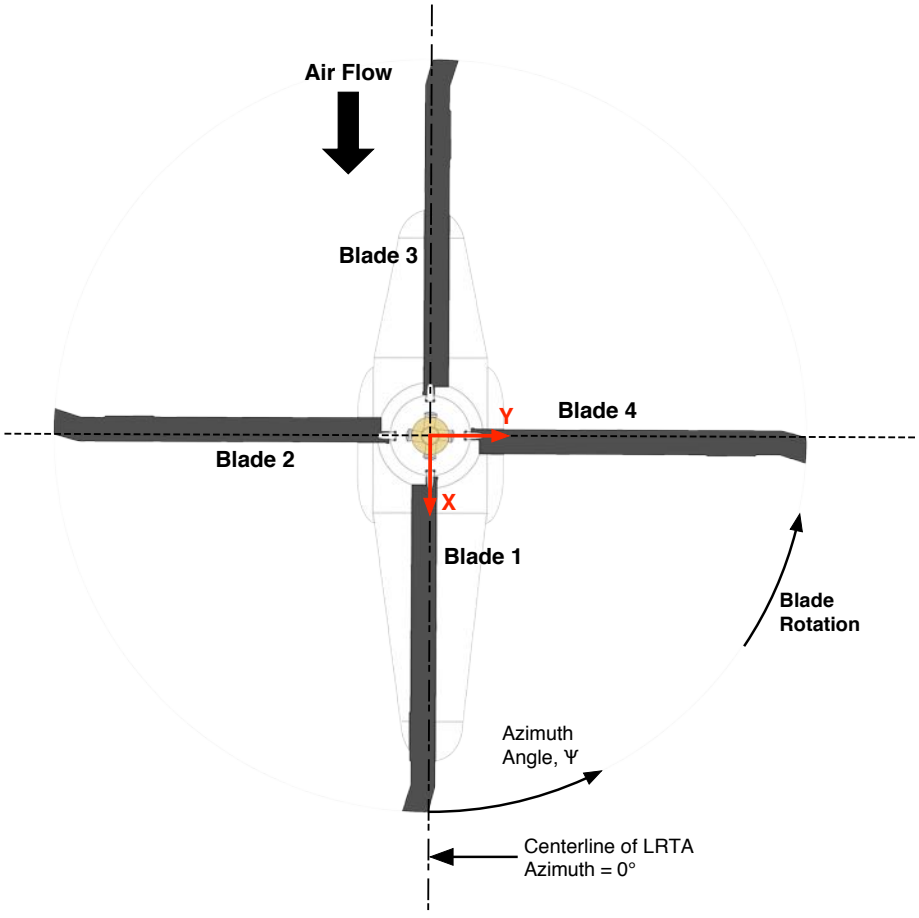


Figure 1.1. Top view schematic of UH-60A rotor installation.

To show how these angles are defined, a simplified representation of the rotor blade is used. The UH-60A rotor blade has a complex shape with the airfoil profile, twist, and sweep all varying along the span. However, pitch, flap, lag, and later, deformations, can be thought of as being applied to a rectangular cylinder or bounding box that encompasses the blade in 3-D space. Figure 1.2 shows an end view of this bounding box with a selection of the UH-60A airfoil profiles from different radial stations. Pitch, θ, is the first rotation angle applied to a blade's

reference geometry. As shown in Fig. 1.3, the blade is rotated in the vertical yz plane about its quarter-chord line, which is coincident with the x-axis of the hub coordinate system. Second, the blade is rotated in the vertical xz plane about its hinge point by the flap angle, β, is shown in Fig. 1.4. Third, is a horizontal rotation about the hinge point by the lag angle, ζ, as shown in Fig. 1.5. Finally, the blade and hub are rotated together in the hub rotation plane about the hub center by the blade azimuth angle, ψ, as shown in Fig. 1.5.

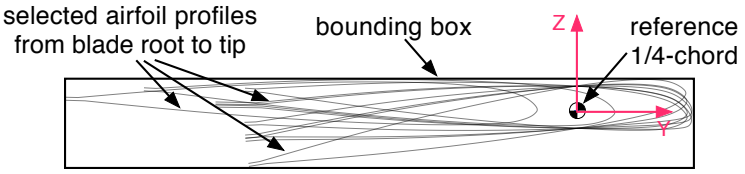


Figure 1.2. End view of the bounding box encompassing the UH-60A rotor blade.

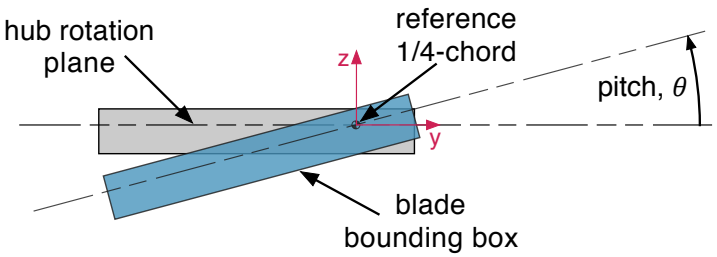


Figure 1.3. Pitch angle definition.

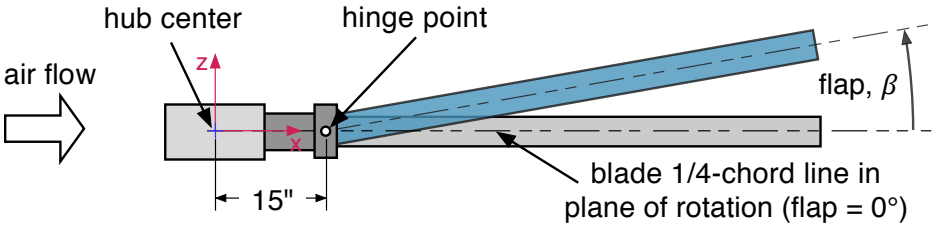


Figure 1.4. Flap angle definition.

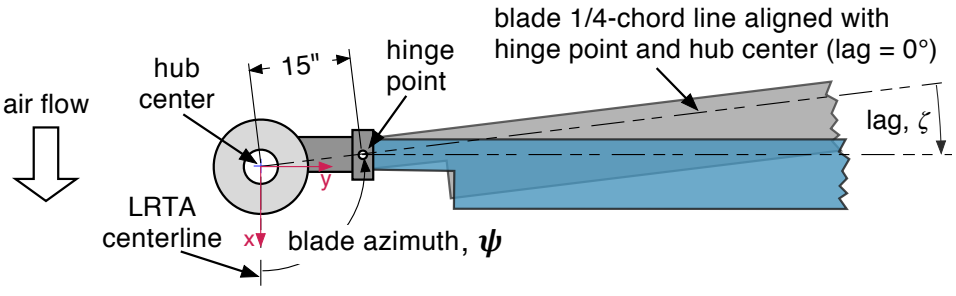


Figure 1.5. Lag and blade azimuth angle definitions.

Elastic Blade Deformations

Elastic blade deformation variables represent the subtraction, in the blade reference coordinate system, of rigid blade geometry from the measured, elastically deformed blade geometry. These variables, Δx, Δy, Δz, and Δtwist, are defined for the locations along the quarter chord as shown in Fig. 1.6. It is assumed that the rigid blade and the elastically deformed blade have the same pitch, flap, lag, and azimuth orientation at the blade root. Errors in the estimated blade root orientation propagate into errors in the elastic deformation variables.

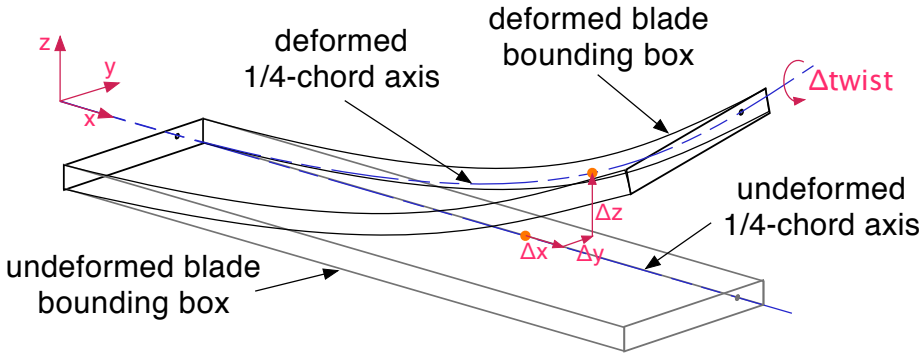


Figure 1.6. Deformation variable definitions.

Position and Orientation Errors Due to Blade Elasticity

The photogrammetry system measures the 3D locations of registration targets on each blade. The approximate locations of these targets in the blade reference coordinate system is shown in Fig. 1.7. The first four inboard rows of targets are used to estimate the pitch, flap, and lag of a blade from the measured target locations. The blade azimuth is first determined from the blade number and the shaft azimuth provided by a transducer on the rotor shaft. Then a least-squares regression is used to determine the pitch, flap, and lag angles that provide the best transformation of the reference target positions for the first four rows of targets to match the corresponding measured target positions. This provides the initial, uncorrected pitch, flap, and lag values.

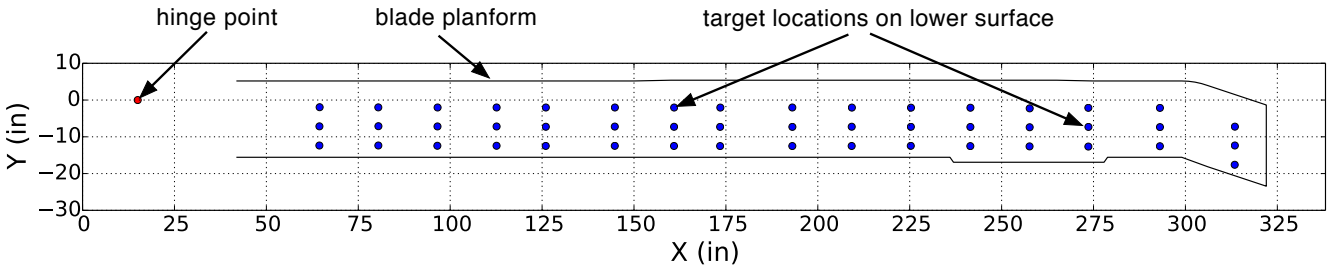


Figure 1.7. Horizontal position of photogrammetry targets in blade reference coordinates.

Due to elastic deformation of the measured blade, this registration process can lead to errors in the estimated blade position and orientation. This is illustrated in Fig. 1.8, which shows a hypothetical registration to estimate the flap angle. The green xz axes show the actual flap angle, β_{actual}, and the green line represents the deformed quarter-chord line of the measured blade. The dots along the line represent registration target rows. The blue xz axes show the estimated flap angle, $\beta_{estimated}$, that is found when fitting the reference target locations for the first four rows to the corresponding measured target locations. The difference in these two angles is the flap angle error due to blade elasticity. Similar errors occur for pitch and lag.

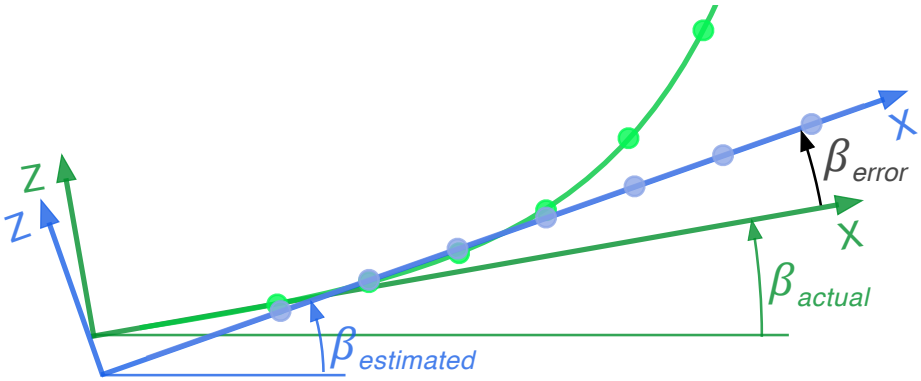


Figure 1.8. Illustration of flap angle estimate error due to blade elasticity.

The data presented in this document have had corrections applied to account for these errors. These corrections are based on the following assumptions and procedures.

1) For the pitch angle correction, it is assumed that Δtwist is zero at the hinge point and that the first derivative of Δtwist with respect to x is also zero at the hinge point. The pitch angle correction is based on a cubic fit of the inital Δtwist estimates for the first three inboard rows. Application of pitch angle correction results in a zero value for Δtwist at the hinge point.
2) For the flap angle correction, it is assumed that Δz is zero at the hinge point and that the first and second derivatives of Δz with respect to x are also zero at the hinge point. The flap angle correction is based on a cubic fit of the Δz estimates for the first five inboard rows after the pitch angle correction has been applied. Both a flap angle correction and a Δz correction are determined. The Δz correction is determined and applied to enforce a zero value for Δz at the hinge point.
3) For the lag angle correction, it is assumed that Δy is zero at the hinge point and that the first and second derivatives of Δy with respect to x are also zero at the hinge point. The lag angle correction is based on a cubic fit of the Δy estimates for the first five inboard rows after the pitch, flap, and Δz corrections have been applied. Both a lag angle correction and a Δy correction are determined. The Δy correction is determined and applied to enforce a zero value for Δy at the hinge point.

Note that no corrections have been determined for or applied to the Δx values.

2 Primary Data Points

Table 2-1. List of blade displacement Primary points.

Run	Start Point	End Point	CT/sigma	AdvRatio	Alpha (deg)	# Images
38	19	23	0.08	0.15	-1.7	60
38	27	27	0.081	0.241	-3	15
40	29	34	0.081	0.35	-6.9	60
42	11	14	0.08	0.15	-0	60
42	46	49	0.127	0.24	-0	60
42	60	63	0.1	0.3	-0	60
43	8	11	0.08	0.15	-4	60
43	28	31	0.08	0.15	-4	60
47	10	15	0.087	0.305	-4.82	60
47	33	37	0.1	0.3	-4.5	60
47	52	58	0.122	0.237	-1.37	60
50	12	15	0.08	0.15	4	60
53	20	25	0.081	0.371	-8.4	60
53	34	39	0.081	0.4	-10	60
60	28	29	0.118	0.245	-1.89	60
67	14	18	0.07	0.3	-0.6	60
67	34	39	0.071	0.152	4.76	60
81	12	16	0.11	0.24	-0	60
83	70	74	0.081	0.349	-6.9	60
87	37	41	0.012	0.6	-0	60
91	37	40	0.019	0.599	-0	60
91	68	73	0.019	1	-0	60
93	32	36	0.048	0.599	4	60
95	31	36	0.061	1.001	4	60
96	9	13	0.046	0.6	2	60
96	17	21	0.042	1.001	2	60
98	16	19	0.08	0.149	8	60
98	41	44	0.079	0.299	8	60
98	48	51	0.081	0.299	4	60

2.1 Run 38, Points 19 to 23

2.1.1 Pitch, Flap, and Lag

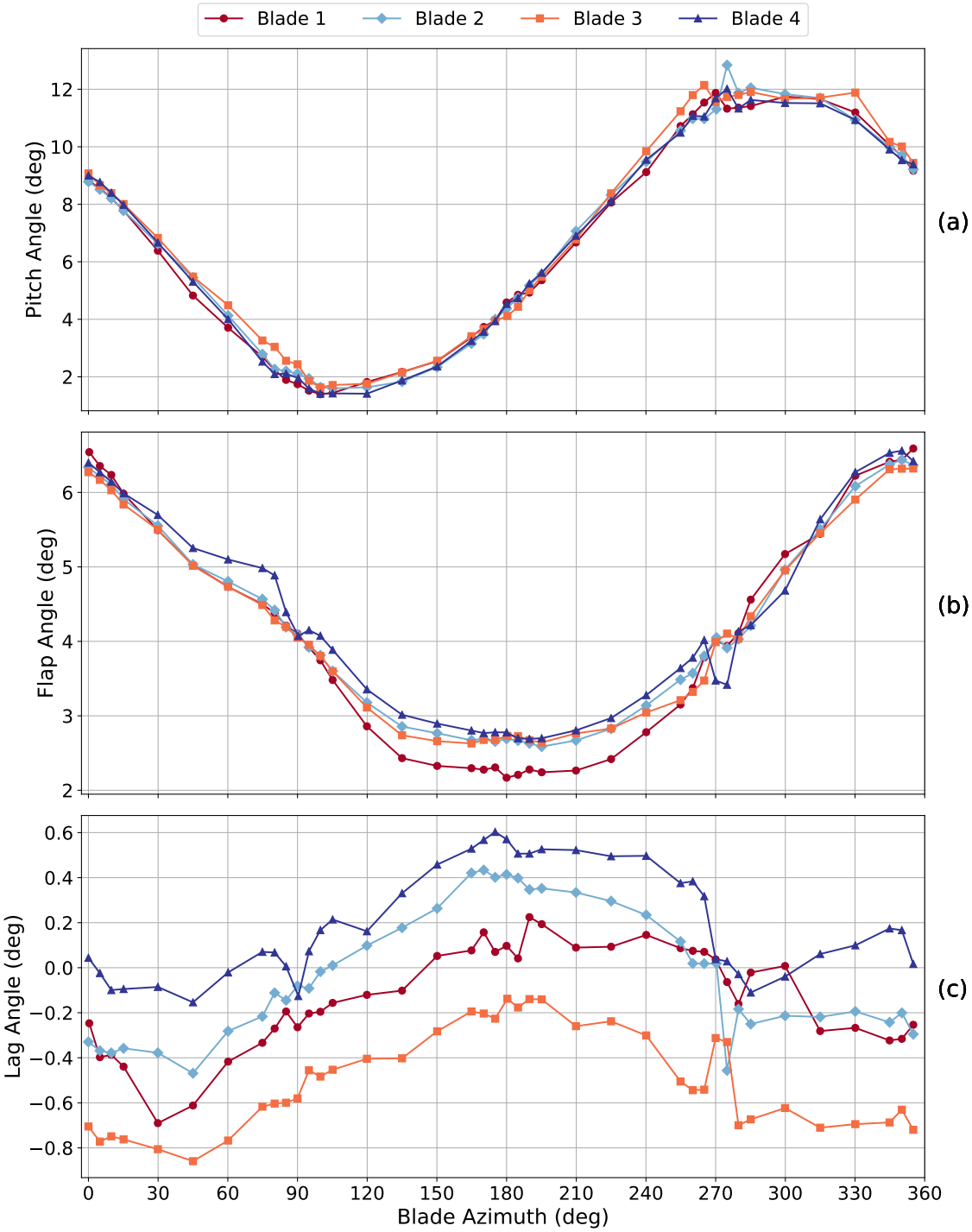


Figure 2.1-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	8.7956	6.5416	-0.2467	0.0830	0.0440	0.0293
4.92	8.5635	6.3550	-0.3973	0.0696	0.0338	0.0295
9.84	8.2100	6.2352	-0.3868	0.0621	0.0344	0.0256
15.12	7.7857	5.9834	-0.4392	0.0720	0.0421	0.0245
29.88	6.3857	5.4939	-0.6902	0.0712	0.0462	0.0392
45	4.8263	5.0251	-0.6119	0.0631	0.0364	0.0230
60.12	3.7073	4.7331	-0.4170	0.0436	0.0413	0.0193
74.88	2.7006	4.4990	-0.3334	0.0643	0.0462	0.0229
80.16	2.2355	4.3809	-0.2701	0.0645	0.0463	0.0231
85.08	1.8936	4.2109	-0.1944	0.0558	0.0434	0.0337
90	1.7444	4.1036	-0.2644	0.1218	0.0657	0.0372
94.92	1.5184	3.9190	-0.2034	0.0498	0.0248	0.0290
99.84	1.3932	3.7459	-0.1956	0.0436	0.0291	0.0145
105.12	1.4398	3.4814	-0.1561	0.0461	0.0436	0.0138
119.88	1.8198	2.8588	-0.1205	0.0333	0.0296	0.0423
135	2.1678	2.4316	-0.1017	0.0457	0.0393	0.0317
150.12	2.5431	2.3271	0.0522	0.0461	0.0344	0.0244
164.88	3.3763	2.2963	0.0768	0.0524	0.0348	0.0311
170.16	3.7338	2.2769	0.1572	0.0642	0.0331	0.0220
175.08	3.9595	2.3067	0.0702	0.0617	0.0409	0.0205
180	4.5869	2.1686	0.0971	0.0514	0.0369	0.0297
184.92	4.8518	2.2079	0.0414	0.0623	0.0412	0.0292
189.84	4.9276	2.2790	0.2246	0.0538	0.0386	0.0209
195.12	5.3601	2.2416	0.1935	0.0523	0.0174	0.0239
209.88	6.6731	2.2649	0.0894	0.0498	0.0457	0.0244
225	8.0596	2.4191	0.0932	0.0526	0.0355	0.0174
240.12	9.1180	2.7803	0.1457	0.0524	0.0419	0.0234
254.88	10.7199	3.1521	0.0867	0.1065	0.0496	0.0310
260.16	11.1293	3.3727	0.0750	0.4645	0.1928	0.1015
265.08	11.5371	3.7832	0.0704	0.2966	0.1109	0.0457
270	11.8728	4.0161	0.0369	0.6729	0.2908	0.1277
274.92	11.3243	3.9386	-0.0638	0.0625	0.0581	0.0257
279.84	11.3600	4.1096	-0.1611	0.0887	0.0237	0.0288
285.12	11.4146	4.5601	-0.0215	0.0781	0.0356	0.0221
299.88	11.7435	5.1721	0.0078	0.0619	0.0380	0.0284
315	11.6580	5.4448	-0.2812	0.0687	0.0390	0.0286
330.12	11.1934	6.2247	-0.2671	0.0588	0.0346	0.0247
344.88	10.0626	6.4123	-0.3229	0.0570	0.0273	0.0278
350.16	9.6713	6.4377	-0.3158	0.0603	0.0336	0.0241
355.08	9.1662	6.5900	-0.2534	0.1012	0.0428	0.0387

Table 2.1-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	8.7857	6.3397	-0.3295	0.0673	0.0380	0.0265
4.92	8.5163	6.2108	-0.3686	0.0914	0.0407	0.0316
9.84	8.2096	6.1107	-0.3783	0.0715	0.0326	0.0180
15.12	7.7790	5.9107	-0.3580	0.0698	0.0281	0.0197
29.88	6.6246	5.5537	-0.3778	0.0666	0.0411	0.0300
45	5.4553	5.0331	-0.4687	0.0567	0.0508	0.0274
60.12	4.1301	4.8048	-0.2816	0.0565	0.0455	0.0268
74.88	2.7893	4.5669	-0.2162	0.0681	0.0392	0.0324
80.16	2.2646	4.4191	-0.1117	0.0868	0.0407	0.0239
85.08	2.2005	4.1909	-0.1449	0.0453	0.0407	0.0166
90	2.1098	4.0893	-0.0808	0.0462	0.0371	0.0254
94.92	1.9417	3.9211	-0.0917	0.0439	0.0409	0.0247
99.84	1.6373	3.8123	-0.0174	0.0417	0.0456	0.0182
105.12	1.5973	3.6017	0.0100	0.0425	0.0322	0.0216
119.88	1.6359	3.1782	0.0983	0.0589	0.0409	0.0201
135	1.8303	2.8561	0.1775	0.0631	0.0389	0.0199
150.12	2.3368	2.7658	0.2636	0.0481	0.0325	0.0268
164.88	3.1591	2.6721	0.4208	0.0483	0.0257	0.0272
170.16	3.4841	2.6934	0.4337	0.0531	0.0374	0.0245
175.08	4.0001	2.6547	0.4016	0.0673	0.0320	0.0286
180	4.3690	2.6905	0.4145	0.0576	0.0311	0.0209
184.92	4.7491	2.6667	0.3982	0.0666	0.0238	0.0234
189.84	5.1763	2.6307	0.3473	0.0577	0.0305	0.0215
195.12	5.5661	2.5861	0.3522	0.0546	0.0177	0.0252
209.88	7.0648	2.6693	0.3342	0.0725	0.0264	0.0347
225	8.3226	2.8270	0.2957	0.0571	0.0341	0.0220
240.12	9.4781	3.1389	0.2343	0.0480	0.0360	0.0255
254.88	10.5639	3.4857	0.1162	0.0691	0.0360	0.0222
260.16	10.9763	3.5721	0.0189	0.0859	0.0387	0.0169
265.08	10.9734	3.8039	0.0183	0.1535	0.0647	0.0375
270.35	11.3090	4.0514	0.0182	0.2685	0.0947	0.0416
274.92	12.8411	3.9115	-0.4563	0.6278	0.4023	0.1526
279.84	11.8679	4.0303	-0.1840	0.1030	0.0461	0.0270
285.12	12.0504	4.2119	-0.2501	0.0661	0.0553	0.0345
299.88	11.8318	4.9621	-0.2134	0.0748	0.0522	0.0269
315	11.6930	5.5044	-0.2188	0.0578	0.0497	0.0226
330.12	10.9354	6.0840	-0.1941	0.0526	0.0299	0.0264
344.88	9.9895	6.3745	-0.2423	0.0535	0.0174	0.0206
350.16	9.7114	6.4398	-0.2005	0.0522	0.0398	0.0258
355.08	9.2148	6.3632	-0.2952	0.0817	0.0302	0.0342

Table 2.1-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	9.0750	6.2723	-0.7051	0.0795	0.0397	0.0289
4.92	8.6637	6.1690	-0.7721	0.0756	0.0348	0.0270
9.84	8.3851	6.0292	-0.7488	0.0718	0.0408	0.0191
15.12	8.0090	5.8391	-0.7625	0.0626	0.0389	0.0308
29.88	6.8291	5.5003	-0.8059	0.0545	0.0262	0.0192
45	5.4852	5.0149	-0.8591	0.0608	0.0385	0.0225
60.12	4.4884	4.7338	-0.7674	0.0635	0.0290	0.0293
74.88	3.2640	4.4878	-0.6171	0.0704	0.0451	0.0256
80.16	3.0414	4.2811	-0.6032	0.0719	0.0357	0.0222
85.08	2.5578	4.1948	-0.5994	0.0849	0.0445	0.0318
90	2.4345	4.0511	-0.5806	0.0790	0.0476	0.0198
94.92	1.8634	3.9542	-0.4555	0.0498	0.0428	0.0263
99.84	1.6316	3.8047	-0.4833	0.0421	0.0420	0.0188
105.12	1.7150	3.5973	-0.4531	0.0387	0.0344	0.0254
119.88	1.7582	3.1116	-0.4043	0.0560	0.0303	0.0271
135	2.1555	2.7388	-0.4024	0.0515	0.0374	0.0194
150.12	2.5590	2.6600	-0.2824	0.0476	0.0315	0.0230
164.88	3.4126	2.6286	-0.1943	0.0572	0.0335	0.0227
170.16	3.6607	2.6768	-0.2035	0.0552	0.0372	0.0186
175.08	3.9542	2.6770	-0.2263	0.0470	0.0385	0.0410
180.35	4.1138	2.7305	-0.1377	0.0632	0.0403	0.0277
184.92	4.4348	2.7261	-0.1767	0.0423	0.0362	0.0215
189.84	5.0111	2.6719	-0.1393	0.0521	0.0343	0.0276
195.12	5.4787	2.6417	-0.1405	0.0615	0.0424	0.0233
209.88	6.7779	2.7638	-0.2596	0.0646	0.0417	0.0362
225	8.3806	2.8295	-0.2379	0.0591	0.0586	0.0170
240.12	9.8455	3.0438	-0.3007	0.0437	0.0392	0.0241
254.88	11.2348	3.2105	-0.5053	0.0704	0.0307	0.0215
260.16	11.7984	3.3211	-0.5439	0.1126	0.0499	0.0355
265.08	12.1477	3.4743	-0.5414	0.2776	0.1091	0.0584
270	11.5546	3.9892	-0.3123	0.2652	0.0982	0.0408
274.92	11.7304	4.1040	-0.3302	0.5926	0.2073	0.0761
279.84	11.8015	4.0362	-0.6995	0.0914	0.0286	0.0295
285.12	11.9050	4.3357	-0.6735	0.0804	0.0331	0.0226
299.88	11.6604	4.9539	-0.6232	0.1248	0.0541	0.0320
315	11.7086	5.4547	-0.7104	0.0746	0.0416	0.0308
330.12	11.8831	5.9036	-0.6946	0.0530	0.0334	0.0259
344.88	10.1703	6.3112	-0.6872	0.0649	0.0376	0.0258
350.16	10.0066	6.3188	-0.6305	0.0495	0.0227	0.0239
355.08	9.4373	6.3213	-0.7197	0.0753	0.0336	0.0322

Table 2.1-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	8.9981	6.3994	0.0439	0.0813	0.0352	0.0209
4.92	8.7716	6.2709	-0.0240	0.0841	0.0462	0.0336
9.84	8.4000	6.1439	-0.0995	0.0666	0.0389	0.0214
15.12	7.9784	5.9878	-0.0947	0.0660	0.0383	0.0212
29.88	6.6673	5.6972	-0.0854	0.0601	0.0350	0.0241
45	5.3066	5.2533	-0.1537	0.0598	0.0367	0.0143
60.12	4.0039	5.0995	-0.0210	0.0448	0.0371	0.0223
74.88	2.5284	4.9837	0.0704	0.0563	0.0380	0.0251
80.16	2.0945	4.8855	0.0676	0.0639	0.0418	0.0184
85.08	2.1099	4.3920	0.0059	0.0386	0.0484	0.0369
90.35	1.9524	4.0719	-0.1260	0.0440	0.0316	0.0308
94.92	1.5918	4.1504	0.0729	0.0442	0.0294	0.0238
99.84	1.4131	4.0745	0.1669	0.0403	0.0342	0.0219
105.12	1.4233	3.8859	0.2142	0.0443	0.0305	0.0234
119.88	1.4132	3.3547	0.1618	0.0569	0.0414	0.0336
135	1.8719	3.0142	0.3307	0.0437	0.0461	0.0189
150.12	2.3611	2.8957	0.4579	0.0442	0.0331	0.0252
164.88	3.2442	2.8023	0.5286	0.0627	0.0258	0.0252
170.16	3.5672	2.7679	0.5673	0.0515	0.0317	0.0262
175.08	3.9350	2.7789	0.6029	0.0534	0.0344	0.0287
180	4.5342	2.7769	0.5705	0.0524	0.0330	0.0248
184.92	4.7324	2.6976	0.5066	0.0470	0.0315	0.0322
189.84	5.2435	2.6908	0.5066	0.0651	0.0394	0.0205
195.12	5.6186	2.6986	0.5260	0.0542	0.0246	0.0238
209.88	6.9056	2.8045	0.5223	0.0801	0.0479	0.0426
225	8.1156	2.9698	0.4949	0.0750	0.0442	0.0298
240.12	9.5487	3.2775	0.4969	0.0543	0.0484	0.0327
254.88	10.4889	3.6413	0.3755	0.1027	0.0331	0.0297
260.16	11.0758	3.7799	0.3835	0.1275	0.0443	0.0239
265.08	11.0494	4.0173	0.3175	0.2275	0.0717	0.0337
270	11.6860	3.4739	0.0380	0.2788	0.1821	0.0699
274.92	12.0140	3.4168	0.0281	0.3873	0.3240	0.1174
279.84	11.3300	4.1340	-0.0289	0.0639	0.0579	0.0396
285.12	11.6287	4.2169	-0.1103	0.0808	0.0474	0.0397
299.88	11.5224	4.6818	-0.0394	0.0601	0.0409	0.0257
315	11.5097	5.6382	0.0608	0.0625	0.0430	0.0336
330.12	10.9313	6.2720	0.0993	0.0701	0.0307	0.0351
344.88	9.9048	6.5310	0.1743	0.0597	0.0387	0.0321
350.16	9.5342	6.5611	0.1666	0.0534	0.0351	0.0256
355.08	9.3861	6.4198	0.0167	0.0806	0.0327	0.0303

2.1.2 Spanwise Elastic Deformations

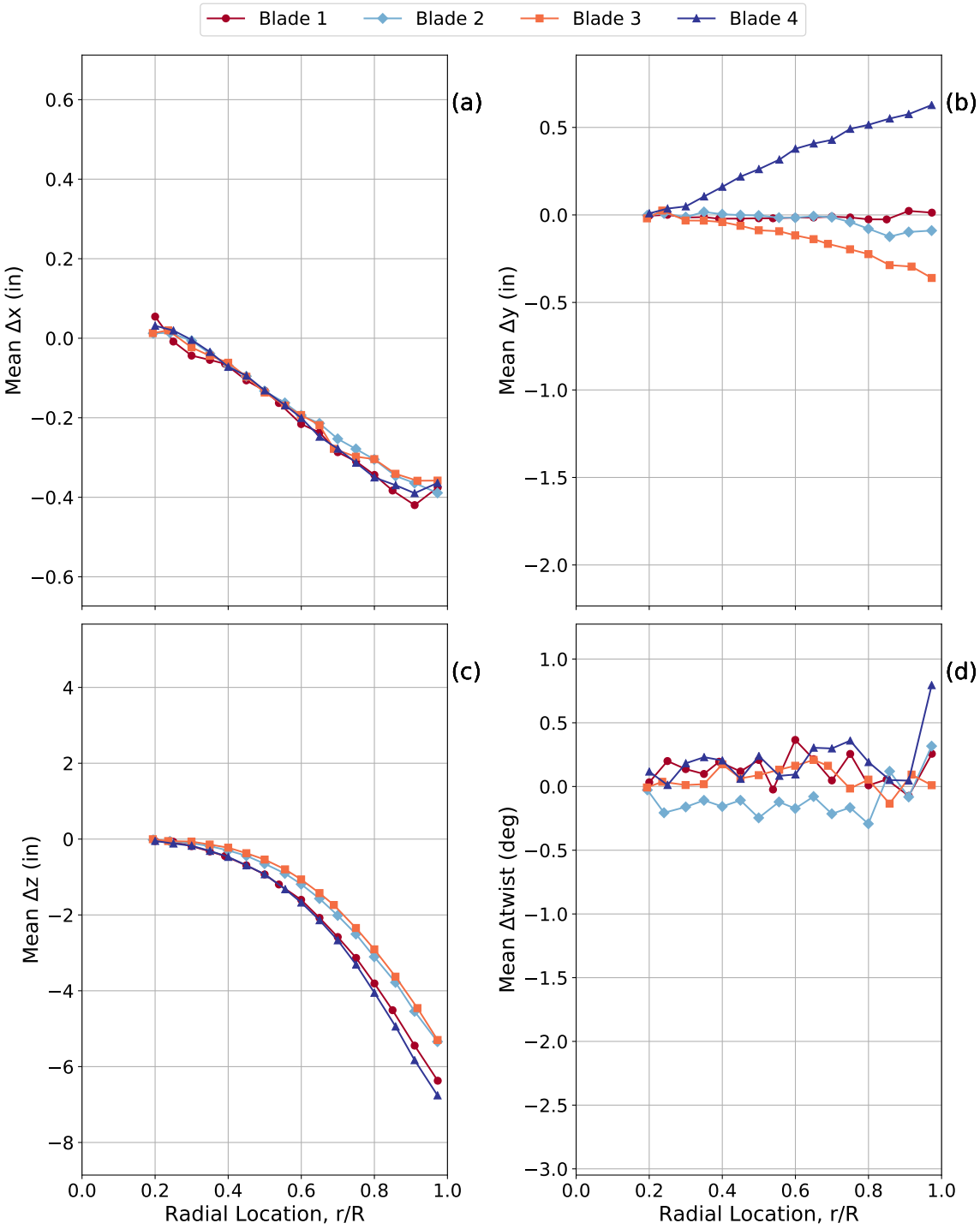


Figure 2.1-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0544	0.0028	-0.0044	0.0018	-0.0507	0.0049	0.0329	0.0450
1	0.35	0.2499	-0.0084	0.0018	0.0007	0.0034	-0.0697	0.0088	0.1998	0.0765
1	0.35	0.2998	-0.0437	0.0018	-0.0148	0.0067	-0.1856	0.0153	0.1365	0.0984
1	0.35	0.3498	-0.0545	0.0018	-0.0124	0.0117	-0.3255	0.0260	0.0985	0.0753
1	0.35	0.3913	-0.0644	0.0021	-0.0215	0.0165	-0.4476	0.0354	0.1944	0.0765
1	0.35	0.4496	-0.1060	0.0024	-0.0211	0.0216	-0.6929	0.0466	0.1180	0.0779
1	0.35	0.4997	-0.1318	0.0023	-0.0191	0.0266	-0.9323	0.0570	0.2083	0.0764
1	0.35	0.5387	-0.1629	0.0026	-0.0193	0.0298	-1.1967	0.0644	-0.0237	0.0732
1	0.35	0.5996	-0.2159	0.0028	-0.0152	0.0358	-1.6005	0.0764	0.3656	0.0737
1	0.35	0.6498	-0.2369	0.0030	-0.0148	0.0410	-2.0769	0.0868	0.2142	0.0769
1	0.35	0.6998	-0.2866	0.0032	-0.0097	0.0455	-2.5823	0.0958	0.0477	0.0794
1	0.35	0.7500	-0.3099	0.0033	-0.0144	0.0508	-3.1339	0.1054	0.2556	0.0791
1	0.35	0.8001	-0.3438	0.0038	-0.0252	0.0564	-3.8073	0.1146	0.0092	0.0832
1	0.35	0.8497	-0.3830	0.0042	-0.0257	0.0613	-4.5117	0.1237	0.0554	0.0730
1	0.35	0.9102	-0.4197	0.0046	0.0228	0.0680	-5.4465	0.1312	-0.0737	0.0975
1	0.35	0.9734	-0.3751	0.0061	0.0130	0.0745	-6.3721	0.1433	0.2568	0.0984
2	0	0.1949	0.0124	0.0022	-0.0017	0.0014	-0.0203	0.0039	-0.0268	0.0331
2	0	0.2405	0.0137	0.0016	0.0085	0.0031	-0.0585	0.0076	-0.2061	0.0580
2	0	0.2999	-0.0062	0.0012	-0.0122	0.0048	-0.1088	0.0125	-0.1604	0.0747
2	0	0.3498	-0.0385	0.0017	0.0168	0.0099	-0.1870	0.0232	-0.1084	0.0657
2	0	0.3998	-0.0688	0.0023	0.0040	0.0141	-0.2989	0.0334	-0.1569	0.0588
2	0	0.4496	-0.0956	0.0023	-0.0010	0.0175	-0.4406	0.0420	-0.1079	0.0631
2	0	0.4995	-0.1328	0.0023	-0.0032	0.0214	-0.6489	0.0528	-0.2460	0.0624
2	0	0.5551	-0.1626	0.0024	-0.0156	0.0260	-0.9062	0.0656	-0.1210	0.0666
2	0	0.5996	-0.1938	0.0022	-0.0158	0.0297	-1.1891	0.0741	-0.1725	0.0697
2	0	0.6497	-0.2141	0.0024	-0.0071	0.0334	-1.5687	0.0866	-0.0787	0.0605
2	0	0.6996	-0.2530	0.0024	-0.0131	0.0383	-2.0131	0.0984	-0.2142	0.0621
2	0	0.7495	-0.2785	0.0025	-0.0403	0.0417	-2.5050	0.1106	-0.1655	0.0686
2	0	0.7996	-0.3048	0.0032	-0.0789	0.0463	-3.1045	0.1262	-0.2924	0.0651
2	0	0.8578	-0.3464	0.0036	-0.1240	0.0520	-3.7796	0.1432	0.1193	0.0778
2	0	0.9100	-0.3642	0.0038	-0.0975	0.0574	-4.5432	0.1588	-0.0823	0.1239
2	0	0.9727	-0.3890	0.0048	-0.0895	0.0622	-5.3422	0.1789	0.3169	0.0737
3	0	0.1938	0.0129	0.0019	-0.0197	0.0014	-0.0036	0.0039	-0.0076	0.0356
3	0	0.2357	0.0198	0.0017	0.0249	0.0028	-0.0524	0.0065	0.0370	0.0594
3	0	0.2995	-0.0229	0.0012	-0.0319	0.0044	-0.0649	0.0126	0.0115	0.0769
3	0	0.3493	-0.0440	0.0017	-0.0325	0.0079	-0.1432	0.0211	0.0184	0.0743
3	0	0.4000	-0.0616	0.0020	-0.0407	0.0120	-0.2261	0.0316	0.1742	0.0661
3	0	0.4497	-0.0968	0.0021	-0.0621	0.0147	-0.3717	0.0398	0.0639	0.0646
3	0	0.4997	-0.1367	0.0020	-0.0877	0.0185	-0.5396	0.0493	0.0892	0.0636
3	0	0.5556	-0.1694	0.0022	-0.0932	0.0224	-0.7979	0.0598	0.1318	0.0620
3	0	0.5995	-0.1931	0.0022	-0.1168	0.0256	-1.0639	0.0679	0.1629	0.0661
3	0	0.6498	-0.2186	0.0022	-0.1385	0.0293	-1.4241	0.0761	0.2086	0.0670
3	0	0.6890	-0.2782	0.0025	-0.1654	0.0331	-1.7375	0.0826	0.1628	0.0648
3	0	0.7495	-0.2979	0.0028	-0.1964	0.0385	-2.3447	0.0920	-0.0158	0.0655
3	0	0.7998	-0.3040	0.0028	-0.2240	0.0423	-2.9077	0.0997	0.0543	0.0689
3	0	0.8577	-0.3409	0.0034	-0.2868	0.0463	-3.6273	0.1080	-0.1343	0.0828
3	0	0.9178	-0.3584	0.0035	-0.2951	0.0524	-4.4568	0.1161	0.0936	0.1268
3	0	0.9729	-0.3580	0.0045	-0.3602	0.0568	-5.2980	0.1263	0.0101	0.0754
4	0	0.2001	0.0313	0.0018	0.0088	0.0010	-0.0489	0.0035	0.1169	0.0397
4	0	0.2502	0.0194	0.0015	0.0361	0.0032	-0.1177	0.0065	0.0116	0.0675
4	0	0.3001	-0.0042	0.0011	0.0486	0.0046	-0.1767	0.0108	0.1820	0.0866
4	0	0.3502	-0.0346	0.0018	0.1055	0.0083	-0.3112	0.0179	0.2302	0.0759
4	0	0.4002	-0.0721	0.0020	0.1607	0.0130	-0.4708	0.0263	0.2044	0.0740
4	0	0.4500	-0.0942	0.0022	0.2190	0.0155	-0.6931	0.0332	0.0599	0.0698
4	0	0.5001	-0.1314	0.0024	0.2613	0.0186	-0.9282	0.0405	0.2397	0.0665
4	0	0.5560	-0.1688	0.0022	0.3158	0.0222	-1.3228	0.0483	0.0835	0.0701
4	0	0.6001	-0.2006	0.0023	0.3782	0.0252	-1.6743	0.0556	0.0943	0.0686
4	0	0.6501	-0.2478	0.0026	0.4077	0.0289	-2.1406	0.0647	0.3042	0.0682
4	0	0.6999	-0.2780	0.0026	0.4287	0.0316	-2.6698	0.0727	0.2985	0.0730
4	0	0.7500	-0.3132	0.0028	0.4917	0.0356	-3.3096	0.0808	0.3600	0.0733
4	0	0.8002	-0.3502	0.0029	0.5150	0.0390	-4.0540	0.0896	0.1914	0.0705
4	0	0.8582	-0.3697	0.0037	0.5506	0.0432	-4.9438	0.0992	0.0507	0.0733
4	0	0.9101	-0.3897	0.0039	0.5758	0.0467	-5.8301	0.1085	0.0461	0.0816
4	0	0.9728	-0.3640	0.0045	0.6277	0.0525	-6.7593	0.1197	0.7953	0.0911

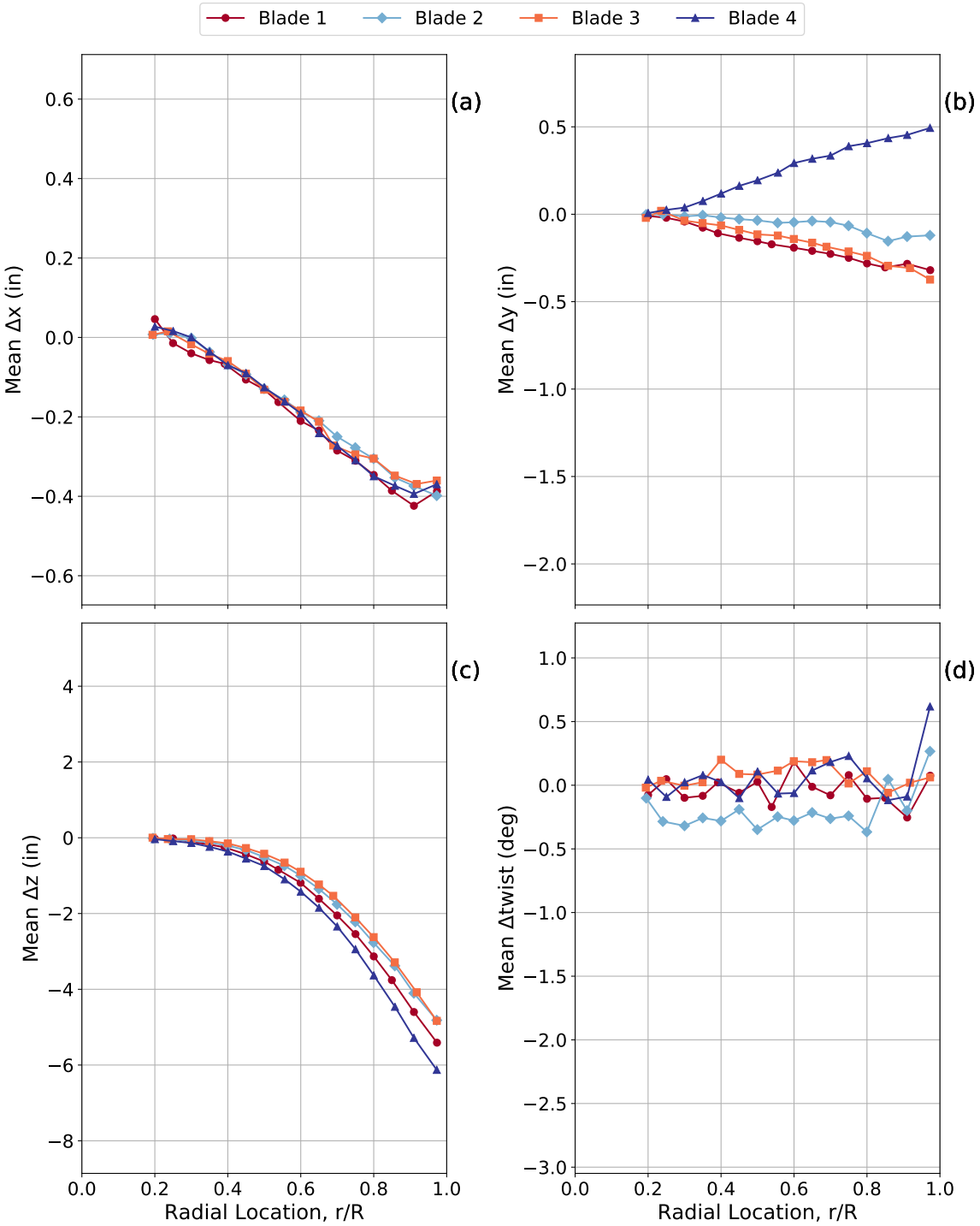


Figure 2.1-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0461	0.0026	-0.0097	0.0013	-0.0257	0.0040	-0.0764	0.0343
1	4.92	0.2499	-0.0144	0.0018	-0.0203	0.0037	-0.0192	0.0076	0.0476	0.0593
1	4.92	0.2998	-0.0400	0.0016	-0.0418	0.0060	-0.1072	0.0122	-0.0988	0.0734
1	4.92	0.3498	-0.0571	0.0020	-0.0768	0.0110	-0.1795	0.0212	-0.0833	0.0684
1	4.92	0.3913	-0.0664	0.0028	-0.1086	0.0159	-0.2527	0.0285	0.0219	0.0630
1	4.92	0.4496	-0.1061	0.0031	-0.1347	0.0206	-0.4375	0.0392	-0.0598	0.0609
1	4.92	0.4997	-0.1311	0.0028	-0.1545	0.0245	-0.6278	0.0494	0.0267	0.0590
1	4.92	0.5387	-0.1628	0.0030	-0.1719	0.0275	-0.8450	0.0571	-0.1710	0.0605
1	4.92	0.5996	-0.2103	0.0032	-0.1914	0.0330	-1.1901	0.0681	0.1850	0.0632
1	4.92	0.6498	-0.2343	0.0032	-0.2095	0.0368	-1.6110	0.0788	-0.0123	0.0632
1	4.92	0.6998	-0.2848	0.0032	-0.2267	0.0412	-2.0505	0.0875	-0.0792	0.0662
1	4.92	0.7500	-0.3105	0.0032	-0.2495	0.0460	-2.5429	0.0983	0.0795	0.0665
1	4.92	0.8001	-0.3462	0.0035	-0.2814	0.0506	-3.1321	0.1095	-0.1064	0.0609
1	4.92	0.8497	-0.3859	0.0038	-0.3041	0.0554	-3.7587	0.1219	-0.0992	0.0609
1	4.92	0.9102	-0.4239	0.0044	-0.2836	0.0610	-4.5998	0.1377	-0.2535	0.0720
1	4.92	0.9734	-0.3870	0.0053	-0.3198	0.0684	-5.4093	0.1566	0.0749	0.0704
2	4.92	0.1949	0.0075	0.0023	-0.0017	0.0013	-0.0133	0.0041	-0.1014	0.0384
2	4.92	0.2405	0.0104	0.0016	-0.0002	0.0031	-0.0343	0.0071	-0.2849	0.0610
2	4.92	0.2999	-0.0016	0.0016	-0.0122	0.0054	-0.0812	0.0114	-0.3186	0.0870
2	4.92	0.3498	-0.0367	0.0020	-0.0055	0.0113	-0.1241	0.0217	-0.2568	0.0762
2	4.92	0.3998	-0.0684	0.0029	-0.0188	0.0161	-0.2109	0.0299	-0.2808	0.0672
2	4.92	0.4496	-0.0930	0.0032	-0.0280	0.0203	-0.3229	0.0374	-0.1900	0.0674
2	4.92	0.4995	-0.1289	0.0033	-0.0350	0.0244	-0.5098	0.0458	-0.3488	0.0693
2	4.92	0.5551	-0.1572	0.0037	-0.0492	0.0294	-0.7376	0.0558	-0.2475	0.0680
2	4.92	0.5996	-0.1873	0.0034	-0.0459	0.0325	-1.0012	0.0637	-0.2778	0.0659
2	4.92	0.6497	-0.2098	0.0036	-0.0385	0.0376	-1.3486	0.0721	-0.2146	0.0740
2	4.92	0.6996	-0.2499	0.0033	-0.0447	0.0423	-1.7569	0.0811	-0.2625	0.0718
2	4.92	0.7495	-0.2775	0.0031	-0.0657	0.0463	-2.2207	0.0895	-0.2408	0.0677
2	4.92	0.7996	-0.3052	0.0034	-0.1081	0.0508	-2.7673	0.0978	-0.3668	0.0715
2	4.92	0.8578	-0.3530	0.0032	-0.1540	0.0565	-3.3818	0.1077	0.0464	0.0802
2	4.92	0.9100	-0.3739	0.0038	-0.1279	0.0616	-4.1034	0.1173	-0.1992	0.0856
2	4.92	0.9727	-0.3984	0.0046	-0.1207	0.0676	-4.8169	0.1320	0.2664	0.0784
3	4.92	0.1938	0.0066	0.0022	-0.0206	0.0011	0.0026	0.0042	-0.0189	0.0321
3	4.92	0.2357	0.0153	0.0016	0.0194	0.0024	-0.0346	0.0061	0.0350	0.0657
3	4.92	0.2995	-0.0173	0.0012	-0.0366	0.0044	-0.0384	0.0135	-0.0038	0.0808
3	4.92	0.3493	-0.0413	0.0015	-0.0508	0.0082	-0.0901	0.0228	0.0235	0.0730
3	4.92	0.4000	-0.0596	0.0021	-0.0639	0.0125	-0.1484	0.0337	0.2005	0.0635
3	4.92	0.4497	-0.0914	0.0024	-0.0898	0.0156	-0.2725	0.0421	0.0889	0.0717
3	4.92	0.4997	-0.1316	0.0023	-0.1152	0.0197	-0.4230	0.0521	0.0836	0.0632
3	4.92	0.5556	-0.1622	0.0025	-0.1217	0.0232	-0.6553	0.0617	0.1147	0.0639
3	4.92	0.5995	-0.1840	0.0025	-0.1416	0.0264	-0.8976	0.0697	0.1884	0.0626
3	4.92	0.6498	-0.2122	0.0026	-0.1629	0.0303	-1.2342	0.0788	0.1807	0.0654
3	4.92	0.6890	-0.2721	0.0024	-0.1859	0.0337	-1.5327	0.0851	0.1976	0.0678
3	4.92	0.7495	-0.2945	0.0027	-0.2129	0.0380	-2.1032	0.0958	0.0140	0.0663
3	4.92	0.7998	-0.3050	0.0029	-0.2381	0.0430	-2.6234	0.1063	0.1095	0.0639
3	4.92	0.8577	-0.3479	0.0031	-0.2947	0.0473	-3.2895	0.1173	-0.0592	0.0786
3	4.92	0.9178	-0.3690	0.0036	-0.3080	0.0529	-4.0785	0.1306	0.0196	0.0849
3	4.92	0.9729	-0.3603	0.0046	-0.3738	0.0575	-4.8330	0.1439	0.0616	0.0678
4	4.92	0.2001	0.0272	0.0021	0.0070	0.0013	-0.0370	0.0039	0.0435	0.0393
4	4.92	0.2502	0.0160	0.0015	0.0249	0.0026	-0.0892	0.0080	-0.0919	0.0714
4	4.92	0.3001	0.0001	0.0013	0.0382	0.0048	-0.1374	0.0136	0.0227	0.0905
4	4.92	0.3502	-0.0357	0.0013	0.0755	0.0085	-0.2399	0.0227	0.0795	0.0707
4	4.92	0.4002	-0.0700	0.0020	0.1180	0.0128	-0.3659	0.0346	0.0248	0.0691
4	4.92	0.4500	-0.0901	0.0025	0.1623	0.0164	-0.5505	0.0437	-0.1013	0.0715
4	4.92	0.5001	-0.1258	0.0025	0.1944	0.0205	-0.7468	0.0559	0.1081	0.0672
4	4.92	0.5560	-0.1614	0.0025	0.2377	0.0248	-1.0986	0.0688	-0.0656	0.0679
4	4.92	0.6001	-0.1912	0.0024	0.2928	0.0278	-1.4232	0.0800	-0.0616	0.0681
4	4.92	0.6501	-0.2411	0.0024	0.3172	0.0324	-1.8479	0.0923	0.1162	0.0750
4	4.92	0.6999	-0.2729	0.0025	0.3352	0.0369	-2.3437	0.1042	0.1821	0.0749
4	4.92	0.7500	-0.3092	0.0025	0.3890	0.0415	-2.9441	0.1167	0.2297	0.0762
4	4.92	0.8002	-0.3496	0.0030	0.4065	0.0465	-3.6349	0.1284	0.0542	0.0751
4	4.92	0.8582	-0.3735	0.0031	0.4351	0.0516	-4.4625	0.1426	-0.1172	0.0704
4	4.92	0.9101	-0.3940	0.0038	0.4535	0.0567	-5.2830	0.1558	-0.0892	0.0876
4	4.92	0.9728	-0.3697	0.0047	0.4936	0.0629	-6.1281	0.1761	0.6181	0.0810

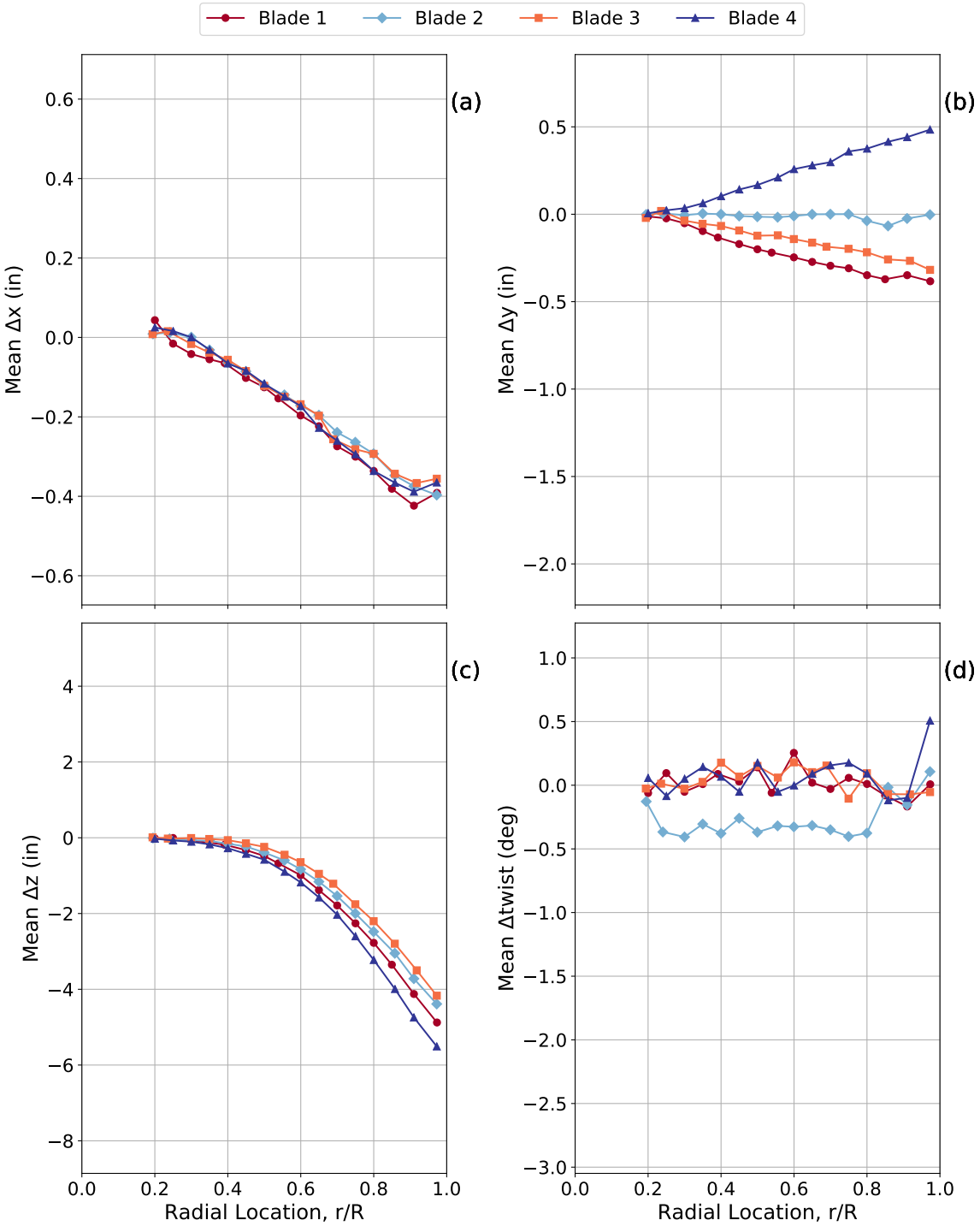


Figure 2.1-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0434	0.0026	-0.0126	0.0013	-0.0162	0.0040	-0.0610	0.0356
1	9.84	0.2499	-0.0157	0.0019	-0.0235	0.0031	-0.0061	0.0079	0.0952	0.0651
1	9.84	0.2998	-0.0418	0.0016	-0.0514	0.0053	-0.0781	0.0130	-0.0515	0.0780
1	9.84	0.3498	-0.0550	0.0016	-0.0961	0.0091	-0.1268	0.0216	0.0089	0.0634
1	9.84	0.3913	-0.0646	0.0024	-0.1332	0.0133	-0.1839	0.0303	0.0884	0.0668
1	9.84	0.4496	-0.1020	0.0026	-0.1704	0.0173	-0.3251	0.0405	0.0292	0.0663
1	9.84	0.4997	-0.1255	0.0030	-0.2004	0.0207	-0.4803	0.0503	0.1405	0.0669
1	9.84	0.5387	-0.1535	0.0028	-0.2193	0.0230	-0.6758	0.0569	-0.0594	0.0652
1	9.84	0.5996	-0.1964	0.0031	-0.2466	0.0273	-0.9893	0.0678	0.2543	0.0661
1	9.84	0.6498	-0.2235	0.0031	-0.2726	0.0316	-1.3829	0.0783	0.0200	0.0651
1	9.84	0.6998	-0.2741	0.0030	-0.2945	0.0354	-1.7870	0.0876	-0.0292	0.0635
1	9.84	0.7500	-0.3002	0.0029	-0.3091	0.0391	-2.2590	0.0965	0.0579	0.0692
1	9.84	0.8001	-0.3363	0.0029	-0.3486	0.0430	-2.7745	0.1069	0.0097	0.0704
1	9.84	0.8497	-0.3810	0.0031	-0.3719	0.0474	-3.3516	0.1185	-0.0794	0.0702
1	9.84	0.9102	-0.4236	0.0032	-0.3486	0.0526	-4.1247	0.1339	-0.1671	0.0754
1	9.84	0.9734	-0.3914	0.0037	-0.3834	0.0581	-4.8769	0.1475	0.0074	0.0785
2	9.84	0.1949	0.0089	0.0021	-0.0015	0.0011	-0.0075	0.0034	-0.1279	0.0310
2	9.84	0.2405	0.0121	0.0014	0.0044	0.0021	-0.0292	0.0062	-0.3671	0.0515
2	9.84	0.2999	0.0005	0.0011	-0.0051	0.0041	-0.0628	0.0106	-0.4063	0.0719
2	9.84	0.3498	-0.0315	0.0014	0.0038	0.0075	-0.0835	0.0196	-0.3049	0.0612
2	9.84	0.3998	-0.0637	0.0021	0.0001	0.0112	-0.1562	0.0280	-0.3788	0.0575
2	9.84	0.4496	-0.0855	0.0022	-0.0100	0.0138	-0.2315	0.0372	-0.2591	0.0581
2	9.84	0.4995	-0.1199	0.0024	-0.0142	0.0165	-0.3874	0.0469	-0.3690	0.0600
2	9.84	0.5551	-0.1447	0.0023	-0.0170	0.0200	-0.5967	0.0595	-0.3192	0.0634
2	9.84	0.5996	-0.1714	0.0022	-0.0101	0.0233	-0.8326	0.0689	-0.3267	0.0624
2	9.84	0.6497	-0.1958	0.0023	-0.0003	0.0270	-1.1596	0.0799	-0.3165	0.0611
2	9.84	0.6996	-0.2391	0.0023	0.0002	0.0305	-1.5376	0.0899	-0.3497	0.0662
2	9.84	0.7495	-0.2640	0.0024	0.0007	0.0348	-1.9979	0.0992	-0.4028	0.0629
2	9.84	0.7996	-0.2929	0.0027	-0.0373	0.0388	-2.4795	0.1087	-0.3766	0.0663
2	9.84	0.8578	-0.3475	0.0028	-0.0669	0.0438	-3.0494	0.1208	-0.0161	0.0621
2	9.84	0.9100	-0.3746	0.0029	-0.0243	0.0489	-3.7197	0.1336	-0.1546	0.0736
2	9.84	0.9727	-0.3968	0.0038	-0.0027	0.0543	-4.3880	0.1474	0.1066	0.0727
3	9.84	0.1938	0.0081	0.0021	-0.0209	0.0010	0.0102	0.0031	-0.0261	0.0284
3	9.84	0.2357	0.0157	0.0014	0.0187	0.0022	-0.0217	0.0060	0.0122	0.0465
3	9.84	0.2995	-0.0165	0.0012	-0.0363	0.0040	-0.0080	0.0107	-0.0274	0.0633
3	9.84	0.3493	-0.0383	0.0014	-0.0548	0.0070	-0.0323	0.0190	0.0261	0.0544
3	9.84	0.4000	-0.0563	0.0021	-0.0669	0.0110	-0.0629	0.0282	0.1773	0.0543
3	9.84	0.4497	-0.0847	0.0027	-0.0929	0.0137	-0.1456	0.0362	0.0675	0.0542
3	9.84	0.4997	-0.1218	0.0027	-0.1226	0.0167	-0.2412	0.0458	0.1516	0.0468
3	9.84	0.5556	-0.1495	0.0028	-0.1205	0.0204	-0.4482	0.0589	0.0601	0.0525
3	9.84	0.5995	-0.1682	0.0026	-0.1421	0.0233	-0.6453	0.0688	0.1795	0.0542
3	9.84	0.6498	-0.1970	0.0027	-0.1624	0.0268	-0.9528	0.0800	0.1028	0.0603
3	9.84	0.6890	-0.2564	0.0028	-0.1857	0.0297	-1.2136	0.0889	0.1546	0.0543
3	9.84	0.7495	-0.2815	0.0031	-0.1977	0.0345	-1.7560	0.1038	-0.1055	0.0568
3	9.84	0.7998	-0.2931	0.0036	-0.2176	0.0391	-2.2025	0.1182	0.0942	0.0572
3	9.84	0.8577	-0.3433	0.0040	-0.2584	0.0441	-2.7965	0.1352	-0.0698	0.0571
3	9.84	0.9178	-0.3666	0.0043	-0.2662	0.0482	-3.4995	0.1561	-0.0714	0.0783
3	9.84	0.9729	-0.3557	0.0057	-0.3182	0.0533	-4.1687	0.1787	-0.0540	0.0702
4	9.84	0.2001	0.0251	0.0022	0.0055	0.0011	-0.0259	0.0037	0.0571	0.0289
4	9.84	0.2502	0.0160	0.0013	0.0225	0.0026	-0.0719	0.0062	-0.0851	0.0566
4	9.84	0.3001	0.0003	0.0013	0.0348	0.0043	-0.1047	0.0114	0.0506	0.0652
4	9.84	0.3502	-0.0311	0.0016	0.0628	0.0077	-0.1754	0.0196	0.1436	0.0589
4	9.84	0.4002	-0.0656	0.0021	0.1031	0.0119	-0.2767	0.0287	0.0669	0.0553
4	9.84	0.4500	-0.0838	0.0022	0.1416	0.0144	-0.4239	0.0368	-0.0514	0.0563
4	9.84	0.5001	-0.1164	0.0024	0.1673	0.0168	-0.5794	0.0456	0.1767	0.0560
4	9.84	0.5560	-0.1490	0.0022	0.2103	0.0207	-0.8983	0.0568	-0.0518	0.0577
4	9.84	0.6001	-0.1729	0.0024	0.2581	0.0232	-1.1795	0.0646	-0.0020	0.0615
4	9.84	0.6501	-0.2277	0.0025	0.2795	0.0262	-1.5768	0.0747	0.0891	0.0573
4	9.84	0.6999	-0.2601	0.0026	0.2977	0.0295	-2.0326	0.0854	0.1562	0.0594
4	9.84	0.7500	-0.2942	0.0029	0.3588	0.0329	-2.6013	0.0951	0.1763	0.0587
4	9.84	0.8002	-0.3363	0.0032	0.3752	0.0365	-3.2273	0.1068	0.0918	0.0601
4	9.84	0.8582	-0.3659	0.0039	0.4146	0.0410	-3.9937	0.1226	-0.1183	0.0537
4	9.84	0.9101	-0.3884	0.0044	0.4410	0.0452	-4.7440	0.1382	-0.0993	0.0639
4	9.84	0.9728	-0.3653	0.0057	0.4838	0.0500	-5.5091	0.1611	0.5071	0.0671

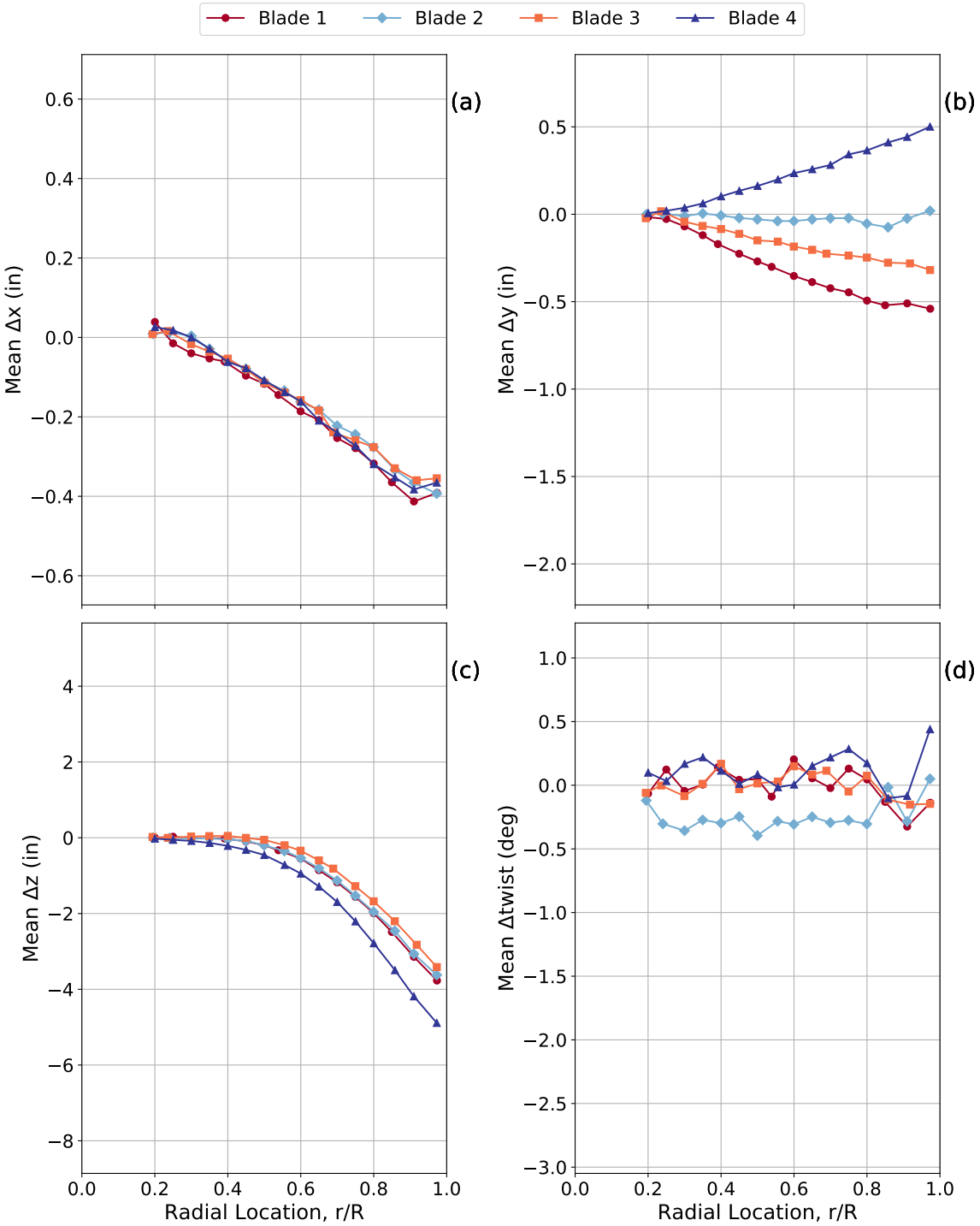


Figure 2.1-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0389	0.0026	-0.0167	0.0014	0.0012	0.0037	-0.0652	0.0283
1	15.12	0.2499	-0.0149	0.0016	-0.0271	0.0024	0.0270	0.0076	0.1230	0.0506
1	15.12	0.2998	-0.0399	0.0014	-0.0692	0.0047	-0.0098	0.0128	-0.0446	0.0631
1	15.12	0.3498	-0.0530	0.0014	-0.1200	0.0080	-0.0160	0.0222	0.0051	0.0556
1	15.12	0.3913	-0.0606	0.0018	-0.1706	0.0111	-0.0221	0.0311	0.1407	0.0539
1	15.12	0.4496	-0.0962	0.0018	-0.2261	0.0151	-0.0957	0.0417	0.0425	0.0554
1	15.12	0.4997	-0.1168	0.0022	-0.2696	0.0187	-0.1987	0.0541	0.0472	0.0593
1	15.12	0.5387	-0.1449	0.0025	-0.3008	0.0219	-0.3297	0.0630	-0.0899	0.0589
1	15.12	0.5996	-0.1860	0.0026	-0.3531	0.0265	-0.5482	0.0769	0.2030	0.0641
1	15.12	0.6498	-0.2081	0.0026	-0.3881	0.0307	-0.8554	0.0874	0.0545	0.0660
1	15.12	0.6998	-0.2533	0.0027	-0.4233	0.0347	-1.1782	0.0990	-0.0220	0.0597
1	15.12	0.7500	-0.2788	0.0028	-0.4466	0.0395	-1.5621	0.1103	0.1302	0.0609
1	15.12	0.8001	-0.3176	0.0030	-0.4940	0.0439	-1.9929	0.1195	0.0456	0.0667
1	15.12	0.8497	-0.3648	0.0031	-0.5206	0.0485	-2.4871	0.1289	-0.1307	0.0659
1	15.12	0.9102	-0.4130	0.0035	-0.5100	0.0540	-3.1448	0.1411	-0.3248	0.0728
1	15.12	0.9734	-0.3914	0.0043	-0.5406	0.0606	-3.7695	0.1556	-0.1379	0.0651
2	15.12	0.1949	0.0092	0.0021	-0.0012	0.0010	-0.0009	0.0034	-0.1199	0.0257
2	15.12	0.2405	0.0130	0.0018	0.0033	0.0023	-0.0073	0.0066	-0.3030	0.0509
2	15.12	0.2999	0.0038	0.0014	-0.0102	0.0041	-0.0204	0.0124	-0.3569	0.0627
2	15.12	0.3498	-0.0288	0.0018	0.0043	0.0074	-0.0175	0.0205	-0.2726	0.0558
2	15.12	0.3998	-0.0601	0.0020	-0.0071	0.0114	-0.0441	0.0313	-0.2974	0.0525
2	15.12	0.4496	-0.0792	0.0023	-0.0215	0.0138	-0.0818	0.0392	-0.2462	0.0512
2	15.12	0.4995	-0.1114	0.0023	-0.0290	0.0163	-0.1975	0.0486	-0.3951	0.0527
2	15.12	0.5551	-0.1341	0.0022	-0.0387	0.0197	-0.3500	0.0590	-0.2830	0.0550
2	15.12	0.5996	-0.1626	0.0024	-0.0389	0.0222	-0.5345	0.0668	-0.3071	0.0557
2	15.12	0.6497	-0.1821	0.0027	-0.0291	0.0254	-0.8044	0.0771	-0.2482	0.0506
2	15.12	0.6996	-0.2224	0.0029	-0.0230	0.0291	-1.1318	0.0874	-0.2939	0.0570
2	15.12	0.7495	-0.2441	0.0027	-0.0220	0.0318	-1.5284	0.0954	-0.2756	0.0563
2	15.12	0.7996	-0.2760	0.0027	-0.0539	0.0351	-1.9563	0.1066	-0.3045	0.0555
2	15.12	0.8578	-0.3334	0.0032	-0.0745	0.0397	-2.4592	0.1186	-0.0162	0.0579
2	15.12	0.9100	-0.3658	0.0034	-0.0241	0.0431	-3.0640	0.1300	-0.2839	0.0670
2	15.12	0.9727	-0.3932	0.0038	0.0195	0.0482	-3.6226	0.1452	0.0500	0.0633
3	15.12	0.1938	0.0081	0.0023	-0.0226	0.0010	0.0204	0.0038	-0.0599	0.0272
3	15.12	0.2357	0.0159	0.0015	0.0170	0.0028	-0.0032	0.0069	-0.0022	0.0467
3	15.12	0.2995	-0.0168	0.0015	-0.0426	0.0049	0.0321	0.0135	-0.0855	0.0633
3	15.12	0.3493	-0.0361	0.0016	-0.0669	0.0090	0.0432	0.0227	0.0113	0.0559
3	15.12	0.4000	-0.0534	0.0019	-0.0847	0.0142	0.0488	0.0346	0.1678	0.0525
3	15.12	0.4497	-0.0803	0.0021	-0.1120	0.0180	-0.0036	0.0441	-0.0309	0.0587
3	15.12	0.4997	-0.1142	0.0022	-0.1495	0.0216	-0.0549	0.0558	0.0145	0.0558
3	15.12	0.5556	-0.1388	0.0025	-0.1566	0.0268	-0.1986	0.0711	0.0291	0.0572
3	15.12	0.5995	-0.1579	0.0026	-0.1848	0.0294	-0.3418	0.0804	0.1490	0.0538
3	15.12	0.6498	-0.1839	0.0025	-0.2035	0.0343	-0.5969	0.0948	0.0846	0.0611
3	15.12	0.6890	-0.2393	0.0025	-0.2257	0.0376	-0.8154	0.1050	0.1139	0.0624
3	15.12	0.7495	-0.2590	0.0024	-0.2361	0.0425	-1.2794	0.1208	-0.0491	0.0524
3	15.12	0.7998	-0.2763	0.0025	-0.2477	0.0473	-1.6773	0.1358	0.0743	0.0552
3	15.12	0.8577	-0.3295	0.0026	-0.2770	0.0525	-2.2034	0.1521	-0.1133	0.0592
3	15.12	0.9178	-0.3597	0.0029	-0.2813	0.0577	-2.8257	0.1729	-0.1522	0.0670
3	15.12	0.9729	-0.3547	0.0035	-0.3190	0.0621	-3.4134	0.1907	-0.1464	0.0656
4	15.12	0.2001	0.0261	0.0024	0.0066	0.0012	-0.0219	0.0039	0.0986	0.0241
4	15.12	0.2502	0.0180	0.0013	0.0197	0.0023	-0.0557	0.0065	0.0330	0.0475
4	15.12	0.3001	-0.0001	0.0016	0.0371	0.0051	-0.0836	0.0131	0.1682	0.0538
4	15.12	0.3502	-0.0287	0.0019	0.0620	0.0076	-0.1363	0.0205	0.2195	0.0511
4	15.12	0.4002	-0.0616	0.0022	0.1025	0.0122	-0.2143	0.0313	0.1143	0.0467
4	15.12	0.4500	-0.0777	0.0024	0.1340	0.0146	-0.3200	0.0386	0.0110	0.0529
4	15.12	0.5001	-0.1079	0.0026	0.1618	0.0189	-0.4558	0.0488	0.0841	0.0425
4	15.12	0.5560	-0.1376	0.0027	0.1989	0.0216	-0.7175	0.0572	-0.0159	0.0531
4	15.12	0.6001	-0.1615	0.0022	0.2353	0.0248	-0.9461	0.0651	0.0050	0.0420
4	15.12	0.6501	-0.2094	0.0024	0.2575	0.0287	-1.2896	0.0736	0.1521	0.0428
4	15.12	0.6999	-0.2396	0.0024	0.2821	0.0325	-1.6948	0.0814	0.2185	0.0476
4	15.12	0.7500	-0.2728	0.0023	0.3423	0.0361	-2.2092	0.0889	0.2846	0.0467
4	15.12	0.8002	-0.3191	0.0023	0.3654	0.0400	-2.7859	0.0958	0.1734	0.0448
4	15.12	0.8582	-0.3525	0.0024	0.4106	0.0446	-3.4968	0.1049	-0.1022	0.0476
4	15.12	0.9101	-0.3827	0.0027	0.4423	0.0483	-4.1877	0.1138	-0.0837	0.0513
4	15.12	0.9728	-0.3656	0.0031	0.5008	0.0534	-4.8886	0.1247	0.4394	0.0588

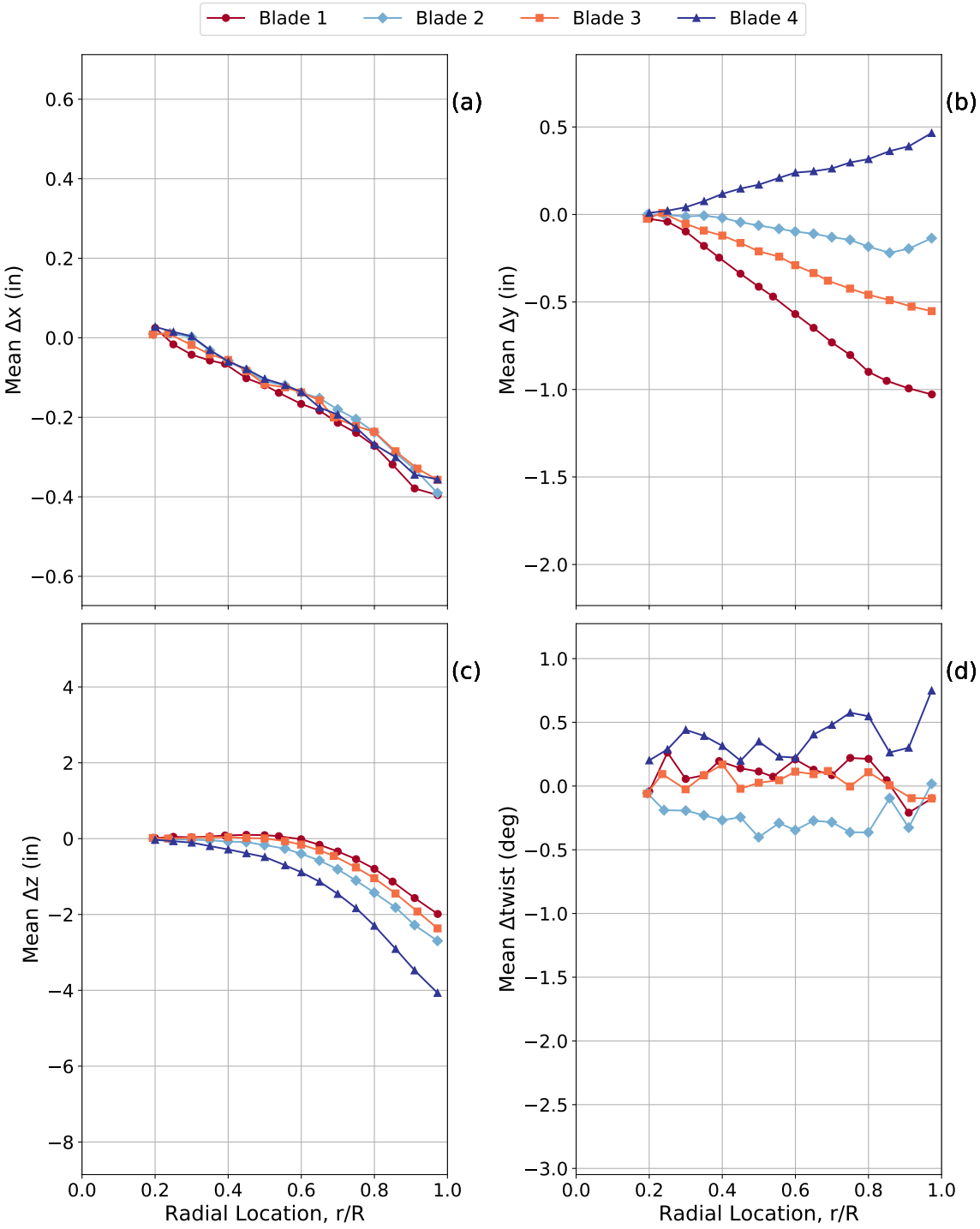


Figure 2.1-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0246	0.0021	-0.0250	0.0009	0.0141	0.0033	-0.0417	0.0347
1	29.88	0.2499	-0.0166	0.0015	-0.0411	0.0025	0.0481	0.0071	0.2629	0.0556
1	29.88	0.2998	-0.0425	0.0016	-0.0970	0.0042	0.0363	0.0116	0.0559	0.0759
1	29.88	0.3498	-0.0571	0.0018	-0.1798	0.0073	0.0570	0.0197	0.0848	0.0663
1	29.88	0.3913	-0.0655	0.0025	-0.2467	0.0109	0.0827	0.0276	0.1958	0.0582
1	29.88	0.4496	-0.1017	0.0029	-0.3384	0.0141	0.0998	0.0373	0.1395	0.0607
1	29.88	0.4997	-0.1192	0.0031	-0.4129	0.0171	0.0920	0.0456	0.1141	0.0664
1	29.88	0.5387	-0.1384	0.0033	-0.4692	0.0194	0.0647	0.0533	0.0733	0.0584
1	29.88	0.5996	-0.1663	0.0029	-0.5689	0.0237	-0.0155	0.0643	0.2088	0.0596
1	29.88	0.6498	-0.1831	0.0027	-0.6479	0.0267	-0.1628	0.0725	0.1281	0.0645
1	29.88	0.6998	-0.2138	0.0029	-0.7311	0.0305	-0.3377	0.0823	0.0857	0.0611
1	29.88	0.7500	-0.2392	0.0030	-0.8031	0.0344	-0.5416	0.0923	0.2204	0.0595
1	29.88	0.8001	-0.2719	0.0033	-0.8994	0.0376	-0.7959	0.1013	0.2131	0.0658
1	29.88	0.8497	-0.3188	0.0028	-0.9507	0.0418	-1.1321	0.1127	0.0460	0.0596
1	29.88	0.9102	-0.3789	0.0030	-0.9939	0.0467	-1.5670	0.1271	-0.2092	0.0610
1	29.88	0.9734	-0.3958	0.0035	-1.0281	0.0517	-1.9866	0.1413	-0.0968	0.0619
2	29.88	0.1949	0.0097	0.0021	-0.0016	0.0008	-0.0035	0.0035	-0.0562	0.0271
2	29.88	0.2405	0.0111	0.0016	-0.0009	0.0031	-0.0130	0.0088	-0.1894	0.0473
2	29.88	0.2999	0.0019	0.0012	-0.0116	0.0048	-0.0281	0.0150	-0.1926	0.0626
2	29.88	0.3498	-0.0319	0.0019	-0.0068	0.0087	-0.0441	0.0251	-0.2296	0.0609
2	29.88	0.3998	-0.0573	0.0022	-0.0196	0.0139	-0.0764	0.0393	-0.2681	0.0503
2	29.88	0.4496	-0.0814	0.0026	-0.0444	0.0178	-0.0911	0.0500	-0.2445	0.0490
2	29.88	0.4995	-0.1094	0.0027	-0.0629	0.0189	-0.1697	0.0560	-0.4014	0.0626
2	29.88	0.5551	-0.1197	0.0028	-0.0819	0.0232	-0.2629	0.0688	-0.2908	0.0505
2	29.88	0.5996	-0.1378	0.0026	-0.0976	0.0251	-0.3985	0.0781	-0.3459	0.0496
2	29.88	0.6497	-0.1518	0.0028	-0.1103	0.0290	-0.5769	0.0896	-0.2723	0.0528
2	29.88	0.6996	-0.1802	0.0033	-0.1299	0.0322	-0.8100	0.1020	-0.2834	0.0547
2	29.88	0.7495	-0.2046	0.0033	-0.1448	0.0351	-1.1041	0.1143	-0.3627	0.0508
2	29.88	0.7996	-0.2375	0.0032	-0.1839	0.0387	-1.4243	0.1291	-0.3636	0.0536
2	29.88	0.8578	-0.2903	0.0036	-0.2190	0.0424	-1.8155	0.1481	-0.0951	0.0505
2	29.88	0.9100	-0.3302	0.0037	-0.1956	0.0464	-2.2795	0.1657	-0.3263	0.0609
2	29.88	0.9727	-0.3905	0.0038	-0.1355	0.0510	-2.6958	0.1894	0.0179	0.0562
3	29.88	0.1938	0.0082	0.0018	-0.0243	0.0007	0.0168	0.0027	-0.0602	0.0266
3	29.88	0.2357	0.0109	0.0013	0.0090	0.0013	0.0031	0.0044	0.0939	0.0419
3	29.88	0.2995	-0.0181	0.0011	-0.0528	0.0025	0.0263	0.0100	-0.0255	0.0605
3	29.88	0.3493	-0.0417	0.0016	-0.0918	0.0043	0.0372	0.0160	0.0844	0.0498
3	29.88	0.4000	-0.0560	0.0022	-0.1206	0.0065	0.0411	0.0249	0.1690	0.0550
3	29.88	0.4497	-0.0835	0.0026	-0.1626	0.0074	0.0167	0.0300	-0.0211	0.0527
3	29.88	0.4997	-0.1169	0.0029	-0.2108	0.0097	0.0050	0.0364	0.0260	0.0531
3	29.88	0.5556	-0.1247	0.0031	-0.2412	0.0113	-0.0660	0.0434	0.0455	0.0509
3	29.88	0.5995	-0.1374	0.0031	-0.2897	0.0125	-0.1564	0.0489	0.1130	0.0564
3	29.88	0.6498	-0.1571	0.0031	-0.3348	0.0150	-0.3100	0.0557	0.0936	0.0600
3	29.88	0.6890	-0.2006	0.0031	-0.3785	0.0161	-0.4554	0.0617	0.1177	0.0540
3	29.88	0.7495	-0.2221	0.0030	-0.4235	0.0187	-0.7592	0.0708	-0.0030	0.0569
3	29.88	0.7998	-0.2363	0.0031	-0.4583	0.0215	-1.0437	0.0788	0.1088	0.0586
3	29.88	0.8577	-0.2854	0.0029	-0.4897	0.0244	-1.4466	0.0897	0.0060	0.0579
3	29.88	0.9178	-0.3291	0.0029	-0.5263	0.0281	-1.9206	0.0995	-0.0952	0.0647
3	29.88	0.9729	-0.3574	0.0031	-0.5521	0.0311	-2.3671	0.1100	-0.0969	0.0629
4	29.88	0.2001	0.0275	0.0020	0.0091	0.0009	-0.0320	0.0029	0.2014	0.0291
4	29.88	0.2502	0.0148	0.0012	0.0215	0.0021	-0.0666	0.0063	0.2883	0.0466
4	29.88	0.3001	0.0039	0.0014	0.0415	0.0036	-0.1052	0.0101	0.4410	0.0619
4	29.88	0.3502	-0.0308	0.0016	0.0760	0.0063	-0.1970	0.0174	0.3934	0.0518
4	29.88	0.4002	-0.0600	0.0025	0.1177	0.0098	-0.2855	0.0260	0.3151	0.0635
4	29.88	0.4500	-0.0788	0.0029	0.1480	0.0132	-0.3851	0.0347	0.1990	0.0686
4	29.88	0.5001	-0.1033	0.0027	0.1703	0.0147	-0.4846	0.0411	0.3497	0.0594
4	29.88	0.5560	-0.1191	0.0029	0.2093	0.0192	-0.7027	0.0501	0.2310	0.0568
4	29.88	0.6001	-0.1362	0.0032	0.2391	0.0220	-0.8870	0.0570	0.2229	0.0779
4	29.88	0.6501	-0.1755	0.0030	0.2472	0.0244	-1.1357	0.0644	0.4048	0.0702
4	29.88	0.6999	-0.1932	0.0030	0.2627	0.0285	-1.4581	0.0718	0.4801	0.0615
4	29.88	0.7500	-0.2260	0.0030	0.2971	0.0316	-1.8345	0.0807	0.5761	0.0560
4	29.88	0.8002	-0.2684	0.0030	0.3163	0.0350	-2.2972	0.0885	0.5471	0.0572
4	29.88	0.8582	-0.3005	0.0028	0.3622	0.0392	-2.9082	0.0979	0.2635	0.0613
4	29.88	0.9101	-0.3444	0.0029	0.3893	0.0442	-3.4742	0.1056	0.3008	0.0623
4	29.88	0.9728	-0.3561	0.0035	0.4655	0.0493	-4.0687	0.1169	0.7493	0.0643

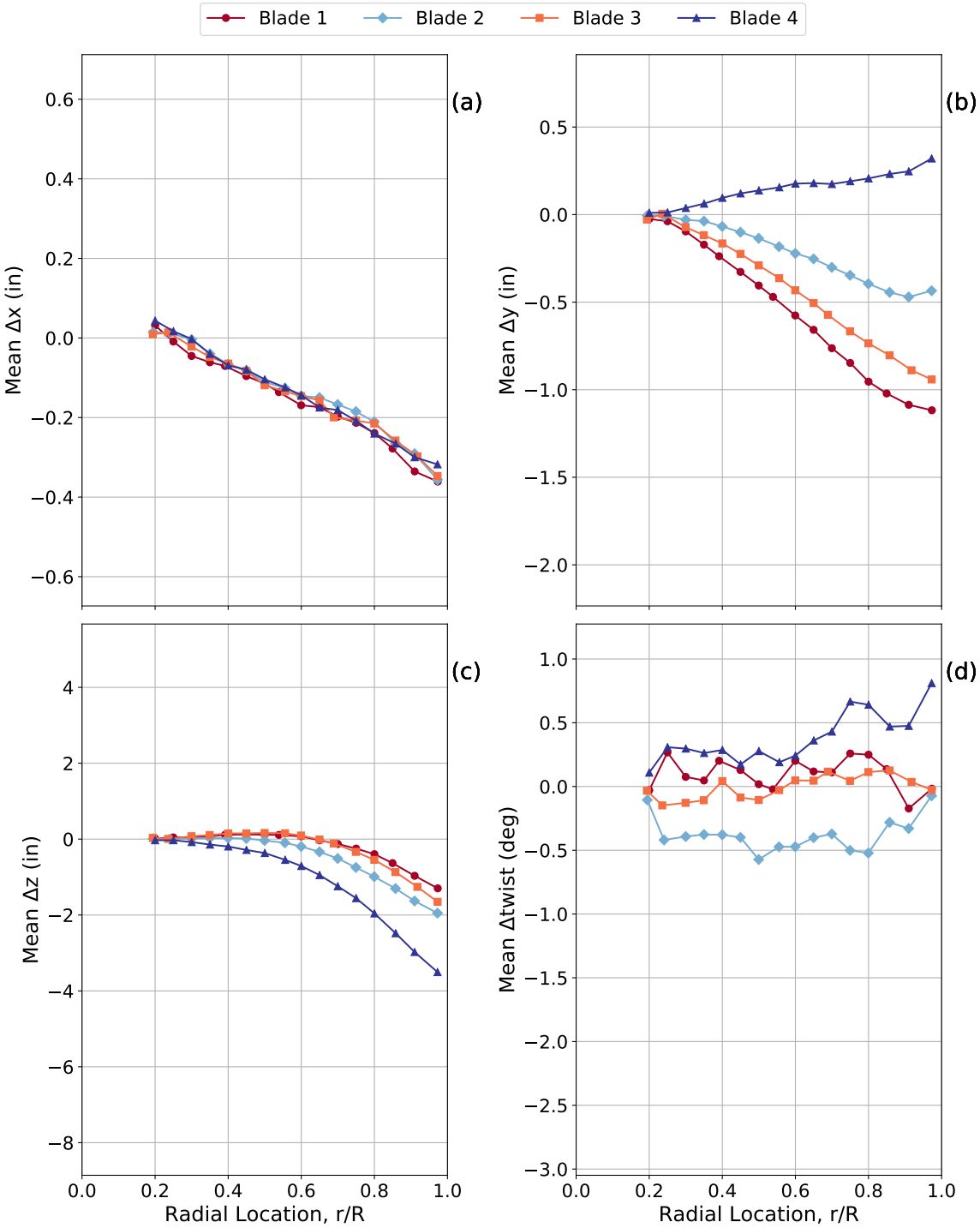


Figure 2.1-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0313	0.0025	-0.0250	0.0007	0.0143	0.0025	-0.0293	0.0291
1	45	0.2499	-0.0089	0.0020	-0.0380	0.0022	0.0449	0.0054	0.2671	0.0419
1	45	0.2998	-0.0452	0.0018	-0.0962	0.0038	0.0496	0.0097	0.0757	0.0625
1	45	0.3498	-0.0611	0.0022	-0.1718	0.0057	0.0730	0.0148	0.0472	0.0540
1	45	0.3913	-0.0703	0.0021	-0.2377	0.0093	0.1134	0.0224	0.2017	0.0512
1	45	0.4496	-0.0958	0.0024	-0.3272	0.0107	0.1238	0.0303	0.1293	0.0516
1	45	0.4997	-0.1146	0.0030	-0.4051	0.0135	0.1168	0.0383	0.0181	0.0520
1	45	0.5387	-0.1361	0.0027	-0.4698	0.0147	0.1103	0.0428	-0.0222	0.0514
1	45	0.5996	-0.1691	0.0027	-0.5761	0.0188	0.0736	0.0525	0.2016	0.0619
1	45	0.6498	-0.1739	0.0029	-0.6580	0.0212	-0.0307	0.0604	0.1180	0.0544
1	45	0.6998	-0.1976	0.0029	-0.7628	0.0239	-0.1275	0.0674	0.1108	0.0596
1	45	0.7500	-0.2132	0.0027	-0.8472	0.0263	-0.2493	0.0753	0.2589	0.0566
1	45	0.8001	-0.2390	0.0029	-0.9540	0.0292	-0.3957	0.0820	0.2496	0.0591
1	45	0.8497	-0.2779	0.0029	-1.0213	0.0319	-0.6325	0.0888	0.1364	0.0574
1	45	0.9102	-0.3354	0.0031	-1.0862	0.0352	-0.9667	0.0975	-0.1723	0.0561
1	45	0.9734	-0.3610	0.0036	-1.1174	0.0388	-1.2976	0.1091	-0.0172	0.0608
2	45	0.1949	0.0145	0.0017	-0.0054	0.0006	0.0106	0.0026	-0.1054	0.0256
2	45	0.2405	0.0125	0.0014	-0.0077	0.0014	-0.0002	0.0057	-0.4192	0.0388
2	45	0.2999	-0.0038	0.0014	-0.0298	0.0029	0.0149	0.0116	-0.3925	0.0582
2	45	0.3498	-0.0396	0.0018	-0.0373	0.0043	0.0293	0.0186	-0.3765	0.0547
2	45	0.3998	-0.0655	0.0018	-0.0679	0.0071	0.0285	0.0297	-0.3784	0.0578
2	45	0.4496	-0.0811	0.0022	-0.1006	0.0088	0.0168	0.0353	-0.3991	0.0527
2	45	0.4995	-0.1109	0.0029	-0.1356	0.0121	-0.0374	0.0445	-0.5724	0.0566
2	45	0.5551	-0.1257	0.0028	-0.1829	0.0140	-0.0963	0.0549	-0.4731	0.0578
2	45	0.5996	-0.1455	0.0032	-0.2216	0.0159	-0.1951	0.0625	-0.4718	0.0571
2	45	0.6497	-0.1497	0.0031	-0.2530	0.0196	-0.3347	0.0721	-0.4012	0.0576
2	45	0.6996	-0.1673	0.0032	-0.3012	0.0223	-0.5103	0.0825	-0.3723	0.0607
2	45	0.7495	-0.1849	0.0031	-0.3465	0.0253	-0.7463	0.0927	-0.5005	0.0599
2	45	0.7996	-0.2107	0.0032	-0.3952	0.0284	-0.9903	0.1033	-0.5216	0.0593
2	45	0.8578	-0.2646	0.0029	-0.4440	0.0326	-1.3021	0.1155	-0.2815	0.0583
2	45	0.9100	-0.2908	0.0032	-0.4705	0.0363	-1.6303	0.1263	-0.3295	0.0642
2	45	0.9727	-0.3564	0.0036	-0.4350	0.0407	-1.9508	0.1410	-0.0729	0.0603
3	45	0.1938	0.0094	0.0016	-0.0283	0.0006	0.0329	0.0025	-0.0333	0.0216
3	45	0.2357	0.0139	0.0019	0.0046	0.0014	0.0070	0.0047	-0.1483	0.0342
3	45	0.2995	-0.0213	0.0018	-0.0716	0.0028	0.0766	0.0095	-0.1281	0.0490
3	45	0.3493	-0.0478	0.0021	-0.1176	0.0047	0.1080	0.0160	-0.1077	0.0497
3	45	0.4000	-0.0644	0.0023	-0.1647	0.0076	0.1516	0.0248	0.0425	0.0434
3	45	0.4497	-0.0830	0.0025	-0.2243	0.0096	0.1524	0.0308	-0.0862	0.0410
3	45	0.4997	-0.1189	0.0032	-0.2902	0.0110	0.1626	0.0377	-0.1057	0.0384
3	45	0.5556	-0.1343	0.0034	-0.3628	0.0131	0.1542	0.0435	-0.0282	0.0427
3	45	0.5995	-0.1461	0.0034	-0.4321	0.0147	0.0946	0.0500	0.0481	0.0536
3	45	0.6498	-0.1570	0.0033	-0.5051	0.0180	-0.0114	0.0564	0.0460	0.0527
3	45	0.6890	-0.1995	0.0035	-0.5727	0.0197	-0.1162	0.0613	0.1166	0.0506
3	45	0.7495	-0.2074	0.0029	-0.6667	0.0222	-0.3351	0.0693	0.0441	0.0503
3	45	0.7998	-0.2150	0.0029	-0.7350	0.0251	-0.5464	0.0756	0.1134	0.0453
3	45	0.8577	-0.2578	0.0029	-0.8036	0.0280	-0.8699	0.0824	0.1259	0.0502
3	45	0.9178	-0.2976	0.0028	-0.8890	0.0316	-1.2586	0.0911	0.0363	0.0515
3	45	0.9729	-0.3471	0.0035	-0.9415	0.0346	-1.6529	0.0994	-0.0267	0.0474
4	45	0.2001	0.0434	0.0022	0.0098	0.0007	-0.0294	0.0022	0.1088	0.0241
4	45	0.2502	0.0169	0.0018	0.0121	0.0032	-0.0292	0.0054	0.3081	0.0406
4	45	0.3001	-0.0028	0.0021	0.0377	0.0046	-0.0787	0.0090	0.2973	0.0540
4	45	0.3502	-0.0401	0.0021	0.0624	0.0075	-0.1441	0.0146	0.2625	0.0473
4	45	0.4002	-0.0691	0.0031	0.0954	0.0129	-0.1949	0.0233	0.2865	0.0514
4	45	0.4500	-0.0798	0.0033	0.1207	0.0154	-0.2860	0.0290	0.1732	0.0499
4	45	0.5001	-0.1040	0.0034	0.1378	0.0152	-0.3668	0.0363	0.2775	0.0418
4	45	0.5560	-0.1244	0.0032	0.1556	0.0203	-0.5478	0.0434	0.1905	0.0373
4	45	0.6001	-0.1440	0.0034	0.1769	0.0218	-0.7089	0.0493	0.2424	0.0616
4	45	0.6501	-0.1749	0.0035	0.1797	0.0246	-0.9490	0.0538	0.3610	0.0546
4	45	0.6999	-0.1812	0.0034	0.1745	0.0269	-1.2433	0.0590	0.4304	0.0452
4	45	0.7500	-0.2082	0.0034	0.1903	0.0297	-1.5566	0.0637	0.6659	0.0477
4	45	0.8002	-0.2404	0.0035	0.2065	0.0329	-1.9588	0.0691	0.6410	0.0467
4	45	0.8582	-0.2655	0.0032	0.2319	0.0367	-2.4812	0.0769	0.4701	0.0465
4	45	0.9101	-0.2998	0.0032	0.2468	0.0398	-2.9758	0.0834	0.4751	0.0461
4	45	0.9728	-0.3177	0.0037	0.3202	0.0443	-3.5057	0.0939	0.8104	0.0445

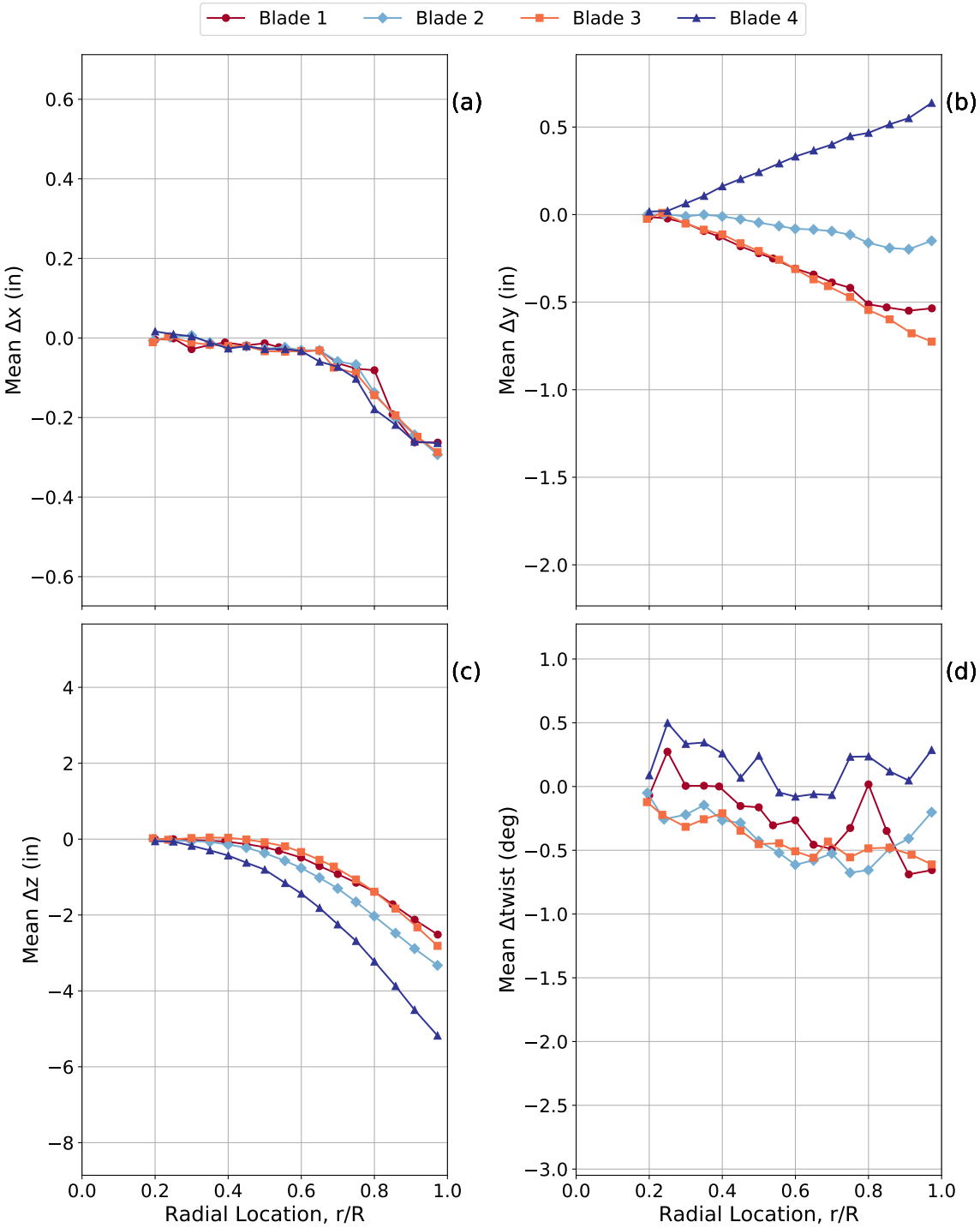


Figure 2.1-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0045	0.0010	-0.0132	0.0007	-0.0050	0.0023	-0.0685	0.0233
1	60.12	0.2499	-0.0011	0.0009	-0.0225	0.0013	-0.0010	0.0046	0.2730	0.0392
1	60.12	0.2998	-0.0281	0.0011	-0.0483	0.0028	-0.0251	0.0089	0.0049	0.0515
1	60.12	0.3498	-0.0177	0.0011	-0.0939	0.0046	-0.0442	0.0145	0.0060	0.0431
1	60.12	0.3913	-0.0113	0.0016	-0.1256	0.0066	-0.0622	0.0211	0.0002	0.0476
1	60.12	0.4496	-0.0186	0.0019	-0.1809	0.0088	-0.1306	0.0267	-0.1528	0.0461
1	60.12	0.4997	-0.0133	0.0022	-0.2209	0.0111	-0.2121	0.0347	-0.1632	0.0479
1	60.12	0.5387	-0.0232	0.0020	-0.2510	0.0126	-0.3077	0.0404	-0.3044	0.0528
1	60.12	0.5996	-0.0338	0.0019	-0.3087	0.0150	-0.4860	0.0480	-0.2646	0.0516
1	60.12	0.6498	-0.0307	0.0023	-0.3422	0.0176	-0.7122	0.0540	-0.4566	0.0503
1	60.12	0.6998	-0.0633	0.0021	-0.3874	0.0201	-0.9213	0.0607	-0.4899	0.0581
1	60.12	0.7500	-0.0773	0.0021	-0.4184	0.0229	-1.1503	0.0666	-0.3256	0.0443
1	60.12	0.8001	-0.0811	0.0021	-0.5123	0.0258	-1.3874	0.0718	0.0164	0.0504
1	60.12	0.8497	-0.1920	0.0022	-0.5296	0.0284	-1.7166	0.0784	-0.3486	0.0462
1	60.12	0.9102	-0.2623	0.0023	-0.5487	0.0313	-2.1240	0.0857	-0.6888	0.0444
1	60.12	0.9734	-0.2629	0.0026	-0.5354	0.0350	-2.5162	0.0943	-0.6556	0.0510
2	60.12	0.1949	-0.0066	0.0015	-0.0016	0.0007	-0.0042	0.0022	-0.0504	0.0274
2	60.12	0.2405	0.0021	0.0011	0.0020	0.0018	-0.0312	0.0052	-0.2561	0.0401
2	60.12	0.2999	0.0062	0.0013	-0.0097	0.0037	-0.0569	0.0095	-0.2211	0.0620
2	60.12	0.3498	-0.0112	0.0014	-0.0005	0.0056	-0.0728	0.0162	-0.1462	0.0633
2	60.12	0.3998	-0.0230	0.0019	-0.0106	0.0096	-0.1441	0.0254	-0.2658	0.0617
2	60.12	0.4496	-0.0210	0.0018	-0.0265	0.0103	-0.2245	0.0328	-0.2849	0.0535
2	60.12	0.4995	-0.0270	0.0022	-0.0458	0.0127	-0.3673	0.0417	-0.4277	0.0541
2	60.12	0.5551	-0.0234	0.0020	-0.0652	0.0157	-0.5699	0.0528	-0.5207	0.0490
2	60.12	0.5996	-0.0307	0.0023	-0.0814	0.0180	-0.7620	0.0610	-0.6129	0.0657
2	60.12	0.6497	-0.0311	0.0020	-0.0852	0.0213	-1.0168	0.0704	-0.5797	0.0681
2	60.12	0.6996	-0.0591	0.0020	-0.0946	0.0243	-1.3005	0.0790	-0.5253	0.0769
2	60.12	0.7495	-0.0669	0.0024	-0.1149	0.0277	-1.6544	0.0884	-0.6757	0.0554
2	60.12	0.7996	-0.1370	0.0026	-0.1614	0.0310	-2.0303	0.0964	-0.6555	0.0647
2	60.12	0.8578	-0.2011	0.0020	-0.1909	0.0349	-2.4796	0.1066	-0.4855	0.0688
2	60.12	0.9100	-0.2433	0.0020	-0.1978	0.0383	-2.8863	0.1164	-0.4085	0.0583
2	60.12	0.9727	-0.2933	0.0026	-0.1498	0.0424	-3.3281	0.1289	-0.2014	0.0613
3	60.12	0.1938	-0.0108	0.0013	-0.0240	0.0007	0.0235	0.0018	-0.1222	0.0240
3	60.12	0.2357	0.0036	0.0012	0.0099	0.0010	-0.0160	0.0034	-0.2219	0.0390
3	60.12	0.2995	-0.0114	0.0010	-0.0512	0.0024	0.0281	0.0068	-0.3163	0.0566
3	60.12	0.3493	-0.0172	0.0013	-0.0863	0.0043	0.0418	0.0114	-0.2568	0.0525
3	60.12	0.4000	-0.0202	0.0019	-0.1132	0.0064	0.0366	0.0178	-0.2099	0.0481
3	60.12	0.4497	-0.0206	0.0020	-0.1638	0.0084	-0.0099	0.0231	-0.3462	0.0451
3	60.12	0.4997	-0.0333	0.0026	-0.2080	0.0105	-0.0844	0.0295	-0.4519	0.0428
3	60.12	0.5556	-0.0343	0.0022	-0.2579	0.0124	-0.1908	0.0363	-0.4450	0.0403
3	60.12	0.5995	-0.0330	0.0022	-0.3109	0.0147	-0.3404	0.0417	-0.5078	0.0479
3	60.12	0.6498	-0.0315	0.0024	-0.3695	0.0175	-0.5469	0.0479	-0.5581	0.0537
3	60.12	0.6890	-0.0744	0.0022	-0.4083	0.0197	-0.7234	0.0531	-0.4321	0.0523
3	60.12	0.7495	-0.0886	0.0025	-0.4704	0.0232	-1.0645	0.0620	-0.5551	0.0450
3	60.12	0.7998	-0.1438	0.0027	-0.5446	0.0259	-1.3851	0.0686	-0.4851	0.0511
3	60.12	0.8577	-0.1944	0.0028	-0.5981	0.0293	-1.8291	0.0759	-0.4796	0.0559
3	60.12	0.9178	-0.2483	0.0026	-0.6781	0.0329	-2.3244	0.0864	-0.5350	0.0586
3	60.12	0.9729	-0.2873	0.0033	-0.7257	0.0366	-2.8144	0.0945	-0.6113	0.0542
4	60.12	0.2001	0.0164	0.0009	0.0171	0.0006	-0.0551	0.0021	0.0878	0.0236
4	60.12	0.2502	0.0093	0.0011	0.0210	0.0012	-0.0644	0.0044	0.4986	0.0395
4	60.12	0.3001	0.0042	0.0012	0.0638	0.0023	-0.1760	0.0081	0.3340	0.0531
4	60.12	0.3502	-0.0115	0.0012	0.1068	0.0038	-0.2971	0.0138	0.3448	0.0532
4	60.12	0.4002	-0.0264	0.0016	0.1618	0.0060	-0.4328	0.0213	0.2596	0.0486
4	60.12	0.4500	-0.0206	0.0015	0.2035	0.0071	-0.6222	0.0273	0.0688	0.0468
4	60.12	0.5001	-0.0280	0.0022	0.2426	0.0094	-0.8048	0.0343	0.2410	0.0492
4	60.12	0.5560	-0.0281	0.0018	0.2924	0.0115	-1.1576	0.0407	-0.0468	0.0460
4	60.12	0.6001	-0.0328	0.0016	0.3317	0.0127	-1.4366	0.0467	-0.0793	0.0547
4	60.12	0.6501	-0.0595	0.0020	0.3661	0.0152	-1.8141	0.0523	-0.0601	0.0550
4	60.12	0.6999	-0.0725	0.0018	0.4000	0.0169	-2.2486	0.0590	-0.0668	0.0506
4	60.12	0.7500	-0.1025	0.0021	0.4480	0.0190	-2.6845	0.0654	0.2332	0.0474
4	60.12	0.8002	-0.1791	0.0024	0.4669	0.0212	-3.2272	0.0734	0.2356	0.0497
4	60.12	0.8582	-0.2184	0.0024	0.5158	0.0238	-3.8744	0.0828	0.1183	0.0553
4	60.12	0.9101	-0.2605	0.0025	0.5505	0.0262	-4.5023	0.0931	0.0472	0.0556
4	60.12	0.9728	-0.2642	0.0029	0.6379	0.0297	-5.1793	0.1028	0.2864	0.0612

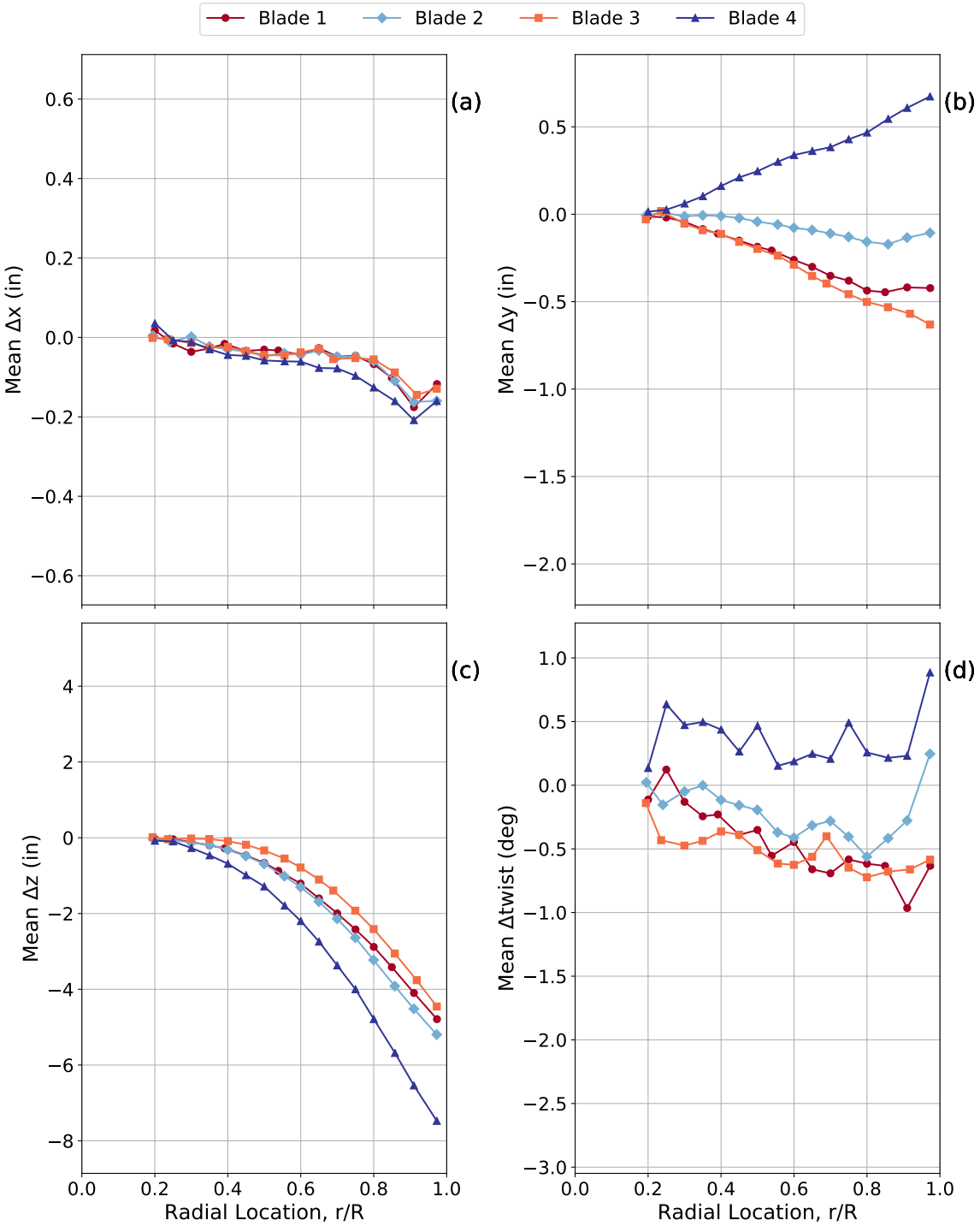


Figure 2.1-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0176	0.0014	-0.0126	0.0008	-0.0289	0.0030	-0.1129	0.0214
1	74.88	0.2499	-0.0156	0.0011	-0.0183	0.0015	-0.0402	0.0047	0.1228	0.0505
1	74.88	0.2998	-0.0363	0.0012	-0.0431	0.0033	-0.1133	0.0104	-0.1305	0.0526
1	74.88	0.3498	-0.0277	0.0015	-0.0849	0.0055	-0.2017	0.0172	-0.2441	0.0482
1	74.88	0.3913	-0.0161	0.0017	-0.1109	0.0079	-0.2793	0.0241	-0.2298	0.0452
1	74.88	0.4496	-0.0343	0.0018	-0.1505	0.0107	-0.4685	0.0319	-0.3905	0.0525
1	74.88	0.4997	-0.0307	0.0022	-0.1861	0.0136	-0.6612	0.0397	-0.3513	0.0514
1	74.88	0.5387	-0.0329	0.0023	-0.2076	0.0153	-0.8747	0.0451	-0.5540	0.0552
1	74.88	0.5996	-0.0436	0.0026	-0.2611	0.0194	-1.2096	0.0549	-0.4458	0.0619
1	74.88	0.6498	-0.0269	0.0018	-0.3009	0.0222	-1.6002	0.0621	-0.6605	0.0538
1	74.88	0.6998	-0.0481	0.0026	-0.3522	0.0255	-1.9955	0.0701	-0.6920	0.0573
1	74.88	0.7500	-0.0463	0.0022	-0.3800	0.0287	-2.4204	0.0786	-0.5828	0.0498
1	74.88	0.8001	-0.0672	0.0024	-0.4367	0.0321	-2.8815	0.0859	-0.6167	0.0562
1	74.88	0.8497	-0.1023	0.0025	-0.4458	0.0354	-3.4154	0.0936	-0.6336	0.0504
1	74.88	0.9102	-0.1756	0.0027	-0.4185	0.0394	-4.0967	0.1043	-0.9647	0.0465
1	74.88	0.9734	-0.1174	0.0030	-0.4222	0.0443	-4.7890	0.1151	-0.6331	0.0498
2	74.88	0.1949	0.0043	0.0015	-0.0059	0.0006	-0.0214	0.0022	0.0221	0.0336
2	74.88	0.2405	-0.0107	0.0013	0.0092	0.0011	-0.0513	0.0041	-0.1537	0.0529
2	74.88	0.2999	0.0020	0.0012	-0.0116	0.0022	-0.1261	0.0084	-0.0491	0.0786
2	74.88	0.3498	-0.0227	0.0012	-0.0064	0.0042	-0.1863	0.0146	-0.0013	0.0701
2	74.88	0.3998	-0.0299	0.0013	-0.0102	0.0062	-0.3194	0.0222	-0.1153	0.0629
2	74.88	0.4496	-0.0359	0.0015	-0.0216	0.0077	-0.4827	0.0279	-0.1576	0.0607
2	74.88	0.4995	-0.0468	0.0017	-0.0426	0.0098	-0.6899	0.0349	-0.1941	0.0586
2	74.88	0.5551	-0.0399	0.0018	-0.0589	0.0120	-1.0149	0.0428	-0.3698	0.0523
2	74.88	0.5996	-0.0436	0.0018	-0.0776	0.0140	-1.3027	0.0487	-0.4127	0.0643
2	74.88	0.6497	-0.0331	0.0018	-0.0903	0.0161	-1.6859	0.0555	-0.3161	0.0663
2	74.88	0.6996	-0.0486	0.0019	-0.1101	0.0186	-2.1366	0.0635	-0.2812	0.0676
2	74.88	0.7495	-0.0484	0.0020	-0.1298	0.0212	-2.6395	0.0716	-0.4042	0.0576
2	74.88	0.7996	-0.0596	0.0020	-0.1576	0.0239	-3.2279	0.0801	-0.5618	0.0594
2	74.88	0.8578	-0.1096	0.0022	-0.1717	0.0269	-3.9165	0.0903	-0.4169	0.0630
2	74.88	0.9100	-0.1625	0.0025	-0.1337	0.0299	-4.5165	0.0980	-0.2776	0.0659
2	74.88	0.9727	-0.1600	0.0031	-0.1066	0.0338	-5.1956	0.1090	0.2462	0.0652
3	74.88	0.1938	-0.0013	0.0016	-0.0289	0.0006	0.0149	0.0025	-0.1403	0.0314
3	74.88	0.2357	-0.0046	0.0011	0.0178	0.0012	-0.0382	0.0033	-0.4318	0.0544
3	74.88	0.2995	-0.0141	0.0013	-0.0537	0.0025	-0.0203	0.0082	-0.4742	0.0781
3	74.88	0.3493	-0.0263	0.0011	-0.0914	0.0041	-0.0340	0.0144	-0.4369	0.0720
3	74.88	0.4000	-0.0238	0.0015	-0.1129	0.0066	-0.0896	0.0211	-0.3632	0.0683
3	74.88	0.4497	-0.0344	0.0017	-0.1582	0.0086	-0.1849	0.0273	-0.3886	0.0648
3	74.88	0.4997	-0.0445	0.0018	-0.1983	0.0104	-0.3357	0.0339	-0.5099	0.0641
3	74.88	0.5556	-0.0453	0.0022	-0.2370	0.0132	-0.5483	0.0410	-0.6149	0.0596
3	74.88	0.5995	-0.0376	0.0026	-0.2891	0.0155	-0.7858	0.0458	-0.6256	0.0710
3	74.88	0.6498	-0.0284	0.0022	-0.3530	0.0180	-1.1040	0.0512	-0.5623	0.0767
3	74.88	0.6890	-0.0546	0.0022	-0.3963	0.0206	-1.3943	0.0556	-0.4009	0.0737
3	74.88	0.7495	-0.0520	0.0021	-0.4570	0.0243	-1.9264	0.0625	-0.6467	0.0639
3	74.88	0.7998	-0.0553	0.0023	-0.5016	0.0278	-2.4112	0.0683	-0.7229	0.0636
3	74.88	0.8577	-0.0882	0.0024	-0.5318	0.0318	-3.0562	0.0756	-0.6787	0.0652
3	74.88	0.9178	-0.1447	0.0025	-0.5691	0.0361	-3.7594	0.0835	-0.6611	0.0664
3	74.88	0.9729	-0.1291	0.0037	-0.6305	0.0400	-4.4558	0.0917	-0.5847	0.0648
4	74.88	0.2001	0.0355	0.0013	0.0144	0.0006	-0.0782	0.0017	0.1355	0.0289
4	74.88	0.2502	-0.0070	0.0011	0.0260	0.0014	-0.0969	0.0035	0.6357	0.0507
4	74.88	0.3001	-0.0117	0.0011	0.0614	0.0025	-0.2707	0.0061	0.4725	0.0671
4	74.88	0.3502	-0.0299	0.0013	0.1031	0.0042	-0.4637	0.0105	0.4968	0.0566
4	74.88	0.4002	-0.0442	0.0012	0.1615	0.0066	-0.6863	0.0160	0.4369	0.0603
4	74.88	0.4500	-0.0463	0.0014	0.2108	0.0082	-0.9885	0.0204	0.2649	0.0566
4	74.88	0.5001	-0.0580	0.0015	0.2463	0.0102	-1.2855	0.0260	0.4664	0.0546
4	74.88	0.5560	-0.0602	0.0015	0.3002	0.0129	-1.7917	0.0319	0.1530	0.0534
4	74.88	0.6001	-0.0609	0.0019	0.3386	0.0149	-2.1994	0.0364	0.1879	0.0624
4	74.88	0.6501	-0.0768	0.0021	0.3619	0.0175	-2.7418	0.0419	0.2468	0.0619
4	74.88	0.6999	-0.0780	0.0023	0.3835	0.0199	-3.3699	0.0470	0.2071	0.0627
4	74.88	0.7500	-0.0965	0.0023	0.4287	0.0226	-3.9994	0.0526	0.4911	0.0585
4	74.88	0.8002	-0.1260	0.0025	0.4672	0.0253	-4.7867	0.0577	0.2572	0.0627
4	74.88	0.8582	-0.1605	0.0026	0.5454	0.0284	-5.6804	0.0638	0.2152	0.0602
4	74.88	0.9101	-0.2082	0.0027	0.6084	0.0313	-6.5393	0.0697	0.2309	0.0610
4	74.88	0.9728	-0.1601	0.0029	0.6737	0.0347	-7.4741	0.0764	0.8860	0.0624

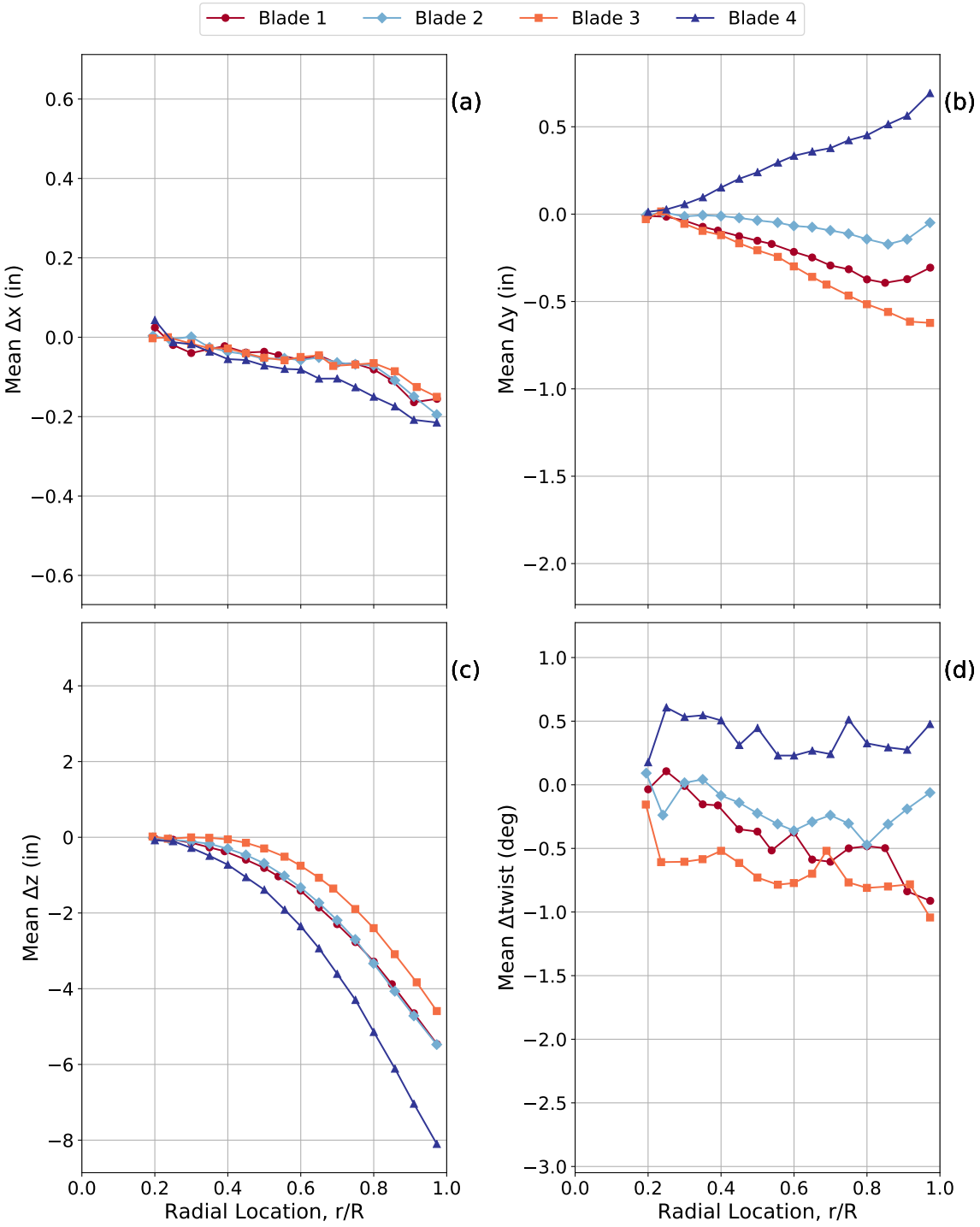


Figure 2.1-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0242	0.0022	-0.0111	0.0010	-0.0361	0.0035	-0.0358	0.0290
1	80.16	0.2499	-0.0196	0.0016	-0.0148	0.0018	-0.0642	0.0060	0.1064	0.0638
1	80.16	0.2998	-0.0398	0.0013	-0.0370	0.0035	-0.1430	0.0118	-0.0090	0.0705
1	80.16	0.3498	-0.0299	0.0014	-0.0727	0.0065	-0.2689	0.0211	-0.1537	0.0624
1	80.16	0.3913	-0.0225	0.0016	-0.0942	0.0089	-0.3697	0.0286	-0.1619	0.0645
1	80.16	0.4496	-0.0386	0.0019	-0.1263	0.0118	-0.5916	0.0392	-0.3495	0.0637
1	80.16	0.4997	-0.0366	0.0020	-0.1523	0.0143	-0.8102	0.0491	-0.3680	0.0659
1	80.16	0.5387	-0.0454	0.0020	-0.1709	0.0164	-1.0331	0.0567	-0.5160	0.0654
1	80.16	0.5996	-0.0562	0.0022	-0.2160	0.0200	-1.4098	0.0675	-0.3753	0.0654
1	80.16	0.6498	-0.0457	0.0017	-0.2482	0.0230	-1.8542	0.0781	-0.5877	0.0654
1	80.16	0.6998	-0.0656	0.0020	-0.2938	0.0259	-2.2958	0.0873	-0.6049	0.0691
1	80.16	0.7500	-0.0668	0.0023	-0.3156	0.0293	-2.7695	0.0978	-0.4994	0.0709
1	80.16	0.8001	-0.0812	0.0027	-0.3737	0.0327	-3.2838	0.1079	-0.4832	0.0678
1	80.16	0.8497	-0.1088	0.0029	-0.3933	0.0362	-3.8805	0.1179	-0.4980	0.0667
1	80.16	0.9102	-0.1638	0.0032	-0.3721	0.0405	-4.6477	0.1297	-0.8375	0.0679
1	80.16	0.9734	-0.1553	0.0034	-0.3064	0.0454	-5.4643	0.1422	-0.9120	0.0674
2	80.16	0.1949	0.0033	0.0015	-0.0064	0.0007	-0.0135	0.0023	0.0914	0.0294
2	80.16	0.2405	-0.0050	0.0012	0.0101	0.0013	-0.0618	0.0046	-0.2384	0.0489
2	80.16	0.2999	0.0010	0.0014	-0.0129	0.0024	-0.1112	0.0076	0.0159	0.0688
2	80.16	0.3498	-0.0258	0.0013	-0.0065	0.0045	-0.1730	0.0149	0.0420	0.0662
2	80.16	0.3998	-0.0365	0.0014	-0.0111	0.0066	-0.3018	0.0215	-0.0845	0.0594
2	80.16	0.4496	-0.0429	0.0016	-0.0216	0.0087	-0.4669	0.0271	-0.1405	0.0570
2	80.16	0.4995	-0.0546	0.0017	-0.0360	0.0110	-0.6890	0.0337	-0.2242	0.0522
2	80.16	0.5551	-0.0531	0.0018	-0.0484	0.0139	-1.0222	0.0413	-0.3081	0.0510
2	80.16	0.5996	-0.0576	0.0020	-0.0674	0.0164	-1.3274	0.0480	-0.3607	0.0590
2	80.16	0.6497	-0.0512	0.0018	-0.0750	0.0193	-1.7313	0.0550	-0.2915	0.0647
2	80.16	0.6996	-0.0639	0.0020	-0.0935	0.0225	-2.1917	0.0622	-0.2394	0.0612
2	80.16	0.7495	-0.0682	0.0020	-0.1122	0.0258	-2.7011	0.0700	-0.3044	0.0526
2	80.16	0.7996	-0.0706	0.0021	-0.1431	0.0291	-3.3343	0.0771	-0.4721	0.0541
2	80.16	0.8578	-0.1087	0.0022	-0.1723	0.0329	-4.0672	0.0861	-0.3099	0.0571
2	80.16	0.9100	-0.1492	0.0024	-0.1440	0.0365	-4.7163	0.0944	-0.1904	0.0559
2	80.16	0.9727	-0.1949	0.0030	-0.0491	0.0408	-5.4750	0.1049	-0.0618	0.0574
3	80.16	0.1938	-0.0027	0.0017	-0.0287	0.0006	0.0197	0.0026	-0.1556	0.0294
3	80.16	0.2357	0.0000	0.0013	0.0152	0.0011	-0.0379	0.0040	-0.6080	0.0483
3	80.16	0.2995	-0.0160	0.0013	-0.0556	0.0024	-0.0028	0.0092	-0.6052	0.0693
3	80.16	0.3493	-0.0277	0.0011	-0.0959	0.0039	-0.0145	0.0150	-0.5849	0.0602
3	80.16	0.4000	-0.0282	0.0015	-0.1203	0.0063	-0.0548	0.0233	-0.5191	0.0567
3	80.16	0.4497	-0.0406	0.0014	-0.1670	0.0081	-0.1456	0.0300	-0.6144	0.0529
3	80.16	0.4997	-0.0517	0.0016	-0.2068	0.0102	-0.2957	0.0385	-0.7290	0.0555
3	80.16	0.5556	-0.0580	0.0018	-0.2447	0.0129	-0.5130	0.0482	-0.7853	0.0476
3	80.16	0.5995	-0.0498	0.0018	-0.2992	0.0153	-0.7517	0.0562	-0.7723	0.0598
3	80.16	0.6498	-0.0454	0.0020	-0.3591	0.0180	-1.0691	0.0645	-0.6992	0.0676
3	80.16	0.6890	-0.0723	0.0020	-0.4032	0.0203	-1.3538	0.0710	-0.5189	0.0625
3	80.16	0.7495	-0.0689	0.0021	-0.4661	0.0241	-1.8956	0.0821	-0.7676	0.0533
3	80.16	0.7998	-0.0652	0.0022	-0.5157	0.0275	-2.4002	0.0928	-0.8104	0.0532
3	80.16	0.8577	-0.0857	0.0024	-0.5599	0.0316	-3.0892	0.1063	-0.7996	0.0544
3	80.16	0.9178	-0.1254	0.0028	-0.6151	0.0360	-3.8320	0.1207	-0.7824	0.0597
3	80.16	0.9729	-0.1501	0.0037	-0.6226	0.0400	-4.5903	0.1343	-1.0430	0.0574
4	80.16	0.2001	0.0431	0.0015	0.0126	0.0007	-0.0801	0.0027	0.1768	0.0278
4	80.16	0.2502	-0.0126	0.0014	0.0265	0.0013	-0.1048	0.0040	0.6072	0.0501
4	80.16	0.3001	-0.0177	0.0014	0.0568	0.0025	-0.2809	0.0091	0.5330	0.0615
4	80.16	0.3502	-0.0363	0.0011	0.0963	0.0044	-0.4913	0.0153	0.5461	0.0576
4	80.16	0.4002	-0.0551	0.0016	0.1523	0.0067	-0.7257	0.0228	0.5055	0.0540
4	80.16	0.4500	-0.0575	0.0020	0.2023	0.0087	-1.0550	0.0296	0.3122	0.0551
4	80.16	0.5001	-0.0714	0.0020	0.2396	0.0110	-1.3872	0.0374	0.4457	0.0522
4	80.16	0.5560	-0.0798	0.0020	0.2950	0.0139	-1.9142	0.0469	0.2296	0.0506
4	80.16	0.6001	-0.0814	0.0021	0.3338	0.0162	-2.3524	0.0544	0.2297	0.0544
4	80.16	0.6501	-0.1043	0.0020	0.3581	0.0192	-2.9345	0.0631	0.2681	0.0579
4	80.16	0.6999	-0.1041	0.0023	0.3779	0.0222	-3.6089	0.0711	0.2411	0.0554
4	80.16	0.7500	-0.1261	0.0023	0.4227	0.0253	-4.2978	0.0798	0.5117	0.0556
4	80.16	0.8002	-0.1499	0.0028	0.4515	0.0284	-5.1440	0.0886	0.3255	0.0536
4	80.16	0.8582	-0.1742	0.0032	0.5141	0.0321	-6.1119	0.0998	0.2937	0.0561
4	80.16	0.9101	-0.2081	0.0037	0.5628	0.0354	-7.0394	0.1102	0.2753	0.0558
4	80.16	0.9728	-0.2149	0.0036	0.6923	0.0393	-8.1009	0.1238	0.4769	0.0556

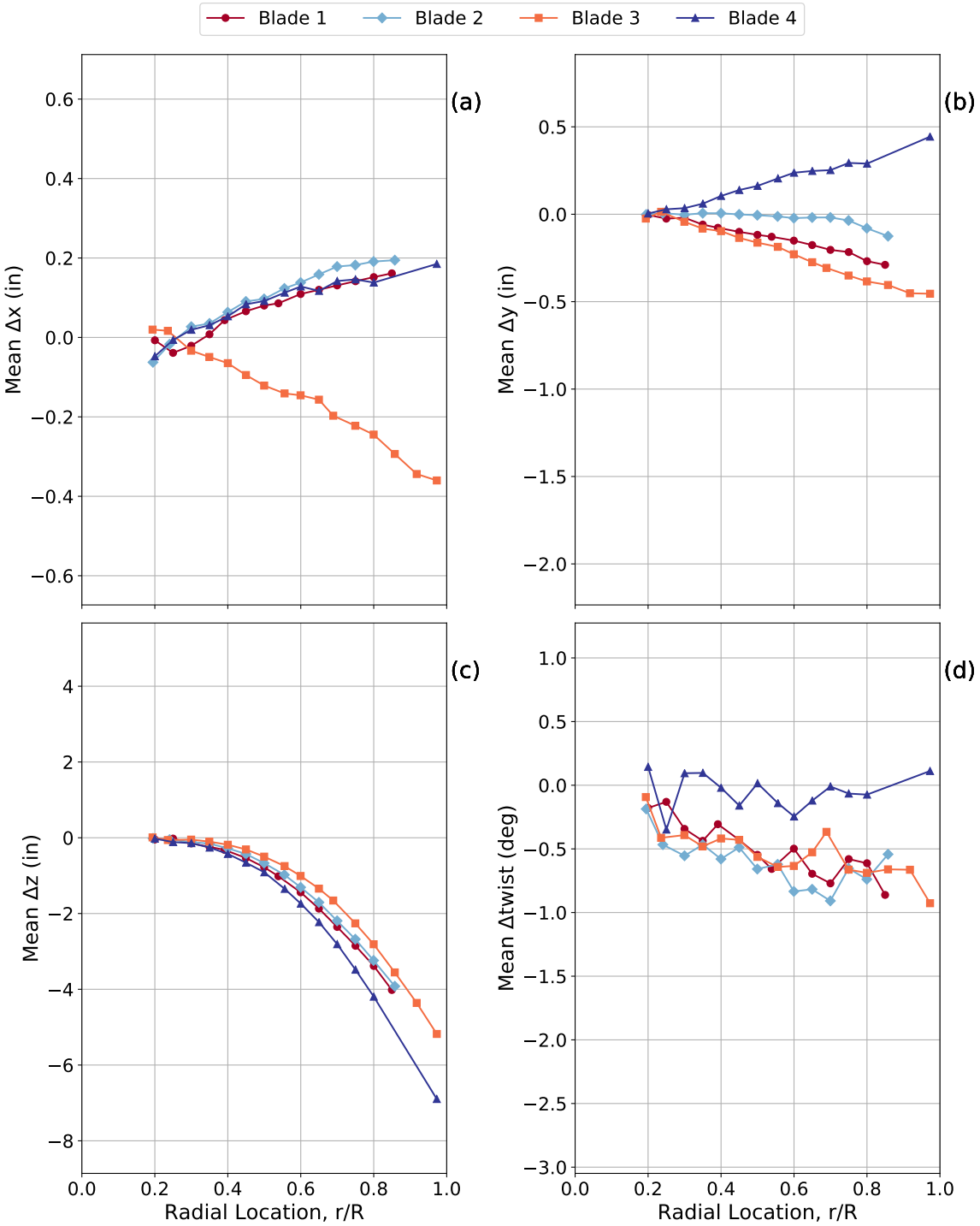


Figure 2.1-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -1.7° NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-14. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0072	0.0011	-0.0038	0.0008	-0.0462	0.0020	-0.1788	0.0222
1	85.08	0.2499	-0.0389	0.0009	-0.0251	0.0013	-0.0221	0.0041	-0.1304	0.0389
1	85.08	0.2998	-0.0210	0.0010	-0.0201	0.0033	-0.1498	0.0078	-0.3430	0.0506
1	85.08	0.3498	0.0079	0.0011	-0.0592	0.0049	-0.2394	0.0135	-0.4367	0.0445
1	85.08	0.3913	0.0435	0.0013	-0.0775	0.0073	-0.3207	0.0191	-0.3062	0.0418
1	85.08	0.4496	0.0659	0.0015	-0.1006	0.0095	-0.5342	0.0257	-0.4294	0.0456
1	85.08	0.4997	0.0802	0.0018	-0.1178	0.0114	-0.7787	0.0318	-0.5467	0.0472
1	85.08	0.5387	0.0859	0.0021	-0.1288	0.0128	-1.0153	0.0370	-0.6574	0.0531
1	85.08	0.5996	0.1093	0.0022	-0.1509	0.0152	-1.4410	0.0451	-0.4983	0.0543
1	85.08	0.6498	0.1199	0.0022	-0.1763	0.0172	-1.8706	0.0522	-0.6956	0.0580
1	85.08	0.6998	0.1310	0.0030	-0.2038	0.0194	-2.3539	0.0583	-0.7706	0.0650
1	85.08	0.7500	0.1415	0.0034	-0.2163	0.0215	-2.8515	0.0661	-0.5802	0.0880
1	85.08	0.8001	0.1518	0.0043	-0.2685	0.0231	-3.3838	0.0753	-0.6128	0.1157
1	85.08	0.8497	0.1613	0.0043	-0.2894	0.0260	-4.0185	0.0879	-0.8615	0.1092
2	85.08	0.1949	-0.0626	0.0011	-0.0017	0.0006	-0.0164	0.0017	-0.1865	0.0192
2	85.08	0.2405	-0.0171	0.0007	0.0063	0.0009	-0.0484	0.0037	-0.4667	0.0306
2	85.08	0.2999	0.0270	0.0007	-0.0029	0.0020	-0.1120	0.0074	-0.5541	0.0444
2	85.08	0.3498	0.0352	0.0012	0.0060	0.0036	-0.1553	0.0123	-0.4667	0.0418
2	85.08	0.3998	0.0635	0.0013	0.0057	0.0052	-0.2788	0.0196	-0.5795	0.0433
2	85.08	0.4496	0.0906	0.0012	-0.0010	0.0071	-0.4279	0.0257	-0.4882	0.0356
2	85.08	0.4995	0.0969	0.0014	-0.0055	0.0086	-0.6702	0.0325	-0.6584	0.0372
2	85.08	0.5551	0.1233	0.0018	-0.0124	0.0105	-0.9783	0.0397	-0.6214	0.0412
2	85.08	0.5996	0.1382	0.0022	-0.0222	0.0120	-1.3080	0.0460	-0.8342	0.0476
2	85.08	0.6497	0.1587	0.0029	-0.0186	0.0140	-1.7060	0.0541	-0.8173	0.0654
2	85.08	0.6996	0.1784	0.0037	-0.0184	0.0159	-2.1930	0.0609	-0.9084	0.0762
2	85.08	0.7495	0.1822	0.0037	-0.0356	0.0180	-2.6786	0.0702	-0.6535	0.0554
2	85.08	0.7996	0.1910	0.0044	-0.0801	0.0212	-3.2393	0.0792	-0.7388	0.0929
2	85.08	0.8578	0.1945	0.0056	-0.1254	0.0236	-3.9199	0.0940	-0.5424	0.1238
3	85.08	0.1938	0.0197	0.0025	-0.0247	0.0008	0.0091	0.0031	-0.0928	0.0298
3	85.08	0.2357	0.0166	0.0018	0.0139	0.0016	-0.0605	0.0045	-0.4130	0.0579
3	85.08	0.2995	-0.0334	0.0015	-0.0431	0.0034	-0.0488	0.0104	-0.3916	0.0760
3	85.08	0.3493	-0.0493	0.0014	-0.0821	0.0056	-0.1011	0.0179	-0.4808	0.0734
3	85.08	0.4000	-0.0648	0.0018	-0.0966	0.0089	-0.1849	0.0272	-0.4183	0.0651
3	85.08	0.4497	-0.0947	0.0019	-0.1353	0.0106	-0.3080	0.0344	-0.4292	0.0678
3	85.08	0.4997	-0.1212	0.0021	-0.1625	0.0129	-0.4986	0.0432	-0.5630	0.0661
3	85.08	0.5556	-0.1410	0.0023	-0.1865	0.0157	-0.7477	0.0527	-0.6419	0.0656
3	85.08	0.5995	-0.1457	0.0025	-0.2291	0.0179	-1.0086	0.0601	-0.6340	0.0711
3	85.08	0.6498	-0.1567	0.0022	-0.2744	0.0209	-1.3428	0.0690	-0.5268	0.0767
3	85.08	0.6890	-0.1971	0.0023	-0.3070	0.0236	-1.6568	0.0754	-0.3664	0.0746
3	85.08	0.7495	-0.2224	0.0026	-0.3506	0.0272	-2.2601	0.0866	-0.6630	0.0660
3	85.08	0.7998	-0.2446	0.0028	-0.3843	0.0308	-2.8113	0.0963	-0.6883	0.0672
3	85.08	0.8577	-0.2934	0.0030	-0.4047	0.0347	-3.5545	0.1080	-0.6608	0.0725
3	85.08	0.9178	-0.3439	0.0032	-0.4520	0.0385	-4.3605	0.1203	-0.6639	0.0702
3	85.08	0.9729	-0.3601	0.0039	-0.4547	0.0425	-5.1792	0.1335	-0.9267	0.0696
4	85.08	0.2001	-0.0475	0.0013	0.0042	0.0011	-0.0230	0.0016	0.1440	0.0224
4	85.08	0.2502	-0.0063	0.0008	0.0283	0.0014	-0.1145	0.0040	-0.3484	0.0384
4	85.08	0.3001	0.0192	0.0010	0.0349	0.0033	-0.1421	0.0064	0.0943	0.0502
4	85.08	0.3502	0.0308	0.0011	0.0605	0.0047	-0.2601	0.0110	0.0966	0.0446
4	85.08	0.4002	0.0532	0.0014	0.1046	0.0069	-0.4273	0.0172	-0.0203	0.0438
4	85.08	0.4500	0.0834	0.0016	0.1385	0.0080	-0.6591	0.0224	-0.1602	0.0396
4	85.08	0.5001	0.0917	0.0015	0.1621	0.0100	-0.9119	0.0276	0.0150	0.0372
4	85.08	0.5560	0.1127	0.0021	0.2049	0.0122	-1.3500	0.0354	-0.1409	0.0384
4	85.08	0.6001	0.1282	0.0019	0.2375	0.0138	-1.7398	0.0402	-0.2458	0.0473
4	85.08	0.6501	0.1171	0.0025	0.2475	0.0160	-2.2288	0.0476	-0.1206	0.0524
4	85.08	0.6999	0.1419	0.0028	0.2523	0.0185	-2.8104	0.0534	-0.0101	0.0517
4	85.08	0.7500	0.1461	0.0036	0.2935	0.0202	-3.4832	0.0603	-0.0656	0.0579
4	85.08	0.8002	0.1381	0.0048	0.2894	0.0228	-4.1955	0.0729	-0.0737	0.1167
4	85.08	0.9728	0.1850	0.0076	0.4438	0.0313	-6.8963	0.1124	0.1116	0.2084

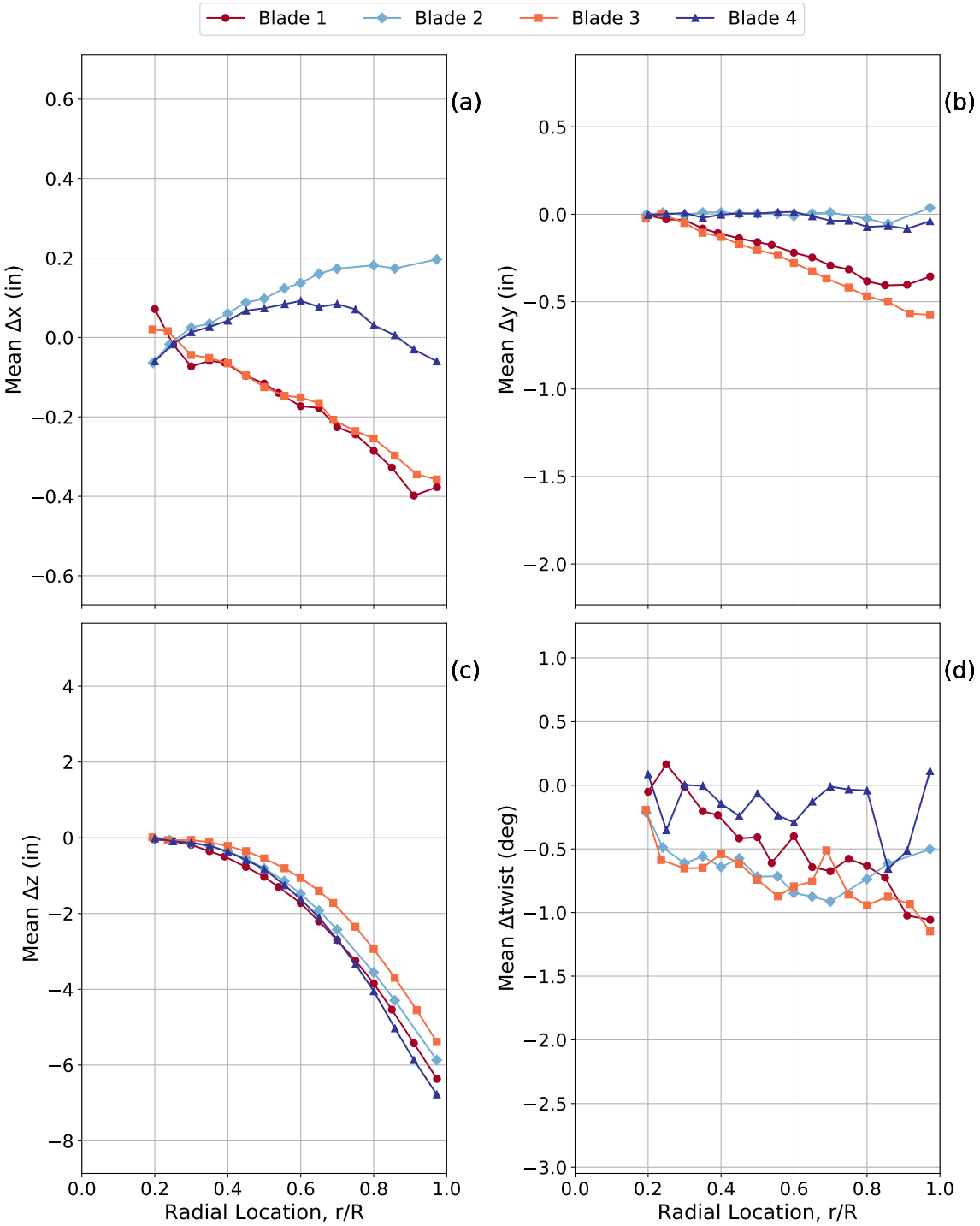


Figure 2.1-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0714	0.0036	-0.0076	0.0017	-0.0448	0.0052	-0.0516	0.0490
1	90	0.2499	-0.0176	0.0025	-0.0288	0.0028	-0.0916	0.0088	0.1647	0.1051
1	90	0.2998	-0.0732	0.0025	-0.0331	0.0062	-0.1889	0.0187	-0.0107	0.1205
1	90	0.3498	-0.0590	0.0022	-0.0822	0.0114	-0.3546	0.0348	-0.2041	0.1072
1	90	0.3913	-0.0635	0.0022	-0.1081	0.0156	-0.4955	0.0470	-0.2350	0.1078
1	90	0.4496	-0.0966	0.0025	-0.1381	0.0216	-0.7693	0.0651	-0.4179	0.1047
1	90	0.4997	-0.1159	0.0027	-0.1594	0.0268	-1.0297	0.0806	-0.4086	0.1042
1	90	0.5387	-0.1396	0.0029	-0.1755	0.0311	-1.3003	0.0929	-0.6103	0.1012
1	90	0.5996	-0.1731	0.0033	-0.2199	0.0376	-1.7233	0.1112	-0.4004	0.1069
1	90	0.6498	-0.1773	0.0033	-0.2472	0.0433	-2.2091	0.1249	-0.6434	0.1098
1	90	0.6998	-0.2261	0.0032	-0.2932	0.0491	-2.6997	0.1407	-0.6748	0.1056
1	90	0.7500	-0.2442	0.0035	-0.3158	0.0549	-3.2434	0.1539	-0.5780	0.1084
1	90	0.8001	-0.2855	0.0036	-0.3837	0.0614	-3.8464	0.1684	-0.6340	0.1099
1	90	0.8497	-0.3275	0.0037	-0.4068	0.0675	-4.5345	0.1839	-0.7251	0.1099
1	90	0.9102	-0.3980	0.0045	-0.4038	0.0750	-5.4268	0.2022	-1.0236	0.1074
1	90	0.9734	-0.3768	0.0041	-0.3560	0.0832	-6.3654	0.2221	-1.0573	0.1118
2	90	0.1949	-0.0641	0.0011	-0.0022	0.0007	-0.0245	0.0015	-0.2151	0.0192
2	90	0.2405	-0.0173	0.0010	0.0091	0.0012	-0.0615	0.0034	-0.4890	0.0256
2	90	0.2999	0.0252	0.0007	-0.0032	0.0021	-0.1423	0.0058	-0.6129	0.0406
2	90	0.3498	0.0346	0.0008	0.0100	0.0043	-0.2155	0.0110	-0.5587	0.0407
2	90	0.3998	0.0603	0.0013	0.0104	0.0060	-0.3649	0.0162	-0.6424	0.0372
2	90	0.4496	0.0877	0.0012	0.0040	0.0072	-0.5433	0.0203	-0.5746	0.0322
2	90	0.4995	0.0976	0.0017	0.0037	0.0086	-0.8074	0.0256	-0.7176	0.0390
2	90	0.5551	0.1235	0.0016	0.0019	0.0102	-1.1430	0.0315	-0.7151	0.0334
2	90	0.5996	0.1370	0.0017	-0.0108	0.0115	-1.4814	0.0359	-0.8472	0.0461
2	90	0.6497	0.1604	0.0024	0.0050	0.0132	-1.9211	0.0406	-0.8751	0.0510
2	90	0.6996	0.1731	0.0025	0.0096	0.0149	-2.4230	0.0457	-0.9137	0.0551
2	90	0.7996	0.1816	0.0028	-0.0254	0.0185	-3.5545	0.0559	-0.7358	0.0682
2	90	0.8578	0.1736	0.0042	-0.0553	0.0209	-4.2940	0.0652	-0.6139	0.0768
2	90	0.9727	0.1964	0.0068	0.0365	0.0244	-5.8702	0.0851	-0.5027	0.1218
3	90	0.1938	0.0202	0.0026	-0.0249	0.0009	0.0069	0.0035	-0.1935	0.0283
3	90	0.2357	0.0157	0.0020	0.0040	0.0014	-0.0636	0.0044	-0.5866	0.0633
3	90	0.2995	-0.0442	0.0016	-0.0499	0.0032	-0.0605	0.0106	-0.6528	0.0753
3	90	0.3493	-0.0517	0.0016	-0.1062	0.0055	-0.1204	0.0181	-0.6482	0.0724
3	90	0.4000	-0.0653	0.0018	-0.1295	0.0083	-0.2164	0.0268	-0.5405	0.0705
3	90	0.4497	-0.0954	0.0019	-0.1717	0.0102	-0.3545	0.0348	-0.6151	0.0673
3	90	0.4997	-0.1252	0.0019	-0.2046	0.0125	-0.5465	0.0421	-0.7425	0.0687
3	90	0.5556	-0.1468	0.0019	-0.2330	0.0155	-0.8043	0.0505	-0.8728	0.0699
3	90	0.5995	-0.1510	0.0020	-0.2790	0.0178	-1.0584	0.0569	-0.7948	0.0712
3	90	0.6498	-0.1654	0.0021	-0.3270	0.0204	-1.4052	0.0637	-0.7561	0.0747
3	90	0.6890	-0.2074	0.0022	-0.3674	0.0229	-1.7211	0.0699	-0.5118	0.0754
3	90	0.7495	-0.2359	0.0024	-0.4193	0.0264	-2.3483	0.0785	-0.8590	0.0672
3	90	0.7998	-0.2544	0.0024	-0.4695	0.0294	-2.9339	0.0860	-0.9430	0.0715
3	90	0.8577	-0.2974	0.0027	-0.5007	0.0332	-3.6973	0.0964	-0.8748	0.0688
3	90	0.9178	-0.3447	0.0034	-0.5688	0.0369	-4.5485	0.1079	-0.9339	0.0695
3	90	0.9729	-0.3576	0.0036	-0.5757	0.0403	-5.3894	0.1196	-1.1483	0.0752
4	90.35	0.2001	-0.0601	0.0013	-0.0037	0.0008	-0.0172	0.0018	0.0863	0.0255
4	90.35	0.2502	-0.0160	0.0007	0.0005	0.0020	-0.0931	0.0050	-0.3533	0.0364
4	90.35	0.3001	0.0132	0.0008	0.0073	0.0034	-0.1314	0.0079	0.0026	0.0532
4	90.35	0.3502	0.0265	0.0012	-0.0200	0.0057	-0.2092	0.0131	-0.0046	0.0431
4	90.35	0.4002	0.0423	0.0017	-0.0029	0.0091	-0.3695	0.0210	-0.1453	0.0428
4	90.35	0.4500	0.0674	0.0019	0.0053	0.0112	-0.5860	0.0261	-0.2425	0.0404
4	90.35	0.5001	0.0734	0.0020	0.0041	0.0135	-0.8294	0.0310	-0.0651	0.0404
4	90.35	0.5560	0.0837	0.0021	0.0116	0.0160	-1.2527	0.0380	-0.2375	0.0430
4	90.35	0.6001	0.0921	0.0022	0.0135	0.0177	-1.6260	0.0433	-0.2924	0.0416
4	90.35	0.6501	0.0768	0.0026	-0.0114	0.0200	-2.1061	0.0506	-0.1284	0.0520
4	90.35	0.6999	0.0841	0.0027	-0.0367	0.0223	-2.6800	0.0561	-0.0105	0.0517
4	90.35	0.7500	0.0705	0.0028	-0.0369	0.0250	-3.3404	0.0627	-0.0338	0.0612
4	90.35	0.8002	0.0305	0.0037	-0.0728	0.0277	-4.0525	0.0699	-0.0416	0.0772
4	90.35	0.8582	0.0056	0.0050	-0.0669	0.0301	-5.0296	0.0794	-0.6564	0.1183
4	90.35	0.9101	-0.0304	0.0086	-0.0826	0.0334	-5.8666	0.0857	-0.5151	0.0938
4	90.35	0.9728	-0.0603	0.0054	-0.0399	0.0357	-6.7739	0.0997	0.1111	0.1114

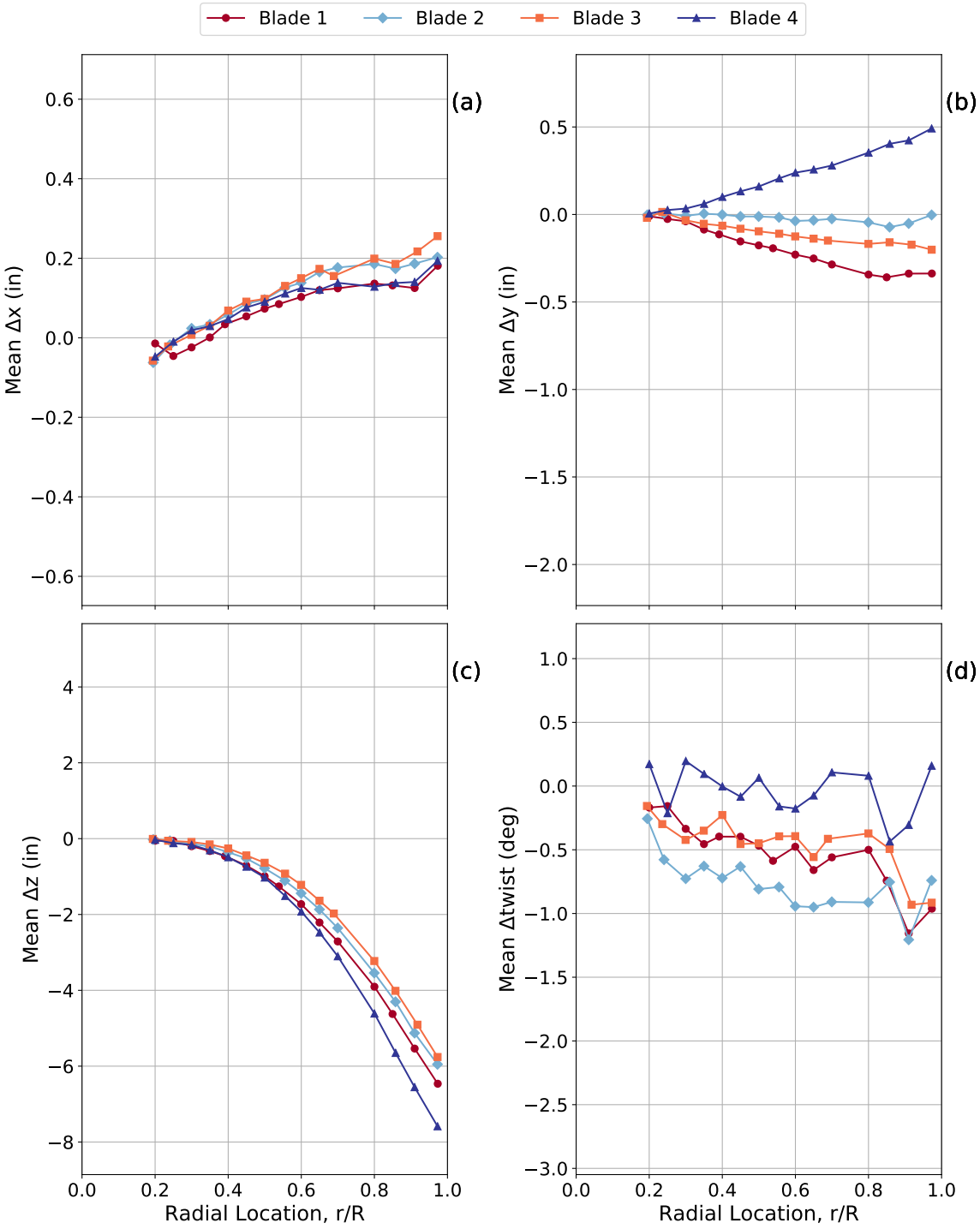


Figure 2.1-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0143	0.0008	-0.0101	0.0007	-0.0534	0.0023	-0.1689	0.0216
1	94.92	0.2499	-0.0458	0.0006	-0.0257	0.0011	-0.0595	0.0039	-0.1570	0.0402
1	94.92	0.2998	-0.0242	0.0009	-0.0391	0.0021	-0.2000	0.0069	-0.3357	0.0475
1	94.92	0.3498	0.0009	0.0009	-0.0862	0.0038	-0.3266	0.0129	-0.4554	0.0372
1	94.92	0.3913	0.0339	0.0014	-0.1138	0.0050	-0.4598	0.0172	-0.3966	0.0388
1	94.92	0.4496	0.0539	0.0014	-0.1540	0.0071	-0.7096	0.0230	-0.3975	0.0387
1	94.92	0.4997	0.0732	0.0015	-0.1765	0.0087	-0.9908	0.0271	-0.4671	0.0360
1	94.92	0.5387	0.0848	0.0015	-0.1932	0.0098	-1.2596	0.0305	-0.5866	0.0363
1	94.92	0.5996	0.1027	0.0017	-0.2294	0.0120	-1.7264	0.0354	-0.4762	0.0382
1	94.92	0.6498	0.1197	0.0021	-0.2515	0.0139	-2.2117	0.0392	-0.6590	0.0462
1	94.92	0.6998	0.1243	0.0019	-0.2858	0.0157	-2.7113	0.0436	-0.5595	0.0429
1	94.92	0.8001	0.1363	0.0022	-0.3434	0.0197	-3.9050	0.0516	-0.5004	0.0616
1	94.92	0.8497	0.1317	0.0028	-0.3591	0.0220	-4.6243	0.0581	-0.7426	0.0623
1	94.92	0.9102	0.1251	0.0074	-0.3378	0.0253	-5.5361	0.0652	-1.1562	0.1436
1	94.92	0.9734	0.1812	0.0040	-0.3374	0.0266	-6.4637	0.0764	-0.9623	0.0935
2	94.92	0.1949	-0.0624	0.0011	-0.0023	0.0006	-0.0236	0.0014	-0.2560	0.0172
2	94.92	0.2405	-0.0178	0.0010	0.0063	0.0012	-0.0591	0.0039	-0.5778	0.0266
2	94.92	0.2999	0.0237	0.0007	-0.0077	0.0020	-0.1406	0.0063	-0.7265	0.0400
2	94.92	0.3498	0.0337	0.0009	0.0045	0.0034	-0.2070	0.0103	-0.6283	0.0418
2	94.92	0.3998	0.0580	0.0013	-0.0010	0.0052	-0.3559	0.0167	-0.7220	0.0372
2	94.92	0.4496	0.0857	0.0013	-0.0113	0.0063	-0.5237	0.0228	-0.6316	0.0340
2	94.92	0.4995	0.0961	0.0015	-0.0115	0.0080	-0.7805	0.0299	-0.8083	0.0405
2	94.92	0.5551	0.1259	0.0016	-0.0165	0.0100	-1.1091	0.0389	-0.7922	0.0356
2	94.92	0.5996	0.1384	0.0016	-0.0372	0.0116	-1.4410	0.0459	-0.9429	0.0390
2	94.92	0.6497	0.1656	0.0021	-0.0333	0.0139	-1.8667	0.0546	-0.9501	0.0552
2	94.92	0.6996	0.1766	0.0024	-0.0249	0.0156	-2.3565	0.0632	-0.9089	0.0450
2	94.92	0.7996	0.1855	0.0025	-0.0449	0.0198	-3.5422	0.0801	-0.9132	0.0490
2	94.92	0.8578	0.1738	0.0031	-0.0722	0.0223	-4.3028	0.0890	-0.7536	0.0641
2	94.92	0.9100	0.1864	0.0057	-0.0515	0.0252	-5.1267	0.0984	-1.2058	0.1096
2	94.92	0.9727	0.2026	0.0051	-0.0028	0.0279	-5.9509	0.1107	-0.7404	0.0641
3	94.92	0.1938	-0.0574	0.0011	-0.0190	0.0007	-0.0076	0.0022	-0.1563	0.0228
3	94.92	0.2357	-0.0218	0.0010	0.0143	0.0011	-0.0554	0.0036	-0.2985	0.0301
3	94.92	0.2995	0.0074	0.0009	-0.0330	0.0029	-0.0880	0.0097	-0.4226	0.0474
3	94.92	0.3493	0.0301	0.0009	-0.0534	0.0046	-0.1517	0.0130	-0.3500	0.0410
3	94.92	0.4000	0.0685	0.0013	-0.0642	0.0074	-0.2589	0.0223	-0.2272	0.0392
3	94.92	0.4497	0.0909	0.0011	-0.0814	0.0091	-0.4422	0.0266	-0.4551	0.0370
3	94.92	0.4997	0.0979	0.0014	-0.0962	0.0124	-0.6367	0.0338	-0.4493	0.0417
3	94.92	0.5556	0.1304	0.0014	-0.1100	0.0145	-0.9232	0.0412	-0.3944	0.0375
3	94.92	0.5995	0.1498	0.0015	-0.1254	0.0169	-1.2186	0.0465	-0.3931	0.0425
3	94.92	0.6498	0.1733	0.0017	-0.1382	0.0198	-1.6374	0.0523	-0.5570	0.0464
3	94.92	0.6890	0.1553	0.0019	-0.1492	0.0223	-1.9748	0.0572	-0.4141	0.0417
3	94.92	0.7998	0.1991	0.0022	-0.1682	0.0297	-3.2268	0.0716	-0.3718	0.0413
3	94.92	0.8577	0.1858	0.0041	-0.1590	0.0338	-4.0138	0.0797	-0.4935	0.0833
3	94.92	0.9178	0.2171	0.0065	-0.1728	0.0374	-4.9065	0.0906	-0.9311	0.1081
3	94.92	0.9729	0.2556	0.0067	-0.2013	0.0415	-5.7588	0.1011	-0.9151	0.1445
4	94.92	0.2001	-0.0476	0.0008	0.0053	0.0005	-0.0316	0.0016	0.1722	0.0188
4	94.92	0.2502	-0.0097	0.0009	0.0252	0.0011	-0.1204	0.0033	-0.2132	0.0305
4	94.92	0.3001	0.0188	0.0008	0.0337	0.0019	-0.1667	0.0061	0.1962	0.0406
4	94.92	0.3502	0.0294	0.0010	0.0605	0.0031	-0.3077	0.0101	0.0947	0.0288
4	94.92	0.4002	0.0471	0.0012	0.1002	0.0047	-0.4918	0.0155	-0.0030	0.0304
4	94.92	0.4500	0.0762	0.0015	0.1321	0.0060	-0.7410	0.0207	-0.0838	0.0390
4	94.92	0.5001	0.0905	0.0014	0.1600	0.0075	-1.0270	0.0281	0.0647	0.0286
4	94.92	0.5560	0.1112	0.0013	0.2065	0.0096	-1.5123	0.0363	-0.1600	0.0352
4	94.92	0.6001	0.1252	0.0016	0.2388	0.0112	-1.9254	0.0425	-0.1765	0.0389
4	94.92	0.6501	0.1206	0.0018	0.2568	0.0138	-2.4770	0.0488	-0.0745	0.0487
4	94.92	0.6999	0.1382	0.0019	0.2796	0.0154	-3.1034	0.0568	0.1074	0.0425
4	94.92	0.8002	0.1283	0.0031	0.3533	0.0204	-4.6133	0.0705	0.0806	0.0503
4	94.92	0.8582	0.1377	0.0034	0.4036	0.0226	-5.6516	0.0779	-0.4352	0.0665
4	94.92	0.9101	0.1404	0.0046	0.4233	0.0256	-6.5551	0.0838	-0.3052	0.0703
4	94.92	0.9728	0.1933	0.0043	0.4912	0.0289	-7.5868	0.0908	0.1590	0.0879

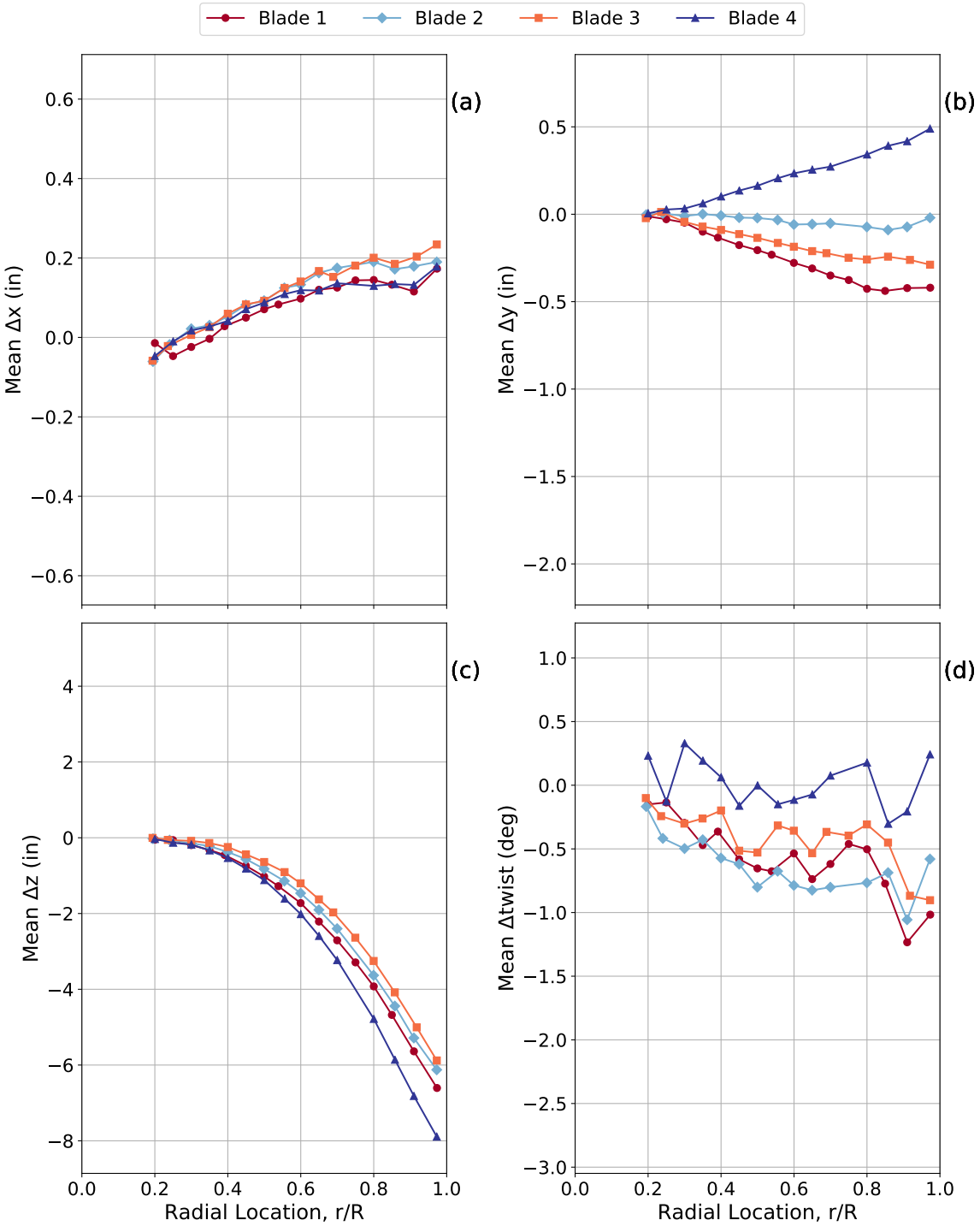


Figure 2.1-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0142	0.0010	-0.0123	0.0006	-0.0513	0.0014	-0.1505	0.0206
1	99.84	0.2499	-0.0470	0.0010	-0.0285	0.0015	-0.0623	0.0046	-0.1355	0.0321
1	99.84	0.2998	-0.0240	0.0010	-0.0479	0.0030	-0.1943	0.0071	-0.2959	0.0433
1	99.84	0.3498	-0.0035	0.0013	-0.0996	0.0044	-0.3232	0.0111	-0.4698	0.0393
1	99.84	0.3913	0.0282	0.0012	-0.1336	0.0072	-0.4543	0.0175	-0.3640	0.0361
1	99.84	0.4496	0.0498	0.0015	-0.1765	0.0088	-0.7388	0.0227	-0.5815	0.0284
1	99.84	0.4997	0.0709	0.0016	-0.2054	0.0110	-1.0235	0.0286	-0.6535	0.0367
1	99.84	0.5387	0.0829	0.0017	-0.2316	0.0122	-1.2780	0.0323	-0.6759	0.0306
1	99.84	0.5996	0.0977	0.0015	-0.2782	0.0144	-1.7234	0.0388	-0.5358	0.0351
1	99.84	0.6498	0.1200	0.0018	-0.3100	0.0163	-2.2125	0.0436	-0.7374	0.0405
1	99.84	0.6998	0.1254	0.0015	-0.3504	0.0190	-2.7082	0.0487	-0.6188	0.0371
1	99.84	0.7500	0.1437	0.0018	-0.3764	0.0218	-3.2905	0.0542	-0.4613	0.0404
1	99.84	0.8001	0.1446	0.0024	-0.4263	0.0242	-3.9241	0.0593	-0.5033	0.0451
1	99.84	0.8497	0.1327	0.0027	-0.4385	0.0268	-4.6771	0.0656	-0.7730	0.0416
1	99.84	0.9102	0.1156	0.0039	-0.4223	0.0301	-5.6384	0.0736	-1.2338	0.0705
1	99.84	0.9734	0.1731	0.0038	-0.4202	0.0335	-6.6055	0.0832	-1.0166	0.0638
2	99.84	0.1949	-0.0607	0.0008	-0.0026	0.0004	-0.0250	0.0020	-0.1674	0.0183
2	99.84	0.2405	-0.0179	0.0009	0.0049	0.0012	-0.0632	0.0031	-0.4175	0.0290
2	99.84	0.2999	0.0218	0.0008	-0.0102	0.0021	-0.1464	0.0089	-0.4974	0.0387
2	99.84	0.3498	0.0306	0.0011	0.0009	0.0032	-0.2207	0.0125	-0.4282	0.0373
2	99.84	0.3998	0.0522	0.0012	-0.0078	0.0054	-0.3751	0.0208	-0.5722	0.0321
2	99.84	0.4496	0.0819	0.0014	-0.0193	0.0071	-0.5639	0.0274	-0.6198	0.0364
2	99.84	0.4995	0.0925	0.0018	-0.0213	0.0086	-0.8225	0.0348	-0.8007	0.0407
2	99.84	0.5551	0.1246	0.0016	-0.0325	0.0101	-1.1426	0.0427	-0.6749	0.0357
2	99.84	0.5996	0.1329	0.0018	-0.0586	0.0118	-1.4636	0.0499	-0.7868	0.0411
2	99.84	0.6497	0.1625	0.0020	-0.0567	0.0140	-1.9027	0.0596	-0.8245	0.0467
2	99.84	0.6996	0.1747	0.0022	-0.0520	0.0157	-2.3991	0.0699	-0.8014	0.0431
2	99.84	0.7996	0.1902	0.0029	-0.0726	0.0200	-3.6316	0.0941	-0.7663	0.0428
2	99.84	0.8578	0.1719	0.0036	-0.0897	0.0225	-4.4428	0.1114	-0.6868	0.0487
2	99.84	0.9100	0.1790	0.0047	-0.0726	0.0251	-5.2852	0.1294	-1.0565	0.0558
2	99.84	0.9727	0.1900	0.0050	-0.0202	0.0279	-6.1253	0.1520	-0.5798	0.0663
3	99.84	0.1938	-0.0586	0.0009	-0.0223	0.0006	-0.0042	0.0014	-0.1009	0.0184
3	99.84	0.2357	-0.0218	0.0008	0.0129	0.0013	-0.0564	0.0031	-0.2430	0.0193
3	99.84	0.2995	0.0063	0.0008	-0.0435	0.0030	-0.0825	0.0068	-0.3017	0.0338
3	99.84	0.3493	0.0257	0.0011	-0.0705	0.0044	-0.1390	0.0101	-0.2612	0.0281
3	99.84	0.4000	0.0596	0.0014	-0.0899	0.0075	-0.2449	0.0168	-0.1984	0.0369
3	99.84	0.4497	0.0831	0.0015	-0.1135	0.0089	-0.4377	0.0199	-0.5143	0.0329
3	99.84	0.4997	0.0922	0.0017	-0.1351	0.0105	-0.6403	0.0249	-0.5287	0.0297
3	99.84	0.5556	0.1246	0.0015	-0.1641	0.0125	-0.9067	0.0295	-0.3160	0.0307
3	99.84	0.5995	0.1408	0.0019	-0.1859	0.0143	-1.2025	0.0340	-0.3571	0.0397
3	99.84	0.6498	0.1671	0.0016	-0.2110	0.0163	-1.6271	0.0390	-0.5339	0.0343
3	99.84	0.6890	0.1524	0.0016	-0.2227	0.0178	-1.9702	0.0429	-0.3665	0.0418
3	99.84	0.7495	0.1809	0.0020	-0.2489	0.0202	-2.6381	0.0481	-0.3959	0.0376
3	99.84	0.7998	0.2007	0.0023	-0.2588	0.0223	-3.2524	0.0530	-0.3078	0.0336
3	99.84	0.8577	0.1852	0.0029	-0.2428	0.0248	-4.0816	0.0588	-0.4508	0.0515
3	99.84	0.9178	0.2034	0.0039	-0.2612	0.0275	-5.0049	0.0681	-0.8681	0.0660
3	99.84	0.9729	0.2340	0.0042	-0.2887	0.0298	-5.8792	0.0758	-0.9030	0.0722
4	99.84	0.2001	-0.0468	0.0011	0.0049	0.0007	-0.0336	0.0019	0.2313	0.0227
4	99.84	0.2502	-0.0100	0.0009	0.0268	0.0022	-0.1323	0.0041	-0.1273	0.0380
4	99.84	0.3001	0.0175	0.0011	0.0328	0.0034	-0.1800	0.0069	0.3295	0.0509
4	99.84	0.3502	0.0274	0.0008	0.0620	0.0054	-0.3349	0.0115	0.1929	0.0426
4	99.84	0.4002	0.0416	0.0012	0.1016	0.0092	-0.5352	0.0179	0.0617	0.0435
4	99.84	0.4500	0.0712	0.0014	0.1355	0.0109	-0.8137	0.0227	-0.1616	0.0465
4	99.84	0.5001	0.0876	0.0014	0.1628	0.0137	-1.1188	0.0283	-0.0019	0.0441
4	99.84	0.5560	0.1091	0.0019	0.2060	0.0165	-1.6092	0.0348	-0.1498	0.0451
4	99.84	0.6001	0.1190	0.0016	0.2340	0.0188	-2.0169	0.0403	-0.1147	0.0455
4	99.84	0.6501	0.1181	0.0018	0.2548	0.0213	-2.5929	0.0474	-0.0727	0.0424
4	99.84	0.6999	0.1363	0.0020	0.2722	0.0242	-3.2303	0.0539	0.0754	0.0419
4	99.84	0.8002	0.1298	0.0029	0.3416	0.0302	-4.7825	0.0676	0.1772	0.0459
4	99.84	0.8582	0.1343	0.0036	0.3914	0.0335	-5.8601	0.0769	-0.3031	0.0463
4	99.84	0.9101	0.1322	0.0043	0.4174	0.0373	-6.8170	0.0859	-0.2065	0.0517
4	99.84	0.9728	0.1782	0.0043	0.4892	0.0413	-7.8916	0.0967	0.2419	0.0606

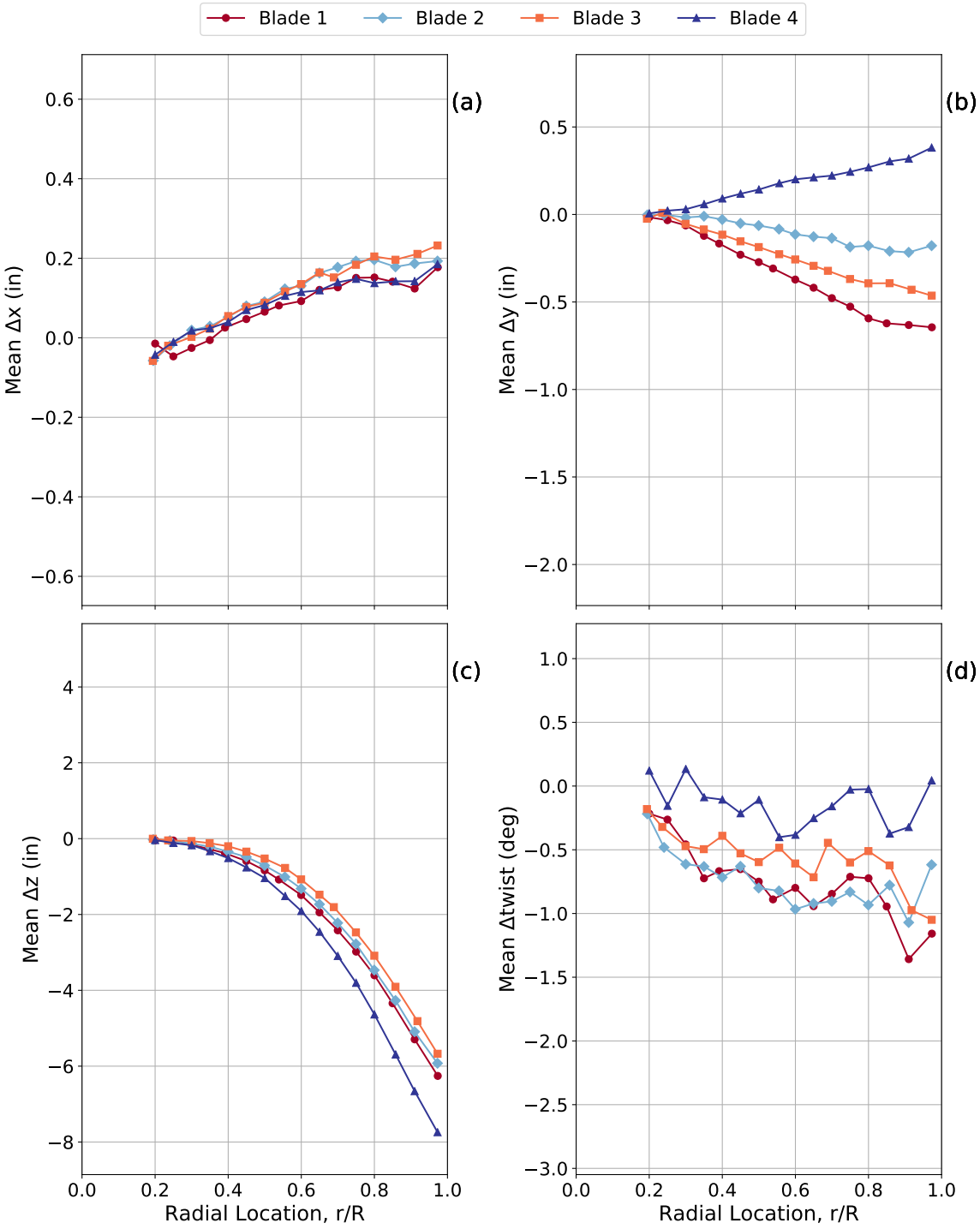


Figure 2.1-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0146	0.0011	-0.0161	0.0007	-0.0447	0.0017	-0.2167	0.0221
1	105.12	0.2499	-0.0468	0.0011	-0.0327	0.0021	-0.0488	0.0048	-0.2632	0.0314
1	105.12	0.2998	-0.0255	0.0010	-0.0625	0.0038	-0.1640	0.0077	-0.4577	0.0481
1	105.12	0.3498	-0.0058	0.0009	-0.1221	0.0054	-0.2776	0.0137	-0.7240	0.0380
1	105.12	0.3913	0.0256	0.0014	-0.1661	0.0091	-0.3836	0.0199	-0.6678	0.0376
1	105.12	0.4496	0.0470	0.0012	-0.2300	0.0111	-0.5906	0.0268	-0.6519	0.0406
1	105.12	0.4997	0.0656	0.0013	-0.2723	0.0137	-0.8364	0.0338	-0.7500	0.0468
1	105.12	0.5387	0.0812	0.0013	-0.3087	0.0163	-1.0793	0.0410	-0.8893	0.0389
1	105.12	0.5996	0.0923	0.0013	-0.3719	0.0199	-1.4879	0.0501	-0.7989	0.0393
1	105.12	0.6498	0.1205	0.0013	-0.4186	0.0226	-1.9452	0.0562	-0.9426	0.0469
1	105.12	0.6998	0.1268	0.0017	-0.4780	0.0260	-2.4178	0.0632	-0.8461	0.0442
1	105.12	0.7500	0.1507	0.0016	-0.5268	0.0292	-2.9797	0.0709	-0.7121	0.0403
1	105.12	0.8001	0.1517	0.0018	-0.5937	0.0329	-3.6044	0.0784	-0.7235	0.0404
1	105.12	0.8497	0.1411	0.0020	-0.6221	0.0361	-4.3418	0.0867	-0.9450	0.0449
1	105.12	0.9102	0.1238	0.0027	-0.6316	0.0405	-5.2932	0.0978	-1.3581	0.0423
1	105.12	0.9734	0.1773	0.0031	-0.6447	0.0452	-6.2572	0.1088	-1.1581	0.0481
2	105.12	0.1949	-0.0574	0.0008	-0.0025	0.0004	-0.0249	0.0014	-0.2185	0.0241
2	105.12	0.2405	-0.0199	0.0009	-0.0012	0.0015	-0.0551	0.0037	-0.4813	0.0270
2	105.12	0.2999	0.0192	0.0007	-0.0174	0.0019	-0.1314	0.0058	-0.6129	0.0492
2	105.12	0.3498	0.0289	0.0010	-0.0101	0.0035	-0.2098	0.0102	-0.6313	0.0363
2	105.12	0.3998	0.0518	0.0012	-0.0290	0.0057	-0.3435	0.0155	-0.7162	0.0344
2	105.12	0.4496	0.0800	0.0015	-0.0510	0.0074	-0.4840	0.0188	-0.6299	0.0343
2	105.12	0.4995	0.0905	0.0017	-0.0634	0.0090	-0.7079	0.0230	-0.8000	0.0342
2	105.12	0.5551	0.1230	0.0015	-0.0836	0.0107	-1.0100	0.0273	-0.8224	0.0313
2	105.12	0.5996	0.1307	0.0014	-0.1139	0.0122	-1.3182	0.0302	-0.9664	0.0352
2	105.12	0.6497	0.1630	0.0017	-0.1269	0.0141	-1.7306	0.0343	-0.9216	0.0378
2	105.12	0.6996	0.1773	0.0019	-0.1353	0.0166	-2.2236	0.0381	-0.9049	0.0363
2	105.12	0.7495	0.1928	0.0018	-0.1856	0.0185	-2.7761	0.0425	-0.8309	0.0390
2	105.12	0.7996	0.1961	0.0021	-0.1784	0.0212	-3.4672	0.0463	-0.9330	0.0383
2	105.12	0.8578	0.1784	0.0028	-0.2095	0.0241	-4.2688	0.0524	-0.7774	0.0341
2	105.12	0.9100	0.1867	0.0042	-0.2163	0.0264	-5.0917	0.0577	-1.0707	0.0651
2	105.12	0.9727	0.1930	0.0033	-0.1785	0.0294	-5.9236	0.0653	-0.6174	0.0443
3	105.12	0.1938	-0.0582	0.0011	-0.0241	0.0007	-0.0027	0.0017	-0.1807	0.0248
3	105.12	0.2357	-0.0201	0.0006	0.0091	0.0010	-0.0469	0.0028	-0.3207	0.0235
3	105.12	0.2995	0.0021	0.0009	-0.0535	0.0030	-0.0630	0.0064	-0.4713	0.0471
3	105.12	0.3493	0.0227	0.0008	-0.0856	0.0039	-0.1191	0.0087	-0.4954	0.0354
3	105.12	0.4000	0.0546	0.0011	-0.1154	0.0067	-0.2009	0.0144	-0.3904	0.0356
3	105.12	0.4497	0.0775	0.0013	-0.1535	0.0079	-0.3428	0.0177	-0.5282	0.0401
3	105.12	0.4997	0.0881	0.0012	-0.1864	0.0100	-0.5247	0.0225	-0.5967	0.0408
3	105.12	0.5556	0.1164	0.0014	-0.2271	0.0122	-0.7733	0.0278	-0.4839	0.0394
3	105.12	0.5995	0.1351	0.0013	-0.2571	0.0145	-1.0749	0.0328	-0.6076	0.0405
3	105.12	0.6498	0.1642	0.0015	-0.2935	0.0164	-1.4791	0.0383	-0.7156	0.0401
3	105.12	0.6890	0.1518	0.0016	-0.3219	0.0183	-1.8064	0.0418	-0.4454	0.0409
3	105.12	0.7495	0.1836	0.0017	-0.3688	0.0212	-2.4719	0.0494	-0.5997	0.0367
3	105.12	0.7998	0.2045	0.0018	-0.3935	0.0237	-3.0874	0.0556	-0.5103	0.0375
3	105.12	0.8577	0.1963	0.0024	-0.3928	0.0266	-3.9064	0.0633	-0.6228	0.0410
3	105.12	0.9178	0.2110	0.0029	-0.4300	0.0298	-4.8124	0.0721	-0.9740	0.0496
3	105.12	0.9729	0.2321	0.0033	-0.4636	0.0328	-5.6729	0.0809	-1.0495	0.0532
4	105.12	0.2001	-0.0428	0.0012	0.0058	0.0009	-0.0388	0.0020	0.1208	0.0133
4	105.12	0.2502	-0.0104	0.0009	0.0217	0.0014	-0.1152	0.0033	-0.1553	0.0275
4	105.12	0.3001	0.0180	0.0008	0.0298	0.0032	-0.1765	0.0068	0.1341	0.0278
4	105.12	0.3502	0.0240	0.0010	0.0584	0.0055	-0.3326	0.0117	-0.0880	0.0292
4	105.12	0.4002	0.0397	0.0014	0.0910	0.0082	-0.5143	0.0173	-0.1064	0.0327
4	105.12	0.4500	0.0697	0.0019	0.1183	0.0096	-0.7614	0.0202	-0.2138	0.0348
4	105.12	0.5001	0.0824	0.0018	0.1423	0.0116	-1.0409	0.0258	-0.1077	0.0303
4	105.12	0.5560	0.1054	0.0019	0.1784	0.0135	-1.5162	0.0301	-0.4013	0.0332
4	105.12	0.6001	0.1150	0.0020	0.2009	0.0156	-1.9099	0.0348	-0.3828	0.0305
4	105.12	0.6501	0.1192	0.0020	0.2119	0.0178	-2.4578	0.0390	-0.2517	0.0305
4	105.12	0.6999	0.1395	0.0022	0.2219	0.0201	-3.0953	0.0438	-0.1586	0.0299
4	105.12	0.7500	0.1481	0.0021	0.2438	0.0226	-3.8037	0.0475	-0.0281	0.0332
4	105.12	0.8002	0.1374	0.0024	0.2689	0.0254	-4.6384	0.0523	-0.0241	0.0346
4	105.12	0.8582	0.1419	0.0027	0.3033	0.0285	-5.6936	0.0571	-0.3731	0.0421
4	105.12	0.9101	0.1423	0.0030	0.3190	0.0315	-6.6597	0.0624	-0.3221	0.0385
4	105.12	0.9728	0.1851	0.0036	0.3816	0.0348	-7.7428	0.0686	0.0435	0.0349

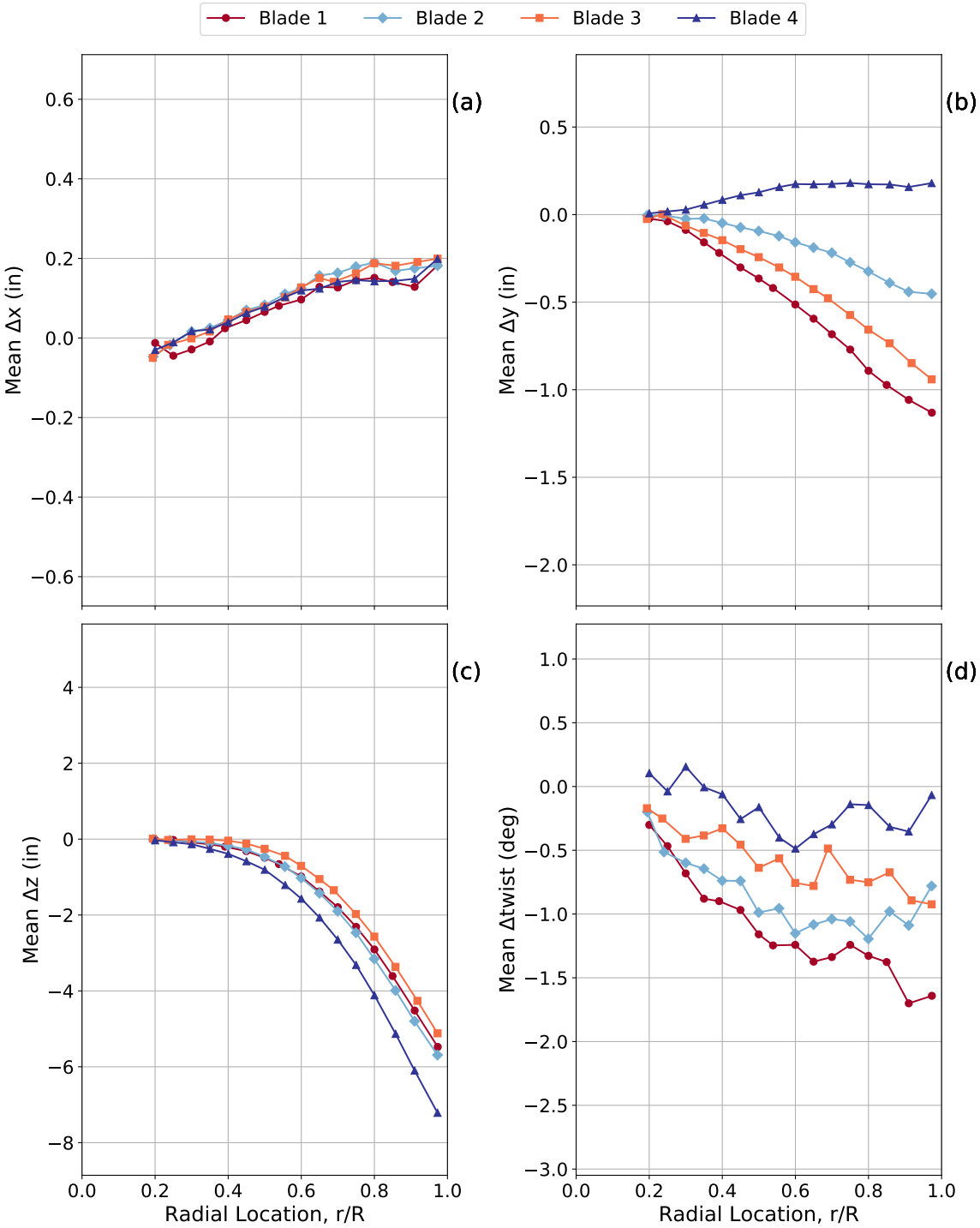


Figure 2.1-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0125	0.0010	-0.0228	0.0005	-0.0203	0.0027	-0.3010	0.0204
1	119.88	0.2499	-0.0446	0.0013	-0.0382	0.0015	-0.0218	0.0038	-0.4674	0.0415
1	119.88	0.2998	-0.0288	0.0014	-0.0872	0.0022	-0.0848	0.0092	-0.6813	0.0489
1	119.88	0.3498	-0.0088	0.0011	-0.1584	0.0036	-0.1375	0.0164	-0.8800	0.0372
1	119.88	0.3913	0.0244	0.0017	-0.2187	0.0056	-0.1981	0.0221	-0.8989	0.0332
1	119.88	0.4496	0.0448	0.0016	-0.3016	0.0066	-0.3173	0.0253	-0.9683	0.0401
1	119.88	0.4997	0.0655	0.0016	-0.3649	0.0081	-0.4892	0.0337	-1.1591	0.0415
1	119.88	0.5387	0.0809	0.0016	-0.4192	0.0091	-0.6582	0.0362	-1.2460	0.0351
1	119.88	0.5996	0.0967	0.0025	-0.5134	0.0117	-0.9843	0.0453	-1.2417	0.0352
1	119.88	0.6498	0.1284	0.0022	-0.5945	0.0139	-1.3795	0.0508	-1.3736	0.0450
1	119.88	0.6998	0.1268	0.0021	-0.6832	0.0156	-1.7946	0.0596	-1.3375	0.0427
1	119.88	0.7500	0.1455	0.0022	-0.7707	0.0176	-2.3120	0.0665	-1.2419	0.0417
1	119.88	0.8001	0.1512	0.0022	-0.8918	0.0199	-2.9083	0.0750	-1.3279	0.0383
1	119.88	0.8497	0.1405	0.0024	-0.9728	0.0221	-3.6086	0.0838	-1.3764	0.0387
1	119.88	0.9102	0.1285	0.0030	-1.0580	0.0252	-4.5175	0.0945	-1.7003	0.0409
1	119.88	0.9734	0.1827	0.0037	-1.1310	0.0285	-5.4762	0.1082	-1.6413	0.0366
2	119.88	0.1949	-0.0471	0.0008	-0.0041	0.0007	-0.0080	0.0015	-0.1998	0.0282
2	119.88	0.2405	-0.0175	0.0011	-0.0042	0.0010	-0.0344	0.0035	-0.5137	0.0400
2	119.88	0.2999	0.0162	0.0014	-0.0245	0.0023	-0.0642	0.0056	-0.5988	0.0638
2	119.88	0.3498	0.0249	0.0009	-0.0222	0.0035	-0.1016	0.0099	-0.6448	0.0533
2	119.88	0.3998	0.0449	0.0013	-0.0480	0.0052	-0.1756	0.0152	-0.7387	0.0464
2	119.88	0.4496	0.0702	0.0018	-0.0731	0.0063	-0.2718	0.0207	-0.7403	0.0427
2	119.88	0.4995	0.0825	0.0012	-0.0941	0.0074	-0.4643	0.0243	-0.9879	0.0458
2	119.88	0.5551	0.1106	0.0018	-0.1224	0.0094	-0.7251	0.0330	-0.9557	0.0465
2	119.88	0.5996	0.1251	0.0016	-0.1585	0.0107	-1.0257	0.0394	-1.1516	0.0516
2	119.88	0.6497	0.1568	0.0018	-0.1887	0.0126	-1.4254	0.0487	-1.0829	0.0592
2	119.88	0.6996	0.1635	0.0019	-0.2181	0.0144	-1.8999	0.0581	-1.0394	0.0561
2	119.88	0.7495	0.1793	0.0023	-0.2728	0.0167	-2.4668	0.0706	-1.0587	0.0511
2	119.88	0.7996	0.1896	0.0028	-0.3243	0.0185	-3.1561	0.0840	-1.1947	0.0590
2	119.88	0.8578	0.1687	0.0035	-0.3900	0.0212	-3.9891	0.1020	-0.9796	0.0571
2	119.88	0.9100	0.1749	0.0041	-0.4410	0.0236	-4.7977	0.1190	-1.0892	0.0580
2	119.88	0.9727	0.1819	0.0049	-0.4525	0.0263	-5.6908	0.1398	-0.7802	0.0613
3	119.88	0.1938	-0.0499	0.0012	-0.0253	0.0005	0.0104	0.0016	-0.1701	0.0299
3	119.88	0.2357	-0.0174	0.0009	0.0024	0.0011	-0.0219	0.0037	-0.2508	0.0386
3	119.88	0.2995	-0.0010	0.0019	-0.0634	0.0031	-0.0052	0.0079	-0.4105	0.0672
3	119.88	0.3493	0.0162	0.0021	-0.1049	0.0037	-0.0135	0.0117	-0.3841	0.0543
3	119.88	0.4000	0.0466	0.0014	-0.1461	0.0071	-0.0400	0.0190	-0.3280	0.0414
3	119.88	0.4497	0.0658	0.0016	-0.1974	0.0088	-0.1169	0.0245	-0.4568	0.0565
3	119.88	0.4997	0.0789	0.0019	-0.2431	0.0114	-0.2553	0.0307	-0.6373	0.0358
3	119.88	0.5556	0.1020	0.0018	-0.3017	0.0138	-0.4414	0.0357	-0.5637	0.0497
3	119.88	0.5995	0.1271	0.0016	-0.3551	0.0154	-0.7055	0.0401	-0.7563	0.0481
3	119.88	0.6498	0.1506	0.0017	-0.4257	0.0186	-1.0527	0.0478	-0.7799	0.0490
3	119.88	0.6890	0.1411	0.0023	-0.4775	0.0210	-1.3468	0.0533	-0.4861	0.0421
3	119.88	0.7495	0.1621	0.0022	-0.5734	0.0246	-1.9730	0.0642	-0.7314	0.0382
3	119.88	0.7998	0.1879	0.0025	-0.6568	0.0279	-2.5692	0.0745	-0.7508	0.0387
3	119.88	0.8577	0.1815	0.0030	-0.7348	0.0316	-3.3662	0.0869	-0.6729	0.0408
3	119.88	0.9178	0.1911	0.0034	-0.8482	0.0357	-4.2624	0.1005	-0.8929	0.0438
3	119.88	0.9729	0.1995	0.0041	-0.9407	0.0396	-5.1180	0.1137	-0.9236	0.0414
4	119.88	0.2001	-0.0300	0.0018	0.0066	0.0011	-0.0319	0.0021	0.1045	0.0323
4	119.88	0.2502	-0.0109	0.0009	0.0178	0.0021	-0.0834	0.0039	-0.0386	0.0475
4	119.88	0.3001	0.0170	0.0013	0.0282	0.0036	-0.1343	0.0086	0.1549	0.0711
4	119.88	0.3502	0.0213	0.0010	0.0561	0.0076	-0.2572	0.0133	-0.0064	0.0482
4	119.88	0.4002	0.0398	0.0024	0.0842	0.0106	-0.3894	0.0204	-0.0614	0.0484
4	119.88	0.4500	0.0627	0.0020	0.1103	0.0123	-0.5840	0.0265	-0.2555	0.0741
4	119.88	0.5001	0.0783	0.0020	0.1271	0.0146	-0.8077	0.0291	-0.1620	0.0448
4	119.88	0.5560	0.1029	0.0018	0.1574	0.0173	-1.2109	0.0368	-0.4009	0.0511
4	119.88	0.6001	0.1193	0.0024	0.1743	0.0205	-1.5708	0.0416	-0.4870	0.0507
4	119.88	0.6501	0.1240	0.0018	0.1728	0.0227	-2.0685	0.0468	-0.3737	0.0534
4	119.88	0.6999	0.1409	0.0025	0.1748	0.0261	-2.6505	0.0519	-0.2970	0.0471
4	119.88	0.7500	0.1454	0.0020	0.1805	0.0292	-3.3183	0.0571	-0.1392	0.0535
4	119.88	0.8002	0.1425	0.0022	0.1732	0.0324	-4.1164	0.0625	-0.1459	0.0516
4	119.88	0.8582	0.1436	0.0022	0.1720	0.0363	-5.1337	0.0695	-0.3161	0.0541
4	119.88	0.9101	0.1488	0.0025	0.1574	0.0396	-6.1011	0.0772	-0.3534	0.0547
4	119.88	0.9728	0.1988	0.0030	0.1797	0.0436	-7.2146	0.0881	-0.0673	0.0525

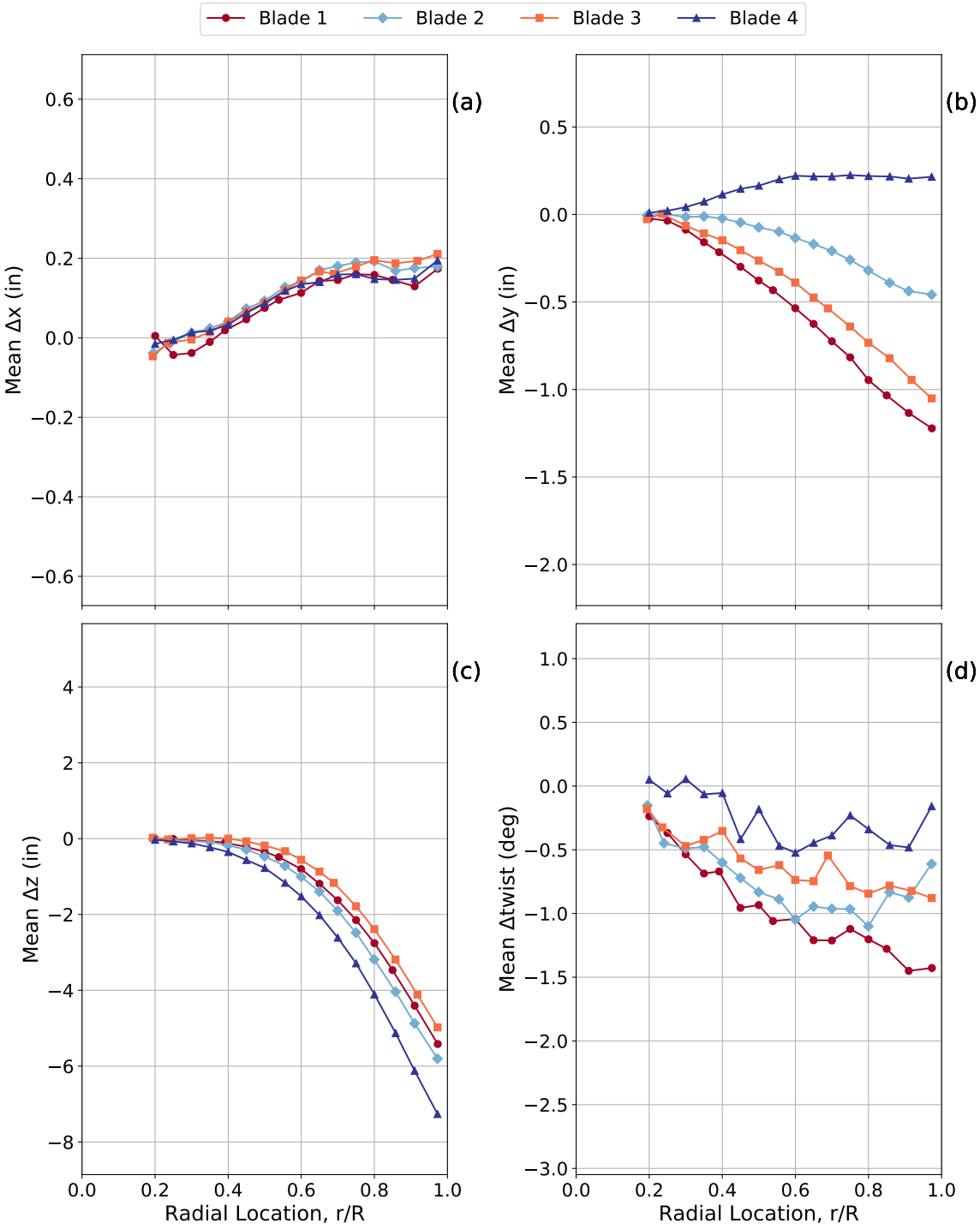


Figure 2.1-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	0.0048	0.0010	-0.0234	0.0010	-0.0071	0.0015	-0.2368	0.0227
1	135	0.2499	-0.0431	0.0015	-0.0356	0.0013	-0.0104	0.0053	-0.3681	0.0314
1	135	0.2998	-0.0382	0.0011	-0.0863	0.0033	-0.0438	0.0088	-0.5359	0.0489
1	135	0.3498	-0.0105	0.0014	-0.1585	0.0052	-0.0669	0.0129	-0.6863	0.0416
1	135	0.3913	0.0188	0.0016	-0.2155	0.0070	-0.1055	0.0214	-0.6700	0.0452
1	135	0.4496	0.0465	0.0021	-0.2991	0.0094	-0.2186	0.0263	-0.9560	0.0439
1	135	0.4997	0.0752	0.0018	-0.3776	0.0111	-0.3470	0.0321	-0.9339	0.0398
1	135	0.5387	0.0955	0.0015	-0.4327	0.0131	-0.4868	0.0361	-1.0592	0.0388
1	135	0.5996	0.1129	0.0023	-0.5356	0.0160	-0.8019	0.0445	-1.0430	0.0456
1	135	0.6498	0.1431	0.0024	-0.6253	0.0182	-1.1903	0.0517	-1.2096	0.0441
1	135	0.6998	0.1451	0.0029	-0.7243	0.0204	-1.6247	0.0594	-1.2118	0.0449
1	135	0.7500	0.1599	0.0027	-0.8163	0.0233	-2.1488	0.0665	-1.1212	0.0432
1	135	0.8001	0.1581	0.0029	-0.9464	0.0261	-2.7563	0.0771	-1.2027	0.0407
1	135	0.8497	0.1456	0.0036	-1.0336	0.0288	-3.4669	0.0873	-1.2774	0.0426
1	135	0.9102	0.1293	0.0040	-1.1341	0.0322	-4.4049	0.1011	-1.4499	0.0420
1	135	0.9734	0.1736	0.0050	-1.2220	0.0359	-5.4158	0.1174	-1.4277	0.0424
2	135	0.1949	-0.0382	0.0009	-0.0043	0.0005	-0.0041	0.0017	-0.1531	0.0236
2	135	0.2405	-0.0145	0.0010	0.0029	0.0019	-0.0393	0.0040	-0.4489	0.0298
2	135	0.2999	0.0126	0.0009	-0.0146	0.0026	-0.0671	0.0064	-0.4898	0.0511
2	135	0.3498	0.0236	0.0012	-0.0113	0.0046	-0.0888	0.0121	-0.4783	0.0472
2	135	0.3998	0.0408	0.0018	-0.0226	0.0073	-0.1748	0.0183	-0.6006	0.0413
2	135	0.4496	0.0733	0.0017	-0.0457	0.0076	-0.2898	0.0233	-0.7210	0.0519
2	135	0.4995	0.0928	0.0017	-0.0737	0.0096	-0.4684	0.0318	-0.8322	0.0392
2	135	0.5551	0.1276	0.0016	-0.0981	0.0115	-0.7184	0.0436	-0.8881	0.0315
2	135	0.5996	0.1409	0.0020	-0.1342	0.0127	-1.0073	0.0528	-1.0487	0.0370
2	135	0.6497	0.1700	0.0024	-0.1696	0.0149	-1.3969	0.0651	-0.9456	0.0540
2	135	0.6996	0.1802	0.0030	-0.2084	0.0167	-1.8999	0.0791	-0.9630	0.0485
2	135	0.7495	0.1896	0.0032	-0.2596	0.0188	-2.4803	0.0954	-0.9654	0.0377
2	135	0.7996	0.1923	0.0039	-0.3196	0.0214	-3.1862	0.1136	-1.1007	0.0410
2	135	0.8578	0.1685	0.0051	-0.3902	0.0240	-4.0397	0.1372	-0.8327	0.0408
2	135	0.9100	0.1752	0.0060	-0.4378	0.0263	-4.8729	0.1607	-0.8747	0.0427
2	135	0.9727	0.1795	0.0072	-0.4580	0.0292	-5.8028	0.1896	-0.6109	0.0446
3	135	0.1938	-0.0465	0.0010	-0.0266	0.0004	0.0200	0.0015	-0.1798	0.0179
3	135	0.2357	-0.0131	0.0013	0.0039	0.0014	-0.0223	0.0042	-0.3242	0.0275
3	135	0.2995	-0.0041	0.0010	-0.0640	0.0023	0.0089	0.0076	-0.4705	0.0415
3	135	0.3493	0.0138	0.0010	-0.1082	0.0032	0.0256	0.0139	-0.4221	0.0358
3	135	0.4000	0.0403	0.0016	-0.1477	0.0060	0.0010	0.0218	-0.3524	0.0362
3	135	0.4497	0.0658	0.0013	-0.2040	0.0072	-0.0727	0.0236	-0.5681	0.0354
3	135	0.4997	0.0885	0.0017	-0.2631	0.0088	-0.1836	0.0316	-0.6582	0.0429
3	135	0.5556	0.1200	0.0014	-0.3273	0.0113	-0.3313	0.0387	-0.6201	0.0341
3	135	0.5995	0.1439	0.0020	-0.3892	0.0122	-0.5575	0.0450	-0.7364	0.0435
3	135	0.6498	0.1669	0.0021	-0.4747	0.0138	-0.8715	0.0516	-0.7467	0.0427
3	135	0.6890	0.1611	0.0020	-0.5365	0.0158	-1.1671	0.0584	-0.5447	0.0403
3	135	0.7495	0.1790	0.0025	-0.6400	0.0181	-1.7824	0.0702	-0.7844	0.0345
3	135	0.7998	0.1952	0.0024	-0.7326	0.0206	-2.3863	0.0800	-0.8436	0.0395
3	135	0.8577	0.1873	0.0029	-0.8212	0.0230	-3.1891	0.0935	-0.7817	0.0357
3	135	0.9178	0.1934	0.0037	-0.9455	0.0259	-4.1127	0.1073	-0.8220	0.0361
3	135	0.9729	0.2109	0.0040	-1.0507	0.0287	-4.9776	0.1210	-0.8788	0.0340
4	135	0.2001	-0.0154	0.0010	0.0098	0.0005	-0.0288	0.0021	0.0498	0.0187
4	135	0.2502	-0.0053	0.0008	0.0210	0.0018	-0.0763	0.0043	-0.0582	0.0329
4	135	0.3001	0.0134	0.0014	0.0421	0.0025	-0.1258	0.0077	0.0549	0.0438
4	135	0.3502	0.0175	0.0013	0.0732	0.0036	-0.2279	0.0153	-0.0648	0.0309
4	135	0.4002	0.0331	0.0019	0.1141	0.0065	-0.3535	0.0221	-0.0545	0.0346
4	135	0.4500	0.0626	0.0016	0.1465	0.0070	-0.5641	0.0238	-0.4164	0.0390
4	135	0.5001	0.0868	0.0021	0.1643	0.0090	-0.7727	0.0297	-0.1825	0.0380
4	135	0.5560	0.1180	0.0022	0.2012	0.0104	-1.1653	0.0374	-0.4696	0.0420
4	135	0.6001	0.1345	0.0021	0.2209	0.0115	-1.5238	0.0445	-0.5234	0.0377
4	135	0.6501	0.1401	0.0021	0.2172	0.0142	-2.0200	0.0509	-0.4456	0.0380
4	135	0.6999	0.1589	0.0021	0.2170	0.0160	-2.6129	0.0578	-0.3877	0.0405
4	135	0.7500	0.1601	0.0025	0.2248	0.0180	-3.2886	0.0645	-0.2304	0.0417
4	135	0.8002	0.1477	0.0028	0.2194	0.0199	-4.1092	0.0744	-0.3392	0.0365
4	135	0.8582	0.1457	0.0032	0.2170	0.0225	-5.1310	0.0846	-0.4630	0.0379
4	135	0.9101	0.1488	0.0036	0.2044	0.0250	-6.1219	0.0963	-0.4824	0.0321
4	135	0.9728	0.1944	0.0046	0.2151	0.0278	-7.2628	0.1104	-0.1589	0.0364

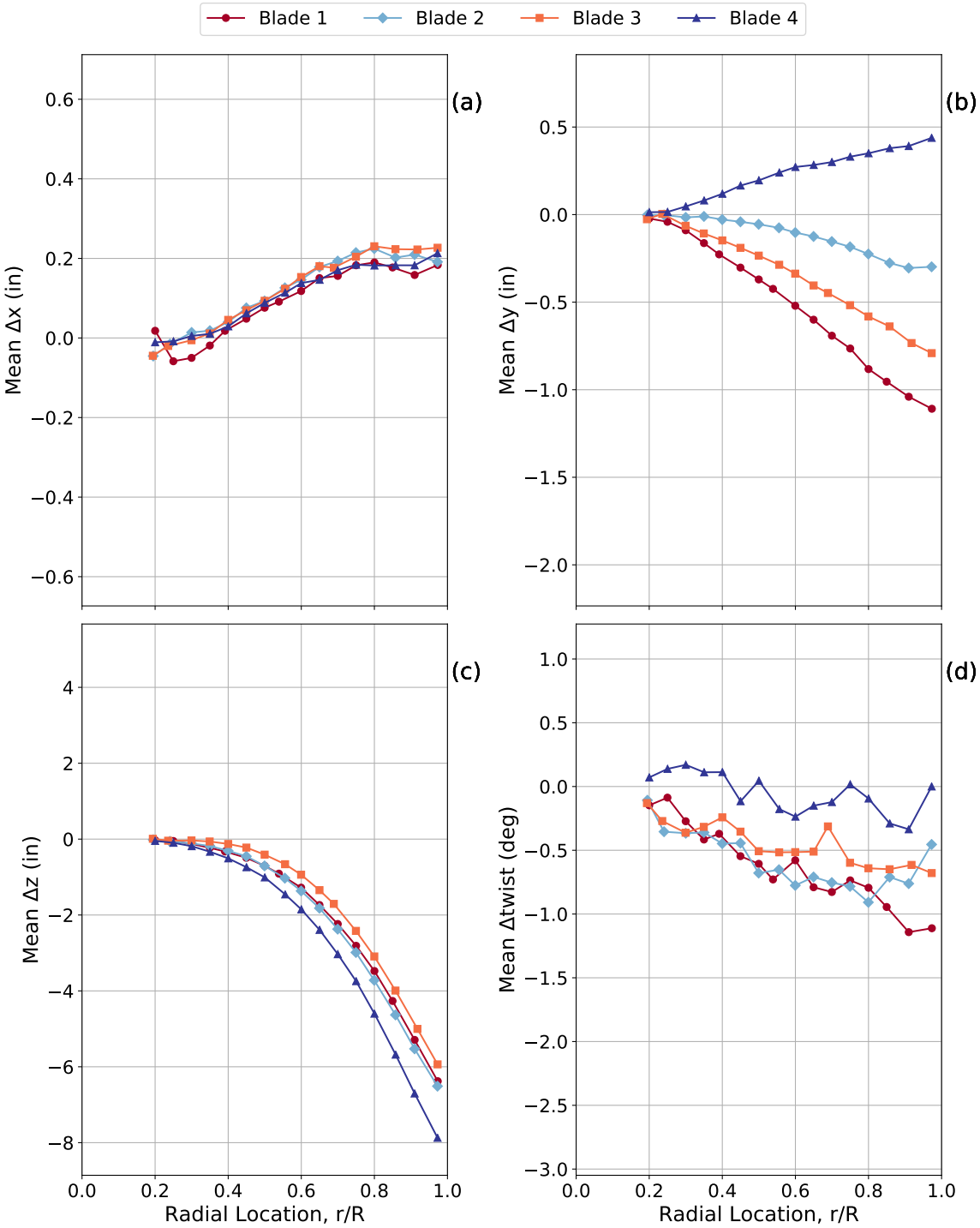


Figure 2.1-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	0.0181	0.0011	-0.0224	0.0009	-0.0283	0.0017	-0.1475	0.0190
1	150.12	0.2499	-0.0585	0.0010	-0.0411	0.0019	-0.0500	0.0041	-0.0872	0.0325
1	150.12	0.2998	-0.0500	0.0009	-0.0895	0.0033	-0.1270	0.0071	-0.2724	0.0438
1	150.12	0.3498	-0.0190	0.0009	-0.1628	0.0057	-0.2288	0.0120	-0.4156	0.0396
1	150.12	0.3913	0.0180	0.0014	-0.2273	0.0082	-0.3255	0.0177	-0.3709	0.0343
1	150.12	0.4496	0.0484	0.0014	-0.3026	0.0094	-0.4929	0.0227	-0.5462	0.0338
1	150.12	0.4997	0.0760	0.0019	-0.3704	0.0121	-0.7043	0.0279	-0.6062	0.0370
1	150.12	0.5387	0.0912	0.0018	-0.4241	0.0140	-0.9099	0.0321	-0.7289	0.0335
1	150.12	0.5996	0.1180	0.0019	-0.5207	0.0168	-1.2790	0.0384	-0.5785	0.0435
1	150.12	0.6498	0.1505	0.0020	-0.6002	0.0197	-1.7368	0.0456	-0.7901	0.0442
1	150.12	0.6998	0.1560	0.0021	-0.6915	0.0224	-2.2371	0.0522	-0.8273	0.0484
1	150.12	0.7500	0.1827	0.0025	-0.7646	0.0254	-2.8114	0.0601	-0.7361	0.0421
1	150.12	0.8001	0.1899	0.0028	-0.8822	0.0286	-3.4760	0.0667	-0.7941	0.0404
1	150.12	0.8497	0.1772	0.0024	-0.9542	0.0317	-4.2653	0.0751	-0.9449	0.0398
1	150.12	0.9102	0.1583	0.0031	-1.0401	0.0356	-5.2917	0.0847	-1.1420	0.0431
1	150.12	0.9734	0.1835	0.0033	-1.1088	0.0398	-6.3799	0.0961	-1.1114	0.0367
2	150.12	0.1949	-0.0454	0.0009	-0.0021	0.0006	-0.0158	0.0011	-0.1079	0.0255
2	150.12	0.2405	-0.0154	0.0009	-0.0023	0.0021	-0.0597	0.0034	-0.3544	0.0309
2	150.12	0.2999	0.0139	0.0013	-0.0160	0.0034	-0.1153	0.0055	-0.3662	0.0557
2	150.12	0.3498	0.0183	0.0012	-0.0105	0.0052	-0.1798	0.0094	-0.3603	0.0466
2	150.12	0.3998	0.0398	0.0020	-0.0285	0.0089	-0.3095	0.0150	-0.4475	0.0476
2	150.12	0.4496	0.0756	0.0018	-0.0411	0.0096	-0.4518	0.0197	-0.4439	0.0390
2	150.12	0.4995	0.0930	0.0020	-0.0553	0.0118	-0.7059	0.0252	-0.6787	0.0459
2	150.12	0.5551	0.1260	0.0017	-0.0757	0.0140	-1.0290	0.0298	-0.6524	0.0475
2	150.12	0.5996	0.1464	0.0016	-0.1026	0.0157	-1.3663	0.0349	-0.7757	0.0470
2	150.12	0.6497	0.1785	0.0019	-0.1249	0.0180	-1.8195	0.0430	-0.7094	0.0519
2	150.12	0.6996	0.1933	0.0021	-0.1539	0.0201	-2.3722	0.0478	-0.7536	0.0471
2	150.12	0.7495	0.2145	0.0021	-0.1840	0.0226	-2.9871	0.0555	-0.7833	0.0422
2	150.12	0.7996	0.2246	0.0023	-0.2251	0.0251	-3.7195	0.0632	-0.9081	0.0445
2	150.12	0.8578	0.2020	0.0025	-0.2765	0.0277	-4.6330	0.0721	-0.7104	0.0426
2	150.12	0.9100	0.2096	0.0028	-0.3050	0.0301	-5.5265	0.0822	-0.7615	0.0502
2	150.12	0.9727	0.1912	0.0036	-0.2981	0.0334	-6.5113	0.0930	-0.4543	0.0398
3	150.12	0.1938	-0.0447	0.0009	-0.0265	0.0005	0.0096	0.0015	-0.1300	0.0167
3	150.12	0.2357	-0.0201	0.0009	0.0039	0.0012	-0.0415	0.0025	-0.2707	0.0227
3	150.12	0.2995	-0.0057	0.0009	-0.0639	0.0019	-0.0346	0.0058	-0.3622	0.0366
3	150.12	0.3493	0.0114	0.0009	-0.1078	0.0032	-0.0621	0.0102	-0.3164	0.0377
3	150.12	0.4000	0.0455	0.0012	-0.1475	0.0051	-0.1278	0.0155	-0.2418	0.0364
3	150.12	0.4497	0.0697	0.0016	-0.1899	0.0056	-0.2228	0.0201	-0.3539	0.0385
3	150.12	0.4997	0.0935	0.0018	-0.2344	0.0088	-0.4090	0.0257	-0.5072	0.0289
3	150.12	0.5556	0.1236	0.0016	-0.2866	0.0098	-0.6614	0.0325	-0.5161	0.0277
3	150.12	0.5995	0.1532	0.0018	-0.3372	0.0108	-0.9377	0.0383	-0.5145	0.0316
3	150.12	0.6498	0.1805	0.0019	-0.4047	0.0127	-1.3446	0.0461	-0.5106	0.0332
3	150.12	0.6890	0.1765	0.0025	-0.4477	0.0145	-1.7066	0.0507	-0.3130	0.0308
3	150.12	0.7495	0.2042	0.0027	-0.5174	0.0180	-2.4185	0.0606	-0.5981	0.0279
3	150.12	0.7998	0.2305	0.0025	-0.5817	0.0201	-3.0927	0.0682	-0.6410	0.0351
3	150.12	0.8577	0.2232	0.0032	-0.6386	0.0233	-3.9915	0.0781	-0.6489	0.0334
3	150.12	0.9178	0.2224	0.0034	-0.7336	0.0267	-5.0015	0.0902	-0.6149	0.0389
3	150.12	0.9729	0.2268	0.0039	-0.7911	0.0297	-5.9361	0.1001	-0.6788	0.0285
4	150.12	0.2001	-0.0108	0.0011	0.0135	0.0006	-0.0471	0.0015	0.0712	0.0197
4	150.12	0.2502	-0.0085	0.0009	0.0151	0.0025	-0.0970	0.0042	0.1382	0.0308
4	150.12	0.3001	0.0051	0.0015	0.0467	0.0031	-0.1865	0.0075	0.1700	0.0441
4	150.12	0.3502	0.0105	0.0015	0.0807	0.0054	-0.3334	0.0122	0.1116	0.0387
4	150.12	0.4002	0.0292	0.0010	0.1188	0.0089	-0.5072	0.0201	0.1127	0.0328
4	150.12	0.4500	0.0619	0.0016	0.1658	0.0105	-0.7411	0.0255	-0.1155	0.0347
4	150.12	0.5001	0.0882	0.0021	0.1954	0.0135	-1.0090	0.0291	0.0451	0.0339
4	150.12	0.5560	0.1137	0.0018	0.2397	0.0160	-1.4568	0.0358	-0.1772	0.0385
4	150.12	0.6001	0.1380	0.0017	0.2717	0.0176	-1.8521	0.0406	-0.2364	0.0444
4	150.12	0.6501	0.1462	0.0025	0.2833	0.0195	-2.3926	0.0467	-0.1502	0.0408
4	150.12	0.6999	0.1703	0.0024	0.2999	0.0224	-3.0336	0.0531	-0.1222	0.0411
4	150.12	0.7500	0.1841	0.0026	0.3306	0.0248	-3.7439	0.0613	0.0165	0.0528
4	150.12	0.8002	0.1821	0.0031	0.3502	0.0268	-4.6006	0.0681	-0.0944	0.0350
4	150.12	0.8582	0.1827	0.0031	0.3792	0.0298	-5.6802	0.0784	-0.2898	0.0383
4	150.12	0.9101	0.1826	0.0037	0.3913	0.0321	-6.7036	0.0897	-0.3355	0.0340
4	150.12	0.9728	0.2131	0.0048	0.4381	0.0354	-7.8720	0.1039	0.0004	0.0355

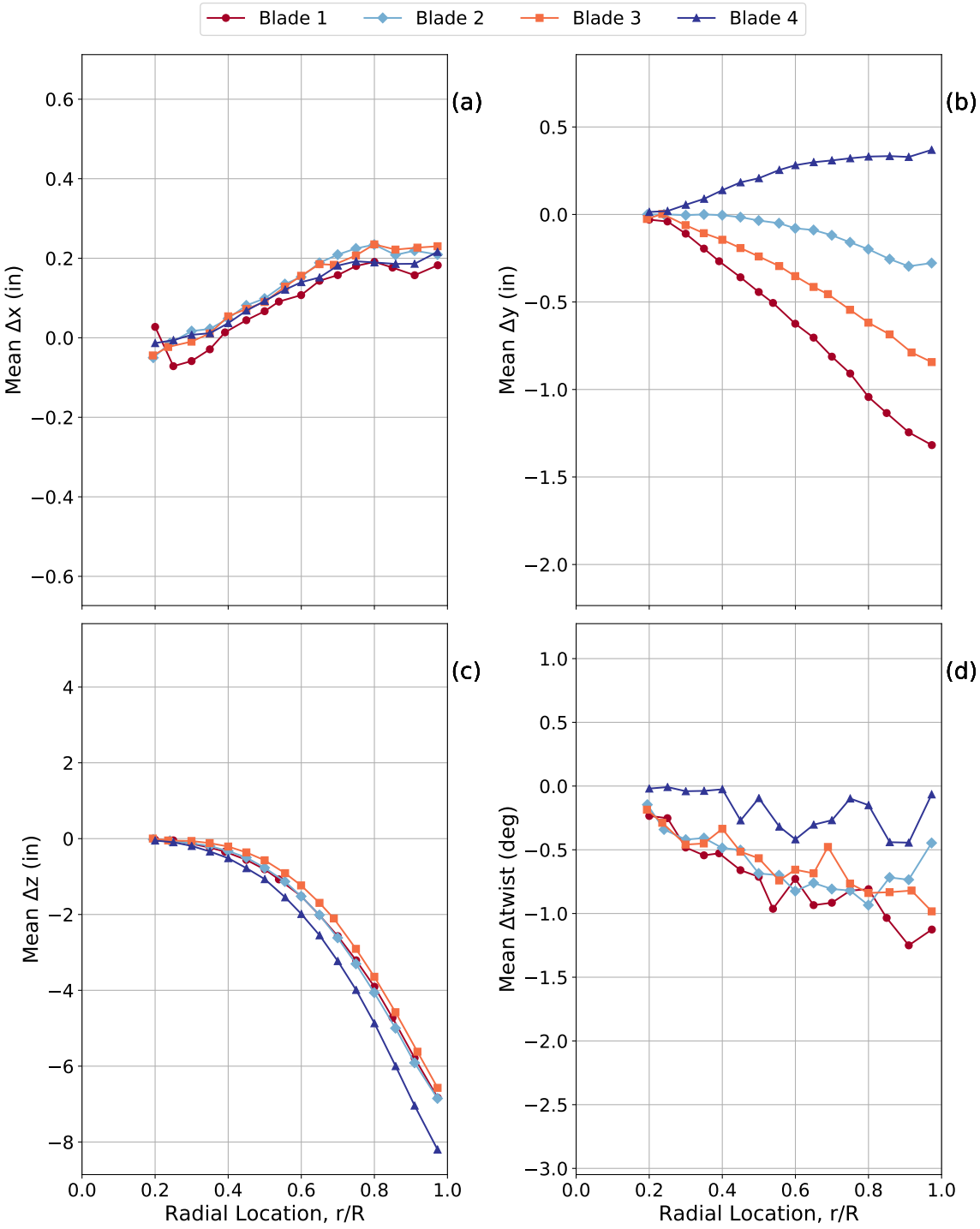


Figure 2.1-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	0.0274	0.0015	-0.0297	0.0008	-0.0276	0.0016	-0.2345	0.0209
1	164.88	0.2499	-0.0714	0.0014	-0.0401	0.0025	-0.0456	0.0042	-0.2521	0.0344
1	164.88	0.2998	-0.0586	0.0012	-0.1098	0.0040	-0.1350	0.0080	-0.4822	0.0468
1	164.88	0.3498	-0.0290	0.0014	-0.1951	0.0059	-0.2362	0.0114	-0.5434	0.0403
1	164.88	0.3913	0.0136	0.0016	-0.2672	0.0096	-0.3429	0.0182	-0.5278	0.0434
1	164.88	0.4496	0.0442	0.0016	-0.3589	0.0114	-0.5603	0.0214	-0.6599	0.0383
1	164.88	0.4997	0.0668	0.0021	-0.4431	0.0144	-0.8097	0.0266	-0.7121	0.0363
1	164.88	0.5387	0.0910	0.0022	-0.5054	0.0162	-1.0749	0.0314	-0.9631	0.0333
1	164.88	0.5996	0.1073	0.0019	-0.6243	0.0191	-1.5168	0.0363	-0.7285	0.0491
1	164.88	0.6498	0.1433	0.0023	-0.7037	0.0217	-2.0199	0.0439	-0.9344	0.0468
1	164.88	0.6998	0.1576	0.0026	-0.8124	0.0245	-2.5702	0.0509	-0.9158	0.0571
1	164.88	0.7500	0.1806	0.0024	-0.9088	0.0274	-3.2086	0.0562	-0.8202	0.0488
1	164.88	0.8001	0.1910	0.0028	-1.0430	0.0305	-3.9056	0.0620	-0.8093	0.0496
1	164.88	0.8497	0.1765	0.0029	-1.1346	0.0335	-4.7239	0.0677	-1.0346	0.0384
1	164.88	0.9102	0.1573	0.0031	-1.2448	0.0376	-5.7853	0.0765	-1.2499	0.0431
1	164.88	0.9734	0.1824	0.0041	-1.3178	0.0418	-6.8342	0.0868	-1.1258	0.0524
2	164.88	0.1949	-0.0502	0.0011	-0.0006	0.0008	-0.0200	0.0016	-0.1460	0.0200
2	164.88	0.2405	-0.0136	0.0011	0.0008	0.0021	-0.0587	0.0033	-0.3408	0.0309
2	164.88	0.2999	0.0168	0.0014	-0.0039	0.0040	-0.1235	0.0062	-0.4203	0.0462
2	164.88	0.3498	0.0223	0.0012	0.0000	0.0068	-0.1948	0.0110	-0.4077	0.0410
2	164.88	0.3998	0.0483	0.0012	-0.0042	0.0108	-0.3275	0.0167	-0.4856	0.0373
2	164.88	0.4496	0.0815	0.0019	-0.0154	0.0120	-0.4971	0.0199	-0.5020	0.0351
2	164.88	0.4995	0.0986	0.0012	-0.0346	0.0143	-0.7684	0.0273	-0.6859	0.0430
2	164.88	0.5551	0.1351	0.0015	-0.0500	0.0167	-1.1312	0.0307	-0.6996	0.0324
2	164.88	0.5996	0.1529	0.0018	-0.0792	0.0192	-1.5212	0.0351	-0.8243	0.0441
2	164.88	0.6497	0.1886	0.0017	-0.0889	0.0222	-2.0130	0.0405	-0.7603	0.0395
2	164.88	0.6996	0.2091	0.0024	-0.1187	0.0247	-2.6161	0.0467	-0.8080	0.0438
2	164.88	0.7495	0.2246	0.0021	-0.1591	0.0278	-3.3020	0.0522	-0.8197	0.0364
2	164.88	0.7996	0.2343	0.0023	-0.1985	0.0308	-4.0617	0.0595	-0.9343	0.0378
2	164.88	0.8578	0.2084	0.0027	-0.2551	0.0347	-4.9989	0.0664	-0.7173	0.0381
2	164.88	0.9100	0.2191	0.0030	-0.2959	0.0381	-5.9118	0.0738	-0.7350	0.0458
2	164.88	0.9727	0.2094	0.0037	-0.2776	0.0418	-6.8511	0.0832	-0.4464	0.0371
3	164.88	0.1938	-0.0444	0.0014	-0.0256	0.0006	0.0024	0.0018	-0.1855	0.0174
3	164.88	0.2357	-0.0231	0.0010	0.0029	0.0023	-0.0492	0.0031	-0.2881	0.0271
3	164.88	0.2995	-0.0097	0.0013	-0.0611	0.0040	-0.0622	0.0070	-0.4593	0.0396
3	164.88	0.3493	0.0108	0.0015	-0.1070	0.0063	-0.1178	0.0114	-0.4506	0.0375
3	164.88	0.4000	0.0539	0.0016	-0.1446	0.0108	-0.2085	0.0181	-0.3356	0.0382
3	164.88	0.4497	0.0725	0.0018	-0.1919	0.0131	-0.3627	0.0227	-0.5153	0.0361
3	164.88	0.4997	0.0899	0.0019	-0.2400	0.0150	-0.5712	0.0285	-0.5664	0.0364
3	164.88	0.5556	0.1286	0.0021	-0.2947	0.0182	-0.9110	0.0354	-0.7407	0.0334
3	164.88	0.5995	0.1559	0.0017	-0.3524	0.0210	-1.2340	0.0411	-0.6564	0.0441
3	164.88	0.6498	0.1851	0.0019	-0.4141	0.0247	-1.6940	0.0481	-0.6845	0.0460
3	164.88	0.6890	0.1835	0.0020	-0.4553	0.0266	-2.1049	0.0540	-0.4779	0.0404
3	164.88	0.7495	0.2070	0.0022	-0.5447	0.0310	-2.9069	0.0640	-0.7654	0.0327
3	164.88	0.7998	0.2349	0.0022	-0.6181	0.0342	-3.6430	0.0737	-0.8388	0.0353
3	164.88	0.8577	0.2218	0.0028	-0.6852	0.0380	-4.5773	0.0853	-0.8328	0.0359
3	164.88	0.9178	0.2267	0.0031	-0.7885	0.0419	-5.6191	0.0986	-0.8200	0.0444
3	164.88	0.9729	0.2302	0.0041	-0.8435	0.0457	-6.5718	0.1121	-0.9831	0.0377
4	164.88	0.2001	-0.0134	0.0011	0.0141	0.0007	-0.0507	0.0018	-0.0197	0.0222
4	164.88	0.2502	-0.0060	0.0015	0.0197	0.0015	-0.0957	0.0029	-0.0080	0.0355
4	164.88	0.3001	0.0074	0.0010	0.0553	0.0028	-0.1938	0.0058	-0.0405	0.0489
4	164.88	0.3502	0.0115	0.0010	0.0894	0.0046	-0.3401	0.0095	-0.0379	0.0406
4	164.88	0.4002	0.0369	0.0012	0.1388	0.0071	-0.5157	0.0136	-0.0254	0.0428
4	164.88	0.4500	0.0683	0.0015	0.1835	0.0095	-0.7792	0.0182	-0.2694	0.0407
4	164.88	0.5001	0.0927	0.0015	0.2072	0.0113	-1.0688	0.0225	-0.0950	0.0404
4	164.88	0.5560	0.1210	0.0021	0.2541	0.0132	-1.5483	0.0277	-0.3184	0.0521
4	164.88	0.6001	0.1399	0.0023	0.2816	0.0155	-1.9875	0.0326	-0.4183	0.0401
4	164.88	0.6501	0.1518	0.0016	0.2986	0.0176	-2.5500	0.0376	-0.3031	0.0417
4	164.88	0.6999	0.1815	0.0022	0.3088	0.0202	-3.2297	0.0435	-0.2680	0.0419
4	164.88	0.7500	0.1923	0.0021	0.3210	0.0229	-3.9904	0.0478	-0.0979	0.0465
4	164.88	0.8002	0.1895	0.0023	0.3307	0.0258	-4.8694	0.0539	-0.1503	0.0451
4	164.88	0.8582	0.1857	0.0025	0.3335	0.0296	-5.9997	0.0607	-0.4405	0.0428
4	164.88	0.9101	0.1861	0.0027	0.3285	0.0330	-7.0411	0.0667	-0.4441	0.0480
4	164.88	0.9728	0.2160	0.0030	0.3690	0.0369	-8.1994	0.0751	-0.0656	0.0490

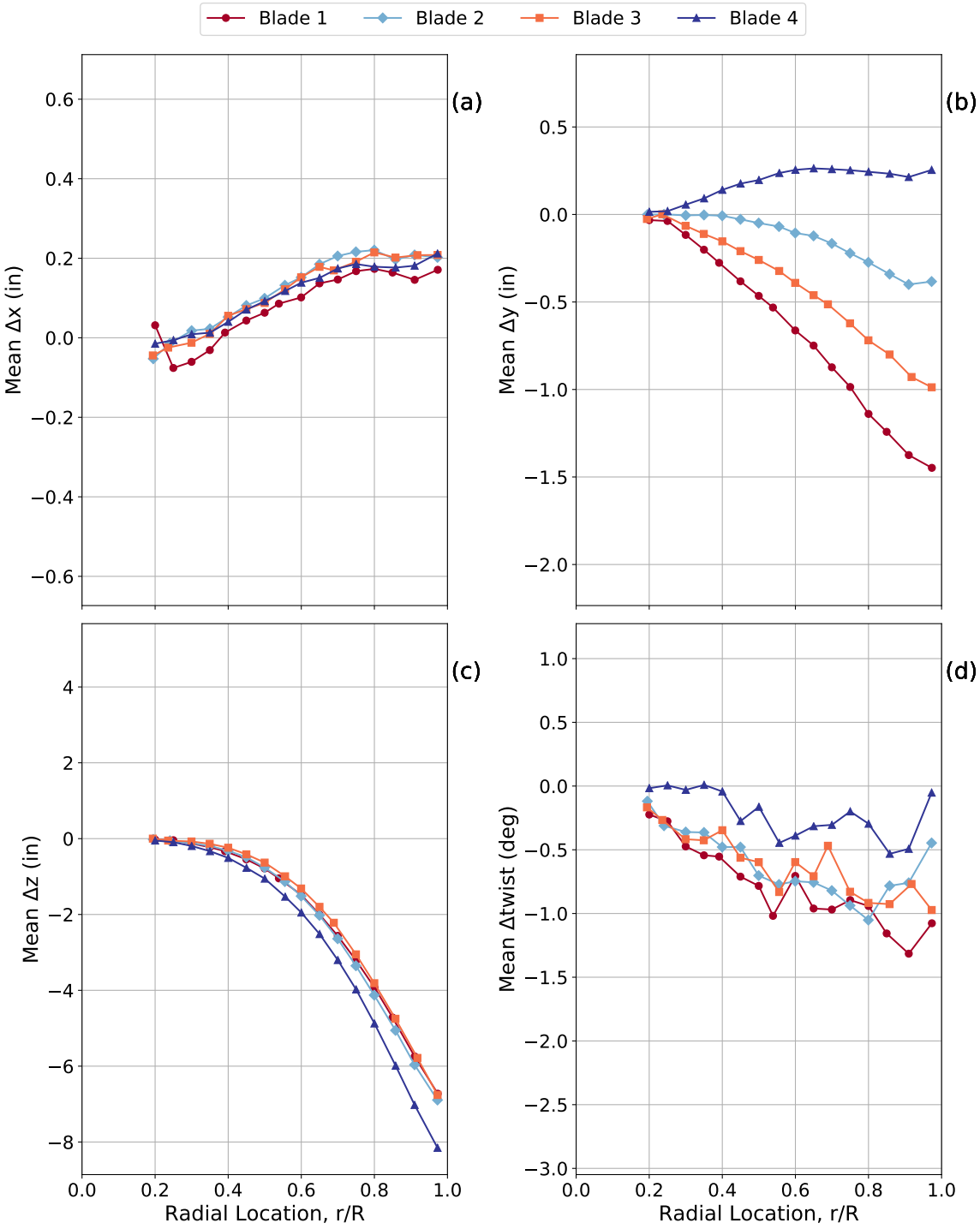


Figure 2.1-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	0.0315	0.0017	-0.0322	0.0007	-0.0251	0.0022	-0.2236	0.0242
1	170.16	0.2499	-0.0759	0.0016	-0.0372	0.0016	-0.0416	0.0044	-0.2763	0.0455
1	170.16	0.2998	-0.0605	0.0015	-0.1168	0.0031	-0.1288	0.0090	-0.4735	0.0566
1	170.16	0.3498	-0.0310	0.0017	-0.2013	0.0047	-0.2263	0.0140	-0.5432	0.0459
1	170.16	0.3913	0.0131	0.0017	-0.2762	0.0072	-0.3300	0.0208	-0.5536	0.0614
1	170.16	0.4496	0.0434	0.0019	-0.3819	0.0087	-0.5460	0.0253	-0.7108	0.0510
1	170.16	0.4997	0.0630	0.0022	-0.4652	0.0119	-0.7870	0.0312	-0.7834	0.0445
1	170.16	0.5387	0.0858	0.0018	-0.5317	0.0127	-1.0478	0.0355	-1.0185	0.0464
1	170.16	0.5996	0.1015	0.0021	-0.6627	0.0151	-1.4812	0.0446	-0.7054	0.0507
1	170.16	0.6498	0.1368	0.0023	-0.7490	0.0179	-1.9997	0.0504	-0.9610	0.0544
1	170.16	0.6998	0.1465	0.0023	-0.8733	0.0203	-2.5631	0.0573	-0.9688	0.0506
1	170.16	0.7500	0.1676	0.0024	-0.9857	0.0238	-3.2134	0.0631	-0.8945	0.0493
1	170.16	0.8001	0.1733	0.0029	-1.1397	0.0269	-3.9222	0.0688	-0.9414	0.0468
1	170.16	0.8497	0.1640	0.0029	-1.2419	0.0297	-4.7181	0.0753	-1.1566	0.0492
1	170.16	0.9102	0.1457	0.0032	-1.3748	0.0338	-5.7440	0.0839	-1.3153	0.0469
1	170.16	0.9734	0.1710	0.0043	-1.4477	0.0382	-6.7260	0.0915	-1.0767	0.0517
2	170.16	0.1949	-0.0528	0.0013	-0.0012	0.0006	-0.0203	0.0017	-0.1188	0.0201
2	170.16	0.2405	-0.0140	0.0014	0.0008	0.0018	-0.0559	0.0040	-0.3114	0.0321
2	170.16	0.2999	0.0179	0.0013	-0.0052	0.0036	-0.1212	0.0073	-0.3606	0.0470
2	170.16	0.3498	0.0226	0.0013	-0.0029	0.0047	-0.1915	0.0123	-0.3642	0.0482
2	170.16	0.3998	0.0522	0.0014	-0.0075	0.0086	-0.3204	0.0196	-0.4784	0.0425
2	170.16	0.4496	0.0812	0.0018	-0.0278	0.0103	-0.4883	0.0246	-0.4789	0.0405
2	170.16	0.4995	0.0991	0.0014	-0.0490	0.0124	-0.7618	0.0293	-0.7024	0.0439
2	170.16	0.5551	0.1321	0.0016	-0.0690	0.0159	-1.1328	0.0363	-0.7723	0.0446
2	170.16	0.5996	0.1518	0.0020	-0.1060	0.0178	-1.5150	0.0394	-0.7467	0.0400
2	170.16	0.6497	0.1850	0.0022	-0.1224	0.0198	-2.0239	0.0444	-0.7560	0.0476
2	170.16	0.6996	0.2056	0.0021	-0.1658	0.0223	-2.6400	0.0503	-0.8202	0.0452
2	170.16	0.7495	0.2161	0.0024	-0.2214	0.0254	-3.3527	0.0559	-0.9372	0.0409
2	170.16	0.7996	0.2205	0.0026	-0.2733	0.0281	-4.1276	0.0622	-1.0514	0.0377
2	170.16	0.8578	0.1967	0.0027	-0.3408	0.0314	-5.0563	0.0699	-0.7828	0.0362
2	170.16	0.9100	0.2083	0.0033	-0.3999	0.0342	-5.9630	0.0779	-0.7594	0.0411
2	170.16	0.9727	0.2022	0.0042	-0.3832	0.0377	-6.8925	0.0877	-0.4464	0.0416
3	170.16	0.1938	-0.0444	0.0012	-0.0257	0.0006	0.0001	0.0021	-0.1671	0.0214
3	170.16	0.2357	-0.0247	0.0014	0.0011	0.0016	-0.0518	0.0028	-0.2664	0.0378
3	170.16	0.2995	-0.0124	0.0012	-0.0648	0.0037	-0.0745	0.0063	-0.4173	0.0528
3	170.16	0.3493	0.0099	0.0014	-0.1112	0.0050	-0.1357	0.0116	-0.4255	0.0464
3	170.16	0.4000	0.0553	0.0017	-0.1537	0.0090	-0.2392	0.0168	-0.3466	0.0432
3	170.16	0.4497	0.0721	0.0016	-0.2095	0.0115	-0.4136	0.0197	-0.5625	0.0436
3	170.16	0.4997	0.0876	0.0020	-0.2599	0.0142	-0.6316	0.0241	-0.5971	0.0491
3	170.16	0.5556	0.1220	0.0017	-0.3230	0.0154	-0.9932	0.0311	-0.8314	0.0461
3	170.16	0.5995	0.1521	0.0024	-0.3909	0.0182	-1.3153	0.0347	-0.5966	0.0572
3	170.16	0.6498	0.1784	0.0023	-0.4611	0.0222	-1.7991	0.0414	-0.7074	0.0504
3	170.16	0.6890	0.1695	0.0023	-0.5134	0.0231	-2.2183	0.0461	-0.4685	0.0589
3	170.16	0.7495	0.1912	0.0026	-0.6220	0.0260	-3.0515	0.0536	-0.8293	0.0514
3	170.16	0.7998	0.2147	0.0025	-0.7191	0.0289	-3.8120	0.0611	-0.9169	0.0466
3	170.16	0.8577	0.2018	0.0028	-0.8002	0.0327	-4.7504	0.0684	-0.9265	0.0501
3	170.16	0.9178	0.2078	0.0031	-0.9287	0.0363	-5.7830	0.0780	-0.7684	0.0478
3	170.16	0.9729	0.2083	0.0038	-0.9874	0.0395	-6.7594	0.0868	-0.9726	0.0509
4	170.16	0.2001	-0.0149	0.0013	0.0149	0.0008	-0.0502	0.0021	-0.0168	0.0200
4	170.16	0.2502	-0.0060	0.0017	0.0190	0.0019	-0.0943	0.0032	0.0052	0.0374
4	170.16	0.3001	0.0088	0.0013	0.0561	0.0035	-0.1946	0.0070	-0.0302	0.0448
4	170.16	0.3502	0.0128	0.0012	0.0919	0.0055	-0.3316	0.0100	0.0089	0.0435
4	170.16	0.4002	0.0401	0.0015	0.1406	0.0089	-0.5088	0.0158	-0.0429	0.0397
4	170.16	0.4500	0.0708	0.0014	0.1763	0.0109	-0.7706	0.0190	-0.2744	0.0401
4	170.16	0.5001	0.0921	0.0019	0.1968	0.0137	-1.0559	0.0232	-0.1632	0.0420
4	170.16	0.5560	0.1177	0.0017	0.2367	0.0165	-1.5319	0.0285	-0.4459	0.0434
4	170.16	0.6001	0.1386	0.0020	0.2549	0.0192	-1.9503	0.0303	-0.3890	0.0483
4	170.16	0.6501	0.1507	0.0021	0.2633	0.0219	-2.5173	0.0364	-0.3151	0.0433
4	170.16	0.6999	0.1742	0.0022	0.2587	0.0253	-3.2026	0.0399	-0.3047	0.0497
4	170.16	0.7500	0.1854	0.0023	0.2529	0.0284	-3.9784	0.0454	-0.1992	0.0454
4	170.16	0.8002	0.1786	0.0025	0.2437	0.0319	-4.8747	0.0508	-0.2958	0.0449
4	170.16	0.8582	0.1765	0.0029	0.2329	0.0360	-5.9896	0.0580	-0.5316	0.0516
4	170.16	0.9101	0.1813	0.0030	0.2138	0.0396	-7.0237	0.0647	-0.4928	0.0437
4	170.16	0.9728	0.2119	0.0040	0.2543	0.0441	-8.1545	0.0736	-0.0518	0.0483

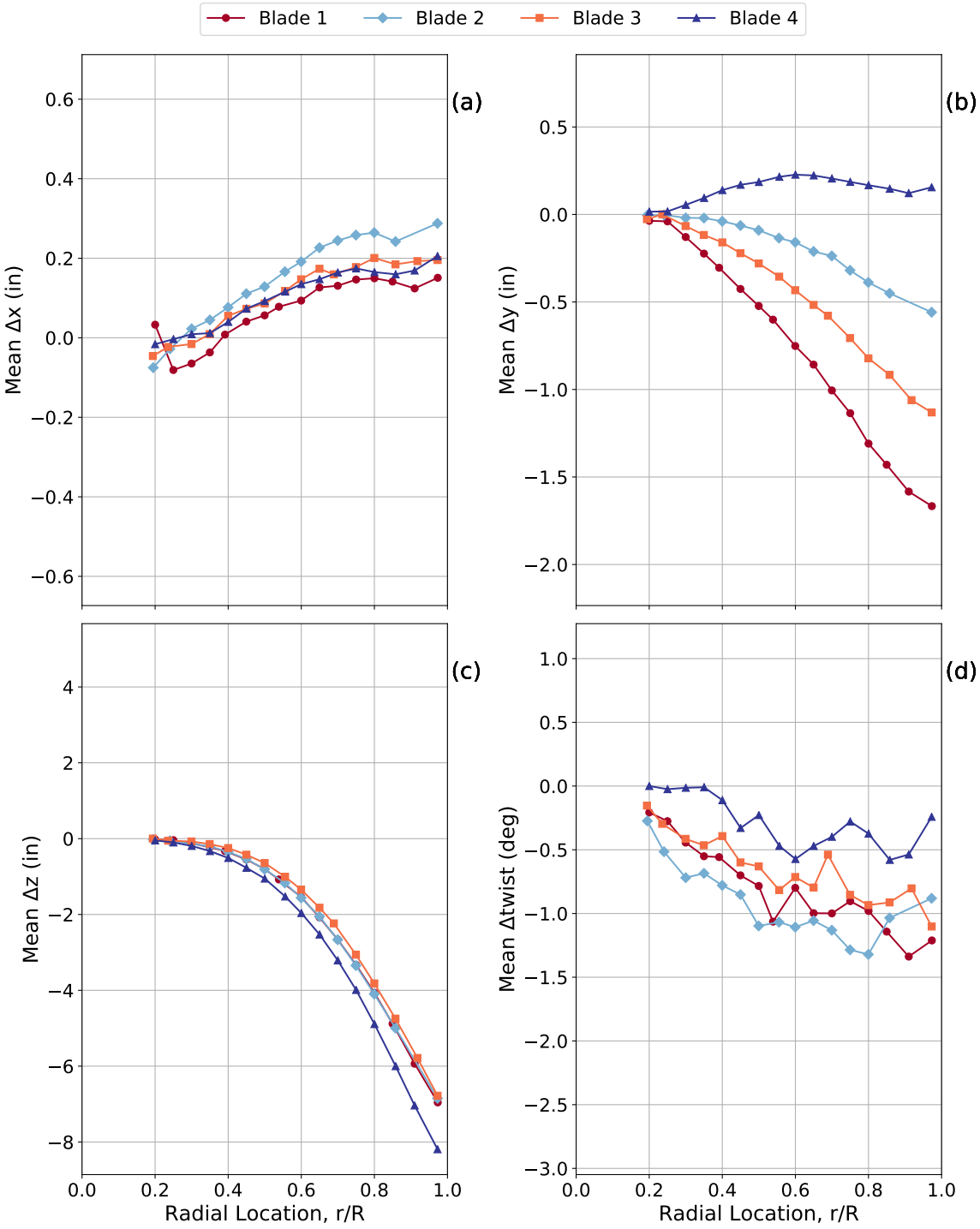


Figure 2.1-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	0.0329	0.0019	-0.0362	0.0010	-0.0231	0.0027	-0.2068	0.0285
1	175.08	0.2499	-0.0811	0.0020	-0.0395	0.0029	-0.0400	0.0055	-0.2757	0.0488
1	175.08	0.2998	-0.0647	0.0018	-0.1289	0.0053	-0.1235	0.0106	-0.4437	0.0653
1	175.08	0.3498	-0.0368	0.0021	-0.2237	0.0078	-0.2269	0.0180	-0.5507	0.0500
1	175.08	0.3913	0.0080	0.0027	-0.3044	0.0127	-0.3271	0.0259	-0.5577	0.0502
1	175.08	0.4496	0.0406	0.0022	-0.4255	0.0140	-0.5490	0.0337	-0.7006	0.0494
1	175.08	0.4997	0.0564	0.0024	-0.5229	0.0172	-0.8028	0.0412	-0.7839	0.0533
1	175.08	0.5387	0.0780	0.0024	-0.6009	0.0192	-1.0765	0.0465	-1.0637	0.0517
1	175.08	0.5996	0.0935	0.0025	-0.7515	0.0232	-1.5407	0.0568	-0.7985	0.0535
1	175.08	0.6498	0.1265	0.0025	-0.8579	0.0267	-2.0766	0.0640	-0.9975	0.0649
1	175.08	0.6998	0.1308	0.0029	-1.0055	0.0299	-2.6620	0.0721	-0.9991	0.0586
1	175.08	0.7500	0.1464	0.0033	-1.1353	0.0335	-3.3305	0.0832	-0.9032	0.0639
1	175.08	0.8001	0.1496	0.0033	-1.3094	0.0377	-4.0672	0.0907	-0.9799	0.0593
1	175.08	0.8497	0.1414	0.0038	-1.4300	0.0414	-4.8814	0.1008	-1.1421	0.0573
1	175.08	0.9102	0.1241	0.0045	-1.5833	0.0462	-5.9351	0.1130	-1.3380	0.0575
1	175.08	0.9734	0.1509	0.0053	-1.6665	0.0508	-6.9561	0.1264	-1.2114	0.0606
2	175.08	0.1949	-0.0752	0.0010	-0.0041	0.0011	-0.0223	0.0020	-0.2738	0.0233
2	175.08	0.2405	-0.0278	0.0010	-0.0025	0.0021	-0.0559	0.0036	-0.5151	0.0386
2	175.08	0.2999	0.0226	0.0011	-0.0194	0.0040	-0.1362	0.0072	-0.7192	0.0537
2	175.08	0.3498	0.0448	0.0012	-0.0205	0.0072	-0.2036	0.0117	-0.6848	0.0524
2	175.08	0.3998	0.0765	0.0015	-0.0391	0.0108	-0.3492	0.0179	-0.7794	0.0472
2	175.08	0.4496	0.1109	0.0014	-0.0634	0.0130	-0.5339	0.0225	-0.8515	0.0474
2	175.08	0.4995	0.1285	0.0016	-0.0903	0.0168	-0.8082	0.0272	-1.0975	0.0489
2	175.08	0.5551	0.1662	0.0017	-0.1350	0.0184	-1.1706	0.0338	-1.0679	0.0544
2	175.08	0.5996	0.1913	0.0019	-0.1586	0.0221	-1.5628	0.0385	-1.1069	0.0663
2	175.08	0.6497	0.2265	0.0026	-0.2115	0.0268	-2.0535	0.0455	-1.0560	0.0658
2	175.08	0.6996	0.2446	0.0030	-0.2369	0.0288	-2.6661	0.0504	-1.1311	0.0872
2	175.08	0.7495	0.2583	0.0033	-0.3192	0.0320	-3.3453	0.0577	-1.2850	0.0674
2	175.08	0.7996	0.2644	0.0043	-0.3882	0.0361	-4.0976	0.0661	-1.3210	0.0959
2	175.08	0.8578	0.2420	0.0064	-0.4505	0.0405	-4.9967	0.0782	-1.0349	0.1291
2	175.08	0.9727	0.2878	0.0110	-0.5587	0.0461	-6.8487	0.1031	-0.8808	0.1345
3	175.08	0.1938	-0.0458	0.0015	-0.0267	0.0009	0.0010	0.0024	-0.1534	0.0214
3	175.08	0.2357	-0.0231	0.0016	0.0008	0.0026	-0.0548	0.0038	-0.2966	0.0347
3	175.08	0.2995	-0.0157	0.0018	-0.0661	0.0051	-0.0741	0.0097	-0.4143	0.0497
3	175.08	0.3493	0.0091	0.0017	-0.1173	0.0082	-0.1434	0.0142	-0.4647	0.0468
3	175.08	0.4000	0.0552	0.0023	-0.1596	0.0137	-0.2481	0.0233	-0.3926	0.0383
3	175.08	0.4497	0.0728	0.0018	-0.2214	0.0138	-0.4233	0.0272	-0.5992	0.0443
3	175.08	0.4997	0.0862	0.0018	-0.2798	0.0155	-0.6438	0.0353	-0.6305	0.0470
3	175.08	0.5556	0.1178	0.0019	-0.3552	0.0196	-1.0053	0.0447	-0.8163	0.0459
3	175.08	0.5995	0.1470	0.0020	-0.4329	0.0223	-1.3433	0.0485	-0.7139	0.0514
3	175.08	0.6498	0.1736	0.0023	-0.5167	0.0251	-1.8219	0.0578	-0.7964	0.0481
3	175.08	0.6890	0.1595	0.0026	-0.5785	0.0277	-2.2361	0.0662	-0.5383	0.0469
3	175.08	0.7495	0.1778	0.0033	-0.7062	0.0321	-3.0591	0.0777	-0.8537	0.0504
3	175.08	0.7998	0.2007	0.0037	-0.8220	0.0348	-3.8175	0.0907	-0.9342	0.0428
3	175.08	0.8577	0.1846	0.0040	-0.9162	0.0384	-4.7472	0.1049	-0.9130	0.0485
3	175.08	0.9178	0.1928	0.0048	-1.0609	0.0427	-5.7847	0.1221	-0.8030	0.0491
3	175.08	0.9729	0.1955	0.0062	-1.1311	0.0462	-6.7801	0.1357	-1.1022	0.0514
4	175.08	0.2001	-0.0162	0.0014	0.0158	0.0008	-0.0478	0.0025	0.0001	0.0241
4	175.08	0.2502	-0.0035	0.0018	0.0174	0.0020	-0.1011	0.0038	-0.0246	0.0431
4	175.08	0.3001	0.0089	0.0015	0.0548	0.0031	-0.1930	0.0073	-0.0137	0.0528
4	175.08	0.3502	0.0117	0.0013	0.0942	0.0053	-0.3292	0.0112	-0.0095	0.0428
4	175.08	0.4002	0.0399	0.0016	0.1390	0.0080	-0.5107	0.0169	-0.1112	0.0424
4	175.08	0.4500	0.0733	0.0017	0.1695	0.0102	-0.7698	0.0212	-0.3291	0.0385
4	175.08	0.5001	0.0923	0.0021	0.1854	0.0113	-1.0546	0.0262	-0.2277	0.0556
4	175.08	0.5560	0.1161	0.0019	0.2151	0.0141	-1.5264	0.0318	-0.4698	0.0392
4	175.08	0.6001	0.1349	0.0021	0.2273	0.0164	-1.9625	0.0363	-0.5726	0.0510
4	175.08	0.6501	0.1473	0.0020	0.2229	0.0194	-2.5296	0.0411	-0.4703	0.0505
4	175.08	0.6999	0.1641	0.0022	0.2053	0.0214	-3.2125	0.0464	-0.3983	0.0477
4	175.08	0.7500	0.1744	0.0024	0.1859	0.0239	-3.9908	0.0525	-0.2784	0.0569
4	175.08	0.8002	0.1652	0.0025	0.1670	0.0268	-4.8904	0.0593	-0.3737	0.0478
4	175.08	0.8582	0.1596	0.0030	0.1467	0.0297	-6.0013	0.0663	-0.5795	0.0492
4	175.08	0.9101	0.1691	0.0033	0.1215	0.0329	-7.0372	0.0736	-0.5372	0.0455
4	175.08	0.9728	0.2054	0.0041	0.1553	0.0363	-8.1916	0.0835	-0.2416	0.0424

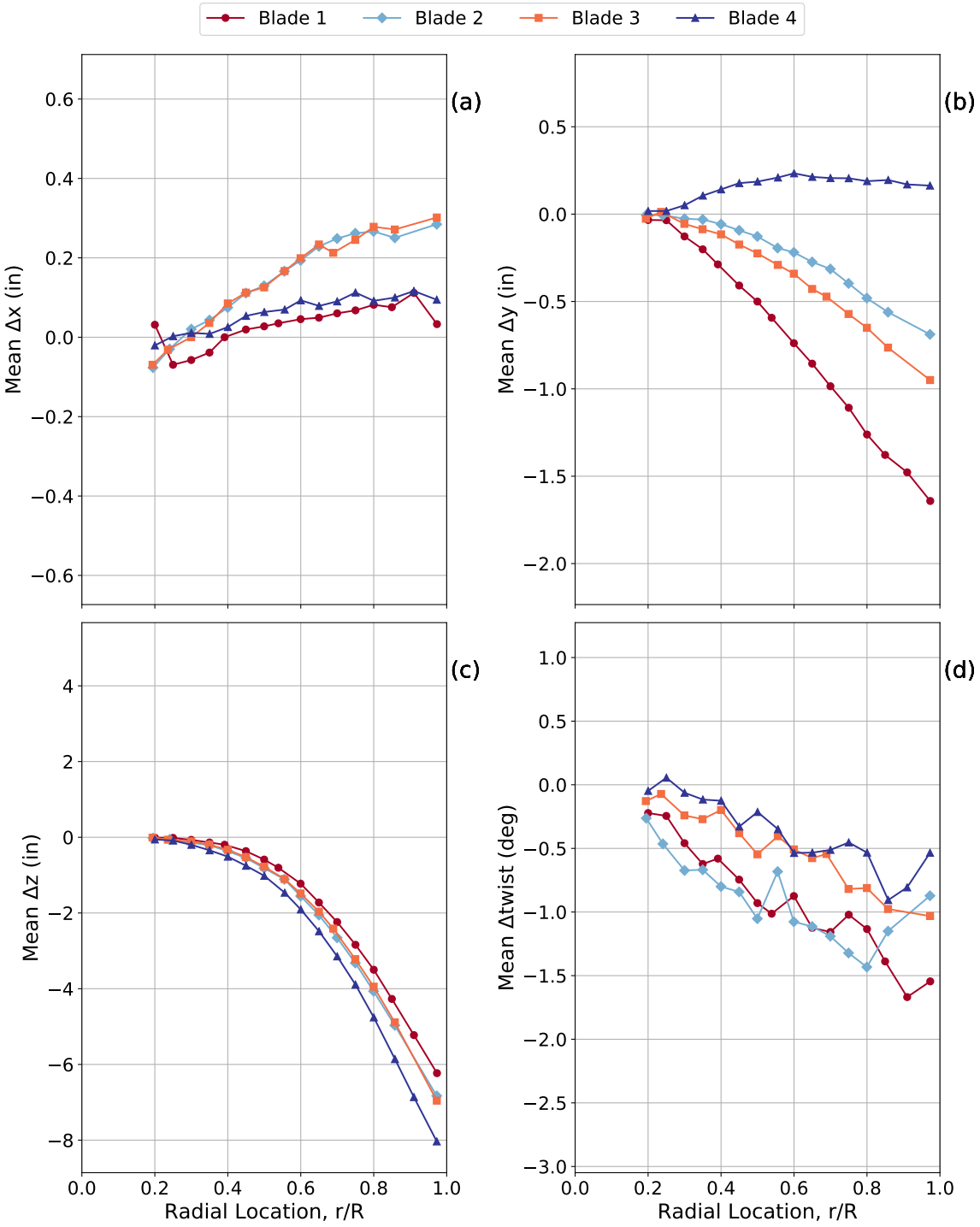


Figure 2.1-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	0.0314	0.0016	-0.0335	0.0012	-0.0094	0.0026	-0.2223	0.0221
1	180	0.2499	-0.0694	0.0016	-0.0349	0.0026	-0.0159	0.0046	-0.2448	0.0422
1	180	0.2998	-0.0574	0.0017	-0.1277	0.0049	-0.0687	0.0093	-0.4589	0.0506
1	180	0.3498	-0.0386	0.0014	-0.2014	0.0083	-0.1376	0.0142	-0.6227	0.0470
1	180	0.3913	0.0000	0.0018	-0.2878	0.0120	-0.1971	0.0207	-0.5804	0.0434
1	180	0.4496	0.0194	0.0017	-0.4085	0.0146	-0.3657	0.0259	-0.7455	0.0451
1	180	0.4997	0.0274	0.0019	-0.5004	0.0181	-0.5891	0.0323	-0.9298	0.0446
1	180	0.5387	0.0351	0.0022	-0.5931	0.0210	-0.8052	0.0378	-1.0133	0.0423
1	180	0.5996	0.0455	0.0020	-0.7387	0.0248	-1.2246	0.0451	-0.8745	0.0506
1	180	0.6498	0.0492	0.0023	-0.8558	0.0286	-1.7232	0.0520	-1.1249	0.0551
1	180	0.6998	0.0602	0.0021	-0.9850	0.0314	-2.2398	0.0597	-1.1570	0.0570
1	180	0.7500	0.0677	0.0035	-1.1082	0.0352	-2.8399	0.0672	-1.0213	0.0577
1	180	0.8001	0.0817	0.0049	-1.2613	0.0396	-3.4993	0.0734	-1.1341	0.0647
1	180	0.8497	0.0756	0.0039	-1.3782	0.0444	-4.2701	0.0821	-1.3883	0.0554
1	180	0.9102	0.1116	0.0131	-1.4779	0.0500	-5.2260	0.0894	-1.6686	0.1206
1	180	0.9734	0.0330	0.0095	-1.6417	0.0527	-6.2306	0.1095	-1.5451	0.0952
2	180	0.1949	-0.0766	0.0010	-0.0050	0.0011	-0.0231	0.0018	-0.2627	0.0230
2	180	0.2405	-0.0296	0.0010	-0.0059	0.0016	-0.0578	0.0034	-0.4646	0.0360
2	180	0.2999	0.0204	0.0010	-0.0265	0.0042	-0.1425	0.0064	-0.6732	0.0535
2	180	0.3498	0.0432	0.0010	-0.0307	0.0067	-0.2141	0.0114	-0.6682	0.0478
2	180	0.3998	0.0747	0.0013	-0.0573	0.0103	-0.3669	0.0169	-0.7997	0.0467
2	180	0.4496	0.1111	0.0013	-0.0926	0.0119	-0.5471	0.0208	-0.8419	0.0437
2	180	0.4995	0.1294	0.0017	-0.1277	0.0151	-0.8158	0.0258	-1.0523	0.0456
2	180	0.5551	0.1662	0.0020	-0.1941	0.0186	-1.1104	0.0342	-0.6822	0.0733
2	180	0.5996	0.1934	0.0021	-0.2188	0.0208	-1.5535	0.0373	-1.0766	0.0550
2	180	0.6497	0.2289	0.0021	-0.2739	0.0241	-2.0535	0.0434	-1.1140	0.0646
2	180	0.6996	0.2486	0.0022	-0.3140	0.0273	-2.6536	0.0479	-1.1902	0.0683
2	180	0.7495	0.2619	0.0026	-0.3965	0.0310	-3.3199	0.0569	-1.3221	0.0709
2	180	0.7996	0.2665	0.0028	-0.4808	0.0320	-4.0657	0.0619	-1.4326	0.0710
2	180	0.8578	0.2504	0.0041	-0.5612	0.0395	-4.9681	0.0716	-1.1504	0.0959
2	180	0.9727	0.2846	0.0063	-0.6882	0.0455	-6.8308	0.0864	-0.8725	0.0860
3	180.35	0.1938	-0.0694	0.0008	-0.0260	0.0009	-0.0097	0.0019	-0.1283	0.0199
3	180.35	0.2357	-0.0316	0.0009	0.0127	0.0025	-0.0643	0.0039	-0.0724	0.0348
3	180.35	0.2995	0.0001	0.0010	-0.0558	0.0029	-0.1093	0.0070	-0.2405	0.0482
3	180.35	0.3493	0.0358	0.0011	-0.0864	0.0053	-0.1973	0.0129	-0.2705	0.0381
3	180.35	0.4000	0.0851	0.0013	-0.1159	0.0084	-0.3305	0.0193	-0.1985	0.0379
3	180.35	0.4497	0.1123	0.0016	-0.1741	0.0111	-0.5229	0.0238	-0.3805	0.0373
3	180.35	0.4997	0.1256	0.0016	-0.2246	0.0131	-0.7763	0.0299	-0.5464	0.0377
3	180.35	0.5556	0.1667	0.0024	-0.2908	0.0183	-1.1029	0.0404	-0.4042	0.0600
3	180.35	0.5995	0.1990	0.0019	-0.3410	0.0181	-1.4846	0.0426	-0.5078	0.0492
3	180.35	0.6498	0.2336	0.0021	-0.4284	0.0212	-1.9627	0.0494	-0.5765	0.0525
3	180.35	0.6890	0.2127	0.0023	-0.4723	0.0241	-2.4125	0.0560	-0.5440	0.0661
3	180.35	0.7495	0.2452	0.0027	-0.5716	0.0267	-3.2189	0.0673	-0.8189	0.0551
3	180.35	0.7998	0.2782	0.0033	-0.6506	0.0294	-3.9464	0.0769	-0.8116	0.0579
3	180.35	0.8577	0.2714	0.0042	-0.7640	0.0341	-4.8887	0.0894	-0.9764	0.1090
3	180.35	0.9729	0.3016	0.0091	-0.9496	0.0470	-6.9566	0.1167	-1.0319	0.1518
4	180	0.2001	-0.0207	0.0016	0.0177	0.0019	-0.0574	0.0038	-0.0482	0.0283
4	180	0.2502	0.0026	0.0024	0.0178	0.0030	-0.0876	0.0053	0.0555	0.0505
4	180	0.3001	0.0110	0.0016	0.0508	0.0059	-0.1997	0.0120	-0.0628	0.0604
4	180	0.3502	0.0083	0.0016	0.1058	0.0090	-0.3450	0.0169	-0.1161	0.0534
4	180	0.4002	0.0256	0.0017	0.1416	0.0137	-0.5127	0.0263	-0.1258	0.0596
4	180	0.4500	0.0537	0.0016	0.1773	0.0162	-0.7527	0.0303	-0.3283	0.0496
4	180	0.5001	0.0635	0.0019	0.1860	0.0196	-1.0186	0.0384	-0.2139	0.0481
4	180	0.5560	0.0697	0.0026	0.2093	0.0236	-1.4647	0.0491	-0.3491	0.0501
4	180	0.6001	0.0929	0.0024	0.2334	0.0270	-1.9075	0.0570	-0.5359	0.0533
4	180	0.6501	0.0788	0.0028	0.2130	0.0307	-2.4834	0.0670	-0.5335	0.0596
4	180	0.6999	0.0903	0.0034	0.2062	0.0347	-3.1465	0.0788	-0.5118	0.0535
4	180	0.7500	0.1125	0.0039	0.2051	0.0392	-3.8925	0.0920	-0.4534	0.0605
4	180	0.8002	0.0917	0.0055	0.1886	0.0434	-4.7591	0.1081	-0.5331	0.0582
4	180	0.8582	0.1000	0.0074	0.1951	0.0473	-5.8596	0.1285	-0.9060	0.0664
4	180	0.9101	0.1164	0.0141	0.1699	0.0516	-6.8637	0.1507	-0.8064	0.1116
4	180	0.9728	0.0944	0.0084	0.1632	0.0587	-8.0348	0.1768	-0.5345	0.0837

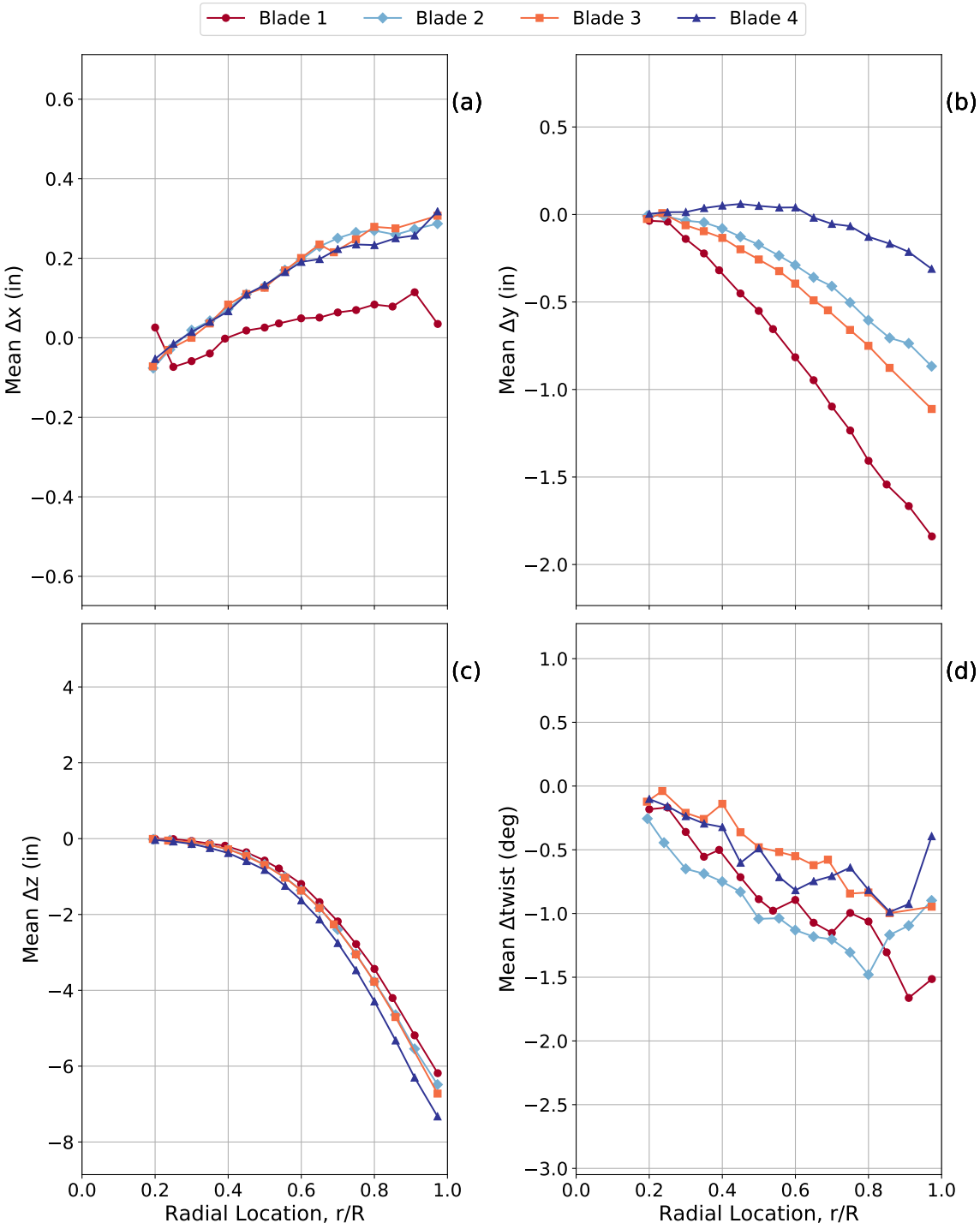


Figure 2.1-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	0.0258	0.0019	-0.0361	0.0018	-0.0062	0.0036	-0.1821	0.0295
1	184.92	0.2499	-0.0733	0.0023	-0.0411	0.0035	-0.0131	0.0067	-0.1685	0.0549
1	184.92	0.2998	-0.0587	0.0019	-0.1397	0.0064	-0.0608	0.0119	-0.3601	0.0682
1	184.92	0.3498	-0.0396	0.0018	-0.2228	0.0114	-0.1310	0.0200	-0.5548	0.0579
1	184.92	0.3913	-0.0021	0.0020	-0.3189	0.0159	-0.1866	0.0279	-0.5009	0.0537
1	184.92	0.4496	0.0182	0.0025	-0.4514	0.0195	-0.3596	0.0346	-0.7152	0.0590
1	184.92	0.4997	0.0257	0.0024	-0.5509	0.0238	-0.5783	0.0425	-0.8875	0.0556
1	184.92	0.5387	0.0361	0.0026	-0.6550	0.0273	-0.7881	0.0487	-0.9778	0.0541
1	184.92	0.5996	0.0489	0.0026	-0.8160	0.0323	-1.1950	0.0588	-0.8936	0.0600
1	184.92	0.6498	0.0508	0.0027	-0.9469	0.0368	-1.6746	0.0663	-1.0723	0.0627
1	184.92	0.6998	0.0637	0.0028	-1.0976	0.0415	-2.1829	0.0741	-1.1522	0.0716
1	184.92	0.7500	0.0697	0.0036	-1.2343	0.0468	-2.7814	0.0824	-0.9957	0.0673
1	184.92	0.8001	0.0835	0.0040	-1.4075	0.0511	-3.4347	0.0908	-1.0626	0.0681
1	184.92	0.8497	0.0785	0.0040	-1.5430	0.0560	-4.2037	0.1013	-1.3047	0.0598
1	184.92	0.9102	0.1145	0.0087	-1.6660	0.0639	-5.1877	0.1141	-1.6625	0.0662
1	184.92	0.9734	0.0348	0.0077	-1.8394	0.0680	-6.1850	0.1236	-1.5143	0.0897
2	184.92	0.1949	-0.0763	0.0010	-0.0075	0.0008	-0.0165	0.0017	-0.2556	0.0219
2	184.92	0.2405	-0.0294	0.0007	-0.0081	0.0017	-0.0423	0.0033	-0.4442	0.0323
2	184.92	0.2999	0.0191	0.0009	-0.0357	0.0030	-0.1078	0.0060	-0.6497	0.0503
2	184.92	0.3498	0.0425	0.0009	-0.0456	0.0057	-0.1653	0.0106	-0.6875	0.0490
2	184.92	0.3998	0.0726	0.0012	-0.0801	0.0083	-0.2829	0.0156	-0.7497	0.0428
2	184.92	0.4496	0.1096	0.0012	-0.1273	0.0103	-0.4386	0.0198	-0.8302	0.0386
2	184.92	0.4995	0.1293	0.0013	-0.1722	0.0124	-0.6831	0.0265	-1.0418	0.0338
2	184.92	0.5551	0.1703	0.0016	-0.2352	0.0148	-1.0146	0.0335	-1.0371	0.0330
2	184.92	0.5996	0.1959	0.0019	-0.2895	0.0168	-1.3618	0.0392	-1.1302	0.0455
2	184.92	0.6497	0.2297	0.0021	-0.3594	0.0189	-1.8285	0.0455	-1.1818	0.0531
2	184.92	0.6996	0.2504	0.0022	-0.4100	0.0221	-2.3959	0.0512	-1.2029	0.0528
2	184.92	0.7495	0.2651	0.0023	-0.5031	0.0241	-3.0369	0.0567	-1.3049	0.0514
2	184.92	0.7996	0.2696	0.0027	-0.6045	0.0273	-3.7683	0.0639	-1.4798	0.0466
2	184.92	0.8578	0.2593	0.0034	-0.7056	0.0308	-4.6470	0.0711	-1.1679	0.0553
2	184.92	0.9100	0.2730	0.0038	-0.7368	0.0395	-5.5431	0.0742	-1.0952	0.2466
2	184.92	0.9727	0.2869	0.0040	-0.8674	0.0359	-6.4856	0.0841	-0.8977	0.0674
3	184.92	0.1938	-0.0719	0.0010	-0.0257	0.0010	-0.0081	0.0021	-0.1226	0.0158
3	184.92	0.2357	-0.0306	0.0008	0.0075	0.0016	-0.0513	0.0036	-0.0388	0.0257
3	184.92	0.2995	-0.0000	0.0009	-0.0617	0.0031	-0.0911	0.0081	-0.2102	0.0360
3	184.92	0.3493	0.0360	0.0010	-0.0956	0.0053	-0.1693	0.0132	-0.2584	0.0351
3	184.92	0.4000	0.0835	0.0011	-0.1338	0.0080	-0.2806	0.0206	-0.1393	0.0300
3	184.92	0.4497	0.1100	0.0012	-0.1989	0.0097	-0.4612	0.0264	-0.3625	0.0301
3	184.92	0.4997	0.1258	0.0016	-0.2571	0.0117	-0.6942	0.0324	-0.4804	0.0271
3	184.92	0.5556	0.1693	0.0016	-0.3237	0.0146	-1.0306	0.0404	-0.5176	0.0319
3	184.92	0.5995	0.2006	0.0017	-0.3951	0.0164	-1.3695	0.0459	-0.5500	0.0351
3	184.92	0.6498	0.2347	0.0022	-0.4905	0.0193	-1.8277	0.0528	-0.6207	0.0434
3	184.92	0.6890	0.2150	0.0024	-0.5476	0.0206	-2.2602	0.0589	-0.5776	0.0448
3	184.92	0.7495	0.2476	0.0031	-0.6598	0.0236	-3.0517	0.0693	-0.8436	0.0359
3	184.92	0.7998	0.2790	0.0031	-0.7505	0.0269	-3.7730	0.0784	-0.8351	0.0445
3	184.92	0.8577	0.2752	0.0038	-0.8765	0.0301	-4.7047	0.0901	-0.9973	0.0822
3	184.92	0.9729	0.3069	0.0048	-1.1115	0.0424	-6.7235	0.1225	-0.9466	0.1056
4	184.92	0.2001	-0.0531	0.0014	0.0035	0.0011	-0.0347	0.0017	-0.1018	0.0203
4	184.92	0.2502	-0.0152	0.0009	0.0130	0.0022	-0.0747	0.0035	-0.1588	0.0328
4	184.92	0.3001	0.0147	0.0008	0.0137	0.0035	-0.1401	0.0055	-0.2364	0.0451
4	184.92	0.3502	0.0402	0.0009	0.0364	0.0059	-0.2478	0.0093	-0.2947	0.0416
4	184.92	0.4002	0.0668	0.0013	0.0506	0.0090	-0.3800	0.0143	-0.3218	0.0380
4	184.92	0.4500	0.1090	0.0013	0.0601	0.0109	-0.5917	0.0175	-0.6018	0.0383
4	184.92	0.5001	0.1327	0.0017	0.0490	0.0136	-0.8243	0.0216	-0.4890	0.0373
4	184.92	0.5560	0.1652	0.0017	0.0394	0.0164	-1.2454	0.0260	-0.7149	0.0361
4	184.92	0.6001	0.1908	0.0016	0.0403	0.0188	-1.6275	0.0301	-0.8171	0.0422
4	184.92	0.6501	0.1979	0.0018	-0.0184	0.0212	-2.1320	0.0357	-0.7463	0.0462
4	184.92	0.6999	0.2233	0.0019	-0.0539	0.0248	-2.7532	0.0417	-0.7062	0.0498
4	184.92	0.7500	0.2347	0.0021	-0.0669	0.0271	-3.4702	0.0470	-0.6396	0.0521
4	184.92	0.8002	0.2331	0.0025	-0.1278	0.0304	-4.2937	0.0538	-0.8155	0.0619
4	184.92	0.8582	0.2504	0.0029	-0.1673	0.0354	-5.3232	0.0613	-0.9878	0.0746
4	184.92	0.9101	0.2573	0.0033	-0.2141	0.0376	-6.3011	0.0704	-0.9259	0.1112
4	184.92	0.9728	0.3180	0.0039	-0.3108	0.0437	-7.3261	0.0742	-0.3937	0.0929

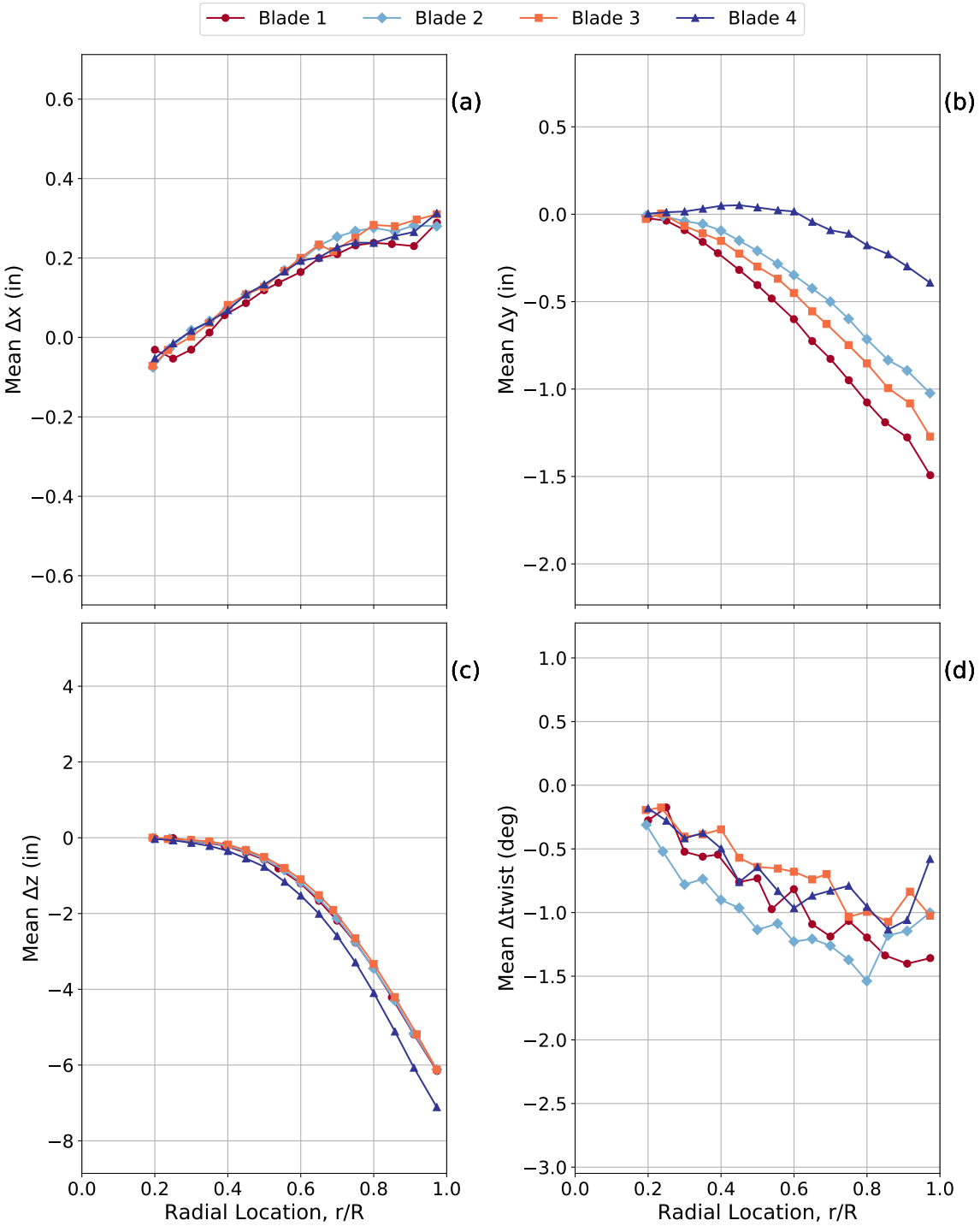


Figure 2.1-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0311	0.0012	-0.0232	0.0009	-0.0178	0.0021	-0.2763	0.0224
1	189.84	0.2499	-0.0533	0.0010	-0.0369	0.0022	-0.0096	0.0047	-0.1747	0.0370
1	189.84	0.2998	-0.0307	0.0011	-0.0908	0.0039	-0.0916	0.0078	-0.5225	0.0502
1	189.84	0.3498	0.0123	0.0011	-0.1583	0.0068	-0.1420	0.0135	-0.5611	0.0429
1	189.84	0.3913	0.0561	0.0013	-0.2224	0.0099	-0.2129	0.0193	-0.5448	0.0378
1	189.84	0.4496	0.0865	0.0015	-0.3185	0.0125	-0.3907	0.0261	-0.7603	0.0395
1	189.84	0.4997	0.1188	0.0017	-0.4050	0.0149	-0.5820	0.0327	-0.7317	0.0413
1	189.84	0.5387	0.1374	0.0020	-0.4819	0.0171	-0.8087	0.0397	-0.9735	0.0407
1	189.84	0.5996	0.1647	0.0023	-0.6002	0.0213	-1.2050	0.0528	-0.8166	0.0396
1	189.84	0.6498	0.1995	0.0024	-0.7255	0.0240	-1.6656	0.0637	-1.0915	0.0477
1	189.84	0.6998	0.2098	0.0028	-0.8273	0.0266	-2.1882	0.0752	-1.1885	0.0447
1	189.84	0.7500	0.2318	0.0035	-0.9492	0.0300	-2.7683	0.0889	-1.0657	0.0498
1	189.84	0.8001	0.2380	0.0043	-1.0765	0.0327	-3.4511	0.1029	-1.1962	0.0565
1	189.84	0.8497	0.2352	0.0050	-1.1903	0.0363	-4.2159	0.1183	-1.3369	0.0500
1	189.84	0.9102	0.2300	0.0060	-1.2763	0.0391	-5.1951	0.1386	-1.4014	0.0898
1	189.84	0.9734	0.2889	0.0075	-1.4926	0.0450	-6.1557	0.1595	-1.3580	0.0876
2	189.84	0.1949	-0.0754	0.0011	-0.0086	0.0008	-0.0100	0.0022	-0.3114	0.0234
2	189.84	0.2405	-0.0283	0.0010	-0.0106	0.0024	-0.0305	0.0034	-0.5205	0.0363
2	189.84	0.2999	0.0181	0.0010	-0.0398	0.0037	-0.0893	0.0078	-0.7798	0.0528
2	189.84	0.3498	0.0414	0.0014	-0.0557	0.0068	-0.1187	0.0121	-0.7368	0.0509
2	189.84	0.3998	0.0736	0.0013	-0.0939	0.0105	-0.2233	0.0187	-0.9010	0.0427
2	189.84	0.4496	0.1083	0.0012	-0.1507	0.0125	-0.3519	0.0224	-0.9638	0.0412
2	189.84	0.4995	0.1278	0.0013	-0.2095	0.0154	-0.5608	0.0292	-1.1353	0.0362
2	189.84	0.5551	0.1689	0.0017	-0.2838	0.0189	-0.8529	0.0353	-1.0867	0.0350
2	189.84	0.5996	0.1941	0.0016	-0.3479	0.0212	-1.1754	0.0403	-1.2277	0.0453
2	189.84	0.6497	0.2309	0.0018	-0.4243	0.0244	-1.6033	0.0462	-1.2074	0.0550
2	189.84	0.6996	0.2533	0.0021	-0.5000	0.0275	-2.1273	0.0519	-1.2607	0.0448
2	189.84	0.7495	0.2675	0.0023	-0.5982	0.0310	-2.7442	0.0592	-1.3717	0.0443
2	189.84	0.7996	0.2759	0.0025	-0.7148	0.0339	-3.4481	0.0649	-1.5382	0.0489
2	189.84	0.8578	0.2664	0.0027	-0.8344	0.0390	-4.2968	0.0719	-1.1798	0.0530
2	189.84	0.9100	0.2817	0.0031	-0.8939	0.0429	-5.1678	0.0781	-1.1453	0.1304
2	189.84	0.9727	0.2800	0.0040	-1.0233	0.0459	-6.1146	0.0900	-1.0012	0.0538
3	189.84	0.1938	-0.0715	0.0009	-0.0270	0.0007	0.0030	0.0019	-0.1945	0.0209
3	189.84	0.2357	-0.0317	0.0011	0.0042	0.0015	-0.0352	0.0028	-0.1753	0.0302
3	189.84	0.2995	0.0017	0.0010	-0.0667	0.0030	-0.0551	0.0075	-0.4036	0.0458
3	189.84	0.3493	0.0360	0.0013	-0.1096	0.0047	-0.0974	0.0110	-0.3859	0.0398
3	189.84	0.4000	0.0819	0.0013	-0.1523	0.0077	-0.1799	0.0177	-0.3469	0.0501
3	189.84	0.4497	0.1083	0.0012	-0.2250	0.0096	-0.3231	0.0202	-0.5694	0.0342
3	189.84	0.4997	0.1272	0.0014	-0.2994	0.0120	-0.5063	0.0252	-0.6415	0.0381
3	189.84	0.5556	0.1677	0.0013	-0.3689	0.0139	-0.7987	0.0315	-0.6541	0.0398
3	189.84	0.5995	0.2002	0.0015	-0.4506	0.0162	-1.0977	0.0372	-0.6794	0.0381
3	189.84	0.6498	0.2336	0.0018	-0.5554	0.0189	-1.5165	0.0433	-0.7395	0.0474
3	189.84	0.6890	0.2168	0.0018	-0.6273	0.0208	-1.9068	0.0493	-0.6980	0.0463
3	189.84	0.7495	0.2512	0.0021	-0.7488	0.0240	-2.6558	0.0579	-1.0344	0.0402
3	189.84	0.7998	0.2832	0.0024	-0.8532	0.0266	-3.3306	0.0677	-0.9941	0.0454
3	189.84	0.8577	0.2800	0.0030	-0.9944	0.0312	-4.2063	0.0781	-1.0720	0.0694
3	189.84	0.9178	0.2968	0.0033	-1.0818	0.0357	-5.1874	0.0883	-0.8362	0.1701
3	189.84	0.9729	0.3100	0.0045	-1.2716	0.0404	-6.1201	0.1052	-1.0248	0.0932
4	189.84	0.2001	-0.0524	0.0011	0.0032	0.0011	-0.0302	0.0025	-0.1810	0.0234
4	189.84	0.2502	-0.0149	0.0010	0.0114	0.0019	-0.0683	0.0042	-0.2786	0.0382
4	189.84	0.3001	0.0166	0.0009	0.0156	0.0043	-0.1344	0.0086	-0.4173	0.0526
4	189.84	0.3502	0.0396	0.0011	0.0316	0.0066	-0.2165	0.0139	-0.3751	0.0485
4	189.84	0.4002	0.0684	0.0011	0.0485	0.0106	-0.3486	0.0212	-0.4974	0.0444
4	189.84	0.4500	0.1084	0.0013	0.0517	0.0126	-0.5469	0.0261	-0.7604	0.0433
4	189.84	0.5001	0.1333	0.0012	0.0388	0.0150	-0.7657	0.0324	-0.6435	0.0387
4	189.84	0.5560	0.1659	0.0017	0.0229	0.0185	-1.1619	0.0388	-0.8314	0.0487
4	189.84	0.6001	0.1931	0.0020	0.0162	0.0203	-1.5272	0.0441	-0.9653	0.0485
4	189.84	0.6501	0.2013	0.0021	-0.0432	0.0237	-2.0068	0.0519	-0.8678	0.0548
4	189.84	0.6999	0.2272	0.0024	-0.0910	0.0264	-2.5940	0.0606	-0.8283	0.0539
4	189.84	0.7500	0.2387	0.0025	-0.1112	0.0296	-3.2915	0.0701	-0.7898	0.0472
4	189.84	0.8002	0.2381	0.0031	-0.1774	0.0326	-4.0983	0.0788	-0.9549	0.0642
4	189.84	0.8582	0.2553	0.0033	-0.2289	0.0371	-5.1154	0.0919	-1.1327	0.0672
4	189.84	0.9101	0.2655	0.0042	-0.2983	0.0397	-6.0710	0.1042	-1.0588	0.0793
4	189.84	0.9728	0.3128	0.0052	-0.3917	0.0433	-7.1121	0.1180	-0.5791	0.0705

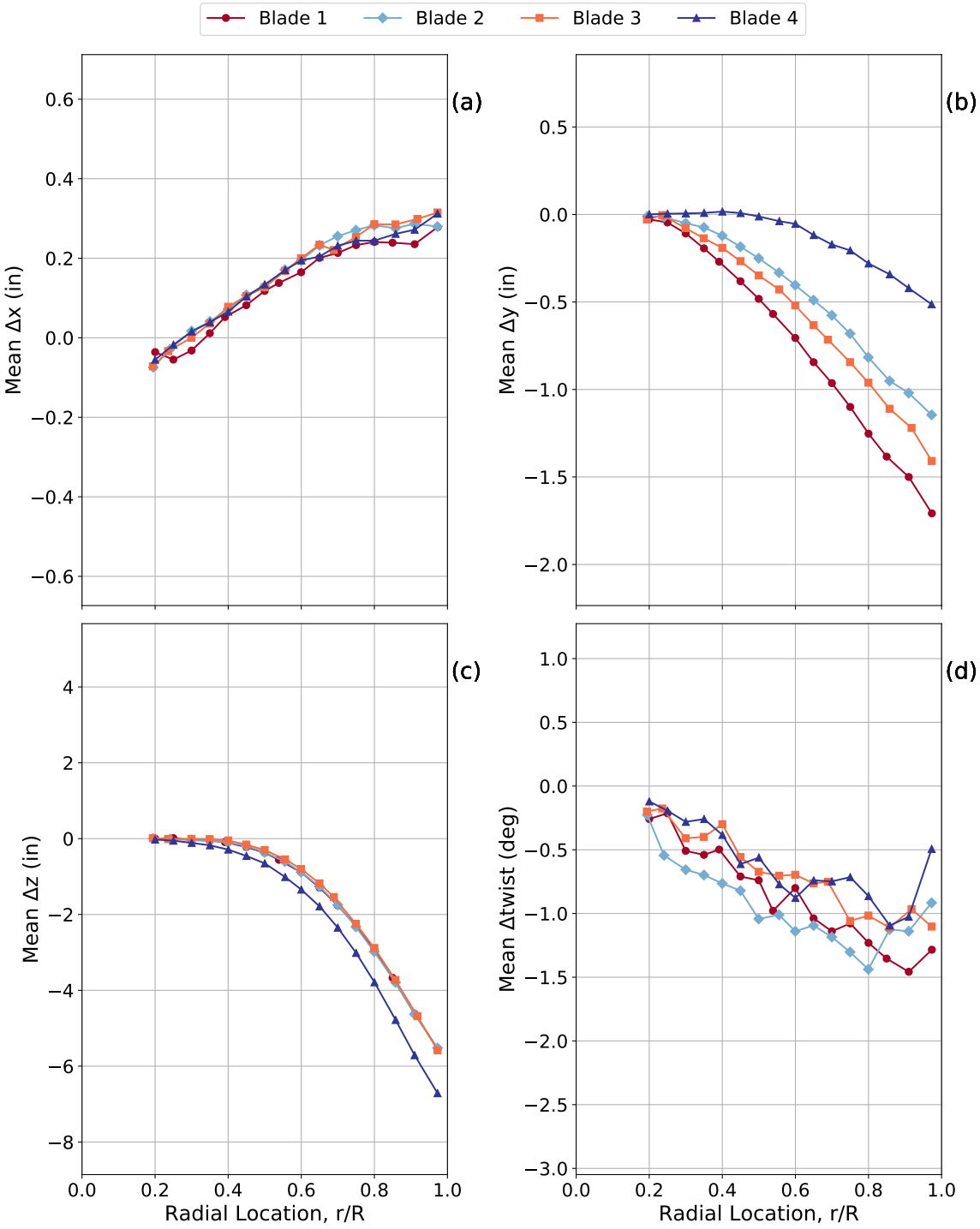


Figure 2.1-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0360	0.0009	-0.0277	0.0009	-0.0017	0.0028	-0.2586	0.0196
1	195.12	0.2499	-0.0549	0.0010	-0.0460	0.0020	0.0142	0.0079	-0.2135	0.0358
1	195.12	0.2998	-0.0320	0.0008	-0.1085	0.0040	-0.0391	0.0132	-0.5084	0.0453
1	195.12	0.3498	0.0115	0.0009	-0.1935	0.0061	-0.0538	0.0204	-0.5399	0.0453
1	195.12	0.3913	0.0522	0.0012	-0.2699	0.0094	-0.0921	0.0322	-0.4982	0.0610
1	195.12	0.4496	0.0820	0.0011	-0.3816	0.0101	-0.2209	0.0348	-0.7094	0.0411
1	195.12	0.4997	0.1178	0.0012	-0.4821	0.0118	-0.3709	0.0414	-0.7393	0.0367
1	195.12	0.5387	0.1379	0.0012	-0.5685	0.0136	-0.5579	0.0472	-0.9788	0.0401
1	195.12	0.5996	0.1648	0.0014	-0.7055	0.0162	-0.8859	0.0561	-0.8002	0.0455
1	195.12	0.6498	0.2010	0.0014	-0.8440	0.0182	-1.2914	0.0661	-1.0383	0.0486
1	195.12	0.6998	0.2133	0.0018	-0.9637	0.0210	-1.7615	0.0765	-1.1394	0.0442
1	195.12	0.7500	0.2331	0.0018	-1.0996	0.0236	-2.3039	0.0858	-1.0779	0.0449
1	195.12	0.8001	0.2410	0.0021	-1.2524	0.0256	-2.9413	0.0948	-1.2304	0.0490
1	195.12	0.8497	0.2391	0.0025	-1.3835	0.0283	-3.6694	0.1051	-1.3537	0.0484
1	195.12	0.9102	0.2354	0.0027	-1.4999	0.0315	-4.6174	0.1168	-1.4573	0.0625
1	195.12	0.9734	0.2786	0.0032	-1.7077	0.0348	-5.5437	0.1320	-1.2843	0.0833
2	195.12	0.1949	-0.0743	0.0011	-0.0111	0.0008	0.0028	0.0022	-0.2270	0.0214
2	195.12	0.2405	-0.0292	0.0007	-0.0142	0.0022	-0.0145	0.0060	-0.5444	0.0325
2	195.12	0.2999	0.0170	0.0008	-0.0502	0.0056	-0.0361	0.0131	-0.6562	0.0484
2	195.12	0.3498	0.0409	0.0011	-0.0741	0.0065	-0.0470	0.0157	-0.6983	0.0492
2	195.12	0.3998	0.0721	0.0013	-0.1216	0.0125	-0.1033	0.0294	-0.7644	0.0381
2	195.12	0.4496	0.1075	0.0012	-0.1843	0.0139	-0.1905	0.0338	-0.8208	0.0326
2	195.12	0.4995	0.1294	0.0013	-0.2504	0.0169	-0.3610	0.0404	-1.0429	0.0294
2	195.12	0.5551	0.1710	0.0014	-0.3322	0.0200	-0.6031	0.0486	-1.0103	0.0325
2	195.12	0.5996	0.1944	0.0015	-0.4039	0.0226	-0.8825	0.0547	-1.1396	0.0413
2	195.12	0.6497	0.2325	0.0014	-0.4893	0.0257	-1.2620	0.0625	-1.0941	0.0449
2	195.12	0.6996	0.2555	0.0015	-0.5762	0.0289	-1.7458	0.0689	-1.1844	0.0448
2	195.12	0.7495	0.2706	0.0016	-0.6809	0.0315	-2.3267	0.0753	-1.3024	0.0373
2	195.12	0.7996	0.2830	0.0020	-0.8166	0.0352	-2.9826	0.0825	-1.4380	0.0389
2	195.12	0.8578	0.2755	0.0019	-0.9512	0.0391	-3.7923	0.0901	-1.1254	0.0454
2	195.12	0.9100	0.2867	0.0025	-1.0201	0.0431	-4.6325	0.0969	-1.1396	0.0740
2	195.12	0.9727	0.2797	0.0030	-1.1451	0.0481	-5.5218	0.1064	-0.9159	0.0462
3	195.12	0.1938	-0.0720	0.0013	-0.0290	0.0007	0.0131	0.0019	-0.1996	0.0265
3	195.12	0.2357	-0.0335	0.0009	-0.0037	0.0022	-0.0080	0.0059	-0.1762	0.0324
3	195.12	0.2995	0.0002	0.0008	-0.0780	0.0031	-0.0071	0.0091	-0.4096	0.0574
3	195.12	0.3493	0.0357	0.0009	-0.1363	0.0062	-0.0130	0.0151	-0.3990	0.0561
3	195.12	0.4000	0.0780	0.0018	-0.1909	0.0095	-0.0488	0.0246	-0.2990	0.0465
3	195.12	0.4497	0.1052	0.0011	-0.2669	0.0118	-0.1572	0.0293	-0.5569	0.0371
3	195.12	0.4997	0.1271	0.0013	-0.3483	0.0139	-0.3002	0.0352	-0.6730	0.0408
3	195.12	0.5556	0.1682	0.0013	-0.4284	0.0177	-0.5466	0.0439	-0.7034	0.0387
3	195.12	0.5995	0.2001	0.0014	-0.5193	0.0202	-0.8012	0.0504	-0.6963	0.0423
3	195.12	0.6498	0.2341	0.0014	-0.6325	0.0231	-1.1783	0.0585	-0.7633	0.0460
3	195.12	0.6890	0.2207	0.0013	-0.7154	0.0256	-1.5404	0.0647	-0.7511	0.0448
3	195.12	0.7495	0.2535	0.0016	-0.8439	0.0293	-2.2464	0.0741	-1.0584	0.0395
3	195.12	0.7998	0.2856	0.0020	-0.9612	0.0331	-2.8838	0.0818	-1.0163	0.0488
3	195.12	0.8577	0.2851	0.0022	-1.1102	0.0362	-3.7269	0.0909	-1.1113	0.0603
3	195.12	0.9178	0.2989	0.0030	-1.2198	0.0405	-4.6817	0.0992	-0.9654	0.0969
3	195.12	0.9729	0.3151	0.0033	-1.4084	0.0440	-5.5829	0.1095	-1.1027	0.0654
4	195.12	0.2001	-0.0551	0.0011	0.0005	0.0008	-0.0243	0.0019	-0.1208	0.0209
4	195.12	0.2502	-0.0175	0.0009	0.0043	0.0026	-0.0547	0.0054	-0.1936	0.0332
4	195.12	0.3001	0.0157	0.0009	0.0058	0.0042	-0.1122	0.0076	-0.2811	0.0450
4	195.12	0.3502	0.0392	0.0012	0.0088	0.0066	-0.1774	0.0124	-0.2589	0.0426
4	195.12	0.4002	0.0657	0.0011	0.0164	0.0112	-0.2893	0.0195	-0.3835	0.0346
4	195.12	0.4500	0.1037	0.0011	0.0078	0.0141	-0.4572	0.0252	-0.6124	0.0343
4	195.12	0.5001	0.1339	0.0012	-0.0115	0.0164	-0.6526	0.0310	-0.5615	0.0327
4	195.12	0.5560	0.1704	0.0013	-0.0383	0.0184	-1.0133	0.0364	-0.7709	0.0342
4	195.12	0.6001	0.1945	0.0014	-0.0538	0.0217	-1.3451	0.0428	-0.8780	0.0358
4	195.12	0.6501	0.2044	0.0015	-0.1178	0.0239	-1.7879	0.0479	-0.7400	0.0454
4	195.12	0.6999	0.2316	0.0016	-0.1717	0.0271	-2.3490	0.0555	-0.7482	0.0378
4	195.12	0.7500	0.2440	0.0018	-0.2057	0.0308	-3.0140	0.0638	-0.7146	0.0393
4	195.12	0.8002	0.2443	0.0021	-0.2802	0.0342	-3.7894	0.0716	-0.8640	0.0434
4	195.12	0.8582	0.2614	0.0026	-0.3421	0.0373	-4.7820	0.0802	-1.0946	0.0453
4	195.12	0.9101	0.2718	0.0028	-0.4211	0.0416	-5.7113	0.0869	-1.0254	0.0539
4	195.12	0.9728	0.3121	0.0034	-0.5134	0.0449	-6.7139	0.0990	-0.4934	0.0492

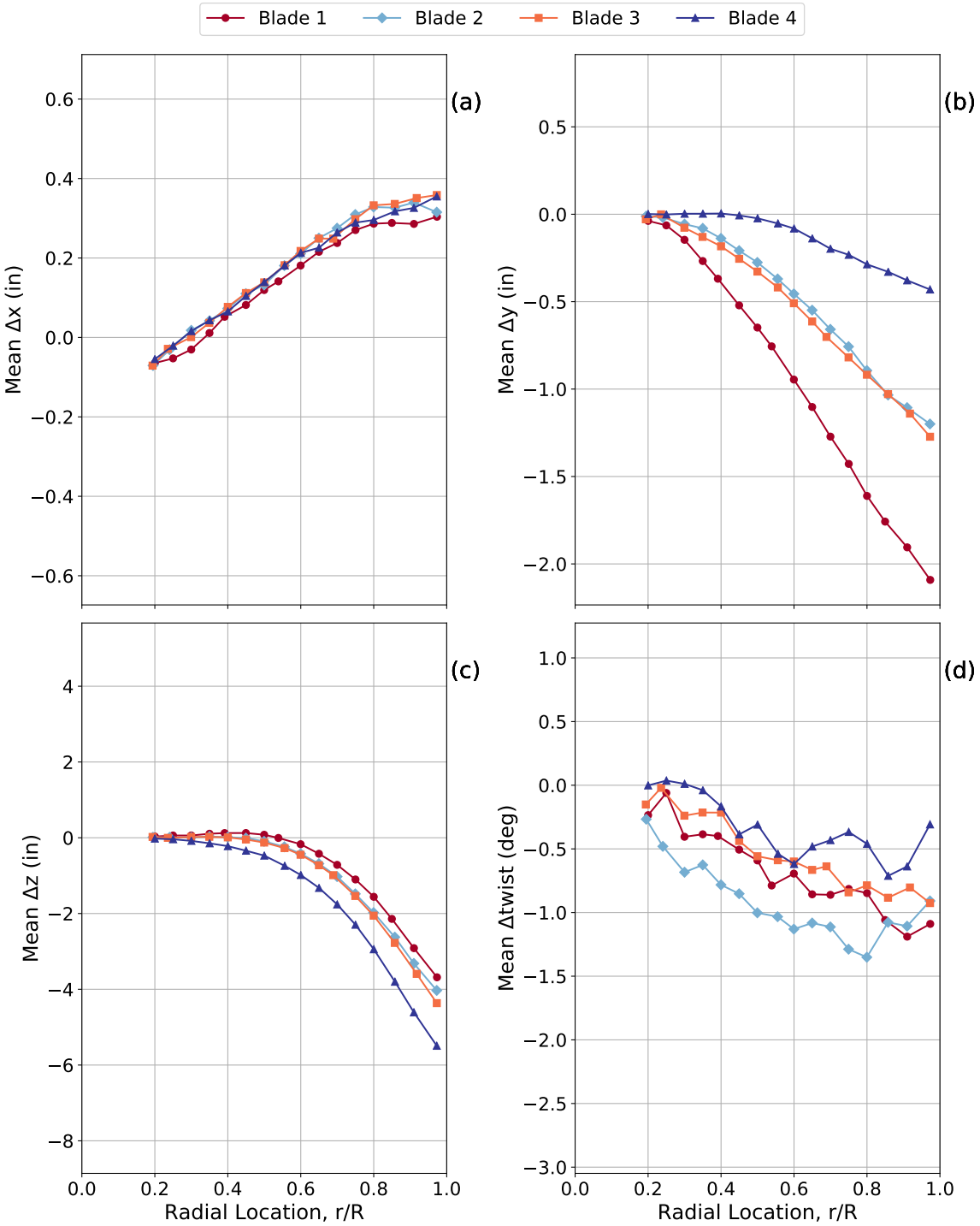


Figure 2.1-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0645	0.0013	-0.0379	0.0010	0.0320	0.0030	-0.2350	0.0217
1	209.88	0.2499	-0.0528	0.0010	-0.0636	0.0026	0.0595	0.0070	-0.0607	0.0433
1	209.88	0.2998	-0.0305	0.0010	-0.1462	0.0043	0.0601	0.0119	-0.4049	0.0515
1	209.88	0.3498	0.0111	0.0011	-0.2676	0.0078	0.1062	0.0194	-0.3854	0.0517
1	209.88	0.3913	0.0520	0.0022	-0.3689	0.0112	0.1237	0.0287	-0.3990	0.0468
1	209.88	0.4496	0.0817	0.0024	-0.5212	0.0144	0.1250	0.0359	-0.5060	0.0381
1	209.88	0.4997	0.1193	0.0019	-0.6483	0.0174	0.0796	0.0414	-0.5907	0.0493
1	209.88	0.5387	0.1411	0.0021	-0.7557	0.0194	-0.0050	0.0498	-0.7877	0.0383
1	209.88	0.5996	0.1810	0.0041	-0.9456	0.0235	-0.1702	0.0627	-0.6942	0.0455
1	209.88	0.6498	0.2156	0.0021	-1.1025	0.0279	-0.4223	0.0697	-0.8569	0.0523
1	209.88	0.6998	0.2377	0.0024	-1.2720	0.0316	-0.7155	0.0784	-0.8608	0.0466
1	209.88	0.7500	0.2703	0.0026	-1.4280	0.0357	-1.1012	0.0881	-0.8146	0.0444
1	209.88	0.8001	0.2864	0.0026	-1.6112	0.0400	-1.5588	0.0975	-0.8475	0.0585
1	209.88	0.8497	0.2883	0.0024	-1.7580	0.0442	-2.1416	0.1084	-1.0587	0.0507
1	209.88	0.9102	0.2858	0.0024	-1.9053	0.0494	-2.9142	0.1211	-1.1893	0.0536
1	209.88	0.9734	0.3038	0.0033	-2.0915	0.0550	-3.6835	0.1350	-1.0893	0.0535
2	209.88	0.1949	-0.0707	0.0021	-0.0106	0.0011	0.0132	0.0037	-0.2669	0.0413
2	209.88	0.2405	-0.0309	0.0015	-0.0185	0.0019	0.0110	0.0076	-0.4802	0.0542
2	209.88	0.2999	0.0179	0.0009	-0.0566	0.0046	0.0062	0.0124	-0.6833	0.0930
2	209.88	0.3498	0.0419	0.0008	-0.0807	0.0079	0.0330	0.0244	-0.6259	0.0752
2	209.88	0.3998	0.0729	0.0017	-0.1381	0.0120	0.0150	0.0346	-0.7824	0.0738
2	209.88	0.4496	0.1102	0.0022	-0.2080	0.0146	-0.0090	0.0450	-0.8523	0.0478
2	209.88	0.4995	0.1319	0.0029	-0.2756	0.0189	-0.0940	0.0542	-1.0021	0.0623
2	209.88	0.5551	0.1807	0.0016	-0.3701	0.0218	-0.2389	0.0635	-1.0326	0.0640
2	209.88	0.5996	0.2109	0.0026	-0.4554	0.0248	-0.4216	0.0733	-1.1301	0.0626
2	209.88	0.6497	0.2500	0.0023	-0.5486	0.0282	-0.6844	0.0829	-1.0823	0.0591
2	209.88	0.6996	0.2750	0.0023	-0.6584	0.0329	-1.0251	0.0930	-1.1129	0.0692
2	209.88	0.7495	0.3094	0.0020	-0.7572	0.0357	-1.4817	0.1030	-1.2879	0.0545
2	209.88	0.7996	0.3283	0.0020	-0.8941	0.0398	-1.9761	0.1136	-1.3511	0.0612
2	209.88	0.8578	0.3266	0.0019	-1.0340	0.0443	-2.6233	0.1286	-1.0769	0.0597
2	209.88	0.9100	0.3396	0.0020	-1.1061	0.0488	-3.3180	0.1420	-1.1069	0.0587
2	209.88	0.9727	0.3153	0.0025	-1.1997	0.0537	-4.0304	0.1603	-0.9087	0.0640
3	209.88	0.1938	-0.0710	0.0016	-0.0288	0.0006	0.0214	0.0018	-0.1513	0.0254
3	209.88	0.2357	-0.0288	0.0011	-0.0007	0.0016	-0.0023	0.0055	-0.0206	0.0291
3	209.88	0.2995	0.0007	0.0015	-0.0771	0.0028	0.0195	0.0080	-0.2391	0.0541
3	209.88	0.3493	0.0366	0.0009	-0.1297	0.0052	0.0246	0.0156	-0.2144	0.0634
3	209.88	0.4000	0.0769	0.0022	-0.1835	0.0080	0.0099	0.0233	-0.2149	0.0806
3	209.88	0.4497	0.1117	0.0022	-0.2549	0.0087	-0.0459	0.0264	-0.4378	0.0690
3	209.88	0.4997	0.1386	0.0023	-0.3280	0.0126	-0.1266	0.0400	-0.5577	0.0606
3	209.88	0.5556	0.1818	0.0017	-0.4188	0.0140	-0.2729	0.0404	-0.5892	0.0672
3	209.88	0.5995	0.2177	0.0022	-0.5090	0.0169	-0.4481	0.0472	-0.5991	0.0484
3	209.88	0.6498	0.2489	0.0021	-0.6134	0.0180	-0.7260	0.0526	-0.6651	0.0652
3	209.88	0.6890	0.2487	0.0020	-0.7018	0.0212	-0.9878	0.0577	-0.6371	0.0543
3	209.88	0.7495	0.2978	0.0015	-0.8190	0.0239	-1.5362	0.0683	-0.8415	0.0529
3	209.88	0.7998	0.3326	0.0016	-0.9179	0.0268	-2.0562	0.0754	-0.7864	0.0408
3	209.88	0.8577	0.3361	0.0017	-1.0288	0.0301	-2.7759	0.0844	-0.8838	0.0521
3	209.88	0.9178	0.3509	0.0019	-1.1403	0.0336	-3.5939	0.0937	-0.8031	0.0569
3	209.88	0.9729	0.3585	0.0023	-1.2726	0.0362	-4.3656	0.1022	-0.9257	0.0459
4	209.88	0.2001	-0.0545	0.0009	0.0011	0.0010	-0.0218	0.0021	-0.0017	0.0277
4	209.88	0.2502	-0.0208	0.0014	-0.0013	0.0021	-0.0398	0.0053	0.0364	0.0389
4	209.88	0.3001	0.0158	0.0018	0.0028	0.0050	-0.0827	0.0096	0.0106	0.0600
4	209.88	0.3502	0.0433	0.0014	0.0030	0.0059	-0.1472	0.0127	-0.0394	0.0443
4	209.88	0.4002	0.0654	0.0018	0.0041	0.0111	-0.2218	0.0216	-0.1670	0.0517
4	209.88	0.4500	0.1044	0.0026	-0.0068	0.0126	-0.3419	0.0234	-0.3856	0.0535
4	209.88	0.5001	0.1394	0.0021	-0.0235	0.0129	-0.4716	0.0333	-0.3095	0.0486
4	209.88	0.5560	0.1810	0.0023	-0.0530	0.0153	-0.7416	0.0403	-0.5388	0.0560
4	209.88	0.6001	0.2130	0.0024	-0.0818	0.0190	-0.9834	0.0452	-0.6189	0.0432
4	209.88	0.6501	0.2259	0.0018	-0.1383	0.0217	-1.3249	0.0494	-0.4817	0.0562
4	209.88	0.6999	0.2642	0.0019	-0.1975	0.0223	-1.7601	0.0555	-0.4316	0.0498
4	209.88	0.7500	0.2890	0.0020	-0.2322	0.0248	-2.2965	0.0618	-0.3671	0.0676
4	209.88	0.8002	0.2957	0.0021	-0.2867	0.0274	-2.9441	0.0694	-0.4607	0.0551
4	209.88	0.8582	0.3175	0.0019	-0.3296	0.0301	-3.8011	0.0777	-0.7118	0.0481
4	209.88	0.9101	0.3261	0.0023	-0.3783	0.0323	-4.6092	0.0859	-0.6379	0.0538
4	209.88	0.9728	0.3549	0.0028	-0.4305	0.0350	-5.4918	0.0960	-0.3078	0.0569

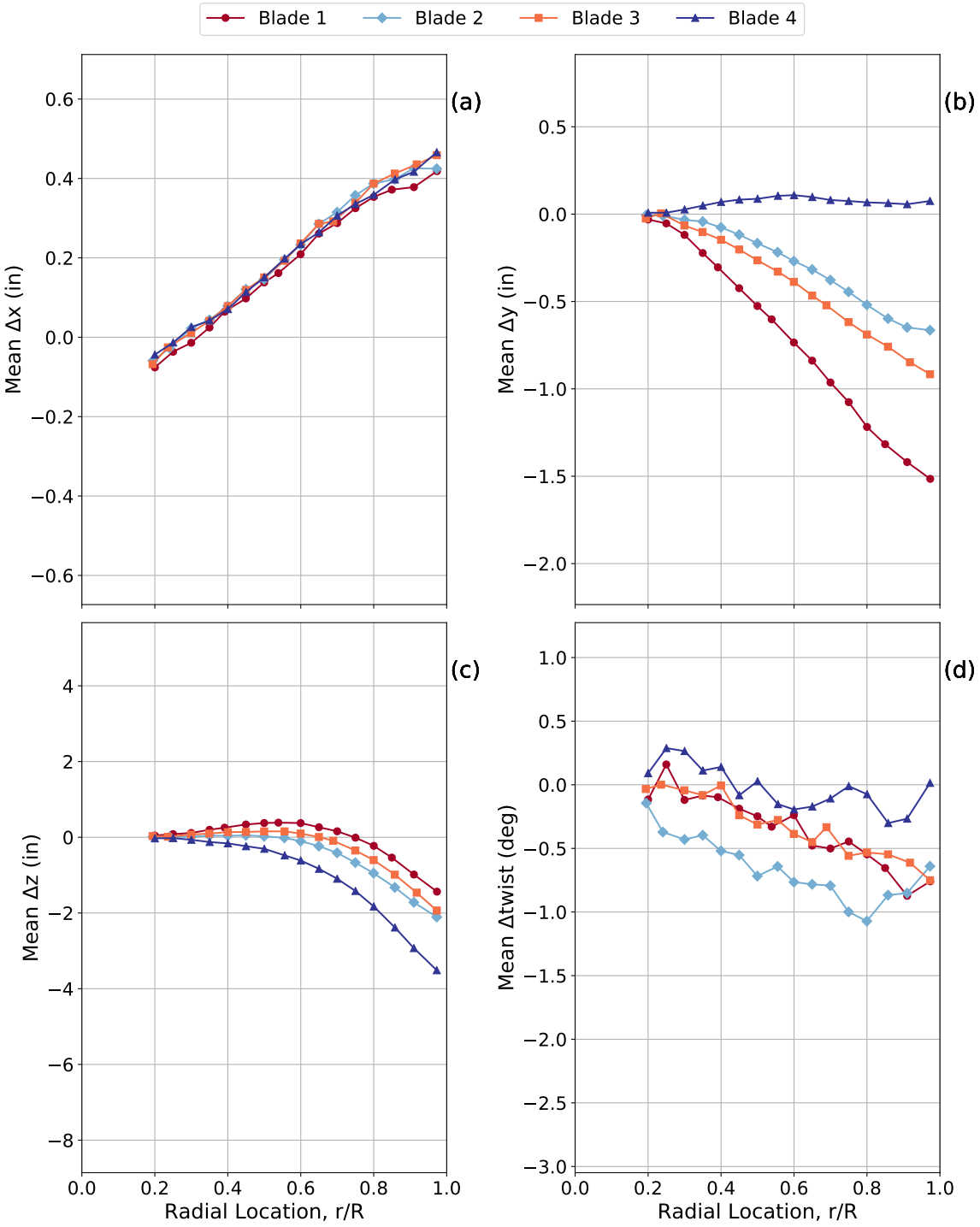


Figure 2.1-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0760	0.0013	-0.0308	0.0006	0.0458	0.0019	-0.1159	0.0201
1	225	0.2499	-0.0367	0.0009	-0.0532	0.0020	0.0829	0.0041	0.1598	0.0325
1	225	0.2998	-0.0140	0.0008	-0.1188	0.0024	0.1146	0.0072	-0.1191	0.0442
1	225	0.3498	0.0245	0.0010	-0.2226	0.0042	0.1977	0.0113	-0.0853	0.0407
1	225	0.3913	0.0643	0.0013	-0.3046	0.0062	0.2545	0.0164	-0.0975	0.0405
1	225	0.4496	0.0977	0.0013	-0.4240	0.0082	0.3374	0.0227	-0.1876	0.0430
1	225	0.4997	0.1380	0.0018	-0.5259	0.0101	0.3762	0.0263	-0.2479	0.0470
1	225	0.5387	0.1616	0.0022	-0.6021	0.0114	0.3859	0.0307	-0.3297	0.0469
1	225	0.5996	0.2092	0.0023	-0.7348	0.0146	0.3758	0.0373	-0.2392	0.0490
1	225	0.6498	0.2611	0.0022	-0.8386	0.0171	0.2653	0.0451	-0.4779	0.0540
1	225	0.6998	0.2875	0.0022	-0.9635	0.0200	0.1580	0.0502	-0.5010	0.0420
1	225	0.7500	0.3250	0.0020	-1.0761	0.0231	-0.0107	0.0561	-0.4456	0.0512
1	225	0.8001	0.3535	0.0021	-1.2181	0.0263	-0.2265	0.0643	-0.5468	0.0489
1	225	0.8497	0.3717	0.0026	-1.3169	0.0294	-0.5370	0.0713	-0.6541	0.0470
1	225	0.9102	0.3780	0.0022	-1.4192	0.0333	-0.9843	0.0819	-0.8725	0.0406
1	225	0.9734	0.4184	0.0031	-1.5152	0.0372	-1.4358	0.0943	-0.7587	0.0445
2	225	0.1949	-0.0589	0.0011	-0.0059	0.0006	0.0113	0.0020	-0.1441	0.0219
2	225	0.2405	-0.0275	0.0008	-0.0090	0.0026	0.0116	0.0040	-0.3716	0.0311
2	225	0.2999	0.0226	0.0018	-0.0325	0.0041	0.0138	0.0062	-0.4298	0.0487
2	225	0.3498	0.0438	0.0013	-0.0427	0.0072	0.0414	0.0136	-0.3965	0.0515
2	225	0.3998	0.0785	0.0017	-0.0760	0.0118	0.0379	0.0180	-0.5202	0.0491
2	225	0.4496	0.1209	0.0022	-0.1176	0.0133	0.0500	0.0218	-0.5523	0.0472
2	225	0.4995	0.1460	0.0029	-0.1670	0.0156	0.0248	0.0255	-0.7177	0.0366
2	225	0.5551	0.1950	0.0020	-0.2181	0.0194	-0.0162	0.0315	-0.6417	0.0426
2	225	0.5996	0.2329	0.0023	-0.2691	0.0210	-0.1027	0.0378	-0.7649	0.0495
2	225	0.6497	0.2854	0.0028	-0.3172	0.0243	-0.2344	0.0428	-0.7822	0.0448
2	225	0.6996	0.3150	0.0024	-0.3774	0.0276	-0.4099	0.0491	-0.7929	0.0597
2	225	0.7495	0.3573	0.0029	-0.4447	0.0310	-0.6703	0.0549	-0.9991	0.0398
2	225	0.7996	0.3870	0.0024	-0.5193	0.0341	-0.9479	0.0604	-1.0718	0.0351
2	225	0.8578	0.3982	0.0024	-0.5981	0.0382	-1.3242	0.0685	-0.8672	0.0390
2	225	0.9100	0.4256	0.0027	-0.6487	0.0419	-1.7183	0.0751	-0.8515	0.0379
2	225	0.9727	0.4245	0.0036	-0.6644	0.0462	-2.1078	0.0844	-0.6402	0.0367
3	225	0.1938	-0.0680	0.0008	-0.0250	0.0008	0.0314	0.0027	-0.0330	0.0329
3	225	0.2357	-0.0255	0.0013	0.0045	0.0013	0.0142	0.0075	0.0009	0.0468
3	225	0.2995	0.0110	0.0009	-0.0651	0.0033	0.0724	0.0138	-0.0431	0.0768
3	225	0.3493	0.0411	0.0012	-0.1028	0.0060	0.0967	0.0209	-0.0815	0.0626
3	225	0.4000	0.0785	0.0017	-0.1469	0.0090	0.1366	0.0341	-0.0054	0.0671
3	225	0.4497	0.1190	0.0017	-0.2024	0.0115	0.1410	0.0406	-0.2392	0.0538
3	225	0.4997	0.1508	0.0026	-0.2645	0.0126	0.1560	0.0479	-0.3124	0.0539
3	225	0.5556	0.1926	0.0036	-0.3291	0.0144	0.1554	0.0553	-0.2767	0.0447
3	225	0.5995	0.2364	0.0021	-0.3877	0.0167	0.0981	0.0664	-0.3863	0.0633
3	225	0.6498	0.2857	0.0021	-0.4661	0.0188	0.0060	0.0723	-0.4505	0.0604
3	225	0.6890	0.2919	0.0018	-0.5218	0.0211	-0.0919	0.0832	-0.3338	0.0809
3	225	0.7495	0.3383	0.0022	-0.6178	0.0241	-0.3496	0.0914	-0.5584	0.0581
3	225	0.7998	0.3871	0.0020	-0.6889	0.0277	-0.6014	0.1007	-0.5320	0.0600
3	225	0.8577	0.4123	0.0019	-0.7588	0.0311	-0.9878	0.1108	-0.5466	0.0577
3	225	0.9178	0.4354	0.0020	-0.8478	0.0346	-1.4625	0.1219	-0.6122	0.0527
3	225	0.9729	0.4587	0.0030	-0.9163	0.0381	-1.9346	0.1319	-0.7504	0.0517
4	225	0.2001	-0.0438	0.0014	0.0080	0.0011	-0.0285	0.0024	0.0910	0.0426
4	225	0.2502	-0.0134	0.0010	0.0080	0.0017	-0.0225	0.0069	0.2880	0.0346
4	225	0.3001	0.0256	0.0012	0.0267	0.0029	-0.0670	0.0071	0.2647	0.0807
4	225	0.3502	0.0421	0.0015	0.0485	0.0054	-0.1257	0.0143	0.1119	0.0523
4	225	0.4002	0.0708	0.0015	0.0696	0.0074	-0.1612	0.0213	0.1399	0.0534
4	225	0.4500	0.1137	0.0023	0.0827	0.0096	-0.2366	0.0226	-0.0821	0.0669
4	225	0.5001	0.1508	0.0023	0.0875	0.0116	-0.3042	0.0280	0.0278	0.0675
4	225	0.5560	0.1979	0.0031	0.1046	0.0141	-0.4795	0.0332	-0.1526	0.0852
4	225	0.6001	0.2346	0.0022	0.1085	0.0164	-0.6149	0.0416	-0.1942	0.0586
4	225	0.6501	0.2643	0.0035	0.0976	0.0197	-0.8337	0.0466	-0.1712	0.0719
4	225	0.6999	0.3062	0.0020	0.0806	0.0217	-1.0956	0.0514	-0.1080	0.0696
4	225	0.7500	0.3356	0.0024	0.0750	0.0238	-1.4191	0.0585	-0.0111	0.0697
4	225	0.8002	0.3588	0.0022	0.0671	0.0270	-1.8288	0.0650	-0.0745	0.0623
4	225	0.8582	0.3974	0.0026	0.0629	0.0304	-2.3842	0.0732	-0.3012	0.0702
4	225	0.9101	0.4168	0.0025	0.0564	0.0334	-2.9285	0.0808	-0.2665	0.0610
4	225	0.9728	0.4659	0.0031	0.0751	0.0374	-3.5121	0.0913	0.0145	0.0588

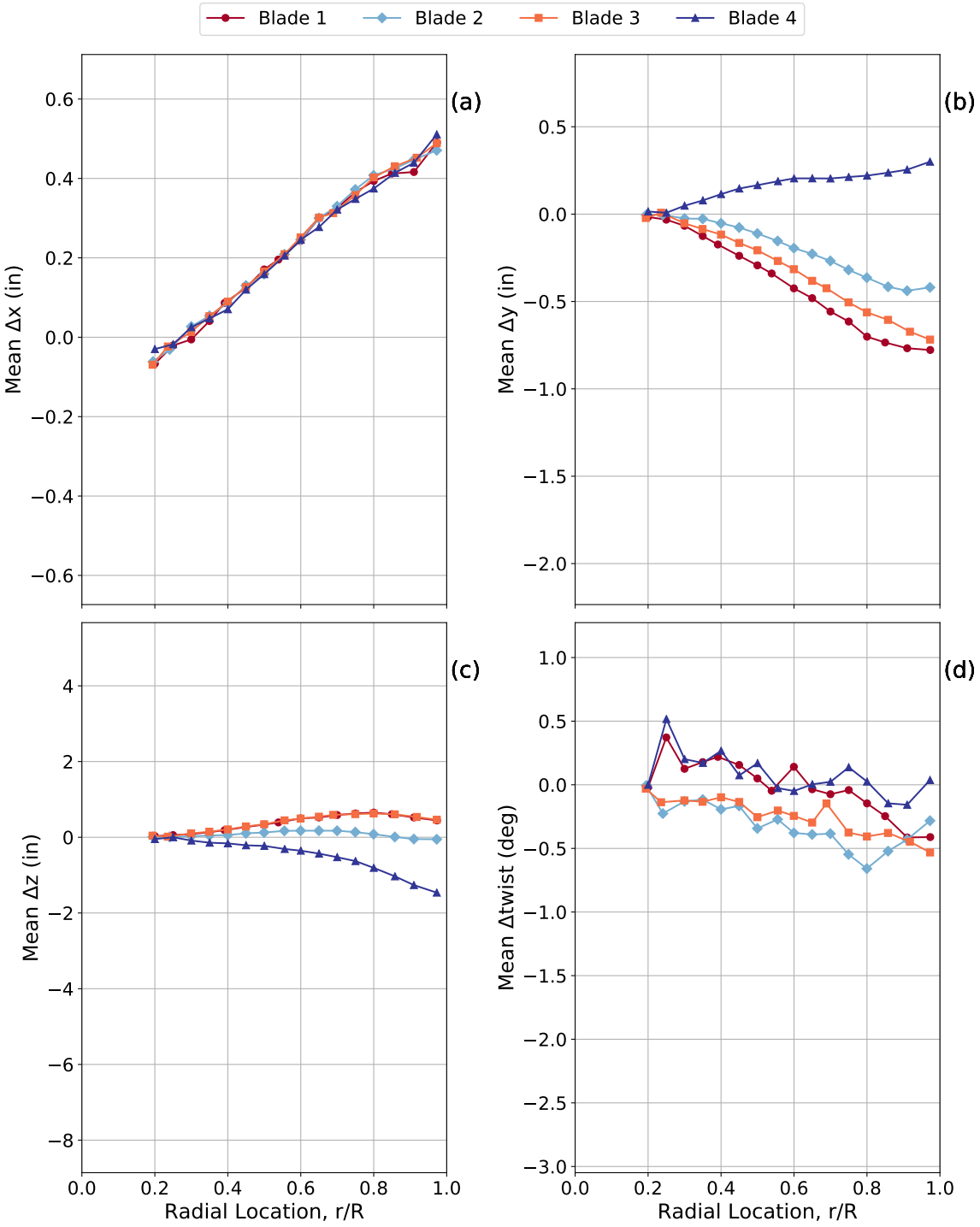


Figure 2.1-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0667	0.0013	-0.0164	0.0007	0.0295	0.0031	-0.0186	0.0205
1	240.12	0.2499	-0.0208	0.0009	-0.0317	0.0021	0.0571	0.0066	0.3721	0.0379
1	240.12	0.2998	-0.0056	0.0009	-0.0668	0.0038	0.0844	0.0110	0.1255	0.0473
1	240.12	0.3498	0.0409	0.0015	-0.1256	0.0053	0.1351	0.0182	0.1781	0.0451
1	240.12	0.3913	0.0864	0.0022	-0.1739	0.0090	0.1862	0.0263	0.2193	0.0527
1	240.12	0.4496	0.1241	0.0015	-0.2386	0.0095	0.2712	0.0314	0.1557	0.0435
1	240.12	0.4997	0.1707	0.0016	-0.2931	0.0110	0.3348	0.0384	0.0495	0.0499
1	240.12	0.5387	0.1956	0.0017	-0.3397	0.0127	0.3918	0.0440	-0.0470	0.0498
1	240.12	0.5996	0.2428	0.0015	-0.4248	0.0164	0.4983	0.0512	0.1411	0.0433
1	240.12	0.6498	0.2997	0.0017	-0.4808	0.0185	0.5231	0.0574	-0.0351	0.0500
1	240.12	0.6998	0.3259	0.0017	-0.5574	0.0214	0.5873	0.0640	-0.0743	0.0493
1	240.12	0.7500	0.3654	0.0019	-0.6148	0.0238	0.6296	0.0714	-0.0416	0.0430
1	240.12	0.8001	0.3936	0.0022	-0.7014	0.0265	0.6516	0.0776	-0.1463	0.0513
1	240.12	0.8497	0.4123	0.0016	-0.7347	0.0294	0.6086	0.0851	-0.2466	0.0481
1	240.12	0.9102	0.4162	0.0018	-0.7676	0.0332	0.5234	0.0925	-0.4140	0.0469
1	240.12	0.9734	0.4906	0.0026	-0.7776	0.0371	0.4451	0.1005	-0.4112	0.0408
2	240.12	0.1949	-0.0615	0.0014	-0.0047	0.0009	0.0120	0.0025	-0.0059	0.0193
2	240.12	0.2405	-0.0308	0.0022	-0.0039	0.0024	0.0094	0.0042	-0.2262	0.0367
2	240.12	0.2999	0.0270	0.0013	-0.0252	0.0051	0.0263	0.0074	-0.1306	0.0475
2	240.12	0.3498	0.0538	0.0015	-0.0269	0.0083	0.0465	0.0127	-0.1163	0.0388
2	240.12	0.3998	0.0859	0.0018	-0.0525	0.0137	0.0588	0.0180	-0.1932	0.0329
2	240.12	0.4496	0.1302	0.0015	-0.0767	0.0130	0.1046	0.0203	-0.1663	0.0458
2	240.12	0.4995	0.1590	0.0013	-0.1111	0.0171	0.1251	0.0249	-0.3431	0.0372
2	240.12	0.5551	0.2087	0.0020	-0.1538	0.0186	0.1697	0.0300	-0.2717	0.0287
2	240.12	0.5996	0.2456	0.0015	-0.1946	0.0224	0.1735	0.0344	-0.3781	0.0359
2	240.12	0.6497	0.3001	0.0016	-0.2277	0.0252	0.1748	0.0382	-0.3905	0.0465
2	240.12	0.6996	0.3300	0.0018	-0.2679	0.0274	0.1726	0.0430	-0.3845	0.0403
2	240.12	0.7495	0.3722	0.0020	-0.3193	0.0305	0.1367	0.0475	-0.5469	0.0523
2	240.12	0.7996	0.4078	0.0019	-0.3638	0.0333	0.0818	0.0532	-0.6591	0.0393
2	240.12	0.8578	0.4253	0.0020	-0.4159	0.0367	0.0087	0.0595	-0.5216	0.0359
2	240.12	0.9100	0.4469	0.0022	-0.4386	0.0399	-0.0476	0.0656	-0.4306	0.0351
2	240.12	0.9727	0.4708	0.0030	-0.4193	0.0436	-0.0532	0.0736	-0.2827	0.0423
3	240.12	0.1938	-0.0693	0.0012	-0.0222	0.0006	0.0430	0.0029	-0.0305	0.0206
3	240.12	0.2357	-0.0234	0.0006	0.0081	0.0017	0.0154	0.0075	-0.1372	0.0331
3	240.12	0.2995	0.0135	0.0012	-0.0524	0.0032	0.1031	0.0145	-0.1231	0.0482
3	240.12	0.3493	0.0527	0.0009	-0.0853	0.0050	0.1468	0.0206	-0.1337	0.0524
3	240.12	0.4000	0.0897	0.0013	-0.1171	0.0086	0.2076	0.0354	-0.0983	0.0440
3	240.12	0.4497	0.1267	0.0016	-0.1651	0.0089	0.2863	0.0381	-0.1351	0.0502
3	240.12	0.4997	0.1657	0.0015	-0.2072	0.0117	0.3444	0.0484	-0.2546	0.0396
3	240.12	0.5556	0.2092	0.0021	-0.2680	0.0137	0.4471	0.0555	-0.2025	0.0501
3	240.12	0.5995	0.2516	0.0018	-0.3154	0.0145	0.4942	0.0604	-0.2444	0.0462
3	240.12	0.6498	0.3014	0.0016	-0.3818	0.0184	0.5436	0.0677	-0.2969	0.0585
3	240.12	0.6890	0.3126	0.0020	-0.4241	0.0200	0.5925	0.0750	-0.1468	0.0477
3	240.12	0.7495	0.3580	0.0022	-0.5052	0.0238	0.6114	0.0841	-0.3756	0.0421
3	240.12	0.7998	0.4025	0.0019	-0.5622	0.0267	0.6285	0.0915	-0.4063	0.0517
3	240.12	0.8577	0.4307	0.0019	-0.6052	0.0301	0.6057	0.1009	-0.3788	0.0387
3	240.12	0.9178	0.4521	0.0019	-0.6731	0.0336	0.5365	0.1100	-0.4473	0.0372
3	240.12	0.9729	0.4888	0.0028	-0.7181	0.0371	0.4645	0.1187	-0.5321	0.0390
4	240.12	0.2001	-0.0299	0.0011	0.0147	0.0007	-0.0478	0.0029	-0.0005	0.0208
4	240.12	0.2502	-0.0177	0.0013	0.0077	0.0028	0.0001	0.0087	0.5166	0.0389
4	240.12	0.3001	0.0253	0.0008	0.0481	0.0043	-0.0873	0.0150	0.2014	0.0486
4	240.12	0.3502	0.0474	0.0012	0.0784	0.0059	-0.1438	0.0189	0.1716	0.0395
4	240.12	0.4002	0.0705	0.0020	0.1144	0.0112	-0.1613	0.0345	0.2669	0.0612
4	240.12	0.4500	0.1199	0.0023	0.1464	0.0132	-0.2117	0.0386	0.0744	0.0537
4	240.12	0.5001	0.1589	0.0018	0.1657	0.0144	-0.2286	0.0446	0.1698	0.0539
4	240.12	0.5560	0.2055	0.0018	0.1881	0.0181	-0.3100	0.0538	-0.0266	0.0467
4	240.12	0.6001	0.2458	0.0018	0.2045	0.0199	-0.3541	0.0616	-0.0487	0.0557
4	240.12	0.6501	0.2775	0.0020	0.2047	0.0230	-0.4319	0.0692	0.0036	0.0524
4	240.12	0.6999	0.3215	0.0014	0.2039	0.0251	-0.5262	0.0740	0.0231	0.0503
4	240.12	0.7500	0.3484	0.0018	0.2125	0.0283	-0.6297	0.0848	0.1373	0.0497
4	240.12	0.8002	0.3746	0.0015	0.2201	0.0317	-0.8085	0.0927	0.0250	0.0488
4	240.12	0.8582	0.4140	0.0016	0.2372	0.0349	-1.0322	0.1015	-0.1460	0.0525
4	240.12	0.9101	0.4395	0.0016	0.2542	0.0384	-1.2632	0.1099	-0.1571	0.0493
4	240.12	0.9728	0.5109	0.0022	0.2999	0.0417	-1.4625	0.1184	0.0371	0.0448

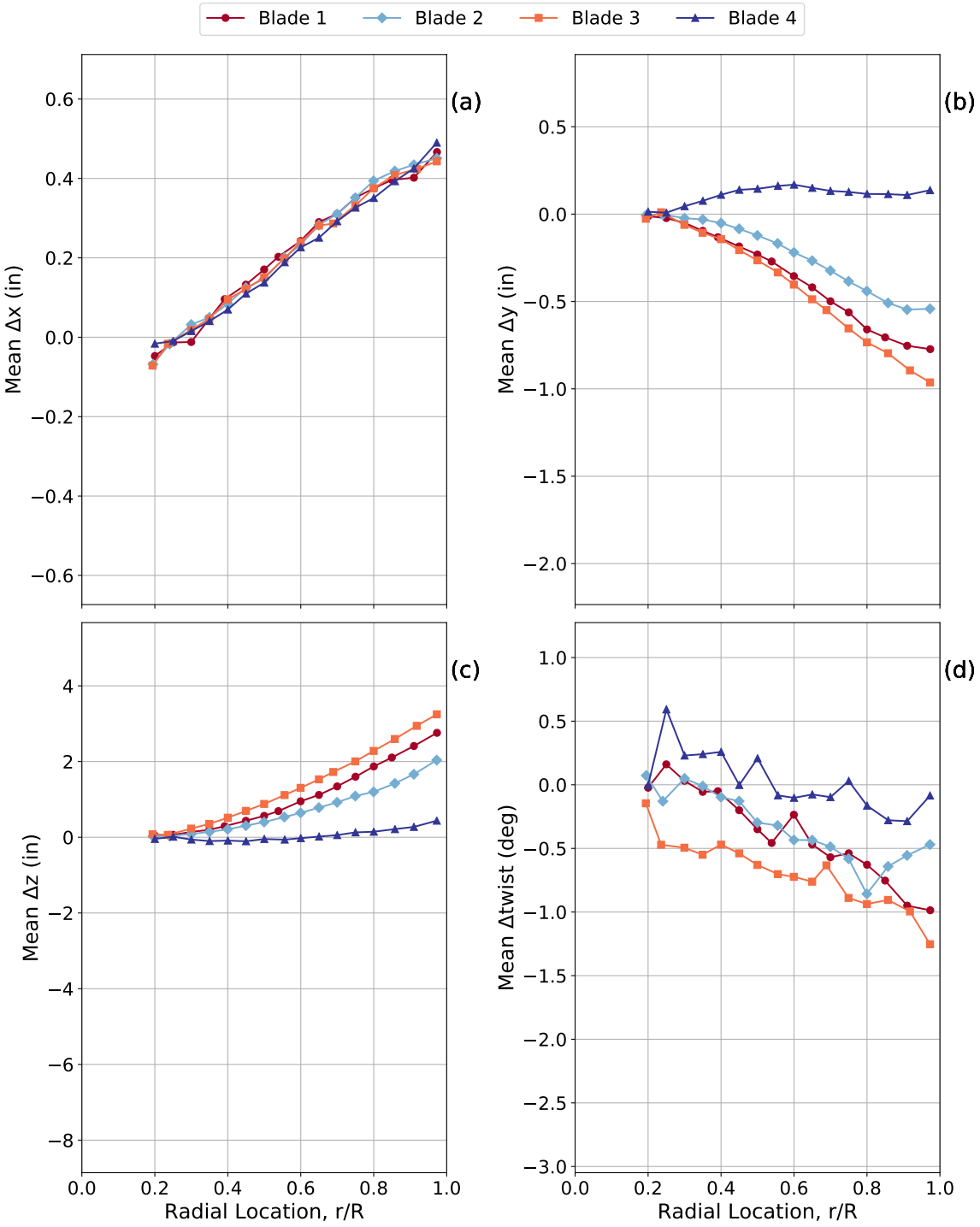


Figure 2.1-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0473	0.0029	-0.0120	0.0012	0.0421	0.0067	-0.0232	0.0374
1	254.88	0.2499	-0.0133	0.0015	-0.0227	0.0019	0.0640	0.0082	0.1607	0.0951
1	254.88	0.2998	-0.0121	0.0015	-0.0502	0.0046	0.1405	0.0188	0.0314	0.0964
1	254.88	0.3498	0.0472	0.0012	-0.0955	0.0082	0.1984	0.0305	-0.0557	0.0929
1	254.88	0.3913	0.0959	0.0013	-0.1322	0.0112	0.2930	0.0402	-0.0506	0.0990
1	254.88	0.4496	0.1325	0.0016	-0.1852	0.0153	0.4349	0.0539	-0.1997	0.0921
1	254.88	0.4997	0.1707	0.0018	-0.2314	0.0184	0.5660	0.0651	-0.3496	0.0927
1	254.88	0.5387	0.2026	0.0019	-0.2711	0.0215	0.6908	0.0749	-0.4572	0.0908
1	254.88	0.5996	0.2425	0.0023	-0.3548	0.0262	0.9502	0.0901	-0.2355	0.0981
1	254.88	0.6498	0.2901	0.0025	-0.4190	0.0297	1.1190	0.1040	-0.4691	0.0962
1	254.88	0.6998	0.3107	0.0024	-0.4987	0.0336	1.3436	0.1170	-0.5696	0.0925
1	254.88	0.7500	0.3515	0.0025	-0.5622	0.0377	1.5993	0.1302	-0.5384	0.0910
1	254.88	0.8001	0.3751	0.0028	-0.6599	0.0417	1.8706	0.1434	-0.6288	0.0963
1	254.88	0.8497	0.3963	0.0030	-0.7055	0.0457	2.1059	0.1561	-0.7532	0.0944
1	254.88	0.9102	0.4018	0.0034	-0.7533	0.0509	2.4105	0.1727	-0.9502	0.0942
1	254.88	0.9734	0.4666	0.0051	-0.7728	0.0559	2.7587	0.1907	-0.9865	0.0957
2	254.88	0.1949	-0.0682	0.0018	-0.0057	0.0010	0.0267	0.0032	0.0728	0.0239
2	254.88	0.2405	-0.0170	0.0017	-0.0018	0.0027	0.0329	0.0053	-0.1293	0.0427
2	254.88	0.2999	0.0320	0.0018	-0.0235	0.0057	0.0872	0.0094	0.0496	0.0552
2	254.88	0.3498	0.0499	0.0019	-0.0305	0.0090	0.1431	0.0163	-0.0106	0.0466
2	254.88	0.3998	0.0844	0.0012	-0.0515	0.0151	0.2106	0.0233	-0.0975	0.0495
2	254.88	0.4496	0.1248	0.0018	-0.0844	0.0173	0.3060	0.0299	-0.1284	0.0540
2	254.88	0.4995	0.1466	0.0014	-0.1220	0.0205	0.4025	0.0370	-0.2973	0.0506
2	254.88	0.5551	0.2005	0.0016	-0.1681	0.0245	0.5342	0.0452	-0.3202	0.0481
2	254.88	0.5996	0.2332	0.0019	-0.2192	0.0276	0.6450	0.0517	-0.4338	0.0515
2	254.88	0.6497	0.2827	0.0019	-0.2667	0.0311	0.7824	0.0595	-0.4349	0.0507
2	254.88	0.6996	0.3102	0.0019	-0.3235	0.0346	0.9233	0.0674	-0.4871	0.0515
2	254.88	0.7495	0.3512	0.0019	-0.3847	0.0383	1.0888	0.0749	-0.5817	0.0493
2	254.88	0.7996	0.3940	0.0020	-0.4404	0.0420	1.1990	0.0837	-0.8578	0.0483
2	254.88	0.8578	0.4186	0.0022	-0.5082	0.0462	1.4224	0.0948	-0.6416	0.0478
2	254.88	0.9100	0.4344	0.0022	-0.5464	0.0501	1.6643	0.1055	-0.5552	0.0523
2	254.88	0.9727	0.4508	0.0033	-0.5418	0.0547	2.0379	0.1204	-0.4696	0.0509
3	254.88	0.1938	-0.0714	0.0027	-0.0264	0.0009	0.0810	0.0045	-0.1455	0.0254
3	254.88	0.2357	-0.0163	0.0014	0.0106	0.0014	0.0633	0.0054	-0.4712	0.0620
3	254.88	0.2995	0.0184	0.0013	-0.0614	0.0032	0.2299	0.0123	-0.4947	0.0700
3	254.88	0.3493	0.0466	0.0012	-0.1066	0.0058	0.3534	0.0195	-0.5500	0.0714
3	254.88	0.4000	0.0953	0.0013	-0.1436	0.0086	0.5168	0.0287	-0.4700	0.0685
3	254.88	0.4497	0.1216	0.0017	-0.2059	0.0108	0.6969	0.0347	-0.5391	0.0680
3	254.88	0.4997	0.1508	0.0018	-0.2644	0.0130	0.8808	0.0426	-0.6299	0.0643
3	254.88	0.5556	0.1985	0.0015	-0.3334	0.0158	1.1145	0.0517	-0.7024	0.0669
3	254.88	0.5995	0.2396	0.0022	-0.4032	0.0182	1.3045	0.0592	-0.7234	0.0650
3	254.88	0.6498	0.2813	0.0022	-0.4874	0.0215	1.5301	0.0680	-0.7615	0.0701
3	254.88	0.6890	0.2864	0.0022	-0.5493	0.0236	1.7244	0.0736	-0.6334	0.0728
3	254.88	0.7495	0.3318	0.0025	-0.6539	0.0272	2.0036	0.0854	-0.8895	0.0712
3	254.88	0.7998	0.3753	0.0025	-0.7338	0.0304	2.2812	0.0940	-0.9373	0.0714
3	254.88	0.8577	0.4086	0.0027	-0.7961	0.0345	2.5952	0.1038	-0.9052	0.0729
3	254.88	0.9178	0.4239	0.0031	-0.8944	0.0386	2.9432	0.1145	-0.9954	0.0694
3	254.88	0.9729	0.4431	0.0041	-0.9632	0.0423	3.2480	0.1255	-1.2532	0.0700
4	254.88	0.2001	-0.0163	0.0020	0.0136	0.0008	-0.0436	0.0036	-0.0017	0.0307
4	254.88	0.2502	-0.0095	0.0012	0.0079	0.0017	0.0149	0.0052	0.5926	0.0655
4	254.88	0.3001	0.0155	0.0013	0.0451	0.0026	-0.0609	0.0100	0.2297	0.0732
4	254.88	0.3502	0.0407	0.0013	0.0762	0.0049	-0.1003	0.0169	0.2407	0.0681
4	254.88	0.4002	0.0697	0.0014	0.1106	0.0072	-0.0879	0.0238	0.2583	0.0718
4	254.88	0.4500	0.1099	0.0015	0.1391	0.0101	-0.1058	0.0308	-0.0018	0.0649
4	254.88	0.5001	0.1375	0.0020	0.1448	0.0126	-0.0462	0.0385	0.2083	0.0694
4	254.88	0.5560	0.1889	0.0018	0.1614	0.0160	-0.0622	0.0471	-0.0835	0.0699
4	254.88	0.6001	0.2265	0.0019	0.1684	0.0186	-0.0235	0.0554	-0.1027	0.0658
4	254.88	0.6501	0.2507	0.0022	0.1501	0.0219	0.0177	0.0627	-0.0761	0.0733
4	254.88	0.6999	0.2921	0.0021	0.1328	0.0252	0.0572	0.0709	-0.0971	0.0728
4	254.88	0.7500	0.3265	0.0025	0.1270	0.0288	0.1293	0.0778	0.0297	0.0696
4	254.88	0.8002	0.3508	0.0024	0.1155	0.0327	0.1464	0.0845	-0.1640	0.0680
4	254.88	0.8582	0.3930	0.0023	0.1144	0.0371	0.2151	0.0923	-0.2789	0.0690
4	254.88	0.9101	0.4252	0.0025	0.1092	0.0415	0.2738	0.0998	-0.2862	0.0664
4	254.88	0.9728	0.4901	0.0034	0.1370	0.0463	0.4381	0.1097	-0.0849	0.0683

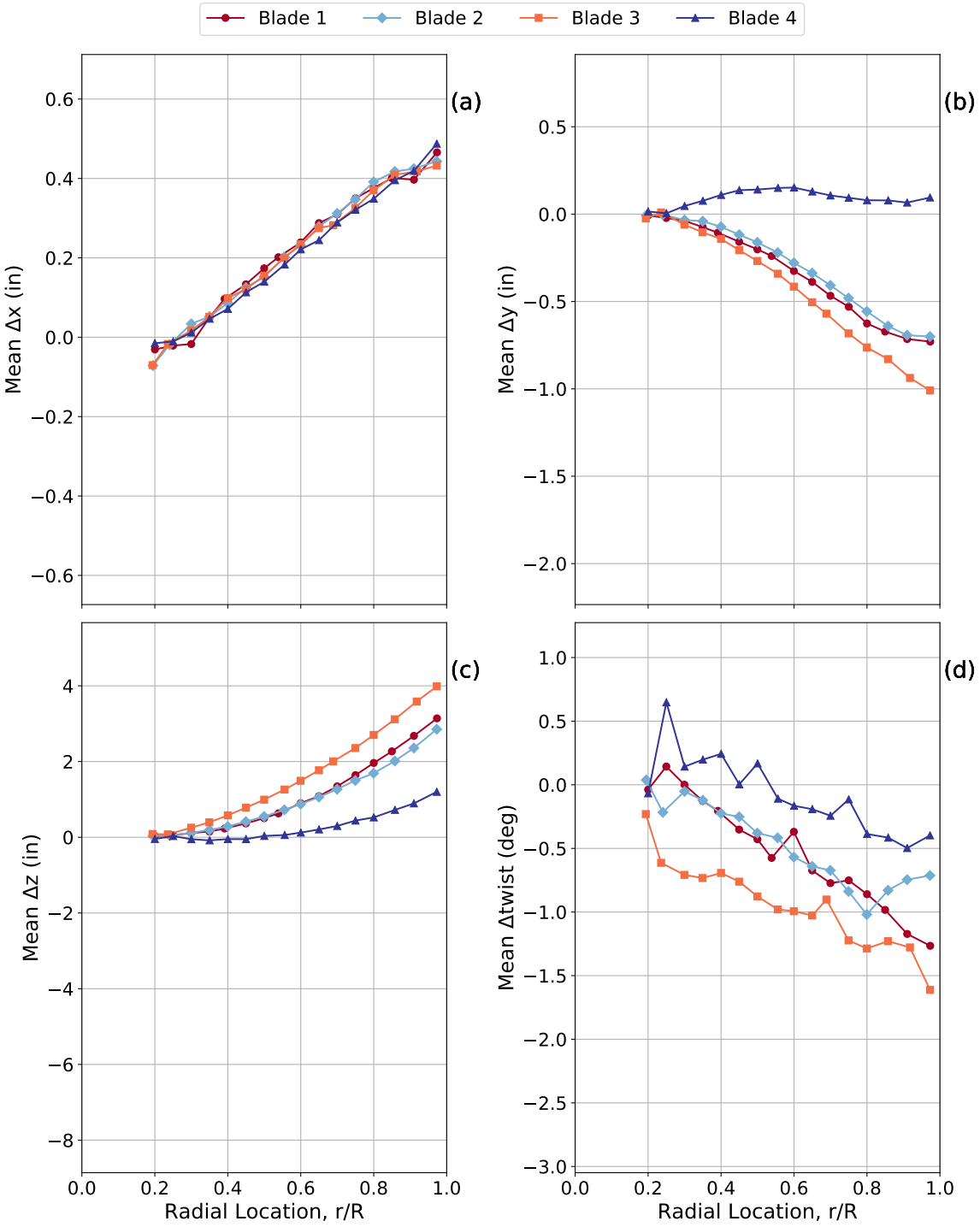


Figure 2.1-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -1.7° NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.0308	0.0196	-0.0075	0.0062	0.0330	0.0326	-0.0382	0.1747
1	260.16	0.2499	-0.0211	0.0041	-0.0222	0.0066	0.0503	0.0378	0.1435	0.4699
1	260.16	0.2998	-0.0172	0.0052	-0.0379	0.0242	0.1142	0.0935	0.0004	0.4776
1	260.16	0.3498	0.0499	0.0047	-0.0745	0.0429	0.1501	0.1514	-0.1265	0.4793
1	260.16	0.3913	0.0966	0.0045	-0.1064	0.0589	0.2306	0.2009	-0.2049	0.4731
1	260.16	0.4496	0.1333	0.0045	-0.1581	0.0799	0.3647	0.2687	-0.3519	0.4765
1	260.16	0.4997	0.1737	0.0044	-0.2016	0.0974	0.5044	0.3276	-0.4283	0.4764
1	260.16	0.5387	0.2015	0.0047	-0.2396	0.1112	0.6310	0.3743	-0.5749	0.4754
1	260.16	0.5996	0.2388	0.0053	-0.3252	0.1325	0.9000	0.4469	-0.3694	0.4828
1	260.16	0.6498	0.2875	0.0062	-0.3879	0.1502	1.0846	0.5083	-0.6735	0.4701
1	260.16	0.6998	0.3095	0.0073	-0.4673	0.1671	1.3447	0.5697	-0.7730	0.4677
1	260.16	0.7500	0.3499	0.0086	-0.5303	0.1840	1.6421	0.6301	-0.7512	0.4726
1	260.16	0.8001	0.3761	0.0101	-0.6259	0.2004	1.9631	0.6908	-0.8599	0.4751
1	260.16	0.8497	0.4010	0.0114	-0.6722	0.2171	2.2688	0.7507	-0.9833	0.4718
1	260.16	0.9102	0.3968	0.0136	-0.7149	0.2368	2.6783	0.8229	-1.1723	0.4742
1	260.16	0.9734	0.4656	0.0213	-0.7297	0.2572	3.1406	0.8986	-1.2656	0.4726
2	260.16	0.1949	-0.0714	0.0032	-0.0071	0.0012	0.0355	0.0054	0.0378	0.0360
2	260.16	0.2405	-0.0187	0.0020	-0.0036	0.0024	0.0475	0.0063	-0.2167	0.0767
2	260.16	0.2999	0.0338	0.0015	-0.0338	0.0043	0.1184	0.0136	-0.0520	0.0876
2	260.16	0.3498	0.0520	0.0017	-0.0403	0.0064	0.1925	0.0243	-0.1221	0.0658
2	260.16	0.3998	0.0859	0.0015	-0.0727	0.0108	0.2859	0.0329	-0.2251	0.0710
2	260.16	0.4496	0.1251	0.0017	-0.1177	0.0126	0.4139	0.0407	-0.2517	0.0729
2	260.16	0.4995	0.1518	0.0017	-0.1616	0.0159	0.5484	0.0496	-0.3797	0.0700
2	260.16	0.5551	0.2022	0.0017	-0.2201	0.0189	0.7247	0.0593	-0.4170	0.0742
2	260.16	0.5996	0.2310	0.0018	-0.2789	0.0217	0.8747	0.0686	-0.5687	0.0756
2	260.16	0.6497	0.2787	0.0017	-0.3375	0.0248	1.0605	0.0791	-0.6409	0.0811
2	260.16	0.6996	0.3119	0.0019	-0.4079	0.0278	1.2688	0.0901	-0.6728	0.0742
2	260.16	0.7495	0.3472	0.0020	-0.4806	0.0308	1.5003	0.1010	-0.8383	0.0775
2	260.16	0.7996	0.3913	0.0021	-0.5568	0.0341	1.6911	0.1124	-1.0198	0.0740
2	260.16	0.8578	0.4176	0.0023	-0.6407	0.0377	2.0145	0.1257	-0.8294	0.0752
2	260.16	0.9100	0.4246	0.0027	-0.6928	0.0412	2.3578	0.1374	-0.7461	0.0779
2	260.16	0.9727	0.4433	0.0038	-0.7007	0.0458	2.8534	0.1522	-0.7132	0.0761
3	260.16	0.1938	-0.0703	0.0051	-0.0250	0.0013	0.0874	0.0081	-0.2301	0.0393
3	260.16	0.2357	-0.0171	0.0020	0.0099	0.0012	0.0765	0.0074	-0.6133	0.1096
3	260.16	0.2995	0.0169	0.0016	-0.0602	0.0042	0.2531	0.0220	-0.7081	0.1192
3	260.16	0.3493	0.0511	0.0017	-0.1042	0.0076	0.3950	0.0351	-0.7331	0.1171
3	260.16	0.4000	0.0986	0.0019	-0.1422	0.0110	0.5782	0.0504	-0.6931	0.1157
3	260.16	0.4497	0.1213	0.0022	-0.2061	0.0140	0.7822	0.0641	-0.7614	0.1140
3	260.16	0.4997	0.1547	0.0023	-0.2683	0.0173	0.9940	0.0780	-0.8775	0.1156
3	260.16	0.5556	0.2001	0.0025	-0.3411	0.0214	1.2613	0.0942	-0.9797	0.1160
3	260.16	0.5995	0.2342	0.0024	-0.4149	0.0244	1.4927	0.1061	-0.9938	0.1161
3	260.16	0.6498	0.2749	0.0027	-0.5044	0.0276	1.7694	0.1215	-1.0267	0.1112
3	260.16	0.6890	0.2822	0.0030	-0.5699	0.0304	2.0055	0.1322	-0.9018	0.1137
3	260.16	0.7495	0.3258	0.0033	-0.6825	0.0345	2.3561	0.1498	-1.2231	0.1140
3	260.16	0.7998	0.3701	0.0037	-0.7632	0.0380	2.7024	0.1641	-1.2867	0.1119
3	260.16	0.8577	0.4091	0.0040	-0.8298	0.0420	3.1164	0.1808	-1.2292	0.1112
3	260.16	0.9178	0.4178	0.0046	-0.9375	0.0462	3.5869	0.1977	-1.2783	0.1118
3	260.16	0.9729	0.4324	0.0062	-1.0090	0.0500	3.9867	0.2144	-1.6122	0.1133
4	260.16	0.2001	-0.0150	0.0036	0.0148	0.0013	-0.0456	0.0069	-0.0672	0.0484
4	260.16	0.2502	-0.0107	0.0023	0.0047	0.0015	0.0321	0.0065	0.6481	0.1284
4	260.16	0.3001	0.0116	0.0019	0.0465	0.0042	-0.0509	0.0180	0.1426	0.1259
4	260.16	0.3502	0.0466	0.0017	0.0763	0.0072	-0.0815	0.0290	0.1977	0.1264
4	260.16	0.4002	0.0713	0.0019	0.1096	0.0103	-0.0478	0.0401	0.2430	0.1263
4	260.16	0.4500	0.1131	0.0018	0.1369	0.0134	-0.0494	0.0504	0.0034	0.1282
4	260.16	0.5001	0.1399	0.0018	0.1406	0.0161	0.0354	0.0604	0.1677	0.1317
4	260.16	0.5560	0.1831	0.0018	0.1498	0.0202	0.0596	0.0736	-0.1094	0.1288
4	260.16	0.6001	0.2213	0.0018	0.1519	0.0229	0.1236	0.0841	-0.1652	0.1264
4	260.16	0.6501	0.2445	0.0019	0.1291	0.0265	0.2067	0.0951	-0.1918	0.1241
4	260.16	0.6999	0.2892	0.0020	0.1066	0.0296	0.2979	0.1074	-0.2435	0.1247
4	260.16	0.7500	0.3210	0.0020	0.0935	0.0330	0.4412	0.1188	-0.1149	0.1346
4	260.16	0.8002	0.3489	0.0022	0.0794	0.0364	0.5241	0.1317	-0.3870	0.1290
4	260.16	0.8582	0.3956	0.0022	0.0784	0.0405	0.7231	0.1470	-0.4156	0.1281
4	260.16	0.9101	0.4191	0.0025	0.0659	0.0444	0.8945	0.1620	-0.4974	0.1263
4	260.16	0.9728	0.4875	0.0037	0.0949	0.0492	1.2002	0.1797	-0.3977	0.1280

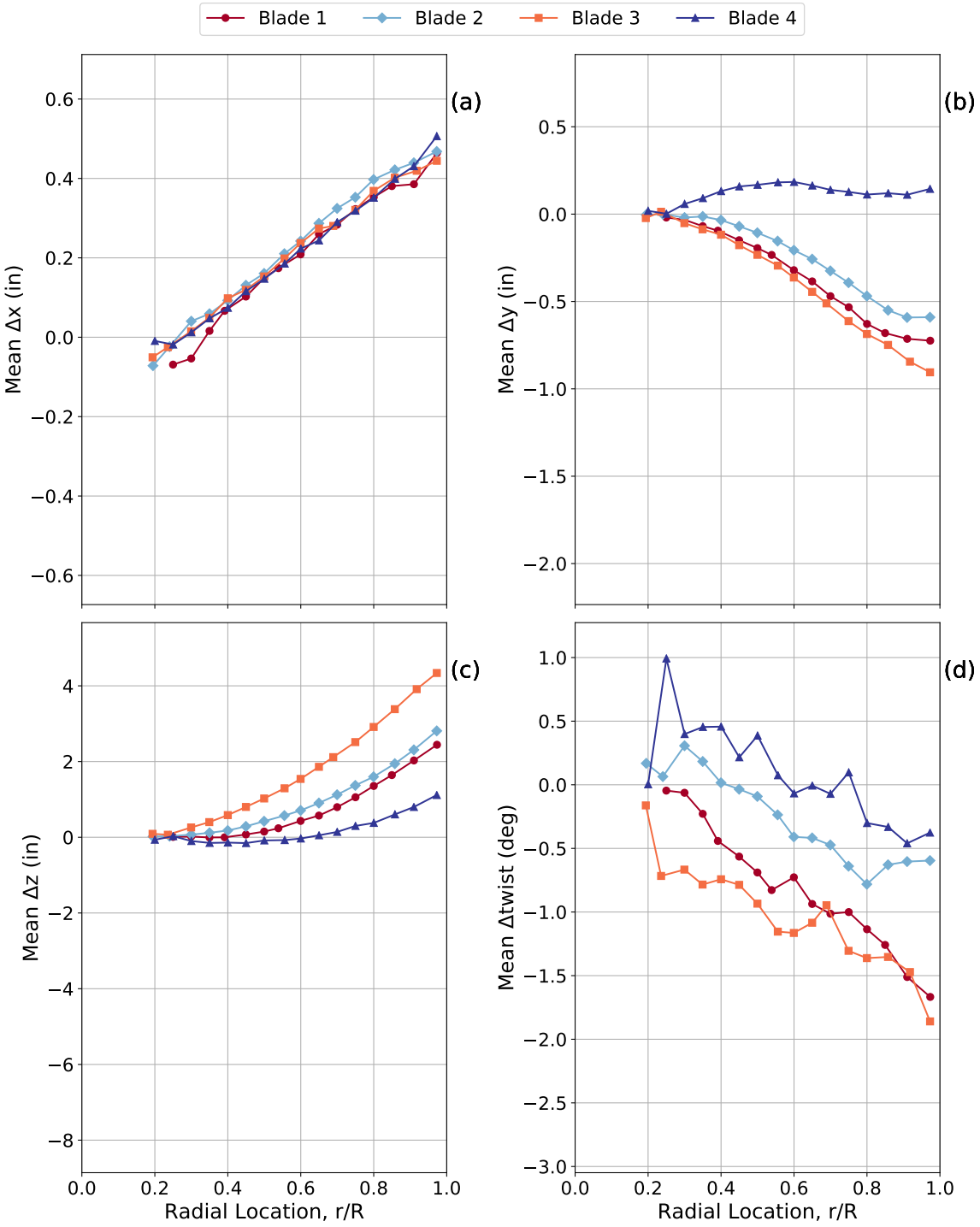


Figure 2.1-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2499	-0.0690	0.0048	-0.0195	0.0040	0.0092	0.0280	-0.0458	0.2190
1	265.08	0.2998	-0.0536	0.0025	-0.0326	0.0076	0.0195	0.0452	-0.0628	0.3122
1	265.08	0.3498	0.0159	0.0025	-0.0689	0.0153	-0.0059	0.0797	-0.2283	0.2861
1	265.08	0.3913	0.0665	0.0023	-0.0948	0.0219	-0.0009	0.1087	-0.4415	0.2855
1	265.08	0.4496	0.1024	0.0032	-0.1494	0.0292	0.0734	0.1451	-0.5644	0.2873
1	265.08	0.4997	0.1491	0.0031	-0.1947	0.0363	0.1505	0.1783	-0.6893	0.2803
1	265.08	0.5387	0.1740	0.0033	-0.2335	0.0414	0.2381	0.2033	-0.8277	0.2812
1	265.08	0.5996	0.2088	0.0037	-0.3208	0.0492	0.4319	0.2430	-0.7272	0.2844
1	265.08	0.6498	0.2595	0.0043	-0.3849	0.0557	0.5733	0.2762	-0.9368	0.2849
1	265.08	0.6998	0.2835	0.0047	-0.4697	0.0621	0.7956	0.3090	-1.0135	0.2809
1	265.08	0.7500	0.3228	0.0052	-0.5329	0.0682	1.0573	0.3422	-1.0005	0.2811
1	265.08	0.8001	0.3529	0.0059	-0.6284	0.0741	1.3554	0.3755	-1.1357	0.2811
1	265.08	0.8497	0.3807	0.0063	-0.6807	0.0802	1.6422	0.4081	-1.2587	0.2848
1	265.08	0.9102	0.3855	0.0075	-0.7137	0.0875	2.0292	0.4489	-1.5109	0.2814
1	265.08	0.9734	0.4644	0.0115	-0.7243	0.0952	2.4435	0.4917	-1.6674	0.2833
2	265.08	0.1949	-0.0717	0.0044	-0.0032	0.0013	0.0187	0.0078	0.1685	0.0637
2	265.08	0.2405	-0.0238	0.0035	-0.0004	0.0025	0.0288	0.0121	0.0643	0.1287
2	265.08	0.2999	0.0404	0.0024	-0.0196	0.0047	0.0703	0.0233	0.3068	0.1573
2	265.08	0.3498	0.0591	0.0021	-0.0135	0.0074	0.1181	0.0397	0.1830	0.1556
2	265.08	0.3998	0.0926	0.0022	-0.0342	0.0119	0.1785	0.0573	0.0158	0.1545
2	265.08	0.4496	0.1310	0.0023	-0.0698	0.0145	0.2877	0.0707	-0.0349	0.1543
2	265.08	0.4995	0.1607	0.0023	-0.1068	0.0179	0.4233	0.0863	-0.0914	0.1578
2	265.08	0.5551	0.2104	0.0021	-0.1543	0.0214	0.5728	0.1039	-0.2362	0.1518
2	265.08	0.5996	0.2422	0.0023	-0.2067	0.0241	0.7090	0.1182	-0.4095	0.1513
2	265.08	0.6497	0.2869	0.0025	-0.2575	0.0273	0.9043	0.1346	-0.4176	0.1491
2	265.08	0.6996	0.3245	0.0024	-0.3247	0.0308	1.1238	0.1512	-0.4730	0.1525
2	265.08	0.7495	0.3526	0.0029	-0.3924	0.0340	1.3695	0.1675	-0.6398	0.1551
2	265.08	0.7996	0.3973	0.0031	-0.4689	0.0375	1.5978	0.1838	-0.7816	0.1535
2	265.08	0.8578	0.4217	0.0035	-0.5502	0.0413	1.9438	0.2020	-0.6288	0.1559
2	265.08	0.9100	0.4394	0.0037	-0.5915	0.0447	2.3088	0.2177	-0.6036	0.1563
2	265.08	0.9727	0.4679	0.0052	-0.5901	0.0489	2.8098	0.2370	-0.5957	0.1567
3	265.08	0.1938	-0.0506	0.0157	-0.0226	0.0034	0.0913	0.0220	-0.1621	0.0742
3	265.08	0.2357	-0.0249	0.0058	0.0136	0.0018	0.0669	0.0122	-0.7166	0.2683
3	265.08	0.2995	0.0150	0.0037	-0.0517	0.0105	0.2593	0.0532	-0.6667	0.2619
3	265.08	0.3493	0.0491	0.0038	-0.0871	0.0175	0.4005	0.0830	-0.7842	0.2688
3	265.08	0.4000	0.0981	0.0042	-0.1178	0.0259	0.5855	0.1151	-0.7426	0.2671
3	265.08	0.4497	0.1195	0.0039	-0.1778	0.0333	0.8012	0.1448	-0.7866	0.2769
3	265.08	0.4997	0.1531	0.0039	-0.2330	0.0407	1.0247	0.1763	-0.9343	0.2728
3	265.08	0.5556	0.1985	0.0041	-0.2946	0.0493	1.2936	0.2107	-1.1542	0.2704
3	265.08	0.5995	0.2372	0.0042	-0.3629	0.0558	1.5412	0.2383	-1.1644	0.2692
3	265.08	0.6498	0.2738	0.0046	-0.4449	0.0634	1.8603	0.2685	-1.0843	0.2723
3	265.08	0.6890	0.2804	0.0049	-0.5106	0.0694	2.1168	0.2930	-0.9464	0.2725
3	265.08	0.7495	0.3208	0.0059	-0.6123	0.0786	2.5139	0.3311	-1.3051	0.2699
3	265.08	0.7998	0.3687	0.0065	-0.6861	0.0859	2.9137	0.3631	-1.3622	0.2689
3	265.08	0.8577	0.4019	0.0074	-0.7487	0.0944	3.3833	0.3993	-1.3532	0.2715
3	265.08	0.9178	0.4193	0.0089	-0.8445	0.1029	3.9120	0.4382	-1.4719	0.2690
3	265.08	0.9729	0.4444	0.0128	-0.9053	0.1112	4.3395	0.4732	-1.8598	0.2738
4	265.08	0.2001	-0.0093	0.0067	0.0187	0.0022	-0.0653	0.0118	0.0037	0.0930
4	265.08	0.2502	-0.0185	0.0054	0.0019	0.0026	0.0282	0.0130	0.9927	0.2347
4	265.08	0.3001	0.0123	0.0027	0.0581	0.0064	-0.0995	0.0313	0.3984	0.2389
4	265.08	0.3502	0.0476	0.0029	0.0914	0.0109	-0.1495	0.0501	0.4542	0.2239
4	265.08	0.4002	0.0740	0.0029	0.1314	0.0153	-0.1406	0.0703	0.4568	0.2169
4	265.08	0.4500	0.1160	0.0028	0.1583	0.0191	-0.1539	0.0861	0.2160	0.2319
4	265.08	0.5001	0.1473	0.0028	0.1675	0.0232	-0.0840	0.1043	0.3863	0.2219
4	265.08	0.5560	0.1854	0.0029	0.1817	0.0280	-0.0746	0.1242	0.0745	0.2236
4	265.08	0.6001	0.2233	0.0029	0.1841	0.0316	-0.0326	0.1398	-0.0680	0.2226
4	265.08	0.6501	0.2438	0.0031	0.1634	0.0357	0.0523	0.1583	-0.0065	0.2227
4	265.08	0.6999	0.2900	0.0033	0.1386	0.0394	0.1418	0.1770	-0.0713	0.2182
4	265.08	0.7500	0.3187	0.0035	0.1270	0.0431	0.2991	0.1947	0.0971	0.2232
4	265.08	0.8002	0.3514	0.0036	0.1121	0.0473	0.3793	0.2132	-0.3009	0.2229
4	265.08	0.8582	0.3990	0.0039	0.1196	0.0516	0.6041	0.2355	-0.3318	0.2193
4	265.08	0.9101	0.4308	0.0043	0.1107	0.0554	0.8000	0.2553	-0.4603	0.2199
4	265.08	0.9728	0.5065	0.0062	0.1443	0.0600	1.1155	0.2802	-0.3762	0.2189

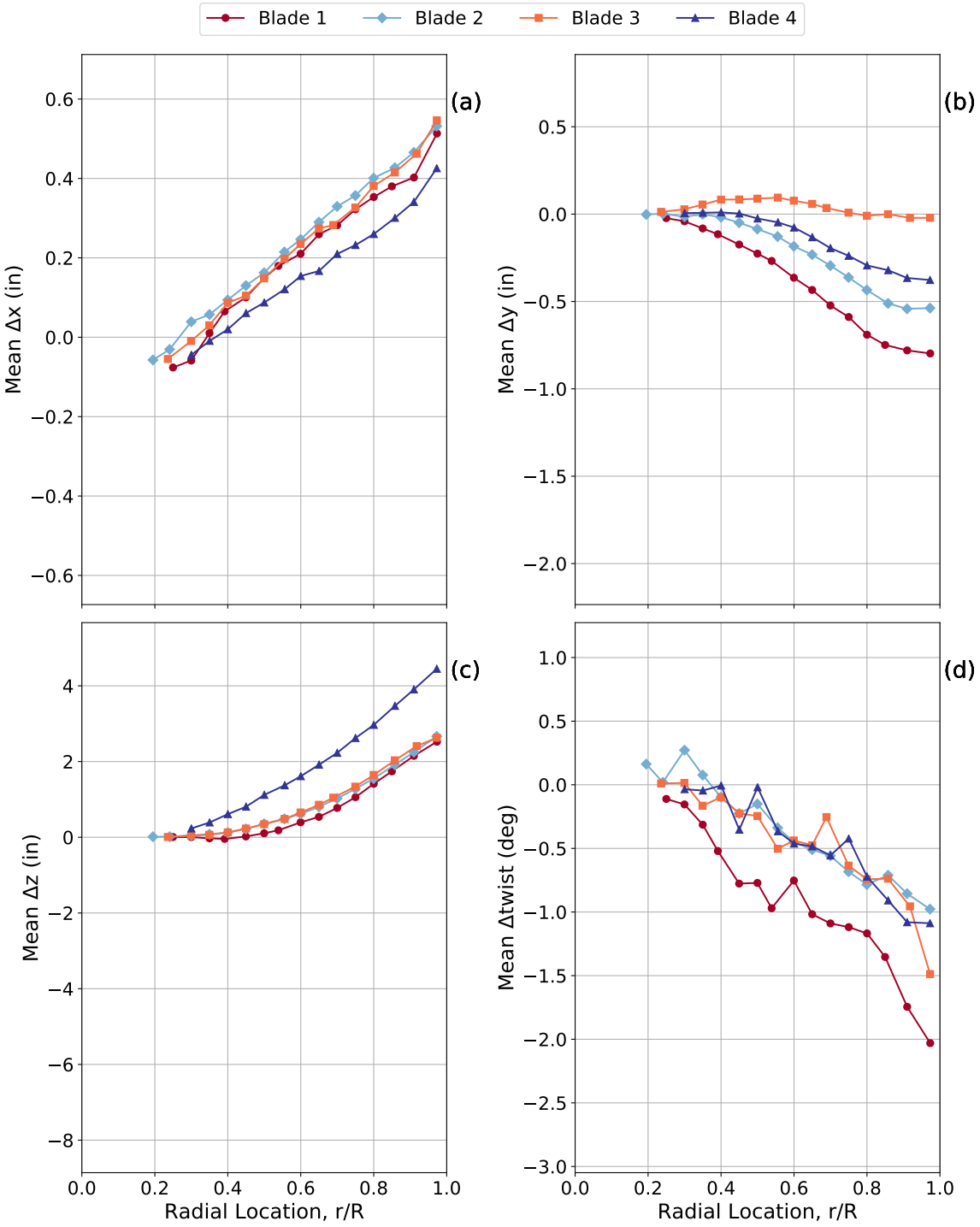


Figure 2.1-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2499	-0.0762	0.0148	-0.0232	0.0091	0.0062	0.0734	-0.1112	0.5084
1	270	0.2998	-0.0587	0.0075	-0.0411	0.0169	0.0042	0.1150	-0.1545	0.7239
1	270	0.3498	0.0104	0.0057	-0.0819	0.0355	-0.0283	0.2078	-0.3138	0.6771
1	270	0.3913	0.0651	0.0052	-0.1154	0.0504	-0.0427	0.2797	-0.5205	0.6775
1	270	0.4496	0.1004	0.0051	-0.1740	0.0697	0.0209	0.3786	-0.7766	0.6741
1	270	0.4997	0.1490	0.0049	-0.2261	0.0859	0.1066	0.4632	-0.7715	0.6728
1	270	0.5387	0.1796	0.0054	-0.2678	0.0990	0.1835	0.5306	-0.9701	0.6690
1	270	0.5996	0.2102	0.0064	-0.3641	0.1176	0.3954	0.6341	-0.7526	0.6739
1	270	0.6498	0.2592	0.0079	-0.4340	0.1334	0.5386	0.7210	-1.0175	0.6766
1	270	0.6998	0.2820	0.0092	-0.5230	0.1480	0.7754	0.8068	-1.0896	0.6748
1	270	0.7500	0.3222	0.0112	-0.5889	0.1623	1.0588	0.8940	-1.1188	0.6701
1	270	0.8001	0.3532	0.0131	-0.6904	0.1757	1.4130	0.9809	-1.1681	0.6726
1	270	0.8497	0.3800	0.0149	-0.7486	0.1893	1.7409	1.0651	-1.3533	0.6792
1	270	0.9102	0.4023	0.0185	-0.7800	0.2057	2.1503	1.1673	-1.7452	0.6765
1	270	0.9734	0.5132	0.0281	-0.7974	0.2238	2.5254	1.2766	-2.0306	0.6706
2	270.35	0.1949	-0.0573	0.0132	-0.0020	0.0024	0.0140	0.0174	0.1625	0.1062
2	270.35	0.2405	-0.0307	0.0087	0.0025	0.0034	0.0147	0.0177	0.0192	0.2575
2	270.35	0.2999	0.0390	0.0056	-0.0151	0.0065	0.0498	0.0429	0.2719	0.2795
2	270.35	0.3498	0.0572	0.0053	-0.0011	0.0126	0.0816	0.0745	0.0765	0.2617
2	270.35	0.3998	0.0939	0.0057	-0.0178	0.0176	0.1228	0.1002	-0.0976	0.2614
2	270.35	0.4496	0.1300	0.0057	-0.0493	0.0221	0.2183	0.1252	-0.2257	0.2640
2	270.35	0.4995	0.1624	0.0051	-0.0853	0.0268	0.3572	0.1498	-0.1510	0.2702
2	270.35	0.5551	0.2147	0.0054	-0.1284	0.0324	0.4865	0.1791	-0.3378	0.2656
2	270.35	0.5996	0.2465	0.0059	-0.1842	0.0367	0.6179	0.2024	-0.4500	0.2680
2	270.35	0.6497	0.2900	0.0060	-0.2319	0.0418	0.8025	0.2288	-0.5098	0.2620
2	270.35	0.6996	0.3294	0.0065	-0.2948	0.0469	1.0250	0.2551	-0.5580	0.2618
2	270.35	0.7495	0.3568	0.0068	-0.3623	0.0520	1.2778	0.2810	-0.6833	0.2669
2	270.35	0.7996	0.4008	0.0074	-0.4343	0.0571	1.5495	0.3066	-0.7841	0.2691
2	270.35	0.8578	0.4270	0.0077	-0.5111	0.0630	1.9148	0.3364	-0.7109	0.2674
2	270.35	0.9100	0.4656	0.0084	-0.5419	0.0686	2.2489	0.3626	-0.8556	0.2689
2	270.35	0.9727	0.5318	0.0104	-0.5379	0.0752	2.6639	0.3932	-0.9772	0.2681
3	270	0.2357	-0.0549	0.0056	0.0128	0.0024	0.0076	0.0192	0.0101	0.1779
3	270	0.2995	-0.0095	0.0033	0.0274	0.0055	0.0440	0.0359	0.0145	0.2853
3	270	0.3493	0.0300	0.0027	0.0549	0.0117	0.0663	0.0649	-0.1648	0.2597
3	270	0.4000	0.0867	0.0025	0.0829	0.0178	0.1283	0.0941	-0.0976	0.2579
3	270	0.4497	0.1047	0.0034	0.0836	0.0230	0.2311	0.1206	-0.2256	0.2573
3	270	0.4997	0.1485	0.0025	0.0885	0.0284	0.3445	0.1463	-0.2457	0.2558
3	270	0.5556	0.1978	0.0031	0.0944	0.0346	0.4842	0.1782	-0.5032	0.2507
3	270	0.5995	0.2349	0.0034	0.0768	0.0392	0.6542	0.2009	-0.4379	0.2566
3	270	0.6498	0.2740	0.0037	0.0585	0.0451	0.8578	0.2301	-0.4754	0.2566
3	270	0.6890	0.2826	0.0041	0.0349	0.0493	1.0462	0.2513	-0.2540	0.2554
3	270	0.7495	0.3267	0.0049	0.0084	0.0563	1.3371	0.2853	-0.6352	0.2557
3	270	0.7998	0.3809	0.0056	-0.0095	0.0618	1.6452	0.3135	-0.7425	0.2582
3	270	0.8577	0.4150	0.0061	-0.0004	0.0679	2.0316	0.3460	-0.7380	0.2583
3	270	0.9178	0.4624	0.0070	-0.0218	0.0748	2.4089	0.3784	-0.9559	0.2580
3	270	0.9729	0.5463	0.0105	-0.0210	0.0815	2.6294	0.4077	-1.4876	0.2645
4	270	0.3001	-0.0443	0.0053	0.0057	0.0094	0.2325	0.0669	-0.0348	0.2213
4	270	0.3502	-0.0092	0.0042	0.0076	0.0169	0.3911	0.1079	-0.0454	0.2916
4	270	0.4002	0.0200	0.0057	0.0099	0.0275	0.6103	0.1639	-0.0061	0.2837
4	270	0.4500	0.0608	0.0061	0.0033	0.0366	0.8081	0.2140	-0.3534	0.2775
4	270	0.5001	0.0875	0.0074	-0.0251	0.0461	1.1202	0.2664	-0.0196	0.2750
4	270	0.5560	0.1209	0.0087	-0.0472	0.0566	1.3724	0.3237	-0.3658	0.2758
4	270	0.6001	0.1542	0.0099	-0.0769	0.0648	1.6132	0.3697	-0.4621	0.2744
4	270	0.6501	0.1669	0.0112	-0.1324	0.0742	1.9166	0.4235	-0.4843	0.2720
4	270	0.6999	0.2098	0.0129	-0.1948	0.0835	2.2302	0.4763	-0.5553	0.2711
4	270	0.7500	0.2322	0.0146	-0.2387	0.0926	2.6211	0.5297	-0.4228	0.2754
4	270	0.8002	0.2599	0.0160	-0.2937	0.1020	2.9686	0.5832	-0.7226	0.2726
4	270	0.8582	0.3007	0.0181	-0.3212	0.1124	3.4704	0.6455	-0.9092	0.2733
4	270	0.9101	0.3408	0.0203	-0.3655	0.1220	3.9036	0.7002	-1.0802	0.2760
4	270	0.9728	0.4257	0.0258	-0.3771	0.1333	4.4499	0.7660	-1.0883	0.2776

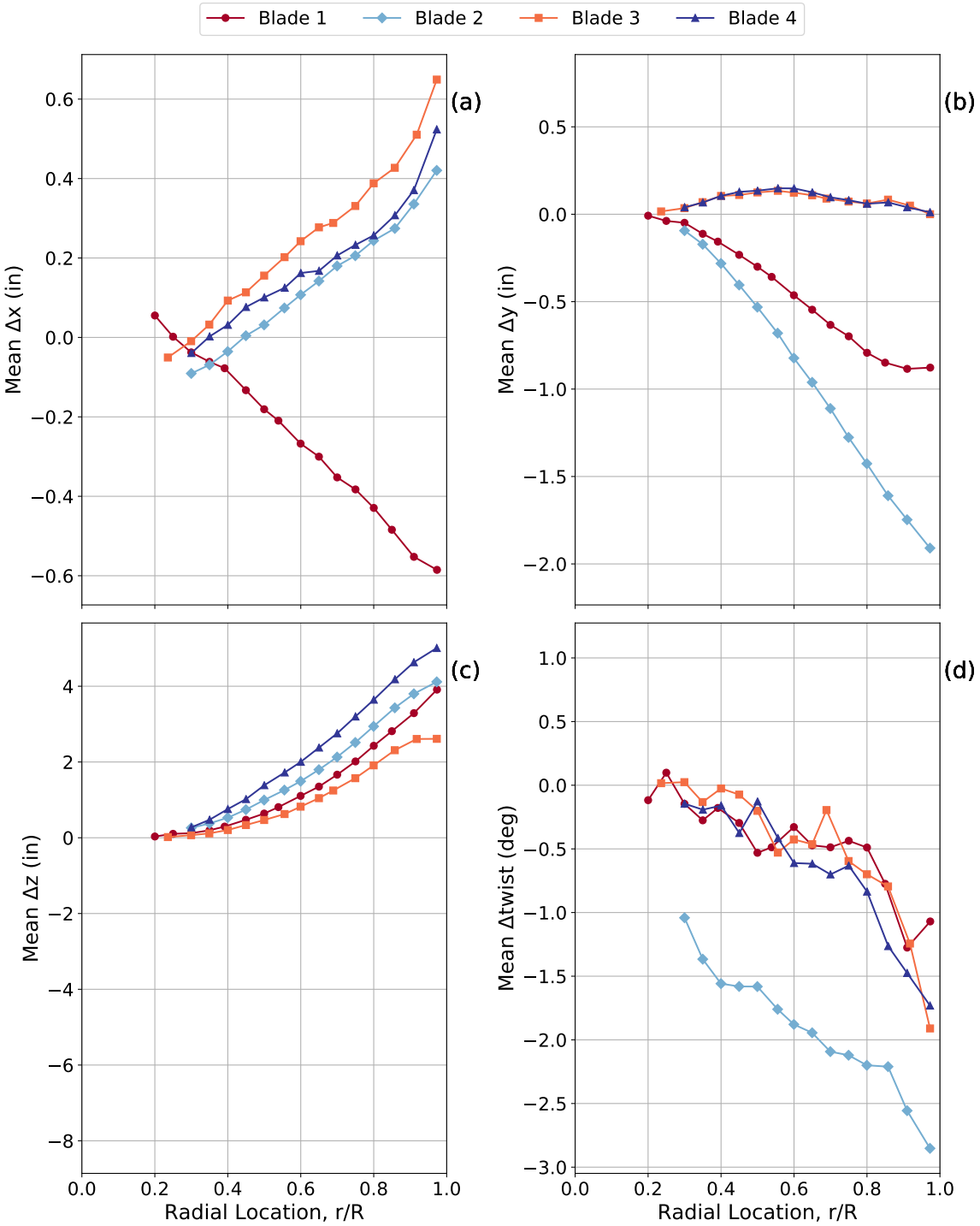


Figure 2.1-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0552	0.0023	-0.0083	0.0011	0.0332	0.0062	-0.1175	0.0281
1	274.92	0.2499	0.0018	0.0014	-0.0382	0.0029	0.1039	0.0115	0.0986	0.0515
1	274.92	0.2998	-0.0377	0.0015	-0.0489	0.0050	0.1210	0.0223	-0.1460	0.0598
1	274.92	0.3498	-0.0614	0.0021	-0.1120	0.0110	0.1973	0.0327	-0.2758	0.0739
1	274.92	0.3913	-0.0776	0.0026	-0.1566	0.0145	0.2949	0.0486	-0.1785	0.0672
1	274.92	0.4496	-0.1329	0.0047	-0.2322	0.0197	0.4740	0.0638	-0.2962	0.0653
1	274.92	0.4997	-0.1809	0.0061	-0.3003	0.0260	0.6391	0.0825	-0.5307	0.0811
1	274.92	0.5387	-0.2095	0.0038	-0.3582	0.0286	0.8088	0.0968	-0.4875	0.1180
1	274.92	0.5996	-0.2674	0.0038	-0.4633	0.0328	1.1049	0.1109	-0.3286	0.0615
1	274.92	0.6498	-0.3002	0.0048	-0.5460	0.0380	1.3502	0.1274	-0.4724	0.0629
1	274.92	0.6998	-0.3524	0.0056	-0.6329	0.0429	1.6651	0.1460	-0.4876	0.0824
1	274.92	0.7500	-0.3827	0.0061	-0.6982	0.0483	2.0151	0.1646	-0.4365	0.0847
1	274.92	0.8001	-0.4292	0.0068	-0.7924	0.0532	2.4283	0.1807	-0.4893	0.0872
1	274.92	0.8497	-0.4842	0.0072	-0.8488	0.0582	2.8133	0.1966	-0.7741	0.0728
1	274.92	0.9102	-0.5524	0.0079	-0.8843	0.0652	3.2896	0.2161	-1.2752	0.1380
1	274.92	0.9734	-0.5852	0.0099	-0.8772	0.0706	3.9106	0.2277	-1.0699	0.1034
2	274.92	0.2999	-0.0907	0.0157	-0.0938	0.0117	0.2604	0.1547	-1.0411	0.4914
2	274.92	0.3498	-0.0690	0.0074	-0.1717	0.0225	0.3775	0.2472	-1.3663	0.6459
2	274.92	0.3998	-0.0355	0.0097	-0.2816	0.0379	0.5300	0.3731	-1.5585	0.6254
2	274.92	0.4496	0.0043	0.0119	-0.4047	0.0512	0.7427	0.4902	-1.5806	0.6349
2	274.92	0.4995	0.0316	0.0145	-0.5313	0.0650	0.9950	0.6134	-1.5814	0.6190
2	274.92	0.5551	0.0741	0.0175	-0.6802	0.0799	1.2586	0.7454	-1.7599	0.6296
2	274.92	0.5996	0.1073	0.0204	-0.8228	0.0919	1.4916	0.8531	-1.8787	0.6273
2	274.92	0.6497	0.1419	0.0238	-0.9615	0.1050	1.7970	0.9745	-1.9445	0.6247
2	274.92	0.6996	0.1799	0.0271	-1.1111	0.1177	2.1304	1.0955	-2.0926	0.6263
2	274.92	0.7495	0.2057	0.0312	-1.2764	0.1301	2.5145	1.2167	-2.1207	0.6274
2	274.92	0.7996	0.2436	0.0346	-1.4266	0.1420	2.9402	1.3374	-2.1997	0.6230
2	274.92	0.8578	0.2744	0.0390	-1.6099	0.1561	3.4299	1.4766	-2.2105	0.6269
2	274.92	0.9100	0.3357	0.0442	-1.7472	0.1694	3.8000	1.6022	-2.5562	0.6295
2	274.92	0.9727	0.4205	0.0555	-1.9096	0.1866	4.1159	1.7514	-2.8523	0.6373
3	274.92	0.2357	-0.0506	0.0129	0.0161	0.0033	0.0181	0.0424	0.0160	0.4026
3	274.92	0.2995	-0.0095	0.0078	0.0348	0.0080	0.0683	0.0804	0.0242	0.6450
3	274.92	0.3493	0.0323	0.0054	0.0691	0.0177	0.1156	0.1462	-0.1325	0.6045
3	274.92	0.4000	0.0928	0.0064	0.1047	0.0271	0.2045	0.2133	-0.0254	0.6023
3	274.92	0.4497	0.1135	0.0063	0.1102	0.0349	0.3353	0.2732	-0.0737	0.6049
3	274.92	0.4997	0.1557	0.0064	0.1246	0.0428	0.4685	0.3331	-0.2013	0.6032
3	274.92	0.5556	0.2021	0.0064	0.1340	0.0519	0.6259	0.4020	-0.5292	0.5922
3	274.92	0.5995	0.2422	0.0071	0.1233	0.0580	0.8205	0.4547	-0.4261	0.6016
3	274.92	0.6498	0.2771	0.0077	0.1086	0.0654	1.0452	0.5162	-0.4632	0.5962
3	274.92	0.6890	0.2882	0.0083	0.0894	0.0709	1.2475	0.5642	-0.1950	0.5982
3	274.92	0.7495	0.3309	0.0094	0.0725	0.0789	1.5728	0.6368	-0.5954	0.6025
3	274.92	0.7998	0.3881	0.0109	0.0615	0.0851	1.9116	0.6995	-0.6994	0.5969
3	274.92	0.8577	0.4271	0.0124	0.0835	0.0918	2.3110	0.7708	-0.7949	0.5962
3	274.92	0.9178	0.5104	0.0147	0.0492	0.1001	2.6076	0.8459	-1.2437	0.6044
3	274.92	0.9729	0.6492	0.0198	0.0002	0.1102	2.6115	0.9179	-1.9103	0.6032
4	274.92	0.3001	-0.0393	0.0105	0.0398	0.0106	0.2748	0.1254	-0.1452	0.3164
4	274.92	0.3502	0.0025	0.0069	0.0673	0.0196	0.4766	0.2027	-0.1922	0.4158
4	274.92	0.4002	0.0316	0.0113	0.1052	0.0323	0.7576	0.3083	-0.1599	0.3901
4	274.92	0.4500	0.0766	0.0126	0.1279	0.0437	1.0204	0.3980	-0.3755	0.3852
4	274.92	0.5001	0.1007	0.0144	0.1348	0.0545	1.3871	0.4908	-0.1274	0.3943
4	274.92	0.5560	0.1250	0.0181	0.1484	0.0676	1.7233	0.5989	-0.4156	0.3920
4	274.92	0.6001	0.1622	0.0198	0.1479	0.0778	2.0042	0.6845	-0.6112	0.3870
4	274.92	0.6501	0.1676	0.0234	0.1254	0.0889	2.3808	0.7810	-0.6168	0.3878
4	274.92	0.6999	0.2063	0.0266	0.0969	0.1001	2.7569	0.8773	-0.7007	0.3860
4	274.92	0.7500	0.2330	0.0298	0.0803	0.1110	3.2004	0.9751	-0.6315	0.3842
4	274.92	0.8002	0.2571	0.0332	0.0600	0.1220	3.6451	1.0732	-0.8355	0.3884
4	274.92	0.8582	0.3075	0.0376	0.0676	0.1344	4.1833	1.1845	-1.2638	0.3931
4	274.92	0.9101	0.3708	0.0419	0.0401	0.1461	4.6327	1.2853	-1.4752	0.3930
4	274.92	0.9728	0.5237	0.0517	0.0115	0.1609	5.0089	1.4073	-1.7309	0.3920

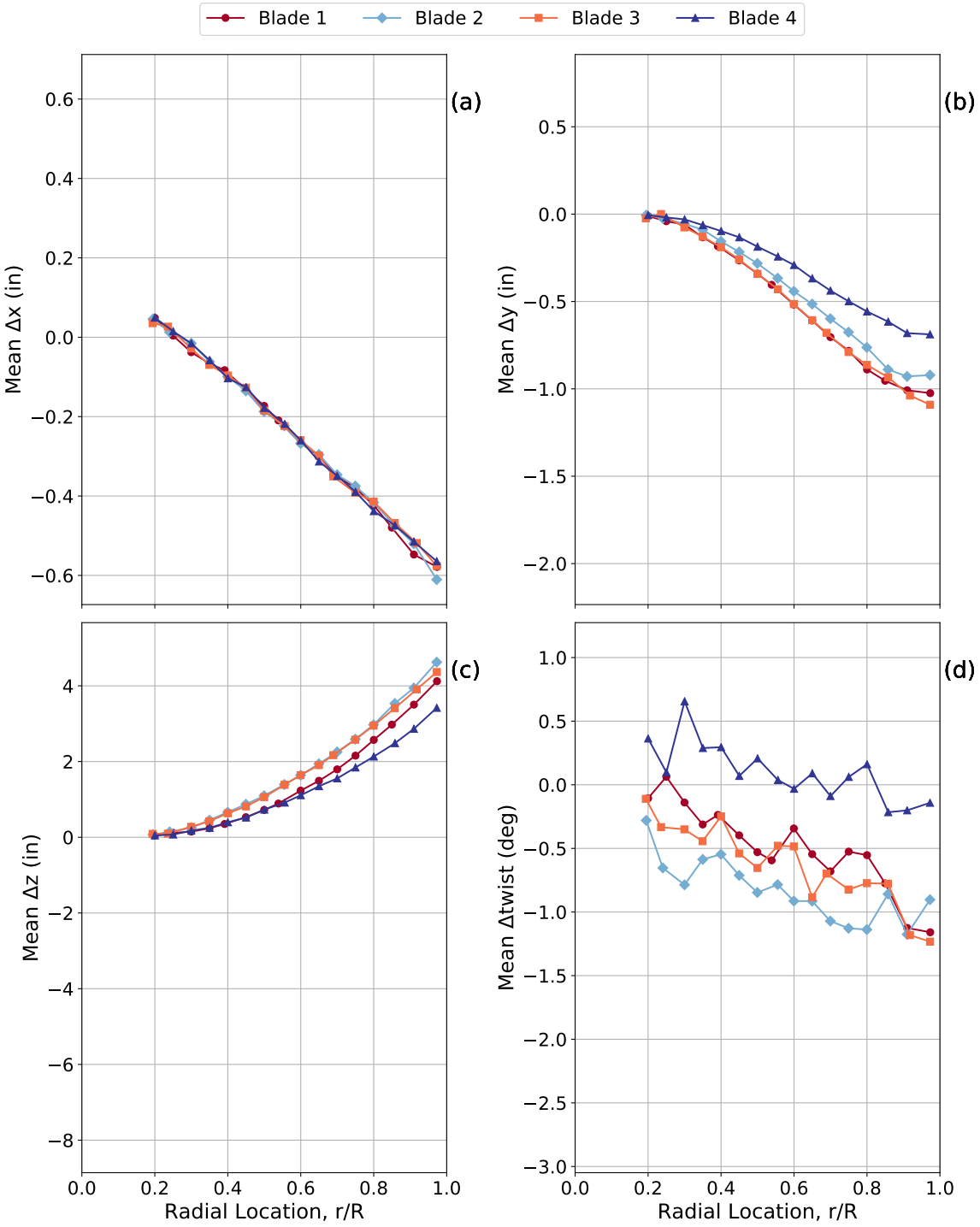


Figure 2.1-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -1.7° NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0487	0.0019	-0.0115	0.0011	0.0437	0.0051	-0.1061	0.0676
1	279.84	0.2499	0.0041	0.0019	-0.0407	0.0038	0.1158	0.0161	0.0634	0.0629
1	279.84	0.2998	-0.0377	0.0018	-0.0599	0.0060	0.1492	0.0206	-0.1392	0.1343
1	279.84	0.3498	-0.0662	0.0033	-0.1327	0.0097	0.2384	0.0344	-0.3120	0.1395
1	279.84	0.3913	-0.0830	0.0026	-0.1835	0.0155	0.3506	0.0513	-0.2369	0.1090
1	279.84	0.4496	-0.1312	0.0021	-0.2646	0.0160	0.5303	0.0579	-0.3972	0.1145
1	279.84	0.4997	-0.1730	0.0033	-0.3408	0.0202	0.7224	0.0712	-0.5299	0.0936
1	279.84	0.5387	-0.2095	0.0067	-0.4043	0.0239	0.8906	0.0887	-0.5938	0.0973
1	279.84	0.5996	-0.2668	0.0034	-0.5175	0.0271	1.2319	0.0984	-0.3433	0.1102
1	279.84	0.6498	-0.2985	0.0031	-0.6088	0.0317	1.4918	0.1129	-0.5454	0.1091
1	279.84	0.6998	-0.3502	0.0031	-0.7039	0.0350	1.7939	0.1229	-0.6802	0.0979
1	279.84	0.7500	-0.3800	0.0038	-0.7826	0.0386	2.1564	0.1345	-0.5255	0.1226
1	279.84	0.8001	-0.4235	0.0053	-0.8890	0.0433	2.5710	0.1502	-0.5531	0.1274
1	279.84	0.8497	-0.4796	0.0053	-0.9537	0.0472	2.9758	0.1605	-0.7746	0.1111
1	279.84	0.9102	-0.5474	0.0053	-1.0081	0.0523	3.5032	0.1784	-1.1252	0.0942
1	279.84	0.9734	-0.5787	0.0070	-1.0245	0.0572	4.1230	0.2012	-1.1592	0.0944
2	279.84	0.1949	0.0459	0.0017	-0.0058	0.0006	0.0697	0.0048	-0.2802	0.0798
2	279.84	0.2405	0.0128	0.0032	-0.0240	0.0042	0.1420	0.0164	-0.6535	0.0793
2	279.84	0.2999	-0.0151	0.0016	-0.0559	0.0056	0.2519	0.0237	-0.7863	0.1675
2	279.84	0.3498	-0.0613	0.0023	-0.0891	0.0103	0.4510	0.0373	-0.5866	0.0954
2	279.84	0.3998	-0.0991	0.0037	-0.1558	0.0167	0.6633	0.0591	-0.5467	0.1390
2	279.84	0.4496	-0.1353	0.0024	-0.2165	0.0201	0.8719	0.0707	-0.7121	0.0938
2	279.84	0.4995	-0.1874	0.0041	-0.2821	0.0231	1.0963	0.0824	-0.8468	0.1261
2	279.84	0.5551	-0.2234	0.0050	-0.3670	0.0278	1.3948	0.1002	-0.7846	0.1355
2	279.84	0.5996	-0.2677	0.0032	-0.4416	0.0309	1.6406	0.1153	-0.9137	0.1431
2	279.84	0.6497	-0.2955	0.0040	-0.5146	0.0352	1.9407	0.1319	-0.9144	0.1083
2	279.84	0.6996	-0.3463	0.0048	-0.5984	0.0393	2.2536	0.1474	-1.0714	0.1072
2	279.84	0.7495	-0.3750	0.0055	-0.6758	0.0428	2.5914	0.1651	-1.1276	0.1003
2	279.84	0.7996	-0.4163	0.0053	-0.7631	0.0469	2.9724	0.1821	-1.1382	0.1295
2	279.84	0.8578	-0.4747	0.0058	-0.8895	0.0518	3.5353	0.2014	-0.8587	0.0942
2	279.84	0.9100	-0.5201	0.0065	-0.9288	0.0564	3.9441	0.2196	-1.1755	0.1433
2	279.84	0.9727	-0.6105	0.0084	-0.9213	0.0619	4.6249	0.2375	-0.9032	0.1445
3	279.84	0.1938	0.0355	0.0038	-0.0244	0.0007	0.0890	0.0039	-0.1103	0.0661
3	279.84	0.2357	0.0266	0.0016	0.0003	0.0032	0.0955	0.0082	-0.3331	0.1006
3	279.84	0.2995	-0.0284	0.0013	-0.0759	0.0073	0.2768	0.0139	-0.3504	0.1528
3	279.84	0.3493	-0.0695	0.0035	-0.1288	0.0082	0.4217	0.0206	-0.4435	0.1073
3	279.84	0.4000	-0.0963	0.0034	-0.1896	0.0171	0.6337	0.0322	-0.2487	0.1353
3	279.84	0.4497	-0.1272	0.0047	-0.2598	0.0208	0.8153	0.0357	-0.5393	0.1044
3	279.84	0.4997	-0.1847	0.0030	-0.3418	0.0266	1.0606	0.0449	-0.6536	0.0891
3	279.84	0.5556	-0.2238	0.0031	-0.4302	0.0308	1.3860	0.0550	-0.4794	0.0862
3	279.84	0.5995	-0.2593	0.0048	-0.5149	0.0350	1.6408	0.0626	-0.4845	0.0994
3	279.84	0.6498	-0.2983	0.0034	-0.6071	0.0398	1.9064	0.0726	-0.8842	0.0869
3	279.84	0.6890	-0.3506	0.0037	-0.6791	0.0441	2.1689	0.0771	-0.6982	0.1155
3	279.84	0.7495	-0.3919	0.0034	-0.7894	0.0498	2.5770	0.0922	-0.8233	0.1006
3	279.84	0.7998	-0.4140	0.0038	-0.8630	0.0549	2.9511	0.1015	-0.7732	0.1107
3	279.84	0.8577	-0.4680	0.0046	-0.9340	0.0612	3.4108	0.1135	-0.7778	0.1023
3	279.84	0.9178	-0.5184	0.0042	-1.0383	0.0672	3.9075	0.1253	-1.1813	0.1488
3	279.84	0.9729	-0.5763	0.0063	-1.0909	0.0733	4.3645	0.1376	-1.2331	0.1084
4	279.84	0.2001	0.0493	0.0014	-0.0056	0.0017	0.0495	0.0090	0.3635	0.0509
4	279.84	0.2502	0.0150	0.0027	-0.0191	0.0039	0.0722	0.0152	0.0979	0.0632
4	279.84	0.3001	-0.0156	0.0025	-0.0304	0.0071	0.1757	0.0258	0.6557	0.1026
4	279.84	0.3502	-0.0581	0.0015	-0.0632	0.0132	0.2496	0.0431	0.2886	0.0785
4	279.84	0.4002	-0.1035	0.0029	-0.0970	0.0203	0.3967	0.0623	0.2953	0.0735
4	279.84	0.4500	-0.1256	0.0053	-0.1329	0.0264	0.5210	0.0798	0.0694	0.0511
4	279.84	0.5001	-0.1781	0.0035	-0.1866	0.0304	0.7305	0.0986	0.2072	0.0760
4	279.84	0.5560	-0.2185	0.0028	-0.2431	0.0355	0.9153	0.1134	0.0368	0.0977
4	279.84	0.6001	-0.2599	0.0048	-0.2915	0.0396	1.1100	0.1336	-0.0316	0.0667
4	279.84	0.6501	-0.3131	0.0040	-0.3680	0.0453	1.3486	0.1442	0.0897	0.0979
4	279.84	0.6999	-0.3495	0.0049	-0.4381	0.0507	1.5552	0.1705	-0.0889	0.0874
4	279.84	0.7500	-0.3895	0.0052	-0.4992	0.0561	1.8431	0.1855	0.0616	0.0960
4	279.84	0.8002	-0.4382	0.0050	-0.5574	0.0613	2.1321	0.2045	0.1613	0.0920
4	279.84	0.8582	-0.4740	0.0060	-0.6157	0.0687	2.4854	0.2278	-0.2157	0.0780
4	279.84	0.9101	-0.5149	0.0073	-0.6812	0.0744	2.8643	0.2480	-0.2010	0.0932
4	279.84	0.9728	-0.5645	0.0098	-0.6882	0.0804	3.4182	0.2756	-0.1417	0.1028

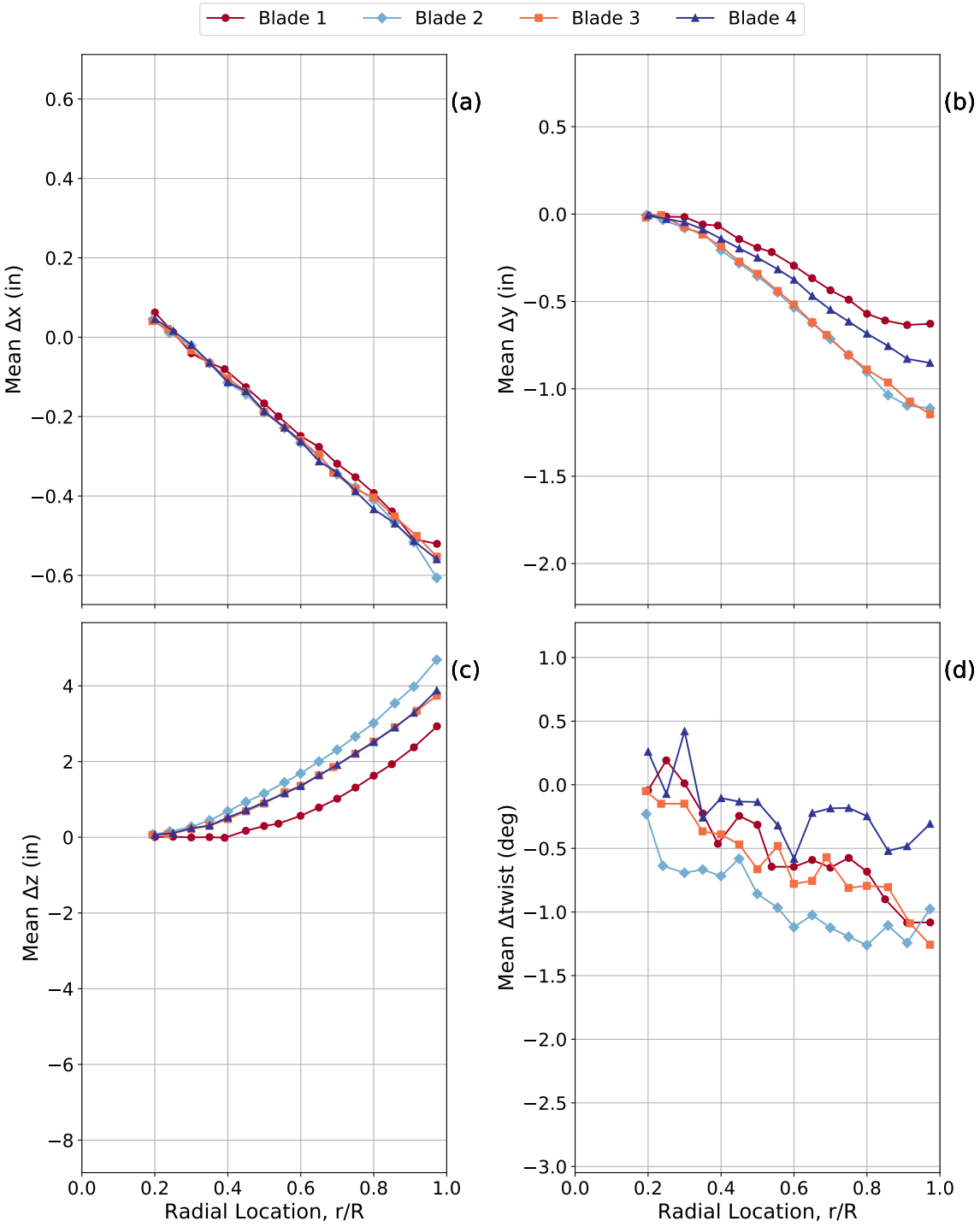


Figure 2.1-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0623	0.0015	-0.0060	0.0016	0.0065	0.0064	-0.0434	0.0535
1	285.12	0.2499	0.0128	0.0024	-0.0142	0.0032	0.0132	0.0144	0.1917	0.0621
1	285.12	0.2998	-0.0405	0.0039	-0.0168	0.0076	-0.0041	0.0234	0.0110	0.0983
1	285.12	0.3498	-0.0644	0.0017	-0.0591	0.0110	0.0035	0.0353	-0.2251	0.0608
1	285.12	0.3913	-0.0804	0.0053	-0.0653	0.0174	-0.0124	0.0528	-0.4639	0.0669
1	285.12	0.4496	-0.1259	0.0020	-0.1435	0.0173	0.1720	0.0584	-0.2444	0.0553
1	285.12	0.4997	-0.1666	0.0048	-0.1922	0.0215	0.2968	0.0678	-0.3147	0.0898
1	285.12	0.5387	-0.1994	0.0031	-0.2174	0.0235	0.3591	0.0770	-0.6446	0.0718
1	285.12	0.5996	-0.2488	0.0037	-0.2950	0.0283	0.5677	0.0920	-0.6447	0.1001
1	285.12	0.6498	-0.2764	0.0032	-0.3667	0.0317	0.7847	0.1014	-0.5910	0.0691
1	285.12	0.6998	-0.3187	0.0053	-0.4357	0.0353	1.0194	0.1131	-0.6512	0.0928
1	285.12	0.7500	-0.3526	0.0036	-0.4897	0.0384	1.3120	0.1232	-0.5748	0.1054
1	285.12	0.8001	-0.3926	0.0035	-0.5704	0.0429	1.6259	0.1366	-0.6830	0.0723
1	285.12	0.8497	-0.4389	0.0037	-0.6085	0.0458	1.9297	0.1461	-0.8999	0.0685
1	285.12	0.9102	-0.5087	0.0045	-0.6346	0.0502	2.3746	0.1624	-1.0830	0.0941
1	285.12	0.9734	-0.5205	0.0056	-0.6276	0.0553	2.9321	0.1835	-1.0817	0.0785
2	285.12	0.1949	0.0448	0.0024	-0.0064	0.0012	0.0734	0.0048	-0.2297	0.0346
2	285.12	0.2405	0.0106	0.0019	-0.0330	0.0050	0.1482	0.0176	-0.6371	0.0525
2	285.12	0.2999	-0.0207	0.0019	-0.0796	0.0079	0.2774	0.0268	-0.6920	0.0763
2	285.12	0.3498	-0.0652	0.0021	-0.1083	0.0120	0.4450	0.0342	-0.6668	0.0871
2	285.12	0.3998	-0.1144	0.0040	-0.2068	0.0220	0.6846	0.0631	-0.7170	0.0646
2	285.12	0.4496	-0.1431	0.0054	-0.2815	0.0266	0.9315	0.0716	-0.5815	0.0941
2	285.12	0.4995	-0.1886	0.0050	-0.3543	0.0321	1.1533	0.0884	-0.8579	0.0708
2	285.12	0.5551	-0.2283	0.0038	-0.4481	0.0380	1.4482	0.1044	-0.9658	0.1026
2	285.12	0.5996	-0.2662	0.0054	-0.5342	0.0425	1.6850	0.1214	-1.1190	0.0689
2	285.12	0.6497	-0.2982	0.0062	-0.6219	0.0479	2.0008	0.1331	-1.0243	0.0696
2	285.12	0.6996	-0.3451	0.0047	-0.7149	0.0529	2.3093	0.1494	-1.1237	0.0782
2	285.12	0.7495	-0.3777	0.0051	-0.8060	0.0581	2.6594	0.1624	-1.1945	0.0813
2	285.12	0.7996	-0.4097	0.0059	-0.9032	0.0638	3.0146	0.1795	-1.2602	0.0634
2	285.12	0.8578	-0.4671	0.0067	-1.0355	0.0700	3.5403	0.1995	-1.1059	0.0723
2	285.12	0.9100	-0.5161	0.0071	-1.0951	0.0754	3.9788	0.2191	-1.2425	0.0715
2	285.12	0.9727	-0.6061	0.0098	-1.1116	0.0828	4.6855	0.2417	-0.9764	0.0902
3	285.12	0.1938	0.0404	0.0015	-0.0199	0.0008	0.0662	0.0053	-0.0503	0.0707
3	285.12	0.2357	0.0208	0.0017	-0.0057	0.0028	0.0800	0.0118	-0.1493	0.0639
3	285.12	0.2995	-0.0327	0.0035	-0.0746	0.0065	0.2174	0.0255	-0.1490	0.1358
3	285.12	0.3493	-0.0660	0.0018	-0.1171	0.0081	0.3065	0.0302	-0.3662	0.1357
3	285.12	0.4000	-0.1028	0.0041	-0.1843	0.0158	0.4792	0.0546	-0.3904	0.1068
3	285.12	0.4497	-0.1368	0.0050	-0.2716	0.0174	0.6857	0.0540	-0.4692	0.1008
3	285.12	0.4997	-0.1879	0.0026	-0.3414	0.0217	0.8896	0.0668	-0.6635	0.0928
3	285.12	0.5556	-0.2282	0.0034	-0.4401	0.0269	1.1938	0.0765	-0.4809	0.0794
3	285.12	0.5995	-0.2589	0.0032	-0.5175	0.0303	1.3564	0.0893	-0.7789	0.0951
3	285.12	0.6498	-0.2967	0.0047	-0.6195	0.0342	1.6345	0.0979	-0.7548	0.0806
3	285.12	0.6890	-0.3414	0.0038	-0.6918	0.0378	1.8543	0.1099	-0.5703	0.0766
3	285.12	0.7495	-0.3822	0.0035	-0.8070	0.0432	2.2040	0.1201	-0.8104	0.0777
3	285.12	0.7998	-0.4035	0.0040	-0.8893	0.0474	2.5261	0.1302	-0.7945	0.1018
3	285.12	0.8577	-0.4517	0.0041	-0.9637	0.0528	2.9070	0.1493	-0.8045	0.0809
3	285.12	0.9178	-0.5007	0.0045	-1.0733	0.0581	3.3387	0.1662	-1.0892	0.0783
3	285.12	0.9729	-0.5529	0.0063	-1.1455	0.0634	3.7395	0.1849	-1.2572	0.0838
4	285.12	0.2001	0.0458	0.0018	-0.0069	0.0019	0.0612	0.0091	0.2600	0.0545
4	285.12	0.2502	0.0163	0.0026	-0.0277	0.0044	0.1102	0.0153	-0.0720	0.0995
4	285.12	0.3001	-0.0192	0.0027	-0.0463	0.0084	0.2391	0.0303	0.4210	0.1151
4	285.12	0.3502	-0.0638	0.0016	-0.0871	0.0137	0.3082	0.0408	-0.2579	0.1161
4	285.12	0.4002	-0.1133	0.0042	-0.1414	0.0218	0.5226	0.0666	-0.1048	0.0962
4	285.12	0.4500	-0.1357	0.0061	-0.1964	0.0271	0.7130	0.0775	-0.1324	0.0864
4	285.12	0.5001	-0.1868	0.0064	-0.2495	0.0314	0.9278	0.0934	-0.1350	0.0858
4	285.12	0.5560	-0.2273	0.0041	-0.3161	0.0378	1.1587	0.1046	-0.3197	0.1288
4	285.12	0.6001	-0.2625	0.0051	-0.3749	0.0426	1.3520	0.1251	-0.5815	0.0921
4	285.12	0.6501	-0.3127	0.0049	-0.4679	0.0494	1.6422	0.1405	-0.2211	0.0739
4	285.12	0.6999	-0.3410	0.0051	-0.5475	0.0549	1.9096	0.1533	-0.1851	0.0939
4	285.12	0.7500	-0.3881	0.0051	-0.6150	0.0603	2.2173	0.1776	-0.1818	0.1163
4	285.12	0.8002	-0.4332	0.0062	-0.6839	0.0656	2.5148	0.1888	-0.2470	0.0849
4	285.12	0.8582	-0.4691	0.0063	-0.7551	0.0724	2.9005	0.2107	-0.5200	0.0760
4	285.12	0.9101	-0.5133	0.0066	-0.8282	0.0783	3.2886	0.2272	-0.4829	0.0838
4	285.12	0.9728	-0.5593	0.0093	-0.8516	0.0850	3.8797	0.2546	-0.3071	0.0945

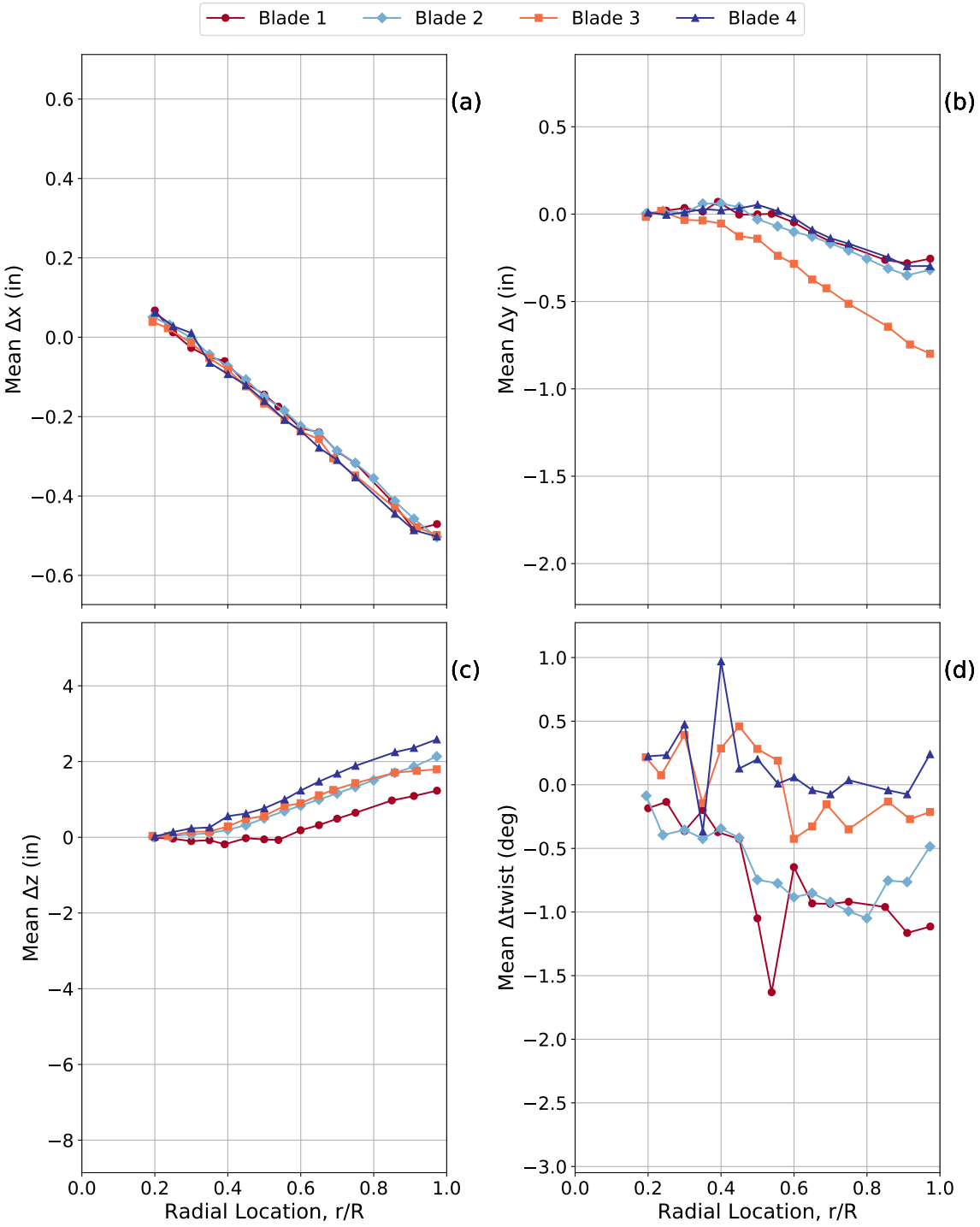


Figure 2.1-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -1.7° NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0674	0.0020	-0.0021	0.0013	-0.0143	0.0049	-0.1841	0.0241
1	299.88	0.2499	0.0122	0.0012	0.0196	0.0027	-0.0366	0.0150	-0.1348	0.0425
1	299.88	0.2998	-0.0270	0.0034	0.0352	0.0052	-0.1025	0.0230	-0.3640	0.0463
1	299.88	0.3498	-0.0503	0.0057	0.0146	0.0097	-0.0757	0.0270	-0.1987	0.0785
1	299.88	0.3913	-0.0602	0.0030	0.0704	0.0137	-0.1857	0.0507	-0.3724	0.0813
1	299.88	0.4496	-0.1159	0.0029	-0.0029	0.0154	-0.0241	0.0534	-0.4265	0.0631
1	299.88	0.4997	-0.1444	0.0034	-0.0011	0.0185	-0.0555	0.0593	-1.0499	0.0865
1	299.88	0.5387	-0.1748	0.0032	0.0015	0.0202	-0.0706	0.0711	-1.6304	0.0786
1	299.88	0.5996	-0.2290	0.0044	-0.0473	0.0244	0.1853	0.0787	-0.6472	0.0768
1	299.88	0.6498	-0.2393	0.0033	-0.1066	0.0257	0.3211	0.0918	-0.9325	0.0664
1	299.88	0.6998	-0.2879	0.0029	-0.1571	0.0290	0.4908	0.1009	-0.9364	0.0646
1	299.88	0.7500	-0.3176	0.0030	-0.1846	0.0323	0.6472	0.1165	-0.9192	0.0546
1	299.88	0.8497	-0.4133	0.0029	-0.2620	0.0390	0.9726	0.1494	-0.9606	0.0595
1	299.88	0.9102	-0.4849	0.0031	-0.2811	0.0436	1.0902	0.1764	-1.1646	0.0556
1	299.88	0.9734	-0.4707	0.0043	-0.2549	0.0487	1.2310	0.2092	-1.1142	0.0544
2	299.88	0.1949	0.0508	0.0024	0.0039	0.0011	0.0074	0.0051	-0.0865	0.0405
2	299.88	0.2405	0.0309	0.0025	0.0180	0.0030	0.0300	0.0146	-0.3949	0.0543
2	299.88	0.2999	-0.0022	0.0056	0.0057	0.0052	0.0773	0.0206	-0.3545	0.0793
2	299.88	0.3498	-0.0435	0.0040	0.0596	0.0092	0.1047	0.0377	-0.4240	0.0732
2	299.88	0.3998	-0.0731	0.0037	0.0608	0.0146	0.1979	0.0567	-0.3444	0.1058
2	299.88	0.4496	-0.1067	0.0049	0.0401	0.0161	0.3193	0.0603	-0.4166	0.0864
2	299.88	0.4995	-0.1497	0.0036	-0.0294	0.0185	0.5000	0.0681	-0.7462	0.0725
2	299.88	0.5551	-0.1849	0.0034	-0.0696	0.0211	0.6926	0.0819	-0.7750	0.0666
2	299.88	0.5996	-0.2241	0.0040	-0.1016	0.0236	0.8350	0.0915	-0.8839	0.0642
2	299.88	0.6497	-0.2420	0.0039	-0.1280	0.0272	0.9947	0.1034	-0.8517	0.0706
2	299.88	0.6996	-0.2860	0.0039	-0.1681	0.0305	1.1593	0.1155	-0.9217	0.0510
2	299.88	0.7495	-0.3167	0.0042	-0.2071	0.0347	1.3312	0.1248	-0.9939	0.0643
2	299.88	0.7996	-0.3556	0.0042	-0.2547	0.0386	1.5054	0.1363	-1.0492	0.0540
2	299.88	0.8578	-0.4130	0.0041	-0.3111	0.0428	1.7030	0.1488	-0.7533	0.0510
2	299.88	0.9100	-0.4574	0.0044	-0.3497	0.0468	1.8636	0.1604	-0.7641	0.0549
2	299.88	0.9727	-0.5032	0.0057	-0.3189	0.0521	2.1350	0.1746	-0.4851	0.0548
3	299.88	0.1938	0.0389	0.0028	-0.0157	0.0009	0.0354	0.0048	0.2161	0.0468
3	299.88	0.2357	0.0227	0.0031	0.0183	0.0027	0.0330	0.0137	0.0749	0.0548
3	299.88	0.2995	-0.0143	0.0026	-0.0330	0.0061	0.1469	0.0230	0.3908	0.1035
3	299.88	0.3493	-0.0526	0.0032	-0.0365	0.0076	0.1513	0.0387	-0.1448	0.0631
3	299.88	0.4000	-0.0822	0.0033	-0.0537	0.0150	0.2867	0.0609	0.2857	0.0927
3	299.88	0.4497	-0.1238	0.0043	-0.1261	0.0159	0.4843	0.0613	0.4589	0.0928
3	299.88	0.4997	-0.1671	0.0057	-0.1405	0.0178	0.5639	0.0917	0.2817	0.0904
3	299.88	0.5556	-0.2083	0.0045	-0.2384	0.0221	0.8282	0.1009	0.1895	0.0820
3	299.88	0.5995	-0.2373	0.0046	-0.2841	0.0257	0.8987	0.1137	-0.4249	0.0861
3	299.88	0.6498	-0.2570	0.0039	-0.3743	0.0279	1.1093	0.1323	-0.3275	0.0626
3	299.88	0.6890	-0.3051	0.0044	-0.4243	0.0304	1.2493	0.1449	-0.1537	0.0800
3	299.88	0.7495	-0.3482	0.0058	-0.5129	0.0336	1.4294	0.1715	-0.3502	0.0743
3	299.88	0.8577	-0.4301	0.0051	-0.6446	0.0422	1.7074	0.2220	-0.1323	0.0590
3	299.88	0.9178	-0.4788	0.0056	-0.7465	0.0465	1.7542	0.2531	-0.2699	0.0618
3	299.88	0.9729	-0.4981	0.0068	-0.7991	0.0509	1.7935	0.2804	-0.2138	0.0670
4	299.88	0.2001	0.0617	0.0022	0.0089	0.0009	0.0218	0.0055	0.2240	0.0398
4	299.88	0.2502	0.0279	0.0023	-0.0037	0.0020	0.1400	0.0104	0.2334	0.0783
4	299.88	0.3001	0.0106	0.0029	0.0093	0.0034	0.2356	0.0179	0.4744	0.0907
4	299.88	0.3502	-0.0644	0.0044	0.0285	0.0048	0.2592	0.0308	-0.3675	0.0873
4	299.88	0.4002	-0.0929	0.0025	0.0219	0.0082	0.5576	0.0447	0.9695	0.0844
4	299.88	0.4500	-0.1209	0.0028	0.0327	0.0086	0.6258	0.0494	0.1276	0.1078
4	299.88	0.5001	-0.1607	0.0026	0.0535	0.0113	0.7653	0.0622	0.2007	0.0810
4	299.88	0.5560	-0.2080	0.0037	0.0168	0.0146	0.9988	0.0744	0.0093	0.0863
4	299.88	0.6001	-0.2360	0.0037	-0.0231	0.0165	1.2347	0.0804	0.0592	0.0907
4	299.88	0.6501	-0.2784	0.0032	-0.0899	0.0190	1.4722	0.0991	-0.0419	0.0719
4	299.88	0.6999	-0.3092	0.0034	-0.1379	0.0210	1.6804	0.1056	-0.0748	0.0838
4	299.88	0.7500	-0.3528	0.0034	-0.1692	0.0234	1.8877	0.1221	0.0366	0.0592
4	299.88	0.8582	-0.4447	0.0035	-0.2474	0.0292	2.2482	0.1558	-0.0432	0.0618
4	299.88	0.9101	-0.4861	0.0039	-0.2978	0.0322	2.3601	0.1739	-0.0749	0.0576
4	299.88	0.9728	-0.5020	0.0046	-0.2969	0.0354	2.5838	0.1994	0.2403	0.0609

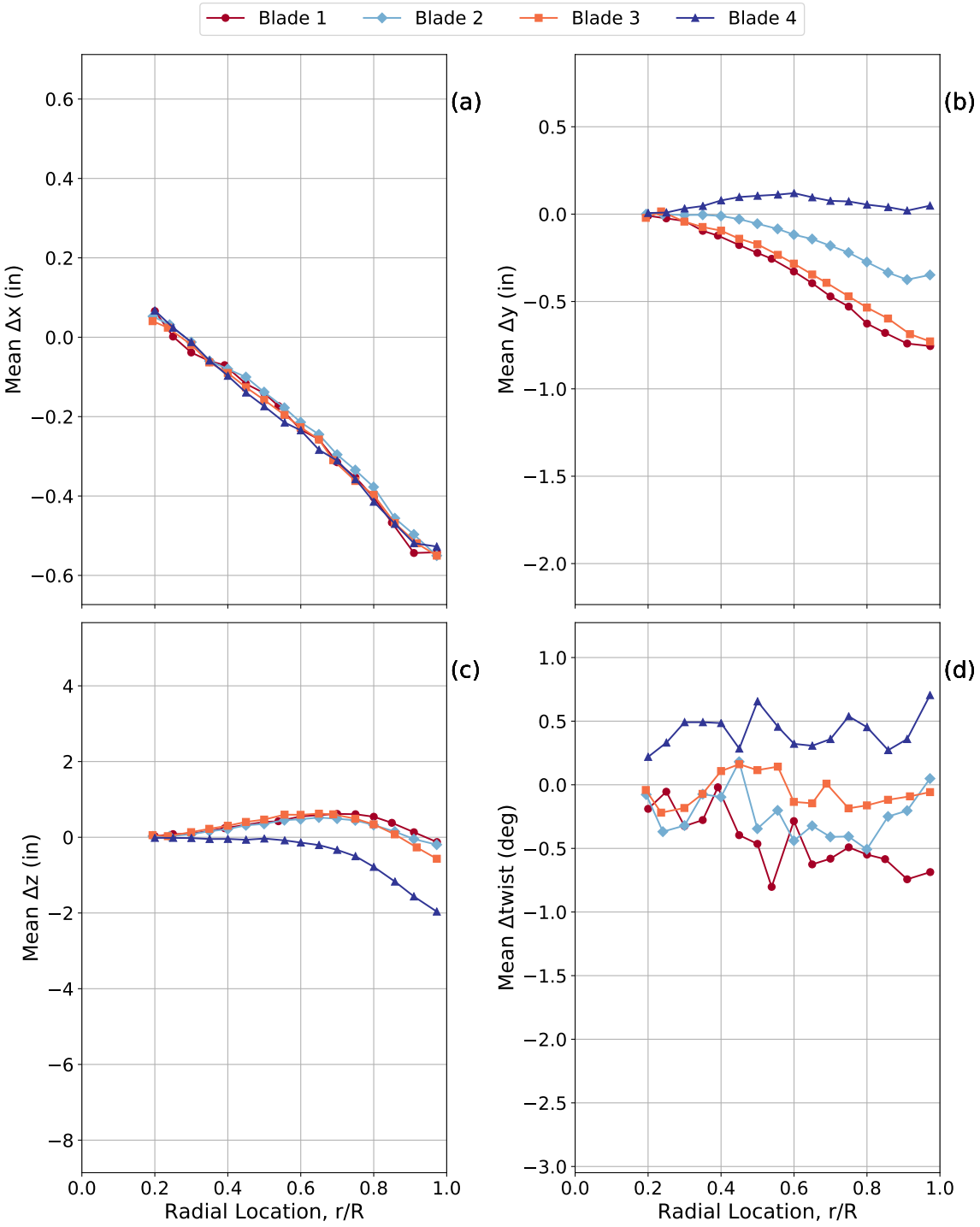


Figure 2.1-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0658	0.0024	-0.0094	0.0007	0.0292	0.0042	-0.1892	0.0453
1	315	0.2499	0.0017	0.0016	-0.0245	0.0023	0.0829	0.0109	-0.0545	0.0379
1	315	0.2998	-0.0384	0.0024	-0.0391	0.0041	0.0953	0.0179	-0.3248	0.0876
1	315	0.3498	-0.0601	0.0024	-0.0957	0.0055	0.1712	0.0272	-0.2773	0.0701
1	315	0.3913	-0.0703	0.0042	-0.1230	0.0099	0.2398	0.0412	-0.0197	0.0931
1	315	0.4496	-0.1173	0.0022	-0.1769	0.0125	0.3297	0.0455	-0.3958	0.0628
1	315	0.4997	-0.1409	0.0029	-0.2221	0.0149	0.4036	0.0604	-0.4643	0.0717
1	315	0.5387	-0.1732	0.0023	-0.2556	0.0163	0.4235	0.0626	-0.8026	0.0820
1	315	0.5996	-0.2326	0.0029	-0.3283	0.0211	0.5514	0.0816	-0.2854	0.0723
1	315	0.6498	-0.2573	0.0031	-0.3953	0.0237	0.5856	0.0919	-0.6257	0.1171
1	315	0.6998	-0.3150	0.0024	-0.4710	0.0252	0.6178	0.1040	-0.5808	0.0673
1	315	0.7500	-0.3532	0.0030	-0.5293	0.0276	0.6090	0.1153	-0.4915	0.0763
1	315	0.8001	-0.4036	0.0029	-0.6266	0.0322	0.5421	0.1281	-0.5486	0.0757
1	315	0.8497	-0.4670	0.0024	-0.6798	0.0342	0.3816	0.1428	-0.5845	0.0684
1	315	0.9102	-0.5435	0.0021	-0.7408	0.0384	0.1330	0.1612	-0.7429	0.0656
1	315	0.9734	-0.5418	0.0029	-0.7552	0.0423	-0.1264	0.1824	-0.6862	0.0684
2	315	0.1949	0.0526	0.0013	-0.0001	0.0004	0.0277	0.0038	-0.0773	0.0352
2	315	0.2405	0.0315	0.0018	-0.0002	0.0022	0.0263	0.0086	-0.3687	0.0506
2	315	0.2999	-0.0124	0.0012	-0.0053	0.0031	0.0800	0.0140	-0.3205	0.0809
2	315	0.3498	-0.0598	0.0019	-0.0039	0.0044	0.1589	0.0284	-0.0739	0.0511
2	315	0.3998	-0.0801	0.0020	-0.0109	0.0086	0.2148	0.0402	-0.0968	0.0543
2	315	0.4496	-0.1003	0.0020	-0.0286	0.0100	0.3162	0.0446	0.1810	0.0570
2	315	0.4995	-0.1382	0.0032	-0.0549	0.0125	0.3528	0.0551	-0.3453	0.0532
2	315	0.5551	-0.1777	0.0028	-0.0847	0.0141	0.4516	0.0643	-0.2014	0.0641
2	315	0.5996	-0.2142	0.0033	-0.1175	0.0165	0.4761	0.0752	-0.4397	0.0563
2	315	0.6497	-0.2449	0.0028	-0.1426	0.0195	0.5209	0.0899	-0.3226	0.0491
2	315	0.6996	-0.2958	0.0028	-0.1811	0.0218	0.4913	0.1008	-0.4096	0.0689
2	315	0.7495	-0.3346	0.0026	-0.2202	0.0252	0.4459	0.1171	-0.4067	0.0480
2	315	0.7996	-0.3773	0.0030	-0.2742	0.0278	0.3242	0.1323	-0.5071	0.0468
2	315	0.8578	-0.4560	0.0025	-0.3349	0.0312	0.1500	0.1478	-0.2494	0.0496
2	315	0.9100	-0.4968	0.0028	-0.3750	0.0347	-0.0473	0.1610	-0.2036	0.0518
2	315	0.9727	-0.5502	0.0035	-0.3481	0.0392	-0.1953	0.1763	0.0487	0.0500
3	315	0.1938	0.0405	0.0015	-0.0213	0.0005	0.0558	0.0040	-0.0411	0.0302
3	315	0.2357	0.0241	0.0016	0.0153	0.0014	0.0292	0.0095	-0.2190	0.0319
3	315	0.2995	-0.0188	0.0037	-0.0428	0.0026	0.1355	0.0201	-0.1825	0.0558
3	315	0.3493	-0.0635	0.0019	-0.0738	0.0048	0.2232	0.0293	-0.0715	0.0720
3	315	0.4000	-0.0900	0.0028	-0.0946	0.0068	0.3046	0.0497	0.1077	0.0550
3	315	0.4497	-0.1261	0.0041	-0.1411	0.0079	0.4050	0.0585	0.1614	0.0554
3	315	0.4997	-0.1580	0.0030	-0.1728	0.0098	0.4672	0.0683	0.1152	0.0635
3	315	0.5556	-0.1958	0.0021	-0.2331	0.0126	0.5976	0.0774	0.1425	0.0757
3	315	0.5995	-0.2266	0.0028	-0.2834	0.0140	0.5930	0.0933	-0.1346	0.0587
3	315	0.6498	-0.2577	0.0028	-0.3454	0.0160	0.6236	0.1105	-0.1455	0.0468
3	315	0.6890	-0.3097	0.0032	-0.3930	0.0186	0.6057	0.1207	0.0087	0.0512
3	315	0.7495	-0.3621	0.0029	-0.4704	0.0212	0.4899	0.1425	-0.1851	0.0532
3	315	0.7998	-0.3971	0.0029	-0.5347	0.0240	0.3424	0.1529	-0.1621	0.0540
3	315	0.8577	-0.4682	0.0025	-0.5975	0.0272	0.0766	0.1707	-0.1181	0.0423
3	315	0.9178	-0.5191	0.0024	-0.6870	0.0304	-0.2672	0.1889	-0.0909	0.0490
3	315	0.9729	-0.5502	0.0031	-0.7285	0.0334	-0.5676	0.2064	-0.0577	0.0461
4	315	0.2001	0.0671	0.0024	0.0064	0.0008	-0.0158	0.0051	0.2189	0.0469
4	315	0.2502	0.0239	0.0015	0.0089	0.0054	-0.0163	0.0117	0.3311	0.0896
4	315	0.3001	-0.0123	0.0036	0.0322	0.0062	-0.0208	0.0184	0.4916	0.1104
4	315	0.3502	-0.0587	0.0022	0.0464	0.0134	-0.0460	0.0279	0.4916	0.1098
4	315	0.4002	-0.0972	0.0032	0.0783	0.0212	-0.0437	0.0456	0.4847	0.0839
4	315	0.4500	-0.1394	0.0049	0.0977	0.0260	-0.0655	0.0590	0.2841	0.0533
4	315	0.5001	-0.1740	0.0041	0.1048	0.0291	-0.0338	0.0574	0.6553	0.0872
4	315	0.5560	-0.2150	0.0044	0.1114	0.0343	-0.0823	0.0695	0.4555	0.0960
4	315	0.6001	-0.2346	0.0043	0.1200	0.0392	-0.1402	0.0865	0.3217	0.0796
4	315	0.6501	-0.2838	0.0045	0.0961	0.0458	-0.2066	0.0982	0.3068	0.0628
4	315	0.6999	-0.3109	0.0033	0.0759	0.0497	-0.3335	0.1119	0.3591	0.0707
4	315	0.7500	-0.3578	0.0035	0.0726	0.0542	-0.5011	0.1291	0.5379	0.0840
4	315	0.8002	-0.4145	0.0037	0.0543	0.0586	-0.7822	0.1484	0.4524	0.0708
4	315	0.8582	-0.4703	0.0041	0.0399	0.0646	-1.1715	0.1724	0.2720	0.0657
4	315	0.9101	-0.5188	0.0038	0.0200	0.0699	-1.5636	0.1930	0.3592	0.0757
4	315	0.9728	-0.5273	0.0045	0.0483	0.0765	-1.9631	0.2205	0.7044	0.0712

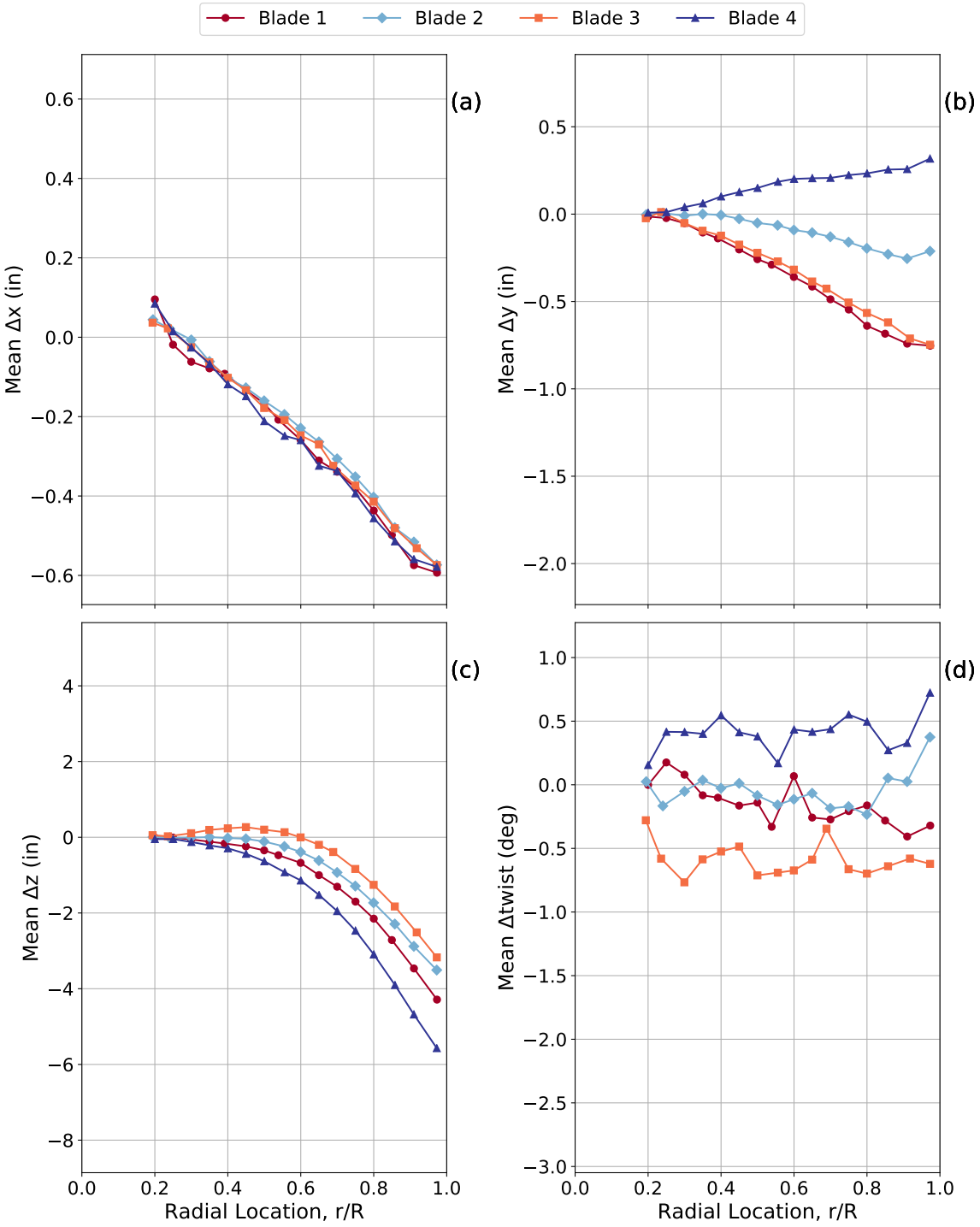


Figure 2.1-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0953	0.0014	-0.0141	0.0009	-0.0086	0.0031	-0.0010	0.0308
1	330.12	0.2499	-0.0188	0.0017	-0.0226	0.0033	-0.0080	0.0065	0.1756	0.0381
1	330.12	0.2998	-0.0619	0.0013	-0.0522	0.0033	-0.0577	0.0124	0.0792	0.0579
1	330.12	0.3498	-0.0785	0.0028	-0.1053	0.0057	-0.1170	0.0188	-0.0827	0.0422
1	330.12	0.3913	-0.0921	0.0019	-0.1389	0.0093	-0.1637	0.0283	-0.1016	0.0460
1	330.12	0.4496	-0.1335	0.0028	-0.2021	0.0112	-0.2407	0.0335	-0.1637	0.0396
1	330.12	0.4997	-0.1669	0.0027	-0.2580	0.0124	-0.3454	0.0429	-0.1402	0.0713
1	330.12	0.5387	-0.2077	0.0027	-0.2894	0.0140	-0.4740	0.0458	-0.3304	0.0496
1	330.12	0.5996	-0.2586	0.0023	-0.3598	0.0183	-0.6755	0.0569	0.0680	0.0572
1	330.12	0.6498	-0.3107	0.0027	-0.4147	0.0199	-1.0000	0.0626	-0.2578	0.0474
1	330.12	0.6998	-0.3388	0.0022	-0.4874	0.0222	-1.3065	0.0701	-0.2724	0.0502
1	330.12	0.7500	-0.3800	0.0026	-0.5461	0.0250	-1.6994	0.0775	-0.2070	0.0638
1	330.12	0.8001	-0.4367	0.0024	-0.6393	0.0284	-2.1498	0.0864	-0.1625	0.0613
1	330.12	0.8497	-0.4981	0.0025	-0.6844	0.0314	-2.7148	0.0935	-0.2813	0.0526
1	330.12	0.9102	-0.5742	0.0026	-0.7414	0.0341	-3.4650	0.1025	-0.4067	0.0433
1	330.12	0.9734	-0.5932	0.0032	-0.7531	0.0380	-4.2878	0.1107	-0.3206	0.0506
2	330.12	0.1949	0.0442	0.0018	-0.0029	0.0007	0.0056	0.0024	0.0246	0.0326
2	330.12	0.2405	0.0218	0.0019	0.0059	0.0030	-0.0125	0.0060	-0.1663	0.0344
2	330.12	0.2999	-0.0067	0.0016	-0.0091	0.0038	-0.0086	0.0115	-0.0518	0.0657
2	330.12	0.3498	-0.0612	0.0020	0.0007	0.0068	0.0036	0.0160	0.0364	0.0541
2	330.12	0.3998	-0.1028	0.0025	-0.0055	0.0117	-0.0200	0.0273	-0.0270	0.0632
2	330.12	0.4496	-0.1273	0.0031	-0.0268	0.0124	-0.0407	0.0304	0.0112	0.0649
2	330.12	0.4995	-0.1602	0.0035	-0.0507	0.0144	-0.1129	0.0382	-0.0847	0.0712
2	330.12	0.5551	-0.1946	0.0026	-0.0639	0.0187	-0.2429	0.0474	-0.1581	0.0673
2	330.12	0.5996	-0.2290	0.0028	-0.0911	0.0229	-0.3880	0.0558	-0.1140	0.0573
2	330.12	0.6497	-0.2636	0.0027	-0.1062	0.0239	-0.6144	0.0641	-0.0667	0.0540
2	330.12	0.6996	-0.3063	0.0028	-0.1295	0.0255	-0.9297	0.0748	-0.1850	0.0595
2	330.12	0.7495	-0.3517	0.0029	-0.1604	0.0287	-1.2888	0.0830	-0.1710	0.0704
2	330.12	0.7996	-0.4028	0.0028	-0.1957	0.0321	-1.7309	0.0929	-0.2337	0.0562
2	330.12	0.8578	-0.4798	0.0028	-0.2294	0.0364	-2.2916	0.1034	0.0526	0.0500
2	330.12	0.9100	-0.5159	0.0028	-0.2545	0.0391	-2.8805	0.1135	0.0251	0.0489
2	330.12	0.9727	-0.5735	0.0035	-0.2121	0.0432	-3.5069	0.1265	0.3746	0.0534
3	330.12	0.1938	0.0367	0.0015	-0.0235	0.0009	0.0550	0.0035	-0.2790	0.0365
3	330.12	0.2357	0.0223	0.0020	0.0119	0.0020	0.0257	0.0052	-0.5804	0.0262
3	330.12	0.2995	-0.0254	0.0020	-0.0512	0.0038	0.1064	0.0122	-0.7667	0.0659
3	330.12	0.3493	-0.0633	0.0017	-0.0949	0.0064	0.1936	0.0165	-0.5861	0.0456
3	330.12	0.4000	-0.1022	0.0025	-0.1232	0.0105	0.2357	0.0270	-0.5244	0.0707
3	330.12	0.4497	-0.1335	0.0030	-0.1747	0.0127	0.2677	0.0327	-0.4856	0.0469
3	330.12	0.4997	-0.1782	0.0032	-0.2214	0.0137	0.2002	0.0395	-0.7121	0.0566
3	330.12	0.5556	-0.2089	0.0020	-0.2707	0.0184	0.1340	0.0435	-0.6906	0.0850
3	330.12	0.5995	-0.2472	0.0026	-0.3179	0.0209	-0.0028	0.0532	-0.6732	0.0552
3	330.12	0.6498	-0.2701	0.0026	-0.3855	0.0245	-0.2004	0.0600	-0.5881	0.0469
3	330.12	0.6890	-0.3240	0.0025	-0.4265	0.0271	-0.3899	0.0644	-0.3451	0.0633
3	330.12	0.7495	-0.3737	0.0025	-0.5058	0.0318	-0.8372	0.0753	-0.6637	0.0596
3	330.12	0.7998	-0.4144	0.0025	-0.5655	0.0361	-1.2569	0.0816	-0.6981	0.0548
3	330.12	0.8577	-0.4811	0.0030	-0.6196	0.0405	-1.8282	0.0918	-0.6404	0.0462
3	330.12	0.9178	-0.5315	0.0033	-0.7118	0.0455	-2.5125	0.1035	-0.5799	0.0455
3	330.12	0.9729	-0.5740	0.0046	-0.7473	0.0501	-3.1720	0.1160	-0.6216	0.0484
4	330.12	0.2001	0.0846	0.0018	0.0081	0.0010	-0.0479	0.0029	0.1550	0.0596
4	330.12	0.2502	0.0149	0.0023	0.0111	0.0019	-0.0480	0.0109	0.4162	0.0448
4	330.12	0.3001	-0.0260	0.0023	0.0399	0.0046	-0.1247	0.0120	0.4144	0.1112
4	330.12	0.3502	-0.0674	0.0018	0.0617	0.0065	-0.2145	0.0176	0.4004	0.0778
4	330.12	0.4002	-0.1186	0.0033	0.1010	0.0111	-0.2920	0.0296	0.5456	0.0810
4	330.12	0.4500	-0.1486	0.0048	0.1263	0.0127	-0.4371	0.0343	0.4122	0.1017
4	330.12	0.5001	-0.2114	0.0033	0.1496	0.0168	-0.6337	0.0431	0.3793	0.0854
4	330.12	0.5560	-0.2484	0.0040	0.1851	0.0201	-0.9239	0.0542	0.1694	0.0985
4	330.12	0.6001	-0.2594	0.0028	0.2014	0.0230	-1.1415	0.0594	0.4339	0.0885
4	330.12	0.6501	-0.3238	0.0026	0.2053	0.0261	-1.5236	0.0676	0.4160	0.0829
4	330.12	0.6999	-0.3372	0.0026	0.2072	0.0299	-1.9506	0.0765	0.4370	0.0847
4	330.12	0.7500	-0.3933	0.0031	0.2234	0.0340	-2.4675	0.0833	0.5515	0.0804
4	330.12	0.8002	-0.4560	0.0030	0.2330	0.0378	-3.0956	0.0922	0.4956	0.0909
4	330.12	0.8582	-0.5143	0.0036	0.2550	0.0425	-3.9032	0.1013	0.2714	0.0823
4	330.12	0.9101	-0.5591	0.0039	0.2575	0.0466	-4.6813	0.1114	0.3285	0.0821
4	330.12	0.9728	-0.5784	0.0054	0.3174	0.0519	-5.5702	0.1250	0.7235	0.0873

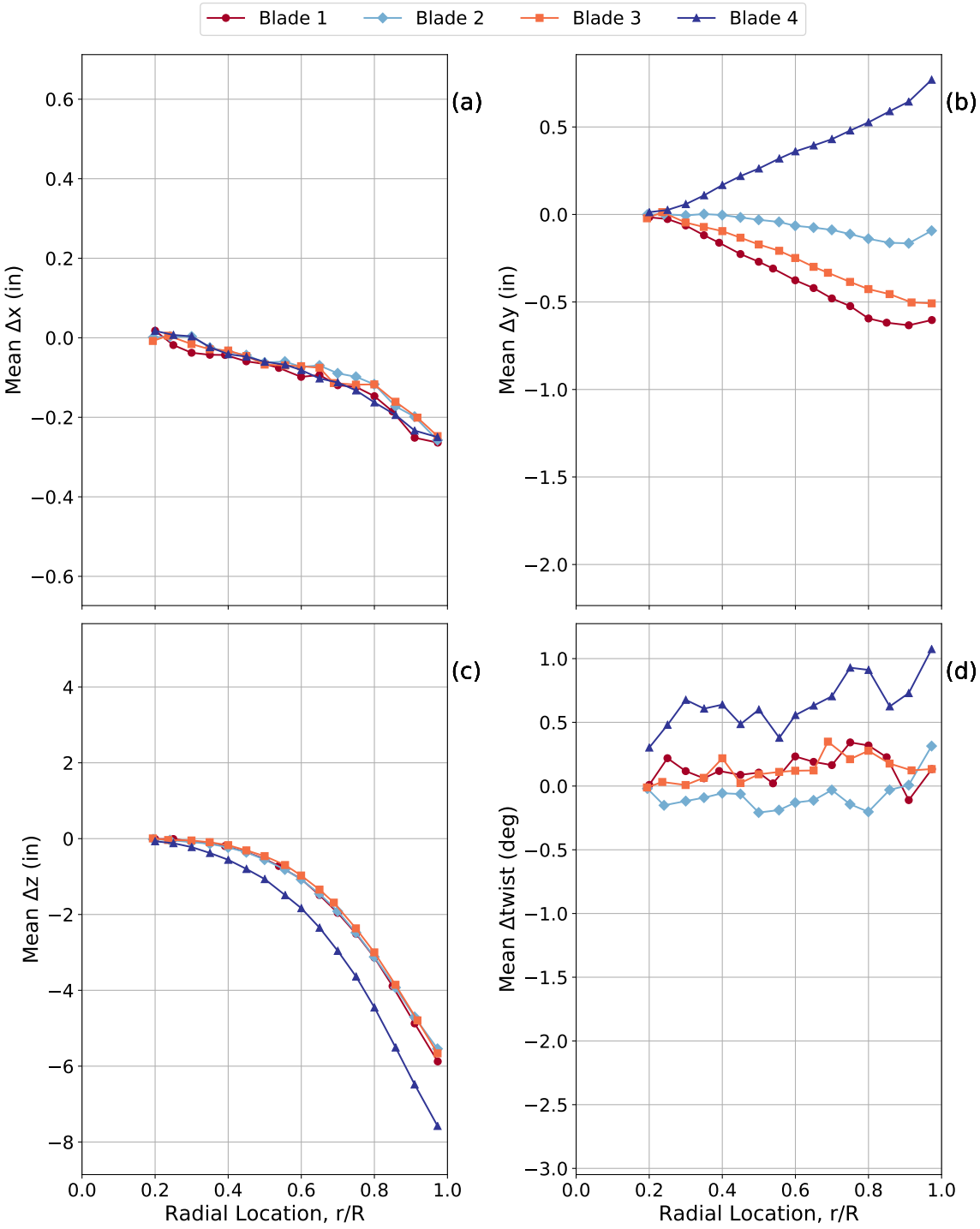


Figure 2.1-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0177	0.0014	-0.0163	0.0008	-0.0104	0.0027	0.0091	0.0255
1	344.88	0.2499	-0.0183	0.0012	-0.0261	0.0023	-0.0101	0.0058	0.2186	0.0419
1	344.88	0.2998	-0.0377	0.0012	-0.0628	0.0025	-0.0746	0.0087	0.1171	0.0506
1	344.88	0.3498	-0.0428	0.0025	-0.1186	0.0079	-0.1307	0.0150	0.0608	0.0432
1	344.88	0.3913	-0.0432	0.0021	-0.1614	0.0085	-0.1956	0.0208	0.1182	0.0455
1	344.88	0.4496	-0.0592	0.0019	-0.2261	0.0102	-0.3539	0.0271	0.0879	0.0462
1	344.88	0.4997	-0.0660	0.0023	-0.2702	0.0131	-0.5353	0.0316	0.1055	0.0504
1	344.88	0.5387	-0.0758	0.0017	-0.3090	0.0134	-0.7219	0.0375	0.0211	0.0485
1	344.88	0.5996	-0.0983	0.0019	-0.3760	0.0167	-1.0649	0.0441	0.2324	0.0532
1	344.88	0.6498	-0.0937	0.0020	-0.4206	0.0192	-1.4881	0.0519	0.1898	0.0611
1	344.88	0.6998	-0.1193	0.0021	-0.4797	0.0213	-1.9586	0.0576	0.1643	0.0452
1	344.88	0.7500	-0.1237	0.0023	-0.5238	0.0247	-2.5099	0.0638	0.3424	0.0583
1	344.88	0.8001	-0.1469	0.0024	-0.5943	0.0273	-3.1363	0.0711	0.3185	0.0557
1	344.88	0.8497	-0.1852	0.0032	-0.6183	0.0296	-3.8891	0.0772	0.2263	0.0455
1	344.88	0.9102	-0.2514	0.0030	-0.6331	0.0341	-4.8736	0.0860	-0.1103	0.0567
1	344.88	0.9734	-0.2637	0.0041	-0.6032	0.0380	-5.8757	0.0957	0.1331	0.0761
2	344.88	0.1949	0.0012	0.0012	-0.0008	0.0007	-0.0162	0.0025	-0.0200	0.0212
2	344.88	0.2405	0.0031	0.0012	0.0011	0.0018	-0.0399	0.0055	-0.1512	0.0420
2	344.88	0.2999	0.0033	0.0009	-0.0054	0.0026	-0.0930	0.0091	-0.1179	0.0533
2	344.88	0.3498	-0.0247	0.0012	0.0023	0.0039	-0.1358	0.0145	-0.0910	0.0429
2	344.88	0.3998	-0.0350	0.0018	-0.0035	0.0061	-0.2331	0.0229	-0.0563	0.0477
2	344.88	0.4496	-0.0436	0.0015	-0.0169	0.0070	-0.3594	0.0277	-0.0627	0.0614
2	344.88	0.4995	-0.0622	0.0021	-0.0306	0.0085	-0.5548	0.0388	-0.2078	0.0570
2	344.88	0.5551	-0.0598	0.0016	-0.0426	0.0104	-0.8137	0.0415	-0.1886	0.0421
2	344.88	0.5996	-0.0732	0.0018	-0.0648	0.0122	-1.0754	0.0460	-0.1296	0.0497
2	344.88	0.6497	-0.0697	0.0018	-0.0749	0.0127	-1.4549	0.0518	-0.1122	0.0410
2	344.88	0.6996	-0.0894	0.0022	-0.0880	0.0154	-1.9152	0.0582	-0.0310	0.0518
2	344.88	0.7495	-0.0981	0.0025	-0.1121	0.0175	-2.4797	0.0649	-0.1425	0.0520
2	344.88	0.7996	-0.1170	0.0027	-0.1388	0.0192	-3.1187	0.0709	-0.2023	0.0497
2	344.88	0.8578	-0.1724	0.0026	-0.1619	0.0213	-3.9266	0.0775	-0.0301	0.0542
2	344.88	0.9100	-0.1984	0.0028	-0.1648	0.0239	-4.7017	0.0830	0.0072	0.0600
2	344.88	0.9727	-0.2574	0.0037	-0.0928	0.0266	-5.5423	0.0883	0.3138	0.0816
3	344.88	0.1938	-0.0080	0.0018	-0.0219	0.0006	0.0057	0.0027	-0.0110	0.0335
3	344.88	0.2357	0.0052	0.0015	0.0132	0.0025	-0.0367	0.0048	0.0321	0.0328
3	344.88	0.2995	-0.0157	0.0013	-0.0460	0.0043	-0.0485	0.0102	0.0081	0.0669
3	344.88	0.3493	-0.0289	0.0016	-0.0715	0.0074	-0.0936	0.0137	0.0643	0.0746
3	344.88	0.4000	-0.0321	0.0020	-0.0952	0.0121	-0.1722	0.0230	0.2178	0.0654
3	344.88	0.4497	-0.0461	0.0017	-0.1327	0.0131	-0.3098	0.0297	0.0237	0.0627
3	344.88	0.4997	-0.0674	0.0018	-0.1715	0.0169	-0.4606	0.0379	0.0922	0.0654
3	344.88	0.5556	-0.0697	0.0022	-0.2076	0.0205	-0.6959	0.0449	0.1110	0.0512
3	344.88	0.5995	-0.0716	0.0020	-0.2488	0.0226	-0.9727	0.0519	0.1202	0.0553
3	344.88	0.6498	-0.0755	0.0021	-0.2992	0.0258	-1.3443	0.0573	0.1225	0.0756
3	344.88	0.6890	-0.1139	0.0027	-0.3330	0.0286	-1.6878	0.0641	0.3484	0.0592
3	344.88	0.7495	-0.1179	0.0030	-0.3853	0.0318	-2.3660	0.0728	0.2108	0.0668
3	344.88	0.7998	-0.1172	0.0029	-0.4265	0.0349	-2.9996	0.0808	0.2771	0.0574
3	344.88	0.8577	-0.1609	0.0039	-0.4551	0.0388	-3.8541	0.0895	0.1764	0.0566
3	344.88	0.9178	-0.2008	0.0034	-0.5026	0.0425	-4.7921	0.1006	0.1230	0.0667
3	344.88	0.9729	-0.2473	0.0053	-0.5078	0.0462	-5.6623	0.1065	0.1333	0.0933
4	344.88	0.2001	0.0173	0.0013	0.0129	0.0010	-0.0698	0.0038	0.3017	0.0197
4	344.88	0.2502	0.0071	0.0011	0.0258	0.0030	-0.1209	0.0060	0.4801	0.0359
4	344.88	0.3001	0.0036	0.0017	0.0590	0.0047	-0.2234	0.0107	0.6763	0.0439
4	344.88	0.3502	-0.0237	0.0021	0.1093	0.0102	-0.3796	0.0180	0.6074	0.0433
4	344.88	0.4002	-0.0414	0.0017	0.1680	0.0135	-0.5590	0.0259	0.6389	0.0412
4	344.88	0.4500	-0.0474	0.0021	0.2195	0.0160	-0.8006	0.0329	0.4859	0.0586
4	344.88	0.5001	-0.0604	0.0018	0.2625	0.0190	-1.0678	0.0394	0.5997	0.0408
4	344.88	0.5560	-0.0678	0.0020	0.3196	0.0223	-1.4918	0.0489	0.3785	0.0479
4	344.88	0.6001	-0.0813	0.0018	0.3607	0.0261	-1.8351	0.0545	0.5570	0.0550
4	344.88	0.6501	-0.1024	0.0022	0.3942	0.0288	-2.3511	0.0614	0.6313	0.0371
4	344.88	0.6999	-0.1124	0.0018	0.4302	0.0314	-2.9615	0.0669	0.7043	0.0471
4	344.88	0.7500	-0.1325	0.0025	0.4796	0.0356	-3.6382	0.0752	0.9288	0.0386
4	344.88	0.8002	-0.1627	0.0025	0.5266	0.0385	-4.4545	0.0821	0.9111	0.0619
4	344.88	0.8582	-0.1942	0.0032	0.5899	0.0428	-5.5085	0.0898	0.6250	0.0546
4	344.88	0.9101	-0.2334	0.0036	0.6447	0.0464	-6.4821	0.0984	0.7290	0.0575
4	344.88	0.9728	-0.2499	0.0046	0.7698	0.0510	-7.5772	0.1100	1.0746	0.0681

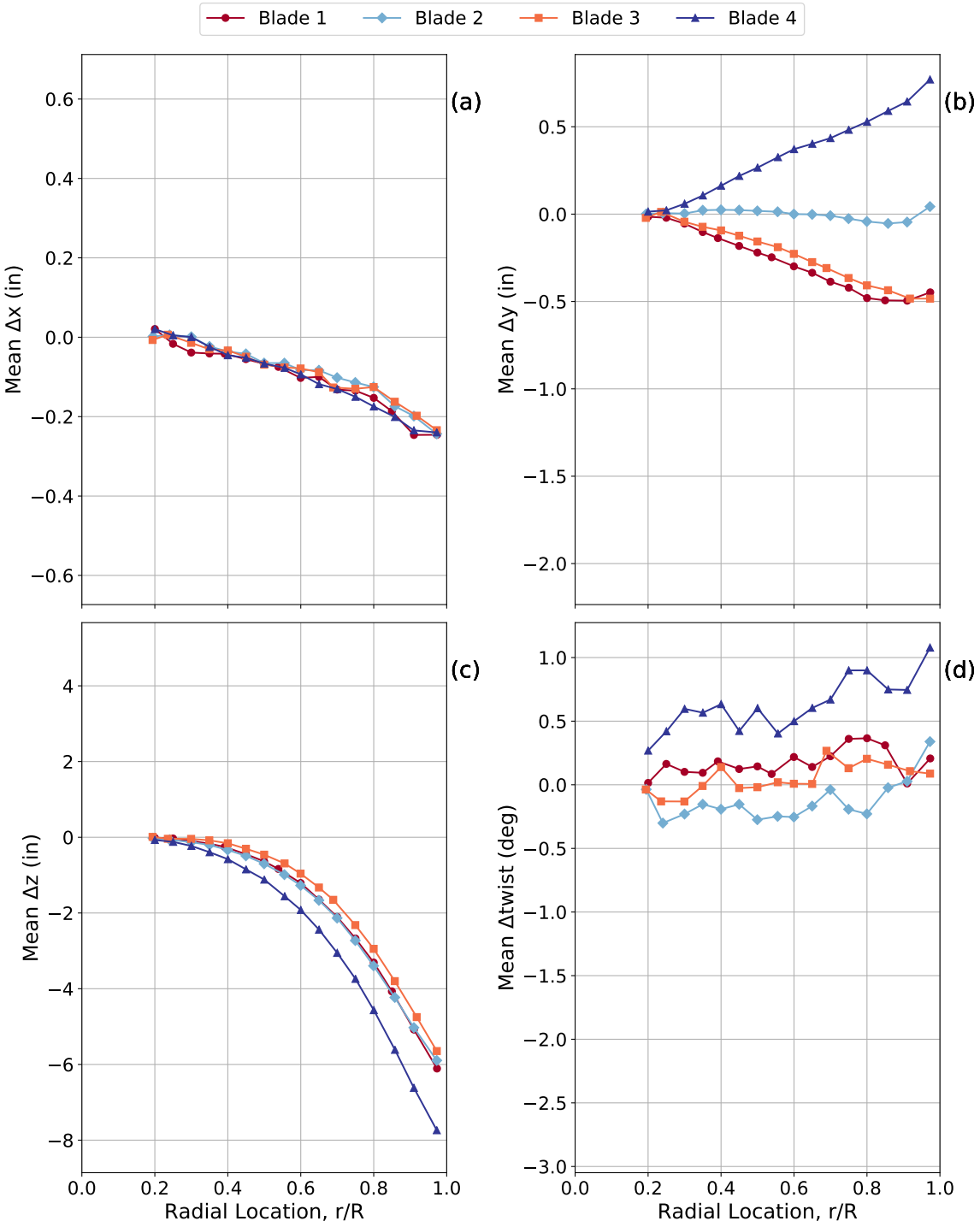


Figure 2.1-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0207	0.0010	-0.0150	0.0006	-0.0155	0.0028	0.0146	0.0211
1	350.16	0.2499	-0.0166	0.0011	-0.0208	0.0021	-0.0318	0.0069	0.1639	0.0394
1	350.16	0.2998	-0.0386	0.0010	-0.0544	0.0032	-0.0962	0.0109	0.1015	0.0489
1	350.16	0.3498	-0.0410	0.0011	-0.1026	0.0062	-0.1693	0.0176	0.0942	0.0440
1	350.16	0.3913	-0.0416	0.0016	-0.1373	0.0090	-0.2535	0.0261	0.1842	0.0543
1	350.16	0.4496	-0.0552	0.0015	-0.1821	0.0121	-0.4464	0.0306	0.1239	0.0522
1	350.16	0.4997	-0.0672	0.0019	-0.2200	0.0124	-0.6367	0.0345	0.1444	0.0507
1	350.16	0.5387	-0.0747	0.0017	-0.2471	0.0144	-0.8365	0.0424	0.0849	0.0450
1	350.16	0.5996	-0.1025	0.0017	-0.2990	0.0177	-1.2080	0.0550	0.2183	0.0470
1	350.16	0.6498	-0.0999	0.0014	-0.3356	0.0207	-1.6445	0.0637	0.1400	0.0505
1	350.16	0.6998	-0.1319	0.0014	-0.3867	0.0233	-2.1053	0.0711	0.2243	0.0465
1	350.16	0.7500	-0.1347	0.0018	-0.4212	0.0254	-2.6742	0.0789	0.3607	0.0462
1	350.16	0.8001	-0.1527	0.0022	-0.4804	0.0293	-3.3095	0.0872	0.3655	0.0528
1	350.16	0.8497	-0.1864	0.0025	-0.4936	0.0317	-4.0699	0.0990	0.3103	0.0506
1	350.16	0.9102	-0.2462	0.0028	-0.4954	0.0343	-5.0797	0.1110	0.0100	0.0514
1	350.16	0.9734	-0.2457	0.0029	-0.4478	0.0378	-6.1080	0.1244	0.2069	0.0608
2	350.16	0.1949	0.0019	0.0011	0.0011	0.0006	-0.0242	0.0024	-0.0364	0.0301
2	350.16	0.2405	0.0059	0.0009	0.0057	0.0011	-0.0653	0.0060	-0.3011	0.0388
2	350.16	0.2999	0.0011	0.0016	0.0031	0.0025	-0.1294	0.0093	-0.2302	0.0660
2	350.16	0.3498	-0.0232	0.0011	0.0222	0.0040	-0.2031	0.0175	-0.1531	0.0676
2	350.16	0.3998	-0.0360	0.0019	0.0246	0.0062	-0.3352	0.0261	-0.1922	0.0547
2	350.16	0.4496	-0.0419	0.0016	0.0230	0.0076	-0.4905	0.0314	-0.1534	0.0720
2	350.16	0.4995	-0.0651	0.0017	0.0184	0.0088	-0.7014	0.0401	-0.2746	0.0616
2	350.16	0.5551	-0.0652	0.0017	0.0135	0.0112	-0.9868	0.0524	-0.2484	0.0446
2	350.16	0.5996	-0.0827	0.0022	0.0002	0.0138	-1.2723	0.0572	-0.2537	0.0485
2	350.16	0.6497	-0.0832	0.0024	-0.0016	0.0151	-1.6655	0.0651	-0.1674	0.0497
2	350.16	0.6996	-0.1019	0.0016	-0.0089	0.0175	-2.1345	0.0706	-0.0384	0.0611
2	350.16	0.7495	-0.1140	0.0019	-0.0261	0.0201	-2.7275	0.0795	-0.1923	0.0516
2	350.16	0.7996	-0.1253	0.0022	-0.0423	0.0230	-3.3956	0.0838	-0.2290	0.0475
2	350.16	0.8578	-0.1737	0.0028	-0.0535	0.0260	-4.2307	0.0933	-0.0229	0.0486
2	350.16	0.9100	-0.1986	0.0028	-0.0455	0.0290	-5.0272	0.1005	0.0273	0.0491
2	350.16	0.9727	-0.2434	0.0041	0.0431	0.0325	-5.8946	0.1109	0.3393	0.0576
3	350.16	0.1938	-0.0069	0.0011	-0.0216	0.0006	0.0101	0.0022	-0.0368	0.0222
3	350.16	0.2357	0.0063	0.0013	0.0126	0.0011	-0.0399	0.0043	-0.1305	0.0332
3	350.16	0.2995	-0.0141	0.0015	-0.0436	0.0035	-0.0420	0.0089	-0.1314	0.0519
3	350.16	0.3493	-0.0303	0.0011	-0.0725	0.0045	-0.0807	0.0150	-0.0094	0.0465
3	350.16	0.4000	-0.0334	0.0026	-0.0934	0.0081	-0.1582	0.0233	0.1393	0.0436
3	350.16	0.4497	-0.0491	0.0015	-0.1238	0.0082	-0.3033	0.0306	-0.0260	0.0470
3	350.16	0.4997	-0.0691	0.0023	-0.1566	0.0109	-0.4595	0.0392	-0.0191	0.0481
3	350.16	0.5556	-0.0759	0.0014	-0.1891	0.0125	-0.6911	0.0481	0.0197	0.0526
3	350.16	0.5995	-0.0787	0.0016	-0.2275	0.0144	-0.9599	0.0536	0.0081	0.0453
3	350.16	0.6498	-0.0880	0.0017	-0.2747	0.0169	-1.3267	0.0594	0.0065	0.0523
3	350.16	0.6890	-0.1266	0.0015	-0.3087	0.0183	-1.6521	0.0628	0.2672	0.0556
3	350.16	0.7495	-0.1299	0.0018	-0.3657	0.0211	-2.3195	0.0714	0.1302	0.0542
3	350.16	0.7998	-0.1255	0.0023	-0.4077	0.0239	-2.9465	0.0779	0.2042	0.0482
3	350.16	0.8577	-0.1625	0.0027	-0.4357	0.0260	-3.8000	0.0846	0.1579	0.0598
3	350.16	0.9178	-0.1977	0.0028	-0.4834	0.0292	-4.7501	0.0931	0.1069	0.0492
3	350.16	0.9729	-0.2342	0.0039	-0.4838	0.0322	-5.6469	0.1025	0.0877	0.0609
4	350.16	0.2001	0.0204	0.0011	0.0140	0.0008	-0.0720	0.0037	0.2683	0.0210
4	350.16	0.2502	0.0047	0.0010	0.0218	0.0025	-0.1212	0.0071	0.4201	0.0383
4	350.16	0.3001	0.0003	0.0010	0.0593	0.0040	-0.2297	0.0124	0.5965	0.0453
4	350.16	0.3502	-0.0244	0.0016	0.1068	0.0072	-0.3954	0.0207	0.5664	0.0760
4	350.16	0.4002	-0.0454	0.0016	0.1626	0.0115	-0.5790	0.0311	0.6333	0.0609
4	350.16	0.4500	-0.0516	0.0016	0.2185	0.0139	-0.8484	0.0371	0.4226	0.0563
4	350.16	0.5001	-0.0665	0.0014	0.2661	0.0150	-1.1188	0.0432	0.6018	0.0490
4	350.16	0.5560	-0.0772	0.0014	0.3258	0.0192	-1.5593	0.0544	0.4030	0.0391
4	350.16	0.6001	-0.0936	0.0015	0.3718	0.0222	-1.9210	0.0630	0.4996	0.0457
4	350.16	0.6501	-0.1182	0.0016	0.4025	0.0255	-2.4409	0.0686	0.6037	0.0557
4	350.16	0.6999	-0.1306	0.0017	0.4349	0.0288	-3.0546	0.0789	0.6698	0.0462
4	350.16	0.7500	-0.1501	0.0018	0.4824	0.0310	-3.7406	0.0853	0.8992	0.0493
4	350.16	0.8002	-0.1745	0.0030	0.5283	0.0342	-4.5671	0.0903	0.8991	0.0557
4	350.16	0.8582	-0.2010	0.0033	0.5905	0.0382	-5.6145	0.1001	0.7490	0.0579
4	350.16	0.9101	-0.2347	0.0035	0.6443	0.0413	-6.6197	0.1087	0.7454	0.0550
4	350.16	0.9728	-0.2398	0.0042	0.7703	0.0464	-7.7383	0.1220	1.0778	0.0566

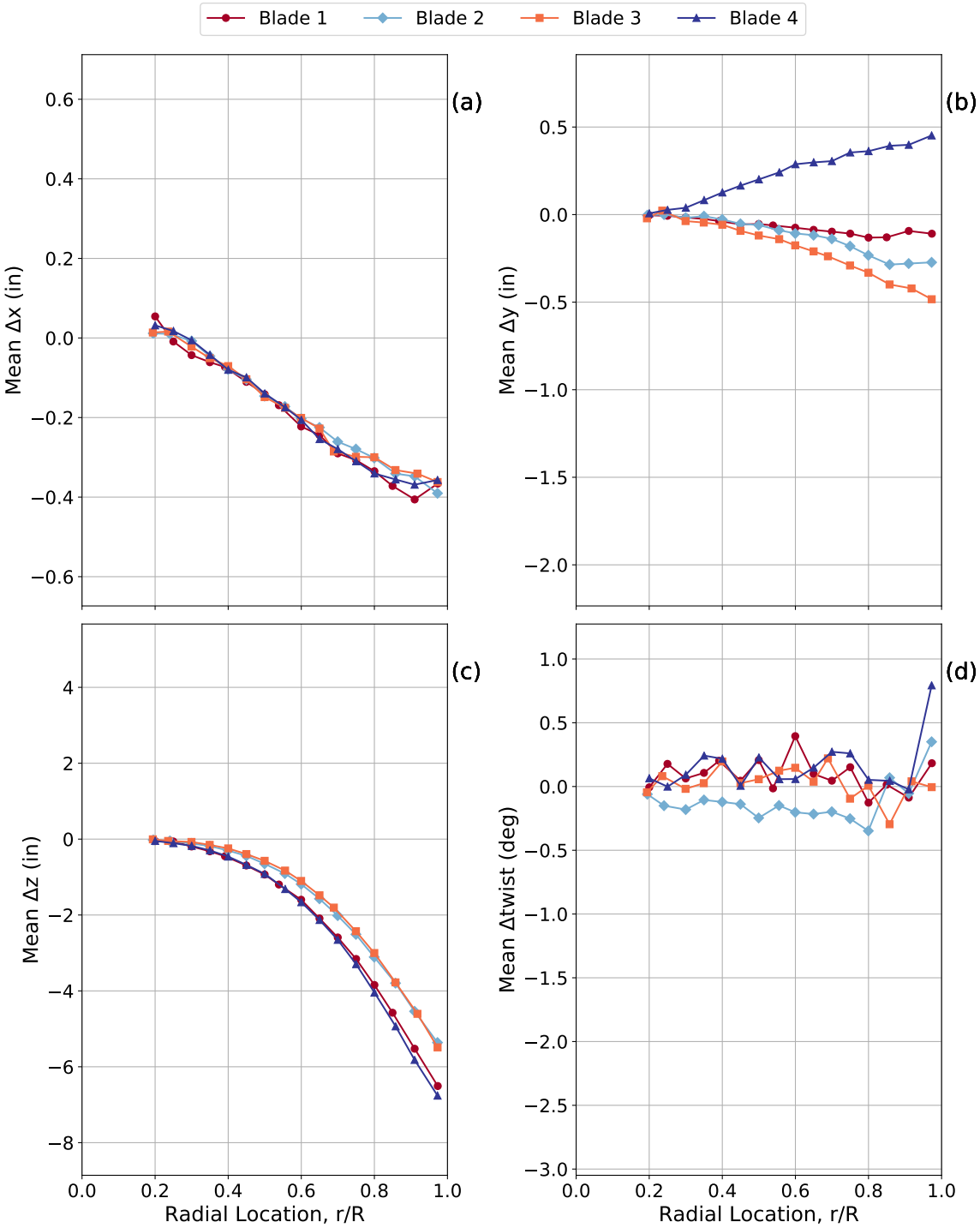


Figure 2.1-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -1.7°$ NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Table 2.1-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -1.7°
NFAC run 38, points 19 to 23. BD run 17, points 562 to 601.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0542	0.0026	-0.0042	0.0020	-0.0519	0.0056	-0.0063	0.0495
1	355.08	0.2499	-0.0089	0.0021	-0.0067	0.0042	-0.0622	0.0109	0.1775	0.0904
1	355.08	0.2998	-0.0431	0.0015	-0.0164	0.0078	-0.1938	0.0178	0.0632	0.1076
1	355.08	0.3498	-0.0609	0.0020	-0.0250	0.0141	-0.3215	0.0302	0.1069	0.0990
1	355.08	0.3913	-0.0730	0.0023	-0.0370	0.0196	-0.4507	0.0412	0.2020	0.0859
1	355.08	0.4496	-0.1103	0.0028	-0.0558	0.0251	-0.6952	0.0529	0.0452	0.0846
1	355.08	0.4997	-0.1416	0.0023	-0.0538	0.0302	-0.9328	0.0641	0.2073	0.0908
1	355.08	0.5387	-0.1690	0.0024	-0.0618	0.0345	-1.1965	0.0730	-0.0148	0.0866
1	355.08	0.5996	-0.2225	0.0027	-0.0750	0.0414	-1.5973	0.0851	0.3949	0.0891
1	355.08	0.6498	-0.2440	0.0027	-0.0871	0.0471	-2.0898	0.0964	0.0984	0.0859
1	355.08	0.6998	-0.2901	0.0028	-0.0974	0.0525	-2.5920	0.1085	0.0455	0.0927
1	355.08	0.7500	-0.3072	0.0029	-0.1086	0.0584	-3.1585	0.1172	0.1514	0.0924
1	355.08	0.8001	-0.3349	0.0038	-0.1315	0.0650	-3.8439	0.1307	-0.1266	0.0945
1	355.08	0.8497	-0.3719	0.0040	-0.1298	0.0699	-4.5757	0.1418	0.0143	0.0958
1	355.08	0.9102	-0.4059	0.0048	-0.0934	0.0761	-5.5243	0.1567	-0.0871	0.1068
1	355.08	0.9734	-0.3659	0.0056	-0.1091	0.0843	-6.5075	0.1750	0.1827	0.1124
2	355.08	0.1949	0.0117	0.0022	-0.0032	0.0017	-0.0218	0.0043	-0.0605	0.0403
2	355.08	0.2405	0.0102	0.0019	0.0002	0.0035	-0.0472	0.0072	-0.1504	0.0612
2	355.08	0.2999	-0.0076	0.0017	-0.0185	0.0059	-0.1141	0.0132	-0.1809	0.0833
2	355.08	0.3498	-0.0457	0.0019	-0.0090	0.0109	-0.1849	0.0216	-0.1055	0.0620
2	355.08	0.3998	-0.0789	0.0023	-0.0280	0.0163	-0.3004	0.0322	-0.1210	0.0657
2	355.08	0.4496	-0.1042	0.0027	-0.0528	0.0205	-0.4415	0.0393	-0.1385	0.0629
2	355.08	0.4995	-0.1460	0.0025	-0.0597	0.0242	-0.6491	0.0475	-0.2465	0.0668
2	355.08	0.5551	-0.1723	0.0024	-0.0891	0.0282	-0.9075	0.0570	-0.1487	0.0745
2	355.08	0.5996	-0.2029	0.0025	-0.1076	0.0312	-1.1869	0.0629	-0.2023	0.0754
2	355.08	0.6497	-0.2249	0.0025	-0.1176	0.0357	-1.5717	0.0704	-0.2159	0.0698
2	355.08	0.6996	-0.2607	0.0025	-0.1384	0.0394	-2.0159	0.0773	-0.1978	0.0721
2	355.08	0.7495	-0.2793	0.0028	-0.1802	0.0436	-2.5101	0.0844	-0.2522	0.0673
2	355.08	0.7996	-0.3016	0.0032	-0.2324	0.0466	-3.1084	0.0914	-0.3480	0.0676
2	355.08	0.8578	-0.3410	0.0032	-0.2854	0.0518	-3.7962	0.1004	0.0687	0.0772
2	355.08	0.9100	-0.3477	0.0038	-0.2796	0.0556	-4.5392	0.1092	-0.0546	0.1525
2	355.08	0.9727	-0.3904	0.0059	-0.2727	0.0607	-5.3620	0.1203	0.3507	0.0790
3	355.08	0.1938	0.0137	0.0028	-0.0213	0.0019	-0.0057	0.0049	-0.0453	0.0417
3	355.08	0.2357	0.0161	0.0018	0.0226	0.0032	-0.0487	0.0064	0.0814	0.0732
3	355.08	0.2995	-0.0216	0.0012	-0.0370	0.0070	-0.0746	0.0134	-0.0183	0.0947
3	355.08	0.3493	-0.0508	0.0018	-0.0455	0.0125	-0.1517	0.0222	0.0261	0.0957
3	355.08	0.4000	-0.0707	0.0020	-0.0579	0.0190	-0.2446	0.0317	0.1964	0.0840
3	355.08	0.4497	-0.1037	0.0021	-0.0929	0.0230	-0.3937	0.0399	0.0263	0.0761
3	355.08	0.4997	-0.1486	0.0021	-0.1195	0.0281	-0.5720	0.0476	0.0572	0.0838
3	355.08	0.5556	-0.1757	0.0023	-0.1403	0.0338	-0.8295	0.0586	0.1241	0.0746
3	355.08	0.5995	-0.2009	0.0024	-0.1757	0.0382	-1.1018	0.0646	0.1469	0.0760
3	355.08	0.6498	-0.2276	0.0024	-0.2102	0.0427	-1.4806	0.0733	0.0379	0.0858
3	355.08	0.6890	-0.2853	0.0022	-0.2381	0.0463	-1.8046	0.0795	0.2207	0.0802
3	355.08	0.7495	-0.2987	0.0024	-0.2907	0.0523	-2.4269	0.0896	-0.0954	0.0923
3	355.08	0.7998	-0.2998	0.0027	-0.3318	0.0571	-3.0022	0.0995	0.0066	0.0750
3	355.08	0.8577	-0.3320	0.0034	-0.3990	0.0637	-3.7755	0.1091	-0.2959	0.0990
3	355.08	0.9178	-0.3410	0.0033	-0.4217	0.0699	-4.6048	0.1190	0.0406	0.1803
3	355.08	0.9729	-0.3621	0.0055	-0.4834	0.0764	-5.4886	0.1290	-0.0050	0.1091
4	355.08	0.2001	0.0317	0.0026	0.0071	0.0016	-0.0475	0.0046	0.0644	0.0492
4	355.08	0.2502	0.0175	0.0014	0.0269	0.0037	-0.1076	0.0080	-0.0012	0.0742
4	355.08	0.3001	-0.0058	0.0012	0.0390	0.0053	-0.1783	0.0135	0.0918	0.1034
4	355.08	0.3502	-0.0426	0.0015	0.0824	0.0096	-0.2977	0.0217	0.2424	0.0920
4	355.08	0.4002	-0.0800	0.0019	0.1262	0.0144	-0.4603	0.0323	0.2173	0.0836
4	355.08	0.4500	-0.0992	0.0024	0.1655	0.0180	-0.6800	0.0398	0.0056	0.0792
4	355.08	0.5001	-0.1396	0.0021	0.2010	0.0213	-0.9169	0.0490	0.2279	0.0829
4	355.08	0.5560	-0.1746	0.0019	0.2412	0.0262	-1.3161	0.0588	0.0576	0.0828
4	355.08	0.6001	-0.2060	0.0019	0.2875	0.0297	-1.6635	0.0663	0.0585	0.0852
4	355.08	0.6501	-0.2542	0.0022	0.2981	0.0337	-2.1314	0.0757	0.1478	0.0896
4	355.08	0.6999	-0.2794	0.0024	0.3053	0.0379	-2.6548	0.0848	0.2721	0.0867
4	355.08	0.7500	-0.3099	0.0027	0.3546	0.0419	-3.2960	0.0929	0.2597	0.0906
4	355.08	0.8002	-0.3406	0.0035	0.3622	0.0463	-4.0440	0.1024	0.0523	0.0940
4	355.08	0.8582	-0.3557	0.0039	0.3929	0.0504	-4.9346	0.1116	0.0443	0.0882
4	355.08	0.9101	-0.3688	0.0046	0.3983	0.0561	-5.8189	0.1213	-0.0223	0.1113
4	355.08	0.9728	-0.3570	0.0056	0.4518	0.0602	-6.7606	0.1295	0.7933	0.1101

2.2 Run 38, Point 27

2.2.1 Pitch, Flap, and Lag

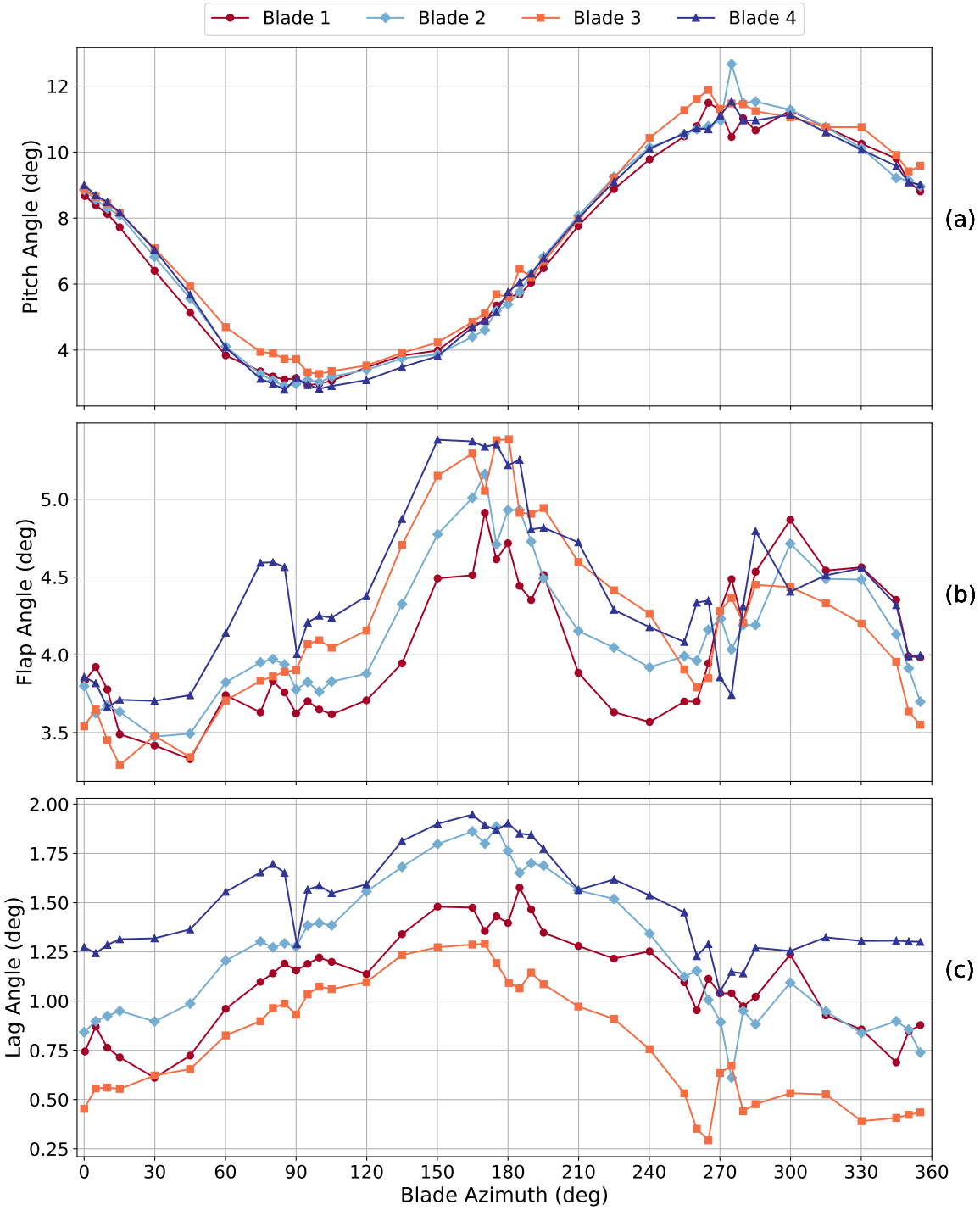


Figure 2.2-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	8.6682	3.8345	0.7442	0.0528	0.0722	0.0364
4.92	8.3916	3.9219	0.8703	0.0795	0.0774	0.0429
9.84	8.1270	3.7769	0.7629	0.0623	0.0561	0.0329
15.12	7.7210	3.4891	0.7145	0.0908	0.0679	0.0333
29.88	6.4056	3.4170	0.6104	0.0589	0.0598	0.0288
45	5.1331	3.3294	0.7233	0.0598	0.0664	0.0208
60.12	3.8393	3.7401	0.9606	0.0279	0.0532	0.0377
74.88	3.3565	3.6306	1.0979	0.0444	0.0339	0.0229
80.16	3.1983	3.8303	1.1407	0.0343	0.0291	0.0168
85.08	3.1024	3.7581	1.1905	0.0620	0.0477	0.0339
90	3.1493	3.6235	1.1557	0.0713	0.0462	0.0250
94.92	2.9369	3.7015	1.1889	0.0450	0.0390	0.0294
99.84	2.9791	3.6483	1.2209	0.0353	0.0322	0.0430
105.12	3.0694	3.6175	1.1992	0.0279	0.0479	0.0443
119.88	3.4735	3.7071	1.1372	0.0483	0.1020	0.0477
135	3.8328	3.9454	1.3395	0.0514	0.1498	0.0481
150.12	3.9862	4.4914	1.4796	0.0544	0.1258	0.0359
164.88	4.7692	4.5117	1.4746	0.0607	0.1769	0.0401
170.16	4.8695	4.9131	1.3559	0.0559	0.0845	0.0207
175.08	5.3488	4.6136	1.4305	0.0282	0.0794	0.0335
180	5.6212	4.7174	1.3964	0.0392	0.0623	0.0343
184.92	5.6861	4.4434	1.5757	0.0407	0.1309	0.0387
189.84	6.0419	4.3519	1.4657	0.0434	0.0661	0.0379
195.12	6.4813	4.5142	1.3470	0.0349	0.0232	0.0375
209.88	7.7645	3.8842	1.2795	0.0407	0.0722	0.0383
225	8.8763	3.6313	1.2156	0.0349	0.0691	0.0195
240.12	9.7763	3.5679	1.2526	0.0508	0.1166	0.0725
254.88	10.4802	3.6993	1.0959	0.1027	0.0757	0.0476
260.16	10.7858	3.6997	0.9537	0.2656	0.1242	0.0578
265.08	11.4944	3.9450	1.1133	0.2849	0.1006	0.0770
270	11.2795	4.2822	1.0390	0.5654	0.2419	0.1035
274.92	10.4592	4.4866	1.0394	0.0490	0.0678	0.0358
279.84	11.0232	4.2028	0.9733	0.0931	0.1153	0.0528
285.12	10.6587	4.5338	1.0222	0.0967	0.0938	0.0575
299.88	11.2620	4.8679	1.2366	0.0659	0.0868	0.0473
315	10.7570	4.5417	0.9278	0.0473	0.0442	0.0360
330.12	10.2556	4.5625	0.8561	0.1142	0.1011	0.0350
344.88	9.8025	4.3531	0.6882	0.0661	0.0821	0.0282
350.16	9.1050	3.9904	0.8454	0.0519	0.0771	0.0510
355.08	8.8093	3.9831	0.8778	0.0947	0.0761	0.0475

Table 2.2-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	8.8547	3.7990	0.8423	0.0711	0.0350	0.0380
4.92	8.5679	3.6248	0.8979	0.0759	0.0478	0.0364
9.84	8.2978	3.6747	0.9241	0.0662	0.1348	0.0271
15.12	8.0832	3.6329	0.9498	0.0674	0.0723	0.0319
29.88	6.8243	3.4738	0.8965	0.0723	0.1418	0.0688
45	5.5641	3.4933	0.9870	0.0365	0.0996	0.0477
60.12	4.1074	3.8229	1.2050	0.0467	0.0581	0.0249
74.88	3.2702	3.9511	1.3024	0.0277	0.0428	0.0242
80.16	3.0759	3.9730	1.2728	0.0523	0.0704	0.0209
85.08	2.9037	3.9373	1.2931	0.0500	0.0364	0.0253
90	2.9771	3.7772	1.2769	0.0245	0.0307	0.0169
94.92	3.0906	3.8247	1.3841	0.0406	0.0481	0.0213
99.84	3.0251	3.7629	1.3959	0.0413	0.0420	0.0249
105.12	3.1926	3.8280	1.3845	0.0453	0.0806	0.0302
119.88	3.3996	3.8786	1.5561	0.0348	0.0865	0.0237
135	3.7454	4.3259	1.6812	0.0246	0.0248	0.0351
150.12	3.8687	4.7749	1.7974	0.0436	0.1642	0.0259
164.88	4.4000	5.0095	1.8615	0.0300	0.1462	0.0216
170.16	4.6061	5.1626	1.7998	0.0204	0.0657	0.0214
175.08	5.1882	4.7098	1.8862	0.0526	0.0979	0.0314
180	5.3831	4.9310	1.7629	0.0345	0.0590	0.0306
184.92	5.7575	4.9311	1.6513	0.0401	0.0941	0.0354
189.84	6.3138	4.7284	1.6999	0.0417	0.2098	0.0540
195.12	6.8289	4.4903	1.6878	0.0438	0.1218	0.0335
209.88	8.0738	4.1530	1.5616	0.0593	0.0638	0.0423
225	9.2477	4.0457	1.5191	0.0311	0.0863	0.0289
240.12	10.1435	3.9192	1.3422	0.0331	0.0622	0.0284
254.88	10.5422	3.9916	1.1236	0.0567	0.0706	0.0345
260.16	10.6953	3.9624	1.1536	0.0809	0.0819	0.0656
265.08	10.7860	4.1613	1.0062	0.0887	0.0563	0.0505
270.35	10.9596	4.2319	0.8934	0.3275	0.1049	0.0472
274.92	12.6698	4.0334	0.6103	0.5075	0.3163	0.1337
279.84	11.4934	4.1902	0.9508	0.0686	0.0519	0.0385
285.12	11.5295	4.1914	0.8823	0.1389	0.1344	0.0344
299.88	11.2824	4.7146	1.0937	0.0855	0.0671	0.0486
315	10.7620	4.4882	0.9477	0.0673	0.0879	0.0328
330.12	10.1199	4.4837	0.8376	0.0334	0.0902	0.0752
344.88	9.2148	4.1322	0.8980	0.0599	0.0886	0.0246
350.16	9.1434	3.9129	0.8555	0.0404	0.0336	0.0245
355.08	8.9641	3.6980	0.7390	0.0452	0.0835	0.0485

Table 2.2-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	8.8782	3.5399	0.4527	0.0732	0.0401	0.0287
4.92	8.6485	3.6484	0.5562	0.0638	0.1050	0.0246
9.84	8.4468	3.4509	0.5607	0.0604	0.0491	0.0310
15.12	8.1532	3.2914	0.5540	0.0467	0.0485	0.0258
29.88	7.0859	3.4790	0.6220	0.0606	0.0421	0.0272
45	5.9401	3.3418	0.6545	0.0398	0.0627	0.0289
60.12	4.6955	3.7060	0.8257	0.0468	0.0690	0.0177
74.88	3.9458	3.8327	0.8982	0.0534	0.0783	0.0338
80.16	3.9015	3.8607	0.9641	0.0438	0.0233	0.0229
85.08	3.7320	3.8912	0.9872	0.0680	0.0455	0.0367
90	3.7251	3.9007	0.9316	0.0659	0.0395	0.0240
94.92	3.3227	4.0691	1.0344	0.0398	0.0258	0.0175
99.84	3.2769	4.0926	1.0732	0.0645	0.1073	0.0340
105.12	3.3638	4.0454	1.0604	0.0628	0.0666	0.0256
119.88	3.5320	4.1555	1.0966	0.0193	0.0364	0.0245
135	3.9162	4.7067	1.2340	0.0484	0.0607	0.0236
150.12	4.2319	5.1513	1.2733	0.0478	0.0904	0.0287
164.88	4.8511	5.2946	1.2871	0.0506	0.0507	0.0218
170.16	5.1071	5.0536	1.2913	0.0204	0.1853	0.0307
175.08	5.6898	5.3799	1.1928	0.0456	0.1672	0.0169
180.35	5.6037	5.3856	1.0921	0.0447	0.0555	0.0343
184.92	6.4645	4.9132	1.0644	0.0507	0.1072	0.0217
189.84	6.2089	4.9063	1.1444	0.0437	0.1077	0.0260
195.12	6.6781	4.9440	1.0854	0.0489	0.0796	0.0308
209.88	7.9516	4.5967	0.9721	0.0683	0.1149	0.0296
225	9.2213	4.4147	0.9095	0.0697	0.0474	0.0336
240.12	10.4286	4.2641	0.7554	0.0511	0.1708	0.0451
254.88	11.2689	3.9056	0.5316	0.0670	0.0969	0.0215
260.16	11.6066	3.7902	0.3517	0.0850	0.0354	0.0419
265.08	11.8866	3.8504	0.2929	0.2256	0.1076	0.0761
270	11.3108	4.2814	0.6345	0.2227	0.0711	0.0323
274.92	11.4741	4.3661	0.6718	0.5975	0.2018	0.1076
279.84	11.4535	4.2057	0.4409	0.0921	0.1072	0.0620
285.12	11.2400	4.4498	0.4767	0.1024	0.0918	0.0406
299.88	11.0562	4.4352	0.5321	0.1096	0.1225	0.0560
315	10.7559	4.3313	0.5265	0.0695	0.0779	0.0636
330.12	10.7551	4.2006	0.3906	0.0840	0.0745	0.0420
344.88	9.9071	3.9552	0.4069	0.0490	0.0498	0.0185
350.16	9.4165	3.6359	0.4225	0.0573	0.0964	0.0222
355.08	9.5846	3.5505	0.4352	0.0541	0.0967	0.0268

Table 2.2-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	9.0004	3.8580	1.2740	0.0737	0.0571	0.0312
4.92	8.6903	3.8175	1.2430	0.0759	0.1071	0.0267
9.84	8.4878	3.6632	1.2853	0.0922	0.0689	0.0565
15.12	8.1729	3.7113	1.3142	0.0566	0.0422	0.0413
29.88	7.0450	3.7034	1.3187	0.0715	0.0484	0.0222
45	5.6811	3.7403	1.3641	0.0388	0.0523	0.0204
60.12	4.0797	4.1410	1.5551	0.0401	0.0364	0.0200
74.88	3.1280	4.5914	1.6533	0.0557	0.0427	0.0258
80.16	2.9779	4.5950	1.6961	0.0562	0.0615	0.0284
85.08	2.7981	4.5643	1.6508	0.0556	0.0579	0.0288
90.35	3.1418	4.0046	1.2885	0.0369	0.0288	0.0231
94.92	2.9410	4.2072	1.5660	0.0365	0.0273	0.0334
99.84	2.8300	4.2517	1.5859	0.0366	0.0397	0.0243
105.12	2.9103	4.2390	1.5479	0.0392	0.0598	0.0267
119.88	3.0896	4.3768	1.5925	0.0498	0.0836	0.0268
135	3.4856	4.8733	1.8129	0.0443	0.0439	0.0270
150.12	3.8141	5.3824	1.9002	0.0355	0.2029	0.0389
164.88	4.6912	5.3720	1.9471	0.0528	0.0532	0.0208
170.16	4.8902	5.3375	1.8928	0.0345	0.0618	0.0312
175.08	5.1509	5.3535	1.8683	0.0483	0.0914	0.0595
180	5.7580	5.2192	1.9031	0.0365	0.0668	0.0311
184.92	6.0524	5.2536	1.8508	0.1138	0.0771	0.0372
189.84	6.3179	4.8068	1.8440	0.0764	0.2659	0.0439
195.12	6.7824	4.8174	1.7728	0.0260	0.0634	0.0355
209.88	8.0004	4.7234	1.5647	0.0818	0.1532	0.0893
225	9.1013	4.2894	1.6177	0.0403	0.1409	0.0542
240.12	10.0979	4.1774	1.5369	0.0257	0.0760	0.0461
254.88	10.5742	4.0826	1.4504	0.0797	0.0539	0.0621
260.16	10.7170	4.3349	1.2283	0.1157	0.1028	0.0358
265.08	10.6910	4.3491	1.2894	0.2456	0.0696	0.0421
270	11.0988	3.8554	1.0471	0.2482	0.1591	0.0714
274.92	11.5377	3.7418	1.1485	0.5170	0.3006	0.1196
279.84	10.9608	4.3118	1.1407	0.0916	0.0558	0.0438
285.12	10.9634	4.7957	1.2707	0.0513	0.0461	0.0263
299.88	11.1320	4.4058	1.2547	0.0585	0.0331	0.0484
315	10.5996	4.5114	1.3238	0.0458	0.0855	0.0459
330.12	10.0709	4.5568	1.3053	0.0438	0.0759	0.0719
344.88	9.5776	4.3197	1.3067	0.0680	0.0900	0.0467
350.16	9.0827	3.9912	1.3031	0.0651	0.0671	0.0330
355.08	9.0145	3.9960	1.3008	0.0987	0.0413	0.0379

2.2.2 *Spanwise Elastic Deformations*

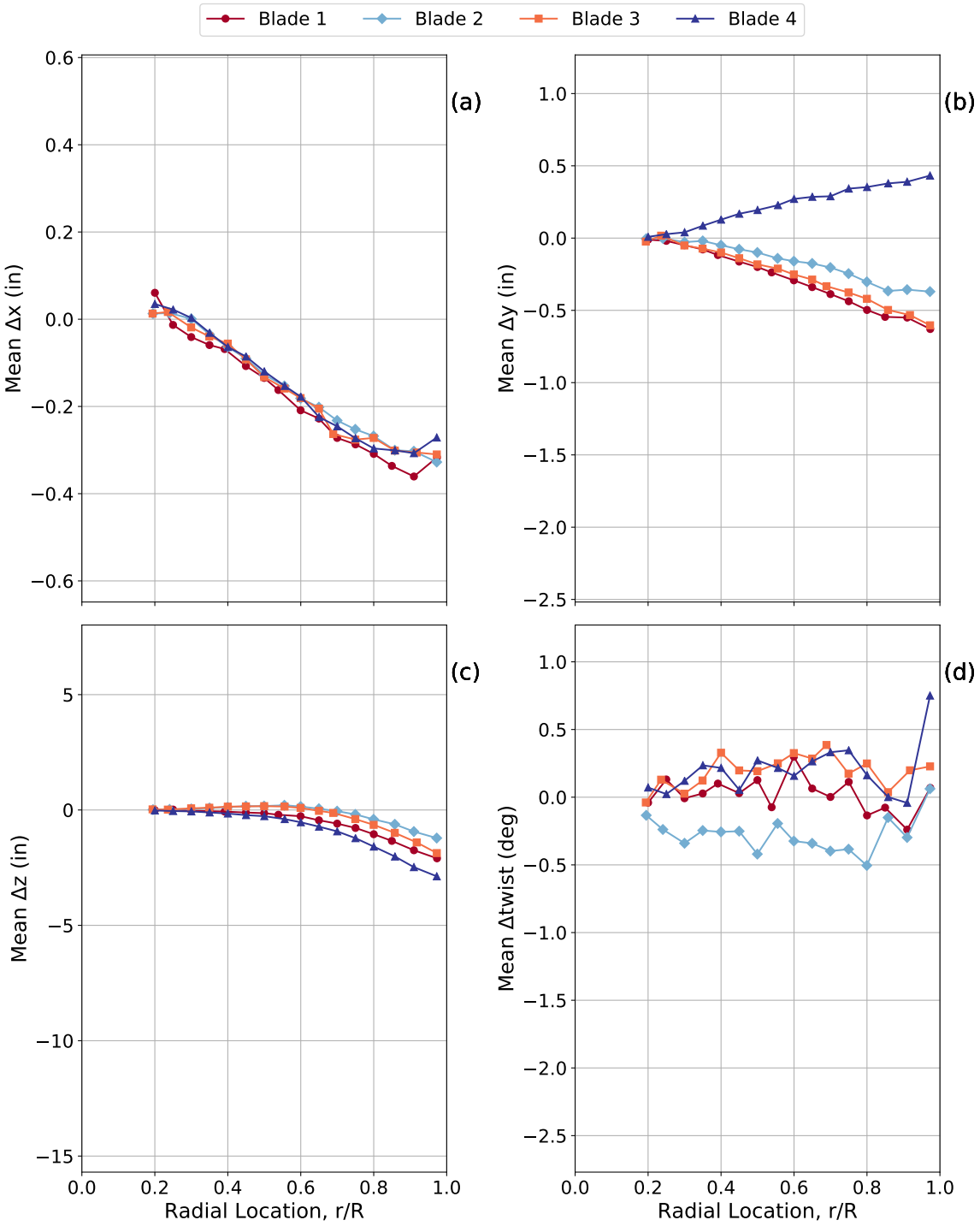


Figure 2.2-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.081$, $\mu = 0.241$, $\alpha = -3°$
NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0606	0.0025	-0.0108	0.0022	-0.0081	0.0062	-0.0405	0.0319
1	0.35	0.2499	-0.0131	0.0022	-0.0191	0.0039	0.0182	0.0092	0.1309	0.0434
1	0.35	0.2998	-0.0409	0.0013	-0.0491	0.0071	-0.0335	0.0196	-0.0079	0.0625
1	0.35	0.3498	-0.0592	0.0022	-0.0785	0.0144	-0.0536	0.0311	0.0274	0.0457
1	0.35	0.3913	-0.0684	0.0022	-0.1174	0.0185	-0.0700	0.0432	0.1006	0.0631
1	0.35	0.4496	-0.1074	0.0025	-0.1625	0.0243	-0.1109	0.0563	0.0299	0.0483
1	0.35	0.4997	-0.1346	0.0024	-0.2002	0.0301	-0.1378	0.0698	0.1263	0.0504
1	0.35	0.5387	-0.1623	0.0030	-0.2374	0.0345	-0.2069	0.0772	-0.0743	0.0560
1	0.35	0.5996	-0.2088	0.0031	-0.2924	0.0411	-0.2693	0.0898	0.2989	0.0543
1	0.35	0.6498	-0.2278	0.0040	-0.3392	0.0484	-0.4465	0.0996	0.0641	0.0563
1	0.35	0.6998	-0.2722	0.0041	-0.3874	0.0551	-0.5903	0.1086	0.0017	0.0679
1	0.35	0.7500	-0.2870	0.0042	-0.4370	0.0607	-0.7784	0.1201	0.1130	0.0786
1	0.35	0.8001	-0.3088	0.0046	-0.4973	0.0683	-1.0499	0.1336	-0.1347	0.0764
1	0.35	0.8497	-0.3363	0.0043	-0.5451	0.0753	-1.3395	0.1512	-0.0771	0.0572
1	0.35	0.9102	-0.3606	0.0056	-0.5499	0.0864	-1.7454	0.1778	-0.2396	0.0766
1	0.35	0.9734	-0.3168	0.0064	-0.6290	0.0966	-2.0949	0.2156	0.0689	0.0989
2	0	0.1949	0.0129	0.0025	-0.0043	0.0017	0.0145	0.0049	-0.1338	0.0325
2	0	0.2405	0.0142	0.0019	-0.0016	0.0026	0.0256	0.0051	-0.2385	0.0688
2	0	0.2999	0.0009	0.0018	-0.0279	0.0061	0.0467	0.0145	-0.3403	0.0806
2	0	0.3498	-0.0349	0.0020	-0.0195	0.0094	0.0874	0.0235	-0.2460	0.0682
2	0	0.3998	-0.0635	0.0024	-0.0494	0.0146	0.1236	0.0342	-0.2563	0.0614
2	0	0.4496	-0.0901	0.0027	-0.0771	0.0175	0.1652	0.0402	-0.2511	0.0685
2	0	0.4995	-0.1267	0.0025	-0.0996	0.0230	0.1691	0.0510	-0.4203	0.0721
2	0	0.5551	-0.1530	0.0024	-0.1403	0.0280	0.2049	0.0587	-0.1941	0.1470
2	0	0.5996	-0.1815	0.0032	-0.1598	0.0325	0.1494	0.0739	-0.3241	0.0683
2	0	0.6497	-0.2017	0.0029	-0.1755	0.0378	0.0551	0.0889	-0.3408	0.0730
2	0	0.6996	-0.2322	0.0036	-0.2036	0.0456	-0.0518	0.1076	-0.3978	0.0623
2	0	0.7495	-0.2525	0.0029	-0.2458	0.0526	-0.1908	0.1267	-0.3842	0.0737
2	0	0.7996	-0.2679	0.0032	-0.3026	0.0590	-0.4046	0.1427	-0.5044	0.0756
2	0	0.8578	-0.3004	0.0030	-0.3657	0.0659	-0.6203	0.1649	-0.1504	0.0698
2	0	0.9100	-0.3027	0.0031	-0.3566	0.0749	-0.9357	0.1861	-0.2976	0.0761
2	0	0.9727	-0.3275	0.0053	-0.3702	0.0852	-1.2171	0.2060	0.0621	0.0734
3	0	0.1938	0.0129	0.0028	-0.0240	0.0018	0.0271	0.0053	-0.0390	0.0415
3	0	0.2357	0.0166	0.0020	0.0168	0.0037	0.0165	0.0069	0.1294	0.0675
3	0	0.2995	-0.0187	0.0014	-0.0510	0.0064	0.0715	0.0151	0.0259	0.0909
3	0	0.3493	-0.0396	0.0023	-0.0728	0.0112	0.0988	0.0265	0.1233	0.0804
3	0	0.4000	-0.0559	0.0023	-0.0996	0.0168	0.1459	0.0375	0.3284	0.0648
3	0	0.4497	-0.0920	0.0025	-0.1393	0.0208	0.1546	0.0482	0.1978	0.0747
3	0	0.4997	-0.1326	0.0021	-0.1817	0.0254	0.1667	0.0598	0.1922	0.0777
3	0	0.5556	-0.1589	0.0026	-0.2111	0.0329	0.1493	0.0733	0.2502	0.0852
3	0	0.5995	-0.1808	0.0027	-0.2516	0.0381	0.0902	0.0813	0.3259	0.0723
3	0	0.6498	-0.2050	0.0034	-0.2870	0.0454	-0.0382	0.0907	0.2853	0.0780
3	0	0.6890	-0.2632	0.0035	-0.3329	0.0497	-0.1267	0.0942	0.3857	0.0707
3	0	0.7495	-0.2760	0.0039	-0.3763	0.0585	-0.3939	0.1017	0.1741	0.0834
3	0	0.7998	-0.2722	0.0040	-0.4200	0.0675	-0.6435	0.1070	0.2490	0.0810
3	0	0.8577	-0.3012	0.0040	-0.4973	0.0758	-0.9912	0.1057	0.0370	0.0905
3	0	0.9178	-0.3056	0.0051	-0.5325	0.0867	-1.4054	0.1088	0.1985	0.0967
3	0	0.9729	-0.3100	0.0088	-0.6033	0.0930	-1.8675	0.1184	0.2275	0.0815
4	0	0.2001	0.0349	0.0028	0.0086	0.0018	-0.0217	0.0058	0.0713	0.0448
4	0	0.2502	0.0221	0.0018	0.0273	0.0037	-0.0458	0.0108	0.0230	0.0639
4	0	0.3001	0.0029	0.0012	0.0399	0.0084	-0.0623	0.0209	0.1209	0.0930
4	0	0.3502	-0.0312	0.0013	0.0857	0.0133	-0.1069	0.0302	0.2353	0.0759
4	0	0.4002	-0.0638	0.0029	0.1277	0.0214	-0.1541	0.0484	0.2161	0.0832
4	0	0.4500	-0.0855	0.0033	0.1684	0.0281	-0.2231	0.0579	0.0542	0.0865
4	0	0.5001	-0.1198	0.0025	0.1940	0.0337	-0.2681	0.0695	0.2714	0.0797
4	0	0.5560	-0.1530	0.0023	0.2277	0.0387	-0.3952	0.0792	0.2159	0.0845
4	0	0.6001	-0.1778	0.0021	0.2709	0.0442	-0.5326	0.0892	0.1575	0.0762
4	0	0.6501	-0.2243	0.0026	0.2854	0.0504	-0.7234	0.1040	0.2645	0.0731
4	0	0.6999	-0.2457	0.0022	0.2892	0.0562	-0.9266	0.1222	0.3322	0.0608
4	0	0.7500	-0.2730	0.0024	0.3422	0.0627	-1.2220	0.1419	0.3465	0.0674
4	0	0.8002	-0.2964	0.0022	0.3530	0.0665	-1.5873	0.1629	0.1621	0.0977
4	0	0.8582	-0.3007	0.0032	0.3784	0.0754	-2.0177	0.1876	0.0007	0.1101
4	0	0.9101	-0.3072	0.0030	0.3894	0.0794	-2.4779	0.2120	-0.0420	0.0851
4	0	0.9728	-0.2713	0.0041	0.4324	0.0903	-2.8762	0.2442	0.7505	0.1027

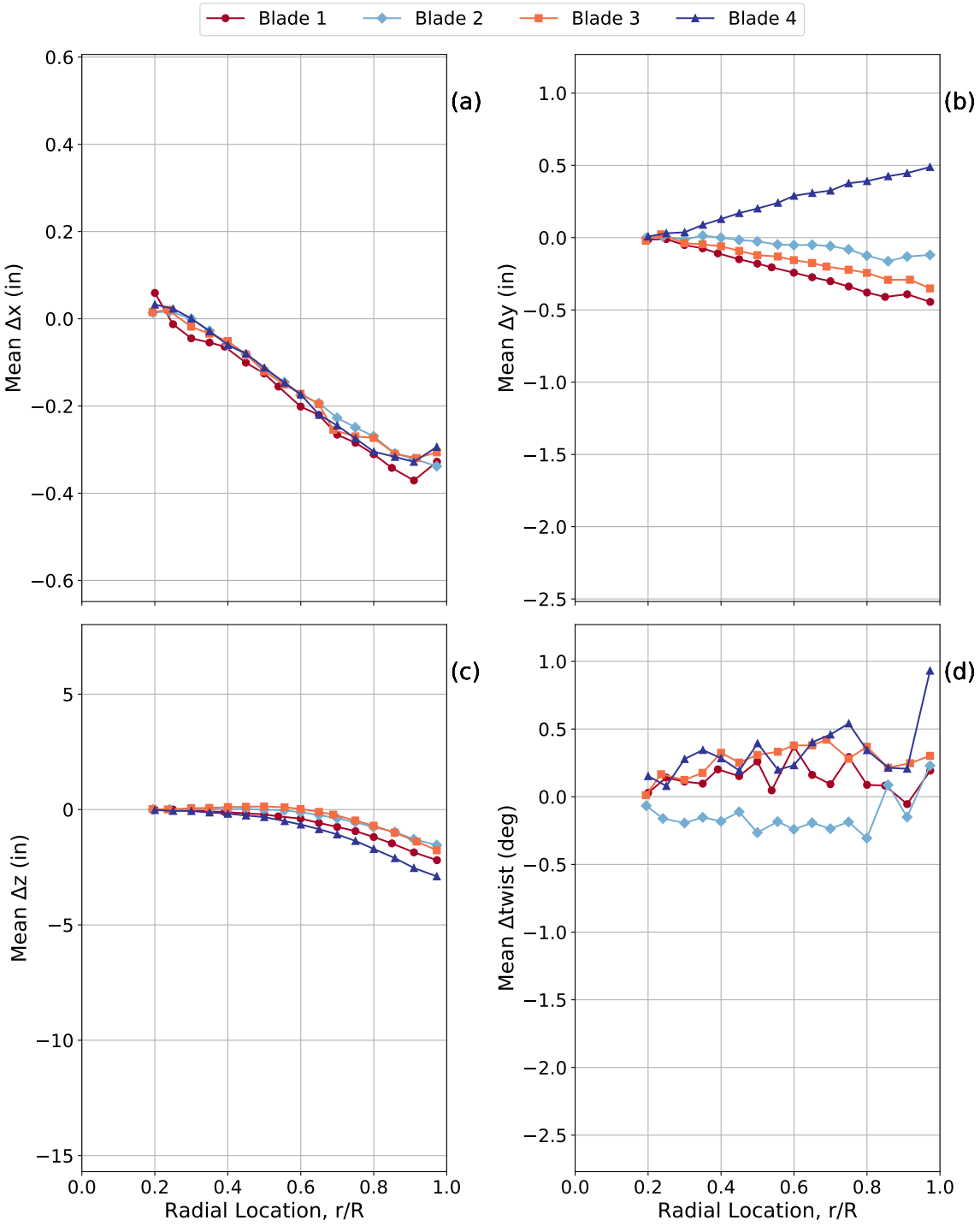


Figure 2.2-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.241$, $\alpha = -3°$ NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0592	0.0026	-0.0134	0.0014	-0.0084	0.0051	0.0288	0.0450
1	4.92	0.2499	-0.0125	0.0021	-0.0100	0.0032	-0.0017	0.0091	0.1414	0.0593
1	4.92	0.2998	-0.0449	0.0016	-0.0513	0.0066	-0.0387	0.0186	0.1115	0.0942
1	4.92	0.3498	-0.0545	0.0019	-0.0739	0.0096	-0.0827	0.0297	0.0966	0.0895
1	4.92	0.3913	-0.0639	0.0018	-0.1086	0.0152	-0.1071	0.0425	0.2022	0.0831
1	4.92	0.4496	-0.1007	0.0019	-0.1493	0.0195	-0.1652	0.0528	0.1522	0.0890
1	4.92	0.4997	-0.1254	0.0030	-0.1799	0.0232	-0.2107	0.0602	0.2605	0.0889
1	4.92	0.5387	-0.1554	0.0024	-0.2056	0.0274	-0.2957	0.0647	0.0467	0.0866
1	4.92	0.5996	-0.2013	0.0028	-0.2427	0.0348	-0.3928	0.0692	0.3706	0.0808
1	4.92	0.6498	-0.2206	0.0031	-0.2739	0.0406	-0.5793	0.0737	0.1612	0.0835
1	4.92	0.6998	-0.2658	0.0032	-0.3014	0.0466	-0.7525	0.0790	0.0927	0.0828
1	4.92	0.7500	-0.2845	0.0035	-0.3382	0.0536	-0.9363	0.0841	0.2931	0.0941
1	4.92	0.8001	-0.3106	0.0035	-0.3800	0.0625	-1.1916	0.0925	0.0878	0.0868
1	4.92	0.8497	-0.3419	0.0037	-0.4103	0.0696	-1.4673	0.1057	0.0821	0.0890
1	4.92	0.9102	-0.3708	0.0037	-0.3918	0.0786	-1.8567	0.1297	-0.0543	0.1092
1	4.92	0.9734	-0.3278	0.0062	-0.4443	0.0904	-2.1970	0.1651	0.1930	0.1069
2	4.92	0.1949	0.0141	0.0028	-0.0014	0.0013	0.0031	0.0031	-0.0665	0.0423
2	4.92	0.2405	0.0168	0.0019	0.0074	0.0028	-0.0006	0.0038	-0.1606	0.0592
2	4.92	0.2999	0.0003	0.0012	-0.0123	0.0048	0.0069	0.0100	-0.1939	0.0971
2	4.92	0.3498	-0.0276	0.0018	0.0134	0.0095	0.0125	0.0148	-0.1522	0.0832
2	4.92	0.3998	-0.0598	0.0022	-0.0003	0.0137	0.0158	0.0228	-0.1816	0.0820
2	4.92	0.4496	-0.0819	0.0019	-0.0160	0.0180	0.0273	0.0322	-0.1115	0.0789
2	4.92	0.4995	-0.1174	0.0023	-0.0261	0.0227	-0.0075	0.0448	-0.2651	0.0780
2	4.92	0.5551	-0.1454	0.0022	-0.0474	0.0279	-0.0357	0.0575	-0.1837	0.0837
2	4.92	0.5996	-0.1747	0.0027	-0.0521	0.0333	-0.1155	0.0726	-0.2406	0.0759
2	4.92	0.6497	-0.1936	0.0025	-0.0497	0.0373	-0.2346	0.0897	-0.1926	0.0883
2	4.92	0.6996	-0.2270	0.0028	-0.0586	0.0434	-0.3812	0.1107	-0.2361	0.0865
2	4.92	0.7495	-0.2491	0.0030	-0.0812	0.0487	-0.5477	0.1327	-0.1864	0.0805
2	4.92	0.7996	-0.2694	0.0032	-0.1245	0.0537	-0.7610	0.1594	-0.3058	0.0772
2	4.92	0.8578	-0.3090	0.0044	-0.1631	0.0608	-0.9697	0.1944	0.0875	0.0881
2	4.92	0.9100	-0.3210	0.0041	-0.1311	0.0649	-1.2890	0.2276	-0.1501	0.1118
2	4.92	0.9727	-0.3381	0.0056	-0.1198	0.0747	-1.5385	0.2697	0.2293	0.0907
3	4.92	0.1938	0.0151	0.0017	-0.0215	0.0014	0.0221	0.0037	0.0116	0.0356
3	4.92	0.2357	0.0204	0.0020	0.0231	0.0025	0.0035	0.0074	0.1661	0.0401
3	4.92	0.2995	-0.0182	0.0018	-0.0384	0.0035	0.0578	0.0123	0.1243	0.0606
3	4.92	0.3493	-0.0343	0.0015	-0.0461	0.0078	0.0691	0.0220	0.1768	0.0543
3	4.92	0.4000	-0.0513	0.0014	-0.0601	0.0106	0.1073	0.0332	0.3244	0.0464
3	4.92	0.4497	-0.0819	0.0022	-0.0914	0.0132	0.1196	0.0438	0.2528	0.0417
3	4.92	0.4997	-0.1204	0.0017	-0.1213	0.0176	0.1329	0.0551	0.3088	0.0529
3	4.92	0.5556	-0.1508	0.0014	-0.1307	0.0204	0.0989	0.0664	0.3323	0.0518
3	4.92	0.5995	-0.1719	0.0017	-0.1558	0.0241	0.0241	0.0752	0.3791	0.0534
3	4.92	0.6498	-0.1955	0.0017	-0.1750	0.0274	-0.1031	0.0848	0.3795	0.0618
3	4.92	0.6890	-0.2547	0.0020	-0.2002	0.0307	-0.2183	0.0910	0.4215	0.0673
3	4.92	0.7495	-0.2698	0.0027	-0.2219	0.0352	-0.4765	0.1027	0.2806	0.0636
3	4.92	0.7998	-0.2731	0.0024	-0.2439	0.0404	-0.7024	0.1129	0.3691	0.0684
3	4.92	0.8577	-0.3095	0.0033	-0.2920	0.0454	-1.0042	0.1269	0.2144	0.0878
3	4.92	0.9178	-0.3195	0.0039	-0.2913	0.0500	-1.3867	0.1417	0.2476	0.0777
3	4.92	0.9729	-0.3063	0.0056	-0.3512	0.0573	-1.7658	0.1606	0.3023	0.0847
4	4.92	0.2001	0.0325	0.0022	0.0080	0.0015	-0.0209	0.0046	0.1522	0.0534
4	4.92	0.2502	0.0233	0.0012	0.0302	0.0025	-0.0602	0.0087	0.0794	0.0566
4	4.92	0.3001	0.0004	0.0010	0.0370	0.0059	-0.0646	0.0159	0.2787	0.1093
4	4.92	0.3502	-0.0286	0.0012	0.0887	0.0101	-0.1260	0.0256	0.3454	0.0809
4	4.92	0.4002	-0.0601	0.0016	0.1286	0.0152	-0.1812	0.0388	0.2841	0.0875
4	4.92	0.4500	-0.0796	0.0013	0.1699	0.0207	-0.2591	0.0532	0.1935	0.0857
4	4.92	0.5001	-0.1121	0.0014	0.2017	0.0252	-0.3278	0.0657	0.3948	0.0770
4	4.92	0.5560	-0.1468	0.0020	0.2411	0.0306	-0.5031	0.0797	0.1988	0.0869
4	4.92	0.6001	-0.1736	0.0020	0.2896	0.0343	-0.6506	0.0914	0.2325	0.0956
4	4.92	0.6501	-0.2200	0.0022	0.3091	0.0399	-0.8514	0.1065	0.4028	0.0827
4	4.92	0.6999	-0.2448	0.0020	0.3252	0.0455	-1.0786	0.1207	0.4594	0.0866
4	4.92	0.7500	-0.2746	0.0022	0.3764	0.0509	-1.3627	0.1341	0.5413	0.0896
4	4.92	0.8002	-0.3048	0.0021	0.3910	0.0560	-1.7086	0.1513	0.3438	0.0707
4	4.92	0.8582	-0.3167	0.0026	0.4248	0.0634	-2.1069	0.1677	0.2137	0.0845
4	4.92	0.9101	-0.3281	0.0026	0.4466	0.0686	-2.5341	0.1844	0.2067	0.0945
4	4.92	0.9728	-0.2938	0.0036	0.4886	0.0753	-2.8975	0.2016	0.9314	0.0923

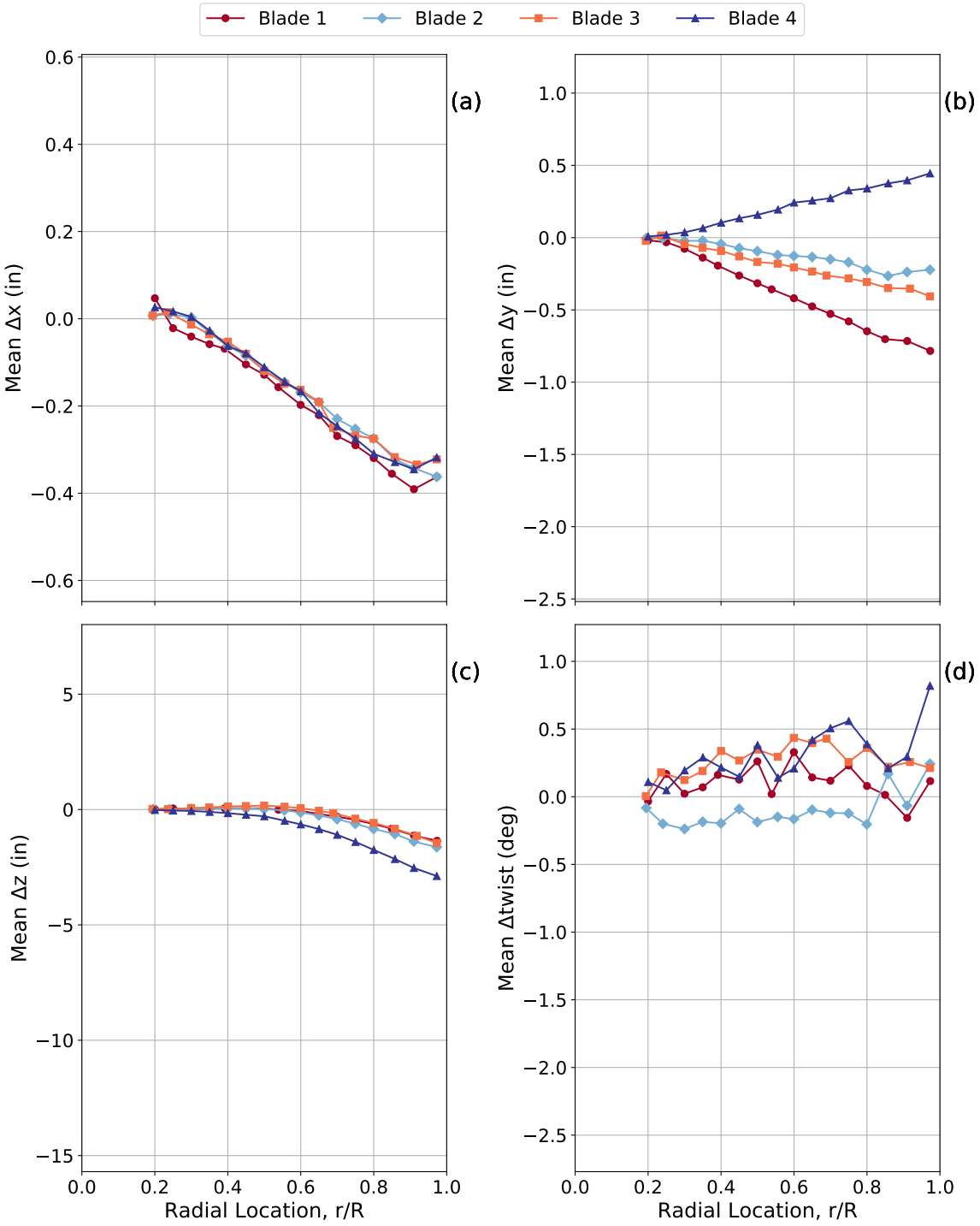


Figure 2.2-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.241$, $\alpha = -3°$ NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0471	0.0020	-0.0191	0.0012	0.0095	0.0035	-0.0337	0.0339
1	9.84	0.2499	-0.0216	0.0017	-0.0317	0.0022	0.0482	0.0050	0.1682	0.0698
1	9.84	0.2998	-0.0408	0.0014	-0.0770	0.0047	0.0204	0.0098	0.0222	0.0814
1	9.84	0.3498	-0.0582	0.0018	-0.1385	0.0077	0.0386	0.0179	0.0699	0.0599
1	9.84	0.3913	-0.0685	0.0016	-0.1936	0.0109	0.0548	0.0229	0.1614	0.0646
1	9.84	0.4496	-0.1047	0.0022	-0.2623	0.0148	0.0550	0.0310	0.1268	0.0589
1	9.84	0.4997	-0.1284	0.0025	-0.3155	0.0175	0.0523	0.0390	0.2610	0.0604
1	9.84	0.5387	-0.1569	0.0023	-0.3576	0.0203	-0.0084	0.0485	0.0200	0.0693
1	9.84	0.5996	-0.1974	0.0023	-0.4192	0.0238	-0.0602	0.0659	0.3294	0.0653
1	9.84	0.6498	-0.2209	0.0025	-0.4758	0.0264	-0.1926	0.0825	0.1426	0.0577
1	9.84	0.6998	-0.2689	0.0024	-0.5278	0.0307	-0.3103	0.0976	0.1184	0.0651
1	9.84	0.7500	-0.2901	0.0020	-0.5797	0.0321	-0.4513	0.1152	0.2307	0.0713
1	9.84	0.8001	-0.3194	0.0026	-0.6474	0.0354	-0.6299	0.1342	0.0795	0.0636
1	9.84	0.8497	-0.3554	0.0029	-0.7021	0.0397	-0.8271	0.1556	0.0137	0.0780
1	9.84	0.9102	-0.3908	0.0034	-0.7152	0.0435	-1.1240	0.1829	-0.1563	0.1122
1	9.84	0.9734	-0.3624	0.0047	-0.7836	0.0482	-1.3539	0.2254	0.1159	0.0857
2	9.84	0.1949	0.0071	0.0016	-0.0043	0.0010	0.0083	0.0039	-0.0825	0.0369
2	9.84	0.2405	0.0108	0.0013	-0.0020	0.0032	0.0103	0.0120	-0.1997	0.0470
2	9.84	0.2999	0.0030	0.0019	-0.0224	0.0044	0.0159	0.0177	-0.2381	0.0733
2	9.84	0.3498	-0.0317	0.0022	-0.0216	0.0102	0.0378	0.0305	-0.1850	0.0771
2	9.84	0.3998	-0.0627	0.0021	-0.0439	0.0143	0.0435	0.0479	-0.1966	0.0505
2	9.84	0.4496	-0.0843	0.0015	-0.0729	0.0166	0.0589	0.0602	-0.0907	0.0529
2	9.84	0.4995	-0.1185	0.0015	-0.0936	0.0182	0.0204	0.0723	-0.1871	0.0595
2	9.84	0.5551	-0.1453	0.0013	-0.1202	0.0216	-0.0339	0.0878	-0.1491	0.0514
2	9.84	0.5996	-0.1689	0.0013	-0.1265	0.0240	-0.1258	0.0970	-0.1645	0.0721
2	9.84	0.6497	-0.1913	0.0015	-0.1337	0.0260	-0.2537	0.1088	-0.0965	0.0680
2	9.84	0.6996	-0.2294	0.0015	-0.1499	0.0287	-0.4146	0.1219	-0.1192	0.0690
2	9.84	0.7495	-0.2527	0.0019	-0.1704	0.0315	-0.6158	0.1348	-0.1227	0.0730
2	9.84	0.7996	-0.2745	0.0024	-0.2219	0.0359	-0.8395	0.1488	-0.2038	0.0661
2	9.84	0.8578	-0.3224	0.0028	-0.2649	0.0403	-1.0575	0.1696	0.1687	0.0721
2	9.84	0.9100	-0.3423	0.0032	-0.2380	0.0423	-1.3856	0.1828	-0.0658	0.1030
2	9.84	0.9727	-0.3624	0.0035	-0.2220	0.0505	-1.6309	0.2076	0.2430	0.0936
3	9.84	0.1938	0.0073	0.0019	-0.0223	0.0012	0.0247	0.0044	0.0045	0.0263
3	9.84	0.2357	0.0151	0.0015	0.0143	0.0022	0.0143	0.0074	0.1796	0.0390
3	9.84	0.2995	-0.0131	0.0012	-0.0445	0.0047	0.0648	0.0151	0.1232	0.0552
3	9.84	0.3493	-0.0357	0.0020	-0.0711	0.0073	0.0915	0.0277	0.1902	0.0377
3	9.84	0.4000	-0.0526	0.0024	-0.0919	0.0120	0.1339	0.0407	0.3380	0.0504
3	9.84	0.4497	-0.0807	0.0024	-0.1306	0.0148	0.1516	0.0551	0.2675	0.0566
3	9.84	0.4997	-0.1191	0.0022	-0.1680	0.0179	0.1713	0.0672	0.3483	0.0562
3	9.84	0.5556	-0.1488	0.0027	-0.1800	0.0233	0.1218	0.0829	0.2953	0.0534
3	9.84	0.5995	-0.1629	0.0029	-0.2059	0.0270	0.0598	0.0943	0.4349	0.0530
3	9.84	0.6498	-0.1909	0.0027	-0.2343	0.0319	-0.0539	0.1081	0.3973	0.0666
3	9.84	0.6890	-0.2502	0.0031	-0.2622	0.0355	-0.1579	0.1191	0.4293	0.0673
3	9.84	0.7495	-0.2677	0.0038	-0.2818	0.0426	-0.3948	0.1387	0.2560	0.0618
3	9.84	0.7998	-0.2750	0.0038	-0.3071	0.0474	-0.5807	0.1516	0.3607	0.0670
3	9.84	0.8577	-0.3173	0.0038	-0.3488	0.0543	-0.8310	0.1687	0.2209	0.0697
3	9.84	0.9178	-0.3342	0.0037	-0.3528	0.0622	-1.1411	0.1861	0.2565	0.0855
3	9.84	0.9729	-0.3224	0.0054	-0.4066	0.0692	-1.4500	0.1945	0.2122	0.0701
4	9.84	0.2001	0.0264	0.0024	0.0075	0.0014	-0.0183	0.0047	0.1085	0.0409
4	9.84	0.2502	0.0169	0.0012	0.0195	0.0033	-0.0454	0.0115	0.0477	0.0628
4	9.84	0.3001	0.0043	0.0016	0.0368	0.0062	-0.0616	0.0184	0.1946	0.0880
4	9.84	0.3502	-0.0273	0.0018	0.0653	0.0094	-0.1028	0.0301	0.2902	0.0786
4	9.84	0.4002	-0.0623	0.0019	0.1036	0.0157	-0.1563	0.0480	0.2159	0.0877
4	9.84	0.4500	-0.0793	0.0015	0.1340	0.0202	-0.2269	0.0621	0.1474	0.0720
4	9.84	0.5001	-0.1111	0.0020	0.1578	0.0254	-0.2915	0.0773	0.3812	0.0827
4	9.84	0.5560	-0.1447	0.0022	0.1940	0.0311	-0.4853	0.0966	0.1404	0.0704
4	9.84	0.6001	-0.1662	0.0019	0.2426	0.0351	-0.6440	0.1093	0.2088	0.0753
4	9.84	0.6501	-0.2165	0.0023	0.2563	0.0402	-0.8493	0.1269	0.4193	0.0833
4	9.84	0.6999	-0.2461	0.0024	0.2730	0.0461	-1.0955	0.1456	0.5061	0.0832
4	9.84	0.7500	-0.2752	0.0026	0.3266	0.0514	-1.4046	0.1661	0.5593	0.0707
4	9.84	0.8002	-0.3095	0.0032	0.3401	0.0563	-1.7508	0.1908	0.3884	0.0855
4	9.84	0.8582	-0.3286	0.0031	0.3753	0.0624	-2.1455	0.2222	0.2103	0.0743
4	9.84	0.9101	-0.3451	0.0037	0.3962	0.0686	-2.5328	0.2546	0.2955	0.0859
4	9.84	0.9728	-0.3180	0.0052	0.4446	0.0744	-2.8828	0.3001	0.8192	0.0759

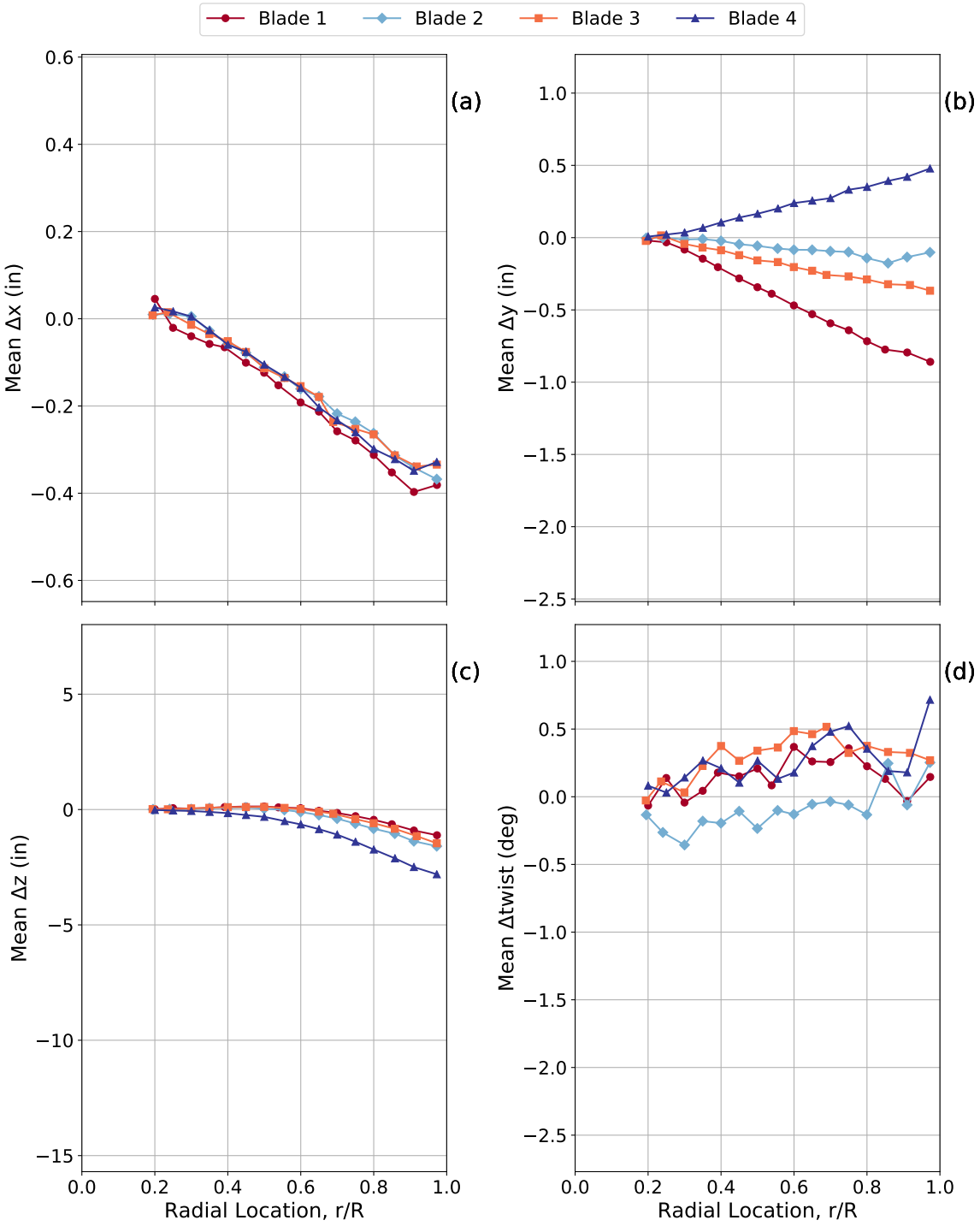


Figure 2.2-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.241$, $\alpha = -3°$ NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0456	0.0022	-0.0206	0.0020	0.0135	0.0069	-0.0653	0.0341
1	15.12	0.2499	-0.0208	0.0015	-0.0325	0.0031	0.0597	0.0127	0.1386	0.0595
1	15.12	0.2998	-0.0401	0.0015	-0.0825	0.0073	0.0406	0.0241	-0.0430	0.0770
1	15.12	0.3498	-0.0577	0.0023	-0.1456	0.0139	0.0728	0.0400	0.0438	0.0761
1	15.12	0.3913	-0.0654	0.0032	-0.2042	0.0188	0.1068	0.0565	0.1783	0.0601
1	15.12	0.4496	-0.1008	0.0029	-0.2819	0.0238	0.1321	0.0764	0.1509	0.0672
1	15.12	0.4997	-0.1238	0.0029	-0.3431	0.0293	0.1334	0.0958	0.2085	0.0721
1	15.12	0.5387	-0.1525	0.0025	-0.3881	0.0340	0.0942	0.1125	0.0839	0.0733
1	15.12	0.5996	-0.1918	0.0025	-0.4690	0.0406	0.0592	0.1387	0.3683	0.0715
1	15.12	0.6498	-0.2129	0.0030	-0.5297	0.0479	-0.0539	0.1603	0.2609	0.0720
1	15.12	0.6998	-0.2580	0.0028	-0.5929	0.0539	-0.1490	0.1814	0.2562	0.0724
1	15.12	0.7500	-0.2791	0.0028	-0.6409	0.0607	-0.2861	0.2025	0.3576	0.0696
1	15.12	0.8001	-0.3123	0.0031	-0.7166	0.0682	-0.4464	0.2253	0.2251	0.0756
1	15.12	0.8497	-0.3523	0.0027	-0.7743	0.0758	-0.6376	0.2520	0.1322	0.0674
1	15.12	0.9102	-0.3971	0.0028	-0.7945	0.0839	-0.9076	0.2899	-0.0324	0.0885
1	15.12	0.9734	-0.3811	0.0047	-0.8593	0.0923	-1.1137	0.3407	0.1460	0.0725
2	15.12	0.1949	0.0096	0.0026	-0.0025	0.0009	0.0078	0.0039	-0.1338	0.0338
2	15.12	0.2405	0.0114	0.0013	0.0001	0.0025	0.0164	0.0085	-0.2637	0.0421
2	15.12	0.2999	0.0052	0.0018	-0.0131	0.0045	0.0176	0.0146	-0.3563	0.0737
2	15.12	0.3498	-0.0276	0.0011	-0.0098	0.0076	0.0587	0.0283	-0.1802	0.0639
2	15.12	0.3998	-0.0572	0.0011	-0.0228	0.0122	0.0680	0.0411	-0.1949	0.0576
2	15.12	0.4496	-0.0781	0.0014	-0.0455	0.0145	0.0858	0.0514	-0.1072	0.0723
2	15.12	0.4995	-0.1112	0.0017	-0.0570	0.0173	0.0332	0.0636	-0.2345	0.0606
2	15.12	0.5551	-0.1328	0.0018	-0.0752	0.0207	-0.0189	0.0778	-0.1012	0.0667
2	15.12	0.5996	-0.1608	0.0016	-0.0842	0.0223	-0.1059	0.0870	-0.1297	0.0700
2	15.12	0.6497	-0.1783	0.0017	-0.0845	0.0257	-0.2386	0.1002	-0.0554	0.0667
2	15.12	0.6996	-0.2176	0.0014	-0.0939	0.0287	-0.3939	0.1133	-0.0348	0.0596
2	15.12	0.7495	-0.2363	0.0021	-0.0993	0.0320	-0.6093	0.1261	-0.0605	0.0599
2	15.12	0.7996	-0.2625	0.0016	-0.1418	0.0354	-0.8297	0.1370	-0.1329	0.0660
2	15.12	0.8578	-0.3137	0.0022	-0.1764	0.0381	-1.0444	0.1527	0.2468	0.0588
2	15.12	0.9100	-0.3412	0.0017	-0.1345	0.0421	-1.3734	0.1697	-0.0607	0.0694
2	15.12	0.9727	-0.3678	0.0022	-0.1018	0.0466	-1.5886	0.1960	0.2529	0.0606
3	15.12	0.1938	0.0078	0.0016	-0.0226	0.0010	0.0205	0.0041	-0.0274	0.0269
3	15.12	0.2357	0.0150	0.0009	0.0157	0.0016	0.0112	0.0059	0.1129	0.0389
3	15.12	0.2995	-0.0139	0.0009	-0.0433	0.0043	0.0493	0.0148	0.0318	0.0515
3	15.12	0.3493	-0.0352	0.0008	-0.0684	0.0063	0.0742	0.0225	0.2273	0.0405
3	15.12	0.4000	-0.0513	0.0017	-0.0872	0.0105	0.1030	0.0358	0.3749	0.0422
3	15.12	0.4497	-0.0762	0.0016	-0.1211	0.0127	0.1043	0.0471	0.2658	0.0343
3	15.12	0.4997	-0.1133	0.0021	-0.1574	0.0172	0.1146	0.0577	0.3402	0.0503
3	15.12	0.5556	-0.1358	0.0021	-0.1692	0.0206	0.0707	0.0715	0.3635	0.0463
3	15.12	0.5995	-0.1545	0.0024	-0.2036	0.0241	0.0203	0.0832	0.4849	0.0493
3	15.12	0.6498	-0.1792	0.0028	-0.2291	0.0287	-0.0922	0.0958	0.4625	0.0488
3	15.12	0.6890	-0.2367	0.0028	-0.2582	0.0318	-0.1805	0.1057	0.5165	0.0520
3	15.12	0.7495	-0.2526	0.0032	-0.2684	0.0375	-0.4128	0.1189	0.3237	0.0605
3	15.12	0.7998	-0.2652	0.0037	-0.2892	0.0428	-0.5921	0.1339	0.3758	0.0553
3	15.12	0.8577	-0.3131	0.0038	-0.3223	0.0483	-0.8343	0.1532	0.3307	0.0513
3	15.12	0.9178	-0.3387	0.0033	-0.3277	0.0537	-1.1528	0.1718	0.3239	0.0846
3	15.12	0.9729	-0.3344	0.0049	-0.3674	0.0597	-1.4615	0.1923	0.2694	0.0643
4	15.12	0.2001	0.0261	0.0017	0.0072	0.0004	-0.0193	0.0028	0.0813	0.0245
4	15.12	0.2502	0.0169	0.0012	0.0214	0.0025	-0.0434	0.0079	0.0308	0.0468
4	15.12	0.3001	0.0051	0.0017	0.0357	0.0031	-0.0625	0.0120	0.1420	0.0549
4	15.12	0.3502	-0.0263	0.0014	0.0674	0.0054	-0.1042	0.0199	0.2675	0.0494
4	15.12	0.4002	-0.0596	0.0021	0.1052	0.0089	-0.1565	0.0319	0.2098	0.0463
4	15.12	0.4500	-0.0760	0.0018	0.1391	0.0123	-0.2384	0.0402	0.1036	0.0440
4	15.12	0.5001	-0.1051	0.0019	0.1652	0.0138	-0.3178	0.0518	0.2659	0.0426
4	15.12	0.5560	-0.1336	0.0023	0.2018	0.0183	-0.5015	0.0688	0.1322	0.0384
4	15.12	0.6001	-0.1582	0.0022	0.2392	0.0218	-0.6454	0.0838	0.1786	0.0458
4	15.12	0.6501	-0.2033	0.0029	0.2558	0.0263	-0.8518	0.1007	0.3739	0.0500
4	15.12	0.6999	-0.2328	0.0031	0.2731	0.0309	-1.0885	0.1202	0.4799	0.0556
4	15.12	0.7500	-0.2602	0.0033	0.3316	0.0353	-1.3973	0.1460	0.5224	0.0550
4	15.12	0.8002	-0.2986	0.0033	0.3508	0.0395	-1.7347	0.1720	0.3550	0.0642
4	15.12	0.8582	-0.3219	0.0041	0.3924	0.0454	-2.1157	0.2041	0.1900	0.0651
4	15.12	0.9101	-0.3485	0.0042	0.4207	0.0513	-2.4936	0.2363	0.1796	0.0552
4	15.12	0.9728	-0.3283	0.0051	0.4782	0.0562	-2.8072	0.2748	0.7162	0.0716

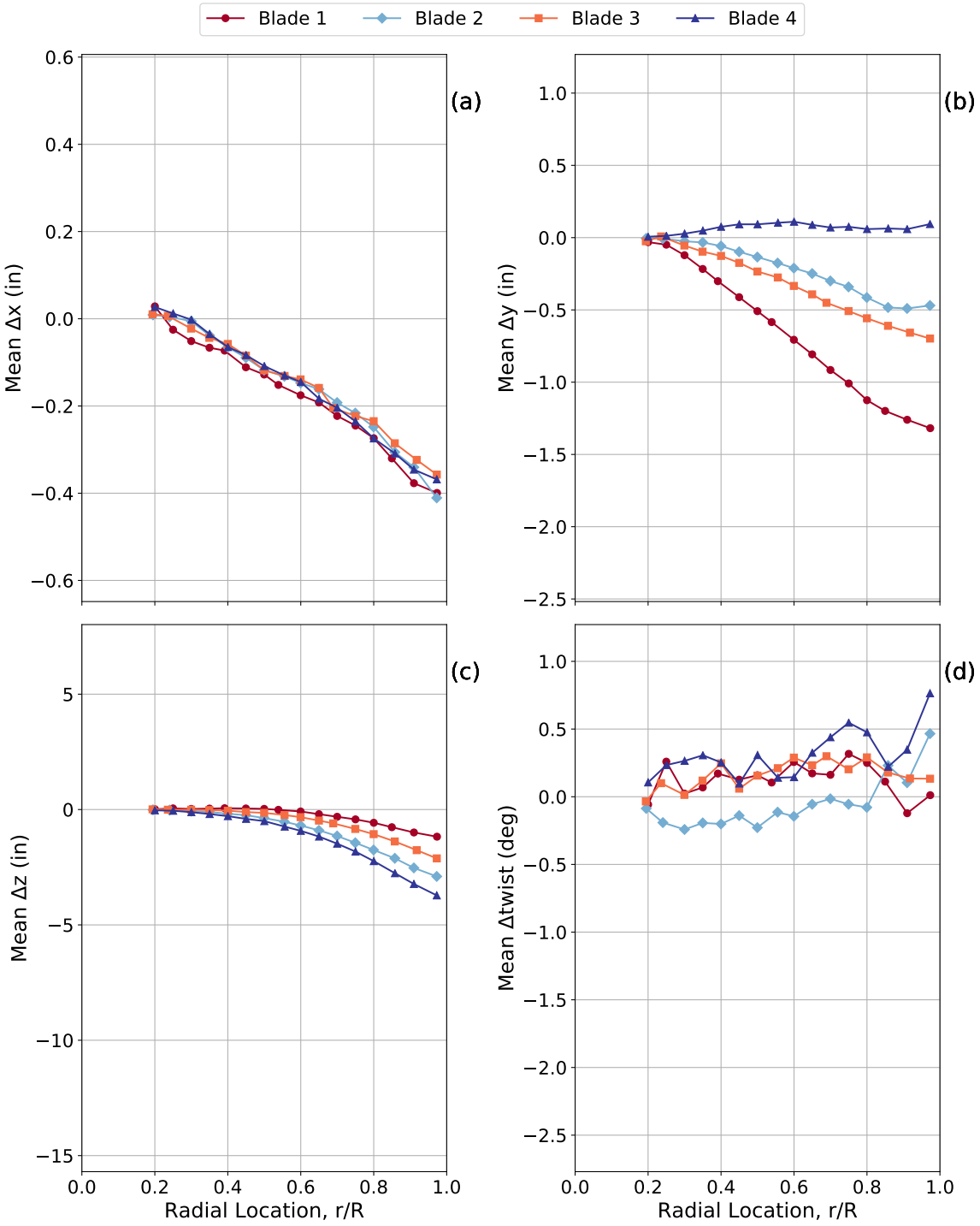


Figure 2.2-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0284	0.0025	-0.0312	0.0010	0.0136	0.0036	-0.0576	0.0220
1	29.88	0.2499	-0.0251	0.0015	-0.0487	0.0027	0.0491	0.0080	0.2592	0.0457
1	29.88	0.2998	-0.0512	0.0014	-0.1214	0.0048	0.0265	0.0147	0.0232	0.0506
1	29.88	0.3498	-0.0664	0.0021	-0.2168	0.0082	0.0408	0.0236	0.0687	0.0475
1	29.88	0.3913	-0.0730	0.0032	-0.3012	0.0118	0.0568	0.0351	0.1711	0.0518
1	29.88	0.4496	-0.1112	0.0030	-0.4120	0.0169	0.0459	0.0497	0.1261	0.0467
1	29.88	0.4997	-0.1279	0.0037	-0.5087	0.0217	0.0287	0.0638	0.1588	0.0541
1	29.88	0.5387	-0.1517	0.0035	-0.5842	0.0250	-0.0130	0.0747	0.1050	0.0598
1	29.88	0.5996	-0.1754	0.0036	-0.7067	0.0324	-0.0840	0.0947	0.2566	0.0580
1	29.88	0.6498	-0.1920	0.0037	-0.8076	0.0384	-0.2008	0.1098	0.1725	0.0583
1	29.88	0.6998	-0.2228	0.0039	-0.9157	0.0460	-0.3140	0.1238	0.1620	0.0516
1	29.88	0.7500	-0.2449	0.0048	-1.0088	0.0534	-0.4264	0.1398	0.3168	0.0593
1	29.88	0.8001	-0.2740	0.0048	-1.1249	0.0607	-0.5734	0.1583	0.2498	0.0631
1	29.88	0.8497	-0.3201	0.0049	-1.1988	0.0686	-0.7657	0.1786	0.1118	0.0584
1	29.88	0.9102	-0.3770	0.0049	-1.2601	0.0783	-0.9942	0.2092	-0.1217	0.0737
1	29.88	0.9734	-0.3994	0.0070	-1.3183	0.0883	-1.1770	0.2434	0.0115	0.0730
2	29.88	0.1949	0.0089	0.0035	-0.0051	0.0015	-0.0121	0.0043	-0.0866	0.0263
2	29.88	0.2405	0.0046	0.0010	-0.0063	0.0031	-0.0227	0.0083	-0.1909	0.0541
2	29.88	0.2999	-0.0055	0.0013	-0.0253	0.0054	-0.0701	0.0140	-0.2419	0.0679
2	29.88	0.3498	-0.0382	0.0017	-0.0331	0.0124	-0.1081	0.0270	-0.1934	0.0519
2	29.88	0.3998	-0.0652	0.0026	-0.0581	0.0169	-0.1816	0.0386	-0.2011	0.0506
2	29.88	0.4496	-0.0893	0.0023	-0.0978	0.0214	-0.2454	0.0495	-0.1391	0.0481
2	29.88	0.4995	-0.1178	0.0027	-0.1342	0.0250	-0.3708	0.0625	-0.2280	0.0660
2	29.88	0.5551	-0.1320	0.0025	-0.1757	0.0314	-0.5283	0.0766	-0.1138	0.0601
2	29.88	0.5996	-0.1472	0.0030	-0.2109	0.0352	-0.6934	0.0890	-0.1446	0.0528
2	29.88	0.6497	-0.1615	0.0032	-0.2484	0.0397	-0.9013	0.1013	-0.0554	0.0590
2	29.88	0.6996	-0.1922	0.0028	-0.2997	0.0452	-1.1471	0.1191	-0.0151	0.0575
2	29.88	0.7495	-0.2163	0.0028	-0.3407	0.0507	-1.4407	0.1361	-0.0554	0.0620
2	29.88	0.7996	-0.2479	0.0029	-0.4143	0.0554	-1.7520	0.1543	-0.0786	0.0683
2	29.88	0.8578	-0.3059	0.0029	-0.4833	0.0614	-2.1134	0.1793	0.2306	0.0696
2	29.88	0.9100	-0.3404	0.0034	-0.4900	0.0666	-2.5299	0.2029	0.1037	0.0784
2	29.88	0.9727	-0.4107	0.0047	-0.4695	0.0732	-2.8996	0.2308	0.4658	0.0890
3	29.88	0.1938	0.0103	0.0013	-0.0251	0.0006	0.0084	0.0018	-0.0345	0.0271
3	29.88	0.2357	0.0067	0.0015	0.0081	0.0017	-0.0077	0.0051	0.1001	0.0448
3	29.88	0.2995	-0.0225	0.0017	-0.0545	0.0032	-0.0079	0.0093	0.0136	0.0672
3	29.88	0.3493	-0.0438	0.0016	-0.0969	0.0059	-0.0233	0.0140	0.1193	0.0748
3	29.88	0.4000	-0.0577	0.0015	-0.1263	0.0093	-0.0511	0.0236	0.2468	0.0685
3	29.88	0.4497	-0.0844	0.0017	-0.1745	0.0126	-0.1106	0.0311	0.0596	0.0721
3	29.88	0.4997	-0.1180	0.0016	-0.2343	0.0138	-0.1433	0.0425	0.1561	0.0744
3	29.88	0.5556	-0.1312	0.0025	-0.2755	0.0197	-0.2398	0.0592	0.2109	0.0733
3	29.88	0.5995	-0.1390	0.0027	-0.3340	0.0226	-0.3299	0.0711	0.2892	0.0768
3	29.88	0.6498	-0.1586	0.0030	-0.3923	0.0273	-0.4789	0.0876	0.2327	0.0662
3	29.88	0.6890	-0.2043	0.0030	-0.4507	0.0303	-0.5990	0.0999	0.2992	0.0584
3	29.88	0.7495	-0.2230	0.0036	-0.5080	0.0372	-0.8415	0.1213	0.2029	0.0663
3	29.88	0.7998	-0.2348	0.0040	-0.5579	0.0422	-1.0669	0.1402	0.2910	0.0719
3	29.88	0.8577	-0.2855	0.0042	-0.6101	0.0478	-1.3836	0.1635	0.1788	0.0634
3	29.88	0.9178	-0.3236	0.0035	-0.6574	0.0544	-1.7614	0.1939	0.1350	0.0686
3	29.88	0.9729	-0.3573	0.0053	-0.6982	0.0610	-2.1170	0.2220	0.1332	0.0808
4	29.88	0.2001	0.0269	0.0020	0.0063	0.0006	-0.0346	0.0033	0.1057	0.0273
4	29.88	0.2502	0.0121	0.0016	0.0124	0.0018	-0.0534	0.0060	0.2340	0.0506
4	29.88	0.3001	-0.0022	0.0011	0.0274	0.0024	-0.1138	0.0116	0.2649	0.0633
4	29.88	0.3502	-0.0352	0.0020	0.0484	0.0048	-0.1957	0.0207	0.3063	0.0556
4	29.88	0.4002	-0.0649	0.0020	0.0750	0.0071	-0.2877	0.0306	0.2530	0.0416
4	29.88	0.4500	-0.0834	0.0018	0.0923	0.0121	-0.4049	0.0418	0.0975	0.0558
4	29.88	0.5001	-0.1085	0.0018	0.0922	0.0107	-0.5032	0.0555	0.3075	0.0477
4	29.88	0.5560	-0.1302	0.0017	0.1028	0.0137	-0.7403	0.0681	0.1402	0.0501
4	29.88	0.6001	-0.1450	0.0024	0.1100	0.0152	-0.9242	0.0812	0.1445	0.0616
4	29.88	0.6501	-0.1834	0.0025	0.0883	0.0205	-1.1730	0.0962	0.3252	0.0494
4	29.88	0.6999	-0.2042	0.0024	0.0700	0.0239	-1.4802	0.1059	0.4394	0.0498
4	29.88	0.7500	-0.2353	0.0024	0.0750	0.0271	-1.8233	0.1175	0.5469	0.0564
4	29.88	0.8002	-0.2744	0.0025	0.0592	0.0318	-2.2374	0.1286	0.4757	0.0628
4	29.88	0.8582	-0.3089	0.0030	0.0633	0.0383	-2.7609	0.1444	0.2215	0.0630
4	29.88	0.9101	-0.3459	0.0027	0.0588	0.0435	-3.2275	0.1601	0.3476	0.0715
4	29.88	0.9728	-0.3683	0.0042	0.0937	0.0496	-3.7220	0.1827	0.7640	0.0845

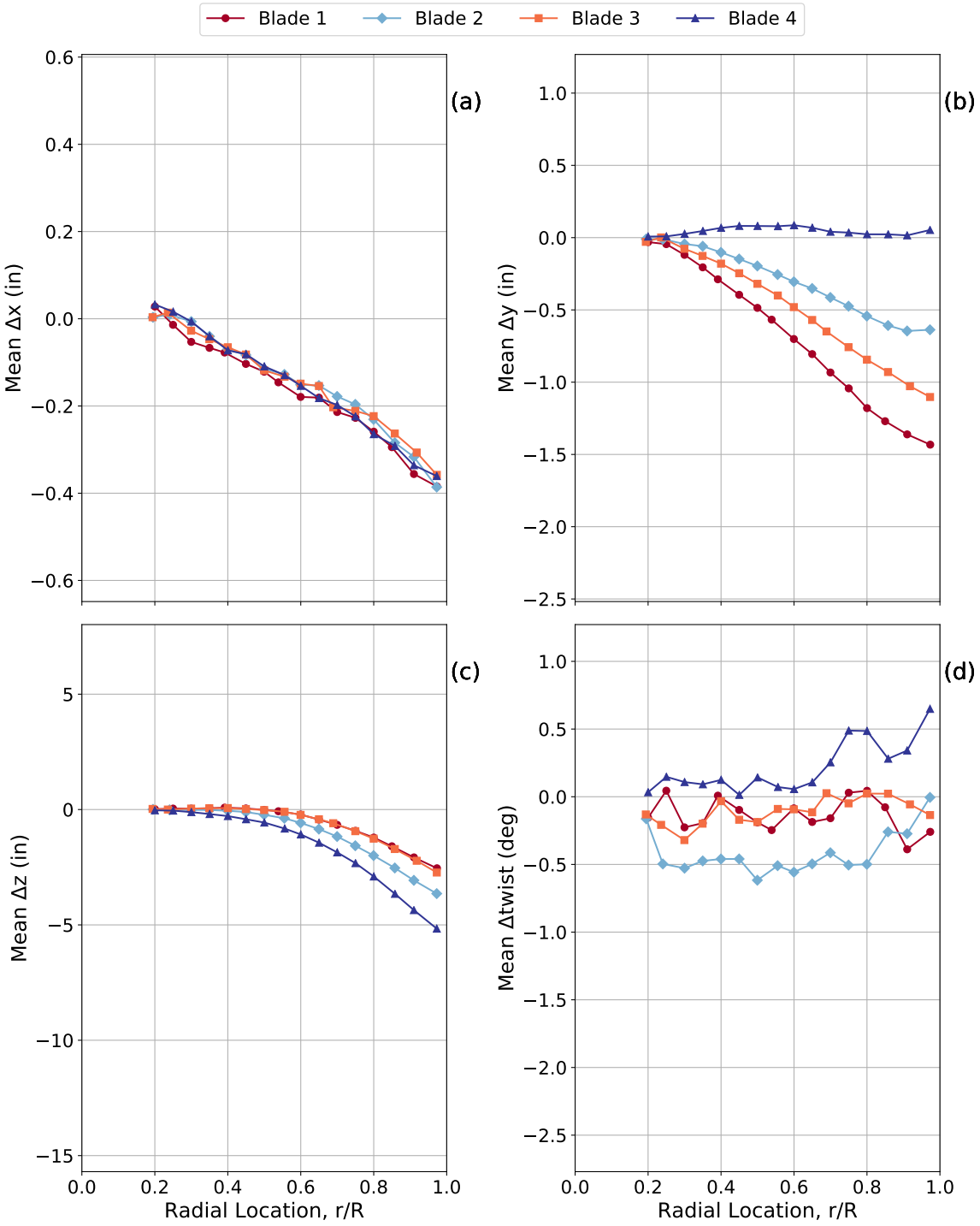


Figure 2.2-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0280	0.0032	-0.0307	0.0010	0.0153	0.0029	-0.1546	0.0216
1	45	0.2499	-0.0139	0.0019	-0.0450	0.0014	0.0417	0.0047	0.0446	0.0390
1	45	0.2998	-0.0530	0.0017	-0.1191	0.0036	0.0402	0.0097	-0.2263	0.0481
1	45	0.3498	-0.0667	0.0019	-0.2054	0.0057	0.0557	0.0166	-0.1948	0.0549
1	45	0.3913	-0.0774	0.0029	-0.2882	0.0080	0.0827	0.0228	0.0082	0.0536
1	45	0.4496	-0.1035	0.0040	-0.3954	0.0114	0.0470	0.0307	-0.0975	0.0660
1	45	0.4997	-0.1214	0.0031	-0.4859	0.0168	-0.0150	0.0391	-0.1893	0.0617
1	45	0.5387	-0.1458	0.0034	-0.5674	0.0188	-0.0741	0.0442	-0.2464	0.0635
1	45	0.5996	-0.1792	0.0041	-0.7015	0.0246	-0.2175	0.0541	-0.0857	0.0789
1	45	0.6498	-0.1808	0.0045	-0.8057	0.0308	-0.4353	0.0658	-0.1864	0.0699
1	45	0.6998	-0.2138	0.0048	-0.9331	0.0360	-0.6633	0.0736	-0.1588	0.0718
1	45	0.7500	-0.2272	0.0053	-1.0429	0.0428	-0.9232	0.0822	0.0299	0.0741
1	45	0.8001	-0.2589	0.0051	-1.1795	0.0495	-1.2158	0.0916	0.0439	0.0752
1	45	0.8497	-0.2944	0.0052	-1.2701	0.0565	-1.5920	0.1016	-0.0778	0.0734
1	45	0.9102	-0.3560	0.0053	-1.3612	0.0650	-2.0743	0.1198	-0.3883	0.0722
1	45	0.9734	-0.3846	0.0072	-1.4322	0.0740	-2.5458	0.1424	-0.2593	0.0674
2	45	0.1949	0.0034	0.0011	-0.0091	0.0012	0.0061	0.0043	-0.1633	0.0255
2	45	0.2405	0.0097	0.0021	-0.0111	0.0019	-0.0114	0.0062	-0.4964	0.0293
2	45	0.2999	-0.0064	0.0011	-0.0438	0.0049	-0.0158	0.0158	-0.5278	0.0512
2	45	0.3498	-0.0403	0.0018	-0.0595	0.0086	-0.0195	0.0259	-0.4741	0.0565
2	45	0.3998	-0.0698	0.0026	-0.1020	0.0131	-0.0543	0.0394	-0.4599	0.0378
2	45	0.4496	-0.0832	0.0020	-0.1479	0.0174	-0.1084	0.0562	-0.4595	0.0502
2	45	0.4995	-0.1147	0.0019	-0.1960	0.0212	-0.2268	0.0710	-0.6167	0.0571
2	45	0.5551	-0.1276	0.0025	-0.2554	0.0262	-0.3783	0.0903	-0.5093	0.0556
2	45	0.5996	-0.1512	0.0028	-0.3052	0.0303	-0.5781	0.1055	-0.5571	0.0585
2	45	0.6497	-0.1531	0.0021	-0.3517	0.0344	-0.8477	0.1196	-0.4960	0.0603
2	45	0.6996	-0.1781	0.0024	-0.4138	0.0388	-1.1700	0.1327	-0.4136	0.0641
2	45	0.7495	-0.1963	0.0029	-0.4743	0.0442	-1.5697	0.1467	-0.5045	0.0602
2	45	0.7996	-0.2307	0.0033	-0.5427	0.0484	-1.9963	0.1605	-0.4989	0.0698
2	45	0.8578	-0.2842	0.0029	-0.6080	0.0541	-2.5331	0.1777	-0.2594	0.0691
2	45	0.9100	-0.3166	0.0035	-0.6457	0.0590	-3.0682	0.1951	-0.2732	0.0723
2	45	0.9727	-0.3859	0.0047	-0.6374	0.0649	-3.6444	0.2152	-0.0048	0.0629
3	45	0.1938	0.0035	0.0018	-0.0290	0.0008	0.0257	0.0023	-0.1309	0.0127
3	45	0.2357	0.0140	0.0023	0.0014	0.0020	-0.0006	0.0055	-0.2077	0.0343
3	45	0.2995	-0.0273	0.0010	-0.0771	0.0040	0.0417	0.0101	-0.3203	0.0357
3	45	0.3493	-0.0468	0.0012	-0.1264	0.0063	0.0548	0.0173	-0.1990	0.0408
3	45	0.4000	-0.0653	0.0023	-0.1799	0.0107	0.0633	0.0272	-0.0329	0.0342
3	45	0.4497	-0.0820	0.0017	-0.2463	0.0140	0.0218	0.0344	-0.1700	0.0471
3	45	0.4997	-0.1183	0.0025	-0.3195	0.0187	-0.0223	0.0435	-0.1869	0.0381
3	45	0.5556	-0.1328	0.0032	-0.4004	0.0251	-0.0983	0.0556	-0.0902	0.0314
3	45	0.5995	-0.1488	0.0033	-0.4807	0.0290	-0.2324	0.0648	-0.0930	0.0457
3	45	0.6498	-0.1542	0.0043	-0.5696	0.0353	-0.4214	0.0721	-0.1147	0.0360
3	45	0.6890	-0.2030	0.0043	-0.6490	0.0390	-0.5932	0.0814	0.0261	0.0450
3	45	0.7495	-0.2113	0.0042	-0.7578	0.0470	-0.9384	0.0960	-0.0489	0.0460
3	45	0.7998	-0.2233	0.0035	-0.8444	0.0529	-1.2618	0.1065	0.0234	0.0406
3	45	0.8577	-0.2632	0.0044	-0.9299	0.0599	-1.7118	0.1250	0.0224	0.0378
3	45	0.9178	-0.3067	0.0046	-1.0279	0.0684	-2.2205	0.1468	-0.0563	0.0321
3	45	0.9729	-0.3579	0.0067	-1.1026	0.0757	-2.7305	0.1687	-0.1352	0.0418
4	45	0.2001	0.0327	0.0025	0.0073	0.0008	-0.0345	0.0022	0.0331	0.0115
4	45	0.2502	0.0161	0.0025	0.0086	0.0033	-0.0481	0.0051	0.1472	0.0342
4	45	0.3001	-0.0064	0.0014	0.0260	0.0047	-0.1116	0.0067	0.1083	0.0271
4	45	0.3502	-0.0402	0.0023	0.0461	0.0077	-0.1964	0.0122	0.0918	0.0330
4	45	0.4002	-0.0725	0.0018	0.0678	0.0133	-0.2849	0.0180	0.1246	0.0439
4	45	0.4500	-0.0813	0.0018	0.0810	0.0150	-0.4220	0.0245	0.0136	0.0496
4	45	0.5001	-0.1093	0.0021	0.0805	0.0167	-0.5643	0.0316	0.1427	0.0472
4	45	0.5560	-0.1293	0.0025	0.0790	0.0186	-0.8258	0.0395	0.0715	0.0518
4	45	0.6001	-0.1539	0.0024	0.0858	0.0214	-1.0804	0.0463	0.0563	0.0546
4	45	0.6501	-0.1819	0.0022	0.0683	0.0252	-1.4386	0.0531	0.1061	0.0562
4	45	0.6999	-0.1977	0.0025	0.0406	0.0290	-1.8583	0.0591	0.2540	0.0553
4	45	0.7500	-0.2239	0.0021	0.0349	0.0315	-2.3251	0.0654	0.4885	0.0536
4	45	0.8002	-0.2647	0.0026	0.0231	0.0351	-2.9025	0.0730	0.4856	0.0401
4	45	0.8582	-0.2916	0.0027	0.0228	0.0397	-3.6544	0.0811	0.2807	0.0481
4	45	0.9101	-0.3359	0.0034	0.0156	0.0437	-4.3598	0.0951	0.3413	0.0501
4	45	0.9728	-0.3607	0.0040	0.0529	0.0479	-5.1632	0.1149	0.6490	0.0449

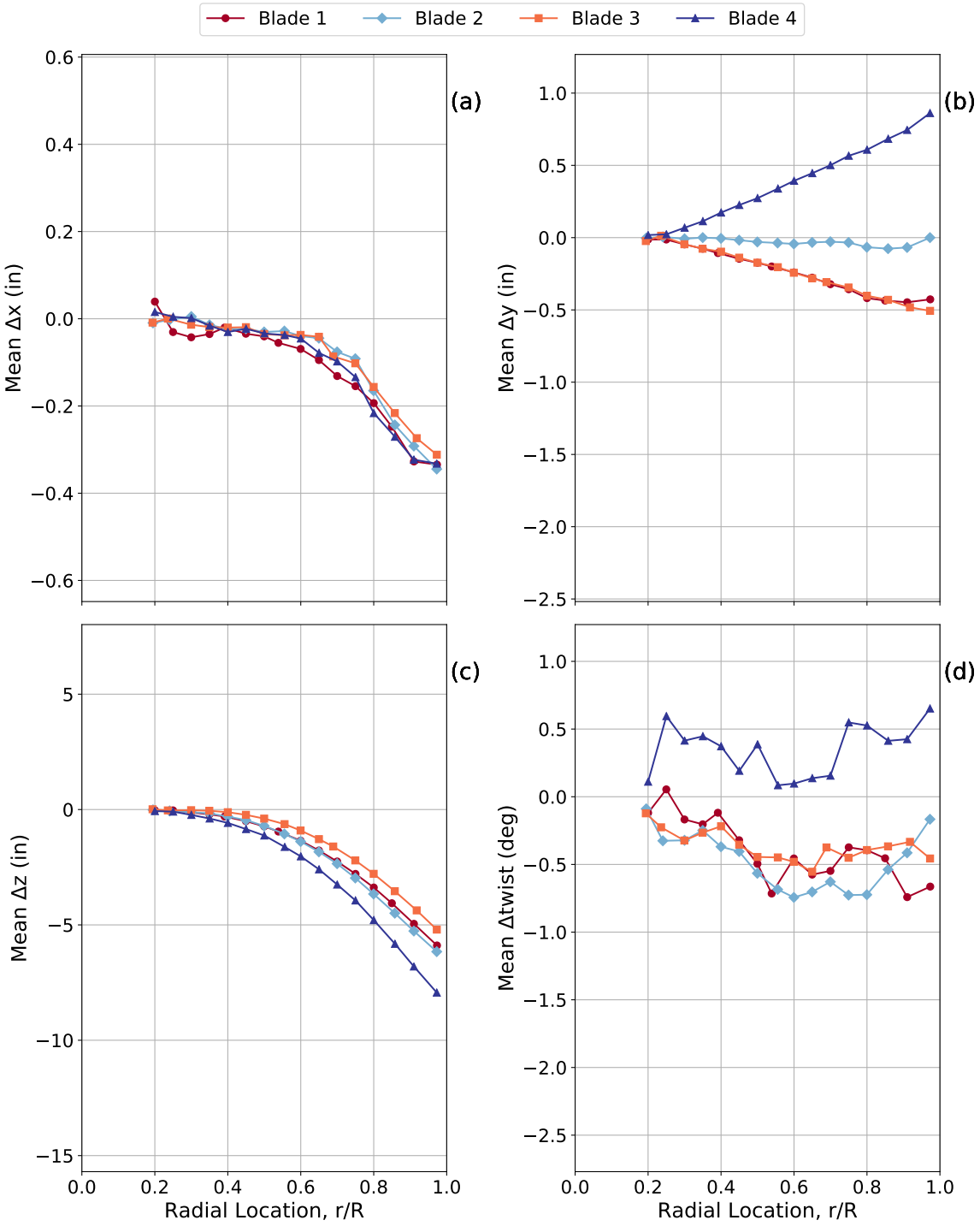


Figure 2.2-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0393	0.0019	-0.0129	0.0006	-0.0303	0.0025	-0.1192	0.0166
1	60.12	0.2499	-0.0305	0.0013	-0.0131	0.0025	-0.0376	0.0052	0.0543	0.0260
1	60.12	0.2998	-0.0425	0.0015	-0.0466	0.0038	-0.1288	0.0098	-0.1680	0.0334
1	60.12	0.3498	-0.0351	0.0015	-0.0766	0.0052	-0.2084	0.0172	-0.2037	0.0350
1	60.12	0.3913	-0.0201	0.0017	-0.1065	0.0094	-0.3028	0.0243	-0.1183	0.0290
1	60.12	0.4496	-0.0343	0.0020	-0.1461	0.0121	-0.5027	0.0355	-0.3213	0.0518
1	60.12	0.4997	-0.0404	0.0046	-0.1740	0.0168	-0.7294	0.0481	-0.4952	0.0532
1	60.12	0.5387	-0.0552	0.0053	-0.1995	0.0178	-0.9545	0.0583	-0.7150	0.1041
1	60.12	0.5996	-0.0692	0.0042	-0.2404	0.0227	-1.3505	0.0757	-0.4560	0.0738
1	60.12	0.6498	-0.0947	0.0043	-0.2769	0.0272	-1.7758	0.0879	-0.5750	0.0463
1	60.12	0.6998	-0.1313	0.0047	-0.3222	0.0327	-2.2520	0.1013	-0.5479	0.0520
1	60.12	0.7500	-0.1546	0.0045	-0.3570	0.0376	-2.7902	0.1133	-0.3737	0.0488
1	60.12	0.8001	-0.1934	0.0046	-0.4185	0.0423	-3.3805	0.1231	-0.3947	0.0554
1	60.12	0.8497	-0.2475	0.0047	-0.4354	0.0478	-4.0612	0.1311	-0.4546	0.0711
1	60.12	0.9102	-0.3272	0.0055	-0.4471	0.0550	-4.9535	0.1439	-0.7415	0.0753
1	60.12	0.9734	-0.3344	0.0059	-0.4270	0.0623	-5.8916	0.1578	-0.6638	0.0842
2	60.12	0.1949	-0.0095	0.0010	-0.0027	0.0005	-0.0139	0.0020	-0.0892	0.0219
2	60.12	0.2405	-0.0023	0.0010	0.0052	0.0012	-0.0600	0.0061	-0.3255	0.0320
2	60.12	0.2999	0.0051	0.0006	-0.0079	0.0025	-0.1141	0.0114	-0.3218	0.0508
2	60.12	0.3498	-0.0139	0.0009	0.0002	0.0032	-0.1682	0.0180	-0.2487	0.0471
2	60.12	0.3998	-0.0238	0.0014	-0.0050	0.0060	-0.3001	0.0300	-0.3692	0.0602
2	60.12	0.4496	-0.0229	0.0021	-0.0175	0.0060	-0.4605	0.0390	-0.4047	0.0523
2	60.12	0.4995	-0.0303	0.0025	-0.0299	0.0073	-0.7063	0.0525	-0.5656	0.0410
2	60.12	0.5551	-0.0282	0.0022	-0.0370	0.0094	-1.0591	0.0707	-0.6845	0.0646
2	60.12	0.5996	-0.0396	0.0027	-0.0434	0.0111	-1.3878	0.0859	-0.7437	0.0586
2	60.12	0.6497	-0.0445	0.0034	-0.0332	0.0134	-1.8341	0.1046	-0.7031	0.0577
2	60.12	0.6996	-0.0760	0.0038	-0.0283	0.0161	-2.3478	0.1228	-0.6282	0.0570
2	60.12	0.7495	-0.0916	0.0047	-0.0336	0.0181	-2.9670	0.1437	-0.7265	0.0637
2	60.12	0.7996	-0.1649	0.0054	-0.0663	0.0210	-3.6605	0.1666	-0.7237	0.0575
2	60.12	0.8578	-0.2435	0.0078	-0.0764	0.0256	-4.4929	0.1937	-0.5378	0.0708
2	60.12	0.9100	-0.2919	0.0084	-0.0680	0.0291	-5.2659	0.2194	-0.4143	0.0735
2	60.12	0.9727	-0.3446	0.0106	-0.0000	0.0336	-6.1596	0.2476	-0.1664	0.0796
3	60.12	0.1938	-0.0088	0.0012	-0.0234	0.0007	0.0115	0.0028	-0.1224	0.0172
3	60.12	0.2357	0.0004	0.0013	0.0130	0.0013	-0.0390	0.0050	-0.2257	0.0138
3	60.12	0.2995	-0.0136	0.0010	-0.0457	0.0028	-0.0289	0.0105	-0.3233	0.0283
3	60.12	0.3493	-0.0191	0.0012	-0.0766	0.0044	-0.0540	0.0174	-0.2654	0.0277
3	60.12	0.4000	-0.0202	0.0017	-0.0971	0.0071	-0.1154	0.0275	-0.2181	0.0355
3	60.12	0.4497	-0.0193	0.0018	-0.1385	0.0084	-0.2306	0.0336	-0.3541	0.0301
3	60.12	0.4997	-0.0351	0.0015	-0.1732	0.0113	-0.3930	0.0465	-0.4448	0.0273
3	60.12	0.5556	-0.0379	0.0019	-0.2045	0.0142	-0.6328	0.0580	-0.4482	0.0278
3	60.12	0.5995	-0.0371	0.0020	-0.2429	0.0167	-0.9086	0.0677	-0.4808	0.0360
3	60.12	0.6498	-0.0413	0.0025	-0.2818	0.0198	-1.2829	0.0773	-0.5539	0.0324
3	60.12	0.6890	-0.0863	0.0024	-0.3076	0.0232	-1.6025	0.0833	-0.3744	0.0387
3	60.12	0.7495	-0.1021	0.0026	-0.3448	0.0263	-2.2054	0.0919	-0.4507	0.0340
3	60.12	0.7998	-0.1564	0.0034	-0.4020	0.0301	-2.7869	0.0989	-0.3938	0.0338
3	60.12	0.8577	-0.2162	0.0044	-0.4303	0.0346	-3.5389	0.1092	-0.3667	0.0320
3	60.12	0.9178	-0.2738	0.0041	-0.4821	0.0402	-4.3711	0.1222	-0.3333	0.0377
3	60.12	0.9729	-0.3117	0.0053	-0.5066	0.0445	-5.2033	0.1364	-0.4562	0.0307
4	60.12	0.2001	0.0155	0.0013	0.0180	0.0006	-0.0681	0.0028	0.1110	0.0201
4	60.12	0.2502	0.0045	0.0012	0.0231	0.0015	-0.0915	0.0053	0.5953	0.0332
4	60.12	0.3001	0.0015	0.0009	0.0685	0.0024	-0.2337	0.0103	0.4145	0.0441
4	60.12	0.3502	-0.0158	0.0014	0.1135	0.0044	-0.3895	0.0186	0.4466	0.0446
4	60.12	0.4002	-0.0304	0.0022	0.1733	0.0068	-0.5815	0.0277	0.3723	0.0443
4	60.12	0.4500	-0.0230	0.0018	0.2257	0.0089	-0.8481	0.0383	0.1915	0.0532
4	60.12	0.5001	-0.0337	0.0019	0.2732	0.0118	-1.1265	0.0521	0.3868	0.0520
4	60.12	0.5560	-0.0374	0.0018	0.3391	0.0144	-1.6214	0.0681	0.0846	0.0588
4	60.12	0.6001	-0.0453	0.0022	0.3933	0.0169	-2.0315	0.0828	0.0971	0.0601
4	60.12	0.6501	-0.0784	0.0026	0.4459	0.0191	-2.5946	0.1016	0.1368	0.0692
4	60.12	0.6999	-0.0979	0.0034	0.5012	0.0219	-3.2523	0.1183	0.1555	0.0596
4	60.12	0.7500	-0.1339	0.0039	0.5664	0.0243	-3.9420	0.1338	0.5487	0.0639
4	60.12	0.8002	-0.2164	0.0037	0.6081	0.0272	-4.7952	0.1480	0.5259	0.0643
4	60.12	0.8582	-0.2706	0.0047	0.6836	0.0303	-5.8221	0.1642	0.4131	0.0714
4	60.12	0.9101	-0.3231	0.0048	0.7448	0.0339	-6.8032	0.1776	0.4249	0.0746
4	60.12	0.9728	-0.3322	0.0051	0.8617	0.0376	-7.9351	0.1933	0.6515	0.0738

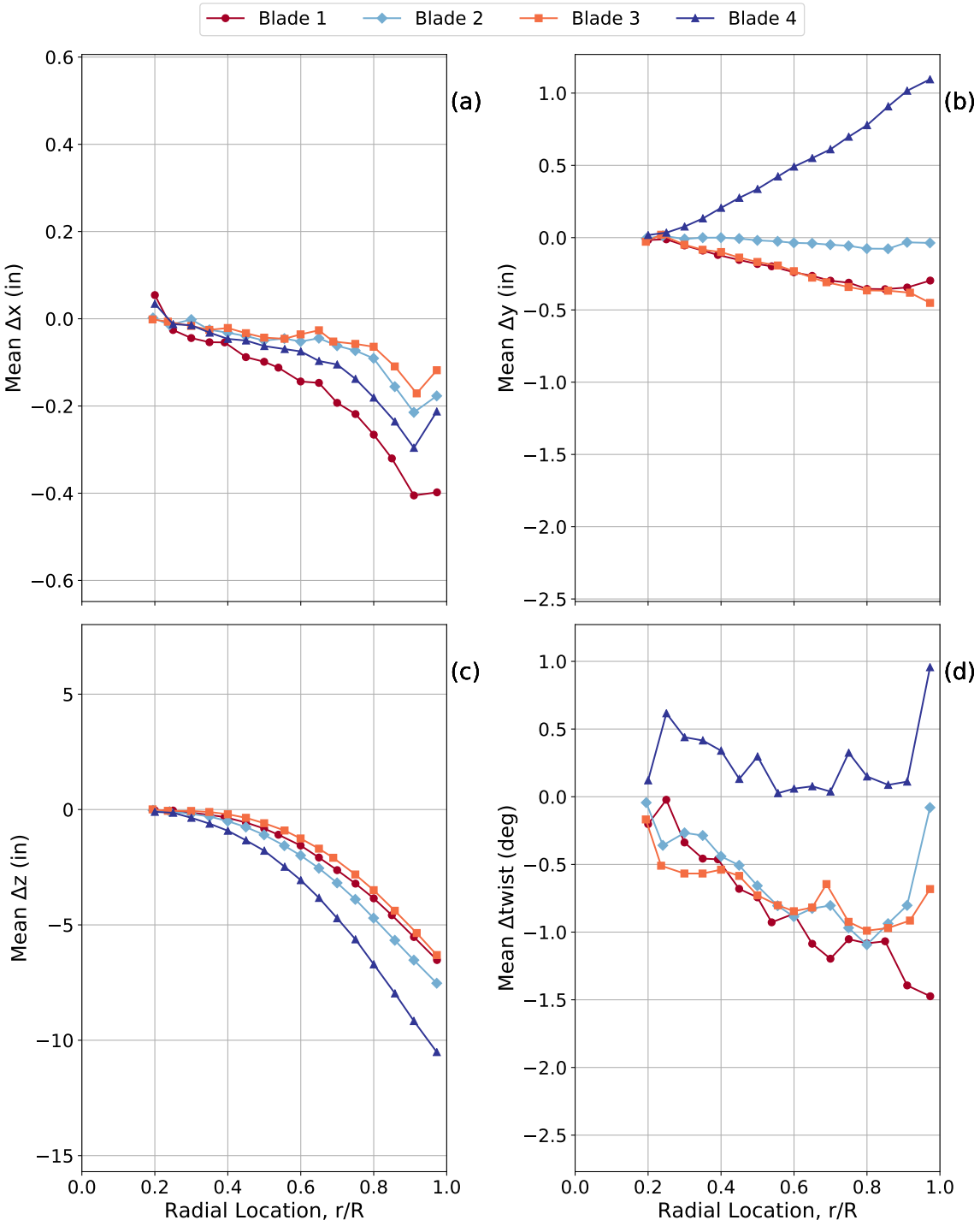


Figure 2.2-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0543	0.0021	-0.0164	0.0010	-0.0333	0.0031	-0.2020	0.0185
1	74.88	0.2499	-0.0258	0.0012	-0.0116	0.0018	-0.0439	0.0072	-0.0224	0.0344
1	74.88	0.2998	-0.0442	0.0018	-0.0539	0.0037	-0.1364	0.0126	-0.3378	0.0397
1	74.88	0.3498	-0.0538	0.0021	-0.0896	0.0066	-0.2317	0.0209	-0.4570	0.0395
1	74.88	0.3913	-0.0542	0.0024	-0.1199	0.0091	-0.3286	0.0311	-0.4621	0.0390
1	74.88	0.4496	-0.0880	0.0020	-0.1542	0.0127	-0.5622	0.0417	-0.6804	0.0511
1	74.88	0.4997	-0.0986	0.0025	-0.1824	0.0169	-0.8251	0.0510	-0.7433	0.0519
1	74.88	0.5387	-0.1121	0.0025	-0.1984	0.0196	-1.0919	0.0583	-0.9277	0.0482
1	74.88	0.5996	-0.1438	0.0029	-0.2395	0.0247	-1.5597	0.0700	-0.8644	0.0546
1	74.88	0.6498	-0.1470	0.0028	-0.2646	0.0298	-2.0806	0.0803	-1.0861	0.0573
1	74.88	0.6998	-0.1928	0.0027	-0.2979	0.0351	-2.6269	0.0907	-1.1964	0.0568
1	74.88	0.7500	-0.2185	0.0031	-0.3118	0.0401	-3.2118	0.1052	-1.0523	0.0515
1	74.88	0.8001	-0.2658	0.0034	-0.3549	0.0449	-3.8508	0.1215	-1.0829	0.0544
1	74.88	0.8497	-0.3202	0.0039	-0.3566	0.0499	-4.5796	0.1352	-1.0678	0.0519
1	74.88	0.9102	-0.4051	0.0044	-0.3449	0.0569	-5.5250	0.1555	-1.3940	0.0416
1	74.88	0.9734	-0.3980	0.0053	-0.2970	0.0643	-6.5230	0.1738	-1.4738	0.0436
2	74.88	0.1949	0.0019	0.0016	-0.0062	0.0006	-0.0315	0.0023	-0.0436	0.0192
2	74.88	0.2405	-0.0139	0.0010	0.0130	0.0012	-0.0892	0.0046	-0.3591	0.0287
2	74.88	0.2999	-0.0018	0.0014	-0.0094	0.0024	-0.1904	0.0084	-0.2668	0.0434
2	74.88	0.3498	-0.0253	0.0012	-0.0003	0.0041	-0.3016	0.0155	-0.2864	0.0352
2	74.88	0.3998	-0.0320	0.0013	-0.0001	0.0065	-0.5049	0.0231	-0.4401	0.0426
2	74.88	0.4496	-0.0397	0.0013	-0.0062	0.0090	-0.7598	0.0304	-0.5064	0.0432
2	74.88	0.4995	-0.0500	0.0016	-0.0189	0.0115	-1.0977	0.0389	-0.6575	0.0465
2	74.88	0.5551	-0.0454	0.0015	-0.0257	0.0149	-1.5678	0.0508	-0.8052	0.0438
2	74.88	0.5996	-0.0522	0.0016	-0.0362	0.0180	-1.9906	0.0602	-0.8863	0.0542
2	74.88	0.6497	-0.0446	0.0017	-0.0393	0.0218	-2.5439	0.0712	-0.8252	0.0399
2	74.88	0.6996	-0.0619	0.0019	-0.0489	0.0258	-3.1803	0.0830	-0.8038	0.0406
2	74.88	0.7495	-0.0730	0.0025	-0.0567	0.0299	-3.8938	0.0969	-0.9689	0.0548
2	74.88	0.7996	-0.0907	0.0036	-0.0761	0.0343	-4.7054	0.1137	-1.0929	0.0536
2	74.88	0.8578	-0.1557	0.0042	-0.0772	0.0396	-5.6677	0.1320	-0.9372	0.0549
2	74.88	0.9100	-0.2146	0.0047	-0.0325	0.0448	-6.5273	0.1487	-0.8027	0.0529
2	74.88	0.9727	-0.1769	0.0060	-0.0366	0.0507	-7.5285	0.1685	-0.0799	0.0494
3	74.88	0.1938	-0.0015	0.0006	-0.0283	0.0007	0.0075	0.0038	-0.1678	0.0127
3	74.88	0.2357	-0.0066	0.0009	0.0201	0.0011	-0.0566	0.0047	-0.5095	0.0288
3	74.88	0.2995	-0.0165	0.0011	-0.0489	0.0030	-0.0617	0.0132	-0.5672	0.0300
3	74.88	0.3493	-0.0254	0.0009	-0.0838	0.0048	-0.1060	0.0235	-0.5672	0.0237
3	74.88	0.4000	-0.0212	0.0012	-0.0997	0.0078	-0.2051	0.0346	-0.5387	0.0321
3	74.88	0.4497	-0.0331	0.0008	-0.1381	0.0101	-0.3582	0.0480	-0.5849	0.0524
3	74.88	0.4997	-0.0433	0.0013	-0.1682	0.0128	-0.5926	0.0629	-0.7283	0.0335
3	74.88	0.5556	-0.0459	0.0015	-0.1928	0.0159	-0.9090	0.0785	-0.8016	0.0397
3	74.88	0.5995	-0.0358	0.0016	-0.2320	0.0190	-1.2541	0.0917	-0.8457	0.0388
3	74.88	0.6498	-0.0264	0.0019	-0.2767	0.0224	-1.6960	0.1070	-0.8183	0.0661
3	74.88	0.6890	-0.0522	0.0025	-0.3088	0.0252	-2.0904	0.1193	-0.6454	0.0594
3	74.88	0.7495	-0.0576	0.0024	-0.3414	0.0298	-2.8156	0.1400	-0.9241	0.0535
3	74.88	0.7998	-0.0642	0.0030	-0.3651	0.0343	-3.4958	0.1583	-0.9895	0.0499
3	74.88	0.8577	-0.1093	0.0039	-0.3671	0.0387	-4.3867	0.1774	-0.9700	0.0581
3	74.88	0.9178	-0.1711	0.0049	-0.3808	0.0443	-5.3527	0.2019	-0.9147	0.0662
3	74.88	0.9729	-0.1180	0.0065	-0.4515	0.0488	-6.3069	0.2236	-0.6820	0.0692
4	74.88	0.2001	0.0343	0.0011	0.0180	0.0009	-0.1003	0.0042	0.1208	0.0190
4	74.88	0.2502	-0.0124	0.0016	0.0344	0.0019	-0.1413	0.0087	0.6167	0.0446
4	74.88	0.3001	-0.0149	0.0014	0.0767	0.0038	-0.3599	0.0180	0.4396	0.0475
4	74.88	0.3502	-0.0319	0.0016	0.1328	0.0067	-0.6148	0.0294	0.4154	0.0436
4	74.88	0.4002	-0.0462	0.0021	0.2060	0.0103	-0.9207	0.0468	0.3397	0.0472
4	74.88	0.4500	-0.0499	0.0025	0.2753	0.0141	-1.3370	0.0634	0.1313	0.0551
4	74.88	0.5001	-0.0626	0.0022	0.3364	0.0179	-1.7870	0.0843	0.2967	0.0523
4	74.88	0.5560	-0.0695	0.0032	0.4233	0.0228	-2.4815	0.1059	0.0262	0.0556
4	74.88	0.6001	-0.0749	0.0042	0.4913	0.0272	-3.0626	0.1237	0.0597	0.0544
4	74.88	0.6501	-0.0969	0.0043	0.5505	0.0318	-3.8318	0.1462	0.0771	0.0513
4	74.88	0.6999	-0.1049	0.0057	0.6108	0.0374	-4.7139	0.1672	0.0381	0.0580
4	74.88	0.7500	-0.1379	0.0068	0.6980	0.0429	-5.6279	0.1883	0.3250	0.0671
4	74.88	0.8002	-0.1808	0.0080	0.7781	0.0483	-6.7128	0.2116	0.1495	0.0651
4	74.88	0.8582	-0.2357	0.0101	0.9077	0.0552	-7.9719	0.2401	0.0875	0.0642
4	74.88	0.9101	-0.2960	0.0121	1.0162	0.0608	-9.1662	0.2661	0.1115	0.0764
4	74.88	0.9728	-0.2127	0.0138	1.0953	0.0675	-10.5129	0.3001	0.9568	0.0731

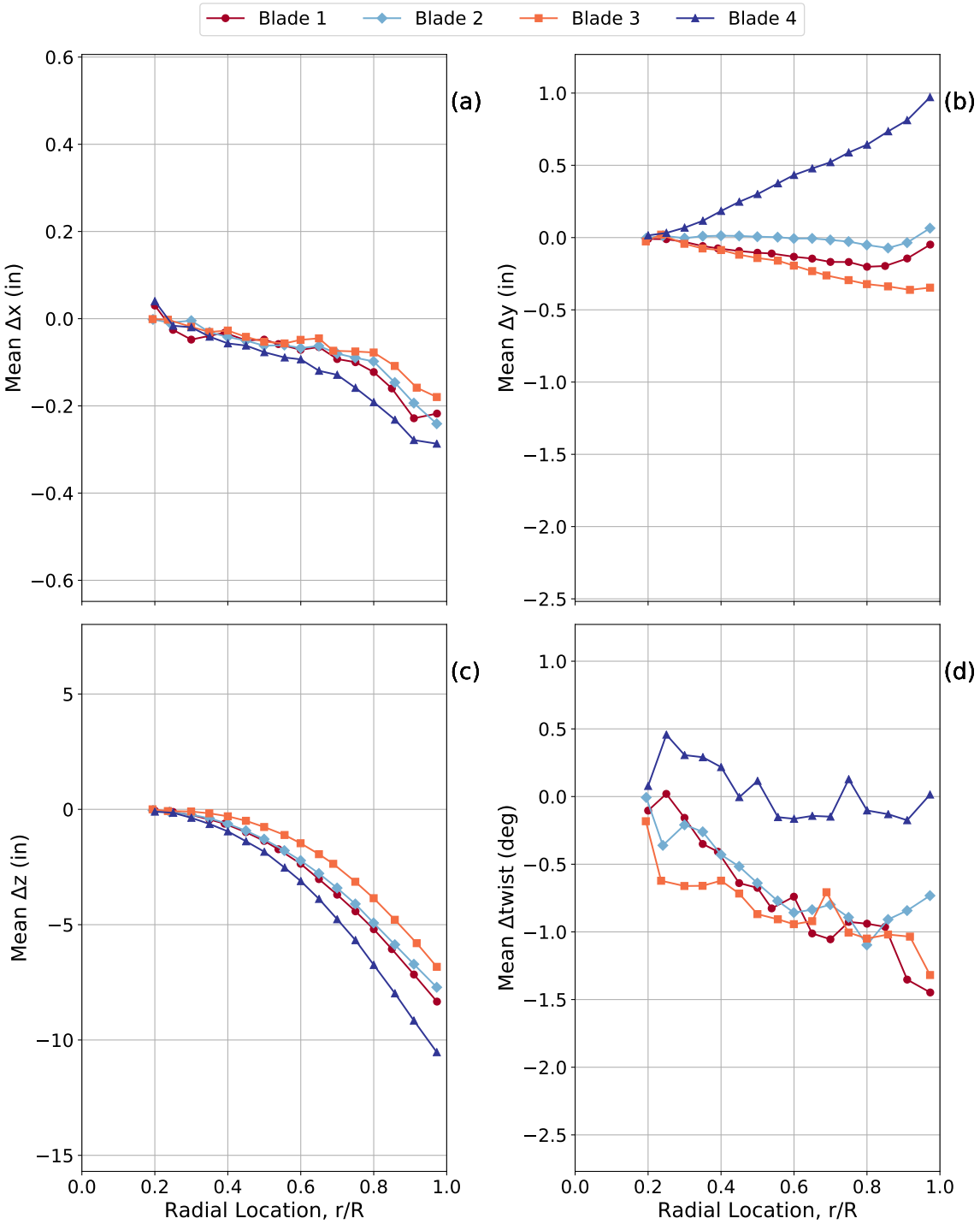


Figure 2.2-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0302	0.0018	-0.0094	0.0007	-0.0579	0.0029	-0.1037	0.0198
1	80.16	0.2499	-0.0256	0.0018	-0.0109	0.0021	-0.1136	0.0055	0.0197	0.0343
1	80.16	0.2998	-0.0480	0.0015	-0.0298	0.0033	-0.2416	0.0106	-0.1572	0.0395
1	80.16	0.3498	-0.0392	0.0015	-0.0587	0.0060	-0.4419	0.0183	-0.3504	0.0285
1	80.16	0.3913	-0.0322	0.0018	-0.0748	0.0087	-0.6217	0.0252	-0.4074	0.0346
1	80.16	0.4496	-0.0496	0.0019	-0.0929	0.0108	-0.9898	0.0361	-0.6395	0.0334
1	80.16	0.4997	-0.0480	0.0021	-0.1048	0.0136	-1.3689	0.0448	-0.6744	0.0313
1	80.16	0.5387	-0.0582	0.0023	-0.1104	0.0160	-1.7307	0.0538	-0.8264	0.0295
1	80.16	0.5996	-0.0714	0.0029	-0.1326	0.0201	-2.3600	0.0670	-0.7398	0.0422
1	80.16	0.6498	-0.0650	0.0030	-0.1454	0.0243	-3.0257	0.0782	-1.0115	0.0365
1	80.16	0.6998	-0.0925	0.0028	-0.1685	0.0279	-3.7005	0.0887	-1.0547	0.0502
1	80.16	0.7500	-0.0998	0.0028	-0.1691	0.0322	-4.4216	0.0984	-0.9262	0.0452
1	80.16	0.8001	-0.1224	0.0032	-0.2020	0.0370	-5.1973	0.1095	-0.9394	0.0397
1	80.16	0.8497	-0.1599	0.0034	-0.1966	0.0422	-6.0596	0.1190	-0.9627	0.0462
1	80.16	0.9102	-0.2284	0.0039	-0.1446	0.0484	-7.1607	0.1311	-1.3525	0.0469
1	80.16	0.9734	-0.2176	0.0045	-0.0486	0.0552	-8.3348	0.1432	-1.4476	0.0477
2	80.16	0.1949	-0.0017	0.0014	-0.0039	0.0006	-0.0416	0.0029	-0.0067	0.0170
2	80.16	0.2405	-0.0090	0.0013	0.0127	0.0010	-0.1113	0.0053	-0.3607	0.0471
2	80.16	0.2999	-0.0045	0.0010	-0.0038	0.0024	-0.2319	0.0119	-0.2093	0.0479
2	80.16	0.3498	-0.0312	0.0011	0.0096	0.0037	-0.3880	0.0189	-0.2604	0.0453
2	80.16	0.3998	-0.0420	0.0020	0.0128	0.0058	-0.6290	0.0302	-0.4296	0.0400
2	80.16	0.4496	-0.0502	0.0015	0.0115	0.0078	-0.9258	0.0433	-0.5165	0.0455
2	80.16	0.4995	-0.0619	0.0025	0.0059	0.0103	-1.2926	0.0555	-0.6395	0.0479
2	80.16	0.5551	-0.0606	0.0024	0.0029	0.0129	-1.7881	0.0742	-0.7708	0.0530
2	80.16	0.5996	-0.0675	0.0022	-0.0067	0.0156	-2.2192	0.0919	-0.8575	0.0469
2	80.16	0.6497	-0.0624	0.0033	-0.0058	0.0185	-2.7799	0.1140	-0.8358	0.0524
2	80.16	0.6996	-0.0800	0.0045	-0.0163	0.0216	-3.4103	0.1389	-0.7986	0.0531
2	80.16	0.7495	-0.0897	0.0059	-0.0276	0.0254	-4.1008	0.1670	-0.8926	0.0554
2	80.16	0.7996	-0.0979	0.0073	-0.0513	0.0291	-4.9249	0.1987	-1.0967	0.0561
2	80.16	0.8578	-0.1464	0.0091	-0.0723	0.0339	-5.8667	0.2350	-0.9084	0.0605
2	80.16	0.9100	-0.1936	0.0103	-0.0353	0.0382	-6.7138	0.2699	-0.8426	0.0587
2	80.16	0.9727	-0.2410	0.0112	0.0649	0.0427	-7.7142	0.3103	-0.7321	0.0634
3	80.16	0.1938	-0.0010	0.0023	-0.0265	0.0006	0.0007	0.0025	-0.1823	0.0193
3	80.16	0.2357	-0.0023	0.0015	0.0205	0.0010	-0.0752	0.0051	-0.6221	0.0256
3	80.16	0.2995	-0.0187	0.0015	-0.0430	0.0020	-0.0934	0.0093	-0.6609	0.0386
3	80.16	0.3493	-0.0305	0.0012	-0.0753	0.0036	-0.1721	0.0181	-0.6596	0.0321
3	80.16	0.4000	-0.0272	0.0014	-0.0863	0.0055	-0.3022	0.0267	-0.6215	0.0323
3	80.16	0.4497	-0.0417	0.0011	-0.1185	0.0068	-0.4961	0.0355	-0.7167	0.0347
3	80.16	0.4997	-0.0529	0.0013	-0.1415	0.0083	-0.7655	0.0443	-0.8687	0.0360
3	80.16	0.5556	-0.0567	0.0014	-0.1595	0.0101	-1.1121	0.0521	-0.9069	0.0364
3	80.16	0.5995	-0.0485	0.0014	-0.1940	0.0116	-1.4700	0.0579	-0.9430	0.0413
3	80.16	0.6498	-0.0451	0.0018	-0.2321	0.0134	-1.9437	0.0653	-0.9207	0.0410
3	80.16	0.6890	-0.0735	0.0019	-0.2620	0.0150	-2.3619	0.0688	-0.7069	0.0411
3	80.16	0.7495	-0.0752	0.0023	-0.2945	0.0182	-3.1397	0.0759	-1.0048	0.0458
3	80.16	0.7998	-0.0775	0.0025	-0.3220	0.0204	-3.8520	0.0825	-1.0494	0.0461
3	80.16	0.8577	-0.1084	0.0027	-0.3379	0.0239	-4.7870	0.0897	-1.0194	0.0457
3	80.16	0.9178	-0.1582	0.0033	-0.3618	0.0270	-5.8016	0.0999	-1.0351	0.0474
3	80.16	0.9729	-0.1797	0.0038	-0.3465	0.0308	-6.8286	0.1120	-1.3187	0.0483
4	80.16	0.2001	0.0401	0.0009	0.0151	0.0012	-0.1004	0.0048	0.0781	0.0294
4	80.16	0.2502	-0.0162	0.0015	0.0322	0.0022	-0.1509	0.0075	0.4571	0.0505
4	80.16	0.3001	-0.0197	0.0014	0.0685	0.0051	-0.3681	0.0186	0.3062	0.0631
4	80.16	0.3502	-0.0413	0.0015	0.1162	0.0075	-0.6373	0.0288	0.2904	0.0609
4	80.16	0.4002	-0.0567	0.0021	0.1841	0.0124	-0.9563	0.0455	0.2175	0.0553
4	80.16	0.4500	-0.0617	0.0020	0.2478	0.0169	-1.3870	0.0611	-0.0044	0.0545
4	80.16	0.5001	-0.0769	0.0024	0.3009	0.0233	-1.8397	0.0794	0.1157	0.0548
4	80.16	0.5560	-0.0890	0.0027	0.3753	0.0312	-2.5302	0.1007	-0.1522	0.0588
4	80.16	0.6001	-0.0933	0.0029	0.4332	0.0382	-3.1124	0.1169	-0.1644	0.0630
4	80.16	0.6501	-0.1195	0.0030	0.4786	0.0470	-3.8844	0.1354	-0.1429	0.0685
4	80.16	0.6999	-0.1288	0.0038	0.5215	0.0562	-4.7650	0.1529	-0.1486	0.0626
4	80.16	0.7500	-0.1587	0.0041	0.5888	0.0661	-5.6729	0.1666	0.1280	0.0646
4	80.16	0.8002	-0.1916	0.0047	0.6429	0.0768	-6.7479	0.1816	-0.1027	0.0658
4	80.16	0.8582	-0.2317	0.0057	0.7353	0.0891	-7.9802	0.2000	-0.1305	0.0656
4	80.16	0.9101	-0.2784	0.0070	0.8120	0.1003	-9.1597	0.2204	-0.1750	0.0669
4	80.16	0.9728	-0.2867	0.0074	0.9716	0.1139	-10.5288	0.2474	0.0146	0.0676

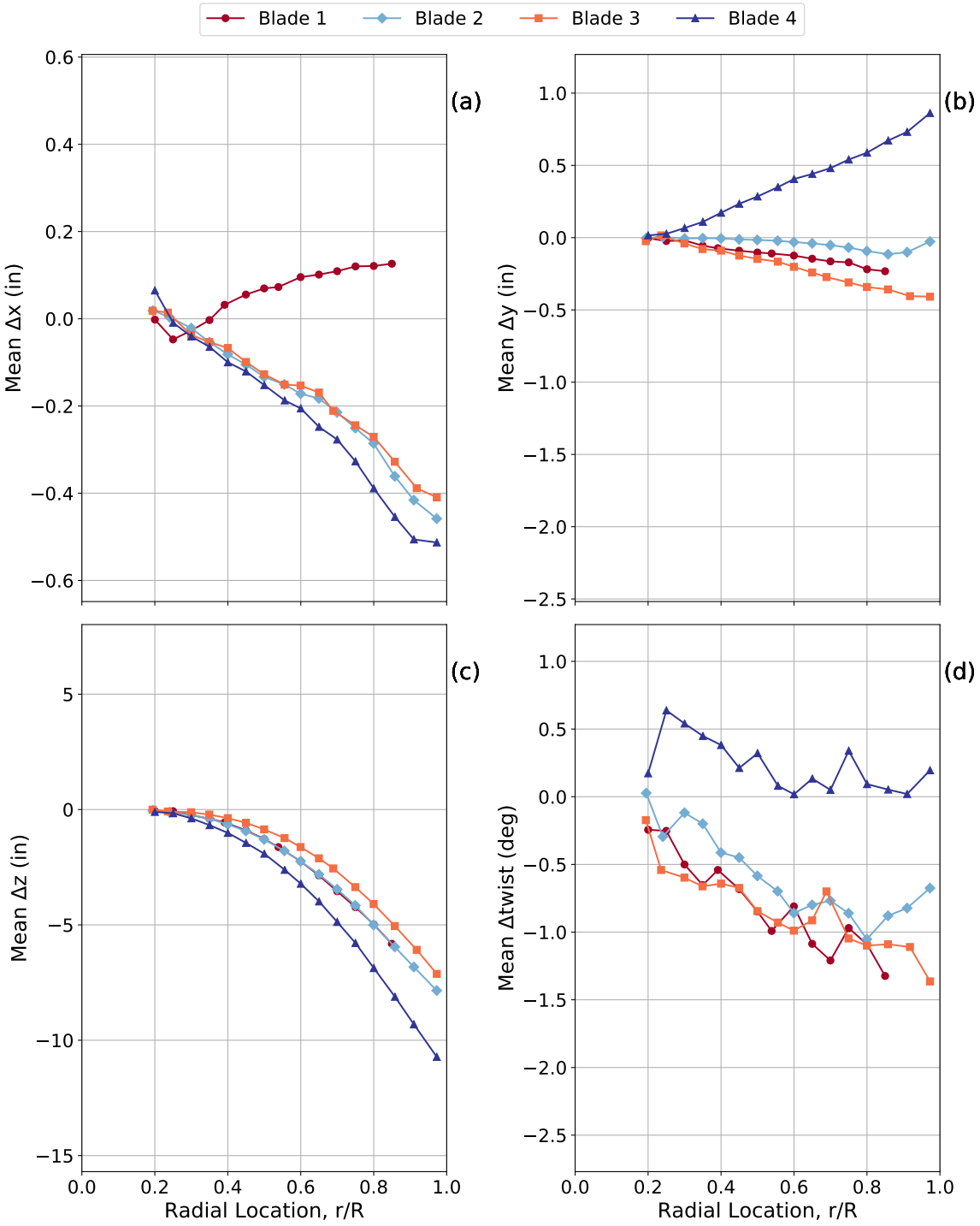


Figure 2.2-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.241$, $\alpha = -3°$ NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0019	0.0009	-0.0037	0.0008	-0.0653	0.0032	-0.2441	0.0315
1	85.08	0.2499	-0.0474	0.0015	-0.0235	0.0015	-0.0707	0.0079	-0.2520	0.0414
1	85.08	0.2998	-0.0271	0.0013	-0.0191	0.0031	-0.2420	0.0149	-0.5005	0.0674
1	85.08	0.3498	-0.0030	0.0017	-0.0560	0.0051	-0.4005	0.0243	-0.6525	0.0719
1	85.08	0.3913	0.0320	0.0023	-0.0732	0.0073	-0.5592	0.0366	-0.5410	0.0587
1	85.08	0.4496	0.0555	0.0029	-0.0905	0.0102	-0.9020	0.0516	-0.6828	0.0675
1	85.08	0.4997	0.0696	0.0029	-0.1027	0.0130	-1.2771	0.0673	-0.8478	0.0700
1	85.08	0.5387	0.0728	0.0038	-0.1098	0.0155	-1.6278	0.0790	-0.9913	0.0741
1	85.08	0.5996	0.0955	0.0046	-0.1241	0.0195	-2.2444	0.0968	-0.8098	0.0770
1	85.08	0.6498	0.1013	0.0040	-0.1458	0.0231	-2.8572	0.1159	-1.0866	0.0965
1	85.08	0.6998	0.1091	0.0049	-0.1643	0.0278	-3.5396	0.1315	-1.2095	0.1104
1	85.08	0.7500	0.1201	0.0047	-0.1712	0.0332	-4.2329	0.1550	-0.9698	0.1097
1	85.08	0.8001	0.1210	0.0083	-0.2189	0.0371	-4.9820	0.1694	-1.0910	0.1794
1	85.08	0.8497	0.1262	0.0079	-0.2326	0.0416	-5.8200	0.1950	-1.3239	0.1256
2	85.08	0.1949	0.0185	0.0016	-0.0032	0.0007	-0.0392	0.0022	0.0267	0.0295
2	85.08	0.2405	0.0036	0.0018	0.0048	0.0019	-0.1181	0.0036	-0.2944	0.0438
2	85.08	0.2999	-0.0215	0.0013	-0.0062	0.0031	-0.2353	0.0073	-0.1183	0.0656
2	85.08	0.3498	-0.0537	0.0018	-0.0036	0.0052	-0.3945	0.0121	-0.1997	0.0656
2	85.08	0.3998	-0.0815	0.0019	-0.0056	0.0085	-0.6456	0.0182	-0.4127	0.0590
2	85.08	0.4496	-0.1050	0.0016	-0.0122	0.0104	-0.9305	0.0245	-0.4491	0.0570
2	85.08	0.4995	-0.1333	0.0018	-0.0160	0.0126	-1.2961	0.0316	-0.5849	0.0551
2	85.08	0.5551	-0.1506	0.0016	-0.0215	0.0158	-1.7920	0.0386	-0.6983	0.0699
2	85.08	0.5996	-0.1719	0.0020	-0.0311	0.0186	-2.2414	0.0484	-0.8597	0.0625
2	85.08	0.6497	-0.1826	0.0021	-0.0396	0.0226	-2.8097	0.0587	-0.7986	0.0689
2	85.08	0.6996	-0.2146	0.0021	-0.0521	0.0271	-3.4549	0.0702	-0.7680	0.0748
2	85.08	0.7495	-0.2507	0.0023	-0.0686	0.0310	-4.1564	0.0822	-0.8607	0.0661
2	85.08	0.7996	-0.2858	0.0021	-0.0929	0.0355	-5.0007	0.0965	-1.0527	0.0647
2	85.08	0.8578	-0.3613	0.0026	-0.1148	0.0406	-5.9532	0.1114	-0.8794	0.0662
2	85.08	0.9100	-0.4158	0.0035	-0.1008	0.0453	-6.8249	0.1270	-0.8224	0.0691
2	85.08	0.9727	-0.4584	0.0038	-0.0271	0.0511	-7.8456	0.1473	-0.6747	0.0690
3	85.08	0.1938	0.0184	0.0024	-0.0246	0.0010	-0.0049	0.0035	-0.1729	0.0247
3	85.08	0.2357	0.0142	0.0014	0.0154	0.0017	-0.0858	0.0066	-0.5413	0.0465
3	85.08	0.2995	-0.0371	0.0010	-0.0402	0.0042	-0.1183	0.0142	-0.5975	0.0589
3	85.08	0.3493	-0.0534	0.0017	-0.0792	0.0069	-0.2186	0.0248	-0.6620	0.0557
3	85.08	0.4000	-0.0670	0.0018	-0.0898	0.0110	-0.3727	0.0382	-0.6418	0.0515
3	85.08	0.4497	-0.0991	0.0018	-0.1241	0.0141	-0.5743	0.0507	-0.6735	0.0691
3	85.08	0.4997	-0.1273	0.0015	-0.1470	0.0176	-0.8624	0.0651	-0.8451	0.0717
3	85.08	0.5556	-0.1510	0.0020	-0.1663	0.0230	-1.2372	0.0811	-0.9295	0.0725
3	85.08	0.5995	-0.1532	0.0020	-0.2019	0.0272	-1.6259	0.0915	-0.9891	0.0748
3	85.08	0.6498	-0.1692	0.0022	-0.2411	0.0323	-2.1137	0.1046	-0.9133	0.0747
3	85.08	0.6890	-0.2110	0.0019	-0.2726	0.0375	-2.5527	0.1123	-0.6995	0.0779
3	85.08	0.7495	-0.2441	0.0021	-0.3096	0.0456	-3.3630	0.1266	-1.0469	0.0817
3	85.08	0.7998	-0.2707	0.0026	-0.3415	0.0526	-4.0970	0.1390	-1.0995	0.0842
3	85.08	0.8577	-0.3278	0.0033	-0.3583	0.0602	-5.0492	0.1548	-1.0898	0.0881
3	85.08	0.9178	-0.3884	0.0040	-0.4045	0.0686	-6.0812	0.1744	-1.1100	0.0857
3	85.08	0.9729	-0.4096	0.0046	-0.4087	0.0759	-7.1251	0.1930	-1.3643	0.0897
4	85.08	0.2001	0.0649	0.0021	0.0155	0.0007	-0.1034	0.0028	0.1727	0.0276
4	85.08	0.2502	-0.0091	0.0013	0.0263	0.0021	-0.1624	0.0052	0.6376	0.0533
4	85.08	0.3001	-0.0407	0.0015	0.0665	0.0026	-0.3820	0.0085	0.5405	0.0639
4	85.08	0.3502	-0.0645	0.0011	0.1093	0.0053	-0.6789	0.0169	0.4488	0.0561
4	85.08	0.4002	-0.0999	0.0010	0.1722	0.0080	-1.0133	0.0240	0.3818	0.0532
4	85.08	0.4500	-0.1209	0.0017	0.2344	0.0107	-1.4471	0.0319	0.2124	0.0559
4	85.08	0.5001	-0.1522	0.0016	0.2849	0.0136	-1.9166	0.0399	0.3215	0.0636
4	85.08	0.5560	-0.1873	0.0018	0.3498	0.0179	-2.6141	0.0478	0.0807	0.0643
4	85.08	0.6001	-0.2056	0.0019	0.4054	0.0205	-3.2170	0.0558	0.0180	0.0579
4	85.08	0.6501	-0.2479	0.0027	0.4408	0.0243	-3.9837	0.0655	0.1337	0.0658
4	85.08	0.6999	-0.2770	0.0031	0.4809	0.0282	-4.8735	0.0752	0.0503	0.0555
4	85.08	0.7500	-0.3270	0.0036	0.5402	0.0321	-5.7869	0.0876	0.3397	0.0640
4	85.08	0.8002	-0.3890	0.0041	0.5880	0.0360	-6.8718	0.1045	0.0931	0.0616
4	85.08	0.8582	-0.4544	0.0055	0.6720	0.0414	-8.1162	0.1234	0.0527	0.0631
4	85.08	0.9101	-0.5060	0.0067	0.7318	0.0468	-9.3106	0.1422	0.0200	0.0645
4	85.08	0.9728	-0.5130	0.0083	0.8621	0.0533	-10.7209	0.1657	0.1953	0.0608

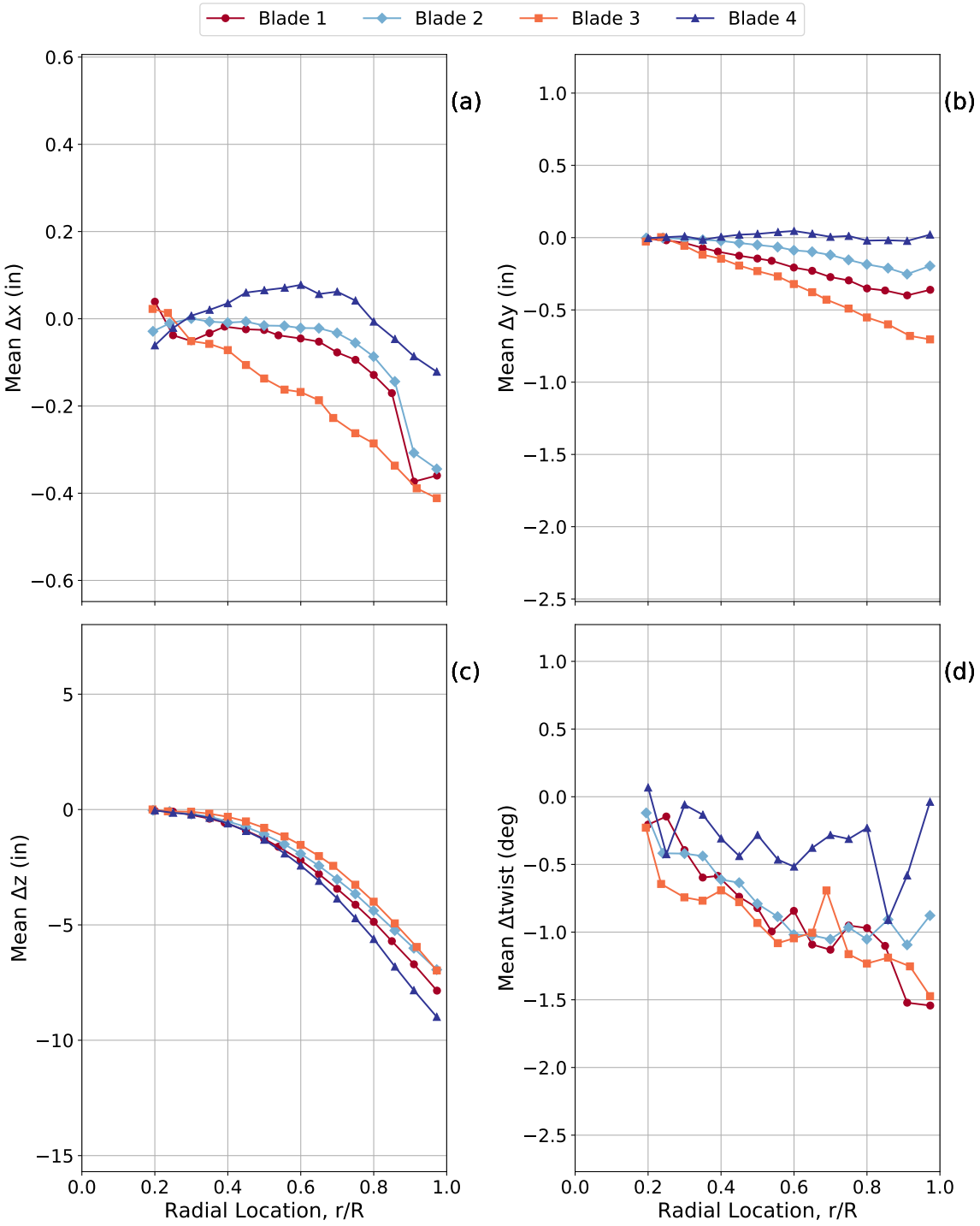


Figure 2.2-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0391	0.0021	-0.0096	0.0017	-0.0553	0.0043	-0.2059	0.0262
1	90	0.2499	-0.0378	0.0014	-0.0183	0.0026	-0.0916	0.0061	-0.1461	0.0643
1	90	0.2998	-0.0511	0.0008	-0.0367	0.0059	-0.2306	0.0145	-0.3943	0.0674
1	90	0.3498	-0.0331	0.0010	-0.0715	0.0106	-0.3970	0.0255	-0.5969	0.0586
1	90	0.3913	-0.0180	0.0012	-0.0968	0.0145	-0.5671	0.0345	-0.5848	0.0586
1	90	0.4496	-0.0241	0.0015	-0.1251	0.0199	-0.9102	0.0482	-0.7388	0.0565
1	90	0.4997	-0.0257	0.0016	-0.1445	0.0247	-1.2716	0.0595	-0.8221	0.0591
1	90	0.5387	-0.0380	0.0016	-0.1603	0.0284	-1.6144	0.0687	-0.9957	0.0619
1	90	0.5996	-0.0452	0.0016	-0.2069	0.0342	-2.1916	0.0827	-0.8430	0.0726
1	90	0.6498	-0.0525	0.0022	-0.2295	0.0401	-2.7972	0.0958	-1.0920	0.0679
1	90	0.6998	-0.0772	0.0022	-0.2728	0.0455	-3.4360	0.1087	-1.1302	0.0722
1	90	0.7500	-0.0942	0.0031	-0.2959	0.0521	-4.1250	0.1208	-0.9511	0.0790
1	90	0.8001	-0.1288	0.0042	-0.3514	0.0584	-4.8676	0.1386	-0.9703	0.0791
1	90	0.8497	-0.1705	0.0049	-0.3656	0.0647	-5.7037	0.1559	-1.1018	0.0696
1	90	0.9102	-0.3734	0.0051	-0.3993	0.0736	-6.7072	0.1807	-1.5215	0.0708
1	90	0.9734	-0.3595	0.0058	-0.3609	0.0818	-7.8498	0.2105	-1.5424	0.0742
2	90	0.1949	-0.0288	0.0012	-0.0025	0.0009	-0.0337	0.0028	-0.1195	0.0135
2	90	0.2405	-0.0105	0.0008	-0.0020	0.0019	-0.0863	0.0049	-0.4175	0.0336
2	90	0.2999	0.0006	0.0011	-0.0089	0.0038	-0.1957	0.0114	-0.4200	0.0354
2	90	0.3498	-0.0066	0.0010	-0.0149	0.0061	-0.3064	0.0186	-0.4383	0.0340
2	90	0.3998	-0.0089	0.0012	-0.0222	0.0098	-0.5122	0.0291	-0.6119	0.0318
2	90	0.4496	-0.0065	0.0017	-0.0372	0.0128	-0.7533	0.0405	-0.6352	0.0369
2	90	0.4995	-0.0156	0.0017	-0.0503	0.0158	-1.0728	0.0530	-0.7903	0.0376
2	90	0.5551	-0.0163	0.0021	-0.0651	0.0199	-1.5063	0.0694	-0.8858	0.0399
2	90	0.5996	-0.0212	0.0021	-0.0877	0.0240	-1.9171	0.0824	-1.0182	0.0368
2	90	0.6497	-0.0217	0.0022	-0.0977	0.0283	-2.4375	0.0967	-1.0244	0.0483
2	90	0.6996	-0.0326	0.0023	-0.1198	0.0332	-3.0295	0.1124	-1.0529	0.0571
2	90	0.7495	-0.0553	0.0028	-0.1540	0.0377	-3.6577	0.1259	-0.9649	0.0504
2	90	0.7996	-0.0867	0.0030	-0.1850	0.0421	-4.3848	0.1384	-1.0526	0.0597
2	90	0.8578	-0.1439	0.0038	-0.2109	0.0493	-5.2429	0.1534	-0.9072	0.0756
2	90	0.9100	-0.3075	0.0028	-0.2523	0.0534	-6.0093	0.1730	-1.0941	0.0429
2	90	0.9727	-0.3444	0.0030	-0.1960	0.0606	-6.9411	0.1902	-0.8775	0.0513
3	90	0.1938	0.0226	0.0037	-0.0269	0.0014	0.0034	0.0035	-0.2286	0.0192
3	90	0.2357	0.0132	0.0028	0.0032	0.0013	-0.0786	0.0046	-0.6443	0.0576
3	90	0.2995	-0.0511	0.0014	-0.0561	0.0041	-0.0950	0.0122	-0.7433	0.0613
3	90	0.3493	-0.0576	0.0020	-0.1177	0.0084	-0.1783	0.0208	-0.7680	0.0586
3	90	0.4000	-0.0719	0.0024	-0.1459	0.0117	-0.3158	0.0315	-0.6917	0.0578
3	90	0.4497	-0.1060	0.0023	-0.1931	0.0142	-0.5152	0.0422	-0.7786	0.0505
3	90	0.4997	-0.1370	0.0019	-0.2314	0.0170	-0.7935	0.0518	-0.9324	0.0594
3	90	0.5556	-0.1625	0.0016	-0.2679	0.0203	-1.1674	0.0639	-1.0817	0.0591
3	90	0.5995	-0.1679	0.0015	-0.3212	0.0233	-1.5344	0.0732	-1.0459	0.0581
3	90	0.6498	-0.1869	0.0016	-0.3775	0.0278	-2.0176	0.0825	-1.0043	0.0642
3	90	0.6890	-0.2275	0.0021	-0.4291	0.0304	-2.4400	0.0901	-0.6923	0.0647
3	90	0.7495	-0.2625	0.0022	-0.4907	0.0361	-3.2595	0.1048	-1.1626	0.0625
3	90	0.7998	-0.2858	0.0026	-0.5521	0.0407	-3.9953	0.1180	-1.2320	0.0580
3	90	0.8577	-0.3367	0.0033	-0.5999	0.0460	-4.9339	0.1331	-1.1886	0.0696
3	90	0.9178	-0.3888	0.0035	-0.6799	0.0513	-5.9566	0.1550	-1.2530	0.0612
3	90	0.9729	-0.4113	0.0045	-0.7040	0.0563	-6.9747	0.1762	-1.4732	0.0655
4	90.35	0.2001	-0.0610	0.0015	-0.0035	0.0008	-0.0357	0.0026	0.0677	0.0211
4	90.35	0.2502	-0.0209	0.0009	0.0033	0.0021	-0.1416	0.0059	-0.4248	0.0239
4	90.35	0.3001	0.0070	0.0008	0.0095	0.0036	-0.2158	0.0096	-0.0588	0.0418
4	90.35	0.3502	0.0205	0.0010	-0.0146	0.0059	-0.3587	0.0167	-0.1333	0.0305
4	90.35	0.4002	0.0356	0.0015	0.0057	0.0095	-0.6044	0.0256	-0.3085	0.0314
4	90.35	0.4500	0.0600	0.0014	0.0202	0.0114	-0.9319	0.0334	-0.4384	0.0350
4	90.35	0.5001	0.0654	0.0024	0.0257	0.0145	-1.3110	0.0411	-0.2824	0.0342
4	90.35	0.5560	0.0710	0.0026	0.0382	0.0176	-1.9066	0.0486	-0.4649	0.0356
4	90.35	0.6001	0.0777	0.0026	0.0462	0.0210	-2.4304	0.0569	-0.5163	0.0439
4	90.35	0.6501	0.0567	0.0030	0.0271	0.0251	-3.0946	0.0617	-0.3776	0.0525
4	90.35	0.6999	0.0621	0.0036	0.0054	0.0292	-3.8581	0.0688	-0.2826	0.0619
4	90.35	0.7500	0.0416	0.0048	0.0116	0.0341	-4.7124	0.0762	-0.3118	0.0370
4	90.35	0.8002	-0.0066	0.0040	-0.0204	0.0379	-5.6138	0.0824	-0.2304	0.0882
4	90.35	0.8582	-0.0465	0.0113	-0.0181	0.0517	-6.8097	0.0975	-0.9100	0.2630
4	90.35	0.9101	-0.0861	0.0127	-0.0227	0.0489	-7.8361	0.1149	-0.5817	0.1378
4	90.35	0.9728	-0.1215	0.0094	0.0207	0.0590	-8.9887	0.1428	-0.0375	0.1772

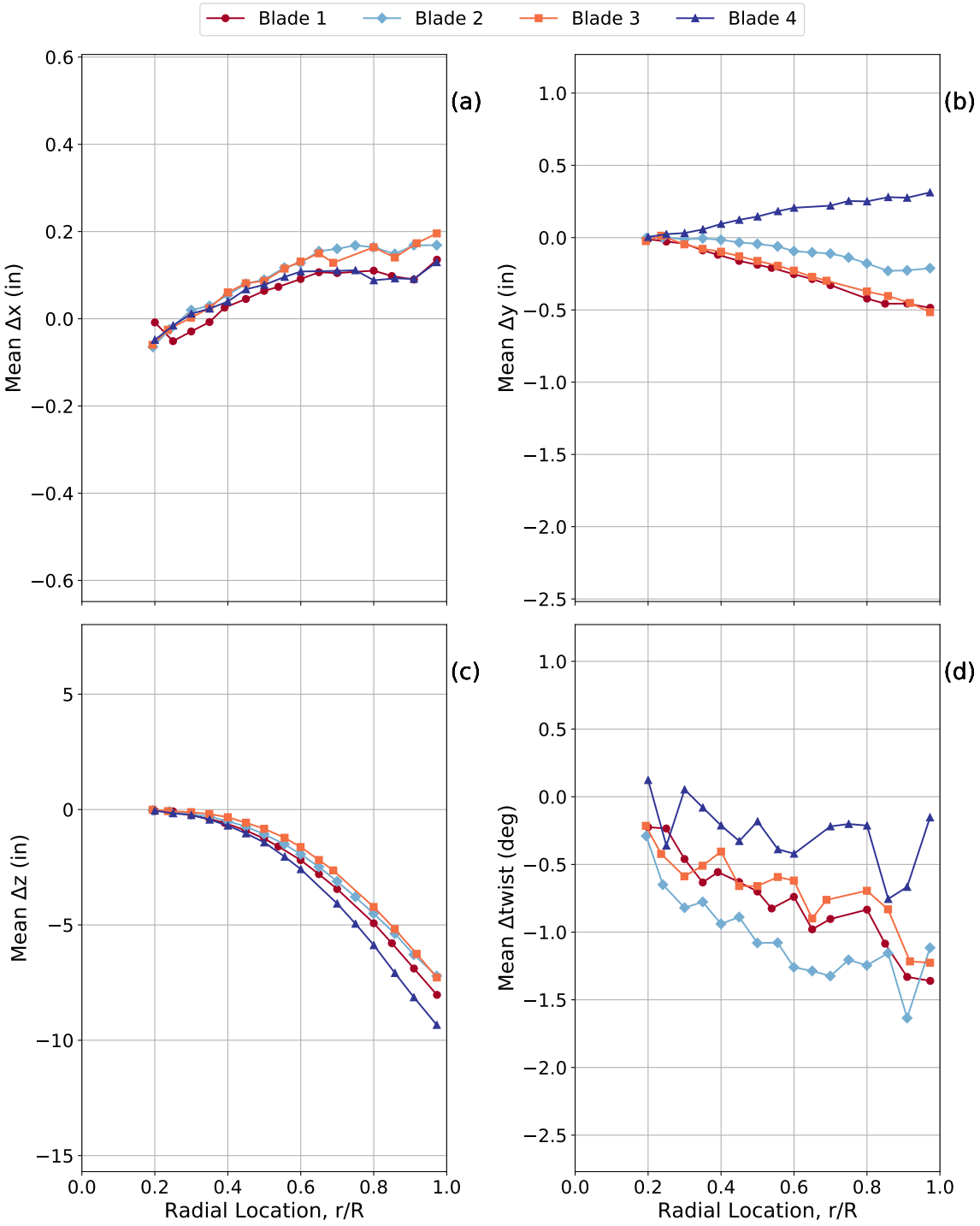


Figure 2.2-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.241$, $\alpha = -3°$ NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0084	0.0012	-0.0099	0.0008	-0.0636	0.0025	-0.2249	0.0177
1	94.92	0.2499	-0.0513	0.0008	-0.0275	0.0021	-0.0789	0.0055	-0.2346	0.0321
1	94.92	0.2998	-0.0291	0.0013	-0.0406	0.0033	-0.2467	0.0096	-0.4600	0.0408
1	94.92	0.3498	-0.0075	0.0016	-0.0882	0.0064	-0.4092	0.0173	-0.6333	0.0437
1	94.92	0.3913	0.0256	0.0018	-0.1186	0.0090	-0.5789	0.0245	-0.5567	0.0343
1	94.92	0.4496	0.0453	0.0020	-0.1610	0.0117	-0.9070	0.0346	-0.6299	0.0433
1	94.92	0.4997	0.0639	0.0016	-0.1877	0.0147	-1.2613	0.0421	-0.7002	0.0397
1	94.92	0.5387	0.0732	0.0020	-0.2095	0.0172	-1.5991	0.0504	-0.8255	0.0404
1	94.92	0.5996	0.0911	0.0021	-0.2527	0.0219	-2.1923	0.0610	-0.7393	0.0408
1	94.92	0.6498	0.1067	0.0023	-0.2864	0.0261	-2.8011	0.0673	-0.9793	0.0763
1	94.92	0.6998	0.1048	0.0028	-0.3290	0.0303	-3.4464	0.0744	-0.9031	0.0486
1	94.92	0.8001	0.1103	0.0046	-0.4217	0.0401	-4.9281	0.0894	-0.8342	0.0596
1	94.92	0.8497	0.0980	0.0046	-0.4572	0.0446	-5.7946	0.0941	-1.0852	0.0561
1	94.92	0.9102	0.0899	0.0087	-0.4564	0.0525	-6.8903	0.1050	-1.3310	0.2217
1	94.92	0.9734	0.1355	0.0088	-0.4856	0.0580	-8.0341	0.1166	-1.3602	0.1310
2	94.92	0.1949	-0.0647	0.0009	-0.0030	0.0006	-0.0355	0.0029	-0.2898	0.0117
2	94.92	0.2405	-0.0243	0.0014	0.0030	0.0013	-0.0828	0.0030	-0.6496	0.0281
2	94.92	0.2999	0.0199	0.0009	-0.0118	0.0024	-0.1962	0.0111	-0.8198	0.0323
2	94.92	0.3498	0.0295	0.0011	-0.0052	0.0043	-0.3050	0.0157	-0.7771	0.0332
2	94.92	0.3998	0.0544	0.0014	-0.0152	0.0065	-0.5080	0.0252	-0.9391	0.0276
2	94.92	0.4496	0.0803	0.0016	-0.0330	0.0090	-0.7374	0.0330	-0.8888	0.0392
2	94.92	0.4995	0.0896	0.0016	-0.0433	0.0115	-1.0683	0.0437	-1.0802	0.0333
2	94.92	0.5551	0.1173	0.0018	-0.0605	0.0146	-1.5010	0.0561	-1.0784	0.0352
2	94.92	0.5996	0.1284	0.0028	-0.0937	0.0170	-1.9346	0.0651	-1.2599	0.0465
2	94.92	0.6497	0.1549	0.0033	-0.1019	0.0196	-2.4866	0.0763	-1.2867	0.0386
2	94.92	0.6996	0.1604	0.0028	-0.1103	0.0224	-3.1138	0.0863	-1.3248	0.0389
2	94.92	0.7495	0.1681	0.0032	-0.1375	0.0252	-3.7860	0.0968	-1.2050	0.0474
2	94.92	0.7996	0.1642	0.0045	-0.1782	0.0280	-4.5081	0.1096	-1.2456	0.0355
2	94.92	0.8578	0.1487	0.0045	-0.2301	0.0309	-5.3792	0.1194	-1.1556	0.0650
2	94.92	0.9100	0.1685	0.0090	-0.2266	0.0337	-6.2912	0.1314	-1.6347	0.2175
2	94.92	0.9727	0.1687	0.0077	-0.2118	0.0375	-7.2149	0.1435	-1.1159	0.0902
3	94.92	0.1938	-0.0598	0.0011	-0.0240	0.0007	-0.0080	0.0026	-0.2150	0.0196
3	94.92	0.2357	-0.0251	0.0007	0.0135	0.0018	-0.0693	0.0053	-0.4224	0.0230
3	94.92	0.2995	0.0026	0.0013	-0.0466	0.0027	-0.1130	0.0101	-0.5882	0.0394
3	94.92	0.3493	0.0242	0.0009	-0.0772	0.0055	-0.1920	0.0188	-0.5097	0.0358
3	94.92	0.4000	0.0605	0.0021	-0.0977	0.0083	-0.3331	0.0281	-0.4053	0.0350
3	94.92	0.4497	0.0814	0.0017	-0.1287	0.0114	-0.5697	0.0394	-0.6597	0.0328
3	94.92	0.4997	0.0868	0.0018	-0.1610	0.0142	-0.8337	0.0483	-0.6598	0.0329
3	94.92	0.5556	0.1150	0.0026	-0.1945	0.0176	-1.2226	0.0595	-0.5929	0.0399
3	94.92	0.5995	0.1312	0.0019	-0.2278	0.0203	-1.6250	0.0682	-0.6191	0.0411
3	94.92	0.6498	0.1501	0.0023	-0.2712	0.0237	-2.1861	0.0773	-0.8991	0.0301
3	94.92	0.6890	0.1284	0.0031	-0.2980	0.0272	-2.6388	0.0854	-0.7619	0.0290
3	94.92	0.7998	0.1639	0.0047	-0.3724	0.0362	-4.2217	0.1114	-0.6944	0.0462
3	94.92	0.8577	0.1404	0.0047	-0.4039	0.0406	-5.1789	0.1286	-0.8316	0.0713
3	94.92	0.9178	0.1732	0.0090	-0.4513	0.0453	-6.2551	0.1425	-1.2163	0.1270
3	94.92	0.9729	0.1957	0.0080	-0.5156	0.0535	-7.2788	0.1626	-1.2261	0.1555
4	94.92	0.2001	-0.0484	0.0010	0.0047	0.0012	-0.0487	0.0041	0.1232	0.0163
4	94.92	0.2502	-0.0155	0.0006	0.0242	0.0022	-0.1636	0.0060	-0.3609	0.0398
4	94.92	0.3001	0.0116	0.0009	0.0318	0.0040	-0.2416	0.0141	0.0535	0.0395
4	94.92	0.3502	0.0232	0.0010	0.0568	0.0074	-0.4380	0.0242	-0.0802	0.0299
4	94.92	0.4002	0.0397	0.0017	0.0949	0.0106	-0.6965	0.0358	-0.2125	0.0359
4	94.92	0.4500	0.0676	0.0018	0.1231	0.0132	-1.0334	0.0467	-0.3274	0.0326
4	94.92	0.5001	0.0778	0.0015	0.1459	0.0161	-1.4261	0.0587	-0.1821	0.0476
4	94.92	0.5560	0.0960	0.0020	0.1828	0.0208	-2.0455	0.0752	-0.3883	0.0433
4	94.92	0.6001	0.1083	0.0026	0.2064	0.0249	-2.5861	0.0866	-0.4207	0.0447
4	94.92	0.6999	0.1098	0.0033	0.2210	0.0354	-4.0767	0.1163	-0.2189	0.0510
4	94.92	0.7500	0.1112	0.0039	0.2536	0.0406	-4.9502	0.1292	-0.2013	0.0509
4	94.92	0.8002	0.0882	0.0046	0.2508	0.0474	-5.8793	0.1436	-0.2131	0.0724
4	94.92	0.8582	0.0925	0.0067	0.2800	0.0554	-7.0873	0.1575	-0.7553	0.1033
4	94.92	0.9101	0.0915	0.0065	0.2760	0.0631	-8.1391	0.1669	-0.6661	0.0694
4	94.92	0.9728	0.1297	0.0088	0.3127	0.0707	-9.3358	0.1867	-0.1527	0.1206

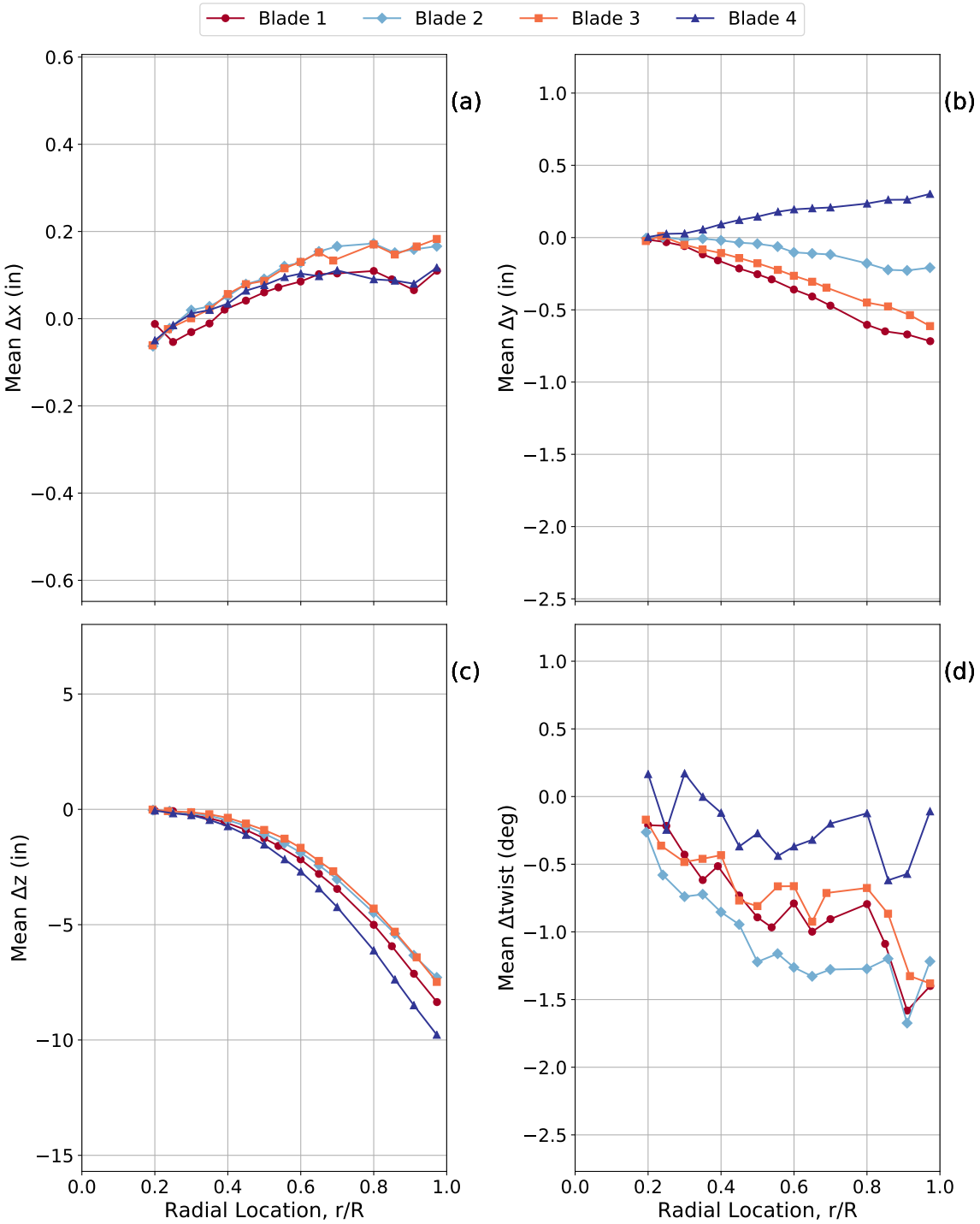


Figure 2.2-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0121	0.0017	-0.0149	0.0012	-0.0584	0.0033	-0.2113	0.0178
1	99.84	0.2499	-0.0534	0.0013	-0.0317	0.0015	-0.0765	0.0068	-0.2167	0.0288
1	99.84	0.2998	-0.0307	0.0010	-0.0586	0.0049	-0.2318	0.0137	-0.4289	0.0387
1	99.84	0.3498	-0.0110	0.0014	-0.1160	0.0062	-0.3893	0.0225	-0.6169	0.0278
1	99.84	0.3913	0.0208	0.0013	-0.1577	0.0096	-0.5516	0.0331	-0.5143	0.0336
1	99.84	0.4496	0.0415	0.0015	-0.2137	0.0143	-0.8910	0.0492	-0.7309	0.0342
1	99.84	0.4997	0.0603	0.0024	-0.2536	0.0183	-1.2555	0.0665	-0.8925	0.0306
1	99.84	0.5387	0.0718	0.0024	-0.2892	0.0221	-1.5858	0.0815	-0.9664	0.0357
1	99.84	0.5996	0.0853	0.0023	-0.3594	0.0285	-2.1690	0.1057	-0.7897	0.0412
1	99.84	0.6498	0.1021	0.0028	-0.4079	0.0345	-2.7964	0.1277	-0.9985	0.0341
1	99.84	0.6998	0.1038	0.0037	-0.4708	0.0414	-3.4500	0.1515	-0.9057	0.0394
1	99.84	0.8001	0.1094	0.0060	-0.6037	0.0559	-5.0059	0.2008	-0.7945	0.0493
1	99.84	0.8497	0.0902	0.0071	-0.6488	0.0639	-5.9335	0.2252	-1.0885	0.0553
1	99.84	0.9102	0.0655	0.0079	-0.6703	0.0744	-7.1276	0.2587	-1.5812	0.0609
1	99.84	0.9734	0.1100	0.0102	-0.7169	0.0842	-8.3558	0.2905	-1.3997	0.0671
2	99.84	0.1949	-0.0630	0.0010	-0.0035	0.0005	-0.0325	0.0022	-0.2631	0.0174
2	99.84	0.2405	-0.0222	0.0006	0.0028	0.0013	-0.0783	0.0043	-0.5801	0.0328
2	99.84	0.2999	0.0197	0.0010	-0.0144	0.0023	-0.1819	0.0096	-0.7392	0.0441
2	99.84	0.3498	0.0282	0.0014	-0.0071	0.0041	-0.2844	0.0152	-0.7223	0.0370
2	99.84	0.3998	0.0510	0.0018	-0.0198	0.0064	-0.4733	0.0245	-0.8536	0.0407
2	99.84	0.4496	0.0793	0.0014	-0.0351	0.0079	-0.7156	0.0323	-0.9450	0.0407
2	99.84	0.4995	0.0910	0.0018	-0.0427	0.0108	-1.0541	0.0432	-1.2216	0.0534
2	99.84	0.5551	0.1204	0.0019	-0.0624	0.0148	-1.4698	0.0559	-1.1609	0.0513
2	99.84	0.5996	0.1286	0.0018	-0.1023	0.0179	-1.8707	0.0652	-1.2624	0.0496
2	99.84	0.6497	0.1541	0.0031	-0.1100	0.0220	-2.4183	0.0727	-1.3281	0.0484
2	99.84	0.6996	0.1659	0.0035	-0.1171	0.0262	-3.0271	0.0797	-1.2779	0.0603
2	99.84	0.7996	0.1725	0.0048	-0.1784	0.0370	-4.4774	0.0923	-1.2730	0.0721
2	99.84	0.8578	0.1514	0.0067	-0.2231	0.0442	-5.3898	0.1065	-1.1979	0.0760
2	99.84	0.9100	0.1588	0.0078	-0.2276	0.0504	-6.3287	0.1185	-1.6738	0.0737
2	99.84	0.9727	0.1661	0.0087	-0.2082	0.0574	-7.2872	0.1345	-1.2178	0.0701
3	99.84	0.1938	-0.0610	0.0014	-0.0236	0.0006	-0.0094	0.0027	-0.1708	0.0271
3	99.84	0.2357	-0.0239	0.0012	0.0106	0.0015	-0.0768	0.0050	-0.3631	0.0507
3	99.84	0.2995	0.0010	0.0010	-0.0499	0.0028	-0.1234	0.0099	-0.4834	0.0633
3	99.84	0.3493	0.0213	0.0014	-0.0814	0.0050	-0.2139	0.0184	-0.4602	0.0439
3	99.84	0.4000	0.0565	0.0016	-0.1071	0.0079	-0.3667	0.0275	-0.4331	0.0462
3	99.84	0.4497	0.0791	0.0021	-0.1415	0.0118	-0.6170	0.0381	-0.7684	0.0484
3	99.84	0.4997	0.0866	0.0020	-0.1777	0.0140	-0.8934	0.0481	-0.8095	0.0510
3	99.84	0.5556	0.1156	0.0025	-0.2235	0.0177	-1.2720	0.0633	-0.6633	0.0455
3	99.84	0.5995	0.1302	0.0036	-0.2644	0.0211	-1.6673	0.0754	-0.6622	0.0481
3	99.84	0.6498	0.1521	0.0037	-0.3056	0.0253	-2.2370	0.0922	-0.9244	0.0502
3	99.84	0.6890	0.1334	0.0044	-0.3465	0.0281	-2.6852	0.1072	-0.7126	0.0466
3	99.84	0.7998	0.1702	0.0075	-0.4494	0.0393	-4.3019	0.1547	-0.6756	0.0542
3	99.84	0.8577	0.1472	0.0084	-0.4765	0.0452	-5.3051	0.1860	-0.8655	0.0506
3	99.84	0.9178	0.1656	0.0103	-0.5367	0.0523	-6.4153	0.2211	-1.3268	0.0944
3	99.84	0.9729	0.1828	0.0133	-0.6125	0.0587	-7.4816	0.2553	-1.3806	0.0864
4	99.84	0.2001	-0.0497	0.0012	0.0038	0.0007	-0.0509	0.0034	0.1658	0.0201
4	99.84	0.2502	-0.0150	0.0011	0.0257	0.0010	-0.1725	0.0042	-0.2458	0.0311
4	99.84	0.3001	0.0118	0.0014	0.0285	0.0018	-0.2525	0.0104	0.1709	0.0381
4	99.84	0.3502	0.0200	0.0010	0.0562	0.0035	-0.4616	0.0175	-0.0023	0.0358
4	99.84	0.4002	0.0346	0.0013	0.0921	0.0049	-0.7319	0.0255	-0.1202	0.0271
4	99.84	0.4500	0.0643	0.0010	0.1219	0.0065	-1.1058	0.0355	-0.3685	0.0332
4	99.84	0.5001	0.0770	0.0014	0.1450	0.0086	-1.5269	0.0465	-0.2716	0.0363
4	99.84	0.5560	0.0955	0.0013	0.1785	0.0115	-2.1657	0.0616	-0.4383	0.0337
4	99.84	0.6001	0.1034	0.0022	0.1952	0.0140	-2.6977	0.0758	-0.3684	0.0290
4	99.84	0.6501	0.0975	0.0017	0.2026	0.0181	-3.4298	0.0889	-0.3197	0.0372
4	99.84	0.6999	0.1108	0.0025	0.2084	0.0218	-4.2400	0.1010	-0.1998	0.0307
4	99.84	0.8002	0.0904	0.0039	0.2353	0.0310	-6.1187	0.1272	-0.1234	0.0403
4	99.84	0.8582	0.0873	0.0056	0.2614	0.0372	-7.3777	0.1427	-0.6185	0.0446
4	99.84	0.9101	0.0802	0.0072	0.2623	0.0430	-8.4961	0.1568	-0.5718	0.0574
4	99.84	0.9728	0.1171	0.0076	0.3022	0.0495	-9.7726	0.1767	-0.1095	0.0588

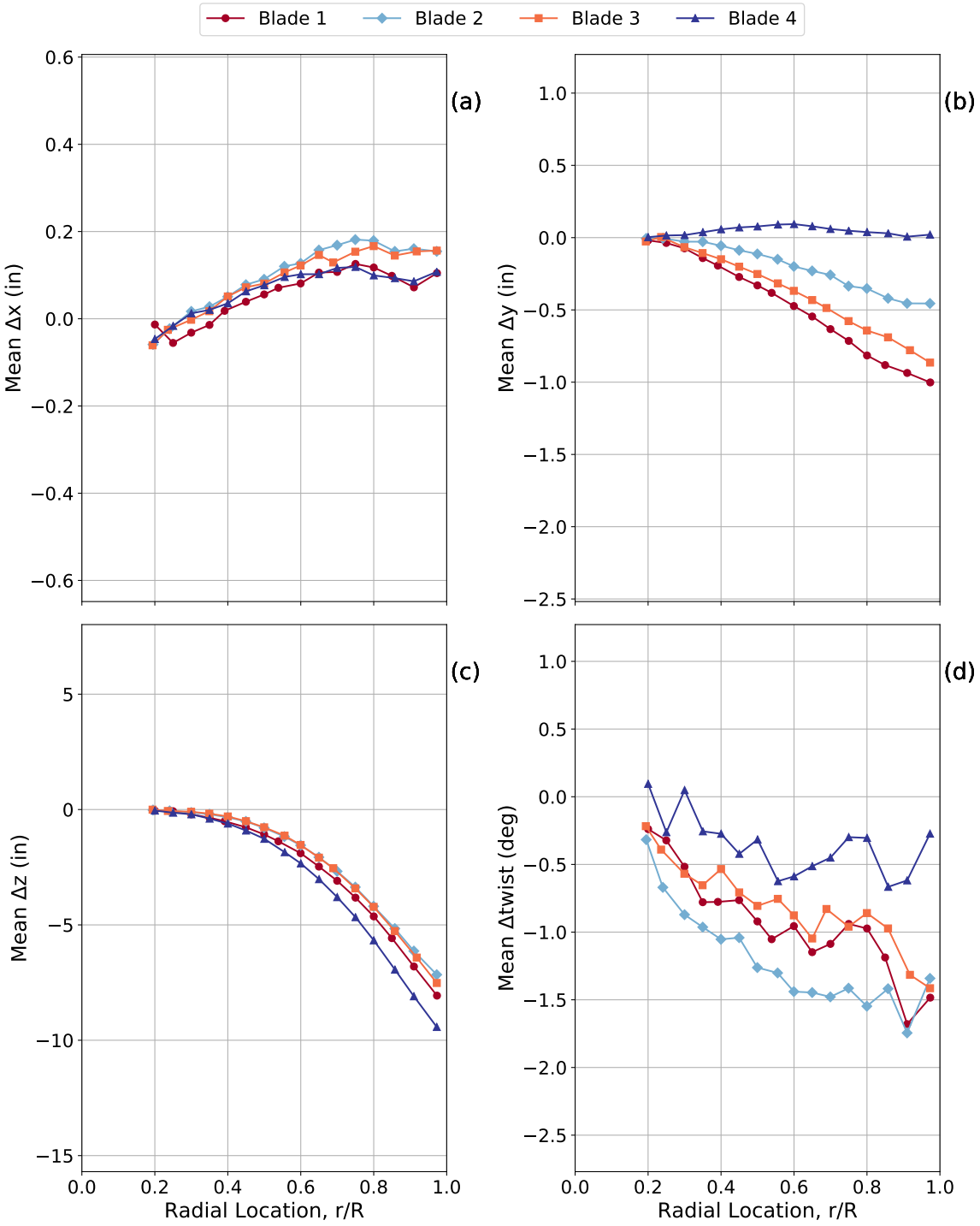


Figure 2.2-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0132	0.0017	-0.0190	0.0009	-0.0503	0.0027	-0.2390	0.0201
1	105.12	0.2499	-0.0554	0.0013	-0.0367	0.0030	-0.0722	0.0069	-0.3223	0.0245
1	105.12	0.2998	-0.0319	0.0013	-0.0740	0.0053	-0.2088	0.0141	-0.5170	0.0420
1	105.12	0.3498	-0.0141	0.0013	-0.1415	0.0082	-0.3538	0.0196	-0.7790	0.0409
1	105.12	0.3913	0.0182	0.0021	-0.1935	0.0132	-0.5053	0.0324	-0.7767	0.0387
1	105.12	0.4496	0.0390	0.0023	-0.2722	0.0179	-0.7694	0.0440	-0.7639	0.0368
1	105.12	0.4997	0.0558	0.0022	-0.3304	0.0228	-1.0798	0.0568	-0.9211	0.0367
1	105.12	0.5387	0.0711	0.0025	-0.3820	0.0269	-1.3766	0.0687	-1.0525	0.0344
1	105.12	0.5996	0.0810	0.0026	-0.4732	0.0343	-1.8927	0.0870	-0.9556	0.0279
1	105.12	0.6498	0.1059	0.0033	-0.5456	0.0402	-2.4727	0.1016	-1.1481	0.0410
1	105.12	0.6998	0.1074	0.0035	-0.6329	0.0461	-3.0892	0.1163	-1.0870	0.0339
1	105.12	0.7500	0.1257	0.0036	-0.7144	0.0521	-3.8189	0.1336	-0.9395	0.0348
1	105.12	0.8001	0.1175	0.0048	-0.8152	0.0581	-4.6315	0.1496	-0.9732	0.0430
1	105.12	0.8497	0.0984	0.0061	-0.8817	0.0648	-5.5739	0.1700	-1.1874	0.0432
1	105.12	0.9102	0.0720	0.0083	-0.9362	0.0719	-6.8039	0.1981	-1.6797	0.0549
1	105.12	0.9734	0.1047	0.0104	-1.0017	0.0801	-8.0652	0.2302	-1.4840	0.0501
2	105.12	0.1949	-0.0590	0.0012	-0.0053	0.0008	-0.0204	0.0033	-0.3169	0.0331
2	105.12	0.2405	-0.0228	0.0012	-0.0044	0.0013	-0.0576	0.0079	-0.6697	0.0364
2	105.12	0.2999	0.0169	0.0015	-0.0279	0.0031	-0.1278	0.0147	-0.8711	0.0714
2	105.12	0.3498	0.0278	0.0014	-0.0281	0.0051	-0.2024	0.0269	-0.9632	0.0616
2	105.12	0.3998	0.0506	0.0018	-0.0562	0.0078	-0.3402	0.0410	-1.0531	0.0360
2	105.12	0.4496	0.0781	0.0021	-0.0874	0.0091	-0.5142	0.0513	-1.0413	0.0577
2	105.12	0.4995	0.0905	0.0026	-0.1127	0.0123	-0.7943	0.0671	-1.2621	0.0401
2	105.12	0.5551	0.1203	0.0029	-0.1498	0.0152	-1.1721	0.0814	-1.3015	0.0540
2	105.12	0.5996	0.1271	0.0030	-0.1994	0.0184	-1.5500	0.0936	-1.4396	0.0583
2	105.12	0.6497	0.1575	0.0037	-0.2302	0.0216	-2.0671	0.1063	-1.4463	0.0556
2	105.12	0.6996	0.1687	0.0038	-0.2581	0.0246	-2.6779	0.1191	-1.4786	0.0467
2	105.12	0.7495	0.1815	0.0047	-0.3352	0.0281	-3.3638	0.1300	-1.4143	0.0512
2	105.12	0.7996	0.1791	0.0047	-0.3519	0.0317	-4.1937	0.1427	-1.5474	0.0473
2	105.12	0.8578	0.1545	0.0054	-0.4198	0.0359	-5.1593	0.1575	-1.4182	0.0563
2	105.12	0.9100	0.1607	0.0061	-0.4548	0.0401	-6.1335	0.1733	-1.7448	0.0490
2	105.12	0.9727	0.1546	0.0076	-0.4556	0.0446	-7.1579	0.1932	-1.3418	0.0456
3	105.12	0.1938	-0.0608	0.0013	-0.0264	0.0012	-0.0052	0.0026	-0.2172	0.0238
3	105.12	0.2357	-0.0253	0.0018	0.0041	0.0016	-0.0625	0.0031	-0.3905	0.0566
3	105.12	0.2995	-0.0023	0.0012	-0.0660	0.0028	-0.0959	0.0062	-0.5688	0.0690
3	105.12	0.3493	0.0174	0.0012	-0.1068	0.0046	-0.1770	0.0126	-0.6537	0.0490
3	105.12	0.4000	0.0512	0.0017	-0.1495	0.0066	-0.3001	0.0166	-0.5342	0.0613
3	105.12	0.4497	0.0721	0.0015	-0.2010	0.0091	-0.5046	0.0212	-0.7068	0.0592
3	105.12	0.4997	0.0808	0.0021	-0.2516	0.0109	-0.7710	0.0271	-0.8062	0.0547
3	105.12	0.5556	0.1063	0.0024	-0.3164	0.0149	-1.1319	0.0329	-0.7543	0.0502
3	105.12	0.5995	0.1222	0.0027	-0.3681	0.0176	-1.5354	0.0365	-0.8765	0.0503
3	105.12	0.6498	0.1463	0.0032	-0.4319	0.0217	-2.0854	0.0419	-1.0472	0.0487
3	105.12	0.6890	0.1291	0.0032	-0.4867	0.0252	-2.5427	0.0435	-0.8293	0.0454
3	105.12	0.7495	0.1538	0.0037	-0.5775	0.0308	-3.4172	0.0459	-0.9599	0.0548
3	105.12	0.7998	0.1666	0.0042	-0.6424	0.0365	-4.2182	0.0494	-0.8594	0.0596
3	105.12	0.8577	0.1449	0.0062	-0.6897	0.0425	-5.2688	0.0593	-0.9729	0.0549
3	105.12	0.9178	0.1544	0.0070	-0.7790	0.0497	-6.4175	0.0796	-1.3156	0.0628
3	105.12	0.9729	0.1563	0.0102	-0.8644	0.0568	-7.5182	0.1064	-1.4144	0.0690
4	105.12	0.2001	-0.0465	0.0008	0.0032	0.0009	-0.0457	0.0024	0.0951	0.0163
4	105.12	0.2502	-0.0164	0.0011	0.0149	0.0015	-0.1383	0.0042	-0.2623	0.0234
4	105.12	0.3001	0.0125	0.0009	0.0176	0.0027	-0.2078	0.0078	0.0486	0.0341
4	105.12	0.3502	0.0204	0.0016	0.0373	0.0054	-0.3954	0.0141	-0.2556	0.0538
4	105.12	0.4002	0.0355	0.0018	0.0575	0.0075	-0.6096	0.0204	-0.2738	0.0422
4	105.12	0.4500	0.0629	0.0019	0.0706	0.0112	-0.9111	0.0276	-0.4218	0.0385
4	105.12	0.5001	0.0768	0.0019	0.0774	0.0152	-1.2704	0.0384	-0.3160	0.0469
4	105.12	0.5560	0.0958	0.0021	0.0904	0.0196	-1.8508	0.0500	-0.6239	0.0400
4	105.12	0.6001	0.1021	0.0025	0.0935	0.0235	-2.3371	0.0597	-0.5883	0.0364
4	105.12	0.6501	0.1022	0.0032	0.0785	0.0282	-3.0189	0.0716	-0.5132	0.0369
4	105.12	0.6999	0.1166	0.0029	0.0598	0.0329	-3.7986	0.0840	-0.4499	0.0390
4	105.12	0.7500	0.1188	0.0038	0.0477	0.0378	-4.6666	0.0944	-0.2985	0.0466
4	105.12	0.8002	0.0994	0.0043	0.0383	0.0430	-5.6716	0.1047	-0.3044	0.0495
4	105.12	0.8582	0.0931	0.0052	0.0299	0.0482	-6.9393	0.1166	-0.6658	0.0440
4	105.12	0.9101	0.0859	0.0059	0.0067	0.0536	-8.0954	0.1254	-0.6181	0.0337
4	105.12	0.9728	0.1077	0.0077	0.0207	0.0596	-9.4252	0.1364	-0.2730	0.0552

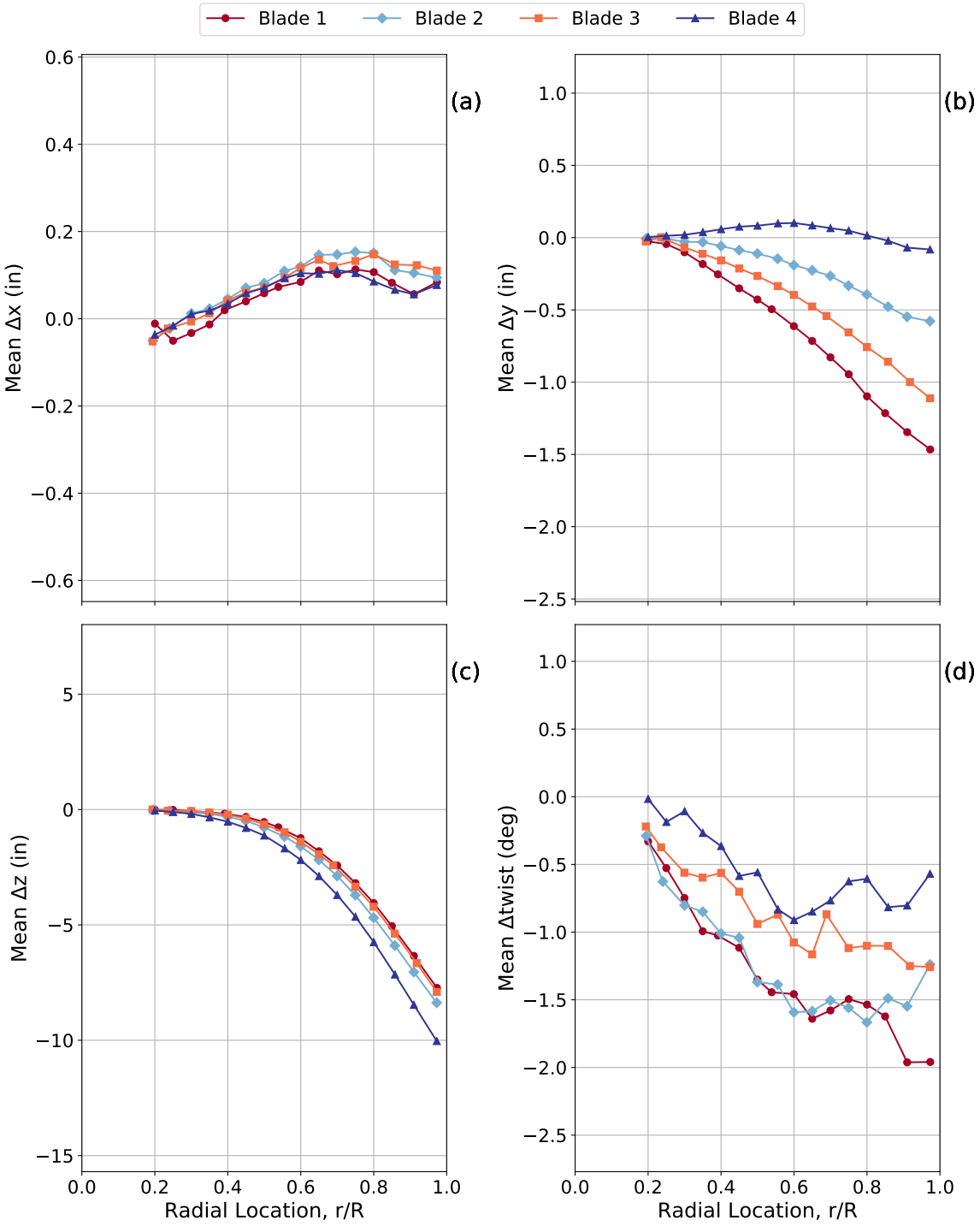


Figure 2.2-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0112	0.0012	-0.0258	0.0006	-0.0124	0.0025	-0.3294	0.0178
1	119.88	0.2499	-0.0504	0.0010	-0.0442	0.0014	-0.0171	0.0039	-0.5270	0.0310
1	119.88	0.2998	-0.0327	0.0010	-0.1012	0.0028	-0.0720	0.0083	-0.7483	0.0395
1	119.88	0.3498	-0.0130	0.0014	-0.1825	0.0043	-0.1212	0.0142	-0.9936	0.0266
1	119.88	0.3913	0.0197	0.0014	-0.2540	0.0066	-0.1816	0.0194	-1.0250	0.0463
1	119.88	0.4496	0.0399	0.0021	-0.3509	0.0095	-0.3206	0.0320	-1.1156	0.0317
1	119.88	0.4997	0.0585	0.0025	-0.4281	0.0132	-0.5415	0.0430	-1.3509	0.0450
1	119.88	0.5387	0.0729	0.0027	-0.4951	0.0157	-0.7689	0.0505	-1.4441	0.0419
1	119.88	0.5996	0.0846	0.0039	-0.6126	0.0205	-1.2401	0.0662	-1.4579	0.0524
1	119.88	0.6498	0.1107	0.0039	-0.7146	0.0248	-1.8080	0.0779	-1.6400	0.0484
1	119.88	0.6998	0.1021	0.0044	-0.8282	0.0303	-2.4261	0.0933	-1.5787	0.0461
1	119.88	0.7500	0.1131	0.0054	-0.9453	0.0361	-3.1913	0.1092	-1.4951	0.0498
1	119.88	0.8001	0.1069	0.0065	-1.0980	0.0430	-4.0541	0.1299	-1.5356	0.0527
1	119.88	0.8497	0.0826	0.0074	-1.2143	0.0492	-5.0534	0.1561	-1.6230	0.0531
1	119.88	0.9102	0.0563	0.0093	-1.3457	0.0563	-6.3434	0.1960	-1.9620	0.0596
1	119.88	0.9734	0.0840	0.0125	-1.4657	0.0643	-7.7333	0.2466	-1.9592	0.0693
2	119.88	0.1949	-0.0502	0.0010	-0.0061	0.0007	-0.0173	0.0024	-0.2885	0.0161
2	119.88	0.2405	-0.0223	0.0010	-0.0037	0.0010	-0.0563	0.0048	-0.6267	0.0286
2	119.88	0.2999	0.0123	0.0009	-0.0289	0.0021	-0.1176	0.0097	-0.8021	0.0334
2	119.88	0.3498	0.0229	0.0011	-0.0310	0.0035	-0.1881	0.0151	-0.8493	0.0461
2	119.88	0.3998	0.0454	0.0014	-0.0586	0.0050	-0.3180	0.0243	-1.0104	0.0448
2	119.88	0.4496	0.0708	0.0017	-0.0864	0.0061	-0.4869	0.0321	-1.0417	0.0598
2	119.88	0.4995	0.0815	0.0020	-0.1108	0.0079	-0.7754	0.0416	-1.3694	0.0499
2	119.88	0.5551	0.1094	0.0023	-0.1459	0.0100	-1.1676	0.0508	-1.3869	0.0591
2	119.88	0.5996	0.1199	0.0032	-0.1905	0.0121	-1.5922	0.0620	-1.5922	0.0578
2	119.88	0.6497	0.1465	0.0035	-0.2262	0.0144	-2.1828	0.0745	-1.5841	0.0669
2	119.88	0.6996	0.1473	0.0040	-0.2648	0.0172	-2.8771	0.0922	-1.5048	0.0727
2	119.88	0.7495	0.1534	0.0056	-0.3327	0.0196	-3.7092	0.1122	-1.5590	0.0701
2	119.88	0.7996	0.1508	0.0069	-0.3929	0.0233	-4.6903	0.1366	-1.6662	0.0707
2	119.88	0.8578	0.1115	0.0092	-0.4780	0.0269	-5.8935	0.1683	-1.4889	0.0717
2	119.88	0.9100	0.1051	0.0107	-0.5475	0.0301	-7.0422	0.1973	-1.5479	0.0803
2	119.88	0.9727	0.0942	0.0129	-0.5781	0.0349	-8.3751	0.2345	-1.2392	0.0805
3	119.88	0.1938	-0.0520	0.0010	-0.0268	0.0006	0.0014	0.0022	-0.2197	0.0206
3	119.88	0.2357	-0.0225	0.0008	0.0026	0.0017	-0.0507	0.0044	-0.3735	0.0304
3	119.88	0.2995	-0.0063	0.0012	-0.0685	0.0029	-0.0667	0.0109	-0.5608	0.0495
3	119.88	0.3493	0.0122	0.0011	-0.1121	0.0047	-0.1278	0.0155	-0.5972	0.0552
3	119.88	0.4000	0.0421	0.0019	-0.1577	0.0079	-0.2228	0.0265	-0.5628	0.0442
3	119.88	0.4497	0.0604	0.0018	-0.2132	0.0107	-0.3886	0.0387	-0.7014	0.0505
3	119.88	0.4997	0.0717	0.0014	-0.2650	0.0137	-0.6491	0.0517	-0.9399	0.0579
3	119.88	0.5556	0.0940	0.0026	-0.3350	0.0179	-0.9852	0.0674	-0.8706	0.0368
3	119.88	0.5995	0.1168	0.0024	-0.3966	0.0210	-1.3967	0.0789	-1.0768	0.0423
3	119.88	0.6498	0.1354	0.0022	-0.4765	0.0255	-1.9436	0.0912	-1.1645	0.0470
3	119.88	0.6890	0.1208	0.0034	-0.5419	0.0287	-2.4117	0.1030	-0.8689	0.0473
3	119.88	0.7495	0.1325	0.0040	-0.6558	0.0349	-3.3408	0.1194	-1.1178	0.0544
3	119.88	0.7998	0.1478	0.0050	-0.7570	0.0402	-4.2158	0.1363	-1.1007	0.0591
3	119.88	0.8577	0.1245	0.0064	-0.8586	0.0466	-5.3786	0.1580	-1.1022	0.0541
3	119.88	0.9178	0.1227	0.0080	-0.9991	0.0536	-6.6568	0.1828	-1.2501	0.0569
3	119.88	0.9729	0.1105	0.0107	-1.1112	0.0600	-7.9045	0.2061	-1.2582	0.0595
4	119.88	0.2001	-0.0365	0.0014	0.0041	0.0008	-0.0436	0.0028	-0.0163	0.0295
4	119.88	0.2502	-0.0159	0.0015	0.0127	0.0021	-0.1099	0.0054	-0.1864	0.0320
4	119.88	0.3001	0.0107	0.0012	0.0195	0.0034	-0.1879	0.0086	-0.1070	0.0525
4	119.88	0.3502	0.0189	0.0016	0.0375	0.0063	-0.3421	0.0149	-0.2675	0.0330
4	119.88	0.4002	0.0347	0.0021	0.0581	0.0097	-0.5277	0.0215	-0.3645	0.0312
4	119.88	0.4500	0.0583	0.0018	0.0760	0.0115	-0.7975	0.0260	-0.5853	0.0442
4	119.88	0.5001	0.0713	0.0022	0.0826	0.0145	-1.1290	0.0360	-0.5585	0.0409
4	119.88	0.5560	0.0930	0.0029	0.0987	0.0176	-1.6841	0.0463	-0.8324	0.0363
4	119.88	0.6001	0.1046	0.0034	0.1014	0.0210	-2.1861	0.0588	-0.9109	0.0523
4	119.88	0.6501	0.1031	0.0040	0.0843	0.0234	-2.8879	0.0753	-0.8484	0.0437
4	119.88	0.6999	0.1116	0.0050	0.0657	0.0271	-3.7063	0.0982	-0.7663	0.0533
4	119.88	0.7500	0.1048	0.0062	0.0484	0.0310	-4.6494	0.1261	-0.6252	0.0582
4	119.88	0.8002	0.0855	0.0084	0.0146	0.0355	-5.7497	0.1590	-0.6061	0.0601
4	119.88	0.8582	0.0664	0.0115	-0.0217	0.0409	-7.1534	0.2038	-0.8163	0.0554
4	119.88	0.9101	0.0561	0.0147	-0.0690	0.0459	-8.4671	0.2497	-0.8033	0.0557
4	119.88	0.9728	0.0774	0.0185	-0.0820	0.0530	-10.0354	0.3057	-0.5695	0.0588

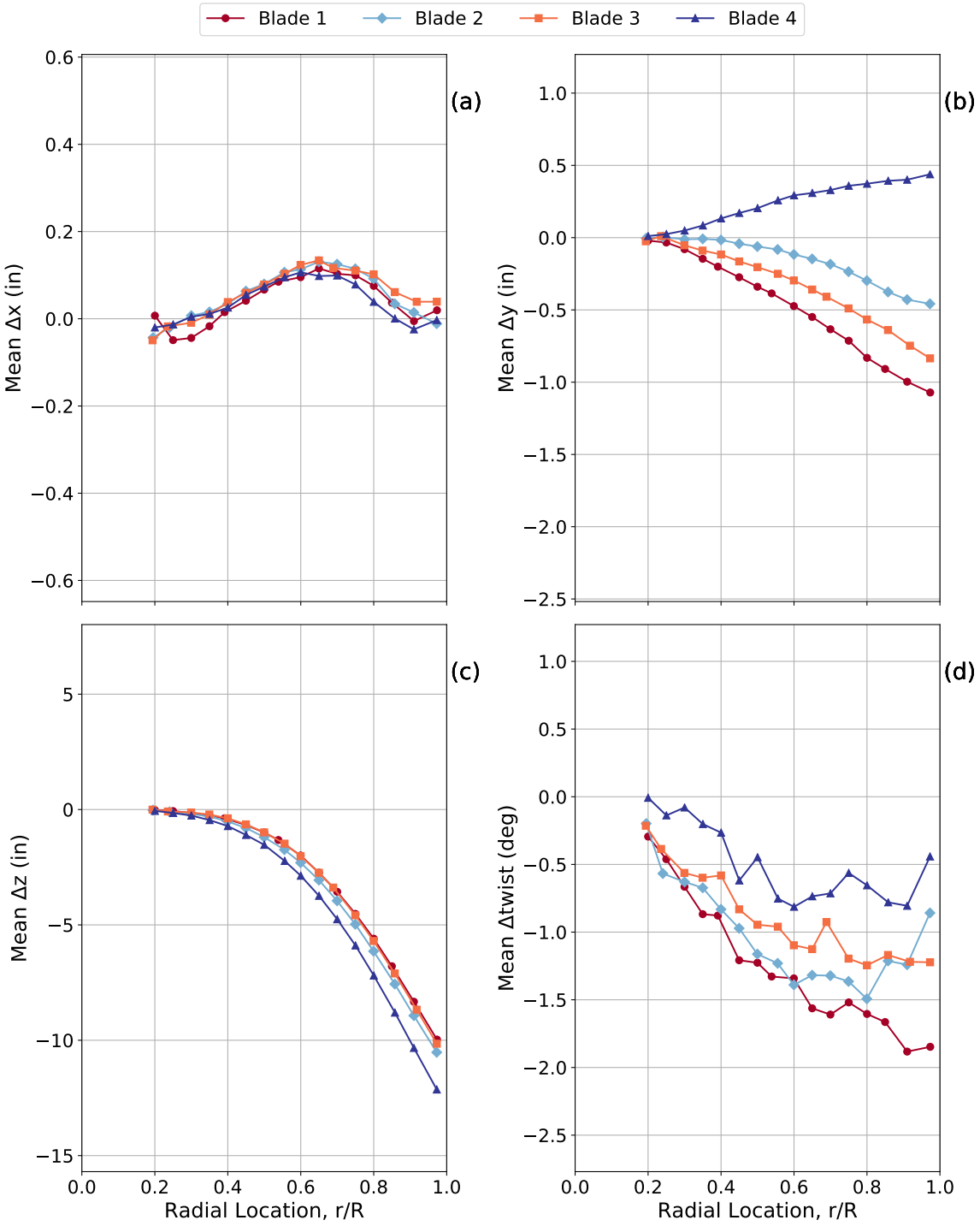


Figure 2.2-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	0.0071	0.0014	-0.0209	0.0010	-0.0255	0.0024	-0.2942	0.0137
1	135	0.2499	-0.0490	0.0019	-0.0338	0.0020	-0.0677	0.0062	-0.4613	0.0261
1	135	0.2998	-0.0440	0.0012	-0.0799	0.0052	-0.1465	0.0127	-0.6649	0.0312
1	135	0.3498	-0.0171	0.0024	-0.1464	0.0065	-0.2491	0.0185	-0.8675	0.0277
1	135	0.3913	0.0151	0.0016	-0.2010	0.0110	-0.3802	0.0301	-0.8778	0.0488
1	135	0.4496	0.0413	0.0016	-0.2742	0.0133	-0.6690	0.0440	-1.2079	0.0394
1	135	0.4997	0.0668	0.0016	-0.3398	0.0158	-0.9950	0.0597	-1.2264	0.0466
1	135	0.5387	0.0849	0.0020	-0.3857	0.0195	-1.3209	0.0745	-1.3282	0.0470
1	135	0.5996	0.0953	0.0035	-0.4736	0.0228	-1.9924	0.0964	-1.3418	0.0395
1	135	0.6498	0.1152	0.0036	-0.5489	0.0273	-2.7365	0.1219	-1.5629	0.0591
1	135	0.6998	0.1031	0.0053	-0.6339	0.0317	-3.5639	0.1474	-1.6091	0.0393
1	135	0.7500	0.0995	0.0065	-0.7132	0.0365	-4.5249	0.1791	-1.5192	0.0439
1	135	0.8001	0.0754	0.0092	-0.8316	0.0413	-5.5994	0.2123	-1.6045	0.0551
1	135	0.8497	0.0368	0.0113	-0.9085	0.0460	-6.7919	0.2452	-1.6643	0.0520
1	135	0.9102	-0.0053	0.0143	-0.9970	0.0518	-8.3303	0.2886	-1.8826	0.0530
1	135	0.9734	0.0195	0.0181	-1.0714	0.0584	-9.9700	0.3367	-1.8474	0.0621
2	135	0.1949	-0.0434	0.0008	-0.0042	0.0004	-0.0275	0.0022	-0.1983	0.0160
2	135	0.2405	-0.0199	0.0017	0.0042	0.0032	-0.1000	0.0043	-0.5673	0.0288
2	135	0.2999	0.0071	0.0014	-0.0119	0.0057	-0.1910	0.0112	-0.6291	0.0364
2	135	0.3498	0.0157	0.0014	-0.0085	0.0070	-0.3050	0.0155	-0.6728	0.0589
2	135	0.3998	0.0341	0.0014	-0.0163	0.0143	-0.5175	0.0268	-0.8317	0.0281
2	135	0.4496	0.0634	0.0020	-0.0418	0.0180	-0.7990	0.0316	-0.9718	0.0250
2	135	0.4995	0.0795	0.0019	-0.0617	0.0212	-1.1948	0.0384	-1.1624	0.0284
2	135	0.5551	0.1066	0.0015	-0.0818	0.0261	-1.7398	0.0434	-1.2305	0.0358
2	135	0.5996	0.1133	0.0025	-0.1163	0.0295	-2.3044	0.0458	-1.3896	0.0361
2	135	0.6497	0.1308	0.0016	-0.1473	0.0334	-3.0582	0.0521	-1.3182	0.0323
2	135	0.6996	0.1252	0.0029	-0.1837	0.0386	-3.9549	0.0589	-1.3216	0.0321
2	135	0.7495	0.1145	0.0037	-0.2355	0.0427	-4.9718	0.0715	-1.3643	0.0354
2	135	0.7996	0.0919	0.0047	-0.2975	0.0473	-6.1404	0.0853	-1.4927	0.0343
2	135	0.8578	0.0342	0.0066	-0.3759	0.0531	-7.5640	0.1072	-1.2129	0.0420
2	135	0.9100	0.0144	0.0087	-0.4288	0.0579	-8.9336	0.1310	-1.2409	0.0448
2	135	0.9727	-0.0112	0.0104	-0.4579	0.0639	-10.5236	0.1621	-0.8585	0.0408
3	135	0.1938	-0.0494	0.0011	-0.0251	0.0010	-0.0047	0.0031	-0.2141	0.0360
3	135	0.2357	-0.0176	0.0013	0.0104	0.0018	-0.0848	0.0061	-0.3857	0.0467
3	135	0.2995	-0.0091	0.0014	-0.0528	0.0038	-0.1265	0.0098	-0.5628	0.0673
3	135	0.3493	0.0095	0.0018	-0.0895	0.0072	-0.2160	0.0185	-0.5982	0.0501
3	135	0.4000	0.0383	0.0023	-0.1165	0.0106	-0.3818	0.0269	-0.5815	0.0368
3	135	0.4497	0.0595	0.0025	-0.1646	0.0128	-0.6430	0.0329	-0.8319	0.0570
3	135	0.4997	0.0785	0.0024	-0.2041	0.0168	-0.9893	0.0390	-0.9454	0.0532
3	135	0.5556	0.1033	0.0029	-0.2502	0.0201	-1.4783	0.0539	-0.9601	0.0408
3	135	0.5995	0.1234	0.0031	-0.2962	0.0236	-2.0192	0.0604	-1.0973	0.0495
3	135	0.6498	0.1338	0.0029	-0.3592	0.0274	-2.7408	0.0710	-1.1257	0.0443
3	135	0.6890	0.1166	0.0035	-0.4087	0.0296	-3.3827	0.0825	-0.9253	0.0491
3	135	0.7495	0.1104	0.0043	-0.4896	0.0350	-4.5832	0.1015	-1.1958	0.0477
3	135	0.7998	0.1019	0.0057	-0.5664	0.0392	-5.6975	0.1201	-1.2452	0.0528
3	135	0.8577	0.0611	0.0065	-0.6393	0.0446	-7.1053	0.1406	-1.1690	0.0499
3	135	0.9178	0.0390	0.0080	-0.7477	0.0501	-8.6754	0.1632	-1.2194	0.0454
3	135	0.9729	0.0391	0.0096	-0.8351	0.0556	-10.1500	0.1831	-1.2229	0.0494
4	135	0.2001	-0.0200	0.0008	0.0108	0.0006	-0.0603	0.0022	-0.0080	0.0239
4	135	0.2502	-0.0132	0.0009	0.0243	0.0020	-0.1501	0.0046	-0.1380	0.0317
4	135	0.3001	0.0045	0.0011	0.0491	0.0037	-0.2627	0.0058	-0.0795	0.0479
4	135	0.3502	0.0112	0.0014	0.0841	0.0052	-0.4589	0.0156	-0.2021	0.0409
4	135	0.4002	0.0256	0.0017	0.1328	0.0090	-0.7186	0.0195	-0.2655	0.0383
4	135	0.4500	0.0547	0.0022	0.1705	0.0115	-1.1033	0.0262	-0.6186	0.0353
4	135	0.5001	0.0739	0.0028	0.2038	0.0138	-1.5309	0.0338	-0.4471	0.0330
4	135	0.5560	0.0952	0.0031	0.2579	0.0176	-2.2296	0.0423	-0.7528	0.0365
4	135	0.6001	0.1065	0.0029	0.2927	0.0217	-2.8700	0.0548	-0.8130	0.0464
4	135	0.6501	0.0980	0.0038	0.3088	0.0250	-3.7411	0.0670	-0.7356	0.0505
4	135	0.6999	0.0991	0.0045	0.3291	0.0300	-4.7556	0.0806	-0.7139	0.0451
4	135	0.7500	0.0786	0.0054	0.3588	0.0338	-5.8928	0.0969	-0.5631	0.0468
4	135	0.8002	0.0388	0.0073	0.3729	0.0390	-7.1967	0.1164	-0.6546	0.0431
4	135	0.8582	0.0004	0.0096	0.3932	0.0444	-8.8036	0.1399	-0.7800	0.0455
4	135	0.9101	-0.0244	0.0114	0.4005	0.0498	-10.3339	0.1627	-0.8057	0.0419
4	135	0.9728	-0.0030	0.0138	0.4382	0.0562	-12.1362	0.1897	-0.4415	0.0468

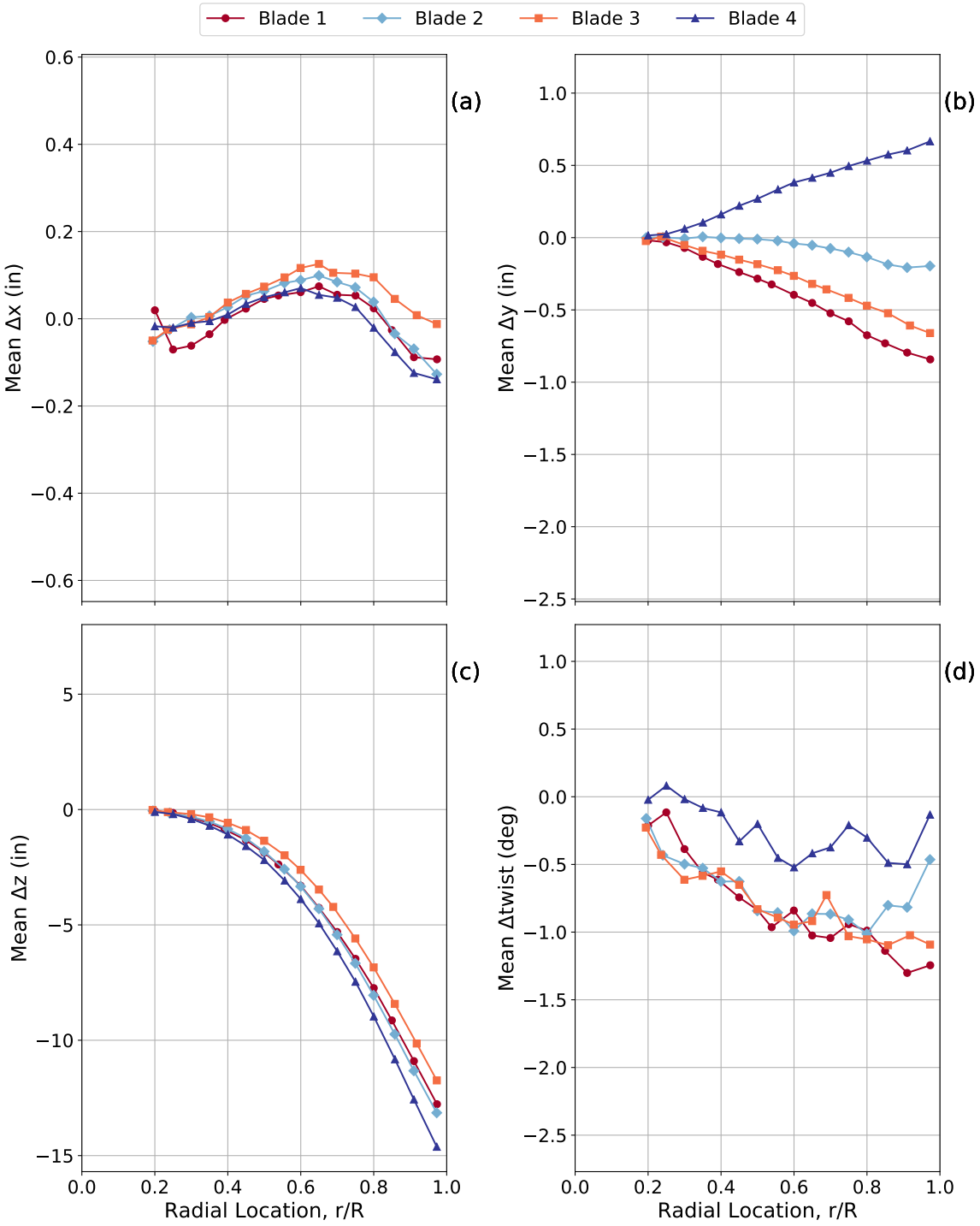


Figure 2.2-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.241$, $\alpha = -3°$ NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	0.0195	0.0013	-0.0184	0.0010	-0.0748	0.0033	-0.2126	0.0301
1	150.12	0.2499	-0.0705	0.0011	-0.0323	0.0023	-0.1488	0.0058	-0.1154	0.0314
1	150.12	0.2998	-0.0618	0.0012	-0.0714	0.0049	-0.3409	0.0139	-0.3866	0.0573
1	150.12	0.3498	-0.0354	0.0017	-0.1328	0.0071	-0.5896	0.0199	-0.5598	0.0448
1	150.12	0.3913	-0.0026	0.0022	-0.1826	0.0113	-0.8590	0.0307	-0.6126	0.0506
1	150.12	0.4496	0.0233	0.0024	-0.2383	0.0140	-1.3259	0.0415	-0.7434	0.0405
1	150.12	0.4997	0.0455	0.0024	-0.2838	0.0192	-1.8722	0.0568	-0.8361	0.0485
1	150.12	0.5387	0.0533	0.0027	-0.3237	0.0224	-2.3805	0.0652	-0.9638	0.0502
1	150.12	0.5996	0.0610	0.0041	-0.3958	0.0276	-3.2979	0.0849	-0.8404	0.0509
1	150.12	0.6498	0.0744	0.0049	-0.4516	0.0338	-4.2611	0.0997	-1.0250	0.0406
1	150.12	0.6998	0.0550	0.0057	-0.5231	0.0391	-5.3082	0.1141	-1.0434	0.0425
1	150.12	0.7500	0.0533	0.0070	-0.5789	0.0457	-6.4712	0.1311	-0.9416	0.0561
1	150.12	0.8001	0.0240	0.0089	-0.6754	0.0516	-7.7396	0.1474	-0.9888	0.0456
1	150.12	0.8497	-0.0261	0.0106	-0.7311	0.0580	-9.1402	0.1655	-1.1386	0.0366
1	150.12	0.9102	-0.0882	0.0134	-0.7954	0.0670	-10.9034	0.1890	-1.3015	0.0376
1	150.12	0.9734	-0.0930	0.0164	-0.8424	0.0757	-12.7708	0.2162	-1.2448	0.0384
2	150.12	0.1949	-0.0520	0.0012	-0.0001	0.0007	-0.0565	0.0027	-0.1608	0.0181
2	150.12	0.2405	-0.0249	0.0016	0.0019	0.0016	-0.1500	0.0049	-0.4322	0.0381
2	150.12	0.2999	0.0032	0.0012	-0.0060	0.0022	-0.3141	0.0103	-0.4978	0.0456
2	150.12	0.3498	0.0065	0.0014	0.0060	0.0040	-0.5197	0.0181	-0.5278	0.0470
2	150.12	0.3998	0.0268	0.0017	-0.0018	0.0061	-0.8458	0.0277	-0.6260	0.0431
2	150.12	0.4496	0.0527	0.0022	-0.0068	0.0074	-1.2466	0.0373	-0.6255	0.0415
2	150.12	0.4995	0.0636	0.0014	-0.0103	0.0090	-1.8204	0.0491	-0.8429	0.0431
2	150.12	0.5551	0.0820	0.0024	-0.0217	0.0123	-2.5849	0.0655	-0.8558	0.0439
2	150.12	0.5996	0.0885	0.0027	-0.0403	0.0137	-3.3338	0.0811	-0.9918	0.0447
2	150.12	0.6497	0.0991	0.0040	-0.0527	0.0170	-4.3016	0.1030	-0.8645	0.0502
2	150.12	0.6996	0.0843	0.0048	-0.0748	0.0205	-5.4266	0.1251	-0.8667	0.0500
2	150.12	0.7495	0.0718	0.0061	-0.1003	0.0241	-6.6655	0.1457	-0.9084	0.0499
2	150.12	0.7996	0.0385	0.0073	-0.1340	0.0278	-8.0512	0.1630	-1.0129	0.0535
2	150.12	0.8578	-0.0345	0.0088	-0.1863	0.0330	-9.7377	0.1795	-0.8024	0.0536
2	150.12	0.9100	-0.0690	0.0105	-0.2071	0.0379	-11.3241	0.1917	-0.8169	0.0530
2	150.12	0.9727	-0.1271	0.0108	-0.1961	0.0433	-13.1453	0.2060	-0.4641	0.0673
3	150.12	0.1938	-0.0499	0.0009	-0.0234	0.0005	-0.0203	0.0044	-0.2281	0.0124
3	150.12	0.2357	-0.0250	0.0016	0.0067	0.0027	-0.1122	0.0027	-0.4291	0.0547
3	150.12	0.2995	-0.0128	0.0020	-0.0506	0.0040	-0.1992	0.0088	-0.6132	0.0454
3	150.12	0.3493	0.0040	0.0014	-0.0910	0.0066	-0.3391	0.0190	-0.5842	0.0227
3	150.12	0.4000	0.0372	0.0015	-0.1180	0.0113	-0.5764	0.0231	-0.5516	0.0344
3	150.12	0.4497	0.0571	0.0019	-0.1523	0.0126	-0.8885	0.0317	-0.6508	0.0389
3	150.12	0.4997	0.0737	0.0019	-0.1837	0.0168	-1.3534	0.0388	-0.8309	0.0481
3	150.12	0.5556	0.0948	0.0023	-0.2253	0.0194	-1.9830	0.0525	-0.8931	0.0465
3	150.12	0.5995	0.1164	0.0035	-0.2644	0.0219	-2.6131	0.0633	-0.9447	0.0450
3	150.12	0.6498	0.1258	0.0045	-0.3200	0.0265	-3.4681	0.0793	-0.9188	0.0499
3	150.12	0.6890	0.1054	0.0049	-0.3580	0.0294	-4.2205	0.0929	-0.7263	0.0408
3	150.12	0.7495	0.1035	0.0057	-0.4169	0.0345	-5.5891	0.1151	-1.0302	0.0361
3	150.12	0.7998	0.0951	0.0079	-0.4709	0.0392	-6.8415	0.1388	-1.0534	0.0422
3	150.12	0.8577	0.0455	0.0104	-0.5230	0.0443	-8.4241	0.1634	-1.0968	0.0375
3	150.12	0.9178	0.0082	0.0134	-0.6079	0.0498	-10.1415	0.1942	-1.0232	0.0325
3	150.12	0.9729	-0.0122	0.0154	-0.6604	0.0550	-11.7403	0.2224	-1.0922	0.0362
4	150.12	0.2001	-0.0172	0.0016	0.0153	0.0009	-0.1025	0.0024	-0.0223	0.0237
4	150.12	0.2502	-0.0203	0.0015	0.0242	0.0032	-0.1994	0.0053	0.0814	0.0379
4	150.12	0.3001	-0.0095	0.0020	0.0614	0.0038	-0.4093	0.0110	-0.0179	0.0530
4	150.12	0.3502	-0.0054	0.0021	0.1045	0.0088	-0.7042	0.0167	-0.0828	0.0260
4	150.12	0.4002	0.0097	0.0025	0.1607	0.0126	-1.0840	0.0278	-0.1157	0.0351
4	150.12	0.4500	0.0341	0.0023	0.2206	0.0158	-1.5835	0.0427	-0.3294	0.0458
4	150.12	0.5001	0.0493	0.0032	0.2688	0.0211	-2.1864	0.0577	-0.2012	0.0411
4	150.12	0.5560	0.0607	0.0035	0.3332	0.0251	-3.0797	0.0807	-0.4518	0.0363
4	150.12	0.6001	0.0703	0.0054	0.3819	0.0297	-3.8832	0.1046	-0.5218	0.0451
4	150.12	0.6501	0.0548	0.0074	0.4143	0.0358	-4.9363	0.1370	-0.4179	0.0417
4	150.12	0.6999	0.0482	0.0090	0.4490	0.0405	-6.1438	0.1745	-0.3741	0.0404
4	150.12	0.7500	0.0269	0.0137	0.4953	0.0476	-7.4658	0.2175	-0.2101	0.0428
4	150.12	0.8002	-0.0205	0.0180	0.5324	0.0542	-8.9709	0.2696	-0.3025	0.0364
4	150.12	0.8582	-0.0765	0.0253	0.5748	0.0631	-10.8272	0.3358	-0.4888	0.0311
4	150.12	0.9101	-0.1242	0.0319	0.6032	0.0706	-12.5675	0.4015	-0.4989	0.0210
4	150.12	0.9728	-0.1388	0.0390	0.6661	0.0804	-14.6181	0.4845	-0.1325	0.0329

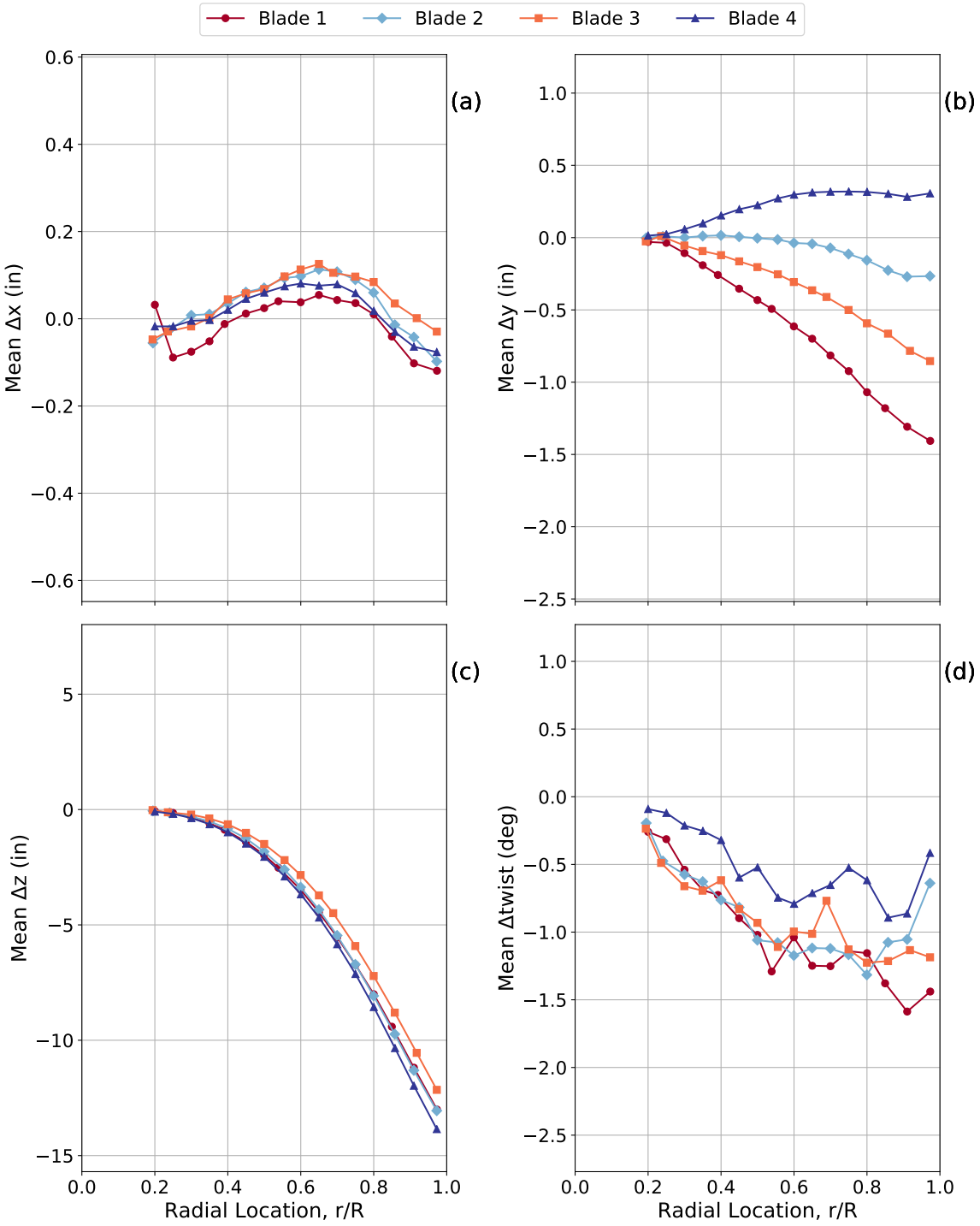


Figure 2.2-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	0.0320	0.0018	-0.0297	0.0010	-0.0702	0.0022	-0.2593	0.0272
1	164.88	0.2499	-0.0889	0.0017	-0.0360	0.0022	-0.1477	0.0056	-0.3135	0.0422
1	164.88	0.2998	-0.0756	0.0014	-0.1068	0.0042	-0.3377	0.0101	-0.5395	0.0614
1	164.88	0.3498	-0.0517	0.0014	-0.1908	0.0071	-0.5995	0.0167	-0.6897	0.0509
1	164.88	0.3913	-0.0120	0.0023	-0.2584	0.0100	-0.8723	0.0252	-0.7256	0.0463
1	164.88	0.4496	0.0119	0.0022	-0.3533	0.0119	-1.3969	0.0309	-0.8970	0.0496
1	164.88	0.4997	0.0244	0.0024	-0.4321	0.0162	-1.9702	0.0380	-1.0204	0.0463
1	164.88	0.5387	0.0402	0.0024	-0.4929	0.0179	-2.5224	0.0463	-1.2905	0.0440
1	164.88	0.5996	0.0379	0.0028	-0.6141	0.0209	-3.4736	0.0546	-1.0387	0.0490
1	164.88	0.6498	0.0546	0.0036	-0.6994	0.0258	-4.4582	0.0643	-1.2485	0.0469
1	164.88	0.6998	0.0429	0.0045	-0.8152	0.0286	-5.5317	0.0758	-1.2516	0.0544
1	164.88	0.7500	0.0359	0.0050	-0.9234	0.0336	-6.7296	0.0939	-1.1412	0.0390
1	164.88	0.8001	0.0102	0.0071	-1.0696	0.0373	-8.0055	0.1143	-1.1554	0.0506
1	164.88	0.8497	-0.0408	0.0091	-1.1801	0.0418	-9.4133	0.1393	-1.3784	0.0388
1	164.88	0.9102	-0.1022	0.0120	-1.3084	0.0482	-11.1898	0.1721	-1.5869	0.0467
1	164.88	0.9734	-0.1192	0.0144	-1.4064	0.0543	-13.0041	0.2080	-1.4392	0.0539
2	164.88	0.1949	-0.0555	0.0011	-0.0017	0.0007	-0.0573	0.0016	-0.1943	0.0099
2	164.88	0.2405	-0.0254	0.0010	0.0087	0.0024	-0.1444	0.0041	-0.4748	0.0173
2	164.88	0.2999	0.0081	0.0013	0.0005	0.0024	-0.3086	0.0086	-0.5747	0.0203
2	164.88	0.3498	0.0106	0.0013	0.0111	0.0056	-0.5115	0.0126	-0.6273	0.0254
2	164.88	0.3998	0.0351	0.0020	0.0156	0.0081	-0.8283	0.0216	-0.7624	0.0224
2	164.88	0.4496	0.0611	0.0013	0.0060	0.0088	-1.2485	0.0297	-0.8168	0.0268
2	164.88	0.4995	0.0707	0.0021	-0.0038	0.0116	-1.8245	0.0400	-1.0593	0.0581
2	164.88	0.5551	0.0934	0.0024	-0.0129	0.0136	-2.6019	0.0530	-1.0775	0.0364
2	164.88	0.5996	0.0972	0.0028	-0.0368	0.0154	-3.3664	0.0654	-1.1730	0.0324
2	164.88	0.6497	0.1133	0.0039	-0.0427	0.0182	-4.3395	0.0814	-1.1176	0.0357
2	164.88	0.6996	0.1077	0.0050	-0.0714	0.0212	-5.4588	0.1003	-1.1211	0.0442
2	164.88	0.7495	0.0895	0.0073	-0.1135	0.0234	-6.7126	0.1214	-1.1668	0.0449
2	164.88	0.7996	0.0599	0.0095	-0.1563	0.0265	-8.0773	0.1454	-1.3159	0.0389
2	164.88	0.8578	-0.0139	0.0124	-0.2262	0.0294	-9.7359	0.1747	-1.0756	0.0438
2	164.88	0.9100	-0.0422	0.0148	-0.2701	0.0323	-11.3049	0.2026	-1.0536	0.0438
2	164.88	0.9727	-0.0977	0.0173	-0.2660	0.0367	-13.0531	0.2379	-0.6385	0.0389
3	164.88	0.1938	-0.0474	0.0013	-0.0257	0.0006	-0.0253	0.0025	-0.2360	0.0286
3	164.88	0.2357	-0.0292	0.0015	0.0105	0.0023	-0.1198	0.0045	-0.4888	0.0284
3	164.88	0.2995	-0.0176	0.0012	-0.0545	0.0033	-0.2181	0.0106	-0.6610	0.0572
3	164.88	0.3493	0.0016	0.0017	-0.0929	0.0058	-0.3855	0.0177	-0.6940	0.0424
3	164.88	0.4000	0.0444	0.0014	-0.1212	0.0095	-0.6398	0.0272	-0.6170	0.0336
3	164.88	0.4497	0.0583	0.0016	-0.1642	0.0114	-1.0135	0.0322	-0.8298	0.0427
3	164.88	0.4997	0.0679	0.0019	-0.2038	0.0142	-1.4940	0.0390	-0.9313	0.0493
3	164.88	0.5556	0.0971	0.0020	-0.2536	0.0177	-2.1934	0.0469	-1.1096	0.0449
3	164.88	0.5995	0.1128	0.0022	-0.3071	0.0205	-2.8391	0.0523	-0.9957	0.0631
3	164.88	0.6498	0.1255	0.0026	-0.3645	0.0244	-3.7209	0.0624	-1.0125	0.0492
3	164.88	0.6890	0.1054	0.0032	-0.4106	0.0264	-4.4914	0.0691	-0.7686	0.0696
3	164.88	0.7495	0.0967	0.0042	-0.5006	0.0325	-5.9164	0.0827	-1.1274	0.0591
3	164.88	0.7998	0.0842	0.0048	-0.5928	0.0370	-7.2144	0.0972	-1.2257	0.0541
3	164.88	0.8577	0.0350	0.0068	-0.6642	0.0421	-8.8026	0.1185	-1.2141	0.0599
3	164.88	0.9178	0.0014	0.0088	-0.7834	0.0477	-10.5454	0.1419	-1.1331	0.0592
3	164.88	0.9729	-0.0294	0.0102	-0.8540	0.0529	-12.1499	0.1660	-1.1861	0.0599
4	164.88	0.2001	-0.0175	0.0012	0.0138	0.0011	-0.0919	0.0025	-0.0910	0.0209
4	164.88	0.2502	-0.0174	0.0017	0.0240	0.0022	-0.1884	0.0059	-0.1197	0.0306
4	164.88	0.3001	-0.0047	0.0014	0.0582	0.0042	-0.3717	0.0082	-0.2130	0.0410
4	164.88	0.3502	-0.0029	0.0011	0.0984	0.0077	-0.6380	0.0160	-0.2532	0.0312
4	164.88	0.4002	0.0205	0.0017	0.1532	0.0112	-0.9867	0.0232	-0.3205	0.0374
4	164.88	0.4500	0.0457	0.0018	0.1962	0.0122	-1.4779	0.0313	-0.5973	0.0388
4	164.88	0.5001	0.0599	0.0021	0.2244	0.0146	-2.0498	0.0428	-0.5217	0.0428
4	164.88	0.5560	0.0744	0.0035	0.2715	0.0173	-2.9013	0.0583	-0.7459	0.0425
4	164.88	0.6001	0.0808	0.0040	0.2971	0.0199	-3.6767	0.0720	-0.7912	0.0417
4	164.88	0.6501	0.0759	0.0037	0.3127	0.0220	-4.6819	0.0865	-0.7119	0.0359
4	164.88	0.6999	0.0789	0.0052	0.3176	0.0250	-5.8396	0.1055	-0.6520	0.0428
4	164.88	0.7500	0.0588	0.0070	0.3191	0.0276	-7.1286	0.1269	-0.5248	0.0497
4	164.88	0.8002	0.0180	0.0097	0.3163	0.0307	-8.5620	0.1509	-0.6169	0.0459
4	164.88	0.8582	-0.0302	0.0126	0.3031	0.0336	-10.3411	0.1801	-0.8934	0.0415
4	164.88	0.9101	-0.0641	0.0141	0.2819	0.0356	-11.9714	0.2095	-0.8634	0.0371
4	164.88	0.9728	-0.0764	0.0167	0.3060	0.0389	-13.8522	0.2451	-0.4151	0.0506

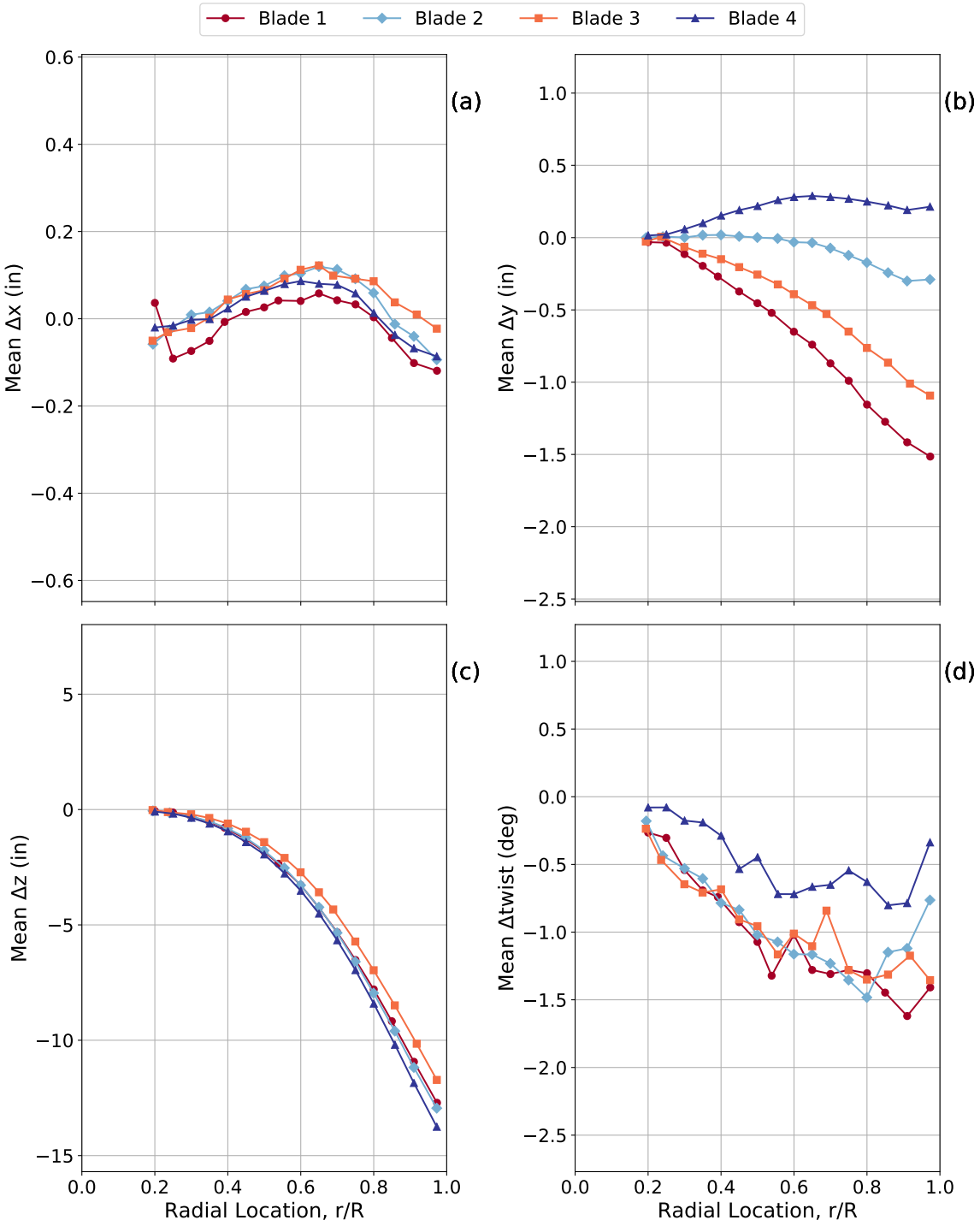


Figure 2.2-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	0.0364	0.0019	-0.0311	0.0009	-0.0623	0.0026	-0.2647	0.0251
1	170.16	0.2499	-0.0913	0.0020	-0.0351	0.0025	-0.1284	0.0055	-0.3039	0.0401
1	170.16	0.2998	-0.0739	0.0023	-0.1138	0.0041	-0.3051	0.0103	-0.5417	0.0548
1	170.16	0.3498	-0.0508	0.0018	-0.1956	0.0080	-0.5398	0.0183	-0.6918	0.0340
1	170.16	0.3913	-0.0072	0.0020	-0.2688	0.0113	-0.7873	0.0260	-0.7410	0.0362
1	170.16	0.4496	0.0157	0.0029	-0.3725	0.0144	-1.2758	0.0338	-0.9266	0.0471
1	170.16	0.4997	0.0261	0.0027	-0.4536	0.0185	-1.8182	0.0426	-1.0724	0.0380
1	170.16	0.5387	0.0419	0.0029	-0.5202	0.0211	-2.3493	0.0483	-1.3221	0.0417
1	170.16	0.5996	0.0408	0.0035	-0.6508	0.0262	-3.2702	0.0567	-1.0189	0.0486
1	170.16	0.6498	0.0582	0.0035	-0.7404	0.0300	-4.2514	0.0613	-1.2797	0.0413
1	170.16	0.6998	0.0424	0.0038	-0.8701	0.0337	-5.3210	0.0680	-1.3099	0.0610
1	170.16	0.7500	0.0329	0.0047	-0.9904	0.0382	-6.5212	0.0718	-1.2792	0.0583
1	170.16	0.8001	0.0034	0.0054	-1.1554	0.0429	-7.7975	0.0792	-1.3036	0.0539
1	170.16	0.8497	-0.0440	0.0064	-1.2741	0.0475	-9.1751	0.0905	-1.4468	0.0485
1	170.16	0.9102	-0.1016	0.0079	-1.4160	0.0532	-10.9335	0.1043	-1.6199	0.0557
1	170.16	0.9734	-0.1192	0.0100	-1.5146	0.0589	-12.7100	0.1235	-1.4086	0.0562
2	170.16	0.1949	-0.0583	0.0010	0.0004	0.0010	-0.0574	0.0018	-0.1795	0.0209
2	170.16	0.2405	-0.0256	0.0017	0.0065	0.0021	-0.1430	0.0037	-0.4355	0.0241
2	170.16	0.2999	0.0091	0.0017	0.0015	0.0050	-0.3062	0.0106	-0.5302	0.0437
2	170.16	0.3498	0.0153	0.0017	0.0172	0.0064	-0.5068	0.0111	-0.6045	0.0323
2	170.16	0.3998	0.0409	0.0019	0.0187	0.0115	-0.8201	0.0217	-0.7846	0.0443
2	170.16	0.4496	0.0676	0.0017	0.0086	0.0159	-1.2290	0.0282	-0.8353	0.0642
2	170.16	0.4995	0.0752	0.0027	0.0009	0.0196	-1.7764	0.0350	-1.0210	0.0635
2	170.16	0.5551	0.0988	0.0027	-0.0057	0.0214	-2.5327	0.0387	-1.0728	0.0382
2	170.16	0.5996	0.1041	0.0043	-0.0312	0.0260	-3.2796	0.0463	-1.1628	0.0417
2	170.16	0.6497	0.1196	0.0039	-0.0351	0.0287	-4.2324	0.0557	-1.1652	0.0582
2	170.16	0.6996	0.1131	0.0042	-0.0728	0.0343	-5.3443	0.0612	-1.2320	0.0489
2	170.16	0.7495	0.0917	0.0047	-0.1222	0.0384	-6.5952	0.0664	-1.3539	0.0571
2	170.16	0.7996	0.0592	0.0054	-0.1726	0.0425	-7.9568	0.0718	-1.4827	0.0478
2	170.16	0.8578	-0.0123	0.0061	-0.2427	0.0477	-9.6015	0.0768	-1.1485	0.0501
2	170.16	0.9100	-0.0404	0.0065	-0.3000	0.0526	-11.1781	0.0843	-1.1201	0.0514
2	170.16	0.9727	-0.0939	0.0084	-0.2893	0.0582	-12.9432	0.0951	-0.7633	0.0540
3	170.16	0.1938	-0.0502	0.0013	-0.0272	0.0010	-0.0231	0.0025	-0.2365	0.0145
3	170.16	0.2357	-0.0307	0.0015	0.0053	0.0031	-0.1109	0.0054	-0.4668	0.0273
3	170.16	0.2995	-0.0213	0.0020	-0.0635	0.0066	-0.2065	0.0100	-0.6464	0.0322
3	170.16	0.3493	0.0025	0.0016	-0.1111	0.0094	-0.3656	0.0156	-0.7076	0.0388
3	170.16	0.4000	0.0441	0.0022	-0.1491	0.0169	-0.6085	0.0261	-0.6840	0.0350
3	170.16	0.4497	0.0567	0.0017	-0.2041	0.0209	-0.9625	0.0356	-0.9061	0.0436
3	170.16	0.4997	0.0657	0.0024	-0.2555	0.0262	-1.4141	0.0480	-0.9560	0.0440
3	170.16	0.5556	0.0921	0.0031	-0.3237	0.0308	-2.0983	0.0604	-1.1650	0.0546
3	170.16	0.5995	0.1123	0.0033	-0.3915	0.0345	-2.7204	0.0731	-1.0112	0.0453
3	170.16	0.6498	0.1223	0.0038	-0.4680	0.0402	-3.5867	0.0873	-1.1042	0.0477
3	170.16	0.6890	0.0990	0.0046	-0.5286	0.0450	-4.3319	0.0987	-0.8413	0.0435
3	170.16	0.7495	0.0918	0.0058	-0.6501	0.0515	-5.7208	0.1148	-1.2802	0.0388
3	170.16	0.7998	0.0860	0.0067	-0.7628	0.0586	-6.9655	0.1289	-1.3504	0.0490
3	170.16	0.8577	0.0376	0.0082	-0.8650	0.0662	-8.4881	0.1425	-1.3134	0.0474
3	170.16	0.9178	0.0097	0.0098	-1.0100	0.0741	-10.1514	0.1618	-1.1738	0.0567
3	170.16	0.9729	-0.0227	0.0120	-1.0927	0.0821	-11.7194	0.1778	-1.3552	0.0498
4	170.16	0.2001	-0.0200	0.0015	0.0150	0.0009	-0.0901	0.0022	-0.0794	0.0227
4	170.16	0.2502	-0.0157	0.0024	0.0218	0.0034	-0.1779	0.0025	-0.0788	0.0334
4	170.16	0.3001	-0.0025	0.0017	0.0584	0.0054	-0.3589	0.0059	-0.1763	0.0461
4	170.16	0.3502	-0.0009	0.0014	0.1001	0.0087	-0.6119	0.0130	-0.1905	0.0375
4	170.16	0.4002	0.0235	0.0018	0.1524	0.0146	-0.9448	0.0166	-0.2879	0.0451
4	170.16	0.4500	0.0506	0.0018	0.1902	0.0169	-1.4118	0.0208	-0.5341	0.0357
4	170.16	0.5001	0.0640	0.0022	0.2184	0.0222	-1.9466	0.0272	-0.4471	0.0451
4	170.16	0.5560	0.0795	0.0020	0.2597	0.0270	-2.7738	0.0361	-0.7192	0.0407
4	170.16	0.6001	0.0865	0.0028	0.2807	0.0307	-3.5210	0.0431	-0.7196	0.0448
4	170.16	0.6501	0.0802	0.0028	0.2887	0.0349	-4.5115	0.0494	-0.6654	0.0398
4	170.16	0.6999	0.0778	0.0028	0.2806	0.0395	-5.6677	0.0536	-0.6505	0.0599
4	170.16	0.7500	0.0582	0.0036	0.2684	0.0442	-6.9622	0.0588	-0.5449	0.0429
4	170.16	0.8002	0.0133	0.0034	0.2492	0.0482	-8.4131	0.0625	-0.6295	0.0400
4	170.16	0.8582	-0.0371	0.0046	0.2225	0.0535	-10.1970	0.0668	-0.8018	0.0455
4	170.16	0.9101	-0.0678	0.0056	0.1910	0.0582	-11.8516	0.0733	-0.7860	0.0422
4	170.16	0.9728	-0.0863	0.0074	0.2138	0.0637	-13.7520	0.0827	-0.3375	0.0536

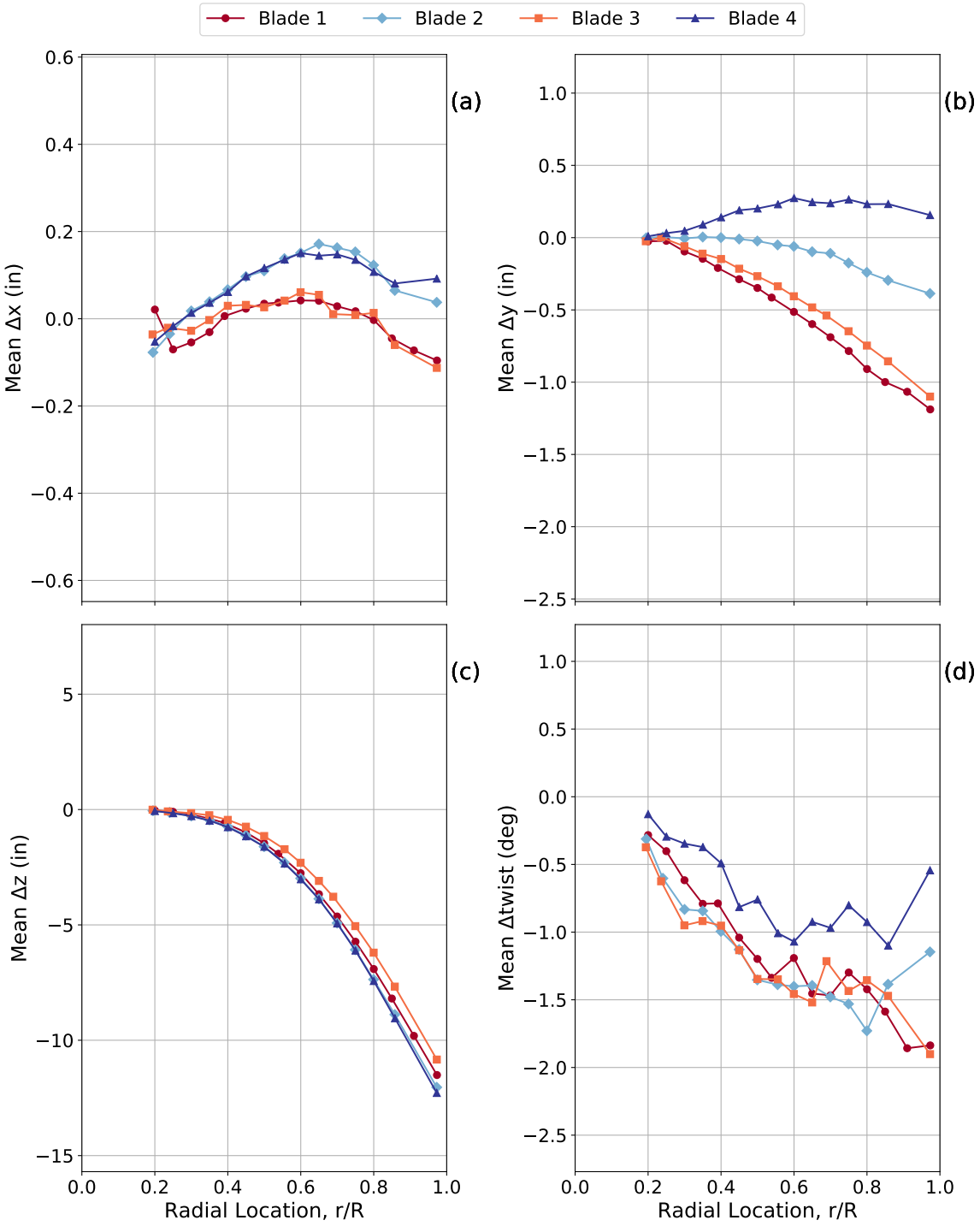


Figure 2.2-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	0.0211	0.0014	-0.0255	0.0008	-0.0423	0.0023	-0.2832	0.0180
1	175.08	0.2499	-0.0702	0.0011	-0.0221	0.0020	-0.0989	0.0045	-0.4020	0.0293
1	175.08	0.2998	-0.0541	0.0007	-0.0956	0.0034	-0.2217	0.0080	-0.6168	0.0391
1	175.08	0.3498	-0.0306	0.0010	-0.1463	0.0065	-0.3946	0.0140	-0.7912	0.0227
1	175.08	0.3913	0.0062	0.0011	-0.2096	0.0091	-0.5818	0.0192	-0.7880	0.0343
1	175.08	0.4496	0.0231	0.0016	-0.2875	0.0116	-0.9908	0.0272	-1.0407	0.0246
1	175.08	0.4997	0.0345	0.0011	-0.3481	0.0146	-1.4618	0.0337	-1.1982	0.0369
1	175.08	0.5387	0.0371	0.0015	-0.4146	0.0174	-1.9173	0.0410	-1.3376	0.0373
1	175.08	0.5996	0.0421	0.0016	-0.5136	0.0216	-2.7592	0.0535	-1.1915	0.0417
1	175.08	0.6498	0.0412	0.0021	-0.5982	0.0267	-3.6695	0.0641	-1.4536	0.0376
1	175.08	0.6998	0.0286	0.0024	-0.6889	0.0307	-4.6366	0.0757	-1.4675	0.0448
1	175.08	0.7500	0.0172	0.0034	-0.7844	0.0362	-5.7293	0.0886	-1.2985	0.0485
1	175.08	0.8001	-0.0029	0.0047	-0.9092	0.0404	-6.9130	0.1010	-1.4222	0.0369
1	175.08	0.8497	-0.0450	0.0055	-0.9991	0.0463	-8.1913	0.1179	-1.5870	0.0431
1	175.08	0.9102	-0.0725	0.0101	-1.0664	0.0566	-9.8100	0.1445	-1.8577	0.0462
1	175.08	0.9734	-0.0957	0.0101	-1.1883	0.0615	-11.5074	0.1642	-1.8369	0.0610
2	175.08	0.1949	-0.0771	0.0010	-0.0017	0.0009	-0.0521	0.0012	-0.3121	0.0223
2	175.08	0.2405	-0.0347	0.0009	0.0049	0.0023	-0.1243	0.0047	-0.6026	0.0314
2	175.08	0.2999	0.0179	0.0009	-0.0055	0.0037	-0.2808	0.0060	-0.8324	0.0485
2	175.08	0.3498	0.0390	0.0009	0.0043	0.0066	-0.4496	0.0106	-0.8431	0.0478
2	175.08	0.3998	0.0669	0.0012	0.0004	0.0103	-0.7376	0.0168	-0.9947	0.0449
2	175.08	0.4496	0.0967	0.0020	-0.0097	0.0125	-1.1089	0.0235	-1.1287	0.0461
2	175.08	0.4995	0.1099	0.0018	-0.0235	0.0165	-1.6098	0.0299	-1.3529	0.0594
2	175.08	0.5551	0.1379	0.0022	-0.0504	0.0207	-2.2974	0.0382	-1.3881	0.0693
2	175.08	0.5996	0.1510	0.0031	-0.0607	0.0221	-2.9832	0.0527	-1.4006	0.0527
2	175.08	0.6497	0.1714	0.0033	-0.0974	0.0256	-3.8695	0.0657	-1.3940	0.0572
2	175.08	0.6996	0.1629	0.0040	-0.1091	0.0288	-4.9199	0.0767	-1.4786	0.0568
2	175.08	0.7495	0.1533	0.0059	-0.1754	0.0328	-6.0775	0.0812	-1.5307	0.0947
2	175.08	0.7996	0.1230	0.0063	-0.2400	0.0386	-7.3654	0.0965	-1.7291	0.0738
2	175.08	0.8578	0.0650	0.0083	-0.2952	0.0418	-8.8859	0.1095	-1.3851	0.1107
2	175.08	0.9727	0.0377	0.0128	-0.3866	0.0528	-12.0389	0.1261	-1.1462	0.1144
3	175.08	0.1938	-0.0360	0.0015	-0.0248	0.0018	-0.0082	0.0033	-0.3731	0.0152
3	175.08	0.2357	-0.0206	0.0020	0.0017	0.0015	-0.0815	0.0050	-0.6246	0.0422
3	175.08	0.2995	-0.0275	0.0015	-0.0598	0.0052	-0.1559	0.0120	-0.9499	0.0457
3	175.08	0.3493	-0.0029	0.0017	-0.1108	0.0085	-0.2473	0.0180	-0.9185	0.0439
3	175.08	0.4000	0.0297	0.0020	-0.1480	0.0125	-0.4483	0.0292	-0.9524	0.0468
3	175.08	0.4497	0.0318	0.0015	-0.2149	0.0162	-0.7437	0.0379	-1.1337	0.0459
3	175.08	0.4997	0.0263	0.0020	-0.2668	0.0209	-1.1482	0.0517	-1.3462	0.0567
3	175.08	0.5556	0.0416	0.0021	-0.3366	0.0243	-1.7209	0.0657	-1.3487	0.0469
3	175.08	0.5995	0.0608	0.0040	-0.4056	0.0284	-2.3068	0.0793	-1.4573	0.0542
3	175.08	0.6498	0.0548	0.0055	-0.4826	0.0328	-3.0930	0.0943	-1.5196	0.0506
3	175.08	0.6890	0.0107	0.0050	-0.5388	0.0383	-3.7789	0.1054	-1.2147	0.0704
3	175.08	0.7495	0.0086	0.0058	-0.6475	0.0434	-5.0539	0.1189	-1.4349	0.0599
3	175.08	0.7998	0.0134	0.0057	-0.7469	0.0484	-6.2033	0.1370	-1.3554	0.0587
3	175.08	0.8577	-0.0601	0.0105	-0.8555	0.0516	-7.6754	0.1562	-1.4708	0.1187
3	175.08	0.9729	-0.1126	0.0193	-1.0998	0.0698	-10.8369	0.2049	-1.9012	0.0808
4	175.08	0.2001	-0.0525	0.0009	0.0093	0.0015	-0.0663	0.0040	-0.1289	0.0265
4	175.08	0.2502	-0.0169	0.0012	0.0310	0.0035	-0.1603	0.0071	-0.2949	0.0576
4	175.08	0.3001	0.0134	0.0010	0.0470	0.0066	-0.2880	0.0133	-0.3466	0.0647
4	175.08	0.3502	0.0366	0.0014	0.0897	0.0114	-0.4833	0.0232	-0.3722	0.0620
4	175.08	0.4002	0.0613	0.0010	0.1404	0.0177	-0.7662	0.0341	-0.4917	0.0645
4	175.08	0.4500	0.0972	0.0013	0.1894	0.0206	-1.1604	0.0451	-0.8150	0.0543
4	175.08	0.5001	0.1161	0.0010	0.2016	0.0243	-1.6145	0.0541	-0.7598	0.0807
4	175.08	0.5560	0.1357	0.0017	0.2306	0.0283	-2.3440	0.0679	-1.0082	0.0711
4	175.08	0.6001	0.1505	0.0017	0.2735	0.0323	-3.0236	0.0743	-1.0702	0.0917
4	175.08	0.6501	0.1446	0.0030	0.2453	0.0398	-3.8926	0.0840	-0.9244	0.1114
4	175.08	0.6999	0.1475	0.0037	0.2377	0.0445	-4.9395	0.0980	-0.9687	0.0792
4	175.08	0.7500	0.1351	0.0044	0.2636	0.0474	-6.1139	0.1070	-0.8018	0.0897
4	175.08	0.8002	0.1075	0.0063	0.2315	0.0503	-7.4324	0.1131	-0.9261	0.1035
4	175.08	0.8582	0.0809	0.0081	0.2323	0.0625	-9.0485	0.1245	-1.0996	0.1136
4	175.08	0.9728	0.0920	0.0121	0.1558	0.0700	-12.2848	0.1440	-0.5438	0.1350

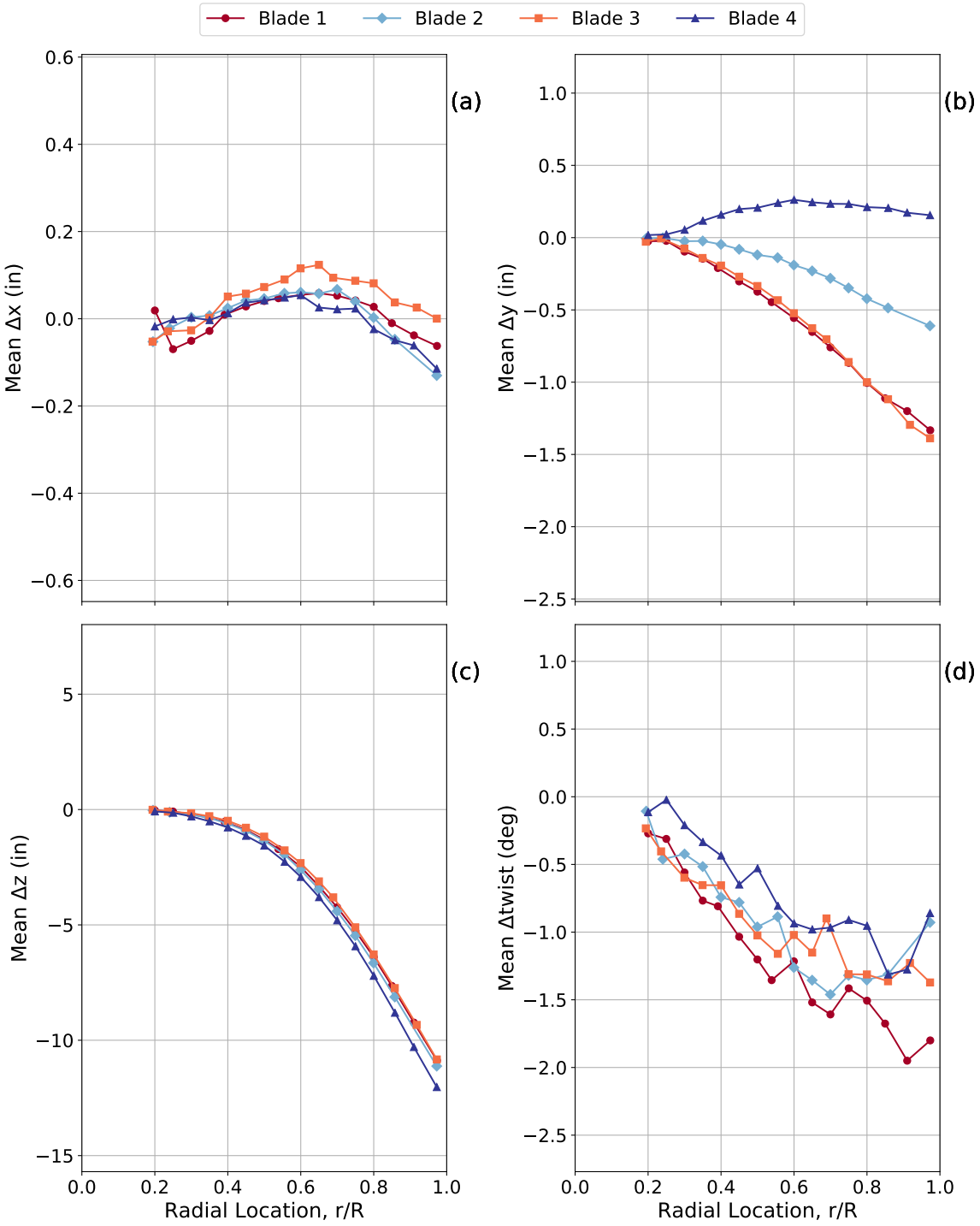


Figure 2.2-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	0.0190	0.0014	-0.0253	0.0011	-0.0386	0.0029	-0.2707	0.0188
1	180	0.2499	-0.0697	0.0011	-0.0223	0.0035	-0.0865	0.0059	-0.3116	0.0460
1	180	0.2998	-0.0506	0.0018	-0.0964	0.0047	-0.2025	0.0106	-0.5595	0.0477
1	180	0.3498	-0.0279	0.0017	-0.1455	0.0086	-0.3617	0.0165	-0.7673	0.0457
1	180	0.3913	0.0094	0.0015	-0.2103	0.0127	-0.5318	0.0246	-0.8089	0.0485
1	180	0.4496	0.0282	0.0017	-0.3027	0.0155	-0.8860	0.0326	-1.0343	0.0510
1	180	0.4997	0.0407	0.0022	-0.3740	0.0189	-1.3030	0.0398	-1.2022	0.0520
1	180	0.5387	0.0471	0.0020	-0.4461	0.0214	-1.7135	0.0472	-1.3549	0.0534
1	180	0.5996	0.0547	0.0023	-0.5557	0.0249	-2.4789	0.0557	-1.2159	0.0505
1	180	0.6498	0.0587	0.0028	-0.6523	0.0276	-3.3238	0.0635	-1.5193	0.0573
1	180	0.6998	0.0529	0.0024	-0.7591	0.0314	-4.2376	0.0688	-1.6082	0.0653
1	180	0.7500	0.0420	0.0024	-0.8666	0.0346	-5.2670	0.0742	-1.4153	0.0581
1	180	0.8001	0.0274	0.0037	-1.0052	0.0388	-6.3977	0.0779	-1.5066	0.0617
1	180	0.8497	-0.0101	0.0039	-1.1116	0.0424	-7.6467	0.0817	-1.6759	0.0584
1	180	0.9102	-0.0380	0.0048	-1.2001	0.0480	-9.2354	0.0871	-1.9499	0.0688
1	180	0.9734	-0.0623	0.0071	-1.3327	0.0531	-10.8816	0.0925	-1.8000	0.1026
2	180	0.1949	-0.0526	0.0021	-0.0054	0.0018	-0.0337	0.0034	-0.1066	0.0235
2	180	0.2405	-0.0217	0.0020	-0.0013	0.0025	-0.1147	0.0052	-0.4614	0.0451
2	180	0.2999	0.0033	0.0016	-0.0248	0.0065	-0.2255	0.0106	-0.4230	0.0550
2	180	0.3498	0.0073	0.0017	-0.0232	0.0120	-0.3668	0.0168	-0.5158	0.0561
2	180	0.3998	0.0244	0.0019	-0.0467	0.0175	-0.6151	0.0248	-0.7422	0.0487
2	180	0.4496	0.0417	0.0014	-0.0805	0.0220	-0.9210	0.0283	-0.7806	0.0541
2	180	0.4995	0.0462	0.0024	-0.1191	0.0269	-1.3512	0.0330	-0.9616	0.0508
2	180	0.5551	0.0584	0.0045	-0.1388	0.0253	-1.9444	0.0716	-0.8863	0.1983
2	180	0.5996	0.0607	0.0022	-0.1898	0.0358	-2.6188	0.0434	-1.2619	0.0655
2	180	0.6497	0.0576	0.0028	-0.2303	0.0429	-3.4503	0.0500	-1.3553	0.0528
2	180	0.6996	0.0672	0.0042	-0.2814	0.0486	-4.4068	0.0571	-1.4608	0.0502
2	180	0.7495	0.0396	0.0039	-0.3482	0.0553	-5.4654	0.0660	-1.3195	0.0585
2	180	0.7996	0.0028	0.0043	-0.4225	0.0608	-6.6519	0.0739	-1.3543	0.0563
2	180	0.8578	-0.0472	0.0064	-0.4865	0.0695	-8.1236	0.0848	-1.3119	0.0649
2	180	0.9727	-0.1301	0.0092	-0.6103	0.0860	-11.1207	0.1136	-0.9285	0.0736
3	180.35	0.1938	-0.0524	0.0022	-0.0281	0.0016	-0.0117	0.0034	-0.2336	0.0246
3	180.35	0.2357	-0.0288	0.0024	-0.0055	0.0027	-0.0891	0.0039	-0.4037	0.0447
3	180.35	0.2995	-0.0265	0.0026	-0.0754	0.0058	-0.1599	0.0104	-0.5978	0.0589
3	180.35	0.3493	0.0022	0.0020	-0.1408	0.0118	-0.2891	0.0160	-0.6529	0.0509
3	180.35	0.4000	0.0509	0.0026	-0.1934	0.0169	-0.4893	0.0239	-0.6542	0.0501
3	180.35	0.4497	0.0576	0.0028	-0.2703	0.0202	-0.7897	0.0270	-0.8649	0.0552
3	180.35	0.4997	0.0727	0.0027	-0.3348	0.0247	-1.1749	0.0351	-1.0244	0.0539
3	180.35	0.5556	0.0900	0.0035	-0.4331	0.0300	-1.7701	0.0421	-1.1602	0.0460
3	180.35	0.5995	0.1156	0.0032	-0.5230	0.0354	-2.3219	0.0464	-1.0214	0.0503
3	180.35	0.6498	0.1236	0.0036	-0.6269	0.0420	-3.1144	0.0533	-1.1508	0.0571
3	180.35	0.6890	0.0941	0.0034	-0.7029	0.0454	-3.8060	0.0579	-0.8989	0.0507
3	180.35	0.7495	0.0872	0.0043	-0.8605	0.0530	-5.1049	0.0627	-1.3109	0.0494
3	180.35	0.7998	0.0813	0.0051	-1.0001	0.0591	-6.2811	0.0651	-1.3127	0.0581
3	180.35	0.8577	0.0375	0.0060	-1.1183	0.0666	-7.7393	0.0768	-1.3633	0.0551
3	180.35	0.9178	0.0257	0.0071	-1.2952	0.0760	-9.3349	0.0884	-1.2282	0.0505
3	180.35	0.9729	0.0004	0.0100	-1.3879	0.0843	-10.8318	0.1005	-1.3719	0.0608
4	180	0.2001	-0.0176	0.0019	0.0178	0.0016	-0.0819	0.0037	-0.1142	0.0200
4	180	0.2502	-0.0013	0.0029	0.0224	0.0029	-0.1391	0.0053	-0.0228	0.0464
4	180	0.3001	0.0029	0.0025	0.0545	0.0034	-0.3007	0.0106	-0.2104	0.0358
4	180	0.3502	-0.0031	0.0017	0.1169	0.0057	-0.5133	0.0138	-0.3347	0.0390
4	180	0.4002	0.0126	0.0016	0.1586	0.0073	-0.7766	0.0219	-0.4345	0.0431
4	180	0.4500	0.0369	0.0017	0.1974	0.0091	-1.1389	0.0291	-0.6488	0.0303
4	180	0.5001	0.0423	0.0026	0.2068	0.0106	-1.5636	0.0368	-0.5284	0.0360
4	180	0.5560	0.0485	0.0020	0.2401	0.0134	-2.2645	0.0495	-0.8060	0.0599
4	180	0.6001	0.0541	0.0025	0.2619	0.0141	-2.9224	0.0587	-0.9360	0.0356
4	180	0.6501	0.0258	0.0027	0.2447	0.0173	-3.7988	0.0695	-0.9806	0.0383
4	180	0.6999	0.0216	0.0036	0.2343	0.0182	-4.8026	0.0797	-0.9665	0.0418
4	180	0.7500	0.0234	0.0049	0.2328	0.0216	-5.9282	0.0899	-0.9099	0.0391
4	180	0.8002	-0.0239	0.0052	0.2111	0.0229	-7.2075	0.0991	-0.9536	0.0645
4	180	0.8582	-0.0492	0.0075	0.2051	0.0267	-8.8084	0.1127	-1.3136	0.0571
4	180	0.9101	-0.0612	0.0092	0.1725	0.0281	-10.2947	0.1268	-1.2766	0.0732
4	180	0.9728	-0.1145	0.0102	0.1552	0.0304	-12.0303	0.1484	-0.8598	0.0703

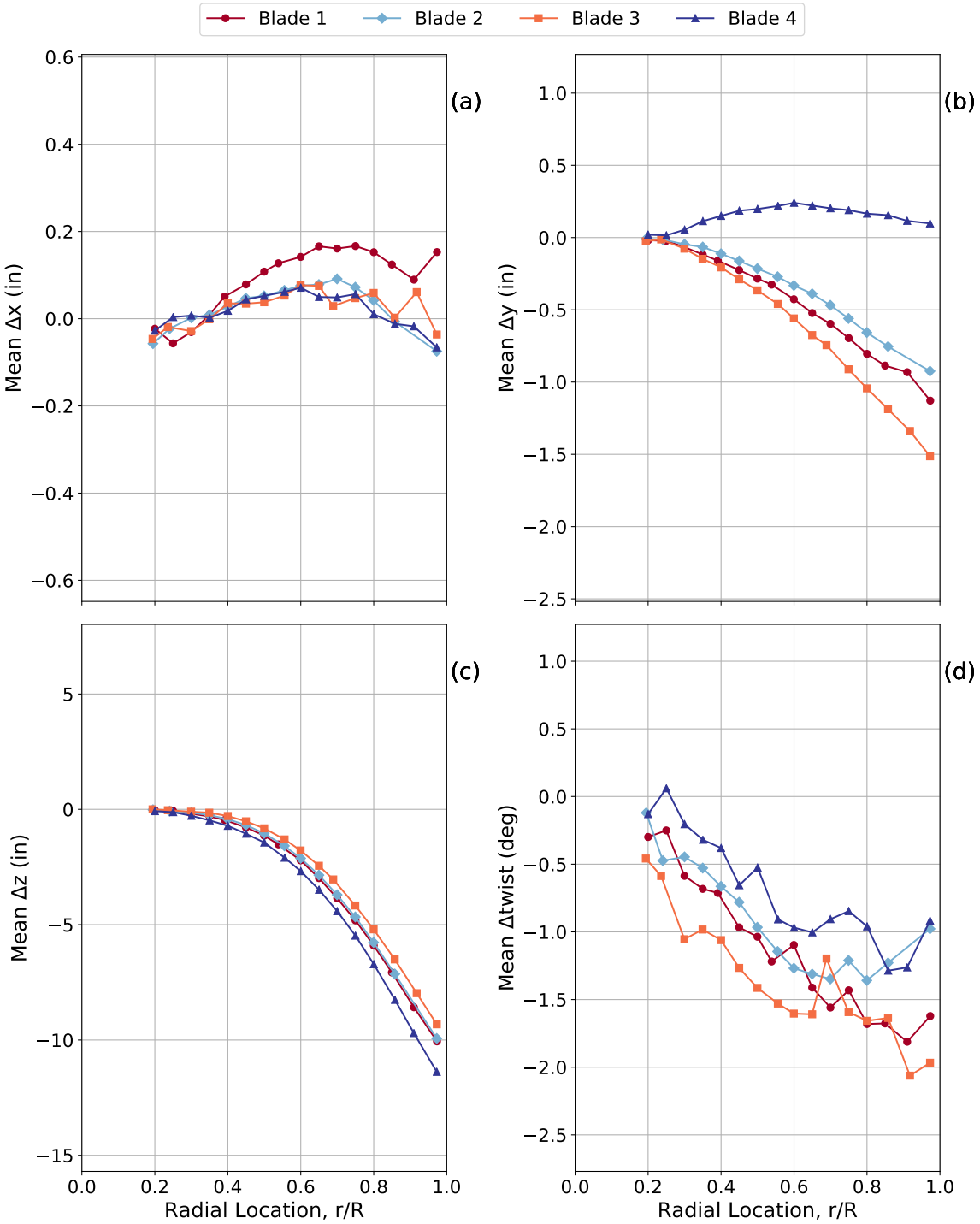


Figure 2.2-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0230	0.0014	-0.0185	0.0016	-0.0389	0.0030	-0.2987	0.0247
1	184.92	0.2499	-0.0566	0.0012	-0.0225	0.0038	-0.0658	0.0063	-0.2503	0.0418
1	184.92	0.2998	-0.0307	0.0016	-0.0666	0.0071	-0.1897	0.0108	-0.5863	0.0553
1	184.92	0.3498	0.0087	0.0015	-0.1172	0.0125	-0.3087	0.0166	-0.6822	0.0460
1	184.92	0.3913	0.0508	0.0016	-0.1598	0.0180	-0.4622	0.0246	-0.7124	0.0438
1	184.92	0.4496	0.0786	0.0016	-0.2249	0.0224	-0.7826	0.0297	-0.9668	0.0426
1	184.92	0.4997	0.1079	0.0016	-0.2839	0.0272	-1.1402	0.0362	-1.0360	0.0518
1	184.92	0.5387	0.1271	0.0027	-0.3255	0.0340	-1.5191	0.0420	-1.2188	0.1176
1	184.92	0.5996	0.1416	0.0019	-0.4267	0.0396	-2.2115	0.0565	-1.0967	0.0431
1	184.92	0.6498	0.1659	0.0031	-0.5224	0.0416	-2.9821	0.0721	-1.4117	0.0499
1	184.92	0.6998	0.1608	0.0035	-0.5972	0.0487	-3.8543	0.0870	-1.5593	0.0585
1	184.92	0.7500	0.1665	0.0053	-0.6955	0.0518	-4.8154	0.1079	-1.4313	0.0473
1	184.92	0.8001	0.1524	0.0072	-0.8046	0.0578	-5.9057	0.1315	-1.6807	0.0870
1	184.92	0.8497	0.1241	0.0086	-0.8857	0.0626	-7.0725	0.1567	-1.6764	0.0537
1	184.92	0.9102	0.0895	0.0111	-0.9314	0.0723	-8.5814	0.1881	-1.8118	0.1000
1	184.92	0.9734	0.1527	0.0129	-1.1285	0.0689	-10.0591	0.2354	-1.6219	0.1197
2	184.92	0.1949	-0.0572	0.0014	-0.0092	0.0015	-0.0185	0.0037	-0.1202	0.0180
2	184.92	0.2405	-0.0229	0.0011	-0.0138	0.0022	-0.0765	0.0063	-0.4739	0.0436
2	184.92	0.2999	0.0020	0.0022	-0.0468	0.0049	-0.1532	0.0120	-0.4462	0.0479
2	184.92	0.3498	0.0087	0.0015	-0.0654	0.0100	-0.2496	0.0217	-0.5286	0.0327
2	184.92	0.3998	0.0274	0.0015	-0.1119	0.0139	-0.4274	0.0314	-0.6636	0.0456
2	184.92	0.4496	0.0470	0.0018	-0.1617	0.0167	-0.6800	0.0379	-0.7805	0.0421
2	184.92	0.4995	0.0524	0.0020	-0.2148	0.0214	-1.0423	0.0494	-0.9661	0.0425
2	184.92	0.5551	0.0650	0.0017	-0.2712	0.0247	-1.5828	0.0576	-1.1450	0.0546
2	184.92	0.5996	0.0757	0.0013	-0.3315	0.0294	-2.1221	0.0683	-1.2682	0.0481
2	184.92	0.6497	0.0784	0.0024	-0.3886	0.0330	-2.8520	0.0766	-1.3112	0.0578
2	184.92	0.6996	0.0913	0.0028	-0.4685	0.0386	-3.7039	0.0866	-1.3481	0.0552
2	184.92	0.7495	0.0722	0.0042	-0.5599	0.0426	-4.6646	0.0945	-1.2108	0.0525
2	184.92	0.7996	0.0420	0.0039	-0.6571	0.0480	-5.7717	0.1017	-1.3588	0.0498
2	184.92	0.8578	-0.0068	0.0041	-0.7537	0.0543	-7.1378	0.1116	-1.2285	0.0454
2	184.92	0.9727	-0.0746	0.0087	-0.9241	0.0674	-9.9316	0.1343	-0.9775	0.0537
3	184.92	0.1938	-0.0464	0.0024	-0.0256	0.0020	0.0001	0.0041	-0.4582	0.0284
3	184.92	0.2357	-0.0190	0.0028	-0.0129	0.0024	-0.0382	0.0061	-0.5869	0.0469
3	184.92	0.2995	-0.0285	0.0017	-0.0768	0.0057	-0.1020	0.0119	-1.0545	0.0576
3	184.92	0.3493	-0.0013	0.0027	-0.1473	0.0105	-0.1469	0.0202	-0.9827	0.0429
3	184.92	0.4000	0.0352	0.0020	-0.2064	0.0150	-0.2902	0.0299	-1.0608	0.0502
3	184.92	0.4497	0.0345	0.0021	-0.2884	0.0179	-0.5178	0.0357	-1.2661	0.0349
3	184.92	0.4997	0.0377	0.0025	-0.3653	0.0211	-0.8234	0.0476	-1.4138	0.0438
3	184.92	0.5556	0.0531	0.0029	-0.4596	0.0258	-1.3024	0.0631	-1.5293	0.0467
3	184.92	0.5995	0.0770	0.0034	-0.5595	0.0295	-1.7818	0.0774	-1.6038	0.0479
3	184.92	0.6498	0.0752	0.0039	-0.6749	0.0344	-2.4476	0.0965	-1.6088	0.0446
3	184.92	0.6890	0.0289	0.0049	-0.7446	0.0366	-3.0393	0.1100	-1.1966	0.0464
3	184.92	0.7495	0.0472	0.0063	-0.9112	0.0426	-4.1679	0.1333	-1.5926	0.0460
3	184.92	0.7998	0.0591	0.0062	-1.0434	0.0480	-5.2036	0.1511	-1.6571	0.0424
3	184.92	0.8577	0.0024	0.0098	-1.1871	0.0528	-6.5068	0.1707	-1.6361	0.0556
3	184.92	0.9178	0.0610	0.0159	-1.3386	0.0559	-7.9700	0.1949	-2.0622	0.0889
3	184.92	0.9729	-0.0363	0.0115	-1.5135	0.0661	-9.3190	0.2099	-1.9670	0.0468
4	184.92	0.2001	-0.0274	0.0020	0.0197	0.0023	-0.0808	0.0058	-0.1301	0.0598
4	184.92	0.2502	0.0036	0.0032	0.0154	0.0040	-0.1224	0.0104	0.0605	0.0895
4	184.92	0.3001	0.0071	0.0020	0.0546	0.0068	-0.2811	0.0149	-0.2046	0.1256
4	184.92	0.3502	0.0022	0.0030	0.1137	0.0114	-0.4797	0.0275	-0.3192	0.1002
4	184.92	0.4002	0.0180	0.0018	0.1500	0.0168	-0.7155	0.0383	-0.3805	0.1003
4	184.92	0.4500	0.0442	0.0027	0.1861	0.0208	-1.0572	0.0498	-0.6552	0.0961
4	184.92	0.5001	0.0524	0.0026	0.1978	0.0265	-1.4405	0.0646	-0.5252	0.0885
4	184.92	0.5560	0.0617	0.0026	0.2190	0.0320	-2.0996	0.0762	-0.9078	0.1000
4	184.92	0.6001	0.0710	0.0027	0.2408	0.0377	-2.6826	0.0861	-0.9686	0.1016
4	184.92	0.6501	0.0498	0.0031	0.2215	0.0434	-3.4872	0.0991	-1.0039	0.1065
4	184.92	0.6999	0.0488	0.0035	0.2026	0.0488	-4.4150	0.1129	-0.9062	0.1055
4	184.92	0.7500	0.0565	0.0049	0.1900	0.0557	-5.4776	0.1272	-0.8464	0.1083
4	184.92	0.8002	0.0103	0.0067	0.1655	0.0614	-6.7133	0.1428	-0.9596	0.1007
4	184.92	0.8582	-0.0118	0.0069	0.1550	0.0695	-8.2615	0.1570	-1.2863	0.0982
4	184.92	0.9101	-0.0176	0.0085	0.1158	0.0756	-9.6998	0.1781	-1.2624	0.0903
4	184.92	0.9728	-0.0658	0.0084	0.0980	0.0860	-11.3824	0.1916	-0.9171	0.1157

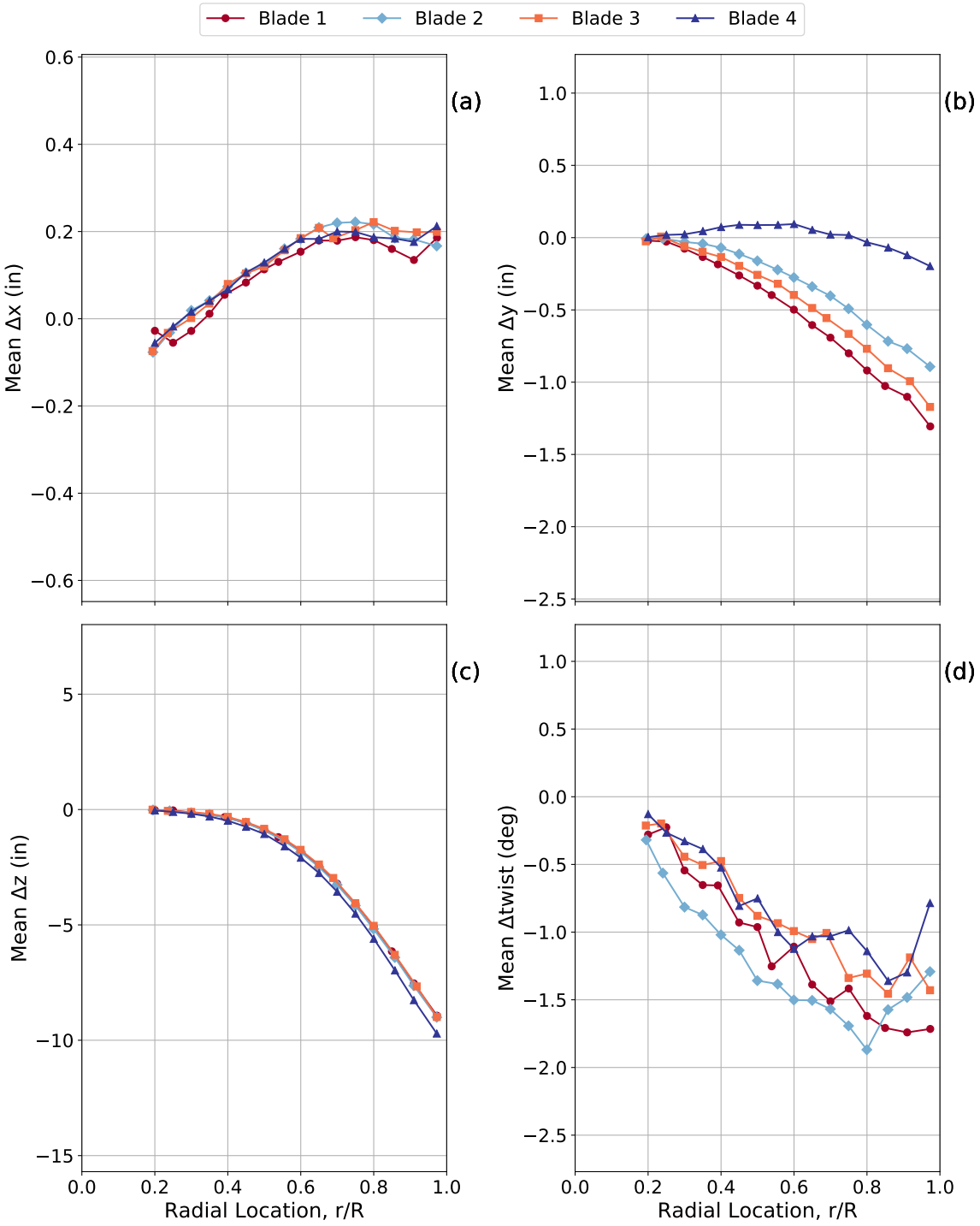


Figure 2.2-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0275	0.0013	-0.0204	0.0011	-0.0259	0.0022	-0.2797	0.0141
1	189.84	0.2499	-0.0549	0.0009	-0.0275	0.0017	-0.0363	0.0047	-0.2257	0.0305
1	189.84	0.2998	-0.0279	0.0010	-0.0763	0.0036	-0.1346	0.0079	-0.5443	0.0340
1	189.84	0.3498	0.0114	0.0015	-0.1340	0.0072	-0.2187	0.0137	-0.6522	0.0262
1	189.84	0.3913	0.0550	0.0015	-0.1848	0.0091	-0.3284	0.0198	-0.6552	0.0341
1	189.84	0.4496	0.0831	0.0022	-0.2615	0.0114	-0.5845	0.0316	-0.9291	0.0363
1	189.84	0.4997	0.1133	0.0022	-0.3325	0.0131	-0.8712	0.0476	-0.9629	0.0432
1	189.84	0.5387	0.1304	0.0024	-0.3974	0.0158	-1.1971	0.0604	-1.2529	0.0384
1	189.84	0.5996	0.1538	0.0034	-0.4983	0.0186	-1.7806	0.0847	-1.1076	0.0353
1	189.84	0.6498	0.1794	0.0039	-0.6050	0.0219	-2.4472	0.1063	-1.3878	0.0429
1	189.84	0.6998	0.1790	0.0049	-0.6919	0.0248	-3.2130	0.1304	-1.5114	0.0462
1	189.84	0.7500	0.1870	0.0063	-0.8004	0.0275	-4.0761	0.1535	-1.4168	0.0516
1	189.84	0.8001	0.1804	0.0071	-0.9192	0.0326	-5.0732	0.1791	-1.6197	0.0418
1	189.84	0.8497	0.1601	0.0092	-1.0267	0.0345	-6.1457	0.2014	-1.7081	0.0414
1	189.84	0.9102	0.1348	0.0114	-1.1014	0.0386	-7.5360	0.2313	-1.7408	0.0602
1	189.84	0.9734	0.1856	0.0129	-1.3060	0.0457	-8.9357	0.2694	-1.7152	0.0673
2	189.84	0.1949	-0.0767	0.0011	-0.0070	0.0010	-0.0206	0.0030	-0.3191	0.0217
2	189.84	0.2405	-0.0318	0.0012	-0.0064	0.0026	-0.0580	0.0057	-0.5639	0.0302
2	189.84	0.2999	0.0191	0.0018	-0.0299	0.0049	-0.1434	0.0124	-0.8153	0.0471
2	189.84	0.3498	0.0417	0.0016	-0.0422	0.0089	-0.2147	0.0189	-0.8731	0.0594
2	189.84	0.3998	0.0738	0.0013	-0.0697	0.0132	-0.3738	0.0295	-1.0200	0.0395
2	189.84	0.4496	0.1052	0.0017	-0.1132	0.0168	-0.5862	0.0403	-1.1341	0.0513
2	189.84	0.4995	0.1230	0.0019	-0.1608	0.0206	-0.9103	0.0511	-1.3584	0.0435
2	189.84	0.5551	0.1605	0.0021	-0.2223	0.0269	-1.3674	0.0695	-1.3837	0.0514
2	189.84	0.5996	0.1832	0.0025	-0.2757	0.0300	-1.8440	0.0864	-1.5014	0.0561
2	189.84	0.6497	0.2092	0.0038	-0.3390	0.0358	-2.4874	0.1059	-1.5044	0.0517
2	189.84	0.6996	0.2198	0.0056	-0.4027	0.0409	-3.2633	0.1309	-1.5687	0.0501
2	189.84	0.7495	0.2218	0.0072	-0.4917	0.0486	-4.1637	0.1619	-1.6925	0.0508
2	189.84	0.7996	0.2166	0.0096	-0.6028	0.0548	-5.1777	0.1930	-1.8689	0.0347
2	189.84	0.8578	0.1853	0.0139	-0.7167	0.0630	-6.4111	0.2380	-1.5729	0.0599
2	189.84	0.9100	0.1820	0.0167	-0.7682	0.0688	-7.6329	0.2845	-1.4825	0.1414
2	189.84	0.9727	0.1669	0.0219	-0.8928	0.0799	-9.0043	0.3404	-1.2921	0.0612
3	189.84	0.1938	-0.0741	0.0009	-0.0255	0.0010	-0.0056	0.0030	-0.2129	0.0166
3	189.84	0.2357	-0.0324	0.0006	0.0074	0.0023	-0.0578	0.0063	-0.1975	0.0279
3	189.84	0.2995	0.0017	0.0010	-0.0599	0.0037	-0.1042	0.0109	-0.4431	0.0334
3	189.84	0.3493	0.0349	0.0018	-0.0980	0.0075	-0.1842	0.0205	-0.5045	0.0314
3	189.84	0.4000	0.0798	0.0015	-0.1340	0.0110	-0.3187	0.0304	-0.4752	0.0320
3	189.84	0.4497	0.1039	0.0012	-0.1957	0.0133	-0.5414	0.0384	-0.7478	0.0351
3	189.84	0.4997	0.1197	0.0014	-0.2574	0.0162	-0.8364	0.0468	-0.8799	0.0478
3	189.84	0.5556	0.1570	0.0020	-0.3193	0.0205	-1.2878	0.0589	-0.9341	0.0359
3	189.84	0.5995	0.1848	0.0026	-0.3965	0.0236	-1.7465	0.0692	-0.9923	0.0346
3	189.84	0.6498	0.2083	0.0031	-0.4868	0.0269	-2.3825	0.0828	-1.0512	0.0389
3	189.84	0.6890	0.1844	0.0035	-0.5564	0.0307	-2.9665	0.0954	-1.0064	0.0298
3	189.84	0.7495	0.2030	0.0050	-0.6655	0.0361	-4.0578	0.1143	-1.3388	0.0351
3	189.84	0.7998	0.2216	0.0065	-0.7688	0.0423	-5.0406	0.1361	-1.3067	0.0434
3	189.84	0.8577	0.2016	0.0090	-0.9035	0.0497	-6.2967	0.1583	-1.4557	0.0620
3	189.84	0.9178	0.1982	0.0102	-0.9930	0.0587	-7.6660	0.1817	-1.1870	0.1280
3	189.84	0.9729	0.1993	0.0136	-1.1712	0.0658	-8.9904	0.2170	-1.4295	0.0626
4	189.84	0.2001	-0.0553	0.0011	0.0033	0.0012	-0.0403	0.0043	-0.1287	0.0369
4	189.84	0.2502	-0.0178	0.0011	0.0189	0.0031	-0.1047	0.0121	-0.2658	0.0444
4	189.84	0.3001	0.0161	0.0010	0.0229	0.0055	-0.1818	0.0177	-0.3285	0.0767
4	189.84	0.3502	0.0414	0.0018	0.0449	0.0085	-0.3045	0.0314	-0.3871	0.0692
4	189.84	0.4002	0.0678	0.0020	0.0730	0.0140	-0.4870	0.0491	-0.5234	0.0648
4	189.84	0.4500	0.1061	0.0020	0.0887	0.0169	-0.7495	0.0629	-0.8061	0.0765
4	189.84	0.5001	0.1290	0.0020	0.0870	0.0206	-1.0619	0.0793	-0.7510	0.0732
4	189.84	0.5560	0.1602	0.0021	0.0880	0.0248	-1.5942	0.0979	-1.0002	0.0704
4	189.84	0.6001	0.1833	0.0024	0.0940	0.0299	-2.0895	0.1167	-1.1241	0.0743
4	189.84	0.6501	0.1829	0.0031	0.0537	0.0353	-2.7532	0.1370	-1.0317	0.0717
4	189.84	0.6999	0.2001	0.0042	0.0211	0.0399	-3.5633	0.1578	-1.0304	0.0809
4	189.84	0.7500	0.1991	0.0051	0.0179	0.0453	-4.5154	0.1786	-0.9866	0.0825
4	189.84	0.8002	0.1869	0.0066	-0.0324	0.0497	-5.6034	0.1964	-1.1409	0.0812
4	189.84	0.8582	0.1839	0.0085	-0.0694	0.0581	-6.9727	0.2234	-1.3610	0.0895
4	189.84	0.9101	0.1762	0.0095	-0.1214	0.0644	-8.2637	0.2481	-1.2982	0.1117
4	189.84	0.9728	0.2123	0.0102	-0.1970	0.0683	-9.7108	0.2718	-0.7857	0.0931

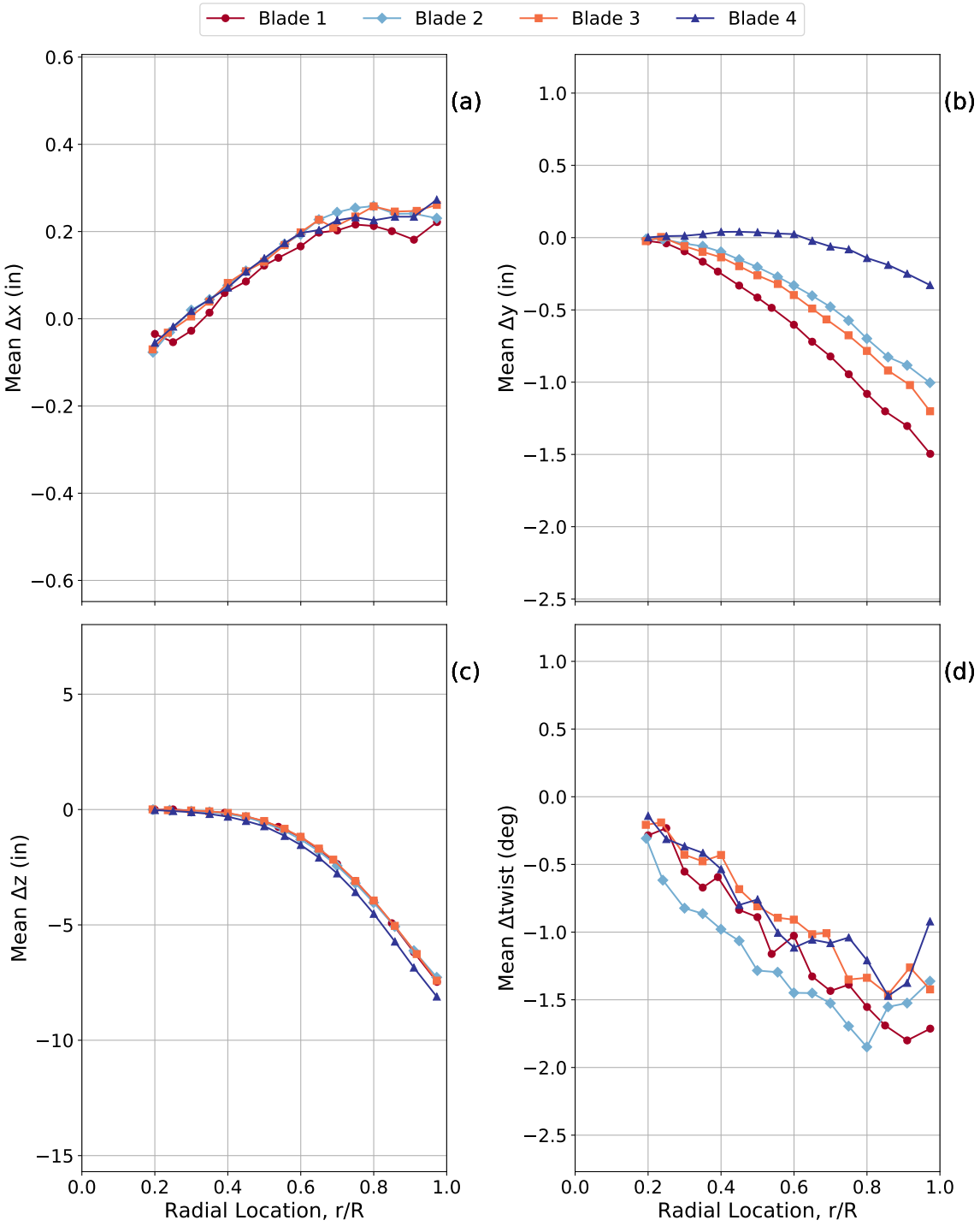


Figure 2.2-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0348	0.0014	-0.0233	0.0009	-0.0066	0.0033	-0.2852	0.0221
1	195.12	0.2499	-0.0537	0.0012	-0.0395	0.0024	0.0058	0.0107	-0.2320	0.0248
1	195.12	0.2998	-0.0275	0.0008	-0.0944	0.0041	-0.0551	0.0167	-0.5532	0.0449
1	195.12	0.3498	0.0140	0.0011	-0.1664	0.0071	-0.0944	0.0258	-0.6709	0.0500
1	195.12	0.3913	0.0591	0.0015	-0.2347	0.0105	-0.1412	0.0414	-0.5934	0.0380
1	195.12	0.4496	0.0855	0.0015	-0.3316	0.0132	-0.3070	0.0487	-0.8357	0.0445
1	195.12	0.4997	0.1219	0.0015	-0.4144	0.0168	-0.5090	0.0594	-0.8893	0.0439
1	195.12	0.5387	0.1398	0.0017	-0.4855	0.0199	-0.7502	0.0686	-1.1612	0.0636
1	195.12	0.5996	0.1660	0.0022	-0.6027	0.0246	-1.1905	0.0867	-1.0271	0.0503
1	195.12	0.6498	0.1975	0.0024	-0.7201	0.0289	-1.7317	0.1005	-1.3275	0.0557
1	195.12	0.6998	0.2024	0.0031	-0.8221	0.0336	-2.3644	0.1154	-1.4344	0.0583
1	195.12	0.7500	0.2160	0.0036	-0.9452	0.0381	-3.0986	0.1330	-1.3883	0.0576
1	195.12	0.8001	0.2127	0.0048	-1.0809	0.0444	-3.9592	0.1501	-1.5532	0.0603
1	195.12	0.8497	0.2009	0.0059	-1.2017	0.0491	-4.9275	0.1713	-1.6899	0.0596
1	195.12	0.9102	0.1813	0.0076	-1.3034	0.0568	-6.1886	0.1955	-1.8001	0.0613
1	195.12	0.9734	0.2218	0.0098	-1.4959	0.0637	-7.4688	0.2244	-1.7131	0.0875
2	195.12	0.1949	-0.0768	0.0008	-0.0091	0.0014	-0.0033	0.0017	-0.3078	0.0252
2	195.12	0.2405	-0.0313	0.0009	-0.0104	0.0026	-0.0299	0.0091	-0.6164	0.0292
2	195.12	0.2999	0.0201	0.0027	-0.0411	0.0040	-0.0727	0.0108	-0.8232	0.0453
2	195.12	0.3498	0.0443	0.0011	-0.0593	0.0093	-0.1013	0.0165	-0.8637	0.0666
2	195.12	0.3998	0.0764	0.0019	-0.0982	0.0124	-0.1966	0.0292	-0.9789	0.0400
2	195.12	0.4496	0.1098	0.0021	-0.1514	0.0157	-0.3334	0.0419	-1.0643	0.0303
2	195.12	0.4995	0.1321	0.0016	-0.2037	0.0188	-0.5737	0.0527	-1.2839	0.0366
2	195.12	0.5551	0.1714	0.0024	-0.2710	0.0229	-0.9187	0.0680	-1.2960	0.0382
2	195.12	0.5996	0.1934	0.0027	-0.3308	0.0258	-1.2946	0.0822	-1.4484	0.0402
2	195.12	0.6497	0.2274	0.0030	-0.4022	0.0289	-1.8078	0.0982	-1.4506	0.0441
2	195.12	0.6996	0.2442	0.0039	-0.4788	0.0315	-2.4381	0.1163	-1.5253	0.0464
2	195.12	0.7495	0.2541	0.0049	-0.5733	0.0349	-3.1915	0.1357	-1.6948	0.0461
2	195.12	0.7996	0.2583	0.0057	-0.6986	0.0385	-4.0350	0.1563	-1.8486	0.0568
2	195.12	0.8578	0.2407	0.0076	-0.8261	0.0421	-5.0711	0.1820	-1.5522	0.0555
2	195.12	0.9100	0.2410	0.0088	-0.8832	0.0447	-6.1182	0.2048	-1.5242	0.0643
2	195.12	0.9727	0.2305	0.0102	-1.0038	0.0494	-7.2709	0.2336	-1.3627	0.0557
3	195.12	0.1938	-0.0701	0.0013	-0.0240	0.0013	0.0068	0.0047	-0.2074	0.0242
3	195.12	0.2357	-0.0319	0.0013	0.0045	0.0025	-0.0294	0.0043	-0.1901	0.0752
3	195.12	0.2995	0.0053	0.0013	-0.0593	0.0062	-0.0419	0.0166	-0.4283	0.0777
3	195.12	0.3493	0.0394	0.0010	-0.0983	0.0091	-0.0783	0.0214	-0.4769	0.0911
3	195.12	0.4000	0.0821	0.0018	-0.1363	0.0153	-0.1502	0.0352	-0.4303	0.0738
3	195.12	0.4497	0.1089	0.0017	-0.1974	0.0193	-0.2951	0.0449	-0.6829	0.0769
3	195.12	0.4997	0.1307	0.0017	-0.2606	0.0239	-0.4978	0.0558	-0.8095	0.0636
3	195.12	0.5556	0.1690	0.0020	-0.3206	0.0295	-0.8353	0.0667	-0.8940	0.0696
3	195.12	0.5995	0.1982	0.0023	-0.3972	0.0345	-1.1825	0.0753	-0.9080	0.0663
3	195.12	0.6498	0.2270	0.0023	-0.4906	0.0406	-1.6937	0.0846	-1.0156	0.0714
3	195.12	0.6890	0.2094	0.0025	-0.5657	0.0450	-2.1722	0.0903	-1.0080	0.0797
3	195.12	0.7495	0.2344	0.0033	-0.6757	0.0530	-3.0989	0.0997	-1.3503	0.0893
3	195.12	0.7998	0.2577	0.0039	-0.7837	0.0603	-3.9437	0.1105	-1.3374	0.0838
3	195.12	0.8577	0.2458	0.0046	-0.9191	0.0676	-5.0416	0.1200	-1.4602	0.0756
3	195.12	0.9178	0.2473	0.0056	-1.0199	0.0768	-6.2640	0.1327	-1.2613	0.1004
3	195.12	0.9729	0.2611	0.0080	-1.2011	0.0844	-7.4155	0.1478	-1.4231	0.0970
4	195.12	0.2001	-0.0550	0.0007	0.0017	0.0006	-0.0252	0.0018	-0.1415	0.0191
4	195.12	0.2502	-0.0181	0.0011	0.0105	0.0019	-0.0663	0.0062	-0.3128	0.0229
4	195.12	0.3001	0.0178	0.0007	0.0126	0.0024	-0.1157	0.0085	-0.3660	0.0388
4	195.12	0.3502	0.0443	0.0014	0.0240	0.0049	-0.1935	0.0135	-0.4150	0.0530
4	195.12	0.4002	0.0716	0.0015	0.0397	0.0071	-0.3106	0.0218	-0.5351	0.0361
4	195.12	0.4500	0.1081	0.0023	0.0406	0.0080	-0.4963	0.0293	-0.7994	0.0352
4	195.12	0.5001	0.1388	0.0017	0.0366	0.0100	-0.7244	0.0393	-0.7587	0.0493
4	195.12	0.5560	0.1735	0.0026	0.0283	0.0124	-1.1446	0.0528	-1.0052	0.0420
4	195.12	0.6001	0.1967	0.0027	0.0242	0.0149	-1.5375	0.0656	-1.1148	0.0409
4	195.12	0.6501	0.2035	0.0029	-0.0222	0.0175	-2.0862	0.0835	-1.0561	0.0362
4	195.12	0.6999	0.2259	0.0040	-0.0615	0.0201	-2.7702	0.1030	-1.0815	0.0425
4	195.12	0.7500	0.2325	0.0049	-0.0810	0.0236	-3.5783	0.1290	-1.0396	0.0420
4	195.12	0.8002	0.2258	0.0070	-0.1414	0.0270	-4.5203	0.1577	-1.2086	0.0595
4	195.12	0.8582	0.2340	0.0096	-0.1889	0.0325	-5.7251	0.1944	-1.4714	0.0575
4	195.12	0.9101	0.2340	0.0111	-0.2499	0.0371	-6.8517	0.2271	-1.3752	0.0570
4	195.12	0.9728	0.2730	0.0139	-0.3283	0.0416	-8.1092	0.2705	-0.9212	0.0699

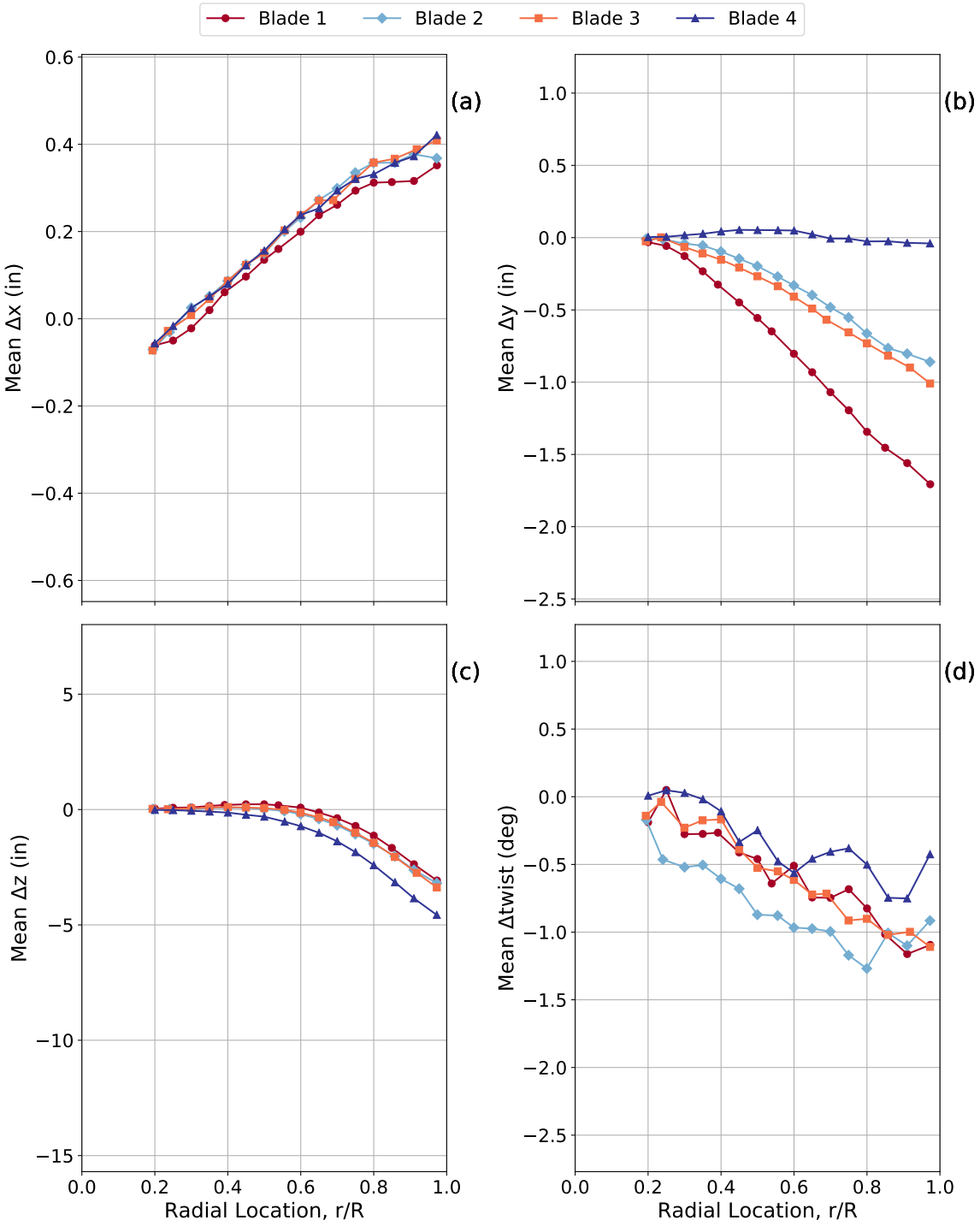


Figure 2.2-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0610	0.0012	-0.0313	0.0009	0.0379	0.0041	-0.1887	0.0216
1	209.88	0.2499	-0.0499	0.0009	-0.0574	0.0018	0.0775	0.0101	0.0501	0.0333
1	209.88	0.2998	-0.0220	0.0009	-0.1272	0.0029	0.0908	0.0182	-0.2763	0.0482
1	209.88	0.3498	0.0198	0.0015	-0.2328	0.0062	0.1532	0.0273	-0.2747	0.0465
1	209.88	0.3913	0.0608	0.0018	-0.3250	0.0078	0.1988	0.0428	-0.2654	0.0727
1	209.88	0.4496	0.0967	0.0021	-0.4485	0.0101	0.2272	0.0524	-0.4118	0.0382
1	209.88	0.4997	0.1352	0.0021	-0.5558	0.0128	0.2276	0.0666	-0.4600	0.0533
1	209.88	0.5387	0.1601	0.0019	-0.6482	0.0154	0.1853	0.0791	-0.6411	0.0550
1	209.88	0.5996	0.1996	0.0033	-0.8033	0.0188	0.0839	0.0961	-0.5096	0.0727
1	209.88	0.6498	0.2376	0.0022	-0.9311	0.0223	-0.1286	0.1137	-0.7443	0.0453
1	209.88	0.6998	0.2614	0.0023	-1.0695	0.0261	-0.3764	0.1330	-0.7467	0.0621
1	209.88	0.7500	0.2938	0.0028	-1.1947	0.0297	-0.7113	0.1506	-0.6829	0.0410
1	209.88	0.8001	0.3121	0.0029	-1.3436	0.0346	-1.1314	0.1701	-0.8250	0.0470
1	209.88	0.8497	0.3134	0.0037	-1.4535	0.0391	-1.6629	0.1887	-1.0155	0.0482
1	209.88	0.9102	0.3160	0.0037	-1.5599	0.0445	-2.3730	0.2158	-1.1619	0.0484
1	209.88	0.9734	0.3518	0.0049	-1.7063	0.0491	-3.0758	0.2425	-1.0948	0.0542
2	209.88	0.1949	-0.0705	0.0010	-0.0083	0.0007	0.0193	0.0033	-0.1713	0.0502
2	209.88	0.2405	-0.0303	0.0012	-0.0100	0.0024	0.0129	0.0067	-0.4639	0.0275
2	209.88	0.2999	0.0254	0.0024	-0.0417	0.0053	0.0323	0.0135	-0.5204	0.0874
2	209.88	0.3498	0.0516	0.0020	-0.0550	0.0061	0.0692	0.0197	-0.5044	0.0566
2	209.88	0.3998	0.0868	0.0020	-0.0964	0.0119	0.0751	0.0293	-0.6065	0.0760
2	209.88	0.4496	0.1244	0.0028	-0.1458	0.0131	0.0711	0.0378	-0.6797	0.0443
2	209.88	0.4995	0.1496	0.0024	-0.1971	0.0178	0.0212	0.0511	-0.8713	0.0690
2	209.88	0.5551	0.2006	0.0018	-0.2697	0.0192	-0.0655	0.0598	-0.8780	0.0527
2	209.88	0.5996	0.2320	0.0016	-0.3305	0.0216	-0.1985	0.0707	-0.9668	0.0548
2	209.88	0.6497	0.2724	0.0018	-0.3976	0.0255	-0.4073	0.0858	-0.9744	0.0452
2	209.88	0.6996	0.2990	0.0022	-0.4819	0.0286	-0.6814	0.0978	-0.9953	0.0614
2	209.88	0.7495	0.3350	0.0020	-0.5530	0.0320	-1.0662	0.1124	-1.1710	0.0535
2	209.88	0.7996	0.3575	0.0021	-0.6630	0.0356	-1.4809	0.1280	-1.2689	0.0442
2	209.88	0.8578	0.3579	0.0022	-0.7647	0.0401	-2.0243	0.1472	-1.0069	0.0572
2	209.88	0.9100	0.3773	0.0031	-0.8033	0.0430	-2.6182	0.1645	-1.1003	0.0740
2	209.88	0.9727	0.3681	0.0034	-0.8595	0.0476	-3.1899	0.1895	-0.9152	0.0571
3	209.88	0.1938	-0.0726	0.0011	-0.0249	0.0010	0.0288	0.0078	-0.1406	0.0421
3	209.88	0.2357	-0.0279	0.0011	0.0020	0.0032	0.0138	0.0143	-0.0381	0.0550
3	209.88	0.2995	0.0083	0.0032	-0.0647	0.0062	0.0537	0.0294	-0.2290	0.0938
3	209.88	0.3493	0.0453	0.0018	-0.1091	0.0114	0.0874	0.0539	-0.1742	0.0496
3	209.88	0.4000	0.0869	0.0029	-0.1531	0.0179	0.1061	0.0793	-0.1675	0.0346
3	209.88	0.4497	0.1236	0.0032	-0.2070	0.0224	0.0858	0.1008	-0.3885	0.0778
3	209.88	0.4997	0.1508	0.0017	-0.2673	0.0267	0.0604	0.1278	-0.5255	0.0432
3	209.88	0.5556	0.2026	0.0027	-0.3359	0.0345	-0.0152	0.1606	-0.5511	0.0683
3	209.88	0.5995	0.2377	0.0022	-0.4083	0.0402	-0.1363	0.1875	-0.6141	0.0619
3	209.88	0.6498	0.2708	0.0023	-0.4907	0.0474	-0.3430	0.2225	-0.7224	0.0709
3	209.88	0.6890	0.2721	0.0031	-0.5681	0.0526	-0.5463	0.2474	-0.7157	0.0573
3	209.88	0.7495	0.3203	0.0030	-0.6551	0.0624	-1.0033	0.2915	-0.9139	0.0779
3	209.88	0.7998	0.3581	0.0027	-0.7311	0.0702	-1.4428	0.3280	-0.9016	0.0749
3	209.88	0.8577	0.3669	0.0035	-0.8166	0.0794	-2.0526	0.3691	-1.0205	0.0634
3	209.88	0.9178	0.3886	0.0037	-0.8992	0.0897	-2.7429	0.4119	-0.9979	0.0579
3	209.88	0.9729	0.4089	0.0050	-1.0090	0.0992	-3.3764	0.4506	-1.1092	0.0582
4	209.88	0.2001	-0.0563	0.0010	0.0039	0.0012	-0.0157	0.0066	0.0076	0.0467
4	209.88	0.2502	-0.0166	0.0016	0.0060	0.0028	-0.0267	0.0142	0.0479	0.1052
4	209.88	0.3001	0.0246	0.0015	0.0170	0.0051	-0.0531	0.0252	0.0285	0.1181
4	209.88	0.3502	0.0519	0.0015	0.0266	0.0085	-0.0895	0.0413	-0.0188	0.0832
4	209.88	0.4002	0.0797	0.0018	0.0426	0.0135	-0.1336	0.0640	-0.1076	0.0901
4	209.88	0.4500	0.1225	0.0025	0.0537	0.0129	-0.2265	0.0676	-0.3342	0.1156
4	209.88	0.5001	0.1563	0.0019	0.0524	0.0171	-0.3099	0.0840	-0.2476	0.1169
4	209.88	0.5560	0.2051	0.0024	0.0513	0.0209	-0.5264	0.1059	-0.4776	0.1283
4	209.88	0.6001	0.2381	0.0035	0.0490	0.0227	-0.7225	0.1181	-0.5635	0.1116
4	209.88	0.6501	0.2533	0.0022	0.0226	0.0265	-1.0102	0.1280	-0.4579	0.0974
4	209.88	0.6999	0.2940	0.0014	-0.0064	0.0289	-1.3788	0.1434	-0.4068	0.1041
4	209.88	0.7500	0.3207	0.0017	-0.0069	0.0316	-1.8478	0.1578	-0.3810	0.1090
4	209.88	0.8002	0.3313	0.0019	-0.0262	0.0356	-2.4127	0.1744	-0.5019	0.1044
4	209.88	0.8582	0.3575	0.0018	-0.0252	0.0391	-3.1527	0.1911	-0.7465	0.1072
4	209.88	0.9101	0.3726	0.0024	-0.0360	0.0418	-3.8485	0.2091	-0.7512	0.0981
4	209.88	0.9728	0.4213	0.0027	-0.0400	0.0463	-4.5688	0.2296	-0.4251	0.1028

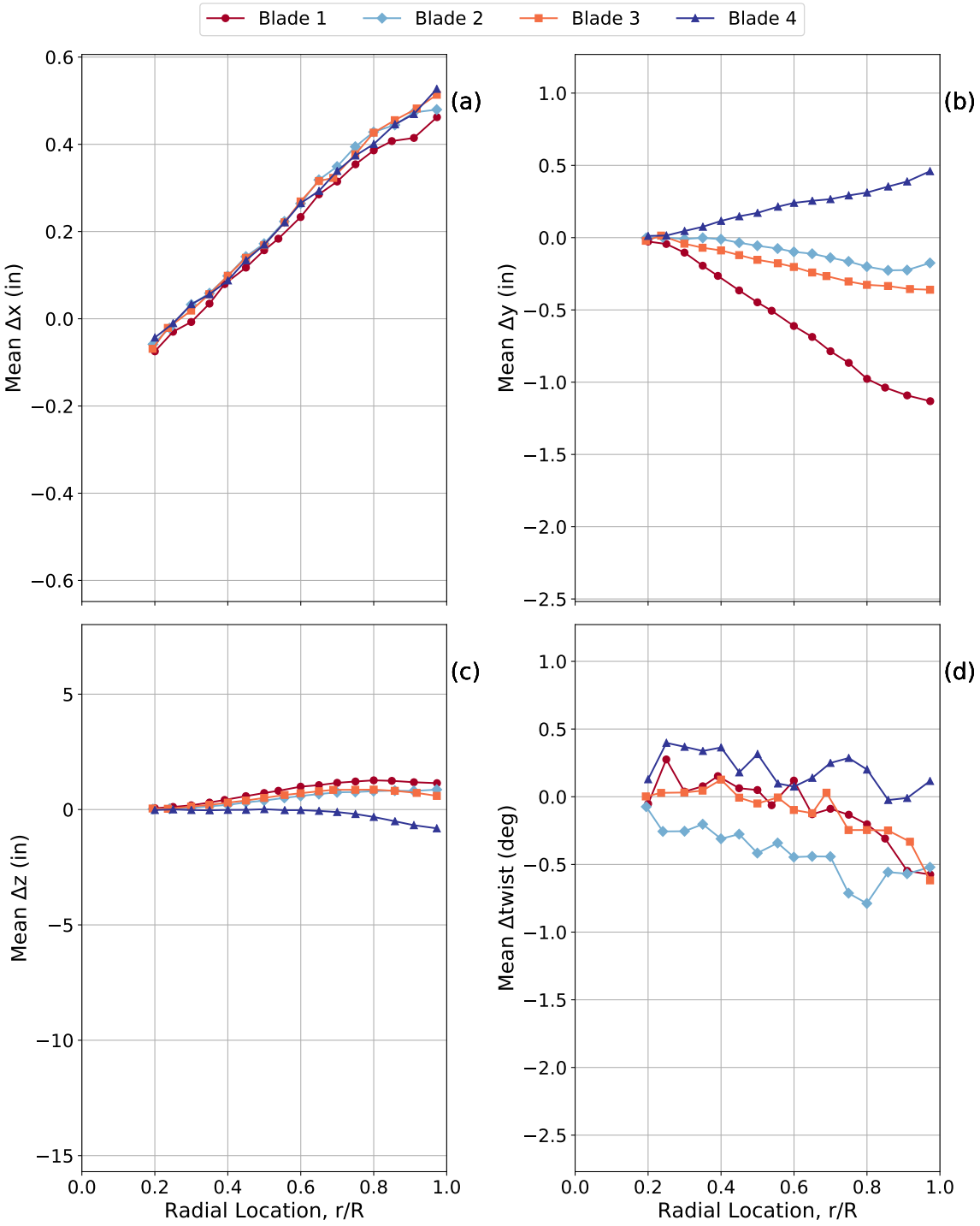


Figure 2.2-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.241$, $\alpha = -3°$ NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0747	0.0018	-0.0270	0.0017	0.0605	0.0048	-0.0520	0.0290
1	225	0.2499	-0.0298	0.0013	-0.0438	0.0023	0.1130	0.0157	0.2755	0.0296
1	225	0.2998	-0.0074	0.0009	-0.1036	0.0061	0.1830	0.0228	0.0377	0.0568
1	225	0.3498	0.0347	0.0010	-0.1941	0.0108	0.3029	0.0338	0.0773	0.0405
1	225	0.3913	0.0794	0.0053	-0.2647	0.0147	0.4163	0.0548	0.1524	0.0516
1	225	0.4496	0.1173	0.0042	-0.3652	0.0176	0.5805	0.0622	0.0628	0.0592
1	225	0.4997	0.1571	0.0033	-0.4475	0.0238	0.7168	0.0745	0.0496	0.0622
1	225	0.5387	0.1836	0.0045	-0.5057	0.0298	0.8118	0.0861	-0.0628	0.0362
1	225	0.5996	0.2332	0.0051	-0.6113	0.0373	0.9914	0.0982	0.1193	0.0788
1	225	0.6498	0.2853	0.0052	-0.6870	0.0441	1.0576	0.1116	-0.1293	0.0669
1	225	0.6998	0.3147	0.0060	-0.7859	0.0515	1.1581	0.1168	-0.0891	0.0487
1	225	0.7500	0.3541	0.0060	-0.8665	0.0592	1.2151	0.1234	-0.1330	0.0477
1	225	0.8001	0.3861	0.0058	-0.9770	0.0673	1.2653	0.1242	-0.2035	0.0511
1	225	0.8497	0.4074	0.0061	-1.0375	0.0752	1.2434	0.1291	-0.3090	0.0534
1	225	0.9102	0.4146	0.0063	-1.0916	0.0861	1.1834	0.1362	-0.5474	0.0516
1	225	0.9734	0.4622	0.0087	-1.1314	0.0967	1.1434	0.1414	-0.5747	0.0522
2	225	0.1949	-0.0584	0.0018	-0.0017	0.0005	0.0207	0.0036	-0.0737	0.0181
2	225	0.2405	-0.0213	0.0009	0.0026	0.0022	0.0330	0.0065	-0.2562	0.0375
2	225	0.2999	0.0326	0.0009	-0.0094	0.0042	0.0704	0.0148	-0.2548	0.0437
2	225	0.3498	0.0586	0.0015	-0.0016	0.0059	0.1425	0.0209	-0.2030	0.0452
2	225	0.3998	0.0982	0.0016	-0.0110	0.0108	0.1995	0.0342	-0.3105	0.0552
2	225	0.4496	0.1425	0.0025	-0.0351	0.0134	0.3097	0.0430	-0.2764	0.0464
2	225	0.4995	0.1722	0.0022	-0.0561	0.0167	0.3876	0.0484	-0.4163	0.0336
2	225	0.5551	0.2231	0.0024	-0.0755	0.0203	0.5049	0.0586	-0.3415	0.0549
2	225	0.5996	0.2643	0.0025	-0.0983	0.0232	0.5874	0.0646	-0.4460	0.0515
2	225	0.6497	0.3185	0.0033	-0.1114	0.0283	0.6705	0.0774	-0.4407	0.0313
2	225	0.6996	0.3490	0.0024	-0.1389	0.0302	0.7454	0.0822	-0.4420	0.0563
2	225	0.7495	0.3946	0.0034	-0.1647	0.0354	0.7594	0.0932	-0.7125	0.0387
2	225	0.7996	0.4282	0.0026	-0.2006	0.0389	0.7959	0.1060	-0.7881	0.0325
2	225	0.8578	0.4444	0.0030	-0.2263	0.0432	0.8178	0.1182	-0.5568	0.0385
2	225	0.9100	0.4730	0.0031	-0.2244	0.0480	0.8065	0.1337	-0.5688	0.0360
2	225	0.9727	0.4796	0.0038	-0.1751	0.0522	0.8620	0.1502	-0.5206	0.0348
3	225	0.1938	-0.0689	0.0007	-0.0216	0.0006	0.0442	0.0030	0.0024	0.0539
3	225	0.2357	-0.0210	0.0009	0.0141	0.0024	0.0325	0.0080	0.0286	0.0574
3	225	0.2995	0.0188	0.0013	-0.0419	0.0048	0.1303	0.0163	0.0313	0.1171
3	225	0.3493	0.0563	0.0019	-0.0699	0.0071	0.2011	0.0224	0.0452	0.0400
3	225	0.4000	0.0985	0.0027	-0.0885	0.0124	0.2974	0.0367	0.1264	0.0927
3	225	0.4497	0.1397	0.0022	-0.1209	0.0158	0.3911	0.0474	-0.0068	0.0529
3	225	0.4997	0.1687	0.0027	-0.1535	0.0191	0.5035	0.0574	-0.0496	0.0563
3	225	0.5556	0.2211	0.0024	-0.1772	0.0250	0.6314	0.0705	-0.0055	0.0632
3	225	0.5995	0.2690	0.0033	-0.2029	0.0285	0.7057	0.0777	-0.0978	0.0942
3	225	0.6498	0.3159	0.0031	-0.2411	0.0344	0.7929	0.0901	-0.1216	0.0542
3	225	0.6890	0.3230	0.0036	-0.2660	0.0383	0.8534	0.0998	0.0298	0.0587
3	225	0.7495	0.3771	0.0034	-0.3034	0.0451	0.8567	0.1100	-0.2461	0.0611
3	225	0.7998	0.4267	0.0039	-0.3267	0.0512	0.8624	0.1178	-0.2458	0.0804
3	225	0.8577	0.4553	0.0039	-0.3348	0.0581	0.8105	0.1242	-0.2491	0.0692
3	225	0.9178	0.4821	0.0039	-0.3558	0.0657	0.7203	0.1307	-0.3325	0.0585
3	225	0.9729	0.5136	0.0059	-0.3604	0.0729	0.5921	0.1373	-0.6178	0.0636
4	225	0.2001	-0.0432	0.0014	0.0117	0.0008	-0.0213	0.0039	0.1289	0.0227
4	225	0.2502	-0.0102	0.0012	0.0145	0.0041	0.0040	0.0110	0.3979	0.0373
4	225	0.3001	0.0334	0.0022	0.0459	0.0059	-0.0215	0.0165	0.3687	0.0512
4	225	0.3502	0.0562	0.0011	0.0752	0.0082	-0.0335	0.0271	0.3380	0.0583
4	225	0.4002	0.0879	0.0036	0.1157	0.0157	-0.0165	0.0430	0.3639	0.0743
4	225	0.4500	0.1341	0.0018	0.1477	0.0202	-0.0146	0.0547	0.1800	0.0734
4	225	0.5001	0.1700	0.0024	0.1714	0.0246	0.0149	0.0643	0.3149	0.0490
4	225	0.5560	0.2211	0.0029	0.2140	0.0328	-0.0284	0.0808	0.0975	0.0547
4	225	0.6001	0.2651	0.0034	0.2406	0.0388	-0.0263	0.0956	0.0750	0.0615
4	225	0.6501	0.2932	0.0030	0.2551	0.0446	-0.0594	0.1077	0.1396	0.0789
4	225	0.6999	0.3389	0.0028	0.2661	0.0518	-0.1096	0.1231	0.2496	0.0589
4	225	0.7500	0.3742	0.0034	0.2919	0.0585	-0.1951	0.1384	0.2862	0.0697
4	225	0.8002	0.4006	0.0040	0.3120	0.0656	-0.3223	0.1515	0.2006	0.0564
4	225	0.8582	0.4458	0.0038	0.3536	0.0740	-0.5085	0.1642	-0.0241	0.0541
4	225	0.9101	0.4693	0.0043	0.3883	0.0812	-0.6802	0.1789	-0.0093	0.0484
4	225	0.9728	0.5271	0.0058	0.4596	0.0903	-0.8156	0.1974	0.1162	0.0445

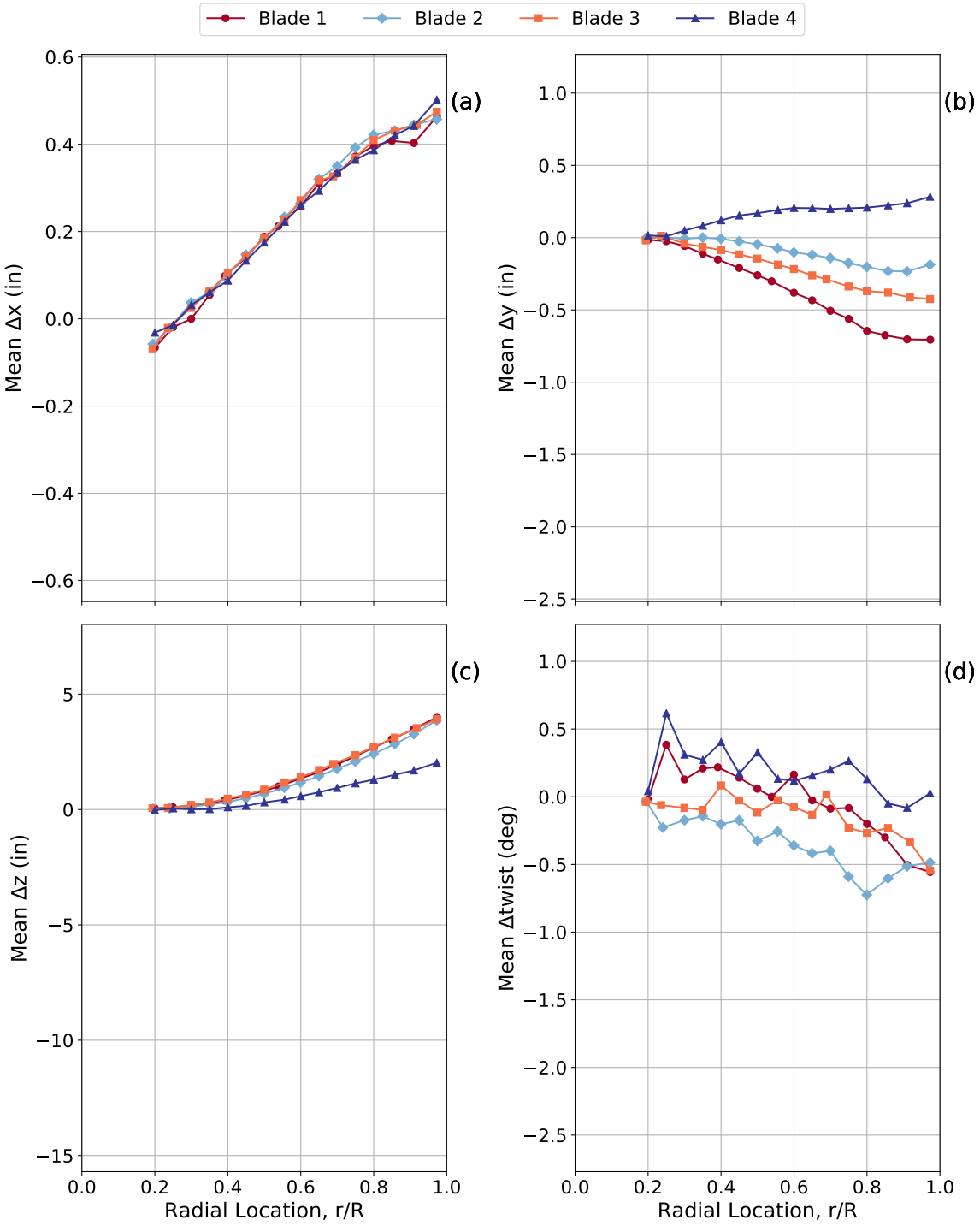


Figure 2.2-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0664	0.0010	-0.0149	0.0011	0.0502	0.0049	-0.0204	0.0116
1	240.12	0.2499	-0.0194	0.0014	-0.0250	0.0020	0.0976	0.0087	0.3837	0.0303
1	240.12	0.2998	0.0000	0.0018	-0.0580	0.0051	0.1699	0.0171	0.1278	0.0282
1	240.12	0.3498	0.0545	0.0019	-0.1112	0.0074	0.2804	0.0277	0.2093	0.0390
1	240.12	0.3913	0.0975	0.0024	-0.1509	0.0115	0.3961	0.0393	0.2179	0.0364
1	240.12	0.4496	0.1399	0.0019	-0.2099	0.0154	0.6036	0.0486	0.1412	0.0584
1	240.12	0.4997	0.1883	0.0035	-0.2603	0.0207	0.8112	0.0597	0.0591	0.0435
1	240.12	0.5387	0.2125	0.0028	-0.3019	0.0221	0.9999	0.0665	-0.0011	0.0552
1	240.12	0.5996	0.2574	0.0034	-0.3810	0.0293	1.3484	0.0841	0.1638	0.0407
1	240.12	0.6498	0.3106	0.0038	-0.4333	0.0347	1.6194	0.0934	-0.0267	0.0426
1	240.12	0.6998	0.3332	0.0039	-0.5060	0.0387	1.9592	0.1055	-0.0882	0.0313
1	240.12	0.7500	0.3723	0.0045	-0.5619	0.0460	2.3125	0.1158	-0.0832	0.0310
1	240.12	0.8001	0.3963	0.0044	-0.6451	0.0527	2.6913	0.1233	-0.2013	0.0307
1	240.12	0.8497	0.4079	0.0045	-0.6750	0.0591	3.0426	0.1330	-0.3007	0.0357
1	240.12	0.9102	0.4028	0.0042	-0.7032	0.0684	3.4863	0.1443	-0.5030	0.0322
1	240.12	0.9734	0.4639	0.0071	-0.7060	0.0773	4.0096	0.1593	-0.5562	0.0381
2	240.12	0.1949	-0.0579	0.0010	-0.0012	0.0007	0.0314	0.0029	-0.0336	0.0218
2	240.12	0.2405	-0.0217	0.0015	0.0031	0.0018	0.0527	0.0073	-0.2272	0.0245
2	240.12	0.2999	0.0374	0.0009	-0.0080	0.0048	0.1230	0.0133	-0.1738	0.0453
2	240.12	0.3498	0.0611	0.0024	0.0004	0.0062	0.2183	0.0191	-0.1443	0.0453
2	240.12	0.3998	0.1000	0.0016	-0.0082	0.0115	0.3270	0.0317	-0.2033	0.0388
2	240.12	0.4496	0.1470	0.0019	-0.0265	0.0145	0.4968	0.0397	-0.1744	0.0489
2	240.12	0.4995	0.1831	0.0021	-0.0463	0.0169	0.6831	0.0513	-0.3265	0.0478
2	240.12	0.5551	0.2331	0.0021	-0.0737	0.0219	0.9485	0.0640	-0.2572	0.0366
2	240.12	0.5996	0.2651	0.0023	-0.1021	0.0252	1.1745	0.0737	-0.3599	0.0417
2	240.12	0.6497	0.3205	0.0025	-0.1186	0.0294	1.4496	0.0839	-0.4174	0.0422
2	240.12	0.6996	0.3500	0.0026	-0.1418	0.0322	1.7641	0.0897	-0.3993	0.0524
2	240.12	0.7495	0.3922	0.0031	-0.1757	0.0374	2.0766	0.0986	-0.5900	0.0428
2	240.12	0.7996	0.4217	0.0033	-0.2028	0.0421	2.4106	0.1056	-0.7255	0.0404
2	240.12	0.8578	0.4311	0.0037	-0.2321	0.0474	2.8359	0.1129	-0.6027	0.0346
2	240.12	0.9100	0.4448	0.0042	-0.2335	0.0526	3.2676	0.1213	-0.5138	0.0408
2	240.12	0.9727	0.4572	0.0055	-0.1871	0.0585	3.8710	0.1336	-0.4858	0.0450
3	240.12	0.1938	-0.0698	0.0018	-0.0190	0.0006	0.0576	0.0038	-0.0372	0.0285
3	240.12	0.2357	-0.0209	0.0013	0.0125	0.0019	0.0644	0.0056	-0.0621	0.0392
3	240.12	0.2995	0.0248	0.0021	-0.0405	0.0025	0.2003	0.0135	-0.0823	0.0588
3	240.12	0.3493	0.0624	0.0016	-0.0638	0.0049	0.3063	0.0191	-0.0970	0.0472
3	240.12	0.4000	0.1043	0.0027	-0.0854	0.0077	0.4737	0.0307	0.0838	0.0732
3	240.12	0.4497	0.1431	0.0022	-0.1163	0.0105	0.6524	0.0428	-0.0277	0.0428
3	240.12	0.4997	0.1852	0.0027	-0.1448	0.0137	0.8642	0.0549	-0.1175	0.0518
3	240.12	0.5556	0.2270	0.0026	-0.1866	0.0171	1.1737	0.0710	-0.0258	0.0573
3	240.12	0.5995	0.2718	0.0024	-0.2173	0.0208	1.4057	0.0836	-0.0755	0.0489
3	240.12	0.6498	0.3173	0.0029	-0.2615	0.0251	1.7101	0.0964	-0.1329	0.0765
3	240.12	0.6890	0.3267	0.0036	-0.2882	0.0278	1.9739	0.1109	0.0177	0.0606
3	240.12	0.7495	0.3689	0.0032	-0.3379	0.0342	2.3583	0.1300	-0.2292	0.0498
3	240.12	0.7998	0.4099	0.0038	-0.3700	0.0378	2.7111	0.1483	-0.2676	0.0591
3	240.12	0.8577	0.4314	0.0043	-0.3798	0.0434	3.1151	0.1636	-0.2309	0.0504
3	240.12	0.9178	0.4445	0.0051	-0.4130	0.0493	3.5306	0.1821	-0.3350	0.0521
3	240.12	0.9729	0.4745	0.0065	-0.4245	0.0544	3.9171	0.1987	-0.5452	0.0555
4	240.12	0.2001	-0.0317	0.0015	0.0151	0.0007	-0.0269	0.0031	0.0412	0.0263
4	240.12	0.2502	-0.0141	0.0019	0.0093	0.0022	0.0492	0.0067	0.6168	0.0392
4	240.12	0.3001	0.0314	0.0020	0.0495	0.0030	0.0096	0.0120	0.3109	0.0569
4	240.12	0.3502	0.0606	0.0013	0.0826	0.0054	0.0154	0.0184	0.2717	0.0388
4	240.12	0.4002	0.0874	0.0015	0.1201	0.0087	0.0952	0.0294	0.4034	0.0517
4	240.12	0.4500	0.1333	0.0018	0.1529	0.0114	0.1610	0.0342	0.1718	0.0567
4	240.12	0.5001	0.1748	0.0024	0.1690	0.0130	0.3095	0.0424	0.3265	0.0619
4	240.12	0.5560	0.2223	0.0023	0.1916	0.0180	0.4317	0.0492	0.1327	0.0481
4	240.12	0.6001	0.2608	0.0018	0.2053	0.0221	0.5814	0.0572	0.1184	0.0610
4	240.12	0.6501	0.2934	0.0021	0.2037	0.0262	0.7503	0.0646	0.1561	0.0514
4	240.12	0.6999	0.3347	0.0020	0.1984	0.0304	0.9378	0.0732	0.2002	0.0668
4	240.12	0.7500	0.3645	0.0022	0.2032	0.0343	1.1339	0.0819	0.2648	0.0593
4	240.12	0.8002	0.3863	0.0023	0.2074	0.0389	1.2958	0.0950	0.1298	0.0559
4	240.12	0.8582	0.4212	0.0028	0.2231	0.0429	1.5064	0.1103	-0.0496	0.0538
4	240.12	0.9101	0.4422	0.0022	0.2378	0.0474	1.6943	0.1246	-0.0816	0.0520
4	240.12	0.9728	0.5021	0.0033	0.2826	0.0524	2.0279	0.1438	0.0256	0.0478

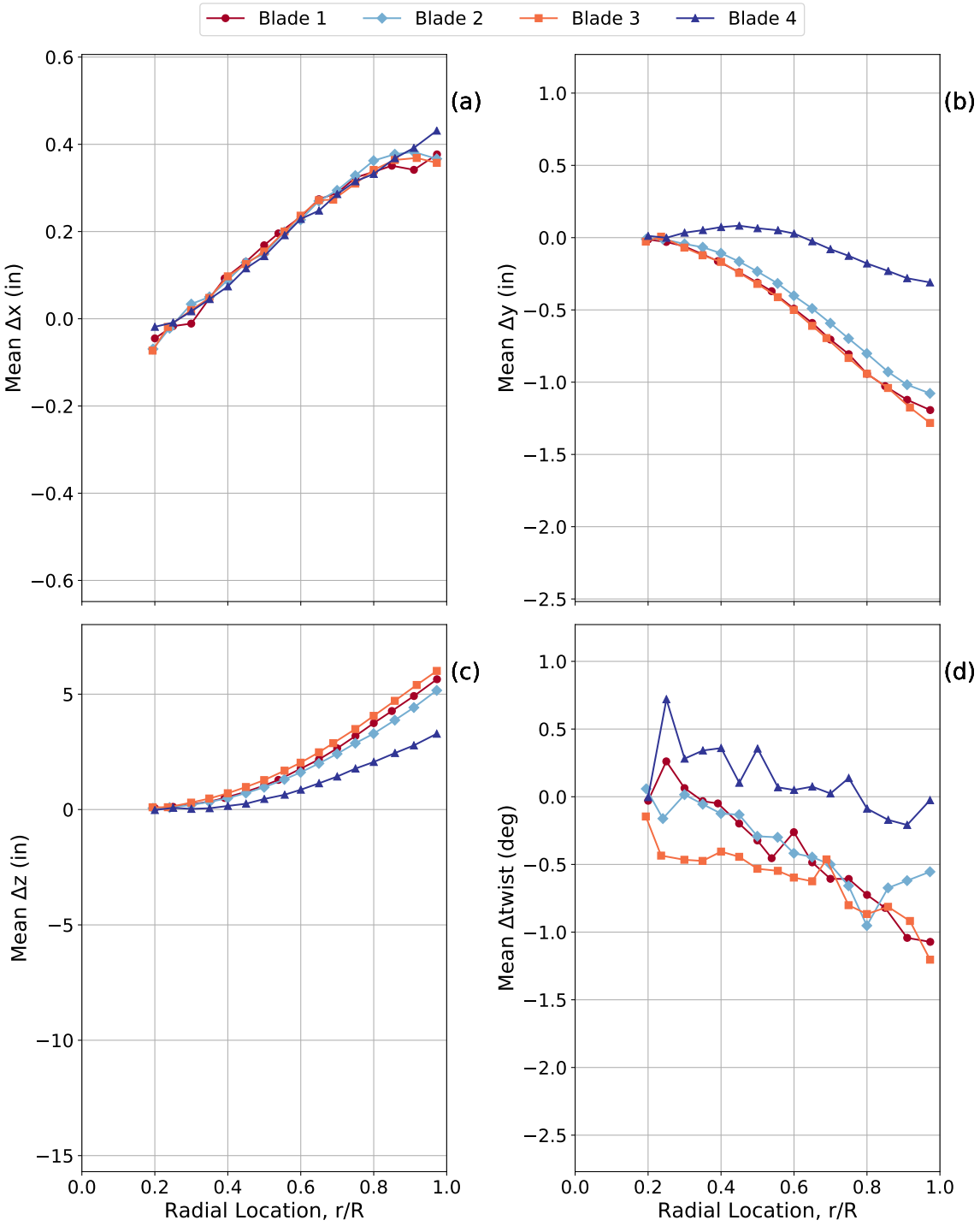


Figure 2.2-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.241$, $\alpha = -3°$ NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0450	0.0045	-0.0135	0.0015	0.0619	0.0081	-0.0296	0.0440
1	254.88	0.2499	-0.0169	0.0008	-0.0298	0.0021	0.1161	0.0114	0.2612	0.1069
1	254.88	0.2998	-0.0111	0.0012	-0.0603	0.0055	0.2240	0.0253	0.0639	0.1120
1	254.88	0.3498	0.0470	0.0018	-0.1158	0.0097	0.3411	0.0387	-0.0327	0.1123
1	254.88	0.3913	0.0925	0.0014	-0.1624	0.0134	0.5032	0.0547	-0.0495	0.1169
1	254.88	0.4496	0.1304	0.0019	-0.2392	0.0173	0.7684	0.0741	-0.1980	0.1097
1	254.88	0.4997	0.1685	0.0022	-0.3111	0.0217	1.0382	0.0931	-0.3230	0.1091
1	254.88	0.5387	0.1957	0.0035	-0.3705	0.0244	1.2851	0.1091	-0.4541	0.1080
1	254.88	0.5996	0.2336	0.0036	-0.4914	0.0306	1.7703	0.1295	-0.2617	0.1066
1	254.88	0.6498	0.2742	0.0039	-0.5902	0.0356	2.1716	0.1446	-0.4849	0.1278
1	254.88	0.6998	0.2882	0.0044	-0.7052	0.0404	2.6525	0.1607	-0.6063	0.1091
1	254.88	0.7500	0.3238	0.0062	-0.8062	0.0468	3.1892	0.1742	-0.6073	0.1146
1	254.88	0.8001	0.3370	0.0058	-0.9419	0.0536	3.7466	0.1882	-0.7251	0.1131
1	254.88	0.8497	0.3509	0.0064	-1.0273	0.0598	4.2699	0.1993	-0.8211	0.1221
1	254.88	0.9102	0.3415	0.0068	-1.1221	0.0688	4.9199	0.2141	-1.0426	0.1232
1	254.88	0.9734	0.3769	0.0094	-1.1929	0.0779	5.6471	0.2309	-1.0721	0.1224
2	254.88	0.1949	-0.0693	0.0015	-0.0095	0.0011	0.0560	0.0043	0.0585	0.0288
2	254.88	0.2405	-0.0218	0.0017	-0.0097	0.0017	0.0857	0.0057	-0.1613	0.0479
2	254.88	0.2999	0.0337	0.0012	-0.0436	0.0048	0.1983	0.0139	0.0153	0.0653
2	254.88	0.3498	0.0502	0.0017	-0.0664	0.0073	0.3288	0.0214	-0.0552	0.0607
2	254.88	0.3998	0.0883	0.0014	-0.1080	0.0119	0.4927	0.0329	-0.1243	0.0700
2	254.88	0.4496	0.1289	0.0014	-0.1654	0.0165	0.7149	0.0461	-0.1326	0.0769
2	254.88	0.4995	0.1487	0.0016	-0.2341	0.0210	0.9652	0.0578	-0.2921	0.0708
2	254.88	0.5551	0.1991	0.0022	-0.3168	0.0266	1.3061	0.0771	-0.2997	0.0860
2	254.88	0.5996	0.2269	0.0022	-0.4019	0.0329	1.6106	0.0911	-0.4176	0.0756
2	254.88	0.6497	0.2700	0.0028	-0.4903	0.0387	1.9967	0.1058	-0.4457	0.0784
2	254.88	0.6996	0.2944	0.0030	-0.5921	0.0470	2.4141	0.1205	-0.5006	0.0790
2	254.88	0.7495	0.3283	0.0035	-0.6978	0.0545	2.8742	0.1354	-0.6580	0.0796
2	254.88	0.7996	0.3625	0.0034	-0.8015	0.0625	3.2887	0.1507	-0.9521	0.0873
2	254.88	0.8578	0.3773	0.0039	-0.9287	0.0720	3.8740	0.1712	-0.6732	0.0814
2	254.88	0.9100	0.3824	0.0046	-1.0176	0.0804	4.4211	0.1907	-0.6196	0.0839
2	254.88	0.9727	0.3667	0.0058	-1.0778	0.0908	5.1634	0.2161	-0.5543	0.0907
3	254.88	0.1938	-0.0730	0.0024	-0.0273	0.0010	0.0975	0.0058	-0.1459	0.0261
3	254.88	0.2357	-0.0187	0.0011	0.0068	0.0012	0.0995	0.0062	-0.4348	0.0674
3	254.88	0.2995	0.0199	0.0016	-0.0689	0.0039	0.2997	0.0173	-0.4657	0.0749
3	254.88	0.3493	0.0478	0.0009	-0.1222	0.0066	0.4773	0.0273	-0.4742	0.0766
3	254.88	0.4000	0.0973	0.0014	-0.1678	0.0099	0.7056	0.0408	-0.4053	0.0669
3	254.88	0.4497	0.1254	0.0015	-0.2439	0.0116	0.9764	0.0516	-0.4438	0.0739
3	254.88	0.4997	0.1542	0.0016	-0.3202	0.0145	1.2755	0.0663	-0.5322	0.0904
3	254.88	0.5556	0.2001	0.0029	-0.4120	0.0184	1.6851	0.0826	-0.5473	0.0725
3	254.88	0.5995	0.2364	0.0022	-0.5005	0.0216	2.0306	0.0964	-0.5971	0.0854
3	254.88	0.6498	0.2720	0.0026	-0.6103	0.0253	2.4805	0.1148	-0.6244	0.0722
3	254.88	0.6890	0.2730	0.0027	-0.6947	0.0290	2.8771	0.1288	-0.4628	0.0717
3	254.88	0.7495	0.3099	0.0040	-0.8327	0.0341	3.4890	0.1495	-0.8010	0.0820
3	254.88	0.7998	0.3413	0.0041	-0.9417	0.0385	4.0601	0.1676	-0.8665	0.0815
3	254.88	0.8577	0.3641	0.0048	-1.0402	0.0449	4.7121	0.1891	-0.8131	0.0789
3	254.88	0.9178	0.3687	0.0062	-1.1751	0.0512	5.3992	0.2102	-0.9178	0.0811
3	254.88	0.9729	0.3575	0.0078	-1.2822	0.0579	6.0089	0.2311	-1.2036	0.0818
4	254.88	0.2001	-0.0185	0.0019	0.0120	0.0009	-0.0217	0.0048	-0.0030	0.0251
4	254.88	0.2502	-0.0086	0.0021	-0.0010	0.0028	0.0725	0.0071	0.7202	0.0599
4	254.88	0.3001	0.0171	0.0017	0.0342	0.0040	0.0287	0.0162	0.2813	0.0599
4	254.88	0.3502	0.0451	0.0020	0.0520	0.0066	0.0560	0.0270	0.3415	0.0626
4	254.88	0.4002	0.0742	0.0011	0.0730	0.0109	0.1554	0.0405	0.3593	0.0562
4	254.88	0.4500	0.1157	0.0020	0.0827	0.0143	0.2516	0.0559	0.1029	0.0584
4	254.88	0.5001	0.1436	0.0020	0.0650	0.0177	0.4583	0.0722	0.3557	0.0612
4	254.88	0.5560	0.1915	0.0013	0.0511	0.0225	0.6418	0.0939	0.0695	0.0600
4	254.88	0.6001	0.2289	0.0019	0.0284	0.0271	0.8599	0.1105	0.0502	0.0579
4	254.88	0.6501	0.2480	0.0020	-0.0255	0.0307	1.1377	0.1317	0.0748	0.0674
4	254.88	0.6999	0.2859	0.0022	-0.0801	0.0349	1.4300	0.1514	0.0239	0.0625
4	254.88	0.7500	0.3152	0.0036	-0.1261	0.0390	1.7753	0.1754	0.1379	0.0585
4	254.88	0.8002	0.3320	0.0033	-0.1790	0.0442	2.0621	0.2004	-0.0880	0.0600
4	254.88	0.8582	0.3681	0.0037	-0.2311	0.0492	2.4485	0.2298	-0.1711	0.0640
4	254.88	0.9101	0.3918	0.0046	-0.2809	0.0538	2.7794	0.2573	-0.2085	0.0633
4	254.88	0.9728	0.4313	0.0067	-0.3099	0.0603	3.2850	0.2942	-0.0254	0.0584

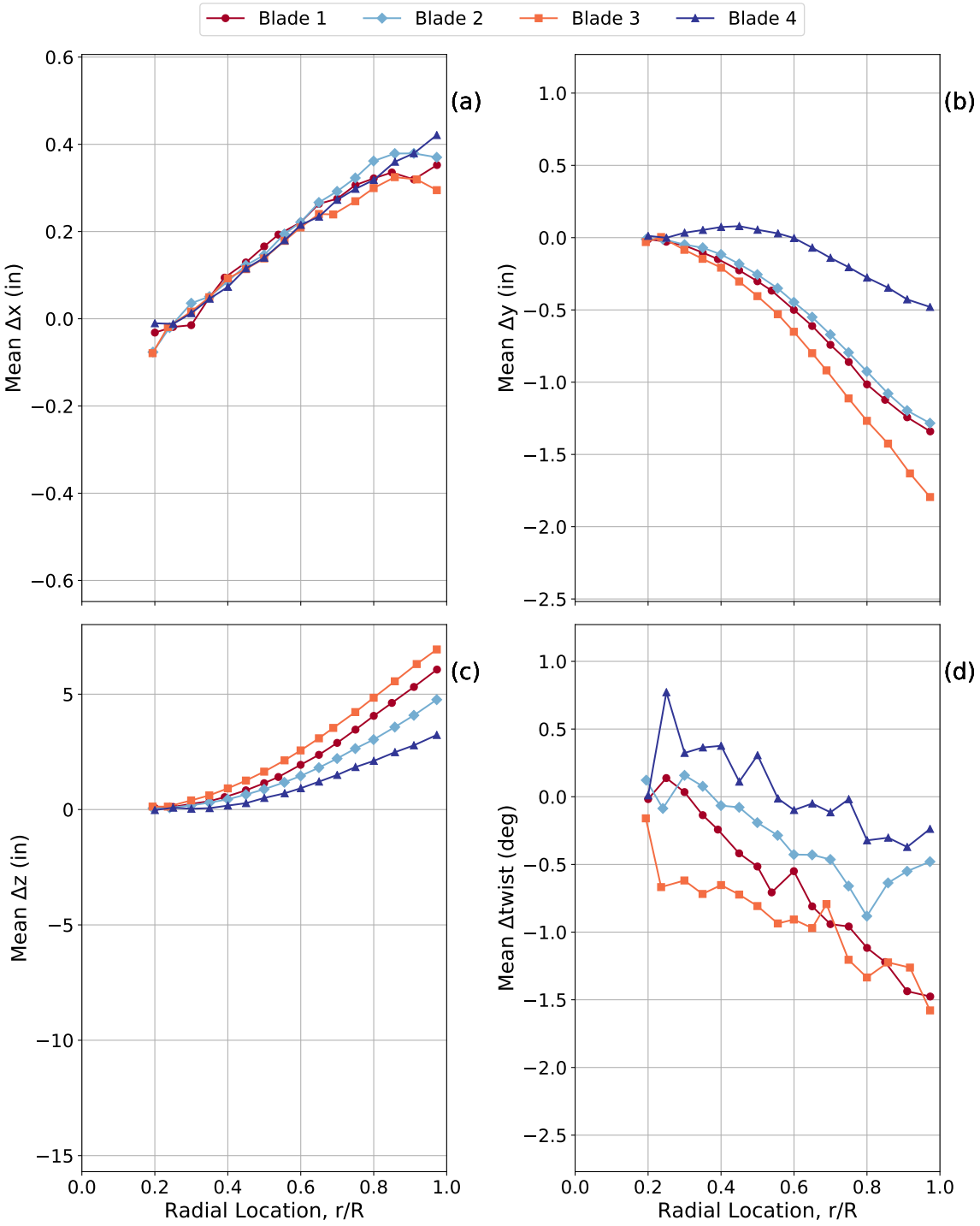


Figure 2.2-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.0317	0.0071	-0.0110	0.0025	0.0673	0.0176	-0.0174	0.1096
1	260.16	0.2499	-0.0188	0.0012	-0.0283	0.0034	0.1127	0.0242	0.1379	0.2554
1	260.16	0.2998	-0.0147	0.0017	-0.0543	0.0093	0.2435	0.0521	0.0344	0.2817
1	260.16	0.3498	0.0490	0.0025	-0.1035	0.0185	0.3634	0.0875	-0.1361	0.2626
1	260.16	0.3913	0.0943	0.0018	-0.1483	0.0245	0.5369	0.1166	-0.2426	0.2634
1	260.16	0.4496	0.1291	0.0020	-0.2260	0.0335	0.8327	0.1574	-0.4183	0.2713
1	260.16	0.4997	0.1658	0.0029	-0.3018	0.0411	1.1415	0.1944	-0.5155	0.2605
1	260.16	0.5387	0.1929	0.0036	-0.3667	0.0466	1.4103	0.2237	-0.7067	0.2596
1	260.16	0.5996	0.2212	0.0054	-0.4998	0.0550	1.9378	0.2707	-0.5499	0.2630
1	260.16	0.6498	0.2634	0.0063	-0.6113	0.0628	2.3710	0.3061	-0.8098	0.2774
1	260.16	0.6998	0.2752	0.0080	-0.7416	0.0698	2.8888	0.3432	-0.9410	0.2650
1	260.16	0.7500	0.3066	0.0098	-0.8603	0.0767	3.4630	0.3790	-0.9584	0.2629
1	260.16	0.8001	0.3219	0.0107	-1.0155	0.0838	4.0596	0.4145	-1.1166	0.2607
1	260.16	0.8497	0.3355	0.0122	-1.1219	0.0907	4.6215	0.4486	-1.2213	0.2633
1	260.16	0.9102	0.3194	0.0144	-1.2429	0.0994	5.3128	0.4906	-1.4368	0.2604
1	260.16	0.9734	0.3525	0.0199	-1.3405	0.1083	6.0669	0.5343	-1.4759	0.2620
2	260.16	0.1949	-0.0764	0.0023	-0.0104	0.0016	0.0537	0.0092	0.1225	0.0434
2	260.16	0.2405	-0.0203	0.0023	-0.0102	0.0017	0.0740	0.0135	-0.0865	0.0669
2	260.16	0.2999	0.0357	0.0018	-0.0483	0.0065	0.1812	0.0326	0.1581	0.0939
2	260.16	0.3498	0.0509	0.0023	-0.0698	0.0102	0.2986	0.0508	0.0770	0.0972
2	260.16	0.3998	0.0854	0.0026	-0.1161	0.0160	0.4430	0.0782	-0.0656	0.0813
2	260.16	0.4496	0.1226	0.0025	-0.1820	0.0222	0.6476	0.1016	-0.0781	0.0855
2	260.16	0.4995	0.1460	0.0031	-0.2554	0.0290	0.8788	0.1326	-0.1913	0.0833
2	260.16	0.5551	0.1944	0.0046	-0.3505	0.0383	1.1786	0.1718	-0.2853	0.0780
2	260.16	0.5996	0.2213	0.0054	-0.4466	0.0475	1.4563	0.2052	-0.4271	0.0805
2	260.16	0.6497	0.2667	0.0069	-0.5499	0.0584	1.8149	0.2450	-0.4293	0.0872
2	260.16	0.6996	0.2921	0.0083	-0.6706	0.0707	2.2097	0.2857	-0.4633	0.0928
2	260.16	0.7495	0.3229	0.0104	-0.7949	0.0837	2.6417	0.3274	-0.6597	0.0940
2	260.16	0.7996	0.3617	0.0121	-0.9259	0.0982	3.0314	0.3692	-0.8822	0.0959
2	260.16	0.8578	0.3789	0.0136	-1.0788	0.1166	3.5747	0.4171	-0.6364	0.0932
2	260.16	0.9100	0.3792	0.0151	-1.1963	0.1337	4.0837	0.4602	-0.5504	0.0967
2	260.16	0.9727	0.3702	0.0219	-1.2837	0.1548	4.7619	0.5138	-0.4794	0.1008
3	260.16	0.1938	-0.0789	0.0051	-0.0306	0.0016	0.1286	0.0053	-0.1596	0.0350
3	260.16	0.2357	-0.0191	0.0020	0.0041	0.0017	0.1258	0.0058	-0.6675	0.0880
3	260.16	0.2995	0.0163	0.0012	-0.0843	0.0044	0.3955	0.0160	-0.6186	0.1028
3	260.16	0.3493	0.0493	0.0016	-0.1466	0.0073	0.6151	0.0219	-0.7182	0.1007
3	260.16	0.4000	0.0927	0.0015	-0.2078	0.0109	0.9166	0.0343	-0.6525	0.1100
3	260.16	0.4497	0.1138	0.0017	-0.3036	0.0135	1.2558	0.0425	-0.7227	0.1044
3	260.16	0.4997	0.1383	0.0020	-0.4048	0.0181	1.6422	0.0556	-0.8075	0.1065
3	260.16	0.5556	0.1786	0.0024	-0.5300	0.0230	2.1311	0.0695	-0.9361	0.1155
3	260.16	0.5995	0.2094	0.0032	-0.6512	0.0269	2.5615	0.0806	-0.9069	0.1108
3	260.16	0.6498	0.2402	0.0036	-0.7996	0.0327	3.0877	0.0908	-0.9701	0.1155
3	260.16	0.6890	0.2392	0.0041	-0.9185	0.0376	3.5377	0.0998	-0.7929	0.1186
3	260.16	0.7495	0.2695	0.0047	-1.1122	0.0450	4.2240	0.1118	-1.2045	0.1210
3	260.16	0.7998	0.2996	0.0055	-1.2674	0.0517	4.8468	0.1220	-1.3350	0.1116
3	260.16	0.8577	0.3247	0.0059	-1.4250	0.0600	5.5580	0.1350	-1.2239	0.1174
3	260.16	0.9178	0.3195	0.0071	-1.6312	0.0688	6.3055	0.1504	-1.2620	0.1160
3	260.16	0.9729	0.2949	0.0097	-1.7948	0.0763	6.9389	0.1670	-1.5784	0.1136
4	260.16	0.2001	-0.0103	0.0015	0.0121	0.0012	-0.0232	0.0087	0.0101	0.0392
4	260.16	0.2502	-0.0118	0.0013	-0.0011	0.0021	0.0788	0.0142	0.7719	0.1139
4	260.16	0.3001	0.0128	0.0026	0.0340	0.0042	0.0345	0.0297	0.3236	0.1071
4	260.16	0.3502	0.0460	0.0029	0.0530	0.0070	0.0598	0.0495	0.3640	0.1038
4	260.16	0.4002	0.0731	0.0019	0.0735	0.0109	0.1713	0.0748	0.3762	0.1132
4	260.16	0.4500	0.1155	0.0019	0.0795	0.0143	0.2765	0.0996	0.1113	0.1074
4	260.16	0.5001	0.1400	0.0017	0.0544	0.0179	0.5023	0.1324	0.3070	0.1099
4	260.16	0.5560	0.1799	0.0018	0.0294	0.0220	0.7038	0.1700	-0.0136	0.1113
4	260.16	0.6001	0.2153	0.0021	-0.0030	0.0253	0.9236	0.2048	-0.0982	0.1081
4	260.16	0.6501	0.2341	0.0028	-0.0697	0.0289	1.2097	0.2434	-0.0501	0.1120
4	260.16	0.6999	0.2727	0.0033	-0.1402	0.0332	1.4992	0.2815	-0.1152	0.1076
4	260.16	0.7500	0.2979	0.0044	-0.2048	0.0377	1.8406	0.3183	-0.0184	0.1131
4	260.16	0.8002	0.3182	0.0051	-0.2767	0.0429	2.1078	0.3526	-0.3222	0.1134
4	260.16	0.8582	0.3600	0.0060	-0.3470	0.0487	2.4843	0.3894	-0.3026	0.1160
4	260.16	0.9101	0.3794	0.0070	-0.4274	0.0540	2.7825	0.4220	-0.3714	0.1194
4	260.16	0.9728	0.4212	0.0095	-0.4797	0.0607	3.2319	0.4591	-0.2376	0.1199

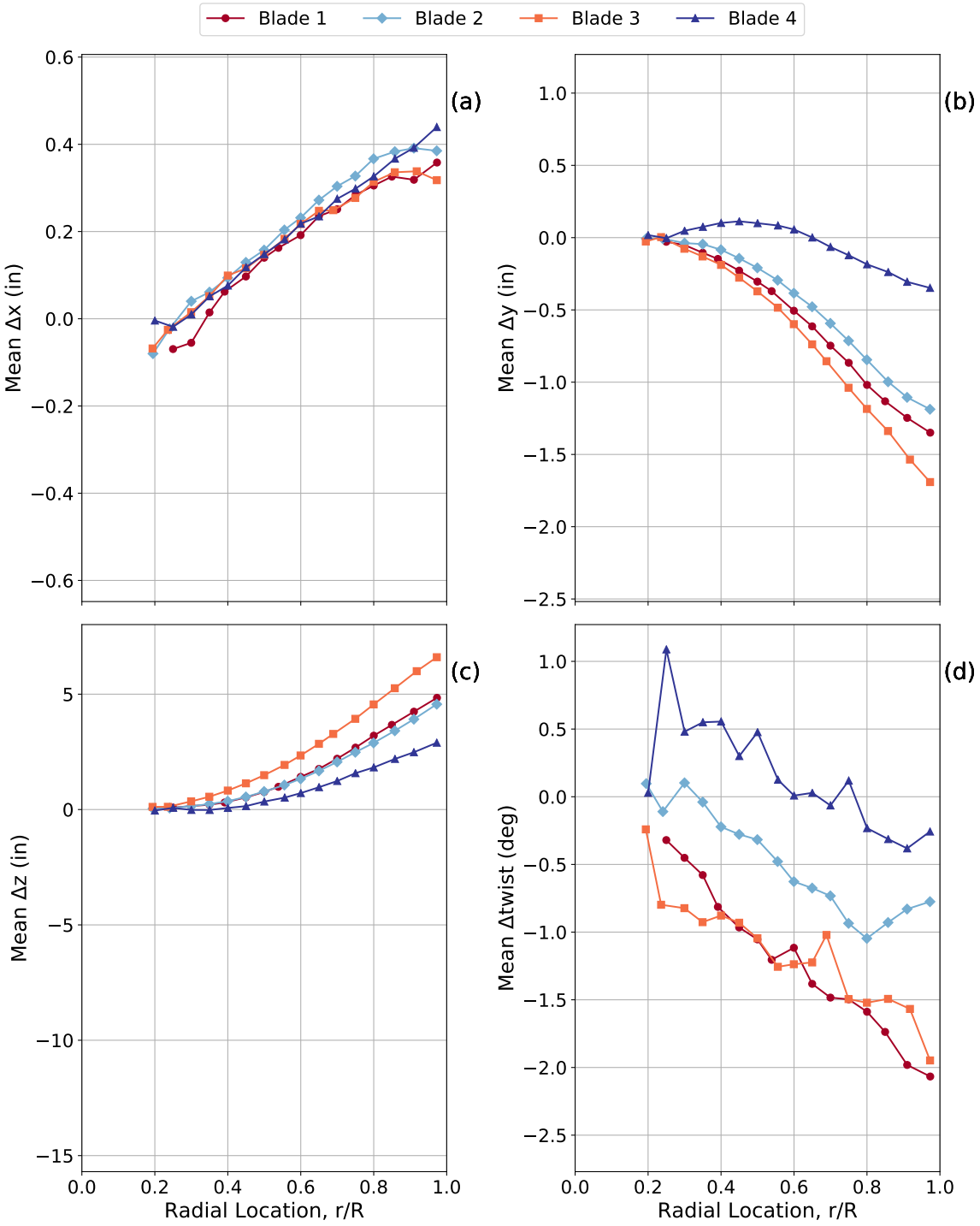


Figure 2.2-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2499	-0.0695	0.0062	-0.0286	0.0031	0.0840	0.0226	-0.3202	0.1980
1	265.08	0.2998	-0.0551	0.0031	-0.0509	0.0064	0.1510	0.0369	-0.4512	0.2819
1	265.08	0.3498	0.0145	0.0038	-0.1046	0.0120	0.2090	0.0634	-0.5786	0.2609
1	265.08	0.3913	0.0622	0.0023	-0.1473	0.0176	0.3054	0.0867	-0.8137	0.2779
1	265.08	0.4496	0.0969	0.0027	-0.2284	0.0256	0.5247	0.1216	-0.9655	0.2658
1	265.08	0.4997	0.1400	0.0029	-0.3043	0.0314	0.7627	0.1519	-1.0538	0.2796
1	265.08	0.5387	0.1626	0.0037	-0.3701	0.0367	0.9843	0.1752	-1.2046	0.2822
1	265.08	0.5996	0.1917	0.0044	-0.5056	0.0446	1.4148	0.2123	-1.1157	0.2710
1	265.08	0.6498	0.2353	0.0057	-0.6138	0.0516	1.7611	0.2403	-1.3822	0.2796
1	265.08	0.6998	0.2511	0.0066	-0.7472	0.0588	2.2025	0.2648	-1.4838	0.2850
1	265.08	0.7500	0.2837	0.0078	-0.8659	0.0662	2.6843	0.2896	-1.4967	0.2809
1	265.08	0.8001	0.3055	0.0092	-1.0190	0.0736	3.2013	0.3121	-1.5883	0.2829
1	265.08	0.8497	0.3260	0.0097	-1.1322	0.0820	3.6694	0.3345	-1.7373	0.2893
1	265.08	0.9102	0.3187	0.0113	-1.2471	0.0924	4.2420	0.3612	-1.9812	0.2954
1	265.08	0.9734	0.3582	0.0158	-1.3492	0.1033	4.8422	0.3912	-2.0667	0.2837
2	265.08	0.1949	-0.0800	0.0049	-0.0067	0.0013	0.0403	0.0073	0.0968	0.0445
2	265.08	0.2405	-0.0229	0.0019	-0.0070	0.0017	0.0622	0.0076	-0.1098	0.0883
2	265.08	0.2999	0.0402	0.0020	-0.0376	0.0040	0.1475	0.0202	0.1025	0.1058
2	265.08	0.3498	0.0611	0.0022	-0.0450	0.0066	0.2368	0.0313	-0.0394	0.0995
2	265.08	0.3998	0.0938	0.0023	-0.0837	0.0095	0.3613	0.0451	-0.2223	0.1096
2	265.08	0.4496	0.1293	0.0028	-0.1432	0.0125	0.5461	0.0589	-0.2780	0.1011
2	265.08	0.4995	0.1575	0.0020	-0.2090	0.0161	0.7807	0.0737	-0.3168	0.1058
2	265.08	0.5551	0.2036	0.0022	-0.2945	0.0207	1.0608	0.0937	-0.4784	0.1104
2	265.08	0.5996	0.2316	0.0026	-0.3844	0.0244	1.3291	0.1059	-0.6269	0.1162
2	265.08	0.6497	0.2721	0.0031	-0.4783	0.0292	1.6747	0.1203	-0.6747	0.1098
2	265.08	0.6996	0.3037	0.0034	-0.5932	0.0338	2.0620	0.1313	-0.7324	0.1132
2	265.08	0.7495	0.3272	0.0043	-0.7136	0.0394	2.4830	0.1389	-0.9353	0.1177
2	265.08	0.7996	0.3668	0.0043	-0.8450	0.0454	2.8877	0.1447	-1.0466	0.1197
2	265.08	0.8578	0.3832	0.0046	-0.9972	0.0525	3.4131	0.1492	-0.9289	0.1205
2	265.08	0.9100	0.3912	0.0049	-1.1051	0.0595	3.9146	0.1542	-0.8298	0.1246
2	265.08	0.9727	0.3851	0.0063	-1.1874	0.0682	4.5647	0.1627	-0.7752	0.1297
3	265.08	0.1938	-0.0681	0.0118	-0.0266	0.0025	0.1152	0.0182	-0.2411	0.0756
3	265.08	0.2357	-0.0254	0.0043	0.0035	0.0020	0.1182	0.0139	-0.7979	0.1894
3	265.08	0.2995	0.0151	0.0026	-0.0769	0.0076	0.3531	0.0478	-0.8231	0.2143
3	265.08	0.3493	0.0518	0.0027	-0.1303	0.0124	0.5547	0.0763	-0.9266	0.2191
3	265.08	0.4000	0.0991	0.0029	-0.1886	0.0187	0.8228	0.1085	-0.8775	0.2126
3	265.08	0.4497	0.1157	0.0030	-0.2770	0.0244	1.1361	0.1362	-0.9306	0.2136
3	265.08	0.4997	0.1465	0.0041	-0.3714	0.0297	1.4898	0.1675	-1.0454	0.2166
3	265.08	0.5556	0.1833	0.0044	-0.4845	0.0358	1.9337	0.1998	-1.2563	0.2219
3	265.08	0.5995	0.2173	0.0051	-0.5989	0.0408	2.3431	0.2244	-1.2373	0.2301
3	265.08	0.6498	0.2475	0.0065	-0.7382	0.0468	2.8474	0.2564	-1.2239	0.2180
3	265.08	0.6890	0.2490	0.0076	-0.8549	0.0516	3.2768	0.2798	-1.0211	0.2170
3	265.08	0.7495	0.2770	0.0092	-1.0386	0.0594	3.9319	0.3152	-1.4945	0.2218
3	265.08	0.7998	0.3140	0.0107	-1.1851	0.0661	4.5555	0.3454	-1.5215	0.2286
3	265.08	0.8577	0.3359	0.0119	-1.3380	0.0747	5.2574	0.3791	-1.4932	0.2312
3	265.08	0.9178	0.3381	0.0137	-1.5354	0.0834	5.9970	0.4162	-1.5676	0.2257
3	265.08	0.9729	0.3178	0.0184	-1.6911	0.0921	6.6021	0.4484	-1.9479	0.2309
4	265.08	0.2001	-0.0041	0.0059	0.0176	0.0017	-0.0454	0.0105	0.0291	0.0933
4	265.08	0.2502	-0.0185	0.0034	-0.0040	0.0026	0.0736	0.0136	1.0881	0.2497
4	265.08	0.3001	0.0098	0.0032	0.0476	0.0050	-0.0171	0.0299	0.4807	0.2484
4	265.08	0.3502	0.0514	0.0032	0.0745	0.0089	-0.0194	0.0511	0.5500	0.2391
4	265.08	0.4002	0.0761	0.0030	0.1016	0.0128	0.0680	0.0727	0.5553	0.2353
4	265.08	0.4500	0.1179	0.0035	0.1129	0.0171	0.1481	0.0958	0.3003	0.2365
4	265.08	0.5001	0.1480	0.0026	0.0999	0.0220	0.3451	0.1208	0.4771	0.2385
4	265.08	0.5560	0.1819	0.0027	0.0839	0.0274	0.5163	0.1524	0.1254	0.2375
4	265.08	0.6001	0.2180	0.0028	0.0565	0.0321	0.7125	0.1794	0.0086	0.2353
4	265.08	0.6501	0.2348	0.0033	0.0008	0.0372	0.9681	0.2094	0.0286	0.2366
4	265.08	0.6999	0.2750	0.0038	-0.0645	0.0430	1.2364	0.2396	-0.0645	0.2343
4	265.08	0.7500	0.2983	0.0045	-0.1221	0.0492	1.5759	0.2702	0.1188	0.2337
4	265.08	0.8002	0.3265	0.0055	-0.1848	0.0553	1.8252	0.2981	-0.2323	0.2350
4	265.08	0.8582	0.3671	0.0060	-0.2384	0.0636	2.1930	0.3295	-0.3130	0.2302
4	265.08	0.9101	0.3920	0.0070	-0.3059	0.0708	2.4833	0.3586	-0.3816	0.2361
4	265.08	0.9728	0.4395	0.0101	-0.3478	0.0799	2.8960	0.3940	-0.2572	0.2358

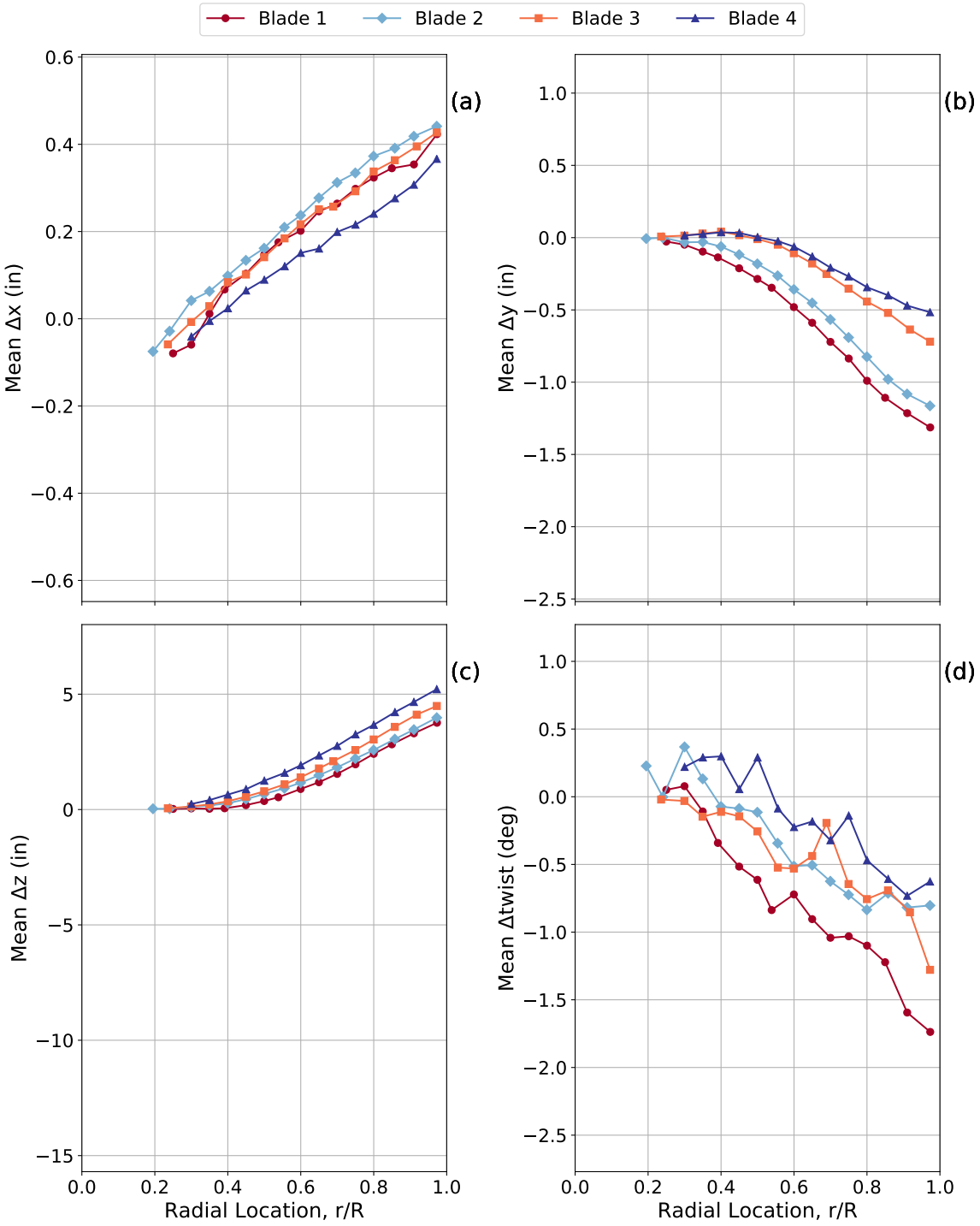


Figure 2.2-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2499	-0.0794	0.0108	-0.0271	0.0077	0.0269	0.0621	0.0511	0.4350
1	270	0.2998	-0.0594	0.0061	-0.0488	0.0144	0.0480	0.0982	0.0780	0.6192
1	270	0.3498	0.0115	0.0033	-0.0965	0.0294	0.0335	0.1750	-0.1088	0.5754
1	270	0.3913	0.0672	0.0060	-0.1367	0.0421	0.0537	0.2367	-0.3413	0.5525
1	270	0.4496	0.1033	0.0063	-0.2119	0.0561	0.1904	0.3126	-0.5160	0.5598
1	270	0.4997	0.1470	0.0074	-0.2857	0.0685	0.3679	0.3814	-0.6137	0.5538
1	270	0.5387	0.1754	0.0084	-0.3465	0.0782	0.5311	0.4340	-0.8372	0.5518
1	270	0.5996	0.2017	0.0108	-0.4807	0.0921	0.8900	0.5185	-0.7217	0.5554
1	270	0.6498	0.2463	0.0126	-0.5889	0.1038	1.1817	0.5897	-0.9042	0.5524
1	270	0.6998	0.2641	0.0150	-0.7212	0.1150	1.5451	0.6610	-1.0418	0.5532
1	270	0.7500	0.2980	0.0169	-0.8363	0.1259	1.9591	0.7339	-1.0311	0.5521
1	270	0.8001	0.3237	0.0200	-0.9903	0.1364	2.4135	0.8089	-1.0999	0.5459
1	270	0.8497	0.3451	0.0222	-1.1079	0.1470	2.8252	0.8826	-1.2223	0.5564
1	270	0.9102	0.3538	0.0258	-1.2145	0.1599	3.3015	0.9737	-1.5941	0.5515
1	270	0.9734	0.4233	0.0345	-1.3131	0.1739	3.7608	1.0705	-1.7374	0.5528
2	270.35	0.1949	-0.0749	0.0131	-0.0065	0.0034	0.0339	0.0198	0.2275	0.1303
2	270.35	0.2405	-0.0285	0.0099	-0.0009	0.0041	0.0365	0.0210	-0.0018	0.2725
2	270.35	0.2999	0.0418	0.0065	-0.0322	0.0089	0.1172	0.0514	0.3682	0.3250
2	270.35	0.3498	0.0630	0.0042	-0.0303	0.0155	0.1767	0.0853	0.1323	0.2981
2	270.35	0.3998	0.0984	0.0051	-0.0616	0.0218	0.2715	0.1184	-0.0727	0.2914
2	270.35	0.4496	0.1340	0.0047	-0.1174	0.0273	0.4473	0.1509	-0.0872	0.2959
2	270.35	0.4995	0.1617	0.0058	-0.1814	0.0335	0.6721	0.1828	-0.1146	0.3059
2	270.35	0.5551	0.2098	0.0059	-0.2638	0.0405	0.9223	0.2211	-0.3434	0.3064
2	270.35	0.5996	0.2372	0.0068	-0.3583	0.0469	1.1609	0.2534	-0.5123	0.3066
2	270.35	0.6497	0.2771	0.0072	-0.4522	0.0536	1.4842	0.2900	-0.5054	0.3012
2	270.35	0.6996	0.3124	0.0082	-0.5664	0.0602	1.8255	0.3266	-0.6246	0.3068
2	270.35	0.7495	0.3344	0.0092	-0.6908	0.0677	2.2045	0.3643	-0.7240	0.3000
2	270.35	0.7996	0.3728	0.0099	-0.8244	0.0748	2.5779	0.4005	-0.8354	0.3066
2	270.35	0.8578	0.3911	0.0114	-0.9796	0.0835	3.0519	0.4422	-0.7129	0.2969
2	270.35	0.9100	0.4184	0.0122	-1.0820	0.0918	3.4625	0.4766	-0.8182	0.3014
2	270.35	0.9727	0.4414	0.0162	-1.1638	0.1022	3.9806	0.5197	-0.8032	0.2953
3	270	0.2357	-0.0587	0.0073	0.0074	0.0017	0.0530	0.0153	-0.0206	0.1810
3	270	0.2995	-0.0073	0.0031	0.0140	0.0039	0.1327	0.0266	-0.0312	0.2905
3	270	0.3493	0.0289	0.0025	0.0286	0.0083	0.2209	0.0522	-0.1475	0.2532
3	270	0.4000	0.0839	0.0025	0.0414	0.0123	0.3580	0.0728	-0.1114	0.2624
3	270	0.4497	0.1014	0.0023	0.0169	0.0163	0.5583	0.0907	-0.1448	0.2562
3	270	0.4997	0.1411	0.0024	-0.0100	0.0206	0.7911	0.1067	-0.2561	0.2714
3	270	0.5556	0.1843	0.0028	-0.0487	0.0256	1.0921	0.1290	-0.5234	0.2655
3	270	0.5995	0.2166	0.0023	-0.1078	0.0294	1.3945	0.1428	-0.5303	0.2693
3	270	0.6498	0.2510	0.0035	-0.1787	0.0342	1.7799	0.1634	-0.4378	0.2719
3	270	0.6890	0.2571	0.0038	-0.2514	0.0379	2.0937	0.1764	-0.1936	0.2749
3	270	0.7495	0.2923	0.0048	-0.3531	0.0442	2.5791	0.1998	-0.6449	0.2748
3	270	0.7998	0.3377	0.0052	-0.4420	0.0500	3.0361	0.2184	-0.7563	0.2785
3	270	0.8577	0.3635	0.0060	-0.5204	0.0570	3.5827	0.2405	-0.6918	0.2809
3	270	0.9178	0.3952	0.0069	-0.6356	0.0650	4.1129	0.2658	-0.8533	0.2728
3	270	0.9729	0.4272	0.0090	-0.7199	0.0726	4.4886	0.2880	-1.2786	0.2966
4	270	0.3001	-0.0411	0.0058	0.0152	0.0120	0.2408	0.0665	0.2201	0.1937
4	270	0.3502	-0.0050	0.0058	0.0244	0.0216	0.4113	0.1064	0.2900	0.2547
4	270	0.4002	0.0240	0.0073	0.0369	0.0350	0.6478	0.1608	0.2983	0.2500
4	270	0.4500	0.0648	0.0079	0.0327	0.0464	0.8812	0.2059	0.0559	0.2393
4	270	0.5001	0.0895	0.0098	0.0034	0.0581	1.2485	0.2525	0.2897	0.2385
4	270	0.5560	0.1204	0.0108	-0.0245	0.0717	1.5885	0.3060	-0.0870	0.2404
4	270	0.6001	0.1510	0.0125	-0.0625	0.0821	1.9184	0.3485	-0.2243	0.2498
4	270	0.6501	0.1609	0.0135	-0.1302	0.0942	2.3411	0.3955	-0.1828	0.2347
4	270	0.6999	0.1990	0.0154	-0.2077	0.1062	2.7575	0.4433	-0.3217	0.2372
4	270	0.7500	0.2157	0.0172	-0.2686	0.1180	3.2560	0.4905	-0.1398	0.2413
4	270	0.8002	0.2408	0.0191	-0.3434	0.1300	3.6711	0.5389	-0.4695	0.2389
4	270	0.8582	0.2762	0.0209	-0.3993	0.1443	4.2194	0.5920	-0.6075	0.2450
4	270	0.9101	0.3073	0.0231	-0.4700	0.1568	4.6609	0.6408	-0.7317	0.2444
4	270	0.9728	0.3666	0.0302	-0.5163	0.1721	5.2135	0.7008	-0.6266	0.2405

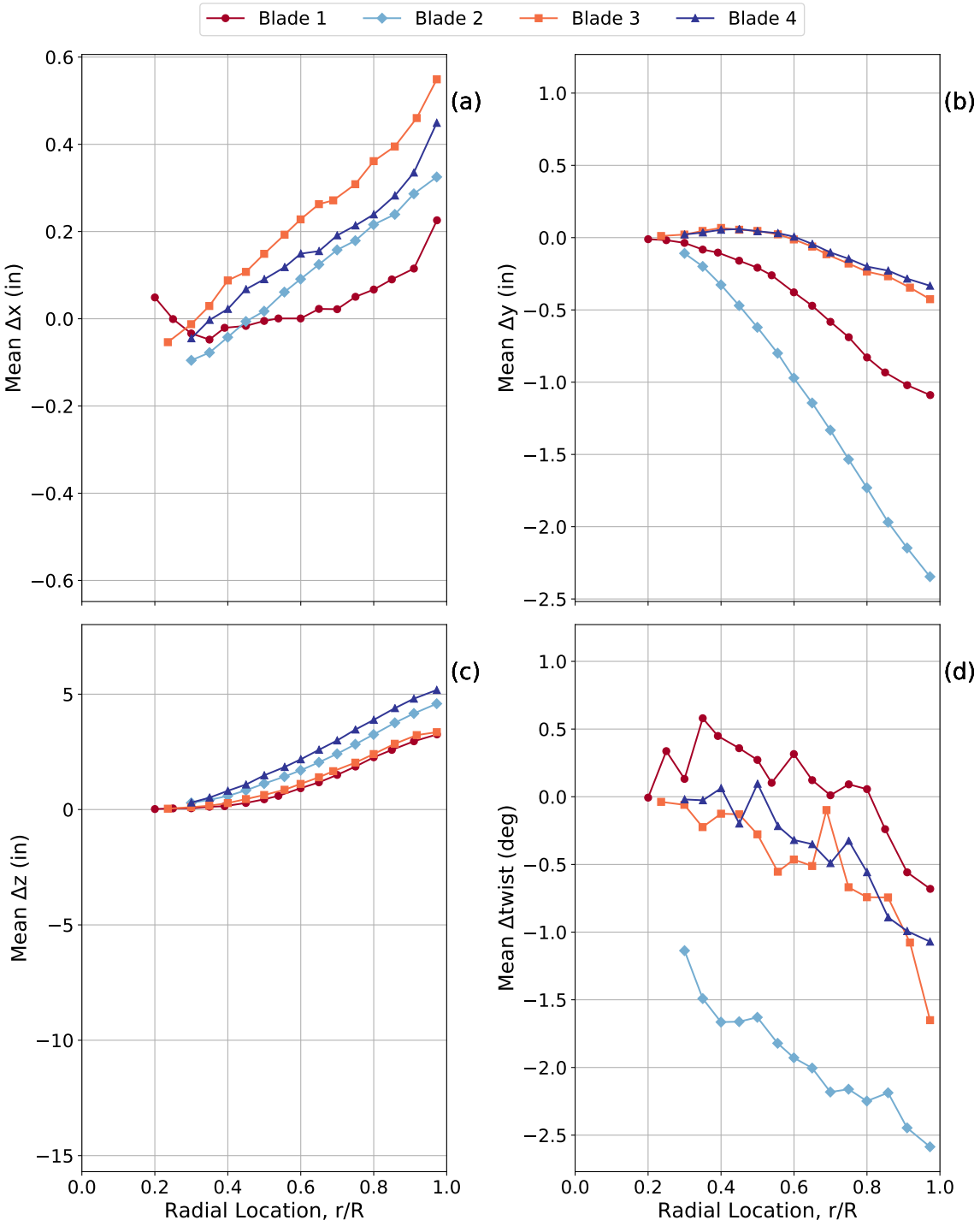


Figure 2.2-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0489	0.0020	-0.0107	0.0007	0.0213	0.0045	-0.0066	0.0463
1	274.92	0.2499	-0.0007	0.0015	-0.0175	0.0019	0.0481	0.0161	0.3370	0.0513
1	274.92	0.2998	-0.0337	0.0021	-0.0364	0.0042	0.0541	0.0226	0.1318	0.0949
1	274.92	0.3498	-0.0478	0.0035	-0.0825	0.0049	0.1186	0.0363	0.5799	0.1121
1	274.92	0.3913	-0.0207	0.0028	-0.1034	0.0092	0.1451	0.0562	0.4488	0.0576
1	274.92	0.4496	-0.0164	0.0035	-0.1596	0.0122	0.2844	0.0733	0.3585	0.0651
1	274.92	0.4997	-0.0050	0.0025	-0.2081	0.0149	0.4438	0.0904	0.2720	0.0767
1	274.92	0.5387	0.0007	0.0023	-0.2605	0.0169	0.5932	0.1076	0.1028	0.0710
1	274.92	0.5996	0.0007	0.0046	-0.3785	0.0205	0.9226	0.1311	0.3153	0.0633
1	274.92	0.6498	0.0226	0.0034	-0.4712	0.0236	1.1785	0.1515	0.1225	0.0616
1	274.92	0.6998	0.0219	0.0033	-0.5824	0.0270	1.5017	0.1687	0.0107	0.0665
1	274.92	0.7500	0.0504	0.0030	-0.6889	0.0298	1.8633	0.1862	0.0916	0.0734
1	274.92	0.8001	0.0670	0.0036	-0.8291	0.0333	2.2644	0.2022	0.0561	0.0792
1	274.92	0.8497	0.0902	0.0043	-0.9327	0.0372	2.5851	0.2201	-0.2396	0.0716
1	274.92	0.9102	0.1151	0.0050	-1.0210	0.0422	2.9585	0.2385	-0.5585	0.0753
1	274.92	0.9734	0.2258	0.0066	-1.0893	0.0485	3.2562	0.2577	-0.6805	0.0599
2	274.92	0.2999	-0.0953	0.0127	-0.1088	0.0117	0.2897	0.1200	-1.1369	0.3694
2	274.92	0.3498	-0.0776	0.0048	-0.1992	0.0214	0.4194	0.1919	-1.4910	0.4861
2	274.92	0.3998	-0.0424	0.0073	-0.3266	0.0353	0.5882	0.2898	-1.6646	0.4799
2	274.92	0.4496	-0.0062	0.0084	-0.4702	0.0469	0.8305	0.3821	-1.6616	0.4943
2	274.92	0.4995	0.0174	0.0114	-0.6207	0.0597	1.1233	0.4811	-1.6294	0.4675
2	274.92	0.5551	0.0612	0.0136	-0.7996	0.0734	1.4255	0.5850	-1.8213	0.4885
2	274.92	0.5996	0.0910	0.0156	-0.9712	0.0844	1.6998	0.6704	-1.9284	0.4858
2	274.92	0.6497	0.1244	0.0190	-1.1439	0.0967	2.0467	0.7653	-2.0040	0.4820
2	274.92	0.6996	0.1578	0.0221	-1.3319	0.1088	2.4130	0.8600	-2.1813	0.4811
2	274.92	0.7495	0.1791	0.0252	-1.5339	0.1212	2.8278	0.9511	-2.1606	0.4881
2	274.92	0.7996	0.2159	0.0276	-1.7306	0.1332	3.2519	1.0430	-2.2481	0.4854
2	274.92	0.8578	0.2393	0.0314	-1.9685	0.1470	3.7583	1.1503	-2.1868	0.4872
2	274.92	0.9100	0.2865	0.0347	-2.1473	0.1608	4.1635	1.2440	-2.4462	0.4835
2	274.92	0.9727	0.3251	0.0447	-2.3458	0.1774	4.5875	1.3599	-2.5859	0.4739
3	274.92	0.2357	-0.0537	0.0246	0.0113	0.0048	0.0362	0.0468	-0.0379	0.3848
3	274.92	0.2995	-0.0125	0.0092	0.0214	0.0124	0.1028	0.0896	-0.0599	0.6134
3	274.92	0.3493	0.0293	0.0056	0.0464	0.0245	0.1654	0.1548	-0.2243	0.5896
3	274.92	0.4000	0.0879	0.0064	0.0671	0.0387	0.2787	0.2272	-0.1253	0.5735
3	274.92	0.4497	0.1075	0.0056	0.0548	0.0509	0.4536	0.2908	-0.1299	0.5704
3	274.92	0.4997	0.1489	0.0059	0.0465	0.0634	0.6298	0.3579	-0.2777	0.5651
3	274.92	0.5556	0.1928	0.0068	0.0230	0.0771	0.8578	0.4287	-0.5540	0.5712
3	274.92	0.5995	0.2279	0.0072	-0.0125	0.0880	1.1107	0.4824	-0.4640	0.5780
3	274.92	0.6498	0.2628	0.0081	-0.0618	0.1008	1.3983	0.5470	-0.5116	0.5656
3	274.92	0.6890	0.2715	0.0095	-0.1151	0.1107	1.6617	0.5943	-0.0985	0.5732
3	274.92	0.7495	0.3085	0.0119	-0.1792	0.1263	2.0320	0.6712	-0.6686	0.5681
3	274.92	0.7998	0.3614	0.0137	-0.2350	0.1393	2.4041	0.7336	-0.7421	0.5668
3	274.92	0.8577	0.3950	0.0156	-0.2674	0.1545	2.8502	0.8052	-0.7440	0.5627
3	274.92	0.9178	0.4602	0.0185	-0.3457	0.1703	3.2265	0.8823	-1.0770	0.5624
3	274.92	0.9729	0.5490	0.0253	-0.4259	0.1879	3.3532	0.9455	-1.6505	0.5959
4	274.92	0.3001	-0.0448	0.0074	0.0218	0.0100	0.3027	0.1118	-0.0198	0.3828
4	274.92	0.3502	-0.0027	0.0053	0.0357	0.0183	0.5165	0.1821	-0.0261	0.5041
4	274.92	0.4002	0.0225	0.0098	0.0546	0.0299	0.8130	0.2782	0.0631	0.5043
4	274.92	0.4500	0.0678	0.0112	0.0596	0.0387	1.0851	0.3605	-0.1983	0.5061
4	274.92	0.5001	0.0907	0.0135	0.0441	0.0489	1.4825	0.4498	0.0959	0.4932
4	274.92	0.5560	0.1184	0.0160	0.0308	0.0600	1.8441	0.5429	-0.2168	0.5072
4	274.92	0.6001	0.1493	0.0188	0.0066	0.0689	2.1769	0.6230	-0.3197	0.4930
4	274.92	0.6501	0.1551	0.0211	-0.0439	0.0790	2.5898	0.7067	-0.3504	0.4965
4	274.92	0.6999	0.1912	0.0242	-0.1025	0.0890	2.9948	0.7935	-0.4905	0.4966
4	274.92	0.7500	0.2139	0.0270	-0.1464	0.0988	3.4676	0.8798	-0.3254	0.4942
4	274.92	0.8002	0.2393	0.0305	-0.2002	0.1088	3.8873	0.9662	-0.5576	0.5009
4	274.92	0.8582	0.2825	0.0336	-0.2285	0.1210	4.3955	1.0691	-0.8912	0.5032
4	274.92	0.9101	0.3352	0.0379	-0.2838	0.1317	4.8052	1.1653	-0.9926	0.4903
4	274.92	0.9728	0.4492	0.0450	-0.3329	0.1452	5.1823	1.2813	-1.0705	0.4901

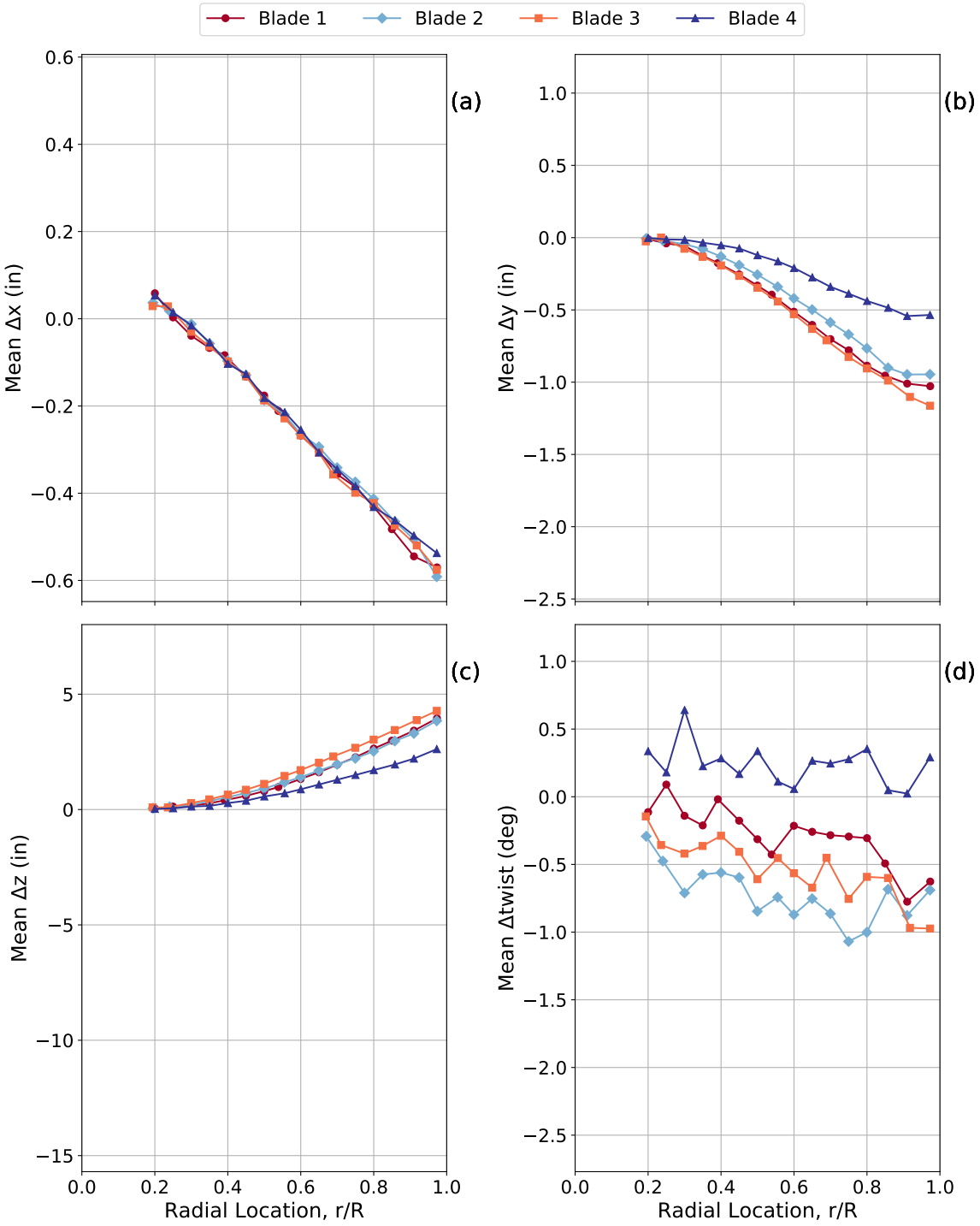


Figure 2.2-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0584	0.0049	-0.0106	0.0021	0.0442	0.0123	-0.1136	0.0486
1	279.84	0.2499	0.0031	0.0040	-0.0398	0.0075	0.1276	0.0153	0.0899	0.1372
1	279.84	0.2998	-0.0390	0.0029	-0.0571	0.0117	0.1653	0.0316	-0.1407	0.1255
1	279.84	0.3498	-0.0669	0.0033	-0.1262	0.0221	0.2684	0.0562	-0.2120	0.1306
1	279.84	0.3913	-0.0836	0.0060	-0.1757	0.0328	0.4004	0.0698	-0.0187	0.1168
1	279.84	0.4496	-0.1326	0.0040	-0.2543	0.0432	0.5914	0.0891	-0.1769	0.1546
1	279.84	0.4997	-0.1761	0.0045	-0.3317	0.0533	0.7965	0.1153	-0.3140	0.0879
1	279.84	0.5387	-0.2113	0.0075	-0.3943	0.0597	0.9749	0.1322	-0.4270	0.1155
1	279.84	0.5996	-0.2679	0.0059	-0.5125	0.0733	1.3242	0.1509	-0.2146	0.1513
1	279.84	0.6498	-0.3034	0.0058	-0.6038	0.0828	1.6149	0.1711	-0.2590	0.1404
1	279.84	0.6998	-0.3566	0.0071	-0.7021	0.0937	1.9446	0.1953	-0.2840	0.1188
1	279.84	0.7500	-0.3860	0.0067	-0.7796	0.1042	2.2663	0.2198	-0.2943	0.1064
1	279.84	0.8001	-0.4310	0.0078	-0.8858	0.1159	2.6419	0.2380	-0.3057	0.1361
1	279.84	0.8497	-0.4825	0.0084	-0.9545	0.1275	2.9858	0.2639	-0.4929	0.1265
1	279.84	0.9102	-0.5448	0.0082	-1.0100	0.1418	3.4205	0.2999	-0.7752	0.1295
1	279.84	0.9734	-0.5701	0.0127	-1.0280	0.1571	3.9534	0.3298	-0.6267	0.1704
2	279.84	0.1949	0.0370	0.0044	-0.0057	0.0011	0.0563	0.0057	-0.2924	0.0691
2	279.84	0.2405	0.0177	0.0030	-0.0204	0.0032	0.1169	0.0096	-0.4755	0.0586
2	279.84	0.2999	-0.0122	0.0023	-0.0452	0.0052	0.1972	0.0169	-0.7108	0.1378
2	279.84	0.3498	-0.0567	0.0036	-0.0787	0.0102	0.3699	0.0256	-0.5743	0.1388
2	279.84	0.3998	-0.0966	0.0035	-0.1307	0.0156	0.5327	0.0372	-0.5604	0.1348
2	279.84	0.4496	-0.1292	0.0044	-0.1904	0.0231	0.7164	0.0467	-0.5966	0.1192
2	279.84	0.4995	-0.1862	0.0033	-0.2563	0.0268	0.9111	0.0603	-0.8461	0.1534
2	279.84	0.5551	-0.2202	0.0035	-0.3401	0.0321	1.1791	0.0720	-0.7424	0.1220
2	279.84	0.5996	-0.2640	0.0042	-0.4201	0.0370	1.4007	0.0827	-0.8709	0.1228
2	279.84	0.6497	-0.2937	0.0034	-0.4983	0.0417	1.6871	0.0954	-0.7531	0.1197
2	279.84	0.6996	-0.3414	0.0034	-0.5862	0.0466	1.9598	0.1082	-0.8636	0.1356
2	279.84	0.7495	-0.3743	0.0040	-0.6697	0.0529	2.2187	0.1181	-1.0691	0.1214
2	279.84	0.7996	-0.4130	0.0043	-0.7661	0.0581	2.5231	0.1320	-1.0014	0.1110
2	279.84	0.8578	-0.4648	0.0049	-0.9008	0.0652	2.9701	0.1448	-0.6834	0.1447
2	279.84	0.9100	-0.5057	0.0050	-0.9468	0.0704	3.2976	0.1581	-0.8769	0.1388
2	279.84	0.9727	-0.5914	0.0071	-0.9459	0.0782	3.8464	0.1834	-0.6895	0.1106
3	279.84	0.1938	0.0290	0.0024	-0.0258	0.0011	0.0930	0.0054	-0.1453	0.0819
3	279.84	0.2357	0.0285	0.0019	0.0007	0.0037	0.0911	0.0202	-0.3569	0.0892
3	279.84	0.2995	-0.0299	0.0019	-0.0769	0.0052	0.2776	0.0301	-0.4199	0.1696
3	279.84	0.3493	-0.0633	0.0020	-0.1327	0.0091	0.4392	0.0470	-0.3637	0.1364
3	279.84	0.4000	-0.0978	0.0020	-0.1924	0.0157	0.6454	0.0788	-0.2881	0.1049
3	279.84	0.4497	-0.1320	0.0059	-0.2646	0.0187	0.8562	0.0932	-0.4067	0.1240
3	279.84	0.4997	-0.1874	0.0033	-0.3470	0.0207	1.1116	0.1154	-0.6090	0.1675
3	279.84	0.5556	-0.2284	0.0036	-0.4418	0.0244	1.4555	0.1411	-0.4530	0.1314
3	279.84	0.5995	-0.2672	0.0039	-0.5295	0.0279	1.7072	0.1676	-0.5649	0.1693
3	279.84	0.6498	-0.3070	0.0047	-0.6315	0.0320	2.0295	0.1952	-0.6716	0.0882
3	279.84	0.6890	-0.3571	0.0057	-0.7104	0.0352	2.3017	0.2107	-0.4509	0.1527
3	279.84	0.7495	-0.3989	0.0053	-0.8252	0.0415	2.6755	0.2443	-0.7545	0.1439
3	279.84	0.7998	-0.4225	0.0069	-0.9049	0.0469	3.0303	0.2742	-0.5920	0.1187
3	279.84	0.8577	-0.4741	0.0078	-0.9888	0.0542	3.4435	0.3095	-0.6001	0.1369
3	279.84	0.9178	-0.5198	0.0086	-1.1020	0.0619	3.8772	0.3480	-0.9685	0.1550
3	279.84	0.9729	-0.5756	0.0124	-1.1629	0.0695	4.2773	0.3938	-0.9739	0.1251
4	279.84	0.2001	0.0535	0.0020	-0.0024	0.0016	0.0288	0.0087	0.3364	0.0659
4	279.84	0.2502	0.0146	0.0019	-0.0121	0.0048	0.0532	0.0195	0.1799	0.1035
4	279.84	0.3001	-0.0156	0.0035	-0.0147	0.0070	0.1279	0.0265	0.6405	0.1292
4	279.84	0.3502	-0.0545	0.0046	-0.0351	0.0155	0.1581	0.0504	0.2256	0.1508
4	279.84	0.4002	-0.1034	0.0037	-0.0528	0.0226	0.2801	0.0709	0.2835	0.1416
4	279.84	0.4500	-0.1267	0.0042	-0.0748	0.0284	0.3811	0.0838	0.1681	0.1103
4	279.84	0.5001	-0.1815	0.0054	-0.1217	0.0352	0.5659	0.1075	0.3368	0.1098
4	279.84	0.5560	-0.2140	0.0052	-0.1646	0.0437	0.7054	0.1318	0.1115	0.1100
4	279.84	0.6001	-0.2546	0.0044	-0.2101	0.0494	0.8767	0.1496	0.0576	0.1278
4	279.84	0.6501	-0.3066	0.0044	-0.2751	0.0567	1.0849	0.1733	0.2661	0.0925
4	279.84	0.6999	-0.3453	0.0071	-0.3403	0.0650	1.2913	0.1955	0.2453	0.1047
4	279.84	0.7500	-0.3839	0.0070	-0.3881	0.0730	1.4968	0.2240	0.2770	0.1053
4	279.84	0.8002	-0.4317	0.0071	-0.4383	0.0811	1.7084	0.2468	0.3527	0.1031
4	279.84	0.8582	-0.4625	0.0079	-0.4854	0.0904	1.9528	0.2739	0.0482	0.1001
4	279.84	0.9101	-0.4970	0.0092	-0.5426	0.0998	2.2064	0.3023	0.0234	0.1110
4	279.84	0.9728	-0.5373	0.0124	-0.5351	0.1101	2.6182	0.3359	0.2912	0.1722

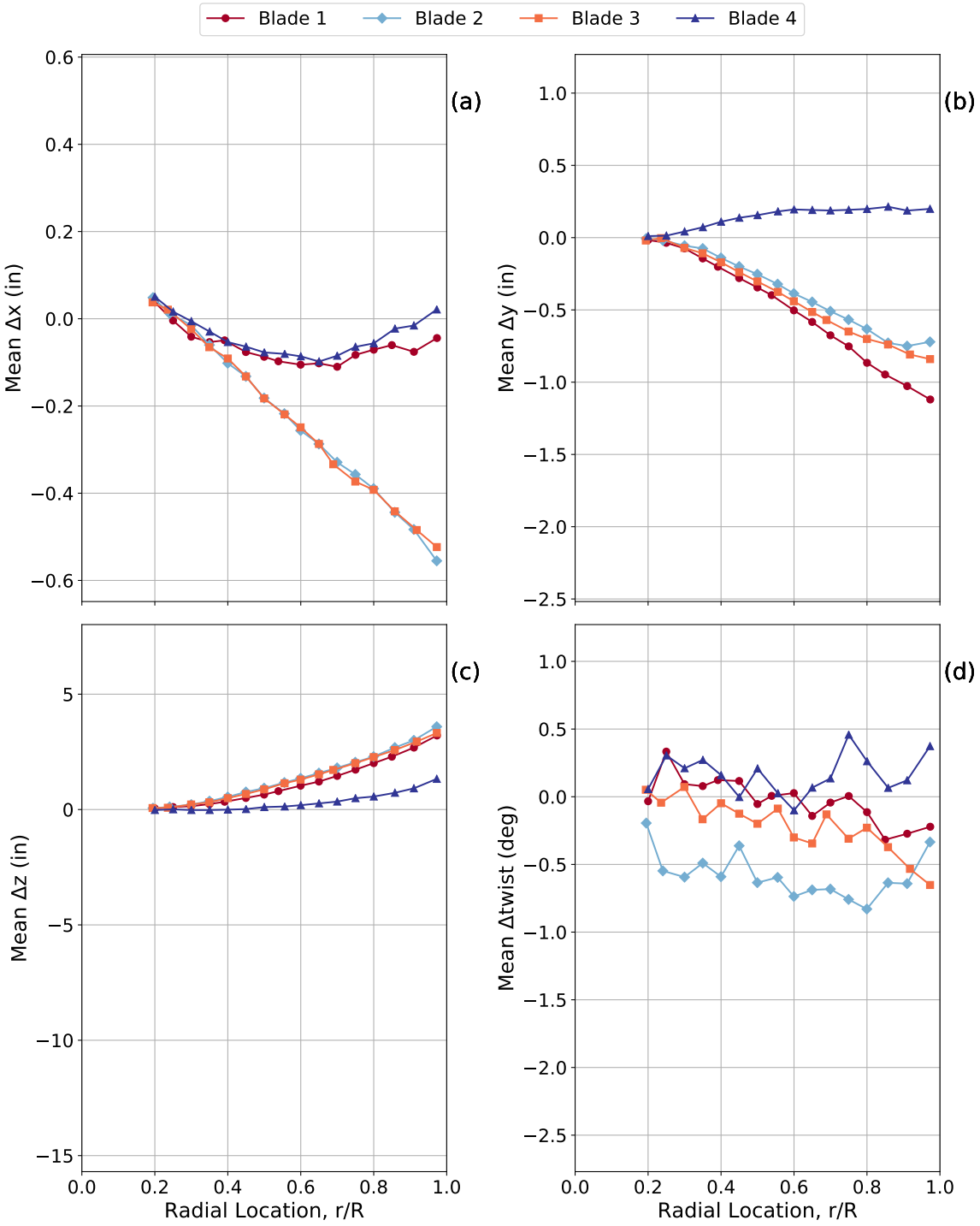


Figure 2.2-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0375	0.0012	-0.0165	0.0008	0.0450	0.0064	-0.0333	0.0513
1	285.12	0.2499	-0.0040	0.0017	-0.0359	0.0027	0.1078	0.0159	0.3334	0.0701
1	285.12	0.2998	-0.0411	0.0017	-0.0743	0.0036	0.1449	0.0254	0.0931	0.1091
1	285.12	0.3498	-0.0535	0.0025	-0.1442	0.0081	0.2357	0.0426	0.0785	0.0849
1	285.12	0.3913	-0.0495	0.0038	-0.2012	0.0110	0.3372	0.0622	0.1229	0.0563
1	285.12	0.4496	-0.0763	0.0045	-0.2800	0.0153	0.5016	0.0916	0.1164	0.0562
1	285.12	0.4997	-0.0872	0.0026	-0.3449	0.0200	0.6476	0.1062	-0.0540	0.1044
1	285.12	0.5387	-0.0975	0.0044	-0.3981	0.0251	0.7975	0.1362	0.0064	0.0554
1	285.12	0.5996	-0.1053	0.0050	-0.5032	0.0316	1.0329	0.1638	0.0269	0.1140
1	285.12	0.6498	-0.1022	0.0041	-0.5833	0.0390	1.2120	0.1990	-0.1418	0.0623
1	285.12	0.6998	-0.1101	0.0056	-0.6757	0.0461	1.4566	0.2271	-0.0432	0.0937
1	285.12	0.7500	-0.0828	0.0064	-0.7524	0.0538	1.7281	0.2540	0.0053	0.1016
1	285.12	0.8001	-0.0709	0.0074	-0.8660	0.0622	2.0108	0.2821	-0.1137	0.0731
1	285.12	0.8497	-0.0604	0.0078	-0.9469	0.0699	2.2904	0.3082	-0.3176	0.0887
1	285.12	0.9102	-0.0758	0.0084	-1.0272	0.0808	2.6844	0.3422	-0.2732	0.0638
1	285.12	0.9734	-0.0442	0.0127	-1.1198	0.0917	3.2095	0.3674	-0.2216	0.0857
2	285.12	0.1949	0.0485	0.0033	-0.0063	0.0021	0.0584	0.0100	-0.1946	0.0654
2	285.12	0.2405	0.0122	0.0014	-0.0188	0.0038	0.1115	0.0188	-0.5476	0.1031
2	285.12	0.2999	-0.0149	0.0021	-0.0555	0.0066	0.2136	0.0341	-0.5937	0.1464
2	285.12	0.3498	-0.0602	0.0015	-0.0752	0.0118	0.3637	0.0561	-0.4901	0.1178
2	285.12	0.3998	-0.1019	0.0034	-0.1400	0.0178	0.5447	0.0839	-0.5907	0.0547
2	285.12	0.4496	-0.1321	0.0073	-0.2000	0.0233	0.7601	0.1087	-0.3621	0.0735
2	285.12	0.4995	-0.1819	0.0057	-0.2528	0.0284	0.9260	0.1235	-0.6346	0.1251
2	285.12	0.5551	-0.2176	0.0051	-0.3217	0.0353	1.1677	0.1632	-0.5959	0.0844
2	285.12	0.5996	-0.2563	0.0044	-0.3866	0.0406	1.3533	0.1861	-0.7367	0.0946
2	285.12	0.6497	-0.2871	0.0058	-0.4450	0.0465	1.5802	0.2145	-0.6880	0.1127
2	285.12	0.6996	-0.3290	0.0048	-0.5092	0.0546	1.8062	0.2528	-0.6822	0.1121
2	285.12	0.7495	-0.3570	0.0052	-0.5674	0.0612	2.0482	0.2812	-0.7584	0.1033
2	285.12	0.7996	-0.3894	0.0062	-0.6325	0.0693	2.2916	0.3136	-0.8298	0.1019
2	285.12	0.8578	-0.4439	0.0068	-0.7285	0.0785	2.6857	0.3521	-0.6356	0.0970
2	285.12	0.9100	-0.4831	0.0080	-0.7502	0.0862	2.9995	0.3810	-0.6420	0.1379
2	285.12	0.9727	-0.5551	0.0124	-0.7209	0.0961	3.5919	0.4238	-0.3344	0.0946
3	285.12	0.1938	0.0376	0.0030	-0.0198	0.0016	0.0643	0.0071	0.0516	0.0718
3	285.12	0.2357	0.0209	0.0046	-0.0035	0.0047	0.0775	0.0236	-0.0439	0.0845
3	285.12	0.2995	-0.0236	0.0026	-0.0708	0.0074	0.2188	0.0355	0.0721	0.1560
3	285.12	0.3493	-0.0652	0.0053	-0.1084	0.0125	0.3141	0.0549	-0.1663	0.1441
3	285.12	0.4000	-0.0911	0.0046	-0.1704	0.0215	0.4931	0.0917	-0.0480	0.0984
3	285.12	0.4497	-0.1323	0.0042	-0.2389	0.0258	0.6759	0.1079	-0.1251	0.1016
3	285.12	0.4997	-0.1826	0.0046	-0.3030	0.0303	0.8762	0.1283	-0.1995	0.1369
3	285.12	0.5556	-0.2192	0.0035	-0.3752	0.0391	1.1379	0.1557	-0.0874	0.1416
3	285.12	0.5995	-0.2490	0.0052	-0.4402	0.0453	1.2976	0.1821	-0.3008	0.1097
3	285.12	0.6498	-0.2870	0.0053	-0.5143	0.0525	1.5263	0.2150	-0.3452	0.1010
3	285.12	0.6890	-0.3336	0.0063	-0.5698	0.0571	1.7151	0.2329	-0.1304	0.1082
3	285.12	0.7495	-0.3733	0.0060	-0.6495	0.0662	2.0095	0.2726	-0.3102	0.0651
3	285.12	0.7998	-0.3922	0.0081	-0.7007	0.0726	2.2726	0.2972	-0.2289	0.0938
3	285.12	0.8577	-0.4415	0.0080	-0.7391	0.0822	2.5768	0.3194	-0.3723	0.1516
3	285.12	0.9178	-0.4844	0.0087	-0.8087	0.0910	2.9452	0.3511	-0.5329	0.1316
3	285.12	0.9729	-0.5235	0.0114	-0.8404	0.0997	3.3174	0.3830	-0.6520	0.1144
4	285.12	0.2001	0.0505	0.0008	0.0106	0.0007	-0.0204	0.0062	0.0564	0.0374
4	285.12	0.2502	0.0162	0.0012	0.0137	0.0012	0.0079	0.0079	0.3048	0.0475
4	285.12	0.3001	-0.0057	0.0036	0.0423	0.0026	-0.0215	0.0183	0.2104	0.0688
4	285.12	0.3502	-0.0295	0.0035	0.0720	0.0051	-0.0214	0.0284	0.2720	0.0558
4	285.12	0.4002	-0.0535	0.0020	0.1100	0.0074	-0.0053	0.0417	0.1595	0.0705
4	285.12	0.4500	-0.0640	0.0039	0.1375	0.0095	0.0188	0.0516	-0.0026	0.0723
4	285.12	0.5001	-0.0772	0.0049	0.1554	0.0125	0.1055	0.0608	0.2085	0.0901
4	285.12	0.5560	-0.0806	0.0024	0.1813	0.0167	0.1311	0.0813	0.0253	0.0636
4	285.12	0.6001	-0.0862	0.0028	0.1950	0.0203	0.1884	0.0908	-0.1006	0.1075
4	285.12	0.6501	-0.0980	0.0026	0.1910	0.0239	0.2667	0.1078	0.0671	0.0581
4	285.12	0.6999	-0.0848	0.0050	0.1878	0.0281	0.3441	0.1245	0.1352	0.0635
4	285.12	0.7500	-0.0644	0.0040	0.1924	0.0333	0.4914	0.1351	0.4583	0.1116
4	285.12	0.8002	-0.0563	0.0043	0.1981	0.0381	0.5626	0.1571	0.2623	0.0671
4	285.12	0.8582	-0.0226	0.0063	0.2137	0.0441	0.7259	0.1770	0.0654	0.0641
4	285.12	0.9101	-0.0155	0.0060	0.1871	0.0507	0.9183	0.1941	0.1214	0.0675
4	285.12	0.9728	0.0213	0.0080	0.1990	0.0573	1.3287	0.2205	0.3737	0.0757

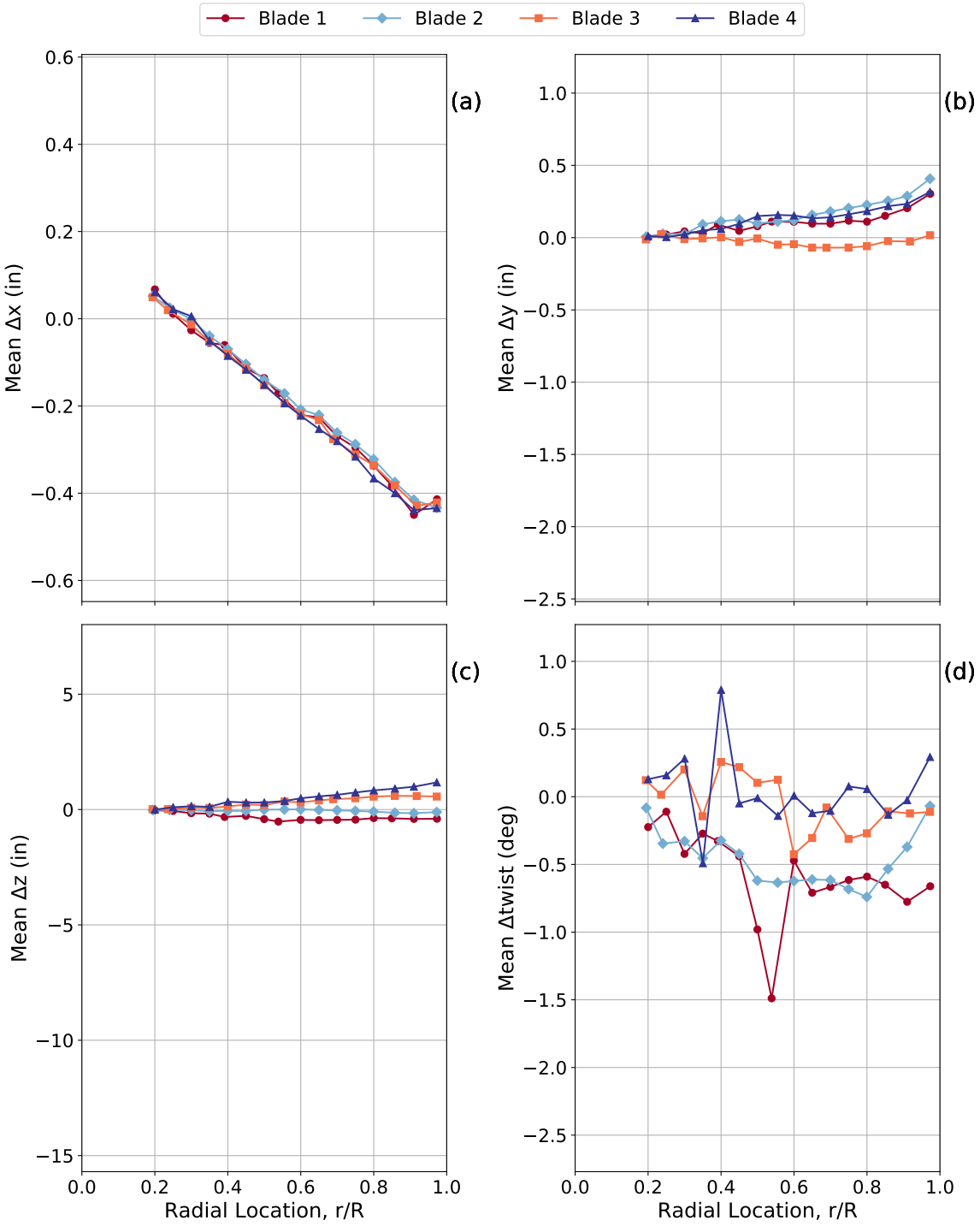


Figure 2.2-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0674	0.0019	0.0001	0.0018	-0.0317	0.0072	-0.2242	0.0633
1	299.88	0.2499	0.0113	0.0018	0.0217	0.0041	-0.0635	0.0227	-0.1106	0.0677
1	299.88	0.2998	-0.0263	0.0026	0.0435	0.0086	-0.1583	0.0327	-0.4223	0.1213
1	299.88	0.3498	-0.0552	0.0024	0.0302	0.0156	-0.1794	0.0470	-0.2722	0.1194
1	299.88	0.3913	-0.0602	0.0028	0.0911	0.0227	-0.3225	0.0758	-0.3274	0.1380
1	299.88	0.4496	-0.1128	0.0036	0.0468	0.0255	-0.2747	0.0849	-0.4395	0.0735
1	299.88	0.4997	-0.1359	0.0036	0.0785	0.0341	-0.4163	0.1114	-0.9806	0.1395
1	299.88	0.5387	-0.1706	0.0053	0.1108	0.0363	-0.5229	0.1226	-1.4892	0.0801
1	299.88	0.5996	-0.2205	0.0039	0.1095	0.0442	-0.4470	0.1486	-0.4714	0.1085
1	299.88	0.6498	-0.2264	0.0036	0.0967	0.0509	-0.4615	0.1712	-0.7092	0.0992
1	299.88	0.6998	-0.2694	0.0046	0.0965	0.0563	-0.4487	0.1876	-0.6664	0.0777
1	299.88	0.7500	-0.2956	0.0054	0.1169	0.0638	-0.4392	0.2069	-0.6151	0.0745
1	299.88	0.8001	-0.3370	0.0050	0.1103	0.0710	-0.3728	0.2322	-0.5901	0.0859
1	299.88	0.8497	-0.3828	0.0051	0.1510	0.0778	-0.3826	0.2532	-0.6502	0.0977
1	299.88	0.9102	-0.4496	0.0058	0.2037	0.0868	-0.4065	0.2837	-0.7759	0.0934
1	299.88	0.9734	-0.4139	0.0085	0.3032	0.0966	-0.4009	0.3165	-0.6614	0.0996
2	299.88	0.1949	0.0519	0.0023	0.0063	0.0010	-0.0211	0.0062	-0.0825	0.0652
2	299.88	0.2405	0.0252	0.0017	0.0262	0.0041	-0.0156	0.0164	-0.3462	0.0658
2	299.88	0.2999	-0.0016	0.0020	0.0238	0.0072	-0.0219	0.0256	-0.3285	0.1370
2	299.88	0.3498	-0.0393	0.0032	0.0916	0.0124	-0.0701	0.0427	-0.4539	0.1044
2	299.88	0.3998	-0.0697	0.0034	0.1133	0.0203	-0.0579	0.0656	-0.3229	0.0991
2	299.88	0.4496	-0.1039	0.0041	0.1253	0.0230	-0.0561	0.0800	-0.4221	0.1136
2	299.88	0.4995	-0.1401	0.0026	0.0985	0.0229	-0.0099	0.0830	-0.6191	0.1289
2	299.88	0.5551	-0.1714	0.0031	0.1118	0.0285	0.0026	0.1056	-0.6339	0.0888
2	299.88	0.5996	-0.2080	0.0037	0.1207	0.0320	0.0062	0.1211	-0.6225	0.0919
2	299.88	0.6497	-0.2207	0.0055	0.1569	0.0358	-0.0154	0.1414	-0.6115	0.1057
2	299.88	0.6996	-0.2613	0.0043	0.1805	0.0392	-0.0338	0.1634	-0.6150	0.0943
2	299.88	0.7495	-0.2876	0.0055	0.2043	0.0426	-0.0586	0.1891	-0.6822	0.0975
2	299.88	0.7996	-0.3222	0.0055	0.2261	0.0465	-0.0891	0.2134	-0.7401	0.0923
2	299.88	0.8578	-0.3748	0.0054	0.2543	0.0509	-0.1423	0.2426	-0.5331	0.1019
2	299.88	0.9100	-0.4152	0.0060	0.2875	0.0544	-0.1594	0.2707	-0.3707	0.1024
2	299.88	0.9727	-0.4334	0.0083	0.4073	0.0590	-0.1107	0.3061	-0.0682	0.0955
3	299.88	0.1938	0.0494	0.0029	-0.0121	0.0011	0.0139	0.0073	0.1218	0.0852
3	299.88	0.2357	0.0198	0.0027	0.0236	0.0030	0.0139	0.0144	0.0150	0.1207
3	299.88	0.2995	-0.0130	0.0024	-0.0103	0.0051	0.0735	0.0327	0.2014	0.1990
3	299.88	0.3493	-0.0528	0.0036	-0.0051	0.0083	0.0623	0.0478	-0.1438	0.1611
3	299.88	0.4000	-0.0806	0.0052	0.0025	0.0141	0.1374	0.0787	0.2566	0.1212
3	299.88	0.4497	-0.1139	0.0033	-0.0299	0.0178	0.2140	0.0924	0.2185	0.1450
3	299.88	0.4997	-0.1529	0.0039	-0.0059	0.0193	0.1953	0.1147	0.1030	0.1173
3	299.88	0.5556	-0.1926	0.0060	-0.0488	0.0266	0.3486	0.1409	0.1254	0.1503
3	299.88	0.5995	-0.2186	0.0033	-0.0451	0.0289	0.3078	0.1556	-0.4250	0.0956
3	299.88	0.6498	-0.2325	0.0030	-0.0690	0.0332	0.3954	0.1722	-0.3047	0.1282
3	299.88	0.6890	-0.2758	0.0043	-0.0696	0.0357	0.4475	0.1882	-0.0796	0.1240
3	299.88	0.7495	-0.3111	0.0038	-0.0688	0.0399	0.4883	0.2173	-0.3113	0.1110
3	299.88	0.7998	-0.3361	0.0045	-0.0591	0.0439	0.5599	0.2454	-0.2703	0.1148
3	299.88	0.8577	-0.3824	0.0049	-0.0238	0.0493	0.5913	0.2796	-0.1077	0.1109
3	299.88	0.9178	-0.4291	0.0055	-0.0269	0.0541	0.5860	0.3180	-0.1233	0.1062
3	299.88	0.9729	-0.4213	0.0067	0.0168	0.0591	0.5627	0.3539	-0.1119	0.1102
4	299.88	0.2001	0.0608	0.0019	0.0105	0.0010	-0.0048	0.0055	0.1295	0.0436
4	299.88	0.2502	0.0219	0.0029	0.0037	0.0032	0.0987	0.0147	0.1583	0.1017
4	299.88	0.3001	0.0057	0.0021	0.0220	0.0044	0.1445	0.0237	0.2813	0.1014
4	299.88	0.3502	-0.0505	0.0037	0.0512	0.0067	0.1152	0.0355	-0.4915	0.1144
4	299.88	0.4002	-0.0852	0.0038	0.0601	0.0119	0.3383	0.0586	0.7891	0.0668
4	299.88	0.4500	-0.1169	0.0032	0.0960	0.0139	0.3016	0.0608	-0.0492	0.1217
4	299.88	0.5001	-0.1513	0.0037	0.1492	0.0163	0.3034	0.0697	-0.0099	0.1009
4	299.88	0.5560	-0.1940	0.0035	0.1571	0.0204	0.3729	0.0837	-0.1415	0.0845
4	299.88	0.6001	-0.2223	0.0040	0.1529	0.0211	0.4876	0.0835	0.0079	0.1179
4	299.88	0.6501	-0.2528	0.0026	0.1338	0.0249	0.5710	0.0961	-0.1209	0.0787
4	299.88	0.6999	-0.2806	0.0035	0.1405	0.0283	0.6370	0.1030	-0.1039	0.1290
4	299.88	0.7500	-0.3162	0.0050	0.1614	0.0313	0.7403	0.1116	0.0762	0.0773
4	299.88	0.8002	-0.3661	0.0038	0.1839	0.0353	0.8297	0.1178	0.0566	0.0851
4	299.88	0.8582	-0.4000	0.0036	0.2178	0.0393	0.9081	0.1334	-0.1330	0.0890
4	299.88	0.9101	-0.4389	0.0054	0.2339	0.0434	0.9884	0.1454	-0.0253	0.0845
4	299.88	0.9728	-0.4341	0.0067	0.3164	0.0486	1.1746	0.1688	0.2933	0.0970

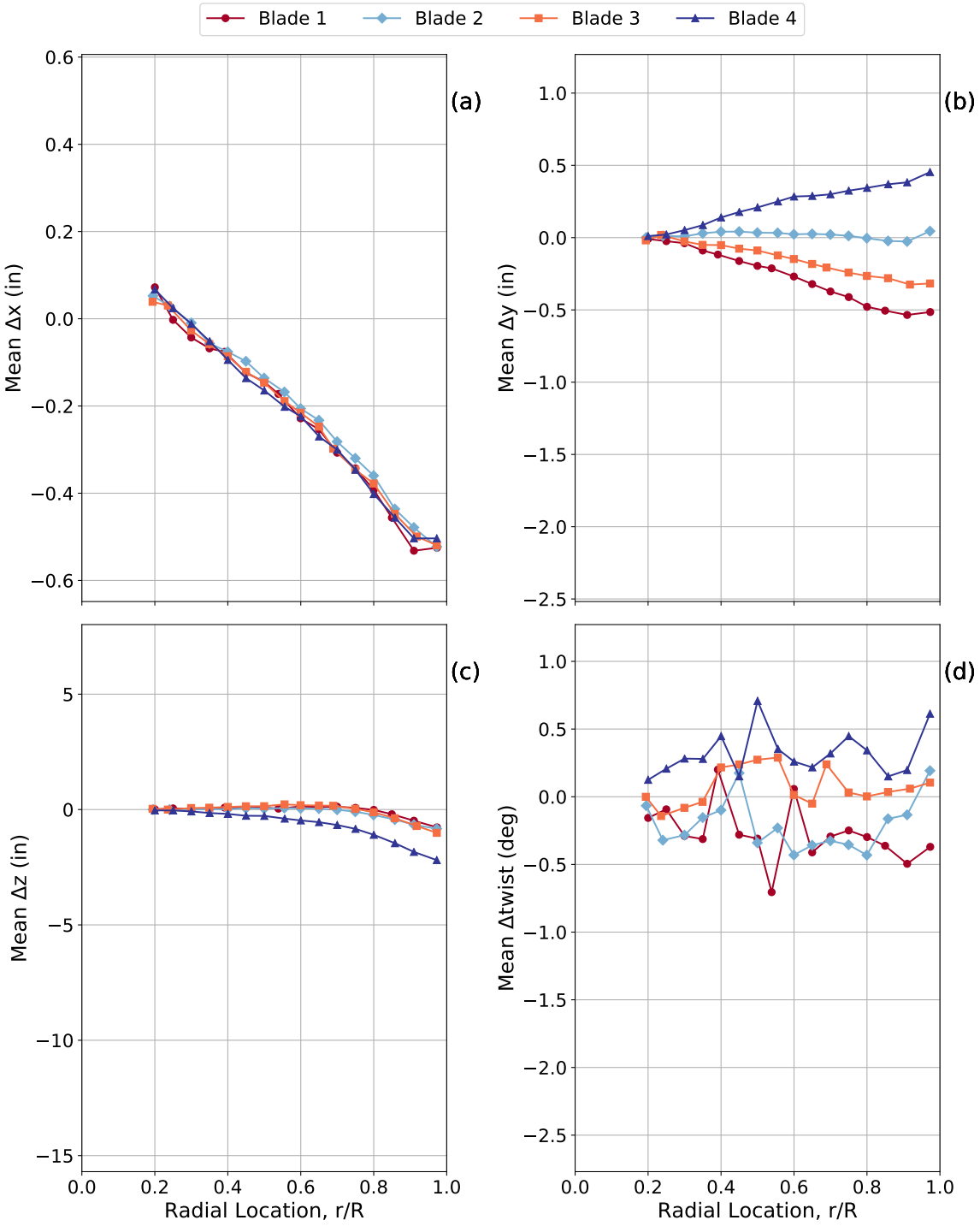


Figure 2.2-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.241$, $\alpha = -3°$ NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0722	0.0018	-0.0091	0.0010	0.0107	0.0040	-0.1564	0.0196
1	315	0.2499	-0.0025	0.0019	-0.0244	0.0040	0.0487	0.0091	-0.0929	0.0439
1	315	0.2998	-0.0429	0.0034	-0.0385	0.0067	0.0345	0.0171	-0.2896	0.0466
1	315	0.3498	-0.0680	0.0031	-0.0891	0.0105	0.0504	0.0237	-0.3127	0.0709
1	315	0.3913	-0.0758	0.0024	-0.1172	0.0173	0.0817	0.0392	0.2005	0.0542
1	315	0.4496	-0.1238	0.0059	-0.1617	0.0183	0.0751	0.0508	-0.2804	0.0676
1	315	0.4997	-0.1445	0.0037	-0.1954	0.0226	0.0871	0.0597	-0.3093	0.0645
1	315	0.5387	-0.1723	0.0027	-0.2124	0.0259	0.0384	0.0733	-0.7049	0.0638
1	315	0.5996	-0.2284	0.0040	-0.2690	0.0306	0.1342	0.0875	0.0576	0.0501
1	315	0.6498	-0.2537	0.0045	-0.3213	0.0340	0.1123	0.1038	-0.4111	0.0501
1	315	0.6998	-0.3071	0.0053	-0.3725	0.0382	0.1231	0.1144	-0.2942	0.0748
1	315	0.7500	-0.3431	0.0041	-0.4113	0.0433	0.0721	0.1267	-0.2492	0.0511
1	315	0.8001	-0.3925	0.0039	-0.4785	0.0496	-0.0147	0.1405	-0.2978	0.0666
1	315	0.8497	-0.4561	0.0034	-0.5052	0.0550	-0.2032	0.1493	-0.3622	0.0613
1	315	0.9102	-0.5319	0.0041	-0.5349	0.0614	-0.4845	0.1636	-0.4952	0.0596
1	315	0.9734	-0.5251	0.0055	-0.5147	0.0693	-0.7713	0.1791	-0.3702	0.0575
2	315	0.1949	0.0525	0.0032	0.0010	0.0013	-0.0001	0.0039	-0.0662	0.0611
2	315	0.2405	0.0290	0.0059	0.0114	0.0033	-0.0022	0.0121	-0.3211	0.0452
2	315	0.2999	-0.0095	0.0036	0.0092	0.0072	0.0001	0.0138	-0.2834	0.1157
2	315	0.3498	-0.0564	0.0047	0.0298	0.0105	0.0154	0.0242	-0.1539	0.0855
2	315	0.3998	-0.0757	0.0032	0.0411	0.0178	0.0159	0.0381	-0.0990	0.0734
2	315	0.4496	-0.0975	0.0055	0.0418	0.0212	0.0541	0.0462	0.1751	0.0922
2	315	0.4995	-0.1360	0.0047	0.0342	0.0245	0.0403	0.0565	-0.3401	0.0801
2	315	0.5551	-0.1679	0.0053	0.0327	0.0318	0.0628	0.0724	-0.2307	0.0843
2	315	0.5996	-0.2059	0.0046	0.0231	0.0355	0.0490	0.0868	-0.4306	0.0808
2	315	0.6497	-0.2327	0.0062	0.0259	0.0421	0.0390	0.1002	-0.3579	0.0740
2	315	0.6996	-0.2818	0.0064	0.0218	0.0473	-0.0096	0.1166	-0.3257	0.0912
2	315	0.7495	-0.3200	0.0071	0.0123	0.0526	-0.0942	0.1352	-0.3544	0.0852
2	315	0.7996	-0.3597	0.0063	-0.0039	0.0588	-0.2349	0.1569	-0.4313	0.0799
2	315	0.8578	-0.4362	0.0067	-0.0230	0.0658	-0.4325	0.1822	-0.1627	0.0891
2	315	0.9100	-0.4786	0.0074	-0.0267	0.0724	-0.6576	0.2089	-0.1337	0.0885
2	315	0.9727	-0.5227	0.0091	0.0449	0.0802	-0.8335	0.2454	0.1924	0.0903
3	315	0.1938	0.0389	0.0018	-0.0189	0.0016	0.0296	0.0042	-0.0004	0.0734
3	315	0.2357	0.0303	0.0026	0.0188	0.0027	-0.0022	0.0147	-0.1424	0.0550
3	315	0.2995	-0.0267	0.0031	-0.0259	0.0082	0.0643	0.0175	-0.0820	0.1393
3	315	0.3493	-0.0579	0.0024	-0.0501	0.0108	0.0795	0.0331	-0.0377	0.0893
3	315	0.4000	-0.0858	0.0037	-0.0517	0.0196	0.1126	0.0482	0.2164	0.0769
3	315	0.4497	-0.1216	0.0037	-0.0763	0.0236	0.1413	0.0573	0.2386	0.0890
3	315	0.4997	-0.1467	0.0042	-0.0890	0.0280	0.1442	0.0712	0.2736	0.0970
3	315	0.5556	-0.1889	0.0035	-0.1230	0.0355	0.2239	0.0909	0.2891	0.0871
3	315	0.5995	-0.2155	0.0043	-0.1480	0.0405	0.1886	0.0997	0.0134	0.0963
3	315	0.6498	-0.2473	0.0040	-0.1822	0.0465	0.1741	0.1145	-0.0508	0.0901
3	315	0.6890	-0.2980	0.0048	-0.2065	0.0517	0.1622	0.1238	0.2393	0.0880
3	315	0.7495	-0.3462	0.0041	-0.2415	0.0602	0.0313	0.1337	0.0313	0.0898
3	315	0.7998	-0.3778	0.0042	-0.2650	0.0684	-0.1174	0.1432	0.0023	0.0877
3	315	0.8577	-0.4473	0.0042	-0.2805	0.0767	-0.3756	0.1502	0.0351	0.0815
3	315	0.9178	-0.4992	0.0047	-0.3246	0.0858	-0.7127	0.1591	0.0596	0.0792
3	315	0.9729	-0.5194	0.0064	-0.3173	0.0944	-1.0098	0.1712	0.1044	0.0792
4	315	0.2001	0.0671	0.0020	0.0105	0.0015	-0.0381	0.0059	0.1249	0.0320
4	315	0.2502	0.0242	0.0030	0.0218	0.0047	-0.0402	0.0148	0.2072	0.0598
4	315	0.3001	-0.0119	0.0020	0.0520	0.0087	-0.0819	0.0205	0.2817	0.0744
4	315	0.3502	-0.0515	0.0035	0.0866	0.0141	-0.1512	0.0371	0.2793	0.0489
4	315	0.4002	-0.0944	0.0021	0.1396	0.0236	-0.1897	0.0550	0.4474	0.0666
4	315	0.4500	-0.1362	0.0043	0.1776	0.0264	-0.2705	0.0671	0.1504	0.0716
4	315	0.5001	-0.1645	0.0023	0.2088	0.0340	-0.2762	0.0892	0.7076	0.0605
4	315	0.5560	-0.2019	0.0055	0.2504	0.0418	-0.3939	0.1042	0.3519	0.0986
4	315	0.6001	-0.2239	0.0041	0.2844	0.0477	-0.4729	0.1184	0.2595	0.0680
4	315	0.6501	-0.2700	0.0047	0.2884	0.0557	-0.5482	0.1319	0.2167	0.0692
4	315	0.6999	-0.3004	0.0042	0.2998	0.0624	-0.6713	0.1409	0.3195	0.0678
4	315	0.7500	-0.3463	0.0061	0.3250	0.0681	-0.8389	0.1455	0.4476	0.0639
4	315	0.8002	-0.4019	0.0058	0.3445	0.0759	-1.0963	0.1534	0.3421	0.0574
4	315	0.8582	-0.4560	0.0070	0.3693	0.0852	-1.4606	0.1594	0.1501	0.0635
4	315	0.9101	-0.5035	0.0071	0.3824	0.0930	-1.8372	0.1659	0.1970	0.0750
4	315	0.9728	-0.5036	0.0091	0.4534	0.1033	-2.1933	0.1783	0.6131	0.0874

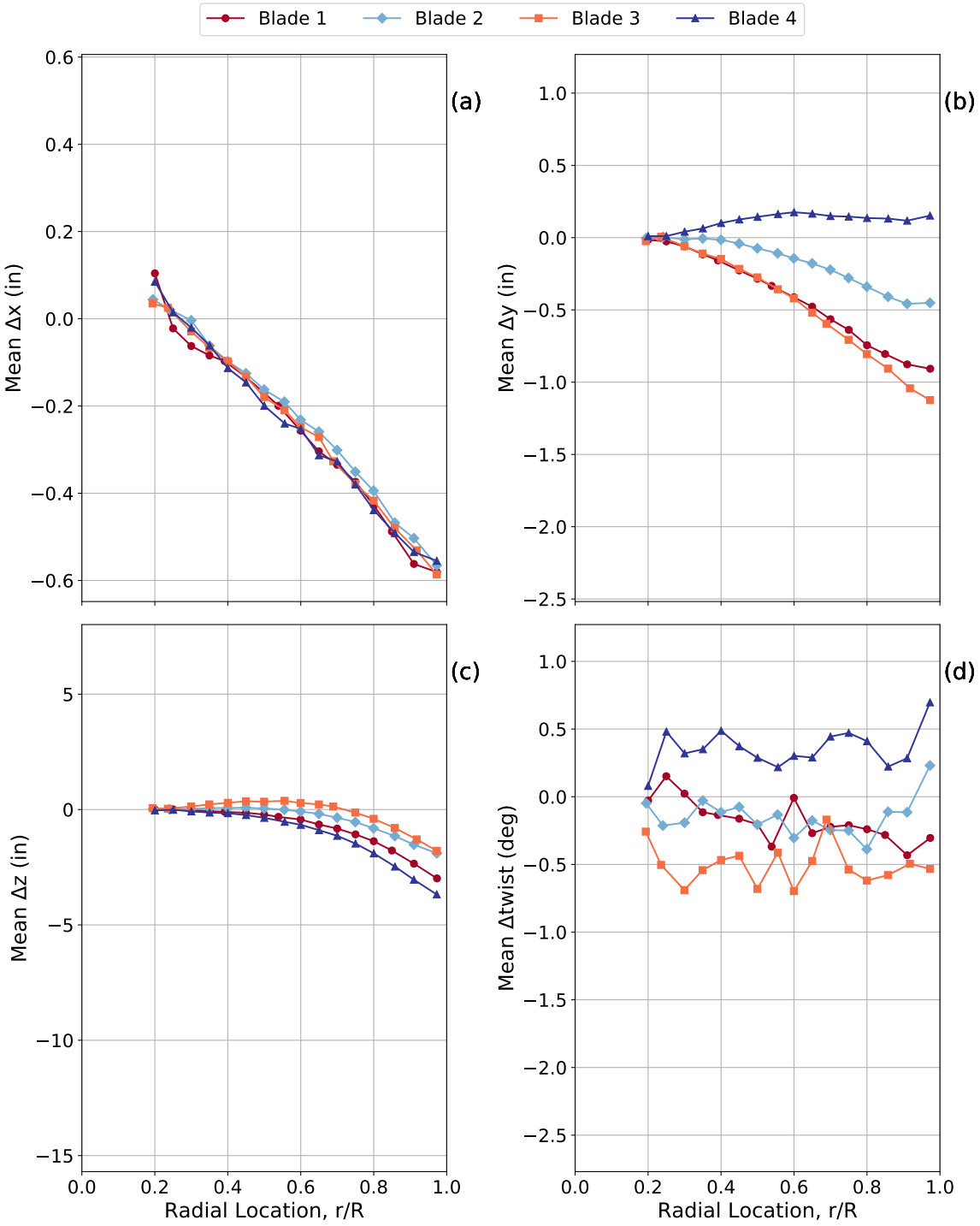


Figure 2.2-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.1042	0.0020	-0.0153	0.0016	-0.0021	0.0040	-0.0286	0.0633
1	330.12	0.2499	-0.0221	0.0027	-0.0260	0.0032	0.0067	0.0120	0.1516	0.0768
1	330.12	0.2998	-0.0625	0.0026	-0.0600	0.0064	-0.0328	0.0156	0.0227	0.1340
1	330.12	0.3498	-0.0842	0.0036	-0.1157	0.0130	-0.0715	0.0280	-0.1146	0.0998
1	330.12	0.3913	-0.0970	0.0026	-0.1570	0.0173	-0.1000	0.0411	-0.1346	0.0888
1	330.12	0.4496	-0.1336	0.0035	-0.2267	0.0205	-0.1408	0.0513	-0.1623	0.0903
1	330.12	0.4997	-0.1699	0.0028	-0.2842	0.0245	-0.2173	0.0629	-0.2033	0.1015
1	330.12	0.5387	-0.1995	0.0029	-0.3338	0.0282	-0.3182	0.0705	-0.3682	0.1042
1	330.12	0.5996	-0.2566	0.0044	-0.4124	0.0340	-0.4326	0.0867	-0.0082	0.1203
1	330.12	0.6498	-0.3040	0.0035	-0.4776	0.0389	-0.6485	0.1049	-0.2693	0.0898
1	330.12	0.6998	-0.3347	0.0044	-0.5644	0.0432	-0.8256	0.1203	-0.2222	0.0852
1	330.12	0.7500	-0.3738	0.0051	-0.6381	0.0488	-1.0760	0.1364	-0.2103	0.0997
1	330.12	0.8001	-0.4278	0.0041	-0.7444	0.0540	-1.3743	0.1525	-0.2401	0.1192
1	330.12	0.8497	-0.4879	0.0039	-0.8051	0.0590	-1.7762	0.1773	-0.2824	0.0922
1	330.12	0.9102	-0.5622	0.0041	-0.8767	0.0665	-2.3456	0.2030	-0.4321	0.1011
1	330.12	0.9734	-0.5809	0.0055	-0.9071	0.0733	-2.9833	0.2320	-0.3045	0.1042
2	330.12	0.1949	0.0443	0.0031	-0.0032	0.0007	0.0123	0.0032	-0.0481	0.0299
2	330.12	0.2405	0.0212	0.0020	0.0040	0.0036	0.0075	0.0052	-0.2130	0.0351
2	330.12	0.2999	-0.0036	0.0029	-0.0117	0.0050	0.0213	0.0128	-0.1917	0.0636
2	330.12	0.3498	-0.0618	0.0029	-0.0058	0.0088	0.0624	0.0195	-0.0290	0.0462
2	330.12	0.3998	-0.0974	0.0029	-0.0153	0.0144	0.0674	0.0309	-0.1139	0.0640
2	330.12	0.4496	-0.1251	0.0044	-0.0410	0.0160	0.0782	0.0383	-0.0754	0.1070
2	330.12	0.4995	-0.1625	0.0032	-0.0739	0.0182	0.0438	0.0487	-0.2061	0.0611
2	330.12	0.5551	-0.1903	0.0036	-0.1082	0.0220	-0.0041	0.0575	-0.1324	0.0586
2	330.12	0.5996	-0.2318	0.0029	-0.1436	0.0250	-0.0869	0.0733	-0.3047	0.0656
2	330.12	0.6497	-0.2590	0.0036	-0.1783	0.0289	-0.1883	0.0889	-0.1762	0.0805
2	330.12	0.6996	-0.3011	0.0039	-0.2222	0.0311	-0.3529	0.0954	-0.2468	0.0580
2	330.12	0.7495	-0.3508	0.0041	-0.2790	0.0349	-0.5427	0.1180	-0.2492	0.0677
2	330.12	0.7996	-0.3943	0.0045	-0.3397	0.0373	-0.8109	0.1403	-0.3878	0.0576
2	330.12	0.8578	-0.4677	0.0051	-0.4087	0.0419	-1.1491	0.1692	-0.1113	0.0513
2	330.12	0.9100	-0.5032	0.0053	-0.4576	0.0444	-1.5218	0.2023	-0.1145	0.0615
2	330.12	0.9727	-0.5655	0.0062	-0.4512	0.0480	-1.8933	0.2399	0.2307	0.0593
3	330.12	0.1938	0.0352	0.0017	-0.0245	0.0014	0.0584	0.0031	-0.2577	0.0443
3	330.12	0.2357	0.0250	0.0031	0.0056	0.0032	0.0346	0.0060	-0.5036	0.0549
3	330.12	0.2995	-0.0291	0.0018	-0.0595	0.0044	0.1304	0.0097	-0.6897	0.0992
3	330.12	0.3493	-0.0662	0.0031	-0.1099	0.0053	0.2229	0.0186	-0.5425	0.0831
3	330.12	0.4000	-0.0977	0.0021	-0.1478	0.0105	0.2916	0.0258	-0.4674	0.0861
3	330.12	0.4497	-0.1330	0.0033	-0.2161	0.0136	0.3577	0.0298	-0.4359	0.1324
3	330.12	0.4997	-0.1796	0.0037	-0.2748	0.0176	0.3406	0.0410	-0.6810	0.1081
3	330.12	0.5556	-0.2100	0.0030	-0.3572	0.0218	0.3778	0.0587	-0.4126	0.0710
3	330.12	0.5995	-0.2485	0.0033	-0.4202	0.0262	0.2837	0.0630	-0.6970	0.1024
3	330.12	0.6498	-0.2714	0.0029	-0.5195	0.0320	0.2217	0.0726	-0.4745	0.0729
3	330.12	0.6890	-0.3268	0.0033	-0.5952	0.0372	0.1292	0.0793	-0.1688	0.0877
3	330.12	0.7495	-0.3786	0.0026	-0.7069	0.0466	-0.1331	0.0888	-0.5374	0.0899
3	330.12	0.7998	-0.4170	0.0038	-0.8060	0.0540	-0.4020	0.0998	-0.6191	0.0803
3	330.12	0.8577	-0.4802	0.0030	-0.9063	0.0633	-0.7985	0.1117	-0.5788	0.0624
3	330.12	0.9178	-0.5309	0.0032	-1.0425	0.0732	-1.2938	0.1327	-0.4951	0.0705
3	330.12	0.9729	-0.5864	0.0059	-1.1241	0.0826	-1.7889	0.1548	-0.5336	0.0765
4	330.12	0.2001	0.0849	0.0027	0.0098	0.0011	-0.0397	0.0034	0.0801	0.0326
4	330.12	0.2502	0.0146	0.0034	0.0104	0.0030	-0.0108	0.0112	0.4808	0.0455
4	330.12	0.3001	-0.0205	0.0021	0.0411	0.0061	-0.0807	0.0160	0.3201	0.0645
4	330.12	0.3502	-0.0614	0.0030	0.0637	0.0071	-0.1322	0.0267	0.3508	0.0476
4	330.12	0.4002	-0.1131	0.0024	0.1011	0.0137	-0.1597	0.0438	0.4872	0.0511
4	330.12	0.4500	-0.1462	0.0043	0.1257	0.0161	-0.2410	0.0538	0.3731	0.0510
4	330.12	0.5001	-0.1995	0.0044	0.1436	0.0216	-0.3615	0.0665	0.2878	0.0633
4	330.12	0.5560	-0.2403	0.0061	0.1632	0.0241	-0.5316	0.0875	0.2179	0.0564
4	330.12	0.6001	-0.2527	0.0040	0.1758	0.0283	-0.6634	0.1048	0.3018	0.0635
4	330.12	0.6501	-0.3130	0.0048	0.1658	0.0328	-0.8942	0.1155	0.2896	0.0606
4	330.12	0.6999	-0.3273	0.0051	0.1494	0.0382	-1.1389	0.1348	0.4441	0.0473
4	330.12	0.7500	-0.3799	0.0062	0.1455	0.0441	-1.4749	0.1440	0.4715	0.0413
4	330.12	0.8002	-0.4388	0.0058	0.1358	0.0504	-1.9008	0.1581	0.4102	0.0531
4	330.12	0.8582	-0.4916	0.0071	0.1317	0.0583	-2.4726	0.1725	0.2226	0.0439
4	330.12	0.9101	-0.5348	0.0072	0.1173	0.0647	-3.0420	0.1835	0.2845	0.0373
4	330.12	0.9728	-0.5551	0.0096	0.1523	0.0726	-3.6811	0.1972	0.6971	0.0431

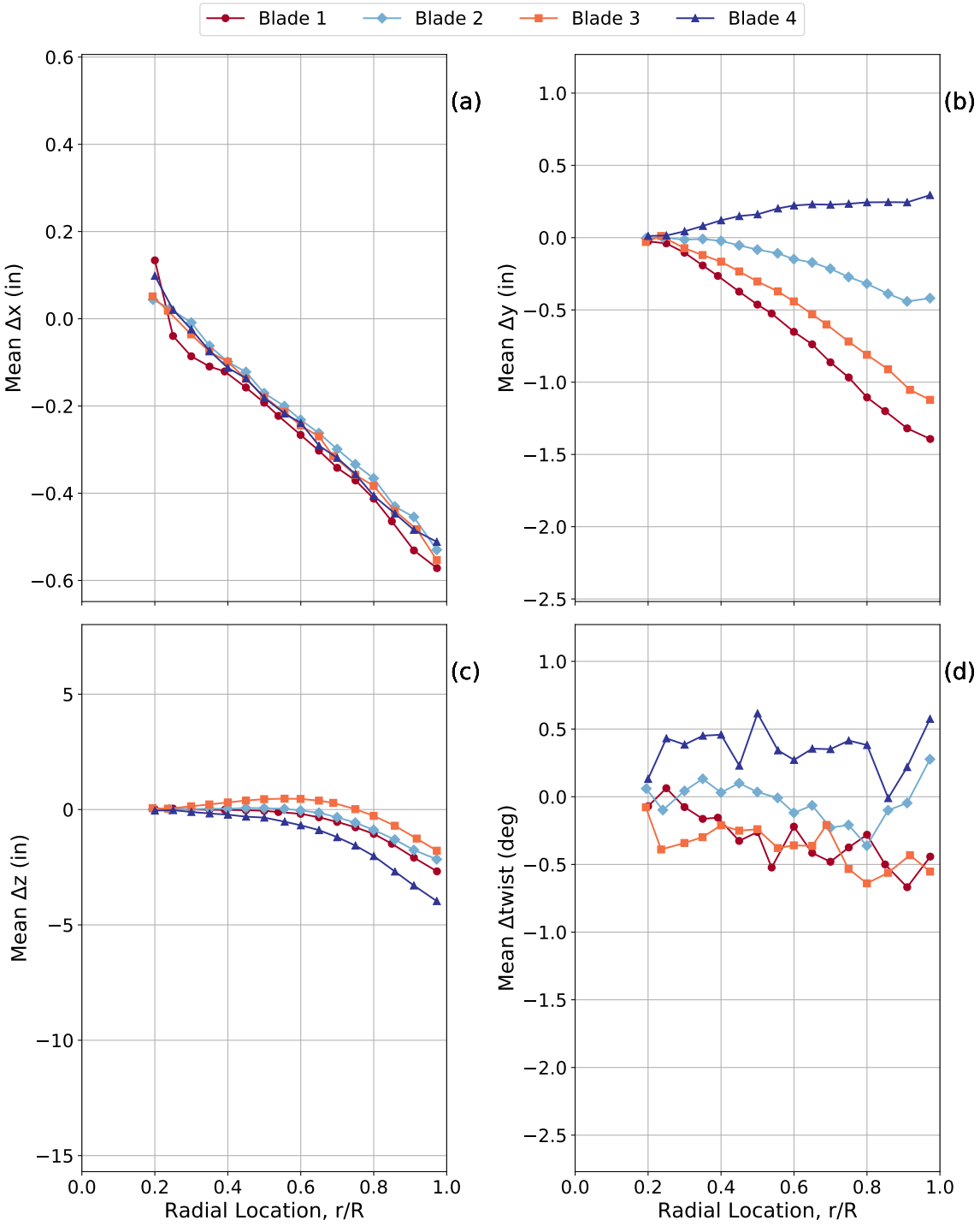


Figure 2.2-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.1339	0.0022	-0.0261	0.0012	0.0112	0.0037	-0.0703	0.0379
1	344.88	0.2499	-0.0395	0.0023	-0.0397	0.0038	0.0408	0.0070	0.0629	0.0620
1	344.88	0.2998	-0.0860	0.0031	-0.1042	0.0063	0.0081	0.0098	-0.0764	0.0809
1	344.88	0.3498	-0.1095	0.0029	-0.1925	0.0109	-0.0135	0.0180	-0.1636	0.0680
1	344.88	0.3913	-0.1208	0.0027	-0.2649	0.0167	-0.0124	0.0244	-0.1544	0.0749
1	344.88	0.4496	-0.1576	0.0023	-0.3734	0.0222	-0.0294	0.0338	-0.3261	0.0666
1	344.88	0.4997	-0.1924	0.0028	-0.4633	0.0284	-0.0531	0.0473	-0.2609	0.0615
1	344.88	0.5387	-0.2227	0.0023	-0.5252	0.0317	-0.1093	0.0492	-0.5230	0.0701
1	344.88	0.5996	-0.2663	0.0033	-0.6515	0.0383	-0.1854	0.0660	-0.2209	0.0784
1	344.88	0.6498	-0.3025	0.0041	-0.7381	0.0433	-0.3362	0.0756	-0.4151	0.0766
1	344.88	0.6998	-0.3418	0.0038	-0.8625	0.0479	-0.5359	0.0803	-0.4803	0.0691
1	344.88	0.7500	-0.3708	0.0032	-0.9671	0.0534	-0.7718	0.0906	-0.3747	0.0810
1	344.88	0.8001	-0.4125	0.0037	-1.1055	0.0604	-1.0557	0.1008	-0.2806	0.0627
1	344.88	0.8497	-0.4644	0.0034	-1.2001	0.0658	-1.4836	0.1103	-0.5003	0.1037
1	344.88	0.9102	-0.5312	0.0035	-1.3196	0.0729	-2.0854	0.1207	-0.6683	0.0721
1	344.88	0.9734	-0.5718	0.0049	-1.3930	0.0806	-2.6794	0.1342	-0.4423	0.0883
2	344.88	0.1949	0.0438	0.0019	-0.0029	0.0010	0.0075	0.0029	0.0600	0.0190
2	344.88	0.2405	0.0235	0.0018	0.0008	0.0021	0.0049	0.0042	-0.0983	0.0298
2	344.88	0.2999	-0.0087	0.0028	-0.0139	0.0035	0.0090	0.0070	0.0432	0.0424
2	344.88	0.3498	-0.0620	0.0013	-0.0095	0.0076	0.0385	0.0131	0.1324	0.0547
2	344.88	0.3998	-0.0986	0.0020	-0.0228	0.0105	0.0362	0.0179	0.0311	0.0428
2	344.88	0.4496	-0.1220	0.0024	-0.0535	0.0130	0.0651	0.0231	0.1001	0.0305
2	344.88	0.4995	-0.1705	0.0033	-0.0830	0.0145	0.0604	0.0383	0.0349	0.0596
2	344.88	0.5551	-0.2004	0.0031	-0.1082	0.0175	0.0284	0.0445	-0.0085	0.0504
2	344.88	0.5996	-0.2316	0.0029	-0.1488	0.0209	-0.0420	0.0521	-0.1189	0.0603
2	344.88	0.6497	-0.2622	0.0029	-0.1717	0.0229	-0.1394	0.0644	-0.0640	0.0352
2	344.88	0.6996	-0.2989	0.0031	-0.2151	0.0262	-0.3362	0.0733	-0.2285	0.0376
2	344.88	0.7495	-0.3338	0.0033	-0.2723	0.0297	-0.5695	0.0840	-0.2087	0.0512
2	344.88	0.7996	-0.3659	0.0035	-0.3187	0.0341	-0.8812	0.0921	-0.3618	0.0393
2	344.88	0.8578	-0.4305	0.0037	-0.3885	0.0390	-1.3018	0.1065	-0.0995	0.0345
2	344.88	0.9100	-0.4545	0.0041	-0.4413	0.0436	-1.7544	0.1209	-0.0466	0.0347
2	344.88	0.9727	-0.5298	0.0057	-0.4190	0.0491	-2.1561	0.1393	0.2773	0.0382
3	344.88	0.1938	0.0513	0.0015	-0.0302	0.0009	0.0560	0.0040	-0.0774	0.0254
3	344.88	0.2357	0.0185	0.0026	0.0114	0.0051	0.0386	0.0036	-0.3896	0.0379
3	344.88	0.2995	-0.0359	0.0038	-0.0731	0.0067	0.1405	0.0094	-0.3417	0.0575
3	344.88	0.3493	-0.0753	0.0032	-0.1204	0.0140	0.2213	0.0166	-0.2986	0.0775
3	344.88	0.4000	-0.0987	0.0027	-0.1666	0.0221	0.3085	0.0230	-0.2106	0.0572
3	344.88	0.4497	-0.1377	0.0044	-0.2339	0.0264	0.3904	0.0306	-0.2507	0.0653
3	344.88	0.4997	-0.1794	0.0045	-0.3034	0.0302	0.4505	0.0424	-0.2401	0.0832
3	344.88	0.5556	-0.2135	0.0053	-0.3717	0.0375	0.4711	0.0520	-0.3792	0.0793
3	344.88	0.5995	-0.2447	0.0041	-0.4412	0.0410	0.4601	0.0579	-0.3589	0.0672
3	344.88	0.6498	-0.2698	0.0040	-0.5308	0.0449	0.3857	0.0726	-0.3636	0.0787
3	344.88	0.6890	-0.3151	0.0040	-0.6005	0.0528	0.2888	0.0779	-0.2082	0.0668
3	344.88	0.7495	-0.3578	0.0041	-0.7185	0.0598	0.0163	0.0921	-0.5336	0.0646
3	344.88	0.7998	-0.3833	0.0036	-0.8102	0.0663	-0.2742	0.1040	-0.6399	0.0835
3	344.88	0.8577	-0.4405	0.0047	-0.9107	0.0736	-0.7026	0.1132	-0.5619	0.0630
3	344.88	0.9178	-0.4825	0.0052	-1.0532	0.0810	-1.2584	0.1273	-0.4316	0.0695
3	344.88	0.9729	-0.5534	0.0061	-1.1222	0.0883	-1.7833	0.1462	-0.5529	0.0742
4	344.88	0.2001	0.0984	0.0026	0.0114	0.0024	-0.0455	0.0042	0.1318	0.0356
4	344.88	0.2502	0.0204	0.0027	0.0148	0.0075	-0.0269	0.0076	0.4314	0.0490
4	344.88	0.3001	-0.0244	0.0053	0.0439	0.0102	-0.1057	0.0093	0.3852	0.0765
4	344.88	0.3502	-0.0739	0.0032	0.0809	0.0231	-0.1709	0.0191	0.4508	0.0573
4	344.88	0.4002	-0.1125	0.0034	0.1198	0.0335	-0.2231	0.0283	0.4581	0.0405
4	344.88	0.4500	-0.1366	0.0049	0.1491	0.0393	-0.3096	0.0356	0.2293	0.0485
4	344.88	0.5001	-0.1813	0.0052	0.1613	0.0471	-0.3500	0.0443	0.6157	0.0611
4	344.88	0.5560	-0.2174	0.0044	0.2020	0.0552	-0.5279	0.0543	0.3424	0.0610
4	344.88	0.6001	-0.2390	0.0046	0.2225	0.0635	-0.6845	0.0642	0.2721	0.0593
4	344.88	0.6501	-0.2910	0.0047	0.2305	0.0725	-0.8940	0.0729	0.3550	0.0546
4	344.88	0.6999	-0.3189	0.0051	0.2281	0.0823	-1.1996	0.0826	0.3515	0.0539
4	344.88	0.7500	-0.3563	0.0051	0.2342	0.0914	-1.5633	0.0962	0.4147	0.0845
4	344.88	0.8002	-0.4060	0.0053	0.2442	0.1012	-2.0171	0.1153	0.3818	0.0560
4	344.88	0.8582	-0.4467	0.0067	0.2456	0.1129	-2.6880	0.1362	-0.0105	0.0602
4	344.88	0.9101	-0.4841	0.0067	0.2442	0.1225	-3.2934	0.1535	0.2190	0.0444
4	344.88	0.9728	-0.5115	0.0097	0.2943	0.1344	-3.9691	0.1772	0.5752	0.0647

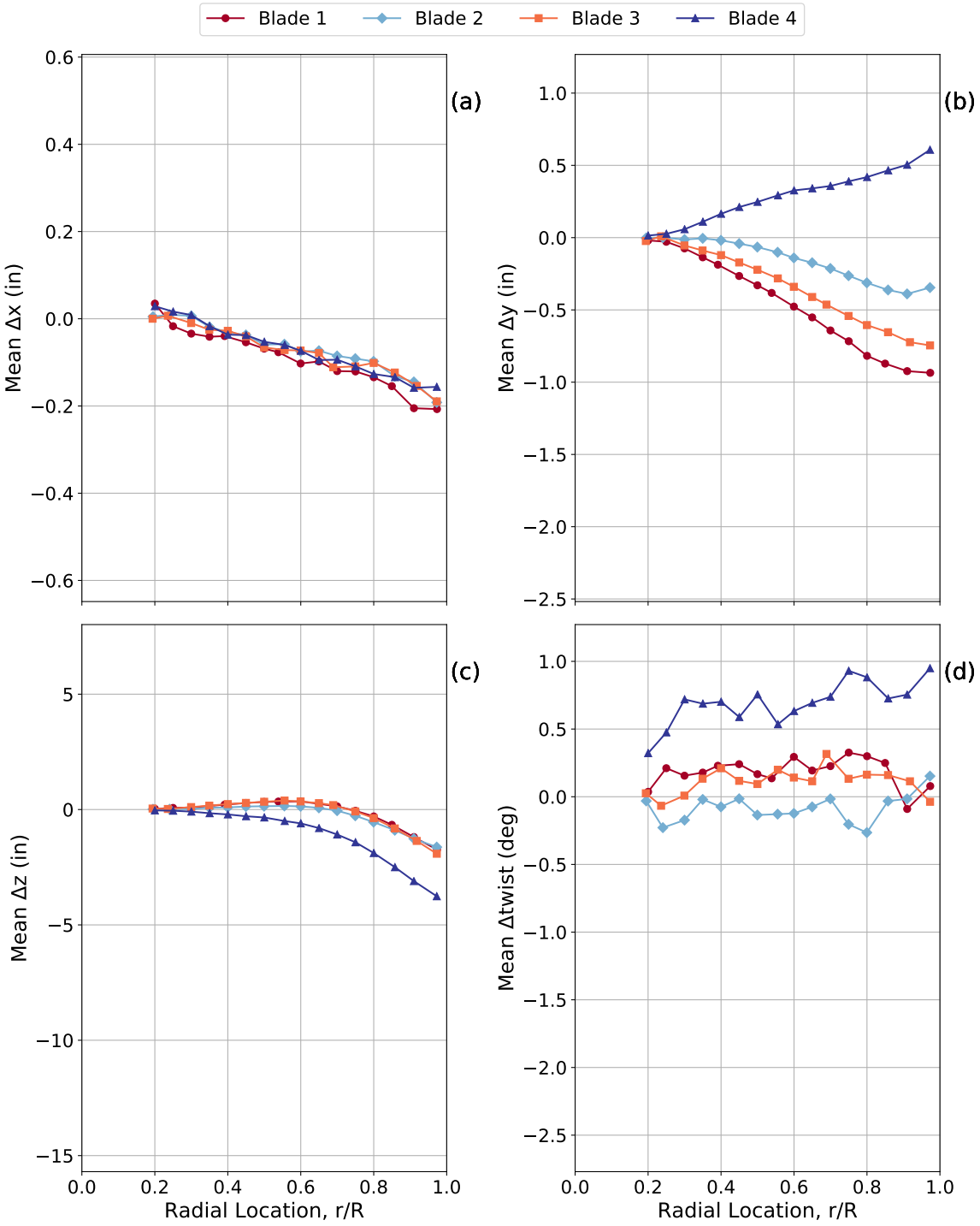


Figure 2.2-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0348	0.0022	-0.0192	0.0016	0.0305	0.0045	0.0363	0.0312
1	350.16	0.2499	-0.0171	0.0014	-0.0285	0.0026	0.0698	0.0096	0.2109	0.0799
1	350.16	0.2998	-0.0341	0.0011	-0.0746	0.0048	0.0906	0.0149	0.1556	0.0806
1	350.16	0.3498	-0.0412	0.0014	-0.1363	0.0079	0.1532	0.0271	0.1784	0.0573
1	350.16	0.3913	-0.0397	0.0016	-0.1873	0.0109	0.2118	0.0374	0.2290	0.0551
1	350.16	0.4496	-0.0539	0.0017	-0.2653	0.0142	0.2830	0.0479	0.2406	0.0649
1	350.16	0.4997	-0.0685	0.0028	-0.3298	0.0185	0.3295	0.0569	0.1668	0.0637
1	350.16	0.5387	-0.0767	0.0027	-0.3825	0.0196	0.3472	0.0626	0.1361	0.0624
1	350.16	0.5996	-0.1026	0.0029	-0.4770	0.0240	0.3514	0.0723	0.2944	0.0629
1	350.16	0.6498	-0.0979	0.0031	-0.5518	0.0278	0.2481	0.0828	0.1938	0.0696
1	350.16	0.6998	-0.1200	0.0029	-0.6420	0.0315	0.1363	0.0876	0.2262	0.0685
1	350.16	0.7500	-0.1208	0.0038	-0.7167	0.0360	-0.0546	0.0949	0.3260	0.0511
1	350.16	0.8001	-0.1341	0.0036	-0.8178	0.0405	-0.2991	0.0994	0.2995	0.0689
1	350.16	0.8497	-0.1545	0.0044	-0.8715	0.0464	-0.6623	0.1084	0.2494	0.0517
1	350.16	0.9102	-0.2051	0.0042	-0.9235	0.0519	-1.1934	0.1193	-0.0903	0.0610
1	350.16	0.9734	-0.2071	0.0062	-0.9353	0.0589	-1.7386	0.1338	0.0787	0.0637
2	350.16	0.1949	0.0047	0.0009	-0.0019	0.0007	0.0129	0.0029	-0.0310	0.0321
2	350.16	0.2405	0.0094	0.0011	0.0008	0.0023	0.0139	0.0082	-0.2284	0.0406
2	350.16	0.2999	0.0066	0.0014	-0.0129	0.0034	0.0286	0.0114	-0.1727	0.0683
2	350.16	0.3498	-0.0187	0.0017	-0.0049	0.0067	0.0775	0.0228	-0.0199	0.0532
2	350.16	0.3998	-0.0310	0.0015	-0.0188	0.0100	0.0917	0.0329	-0.0747	0.0423
2	350.16	0.4496	-0.0370	0.0017	-0.0414	0.0115	0.1301	0.0363	-0.0150	0.0792
2	350.16	0.4995	-0.0591	0.0015	-0.0653	0.0140	0.1438	0.0483	-0.1351	0.0689
2	350.16	0.5551	-0.0583	0.0016	-0.1013	0.0177	0.1548	0.0617	-0.1286	0.0730
2	350.16	0.5996	-0.0748	0.0019	-0.1403	0.0204	0.1379	0.0732	-0.1233	0.0584
2	350.16	0.6497	-0.0733	0.0022	-0.1738	0.0236	0.0719	0.0801	-0.0750	0.0820
2	350.16	0.6996	-0.0853	0.0023	-0.2134	0.0272	-0.0492	0.0921	-0.0158	0.0631
2	350.16	0.7495	-0.0914	0.0021	-0.2632	0.0308	-0.2706	0.0988	-0.2037	0.0660
2	350.16	0.7996	-0.0977	0.0021	-0.3125	0.0352	-0.5443	0.1098	-0.2647	0.0657
2	350.16	0.8578	-0.1318	0.0033	-0.3621	0.0409	-0.8969	0.1225	-0.0318	0.0584
2	350.16	0.9100	-0.1448	0.0036	-0.3892	0.0452	-1.2623	0.1334	-0.0157	0.0759
2	350.16	0.9727	-0.1918	0.0039	-0.3456	0.0514	-1.6279	0.1465	0.1525	0.0792
3	350.16	0.1938	0.0001	0.0013	-0.0233	0.0008	0.0426	0.0032	0.0257	0.0274
3	350.16	0.2357	0.0070	0.0014	0.0091	0.0018	0.0240	0.0065	-0.0667	0.0308
3	350.16	0.2995	-0.0098	0.0018	-0.0540	0.0034	0.1061	0.0107	0.0084	0.0523
3	350.16	0.3493	-0.0252	0.0014	-0.0889	0.0057	0.1699	0.0198	0.1333	0.0496
3	350.16	0.4000	-0.0276	0.0022	-0.1210	0.0089	0.2357	0.0291	0.2103	0.0540
3	350.16	0.4497	-0.0404	0.0018	-0.1718	0.0103	0.2877	0.0346	0.1174	0.0655
3	350.16	0.4997	-0.0658	0.0023	-0.2221	0.0130	0.3383	0.0429	0.0939	0.0453
3	350.16	0.5556	-0.0717	0.0022	-0.2820	0.0165	0.3895	0.0522	0.1994	0.0516
3	350.16	0.5995	-0.0728	0.0015	-0.3401	0.0210	0.3509	0.0569	0.1416	0.0514
3	350.16	0.6498	-0.0785	0.0024	-0.4106	0.0271	0.2768	0.0715	0.1145	0.0632
3	350.16	0.6890	-0.1112	0.0020	-0.4633	0.0328	0.1918	0.0803	0.3160	0.0423
3	350.16	0.7495	-0.1093	0.0035	-0.5419	0.0415	-0.0812	0.0960	0.1327	0.0542
3	350.16	0.7998	-0.1012	0.0042	-0.6050	0.0495	-0.3702	0.1079	0.1631	0.0551
3	350.16	0.8577	-0.1233	0.0051	-0.6544	0.0597	-0.8196	0.1204	0.1601	0.0602
3	350.16	0.9178	-0.1540	0.0048	-0.7233	0.0706	-1.3607	0.1340	0.1142	0.0449
3	350.16	0.9729	-0.1894	0.0075	-0.7457	0.0817	-1.9162	0.1571	-0.0373	0.0548
4	350.16	0.2001	0.0287	0.0016	0.0143	0.0008	-0.0380	0.0034	0.3218	0.0512
4	350.16	0.2502	0.0163	0.0011	0.0263	0.0024	-0.0518	0.0105	0.4751	0.0505
4	350.16	0.3001	0.0086	0.0014	0.0583	0.0035	-0.0908	0.0129	0.7190	0.1027
4	350.16	0.3502	-0.0170	0.0018	0.1101	0.0058	-0.1600	0.0270	0.6873	0.0393
4	350.16	0.4002	-0.0365	0.0025	0.1648	0.0083	-0.2128	0.0390	0.7016	0.0602
4	350.16	0.4500	-0.0375	0.0020	0.2118	0.0097	-0.2917	0.0518	0.5884	0.0537
4	350.16	0.5001	-0.0529	0.0024	0.2472	0.0117	-0.3445	0.0659	0.7556	0.0664
4	350.16	0.5560	-0.0601	0.0024	0.2924	0.0165	-0.4983	0.0843	0.5353	0.0619
4	350.16	0.6001	-0.0734	0.0016	0.3268	0.0178	-0.6003	0.0984	0.6329	0.0673
4	350.16	0.6501	-0.0946	0.0020	0.3408	0.0224	-0.8054	0.1166	0.6934	0.0702
4	350.16	0.6999	-0.0939	0.0027	0.3574	0.0278	-1.0840	0.1328	0.7383	0.0707
4	350.16	0.7500	-0.1092	0.0021	0.3894	0.0318	-1.4201	0.1491	0.9302	0.0675
4	350.16	0.8002	-0.1267	0.0023	0.4189	0.0382	-1.8871	0.1641	0.8820	0.0616
4	350.16	0.8582	-0.1339	0.0034	0.4654	0.0450	-2.5007	0.1816	0.7258	0.0747
4	350.16	0.9101	-0.1583	0.0029	0.5041	0.0518	-3.1024	0.1986	0.7543	0.0570
4	350.16	0.9728	-0.1562	0.0047	0.6078	0.0600	-3.7597	0.2220	0.9492	0.0623

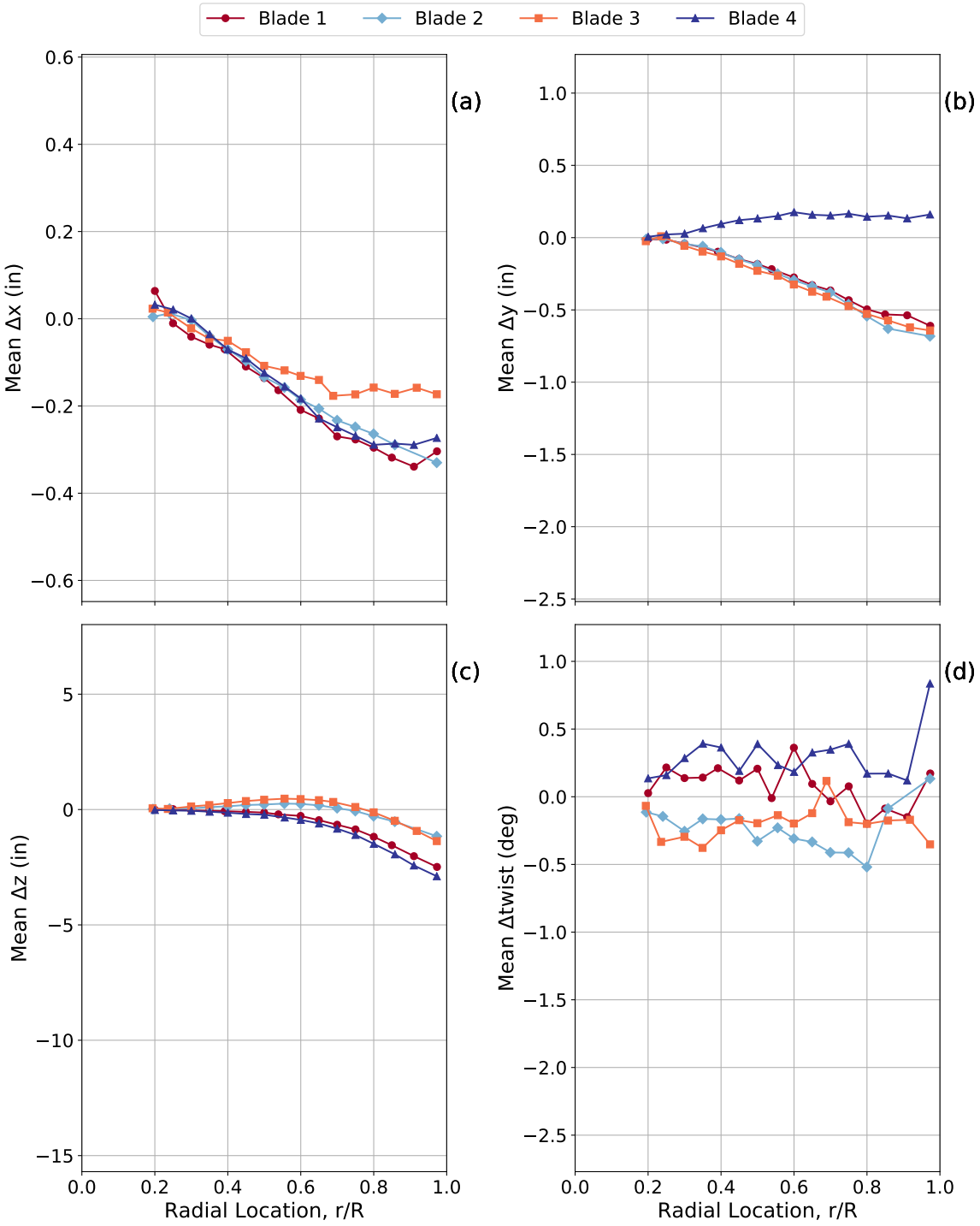


Figure 2.2-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.241, α = -3° NFAC run 38, point 27. BD run 17, points 602 to 641.

Table 2.2-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.241, α = -3°
NFAC run 38, point 27. BD run 17, points 602 to 641.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0638	0.0025	-0.0101	0.0017	-0.0093	0.0043	0.0267	0.0565
1	355.08	0.2499	-0.0104	0.0025	-0.0141	0.0063	0.0166	0.0131	0.2161	0.0776
1	355.08	0.2998	-0.0411	0.0019	-0.0413	0.0083	-0.0365	0.0170	0.1378	0.1158
1	355.08	0.3498	-0.0594	0.0025	-0.0677	0.0157	-0.0536	0.0284	0.1417	0.0940
1	355.08	0.3913	-0.0696	0.0030	-0.0976	0.0233	-0.0721	0.0419	0.2109	0.0843
1	355.08	0.4496	-0.1095	0.0031	-0.1479	0.0291	-0.1009	0.0581	0.1200	0.0881
1	355.08	0.4997	-0.1359	0.0026	-0.1826	0.0340	-0.1326	0.0753	0.2070	0.0742
1	355.08	0.5387	-0.1638	0.0035	-0.2179	0.0392	-0.2091	0.0858	-0.0103	0.0819
1	355.08	0.5996	-0.2089	0.0035	-0.2753	0.0461	-0.2780	0.1058	0.3622	0.0684
1	355.08	0.6498	-0.2287	0.0042	-0.3283	0.0523	-0.4615	0.1263	0.0949	0.0845
1	355.08	0.6998	-0.2697	0.0046	-0.3653	0.0584	-0.6587	0.1433	-0.0338	0.0952
1	355.08	0.7500	-0.2767	0.0048	-0.4329	0.0658	-0.8614	0.1669	0.0769	0.0751
1	355.08	0.8001	-0.2956	0.0059	-0.4962	0.0701	-1.1815	0.1910	-0.1987	0.0715
1	355.08	0.8497	-0.3183	0.0060	-0.5310	0.0784	-1.5467	0.2121	-0.0872	0.0719
1	355.08	0.9102	-0.3391	0.0082	-0.5373	0.0862	-2.0215	0.2404	-0.1504	0.1443
1	355.08	0.9734	-0.3039	0.0100	-0.6101	0.0971	-2.4884	0.2865	0.1720	0.0848
2	355.08	0.1949	0.0046	0.0013	-0.0098	0.0013	0.0184	0.0044	-0.1140	0.0335
2	355.08	0.2405	0.0125	0.0012	-0.0081	0.0031	0.0370	0.0087	-0.1454	0.0464
2	355.08	0.2999	-0.0031	0.0014	-0.0446	0.0046	0.0524	0.0147	-0.2551	0.0679
2	355.08	0.3498	-0.0404	0.0022	-0.0596	0.0082	0.1028	0.0271	-0.1636	0.0519
2	355.08	0.3998	-0.0705	0.0008	-0.1019	0.0125	0.1393	0.0391	-0.1681	0.0508
2	355.08	0.4496	-0.0966	0.0018	-0.1514	0.0162	0.1962	0.0510	-0.1614	0.0396
2	355.08	0.4995	-0.1336	0.0024	-0.1889	0.0220	0.2169	0.0635	-0.3285	0.0522
2	355.08	0.5551	-0.1576	0.0023	-0.2500	0.0287	0.2575	0.0778	-0.2294	0.0553
2	355.08	0.5996	-0.1855	0.0028	-0.2944	0.0331	0.2443	0.0849	-0.3092	0.0667
2	355.08	0.6497	-0.2061	0.0023	-0.3371	0.0405	0.1820	0.0950	-0.3338	0.0771
2	355.08	0.6996	-0.2328	0.0027	-0.3795	0.0481	0.0597	0.1045	-0.4116	0.0885
2	355.08	0.7495	-0.2481	0.0027	-0.4612	0.0547	-0.0634	0.1146	-0.4136	0.0848
2	355.08	0.7996	-0.2640	0.0038	-0.5432	0.0633	-0.2880	0.1238	-0.5192	0.0717
2	355.08	0.8578	-0.2892	0.0048	-0.6293	0.0713	-0.5245	0.1366	-0.0866	0.0787
2	355.08	0.9727	-0.3300	0.0056	-0.6821	0.0955	-1.1583	0.1593	0.1334	0.1000
3	355.08	0.1938	0.0231	0.0026	-0.0244	0.0019	0.0523	0.0054	-0.0674	0.0198
3	355.08	0.2357	0.0144	0.0010	0.0096	0.0028	0.0250	0.0072	-0.3334	0.0438
3	355.08	0.2995	-0.0220	0.0020	-0.0563	0.0056	0.1341	0.0146	-0.2957	0.0479
3	355.08	0.3493	-0.0457	0.0012	-0.0963	0.0098	0.1935	0.0268	-0.3778	0.0401
3	355.08	0.4000	-0.0505	0.0018	-0.1297	0.0148	0.2796	0.0375	-0.2477	0.0438
3	355.08	0.4497	-0.0768	0.0020	-0.1810	0.0181	0.3675	0.0470	-0.1731	0.0612
3	355.08	0.4997	-0.1079	0.0031	-0.2294	0.0239	0.4238	0.0602	-0.1953	0.0505
3	355.08	0.5556	-0.1183	0.0032	-0.2631	0.0284	0.4707	0.0694	-0.1364	0.0505
3	355.08	0.5995	-0.1310	0.0030	-0.3242	0.0339	0.4525	0.0788	-0.1979	0.0465
3	355.08	0.6498	-0.1403	0.0033	-0.3741	0.0393	0.4054	0.0899	-0.1214	0.0603
3	355.08	0.6890	-0.1767	0.0035	-0.4083	0.0434	0.3285	0.0982	0.1167	0.0597
3	355.08	0.7495	-0.1734	0.0037	-0.4738	0.0516	0.1098	0.1136	-0.1878	0.0507
3	355.08	0.7998	-0.1577	0.0043	-0.5281	0.0587	-0.1210	0.1271	-0.2006	0.0481
3	355.08	0.8577	-0.1722	0.0041	-0.5727	0.0660	-0.4885	0.1425	-0.1756	0.0531
3	355.08	0.9178	-0.1581	0.0054	-0.6209	0.0769	-0.9273	0.1585	-0.1701	0.0654
3	355.08	0.9729	-0.1731	0.0080	-0.6422	0.0856	-1.3680	0.1762	-0.3518	0.0680
4	355.08	0.2001	0.0322	0.0019	0.0059	0.0020	-0.0182	0.0068	0.1359	0.0649
4	355.08	0.2502	0.0211	0.0016	0.0218	0.0031	-0.0402	0.0107	0.1596	0.0924
4	355.08	0.3001	0.0005	0.0019	0.0274	0.0071	-0.0538	0.0204	0.2855	0.1371
4	355.08	0.3502	-0.0355	0.0019	0.0651	0.0105	-0.0947	0.0362	0.3919	0.0984
4	355.08	0.4002	-0.0706	0.0016	0.0947	0.0161	-0.1369	0.0514	0.3635	0.1073
4	355.08	0.4500	-0.0908	0.0018	0.1211	0.0171	-0.1937	0.0620	0.1909	0.0951
4	355.08	0.5001	-0.1240	0.0019	0.1323	0.0201	-0.2253	0.0740	0.3893	0.1232
4	355.08	0.5560	-0.1554	0.0016	0.1500	0.0238	-0.3459	0.0887	0.2338	0.1368
4	355.08	0.6001	-0.1829	0.0021	0.1761	0.0271	-0.4497	0.0984	0.1834	0.1286
4	355.08	0.6501	-0.2286	0.0020	0.1582	0.0311	-0.6057	0.1111	0.3264	0.1182
4	355.08	0.6999	-0.2488	0.0022	0.1532	0.0334	-0.8299	0.1177	0.3478	0.1344
4	355.08	0.7500	-0.2683	0.0025	0.1653	0.0359	-1.1019	0.1294	0.3903	0.1348
4	355.08	0.8002	-0.2890	0.0028	0.1443	0.0408	-1.4876	0.1341	0.1706	0.1420
4	355.08	0.8582	-0.2862	0.0033	0.1528	0.0463	-1.9429	0.1513	0.1713	0.1102
4	355.08	0.9101	-0.2892	0.0034	0.1333	0.0477	-2.4243	0.1614	0.1201	0.1673
4	355.08	0.9728	-0.2732	0.0051	0.1602	0.0521	-2.8922	0.1714	0.8359	0.1576

2.3 Run 40, Points 29 to 34

2.3.1 Pitch, Flap, and Lag

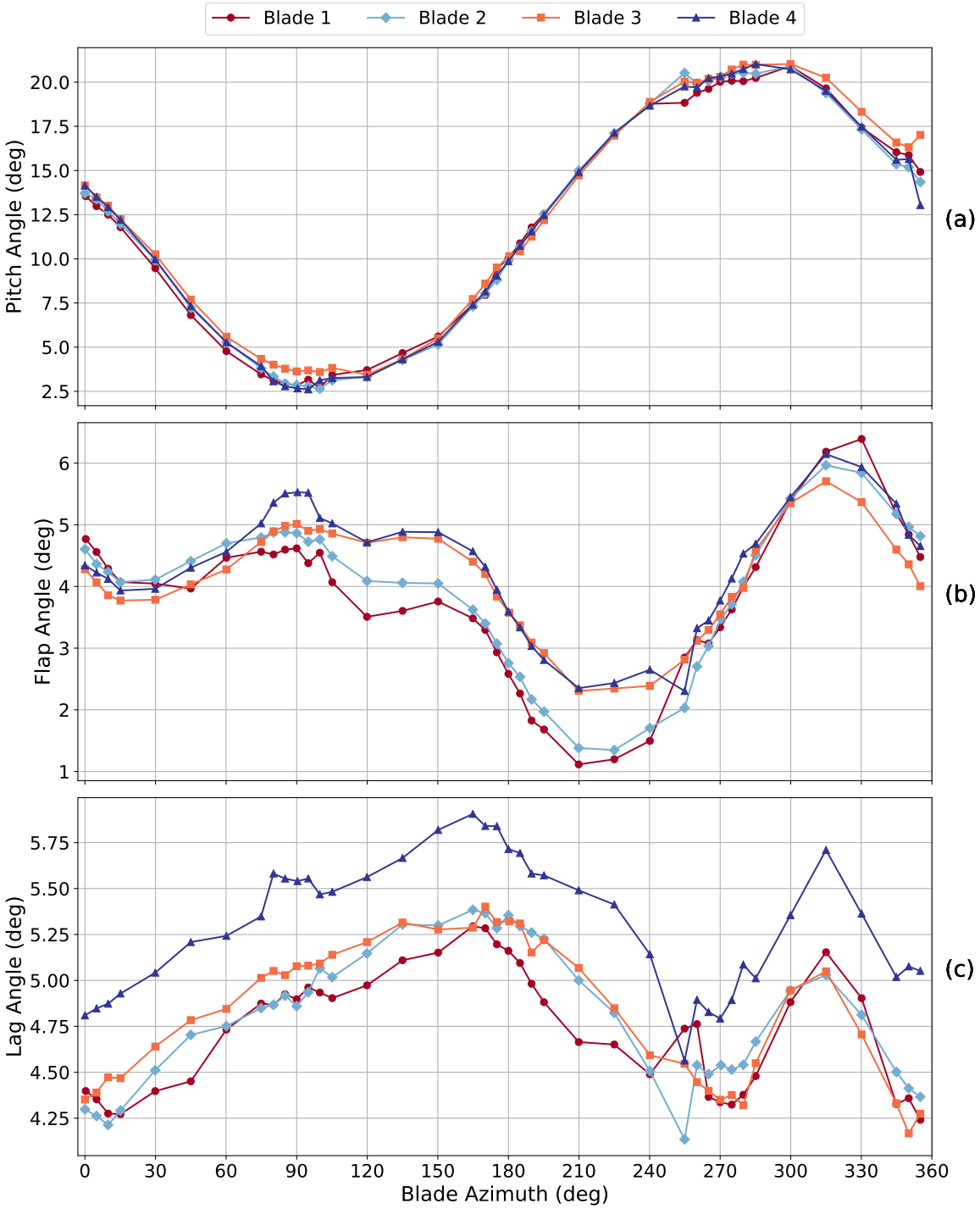


Figure 2.3-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.081$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	13.5430	4.7696	4.3978	0.1366	0.1496	0.0960
4.92	12.9792	4.5591	4.3527	0.1751	0.1103	0.1146
9.84	12.4998	4.2882	4.2754	0.1393	0.1200	0.1345
15.12	11.7897	4.0728	4.2717	0.1918	0.1454	0.0934
29.88	9.4667	4.0455	4.3974	0.1421	0.1040	0.1048
45	6.8158	3.9663	4.4506	0.2091	0.1460	0.1068
60.12	4.7737	4.4656	4.7323	0.1379	0.1016	0.0982
74.88	3.4607	4.5634	4.8742	0.1203	0.0925	0.1077
80.16	3.1099	4.5187	4.8667	0.1561	0.1047	0.0832
85.08	2.9402	4.5968	4.9249	0.1464	0.1065	0.1132
90	2.8370	4.6183	4.8974	0.1457	0.1052	0.1104
94.92	3.1583	4.3782	4.9613	0.1526	0.0987	0.1051
99.84	2.6955	4.5473	4.9340	0.2224	0.1167	0.1077
105.12	3.4300	4.0692	4.9035	0.1705	0.1277	0.0886
119.88	3.7025	3.5078	4.9730	0.1459	0.1291	0.1095
135	4.6660	3.6043	5.1096	0.1643	0.1905	0.0938
150.12	5.6015	3.7560	5.1514	0.2394	0.2879	0.1249
164.88	7.4135	3.4836	5.2949	0.1711	0.1815	0.0803
170.16	7.9445	3.2953	5.2837	0.1294	0.2166	0.0902
175.08	9.4537	2.9322	5.1965	0.2116	0.2126	0.1003
180	10.0272	2.5829	5.1610	0.1178	0.2523	0.0817
184.92	10.8767	2.2646	5.0949	0.1410	0.2669	0.1210
189.84	11.7792	1.8263	4.9816	0.1410	0.2403	0.1252
195.12	12.5438	1.6806	4.8813	0.1272	0.2383	0.1125
209.88	14.9155	1.1154	4.6644	0.1566	0.2186	0.0926
225	17.0764	1.1984	4.6510	0.2117	0.1928	0.1213
240.12	18.7750	1.4967	4.4891	0.2682	0.2042	0.1217
254.88	18.8326	2.8478	4.7374	0.1925	0.1484	0.1036
260.16	19.3965	3.1309	4.7622	0.1839	0.1383	0.1155
265.08	19.6207	3.0767	4.3655	0.1987	0.1017	0.0905
270	20.0193	3.3382	4.3366	0.1361	0.1258	0.0939
274.92	20.0789	3.6285	4.3236	0.1349	0.1751	0.1036
279.84	20.0566	3.9919	4.3775	0.2758	0.1470	0.1309
285.12	20.2380	4.3141	4.4791	0.1302	0.1121	0.0844
299.88	20.9087	5.3858	4.8817	0.2003	0.1196	0.0845
315	19.6505	6.1848	5.1533	0.1605	0.1081	0.1245
330.12	17.4257	6.3919	4.9033	0.1945	0.1598	0.0950
344.88	16.0358	5.1802	4.3269	0.2739	0.1507	0.1210
350.16	15.8698	4.8426	4.3584	0.2136	0.1322	0.1426
355.08	14.9193	4.4783	4.2411	0.2373	0.1112	0.1185

Table 2.3-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	13.7130	4.6053	4.2982	0.1578	0.1397	0.1002
4.92	13.3871	4.3642	4.2617	0.1402	0.1239	0.0944
9.84	12.6921	4.2353	4.2133	0.1268	0.1526	0.0794
15.12	11.9807	4.0693	4.2915	0.1646	0.1281	0.0909
29.88	9.9390	4.1110	4.5110	0.1599	0.1041	0.1043
45	7.2312	4.4112	4.7034	0.2061	0.1002	0.0927
60.12	5.2834	4.6992	4.7511	0.1821	0.0840	0.1058
74.88	3.8067	4.7955	4.8494	0.1590	0.0927	0.0806
80.16	3.3413	4.8751	4.8675	0.1390	0.0868	0.0798
85.08	2.9349	4.8776	4.9172	0.1493	0.0920	0.1087
90	2.8500	4.8635	4.8595	0.1725	0.1268	0.0821
94.92	2.7904	4.7267	4.9354	0.1723	0.1454	0.1199
99.84	2.6394	4.7633	5.0652	0.1429	0.1496	0.1153
105.12	3.1245	4.4891	5.0177	0.1625	0.1133	0.1032
119.88	3.3270	4.0884	5.1467	0.1057	0.1343	0.0731
135	4.2801	4.0592	5.3046	0.1044	0.1777	0.1112
150.12	5.1530	4.0489	5.2990	0.1436	0.2838	0.1109
164.88	7.3048	3.6238	5.3843	0.1429	0.2335	0.0951
170.16	8.0356	3.3997	5.3662	0.1607	0.1902	0.1007
175.08	8.8043	3.0717	5.2849	0.1346	0.2570	0.0895
180	9.8924	2.7566	5.3545	0.1333	0.1842	0.0826
184.92	10.6794	2.5353	5.2959	0.1496	0.2883	0.1027
189.84	11.5631	2.1689	5.2604	0.1956	0.2800	0.1316
195.12	12.5173	1.9705	5.2256	0.1169	0.1859	0.0825
209.88	14.9993	1.3818	5.0004	0.1354	0.2021	0.0747
225	17.0995	1.3468	4.8232	0.1363	0.2440	0.1022
240.12	18.7978	1.7043	4.5067	0.1807	0.1416	0.1008
254.88	20.5220	2.0302	4.1346	0.6021	0.3870	0.2489
260.16	19.9067	2.7040	4.5386	0.1847	0.1239	0.1273
265.08	20.0754	3.0333	4.4898	0.1215	0.1599	0.1144
270.35	20.2813	3.4736	4.5385	0.1371	0.1449	0.0906
274.92	20.4813	3.7129	4.5149	0.1367	0.1053	0.0948
279.84	20.5272	4.0775	4.5407	0.2063	0.1121	0.1111
285.12	20.4833	4.5074	4.6670	0.2524	0.1436	0.0975
299.88	20.8997	5.4275	4.9458	0.2117	0.1291	0.0978
315	19.3872	5.9656	5.0287	0.2331	0.1370	0.0856
330.12	17.3259	5.8410	4.8120	0.2017	0.0925	0.0896
344.88	15.3540	5.1763	4.5016	0.1614	0.1084	0.1057
350.16	15.1910	4.9658	4.4124	0.1450	0.1449	0.1076
355.08	14.3506	4.8164	4.3661	0.1817	0.1221	0.1405

Table 2.3-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	14.1526	4.2791	4.3513	0.1321	0.1702	0.0822
4.92	13.4782	4.0674	4.3895	0.1566	0.1315	0.1240
9.84	13.0081	3.8581	4.4726	0.1678	0.1152	0.1315
15.12	12.2399	3.7717	4.4675	0.1628	0.1239	0.1234
29.88	10.2607	3.7847	4.6398	0.1660	0.0971	0.1001
45	7.6918	4.0337	4.7837	0.1687	0.1111	0.1244
60.12	5.5914	4.2747	4.8447	0.1909	0.1208	0.1336
74.88	4.3307	4.7220	5.0139	0.1656	0.1109	0.1100
80.16	4.0103	4.8954	5.0515	0.1223	0.1118	0.1360
85.08	3.7794	4.9812	5.0286	0.1604	0.1305	0.1074
90	3.6248	5.0139	5.0772	0.1805	0.1261	0.1079
94.92	3.6848	4.9039	5.0804	0.1575	0.1829	0.1511
99.84	3.5935	4.9290	5.0917	0.1697	0.1743	0.1440
105.12	3.8258	4.8578	5.1396	0.1494	0.1607	0.1006
119.88	3.4378	4.7085	5.2085	0.1397	0.1412	0.0838
135	4.3091	4.7981	5.3149	0.1537	0.2086	0.1036
150.12	5.5006	4.7739	5.2771	0.1642	0.2308	0.1053
164.88	7.7255	4.4011	5.2871	0.2254	0.2400	0.1258
170.16	8.5985	4.2017	5.4018	0.1787	0.2742	0.1389
175.08	9.5083	3.8369	5.3176	0.1686	0.2689	0.1203
180.35	10.1533	3.5745	5.3219	0.1372	0.2654	0.0942
184.92	10.4312	3.3711	5.3101	0.1186	0.2620	0.1078
189.84	11.2684	3.0910	5.1521	0.1546	0.2458	0.1141
195.12	12.1869	2.9196	5.2196	0.1167	0.2801	0.1117
209.88	14.7209	2.3084	5.0678	0.1250	0.2233	0.1089
225	16.9706	2.3448	4.8487	0.1843	0.2563	0.1064
240.12	18.8790	2.3893	4.5928	0.1942	0.1872	0.1224
254.88	20.0350	2.8123	4.5460	0.7174	0.2279	0.1656
260.16	19.9642	3.1188	4.4464	0.1613	0.1593	0.0978
265.08	20.1952	3.2950	4.3986	0.1584	0.1389	0.1297
270	20.3027	3.5473	4.3506	0.1641	0.1424	0.1206
274.92	20.7203	3.8314	4.3762	0.2065	0.1397	0.1032
279.84	20.9923	3.9772	4.3207	0.2777	0.1218	0.0859
285.12	20.9818	4.5871	4.5494	0.1693	0.1649	0.1069
299.88	21.0305	5.3513	4.9452	0.1998	0.1297	0.1212
315	20.2479	5.7059	5.0491	0.1369	0.1286	0.1114
330.12	18.3234	5.3676	4.7057	0.1818	0.1544	0.1425
344.88	16.5850	4.5983	4.3313	0.1367	0.1224	0.0983
350.16	16.3176	4.3599	4.1671	0.2017	0.1214	0.1183
355.08	17.0148	4.0046	4.2741	0.2469	0.1484	0.0955

Table 2.3-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	14.1490	4.3428	4.8093	0.1443	0.0956	0.1105
4.92	13.5084	4.2251	4.8473	0.1772	0.1317	0.1379
9.84	12.9216	4.1231	4.8730	0.1830	0.1387	0.1433
15.12	12.2106	3.9342	4.9285	0.1459	0.1091	0.1091
29.88	9.9615	3.9616	5.0419	0.1664	0.1180	0.0835
45	7.3179	4.3039	5.2084	0.2206	0.1162	0.1048
60.12	5.2731	4.5612	5.2424	0.1527	0.1213	0.1039
74.88	3.9257	5.0223	5.3481	0.1388	0.1203	0.1168
80.16	3.0671	5.3579	5.5816	0.1313	0.1080	0.1475
85.08	2.7837	5.5071	5.5540	0.1499	0.1201	0.1316
90.35	2.6631	5.5279	5.5403	0.1580	0.1199	0.1014
94.92	2.6074	5.5187	5.5546	0.1544	0.1821	0.1290
99.84	3.1277	5.1095	5.4683	0.1691	0.1424	0.1277
105.12	3.2521	5.0225	5.4820	0.1954	0.1328	0.1059
119.88	3.3095	4.7158	5.5624	0.1257	0.1566	0.1006
135	4.3077	4.8864	5.6662	0.1744	0.2140	0.1095
150.12	5.2970	4.8805	5.8190	0.1594	0.2066	0.1110
164.88	7.3987	4.5707	5.9062	0.1116	0.1798	0.1098
170.16	8.1546	4.3184	5.8405	0.1532	0.1935	0.0876
175.08	9.0452	3.9470	5.8394	0.1565	0.2194	0.1079
180	9.8669	3.5927	5.7149	0.1306	0.2518	0.1108
184.92	10.7314	3.3366	5.6934	0.1307	0.2315	0.0998
189.84	11.5559	3.0341	5.5815	0.1323	0.2865	0.0945
195.12	12.4759	2.8080	5.5716	0.1595	0.3240	0.0982
209.88	14.9063	2.3511	5.4901	0.1064	0.2363	0.1232
225	17.1328	2.4348	5.4131	0.1417	0.2182	0.1069
240.12	18.6699	2.6498	5.1421	0.1981	0.1586	0.1273
254.88	19.7575	2.3049	4.5635	0.3825	0.2471	0.1680
260.16	19.7006	3.3229	4.8941	0.1538	0.1334	0.1138
265.08	20.2247	3.4474	4.8277	0.1953	0.1183	0.1089
270	20.3250	3.7711	4.7923	0.2516	0.0995	0.0816
274.92	20.4797	4.1278	4.8927	0.1294	0.1263	0.1194
279.84	20.7406	4.5330	5.0857	0.1882	0.1449	0.1422
285.12	21.0249	4.6926	5.0113	0.2532	0.1255	0.1153
299.88	20.7241	5.4471	5.3550	0.1781	0.1366	0.1060
315	19.5056	6.1458	5.7099	0.1764	0.1228	0.1324
330.12	17.4778	5.9349	5.3632	0.1827	0.1730	0.1347
344.88	15.6046	5.3408	5.0180	0.2221	0.1435	0.1098
350.16	15.6471	4.8385	5.0757	0.1937	0.1326	0.1327
355.08	13.0393	4.6547	5.0517	1.0235	0.0992	0.2058

2.3.2 Spanwise Elastic Deformations

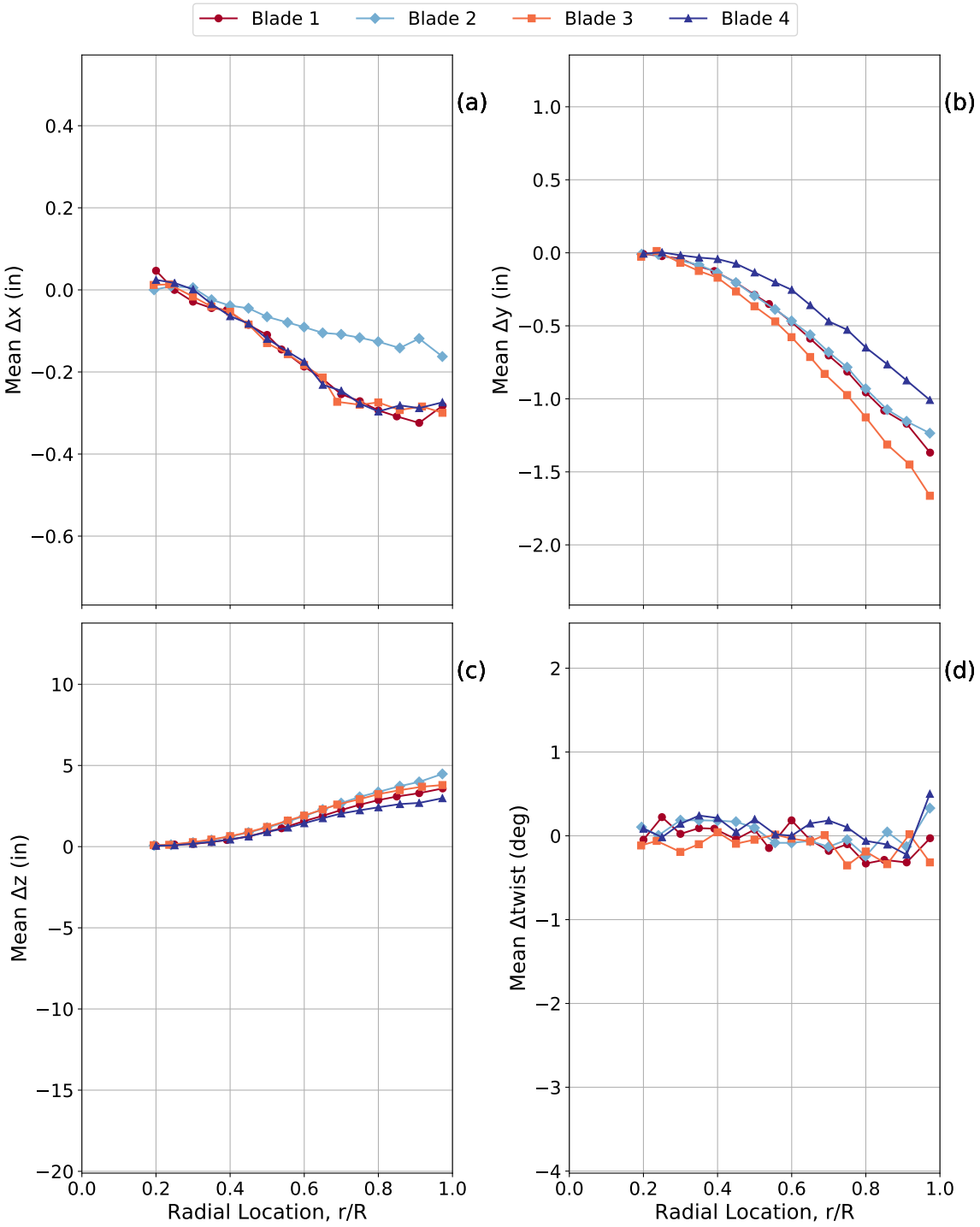


Figure 2.3-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0467	0.0029	-0.0082	0.0022	0.0446	0.0097	-0.0467	0.0559
1	0.35	0.2499	-0.0001	0.0021	-0.0229	0.0055	0.1318	0.0185	0.2229	0.0722
1	0.35	0.2998	-0.0287	0.0021	-0.0404	0.0088	0.1584	0.0279	0.0229	0.1114
1	0.35	0.3498	-0.0443	0.0032	-0.0931	0.0187	0.2851	0.0506	0.0917	0.0942
1	0.35	0.3913	-0.0490	0.0033	-0.1246	0.0248	0.4058	0.0666	0.0851	0.0805
1	0.35	0.4496	-0.0851	0.0038	-0.2040	0.0317	0.6342	0.0872	-0.0412	0.0779
1	0.35	0.4997	-0.1097	0.0045	-0.2874	0.0392	0.9219	0.1092	0.0742	0.0845
1	0.35	0.5387	-0.1452	0.0050	-0.3507	0.0442	1.1297	0.1249	-0.1457	0.0818
1	0.35	0.5996	-0.1868	0.0056	-0.4739	0.0537	1.5719	0.1511	0.1844	0.0869
1	0.35	0.6498	-0.2170	0.0064	-0.5876	0.0617	1.8979	0.1738	-0.0488	0.0831
1	0.35	0.6998	-0.2542	0.0069	-0.7032	0.0706	2.2566	0.1959	-0.1794	0.0895
1	0.35	0.7500	-0.2712	0.0076	-0.8136	0.0793	2.5821	0.2191	-0.1004	0.1085
1	0.35	0.8001	-0.2936	0.0085	-0.9562	0.0879	2.8651	0.2466	-0.3305	0.1284
1	0.35	0.8497	-0.3083	0.0090	-1.0804	0.0979	3.0880	0.2802	-0.2874	0.0974
1	0.35	0.9102	-0.3241	0.0099	-1.1709	0.1086	3.2941	0.3260	-0.3175	0.1210
1	0.35	0.9734	-0.2822	0.0139	-1.3682	0.1223	3.5841	0.3828	-0.0287	0.1380
2	0	0.1949	0.0001	0.0050	-0.0096	0.0018	0.0727	0.0089	0.1040	0.0479
2	0	0.2405	0.0089	0.0033	-0.0114	0.0038	0.1161	0.0119	0.0045	0.0967
2	0	0.2999	0.0054	0.0024	-0.0532	0.0064	0.2504	0.0248	0.1865	0.1150
2	0	0.3498	-0.0239	0.0024	-0.0826	0.0121	0.4125	0.0407	0.1851	0.1057
2	0	0.3998	-0.0385	0.0033	-0.1374	0.0183	0.6154	0.0578	0.1807	0.1074
2	0	0.4496	-0.0447	0.0032	-0.2038	0.0231	0.8692	0.0708	0.1682	0.1066
2	0	0.4995	-0.0655	0.0035	-0.2938	0.0287	1.1692	0.0872	0.0952	0.1116
2	0	0.5551	-0.0795	0.0038	-0.3875	0.0349	1.5300	0.1048	-0.0834	0.1084
2	0	0.5996	-0.0907	0.0043	-0.4664	0.0412	1.8833	0.1206	-0.0841	0.1069
2	0	0.6497	-0.1047	0.0052	-0.5615	0.0478	2.2866	0.1363	-0.0610	0.1085
2	0	0.6996	-0.1083	0.0059	-0.6798	0.0551	2.6816	0.1522	-0.1307	0.1087
2	0	0.7495	-0.1164	0.0066	-0.7836	0.0627	3.0661	0.1651	-0.0467	0.1154
2	0	0.7996	-0.1262	0.0069	-0.9308	0.0709	3.3696	0.1804	-0.2417	0.1043
2	0	0.8578	-0.1416	0.0075	-1.0739	0.0805	3.7266	0.1993	0.0457	0.1069
2	0	0.9100	-0.1185	0.0076	-1.1539	0.0892	3.9867	0.2188	-0.1286	0.1124
2	0	0.9727	-0.1624	0.0107	-1.2353	0.0995	4.4783	0.2455	0.3302	0.1086
3	0	0.1938	0.0121	0.0021	-0.0269	0.0015	0.0897	0.0078	-0.1152	0.0401
3	0	0.2357	0.0135	0.0023	0.0122	0.0040	0.1121	0.0154	-0.0607	0.0428
3	0	0.2995	-0.0162	0.0019	-0.0682	0.0078	0.2753	0.0292	-0.1919	0.0748
3	0	0.3493	-0.0407	0.0024	-0.1242	0.0128	0.4371	0.0457	-0.1004	0.0735
3	0	0.4000	-0.0534	0.0034	-0.1704	0.0214	0.6448	0.0711	0.0431	0.0880
3	0	0.4497	-0.0845	0.0030	-0.2649	0.0227	0.8910	0.0862	-0.0944	0.0695
3	0	0.4997	-0.1296	0.0037	-0.3662	0.0280	1.2132	0.1103	-0.0462	0.0640
3	0	0.5556	-0.1566	0.0040	-0.4701	0.0340	1.6049	0.1393	0.0140	0.0756
3	0	0.5995	-0.1831	0.0045	-0.5778	0.0402	1.9112	0.1616	-0.0335	0.0738
3	0	0.6498	-0.2134	0.0051	-0.7136	0.0471	2.2912	0.1886	-0.0662	0.0825
3	0	0.6890	-0.2727	0.0063	-0.8293	0.0524	2.5922	0.2109	0.0080	0.0827
3	0	0.7495	-0.2798	0.0068	-0.9743	0.0612	2.9228	0.2501	-0.3532	0.0819
3	0	0.7998	-0.2742	0.0077	-1.1269	0.0692	3.2323	0.2889	-0.1876	0.0875
3	0	0.8577	-0.2928	0.0085	-1.3131	0.0801	3.4779	0.3430	-0.3386	0.1072
3	0	0.9178	-0.2842	0.0099	-1.4496	0.0827	3.6899	0.4066	0.0185	0.2582
3	0	0.9729	-0.2995	0.0137	-1.6638	0.0981	3.7943	0.4681	-0.3168	0.1149
4	0	0.2001	0.0244	0.0019	-0.0059	0.0015	0.0537	0.0075	0.0846	0.0471
4	0	0.2502	0.0169	0.0016	0.0029	0.0031	0.0826	0.0152	-0.0171	0.0667
4	0	0.3001	0.0011	0.0017	-0.0169	0.0062	0.1809	0.0259	0.1431	0.0977
4	0	0.3502	-0.0346	0.0024	-0.0326	0.0103	0.2905	0.0401	0.2419	0.0926
4	0	0.4002	-0.0641	0.0029	-0.0429	0.0162	0.4385	0.0627	0.2127	0.0750
4	0	0.4500	-0.0822	0.0034	-0.0752	0.0192	0.6250	0.0824	0.0456	0.0828
4	0	0.5001	-0.1193	0.0033	-0.1345	0.0247	0.8984	0.1061	0.1979	0.0779
4	0	0.5560	-0.1507	0.0035	-0.2030	0.0288	1.1757	0.1362	0.0165	0.0840
4	0	0.6001	-0.1751	0.0038	-0.2534	0.0332	1.4419	0.1601	0.0019	0.0824
4	0	0.6501	-0.2313	0.0042	-0.3585	0.0383	1.7509	0.1905	0.1476	0.0866
4	0	0.6999	-0.2457	0.0049	-0.4695	0.0445	2.0420	0.2217	0.1827	0.0868
4	0	0.7500	-0.2771	0.0050	-0.5273	0.0497	2.2389	0.2568	0.1002	0.1056
4	0	0.8002	-0.2963	0.0058	-0.6489	0.0572	2.4238	0.2957	-0.0606	0.0947
4	0	0.8582	-0.2814	0.0066	-0.7642	0.0636	2.6205	0.3465	-0.1041	0.1074
4	0	0.9101	-0.2881	0.0073	-0.8740	0.0718	2.6926	0.3959	-0.2245	0.1326
4	0	0.9728	-0.2740	0.0094	-1.0080	0.0800	2.9829	0.4548	0.5007	0.0948

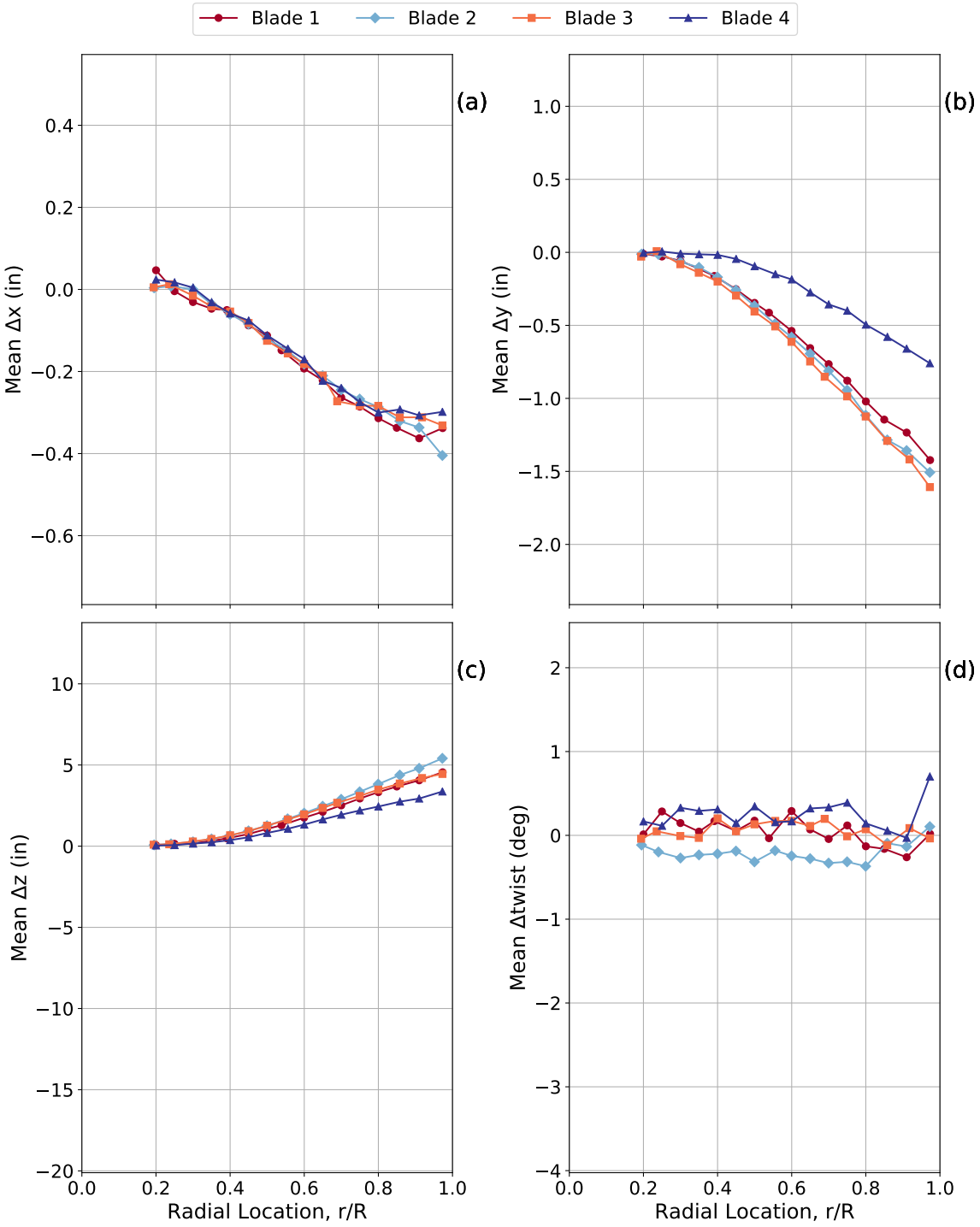


Figure 2.3-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0467	0.0025	-0.0107	0.0017	0.0546	0.0091	0.0115	0.0590
1	4.92	0.2499	-0.0043	0.0029	-0.0285	0.0053	0.1469	0.0194	0.2852	0.0675
1	4.92	0.2998	-0.0307	0.0022	-0.0580	0.0087	0.2006	0.0310	0.1469	0.1165
1	4.92	0.3498	-0.0470	0.0024	-0.1128	0.0156	0.3253	0.0496	0.0446	0.0913
1	4.92	0.3913	-0.0503	0.0029	-0.1619	0.0236	0.4813	0.0717	0.1697	0.0921
1	4.92	0.4496	-0.0876	0.0040	-0.2522	0.0319	0.7485	0.0969	0.0527	0.0929
1	4.92	0.4997	-0.1125	0.0047	-0.3460	0.0393	1.0639	0.1224	0.1751	0.0946
1	4.92	0.5387	-0.1483	0.0050	-0.4133	0.0454	1.2889	0.1434	-0.0338	0.0938
1	4.92	0.5996	-0.1928	0.0062	-0.5379	0.0561	1.7544	0.1796	0.2900	0.0944
1	4.92	0.6498	-0.2216	0.0070	-0.6557	0.0650	2.1167	0.2104	0.0710	0.0969
1	4.92	0.6998	-0.2632	0.0080	-0.7654	0.0741	2.5107	0.2431	-0.0432	0.1041
1	4.92	0.7500	-0.2856	0.0091	-0.8788	0.0848	2.9377	0.2770	0.1182	0.1071
1	4.92	0.8001	-0.3138	0.0103	-1.0210	0.0938	3.3280	0.3085	-0.1305	0.1040
1	4.92	0.8497	-0.3371	0.0115	-1.1453	0.1046	3.6744	0.3431	-0.1611	0.1040
1	4.92	0.9102	-0.3628	0.0125	-1.2342	0.1173	4.0572	0.3858	-0.2610	0.1220
1	4.92	0.9734	-0.3379	0.0168	-1.4226	0.1303	4.5515	0.4329	0.0173	0.1306
2	4.92	0.1949	0.0038	0.0020	-0.0123	0.0013	0.0782	0.0076	-0.1152	0.0458
2	4.92	0.2405	0.0080	0.0018	-0.0140	0.0035	0.1371	0.0129	-0.1980	0.0642
2	4.92	0.2999	0.0002	0.0026	-0.0659	0.0068	0.2645	0.0264	-0.2705	0.0992
2	4.92	0.3498	-0.0356	0.0025	-0.1029	0.0121	0.4436	0.0411	-0.2331	0.0813
2	4.92	0.3998	-0.0607	0.0032	-0.1699	0.0188	0.6552	0.0625	-0.2200	0.0769
2	4.92	0.4496	-0.0841	0.0032	-0.2584	0.0233	0.9402	0.0787	-0.1873	0.0781
2	4.92	0.4995	-0.1200	0.0039	-0.3662	0.0286	1.2597	0.0968	-0.3159	0.0788
2	4.92	0.5551	-0.1496	0.0047	-0.4897	0.0345	1.6832	0.1156	-0.1816	0.0898
2	4.92	0.5996	-0.1821	0.0048	-0.5806	0.0400	2.0338	0.1333	-0.2450	0.0881
2	4.92	0.6497	-0.2101	0.0053	-0.6937	0.0467	2.4592	0.1550	-0.2778	0.0863
2	4.92	0.6996	-0.2448	0.0060	-0.8121	0.0539	2.8860	0.1798	-0.3309	0.0965
2	4.92	0.7495	-0.2672	0.0063	-0.9431	0.0612	3.3483	0.2095	-0.3155	0.0982
2	4.92	0.7996	-0.2863	0.0071	-1.1150	0.0692	3.8230	0.2472	-0.3688	0.1038
2	4.92	0.8578	-0.3207	0.0084	-1.2847	0.0779	4.3805	0.3036	-0.0935	0.1041
2	4.92	0.9100	-0.3364	0.0103	-1.3576	0.0892	4.7944	0.3688	-0.1339	0.1832
2	4.92	0.9727	-0.4046	0.0148	-1.5068	0.0988	5.4100	0.4405	0.1043	0.1043
3	4.92	0.1938	0.0052	0.0021	-0.0290	0.0014	0.0918	0.0067	-0.0400	0.0436
3	4.92	0.2357	0.0126	0.0020	0.0078	0.0039	0.1165	0.0115	0.0485	0.0619
3	4.92	0.2995	-0.0151	0.0019	-0.0813	0.0067	0.2903	0.0220	-0.0080	0.0952
3	4.92	0.3493	-0.0413	0.0027	-0.1395	0.0135	0.4460	0.0364	-0.0300	0.0837
3	4.92	0.4000	-0.0539	0.0032	-0.1998	0.0206	0.6702	0.0544	0.2025	0.0752
3	4.92	0.4497	-0.0818	0.0035	-0.2961	0.0244	0.9231	0.0676	0.0495	0.0796
3	4.92	0.4997	-0.1251	0.0036	-0.4052	0.0295	1.2594	0.0871	0.1316	0.0762
3	4.92	0.5556	-0.1559	0.0038	-0.5072	0.0357	1.6455	0.1109	0.1725	0.0726
3	4.92	0.5995	-0.1816	0.0044	-0.6128	0.0413	1.9606	0.1299	0.1730	0.0818
3	4.92	0.6498	-0.2100	0.0048	-0.7475	0.0483	2.3566	0.1507	0.1116	0.0822
3	4.92	0.6890	-0.2725	0.0054	-0.8517	0.0527	2.6711	0.1662	0.1970	0.0903
3	4.92	0.7495	-0.2833	0.0059	-0.9863	0.0614	3.0915	0.1879	-0.0113	0.0910
3	4.92	0.7998	-0.2838	0.0065	-1.1240	0.0699	3.4837	0.2085	0.0726	0.0924
3	4.92	0.8577	-0.3117	0.0074	-1.2909	0.0780	3.8577	0.2302	-0.1164	0.1033
3	4.92	0.9178	-0.3116	0.0072	-1.4177	0.0920	4.1966	0.2610	0.0864	0.1561
3	4.92	0.9729	-0.3314	0.0101	-1.6074	0.1002	4.4506	0.2903	-0.0361	0.1091
4	4.92	0.2001	0.0240	0.0019	-0.0037	0.0015	0.0423	0.0074	0.1661	0.0458
4	4.92	0.2502	0.0171	0.0021	0.0057	0.0037	0.0650	0.0134	0.1137	0.0700
4	4.92	0.3001	0.0043	0.0020	-0.0092	0.0066	0.1560	0.0239	0.3293	0.0988
4	4.92	0.3502	-0.0313	0.0024	-0.0135	0.0121	0.2384	0.0370	0.2917	0.0809
4	4.92	0.4002	-0.0585	0.0030	-0.0173	0.0187	0.3732	0.0563	0.3093	0.0910
4	4.92	0.4500	-0.0758	0.0033	-0.0450	0.0238	0.5501	0.0743	0.1468	0.0916
4	4.92	0.5001	-0.1119	0.0038	-0.0951	0.0295	0.8155	0.0955	0.3458	0.0979
4	4.92	0.5560	-0.1447	0.0045	-0.1497	0.0368	1.0730	0.1242	0.1562	0.0955
4	4.92	0.6001	-0.1701	0.0045	-0.1856	0.0424	1.3298	0.1464	0.1670	0.0938
4	4.92	0.6501	-0.2226	0.0053	-0.2745	0.0496	1.6479	0.1736	0.3211	0.0963
4	4.92	0.6999	-0.2401	0.0062	-0.3567	0.0567	1.9372	0.1999	0.3338	0.1015
4	4.92	0.7500	-0.2745	0.0068	-0.4000	0.0644	2.1997	0.2271	0.3898	0.1056
4	4.92	0.8002	-0.3001	0.0073	-0.4952	0.0727	2.4434	0.2590	0.1424	0.1068
4	4.92	0.8582	-0.2924	0.0078	-0.5792	0.0840	2.7429	0.2965	0.0548	0.1091
4	4.92	0.9101	-0.3069	0.0084	-0.6597	0.0932	2.9327	0.3358	-0.0302	0.1203
4	4.92	0.9728	-0.2983	0.0115	-0.7597	0.1034	3.3677	0.3849	0.7012	0.1063

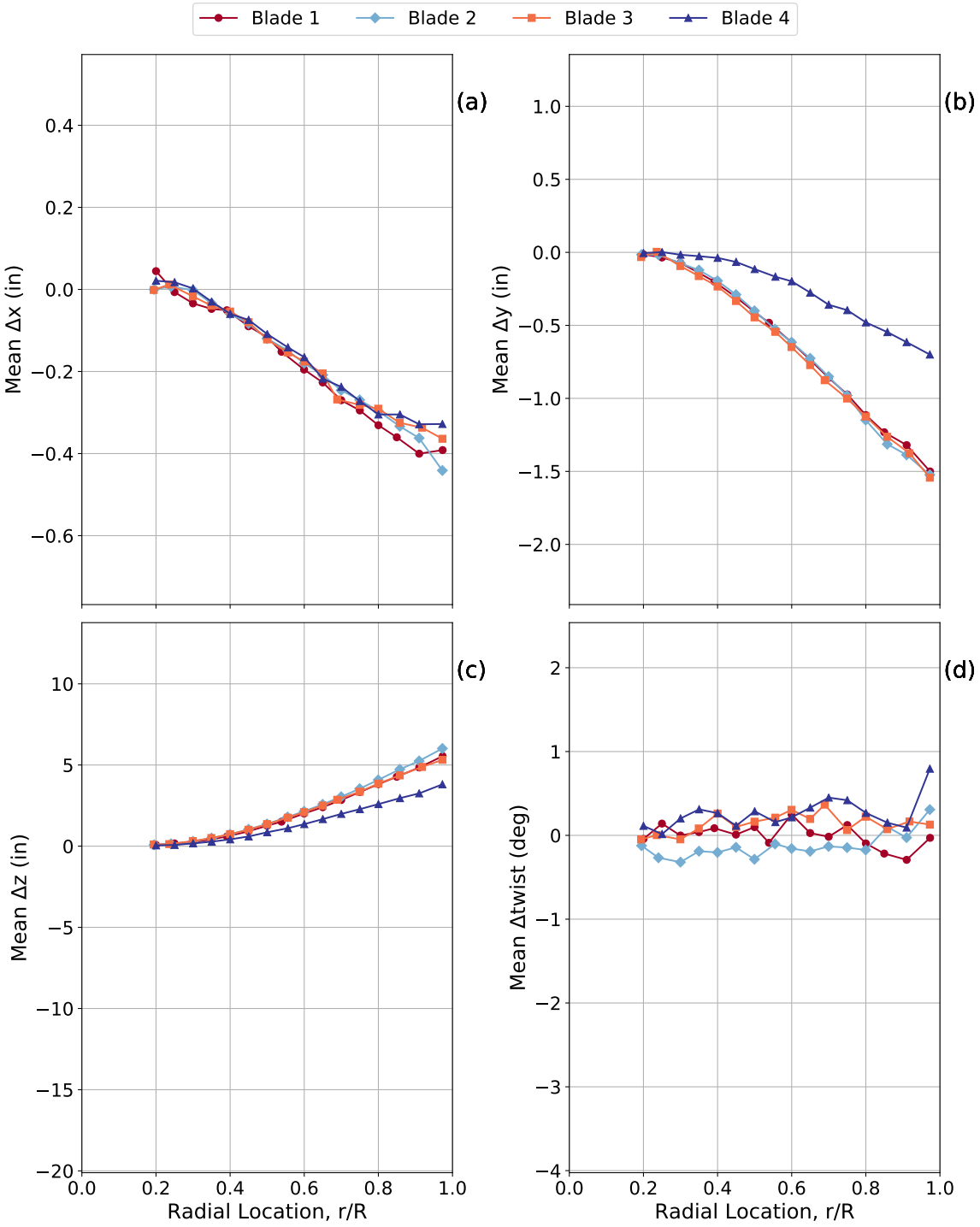


Figure 2.3-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0446	0.0023	-0.0140	0.0015	0.0722	0.0070	-0.0431	0.0419
1	9.84	0.2499	-0.0065	0.0026	-0.0353	0.0047	0.1712	0.0135	0.1402	0.0607
1	9.84	0.2998	-0.0340	0.0020	-0.0717	0.0073	0.2469	0.0222	-0.0017	0.0851
1	9.84	0.3498	-0.0475	0.0024	-0.1412	0.0123	0.4202	0.0370	0.0390	0.0775
1	9.84	0.3913	-0.0507	0.0034	-0.2001	0.0190	0.5966	0.0516	0.0853	0.0675
1	9.84	0.4496	-0.0898	0.0040	-0.3067	0.0249	0.9163	0.0707	0.0087	0.0687
1	9.84	0.4997	-0.1162	0.0046	-0.4077	0.0309	1.2596	0.0899	0.0983	0.0833
1	9.84	0.5387	-0.1519	0.0046	-0.4820	0.0361	1.5086	0.1080	-0.0886	0.0808
1	9.84	0.5996	-0.1953	0.0050	-0.6159	0.0452	2.0110	0.1407	0.2500	0.0871
1	9.84	0.6498	-0.2267	0.0059	-0.7361	0.0531	2.4000	0.1705	0.0276	0.0824
1	9.84	0.6998	-0.2700	0.0069	-0.8593	0.0614	2.8465	0.2012	-0.0165	0.0906
1	9.84	0.7500	-0.2949	0.0081	-0.9735	0.0702	3.3338	0.2366	0.1230	0.0990
1	9.84	0.8001	-0.3309	0.0092	-1.1144	0.0796	3.8217	0.2751	-0.0963	0.1150
1	9.84	0.8497	-0.3603	0.0099	-1.2318	0.0902	4.2749	0.3162	-0.2173	0.1033
1	9.84	0.9102	-0.4002	0.0114	-1.3200	0.1030	4.8457	0.3725	-0.2919	0.1102
1	9.84	0.9734	-0.3915	0.0166	-1.5004	0.1173	5.5445	0.4390	-0.0297	0.1250
2	9.84	0.1949	0.0001	0.0018	-0.0154	0.0012	0.0885	0.0075	-0.1232	0.0540
2	9.84	0.2405	0.0068	0.0017	-0.0167	0.0043	0.1465	0.0167	-0.2675	0.0609
2	9.84	0.2999	-0.0016	0.0029	-0.0750	0.0066	0.2913	0.0272	-0.3194	0.1126
2	9.84	0.3498	-0.0337	0.0026	-0.1213	0.0131	0.5010	0.0473	-0.1889	0.1095
2	9.84	0.3998	-0.0593	0.0031	-0.1948	0.0204	0.7294	0.0705	-0.2037	0.0879
2	9.84	0.4496	-0.0830	0.0038	-0.2894	0.0243	1.0395	0.0908	-0.1426	0.0898
2	9.84	0.4995	-0.1197	0.0039	-0.4003	0.0295	1.3661	0.1140	-0.2854	0.0935
2	9.84	0.5551	-0.1485	0.0043	-0.5260	0.0359	1.7981	0.1430	-0.1026	0.0991
2	9.84	0.5996	-0.1799	0.0051	-0.6156	0.0417	2.1477	0.1674	-0.1575	0.1050
2	9.84	0.6497	-0.2082	0.0055	-0.7255	0.0477	2.5754	0.1953	-0.1910	0.1080
2	9.84	0.6996	-0.2458	0.0063	-0.8508	0.0553	3.0431	0.2284	-0.1316	0.1080
2	9.84	0.7495	-0.2693	0.0076	-0.9802	0.0631	3.5408	0.2620	-0.1460	0.1066
2	9.84	0.7996	-0.2961	0.0086	-1.1483	0.0710	4.0820	0.3029	-0.1742	0.1229
2	9.84	0.8578	-0.3335	0.0102	-1.3134	0.0807	4.7347	0.3585	0.1007	0.1239
2	9.84	0.9100	-0.3622	0.0116	-1.3868	0.0911	5.2498	0.4150	-0.0268	0.1516
2	9.84	0.9727	-0.4412	0.0160	-1.5235	0.1001	6.0193	0.4881	0.3076	0.1370
3	9.84	0.1938	-0.0013	0.0021	-0.0321	0.0013	0.1015	0.0063	-0.0486	0.0461
3	9.84	0.2357	0.0120	0.0020	0.0035	0.0028	0.1283	0.0123	0.0035	0.0507
3	9.84	0.2995	-0.0168	0.0019	-0.0936	0.0063	0.3152	0.0217	-0.0474	0.0926
3	9.84	0.3493	-0.0395	0.0029	-0.1625	0.0115	0.5023	0.0366	0.0820	0.0837
3	9.84	0.4000	-0.0539	0.0030	-0.2339	0.0179	0.7425	0.0547	0.2599	0.0744
3	9.84	0.4497	-0.0798	0.0031	-0.3331	0.0229	1.0077	0.0732	0.1004	0.0787
3	9.84	0.4997	-0.1218	0.0036	-0.4452	0.0283	1.3589	0.0931	0.1632	0.0739
3	9.84	0.5556	-0.1536	0.0041	-0.5443	0.0352	1.7556	0.1162	0.2110	0.0804
3	9.84	0.5995	-0.1757	0.0048	-0.6486	0.0410	2.0968	0.1346	0.3048	0.0816
3	9.84	0.6498	-0.2047	0.0060	-0.7722	0.0482	2.5041	0.1571	0.1957	0.0881
3	9.84	0.6890	-0.2681	0.0066	-0.8755	0.0537	2.8579	0.1740	0.3666	0.0915
3	9.84	0.7495	-0.2813	0.0076	-1.0009	0.0637	3.3564	0.2018	0.0634	0.0862
3	9.84	0.7998	-0.2907	0.0084	-1.1237	0.0721	3.8529	0.2275	0.2230	0.0932
3	9.84	0.8577	-0.3249	0.0092	-1.2628	0.0823	4.3612	0.2625	0.0736	0.1023
3	9.84	0.9178	-0.3368	0.0100	-1.3760	0.0913	4.8801	0.3088	0.1655	0.1251
3	9.84	0.9729	-0.3639	0.0138	-1.5431	0.1031	5.3205	0.3565	0.1281	0.0984
4	9.84	0.2001	0.0212	0.0021	-0.0051	0.0016	0.0498	0.0074	0.1130	0.0423
4	9.84	0.2502	0.0175	0.0018	0.0017	0.0053	0.0751	0.0147	0.0148	0.0581
4	9.84	0.3001	0.0023	0.0028	-0.0165	0.0088	0.1709	0.0232	0.2018	0.0873
4	9.84	0.3502	-0.0298	0.0029	-0.0265	0.0148	0.2787	0.0377	0.3103	0.0762
4	9.84	0.4002	-0.0596	0.0033	-0.0379	0.0247	0.4203	0.0566	0.2644	0.0665
4	9.84	0.4500	-0.0743	0.0041	-0.0659	0.0292	0.5985	0.0717	0.1139	0.0749
4	9.84	0.5001	-0.1088	0.0043	-0.1148	0.0368	0.8562	0.0906	0.2872	0.0723
4	9.84	0.5560	-0.1413	0.0045	-0.1670	0.0454	1.1067	0.1117	0.1578	0.0809
4	9.84	0.6001	-0.1651	0.0048	-0.1984	0.0522	1.3588	0.1323	0.2148	0.0799
4	9.84	0.6501	-0.2174	0.0051	-0.2761	0.0611	1.6659	0.1550	0.3306	0.0846
4	9.84	0.6999	-0.2375	0.0056	-0.3590	0.0703	1.9869	0.1804	0.4502	0.0903
4	9.84	0.7500	-0.2720	0.0061	-0.3960	0.0805	2.2794	0.2093	0.4191	0.0992
4	9.84	0.8002	-0.3047	0.0063	-0.4799	0.0911	2.5909	0.2446	0.2676	0.1027
4	9.84	0.8582	-0.3047	0.0070	-0.5464	0.1039	2.9579	0.2972	0.1511	0.1008
4	9.84	0.9101	-0.3286	0.0076	-0.6151	0.1156	3.2521	0.3547	0.0923	0.1038
4	9.84	0.9728	-0.3279	0.0105	-0.6999	0.1310	3.8078	0.4382	0.7949	0.1126

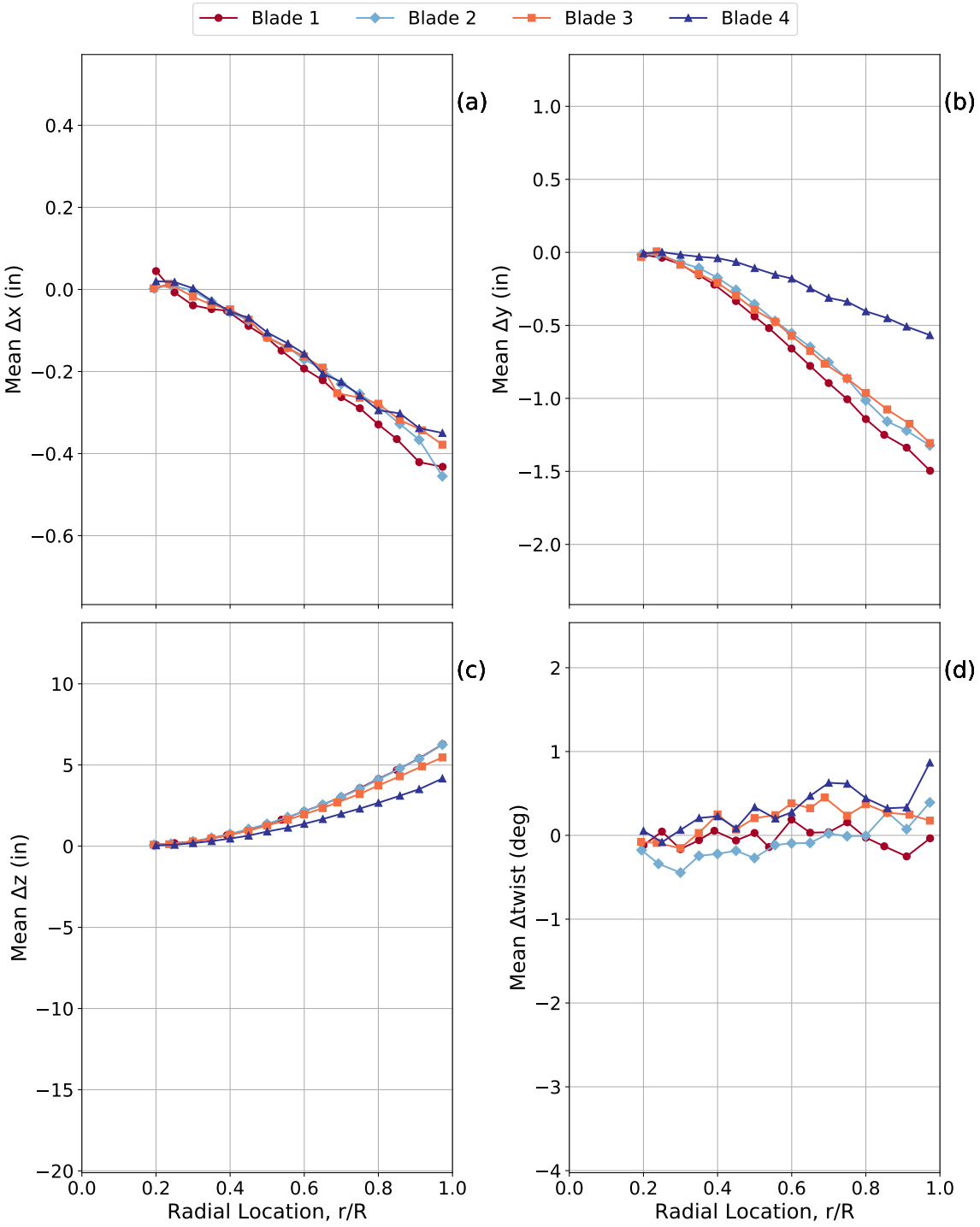


Figure 2.3-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0447	0.0029	-0.0171	0.0014	0.0789	0.0064	-0.1180	0.0467
1	15.12	0.2499	-0.0072	0.0025	-0.0371	0.0039	0.1889	0.0135	0.0450	0.0699
1	15.12	0.2998	-0.0388	0.0020	-0.0813	0.0064	0.2750	0.0219	-0.1646	0.1010
1	15.12	0.3498	-0.0479	0.0030	-0.1569	0.0121	0.4706	0.0365	-0.0574	0.0869
1	15.12	0.3913	-0.0516	0.0037	-0.2209	0.0174	0.6693	0.0520	0.0547	0.0759
1	15.12	0.4496	-0.0889	0.0039	-0.3338	0.0225	1.0042	0.0707	-0.0616	0.0844
1	15.12	0.4997	-0.1179	0.0046	-0.4389	0.0276	1.3621	0.0920	0.0284	0.0873
1	15.12	0.5387	-0.1491	0.0048	-0.5187	0.0321	1.6308	0.1072	-0.1398	0.0861
1	15.12	0.5996	-0.1928	0.0054	-0.6589	0.0393	2.1505	0.1343	0.1886	0.0883
1	15.12	0.6498	-0.2212	0.0057	-0.7779	0.0460	2.5573	0.1582	0.0321	0.0950
1	15.12	0.6998	-0.2624	0.0062	-0.8951	0.0527	3.0374	0.1827	0.0376	0.0960
1	15.12	0.7500	-0.2895	0.0071	-1.0062	0.0592	3.5735	0.2103	0.1557	0.0912
1	15.12	0.8001	-0.3291	0.0082	-1.1418	0.0669	4.1404	0.2405	-0.0274	0.1007
1	15.12	0.8497	-0.3647	0.0089	-1.2497	0.0744	4.6870	0.2743	-0.1304	0.1042
1	15.12	0.9102	-0.4209	0.0108	-1.3375	0.0833	5.4108	0.3205	-0.2511	0.1308
1	15.12	0.9734	-0.4322	0.0151	-1.4953	0.0943	6.2788	0.3762	-0.0352	0.1180
2	15.12	0.1949	0.0023	0.0023	-0.0147	0.0014	0.0861	0.0063	-0.1762	0.0435
2	15.12	0.2405	0.0105	0.0020	-0.0132	0.0035	0.1487	0.0132	-0.3395	0.0597
2	15.12	0.2999	-0.0033	0.0022	-0.0693	0.0065	0.2933	0.0241	-0.4446	0.0950
2	15.12	0.3498	-0.0299	0.0020	-0.1073	0.0114	0.5168	0.0380	-0.2444	0.0840
2	15.12	0.3998	-0.0550	0.0033	-0.1742	0.0180	0.7532	0.0592	-0.2212	0.0747
2	15.12	0.4496	-0.0755	0.0038	-0.2574	0.0232	1.0550	0.0762	-0.1833	0.0747
2	15.12	0.4995	-0.1153	0.0041	-0.3548	0.0285	1.3709	0.0961	-0.2705	0.0766
2	15.12	0.5551	-0.1409	0.0047	-0.4704	0.0349	1.7911	0.1183	-0.1149	0.0772
2	15.12	0.5996	-0.1706	0.0055	-0.5537	0.0408	2.1401	0.1360	-0.0953	0.0783
2	15.12	0.6497	-0.1945	0.0055	-0.6478	0.0477	2.5547	0.1570	-0.0911	0.0821
2	15.12	0.6996	-0.2302	0.0064	-0.7526	0.0551	3.0261	0.1758	0.0213	0.0842
2	15.12	0.7495	-0.2548	0.0070	-0.8641	0.0623	3.5251	0.1984	-0.0098	0.0872
2	15.12	0.7996	-0.2843	0.0081	-1.0141	0.0703	4.0947	0.2224	-0.0054	0.0906
2	15.12	0.8578	-0.3278	0.0090	-1.1579	0.0796	4.7888	0.2546	0.2776	0.0974
2	15.12	0.9100	-0.3663	0.0104	-1.2207	0.0887	5.3782	0.2909	0.0739	0.1087
2	15.12	0.9727	-0.4551	0.0145	-1.3221	0.0991	6.2543	0.3357	0.3926	0.0945
3	15.12	0.1938	0.0026	0.0023	-0.0315	0.0013	0.0929	0.0064	-0.0781	0.0309
3	15.12	0.2357	0.0136	0.0021	0.0066	0.0030	0.1179	0.0115	-0.0896	0.0487
3	15.12	0.2995	-0.0176	0.0019	-0.0849	0.0057	0.2934	0.0229	-0.1527	0.0708
3	15.12	0.3493	-0.0372	0.0024	-0.1480	0.0109	0.4755	0.0381	0.0279	0.0710
3	15.12	0.4000	-0.0485	0.0027	-0.2085	0.0167	0.7028	0.0579	0.2499	0.0611
3	15.12	0.4497	-0.0737	0.0033	-0.2958	0.0210	0.9439	0.0778	0.0698	0.0651
3	15.12	0.4997	-0.1170	0.0034	-0.3931	0.0258	1.2682	0.0994	0.2059	0.0669
3	15.12	0.5556	-0.1423	0.0038	-0.4760	0.0308	1.6304	0.1228	0.2408	0.0666
3	15.12	0.5995	-0.1634	0.0041	-0.5714	0.0350	1.9571	0.1428	0.3823	0.0726
3	15.12	0.6498	-0.1906	0.0053	-0.6751	0.0406	2.3439	0.1659	0.3238	0.0766
3	15.12	0.6890	-0.2529	0.0057	-0.7627	0.0450	2.6935	0.1852	0.4522	0.0824
3	15.12	0.7495	-0.2639	0.0068	-0.8635	0.0519	3.2129	0.2148	0.2342	0.0802
3	15.12	0.7998	-0.2786	0.0074	-0.9627	0.0581	3.7381	0.2422	0.3721	0.0863
3	15.12	0.8577	-0.3179	0.0083	-1.0762	0.0655	4.3052	0.2787	0.2699	0.0821
3	15.12	0.9178	-0.3433	0.0097	-1.1739	0.0737	4.9177	0.3192	0.2476	0.1098
3	15.12	0.9729	-0.3783	0.0123	-1.3057	0.0810	5.4662	0.3611	0.1758	0.1005
4	15.12	0.2001	0.0199	0.0023	-0.0057	0.0016	0.0544	0.0066	0.0541	0.0353
4	15.12	0.2502	0.0181	0.0018	0.0015	0.0035	0.0857	0.0111	-0.0811	0.0601
4	15.12	0.3001	0.0026	0.0019	-0.0162	0.0070	0.1880	0.0199	0.0652	0.0765
4	15.12	0.3502	-0.0276	0.0022	-0.0300	0.0118	0.3130	0.0322	0.2072	0.0706
4	15.12	0.4002	-0.0542	0.0028	-0.0399	0.0187	0.4702	0.0476	0.2277	0.0668
4	15.12	0.4500	-0.0694	0.0030	-0.0657	0.0237	0.6498	0.0645	0.0837	0.0696
4	15.12	0.5001	-0.1048	0.0038	-0.1077	0.0310	0.9033	0.0819	0.3365	0.0670
4	15.12	0.5560	-0.1319	0.0043	-0.1531	0.0396	1.1402	0.1026	0.2011	0.0672
4	15.12	0.6001	-0.1566	0.0048	-0.1794	0.0474	1.3767	0.1181	0.2755	0.0701
4	15.12	0.6501	-0.2053	0.0053	-0.2458	0.0567	1.6711	0.1365	0.4718	0.0735
4	15.12	0.6999	-0.2251	0.0060	-0.3114	0.0669	1.9928	0.1551	0.6270	0.0708
4	15.12	0.7500	-0.2583	0.0069	-0.3379	0.0783	2.3148	0.1743	0.6161	0.0713
4	15.12	0.8002	-0.2944	0.0073	-0.4037	0.0897	2.6716	0.1950	0.4426	0.0719
4	15.12	0.8582	-0.3021	0.0077	-0.4507	0.1027	3.1079	0.2208	0.3234	0.0851
4	15.12	0.9101	-0.3380	0.0089	-0.5084	0.1151	3.5098	0.2486	0.3330	0.0962
4	15.12	0.9728	-0.3498	0.0127	-0.5669	0.1301	4.1684	0.2826	0.8681	0.0931

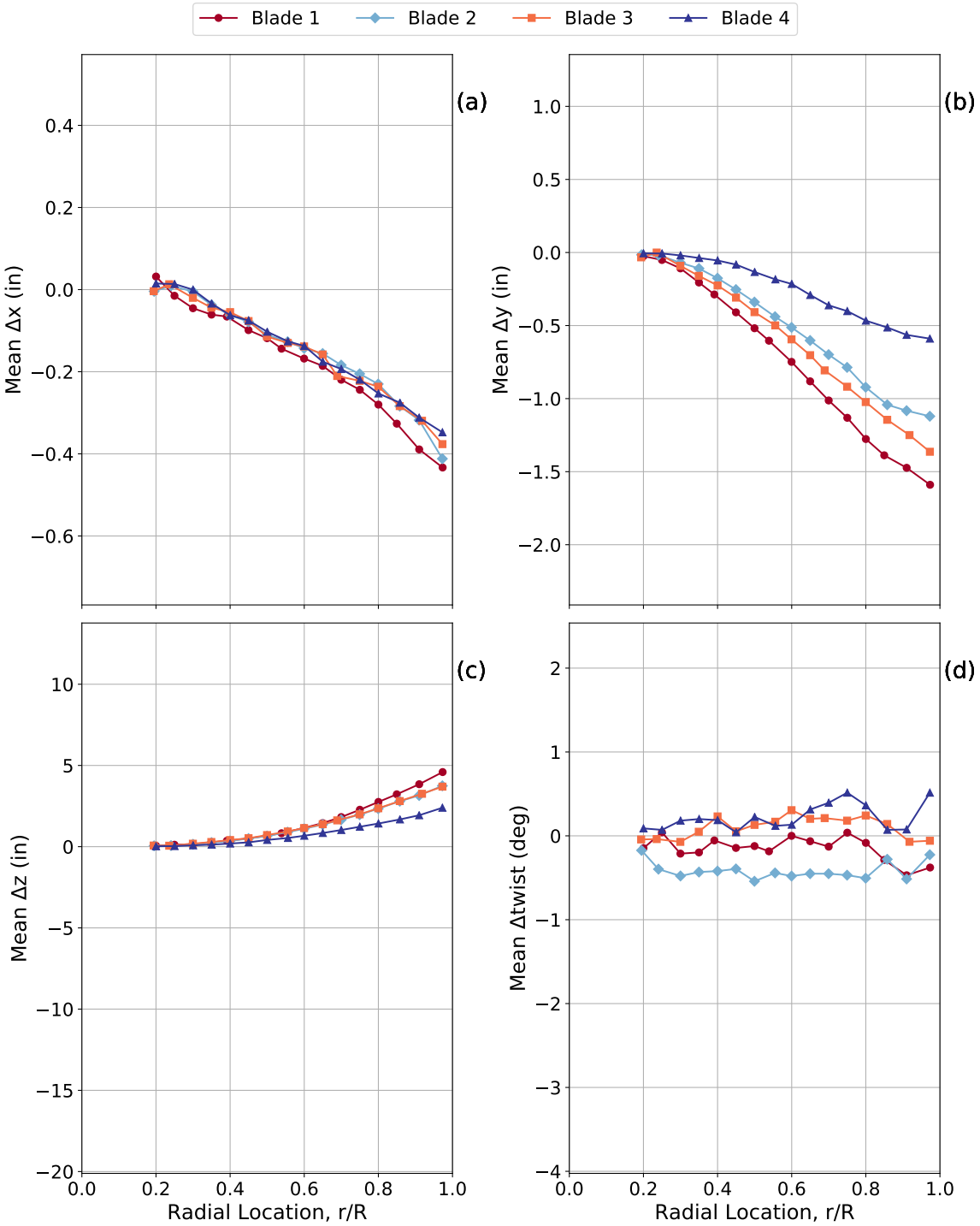


Figure 2.3-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0318	0.0026	-0.0251	0.0015	0.0520	0.0055	-0.1469	0.0343
1	29.88	0.2499	-0.0150	0.0024	-0.0513	0.0039	0.1179	0.0111	0.0419	0.0530
1	29.88	0.2998	-0.0454	0.0024	-0.1087	0.0059	0.1576	0.0186	-0.2119	0.0719
1	29.88	0.3498	-0.0609	0.0029	-0.2054	0.0124	0.2601	0.0317	-0.1978	0.0700
1	29.88	0.3913	-0.0657	0.0029	-0.2872	0.0166	0.3639	0.0448	-0.0549	0.0666
1	29.88	0.4496	-0.0987	0.0035	-0.4096	0.0217	0.5041	0.0653	-0.1441	0.0731
1	29.88	0.4997	-0.1183	0.0036	-0.5184	0.0268	0.6772	0.0864	-0.1220	0.0708
1	29.88	0.5387	-0.1439	0.0040	-0.6037	0.0314	0.8273	0.1041	-0.1845	0.0828
1	29.88	0.5996	-0.1680	0.0040	-0.7485	0.0387	1.1564	0.1350	-0.0000	0.0852
1	29.88	0.6498	-0.1858	0.0043	-0.8818	0.0448	1.4502	0.1624	-0.0641	0.0795
1	29.88	0.6998	-0.2195	0.0052	-1.0127	0.0518	1.8225	0.1907	-0.1288	0.0847
1	29.88	0.7500	-0.2440	0.0059	-1.1313	0.0588	2.2728	0.2219	0.0378	0.0894
1	29.88	0.8001	-0.2801	0.0065	-1.2765	0.0667	2.7538	0.2539	-0.0836	0.0917
1	29.88	0.8497	-0.3265	0.0073	-1.3879	0.0743	3.2236	0.2862	-0.2869	0.0928
1	29.88	0.9102	-0.3892	0.0086	-1.4736	0.0847	3.8443	0.3253	-0.4700	0.0971
1	29.88	0.9734	-0.4333	0.0121	-1.5897	0.0958	4.5923	0.3646	-0.3779	0.0937
2	29.88	0.1949	-0.0043	0.0026	-0.0155	0.0011	0.0508	0.0050	-0.1733	0.0393
2	29.88	0.2405	0.0093	0.0021	-0.0177	0.0040	0.0675	0.0116	-0.3972	0.0585
2	29.88	0.2999	-0.0047	0.0019	-0.0701	0.0062	0.1467	0.0187	-0.4784	0.0895
2	29.88	0.3498	-0.0371	0.0024	-0.1094	0.0121	0.2508	0.0354	-0.4316	0.0638
2	29.88	0.3998	-0.0623	0.0033	-0.1760	0.0182	0.3528	0.0514	-0.4204	0.0671
2	29.88	0.4496	-0.0785	0.0035	-0.2537	0.0223	0.4999	0.0704	-0.3945	0.0684
2	29.88	0.4995	-0.1103	0.0036	-0.3393	0.0281	0.6516	0.0960	-0.5418	0.0733
2	29.88	0.5551	-0.1269	0.0040	-0.4394	0.0345	0.8940	0.1293	-0.4421	0.0728
2	29.88	0.5996	-0.1429	0.0045	-0.5128	0.0405	1.1001	0.1575	-0.4796	0.0753
2	29.88	0.6497	-0.1557	0.0051	-0.6022	0.0475	1.3616	0.1929	-0.4511	0.0757
2	29.88	0.6996	-0.1838	0.0058	-0.6989	0.0550	1.6564	0.2303	-0.4515	0.0789
2	29.88	0.7495	-0.2051	0.0064	-0.7863	0.0631	1.9690	0.2732	-0.4687	0.0775
2	29.88	0.7996	-0.2300	0.0073	-0.9221	0.0715	2.3390	0.3215	-0.5050	0.0858
2	29.88	0.8578	-0.2838	0.0082	-1.0419	0.0818	2.7984	0.3839	-0.2794	0.0865
2	29.88	0.9100	-0.3178	0.0098	-1.0827	0.0917	3.1498	0.4413	-0.5144	0.0979
2	29.88	0.9727	-0.4119	0.0141	-1.1208	0.1031	3.7457	0.5159	-0.2254	0.0986
3	29.88	0.1938	-0.0039	0.0020	-0.0331	0.0009	0.0688	0.0040	-0.0432	0.0301
3	29.88	0.2357	0.0130	0.0020	-0.0003	0.0032	0.0585	0.0089	-0.0385	0.0419
3	29.88	0.2995	-0.0200	0.0021	-0.0912	0.0058	0.1823	0.0170	-0.0718	0.0658
3	29.88	0.3493	-0.0439	0.0021	-0.1598	0.0089	0.2875	0.0269	0.0489	0.0655
3	29.88	0.4000	-0.0549	0.0030	-0.2256	0.0154	0.4075	0.0429	0.2316	0.0669
3	29.88	0.4497	-0.0766	0.0033	-0.3088	0.0195	0.5203	0.0583	0.0539	0.0747
3	29.88	0.4997	-0.1144	0.0039	-0.4084	0.0257	0.7142	0.0787	0.1307	0.0767
3	29.88	0.5556	-0.1299	0.0039	-0.4990	0.0323	0.9348	0.1036	0.1683	0.0814
3	29.88	0.5995	-0.1384	0.0042	-0.5945	0.0388	1.1448	0.1275	0.3060	0.0823
3	29.88	0.6498	-0.1580	0.0043	-0.7027	0.0467	1.3821	0.1551	0.2030	0.0858
3	29.88	0.6890	-0.2104	0.0050	-0.8069	0.0531	1.6177	0.1765	0.2114	0.0872
3	29.88	0.7495	-0.2222	0.0055	-0.9187	0.0647	1.9911	0.2102	0.1815	0.0908
3	29.88	0.7998	-0.2365	0.0063	-1.0236	0.0740	2.3630	0.2425	0.2425	0.0880
3	29.88	0.8577	-0.2837	0.0076	-1.1450	0.0863	2.8065	0.2810	0.1415	0.0939
3	29.88	0.9178	-0.3194	0.0086	-1.2497	0.0996	3.2559	0.3237	-0.0709	0.1081
3	29.88	0.9729	-0.3763	0.0124	-1.3637	0.1117	3.6956	0.3659	-0.0586	0.0991
4	29.88	0.2001	0.0148	0.0026	-0.0057	0.0018	0.0240	0.0058	0.0887	0.0328
4	29.88	0.2502	0.0136	0.0022	-0.0068	0.0042	0.0358	0.0104	0.0710	0.0488
4	29.88	0.3001	-0.0003	0.0024	-0.0201	0.0066	0.0807	0.0174	0.1813	0.0680
4	29.88	0.3502	-0.0340	0.0026	-0.0378	0.0148	0.1267	0.0299	0.2003	0.0633
4	29.88	0.4002	-0.0625	0.0031	-0.0548	0.0208	0.1923	0.0440	0.1869	0.0589
4	29.88	0.4500	-0.0753	0.0035	-0.0829	0.0264	0.2668	0.0587	0.0423	0.0696
4	29.88	0.5001	-0.1027	0.0037	-0.1336	0.0319	0.4145	0.0795	0.2252	0.0634
4	29.88	0.5560	-0.1261	0.0042	-0.1841	0.0378	0.5360	0.1057	0.1191	0.0667
4	29.88	0.6001	-0.1372	0.0040	-0.2153	0.0435	0.6726	0.1285	0.1326	0.0647
4	29.88	0.6501	-0.1757	0.0045	-0.2910	0.0506	0.8426	0.1568	0.3144	0.0664
4	29.88	0.6999	-0.1935	0.0051	-0.3617	0.0585	1.0257	0.1847	0.3945	0.0661
4	29.88	0.7500	-0.2194	0.0055	-0.4013	0.0664	1.2256	0.2140	0.5146	0.0673
4	29.88	0.8002	-0.2530	0.0059	-0.4666	0.0745	1.4249	0.2425	0.3636	0.0704
4	29.88	0.8582	-0.2755	0.0070	-0.5135	0.0846	1.6771	0.2782	0.0714	0.0747
4	29.88	0.9101	-0.3118	0.0080	-0.5639	0.0942	1.9332	0.3098	0.0758	0.0775
4	29.88	0.9728	-0.3476	0.0119	-0.5895	0.1059	2.3962	0.3533	0.5144	0.0824

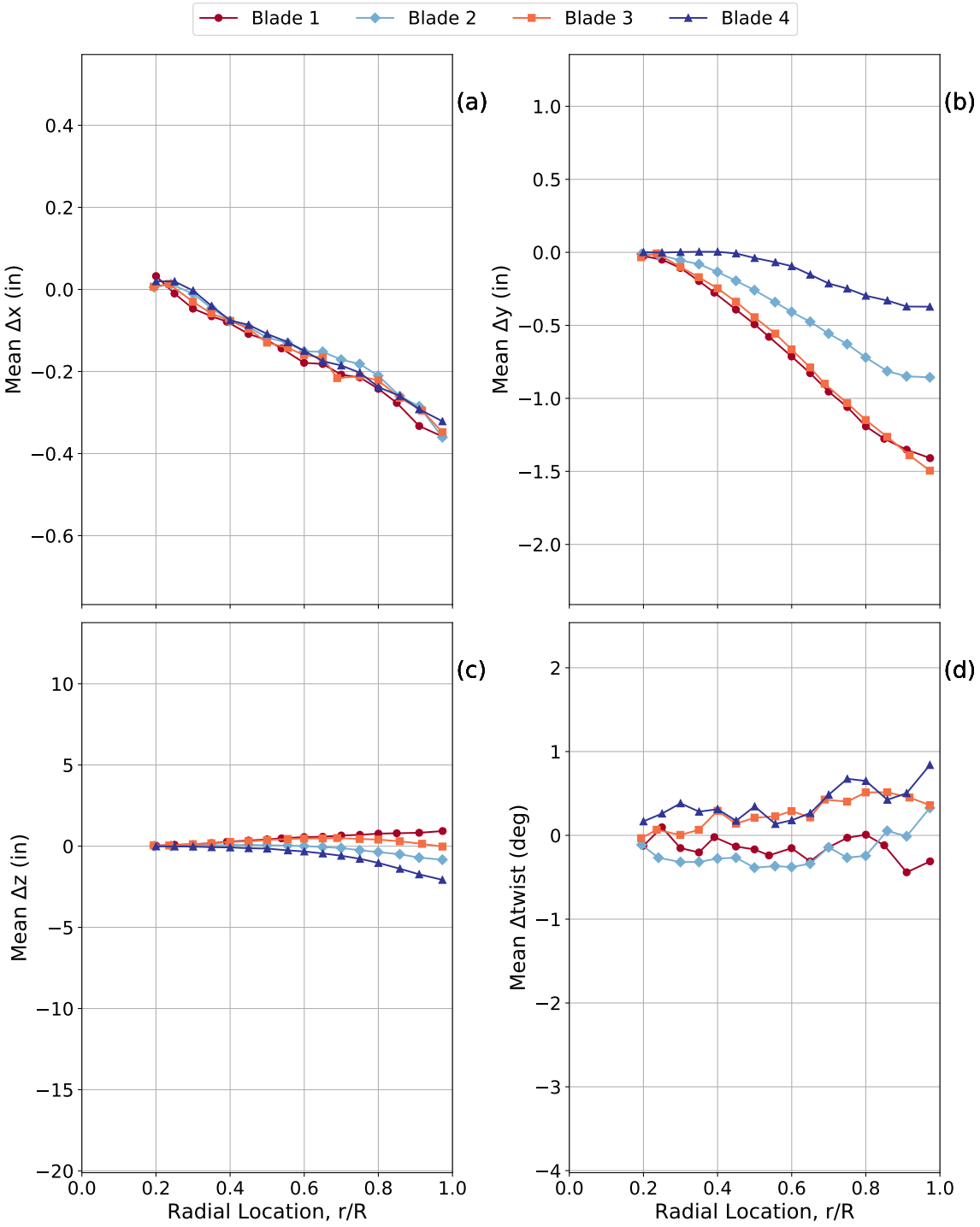


Figure 2.3-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0325	0.0021	-0.0255	0.0014	0.0340	0.0056	-0.1228	0.0389
1	45	0.2499	-0.0100	0.0021	-0.0501	0.0041	0.0877	0.0122	0.0960	0.0485
1	45	0.2998	-0.0468	0.0023	-0.1068	0.0067	0.1175	0.0218	-0.1519	0.0803
1	45	0.3498	-0.0653	0.0024	-0.1965	0.0117	0.1833	0.0374	-0.2038	0.0715
1	45	0.3913	-0.0786	0.0029	-0.2759	0.0175	0.2720	0.0535	-0.0213	0.0760
1	45	0.4496	-0.1084	0.0032	-0.3919	0.0232	0.3496	0.0781	-0.1333	0.0758
1	45	0.4997	-0.1236	0.0037	-0.4926	0.0309	0.4185	0.1017	-0.1676	0.0856
1	45	0.5387	-0.1437	0.0043	-0.5783	0.0369	0.4808	0.1206	-0.2393	0.0791
1	45	0.5996	-0.1788	0.0053	-0.7127	0.0474	0.5598	0.1507	-0.1527	0.0887
1	45	0.6498	-0.1816	0.0054	-0.8273	0.0570	0.5819	0.1804	-0.3109	0.0951
1	45	0.6998	-0.2077	0.0060	-0.9536	0.0676	0.6570	0.2104	-0.1421	0.0881
1	45	0.7500	-0.2144	0.0069	-1.0593	0.0788	0.6991	0.2470	-0.0285	0.0978
1	45	0.8001	-0.2422	0.0074	-1.1916	0.0905	0.7735	0.2855	0.0075	0.0952
1	45	0.8497	-0.2765	0.0074	-1.2766	0.1022	0.7963	0.3287	-0.1186	0.0968
1	45	0.9102	-0.3328	0.0083	-1.3513	0.1172	0.8253	0.3842	-0.4411	0.0946
1	45	0.9734	-0.3586	0.0128	-1.4092	0.1327	0.9312	0.4449	-0.3102	0.0841
2	45	0.1949	0.0054	0.0022	-0.0112	0.0010	0.0150	0.0041	-0.1130	0.0342
2	45	0.2405	0.0125	0.0020	-0.0162	0.0029	0.0180	0.0089	-0.2674	0.0383
2	45	0.2999	-0.0102	0.0020	-0.0545	0.0054	0.0331	0.0176	-0.3180	0.0705
2	45	0.3498	-0.0454	0.0025	-0.0810	0.0090	0.0533	0.0292	-0.3169	0.0600
2	45	0.3998	-0.0768	0.0026	-0.1345	0.0147	0.0690	0.0458	-0.2768	0.0737
2	45	0.4496	-0.0915	0.0031	-0.1948	0.0186	0.0806	0.0620	-0.2660	0.0618
2	45	0.4995	-0.1173	0.0037	-0.2590	0.0234	0.0530	0.0782	-0.3857	0.0585
2	45	0.5551	-0.1301	0.0038	-0.3408	0.0297	0.0407	0.0959	-0.3669	0.0688
2	45	0.5996	-0.1511	0.0041	-0.4079	0.0349	0.0072	0.1112	-0.3785	0.0636
2	45	0.6497	-0.1519	0.0043	-0.4752	0.0411	-0.0511	0.1279	-0.3383	0.0696
2	45	0.6996	-0.1710	0.0046	-0.5563	0.0476	-0.1111	0.1431	-0.1428	0.0716
2	45	0.7495	-0.1817	0.0048	-0.6280	0.0554	-0.2510	0.1609	-0.2661	0.0684
2	45	0.7996	-0.2100	0.0053	-0.7198	0.0631	-0.3637	0.1787	-0.2442	0.0730
2	45	0.8578	-0.2599	0.0054	-0.8135	0.0726	-0.4989	0.1999	0.0537	0.0773
2	45	0.9100	-0.2849	0.0054	-0.8490	0.0812	-0.7047	0.2188	-0.0112	0.0826
2	45	0.9727	-0.3602	0.0080	-0.8559	0.0920	-0.8337	0.2416	0.3270	0.0888
3	45	0.1938	0.0065	0.0022	-0.0335	0.0012	0.0450	0.0052	-0.0343	0.0357
3	45	0.2357	0.0133	0.0018	-0.0074	0.0030	0.0409	0.0100	0.0667	0.0441
3	45	0.2995	-0.0299	0.0024	-0.0995	0.0066	0.1220	0.0213	0.0050	0.0780
3	45	0.3493	-0.0585	0.0023	-0.1704	0.0106	0.1805	0.0342	0.0656	0.0677
3	45	0.4000	-0.0765	0.0028	-0.2465	0.0176	0.2624	0.0540	0.2932	0.0747
3	45	0.4497	-0.0957	0.0030	-0.3384	0.0221	0.3013	0.0732	0.1391	0.0797
3	45	0.4997	-0.1296	0.0036	-0.4442	0.0283	0.3751	0.0923	0.2104	0.0746
3	45	0.5556	-0.1424	0.0044	-0.5565	0.0345	0.4450	0.1143	0.2265	0.0843
3	45	0.5995	-0.1598	0.0047	-0.6646	0.0413	0.4694	0.1302	0.2893	0.0877
3	45	0.6498	-0.1660	0.0052	-0.7884	0.0486	0.4775	0.1469	0.2147	0.0854
3	45	0.6890	-0.2161	0.0053	-0.8999	0.0547	0.5032	0.1590	0.4270	0.0862
3	45	0.7495	-0.2114	0.0057	-1.0320	0.0660	0.4450	0.1812	0.4019	0.0828
3	45	0.7998	-0.2218	0.0060	-1.1482	0.0760	0.4051	0.2000	0.5126	0.0851
3	45	0.8577	-0.2640	0.0064	-1.2633	0.0885	0.3006	0.2246	0.5145	0.0860
3	45	0.9178	-0.2952	0.0066	-1.3894	0.1018	0.1461	0.2522	0.4519	0.0869
3	45	0.9729	-0.3478	0.0101	-1.4950	0.1142	-0.0236	0.2775	0.3595	0.0881
4	45	0.2001	0.0199	0.0023	0.0012	0.0013	-0.0091	0.0074	0.1669	0.0380
4	45	0.2502	0.0194	0.0019	-0.0015	0.0037	-0.0177	0.0162	0.2600	0.0571
4	45	0.3001	-0.0029	0.0022	0.0022	0.0065	-0.0215	0.0284	0.3822	0.0832
4	45	0.3502	-0.0402	0.0019	0.0038	0.0110	-0.0617	0.0488	0.2825	0.0710
4	45	0.4002	-0.0755	0.0031	0.0038	0.0176	-0.0758	0.0752	0.3123	0.0704
4	45	0.4500	-0.0864	0.0033	-0.0078	0.0250	-0.1251	0.1051	0.1737	0.0785
4	45	0.5001	-0.1085	0.0038	-0.0386	0.0339	-0.1493	0.1373	0.3453	0.0792
4	45	0.5560	-0.1286	0.0047	-0.0678	0.0448	-0.2579	0.1736	0.1360	0.0734
4	45	0.6001	-0.1497	0.0049	-0.0949	0.0547	-0.3261	0.2005	0.1804	0.0770
4	45	0.6501	-0.1749	0.0056	-0.1527	0.0671	-0.4470	0.2304	0.2656	0.0757
4	45	0.6999	-0.1853	0.0059	-0.2133	0.0794	-0.5890	0.2572	0.4847	0.0777
4	45	0.7500	-0.2030	0.0066	-0.2482	0.0938	-0.7759	0.2877	0.6749	0.0811
4	45	0.8002	-0.2380	0.0074	-0.2970	0.1082	-1.0314	0.3160	0.6491	0.0800
4	45	0.8582	-0.2597	0.0075	-0.3301	0.1258	-1.3894	0.3499	0.4245	0.0846
4	45	0.9101	-0.2920	0.0079	-0.3711	0.1423	-1.7347	0.3798	0.5032	0.0880
4	45	0.9728	-0.3213	0.0129	-0.3722	0.1625	-2.0741	0.4176	0.8398	0.0899

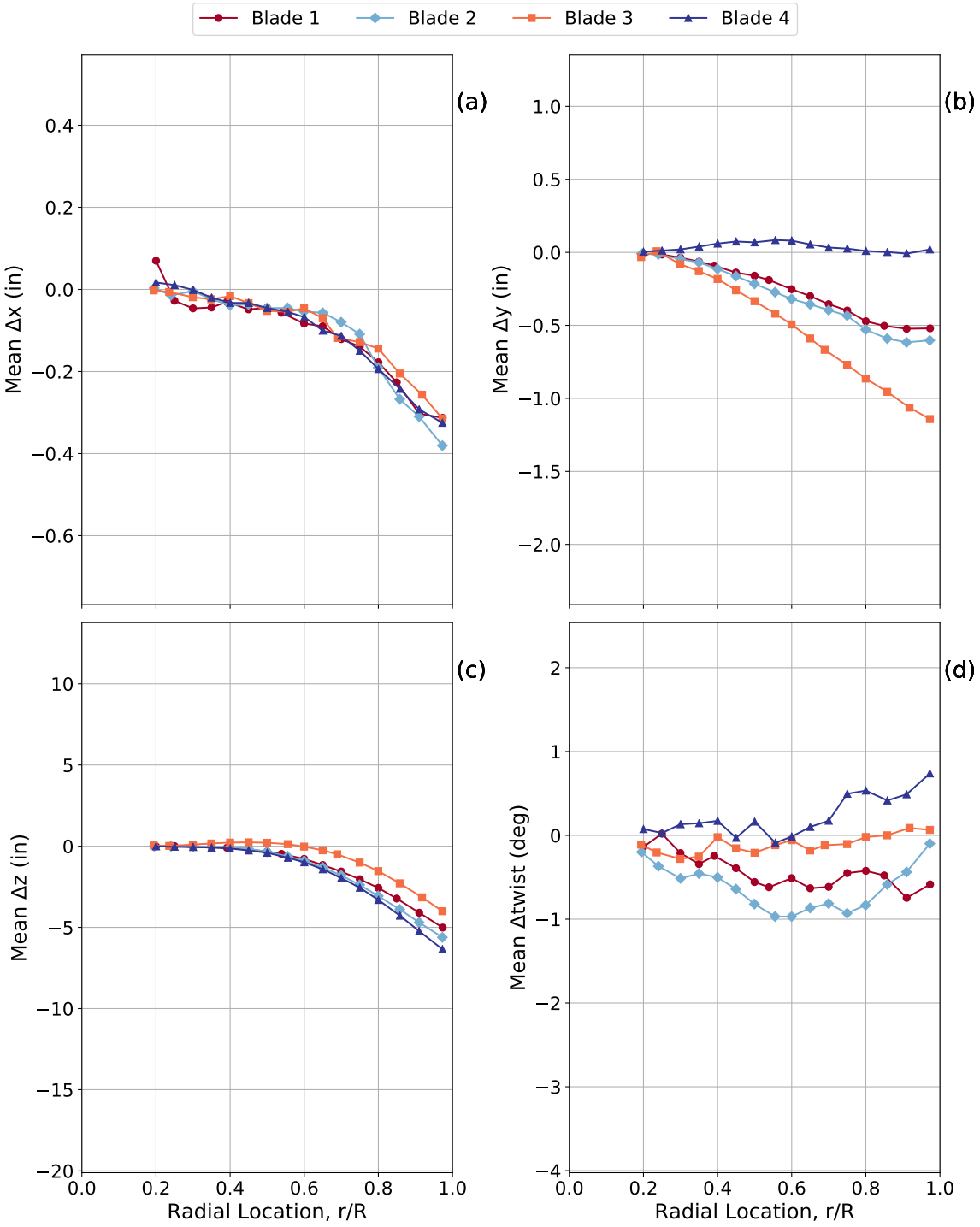


Figure 2.3-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0700	0.0020	-0.0087	0.0010	-0.0128	0.0039	-0.1367	0.0320
1	60.12	0.2499	-0.0275	0.0021	-0.0150	0.0029	0.0072	0.0088	0.0204	0.0473
1	60.12	0.2998	-0.0461	0.0018	-0.0366	0.0049	-0.0502	0.0165	-0.2116	0.0685
1	60.12	0.3498	-0.0440	0.0026	-0.0637	0.0082	-0.0672	0.0290	-0.3426	0.0715
1	60.12	0.3913	-0.0303	0.0031	-0.0908	0.0124	-0.0977	0.0417	-0.2450	0.0643
1	60.12	0.4496	-0.0486	0.0051	-0.1388	0.0170	-0.1909	0.0629	-0.3921	0.0952
1	60.12	0.4997	-0.0447	0.0064	-0.1603	0.0223	-0.3340	0.0849	-0.5564	0.1342
1	60.12	0.5387	-0.0567	0.0091	-0.1898	0.0262	-0.4772	0.1106	-0.6187	0.0708
1	60.12	0.5996	-0.0832	0.0090	-0.2524	0.0336	-0.7837	0.1405	-0.5106	0.0695
1	60.12	0.6498	-0.0898	0.0096	-0.2998	0.0403	-1.1625	0.1653	-0.6309	0.0751
1	60.12	0.6998	-0.1211	0.0095	-0.3546	0.0467	-1.5629	0.1895	-0.6144	0.0799
1	60.12	0.7500	-0.1394	0.0095	-0.3983	0.0545	-2.0366	0.2156	-0.4501	0.0752
1	60.12	0.8001	-0.1775	0.0100	-0.4718	0.0624	-2.5719	0.2435	-0.4234	0.0736
1	60.12	0.8497	-0.2264	0.0103	-0.5037	0.0702	-3.2253	0.2723	-0.4782	0.0773
1	60.12	0.9102	-0.3027	0.0108	-0.5234	0.0802	-4.0989	0.3090	-0.7455	0.0823
1	60.12	0.9734	-0.3130	0.0131	-0.5206	0.0906	-5.0135	0.3502	-0.5847	0.0829
2	60.12	0.1949	0.0031	0.0019	-0.0097	0.0009	0.0003	0.0035	-0.1994	0.0288
2	60.12	0.2405	-0.0142	0.0014	-0.0139	0.0019	-0.0019	0.0069	-0.3684	0.0407
2	60.12	0.2999	-0.0043	0.0016	-0.0462	0.0044	-0.0311	0.0152	-0.5131	0.0651
2	60.12	0.3498	-0.0240	0.0018	-0.0693	0.0065	-0.0256	0.0247	-0.4560	0.0733
2	60.12	0.3998	-0.0383	0.0025	-0.1140	0.0110	-0.0694	0.0388	-0.5012	0.0634
2	60.12	0.4496	-0.0365	0.0026	-0.1631	0.0140	-0.1632	0.0548	-0.6406	0.0605
2	60.12	0.4995	-0.0454	0.0025	-0.2157	0.0182	-0.3414	0.0728	-0.8198	0.0618
2	60.12	0.5551	-0.0452	0.0027	-0.2730	0.0228	-0.6288	0.0935	-0.9686	0.0692
2	60.12	0.5996	-0.0542	0.0028	-0.3193	0.0273	-0.9042	0.1114	-0.9691	0.0692
2	60.12	0.6497	-0.0566	0.0031	-0.3556	0.0329	-1.3058	0.1301	-0.8665	0.0653
2	60.12	0.6996	-0.0799	0.0035	-0.3954	0.0388	-1.8008	0.1490	-0.8137	0.0767
2	60.12	0.7495	-0.1089	0.0041	-0.4334	0.0446	-2.3822	0.1651	-0.9294	0.0698
2	60.12	0.7996	-0.1904	0.0049	-0.5297	0.0512	-3.0647	0.1833	-0.8329	0.0628
2	60.12	0.8578	-0.2676	0.0056	-0.5906	0.0583	-3.8975	0.2047	-0.5857	0.0726
2	60.12	0.9100	-0.3098	0.0065	-0.6165	0.0652	-4.6979	0.2254	-0.4377	0.0673
2	60.12	0.9727	-0.3806	0.0078	-0.6027	0.0725	-5.6135	0.2498	-0.0982	0.0730
3	60.12	0.1938	-0.0024	0.0019	-0.0323	0.0013	0.0442	0.0053	-0.1101	0.0286
3	60.12	0.2357	-0.0062	0.0018	0.0075	0.0029	0.0158	0.0096	-0.2042	0.0572
3	60.12	0.2995	-0.0190	0.0019	-0.0814	0.0062	0.1017	0.0218	-0.2805	0.0734
3	60.12	0.3493	-0.0239	0.0027	-0.1288	0.0112	0.1672	0.0373	-0.2544	0.0817
3	60.12	0.4000	-0.0163	0.0036	-0.1822	0.0174	0.2243	0.0576	-0.0215	0.0869
3	60.12	0.4497	-0.0332	0.0051	-0.2598	0.0230	0.2401	0.0777	-0.1549	0.1156
3	60.12	0.4997	-0.0523	0.0061	-0.3342	0.0289	0.2116	0.0992	-0.2077	0.1121
3	60.12	0.5556	-0.0545	0.0158	-0.4197	0.0402	0.1277	0.1271	-0.1168	0.1845
3	60.12	0.5995	-0.0457	0.0116	-0.4939	0.0436	-0.0261	0.1452	-0.0569	0.2239
3	60.12	0.6498	-0.0702	0.0104	-0.5899	0.0502	-0.2546	0.1704	-0.1804	0.0981
3	60.12	0.6890	-0.1184	0.0103	-0.6676	0.0561	-0.5003	0.1873	-0.1176	0.1018
3	60.12	0.7495	-0.1284	0.0104	-0.7704	0.0658	-1.0095	0.2125	-0.1039	0.0943
3	60.12	0.7998	-0.1441	0.0109	-0.8641	0.0744	-1.5350	0.2339	-0.0196	0.0947
3	60.12	0.8577	-0.2049	0.0113	-0.9552	0.0839	-2.2867	0.2600	0.0007	0.1010
3	60.12	0.9178	-0.2565	0.0120	-1.0634	0.0940	-3.1506	0.2886	0.0883	0.0914
3	60.12	0.9729	-0.3149	0.0140	-1.1415	0.1028	-4.0051	0.3161	0.0656	0.0875
4	60.12	0.2001	0.0169	0.0021	0.0046	0.0012	-0.0103	0.0049	0.0749	0.0363
4	60.12	0.2502	0.0106	0.0019	0.0121	0.0033	-0.0374	0.0115	0.0284	0.0479
4	60.12	0.3001	-0.0013	0.0020	0.0203	0.0055	-0.0536	0.0198	0.1330	0.0770
4	60.12	0.3502	-0.0200	0.0024	0.0398	0.0096	-0.0859	0.0346	0.1452	0.0710
4	60.12	0.4002	-0.0327	0.0044	0.0601	0.0150	-0.1441	0.0534	0.1729	0.0812
4	60.12	0.4500	-0.0329	0.0058	0.0742	0.0176	-0.2654	0.0766	-0.0292	0.1125
4	60.12	0.5001	-0.0454	0.0051	0.0686	0.0230	-0.4083	0.0987	0.1643	0.1127
4	60.12	0.5560	-0.0548	0.0122	0.0841	0.0289	-0.7152	0.1268	-0.0886	0.0892
4	60.12	0.6001	-0.0674	0.0122	0.0801	0.0333	-0.9917	0.1474	-0.0146	0.0980
4	60.12	0.6501	-0.1006	0.0126	0.0542	0.0389	-1.4248	0.1712	0.1011	0.1009
4	60.12	0.6999	-0.1132	0.0131	0.0331	0.0447	-1.9628	0.1959	0.1747	0.0998
4	60.12	0.7500	-0.1496	0.0135	0.0257	0.0506	-2.5592	0.2195	0.4955	0.1079
4	60.12	0.8002	-0.1941	0.0145	0.0096	0.0567	-3.3124	0.2451	0.5336	0.1076
4	60.12	0.8582	-0.2424	0.0156	0.0024	0.0641	-4.2825	0.2766	0.4159	0.1069
4	60.12	0.9101	-0.2922	0.0169	-0.0086	0.0714	-5.2328	0.3066	0.4895	0.1076
4	60.12	0.9728	-0.3250	0.0191	0.0200	0.0798	-6.3451	0.3457	0.7390	0.1122

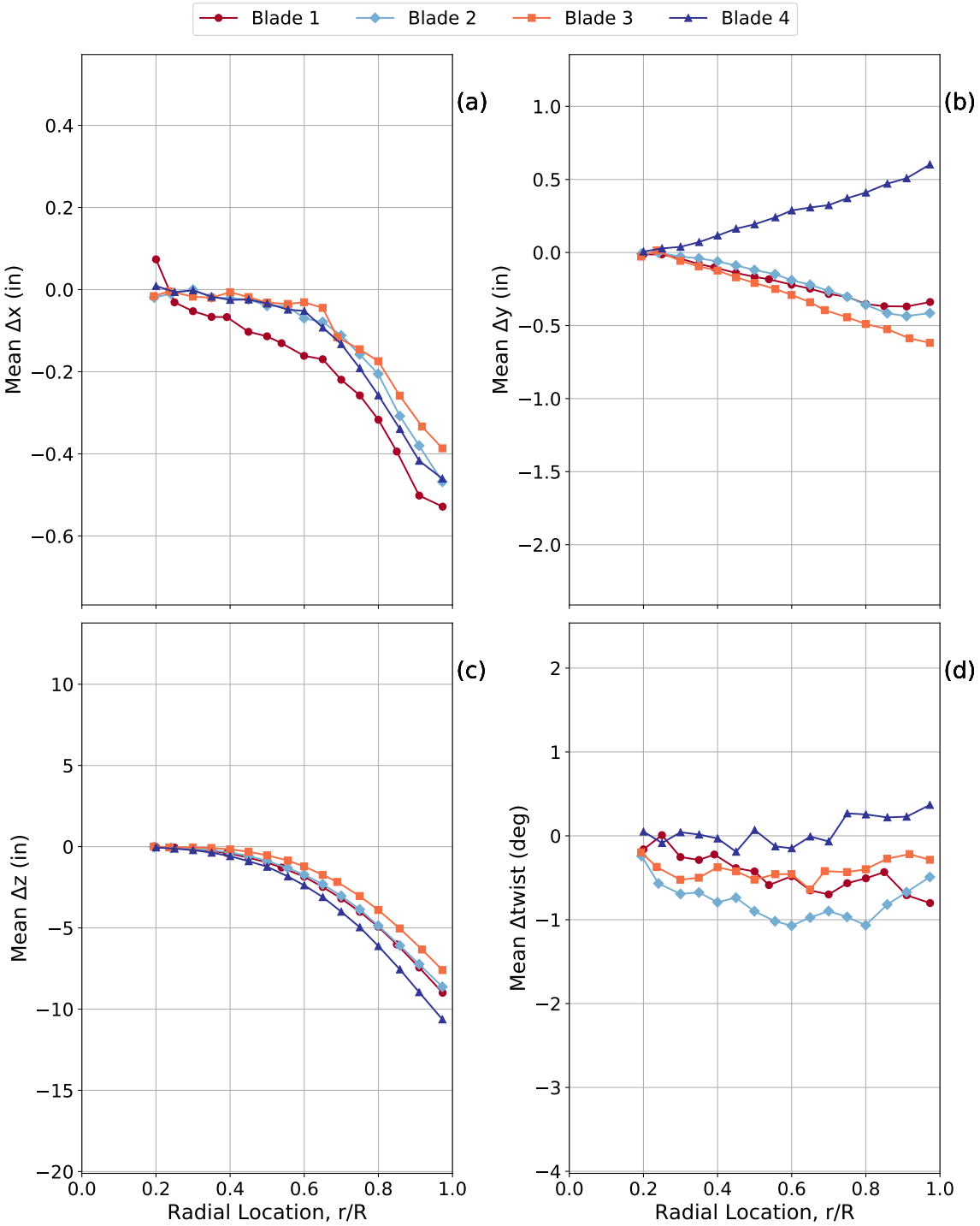


Figure 2.3-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0737	0.0021	-0.0129	0.0011	-0.0385	0.0047	-0.1610	0.0330
1	74.88	0.2499	-0.0310	0.0020	-0.0131	0.0030	-0.0534	0.0098	0.0082	0.0526
1	74.88	0.2998	-0.0526	0.0023	-0.0422	0.0053	-0.1641	0.0194	-0.2528	0.0736
1	74.88	0.3498	-0.0665	0.0024	-0.0790	0.0090	-0.2703	0.0342	-0.2874	0.0698
1	74.88	0.3913	-0.0670	0.0031	-0.1026	0.0134	-0.3915	0.0489	-0.2227	0.0685
1	74.88	0.4496	-0.1028	0.0038	-0.1399	0.0169	-0.6735	0.0693	-0.3855	0.0684
1	74.88	0.4997	-0.1137	0.0033	-0.1667	0.0218	-0.9795	0.0902	-0.4244	0.0747
1	74.88	0.5387	-0.1305	0.0036	-0.1832	0.0254	-1.2851	0.1063	-0.5867	0.0734
1	74.88	0.5996	-0.1613	0.0038	-0.2201	0.0311	-1.8482	0.1327	-0.4816	0.0730
1	74.88	0.6498	-0.1696	0.0043	-0.2475	0.0361	-2.4828	0.1528	-0.6506	0.0771
1	74.88	0.6998	-0.2195	0.0048	-0.2839	0.0417	-3.1921	0.1735	-0.6986	0.0746
1	74.88	0.7500	-0.2577	0.0059	-0.3037	0.0479	-4.0121	0.1949	-0.5644	0.0790
1	74.88	0.8001	-0.3169	0.0075	-0.3527	0.0537	-4.9412	0.2166	-0.5065	0.0814
1	74.88	0.8497	-0.3943	0.0090	-0.3679	0.0603	-6.0175	0.2406	-0.4328	0.0789
1	74.88	0.9102	-0.5016	0.0113	-0.3695	0.0677	-7.4401	0.2707	-0.7083	0.0816
1	74.88	0.9734	-0.5286	0.0135	-0.3389	0.0759	-8.9927	0.3043	-0.8013	0.0837
2	74.88	0.1949	-0.0192	0.0018	-0.0088	0.0012	-0.0170	0.0058	-0.2413	0.0187
2	74.88	0.2405	-0.0102	0.0015	-0.0011	0.0021	-0.0673	0.0110	-0.5678	0.0342
2	74.88	0.2999	-0.0001	0.0018	-0.0282	0.0050	-0.1386	0.0254	-0.6925	0.0453
2	74.88	0.3498	-0.0187	0.0023	-0.0398	0.0086	-0.2084	0.0429	-0.6749	0.0525
2	74.88	0.3998	-0.0213	0.0030	-0.0612	0.0133	-0.3685	0.0668	-0.7919	0.0580
2	74.88	0.4496	-0.0238	0.0040	-0.0883	0.0167	-0.5730	0.0931	-0.7379	0.0628
2	74.88	0.4995	-0.0395	0.0054	-0.1193	0.0215	-0.8714	0.1248	-0.8989	0.0866
2	74.88	0.5551	-0.0404	0.0075	-0.1486	0.0276	-1.3098	0.1622	-1.0186	0.1413
2	74.88	0.5996	-0.0701	0.0104	-0.1895	0.0323	-1.7243	0.1861	-1.0717	0.0790
2	74.88	0.6497	-0.0788	0.0112	-0.2210	0.0369	-2.3077	0.2197	-0.9742	0.0850
2	74.88	0.6996	-0.1117	0.0121	-0.2631	0.0418	-3.0312	0.2552	-0.8972	0.0856
2	74.88	0.7495	-0.1577	0.0140	-0.3027	0.0468	-3.8625	0.2909	-0.9666	0.0953
2	74.88	0.7996	-0.2054	0.0160	-0.3587	0.0521	-4.8648	0.3303	-1.0659	0.0993
2	74.88	0.8578	-0.3078	0.0189	-0.4156	0.0585	-6.0866	0.3773	-0.8191	0.0972
2	74.88	0.9100	-0.3800	0.0217	-0.4354	0.0646	-7.2321	0.4209	-0.6710	0.1028
2	74.88	0.9727	-0.4681	0.0245	-0.4145	0.0718	-8.6281	0.4742	-0.4910	0.1113
3	74.88	0.1938	-0.0160	0.0017	-0.0279	0.0010	0.0099	0.0053	-0.1964	0.0211
3	74.88	0.2357	-0.0042	0.0014	0.0140	0.0019	-0.0454	0.0104	-0.3712	0.0336
3	74.88	0.2995	-0.0171	0.0017	-0.0573	0.0042	-0.0474	0.0241	-0.5230	0.0497
3	74.88	0.3493	-0.0200	0.0022	-0.0953	0.0077	-0.0803	0.0414	-0.4997	0.0474
3	74.88	0.4000	-0.0063	0.0035	-0.1235	0.0118	-0.1646	0.0649	-0.3744	0.0536
3	74.88	0.4497	-0.0184	0.0039	-0.1695	0.0151	-0.3122	0.0909	-0.4226	0.0578
3	74.88	0.4997	-0.0316	0.0045	-0.2083	0.0196	-0.5331	0.1211	-0.5214	0.0725
3	74.88	0.5556	-0.0351	0.0063	-0.2495	0.0255	-0.8525	0.1563	-0.4576	0.0798
3	74.88	0.5995	-0.0308	0.0076	-0.2904	0.0297	-1.2152	0.1871	-0.4565	0.0815
3	74.88	0.6498	-0.0445	0.0088	-0.3405	0.0347	-1.7368	0.2196	-0.6407	0.1649
3	74.88	0.6890	-0.1161	0.0127	-0.3944	0.0386	-2.1712	0.2455	-0.4208	0.0796
3	74.88	0.7495	-0.1453	0.0137	-0.4432	0.0455	-3.0420	0.2836	-0.4328	0.0816
3	74.88	0.7998	-0.1744	0.0148	-0.4891	0.0512	-3.8980	0.3152	-0.3982	0.0870
3	74.88	0.8577	-0.2583	0.0169	-0.5249	0.0582	-5.0381	0.3525	-0.2726	0.0940
3	74.88	0.9178	-0.3335	0.0185	-0.5876	0.0660	-6.3317	0.3923	-0.2185	0.0984
3	74.88	0.9729	-0.3866	0.0210	-0.6183	0.0736	-7.5947	0.4293	-0.2858	0.1012
4	74.88	0.2001	0.0089	0.0022	0.0064	0.0012	-0.0476	0.0064	0.0506	0.0241
4	74.88	0.2502	-0.0059	0.0017	0.0276	0.0029	-0.1248	0.0138	-0.0853	0.0412
4	74.88	0.3001	-0.0019	0.0018	0.0386	0.0053	-0.2124	0.0265	0.0427	0.0542
4	74.88	0.3502	-0.0173	0.0024	0.0712	0.0092	-0.3711	0.0450	0.0153	0.0544
4	74.88	0.4002	-0.0250	0.0030	0.1159	0.0145	-0.5843	0.0703	-0.0315	0.0586
4	74.88	0.4500	-0.0242	0.0040	0.1627	0.0196	-0.8942	0.0991	-0.1898	0.0654
4	74.88	0.5001	-0.0338	0.0048	0.1929	0.0253	-1.2379	0.1314	0.0696	0.0628
4	74.88	0.5560	-0.0488	0.0060	0.2407	0.0323	-1.8335	0.1698	-0.1257	0.0672
4	74.88	0.6001	-0.0519	0.0071	0.2878	0.0378	-2.3802	0.1993	-0.1482	0.0892
4	74.88	0.6501	-0.0924	0.0119	0.3081	0.0451	-3.1052	0.2358	-0.0081	0.1146
4	74.88	0.6999	-0.1328	0.0133	0.3240	0.0503	-4.0043	0.2756	-0.0671	0.0701
4	74.88	0.7500	-0.1916	0.0143	0.3716	0.0574	-4.9641	0.3099	0.2681	0.0729
4	74.88	0.8002	-0.2577	0.0155	0.4102	0.0649	-6.1241	0.3443	0.2552	0.0773
4	74.88	0.8582	-0.3395	0.0180	0.4708	0.0744	-7.5597	0.3855	0.2198	0.0794
4	74.88	0.9101	-0.4169	0.0200	0.5081	0.0830	-8.9599	0.4231	0.2284	0.0828
4	74.88	0.9728	-0.4603	0.0223	0.6021	0.0937	-10.6325	0.4697	0.3689	0.0812

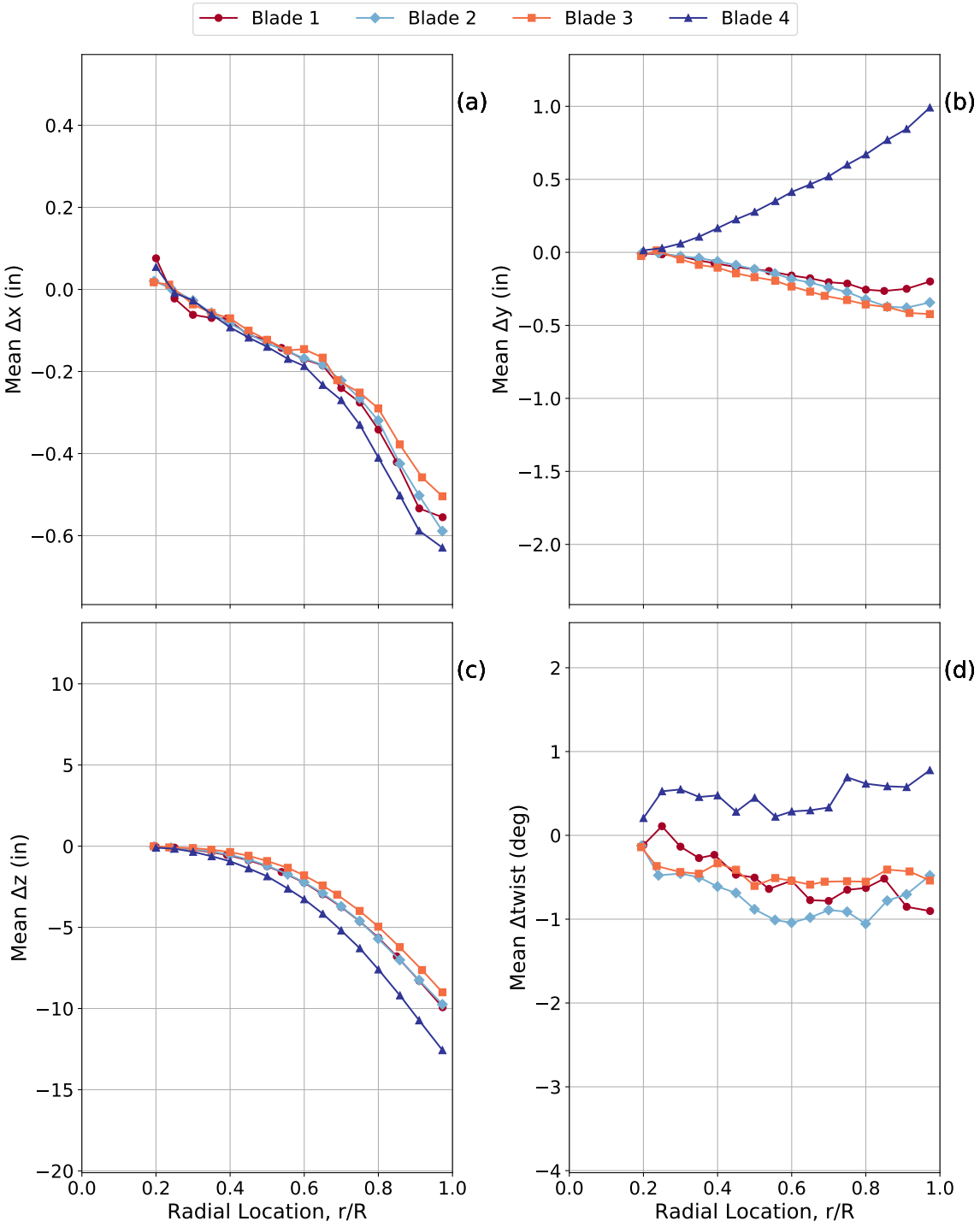


Figure 2.3-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0759	0.0020	-0.0075	0.0013	-0.0511	0.0052	-0.1149	0.0278
1	80.16	0.2499	-0.0221	0.0019	-0.0139	0.0025	-0.0871	0.0113	0.1093	0.0527
1	80.16	0.2998	-0.0619	0.0025	-0.0273	0.0054	-0.2138	0.0230	-0.1347	0.0649
1	80.16	0.3498	-0.0695	0.0023	-0.0561	0.0091	-0.3772	0.0388	-0.2708	0.0588
1	80.16	0.3913	-0.0710	0.0027	-0.0739	0.0131	-0.5346	0.0572	-0.2330	0.0686
1	80.16	0.4496	-0.1113	0.0038	-0.1004	0.0184	-0.8727	0.0859	-0.4693	0.0647
1	80.16	0.4997	-0.1229	0.0045	-0.1158	0.0232	-1.2315	0.1148	-0.5043	0.0769
1	80.16	0.5387	-0.1425	0.0049	-0.1279	0.0273	-1.5894	0.1381	-0.6390	0.0781
1	80.16	0.5996	-0.1703	0.0058	-0.1589	0.0340	-2.2427	0.1777	-0.5405	0.0677
1	80.16	0.6498	-0.1850	0.0070	-0.1775	0.0400	-2.9662	0.2108	-0.7726	0.0819
1	80.16	0.6998	-0.2403	0.0088	-0.2045	0.0465	-3.7469	0.2473	-0.7822	0.0723
1	80.16	0.7500	-0.2756	0.0108	-0.2139	0.0533	-4.6354	0.2846	-0.6497	0.0807
1	80.16	0.8001	-0.3415	0.0134	-0.2554	0.0606	-5.6410	0.3247	-0.6282	0.0808
1	80.16	0.8497	-0.4210	0.0166	-0.2642	0.0679	-6.7861	0.3663	-0.5161	0.0816
1	80.16	0.9102	-0.5337	0.0204	-0.2499	0.0771	-8.2931	0.4187	-0.8525	0.0765
1	80.16	0.9734	-0.5551	0.0250	-0.1994	0.0873	-9.9232	0.4761	-0.9028	0.0817
2	80.16	0.1949	0.0201	0.0022	-0.0072	0.0013	-0.0315	0.0052	-0.1241	0.0274
2	80.16	0.2405	0.0024	0.0016	-0.0042	0.0022	-0.0965	0.0122	-0.4767	0.0387
2	80.16	0.2999	-0.0270	0.0019	-0.0269	0.0055	-0.1973	0.0258	-0.4565	0.0610
2	80.16	0.3498	-0.0569	0.0024	-0.0389	0.0090	-0.3282	0.0427	-0.4999	0.0560
2	80.16	0.3998	-0.0832	0.0027	-0.0617	0.0141	-0.5415	0.0684	-0.6109	0.0633
2	80.16	0.4496	-0.1077	0.0033	-0.0874	0.0189	-0.8164	0.0934	-0.6871	0.0637
2	80.16	0.4995	-0.1318	0.0040	-0.1155	0.0247	-1.1919	0.1222	-0.8817	0.0649
2	80.16	0.5551	-0.1507	0.0047	-0.1460	0.0311	-1.7283	0.1593	-1.0098	0.0634
2	80.16	0.5996	-0.1679	0.0053	-0.1823	0.0363	-2.2203	0.1895	-1.0425	0.0717
2	80.16	0.6497	-0.1835	0.0070	-0.2064	0.0430	-2.9018	0.2248	-0.9806	0.0789
2	80.16	0.6996	-0.2220	0.0085	-0.2404	0.0499	-3.7111	0.2635	-0.8907	0.0810
2	80.16	0.7495	-0.2654	0.0110	-0.2715	0.0570	-4.6119	0.3065	-0.9114	0.0785
2	80.16	0.7996	-0.3193	0.0138	-0.3223	0.0645	-5.7009	0.3516	-1.0554	0.0848
2	80.16	0.8578	-0.4246	0.0184	-0.3718	0.0730	-7.0111	0.4075	-0.7793	0.0833
2	80.16	0.9100	-0.5021	0.0220	-0.3789	0.0810	-8.2485	0.4609	-0.7039	0.0906
2	80.16	0.9727	-0.5888	0.0264	-0.3433	0.0906	-9.7447	0.5275	-0.4790	0.0957
3	80.16	0.1938	0.0175	0.0017	-0.0251	0.0013	-0.0082	0.0067	-0.1407	0.0237
3	80.16	0.2357	0.0116	0.0019	0.0133	0.0027	-0.0754	0.0121	-0.3665	0.0404
3	80.16	0.2995	-0.0365	0.0024	-0.0473	0.0061	-0.1169	0.0283	-0.4376	0.0558
3	80.16	0.3493	-0.0571	0.0020	-0.0852	0.0107	-0.2155	0.0496	-0.4579	0.0563
3	80.16	0.4000	-0.0705	0.0024	-0.1048	0.0168	-0.3617	0.0765	-0.3329	0.0642
3	80.16	0.4497	-0.1006	0.0028	-0.1440	0.0234	-0.5902	0.1044	-0.4104	0.0641
3	80.16	0.4997	-0.1229	0.0028	-0.1698	0.0306	-0.9159	0.1353	-0.6027	0.0698
3	80.16	0.5556	-0.1485	0.0037	-0.1944	0.0397	-1.3310	0.1681	-0.5092	0.0713
3	80.16	0.5995	-0.1455	0.0037	-0.2340	0.0475	-1.8004	0.1931	-0.5419	0.0827
3	80.16	0.6498	-0.1663	0.0045	-0.2689	0.0570	-2.4224	0.2208	-0.5880	0.0816
3	80.16	0.6890	-0.2211	0.0057	-0.2978	0.0646	-2.9855	0.2418	-0.5527	0.0857
3	80.16	0.7495	-0.2513	0.0063	-0.3266	0.0773	-3.9884	0.2734	-0.5481	0.0864
3	80.16	0.7998	-0.2899	0.0072	-0.3568	0.0885	-4.9572	0.2986	-0.5530	0.0843
3	80.16	0.8577	-0.3777	0.0091	-0.3752	0.1017	-6.2190	0.3272	-0.4086	0.0876
3	80.16	0.9178	-0.4579	0.0107	-0.4152	0.1155	-7.6306	0.3561	-0.4303	0.0873
3	80.16	0.9729	-0.5041	0.0119	-0.4229	0.1284	-8.9999	0.3837	-0.5387	0.0898
4	80.16	0.2001	0.0548	0.0019	0.0138	0.0010	-0.0927	0.0046	0.2063	0.0282
4	80.16	0.2502	-0.0086	0.0017	0.0287	0.0023	-0.1590	0.0095	0.5259	0.0450
4	80.16	0.3001	-0.0270	0.0025	0.0603	0.0040	-0.3499	0.0195	0.5478	0.0625
4	80.16	0.3502	-0.0610	0.0025	0.1070	0.0072	-0.6202	0.0329	0.4578	0.0650
4	80.16	0.4002	-0.0924	0.0034	0.1658	0.0111	-0.9327	0.0517	0.4765	0.0770
4	80.16	0.4500	-0.1173	0.0037	0.2258	0.0146	-1.3701	0.0718	0.2810	0.0778
4	80.16	0.5001	-0.1398	0.0039	0.2778	0.0188	-1.8559	0.0961	0.4485	0.0768
4	80.16	0.5560	-0.1692	0.0051	0.3512	0.0247	-2.6169	0.1244	0.2227	0.0818
4	80.16	0.6001	-0.1866	0.0058	0.4137	0.0298	-3.2692	0.1483	0.2851	0.0866
4	80.16	0.6501	-0.2327	0.0068	0.4655	0.0360	-4.1645	0.1796	0.2989	0.0889
4	80.16	0.6999	-0.2698	0.0082	0.5206	0.0428	-5.1959	0.2109	0.3323	0.0863
4	80.16	0.7500	-0.3300	0.0103	0.6002	0.0502	-6.2901	0.2457	0.6920	0.0895
4	80.16	0.8002	-0.4101	0.0134	0.6706	0.0579	-7.5974	0.2813	0.6163	0.0906
4	80.16	0.8582	-0.5020	0.0174	0.7700	0.0672	-9.1928	0.3252	0.5855	0.0932
4	80.16	0.9101	-0.5880	0.0204	0.8455	0.0758	-10.7318	0.3676	0.5760	0.0957
4	80.16	0.9728	-0.6292	0.0241	0.9914	0.0861	-12.5644	0.4216	0.7774	0.0998

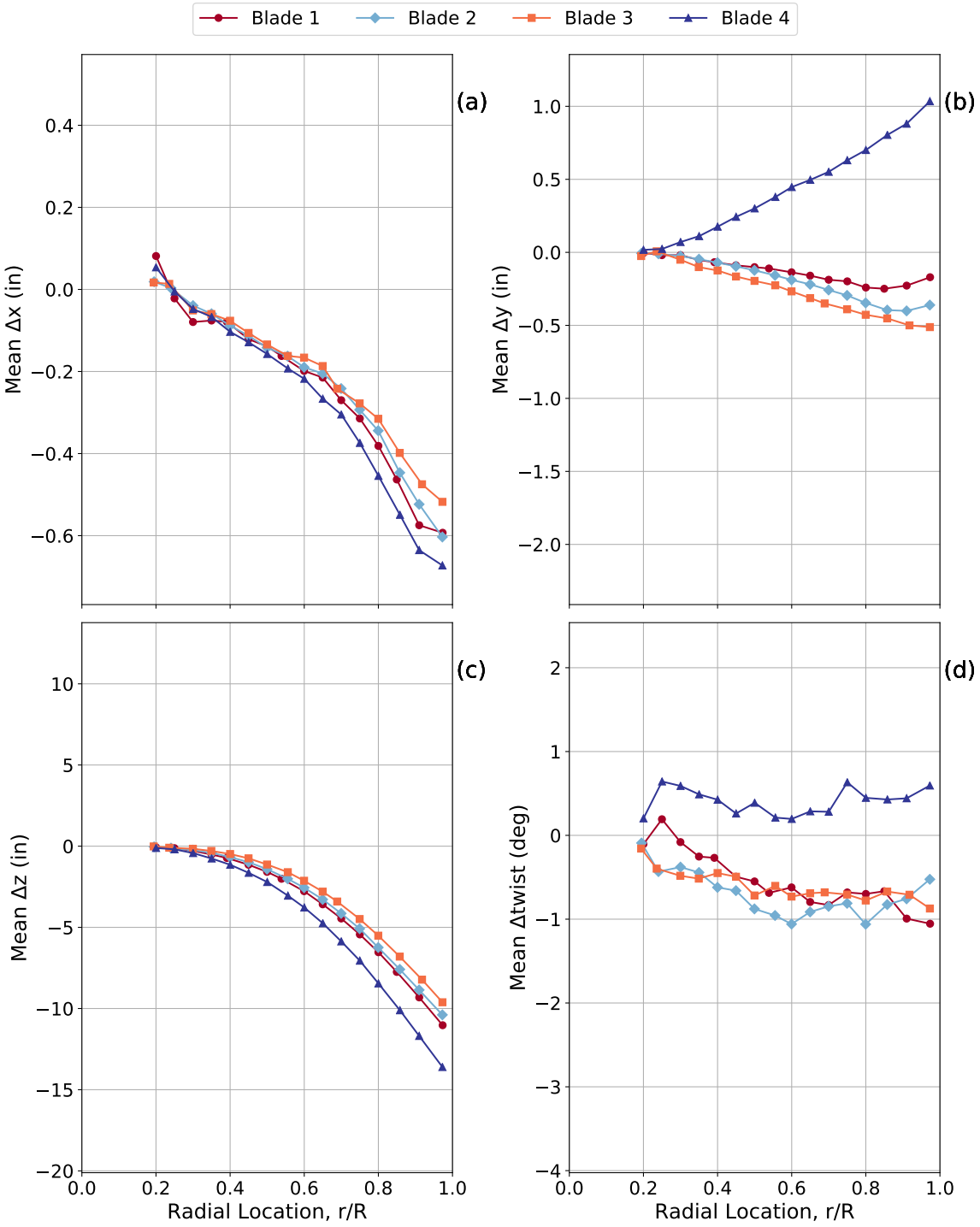


Figure 2.3-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0814	0.0021	-0.0044	0.0013	-0.0684	0.0055	-0.1045	0.0298
1	85.08	0.2499	-0.0218	0.0020	-0.0193	0.0027	-0.1220	0.0110	0.1924	0.0574
1	85.08	0.2998	-0.0794	0.0019	-0.0193	0.0058	-0.2878	0.0230	-0.0804	0.0693
1	85.08	0.3498	-0.0758	0.0024	-0.0522	0.0099	-0.5122	0.0398	-0.2531	0.0738
1	85.08	0.3913	-0.0788	0.0026	-0.0675	0.0144	-0.7257	0.0573	-0.2682	0.0721
1	85.08	0.4496	-0.1212	0.0037	-0.0889	0.0199	-1.1424	0.0870	-0.4936	0.0779
1	85.08	0.4997	-0.1386	0.0041	-0.1012	0.0257	-1.5824	0.1155	-0.5497	0.0750
1	85.08	0.5387	-0.1622	0.0052	-0.1104	0.0310	-2.0082	0.1388	-0.6861	0.0753
1	85.08	0.5996	-0.1986	0.0065	-0.1367	0.0393	-2.7727	0.1773	-0.6210	0.0747
1	85.08	0.6498	-0.2148	0.0081	-0.1596	0.0466	-3.5814	0.2109	-0.7948	0.0800
1	85.08	0.6998	-0.2699	0.0098	-0.1877	0.0542	-4.4540	0.2444	-0.8314	0.0822
1	85.08	0.7500	-0.3144	0.0122	-0.1985	0.0623	-5.4360	0.2782	-0.6809	0.0783
1	85.08	0.8001	-0.3813	0.0151	-0.2410	0.0709	-6.5319	0.3132	-0.6987	0.0826
1	85.08	0.8497	-0.4631	0.0181	-0.2491	0.0795	-7.7461	0.3493	-0.6666	0.0839
1	85.08	0.9102	-0.5746	0.0214	-0.2278	0.0903	-9.3152	0.3947	-0.9932	0.0828
1	85.08	0.9734	-0.5929	0.0254	-0.1703	0.1020	-11.0283	0.4419	-1.0541	0.0896
2	85.08	0.1949	0.0187	0.0019	-0.0062	0.0014	-0.0403	0.0051	-0.0913	0.0276
2	85.08	0.2405	0.0033	0.0024	-0.0098	0.0026	-0.1190	0.0087	-0.4324	0.0457
2	85.08	0.2999	-0.0394	0.0025	-0.0259	0.0062	-0.2425	0.0205	-0.3788	0.0639
2	85.08	0.3498	-0.0593	0.0023	-0.0468	0.0107	-0.4116	0.0361	-0.4426	0.0617
2	85.08	0.3998	-0.0882	0.0031	-0.0705	0.0166	-0.6706	0.0547	-0.6208	0.0677
2	85.08	0.4496	-0.1128	0.0040	-0.0957	0.0223	-0.9834	0.0741	-0.6598	0.0744
2	85.08	0.4995	-0.1420	0.0043	-0.1231	0.0285	-1.4136	0.0956	-0.8773	0.0710
2	85.08	0.5551	-0.1625	0.0049	-0.1574	0.0362	-2.0087	0.1199	-0.9562	0.0737
2	85.08	0.5996	-0.1896	0.0050	-0.1886	0.0435	-2.5549	0.1407	-1.0585	0.0799
2	85.08	0.6497	-0.2049	0.0063	-0.2192	0.0514	-3.2818	0.1641	-0.9136	0.0800
2	85.08	0.6996	-0.2415	0.0072	-0.2577	0.0601	-4.1426	0.1881	-0.8470	0.0893
2	85.08	0.7495	-0.2932	0.0089	-0.2948	0.0692	-5.0809	0.2138	-0.8107	0.0885
2	85.08	0.7996	-0.3442	0.0107	-0.3463	0.0789	-6.2406	0.2425	-1.0605	0.0866
2	85.08	0.8578	-0.4466	0.0136	-0.3955	0.0903	-7.5895	0.2775	-0.8259	0.0874
2	85.08	0.9100	-0.5235	0.0160	-0.4009	0.1006	-8.8555	0.3116	-0.7576	0.0916
2	85.08	0.9727	-0.6032	0.0195	-0.3609	0.1132	-10.3885	0.3559	-0.5242	0.0957
3	85.08	0.1938	0.0169	0.0022	-0.0253	0.0013	-0.0156	0.0056	-0.1578	0.0262
3	85.08	0.2357	0.0135	0.0019	0.0071	0.0025	-0.0957	0.0113	-0.3966	0.0453
3	85.08	0.2995	-0.0511	0.0023	-0.0504	0.0061	-0.1595	0.0258	-0.4824	0.0629
3	85.08	0.3493	-0.0600	0.0023	-0.1010	0.0108	-0.2923	0.0434	-0.5163	0.0607
3	85.08	0.4000	-0.0763	0.0025	-0.1244	0.0168	-0.4837	0.0690	-0.4498	0.0617
3	85.08	0.4497	-0.1061	0.0034	-0.1654	0.0229	-0.7489	0.0968	-0.4937	0.0737
3	85.08	0.4997	-0.1341	0.0039	-0.1955	0.0303	-1.1292	0.1289	-0.7175	0.0744
3	85.08	0.5556	-0.1621	0.0047	-0.2257	0.0393	-1.6011	0.1697	-0.6029	0.0820
3	85.08	0.5995	-0.1661	0.0061	-0.2673	0.0468	-2.1293	0.2044	-0.7305	0.0860
3	85.08	0.6498	-0.1867	0.0073	-0.3133	0.0560	-2.8001	0.2471	-0.6908	0.0916
3	85.08	0.6890	-0.2420	0.0089	-0.3500	0.0642	-3.4089	0.2831	-0.6799	0.0950
3	85.08	0.7495	-0.2777	0.0122	-0.3898	0.0768	-4.4877	0.3411	-0.7059	0.0948
3	85.08	0.7998	-0.3152	0.0152	-0.4275	0.0878	-5.5115	0.3920	-0.7771	0.0986
3	85.08	0.8577	-0.3983	0.0194	-0.4523	0.1007	-6.8015	0.4524	-0.6705	0.1023
3	85.08	0.9178	-0.4748	0.0234	-0.5000	0.1143	-8.2206	0.5183	-0.7085	0.0990
3	85.08	0.9729	-0.5176	0.0273	-0.5119	0.1268	-9.6142	0.5805	-0.8728	0.1021
4	85.08	0.2001	0.0538	0.0023	0.0170	0.0013	-0.1106	0.0060	0.2024	0.0244
4	85.08	0.2502	-0.0051	0.0020	0.0233	0.0030	-0.1954	0.0115	0.6425	0.0411
4	85.08	0.3001	-0.0476	0.0019	0.0705	0.0058	-0.4256	0.0246	0.5895	0.0540
4	85.08	0.3502	-0.0671	0.0025	0.1110	0.0101	-0.7598	0.0413	0.4888	0.0533
4	85.08	0.4002	-0.1034	0.0029	0.1757	0.0158	-1.1450	0.0644	0.4252	0.0617
4	85.08	0.4500	-0.1288	0.0034	0.2430	0.0209	-1.6429	0.0888	0.2604	0.0607
4	85.08	0.5001	-0.1574	0.0042	0.3008	0.0271	-2.2083	0.1164	0.3888	0.0676
4	85.08	0.5560	-0.1928	0.0052	0.3791	0.0351	-3.0492	0.1492	0.2117	0.0725
4	85.08	0.6001	-0.2178	0.0062	0.4470	0.0419	-3.7793	0.1769	0.1957	0.0709
4	85.08	0.6501	-0.2665	0.0080	0.4963	0.0499	-4.7486	0.2093	0.2864	0.0718
4	85.08	0.6999	-0.3048	0.0100	0.5514	0.0586	-5.8664	0.2436	0.2812	0.0703
4	85.08	0.7500	-0.3741	0.0127	0.6305	0.0675	-7.0539	0.2784	0.6330	0.0781
4	85.08	0.8002	-0.4544	0.0154	0.7007	0.0765	-8.4556	0.3135	0.4473	0.0782
4	85.08	0.8582	-0.5493	0.0191	0.8042	0.0876	-10.1089	0.3556	0.4279	0.0797
4	85.08	0.9101	-0.6353	0.0225	0.8808	0.0977	-11.6900	0.3943	0.4422	0.0821
4	85.08	0.9728	-0.6726	0.0254	1.0344	0.1101	-13.6041	0.4417	0.5944	0.0870

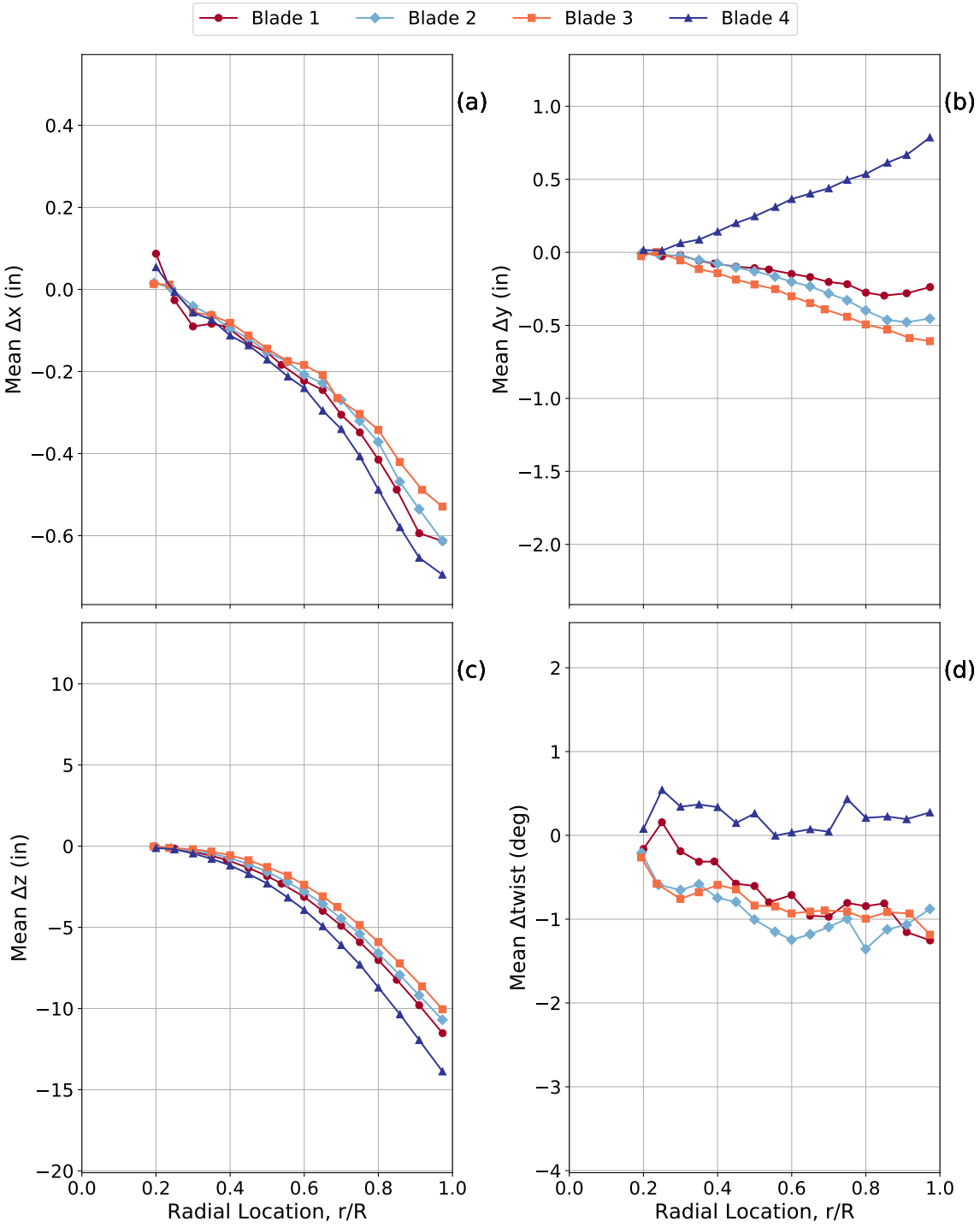


Figure 2.3-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0871	0.0025	-0.0028	0.0014	-0.0796	0.0051	-0.1622	0.0323
1	90	0.2499	-0.0262	0.0022	-0.0268	0.0031	-0.1419	0.0109	0.1562	0.0631
1	90	0.2998	-0.0902	0.0020	-0.0190	0.0058	-0.3379	0.0223	-0.1893	0.0764
1	90	0.3498	-0.0837	0.0026	-0.0578	0.0103	-0.5958	0.0379	-0.3148	0.0708
1	90	0.3913	-0.0908	0.0025	-0.0773	0.0149	-0.8483	0.0556	-0.3118	0.0728
1	90	0.4496	-0.1319	0.0032	-0.0973	0.0210	-1.3440	0.0805	-0.5764	0.0751
1	90	0.4997	-0.1534	0.0041	-0.1082	0.0276	-1.8368	0.1050	-0.6040	0.0748
1	90	0.5387	-0.1837	0.0043	-0.1175	0.0329	-2.3056	0.1241	-0.7987	0.0786
1	90	0.5996	-0.2225	0.0050	-0.1477	0.0423	-3.1221	0.1549	-0.7120	0.0785
1	90	0.6498	-0.2451	0.0059	-0.1693	0.0504	-3.9827	0.1807	-0.9581	0.0809
1	90	0.6998	-0.3054	0.0071	-0.2028	0.0594	-4.9020	0.2059	-0.9706	0.0831
1	90	0.7500	-0.3485	0.0084	-0.2180	0.0688	-5.9101	0.2325	-0.8068	0.0878
1	90	0.8001	-0.4149	0.0104	-0.2755	0.0791	-7.0181	0.2615	-0.8440	0.0858
1	90	0.8497	-0.4880	0.0125	-0.2962	0.0893	-8.2314	0.2908	-0.8120	0.0886
1	90	0.9102	-0.5942	0.0153	-0.2804	0.1018	-9.7986	0.3289	-1.1542	0.0926
1	90	0.9734	-0.6131	0.0182	-0.2379	0.1153	-11.5188	0.3718	-1.2535	0.0889
2	90	0.1949	0.0157	0.0018	-0.0063	0.0012	-0.0442	0.0061	-0.2080	0.0243
2	90	0.2405	0.0032	0.0018	-0.0122	0.0023	-0.1293	0.0115	-0.5896	0.0400
2	90	0.2999	-0.0410	0.0021	-0.0266	0.0053	-0.2746	0.0268	-0.6523	0.0558
2	90	0.3498	-0.0632	0.0021	-0.0526	0.0092	-0.4438	0.0460	-0.5828	0.0520
2	90	0.3998	-0.0953	0.0031	-0.0772	0.0143	-0.7394	0.0712	-0.7471	0.0536
2	90	0.4496	-0.1191	0.0038	-0.1034	0.0191	-1.1004	0.1004	-0.7939	0.0635
2	90	0.4995	-0.1523	0.0042	-0.1295	0.0245	-1.5742	0.1331	-1.0047	0.0640
2	90	0.5551	-0.1762	0.0054	-0.1660	0.0310	-2.2133	0.1738	-1.1501	0.0691
2	90	0.5996	-0.2077	0.0066	-0.2012	0.0367	-2.7905	0.2083	-1.2465	0.0663
2	90	0.6497	-0.2286	0.0082	-0.2333	0.0434	-3.5547	0.2468	-1.1801	0.0719
2	90	0.6996	-0.2694	0.0104	-0.2814	0.0508	-4.4589	0.2882	-1.0936	0.0722
2	90	0.7495	-0.3205	0.0131	-0.3280	0.0581	-5.4016	0.3300	-0.9947	0.0785
2	90	0.7996	-0.3715	0.0161	-0.3980	0.0659	-6.5941	0.3747	-1.3568	0.0784
2	90	0.8578	-0.4687	0.0200	-0.4632	0.0748	-7.9356	0.4294	-1.1227	0.0811
2	90	0.9100	-0.5354	0.0234	-0.4778	0.0830	-9.1832	0.4802	-1.0658	0.0880
2	90	0.9727	-0.6126	0.0272	-0.4538	0.0928	-10.6929	0.5434	-0.8781	0.0909
3	90	0.1938	0.0132	0.0021	-0.0260	0.0014	-0.0192	0.0069	-0.2637	0.0262
3	90	0.2357	0.0119	0.0021	0.0029	0.0027	-0.1075	0.0112	-0.5768	0.0487
3	90	0.2995	-0.0556	0.0020	-0.0547	0.0064	-0.1896	0.0281	-0.7571	0.0652
3	90	0.3493	-0.0629	0.0024	-0.1144	0.0107	-0.3319	0.0488	-0.6786	0.0599
3	90	0.4000	-0.0813	0.0028	-0.1423	0.0172	-0.5582	0.0750	-0.5913	0.0618
3	90	0.4497	-0.1123	0.0035	-0.1861	0.0235	-0.8659	0.1032	-0.6439	0.0651
3	90	0.4997	-0.1444	0.0040	-0.2201	0.0305	-1.2846	0.1353	-0.8372	0.0720
3	90	0.5556	-0.1750	0.0047	-0.2517	0.0404	-1.8106	0.1749	-0.8480	0.0687
3	90	0.5995	-0.1841	0.0052	-0.3008	0.0480	-2.3771	0.2068	-0.9312	0.0728
3	90	0.6498	-0.2085	0.0065	-0.3471	0.0579	-3.0926	0.2438	-0.9093	0.0855
3	90	0.6890	-0.2647	0.0080	-0.3902	0.0662	-3.7426	0.2739	-0.8961	0.0827
3	90	0.7495	-0.3033	0.0106	-0.4409	0.0797	-4.8614	0.3214	-0.9087	0.0932
3	90	0.7998	-0.3423	0.0131	-0.4936	0.0917	-5.9074	0.3634	-0.9941	0.0998
3	90	0.8577	-0.4205	0.0166	-0.5286	0.1058	-7.2200	0.4143	-0.9155	0.0927
3	90	0.9178	-0.4883	0.0198	-0.5869	0.1207	-8.6366	0.4677	-0.9329	0.1018
3	90	0.9729	-0.5292	0.0220	-0.6080	0.1344	-10.0490	0.5186	-1.1849	0.1049
4	90.35	0.2001	0.0542	0.0023	0.0160	0.0013	-0.1151	0.0053	0.0780	0.0237
4	90.35	0.2502	-0.0063	0.0014	0.0121	0.0028	-0.1959	0.0116	0.5428	0.0424
4	90.35	0.3001	-0.0564	0.0016	0.0631	0.0055	-0.4479	0.0223	0.3416	0.0533
4	90.35	0.3502	-0.0737	0.0022	0.0876	0.0097	-0.7808	0.0382	0.3683	0.0554
4	90.35	0.4002	-0.1124	0.0029	0.1418	0.0150	-1.1867	0.0597	0.3367	0.0608
4	90.35	0.4500	-0.1362	0.0035	0.2003	0.0203	-1.7146	0.0847	0.1476	0.0683
4	90.35	0.5001	-0.1710	0.0039	0.2469	0.0270	-2.3013	0.1135	0.2613	0.0650
4	90.35	0.5560	-0.2121	0.0051	0.3110	0.0359	-3.1694	0.1491	-0.0029	0.0637
4	90.35	0.6001	-0.2404	0.0063	0.3651	0.0436	-3.9285	0.1786	0.0346	0.0693
4	90.35	0.6501	-0.2953	0.0078	0.4028	0.0530	-4.9318	0.2116	0.0728	0.0735
4	90.35	0.6999	-0.3403	0.0097	0.4386	0.0633	-6.0926	0.2455	0.0435	0.0809
4	90.35	0.7500	-0.4067	0.0121	0.4964	0.0745	-7.2922	0.2792	0.4323	0.0875
4	90.35	0.8002	-0.4881	0.0149	0.5367	0.0862	-8.7089	0.3123	0.2090	0.0877
4	90.35	0.8582	-0.5794	0.0180	0.6142	0.1003	-10.3584	0.3511	0.2248	0.0918
4	90.35	0.9101	-0.6538	0.0208	0.6671	0.1133	-11.9424	0.3864	0.1928	0.0921
4	90.35	0.9728	-0.6950	0.0227	0.7865	0.1290	-13.8727	0.4307	0.2740	0.0979

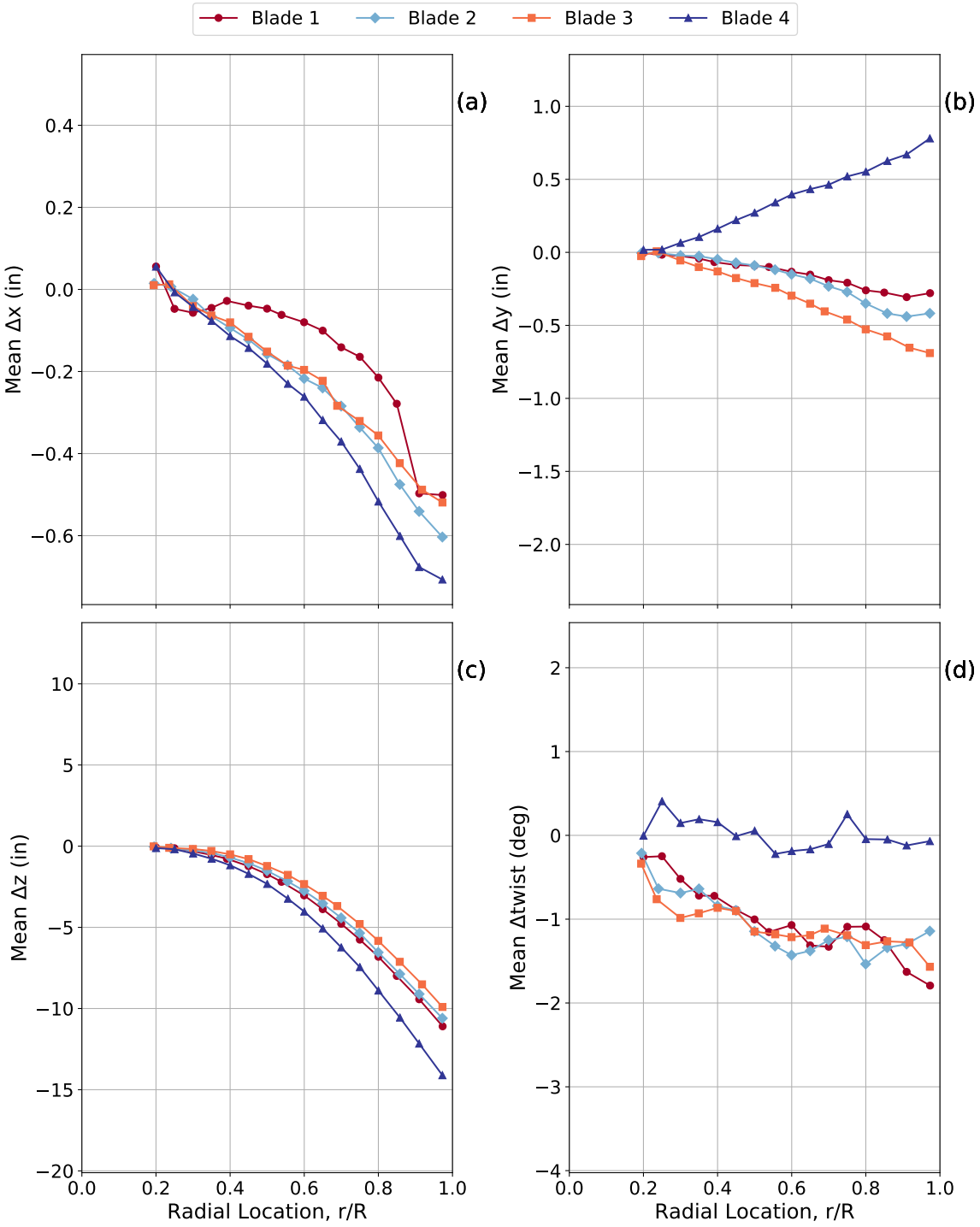


Figure 2.3-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	0.0559	0.0024	-0.0040	0.0011	-0.0749	0.0049	-0.2593	0.0228
1	94.92	0.2499	-0.0473	0.0016	-0.0163	0.0025	-0.1264	0.0094	-0.2489	0.0433
1	94.92	0.2998	-0.0569	0.0017	-0.0250	0.0046	-0.3140	0.0195	-0.5194	0.0524
1	94.92	0.3498	-0.0451	0.0023	-0.0424	0.0084	-0.5399	0.0348	-0.7188	0.0486
1	94.92	0.3913	-0.0279	0.0028	-0.0668	0.0119	-0.7730	0.0491	-0.7222	0.0528
1	94.92	0.4496	-0.0395	0.0038	-0.0867	0.0168	-1.2307	0.0715	-0.8877	0.0549
1	94.92	0.4997	-0.0469	0.0044	-0.0919	0.0215	-1.7254	0.0925	-1.0029	0.0609
1	94.92	0.5387	-0.0620	0.0049	-0.1001	0.0262	-2.1965	0.1100	-1.1531	0.0654
1	94.92	0.5996	-0.0800	0.0067	-0.1328	0.0330	-3.0320	0.1397	-1.0706	0.0598
1	94.92	0.6498	-0.1004	0.0080	-0.1525	0.0398	-3.8792	0.1689	-1.3130	0.0858
1	94.92	0.6998	-0.1410	0.0096	-0.1905	0.0470	-4.7817	0.2007	-1.3289	0.0760
1	94.92	0.7500	-0.1642	0.0132	-0.2082	0.0551	-5.7573	0.2341	-1.0909	0.0839
1	94.92	0.8001	-0.2149	0.0161	-0.2601	0.0634	-6.8136	0.2718	-1.0881	0.1121
1	94.92	0.8497	-0.2786	0.0183	-0.2752	0.0734	-7.9931	0.3067	-1.2505	0.0989
1	94.92	0.9102	-0.4970	0.0192	-0.3066	0.0833	-9.4303	0.3491	-1.6287	0.0750
1	94.92	0.9734	-0.5010	0.0223	-0.2793	0.0954	-11.0960	0.3960	-1.7920	0.0831
2	94.92	0.1949	0.0148	0.0018	-0.0043	0.0011	-0.0412	0.0060	-0.2131	0.0262
2	94.92	0.2405	0.0066	0.0018	-0.0045	0.0020	-0.1237	0.0116	-0.6368	0.0470
2	94.92	0.2999	-0.0238	0.0021	-0.0220	0.0046	-0.2636	0.0262	-0.6882	0.0622
2	94.92	0.3498	-0.0655	0.0026	-0.0259	0.0079	-0.4129	0.0459	-0.6385	0.0558
2	94.92	0.3998	-0.0939	0.0029	-0.0477	0.0122	-0.6990	0.0707	-0.8419	0.0620
2	94.92	0.4496	-0.1220	0.0042	-0.0715	0.0169	-1.0411	0.0992	-0.8962	0.0558
2	94.92	0.4995	-0.1576	0.0050	-0.0902	0.0220	-1.5133	0.1323	-1.1453	0.0647
2	94.92	0.5551	-0.1848	0.0063	-0.1190	0.0285	-2.1669	0.1735	-1.3213	0.0645
2	94.92	0.5996	-0.2171	0.0076	-0.1505	0.0342	-2.7520	0.2095	-1.4292	0.0690
2	94.92	0.6497	-0.2401	0.0100	-0.1801	0.0414	-3.5288	0.2524	-1.3777	0.0736
2	94.92	0.6996	-0.2842	0.0124	-0.2324	0.0489	-4.4173	0.2978	-1.2496	0.0717
2	94.92	0.7495	-0.3359	0.0154	-0.2709	0.0570	-5.3528	0.3466	-1.2103	0.0696
2	94.92	0.7996	-0.3861	0.0194	-0.3500	0.0657	-6.5426	0.3968	-1.5352	0.0778
2	94.92	0.8578	-0.4752	0.0240	-0.4183	0.0766	-7.8731	0.4579	-1.3402	0.0756
2	94.92	0.9100	-0.5409	0.0277	-0.4397	0.0865	-9.1076	0.5142	-1.2972	0.0793
2	94.92	0.9727	-0.6033	0.0327	-0.4177	0.0984	-10.5997	0.5838	-1.1423	0.0875
3	94.92	0.1938	0.0104	0.0028	-0.0256	0.0017	-0.0136	0.0077	-0.3374	0.0356
3	94.92	0.2357	0.0125	0.0017	0.0072	0.0020	-0.1020	0.0085	-0.7618	0.0993
3	94.92	0.2995	-0.0406	0.0021	-0.0555	0.0064	-0.1718	0.0260	-0.9851	0.1093
3	94.92	0.3493	-0.0635	0.0023	-0.1004	0.0108	-0.2930	0.0450	-0.9301	0.1101
3	94.92	0.4000	-0.0803	0.0031	-0.1304	0.0166	-0.5050	0.0667	-0.8644	0.1114
3	94.92	0.4497	-0.1154	0.0037	-0.1759	0.0222	-0.7970	0.0898	-0.9033	0.1199
3	94.92	0.4997	-0.1514	0.0038	-0.2107	0.0282	-1.2232	0.1152	-1.1482	0.1224
3	94.92	0.5556	-0.1856	0.0050	-0.2429	0.0367	-1.7674	0.1459	-1.1806	0.1186
3	94.92	0.5995	-0.1961	0.0057	-0.2967	0.0437	-2.3352	0.1716	-1.2142	0.1282
3	94.92	0.6498	-0.2226	0.0071	-0.3512	0.0525	-3.0578	0.2025	-1.1909	0.1220
3	94.92	0.6890	-0.2835	0.0082	-0.4041	0.0593	-3.6867	0.2266	-1.1129	0.1337
3	94.92	0.7495	-0.3206	0.0100	-0.4605	0.0706	-4.7947	0.2649	-1.1926	0.1373
3	94.92	0.7998	-0.3559	0.0118	-0.5272	0.0809	-5.8320	0.2974	-1.3096	0.1417
3	94.92	0.8577	-0.4233	0.0142	-0.5757	0.0926	-7.1231	0.3358	-1.2641	0.1333
3	94.92	0.9178	-0.4881	0.0164	-0.6531	0.1058	-8.5106	0.3758	-1.2770	0.1315
3	94.92	0.9729	-0.5192	0.0188	-0.6898	0.1176	-9.9029	0.4113	-1.5680	0.1362
4	94.92	0.2001	0.0555	0.0024	0.0172	0.0015	-0.1173	0.0070	-0.0043	0.0283
4	94.92	0.2502	-0.0071	0.0021	0.0190	0.0031	-0.1886	0.0149	0.4069	0.0473
4	94.92	0.3001	-0.0426	0.0023	0.0652	0.0067	-0.4520	0.0290	0.1471	0.0636
4	94.92	0.3502	-0.0767	0.0025	0.1054	0.0111	-0.7728	0.0505	0.1927	0.0649
4	94.92	0.4002	-0.1137	0.0031	0.1614	0.0177	-1.1779	0.0784	0.1572	0.0673
4	94.92	0.4500	-0.1426	0.0042	0.2208	0.0243	-1.7081	0.1108	-0.0099	0.0660
4	94.92	0.5001	-0.1811	0.0052	0.2716	0.0317	-2.3272	0.1442	0.0543	0.0685
4	94.92	0.5560	-0.2300	0.0062	0.3419	0.0408	-3.2384	0.1834	-0.2216	0.0734
4	94.92	0.6001	-0.2614	0.0080	0.3963	0.0485	-4.0292	0.2155	-0.1870	0.0769
4	94.92	0.6501	-0.3184	0.0096	0.4331	0.0582	-5.0718	0.2542	-0.1663	0.0803
4	94.92	0.6999	-0.3709	0.0122	0.4633	0.0683	-6.2363	0.2928	-0.1031	0.0788
4	94.92	0.7500	-0.4375	0.0148	0.5198	0.0787	-7.4500	0.3323	0.2518	0.0812
4	94.92	0.8002	-0.5169	0.0183	0.5526	0.0900	-8.8942	0.3716	-0.0449	0.0812
4	94.92	0.8582	-0.6008	0.0222	0.6256	0.1032	-10.5603	0.4163	-0.0493	0.0820
4	94.92	0.9101	-0.6765	0.0258	0.6701	0.1156	-12.1623	0.4546	-0.1205	0.0840
4	94.92	0.9728	-0.7070	0.0289	0.7801	0.1306	-14.1103	0.5031	-0.0689	0.0899

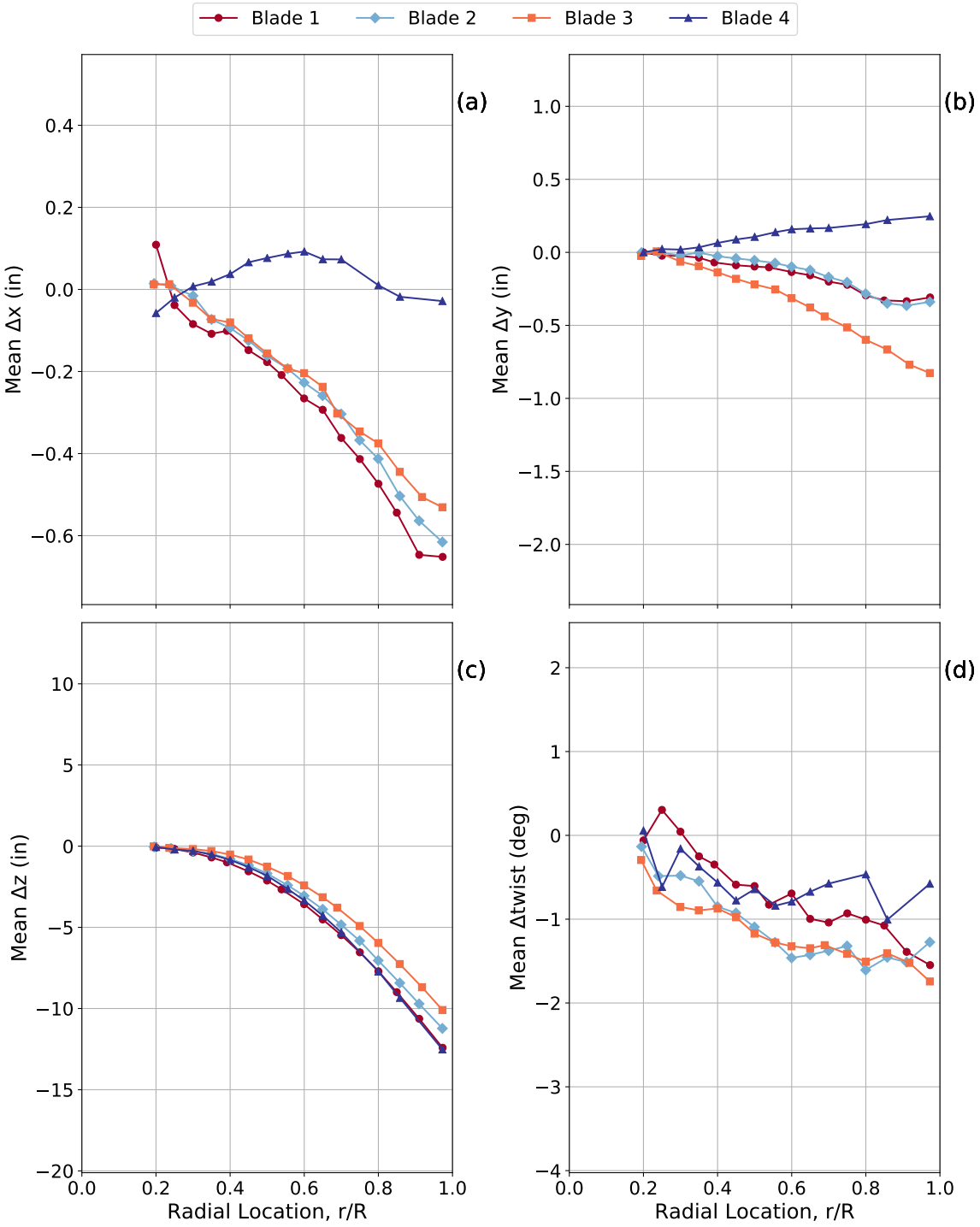


Figure 2.3-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	0.1089	0.0033	-0.0008	0.0015	-0.0907	0.0070	-0.0602	0.0399
1	99.84	0.2499	-0.0382	0.0026	-0.0230	0.0028	-0.1682	0.0140	0.3039	0.1001
1	99.84	0.2998	-0.0844	0.0025	-0.0240	0.0064	-0.3937	0.0299	0.0438	0.1049
1	99.84	0.3498	-0.1081	0.0031	-0.0366	0.0110	-0.6939	0.0518	-0.2505	0.1097
1	99.84	0.3913	-0.1009	0.0036	-0.0690	0.0158	-0.9932	0.0747	-0.3480	0.1097
1	99.84	0.4496	-0.1479	0.0044	-0.0886	0.0230	-1.5495	0.1119	-0.5881	0.1181
1	99.84	0.4997	-0.1770	0.0054	-0.0972	0.0299	-2.1163	0.1488	-0.6049	0.1177
1	99.84	0.5387	-0.2086	0.0069	-0.1027	0.0358	-2.6618	0.1784	-0.8271	0.1293
1	99.84	0.5996	-0.2656	0.0089	-0.1347	0.0461	-3.5719	0.2276	-0.6937	0.1241
1	99.84	0.6498	-0.2932	0.0109	-0.1569	0.0552	-4.5132	0.2692	-0.9963	0.1303
1	99.84	0.6998	-0.3619	0.0133	-0.2003	0.0651	-5.4791	0.3098	-1.0399	0.1360
1	99.84	0.7500	-0.4133	0.0165	-0.2223	0.0762	-6.5376	0.3528	-0.9302	0.1409
1	99.84	0.8001	-0.4736	0.0192	-0.2949	0.0876	-7.7060	0.3961	-1.0063	0.1467
1	99.84	0.8497	-0.5440	0.0230	-0.3290	0.0994	-8.9915	0.4395	-1.0755	0.1400
1	99.84	0.9102	-0.6467	0.0271	-0.3347	0.1146	-10.6317	0.4939	-1.3900	0.1475
1	99.84	0.9734	-0.6517	0.0308	-0.3087	0.1305	-12.4170	0.5521	-1.5478	0.1426
2	99.84	0.1949	0.0144	0.0020	-0.0014	0.0011	-0.0468	0.0057	-0.1338	0.0272
2	99.84	0.2405	0.0084	0.0022	-0.0008	0.0019	-0.1422	0.0109	-0.4860	0.0484
2	99.84	0.2999	-0.0155	0.0026	-0.0199	0.0041	-0.2984	0.0248	-0.4801	0.0643
2	99.84	0.3498	-0.0731	0.0022	-0.0022	0.0076	-0.4684	0.0434	-0.5473	0.0593
2	99.84	0.3998	-0.0938	0.0029	-0.0268	0.0112	-0.7921	0.0669	-0.8506	0.0629
2	99.84	0.4496	-0.1245	0.0038	-0.0416	0.0150	-1.1732	0.0937	-0.9260	0.0644
2	99.84	0.4995	-0.1616	0.0049	-0.0548	0.0195	-1.6834	0.1260	-1.0933	0.0673
2	99.84	0.5551	-0.1930	0.0066	-0.0738	0.0247	-2.4061	0.1690	-1.2768	0.0709
2	99.84	0.5996	-0.2270	0.0081	-0.0985	0.0293	-3.0587	0.2055	-1.4624	0.0676
2	99.84	0.6497	-0.2589	0.0103	-0.1220	0.0350	-3.8852	0.2496	-1.4256	0.0783
2	99.84	0.6996	-0.3036	0.0125	-0.1695	0.0406	-4.8401	0.2953	-1.3761	0.0777
2	99.84	0.7495	-0.3674	0.0156	-0.2047	0.0471	-5.8234	0.3412	-1.3198	0.0788
2	99.84	0.7996	-0.4126	0.0192	-0.2830	0.0535	-7.0423	0.3867	-1.6072	0.0837
2	99.84	0.8578	-0.5034	0.0234	-0.3494	0.0612	-8.4250	0.4419	-1.4558	0.0892
2	99.84	0.9100	-0.5637	0.0272	-0.3645	0.0685	-9.7124	0.4910	-1.5127	0.0886
2	99.84	0.9727	-0.6155	0.0309	-0.3390	0.0774	-11.2255	0.5509	-1.2738	0.0905
3	99.84	0.1938	0.0122	0.0027	-0.0247	0.0012	-0.0136	0.0081	-0.2940	0.0299
3	99.84	0.2357	0.0129	0.0022	0.0067	0.0025	-0.1050	0.0144	-0.6580	0.0554
3	99.84	0.2995	-0.0324	0.0022	-0.0636	0.0060	-0.1763	0.0349	-0.8542	0.0735
3	99.84	0.3493	-0.0723	0.0024	-0.0940	0.0101	-0.2971	0.0595	-0.8946	0.0728
3	99.84	0.4000	-0.0804	0.0036	-0.1367	0.0162	-0.5152	0.0929	-0.8722	0.0819
3	99.84	0.4497	-0.1189	0.0041	-0.1812	0.0222	-0.8227	0.1329	-0.9765	0.0871
3	99.84	0.4997	-0.1559	0.0044	-0.2196	0.0296	-1.2586	0.1825	-1.1724	0.0826
3	99.84	0.5556	-0.1928	0.0059	-0.2538	0.0389	-1.8380	0.2452	-1.2785	0.0880
3	99.84	0.5995	-0.2040	0.0079	-0.3136	0.0466	-2.4126	0.2997	-1.3238	0.0901
3	99.84	0.6498	-0.2373	0.0106	-0.3774	0.0565	-3.1456	0.3688	-1.3471	0.0985
3	99.84	0.6890	-0.3024	0.0132	-0.4387	0.0649	-3.7883	0.4274	-1.3102	0.1033
3	99.84	0.7495	-0.3462	0.0186	-0.5141	0.0784	-4.9178	0.5256	-1.4133	0.1030
3	99.84	0.7998	-0.3751	0.0236	-0.5989	0.0902	-5.9619	0.6149	-1.5076	0.1077
3	99.84	0.8577	-0.4445	0.0312	-0.6657	0.1042	-7.2607	0.7204	-1.4069	0.1075
3	99.84	0.9178	-0.5059	0.0375	-0.7692	0.1193	-8.6865	0.8315	-1.5209	0.1115
3	99.84	0.9729	-0.5308	0.0421	-0.8265	0.1334	-10.0917	0.9360	-1.7434	0.1190
4	99.84	0.2001	-0.0576	0.0022	0.0001	0.0014	-0.0524	0.0054	0.0571	0.0340
4	99.84	0.2502	-0.0199	0.0014	0.0223	0.0030	-0.2073	0.0124	-0.6159	0.0599
4	99.84	0.3001	0.0074	0.0018	0.0188	0.0054	-0.2905	0.0219	-0.1599	0.0773
4	99.84	0.3502	0.0189	0.0026	0.0346	0.0091	-0.5223	0.0383	-0.3721	0.0672
4	99.84	0.4002	0.0374	0.0040	0.0644	0.0141	-0.8479	0.0593	-0.5629	0.0734
4	99.84	0.4500	0.0662	0.0050	0.0880	0.0193	-1.2937	0.0831	-0.7766	0.0757
4	99.84	0.5001	0.0766	0.0063	0.1058	0.0257	-1.8260	0.1115	-0.6418	0.0832
4	99.84	0.5560	0.0869	0.0078	0.1379	0.0334	-2.6416	0.1456	-0.8393	0.0875
4	99.84	0.6001	0.0923	0.0087	0.1579	0.0403	-3.3488	0.1736	-0.7904	0.0874
4	99.84	0.6501	0.0735	0.0101	0.1634	0.0486	-4.2734	0.2075	-0.6727	0.0940
4	99.84	0.6999	0.0731	0.0128	0.1668	0.0577	-5.3115	0.2423	-0.5755	0.0858
4	99.84	0.8002	0.0101	0.0189	0.1930	0.0771	-7.7216	0.3149	-0.4654	0.1381
4	99.84	0.8582	-0.0179	0.0242	0.2215	0.0901	-9.3478	0.3570	-1.0055	0.2669
4	99.84	0.9728	-0.0284	0.0297	0.2470	0.1139	-12.5208	0.4437	-0.5772	0.2117

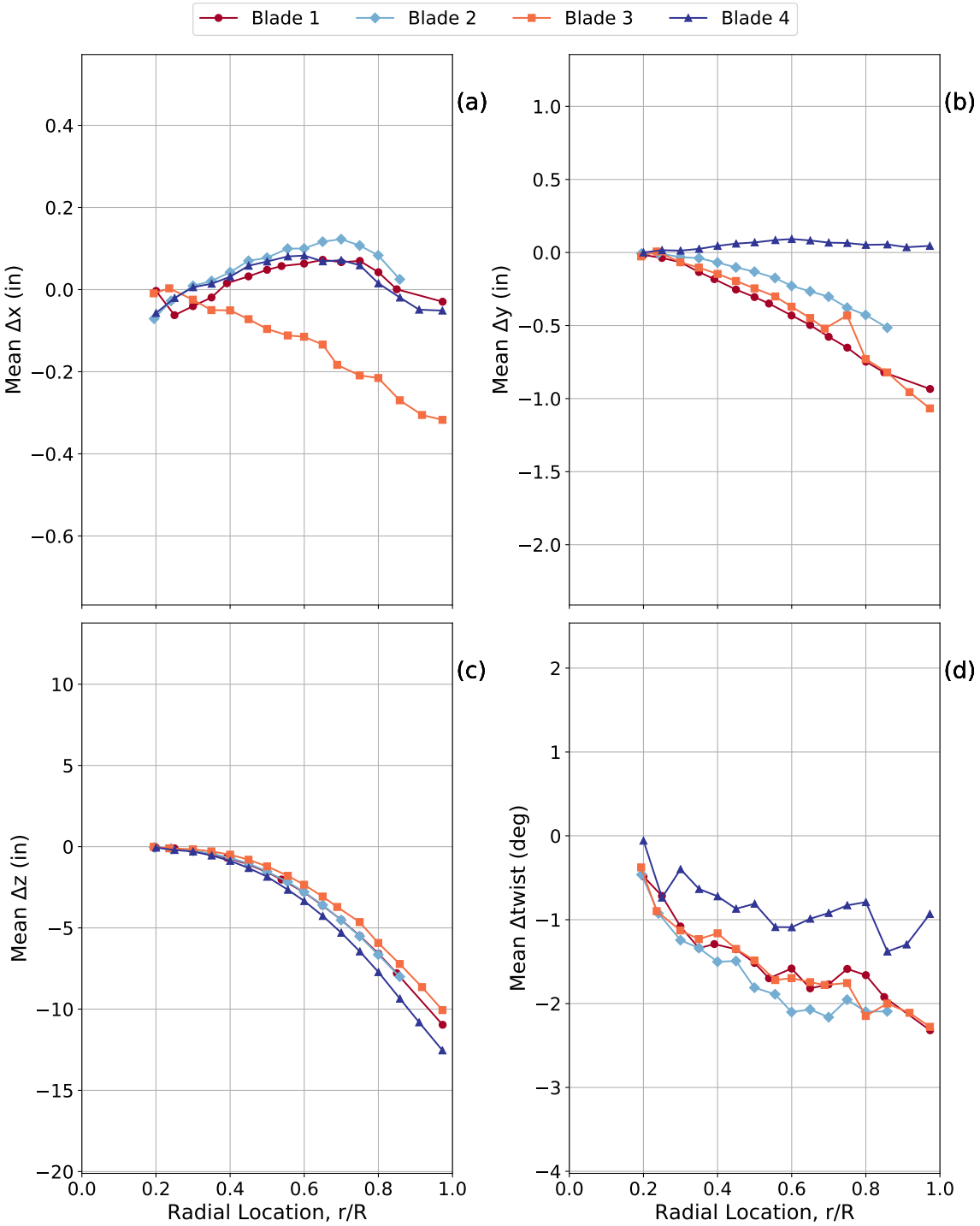


Figure 2.3-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0031	0.0026	-0.0165	0.0009	-0.0652	0.0047	-0.4837	0.0316
1	105.12	0.2499	-0.0623	0.0017	-0.0374	0.0022	-0.1007	0.0113	-0.7162	0.0504
1	105.12	0.2998	-0.0404	0.0016	-0.0666	0.0038	-0.2798	0.0210	-1.0805	0.0696
1	105.12	0.3498	-0.0192	0.0030	-0.1339	0.0068	-0.4660	0.0363	-1.3396	0.0649
1	105.12	0.3913	0.0154	0.0041	-0.1823	0.0098	-0.6757	0.0534	-1.2906	0.0661
1	105.12	0.4496	0.0322	0.0057	-0.2535	0.0136	-1.0943	0.0828	-1.3526	0.0637
1	105.12	0.4997	0.0482	0.0073	-0.3050	0.0173	-1.5712	0.1141	-1.5158	0.0742
1	105.12	0.5387	0.0573	0.0087	-0.3493	0.0210	-2.0231	0.1409	-1.6986	0.0713
1	105.12	0.5996	0.0633	0.0110	-0.4310	0.0269	-2.8082	0.1872	-1.5820	0.0731
1	105.12	0.6498	0.0725	0.0134	-0.4965	0.0322	-3.6287	0.2304	-1.8187	0.0826
1	105.12	0.6998	0.0669	0.0161	-0.5771	0.0378	-4.5046	0.2754	-1.7709	0.0798
1	105.12	0.7500	0.0698	0.0193	-0.6512	0.0442	-5.4947	0.3232	-1.5866	0.0785
1	105.12	0.8001	0.0423	0.0236	-0.7471	0.0506	-6.5805	0.3754	-1.6612	0.0935
1	105.12	0.8497	0.0008	0.0278	-0.8211	0.0578	-7.7922	0.4269	-1.9220	0.0724
1	105.12	0.9734	-0.0295	0.0383	-0.9341	0.0766	-10.9649	0.5631	-2.3185	0.1499
2	105.12	0.1949	-0.0708	0.0026	-0.0070	0.0012	-0.0457	0.0037	-0.4624	0.0293
2	105.12	0.2405	-0.0274	0.0020	-0.0056	0.0018	-0.1175	0.0078	-0.9242	0.0406
2	105.12	0.2999	0.0091	0.0019	-0.0319	0.0040	-0.2588	0.0157	-1.2438	0.0636
2	105.12	0.3498	0.0209	0.0022	-0.0385	0.0073	-0.4239	0.0281	-1.3387	0.0572
2	105.12	0.3998	0.0424	0.0033	-0.0686	0.0106	-0.6942	0.0428	-1.5016	0.0570
2	105.12	0.4496	0.0700	0.0045	-0.1021	0.0140	-1.0345	0.0569	-1.4921	0.0588
2	105.12	0.4995	0.0776	0.0052	-0.1313	0.0178	-1.5254	0.0742	-1.8104	0.0632
2	105.12	0.5551	0.0997	0.0067	-0.1744	0.0223	-2.1674	0.0947	-1.8885	0.0633
2	105.12	0.5996	0.1000	0.0077	-0.2288	0.0266	-2.7902	0.1133	-2.1012	0.0650
2	105.12	0.6497	0.1167	0.0084	-0.2658	0.0313	-3.5930	0.1356	-2.0704	0.0674
2	105.12	0.6996	0.1228	0.0100	-0.3026	0.0366	-4.5179	0.1602	-2.1625	0.0790
2	105.12	0.7495	0.1073	0.0121	-0.3774	0.0421	-5.5142	0.1875	-1.9534	0.0751
2	105.12	0.7996	0.0834	0.0131	-0.4275	0.0483	-6.6462	0.2170	-2.0954	0.0898
2	105.12	0.8578	0.0251	0.0169	-0.5148	0.0551	-8.0046	0.2548	-2.0931	0.1006
3	105.12	0.1938	-0.0091	0.0042	-0.0267	0.0012	-0.0113	0.0084	-0.3765	0.0482
3	105.12	0.2357	0.0031	0.0025	0.0068	0.0016	-0.1027	0.0109	-0.8978	0.1370
3	105.12	0.2995	-0.0245	0.0032	-0.0667	0.0045	-0.1614	0.0277	-1.1276	0.1494
3	105.12	0.3493	-0.0499	0.0030	-0.1034	0.0076	-0.2893	0.0475	-1.2314	0.1494
3	105.12	0.4000	-0.0506	0.0028	-0.1467	0.0116	-0.4913	0.0712	-1.1621	0.1507
3	105.12	0.4497	-0.0720	0.0038	-0.1953	0.0159	-0.8032	0.0934	-1.3487	0.1539
3	105.12	0.4997	-0.0959	0.0041	-0.2456	0.0208	-1.2132	0.1205	-1.4858	0.1599
3	105.12	0.5556	-0.1117	0.0047	-0.3008	0.0268	-1.7920	0.1532	-1.7195	0.1600
3	105.12	0.5995	-0.1148	0.0047	-0.3709	0.0323	-2.3432	0.1774	-1.6970	0.1653
3	105.12	0.6498	-0.1339	0.0059	-0.4485	0.0394	-3.0704	0.2065	-1.7444	0.1526
3	105.12	0.6890	-0.1833	0.0063	-0.5211	0.0451	-3.7110	0.2277	-1.7786	0.1764
3	105.12	0.7495	-0.2090	0.0080	-0.4310	0.0548	-4.6436	0.2618	-1.7551	0.1741
3	105.12	0.7998	-0.2153	0.0098	-0.7297	0.0633	-5.9284	0.2916	-2.1474	0.1789
3	105.12	0.8577	-0.2696	0.0123	-0.8209	0.0744	-7.2223	0.3261	-1.9999	0.1699
3	105.12	0.9178	-0.3053	0.0147	-0.9558	0.0854	-8.6481	0.3625	-2.1101	0.1684
3	105.12	0.9729	-0.3172	0.0176	-1.0672	0.0968	-10.0611	0.4024	-2.2774	0.2228
4	105.12	0.2001	-0.0571	0.0029	0.0001	0.0011	-0.0582	0.0060	-0.0572	0.0291
4	105.12	0.2502	-0.0204	0.0014	0.0158	0.0023	-0.2044	0.0131	-0.7366	0.0513
4	105.12	0.3001	0.0058	0.0021	0.0128	0.0043	-0.3016	0.0245	-0.3984	0.0645
4	105.12	0.3502	0.0143	0.0028	0.0249	0.0079	-0.5453	0.0423	-0.6339	0.0585
4	105.12	0.4002	0.0314	0.0038	0.0453	0.0119	-0.8733	0.0656	-0.7211	0.0592
4	105.12	0.4500	0.0581	0.0048	0.0608	0.0159	-1.3150	0.0917	-0.8694	0.0590
4	105.12	0.5001	0.0685	0.0060	0.0691	0.0207	-1.8529	0.1255	-0.8096	0.0649
4	105.12	0.5560	0.0808	0.0074	0.0848	0.0267	-2.6555	0.1649	-1.0878	0.0677
4	105.12	0.6001	0.0828	0.0088	0.0922	0.0321	-3.3473	0.1995	-1.0900	0.0691
4	105.12	0.6501	0.0688	0.0109	0.0824	0.0387	-4.2652	0.2423	-0.9883	0.0714
4	105.12	0.6999	0.0716	0.0129	0.0674	0.0456	-5.3014	0.2841	-0.9201	0.0808
4	105.12	0.7500	0.0592	0.0164	0.0649	0.0528	-6.4519	0.3316	-0.8286	0.0813
4	105.12	0.8002	0.0152	0.0196	0.0522	0.0606	-7.7220	0.3811	-0.7901	0.1044
4	105.12	0.8582	-0.0194	0.0255	0.0551	0.0698	-9.3594	0.4415	-1.3794	0.1038
4	105.12	0.9101	-0.0489	0.0281	0.0362	0.0788	-10.8148	0.5019	-1.2957	0.0991
4	105.12	0.9728	-0.0511	0.0323	0.0452	0.0884	-12.5392	0.5735	-0.9324	0.1239

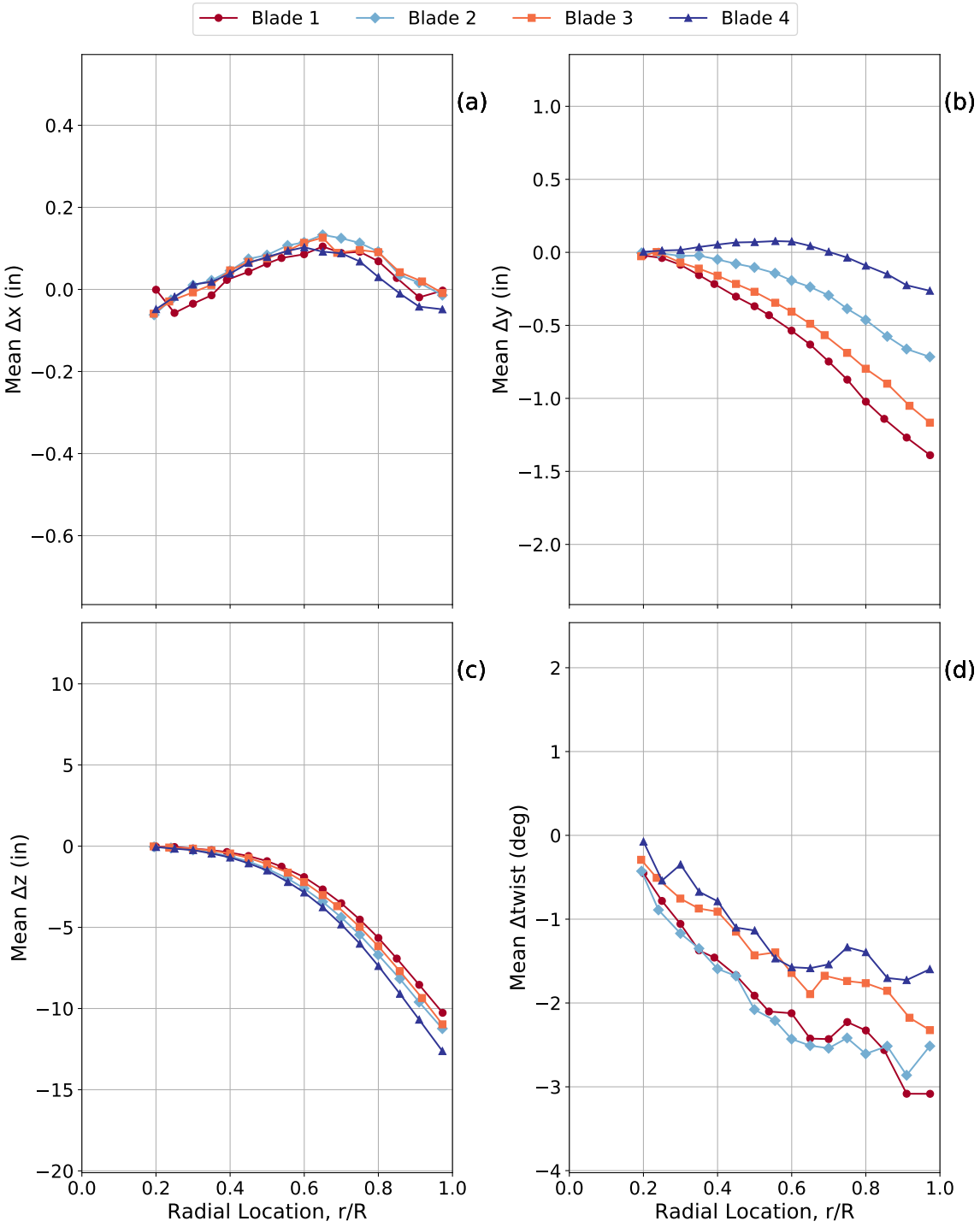


Figure 2.3-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0007	0.0031	-0.0215	0.0009	-0.0291	0.0058	-0.4517	0.0266
1	119.88	0.2499	-0.0573	0.0018	-0.0387	0.0021	-0.0509	0.0127	-0.7821	0.0478
1	119.88	0.2998	-0.0348	0.0019	-0.0854	0.0039	-0.1435	0.0245	-1.0565	0.0611
1	119.88	0.3498	-0.0143	0.0033	-0.1559	0.0070	-0.2428	0.0426	-1.3727	0.0571
1	119.88	0.3913	0.0232	0.0044	-0.2169	0.0101	-0.3586	0.0617	-1.4581	0.0659
1	119.88	0.4496	0.0430	0.0062	-0.3032	0.0134	-0.6035	0.0938	-1.6694	0.0638
1	119.88	0.4997	0.0629	0.0078	-0.3692	0.0174	-0.9234	0.1292	-1.9125	0.0685
1	119.88	0.5387	0.0766	0.0091	-0.4304	0.0206	-1.2593	0.1600	-2.1014	0.0777
1	119.88	0.5996	0.0856	0.0111	-0.5359	0.0265	-1.9034	0.2141	-2.1226	0.0832
1	119.88	0.6498	0.1046	0.0129	-0.6314	0.0316	-2.6643	0.2627	-2.4246	0.0804
1	119.88	0.6998	0.0888	0.0150	-0.7478	0.0374	-3.5133	0.3143	-2.4306	0.0810
1	119.88	0.7500	0.0916	0.0181	-0.8720	0.0434	-4.5230	0.3685	-2.2274	0.0851
1	119.88	0.8001	0.0686	0.0216	-1.0226	0.0502	-5.6517	0.4240	-2.3278	0.0903
1	119.88	0.8497	0.0279	0.0257	-1.1402	0.0575	-6.9212	0.4804	-2.5618	0.0912
1	119.88	0.9102	-0.0193	0.0308	-1.2683	0.0667	-8.5399	0.5498	-3.0827	0.1031
1	119.88	0.9734	-0.0028	0.0354	-1.3891	0.0766	-10.2628	0.6289	-3.0837	0.1020
2	119.88	0.1949	-0.0619	0.0022	-0.0038	0.0008	-0.0417	0.0046	-0.4273	0.0273
2	119.88	0.2405	-0.0256	0.0018	-0.0047	0.0021	-0.1089	0.0095	-0.8900	0.0429
2	119.88	0.2999	0.0104	0.0020	-0.0246	0.0037	-0.2324	0.0204	-1.1702	0.0630
2	119.88	0.3498	0.0220	0.0026	-0.0222	0.0065	-0.3908	0.0355	-1.3495	0.0537
2	119.88	0.3998	0.0456	0.0038	-0.0487	0.0103	-0.6324	0.0548	-1.5923	0.0534
2	119.88	0.4496	0.0744	0.0052	-0.0783	0.0121	-0.9357	0.0778	-1.6770	0.0554
2	119.88	0.4995	0.0838	0.0055	-0.1033	0.0158	-1.3820	0.1068	-2.0784	0.0624
2	119.88	0.5551	0.1071	0.0081	-0.1429	0.0198	-1.9936	0.1451	-2.2107	0.0647
2	119.88	0.5996	0.1149	0.0095	-0.1929	0.0236	-2.6000	0.1790	-2.4297	0.0688
2	119.88	0.6497	0.1330	0.0121	-0.2371	0.0279	-3.4252	0.2232	-2.5088	0.0750
2	119.88	0.6996	0.1248	0.0148	-0.2945	0.0328	-4.3808	0.2711	-2.5395	0.0780
2	119.88	0.7495	0.1133	0.0182	-0.3860	0.0380	-5.4545	0.3243	-2.4175	0.0808
2	119.88	0.7996	0.0922	0.0223	-0.4628	0.0436	-6.6906	0.3789	-2.6065	0.0733
2	119.88	0.8578	0.0347	0.0272	-0.5756	0.0508	-8.1664	0.4444	-2.5148	0.0860
2	119.88	0.9100	0.0163	0.0316	-0.6622	0.0578	-9.6012	0.5044	-2.8619	0.0858
2	119.88	0.9727	-0.0140	0.0358	-0.7155	0.0662	-11.2367	0.5789	-2.5141	0.0917
3	119.88	0.1938	-0.0591	0.0023	-0.0265	0.0011	-0.0164	0.0035	-0.2915	0.0284
3	119.88	0.2357	-0.0293	0.0020	0.0023	0.0020	-0.0844	0.0072	-0.5066	0.0394
3	119.88	0.2995	-0.0072	0.0020	-0.0701	0.0043	-0.1526	0.0154	-0.7542	0.0643
3	119.88	0.3493	0.0111	0.0029	-0.1112	0.0073	-0.2720	0.0272	-0.8728	0.0563
3	119.88	0.4000	0.0464	0.0044	-0.1595	0.0115	-0.4526	0.0420	-0.9099	0.0572
3	119.88	0.4497	0.0672	0.0054	-0.2162	0.0145	-0.7223	0.0595	-1.1489	0.0623
3	119.88	0.4997	0.0757	0.0065	-0.2700	0.0188	-1.1037	0.0821	-1.4311	0.0680
3	119.88	0.5556	0.0947	0.0081	-0.3451	0.0241	-1.6292	0.1093	-1.3966	0.0730
3	119.88	0.5995	0.1136	0.0091	-0.4063	0.0291	-2.2107	0.1339	-1.6418	0.0780
3	119.88	0.6498	0.1261	0.0113	-0.4892	0.0356	-3.0144	0.1659	-1.8938	0.0830
3	119.88	0.6890	0.0892	0.0127	-0.5669	0.0412	-3.6967	0.1926	-1.6750	0.0886
3	119.88	0.7495	0.0959	0.0157	-0.6882	0.0507	-4.9696	0.2394	-1.7381	0.0845
3	119.88	0.7998	0.0907	0.0189	-0.7969	0.0595	-6.1632	0.2816	-1.7634	0.0877
3	119.88	0.8577	0.0418	0.0233	-0.8993	0.0700	-7.6939	0.3341	-1.8544	0.0909
3	119.88	0.9178	0.0194	0.0281	-1.0506	0.0821	-9.3509	0.3912	-2.1760	0.0994
3	119.88	0.9729	-0.0088	0.0323	-1.1662	0.0932	-10.9739	0.4465	-2.3237	0.1013
4	119.88	0.2001	-0.0481	0.0031	0.0038	0.0013	-0.0530	0.0036	-0.0751	0.0340
4	119.88	0.2502	-0.0178	0.0018	0.0123	0.0020	-0.1549	0.0087	-0.5387	0.0520
4	119.88	0.3001	0.0119	0.0024	0.0161	0.0045	-0.2413	0.0148	-0.3482	0.0750
4	119.88	0.3502	0.0185	0.0030	0.0366	0.0076	-0.4503	0.0254	-0.6729	0.0686
4	119.88	0.4002	0.0386	0.0048	0.0531	0.0113	-0.6980	0.0399	-0.7865	0.0654
4	119.88	0.4500	0.0648	0.0062	0.0677	0.0144	-1.0569	0.0536	-1.1002	0.0635
4	119.88	0.5001	0.0790	0.0075	0.0704	0.0180	-1.4960	0.0725	-1.1352	0.0776
4	119.88	0.5560	0.0941	0.0093	0.0771	0.0223	-2.2077	0.0971	-1.4685	0.0759
4	119.88	0.6001	0.1026	0.0109	0.0740	0.0263	-2.8530	0.1199	-1.5730	0.0770
4	119.88	0.6501	0.0920	0.0131	0.0438	0.0314	-3.7609	0.1510	-1.5846	0.0812
4	119.88	0.6999	0.0881	0.0156	0.0036	0.0372	-4.8193	0.1867	-1.5389	0.0806
4	119.88	0.7500	0.0681	0.0184	-0.0361	0.0438	-6.0074	0.2261	-1.3350	0.0792
4	119.88	0.8002	0.0300	0.0223	-0.0910	0.0505	-7.3809	0.2689	-1.3934	0.0852
4	119.88	0.8582	-0.0102	0.0275	-0.1503	0.0587	-9.0938	0.3222	-1.7022	0.0845
4	119.88	0.9101	-0.0419	0.0318	-0.2253	0.0670	-10.6864	0.3722	-1.7265	0.0901
4	119.88	0.9728	-0.0485	0.0367	-0.2631	0.0771	-12.6227	0.4380	-1.5972	0.0838

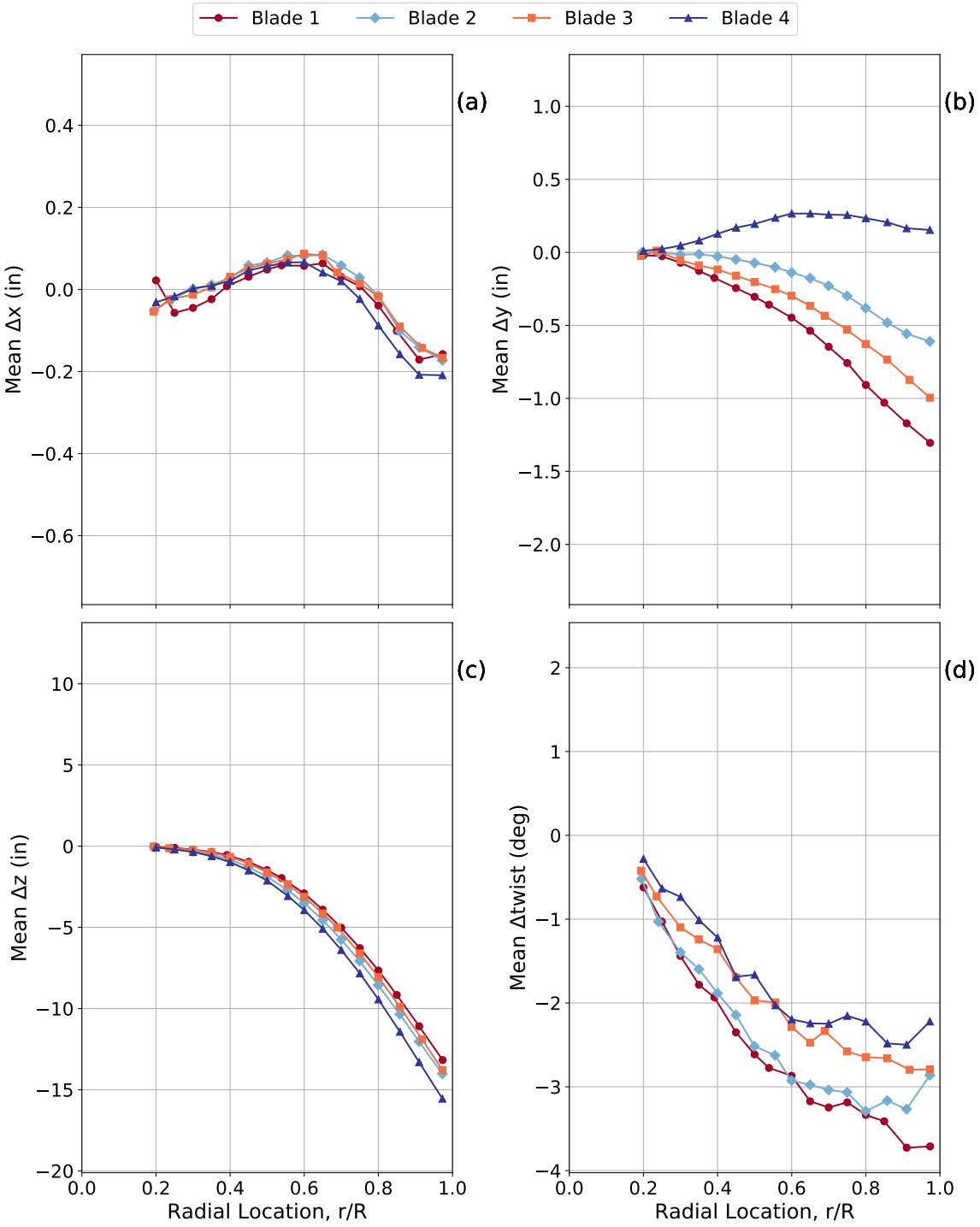


Figure 2.3-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	0.0220	0.0033	-0.0190	0.0008	-0.0374	0.0038	-0.6209	0.0261
1	135	0.2499	-0.0570	0.0015	-0.0267	0.0019	-0.0980	0.0087	-1.0292	0.0353
1	135	0.2998	-0.0450	0.0018	-0.0712	0.0034	-0.2149	0.0161	-1.4388	0.0562
1	135	0.3498	-0.0237	0.0030	-0.1274	0.0058	-0.3511	0.0284	-1.7829	0.0448
1	135	0.3913	0.0079	0.0037	-0.1749	0.0085	-0.5453	0.0409	-1.9326	0.0507
1	135	0.4496	0.0309	0.0045	-0.2445	0.0115	-0.9634	0.0596	-2.3502	0.0583
1	135	0.4997	0.0485	0.0058	-0.3044	0.0149	-1.4724	0.0806	-2.6128	0.0623
1	135	0.5387	0.0588	0.0067	-0.3583	0.0177	-1.9595	0.1015	-2.7745	0.0688
1	135	0.5996	0.0575	0.0085	-0.4468	0.0223	-2.9056	0.1373	-2.8684	0.0681
1	135	0.6498	0.0636	0.0100	-0.5371	0.0269	-3.9106	0.1750	-3.1726	0.0720
1	135	0.6998	0.0304	0.0123	-0.6466	0.0318	-5.0202	0.2164	-3.2461	0.0800
1	135	0.7500	0.0077	0.0155	-0.7579	0.0375	-6.2771	0.2647	-3.1855	0.0850
1	135	0.8001	-0.0391	0.0206	-0.9076	0.0429	-7.6592	0.3189	-3.3352	0.0892
1	135	0.8497	-0.1011	0.0255	-1.0295	0.0490	-9.1636	0.3778	-3.4115	0.0859
1	135	0.9102	-0.1712	0.0322	-1.1706	0.0565	-11.0913	0.4544	-3.7264	0.0916
1	135	0.9734	-0.1577	0.0392	-1.3047	0.0647	-13.1742	0.5400	-3.7110	0.0975
2	135	0.1949	-0.0514	0.0024	-0.0033	0.0009	-0.0518	0.0039	-0.5184	0.0320
2	135	0.2405	-0.0252	0.0017	-0.0003	0.0023	-0.1480	0.0079	-1.0299	0.0397
2	135	0.2999	0.0015	0.0022	-0.0156	0.0041	-0.3092	0.0175	-1.3952	0.0701
2	135	0.3498	0.0113	0.0030	-0.0128	0.0069	-0.5027	0.0296	-1.5971	0.0574
2	135	0.3998	0.0281	0.0041	-0.0276	0.0111	-0.8317	0.0462	-1.8835	0.0712
2	135	0.4496	0.0584	0.0056	-0.0483	0.0136	-1.2701	0.0642	-2.1435	0.0629
2	135	0.4995	0.0653	0.0068	-0.0719	0.0177	-1.8776	0.0883	-2.5150	0.0736
2	135	0.5551	0.0830	0.0085	-0.1015	0.0226	-2.6928	0.1180	-2.6245	0.0799
2	135	0.5996	0.0812	0.0103	-0.1384	0.0272	-3.4998	0.1454	-2.9267	0.0797
2	135	0.6497	0.0846	0.0123	-0.1769	0.0324	-4.5478	0.1830	-2.9757	0.0817
2	135	0.6996	0.0583	0.0159	-0.2288	0.0384	-5.7508	0.2244	-3.0369	0.0833
2	135	0.7495	0.0289	0.0195	-0.2984	0.0456	-7.0774	0.2704	-3.0654	0.0891
2	135	0.7996	-0.0152	0.0245	-0.3816	0.0529	-8.5618	0.3231	-3.2910	0.0891
2	135	0.8578	-0.1015	0.0311	-0.4812	0.0620	-10.3520	0.3892	-3.1652	0.0911
2	135	0.9100	-0.1405	0.0375	-0.5577	0.0707	-12.0409	0.4547	-3.2665	0.0959
2	135	0.9727	-0.1729	0.0451	-0.6099	0.0819	-14.0261	0.5389	-2.8628	0.0986
3	135	0.1938	-0.0539	0.0026	-0.0254	0.0008	-0.0241	0.0048	-0.4218	0.0305
3	135	0.2357	-0.0243	0.0019	0.0112	0.0018	-0.1259	0.0096	-0.7282	0.0463
3	135	0.2995	-0.0127	0.0022	-0.0545	0.0038	-0.2312	0.0214	-1.0960	0.0713
3	135	0.3493	0.0051	0.0034	-0.0887	0.0060	-0.3861	0.0374	-1.2414	0.0734
3	135	0.4000	0.0308	0.0049	-0.1175	0.0098	-0.6605	0.0580	-1.3564	0.0693
3	135	0.4497	0.0520	0.0062	-0.1594	0.0126	-1.0580	0.0817	-1.6961	0.0814
3	135	0.4997	0.0627	0.0079	-0.2031	0.0163	-1.6084	0.1146	-1.9684	0.0913
3	135	0.5556	0.0740	0.0104	-0.2515	0.0213	-2.3418	0.1598	-1.9937	0.0950
3	135	0.5995	0.0870	0.0131	-0.2973	0.0262	-3.1171	0.2039	-2.2868	0.1012
3	135	0.6498	0.0830	0.0164	-0.3664	0.0326	-4.1362	0.2652	-2.4732	0.1075
3	135	0.6890	0.0413	0.0204	-0.4342	0.0380	-5.0165	0.3198	-2.3345	0.1079
3	135	0.7495	0.0144	0.0284	-0.5303	0.0475	-6.6050	0.4176	-2.5779	0.1190
3	135	0.7998	-0.0170	0.0362	-0.6273	0.0560	-8.0598	0.5077	-2.6449	0.1202
3	135	0.8577	-0.0904	0.0471	-0.7346	0.0664	-9.8887	0.6210	-2.6601	0.1232
3	135	0.9178	-0.1424	0.0588	-0.8727	0.0779	-11.8887	0.7456	-2.7967	0.1264
3	135	0.9729	-0.1666	0.0687	-0.9952	0.0885	-13.7957	0.8661	-2.7920	0.1290
4	135	0.2001	-0.0312	0.0028	0.0106	0.0009	-0.0796	0.0062	-0.2799	0.0379
4	135	0.2502	-0.0168	0.0021	0.0228	0.0022	-0.2051	0.0150	-0.6338	0.0555
4	135	0.3001	0.0025	0.0025	0.0466	0.0038	-0.3596	0.0280	-0.7346	0.0832
4	135	0.3502	0.0090	0.0040	0.0813	0.0071	-0.6175	0.0469	-1.0117	0.0794
4	135	0.4002	0.0211	0.0059	0.1269	0.0105	-0.9790	0.0750	-1.2209	0.0898
4	135	0.4500	0.0461	0.0079	0.1691	0.0137	-1.4960	0.1086	-1.6869	0.1067
4	135	0.5001	0.0569	0.0101	0.1945	0.0179	-2.1217	0.1522	-1.6623	0.1098
4	135	0.5560	0.0658	0.0134	0.2367	0.0221	-3.0718	0.2121	-2.0272	0.1218
4	135	0.6001	0.0664	0.0169	0.2657	0.0264	-3.9369	0.2668	-2.1954	0.1231
4	135	0.6501	0.0411	0.0216	0.2657	0.0313	-5.0859	0.3369	-2.2429	0.1253
4	135	0.6999	0.0201	0.0276	0.2578	0.0367	-6.3930	0.4158	-2.2476	0.1320
4	135	0.7500	-0.0232	0.0352	0.2559	0.0422	-7.8336	0.5013	-2.1533	0.1332
4	135	0.8002	-0.0879	0.0439	0.2340	0.0484	-9.4417	0.5930	-2.2220	0.1372
4	135	0.8582	-0.1577	0.0558	0.2059	0.0561	-11.4361	0.7044	-2.4825	0.1374
4	135	0.9101	-0.2079	0.0661	0.1647	0.0634	-13.3029	0.8094	-2.4980	0.1359
4	135	0.9728	-0.2091	0.0779	0.1535	0.0730	-15.5548	0.9433	-2.2201	0.1353

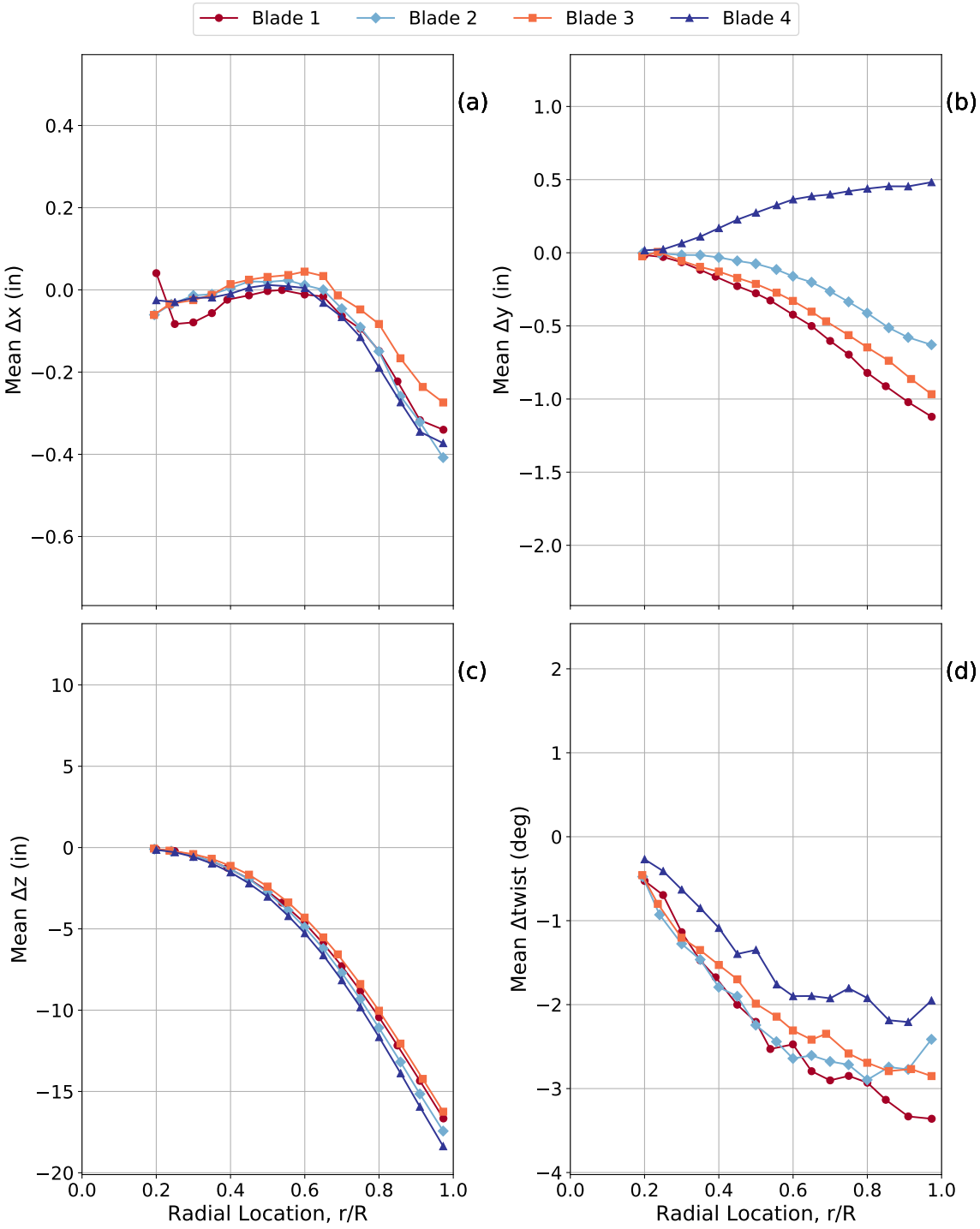


Figure 2.3-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	0.0407	0.0099	-0.0162	0.0032	-0.1033	0.0099	-0.5263	0.0776
1	150.12	0.2499	-0.0830	0.0062	-0.0289	0.0037	-0.2183	0.0132	-0.6948	0.2305
1	150.12	0.2998	-0.0790	0.0068	-0.0648	0.0119	-0.4874	0.0395	-1.1368	0.2312
1	150.12	0.3498	-0.0565	0.0072	-0.1168	0.0202	-0.8444	0.0697	-1.4727	0.2272
1	150.12	0.3913	-0.0239	0.0082	-0.1634	0.0279	-1.2383	0.0966	-1.6744	0.2284
1	150.12	0.4496	-0.0133	0.0098	-0.2279	0.0390	-1.9243	0.1355	-2.0009	0.2321
1	150.12	0.4997	-0.0028	0.0116	-0.2770	0.0496	-2.6745	0.1721	-2.2050	0.2292
1	150.12	0.5387	-0.0003	0.0132	-0.3263	0.0582	-3.3844	0.2014	-2.5286	0.2346
1	150.12	0.5996	-0.0113	0.0163	-0.4231	0.0728	-4.6365	0.2526	-2.4733	0.2292
1	150.12	0.6498	-0.0160	0.0195	-0.5008	0.0857	-5.9073	0.2979	-2.7931	0.2346
1	150.12	0.6998	-0.0641	0.0234	-0.6027	0.0996	-7.2906	0.3457	-2.9022	0.2415
1	150.12	0.7500	-0.0947	0.0284	-0.6964	0.1137	-8.8125	0.3969	-2.8490	0.2377
1	150.12	0.8001	-0.1486	0.0344	-0.8215	0.1288	-10.4303	0.4536	-2.9296	0.2402
1	150.12	0.8497	-0.2225	0.0409	-0.9124	0.1441	-12.1723	0.5134	-3.1338	0.2313
1	150.12	0.9102	-0.3169	0.0488	-1.0213	0.1633	-14.3461	0.5888	-3.3317	0.2317
1	150.12	0.9734	-0.3402	0.0555	-1.1213	0.1841	-16.6597	0.6725	-3.3596	0.2329
2	150.12	0.1949	-0.0606	0.0024	-0.0024	0.0008	-0.0954	0.0036	-0.4762	0.0308
2	150.12	0.2405	-0.0350	0.0018	-0.0040	0.0024	-0.2237	0.0078	-0.9297	0.0399
2	150.12	0.2999	-0.0135	0.0020	-0.0148	0.0042	-0.4966	0.0163	-1.2759	0.0684
2	150.12	0.3498	-0.0106	0.0030	-0.0160	0.0072	-0.8323	0.0288	-1.4634	0.0592
2	150.12	0.3998	0.0039	0.0036	-0.0318	0.0115	-1.3354	0.0442	-1.7924	0.0599
2	150.12	0.4496	0.0206	0.0046	-0.0555	0.0144	-1.9448	0.0627	-1.9006	0.0690
2	150.12	0.4995	0.0195	0.0059	-0.0749	0.0190	-2.7615	0.0857	-2.2441	0.0674
2	150.12	0.5551	0.0231	0.0075	-0.1145	0.0236	-3.8665	0.1131	-2.4412	0.0665
2	150.12	0.5996	0.0117	0.0094	-0.1609	0.0285	-4.9004	0.1387	-2.6414	0.0727
2	150.12	0.6497	0.0003	0.0116	-0.2015	0.0347	-6.2126	0.1672	-2.6055	0.0730
2	150.12	0.6996	-0.0457	0.0146	-0.2641	0.0410	-7.7059	0.1983	-2.6772	0.0725
2	150.12	0.7495	-0.0907	0.0175	-0.3356	0.0484	-9.3195	0.2303	-2.7159	0.0802
2	150.12	0.7996	-0.1496	0.0215	-0.4125	0.0565	-11.0793	0.2618	-2.8965	0.0801
2	150.12	0.8578	-0.2587	0.0259	-0.5130	0.0662	-13.1875	0.2998	-2.7437	0.0918
2	150.12	0.9100	-0.3215	0.0308	-0.5788	0.0754	-15.1540	0.3347	-2.7717	0.0909
2	150.12	0.9727	-0.4079	0.0361	-0.6289	0.0866	-17.4346	0.3812	-2.4132	0.0961
3	150.12	0.1938	-0.0609	0.0040	-0.0244	0.0017	-0.0627	0.0064	-0.4573	0.0265
3	150.12	0.2357	-0.0344	0.0021	0.0059	0.0018	-0.1912	0.0079	-0.7999	0.0831
3	150.12	0.2995	-0.0249	0.0025	-0.0557	0.0056	-0.4018	0.0216	-1.2027	0.0865
3	150.12	0.3493	-0.0121	0.0028	-0.0963	0.0092	-0.6895	0.0365	-1.3501	0.0846
3	150.12	0.4000	0.0140	0.0043	-0.1285	0.0141	-1.1280	0.0552	-1.5276	0.0857
3	150.12	0.4497	0.0248	0.0056	-0.1719	0.0186	-1.6674	0.0748	-1.6985	0.0921
3	150.12	0.4997	0.0315	0.0069	-0.2130	0.0238	-2.3977	0.0995	-1.9888	0.0947
3	150.12	0.5556	0.0362	0.0084	-0.2730	0.0298	-3.3758	0.1314	-2.1435	0.1100
3	150.12	0.5995	0.0445	0.0104	-0.3293	0.0355	-4.3078	0.1600	-2.3076	0.1053
3	150.12	0.6498	0.0337	0.0127	-0.4027	0.0426	-5.5242	0.1967	-2.4175	0.1038
3	150.12	0.6890	-0.0134	0.0152	-0.4687	0.0483	-6.5686	0.2273	-2.3472	0.1075
3	150.12	0.7495	-0.0475	0.0199	-0.5634	0.0577	-8.3929	0.2771	-2.5819	0.1147
3	150.12	0.7998	-0.0830	0.0248	-0.6469	0.0665	-10.0336	0.3241	-2.6925	0.1168
3	150.12	0.8577	-0.1664	0.0315	-0.7381	0.0772	-12.0566	0.3808	-2.7918	0.1146
3	150.12	0.9178	-0.2361	0.0384	-0.8630	0.0889	-14.2272	0.4439	-2.7679	0.1174
3	150.12	0.9729	-0.2739	0.0443	-0.9669	0.0997	-16.2442	0.5053	-2.8511	0.1245
4	150.12	0.2001	-0.0251	0.0029	0.0167	0.0012	-0.1410	0.0041	-0.2690	0.0220
4	150.12	0.2502	-0.0298	0.0019	0.0232	0.0030	-0.2898	0.0087	-0.4100	0.0313
4	150.12	0.3001	-0.0194	0.0023	0.0649	0.0053	-0.5730	0.0166	-0.6302	0.0474
4	150.12	0.3502	-0.0186	0.0027	0.1104	0.0095	-0.9862	0.0292	-0.8507	0.0464
4	150.12	0.4002	-0.0092	0.0036	0.1682	0.0146	-1.5253	0.0450	-1.0867	0.0527
4	150.12	0.4500	0.0055	0.0046	0.2263	0.0186	-2.2086	0.0640	-1.3968	0.0594
4	150.12	0.5001	0.0120	0.0061	0.2735	0.0247	-3.0232	0.0870	-1.3484	0.0626
4	150.12	0.5560	0.0088	0.0083	0.3252	0.0316	-4.2160	0.1185	-1.7596	0.0698
4	150.12	0.6001	0.0045	0.0104	0.3646	0.0372	-5.2688	0.1453	-1.8992	0.0700
4	150.12	0.6501	-0.0314	0.0133	0.3865	0.0451	-6.6265	0.1811	-1.8974	0.0719
4	150.12	0.6999	-0.0661	0.0173	0.3987	0.0529	-8.1609	0.2221	-1.9246	0.0753
4	150.12	0.7500	-0.1149	0.0214	0.4208	0.0612	-9.8243	0.2679	-1.8049	0.0775
4	150.12	0.8002	-0.1893	0.0276	0.4382	0.0702	-11.6576	0.3182	-1.9230	0.0820
4	150.12	0.8582	-0.2735	0.0354	0.4544	0.0817	-13.8832	0.3836	-2.1863	0.0825
4	150.12	0.9101	-0.3451	0.0424	0.4538	0.0920	-15.9396	0.4476	-2.2075	0.0880
4	150.12	0.9728	-0.3729	0.0523	0.4823	0.1054	-18.3706	0.5319	-1.9513	0.0925

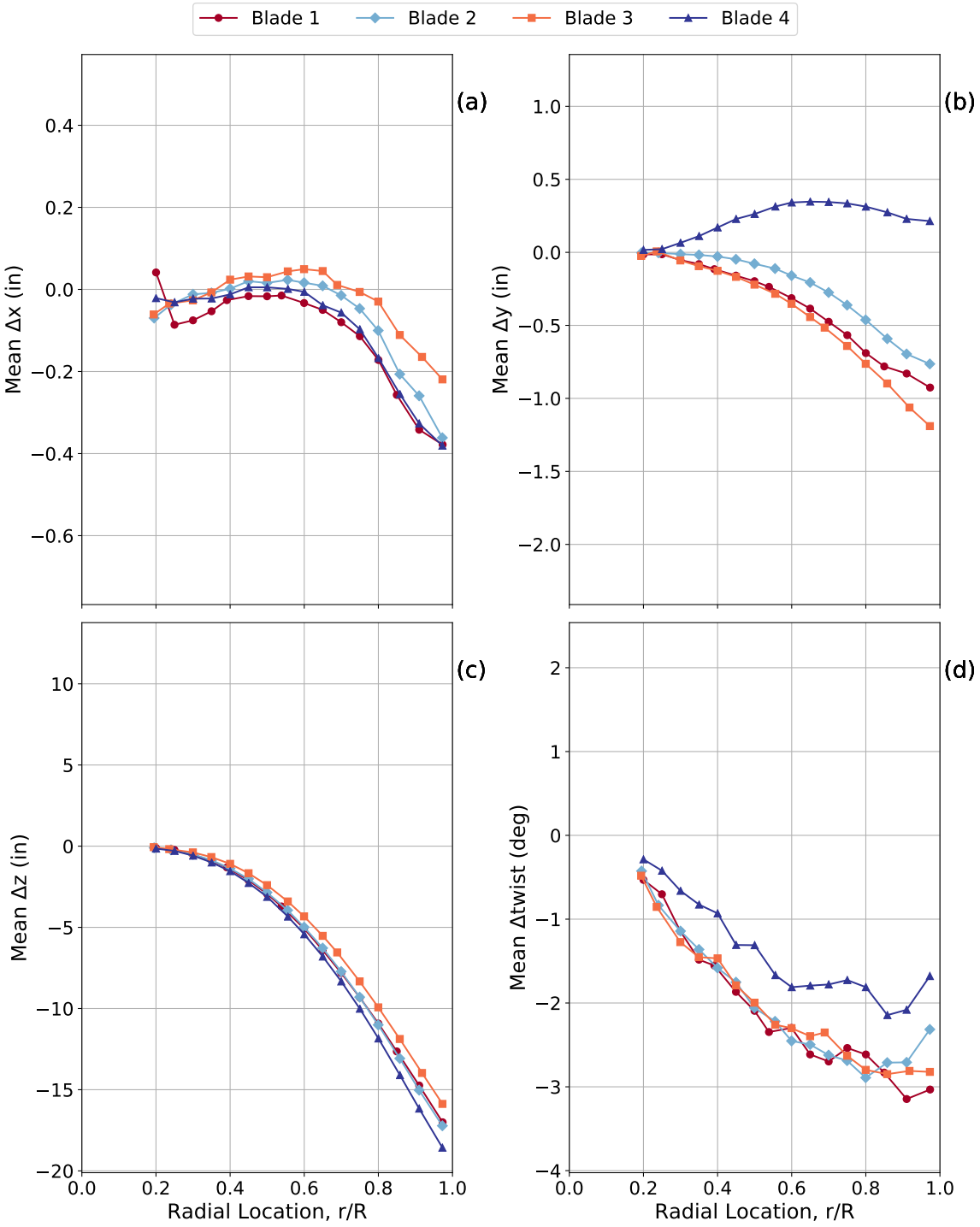


Figure 2.3-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	0.0414	0.0025	-0.0145	0.0011	-0.1116	0.0056	-0.5312	0.0237
1	164.88	0.2499	-0.0861	0.0017	-0.0131	0.0030	-0.2328	0.0108	-0.7026	0.0423
1	164.88	0.2998	-0.0753	0.0022	-0.0531	0.0055	-0.5142	0.0221	-1.1459	0.0538
1	164.88	0.3498	-0.0532	0.0024	-0.0803	0.0092	-0.8992	0.0381	-1.4834	0.0528
1	164.88	0.3913	-0.0261	0.0031	-0.1152	0.0139	-1.3089	0.0544	-1.5531	0.0575
1	164.88	0.4496	-0.0163	0.0042	-0.1594	0.0190	-2.0950	0.0814	-1.8673	0.0615
1	164.88	0.4997	-0.0167	0.0056	-0.1974	0.0237	-2.9384	0.1078	-2.0931	0.0737
1	164.88	0.5387	-0.0148	0.0070	-0.2365	0.0278	-3.7149	0.1312	-2.3464	0.0657
1	164.88	0.5996	-0.0331	0.0096	-0.3135	0.0348	-5.0709	0.1747	-2.2973	0.0776
1	164.88	0.6498	-0.0499	0.0137	-0.3853	0.0414	-6.4025	0.2179	-2.6137	0.0760
1	164.88	0.6998	-0.0799	0.0176	-0.4755	0.0479	-7.8101	0.2679	-2.6978	0.0803
1	164.88	0.7500	-0.1140	0.0236	-0.5672	0.0556	-9.3243	0.3275	-2.5368	0.0876
1	164.88	0.8001	-0.1719	0.0314	-0.6899	0.0630	-10.9228	0.3923	-2.6141	0.1022
1	164.88	0.8497	-0.2570	0.0381	-0.7812	0.0718	-12.6410	0.4647	-2.8306	0.1210
1	164.88	0.9102	-0.3418	0.0471	-0.8302	0.0823	-14.7411	0.5548	-3.1458	0.0720
1	164.88	0.9734	-0.3782	0.0571	-0.9259	0.0936	-17.0070	0.6600	-3.0325	0.0766
2	164.88	0.1949	-0.0697	0.0029	-0.0031	0.0011	-0.1016	0.0041	-0.4258	0.0214
2	164.88	0.2405	-0.0369	0.0021	-0.0032	0.0023	-0.2270	0.0085	-0.8342	0.0400
2	164.88	0.2999	-0.0119	0.0021	-0.0123	0.0052	-0.5090	0.0180	-1.1422	0.0520
2	164.88	0.3498	-0.0085	0.0033	-0.0177	0.0081	-0.8620	0.0301	-1.3614	0.0581
2	164.88	0.3998	0.0018	0.0044	-0.0285	0.0131	-1.3700	0.0472	-1.5820	0.0637
2	164.88	0.4496	0.0201	0.0057	-0.0475	0.0166	-2.0140	0.0670	-1.7517	0.0602
2	164.88	0.4995	0.0158	0.0072	-0.0781	0.0203	-2.8503	0.0912	-2.0581	0.0697
2	164.88	0.5551	0.0233	0.0096	-0.1111	0.0255	-3.9477	0.1233	-2.2191	0.0669
2	164.88	0.5996	0.0164	0.0113	-0.1593	0.0299	-4.9859	0.1515	-2.4527	0.0699
2	164.88	0.6497	0.0088	0.0138	-0.2063	0.0358	-6.2775	0.1857	-2.4958	0.0712
2	164.88	0.6996	-0.0145	0.0167	-0.2750	0.0413	-7.7217	0.2251	-2.6219	0.0735
2	164.88	0.7495	-0.0466	0.0208	-0.3614	0.0470	-9.2984	0.2661	-2.6875	0.0792
2	164.88	0.7996	-0.1001	0.0252	-0.4625	0.0539	-11.0098	0.3101	-2.8911	0.0821
2	164.88	0.8578	-0.2065	0.0315	-0.5916	0.0622	-13.0769	0.3647	-2.7115	0.0827
2	164.88	0.9100	-0.2592	0.0367	-0.6961	0.0701	-15.0254	0.4179	-2.7081	0.0800
2	164.88	0.9727	-0.3615	0.0435	-0.7642	0.0791	-17.2226	0.4862	-2.3152	0.0790
3	164.88	0.1938	-0.0610	0.0040	-0.0244	0.0014	-0.0600	0.0074	-0.4812	0.0362
3	164.88	0.2357	-0.0344	0.0026	0.0066	0.0029	-0.1816	0.0096	-0.8536	0.0912
3	164.88	0.2995	-0.0267	0.0032	-0.0554	0.0071	-0.3821	0.0265	-1.2737	0.1069
3	164.88	0.3493	-0.0073	0.0042	-0.0946	0.0116	-0.6713	0.0438	-1.4531	0.1084
3	164.88	0.4000	0.0238	0.0058	-0.1265	0.0187	-1.0880	0.0670	-1.4675	0.1049
3	164.88	0.4497	0.0316	0.0068	-0.1680	0.0233	-1.6652	0.0909	-1.7899	0.1066
3	164.88	0.4997	0.0298	0.0088	-0.2211	0.0298	-2.3989	0.1171	-1.9962	0.1171
3	164.88	0.5556	0.0440	0.0111	-0.2838	0.0378	-3.4049	0.1525	-2.2593	0.1148
3	164.88	0.5995	0.0494	0.0132	-0.3524	0.0453	-4.3236	0.1823	-2.3001	0.1133
3	164.88	0.6498	0.0448	0.0159	-0.4431	0.0541	-5.5237	0.2196	-2.3961	0.1175
3	164.88	0.6890	0.0110	0.0185	-0.5155	0.0615	-6.5458	0.2513	-2.3520	0.1225
3	164.88	0.7495	-0.0062	0.0235	-0.6410	0.0742	-8.3288	0.3057	-2.6296	0.1112
3	164.88	0.7998	-0.0296	0.0287	-0.7632	0.0850	-9.9273	0.3550	-2.7980	0.1241
3	164.88	0.8577	-0.1110	0.0358	-0.8981	0.0991	-11.8759	0.4195	-2.8488	0.1141
3	164.88	0.9178	-0.1645	0.0433	-1.0626	0.1141	-13.9702	0.4932	-2.8105	0.1198
3	164.88	0.9729	-0.2192	0.0513	-1.1900	0.1285	-15.8744	0.5647	-2.8220	0.1185
4	164.88	0.2001	-0.0212	0.0030	0.0164	0.0011	-0.1499	0.0035	-0.2864	0.0288
4	164.88	0.2502	-0.0314	0.0024	0.0220	0.0034	-0.2915	0.0071	-0.4222	0.0443
4	164.88	0.3001	-0.0226	0.0022	0.0653	0.0060	-0.5846	0.0123	-0.6620	0.0619
4	164.88	0.3502	-0.0221	0.0028	0.1115	0.0092	-1.0039	0.0194	-0.8263	0.0607
4	164.88	0.4002	-0.0120	0.0036	0.1703	0.0158	-1.5400	0.0308	-0.9309	0.0707
4	164.88	0.4500	0.0053	0.0047	0.2284	0.0189	-2.2678	0.0427	-1.3079	0.0724
4	164.88	0.5001	0.0051	0.0055	0.2626	0.0233	-3.1253	0.0575	-1.3106	0.0705
4	164.88	0.5560	0.0012	0.0070	0.3135	0.0289	-4.3400	0.0763	-1.6682	0.0773
4	164.88	0.6001	-0.0059	0.0086	0.3414	0.0335	-5.4284	0.0943	-1.8114	0.0773
4	164.88	0.6501	-0.0386	0.0101	0.3472	0.0388	-6.7997	0.1174	-1.7929	0.0773
4	164.88	0.6999	-0.0566	0.0129	0.3446	0.0448	-8.3319	0.1426	-1.7790	0.0819
4	164.88	0.7500	-0.0972	0.0154	0.3351	0.0508	-10.0135	0.1707	-1.7269	0.0891
4	164.88	0.8002	-0.1672	0.0193	0.3130	0.0570	-11.8447	0.2022	-1.8112	0.0860
4	164.88	0.8582	-0.2552	0.0242	0.2736	0.0652	-14.1042	0.2425	-2.1446	0.0874
4	164.88	0.9101	-0.3267	0.0288	0.2289	0.0724	-16.1651	0.2820	-2.0814	0.0867
4	164.88	0.9728	-0.3806	0.0349	0.2139	0.0812	-18.5722	0.3333	-1.6786	0.0799

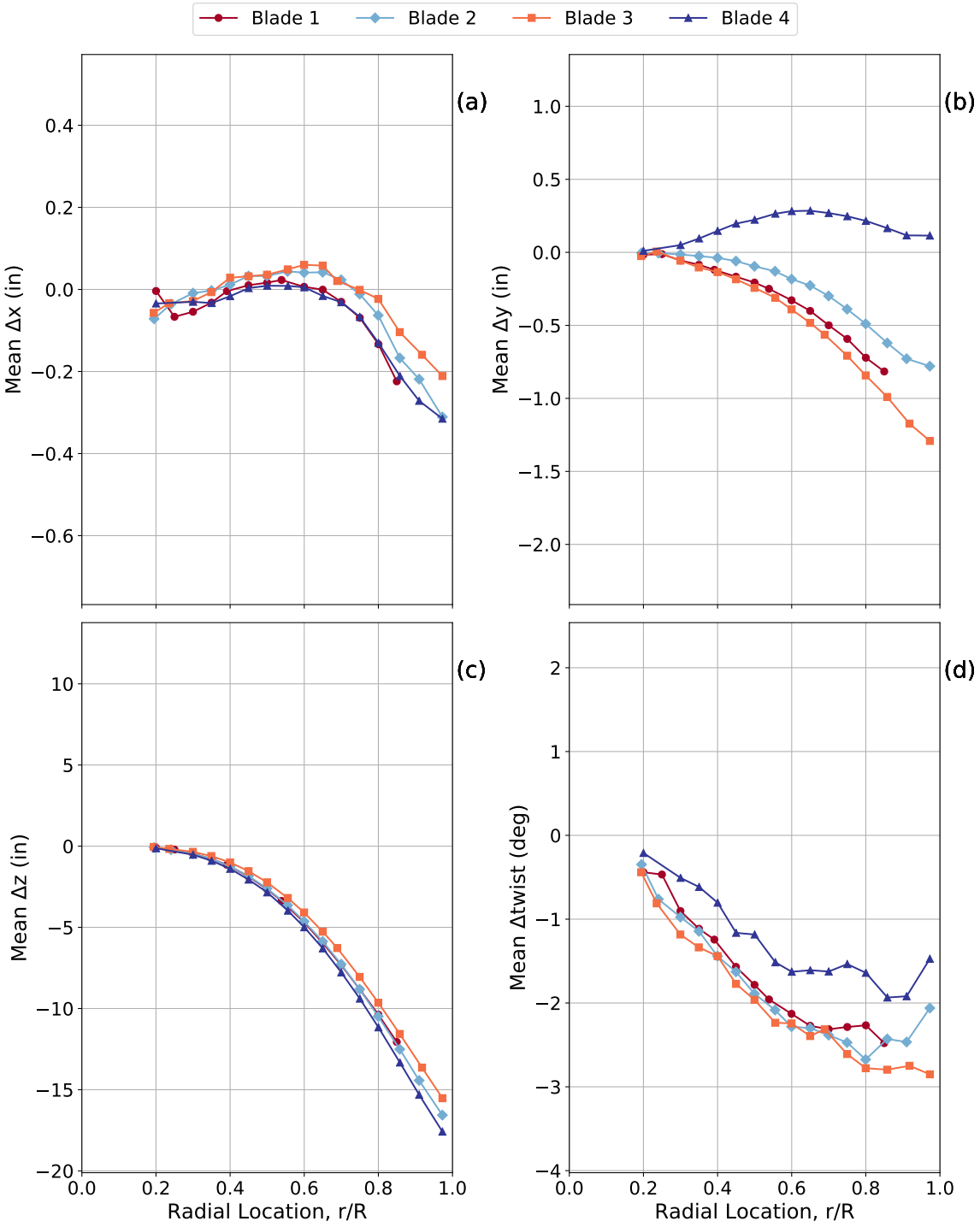


Figure 2.3-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0038	0.0016	-0.0159	0.0010	-0.0975	0.0036	-0.4404	0.0255
1	170.16	0.2499	-0.0667	0.0012	-0.0121	0.0021	-0.2075	0.0073	-0.4671	0.0426
1	170.16	0.2998	-0.0544	0.0018	-0.0558	0.0042	-0.4556	0.0135	-0.9031	0.0571
1	170.16	0.3498	-0.0322	0.0018	-0.0847	0.0071	-0.7825	0.0225	-1.1145	0.0589
1	170.16	0.3913	-0.0042	0.0025	-0.1194	0.0103	-1.1509	0.0324	-1.2437	0.0643
1	170.16	0.4496	0.0102	0.0033	-0.1667	0.0143	-1.8677	0.0460	-1.5690	0.0617
1	170.16	0.4997	0.0165	0.0040	-0.2068	0.0182	-2.6462	0.0593	-1.7840	0.0693
1	170.16	0.5387	0.0230	0.0047	-0.2500	0.0215	-3.3701	0.0727	-1.9576	0.0746
1	170.16	0.5996	0.0064	0.0058	-0.3281	0.0269	-4.6874	0.0942	-2.1294	0.0729
1	170.16	0.6498	-0.0006	0.0064	-0.4009	0.0319	-5.9597	0.1148	-2.2720	0.0814
1	170.16	0.6998	-0.0302	0.0085	-0.4994	0.0369	-7.3250	0.1344	-2.3132	0.0915
1	170.16	0.7500	-0.0691	0.0111	-0.5928	0.0426	-8.8245	0.1596	-2.2863	0.0880
1	170.16	0.8001	-0.1334	0.0149	-0.7217	0.0492	-10.3792	0.1867	-2.2663	0.0874
1	170.16	0.8497	-0.2239	0.0195	-0.8157	0.0560	-12.0623	0.2171	-2.4788	0.0975
2	170.16	0.1949	-0.0716	0.0027	-0.0041	0.0011	-0.0884	0.0041	-0.3473	0.0254
2	170.16	0.2405	-0.0356	0.0021	-0.0050	0.0030	-0.2124	0.0075	-0.7611	0.0450
2	170.16	0.2999	-0.0090	0.0025	-0.0144	0.0062	-0.4608	0.0153	-0.9759	0.0600
2	170.16	0.3498	-0.0028	0.0025	-0.0257	0.0093	-0.7790	0.0253	-1.1448	0.0604
2	170.16	0.3998	0.0117	0.0035	-0.0376	0.0159	-1.2463	0.0389	-1.4415	0.0770
2	170.16	0.4496	0.0327	0.0043	-0.0597	0.0201	-1.8391	0.0519	-1.6277	0.0682
2	170.16	0.4995	0.0328	0.0054	-0.0956	0.0240	-2.6045	0.0685	-1.8891	0.0702
2	170.16	0.5551	0.0440	0.0064	-0.1295	0.0300	-3.6390	0.0881	-2.0839	0.0714
2	170.16	0.5996	0.0410	0.0077	-0.1834	0.0349	-4.6313	0.1076	-2.2829	0.0751
2	170.16	0.6497	0.0418	0.0092	-0.2269	0.0409	-5.8695	0.1293	-2.2997	0.0774
2	170.16	0.6996	0.0234	0.0112	-0.2986	0.0466	-7.2678	0.1545	-2.3827	0.0709
2	170.16	0.7495	-0.0113	0.0139	-0.3891	0.0530	-8.8132	0.1844	-2.4714	0.0780
2	170.16	0.7996	-0.0631	0.0176	-0.4895	0.0593	-10.4871	0.2180	-2.6745	0.0820
2	170.16	0.8578	-0.1671	0.0228	-0.6207	0.0674	-12.5067	0.2648	-2.4294	0.0864
2	170.16	0.9100	-0.2187	0.0276	-0.7286	0.0744	-14.4307	0.3119	-2.4654	0.0865
2	170.16	0.9727	-0.3108	0.0338	-0.7795	0.0833	-16.5653	0.3726	-2.0608	0.0900
3	170.16	0.1938	-0.0571	0.0041	-0.0255	0.0015	-0.0494	0.0060	-0.4402	0.0333
3	170.16	0.2357	-0.0336	0.0028	0.0056	0.0026	-0.1696	0.0079	-0.8109	0.0736
3	170.16	0.2995	-0.0283	0.0028	-0.0569	0.0063	-0.3486	0.0186	-1.1829	0.0874
3	170.16	0.3493	-0.0066	0.0036	-0.1033	0.0104	-0.6095	0.0307	-1.3366	0.0814
3	170.16	0.4000	0.0286	0.0047	-0.1353	0.0166	-0.9999	0.0457	-1.4410	0.0830
3	170.16	0.4497	0.0320	0.0058	-0.1843	0.0203	-1.5388	0.0615	-1.7715	0.0947
3	170.16	0.4997	0.0359	0.0070	-0.2432	0.0259	-2.2270	0.0810	-1.9627	0.0907
3	170.16	0.5556	0.0489	0.0082	-0.3111	0.0324	-3.1927	0.1047	-2.2358	0.0882
3	170.16	0.5995	0.0599	0.0097	-0.3905	0.0376	-4.0839	0.1255	-2.2438	0.0964
3	170.16	0.6498	0.0581	0.0115	-0.4830	0.0450	-5.2632	0.1523	-2.3942	0.0842
3	170.16	0.6890	0.0206	0.0131	-0.5642	0.0499	-6.2729	0.1741	-2.3145	0.0907
3	170.16	0.7495	-0.0011	0.0156	-0.7078	0.0589	-8.0522	0.2117	-2.6087	0.0825
3	170.16	0.7998	-0.0231	0.0198	-0.8429	0.0674	-9.6397	0.2470	-2.7781	0.0843
3	170.16	0.8577	-0.1041	0.0249	-0.9905	0.0775	-11.5648	0.2929	-2.7957	0.0852
3	170.16	0.9178	-0.1593	0.0306	-1.1729	0.0896	-13.6377	0.3477	-2.7492	0.0907
3	170.16	0.9729	-0.2111	0.0366	-1.2914	0.0999	-15.5243	0.4008	-2.8510	0.0943
4	170.16	0.2001	-0.0343	0.0041	0.0102	0.0011	-0.1318	0.0031	-0.2101	0.0343
4	170.16	0.3001	-0.0302	0.0026	0.0499	0.0051	-0.5277	0.0122	-0.5072	0.0810
4	170.16	0.3502	-0.0332	0.0022	0.0950	0.0088	-0.9000	0.0191	-0.6161	0.0834
4	170.16	0.4002	-0.0164	0.0031	0.1469	0.0140	-1.3950	0.0304	-0.8035	0.0879
4	170.16	0.4500	0.0032	0.0042	0.1966	0.0175	-2.0605	0.0413	-1.1633	0.0888
4	170.16	0.5001	0.0090	0.0052	0.2232	0.0222	-2.8459	0.0552	-1.1832	0.0960
4	170.16	0.5560	0.0086	0.0064	0.2646	0.0276	-3.9743	0.0738	-1.5147	0.0937
4	170.16	0.6001	0.0051	0.0079	0.2823	0.0323	-4.9952	0.0918	-1.6275	0.0962
4	170.16	0.6501	-0.0159	0.0095	0.2850	0.0381	-6.2970	0.1142	-1.6089	0.0961
4	170.16	0.6999	-0.0312	0.0117	0.2690	0.0442	-7.7762	0.1415	-1.6245	0.1008
4	170.16	0.7500	-0.0670	0.0146	0.2470	0.0507	-9.3930	0.1718	-1.5361	0.1025
4	170.16	0.8002	-0.1301	0.0184	0.2154	0.0569	-11.1599	0.2060	-1.6401	0.0973
4	170.16	0.8582	-0.2110	0.0233	0.1654	0.0647	-13.3284	0.2524	-1.9349	0.1064
4	170.16	0.9101	-0.2715	0.0288	0.1161	0.0719	-15.3122	0.2977	-1.9200	0.1012
4	170.16	0.9728	-0.3150	0.0346	0.1146	0.0804	-17.5844	0.3553	-1.4729	0.0966

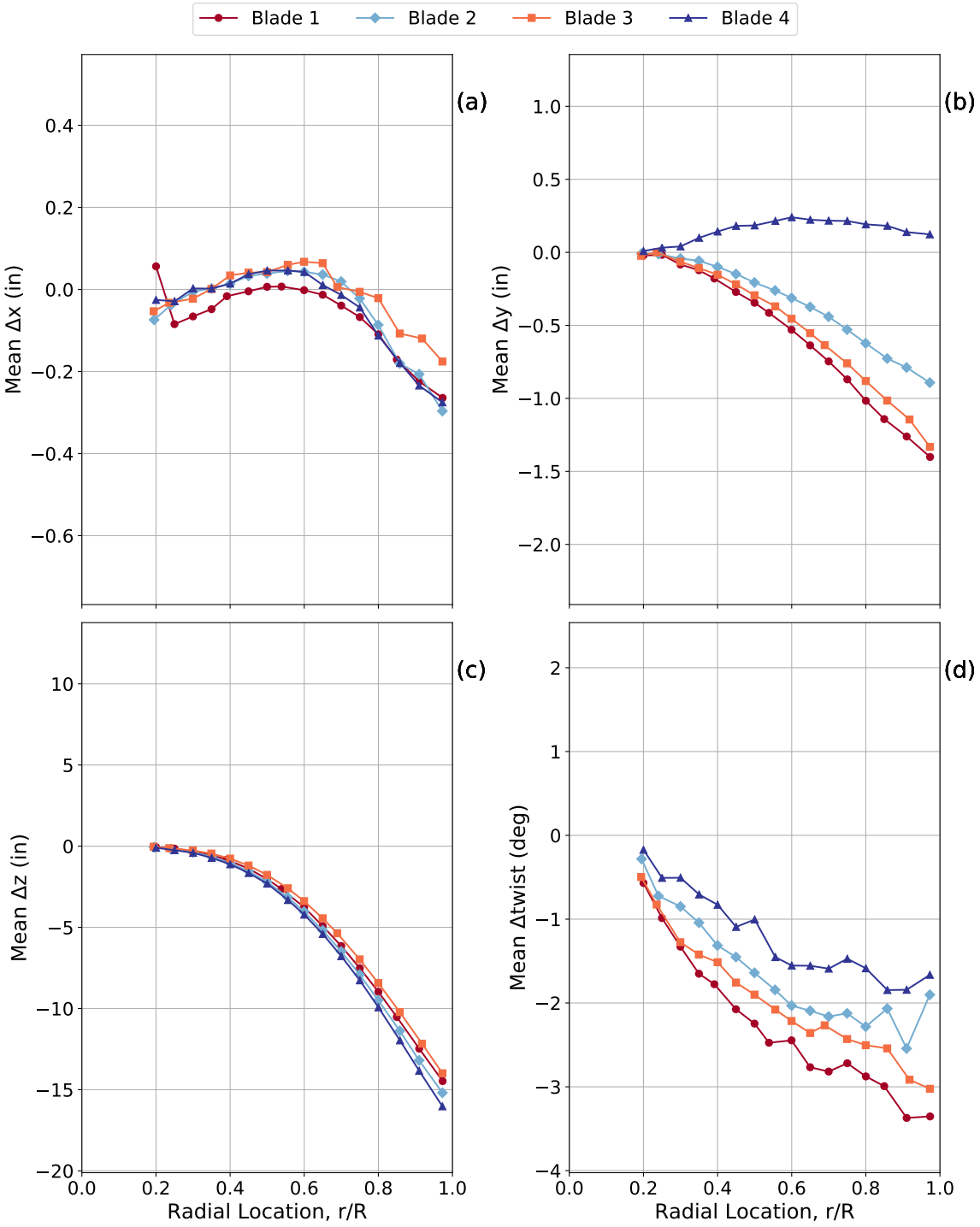


Figure 2.3-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	0.0562	0.0042	-0.0215	0.0026	-0.0521	0.0106	-0.5682	0.0700
1	175.08	0.2499	-0.0846	0.0027	-0.0171	0.0046	-0.1495	0.0158	-0.9861	0.1439
1	175.08	0.2998	-0.0658	0.0029	-0.0834	0.0105	-0.3049	0.0327	-1.3280	0.1716
1	175.08	0.3498	-0.0481	0.0025	-0.1225	0.0194	-0.5549	0.0550	-1.6508	0.1591
1	175.08	0.3913	-0.0165	0.0025	-0.1793	0.0267	-0.8271	0.0745	-1.7759	0.1581
1	175.08	0.4496	-0.0046	0.0030	-0.2714	0.0371	-1.3776	0.1004	-2.0748	0.1599
1	175.08	0.4997	0.0064	0.0036	-0.3450	0.0454	-2.0208	0.1241	-2.2458	0.1553
1	175.08	0.5387	0.0070	0.0042	-0.4143	0.0533	-2.6373	0.1414	-2.4741	0.1591
1	175.08	0.5996	-0.0019	0.0054	-0.5298	0.0652	-3.7572	0.1691	-2.4460	0.1583
1	175.08	0.6498	-0.0130	0.0068	-0.6368	0.0753	-4.9190	0.1922	-2.7665	0.1528
1	175.08	0.6998	-0.0393	0.0083	-0.7468	0.0866	-6.1489	0.2122	-2.8180	0.1622
1	175.08	0.7500	-0.0674	0.0100	-0.8700	0.0977	-7.5140	0.2329	-2.7187	0.1632
1	175.08	0.8001	-0.1093	0.0120	-1.0162	0.1086	-8.9703	0.2544	-2.8762	0.1601
1	175.08	0.8497	-0.1710	0.0147	-1.1419	0.1201	-10.5204	0.2764	-2.9924	0.1636
1	175.08	0.9102	-0.2241	0.0204	-1.2610	0.1360	-12.4687	0.3065	-3.3709	0.1649
1	175.08	0.9734	-0.2643	0.0208	-1.4012	0.1498	-14.4700	0.3344	-3.3536	0.1979
2	175.08	0.1949	-0.0741	0.0024	-0.0087	0.0015	-0.0645	0.0044	-0.2817	0.0357
2	175.08	0.2405	-0.0377	0.0019	-0.0120	0.0038	-0.1793	0.0069	-0.7234	0.0584
2	175.08	0.2999	-0.0054	0.0017	-0.0424	0.0086	-0.3771	0.0135	-0.8486	0.0857
2	175.08	0.3498	0.0024	0.0018	-0.0578	0.0122	-0.6347	0.0217	-1.0424	0.0798
2	175.08	0.3998	0.0136	0.0023	-0.0993	0.0211	-1.0334	0.0326	-1.3141	0.0886
2	175.08	0.4496	0.0328	0.0027	-0.1483	0.0276	-1.5302	0.0444	-1.4517	0.0861
2	175.08	0.4995	0.0385	0.0030	-0.2065	0.0341	-2.1977	0.0588	-1.6396	0.0995
2	175.08	0.5551	0.0451	0.0039	-0.2613	0.0426	-3.1371	0.0769	-1.8437	0.1045
2	175.08	0.5996	0.0429	0.0047	-0.3124	0.0496	-4.0332	0.0934	-2.0312	0.1037
2	175.08	0.6497	0.0363	0.0058	-0.3738	0.0577	-5.1868	0.1127	-2.0923	0.1086
2	175.08	0.6996	0.0191	0.0084	-0.4407	0.0664	-6.4825	0.1340	-2.1617	0.1235
2	175.08	0.7495	-0.0220	0.0108	-0.5292	0.0756	-7.9128	0.1587	-2.1234	0.1206
2	175.08	0.7996	-0.0863	0.0139	-0.6224	0.0845	-9.4867	0.1858	-2.2822	0.1291
2	175.08	0.8578	-0.1805	0.0183	-0.7271	0.0956	-11.3760	0.2225	-2.0668	0.1217
2	175.08	0.9100	-0.2067	0.0224	-0.7887	0.1054	-13.1961	0.2604	-2.5430	0.1312
2	175.08	0.9727	-0.2964	0.0294	-0.8922	0.1178	-15.1881	0.3049	-1.9018	0.1541
3	175.08	0.1938	-0.0532	0.0023	-0.0236	0.0017	-0.0320	0.0048	-0.4965	0.0346
3	175.08	0.2357	-0.0325	0.0019	-0.0003	0.0023	-0.1225	0.0077	-0.8256	0.0506
3	175.08	0.2995	-0.0226	0.0017	-0.0641	0.0062	-0.2653	0.0163	-1.2749	0.0772
3	175.08	0.3493	0.0012	0.0021	-0.1077	0.0101	-0.4547	0.0265	-1.4219	0.0851
3	175.08	0.4000	0.0340	0.0024	-0.1530	0.0158	-0.7634	0.0406	-1.5138	0.0875
3	175.08	0.4497	0.0410	0.0023	-0.2190	0.0195	-1.1925	0.0556	-1.7562	0.0839
3	175.08	0.4997	0.0421	0.0035	-0.2943	0.0250	-1.7682	0.0754	-1.9003	0.0887
3	175.08	0.5556	0.0599	0.0041	-0.3698	0.0313	-2.5944	0.1004	-2.0788	0.0888
3	175.08	0.5995	0.0674	0.0055	-0.4545	0.0365	-3.3864	0.1216	-2.2145	0.0942
3	175.08	0.6498	0.0640	0.0069	-0.5532	0.0430	-4.4420	0.1475	-2.3582	0.0955
3	175.08	0.6890	0.0058	0.0087	-0.6354	0.0485	-5.3608	0.1690	-2.2664	0.0932
3	175.08	0.7495	-0.0058	0.0118	-0.7599	0.0562	-6.9729	0.2083	-2.4296	0.0986
3	175.08	0.7998	-0.0213	0.0158	-0.8808	0.0640	-8.4286	0.2449	-2.5034	0.0984
3	175.08	0.8577	-0.1074	0.0207	-1.0150	0.0731	-10.2192	0.2941	-2.5418	0.1221
3	175.08	0.9178	-0.1196	0.0271	-1.1444	0.0821	-12.1645	0.3549	-2.9152	0.1127
3	175.08	0.9729	-0.1757	0.0342	-1.3321	0.0931	-13.9880	0.4143	-3.0239	0.1475
4	175.08	0.2001	-0.0255	0.0025	0.0090	0.0018	-0.1004	0.0055	-0.1719	0.0322
4	175.08	0.2502	-0.0288	0.0014	0.0318	0.0030	-0.2466	0.0071	-0.5074	0.0783
4	175.08	0.3001	0.0023	0.0018	0.0404	0.0061	-0.4109	0.0152	-0.5059	0.0770
4	175.08	0.3502	0.0021	0.0018	0.0995	0.0091	-0.7210	0.0237	-0.7057	0.0761
4	175.08	0.4002	0.0143	0.0021	0.1425	0.0144	-1.1163	0.0346	-0.8283	0.0818
4	175.08	0.4500	0.0372	0.0027	0.1811	0.0177	-1.6547	0.0486	-1.0924	0.0856
4	175.08	0.5001	0.0459	0.0034	0.1843	0.0218	-2.3047	0.0653	-1.0042	0.0888
4	175.08	0.5560	0.0461	0.0046	0.2151	0.0273	-3.3180	0.0882	-1.4530	0.0891
4	175.08	0.6001	0.0426	0.0056	0.2403	0.0325	-4.2171	0.1092	-1.5533	0.0940
4	175.08	0.6501	0.0107	0.0072	0.2232	0.0378	-5.4108	0.1364	-1.5559	0.0918
4	175.08	0.6999	-0.0135	0.0099	0.2169	0.0444	-6.7736	0.1652	-1.5903	0.0956
4	175.08	0.7500	-0.0440	0.0130	0.2146	0.0511	-8.2640	0.1987	-1.4722	0.0961
4	175.08	0.8002	-0.1125	0.0165	0.1917	0.0586	-9.9298	0.2344	-1.5861	0.1011
4	175.08	0.8582	-0.1792	0.0214	0.1816	0.0666	-11.9632	0.2810	-1.8458	0.1006
4	175.08	0.9101	-0.2342	0.0275	0.1388	0.0743	-13.8332	0.3257	-1.8425	0.1283
4	175.08	0.9728	-0.2752	0.0319	0.1230	0.0842	-16.0258	0.3785	-1.6642	0.1162

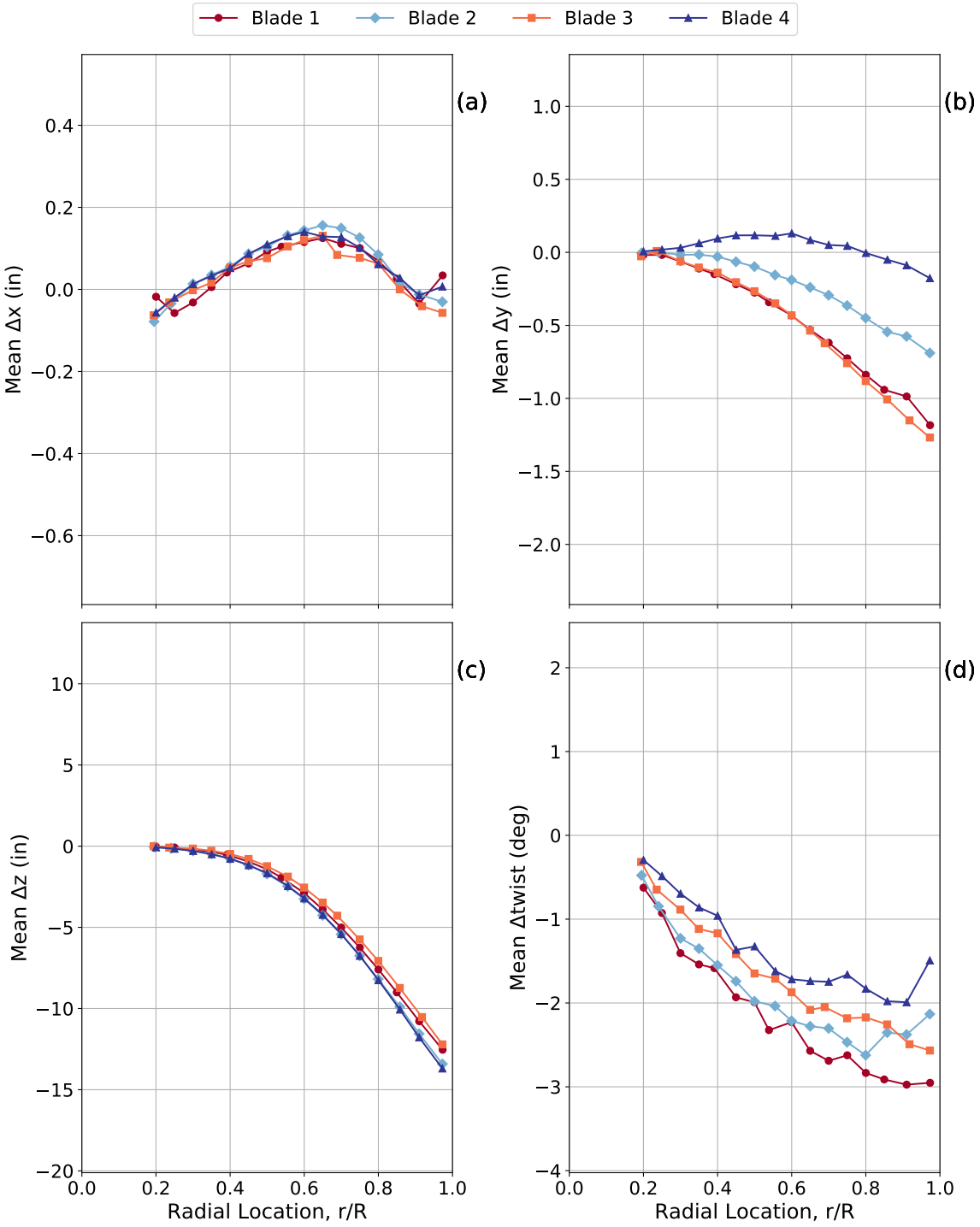


Figure 2.3-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.0179	0.0015	-0.0180	0.0015	-0.0333	0.0052	-0.6240	0.0238
1	180	0.2499	-0.0575	0.0013	-0.0176	0.0030	-0.0806	0.0095	-0.9266	0.0421
1	180	0.2998	-0.0318	0.0011	-0.0630	0.0058	-0.2061	0.0174	-1.4053	0.0539
1	180	0.3498	0.0057	0.0017	-0.1109	0.0105	-0.3439	0.0290	-1.5397	0.0539
1	180	0.3913	0.0412	0.0016	-0.1490	0.0147	-0.5305	0.0406	-1.5839	0.0587
1	180	0.4496	0.0632	0.0018	-0.2184	0.0197	-0.9452	0.0566	-1.9320	0.0664
1	180	0.4997	0.0921	0.0026	-0.2758	0.0253	-1.4264	0.0744	-1.9921	0.0757
1	180	0.5387	0.1041	0.0030	-0.3420	0.0290	-1.9334	0.0883	-2.3237	0.0723
1	180	0.5996	0.1154	0.0043	-0.4318	0.0365	-2.8829	0.1132	-2.2285	0.0783
1	180	0.6498	0.1251	0.0053	-0.5311	0.0429	-3.8937	0.1365	-2.5704	0.0829
1	180	0.6998	0.1112	0.0072	-0.6189	0.0494	-5.0108	0.1596	-2.6895	0.0930
1	180	0.7500	0.1007	0.0095	-0.7257	0.0568	-6.2481	0.1846	-2.6239	0.0933
1	180	0.8001	0.0694	0.0118	-0.8387	0.0657	-7.5969	0.2109	-2.8345	0.1140
1	180	0.8497	0.0262	0.0153	-0.9412	0.0733	-9.0028	0.2412	-2.9122	0.0964
1	180	0.9102	-0.0346	0.0208	-0.9869	0.0851	-10.7812	0.2840	-2.9743	0.1694
1	180	0.9734	0.0342	0.0256	-1.1837	0.0954	-12.5388	0.3382	-2.9522	0.1094
2	180	0.1949	-0.0783	0.0011	-0.0045	0.0011	-0.0532	0.0035	-0.4772	0.0236
2	180	0.2405	-0.0346	0.0011	0.0005	0.0026	-0.1281	0.0061	-0.8464	0.0409
2	180	0.2999	0.0136	0.0014	-0.0168	0.0045	-0.2914	0.0120	-1.2292	0.0558
2	180	0.3498	0.0349	0.0013	-0.0155	0.0078	-0.4714	0.0198	-1.3511	0.0604
2	180	0.3998	0.0558	0.0016	-0.0297	0.0123	-0.7721	0.0301	-1.5491	0.0634
2	180	0.4496	0.0869	0.0020	-0.0644	0.0148	-1.1608	0.0404	-1.7405	0.0728
2	180	0.4995	0.1039	0.0025	-0.0977	0.0183	-1.7079	0.0531	-1.9799	0.0857
2	180	0.5551	0.1317	0.0034	-0.1554	0.0234	-2.4648	0.0701	-2.0364	0.0877
2	180	0.5996	0.1440	0.0040	-0.1892	0.0272	-3.2506	0.0846	-2.2128	0.0871
2	180	0.6497	0.1560	0.0050	-0.2397	0.0328	-4.2606	0.1032	-2.2777	0.0901
2	180	0.6996	0.1494	0.0069	-0.2935	0.0383	-5.4230	0.1224	-2.3026	0.0997
2	180	0.7495	0.1262	0.0086	-0.3645	0.0450	-6.7500	0.1417	-2.4676	0.0971
2	180	0.7996	0.0848	0.0117	-0.4498	0.0515	-8.1863	0.1654	-2.6227	0.1043
2	180	0.8578	0.0170	0.0151	-0.5444	0.0597	-9.8955	0.1944	-2.3531	0.1062
2	180	0.9100	-0.0121	0.0183	-0.5756	0.0686	-11.5570	0.2298	-2.3767	0.1598
2	180	0.9727	-0.0302	0.0244	-0.6892	0.0766	-13.4132	0.2737	-2.1323	0.1330
3	180.35	0.1938	-0.0628	0.0021	-0.0270	0.0014	-0.0058	0.0056	-0.3168	0.0198
3	180.35	0.2357	-0.0315	0.0012	0.0092	0.0023	-0.0902	0.0092	-0.6477	0.0529
3	180.35	0.2995	-0.0019	0.0014	-0.0610	0.0052	-0.1487	0.0208	-0.8859	0.0558
3	180.35	0.3493	0.0165	0.0016	-0.1042	0.0093	-0.2813	0.0327	-1.1162	0.0542
3	180.35	0.4000	0.0534	0.0019	-0.1391	0.0144	-0.4775	0.0515	-1.1689	0.0629
3	180.35	0.4497	0.0684	0.0027	-0.2044	0.0197	-0.7893	0.0703	-1.4162	0.0658
3	180.35	0.4997	0.0762	0.0034	-0.2664	0.0263	-1.2336	0.0932	-1.6477	0.0716
3	180.35	0.5556	0.1048	0.0047	-0.3499	0.0337	-1.8779	0.1203	-1.7099	0.0751
3	180.35	0.5995	0.1200	0.0050	-0.4314	0.0405	-2.5514	0.1429	-1.8715	0.0692
3	180.35	0.6498	0.1308	0.0063	-0.5360	0.0484	-3.4729	0.1705	-2.0822	0.0720
3	180.35	0.6890	0.0841	0.0076	-0.6227	0.0559	-4.2833	0.1922	-2.0487	0.0792
3	180.35	0.7495	0.0771	0.0105	-0.7593	0.0669	-5.7417	0.2282	-2.1827	0.0821
3	180.35	0.7998	0.0627	0.0137	-0.8816	0.0774	-7.0708	0.2592	-2.1722	0.0877
3	180.35	0.8577	0.0002	0.0183	-1.0070	0.0901	-8.7355	0.3003	-2.2561	0.0873
3	180.35	0.9178	-0.0409	0.0235	-1.1506	0.1031	-10.5305	0.3488	-2.4916	0.1014
3	180.35	0.9729	-0.0571	0.0283	-1.2681	0.1151	-12.2099	0.3953	-2.5667	0.1069
4	180	0.2001	-0.0563	0.0013	0.0065	0.0012	-0.0737	0.0039	-0.2943	0.0239
4	180	0.2502	-0.0200	0.0012	0.0185	0.0025	-0.1584	0.0078	-0.4862	0.0448
4	180	0.3001	0.0129	0.0014	0.0311	0.0046	-0.2926	0.0133	-0.6959	0.0549
4	180	0.3502	0.0335	0.0014	0.0624	0.0082	-0.4959	0.0231	-0.8605	0.0506
4	180	0.4002	0.0520	0.0019	0.0948	0.0123	-0.7689	0.0349	-0.9596	0.0605
4	180	0.4500	0.0866	0.0022	0.1163	0.0157	-1.1729	0.0483	-1.3662	0.0588
4	180	0.5001	0.1097	0.0030	0.1167	0.0200	-1.6637	0.0646	-1.3251	0.0657
4	180	0.5560	0.1298	0.0035	0.1127	0.0256	-2.4537	0.0830	-1.6195	0.0711
4	180	0.6001	0.1401	0.0039	0.1299	0.0300	-3.2136	0.0950	-1.7174	0.0608
4	180	0.6501	0.1289	0.0046	0.0842	0.0367	-4.2270	0.1128	-1.7384	0.0734
4	180	0.6999	0.1275	0.0064	0.0504	0.0423	-5.4097	0.1305	-1.7469	0.0799
4	180	0.7500	0.1015	0.0078	0.0443	0.0495	-6.7548	0.1478	-1.6609	0.0787
4	180	0.8002	0.0614	0.0103	-0.0045	0.0563	-8.2551	0.1701	-1.8300	0.0818
4	180	0.8582	0.0276	0.0140	-0.0506	0.0650	-10.0670	0.2029	-1.9792	0.0862
4	180	0.9101	-0.0146	0.0182	-0.0888	0.0734	-11.7768	0.2370	-1.9914	0.1060
4	180	0.9728	0.0070	0.0225	-0.1769	0.0841	-13.6938	0.2884	-1.4928	0.1091

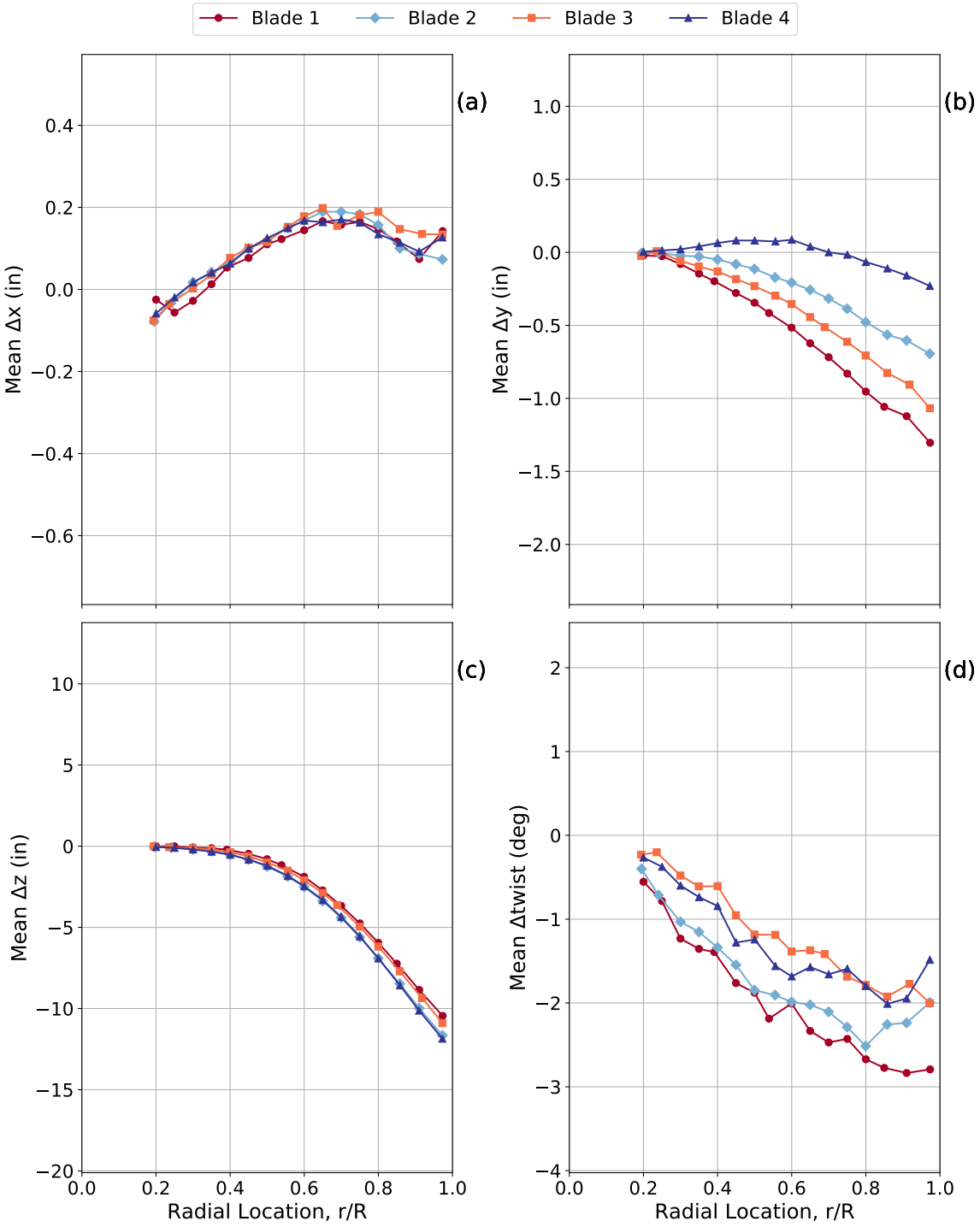


Figure 2.3-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0249	0.0012	-0.0215	0.0012	0.0019	0.0054	-0.5536	0.0206
1	184.92	0.2499	-0.0563	0.0013	-0.0264	0.0027	-0.0097	0.0108	-0.7837	0.0387
1	184.92	0.2998	-0.0278	0.0014	-0.0804	0.0051	-0.0736	0.0196	-1.2319	0.0474
1	184.92	0.3498	0.0128	0.0015	-0.1457	0.0088	-0.1251	0.0325	-1.3545	0.0492
1	184.92	0.3913	0.0533	0.0024	-0.1979	0.0129	-0.2148	0.0468	-1.3927	0.0533
1	184.92	0.4496	0.0767	0.0025	-0.2784	0.0169	-0.4720	0.0642	-1.7621	0.0548
1	184.92	0.4997	0.1099	0.0031	-0.3447	0.0219	-0.8000	0.0822	-1.8775	0.0624
1	184.92	0.5387	0.1227	0.0034	-0.4155	0.0258	-1.1674	0.0972	-2.1870	0.0610
1	184.92	0.5996	0.1443	0.0043	-0.5156	0.0321	-1.8854	0.1230	-2.0067	0.0694
1	184.92	0.6498	0.1662	0.0055	-0.6227	0.0394	-2.7234	0.1467	-2.3336	0.0676
1	184.92	0.6998	0.1577	0.0075	-0.7182	0.0452	-3.6735	0.1741	-2.4709	0.0763
1	184.92	0.7500	0.1646	0.0094	-0.8305	0.0532	-4.7528	0.2014	-2.4282	0.0713
1	184.92	0.8001	0.1470	0.0121	-0.9534	0.0609	-5.9538	0.2338	-2.6716	0.0858
1	184.92	0.8497	0.1168	0.0151	-1.0576	0.0687	-7.2347	0.2677	-2.7739	0.0941
1	184.92	0.9102	0.0742	0.0193	-1.1220	0.0794	-8.8535	0.3124	-2.8353	0.1254
1	184.92	0.9734	0.1422	0.0225	-1.3039	0.0912	-10.4495	0.3635	-2.7921	0.1034
2	184.92	0.1949	-0.0781	0.0011	-0.0058	0.0010	-0.0321	0.0043	-0.4005	0.0300
2	184.92	0.2405	-0.0334	0.0014	-0.0024	0.0023	-0.0859	0.0078	-0.7130	0.0428
2	184.92	0.2999	0.0177	0.0012	-0.0231	0.0039	-0.1975	0.0151	-1.0313	0.0674
2	184.92	0.3498	0.0423	0.0014	-0.0284	0.0070	-0.3179	0.0256	-1.1525	0.0593
2	184.92	0.3998	0.0667	0.0020	-0.0488	0.0107	-0.5298	0.0385	-1.3379	0.0592
2	184.92	0.4496	0.0993	0.0021	-0.0811	0.0137	-0.8177	0.0526	-1.5454	0.0608
2	184.92	0.4995	0.1185	0.0029	-0.1134	0.0176	-1.2519	0.0678	-1.8467	0.0623
2	184.92	0.5551	0.1502	0.0035	-0.1717	0.0225	-1.8589	0.0856	-1.9060	0.0707
2	184.92	0.5996	0.1679	0.0043	-0.2070	0.0268	-2.5052	0.1030	-1.9863	0.0756
2	184.92	0.6497	0.1894	0.0061	-0.2570	0.0322	-3.3790	0.1249	-2.0217	0.0683
2	184.92	0.6996	0.1893	0.0075	-0.3161	0.0380	-4.4062	0.1488	-2.1055	0.0788
2	184.92	0.7495	0.1833	0.0098	-0.3864	0.0457	-5.5991	0.1782	-2.2874	0.0734
2	184.92	0.7996	0.1571	0.0135	-0.4779	0.0522	-6.9019	0.2122	-2.5135	0.0825
2	184.92	0.8578	0.1002	0.0177	-0.5646	0.0618	-8.4725	0.2557	-2.2558	0.0986
2	184.92	0.9100	0.0867	0.0217	-0.6030	0.0705	-9.9799	0.3000	-2.2370	0.1048
2	184.92	0.9727	0.0730	0.0277	-0.6945	0.0796	-11.6577	0.3583	-1.9938	0.0927
3	184.92	0.1938	-0.0757	0.0014	-0.0248	0.0014	-0.0058	0.0049	-0.2318	0.0207
3	184.92	0.2357	-0.0355	0.0011	0.0078	0.0025	-0.0608	0.0086	-0.2017	0.0385
3	184.92	0.2995	0.0024	0.0013	-0.0580	0.0054	-0.1159	0.0172	-0.4791	0.0491
3	184.92	0.3493	0.0359	0.0015	-0.0964	0.0093	-0.2166	0.0284	-0.6086	0.0553
3	184.92	0.4000	0.0769	0.0018	-0.1312	0.0145	-0.3676	0.0437	-0.6057	0.0648
3	184.92	0.4497	0.1018	0.0023	-0.1830	0.0185	-0.6293	0.0604	-0.9528	0.0721
3	184.92	0.4997	0.1161	0.0027	-0.2316	0.0235	-0.9941	0.0798	-1.1830	0.0723
3	184.92	0.5556	0.1523	0.0034	-0.2965	0.0303	-1.5124	0.1055	-1.1869	0.0770
3	184.92	0.5995	0.1782	0.0045	-0.3539	0.0346	-2.1033	0.1269	-1.3848	0.0883
3	184.92	0.6498	0.1983	0.0059	-0.4435	0.0425	-2.8808	0.1538	-1.3707	0.0958
3	184.92	0.6890	0.1550	0.0073	-0.5116	0.0476	-3.6206	0.1753	-1.4163	0.0967
3	184.92	0.7495	0.1814	0.0105	-0.6127	0.0574	-4.9537	0.2104	-1.6856	0.0981
3	184.92	0.7998	0.1889	0.0137	-0.7067	0.0656	-6.1826	0.2434	-1.7852	0.0923
3	184.92	0.8577	0.1470	0.0179	-0.8255	0.0758	-7.7093	0.2880	-1.9237	0.1070
3	184.92	0.9178	0.1350	0.0231	-0.9059	0.0871	-9.3552	0.3399	-1.7723	0.1324
3	184.92	0.9729	0.1338	0.0286	-1.0676	0.0977	-10.8974	0.3961	-2.0026	0.1214
4	184.92	0.2001	-0.0584	0.0012	0.0037	0.0012	-0.0520	0.0042	-0.2653	0.0323
4	184.92	0.2502	-0.0193	0.0011	0.0133	0.0029	-0.1040	0.0092	-0.3748	0.0437
4	184.92	0.3001	0.0173	0.0015	0.0208	0.0052	-0.2024	0.0145	-0.5994	0.0686
4	184.92	0.3502	0.0411	0.0015	0.0405	0.0087	-0.3385	0.0240	-0.7374	0.0607
4	184.92	0.4002	0.0630	0.0020	0.0639	0.0138	-0.5242	0.0367	-0.8439	0.0561
4	184.92	0.4500	0.0994	0.0026	0.0812	0.0182	-0.8289	0.0492	-1.2795	0.0674
4	184.92	0.5001	0.1251	0.0029	0.0809	0.0234	-1.2004	0.0633	-1.2422	0.0658
4	184.92	0.5560	0.1492	0.0035	0.0745	0.0296	-1.8382	0.0799	-1.5597	0.0723
4	184.92	0.6001	0.1677	0.0042	0.0863	0.0357	-2.4679	0.0945	-1.6828	0.0854
4	184.92	0.6501	0.1638	0.0055	0.0395	0.0426	-3.3185	0.1108	-1.5723	0.0857
4	184.92	0.6999	0.1706	0.0067	0.0002	0.0499	-4.3625	0.1294	-1.6580	0.0795
4	184.92	0.7500	0.1628	0.0095	-0.0163	0.0580	-5.5559	0.1512	-1.5914	0.0855
4	184.92	0.8002	0.1345	0.0118	-0.0663	0.0667	-6.9119	0.1764	-1.7975	0.0949
4	184.92	0.8582	0.1140	0.0156	-0.1105	0.0770	-8.5767	0.2120	-2.0102	0.0989
4	184.92	0.9101	0.0921	0.0188	-0.1590	0.0876	-10.1296	0.2473	-1.9465	0.1005
4	184.92	0.9728	0.1268	0.0256	-0.2302	0.0987	-11.8580	0.2963	-1.4845	0.0997

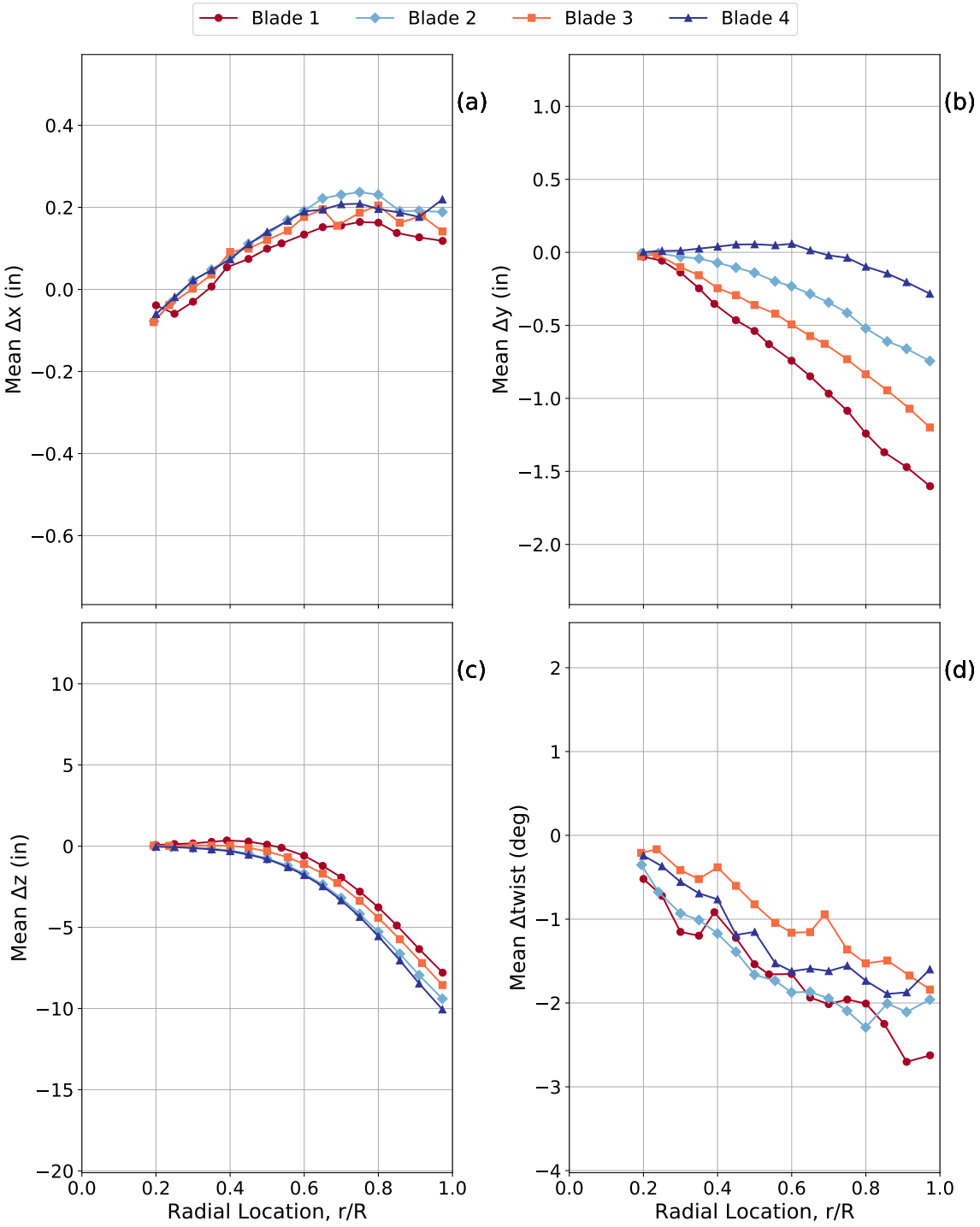


Figure 2.3-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0387	0.0023	-0.0305	0.0016	0.0707	0.0074	-0.5200	0.0237
1	189.84	0.2499	-0.0593	0.0017	-0.0572	0.0049	0.1315	0.0180	-0.7214	0.0426
1	189.84	0.2998	-0.0300	0.0019	-0.1380	0.0089	0.1713	0.0301	-1.1522	0.0534
1	189.84	0.3498	0.0069	0.0053	-0.2466	0.0145	0.2666	0.0437	-1.1968	0.0806
1	189.84	0.3913	0.0540	0.0051	-0.3531	0.0229	0.3534	0.0687	-0.9170	0.0970
1	189.84	0.4496	0.0743	0.0062	-0.4647	0.0274	0.2858	0.0844	-1.2233	0.0851
1	189.84	0.4997	0.0992	0.0049	-0.5385	0.0315	0.0931	0.1006	-1.5379	0.0736
1	189.84	0.5387	0.1121	0.0059	-0.6289	0.0359	-0.0958	0.1205	-1.6585	0.1040
1	189.84	0.5996	0.1338	0.0050	-0.7420	0.0428	-0.5872	0.1456	-1.6537	0.0803
1	189.84	0.6498	0.1517	0.0053	-0.8488	0.0495	-1.2091	0.1731	-1.9352	0.0803
1	189.84	0.6998	0.1557	0.0062	-0.9672	0.0563	-1.9261	0.2009	-2.0138	0.0810
1	189.84	0.7500	0.1644	0.0076	-1.0847	0.0637	-2.7990	0.2320	-1.9584	0.0819
1	189.84	0.8001	0.1626	0.0096	-1.2408	0.0715	-3.7686	0.2633	-2.0073	0.0853
1	189.84	0.8497	0.1376	0.0123	-1.3691	0.0791	-4.8823	0.2955	-2.2495	0.0737
1	189.84	0.9102	0.1269	0.0151	-1.4705	0.0891	-6.3393	0.3374	-2.7020	0.0714
1	189.84	0.9734	0.1183	0.0190	-1.6014	0.1003	-7.7902	0.3863	-2.6245	0.0899
2	189.84	0.1949	-0.0773	0.0013	-0.0069	0.0012	-0.0062	0.0060	-0.3516	0.0397
2	189.84	0.2405	-0.0322	0.0016	-0.0057	0.0030	-0.0410	0.0117	-0.6768	0.0516
2	189.84	0.2999	0.0218	0.0016	-0.0313	0.0059	-0.0963	0.0236	-0.9308	0.0862
2	189.84	0.3498	0.0482	0.0022	-0.0423	0.0103	-0.1443	0.0379	-1.0097	0.0873
2	189.84	0.3998	0.0776	0.0027	-0.0719	0.0165	-0.2669	0.0589	-1.1712	0.0994
2	189.84	0.4496	0.1115	0.0030	-0.1044	0.0204	-0.4557	0.0788	-1.3890	0.0986
2	189.84	0.4995	0.1336	0.0032	-0.1394	0.0254	-0.7599	0.1028	-1.6623	0.1025
2	189.84	0.5551	0.1690	0.0039	-0.1986	0.0323	-1.1963	0.1348	-1.7349	0.1094
2	189.84	0.5996	0.1915	0.0046	-0.2321	0.0372	-1.6899	0.1614	-1.8729	0.1198
2	189.84	0.6497	0.2218	0.0058	-0.2845	0.0439	-2.3618	0.1913	-1.8677	0.1256
2	189.84	0.6996	0.2307	0.0077	-0.3429	0.0508	-3.1912	0.2224	-1.9454	0.1369
2	189.84	0.7495	0.2371	0.0101	-0.4141	0.0585	-4.1757	0.2539	-2.0938	0.1227
2	189.84	0.7996	0.2308	0.0127	-0.5203	0.0672	-5.2753	0.2893	-2.2918	0.1313
2	189.84	0.8578	0.1907	0.0165	-0.6104	0.0783	-6.6290	0.3309	-2.0071	0.2020
2	189.84	0.9100	0.1916	0.0202	-0.6602	0.0865	-7.9470	0.3713	-2.1075	0.1248
2	189.84	0.9727	0.1887	0.0253	-0.7442	0.0989	-9.3983	0.4264	-1.9595	0.1564
3	189.84	0.1938	-0.0795	0.0019	-0.0276	0.0016	0.0323	0.0073	-0.2099	0.0300
3	189.84	0.2357	-0.0382	0.0016	-0.0126	0.0046	0.0194	0.0157	-0.1661	0.0427
3	189.84	0.2995	0.0019	0.0017	-0.1007	0.0101	0.0486	0.0291	-0.4153	0.0669
3	189.84	0.3493	0.0362	0.0018	-0.1568	0.0163	0.0348	0.0459	-0.5210	0.0582
3	189.84	0.4000	0.0912	0.0050	-0.2456	0.0275	0.0372	0.0720	-0.3818	0.0801
3	189.84	0.4497	0.0995	0.0046	-0.2934	0.0303	-0.0997	0.0875	-0.6019	0.0747
3	189.84	0.4997	0.1204	0.0045	-0.3607	0.0378	-0.3170	0.1145	-0.8224	0.0730
3	189.84	0.5556	0.1430	0.0044	-0.4202	0.0457	-0.6869	0.1418	-1.0444	0.0795
3	189.84	0.5995	0.1767	0.0047	-0.4935	0.0525	-1.1014	0.1668	-1.1618	0.0873
3	189.84	0.6498	0.1951	0.0055	-0.5731	0.0603	-1.6925	0.1925	-1.1545	0.0910
3	189.84	0.6890	0.1552	0.0062	-0.6263	0.0671	-2.2668	0.2144	-0.9426	0.0907
3	189.84	0.7495	0.1870	0.0085	-0.7319	0.0792	-3.3612	0.2509	-1.3622	0.0966
3	189.84	0.7998	0.2045	0.0116	-0.8347	0.0895	-4.4098	0.2835	-1.5271	0.1073
3	189.84	0.8577	0.1626	0.0159	-0.9449	0.1025	-5.7311	0.3268	-1.4930	0.1116
3	189.84	0.9178	0.1790	0.0205	-1.0705	0.1166	-7.1984	0.3793	-1.6725	0.1115
3	189.84	0.9729	0.1413	0.0261	-1.1992	0.1295	-8.5532	0.4341	-1.8398	0.1057
4	189.84	0.2001	-0.0600	0.0013	0.0020	0.0012	-0.0295	0.0047	-0.2421	0.0229
4	189.84	0.2502	-0.0187	0.0013	0.0091	0.0033	-0.0609	0.0106	-0.3687	0.0447
4	189.84	0.3001	0.0222	0.0016	0.0114	0.0057	-0.1159	0.0173	-0.5557	0.0528
4	189.84	0.3502	0.0472	0.0020	0.0256	0.0095	-0.1979	0.0274	-0.6927	0.0571
4	189.84	0.4002	0.0734	0.0027	0.0388	0.0155	-0.3051	0.0432	-0.7638	0.0589
4	189.84	0.4500	0.1102	0.0030	0.0535	0.0208	-0.5251	0.0569	-1.1879	0.0565
4	189.84	0.5001	0.1402	0.0038	0.0552	0.0268	-0.7922	0.0738	-1.1519	0.0578
4	189.84	0.5560	0.1672	0.0047	0.0485	0.0355	-1.2918	0.0957	-1.5266	0.0602
4	189.84	0.6001	0.1899	0.0051	0.0584	0.0432	-1.7822	0.1141	-1.6215	0.0715
4	189.84	0.6501	0.1948	0.0067	0.0139	0.0516	-2.4702	0.1371	-1.5895	0.0845
4	189.84	0.6999	0.2076	0.0084	-0.0208	0.0613	-3.3381	0.1625	-1.6194	0.0826
4	189.84	0.7500	0.2088	0.0109	-0.0373	0.0724	-4.3561	0.1919	-1.5559	0.0963
4	189.84	0.8002	0.1960	0.0141	-0.0983	0.0838	-5.5467	0.2272	-1.7351	0.1031
4	189.84	0.8582	0.1870	0.0190	-0.1451	0.0977	-7.0410	0.2752	-1.8920	0.0984
4	189.84	0.9101	0.1766	0.0229	-0.2043	0.1111	-8.4605	0.3253	-1.8730	0.0960
4	189.84	0.9728	0.2193	0.0306	-0.2833	0.1285	-10.0577	0.3923	-1.5994	0.1045

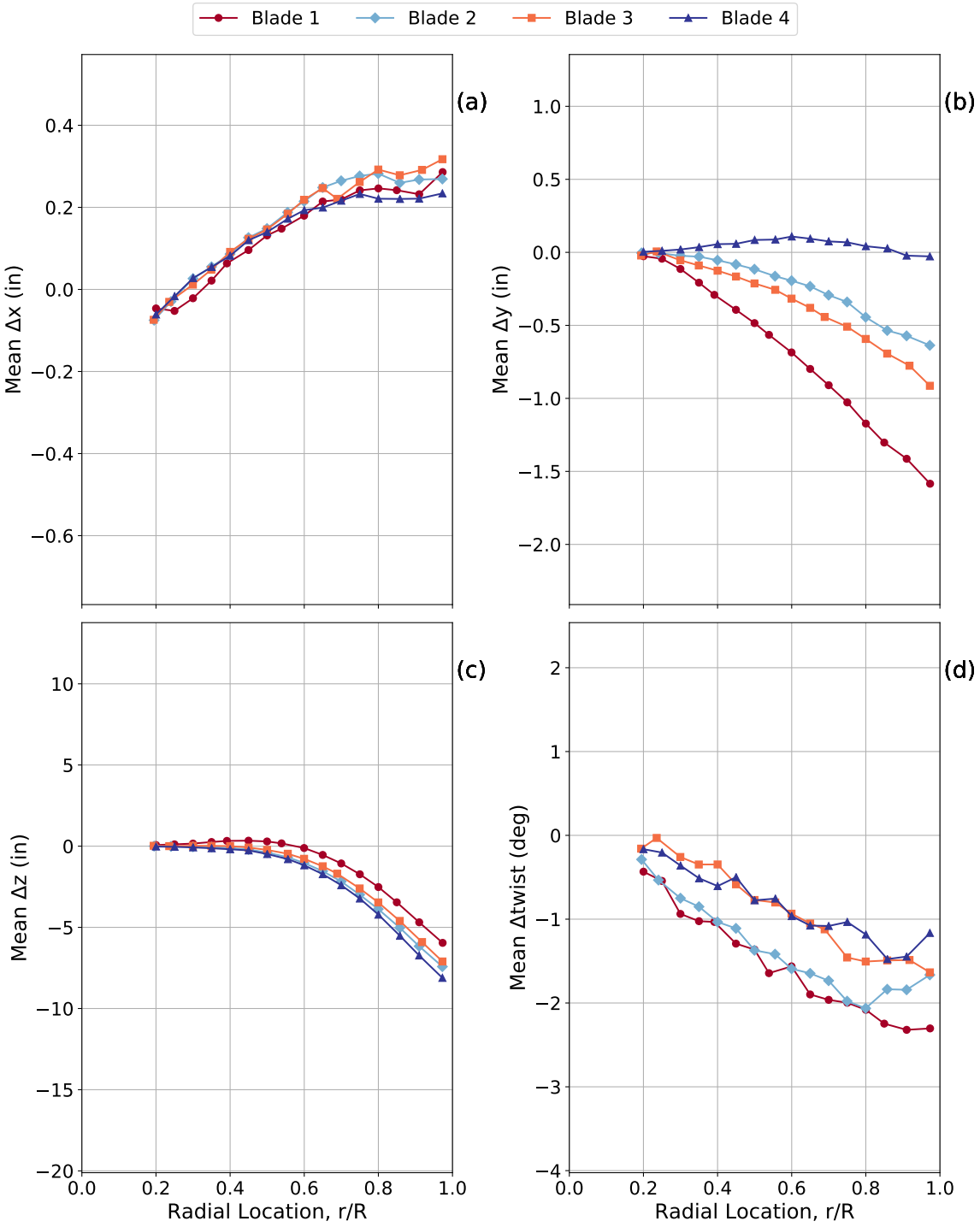


Figure 2.3-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0463	0.0018	-0.0265	0.0012	0.0707	0.0063	-0.4332	0.0267
1	195.12	0.2499	-0.0523	0.0011	-0.0435	0.0026	0.1125	0.0118	-0.5437	0.0399
1	195.12	0.2998	-0.0215	0.0014	-0.1138	0.0053	0.1611	0.0217	-0.9372	0.0584
1	195.12	0.3498	0.0215	0.0015	-0.2076	0.0087	0.2566	0.0354	-1.0239	0.0527
1	195.12	0.3913	0.0634	0.0031	-0.2911	0.0129	0.3254	0.0504	-1.0325	0.0660
1	195.12	0.4496	0.0960	0.0022	-0.3935	0.0161	0.3385	0.0722	-1.2917	0.0660
1	195.12	0.4997	0.1316	0.0026	-0.4846	0.0203	0.2907	0.0953	-1.3631	0.0712
1	195.12	0.5387	0.1481	0.0027	-0.5649	0.0238	0.1732	0.1143	-1.6440	0.0741
1	195.12	0.5996	0.1797	0.0031	-0.6853	0.0297	-0.1130	0.1472	-1.5632	0.0692
1	195.12	0.6498	0.2142	0.0039	-0.7984	0.0359	-0.5387	0.1778	-1.8979	0.0697
1	195.12	0.6998	0.2193	0.0048	-0.9098	0.0415	-1.0636	0.2086	-1.9626	0.0764
1	195.12	0.7500	0.2414	0.0060	-1.0275	0.0475	-1.7304	0.2428	-1.9970	0.0719
1	195.12	0.8001	0.2462	0.0082	-1.1725	0.0534	-2.5190	0.2785	-2.0813	0.0750
1	195.12	0.8497	0.2418	0.0107	-1.3025	0.0604	-3.4573	0.3156	-2.2463	0.0793
1	195.12	0.9102	0.2319	0.0136	-1.4136	0.0697	-4.6888	0.3671	-2.3203	0.0841
1	195.12	0.9734	0.2859	0.0176	-1.5844	0.0794	-5.9546	0.4222	-2.3034	0.0828
2	195.12	0.1949	-0.0750	0.0015	-0.0040	0.0011	0.0030	0.0053	-0.2876	0.0298
2	195.12	0.2405	-0.0295	0.0013	-0.0052	0.0024	-0.0127	0.0091	-0.5335	0.0350
2	195.12	0.2999	0.0265	0.0013	-0.0234	0.0040	-0.0390	0.0172	-0.7498	0.0588
2	195.12	0.3498	0.0551	0.0016	-0.0295	0.0076	-0.0506	0.0277	-0.8512	0.0659
2	195.12	0.3998	0.0862	0.0024	-0.0541	0.0114	-0.1115	0.0418	-1.0329	0.0521
2	195.12	0.4496	0.1263	0.0024	-0.0826	0.0149	-0.2014	0.0546	-1.1097	0.0584
2	195.12	0.4995	0.1483	0.0026	-0.1156	0.0189	-0.3915	0.0690	-1.3712	0.0549
2	195.12	0.5551	0.1879	0.0031	-0.1633	0.0241	-0.6813	0.0865	-1.4176	0.0543
2	195.12	0.5996	0.2146	0.0038	-0.1940	0.0291	-1.0345	0.1037	-1.5915	0.0596
2	195.12	0.6497	0.2483	0.0044	-0.2329	0.0347	-1.5377	0.1231	-1.6463	0.0718
2	195.12	0.6996	0.2647	0.0057	-0.2928	0.0411	-2.1735	0.1458	-1.7336	0.0722
2	195.12	0.7495	0.2765	0.0072	-0.3399	0.0472	-2.9863	0.1747	-1.9784	0.0667
2	195.12	0.7996	0.2823	0.0096	-0.4441	0.0543	-3.8759	0.2070	-2.0633	0.0829
2	195.12	0.8578	0.2597	0.0130	-0.5351	0.0627	-5.0253	0.2510	-1.8363	0.0807
2	195.12	0.9100	0.2678	0.0159	-0.5717	0.0703	-6.1621	0.2950	-1.8424	0.0836
2	195.12	0.9727	0.2691	0.0210	-0.6368	0.0803	-7.4183	0.3544	-1.6645	0.0898
3	195.12	0.1938	-0.0740	0.0017	-0.0216	0.0011	0.0238	0.0053	-0.1586	0.0394
3	195.12	0.2357	-0.0303	0.0015	0.0061	0.0024	0.0027	0.0094	-0.0307	0.0483
3	195.12	0.2995	0.0117	0.0016	-0.0543	0.0048	0.0222	0.0199	-0.2581	0.0866
3	195.12	0.3493	0.0481	0.0019	-0.0899	0.0084	0.0207	0.0324	-0.3477	0.0783
3	195.12	0.4000	0.0915	0.0030	-0.1256	0.0133	0.0047	0.0501	-0.3471	0.0829
3	195.12	0.4497	0.1232	0.0026	-0.1656	0.0165	-0.0822	0.0661	-0.5839	0.0929
3	195.12	0.4997	0.1462	0.0031	-0.2129	0.0210	-0.2290	0.0865	-0.7714	0.1041
3	195.12	0.5556	0.1844	0.0035	-0.2566	0.0270	-0.4681	0.1105	-0.8009	0.1066
3	195.12	0.5995	0.2184	0.0037	-0.3168	0.0314	-0.7777	0.1317	-0.9346	0.1143
3	195.12	0.6498	0.2469	0.0044	-0.3800	0.0380	-1.2376	0.1561	-1.0511	0.1120
3	195.12	0.6890	0.2207	0.0050	-0.4424	0.0430	-1.6932	0.1775	-1.1212	0.1165
3	195.12	0.7495	0.2618	0.0065	-0.5091	0.0516	-2.6029	0.2098	-1.4572	0.1237
3	195.12	0.7998	0.2921	0.0080	-0.5931	0.0590	-3.4642	0.2375	-1.5054	0.1343
3	195.12	0.8577	0.2782	0.0104	-0.6933	0.0676	-4.6047	0.2689	-1.4922	0.1372
3	195.12	0.9178	0.2913	0.0127	-0.7761	0.0775	-5.9067	0.3047	-1.4871	0.1455
3	195.12	0.9729	0.3173	0.0159	-0.9137	0.0860	-7.1023	0.3422	-1.6346	0.1469
4	195.12	0.2001	-0.0611	0.0016	0.0039	0.0009	-0.0226	0.0069	-0.1649	0.0320
4	195.12	0.2502	-0.0166	0.0012	0.0104	0.0027	-0.0393	0.0134	-0.2056	0.0455
4	195.12	0.3001	0.0276	0.0021	0.0196	0.0042	-0.0749	0.0244	-0.3610	0.0668
4	195.12	0.3502	0.0546	0.0018	0.0356	0.0079	-0.1283	0.0402	-0.5127	0.0506
4	195.12	0.4002	0.0821	0.0023	0.0561	0.0122	-0.1901	0.0611	-0.6053	0.0640
4	195.12	0.4500	0.1199	0.0060	0.0583	0.0174	-0.2618	0.0886	-0.4990	0.1466
4	195.12	0.5001	0.1399	0.0044	0.0847	0.0193	-0.4849	0.1070	-0.7751	0.0962
4	195.12	0.5560	0.1723	0.0068	0.0876	0.0251	-0.8005	0.1403	-0.7545	0.1512
4	195.12	0.6001	0.1931	0.0055	0.1084	0.0285	-1.1792	0.1608	-0.9635	0.0973
4	195.12	0.6501	0.1995	0.0056	0.0934	0.0337	-1.7260	0.1935	-1.0766	0.0886
4	195.12	0.6999	0.2162	0.0066	0.0749	0.0395	-2.4053	0.2275	-1.0811	0.1104
4	195.12	0.7500	0.2326	0.0082	0.0686	0.0466	-3.2260	0.2666	-1.0337	0.1094
4	195.12	0.8002	0.2210	0.0105	0.0419	0.0532	-4.2186	0.3085	-1.1833	0.1123
4	195.12	0.8582	0.2205	0.0144	0.0270	0.0619	-5.5202	0.3619	-1.4766	0.1170
4	195.12	0.9101	0.2212	0.0181	-0.0225	0.0712	-6.7330	0.4174	-1.4461	0.1301
4	195.12	0.9728	0.2340	0.0226	-0.0277	0.0809	-8.1123	0.4838	-1.1644	0.1211

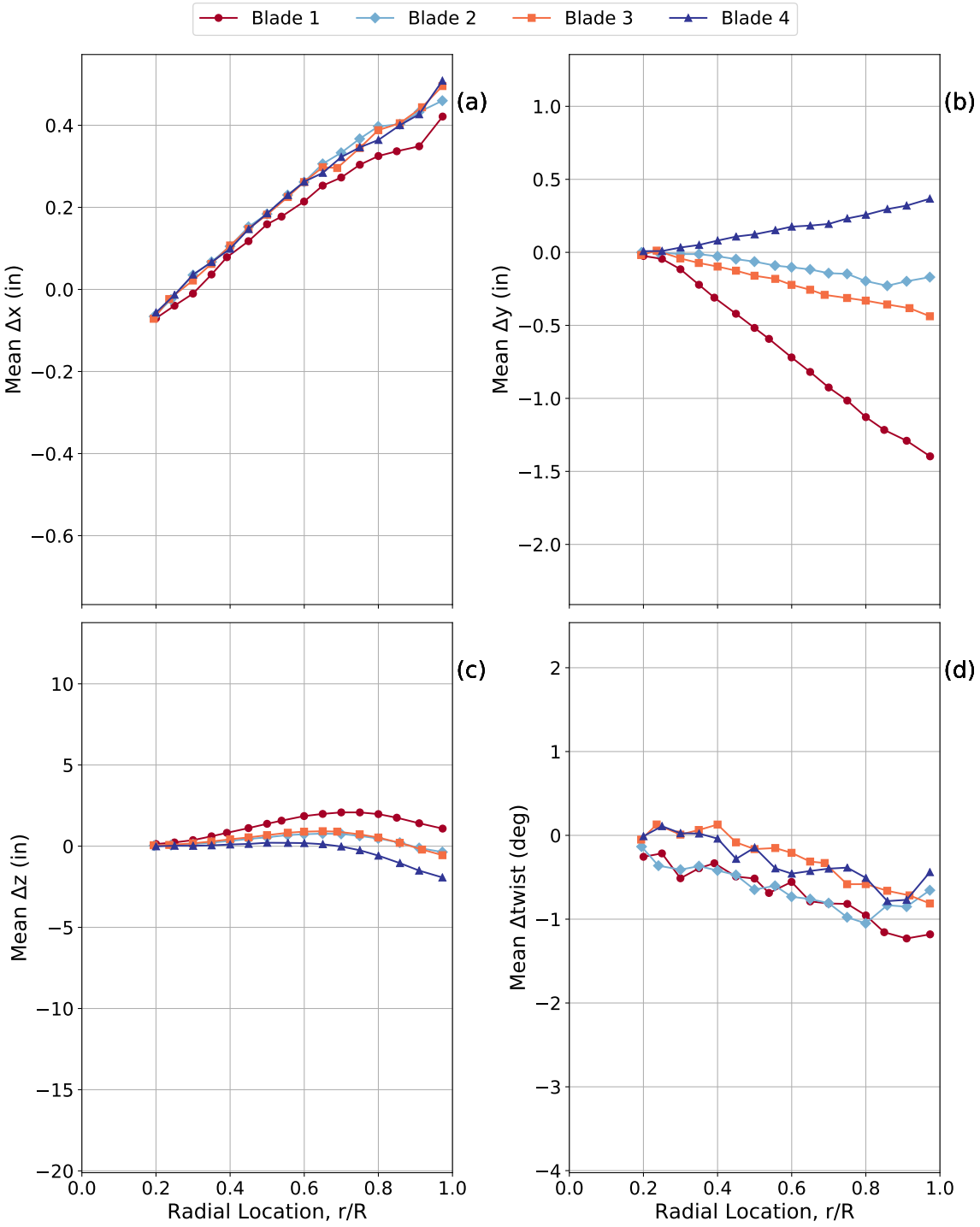


Figure 2.3-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0701	0.0016	-0.0247	0.0010	0.1322	0.0090	-0.2558	0.0412
1	209.88	0.2499	-0.0396	0.0011	-0.0446	0.0029	0.2303	0.0176	-0.2154	0.0478
1	209.88	0.2998	-0.0102	0.0016	-0.1158	0.0055	0.3727	0.0282	-0.5120	0.0847
1	209.88	0.3498	0.0364	0.0037	-0.2219	0.0106	0.6080	0.0473	-0.3928	0.0704
1	209.88	0.3913	0.0785	0.0033	-0.3101	0.0149	0.8218	0.0655	-0.3329	0.0788
1	209.88	0.4496	0.1176	0.0033	-0.4206	0.0202	1.1134	0.0868	-0.4916	0.0743
1	209.88	0.4997	0.1588	0.0038	-0.5175	0.0260	1.3788	0.1100	-0.5153	0.0990
1	209.88	0.5387	0.1775	0.0043	-0.5925	0.0309	1.5721	0.1274	-0.6872	0.0883
1	209.88	0.5996	0.2141	0.0058	-0.7194	0.0394	1.8538	0.1588	-0.5557	0.0925
1	209.88	0.6498	0.2530	0.0057	-0.8190	0.0477	1.9872	0.1856	-0.7879	0.1127
1	209.88	0.6998	0.2727	0.0056	-0.9253	0.0556	2.0810	0.2137	-0.8128	0.1005
1	209.88	0.7500	0.3038	0.0065	-1.0150	0.0640	2.0800	0.2475	-0.8179	0.1004
1	209.88	0.8001	0.3251	0.0064	-1.1283	0.0726	1.9763	0.2790	-0.9550	0.0924
1	209.88	0.8497	0.3367	0.0069	-1.2160	0.0818	1.7536	0.3149	-1.1558	0.1041
1	209.88	0.9102	0.3488	0.0073	-1.2902	0.0935	1.4118	0.3602	-1.2302	0.1065
1	209.88	0.9734	0.4213	0.0107	-1.3969	0.1056	1.0831	0.4106	-1.1811	0.1097
2	209.88	0.1949	-0.0659	0.0015	-0.0004	0.0009	0.0345	0.0055	-0.1344	0.0260
2	209.88	0.2405	-0.0245	0.0016	-0.0008	0.0019	0.0671	0.0099	-0.3621	0.0409
2	209.88	0.2999	0.0351	0.0026	-0.0116	0.0039	0.1219	0.0200	-0.4092	0.0569
2	209.88	0.3498	0.0672	0.0032	-0.0120	0.0065	0.2226	0.0322	-0.3669	0.0562
2	209.88	0.3998	0.1051	0.0031	-0.0272	0.0103	0.3239	0.0493	-0.4194	0.0645
2	209.88	0.4496	0.1526	0.0028	-0.0464	0.0131	0.4446	0.0660	-0.4728	0.0632
2	209.88	0.4995	0.1839	0.0028	-0.0634	0.0157	0.5466	0.0863	-0.6472	0.0557
2	209.88	0.5551	0.2301	0.0030	-0.0907	0.0203	0.6820	0.1118	-0.6017	0.0632
2	209.88	0.5996	0.2617	0.0028	-0.1022	0.0234	0.7352	0.1352	-0.7323	0.0618
2	209.88	0.6497	0.3060	0.0031	-0.1171	0.0278	0.7745	0.1655	-0.7600	0.0720
2	209.88	0.6996	0.3330	0.0031	-0.1426	0.0325	0.7530	0.1988	-0.8084	0.0771
2	209.88	0.7495	0.3670	0.0031	-0.1473	0.0373	0.6333	0.2345	-0.9772	0.0613
2	209.88	0.7996	0.3972	0.0036	-0.1967	0.0424	0.4748	0.2770	-1.0496	0.0668
2	209.88	0.8578	0.4026	0.0042	-0.2287	0.0485	0.2157	0.3297	-0.8335	0.0708
2	209.88	0.9100	0.4324	0.0047	-0.1981	0.0546	-0.1110	0.3794	-0.8510	0.0692
2	209.88	0.9727	0.4599	0.0063	-0.1697	0.0615	-0.3610	0.4429	-0.6548	0.0787
3	209.88	0.1938	-0.0715	0.0022	-0.0184	0.0010	0.0556	0.0062	-0.0507	0.0448
3	209.88	0.2357	-0.0235	0.0017	0.0118	0.0022	0.0768	0.0125	0.1297	0.0478
3	209.88	0.2995	0.0218	0.0023	-0.0417	0.0051	0.1766	0.0249	0.0090	0.0922
3	209.88	0.3493	0.0621	0.0020	-0.0727	0.0086	0.2879	0.0384	0.0639	0.0825
3	209.88	0.4000	0.1071	0.0035	-0.0974	0.0137	0.4248	0.0610	0.1288	0.0725
3	209.88	0.4497	0.1478	0.0031	-0.1255	0.0176	0.5405	0.0794	-0.0834	0.0965
3	209.88	0.4997	0.1821	0.0041	-0.1601	0.0221	0.6787	0.1033	-0.1639	0.0794
3	209.88	0.5556	0.2252	0.0046	-0.1816	0.0281	0.8276	0.1322	-0.1512	0.0983
3	209.88	0.5995	0.2616	0.0054	-0.2226	0.0333	0.8938	0.1584	-0.2085	0.0820
3	209.88	0.6498	0.2979	0.0047	-0.2562	0.0391	0.9215	0.1908	-0.3127	0.0982
3	209.88	0.6890	0.2959	0.0048	-0.2912	0.0444	0.8963	0.2199	-0.3301	0.1028
3	209.88	0.7495	0.3445	0.0052	-0.3126	0.0527	0.7312	0.2685	-0.5828	0.0914
3	209.88	0.7998	0.3881	0.0056	-0.3305	0.0602	0.5320	0.3128	-0.5820	0.0979
3	209.88	0.8577	0.4049	0.0064	-0.3568	0.0692	0.2080	0.3676	-0.6613	0.1011
3	209.88	0.9178	0.4439	0.0072	-0.3822	0.0789	-0.2073	0.4269	-0.7162	0.0993
3	209.88	0.9729	0.4956	0.0095	-0.4377	0.0882	-0.5543	0.4856	-0.8128	0.1025
4	209.88	0.2001	-0.0562	0.0014	0.0081	0.0009	-0.0078	0.0074	-0.0104	0.0408
4	209.88	0.2502	-0.0130	0.0016	0.0089	0.0031	0.0268	0.0144	0.1096	0.0632
4	209.88	0.3001	0.0362	0.0022	0.0332	0.0049	0.0224	0.0240	0.0254	0.0889
4	209.88	0.3502	0.0668	0.0026	0.0507	0.0088	0.0514	0.0394	0.0214	0.0813
4	209.88	0.4002	0.0991	0.0031	0.0806	0.0140	0.1043	0.0592	-0.0390	0.0845
4	209.88	0.4500	0.1470	0.0029	0.1080	0.0176	0.1382	0.0777	-0.2806	0.1023
4	209.88	0.5001	0.1854	0.0027	0.1231	0.0232	0.2113	0.1024	-0.1458	0.0954
4	209.88	0.5560	0.2299	0.0043	0.1517	0.0292	0.2036	0.1305	-0.3942	0.0988
4	209.88	0.6001	0.2626	0.0044	0.1760	0.0336	0.1902	0.1565	-0.4568	0.1020
4	209.88	0.6501	0.2841	0.0041	0.1832	0.0395	0.1217	0.1875	-0.4250	0.1154
4	209.88	0.6999	0.3226	0.0043	0.1945	0.0462	-0.0206	0.2256	-0.3972	0.1072
4	209.88	0.7500	0.3462	0.0050	0.2319	0.0527	-0.2513	0.2650	-0.3849	0.1093
4	209.88	0.8002	0.3643	0.0052	0.2573	0.0596	-0.5835	0.3095	-0.5076	0.1097
4	209.88	0.8582	0.4002	0.0067	0.2961	0.0686	-1.0445	0.3651	-0.7845	0.1091
4	209.88	0.9101	0.4268	0.0072	0.3198	0.0763	-1.5047	0.4167	-0.7695	0.1100
4	209.88	0.9728	0.5086	0.0099	0.3672	0.0863	-1.9267	0.4848	-0.4391	0.1106

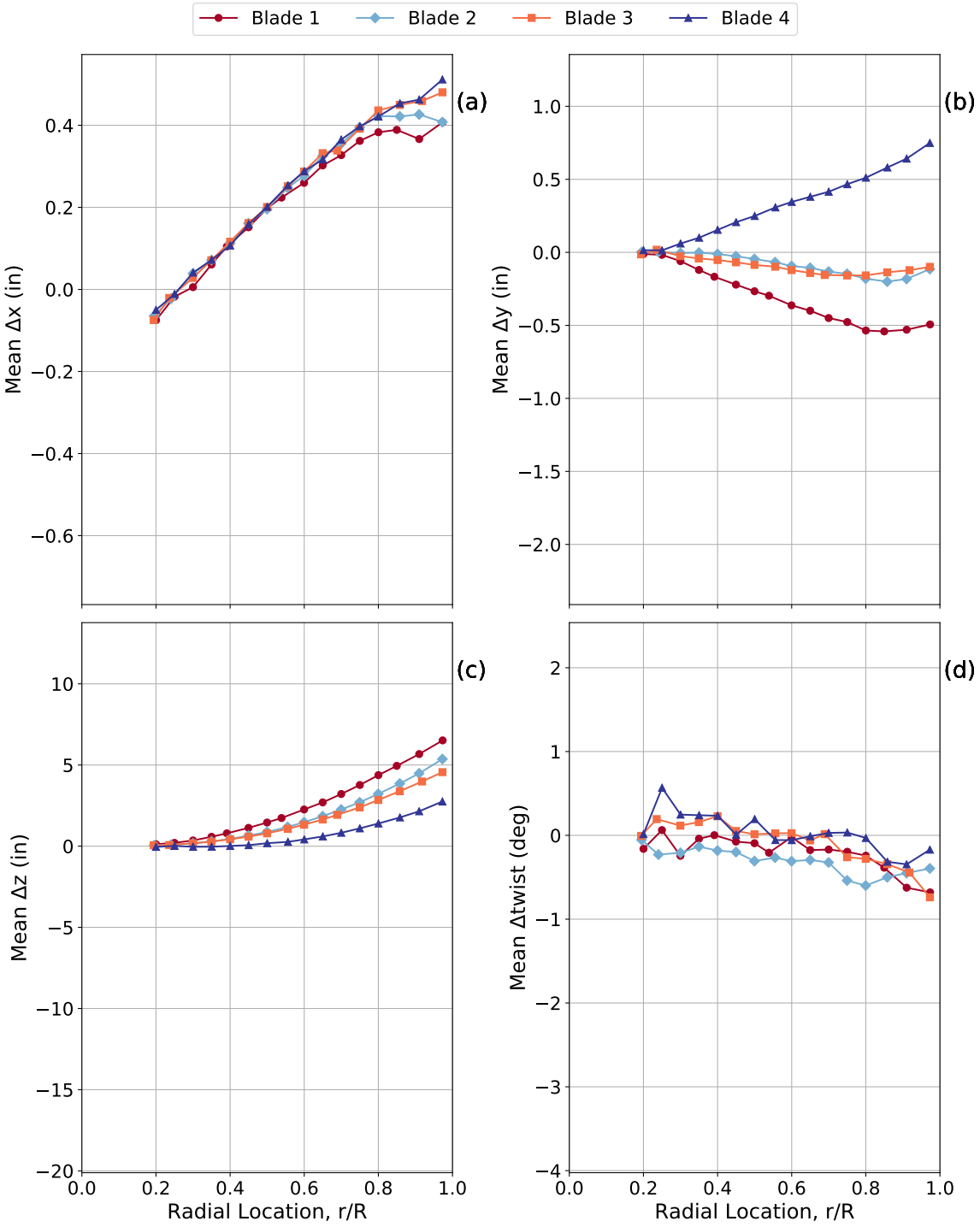


Figure 2.3-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0749	0.0015	-0.0113	0.0009	0.1179	0.0107	-0.1610	0.0296
1	225	0.2499	-0.0177	0.0018	-0.0172	0.0026	0.2044	0.0203	0.0628	0.0599
1	225	0.2998	0.0055	0.0016	-0.0601	0.0054	0.3526	0.0338	-0.2441	0.0677
1	225	0.3498	0.0608	0.0023	-0.1206	0.0099	0.5783	0.0554	-0.0403	0.0598
1	225	0.3913	0.1049	0.0048	-0.1671	0.0149	0.7914	0.0774	0.0022	0.0598
1	225	0.4496	0.1514	0.0028	-0.2213	0.0209	1.1278	0.1110	-0.0744	0.0715
1	225	0.4997	0.1974	0.0040	-0.2664	0.0278	1.4564	0.1415	-0.0938	0.0766
1	225	0.5387	0.2238	0.0048	-0.2971	0.0331	1.7338	0.1652	-0.2071	0.0755
1	225	0.5996	0.2598	0.0060	-0.3627	0.0423	2.2602	0.2037	-0.0208	0.0837
1	225	0.6498	0.3021	0.0075	-0.3997	0.0502	2.6970	0.2392	-0.1760	0.0867
1	225	0.6998	0.3272	0.0088	-0.4498	0.0589	3.2141	0.2743	-0.1692	0.0898
1	225	0.7500	0.3620	0.0098	-0.4773	0.0685	3.7692	0.3093	-0.1956	0.0921
1	225	0.8001	0.3830	0.0117	-0.5354	0.0784	4.3761	0.3515	-0.2427	0.0925
1	225	0.8497	0.3888	0.0135	-0.5413	0.0889	4.9472	0.3953	-0.3858	0.0948
1	225	0.9102	0.3665	0.0168	-0.5298	0.1019	5.6745	0.4542	-0.6242	0.0915
1	225	0.9734	0.4073	0.0230	-0.4937	0.1160	6.5162	0.5206	-0.6802	0.0972
2	225	0.1949	-0.0647	0.0017	0.0015	0.0009	0.0465	0.0105	-0.0539	0.0277
2	225	0.2405	-0.0227	0.0019	0.0030	0.0020	0.0841	0.0183	-0.2294	0.0484
2	225	0.2999	0.0390	0.0023	-0.0047	0.0043	0.1688	0.0364	-0.2080	0.0618
2	225	0.3498	0.0714	0.0022	-0.0019	0.0089	0.2993	0.0610	-0.1347	0.0564
2	225	0.3998	0.1127	0.0023	-0.0115	0.0136	0.4418	0.0907	-0.1817	0.0733
2	225	0.4496	0.1612	0.0030	-0.0267	0.0194	0.6496	0.1245	-0.1988	0.0659
2	225	0.4995	0.1957	0.0034	-0.0453	0.0260	0.8736	0.1641	-0.3069	0.0619
2	225	0.5551	0.2477	0.0041	-0.0677	0.0338	1.1829	0.2107	-0.2653	0.0586
2	225	0.5996	0.2765	0.0048	-0.0934	0.0411	1.4751	0.2513	-0.3084	0.0633
2	225	0.6497	0.3253	0.0067	-0.1060	0.0498	1.8433	0.2980	-0.2938	0.0706
2	225	0.6996	0.3553	0.0082	-0.1316	0.0593	2.2591	0.3453	-0.3233	0.0736
2	225	0.7495	0.3952	0.0103	-0.1471	0.0689	2.7003	0.3939	-0.5384	0.0635
2	225	0.7996	0.4224	0.0122	-0.1803	0.0793	3.2200	0.4473	-0.5994	0.0615
2	225	0.8578	0.4216	0.0144	-0.2005	0.0912	3.8586	0.5140	-0.5000	0.0629
2	225	0.9100	0.4264	0.0174	-0.1823	0.1027	4.4862	0.5768	-0.4500	0.0691
2	225	0.9727	0.4077	0.0252	-0.1146	0.1165	5.3650	0.6565	-0.3951	0.0696
3	225	0.1938	-0.0746	0.0017	-0.0139	0.0011	0.0532	0.0112	-0.0063	0.0344
3	225	0.2357	-0.0207	0.0029	0.0179	0.0024	0.0714	0.0187	0.1937	0.0425
3	225	0.2995	0.0281	0.0018	-0.0256	0.0075	0.1782	0.0374	0.1158	0.0750
3	225	0.3493	0.0712	0.0026	-0.0418	0.0132	0.2811	0.0602	0.1584	0.0641
3	225	0.4000	0.1163	0.0044	-0.0526	0.0219	0.4251	0.0904	0.2279	0.0693
3	225	0.4497	0.1617	0.0041	-0.0684	0.0297	0.5841	0.1203	0.0522	0.0716
3	225	0.4997	0.2008	0.0042	-0.0861	0.0400	0.7924	0.1550	0.0129	0.0798
3	225	0.5556	0.2514	0.0057	-0.0983	0.0534	1.0696	0.1959	0.0246	0.0755
3	225	0.5995	0.2873	0.0067	-0.1213	0.0648	1.3243	0.2283	0.0262	0.0855
3	225	0.6498	0.3321	0.0075	-0.1413	0.0785	1.6440	0.2694	-0.0605	0.0725
3	225	0.6890	0.3384	0.0083	-0.1549	0.0900	1.9308	0.3029	0.0147	0.0906
3	225	0.7495	0.3916	0.0095	-0.1582	0.1084	2.3881	0.3544	-0.2606	0.0881
3	225	0.7998	0.4362	0.0113	-0.1580	0.1246	2.8449	0.4029	-0.2803	0.0856
3	225	0.8577	0.4496	0.0127	-0.1367	0.1427	3.3856	0.4625	-0.3431	0.0860
3	225	0.9178	0.4591	0.0160	-0.1223	0.1625	3.9838	0.5284	-0.4434	0.0871
3	225	0.9729	0.4803	0.0229	-0.0993	0.1800	4.5607	0.5901	-0.7392	0.0818
4	225	0.2001	-0.0498	0.0020	0.0149	0.0008	-0.0433	0.0082	0.0142	0.0358
4	225	0.2502	-0.0111	0.0020	0.0137	0.0024	0.0168	0.0158	0.5674	0.0557
4	225	0.3001	0.0410	0.0021	0.0604	0.0044	-0.0366	0.0269	0.2475	0.0773
4	225	0.3502	0.0720	0.0029	0.1001	0.0081	-0.0331	0.0430	0.2401	0.0731
4	225	0.4002	0.1070	0.0051	0.1539	0.0130	0.0138	0.0654	0.2335	0.0740
4	225	0.4500	0.1589	0.0031	0.2067	0.0176	0.0638	0.0875	0.0075	0.0808
4	225	0.5001	0.2012	0.0030	0.2490	0.0226	0.1827	0.1107	0.1939	0.0817
4	225	0.5560	0.2538	0.0062	0.3078	0.0308	0.2661	0.1442	-0.0562	0.0727
4	225	0.6001	0.2880	0.0036	0.3453	0.0363	0.4175	0.1704	-0.0570	0.0913
4	225	0.6501	0.3170	0.0042	0.3805	0.0440	0.6002	0.1996	-0.0110	0.0782
4	225	0.6999	0.3651	0.0045	0.4150	0.0516	0.8246	0.2307	0.0291	0.0996
4	225	0.7500	0.3975	0.0050	0.4666	0.0601	1.0981	0.2612	0.0337	0.0995
4	225	0.8002	0.4213	0.0061	0.5112	0.0681	1.3978	0.2936	-0.0314	0.0890
4	225	0.8582	0.4535	0.0075	0.5810	0.0782	1.7705	0.3336	-0.3156	0.0852
4	225	0.9101	0.4624	0.0088	0.6418	0.0874	2.1488	0.3711	-0.3459	0.0820
4	225	0.9728	0.5115	0.0133	0.7491	0.0981	2.7522	0.4177	-0.1706	0.0811

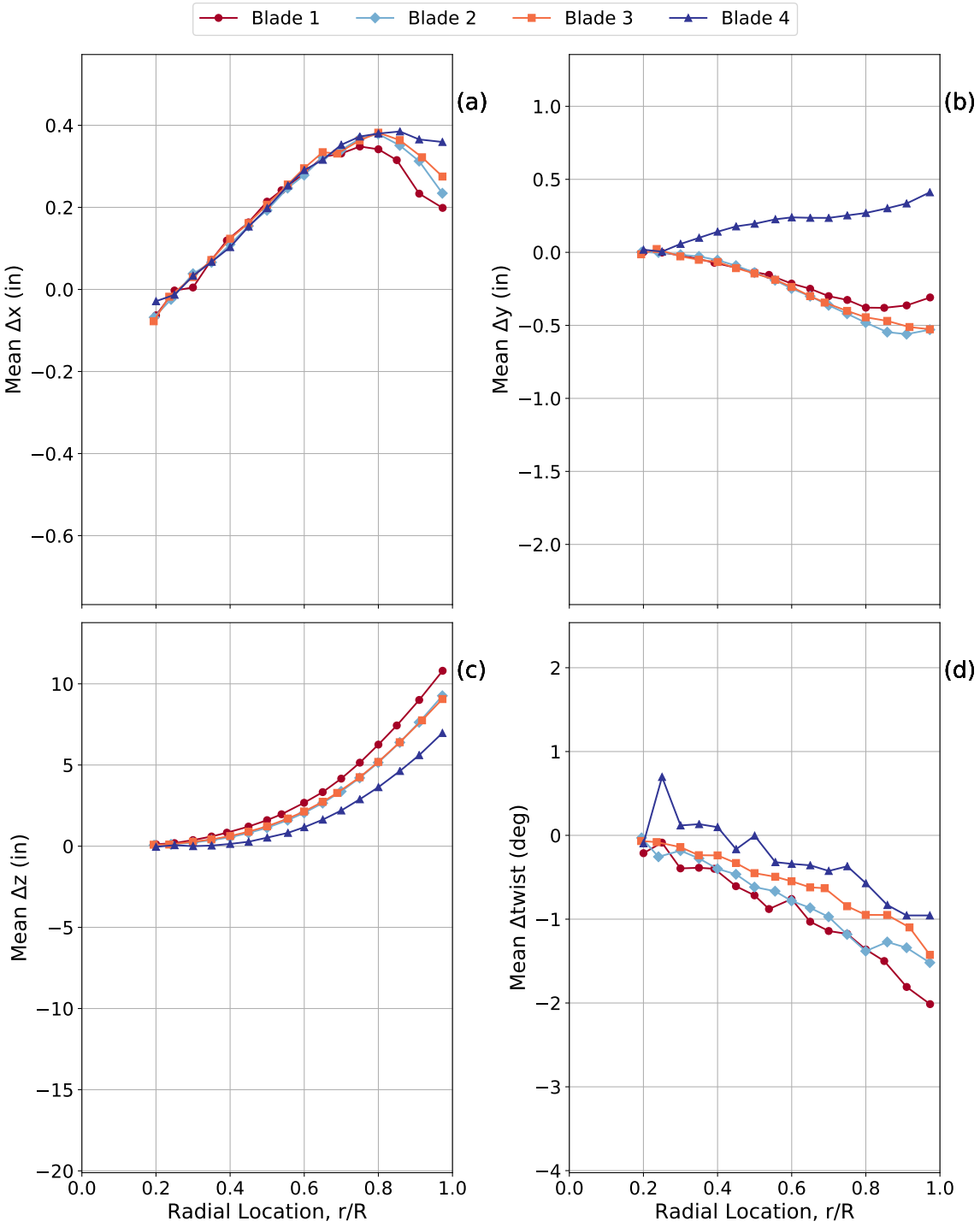


Figure 2.3-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0632	0.0046	0.0016	0.0017	0.1189	0.0174	-0.2127	0.0615
1	240.12	0.2499	-0.0026	0.0019	-0.0015	0.0031	0.1891	0.0220	-0.0867	0.1690
1	240.12	0.2998	0.0047	0.0019	-0.0204	0.0083	0.3746	0.0457	-0.3943	0.1681
1	240.12	0.3498	0.0720	0.0024	-0.0461	0.0151	0.5975	0.0708	-0.3868	0.1687
1	240.12	0.3913	0.1192	0.0039	-0.0712	0.0219	0.8316	0.0938	-0.3987	0.1735
1	240.12	0.4496	0.1634	0.0043	-0.1054	0.0304	1.2077	0.1278	-0.6068	0.1725
1	240.12	0.4997	0.2139	0.0047	-0.1347	0.0384	1.6018	0.1589	-0.7160	0.1788
1	240.12	0.5387	0.2415	0.0054	-0.1544	0.0453	1.9659	0.1839	-0.8789	0.1820
1	240.12	0.5996	0.2819	0.0074	-0.2140	0.0560	2.6730	0.2244	-0.7595	0.1763
1	240.12	0.6498	0.3227	0.0087	-0.2495	0.0655	3.3292	0.2556	-1.0301	0.1826
1	240.12	0.6998	0.3312	0.0109	-0.2999	0.0752	4.1613	0.2880	-1.1412	0.1818
1	240.12	0.7500	0.3483	0.0132	-0.3260	0.0851	5.1443	0.3218	-1.1755	0.1784
1	240.12	0.8001	0.3415	0.0158	-0.3787	0.0955	6.2573	0.3556	-1.3620	0.1839
1	240.12	0.8497	0.3151	0.0184	-0.3800	0.1063	7.4358	0.3928	-1.4994	0.1860
1	240.12	0.9102	0.2334	0.0227	-0.3634	0.1192	9.0069	0.4387	-1.8087	0.1811
1	240.12	0.9734	0.1987	0.0309	-0.3089	0.1325	10.8037	0.4905	-2.0137	0.1771
2	240.12	0.1949	-0.0680	0.0025	0.0012	0.0011	0.0675	0.0072	-0.0302	0.0302
2	240.12	0.2405	-0.0244	0.0021	-0.0011	0.0020	0.1121	0.0099	-0.2557	0.0624
2	240.12	0.2999	0.0383	0.0020	-0.0160	0.0043	0.2222	0.0199	-0.1821	0.0710
2	240.12	0.3498	0.0660	0.0020	-0.0281	0.0072	0.3722	0.0309	-0.2753	0.0696
2	240.12	0.3998	0.1096	0.0041	-0.0531	0.0114	0.5463	0.0451	-0.3994	0.0718
2	240.12	0.4496	0.1546	0.0025	-0.0911	0.0149	0.8119	0.0590	-0.4644	0.0732
2	240.12	0.4995	0.1928	0.0031	-0.1388	0.0192	1.1341	0.0750	-0.6169	0.0771
2	240.12	0.5551	0.2469	0.0037	-0.1910	0.0246	1.5999	0.0951	-0.6662	0.0843
2	240.12	0.5996	0.2784	0.0035	-0.2478	0.0298	2.0484	0.1140	-0.7824	0.0807
2	240.12	0.6497	0.3222	0.0044	-0.3006	0.0356	2.6529	0.1350	-0.8651	0.0922
2	240.12	0.6996	0.3397	0.0051	-0.3627	0.0420	3.3758	0.1587	-0.9721	0.0959
2	240.12	0.7495	0.3674	0.0065	-0.4206	0.0485	4.2030	0.1854	-1.1820	0.0966
2	240.12	0.7996	0.3787	0.0078	-0.4812	0.0558	5.1473	0.2164	-1.3813	0.0917
2	240.12	0.8578	0.3509	0.0102	-0.5462	0.0643	6.3896	0.2545	-1.2722	0.0979
2	240.12	0.9100	0.3126	0.0134	-0.5603	0.0726	7.6307	0.2930	-1.3408	0.0992
2	240.12	0.9727	0.2343	0.0189	-0.5297	0.0826	9.2648	0.3448	-1.5188	0.1058
3	240.12	0.1938	-0.0776	0.0050	-0.0134	0.0019	0.0893	0.0095	-0.0677	0.0325
3	240.12	0.2357	-0.0177	0.0015	0.0228	0.0019	0.1009	0.0137	-0.0805	0.0690
3	240.12	0.2995	0.0301	0.0020	-0.0276	0.0077	0.2716	0.0270	-0.1401	0.0856
3	240.12	0.3493	0.0717	0.0034	-0.0509	0.0137	0.4187	0.0417	-0.2370	0.0791
3	240.12	0.4000	0.1236	0.0032	-0.0661	0.0213	0.6224	0.0614	-0.2392	0.0814
3	240.12	0.4497	0.1616	0.0035	-0.1081	0.0281	0.8941	0.0819	-0.3302	0.0817
3	240.12	0.4997	0.2064	0.0037	-0.1445	0.0370	1.2229	0.1074	-0.4508	0.0864
3	240.12	0.5556	0.2557	0.0049	-0.1876	0.0470	1.7003	0.1378	-0.4940	0.0917
3	240.12	0.5995	0.2952	0.0059	-0.2369	0.0557	2.1368	0.1654	-0.5478	0.0876
3	240.12	0.6498	0.3344	0.0072	-0.2999	0.0663	2.7342	0.1963	-0.6204	0.0902
3	240.12	0.6890	0.3311	0.0080	-0.3438	0.0758	3.2785	0.2211	-0.6303	0.0950
3	240.12	0.7495	0.3630	0.0105	-0.4009	0.0897	4.2452	0.2618	-0.8457	0.0924
3	240.12	0.7998	0.3820	0.0130	-0.4447	0.1022	5.1903	0.2951	-0.9489	0.1032
3	240.12	0.8577	0.3638	0.0153	-0.4694	0.1171	6.4022	0.3327	-0.9497	0.0934
3	240.12	0.9178	0.3220	0.0189	-0.5114	0.1325	7.7530	0.3723	-1.0980	0.0928
3	240.12	0.9729	0.2751	0.0259	-0.5268	0.1468	9.0634	0.4096	-1.4258	0.0941
4	240.12	0.2001	-0.0287	0.0022	0.0180	0.0007	-0.0402	0.0076	-0.0949	0.0339
4	240.12	0.2502	-0.0130	0.0016	0.0052	0.0029	0.0610	0.0124	0.6968	0.0817
4	240.12	0.3001	0.0333	0.0024	0.0576	0.0042	0.0018	0.0226	0.1181	0.0857
4	240.12	0.3502	0.0674	0.0019	0.0996	0.0078	0.0378	0.0353	0.1336	0.0831
4	240.12	0.4002	0.1031	0.0037	0.1415	0.0128	0.1389	0.0523	0.0978	0.1008
4	240.12	0.4500	0.1532	0.0030	0.1777	0.0160	0.2735	0.0696	-0.1655	0.0983
4	240.12	0.5001	0.1980	0.0024	0.1959	0.0213	0.5276	0.0885	-0.0046	0.1065
4	240.12	0.5560	0.2532	0.0037	0.2262	0.0271	0.8201	0.1141	-0.3198	0.0993
4	240.12	0.6001	0.2907	0.0035	0.2395	0.0322	1.1695	0.1357	-0.3402	0.0931
4	240.12	0.6501	0.3159	0.0038	0.2365	0.0387	1.6344	0.1597	-0.3574	0.0967
4	240.12	0.6999	0.3524	0.0049	0.2359	0.0455	2.1981	0.1828	-0.4247	0.1054
4	240.12	0.7500	0.3726	0.0058	0.2529	0.0524	2.8900	0.2073	-0.3688	0.0992
4	240.12	0.8002	0.3799	0.0070	0.2697	0.0601	3.6348	0.2343	-0.5714	0.1109
4	240.12	0.8582	0.3849	0.0089	0.3018	0.0692	4.6315	0.2671	-0.8315	0.1104
4	240.12	0.9101	0.3655	0.0113	0.3346	0.0775	5.6079	0.2998	-0.9555	0.1135
4	240.12	0.9728	0.3593	0.0161	0.4112	0.0873	6.9708	0.3417	-0.9556	0.1115

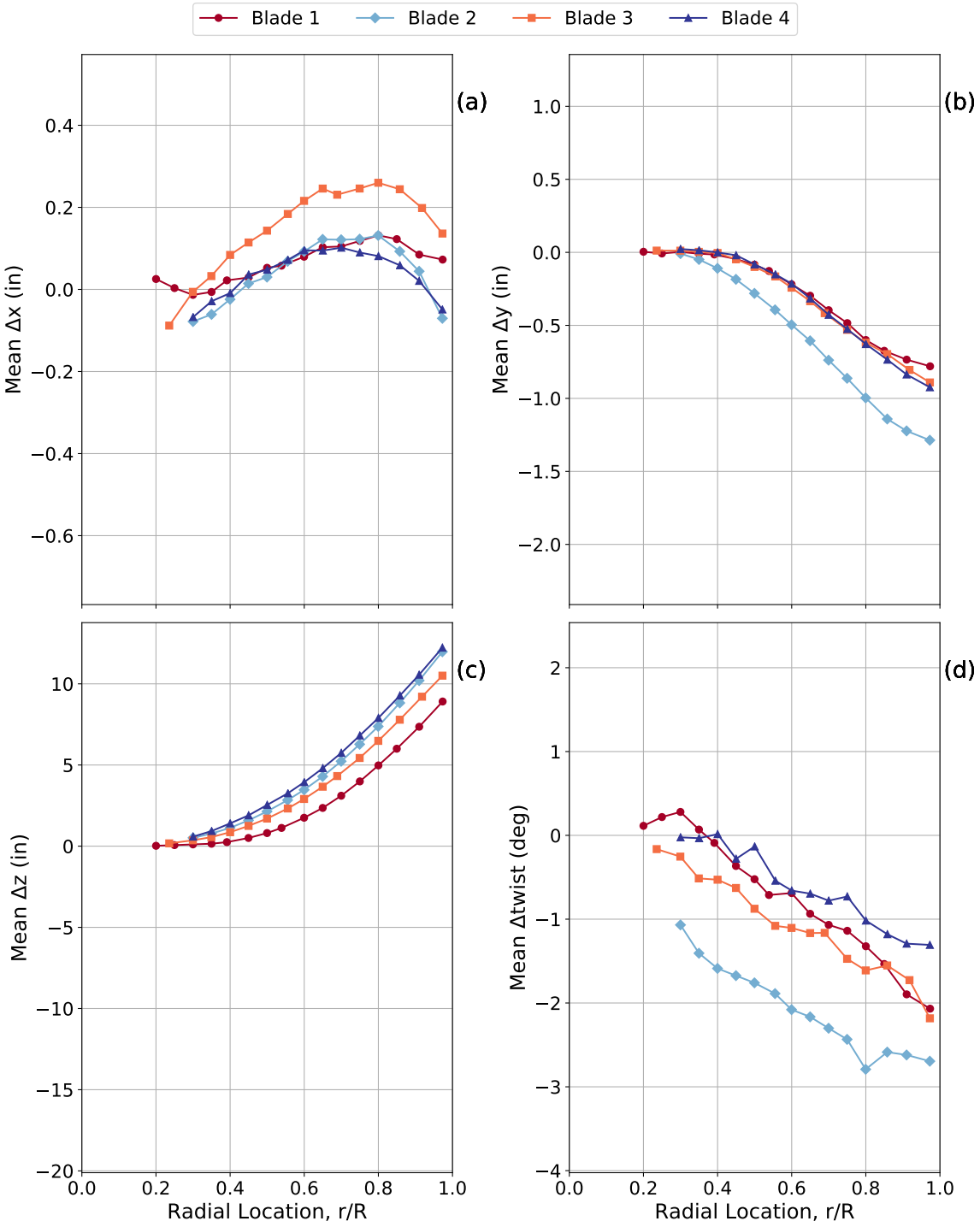


Figure 2.3-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	0.0254	0.0027	0.0040	0.0011	0.0239	0.0141	0.1136	0.0948
1	254.88	0.2499	0.0033	0.0034	-0.0077	0.0046	0.0664	0.0249	0.2184	0.1364
1	254.88	0.2998	-0.0133	0.0027	0.0030	0.0051	0.1101	0.0377	0.2796	0.2050
1	254.88	0.3498	-0.0062	0.0035	-0.0095	0.0132	0.1514	0.0703	0.0690	0.1309
1	254.88	0.3913	0.0221	0.0033	-0.0145	0.0177	0.2494	0.0891	-0.0899	0.1206
1	254.88	0.4496	0.0290	0.0032	-0.0460	0.0234	0.5056	0.1127	-0.3654	0.1335
1	254.88	0.4997	0.0527	0.0034	-0.0844	0.0293	0.8081	0.1380	-0.5231	0.1372
1	254.88	0.5387	0.0579	0.0044	-0.1275	0.0335	1.1242	0.1587	-0.7115	0.1364
1	254.88	0.5996	0.0797	0.0051	-0.2188	0.0412	1.7518	0.1938	-0.6884	0.1365
1	254.88	0.6498	0.1029	0.0067	-0.2970	0.0480	2.3558	0.2252	-0.9358	0.1369
1	254.88	0.6998	0.1047	0.0081	-0.3961	0.0550	3.1074	0.2583	-1.0680	0.1316
1	254.88	0.7500	0.1182	0.0101	-0.4846	0.0623	3.9900	0.2925	-1.1385	0.1352
1	254.88	0.8001	0.1318	0.0129	-0.6003	0.0702	4.9754	0.3280	-1.3231	0.1373
1	254.88	0.8497	0.1226	0.0152	-0.6742	0.0780	6.0034	0.3628	-1.5348	0.1352
1	254.88	0.9102	0.0849	0.0186	-0.7347	0.0879	7.3566	0.4050	-1.8970	0.1455
1	254.88	0.9734	0.0727	0.0251	-0.7803	0.0983	8.9110	0.4501	-2.0678	0.1480
2	254.88	0.2999	-0.0782	0.0219	-0.0086	0.0127	0.5142	0.1657	-1.0685	0.4505
2	254.88	0.3498	-0.0608	0.0192	-0.0488	0.0249	0.7772	0.2482	-1.4065	0.5924
2	254.88	0.3998	-0.0242	0.0221	-0.1097	0.0452	1.1269	0.3579	-1.5877	0.5903
2	254.88	0.4496	0.0144	0.0260	-0.1849	0.0650	1.5912	0.4670	-1.6739	0.5927
2	254.88	0.4995	0.0301	0.0309	-0.2810	0.0851	2.1404	0.5777	-1.7597	0.5922
2	254.88	0.5551	0.0684	0.0370	-0.3936	0.1068	2.8365	0.7037	-1.8878	0.5860
2	254.88	0.5996	0.0924	0.0428	-0.4961	0.1241	3.4693	0.8047	-2.0793	0.5883
2	254.88	0.6497	0.1220	0.0496	-0.6057	0.1436	4.2936	0.9196	-2.1652	0.5879
2	254.88	0.6996	0.1211	0.0574	-0.7384	0.1623	5.2302	1.0340	-2.3013	0.5943
2	254.88	0.7495	0.1225	0.0662	-0.8624	0.1809	6.2778	1.1495	-2.4342	0.5886
2	254.88	0.7996	0.1315	0.0749	-0.9967	0.1998	7.3761	1.2657	-2.7912	0.5832
2	254.88	0.8578	0.0927	0.0859	-1.1412	0.2212	8.8244	1.3991	-2.5859	0.5855
2	254.88	0.9100	0.0442	0.0977	-1.2228	0.2402	10.2037	1.5185	-2.6199	0.5870
2	254.88	0.9727	-0.0704	0.1210	-1.2864	0.2631	11.9767	1.6609	-2.6945	0.5955
3	254.88	0.2357	-0.0881	0.0183	0.0119	0.0073	0.1733	0.0542	-0.1641	0.4472
3	254.88	0.2995	-0.0059	0.0048	0.0115	0.0146	0.3627	0.0924	-0.2537	0.7156
3	254.88	0.3493	0.0325	0.0049	0.0033	0.0305	0.5571	0.1515	-0.5138	0.7266
3	254.88	0.4000	0.0841	0.0067	-0.0044	0.0466	0.8604	0.2134	-0.5291	0.7177
3	254.88	0.4497	0.1144	0.0084	-0.0477	0.0622	1.2487	0.2714	-0.6278	0.7230
3	254.88	0.4997	0.1432	0.0111	-0.0998	0.0783	1.7004	0.3336	-0.8757	0.7168
3	254.88	0.5556	0.1839	0.0138	-0.1651	0.0974	2.3214	0.4013	-1.0796	0.7166
3	254.88	0.5995	0.2158	0.0174	-0.2420	0.1126	2.9076	0.4557	-1.1044	0.7207
3	254.88	0.6498	0.2458	0.0195	-0.3345	0.1304	3.6628	0.5181	-1.1657	0.7194
3	254.88	0.6890	0.2308	0.0230	-0.4162	0.1446	4.3196	0.5677	-1.1632	0.7241
3	254.88	0.7495	0.2459	0.0283	-0.5307	0.1677	5.4320	0.6454	-1.4732	0.7210
3	254.88	0.7998	0.2599	0.0331	-0.6185	0.1873	6.4858	0.7098	-1.6114	0.7270
3	254.88	0.8577	0.2441	0.0387	-0.6966	0.2104	7.7888	0.7856	-1.5524	0.7224
3	254.88	0.9178	0.1984	0.0459	-0.8051	0.2350	9.2073	0.8655	-1.7271	0.7227
3	254.88	0.9729	0.1362	0.0579	-0.8909	0.2580	10.5038	0.9403	-2.1829	0.7248
4	254.88	0.3001	-0.0674	0.0140	0.0226	0.0116	0.5858	0.1082	-0.0236	0.2800
4	254.88	0.3502	-0.0287	0.0127	0.0144	0.0227	0.9339	0.1624	-0.0338	0.3691
4	254.88	0.4002	-0.0089	0.0154	-0.0006	0.0393	1.4069	0.2345	0.0148	0.3567
4	254.88	0.4500	0.0363	0.0176	-0.0202	0.0535	1.9008	0.3011	-0.2799	0.3614
4	254.88	0.5001	0.0481	0.0210	-0.0827	0.0685	2.5440	0.3702	-0.1327	0.3553
4	254.88	0.5560	0.0720	0.0246	-0.1508	0.0854	3.2615	0.4472	-0.5416	0.3601
4	254.88	0.6001	0.0953	0.0281	-0.2147	0.0987	3.9453	0.5080	-0.6590	0.3595
4	254.88	0.6501	0.0947	0.0326	-0.3160	0.1136	4.8054	0.5783	-0.6957	0.3553
4	254.88	0.6999	0.1017	0.0372	-0.4277	0.1286	5.7481	0.6481	-0.7791	0.3586
4	254.88	0.7500	0.0899	0.0425	-0.5253	0.1437	6.8170	0.7185	-0.7294	0.3591
4	254.88	0.8002	0.0812	0.0478	-0.6283	0.1591	7.9008	0.7897	-1.0169	0.3586
4	254.88	0.8582	0.0587	0.0545	-0.7352	0.1768	9.2811	0.8739	-1.1797	0.3592
4	254.88	0.9101	0.0208	0.0614	-0.8365	0.1928	10.5618	0.9494	-1.2921	0.3612
4	254.88	0.9728	-0.0489	0.0760	-0.9241	0.2119	12.2295	1.0418	-1.3070	0.3639

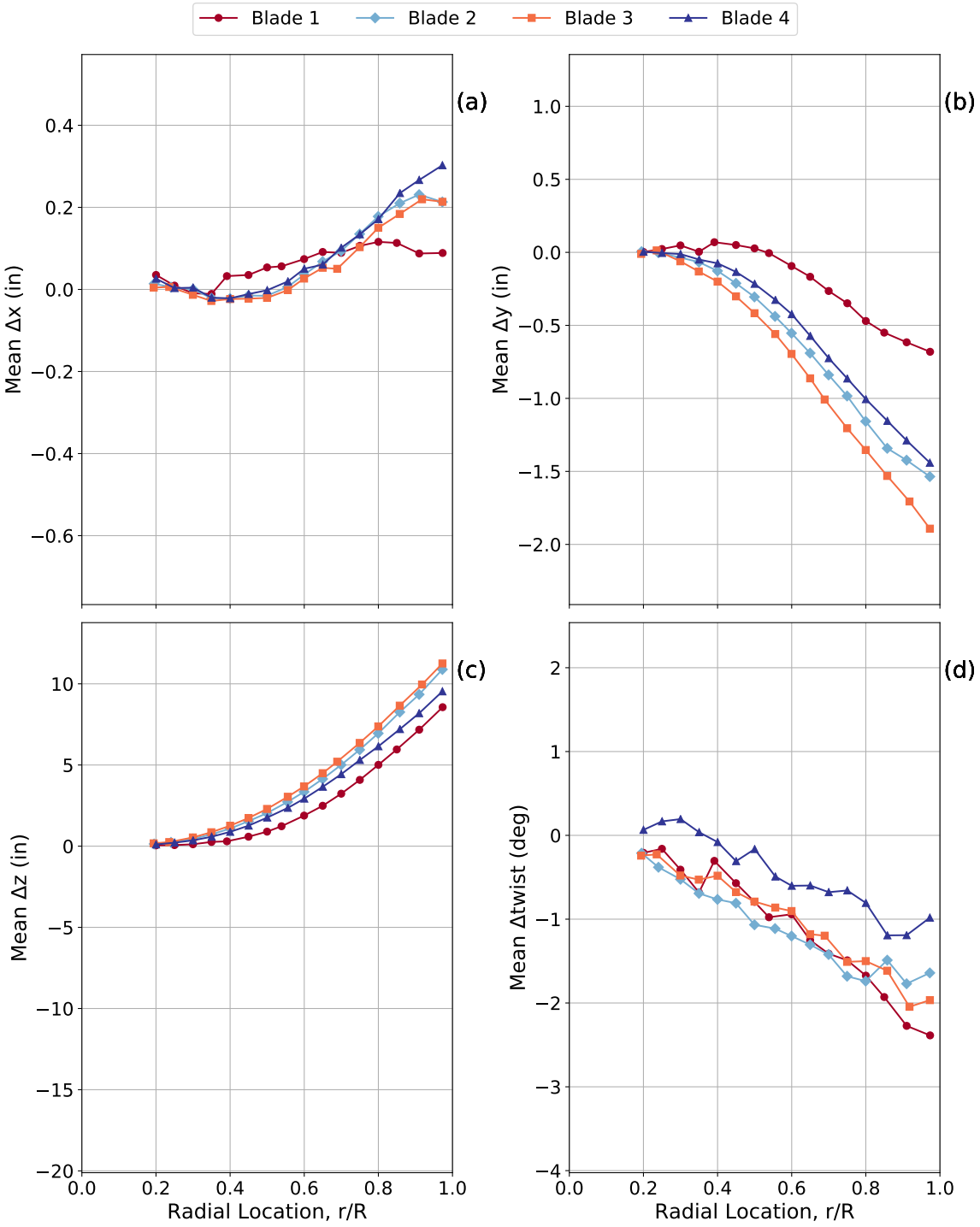


Figure 2.3-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	0.0353	0.0022	0.0025	0.0009	0.0510	0.0107	-0.2088	0.0785
1	260.16	0.2499	0.0093	0.0023	0.0228	0.0045	0.0667	0.0234	-0.1605	0.0736
1	260.16	0.2998	-0.0094	0.0021	0.0476	0.0085	0.1183	0.0334	-0.4092	0.1525
1	260.16	0.3498	-0.0110	0.0039	0.0038	0.0137	0.2618	0.0522	-0.6813	0.1242
1	260.16	0.3913	0.0325	0.0042	0.0695	0.0233	0.2994	0.0735	-0.3042	0.0994
1	260.16	0.4496	0.0352	0.0050	0.0503	0.0295	0.5836	0.0944	-0.5706	0.1065
1	260.16	0.4997	0.0536	0.0057	0.0272	0.0357	0.8953	0.1173	-0.7935	0.1047
1	260.16	0.5387	0.0563	0.0057	-0.0052	0.0412	1.2276	0.1358	-0.9769	0.1064
1	260.16	0.5996	0.0739	0.0071	-0.0937	0.0504	1.8835	0.1692	-0.9418	0.1050
1	260.16	0.6498	0.0913	0.0082	-0.1674	0.0586	2.4890	0.1991	-1.2511	0.1077
1	260.16	0.6998	0.0892	0.0097	-0.2646	0.0671	3.2334	0.2311	-1.4122	0.1083
1	260.16	0.7500	0.1062	0.0116	-0.3488	0.0764	4.0829	0.2637	-1.4914	0.1167
1	260.16	0.8001	0.1159	0.0138	-0.4702	0.0854	5.0112	0.2997	-1.6736	0.1197
1	260.16	0.8497	0.1133	0.0162	-0.5498	0.0952	5.9577	0.3372	-1.9290	0.1227
1	260.16	0.9102	0.0876	0.0201	-0.6159	0.1070	7.1759	0.3881	-2.2728	0.1251
1	260.16	0.9734	0.0888	0.0278	-0.6809	0.1193	8.5614	0.4457	-2.3865	0.1282
2	260.16	0.1949	0.0139	0.0036	0.0049	0.0014	0.1362	0.0107	-0.2128	0.0619
2	260.16	0.2405	0.0056	0.0021	-0.0027	0.0026	0.2352	0.0191	-0.3805	0.0856
2	260.16	0.2999	0.0005	0.0016	-0.0356	0.0051	0.4496	0.0297	-0.5241	0.1139
2	260.16	0.3498	-0.0214	0.0034	-0.0670	0.0088	0.7291	0.0461	-0.6927	0.1224
2	260.16	0.3998	-0.0221	0.0041	-0.1272	0.0144	1.0818	0.0695	-0.7642	0.1416
2	260.16	0.4496	-0.0151	0.0054	-0.2119	0.0185	1.5413	0.0837	-0.8092	0.1115
2	260.16	0.4995	-0.0153	0.0056	-0.3053	0.0233	2.0348	0.1034	-1.0670	0.0930
2	260.16	0.5551	0.0060	0.0064	-0.4386	0.0309	2.7275	0.1279	-1.1123	0.1085
2	260.16	0.5996	0.0359	0.0079	-0.5535	0.0382	3.3483	0.1525	-1.2015	0.0981
2	260.16	0.6497	0.0679	0.0096	-0.6901	0.0464	4.1420	0.1797	-1.3043	0.1013
2	260.16	0.6996	0.0937	0.0119	-0.8395	0.0555	5.0078	0.2068	-1.4215	0.1079
2	260.16	0.7495	0.1350	0.0143	-0.9837	0.0653	5.9381	0.2392	-1.6811	0.1138
2	260.16	0.7996	0.1778	0.0167	-1.1574	0.0761	6.9490	0.2712	-1.7390	0.1060
2	260.16	0.8578	0.2101	0.0203	-1.3420	0.0891	8.2589	0.3102	-1.4890	0.1319
2	260.16	0.9100	0.2310	0.0238	-1.4233	0.1007	9.3461	0.3451	-1.7704	0.1107
2	260.16	0.9727	0.2132	0.0308	-1.5355	0.1143	10.8860	0.3943	-1.6412	0.0986
3	260.16	0.1938	0.0044	0.0031	-0.0106	0.0012	0.1756	0.0146	-0.2417	0.0699
3	260.16	0.2357	0.0061	0.0022	0.0133	0.0020	0.2527	0.0194	-0.2269	0.1082
3	260.16	0.2995	-0.0131	0.0023	-0.0612	0.0039	0.5379	0.0444	-0.4787	0.1604
3	260.16	0.3493	-0.0281	0.0032	-0.1312	0.0074	0.8582	0.0690	-0.5284	0.1034
3	260.16	0.4000	-0.0234	0.0052	-0.2004	0.0123	1.2605	0.1023	-0.4814	0.1671
3	260.16	0.4497	-0.0225	0.0048	-0.3015	0.0153	1.7355	0.1220	-0.6768	0.1267
3	260.16	0.4997	-0.0206	0.0066	-0.4169	0.0195	2.2948	0.1568	-0.7901	0.1449
3	260.16	0.5556	-0.0017	0.0083	-0.5593	0.0260	3.0455	0.1995	-0.8616	0.1172
3	260.16	0.5995	0.0265	0.0104	-0.6955	0.0306	3.6824	0.2360	-0.9031	0.1338
3	260.16	0.6498	0.0528	0.0127	-0.8628	0.0372	4.4958	0.2794	-1.1792	0.1509
3	260.16	0.6890	0.0502	0.0151	-1.0078	0.0427	5.2045	0.3168	-1.1971	0.1470
3	260.16	0.7495	0.1030	0.0195	-1.2044	0.0526	6.3600	0.3808	-1.5092	0.1445
3	260.16	0.7998	0.1502	0.0238	-1.3537	0.0614	7.3785	0.4359	-1.5001	0.1503
3	260.16	0.8577	0.1839	0.0294	-1.5311	0.0709	8.6572	0.5003	-1.6149	0.1573
3	260.16	0.9178	0.2197	0.0360	-1.7060	0.0827	9.9607	0.5674	-2.0452	0.1415
3	260.16	0.9729	0.2136	0.0447	-1.8922	0.0932	11.2545	0.6316	-1.9659	0.1679
4	260.16	0.2001	0.0262	0.0029	0.0037	0.0015	0.1077	0.0179	0.0655	0.0784
4	260.16	0.2502	0.0033	0.0016	-0.0044	0.0024	0.2143	0.0323	0.1669	0.1276
4	260.16	0.3001	0.0043	0.0019	-0.0118	0.0058	0.3591	0.0538	0.1940	0.1753
4	260.16	0.3502	-0.0201	0.0029	-0.0494	0.0115	0.5829	0.0871	0.0372	0.1160
4	260.16	0.4002	-0.0216	0.0051	-0.0754	0.0190	0.8834	0.1285	-0.0805	0.1017
4	260.16	0.4500	-0.0112	0.0043	-0.1342	0.0235	1.2663	0.1419	-0.3076	0.1649
4	260.16	0.5001	-0.0019	0.0066	-0.2156	0.0317	1.7637	0.1838	-0.1639	0.1361
4	260.16	0.5560	0.0196	0.0089	-0.3257	0.0404	2.3614	0.2234	-0.4915	0.1665
4	260.16	0.6001	0.0504	0.0097	-0.4235	0.0478	2.9290	0.2591	-0.6018	0.1457
4	260.16	0.6501	0.0605	0.0125	-0.5723	0.0564	3.6596	0.3037	-0.5986	0.1507
4	260.16	0.6999	0.1017	0.0155	-0.7250	0.0660	4.4355	0.3524	-0.6779	0.1501
4	260.16	0.7500	0.1343	0.0189	-0.8640	0.0757	5.3083	0.4019	-0.6575	0.1680
4	260.16	0.8002	0.1713	0.0221	-1.0056	0.0862	6.1526	0.4567	-0.8066	0.1586
4	260.16	0.8582	0.2348	0.0270	-1.1544	0.0988	7.2126	0.5199	-1.1932	0.1692
4	260.16	0.9101	0.2667	0.0318	-1.2882	0.1105	8.1901	0.5814	-1.1911	0.1650
4	260.16	0.9728	0.3026	0.0419	-1.4409	0.1242	9.5359	0.6570	-0.9820	0.1705

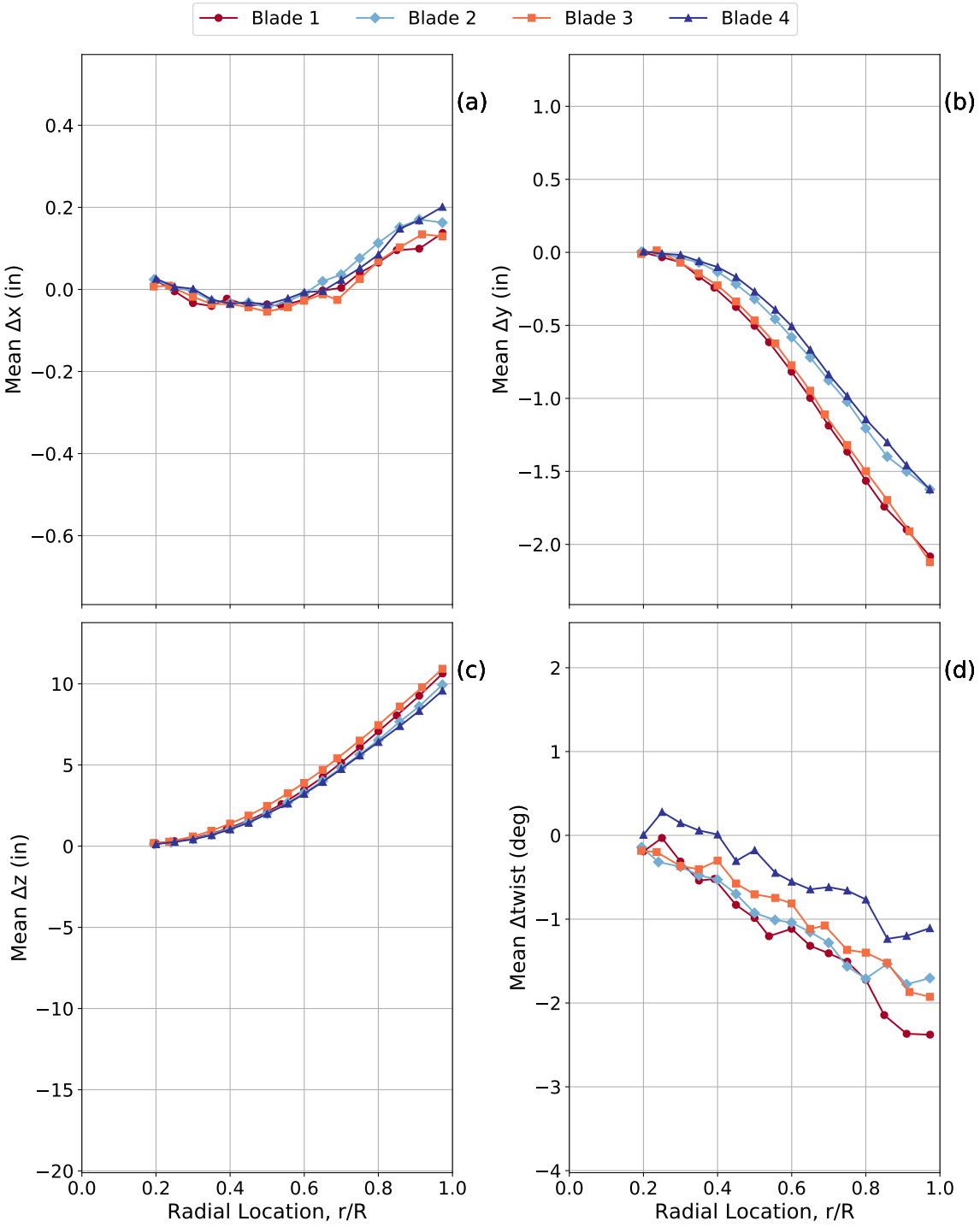


Figure 2.3-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	0.0218	0.0031	-0.0016	0.0013	0.1670	0.0110	-0.1913	0.0580
1	265.08	0.2499	-0.0045	0.0032	-0.0334	0.0030	0.3087	0.0199	-0.0311	0.0745
1	265.08	0.2998	-0.0333	0.0023	-0.0675	0.0054	0.4873	0.0342	-0.3121	0.1160
1	265.08	0.3498	-0.0404	0.0042	-0.1667	0.0101	0.7679	0.0491	-0.5395	0.0993
1	265.08	0.3913	-0.0225	0.0034	-0.2414	0.0152	1.0656	0.0714	-0.5197	0.1009
1	265.08	0.4496	-0.0392	0.0037	-0.3743	0.0191	1.5795	0.0939	-0.8292	0.1028
1	265.08	0.4997	-0.0364	0.0050	-0.5030	0.0245	2.1100	0.1194	-0.9862	0.1276
1	265.08	0.5387	-0.0405	0.0048	-0.6152	0.0282	2.5897	0.1382	-1.2031	0.1196
1	265.08	0.5996	-0.0247	0.0074	-0.8169	0.0373	3.4589	0.1751	-1.1145	0.1258
1	265.08	0.6498	-0.0027	0.0090	-0.9966	0.0436	4.2538	0.2049	-1.3180	0.1204
1	265.08	0.6998	0.0039	0.0111	-1.1867	0.0515	5.1416	0.2386	-1.4071	0.1227
1	265.08	0.7500	0.0402	0.0135	-1.3645	0.0599	6.0954	0.2736	-1.5073	0.1349
1	265.08	0.8001	0.0655	0.0158	-1.5643	0.0687	7.0740	0.3096	-1.7238	0.1284
1	265.08	0.8497	0.0957	0.0185	-1.7412	0.0781	8.0523	0.3484	-2.1445	0.1188
1	265.08	0.9102	0.0993	0.0227	-1.8988	0.0895	9.2641	0.3975	-2.3675	0.1400
1	265.08	0.9734	0.1376	0.0290	-2.0827	0.1024	10.6377	0.4492	-2.3779	0.1496
2	265.08	0.1949	0.0242	0.0041	0.0043	0.0017	0.1360	0.0136	-0.1417	0.0564
2	265.08	0.2405	0.0066	0.0045	-0.0023	0.0025	0.2343	0.0151	-0.3182	0.0823
2	265.08	0.2999	-0.0046	0.0017	-0.0391	0.0057	0.4502	0.0356	-0.3746	0.0900
2	265.08	0.3498	-0.0278	0.0023	-0.0692	0.0087	0.7271	0.0524	-0.4772	0.0966
2	265.08	0.3998	-0.0326	0.0037	-0.1331	0.0140	1.0811	0.0762	-0.5279	0.1159
2	265.08	0.4496	-0.0317	0.0042	-0.2170	0.0179	1.5115	0.0990	-0.6982	0.1062
2	265.08	0.4995	-0.0442	0.0058	-0.3192	0.0232	2.0120	0.1261	-0.9254	0.0883
2	265.08	0.5551	-0.0288	0.0075	-0.4565	0.0304	2.6801	0.1616	-1.0098	0.0837
2	265.08	0.5996	-0.0111	0.0088	-0.5811	0.0362	3.2843	0.1907	-1.0405	0.1040
2	265.08	0.6497	0.0197	0.0111	-0.7189	0.0443	4.0187	0.2304	-1.1530	0.0964
2	265.08	0.6996	0.0362	0.0141	-0.8763	0.0527	4.8204	0.2688	-1.2815	0.1012
2	265.08	0.7495	0.0759	0.0167	-1.0226	0.0614	5.6413	0.3085	-1.5623	0.1069
2	265.08	0.7996	0.1131	0.0196	-1.2052	0.0712	6.5289	0.3500	-1.7105	0.0980
2	265.08	0.8578	0.1517	0.0235	-1.3985	0.0828	7.6625	0.3969	-1.5324	0.1081
2	265.08	0.9100	0.1706	0.0273	-1.4999	0.0933	8.6089	0.4406	-1.7770	0.1097
2	265.08	0.9727	0.1628	0.0356	-1.6228	0.1062	9.9424	0.4933	-1.7032	0.1164
3	265.08	0.1938	0.0071	0.0041	-0.0107	0.0013	0.1957	0.0151	-0.1841	0.0443
3	265.08	0.2357	0.0087	0.0029	0.0133	0.0025	0.2765	0.0172	-0.1994	0.1129
3	265.08	0.2995	-0.0178	0.0024	-0.0702	0.0072	0.5975	0.0394	-0.3664	0.1221
3	265.08	0.3493	-0.0356	0.0033	-0.1447	0.0122	0.9454	0.0639	-0.4037	0.0870
3	265.08	0.4000	-0.0358	0.0042	-0.2267	0.0210	1.3910	0.0890	-0.3015	0.1006
3	265.08	0.4497	-0.0433	0.0063	-0.3364	0.0288	1.8838	0.1202	-0.5747	0.1129
3	265.08	0.4997	-0.0539	0.0074	-0.4665	0.0377	2.4748	0.1451	-0.7034	0.1499
3	265.08	0.5556	-0.0436	0.0084	-0.6244	0.0493	3.2538	0.1817	-0.7461	0.1151
3	265.08	0.5995	-0.0274	0.0102	-0.7731	0.0596	3.8935	0.2119	-0.8123	0.1142
3	265.08	0.6498	-0.0117	0.0121	-0.9478	0.0726	4.7024	0.2502	-1.1167	0.1172
3	265.08	0.6890	-0.0255	0.0141	-1.1100	0.0833	5.4092	0.2817	-1.0752	0.1144
3	265.08	0.7495	0.0255	0.0175	-1.3202	0.1007	6.5045	0.3326	-1.3664	0.1221
3	265.08	0.7998	0.0691	0.0204	-1.4986	0.1159	7.4567	0.3762	-1.3990	0.1351
3	265.08	0.8577	0.1026	0.0237	-1.6963	0.1342	8.6027	0.4285	-1.5211	0.1332
3	265.08	0.9178	0.1342	0.0278	-1.9105	0.1524	9.7844	0.4862	-1.8681	0.1371
3	265.08	0.9729	0.1293	0.0367	-2.1222	0.1705	10.9263	0.5437	-1.9265	0.1477
4	265.08	0.2001	0.0260	0.0036	0.0059	0.0014	0.1238	0.0107	0.0068	0.0711
4	265.08	0.2502	0.0067	0.0034	-0.0089	0.0027	0.2655	0.0217	0.2794	0.0824
4	265.08	0.3001	0.0014	0.0020	-0.0176	0.0044	0.4180	0.0306	0.1466	0.1400
4	265.08	0.3502	-0.0247	0.0023	-0.0609	0.0069	0.6796	0.0475	0.0580	0.1353
4	265.08	0.4002	-0.0346	0.0041	-0.1007	0.0123	1.0355	0.0707	0.0103	0.1290
4	265.08	0.4500	-0.0317	0.0034	-0.1691	0.0157	1.4433	0.0826	-0.3058	0.1669
4	265.08	0.5001	-0.0364	0.0044	-0.2686	0.0208	1.9920	0.1098	-0.1775	0.1277
4	265.08	0.5560	-0.0218	0.0053	-0.3926	0.0272	2.6278	0.1383	-0.4472	0.1077
4	265.08	0.6001	-0.0071	0.0058	-0.5061	0.0335	3.2261	0.1616	-0.5522	0.1250
4	265.08	0.6501	-0.0038	0.0078	-0.6667	0.0398	3.9591	0.1929	-0.6441	0.1238
4	265.08	0.6999	0.0234	0.0094	-0.8359	0.0480	4.7550	0.2258	-0.6178	0.1286
4	265.08	0.7500	0.0520	0.0119	-0.9841	0.0555	5.5904	0.2594	-0.6586	0.1276
4	265.08	0.8002	0.0850	0.0138	-1.1433	0.0638	6.4181	0.2946	-0.7654	0.1415
4	265.08	0.8582	0.1481	0.0167	-1.3011	0.0736	7.4014	0.3345	-1.2346	0.1317
4	265.08	0.9101	0.1684	0.0197	-1.4584	0.0828	8.3314	0.3699	-1.1995	0.1378
4	265.08	0.9728	0.2013	0.0255	-1.6233	0.0931	9.5806	0.4180	-1.1076	0.1221

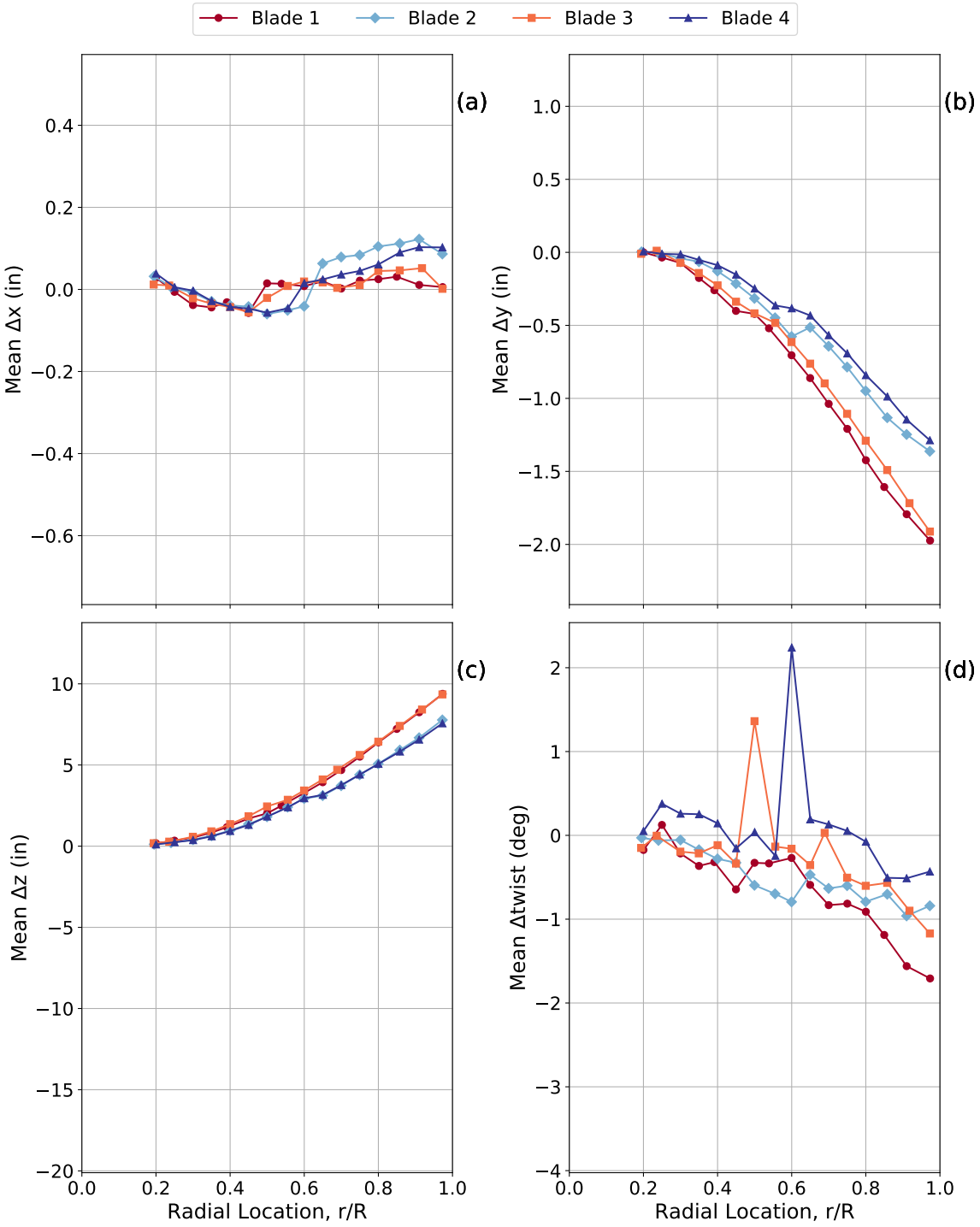


Figure 2.3-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	0.0281	0.0036	-0.0002	0.0012	0.1798	0.0149	-0.1741	0.0613
1	270	0.2499	-0.0059	0.0034	-0.0354	0.0033	0.3417	0.0296	0.1247	0.0729
1	270	0.2998	-0.0381	0.0025	-0.0727	0.0049	0.5312	0.0455	-0.2158	0.1176
1	270	0.3498	-0.0439	0.0035	-0.1754	0.0107	0.8383	0.0720	-0.3647	0.0826
1	270	0.3913	-0.0312	0.0065	-0.2595	0.0165	1.1688	0.1014	-0.3190	0.0769
1	270	0.4496	-0.0574	0.0054	-0.4009	0.0224	1.7035	0.1312	-0.6446	0.1372
1	270	0.4997	0.0149	0.0082	-0.4215	0.0296	2.0224	0.1635	-0.3276	0.1326
1	270	0.5387	0.0139	0.0082	-0.5200	0.0370	2.4936	0.1973	-0.3347	0.1052
1	270	0.5996	0.0080	0.0097	-0.7047	0.0481	3.2742	0.2410	-0.2694	0.1182
1	270	0.6498	0.0196	0.0124	-0.8608	0.0583	3.9380	0.2845	-0.5911	0.1233
1	270	0.6998	0.0021	0.0147	-1.0375	0.0700	4.6886	0.3308	-0.8323	0.1056
1	270	0.7500	0.0214	0.0172	-1.2088	0.0822	5.5144	0.3794	-0.8149	0.1144
1	270	0.8001	0.0250	0.0204	-1.4234	0.0944	6.3941	0.4285	-0.9110	0.1174
1	270	0.8497	0.0310	0.0239	-1.6071	0.1070	7.2224	0.4780	-1.1883	0.1197
1	270	0.9102	0.0110	0.0280	-1.7935	0.1230	8.2475	0.5370	-1.5604	0.1307
1	270	0.9734	0.0057	0.0367	-1.9736	0.1398	9.3836	0.6014	-1.7072	0.1313
2	270.35	0.1949	0.0319	0.0042	0.0034	0.0010	0.1180	0.0158	-0.0293	0.0710
2	270.35	0.2405	0.0058	0.0041	-0.0026	0.0025	0.2118	0.0224	-0.0602	0.1138
2	270.35	0.2999	-0.0079	0.0022	-0.0407	0.0051	0.3998	0.0444	-0.0550	0.1687
2	270.35	0.3498	-0.0291	0.0040	-0.0643	0.0107	0.6405	0.0751	-0.1720	0.1206
2	270.35	0.3998	-0.0389	0.0054	-0.1285	0.0177	0.9606	0.1053	-0.2806	0.1302
2	270.35	0.4496	-0.0419	0.0062	-0.2142	0.0237	1.3633	0.1364	-0.3265	0.1428
2	270.35	0.4995	-0.0598	0.0081	-0.3150	0.0329	1.8111	0.1752	-0.5954	0.1213
2	270.35	0.5551	-0.0509	0.0095	-0.4483	0.0436	2.4049	0.2148	-0.6972	0.1293
2	270.35	0.5996	-0.0412	0.0115	-0.5768	0.0537	2.9326	0.2493	-0.7938	0.1375
2	270.35	0.6497	0.0632	0.0132	-0.5139	0.0672	3.1146	0.2943	-0.4697	0.1462
2	270.35	0.6996	0.0790	0.0151	-0.6426	0.0809	3.7260	0.3394	-0.6329	0.1320
2	270.35	0.7495	0.0838	0.0172	-0.7854	0.0955	4.3978	0.3864	-0.6002	0.1343
2	270.35	0.7996	0.1046	0.0200	-0.9490	0.1107	5.0708	0.4385	-0.7916	0.1422
2	270.35	0.8578	0.1119	0.0231	-1.1323	0.1289	5.9175	0.5017	-0.7021	0.1432
2	270.35	0.9100	0.1224	0.0268	-1.2471	0.1459	6.6795	0.5619	-0.9609	0.1412
2	270.35	0.9727	0.0864	0.0368	-1.3625	0.1659	7.7761	0.6337	-0.8404	0.1570
3	270	0.1938	0.0119	0.0037	-0.0098	0.0015	0.1838	0.0135	-0.1498	0.0637
3	270	0.2357	0.0095	0.0039	0.0112	0.0022	0.2795	0.0218	-0.0050	0.0870
3	270	0.2995	-0.0215	0.0033	-0.0711	0.0060	0.5797	0.0425	-0.1942	0.1412
3	270	0.3493	-0.0347	0.0042	-0.1413	0.0103	0.9140	0.0647	-0.2149	0.1227
3	270	0.4000	-0.0430	0.0063	-0.2261	0.0174	1.3572	0.0977	-0.1175	0.0887
3	270	0.4497	-0.0555	0.0065	-0.3380	0.0225	1.8431	0.1212	-0.3369	0.1081
3	270	0.4997	-0.0207	0.0082	-0.4178	0.0308	2.4475	0.1508	1.3623	0.1325
3	270	0.5556	0.0084	0.0108	-0.4831	0.0397	2.8577	0.1885	-0.1343	0.1538
3	270	0.5995	0.0193	0.0145	-0.6143	0.0473	3.4284	0.2081	-0.1598	0.1956
3	270	0.6498	0.0171	0.0118	-0.7621	0.0570	4.1093	0.2537	-0.3548	0.1004
3	270	0.6890	0.0039	0.0129	-0.8974	0.0644	4.7100	0.2857	0.0297	0.1013
3	270	0.7495	0.0107	0.0156	-1.1057	0.0773	5.6186	0.3422	-0.5051	0.1023
3	270	0.7998	0.0448	0.0181	-1.2899	0.0883	6.4373	0.3918	-0.6018	0.1012
3	270	0.8577	0.0464	0.0210	-1.4909	0.1015	7.4085	0.4518	-0.5670	0.1072
3	270	0.9178	0.0518	0.0254	-1.7176	0.1151	8.4172	0.5177	-0.8989	0.0980
3	270	0.9729	0.0015	0.0330	-1.9121	0.1279	9.3482	0.5817	-1.1709	0.1108
4	270	0.2001	0.0386	0.0029	0.0065	0.0009	0.1067	0.0120	0.0513	0.0700
4	270	0.2502	0.0055	0.0043	-0.0102	0.0033	0.2428	0.0161	0.3770	0.1028
4	270	0.3001	-0.0031	0.0029	-0.0142	0.0056	0.3715	0.0349	0.2584	0.1347
4	270	0.3502	-0.0283	0.0033	-0.0520	0.0076	0.6092	0.0478	0.2519	0.0910
4	270	0.4002	-0.0424	0.0042	-0.0884	0.0138	0.9340	0.0719	0.1429	0.1429
4	270	0.4500	-0.0469	0.0045	-0.1525	0.0182	1.3097	0.0869	-0.1544	0.1081
4	270	0.5001	-0.0567	0.0049	-0.2481	0.0232	1.8244	0.1156	0.0382	0.1187
4	270	0.5560	-0.0459	0.0055	-0.3638	0.0311	2.3939	0.1467	-0.2452	0.1529
4	270	0.6001	0.0152	0.0065	-0.3833	0.0374	2.9531	0.1653	2.2396	0.1376
4	270	0.6501	0.0245	0.0085	-0.4326	0.0458	3.1619	0.1998	0.1907	0.1351
4	270	0.6999	0.0363	0.0093	-0.5677	0.0546	3.7646	0.2282	0.1300	0.1286
4	270	0.7500	0.0451	0.0108	-0.6923	0.0637	4.4149	0.2546	0.0528	0.1166
4	270	0.8002	0.0610	0.0123	-0.8411	0.0733	5.0676	0.2841	-0.0758	0.1303
4	270	0.8582	0.0902	0.0139	-0.9876	0.0848	5.8271	0.3235	-0.5068	0.1213
4	270	0.9101	0.1030	0.0162	-1.1452	0.0949	6.5622	0.3606	-0.5121	0.1248
4	270	0.9728	0.1024	0.0226	-1.2870	0.1076	7.5656	0.4106	-0.4322	0.1354

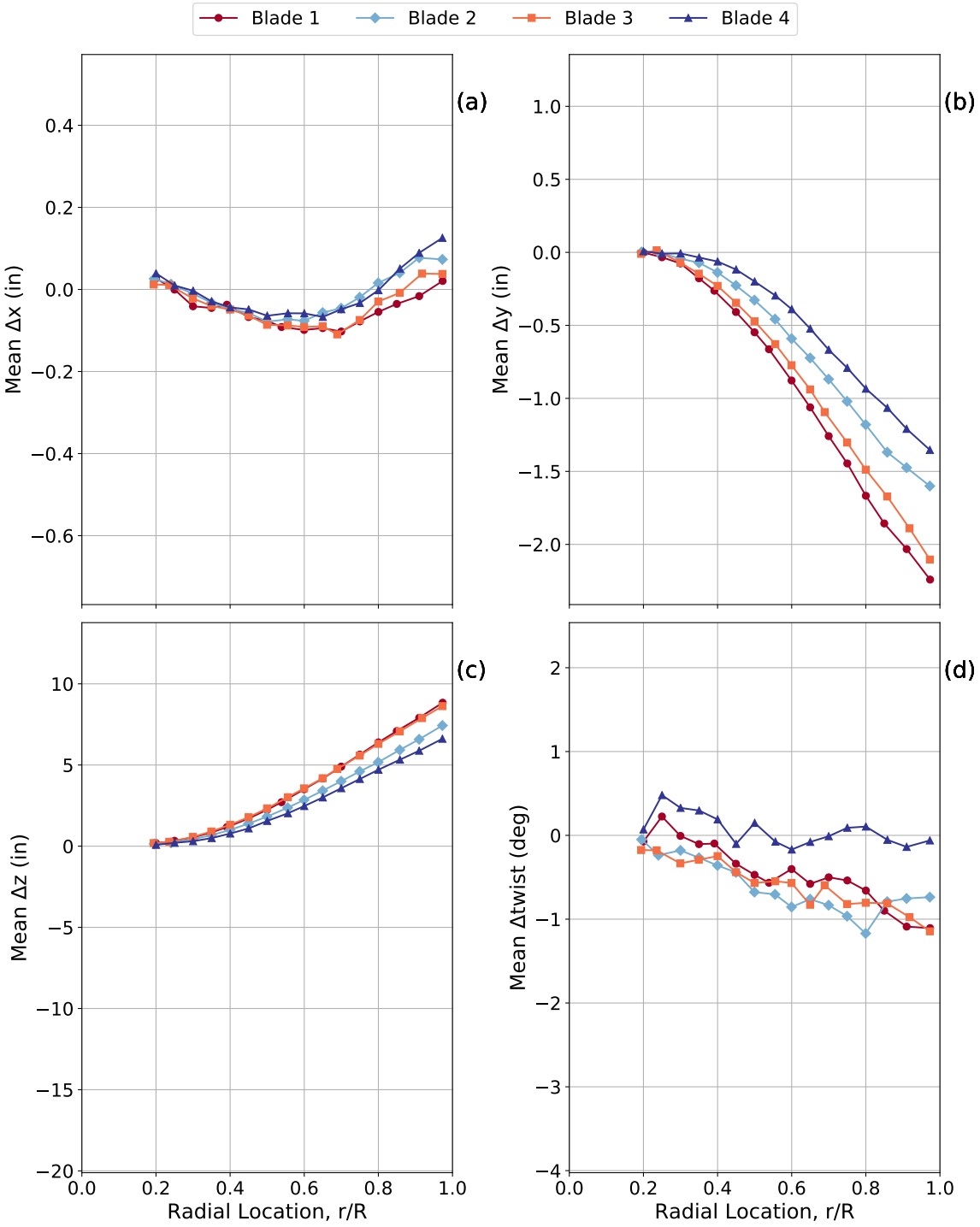


Figure 2.3-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0269	0.0035	-0.0016	0.0013	0.1852	0.0144	-0.0733	0.0594
1	274.92	0.2499	-0.0004	0.0037	-0.0337	0.0025	0.3309	0.0370	0.2248	0.0926
1	274.92	0.2998	-0.0411	0.0033	-0.0760	0.0046	0.5399	0.0525	-0.0065	0.1252
1	274.92	0.3498	-0.0451	0.0025	-0.1777	0.0086	0.8445	0.0829	-0.1048	0.0866
1	274.92	0.3913	-0.0372	0.0045	-0.2628	0.0145	1.1717	0.1235	-0.0976	0.1278
1	274.92	0.4496	-0.0673	0.0053	-0.4085	0.0201	1.7042	0.1515	-0.3387	0.0913
1	274.92	0.4997	-0.0763	0.0054	-0.5475	0.0273	2.2402	0.1895	-0.4710	0.1319
1	274.92	0.5387	-0.0916	0.0076	-0.6634	0.0335	2.7088	0.2148	-0.5657	0.0925
1	274.92	0.5996	-0.0987	0.0106	-0.8775	0.0444	3.5054	0.2663	-0.4022	0.1119
1	274.92	0.6498	-0.0943	0.0115	-1.0611	0.0542	4.1668	0.3058	-0.5788	0.1200
1	274.92	0.6998	-0.1025	0.0140	-1.2584	0.0650	4.9019	0.3527	-0.5007	0.1213
1	274.92	0.7500	-0.0779	0.0170	-1.4457	0.0765	5.6424	0.4026	-0.5381	0.1221
1	274.92	0.8001	-0.0547	0.0196	-1.6670	0.0885	6.3945	0.4542	-0.6586	0.1215
1	274.92	0.8497	-0.0353	0.0221	-1.8565	0.1007	7.0888	0.5039	-0.8989	0.1290
1	274.92	0.9102	-0.0163	0.0260	-2.0319	0.1158	7.9099	0.5735	-1.0885	0.1403
1	274.92	0.9734	0.0207	0.0340	-2.2408	0.1325	8.8364	0.6464	-1.1067	0.1534
2	274.92	0.1949	0.0260	0.0052	0.0026	0.0017	0.1356	0.0086	-0.0495	0.0689
2	274.92	0.2405	0.0127	0.0036	0.0001	0.0019	0.2089	0.0164	-0.2364	0.0623
2	274.92	0.2999	-0.0105	0.0025	-0.0434	0.0055	0.4279	0.0263	-0.1794	0.1340
2	274.92	0.3498	-0.0326	0.0026	-0.0714	0.0088	0.6783	0.0412	-0.2671	0.0938
2	274.92	0.3998	-0.0474	0.0055	-0.1376	0.0139	1.0011	0.0615	-0.3592	0.1225
2	274.92	0.4496	-0.0571	0.0053	-0.2268	0.0195	1.3899	0.0800	-0.4421	0.0999
2	274.92	0.4995	-0.0785	0.0062	-0.3273	0.0270	1.8189	0.1051	-0.6768	0.1620
2	274.92	0.5551	-0.0730	0.0069	-0.4574	0.0356	2.3683	0.1337	-0.7044	0.1080
2	274.92	0.5996	-0.0765	0.0079	-0.5908	0.0443	2.8504	0.1615	-0.8547	0.1257
2	274.92	0.6497	-0.0564	0.0094	-0.7232	0.0546	3.4180	0.1927	-0.7620	0.1198
2	274.92	0.6996	-0.0458	0.0115	-0.8685	0.0657	4.0021	0.2248	-0.8333	0.1427
2	274.92	0.7495	-0.0193	0.0136	-1.0203	0.0777	4.6017	0.2653	-0.9647	0.1394
2	274.92	0.7996	0.0159	0.0150	-1.1798	0.0902	5.1732	0.3058	-1.1702	0.1384
2	274.92	0.8578	0.0403	0.0187	-1.3687	0.1055	5.9300	0.3653	-0.7909	0.1446
2	274.92	0.9100	0.0772	0.0215	-1.4742	0.1190	6.5825	0.4204	-0.7533	0.1571
2	274.92	0.9727	0.0731	0.0300	-1.6002	0.1357	7.4323	0.4955	-0.7371	0.1642
3	274.92	0.1938	0.0121	0.0062	-0.0103	0.0018	0.1913	0.0123	-0.1750	0.0740
3	274.92	0.2357	0.0109	0.0042	0.0140	0.0019	0.2701	0.0254	-0.1787	0.1238
3	274.92	0.2995	-0.0220	0.0034	-0.0709	0.0046	0.5712	0.0442	-0.3343	0.1832
3	274.92	0.3493	-0.0402	0.0044	-0.1461	0.0076	0.9051	0.0716	-0.2911	0.1298
3	274.92	0.4000	-0.0490	0.0058	-0.2299	0.0130	1.3223	0.1099	-0.2474	0.1629
3	274.92	0.4497	-0.0636	0.0081	-0.3453	0.0183	1.7823	0.1333	-0.4390	0.1410
3	274.92	0.4997	-0.0861	0.0073	-0.4724	0.0252	2.3269	0.1653	-0.5679	0.1303
3	274.92	0.5556	-0.0877	0.0090	-0.6286	0.0346	3.0157	0.2081	-0.5473	0.1263
3	274.92	0.5995	-0.0915	0.0116	-0.7731	0.0428	3.5618	0.2428	-0.5681	0.1361
3	274.92	0.6498	-0.0897	0.0125	-0.9391	0.0537	4.1855	0.2894	-0.8280	0.1321
3	274.92	0.6890	-0.1095	0.0141	-1.0941	0.0630	4.7550	0.3278	-0.5955	0.1380
3	274.92	0.7495	-0.0745	0.0173	-1.3021	0.0783	5.5796	0.3833	-0.8200	0.1338
3	274.92	0.7998	-0.0295	0.0201	-1.4882	0.0920	6.3022	0.4366	-0.8045	0.1297
3	274.92	0.8577	-0.0083	0.0231	-1.6717	0.1084	7.0699	0.4969	-0.8110	0.1428
3	274.92	0.9178	0.0386	0.0269	-1.8897	0.1261	7.8894	0.5622	-0.9757	0.1349
3	274.92	0.9729	0.0377	0.0343	-2.1037	0.1428	8.6264	0.6260	-1.1450	0.1455
4	274.92	0.2001	0.0392	0.0036	0.0071	0.0008	0.0828	0.0123	0.0701	0.0609
4	274.92	0.2502	0.0096	0.0045	-0.0089	0.0027	0.2067	0.0199	0.4799	0.0998
4	274.92	0.3001	-0.0032	0.0031	-0.0072	0.0040	0.3064	0.0354	0.3275	0.1356
4	274.92	0.3502	-0.0292	0.0030	-0.0354	0.0078	0.4985	0.0585	0.2961	0.0903
4	274.92	0.4002	-0.0437	0.0035	-0.0630	0.0129	0.7787	0.0835	0.1897	0.1172
4	274.92	0.4500	-0.0487	0.0040	-0.1178	0.0183	1.0936	0.1068	-0.1023	0.1063
4	274.92	0.5001	-0.0641	0.0043	-0.1998	0.0252	1.5534	0.1323	0.1484	0.1109
4	274.92	0.5560	-0.0580	0.0063	-0.2960	0.0337	2.0281	0.1666	-0.0756	0.1192
4	274.92	0.6001	-0.0583	0.0074	-0.3896	0.0412	2.4716	0.1911	-0.1696	0.1350
4	274.92	0.6501	-0.0670	0.0083	-0.5230	0.0511	3.0023	0.2305	-0.0785	0.1398
4	274.92	0.6999	-0.0483	0.0101	-0.6672	0.0617	3.5699	0.2601	-0.0105	0.1195
4	274.92	0.7500	-0.0331	0.0116	-0.7915	0.0730	4.1388	0.2966	0.0904	0.1226
4	274.92	0.8002	-0.0019	0.0130	-0.9338	0.0849	4.7087	0.3355	0.1045	0.1211
4	274.92	0.8582	0.0507	0.0153	-1.0652	0.0992	5.3288	0.3861	-0.0537	0.1274
4	274.92	0.9101	0.0891	0.0174	-1.2088	0.1121	5.8787	0.4301	-0.1380	0.1194
4	274.92	0.9728	0.1256	0.0243	-1.3531	0.1280	6.6150	0.4894	-0.0607	0.1249

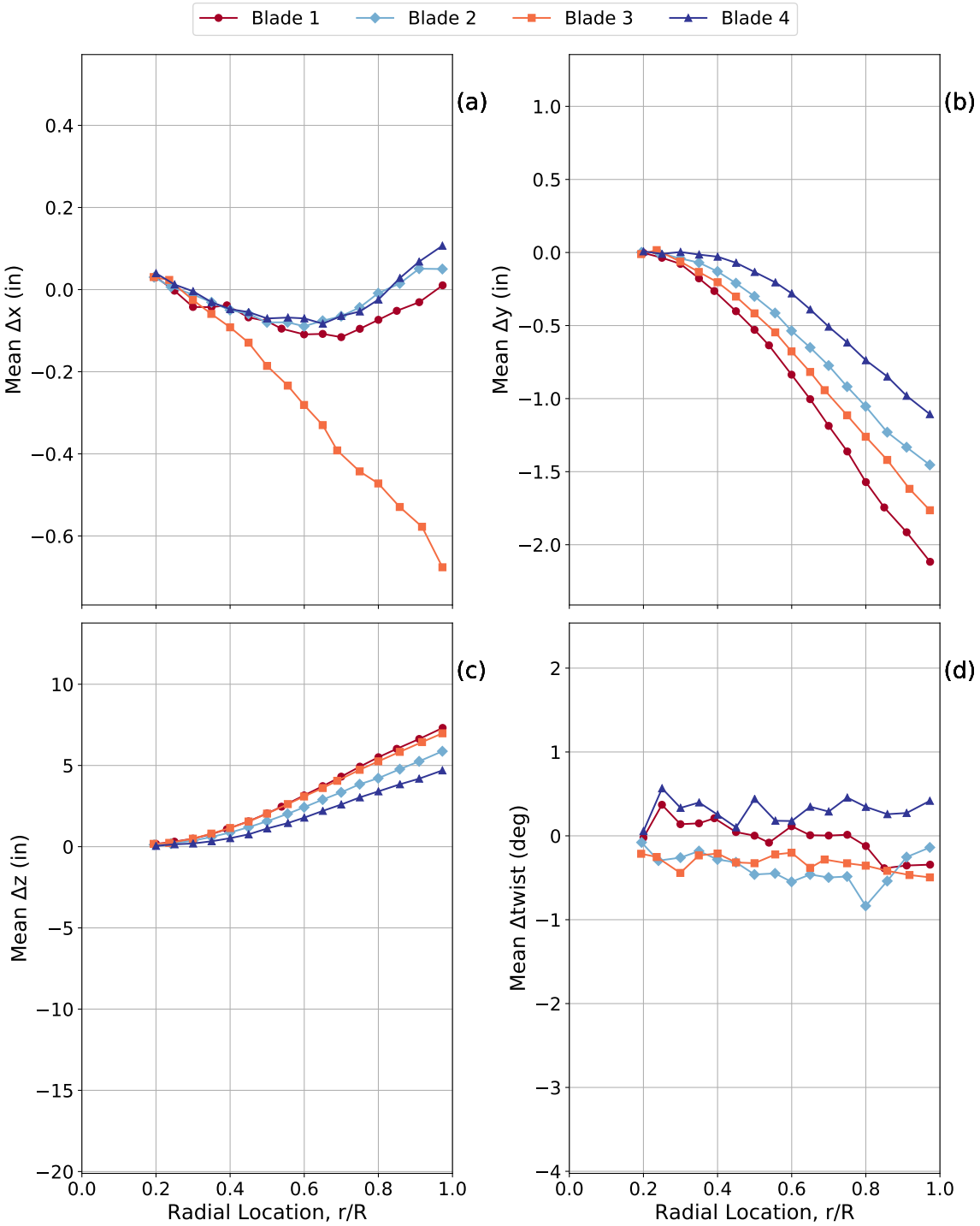


Figure 2.3-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0302	0.0046	-0.0027	0.0014	0.1692	0.0122	-0.0212	0.0671
1	279.84	0.2499	-0.0027	0.0045	-0.0362	0.0031	0.3099	0.0199	0.3705	0.0850
1	279.84	0.2998	-0.0423	0.0030	-0.0781	0.0059	0.4948	0.0332	0.1387	0.1282
1	279.84	0.3498	-0.0428	0.0026	-0.1772	0.0098	0.7754	0.0506	0.1492	0.0890
1	279.84	0.3913	-0.0383	0.0037	-0.2636	0.0160	1.0780	0.0693	0.2096	0.1233
1	279.84	0.4496	-0.0677	0.0044	-0.4019	0.0224	1.5593	0.0946	0.0452	0.1085
1	279.84	0.4997	-0.0769	0.0057	-0.5292	0.0298	2.0458	0.1244	0.0019	0.1215
1	279.84	0.5387	-0.0951	0.0070	-0.6354	0.0369	2.4623	0.1509	-0.0815	0.1499
1	279.84	0.5996	-0.1091	0.0086	-0.8362	0.0492	3.1536	0.1960	0.1148	0.1226
1	279.84	0.6498	-0.1079	0.0104	-1.0038	0.0599	3.7256	0.2370	0.0074	0.1241
1	279.84	0.6998	-0.1158	0.0125	-1.1866	0.0719	4.3113	0.2817	0.0035	0.1301
1	279.84	0.7500	-0.0955	0.0146	-1.3617	0.0848	4.9256	0.3316	0.0127	0.1322
1	279.84	0.8001	-0.0736	0.0165	-1.5714	0.0986	5.5063	0.3821	-0.1217	0.1391
1	279.84	0.8497	-0.0517	0.0184	-1.7449	0.1124	6.0238	0.4347	-0.3862	0.1495
1	279.84	0.9102	-0.0307	0.0218	-1.9146	0.1300	6.6307	0.5025	-0.3537	0.1485
1	279.84	0.9734	0.0104	0.0285	-2.1168	0.1484	7.3102	0.5792	-0.3435	0.1583
2	279.84	0.1949	0.0302	0.0042	0.0013	0.0013	0.1194	0.0111	-0.0784	0.0526
2	279.84	0.2405	0.0066	0.0035	-0.0002	0.0029	0.1866	0.0215	-0.2953	0.0730
2	279.84	0.2999	-0.0119	0.0025	-0.0412	0.0049	0.3665	0.0379	-0.2599	0.1143
2	279.84	0.3498	-0.0308	0.0030	-0.0693	0.0089	0.5993	0.0596	-0.1816	0.0919
2	279.84	0.3998	-0.0500	0.0040	-0.1299	0.0158	0.8696	0.0906	-0.2824	0.1303
2	279.84	0.4496	-0.0589	0.0031	-0.2101	0.0219	1.1962	0.1061	-0.3157	0.1079
2	279.84	0.4995	-0.0799	0.0049	-0.3003	0.0293	1.5622	0.1355	-0.4608	0.0922
2	279.84	0.5551	-0.0796	0.0057	-0.4143	0.0395	2.0214	0.1715	-0.4479	0.0882
2	279.84	0.5996	-0.0893	0.0071	-0.5362	0.0485	2.4253	0.2003	-0.5485	0.0911
2	279.84	0.6497	-0.0759	0.0083	-0.6504	0.0599	2.8966	0.2353	-0.4608	0.0879
2	279.84	0.6996	-0.0648	0.0096	-0.7739	0.0721	3.3434	0.2720	-0.4967	0.1000
2	279.84	0.7495	-0.0436	0.0115	-0.9182	0.0851	3.8435	0.3136	-0.4848	0.0916
2	279.84	0.7996	-0.0088	0.0128	-1.0535	0.0987	4.2127	0.3587	-0.8356	0.0928
2	279.84	0.8578	0.0149	0.0149	-1.2299	0.1149	4.7707	0.4123	-0.5392	0.1057
2	279.84	0.9100	0.0509	0.0166	-1.3327	0.1299	5.2545	0.4682	-0.2532	0.0954
2	279.84	0.9727	0.0501	0.0234	-1.4537	0.1480	5.8737	0.5398	-0.1383	0.1130
3	279.84	0.1938	0.0305	0.0059	-0.0110	0.0022	0.1725	0.0120	-0.2138	0.0753
3	279.84	0.2357	0.0235	0.0049	0.0161	0.0030	0.2326	0.0264	-0.2520	0.1045
3	279.84	0.2995	-0.0253	0.0039	-0.0623	0.0072	0.4921	0.0430	-0.4424	0.1711
3	279.84	0.3493	-0.0592	0.0030	-0.1332	0.0121	0.8045	0.0593	-0.2333	0.1816
3	279.84	0.4000	-0.0918	0.0045	-0.2035	0.0221	1.1493	0.0952	-0.2109	0.1261
3	279.84	0.4497	-0.1292	0.0055	-0.3018	0.0281	1.5477	0.1254	-0.3171	0.1539
3	279.84	0.4997	-0.1858	0.0091	-0.4167	0.0384	2.0343	0.1560	-0.3263	0.1341
3	279.84	0.5556	-0.2338	0.0083	-0.5465	0.0510	2.6209	0.1941	-0.2220	0.1341
3	279.84	0.5995	-0.2810	0.0106	-0.6770	0.0630	3.0891	0.2318	-0.2011	0.1345
3	279.84	0.6498	-0.3300	0.0118	-0.8176	0.0779	3.6108	0.2750	-0.3817	0.1343
3	279.84	0.6890	-0.3917	0.0147	-0.9424	0.0909	4.0553	0.3113	-0.2823	0.1404
3	279.84	0.7495	-0.4427	0.0169	-1.1142	0.1124	4.7308	0.3673	-0.3270	0.1323
3	279.84	0.7998	-0.4721	0.0190	-1.2610	0.1313	5.2544	0.4167	-0.3556	0.1451
3	279.84	0.8577	-0.5294	0.0222	-1.4197	0.1544	5.8356	0.4770	-0.4171	0.1442
3	279.84	0.9178	-0.5776	0.0254	-1.6177	0.1790	6.4378	0.5443	-0.4671	0.1441
3	279.84	0.9729	-0.6762	0.0347	-1.7642	0.2014	6.9783	0.6081	-0.4951	0.1575
4	279.84	0.2001	0.0398	0.0034	0.0077	0.0010	0.0486	0.0109	0.0566	0.0586
4	279.84	0.2502	0.0123	0.0045	-0.0094	0.0023	0.1453	0.0231	0.5663	0.0921
4	279.84	0.3001	-0.0042	0.0025	0.0033	0.0044	0.1939	0.0313	0.3332	0.1176
4	279.84	0.3502	-0.0306	0.0031	-0.0144	0.0089	0.3338	0.0565	0.3977	0.0776
4	279.84	0.4002	-0.0476	0.0045	-0.0288	0.0148	0.5224	0.0806	0.2520	0.0930
4	279.84	0.4500	-0.0548	0.0055	-0.0707	0.0185	0.7587	0.1030	0.1009	0.1127
4	279.84	0.5001	-0.0703	0.0039	-0.1336	0.0262	1.1198	0.1315	0.4411	0.1053
4	279.84	0.5560	-0.0681	0.0055	-0.2049	0.0347	1.4539	0.1743	0.1797	0.1038
4	279.84	0.6001	-0.0701	0.0059	-0.2803	0.0422	1.7868	0.2046	0.1766	0.1087
4	279.84	0.6501	-0.0831	0.0078	-0.3900	0.0515	2.2023	0.2436	0.3468	0.1013
4	279.84	0.6999	-0.0643	0.0090	-0.5080	0.0620	2.5944	0.2839	0.2894	0.1406
4	279.84	0.7500	-0.0533	0.0112	-0.6166	0.0730	3.0338	0.3285	0.4557	0.1112
4	279.84	0.8002	-0.0243	0.0123	-0.7376	0.0850	3.4050	0.3722	0.3451	0.1199
4	279.84	0.8582	0.0282	0.0146	-0.8493	0.0991	3.8405	0.4259	0.2582	0.1317
4	279.84	0.9101	0.0682	0.0167	-0.9809	0.1122	4.1856	0.4797	0.2724	0.1243
4	279.84	0.9728	0.1068	0.0234	-1.1066	0.1280	4.6955	0.5498	0.4173	0.1427

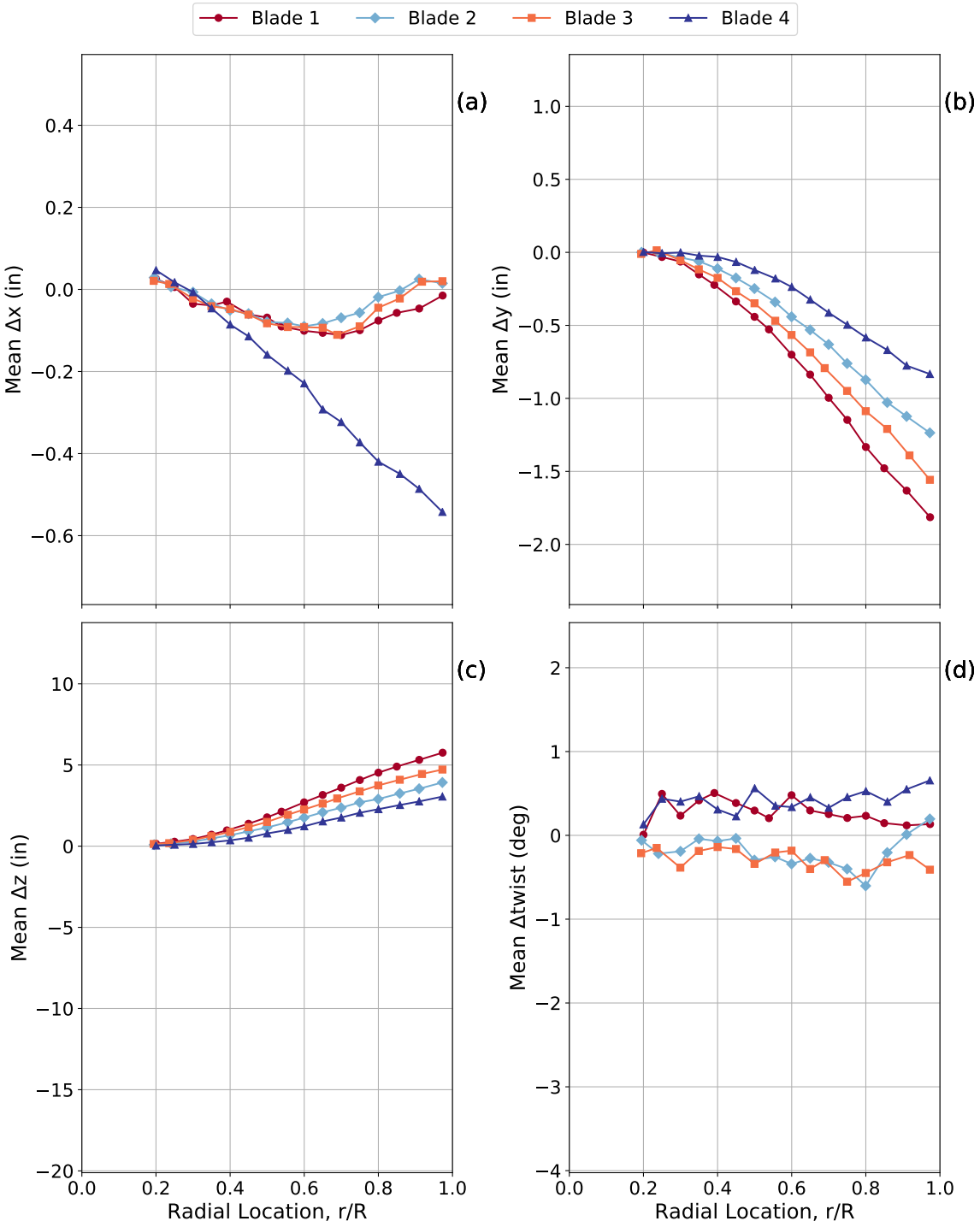


Figure 2.3-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0258	0.0026	-0.0013	0.0013	0.1505	0.0088	0.0076	0.0666
1	285.12	0.2499	0.0058	0.0060	-0.0318	0.0035	0.2772	0.0172	0.4947	0.0799
1	285.12	0.2998	-0.0349	0.0027	-0.0633	0.0048	0.4393	0.0271	0.2347	0.1348
1	285.12	0.3498	-0.0390	0.0027	-0.1513	0.0091	0.7075	0.0441	0.4176	0.1071
1	285.12	0.3913	-0.0297	0.0048	-0.2228	0.0137	0.9735	0.0610	0.5053	0.0981
1	285.12	0.4496	-0.0607	0.0040	-0.3363	0.0206	1.3818	0.0836	0.3860	0.0946
1	285.12	0.4997	-0.0686	0.0058	-0.4415	0.0272	1.7768	0.1025	0.2958	0.1160
1	285.12	0.5387	-0.0903	0.0053	-0.5278	0.0334	2.1248	0.1189	0.2049	0.1086
1	285.12	0.5996	-0.1007	0.0064	-0.7008	0.0444	2.6997	0.1547	0.4794	0.1132
1	285.12	0.6498	-0.1058	0.0069	-0.8371	0.0546	3.1554	0.1787	0.2972	0.1056
1	285.12	0.6998	-0.1113	0.0078	-0.9959	0.0658	3.6057	0.2025	0.2531	0.1198
1	285.12	0.7500	-0.0993	0.0086	-1.1475	0.0779	4.0747	0.2278	0.2074	0.1185
1	285.12	0.8001	-0.0760	0.0095	-1.3332	0.0904	4.5288	0.2524	0.2331	0.1145
1	285.12	0.8497	-0.0571	0.0104	-1.4787	0.1029	4.9023	0.2775	0.1460	0.1077
1	285.12	0.9102	-0.0466	0.0114	-1.6319	0.1188	5.3184	0.3092	0.1192	0.1113
1	285.12	0.9734	-0.0149	0.0153	-1.8138	0.1352	5.7589	0.3456	0.1341	0.1246
2	285.12	0.1949	0.0288	0.0027	0.0003	0.0009	0.0944	0.0071	-0.0584	0.0329
2	285.12	0.2405	0.0064	0.0030	-0.0015	0.0022	0.1494	0.0122	-0.2182	0.0459
2	285.12	0.2999	-0.0066	0.0024	-0.0356	0.0048	0.2783	0.0230	-0.1904	0.0718
2	285.12	0.3498	-0.0350	0.0026	-0.0611	0.0087	0.4748	0.0376	-0.0412	0.0632
2	285.12	0.3998	-0.0508	0.0034	-0.1116	0.0144	0.6728	0.0556	-0.0684	0.0746
2	285.12	0.4496	-0.0590	0.0035	-0.1752	0.0192	0.9109	0.0748	-0.0360	0.0847
2	285.12	0.4995	-0.0790	0.0041	-0.2481	0.0254	1.1499	0.0973	-0.2951	0.0813
2	285.12	0.5551	-0.0818	0.0040	-0.3402	0.0336	1.4713	0.1291	-0.2569	0.0800
2	285.12	0.5996	-0.0899	0.0054	-0.4412	0.0408	1.7601	0.1578	-0.3407	0.0900
2	285.12	0.6497	-0.0829	0.0063	-0.5309	0.0494	2.0885	0.1934	-0.2733	0.0876
2	285.12	0.6996	-0.0690	0.0070	-0.6307	0.0588	2.3679	0.2322	-0.3231	0.0845
2	285.12	0.7495	-0.0567	0.0080	-0.7609	0.0688	2.6983	0.2733	-0.4007	0.0902
2	285.12	0.7996	-0.0187	0.0093	-0.8727	0.0793	2.9012	0.3178	-0.6028	0.0878
2	285.12	0.8578	-0.0031	0.0105	-1.0281	0.0917	3.2482	0.3707	-0.2052	0.0986
2	285.12	0.9100	0.0251	0.0121	-1.1234	0.1031	3.5370	0.4198	0.0104	0.0907
2	285.12	0.9727	0.0149	0.0169	-1.2359	0.1171	3.9248	0.4825	0.1959	0.1096
3	285.12	0.1938	0.0209	0.0035	-0.0108	0.0015	0.1363	0.0104	-0.2130	0.0337
3	285.12	0.2357	0.0133	0.0035	0.0140	0.0024	0.1853	0.0162	-0.1499	0.0570
3	285.12	0.2995	-0.0222	0.0029	-0.0539	0.0037	0.3819	0.0346	-0.3852	0.0728
3	285.12	0.3493	-0.0408	0.0028	-0.1166	0.0072	0.6193	0.0533	-0.1867	0.0787
3	285.12	0.4000	-0.0477	0.0031	-0.1749	0.0118	0.8814	0.0810	-0.1393	0.0673
3	285.12	0.4497	-0.0613	0.0038	-0.2663	0.0172	1.1774	0.1093	-0.1631	0.0804
3	285.12	0.4997	-0.0825	0.0050	-0.3489	0.0238	1.4937	0.1442	-0.3403	0.0915
3	285.12	0.5556	-0.0916	0.0071	-0.4684	0.0328	1.9365	0.1858	-0.2048	0.0807
3	285.12	0.5995	-0.0917	0.0077	-0.5658	0.0411	2.2596	0.2230	-0.1826	0.1011
3	285.12	0.6498	-0.0934	0.0088	-0.6850	0.0513	2.6252	0.2647	-0.4017	0.0801
3	285.12	0.6890	-0.1105	0.0102	-0.7928	0.0595	2.9406	0.2977	-0.2954	0.0989
3	285.12	0.7495	-0.0899	0.0122	-0.9490	0.0737	3.3768	0.3527	-0.5530	0.0921
3	285.12	0.7998	-0.0446	0.0140	-1.0874	0.0860	3.7433	0.4029	-0.4489	0.1047
3	285.12	0.8577	-0.0220	0.0157	-1.2091	0.1007	4.0919	0.4584	-0.3211	0.0966
3	285.12	0.9178	0.0188	0.0175	-1.3903	0.1167	4.4469	0.5204	-0.2351	0.0991
3	285.12	0.9729	0.0200	0.0237	-1.5577	0.1317	4.7196	0.5804	-0.4095	0.1043
4	285.12	0.2001	0.0468	0.0025	0.0025	0.0012	0.0399	0.0140	0.1305	0.0675
4	285.12	0.2502	0.0174	0.0042	-0.0061	0.0030	0.0894	0.0245	0.4366	0.1028
4	285.12	0.3001	-0.0068	0.0026	-0.0013	0.0057	0.1373	0.0421	0.4024	0.1369
4	285.12	0.3502	-0.0461	0.0027	-0.0225	0.0107	0.2401	0.0596	0.4667	0.1344
4	285.12	0.4002	-0.0856	0.0044	-0.0315	0.0178	0.3596	0.0914	0.3083	0.1340
4	285.12	0.4500	-0.1145	0.0040	-0.0658	0.0223	0.5218	0.1128	0.2268	0.1409
4	285.12	0.5001	-0.1591	0.0053	-0.1209	0.0300	0.7835	0.1430	0.5621	0.1301
4	285.12	0.5560	-0.1981	0.0054	-0.1790	0.0382	1.0035	0.1732	0.3533	0.1450
4	285.12	0.6001	-0.2290	0.0057	-0.2370	0.0455	1.2252	0.2045	0.3371	0.1333
4	285.12	0.6501	-0.2925	0.0071	-0.3239	0.0544	1.5258	0.2372	0.4532	0.1208
4	285.12	0.6999	-0.3232	0.0078	-0.4135	0.0640	1.7641	0.2718	0.3287	0.1313
4	285.12	0.7500	-0.3728	0.0087	-0.4962	0.0743	2.0584	0.3083	0.4559	0.1266
4	285.12	0.8002	-0.4198	0.0102	-0.5828	0.0853	2.2796	0.3463	0.5275	0.1066
4	285.12	0.8582	-0.4495	0.0115	-0.6691	0.0986	2.5360	0.3937	0.4013	0.1188
4	285.12	0.9101	-0.4860	0.0130	-0.7758	0.1105	2.7549	0.4404	0.5493	0.1149
4	285.12	0.9728	-0.5422	0.0179	-0.8333	0.1247	3.0547	0.5003	0.6553	0.1186

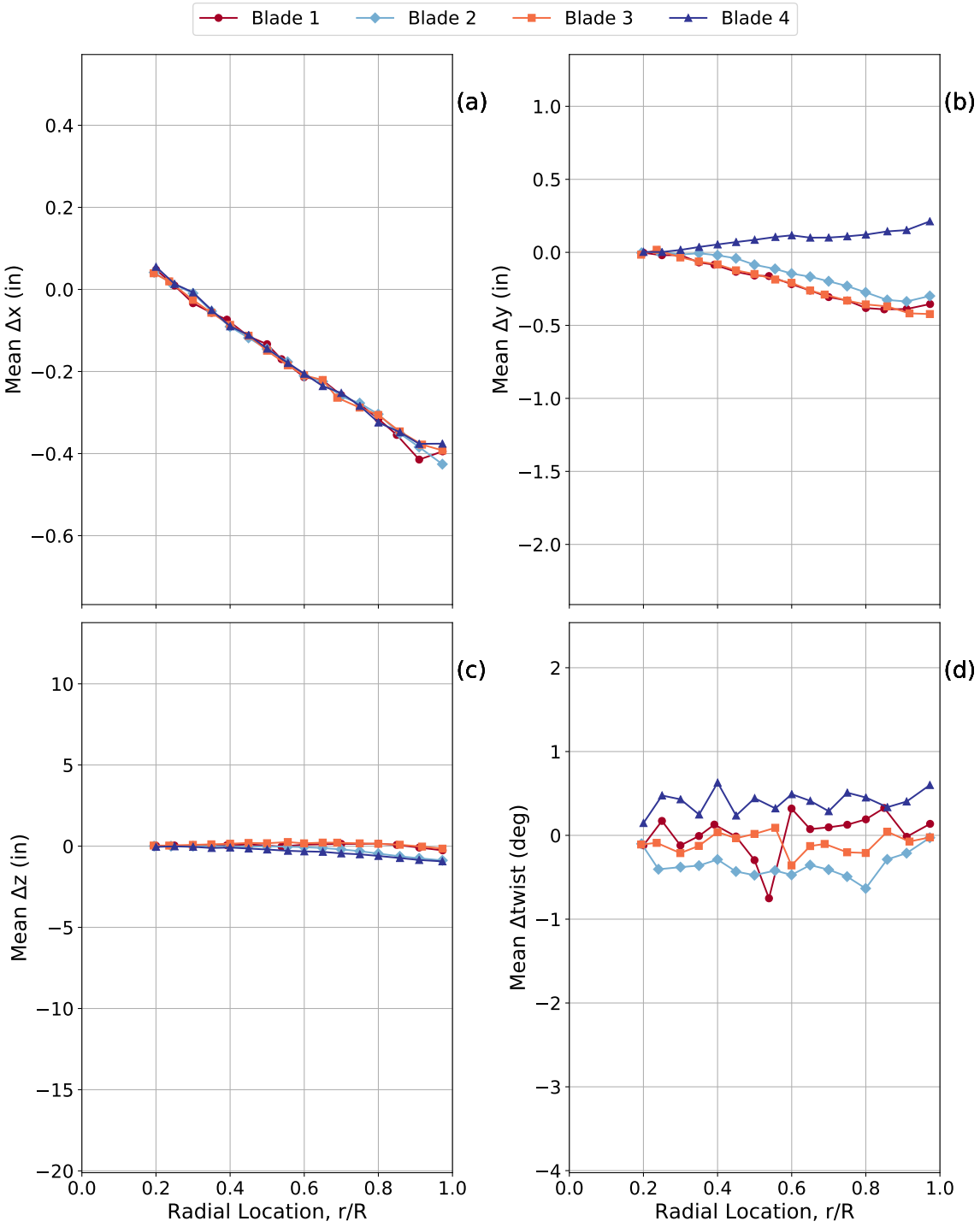


Figure 2.3-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0481	0.0017	-0.0028	0.0012	0.0227	0.0122	-0.1188	0.0704
1	299.88	0.2499	0.0095	0.0029	-0.0198	0.0028	0.0422	0.0244	0.1723	0.1075
1	299.88	0.2998	-0.0336	0.0028	-0.0186	0.0043	0.0292	0.0382	-0.1202	0.1518
1	299.88	0.3498	-0.0570	0.0025	-0.0693	0.0083	0.0624	0.0583	-0.0077	0.1233
1	299.88	0.3913	-0.0736	0.0034	-0.0848	0.0137	0.0582	0.0842	0.1286	0.1484
1	299.88	0.4496	-0.1142	0.0033	-0.1331	0.0175	0.1043	0.1011	-0.0138	0.1214
1	299.88	0.4997	-0.1334	0.0044	-0.1588	0.0232	0.0387	0.1271	-0.2956	0.1460
1	299.88	0.5387	-0.1699	0.0044	-0.1623	0.0275	-0.0244	0.1484	-0.7512	0.1495
1	299.88	0.5996	-0.2139	0.0045	-0.2182	0.0354	0.0955	0.1768	0.3197	0.1366
1	299.88	0.6498	-0.2215	0.0051	-0.2616	0.0419	0.1225	0.2020	0.0743	0.1288
1	299.88	0.6998	-0.2576	0.0059	-0.3064	0.0489	0.1433	0.2328	0.0959	0.1171
1	299.88	0.7500	-0.2798	0.0066	-0.3298	0.0571	0.1429	0.2663	0.1266	0.1434
1	299.88	0.8001	-0.3155	0.0071	-0.3813	0.0658	0.1524	0.3052	0.1910	0.1329
1	299.88	0.8497	-0.3545	0.0073	-0.3904	0.0741	0.0803	0.3456	0.3266	0.1390
1	299.88	0.9102	-0.4146	0.0083	-0.3880	0.0851	-0.0852	0.3968	-0.0170	0.1341
1	299.88	0.9734	-0.3946	0.0113	-0.3541	0.0969	-0.2577	0.4537	0.1373	0.1372
2	299.88	0.1949	0.0415	0.0026	-0.0032	0.0011	0.0069	0.0120	-0.1006	0.0572
2	299.88	0.2405	0.0157	0.0042	0.0064	0.0024	0.0030	0.0156	-0.4044	0.1357
2	299.88	0.2999	-0.0094	0.0038	-0.0150	0.0066	0.0010	0.0334	-0.3792	0.1587
2	299.88	0.3498	-0.0531	0.0037	-0.0062	0.0101	0.0063	0.0511	-0.3608	0.1468
2	299.88	0.3998	-0.0907	0.0041	-0.0202	0.0175	-0.0064	0.0739	-0.2883	0.1445
2	299.88	0.4496	-0.1180	0.0042	-0.0409	0.0220	-0.0151	0.0938	-0.4312	0.1408
2	299.88	0.4995	-0.1450	0.0037	-0.0850	0.0280	-0.0148	0.1130	-0.4751	0.1491
2	299.88	0.5551	-0.1764	0.0051	-0.1133	0.0367	-0.0309	0.1417	-0.4201	0.1437
2	299.88	0.5996	-0.2104	0.0053	-0.1453	0.0443	-0.0619	0.1664	-0.4719	0.1473
2	299.88	0.6497	-0.2243	0.0059	-0.1670	0.0528	-0.1131	0.1971	-0.3548	0.1395
2	299.88	0.6996	-0.2608	0.0062	-0.1979	0.0621	-0.1977	0.2317	-0.4089	0.1520
2	299.88	0.7495	-0.2770	0.0065	-0.2309	0.0722	-0.3065	0.2697	-0.4920	0.1462
2	299.88	0.7996	-0.3040	0.0072	-0.2740	0.0827	-0.4552	0.3096	-0.6335	0.1443
2	299.88	0.8578	-0.3510	0.0081	-0.3260	0.0950	-0.6236	0.3600	-0.2868	0.1389
2	299.88	0.9100	-0.3841	0.0087	-0.3365	0.1064	-0.7437	0.4089	-0.2126	0.1449
2	299.88	0.9727	-0.4258	0.0121	-0.2987	0.1202	-0.8734	0.4672	-0.0282	0.1413
3	299.88	0.1938	0.0394	0.0039	-0.0160	0.0017	0.0379	0.0117	-0.1088	0.0552
3	299.88	0.2357	0.0196	0.0037	0.0176	0.0020	0.0365	0.0161	-0.0895	0.0777
3	299.88	0.2995	-0.0255	0.0043	-0.0349	0.0046	0.0817	0.0347	-0.2116	0.1140
3	299.88	0.3493	-0.0568	0.0030	-0.0627	0.0094	0.1139	0.0523	-0.1258	0.1191
3	299.88	0.4000	-0.0864	0.0037	-0.0828	0.0140	0.1523	0.0786	0.0386	0.1091
3	299.88	0.4497	-0.1128	0.0034	-0.1233	0.0180	0.1980	0.0982	-0.0342	0.1308
3	299.88	0.4997	-0.1493	0.0047	-0.1484	0.0239	0.1822	0.1245	0.0170	0.1373
3	299.88	0.5556	-0.1849	0.0054	-0.1862	0.0306	0.2537	0.1541	0.0903	0.1554
3	299.88	0.5995	-0.2093	0.0055	-0.2087	0.0378	0.1752	0.1831	-0.3585	0.1387
3	299.88	0.6498	-0.2207	0.0057	-0.2612	0.0454	0.2202	0.2166	-0.1279	0.1190
3	299.88	0.6890	-0.2638	0.0063	-0.2892	0.0520	0.2149	0.2462	-0.1023	0.1161
3	299.88	0.7495	-0.2879	0.0067	-0.3302	0.0631	0.1729	0.2937	-0.2018	0.1200
3	299.88	0.7998	-0.3059	0.0083	-0.3566	0.0729	0.1484	0.3387	-0.2101	0.1323
3	299.88	0.8577	-0.3459	0.0085	-0.3700	0.0839	0.0895	0.3923	0.0438	0.1199
3	299.88	0.9178	-0.3781	0.0094	-0.4177	0.0962	-0.0257	0.4501	-0.0738	0.1307
3	299.88	0.9729	-0.3923	0.0128	-0.4226	0.1071	-0.1519	0.5071	-0.0236	0.1273
4	299.88	0.2001	0.0551	0.0029	0.0030	0.0015	-0.0398	0.0123	0.1471	0.0675
4	299.88	0.2502	0.0134	0.0031	0.0022	0.0026	-0.0098	0.0211	0.4754	0.1138
4	299.88	0.3001	-0.0073	0.0043	0.0167	0.0049	-0.0412	0.0364	0.4298	0.1471
4	299.88	0.3502	-0.0503	0.0032	0.0367	0.0087	-0.1107	0.0560	0.2481	0.1353
4	299.88	0.4002	-0.0899	0.0035	0.0541	0.0142	-0.0846	0.0829	0.6285	0.1353
4	299.88	0.4500	-0.1110	0.0032	0.0704	0.0183	-0.1456	0.1050	0.2358	0.1366
4	299.88	0.5001	-0.1444	0.0045	0.0856	0.0232	-0.2054	0.1252	0.4430	0.1279
4	299.88	0.5560	-0.1793	0.0046	0.1053	0.0306	-0.2850	0.1518	0.3217	0.1509
4	299.88	0.6001	-0.2055	0.0043	0.1166	0.0361	-0.3201	0.1738	0.4909	0.1382
4	299.88	0.6501	-0.2356	0.0040	0.1005	0.0430	-0.3477	0.2020	0.4113	0.1524
4	299.88	0.6999	-0.2524	0.0046	0.1011	0.0507	-0.4447	0.2314	0.2880	0.1424
4	299.88	0.7500	-0.2838	0.0049	0.1095	0.0582	-0.5002	0.2617	0.5091	0.1363
4	299.88	0.8002	-0.3243	0.0055	0.1212	0.0661	-0.6018	0.2919	0.4516	0.1519
4	299.88	0.8582	-0.3480	0.0060	0.1436	0.0763	-0.7299	0.3325	0.3359	0.1357
4	299.88	0.9101	-0.3763	0.0068	0.1523	0.0853	-0.8509	0.3695	0.4037	0.1417
4	299.88	0.9728	-0.3758	0.0091	0.2124	0.0959	-0.9349	0.4164	0.6005	0.1423

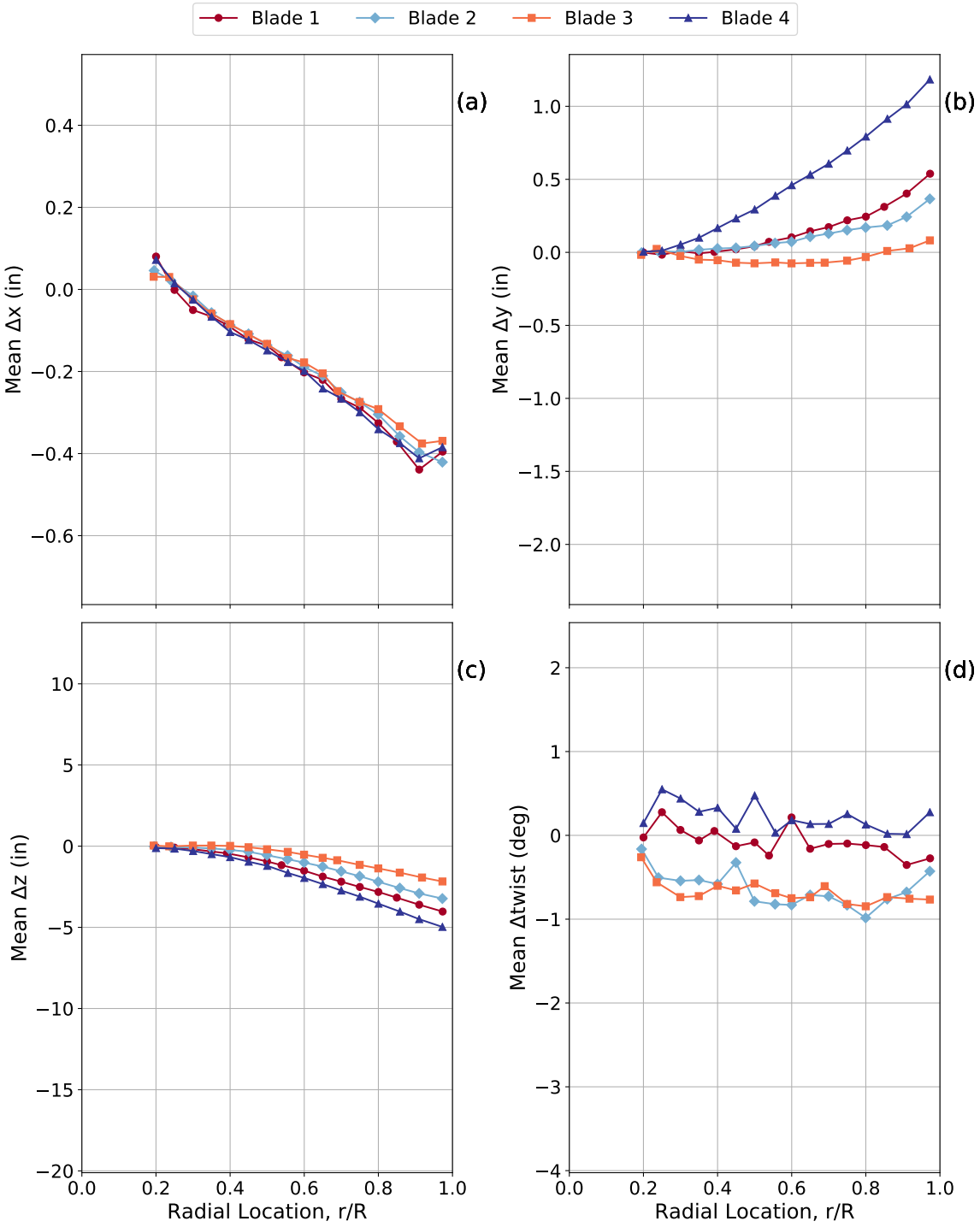


Figure 2.3-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0802	0.0023	-0.0013	0.0016	-0.0584	0.0099	-0.0248	0.0576
1	315	0.2499	-0.0012	0.0030	-0.0163	0.0031	-0.0871	0.0195	0.2762	0.0934
1	315	0.2998	-0.0502	0.0027	0.0078	0.0063	-0.1873	0.0301	0.0646	0.1249
1	315	0.3498	-0.0662	0.0026	-0.0068	0.0114	-0.3248	0.0488	-0.0609	0.1093
1	315	0.3913	-0.0864	0.0037	0.0030	0.0175	-0.4383	0.0683	0.0520	0.0887
1	315	0.4496	-0.1218	0.0042	0.0209	0.0227	-0.6904	0.0853	-0.1296	0.1069
1	315	0.4997	-0.1369	0.0043	0.0417	0.0306	-0.9383	0.1082	-0.0840	0.1042
1	315	0.5387	-0.1653	0.0049	0.0721	0.0364	-1.1708	0.1239	-0.2413	0.1016
1	315	0.5996	-0.2023	0.0061	0.1029	0.0477	-1.5103	0.1479	0.2140	0.1164
1	315	0.6498	-0.2203	0.0069	0.1442	0.0574	-1.8731	0.1715	-0.1598	0.1170
1	315	0.6998	-0.2666	0.0082	0.1728	0.0692	-2.1862	0.1946	-0.1026	0.1184
1	315	0.7500	-0.2881	0.0086	0.2193	0.0825	-2.5118	0.2204	-0.0979	0.1169
1	315	0.8001	-0.3256	0.0098	0.2445	0.0974	-2.8197	0.2478	-0.1161	0.1136
1	315	0.8497	-0.3708	0.0104	0.3115	0.1117	-3.1711	0.2771	-0.1390	0.1174
1	315	0.9102	-0.4390	0.0116	0.4027	0.1310	-3.6054	0.3152	-0.3532	0.1201
1	315	0.9734	-0.3952	0.0158	0.5385	0.1518	-4.0274	0.3604	-0.2742	0.1243
2	315	0.1949	0.0460	0.0025	-0.0024	0.0012	-0.0169	0.0081	-0.1632	0.0562
2	315	0.2405	0.0217	0.0029	0.0087	0.0038	-0.0524	0.0160	-0.5047	0.0772
2	315	0.2999	-0.0162	0.0039	0.0026	0.0060	-0.0907	0.0279	-0.5425	0.0943
2	315	0.3498	-0.0567	0.0060	0.0174	0.0106	-0.1378	0.0386	-0.5329	0.0952
2	315	0.3998	-0.0868	0.0042	0.0263	0.0180	-0.2309	0.0626	-0.5810	0.0900
2	315	0.4496	-0.1083	0.0042	0.0305	0.0215	-0.3413	0.0747	-0.3246	0.1111
2	315	0.4995	-0.1360	0.0054	0.0435	0.0260	-0.5575	0.0959	-0.7871	0.0897
2	315	0.5551	-0.1613	0.0054	0.0633	0.0343	-0.8043	0.1161	-0.8212	0.0933
2	315	0.5996	-0.1892	0.0061	0.0726	0.0411	-1.0086	0.1374	-0.8305	0.0928
2	315	0.6497	-0.2106	0.0066	0.1070	0.0492	-1.2571	0.1618	-0.7114	0.0954
2	315	0.6996	-0.2514	0.0068	0.1285	0.0587	-1.5480	0.1858	-0.7272	0.1024
2	315	0.7495	-0.2746	0.0087	0.1521	0.0695	-1.8493	0.2172	-0.8331	0.0833
2	315	0.7996	-0.3045	0.0086	0.1699	0.0804	-2.1898	0.2496	-0.9846	0.0976
2	315	0.8578	-0.3578	0.0099	0.1842	0.0944	-2.5813	0.2923	-0.7606	0.0937
2	315	0.9100	-0.3966	0.0108	0.2431	0.1069	-2.9093	0.3318	-0.6768	0.0943
2	315	0.9727	-0.4208	0.0123	0.3661	0.1234	-3.2277	0.3827	-0.4279	0.0969
3	315	0.1938	0.0309	0.0030	-0.0170	0.0015	0.0379	0.0107	-0.2610	0.0524
3	315	0.2357	0.0303	0.0024	0.0236	0.0028	-0.0102	0.0149	-0.5598	0.0851
3	315	0.2995	-0.0241	0.0035	-0.0247	0.0055	0.0385	0.0328	-0.7367	0.1006
3	315	0.3493	-0.0588	0.0034	-0.0496	0.0102	0.0378	0.0462	-0.7247	0.1034
3	315	0.4000	-0.0845	0.0060	-0.0537	0.0168	0.0178	0.0713	-0.6019	0.0832
3	315	0.4497	-0.1098	0.0036	-0.0706	0.0211	-0.0657	0.0871	-0.6569	0.0900
3	315	0.4997	-0.1326	0.0050	-0.0752	0.0274	-0.1894	0.1095	-0.5745	0.1015
3	315	0.5556	-0.1671	0.0048	-0.0690	0.0355	-0.3492	0.1369	-0.6898	0.0897
3	315	0.5995	-0.1779	0.0062	-0.0755	0.0422	-0.5233	0.1603	-0.7500	0.0939
3	315	0.6498	-0.2046	0.0061	-0.0720	0.0506	-0.7159	0.1876	-0.7388	0.0892
3	315	0.6890	-0.2478	0.0068	-0.0706	0.0575	-0.8667	0.2108	-0.6063	0.1066
3	315	0.7495	-0.2742	0.0069	-0.0569	0.0691	-1.1512	0.2462	-0.8191	0.0959
3	315	0.7998	-0.2917	0.0071	-0.0321	0.0792	-1.3685	0.2790	-0.8466	0.0979
3	315	0.8577	-0.3335	0.0076	0.0095	0.0918	-1.6276	0.3235	-0.7369	0.0980
3	315	0.9178	-0.3755	0.0082	0.0278	0.1046	-1.9291	0.3755	-0.7558	0.0961
3	315	0.9729	-0.3690	0.0107	0.0820	0.1165	-2.1741	0.4270	-0.7660	0.1025
4	315	0.2001	0.0720	0.0024	0.0044	0.0017	-0.1170	0.0088	0.1471	0.0568
4	315	0.2502	0.0148	0.0036	0.0112	0.0026	-0.1519	0.0173	0.5492	0.0847
4	315	0.3001	-0.0250	0.0040	0.0531	0.0061	-0.2975	0.0294	0.4388	0.1162
4	315	0.3502	-0.0666	0.0040	0.1003	0.0103	-0.4901	0.0411	0.2809	0.1163
4	315	0.4002	-0.1038	0.0044	0.1666	0.0165	-0.6748	0.0662	0.3294	0.0918
4	315	0.4500	-0.1234	0.0047	0.2322	0.0197	-0.9558	0.0806	0.0785	0.0877
4	315	0.5001	-0.1487	0.0052	0.2935	0.0242	-1.2111	0.1029	0.4739	0.0928
4	315	0.5560	-0.1770	0.0059	0.3876	0.0304	-1.6502	0.1261	0.0316	0.1120
4	315	0.6001	-0.1986	0.0063	0.4598	0.0347	-1.9571	0.1479	0.1812	0.1097
4	315	0.6501	-0.2413	0.0069	0.5323	0.0406	-2.3364	0.1734	0.1348	0.0948
4	315	0.6999	-0.2659	0.0075	0.6067	0.0467	-2.7326	0.2017	0.1362	0.1048
4	315	0.7500	-0.2993	0.0085	0.6973	0.0531	-3.1106	0.2317	0.2541	0.0998
4	315	0.8002	-0.3407	0.0090	0.7928	0.0599	-3.5428	0.2682	0.1294	0.1071
4	315	0.8582	-0.3744	0.0104	0.9145	0.0681	-4.0301	0.3129	0.0186	0.1047
4	315	0.9101	-0.4115	0.0110	1.0139	0.0762	-4.4959	0.3572	0.0143	0.1056
4	315	0.9728	-0.3844	0.0124	1.1835	0.0865	-4.9732	0.4135	0.2759	0.1068

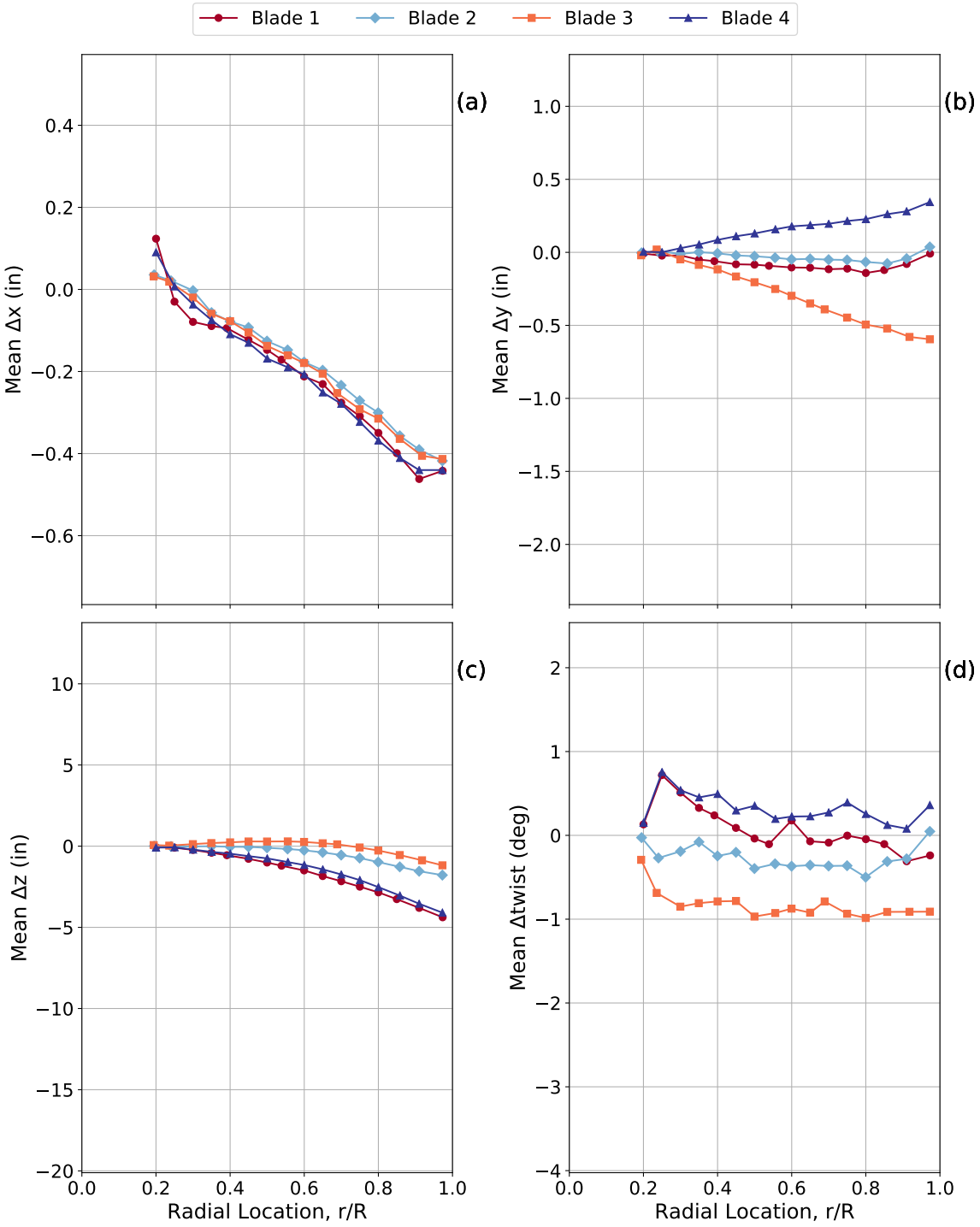


Figure 2.3-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.1236	0.0028	-0.0086	0.0022	-0.0638	0.0068	0.1311	0.0590
1	330.12	0.2499	-0.0298	0.0046	-0.0224	0.0024	-0.0917	0.0156	0.7189	0.0848
1	330.12	0.2998	-0.0791	0.0028	-0.0213	0.0076	-0.2313	0.0216	0.5110	0.1205
1	330.12	0.3498	-0.0893	0.0031	-0.0496	0.0135	-0.4048	0.0357	0.3277	0.1090
1	330.12	0.3913	-0.0941	0.0049	-0.0601	0.0182	-0.5574	0.0512	0.2387	0.0915
1	330.12	0.4496	-0.1228	0.0039	-0.0817	0.0241	-0.7792	0.0670	0.0889	0.0893
1	330.12	0.4997	-0.1472	0.0047	-0.0842	0.0299	-1.0070	0.0854	-0.0377	0.0899
1	330.12	0.5387	-0.1710	0.0046	-0.0921	0.0339	-1.2036	0.0994	-0.1052	0.0903
1	330.12	0.5996	-0.2121	0.0051	-0.1036	0.0425	-1.4941	0.1194	0.1779	0.1077
1	330.12	0.6498	-0.2306	0.0051	-0.1052	0.0493	-1.8418	0.1394	-0.0709	0.1028
1	330.12	0.6998	-0.2758	0.0053	-0.1156	0.0575	-2.1601	0.1581	-0.0866	0.1035
1	330.12	0.7500	-0.3091	0.0058	-0.1115	0.0648	-2.4951	0.1776	-0.0029	0.1102
1	330.12	0.8001	-0.3496	0.0066	-0.1414	0.0729	-2.8459	0.1973	-0.0456	0.1079
1	330.12	0.8497	-0.3990	0.0075	-0.1211	0.0815	-3.2618	0.2183	-0.1044	0.1000
1	330.12	0.9102	-0.4619	0.0081	-0.0795	0.0924	-3.8010	0.2445	-0.3092	0.1070
1	330.12	0.9734	-0.4419	0.0099	-0.0087	0.1041	-4.3806	0.2751	-0.2393	0.1064
2	330.12	0.1949	0.0356	0.0021	-0.0033	0.0015	0.0064	0.0065	-0.0270	0.0456
2	330.12	0.2405	0.0211	0.0026	0.0067	0.0032	-0.0170	0.0114	-0.2699	0.0638
2	330.12	0.2999	-0.0028	0.0026	-0.0107	0.0054	-0.0165	0.0208	-0.1909	0.1007
2	330.12	0.3498	-0.0565	0.0031	0.0010	0.0089	-0.0025	0.0347	-0.0785	0.0800
2	330.12	0.3998	-0.0782	0.0037	-0.0068	0.0146	-0.0386	0.0511	-0.2460	0.0833
2	330.12	0.4496	-0.0927	0.0045	-0.0210	0.0170	-0.0449	0.0663	-0.2023	0.0830
2	330.12	0.4995	-0.1259	0.0040	-0.0266	0.0220	-0.1000	0.0812	-0.3961	0.0836
2	330.12	0.5551	-0.1475	0.0043	-0.0368	0.0281	-0.1722	0.1024	-0.3396	0.0960
2	330.12	0.5996	-0.1769	0.0049	-0.0479	0.0340	-0.2530	0.1224	-0.3680	0.0966
2	330.12	0.6497	-0.1969	0.0054	-0.0448	0.0412	-0.3840	0.1454	-0.3556	0.0880
2	330.12	0.6996	-0.2336	0.0062	-0.0499	0.0494	-0.5468	0.1698	-0.3651	0.0902
2	330.12	0.7495	-0.2710	0.0064	-0.0521	0.0563	-0.7313	0.1950	-0.3621	0.0889
2	330.12	0.7996	-0.3002	0.0069	-0.0656	0.0645	-0.9774	0.2237	-0.4994	0.0835
2	330.12	0.8578	-0.3566	0.0079	-0.0766	0.0751	-1.2735	0.2568	-0.3121	0.0905
2	330.12	0.9100	-0.3902	0.0082	-0.0428	0.0847	-1.5423	0.2884	-0.2799	0.0909
2	330.12	0.9727	-0.4177	0.0103	0.0372	0.0962	-1.7828	0.3277	0.0469	0.0895
3	330.12	0.1938	0.0317	0.0030	-0.0202	0.0031	0.0678	0.0100	-0.2920	0.0393
3	330.12	0.2357	0.0189	0.0045	0.0192	0.0040	0.0337	0.0148	-0.6869	0.0826
3	330.12	0.2995	-0.0198	0.0029	-0.0481	0.0079	0.1266	0.0322	-0.8506	0.1026
3	330.12	0.3493	-0.0593	0.0036	-0.0857	0.0126	0.1914	0.0499	-0.8092	0.1025
3	330.12	0.4000	-0.0773	0.0029	-0.1167	0.0197	0.2352	0.0760	-0.7880	0.0830
3	330.12	0.4497	-0.1050	0.0039	-0.1654	0.0245	0.2900	0.0985	-0.7830	0.1164
3	330.12	0.4997	-0.1375	0.0045	-0.2047	0.0314	0.2879	0.1281	-0.9689	0.1034
3	330.12	0.5556	-0.1606	0.0050	-0.2510	0.0388	0.2951	0.1596	-0.9267	0.1168
3	330.12	0.5995	-0.1793	0.0053	-0.2975	0.0456	0.2626	0.1896	-0.8740	0.1110
3	330.12	0.6498	-0.2053	0.0054	-0.3502	0.0536	0.1792	0.2237	-0.9225	0.1148
3	330.12	0.6890	-0.2526	0.0065	-0.3906	0.0599	0.1130	0.2502	-0.7885	0.1045
3	330.12	0.7495	-0.2918	0.0068	-0.4468	0.0718	-0.0791	0.2961	-0.9352	0.1091
3	330.12	0.7998	-0.3148	0.0073	-0.4944	0.0814	-0.2676	0.3363	-0.9855	0.1062
3	330.12	0.8577	-0.3641	0.0082	-0.5214	0.0939	-0.5460	0.3793	-0.9133	0.1073
3	330.12	0.9178	-0.4054	0.0089	-0.5791	0.1068	-0.8701	0.4273	-0.9118	0.1064
3	330.12	0.9729	-0.4132	0.0113	-0.5953	0.1184	-1.1789	0.4711	-0.9105	0.1089
4	330.12	0.2001	0.0905	0.0022	0.0038	0.0022	-0.0878	0.0080	0.1496	0.0423
4	330.12	0.2502	0.0072	0.0045	0.0010	0.0053	-0.0695	0.0147	0.7550	0.0776
4	330.12	0.3001	-0.0367	0.0033	0.0285	0.0074	-0.2110	0.0234	0.5380	0.0958
4	330.12	0.3502	-0.0748	0.0028	0.0537	0.0122	-0.3503	0.0362	0.4530	0.0878
4	330.12	0.4002	-0.1092	0.0028	0.0853	0.0197	-0.4643	0.0541	0.4937	0.0911
4	330.12	0.4500	-0.1300	0.0041	0.1102	0.0255	-0.6141	0.0697	0.2967	0.1021
4	330.12	0.5001	-0.1686	0.0047	0.1293	0.0339	-0.7527	0.0915	0.3527	0.1227
4	330.12	0.5560	-0.1900	0.0049	0.1578	0.0444	-0.9806	0.1096	0.1964	0.1195
4	330.12	0.6001	-0.2071	0.0046	0.1780	0.0537	-1.1605	0.1288	0.2244	0.0982
4	330.12	0.6501	-0.2511	0.0056	0.1862	0.0644	-1.4301	0.1494	0.2274	0.1194
4	330.12	0.6999	-0.2787	0.0064	0.1955	0.0759	-1.7432	0.1718	0.2732	0.1203
4	330.12	0.7500	-0.3228	0.0066	0.2147	0.0888	-2.0919	0.1892	0.3916	0.1239
4	330.12	0.8002	-0.3683	0.0070	0.2273	0.1022	-2.5244	0.2071	0.2547	0.1175
4	330.12	0.8582	-0.4107	0.0079	0.2614	0.1179	-3.0443	0.2252	0.1239	0.1218
4	330.12	0.9101	-0.4402	0.0089	0.2809	0.1323	-3.5472	0.2459	0.0798	0.1168
4	330.12	0.9728	-0.4401	0.0126	0.3440	0.1499	-4.0961	0.2748	0.3604	0.1279

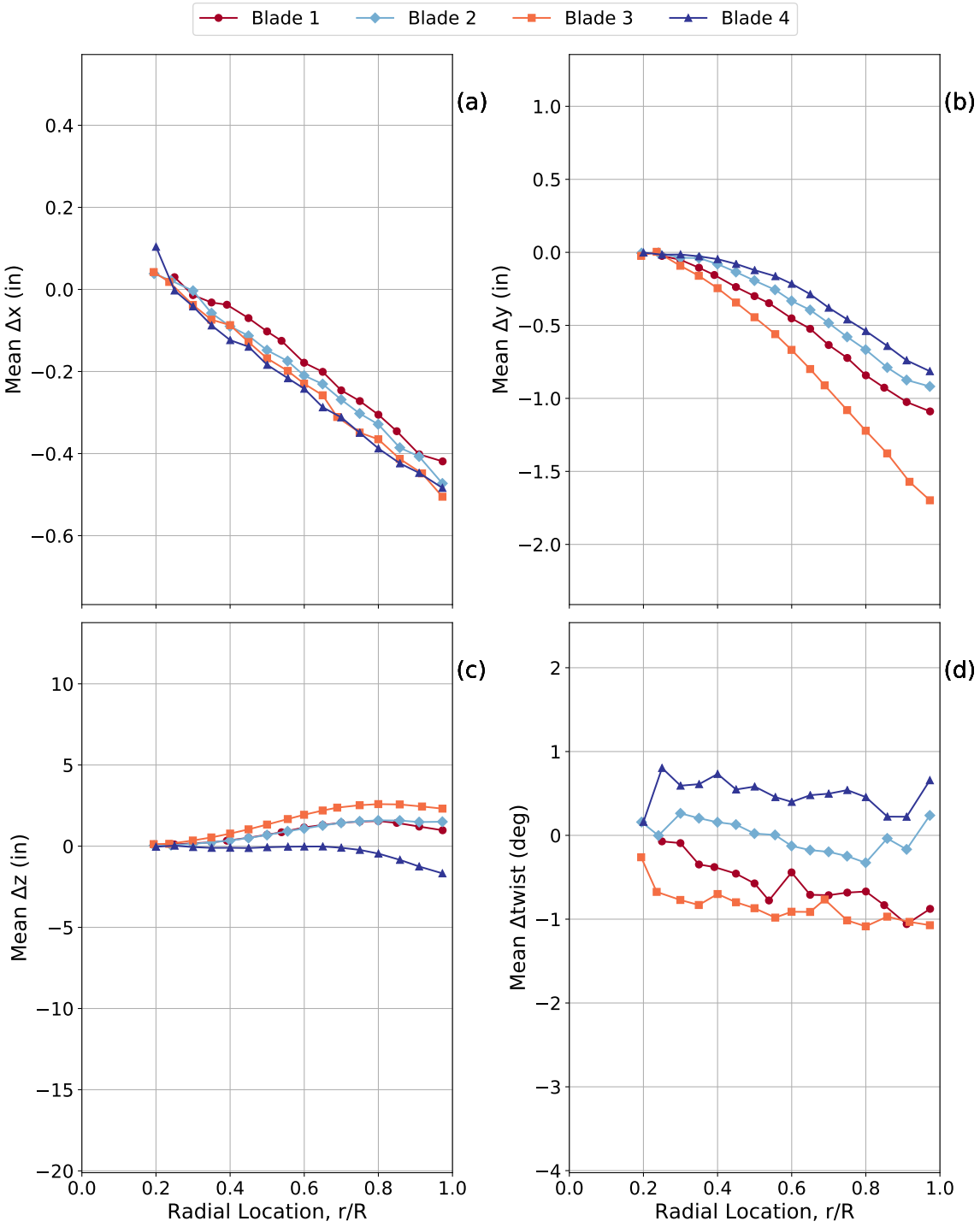


Figure 2.3-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2499	0.0299	0.0047	-0.0245	0.0061	0.1045	0.0257	-0.0718	0.1855
1	344.88	0.2998	-0.0139	0.0068	-0.0511	0.0119	0.1801	0.0436	-0.0925	0.2636
1	344.88	0.3498	-0.0318	0.0059	-0.1052	0.0235	0.2365	0.0720	-0.3474	0.2374
1	344.88	0.3913	-0.0373	0.0052	-0.1551	0.0325	0.3403	0.1019	-0.3783	0.2321
1	344.88	0.4496	-0.0699	0.0054	-0.2375	0.0426	0.5183	0.1369	-0.4569	0.2309
1	344.88	0.4997	-0.1024	0.0057	-0.2998	0.0532	0.7079	0.1699	-0.5732	0.2289
1	344.88	0.5387	-0.1252	0.0060	-0.3479	0.0610	0.8574	0.1950	-0.7769	0.2353
1	344.88	0.5996	-0.1786	0.0063	-0.4520	0.0737	1.1539	0.2370	-0.4419	0.2339
1	344.88	0.6498	-0.2008	0.0065	-0.5236	0.0833	1.3061	0.2720	-0.7092	0.2373
1	344.88	0.6998	-0.2459	0.0065	-0.6345	0.0935	1.4395	0.3092	-0.7140	0.2378
1	344.88	0.7500	-0.2720	0.0071	-0.7232	0.1040	1.5169	0.3496	-0.6830	0.2399
1	344.88	0.8001	-0.3053	0.0072	-0.8423	0.1151	1.5493	0.3886	-0.6698	0.2475
1	344.88	0.8497	-0.3455	0.0076	-0.9268	0.1257	1.4346	0.4288	-0.8327	0.2528
1	344.88	0.9102	-0.4018	0.0078	-1.0251	0.1390	1.2077	0.4793	-1.0586	0.2464
1	344.88	0.9734	-0.4190	0.0106	-1.0891	0.1530	0.9805	0.5354	-0.8771	0.2625
2	344.88	0.1949	0.0384	0.0038	-0.0051	0.0016	0.0446	0.0070	0.1586	0.0606
2	344.88	0.2405	0.0217	0.0028	-0.0030	0.0047	0.0620	0.0140	-0.0026	0.0871
2	344.88	0.2999	-0.0032	0.0040	-0.0372	0.0075	0.1418	0.0217	0.2626	0.1329
2	344.88	0.3498	-0.0577	0.0038	-0.0391	0.0173	0.2400	0.0346	0.2045	0.1079
2	344.88	0.3998	-0.0899	0.0026	-0.0803	0.0251	0.3479	0.0509	0.1566	0.1068
2	344.88	0.4496	-0.1129	0.0035	-0.1346	0.0314	0.5006	0.0632	0.1287	0.1137
2	344.88	0.4995	-0.1480	0.0035	-0.1934	0.0373	0.6860	0.0819	0.0213	0.1037
2	344.88	0.5551	-0.1745	0.0042	-0.2563	0.0447	0.9203	0.1029	0.0049	0.1119
2	344.88	0.5996	-0.2099	0.0049	-0.3324	0.0515	1.0848	0.1221	-0.1264	0.1071
2	344.88	0.6497	-0.2305	0.0055	-0.3946	0.0593	1.2744	0.1443	-0.1759	0.1127
2	344.88	0.6996	-0.2685	0.0057	-0.4841	0.0677	1.4347	0.1657	-0.1965	0.1126
2	344.88	0.7495	-0.3023	0.0064	-0.5790	0.0769	1.5339	0.1879	-0.2482	0.1175
2	344.88	0.7996	-0.3286	0.0065	-0.6665	0.0846	1.5894	0.2128	-0.3264	0.1155
2	344.88	0.8578	-0.3856	0.0073	-0.7887	0.0946	1.5803	0.2425	-0.0363	0.1225
2	344.88	0.9100	-0.4071	0.0073	-0.8743	0.1044	1.4866	0.2712	-0.1673	0.1218
2	344.88	0.9727	-0.4727	0.0103	-0.9183	0.1162	1.5048	0.3105	0.2380	0.1302
3	344.88	0.1938	0.0423	0.0052	-0.0241	0.0018	0.1270	0.0092	-0.2611	0.0508
3	344.88	0.2357	0.0183	0.0051	0.0037	0.0046	0.1448	0.0151	-0.6745	0.0924
3	344.88	0.2995	-0.0377	0.0040	-0.0918	0.0077	0.3499	0.0279	-0.7708	0.1149
3	344.88	0.3493	-0.0737	0.0034	-0.1604	0.0183	0.5389	0.0439	-0.8309	0.1097
3	344.88	0.4000	-0.0870	0.0036	-0.2454	0.0258	0.7760	0.0653	-0.7001	0.1018
3	344.88	0.4497	-0.1282	0.0040	-0.3437	0.0316	1.0369	0.0834	-0.7983	0.1082
3	344.88	0.4997	-0.1679	0.0044	-0.4444	0.0385	1.3314	0.1030	-0.8691	0.1138
3	344.88	0.5556	-0.1986	0.0047	-0.5603	0.0466	1.6702	0.1279	-0.9812	0.1182
3	344.88	0.5995	-0.2296	0.0052	-0.6678	0.0526	1.9349	0.1500	-0.9114	0.1098
3	344.88	0.6498	-0.2579	0.0058	-0.7991	0.0601	2.1968	0.1760	-0.9136	0.1113
3	344.88	0.6890	-0.3108	0.0064	-0.9107	0.0660	2.3748	0.1980	-0.7653	0.1205
3	344.88	0.7495	-0.3488	0.0070	-1.0802	0.0754	2.5241	0.2338	-1.0146	0.1162
3	344.88	0.7998	-0.3651	0.0076	-1.2216	0.0836	2.5910	0.2655	-1.0855	0.1230
3	344.88	0.8577	-0.4129	0.0076	-1.3768	0.0937	2.5709	0.3001	-0.9700	0.1169
3	344.88	0.9178	-0.4482	0.0085	-1.5712	0.1041	2.4438	0.3369	-1.0323	0.1146
3	344.88	0.9729	-0.5051	0.0105	-1.6978	0.1137	2.3130	0.3716	-1.0721	0.1148
4	344.88	0.2001	0.1039	0.0038	-0.0017	0.0019	-0.0347	0.0098	0.1610	0.0600
4	344.88	0.2502	-0.0027	0.0062	-0.0159	0.0071	0.0314	0.0136	0.8039	0.1162
4	344.88	0.3001	-0.0414	0.0058	-0.0148	0.0090	-0.0543	0.0276	0.5927	0.1299
4	344.88	0.3502	-0.0878	0.0042	-0.0271	0.0205	-0.1035	0.0464	0.6109	0.1099
4	344.88	0.4002	-0.1236	0.0048	-0.0467	0.0305	-0.0986	0.0665	0.7323	0.1206
4	344.88	0.4500	-0.1397	0.0048	-0.0794	0.0359	-0.1134	0.0894	0.5469	0.1234
4	344.88	0.5001	-0.1838	0.0054	-0.1221	0.0444	-0.0652	0.1161	0.5819	0.1294
4	344.88	0.5560	-0.2165	0.0062	-0.1634	0.0527	-0.0337	0.1488	0.4562	0.1308
4	344.88	0.6001	-0.2420	0.0051	-0.2154	0.0599	-0.0225	0.1743	0.3990	0.1237
4	344.88	0.6501	-0.2873	0.0057	-0.2869	0.0679	-0.0188	0.2050	0.4795	0.1213
4	344.88	0.6999	-0.3118	0.0056	-0.3792	0.0765	-0.0969	0.2383	0.4970	0.1290
4	344.88	0.7500	-0.3495	0.0064	-0.4597	0.0850	-0.2301	0.2730	0.5400	0.1245
4	344.88	0.8002	-0.3875	0.0075	-0.5390	0.0940	-0.4573	0.3101	0.4562	0.1260
4	344.88	0.8582	-0.4239	0.0081	-0.6414	0.1048	-0.8435	0.3563	0.2233	0.1270
4	344.88	0.9101	-0.4471	0.0089	-0.7398	0.1137	-1.2527	0.4005	0.2219	0.1377
4	344.88	0.9728	-0.4837	0.0118	-0.8140	0.1257	-1.6745	0.4579	0.6572	0.1458

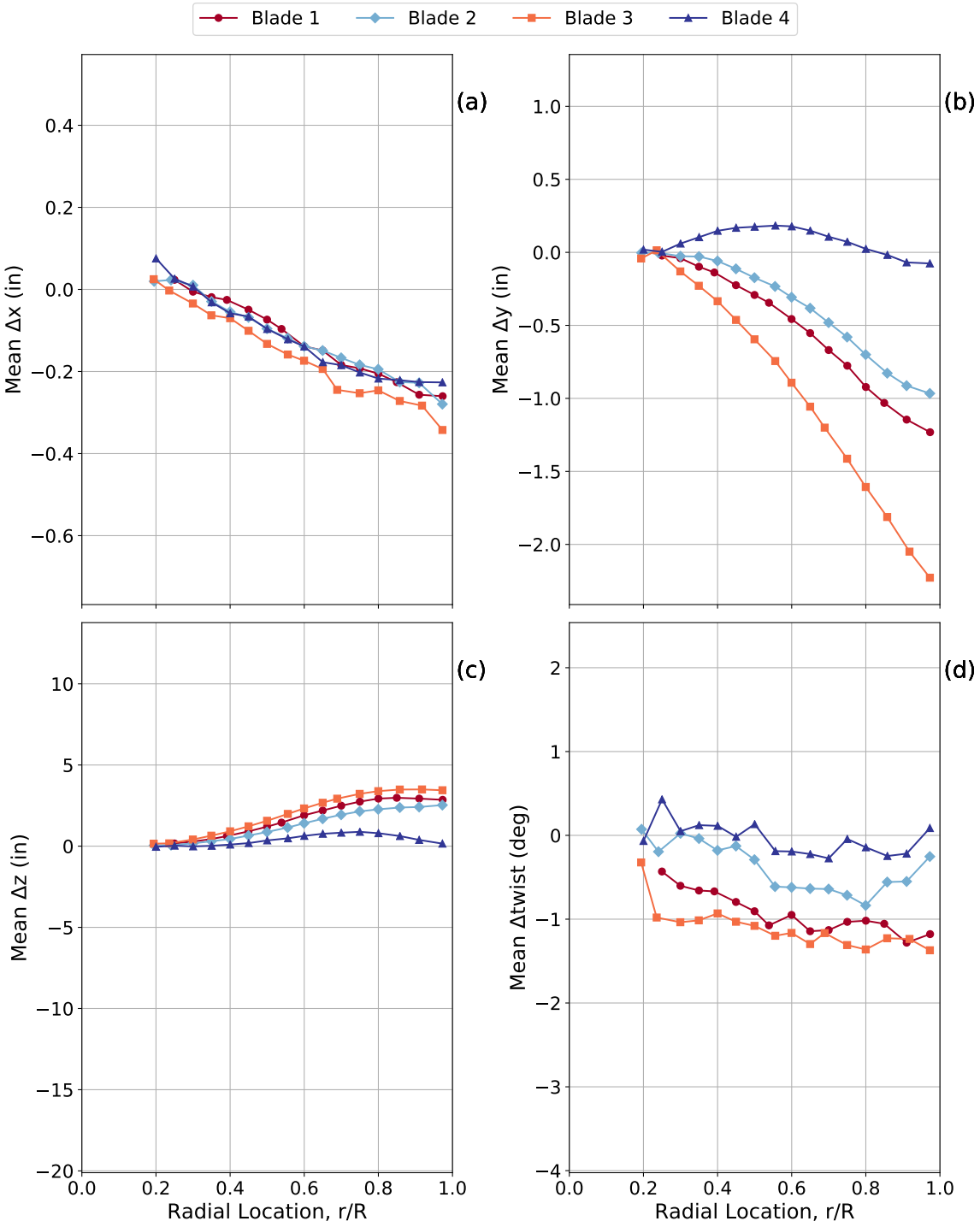


Figure 2.3-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2499	0.0235	0.0049	-0.0221	0.0049	0.1669	0.0213	-0.4314	0.1307
1	350.16	0.2998	-0.0055	0.0049	-0.0400	0.0103	0.2834	0.0321	-0.6017	0.1849
1	350.16	0.3498	-0.0188	0.0046	-0.0986	0.0202	0.4408	0.0503	-0.6581	0.1684
1	350.16	0.3913	-0.0255	0.0044	-0.1378	0.0298	0.6212	0.0672	-0.6684	0.1647
1	350.16	0.4496	-0.0494	0.0051	-0.2249	0.0399	0.9128	0.0894	-0.7947	0.1630
1	350.16	0.4997	-0.0736	0.0055	-0.2918	0.0489	1.2013	0.1098	-0.9055	0.1675
1	350.16	0.5387	-0.0963	0.0060	-0.3452	0.0562	1.4535	0.1256	-1.0739	0.1776
1	350.16	0.5996	-0.1384	0.0072	-0.4566	0.0661	1.9019	0.1504	-0.9491	0.1842
1	350.16	0.6498	-0.1488	0.0076	-0.5529	0.0760	2.1940	0.1739	-1.1438	0.1875
1	350.16	0.6998	-0.1840	0.0080	-0.6692	0.0857	2.4935	0.1972	-1.1304	0.1874
1	350.16	0.7500	-0.1923	0.0085	-0.7763	0.0954	2.7432	0.2235	-1.0318	0.1928
1	350.16	0.8001	-0.2053	0.0090	-0.9222	0.1057	2.9316	0.2523	-1.0183	0.1964
1	350.16	0.8497	-0.2260	0.0092	-1.0311	0.1160	2.9800	0.2821	-1.0553	0.1956
1	350.16	0.9102	-0.2566	0.0096	-1.1454	0.1292	2.9312	0.3190	-1.2802	0.1933
1	350.16	0.9734	-0.2602	0.0133	-1.2316	0.1429	2.8549	0.3588	-1.1782	0.1959
2	350.16	0.1949	0.0198	0.0038	-0.0032	0.0027	0.0530	0.0099	0.0724	0.0473
2	350.16	0.2405	0.0231	0.0048	-0.0027	0.0045	0.0632	0.0139	-0.1949	0.0909
2	350.16	0.2999	0.0103	0.0034	-0.0265	0.0102	0.1747	0.0297	0.0239	0.1152
2	350.16	0.3498	-0.0294	0.0036	-0.0289	0.0187	0.3029	0.0467	-0.0384	0.1071
2	350.16	0.3998	-0.0544	0.0044	-0.0593	0.0285	0.4398	0.0688	-0.1794	0.0984
2	350.16	0.4496	-0.0681	0.0042	-0.1130	0.0365	0.6544	0.0907	-0.1274	0.1035
2	350.16	0.4995	-0.0956	0.0044	-0.1736	0.0441	0.8739	0.1148	-0.2901	0.1102
2	350.16	0.5551	-0.1188	0.0048	-0.2334	0.0547	1.1473	0.1423	-0.6115	0.1292
2	350.16	0.5996	-0.1387	0.0051	-0.3075	0.0602	1.4100	0.1677	-0.6206	0.1211
2	350.16	0.6497	-0.1489	0.0056	-0.3824	0.0692	1.6882	0.1969	-0.6353	0.1242
2	350.16	0.6996	-0.1667	0.0062	-0.4813	0.0776	1.9375	0.2283	-0.6406	0.1285
2	350.16	0.7495	-0.1838	0.0067	-0.5801	0.0870	2.1430	0.2634	-0.7147	0.1312
2	350.16	0.7996	-0.1945	0.0069	-0.7004	0.0956	2.2702	0.3008	-0.8363	0.1344
2	350.16	0.8578	-0.2257	0.0069	-0.8274	0.1068	2.3802	0.3503	-0.5570	0.1380
2	350.16	0.9100	-0.2275	0.0079	-0.9131	0.1169	2.4134	0.3974	-0.5502	0.1442
2	350.16	0.9727	-0.2795	0.0106	-0.9661	0.1295	2.5317	0.4588	-0.2528	0.1520
3	350.16	0.1938	0.0249	0.0043	-0.0422	0.0039	0.1546	0.0120	-0.3230	0.0569
3	350.16	0.2357	-0.0027	0.0055	0.0141	0.0063	0.1742	0.0174	-0.9802	0.1188
3	350.16	0.2995	-0.0343	0.0033	-0.1305	0.0085	0.4117	0.0333	-1.0363	0.1471
3	350.16	0.3493	-0.0630	0.0033	-0.2289	0.0145	0.6474	0.0527	-1.0142	0.1451
3	350.16	0.4000	-0.0701	0.0040	-0.3345	0.0217	0.9162	0.0763	-0.9314	0.1357
3	350.16	0.4497	-0.1008	0.0043	-0.4627	0.0278	1.2234	0.1000	-1.0305	0.1438
3	350.16	0.4997	-0.1327	0.0046	-0.5955	0.0354	1.5647	0.1269	-1.0798	0.1364
3	350.16	0.5556	-0.1586	0.0055	-0.7444	0.0434	1.9873	0.1570	-1.1980	0.1450
3	350.16	0.5995	-0.1737	0.0061	-0.8927	0.0497	2.3247	0.1826	-1.1641	0.1426
3	350.16	0.6498	-0.1938	0.0070	-1.0567	0.0589	2.6746	0.2128	-1.2969	0.1600
3	350.16	0.6890	-0.2447	0.0074	-1.2003	0.0654	2.9268	0.2376	-1.1657	0.1508
3	350.16	0.7495	-0.2529	0.0083	-1.4132	0.0767	3.2226	0.2799	-1.3088	0.1568
3	350.16	0.7998	-0.2459	0.0088	-1.6069	0.0869	3.3909	0.3183	-1.3615	0.1631
3	350.16	0.8577	-0.2718	0.0090	-1.8125	0.0992	3.4885	0.3663	-1.2275	0.1644
3	350.16	0.9178	-0.2831	0.0098	-2.0494	0.1116	3.4949	0.4191	-1.2359	0.1669
3	350.16	0.9729	-0.3425	0.0130	-2.2279	0.1235	3.4458	0.4703	-1.3711	0.1744
4	350.16	0.2001	0.0755	0.0044	0.0186	0.0025	-0.0394	0.0104	-0.0670	0.0686
4	350.16	0.2502	0.0261	0.0057	0.0034	0.0065	0.0317	0.0140	0.4293	0.1257
4	350.16	0.3001	0.0070	0.0055	0.0601	0.0083	-0.0130	0.0235	0.0498	0.1433
4	350.16	0.3502	-0.0314	0.0051	0.1038	0.0163	0.0246	0.0348	0.1218	0.1444
4	350.16	0.4002	-0.0582	0.0052	0.1475	0.0248	0.0987	0.0496	0.1132	0.1446
4	350.16	0.4500	-0.0662	0.0050	0.1680	0.0318	0.1895	0.0640	-0.0170	0.1400
4	350.16	0.5001	-0.0964	0.0051	0.1752	0.0410	0.3556	0.0818	0.1337	0.1405
4	350.16	0.5560	-0.1216	0.0048	0.1832	0.0495	0.4848	0.0998	-0.1885	0.1548
4	350.16	0.6001	-0.1391	0.0051	0.1779	0.0578	0.6347	0.1167	-0.1925	0.1513
4	350.16	0.6501	-0.1773	0.0051	0.1485	0.0669	0.7644	0.1361	-0.2237	0.1509
4	350.16	0.6999	-0.1846	0.0054	0.1067	0.0793	0.8306	0.1573	-0.2745	0.1649
4	350.16	0.7500	-0.2025	0.0057	0.0721	0.0858	0.8836	0.1800	-0.0437	0.1539
4	350.16	0.8002	-0.2172	0.0060	0.0237	0.0959	0.7995	0.2055	-0.1428	0.1613
4	350.16	0.8582	-0.2212	0.0061	-0.0178	0.1077	0.6230	0.2377	-0.2464	0.1603
4	350.16	0.9101	-0.2258	0.0059	-0.0689	0.1186	0.3858	0.2706	-0.2183	0.1628
4	350.16	0.9728	-0.2265	0.0084	-0.0760	0.1321	0.1571	0.3133	0.0870	0.1642

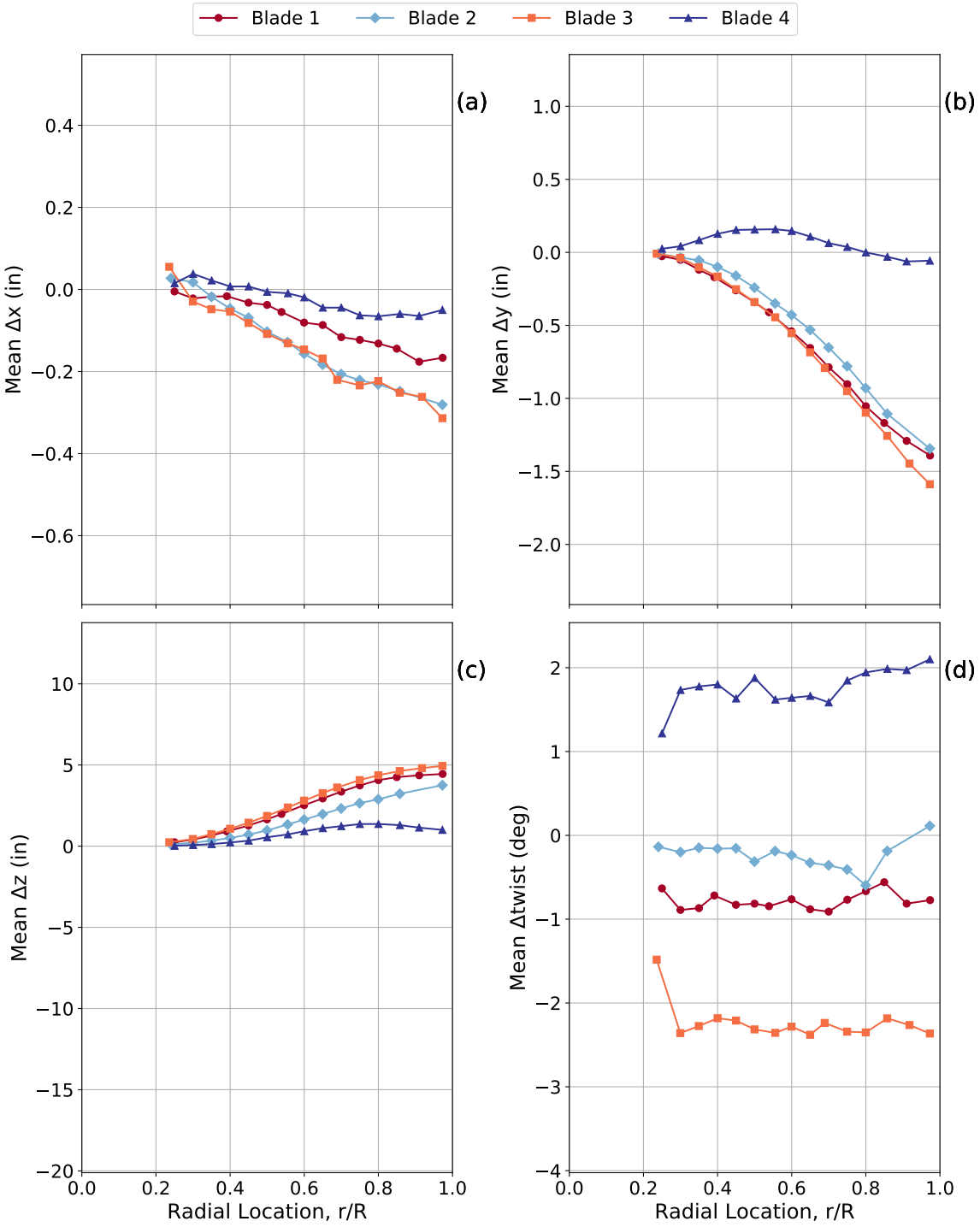


Figure 2.3-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Table 2.3-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 40, points 29 to 34. BD run 18, points 650 to 689.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2499	-0.0050	0.0031	-0.0264	0.0042	0.2443	0.0232	-0.6328	0.1933
1	355.08	0.2998	-0.0219	0.0038	-0.0512	0.0097	0.4078	0.0382	-0.8898	0.2749
1	355.08	0.3498	-0.0176	0.0039	-0.1192	0.0168	0.6519	0.0590	-0.8681	0.2537
1	355.08	0.3913	-0.0165	0.0060	-0.1702	0.0258	0.9099	0.0823	-0.7175	0.2762
1	355.08	0.4496	-0.0323	0.0053	-0.2603	0.0324	1.2729	0.1067	-0.8288	0.2702
1	355.08	0.4997	-0.0377	0.0059	-0.3419	0.0405	1.6511	0.1307	-0.8152	0.2736
1	355.08	0.5387	-0.0550	0.0068	-0.4103	0.0474	1.9838	0.1505	-0.8454	0.2787
1	355.08	0.5996	-0.0808	0.0081	-0.5412	0.0580	2.5285	0.1814	-0.7624	0.2747
1	355.08	0.6498	-0.0867	0.0082	-0.6548	0.0669	2.9402	0.2057	-0.8815	0.2786
1	355.08	0.6998	-0.1163	0.0090	-0.7869	0.0767	3.3590	0.2331	-0.9103	0.2690
1	355.08	0.7500	-0.1229	0.0101	-0.9030	0.0864	3.7426	0.2612	-0.7680	0.2667
1	355.08	0.8001	-0.1318	0.0107	-1.0538	0.0968	4.0681	0.2901	-0.6657	0.2785
1	355.08	0.8497	-0.1443	0.0105	-1.1681	0.1073	4.2524	0.3225	-0.5590	0.2839
1	355.08	0.9102	-0.1762	0.0118	-1.2910	0.1215	4.3661	0.3657	-0.8147	0.3021
1	355.08	0.9734	-0.1665	0.0151	-1.3916	0.1354	4.4479	0.4178	-0.7730	0.2958
2	355.08	0.2405	0.0272	0.0036	-0.0093	0.0046	0.1146	0.0218	-0.1372	0.1398
2	355.08	0.2999	0.0175	0.0034	-0.0363	0.0106	0.2077	0.0373	-0.1998	0.2149
2	355.08	0.3498	-0.0181	0.0043	-0.0539	0.0210	0.3417	0.0608	-0.1486	0.1840
2	355.08	0.3998	-0.0466	0.0048	-0.0999	0.0327	0.5025	0.0870	-0.1586	0.1782
2	355.08	0.4496	-0.0690	0.0050	-0.1604	0.0427	0.7133	0.1099	-0.1541	0.1772
2	355.08	0.4995	-0.1030	0.0050	-0.2420	0.0522	0.9673	0.1360	-0.3129	0.1813
2	355.08	0.5551	-0.1284	0.0059	-0.3500	0.0645	1.3360	0.1658	-0.1875	0.1977
2	355.08	0.5996	-0.1568	0.0067	-0.4283	0.0732	1.6399	0.1918	-0.2360	0.2008
2	355.08	0.6497	-0.1833	0.0076	-0.5307	0.0850	1.9756	0.2268	-0.3278	0.2033
2	355.08	0.6996	-0.2064	0.0087	-0.6517	0.0939	2.3233	0.2554	-0.3573	0.1945
2	355.08	0.7495	-0.2211	0.0091	-0.7797	0.1058	2.6506	0.2931	-0.4072	0.2079
2	355.08	0.7996	-0.2313	0.0103	-0.9298	0.1183	2.8866	0.3346	-0.5957	0.1896
2	355.08	0.8578	-0.2481	0.0124	-1.1059	0.1314	3.2294	0.3887	-0.1867	0.2418
2	355.08	0.9727	-0.2808	0.0177	-1.3442	0.1602	3.7562	0.4973	0.1127	0.2096
3	355.08	0.2357	0.0551	0.0052	-0.0090	0.0021	0.2426	0.0196	-1.4834	0.1185
3	355.08	0.2995	-0.0294	0.0033	-0.0375	0.0058	0.4428	0.0346	-2.3590	0.1883
3	355.08	0.3493	-0.0482	0.0041	-0.1017	0.0122	0.7413	0.0568	-2.2752	0.1682
3	355.08	0.4000	-0.0541	0.0040	-0.1659	0.0197	1.0742	0.0816	-2.1818	0.1743
3	355.08	0.4497	-0.0816	0.0045	-0.2522	0.0258	1.4478	0.1050	-2.2097	0.1714
3	355.08	0.4997	-0.1084	0.0056	-0.3406	0.0333	1.8618	0.1284	-2.3151	0.1811
3	355.08	0.5556	-0.1312	0.0062	-0.4448	0.0398	2.3835	0.1541	-2.3561	0.1796
3	355.08	0.5995	-0.1464	0.0069	-0.5537	0.0458	2.8047	0.1737	-2.2817	0.1792
3	355.08	0.6498	-0.1683	0.0074	-0.6846	0.0532	3.2637	0.1947	-2.3792	0.1864
3	355.08	0.6890	-0.2201	0.0081	-0.7921	0.0591	3.6142	0.2116	-2.2378	0.1802
3	355.08	0.7495	-0.2338	0.0087	-0.9505	0.0687	4.0690	0.2381	-2.3416	0.1823
3	355.08	0.7998	-0.2234	0.0095	-1.0978	0.0778	4.3699	0.2617	-2.3512	0.1807
3	355.08	0.8577	-0.2515	0.0099	-1.2566	0.0881	4.6293	0.2906	-2.1834	0.1856
3	355.08	0.9178	-0.2618	0.0104	-1.4464	0.0989	4.8094	0.3221	-2.2632	0.1916
3	355.08	0.9729	-0.3137	0.0132	-1.5882	0.1091	4.9427	0.3528	-2.3640	0.1931
4	355.08	0.2502	0.0151	0.0038	0.0243	0.0169	0.0224	0.0473	1.2166	0.7301
4	355.08	0.3001	0.0378	0.0108	0.0420	0.0299	0.0699	0.0696	1.7342	1.0390
4	355.08	0.3502	0.0218	0.0111	0.0838	0.0609	0.1277	0.1095	1.7768	1.0317
4	355.08	0.4002	0.0072	0.0115	0.1269	0.0928	0.2269	0.1529	1.8001	1.0359
4	355.08	0.4500	0.0072	0.0117	0.1533	0.1227	0.3393	0.1941	1.6326	1.0407
4	355.08	0.5001	-0.0059	0.0120	0.1560	0.1521	0.5492	0.2404	1.8781	1.0294
4	355.08	0.5560	-0.0094	0.0133	0.1582	0.1854	0.7252	0.2893	1.6198	1.0405
4	355.08	0.6001	-0.0193	0.0137	0.1464	0.2115	0.9220	0.3315	1.6415	1.0325
4	355.08	0.6501	-0.0444	0.0140	0.1078	0.2410	1.1093	0.3798	1.6635	1.0373
4	355.08	0.6999	-0.0443	0.0150	0.0629	0.2721	1.2332	0.4329	1.5857	1.0312
4	355.08	0.7500	-0.0630	0.0159	0.0368	0.3036	1.3640	0.4900	1.8474	1.0359
4	355.08	0.8002	-0.0654	0.0161	-0.0005	0.3372	1.3668	0.5529	1.9441	1.0395
4	355.08	0.8582	-0.0598	0.0158	-0.0304	0.3786	1.2952	0.6338	1.9860	1.0259
4	355.08	0.9101	-0.0648	0.0168	-0.0623	0.4164	1.1422	0.7067	1.9715	1.0473
4	355.08	0.9728	-0.0500	0.0261	-0.0573	0.4622	1.0028	0.7957	2.1002	1.0493

2.4 Run 42, Points 11 to 14

2.4.1 Pitch, Flap, and Lag

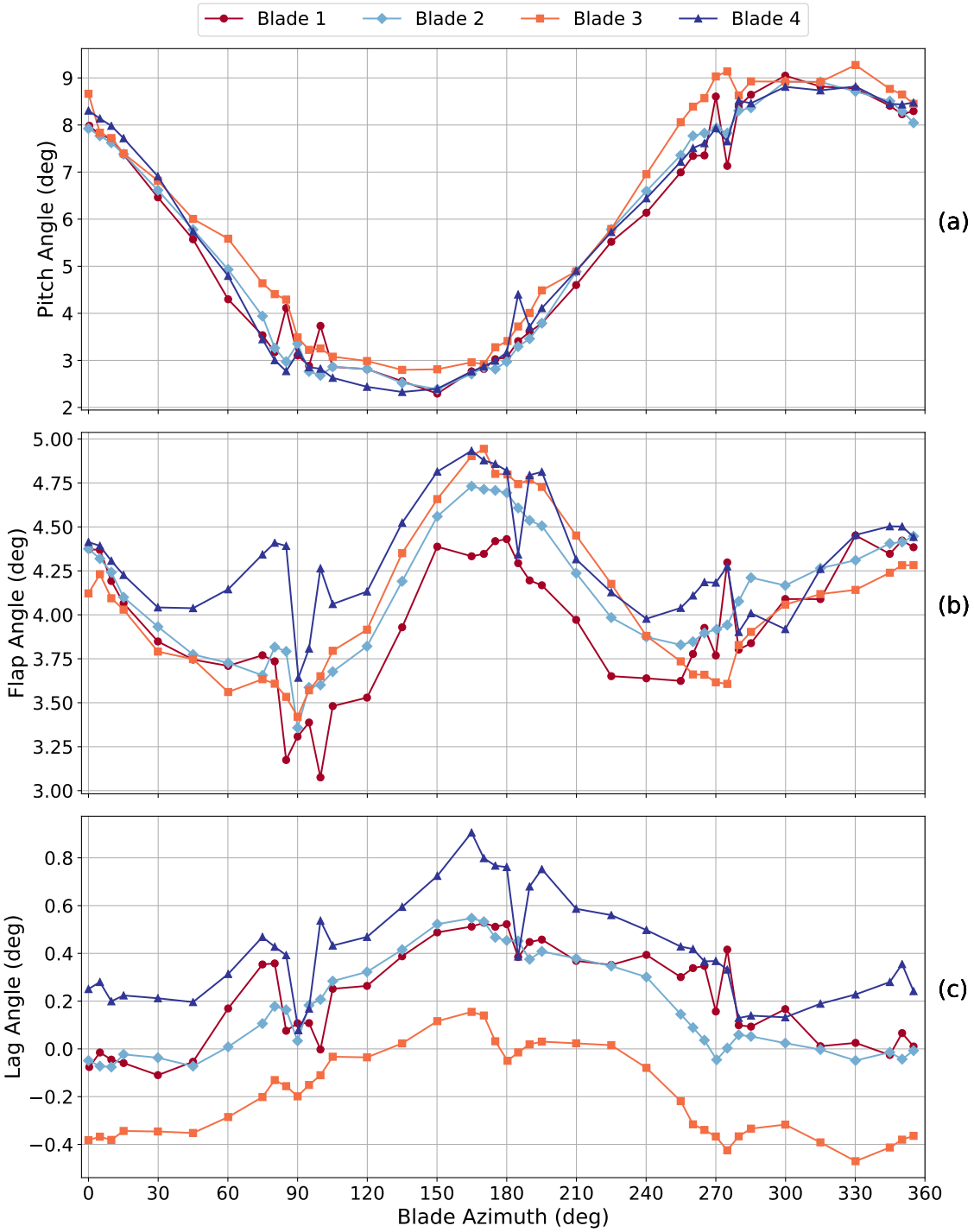


Figure 2.4-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	7.9844	4.3731	-0.0761	0.1036	0.0438	0.0269
4.92	7.7944	4.3688	-0.0151	0.0841	0.0391	0.0264
9.84	7.7077	4.1923	-0.0450	0.0827	0.0378	0.0361
15.12	7.3714	4.0659	-0.0594	0.0774	0.0356	0.0310
29.88	6.4629	3.8485	-0.1100	0.0613	0.0464	0.0227
45	5.5721	3.7454	-0.0540	0.0696	0.0457	0.0296
60.12	4.2977	3.7094	0.1692	0.0556	0.0345	0.0242
74.88	3.5345	3.7701	0.3535	0.0960	0.0532	0.0314
80.16	3.1754	3.7352	0.3578	0.1353	0.0588	0.0368
85.08	4.1126	3.1743	0.0757	0.0577	0.0455	0.0267
90	3.1059	3.3077	0.1071	0.0530	0.0489	0.0244
94.92	2.8848	3.3873	0.1080	0.0482	0.0370	0.0194
99.84	3.7332	3.0753	-0.0026	0.0917	0.0546	0.0302
105.12	2.8623	3.4807	0.2515	0.0403	0.0399	0.0204
119.88	2.8143	3.5290	0.2637	0.0492	0.0388	0.0318
135	2.5592	3.9291	0.3877	0.0461	0.0289	0.0217
150.12	2.2950	4.3876	0.4878	0.0420	0.0228	0.0214
164.88	2.7661	4.3330	0.5120	0.0548	0.0328	0.0286
170.16	2.8174	4.3464	0.5280	0.0438	0.0249	0.0216
175.08	3.0255	4.4189	0.5113	0.0469	0.0323	0.0240
180	3.0633	4.4304	0.5221	0.0647	0.0324	0.0311
184.92	3.4091	4.2936	0.3846	0.0697	0.0406	0.0292
189.84	3.6022	4.1957	0.4475	0.0765	0.0356	0.0312
195.12	3.7905	4.1680	0.4576	0.0490	0.0314	0.0240
209.88	4.6006	3.9714	0.3686	0.0532	0.0220	0.0258
225	5.5191	3.6510	0.3516	0.0372	0.0474	0.0288
240.12	6.1372	3.6388	0.3936	0.1043	0.0334	0.0275
254.88	6.9936	3.6242	0.3006	0.0739	0.0487	0.0260
260.16	7.3429	3.7772	0.3381	0.1264	0.0566	0.0369
265.08	7.3534	3.9255	0.3475	0.1088	0.0502	0.0338
270	8.6045	3.7686	0.1565	0.2246	0.0707	0.0429
274.92	7.1309	4.2979	0.4157	0.0577	0.0423	0.0298
279.84	8.3923	3.8020	0.0990	0.0665	0.0353	0.0327
285.12	8.6431	3.8385	0.0931	0.0637	0.0470	0.0203
299.88	9.0480	4.0899	0.1665	0.0726	0.0473	0.0184
315	8.8173	4.0893	0.0112	0.0618	0.0351	0.0305
330.12	8.7733	4.4515	0.0251	0.0479	0.0309	0.0252
344.88	8.4074	4.3468	-0.0257	0.0526	0.0287	0.0293
350.16	8.2280	4.4223	0.0661	0.0521	0.0350	0.0309
355.08	8.2948	4.3842	0.0100	0.0931	0.0428	0.0326

Table 2.4-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	7.9238	4.3755	-0.0489	0.0708	0.0373	0.0233
4.92	7.7703	4.3194	-0.0724	0.0666	0.0297	0.0219
9.84	7.6226	4.2418	-0.0759	0.0692	0.0293	0.0240
15.12	7.3807	4.0998	-0.0230	0.0610	0.0278	0.0202
29.88	6.6154	3.9323	-0.0371	0.0561	0.0314	0.0372
45	5.7787	3.7744	-0.0725	0.0630	0.0445	0.0254
60.12	4.9307	3.7266	0.0084	0.0489	0.0377	0.0290
74.88	3.9404	3.6558	0.1059	0.0546	0.0454	0.0292
80.16	3.2622	3.8167	0.1781	0.0725	0.0565	0.0221
85.08	2.9740	3.7919	0.1636	0.0834	0.0498	0.0225
90	3.3530	3.3575	0.0335	0.0421	0.0484	0.0244
94.92	2.7639	3.5872	0.1826	0.0846	0.0571	0.0254
99.84	2.6809	3.6012	0.2069	0.1081	0.0521	0.0288
105.12	2.8652	3.6765	0.2838	0.0381	0.0386	0.0252
119.88	2.8196	3.8211	0.3222	0.0448	0.0366	0.0243
135	2.5221	4.1907	0.4155	0.0913	0.0568	0.0226
150.12	2.3882	4.5597	0.5224	0.0455	0.0223	0.0372
164.88	2.7118	4.7313	0.5470	0.0505	0.0340	0.0270
170.16	2.8495	4.7137	0.5324	0.0344	0.0294	0.0277
175.08	2.8148	4.7075	0.4670	0.0559	0.0300	0.0270
180	2.9729	4.6938	0.4538	0.0693	0.0374	0.0413
184.92	3.2936	4.6078	0.4518	0.0558	0.0310	0.0197
189.84	3.4600	4.5369	0.3751	0.0620	0.0294	0.0287
195.12	3.7908	4.5060	0.4082	0.0547	0.0353	0.0294
209.88	4.8848	4.2366	0.3785	0.0599	0.0336	0.0258
225	5.7807	3.9842	0.3469	0.0622	0.0261	0.0225
240.12	6.5958	3.8740	0.3009	0.0497	0.0329	0.0243
254.88	7.3578	3.8291	0.1451	0.0764	0.0366	0.0212
260.16	7.7697	3.8472	0.0891	0.0553	0.0329	0.0222
265.08	7.8260	3.8966	0.0363	0.0681	0.0361	0.0231
270.35	7.9352	3.9173	-0.0457	0.1020	0.0494	0.0204
274.92	7.8262	3.9422	0.0032	0.1014	0.0613	0.0261
279.84	8.3058	4.0769	0.0587	0.0595	0.0469	0.0290
285.12	8.3652	4.2112	0.0523	0.3152	0.1031	0.0555
299.88	8.9190	4.1670	0.0240	0.0923	0.0396	0.0324
315	8.9132	4.2649	-0.0028	0.0432	0.0416	0.0335
330.12	8.7124	4.3103	-0.0489	0.1143	0.0491	0.0249
344.88	8.5078	4.4058	-0.0141	0.0502	0.0424	0.0321
350.16	8.2898	4.4136	-0.0432	0.0716	0.0272	0.0387
355.08	8.0455	4.4468	-0.0073	0.0455	0.0314	0.0199

Table 2.4-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	8.6633	4.1217	-0.3822	0.1180	0.0481	0.0400
4.92	7.8369	4.2308	-0.3677	0.0757	0.0431	0.0300
9.84	7.7226	4.0940	-0.3813	0.0765	0.0370	0.0258
15.12	7.3964	4.0295	-0.3438	0.0666	0.0417	0.0320
29.88	6.8170	3.7907	-0.3460	0.0650	0.0346	0.0238
45	6.0048	3.7482	-0.3522	0.0642	0.0335	0.0279
60.12	5.5848	3.5609	-0.2855	0.0529	0.0454	0.0421
74.88	4.6390	3.6337	-0.2017	0.0568	0.0521	0.0294
80.16	4.4076	3.6081	-0.1307	0.0914	0.0545	0.0300
85.08	4.2919	3.5334	-0.1562	0.1166	0.0539	0.0291
90	3.4882	3.4202	-0.1988	0.0838	0.0410	0.0466
94.92	3.2240	3.5707	-0.1513	0.0378	0.0402	0.0161
99.84	3.2539	3.6507	-0.1104	0.0425	0.0462	0.0260
105.12	3.0795	3.7954	-0.0329	0.0359	0.0273	0.0231
119.88	2.9871	3.9153	-0.0355	0.0458	0.0339	0.0234
135	2.7990	4.3506	0.0229	0.0475	0.0516	0.0191
150.12	2.8111	4.6582	0.1160	0.0433	0.0283	0.0255
164.88	2.9596	4.9029	0.1549	0.0357	0.0288	0.0177
170.16	2.9193	4.9440	0.1397	0.0485	0.0291	0.0243
175.08	3.2793	4.8016	0.0319	0.0461	0.0316	0.0185
180.35	3.4117	4.7981	-0.0499	0.0534	0.0321	0.0189
184.92	3.7208	4.7436	-0.0147	0.0538	0.0274	0.0216
189.84	4.0081	4.7685	0.0188	0.0550	0.0274	0.0260
195.12	4.4867	4.7275	0.0303	0.0575	0.0336	0.0279
209.88	4.8909	4.4511	0.0233	0.0708	0.0584	0.0245
225	5.7916	4.1758	0.0153	0.0465	0.0295	0.0254
240.12	6.9550	3.8801	-0.0795	0.0493	0.0373	0.0190
254.88	8.0585	3.7351	-0.2187	0.0621	0.0404	0.0215
260.16	8.3889	3.6609	-0.3160	0.1195	0.0469	0.0311
265.08	8.5701	3.6590	-0.3395	0.0856	0.0540	0.0232
270	9.0314	3.6163	-0.3670	0.1224	0.0591	0.0300
274.92	9.1375	3.6071	-0.4247	0.2022	0.0794	0.0306
279.84	8.6279	3.8278	-0.3664	0.0865	0.0584	0.0203
285.12	8.9252	3.9028	-0.3340	0.0790	0.0394	0.0273
299.88	8.9205	4.0579	-0.3171	0.1565	0.0599	0.0194
315	8.9150	4.1179	-0.3915	0.0651	0.0486	0.0162
330.12	9.2736	4.1419	-0.4704	0.0735	0.0380	0.0195
344.88	8.7664	4.2393	-0.4130	0.0510	0.0244	0.0205
350.16	8.6471	4.2818	-0.3802	0.0448	0.0256	0.0232
355.08	8.4503	4.2828	-0.3642	0.0542	0.0252	0.0256

Table 2.4-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	8.3054	4.4138	0.2505	0.0996	0.0384	0.0460
4.92	8.1369	4.3920	0.2799	0.0796	0.0360	0.0250
9.84	7.9818	4.3069	0.1991	0.0767	0.0307	0.0301
15.12	7.7175	4.2264	0.2237	0.0744	0.0321	0.0293
29.88	6.9089	4.0419	0.2119	0.0571	0.0400	0.0205
45	5.7381	4.0376	0.1959	0.0606	0.0390	0.0172
60.12	4.7947	4.1449	0.3135	0.0665	0.0432	0.0230
74.88	3.4482	4.3427	0.4686	0.0862	0.0417	0.0302
80.16	3.0045	4.4096	0.4275	0.0777	0.0439	0.0249
85.08	2.7715	4.3917	0.3923	0.1017	0.0493	0.0215
90.35	3.1785	3.6419	0.0782	0.0411	0.0406	0.0199
94.92	2.8536	3.8078	0.1685	0.0394	0.0467	0.0181
99.84	2.8234	4.2638	0.5366	0.1384	0.0485	0.0273
105.12	2.6296	4.0611	0.4325	0.0418	0.0400	0.0260
119.88	2.4388	4.1324	0.4688	0.0634	0.0548	0.0283
135	2.3288	4.5232	0.5944	0.0377	0.0316	0.0265
150.12	2.3978	4.8145	0.7243	0.0467	0.0250	0.0351
164.88	2.7661	4.9328	0.9055	0.0518	0.0227	0.0188
170.16	2.8717	4.8783	0.7985	0.0550	0.0343	0.0322
175.08	2.9932	4.8578	0.7671	0.0565	0.0381	0.0229
180	3.1665	4.8195	0.7611	0.0555	0.0334	0.0237
184.92	4.3991	4.3430	0.3866	0.0502	0.0238	0.0170
189.84	3.7108	4.7944	0.6798	0.0579	0.0333	0.0281
195.12	4.1103	4.8129	0.7524	0.1056	0.0396	0.0266
209.88	4.9026	4.3158	0.5866	0.0970	0.0288	0.0380
225	5.7253	4.1281	0.5600	0.0548	0.0319	0.0253
240.12	6.4433	3.9774	0.4976	0.0587	0.0381	0.0262
254.88	7.2178	4.0391	0.4284	0.0405	0.0364	0.0301
260.16	7.5088	4.1095	0.4181	0.0730	0.0335	0.0180
265.08	7.6128	4.1857	0.3666	0.0855	0.0417	0.0216
270	7.9327	4.1829	0.3677	0.1040	0.0458	0.0296
274.92	7.6531	4.2753	0.3319	0.1780	0.0604	0.0326
279.84	8.5169	3.9021	0.1293	0.1102	0.0331	0.0292
285.12	8.4611	4.0088	0.1392	0.0948	0.0363	0.0256
299.88	8.8112	3.9187	0.1321	0.0482	0.0540	0.0303
315	8.7356	4.2608	0.1889	0.0795	0.0393	0.0339
330.12	8.8177	4.4543	0.2277	0.0891	0.0399	0.0253
344.88	8.4492	4.5033	0.2798	0.0662	0.0212	0.0187
350.16	8.4360	4.5022	0.3549	0.0598	0.0274	0.0214
355.08	8.4765	4.4428	0.2417	0.1007	0.0380	0.0353

2.4.2 Spanwise Elastic Deformations

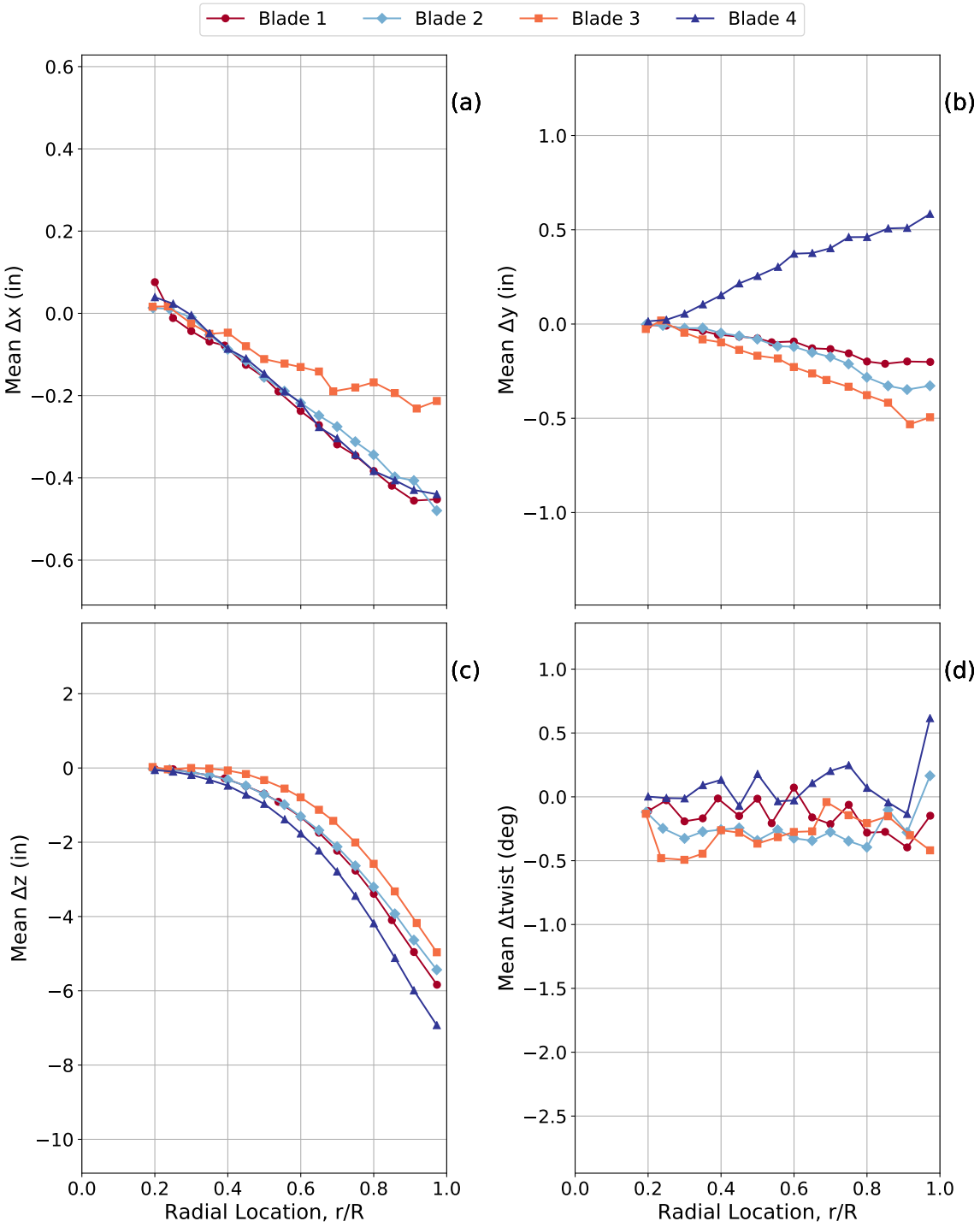


Figure 2.4-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-5. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0759	0.0027	-0.0056	0.0016	-0.0296	0.0044	-0.1118	0.0465
1	0.35	0.2499	-0.0115	0.0018	-0.0085	0.0038	-0.0328	0.0066	-0.0270	0.0790
1	0.35	0.2998	-0.0431	0.0017	-0.0248	0.0061	-0.1179	0.0134	-0.1919	0.1019
1	0.35	0.3498	-0.0687	0.0017	-0.0369	0.0109	-0.1979	0.0222	-0.1685	0.0934
1	0.35	0.3913	-0.0783	0.0022	-0.0563	0.0155	-0.2790	0.0297	-0.0130	0.0887
1	0.35	0.4496	-0.1252	0.0023	-0.0669	0.0201	-0.4851	0.0387	-0.1498	0.0930
1	0.35	0.4997	-0.1559	0.0028	-0.0755	0.0248	-0.6929	0.0470	-0.0145	0.0915
1	0.35	0.5387	-0.1899	0.0027	-0.0967	0.0283	-0.9119	0.0537	-0.2067	0.0879
1	0.35	0.5996	-0.2374	0.0025	-0.0926	0.0340	-1.3165	0.0639	0.0723	0.0896
1	0.35	0.6498	-0.2716	0.0024	-0.1287	0.0387	-1.7434	0.0726	-0.1610	0.0906
1	0.35	0.6998	-0.3188	0.0027	-0.1329	0.0435	-2.2291	0.0820	-0.2135	0.0894
1	0.35	0.7500	-0.3460	0.0031	-0.1556	0.0480	-2.7639	0.0906	-0.0625	0.0929
1	0.35	0.8001	-0.3834	0.0029	-0.1988	0.0527	-3.3885	0.0992	-0.2806	0.0892
1	0.35	0.8497	-0.4192	0.0032	-0.2108	0.0577	-4.0976	0.1067	-0.2745	0.0950
1	0.35	0.9102	-0.4554	0.0036	-0.1986	0.0631	-4.9574	0.1140	-0.3962	0.1108
1	0.35	0.9734	-0.4523	0.0056	-0.2012	0.0678	-5.8370	0.1284	-0.1480	0.0982
2	0	0.1949	0.0133	0.0028	-0.0022	0.0016	-0.0230	0.0039	-0.1195	0.0376
2	0	0.2405	0.0105	0.0018	-0.0076	0.0033	-0.0462	0.0061	-0.2469	0.0696
2	0	0.2999	-0.0101	0.0014	-0.0224	0.0062	-0.1181	0.0126	-0.3258	0.0913
2	0	0.3498	-0.0523	0.0018	-0.0213	0.0105	-0.1981	0.0202	-0.2730	0.0799
2	0	0.3998	-0.0877	0.0021	-0.0481	0.0165	-0.3170	0.0305	-0.2570	0.0767
2	0	0.4496	-0.1155	0.0025	-0.0629	0.0199	-0.4804	0.0387	-0.2435	0.0689
2	0	0.4995	-0.1555	0.0027	-0.0801	0.0239	-0.7094	0.0467	-0.3418	0.0748
2	0	0.5551	-0.1891	0.0029	-0.1177	0.0281	-0.9874	0.0583	-0.2584	0.0682
2	0	0.5996	-0.2176	0.0026	-0.1206	0.0321	-1.3042	0.0658	-0.3251	0.0717
2	0	0.6497	-0.2486	0.0028	-0.1506	0.0362	-1.6763	0.0755	-0.3430	0.0751
2	0	0.6996	-0.2755	0.0028	-0.1743	0.0404	-2.1200	0.0849	-0.2756	0.0756
2	0	0.7495	-0.3121	0.0031	-0.2119	0.0440	-2.6345	0.0962	-0.3465	0.0700
2	0	0.7996	-0.3438	0.0038	-0.2826	0.0484	-3.2046	0.1052	-0.3948	0.0712
2	0	0.8578	-0.3977	0.0043	-0.3279	0.0544	-3.9269	0.1169	-0.1018	0.0760
2	0	0.9100	-0.4067	0.0044	-0.3478	0.0592	-4.6348	0.1271	-0.2780	0.0935
2	0	0.9727	-0.4797	0.0061	-0.3276	0.0651	-5.4336	0.1424	0.1648	0.0881
3	0	0.1938	0.0162	0.0052	-0.0262	0.0024	0.0264	0.0084	-0.1328	0.0365
3	0	0.2357	0.0170	0.0019	0.0187	0.0025	-0.0380	0.0083	-0.4800	0.1069
3	0	0.2995	-0.0246	0.0018	-0.0459	0.0073	-0.0000	0.0224	-0.4931	0.1141
3	0	0.3493	-0.0498	0.0018	-0.0815	0.0139	-0.0165	0.0379	-0.4453	0.1115
3	0	0.4000	-0.0469	0.0022	-0.0973	0.0198	-0.0664	0.0533	-0.2615	0.1095
3	0	0.4497	-0.0799	0.0021	-0.1371	0.0245	-0.1627	0.0669	-0.2808	0.1102
3	0	0.4997	-0.1112	0.0021	-0.1681	0.0300	-0.3271	0.0808	-0.3666	0.1068
3	0	0.5556	-0.1221	0.0025	-0.1824	0.0367	-0.5541	0.0958	-0.3158	0.1097
3	0	0.5995	-0.1306	0.0029	-0.2283	0.0427	-0.7900	0.1088	-0.2751	0.1072
3	0	0.6498	-0.1414	0.0029	-0.2622	0.0481	-1.1259	0.1222	-0.2702	0.1138
3	0	0.6890	-0.1897	0.0030	-0.2968	0.0526	-1.4236	0.1325	-0.0408	0.1122
3	0	0.7495	-0.1803	0.0030	-0.3328	0.0605	-2.0061	0.1503	-0.1442	0.1126
3	0	0.7998	-0.1678	0.0031	-0.3772	0.0664	-2.5804	0.1632	-0.2055	0.1139
3	0	0.8577	-0.1938	0.0041	-0.4173	0.0744	-3.3238	0.1801	-0.1521	0.1151
3	0	0.9178	-0.2315	0.0045	-0.5318	0.0822	-4.1754	0.1985	-0.3010	0.1203
3	0	0.9729	-0.2131	0.0046	-0.4943	0.0901	-4.9633	0.2170	-0.4190	0.1115
4	0	0.2001	0.0392	0.0030	0.0145	0.0015	-0.0557	0.0038	0.0020	0.0407
4	0	0.2502	0.0234	0.0017	0.0224	0.0039	-0.0992	0.0074	-0.0099	0.0850
4	0	0.3001	-0.0045	0.0013	0.0548	0.0057	-0.1885	0.0123	-0.0123	0.0981
4	0	0.3502	-0.0485	0.0020	0.1042	0.0102	-0.3196	0.0209	0.0914	0.0885
4	0	0.4002	-0.0862	0.0025	0.1530	0.0159	-0.4772	0.0312	0.1328	0.0859
4	0	0.4500	-0.1099	0.0026	0.2154	0.0204	-0.7194	0.0397	-0.0708	0.0883
4	0	0.5001	-0.1468	0.0028	0.2549	0.0252	-0.9671	0.0499	0.1779	0.0882
4	0	0.5560	-0.1899	0.0031	0.3030	0.0300	-1.3840	0.0594	-0.0348	0.0890
4	0	0.6001	-0.2180	0.0030	0.3730	0.0344	-1.7661	0.0673	-0.0282	0.0884
4	0	0.6501	-0.2767	0.0033	0.3765	0.0393	-2.2252	0.0755	0.1077	0.0956
4	0	0.6999	-0.3039	0.0031	0.4022	0.0449	-2.7890	0.0840	0.2023	0.0886
4	0	0.7500	-0.3434	0.0031	0.4608	0.0498	-3.4442	0.0925	0.2477	0.0883
4	0	0.8002	-0.3835	0.0031	0.4615	0.0552	-4.1836	0.1004	0.0702	0.0909
4	0	0.8582	-0.4060	0.0038	0.5073	0.0623	-5.1169	0.1108	-0.0439	0.0906
4	0	0.9101	-0.4295	0.0044	0.5099	0.0680	-5.9918	0.1185	-0.1342	0.0987
4	0	0.9728	-0.4399	0.0059	0.5842	0.0743	-6.9260	0.1331	0.6160	0.0896

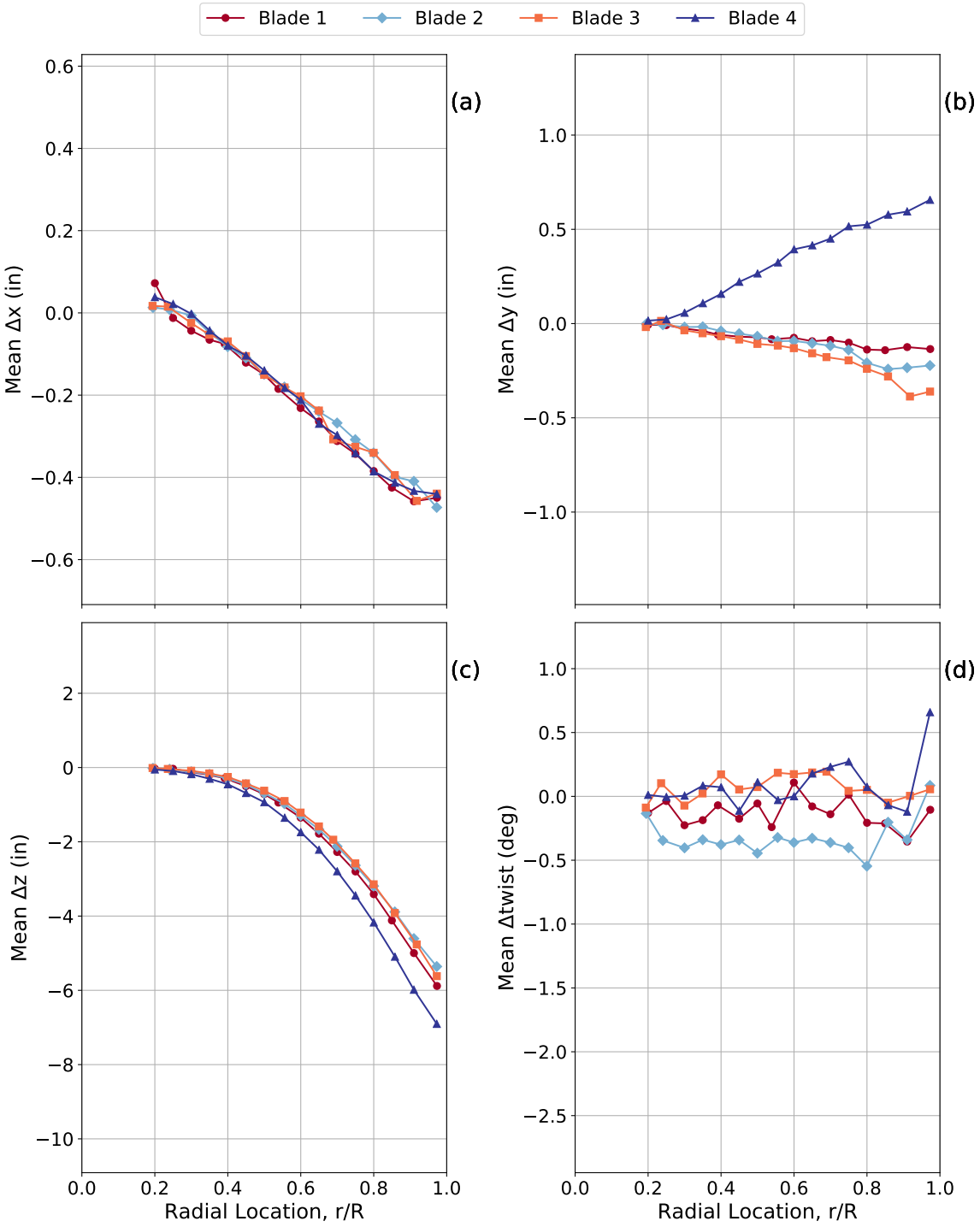


Figure 2.4-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-6. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0723	0.0029	-0.0062	0.0018	-0.0303	0.0053	-0.1300	0.0368
1	4.92	0.2499	-0.0124	0.0015	-0.0082	0.0034	-0.0339	0.0081	-0.0364	0.0678
1	4.92	0.2998	-0.0433	0.0014	-0.0267	0.0066	-0.1225	0.0160	-0.2259	0.0834
1	4.92	0.3498	-0.0653	0.0024	-0.0385	0.0125	-0.2021	0.0285	-0.1862	0.0686
1	4.92	0.3913	-0.0754	0.0028	-0.0591	0.0169	-0.2878	0.0377	-0.0698	0.0719
1	4.92	0.4496	-0.1210	0.0026	-0.0693	0.0217	-0.5015	0.0493	-0.1752	0.0706
1	4.92	0.4997	-0.1501	0.0024	-0.0731	0.0261	-0.7158	0.0602	-0.0559	0.0687
1	4.92	0.5387	-0.1848	0.0024	-0.0829	0.0296	-0.9439	0.0688	-0.2409	0.0696
1	4.92	0.5996	-0.2314	0.0023	-0.0753	0.0361	-1.3484	0.0826	0.1085	0.0651
1	4.92	0.6498	-0.2640	0.0021	-0.0935	0.0414	-1.7815	0.0938	-0.0788	0.0692
1	4.92	0.6998	-0.3117	0.0024	-0.0872	0.0472	-2.2747	0.1049	-0.1399	0.0729
1	4.92	0.7500	-0.3429	0.0027	-0.1012	0.0529	-2.7991	0.1154	0.0134	0.0703
1	4.92	0.8001	-0.3846	0.0029	-0.1379	0.0592	-3.4108	0.1271	-0.2070	0.0705
1	4.92	0.8497	-0.4249	0.0032	-0.1411	0.0653	-4.1184	0.1373	-0.2120	0.0755
1	4.92	0.9102	-0.4583	0.0036	-0.1247	0.0729	-4.9974	0.1521	-0.3543	0.0732
1	4.92	0.9734	-0.4495	0.0047	-0.1351	0.0810	-5.8826	0.1620	-0.1049	0.0846
2	4.92	0.1949	0.0130	0.0026	-0.0017	0.0015	-0.0202	0.0032	-0.1340	0.0269
2	4.92	0.2405	0.0082	0.0019	-0.0062	0.0028	-0.0459	0.0064	-0.3455	0.0597
2	4.92	0.2999	-0.0065	0.0013	-0.0186	0.0053	-0.1136	0.0109	-0.4033	0.0669
2	4.92	0.3498	-0.0483	0.0023	-0.0170	0.0090	-0.1821	0.0175	-0.3397	0.0642
2	4.92	0.3998	-0.0823	0.0027	-0.0394	0.0140	-0.3002	0.0271	-0.3778	0.0591
2	4.92	0.4496	-0.1096	0.0031	-0.0535	0.0167	-0.4598	0.0355	-0.3415	0.0609
2	4.92	0.4995	-0.1491	0.0037	-0.0674	0.0201	-0.6911	0.0445	-0.4452	0.0607
2	4.92	0.5551	-0.1803	0.0031	-0.0931	0.0237	-0.9738	0.0557	-0.3222	0.0618
2	4.92	0.5996	-0.2102	0.0028	-0.0921	0.0271	-1.2926	0.0631	-0.3613	0.0615
2	4.92	0.6497	-0.2400	0.0029	-0.1045	0.0310	-1.6658	0.0736	-0.3278	0.0650
2	4.92	0.6996	-0.2677	0.0030	-0.1177	0.0340	-2.1237	0.0845	-0.3619	0.0617
2	4.92	0.7495	-0.3082	0.0031	-0.1395	0.0383	-2.6349	0.0977	-0.4023	0.0618
2	4.92	0.7996	-0.3406	0.0033	-0.2082	0.0429	-3.1910	0.1098	-0.5465	0.0675
2	4.92	0.8578	-0.3986	0.0042	-0.2418	0.0475	-3.8879	0.1270	-0.2027	0.0670
2	4.92	0.9100	-0.4096	0.0042	-0.2341	0.0528	-4.6058	0.1429	-0.3404	0.0802
2	4.92	0.9727	-0.4730	0.0058	-0.2225	0.0579	-5.3587	0.1614	0.0855	0.0725
3	4.92	0.1938	0.0170	0.0022	-0.0184	0.0014	-0.0130	0.0043	-0.0879	0.0336
3	4.92	0.2357	0.0153	0.0019	0.0141	0.0024	-0.0383	0.0063	0.1030	0.0616
3	4.92	0.2995	-0.0246	0.0012	-0.0355	0.0051	-0.0861	0.0133	-0.0718	0.0797
3	4.92	0.3493	-0.0531	0.0016	-0.0514	0.0094	-0.1589	0.0235	0.0228	0.0741
3	4.92	0.4000	-0.0693	0.0018	-0.0669	0.0143	-0.2542	0.0339	0.1717	0.0684
3	4.92	0.4497	-0.1052	0.0022	-0.0845	0.0186	-0.4272	0.0441	0.0541	0.0677
3	4.92	0.4997	-0.1507	0.0025	-0.1078	0.0226	-0.6240	0.0521	0.0731	0.0721
3	4.92	0.5556	-0.1813	0.0024	-0.1166	0.0274	-0.9025	0.0625	0.1848	0.0729
3	4.92	0.5995	-0.2028	0.0023	-0.1304	0.0312	-1.2131	0.0712	0.1741	0.0743
3	4.92	0.6498	-0.2374	0.0026	-0.1574	0.0354	-1.5861	0.0811	0.1873	0.0732
3	4.92	0.6890	-0.3076	0.0028	-0.1780	0.0389	-1.9438	0.0891	0.1933	0.0727
3	4.92	0.7495	-0.3256	0.0027	-0.1951	0.0440	-2.5811	0.1015	0.0431	0.0709
3	4.92	0.7998	-0.3402	0.0028	-0.2398	0.0485	-3.1448	0.1132	0.0510	0.0742
3	4.92	0.8577	-0.3944	0.0033	-0.2805	0.0550	-3.9184	0.1282	-0.0495	0.0772
3	4.92	0.9178	-0.4571	0.0037	-0.3869	0.0600	-4.7642	0.1404	0.0041	0.0974
3	4.92	0.9729	-0.4395	0.0048	-0.3607	0.0665	-5.6181	0.1536	0.0558	0.0787
4	4.92	0.2001	0.0382	0.0028	0.0156	0.0014	-0.0538	0.0038	0.0113	0.0280
4	4.92	0.2502	0.0215	0.0014	0.0221	0.0024	-0.0941	0.0060	-0.0050	0.0651
4	4.92	0.3001	-0.0024	0.0012	0.0572	0.0048	-0.1799	0.0116	0.0050	0.0679
4	4.92	0.3502	-0.0430	0.0015	0.1079	0.0085	-0.3035	0.0196	0.0841	0.0643
4	4.92	0.4002	-0.0795	0.0017	0.1576	0.0125	-0.4524	0.0287	0.0715	0.0629
4	4.92	0.4500	-0.1038	0.0019	0.2213	0.0158	-0.6878	0.0369	-0.1126	0.0643
4	4.92	0.5001	-0.1402	0.0021	0.2656	0.0193	-0.9339	0.0454	0.1113	0.0660
4	4.92	0.5560	-0.1826	0.0023	0.3239	0.0232	-1.3547	0.0555	-0.0293	0.0652
4	4.92	0.6001	-0.2120	0.0023	0.3940	0.0270	-1.7432	0.0627	0.0006	0.0666
4	4.92	0.6501	-0.2698	0.0023	0.4149	0.0306	-2.2150	0.0717	0.1784	0.0649
4	4.92	0.6999	-0.2972	0.0024	0.4508	0.0349	-2.7956	0.0800	0.2310	0.0691
4	4.92	0.7500	-0.3412	0.0026	0.5159	0.0393	-3.4482	0.0901	0.2719	0.0669
4	4.92	0.8002	-0.3855	0.0029	0.5247	0.0435	-4.1743	0.1004	0.0733	0.0687
4	4.92	0.8582	-0.4130	0.0033	0.5776	0.0496	-5.0956	0.1135	-0.0692	0.0742
4	4.92	0.9101	-0.4328	0.0042	0.5945	0.0542	-5.9855	0.1245	-0.1207	0.0652
4	4.92	0.9728	-0.4406	0.0048	0.6563	0.0602	-6.9049	0.1385	0.6586	0.0741

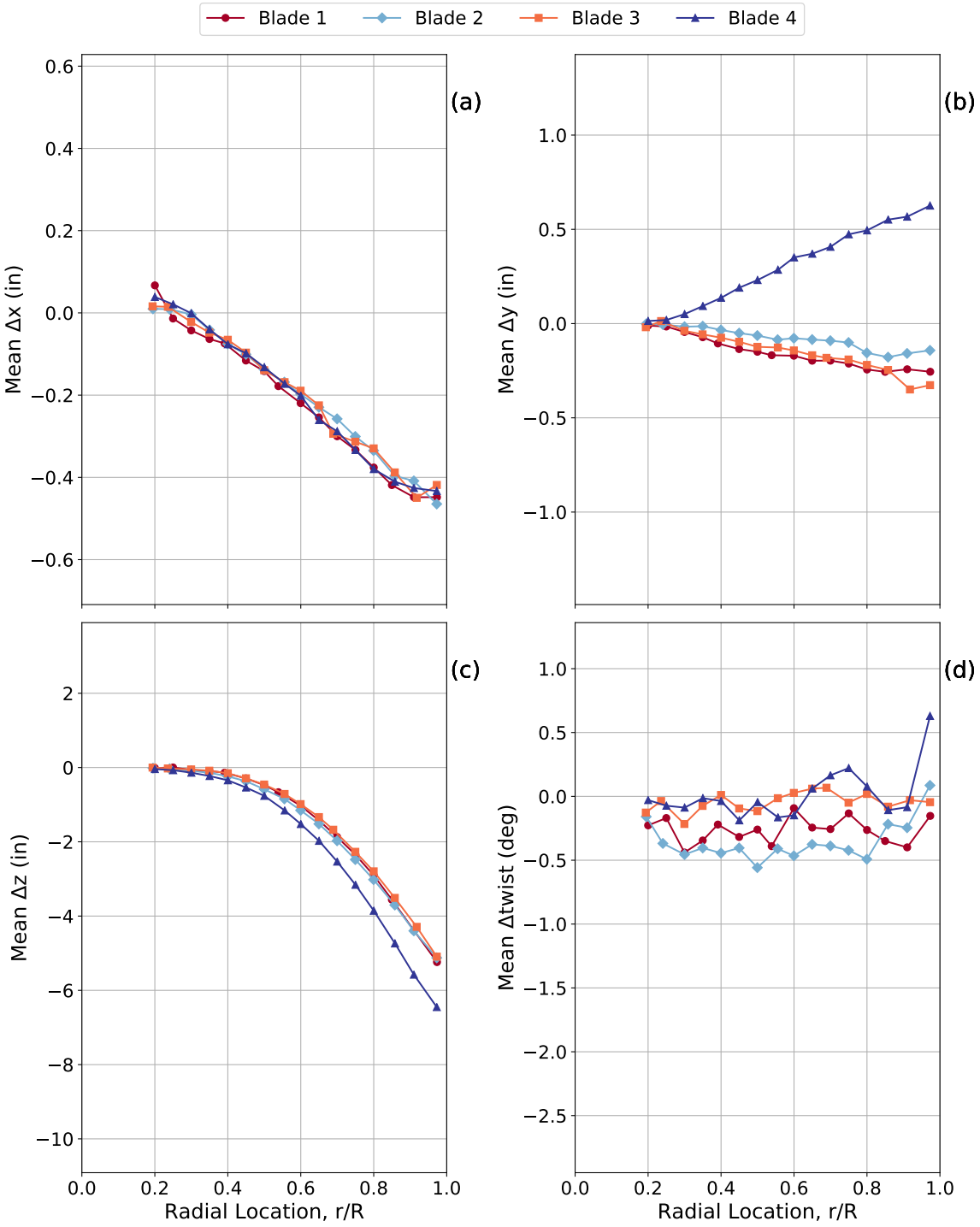


Figure 2.4-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0669	0.0035	-0.0107	0.0016	-0.0136	0.0043	-0.2270	0.0370
1	9.84	0.2499	-0.0137	0.0015	-0.0155	0.0030	0.0019	0.0080	-0.1696	0.0781
1	9.84	0.2998	-0.0426	0.0013	-0.0446	0.0062	-0.0630	0.0142	-0.4396	0.0879
1	9.84	0.3498	-0.0635	0.0023	-0.0724	0.0111	-0.0939	0.0249	-0.3454	0.0783
1	9.84	0.3913	-0.0742	0.0026	-0.1054	0.0154	-0.1380	0.0341	-0.2207	0.0771
1	9.84	0.4496	-0.1158	0.0029	-0.1352	0.0203	-0.2927	0.0455	-0.3178	0.0802
1	9.84	0.4997	-0.1416	0.0029	-0.1495	0.0241	-0.4722	0.0554	-0.2600	0.0787
1	9.84	0.5387	-0.1781	0.0031	-0.1678	0.0275	-0.6645	0.0637	-0.3898	0.0758
1	9.84	0.5996	-0.2195	0.0031	-0.1706	0.0327	-1.0286	0.0766	-0.0925	0.0785
1	9.84	0.6498	-0.2541	0.0033	-0.1969	0.0373	-1.4234	0.0883	-0.2445	0.0791
1	9.84	0.6998	-0.3000	0.0032	-0.1966	0.0419	-1.8714	0.0997	-0.2563	0.0817
1	9.84	0.7500	-0.3333	0.0035	-0.2122	0.0470	-2.3486	0.1123	-0.1333	0.0791
1	9.84	0.8001	-0.3760	0.0037	-0.2436	0.0518	-2.9050	0.1233	-0.2632	0.0821
1	9.84	0.8497	-0.4187	0.0040	-0.2560	0.0572	-3.5578	0.1352	-0.3497	0.0799
1	9.84	0.9102	-0.4482	0.0044	-0.2424	0.0629	-4.3874	0.1506	-0.3993	0.0802
1	9.84	0.9734	-0.4482	0.0055	-0.2555	0.0697	-5.2391	0.1678	-0.1529	0.0810
2	9.84	0.1949	0.0098	0.0024	-0.0016	0.0013	-0.0157	0.0040	-0.1590	0.0254
2	9.84	0.2405	0.0090	0.0015	-0.0048	0.0022	-0.0345	0.0052	-0.3685	0.0568
2	9.84	0.2999	-0.0039	0.0012	-0.0167	0.0046	-0.0920	0.0116	-0.4553	0.0635
2	9.84	0.3498	-0.0414	0.0021	-0.0140	0.0088	-0.1405	0.0201	-0.4038	0.0571
2	9.84	0.3998	-0.0756	0.0027	-0.0339	0.0127	-0.2374	0.0286	-0.4441	0.0586
2	9.84	0.4496	-0.1008	0.0028	-0.0507	0.0154	-0.3681	0.0364	-0.4040	0.0589
2	9.84	0.4995	-0.1375	0.0031	-0.0635	0.0188	-0.5827	0.0445	-0.5581	0.0601
2	9.84	0.5551	-0.1684	0.0030	-0.0855	0.0227	-0.8445	0.0535	-0.4101	0.0611
2	9.84	0.5996	-0.1975	0.0030	-0.0778	0.0256	-1.1525	0.0605	-0.4656	0.0612
2	9.84	0.6497	-0.2294	0.0031	-0.0848	0.0296	-1.5186	0.0688	-0.3757	0.0650
2	9.84	0.6996	-0.2577	0.0027	-0.0908	0.0336	-1.9721	0.0784	-0.3881	0.0667
2	9.84	0.7495	-0.3006	0.0028	-0.1006	0.0383	-2.4782	0.0890	-0.4225	0.0633
2	9.84	0.7996	-0.3349	0.0029	-0.1554	0.0423	-3.0191	0.0994	-0.4922	0.0654
2	9.84	0.8578	-0.3964	0.0034	-0.1782	0.0471	-3.7019	0.1139	-0.2176	0.0570
2	9.84	0.9100	-0.4086	0.0033	-0.1583	0.0529	-4.3984	0.1267	-0.2457	0.0736
2	9.84	0.9727	-0.4647	0.0046	-0.1422	0.0577	-5.1245	0.1408	0.0861	0.0729
3	9.84	0.1938	0.0160	0.0031	-0.0192	0.0012	-0.0015	0.0037	-0.1270	0.0271
3	9.84	0.2357	0.0148	0.0017	0.0133	0.0021	-0.0251	0.0069	-0.0364	0.0567
3	9.84	0.2995	-0.0220	0.0012	-0.0382	0.0045	-0.0511	0.0131	-0.2161	0.0647
3	9.84	0.3493	-0.0480	0.0018	-0.0572	0.0077	-0.0853	0.0227	-0.0747	0.0588
3	9.84	0.4000	-0.0654	0.0021	-0.0750	0.0121	-0.1540	0.0344	0.0109	0.0569
3	9.84	0.4497	-0.0966	0.0022	-0.0966	0.0151	-0.2902	0.0443	-0.0946	0.0549
3	9.84	0.4997	-0.1394	0.0024	-0.1234	0.0189	-0.4579	0.0547	-0.1155	0.0548
3	9.84	0.5556	-0.1684	0.0025	-0.1270	0.0223	-0.7120	0.0667	-0.0144	0.0548
3	9.84	0.5995	-0.1892	0.0025	-0.1426	0.0252	-0.9854	0.0753	0.0271	0.0559
3	9.84	0.6498	-0.2248	0.0025	-0.1682	0.0287	-1.3348	0.0863	0.0603	0.0564
3	9.84	0.6890	-0.2939	0.0026	-0.1818	0.0313	-1.6749	0.0951	0.0675	0.0611
3	9.84	0.7495	-0.3133	0.0029	-0.1906	0.0354	-2.2694	0.1091	-0.0495	0.0606
3	9.84	0.7998	-0.3295	0.0031	-0.2194	0.0391	-2.7951	0.1211	0.0192	0.0537
3	9.84	0.8577	-0.3879	0.0035	-0.2462	0.0436	-3.5107	0.1335	-0.0807	0.0670
3	9.84	0.9178	-0.4497	0.0037	-0.3495	0.0478	-4.2908	0.1479	-0.0299	0.0715
3	9.84	0.9729	-0.4184	0.0055	-0.3267	0.0530	-5.0927	0.1624	-0.0453	0.0611
4	9.84	0.2001	0.0387	0.0026	0.0137	0.0013	-0.0414	0.0039	-0.0292	0.0316
4	9.84	0.2502	0.0208	0.0019	0.0189	0.0027	-0.0722	0.0068	-0.0733	0.0644
4	9.84	0.3001	-0.0011	0.0012	0.0502	0.0049	-0.1395	0.0128	-0.0881	0.0747
4	9.84	0.3502	-0.0401	0.0021	0.0931	0.0083	-0.2290	0.0204	-0.0142	0.0685
4	9.84	0.4002	-0.0764	0.0024	0.1366	0.0129	-0.3448	0.0310	-0.0365	0.0694
4	9.84	0.4500	-0.0983	0.0027	0.1904	0.0166	-0.5386	0.0401	-0.1879	0.0677
4	9.84	0.5001	-0.1322	0.0027	0.2309	0.0205	-0.7630	0.0494	-0.0451	0.0658
4	9.84	0.5560	-0.1726	0.0030	0.2853	0.0243	-1.1562	0.0591	-0.1645	0.0658
4	9.84	0.6001	-0.2015	0.0031	0.3509	0.0272	-1.5223	0.0661	-0.1486	0.0662
4	9.84	0.6501	-0.2607	0.0032	0.3705	0.0304	-1.9754	0.0748	0.0609	0.0657
4	9.84	0.6999	-0.2879	0.0030	0.4071	0.0342	-2.5336	0.0836	0.1650	0.0664
4	9.84	0.7500	-0.3335	0.0029	0.4735	0.0379	-3.1582	0.0928	0.2212	0.0691
4	9.84	0.8002	-0.3799	0.0030	0.4944	0.0420	-3.8569	0.1018	0.0766	0.0683
4	9.84	0.8582	-0.4106	0.0034	0.5515	0.0466	-4.7372	0.1135	-0.1078	0.0665
4	9.84	0.9101	-0.4259	0.0036	0.5671	0.0508	-5.5784	0.1256	-0.0848	0.0691
4	9.84	0.9728	-0.4332	0.0043	0.6258	0.0564	-6.4513	0.1427	0.6296	0.0754

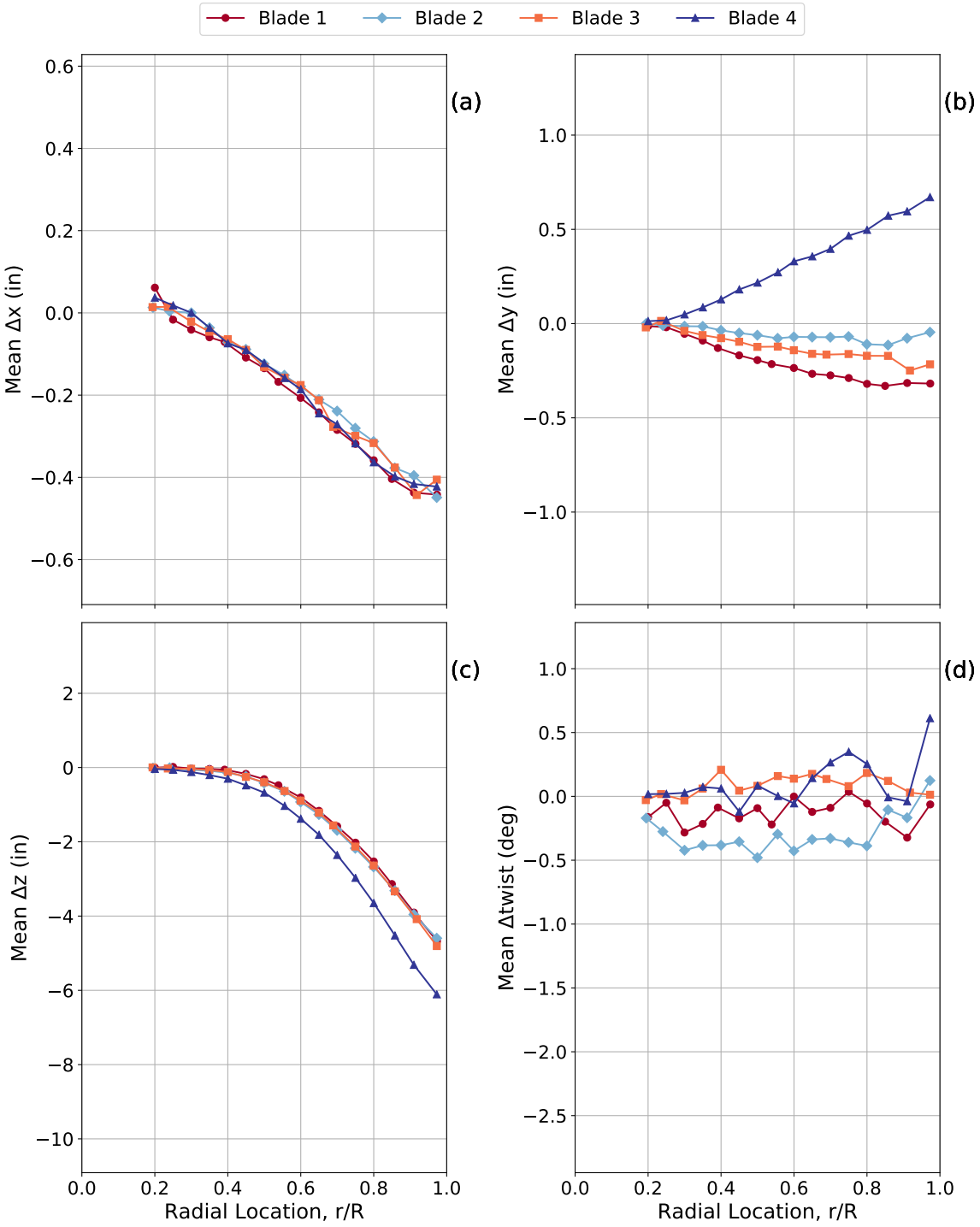


Figure 2.4-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-8. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0614	0.0031	-0.0132	0.0014	-0.0042	0.0041	-0.1624	0.0327
1	15.12	0.2499	-0.0165	0.0016	-0.0194	0.0027	0.0163	0.0071	-0.0501	0.0656
1	15.12	0.2998	-0.0408	0.0015	-0.0543	0.0052	-0.0272	0.0130	-0.2830	0.0762
1	15.12	0.3498	-0.0593	0.0017	-0.0902	0.0096	-0.0383	0.0229	-0.2158	0.0711
1	15.12	0.3913	-0.0707	0.0024	-0.1296	0.0132	-0.0569	0.0308	-0.0876	0.0692
1	15.12	0.4496	-0.1086	0.0027	-0.1686	0.0178	-0.1711	0.0409	-0.1723	0.0686
1	15.12	0.4997	-0.1344	0.0027	-0.1937	0.0218	-0.3141	0.0504	-0.0923	0.0672
1	15.12	0.5387	-0.1677	0.0029	-0.2148	0.0252	-0.4773	0.0567	-0.2202	0.0687
1	15.12	0.5996	-0.2066	0.0030	-0.2356	0.0305	-0.8067	0.0669	-0.0014	0.0695
1	15.12	0.6498	-0.2418	0.0031	-0.2665	0.0355	-1.1668	0.0755	-0.1217	0.0727
1	15.12	0.6998	-0.2845	0.0033	-0.2746	0.0404	-1.5822	0.0845	-0.0897	0.0679
1	15.12	0.7500	-0.3185	0.0034	-0.2888	0.0457	-2.0236	0.0930	0.0363	0.0635
1	15.12	0.8001	-0.3584	0.0033	-0.3198	0.0510	-2.5302	0.1016	-0.0559	0.0665
1	15.12	0.8497	-0.4038	0.0034	-0.3307	0.0563	-3.1373	0.1100	-0.1979	0.0680
1	15.12	0.9102	-0.4372	0.0034	-0.3152	0.0628	-3.9058	0.1224	-0.3230	0.0699
1	15.12	0.9734	-0.4419	0.0043	-0.3182	0.0696	-4.6758	0.1371	-0.0632	0.0681
2	15.12	0.1949	0.0131	0.0026	0.0006	0.0010	-0.0149	0.0034	-0.1701	0.0256
2	15.12	0.2405	0.0041	0.0015	-0.0099	0.0019	-0.0081	0.0057	-0.2759	0.0492
2	15.12	0.2999	0.0001	0.0016	-0.0140	0.0036	-0.0617	0.0117	-0.4221	0.0633
2	15.12	0.3498	-0.0361	0.0018	-0.0149	0.0068	-0.0876	0.0210	-0.3838	0.0527
2	15.12	0.3998	-0.0717	0.0023	-0.0358	0.0101	-0.1431	0.0308	-0.3824	0.0523
2	15.12	0.4496	-0.0887	0.0023	-0.0503	0.0130	-0.2389	0.0390	-0.3551	0.0534
2	15.12	0.4995	-0.1240	0.0023	-0.0615	0.0158	-0.4178	0.0468	-0.4798	0.0541
2	15.12	0.5551	-0.1517	0.0021	-0.0783	0.0190	-0.6401	0.0560	-0.2957	0.0517
2	15.12	0.5996	-0.1790	0.0024	-0.0705	0.0220	-0.9276	0.0628	-0.4271	0.0535
2	15.12	0.6497	-0.2106	0.0024	-0.0717	0.0254	-1.2659	0.0709	-0.3374	0.0524
2	15.12	0.6996	-0.2388	0.0025	-0.0724	0.0288	-1.6915	0.0785	-0.3292	0.0536
2	15.12	0.7495	-0.2805	0.0026	-0.0689	0.0323	-2.1736	0.0863	-0.3604	0.0520
2	15.12	0.7996	-0.3128	0.0025	-0.1096	0.0359	-2.6764	0.0941	-0.3877	0.0522
2	15.12	0.8578	-0.3770	0.0024	-0.1141	0.0401	-3.3164	0.1029	-0.1048	0.0576
2	15.12	0.9100	-0.3955	0.0027	-0.0777	0.0436	-3.9576	0.1105	-0.1673	0.0625
2	15.12	0.9727	-0.4489	0.0033	-0.0456	0.0479	-4.5962	0.1213	0.1239	0.0574
3	15.12	0.1938	0.0141	0.0021	-0.0202	0.0011	0.0032	0.0032	-0.0291	0.0257
3	15.12	0.2357	0.0149	0.0020	0.0140	0.0020	-0.0263	0.0051	0.0179	0.0476
3	15.12	0.2995	-0.0213	0.0015	-0.0386	0.0037	-0.0333	0.0110	-0.0311	0.0609
3	15.12	0.3493	-0.0458	0.0018	-0.0610	0.0068	-0.0687	0.0185	0.0613	0.0545
3	15.12	0.4000	-0.0640	0.0022	-0.0774	0.0103	-0.1212	0.0282	0.2081	0.0565
3	15.12	0.4497	-0.0901	0.0023	-0.0965	0.0127	-0.2519	0.0366	0.0451	0.0525
3	15.12	0.4997	-0.1315	0.0029	-0.1236	0.0152	-0.3964	0.0460	0.0824	0.0517
3	15.12	0.5556	-0.1576	0.0030	-0.1222	0.0188	-0.6321	0.0575	0.1591	0.0552
3	15.12	0.5995	-0.1755	0.0029	-0.1412	0.0213	-0.8895	0.0680	0.1386	0.0531
3	15.12	0.6498	-0.2124	0.0028	-0.1605	0.0247	-1.2175	0.0804	0.1760	0.0537
3	15.12	0.6890	-0.2771	0.0027	-0.1647	0.0272	-1.5585	0.0908	0.1360	0.0512
3	15.12	0.7495	-0.2990	0.0028	-0.1615	0.0319	-2.1271	0.1078	0.0798	0.0538
3	15.12	0.7998	-0.3165	0.0029	-0.1709	0.0362	-2.6393	0.1237	0.1833	0.0507
3	15.12	0.8577	-0.3760	0.0036	-0.1713	0.0403	-3.3351	0.1422	0.1211	0.0508
3	15.12	0.9178	-0.4429	0.0039	-0.2491	0.0451	-4.0829	0.1617	0.0297	0.0532
3	15.12	0.9729	-0.4055	0.0044	-0.2160	0.0490	-4.8079	0.1817	0.0127	0.0577
4	15.12	0.2001	0.0370	0.0024	0.0128	0.0013	-0.0381	0.0033	0.0176	0.0295
4	15.12	0.2502	0.0181	0.0014	0.0173	0.0024	-0.0616	0.0056	0.0192	0.0560
4	15.12	0.3001	0.0003	0.0012	0.0485	0.0047	-0.1228	0.0098	0.0279	0.0684
4	15.12	0.3502	-0.0365	0.0019	0.0858	0.0086	-0.2036	0.0169	0.0732	0.0560
4	15.12	0.4002	-0.0741	0.0026	0.1282	0.0129	-0.3018	0.0246	0.0615	0.0582
4	15.12	0.4500	-0.0902	0.0028	0.1809	0.0156	-0.4815	0.0316	-0.1196	0.0595
4	15.12	0.5001	-0.1223	0.0030	0.2171	0.0193	-0.6768	0.0386	0.0842	0.0575
4	15.12	0.5560	-0.1584	0.0030	0.2718	0.0230	-1.0340	0.0464	0.0021	0.0515
4	15.12	0.6001	-0.1857	0.0032	0.3303	0.0258	-1.3797	0.0529	-0.0552	0.0514
4	15.12	0.6501	-0.2445	0.0028	0.3566	0.0293	-1.8137	0.0607	0.1430	0.0537
4	15.12	0.6999	-0.2709	0.0028	0.3962	0.0325	-2.3564	0.0680	0.2658	0.0532
4	15.12	0.7500	-0.3173	0.0028	0.4661	0.0356	-2.9710	0.0761	0.3485	0.0515
4	15.12	0.8002	-0.3634	0.0030	0.4970	0.0397	-3.6516	0.0845	0.2528	0.0578
4	15.12	0.8582	-0.3978	0.0027	0.5723	0.0440	-4.5240	0.0955	-0.0076	0.0543
4	15.12	0.9101	-0.4161	0.0034	0.5951	0.0476	-5.3152	0.1069	-0.0388	0.0533
4	15.12	0.9728	-0.4224	0.0039	0.6706	0.0520	-6.1089	0.1219	0.6119	0.0553

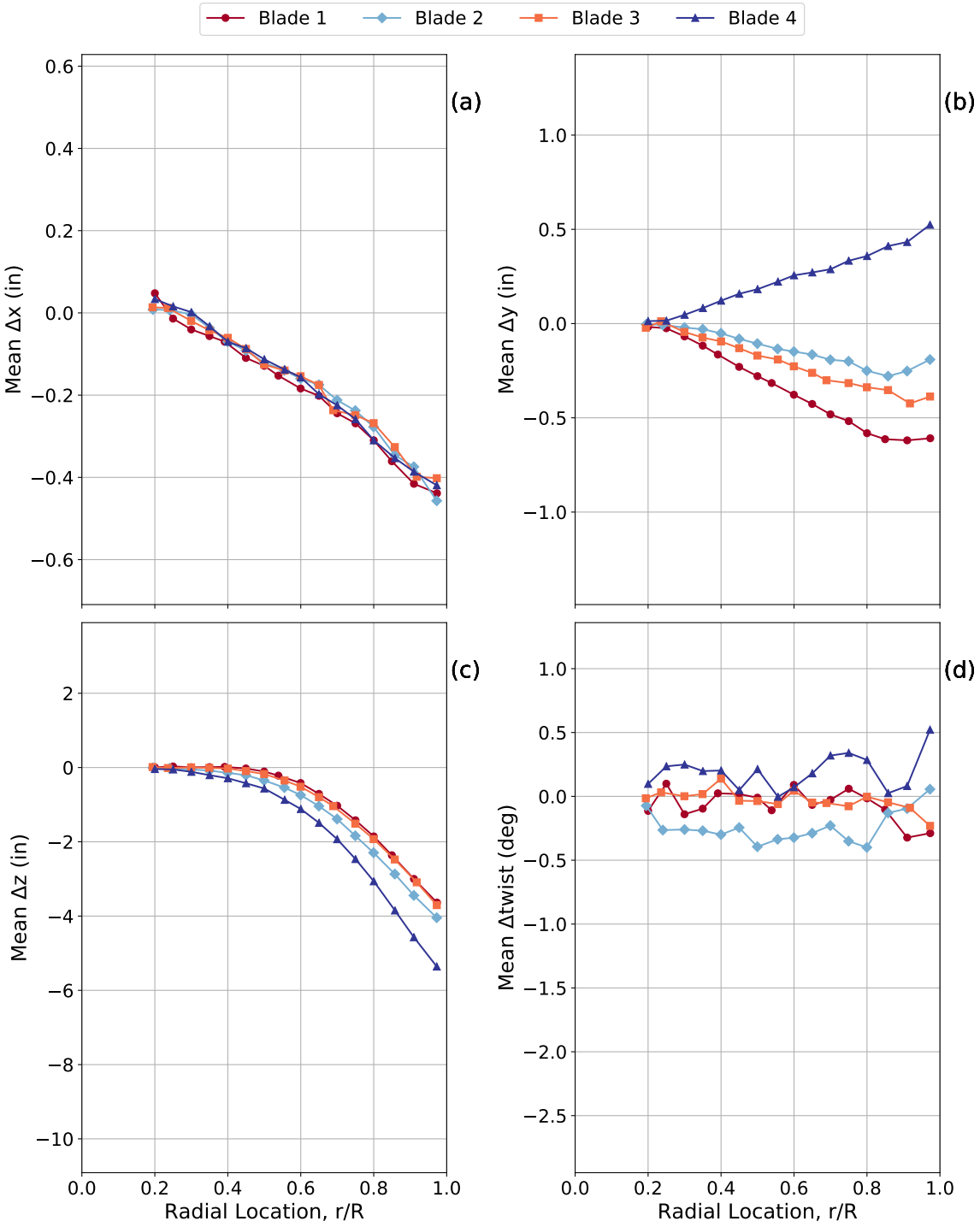


Figure 2.4-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-9. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0478	0.0035	-0.0175	0.0011	0.0041	0.0035	-0.1135	0.0250
1	29.88	0.2499	-0.0139	0.0019	-0.0247	0.0022	0.0289	0.0064	0.0993	0.0502
1	29.88	0.2998	-0.0403	0.0019	-0.0680	0.0043	0.0063	0.0120	-0.1400	0.0582
1	29.88	0.3498	-0.0564	0.0026	-0.1172	0.0078	0.0107	0.0204	-0.0962	0.0581
1	29.88	0.3913	-0.0699	0.0029	-0.1643	0.0109	0.0172	0.0284	0.0239	0.0549
1	29.88	0.4496	-0.1095	0.0033	-0.2297	0.0140	-0.0258	0.0371	0.0182	0.0515
1	29.88	0.4997	-0.1286	0.0040	-0.2788	0.0177	-0.1074	0.0455	-0.0101	0.0548
1	29.88	0.5387	-0.1526	0.0042	-0.3154	0.0188	-0.2177	0.0505	-0.1088	0.0525
1	29.88	0.5996	-0.1838	0.0034	-0.3775	0.0234	-0.4174	0.0600	0.0897	0.0552
1	29.88	0.6498	-0.2016	0.0033	-0.4265	0.0271	-0.7095	0.0700	-0.0668	0.0555
1	29.88	0.6998	-0.2441	0.0039	-0.4814	0.0314	-1.0282	0.0780	-0.0274	0.0534
1	29.88	0.7500	-0.2686	0.0036	-0.5174	0.0352	-1.4207	0.0858	0.0599	0.0523
1	29.88	0.8001	-0.3099	0.0039	-0.5815	0.0391	-1.8554	0.0944	-0.0155	0.0519
1	29.88	0.8497	-0.3608	0.0038	-0.6134	0.0428	-2.3617	0.1036	-0.1036	0.0503
1	29.88	0.9102	-0.4156	0.0036	-0.6194	0.0475	-2.9992	0.1163	-0.3229	0.0545
1	29.88	0.9734	-0.4386	0.0044	-0.6085	0.0528	-3.6370	0.1337	-0.2883	0.0567
2	29.88	0.1949	0.0082	0.0019	-0.0039	0.0008	-0.0060	0.0029	-0.0732	0.0240
2	29.88	0.2405	0.0069	0.0017	-0.0070	0.0015	-0.0234	0.0054	-0.2640	0.0379
2	29.88	0.2999	-0.0036	0.0016	-0.0211	0.0030	-0.0525	0.0109	-0.2598	0.0532
2	29.88	0.3498	-0.0366	0.0018	-0.0301	0.0053	-0.0830	0.0183	-0.2689	0.0489
2	29.88	0.3998	-0.0702	0.0024	-0.0516	0.0082	-0.1445	0.0282	-0.2994	0.0447
2	29.88	0.4496	-0.0914	0.0027	-0.0812	0.0101	-0.2063	0.0362	-0.2446	0.0465
2	29.88	0.4995	-0.1212	0.0031	-0.1063	0.0122	-0.3486	0.0443	-0.3942	0.0398
2	29.88	0.5551	-0.1400	0.0034	-0.1343	0.0154	-0.5397	0.0525	-0.3364	0.0464
2	29.88	0.5996	-0.1598	0.0033	-0.1485	0.0172	-0.7412	0.0598	-0.3234	0.0464
2	29.88	0.6497	-0.1749	0.0029	-0.1644	0.0199	-1.0385	0.0687	-0.2883	0.0453
2	29.88	0.6996	-0.2121	0.0028	-0.1919	0.0230	-1.3867	0.0781	-0.2290	0.0522
2	29.88	0.7495	-0.2376	0.0028	-0.1999	0.0259	-1.8383	0.0864	-0.3507	0.0483
2	29.88	0.7996	-0.2772	0.0027	-0.2502	0.0287	-2.2945	0.0960	-0.3995	0.0480
2	29.88	0.8578	-0.3461	0.0029	-0.2789	0.0324	-2.8689	0.1077	-0.1295	0.0500
2	29.88	0.9100	-0.3742	0.0030	-0.2519	0.0356	-3.4437	0.1196	-0.0958	0.0502
2	29.88	0.9727	-0.4569	0.0031	-0.1907	0.0395	-4.0447	0.1340	0.0561	0.0577
3	29.88	0.1938	0.0136	0.0023	-0.0221	0.0008	0.0122	0.0027	-0.0150	0.0212
3	29.88	0.2357	0.0120	0.0019	0.0121	0.0017	-0.0135	0.0060	0.0316	0.0433
3	29.88	0.2995	-0.0194	0.0017	-0.0443	0.0036	0.0051	0.0110	0.0012	0.0506
3	29.88	0.3493	-0.0424	0.0021	-0.0739	0.0058	-0.0099	0.0186	0.0178	0.0473
3	29.88	0.4000	-0.0606	0.0030	-0.0948	0.0096	-0.0263	0.0292	0.1386	0.0399
3	29.88	0.4497	-0.0878	0.0033	-0.1304	0.0116	-0.0956	0.0361	-0.0344	0.0463
3	29.88	0.4997	-0.1255	0.0036	-0.1697	0.0144	-0.1754	0.0448	-0.0365	0.0461
3	29.88	0.5556	-0.1401	0.0034	-0.1905	0.0174	-0.3488	0.0538	-0.0603	0.0402
3	29.88	0.5995	-0.1540	0.0036	-0.2267	0.0199	-0.5154	0.0603	0.0447	0.0453
3	29.88	0.6498	-0.1752	0.0037	-0.2612	0.0224	-0.7959	0.0689	-0.0484	0.0426
3	29.88	0.6890	-0.2367	0.0040	-0.3007	0.0257	-1.0400	0.0769	-0.0521	0.0444
3	29.88	0.7495	-0.2485	0.0038	-0.3156	0.0291	-1.5110	0.0882	-0.0774	0.0457
3	29.88	0.7998	-0.2681	0.0044	-0.3379	0.0324	-1.9277	0.1000	-0.0027	0.0429
3	29.88	0.8577	-0.3263	0.0043	-0.3530	0.0359	-2.4763	0.1133	-0.0464	0.0445
3	29.88	0.9178	-0.3985	0.0045	-0.4236	0.0403	-3.0914	0.1291	-0.0898	0.0471
3	29.88	0.9729	-0.4020	0.0051	-0.3872	0.0437	-3.7047	0.1414	-0.2312	0.0548
4	29.88	0.2001	0.0336	0.0022	0.0130	0.0009	-0.0402	0.0031	0.0977	0.0242
4	29.88	0.2502	0.0158	0.0016	0.0153	0.0019	-0.0525	0.0064	0.2355	0.0512
4	29.88	0.3001	0.0017	0.0016	0.0466	0.0033	-0.1159	0.0113	0.2491	0.0579
4	29.88	0.3502	-0.0327	0.0025	0.0823	0.0057	-0.2058	0.0186	0.1981	0.0470
4	29.88	0.4002	-0.0700	0.0027	0.1215	0.0087	-0.2888	0.0289	0.2023	0.0499
4	29.88	0.4500	-0.0859	0.0030	0.1582	0.0111	-0.4236	0.0372	0.0492	0.0537
4	29.88	0.5001	-0.1129	0.0029	0.1824	0.0136	-0.5654	0.0456	0.2130	0.0509
4	29.88	0.5560	-0.1380	0.0034	0.2223	0.0169	-0.8708	0.0570	-0.0035	0.0536
4	29.88	0.6001	-0.1568	0.0038	0.2560	0.0193	-1.1174	0.0650	0.0717	0.0576
4	29.88	0.6501	-0.1980	0.0042	0.2713	0.0226	-1.4906	0.0743	0.1802	0.0636
4	29.88	0.6999	-0.2248	0.0042	0.2882	0.0249	-1.9301	0.0833	0.3195	0.0608
4	29.88	0.7500	-0.2586	0.0038	0.3335	0.0291	-2.4648	0.0934	0.3402	0.0679
4	29.88	0.8002	-0.3099	0.0037	0.3583	0.0326	-3.0640	0.1030	0.2847	0.0635
4	29.88	0.8582	-0.3533	0.0037	0.4114	0.0369	-3.8499	0.1143	0.0251	0.0611
4	29.88	0.9101	-0.3861	0.0039	0.4326	0.0409	-4.5706	0.1234	0.0808	0.0639
4	29.88	0.9728	-0.4192	0.0044	0.5243	0.0455	-5.3596	0.1354	0.5216	0.0569

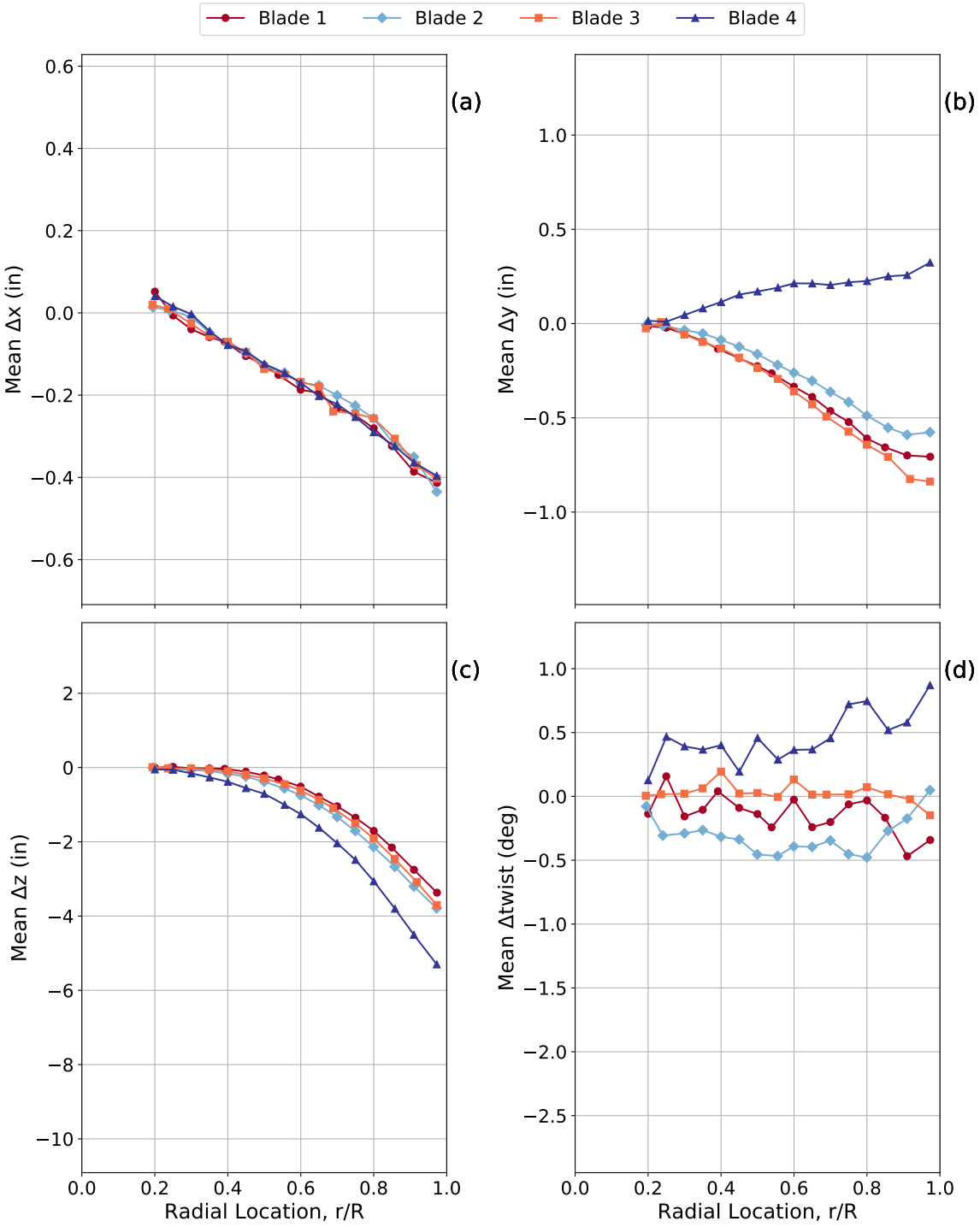


Figure 2.4-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-10. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0517	0.0027	-0.0134	0.0009	-0.0040	0.0030	-0.1367	0.0266
1	45	0.2499	-0.0064	0.0018	-0.0221	0.0018	0.0175	0.0066	0.1567	0.0482
1	45	0.2998	-0.0398	0.0022	-0.0548	0.0039	-0.0185	0.0112	-0.1568	0.0603
1	45	0.3498	-0.0589	0.0019	-0.0937	0.0062	-0.0248	0.0201	-0.1050	0.0553
1	45	0.3913	-0.0704	0.0024	-0.1338	0.0093	-0.0334	0.0281	0.0399	0.0570
1	45	0.4496	-0.1051	0.0031	-0.1834	0.0121	-0.1124	0.0375	-0.0904	0.0583
1	45	0.4997	-0.1272	0.0035	-0.2260	0.0140	-0.2143	0.0456	-0.1383	0.0612
1	45	0.5387	-0.1507	0.0039	-0.2634	0.0168	-0.3209	0.0535	-0.2427	0.0603
1	45	0.5996	-0.1869	0.0035	-0.3345	0.0204	-0.5121	0.0657	-0.0258	0.0604
1	45	0.6498	-0.1946	0.0037	-0.3892	0.0236	-0.7838	0.0748	-0.2411	0.0661
1	45	0.6998	-0.2319	0.0039	-0.4639	0.0272	-1.0434	0.0842	-0.2007	0.0650
1	45	0.7500	-0.2495	0.0034	-0.5225	0.0313	-1.3515	0.0941	-0.0623	0.0670
1	45	0.8001	-0.2805	0.0033	-0.6098	0.0345	-1.7066	0.1044	-0.0319	0.0617
1	45	0.8497	-0.3235	0.0034	-0.6567	0.0381	-2.1547	0.1154	-0.1673	0.0589
1	45	0.9102	-0.3861	0.0036	-0.6994	0.0431	-2.7536	0.1295	-0.4680	0.0583
1	45	0.9734	-0.4134	0.0038	-0.7064	0.0482	-3.3697	0.1453	-0.3416	0.0653
2	45	0.1949	0.0134	0.0021	-0.0072	0.0007	-0.0058	0.0025	-0.0781	0.0200
2	45	0.2405	0.0066	0.0015	-0.0112	0.0018	-0.0265	0.0048	-0.3067	0.0325
2	45	0.2999	-0.0098	0.0019	-0.0345	0.0038	-0.0633	0.0097	-0.2894	0.0455
2	45	0.3498	-0.0479	0.0016	-0.0526	0.0050	-0.0932	0.0172	-0.2644	0.0417
2	45	0.3998	-0.0757	0.0024	-0.0862	0.0092	-0.1703	0.0262	-0.3165	0.0466
2	45	0.4496	-0.0974	0.0029	-0.1226	0.0118	-0.2437	0.0334	-0.3369	0.0396
2	45	0.4995	-0.1296	0.0034	-0.1622	0.0121	-0.3815	0.0415	-0.4551	0.0396
2	45	0.5551	-0.1456	0.0035	-0.2197	0.0148	-0.5616	0.0499	-0.4672	0.0407
2	45	0.5996	-0.1694	0.0036	-0.2606	0.0166	-0.7486	0.0583	-0.3921	0.0429
2	45	0.6497	-0.1764	0.0034	-0.3036	0.0190	-1.0156	0.0656	-0.3957	0.0483
2	45	0.6996	-0.2007	0.0033	-0.3627	0.0212	-1.3288	0.0742	-0.3458	0.0462
2	45	0.7495	-0.2258	0.0032	-0.4164	0.0238	-1.7088	0.0810	-0.4527	0.0426
2	45	0.7996	-0.2568	0.0030	-0.4886	0.0265	-2.1370	0.0894	-0.4781	0.0504
2	45	0.8578	-0.3212	0.0030	-0.5525	0.0296	-2.6694	0.0997	-0.2692	0.0484
2	45	0.9100	-0.3502	0.0032	-0.5901	0.0329	-3.2014	0.1116	-0.1743	0.0480
2	45	0.9727	-0.4351	0.0034	-0.5765	0.0366	-3.7899	0.1277	0.0488	0.0552
3	45	0.1938	0.0200	0.0022	-0.0253	0.0008	0.0087	0.0023	0.0037	0.0209
3	45	0.2357	0.0100	0.0014	0.0075	0.0012	-0.0255	0.0038	0.0160	0.0385
3	45	0.2995	-0.0262	0.0016	-0.0584	0.0027	-0.0240	0.0076	0.0212	0.0489
3	45	0.3493	-0.0562	0.0021	-0.0977	0.0050	-0.0521	0.0130	0.0626	0.0410
3	45	0.4000	-0.0702	0.0028	-0.1321	0.0073	-0.1024	0.0196	0.1941	0.0478
3	45	0.4497	-0.0956	0.0033	-0.1804	0.0097	-0.1935	0.0267	0.0223	0.0468
3	45	0.4997	-0.1366	0.0037	-0.2355	0.0133	-0.2936	0.0352	0.0264	0.0427
3	45	0.5556	-0.1507	0.0036	-0.2935	0.0158	-0.4510	0.0420	-0.0045	0.0541
3	45	0.5995	-0.1680	0.0035	-0.3596	0.0189	-0.6176	0.0484	0.1317	0.0603
3	45	0.6498	-0.1788	0.0036	-0.4288	0.0225	-0.8694	0.0563	0.0140	0.0520
3	45	0.6890	-0.2397	0.0038	-0.4932	0.0254	-1.0952	0.0626	0.0139	0.0506
3	45	0.7495	-0.2447	0.0034	-0.5735	0.0298	-1.5058	0.0719	0.0160	0.0522
3	45	0.7998	-0.2566	0.0038	-0.6425	0.0338	-1.9117	0.0805	0.0715	0.0564
3	45	0.8577	-0.3058	0.0039	-0.7070	0.0385	-2.4617	0.0930	0.0162	0.0556
3	45	0.9178	-0.3705	0.0040	-0.8243	0.0432	-3.0816	0.1068	-0.0236	0.0545
3	45	0.9729	-0.4032	0.0050	-0.8380	0.0481	-3.7059	0.1215	-0.1480	0.0571
4	45	0.2001	0.0409	0.0017	0.0146	0.0007	-0.0507	0.0026	0.1266	0.0226
4	45	0.2502	0.0153	0.0016	0.0101	0.0015	-0.0588	0.0052	0.4668	0.0408
4	45	0.3001	-0.0031	0.0016	0.0456	0.0028	-0.1569	0.0096	0.3911	0.0505
4	45	0.3502	-0.0446	0.0018	0.0808	0.0050	-0.2661	0.0159	0.3659	0.0464
4	45	0.4002	-0.0782	0.0026	0.1143	0.0076	-0.3840	0.0247	0.4002	0.0508
4	45	0.4500	-0.0934	0.0035	0.1538	0.0096	-0.5541	0.0323	0.1934	0.0499
4	45	0.5001	-0.1241	0.0032	0.1702	0.0116	-0.7082	0.0402	0.4574	0.0479
4	45	0.5560	-0.1462	0.0033	0.1906	0.0147	-1.0053	0.0496	0.2877	0.0532
4	45	0.6001	-0.1706	0.0035	0.2133	0.0170	-1.2565	0.0569	0.3637	0.0492
4	45	0.6501	-0.2022	0.0036	0.2128	0.0200	-1.6209	0.0626	0.3673	0.0541
4	45	0.6999	-0.2222	0.0038	0.2046	0.0233	-2.0385	0.0695	0.4559	0.0499
4	45	0.7500	-0.2533	0.0036	0.2189	0.0276	-2.4870	0.0756	0.7209	0.0550
4	45	0.8002	-0.2901	0.0034	0.2258	0.0310	-3.0638	0.0819	0.7459	0.0547
4	45	0.8582	-0.3241	0.0036	0.2506	0.0355	-3.8024	0.0903	0.5187	0.0527
4	45	0.9101	-0.3639	0.0030	0.2573	0.0396	-4.5059	0.0976	0.5787	0.0513
4	45	0.9728	-0.3961	0.0037	0.3236	0.0450	-5.3013	0.1077	0.8703	0.0536

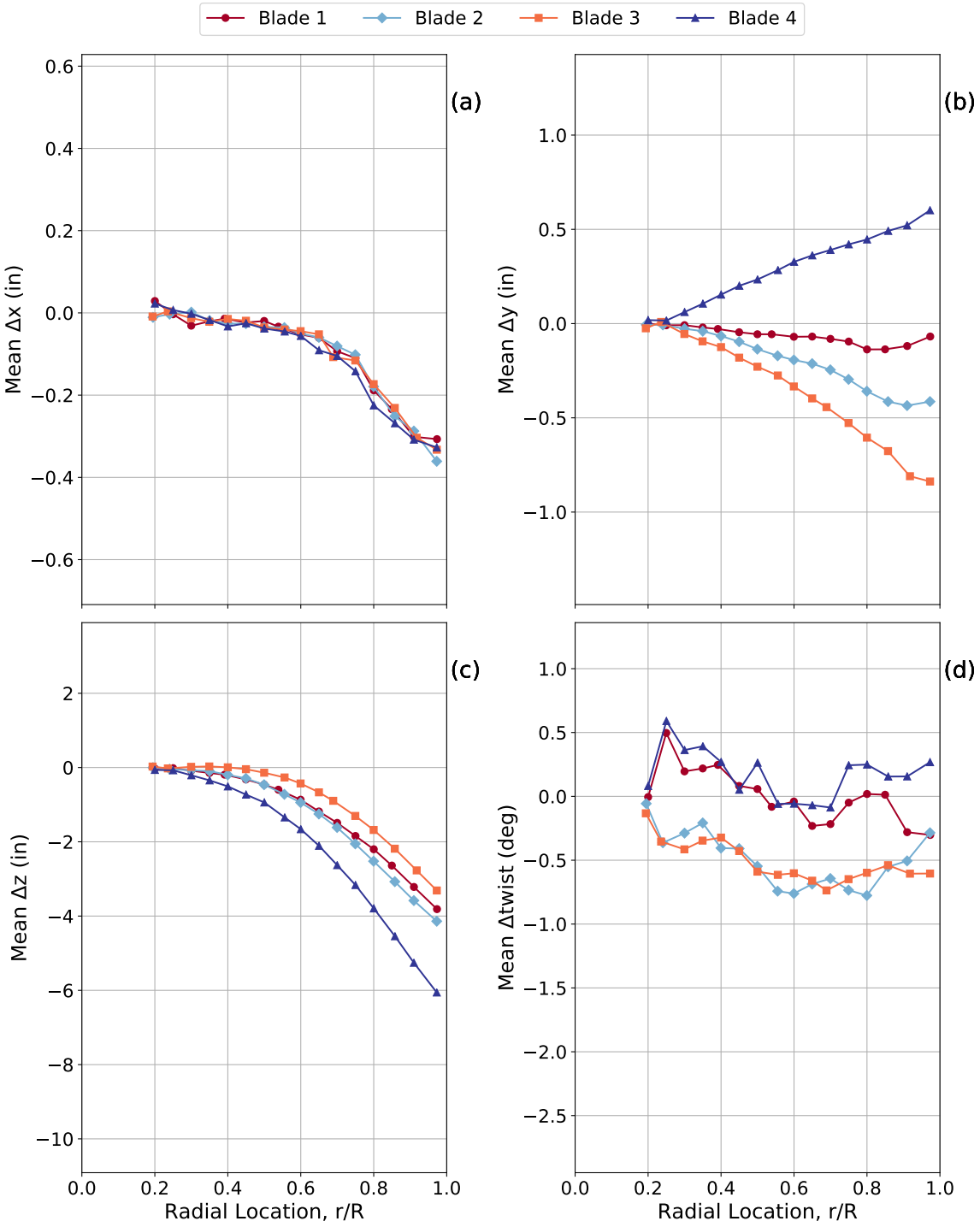


Figure 2.4-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0289	0.0017	-0.0015	0.0009	-0.0268	0.0029	-0.0053	0.0257
1	60.12	0.2499	-0.0034	0.0013	-0.0089	0.0014	-0.0166	0.0048	0.4966	0.0463
1	60.12	0.2998	-0.0311	0.0011	-0.0084	0.0031	-0.0860	0.0101	0.1957	0.0583
1	60.12	0.3498	-0.0205	0.0014	-0.0207	0.0056	-0.1459	0.0174	0.2186	0.0511
1	60.12	0.3913	-0.0140	0.0014	-0.0286	0.0075	-0.1919	0.0239	0.2463	0.0572
1	60.12	0.4496	-0.0235	0.0018	-0.0459	0.0105	-0.3207	0.0327	0.0817	0.0575
1	60.12	0.4997	-0.0196	0.0020	-0.0566	0.0130	-0.4601	0.0407	0.0574	0.0519
1	60.12	0.5387	-0.0335	0.0025	-0.0566	0.0154	-0.5972	0.0486	-0.0817	0.0635
1	60.12	0.5996	-0.0524	0.0018	-0.0700	0.0183	-0.8668	0.0569	-0.0405	0.0607
1	60.12	0.6498	-0.0606	0.0023	-0.0690	0.0215	-1.1832	0.0649	-0.2315	0.0608
1	60.12	0.6998	-0.0933	0.0022	-0.0811	0.0245	-1.4909	0.0729	-0.2170	0.0633
1	60.12	0.7500	-0.1101	0.0020	-0.0954	0.0276	-1.8435	0.0786	-0.0491	0.0568
1	60.12	0.8001	-0.1883	0.0022	-0.1371	0.0313	-2.2008	0.0851	0.0187	0.0590
1	60.12	0.8497	-0.2343	0.0026	-0.1367	0.0345	-2.6399	0.0915	0.0127	0.0548
1	60.12	0.9102	-0.3012	0.0025	-0.1190	0.0391	-3.2164	0.1008	-0.2804	0.0603
1	60.12	0.9734	-0.3070	0.0030	-0.0687	0.0437	-3.8131	0.1117	-0.3022	0.0567
2	60.12	0.1949	-0.0108	0.0015	-0.0063	0.0007	-0.0019	0.0027	-0.0567	0.0199
2	60.12	0.2405	-0.0032	0.0012	-0.0070	0.0014	-0.0433	0.0047	-0.3633	0.0378
2	60.12	0.2999	0.0018	0.0011	-0.0274	0.0029	-0.0743	0.0093	-0.2877	0.0475
2	60.12	0.3498	-0.0186	0.0012	-0.0403	0.0047	-0.0961	0.0167	-0.2080	0.0448
2	60.12	0.3998	-0.0258	0.0016	-0.0658	0.0075	-0.1967	0.0248	-0.4049	0.0524
2	60.12	0.4496	-0.0262	0.0022	-0.0962	0.0100	-0.2919	0.0344	-0.4088	0.0487
2	60.12	0.4995	-0.0340	0.0021	-0.1356	0.0121	-0.4626	0.0431	-0.5469	0.0500
2	60.12	0.5551	-0.0358	0.0019	-0.1709	0.0150	-0.7214	0.0529	-0.7424	0.0583
2	60.12	0.5996	-0.0505	0.0022	-0.1931	0.0173	-0.9428	0.0609	-0.7610	0.0600
2	60.12	0.6497	-0.0595	0.0023	-0.2125	0.0204	-1.2507	0.0703	-0.6869	0.0565
2	60.12	0.6996	-0.0807	0.0025	-0.2453	0.0229	-1.6140	0.0788	-0.6433	0.0642
2	60.12	0.7495	-0.1018	0.0027	-0.2960	0.0266	-2.0557	0.0882	-0.7343	0.0565
2	60.12	0.7996	-0.1792	0.0027	-0.3590	0.0299	-2.5232	0.0960	-0.7764	0.0580
2	60.12	0.8578	-0.2512	0.0029	-0.4140	0.0340	-3.0736	0.1042	-0.5519	0.0664
2	60.12	0.9100	-0.2874	0.0031	-0.4351	0.0380	-3.5829	0.1119	-0.5053	0.0621
2	60.12	0.9727	-0.3609	0.0037	-0.4139	0.0426	-4.1388	0.1224	-0.2851	0.0584
3	60.12	0.1938	-0.0088	0.0017	-0.0251	0.0008	0.0261	0.0027	-0.1326	0.0194
3	60.12	0.2357	0.0037	0.0013	0.0086	0.0011	-0.0239	0.0041	-0.3538	0.0373
3	60.12	0.2995	-0.0128	0.0013	-0.0553	0.0028	0.0188	0.0092	-0.4149	0.0471
3	60.12	0.3493	-0.0215	0.0012	-0.0942	0.0046	0.0288	0.0159	-0.3464	0.0396
3	60.12	0.4000	-0.0148	0.0019	-0.1248	0.0072	0.0058	0.0239	-0.3227	0.0461
3	60.12	0.4497	-0.0191	0.0020	-0.1807	0.0086	-0.0446	0.0312	-0.4283	0.0472
3	60.12	0.4997	-0.0354	0.0025	-0.2289	0.0111	-0.1397	0.0388	-0.5896	0.0449
3	60.12	0.5556	-0.0404	0.0021	-0.2754	0.0129	-0.2677	0.0469	-0.6142	0.0521
3	60.12	0.5995	-0.0444	0.0023	-0.3336	0.0150	-0.4293	0.0537	-0.6021	0.0512
3	60.12	0.6498	-0.0521	0.0021	-0.3970	0.0174	-0.6680	0.0613	-0.6603	0.0487
3	60.12	0.6890	-0.1075	0.0021	-0.4432	0.0194	-0.8962	0.0668	-0.7365	0.0563
3	60.12	0.7495	-0.1157	0.0021	-0.5275	0.0229	-1.3037	0.0777	-0.6482	0.0530
3	60.12	0.7998	-0.1733	0.0022	-0.6051	0.0258	-1.6814	0.0869	-0.5981	0.0485
3	60.12	0.8577	-0.2311	0.0023	-0.6765	0.0293	-2.1857	0.0969	-0.5390	0.0510
3	60.12	0.9178	-0.3036	0.0025	-0.8098	0.0334	-2.7704	0.1071	-0.6053	0.0454
3	60.12	0.9729	-0.3327	0.0031	-0.8378	0.0371	-3.3112	0.1171	-0.6043	0.0529
4	60.12	0.2001	0.0226	0.0016	0.0183	0.0008	-0.0648	0.0024	0.0813	0.0196
4	60.12	0.2502	0.0069	0.0010	0.0162	0.0013	-0.0746	0.0042	0.5899	0.0447
4	60.12	0.3001	-0.0022	0.0013	0.0611	0.0026	-0.2093	0.0085	0.3626	0.0462
4	60.12	0.3502	-0.0175	0.0013	0.1057	0.0041	-0.3466	0.0142	0.3926	0.0425
4	60.12	0.4002	-0.0329	0.0019	0.1536	0.0062	-0.5088	0.0216	0.2691	0.0453
4	60.12	0.4500	-0.0253	0.0018	0.2006	0.0079	-0.7297	0.0295	0.0517	0.0455
4	60.12	0.5001	-0.0381	0.0022	0.2341	0.0101	-0.9410	0.0376	0.2634	0.0466
4	60.12	0.5560	-0.0453	0.0025	0.2836	0.0127	-1.3444	0.0483	-0.0591	0.0498
4	60.12	0.6001	-0.0561	0.0021	0.3277	0.0144	-1.6612	0.0570	-0.0576	0.0488
4	60.12	0.6501	-0.0909	0.0023	0.3618	0.0168	-2.1083	0.0660	-0.0692	0.0549
4	60.12	0.6999	-0.1047	0.0022	0.3905	0.0196	-2.6293	0.0757	-0.0874	0.0523
4	60.12	0.7500	-0.1420	0.0030	0.4203	0.0225	-3.1646	0.0855	0.2437	0.0537
4	60.12	0.8002	-0.2251	0.0033	0.4461	0.0254	-3.7941	0.0949	0.2489	0.0500
4	60.12	0.8582	-0.2685	0.0033	0.4916	0.0291	-4.5441	0.1046	0.1552	0.0526
4	60.12	0.9101	-0.3082	0.0033	0.5210	0.0318	-5.2589	0.1130	0.1560	0.0559
4	60.12	0.9728	-0.3271	0.0037	0.6010	0.0360	-6.0582	0.1244	0.2678	0.0601

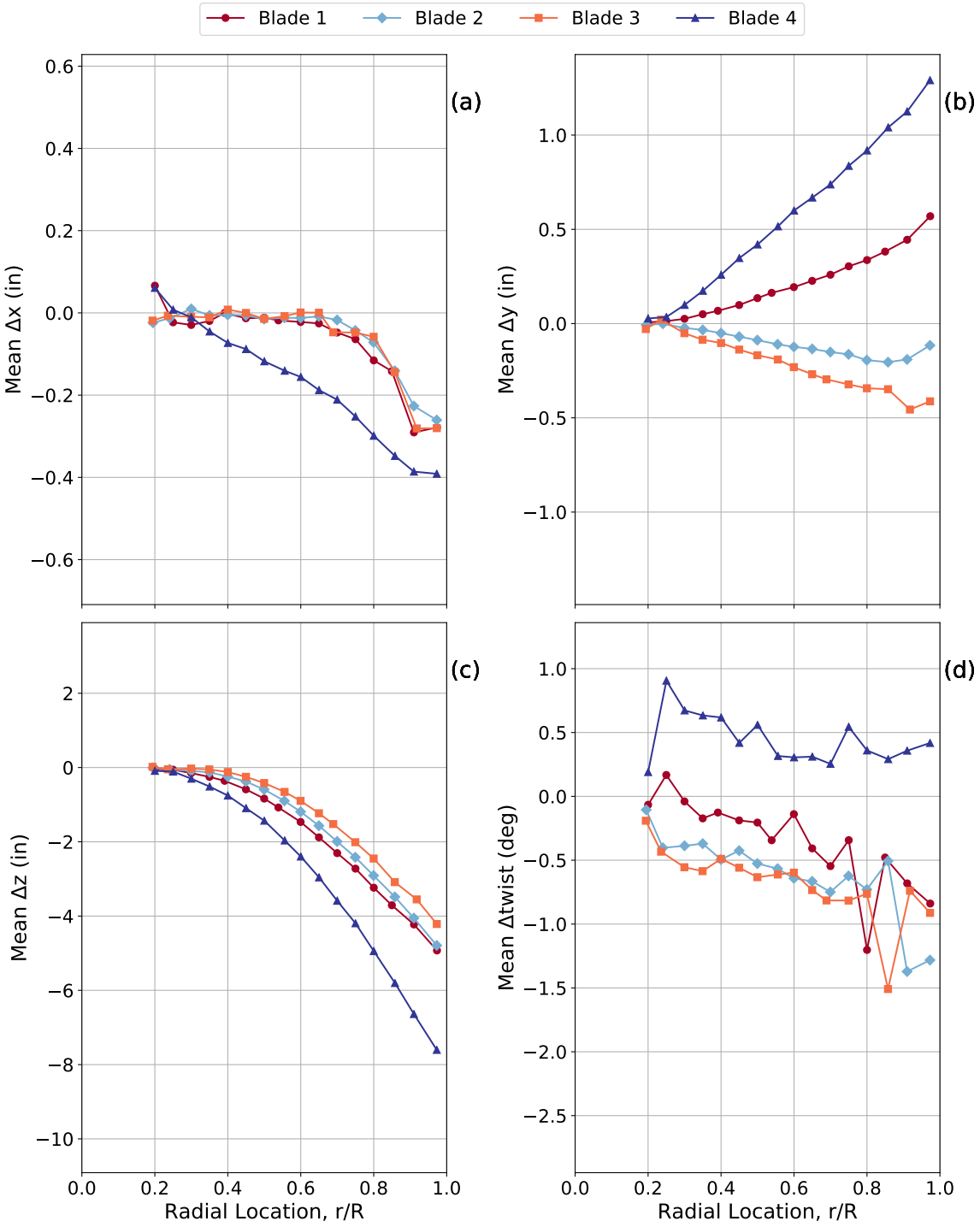


Figure 2.4-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-12. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0661	0.0038	0.0063	0.0024	-0.0391	0.0045	-0.0660	0.0369
1	74.88	0.2499	-0.0230	0.0010	0.0129	0.0033	-0.0579	0.0059	0.1676	0.0903
1	74.88	0.2998	-0.0294	0.0012	0.0253	0.0088	-0.1505	0.0153	-0.0394	0.0966
1	74.88	0.3498	-0.0196	0.0012	0.0497	0.0155	-0.2526	0.0258	-0.1724	0.0918
1	74.88	0.3913	-0.0001	0.0016	0.0678	0.0212	-0.3578	0.0352	-0.1266	0.0916
1	74.88	0.4496	-0.0131	0.0017	0.0985	0.0285	-0.5874	0.0480	-0.1882	0.0926
1	74.88	0.4997	-0.0117	0.0019	0.1351	0.0354	-0.8367	0.0599	-0.2051	0.0874
1	74.88	0.5387	-0.0182	0.0018	0.1631	0.0405	-1.0762	0.0694	-0.3437	0.0868
1	74.88	0.5996	-0.0221	0.0022	0.1933	0.0485	-1.4658	0.0836	-0.1390	0.0880
1	74.88	0.6498	-0.0256	0.0028	0.2268	0.0552	-1.8804	0.0948	-0.4072	0.0903
1	74.88	0.6998	-0.0478	0.0030	0.2591	0.0624	-2.3046	0.1060	-0.5460	0.0952
1	74.88	0.7500	-0.0640	0.0040	0.3039	0.0688	-2.7227	0.1148	-0.3430	0.1231
1	74.88	0.8001	-0.1155	0.0032	0.3369	0.0767	-3.2364	0.1270	-1.2026	0.0965
1	74.88	0.8497	-0.1418	0.0045	0.3819	0.0825	-3.7083	0.1373	-0.4786	0.1202
1	74.88	0.9102	-0.2906	0.0028	0.4447	0.0922	-4.2260	0.1512	-0.6814	0.0874
1	74.88	0.9734	-0.2786	0.0038	0.5696	0.1013	-4.9266	0.1662	-0.8392	0.0893
2	74.88	0.1949	-0.0239	0.0010	-0.0074	0.0007	-0.0071	0.0018	-0.1055	0.0176
2	74.88	0.2405	-0.0128	0.0010	-0.0009	0.0017	-0.0492	0.0041	-0.4032	0.0336
2	74.88	0.2999	0.0097	0.0012	-0.0233	0.0029	-0.0921	0.0071	-0.3871	0.0434
2	74.88	0.3498	-0.0062	0.0013	-0.0335	0.0050	-0.1282	0.0121	-0.3702	0.0395
2	74.88	0.3998	-0.0047	0.0014	-0.0507	0.0077	-0.2430	0.0189	-0.4946	0.0414
2	74.88	0.4496	-0.0060	0.0016	-0.0693	0.0097	-0.3775	0.0261	-0.4251	0.0398
2	74.88	0.4995	-0.0151	0.0021	-0.0878	0.0121	-0.5925	0.0346	-0.5262	0.0446
2	74.88	0.5551	-0.0118	0.0021	-0.1100	0.0150	-0.8979	0.0460	-0.5662	0.0476
2	74.88	0.5996	-0.0123	0.0022	-0.1235	0.0174	-1.1905	0.0562	-0.6418	0.0503
2	74.88	0.6497	-0.0086	0.0028	-0.1344	0.0208	-1.5669	0.0687	-0.6653	0.0521
2	74.88	0.6996	-0.0172	0.0033	-0.1509	0.0234	-1.9918	0.0804	-0.7490	0.0587
2	74.88	0.7495	-0.0428	0.0035	-0.1631	0.0260	-2.4163	0.0950	-0.6230	0.0618
2	74.88	0.7996	-0.0716	0.0035	-0.1940	0.0306	-2.9093	0.1084	-0.7292	0.0771
2	74.88	0.8578	-0.1409	0.0056	-0.2046	0.0349	-3.4838	0.1180	-0.5057	0.1153
2	74.88	0.9100	-0.2265	0.0040	-0.1903	0.0372	-4.0547	0.1351	-1.3715	0.0766
2	74.88	0.9727	-0.2606	0.0043	-0.1157	0.0415	-4.7912	0.1525	-1.2822	0.0811
3	74.88	0.1938	-0.0188	0.0017	-0.0290	0.0013	0.0179	0.0029	-0.1908	0.0184
3	74.88	0.2357	-0.0067	0.0009	0.0207	0.0017	-0.0484	0.0043	-0.4331	0.0396
3	74.88	0.2995	-0.0095	0.0011	-0.0510	0.0045	-0.0273	0.0100	-0.5549	0.0476
3	74.88	0.3493	-0.0108	0.0014	-0.0855	0.0076	-0.0508	0.0166	-0.5857	0.0495
3	74.88	0.4000	0.0080	0.0012	-0.1031	0.0116	-0.1217	0.0253	-0.4893	0.0466
3	74.88	0.4497	-0.0001	0.0016	-0.1380	0.0145	-0.2501	0.0332	-0.5587	0.0485
3	74.88	0.4997	-0.0146	0.0018	-0.1679	0.0181	-0.4177	0.0419	-0.6330	0.0516
3	74.88	0.5556	-0.0080	0.0018	-0.1906	0.0222	-0.6562	0.0518	-0.6118	0.0541
3	74.88	0.5995	0.0010	0.0019	-0.2312	0.0258	-0.8970	0.0585	-0.5973	0.0540
3	74.88	0.6498	0.0004	0.0020	-0.2688	0.0294	-1.2316	0.0663	-0.7338	0.0580
3	74.88	0.6890	-0.0472	0.0026	-0.2959	0.0335	-1.5222	0.0732	-0.8149	0.0687
3	74.88	0.7495	-0.0477	0.0028	-0.3225	0.0381	-2.0116	0.0819	-0.8158	0.0644
3	74.88	0.7998	-0.0581	0.0036	-0.3432	0.0428	-2.4504	0.0904	-0.7622	0.0729
3	74.88	0.8577	-0.1442	0.0047	-0.3481	0.0476	-3.0861	0.1003	-1.5089	0.0810
3	74.88	0.9178	-0.2810	0.0027	-0.4561	0.0531	-3.5515	0.1110	-0.7395	0.0634
3	74.88	0.9729	-0.2803	0.0040	-0.4125	0.0584	-4.2135	0.1229	-0.9124	0.0693
4	74.88	0.2001	0.0608	0.0023	0.0271	0.0011	-0.0896	0.0031	0.1902	0.0314
4	74.88	0.2502	0.0077	0.0018	0.0350	0.0020	-0.1098	0.0057	0.9060	0.0674
4	74.88	0.3001	-0.0109	0.0018	0.0991	0.0037	-0.3014	0.0109	0.6730	0.0747
4	74.88	0.3502	-0.0453	0.0018	0.1739	0.0063	-0.5128	0.0187	0.6338	0.0729
4	74.88	0.4002	-0.0731	0.0023	0.2588	0.0096	-0.7555	0.0285	0.6178	0.0732
4	74.88	0.4500	-0.0881	0.0020	0.3475	0.0119	-1.0945	0.0366	0.4189	0.0727
4	74.88	0.5001	-0.1178	0.0022	0.4195	0.0148	-1.4319	0.0453	0.5599	0.0716
4	74.88	0.5560	-0.1407	0.0026	0.5156	0.0181	-1.9654	0.0555	0.3161	0.0709
4	74.88	0.6001	-0.1558	0.0023	0.5998	0.0207	-2.3978	0.0634	0.3054	0.0742
4	74.88	0.6501	-0.1879	0.0028	0.6685	0.0239	-2.9594	0.0728	0.3109	0.0778
4	74.88	0.6999	-0.2111	0.0030	0.7382	0.0270	-3.5882	0.0827	0.2545	0.0736
4	74.88	0.7500	-0.2521	0.0033	0.8366	0.0306	-4.1950	0.0921	0.5443	0.0751
4	74.88	0.8002	-0.2988	0.0037	0.9183	0.0337	-4.9442	0.1011	0.3596	0.0754
4	74.88	0.8582	-0.3479	0.0036	1.0408	0.0381	-5.8039	0.1128	0.2914	0.0751
4	74.88	0.9101	-0.3860	0.0040	1.1250	0.0414	-6.6388	0.1231	0.3578	0.0735
4	74.88	0.9728	-0.3913	0.0045	1.2911	0.0461	-7.6042	0.1367	0.4180	0.0735

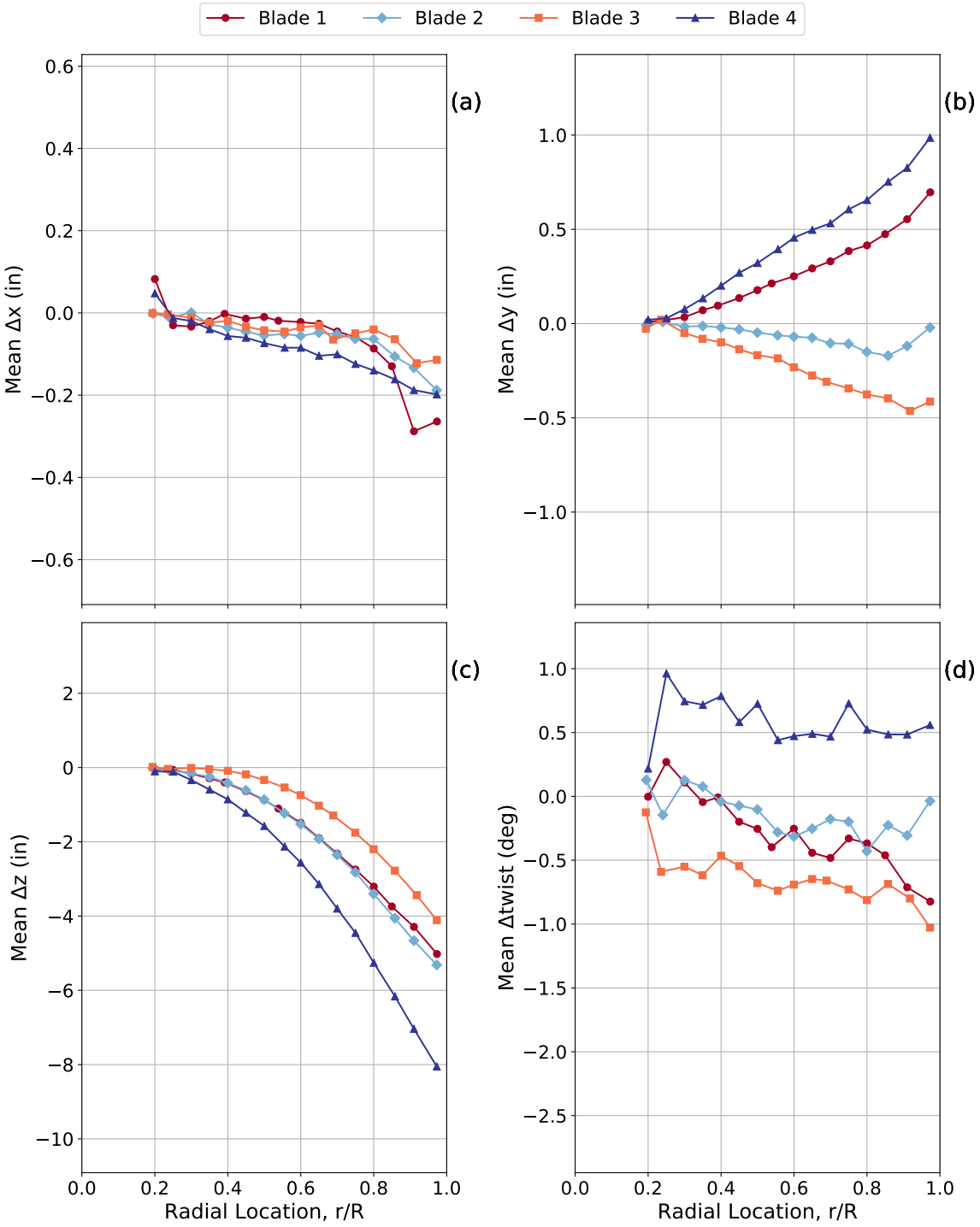


Figure 2.4-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-13. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0823	0.0046	0.0085	0.0033	-0.0451	0.0067	-0.0030	0.0525
1	80.16	0.2499	-0.0301	0.0012	0.0192	0.0038	-0.0637	0.0068	0.2694	0.1438
1	80.16	0.2998	-0.0333	0.0013	0.0341	0.0119	-0.1660	0.0218	0.1083	0.1448
1	80.16	0.3498	-0.0207	0.0010	0.0708	0.0205	-0.2921	0.0376	-0.0450	0.1422
1	80.16	0.3913	-0.0023	0.0012	0.0951	0.0279	-0.4020	0.0501	-0.0078	0.1443
1	80.16	0.4496	-0.0141	0.0015	0.1354	0.0376	-0.6373	0.0687	-0.1988	0.1402
1	80.16	0.4997	-0.0099	0.0016	0.1774	0.0466	-0.8742	0.0849	-0.2544	0.1374
1	80.16	0.5387	-0.0191	0.0017	0.2129	0.0533	-1.1051	0.0974	-0.3983	0.1427
1	80.16	0.5996	-0.0224	0.0020	0.2510	0.0640	-1.4889	0.1170	-0.2532	0.1457
1	80.16	0.6498	-0.0264	0.0024	0.2929	0.0732	-1.8992	0.1345	-0.4417	0.1459
1	80.16	0.6998	-0.0451	0.0031	0.3302	0.0818	-2.3187	0.1512	-0.4823	0.1477
1	80.16	0.7500	-0.0589	0.0036	0.3849	0.0905	-2.7464	0.1680	-0.3298	0.1403
1	80.16	0.8001	-0.0866	0.0043	0.4150	0.0993	-3.2067	0.1870	-0.3681	0.1402
1	80.16	0.8497	-0.1297	0.0047	0.4745	0.1084	-3.7421	0.2007	-0.4613	0.1399
1	80.16	0.9102	-0.2879	0.0040	0.5539	0.1191	-4.2904	0.2212	-0.7122	0.1457
1	80.16	0.9734	-0.2640	0.0038	0.6966	0.1311	-5.0209	0.2436	-0.8238	0.1454
2	80.16	0.1949	-0.0015	0.0025	-0.0073	0.0010	-0.0240	0.0036	0.1281	0.0287
2	80.16	0.2405	-0.0116	0.0020	0.0090	0.0014	-0.0775	0.0051	-0.1456	0.0631
2	80.16	0.2999	0.0007	0.0015	-0.0164	0.0031	-0.1533	0.0109	0.1261	0.0715
2	80.16	0.3498	-0.0277	0.0013	-0.0128	0.0054	-0.2515	0.0189	0.0760	0.0653
2	80.16	0.3998	-0.0358	0.0016	-0.0203	0.0081	-0.4181	0.0272	-0.0408	0.0653
2	80.16	0.4496	-0.0458	0.0018	-0.0309	0.0103	-0.6129	0.0350	-0.0727	0.0695
2	80.16	0.4995	-0.0548	0.0018	-0.0478	0.0130	-0.8618	0.0444	-0.1030	0.0664
2	80.16	0.5551	-0.0514	0.0019	-0.0621	0.0157	-1.2308	0.0551	-0.2801	0.0671
2	80.16	0.5996	-0.0559	0.0021	-0.0694	0.0183	-1.5260	0.0648	-0.3145	0.0658
2	80.16	0.6497	-0.0480	0.0022	-0.0755	0.0213	-1.9193	0.0757	-0.2528	0.0654
2	80.16	0.6996	-0.0521	0.0024	-0.1041	0.0244	-2.3535	0.0866	-0.1779	0.0647
2	80.16	0.7495	-0.0632	0.0025	-0.1075	0.0276	-2.8189	0.0995	-0.1980	0.0631
2	80.16	0.7996	-0.0634	0.0029	-0.1503	0.0311	-3.4037	0.1122	-0.4287	0.0658
2	80.16	0.8578	-0.1060	0.0031	-0.1703	0.0352	-4.0564	0.1280	-0.2264	0.0621
2	80.16	0.9100	-0.1334	0.0036	-0.1189	0.0388	-4.6616	0.1424	-0.3062	0.0643
2	80.16	0.9727	-0.1880	0.0038	-0.0210	0.0432	-5.3164	0.1604	-0.0361	0.0641
3	80.16	0.1938	-0.0006	0.0034	-0.0279	0.0012	0.0148	0.0054	-0.1252	0.0283
3	80.16	0.2357	-0.0034	0.0016	0.0205	0.0014	-0.0389	0.0056	-0.5910	0.0812
3	80.16	0.2995	-0.0123	0.0017	-0.0502	0.0041	-0.0110	0.0163	-0.5506	0.0824
3	80.16	0.3493	-0.0243	0.0014	-0.0806	0.0070	-0.0453	0.0268	-0.6171	0.0825
3	80.16	0.4000	-0.0191	0.0018	-0.0991	0.0106	-0.0880	0.0397	-0.4650	0.0798
3	80.16	0.4497	-0.0335	0.0019	-0.1359	0.0135	-0.1862	0.0503	-0.5463	0.0877
3	80.16	0.4997	-0.0423	0.0021	-0.1676	0.0174	-0.3363	0.0638	-0.6794	0.0807
3	80.16	0.5556	-0.0456	0.0024	-0.1844	0.0217	-0.5371	0.0783	-0.7390	0.0806
3	80.16	0.5995	-0.0353	0.0023	-0.2322	0.0254	-0.7444	0.0896	-0.6907	0.0791
3	80.16	0.6498	-0.0307	0.0022	-0.2753	0.0300	-1.0272	0.1023	-0.6474	0.0864
3	80.16	0.6890	-0.0648	0.0024	-0.3088	0.0335	-1.2917	0.1131	-0.6597	0.0826
3	80.16	0.7495	-0.0499	0.0025	-0.3437	0.0394	-1.7540	0.1293	-0.7292	0.0854
3	80.16	0.7998	-0.0404	0.0027	-0.3758	0.0447	-2.1993	0.1426	-0.8128	0.0844
3	80.16	0.8577	-0.0641	0.0032	-0.3967	0.0511	-2.7771	0.1581	-0.6860	0.0836
3	80.16	0.9178	-0.1225	0.0034	-0.4632	0.0581	-3.4370	0.1739	-0.7998	0.0838
3	80.16	0.9729	-0.1142	0.0039	-0.4140	0.0643	-4.1122	0.1881	-1.0279	0.0878
4	80.16	0.2001	0.0475	0.0025	0.0204	0.0013	-0.1048	0.0043	0.2177	0.0397
4	80.16	0.2502	-0.0126	0.0021	0.0282	0.0018	-0.1105	0.0056	0.9623	0.0836
4	80.16	0.3001	-0.0198	0.0017	0.0767	0.0040	-0.3394	0.0120	0.7449	0.0930
4	80.16	0.3502	-0.0397	0.0017	0.1340	0.0067	-0.5955	0.0209	0.7169	0.0805
4	80.16	0.4002	-0.0563	0.0018	0.2012	0.0098	-0.8585	0.0295	0.7855	0.0863
4	80.16	0.4500	-0.0604	0.0022	0.2695	0.0122	-1.2189	0.0361	0.5818	0.0897
4	80.16	0.5001	-0.0735	0.0022	0.3213	0.0151	-1.5759	0.0439	0.7245	0.0919
4	80.16	0.5560	-0.0846	0.0022	0.3943	0.0185	-2.1292	0.0526	0.4402	0.0869
4	80.16	0.6001	-0.0848	0.0023	0.4556	0.0212	-2.5616	0.0593	0.4718	0.0883
4	80.16	0.6501	-0.1043	0.0025	0.4969	0.0246	-3.1406	0.0672	0.4895	0.0907
4	80.16	0.6999	-0.1008	0.0025	0.5323	0.0280	-3.7995	0.0751	0.4681	0.0867
4	80.16	0.7500	-0.1242	0.0029	0.6060	0.0315	-4.4537	0.0830	0.7274	0.0914
4	80.16	0.8002	-0.1401	0.0030	0.6553	0.0354	-5.2589	0.0920	0.5231	0.0918
4	80.16	0.8582	-0.1617	0.0033	0.7526	0.0399	-6.1644	0.1025	0.4848	0.0892
4	80.16	0.9101	-0.1877	0.0037	0.8260	0.0442	-7.0384	0.1125	0.4841	0.0888
4	80.16	0.9728	-0.1982	0.0044	0.9855	0.0493	-8.0521	0.1256	0.5590	0.0921

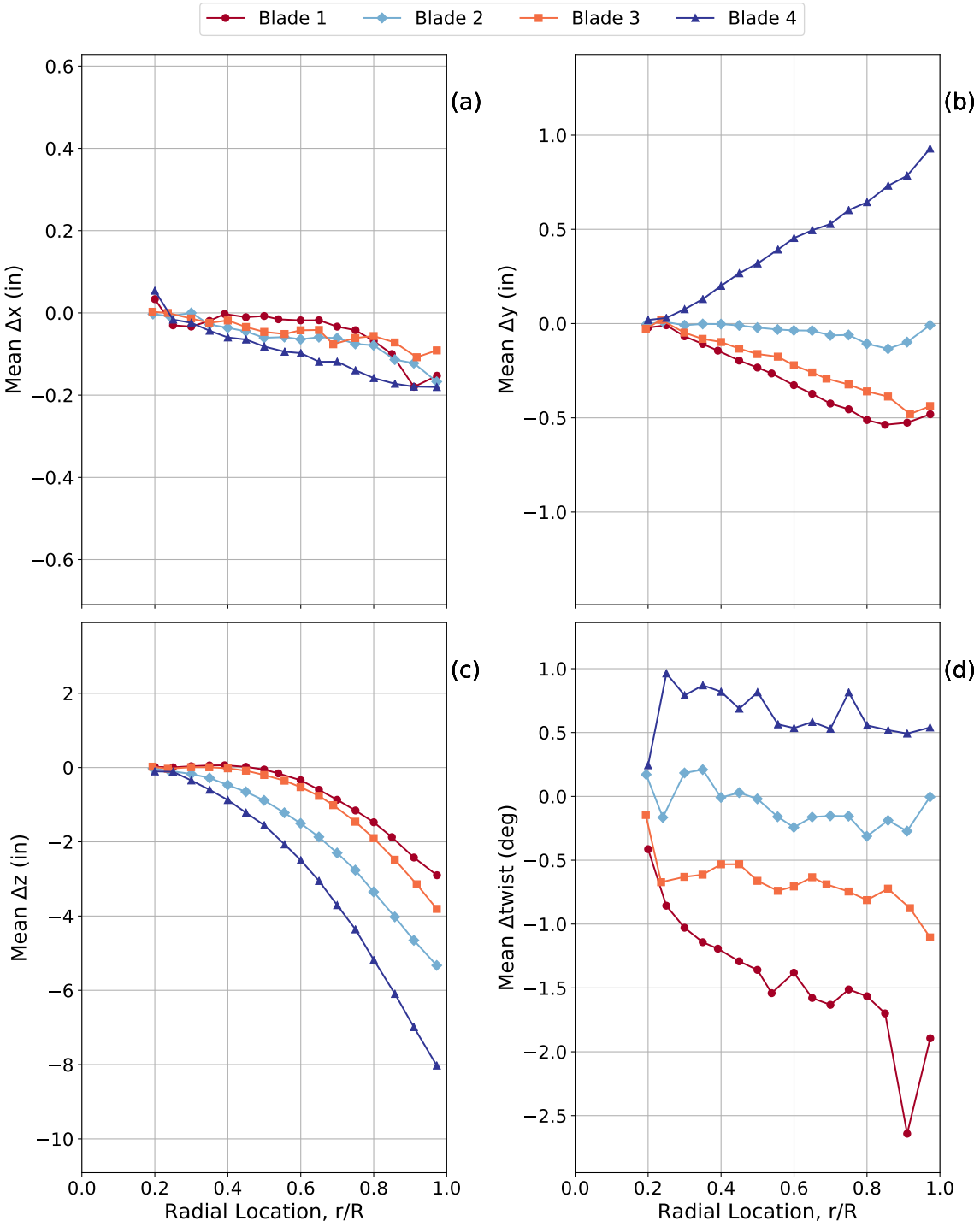


Figure 2.4-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-14. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0334	0.0037	-0.0215	0.0017	0.0186	0.0034	-0.4135	0.0265
1	85.08	0.2499	-0.0303	0.0013	-0.0090	0.0023	0.0049	0.0066	-0.8560	0.0500
1	85.08	0.2998	-0.0334	0.0016	-0.0675	0.0059	0.0358	0.0117	-1.0288	0.0597
1	85.08	0.3498	-0.0195	0.0015	-0.1085	0.0104	0.0572	0.0206	-1.1420	0.0488
1	85.08	0.3913	-0.0026	0.0014	-0.1436	0.0139	0.0608	0.0286	-1.1927	0.0478
1	85.08	0.4496	-0.0104	0.0017	-0.1960	0.0181	0.0197	0.0378	-1.2916	0.0497
1	85.08	0.4997	-0.0076	0.0018	-0.2333	0.0221	-0.0536	0.0466	-1.3590	0.0491
1	85.08	0.5387	-0.0156	0.0021	-0.2647	0.0254	-0.1580	0.0534	-1.5410	0.0496
1	85.08	0.5996	-0.0182	0.0022	-0.3270	0.0303	-0.3414	0.0640	-1.3810	0.0491
1	85.08	0.6498	-0.0179	0.0024	-0.3727	0.0347	-0.5985	0.0726	-1.5788	0.0533
1	85.08	0.6998	-0.0335	0.0026	-0.4242	0.0387	-0.8684	0.0813	-1.6324	0.0539
1	85.08	0.7500	-0.0422	0.0026	-0.4549	0.0429	-1.1575	0.0893	-1.5123	0.0494
1	85.08	0.8001	-0.0684	0.0029	-0.5116	0.0473	-1.4742	0.0986	-1.5655	0.0573
1	85.08	0.8497	-0.1000	0.0030	-0.5367	0.0513	-1.8736	0.1074	-1.6993	0.0624
1	85.08	0.9102	-0.1799	0.0047	-0.5255	0.0572	-2.4243	0.1205	-2.6412	0.0684
1	85.08	0.9734	-0.1528	0.0051	-0.4811	0.0626	-2.8996	0.1337	-1.8944	0.0843
2	85.08	0.1949	-0.0030	0.0028	-0.0056	0.0011	-0.0261	0.0050	0.1711	0.0361
2	85.08	0.2405	-0.0079	0.0025	0.0108	0.0018	-0.0898	0.0072	-0.1649	0.0808
2	85.08	0.2999	0.0000	0.0022	-0.0090	0.0037	-0.1727	0.0140	0.1836	0.0893
2	85.08	0.3498	-0.0282	0.0019	-0.0021	0.0064	-0.2801	0.0251	0.2096	0.0758
2	85.08	0.3998	-0.0363	0.0020	-0.0028	0.0096	-0.4697	0.0360	-0.0087	0.0742
2	85.08	0.4496	-0.0450	0.0020	-0.0101	0.0120	-0.6529	0.0466	0.0293	0.0758
2	85.08	0.4995	-0.0606	0.0024	-0.0215	0.0148	-0.8854	0.0581	-0.0196	0.0721
2	85.08	0.5551	-0.0589	0.0024	-0.0316	0.0180	-1.2185	0.0714	-0.1595	0.0737
2	85.08	0.5996	-0.0642	0.0025	-0.0364	0.0206	-1.5039	0.0825	-0.2425	0.0752
2	85.08	0.6497	-0.0592	0.0027	-0.0375	0.0237	-1.8690	0.0951	-0.1619	0.0760
2	85.08	0.6996	-0.0614	0.0028	-0.0628	0.0270	-2.3005	0.1078	-0.1526	0.0732
2	85.08	0.7495	-0.0755	0.0030	-0.0605	0.0303	-2.7628	0.1202	-0.1548	0.0745
2	85.08	0.7996	-0.0787	0.0034	-0.1070	0.0338	-3.3482	0.1334	-0.3124	0.0746
2	85.08	0.8578	-0.1137	0.0040	-0.1340	0.0381	-4.0227	0.1497	-0.1881	0.0745
2	85.08	0.9100	-0.1223	0.0044	-0.0984	0.0419	-4.6532	0.1641	-0.2719	0.0746
2	85.08	0.9727	-0.1673	0.0048	-0.0087	0.0465	-5.3285	0.1829	-0.0041	0.0763
3	85.08	0.1938	0.0027	0.0051	-0.0274	0.0014	0.0231	0.0066	-0.1455	0.0365
3	85.08	0.2357	-0.0001	0.0026	0.0195	0.0014	-0.0320	0.0063	-0.6717	0.1036
3	85.08	0.2995	-0.0137	0.0019	-0.0482	0.0041	0.0101	0.0175	-0.6303	0.1059
3	85.08	0.3493	-0.0243	0.0021	-0.0813	0.0070	0.0080	0.0292	-0.6132	0.1067
3	85.08	0.4000	-0.0185	0.0021	-0.0979	0.0103	-0.0209	0.0419	-0.5320	0.1020
3	85.08	0.4497	-0.0343	0.0023	-0.1329	0.0134	-0.0838	0.0539	-0.5313	0.1033
3	85.08	0.4997	-0.0463	0.0022	-0.1616	0.0168	-0.2005	0.0658	-0.6614	0.1032
3	85.08	0.5556	-0.0514	0.0021	-0.1755	0.0211	-0.3537	0.0788	-0.7394	0.1056
3	85.08	0.5995	-0.0424	0.0022	-0.2211	0.0244	-0.5278	0.0900	-0.7053	0.1066
3	85.08	0.6498	-0.0416	0.0022	-0.2591	0.0287	-0.7634	0.1023	-0.6332	0.1077
3	85.08	0.6890	-0.0763	0.0022	-0.2920	0.0325	-1.0135	0.1131	-0.6890	0.1035
3	85.08	0.7495	-0.0610	0.0024	-0.3231	0.0380	-1.4589	0.1291	-0.7447	0.1049
3	85.08	0.7998	-0.0564	0.0026	-0.3599	0.0430	-1.9016	0.1424	-0.8121	0.1114
3	85.08	0.8577	-0.0719	0.0030	-0.3872	0.0489	-2.4838	0.1595	-0.7226	0.1090
3	85.08	0.9178	-0.1078	0.0032	-0.4801	0.0552	-3.1438	0.1776	-0.8753	0.1080
3	85.08	0.9729	-0.0912	0.0037	-0.4378	0.0616	-3.8063	0.1951	-1.1044	0.1080
4	85.08	0.2001	0.0539	0.0034	0.0189	0.0015	-0.1035	0.0051	0.2439	0.0443
4	85.08	0.2502	-0.0164	0.0031	0.0300	0.0019	-0.1136	0.0060	0.9629	0.0998
4	85.08	0.3001	-0.0242	0.0018	0.0762	0.0047	-0.3477	0.0143	0.7909	0.1047
4	85.08	0.3502	-0.0435	0.0018	0.1303	0.0080	-0.5978	0.0239	0.8695	0.0925
4	85.08	0.4002	-0.0598	0.0019	0.2001	0.0117	-0.8754	0.0335	0.8191	0.0977
4	85.08	0.4500	-0.0648	0.0020	0.2668	0.0150	-1.2168	0.0430	0.6866	0.0928
4	85.08	0.5001	-0.0819	0.0020	0.3189	0.0186	-1.5554	0.0525	0.8153	0.0951
4	85.08	0.5560	-0.0944	0.0019	0.3929	0.0229	-2.0709	0.0634	0.5643	0.0955
4	85.08	0.6001	-0.0978	0.0023	0.4539	0.0265	-2.4976	0.0722	0.5352	0.0943
4	85.08	0.6501	-0.1189	0.0022	0.4954	0.0310	-3.0545	0.0830	0.5828	0.0967
4	85.08	0.6999	-0.1186	0.0026	0.5282	0.0357	-3.7068	0.0938	0.5295	0.0917
4	85.08	0.7500	-0.1396	0.0029	0.6018	0.0407	-4.3596	0.1047	0.8146	0.0976
4	85.08	0.8002	-0.1586	0.0032	0.6438	0.0459	-5.1822	0.1164	0.5558	0.0959
4	85.08	0.8582	-0.1724	0.0037	0.7317	0.0521	-6.0966	0.1297	0.5187	0.0974
4	85.08	0.9101	-0.1793	0.0040	0.7844	0.0580	-6.9924	0.1411	0.4920	0.0971
4	85.08	0.9728	-0.1803	0.0039	0.9284	0.0650	-8.0257	0.1558	0.5399	0.0955

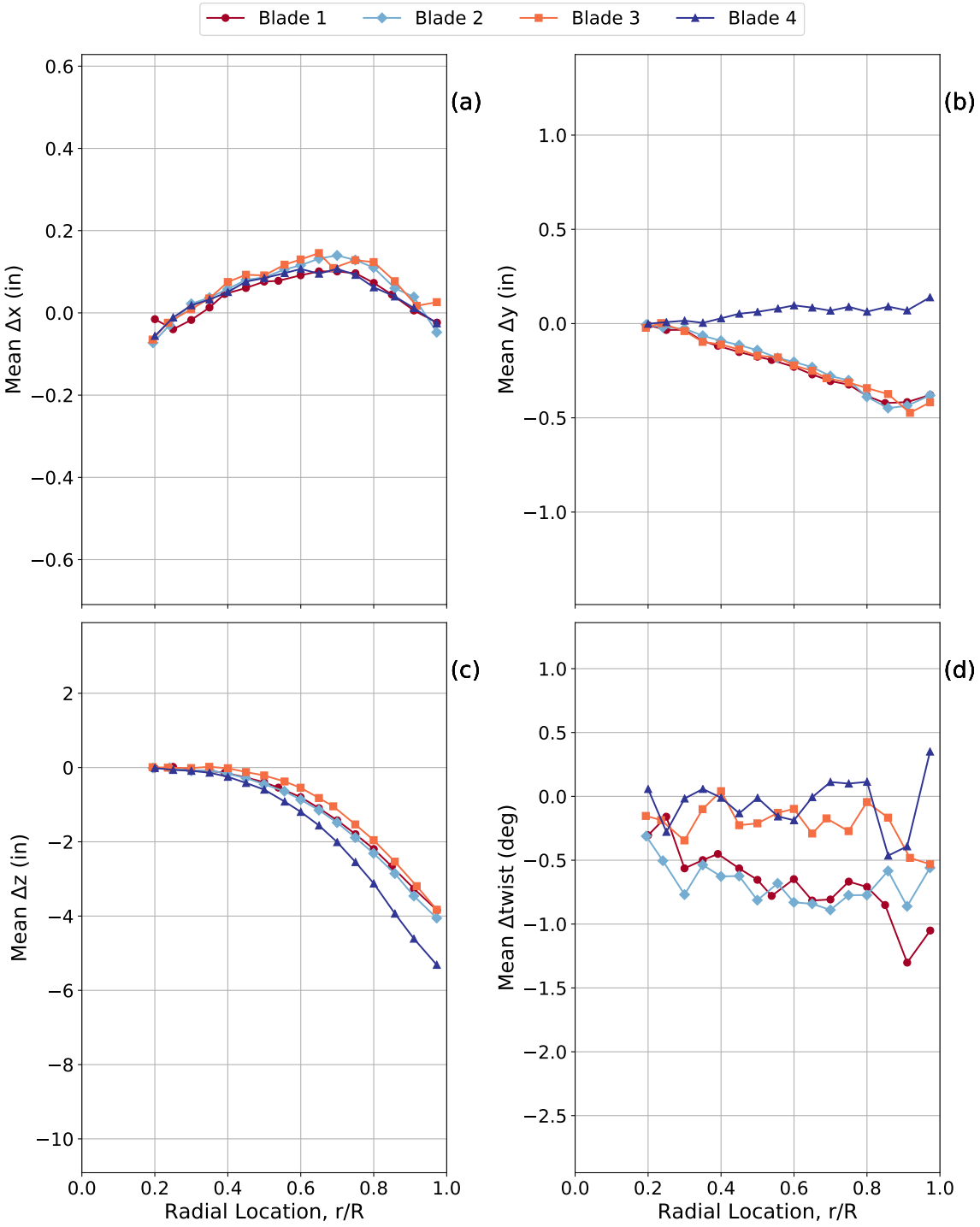


Figure 2.4-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-15. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0153	0.0014	-0.0081	0.0012	-0.0254	0.0022	-0.3042	0.0258
1	90	0.2499	-0.0399	0.0012	-0.0339	0.0025	0.0177	0.0050	-0.1592	0.0398
1	90	0.2998	-0.0172	0.0011	-0.0331	0.0049	-0.0877	0.0079	-0.5638	0.0578
1	90	0.3498	0.0130	0.0013	-0.0932	0.0082	-0.0928	0.0153	-0.4992	0.0544
1	90	0.3913	0.0459	0.0018	-0.1180	0.0119	-0.1420	0.0207	-0.4508	0.0484
1	90	0.4496	0.0605	0.0020	-0.1510	0.0149	-0.2651	0.0271	-0.5641	0.0541
1	90	0.4997	0.0760	0.0021	-0.1757	0.0180	-0.3984	0.0340	-0.6536	0.0504
1	90	0.5387	0.0780	0.0022	-0.1932	0.0204	-0.5409	0.0403	-0.7796	0.0555
1	90	0.5996	0.0914	0.0024	-0.2295	0.0246	-0.7973	0.0505	-0.6480	0.0584
1	90	0.6498	0.1010	0.0023	-0.2698	0.0283	-1.0938	0.0593	-0.8155	0.0582
1	90	0.6998	0.1008	0.0027	-0.3051	0.0318	-1.4218	0.0673	-0.8074	0.0548
1	90	0.7500	0.0964	0.0026	-0.3239	0.0350	-1.7949	0.0753	-0.6676	0.0606
1	90	0.8001	0.0730	0.0032	-0.3840	0.0391	-2.1953	0.0833	-0.7095	0.0730
1	90	0.8497	0.0446	0.0036	-0.4217	0.0430	-2.6633	0.0921	-0.8510	0.0716
1	90	0.9102	0.0058	0.0091	-0.4166	0.0492	-3.2625	0.1024	-1.3019	0.1923
1	90	0.9734	-0.0236	0.0052	-0.3785	0.0529	-3.8418	0.1164	-1.0506	0.1301
2	90	0.1949	-0.0727	0.0010	-0.0055	0.0008	-0.0128	0.0019	-0.3112	0.0167
2	90	0.2405	-0.0296	0.0010	-0.0199	0.0020	-0.0091	0.0042	-0.5041	0.0242
2	90	0.2999	0.0221	0.0009	-0.0267	0.0036	-0.0863	0.0083	-0.7690	0.0373
2	90	0.3498	0.0371	0.0013	-0.0643	0.0056	-0.0769	0.0136	-0.5370	0.0367
2	90	0.3998	0.0578	0.0017	-0.0910	0.0093	-0.1706	0.0215	-0.6269	0.0355
2	90	0.4496	0.0804	0.0020	-0.1142	0.0109	-0.2815	0.0270	-0.6236	0.0323
2	90	0.4995	0.0862	0.0021	-0.1410	0.0136	-0.4514	0.0343	-0.8128	0.0368
2	90	0.5551	0.1055	0.0018	-0.1823	0.0163	-0.6384	0.0426	-0.6815	0.0384
2	90	0.5996	0.1157	0.0021	-0.2031	0.0182	-0.8651	0.0481	-0.8298	0.0432
2	90	0.6497	0.1320	0.0025	-0.2313	0.0206	-1.1475	0.0569	-0.8413	0.0486
2	90	0.6996	0.1397	0.0027	-0.2782	0.0233	-1.4827	0.0646	-0.8892	0.0486
2	90	0.7495	0.1286	0.0028	-0.3008	0.0260	-1.8867	0.0741	-0.7740	0.0426
2	90	0.7996	0.1102	0.0032	-0.3885	0.0286	-2.3114	0.0826	-0.7731	0.0546
2	90	0.8578	0.0601	0.0033	-0.4482	0.0324	-2.8559	0.0965	-0.5838	0.0702
2	90	0.9100	0.0388	0.0055	-0.4361	0.0348	-3.4591	0.1068	-0.8609	0.1260
2	90	0.9727	-0.0471	0.0048	-0.3809	0.0383	-4.0543	0.1253	-0.5594	0.0910
3	90	0.1938	-0.0649	0.0012	-0.0222	0.0011	0.0094	0.0023	-0.1531	0.0249
3	90	0.2357	-0.0240	0.0010	0.0025	0.0018	-0.0032	0.0046	-0.1859	0.0397
3	90	0.2995	0.0089	0.0011	-0.0396	0.0043	-0.0141	0.0081	-0.3449	0.0600
3	90	0.3493	0.0351	0.0011	-0.0970	0.0072	0.0192	0.0161	-0.1001	0.0446
3	90	0.4000	0.0751	0.0016	-0.1110	0.0113	-0.0182	0.0230	0.0405	0.0445
3	90	0.4497	0.0927	0.0018	-0.1378	0.0138	-0.1217	0.0296	-0.2257	0.0462
3	90	0.4997	0.0911	0.0016	-0.1705	0.0167	-0.2136	0.0356	-0.2114	0.0478
3	90	0.5556	0.1172	0.0016	-0.1794	0.0197	-0.3758	0.0439	-0.1289	0.0491
3	90	0.5995	0.1299	0.0017	-0.2220	0.0224	-0.5437	0.0510	-0.0982	0.0526
3	90	0.6498	0.1455	0.0020	-0.2505	0.0257	-0.8213	0.0582	-0.2910	0.0509
3	90	0.6890	0.1091	0.0026	-0.2901	0.0287	-1.0449	0.0642	-0.1725	0.0565
3	90	0.7495	0.1282	0.0027	-0.3122	0.0333	-1.5321	0.0747	-0.2722	0.0602
3	90	0.7998	0.1235	0.0028	-0.3424	0.0372	-1.9561	0.0836	-0.0447	0.0646
3	90	0.8577	0.0770	0.0035	-0.3737	0.0424	-2.5354	0.0954	-0.1665	0.0903
3	90	0.9178	0.0172	0.0070	-0.4734	0.0486	-3.1942	0.1086	-0.4819	0.1558
3	90	0.9729	0.0261	0.0056	-0.4178	0.0511	-3.8289	0.1190	-0.5311	0.1227
4	90.35	0.2001	-0.0560	0.0010	-0.0010	0.0009	-0.0115	0.0021	0.0575	0.0193
4	90.35	0.2502	-0.0112	0.0010	0.0076	0.0021	-0.0648	0.0041	-0.2781	0.0340
4	90.35	0.3001	0.0185	0.0009	0.0154	0.0038	-0.0898	0.0072	-0.0168	0.0442
4	90.35	0.3502	0.0327	0.0012	0.0039	0.0064	-0.1398	0.0127	0.0581	0.0403
4	90.35	0.4002	0.0507	0.0018	0.0279	0.0101	-0.2500	0.0189	-0.0111	0.0401
4	90.35	0.4500	0.0762	0.0021	0.0524	0.0124	-0.4161	0.0240	-0.1323	0.0474
4	90.35	0.5001	0.0846	0.0025	0.0621	0.0156	-0.5964	0.0309	-0.0118	0.0420
4	90.35	0.5560	0.0968	0.0026	0.0797	0.0186	-0.9173	0.0386	-0.1575	0.0441
4	90.35	0.6001	0.1068	0.0026	0.0965	0.0213	-1.1948	0.0449	-0.1870	0.0456
4	90.35	0.6501	0.0954	0.0026	0.0847	0.0240	-1.5617	0.0528	-0.0060	0.0438
4	90.35	0.6999	0.1071	0.0030	0.0684	0.0275	-2.0099	0.0597	0.1124	0.0483
4	90.35	0.7500	0.0924	0.0027	0.0890	0.0306	-2.5469	0.0673	0.1000	0.0459
4	90.35	0.8002	0.0621	0.0035	0.0631	0.0341	-3.1244	0.0744	0.1136	0.0548
4	90.35	0.8582	0.0399	0.0038	0.0901	0.0375	-3.9349	0.0833	-0.4640	0.0778
4	90.35	0.9101	0.0117	0.0053	0.0696	0.0413	-4.6095	0.0908	-0.3915	0.0772
4	90.35	0.9728	-0.0255	0.0051	0.1393	0.0459	-5.3138	0.1063	0.3506	0.0920

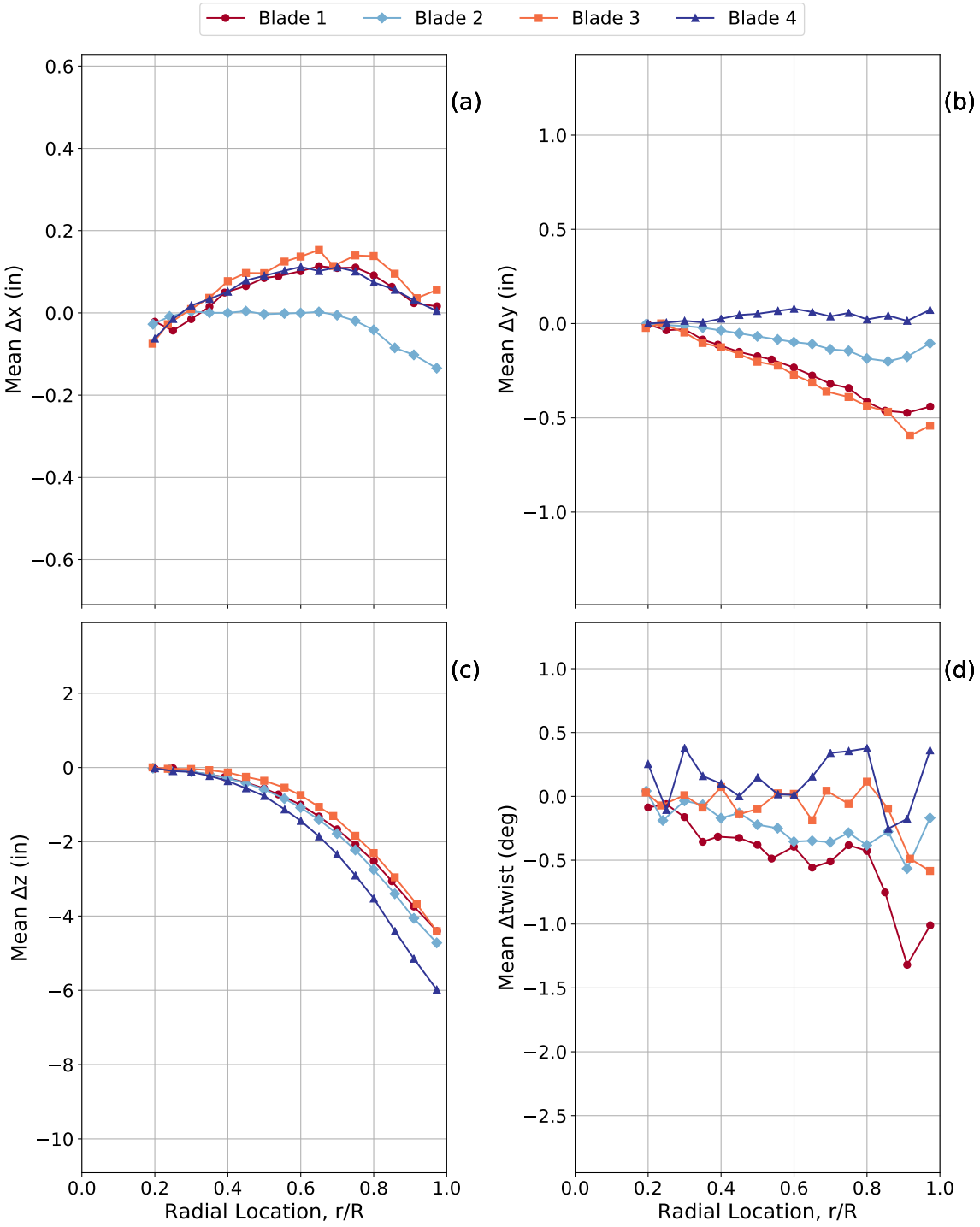


Figure 2.4-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-16. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0214	0.0012	-0.0059	0.0009	-0.0335	0.0023	-0.0871	0.0202
1	94.92	0.2499	-0.0430	0.0008	-0.0353	0.0018	-0.0185	0.0050	-0.0614	0.0333
1	94.92	0.2998	-0.0152	0.0009	-0.0303	0.0037	-0.1201	0.0094	-0.1626	0.0450
1	94.92	0.3498	0.0151	0.0013	-0.0851	0.0061	-0.1852	0.0161	-0.3557	0.0389
1	94.92	0.3913	0.0494	0.0017	-0.1120	0.0089	-0.2590	0.0232	-0.3153	0.0409
1	94.92	0.4496	0.0651	0.0019	-0.1503	0.0117	-0.4047	0.0309	-0.3254	0.0387
1	94.92	0.4997	0.0847	0.0020	-0.1735	0.0142	-0.5632	0.0388	-0.3795	0.0378
1	94.92	0.5387	0.0892	0.0019	-0.1907	0.0162	-0.7252	0.0447	-0.4871	0.0418
1	94.92	0.5996	0.1014	0.0021	-0.2329	0.0195	-1.0010	0.0533	-0.3941	0.0424
1	94.92	0.6498	0.1135	0.0024	-0.2755	0.0220	-1.3188	0.0592	-0.5577	0.0458
1	94.92	0.6998	0.1090	0.0020	-0.3198	0.0249	-1.6640	0.0656	-0.5096	0.0442
1	94.92	0.7500	0.1102	0.0025	-0.3422	0.0282	-2.0755	0.0713	-0.3818	0.0471
1	94.92	0.8001	0.0912	0.0030	-0.4157	0.0312	-2.5188	0.0780	-0.4271	0.0609
1	94.92	0.8497	0.0633	0.0030	-0.4620	0.0345	-3.0616	0.0859	-0.7517	0.0589
1	94.92	0.9102	0.0238	0.0039	-0.4730	0.0392	-3.7425	0.0979	-1.3192	0.0775
1	94.92	0.9734	0.0161	0.0038	-0.4403	0.0439	-4.4054	0.1113	-1.0098	0.0804
2	94.92	0.1949	-0.0276	0.0035	-0.0020	0.0018	-0.0185	0.0042	0.0421	0.0378
2	94.92	0.2405	-0.0086	0.0022	-0.0071	0.0027	-0.0514	0.0070	-0.1889	0.0771
2	94.92	0.2999	0.0035	0.0014	-0.0132	0.0052	-0.1120	0.0127	-0.0354	0.0946
2	94.92	0.3498	0.0003	0.0017	-0.0220	0.0096	-0.1780	0.0240	-0.0656	0.0808
2	94.92	0.3998	0.0001	0.0021	-0.0365	0.0136	-0.2975	0.0342	-0.1705	0.0819
2	94.92	0.4496	0.0043	0.0017	-0.0520	0.0167	-0.4187	0.0429	-0.1299	0.0836
2	94.92	0.4995	-0.0031	0.0017	-0.0680	0.0204	-0.5904	0.0530	-0.2220	0.0859
2	94.92	0.5551	-0.0014	0.0017	-0.0845	0.0246	-0.8382	0.0645	-0.2491	0.0819
2	94.92	0.5996	-0.0002	0.0018	-0.0982	0.0284	-1.0817	0.0737	-0.3541	0.0844
2	94.92	0.6497	0.0024	0.0017	-0.1086	0.0324	-1.4044	0.0831	-0.3474	0.0807
2	94.92	0.6996	-0.0055	0.0019	-0.1366	0.0368	-1.7804	0.0936	-0.3586	0.0831
2	94.92	0.7495	-0.0194	0.0023	-0.1443	0.0415	-2.2204	0.1039	-0.2847	0.0825
2	94.92	0.7996	-0.0414	0.0021	-0.1851	0.0462	-2.7473	0.1146	-0.3823	0.0851
2	94.92	0.8578	-0.0851	0.0021	-0.2002	0.0514	-3.3992	0.1279	-0.2756	0.0826
2	94.92	0.9100	-0.1021	0.0029	-0.1757	0.0561	-4.0610	0.1387	-0.5655	0.0890
2	94.92	0.9727	-0.1344	0.0035	-0.1049	0.0620	-4.7218	0.1536	-0.1688	0.0832
3	94.92	0.1938	-0.0750	0.0012	-0.0232	0.0005	0.0048	0.0021	0.0300	0.0175
3	94.92	0.2357	-0.0275	0.0010	0.0010	0.0017	-0.0342	0.0041	-0.0714	0.0232
3	94.92	0.2995	0.0094	0.0010	-0.0476	0.0030	-0.0386	0.0077	0.0088	0.0333
3	94.92	0.3493	0.0366	0.0010	-0.1029	0.0048	-0.0703	0.0120	-0.0876	0.0338
3	94.92	0.4000	0.0771	0.0015	-0.1261	0.0081	-0.1328	0.0192	0.0730	0.0335
3	94.92	0.4497	0.0970	0.0016	-0.1627	0.0100	-0.2503	0.0240	-0.1393	0.0330
3	94.92	0.4997	0.0966	0.0016	-0.2025	0.0124	-0.3559	0.0311	-0.0990	0.0351
3	94.92	0.5556	0.1247	0.0018	-0.2230	0.0149	-0.5418	0.0386	0.0237	0.0356
3	94.92	0.5995	0.1369	0.0019	-0.2719	0.0172	-0.7443	0.0442	0.0199	0.0359
3	94.92	0.6498	0.1531	0.0018	-0.3130	0.0201	-1.0612	0.0516	-0.1873	0.0377
3	94.92	0.6890	0.1140	0.0019	-0.3605	0.0221	-1.3053	0.0562	0.0441	0.0366
3	94.92	0.7495	0.1397	0.0018	-0.3897	0.0257	-1.8380	0.0659	-0.0590	0.0380
3	94.92	0.7998	0.1382	0.0026	-0.4372	0.0284	-2.3030	0.0740	0.1154	0.0372
3	94.92	0.8577	0.0952	0.0029	-0.4679	0.0323	-2.9561	0.0848	-0.0956	0.0536
3	94.92	0.9178	0.0358	0.0044	-0.5946	0.0362	-3.6757	0.0949	-0.4879	0.0703
3	94.92	0.9729	0.0558	0.0046	-0.5414	0.0405	-4.4081	0.1040	-0.5839	0.0936
4	94.92	0.2001	-0.0624	0.0012	0.0004	0.0007	-0.0201	0.0021	0.2529	0.0187
4	94.92	0.2502	-0.0148	0.0009	0.0051	0.0017	-0.0961	0.0044	-0.1061	0.0257
4	94.92	0.3001	0.0181	0.0009	0.0145	0.0032	-0.1196	0.0081	0.3786	0.0324
4	94.92	0.3502	0.0340	0.0012	0.0062	0.0048	-0.2268	0.0121	0.1590	0.0349
4	94.92	0.4002	0.0516	0.0017	0.0258	0.0078	-0.3662	0.0194	0.0992	0.0352
4	94.92	0.4500	0.0789	0.0019	0.0456	0.0089	-0.5593	0.0241	0.0005	0.0323
4	94.92	0.5001	0.0903	0.0023	0.0520	0.0106	-0.7664	0.0291	0.1484	0.0346
4	94.92	0.5560	0.1027	0.0023	0.0674	0.0125	-1.1284	0.0374	0.0157	0.0311
4	94.92	0.6001	0.1118	0.0023	0.0789	0.0143	-1.4368	0.0448	0.0110	0.0331
4	94.92	0.6501	0.1017	0.0026	0.0614	0.0165	-1.8541	0.0532	0.1553	0.0331
4	94.92	0.6999	0.1109	0.0025	0.0382	0.0186	-2.3349	0.0622	0.3395	0.0378
4	94.92	0.7500	0.1005	0.0028	0.0567	0.0210	-2.9068	0.0709	0.3540	0.0327
4	94.92	0.8002	0.0740	0.0032	0.0221	0.0233	-3.5267	0.0800	0.3765	0.0444
4	94.92	0.8582	0.0561	0.0038	0.0423	0.0265	-4.4068	0.0911	-0.2527	0.0574
4	94.92	0.9101	0.0309	0.0045	0.0147	0.0289	-5.1487	0.1040	-0.1761	0.0581
4	94.92	0.9728	0.0049	0.0046	0.0728	0.0324	-5.9821	0.1184	0.3606	0.0616

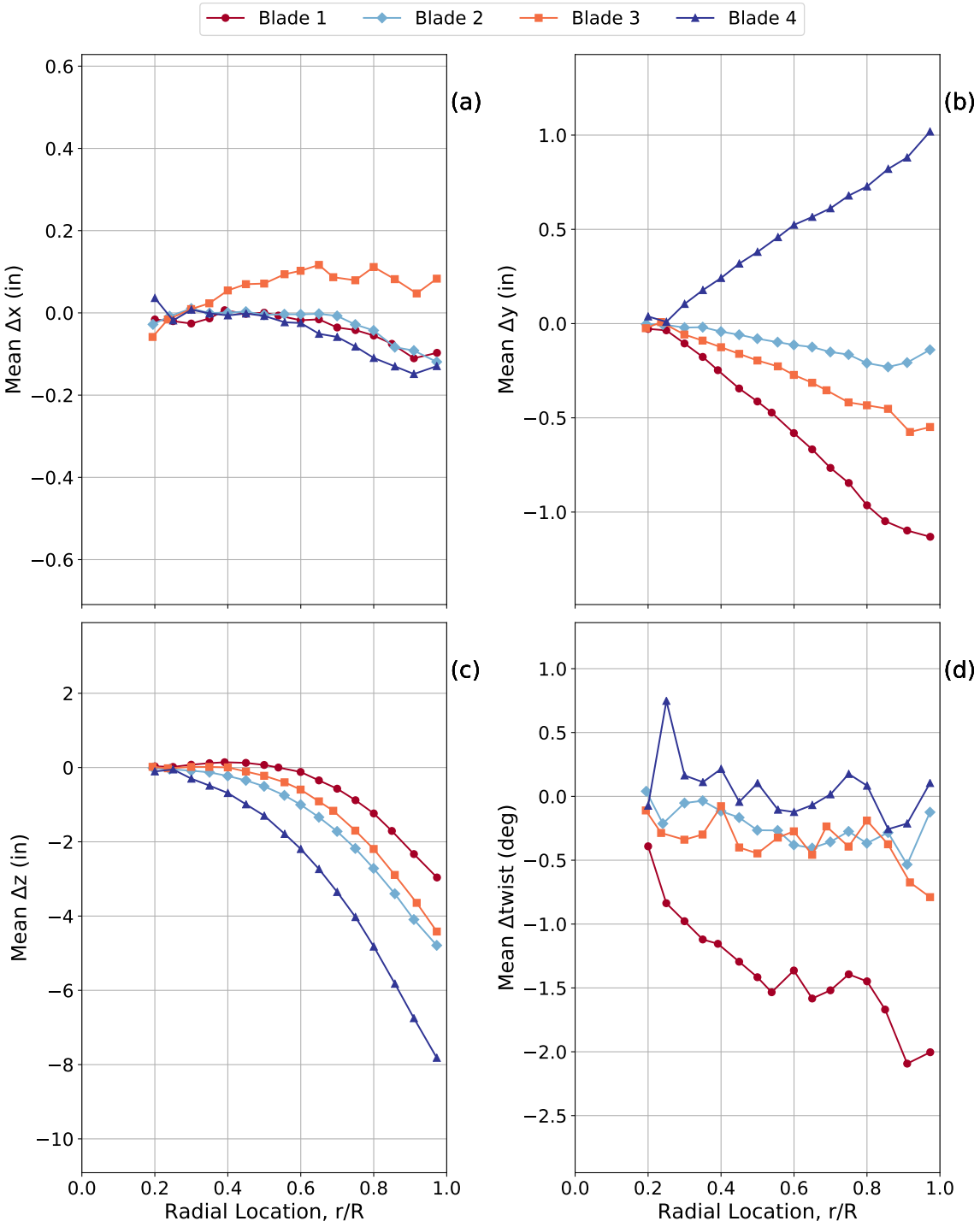


Figure 2.4-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -0° NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0160	0.0041	-0.0283	0.0026	0.0324	0.0076	-0.3911	0.0577
1	99.84	0.2499	-0.0201	0.0056	-0.0357	0.0033	0.0161	0.0105	-0.8366	0.0964
1	99.84	0.2998	-0.0259	0.0038	-0.1054	0.0075	0.0762	0.0214	-0.9777	0.1147
1	99.84	0.3498	-0.0134	0.0039	-0.1769	0.0114	0.1175	0.0344	-1.1205	0.0861
1	99.84	0.3913	0.0065	0.0035	-0.2473	0.0150	0.1424	0.0450	-1.1545	0.0835
1	99.84	0.4496	-0.0023	0.0036	-0.3443	0.0194	0.1258	0.0600	-1.2947	0.0787
1	99.84	0.4997	0.0005	0.0035	-0.4132	0.0231	0.0695	0.0712	-1.4164	0.0825
1	99.84	0.5387	-0.0065	0.0036	-0.4722	0.0263	-0.0005	0.0811	-1.5338	0.0791
1	99.84	0.5996	-0.0179	0.0040	-0.5810	0.0316	-0.1197	0.0957	-1.3636	0.0796
1	99.84	0.6498	-0.0157	0.0042	-0.6673	0.0356	-0.3469	0.1080	-1.5830	0.0796
1	99.84	0.6998	-0.0355	0.0039	-0.7657	0.0393	-0.5703	0.1193	-1.5187	0.0897
1	99.84	0.7500	-0.0418	0.0042	-0.8456	0.0443	-0.8805	0.1347	-1.3935	0.0864
1	99.84	0.8001	-0.0551	0.0039	-0.9642	0.0483	-1.2363	0.1478	-1.4485	0.0902
1	99.84	0.8497	-0.0752	0.0038	-1.0483	0.0524	-1.7072	0.1621	-1.6695	0.0812
1	99.84	0.9102	-0.1104	0.0038	-1.0979	0.0577	-2.3306	0.1788	-2.0929	0.0891
1	99.84	0.9734	-0.0971	0.0049	-1.1312	0.0635	-2.9609	0.1962	-2.0036	0.0856
2	99.84	0.1949	-0.0280	0.0058	-0.0030	0.0018	-0.0109	0.0050	0.0400	0.0510
2	99.84	0.2405	-0.0081	0.0034	-0.0047	0.0036	-0.0436	0.0091	-0.2134	0.0917
2	99.84	0.2999	0.0106	0.0026	-0.0214	0.0057	-0.0858	0.0139	-0.0521	0.1127
2	99.84	0.3498	-0.0004	0.0023	-0.0191	0.0110	-0.1291	0.0252	-0.0344	0.0985
2	99.84	0.3998	0.0007	0.0028	-0.0426	0.0159	-0.2274	0.0360	-0.1158	0.0989
2	99.84	0.4496	0.0031	0.0029	-0.0593	0.0204	-0.3468	0.0456	-0.1659	0.1005
2	99.84	0.4995	-0.0048	0.0030	-0.0801	0.0247	-0.5066	0.0557	-0.2650	0.1037
2	99.84	0.5551	-0.0032	0.0028	-0.0985	0.0306	-0.7495	0.0675	-0.2668	0.1015
2	99.84	0.5996	-0.0036	0.0030	-0.1132	0.0349	-1.0006	0.0765	-0.3803	0.0992
2	99.84	0.6497	-0.0022	0.0030	-0.1245	0.0400	-1.3379	0.0868	-0.4048	0.0980
2	99.84	0.6996	-0.0074	0.0029	-0.1507	0.0449	-1.7203	0.0948	-0.3566	0.1021
2	99.84	0.7495	-0.0283	0.0032	-0.1644	0.0504	-2.1791	0.1054	-0.2743	0.0988
2	99.84	0.7996	-0.0427	0.0032	-0.2096	0.0552	-2.7165	0.1141	-0.3671	0.0984
2	99.84	0.8578	-0.0834	0.0038	-0.2300	0.0618	-3.3988	0.1270	-0.2835	0.0982
2	99.84	0.9100	-0.0917	0.0042	-0.2071	0.0677	-4.0935	0.1382	-0.5336	0.1048
2	99.84	0.9727	-0.1191	0.0044	-0.1390	0.0745	-4.7897	0.1531	-0.1240	0.1028
3	99.84	0.1938	-0.0585	0.0008	-0.0246	0.0005	0.0187	0.0017	-0.1103	0.0145
3	99.84	0.2357	-0.0160	0.0007	0.0079	0.0008	-0.0204	0.0031	-0.2865	0.0259
3	99.84	0.2995	0.0092	0.0008	-0.0581	0.0018	0.0163	0.0073	-0.3393	0.0361
3	99.84	0.3493	0.0233	0.0007	-0.0902	0.0028	0.0161	0.0122	-0.2988	0.0262
3	99.84	0.4000	0.0546	0.0011	-0.1254	0.0045	0.0039	0.0191	-0.0771	0.0326
3	99.84	0.4497	0.0698	0.0012	-0.1606	0.0059	-0.1077	0.0241	-0.4003	0.0319
3	99.84	0.4997	0.0713	0.0014	-0.1959	0.0077	-0.2229	0.0306	-0.4468	0.0317
3	99.84	0.5556	0.0940	0.0014	-0.2270	0.0097	-0.3978	0.0369	-0.3231	0.0301
3	99.84	0.5995	0.1024	0.0013	-0.2724	0.0114	-0.5939	0.0426	-0.2739	0.0387
3	99.84	0.6498	0.1167	0.0017	-0.3139	0.0136	-0.9109	0.0475	-0.4577	0.0375
3	99.84	0.6890	0.0868	0.0018	-0.3539	0.0154	-1.1646	0.0508	-0.2355	0.0386
3	99.84	0.7495	0.0793	0.0023	-0.4181	0.0184	-1.6992	0.0587	-0.3934	0.0391
3	99.84	0.7998	0.1115	0.0024	-0.4335	0.0213	-2.1939	0.0655	-0.1895	0.0379
3	99.84	0.8577	0.0820	0.0031	-0.4523	0.0248	-2.8928	0.0746	-0.3751	0.0501
3	99.84	0.9178	0.0473	0.0029	-0.5752	0.0285	-3.6448	0.0836	-0.6737	0.0540
3	99.84	0.9729	0.0832	0.0035	-0.5488	0.0322	-4.4167	0.0928	-0.7891	0.0600
4	99.84	0.2001	0.0361	0.0059	0.0378	0.0016	-0.1048	0.0043	-0.0734	0.0542
4	99.84	0.2502	-0.0184	0.0020	0.0090	0.0024	-0.0516	0.0060	0.7479	0.1354
4	99.84	0.3001	0.0078	0.0021	0.1042	0.0058	-0.3002	0.0146	0.1638	0.1432
4	99.84	0.3502	-0.0013	0.0019	0.1776	0.0096	-0.4894	0.0255	0.1116	0.1400
4	99.84	0.4002	-0.0061	0.0022	0.2418	0.0145	-0.6867	0.0375	0.2149	0.1397
4	99.84	0.4500	-0.0016	0.0019	0.3183	0.0187	-0.9912	0.0483	-0.0432	0.1374
4	99.84	0.5001	-0.0074	0.0024	0.3803	0.0226	-1.2983	0.0585	0.1035	0.1415
4	99.84	0.5560	-0.0228	0.0025	0.4583	0.0270	-1.7889	0.0690	-0.1045	0.1461
4	99.84	0.6001	-0.0247	0.0022	0.5237	0.0316	-2.1952	0.0803	-0.1225	0.1419
4	99.84	0.6501	-0.0509	0.0026	0.5658	0.0358	-2.7356	0.0922	-0.0680	0.1415
4	99.84	0.6999	-0.0585	0.0028	0.6115	0.0403	-3.3522	0.1043	0.0157	0.1431
4	99.84	0.7500	-0.0820	0.0033	0.6789	0.0450	-4.0276	0.1174	0.1757	0.1378
4	99.84	0.8002	-0.1096	0.0035	0.7275	0.0502	-4.8225	0.1294	0.0834	0.1456
4	99.84	0.8582	-0.1302	0.0042	0.8205	0.0560	-5.8241	0.1458	-0.2567	0.1416
4	99.84	0.9101	-0.1486	0.0048	0.8809	0.0615	-6.7499	0.1601	-0.2127	0.1483
4	99.84	0.9728	-0.1294	0.0052	1.0187	0.0685	-7.8174	0.1775	0.1045	0.1450

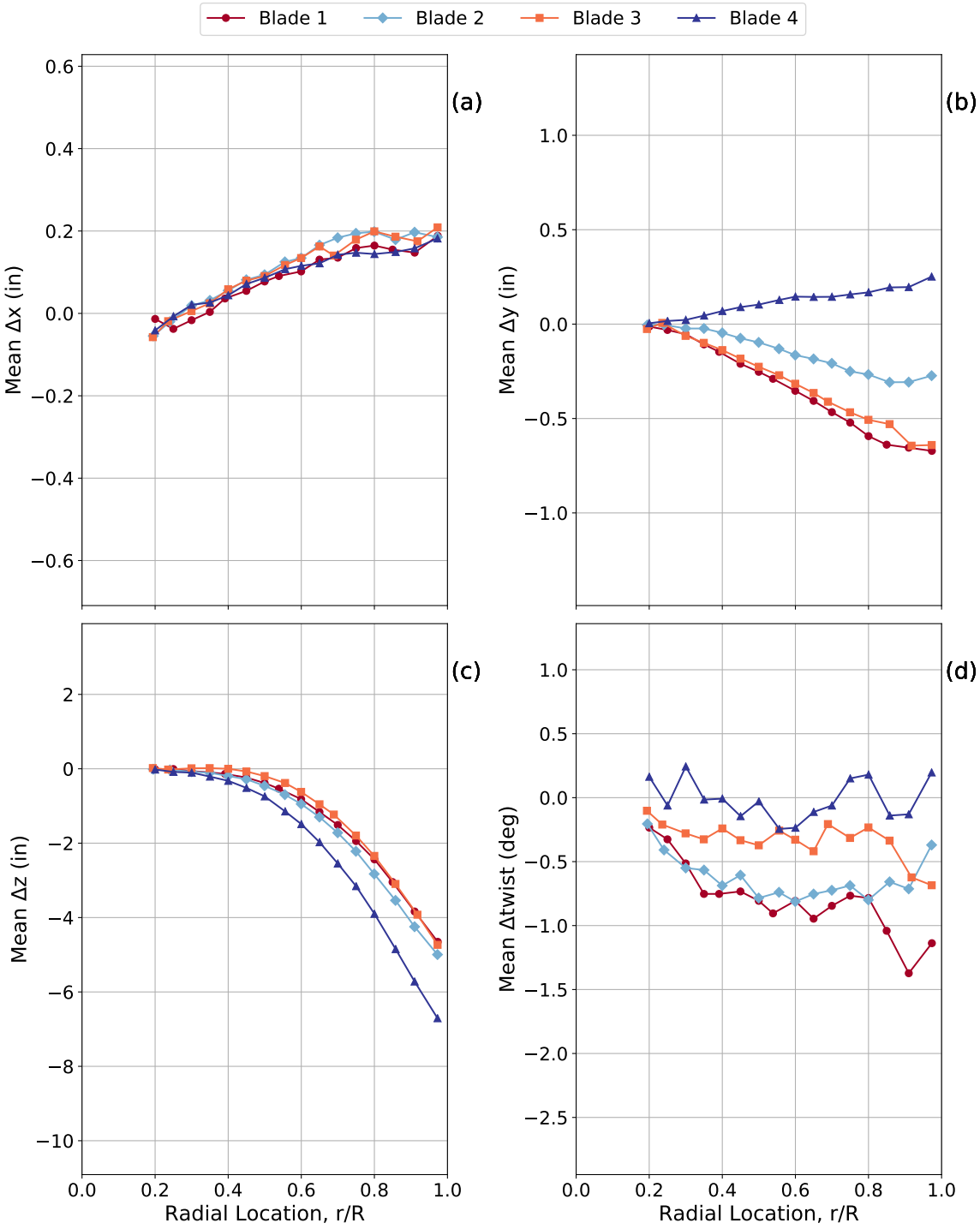


Figure 2.4-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-18. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0134	0.0011	-0.0132	0.0005	-0.0157	0.0020	-0.2341	0.0143
1	105.12	0.2499	-0.0376	0.0009	-0.0310	0.0014	-0.0068	0.0037	-0.3257	0.0258
1	105.12	0.2998	-0.0165	0.0011	-0.0537	0.0023	-0.0635	0.0071	-0.5140	0.0325
1	105.12	0.3498	0.0036	0.0010	-0.1074	0.0036	-0.0964	0.0134	-0.7525	0.0257
1	105.12	0.3913	0.0362	0.0012	-0.1468	0.0056	-0.1389	0.0180	-0.7525	0.0278
1	105.12	0.4496	0.0547	0.0013	-0.2102	0.0070	-0.2349	0.0214	-0.7332	0.0346
1	105.12	0.4997	0.0775	0.0013	-0.2527	0.0088	-0.3828	0.0282	-0.8064	0.0283
1	105.12	0.5387	0.0907	0.0016	-0.2897	0.0102	-0.5359	0.0321	-0.9047	0.0269
1	105.12	0.5996	0.1019	0.0021	-0.3533	0.0129	-0.8162	0.0386	-0.8068	0.0279
1	105.12	0.6498	0.1306	0.0017	-0.4066	0.0151	-1.1620	0.0435	-0.9461	0.0283
1	105.12	0.6998	0.1353	0.0023	-0.4661	0.0174	-1.5108	0.0480	-0.8456	0.0308
1	105.12	0.7500	0.1587	0.0023	-0.5218	0.0200	-1.9425	0.0536	-0.7663	0.0294
1	105.12	0.8001	0.1647	0.0024	-0.5934	0.0227	-2.4358	0.0584	-0.7843	0.0324
1	105.12	0.8497	0.1549	0.0027	-0.6387	0.0252	-3.0454	0.0639	-1.0410	0.0306
1	105.12	0.9102	0.1475	0.0030	-0.6545	0.0287	-3.8374	0.0712	-1.3727	0.0340
1	105.12	0.9734	0.1883	0.0037	-0.6715	0.0326	-4.6517	0.0795	-1.1378	0.0307
2	105.12	0.1949	-0.0547	0.0011	-0.0046	0.0005	-0.0113	0.0016	-0.2050	0.0269
2	105.12	0.2405	-0.0201	0.0010	-0.0031	0.0015	-0.0307	0.0049	-0.4089	0.0333
2	105.12	0.2999	0.0190	0.0008	-0.0234	0.0025	-0.0779	0.0066	-0.5497	0.0557
2	105.12	0.3498	0.0316	0.0009	-0.0232	0.0046	-0.1081	0.0130	-0.5659	0.0393
2	105.12	0.3998	0.0554	0.0014	-0.0464	0.0071	-0.1943	0.0191	-0.6875	0.0367
2	105.12	0.4496	0.0816	0.0013	-0.0750	0.0087	-0.2813	0.0240	-0.6057	0.0379
2	105.12	0.4995	0.0938	0.0013	-0.0969	0.0106	-0.4586	0.0290	-0.7846	0.0396
2	105.12	0.5551	0.1251	0.0016	-0.1306	0.0124	-0.6963	0.0353	-0.7398	0.0386
2	105.12	0.5996	0.1344	0.0016	-0.1643	0.0143	-0.9467	0.0397	-0.8124	0.0415
2	105.12	0.6497	0.1658	0.0017	-0.1845	0.0163	-1.2977	0.0449	-0.7534	0.0422
2	105.12	0.6996	0.1837	0.0017	-0.2078	0.0184	-1.7206	0.0501	-0.7239	0.0380
2	105.12	0.7495	0.1945	0.0021	-0.2501	0.0207	-2.2187	0.0554	-0.6871	0.0420
2	105.12	0.7996	0.1984	0.0025	-0.2670	0.0230	-2.8280	0.0614	-0.7994	0.0417
2	105.12	0.8578	0.1790	0.0027	-0.3079	0.0257	-3.5387	0.0707	-0.6581	0.0383
2	105.12	0.9100	0.1971	0.0032	-0.3073	0.0281	-4.2468	0.0790	-0.7130	0.0427
2	105.12	0.9727	0.1853	0.0038	-0.2733	0.0314	-4.9954	0.0907	-0.3700	0.0437
3	105.12	0.1938	-0.0577	0.0012	-0.0259	0.0006	0.0188	0.0020	-0.1023	0.0141
3	105.12	0.2357	-0.0189	0.0011	0.0064	0.0012	-0.0204	0.0048	-0.2103	0.0305
3	105.12	0.2995	0.0057	0.0007	-0.0623	0.0029	0.0129	0.0106	-0.2790	0.0379
3	105.12	0.3493	0.0243	0.0009	-0.0993	0.0043	0.0170	0.0168	-0.3258	0.0386
3	105.12	0.4000	0.0586	0.0011	-0.1378	0.0070	-0.0002	0.0276	-0.2408	0.0321
3	105.12	0.4497	0.0795	0.0015	-0.1829	0.0087	-0.0721	0.0331	-0.3328	0.0282
3	105.12	0.4997	0.0906	0.0014	-0.2260	0.0108	-0.1965	0.0415	-0.3725	0.0305
3	105.12	0.5556	0.1175	0.0017	-0.2709	0.0131	-0.3818	0.0495	-0.2574	0.0294
3	105.12	0.5995	0.1344	0.0020	-0.3159	0.0152	-0.6213	0.0561	-0.3287	0.0335
3	105.12	0.6498	0.1626	0.0017	-0.3647	0.0179	-0.9543	0.0628	-0.4188	0.0354
3	105.12	0.6890	0.1404	0.0018	-0.4110	0.0202	-1.2302	0.0684	-0.2065	0.0379
3	105.12	0.7495	0.1790	0.0021	-0.4670	0.0238	-1.7945	0.0774	-0.3149	0.0338
3	105.12	0.7998	0.1992	0.0020	-0.5069	0.0269	-2.3434	0.0842	-0.2328	0.0376
3	105.12	0.8577	0.1862	0.0025	-0.5297	0.0305	-3.0964	0.0931	-0.3358	0.0366
3	105.12	0.9178	0.1750	0.0030	-0.6439	0.0346	-3.9234	0.1017	-0.6233	0.0382
3	105.12	0.9729	0.2089	0.0035	-0.6404	0.0381	-4.7330	0.1116	-0.6846	0.0427
4	105.12	0.2001	-0.0413	0.0009	0.0045	0.0007	-0.0211	0.0021	0.1631	0.0227
4	105.12	0.2502	-0.0072	0.0010	0.0165	0.0015	-0.0844	0.0057	-0.0617	0.0321
4	105.12	0.3001	0.0208	0.0011	0.0223	0.0029	-0.1038	0.0089	0.2436	0.0488
4	105.12	0.3502	0.0262	0.0011	0.0450	0.0043	-0.2107	0.0157	-0.0151	0.0380
4	105.12	0.4002	0.0440	0.0014	0.0692	0.0070	-0.3246	0.0244	-0.0079	0.0349
4	105.12	0.4500	0.0714	0.0017	0.0900	0.0087	-0.5150	0.0295	-0.1449	0.0346
4	105.12	0.5001	0.0864	0.0015	0.1035	0.0116	-0.7430	0.0386	-0.0290	0.0335
4	105.12	0.5560	0.1074	0.0016	0.1279	0.0142	-1.1475	0.0476	-0.2446	0.0373
4	105.12	0.6001	0.1155	0.0018	0.1454	0.0165	-1.4882	0.0556	-0.2353	0.0387
4	105.12	0.6501	0.1216	0.0019	0.1439	0.0195	-1.9751	0.0634	-0.1117	0.0359
4	105.12	0.6999	0.1424	0.0019	0.1445	0.0224	-2.5474	0.0710	-0.0616	0.0336
4	105.12	0.7500	0.1473	0.0023	0.1571	0.0259	-3.1566	0.0797	0.1506	0.0369
4	105.12	0.8002	0.1441	0.0025	0.1682	0.0292	-3.9009	0.0878	0.1799	0.0385
4	105.12	0.8582	0.1491	0.0029	0.1943	0.0334	-4.8492	0.0978	-0.1400	0.0401
4	105.12	0.9101	0.1579	0.0034	0.1960	0.0371	-5.7203	0.1059	-0.1301	0.0406
4	105.12	0.9728	0.1819	0.0041	0.2514	0.0421	-6.7074	0.1179	0.1969	0.0426

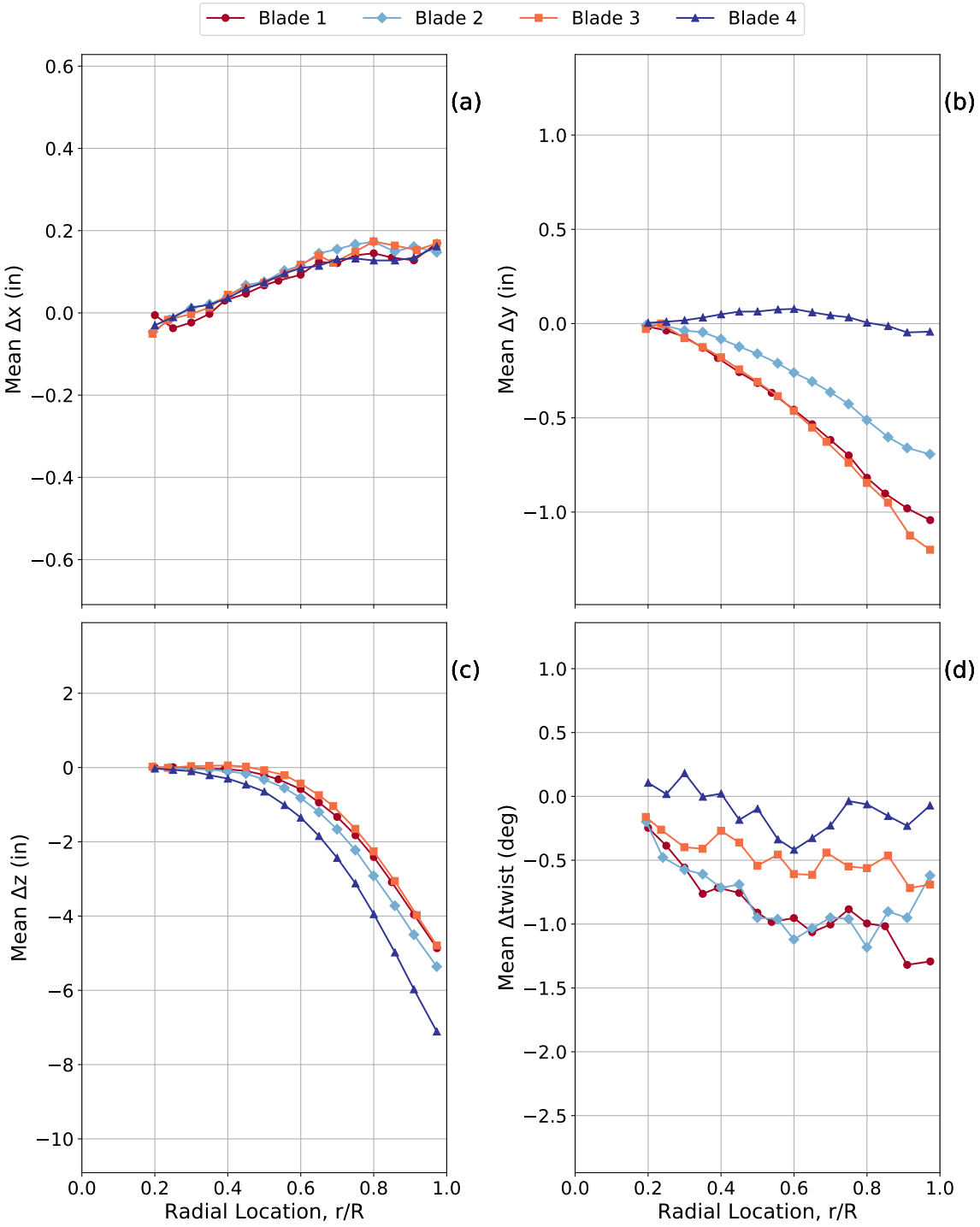


Figure 2.4-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0055	0.0012	-0.0163	0.0006	-0.0052	0.0016	-0.2463	0.0223
1	119.88	0.2499	-0.0372	0.0009	-0.0367	0.0015	0.0091	0.0048	-0.3862	0.0259
1	119.88	0.2998	-0.0234	0.0010	-0.0702	0.0029	-0.0188	0.0064	-0.5577	0.0461
1	119.88	0.3498	-0.0024	0.0013	-0.1287	0.0044	-0.0334	0.0131	-0.7629	0.0297
1	119.88	0.3913	0.0298	0.0015	-0.1829	0.0068	-0.0411	0.0176	-0.7155	0.0332
1	119.88	0.4496	0.0469	0.0014	-0.2574	0.0085	-0.0913	0.0232	-0.7556	0.0399
1	119.88	0.4997	0.0669	0.0014	-0.3153	0.0102	-0.1995	0.0297	-0.9107	0.0362
1	119.88	0.5387	0.0783	0.0014	-0.3671	0.0120	-0.3179	0.0344	-0.9832	0.0371
1	119.88	0.5996	0.0928	0.0017	-0.4570	0.0145	-0.5822	0.0431	-0.9529	0.0372
1	119.88	0.6498	0.1240	0.0020	-0.5340	0.0175	-0.9411	0.0512	-1.0634	0.0366
1	119.88	0.6998	0.1210	0.0021	-0.6173	0.0197	-1.3294	0.0592	-1.0034	0.0332
1	119.88	0.7500	0.1402	0.0019	-0.6997	0.0226	-1.8244	0.0663	-0.8841	0.0443
1	119.88	0.8001	0.1449	0.0024	-0.8181	0.0258	-2.4089	0.0760	-0.9952	0.0367
1	119.88	0.8497	0.1345	0.0027	-0.9016	0.0290	-3.0879	0.0861	-1.0168	0.0345
1	119.88	0.9102	0.1279	0.0032	-0.9804	0.0330	-3.9596	0.0997	-1.3193	0.0393
1	119.88	0.9734	0.1698	0.0041	-1.0426	0.0374	-4.8658	0.1155	-1.2926	0.0365
2	119.88	0.1949	-0.0459	0.0014	-0.0077	0.0006	-0.0024	0.0024	-0.1983	0.0360
2	119.88	0.2405	-0.0166	0.0008	-0.0080	0.0015	-0.0188	0.0054	-0.4782	0.0421
2	119.88	0.2999	0.0113	0.0010	-0.0371	0.0020	-0.0369	0.0084	-0.5744	0.0795
2	119.88	0.3498	0.0211	0.0012	-0.0458	0.0035	-0.0552	0.0192	-0.6093	0.0403
2	119.88	0.3998	0.0410	0.0015	-0.0819	0.0056	-0.1023	0.0263	-0.7156	0.0297
2	119.88	0.4496	0.0674	0.0013	-0.1225	0.0073	-0.1648	0.0298	-0.6902	0.0456
2	119.88	0.4995	0.0756	0.0017	-0.1600	0.0088	-0.3216	0.0373	-0.9501	0.0354
2	119.88	0.5551	0.1027	0.0016	-0.2104	0.0111	-0.5507	0.0438	-0.9619	0.0472
2	119.88	0.5996	0.1150	0.0020	-0.2603	0.0136	-0.8188	0.0506	-1.1206	0.0461
2	119.88	0.6497	0.1449	0.0020	-0.3074	0.0164	-1.1995	0.0576	-1.0330	0.0429
2	119.88	0.6996	0.1549	0.0021	-0.3640	0.0192	-1.6612	0.0641	-0.9496	0.0476
2	119.88	0.7495	0.1668	0.0023	-0.4266	0.0224	-2.2244	0.0719	-0.9597	0.0450
2	119.88	0.7996	0.1727	0.0026	-0.5117	0.0255	-2.9160	0.0806	-1.1818	0.0434
2	119.88	0.8578	0.1492	0.0033	-0.6022	0.0292	-3.7218	0.0918	-0.9024	0.0445
2	119.88	0.9100	0.1612	0.0038	-0.6597	0.0326	-4.5010	0.1034	-0.9501	0.0429
2	119.88	0.9727	0.1476	0.0047	-0.6929	0.0368	-5.3600	0.1177	-0.6201	0.0478
3	119.88	0.1938	-0.0506	0.0013	-0.0287	0.0007	0.0208	0.0016	-0.1613	0.0239
3	119.88	0.2357	-0.0167	0.0007	0.0002	0.0015	-0.0070	0.0042	-0.2608	0.0215
3	119.88	0.2995	-0.0027	0.0013	-0.0773	0.0027	0.0367	0.0069	-0.3984	0.0467
3	119.88	0.3493	0.0129	0.0011	-0.1246	0.0045	0.0455	0.0127	-0.4103	0.0409
3	119.88	0.4000	0.0441	0.0019	-0.1788	0.0070	0.0571	0.0193	-0.2696	0.0483
3	119.88	0.4497	0.0610	0.0015	-0.2432	0.0094	0.0225	0.0227	-0.3614	0.0434
3	119.88	0.4997	0.0728	0.0023	-0.3091	0.0111	-0.0743	0.0306	-0.5431	0.0472
3	119.88	0.5556	0.0945	0.0022	-0.3847	0.0144	-0.2064	0.0374	-0.4557	0.0370
3	119.88	0.5995	0.1173	0.0024	-0.4631	0.0168	-0.4305	0.0422	-0.6082	0.0405
3	119.88	0.6498	0.1394	0.0021	-0.5518	0.0204	-0.7446	0.0491	-0.6143	0.0342
3	119.88	0.6890	0.1217	0.0026	-0.6275	0.0231	-1.0392	0.0539	-0.4403	0.0375
3	119.88	0.7495	0.1490	0.0028	-0.7381	0.0274	-1.6513	0.0623	-0.5491	0.0420
3	119.88	0.7998	0.1738	0.0030	-0.8454	0.0313	-2.2582	0.0697	-0.5621	0.0446
3	119.88	0.8577	0.1637	0.0034	-0.9502	0.0360	-3.0575	0.0806	-0.4634	0.0401
3	119.88	0.9178	0.1531	0.0038	-1.1243	0.0408	-3.9761	0.0921	-0.7177	0.0404
3	119.88	0.9729	0.1689	0.0049	-1.1999	0.0453	-4.7925	0.1038	-0.6903	0.0415
4	119.88	0.2001	-0.0301	0.0015	0.0039	0.0009	-0.0265	0.0028	0.1064	0.0240
4	119.88	0.2502	-0.0104	0.0013	0.0098	0.0014	-0.0637	0.0053	0.0181	0.0462
4	119.88	0.3001	0.0133	0.0011	0.0174	0.0030	-0.0988	0.0087	0.1819	0.0567
4	119.88	0.3502	0.0199	0.0010	0.0318	0.0052	-0.2065	0.0172	-0.0029	0.0336
4	119.88	0.4002	0.0360	0.0013	0.0492	0.0076	-0.2984	0.0243	0.0216	0.0330
4	119.88	0.4500	0.0595	0.0018	0.0633	0.0098	-0.4594	0.0304	-0.1836	0.0347
4	119.88	0.5001	0.0744	0.0021	0.0640	0.0121	-0.6476	0.0366	-0.0969	0.0356
4	119.88	0.5560	0.0961	0.0019	0.0748	0.0142	-1.0120	0.0434	-0.3368	0.0408
4	119.88	0.6001	0.1089	0.0022	0.0778	0.0161	-1.3492	0.0498	-0.4179	0.0508
4	119.88	0.6501	0.1146	0.0022	0.0596	0.0187	-1.8451	0.0570	-0.3265	0.0455
4	119.88	0.6999	0.1306	0.0025	0.0438	0.0214	-2.4343	0.0644	-0.2287	0.0432
4	119.88	0.7500	0.1322	0.0031	0.0331	0.0243	-3.1201	0.0732	-0.0370	0.0430
4	119.88	0.8002	0.1275	0.0034	0.0049	0.0271	-3.9496	0.0826	-0.0624	0.0383
4	119.88	0.8582	0.1275	0.0040	-0.0134	0.0304	-4.9801	0.0948	-0.1539	0.0392
4	119.88	0.9101	0.1341	0.0044	-0.0469	0.0337	-5.9732	0.1068	-0.2308	0.0362
4	119.88	0.9728	0.1619	0.0054	-0.0429	0.0371	-7.1096	0.1219	-0.0716	0.0391

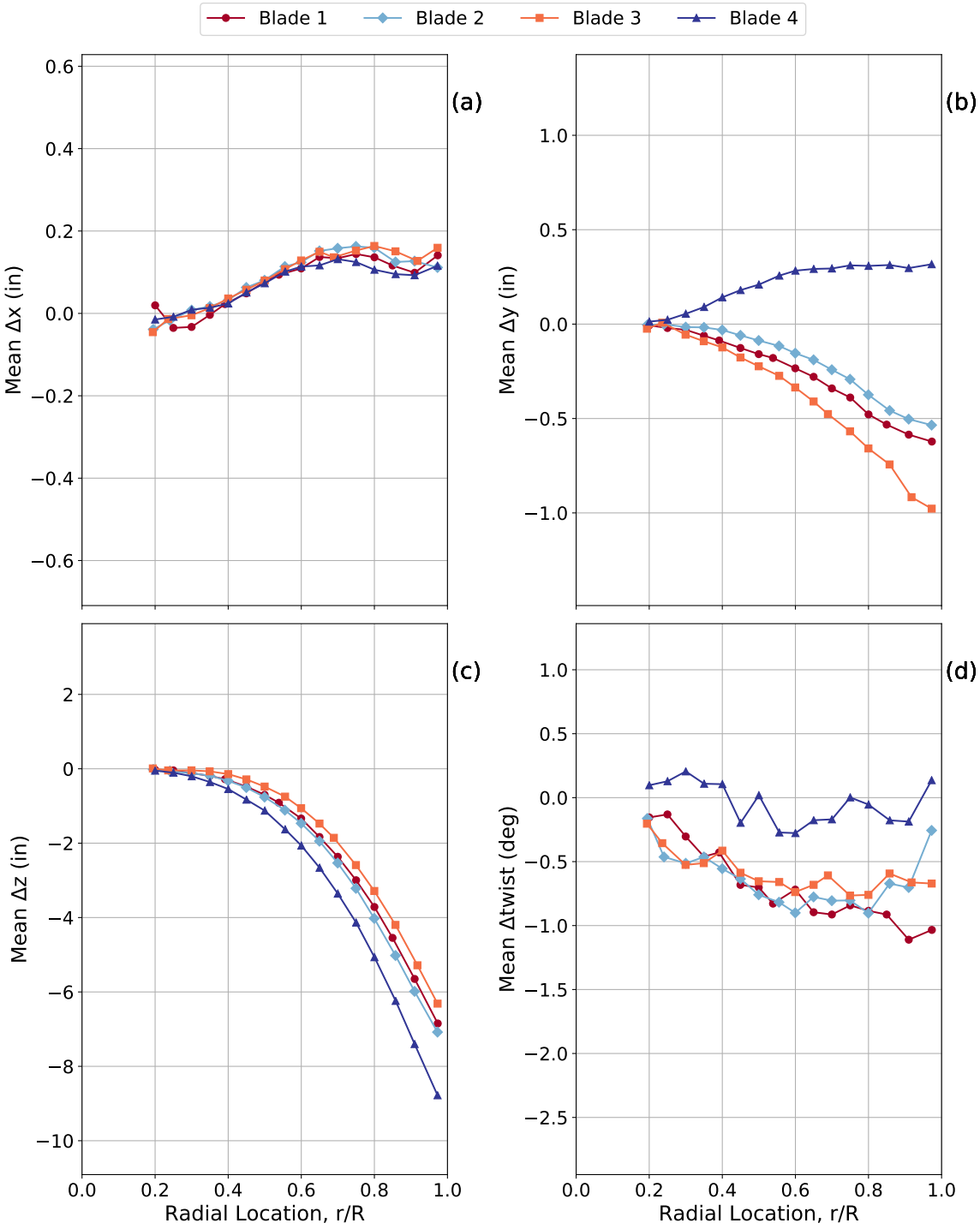


Figure 2.4-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	0.0196	0.0009	-0.0064	0.0009	-0.0270	0.0016	-0.1545	0.0180
1	135	0.2499	-0.0352	0.0012	-0.0207	0.0014	-0.0425	0.0042	-0.1310	0.0292
1	135	0.2998	-0.0329	0.0012	-0.0303	0.0033	-0.1161	0.0085	-0.3037	0.0405
1	135	0.3498	-0.0036	0.0012	-0.0614	0.0053	-0.1919	0.0124	-0.4608	0.0415
1	135	0.3913	0.0226	0.0014	-0.0867	0.0076	-0.2793	0.0199	-0.4281	0.0422
1	135	0.4496	0.0487	0.0013	-0.1265	0.0096	-0.4793	0.0234	-0.6819	0.0470
1	135	0.4997	0.0765	0.0016	-0.1590	0.0123	-0.6990	0.0298	-0.7020	0.0407
1	135	0.5387	0.0938	0.0013	-0.1794	0.0147	-0.9133	0.0349	-0.8284	0.0351
1	135	0.5996	0.1091	0.0023	-0.2341	0.0180	-1.3369	0.0409	-0.7187	0.0455
1	135	0.6498	0.1369	0.0023	-0.2791	0.0212	-1.8340	0.0494	-0.8957	0.0365
1	135	0.6998	0.1339	0.0023	-0.3406	0.0247	-2.3659	0.0560	-0.9134	0.0513
1	135	0.7500	0.1442	0.0018	-0.3888	0.0281	-2.9971	0.0652	-0.8420	0.0434
1	135	0.8001	0.1362	0.0025	-0.4784	0.0317	-3.7156	0.0745	-0.8847	0.0436
1	135	0.8497	0.1163	0.0029	-0.5323	0.0352	-4.5458	0.0860	-0.9136	0.0429
1	135	0.9102	0.0987	0.0039	-0.5855	0.0398	-5.6505	0.1025	-1.1104	0.0435
1	135	0.9734	0.1410	0.0049	-0.6221	0.0447	-6.8479	0.1222	-1.0340	0.0458
2	135	0.1949	-0.0387	0.0010	-0.0041	0.0005	-0.0169	0.0019	-0.1626	0.0234
2	135	0.2405	-0.0167	0.0013	-0.0005	0.0014	-0.0604	0.0060	-0.4635	0.0291
2	135	0.2999	0.0081	0.0015	-0.0160	0.0023	-0.1235	0.0114	-0.5133	0.0500
2	135	0.3498	0.0169	0.0022	-0.0173	0.0049	-0.1851	0.0167	-0.4636	0.0479
2	135	0.3998	0.0320	0.0021	-0.0312	0.0066	-0.3240	0.0292	-0.5554	0.0398
2	135	0.4496	0.0629	0.0016	-0.0597	0.0075	-0.5042	0.0365	-0.6351	0.0617
2	135	0.4995	0.0804	0.0018	-0.0869	0.0092	-0.7608	0.0482	-0.7590	0.0395
2	135	0.5551	0.1138	0.0019	-0.1157	0.0116	-1.1120	0.0614	-0.8174	0.0437
2	135	0.5996	0.1241	0.0030	-0.1540	0.0135	-1.4658	0.0740	-0.9005	0.0425
2	135	0.6497	0.1516	0.0028	-0.1893	0.0156	-1.9464	0.0864	-0.7760	0.0483
2	135	0.6996	0.1581	0.0034	-0.2416	0.0180	-2.5332	0.1013	-0.8055	0.0483
2	135	0.7495	0.1626	0.0040	-0.2922	0.0207	-3.2146	0.1158	-0.8030	0.0508
2	135	0.7996	0.1594	0.0045	-0.3743	0.0237	-4.0227	0.1311	-0.9028	0.0503
2	135	0.8578	0.1248	0.0054	-0.4577	0.0272	-5.0206	0.1490	-0.6715	0.0547
2	135	0.9100	0.1270	0.0061	-0.5033	0.0303	-5.9847	0.1665	-0.7024	0.0557
2	135	0.9727	0.1115	0.0072	-0.5349	0.0341	-7.0801	0.1879	-0.2562	0.0620
3	135	0.1938	-0.0455	0.0008	-0.0243	0.0006	0.0089	0.0023	-0.2034	0.0203
3	135	0.2357	-0.0137	0.0011	0.0076	0.0012	-0.0437	0.0031	-0.3557	0.0219
3	135	0.2995	-0.0045	0.0009	-0.0559	0.0016	-0.0423	0.0071	-0.5255	0.0408
3	135	0.3493	0.0127	0.0012	-0.0907	0.0029	-0.0680	0.0135	-0.5119	0.0269
3	135	0.4000	0.0362	0.0014	-0.1234	0.0041	-0.1430	0.0192	-0.4142	0.0314
3	135	0.4497	0.0574	0.0015	-0.1768	0.0056	-0.2857	0.0246	-0.5868	0.0287
3	135	0.4997	0.0798	0.0019	-0.2234	0.0072	-0.4789	0.0321	-0.6535	0.0241
3	135	0.5556	0.1074	0.0019	-0.2740	0.0089	-0.7489	0.0409	-0.6594	0.0365
3	135	0.5995	0.1285	0.0017	-0.3356	0.0105	-1.0593	0.0489	-0.7381	0.0271
3	135	0.6498	0.1497	0.0025	-0.4100	0.0126	-1.4729	0.0583	-0.6812	0.0319
3	135	0.6890	0.1362	0.0021	-0.4765	0.0145	-1.8560	0.0656	-0.6077	0.0326
3	135	0.7495	0.1525	0.0024	-0.5679	0.0173	-2.5889	0.0802	-0.7652	0.0360
3	135	0.7998	0.1637	0.0034	-0.6585	0.0198	-3.2859	0.0916	-0.7599	0.0300
3	135	0.8577	0.1507	0.0043	-0.7433	0.0226	-4.1973	0.1080	-0.5930	0.0275
3	135	0.9178	0.1274	0.0050	-0.9167	0.0259	-5.2831	0.1272	-0.6625	0.0316
3	135	0.9729	0.1593	0.0061	-0.9775	0.0290	-6.3143	0.1456	-0.6714	0.0311
4	135	0.2001	-0.0149	0.0010	0.0131	0.0008	-0.0504	0.0018	0.0970	0.0198
4	135	0.2502	-0.0081	0.0012	0.0229	0.0016	-0.1049	0.0028	0.1286	0.0286
4	135	0.3001	0.0088	0.0010	0.0546	0.0027	-0.2018	0.0075	0.2054	0.0395
4	135	0.3502	0.0138	0.0013	0.0906	0.0056	-0.3568	0.0102	0.1088	0.0331
4	135	0.4002	0.0240	0.0011	0.1418	0.0080	-0.5459	0.0166	0.1055	0.0477
4	135	0.4500	0.0508	0.0013	0.1801	0.0090	-0.8304	0.0181	-0.1966	0.0317
4	135	0.5001	0.0731	0.0020	0.2093	0.0106	-1.1263	0.0229	0.0185	0.0284
4	135	0.5560	0.1014	0.0019	0.2567	0.0132	-1.6303	0.0282	-0.2723	0.0469
4	135	0.6001	0.1137	0.0022	0.2831	0.0148	-2.0655	0.0332	-0.2770	0.0336
4	135	0.6501	0.1166	0.0022	0.2922	0.0173	-2.6620	0.0375	-0.1764	0.0316
4	135	0.6999	0.1317	0.0022	0.2946	0.0201	-3.3571	0.0425	-0.1695	0.0303
4	135	0.7500	0.1246	0.0022	0.3112	0.0226	-4.1355	0.0484	0.0019	0.0348
4	135	0.8002	0.1060	0.0026	0.3083	0.0256	-5.0661	0.0545	-0.0542	0.0335
4	135	0.8582	0.0953	0.0032	0.3130	0.0291	-6.2408	0.0629	-0.1771	0.0314
4	135	0.9101	0.0926	0.0036	0.2967	0.0322	-7.4011	0.0722	-0.1871	0.0309
4	135	0.9728	0.1156	0.0049	0.3171	0.0360	-8.7787	0.0858	0.1365	0.0318

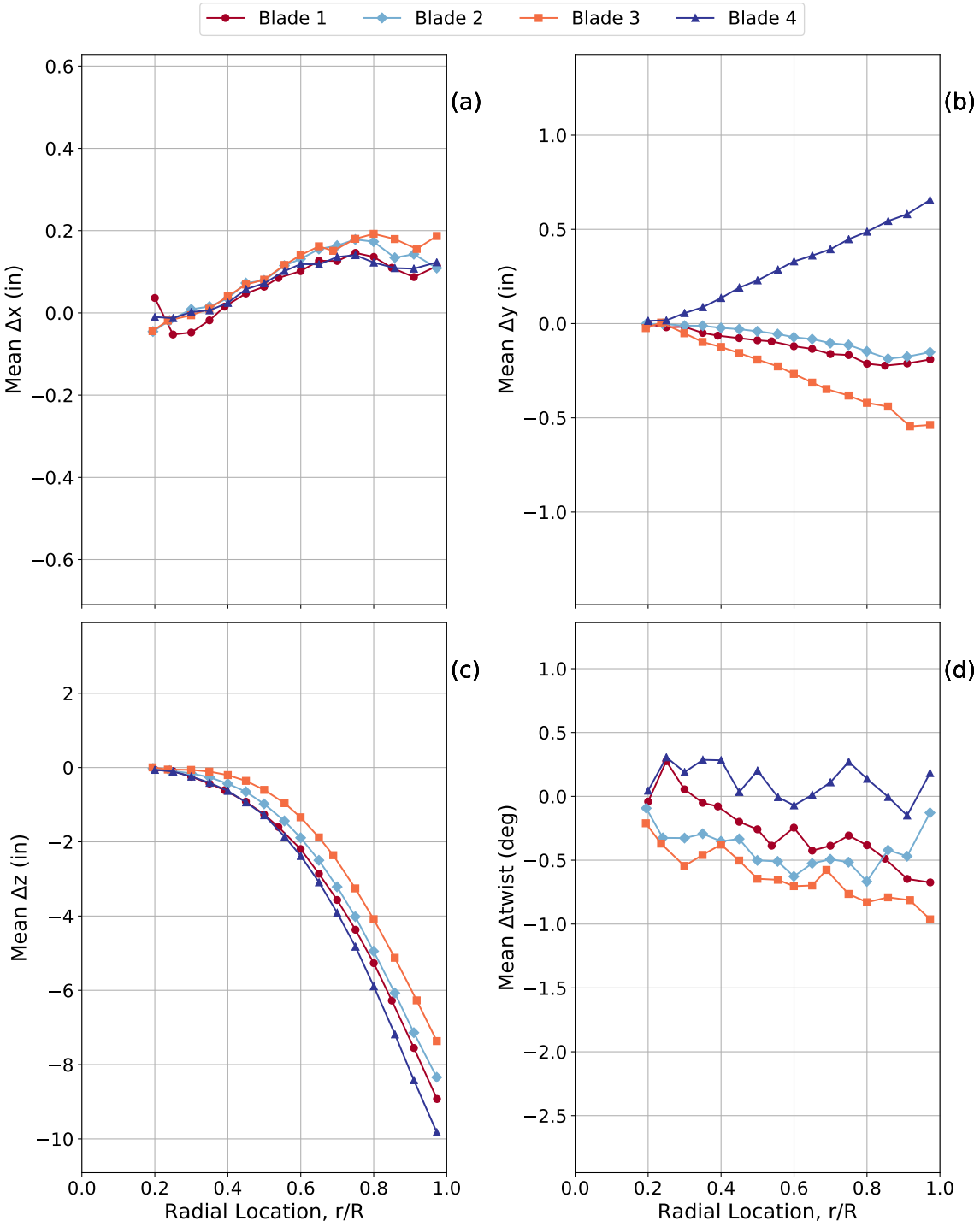


Figure 2.4-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	0.0363	0.0013	-0.0036	0.0008	-0.0604	0.0017	-0.0412	0.0136
1	150.12	0.2499	-0.0526	0.0012	-0.0198	0.0015	-0.0981	0.0035	0.2757	0.0271
1	150.12	0.2998	-0.0478	0.0013	-0.0171	0.0028	-0.2476	0.0073	0.0550	0.0318
1	150.12	0.3498	-0.0181	0.0011	-0.0499	0.0058	-0.4305	0.0128	-0.0508	0.0295
1	150.12	0.3913	0.0153	0.0014	-0.0642	0.0071	-0.6105	0.0181	-0.0790	0.0273
1	150.12	0.4496	0.0472	0.0016	-0.0774	0.0078	-0.9198	0.0219	-0.1991	0.0294
1	150.12	0.4997	0.0638	0.0015	-0.0887	0.0104	-1.2653	0.0261	-0.2581	0.0365
1	150.12	0.5387	0.0850	0.0021	-0.0944	0.0124	-1.6003	0.0320	-0.3862	0.0364
1	150.12	0.5996	0.1015	0.0019	-0.1203	0.0146	-2.1960	0.0416	-0.2450	0.0308
1	150.12	0.6498	0.1268	0.0024	-0.1344	0.0171	-2.8604	0.0478	-0.4249	0.0329
1	150.12	0.6998	0.1263	0.0028	-0.1618	0.0196	-3.5662	0.0536	-0.3867	0.0373
1	150.12	0.7500	0.1460	0.0028	-0.1669	0.0215	-4.3693	0.0619	-0.3066	0.0370
1	150.12	0.8001	0.1362	0.0032	-0.2130	0.0239	-5.2677	0.0700	-0.3826	0.0376
1	150.12	0.8497	0.1096	0.0035	-0.2232	0.0268	-6.2757	0.0788	-0.4885	0.0334
1	150.12	0.9102	0.0870	0.0040	-0.2114	0.0300	-7.5527	0.0885	-0.6465	0.0338
1	150.12	0.9734	0.1141	0.0050	-0.1902	0.0335	-8.9259	0.0999	-0.6736	0.0343
2	150.12	0.1949	-0.0454	0.0012	-0.0021	0.0017	-0.0244	0.0013	-0.0930	0.0139
2	150.12	0.2405	-0.0184	0.0017	-0.0020	0.0018	-0.0829	0.0033	-0.3249	0.0211
2	150.12	0.2999	0.0089	0.0016	-0.0111	0.0064	-0.1586	0.0065	-0.3264	0.0282
2	150.12	0.3498	0.0156	0.0025	-0.0118	0.0061	-0.2609	0.0110	-0.2929	0.0265
2	150.12	0.3998	0.0352	0.0017	-0.0229	0.0115	-0.4343	0.0172	-0.3516	0.0296
2	150.12	0.4496	0.0726	0.0020	-0.0298	0.0153	-0.6516	0.0223	-0.3331	0.0324
2	150.12	0.4995	0.0789	0.0017	-0.0411	0.0173	-0.9805	0.0259	-0.5016	0.0233
2	150.12	0.5551	0.1150	0.0021	-0.0555	0.0211	-1.4375	0.0341	-0.5093	0.0357
2	150.12	0.5996	0.1312	0.0018	-0.0724	0.0233	-1.8910	0.0377	-0.6267	0.0289
2	150.12	0.6497	0.1553	0.0021	-0.0825	0.0256	-2.4988	0.0421	-0.5250	0.0296
2	150.12	0.6996	0.1636	0.0024	-0.1038	0.0281	-3.2128	0.0487	-0.4931	0.0303
2	150.12	0.7495	0.1785	0.0028	-0.1134	0.0314	-4.0162	0.0561	-0.5154	0.0284
2	150.12	0.7996	0.1732	0.0030	-0.1473	0.0339	-4.9457	0.0637	-0.6663	0.0248
2	150.12	0.8578	0.1343	0.0037	-0.1861	0.0372	-6.0712	0.0733	-0.4203	0.0267
2	150.12	0.9100	0.1428	0.0042	-0.1756	0.0402	-7.1410	0.0818	-0.4691	0.0297
2	150.12	0.9727	0.1090	0.0051	-0.1517	0.0439	-8.3402	0.0938	-0.1286	0.0265
3	150.12	0.1938	-0.0444	0.0008	-0.0242	0.0013	0.0048	0.0012	-0.2106	0.0110
3	150.12	0.2357	-0.0186	0.0015	0.0054	0.0018	-0.0541	0.0027	-0.3700	0.0164
3	150.12	0.2995	-0.0057	0.0010	-0.0515	0.0042	-0.0620	0.0050	-0.5451	0.0244
3	150.12	0.3493	0.0101	0.0012	-0.0976	0.0050	-0.1083	0.0078	-0.4589	0.0246
3	150.12	0.4000	0.0405	0.0015	-0.1244	0.0087	-0.2028	0.0128	-0.3773	0.0258
3	150.12	0.4497	0.0690	0.0017	-0.1566	0.0107	-0.3586	0.0162	-0.5028	0.0272
3	150.12	0.4997	0.0807	0.0021	-0.1909	0.0128	-0.6019	0.0198	-0.6452	0.0288
3	150.12	0.5556	0.1166	0.0020	-0.2271	0.0152	-0.9599	0.0251	-0.6530	0.0287
3	150.12	0.5995	0.1406	0.0016	-0.2668	0.0177	-1.3403	0.0295	-0.7030	0.0308
3	150.12	0.6498	0.1619	0.0025	-0.3130	0.0210	-1.8815	0.0350	-0.6977	0.0305
3	150.12	0.6890	0.1510	0.0020	-0.3474	0.0224	-2.3618	0.0388	-0.5763	0.0253
3	150.12	0.7495	0.1801	0.0022	-0.3819	0.0263	-3.2551	0.0450	-0.7640	0.0309
3	150.12	0.7998	0.1923	0.0023	-0.4205	0.0302	-4.0851	0.0501	-0.8289	0.0305
3	150.12	0.8577	0.1796	0.0026	-0.4402	0.0341	-5.1233	0.0562	-0.7905	0.0268
3	150.12	0.9178	0.1556	0.0031	-0.5452	0.0385	-6.2707	0.0633	-0.8129	0.0279
3	150.12	0.9729	0.1870	0.0038	-0.5376	0.0425	-7.3672	0.0700	-0.9630	0.0251
4	150.12	0.2001	-0.0100	0.0009	0.0144	0.0008	-0.0623	0.0016	0.0448	0.0195
4	150.12	0.2502	-0.0127	0.0015	0.0171	0.0018	-0.1075	0.0039	0.3059	0.0244
4	150.12	0.3001	0.0023	0.0009	0.0558	0.0055	-0.2422	0.0058	0.1903	0.0412
4	150.12	0.3502	0.0062	0.0020	0.0871	0.0050	-0.4103	0.0119	0.2860	0.0249
4	150.12	0.4002	0.0245	0.0013	0.1359	0.0110	-0.6294	0.0167	0.2827	0.0354
4	150.12	0.4500	0.0576	0.0012	0.1906	0.0153	-0.9399	0.0175	0.0345	0.0412
4	150.12	0.5001	0.0720	0.0019	0.2293	0.0171	-1.2848	0.0225	0.2011	0.0369
4	150.12	0.5560	0.1019	0.0023	0.2857	0.0202	-1.8622	0.0291	-0.0061	0.0320
4	150.12	0.6001	0.1188	0.0024	0.3300	0.0245	-2.3824	0.0311	-0.0706	0.0355
4	150.12	0.6501	0.1179	0.0029	0.3611	0.0280	-3.0907	0.0373	0.0126	0.0330
4	150.12	0.6999	0.1361	0.0022	0.3944	0.0320	-3.9138	0.0423	0.1103	0.0419
4	150.12	0.7500	0.1405	0.0027	0.4476	0.0363	-4.8239	0.0489	0.2707	0.0350
4	150.12	0.8002	0.1224	0.0033	0.4876	0.0404	-5.8937	0.0554	0.1375	0.0383
4	150.12	0.8582	0.1088	0.0040	0.5442	0.0454	-7.1864	0.0649	-0.0047	0.0396
4	150.12	0.9101	0.1075	0.0047	0.5804	0.0500	-8.4201	0.0753	-0.1497	0.0348
4	150.12	0.9728	0.1231	0.0061	0.6557	0.0553	-9.8212	0.0883	0.1827	0.0339

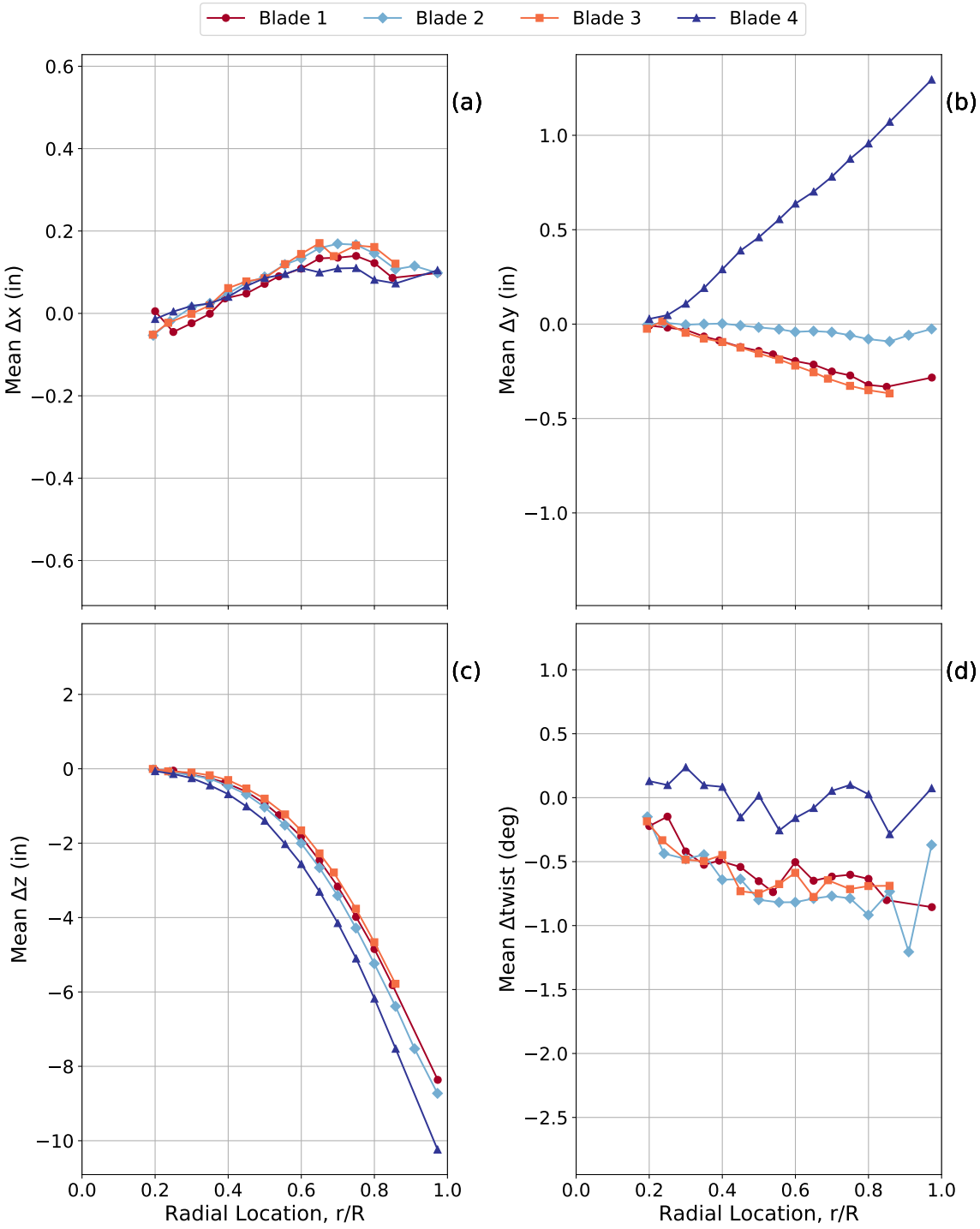


Figure 2.4-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	0.0052	0.0035	-0.0079	0.0007	-0.0391	0.0021	-0.2220	0.0229
1	164.88	0.2499	-0.0451	0.0017	-0.0186	0.0024	-0.0492	0.0053	-0.1481	0.0384
1	164.88	0.2998	-0.0238	0.0015	-0.0305	0.0030	-0.1593	0.0094	-0.4207	0.0505
1	164.88	0.3498	-0.0008	0.0037	-0.0656	0.0045	-0.2550	0.0155	-0.5247	0.0521
1	164.88	0.3913	0.0363	0.0049	-0.0869	0.0076	-0.3696	0.0233	-0.4928	0.0510
1	164.88	0.4496	0.0482	0.0071	-0.1214	0.0099	-0.6153	0.0277	-0.5420	0.0469
1	164.88	0.4997	0.0717	0.0090	-0.1422	0.0128	-0.9295	0.0329	-0.6527	0.0559
1	164.88	0.5387	0.0901	0.0099	-0.1603	0.0146	-1.2458	0.0377	-0.7385	0.0550
1	164.88	0.5996	0.1087	0.0120	-0.1959	0.0181	-1.8233	0.0451	-0.5043	0.0539
1	164.88	0.6498	0.1336	0.0132	-0.2144	0.0210	-2.4680	0.0512	-0.6493	0.0583
1	164.88	0.6998	0.1354	0.0148	-0.2511	0.0239	-3.1654	0.0586	-0.6169	0.0763
1	164.88	0.7500	0.1395	0.0164	-0.2720	0.0270	-3.9833	0.0646	-0.6023	0.0701
1	164.88	0.8001	0.1222	0.0185	-0.3221	0.0299	-4.8469	0.0702	-0.6350	0.0752
1	164.88	0.8497	0.0863	0.0199	-0.3319	0.0336	-5.8178	0.0774	-0.8012	0.0762
1	164.88	0.9734	0.0981	0.0303	-0.2832	0.0435	-8.3637	0.1020	-0.8558	0.2507
2	164.88	0.1949	-0.0533	0.0010	-0.0032	0.0005	-0.0258	0.0011	-0.1495	0.0146
2	164.88	0.2405	-0.0196	0.0010	0.0073	0.0015	-0.0864	0.0036	-0.4370	0.0166
2	164.88	0.2999	0.0149	0.0012	-0.0033	0.0032	-0.1732	0.0061	-0.4791	0.0296
2	164.88	0.3498	0.0245	0.0011	0.0004	0.0040	-0.2690	0.0102	-0.4453	0.0269
2	164.88	0.3998	0.0485	0.0015	0.0027	0.0075	-0.4597	0.0168	-0.6416	0.0249
2	164.88	0.4496	0.0739	0.0019	-0.0074	0.0092	-0.6861	0.0220	-0.6364	0.0296
2	164.88	0.4995	0.0887	0.0018	-0.0174	0.0107	-1.0307	0.0266	-0.7988	0.0425
2	164.88	0.5551	0.1185	0.0020	-0.0270	0.0131	-1.5153	0.0339	-0.8181	0.0316
2	164.88	0.5996	0.1334	0.0017	-0.0412	0.0149	-2.0036	0.0392	-0.8173	0.0336
2	164.88	0.6497	0.1587	0.0024	-0.0370	0.0171	-2.6590	0.0458	-0.7885	0.0287
2	164.88	0.6996	0.1690	0.0023	-0.0425	0.0195	-3.4118	0.0521	-0.7692	0.0397
2	164.88	0.7495	0.1668	0.0027	-0.0589	0.0222	-4.2836	0.0589	-0.7869	0.0382
2	164.88	0.7996	0.1458	0.0035	-0.0795	0.0253	-5.2380	0.0661	-0.9177	0.0408
2	164.88	0.8578	0.1072	0.0052	-0.0919	0.0287	-6.3869	0.0753	-0.7340	0.0539
2	164.88	0.9100	0.1151	0.0050	-0.0586	0.0316	-7.5272	0.0861	-1.2057	0.0395
2	164.88	0.9727	0.0983	0.0102	-0.0256	0.0349	-8.7271	0.0991	-0.3694	0.1420
3	164.88	0.1938	-0.0517	0.0018	-0.0245	0.0007	-0.0044	0.0014	-0.1848	0.0179
3	164.88	0.2357	-0.0228	0.0017	0.0152	0.0034	-0.0687	0.0037	-0.3329	0.0266
3	164.88	0.2995	-0.0010	0.0015	-0.0458	0.0057	-0.1002	0.0064	-0.4849	0.0410
3	164.88	0.3493	0.0195	0.0017	-0.0764	0.0094	-0.1747	0.0108	-0.4960	0.0352
3	164.88	0.4000	0.0614	0.0025	-0.0950	0.0159	-0.3048	0.0171	-0.4485	0.0327
3	164.88	0.4497	0.0777	0.0023	-0.1243	0.0172	-0.5302	0.0188	-0.7315	0.0335
3	164.88	0.4997	0.0853	0.0032	-0.1552	0.0202	-0.8034	0.0237	-0.7484	0.0392
3	164.88	0.5556	0.1196	0.0030	-0.1877	0.0250	-1.2271	0.0317	-0.6759	0.0444
3	164.88	0.5995	0.1443	0.0030	-0.2196	0.0288	-1.6569	0.0347	-0.5874	0.0604
3	164.88	0.6498	0.1706	0.0030	-0.2551	0.0322	-2.2754	0.0392	-0.7763	0.0526
3	164.88	0.6890	0.1390	0.0054	-0.2887	0.0354	-2.7896	0.0432	-0.6453	0.0437
3	164.88	0.7495	0.1650	0.0033	-0.3270	0.0393	-3.7630	0.0468	-0.7149	0.0546
3	164.88	0.7998	0.1611	0.0037	-0.3499	0.0434	-4.6640	0.0517	-0.6908	0.0512
3	164.88	0.8577	0.1207	0.0082	-0.3669	0.0482	-5.7813	0.0583	-0.6889	0.1414
4	164.88	0.2001	-0.0135	0.0015	0.0274	0.0011	-0.0637	0.0019	0.1294	0.0156
4	164.88	0.2502	0.0046	0.0013	0.0478	0.0021	-0.1405	0.0034	0.0986	0.0314
4	164.88	0.3001	0.0183	0.0012	0.1082	0.0041	-0.2519	0.0070	0.2376	0.0359
4	164.88	0.3502	0.0243	0.0013	0.1914	0.0070	-0.4466	0.0109	0.0980	0.0343
4	164.88	0.4002	0.0403	0.0016	0.2905	0.0106	-0.6826	0.0174	0.0846	0.0389
4	164.88	0.4500	0.0665	0.0017	0.3897	0.0133	-1.0119	0.0209	-0.1532	0.0351
4	164.88	0.5001	0.0858	0.0020	0.4600	0.0151	-1.3963	0.0264	0.0152	0.0357
4	164.88	0.5560	0.0957	0.0020	0.5557	0.0190	-2.0256	0.0325	-0.2556	0.0380
4	164.88	0.6001	0.1100	0.0024	0.6382	0.0218	-2.5629	0.0375	-0.1587	0.0419
4	164.88	0.6501	0.0995	0.0023	0.7019	0.0238	-3.3059	0.0425	-0.0807	0.0378
4	164.88	0.6999	0.1092	0.0033	0.7809	0.0278	-4.1487	0.0467	0.0532	0.0405
4	164.88	0.7500	0.1101	0.0031	0.8755	0.0308	-5.1001	0.0522	0.0999	0.0484
4	164.88	0.8002	0.0817	0.0043	0.9568	0.0346	-6.1788	0.0557	0.0256	0.0487
4	164.88	0.8582	0.0728	0.0063	1.0717	0.0378	-7.5271	0.0617	-0.2855	0.0753
4	164.88	0.9728	0.1047	0.0109	1.2948	0.0470	-10.2378	0.0753	0.0735	0.1060

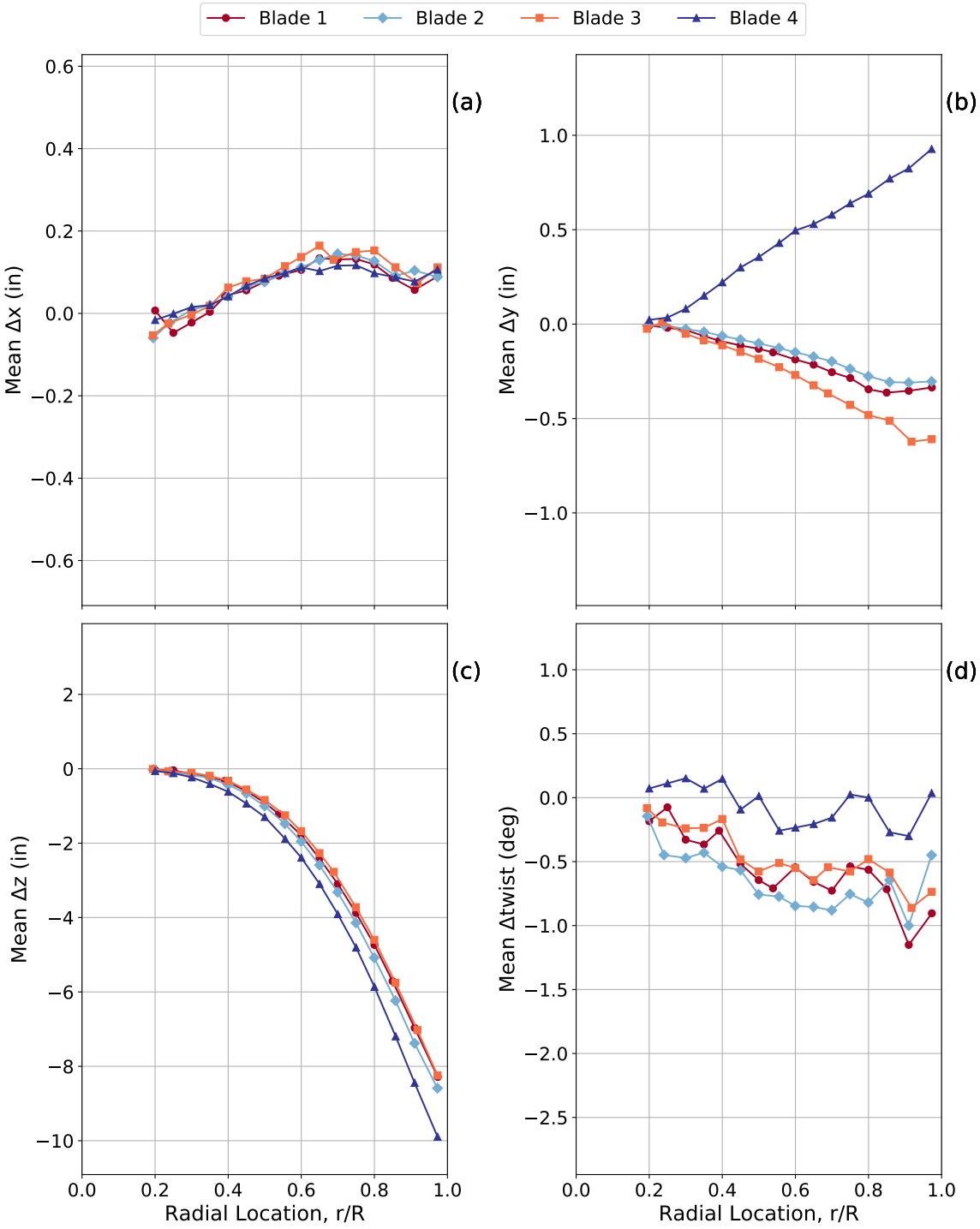


Figure 2.4-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	0.0070	0.0013	-0.0073	0.0007	-0.0358	0.0018	-0.1839	0.0154
1	170.16	0.2499	-0.0473	0.0012	-0.0195	0.0023	-0.0388	0.0046	-0.0754	0.0299
1	170.16	0.2998	-0.0222	0.0013	-0.0317	0.0038	-0.1428	0.0079	-0.3286	0.0355
1	170.16	0.3498	0.0037	0.0013	-0.0631	0.0060	-0.2238	0.0133	-0.3662	0.0372
1	170.16	0.3913	0.0420	0.0017	-0.0880	0.0095	-0.3240	0.0198	-0.2581	0.0363
1	170.16	0.4496	0.0559	0.0021	-0.1131	0.0102	-0.5976	0.0222	-0.5177	0.0351
1	170.16	0.4997	0.0768	0.0020	-0.1309	0.0130	-0.9090	0.0288	-0.6446	0.0386
1	170.16	0.5387	0.0915	0.0024	-0.1496	0.0157	-1.2171	0.0323	-0.7087	0.0418
1	170.16	0.5996	0.1057	0.0023	-0.1875	0.0175	-1.7823	0.0396	-0.5442	0.0387
1	170.16	0.6498	0.1339	0.0026	-0.2146	0.0194	-2.4132	0.0467	-0.6584	0.0390
1	170.16	0.6998	0.1310	0.0025	-0.2545	0.0220	-3.0975	0.0524	-0.7268	0.0518
1	170.16	0.7500	0.1322	0.0034	-0.2853	0.0253	-3.8767	0.0575	-0.5374	0.0436
1	170.16	0.8001	0.1187	0.0026	-0.3452	0.0277	-4.7362	0.0628	-0.5640	0.0465
1	170.16	0.8497	0.0860	0.0046	-0.3630	0.0307	-5.7088	0.0709	-0.7152	0.0492
1	170.16	0.9102	0.0570	0.0071	-0.3534	0.0341	-6.9680	0.0802	-1.1509	0.1270
1	170.16	0.9734	0.0901	0.0063	-0.3355	0.0382	-8.2863	0.0924	-0.9040	0.0901
2	170.16	0.1949	-0.0596	0.0013	-0.0072	0.0009	-0.0232	0.0013	-0.1441	0.0134
2	170.16	0.2405	-0.0224	0.0011	-0.0053	0.0020	-0.0785	0.0027	-0.4480	0.0214
2	170.16	0.2999	0.0086	0.0010	-0.0259	0.0034	-0.1626	0.0049	-0.4721	0.0301
2	170.16	0.3498	0.0202	0.0011	-0.0413	0.0060	-0.2512	0.0082	-0.4299	0.0249
2	170.16	0.3998	0.0410	0.0016	-0.0629	0.0093	-0.4324	0.0127	-0.5396	0.0255
2	170.16	0.4496	0.0653	0.0018	-0.0819	0.0107	-0.6618	0.0159	-0.5666	0.0301
2	170.16	0.4995	0.0764	0.0019	-0.1021	0.0135	-1.0014	0.0198	-0.7568	0.0295
2	170.16	0.5551	0.0977	0.0018	-0.1270	0.0165	-1.4780	0.0245	-0.7732	0.0325
2	170.16	0.5996	0.1116	0.0021	-0.1493	0.0188	-1.9520	0.0287	-0.8463	0.0289
2	170.16	0.6497	0.1298	0.0022	-0.1723	0.0215	-2.5889	0.0339	-0.8544	0.0337
2	170.16	0.6996	0.1448	0.0027	-0.1973	0.0243	-3.3196	0.0386	-0.8801	0.0312
2	170.16	0.7495	0.1406	0.0032	-0.2371	0.0275	-4.1423	0.0448	-0.7539	0.0328
2	170.16	0.7996	0.1271	0.0040	-0.2760	0.0307	-5.0811	0.0502	-0.8200	0.0311
2	170.16	0.8578	0.0910	0.0044	-0.3070	0.0342	-6.2329	0.0581	-0.6442	0.0323
2	170.16	0.9100	0.1041	0.0061	-0.3100	0.0368	-7.3816	0.0665	-1.0001	0.0673
2	170.16	0.9727	0.0884	0.0080	-0.3037	0.0410	-8.5880	0.0782	-0.4490	0.0563
3	170.16	0.1938	-0.0532	0.0010	-0.0245	0.0005	-0.0067	0.0013	-0.0819	0.0183
3	170.16	0.2357	-0.0247	0.0015	0.0106	0.0016	-0.0705	0.0030	-0.1938	0.0235
3	170.16	0.2995	-0.0029	0.0013	-0.0511	0.0031	-0.1052	0.0059	-0.2400	0.0400
3	170.16	0.3493	0.0180	0.0014	-0.0861	0.0042	-0.1897	0.0089	-0.2358	0.0358
3	170.16	0.4000	0.0627	0.0019	-0.1119	0.0078	-0.3223	0.0149	-0.1669	0.0327
3	170.16	0.4497	0.0779	0.0021	-0.1470	0.0086	-0.5587	0.0196	-0.4823	0.0302
3	170.16	0.4997	0.0842	0.0025	-0.1836	0.0108	-0.8399	0.0249	-0.5777	0.0431
3	170.16	0.5556	0.1146	0.0023	-0.2281	0.0116	-1.2514	0.0295	-0.5109	0.0422
3	170.16	0.5995	0.1369	0.0024	-0.2697	0.0145	-1.6769	0.0346	-0.5500	0.0350
3	170.16	0.6498	0.1644	0.0027	-0.3243	0.0171	-2.2666	0.0397	-0.6451	0.0524
3	170.16	0.6890	0.1299	0.0029	-0.3670	0.0193	-2.7713	0.0453	-0.5432	0.0466
3	170.16	0.7495	0.1489	0.0022	-0.4281	0.0226	-3.7212	0.0527	-0.5772	0.0408
3	170.16	0.7998	0.1529	0.0029	-0.4812	0.0259	-4.5991	0.0582	-0.4803	0.0436
3	170.16	0.8577	0.1119	0.0043	-0.5117	0.0299	-5.7521	0.0659	-0.5860	0.0657
3	170.16	0.9178	0.0734	0.0080	-0.6228	0.0342	-7.0255	0.0733	-0.8614	0.1345
3	170.16	0.9729	0.1118	0.0086	-0.6095	0.0381	-8.2447	0.0836	-0.7363	0.1385
4	170.16	0.2001	-0.0160	0.0013	0.0224	0.0009	-0.0613	0.0016	0.0720	0.0147
4	170.16	0.2502	-0.0009	0.0011	0.0346	0.0021	-0.1178	0.0033	0.1119	0.0276
4	170.16	0.3001	0.0155	0.0010	0.0814	0.0038	-0.2308	0.0056	0.1515	0.0327
4	170.16	0.3502	0.0200	0.0011	0.1508	0.0060	-0.4095	0.0092	0.0705	0.0278
4	170.16	0.4002	0.0415	0.0015	0.2215	0.0096	-0.6175	0.0141	0.1474	0.0273
4	170.16	0.4500	0.0669	0.0017	0.3003	0.0116	-0.9360	0.0184	-0.0925	0.0351
4	170.16	0.5001	0.0850	0.0017	0.3558	0.0139	-1.2965	0.0233	0.0123	0.0300
4	170.16	0.5560	0.0979	0.0018	0.4299	0.0167	-1.8856	0.0292	-0.2582	0.0348
4	170.16	0.6001	0.1117	0.0021	0.4961	0.0189	-2.3906	0.0340	-0.2339	0.0346
4	170.16	0.6501	0.1027	0.0019	0.5300	0.0215	-3.0977	0.0390	-0.2061	0.0375
4	170.16	0.6999	0.1160	0.0024	0.5794	0.0249	-3.9099	0.0442	-0.1560	0.0397
4	170.16	0.7500	0.1168	0.0029	0.6399	0.0277	-4.8079	0.0495	0.0247	0.0352
4	170.16	0.8002	0.0976	0.0031	0.6907	0.0311	-5.8638	0.0562	-0.0000	0.0395
4	170.16	0.8582	0.0874	0.0051	0.7709	0.0353	-7.1954	0.0638	-0.2711	0.0411
4	170.16	0.9101	0.0772	0.0061	0.8246	0.0394	-8.4448	0.0703	-0.3003	0.0478
4	170.16	0.9728	0.1064	0.0072	0.9275	0.0445	-9.8935	0.0828	0.0362	0.0568

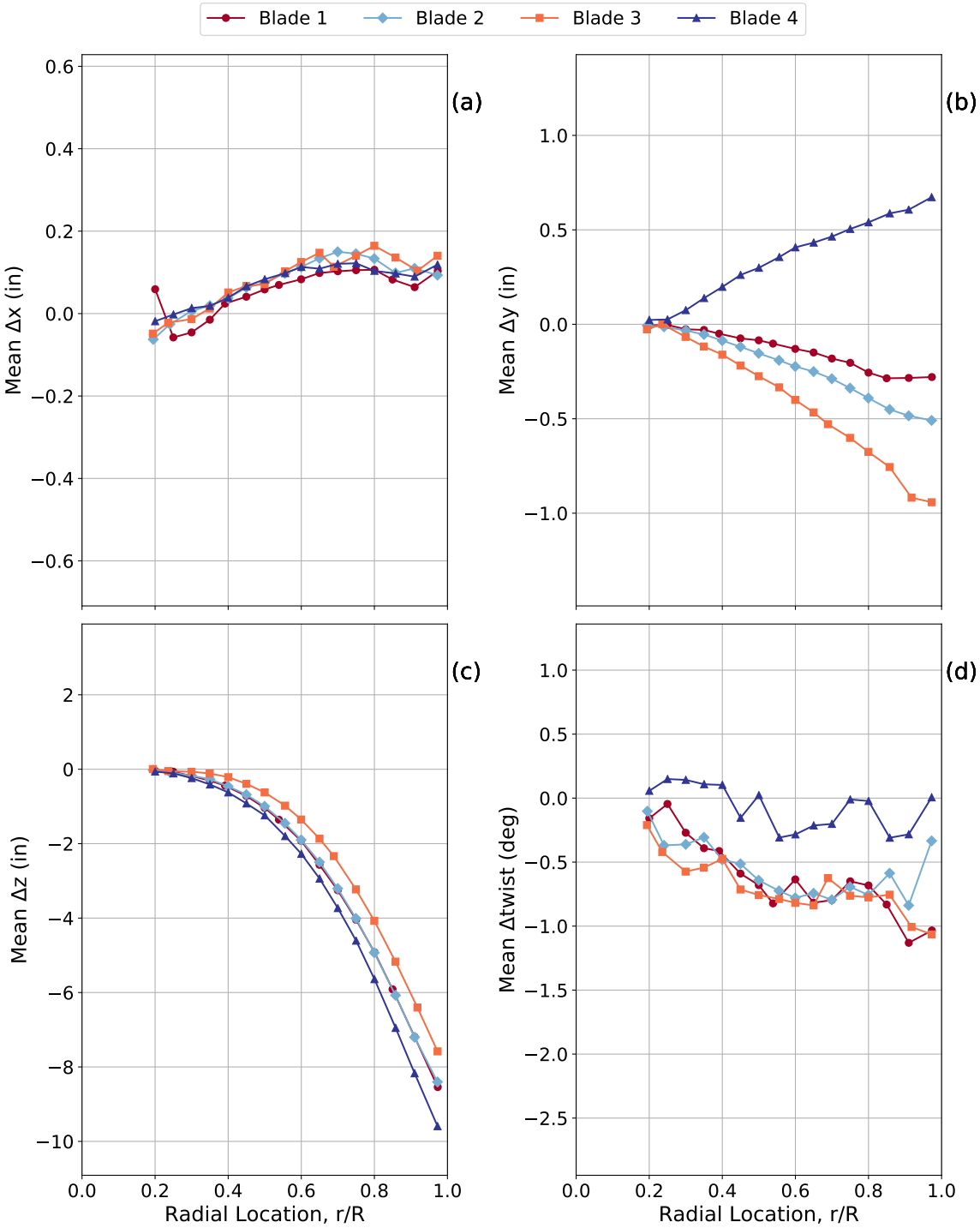


Figure 2.4-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	0.0591	0.0017	-0.0062	0.0012	-0.0431	0.0018	-0.1581	0.0158
1	175.08	0.2499	-0.0579	0.0014	-0.0033	0.0024	-0.0667	0.0035	-0.0455	0.0325
1	175.08	0.2998	-0.0457	0.0014	-0.0262	0.0047	-0.1815	0.0066	-0.2705	0.0368
1	175.08	0.3498	-0.0148	0.0015	-0.0299	0.0080	-0.3061	0.0116	-0.3914	0.0355
1	175.08	0.3913	0.0242	0.0016	-0.0497	0.0115	-0.4403	0.0162	-0.4132	0.0360
1	175.08	0.4496	0.0409	0.0019	-0.0746	0.0145	-0.7181	0.0209	-0.5895	0.0356
1	175.08	0.4997	0.0586	0.0019	-0.0848	0.0182	-1.0384	0.0257	-0.6799	0.0341
1	175.08	0.5387	0.0695	0.0021	-0.1023	0.0212	-1.3557	0.0297	-0.8223	0.0377
1	175.08	0.5996	0.0832	0.0021	-0.1301	0.0258	-1.9233	0.0359	-0.6349	0.0429
1	175.08	0.6498	0.0985	0.0023	-0.1492	0.0301	-2.5688	0.0412	-0.8174	0.0439
1	175.08	0.6998	0.1027	0.0024	-0.1813	0.0344	-3.2515	0.0461	-0.7964	0.0404
1	175.08	0.7500	0.1053	0.0027	-0.2038	0.0391	-4.0463	0.0507	-0.6497	0.0374
1	175.08	0.8001	0.1063	0.0032	-0.2559	0.0433	-4.9169	0.0556	-0.6823	0.0448
1	175.08	0.8497	0.0826	0.0036	-0.2858	0.0482	-5.9123	0.0624	-0.8316	0.0454
1	175.08	0.9102	0.0641	0.0053	-0.2840	0.0540	-7.1935	0.0701	-1.1306	0.0601
1	175.08	0.9734	0.1035	0.0057	-0.2792	0.0606	-8.5407	0.0802	-1.0339	0.0510
2	175.08	0.1949	-0.0626	0.0013	-0.0065	0.0008	-0.0256	0.0014	-0.1024	0.0143
2	175.08	0.2405	-0.0257	0.0011	-0.0135	0.0021	-0.0807	0.0030	-0.3691	0.0209
2	175.08	0.2999	0.0064	0.0010	-0.0327	0.0035	-0.1746	0.0054	-0.3612	0.0308
2	175.08	0.3498	0.0192	0.0012	-0.0538	0.0061	-0.2662	0.0091	-0.3065	0.0284
2	175.08	0.3998	0.0373	0.0014	-0.0864	0.0095	-0.4591	0.0140	-0.4816	0.0262
2	175.08	0.4496	0.0630	0.0016	-0.1189	0.0115	-0.6814	0.0183	-0.5135	0.0300
2	175.08	0.4995	0.0748	0.0017	-0.1538	0.0139	-0.9960	0.0238	-0.6417	0.0274
2	175.08	0.5551	0.0975	0.0017	-0.1904	0.0167	-1.4530	0.0320	-0.7244	0.0285
2	175.08	0.5996	0.1130	0.0017	-0.2233	0.0194	-1.8983	0.0385	-0.7792	0.0298
2	175.08	0.6497	0.1340	0.0022	-0.2503	0.0228	-2.4958	0.0466	-0.7434	0.0274
2	175.08	0.6996	0.1500	0.0025	-0.2883	0.0256	-3.2057	0.0544	-0.7938	0.0288
2	175.08	0.7495	0.1453	0.0027	-0.3378	0.0289	-4.0089	0.0628	-0.6930	0.0247
2	175.08	0.7996	0.1335	0.0032	-0.3905	0.0327	-4.9284	0.0704	-0.7569	0.0331
2	175.08	0.8578	0.0986	0.0045	-0.4507	0.0373	-6.0734	0.0791	-0.5867	0.0367
2	175.08	0.9100	0.1098	0.0045	-0.4844	0.0408	-7.2016	0.0886	-0.8383	0.0344
2	175.08	0.9727	0.0932	0.0054	-0.5089	0.0459	-8.4040	0.0999	-0.3341	0.0430
3	175.08	0.1938	-0.0486	0.0013	-0.0266	0.0009	0.0037	0.0017	-0.2109	0.0138
3	175.08	0.2357	-0.0223	0.0013	0.0006	0.0016	-0.0497	0.0027	-0.4210	0.0241
3	175.08	0.2995	-0.0133	0.0012	-0.0667	0.0033	-0.0679	0.0060	-0.5740	0.0324
3	175.08	0.3493	0.0123	0.0012	-0.1175	0.0057	-0.1124	0.0096	-0.5428	0.0285
3	175.08	0.4000	0.0512	0.0015	-0.1609	0.0087	-0.2134	0.0150	-0.4756	0.0254
3	175.08	0.4497	0.0671	0.0017	-0.2181	0.0101	-0.3926	0.0184	-0.7139	0.0310
3	175.08	0.4997	0.0714	0.0019	-0.2748	0.0122	-0.6235	0.0232	-0.7572	0.0337
3	175.08	0.5556	0.1026	0.0019	-0.3337	0.0149	-0.9786	0.0288	-0.7882	0.0292
3	175.08	0.5995	0.1251	0.0018	-0.4003	0.0167	-1.3510	0.0327	-0.8182	0.0344
3	175.08	0.6498	0.1476	0.0020	-0.4665	0.0190	-1.8666	0.0379	-0.8382	0.0328
3	175.08	0.6890	0.1136	0.0021	-0.5287	0.0210	-2.3348	0.0416	-0.6248	0.0366
3	175.08	0.7495	0.1402	0.0026	-0.6013	0.0240	-3.2297	0.0487	-0.7622	0.0380
3	175.08	0.7998	0.1645	0.0033	-0.6755	0.0269	-4.0738	0.0548	-0.7755	0.0351
3	175.08	0.8577	0.1361	0.0038	-0.7556	0.0301	-5.1700	0.0620	-0.7545	0.0444
3	175.08	0.9178	0.1039	0.0064	-0.9177	0.0335	-6.4030	0.0708	-1.0067	0.0466
3	175.08	0.9729	0.1404	0.0065	-0.9420	0.0371	-7.5819	0.0804	-1.0652	0.0474
4	175.08	0.2001	-0.0186	0.0012	0.0228	0.0011	-0.0637	0.0021	0.0570	0.0173
4	175.08	0.2502	-0.0022	0.0011	0.0257	0.0020	-0.1129	0.0034	0.1491	0.0346
4	175.08	0.3001	0.0132	0.0012	0.0749	0.0036	-0.2388	0.0070	0.1426	0.0388
4	175.08	0.3502	0.0187	0.0013	0.1388	0.0057	-0.4110	0.0118	0.1083	0.0358
4	175.08	0.4002	0.0386	0.0016	0.1981	0.0088	-0.6234	0.0174	0.1030	0.0323
4	175.08	0.4500	0.0663	0.0015	0.2614	0.0103	-0.9204	0.0225	-0.1542	0.0357
4	175.08	0.5001	0.0833	0.0014	0.2991	0.0128	-1.2407	0.0284	0.0232	0.0354
4	175.08	0.5560	0.0981	0.0018	0.3559	0.0156	-1.7980	0.0358	-0.3081	0.0394
4	175.08	0.6001	0.1131	0.0016	0.4073	0.0181	-2.2742	0.0421	-0.2834	0.0391
4	175.08	0.6501	0.1089	0.0020	0.4324	0.0210	-2.9401	0.0490	-0.2139	0.0387
4	175.08	0.6999	0.1208	0.0023	0.4643	0.0235	-3.7316	0.0565	-0.2015	0.0403
4	175.08	0.7500	0.1220	0.0026	0.5047	0.0267	-4.6072	0.0637	-0.0103	0.0408
4	175.08	0.8002	0.1037	0.0036	0.5397	0.0300	-5.6412	0.0722	-0.0225	0.0368
4	175.08	0.8582	0.0973	0.0039	0.5871	0.0334	-6.9525	0.0811	-0.3096	0.0490
4	175.08	0.9101	0.0896	0.0047	0.6068	0.0368	-8.1704	0.0905	-0.2830	0.0436
4	175.08	0.9728	0.1188	0.0050	0.6728	0.0408	-9.5930	0.1021	0.0059	0.0489

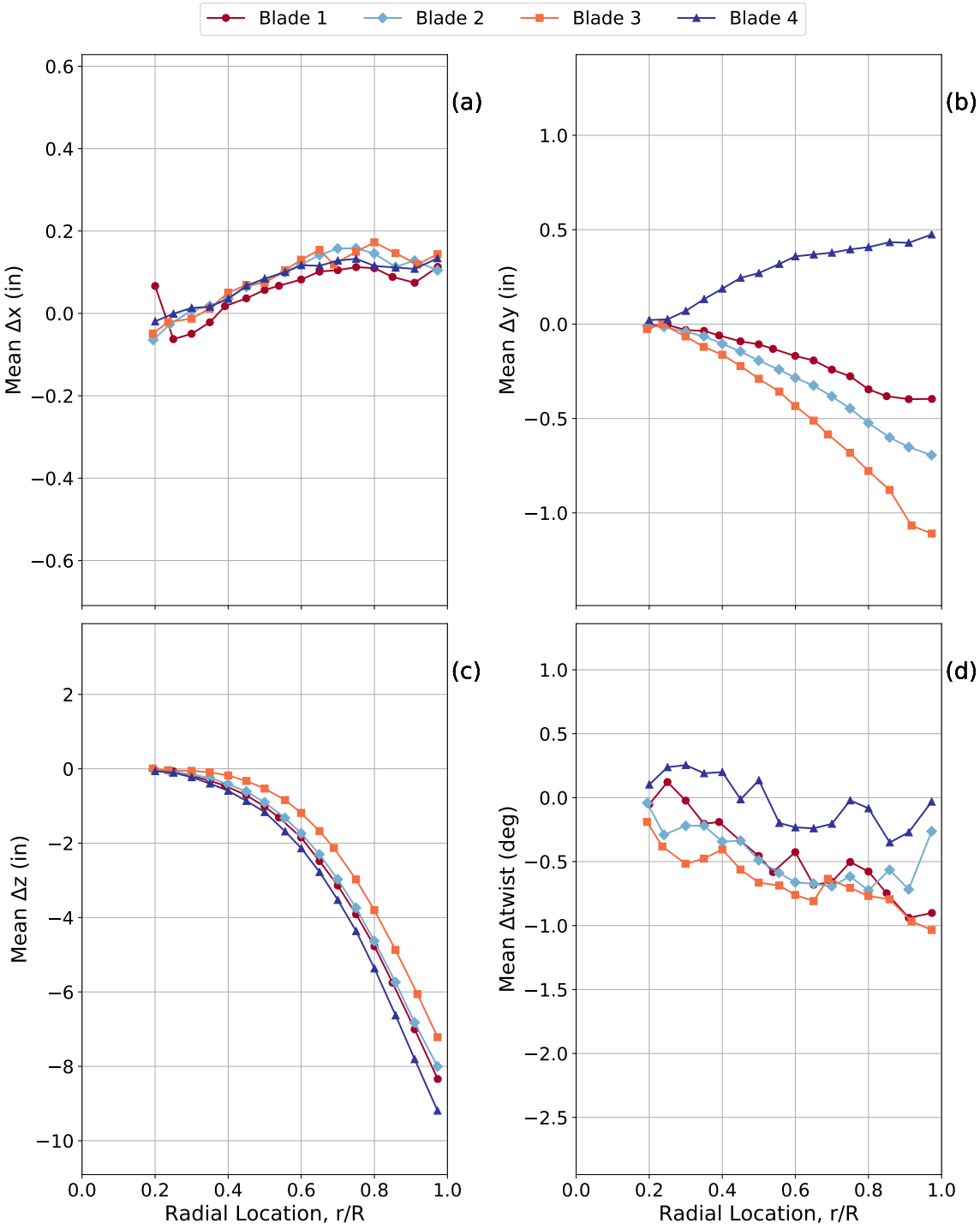


Figure 2.4-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-25. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	0.0666	0.0023	-0.0073	0.0014	-0.0453	0.0022	-0.0516	0.0245
1	180	0.2499	-0.0625	0.0016	-0.0043	0.0031	-0.0673	0.0046	0.1221	0.0482
1	180	0.2998	-0.0495	0.0018	-0.0315	0.0057	-0.1828	0.0084	-0.0229	0.0583
1	180	0.3498	-0.0216	0.0017	-0.0359	0.0102	-0.3238	0.0147	-0.2043	0.0506
1	180	0.3913	0.0176	0.0017	-0.0601	0.0145	-0.4530	0.0208	-0.1903	0.0490
1	180	0.4496	0.0365	0.0016	-0.0912	0.0185	-0.7127	0.0266	-0.3378	0.0517
1	180	0.4997	0.0569	0.0017	-0.1070	0.0228	-1.0147	0.0325	-0.4557	0.0512
1	180	0.5387	0.0670	0.0019	-0.1312	0.0263	-1.3083	0.0376	-0.5821	0.0517
1	180	0.5996	0.0822	0.0019	-0.1685	0.0320	-1.8468	0.0454	-0.4258	0.0520
1	180	0.6498	0.1016	0.0022	-0.1925	0.0370	-2.4815	0.0513	-0.6813	0.0521
1	180	0.6998	0.1050	0.0026	-0.2411	0.0422	-3.1397	0.0581	-0.6589	0.0517
1	180	0.7500	0.1123	0.0025	-0.2765	0.0473	-3.9126	0.0649	-0.5029	0.0509
1	180	0.8001	0.1098	0.0030	-0.3458	0.0520	-4.7726	0.0711	-0.5779	0.0533
1	180	0.8497	0.0886	0.0034	-0.3818	0.0580	-5.7516	0.0783	-0.7472	0.0548
1	180	0.9102	0.0744	0.0041	-0.3974	0.0640	-7.0039	0.0869	-0.9391	0.0503
1	180	0.9734	0.1128	0.0055	-0.3963	0.0712	-8.3414	0.0967	-0.9015	0.0556
2	180	0.1949	-0.0644	0.0014	-0.0084	0.0010	-0.0216	0.0021	-0.0415	0.0142
2	180	0.2405	-0.0261	0.0012	-0.0150	0.0020	-0.0751	0.0038	-0.2900	0.0236
2	180	0.2999	0.0068	0.0012	-0.0408	0.0041	-0.1529	0.0081	-0.2196	0.0310
2	180	0.3498	0.0181	0.0011	-0.0644	0.0067	-0.2434	0.0128	-0.2190	0.0295
2	180	0.3998	0.0357	0.0018	-0.1044	0.0105	-0.4143	0.0202	-0.3435	0.0272
2	180	0.4496	0.0642	0.0018	-0.1447	0.0127	-0.6107	0.0254	-0.3365	0.0294
2	180	0.4995	0.0772	0.0018	-0.1932	0.0160	-0.8998	0.0333	-0.4887	0.0331
2	180	0.5551	0.1003	0.0020	-0.2405	0.0188	-1.3210	0.0413	-0.5881	0.0293
2	180	0.5996	0.1184	0.0019	-0.2846	0.0224	-1.7356	0.0496	-0.6617	0.0290
2	180	0.6497	0.1418	0.0027	-0.3253	0.0260	-2.3010	0.0579	-0.6725	0.0339
2	180	0.6996	0.1575	0.0022	-0.3827	0.0300	-2.9708	0.0660	-0.6930	0.0333
2	180	0.7495	0.1581	0.0025	-0.4468	0.0338	-3.7380	0.0750	-0.6165	0.0344
2	180	0.7996	0.1455	0.0025	-0.5236	0.0387	-4.6285	0.0839	-0.7243	0.0322
2	180	0.8578	0.1129	0.0029	-0.6007	0.0437	-5.7350	0.0945	-0.5647	0.0378
2	180	0.9100	0.1281	0.0034	-0.6515	0.0487	-6.8264	0.1055	-0.7170	0.0366
2	180	0.9727	0.1044	0.0047	-0.6940	0.0545	-8.0026	0.1176	-0.2633	0.0400
3	180.35	0.1938	-0.0488	0.0016	-0.0264	0.0010	0.0051	0.0018	-0.1895	0.0150
3	180.35	0.2357	-0.0209	0.0015	-0.0008	0.0019	-0.0422	0.0028	-0.3816	0.0246
3	180.35	0.2995	-0.0129	0.0013	-0.0653	0.0036	-0.0555	0.0056	-0.5164	0.0326
3	180.35	0.3493	0.0118	0.0015	-0.1205	0.0066	-0.0928	0.0091	-0.4763	0.0285
3	180.35	0.4000	0.0506	0.0019	-0.1623	0.0099	-0.1795	0.0138	-0.4049	0.0289
3	180.35	0.4497	0.0690	0.0019	-0.2221	0.0117	-0.3265	0.0170	-0.5618	0.0314
3	180.35	0.4997	0.0743	0.0016	-0.2892	0.0140	-0.5316	0.0211	-0.6640	0.0267
3	180.35	0.5556	0.1048	0.0022	-0.3575	0.0168	-0.8409	0.0258	-0.6867	0.0302
3	180.35	0.5995	0.1304	0.0022	-0.4338	0.0196	-1.1862	0.0306	-0.7607	0.0297
3	180.35	0.6498	0.1542	0.0021	-0.5111	0.0225	-1.6755	0.0343	-0.8085	0.0342
3	180.35	0.6890	0.1185	0.0019	-0.5843	0.0246	-2.1271	0.0388	-0.6342	0.0324
3	180.35	0.7495	0.1496	0.0023	-0.6817	0.0293	-2.9743	0.0452	-0.7048	0.0351
3	180.35	0.7998	0.1725	0.0027	-0.7781	0.0328	-3.8000	0.0497	-0.7683	0.0348
3	180.35	0.8577	0.1465	0.0027	-0.8782	0.0367	-4.8692	0.0558	-0.7944	0.0400
3	180.35	0.9178	0.1187	0.0033	-1.0673	0.0416	-6.0588	0.0635	-0.9671	0.0382
3	180.35	0.9729	0.1438	0.0044	-1.1092	0.0463	-7.2153	0.0711	-1.0346	0.0455
4	180	0.2001	-0.0194	0.0016	0.0213	0.0014	-0.0629	0.0027	0.1023	0.0207
4	180	0.2502	-0.0007	0.0015	0.0254	0.0024	-0.1057	0.0041	0.2383	0.0349
4	180	0.3001	0.0133	0.0012	0.0699	0.0044	-0.2262	0.0087	0.2550	0.0434
4	180	0.3502	0.0162	0.0012	0.1323	0.0070	-0.3971	0.0135	0.1907	0.0370
4	180	0.4002	0.0358	0.0016	0.1879	0.0106	-0.5931	0.0204	0.2001	0.0386
4	180	0.4500	0.0673	0.0014	0.2450	0.0121	-0.8661	0.0244	-0.0132	0.0415
4	180	0.5001	0.0846	0.0016	0.2704	0.0151	-1.1634	0.0321	0.1356	0.0360
4	180	0.5560	0.1003	0.0017	0.3187	0.0184	-1.6844	0.0393	-0.1977	0.0380
4	180	0.6001	0.1170	0.0017	0.3590	0.0210	-2.1379	0.0461	-0.2322	0.0348
4	180	0.6501	0.1156	0.0018	0.3687	0.0237	-2.7766	0.0531	-0.2401	0.0367
4	180	0.6999	0.1282	0.0023	0.3782	0.0273	-3.5271	0.0606	-0.2044	0.0393
4	180	0.7500	0.1326	0.0023	0.3960	0.0304	-4.3652	0.0692	-0.0214	0.0407
4	180	0.8002	0.1153	0.0028	0.4076	0.0341	-5.3672	0.0787	-0.0835	0.0390
4	180	0.8582	0.1112	0.0035	0.4339	0.0386	-6.6302	0.0910	-0.3502	0.0421
4	180	0.9101	0.1082	0.0043	0.4306	0.0429	-7.8075	0.1032	-0.2710	0.0416
4	180	0.9728	0.1337	0.0050	0.4747	0.0481	-9.1923	0.1190	-0.0311	0.0405

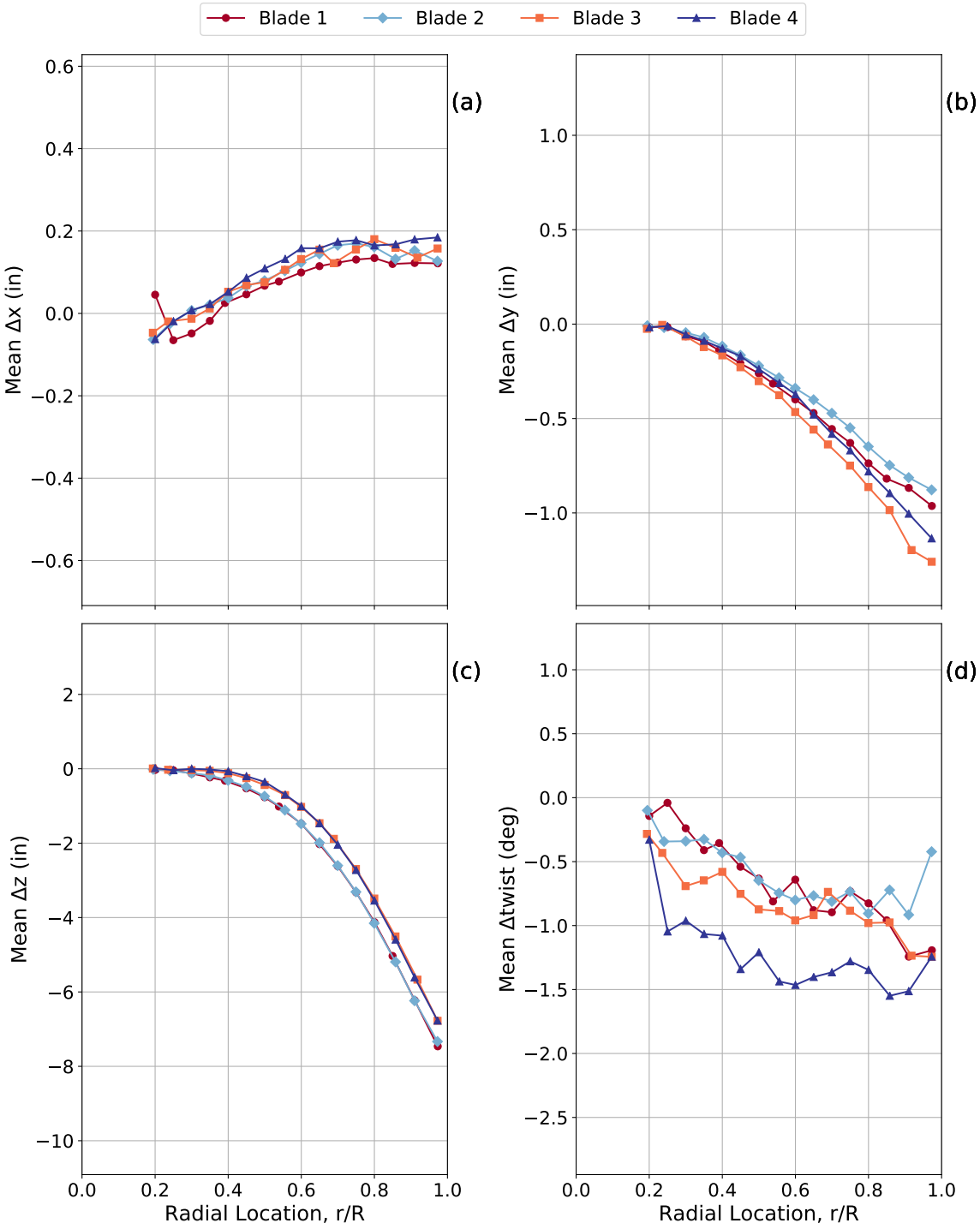


Figure 2.4-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	0.0454	0.0046	-0.0156	0.0019	-0.0315	0.0034	-0.1430	0.0266
1	184.92	0.2499	-0.0650	0.0033	-0.0159	0.0025	-0.0399	0.0048	-0.0405	0.0588
1	184.92	0.2998	-0.0486	0.0035	-0.0645	0.0068	-0.1281	0.0110	-0.2395	0.0659
1	184.92	0.3498	-0.0182	0.0032	-0.0917	0.0121	-0.2316	0.0192	-0.4103	0.0572
1	184.92	0.3913	0.0253	0.0035	-0.1391	0.0163	-0.3201	0.0259	-0.3550	0.0575
1	184.92	0.4496	0.0463	0.0036	-0.2086	0.0224	-0.5277	0.0329	-0.5403	0.0607
1	184.92	0.4997	0.0673	0.0037	-0.2605	0.0279	-0.7656	0.0408	-0.6320	0.0605
1	184.92	0.5387	0.0774	0.0037	-0.3152	0.0317	-1.0156	0.0458	-0.8113	0.0613
1	184.92	0.5996	0.0994	0.0038	-0.3989	0.0382	-1.4751	0.0541	-0.6407	0.0646
1	184.92	0.6498	0.1147	0.0036	-0.4711	0.0441	-2.0267	0.0615	-0.8799	0.0668
1	184.92	0.6998	0.1232	0.0041	-0.5557	0.0507	-2.6196	0.0696	-0.8959	0.0679
1	184.92	0.7500	0.1307	0.0038	-0.6295	0.0561	-3.3245	0.0779	-0.7320	0.0641
1	184.92	0.8001	0.1343	0.0046	-0.7375	0.0623	-4.1227	0.0863	-0.8258	0.0737
1	184.92	0.8497	0.1200	0.0046	-0.8186	0.0690	-5.0325	0.0958	-0.9587	0.0669
1	184.92	0.9102	0.1224	0.0096	-0.8676	0.0771	-6.2233	0.1083	-1.2430	0.0917
1	184.92	0.9734	0.1215	0.0082	-0.9631	0.0849	-7.4623	0.1244	-1.1929	0.0755
2	184.92	0.1949	-0.0635	0.0015	-0.0084	0.0010	-0.0149	0.0017	-0.0995	0.0220
2	184.92	0.2405	-0.0251	0.0012	-0.0183	0.0018	-0.0538	0.0042	-0.3430	0.0282
2	184.92	0.2999	0.0071	0.0011	-0.0452	0.0034	-0.1170	0.0064	-0.3402	0.0470
2	184.92	0.3498	0.0209	0.0014	-0.0706	0.0065	-0.1785	0.0124	-0.3257	0.0353
2	184.92	0.3998	0.0375	0.0016	-0.1168	0.0093	-0.3124	0.0181	-0.4310	0.0365
2	184.92	0.4496	0.0666	0.0016	-0.1649	0.0112	-0.4826	0.0219	-0.4662	0.0416
2	184.92	0.4995	0.0794	0.0019	-0.2202	0.0137	-0.7382	0.0275	-0.6465	0.0385
2	184.92	0.5551	0.1035	0.0015	-0.2839	0.0163	-1.1105	0.0337	-0.7457	0.0371
2	184.92	0.5996	0.1235	0.0019	-0.3395	0.0186	-1.4801	0.0393	-0.8006	0.0384
2	184.92	0.6497	0.1445	0.0018	-0.4005	0.0213	-1.9876	0.0458	-0.7662	0.0430
2	184.92	0.6996	0.1654	0.0020	-0.4722	0.0245	-2.6030	0.0512	-0.8112	0.0404
2	184.92	0.7495	0.1698	0.0021	-0.5495	0.0274	-3.3097	0.0575	-0.7344	0.0384
2	184.92	0.7996	0.1614	0.0025	-0.6488	0.0309	-4.1531	0.0637	-0.9056	0.0436
2	184.92	0.8578	0.1319	0.0026	-0.7475	0.0346	-5.1916	0.0716	-0.7217	0.0392
2	184.92	0.9100	0.1525	0.0027	-0.8129	0.0384	-6.2369	0.0784	-0.9159	0.0432
2	184.92	0.9727	0.1269	0.0039	-0.8779	0.0429	-7.3331	0.0876	-0.4224	0.0404
3	184.92	0.1938	-0.0470	0.0015	-0.0249	0.0011	0.0074	0.0020	-0.2832	0.0201
3	184.92	0.2357	-0.0195	0.0014	-0.0042	0.0020	-0.0262	0.0037	-0.4320	0.0253
3	184.92	0.2995	-0.0129	0.0015	-0.0650	0.0041	-0.0375	0.0074	-0.6913	0.0405
3	184.92	0.3493	0.0120	0.0015	-0.1216	0.0062	-0.0538	0.0111	-0.6465	0.0363
3	184.92	0.4000	0.0526	0.0019	-0.1656	0.0100	-0.1201	0.0179	-0.5801	0.0339
3	184.92	0.4497	0.0686	0.0019	-0.2285	0.0123	-0.2510	0.0216	-0.7519	0.0346
3	184.92	0.4997	0.0757	0.0016	-0.3022	0.0148	-0.4349	0.0255	-0.8734	0.0347
3	184.92	0.5556	0.1059	0.0019	-0.3764	0.0184	-0.7083	0.0319	-0.8866	0.0367
3	184.92	0.5995	0.1319	0.0020	-0.4657	0.0213	-1.0249	0.0368	-0.9596	0.0365
3	184.92	0.6498	0.1548	0.0022	-0.5587	0.0246	-1.4630	0.0438	-0.9181	0.0396
3	184.92	0.6890	0.1219	0.0023	-0.6374	0.0271	-1.8837	0.0488	-0.7367	0.0347
3	184.92	0.7495	0.1550	0.0027	-0.7495	0.0315	-2.6945	0.0580	-0.8836	0.0363
3	184.92	0.7998	0.1802	0.0034	-0.8631	0.0350	-3.4891	0.0665	-0.9801	0.0376
3	184.92	0.8577	0.1593	0.0038	-0.9850	0.0394	-4.5077	0.0763	-0.9754	0.0390
3	184.92	0.9178	0.1354	0.0044	-1.1971	0.0437	-5.6693	0.0871	-1.2353	0.0368
3	184.92	0.9729	0.1576	0.0049	-1.2589	0.0480	-6.7754	0.0971	-1.2440	0.0405
4	184.92	0.2001	-0.0625	0.0009	-0.0171	0.0007	0.0176	0.0018	-0.3290	0.0116
4	184.92	0.2502	-0.0190	0.0009	-0.0103	0.0014	-0.0389	0.0027	-1.0464	0.0263
4	184.92	0.3001	0.0075	0.0008	-0.0552	0.0028	0.0002	0.0057	-0.9621	0.0288
4	184.92	0.3502	0.0226	0.0010	-0.0884	0.0047	-0.0201	0.0094	-1.0661	0.0266
4	184.92	0.4002	0.0524	0.0013	-0.1293	0.0073	-0.0652	0.0140	-1.0789	0.0289
4	184.92	0.4500	0.0863	0.0014	-0.1698	0.0093	-0.2000	0.0186	-1.3405	0.0266
4	184.92	0.5001	0.1090	0.0020	-0.2382	0.0116	-0.3536	0.0229	-1.2087	0.0267
4	184.92	0.5560	0.1321	0.0022	-0.3123	0.0145	-0.6938	0.0280	-1.4371	0.0289
4	184.92	0.6001	0.1583	0.0020	-0.3719	0.0171	-1.0051	0.0329	-1.4645	0.0325
4	184.92	0.6501	0.1581	0.0016	-0.4792	0.0208	-1.4664	0.0394	-1.4019	0.0314
4	184.92	0.6999	0.1741	0.0023	-0.5812	0.0240	-2.0415	0.0446	-1.3654	0.0328
4	184.92	0.7500	0.1777	0.0021	-0.6690	0.0277	-2.7228	0.0499	-1.2795	0.0377
4	184.92	0.8002	0.1650	0.0026	-0.7805	0.0316	-3.5441	0.0575	-1.3471	0.0422
4	184.92	0.8582	0.1677	0.0028	-0.8954	0.0352	-4.5928	0.0660	-1.5490	0.0474
4	184.92	0.9101	0.1795	0.0037	-1.0044	0.0399	-5.6091	0.0757	-1.5132	0.0720
4	184.92	0.9728	0.1844	0.0046	-1.1350	0.0460	-6.7706	0.0843	-1.2431	0.0513

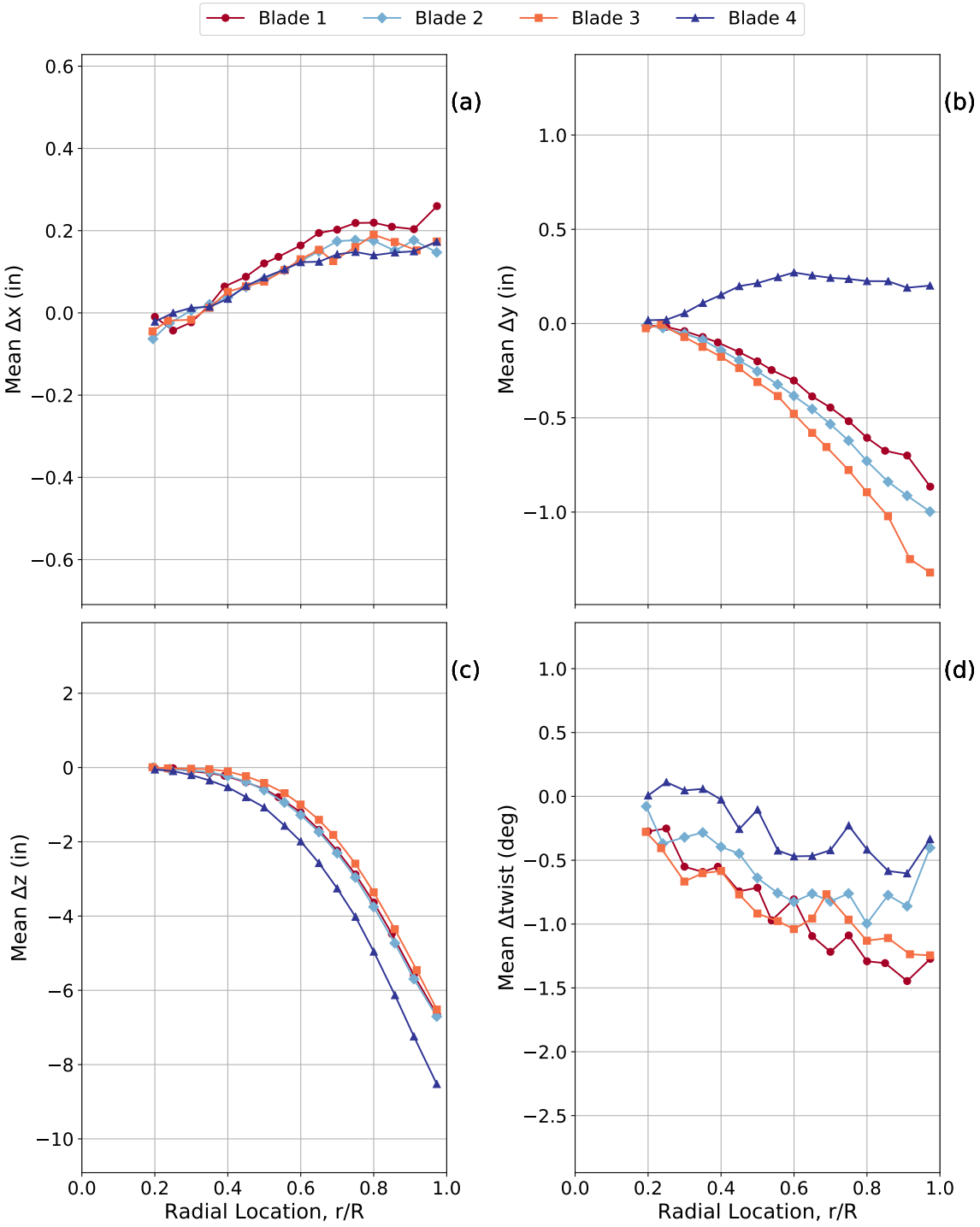


Figure 2.4-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0097	0.0014	-0.0101	0.0012	-0.0245	0.0023	-0.2745	0.0238
1	189.84	0.2499	-0.0428	0.0012	-0.0172	0.0024	-0.0195	0.0042	-0.2515	0.0384
1	189.84	0.2998	-0.0230	0.0011	-0.0403	0.0044	-0.1000	0.0081	-0.5508	0.0531
1	189.84	0.3498	0.0185	0.0013	-0.0713	0.0077	-0.1516	0.0144	-0.5916	0.0429
1	189.84	0.3913	0.0642	0.0017	-0.1003	0.0107	-0.2215	0.0197	-0.5511	0.0457
1	189.84	0.4496	0.0878	0.0016	-0.1513	0.0139	-0.3963	0.0265	-0.7439	0.0428
1	189.84	0.4997	0.1203	0.0017	-0.2002	0.0168	-0.5756	0.0334	-0.7151	0.0478
1	189.84	0.5387	0.1363	0.0019	-0.2467	0.0195	-0.7958	0.0385	-0.9713	0.0531
1	189.84	0.5996	0.1640	0.0019	-0.3022	0.0240	-1.2027	0.0483	-0.8065	0.0476
1	189.84	0.6498	0.1943	0.0024	-0.3864	0.0283	-1.6768	0.0564	-1.0945	0.0553
1	189.84	0.6998	0.2024	0.0025	-0.4455	0.0324	-2.2368	0.0649	-1.2173	0.0611
1	189.84	0.7500	0.2186	0.0027	-0.5178	0.0363	-2.8784	0.0727	-1.0889	0.0576
1	189.84	0.8001	0.2193	0.0030	-0.6058	0.0425	-3.6368	0.0814	-1.2915	0.0754
1	189.84	0.8497	0.2095	0.0033	-0.6747	0.0457	-4.4782	0.0928	-1.3058	0.0648
1	189.84	0.9102	0.2035	0.0043	-0.7000	0.0534	-5.5889	0.1052	-1.4462	0.1577
1	189.84	0.9734	0.2597	0.0055	-0.8652	0.0585	-6.6543	0.1268	-1.2725	0.1464
2	189.84	0.1949	-0.0631	0.0020	-0.0099	0.0010	-0.0059	0.0021	-0.0783	0.0210
2	189.84	0.2405	-0.0249	0.0017	-0.0231	0.0022	-0.0425	0.0042	-0.3705	0.0310
2	189.84	0.2999	0.0059	0.0015	-0.0543	0.0040	-0.0836	0.0080	-0.3199	0.0445
2	189.84	0.3498	0.0206	0.0015	-0.0860	0.0069	-0.1231	0.0129	-0.2836	0.0334
2	189.84	0.3998	0.0370	0.0017	-0.1420	0.0104	-0.2286	0.0198	-0.3956	0.0379
2	189.84	0.4496	0.0628	0.0018	-0.1952	0.0128	-0.3770	0.0241	-0.4480	0.0373
2	189.84	0.4995	0.0815	0.0017	-0.2533	0.0156	-0.6064	0.0292	-0.6384	0.0350
2	189.84	0.5551	0.1044	0.0019	-0.3228	0.0183	-0.9419	0.0343	-0.7570	0.0388
2	189.84	0.5996	0.1256	0.0020	-0.3834	0.0214	-1.2772	0.0402	-0.8260	0.0319
2	189.84	0.6497	0.1496	0.0021	-0.4532	0.0233	-1.7337	0.0459	-0.7619	0.0330
2	189.84	0.6996	0.1741	0.0019	-0.5335	0.0267	-2.3070	0.0514	-0.8221	0.0324
2	189.84	0.7495	0.1771	0.0020	-0.6209	0.0295	-2.9590	0.0569	-0.7607	0.0344
2	189.84	0.7996	0.1755	0.0024	-0.7292	0.0332	-3.7526	0.0631	-0.9961	0.0366
2	189.84	0.8578	0.1513	0.0028	-0.8391	0.0361	-4.7303	0.0690	-0.7739	0.0363
2	189.84	0.9100	0.1766	0.0028	-0.9130	0.0397	-5.6946	0.0750	-0.8599	0.0394
2	189.84	0.9727	0.1471	0.0038	-0.9974	0.0434	-6.7049	0.0838	-0.4030	0.0432
3	189.84	0.1938	-0.0450	0.0014	-0.0248	0.0015	0.0091	0.0032	-0.2782	0.0256
3	189.84	0.2357	-0.0188	0.0025	-0.0058	0.0025	-0.0232	0.0050	-0.4056	0.0367
3	189.84	0.2995	-0.0167	0.0017	-0.0711	0.0050	-0.0318	0.0086	-0.6669	0.0486
3	189.84	0.3493	0.0124	0.0020	-0.1236	0.0075	-0.0436	0.0125	-0.6015	0.0448
3	189.84	0.4000	0.0514	0.0022	-0.1763	0.0121	-0.1052	0.0195	-0.5842	0.0402
3	189.84	0.4497	0.0645	0.0021	-0.2364	0.0142	-0.2333	0.0229	-0.7681	0.0447
3	189.84	0.4997	0.0760	0.0021	-0.3102	0.0173	-0.4163	0.0278	-0.9175	0.0463
3	189.84	0.5556	0.1040	0.0023	-0.3843	0.0207	-0.6913	0.0327	-0.9766	0.0437
3	189.84	0.5995	0.1304	0.0020	-0.4785	0.0231	-0.9970	0.0366	-1.0392	0.0466
3	189.84	0.6498	0.1535	0.0023	-0.5797	0.0267	-1.4087	0.0423	-0.9569	0.0491
3	189.84	0.6890	0.1260	0.0023	-0.6549	0.0297	-1.8140	0.0473	-0.7664	0.0475
3	189.84	0.7495	0.1601	0.0024	-0.7771	0.0339	-2.5883	0.0544	-0.9653	0.0469
3	189.84	0.7998	0.1900	0.0027	-0.8947	0.0378	-3.3592	0.0604	-1.1302	0.0461
3	189.84	0.8577	0.1724	0.0033	-1.0222	0.0422	-4.3532	0.0683	-1.1093	0.0475
3	189.84	0.9178	0.1522	0.0032	-1.2496	0.0469	-5.4550	0.0746	-1.2364	0.0468
3	189.84	0.9729	0.1736	0.0039	-1.3205	0.0517	-6.5164	0.0814	-1.2451	0.0554
4	189.84	0.2001	-0.0213	0.0021	0.0177	0.0017	-0.0544	0.0038	0.0067	0.0322
4	189.84	0.2502	-0.0000	0.0026	0.0202	0.0031	-0.0967	0.0067	0.1114	0.0510
4	189.84	0.3001	0.0123	0.0022	0.0558	0.0056	-0.2042	0.0117	0.0467	0.0659
4	189.84	0.3502	0.0148	0.0017	0.1093	0.0092	-0.3482	0.0187	0.0585	0.0589
4	189.84	0.4002	0.0342	0.0021	0.1523	0.0138	-0.5301	0.0280	-0.0254	0.0529
4	189.84	0.4500	0.0656	0.0021	0.1986	0.0168	-0.7968	0.0345	-0.2557	0.0592
4	189.84	0.5001	0.0862	0.0024	0.2147	0.0210	-1.0755	0.0431	-0.1042	0.0515
4	189.84	0.5560	0.1059	0.0028	0.2464	0.0249	-1.5683	0.0507	-0.4246	0.0611
4	189.84	0.6001	0.1233	0.0027	0.2711	0.0286	-1.9908	0.0596	-0.4697	0.0564
4	189.84	0.6501	0.1244	0.0030	0.2554	0.0325	-2.5735	0.0692	-0.4670	0.0555
4	189.84	0.6999	0.1424	0.0033	0.2428	0.0368	-3.2565	0.0789	-0.4217	0.0570
4	189.84	0.7500	0.1482	0.0034	0.2367	0.0413	-4.0199	0.0905	-0.2287	0.0581
4	189.84	0.8002	0.1401	0.0044	0.2253	0.0463	-4.9585	0.1024	-0.4168	0.0586
4	189.84	0.8582	0.1469	0.0053	0.2246	0.0524	-6.1310	0.1170	-0.5846	0.0584
4	189.84	0.9101	0.1497	0.0060	0.1903	0.0583	-7.2424	0.1310	-0.6032	0.0608
4	189.84	0.9728	0.1728	0.0071	0.2013	0.0645	-8.5238	0.1512	-0.3353	0.0638

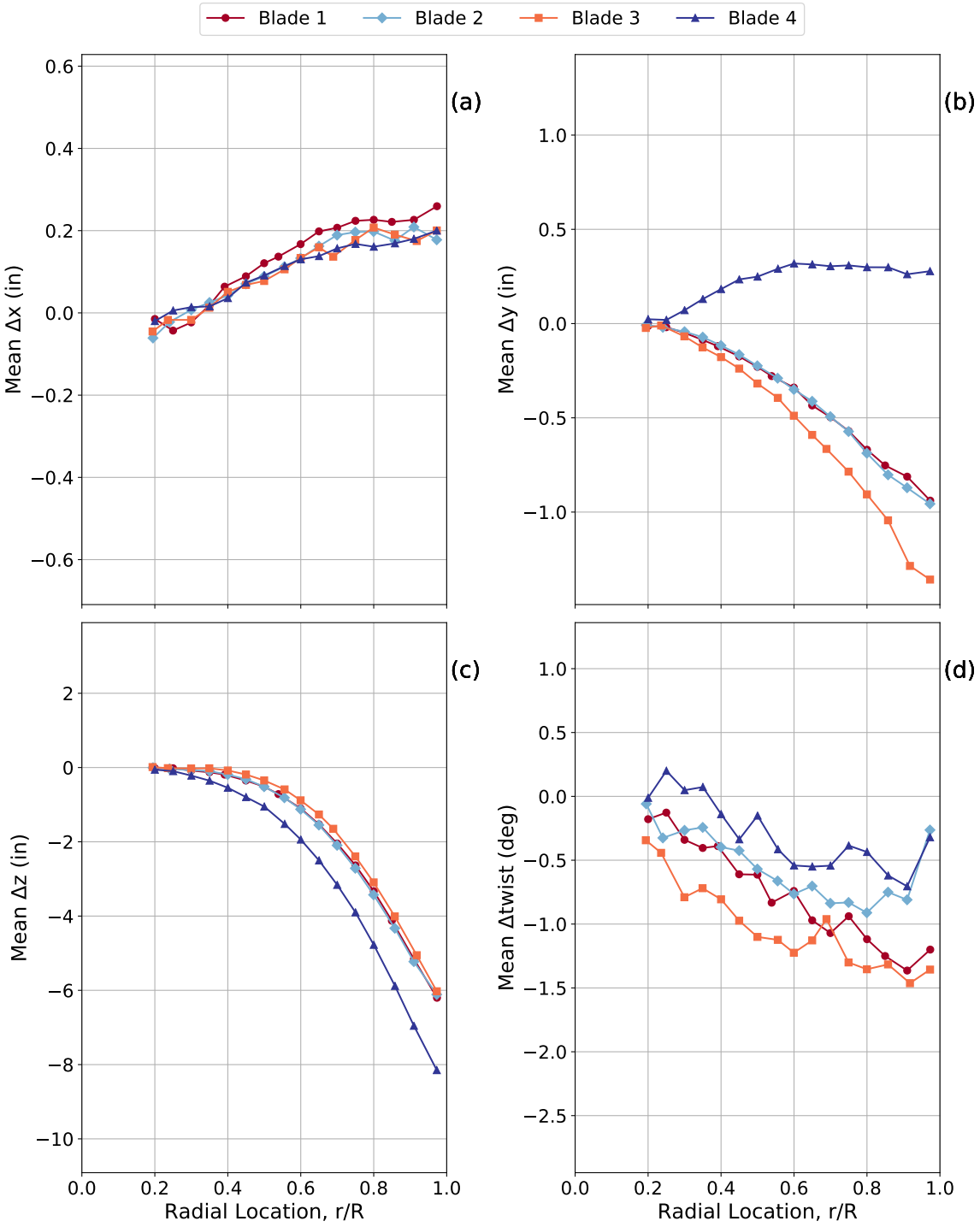


Figure 2.4-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0148	0.0012	-0.0130	0.0010	-0.0177	0.0020	-0.1786	0.0186
1	195.12	0.2499	-0.0430	0.0010	-0.0191	0.0024	-0.0195	0.0045	-0.1272	0.0285
1	195.12	0.2998	-0.0232	0.0012	-0.0489	0.0036	-0.0828	0.0070	-0.3402	0.0398
1	195.12	0.3498	0.0186	0.0012	-0.0870	0.0070	-0.1269	0.0133	-0.4040	0.0274
1	195.12	0.3913	0.0638	0.0017	-0.1200	0.0093	-0.1909	0.0180	-0.3891	0.0329
1	195.12	0.4496	0.0890	0.0016	-0.1743	0.0115	-0.3498	0.0228	-0.6102	0.0354
1	195.12	0.4997	0.1208	0.0016	-0.2297	0.0135	-0.5157	0.0292	-0.6132	0.0347
1	195.12	0.5387	0.1368	0.0016	-0.2785	0.0155	-0.7156	0.0341	-0.8326	0.0362
1	195.12	0.5996	0.1672	0.0021	-0.3394	0.0186	-1.0998	0.0434	-0.7409	0.0386
1	195.12	0.6498	0.1982	0.0025	-0.4344	0.0218	-1.5286	0.0525	-0.9705	0.0410
1	195.12	0.6998	0.2070	0.0024	-0.4964	0.0250	-2.0459	0.0608	-1.0702	0.0380
1	195.12	0.7500	0.2239	0.0031	-0.5704	0.0284	-2.6346	0.0725	-0.9384	0.0463
1	195.12	0.8001	0.2264	0.0038	-0.6693	0.0319	-3.3308	0.0838	-1.1187	0.0553
1	195.12	0.8497	0.2213	0.0043	-0.7525	0.0350	-4.1257	0.0953	-1.2501	0.0508
1	195.12	0.9102	0.2263	0.0053	-0.8121	0.0418	-5.1564	0.1137	-1.3640	0.1262
1	195.12	0.9734	0.2594	0.0063	-0.9393	0.0452	-6.2003	0.1294	-1.1998	0.1145
2	195.12	0.1949	-0.0611	0.0019	-0.0079	0.0013	-0.0034	0.0029	-0.0589	0.0214
2	195.12	0.2405	-0.0220	0.0019	-0.0198	0.0026	-0.0356	0.0052	-0.3254	0.0426
2	195.12	0.2999	0.0075	0.0017	-0.0431	0.0047	-0.0712	0.0101	-0.2659	0.0483
2	195.12	0.3498	0.0253	0.0019	-0.0720	0.0079	-0.0964	0.0161	-0.2431	0.0455
2	195.12	0.3998	0.0423	0.0022	-0.1164	0.0121	-0.1894	0.0249	-0.3975	0.0496
2	195.12	0.4496	0.0706	0.0026	-0.1648	0.0139	-0.3148	0.0291	-0.4248	0.0545
2	195.12	0.4995	0.0888	0.0019	-0.2241	0.0170	-0.5163	0.0365	-0.5691	0.0497
2	195.12	0.5551	0.1123	0.0021	-0.2898	0.0200	-0.8135	0.0454	-0.6624	0.0454
2	195.12	0.5996	0.1330	0.0026	-0.3498	0.0225	-1.1249	0.0510	-0.7648	0.0536
2	195.12	0.6497	0.1623	0.0023	-0.4122	0.0261	-1.5486	0.0606	-0.7025	0.0571
2	195.12	0.6996	0.1892	0.0028	-0.4937	0.0287	-2.0952	0.0683	-0.8375	0.0548
2	195.12	0.7495	0.1965	0.0025	-0.5727	0.0324	-2.7130	0.0781	-0.8308	0.0504
2	195.12	0.7996	0.1978	0.0029	-0.6876	0.0360	-3.4278	0.0882	-0.9113	0.0531
2	195.12	0.8578	0.1758	0.0036	-0.8024	0.0399	-4.3286	0.0998	-0.7501	0.0595
2	195.12	0.9100	0.2089	0.0037	-0.8710	0.0432	-5.2265	0.1101	-0.8099	0.0554
2	195.12	0.9727	0.1777	0.0049	-0.9562	0.0482	-6.1123	0.1214	-0.2634	0.0616
3	195.12	0.1938	-0.0452	0.0023	-0.0231	0.0020	0.0123	0.0043	-0.3436	0.0295
3	195.12	0.2357	-0.0171	0.0030	-0.0101	0.0029	-0.0169	0.0057	-0.4423	0.0525
3	195.12	0.2995	-0.0170	0.0024	-0.0678	0.0056	-0.0251	0.0124	-0.7900	0.0652
3	195.12	0.3493	0.0126	0.0025	-0.1264	0.0088	-0.0205	0.0185	-0.7191	0.0594
3	195.12	0.4000	0.0511	0.0026	-0.1778	0.0133	-0.0791	0.0283	-0.8062	0.0629
3	195.12	0.4497	0.0680	0.0026	-0.2387	0.0157	-0.1872	0.0330	-0.9736	0.0628
3	195.12	0.4997	0.0776	0.0027	-0.3180	0.0192	-0.3474	0.0417	-1.1005	0.0612
3	195.12	0.5556	0.1059	0.0030	-0.3942	0.0228	-0.5890	0.0499	-1.1237	0.0579
3	195.12	0.5995	0.1336	0.0028	-0.4888	0.0260	-0.8829	0.0573	-1.2245	0.0655
3	195.12	0.6498	0.1595	0.0028	-0.5906	0.0293	-1.2646	0.0645	-1.1278	0.0656
3	195.12	0.6890	0.1367	0.0027	-0.6650	0.0320	-1.6495	0.0710	-0.9613	0.0667
3	195.12	0.7495	0.1772	0.0024	-0.7855	0.0365	-2.3924	0.0820	-1.3005	0.0630
3	195.12	0.7998	0.2076	0.0028	-0.9062	0.0399	-3.0933	0.0906	-1.3539	0.0648
3	195.12	0.8577	0.1904	0.0035	-1.0437	0.0446	-4.0090	0.1021	-1.3159	0.0599
3	195.12	0.9178	0.1748	0.0038	-1.2857	0.0485	-5.0541	0.1135	-1.4628	0.0594
3	195.12	0.9729	0.2005	0.0048	-1.3581	0.0533	-6.0255	0.1238	-1.3564	0.0631
4	195.12	0.2001	-0.0199	0.0027	0.0230	0.0027	-0.0586	0.0063	-0.0116	0.0496
4	195.12	0.2502	0.0058	0.0040	0.0194	0.0042	-0.0977	0.0096	0.2000	0.0851
4	195.12	0.3001	0.0140	0.0028	0.0711	0.0074	-0.2181	0.0175	0.0485	0.1019
4	195.12	0.3502	0.0157	0.0030	0.1304	0.0122	-0.3544	0.0273	0.0729	0.0940
4	195.12	0.4002	0.0360	0.0029	0.1829	0.0175	-0.5459	0.0397	-0.1396	0.0850
4	195.12	0.4500	0.0736	0.0026	0.2344	0.0230	-0.7969	0.0501	-0.3365	0.0834
4	195.12	0.5001	0.0909	0.0029	0.2490	0.0273	-1.0520	0.0602	-0.1509	0.0847
4	195.12	0.5560	0.1140	0.0030	0.2907	0.0325	-1.5197	0.0715	-0.4146	0.0859
4	195.12	0.6001	0.1303	0.0027	0.3187	0.0376	-1.9413	0.0818	-0.5412	0.0853
4	195.12	0.6501	0.1381	0.0029	0.3138	0.0426	-2.5031	0.0920	-0.5501	0.0878
4	195.12	0.6999	0.1569	0.0031	0.3042	0.0483	-3.1609	0.1028	-0.5428	0.0891
4	195.12	0.7500	0.1677	0.0034	0.3086	0.0538	-3.9015	0.1144	-0.3854	0.0846
4	195.12	0.8002	0.1609	0.0035	0.2989	0.0597	-4.7754	0.1256	-0.4357	0.0866
4	195.12	0.8582	0.1691	0.0044	0.2985	0.0664	-5.8821	0.1368	-0.6200	0.0906
4	195.12	0.9101	0.1800	0.0047	0.2616	0.0727	-6.9549	0.1484	-0.7046	0.0879
4	195.12	0.9728	0.2001	0.0047	0.2779	0.0800	-8.1493	0.1621	-0.3202	0.0883

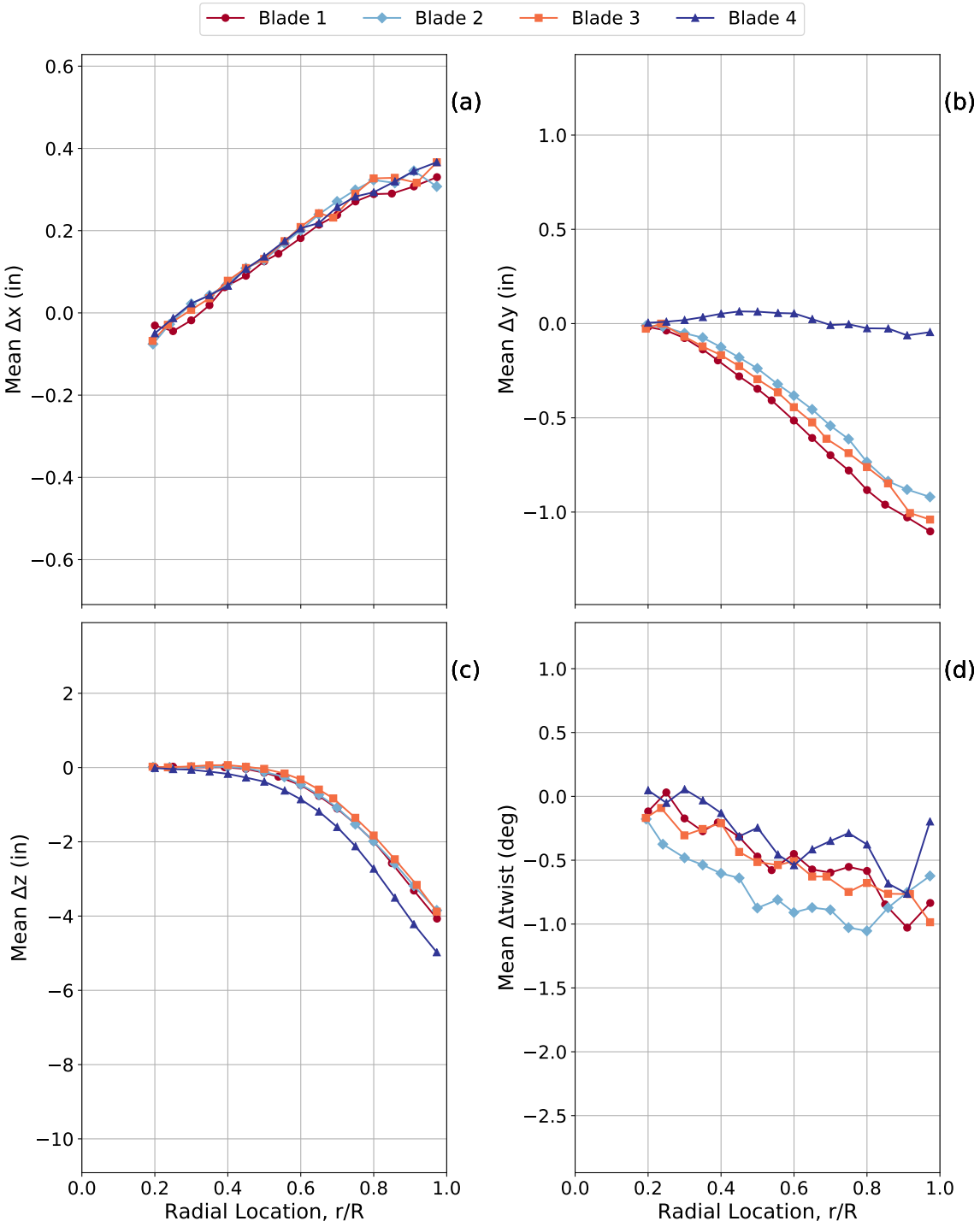


Figure 2.4-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0307	0.0012	-0.0181	0.0009	0.0036	0.0018	-0.1178	0.0197
1	209.88	0.2499	-0.0444	0.0010	-0.0369	0.0025	0.0227	0.0044	0.0310	0.0303
1	209.88	0.2998	-0.0181	0.0010	-0.0768	0.0036	0.0021	0.0071	-0.1728	0.0424
1	209.88	0.3498	0.0187	0.0012	-0.1371	0.0073	0.0066	0.0113	-0.2734	0.0370
1	209.88	0.3913	0.0624	0.0021	-0.1954	0.0096	0.0074	0.0166	-0.2047	0.0463
1	209.88	0.4496	0.0903	0.0016	-0.2798	0.0123	-0.0380	0.0217	-0.3184	0.0377
1	209.88	0.4997	0.1253	0.0022	-0.3461	0.0155	-0.1406	0.0274	-0.4713	0.0458
1	209.88	0.5387	0.1440	0.0025	-0.4072	0.0181	-0.2469	0.0333	-0.5777	0.0434
1	209.88	0.5996	0.1819	0.0020	-0.5144	0.0213	-0.4720	0.0397	-0.4508	0.0409
1	209.88	0.6498	0.2144	0.0019	-0.6070	0.0246	-0.7663	0.0448	-0.5725	0.0417
1	209.88	0.6998	0.2382	0.0019	-0.6985	0.0282	-1.1069	0.0525	-0.5969	0.0401
1	209.88	0.7500	0.2710	0.0022	-0.7794	0.0318	-1.5228	0.0607	-0.5524	0.0363
1	209.88	0.8001	0.2888	0.0022	-0.8832	0.0357	-1.9929	0.0682	-0.5838	0.0395
1	209.88	0.8497	0.2901	0.0024	-0.9607	0.0397	-2.5768	0.0750	-0.8460	0.0421
1	209.88	0.9102	0.3075	0.0027	-1.0282	0.0445	-3.3125	0.0840	-1.0282	0.0461
1	209.88	0.9734	0.3301	0.0039	-1.1024	0.0500	-4.0693	0.0944	-0.8347	0.0446
2	209.88	0.1949	-0.0757	0.0009	-0.0107	0.0005	0.0100	0.0013	-0.1777	0.0200
2	209.88	0.2405	-0.0276	0.0008	-0.0156	0.0020	0.0047	0.0037	-0.3746	0.0223
2	209.88	0.2999	0.0221	0.0012	-0.0515	0.0050	0.0073	0.0065	-0.4809	0.0414
2	209.88	0.3498	0.0428	0.0012	-0.0747	0.0044	0.0236	0.0096	-0.5369	0.0480
2	209.88	0.3998	0.0712	0.0012	-0.1249	0.0100	0.0134	0.0158	-0.6031	0.0433
2	209.88	0.4496	0.1087	0.0012	-0.1798	0.0112	-0.0105	0.0210	-0.6390	0.0379
2	209.88	0.4995	0.1287	0.0014	-0.2379	0.0122	-0.1162	0.0236	-0.8742	0.0370
2	209.88	0.5551	0.1697	0.0013	-0.3215	0.0147	-0.2527	0.0275	-0.8097	0.0385
2	209.88	0.5996	0.2006	0.0015	-0.3821	0.0162	-0.4542	0.0321	-0.9095	0.0371
2	209.88	0.6497	0.2395	0.0017	-0.4553	0.0183	-0.7328	0.0368	-0.8712	0.0376
2	209.88	0.6996	0.2709	0.0016	-0.5420	0.0205	-1.0793	0.0420	-0.8888	0.0421
2	209.88	0.7495	0.2990	0.0015	-0.6124	0.0234	-1.5252	0.0471	-1.0279	0.0349
2	209.88	0.7996	0.3230	0.0018	-0.7341	0.0260	-1.9846	0.0523	-1.0537	0.0353
2	209.88	0.8578	0.3161	0.0021	-0.8365	0.0288	-2.5916	0.0596	-0.8718	0.0418
2	209.88	0.9100	0.3454	0.0023	-0.8804	0.0319	-3.1825	0.0652	-0.7523	0.0477
2	209.88	0.9727	0.3074	0.0029	-0.9196	0.0353	-3.8474	0.0739	-0.6232	0.0443
3	209.88	0.1938	-0.0681	0.0010	-0.0271	0.0009	0.0213	0.0022	-0.1690	0.0153
3	209.88	0.2357	-0.0290	0.0011	-0.0002	0.0025	0.0051	0.0058	-0.0912	0.0213
3	209.88	0.2995	0.0073	0.0011	-0.0694	0.0052	0.0317	0.0123	-0.3053	0.0329
3	209.88	0.3493	0.0355	0.0013	-0.1213	0.0079	0.0609	0.0174	-0.2555	0.0295
3	209.88	0.4000	0.0782	0.0013	-0.1675	0.0133	0.0639	0.0299	-0.2102	0.0349
3	209.88	0.4497	0.1091	0.0020	-0.2257	0.0152	0.0210	0.0317	-0.4352	0.0331
3	209.88	0.4997	0.1311	0.0015	-0.2950	0.0166	-0.0355	0.0373	-0.5142	0.0351
3	209.88	0.5556	0.1745	0.0017	-0.3647	0.0201	-0.1610	0.0474	-0.5378	0.0252
3	209.88	0.5995	0.2088	0.0019	-0.4436	0.0231	-0.3213	0.0556	-0.5079	0.0323
3	209.88	0.6498	0.2423	0.0015	-0.5242	0.0256	-0.5925	0.0615	-0.6275	0.0304
3	209.88	0.6890	0.2318	0.0017	-0.6111	0.0280	-0.8314	0.0662	-0.6278	0.0423
3	209.88	0.7495	0.2899	0.0018	-0.6870	0.0316	-1.3539	0.0763	-0.7486	0.0336
3	209.88	0.7998	0.3271	0.0019	-0.7614	0.0352	-1.8299	0.0846	-0.6780	0.0317
3	209.88	0.8577	0.3285	0.0024	-0.8479	0.0389	-2.4703	0.0944	-0.7626	0.0399
3	209.88	0.9178	0.3165	0.0030	-1.0051	0.0425	-3.1605	0.1033	-0.7653	0.0527
3	209.88	0.9729	0.3663	0.0035	-1.0397	0.0459	-3.8809	0.1147	-0.9856	0.0505
4	209.88	0.2001	-0.0496	0.0009	0.0044	0.0010	-0.0133	0.0019	0.0473	0.0298
4	209.88	0.2502	-0.0128	0.0010	0.0098	0.0023	-0.0430	0.0051	-0.0512	0.0404
4	209.88	0.3001	0.0231	0.0012	0.0186	0.0052	-0.0593	0.0088	0.0552	0.0648
4	209.88	0.3502	0.0431	0.0009	0.0342	0.0070	-0.1102	0.0127	-0.0317	0.0446
4	209.88	0.4002	0.0660	0.0012	0.0522	0.0113	-0.1712	0.0209	-0.1307	0.0556
4	209.88	0.4500	0.1072	0.0018	0.0645	0.0131	-0.2703	0.0288	-0.3127	0.0358
4	209.88	0.5001	0.1370	0.0014	0.0631	0.0149	-0.3808	0.0304	-0.2455	0.0417
4	209.88	0.5560	0.1748	0.0014	0.0560	0.0175	-0.6215	0.0360	-0.4563	0.0521
4	209.88	0.6001	0.2057	0.0017	0.0539	0.0195	-0.8562	0.0431	-0.5394	0.0357
4	209.88	0.6501	0.2188	0.0022	0.0234	0.0221	-1.1865	0.0495	-0.4155	0.0433
4	209.88	0.6999	0.2575	0.0021	-0.0078	0.0244	-1.6038	0.0543	-0.3490	0.0433
4	209.88	0.7500	0.2830	0.0018	-0.0036	0.0284	-2.1209	0.0616	-0.2878	0.0420
4	209.88	0.8002	0.2934	0.0020	-0.0250	0.0306	-2.7254	0.0666	-0.3770	0.0481
4	209.88	0.8582	0.3196	0.0025	-0.0262	0.0342	-3.5063	0.0761	-0.6830	0.0475
4	209.88	0.9101	0.3452	0.0025	-0.0626	0.0374	-4.2203	0.0847	-0.7627	0.0502
4	209.88	0.9728	0.3664	0.0034	-0.0454	0.0409	-4.9753	0.0967	-0.1967	0.0491

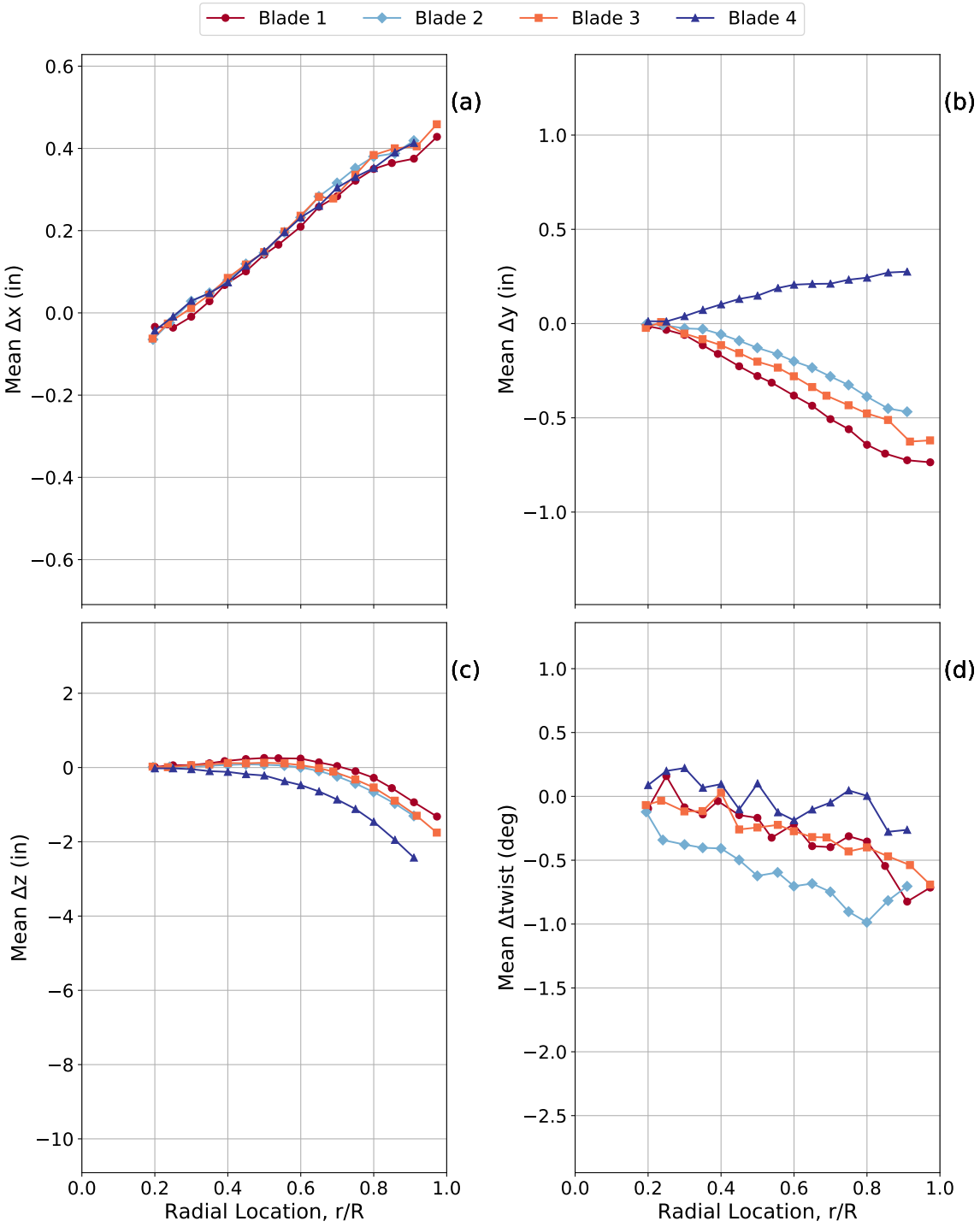


Figure 2.4-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0339	0.0014	-0.0140	0.0008	0.0159	0.0027	-0.0947	0.0172
1	225	0.2499	-0.0359	0.0010	-0.0332	0.0020	0.0605	0.0084	0.1589	0.0298
1	225	0.2998	-0.0093	0.0008	-0.0599	0.0033	0.0667	0.0143	-0.0860	0.0382
1	225	0.3498	0.0283	0.0011	-0.1150	0.0059	0.1144	0.0218	-0.1416	0.0355
1	225	0.3913	0.0678	0.0021	-0.1608	0.0080	0.1734	0.0346	-0.0368	0.0490
1	225	0.4496	0.1010	0.0016	-0.2265	0.0111	0.2282	0.0369	-0.1467	0.0396
1	225	0.4997	0.1415	0.0019	-0.2783	0.0125	0.2572	0.0457	-0.1683	0.0326
1	225	0.5387	0.1659	0.0018	-0.3134	0.0142	0.2505	0.0498	-0.3237	0.0469
1	225	0.5996	0.2096	0.0019	-0.3820	0.0178	0.2411	0.0590	-0.2173	0.0458
1	225	0.6498	0.2579	0.0020	-0.4358	0.0210	0.1394	0.0665	-0.3896	0.0372
1	225	0.6998	0.2836	0.0024	-0.5068	0.0248	0.0396	0.0734	-0.3975	0.0447
1	225	0.7500	0.3215	0.0023	-0.5605	0.0277	-0.1000	0.0811	-0.3123	0.0413
1	225	0.8001	0.3501	0.0022	-0.6431	0.0309	-0.2773	0.0890	-0.3536	0.0353
1	225	0.8497	0.3644	0.0023	-0.6898	0.0347	-0.5542	0.0967	-0.5451	0.0393
1	225	0.9102	0.3750	0.0023	-0.7250	0.0393	-0.9356	0.1058	-0.8239	0.0390
1	225	0.9734	0.4281	0.0035	-0.7359	0.0442	-1.3206	0.1153	-0.7143	0.0395
2	225	0.1949	-0.0646	0.0010	-0.0039	0.0007	0.0092	0.0021	-0.1218	0.0266
2	225	0.2405	-0.0240	0.0009	-0.0074	0.0017	0.0146	0.0046	-0.3417	0.0358
2	225	0.2999	0.0285	0.0011	-0.0257	0.0028	0.0266	0.0101	-0.3776	0.0605
2	225	0.3498	0.0487	0.0011	-0.0290	0.0048	0.0504	0.0142	-0.4026	0.0486
2	225	0.3998	0.0792	0.0015	-0.0570	0.0076	0.0692	0.0242	-0.4079	0.0497
2	225	0.4496	0.1191	0.0015	-0.0911	0.0092	0.0871	0.0290	-0.4981	0.0499
2	225	0.4995	0.1460	0.0013	-0.1286	0.0114	0.0763	0.0358	-0.6226	0.0373
2	225	0.5551	0.1960	0.0014	-0.1624	0.0132	0.0525	0.0426	-0.5956	0.0468
2	225	0.5996	0.2321	0.0013	-0.2000	0.0157	0.0012	0.0498	-0.7035	0.0459
2	225	0.6497	0.2831	0.0015	-0.2340	0.0179	-0.0914	0.0562	-0.6830	0.0375
2	225	0.6996	0.3159	0.0018	-0.2807	0.0205	-0.2361	0.0633	-0.7480	0.0524
2	225	0.7495	0.3517	0.0016	-0.3256	0.0233	-0.4297	0.0712	-0.9027	0.0392
2	225	0.7996	0.3801	0.0017	-0.3875	0.0260	-0.6590	0.0797	-0.9865	0.0368
2	225	0.8578	0.3879	0.0018	-0.4507	0.0296	-0.9692	0.0888	-0.8164	0.0394
2	225	0.9100	0.4189	0.0020	-0.4678	0.0331	-1.3033	0.0975	-0.7041	0.0457
3	225	0.1938	-0.0625	0.0010	-0.0227	0.0007	0.0237	0.0015	-0.0683	0.0184
3	225	0.2357	-0.0260	0.0009	0.0082	0.0016	0.0093	0.0035	-0.0336	0.0257
3	225	0.2995	0.0119	0.0010	-0.0531	0.0025	0.0611	0.0054	-0.1178	0.0424
3	225	0.3493	0.0442	0.0021	-0.0829	0.0049	0.0825	0.0088	-0.1153	0.0397
3	225	0.4000	0.0851	0.0017	-0.1148	0.0072	0.1219	0.0143	0.0291	0.0534
3	225	0.4497	0.1176	0.0014	-0.1561	0.0081	0.1132	0.0168	-0.2590	0.0350
3	225	0.4997	0.1479	0.0014	-0.2019	0.0104	0.1292	0.0200	-0.2437	0.0332
3	225	0.5556	0.1979	0.0021	-0.2337	0.0137	0.1119	0.0246	-0.2233	0.0432
3	225	0.5995	0.2363	0.0022	-0.2795	0.0149	0.0648	0.0273	-0.2728	0.0453
3	225	0.6498	0.2822	0.0018	-0.3366	0.0174	-0.0159	0.0313	-0.3190	0.0343
3	225	0.6890	0.2782	0.0021	-0.3826	0.0196	-0.1100	0.0333	-0.3215	0.0406
3	225	0.7495	0.3358	0.0019	-0.4333	0.0228	-0.3212	0.0400	-0.4313	0.0378
3	225	0.7998	0.3839	0.0018	-0.4768	0.0255	-0.5372	0.0443	-0.3994	0.0384
3	225	0.8577	0.4002	0.0019	-0.5114	0.0288	-0.8932	0.0494	-0.4694	0.0374
3	225	0.9178	0.4050	0.0019	-0.6260	0.0324	-1.2981	0.0560	-0.5382	0.0417
3	225	0.9729	0.4587	0.0028	-0.6196	0.0357	-1.7525	0.0616	-0.6906	0.0419
4	225	0.2001	-0.0428	0.0010	0.0125	0.0009	-0.0211	0.0023	0.0883	0.0181
4	225	0.2502	-0.0089	0.0009	0.0114	0.0019	-0.0216	0.0052	0.1992	0.0226
4	225	0.3001	0.0293	0.0008	0.0394	0.0026	-0.0442	0.0083	0.2218	0.0355
4	225	0.3502	0.0480	0.0011	0.0723	0.0056	-0.0971	0.0143	0.0675	0.0354
4	225	0.4002	0.0743	0.0016	0.1019	0.0077	-0.1172	0.0221	0.0959	0.0452
4	225	0.4500	0.1147	0.0020	0.1308	0.0093	-0.1787	0.0238	-0.1017	0.0364
4	225	0.5001	0.1499	0.0016	0.1481	0.0108	-0.2148	0.0295	0.1007	0.0289
4	225	0.5560	0.1963	0.0020	0.1886	0.0146	-0.3686	0.0359	-0.1248	0.0271
4	225	0.6001	0.2320	0.0017	0.2063	0.0163	-0.4730	0.0442	-0.1874	0.0463
4	225	0.6501	0.2604	0.0020	0.2105	0.0189	-0.6442	0.0452	-0.1027	0.0545
4	225	0.6999	0.3045	0.0025	0.2116	0.0221	-0.8619	0.0520	-0.0484	0.0344
4	225	0.7500	0.3304	0.0019	0.2328	0.0248	-1.1171	0.0621	0.0463	0.0398
4	225	0.8002	0.3522	0.0018	0.2435	0.0283	-1.4607	0.0646	0.0036	0.0258
4	225	0.8582	0.3902	0.0019	0.2708	0.0321	-1.9494	0.0724	-0.2772	0.0291
4	225	0.9101	0.4133	0.0020	0.2755	0.0358	-2.4264	0.0799	-0.2623	0.0332

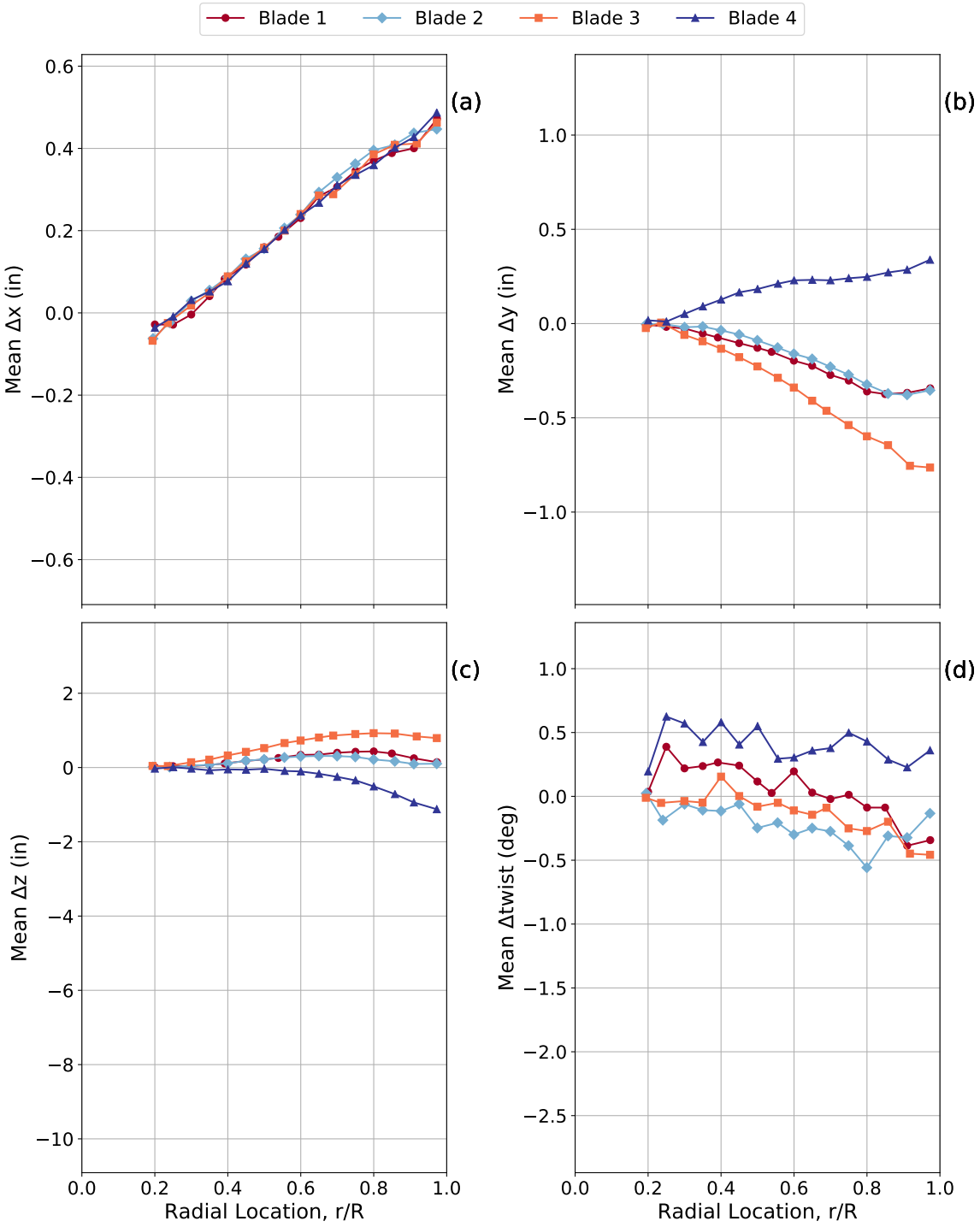


Figure 2.4-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0282	0.0014	-0.0055	0.0007	0.0082	0.0024	0.0354	0.0222
1	240.12	0.2499	-0.0287	0.0012	-0.0175	0.0026	0.0364	0.0057	0.3884	0.0320
1	240.12	0.2998	-0.0040	0.0011	-0.0256	0.0047	0.0406	0.0108	0.2192	0.0481
1	240.12	0.3498	0.0407	0.0011	-0.0529	0.0063	0.0699	0.0160	0.2371	0.0486
1	240.12	0.3913	0.0825	0.0017	-0.0739	0.0111	0.1085	0.0248	0.2657	0.0509
1	240.12	0.4496	0.1175	0.0016	-0.1037	0.0124	0.1780	0.0299	0.2409	0.0409
1	240.12	0.4997	0.1599	0.0026	-0.1286	0.0165	0.2183	0.0376	0.1163	0.0484
1	240.12	0.5387	0.1851	0.0022	-0.1501	0.0177	0.2574	0.0417	0.0267	0.0433
1	240.12	0.5996	0.2306	0.0018	-0.1968	0.0205	0.3397	0.0485	0.1959	0.0435
1	240.12	0.6498	0.2835	0.0018	-0.2239	0.0234	0.3482	0.0546	0.0296	0.0441
1	240.12	0.6998	0.3065	0.0021	-0.2723	0.0268	0.3976	0.0608	-0.0208	0.0471
1	240.12	0.7500	0.3455	0.0022	-0.3024	0.0299	0.4252	0.0679	0.0125	0.0443
1	240.12	0.8001	0.3702	0.0020	-0.3601	0.0333	0.4339	0.0756	-0.0877	0.0456
1	240.12	0.8497	0.3886	0.0021	-0.3740	0.0366	0.3784	0.0821	-0.0879	0.0396
1	240.12	0.9102	0.4003	0.0022	-0.3674	0.0411	0.2490	0.0905	-0.3864	0.0410
1	240.12	0.9734	0.4720	0.0034	-0.3435	0.0460	0.1442	0.0995	-0.3426	0.0381
2	240.12	0.1949	-0.0625	0.0010	-0.0033	0.0005	0.0150	0.0016	0.0236	0.0181
2	240.12	0.2405	-0.0238	0.0009	-0.0019	0.0015	0.0122	0.0041	-0.1860	0.0272
2	240.12	0.2999	0.0289	0.0010	-0.0195	0.0030	0.0494	0.0067	-0.0614	0.0419
2	240.12	0.3498	0.0551	0.0015	-0.0158	0.0043	0.0739	0.0120	-0.1077	0.0342
2	240.12	0.3998	0.0872	0.0012	-0.0361	0.0072	0.1124	0.0178	-0.1148	0.0272
2	240.12	0.4496	0.1311	0.0011	-0.0580	0.0063	0.1830	0.0233	-0.0600	0.0365
2	240.12	0.4995	0.1563	0.0017	-0.0891	0.0089	0.2194	0.0249	-0.2472	0.0426
2	240.12	0.5551	0.2062	0.0016	-0.1276	0.0100	0.2717	0.0327	-0.2065	0.0353
2	240.12	0.5996	0.2390	0.0012	-0.1604	0.0118	0.2978	0.0390	-0.2991	0.0415
2	240.12	0.6497	0.2934	0.0013	-0.1876	0.0130	0.3126	0.0453	-0.2488	0.0497
2	240.12	0.6996	0.3294	0.0012	-0.2294	0.0153	0.3087	0.0530	-0.2741	0.0405
2	240.12	0.7495	0.3625	0.0013	-0.2712	0.0169	0.2867	0.0599	-0.3863	0.0416
2	240.12	0.7996	0.3956	0.0014	-0.3234	0.0189	0.2170	0.0672	-0.5582	0.0367
2	240.12	0.8578	0.4087	0.0014	-0.3712	0.0215	0.1682	0.0751	-0.3100	0.0381
2	240.12	0.9100	0.4373	0.0016	-0.3778	0.0235	0.0959	0.0816	-0.3230	0.0382
2	240.12	0.9727	0.4470	0.0020	-0.3539	0.0263	0.1032	0.0899	-0.1332	0.0397
3	240.12	0.1938	-0.0677	0.0010	-0.0236	0.0007	0.0438	0.0026	-0.0110	0.0218
3	240.12	0.2357	-0.0246	0.0007	0.0052	0.0014	0.0393	0.0063	-0.0510	0.0302
3	240.12	0.2995	0.0180	0.0013	-0.0599	0.0034	0.1421	0.0110	-0.0366	0.0489
3	240.12	0.3493	0.0486	0.0011	-0.0938	0.0053	0.2124	0.0202	-0.0488	0.0488
3	240.12	0.4000	0.0888	0.0018	-0.1334	0.0088	0.3258	0.0305	0.1545	0.0478
3	240.12	0.4497	0.1252	0.0025	-0.1781	0.0103	0.4224	0.0357	0.0025	0.0370
3	240.12	0.4997	0.1587	0.0023	-0.2273	0.0122	0.5232	0.0430	-0.0808	0.0426
3	240.12	0.5556	0.2000	0.0018	-0.2876	0.0162	0.6595	0.0469	-0.0502	0.0487
3	240.12	0.5995	0.2403	0.0021	-0.3393	0.0183	0.7278	0.0550	-0.1102	0.0462
3	240.12	0.6498	0.2854	0.0024	-0.4093	0.0225	0.8082	0.0651	-0.1440	0.0464
3	240.12	0.6890	0.2886	0.0021	-0.4626	0.0247	0.8615	0.0697	-0.0893	0.0369
3	240.12	0.7495	0.3370	0.0021	-0.5384	0.0291	0.9015	0.0781	-0.2507	0.0359
3	240.12	0.7998	0.3855	0.0022	-0.5980	0.0334	0.9253	0.0851	-0.2714	0.0499
3	240.12	0.8577	0.4087	0.0025	-0.6448	0.0382	0.9153	0.0924	-0.1984	0.0371
3	240.12	0.9178	0.4118	0.0027	-0.7545	0.0434	0.8380	0.1001	-0.4482	0.0367
3	240.12	0.9729	0.4628	0.0042	-0.7637	0.0481	0.7930	0.1076	-0.4578	0.0367
4	240.12	0.2001	-0.0361	0.0011	0.0171	0.0006	-0.0300	0.0017	0.1951	0.0206
4	240.12	0.2502	-0.0091	0.0008	0.0107	0.0017	0.0093	0.0058	0.6247	0.0298
4	240.12	0.3001	0.0313	0.0010	0.0513	0.0034	-0.0301	0.0081	0.5705	0.0446
4	240.12	0.3502	0.0520	0.0008	0.0912	0.0043	-0.0749	0.0139	0.4255	0.0514
4	240.12	0.4002	0.0768	0.0017	0.1273	0.0080	-0.0508	0.0222	0.5799	0.0389
4	240.12	0.4500	0.1199	0.0016	0.1656	0.0090	-0.0594	0.0283	0.4053	0.0498
4	240.12	0.5001	0.1553	0.0017	0.1830	0.0125	-0.0345	0.0331	0.5492	0.0420
4	240.12	0.5560	0.2018	0.0014	0.2114	0.0134	-0.0913	0.0376	0.2945	0.0637
4	240.12	0.6001	0.2373	0.0020	0.2295	0.0159	-0.1054	0.0465	0.3044	0.0507
4	240.12	0.6501	0.2677	0.0014	0.2318	0.0187	-0.1682	0.0523	0.3588	0.0479
4	240.12	0.6999	0.3103	0.0018	0.2295	0.0217	-0.2513	0.0603	0.3779	0.0374
4	240.12	0.7500	0.3355	0.0016	0.2405	0.0237	-0.3458	0.0665	0.4983	0.0498
4	240.12	0.8002	0.3593	0.0017	0.2478	0.0271	-0.5093	0.0749	0.4293	0.0433
4	240.12	0.8582	0.4015	0.0016	0.2712	0.0306	-0.7161	0.0831	0.2877	0.0381
4	240.12	0.9101	0.4275	0.0016	0.2853	0.0338	-0.9408	0.0909	0.2271	0.0382
4	240.12	0.9728	0.4870	0.0026	0.3385	0.0375	-1.1234	0.0997	0.3603	0.0406

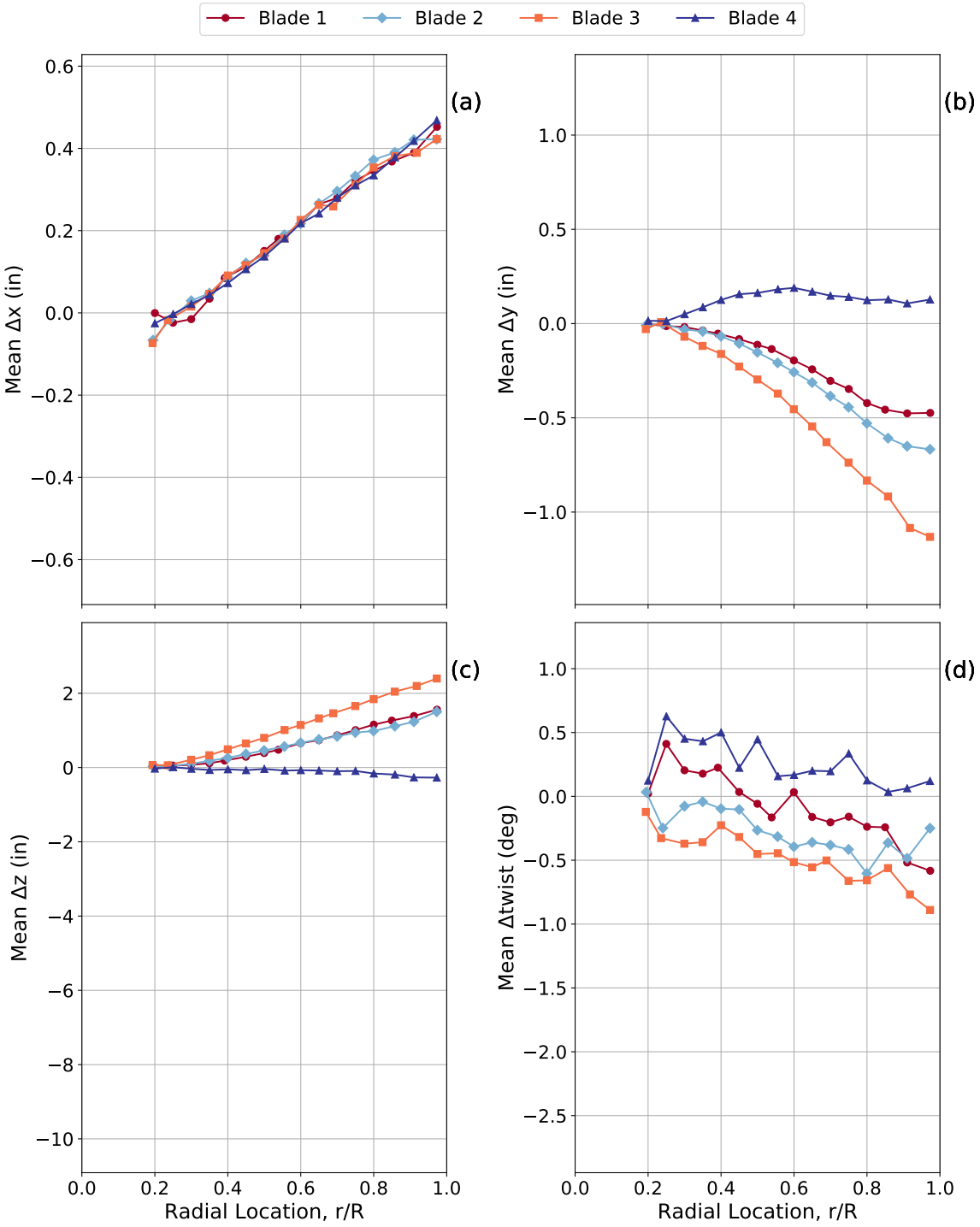


Figure 2.4-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0004	0.0019	-0.0033	0.0010	0.0124	0.0036	0.0222	0.0255
1	254.88	0.2499	-0.0239	0.0011	-0.0133	0.0016	0.0518	0.0054	0.4110	0.0594
1	254.88	0.2998	-0.0152	0.0010	-0.0182	0.0039	0.0724	0.0115	0.2041	0.0641
1	254.88	0.3498	0.0345	0.0012	-0.0369	0.0065	0.1151	0.0198	0.1776	0.0609
1	254.88	0.3913	0.0847	0.0024	-0.0534	0.0092	0.1865	0.0268	0.2246	0.0664
1	254.88	0.4496	0.1123	0.0018	-0.0824	0.0123	0.2901	0.0379	0.0348	0.0608
1	254.88	0.4997	0.1507	0.0018	-0.1125	0.0152	0.3896	0.0474	-0.0581	0.0680
1	254.88	0.5387	0.1800	0.0019	-0.1352	0.0181	0.4786	0.0562	-0.1652	0.0655
1	254.88	0.5996	0.2165	0.0026	-0.1953	0.0223	0.6557	0.0674	0.0332	0.0800
1	254.88	0.6498	0.2643	0.0022	-0.2427	0.0252	0.7373	0.0782	-0.1615	0.0685
1	254.88	0.6998	0.2795	0.0024	-0.3039	0.0286	0.8672	0.0880	-0.2033	0.0739
1	254.88	0.7500	0.3213	0.0021	-0.3470	0.0319	1.0076	0.0986	-0.1593	0.0668
1	254.88	0.8001	0.3455	0.0023	-0.4218	0.0357	1.1557	0.1095	-0.2381	0.0660
1	254.88	0.8497	0.3680	0.0023	-0.4567	0.0392	1.2647	0.1209	-0.2421	0.0666
1	254.88	0.9102	0.3894	0.0024	-0.4764	0.0436	1.3869	0.1344	-0.5176	0.0669
1	254.88	0.9734	0.4524	0.0037	-0.4738	0.0481	1.5593	0.1497	-0.5826	0.0676
2	254.88	0.1949	-0.0664	0.0013	-0.0084	0.0006	0.0334	0.0021	0.0335	0.0205
2	254.88	0.2405	-0.0170	0.0008	-0.0026	0.0014	0.0353	0.0041	-0.2480	0.0311
2	254.88	0.2999	0.0296	0.0009	-0.0309	0.0028	0.1019	0.0070	-0.0766	0.0454
2	254.88	0.3498	0.0481	0.0011	-0.0418	0.0043	0.1835	0.0116	-0.0420	0.0472
2	254.88	0.3998	0.0871	0.0014	-0.0676	0.0072	0.2582	0.0178	-0.0967	0.0365
2	254.88	0.4496	0.1211	0.0019	-0.1056	0.0085	0.3651	0.0199	-0.1027	0.0565
2	254.88	0.4995	0.1397	0.0014	-0.1524	0.0098	0.4597	0.0258	-0.2646	0.0431
2	254.88	0.5551	0.1899	0.0015	-0.2084	0.0121	0.5666	0.0329	-0.3152	0.0417
2	254.88	0.5996	0.2171	0.0014	-0.2575	0.0135	0.6661	0.0392	-0.3939	0.0409
2	254.88	0.6497	0.2658	0.0015	-0.3129	0.0156	0.7572	0.0467	-0.3599	0.0354
2	254.88	0.6996	0.2957	0.0014	-0.3846	0.0176	0.8376	0.0533	-0.3815	0.0467
2	254.88	0.7495	0.3328	0.0016	-0.4435	0.0199	0.9418	0.0616	-0.4152	0.0403
2	254.88	0.7996	0.3722	0.0016	-0.5291	0.0223	0.9834	0.0696	-0.6032	0.0380
2	254.88	0.8578	0.3904	0.0018	-0.6080	0.0250	1.1141	0.0778	-0.3634	0.0418
2	254.88	0.9100	0.4211	0.0018	-0.6506	0.0273	1.2315	0.0850	-0.4843	0.0409
2	254.88	0.9727	0.4225	0.0025	-0.6670	0.0303	1.5022	0.0944	-0.2496	0.0422
3	254.88	0.1938	-0.0734	0.0014	-0.0294	0.0006	0.0682	0.0025	-0.1219	0.0195
3	254.88	0.2357	-0.0177	0.0009	0.0076	0.0010	0.0611	0.0035	-0.3270	0.0389
3	254.88	0.2995	0.0155	0.0010	-0.0696	0.0022	0.2089	0.0073	-0.3706	0.0500
3	254.88	0.3493	0.0463	0.0012	-0.1185	0.0042	0.3307	0.0125	-0.3589	0.0425
3	254.88	0.4000	0.0909	0.0017	-0.1610	0.0062	0.4900	0.0183	-0.2263	0.0475
3	254.88	0.4497	0.1162	0.0016	-0.2281	0.0082	0.6487	0.0234	-0.3184	0.0451
3	254.88	0.4997	0.1454	0.0020	-0.2965	0.0102	0.7984	0.0288	-0.4509	0.0476
3	254.88	0.5556	0.1816	0.0017	-0.3715	0.0130	1.0108	0.0353	-0.4458	0.0429
3	254.88	0.5995	0.2260	0.0017	-0.4544	0.0153	1.1466	0.0407	-0.5153	0.0557
3	254.88	0.6498	0.2626	0.0018	-0.5460	0.0185	1.3240	0.0460	-0.5555	0.0486
3	254.88	0.6890	0.2587	0.0023	-0.6292	0.0206	1.4607	0.0500	-0.5020	0.0495
3	254.88	0.7495	0.3109	0.0022	-0.7376	0.0246	1.6558	0.0558	-0.6618	0.0468
3	254.88	0.7998	0.3535	0.0022	-0.8328	0.0281	1.8418	0.0608	-0.6573	0.0463
3	254.88	0.8577	0.3812	0.0023	-0.9173	0.0322	2.0440	0.0657	-0.5615	0.0484
3	254.88	0.9178	0.3893	0.0024	-1.0843	0.0368	2.1968	0.0718	-0.7683	0.0485
3	254.88	0.9729	0.4227	0.0034	-1.1317	0.0410	2.3977	0.0788	-0.8899	0.0520
4	254.88	0.2001	-0.0254	0.0010	0.0149	0.0006	-0.0292	0.0023	0.1231	0.0166
4	254.88	0.2502	-0.0030	0.0009	0.0132	0.0011	0.0093	0.0040	0.6270	0.0326
4	254.88	0.3001	0.0215	0.0009	0.0497	0.0021	-0.0331	0.0076	0.4513	0.0375
4	254.88	0.3502	0.0439	0.0009	0.0865	0.0034	-0.0659	0.0124	0.4313	0.0406
4	254.88	0.4002	0.0724	0.0016	0.1255	0.0053	-0.0474	0.0187	0.5003	0.0322
4	254.88	0.4500	0.1062	0.0013	0.1560	0.0068	-0.0715	0.0234	0.2234	0.0352
4	254.88	0.5001	0.1371	0.0015	0.1626	0.0091	-0.0380	0.0299	0.4460	0.0384
4	254.88	0.5560	0.1809	0.0016	0.1815	0.0111	-0.0831	0.0376	0.1577	0.0377
4	254.88	0.6001	0.2182	0.0017	0.1895	0.0134	-0.0715	0.0439	0.1678	0.0438
4	254.88	0.6501	0.2416	0.0018	0.1693	0.0153	-0.0817	0.0526	0.2004	0.0494
4	254.88	0.6999	0.2801	0.0019	0.1478	0.0179	-0.0990	0.0610	0.1967	0.0373
4	254.88	0.7500	0.3100	0.0018	0.1413	0.0208	-0.0923	0.0703	0.3350	0.0433
4	254.88	0.8002	0.3344	0.0018	0.1239	0.0234	-0.1612	0.0801	0.1249	0.0372
4	254.88	0.8582	0.3784	0.0019	0.1278	0.0269	-0.1903	0.0913	0.0347	0.0364
4	254.88	0.9101	0.4182	0.0018	0.1068	0.0299	-0.2663	0.1006	0.0630	0.0370
4	254.88	0.9728	0.4684	0.0028	0.1274	0.0336	-0.2718	0.1128	0.1202	0.0383

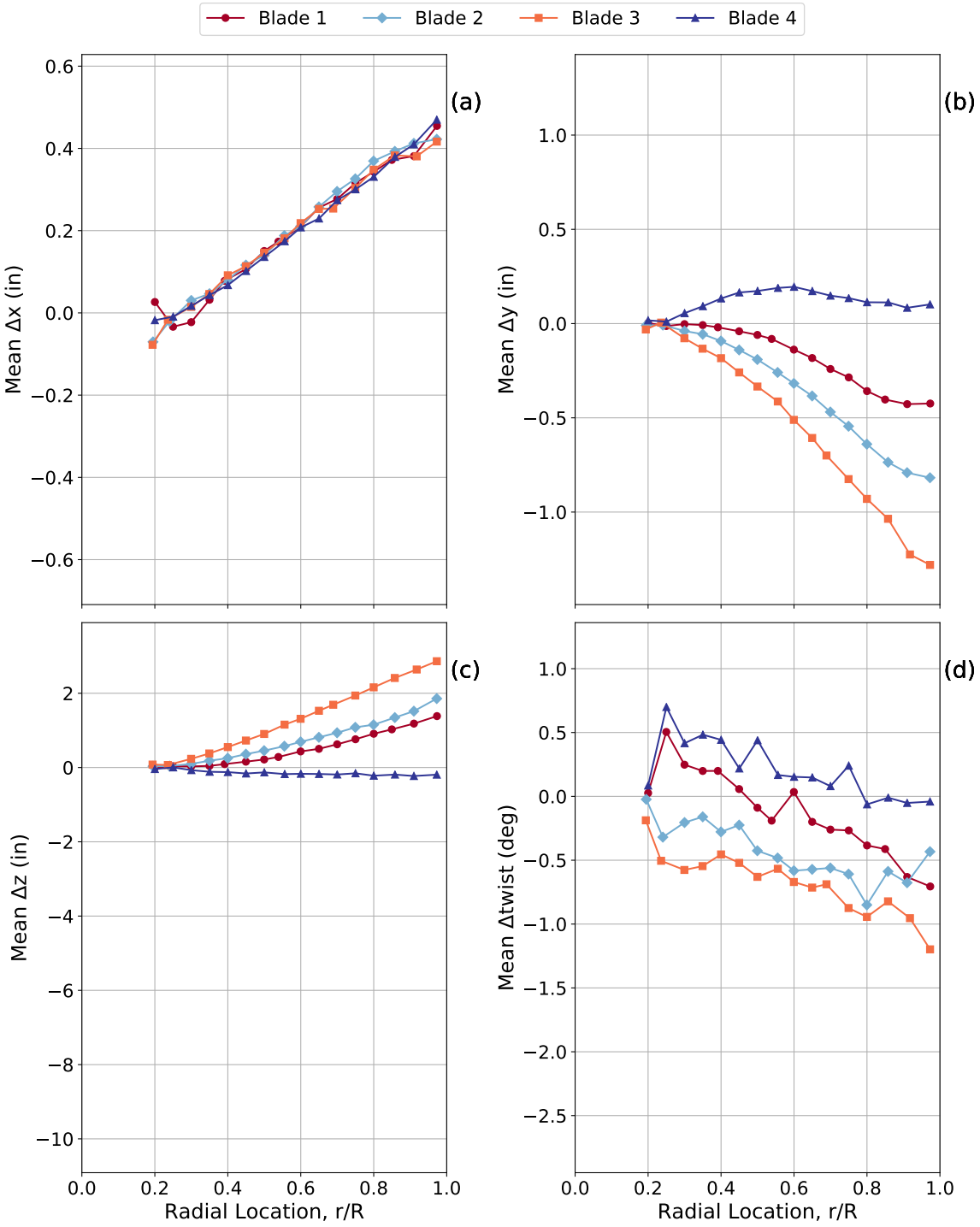


Figure 2.4-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	0.0265	0.0070	0.0027	0.0021	-0.0015	0.0068	0.0262	0.0470
1	260.16	0.2499	-0.0337	0.0017	-0.0128	0.0025	0.0358	0.0091	0.5046	0.1163
1	260.16	0.2998	-0.0226	0.0018	-0.0028	0.0076	0.0303	0.0216	0.2480	0.1240
1	260.16	0.3498	0.0319	0.0021	-0.0080	0.0137	0.0437	0.0367	0.1989	0.1171
1	260.16	0.3913	0.0780	0.0019	-0.0199	0.0185	0.0921	0.0495	0.1994	0.1194
1	260.16	0.4496	0.1065	0.0017	-0.0408	0.0251	0.1578	0.0665	0.0571	0.1268
1	260.16	0.4997	0.1505	0.0021	-0.0602	0.0313	0.2166	0.0835	-0.0890	0.1203
1	260.16	0.5387	0.1732	0.0019	-0.0814	0.0356	0.2839	0.0954	-0.1900	0.1190
1	260.16	0.5996	0.2098	0.0019	-0.1382	0.0424	0.4338	0.1150	0.0343	0.1216
1	260.16	0.6498	0.2558	0.0018	-0.1827	0.0480	0.5033	0.1315	-0.1997	0.1194
1	260.16	0.6998	0.2770	0.0022	-0.2408	0.0539	0.6255	0.1488	-0.2603	0.1221
1	260.16	0.7500	0.3157	0.0021	-0.2855	0.0596	0.7616	0.1669	-0.2667	0.1183
1	260.16	0.8001	0.3433	0.0023	-0.3582	0.0653	0.9096	0.1846	-0.3845	0.1200
1	260.16	0.8497	0.3720	0.0023	-0.4030	0.0710	1.0276	0.2026	-0.4126	0.1169
1	260.16	0.9102	0.3813	0.0025	-0.4273	0.0780	1.1827	0.2239	-0.6315	0.1184
1	260.16	0.9734	0.4548	0.0045	-0.4241	0.0855	1.3848	0.2466	-0.7055	0.1196
2	260.16	0.1949	-0.0705	0.0018	-0.0093	0.0007	0.0342	0.0024	-0.0233	0.0238
2	260.16	0.2405	-0.0203	0.0012	-0.0080	0.0011	0.0385	0.0040	-0.3193	0.0363
2	260.16	0.2999	0.0303	0.0012	-0.0394	0.0023	0.0989	0.0069	-0.2049	0.0503
2	260.16	0.3498	0.0467	0.0013	-0.0563	0.0040	0.1831	0.0115	-0.1602	0.0390
2	260.16	0.3998	0.0802	0.0012	-0.0924	0.0058	0.2520	0.0168	-0.2781	0.0414
2	260.16	0.4496	0.1163	0.0014	-0.1398	0.0074	0.3601	0.0223	-0.2249	0.0389
2	260.16	0.4995	0.1398	0.0014	-0.1906	0.0092	0.4546	0.0268	-0.4258	0.0447
2	260.16	0.5551	0.1879	0.0013	-0.2593	0.0117	0.5747	0.0332	-0.4825	0.0436
2	260.16	0.5996	0.2104	0.0014	-0.3175	0.0137	0.6920	0.0390	-0.5821	0.0397
2	260.16	0.6497	0.2577	0.0016	-0.3840	0.0160	0.8141	0.0450	-0.5715	0.0415
2	260.16	0.6996	0.2953	0.0016	-0.4690	0.0186	0.9357	0.0519	-0.5608	0.0401
2	260.16	0.7495	0.3260	0.0017	-0.5446	0.0211	1.0827	0.0580	-0.6085	0.0422
2	260.16	0.7996	0.3693	0.0020	-0.6397	0.0238	1.1522	0.0650	-0.8500	0.0445
2	260.16	0.8578	0.3928	0.0021	-0.7359	0.0270	1.3456	0.0715	-0.5877	0.0450
2	260.16	0.9100	0.4123	0.0021	-0.7910	0.0301	1.5180	0.0792	-0.6764	0.0436
2	260.16	0.9727	0.4222	0.0027	-0.8179	0.0338	1.8565	0.0874	-0.4329	0.0449
3	260.16	0.1938	-0.0776	0.0035	-0.0313	0.0013	0.0801	0.0061	-0.1875	0.0300
3	260.16	0.2357	-0.0167	0.0013	0.0051	0.0012	0.0680	0.0044	-0.5044	0.0855
3	260.16	0.2995	0.0145	0.0012	-0.0778	0.0038	0.2345	0.0154	-0.5763	0.0918
3	260.16	0.3493	0.0458	0.0013	-0.1332	0.0066	0.3791	0.0250	-0.5462	0.0913
3	260.16	0.4000	0.0914	0.0015	-0.1836	0.0096	0.5510	0.0349	-0.4546	0.0911
3	260.16	0.4497	0.1135	0.0016	-0.2591	0.0123	0.7272	0.0432	-0.5206	0.0917
3	260.16	0.4997	0.1463	0.0019	-0.3340	0.0155	0.9037	0.0534	-0.6304	0.0948
3	260.16	0.5556	0.1814	0.0016	-0.4133	0.0184	1.1552	0.0647	-0.5669	0.0917
3	260.16	0.5995	0.2183	0.0017	-0.5109	0.0209	1.3122	0.0742	-0.6706	0.0904
3	260.16	0.6498	0.2528	0.0020	-0.6069	0.0240	1.5284	0.0859	-0.7143	0.0877
3	260.16	0.6890	0.2537	0.0020	-0.6999	0.0262	1.6909	0.0948	-0.6883	0.0928
3	260.16	0.7495	0.3036	0.0023	-0.8252	0.0300	1.9388	0.1099	-0.8745	0.0890
3	260.16	0.7998	0.3483	0.0024	-0.9302	0.0332	2.1593	0.1227	-0.9440	0.0936
3	260.16	0.8577	0.3829	0.0025	-1.0357	0.0368	2.4116	0.1378	-0.8220	0.0860
3	260.16	0.9178	0.3806	0.0027	-1.2249	0.0407	2.6398	0.1527	-0.9538	0.0887
3	260.16	0.9729	0.4165	0.0037	-1.2802	0.0444	2.8632	0.1664	-1.1979	0.0930
4	260.16	0.2001	-0.0178	0.0016	0.0171	0.0008	-0.0408	0.0035	0.0848	0.0238
4	260.16	0.2502	-0.0092	0.0013	0.0102	0.0015	0.0036	0.0051	0.6996	0.0564
4	260.16	0.3001	0.0171	0.0009	0.0552	0.0031	-0.0704	0.0116	0.4161	0.0585
4	260.16	0.3502	0.0435	0.0009	0.0921	0.0051	-0.1148	0.0180	0.4830	0.0570
4	260.16	0.4002	0.0675	0.0014	0.1332	0.0079	-0.1234	0.0273	0.4424	0.0540
4	260.16	0.4500	0.1018	0.0015	0.1651	0.0100	-0.1607	0.0336	0.2184	0.0559
4	260.16	0.5001	0.1360	0.0017	0.1729	0.0124	-0.1308	0.0409	0.4394	0.0612
4	260.16	0.5560	0.1742	0.0017	0.1892	0.0150	-0.1766	0.0494	0.1673	0.0586
4	260.16	0.6001	0.2078	0.0015	0.1949	0.0172	-0.1690	0.0564	0.1530	0.0567
4	260.16	0.6501	0.2295	0.0016	0.1721	0.0199	-0.1741	0.0634	0.1478	0.0586
4	260.16	0.6999	0.2741	0.0015	0.1481	0.0228	-0.1880	0.0706	0.0798	0.0578
4	260.16	0.7500	0.3005	0.0016	0.1350	0.0258	-0.1556	0.0785	0.2403	0.0575
4	260.16	0.8002	0.3308	0.0019	0.1131	0.0289	-0.2202	0.0862	-0.0627	0.0557
4	260.16	0.8582	0.3793	0.0019	0.1123	0.0324	-0.1900	0.0956	-0.0104	0.0551
4	260.16	0.9101	0.4098	0.0019	0.0837	0.0357	-0.2286	0.1042	-0.0516	0.0553
4	260.16	0.9728	0.4699	0.0026	0.1017	0.0397	-0.1923	0.1163	-0.0409	0.0570

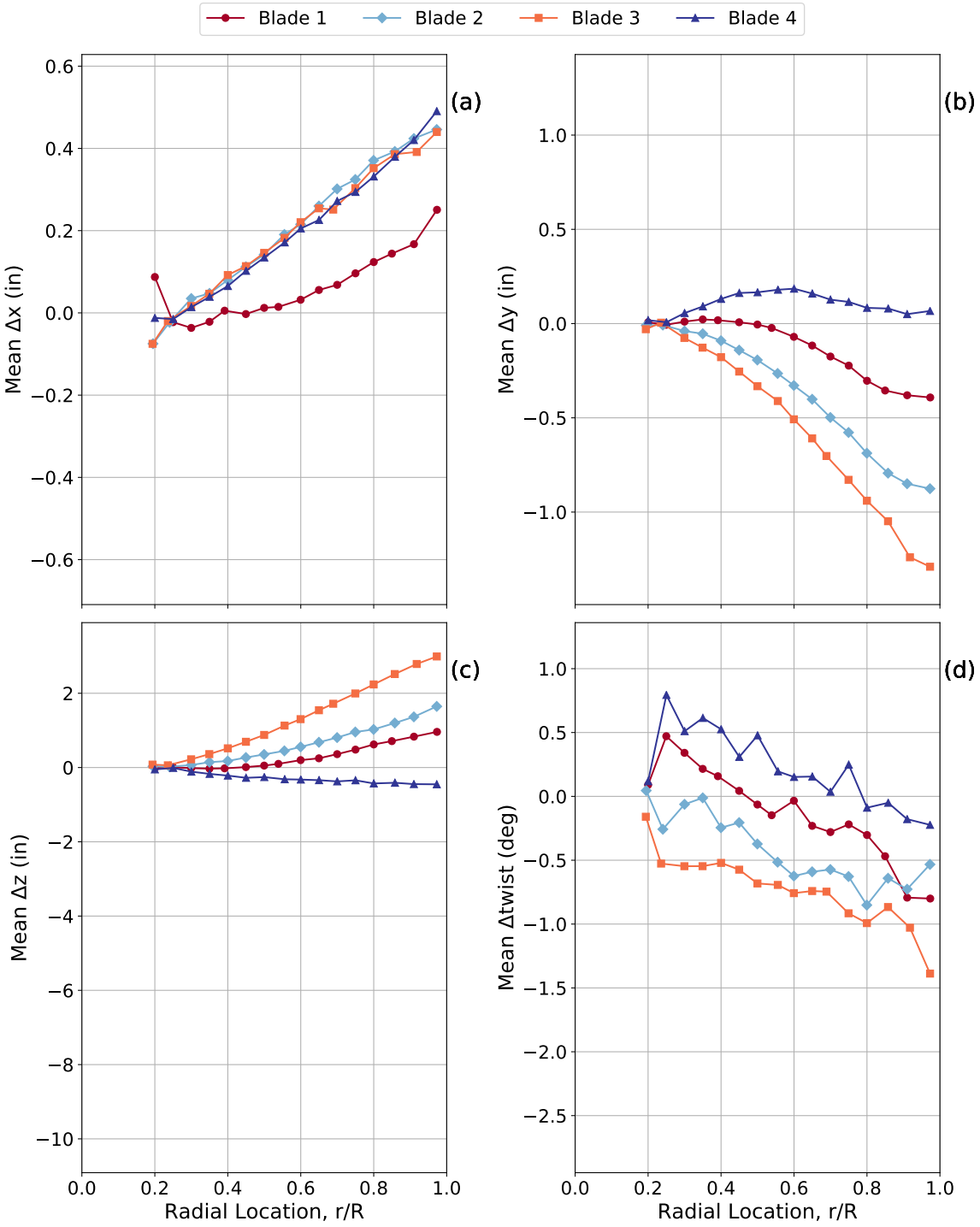


Figure 2.4-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	0.0873	0.0046	0.0066	0.0021	-0.0113	0.0057	0.0904	0.0354
1	265.08	0.2499	-0.0226	0.0010	-0.0062	0.0024	0.0075	0.0083	0.4710	0.0908
1	265.08	0.2998	-0.0365	0.0012	0.0103	0.0076	-0.0162	0.0189	0.3409	0.0946
1	265.08	0.3498	-0.0216	0.0012	0.0223	0.0133	-0.0298	0.0311	0.2153	0.0971
1	265.08	0.3913	0.0054	0.0025	0.0178	0.0181	-0.0221	0.0433	0.1577	0.0885
1	265.08	0.4496	-0.0028	0.0015	0.0070	0.0241	0.0122	0.0571	0.0433	0.1006
1	265.08	0.4997	0.0122	0.0014	-0.0050	0.0301	0.0523	0.0725	-0.0642	0.0952
1	265.08	0.5387	0.0146	0.0016	-0.0232	0.0347	0.0983	0.0843	-0.1476	0.0925
1	265.08	0.5996	0.0319	0.0023	-0.0703	0.0419	0.1996	0.1046	-0.0342	0.0935
1	265.08	0.6498	0.0557	0.0019	-0.1165	0.0478	0.2482	0.1218	-0.2309	0.0960
1	265.08	0.6998	0.0682	0.0024	-0.1748	0.0541	0.3602	0.1390	-0.2796	0.0948
1	265.08	0.7500	0.0962	0.0024	-0.2230	0.0605	0.4825	0.1546	-0.2193	0.0973
1	265.08	0.8001	0.1236	0.0033	-0.3034	0.0669	0.6216	0.1721	-0.3026	0.0973
1	265.08	0.8497	0.1441	0.0030	-0.3550	0.0733	0.7111	0.1895	-0.4689	0.0945
1	265.08	0.9102	0.1671	0.0085	-0.3802	0.0807	0.8316	0.2099	-0.7929	0.1303
1	265.08	0.9734	0.2507	0.0065	-0.3920	0.0899	0.9603	0.2350	-0.8002	0.1041
2	265.08	0.1949	-0.0749	0.0016	-0.0090	0.0007	0.0315	0.0034	0.0455	0.0291
2	265.08	0.2405	-0.0230	0.0013	-0.0078	0.0013	0.0201	0.0068	-0.2574	0.0544
2	265.08	0.2999	0.0350	0.0015	-0.0397	0.0023	0.0676	0.0118	-0.0623	0.0708
2	265.08	0.3498	0.0474	0.0013	-0.0539	0.0038	0.1444	0.0213	-0.0117	0.0609
2	265.08	0.3998	0.0799	0.0014	-0.0909	0.0060	0.1751	0.0315	-0.2454	0.0608
2	265.08	0.4496	0.1121	0.0014	-0.1408	0.0079	0.2695	0.0401	-0.2055	0.0617
2	265.08	0.4995	0.1416	0.0015	-0.1932	0.0100	0.3525	0.0494	-0.3727	0.0596
2	265.08	0.5551	0.1907	0.0016	-0.2647	0.0128	0.4488	0.0601	-0.5153	0.0597
2	265.08	0.5996	0.2153	0.0017	-0.3285	0.0151	0.5555	0.0675	-0.6239	0.0610
2	265.08	0.6497	0.2598	0.0019	-0.4015	0.0180	0.6803	0.0769	-0.5905	0.0595
2	265.08	0.6996	0.3015	0.0021	-0.4981	0.0212	0.8066	0.0852	-0.5729	0.0604
2	265.08	0.7495	0.3243	0.0023	-0.5778	0.0245	0.9568	0.0932	-0.6277	0.0608
2	265.08	0.7996	0.3708	0.0024	-0.6877	0.0281	1.0256	0.1010	-0.8515	0.0625
2	265.08	0.8578	0.3925	0.0024	-0.7934	0.0321	1.1989	0.1101	-0.6411	0.0662
2	265.08	0.9100	0.4240	0.0024	-0.8496	0.0358	1.3646	0.1188	-0.7270	0.0618
2	265.08	0.9727	0.4459	0.0035	-0.8759	0.0403	1.6465	0.1296	-0.5329	0.0645
3	265.08	0.1938	-0.0752	0.0031	-0.0299	0.0010	0.0791	0.0051	-0.1595	0.0346
3	265.08	0.2357	-0.0198	0.0015	0.0047	0.0012	0.0598	0.0067	-0.5263	0.0712
3	265.08	0.2995	0.0167	0.0013	-0.0761	0.0031	0.2216	0.0152	-0.5469	0.0876
3	265.08	0.3493	0.0465	0.0014	-0.1276	0.0056	0.3611	0.0260	-0.5467	0.0803
3	265.08	0.4000	0.0921	0.0015	-0.1782	0.0083	0.5174	0.0376	-0.5209	0.0752
3	265.08	0.4497	0.1136	0.0016	-0.2546	0.0104	0.6935	0.0466	-0.5740	0.0762
3	265.08	0.4997	0.1459	0.0019	-0.3323	0.0129	0.8776	0.0579	-0.6820	0.0788
3	265.08	0.5556	0.1824	0.0019	-0.4109	0.0156	1.1298	0.0705	-0.6935	0.0766
3	265.08	0.5995	0.2205	0.0021	-0.5079	0.0178	1.3030	0.0804	-0.7578	0.0758
3	265.08	0.6498	0.2543	0.0024	-0.6091	0.0205	1.5429	0.0911	-0.7413	0.0765
3	265.08	0.6890	0.2512	0.0025	-0.7026	0.0227	1.7179	0.0996	-0.7461	0.0759
3	265.08	0.7495	0.3034	0.0026	-0.8289	0.0263	1.9944	0.1127	-0.9156	0.0767
3	265.08	0.7998	0.3519	0.0031	-0.9397	0.0294	2.2374	0.1230	-0.9924	0.0809
3	265.08	0.8577	0.3859	0.0032	-1.0485	0.0330	2.5177	0.1349	-0.8667	0.0845
3	265.08	0.9178	0.3913	0.0034	-1.2399	0.0370	2.7886	0.1484	-1.0285	0.0799
3	265.08	0.9729	0.4399	0.0049	-1.2900	0.0404	2.9910	0.1611	-1.3877	0.0805
4	265.08	0.2001	-0.0122	0.0023	0.0178	0.0009	-0.0506	0.0037	0.1188	0.0336
4	265.08	0.2502	-0.0151	0.0017	0.0071	0.0015	-0.0105	0.0060	0.7943	0.0598
4	265.08	0.3001	0.0140	0.0012	0.0558	0.0030	-0.1115	0.0106	0.5105	0.0747
4	265.08	0.3502	0.0391	0.0013	0.0911	0.0050	-0.1714	0.0177	0.6141	0.0669
4	265.08	0.4002	0.0653	0.0017	0.1309	0.0075	-0.2176	0.0257	0.5252	0.0671
4	265.08	0.4500	0.1023	0.0019	0.1623	0.0093	-0.2768	0.0322	0.3088	0.0731
4	265.08	0.5001	0.1347	0.0017	0.1660	0.0115	-0.2577	0.0394	0.4775	0.0723
4	265.08	0.5560	0.1714	0.0017	0.1795	0.0144	-0.3162	0.0486	0.1955	0.0667
4	265.08	0.6001	0.2053	0.0016	0.1851	0.0167	-0.3243	0.0553	0.1519	0.0683
4	265.08	0.6501	0.2260	0.0019	0.1591	0.0193	-0.3408	0.0629	0.1552	0.0671
4	265.08	0.6999	0.2721	0.0019	0.1269	0.0219	-0.3736	0.0699	0.0358	0.0693
4	265.08	0.7500	0.2941	0.0021	0.1150	0.0246	-0.3439	0.0773	0.2481	0.0672
4	265.08	0.8002	0.3317	0.0021	0.0834	0.0274	-0.4291	0.0850	-0.0888	0.0711
4	265.08	0.8582	0.3796	0.0022	0.0798	0.0309	-0.4102	0.0950	-0.0502	0.0670
4	265.08	0.9101	0.4203	0.0021	0.0500	0.0342	-0.4466	0.1034	-0.1785	0.0698
4	265.08	0.9728	0.4905	0.0029	0.0669	0.0380	-0.4519	0.1166	-0.2231	0.0673

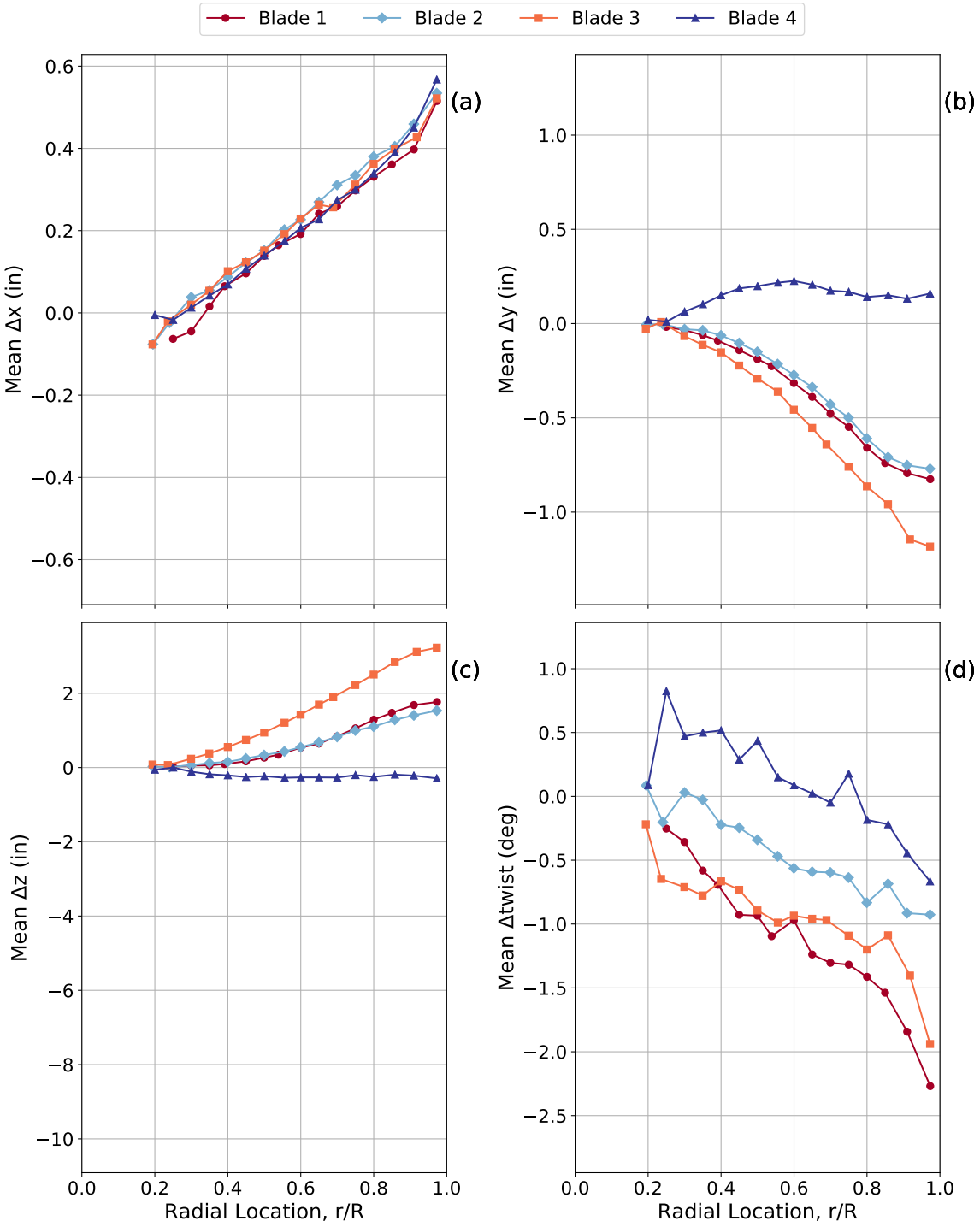


Figure 2.4-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2499	-0.0633	0.0033	-0.0177	0.0030	0.0258	0.0172	-0.2523	0.1387
1	270	0.2998	-0.0450	0.0021	-0.0345	0.0053	0.0528	0.0265	-0.3575	0.1974
1	270	0.3498	0.0158	0.0017	-0.0616	0.0108	0.0586	0.0501	-0.5810	0.1726
1	270	0.3913	0.0648	0.0016	-0.0905	0.0150	0.0939	0.0668	-0.6921	0.1751
1	270	0.4496	0.0959	0.0022	-0.1408	0.0203	0.1669	0.0890	-0.9276	0.1775
1	270	0.4997	0.1386	0.0022	-0.1881	0.0248	0.2661	0.1081	-0.9346	0.1726
1	270	0.5387	0.1646	0.0024	-0.2258	0.0285	0.3456	0.1227	-1.0950	0.1742
1	270	0.5996	0.1918	0.0028	-0.3157	0.0337	0.5338	0.1465	-0.9707	0.1741
1	270	0.6498	0.2412	0.0030	-0.3889	0.0384	0.6452	0.1668	-1.2381	0.1717
1	270	0.6998	0.2590	0.0036	-0.4779	0.0432	0.8404	0.1870	-1.3039	0.1713
1	270	0.7500	0.2978	0.0040	-0.5482	0.0479	1.0560	0.2074	-1.3181	0.1739
1	270	0.8001	0.3310	0.0043	-0.6587	0.0526	1.2880	0.2288	-1.4136	0.1750
1	270	0.8497	0.3610	0.0046	-0.7402	0.0574	1.4733	0.2498	-1.5376	0.1763
1	270	0.9102	0.3974	0.0050	-0.7931	0.0632	1.6828	0.2758	-1.8433	0.1787
1	270	0.9734	0.5152	0.0075	-0.8254	0.0702	1.7650	0.3032	-2.2692	0.1792
2	270.35	0.1949	-0.0763	0.0038	-0.0070	0.0009	0.0266	0.0048	0.0854	0.0431
2	270.35	0.2405	-0.0238	0.0028	-0.0032	0.0017	0.0143	0.0082	-0.2016	0.0744
2	270.35	0.2999	0.0384	0.0021	-0.0300	0.0031	0.0620	0.0139	0.0304	0.0984
2	270.35	0.3498	0.0547	0.0018	-0.0356	0.0055	0.1203	0.0252	-0.0272	0.0802
2	270.35	0.3998	0.0874	0.0021	-0.0630	0.0083	0.1528	0.0355	-0.2224	0.0782
2	270.35	0.4496	0.1218	0.0023	-0.1035	0.0104	0.2434	0.0434	-0.2451	0.0847
2	270.35	0.4995	0.1519	0.0021	-0.1499	0.0129	0.3354	0.0524	-0.3401	0.0809
2	270.35	0.5551	0.2023	0.0022	-0.2148	0.0156	0.4324	0.0624	-0.4695	0.0775
2	270.35	0.5996	0.2268	0.0021	-0.2726	0.0177	0.5456	0.0704	-0.5629	0.0809
2	270.35	0.6497	0.2698	0.0022	-0.3368	0.0206	0.6787	0.0808	-0.5908	0.0786
2	270.35	0.6996	0.3110	0.0022	-0.4287	0.0232	0.8243	0.0906	-0.5960	0.0806
2	270.35	0.7495	0.3341	0.0024	-0.4992	0.0261	0.9970	0.1016	-0.6361	0.0799
2	270.35	0.7996	0.3798	0.0023	-0.6098	0.0291	1.1025	0.1133	-0.8325	0.0805
2	270.35	0.8578	0.4049	0.0023	-0.7086	0.0324	1.2854	0.1275	-0.6846	0.0799
2	270.35	0.9100	0.4593	0.0022	-0.7516	0.0356	1.4053	0.1401	-0.9145	0.0779
2	270.35	0.9727	0.5343	0.0041	-0.7702	0.0396	1.5323	0.1535	-0.9265	0.0844
3	270	0.1938	-0.0766	0.0051	-0.0281	0.0013	0.0808	0.0083	-0.2186	0.0431
3	270	0.2357	-0.0205	0.0027	0.0086	0.0012	0.0661	0.0073	-0.6465	0.1115
3	270	0.2995	0.0200	0.0017	-0.0661	0.0040	0.2367	0.0224	-0.7104	0.1243
3	270	0.3493	0.0538	0.0020	-0.1127	0.0069	0.3777	0.0363	-0.7757	0.1279
3	270	0.4000	0.1013	0.0021	-0.1528	0.0103	0.5515	0.0518	-0.6652	0.1207
3	270	0.4497	0.1232	0.0018	-0.2226	0.0130	0.7432	0.0657	-0.7317	0.1245
3	270	0.4997	0.1515	0.0021	-0.2915	0.0162	0.9415	0.0798	-0.8933	0.1257
3	270	0.5556	0.1916	0.0024	-0.3616	0.0197	1.2070	0.0968	-0.9887	0.1233
3	270	0.5995	0.2293	0.0026	-0.4571	0.0225	1.4260	0.1102	-0.9347	0.1239
3	270	0.6498	0.2633	0.0029	-0.5532	0.0259	1.6939	0.1259	-0.9589	0.1215
3	270	0.6890	0.2566	0.0031	-0.6416	0.0285	1.8955	0.1378	-0.9688	0.1240
3	270	0.7495	0.3121	0.0035	-0.7594	0.0331	2.2210	0.1566	-1.0909	0.1227
3	270	0.7998	0.3624	0.0039	-0.8638	0.0369	2.5035	0.1727	-1.1995	0.1195
3	270	0.8577	0.3986	0.0042	-0.9588	0.0414	2.8424	0.1900	-1.0883	0.1205
3	270	0.9178	0.4272	0.0049	-1.1450	0.0461	3.1157	0.2094	-1.4030	0.1189
3	270	0.9729	0.5218	0.0065	-1.1828	0.0508	3.2287	0.2252	-1.9391	0.1227
4	270	0.2001	-0.0051	0.0037	0.0193	0.0013	-0.0577	0.0060	0.0882	0.0485
4	270	0.2502	-0.0171	0.0031	0.0100	0.0017	-0.0010	0.0082	0.8239	0.1050
4	270	0.3001	0.0128	0.0021	0.0633	0.0036	-0.1104	0.0165	0.4700	0.1111
4	270	0.3502	0.0423	0.0023	0.1026	0.0060	-0.1810	0.0262	0.4993	0.0986
4	270	0.4002	0.0692	0.0022	0.1501	0.0084	-0.2091	0.0377	0.5166	0.1005
4	270	0.4500	0.1074	0.0021	0.1866	0.0109	-0.2550	0.0477	0.2883	0.1043
4	270	0.5001	0.1396	0.0020	0.1985	0.0134	-0.2310	0.0571	0.4342	0.1025
4	270	0.5560	0.1751	0.0021	0.2169	0.0164	-0.2746	0.0697	0.1496	0.0989
4	270	0.6001	0.2068	0.0019	0.2260	0.0187	-0.2643	0.0790	0.0872	0.1049
4	270	0.6501	0.2276	0.0020	0.2061	0.0213	-0.2646	0.0899	0.0222	0.1029
4	270	0.6999	0.2743	0.0021	0.1747	0.0241	-0.2681	0.0999	-0.0494	0.1021
4	270	0.7500	0.2995	0.0023	0.1682	0.0269	-0.2037	0.1105	0.1778	0.1015
4	270	0.8002	0.3388	0.0022	0.1412	0.0299	-0.2506	0.1215	-0.1841	0.1018
4	270	0.8582	0.3905	0.0022	0.1504	0.0332	-0.1901	0.1335	-0.2190	0.1000
4	270	0.9101	0.4507	0.0023	0.1322	0.0365	-0.2165	0.1449	-0.4453	0.1032
4	270	0.9728	0.5675	0.0028	0.1593	0.0403	-0.2900	0.1582	-0.6656	0.1044

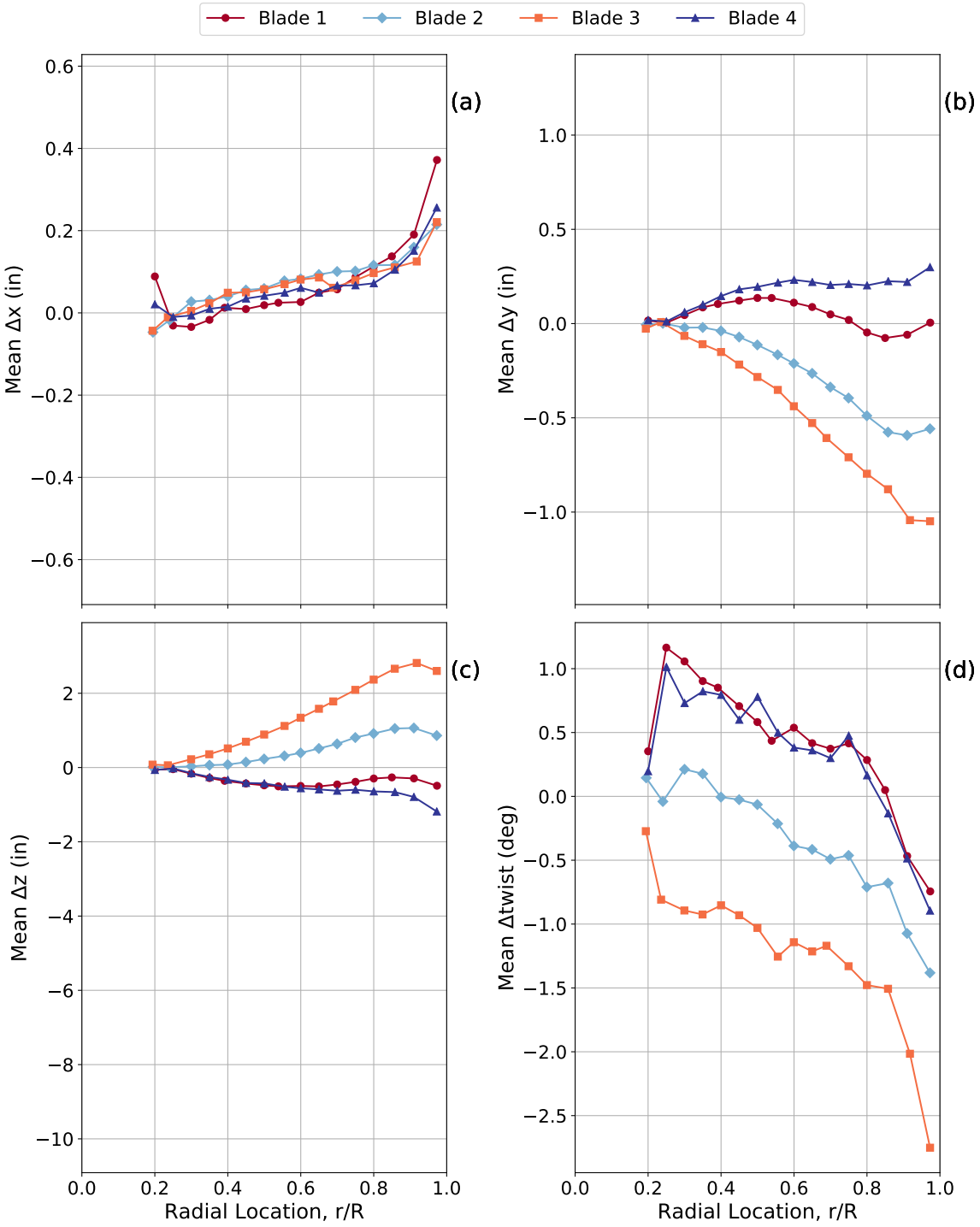


Figure 2.4-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-36. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0886	0.0045	0.0158	0.0020	-0.0595	0.0053	0.3531	0.0365
1	274.92	0.2499	-0.0308	0.0025	0.0039	0.0038	-0.0438	0.0088	1.1647	0.0602
1	274.92	0.2998	-0.0341	0.0017	0.0452	0.0069	-0.1656	0.0171	1.0570	0.0725
1	274.92	0.3498	-0.0169	0.0028	0.0858	0.0118	-0.2826	0.0266	0.9027	0.0583
1	274.92	0.3913	0.0125	0.0019	0.1040	0.0165	-0.3580	0.0372	0.8512	0.0615
1	274.92	0.4496	0.0093	0.0037	0.1219	0.0217	-0.4305	0.0480	0.7067	0.0613
1	274.92	0.4997	0.0188	0.0022	0.1359	0.0264	-0.4792	0.0581	0.5817	0.0624
1	274.92	0.5387	0.0247	0.0020	0.1358	0.0307	-0.5072	0.0674	0.4353	0.0599
1	274.92	0.5996	0.0265	0.0024	0.1110	0.0368	-0.4961	0.0796	0.5378	0.0626
1	274.92	0.6498	0.0492	0.0022	0.0879	0.0426	-0.5085	0.0899	0.4165	0.0614
1	274.92	0.6998	0.0573	0.0025	0.0487	0.0484	-0.4567	0.1006	0.3731	0.0626
1	274.92	0.7500	0.0869	0.0024	0.0191	0.0541	-0.3859	0.1105	0.4150	0.0562
1	274.92	0.8001	0.1128	0.0027	-0.0472	0.0600	-0.2959	0.1211	0.2847	0.0546
1	274.92	0.8497	0.1374	0.0029	-0.0766	0.0658	-0.2658	0.1301	0.0493	0.0633
1	274.92	0.9102	0.1904	0.0030	-0.0593	0.0732	-0.2933	0.1430	-0.4673	0.0614
1	274.92	0.9734	0.3718	0.0046	0.0050	0.0808	-0.4906	0.1562	-0.7441	0.0613
2	274.92	0.1949	-0.0470	0.0043	-0.0057	0.0012	0.0141	0.0070	0.1449	0.0566
2	274.92	0.2405	-0.0175	0.0038	0.0014	0.0025	0.0070	0.0114	-0.0402	0.0974
2	274.92	0.2999	0.0274	0.0033	-0.0217	0.0038	0.0316	0.0201	0.2116	0.1237
2	274.92	0.3498	0.0311	0.0024	-0.0207	0.0069	0.0635	0.0352	0.1771	0.1031
2	274.92	0.3998	0.0400	0.0023	-0.0390	0.0102	0.0791	0.0502	-0.0058	0.1058
2	274.92	0.4496	0.0556	0.0021	-0.0714	0.0125	0.1460	0.0603	-0.0257	0.1021
2	274.92	0.4995	0.0592	0.0024	-0.1132	0.0153	0.2300	0.0734	-0.0642	0.1067
2	274.92	0.5551	0.0779	0.0023	-0.1653	0.0182	0.3136	0.0877	-0.2138	0.1041
2	274.92	0.5996	0.0828	0.0022	-0.2117	0.0209	0.3938	0.0993	-0.3877	0.0991
2	274.92	0.6497	0.0933	0.0025	-0.2642	0.0240	0.5128	0.1125	-0.4156	0.1033
2	274.92	0.6996	0.1006	0.0026	-0.3370	0.0271	0.6362	0.1264	-0.4918	0.0977
2	274.92	0.7495	0.1017	0.0026	-0.3949	0.0303	0.8074	0.1402	-0.4625	0.1011
2	274.92	0.7996	0.1159	0.0027	-0.4892	0.0333	0.9155	0.1551	-0.7105	0.0985
2	274.92	0.8578	0.1165	0.0028	-0.5759	0.0379	1.0500	0.1707	-0.6793	0.1190
2	274.92	0.9100	0.1595	0.0030	-0.5929	0.0406	1.0642	0.1874	-1.0733	0.0963
2	274.92	0.9727	0.2148	0.0037	-0.5581	0.0451	0.8610	0.2056	-1.3820	0.1071
3	274.92	0.1938	-0.0434	0.0083	-0.0269	0.0019	0.0788	0.0142	-0.2726	0.0615
3	274.92	0.2357	-0.0106	0.0034	0.0082	0.0019	0.0603	0.0111	-0.8087	0.2063
3	274.92	0.2995	0.0048	0.0030	-0.0653	0.0057	0.2224	0.0376	-0.8936	0.2027
3	274.92	0.3493	0.0234	0.0031	-0.1094	0.0097	0.3572	0.0600	-0.9250	0.2031
3	274.92	0.4000	0.0490	0.0031	-0.1507	0.0144	0.5152	0.0858	-0.8532	0.2009
3	274.92	0.4497	0.0499	0.0029	-0.2175	0.0185	0.6947	0.1092	-0.9309	0.2052
3	274.92	0.4997	0.0573	0.0033	-0.2834	0.0229	0.8888	0.1320	-1.0301	0.2035
3	274.92	0.5556	0.0698	0.0031	-0.3519	0.0279	1.1202	0.1594	-1.2551	0.2049
3	274.92	0.5995	0.0810	0.0033	-0.4386	0.0320	1.3409	0.1815	-1.1422	0.2026
3	274.92	0.6498	0.0860	0.0035	-0.5278	0.0368	1.5818	0.2042	-1.2142	0.2080
3	274.92	0.6890	0.0611	0.0041	-0.6070	0.0409	1.7804	0.2232	-1.1698	0.2095
3	274.92	0.7495	0.0790	0.0047	-0.7095	0.0474	2.0916	0.2524	-1.3302	0.2044
3	274.92	0.7998	0.0968	0.0051	-0.7966	0.0526	2.3675	0.2762	-1.4779	0.2026
3	274.92	0.8577	0.1106	0.0057	-0.8789	0.0592	2.6608	0.3039	-1.5067	0.2064
3	274.92	0.9178	0.1249	0.0063	-1.0428	0.0663	2.8154	0.3329	-2.0154	0.2014
3	274.92	0.9729	0.2207	0.0090	-1.0486	0.0742	2.6014	0.3612	-2.7512	0.2029
4	274.92	0.2001	0.0208	0.0058	0.0180	0.0030	-0.0658	0.0150	0.1968	0.0957
4	274.92	0.2502	-0.0099	0.0092	0.0110	0.0039	-0.0236	0.0152	1.0127	0.1781
4	274.92	0.3001	-0.0064	0.0039	0.0602	0.0071	-0.1524	0.0342	0.7305	0.1831
4	274.92	0.3502	0.0099	0.0037	0.0996	0.0106	-0.2553	0.0480	0.8224	0.1763
4	274.92	0.4002	0.0151	0.0037	0.1459	0.0143	-0.3281	0.0644	0.7946	0.1772
4	274.92	0.4500	0.0348	0.0039	0.1816	0.0180	-0.4154	0.0797	0.5998	0.1797
4	274.92	0.5001	0.0416	0.0036	0.1948	0.0216	-0.4287	0.0949	0.7785	0.1791
4	274.92	0.5560	0.0491	0.0037	0.2171	0.0257	-0.5162	0.1141	0.4984	0.1763
4	274.92	0.6001	0.0609	0.0037	0.2320	0.0291	-0.5586	0.1283	0.3821	0.1827
4	274.92	0.6501	0.0492	0.0039	0.2203	0.0332	-0.5894	0.1458	0.3600	0.1799
4	274.92	0.6999	0.0665	0.0041	0.2047	0.0376	-0.6256	0.1630	0.2997	0.1784
4	274.92	0.7500	0.0670	0.0040	0.2100	0.0417	-0.5979	0.1801	0.4747	0.1764
4	274.92	0.8002	0.0720	0.0042	0.2025	0.0461	-0.6430	0.1972	0.1644	0.1818
4	274.92	0.8582	0.1049	0.0040	0.2248	0.0515	-0.6616	0.2173	-0.1334	0.1804
4	274.92	0.9101	0.1511	0.0042	0.2207	0.0564	-0.7928	0.2350	-0.4866	0.1811
4	274.92	0.9728	0.2560	0.0052	0.2989	0.0627	-1.1846	0.2571	-0.8950	0.1799

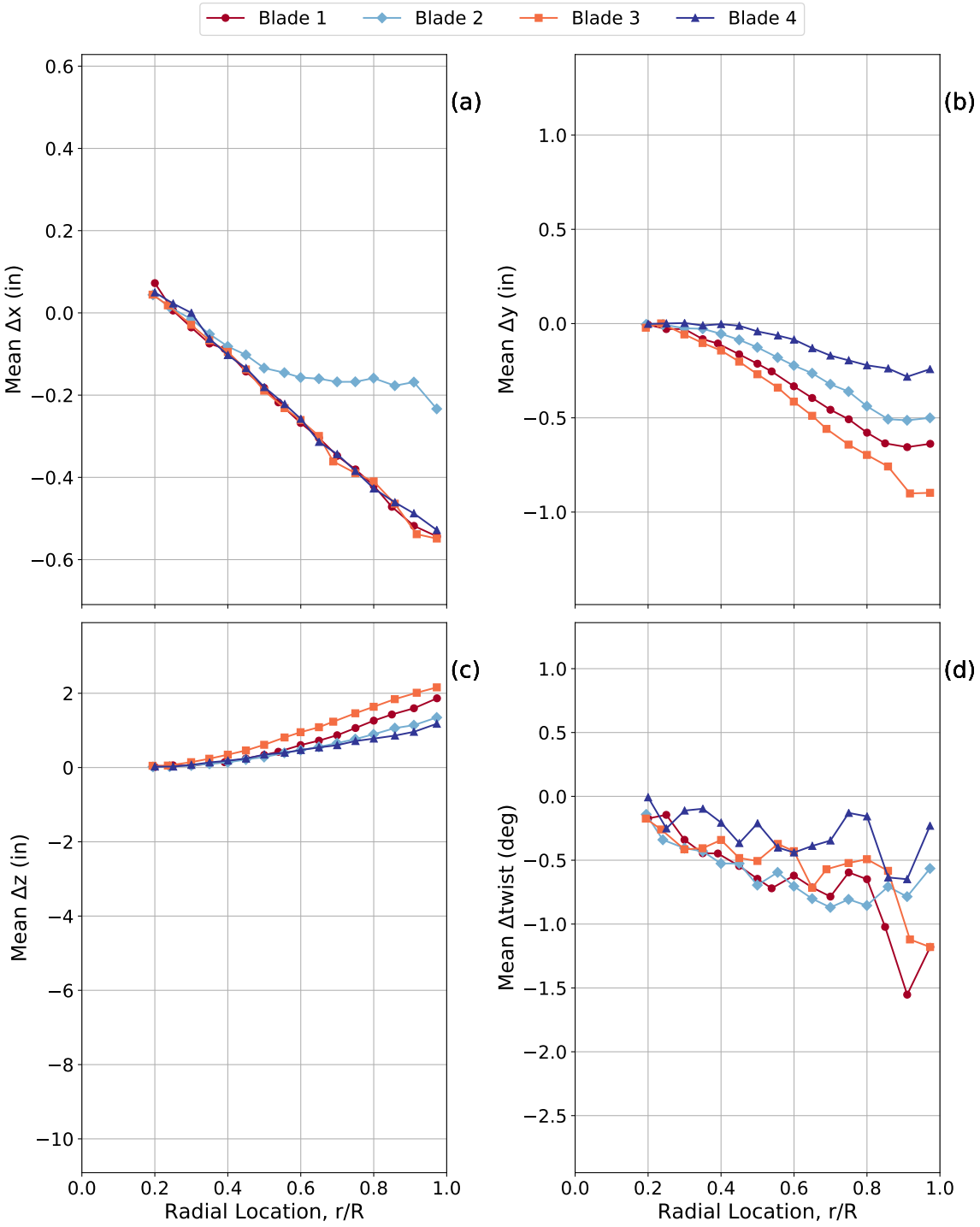


Figure 2.4-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0724	0.0018	-0.0062	0.0009	0.0141	0.0046	-0.1729	0.0453
1	279.84	0.2499	0.0057	0.0015	-0.0291	0.0031	0.0597	0.0201	-0.1449	0.0318
1	279.84	0.2998	-0.0353	0.0023	-0.0289	0.0053	0.0483	0.0255	-0.3401	0.0829
1	279.84	0.3498	-0.0746	0.0020	-0.0826	0.0074	0.1040	0.0419	-0.4454	0.0991
1	279.84	0.3913	-0.0873	0.0028	-0.1058	0.0126	0.1427	0.0675	-0.4472	0.0427
1	279.84	0.4496	-0.1426	0.0027	-0.1630	0.0137	0.2439	0.0713	-0.5448	0.0681
1	279.84	0.4997	-0.1823	0.0023	-0.2129	0.0175	0.3387	0.0856	-0.6457	0.0624
1	279.84	0.5387	-0.2176	0.0026	-0.2538	0.0188	0.4244	0.1039	-0.7201	0.0411
1	279.84	0.5996	-0.2676	0.0046	-0.3326	0.0237	0.6044	0.1179	-0.6205	0.0542
1	279.84	0.6498	-0.3040	0.0028	-0.3948	0.0269	0.7244	0.1280	-0.7135	0.0867
1	279.84	0.6998	-0.3477	0.0039	-0.4572	0.0307	0.8697	0.1472	-0.7847	0.0682
1	279.84	0.7500	-0.3806	0.0046	-0.5077	0.0327	1.0641	0.1589	-0.5956	0.0613
1	279.84	0.8001	-0.4203	0.0036	-0.5788	0.0369	1.2626	0.1730	-0.6492	0.0785
1	279.84	0.8497	-0.4715	0.0037	-0.6354	0.0408	1.4284	0.1899	-1.0222	0.0751
1	279.84	0.9102	-0.5179	0.0044	-0.6554	0.0459	1.5956	0.2095	-1.5529	0.0792
1	279.84	0.9734	-0.5437	0.0057	-0.6378	0.0505	1.8641	0.2272	-1.1792	0.0757
2	279.84	0.1949	0.0439	0.0011	-0.0039	0.0005	0.0179	0.0028	-0.1409	0.0436
2	279.84	0.2405	0.0145	0.0018	-0.0051	0.0015	0.0260	0.0066	-0.3401	0.0532
2	279.84	0.2999	-0.0153	0.0015	-0.0249	0.0021	0.0552	0.0131	-0.4059	0.0952
2	279.84	0.3498	-0.0515	0.0030	-0.0277	0.0049	0.0993	0.0178	-0.4302	0.0533
2	279.84	0.3998	-0.0815	0.0022	-0.0544	0.0066	0.1404	0.0293	-0.5259	0.0620
2	279.84	0.4496	-0.1021	0.0033	-0.0861	0.0079	0.2151	0.0352	-0.5256	0.0662
2	279.84	0.4995	-0.1342	0.0034	-0.1261	0.0094	0.2816	0.0427	-0.6949	0.0504
2	279.84	0.5551	-0.1454	0.0022	-0.1800	0.0127	0.3932	0.0547	-0.5951	0.0600
2	279.84	0.5996	-0.1572	0.0024	-0.2225	0.0143	0.4687	0.0605	-0.7042	0.0461
2	279.84	0.6497	-0.1600	0.0019	-0.2634	0.0162	0.5564	0.0715	-0.8012	0.0601
2	279.84	0.6996	-0.1677	0.0021	-0.3220	0.0191	0.6578	0.0816	-0.8698	0.0724
2	279.84	0.7495	-0.1676	0.0025	-0.3604	0.0216	0.7666	0.0896	-0.8065	0.0809
2	279.84	0.7996	-0.1587	0.0027	-0.4383	0.0240	0.8947	0.0996	-0.8547	0.0672
2	279.84	0.8578	-0.1770	0.0031	-0.5071	0.0271	1.0622	0.1074	-0.7072	0.0963
2	279.84	0.9100	-0.1683	0.0031	-0.5131	0.0302	1.1400	0.1193	-0.7852	0.1003
2	279.84	0.9727	-0.2334	0.0038	-0.5004	0.0336	1.3478	0.1309	-0.5649	0.0649
3	279.84	0.1938	0.0444	0.0039	-0.0218	0.0009	0.0475	0.0035	-0.1739	0.0604
3	279.84	0.2357	0.0184	0.0032	0.0010	0.0039	0.0535	0.0149	-0.2590	0.0364
3	279.84	0.2995	-0.0290	0.0018	-0.0576	0.0080	0.1446	0.0168	-0.4146	0.1083
3	279.84	0.3493	-0.0667	0.0024	-0.1030	0.0104	0.2374	0.0265	-0.4064	0.1105
3	279.84	0.4000	-0.0948	0.0021	-0.1429	0.0202	0.3465	0.0450	-0.3414	0.0858
3	279.84	0.4497	-0.1375	0.0032	-0.2019	0.0247	0.4598	0.0577	-0.4830	0.0935
3	279.84	0.4997	-0.1892	0.0030	-0.2689	0.0279	0.6125	0.0671	-0.5059	0.0973
3	279.84	0.5556	-0.2316	0.0032	-0.3398	0.0361	0.8099	0.0880	-0.3723	0.0873
3	279.84	0.5995	-0.2605	0.0036	-0.4140	0.0396	0.9513	0.0964	-0.4292	0.0898
3	279.84	0.6498	-0.2993	0.0046	-0.4892	0.0459	1.0856	0.1124	-0.7162	0.0813
3	279.84	0.6890	-0.3612	0.0042	-0.5587	0.0494	1.2345	0.1208	-0.5708	0.0726
3	279.84	0.7495	-0.3896	0.0037	-0.6421	0.0572	1.4614	0.1368	-0.5220	0.0707
3	279.84	0.7998	-0.4097	0.0045	-0.6968	0.0615	1.6363	0.1450	-0.4920	0.0914
3	279.84	0.8577	-0.4640	0.0040	-0.7581	0.0676	1.8414	0.1623	-0.5832	0.0727
3	279.84	0.9178	-0.5382	0.0049	-0.9011	0.0746	2.0140	0.1812	-1.1206	0.0716
3	279.84	0.9729	-0.5488	0.0078	-0.8979	0.0821	2.1590	0.1921	-1.1798	0.1155
4	279.84	0.2001	0.0497	0.0037	-0.0016	0.0010	0.0256	0.0033	-0.0076	0.0416
4	279.84	0.2502	0.0227	0.0018	0.0004	0.0038	0.0250	0.0106	-0.2513	0.0690
4	279.84	0.3001	0.0001	0.0017	0.0029	0.0055	0.0711	0.0188	-0.1114	0.0943
4	279.84	0.3502	-0.0630	0.0060	-0.0100	0.0102	0.1376	0.0202	-0.0969	0.0556
4	279.84	0.4002	-0.1026	0.0039	-0.0030	0.0160	0.1857	0.0407	-0.2062	0.1056
4	279.84	0.4500	-0.1345	0.0054	-0.0116	0.0220	0.2408	0.0426	-0.3657	0.0985
4	279.84	0.5001	-0.1805	0.0061	-0.0417	0.0269	0.3494	0.0493	-0.2109	0.0673
4	279.84	0.5560	-0.2219	0.0033	-0.0635	0.0313	0.3978	0.0624	-0.4013	0.0827
4	279.84	0.6001	-0.2577	0.0044	-0.0850	0.0345	0.4714	0.0666	-0.4395	0.0664
4	279.84	0.6501	-0.3138	0.0029	-0.1305	0.0399	0.5409	0.0777	-0.3881	0.0628
4	279.84	0.6999	-0.3435	0.0035	-0.1698	0.0449	0.6014	0.0900	-0.3459	0.0902
4	279.84	0.7500	-0.3845	0.0034	-0.1953	0.0493	0.7136	0.1031	-0.1296	0.0855
4	279.84	0.8002	-0.4271	0.0032	-0.2214	0.0537	0.7795	0.1150	-0.1568	0.0843
4	279.84	0.8582	-0.4609	0.0039	-0.2381	0.0585	0.8599	0.1317	-0.6351	0.0698
4	279.84	0.9101	-0.4876	0.0041	-0.2820	0.0644	0.9613	0.1438	-0.6488	0.0802
4	279.84	0.9728	-0.5279	0.0046	-0.2418	0.0705	1.1781	0.1648	-0.2304	0.0868

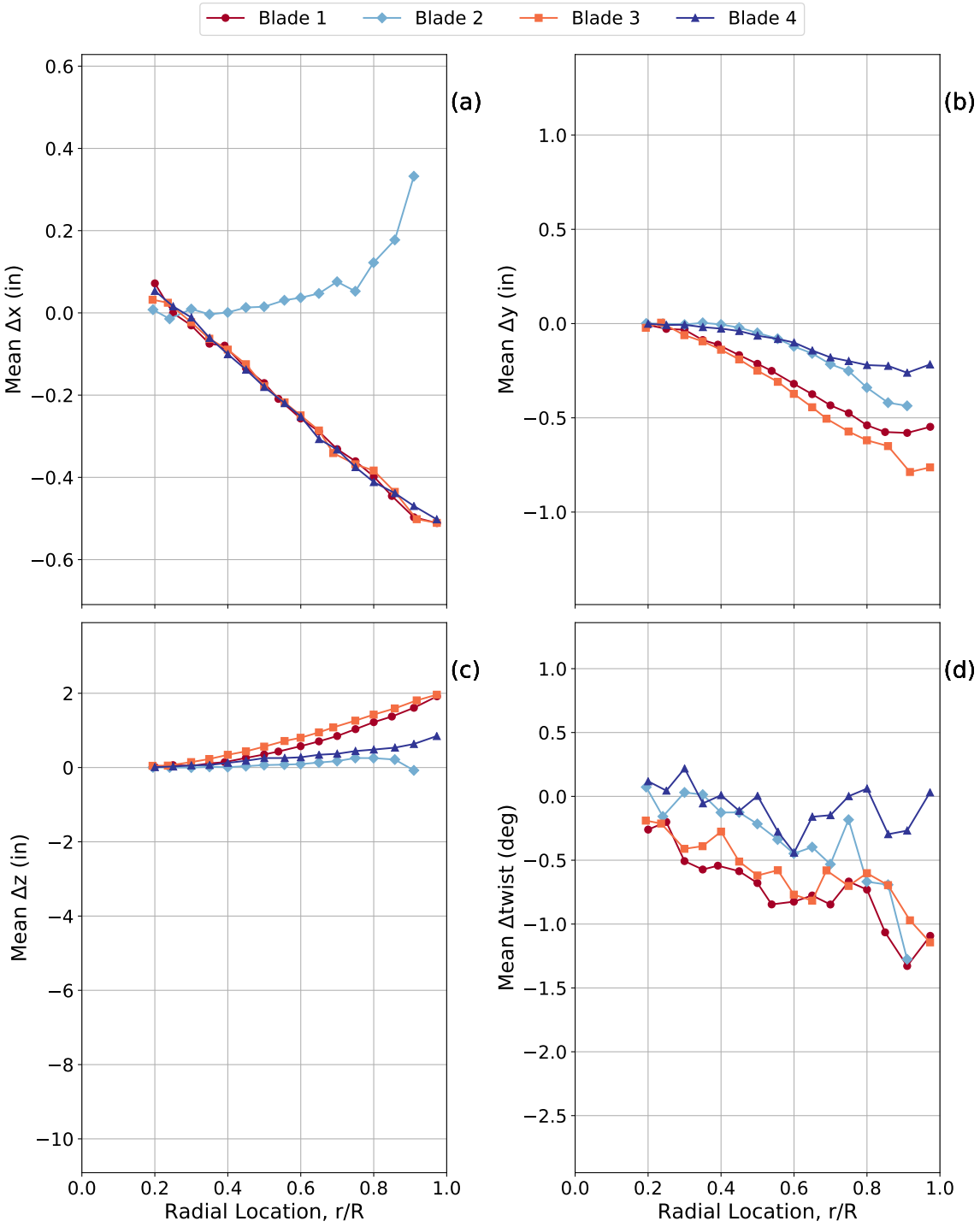


Figure 2.4-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0718	0.0019	-0.0075	0.0009	0.0149	0.0058	-0.2603	0.0452
1	285.12	0.2499	-0.0005	0.0017	-0.0281	0.0045	0.0642	0.0096	-0.2000	0.0467
1	285.12	0.2998	-0.0304	0.0023	-0.0326	0.0058	0.0466	0.0178	-0.5069	0.0812
1	285.12	0.3498	-0.0750	0.0024	-0.0872	0.0104	0.1100	0.0281	-0.5729	0.0686
1	285.12	0.3913	-0.0796	0.0033	-0.1117	0.0162	0.1453	0.0387	-0.5428	0.0834
1	285.12	0.4496	-0.1340	0.0057	-0.1675	0.0183	0.2584	0.0403	-0.5860	0.0876
1	285.12	0.4997	-0.1706	0.0035	-0.2134	0.0214	0.3520	0.0518	-0.6788	0.0745
1	285.12	0.5387	-0.2091	0.0028	-0.2510	0.0246	0.4311	0.0532	-0.8460	0.0473
1	285.12	0.5996	-0.2568	0.0032	-0.3196	0.0289	0.5748	0.0693	-0.8246	0.1258
1	285.12	0.6498	-0.2884	0.0030	-0.3745	0.0329	0.7044	0.0754	-0.7762	0.0846
1	285.12	0.6998	-0.3313	0.0040	-0.4337	0.0365	0.8483	0.0837	-0.8468	0.0612
1	285.12	0.7500	-0.3608	0.0044	-0.4751	0.0412	1.0337	0.0947	-0.6670	0.0529
1	285.12	0.8001	-0.3979	0.0042	-0.5396	0.0450	1.2218	0.1037	-0.7303	0.0603
1	285.12	0.8497	-0.4452	0.0039	-0.5754	0.0492	1.3732	0.1130	-1.0649	0.0764
1	285.12	0.9102	-0.4970	0.0040	-0.5800	0.0540	1.6087	0.1241	-1.3283	0.0613
1	285.12	0.9734	-0.5110	0.0048	-0.5478	0.0595	1.9177	0.1364	-1.0923	0.0878
2	285.12	0.1949	0.0078	0.0134	0.0008	0.0057	0.0031	0.0227	0.0725	0.1470
2	285.12	0.2405	-0.0145	0.0118	-0.0007	0.0076	0.0019	0.0257	-0.1572	0.3121
2	285.12	0.2999	0.0094	0.0095	-0.0054	0.0135	-0.0012	0.0517	0.0306	0.3377
2	285.12	0.3498	-0.0035	0.0061	0.0041	0.0251	0.0174	0.0898	0.0138	0.3024
2	285.12	0.3998	0.0011	0.0063	-0.0048	0.0335	0.0097	0.1186	-0.1264	0.2991
2	285.12	0.4496	0.0131	0.0062	-0.0213	0.0419	0.0368	0.1475	-0.1256	0.3007
2	285.12	0.4995	0.0150	0.0065	-0.0491	0.0505	0.0660	0.1757	-0.2158	0.3103
2	285.12	0.5551	0.0307	0.0068	-0.0803	0.0606	0.0785	0.2111	-0.3380	0.2989
2	285.12	0.5996	0.0369	0.0064	-0.1212	0.0681	0.0915	0.2360	-0.4478	0.3029
2	285.12	0.6497	0.0472	0.0063	-0.1583	0.0762	0.1355	0.2640	-0.3973	0.3098
2	285.12	0.6996	0.0758	0.0064	-0.2155	0.0850	0.1730	0.2943	-0.5314	0.3074
2	285.12	0.7495	0.0526	0.0068	-0.2510	0.0933	0.2555	0.3248	-0.1828	0.3048
2	285.12	0.7996	0.1222	0.0077	-0.3395	0.1019	0.2537	0.3561	-0.6683	0.3077
2	285.12	0.8578	0.1774	0.0067	-0.4197	0.1118	0.2150	0.3908	-0.6920	0.3122
2	285.12	0.9100	0.3323	0.0075	-0.4364	0.1213	-0.0762	0.4248	-1.2757	0.3010
3	285.12	0.1938	0.0320	0.0022	-0.0223	0.0009	0.0464	0.0036	-0.1897	0.0477
3	285.12	0.2357	0.0247	0.0014	0.0048	0.0030	0.0521	0.0136	-0.2128	0.0468
3	285.12	0.2995	-0.0228	0.0021	-0.0616	0.0048	0.1460	0.0190	-0.4107	0.0969
3	285.12	0.3493	-0.0628	0.0014	-0.0941	0.0078	0.2295	0.0326	-0.3901	0.0834
3	285.12	0.4000	-0.0893	0.0039	-0.1387	0.0130	0.3426	0.0524	-0.2761	0.0513
3	285.12	0.4497	-0.1248	0.0033	-0.1901	0.0157	0.4354	0.0544	-0.5106	0.1073
3	285.12	0.4997	-0.1784	0.0026	-0.2498	0.0192	0.5633	0.0718	-0.6197	0.0653
3	285.12	0.5556	-0.2175	0.0026	-0.3089	0.0223	0.7144	0.0837	-0.5784	0.0700
3	285.12	0.5995	-0.2492	0.0024	-0.3729	0.0258	0.8019	0.0929	-0.7694	0.1097
3	285.12	0.6498	-0.2860	0.0032	-0.4439	0.0282	0.9471	0.1086	-0.8166	0.0661
3	285.12	0.6890	-0.3409	0.0029	-0.5046	0.0321	1.0806	0.1195	-0.5797	0.0598
3	285.12	0.7495	-0.3682	0.0037	-0.5727	0.0360	1.2624	0.1325	-0.7013	0.0692
3	285.12	0.7998	-0.3834	0.0041	-0.6193	0.0398	1.4251	0.1427	-0.6015	0.0956
3	285.12	0.8577	-0.4352	0.0041	-0.6499	0.0442	1.5917	0.1585	-0.6953	0.0651
3	285.12	0.9178	-0.5016	0.0047	-0.7874	0.0493	1.8075	0.1712	-0.9709	0.0785
3	285.12	0.9729	-0.5106	0.0061	-0.7627	0.0538	1.9615	0.1838	-1.1433	0.0959
4	285.12	0.2001	0.0534	0.0016	-0.0010	0.0007	0.0112	0.0050	0.1180	0.0538
4	285.12	0.2502	0.0158	0.0022	-0.0076	0.0037	0.0272	0.0087	0.0447	0.0858
4	285.12	0.3001	-0.0112	0.0013	-0.0063	0.0048	0.0571	0.0186	0.2182	0.1183
4	285.12	0.3502	-0.0609	0.0020	-0.0188	0.0074	0.0681	0.0252	-0.0548	0.0690
4	285.12	0.4002	-0.1005	0.0021	-0.0268	0.0129	0.1267	0.0383	0.0092	0.0880
4	285.12	0.4500	-0.1382	0.0036	-0.0395	0.0155	0.1818	0.0412	-0.1136	0.0736
4	285.12	0.5001	-0.1802	0.0021	-0.0641	0.0184	0.2548	0.0544	0.0037	0.0892
4	285.12	0.5560	-0.2196	0.0024	-0.0818	0.0229	0.2563	0.0674	-0.2773	0.0528
4	285.12	0.6001	-0.2521	0.0023	-0.1005	0.0260	0.2764	0.0771	-0.4411	0.1236
4	285.12	0.6501	-0.3069	0.0025	-0.1428	0.0294	0.3441	0.0867	-0.1597	0.1022
4	285.12	0.6999	-0.3323	0.0033	-0.1795	0.0322	0.3698	0.1009	-0.1475	0.0730
4	285.12	0.7500	-0.3751	0.0023	-0.1990	0.0360	0.4436	0.1128	0.0014	0.0765
4	285.12	0.8002	-0.4115	0.0028	-0.2202	0.0397	0.4835	0.1272	0.0610	0.0612
4	285.12	0.8582	-0.4384	0.0025	-0.2245	0.0439	0.5352	0.1441	-0.2962	0.0784
4	285.12	0.9101	-0.4696	0.0030	-0.2608	0.0480	0.6337	0.1596	-0.2684	0.0749
4	285.12	0.9728	-0.5021	0.0044	-0.2169	0.0531	0.8477	0.1762	0.0312	0.0914

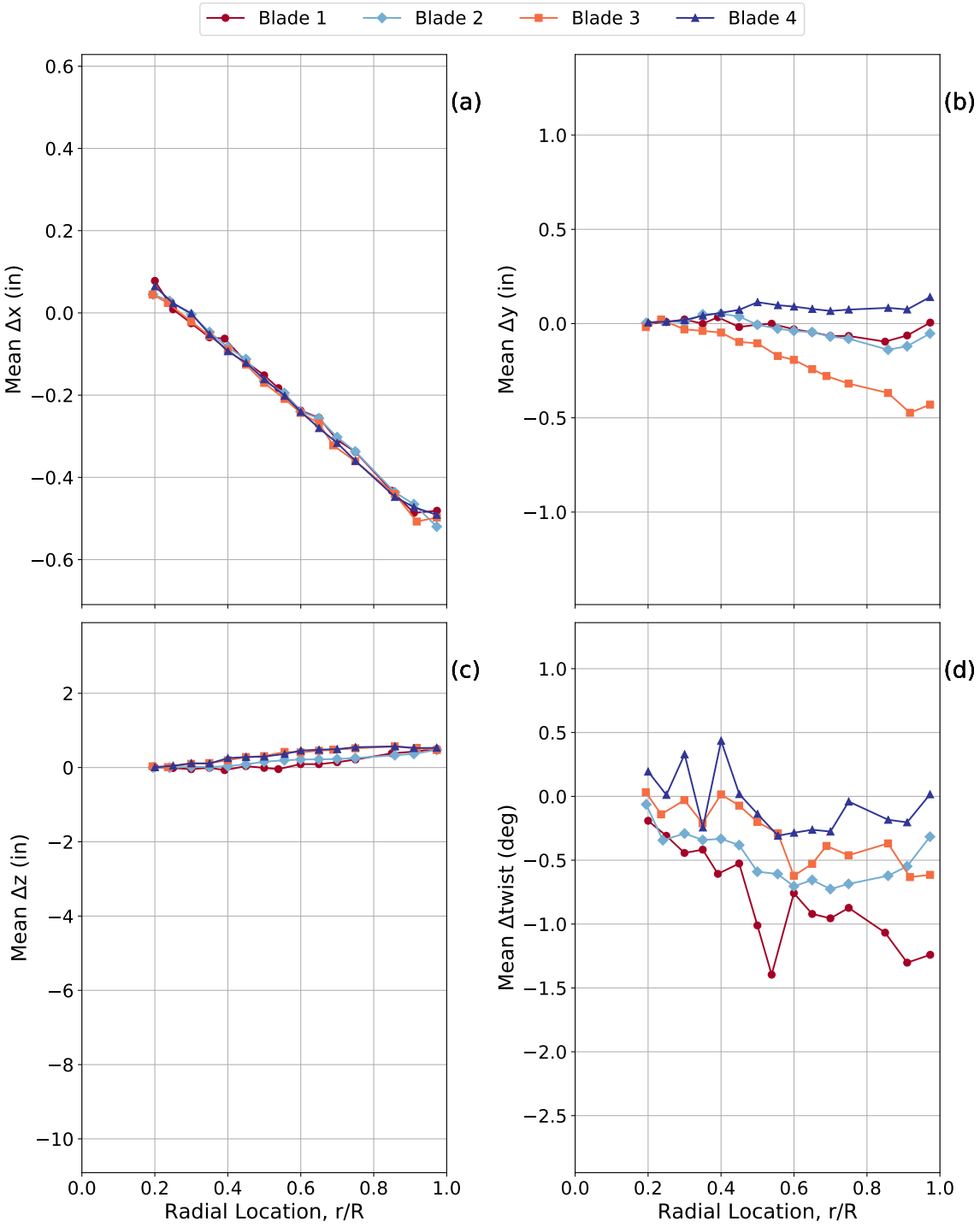


Figure 2.4-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -0° NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0779	0.0019	-0.0010	0.0012	0.0001	0.0061	-0.1911	0.0392
1	299.88	0.2499	0.0087	0.0016	0.0078	0.0049	-0.0139	0.0193	-0.3086	0.0358
1	299.88	0.2998	-0.0253	0.0015	0.0219	0.0083	-0.0439	0.0286	-0.4431	0.0747
1	299.88	0.3498	-0.0595	0.0019	-0.0007	0.0131	-0.0071	0.0432	-0.4173	0.0836
1	299.88	0.3913	-0.0626	0.0031	0.0337	0.0215	-0.0701	0.0687	-0.6070	0.0617
1	299.88	0.4496	-0.1186	0.0034	-0.0182	0.0230	0.0372	0.0725	-0.5258	0.0650
1	299.88	0.4997	-0.1518	0.0022	-0.0057	0.0269	-0.0091	0.0897	-1.0108	0.0582
1	299.88	0.5387	-0.1829	0.0036	-0.0006	0.0298	-0.0428	0.0994	-1.3963	0.0625
1	299.88	0.5996	-0.2375	0.0030	-0.0305	0.0345	0.0919	0.1148	-0.7581	0.0666
1	299.88	0.6498	-0.2550	0.0030	-0.0456	0.0387	0.0909	0.1266	-0.9208	0.0643
1	299.88	0.6998	-0.3087	0.0038	-0.0659	0.0438	0.1429	0.1433	-0.9550	0.0646
1	299.88	0.7500	-0.3383	0.0037	-0.0657	0.0481	0.2149	0.1581	-0.8732	0.0659
1	299.88	0.8497	-0.4327	0.0034	-0.0958	0.0569	0.3824	0.1893	-1.0673	0.0530
1	299.88	0.9102	-0.4865	0.0037	-0.0631	0.0627	0.4289	0.2102	-1.3023	0.0488
1	299.88	0.9734	-0.4811	0.0052	0.0053	0.0688	0.5021	0.2346	-1.2406	0.0499
2	299.88	0.1949	0.0449	0.0035	0.0035	0.0010	0.0016	0.0041	-0.0631	0.0497
2	299.88	0.2405	0.0290	0.0025	0.0140	0.0025	-0.0042	0.0102	-0.3436	0.0602
2	299.88	0.2999	-0.0038	0.0023	0.0069	0.0040	0.0195	0.0169	-0.2910	0.1067
2	299.88	0.3498	-0.0466	0.0037	0.0489	0.0085	0.0152	0.0297	-0.3416	0.0847
2	299.88	0.3998	-0.0833	0.0028	0.0523	0.0122	0.0390	0.0449	-0.3327	0.1025
2	299.88	0.4496	-0.1123	0.0030	0.0374	0.0145	0.0854	0.0538	-0.3813	0.1195
2	299.88	0.4995	-0.1661	0.0025	-0.0062	0.0161	0.1555	0.0648	-0.5902	0.0802
2	299.88	0.5551	-0.1947	0.0034	-0.0269	0.0199	0.1949	0.0797	-0.6078	0.0730
2	299.88	0.5996	-0.2402	0.0030	-0.0387	0.0219	0.2160	0.0908	-0.7045	0.0940
2	299.88	0.6497	-0.2563	0.0028	-0.0455	0.0262	0.2209	0.1072	-0.6549	0.0916
2	299.88	0.6996	-0.3022	0.0032	-0.0689	0.0299	0.2295	0.1259	-0.7259	0.0815
2	299.88	0.7495	-0.3370	0.0033	-0.0802	0.0342	0.2547	0.1451	-0.6856	0.0727
2	299.88	0.8578	-0.4362	0.0036	-0.1385	0.0428	0.3320	0.1858	-0.6216	0.0739
2	299.88	0.9100	-0.4652	0.0036	-0.1202	0.0470	0.3671	0.2072	-0.5477	0.0752
2	299.88	0.9727	-0.5197	0.0050	-0.0526	0.0522	0.4776	0.2361	-0.3160	0.0801
3	299.88	0.1938	0.0444	0.0029	-0.0184	0.0010	0.0333	0.0073	0.0322	0.0586
3	299.88	0.2357	0.0242	0.0026	0.0214	0.0024	0.0092	0.0126	-0.1409	0.1274
3	299.88	0.2995	-0.0211	0.0027	-0.0306	0.0040	0.0992	0.0276	-0.0295	0.1584
3	299.88	0.3493	-0.0558	0.0018	-0.0388	0.0060	0.1210	0.0461	-0.2107	0.1016
3	299.88	0.4000	-0.0891	0.0031	-0.0476	0.0101	0.1955	0.0708	0.0153	0.0676
3	299.88	0.4497	-0.1256	0.0032	-0.0973	0.0119	0.2823	0.0787	-0.0723	0.1110
3	299.88	0.4997	-0.1703	0.0044	-0.1044	0.0149	0.3075	0.1001	-0.2002	0.0807
3	299.88	0.5556	-0.2092	0.0028	-0.1718	0.0181	0.4208	0.1151	-0.2887	0.0938
3	299.88	0.5995	-0.2431	0.0040	-0.1925	0.0196	0.4085	0.1308	-0.6217	0.1213
3	299.88	0.6498	-0.2686	0.0030	-0.2419	0.0233	0.4525	0.1573	-0.5282	0.0777
3	299.88	0.6890	-0.3222	0.0033	-0.2781	0.0253	0.4804	0.1683	-0.3881	0.1055
3	299.88	0.7495	-0.3607	0.0031	-0.3183	0.0294	0.5163	0.1968	-0.4614	0.1016
3	299.88	0.8577	-0.4403	0.0034	-0.3681	0.0357	0.5704	0.2483	-0.3684	0.0837
3	299.88	0.9178	-0.5074	0.0033	-0.4735	0.0395	0.5292	0.2778	-0.6320	0.0861
3	299.88	0.9729	-0.4976	0.0044	-0.4298	0.0430	0.4709	0.3088	-0.6144	0.0845
4	299.88	0.2001	0.0645	0.0026	0.0059	0.0008	0.0089	0.0039	0.1942	0.0266
4	299.88	0.2502	0.0235	0.0024	0.0101	0.0055	0.0485	0.0172	0.0115	0.0501
4	299.88	0.3001	-0.0014	0.0024	0.0184	0.0056	0.1153	0.0246	0.3293	0.0552
4	299.88	0.3502	-0.0522	0.0016	0.0422	0.0096	0.1082	0.0327	-0.2437	0.0591
4	299.88	0.4002	-0.0932	0.0033	0.0571	0.0173	0.2541	0.0605	0.4353	0.0989
4	299.88	0.4500	-0.1214	0.0035	0.0731	0.0180	0.2827	0.0622	0.0177	0.0553
4	299.88	0.5001	-0.1614	0.0029	0.1135	0.0239	0.2942	0.0773	-0.1377	0.0662
4	299.88	0.5560	-0.2016	0.0038	0.0975	0.0312	0.3674	0.0999	-0.3081	0.0662
4	299.88	0.6001	-0.2407	0.0038	0.0901	0.0366	0.4574	0.1158	-0.2849	0.0616
4	299.88	0.6501	-0.2802	0.0043	0.0776	0.0418	0.4792	0.1377	-0.2615	0.0548
4	299.88	0.6999	-0.3163	0.0050	0.0670	0.0474	0.4950	0.1573	-0.2756	0.0567
4	299.88	0.7500	-0.3599	0.0042	0.0743	0.0516	0.5482	0.1745	-0.0407	0.0632
4	299.88	0.8582	-0.4474	0.0042	0.0834	0.0644	0.5679	0.2245	-0.1834	0.0553
4	299.88	0.9101	-0.4724	0.0045	0.0748	0.0703	0.5244	0.2495	-0.2033	0.0544
4	299.88	0.9728	-0.4910	0.0067	0.1406	0.0773	0.5298	0.2837	0.0159	0.0612

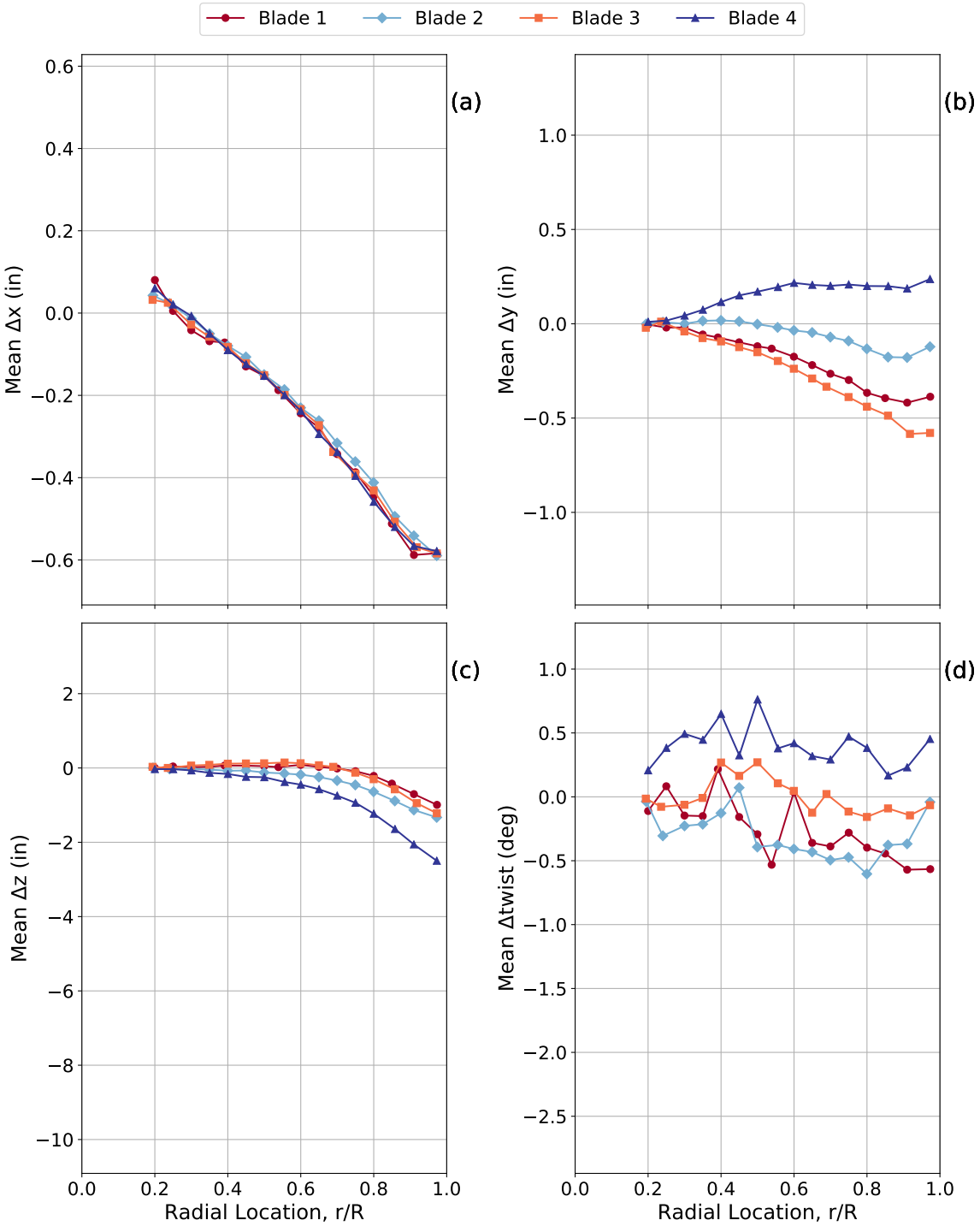


Figure 2.4-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0803	0.0022	-0.0043	0.0010	0.0015	0.0054	-0.1108	0.0303
1	315	0.2499	0.0053	0.0021	-0.0201	0.0019	0.0401	0.0129	0.0828	0.0800
1	315	0.2998	-0.0416	0.0020	-0.0197	0.0040	0.0210	0.0233	-0.1466	0.0786
1	315	0.3498	-0.0684	0.0020	-0.0569	0.0079	0.0331	0.0353	-0.1509	0.0828
1	315	0.3913	-0.0715	0.0026	-0.0726	0.0107	0.0652	0.0548	0.2169	0.0744
1	315	0.4496	-0.1297	0.0020	-0.0983	0.0123	0.0622	0.0598	-0.1579	0.0892
1	315	0.4997	-0.1528	0.0026	-0.1192	0.0158	0.0486	0.0752	-0.2928	0.0818
1	315	0.5387	-0.1873	0.0033	-0.1319	0.0189	0.0235	0.0867	-0.5316	0.0647
1	315	0.5996	-0.2437	0.0022	-0.1746	0.0230	0.0840	0.1030	0.0362	0.0720
1	315	0.6498	-0.2788	0.0020	-0.2191	0.0256	0.0285	0.1152	-0.3605	0.0828
1	315	0.6998	-0.3427	0.0028	-0.2650	0.0283	-0.0130	0.1328	-0.3881	0.0801
1	315	0.7500	-0.3868	0.0027	-0.2982	0.0322	-0.0866	0.1478	-0.2806	0.0801
1	315	0.8001	-0.4448	0.0030	-0.3661	0.0357	-0.2136	0.1647	-0.3977	0.0824
1	315	0.8497	-0.5119	0.0027	-0.3943	0.0394	-0.4207	0.1826	-0.4438	0.0833
1	315	0.9102	-0.5879	0.0027	-0.4182	0.0439	-0.7038	0.2055	-0.5702	0.0786
1	315	0.9734	-0.5836	0.0035	-0.3869	0.0484	-0.9923	0.2287	-0.5658	0.0737
2	315	0.1949	0.0428	0.0014	-0.0009	0.0005	-0.0002	0.0053	-0.0368	0.0277
2	315	0.2405	0.0233	0.0027	0.0086	0.0021	-0.0264	0.0062	-0.3052	0.0599
2	315	0.2999	-0.0131	0.0026	0.0001	0.0053	-0.0220	0.0148	-0.2273	0.0646
2	315	0.3498	-0.0500	0.0026	0.0154	0.0056	-0.0434	0.0286	-0.2141	0.0323
2	315	0.3998	-0.0795	0.0049	0.0179	0.0113	-0.0744	0.0388	-0.1276	0.0553
2	315	0.4496	-0.1066	0.0023	0.0128	0.0127	-0.0683	0.0443	0.0717	0.0709
2	315	0.4995	-0.1496	0.0029	-0.0022	0.0151	-0.1208	0.0516	-0.3928	0.0550
2	315	0.5551	-0.1859	0.0024	-0.0193	0.0175	-0.1492	0.0641	-0.3766	0.0607
2	315	0.5996	-0.2301	0.0027	-0.0353	0.0202	-0.1793	0.0703	-0.4084	0.0513
2	315	0.6497	-0.2615	0.0038	-0.0464	0.0226	-0.2438	0.0793	-0.4315	0.0575
2	315	0.6996	-0.3159	0.0033	-0.0705	0.0259	-0.3388	0.0922	-0.4949	0.0415
2	315	0.7495	-0.3612	0.0026	-0.0911	0.0292	-0.4565	0.1035	-0.4732	0.0501
2	315	0.7996	-0.4120	0.0028	-0.1329	0.0318	-0.6392	0.1129	-0.6035	0.0441
2	315	0.8578	-0.4942	0.0032	-0.1767	0.0356	-0.8872	0.1227	-0.3779	0.0371
2	315	0.9100	-0.5413	0.0032	-0.1789	0.0386	-1.1305	0.1320	-0.3680	0.0361
2	315	0.9727	-0.5897	0.0043	-0.1216	0.0426	-1.3300	0.1417	-0.0404	0.0365
3	315	0.1938	0.0322	0.0013	-0.0212	0.0007	0.0308	0.0044	-0.0142	0.0366
3	315	0.2357	0.0251	0.0025	0.0112	0.0035	0.0009	0.0078	-0.0780	0.0367
3	315	0.2995	-0.0278	0.0027	-0.0407	0.0069	0.0649	0.0147	-0.0622	0.0700
3	315	0.3493	-0.0575	0.0032	-0.0758	0.0084	0.0841	0.0253	-0.0088	0.0477
3	315	0.4000	-0.0823	0.0041	-0.0935	0.0172	0.1155	0.0374	0.2686	0.0822
3	315	0.4497	-0.1219	0.0027	-0.1239	0.0172	0.1214	0.0462	0.1640	0.0735
3	315	0.4997	-0.1509	0.0024	-0.1507	0.0206	0.1260	0.0551	0.2703	0.0640
3	315	0.5556	-0.1990	0.0034	-0.1974	0.0239	0.1467	0.0636	0.1060	0.0575
3	315	0.5995	-0.2335	0.0031	-0.2384	0.0266	0.1275	0.0739	0.0466	0.0716
3	315	0.6498	-0.2725	0.0030	-0.2902	0.0297	0.0731	0.0881	-0.1241	0.0570
3	315	0.6890	-0.3376	0.0031	-0.3339	0.0333	0.0305	0.1003	0.0219	0.0530
3	315	0.7495	-0.3904	0.0030	-0.3885	0.0372	-0.1249	0.1128	-0.1155	0.0541
3	315	0.7998	-0.4310	0.0031	-0.4396	0.0404	-0.3020	0.1276	-0.1574	0.0516
3	315	0.8577	-0.5071	0.0028	-0.4871	0.0450	-0.5743	0.1416	-0.0906	0.0445
3	315	0.9178	-0.5690	0.0030	-0.5839	0.0498	-0.9466	0.1596	-0.1451	0.0508
3	315	0.9729	-0.5842	0.0038	-0.5788	0.0539	-1.2184	0.1752	-0.0653	0.0418
4	315	0.2001	0.0603	0.0016	0.0101	0.0010	-0.0307	0.0048	0.2073	0.0409
4	315	0.2502	0.0206	0.0034	0.0169	0.0015	-0.0332	0.0106	0.3831	0.0835
4	315	0.3001	-0.0072	0.0033	0.0432	0.0032	-0.0656	0.0175	0.4929	0.0996
4	315	0.3502	-0.0501	0.0025	0.0743	0.0051	-0.1310	0.0327	0.4465	0.0591
4	315	0.4002	-0.0901	0.0025	0.1152	0.0075	-0.1619	0.0484	0.6485	0.0657
4	315	0.4500	-0.1243	0.0026	0.1504	0.0080	-0.2392	0.0557	0.3244	0.0772
4	315	0.5001	-0.1527	0.0033	0.1701	0.0097	-0.2486	0.0683	0.7616	0.1006
4	315	0.5560	-0.1997	0.0034	0.1945	0.0118	-0.3776	0.0856	0.3791	0.0889
4	315	0.6001	-0.2374	0.0027	0.2168	0.0142	-0.4484	0.0933	0.4199	0.0980
4	315	0.6501	-0.2941	0.0024	0.2060	0.0167	-0.5730	0.1083	0.3187	0.0924
4	315	0.6999	-0.3382	0.0029	0.2011	0.0188	-0.7449	0.1274	0.2918	0.0804
4	315	0.7500	-0.3957	0.0025	0.2080	0.0220	-0.9369	0.1448	0.4716	0.0823
4	315	0.8002	-0.4587	0.0026	0.2001	0.0247	-1.2314	0.1644	0.3826	0.0776
4	315	0.8582	-0.5199	0.0026	0.1992	0.0285	-1.6429	0.1871	0.1666	0.0763
4	315	0.9101	-0.5660	0.0027	0.1869	0.0318	-2.0580	0.2075	0.2305	0.0800
4	315	0.9728	-0.5785	0.0032	0.2368	0.0359	-2.4980	0.2344	0.4526	0.0774

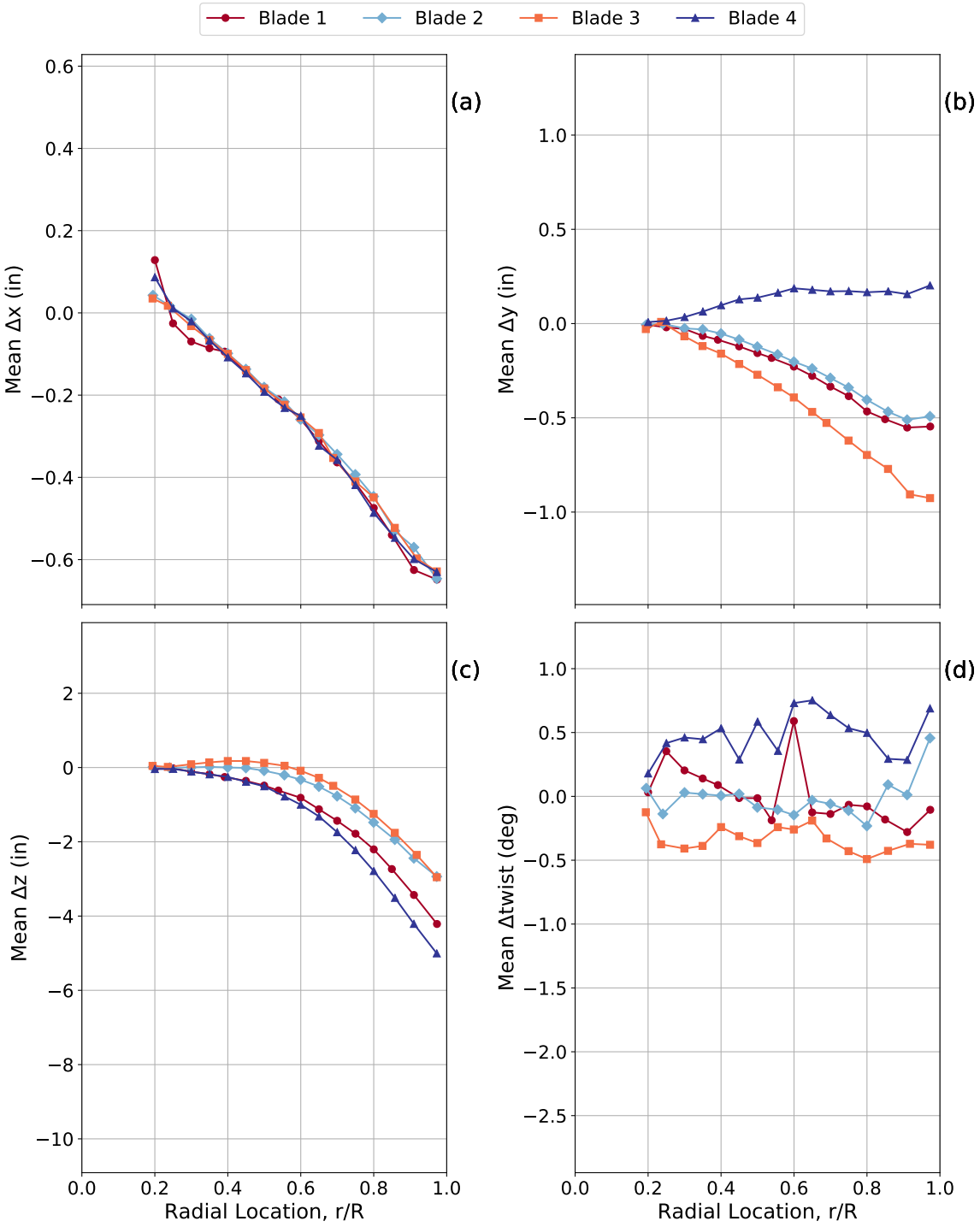


Figure 2.4-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.1284	0.0013	-0.0071	0.0005	-0.0266	0.0026	0.0319	0.0252
1	330.12	0.2499	-0.0255	0.0017	-0.0198	0.0022	-0.0209	0.0076	0.3534	0.0396
1	330.12	0.2998	-0.0696	0.0017	-0.0285	0.0030	-0.1111	0.0125	0.2034	0.0554
1	330.12	0.3498	-0.0859	0.0025	-0.0651	0.0047	-0.1781	0.0167	0.1401	0.0498
1	330.12	0.3913	-0.0943	0.0034	-0.0857	0.0076	-0.2554	0.0289	0.0885	0.0595
1	330.12	0.4496	-0.1439	0.0029	-0.1212	0.0109	-0.3591	0.0326	-0.0132	0.0516
1	330.12	0.4997	-0.1808	0.0023	-0.1564	0.0133	-0.4853	0.0414	-0.0141	0.0469
1	330.12	0.5387	-0.2103	0.0038	-0.1822	0.0148	-0.6193	0.0472	-0.1871	0.0621
1	330.12	0.5996	-0.2588	0.0036	-0.2283	0.0187	-0.8146	0.0576	0.5896	0.0761
1	330.12	0.6498	-0.3117	0.0028	-0.2776	0.0224	-1.1234	0.0675	-0.1258	0.0601
1	330.12	0.6998	-0.3636	0.0032	-0.3342	0.0258	-1.4342	0.0768	-0.1378	0.0491
1	330.12	0.7500	-0.4138	0.0029	-0.3850	0.0288	-1.7828	0.0847	-0.0660	0.0536
1	330.12	0.8001	-0.4744	0.0026	-0.4662	0.0327	-2.2042	0.0946	-0.0786	0.0566
1	330.12	0.8497	-0.5401	0.0031	-0.5072	0.0365	-2.7341	0.1042	-0.1811	0.0522
1	330.12	0.9102	-0.6252	0.0034	-0.5516	0.0416	-3.4320	0.1166	-0.2795	0.0467
1	330.12	0.9734	-0.6485	0.0045	-0.5461	0.0468	-4.2127	0.1303	-0.1052	0.0515
2	330.12	0.1949	0.0429	0.0018	-0.0065	0.0006	0.0103	0.0029	0.0638	0.0680
2	330.12	0.2405	0.0172	0.0014	-0.0013	0.0017	-0.0047	0.0104	-0.1376	0.0721
2	330.12	0.2999	-0.0149	0.0020	-0.0255	0.0035	0.0039	0.0127	0.0297	0.1466
2	330.12	0.3498	-0.0619	0.0025	-0.0309	0.0055	0.0178	0.0281	0.0175	0.0787
2	330.12	0.3998	-0.0984	0.0021	-0.0531	0.0088	0.0021	0.0401	0.0056	0.0826
2	330.12	0.4496	-0.1369	0.0032	-0.0849	0.0127	-0.0107	0.0500	0.0189	0.0890
2	330.12	0.4995	-0.1807	0.0031	-0.1226	0.0137	-0.0852	0.0595	-0.0860	0.0843
2	330.12	0.5551	-0.2161	0.0024	-0.1638	0.0180	-0.2018	0.0717	-0.1041	0.0764
2	330.12	0.5996	-0.2593	0.0028	-0.2020	0.0208	-0.3262	0.0795	-0.1462	0.0954
2	330.12	0.6497	-0.2970	0.0033	-0.2386	0.0238	-0.5115	0.0909	-0.0304	0.0927
2	330.12	0.6996	-0.3438	0.0031	-0.2889	0.0277	-0.7707	0.1044	-0.0586	0.1037
2	330.12	0.7495	-0.3931	0.0032	-0.3393	0.0321	-1.0918	0.1196	-0.1109	0.0955
2	330.12	0.7996	-0.4463	0.0034	-0.4042	0.0368	-1.4780	0.1357	-0.2319	0.0933
2	330.12	0.8578	-0.5303	0.0037	-0.4680	0.0419	-1.9408	0.1509	0.0915	0.0986
2	330.12	0.9100	-0.5700	0.0039	-0.5105	0.0470	-2.4425	0.1667	0.0117	0.0935
2	330.12	0.9727	-0.6463	0.0048	-0.4921	0.0533	-2.9359	0.1854	0.4565	0.0923
3	330.12	0.1938	0.0350	0.0020	-0.0291	0.0008	0.0440	0.0033	-0.1245	0.0331
3	330.12	0.2357	0.0173	0.0010	0.0089	0.0016	0.0166	0.0063	-0.3756	0.0388
3	330.12	0.2995	-0.0321	0.0019	-0.0675	0.0047	0.0874	0.0137	-0.4086	0.0673
3	330.12	0.3493	-0.0656	0.0027	-0.1193	0.0067	0.1391	0.0191	-0.3880	0.0660
3	330.12	0.4000	-0.0996	0.0029	-0.1595	0.0118	0.1757	0.0306	-0.2407	0.0392
3	330.12	0.4497	-0.1391	0.0022	-0.2144	0.0127	0.1754	0.0406	-0.3119	0.0555
3	330.12	0.4997	-0.1838	0.0028	-0.2713	0.0176	0.1253	0.0460	-0.3653	0.0458
3	330.12	0.5556	-0.2234	0.0032	-0.3379	0.0203	0.0471	0.0572	-0.2411	0.0574
3	330.12	0.5995	-0.2541	0.0036	-0.3919	0.0240	-0.0860	0.0661	-0.2594	0.0616
3	330.12	0.6498	-0.2921	0.0033	-0.4688	0.0281	-0.2791	0.0746	-0.1896	0.0660
3	330.12	0.6890	-0.3528	0.0034	-0.5270	0.0304	-0.4924	0.0824	-0.3295	0.0690
3	330.12	0.7495	-0.4099	0.0031	-0.6206	0.0358	-0.8615	0.0933	-0.4289	0.0591
3	330.12	0.7998	-0.4488	0.0032	-0.6970	0.0400	-1.2490	0.1045	-0.4909	0.0483
3	330.12	0.8577	-0.5227	0.0030	-0.7712	0.0451	-1.7584	0.1171	-0.4267	0.0464
3	330.12	0.9178	-0.5971	0.0032	-0.9061	0.0507	-2.3530	0.1299	-0.3716	0.0471
3	330.12	0.9729	-0.6286	0.0036	-0.9258	0.0556	-2.9545	0.1415	-0.3790	0.0441
4	330.12	0.2001	0.0865	0.0024	0.0079	0.0013	-0.0409	0.0034	0.1794	0.0402
4	330.12	0.2502	0.0107	0.0023	0.0150	0.0032	-0.0375	0.0075	0.4170	0.0515
4	330.12	0.3001	-0.0206	0.0023	0.0345	0.0066	-0.1099	0.0128	0.4608	0.0864
4	330.12	0.3502	-0.0673	0.0035	0.0636	0.0082	-0.1836	0.0194	0.4471	0.0470
4	330.12	0.4002	-0.1082	0.0032	0.0971	0.0138	-0.2539	0.0303	0.5334	0.0465
4	330.12	0.4500	-0.1471	0.0024	0.1285	0.0182	-0.3844	0.0405	0.2879	0.0595
4	330.12	0.5001	-0.1918	0.0039	0.1374	0.0231	-0.5050	0.0498	0.5846	0.0915
4	330.12	0.5560	-0.2312	0.0034	0.1633	0.0284	-0.7804	0.0633	0.3560	0.0552
4	330.12	0.6001	-0.2505	0.0037	0.1870	0.0323	-1.0014	0.0737	0.7306	0.0585
4	330.12	0.6501	-0.3230	0.0029	0.1791	0.0370	-1.3185	0.0861	0.7520	0.0710
4	330.12	0.6999	-0.3577	0.0033	0.1710	0.0426	-1.7426	0.0997	0.6368	0.0617
4	330.12	0.7500	-0.4187	0.0029	0.1722	0.0471	-2.2267	0.1117	0.5337	0.0610
4	330.12	0.8002	-0.4862	0.0025	0.1663	0.0529	-2.7874	0.1248	0.4971	0.0744
4	330.12	0.8582	-0.5470	0.0025	0.1713	0.0588	-3.5106	0.1389	0.2938	0.0653
4	330.12	0.9101	-0.5987	0.0027	0.1560	0.0637	-4.2112	0.1529	0.2855	0.0581
4	330.12	0.9728	-0.6303	0.0031	0.2024	0.0706	-5.0060	0.1710	0.6883	0.0633

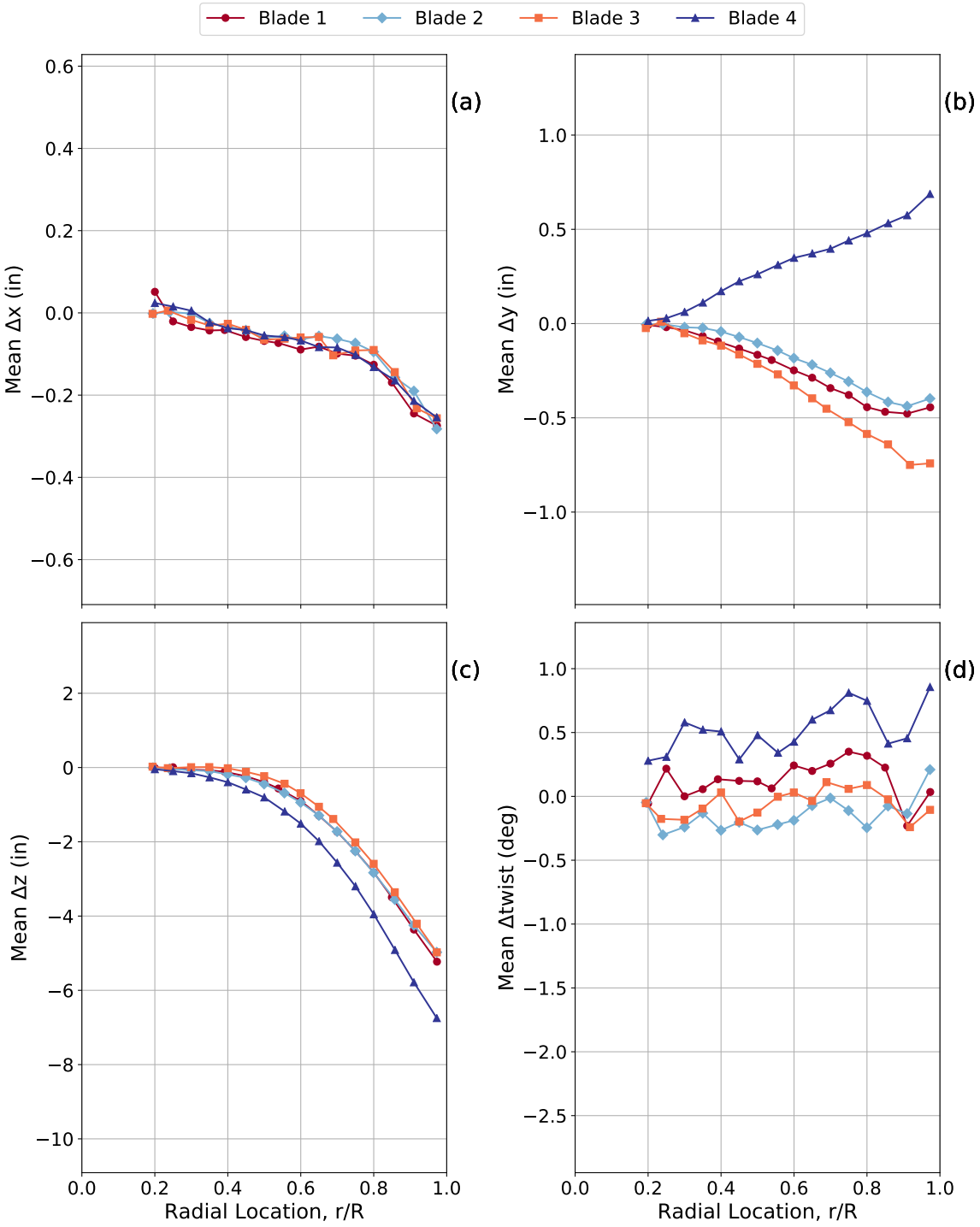


Figure 2.4-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0513	0.0015	-0.0078	0.0006	-0.0127	0.0022	-0.0563	0.0151
1	344.88	0.2499	-0.0207	0.0012	-0.0190	0.0024	0.0080	0.0062	0.2170	0.0356
1	344.88	0.2998	-0.0344	0.0014	-0.0355	0.0036	-0.0568	0.0092	0.0007	0.0366
1	344.88	0.3498	-0.0428	0.0013	-0.0664	0.0060	-0.0747	0.0144	0.0562	0.0326
1	344.88	0.3913	-0.0417	0.0017	-0.0947	0.0094	-0.1132	0.0222	0.1341	0.0419
1	344.88	0.4496	-0.0587	0.0013	-0.1326	0.0104	-0.2339	0.0277	0.1212	0.0378
1	344.88	0.4997	-0.0682	0.0017	-0.1657	0.0141	-0.3933	0.0348	0.1175	0.0525
1	344.88	0.5387	-0.0732	0.0020	-0.1933	0.0154	-0.5647	0.0398	0.0625	0.0368
1	344.88	0.5996	-0.0892	0.0020	-0.2480	0.0180	-0.8966	0.0483	0.2422	0.0552
1	344.88	0.6498	-0.0820	0.0025	-0.2871	0.0206	-1.2959	0.0534	0.1991	0.0451
1	344.88	0.6998	-0.0990	0.0022	-0.3423	0.0239	-1.7313	0.0612	0.2563	0.0440
1	344.88	0.7500	-0.1040	0.0026	-0.3788	0.0275	-2.2529	0.0668	0.3499	0.0448
1	344.88	0.8001	-0.1260	0.0026	-0.4435	0.0293	-2.8252	0.0722	0.3178	0.0484
1	344.88	0.8497	-0.1692	0.0034	-0.4681	0.0326	-3.4954	0.0802	0.2253	0.0490
1	344.88	0.9102	-0.2446	0.0062	-0.4776	0.0365	-4.3633	0.0915	-0.2313	0.1016
1	344.88	0.9734	-0.2744	0.0047	-0.4441	0.0403	-5.2285	0.0955	0.0341	0.0914
2	344.88	0.1949	-0.0015	0.0015	-0.0040	0.0007	-0.0050	0.0031	-0.0476	0.0252
2	344.88	0.2405	0.0022	0.0011	-0.0035	0.0021	-0.0352	0.0075	-0.3015	0.0373
2	344.88	0.2999	-0.0017	0.0012	-0.0196	0.0045	-0.0714	0.0133	-0.2402	0.0576
2	344.88	0.3498	-0.0249	0.0009	-0.0232	0.0070	-0.0958	0.0219	-0.1315	0.0503
2	344.88	0.3998	-0.0341	0.0016	-0.0423	0.0119	-0.1858	0.0345	-0.2657	0.0390
2	344.88	0.4496	-0.0421	0.0028	-0.0716	0.0184	-0.2757	0.0493	-0.2025	0.0336
2	344.88	0.4995	-0.0609	0.0017	-0.1034	0.0182	-0.4432	0.0569	-0.2635	0.0370
2	344.88	0.5551	-0.0559	0.0018	-0.1430	0.0218	-0.6868	0.0682	-0.2207	0.0317
2	344.88	0.5996	-0.0647	0.0022	-0.1834	0.0271	-0.9408	0.0746	-0.1878	0.0475
2	344.88	0.6497	-0.0564	0.0022	-0.2183	0.0282	-1.2903	0.0830	-0.0721	0.0403
2	344.88	0.6996	-0.0631	0.0024	-0.2617	0.0325	-1.7242	0.0926	-0.0133	0.0451
2	344.88	0.7495	-0.0735	0.0028	-0.3073	0.0350	-2.2478	0.1004	-0.1114	0.0463
2	344.88	0.7996	-0.0947	0.0034	-0.3630	0.0388	-2.8327	0.1105	-0.2453	0.0569
2	344.88	0.8578	-0.1568	0.0037	-0.4161	0.0434	-3.5546	0.1223	-0.0757	0.0601
2	344.88	0.9100	-0.1901	0.0047	-0.4384	0.0468	-4.2487	0.1337	-0.1351	0.0711
2	344.88	0.9727	-0.2822	0.0068	-0.3978	0.0515	-4.9749	0.1501	0.2097	0.1096
3	344.88	0.1938	-0.0023	0.0010	-0.0238	0.0005	0.0233	0.0024	-0.0537	0.0175
3	344.88	0.2357	0.0057	0.0011	0.0098	0.0016	-0.0171	0.0048	-0.1763	0.0270
3	344.88	0.2995	-0.0169	0.0013	-0.0514	0.0030	0.0097	0.0094	-0.1836	0.0409
3	344.88	0.3493	-0.0305	0.0010	-0.0892	0.0050	0.0118	0.0157	-0.0957	0.0406
3	344.88	0.4000	-0.0265	0.0018	-0.1168	0.0083	-0.0193	0.0242	0.0304	0.0424
3	344.88	0.4497	-0.0411	0.0019	-0.1640	0.0096	-0.1140	0.0316	-0.1974	0.0365
3	344.88	0.4997	-0.0652	0.0014	-0.2135	0.0112	-0.2329	0.0368	-0.1269	0.0480
3	344.88	0.5556	-0.0628	0.0023	-0.2695	0.0142	-0.4365	0.0452	-0.0030	0.0356
3	344.88	0.5995	-0.0596	0.0021	-0.3282	0.0173	-0.6911	0.0534	0.0305	0.0410
3	344.88	0.6498	-0.0585	0.0020	-0.3966	0.0196	-1.0569	0.0597	-0.0361	0.0452
3	344.88	0.6890	-0.1032	0.0024	-0.4517	0.0215	-1.3858	0.0640	0.1114	0.0340
3	344.88	0.7495	-0.0914	0.0029	-0.5230	0.0261	-2.0157	0.0752	0.0587	0.0444
3	344.88	0.7998	-0.0902	0.0022	-0.5855	0.0285	-2.5929	0.0811	0.0887	0.0482
3	344.88	0.8577	-0.1439	0.0035	-0.6410	0.0323	-3.3585	0.0888	-0.0235	0.0864
3	344.88	0.9178	-0.2320	0.0067	-0.7499	0.0365	-4.2062	0.0987	-0.2412	0.0809
3	344.88	0.9729	-0.2563	0.0084	-0.7417	0.0397	-4.9774	0.1167	-0.1056	0.1542
4	344.88	0.2001	0.0240	0.0017	0.0141	0.0007	-0.0455	0.0023	0.2790	0.0271
4	344.88	0.2502	0.0153	0.0014	0.0284	0.0024	-0.0975	0.0060	0.3092	0.0318
4	344.88	0.3001	0.0053	0.0009	0.0619	0.0029	-0.1532	0.0098	0.5792	0.0560
4	344.88	0.3502	-0.0234	0.0013	0.1113	0.0066	-0.2655	0.0150	0.5217	0.0459
4	344.88	0.4002	-0.0373	0.0015	0.1718	0.0093	-0.3963	0.0249	0.5075	0.0404
4	344.88	0.4500	-0.0419	0.0018	0.2244	0.0139	-0.5923	0.0323	0.2894	0.0342
4	344.88	0.5001	-0.0549	0.0018	0.2616	0.0168	-0.8048	0.0394	0.4792	0.0375
4	344.88	0.5560	-0.0590	0.0022	0.3112	0.0190	-1.1843	0.0458	0.3414	0.0409
4	344.88	0.6001	-0.0672	0.0024	0.3487	0.0215	-1.5115	0.0518	0.4278	0.0546
4	344.88	0.6501	-0.0833	0.0021	0.3716	0.0250	-1.9846	0.0574	0.6010	0.0507
4	344.88	0.6999	-0.0841	0.0026	0.3969	0.0273	-2.5630	0.0653	0.6746	0.0504
4	344.88	0.7500	-0.1021	0.0031	0.4407	0.0304	-3.1996	0.0716	0.8113	0.0523
4	344.88	0.8002	-0.1317	0.0033	0.4795	0.0337	-3.9531	0.0802	0.7483	0.0540
4	344.88	0.8582	-0.1643	0.0040	0.5324	0.0375	-4.9133	0.0882	0.4130	0.0684
4	344.88	0.9101	-0.2139	0.0049	0.5745	0.0405	-5.7849	0.0962	0.4549	0.0662
4	344.88	0.9728	-0.2541	0.0072	0.6876	0.0448	-6.7475	0.1019	0.8560	0.0936

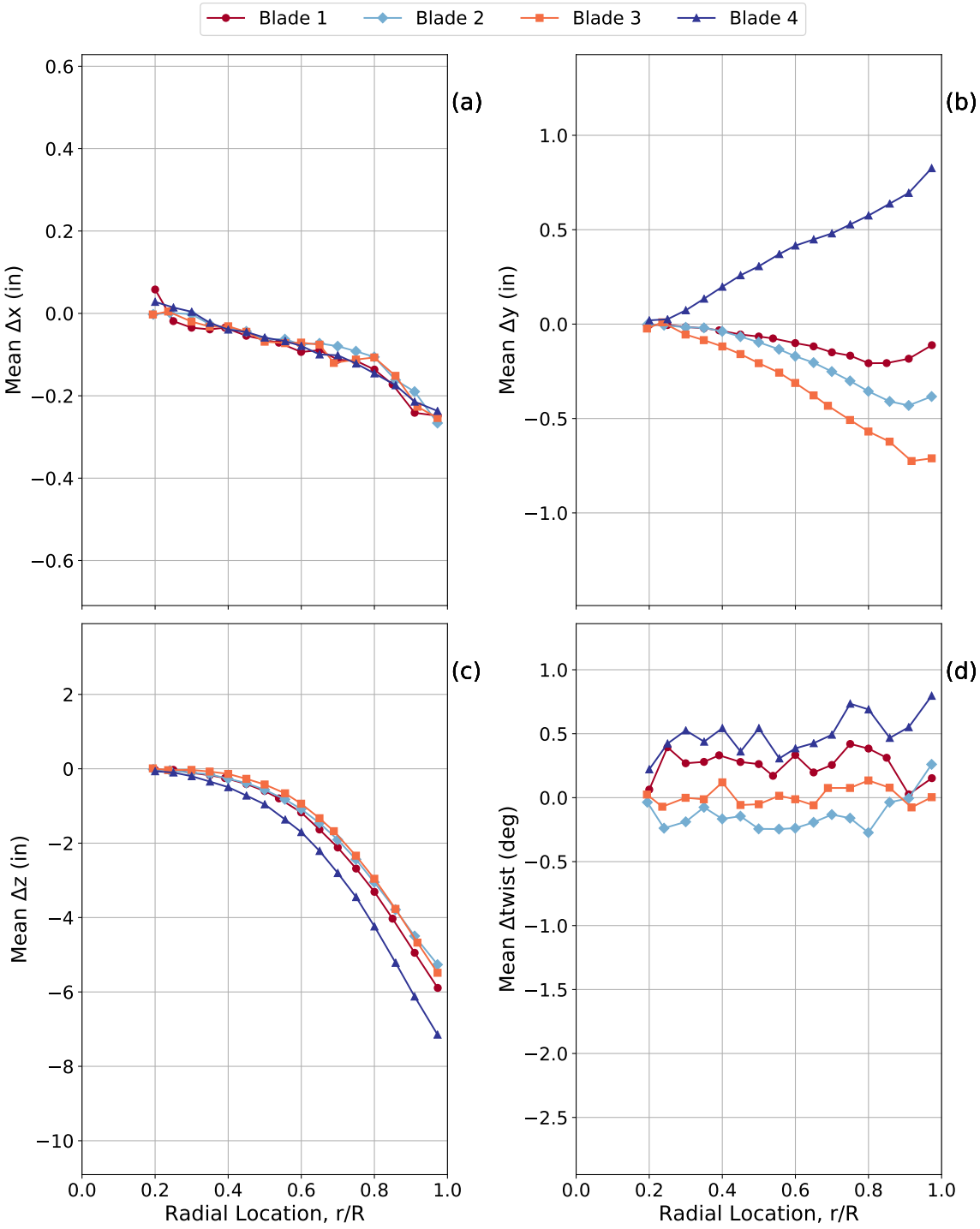


Figure 2.4-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0580	0.0013	-0.0039	0.0009	-0.0290	0.0032	0.0632	0.0229
1	350.16	0.2499	-0.0187	0.0013	-0.0048	0.0034	-0.0288	0.0080	0.3939	0.0424
1	350.16	0.2998	-0.0347	0.0011	-0.0152	0.0052	-0.1114	0.0135	0.2690	0.0535
1	350.16	0.3498	-0.0388	0.0014	-0.0221	0.0092	-0.1736	0.0201	0.2798	0.0372
1	350.16	0.3913	-0.0346	0.0025	-0.0330	0.0141	-0.2492	0.0313	0.3312	0.0495
1	350.16	0.4496	-0.0543	0.0016	-0.0551	0.0159	-0.4102	0.0425	0.2790	0.0577
1	350.16	0.4997	-0.0640	0.0018	-0.0657	0.0204	-0.5969	0.0507	0.2625	0.0377
1	350.16	0.5387	-0.0711	0.0019	-0.0757	0.0224	-0.7964	0.0597	0.1707	0.0386
1	350.16	0.5996	-0.0936	0.0024	-0.1005	0.0269	-1.1725	0.0722	0.3340	0.0439
1	350.16	0.6498	-0.0894	0.0027	-0.1181	0.0303	-1.6330	0.0799	0.1972	0.0476
1	350.16	0.6998	-0.1124	0.0024	-0.1494	0.0362	-2.1170	0.0932	0.2556	0.0453
1	350.16	0.7500	-0.1151	0.0022	-0.1671	0.0378	-2.6825	0.1019	0.4199	0.0419
1	350.16	0.8001	-0.1364	0.0029	-0.2071	0.0424	-3.3087	0.1123	0.3838	0.0488
1	350.16	0.8497	-0.1724	0.0032	-0.2065	0.0465	-4.0301	0.1241	0.3120	0.0537
1	350.16	0.9102	-0.2413	0.0041	-0.1834	0.0519	-4.9476	0.1392	0.0259	0.0564
1	350.16	0.9734	-0.2486	0.0046	-0.1116	0.0575	-5.8920	0.1583	0.1525	0.0756
2	350.16	0.1949	-0.0024	0.0012	-0.0024	0.0006	-0.0142	0.0023	-0.0359	0.0141
2	350.16	0.2405	0.0014	0.0011	-0.0057	0.0021	-0.0458	0.0050	-0.2386	0.0226
2	350.16	0.2999	-0.0020	0.0012	-0.0169	0.0030	-0.1040	0.0091	-0.1885	0.0312
2	350.16	0.3498	-0.0266	0.0012	-0.0197	0.0054	-0.1496	0.0150	-0.0754	0.0420
2	350.16	0.3998	-0.0362	0.0016	-0.0383	0.0087	-0.2664	0.0233	-0.1661	0.0332
2	350.16	0.4496	-0.0437	0.0016	-0.0663	0.0104	-0.3842	0.0274	-0.1449	0.0375
2	350.16	0.4995	-0.0635	0.0019	-0.0960	0.0147	-0.5637	0.0363	-0.2438	0.0340
2	350.16	0.5551	-0.0626	0.0022	-0.1333	0.0153	-0.8216	0.0407	-0.2456	0.0405
2	350.16	0.5996	-0.0755	0.0022	-0.1703	0.0188	-1.0837	0.0467	-0.2384	0.0395
2	350.16	0.6497	-0.0727	0.0022	-0.2040	0.0226	-1.4587	0.0536	-0.1929	0.0367
2	350.16	0.6996	-0.0797	0.0024	-0.2513	0.0260	-1.9052	0.0603	-0.1323	0.0414
2	350.16	0.7495	-0.0918	0.0023	-0.3009	0.0297	-2.4362	0.0651	-0.1600	0.0435
2	350.16	0.7996	-0.1058	0.0027	-0.3558	0.0330	-3.0496	0.0706	-0.2733	0.0464
2	350.16	0.8578	-0.1618	0.0032	-0.4095	0.0371	-3.7870	0.0791	-0.0360	0.0459
2	350.16	0.9100	-0.1899	0.0033	-0.4308	0.0409	-4.4967	0.0870	-0.0048	0.0512
2	350.16	0.9727	-0.2662	0.0048	-0.3835	0.0458	-5.2650	0.0966	0.2603	0.0865
3	350.16	0.1938	-0.0026	0.0013	-0.0234	0.0007	0.0111	0.0023	0.0243	0.0128
3	350.16	0.2357	0.0046	0.0012	0.0096	0.0021	-0.0366	0.0041	-0.0708	0.0213
3	350.16	0.2995	-0.0199	0.0010	-0.0552	0.0046	-0.0298	0.0077	-0.0010	0.0278
3	350.16	0.3493	-0.0320	0.0011	-0.0849	0.0068	-0.0748	0.0132	-0.0126	0.0285
3	350.16	0.4000	-0.0313	0.0026	-0.1184	0.0120	-0.1376	0.0198	0.1197	0.0348
3	350.16	0.4497	-0.0447	0.0017	-0.1589	0.0119	-0.2705	0.0240	-0.0573	0.0324
3	350.16	0.4997	-0.0687	0.0025	-0.2069	0.0160	-0.4219	0.0301	-0.0514	0.0281
3	350.16	0.5556	-0.0722	0.0027	-0.2571	0.0191	-0.6591	0.0376	0.0148	0.0372
3	350.16	0.5995	-0.0709	0.0022	-0.3116	0.0209	-0.9384	0.0432	-0.0124	0.0351
3	350.16	0.6498	-0.0759	0.0028	-0.3775	0.0245	-1.3294	0.0503	-0.0593	0.0395
3	350.16	0.6890	-0.1202	0.0027	-0.4326	0.0273	-1.6779	0.0559	0.0758	0.0306
3	350.16	0.7495	-0.1121	0.0030	-0.5079	0.0309	-2.3362	0.0639	0.0759	0.0331
3	350.16	0.7998	-0.1070	0.0027	-0.5690	0.0342	-2.9568	0.0701	0.1345	0.0331
3	350.16	0.8577	-0.1516	0.0039	-0.6226	0.0380	-3.7661	0.0770	0.0781	0.0502
3	350.16	0.9178	-0.2265	0.0041	-0.7254	0.0422	-4.6734	0.0870	-0.0762	0.0422
3	350.16	0.9729	-0.2539	0.0054	-0.7108	0.0462	-5.4853	0.0932	0.0037	0.0808
4	350.16	0.2001	0.0280	0.0012	0.0199	0.0007	-0.0666	0.0019	0.2212	0.0147
4	350.16	0.2502	0.0143	0.0012	0.0259	0.0018	-0.1005	0.0037	0.4230	0.0289
4	350.16	0.3001	0.0039	0.0013	0.0732	0.0031	-0.2000	0.0067	0.5259	0.0335
4	350.16	0.3502	-0.0230	0.0011	0.1346	0.0054	-0.3447	0.0113	0.4376	0.0332
4	350.16	0.4002	-0.0393	0.0016	0.1978	0.0086	-0.4953	0.0172	0.5433	0.0362
4	350.16	0.4500	-0.0452	0.0017	0.2586	0.0097	-0.7213	0.0211	0.3606	0.0358
4	350.16	0.5001	-0.0587	0.0018	0.3067	0.0122	-0.9568	0.0280	0.5426	0.0370
4	350.16	0.5560	-0.0675	0.0022	0.3709	0.0155	-1.3659	0.0337	0.3067	0.0423
4	350.16	0.6001	-0.0790	0.0017	0.4159	0.0162	-1.7026	0.0396	0.3858	0.0376
4	350.16	0.6501	-0.0997	0.0023	0.4484	0.0187	-2.2107	0.0452	0.4260	0.0424
4	350.16	0.6999	-0.1017	0.0021	0.4803	0.0223	-2.8037	0.0517	0.4920	0.0356
4	350.16	0.7500	-0.1218	0.0027	0.5279	0.0235	-3.4500	0.0583	0.7346	0.0353
4	350.16	0.8002	-0.1457	0.0028	0.5751	0.0270	-4.2398	0.0651	0.6896	0.0388
4	350.16	0.8582	-0.1745	0.0034	0.6381	0.0311	-5.2168	0.0762	0.4672	0.0471
4	350.16	0.9101	-0.2143	0.0041	0.6948	0.0336	-6.1238	0.0850	0.5510	0.0459
4	350.16	0.9728	-0.2369	0.0044	0.8258	0.0374	-7.1481	0.1013	0.7963	0.0593

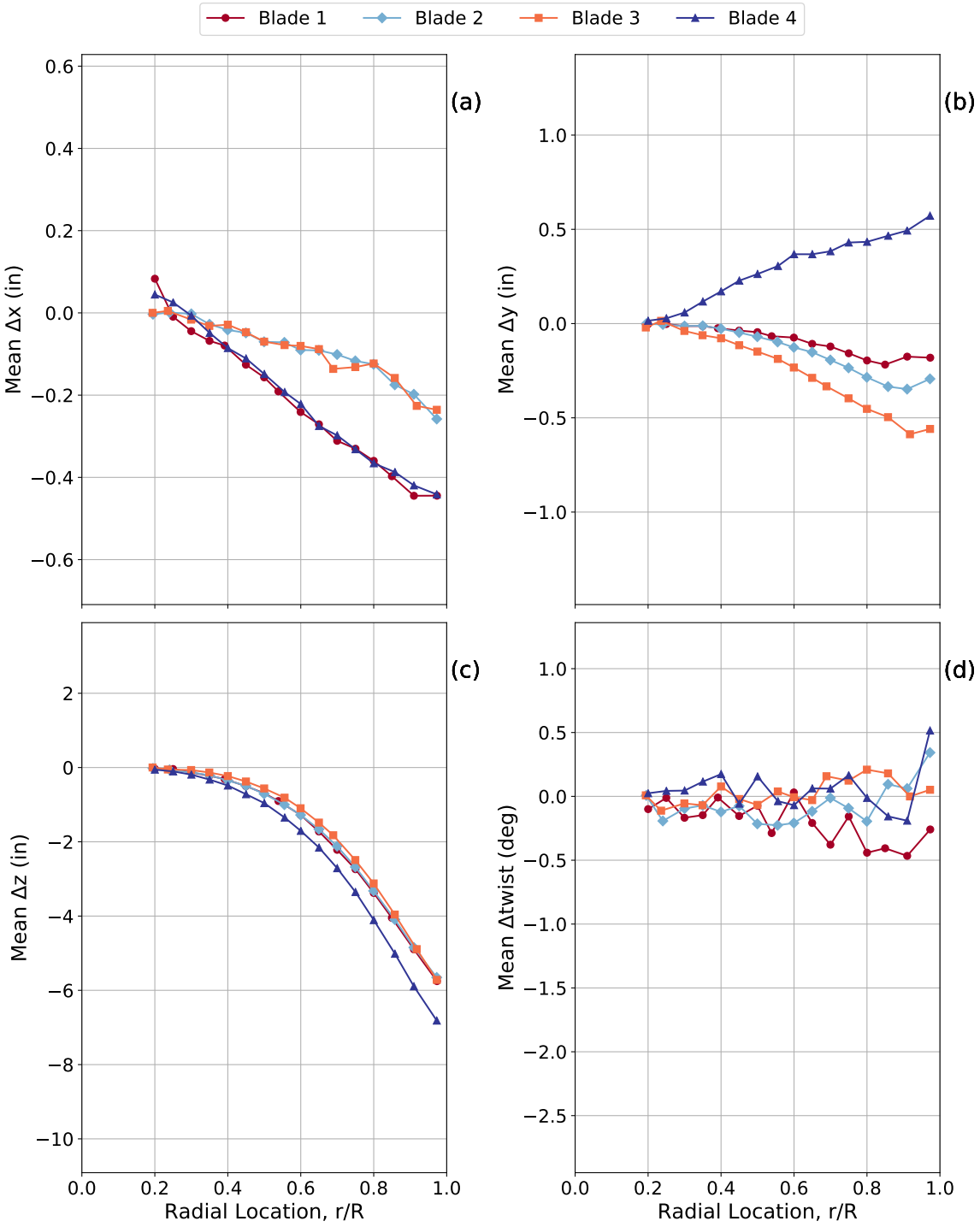


Figure 2.4-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Table 2.4-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -0°
NFAC run 42, points 11 to 14. BD run 19, points 722 to 761.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0831	0.0040	-0.0028	0.0027	-0.0354	0.0053	-0.0998	0.0502
1	355.08	0.2499	-0.0093	0.0016	-0.0024	0.0040	-0.0400	0.0089	-0.0121	0.0871
1	355.08	0.2998	-0.0444	0.0019	-0.0135	0.0092	-0.1337	0.0150	-0.1676	0.1099
1	355.08	0.3498	-0.0680	0.0025	-0.0132	0.0171	-0.2214	0.0261	-0.1469	0.0957
1	355.08	0.3913	-0.0794	0.0027	-0.0246	0.0227	-0.3108	0.0344	-0.0091	0.0927
1	355.08	0.4496	-0.1260	0.0031	-0.0370	0.0291	-0.5005	0.0441	-0.1536	0.0954
1	355.08	0.4997	-0.1568	0.0031	-0.0455	0.0360	-0.6925	0.0550	-0.0728	0.0888
1	355.08	0.5387	-0.1909	0.0029	-0.0670	0.0410	-0.9019	0.0631	-0.2875	0.0881
1	355.08	0.5996	-0.2410	0.0032	-0.0743	0.0495	-1.2771	0.0769	0.0308	0.0857
1	355.08	0.6498	-0.2709	0.0033	-0.1076	0.0563	-1.7229	0.0889	-0.2084	0.0925
1	355.08	0.6998	-0.3111	0.0035	-0.1216	0.0633	-2.2161	0.0985	-0.3785	0.1000
1	355.08	0.7500	-0.3303	0.0035	-0.1576	0.0702	-2.7382	0.1108	-0.1571	0.0930
1	355.08	0.8001	-0.3598	0.0037	-0.1958	0.0764	-3.3783	0.1222	-0.4413	0.1017
1	355.08	0.8497	-0.3972	0.0046	-0.2176	0.0836	-4.0480	0.1328	-0.4064	0.1017
1	355.08	0.9102	-0.4447	0.0055	-0.1754	0.0928	-4.8974	0.1493	-0.4659	0.1019
1	355.08	0.9734	-0.4445	0.0067	-0.1810	0.1031	-5.7519	0.1642	-0.2590	0.1228
2	355.08	0.1949	-0.0033	0.0010	-0.0013	0.0007	-0.0223	0.0020	0.0075	0.0197
2	355.08	0.2405	0.0010	0.0011	-0.0047	0.0014	-0.0609	0.0040	-0.1926	0.0302
2	355.08	0.2999	-0.0024	0.0012	-0.0129	0.0029	-0.1316	0.0081	-0.0953	0.0450
2	355.08	0.3498	-0.0277	0.0016	-0.0118	0.0048	-0.2087	0.0120	-0.0709	0.0364
2	355.08	0.3998	-0.0414	0.0015	-0.0272	0.0076	-0.3480	0.0198	-0.1217	0.0518
2	355.08	0.4496	-0.0486	0.0013	-0.0477	0.0093	-0.4921	0.0250	-0.0748	0.0394
2	355.08	0.4995	-0.0703	0.0017	-0.0696	0.0117	-0.7085	0.0316	-0.2153	0.0512
2	355.08	0.5551	-0.0717	0.0018	-0.0976	0.0136	-0.9998	0.0386	-0.2262	0.0538
2	355.08	0.5996	-0.0903	0.0021	-0.1264	0.0163	-1.2776	0.0442	-0.2088	0.0423
2	355.08	0.6497	-0.0912	0.0020	-0.1516	0.0187	-1.6619	0.0510	-0.1173	0.0399
2	355.08	0.6996	-0.1012	0.0020	-0.1932	0.0216	-2.1185	0.0576	-0.0120	0.0363
2	355.08	0.7495	-0.1167	0.0021	-0.2349	0.0241	-2.6783	0.0645	-0.0927	0.0477
2	355.08	0.7996	-0.1249	0.0023	-0.2850	0.0266	-3.3217	0.0710	-0.1953	0.0457
2	355.08	0.8578	-0.1749	0.0027	-0.3344	0.0301	-4.0936	0.0805	0.0947	0.0464
2	355.08	0.9100	-0.1979	0.0034	-0.3477	0.0326	-4.8467	0.0896	0.0615	0.0512
2	355.08	0.9727	-0.2580	0.0046	-0.2933	0.0362	-5.6531	0.1012	0.3428	0.0552
3	355.08	0.1938	0.0001	0.0011	-0.0207	0.0007	0.0011	0.0024	0.0082	0.0191
3	355.08	0.2357	0.0048	0.0010	0.0145	0.0014	-0.0534	0.0037	-0.1120	0.0313
3	355.08	0.2995	-0.0164	0.0012	-0.0390	0.0031	-0.0676	0.0081	-0.0550	0.0448
3	355.08	0.3493	-0.0317	0.0011	-0.0618	0.0050	-0.1335	0.0143	-0.0696	0.0323
3	355.08	0.4000	-0.0287	0.0020	-0.0779	0.0082	-0.2293	0.0210	0.0774	0.0361
3	355.08	0.4497	-0.0470	0.0017	-0.1148	0.0100	-0.3759	0.0278	-0.0209	0.0389
3	355.08	0.4997	-0.0699	0.0013	-0.1484	0.0116	-0.5631	0.0348	-0.0668	0.0371
3	355.08	0.5556	-0.0783	0.0017	-0.1874	0.0147	-0.8115	0.0432	0.0387	0.0490
3	355.08	0.5995	-0.0803	0.0019	-0.2331	0.0169	-1.0967	0.0507	-0.0068	0.0380
3	355.08	0.6498	-0.0881	0.0019	-0.2879	0.0210	-1.4830	0.0581	-0.0294	0.0472
3	355.08	0.6890	-0.1362	0.0019	-0.3331	0.0237	-1.8237	0.0649	0.1578	0.0471
3	355.08	0.7495	-0.1318	0.0021	-0.3965	0.0270	-2.4917	0.0739	0.1231	0.0389
3	355.08	0.7998	-0.1230	0.0027	-0.4524	0.0305	-3.1213	0.0813	0.2094	0.0374
3	355.08	0.8577	-0.1582	0.0032	-0.4964	0.0349	-3.9590	0.0905	0.1801	0.0419
3	355.08	0.9178	-0.2261	0.0038	-0.5872	0.0390	-4.8899	0.1004	-0.0005	0.0450
3	355.08	0.9729	-0.2356	0.0048	-0.5589	0.0432	-5.7183	0.1117	0.0516	0.0618
4	355.08	0.2001	0.0446	0.0025	0.0151	0.0017	-0.0569	0.0053	0.0244	0.0473
4	355.08	0.2502	0.0254	0.0017	0.0279	0.0050	-0.1048	0.0091	0.0429	0.0780
4	355.08	0.3001	-0.0067	0.0013	0.0587	0.0078	-0.1913	0.0164	0.0453	0.1045
4	355.08	0.3502	-0.0487	0.0016	0.1169	0.0133	-0.3254	0.0267	0.1157	0.0910
4	355.08	0.4002	-0.0856	0.0022	0.1709	0.0215	-0.4854	0.0398	0.1742	0.0857
4	355.08	0.4500	-0.1109	0.0022	0.2278	0.0264	-0.7191	0.0495	-0.0576	0.0911
4	355.08	0.5001	-0.1488	0.0021	0.2629	0.0318	-0.9593	0.0597	0.1559	0.0870
4	355.08	0.5560	-0.1927	0.0024	0.3053	0.0378	-1.3483	0.0717	-0.0379	0.0870
4	355.08	0.6001	-0.2217	0.0022	0.3679	0.0435	-1.7059	0.0812	-0.0691	0.0893
4	355.08	0.6501	-0.2751	0.0026	0.3678	0.0487	-2.1570	0.0922	0.0621	0.0862
4	355.08	0.6999	-0.2980	0.0025	0.3835	0.0554	-2.7120	0.1030	0.0609	0.0875
4	355.08	0.7500	-0.3316	0.0027	0.4299	0.0609	-3.3537	0.1138	0.1652	0.0881
4	355.08	0.8002	-0.3658	0.0032	0.4337	0.0672	-4.1100	0.1244	-0.0122	0.0982
4	355.08	0.8582	-0.3872	0.0040	0.4659	0.0749	-5.0158	0.1374	-0.1570	0.0854
4	355.08	0.9101	-0.4195	0.0041	0.4933	0.0818	-5.8935	0.1477	-0.1904	0.0942
4	355.08	0.9728	-0.4414	0.0061	0.5719	0.0891	-6.8157	0.1623	0.5152	0.1072

2.5 Run 42, Points 46 to 49

2.5.1 Pitch, Flap, and Lag

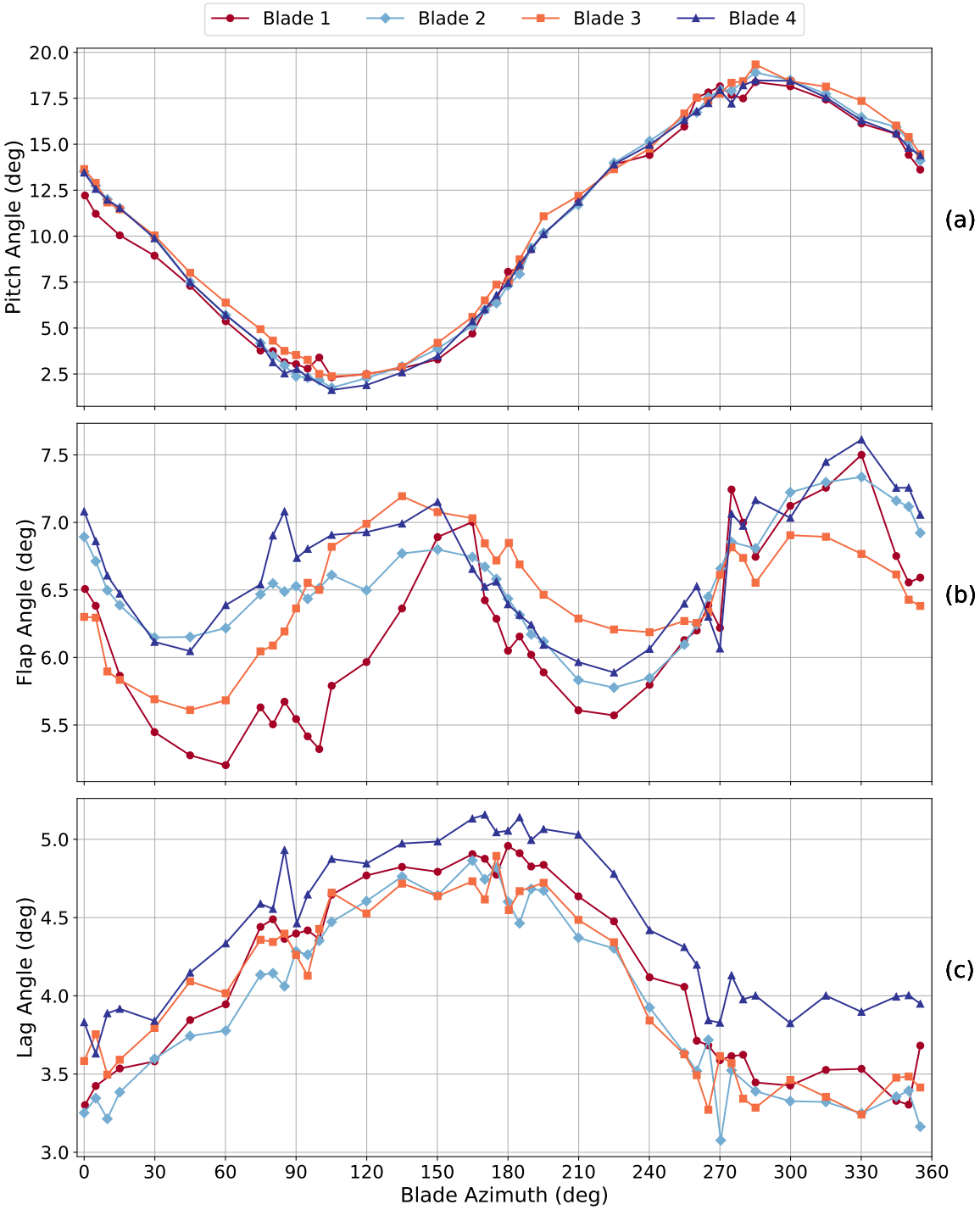


Figure 2.5-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	12.2116	6.5070	3.3015	0.1955	0.1113	0.1251
4.92	11.2172	6.3825	3.4237	0.3263	0.1380	0.2028
15.12	10.0440	5.8646	3.5356	0.2356	0.1414	0.2007
29.88	8.9376	5.4467	3.5807	0.1982	0.1328	0.1191
45	7.2944	5.2754	3.8453	0.2024	0.1287	0.3156
60.12	5.3740	5.2023	3.9454	0.1822	0.1081	0.1365
74.88	3.7718	5.6304	4.4404	0.1230	0.1489	0.1673
80.16	3.7453	5.5046	4.4889	0.1725	0.1533	0.1123
85.08	3.1445	5.6724	4.3638	0.2236	0.1585	0.1241
90	3.0373	5.5440	4.3977	0.1238	0.1697	0.2203
94.92	2.7907	5.4158	4.4180	0.1009	0.1442	0.1547
99.84	3.3960	5.3215	4.3628	0.6610	0.3084	0.2164
105.12	2.3162	5.7903	4.6459	0.1141	0.1652	0.1189
119.88	2.5001	5.9660	4.7690	0.1197	0.1308	0.1673
135	2.8123	6.3626	4.8240	0.1042	0.0929	0.1123
150.12	3.2918	6.8915	4.7926	0.1392	0.1508	0.1454
164.88	4.6953	7.0033	4.9053	0.1333	0.1367	0.1178
170.16	5.9922	6.4236	4.8756	0.0972	0.1180	0.1277
175.08	6.5074	6.2864	4.7739	0.1146	0.1543	0.1821
180	8.0643	6.0498	4.9581	0.1651	0.1722	0.1194
184.92	8.2677	6.1550	4.9112	0.1387	0.1390	0.0877
189.84	9.2725	6.0203	4.8262	0.1828	0.1290	0.1369
195.12	10.1255	5.8895	4.8368	0.1878	0.1217	0.1041
209.88	11.8246	5.6086	4.6355	0.2156	0.1358	0.1550
225	13.8975	5.5711	4.4759	0.1228	0.1129	0.1409
240.12	14.4135	5.7976	4.1180	0.1496	0.1036	0.1530
254.88	15.9599	6.1284	4.0572	0.1333	0.1144	0.1330
260.16	17.5330	6.1995	3.7128	0.1590	0.1135	0.1038
265.08	17.8209	6.3879	3.6834	0.5155	0.1775	0.1404
270	18.1507	6.2191	3.5884	0.6066	0.4529	0.2836
274.92	17.6854	7.2438	3.6147	0.2721	0.5214	0.2733
279.84	17.4923	6.9992	3.6230	0.2094	0.1173	0.0945
285.12	18.3781	6.7451	3.4460	0.2449	0.1305	0.0783
299.88	18.1495	7.1226	3.4264	0.2885	0.1462	0.1210
315	17.4291	7.2565	3.5264	0.2051	0.1166	0.1148
330.12	16.1252	7.5003	3.5333	0.2296	0.1168	0.1419
344.88	15.5554	6.7509	3.3290	0.3151	0.1603	0.1792
350.16	14.4241	6.5554	3.3044	0.1878	0.1218	0.1382
355.08	13.6173	6.5912	3.6816	0.2154	0.1166	0.0777

Table 2.5-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	13.5166	6.8933	3.2520	0.1964	0.1203	0.1979
4.92	12.7495	6.7123	3.3458	0.1423	0.1125	0.1611
9.84	12.0048	6.4975	3.2137	0.2236	0.1111	0.1392
15.12	11.5237	6.3873	3.3843	0.1736	0.0979	0.1011
29.88	9.9908	6.1480	3.5976	0.1512	0.1348	0.1398
45	7.5008	6.1519	3.7430	0.1138	0.1234	0.0990
60.12	5.7038	6.2173	3.7770	0.1204	0.1629	0.1188
74.88	4.1847	6.4677	4.1339	0.1510	0.1420	0.1087
80.16	3.4842	6.5478	4.1440	0.1060	0.1153	0.1292
85.08	2.9687	6.4878	4.0608	0.1718	0.1345	0.1769
90	2.3673	6.5281	4.2843	0.1230	0.1347	0.0915
94.92	2.3066	6.4339	4.2627	0.1065	0.0958	0.0957
99.84	2.1594	6.5135	4.3515	0.1558	0.0996	0.1152
105.12	1.7527	6.6105	4.4726	0.1469	0.1141	0.0965
119.88	2.2771	6.4970	4.6049	0.1723	0.1787	0.1578
135	2.9051	6.7701	4.7624	0.1134	0.1088	0.1202
150.12	3.8780	6.7995	4.6424	0.1184	0.1422	0.1358
164.88	5.1178	6.7438	4.8644	0.1345	0.1264	0.1001
170.16	5.9855	6.6712	4.7442	0.0998	0.1395	0.0926
175.08	6.3557	6.5809	4.8197	0.1088	0.1545	0.1326
180	7.3112	6.4346	4.6013	0.1282	0.1175	0.1794
184.92	7.9359	6.3140	4.4634	0.1501	0.1083	0.1018
189.84	9.3570	6.1705	4.6831	0.1420	0.1288	0.0967
195.12	10.1754	6.1186	4.6722	0.1406	0.1459	0.0786
209.88	11.7071	5.8328	4.3710	0.1534	0.1213	0.1195
225	13.9851	5.7768	4.3027	0.2012	0.0960	0.0950
240.12	15.1731	5.8481	3.9253	0.1382	0.0956	0.1212
254.88	16.4640	6.0953	3.6337	0.2048	0.0951	0.1464
260.16	16.7339	6.2436	3.5192	0.2492	0.1096	0.1299
265.08	17.5469	6.4498	3.7182	0.2133	0.0877	0.0834
270.35	17.9558	6.6583	3.0764	0.5222	0.3109	0.1881
274.92	17.9081	6.8550	3.5237	0.5222	0.1188	0.1433
285.12	18.8987	6.8077	3.3901	0.2964	0.1143	0.1630
299.88	18.4936	7.2227	3.3267	0.1783	0.1279	0.1215
315	17.7327	7.2973	3.3215	0.3419	0.1122	0.2645
330.12	16.4670	7.3365	3.2490	0.1435	0.1261	0.1043
344.88	15.9411	7.1607	3.3552	0.2102	0.1060	0.1367
350.16	15.1864	7.1169	3.3932	0.2139	0.1085	0.1110
355.08	14.1085	6.9225	3.1633	0.1452	0.0949	0.1081

Table 2.5-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	13.6457	6.3005	3.5831	0.1917	0.1364	0.1228
4.92	12.8991	6.2948	3.7541	0.3468	0.1628	0.1448
9.84	11.8290	5.8962	3.4961	0.2062	0.1355	0.1373
15.12	11.4591	5.8341	3.5914	0.1990	0.1244	0.1016
29.88	10.0374	5.6904	3.7944	0.1968	0.1089	0.1876
45	8.0069	5.6107	4.0921	0.1377	0.1095	0.1547
60.12	6.3824	5.6826	4.0162	0.1670	0.1500	0.1685
74.88	4.9386	6.0452	4.3578	0.1632	0.1489	0.1251
80.16	4.3131	6.0883	4.3440	0.1070	0.1594	0.1222
85.08	3.7548	6.1923	4.3973	0.2201	0.1731	0.1766
90	3.5342	6.3630	4.2611	0.1327	0.1318	0.1977
94.92	3.2684	6.5527	4.1283	0.1581	0.1037	0.1291
99.84	2.5043	6.5007	4.4272	0.1219	0.1254	0.0990
105.12	2.3793	6.8192	4.6593	0.1242	0.1402	0.1114
119.88	2.4672	6.9896	4.5262	0.1209	0.1218	0.1474
135	2.8861	7.1942	4.7170	0.0898	0.1344	0.1560
150.12	4.1972	7.0763	4.6373	0.1538	0.1443	0.1749
164.88	5.6058	7.0306	4.7318	0.1042	0.1269	0.1831
170.16	6.5053	6.8449	4.6155	0.1341	0.1347	0.1523
175.08	7.3654	6.7184	4.8940	0.1182	0.0933	0.0936
180.35	7.5803	6.8485	4.5481	0.0988	0.1185	0.1136
184.92	8.7342	6.6887	4.6689	0.2720	0.1230	0.2017
195.12	11.0833	6.4640	4.7222	0.2951	0.1202	0.1936
209.88	12.1928	6.2879	4.4854	0.1616	0.1303	0.1219
225	13.6406	6.2072	4.3422	0.2789	0.1111	0.3250
240.12	14.7621	6.1872	3.8421	0.1417	0.0863	0.1130
254.88	16.6733	6.2700	3.6259	0.1623	0.1159	0.1235
260.16	17.5317	6.2556	3.4925	0.1510	0.1052	0.1204
265.08	17.3630	6.3363	3.2714	0.2046	0.1295	0.1378
270	17.7560	6.6114	3.6149	0.5545	0.1895	0.2234
274.92	18.3431	6.8154	3.5695	0.2570	0.1162	0.1554
279.84	18.4256	6.7371	3.3422	0.2605	0.1187	0.1430
285.12	19.3392	6.5533	3.2851	0.2176	0.1019	0.1059
299.88	18.4287	6.9052	3.4620	0.2616	0.1197	0.1563
315	18.1338	6.8933	3.3539	0.2073	0.1178	0.1219
330.12	17.3560	6.7669	3.2412	0.3237	0.1438	0.1243
344.88	16.0143	6.6147	3.4767	0.1666	0.1017	0.1296
350.16	15.3883	6.4277	3.4842	0.2642	0.1266	0.1451
355.08	14.4590	6.3815	3.4140	0.2178	0.1139	0.1891

Table 2.5-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	13.4587	7.0809	3.8310	0.1878	0.1127	0.2080
4.92	12.5686	6.8611	3.6309	0.1689	0.1081	0.1115
9.84	11.9777	6.6064	3.8880	0.1507	0.1117	0.1040
15.12	11.5278	6.4725	3.9166	0.1662	0.1265	0.0933
29.88	9.8836	6.1152	3.8397	0.1838	0.0877	0.1327
45	7.4962	6.0464	4.1481	0.1504	0.0870	0.1229
60.12	5.7192	6.3876	4.3348	0.1436	0.1178	0.1508
74.88	4.1964	6.5403	4.5882	0.1506	0.1041	0.1651
80.16	3.1360	6.9027	4.5551	0.1191	0.1160	0.1763
85.08	2.5268	7.0812	4.9317	0.1125	0.0965	0.0966
90.35	2.7754	6.7368	4.4629	0.1071	0.0898	0.1083
94.92	2.3385	6.8038	4.6472	0.1743	0.1153	0.1992
105.12	1.6263	6.9074	4.8749	0.1159	0.1076	0.2015
119.88	1.8949	6.9279	4.8450	0.1214	0.1084	0.1046
135	2.5854	6.9910	4.9734	0.1473	0.0985	0.2999
150.12	3.4744	7.1512	4.9860	0.1356	0.1233	0.1100
164.88	5.3749	6.6553	5.1324	0.1371	0.1098	0.1189
170.16	6.0183	6.5235	5.1571	0.0929	0.1075	0.0978
175.08	6.7946	6.5615	5.0451	0.0865	0.1131	0.0980
180	7.4416	6.3940	5.0547	0.1690	0.1473	0.2099
184.92	8.4603	6.3151	5.1404	0.1328	0.0819	0.1641
189.84	9.3092	6.2420	4.9955	0.1507	0.1455	0.1381
195.12	10.1020	6.0935	5.0656	0.1174	0.1095	0.0951
209.88	11.8628	5.9659	5.0299	0.1241	0.0934	0.1423
225	13.9024	5.8885	4.7794	0.1753	0.0901	0.1065
240.12	14.9634	6.0634	4.4192	0.2118	0.1255	0.1207
254.88	16.3154	6.3984	4.3112	0.1637	0.0949	0.1153
260.16	16.7809	6.5259	4.1984	0.2739	0.0938	0.1293
265.08	17.2335	6.3017	3.8431	0.2858	0.1152	0.1772
270	17.9486	6.0660	3.8282	0.4402	0.2459	0.1510
274.92	17.2130	7.0634	4.1302	0.2881	0.1269	0.1253
279.84	18.2073	6.9746	3.9770	0.2893	0.0789	0.1072
285.12	18.4710	7.1655	4.0011	0.3011	0.1119	0.0738
299.88	18.4503	7.0340	3.8253	0.3089	0.1577	0.1497
315	17.5472	7.4482	4.0009	0.1566	0.1157	0.1344
330.12	16.2994	7.6131	3.8974	0.1914	0.1316	0.1695
344.88	15.5838	7.2558	3.9945	0.1529	0.0990	0.1228
350.16	14.8059	7.2569	4.0034	0.1755	0.1320	0.0998
355.08	14.3964	7.0566	3.9492	0.2777	0.1465	0.1550

2.5.2 Spanwise Elastic Deformations

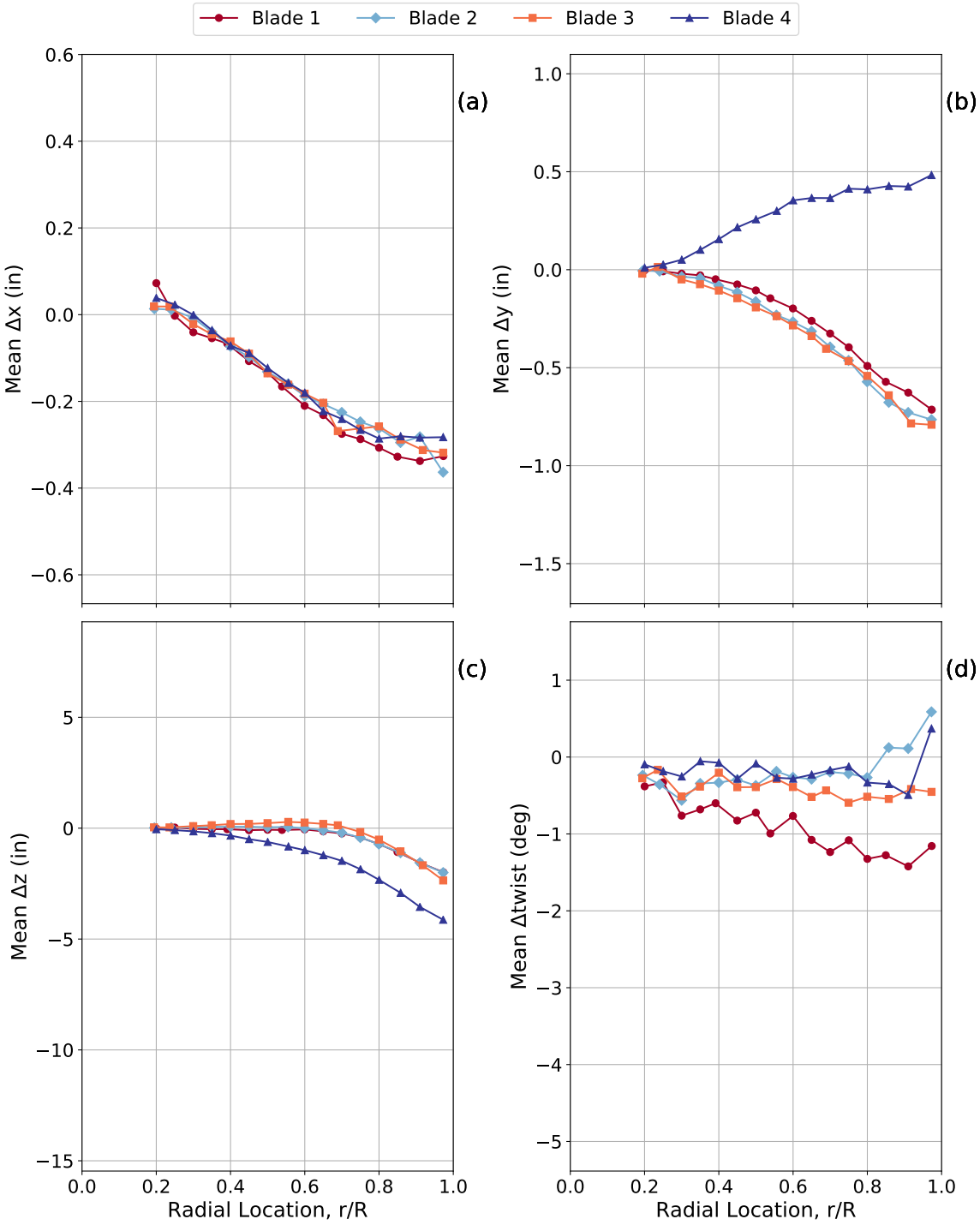


Figure 2.5-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.127$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0727	0.0038	-0.0029	0.0023	-0.0116	0.0091	-0.3814	0.0669
1	0.35	0.2499	-0.0025	0.0022	-0.0080	0.0049	0.0282	0.0167	-0.3281	0.1209
1	0.35	0.2998	-0.0406	0.0020	-0.0203	0.0093	-0.0302	0.0283	-0.7621	0.1538
1	0.35	0.3498	-0.0543	0.0025	-0.0288	0.0180	-0.0441	0.0486	-0.6807	0.1556
1	0.35	0.3913	-0.0669	0.0032	-0.0487	0.0248	-0.0473	0.0667	-0.6004	0.1611
1	0.35	0.4496	-0.1071	0.0034	-0.0752	0.0329	-0.0897	0.0923	-0.8265	0.1646
1	0.35	0.4997	-0.1333	0.0039	-0.1055	0.0410	-0.0713	0.1171	-0.7232	0.1671
1	0.35	0.5387	-0.1657	0.0041	-0.1459	0.0477	-0.0800	0.1349	-0.9941	0.1818
1	0.35	0.5996	-0.2102	0.0047	-0.1978	0.0579	-0.0577	0.1568	-0.7662	0.1831
1	0.35	0.6498	-0.2316	0.0053	-0.2608	0.0666	-0.1432	0.1718	-1.0775	0.1941
1	0.35	0.6998	-0.2749	0.0051	-0.3258	0.0756	-0.2401	0.1851	-1.2356	0.1976
1	0.35	0.7500	-0.2871	0.0053	-0.3959	0.0845	-0.4217	0.1999	-1.0823	0.2016
1	0.35	0.8001	-0.3069	0.0057	-0.4911	0.0932	-0.7200	0.2167	-1.3244	0.2230
1	0.35	0.8497	-0.3276	0.0058	-0.5719	0.1021	-1.0765	0.2374	-1.2769	0.2065
1	0.35	0.9102	-0.3375	0.0067	-0.6272	0.1130	-1.5550	0.2671	-1.4223	0.2218
1	0.35	0.9734	-0.3262	0.0099	-0.7141	0.1256	-1.9887	0.3090	-1.1571	0.2546
2	0	0.1949	0.0135	0.0020	-0.0052	0.0015	0.0162	0.0079	-0.2357	0.0474
2	0	0.2405	0.0115	0.0016	-0.0073	0.0032	0.0247	0.0136	-0.3570	0.0732
2	0	0.2999	-0.0074	0.0016	-0.0356	0.0060	0.0288	0.0260	-0.5620	0.1063
2	0	0.3498	-0.0402	0.0019	-0.0430	0.0121	0.0589	0.0438	-0.3429	0.1049
2	0	0.3998	-0.0730	0.0024	-0.0821	0.0180	0.0664	0.0651	-0.3328	0.1168
2	0	0.4496	-0.0972	0.0024	-0.1149	0.0235	0.0661	0.0859	-0.2925	0.1254
2	0	0.4995	-0.1317	0.0029	-0.1625	0.0303	0.0438	0.1082	-0.3699	0.1345
2	0	0.5551	-0.1595	0.0031	-0.2315	0.0377	0.0543	0.1365	-0.1864	0.1338
2	0	0.5996	-0.1876	0.0034	-0.2658	0.0448	-0.0018	0.1598	-0.2620	0.1433
2	0	0.6497	-0.2062	0.0038	-0.3143	0.0525	-0.0961	0.1856	-0.2875	0.1617
2	0	0.6996	-0.2254	0.0041	-0.3944	0.0616	-0.2017	0.2152	-0.1946	0.1591
2	0	0.7495	-0.2471	0.0049	-0.4632	0.0703	-0.4257	0.2438	-0.2153	0.1606
2	0	0.7996	-0.2622	0.0052	-0.5720	0.0810	-0.7214	0.2744	-0.2662	0.1750
2	0	0.8578	-0.2950	0.0059	-0.6771	0.0925	-1.1089	0.3101	0.1226	0.1655
2	0	0.9100	-0.2816	0.0061	-0.7284	0.1035	-1.5552	0.3451	0.1111	0.1908
2	0	0.9727	-0.3634	0.0092	-0.7650	0.1169	-2.0018	0.3908	0.5884	0.1848
3	0	0.1938	0.0190	0.0025	-0.0201	0.0016	0.0375	0.0088	-0.2759	0.0543
3	0	0.2357	0.0187	0.0015	0.0140	0.0028	0.0346	0.0128	-0.1655	0.0952
3	0	0.2995	-0.0216	0.0014	-0.0496	0.0055	0.0926	0.0284	-0.5121	0.1288
3	0	0.3493	-0.0453	0.0018	-0.0740	0.0101	0.1323	0.0480	-0.3848	0.1346
3	0	0.4000	-0.0617	0.0024	-0.1063	0.0154	0.1874	0.0710	-0.2034	0.1441
3	0	0.4497	-0.0900	0.0025	-0.1455	0.0198	0.1922	0.0926	-0.3922	0.1633
3	0	0.4997	-0.1354	0.0029	-0.1924	0.0261	0.2269	0.1171	-0.3907	0.1816
3	0	0.5556	-0.1615	0.0037	-0.2374	0.0335	0.2831	0.1440	-0.2856	0.1880
3	0	0.5995	-0.1822	0.0040	-0.2843	0.0394	0.2537	0.1652	-0.3900	0.1899
3	0	0.6498	-0.2032	0.0044	-0.3388	0.0472	0.1930	0.1891	-0.5189	0.2201
3	0	0.6890	-0.2685	0.0042	-0.4035	0.0531	0.1294	0.2095	-0.4334	0.2326
3	0	0.7495	-0.2626	0.0045	-0.4663	0.0620	-0.1728	0.2382	-0.5940	0.2301
3	0	0.7998	-0.2577	0.0051	-0.5420	0.0701	-0.5160	0.2614	-0.5160	0.2396
3	0	0.8577	-0.2881	0.0065	-0.6408	0.0797	-1.0443	0.2919	-0.5447	0.2459
3	0	0.9178	-0.3123	0.0071	-0.7844	0.0894	-1.6725	0.3296	-0.4159	0.2503
3	0	0.9729	-0.3183	0.0107	-0.7912	0.0983	-2.3570	0.3695	-0.4530	0.2716
4	0	0.2001	0.0386	0.0023	0.0099	0.0014	-0.0480	0.0083	-0.0948	0.0519
4	0	0.2502	0.0230	0.0016	0.0259	0.0039	-0.0875	0.0163	-0.1853	0.0815
4	0	0.3001	-0.0007	0.0018	0.0509	0.0069	-0.1433	0.0261	-0.2530	0.1128
4	0	0.3502	-0.0359	0.0018	0.1018	0.0127	-0.2264	0.0450	-0.0547	0.1082
4	0	0.4002	-0.0716	0.0024	0.1559	0.0201	-0.3356	0.0664	-0.0743	0.1173
4	0	0.4500	-0.0885	0.0025	0.2161	0.0265	-0.4949	0.0885	-0.2818	0.1317
4	0	0.5001	-0.1230	0.0033	0.2570	0.0339	-0.6221	0.1124	-0.0853	0.1277
4	0	0.5560	-0.1575	0.0035	0.3000	0.0424	-0.8285	0.1368	-0.2691	0.1436
4	0	0.6001	-0.1803	0.0038	0.3539	0.0494	-0.9946	0.1565	-0.2816	0.1529
4	0	0.6501	-0.2226	0.0045	0.3660	0.0580	-1.2203	0.1775	-0.2281	0.1597
4	0	0.6999	-0.2406	0.0049	0.3655	0.0663	-1.4729	0.1969	-0.1705	0.1757
4	0	0.7500	-0.2659	0.0051	0.4133	0.0761	-1.8524	0.2175	-0.1225	0.1834
4	0	0.8002	-0.2858	0.0056	0.4099	0.0857	-2.3311	0.2383	-0.3318	0.1884
4	0	0.8582	-0.2805	0.0064	0.4272	0.0975	-2.9194	0.2670	-0.3521	0.2077
4	0	0.9101	-0.2836	0.0084	0.4243	0.1072	-3.5521	0.2926	-0.4933	0.2221
4	0	0.9728	-0.2826	0.0091	0.4829	0.1205	-4.1303	0.3339	0.3702	0.2349

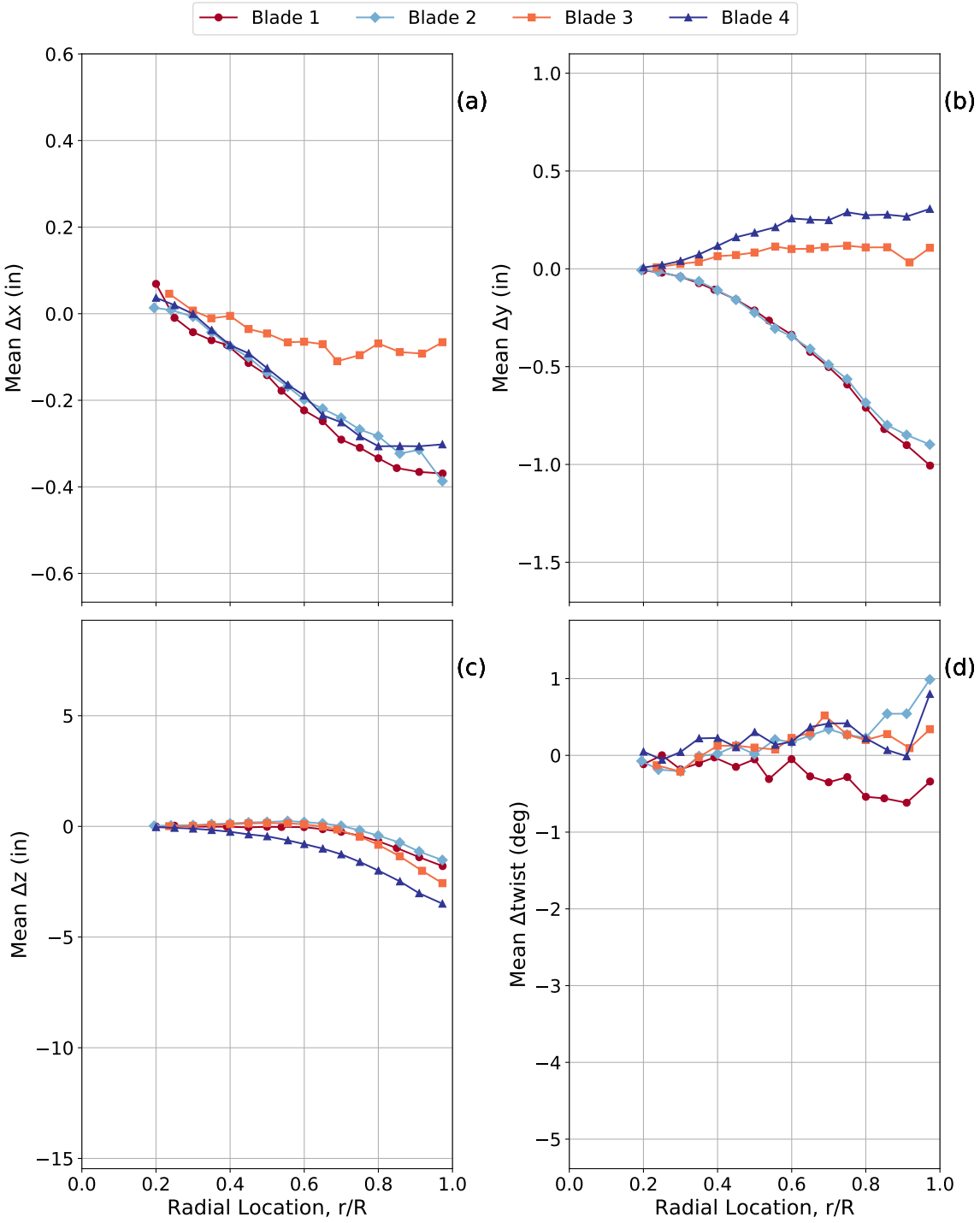


Figure 2.5-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0689	0.0031	-0.0083	0.0019	-0.0009	0.0079	-0.1153	0.0592
1	4.92	0.2499	-0.0096	0.0020	-0.0197	0.0040	0.0306	0.0147	0.0014	0.1213
1	4.92	0.2998	-0.0427	0.0020	-0.0404	0.0079	-0.0101	0.0274	-0.1820	0.1411
1	4.92	0.3498	-0.0613	0.0026	-0.0738	0.0140	-0.0148	0.0440	-0.1024	0.1398
1	4.92	0.3913	-0.0720	0.0026	-0.1069	0.0202	-0.0162	0.0632	-0.0267	0.1433
1	4.92	0.4496	-0.1139	0.0029	-0.1568	0.0282	-0.0445	0.0899	-0.1499	0.1538
1	4.92	0.4997	-0.1420	0.0030	-0.2127	0.0354	-0.0191	0.1150	-0.0518	0.1610
1	4.92	0.5387	-0.1780	0.0031	-0.2645	0.0424	-0.0293	0.1352	-0.3080	0.1599
1	4.92	0.5996	-0.2233	0.0034	-0.3368	0.0524	-0.0352	0.1658	-0.0488	0.1589
1	4.92	0.6498	-0.2484	0.0039	-0.4245	0.0610	-0.1271	0.1907	-0.2735	0.1585
1	4.92	0.6998	-0.2909	0.0039	-0.5021	0.0699	-0.2467	0.2147	-0.3505	0.1575
1	4.92	0.7500	-0.3096	0.0042	-0.5913	0.0800	-0.4241	0.2378	-0.2827	0.1574
1	4.92	0.8001	-0.3340	0.0046	-0.7099	0.0901	-0.6735	0.2586	-0.5397	0.1599
1	4.92	0.8497	-0.3566	0.0051	-0.8191	0.1009	-0.9787	0.2776	-0.5600	0.1646
1	4.92	0.9102	-0.3656	0.0060	-0.9011	0.1124	-1.3932	0.3028	-0.6171	0.1685
1	4.92	0.9734	-0.3691	0.0095	-1.0058	0.1281	-1.7942	0.3344	-0.3407	0.1772
2	4.92	0.1949	0.0136	0.0021	-0.0066	0.0014	0.0221	0.0058	-0.0738	0.0460
2	4.92	0.2405	0.0084	0.0016	-0.0140	0.0024	0.0379	0.0099	-0.1855	0.0813
2	4.92	0.2999	-0.0067	0.0014	-0.0421	0.0059	0.0546	0.0197	-0.2075	0.1133
2	4.92	0.3498	-0.0429	0.0017	-0.0641	0.0100	0.1011	0.0319	-0.0099	0.1085
2	4.92	0.3998	-0.0756	0.0022	-0.1097	0.0156	0.1328	0.0483	0.0201	0.1178
2	4.92	0.4496	-0.1004	0.0023	-0.1579	0.0200	0.1762	0.0645	0.1253	0.1287
2	4.92	0.4995	-0.1360	0.0025	-0.2236	0.0248	0.1965	0.0825	0.0154	0.1373
2	4.92	0.5551	-0.1682	0.0030	-0.3051	0.0308	0.2408	0.1009	0.2060	0.1418
2	4.92	0.5996	-0.1984	0.0031	-0.3454	0.0353	0.1941	0.1136	0.1724	0.1500
2	4.92	0.6497	-0.2195	0.0038	-0.4096	0.0411	0.1299	0.1277	0.2598	0.1601
2	4.92	0.6996	-0.2405	0.0039	-0.4900	0.0470	0.0227	0.1405	0.3406	0.1669
2	4.92	0.7495	-0.2676	0.0044	-0.5637	0.0532	-0.1810	0.1567	0.2694	0.1614
2	4.92	0.7996	-0.2829	0.0045	-0.6841	0.0600	-0.4154	0.1770	0.2278	0.1631
2	4.92	0.8578	-0.3230	0.0060	-0.7991	0.0676	-0.7326	0.2020	0.5418	0.1606
2	4.92	0.9100	-0.3144	0.0059	-0.8493	0.0754	-1.1371	0.2297	0.5427	0.1773
2	4.92	0.9727	-0.3868	0.0085	-0.8981	0.0841	-1.5219	0.2676	0.9881	0.1682
3	4.92	0.2357	0.0460	0.0180	0.0074	0.0062	0.0078	0.0333	-0.1290	0.2228
3	4.92	0.2995	0.0071	0.0049	0.0254	0.0170	0.0204	0.0623	-0.2112	0.3553
3	4.92	0.3493	-0.0106	0.0069	0.0354	0.0321	0.0653	0.1013	-0.0241	0.3389
3	4.92	0.4000	-0.0051	0.0108	0.0644	0.0518	0.0980	0.1484	0.1253	0.3387
3	4.92	0.4497	-0.0354	0.0165	0.0705	0.0692	0.1335	0.1895	0.1256	0.3244
3	4.92	0.4997	-0.0457	0.0225	0.0833	0.0880	0.1468	0.2288	0.1013	0.3377
3	4.92	0.5556	-0.0661	0.0310	0.1136	0.1098	0.1388	0.2730	0.0763	0.3440
3	4.92	0.5995	-0.0647	0.0370	0.1013	0.1268	0.0934	0.3101	0.2268	0.3416
3	4.92	0.6498	-0.0704	0.0447	0.1025	0.1474	-0.0085	0.3517	0.2949	0.3485
3	4.92	0.6890	-0.1098	0.0511	0.1108	0.1625	-0.1418	0.3811	0.5196	0.3578
3	4.92	0.7495	-0.0957	0.0612	0.1181	0.1865	-0.4660	0.4313	0.2699	0.3670
3	4.92	0.7998	-0.0687	0.0710	0.1094	0.2063	-0.8310	0.4739	0.2001	0.3670
3	4.92	0.8577	-0.0886	0.0830	0.1101	0.2290	-1.3515	0.5244	0.2767	0.3680
3	4.92	0.9178	-0.0922	0.0978	0.0327	0.2547	-2.0055	0.5762	0.0943	0.3728
3	4.92	0.9729	-0.0659	0.1120	0.1075	0.2772	-2.5663	0.6245	0.3402	0.3727
4	4.92	0.2001	0.0368	0.0021	0.0073	0.0014	-0.0334	0.0072	0.0490	0.0550
4	4.92	0.2502	0.0197	0.0017	0.0195	0.0033	-0.0679	0.0132	-0.0573	0.0956
4	4.92	0.3001	-0.0006	0.0016	0.0402	0.0059	-0.1018	0.0236	0.0437	0.1268
4	4.92	0.3502	-0.0378	0.0019	0.0739	0.0108	-0.1647	0.0385	0.2219	0.1215
4	4.92	0.4002	-0.0728	0.0023	0.1174	0.0166	-0.2448	0.0581	0.2262	0.1268
4	4.92	0.4500	-0.0916	0.0028	0.1615	0.0220	-0.3622	0.0774	0.1058	0.1337
4	4.92	0.5001	-0.1261	0.0029	0.1848	0.0284	-0.4489	0.0990	0.3039	0.1421
4	4.92	0.5560	-0.1644	0.0034	0.2128	0.0357	-0.6319	0.1201	0.1374	0.1453
4	4.92	0.6001	-0.1891	0.0038	0.2575	0.0418	-0.8009	0.1366	0.1777	0.1471
4	4.92	0.6501	-0.2348	0.0042	0.2514	0.0486	-1.0039	0.1556	0.3686	0.1563
4	4.92	0.6999	-0.2510	0.0047	0.2486	0.0562	-1.2626	0.1739	0.4166	0.1660
4	4.92	0.7500	-0.2832	0.0052	0.2891	0.0639	-1.6058	0.1933	0.4176	0.1724
4	4.92	0.8002	-0.3063	0.0054	0.2741	0.0718	-1.9986	0.2134	0.2222	0.1725
4	4.92	0.8582	-0.3058	0.0060	0.2769	0.0824	-2.4861	0.2419	0.0690	0.1766
4	4.92	0.9101	-0.3063	0.0072	0.2671	0.0908	-3.0217	0.2704	-0.0117	0.1816
4	4.92	0.9728	-0.3019	0.0085	0.3063	0.1023	-3.4930	0.3105	0.7999	0.1861

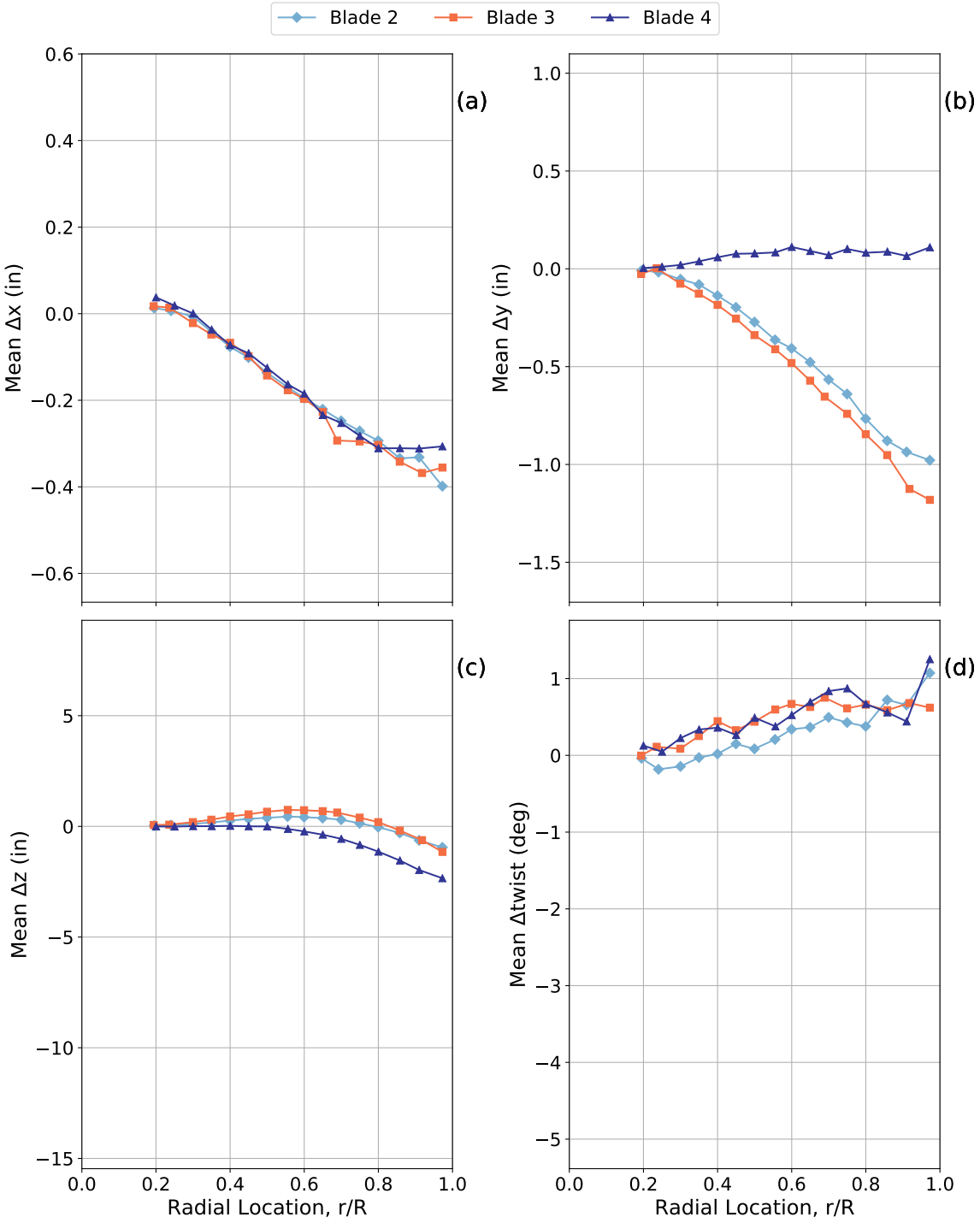


Figure 2.5-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	9.84	0.1949	0.0130	0.0020	-0.0087	0.0013	0.0361	0.0065	-0.0381	0.0401
2	9.84	0.2405	0.0069	0.0014	-0.0166	0.0037	0.0577	0.0125	-0.1819	0.0628
2	9.84	0.2999	-0.0063	0.0017	-0.0533	0.0053	0.1074	0.0224	-0.1440	0.0918
2	9.84	0.3498	-0.0422	0.0018	-0.0804	0.0110	0.1805	0.0401	-0.0288	0.0889
2	9.84	0.3998	-0.0764	0.0021	-0.1373	0.0162	0.2575	0.0586	0.0188	0.0879
2	9.84	0.4496	-0.1014	0.0022	-0.1970	0.0211	0.3389	0.0777	0.1498	0.0929
2	9.84	0.4995	-0.1365	0.0026	-0.2720	0.0264	0.3861	0.0991	0.0850	0.0982
2	9.84	0.5551	-0.1695	0.0040	-0.3631	0.0330	0.4428	0.1229	0.2076	0.1436
2	9.84	0.5996	-0.1949	0.0031	-0.4065	0.0378	0.4176	0.1387	0.3402	0.1029
2	9.84	0.6497	-0.2208	0.0032	-0.4773	0.0443	0.3723	0.1590	0.3656	0.1084
2	9.84	0.6996	-0.2476	0.0037	-0.5659	0.0504	0.3025	0.1823	0.4959	0.1201
2	9.84	0.7495	-0.2710	0.0041	-0.6399	0.0566	0.1363	0.2080	0.4276	0.1173
2	9.84	0.7996	-0.2934	0.0041	-0.7662	0.0635	-0.0354	0.2399	0.3780	0.1215
2	9.84	0.8578	-0.3342	0.0049	-0.8788	0.0715	-0.2961	0.2810	0.7223	0.1382
2	9.84	0.9100	-0.3317	0.0057	-0.9360	0.0790	-0.6326	0.3214	0.6570	0.1404
2	9.84	0.9727	-0.3985	0.0079	-0.9782	0.0883	-0.9486	0.3752	1.0729	0.1396
3	9.84	0.1938	0.0173	0.0022	-0.0263	0.0013	0.0627	0.0068	-0.0038	0.0402
3	9.84	0.2357	0.0140	0.0017	0.0030	0.0028	0.0768	0.0127	0.1119	0.0668
3	9.84	0.2995	-0.0217	0.0014	-0.0761	0.0055	0.1932	0.0252	0.0871	0.0919
3	9.84	0.3493	-0.0481	0.0018	-0.1268	0.0109	0.3028	0.0431	0.2516	0.1006
3	9.84	0.4000	-0.0671	0.0022	-0.1843	0.0165	0.4490	0.0655	0.4450	0.1008
3	9.84	0.4497	-0.0980	0.0026	-0.2546	0.0221	0.5439	0.0883	0.3280	0.1178
3	9.84	0.4997	-0.1428	0.0030	-0.3388	0.0287	0.6624	0.1139	0.4385	0.1192
3	9.84	0.5556	-0.1768	0.0034	-0.4112	0.0371	0.7446	0.1409	0.5974	0.1213
3	9.84	0.5995	-0.1968	0.0038	-0.4817	0.0438	0.7289	0.1605	0.6703	0.1225
3	9.84	0.6498	-0.2271	0.0043	-0.5717	0.0522	0.6872	0.1804	0.6306	0.1262
3	9.84	0.6890	-0.2930	0.0045	-0.6535	0.0592	0.6255	0.1947	0.7514	0.1325
3	9.84	0.7495	-0.2951	0.0047	-0.7412	0.0702	0.3957	0.2160	0.6129	0.1370
3	9.84	0.7998	-0.3030	0.0053	-0.8455	0.0804	0.1915	0.2311	0.6605	0.1349
3	9.84	0.8577	-0.3419	0.0061	-0.9521	0.0907	-0.1856	0.2472	0.5885	0.1430
3	9.84	0.9178	-0.3680	0.0069	-1.1251	0.1042	-0.6236	0.2658	0.6813	0.1342
3	9.84	0.9729	-0.3555	0.0097	-1.1811	0.1156	-1.1546	0.2821	0.6214	0.1487
4	9.84	0.2001	0.0376	0.0024	0.0040	0.0014	-0.0029	0.0087	0.1269	0.0407
4	9.84	0.2502	0.0187	0.0014	0.0105	0.0033	-0.0086	0.0156	0.0474	0.0726
4	9.84	0.3001	0.0004	0.0014	0.0197	0.0068	0.0082	0.0303	0.2255	0.0921
4	9.84	0.3502	-0.0370	0.0021	0.0383	0.0119	0.0077	0.0483	0.3369	0.0889
4	9.84	0.4002	-0.0726	0.0027	0.0589	0.0190	0.0237	0.0741	0.3609	0.0908
4	9.84	0.4500	-0.0915	0.0031	0.0768	0.0252	0.0014	0.0997	0.2656	0.1013
4	9.84	0.5001	-0.1253	0.0031	0.0785	0.0320	-0.0028	0.1271	0.4902	0.1055
4	9.84	0.5560	-0.1636	0.0035	0.0839	0.0402	-0.1153	0.1570	0.3781	0.1111
4	9.84	0.6001	-0.1847	0.0038	0.1116	0.0468	-0.2292	0.1787	0.5249	0.1070
4	9.84	0.6501	-0.2342	0.0041	0.0909	0.0544	-0.3757	0.2032	0.6946	0.1072
4	9.84	0.6999	-0.2525	0.0043	0.0700	0.0620	-0.5636	0.2245	0.8372	0.1125
4	9.84	0.7500	-0.2823	0.0043	0.1013	0.0702	-0.8371	0.2475	0.8722	0.1151
4	9.84	0.8002	-0.3110	0.0048	0.0821	0.0787	-1.1434	0.2705	0.6702	0.1118
4	9.84	0.8582	-0.3108	0.0056	0.0875	0.0883	-1.5437	0.3013	0.5590	0.1151
4	9.84	0.9101	-0.3116	0.0062	0.0654	0.0966	-1.9716	0.3346	0.4415	0.1246
4	9.84	0.9728	-0.3065	0.0083	0.1098	0.1077	-2.3440	0.3815	1.2524	0.1247

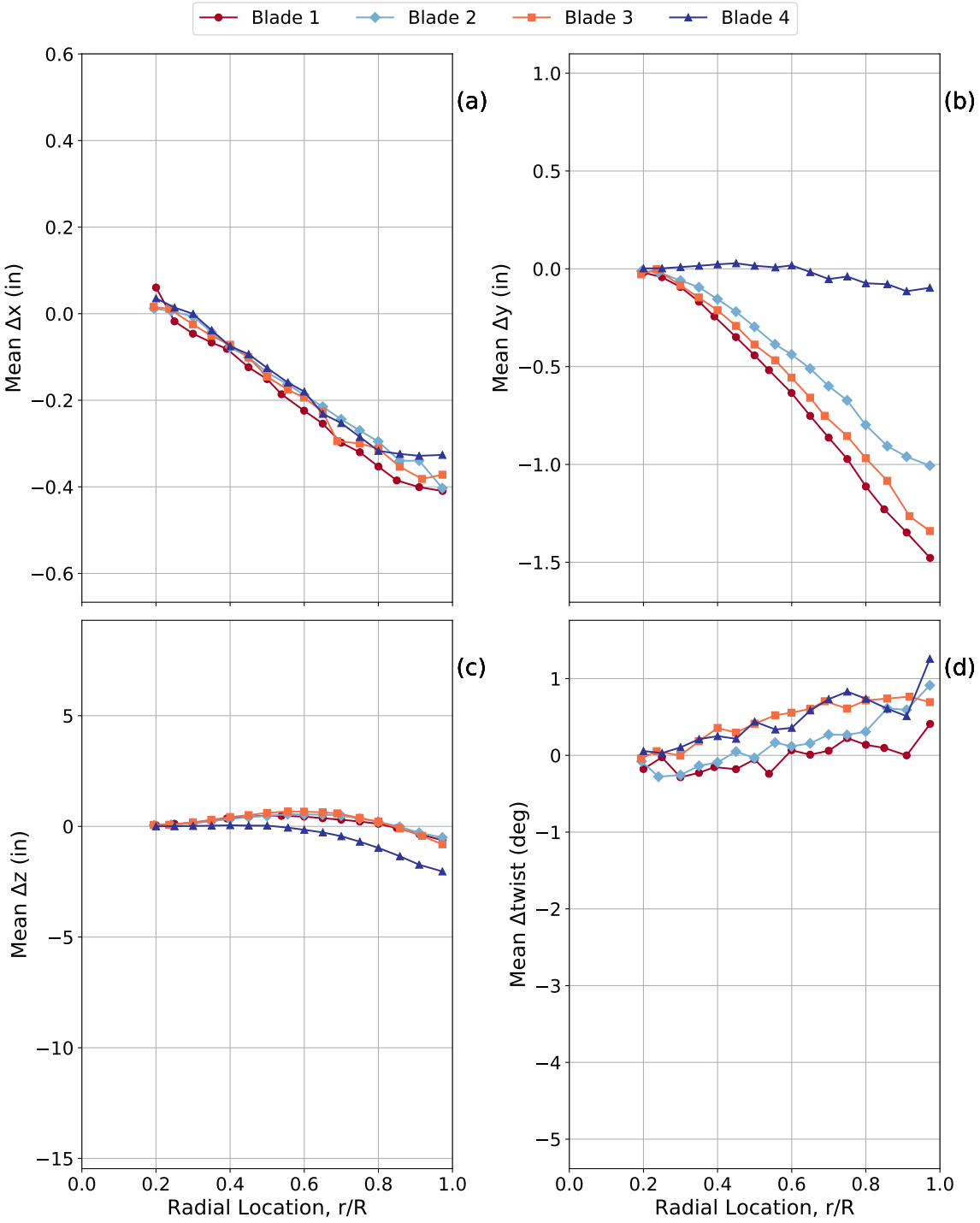


Figure 2.5-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.127$, $\mu = 0.24$, $\alpha = -0°$ NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0605	0.0027	-0.0192	0.0016	0.0482	0.0083	-0.1781	0.0482
1	15.12	0.2499	-0.0177	0.0019	-0.0429	0.0037	0.1162	0.0158	-0.0251	0.0746
1	15.12	0.2998	-0.0462	0.0020	-0.0930	0.0073	0.1484	0.0308	-0.2848	0.1058
1	15.12	0.3498	-0.0665	0.0025	-0.1677	0.0123	0.2589	0.0523	-0.2276	0.1111
1	15.12	0.3913	-0.0812	0.0029	-0.2433	0.0182	0.3578	0.0744	-0.1533	0.1100
1	15.12	0.4496	-0.1237	0.0030	-0.3491	0.0249	0.4388	0.1097	-0.1800	0.1215
1	15.12	0.4997	-0.1512	0.0037	-0.4423	0.0316	0.4859	0.1439	-0.0528	0.1304
1	15.12	0.5387	-0.1861	0.0042	-0.5180	0.0375	0.4724	0.1682	-0.2401	0.1280
1	15.12	0.5996	-0.2240	0.0045	-0.6347	0.0461	0.4433	0.2032	0.0664	0.1356
1	15.12	0.6498	-0.2540	0.0048	-0.7516	0.0535	0.3677	0.2294	0.0089	0.1417
1	15.12	0.6998	-0.2981	0.0053	-0.8630	0.0609	0.3002	0.2518	0.0601	0.1404
1	15.12	0.7500	-0.3200	0.0056	-0.9724	0.0695	0.2196	0.2750	0.2250	0.1460
1	15.12	0.8001	-0.3532	0.0062	-1.1127	0.0779	0.1152	0.3017	0.1377	0.1504
1	15.12	0.8497	-0.3852	0.0066	-1.2295	0.0867	-0.0775	0.3321	0.0965	0.1539
1	15.12	0.9102	-0.4007	0.0075	-1.3480	0.0976	-0.3470	0.3761	-0.0001	0.1474
1	15.12	0.9734	-0.4096	0.0107	-1.4777	0.1095	-0.6288	0.4289	0.4099	0.1425
2	15.12	0.1949	0.0119	0.0027	-0.0112	0.0013	0.0477	0.0070	-0.0777	0.0378
2	15.12	0.2405	0.0062	0.0017	-0.0170	0.0029	0.0656	0.0139	-0.2781	0.0613
2	15.12	0.2999	-0.0063	0.0017	-0.0597	0.0057	0.1363	0.0259	-0.2564	0.0864
2	15.12	0.3498	-0.0426	0.0020	-0.0942	0.0114	0.2347	0.0448	-0.1362	0.0819
2	15.12	0.3998	-0.0776	0.0023	-0.1548	0.0171	0.3286	0.0673	-0.0917	0.0822
2	15.12	0.4496	-0.1009	0.0027	-0.2189	0.0223	0.4252	0.0912	0.0492	0.0916
2	15.12	0.4995	-0.1356	0.0031	-0.2966	0.0287	0.4718	0.1151	-0.0336	0.0884
2	15.12	0.5551	-0.1631	0.0036	-0.3859	0.0357	0.5481	0.1412	0.1665	0.0952
2	15.12	0.5996	-0.1875	0.0039	-0.4377	0.0420	0.5407	0.1607	0.1175	0.1004
2	15.12	0.6497	-0.2148	0.0044	-0.5100	0.0491	0.5285	0.1807	0.1565	0.0975
2	15.12	0.6996	-0.2439	0.0049	-0.5994	0.0567	0.4855	0.2000	0.2708	0.1004
2	15.12	0.7495	-0.2698	0.0053	-0.6722	0.0648	0.3484	0.2197	0.2664	0.1041
2	15.12	0.7996	-0.2952	0.0057	-0.7979	0.0734	0.2103	0.2403	0.3089	0.1025
2	15.12	0.8578	-0.3399	0.0060	-0.9060	0.0838	-0.0198	0.2688	0.6130	0.1144
2	15.12	0.9100	-0.3395	0.0060	-0.9604	0.0935	-0.2877	0.2985	0.5930	0.1222
2	15.12	0.9727	-0.4030	0.0089	-1.0060	0.1052	-0.5022	0.3400	0.9127	0.1390
3	15.12	0.1938	0.0158	0.0025	-0.0281	0.0015	0.0651	0.0084	-0.0408	0.0420
3	15.12	0.2357	0.0113	0.0017	-0.0020	0.0028	0.0725	0.0143	0.0547	0.0632
3	15.12	0.2995	-0.0246	0.0016	-0.0845	0.0072	0.1817	0.0306	-0.0034	0.0957
3	15.12	0.3493	-0.0511	0.0021	-0.1464	0.0125	0.2963	0.0525	0.1839	0.0932
3	15.12	0.4000	-0.0717	0.0028	-0.2121	0.0198	0.4220	0.0794	0.3568	0.1020
3	15.12	0.4497	-0.1010	0.0033	-0.2919	0.0264	0.5080	0.1083	0.2964	0.1103
3	15.12	0.4997	-0.1454	0.0035	-0.3874	0.0342	0.6089	0.1363	0.4120	0.1123
3	15.12	0.5556	-0.1755	0.0040	-0.4678	0.0432	0.6754	0.1680	0.5224	0.1189
3	15.12	0.5995	-0.1938	0.0040	-0.5563	0.0507	0.6650	0.1908	0.5554	0.1244
3	15.12	0.6498	-0.2265	0.0047	-0.6590	0.0603	0.6355	0.2161	0.6071	0.1274
3	15.12	0.6890	-0.2944	0.0049	-0.7515	0.0681	0.5853	0.2353	0.7054	0.1328
3	15.12	0.7495	-0.2998	0.0054	-0.8549	0.0807	0.3841	0.2625	0.6111	0.1340
3	15.12	0.7998	-0.3118	0.0057	-0.9682	0.0922	0.2138	0.2855	0.7161	0.1380
3	15.12	0.8577	-0.3535	0.0060	-1.0835	0.1051	-0.0907	0.3151	0.7404	0.1448
3	15.12	0.9178	-0.3817	0.0062	-1.2642	0.1184	-0.4290	0.3491	0.7645	0.1464
3	15.12	0.9729	-0.3720	0.0098	-1.3404	0.1303	-0.8126	0.3841	0.6931	0.1538
4	15.12	0.2001	0.0355	0.0020	0.0024	0.0012	0.0026	0.0085	0.0566	0.0346
4	15.12	0.2502	0.0142	0.0014	0.0024	0.0028	0.0048	0.0186	0.0298	0.0670
4	15.12	0.3001	-0.0004	0.0014	0.0088	0.0051	0.0176	0.0317	0.1046	0.0787
4	15.12	0.3502	-0.0383	0.0019	0.0155	0.0092	0.0318	0.0532	0.2108	0.0690
4	15.12	0.4002	-0.0753	0.0023	0.0229	0.0144	0.0513	0.0822	0.2510	0.0790
4	15.12	0.4500	-0.0936	0.0025	0.0284	0.0192	0.0360	0.1128	0.2160	0.0808
4	15.12	0.5001	-0.1255	0.0025	0.0156	0.0251	0.0334	0.1465	0.4397	0.0786
4	15.12	0.5560	-0.1592	0.0030	0.0074	0.0319	-0.0578	0.1829	0.3368	0.0849
4	15.12	0.6001	-0.1800	0.0035	0.0176	0.0379	-0.1549	0.2094	0.3582	0.0862
4	15.12	0.6501	-0.2314	0.0038	-0.0168	0.0449	-0.2744	0.2364	0.5859	0.0924
4	15.12	0.6999	-0.2527	0.0042	-0.0525	0.0527	-0.4450	0.2616	0.7318	0.0936
4	15.12	0.7500	-0.2848	0.0049	-0.0394	0.0612	-0.6929	0.2848	0.8303	0.0970
4	15.12	0.8002	-0.3169	0.0051	-0.0740	0.0698	-0.9728	0.3078	0.7376	0.1039
4	15.12	0.8582	-0.3240	0.0060	-0.0787	0.0808	-1.3511	0.3361	0.6076	0.1126
4	15.12	0.9101	-0.3283	0.0063	-0.1146	0.0913	-1.7320	0.3615	0.5108	0.1123
4	15.12	0.9728	-0.3262	0.0093	-0.0969	0.1044	-2.0356	0.3980	1.2576	0.1083

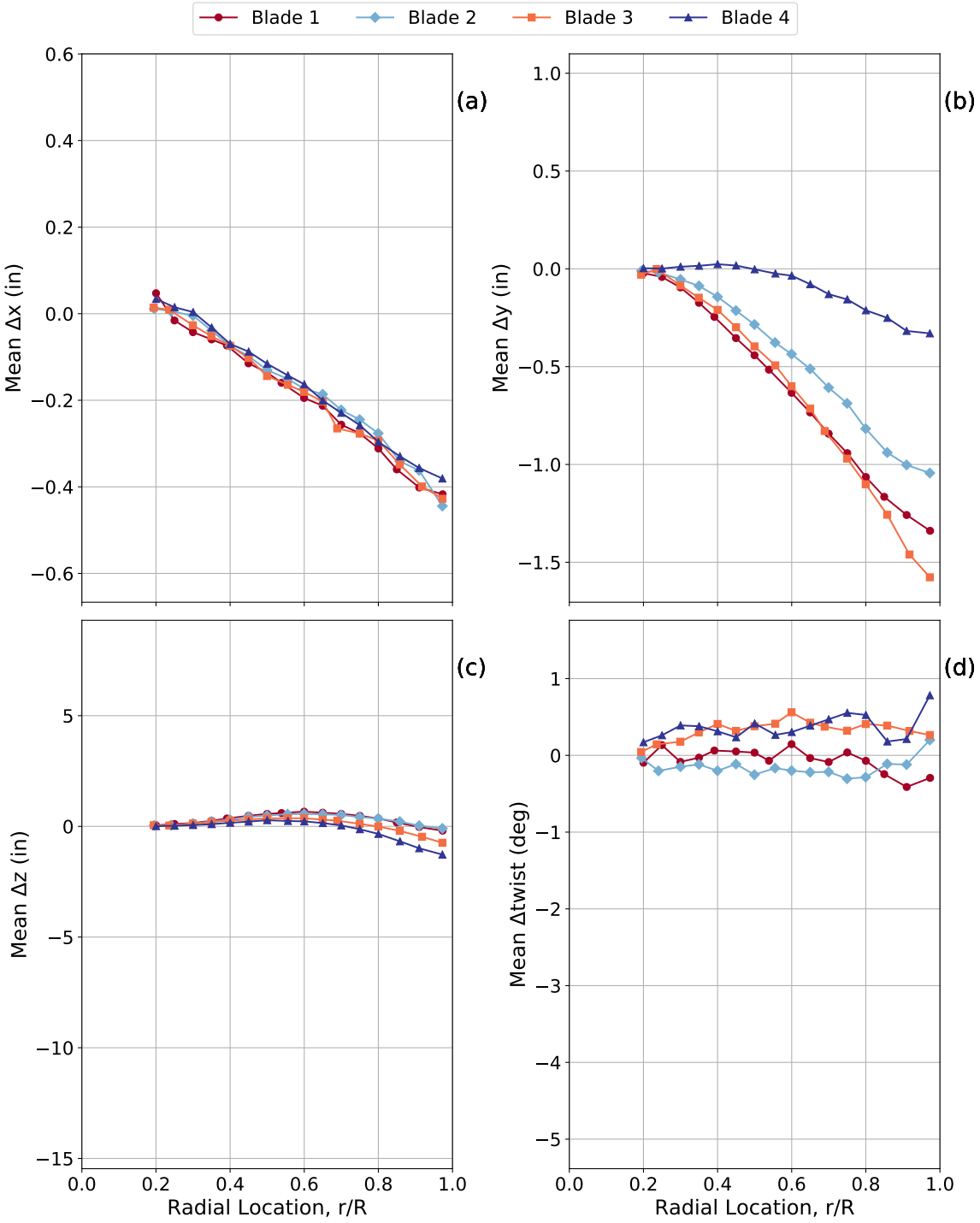


Figure 2.5-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.127$, $\mu = 0.24$, $\alpha = -0°$ NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0473	0.0024	-0.0219	0.0013	0.0464	0.0087	-0.0958	0.0347
1	29.88	0.2499	-0.0157	0.0019	-0.0418	0.0035	0.1083	0.0183	0.1340	0.0632
1	29.88	0.2998	-0.0427	0.0018	-0.0952	0.0060	0.1493	0.0334	-0.0851	0.0791
1	29.88	0.3498	-0.0594	0.0024	-0.1737	0.0112	0.2525	0.0567	-0.0299	0.0716
1	29.88	0.3913	-0.0736	0.0028	-0.2455	0.0161	0.3550	0.0815	0.0630	0.0706
1	29.88	0.4496	-0.1147	0.0038	-0.3543	0.0234	0.4775	0.1198	0.0506	0.0803
1	29.88	0.4997	-0.1358	0.0044	-0.4420	0.0309	0.5632	0.1547	0.0356	0.0881
1	29.88	0.5387	-0.1596	0.0048	-0.5154	0.0368	0.6017	0.1821	-0.0701	0.0955
1	29.88	0.5996	-0.1947	0.0052	-0.6338	0.0475	0.6642	0.2233	0.1462	0.1072
1	29.88	0.6498	-0.2127	0.0059	-0.7342	0.0567	0.6175	0.2558	-0.0355	0.1174
1	29.88	0.6998	-0.2564	0.0063	-0.8429	0.0664	0.5666	0.2865	-0.0869	0.1281
1	29.88	0.7500	-0.2765	0.0067	-0.9422	0.0773	0.4765	0.3174	0.0381	0.1303
1	29.88	0.8001	-0.3115	0.0070	-1.0643	0.0883	0.3545	0.3506	-0.0713	0.1425
1	29.88	0.8497	-0.3597	0.0075	-1.1655	0.0999	0.1770	0.3822	-0.2447	0.1457
1	29.88	0.9102	-0.4015	0.0078	-1.2584	0.1147	-0.0307	0.4218	-0.4118	0.1572
1	29.88	0.9734	-0.4171	0.0118	-1.3391	0.1305	-0.1941	0.4627	-0.2935	0.1620
2	29.88	0.1949	0.0117	0.0022	-0.0102	0.0010	0.0424	0.0075	-0.0338	0.0277
2	29.88	0.2405	0.0057	0.0016	-0.0181	0.0029	0.0567	0.0143	-0.2022	0.0581
2	29.88	0.2999	-0.0046	0.0021	-0.0545	0.0058	0.1255	0.0297	-0.1473	0.0716
2	29.88	0.3498	-0.0388	0.0021	-0.0874	0.0098	0.2181	0.0489	-0.1180	0.0671
2	29.88	0.3998	-0.0746	0.0027	-0.1430	0.0161	0.3076	0.0755	-0.2013	0.0681
2	29.88	0.4496	-0.0979	0.0033	-0.2137	0.0222	0.4291	0.1026	-0.1139	0.0671
2	29.88	0.4995	-0.1301	0.0037	-0.2847	0.0281	0.4884	0.1320	-0.2515	0.0695
2	29.88	0.5551	-0.1506	0.0043	-0.3770	0.0359	0.5501	0.1676	-0.1655	0.0736
2	29.88	0.5996	-0.1732	0.0045	-0.4359	0.0419	0.5644	0.1967	-0.1994	0.0691
2	29.88	0.6497	-0.1861	0.0051	-0.5113	0.0494	0.5430	0.2300	-0.2199	0.0682
2	29.88	0.6996	-0.2224	0.0054	-0.6073	0.0573	0.5165	0.2638	-0.2151	0.0703
2	29.88	0.7495	-0.2447	0.0058	-0.6878	0.0653	0.4204	0.2990	-0.3041	0.0673
2	29.88	0.7996	-0.2764	0.0061	-0.8171	0.0733	0.3535	0.3353	-0.2845	0.0733
2	29.88	0.8578	-0.3411	0.0064	-0.9391	0.0825	0.2164	0.3810	-0.1116	0.0834
2	29.88	0.9100	-0.3619	0.0069	-1.0025	0.0915	0.0317	0.4214	-0.1202	0.0818
2	29.88	0.9727	-0.4444	0.0098	-1.0438	0.1025	-0.0934	0.4754	0.2003	0.0993
3	29.88	0.1938	0.0140	0.0019	-0.0301	0.0010	0.0508	0.0062	0.0444	0.0305
3	29.88	0.2357	0.0092	0.0015	-0.0013	0.0021	0.0393	0.0118	0.1436	0.0565
3	29.88	0.2995	-0.0266	0.0021	-0.0849	0.0051	0.1238	0.0259	0.1781	0.0752
3	29.88	0.3493	-0.0518	0.0025	-0.1477	0.0082	0.1933	0.0440	0.2981	0.0751
3	29.88	0.4000	-0.0741	0.0031	-0.2101	0.0135	0.2667	0.0684	0.4090	0.0875
3	29.88	0.4497	-0.1024	0.0031	-0.2985	0.0185	0.3110	0.0957	0.3189	0.0865
3	29.88	0.4997	-0.1440	0.0040	-0.3965	0.0230	0.3624	0.1233	0.3798	0.0939
3	29.88	0.5556	-0.1642	0.0051	-0.4934	0.0310	0.3655	0.1550	0.4124	0.0963
3	29.88	0.5995	-0.1806	0.0051	-0.6004	0.0375	0.3673	0.1790	0.5614	0.1026
3	29.88	0.6498	-0.2030	0.0057	-0.7146	0.0459	0.3046	0.2036	0.4257	0.1127
3	29.88	0.6890	-0.2651	0.0058	-0.8290	0.0525	0.2574	0.2216	0.3742	0.1110
3	29.88	0.7495	-0.2768	0.0063	-0.9701	0.0645	0.1151	0.2503	0.3212	0.1286
3	29.88	0.7998	-0.2930	0.0067	-1.1012	0.0745	-0.0063	0.2728	0.4078	0.1321
3	29.88	0.8577	-0.3482	0.0067	-1.2571	0.0871	-0.2035	0.2987	0.3881	0.1367
3	29.88	0.9178	-0.3991	0.0072	-1.4604	0.1005	-0.4697	0.3321	0.3181	0.1474
3	29.88	0.9729	-0.4274	0.0108	-1.5769	0.1133	-0.7388	0.3674	0.2644	0.1440
4	29.88	0.2001	0.0340	0.0019	0.0030	0.0014	0.0113	0.0059	0.1709	0.0357
4	29.88	0.2502	0.0149	0.0016	0.0013	0.0038	0.0272	0.0116	0.2619	0.0560
4	29.88	0.3001	0.0037	0.0022	0.0106	0.0066	0.0593	0.0212	0.3903	0.0779
4	29.88	0.3502	-0.0319	0.0028	0.0154	0.0120	0.1000	0.0348	0.3796	0.0778
4	29.88	0.4002	-0.0700	0.0032	0.0236	0.0189	0.1624	0.0533	0.3134	0.0725
4	29.88	0.4500	-0.0877	0.0040	0.0167	0.0259	0.2156	0.0721	0.2357	0.0728
4	29.88	0.5001	-0.1158	0.0043	-0.0027	0.0345	0.2783	0.0917	0.4154	0.0841
4	29.88	0.5560	-0.1427	0.0050	-0.0242	0.0446	0.2423	0.1150	0.2670	0.0866
4	29.88	0.6001	-0.1632	0.0055	-0.0351	0.0539	0.2268	0.1341	0.3037	0.0855
4	29.88	0.6501	-0.2007	0.0063	-0.0789	0.0648	0.1480	0.1550	0.3868	0.0898
4	29.88	0.6999	-0.2291	0.0067	-0.1296	0.0760	0.0421	0.1754	0.4699	0.0915
4	29.88	0.7500	-0.2578	0.0069	-0.1565	0.0887	-0.1295	0.1969	0.5539	0.0943
4	29.88	0.8002	-0.2963	0.0075	-0.2121	0.1009	-0.3419	0.2193	0.5262	0.0975
4	29.88	0.8582	-0.3295	0.0078	-0.2510	0.1154	-0.6763	0.2459	0.1803	0.1018
4	29.88	0.9101	-0.3565	0.0080	-0.3175	0.1290	-0.9903	0.2722	0.2131	0.1000
4	29.88	0.9728	-0.3808	0.0125	-0.3300	0.1453	-1.2747	0.3069	0.7824	0.1122

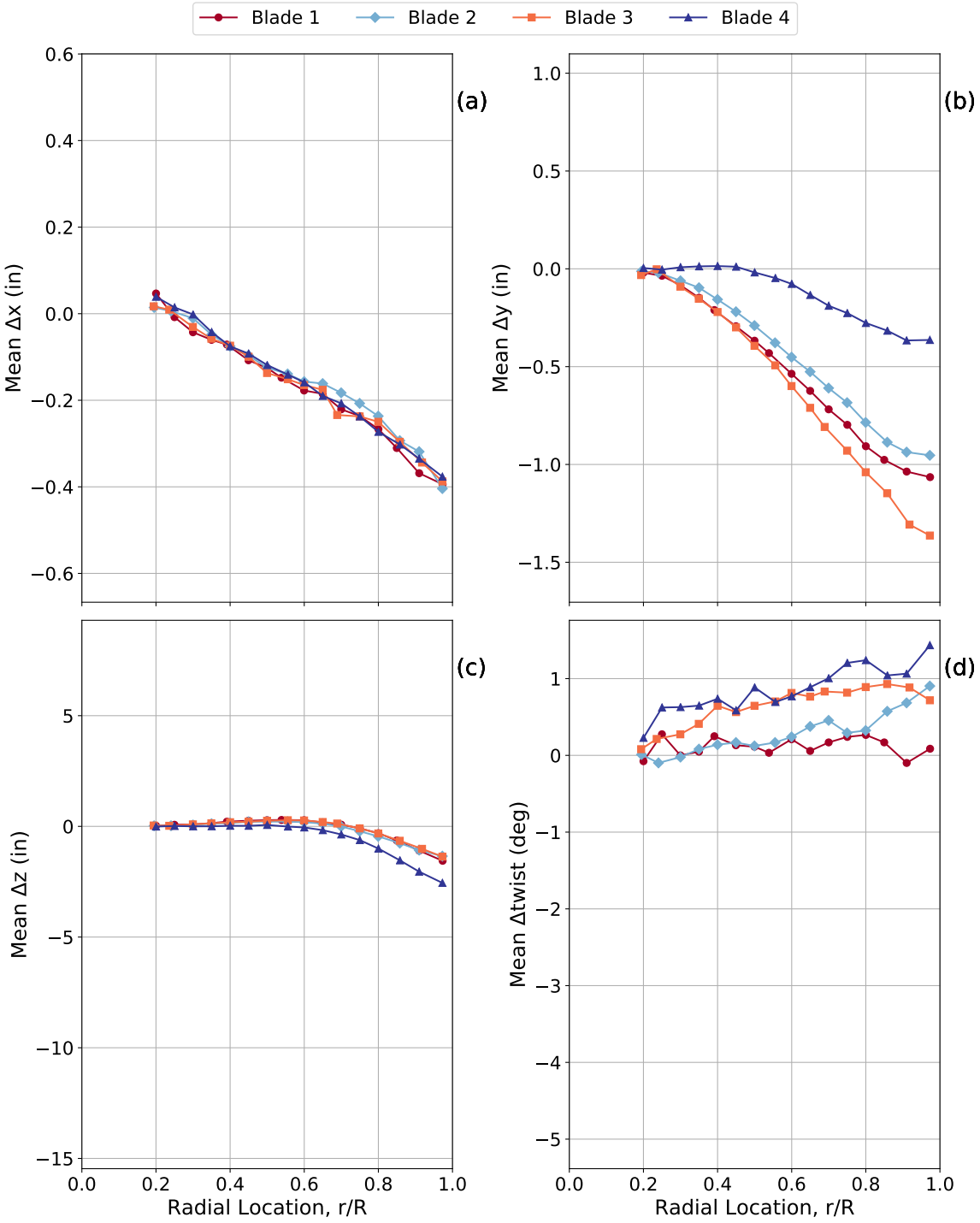


Figure 2.5-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.127$, $\mu = 0.24$, $\alpha = -0°$ NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0467	0.0028	-0.0198	0.0011	0.0258	0.0077	-0.0761	0.0362
1	45	0.2499	-0.0080	0.0018	-0.0356	0.0028	0.0715	0.0152	0.2749	0.0651
1	45	0.2998	-0.0429	0.0022	-0.0841	0.0051	0.0883	0.0300	-0.0005	0.0841
1	45	0.3498	-0.0604	0.0020	-0.1478	0.0090	0.1459	0.0515	0.0484	0.0896
1	45	0.3913	-0.0713	0.0025	-0.2108	0.0132	0.2125	0.0739	0.2494	0.0982
1	45	0.4496	-0.1076	0.0030	-0.2936	0.0177	0.2562	0.1044	0.1318	0.1110
1	45	0.4997	-0.1254	0.0029	-0.3674	0.0228	0.2810	0.1324	0.1128	0.1105
1	45	0.5387	-0.1478	0.0034	-0.4310	0.0273	0.2901	0.1542	0.0337	0.1200
1	45	0.5996	-0.1775	0.0036	-0.5366	0.0355	0.2787	0.1848	0.2102	0.1243
1	45	0.6498	-0.1851	0.0043	-0.6239	0.0421	0.1756	0.2118	0.0578	0.1252
1	45	0.6998	-0.2209	0.0043	-0.7183	0.0495	0.0778	0.2366	0.1689	0.1311
1	45	0.7500	-0.2366	0.0053	-0.7975	0.0581	-0.0905	0.2566	0.2407	0.1324
1	45	0.8001	-0.2668	0.0053	-0.9069	0.0670	-0.3096	0.2793	0.2662	0.1391
1	45	0.8497	-0.3103	0.0059	-0.9765	0.0762	-0.6350	0.3030	0.1689	0.1380
1	45	0.9102	-0.3685	0.0059	-1.0364	0.0880	-1.0973	0.3329	-0.0988	0.1367
1	45	0.9734	-0.3941	0.0091	-1.0648	0.1008	-1.5549	0.3653	0.0864	0.1393
2	45	0.1949	0.0143	0.0021	-0.0125	0.0009	0.0262	0.0046	0.0107	0.0289
2	45	0.2405	0.0061	0.0020	-0.0199	0.0022	0.0287	0.0094	-0.0982	0.0464
2	45	0.2999	-0.0105	0.0016	-0.0611	0.0054	0.0638	0.0197	-0.0228	0.0670
2	45	0.3498	-0.0484	0.0022	-0.0966	0.0070	0.1191	0.0326	0.0817	0.0650
2	45	0.3998	-0.0752	0.0022	-0.1567	0.0126	0.1552	0.0511	0.1390	0.0770
2	45	0.4496	-0.0962	0.0025	-0.2193	0.0170	0.2056	0.0693	0.1675	0.0902
2	45	0.4995	-0.1248	0.0032	-0.2901	0.0213	0.2144	0.0898	0.1231	0.0850
2	45	0.5551	-0.1392	0.0036	-0.3782	0.0269	0.2116	0.1118	0.1673	0.0833
2	45	0.5996	-0.1568	0.0032	-0.4516	0.0313	0.1911	0.1296	0.2407	0.0950
2	45	0.6497	-0.1614	0.0036	-0.5261	0.0369	0.1215	0.1483	0.3768	0.1013
2	45	0.6996	-0.1828	0.0037	-0.6096	0.0434	-0.0053	0.1667	0.4558	0.1057
2	45	0.7495	-0.2072	0.0038	-0.6842	0.0498	-0.2185	0.1851	0.2929	0.1117
2	45	0.7996	-0.2366	0.0039	-0.7853	0.0568	-0.4534	0.2022	0.3242	0.1192
2	45	0.8578	-0.2932	0.0041	-0.8863	0.0658	-0.7572	0.2236	0.5743	0.1232
2	45	0.9100	-0.3187	0.0043	-0.9369	0.0734	-1.0716	0.2426	0.6840	0.1252
2	45	0.9727	-0.4040	0.0064	-0.9534	0.0832	-1.3450	0.2687	0.9034	0.1297
3	45	0.1938	0.0171	0.0022	-0.0319	0.0010	0.0386	0.0057	0.0805	0.0286
3	45	0.2357	0.0093	0.0016	-0.0025	0.0022	0.0253	0.0112	0.2138	0.0411
3	45	0.2995	-0.0306	0.0019	-0.0912	0.0050	0.0904	0.0240	0.2745	0.0630
3	45	0.3493	-0.0578	0.0024	-0.1530	0.0084	0.1364	0.0410	0.4105	0.0661
3	45	0.4000	-0.0739	0.0032	-0.2208	0.0137	0.1870	0.0638	0.6463	0.0679
3	45	0.4497	-0.0994	0.0036	-0.2994	0.0186	0.2104	0.0843	0.5641	0.0716
3	45	0.4997	-0.1370	0.0039	-0.3937	0.0246	0.2526	0.1043	0.6459	0.0909
3	45	0.5556	-0.1514	0.0049	-0.4933	0.0320	0.2769	0.1268	0.7022	0.1011
3	45	0.5995	-0.1649	0.0047	-0.5993	0.0386	0.2654	0.1437	0.8132	0.1074
3	45	0.6498	-0.1758	0.0048	-0.7106	0.0467	0.1975	0.1632	0.7653	0.1270
3	45	0.6890	-0.2340	0.0052	-0.8084	0.0540	0.1275	0.1781	0.8319	0.1333
3	45	0.7495	-0.2373	0.0053	-0.9296	0.0663	-0.0901	0.2023	0.8172	0.1440
3	45	0.7998	-0.2498	0.0056	-1.0397	0.0771	-0.3196	0.2213	0.8895	0.1507
3	45	0.8577	-0.2960	0.0061	-1.1472	0.0903	-0.6502	0.2414	0.9290	0.1641
3	45	0.9178	-0.3438	0.0067	-1.3073	0.1046	-1.0155	0.2631	0.8843	0.1753
3	45	0.9729	-0.3875	0.0106	-1.3634	0.1179	-1.3660	0.2860	0.7178	0.1781
4	45	0.2001	0.0390	0.0020	0.0041	0.0010	-0.0088	0.0049	0.2280	0.0278
4	45	0.2502	0.0145	0.0021	-0.0043	0.0025	0.0173	0.0110	0.6236	0.0484
4	45	0.3001	-0.0018	0.0020	0.0080	0.0049	0.0012	0.0205	0.6286	0.0623
4	45	0.3502	-0.0425	0.0024	0.0125	0.0073	0.0038	0.0342	0.6481	0.0639
4	45	0.4002	-0.0755	0.0032	0.0140	0.0122	0.0276	0.0540	0.7379	0.0665
4	45	0.4500	-0.0923	0.0035	0.0107	0.0165	0.0259	0.0736	0.5863	0.0655
4	45	0.5001	-0.1187	0.0034	-0.0185	0.0213	0.0632	0.0954	0.8851	0.0787
4	45	0.5560	-0.1408	0.0037	-0.0474	0.0278	-0.0095	0.1196	0.6951	0.0883
4	45	0.6001	-0.1587	0.0038	-0.0773	0.0334	-0.0491	0.1383	0.7690	0.1046
4	45	0.6501	-0.1900	0.0040	-0.1338	0.0402	-0.1713	0.1594	0.8880	0.1000
4	45	0.6999	-0.2072	0.0040	-0.1889	0.0475	-0.3652	0.1781	1.0049	0.0970
4	45	0.7500	-0.2375	0.0037	-0.2265	0.0553	-0.6211	0.1950	1.2046	0.1047
4	45	0.8002	-0.2730	0.0039	-0.2770	0.0631	-1.0039	0.2118	1.2399	0.1084
4	45	0.8582	-0.3023	0.0040	-0.3164	0.0727	-1.5364	0.2329	1.0415	0.1101
4	45	0.9101	-0.3348	0.0046	-0.3661	0.0814	-2.0465	0.2563	1.0643	0.1070
4	45	0.9728	-0.3765	0.0062	-0.3637	0.0918	-2.5542	0.2928	1.4350	0.1086

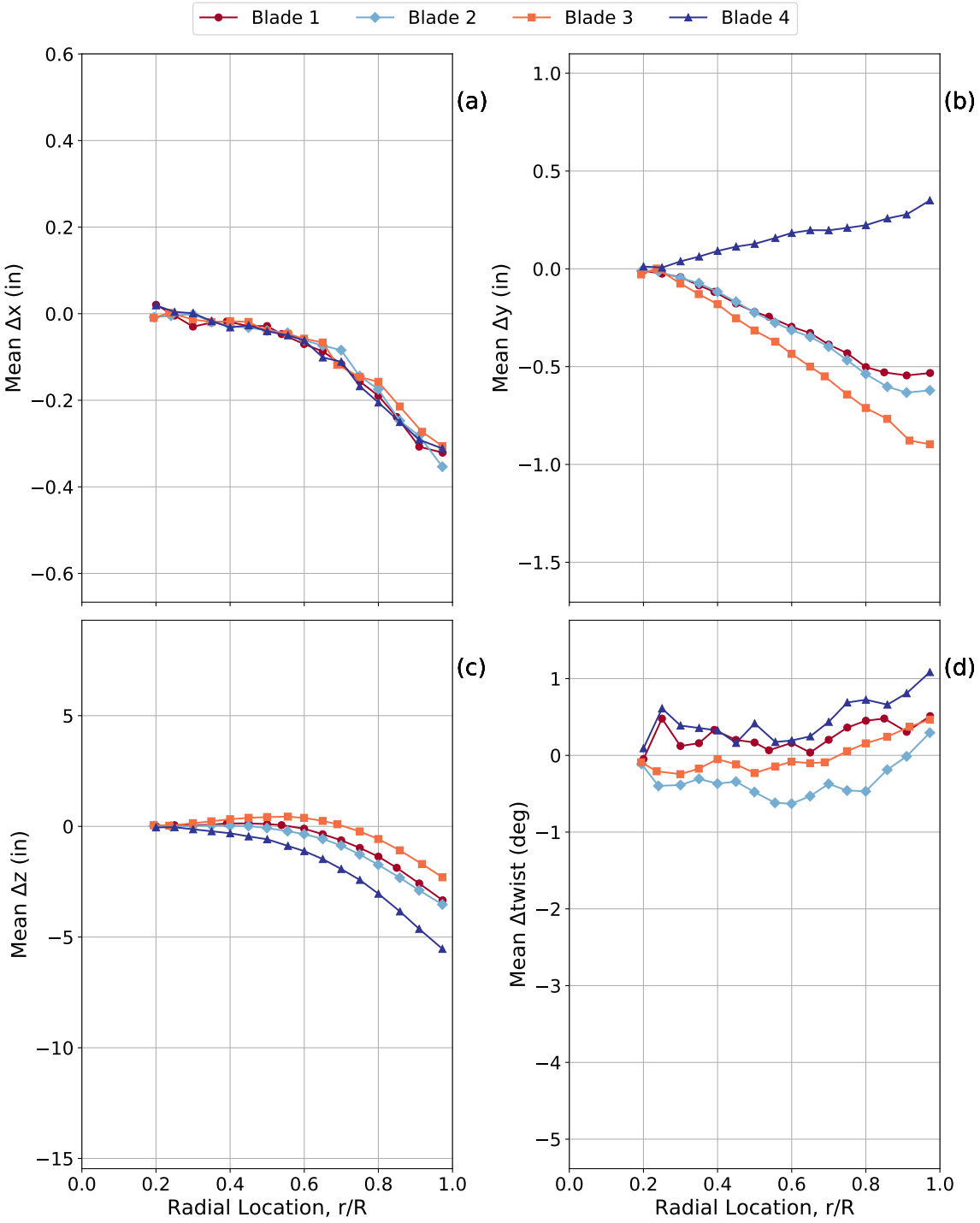


Figure 2.5-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0206	0.0022	-0.0099	0.0014	0.0058	0.0049	-0.0479	0.0285
1	60.12	0.2499	-0.0043	0.0015	-0.0250	0.0028	0.0535	0.0095	0.4789	0.0595
1	60.12	0.2998	-0.0299	0.0016	-0.0425	0.0058	0.0468	0.0185	0.1221	0.0690
1	60.12	0.3498	-0.0206	0.0017	-0.0849	0.0099	0.0759	0.0309	0.1587	0.0712
1	60.12	0.3913	-0.0178	0.0022	-0.1176	0.0145	0.1322	0.0445	0.3322	0.0778
1	60.12	0.4496	-0.0286	0.0022	-0.1775	0.0207	0.1342	0.0649	0.2015	0.0885
1	60.12	0.4997	-0.0285	0.0024	-0.2202	0.0273	0.1042	0.0884	0.1676	0.0982
1	60.12	0.5387	-0.0471	0.0027	-0.2448	0.0335	0.0566	0.1112	0.0667	0.1039
1	60.12	0.5996	-0.0702	0.0027	-0.2963	0.0430	-0.1042	0.1450	0.1618	0.0962
1	60.12	0.6498	-0.0870	0.0028	-0.3282	0.0521	-0.3542	0.1718	0.0369	0.0954
1	60.12	0.6998	-0.1164	0.0040	-0.3872	0.0604	-0.6294	0.1961	0.2032	0.1100
1	60.12	0.7500	-0.1566	0.0044	-0.4317	0.0711	-0.9725	0.2192	0.3621	0.1118
1	60.12	0.8001	-0.1898	0.0047	-0.5023	0.0814	-1.3666	0.2426	0.4514	0.1156
1	60.12	0.8497	-0.2387	0.0054	-0.5293	0.0922	-1.8728	0.2680	0.4795	0.1226
1	60.12	0.9102	-0.3072	0.0058	-0.5450	0.1046	-2.5780	0.3023	0.3067	0.1326
1	60.12	0.9734	-0.3211	0.0079	-0.5326	0.1184	-3.3388	0.3403	0.5116	0.1331
2	60.12	0.1949	-0.0083	0.0014	-0.0107	0.0009	0.0174	0.0065	-0.1120	0.0288
2	60.12	0.2405	-0.0046	0.0013	-0.0131	0.0021	-0.0022	0.0129	-0.3980	0.0413
2	60.12	0.2999	-0.0012	0.0018	-0.0474	0.0043	0.0136	0.0282	-0.3861	0.0643
2	60.12	0.3498	-0.0193	0.0020	-0.0734	0.0073	0.0447	0.0482	-0.3059	0.0683
2	60.12	0.3998	-0.0289	0.0027	-0.1178	0.0117	0.0282	0.0749	-0.3681	0.0767
2	60.12	0.4496	-0.0321	0.0029	-0.1683	0.0159	0.0140	0.1057	-0.3421	0.0847
2	60.12	0.4995	-0.0390	0.0028	-0.2235	0.0214	-0.0739	0.1427	-0.4775	0.0831
2	60.12	0.5551	-0.0442	0.0034	-0.2754	0.0277	-0.2179	0.1862	-0.6190	0.0883
2	60.12	0.5996	-0.0611	0.0033	-0.3134	0.0331	-0.3472	0.2233	-0.6294	0.0905
2	60.12	0.6497	-0.0737	0.0037	-0.3477	0.0393	-0.5648	0.2660	-0.5312	0.0958
2	60.12	0.6996	-0.0842	0.0048	-0.3981	0.0460	-0.8647	0.3091	-0.3717	0.0991
2	60.12	0.7495	-0.1442	0.0066	-0.4669	0.0523	-1.2664	0.3526	-0.4581	0.1048
2	60.12	0.7996	-0.1746	0.0076	-0.5376	0.0596	-1.7336	0.3999	-0.4679	0.1118
2	60.12	0.8578	-0.2473	0.0093	-0.6026	0.0677	-2.3197	0.4587	-0.1876	0.1058
2	60.12	0.9100	-0.2820	0.0105	-0.6326	0.0753	-2.8901	0.5139	-0.0131	0.1049
2	60.12	0.9727	-0.3535	0.0130	-0.6214	0.0843	-3.5278	0.5842	0.2951	0.1151
3	60.12	0.1938	-0.0098	0.0017	-0.0287	0.0010	0.0535	0.0043	-0.0901	0.0268
3	60.12	0.2357	0.0020	0.0016	0.0012	0.0026	0.0292	0.0075	-0.2071	0.0497
3	60.12	0.2995	-0.0132	0.0019	-0.0752	0.0053	0.1420	0.0176	-0.2453	0.0677
3	60.12	0.3493	-0.0194	0.0021	-0.1293	0.0094	0.2286	0.0300	-0.1729	0.0719
3	60.12	0.4000	-0.0172	0.0027	-0.1808	0.0151	0.3238	0.0467	-0.0493	0.0773
3	60.12	0.4497	-0.0190	0.0028	-0.2528	0.0212	0.3869	0.0674	-0.1177	0.0790
3	60.12	0.4997	-0.0400	0.0035	-0.3153	0.0286	0.4191	0.0890	-0.2300	0.0924
3	60.12	0.5556	-0.0468	0.0034	-0.3724	0.0378	0.4384	0.1127	-0.1450	0.0927
3	60.12	0.5995	-0.0577	0.0037	-0.4347	0.0464	0.3833	0.1310	-0.0822	0.1082
3	60.12	0.6498	-0.0665	0.0038	-0.4999	0.0566	0.2456	0.1515	-0.1016	0.1173
3	60.12	0.6890	-0.1181	0.0045	-0.5496	0.0651	0.0964	0.1657	-0.0907	0.1156
3	60.12	0.7495	-0.1461	0.0057	-0.6422	0.0787	-0.2291	0.1891	0.0544	0.1278
3	60.12	0.7998	-0.1575	0.0064	-0.7114	0.0918	-0.5708	0.2091	0.1564	0.1362
3	60.12	0.8577	-0.2143	0.0067	-0.7671	0.1068	-1.0806	0.2326	0.2423	0.1359
3	60.12	0.9178	-0.2729	0.0072	-0.8776	0.1231	-1.7023	0.2570	0.3730	0.1445
3	60.12	0.9729	-0.3059	0.0108	-0.8967	0.1371	-2.2982	0.2823	0.4657	0.1532
4	60.12	0.2001	0.0192	0.0014	0.0117	0.0010	-0.0463	0.0049	0.0919	0.0248
4	60.12	0.2502	0.0042	0.0015	0.0062	0.0024	-0.0383	0.0112	0.6116	0.0422
4	60.12	0.3001	0.0010	0.0018	0.0383	0.0046	-0.1325	0.0209	0.3878	0.0560
4	60.12	0.3502	-0.0170	0.0022	0.0625	0.0078	-0.2221	0.0355	0.3567	0.0637
4	60.12	0.4002	-0.0317	0.0029	0.0913	0.0125	-0.3119	0.0558	0.3244	0.0699
4	60.12	0.4500	-0.0269	0.0031	0.1133	0.0170	-0.4546	0.0788	0.1619	0.0807
4	60.12	0.5001	-0.0405	0.0037	0.1274	0.0223	-0.5840	0.1045	0.4168	0.0936
4	60.12	0.5560	-0.0501	0.0039	0.1578	0.0286	-0.8829	0.1349	0.1738	0.0966
4	60.12	0.6001	-0.0617	0.0042	0.1832	0.0344	-1.1192	0.1579	0.1938	0.0951
4	60.12	0.6501	-0.1012	0.0045	0.1975	0.0411	-1.4772	0.1848	0.2475	0.0934
4	60.12	0.6999	-0.1110	0.0057	0.1969	0.0490	-1.9275	0.2099	0.4362	0.1005
4	60.12	0.7500	-0.1676	0.0076	0.2093	0.0567	-2.4203	0.2350	0.6887	0.1000
4	60.12	0.8002	-0.2052	0.0087	0.2228	0.0660	-3.0453	0.2609	0.7248	0.0998
4	60.12	0.8582	-0.2503	0.0102	0.2576	0.0773	-3.8438	0.2928	0.6608	0.1067
4	60.12	0.9101	-0.2912	0.0109	0.2778	0.0873	-4.6317	0.3245	0.8091	0.1119
4	60.12	0.9728	-0.3115	0.0149	0.3496	0.1000	-5.5347	0.3639	1.0846	0.1215

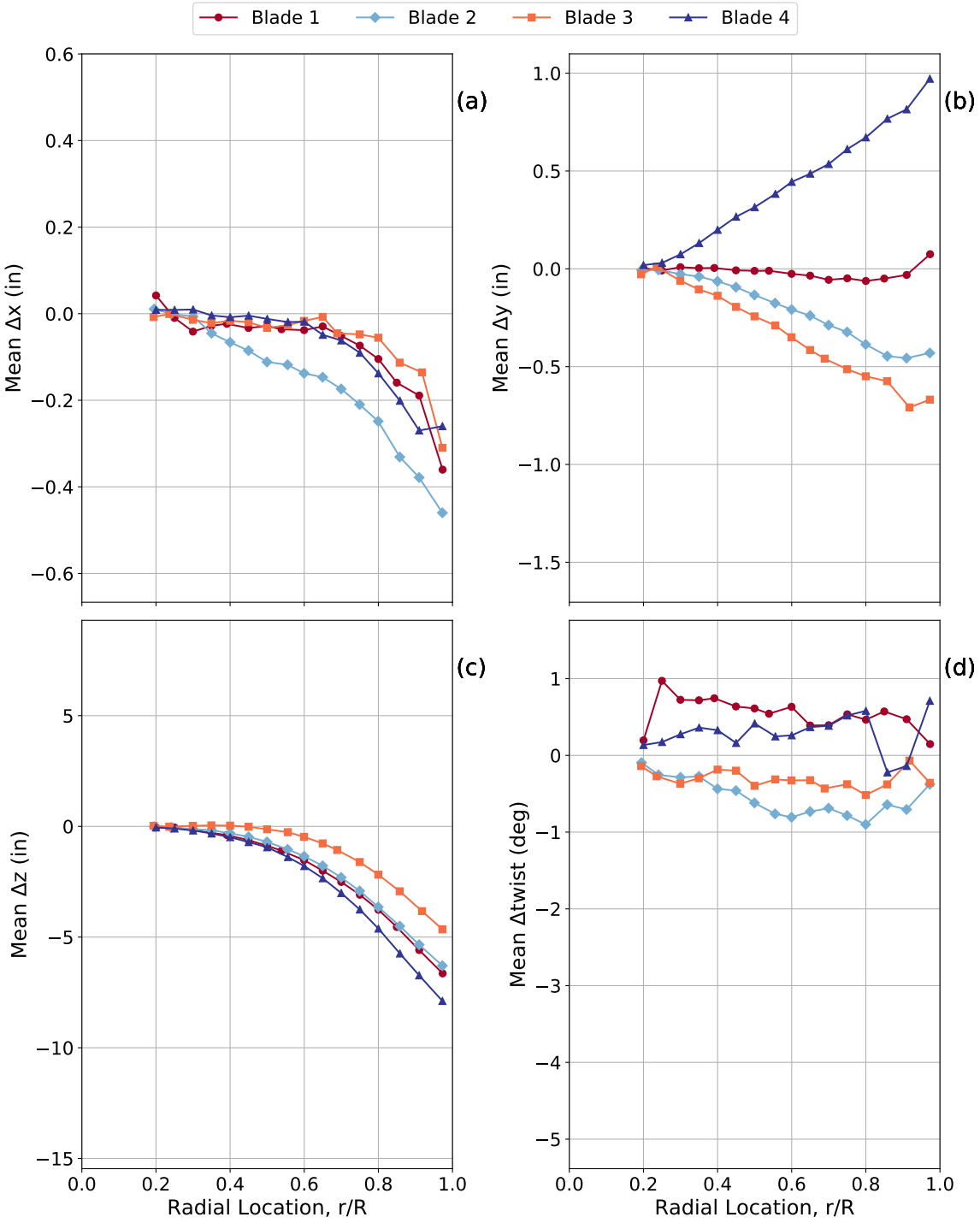


Figure 2.5-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0421	0.0030	0.0036	0.0017	-0.0503	0.0059	0.1957	0.0465
1	74.88	0.2499	-0.0098	0.0017	-0.0084	0.0027	-0.0474	0.0110	0.9711	0.1000
1	74.88	0.2998	-0.0414	0.0020	0.0084	0.0067	-0.1690	0.0226	0.7238	0.1149
1	74.88	0.3498	-0.0278	0.0021	0.0032	0.0116	-0.2948	0.0396	0.7176	0.1148
1	74.88	0.3913	-0.0234	0.0026	0.0044	0.0163	-0.3931	0.0559	0.7440	0.1214
1	74.88	0.4496	-0.0330	0.0029	-0.0078	0.0236	-0.6226	0.0801	0.6367	0.1275
1	74.88	0.4997	-0.0284	0.0035	-0.0105	0.0309	-0.8732	0.1060	0.6113	0.1334
1	74.88	0.5387	-0.0360	0.0041	-0.0098	0.0364	-1.0995	0.1267	0.5429	0.1392
1	74.88	0.5996	-0.0380	0.0043	-0.0257	0.0478	-1.5245	0.1613	0.6326	0.1489
1	74.88	0.6498	-0.0294	0.0048	-0.0349	0.0584	-2.0045	0.1914	0.3894	0.1517
1	74.88	0.6998	-0.0514	0.0054	-0.0562	0.0698	-2.5108	0.2224	0.3928	0.1564
1	74.88	0.7500	-0.0738	0.0061	-0.0486	0.0830	-3.0890	0.2537	0.5347	0.1714
1	74.88	0.8001	-0.1047	0.0068	-0.0622	0.0974	-3.7679	0.2861	0.4646	0.1742
1	74.88	0.8497	-0.1594	0.0082	-0.0499	0.1127	-4.5463	0.3193	0.5722	0.1760
1	74.88	0.9102	-0.1891	0.0112	-0.0313	0.1300	-5.5874	0.3611	0.4709	0.1825
1	74.88	0.9734	-0.3603	0.0132	0.0747	0.1518	-6.6421	0.4070	0.1471	0.1911
2	74.88	0.1949	0.0107	0.0015	-0.0067	0.0010	-0.0160	0.0039	-0.0946	0.0379
2	74.88	0.2405	-0.0003	0.0015	-0.0054	0.0023	-0.0530	0.0085	-0.2542	0.0527
2	74.88	0.2999	-0.0065	0.0019	-0.0273	0.0044	-0.1220	0.0173	-0.2865	0.0846
2	74.88	0.3498	-0.0452	0.0023	-0.0395	0.0080	-0.1755	0.0290	-0.2739	0.0932
2	74.88	0.3998	-0.0661	0.0029	-0.0639	0.0122	-0.3140	0.0461	-0.4365	0.1089
2	74.88	0.4496	-0.0853	0.0029	-0.0938	0.0153	-0.4701	0.0636	-0.4595	0.1155
2	74.88	0.4995	-0.1115	0.0032	-0.1339	0.0200	-0.7013	0.0868	-0.6193	0.1224
2	74.88	0.5551	-0.1181	0.0038	-0.1755	0.0248	-1.0393	0.1153	-0.7624	0.1289
2	74.88	0.5996	-0.1378	0.0040	-0.2082	0.0290	-1.3491	0.1399	-0.8063	0.1339
2	74.88	0.6497	-0.1467	0.0050	-0.2393	0.0343	-1.7807	0.1673	-0.7324	0.1383
2	74.88	0.6996	-0.1739	0.0056	-0.2879	0.0396	-2.3067	0.1960	-0.6888	0.1387
2	74.88	0.7495	-0.2098	0.0066	-0.3231	0.0461	-2.9176	0.2240	-0.7843	0.1453
2	74.88	0.7996	-0.2485	0.0081	-0.3866	0.0528	-3.6406	0.2519	-0.8998	0.1452
2	74.88	0.8578	-0.3310	0.0097	-0.4461	0.0608	-4.5060	0.2824	-0.6424	0.1508
2	74.88	0.9100	-0.3784	0.0110	-0.4564	0.0679	-5.3448	0.3131	-0.7053	0.1557
2	74.88	0.9727	-0.4600	0.0143	-0.4303	0.0768	-6.2940	0.3529	-0.3755	0.1586
3	74.88	0.1938	-0.0077	0.0017	-0.0281	0.0008	0.0242	0.0038	-0.1393	0.0323
3	74.88	0.2357	-0.0006	0.0010	0.0106	0.0016	-0.0125	0.0068	-0.2729	0.0455
3	74.88	0.2995	-0.0141	0.0015	-0.0611	0.0034	0.0245	0.0157	-0.3693	0.0715
3	74.88	0.3493	-0.0218	0.0014	-0.1050	0.0061	0.0445	0.0268	-0.2980	0.0745
3	74.88	0.4000	-0.0163	0.0022	-0.1380	0.0095	0.0329	0.0418	-0.1854	0.0811
3	74.88	0.4497	-0.0196	0.0024	-0.1947	0.0128	-0.0191	0.0595	-0.1994	0.0828
3	74.88	0.4997	-0.0329	0.0028	-0.2431	0.0167	-0.1312	0.0805	-0.3968	0.0907
3	74.88	0.5556	-0.0265	0.0027	-0.2894	0.0213	-0.2630	0.1054	-0.3137	0.0887
3	74.88	0.5995	-0.0167	0.0027	-0.3499	0.0257	-0.4732	0.1257	-0.3267	0.0989
3	74.88	0.6498	-0.0074	0.0030	-0.4151	0.0308	-0.7695	0.1474	-0.3234	0.1014
3	74.88	0.6890	-0.0453	0.0032	-0.4592	0.0354	-1.0676	0.1643	-0.4318	0.0968
3	74.88	0.7495	-0.0478	0.0037	-0.5132	0.0431	-1.6113	0.1893	-0.3764	0.1021
3	74.88	0.7998	-0.0555	0.0042	-0.5493	0.0501	-2.1806	0.2097	-0.5166	0.1057
3	74.88	0.8577	-0.1131	0.0051	-0.5745	0.0584	-2.9321	0.2353	-0.3780	0.1069
3	74.88	0.9178	-0.1357	0.0078	-0.7084	0.0675	-3.8294	0.2651	-0.0683	0.1142
3	74.88	0.9729	-0.3099	0.0090	-0.6687	0.0771	-4.6510	0.2969	-0.3587	0.1266
4	74.88	0.2001	0.0089	0.0012	0.0189	0.0010	-0.0504	0.0040	0.1347	0.0415
4	74.88	0.2502	0.0087	0.0013	0.0304	0.0025	-0.0997	0.0092	0.1735	0.0551
4	74.88	0.3001	0.0097	0.0014	0.0742	0.0044	-0.1864	0.0178	0.2752	0.0899
4	74.88	0.3502	-0.0041	0.0022	0.1317	0.0079	-0.3235	0.0289	0.3615	0.0714
4	74.88	0.4002	-0.0081	0.0030	0.1991	0.0121	-0.4902	0.0466	0.3275	0.0633
4	74.88	0.4500	-0.0045	0.0031	0.2661	0.0166	-0.7117	0.0678	0.1613	0.0715
4	74.88	0.5001	-0.0121	0.0034	0.3150	0.0220	-0.9456	0.0940	0.4156	0.0779
4	74.88	0.5560	-0.0194	0.0045	0.3831	0.0287	-1.3880	0.1267	0.2467	0.0804
4	74.88	0.6001	-0.0185	0.0057	0.4444	0.0344	-1.7945	0.1544	0.2606	0.0912
4	74.88	0.6501	-0.0489	0.0067	0.4862	0.0415	-2.3461	0.1869	0.3680	0.1051
4	74.88	0.6999	-0.0618	0.0080	0.5355	0.0497	-3.0137	0.2175	0.3852	0.0994
4	74.88	0.7500	-0.0903	0.0090	0.6115	0.0578	-3.7569	0.2463	0.5193	0.1315
4	74.88	0.8002	-0.1379	0.0095	0.6718	0.0661	-4.6200	0.2711	0.5801	0.1673
4	74.88	0.8582	-0.2012	0.0111	0.7671	0.0758	-5.7445	0.3014	-0.2226	0.1322
4	74.88	0.9101	-0.2699	0.0126	0.8151	0.0860	-6.7321	0.3182	-0.1387	0.1347
4	74.88	0.9728	-0.2599	0.0185	0.9714	0.0993	-7.8881	0.3453	0.7101	0.3729

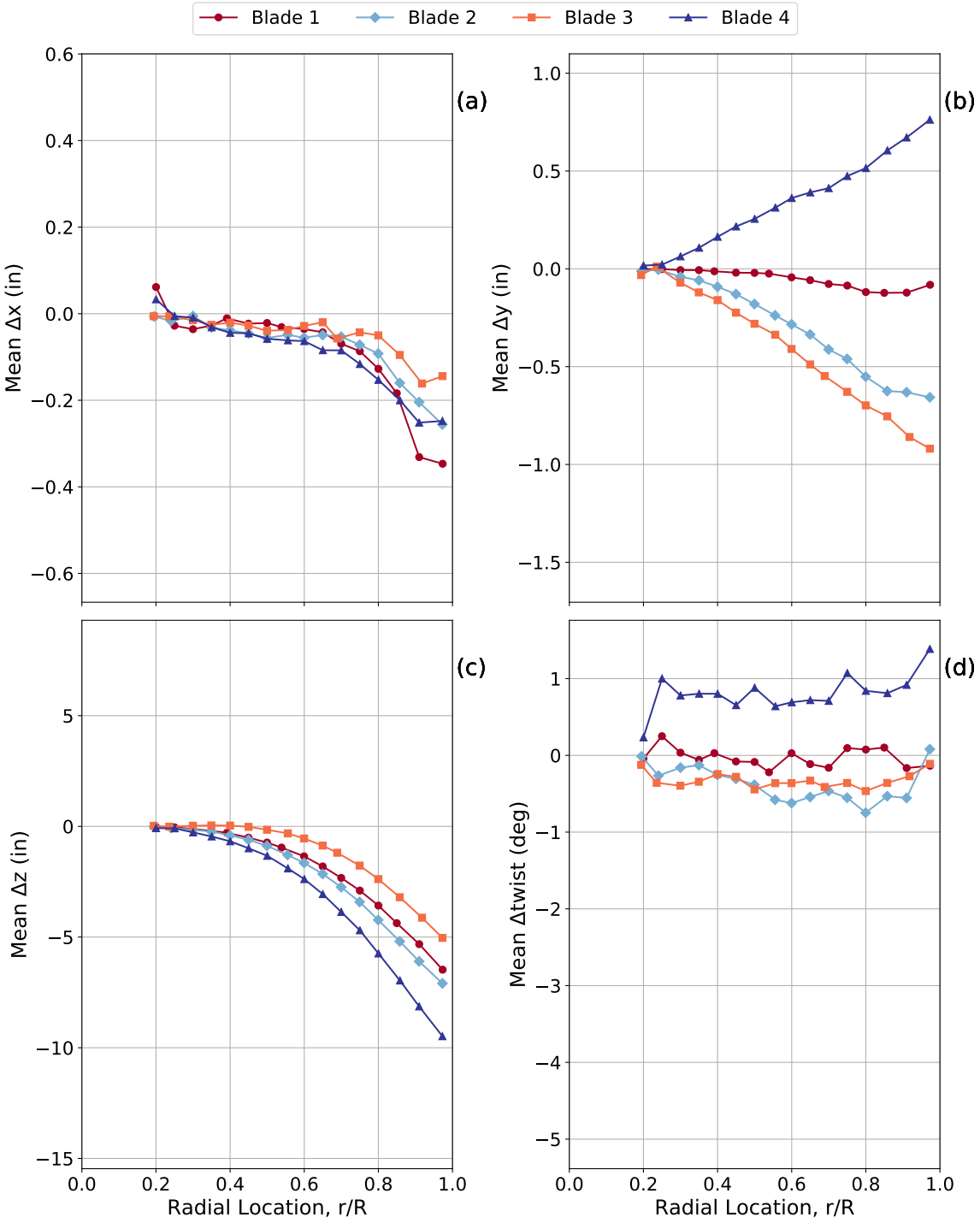


Figure 2.5-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0616	0.0035	-0.0014	0.0021	-0.0301	0.0062	-0.0424	0.0377
1	80.16	0.2499	-0.0277	0.0013	-0.0013	0.0032	-0.0435	0.0118	0.2500	0.0764
1	80.16	0.2998	-0.0358	0.0016	-0.0067	0.0081	-0.1207	0.0249	0.0353	0.0902
1	80.16	0.3498	-0.0274	0.0018	-0.0067	0.0141	-0.2031	0.0426	-0.0594	0.0911
1	80.16	0.3913	-0.0107	0.0023	-0.0125	0.0196	-0.2891	0.0613	0.0286	0.0959
1	80.16	0.4496	-0.0230	0.0028	-0.0198	0.0268	-0.5082	0.0913	-0.0793	0.0971
1	80.16	0.4997	-0.0215	0.0031	-0.0208	0.0337	-0.7313	0.1207	-0.0860	0.1031
1	80.16	0.5387	-0.0310	0.0035	-0.0245	0.0393	-0.9574	0.1448	-0.2200	0.1134
1	80.16	0.5996	-0.0354	0.0040	-0.0436	0.0491	-1.3538	0.1825	0.0279	0.1158
1	80.16	0.6498	-0.0430	0.0047	-0.0580	0.0574	-1.8093	0.2151	-0.1133	0.1236
1	80.16	0.6998	-0.0693	0.0052	-0.0776	0.0658	-2.3278	0.2449	-0.1618	0.1284
1	80.16	0.7500	-0.0867	0.0066	-0.0857	0.0754	-2.9001	0.2744	0.0948	0.1509
1	80.16	0.8001	-0.1273	0.0084	-0.1187	0.0851	-3.5785	0.3045	0.0755	0.1580
1	80.16	0.8497	-0.1838	0.0091	-0.1229	0.0947	-4.3723	0.3373	0.1017	0.1617
1	80.16	0.9102	-0.3313	0.0112	-0.1218	0.1077	-5.3199	0.3719	-0.1652	0.1520
1	80.16	0.9734	-0.3467	0.0134	-0.0817	0.1217	-6.4747	0.4137	-0.1349	0.1556
2	80.16	0.1949	-0.0064	0.0015	-0.0117	0.0009	-0.0229	0.0047	-0.0133	0.0307
2	80.16	0.2405	-0.0168	0.0014	-0.0043	0.0014	-0.0673	0.0089	-0.2645	0.0461
2	80.16	0.2999	-0.0054	0.0016	-0.0409	0.0036	-0.1544	0.0204	-0.1599	0.0666
2	80.16	0.3498	-0.0318	0.0022	-0.0588	0.0061	-0.2353	0.0354	-0.1279	0.0722
2	80.16	0.3998	-0.0385	0.0027	-0.0920	0.0094	-0.4053	0.0545	-0.2553	0.0777
2	80.16	0.4496	-0.0456	0.0035	-0.1293	0.0124	-0.6073	0.0746	-0.3060	0.0928
2	80.16	0.4995	-0.0563	0.0034	-0.1800	0.0167	-0.8786	0.0949	-0.3835	0.1004
2	80.16	0.5551	-0.0488	0.0040	-0.2382	0.0220	-1.2907	0.1201	-0.5779	0.1092
2	80.16	0.5996	-0.0554	0.0041	-0.2838	0.0267	-1.6491	0.1404	-0.6215	0.1159
2	80.16	0.6497	-0.0494	0.0046	-0.3357	0.0330	-2.1485	0.1625	-0.5426	0.1236
2	80.16	0.6996	-0.0531	0.0055	-0.4119	0.0398	-2.7450	0.1838	-0.4635	0.1253
2	80.16	0.7495	-0.0719	0.0062	-0.4607	0.0471	-3.4129	0.2062	-0.5518	0.1344
2	80.16	0.7996	-0.0921	0.0069	-0.5514	0.0550	-4.2286	0.2260	-0.7474	0.1374
2	80.16	0.8578	-0.1601	0.0081	-0.6248	0.0646	-5.1961	0.2493	-0.5318	0.1415
2	80.16	0.9100	-0.2043	0.0090	-0.6308	0.0734	-6.0983	0.2710	-0.5547	0.1439
2	80.16	0.9727	-0.2558	0.0123	-0.6569	0.0834	-7.0921	0.2979	0.0800	0.1492
3	80.16	0.1938	-0.0059	0.0016	-0.0319	0.0009	0.0249	0.0054	-0.1238	0.0297
3	80.16	0.2357	-0.0061	0.0015	0.0112	0.0020	-0.0132	0.0106	-0.3581	0.0529
3	80.16	0.2995	-0.0151	0.0014	-0.0708	0.0044	0.0278	0.0238	-0.3952	0.0709
3	80.16	0.3493	-0.0257	0.0016	-0.1206	0.0077	0.0446	0.0405	-0.3436	0.0807
3	80.16	0.4000	-0.0206	0.0019	-0.1601	0.0122	0.0361	0.0635	-0.2436	0.0836
3	80.16	0.4497	-0.0275	0.0020	-0.2241	0.0167	-0.0228	0.0882	-0.2797	0.0925
3	80.16	0.4997	-0.0397	0.0021	-0.2809	0.0223	-0.1528	0.1154	-0.4431	0.0946
3	80.16	0.5556	-0.0372	0.0023	-0.3371	0.0284	-0.3173	0.1477	-0.3620	0.1033
3	80.16	0.5995	-0.0283	0.0027	-0.4094	0.0336	-0.5470	0.1709	-0.3614	0.1149
3	80.16	0.6498	-0.0197	0.0028	-0.4888	0.0404	-0.8688	0.1973	-0.3286	0.1233
3	80.16	0.6890	-0.0574	0.0033	-0.5478	0.0455	-1.1905	0.2151	-0.4118	0.1239
3	80.16	0.7495	-0.0431	0.0035	-0.6287	0.0538	-1.7719	0.2448	-0.3600	0.1248
3	80.16	0.7998	-0.0500	0.0044	-0.6982	0.0611	-2.3825	0.2715	-0.4646	0.1293
3	80.16	0.8577	-0.0953	0.0061	-0.7544	0.0696	-3.2002	0.3049	-0.3590	0.1396
3	80.16	0.9178	-0.1614	0.0077	-0.8596	0.0788	-4.1261	0.3427	-0.2714	0.1461
3	80.16	0.9729	-0.1442	0.0087	-0.9194	0.0888	-5.0376	0.3811	-0.1102	0.1586
4	80.16	0.2001	0.0332	0.0017	0.0166	0.0012	-0.0813	0.0053	0.2345	0.0308
4	80.16	0.2502	-0.0055	0.0017	0.0212	0.0027	-0.0890	0.0116	1.0008	0.0542
4	80.16	0.3001	-0.0093	0.0018	0.0636	0.0051	-0.2733	0.0214	0.7801	0.0686
4	80.16	0.3502	-0.0314	0.0021	0.1077	0.0092	-0.4570	0.0377	0.8030	0.0687
4	80.16	0.4002	-0.0442	0.0027	0.1637	0.0143	-0.6748	0.0581	0.8025	0.0711
4	80.16	0.4500	-0.0453	0.0035	0.2164	0.0191	-0.9915	0.0795	0.6539	0.0831
4	80.16	0.5001	-0.0580	0.0039	0.2554	0.0252	-1.3302	0.1048	0.8810	0.0872
4	80.16	0.5560	-0.0616	0.0041	0.3127	0.0329	-1.9001	0.1346	0.6400	0.0909
4	80.16	0.6001	-0.0634	0.0046	0.3619	0.0392	-2.3828	0.1596	0.6914	0.0937
4	80.16	0.6501	-0.0844	0.0054	0.3905	0.0473	-3.0607	0.1863	0.7199	0.1003
4	80.16	0.6999	-0.0847	0.0063	0.4123	0.0557	-3.8677	0.2137	0.7097	0.1075
4	80.16	0.7500	-0.1163	0.0073	0.4740	0.0653	-4.6950	0.2414	1.0722	0.1114
4	80.16	0.8002	-0.1529	0.0093	0.5150	0.0753	-5.7410	0.2720	0.8408	0.1174
4	80.16	0.8582	-0.2001	0.0122	0.6051	0.0872	-6.9631	0.3131	0.8103	0.1277
4	80.16	0.9101	-0.2516	0.0148	0.6712	0.0979	-8.1349	0.3548	0.9181	0.1275
4	80.16	0.9728	-0.2478	0.0165	0.7621	0.1085	-9.4800	0.4090	1.3862	0.1287

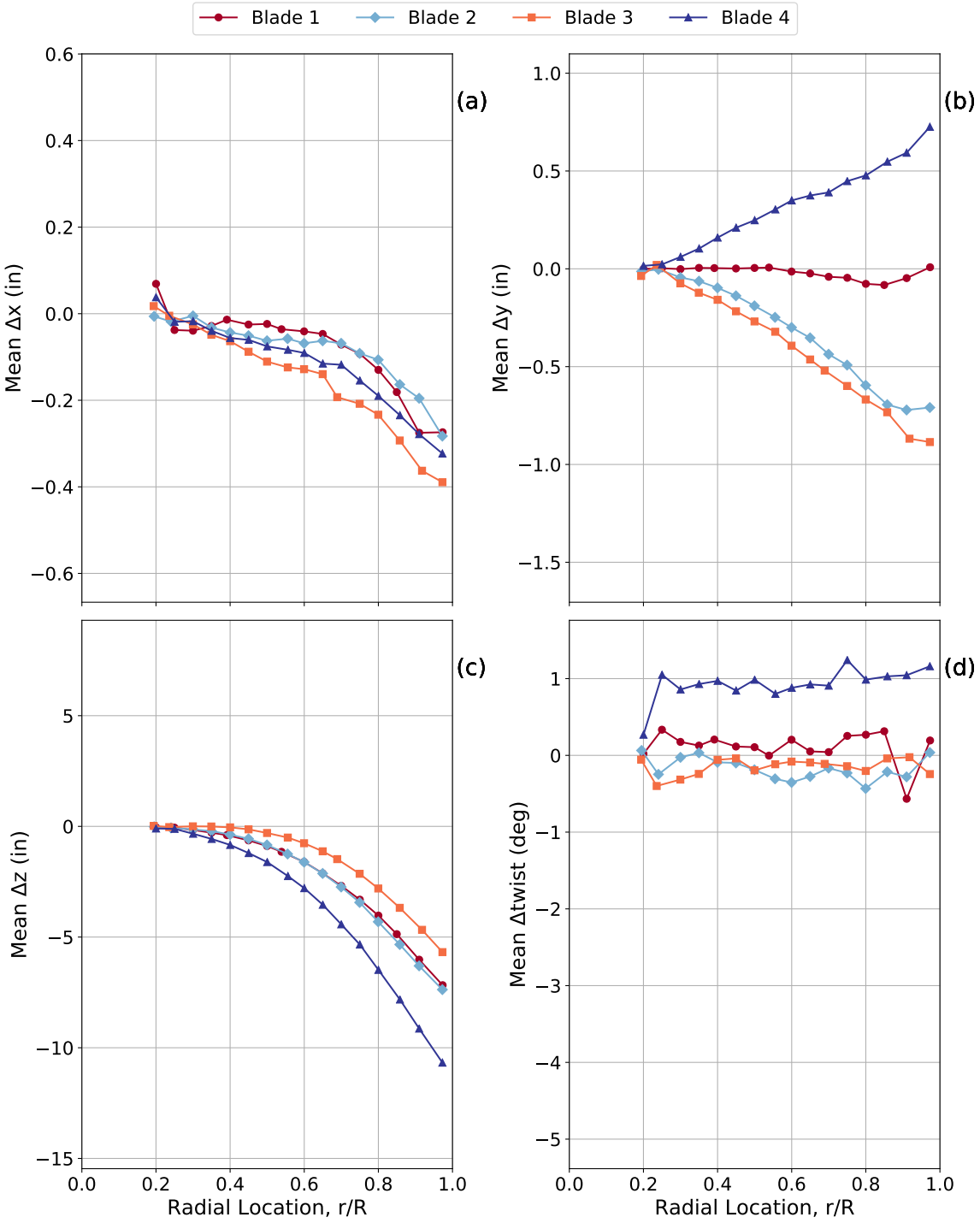


Figure 2.5-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.127$, $\mu = 0.24$, $\alpha = -0°$ NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0690	0.0047	-0.0005	0.0027	-0.0438	0.0081	0.0204	0.0521
1	85.08	0.2499	-0.0377	0.0012	0.0030	0.0042	-0.0565	0.0162	0.3344	0.1157
1	85.08	0.2998	-0.0393	0.0015	-0.0016	0.0103	-0.1645	0.0337	0.1755	0.1310
1	85.08	0.3498	-0.0284	0.0016	0.0047	0.0183	-0.2851	0.0572	0.1276	0.1359
1	85.08	0.3913	-0.0138	0.0019	0.0037	0.0254	-0.3947	0.0832	0.2059	0.1412
1	85.08	0.4496	-0.0251	0.0023	0.0016	0.0356	-0.6326	0.1228	0.1150	0.1468
1	85.08	0.4997	-0.0237	0.0026	0.0044	0.0450	-0.8882	0.1580	0.1067	0.1514
1	85.08	0.5387	-0.0359	0.0031	0.0064	0.0530	-1.1481	0.1856	-0.0032	0.1549
1	85.08	0.5996	-0.0408	0.0034	-0.0140	0.0657	-1.6066	0.2278	0.2037	0.1631
1	85.08	0.6498	-0.0468	0.0046	-0.0236	0.0768	-2.1220	0.2614	0.0518	0.1671
1	85.08	0.6998	-0.0715	0.0055	-0.0407	0.0879	-2.6849	0.2917	0.0424	0.1728
1	85.08	0.7500	-0.0926	0.0060	-0.0459	0.0997	-3.3104	0.3224	0.2536	0.1757
1	85.08	0.8001	-0.1298	0.0080	-0.0769	0.1116	-4.0298	0.3507	0.2688	0.1927
1	85.08	0.8497	-0.1811	0.0088	-0.0828	0.1240	-4.8682	0.3787	0.3144	0.1944
1	85.08	0.9102	-0.2751	0.0118	-0.0475	0.1389	-6.0224	0.4129	-0.5659	0.1911
1	85.08	0.9734	-0.2739	0.0131	0.0081	0.1558	-7.1734	0.4481	0.1939	0.2349
2	85.08	0.1949	-0.0061	0.0016	-0.0135	0.0008	-0.0173	0.0050	0.0638	0.0308
2	85.08	0.2405	-0.0182	0.0017	-0.0026	0.0017	-0.0680	0.0096	-0.2473	0.0482
2	85.08	0.2999	-0.0050	0.0020	-0.0442	0.0036	-0.1387	0.0208	-0.0260	0.0719
2	85.08	0.3498	-0.0321	0.0020	-0.0632	0.0063	-0.2113	0.0374	0.0332	0.0725
2	85.08	0.3998	-0.0434	0.0024	-0.0972	0.0097	-0.3709	0.0567	-0.0908	0.0784
2	85.08	0.4496	-0.0508	0.0029	-0.1381	0.0130	-0.5619	0.0767	-0.0988	0.0908
2	85.08	0.4995	-0.0625	0.0032	-0.1893	0.0173	-0.8398	0.0976	-0.1883	0.0987
2	85.08	0.5551	-0.0577	0.0040	-0.2480	0.0225	-1.2483	0.1223	-0.3057	0.1069
2	85.08	0.5996	-0.0684	0.0040	-0.2999	0.0276	-1.6157	0.1436	-0.3527	0.1070
2	85.08	0.6497	-0.0627	0.0047	-0.3529	0.0334	-2.1267	0.1694	-0.2755	0.1206
2	85.08	0.6996	-0.0684	0.0057	-0.4367	0.0395	-2.7391	0.1982	-0.1659	0.1295
2	85.08	0.7495	-0.0917	0.0068	-0.4921	0.0463	-3.4362	0.2273	-0.2300	0.1402
2	85.08	0.7996	-0.1064	0.0081	-0.5955	0.0534	-4.3107	0.2593	-0.4318	0.1471
2	85.08	0.8578	-0.1636	0.0103	-0.6943	0.0620	-5.3367	0.2962	-0.2145	0.1545
2	85.08	0.9100	-0.1954	0.0115	-0.7216	0.0699	-6.3014	0.3305	-0.2801	0.1631
2	85.08	0.9727	-0.2828	0.0134	-0.7091	0.0795	-7.3735	0.3727	0.0372	0.1657
3	85.08	0.1938	0.0175	0.0025	-0.0364	0.0013	0.0218	0.0069	-0.0557	0.0343
3	85.08	0.2357	-0.0047	0.0017	0.0198	0.0022	-0.0332	0.0104	-0.3990	0.0659
3	85.08	0.2995	-0.0247	0.0023	-0.0744	0.0056	0.0013	0.0261	-0.3157	0.0854
3	85.08	0.3493	-0.0487	0.0020	-0.1220	0.0095	-0.0061	0.0460	-0.2417	0.0867
3	85.08	0.4000	-0.0635	0.0022	-0.1584	0.0150	-0.0451	0.0697	-0.0582	0.0863
3	85.08	0.4497	-0.0879	0.0027	-0.2172	0.0192	-0.1343	0.0942	-0.0396	0.0908
3	85.08	0.4997	-0.1107	0.0029	-0.2691	0.0251	-0.2996	0.1188	-0.1948	0.0968
3	85.08	0.5556	-0.1241	0.0025	-0.3217	0.0317	-0.5064	0.1445	-0.1157	0.1035
3	85.08	0.5995	-0.1282	0.0028	-0.3928	0.0370	-0.7613	0.1654	-0.0810	0.1132
3	85.08	0.6498	-0.1397	0.0033	-0.4635	0.0442	-1.1266	0.1855	-0.0931	0.1259
3	85.08	0.6890	-0.1929	0.0034	-0.5200	0.0504	-1.4799	0.2024	-0.1107	0.1272
3	85.08	0.7495	-0.2081	0.0037	-0.5989	0.0594	-2.1413	0.2279	-0.1415	0.1378
3	85.08	0.7998	-0.2334	0.0045	-0.6680	0.0672	-2.8058	0.2507	-0.2031	0.1406
3	85.08	0.8577	-0.2929	0.0060	-0.7333	0.0765	-3.6797	0.2757	-0.0400	0.1527
3	85.08	0.9178	-0.3628	0.0072	-0.8683	0.0864	-4.6738	0.3031	-0.0238	0.1558
3	85.08	0.9729	-0.3893	0.0093	-0.8856	0.0962	-5.6804	0.3279	-0.2437	0.1611
4	85.08	0.2001	0.0379	0.0018	0.0150	0.0013	-0.0967	0.0050	0.2689	0.0354
4	85.08	0.2502	-0.0187	0.0016	0.0227	0.0026	-0.1128	0.0082	1.0498	0.0749
4	85.08	0.3001	-0.0174	0.0018	0.0609	0.0052	-0.3336	0.0179	0.8583	0.0848
4	85.08	0.3502	-0.0397	0.0016	0.1036	0.0093	-0.5680	0.0313	0.9292	0.0911
4	85.08	0.4002	-0.0562	0.0022	0.1595	0.0142	-0.8403	0.0469	0.9704	0.0998
4	85.08	0.4500	-0.0605	0.0023	0.2102	0.0196	-1.2072	0.0645	0.8437	0.1023
4	85.08	0.5001	-0.0756	0.0026	0.2482	0.0259	-1.6141	0.0825	0.9851	0.1120
4	85.08	0.5560	-0.0834	0.0029	0.3034	0.0339	-2.2470	0.1048	0.8010	0.1125
4	85.08	0.6001	-0.0907	0.0035	0.3495	0.0410	-2.7920	0.1236	0.8800	0.1169
4	85.08	0.6501	-0.1153	0.0040	0.3748	0.0500	-3.5416	0.1443	0.9243	0.1173
4	85.08	0.6999	-0.1180	0.0047	0.3906	0.0594	-4.4261	0.1665	0.9080	0.1181
4	85.08	0.7500	-0.1544	0.0057	0.4481	0.0697	-5.3393	0.1896	1.2416	0.1202
4	85.08	0.8002	-0.1900	0.0072	0.4774	0.0803	-6.4843	0.2148	0.9865	0.1236
4	85.08	0.8582	-0.2347	0.0094	0.5475	0.0931	-7.8243	0.2446	1.0294	0.1260
4	85.08	0.9101	-0.2783	0.0113	0.5932	0.1050	-9.1358	0.2742	1.0436	0.1246
4	85.08	0.9728	-0.3231	0.0129	0.7256	0.1192	-10.6736	0.3106	1.1608	0.1257

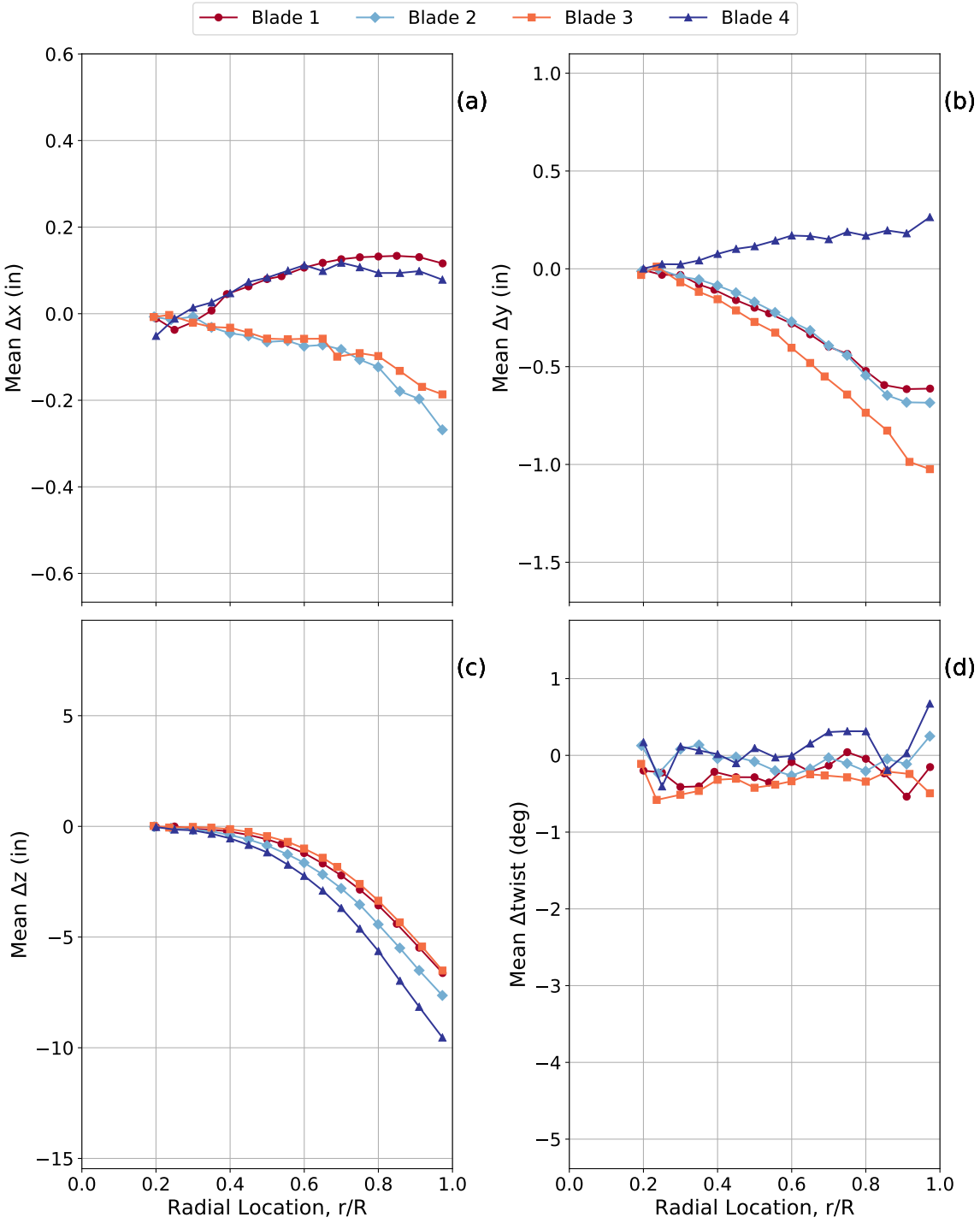


Figure 2.5-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0108	0.0019	-0.0064	0.0011	-0.0313	0.0041	-0.1986	0.0267
1	90	0.2499	-0.0372	0.0013	-0.0307	0.0027	-0.0058	0.0095	-0.2237	0.0404
1	90	0.2998	-0.0194	0.0017	-0.0313	0.0048	-0.1044	0.0173	-0.4114	0.0583
1	90	0.3498	0.0073	0.0018	-0.0803	0.0085	-0.1571	0.0300	-0.4044	0.0597
1	90	0.3913	0.0452	0.0027	-0.1069	0.0124	-0.2144	0.0436	-0.2145	0.0739
1	90	0.4496	0.0631	0.0026	-0.1599	0.0175	-0.3870	0.0618	-0.2841	0.0819
1	90	0.4997	0.0800	0.0032	-0.1987	0.0230	-0.5851	0.0773	-0.2851	0.0911
1	90	0.5387	0.0866	0.0038	-0.2273	0.0272	-0.7963	0.0896	-0.3532	0.0947
1	90	0.5996	0.1064	0.0042	-0.2800	0.0346	-1.2062	0.1072	-0.0875	0.0979
1	90	0.6498	0.1175	0.0049	-0.3351	0.0414	-1.6775	0.1229	-0.2127	0.1022
1	90	0.6998	0.1259	0.0056	-0.3984	0.0484	-2.2177	0.1393	-0.1319	0.1287
1	90	0.7500	0.1304	0.0067	-0.4347	0.0560	-2.8576	0.1600	0.0414	0.1286
1	90	0.8001	0.1321	0.0085	-0.5223	0.0637	-3.5712	0.1816	-0.0448	0.1279
1	90	0.8497	0.1336	0.0101	-0.5942	0.0718	-4.4038	0.2090	-0.2346	0.1406
1	90	0.9102	0.1307	0.0144	-0.6148	0.0817	-5.4799	0.2475	-0.5379	0.2323
1	90	0.9734	0.1161	0.0185	-0.6124	0.0921	-6.6254	0.3017	-0.1525	0.1528
2	90	0.1949	-0.0072	0.0018	-0.0122	0.0009	-0.0157	0.0041	0.1275	0.0336
2	90	0.2405	-0.0140	0.0014	-0.0015	0.0018	-0.0807	0.0075	-0.2373	0.0522
2	90	0.2999	-0.0067	0.0019	-0.0399	0.0042	-0.1435	0.0161	0.0805	0.0740
2	90	0.3498	-0.0316	0.0017	-0.0551	0.0069	-0.2254	0.0282	0.1360	0.0687
2	90	0.3998	-0.0451	0.0020	-0.0858	0.0110	-0.3953	0.0428	-0.0423	0.0824
2	90	0.4496	-0.0512	0.0019	-0.1222	0.0148	-0.5911	0.0582	-0.0203	0.0900
2	90	0.4995	-0.0652	0.0022	-0.1696	0.0194	-0.8609	0.0748	-0.0815	0.0964
2	90	0.5551	-0.0626	0.0022	-0.2229	0.0253	-1.2677	0.0947	-0.1993	0.1000
2	90	0.5996	-0.0752	0.0028	-0.2700	0.0304	-1.6450	0.1104	-0.2640	0.1095
2	90	0.6497	-0.0722	0.0032	-0.3154	0.0367	-2.1690	0.1313	-0.1757	0.1178
2	90	0.6996	-0.0826	0.0039	-0.3926	0.0436	-2.8007	0.1537	-0.0312	0.1243
2	90	0.7495	-0.1060	0.0049	-0.4423	0.0506	-3.5338	0.1783	-0.1048	0.1347
2	90	0.7996	-0.1232	0.0062	-0.5452	0.0585	-4.4282	0.2040	-0.2060	0.1392
2	90	0.8578	-0.1791	0.0079	-0.6467	0.0680	-5.4949	0.2347	-0.0475	0.1526
2	90	0.9100	-0.1969	0.0092	-0.6824	0.0769	-6.5058	0.2627	-0.1139	0.1534
2	90	0.9727	-0.2682	0.0111	-0.6844	0.0878	-7.6382	0.2979	0.2496	0.1648
3	90	0.1938	-0.0077	0.0028	-0.0313	0.0014	0.0189	0.0062	-0.1107	0.0349
3	90	0.2357	-0.0030	0.0020	0.0112	0.0023	-0.0532	0.0094	-0.5802	0.0639
3	90	0.2995	-0.0207	0.0017	-0.0690	0.0058	-0.0247	0.0228	-0.5131	0.0825
3	90	0.3493	-0.0307	0.0017	-0.1174	0.0103	-0.0579	0.0400	-0.4632	0.0901
3	90	0.4000	-0.0324	0.0018	-0.1555	0.0159	-0.1270	0.0605	-0.3178	0.0919
3	90	0.4497	-0.0437	0.0022	-0.2128	0.0218	-0.2500	0.0803	-0.3042	0.1006
3	90	0.4997	-0.0576	0.0025	-0.2716	0.0286	-0.4439	0.1002	-0.4219	0.1082
3	90	0.5556	-0.0591	0.0028	-0.3262	0.0371	-0.7002	0.1214	-0.3820	0.1228
3	90	0.5995	-0.0580	0.0029	-0.4036	0.0446	-1.0016	0.1392	-0.3370	0.1241
3	90	0.6498	-0.0578	0.0033	-0.4813	0.0539	-1.4188	0.1615	-0.2468	0.1393
3	90	0.6890	-0.0993	0.0037	-0.5503	0.0617	-1.8318	0.1808	-0.2618	0.1501
3	90	0.7495	-0.0912	0.0049	-0.6426	0.0747	-2.6016	0.2140	-0.2859	0.1526
3	90	0.7998	-0.0979	0.0060	-0.7356	0.0860	-3.3572	0.2431	-0.3418	0.1626
3	90	0.8577	-0.1321	0.0077	-0.8270	0.0997	-4.3364	0.2789	-0.2112	0.1750
3	90	0.9178	-0.1691	0.0099	-0.9869	0.1143	-5.4298	0.3168	-0.2421	0.1771
3	90	0.9729	-0.1864	0.0138	-1.0240	0.1274	-6.5126	0.3519	-0.4935	0.1860
4	90.35	0.2001	-0.0513	0.0012	0.0013	0.0010	-0.0296	0.0033	0.1716	0.0247
4	90.35	0.2502	-0.0115	0.0010	0.0237	0.0019	-0.1452	0.0070	-0.4044	0.0402
4	90.35	0.3001	0.0140	0.0013	0.0229	0.0037	-0.1788	0.0131	0.1156	0.0520
4	90.35	0.3502	0.0260	0.0015	0.0429	0.0062	-0.3345	0.0226	0.0631	0.0483
4	90.35	0.4002	0.0473	0.0021	0.0760	0.0095	-0.5441	0.0348	0.0160	0.0513
4	90.35	0.4500	0.0733	0.0022	0.1018	0.0134	-0.8381	0.0475	-0.1021	0.0527
4	90.35	0.5001	0.0833	0.0027	0.1152	0.0182	-1.1760	0.0617	0.0951	0.0523
4	90.35	0.5560	0.0994	0.0033	0.1445	0.0245	-1.7332	0.0785	-0.0266	0.0579
4	90.35	0.6001	0.1120	0.0039	0.1701	0.0300	-2.2368	0.0934	-0.0067	0.0614
4	90.35	0.6501	0.0987	0.0046	0.1670	0.0376	-2.9058	0.1116	0.1540	0.0629
4	90.35	0.6999	0.1177	0.0053	0.1511	0.0455	-3.6889	0.1301	0.3036	0.0754
4	90.35	0.7500	0.1073	0.0066	0.1890	0.0549	-4.6237	0.1508	0.3144	0.0692
4	90.35	0.8002	0.0940	0.0077	0.1691	0.0644	-5.6343	0.1709	0.3139	0.0918
4	90.35	0.8582	0.0941	0.0095	0.1960	0.0767	-6.9758	0.1968	-0.1900	0.1150
4	90.35	0.9101	0.0983	0.0110	0.1815	0.0887	-8.1544	0.2206	0.0271	0.1052
4	90.35	0.9728	0.0785	0.0143	0.2641	0.1020	-9.5386	0.2623	0.6738	0.1115

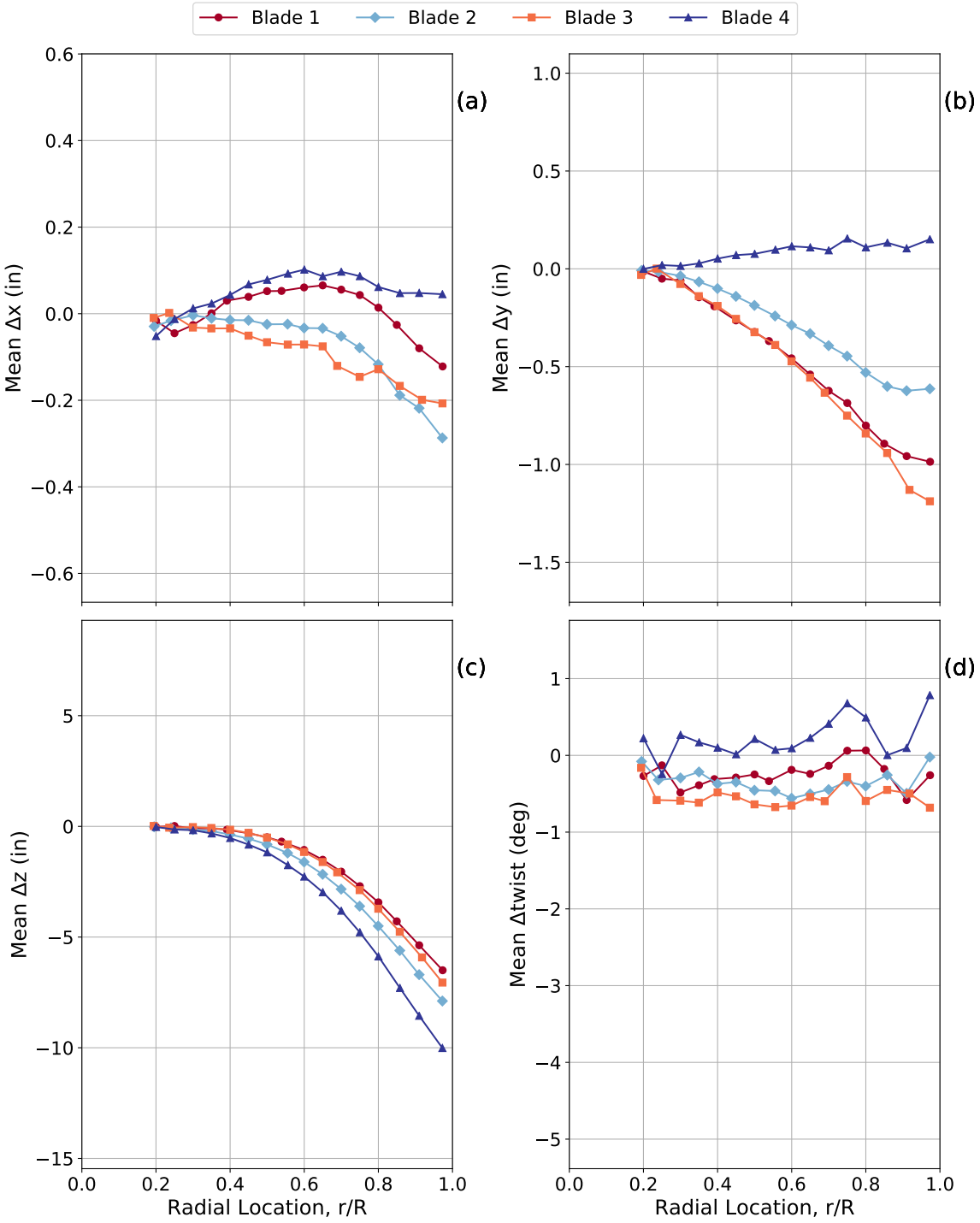


Figure 2.5-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0162	0.0018	-0.0137	0.0013	-0.0233	0.0037	-0.2684	0.0402
1	94.92	0.2499	-0.0451	0.0016	-0.0504	0.0030	0.0159	0.0081	-0.1300	0.0611
1	94.92	0.2998	-0.0262	0.0015	-0.0593	0.0056	-0.0916	0.0147	-0.4837	0.0901
1	94.92	0.3498	0.0009	0.0019	-0.1455	0.0098	-0.0915	0.0256	-0.3890	0.0926
1	94.92	0.3913	0.0301	0.0022	-0.1917	0.0142	-0.1510	0.0367	-0.3097	0.0940
1	94.92	0.4496	0.0389	0.0031	-0.2637	0.0198	-0.3108	0.0503	-0.2887	0.1069
1	94.92	0.4997	0.0521	0.0035	-0.3227	0.0264	-0.4921	0.0632	-0.2487	0.1138
1	94.92	0.5387	0.0526	0.0037	-0.3693	0.0312	-0.6884	0.0742	-0.3355	0.1272
1	94.92	0.5996	0.0607	0.0050	-0.4575	0.0395	-1.0646	0.0896	-0.1888	0.1242
1	94.92	0.6498	0.0654	0.0056	-0.5404	0.0475	-1.5077	0.1035	-0.2415	0.1465
1	94.92	0.6998	0.0556	0.0063	-0.6235	0.0555	-2.0459	0.1178	-0.1354	0.1570
1	94.92	0.7500	0.0431	0.0077	-0.6862	0.0642	-2.7022	0.1319	0.0608	0.1706
1	94.92	0.8001	0.0139	0.0092	-0.8014	0.0732	-3.4316	0.1494	0.0641	0.1800
1	94.92	0.8497	-0.0259	0.0108	-0.8939	0.0831	-4.2888	0.1701	-0.1774	0.1673
1	94.92	0.9102	-0.0799	0.0136	-0.9575	0.0949	-5.3705	0.1972	-0.5818	0.2135
1	94.92	0.9734	-0.1219	0.0168	-0.9863	0.1081	-6.4997	0.2289	-0.2586	0.1756
2	94.92	0.1949	-0.0294	0.0078	-0.0084	0.0009	-0.0187	0.0032	-0.0790	0.0288
2	94.92	0.2405	-0.0160	0.0029	-0.0150	0.0020	-0.0661	0.0063	-0.3199	0.0470
2	94.92	0.2999	-0.0037	0.0037	-0.0366	0.0036	-0.1422	0.0135	-0.2939	0.0680
2	94.92	0.3498	-0.0106	0.0073	-0.0665	0.0065	-0.2096	0.0236	-0.2163	0.0639
2	94.92	0.3998	-0.0147	0.0107	-0.1009	0.0100	-0.3710	0.0362	-0.3709	0.0742
2	94.92	0.4496	-0.0152	0.0125	-0.1408	0.0136	-0.5532	0.0509	-0.3479	0.0769
2	94.92	0.4995	-0.0245	0.0133	-0.1870	0.0178	-0.8145	0.0673	-0.4548	0.0859
2	94.92	0.5551	-0.0241	0.0133	-0.2412	0.0232	-1.2036	0.0877	-0.4636	0.0878
2	94.92	0.5996	-0.0331	0.0123	-0.2877	0.0282	-1.6093	0.1055	-0.5585	0.0950
2	94.92	0.6497	-0.0337	0.0109	-0.3315	0.0340	-2.1643	0.1257	-0.5019	0.0971
2	94.92	0.6996	-0.0520	0.0108	-0.3928	0.0403	-2.8349	0.1475	-0.4455	0.1016
2	94.92	0.7495	-0.0788	0.0145	-0.4463	0.0468	-3.6057	0.1696	-0.3398	0.1066
2	94.92	0.7996	-0.1170	0.0220	-0.5300	0.0533	-4.5017	0.1913	-0.4006	0.1095
2	94.92	0.8578	-0.1884	0.0344	-0.6011	0.0608	-5.6078	0.2184	-0.2564	0.1183
2	94.92	0.9100	-0.2183	0.0481	-0.6232	0.0673	-6.6980	0.2428	-0.4947	0.1311
2	94.92	0.9727	-0.2870	0.0684	-0.6134	0.0785	-7.8888	0.2734	-0.0220	0.1310
3	94.92	0.1938	-0.0098	0.0037	-0.0312	0.0012	0.0185	0.0058	-0.1624	0.0411
3	94.92	0.2357	0.0018	0.0024	0.0011	0.0018	-0.0586	0.0075	-0.5817	0.0828
3	94.92	0.2995	-0.0320	0.0020	-0.0775	0.0046	-0.0324	0.0186	-0.5903	0.1031
3	94.92	0.3493	-0.0340	0.0022	-0.1398	0.0081	-0.0742	0.0319	-0.6161	0.1016
3	94.92	0.4000	-0.0339	0.0022	-0.1898	0.0124	-0.1534	0.0478	-0.4823	0.1009
3	94.92	0.4497	-0.0507	0.0026	-0.2559	0.0169	-0.2931	0.0637	-0.5337	0.1068
3	94.92	0.4997	-0.0659	0.0028	-0.3242	0.0227	-0.5071	0.0809	-0.6386	0.1187
3	94.92	0.5556	-0.0714	0.0034	-0.3893	0.0296	-0.8128	0.1008	-0.6742	0.1216
3	94.92	0.5995	-0.0712	0.0037	-0.4729	0.0362	-1.1545	0.1176	-0.6544	0.1331
3	94.92	0.6498	-0.0755	0.0042	-0.5564	0.0442	-1.6103	0.1368	-0.5432	0.1302
3	94.92	0.6890	-0.1206	0.0048	-0.6334	0.0507	-2.0763	0.1511	-0.5972	0.1351
3	94.92	0.7495	-0.1459	0.0059	-0.7505	0.0622	-2.8805	0.1770	-0.2833	0.1377
3	94.92	0.7998	-0.1282	0.0070	-0.8418	0.0719	-3.7203	0.1986	-0.5942	0.1443
3	94.92	0.8577	-0.1668	0.0084	-0.9416	0.0840	-4.7604	0.2267	-0.4500	0.1496
3	94.92	0.9178	-0.1989	0.0099	-1.1300	0.0965	-5.9183	0.2575	-0.4971	0.1513
3	94.92	0.9729	-0.2072	0.0135	-1.1883	0.1084	-7.0563	0.2887	-0.6818	0.1538
4	94.92	0.2001	-0.0518	0.0011	-0.0004	0.0011	-0.0268	0.0041	0.2221	0.0284
4	94.92	0.2502	-0.0124	0.0010	0.0189	0.0023	-0.1416	0.0081	-0.2441	0.0467
4	94.92	0.3001	0.0122	0.0012	0.0145	0.0045	-0.1733	0.0156	0.2664	0.0635
4	94.92	0.3502	0.0235	0.0017	0.0277	0.0077	-0.3197	0.0272	0.1695	0.0763
4	94.92	0.4002	0.0434	0.0023	0.0521	0.0118	-0.5269	0.0415	0.0997	0.0833
4	94.92	0.4500	0.0676	0.0029	0.0699	0.0161	-0.8247	0.0553	0.0136	0.0967
4	94.92	0.5001	0.0783	0.0039	0.0763	0.0215	-1.1749	0.0726	0.2145	0.1044
4	94.92	0.5560	0.0925	0.0047	0.0976	0.0279	-1.7533	0.0915	0.0715	0.1147
4	94.92	0.6001	0.1018	0.0057	0.1152	0.0338	-2.2697	0.1069	0.0923	0.1222
4	94.92	0.6501	0.0864	0.0071	0.1093	0.0414	-2.9771	0.1251	0.2285	0.1343
4	94.92	0.6999	0.0970	0.0086	0.0944	0.0494	-3.8114	0.1443	0.4112	0.1381
4	94.92	0.7500	0.0866	0.0180	0.1549	0.0578	-4.7859	0.1635	0.6774	0.2664
4	94.92	0.8002	0.0616	0.0129	0.1097	0.0683	-5.8761	0.1882	0.4936	0.1615
4	94.92	0.8582	0.0475	0.0160	0.1333	0.0803	-7.3027	0.2185	0.0028	0.1668
4	94.92	0.9101	0.0478	0.0177	0.1044	0.0915	-8.5567	0.2431	0.0959	0.1775
4	94.92	0.9728	0.0450	0.0226	0.1510	0.1056	-10.0143	0.2729	0.7842	0.1950

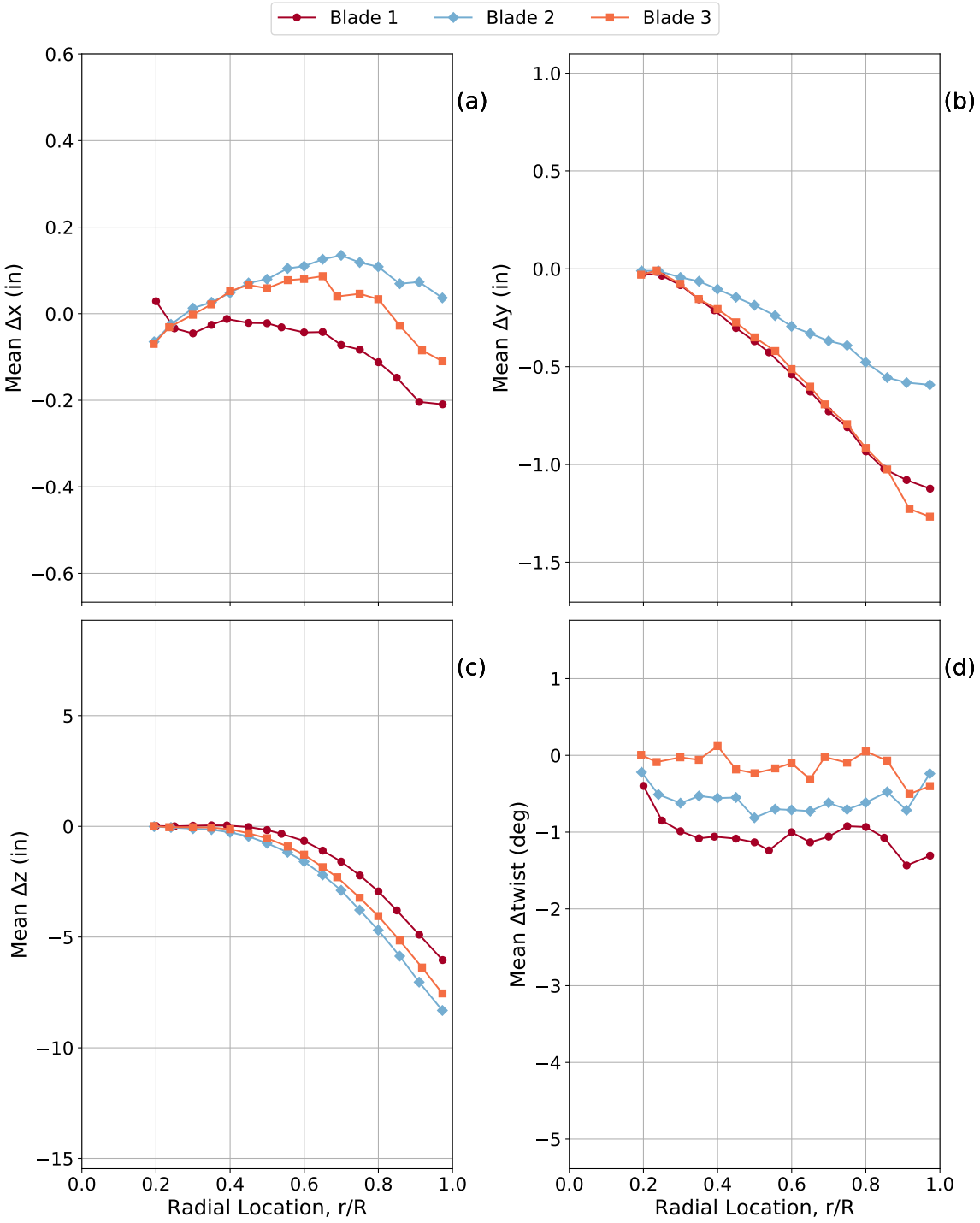


Figure 2.5-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	0.0288	0.0057	-0.0221	0.0101	0.0184	0.0382	-0.3978	0.2320
1	99.84	0.2499	-0.0339	0.0029	-0.0350	0.0102	0.0035	0.0406	-0.8495	0.6410
1	99.84	0.2998	-0.0455	0.0073	-0.0834	0.0362	0.0277	0.1209	-0.9884	0.6355
1	99.84	0.3498	-0.0258	0.0143	-0.1561	0.0620	0.0468	0.2012	-1.0812	0.6458
1	99.84	0.3913	-0.0122	0.0201	-0.2120	0.0846	0.0409	0.2704	-1.0589	0.6450
1	99.84	0.4496	-0.0213	0.0267	-0.3026	0.1171	-0.0311	0.3691	-1.0847	0.6429
1	99.84	0.4997	-0.0220	0.0320	-0.3701	0.1455	-0.1664	0.4532	-1.1330	0.6508
1	99.84	0.5387	-0.0315	0.0355	-0.4271	0.1688	-0.3374	0.5206	-1.2388	0.6479
1	99.84	0.5996	-0.0432	0.0408	-0.5391	0.2069	-0.6581	0.6277	-1.0013	0.6489
1	99.84	0.6498	-0.0423	0.0445	-0.6276	0.2408	-1.0956	0.7160	-1.1327	0.6539
1	99.84	0.6998	-0.0723	0.0482	-0.7286	0.2759	-1.5924	0.8049	-1.0583	0.6628
1	99.84	0.7500	-0.0831	0.0531	-0.8102	0.3134	-2.2187	0.8962	-0.9227	0.6568
1	99.84	0.8001	-0.1121	0.0602	-0.9333	0.3531	-2.9397	0.9859	-0.9330	0.6647
1	99.84	0.8497	-0.1478	0.0694	-1.0227	0.3955	-3.7952	1.0754	-1.0733	0.6721
1	99.84	0.9102	-0.2036	0.0847	-1.0798	0.4500	-4.8937	1.1857	-1.4343	0.6766
1	99.84	0.9734	-0.2093	0.1020	-1.1237	0.5122	-6.0381	1.3033	-1.3058	0.6803
2	99.84	0.1949	-0.0649	0.0010	-0.0103	0.0009	-0.0113	0.0031	-0.2198	0.0240
2	99.84	0.2405	-0.0246	0.0012	-0.0103	0.0018	-0.0500	0.0058	-0.5100	0.0356
2	99.84	0.2999	0.0128	0.0014	-0.0439	0.0039	-0.1059	0.0124	-0.6222	0.0539
2	99.84	0.3498	0.0264	0.0018	-0.0636	0.0068	-0.1461	0.0219	-0.5294	0.0613
2	99.84	0.3998	0.0480	0.0018	-0.1039	0.0103	-0.2716	0.0334	-0.5567	0.0733
2	99.84	0.4496	0.0711	0.0021	-0.1452	0.0141	-0.4532	0.0459	-0.5488	0.0806
2	99.84	0.4995	0.0797	0.0022	-0.1865	0.0183	-0.7612	0.0597	-0.8131	0.0919
2	99.84	0.5551	0.1046	0.0027	-0.2390	0.0236	-1.1699	0.0749	-0.7008	0.0966
2	99.84	0.5996	0.1099	0.0033	-0.2941	0.0283	-1.5922	0.0889	-0.7113	0.1104
2	99.84	0.6497	0.1257	0.0043	-0.3306	0.0350	-2.1969	0.1029	-0.7271	0.1119
2	99.84	0.6996	0.1348	0.0047	-0.3685	0.0390	-2.8922	0.1168	-0.6181	0.1243
2	99.84	0.7495	0.1184	0.0051	-0.3916	0.0482	-3.7790	0.1360	-0.7055	0.1897
2	99.84	0.7996	0.1085	0.0065	-0.4778	0.0511	-4.6878	0.1422	-0.6154	0.1317
2	99.84	0.8578	0.0693	0.0072	-0.5560	0.0590	-5.8619	0.1578	-0.4753	0.1503
2	99.84	0.9100	0.0733	0.0092	-0.5817	0.0650	-7.0353	0.1730	-0.7153	0.1525
2	99.84	0.9727	0.0365	0.0119	-0.5929	0.0735	-8.3156	0.1993	-0.2383	0.1590
3	99.84	0.1938	-0.0698	0.0013	-0.0298	0.0013	0.0099	0.0044	0.0057	0.0316
3	99.84	0.2357	-0.0312	0.0014	-0.0087	0.0025	-0.0372	0.0070	-0.0875	0.0540
3	99.84	0.2995	-0.0024	0.0014	-0.0768	0.0052	-0.0410	0.0155	-0.0261	0.0714
3	99.84	0.3493	0.0215	0.0016	-0.1545	0.0088	-0.0553	0.0264	-0.0585	0.0664
3	99.84	0.4000	0.0522	0.0025	-0.2058	0.0140	-0.1304	0.0404	0.1211	0.0681
3	99.84	0.4497	0.0663	0.0033	-0.2735	0.0182	-0.3138	0.0543	-0.1837	0.0784
3	99.84	0.4997	0.0586	0.0035	-0.3504	0.0236	-0.5379	0.0682	-0.2332	0.0794
3	99.84	0.5556	0.0775	0.0044	-0.4203	0.0296	-0.9083	0.0822	-0.1700	0.0904
3	99.84	0.5995	0.0804	0.0049	-0.5125	0.0352	-1.2774	0.0938	-0.1017	0.0976
3	99.84	0.6498	0.0867	0.0052	-0.6024	0.0430	-1.8441	0.1076	-0.3115	0.1074
3	99.84	0.6890	0.0397	0.0058	-0.6929	0.0486	-2.2998	0.1185	-0.0219	0.0988
3	99.84	0.7495	0.0460	0.0069	-0.7943	0.0589	-3.2254	0.1363	-0.0948	0.1009
3	99.84	0.7998	0.0335	0.0082	-0.9157	0.0681	-4.0521	0.1532	0.0502	0.0949
3	99.84	0.8577	-0.0275	0.0102	-1.0254	0.0788	-5.1543	0.1759	-0.0690	0.1132
3	99.84	0.9178	-0.0847	0.0122	-1.2276	0.0906	-6.3767	0.2060	-0.5019	0.1219
3	99.84	0.9729	-0.1098	0.0160	-1.2672	0.1002	-7.5463	0.2390	-0.4006	0.1100

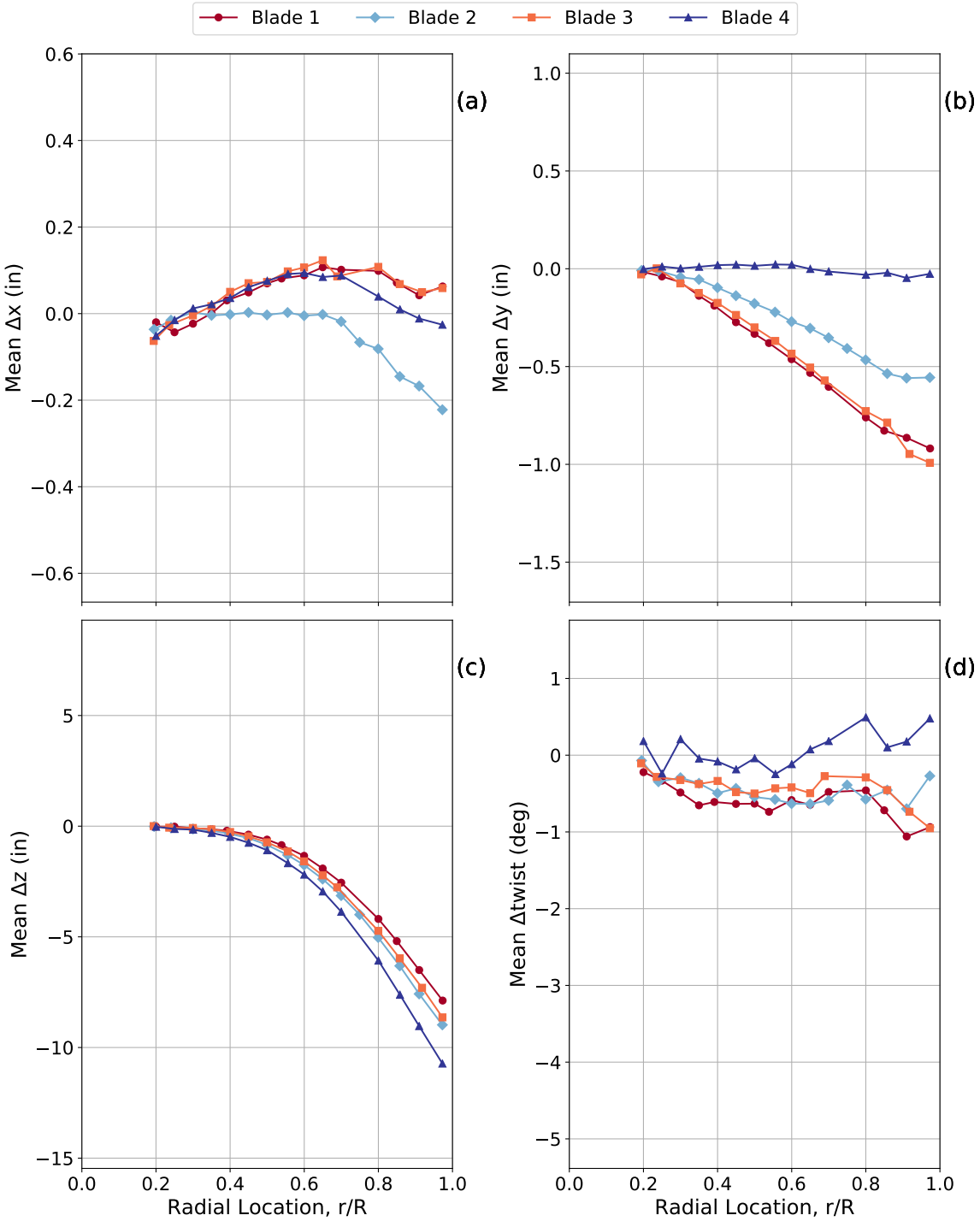


Figure 2.5-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0200	0.0013	-0.0168	0.0011	-0.0202	0.0035	-0.2212	0.0255
1	105.12	0.2499	-0.0431	0.0010	-0.0394	0.0024	-0.0218	0.0078	-0.3319	0.0389
1	105.12	0.2998	-0.0233	0.0013	-0.0688	0.0046	-0.0908	0.0145	-0.4864	0.0556
1	105.12	0.3498	0.0007	0.0014	-0.1381	0.0080	-0.1375	0.0252	-0.6532	0.0556
1	105.12	0.3913	0.0306	0.0018	-0.1887	0.0116	-0.2064	0.0361	-0.6098	0.0676
1	105.12	0.4496	0.0490	0.0021	-0.2734	0.0167	-0.3815	0.0498	-0.6349	0.0581
1	105.12	0.4997	0.0698	0.0026	-0.3328	0.0223	-0.6067	0.0647	-0.6316	0.0693
1	105.12	0.5387	0.0811	0.0031	-0.3798	0.0269	-0.8562	0.0755	-0.7375	0.0756
1	105.12	0.5996	0.0884	0.0037	-0.4623	0.0355	-1.3395	0.0910	-0.5855	0.0828
1	105.12	0.6498	0.1071	0.0043	-0.5325	0.0438	-1.9125	0.1039	-0.6464	0.0940
1	105.12	0.6998	0.1014	0.0049	-0.6037	0.0515	-2.5516	0.1160	-0.4798	0.0990
1	105.12	0.8001	0.0988	0.0071	-0.7603	0.0702	-4.1913	0.1410	-0.4587	0.0971
1	105.12	0.8497	0.0714	0.0083	-0.8278	0.0805	-5.1928	0.1553	-0.7180	0.1091
1	105.12	0.9102	0.0423	0.0101	-0.8643	0.0930	-6.5009	0.1764	-1.0595	0.1202
1	105.12	0.9734	0.0628	0.0138	-0.9188	0.1065	-7.8791	0.2046	-0.9376	0.1316
2	105.12	0.1949	-0.0364	0.0025	-0.0087	0.0010	-0.0141	0.0031	-0.0696	0.0314
2	105.12	0.2405	-0.0152	0.0015	-0.0100	0.0021	-0.0713	0.0060	-0.3461	0.0580
2	105.12	0.2999	0.0032	0.0018	-0.0427	0.0041	-0.1273	0.0120	-0.2937	0.0758
2	105.12	0.3498	-0.0040	0.0022	-0.0549	0.0076	-0.1980	0.0209	-0.3664	0.0757
2	105.12	0.3998	-0.0019	0.0027	-0.0967	0.0115	-0.3484	0.0321	-0.4949	0.0764
2	105.12	0.4496	0.0026	0.0028	-0.1379	0.0159	-0.5376	0.0447	-0.4332	0.0813
2	105.12	0.4995	-0.0030	0.0036	-0.1779	0.0206	-0.8448	0.0573	-0.5449	0.0866
2	105.12	0.5551	0.0025	0.0040	-0.2217	0.0264	-1.3044	0.0744	-0.5768	0.0913
2	105.12	0.5996	-0.0048	0.0046	-0.2703	0.0319	-1.7561	0.0876	-0.6312	0.0990
2	105.12	0.6497	-0.0019	0.0054	-0.3045	0.0386	-2.3902	0.1033	-0.6351	0.1118
2	105.12	0.6996	-0.0183	0.0064	-0.3528	0.0448	-3.1379	0.1191	-0.5899	0.1167
2	105.12	0.7495	-0.0663	0.0073	-0.4078	0.0520	-3.9976	0.1366	-0.3890	0.1133
2	105.12	0.7996	-0.0814	0.0091	-0.4659	0.0596	-5.0322	0.1557	-0.5743	0.1225
2	105.12	0.8578	-0.1453	0.0111	-0.5359	0.0675	-6.3134	0.1822	-0.4547	0.1262
2	105.12	0.9100	-0.1674	0.0136	-0.5590	0.0754	-7.5797	0.2109	-0.6983	0.1295
2	105.12	0.9727	-0.2221	0.0183	-0.5560	0.0850	-8.9777	0.2515	-0.2706	0.1261
3	105.12	0.1938	-0.0631	0.0013	-0.0288	0.0012	0.0033	0.0046	-0.1068	0.0308
3	105.12	0.2357	-0.0266	0.0012	0.0020	0.0020	-0.0676	0.0067	-0.2828	0.0504
3	105.12	0.2995	-0.0042	0.0015	-0.0749	0.0043	-0.0823	0.0168	-0.3233	0.0709
3	105.12	0.3493	0.0173	0.0021	-0.1238	0.0079	-0.1435	0.0289	-0.3760	0.0724
3	105.12	0.4000	0.0503	0.0021	-0.1745	0.0118	-0.2631	0.0440	-0.3359	0.0772
3	105.12	0.4497	0.0703	0.0024	-0.2363	0.0165	-0.4620	0.0600	-0.4814	0.0822
3	105.12	0.4997	0.0731	0.0030	-0.2999	0.0219	-0.7295	0.0793	-0.4993	0.0858
3	105.12	0.5556	0.0976	0.0037	-0.3691	0.0286	-1.1421	0.0988	-0.4318	0.0879
3	105.12	0.5995	0.1067	0.0043	-0.4341	0.0341	-1.5894	0.1139	-0.4197	0.0950
3	105.12	0.6498	0.1233	0.0052	-0.5051	0.0410	-2.2217	0.1297	-0.4948	0.1090
3	105.12	0.6890	0.0860	0.0058	-0.5710	0.0463	-2.7632	0.1417	-0.2730	0.1091
3	105.12	0.7998	0.1080	0.0083	-0.7277	0.0631	-4.7286	0.1755	-0.2889	0.1139
3	105.12	0.8577	0.0682	0.0099	-0.7865	0.0726	-5.9700	0.1954	-0.4551	0.1245
3	105.12	0.9178	0.0497	0.0114	-0.9470	0.0825	-7.3015	0.2200	-0.7374	0.1382
3	105.12	0.9729	0.0590	0.0140	-0.9924	0.0918	-8.6387	0.2445	-0.9514	0.1121
4	105.12	0.2001	-0.0513	0.0016	-0.0019	0.0014	-0.0268	0.0038	0.1838	0.0377
4	105.12	0.2502	-0.0151	0.0016	0.0111	0.0029	-0.1262	0.0082	-0.2390	0.0609
4	105.12	0.3001	0.0120	0.0017	0.0017	0.0055	-0.1565	0.0149	0.2080	0.0845
4	105.12	0.3502	0.0216	0.0023	0.0099	0.0102	-0.3032	0.0266	-0.0440	0.0901
4	105.12	0.4002	0.0360	0.0032	0.0185	0.0152	-0.4849	0.0405	-0.0825	0.0926
4	105.12	0.4500	0.0613	0.0036	0.0208	0.0198	-0.7507	0.0551	-0.1849	0.1032
4	105.12	0.5001	0.0756	0.0045	0.0150	0.0256	-1.0884	0.0728	-0.0400	0.1116
4	105.12	0.5560	0.0915	0.0054	0.0219	0.0323	-1.6733	0.0922	-0.2464	0.1143
4	105.12	0.6001	0.0938	0.0063	0.0205	0.0376	-2.1899	0.1093	-0.1171	0.1159
4	105.12	0.6501	0.0846	0.0078	-0.0011	0.0448	-2.9505	0.1288	0.0754	0.1248
4	105.12	0.6999	0.0880	0.0092	-0.0142	0.0505	-3.8684	0.1510	0.1838	0.1209
4	105.12	0.8002	0.0393	0.0131	-0.0310	0.0640	-6.0752	0.1975	0.4936	0.1268
4	105.12	0.8582	0.0097	0.0159	-0.0204	0.0721	-7.6192	0.2277	0.1017	0.1327
4	105.12	0.9101	-0.0114	0.0183	-0.0471	0.0795	-9.0344	0.2589	0.1770	0.1341
4	105.12	0.9728	-0.0257	0.0233	-0.0260	0.0880	-10.7265	0.2984	0.4787	0.1342

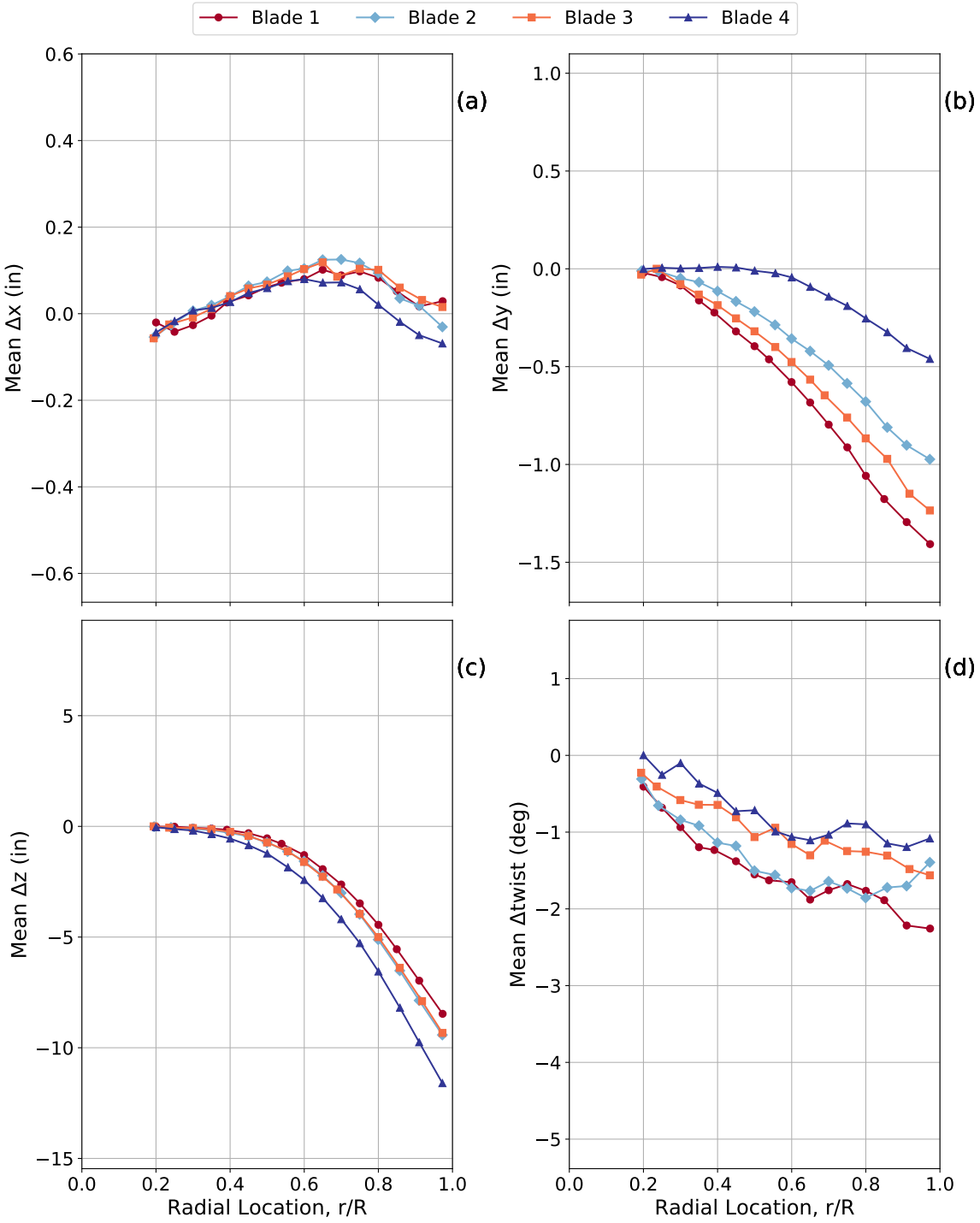


Figure 2.5-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0203	0.0013	-0.0211	0.0008	-0.0116	0.0037	-0.4075	0.0235
1	119.88	0.2499	-0.0418	0.0012	-0.0425	0.0020	-0.0157	0.0083	-0.6820	0.0509
1	119.88	0.2998	-0.0264	0.0015	-0.0851	0.0037	-0.0649	0.0148	-0.9348	0.0552
1	119.88	0.3498	-0.0045	0.0017	-0.1616	0.0056	-0.0981	0.0246	-1.1969	0.0588
1	119.88	0.3913	0.0259	0.0027	-0.2232	0.0089	-0.1535	0.0364	-1.2330	0.0685
1	119.88	0.4496	0.0423	0.0026	-0.3200	0.0121	-0.3083	0.0513	-1.3793	0.0677
1	119.88	0.4997	0.0614	0.0027	-0.3956	0.0161	-0.5402	0.0661	-1.5510	0.0734
1	119.88	0.5387	0.0715	0.0032	-0.4627	0.0196	-0.7862	0.0783	-1.6276	0.0809
1	119.88	0.5996	0.0798	0.0035	-0.5790	0.0256	-1.2981	0.0989	-1.6525	0.0928
1	119.88	0.6498	0.1016	0.0041	-0.6836	0.0311	-1.9332	0.1184	-1.8790	0.0925
1	119.88	0.6998	0.0885	0.0052	-0.7965	0.0372	-2.6258	0.1391	-1.7571	0.0968
1	119.88	0.7500	0.0976	0.0063	-0.9127	0.0440	-3.4782	0.1640	-1.6769	0.0991
1	119.88	0.8001	0.0830	0.0079	-1.0583	0.0508	-4.4467	0.1916	-1.7650	0.1068
1	119.88	0.8497	0.0519	0.0100	-1.1769	0.0580	-5.5498	0.2195	-1.8870	0.1097
1	119.88	0.9102	0.0168	0.0124	-1.2947	0.0669	-6.9696	0.2574	-2.2166	0.1154
1	119.88	0.9734	0.0289	0.0154	-1.4072	0.0769	-8.4680	0.2996	-2.2565	0.1210
2	119.88	0.1949	-0.0540	0.0014	-0.0105	0.0012	-0.0147	0.0055	-0.3083	0.0378
2	119.88	0.2405	-0.0258	0.0020	-0.0124	0.0020	-0.0520	0.0099	-0.6538	0.0500
2	119.88	0.2999	0.0066	0.0015	-0.0482	0.0052	-0.1126	0.0221	-0.8409	0.0781
2	119.88	0.3498	0.0195	0.0027	-0.0682	0.0084	-0.1696	0.0360	-0.9169	0.0854
2	119.88	0.3998	0.0404	0.0027	-0.1142	0.0132	-0.2977	0.0566	-1.1377	0.0793
2	119.88	0.4496	0.0642	0.0032	-0.1666	0.0171	-0.4498	0.0791	-1.1805	0.0779
2	119.88	0.4995	0.0736	0.0038	-0.2188	0.0224	-0.7288	0.1060	-1.5037	0.0821
2	119.88	0.5551	0.0989	0.0046	-0.2868	0.0288	-1.1371	0.1374	-1.5594	0.0856
2	119.88	0.5996	0.1043	0.0055	-0.3571	0.0342	-1.5728	0.1640	-1.7284	0.0877
2	119.88	0.6497	0.1246	0.0067	-0.4208	0.0409	-2.2233	0.1949	-1.7660	0.0933
2	119.88	0.6996	0.1253	0.0088	-0.4935	0.0479	-3.0092	0.2299	-1.6418	0.0980
2	119.88	0.7495	0.1169	0.0117	-0.5856	0.0557	-3.9690	0.2715	-1.7320	0.0992
2	119.88	0.7996	0.0936	0.0160	-0.6787	0.0637	-5.1163	0.3211	-1.8571	0.1046
2	119.88	0.8578	0.0354	0.0215	-0.8106	0.0741	-6.5201	0.3871	-1.7218	0.1078
2	119.88	0.9100	0.0186	0.0262	-0.9017	0.0837	-7.8653	0.4527	-1.7014	0.1125
2	119.88	0.9727	-0.0305	0.0334	-0.9735	0.0955	-9.4211	0.5351	-1.3936	0.1215
3	119.88	0.1938	-0.0569	0.0017	-0.0296	0.0009	0.0011	0.0047	-0.2270	0.0332
3	119.88	0.2357	-0.0249	0.0019	0.0003	0.0019	-0.0579	0.0082	-0.4059	0.0482
3	119.88	0.2995	-0.0086	0.0020	-0.0785	0.0040	-0.0784	0.0196	-0.5824	0.0699
3	119.88	0.3493	0.0112	0.0024	-0.1317	0.0065	-0.1366	0.0335	-0.6434	0.0724
3	119.88	0.4000	0.0405	0.0026	-0.1860	0.0105	-0.2470	0.0520	-0.6454	0.0816
3	119.88	0.4497	0.0583	0.0030	-0.2533	0.0139	-0.4308	0.0682	-0.8066	0.0817
3	119.88	0.4997	0.0671	0.0035	-0.3194	0.0183	-0.7263	0.0860	-1.0644	0.0889
3	119.88	0.5556	0.0863	0.0042	-0.3998	0.0236	-1.1222	0.1069	-0.9431	0.0948
3	119.88	0.5995	0.1030	0.0046	-0.4763	0.0282	-1.6074	0.1247	-1.1546	0.0972
3	119.88	0.6498	0.1186	0.0056	-0.5665	0.0341	-2.2715	0.1455	-1.3018	0.1018
3	119.88	0.6890	0.0855	0.0065	-0.6465	0.0386	-2.8499	0.1625	-1.1108	0.1038
3	119.88	0.7495	0.1038	0.0081	-0.7602	0.0465	-3.9517	0.1912	-1.2468	0.1075
3	119.88	0.7998	0.1013	0.0100	-0.8668	0.0533	-5.0013	0.2186	-1.2555	0.1119
3	119.88	0.8577	0.0603	0.0124	-0.9715	0.0610	-6.3886	0.2507	-1.3056	0.1183
3	119.88	0.9178	0.0316	0.0147	-1.1495	0.0694	-7.8956	0.2856	-1.4815	0.1218
3	119.88	0.9729	0.0154	0.0170	-1.2352	0.0771	-9.3309	0.3187	-1.5624	0.1213
4	119.88	0.2001	-0.0433	0.0013	-0.0010	0.0010	-0.0394	0.0042	0.0024	0.0254
4	119.88	0.2502	-0.0172	0.0018	0.0054	0.0033	-0.1224	0.0081	-0.2537	0.0373
4	119.88	0.3001	0.0073	0.0018	0.0020	0.0046	-0.1910	0.0163	-0.1005	0.0522
4	119.88	0.3502	0.0133	0.0025	0.0041	0.0079	-0.3507	0.0280	-0.3676	0.0568
4	119.88	0.4002	0.0270	0.0026	0.0100	0.0129	-0.5519	0.0428	-0.4891	0.0527
4	119.88	0.4500	0.0478	0.0028	0.0067	0.0160	-0.8503	0.0562	-0.7278	0.0580
4	119.88	0.5001	0.0591	0.0030	-0.0097	0.0206	-1.2280	0.0738	-0.7148	0.0640
4	119.88	0.5560	0.0751	0.0036	-0.0227	0.0257	-1.8540	0.0948	-0.9909	0.0656
4	119.88	0.6001	0.0799	0.0043	-0.0440	0.0300	-2.4219	0.1140	-1.0613	0.0706
4	119.88	0.6501	0.0716	0.0057	-0.0924	0.0351	-3.2423	0.1383	-1.1062	0.0760
4	119.88	0.6999	0.0723	0.0070	-0.1420	0.0407	-4.1931	0.1657	-1.0327	0.0820
4	119.88	0.7500	0.0564	0.0095	-0.1899	0.0461	-5.2765	0.1995	-0.8867	0.0844
4	119.88	0.8002	0.0206	0.0128	-0.2539	0.0520	-6.5576	0.2390	-0.8988	0.0922
4	119.88	0.8582	-0.0189	0.0177	-0.3244	0.0588	-8.1960	0.2922	-1.1466	0.1011
4	119.88	0.9101	-0.0495	0.0219	-0.4049	0.0650	-9.7528	0.3452	-1.1940	0.1084
4	119.88	0.9728	-0.0688	0.0275	-0.4605	0.0728	-11.6003	0.4164	-1.0826	0.1165

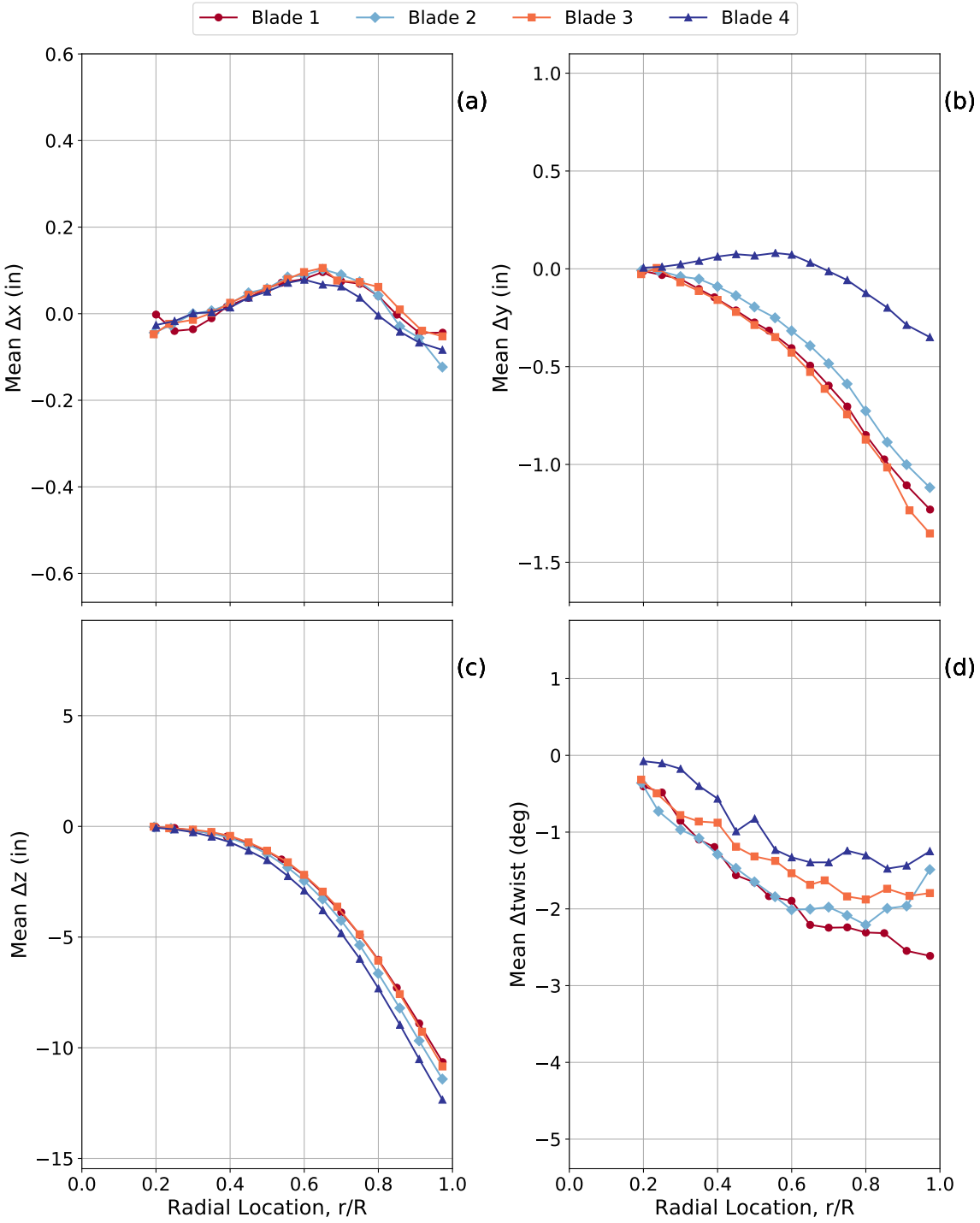


Figure 2.5-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0020	0.0016	-0.0117	0.0009	-0.0427	0.0026	-0.4042	0.0315
1	135	0.2499	-0.0399	0.0013	-0.0316	0.0018	-0.0723	0.0067	-0.4838	0.0485
1	135	0.2998	-0.0359	0.0012	-0.0528	0.0040	-0.1894	0.0121	-0.8531	0.0695
1	135	0.3498	-0.0105	0.0019	-0.1032	0.0062	-0.3129	0.0196	-1.0966	0.0789
1	135	0.3913	0.0163	0.0022	-0.1455	0.0094	-0.4593	0.0298	-1.1945	0.0798
1	135	0.4496	0.0367	0.0023	-0.2126	0.0121	-0.7703	0.0410	-1.5610	0.0832
1	135	0.4997	0.0578	0.0027	-0.2742	0.0152	-1.1292	0.0530	-1.6553	0.0940
1	135	0.5387	0.0715	0.0028	-0.3158	0.0184	-1.4947	0.0644	-1.8338	0.0977
1	135	0.5996	0.0802	0.0034	-0.4055	0.0237	-2.2169	0.0867	-1.8957	0.1037
1	135	0.6498	0.0961	0.0042	-0.4949	0.0293	-3.0148	0.1056	-2.2087	0.1100
1	135	0.6998	0.0750	0.0056	-0.5969	0.0353	-3.8897	0.1289	-2.2453	0.1278
1	135	0.7500	0.0690	0.0069	-0.7039	0.0419	-4.9046	0.1563	-2.2410	0.1386
1	135	0.8001	0.0409	0.0092	-0.8498	0.0490	-6.0314	0.1891	-2.3077	0.1382
1	135	0.8497	-0.0023	0.0122	-0.9741	0.0566	-7.2877	0.2266	-2.3160	0.1524
1	135	0.9102	-0.0441	0.0161	-1.1066	0.0662	-8.9027	0.2786	-2.5470	0.1556
1	135	0.9734	-0.0439	0.0209	-1.2305	0.0768	-10.6508	0.3393	-2.6128	0.1668
2	135	0.1949	-0.0438	0.0018	-0.0081	0.0010	-0.0301	0.0029	-0.3599	0.0402
2	135	0.2405	-0.0266	0.0017	-0.0094	0.0021	-0.0930	0.0090	-0.7277	0.0646
2	135	0.2999	0.0001	0.0018	-0.0395	0.0040	-0.1957	0.0149	-0.9668	0.0931
2	135	0.3498	0.0069	0.0021	-0.0521	0.0080	-0.3138	0.0256	-1.0791	0.0929
2	135	0.3998	0.0227	0.0030	-0.0908	0.0115	-0.5275	0.0416	-1.2897	0.0907
2	135	0.4496	0.0483	0.0031	-0.1372	0.0144	-0.8245	0.0504	-1.4711	0.1044
2	135	0.4995	0.0581	0.0038	-0.1948	0.0183	-1.2413	0.0654	-1.6483	0.1015
2	135	0.5551	0.0848	0.0040	-0.2506	0.0227	-1.8538	0.0845	-1.8419	0.1136
2	135	0.5996	0.0884	0.0049	-0.3170	0.0272	-2.4593	0.1049	-2.0112	0.1121
2	135	0.6497	0.1027	0.0062	-0.3933	0.0325	-3.2827	0.1331	-2.0035	0.1165
2	135	0.6996	0.0901	0.0080	-0.4844	0.0385	-4.2498	0.1667	-1.9775	0.1247
2	135	0.7495	0.0737	0.0108	-0.5882	0.0446	-5.3622	0.2056	-2.0860	0.1282
2	135	0.7996	0.0420	0.0140	-0.7267	0.0515	-6.6438	0.2491	-2.2083	0.1393
2	135	0.8578	-0.0292	0.0187	-0.8861	0.0601	-8.2075	0.3042	-1.9937	0.1460
2	135	0.9100	-0.0558	0.0229	-1.0009	0.0680	-9.6851	0.3578	-1.9628	0.1491
2	135	0.9727	-0.1233	0.0279	-1.1181	0.0774	-11.4143	0.4270	-1.4881	0.1551
3	135	0.1938	-0.0476	0.0015	-0.0273	0.0010	-0.0130	0.0032	-0.3162	0.0394
3	135	0.2357	-0.0234	0.0018	0.0042	0.0024	-0.0851	0.0072	-0.4948	0.0564
3	135	0.2995	-0.0142	0.0020	-0.0690	0.0036	-0.1472	0.0139	-0.7783	0.0821
3	135	0.3493	0.0013	0.0019	-0.1135	0.0068	-0.2538	0.0224	-0.8615	0.0706
3	135	0.4000	0.0251	0.0022	-0.1590	0.0104	-0.4331	0.0362	-0.8773	0.0701
3	135	0.4497	0.0439	0.0034	-0.2202	0.0125	-0.7235	0.0450	-1.1910	0.0701
3	135	0.4997	0.0577	0.0028	-0.2872	0.0166	-1.0992	0.0563	-1.3168	0.0795
3	135	0.5556	0.0802	0.0036	-0.3491	0.0207	-1.6215	0.0701	-1.3746	0.0698
3	135	0.5995	0.0961	0.0042	-0.4284	0.0244	-2.1898	0.0838	-1.5354	0.0760
3	135	0.6498	0.1056	0.0048	-0.5272	0.0291	-2.9496	0.1013	-1.6861	0.0741
3	135	0.6890	0.0766	0.0058	-0.6133	0.0327	-3.6287	0.1182	-1.6288	0.0746
3	135	0.7495	0.0729	0.0076	-0.7441	0.0393	-4.8791	0.1479	-1.8380	0.0765
3	135	0.7998	0.0617	0.0093	-0.8730	0.0453	-6.0647	0.1750	-1.8774	0.0703
3	135	0.8577	0.0097	0.0122	-1.0154	0.0523	-7.5769	0.2104	-1.7378	0.0753
3	135	0.9178	-0.0394	0.0148	-1.2345	0.0599	-9.2777	0.2462	-1.8306	0.0786
3	135	0.9729	-0.0523	0.0173	-1.3530	0.0671	-10.8450	0.2813	-1.7945	0.0788
4	135	0.2001	-0.0262	0.0019	0.0056	0.0009	-0.0628	0.0036	-0.0758	0.0411
4	135	0.2502	-0.0170	0.0016	0.0103	0.0023	-0.1364	0.0092	-0.1036	0.0585
4	135	0.3001	0.0009	0.0018	0.0232	0.0038	-0.2642	0.0162	-0.1756	0.0869
4	135	0.3502	0.0032	0.0016	0.0407	0.0070	-0.4636	0.0253	-0.3989	0.0955
4	135	0.4002	0.0144	0.0025	0.0626	0.0108	-0.7177	0.0417	-0.5643	0.1039
4	135	0.4500	0.0373	0.0026	0.0746	0.0141	-1.0977	0.0533	-0.9894	0.1104
4	135	0.5001	0.0509	0.0034	0.0676	0.0178	-1.5248	0.0661	-0.8249	0.1200
4	135	0.5560	0.0714	0.0038	0.0809	0.0230	-2.2465	0.0874	-1.2316	0.1195
4	135	0.6001	0.0785	0.0045	0.0721	0.0272	-2.8958	0.1057	-1.3284	0.1357
4	135	0.6501	0.0672	0.0055	0.0313	0.0331	-3.7901	0.1320	-1.3942	0.1296
4	135	0.6999	0.0630	0.0066	-0.0127	0.0397	-4.8279	0.1614	-1.3937	0.1417
4	135	0.7500	0.0371	0.0093	-0.0580	0.0464	-5.9844	0.1987	-1.2419	0.1398
4	135	0.8002	-0.0042	0.0125	-0.1239	0.0537	-7.3202	0.2410	-1.3032	0.1375
4	135	0.8582	-0.0417	0.0170	-0.1989	0.0628	-8.9647	0.2935	-1.4757	0.1429
4	135	0.9101	-0.0667	0.0207	-0.2870	0.0712	-10.5154	0.3448	-1.4359	0.1368
4	135	0.9728	-0.0836	0.0250	-0.3494	0.0813	-12.3472	0.4090	-1.2494	0.1390

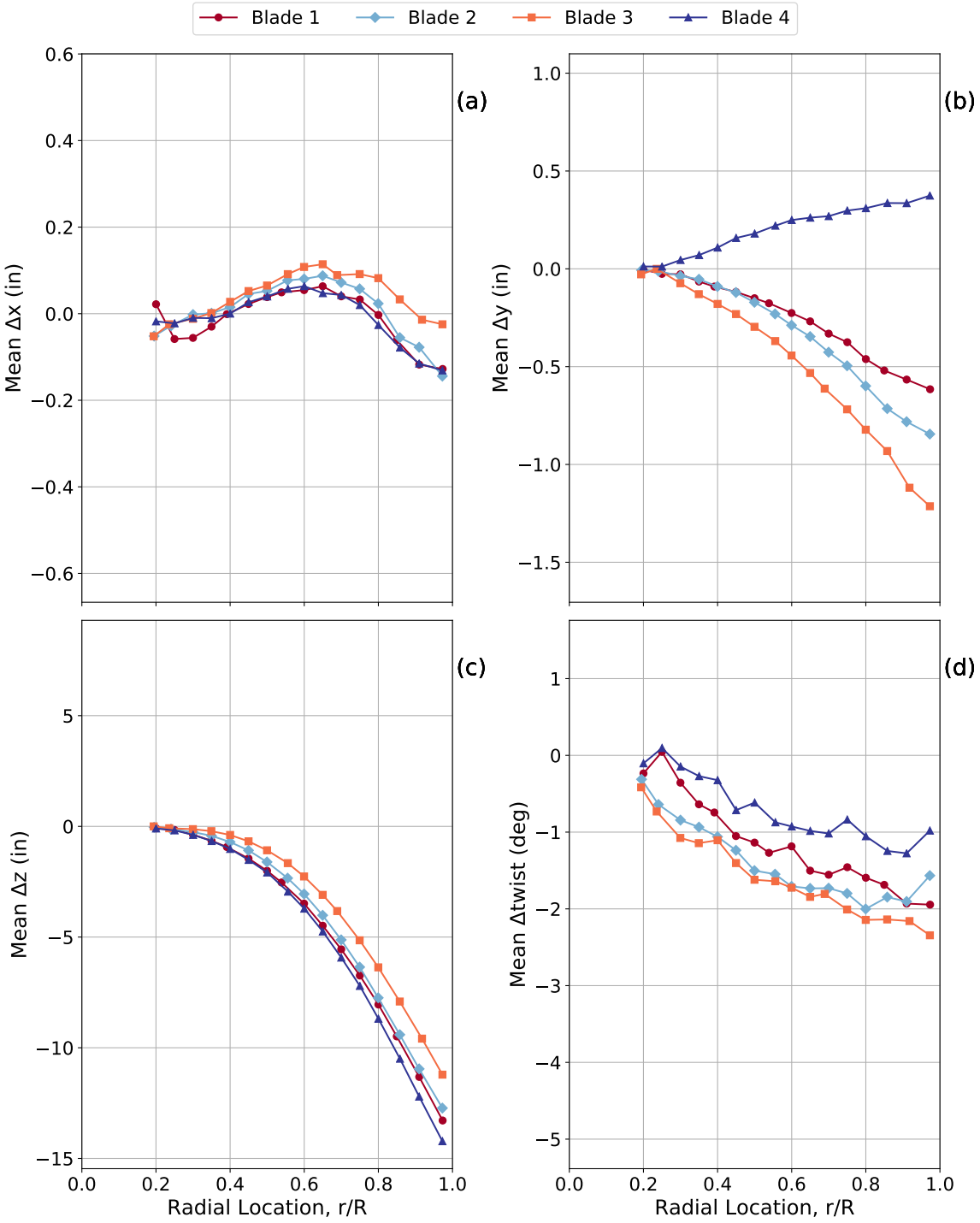


Figure 2.5-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.127$, $\mu = 0.24$, $\alpha = -0°$ NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	0.0219	0.0018	-0.0050	0.0013	-0.0874	0.0043	-0.2352	0.0278
1	150.12	0.2499	-0.0585	0.0017	-0.0259	0.0024	-0.1603	0.0083	0.0458	0.0478
1	150.12	0.2998	-0.0559	0.0018	-0.0278	0.0050	-0.3745	0.0172	-0.3561	0.0631
1	150.12	0.3498	-0.0299	0.0021	-0.0651	0.0085	-0.6491	0.0298	-0.6378	0.0670
1	150.12	0.3913	-0.0010	0.0026	-0.0907	0.0122	-0.9332	0.0426	-0.7442	0.0620
1	150.12	0.4496	0.0224	0.0034	-0.1181	0.0172	-1.4504	0.0614	-1.0515	0.0614
1	150.12	0.4997	0.0383	0.0040	-0.1503	0.0224	-2.0059	0.0814	-1.1364	0.0688
1	150.12	0.5387	0.0493	0.0048	-0.1760	0.0276	-2.5345	0.0993	-1.2695	0.0591
1	150.12	0.5996	0.0545	0.0067	-0.2259	0.0356	-3.4879	0.1314	-1.1855	0.0774
1	150.12	0.6498	0.0634	0.0087	-0.2686	0.0431	-4.4871	0.1649	-1.5018	0.0739
1	150.12	0.6998	0.0401	0.0119	-0.3313	0.0507	-5.5544	0.2060	-1.5554	0.0757
1	150.12	0.7500	0.0328	0.0166	-0.3752	0.0590	-6.7372	0.2562	-1.4574	0.0831
1	150.12	0.8001	-0.0029	0.0214	-0.4614	0.0678	-8.0474	0.3134	-1.5944	0.0819
1	150.12	0.8497	-0.0610	0.0275	-0.5197	0.0770	-9.4878	0.3783	-1.6868	0.0860
1	150.12	0.9102	-0.1175	0.0354	-0.5662	0.0888	-11.3177	0.4642	-1.9312	0.0897
1	150.12	0.9734	-0.1277	0.0439	-0.6156	0.1014	-13.2866	0.5584	-1.9448	0.0953
2	150.12	0.1949	-0.0517	0.0018	-0.0071	0.0015	-0.0408	0.0036	-0.3120	0.0300
2	150.12	0.2405	-0.0279	0.0021	-0.0121	0.0024	-0.1260	0.0070	-0.6396	0.0453
2	150.12	0.2999	-0.0020	0.0023	-0.0366	0.0050	-0.2579	0.0156	-0.8435	0.0690
2	150.12	0.3498	0.0011	0.0023	-0.0534	0.0097	-0.4260	0.0273	-0.9347	0.0654
2	150.12	0.3998	0.0152	0.0029	-0.0902	0.0134	-0.7054	0.0420	-1.0602	0.0702
2	150.12	0.4496	0.0455	0.0036	-0.1210	0.0174	-1.0847	0.0564	-1.2365	0.0724
2	150.12	0.4995	0.0525	0.0042	-0.1712	0.0222	-1.6087	0.0744	-1.5017	0.0812
2	150.12	0.5551	0.0770	0.0047	-0.2307	0.0279	-2.3386	0.0976	-1.5480	0.0809
2	150.12	0.5996	0.0803	0.0061	-0.2883	0.0334	-3.0536	0.1184	-1.7073	0.0823
2	150.12	0.6497	0.0877	0.0074	-0.3463	0.0391	-4.0168	0.1442	-1.7330	0.0857
2	150.12	0.6996	0.0721	0.0097	-0.4263	0.0457	-5.1260	0.1721	-1.7301	0.0898
2	150.12	0.7495	0.0574	0.0121	-0.4958	0.0525	-6.3562	0.2038	-1.7985	0.0884
2	150.12	0.7996	0.0234	0.0150	-0.5989	0.0596	-7.7439	0.2373	-2.0011	0.0928
2	150.12	0.8578	-0.0552	0.0190	-0.7146	0.0678	-9.4105	0.2794	-1.8466	0.0940
2	150.12	0.9100	-0.0775	0.0226	-0.7816	0.0756	-10.9542	0.3210	-1.9041	0.0946
2	150.12	0.9727	-0.1442	0.0277	-0.8447	0.0848	-12.7264	0.3737	-1.5665	0.0956
3	150.12	0.1938	-0.0522	0.0032	-0.0283	0.0016	-0.0005	0.0073	-0.4163	0.0460
3	150.12	0.2357	-0.0244	0.0016	-0.0003	0.0019	-0.0851	0.0077	-0.7312	0.1133
3	150.12	0.2995	-0.0118	0.0019	-0.0737	0.0055	-0.1253	0.0219	-1.0758	0.1298
3	150.12	0.3493	0.0015	0.0021	-0.1295	0.0102	-0.2161	0.0371	-1.1437	0.1221
3	150.12	0.4000	0.0274	0.0020	-0.1795	0.0147	-0.3887	0.0545	-1.1055	0.1318
3	150.12	0.4497	0.0523	0.0026	-0.2313	0.0194	-0.6750	0.0724	-1.4031	0.1244
3	150.12	0.4997	0.0651	0.0029	-0.2965	0.0241	-1.0807	0.0932	-1.6205	0.1239
3	150.12	0.5556	0.0914	0.0036	-0.3694	0.0301	-1.6602	0.1147	-1.6403	0.1265
3	150.12	0.5995	0.1080	0.0039	-0.4431	0.0351	-2.2634	0.1336	-1.7240	0.1241
3	150.12	0.6498	0.1142	0.0050	-0.5325	0.0409	-3.0943	0.1545	-1.8437	0.1316
3	150.12	0.6890	0.0891	0.0057	-0.6125	0.0455	-3.8259	0.1740	-1.8052	0.1297
3	150.12	0.7495	0.0915	0.0080	-0.7183	0.0535	-5.1466	0.2011	-2.0080	0.1326
3	150.12	0.7998	0.0821	0.0100	-0.8224	0.0603	-6.3693	0.2292	-2.1436	0.1377
3	150.12	0.8577	0.0330	0.0127	-0.9315	0.0681	-7.9121	0.2609	-2.1378	0.1359
3	150.12	0.9178	-0.0139	0.0159	-1.1189	0.0764	-9.5886	0.2977	-2.1589	0.1390
3	150.12	0.9729	-0.0245	0.0182	-1.2137	0.0842	-11.2151	0.3332	-2.3444	0.1429
4	150.12	0.2001	-0.0177	0.0018	0.0119	0.0011	-0.0960	0.0034	-0.1039	0.0268
4	150.12	0.2502	-0.0223	0.0017	0.0115	0.0030	-0.1817	0.0091	0.0960	0.0350
4	150.12	0.3001	-0.0097	0.0019	0.0450	0.0043	-0.3846	0.0136	-0.1464	0.0524
4	150.12	0.3502	-0.0104	0.0018	0.0702	0.0092	-0.6628	0.0242	-0.2710	0.0475
4	150.12	0.4002	0.0002	0.0025	0.1085	0.0131	-1.0194	0.0377	-0.3234	0.0538
4	150.12	0.4500	0.0266	0.0029	0.1575	0.0170	-1.5160	0.0511	-0.7139	0.0581
4	150.12	0.5001	0.0399	0.0035	0.1800	0.0209	-2.0832	0.0703	-0.6156	0.0647
4	150.12	0.5560	0.0575	0.0043	0.2203	0.0259	-2.9483	0.0936	-0.8727	0.0666
4	150.12	0.6001	0.0636	0.0049	0.2492	0.0301	-3.7164	0.1148	-0.9265	0.0627
4	150.12	0.6501	0.0474	0.0069	0.2614	0.0353	-4.7499	0.1431	-0.9846	0.0720
4	150.12	0.6999	0.0432	0.0091	0.2691	0.0405	-5.9280	0.1762	-1.0180	0.0751
4	150.12	0.7500	0.0199	0.0121	0.2976	0.0457	-7.2078	0.2150	-0.8371	0.0763
4	150.12	0.8002	-0.0262	0.0162	0.3099	0.0514	-8.6903	0.2585	-1.0539	0.0767
4	150.12	0.8582	-0.0783	0.0213	0.3362	0.0581	-10.4977	0.3132	-1.2455	0.0796
4	150.12	0.9101	-0.1151	0.0260	0.3355	0.0645	-12.2068	0.3639	-1.2763	0.0873
4	150.12	0.9728	-0.1311	0.0307	0.3742	0.0725	-14.2221	0.4276	-0.9802	0.0925

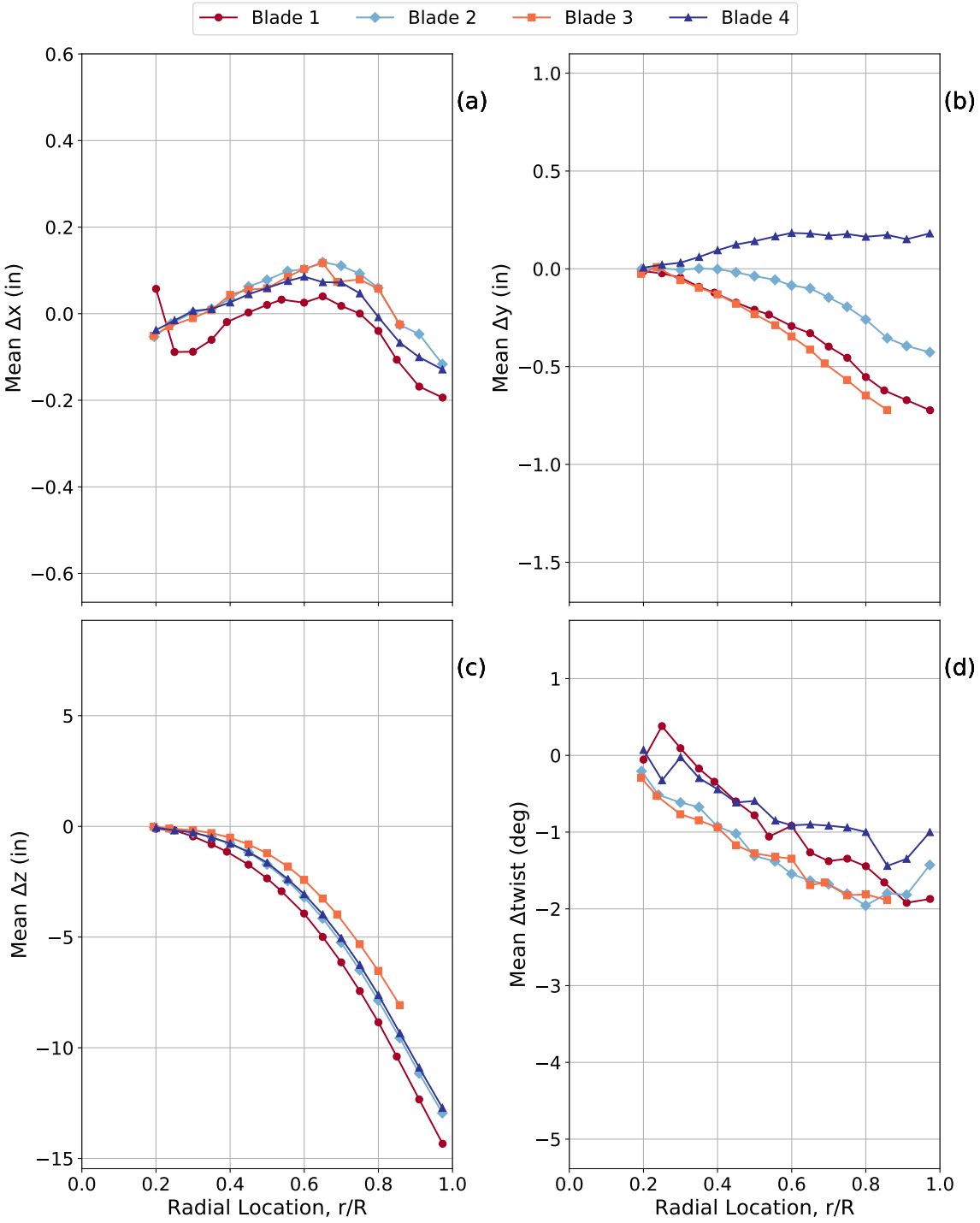


Figure 2.5-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	0.0574	0.0027	-0.0122	0.0015	-0.1073	0.0031	-0.0557	0.0322
1	164.88	0.2499	-0.0885	0.0024	-0.0232	0.0041	-0.1807	0.0061	0.3815	0.0593
1	164.88	0.2998	-0.0879	0.0024	-0.0448	0.0066	-0.4549	0.0131	0.0933	0.0744
1	164.88	0.3498	-0.0603	0.0023	-0.0920	0.0117	-0.8091	0.0211	-0.1722	0.0748
1	164.88	0.3913	-0.0193	0.0031	-0.1216	0.0173	-1.1449	0.0315	-0.3435	0.0812
1	164.88	0.4496	0.0028	0.0031	-0.1729	0.0220	-1.7314	0.0433	-0.5999	0.0873
1	164.88	0.4997	0.0203	0.0032	-0.2093	0.0277	-2.3499	0.0553	-0.7808	0.0846
1	164.88	0.5387	0.0325	0.0039	-0.2344	0.0326	-2.9297	0.0664	-1.0583	0.0898
1	164.88	0.5996	0.0255	0.0048	-0.2927	0.0403	-3.9386	0.0864	-0.9177	0.0984
1	164.88	0.6498	0.0400	0.0057	-0.3294	0.0474	-4.9940	0.1061	-1.2645	0.0909
1	164.88	0.6998	0.0180	0.0069	-0.3974	0.0547	-6.1427	0.1268	-1.3781	0.0952
1	164.88	0.7500	0.0002	0.0087	-0.4547	0.0627	-7.4391	0.1507	-1.3462	0.0970
1	164.88	0.8001	-0.0398	0.0112	-0.5533	0.0704	-8.8509	0.1773	-1.4445	0.0924
1	164.88	0.8497	-0.1063	0.0141	-0.6218	0.0786	-10.3975	0.2074	-1.6553	0.0949
1	164.88	0.9102	-0.1684	0.0176	-0.6713	0.0891	-12.3354	0.2467	-1.9206	0.0990
1	164.88	0.9734	-0.1938	0.0223	-0.7229	0.1003	-14.3371	0.2944	-1.8706	0.0933
2	164.88	0.1949	-0.0531	0.0021	-0.0016	0.0013	-0.0510	0.0028	-0.2055	0.0241
2	164.88	0.2405	-0.0232	0.0018	0.0033	0.0029	-0.1384	0.0054	-0.5153	0.0407
2	164.88	0.2999	0.0031	0.0019	-0.0047	0.0054	-0.2906	0.0118	-0.6138	0.0566
2	164.88	0.3498	0.0113	0.0018	0.0014	0.0106	-0.4758	0.0193	-0.6739	0.0565
2	164.88	0.3998	0.0344	0.0020	-0.0017	0.0155	-0.7801	0.0304	-0.9279	0.0644
2	164.88	0.4496	0.0628	0.0024	-0.0181	0.0203	-1.1718	0.0403	-1.0197	0.0577
2	164.88	0.4995	0.0780	0.0028	-0.0374	0.0247	-1.7196	0.0511	-1.3097	0.0588
2	164.88	0.5551	0.0985	0.0033	-0.0560	0.0311	-2.4608	0.0655	-1.3813	0.0568
2	164.88	0.5996	0.1025	0.0037	-0.0851	0.0362	-3.2017	0.0764	-1.5447	0.0595
2	164.88	0.6497	0.1189	0.0046	-0.1000	0.0426	-4.1573	0.0898	-1.6339	0.0597
2	164.88	0.6996	0.1107	0.0054	-0.1464	0.0491	-5.2500	0.1035	-1.6787	0.0639
2	164.88	0.7495	0.0925	0.0070	-0.1943	0.0564	-6.4907	0.1203	-1.8040	0.0640
2	164.88	0.7996	0.0594	0.0090	-0.2591	0.0642	-7.8606	0.1400	-1.9572	0.0691
2	164.88	0.8578	-0.0258	0.0121	-0.3543	0.0734	-9.5598	0.1675	-1.7974	0.0730
2	164.88	0.9100	-0.0471	0.0147	-0.3943	0.0822	-11.1561	0.1971	-1.8162	0.0725
2	164.88	0.9727	-0.1165	0.0190	-0.4264	0.0927	-12.9509	0.2345	-1.4282	0.0745
3	164.88	0.1938	-0.0511	0.0012	-0.0257	0.0009	-0.0138	0.0035	-0.2928	0.0334
3	164.88	0.2357	-0.0289	0.0011	0.0091	0.0021	-0.0993	0.0063	-0.5262	0.0424
3	164.88	0.2995	-0.0102	0.0016	-0.0581	0.0044	-0.1688	0.0143	-0.7670	0.0719
3	164.88	0.3493	0.0084	0.0018	-0.0967	0.0070	-0.3011	0.0233	-0.8459	0.0592
3	164.88	0.4000	0.0435	0.0018	-0.1302	0.0115	-0.5090	0.0365	-0.9386	0.0697
3	164.88	0.4497	0.0557	0.0030	-0.1785	0.0139	-0.8156	0.0457	-1.1712	0.0698
3	164.88	0.4997	0.0584	0.0029	-0.2320	0.0176	-1.2135	0.0567	-1.2767	0.0701
3	164.88	0.5556	0.0855	0.0030	-0.2881	0.0221	-1.8141	0.0694	-1.3206	0.0707
3	164.88	0.5995	0.1033	0.0031	-0.3452	0.0263	-2.4164	0.0796	-1.3465	0.0788
3	164.88	0.6498	0.1171	0.0043	-0.4131	0.0312	-3.2610	0.0908	-1.6904	0.0998
3	164.88	0.6890	0.0735	0.0050	-0.4835	0.0352	-3.9790	0.1017	-1.6560	0.1087
3	164.88	0.7495	0.0791	0.0067	-0.5684	0.0426	-5.3195	0.1195	-1.8221	0.0791
3	164.88	0.7998	0.0577	0.0083	-0.6474	0.0474	-6.5291	0.1401	-1.8107	0.0922
3	164.88	0.8577	-0.0250	0.0123	-0.7217	0.0551	-8.0780	0.1676	-1.8861	0.1416
4	164.88	0.2001	-0.0377	0.0013	0.0061	0.0011	-0.0598	0.0031	0.0710	0.0341
4	164.88	0.2502	-0.0153	0.0015	0.0204	0.0034	-0.1794	0.0078	-0.3246	0.0482
4	164.88	0.3001	0.0064	0.0016	0.0315	0.0049	-0.2698	0.0135	-0.0245	0.0712
4	164.88	0.3502	0.0110	0.0019	0.0605	0.0094	-0.4998	0.0211	-0.2958	0.0734
4	164.88	0.4002	0.0260	0.0020	0.0948	0.0143	-0.7765	0.0345	-0.4421	0.0682
4	164.88	0.4500	0.0450	0.0024	0.1239	0.0174	-1.1557	0.0443	-0.6146	0.0684
4	164.88	0.5001	0.0595	0.0028	0.1414	0.0220	-1.6412	0.0544	-0.5934	0.0821
4	164.88	0.5560	0.0756	0.0034	0.1658	0.0275	-2.3861	0.0690	-0.8495	0.0874
4	164.88	0.6001	0.0856	0.0037	0.1833	0.0317	-3.0645	0.0812	-0.9116	0.0915
4	164.88	0.6501	0.0728	0.0045	0.1802	0.0375	-3.9777	0.0981	-0.9000	0.0765
4	164.88	0.6999	0.0719	0.0057	0.1690	0.0433	-5.0453	0.1157	-0.9161	0.0930
4	164.88	0.7500	0.0469	0.0070	0.1778	0.0495	-6.2602	0.1350	-0.9403	0.0919
4	164.88	0.8002	-0.0081	0.0096	0.1638	0.0559	-7.6165	0.1563	-0.9985	0.1141
4	164.88	0.8582	-0.0673	0.0123	0.1729	0.0627	-9.3426	0.1854	-1.4400	0.1475
4	164.88	0.9101	-0.1004	0.0177	0.1513	0.0689	-10.8976	0.2173	-1.3480	0.1305
4	164.88	0.9728	-0.1289	0.0179	0.1810	0.0785	-12.7172	0.2558	-1.0003	0.1925

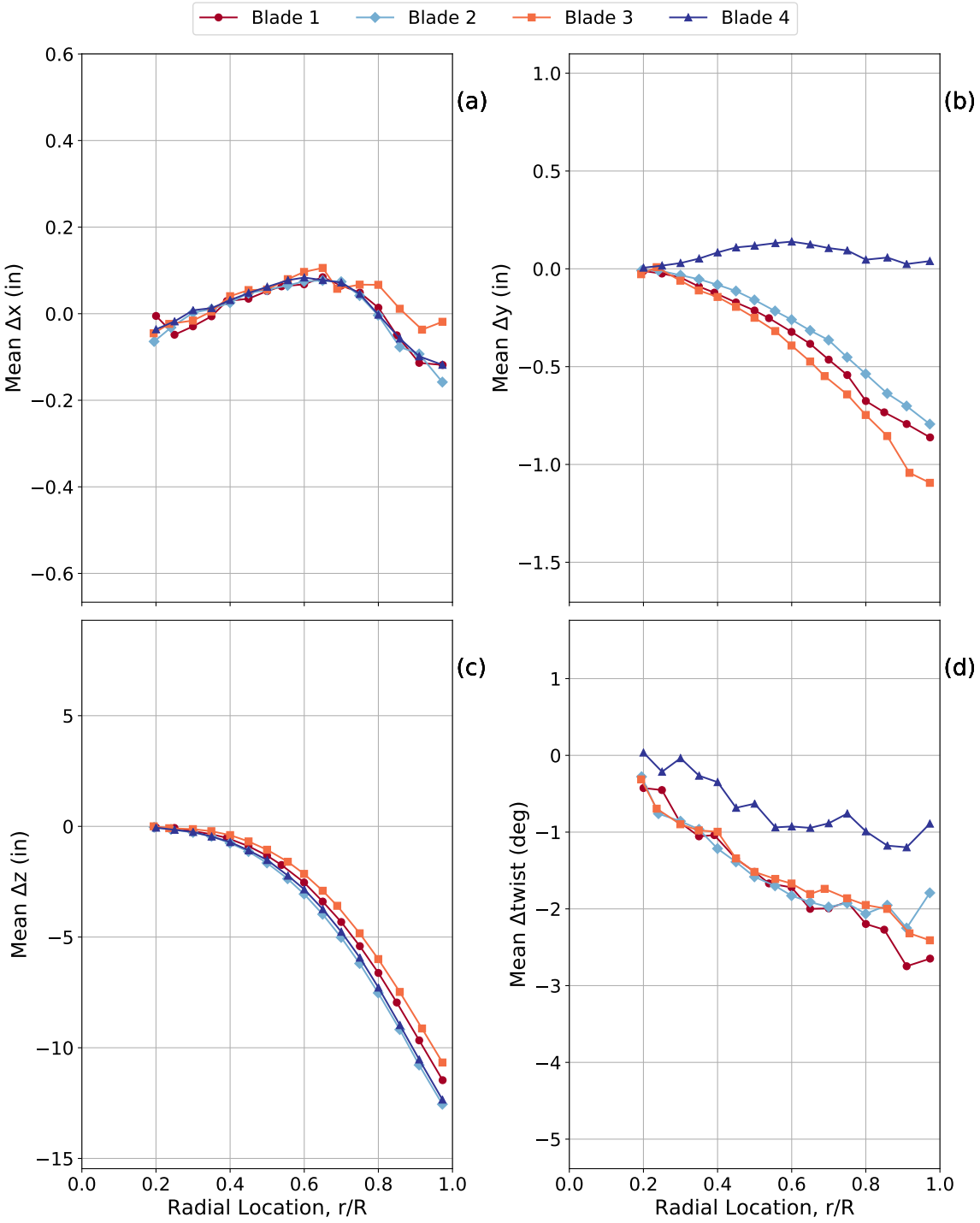


Figure 2.5-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0052	0.0016	-0.0111	0.0013	-0.0491	0.0033	-0.4257	0.0315
1	170.16	0.2499	-0.0486	0.0012	-0.0244	0.0033	-0.0718	0.0078	-0.4519	0.0385
1	170.16	0.2998	-0.0293	0.0016	-0.0439	0.0060	-0.2151	0.0137	-0.8784	0.0659
1	170.16	0.3498	-0.0061	0.0017	-0.0908	0.0101	-0.3564	0.0214	-1.0550	0.0635
1	170.16	0.3913	0.0292	0.0024	-0.1218	0.0153	-0.5183	0.0323	-1.0393	0.0583
1	170.16	0.4496	0.0346	0.0029	-0.1720	0.0177	-0.8951	0.0427	-1.3469	0.0679
1	170.16	0.4997	0.0522	0.0025	-0.2130	0.0229	-1.3224	0.0536	-1.5174	0.0675
1	170.16	0.5387	0.0632	0.0030	-0.2522	0.0259	-1.7447	0.0611	-1.6682	0.0731
1	170.16	0.5996	0.0678	0.0037	-0.3224	0.0330	-2.5356	0.0750	-1.7202	0.0667
1	170.16	0.6498	0.0843	0.0046	-0.3836	0.0393	-3.3964	0.0862	-1.9998	0.0785
1	170.16	0.6998	0.0649	0.0052	-0.4643	0.0451	-4.3201	0.0983	-1.9939	0.0789
1	170.16	0.7500	0.0488	0.0065	-0.5430	0.0518	-5.4102	0.1118	-1.9079	0.0840
1	170.16	0.8001	0.0138	0.0081	-0.6758	0.0601	-6.6210	0.1295	-2.1968	0.1135
1	170.16	0.8497	-0.0499	0.0100	-0.7335	0.0655	-7.9562	0.1493	-2.2711	0.0868
1	170.16	0.9102	-0.1136	0.0127	-0.7933	0.0740	-9.6674	0.1762	-2.7473	0.1479
1	170.16	0.9734	-0.1184	0.0164	-0.8618	0.0830	-11.4651	0.2125	-2.6481	0.1139
2	170.16	0.1949	-0.0642	0.0023	-0.0086	0.0014	-0.0409	0.0025	-0.2782	0.0198
2	170.16	0.2405	-0.0320	0.0011	-0.0080	0.0020	-0.1379	0.0048	-0.7599	0.0327
2	170.16	0.2999	0.0024	0.0012	-0.0327	0.0053	-0.2750	0.0097	-0.8579	0.0464
2	170.16	0.3498	0.0106	0.0014	-0.0533	0.0090	-0.4521	0.0166	-0.9638	0.0454
2	170.16	0.3998	0.0255	0.0020	-0.0816	0.0136	-0.7554	0.0255	-1.2149	0.0550
2	170.16	0.4496	0.0473	0.0022	-0.1135	0.0178	-1.1386	0.0360	-1.3883	0.0578
2	170.16	0.4995	0.0551	0.0050	-0.1592	0.0290	-1.6516	0.0470	-1.5824	0.0580
2	170.16	0.5551	0.0653	0.0036	-0.2157	0.0296	-2.3656	0.0596	-1.6999	0.0677
2	170.16	0.5996	0.0745	0.0039	-0.2599	0.0344	-3.0568	0.0711	-1.8280	0.0696
2	170.16	0.6497	0.0767	0.0047	-0.3153	0.0425	-3.9702	0.0812	-1.9118	0.0692
2	170.16	0.6996	0.0739	0.0056	-0.3642	0.0488	-5.0151	0.0943	-1.9755	0.0711
2	170.16	0.7495	0.0417	0.0065	-0.4521	0.0547	-6.1945	0.1057	-1.9261	0.0899
2	170.16	0.7996	-0.0037	0.0073	-0.5371	0.0645	-7.5246	0.1177	-2.0649	0.1033
2	170.16	0.8578	-0.0769	0.0099	-0.6372	0.0730	-9.1787	0.1351	-1.9522	0.1223
2	170.16	0.9100	-0.0931	0.0125	-0.7014	0.0827	-10.7804	0.1523	-2.2502	0.0921
2	170.16	0.9727	-0.1580	0.0142	-0.7938	0.0924	-12.5529	0.1766	-1.7914	0.0940
3	170.16	0.1938	-0.0452	0.0017	-0.0277	0.0016	0.0016	0.0040	-0.3130	0.0269
3	170.16	0.2357	-0.0236	0.0011	0.0084	0.0019	-0.0842	0.0048	-0.6945	0.0553
3	170.16	0.2995	-0.0159	0.0013	-0.0607	0.0050	-0.1248	0.0123	-0.8975	0.0706
3	170.16	0.3493	0.0049	0.0016	-0.1105	0.0089	-0.2185	0.0206	-0.9777	0.0676
3	170.16	0.4000	0.0404	0.0018	-0.1438	0.0131	-0.3948	0.0307	-0.9953	0.0687
3	170.16	0.4497	0.0546	0.0022	-0.1944	0.0171	-0.6803	0.0403	-1.3423	0.0741
3	170.16	0.4997	0.0558	0.0025	-0.2502	0.0218	-1.0554	0.0519	-1.5184	0.0787
3	170.16	0.5556	0.0798	0.0029	-0.3182	0.0279	-1.5981	0.0651	-1.6100	0.0816
3	170.16	0.5995	0.0965	0.0034	-0.3920	0.0324	-2.1461	0.0763	-1.6694	0.0779
3	170.16	0.6498	0.1057	0.0041	-0.4740	0.0392	-2.9084	0.0913	-1.8073	0.0867
3	170.16	0.6890	0.0575	0.0051	-0.5484	0.0442	-3.5877	0.1043	-1.7393	0.0824
3	170.16	0.7495	0.0671	0.0060	-0.6418	0.0526	-4.8298	0.1247	-1.8623	0.0855
3	170.16	0.7998	0.0667	0.0077	-0.7471	0.0600	-5.9955	0.1452	-1.9493	0.0867
3	170.16	0.8577	0.0114	0.0096	-0.8548	0.0690	-7.4794	0.1721	-2.0002	0.0935
3	170.16	0.9178	-0.0369	0.0181	-1.0428	0.0774	-9.1298	0.2029	-2.3187	0.0960
3	170.16	0.9729	-0.0187	0.0168	-1.0939	0.0885	-10.6661	0.2362	-2.4096	0.1045
4	170.16	0.2001	-0.0361	0.0014	0.0057	0.0010	-0.0594	0.0041	0.0362	0.0251
4	170.16	0.2502	-0.0177	0.0011	0.0163	0.0031	-0.1550	0.0083	-0.2138	0.0442
4	170.16	0.3001	0.0079	0.0014	0.0294	0.0045	-0.2541	0.0147	-0.0366	0.0557
4	170.16	0.3502	0.0130	0.0014	0.0524	0.0086	-0.4594	0.0257	-0.2654	0.0536
4	170.16	0.4002	0.0314	0.0021	0.0837	0.0132	-0.7105	0.0388	-0.3489	0.0564
4	170.16	0.4500	0.0479	0.0023	0.1093	0.0142	-1.0829	0.0480	-0.6833	0.0571
4	170.16	0.5001	0.0620	0.0025	0.1182	0.0185	-1.5212	0.0595	-0.6295	0.0606
4	170.16	0.5560	0.0774	0.0032	0.1314	0.0228	-2.2258	0.0739	-0.9382	0.0619
4	170.16	0.6001	0.0835	0.0036	0.1390	0.0270	-2.8472	0.0856	-0.9264	0.0630
4	170.16	0.6501	0.0776	0.0045	0.1248	0.0318	-3.7400	0.0980	-0.9448	0.0658
4	170.16	0.6999	0.0720	0.0054	0.1059	0.0372	-4.7622	0.1116	-0.8849	0.0784
4	170.16	0.7500	0.0456	0.0063	0.0939	0.0428	-5.9310	0.1267	-0.7583	0.0695
4	170.16	0.8002	-0.0023	0.0080	0.0467	0.0513	-7.2830	0.1416	-0.9900	0.0998
4	170.16	0.8582	-0.0574	0.0099	0.0576	0.0564	-8.9779	0.1641	-1.1763	0.0815
4	170.16	0.9101	-0.0985	0.0121	0.0243	0.0631	-10.5299	0.1865	-1.1980	0.0857
4	170.16	0.9728	-0.1181	0.0146	0.0395	0.0718	-12.3426	0.2154	-0.8895	0.0937

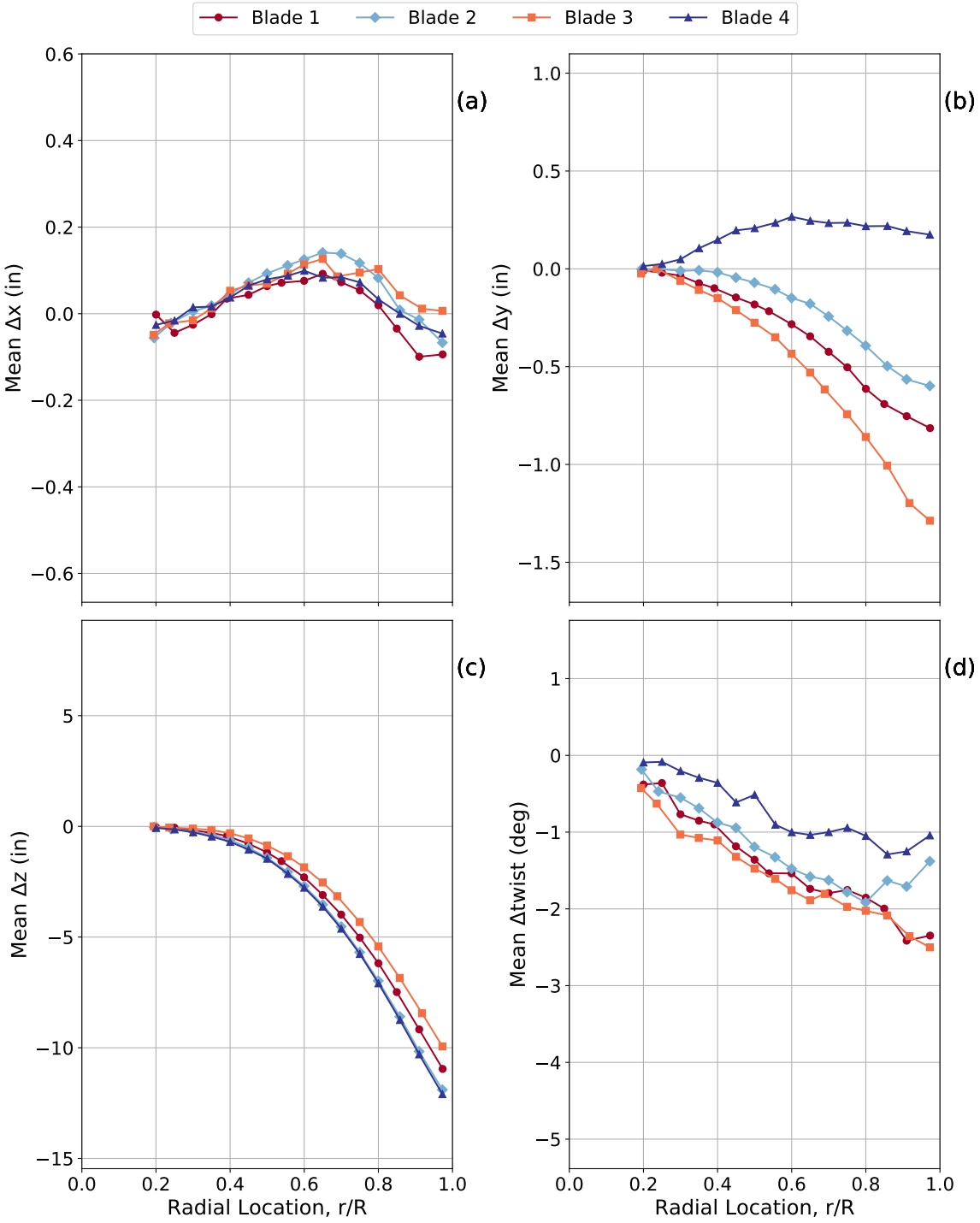


Figure 2.5-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	-0.0021	0.0017	-0.0089	0.0009	-0.0401	0.0030	-0.3797	0.0263
1	175.08	0.2499	-0.0443	0.0014	-0.0200	0.0026	-0.0608	0.0077	-0.3603	0.0405
1	175.08	0.2998	-0.0254	0.0015	-0.0357	0.0044	-0.1842	0.0133	-0.7675	0.0568
1	175.08	0.3498	-0.0011	0.0018	-0.0737	0.0075	-0.2937	0.0225	-0.8513	0.0577
1	175.08	0.3913	0.0348	0.0019	-0.0992	0.0112	-0.4379	0.0337	-0.8993	0.0633
1	175.08	0.4496	0.0436	0.0027	-0.1465	0.0141	-0.7813	0.0469	-1.1858	0.0702
1	175.08	0.4997	0.0637	0.0026	-0.1823	0.0184	-1.1772	0.0624	-1.3597	0.0684
1	175.08	0.5387	0.0715	0.0030	-0.2167	0.0216	-1.5708	0.0747	-1.5362	0.0831
1	175.08	0.5996	0.0759	0.0039	-0.2832	0.0276	-2.3016	0.0952	-1.5377	0.0827
1	175.08	0.6498	0.0921	0.0044	-0.3451	0.0334	-3.1007	0.1125	-1.7391	0.0824
1	175.08	0.6998	0.0727	0.0054	-0.4242	0.0395	-3.9856	0.1307	-1.7954	0.0880
1	175.08	0.7500	0.0539	0.0067	-0.5035	0.0460	-5.0253	0.1498	-1.7536	0.0901
1	175.08	0.8001	0.0195	0.0083	-0.6132	0.0528	-6.1839	0.1724	-1.8545	0.1004
1	175.08	0.8497	-0.0344	0.0102	-0.6911	0.0601	-7.4865	0.1952	-1.9966	0.1014
1	175.08	0.9102	-0.0994	0.0137	-0.7532	0.0697	-9.1719	0.2265	-2.4141	0.1161
1	175.08	0.9734	-0.0941	0.0157	-0.8143	0.0785	-10.9561	0.2657	-2.3480	0.1194
2	175.08	0.1949	-0.0559	0.0017	-0.0021	0.0011	-0.0388	0.0037	-0.1831	0.0338
2	175.08	0.2405	-0.0217	0.0020	-0.0003	0.0025	-0.1135	0.0074	-0.4701	0.0544
2	175.08	0.2999	0.0053	0.0017	-0.0106	0.0045	-0.2293	0.0150	-0.5513	0.0796
2	175.08	0.3498	0.0185	0.0018	-0.0076	0.0079	-0.3834	0.0250	-0.6889	0.0656
2	175.08	0.3998	0.0447	0.0022	-0.0180	0.0121	-0.6266	0.0387	-0.8758	0.0646
2	175.08	0.4496	0.0715	0.0031	-0.0449	0.0154	-0.9597	0.0509	-0.9437	0.0680
2	175.08	0.4995	0.0928	0.0027	-0.0705	0.0191	-1.4180	0.0655	-1.1919	0.0782
2	175.08	0.5551	0.1115	0.0028	-0.1046	0.0242	-2.0602	0.0829	-1.3267	0.0824
2	175.08	0.5996	0.1254	0.0035	-0.1491	0.0284	-2.6971	0.0963	-1.4768	0.0938
2	175.08	0.6497	0.1414	0.0041	-0.1786	0.0337	-3.5331	0.1113	-1.5806	0.0926
2	175.08	0.6996	0.1387	0.0048	-0.2434	0.0393	-4.5272	0.1276	-1.6267	0.0918
2	175.08	0.7495	0.1169	0.0059	-0.3164	0.0454	-5.6851	0.1422	-1.7821	0.1024
2	175.08	0.7996	0.0826	0.0072	-0.3930	0.0518	-6.9779	0.1599	-1.9160	0.1048
2	175.08	0.8578	0.0085	0.0096	-0.4972	0.0602	-8.5921	0.1817	-1.6325	0.1095
2	175.08	0.9100	-0.0136	0.0117	-0.5651	0.0678	-10.1660	0.2058	-1.7078	0.1079
2	175.08	0.9727	-0.0669	0.0142	-0.5986	0.0771	-11.8978	0.2373	-1.3801	0.1149
3	175.08	0.1938	-0.0489	0.0019	-0.0240	0.0017	0.0017	0.0053	-0.4269	0.0225
3	175.08	0.2357	-0.0223	0.0013	0.0019	0.0019	-0.0542	0.0064	-0.6290	0.0577
3	175.08	0.2995	-0.0154	0.0016	-0.0618	0.0060	-0.1006	0.0162	-1.0321	0.0641
3	175.08	0.3493	0.0121	0.0020	-0.1079	0.0105	-0.1652	0.0271	-1.0756	0.0613
3	175.08	0.4000	0.0530	0.0020	-0.1495	0.0157	-0.3088	0.0399	-1.1083	0.0702
3	175.08	0.4497	0.0652	0.0023	-0.2109	0.0203	-0.5440	0.0524	-1.3215	0.0788
3	175.08	0.4997	0.0692	0.0024	-0.2758	0.0259	-0.8665	0.0673	-1.4755	0.0839
3	175.08	0.5556	0.0924	0.0029	-0.3497	0.0326	-1.3480	0.0841	-1.6092	0.0928
3	175.08	0.5995	0.1137	0.0031	-0.4342	0.0377	-1.8500	0.0974	-1.7578	0.0943
3	175.08	0.6498	0.1265	0.0040	-0.5301	0.0452	-2.5351	0.1147	-1.8875	0.0872
3	175.08	0.6890	0.0861	0.0047	-0.6164	0.0505	-3.1560	0.1265	-1.8044	0.0986
3	175.08	0.7495	0.0950	0.0054	-0.7430	0.0602	-4.3189	0.1468	-1.9732	0.1034
3	175.08	0.7998	0.1031	0.0066	-0.8596	0.0691	-5.4224	0.1669	-2.0255	0.0982
3	175.08	0.8577	0.0425	0.0104	-1.0056	0.0754	-6.8489	0.1937	-2.0854	0.1317
3	175.08	0.9178	0.0115	0.0108	-1.1976	0.0868	-8.4433	0.2271	-2.3556	0.1181
3	175.08	0.9729	0.0064	0.0147	-1.2877	0.0974	-9.9404	0.2623	-2.5012	0.1170
4	175.08	0.2001	-0.0259	0.0015	0.0139	0.0012	-0.0716	0.0038	-0.0921	0.0248
4	175.08	0.2502	-0.0158	0.0012	0.0247	0.0024	-0.1389	0.0078	-0.0845	0.0491
4	175.08	0.3001	0.0146	0.0016	0.0489	0.0041	-0.2690	0.0137	-0.2047	0.0557
4	175.08	0.3502	0.0166	0.0016	0.1054	0.0071	-0.4606	0.0230	-0.2926	0.0558
4	175.08	0.4002	0.0373	0.0020	0.1481	0.0107	-0.7024	0.0354	-0.3579	0.0553
4	175.08	0.4500	0.0649	0.0021	0.1964	0.0137	-1.0516	0.0472	-0.6128	0.0642
4	175.08	0.5001	0.0795	0.0024	0.2077	0.0180	-1.4599	0.0616	-0.5146	0.0617
4	175.08	0.5560	0.0876	0.0031	0.2350	0.0220	-2.1484	0.0787	-0.9034	0.0678
4	175.08	0.6001	0.0993	0.0039	0.2660	0.0267	-2.7708	0.0943	-1.0017	0.0710
4	175.08	0.6501	0.0831	0.0048	0.2457	0.0310	-3.6262	0.1134	-1.0363	0.0803
4	175.08	0.6999	0.0842	0.0063	0.2339	0.0370	-4.6230	0.1339	-1.0004	0.0764
4	175.08	0.7500	0.0723	0.0073	0.2356	0.0431	-5.7642	0.1569	-0.9441	0.0849
4	175.08	0.8002	0.0332	0.0102	0.2178	0.0503	-7.0874	0.1848	-1.0498	0.0937
4	175.08	0.8582	-0.0003	0.0132	0.2187	0.0557	-8.7456	0.2215	-1.2909	0.0935
4	175.08	0.9101	-0.0281	0.0170	0.1927	0.0620	-10.2996	0.2610	-1.2508	0.0894
4	175.08	0.9728	-0.0459	0.0202	0.1745	0.0714	-12.0983	0.3083	-1.0426	0.1090

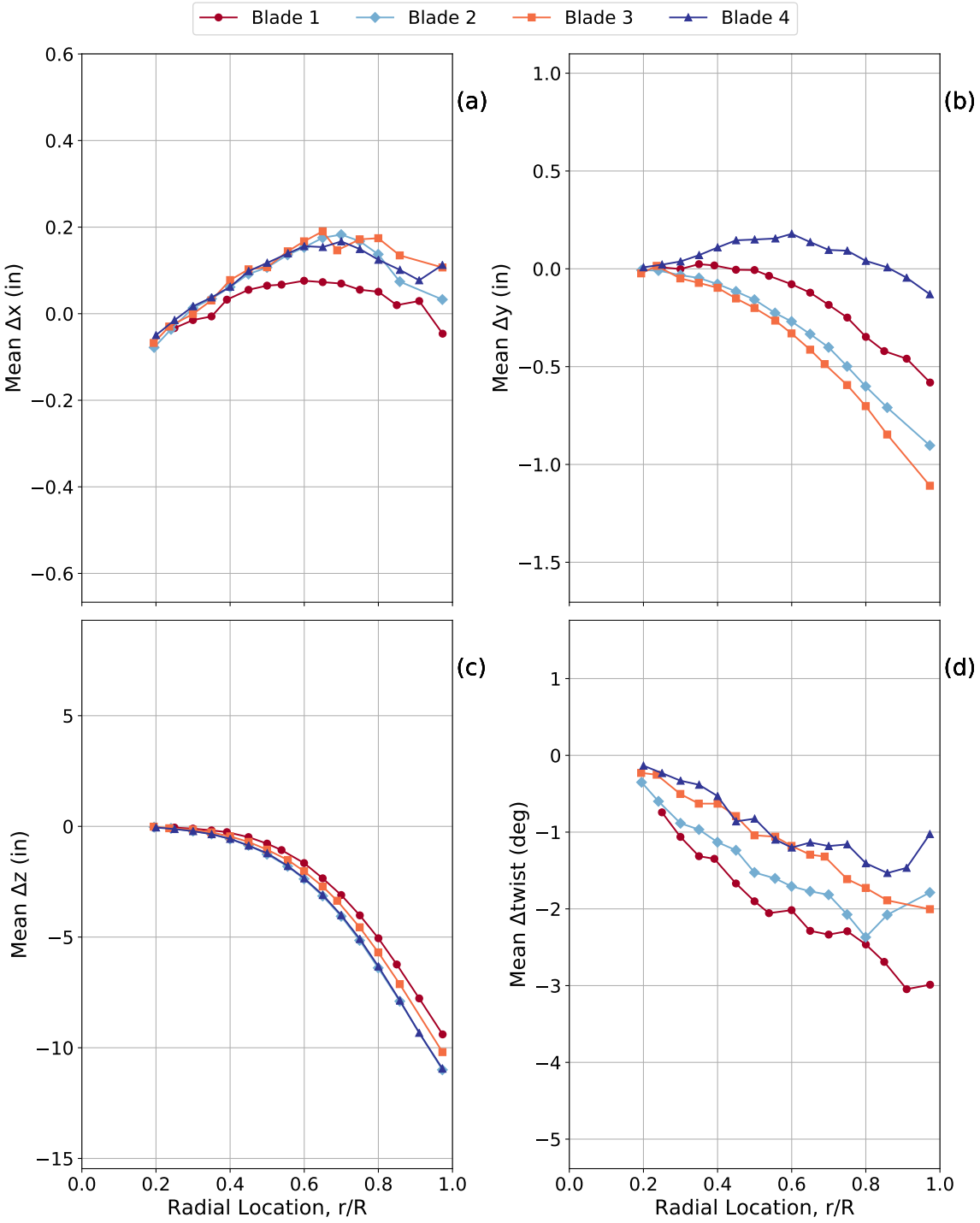


Figure 2.5-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2499	-0.0332	0.0033	0.0073	0.0054	-0.0545	0.0166	-0.7424	0.1123
1	180	0.2998	-0.0147	0.0049	-0.0012	0.0100	-0.1006	0.0275	-1.0621	0.1597
1	180	0.3498	-0.0063	0.0043	0.0238	0.0190	-0.1806	0.0478	-1.3134	0.1427
1	180	0.3913	0.0324	0.0030	0.0173	0.0270	-0.2600	0.0659	-1.3477	0.1480
1	180	0.4496	0.0552	0.0038	-0.0048	0.0358	-0.4850	0.0921	-1.6690	0.1477
1	180	0.4997	0.0648	0.0040	-0.0062	0.0437	-0.7786	0.1151	-1.9014	0.1536
1	180	0.5387	0.0671	0.0043	-0.0360	0.0499	-1.0717	0.1349	-2.0556	0.1583
1	180	0.5996	0.0761	0.0047	-0.0788	0.0600	-1.6572	0.1659	-2.0165	0.1660
1	180	0.6498	0.0729	0.0054	-0.1218	0.0686	-2.3465	0.1920	-2.2863	0.1629
1	180	0.6998	0.0696	0.0065	-0.1844	0.0762	-3.1024	0.2176	-2.3348	0.1650
1	180	0.7500	0.0554	0.0069	-0.2493	0.0846	-4.0200	0.2437	-2.2916	0.1697
1	180	0.8001	0.0507	0.0088	-0.3479	0.0940	-5.0544	0.2706	-2.4638	0.1740
1	180	0.8497	0.0198	0.0102	-0.4206	0.1029	-6.2384	0.2945	-2.6905	0.1783
1	180	0.9102	0.0293	0.0208	-0.4596	0.1160	-7.7708	0.3316	-3.0460	0.1892
1	180	0.9734	-0.0462	0.0170	-0.5812	0.1244	-9.3967	0.3649	-2.9883	0.1896
2	180	0.1949	-0.0780	0.0010	-0.0069	0.0012	-0.0357	0.0035	-0.3507	0.0203
2	180	0.2405	-0.0361	0.0011	-0.0089	0.0021	-0.0903	0.0059	-0.5989	0.0346
2	180	0.2999	0.0131	0.0013	-0.0325	0.0043	-0.2133	0.0130	-0.8848	0.0461
2	180	0.3498	0.0345	0.0014	-0.0468	0.0073	-0.3445	0.0223	-0.9664	0.0498
2	180	0.3998	0.0616	0.0019	-0.0782	0.0111	-0.5713	0.0337	-1.1312	0.0528
2	180	0.4496	0.0916	0.0023	-0.1155	0.0144	-0.8560	0.0464	-1.2363	0.0554
2	180	0.4995	0.1067	0.0026	-0.1578	0.0180	-1.2589	0.0601	-1.5260	0.0657
2	180	0.5551	0.1359	0.0029	-0.2259	0.0227	-1.8046	0.0762	-1.6030	0.0737
2	180	0.5996	0.1531	0.0037	-0.2692	0.0259	-2.3744	0.0907	-1.7068	0.0774
2	180	0.6497	0.1754	0.0045	-0.3336	0.0309	-3.1449	0.1044	-1.7712	0.0937
2	180	0.6996	0.1827	0.0050	-0.4013	0.0376	-4.0623	0.1204	-1.8163	0.1012
2	180	0.7495	0.1676	0.0060	-0.4986	0.0434	-5.1518	0.1356	-2.0735	0.0872
2	180	0.7996	0.1372	0.0078	-0.6010	0.0497	-6.3934	0.1534	-2.3693	0.1068
2	180	0.8578	0.0741	0.0107	-0.7093	0.0559	-7.8996	0.1719	-2.0783	0.1322
2	180	0.9727	0.0327	0.0149	-0.9030	0.0739	-10.9969	0.2117	-1.7868	0.0970
3	180.35	0.1938	-0.0676	0.0012	-0.0233	0.0012	-0.0143	0.0039	-0.2286	0.0272
3	180.35	0.2357	-0.0297	0.0011	0.0151	0.0019	-0.0846	0.0067	-0.2520	0.0472
3	180.35	0.2995	-0.0007	0.0014	-0.0489	0.0044	-0.1488	0.0153	-0.5032	0.0659
3	180.35	0.3493	0.0306	0.0014	-0.0719	0.0079	-0.2728	0.0252	-0.6286	0.0705
3	180.35	0.4000	0.0776	0.0018	-0.0970	0.0120	-0.4522	0.0392	-0.6290	0.0771
3	180.35	0.4497	0.1025	0.0019	-0.1516	0.0140	-0.7021	0.0510	-0.7910	0.0815
3	180.35	0.4997	0.1073	0.0023	-0.2002	0.0179	-1.0519	0.0650	-1.0416	0.0847
3	180.35	0.5556	0.1441	0.0028	-0.2648	0.0227	-1.5193	0.0813	-1.0594	0.0904
3	180.35	0.5995	0.1671	0.0033	-0.3302	0.0255	-2.0258	0.0950	-1.1797	0.0974
3	180.35	0.6498	0.1903	0.0033	-0.4133	0.0312	-2.7171	0.1105	-1.2941	0.1042
3	180.35	0.6890	0.1464	0.0040	-0.4870	0.0332	-3.3598	0.1223	-1.3185	0.1104
3	180.35	0.7495	0.1718	0.0049	-0.5940	0.0416	-4.5595	0.1410	-1.6124	0.1028
3	180.35	0.7998	0.1744	0.0066	-0.7019	0.0461	-5.6926	0.1593	-1.7275	0.1098
3	180.35	0.8577	0.1347	0.0085	-0.8470	0.0556	-7.1253	0.1825	-1.8890	0.1666
3	180.35	0.9729	0.1068	0.0156	-1.1088	0.0750	-10.1952	0.2342	-2.0042	0.1731
4	180	0.2001	-0.0495	0.0012	0.0077	0.0011	-0.0507	0.0045	-0.1346	0.0296
4	180	0.2502	-0.0148	0.0015	0.0213	0.0027	-0.1216	0.0089	-0.2314	0.0477
4	180	0.3001	0.0171	0.0012	0.0376	0.0051	-0.2158	0.0165	-0.3302	0.0660
4	180	0.3502	0.0376	0.0012	0.0699	0.0084	-0.3548	0.0285	-0.3834	0.0586
4	180	0.4002	0.0621	0.0016	0.1091	0.0134	-0.5645	0.0431	-0.5315	0.0607
4	180	0.4500	0.0983	0.0019	0.1458	0.0156	-0.8687	0.0565	-0.8605	0.0628
4	180	0.5001	0.1174	0.0021	0.1497	0.0190	-1.2139	0.0724	-0.8251	0.0668
4	180	0.5560	0.1393	0.0023	0.1550	0.0229	-1.7927	0.0921	-1.0980	0.0699
4	180	0.6001	0.1559	0.0032	0.1788	0.0258	-2.3494	0.1078	-1.2014	0.0750
4	180	0.6501	0.1539	0.0035	0.1364	0.0299	-3.1017	0.1231	-1.1351	0.0762
4	180	0.6999	0.1669	0.0046	0.0964	0.0355	-4.0137	0.1407	-1.1817	0.0915
4	180	0.7500	0.1493	0.0050	0.0925	0.0395	-5.0896	0.1547	-1.1597	0.0999
4	180	0.8002	0.1245	0.0072	0.0404	0.0451	-6.3308	0.1711	-1.4061	0.1012
4	180	0.8582	0.1011	0.0085	0.0073	0.0535	-7.8724	0.1910	-1.5330	0.1208
4	180	0.9101	0.0771	0.0128	-0.0455	0.0582	-9.3278	0.2102	-1.4655	0.2139
4	180	0.9728	0.1126	0.0147	-0.1302	0.0636	-10.9468	0.2384	-1.0259	0.1816

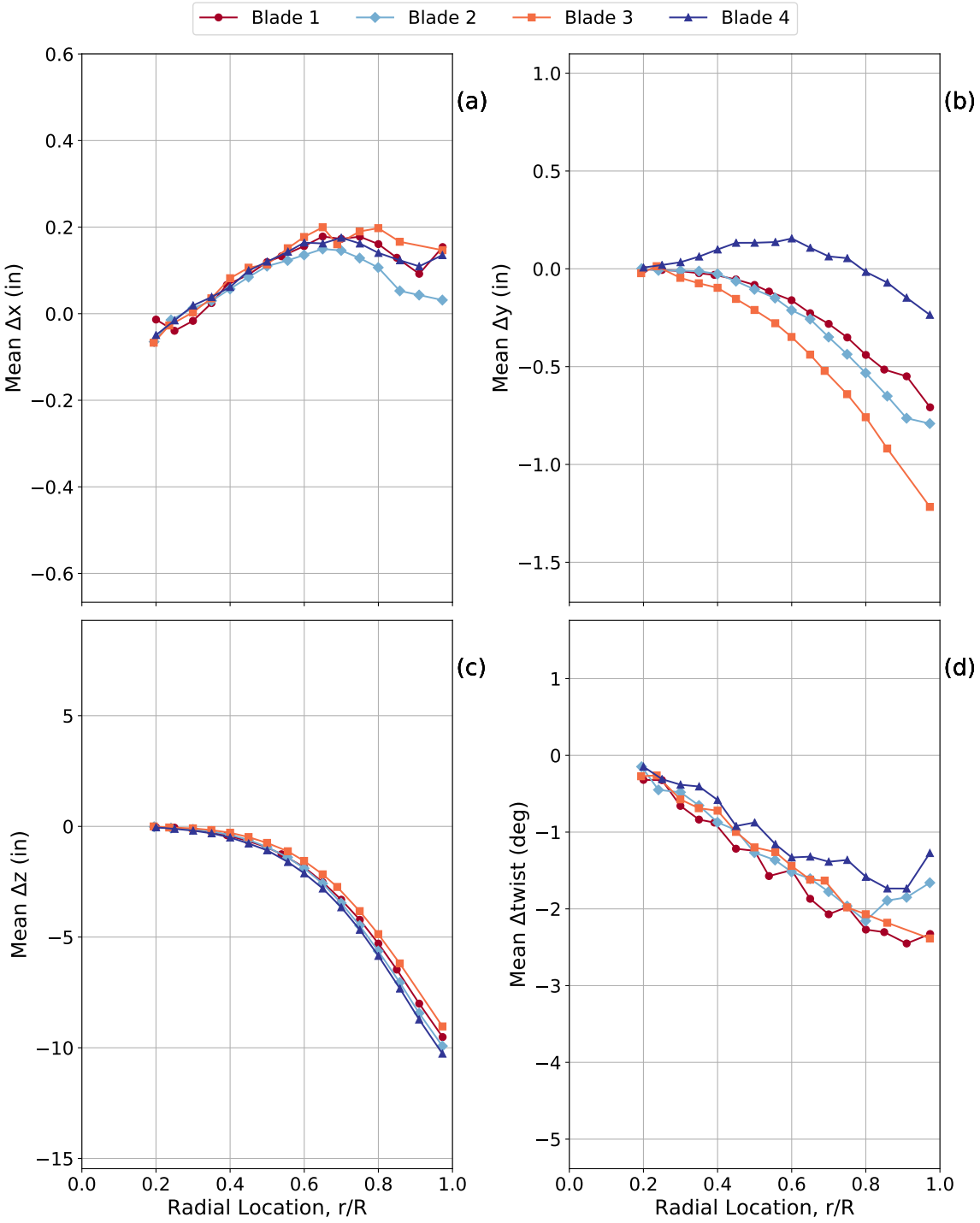


Figure 2.5-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0135	0.0013	-0.0030	0.0012	-0.0412	0.0042	-0.3195	0.0263
1	184.92	0.2499	-0.0395	0.0011	-0.0057	0.0023	-0.0573	0.0087	-0.3224	0.0416
1	184.92	0.2998	-0.0166	0.0013	-0.0119	0.0045	-0.1676	0.0159	-0.6582	0.0565
1	184.92	0.3498	0.0244	0.0015	-0.0225	0.0078	-0.2770	0.0260	-0.8364	0.0600
1	184.92	0.3913	0.0664	0.0019	-0.0310	0.0110	-0.3977	0.0381	-0.8755	0.0601
1	184.92	0.4496	0.0902	0.0021	-0.0541	0.0148	-0.6688	0.0545	-1.2161	0.0624
1	184.92	0.4997	0.1192	0.0026	-0.0824	0.0188	-0.9464	0.0718	-1.2438	0.0730
1	184.92	0.5387	0.1326	0.0028	-0.1164	0.0217	-1.2592	0.0857	-1.5724	0.0738
1	184.92	0.5996	0.1561	0.0032	-0.1606	0.0273	-1.8426	0.1089	-1.4950	0.0944
1	184.92	0.6498	0.1783	0.0040	-0.2268	0.0319	-2.5212	0.1283	-1.8689	0.0931
1	184.92	0.6998	0.1729	0.0047	-0.2814	0.0364	-3.3110	0.1474	-2.0706	0.1081
1	184.92	0.7500	0.1779	0.0059	-0.3510	0.0430	-4.2205	0.1658	-1.9742	0.1158
1	184.92	0.8001	0.1608	0.0068	-0.4401	0.0492	-5.2953	0.1831	-2.2699	0.1285
1	184.92	0.8497	0.1292	0.0084	-0.5150	0.0551	-6.4697	0.2015	-2.3030	0.1163
1	184.92	0.9102	0.0921	0.0116	-0.5496	0.0640	-8.0061	0.2317	-2.4507	0.1713
1	184.92	0.9734	0.1539	0.0131	-0.7079	0.0752	-9.5180	0.2562	-2.3273	0.2000
2	184.92	0.1949	-0.0648	0.0066	0.0007	0.0040	-0.0182	0.0070	-0.1475	0.0499
2	184.92	0.2405	-0.0145	0.0076	-0.0081	0.0040	-0.0754	0.0124	-0.4495	0.1067
2	184.92	0.2999	0.0129	0.0069	-0.0093	0.0139	-0.1349	0.0253	-0.4805	0.1235
2	184.92	0.3498	0.0296	0.0064	-0.0120	0.0232	-0.2314	0.0403	-0.6531	0.1050
2	184.92	0.3998	0.0571	0.0071	-0.0265	0.0347	-0.3843	0.0629	-0.8730	0.1204
2	184.92	0.4496	0.0846	0.0068	-0.0632	0.0435	-0.6050	0.0754	-0.9729	0.1105
2	184.92	0.4995	0.1098	0.0077	-0.1049	0.0527	-0.9321	0.0944	-1.2673	0.1175
2	184.92	0.5551	0.1229	0.0075	-0.1496	0.0633	-1.3970	0.1171	-1.3637	0.1195
2	184.92	0.5996	0.1356	0.0075	-0.2114	0.0729	-1.8954	0.1377	-1.5191	0.1199
2	184.92	0.6497	0.1495	0.0088	-0.2571	0.0826	-2.5824	0.1591	-1.6070	0.1256
2	184.92	0.6996	0.1461	0.0097	-0.3488	0.0930	-3.4633	0.1836	-1.7758	0.1281
2	184.92	0.7495	0.1284	0.0106	-0.4368	0.1038	-4.4799	0.2087	-1.9631	0.1274
2	184.92	0.7996	0.1066	0.0124	-0.5326	0.1140	-5.6299	0.2366	-2.1570	0.1269
2	184.92	0.8578	0.0527	0.0147	-0.6507	0.1267	-7.0504	0.2716	-1.8915	0.1283
2	184.92	0.9100	0.0431	0.0169	-0.7637	0.1383	-8.4389	0.3038	-1.8494	0.1328
2	184.92	0.9727	0.0315	0.0209	-0.7910	0.1526	-9.9235	0.3434	-1.6597	0.1440
3	184.92	0.1938	-0.0670	0.0013	-0.0224	0.0010	-0.0036	0.0044	-0.2718	0.0385
3	184.92	0.2357	-0.0272	0.0011	0.0134	0.0025	-0.0504	0.0090	-0.2613	0.0502
3	184.92	0.2995	0.0031	0.0015	-0.0462	0.0050	-0.0903	0.0174	-0.5729	0.0860
3	184.92	0.3493	0.0355	0.0015	-0.0740	0.0091	-0.1670	0.0301	-0.6883	0.0949
3	184.92	0.4000	0.0819	0.0018	-0.0971	0.0142	-0.2863	0.0460	-0.7201	0.1149
3	184.92	0.4497	0.1063	0.0019	-0.1539	0.0179	-0.4841	0.0636	-0.9968	0.1245
3	184.92	0.4997	0.1139	0.0023	-0.2105	0.0224	-0.7468	0.0847	-1.1989	0.1388
3	184.92	0.5556	0.1512	0.0029	-0.2782	0.0280	-1.1248	0.1103	-1.2589	0.1567
3	184.92	0.5995	0.1772	0.0030	-0.3483	0.0318	-1.5608	0.1298	-1.4396	0.1725
3	184.92	0.6498	0.1997	0.0034	-0.4386	0.0376	-2.1677	0.1518	-1.6191	0.1946
3	184.92	0.6890	0.1604	0.0041	-0.5217	0.0424	-2.7365	0.1674	-1.6315	0.2039
3	184.92	0.7495	0.1900	0.0055	-0.6408	0.0501	-3.8288	0.1919	-1.9805	0.2159
3	184.92	0.7998	0.1976	0.0068	-0.7586	0.0576	-4.8677	0.2127	-2.0694	0.2211
3	184.92	0.8577	0.1662	0.0084	-0.9184	0.0666	-6.1920	0.2387	-2.1808	0.2454
3	184.92	0.9729	0.1467	0.0156	-1.2169	0.0892	-9.0378	0.3019	-2.3857	0.2781
4	184.92	0.2001	-0.0492	0.0011	0.0066	0.0009	-0.0446	0.0031	-0.1475	0.0221
4	184.92	0.2502	-0.0155	0.0010	0.0195	0.0023	-0.1130	0.0070	-0.3101	0.0411
4	184.92	0.3001	0.0190	0.0011	0.0338	0.0034	-0.1923	0.0117	-0.3825	0.0507
4	184.92	0.3502	0.0385	0.0013	0.0627	0.0062	-0.3151	0.0199	-0.4055	0.0461
4	184.92	0.4002	0.0617	0.0017	0.0988	0.0095	-0.5039	0.0310	-0.5816	0.0503
4	184.92	0.4500	0.0996	0.0018	0.1329	0.0115	-0.7765	0.0406	-0.9211	0.0530
4	184.92	0.5001	0.1203	0.0021	0.1331	0.0139	-1.0821	0.0534	-0.8747	0.0578
4	184.92	0.5560	0.1431	0.0024	0.1367	0.0179	-1.6112	0.0683	-1.1582	0.0581
4	184.92	0.6001	0.1642	0.0027	0.1551	0.0208	-2.1226	0.0805	-1.3299	0.0611
4	184.92	0.6501	0.1623	0.0034	0.1076	0.0251	-2.8077	0.0942	-1.3194	0.0630
4	184.92	0.6999	0.1756	0.0042	0.0634	0.0300	-3.6553	0.1092	-1.3859	0.0788
4	184.92	0.7500	0.1621	0.0053	0.0543	0.0346	-4.6719	0.1246	-1.3630	0.0811
4	184.92	0.8002	0.1404	0.0068	-0.0158	0.0399	-5.8507	0.1398	-1.5828	0.0905
4	184.92	0.8582	0.1233	0.0088	-0.0709	0.0468	-7.3298	0.1574	-1.7345	0.0968
4	184.92	0.9101	0.1094	0.0110	-0.1478	0.0538	-8.7249	0.1795	-1.7350	0.1316
4	184.92	0.9728	0.1353	0.0143	-0.2353	0.0617	-10.2668	0.2076	-1.2727	0.1080

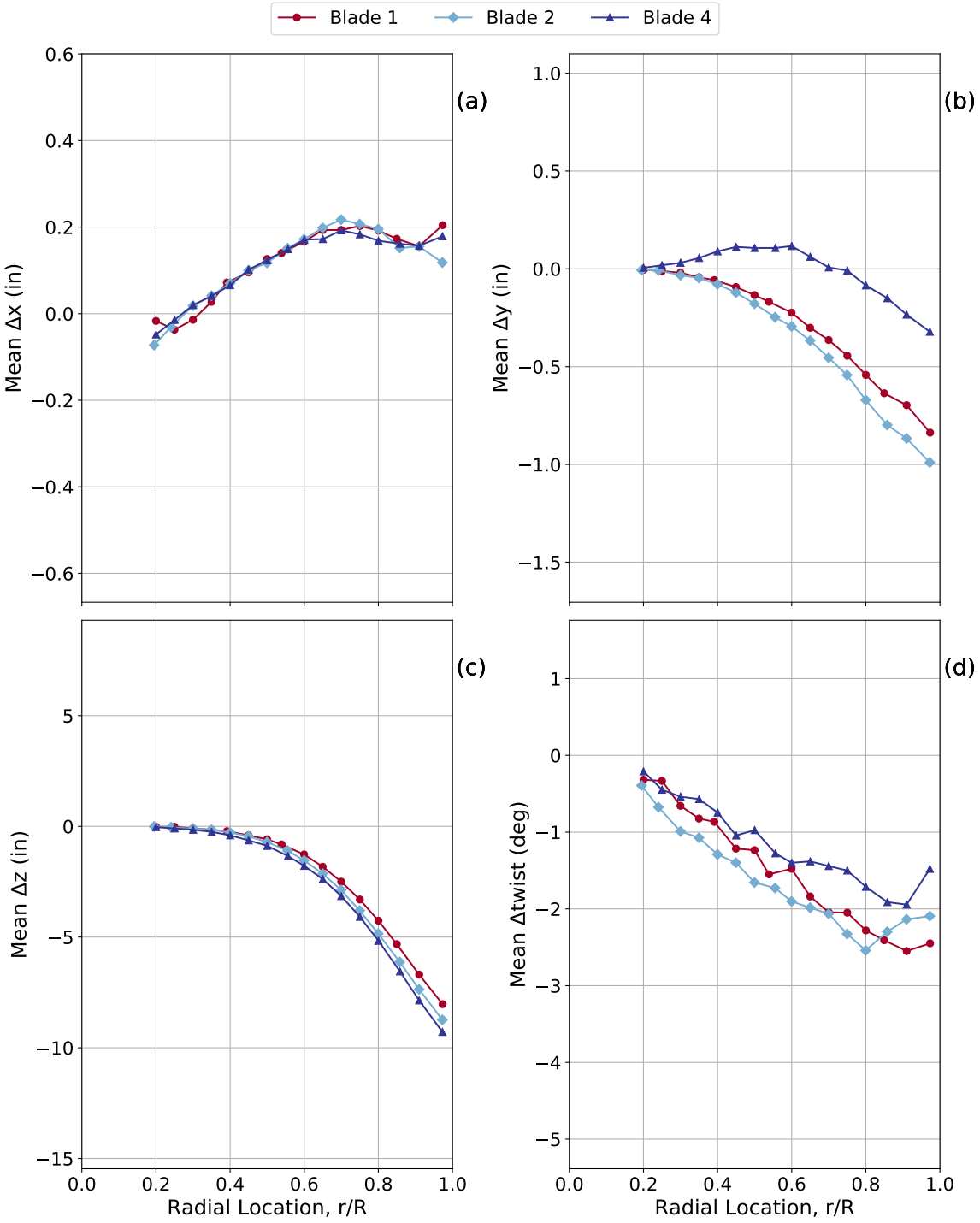


Figure 2.5-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0167	0.0011	-0.0048	0.0009	-0.0213	0.0037	-0.3178	0.0299
1	189.84	0.2499	-0.0369	0.0011	-0.0115	0.0023	-0.0183	0.0078	-0.3325	0.0520
1	189.84	0.2998	-0.0140	0.0011	-0.0200	0.0037	-0.0942	0.0138	-0.6574	0.0685
1	189.84	0.3498	0.0274	0.0014	-0.0428	0.0068	-0.1489	0.0238	-0.8237	0.0684
1	189.84	0.3913	0.0722	0.0015	-0.0574	0.0097	-0.2178	0.0338	-0.8664	0.0719
1	189.84	0.4496	0.0955	0.0019	-0.0930	0.0128	-0.4052	0.0498	-1.2144	0.0882
1	189.84	0.4997	0.1263	0.0020	-0.1344	0.0163	-0.5852	0.0659	-1.2348	0.0943
1	189.84	0.5387	0.1401	0.0023	-0.1686	0.0187	-0.8165	0.0795	-1.5500	0.1015
1	189.84	0.5996	0.1665	0.0026	-0.2241	0.0234	-1.2663	0.1045	-1.4782	0.1158
1	189.84	0.6498	0.1933	0.0029	-0.3014	0.0279	-1.8249	0.1270	-1.8384	0.1230
1	189.84	0.6998	0.1932	0.0038	-0.3639	0.0323	-2.4991	0.1494	-2.0442	0.1366
1	189.84	0.7500	0.2026	0.0049	-0.4445	0.0374	-3.3044	0.1733	-2.0494	0.1528
1	189.84	0.8001	0.1920	0.0063	-0.5424	0.0429	-4.2601	0.1936	-2.2810	0.1524
1	189.84	0.8497	0.1729	0.0075	-0.6360	0.0489	-5.3213	0.2163	-2.4092	0.1544
1	189.84	0.9102	0.1558	0.0090	-0.6970	0.0560	-6.6970	0.2428	-2.5500	0.1743
1	189.84	0.9734	0.2045	0.0109	-0.8375	0.0650	-8.0324	0.2719	-2.4496	0.1675
2	189.84	0.1949	-0.0725	0.0012	-0.0067	0.0012	-0.0086	0.0044	-0.3928	0.0268
2	189.84	0.2405	-0.0309	0.0012	-0.0083	0.0028	-0.0408	0.0078	-0.6752	0.0457
2	189.84	0.2999	0.0185	0.0015	-0.0324	0.0046	-0.1044	0.0144	-0.9904	0.0608
2	189.84	0.3498	0.0416	0.0013	-0.0470	0.0091	-0.1505	0.0252	-1.0734	0.0556
2	189.84	0.3998	0.0701	0.0018	-0.0787	0.0134	-0.2793	0.0367	-1.2909	0.0634
2	189.84	0.4496	0.1003	0.0021	-0.1217	0.0169	-0.4455	0.0478	-1.3985	0.0724
2	189.84	0.4995	0.1174	0.0022	-0.1786	0.0214	-0.7106	0.0600	-1.6561	0.0692
2	189.84	0.5551	0.1512	0.0025	-0.2474	0.0260	-1.0979	0.0744	-1.7292	0.0730
2	189.84	0.5996	0.1720	0.0029	-0.2944	0.0297	-1.5366	0.0847	-1.9023	0.0715
2	189.84	0.6497	0.1983	0.0034	-0.3668	0.0344	-2.1388	0.0980	-1.9854	0.0774
2	189.84	0.6996	0.2173	0.0046	-0.4548	0.0404	-2.8770	0.1114	-2.0628	0.0796
2	189.84	0.7495	0.2071	0.0055	-0.5430	0.0462	-3.8039	0.1264	-2.3267	0.0802
2	189.84	0.7996	0.1954	0.0071	-0.6704	0.0525	-4.8440	0.1444	-2.5414	0.0836
2	189.84	0.8578	0.1518	0.0094	-0.7986	0.0588	-6.1294	0.1674	-2.2978	0.1065
2	189.84	0.9100	0.1552	0.0111	-0.8670	0.0650	-7.3630	0.1900	-2.1359	0.1324
2	189.84	0.9727	0.1182	0.0145	-0.9900	0.0748	-8.7388	0.2219	-2.0938	0.0904
4	189.84	0.2001	-0.0480	0.0013	0.0055	0.0011	-0.0338	0.0040	-0.2090	0.0259
4	189.84	0.2502	-0.0143	0.0010	0.0181	0.0024	-0.0958	0.0081	-0.4477	0.0471
4	189.84	0.3001	0.0200	0.0014	0.0307	0.0039	-0.1544	0.0144	-0.5387	0.0589
4	189.84	0.3502	0.0409	0.0012	0.0555	0.0076	-0.2485	0.0246	-0.5699	0.0551
4	189.84	0.4002	0.0658	0.0017	0.0892	0.0112	-0.4053	0.0374	-0.7464	0.0635
4	189.84	0.4500	0.1020	0.0019	0.1120	0.0146	-0.6323	0.0497	-1.0439	0.0665
4	189.84	0.5001	0.1235	0.0021	0.1065	0.0183	-0.8804	0.0659	-0.9741	0.0765
4	189.84	0.5560	0.1490	0.0024	0.1064	0.0231	-1.3408	0.0857	-1.2759	0.0786
4	189.84	0.6001	0.1710	0.0029	0.1164	0.0273	-1.7846	0.1027	-1.3995	0.0818
4	189.84	0.6501	0.1723	0.0038	0.0611	0.0323	-2.3892	0.1239	-1.3810	0.0890
4	189.84	0.6999	0.1925	0.0050	0.0072	0.0382	-3.1486	0.1499	-1.4418	0.0932
4	189.84	0.7500	0.1832	0.0065	-0.0086	0.0447	-4.0862	0.1778	-1.5006	0.1074
4	189.84	0.8002	0.1684	0.0087	-0.0847	0.0512	-5.1712	0.2107	-1.7134	0.1157
4	189.84	0.8582	0.1615	0.0115	-0.1503	0.0600	-6.5508	0.2528	-1.9117	0.1185
4	189.84	0.9101	0.1569	0.0143	-0.2343	0.0666	-7.8636	0.2912	-1.9444	0.1394
4	189.84	0.9728	0.1787	0.0179	-0.3217	0.0789	-9.2844	0.3457	-1.4790	0.1443

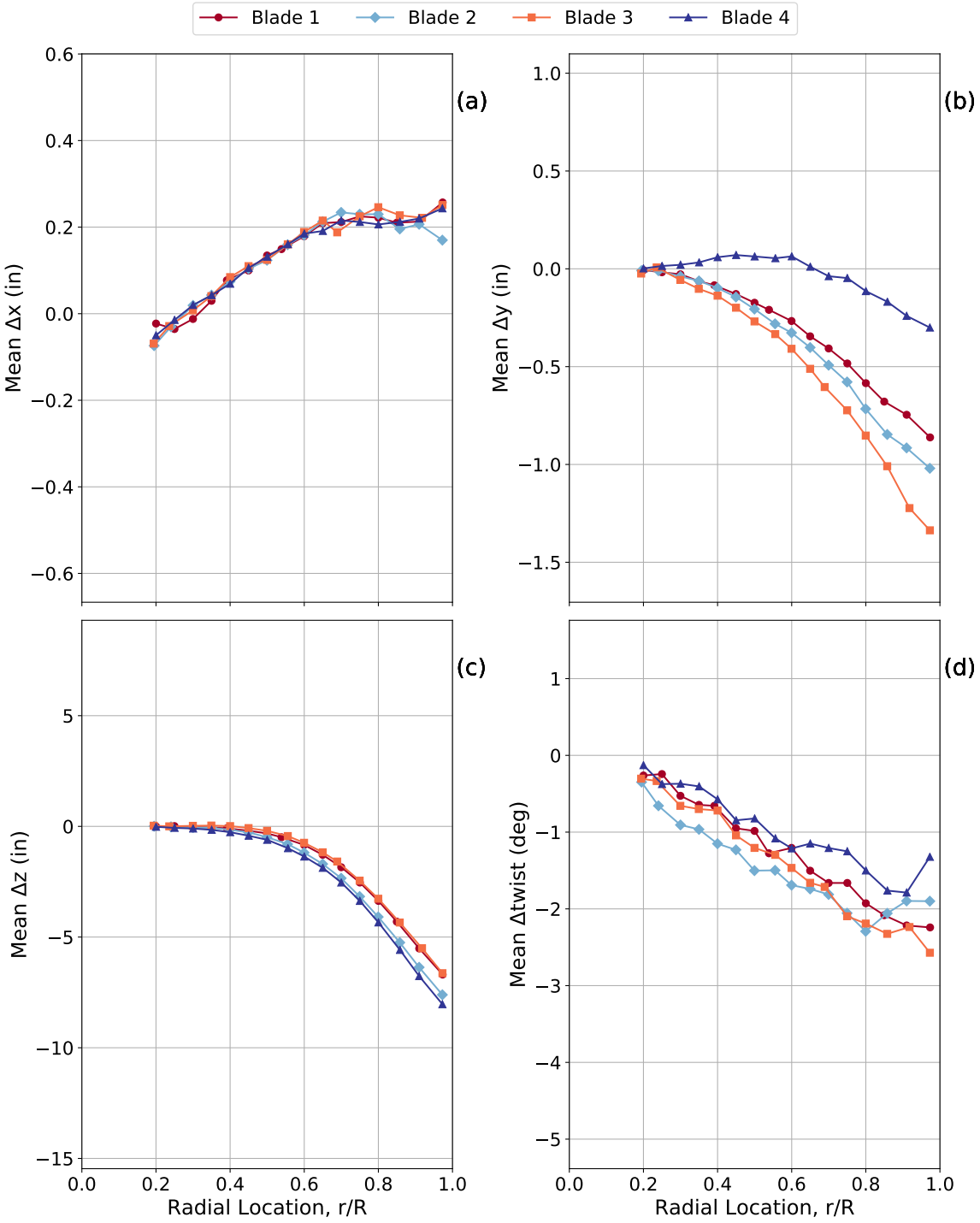


Figure 2.5-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0228	0.0011	-0.0066	0.0009	-0.0060	0.0033	-0.2623	0.0227
1	195.12	0.2499	-0.0354	0.0011	-0.0177	0.0025	0.0117	0.0070	-0.2435	0.0441
1	195.12	0.2998	-0.0122	0.0011	-0.0280	0.0042	-0.0391	0.0115	-0.5270	0.0528
1	195.12	0.3498	0.0298	0.0013	-0.0633	0.0070	-0.0552	0.0191	-0.6450	0.0506
1	195.12	0.3913	0.0772	0.0014	-0.0841	0.0106	-0.0851	0.0275	-0.6573	0.0567
1	195.12	0.4496	0.0998	0.0013	-0.1288	0.0133	-0.1994	0.0392	-0.9503	0.0647
1	195.12	0.4997	0.1345	0.0015	-0.1734	0.0164	-0.3165	0.0523	-0.9844	0.0675
1	195.12	0.5387	0.1492	0.0018	-0.2096	0.0191	-0.4910	0.0633	-1.2755	0.0742
1	195.12	0.5996	0.1789	0.0020	-0.2668	0.0238	-0.8385	0.0834	-1.2055	0.0807
1	195.12	0.6498	0.2091	0.0025	-0.3450	0.0278	-1.2851	0.1000	-1.5027	0.0902
1	195.12	0.6998	0.2117	0.0034	-0.4072	0.0318	-1.8469	0.1191	-1.6624	0.0931
1	195.12	0.7500	0.2248	0.0043	-0.4838	0.0369	-2.5363	0.1390	-1.6624	0.1049
1	195.12	0.8001	0.2218	0.0055	-0.5845	0.0415	-3.3668	0.1580	-1.9272	0.1153
1	195.12	0.8497	0.2102	0.0069	-0.6788	0.0475	-4.3032	0.1800	-2.0825	0.1070
1	195.12	0.9102	0.2128	0.0088	-0.7461	0.0547	-5.5145	0.2081	-2.2162	0.1212
1	195.12	0.9734	0.2570	0.0115	-0.8618	0.0638	-6.6940	0.2408	-2.2417	0.1323
2	195.12	0.1949	-0.0739	0.0010	-0.0089	0.0008	0.0058	0.0040	-0.3486	0.0310
2	195.12	0.2405	-0.0302	0.0010	-0.0096	0.0032	-0.0203	0.0111	-0.6568	0.0379
2	195.12	0.2999	0.0192	0.0015	-0.0387	0.0042	-0.0534	0.0170	-0.9067	0.0632
2	195.12	0.3498	0.0430	0.0016	-0.0619	0.0081	-0.0659	0.0283	-0.9640	0.0689
2	195.12	0.3998	0.0744	0.0015	-0.0979	0.0130	-0.1527	0.0447	-1.1508	0.0709
2	195.12	0.4496	0.1039	0.0017	-0.1441	0.0164	-0.2726	0.0603	-1.2309	0.0723
2	195.12	0.4995	0.1234	0.0019	-0.2058	0.0202	-0.4875	0.0783	-1.5017	0.0795
2	195.12	0.5551	0.1593	0.0024	-0.2811	0.0241	-0.8027	0.0992	-1.4977	0.0836
2	195.12	0.5996	0.1814	0.0028	-0.3270	0.0286	-1.1861	0.1187	-1.6911	0.0937
2	195.12	0.6497	0.2125	0.0037	-0.4022	0.0331	-1.6993	0.1411	-1.7404	0.1071
2	195.12	0.6996	0.2340	0.0047	-0.4925	0.0380	-2.3419	0.1674	-1.8122	0.1131
2	195.12	0.7495	0.2298	0.0064	-0.5784	0.0433	-3.1678	0.1952	-2.0556	0.1119
2	195.12	0.7996	0.2297	0.0082	-0.7160	0.0490	-4.0908	0.2261	-2.2924	0.1154
2	195.12	0.8578	0.1957	0.0108	-0.8467	0.0563	-5.2480	0.2635	-2.0581	0.1227
2	195.12	0.9100	0.2066	0.0133	-0.9154	0.0630	-6.3662	0.2995	-1.8968	0.1345
2	195.12	0.9727	0.1699	0.0165	-1.0198	0.0709	-7.6069	0.3441	-1.8998	0.1308
3	195.12	0.1938	-0.0691	0.0012	-0.0241	0.0009	0.0295	0.0040	-0.3035	0.0358
3	195.12	0.2357	-0.0286	0.0011	0.0073	0.0018	0.0013	0.0074	-0.3340	0.0451
3	195.12	0.2995	0.0076	0.0013	-0.0569	0.0036	0.0236	0.0148	-0.6575	0.0784
3	195.12	0.3493	0.0406	0.0015	-0.1024	0.0066	0.0365	0.0246	-0.6993	0.0815
3	195.12	0.4000	0.0845	0.0018	-0.1373	0.0100	0.0114	0.0376	-0.7187	0.0911
3	195.12	0.4497	0.1099	0.0021	-0.1988	0.0135	-0.0780	0.0534	-1.0424	0.0935
3	195.12	0.4997	0.1244	0.0026	-0.2691	0.0177	-0.2009	0.0705	-1.2057	0.1077
3	195.12	0.5556	0.1601	0.0030	-0.3338	0.0235	-0.4378	0.0922	-1.2963	0.1166
3	195.12	0.5995	0.1888	0.0037	-0.4087	0.0281	-0.7413	0.1100	-1.4665	0.1297
3	195.12	0.6498	0.2151	0.0043	-0.5111	0.0348	-1.1720	0.1311	-1.6602	0.1407
3	195.12	0.6890	0.1879	0.0051	-0.6044	0.0400	-1.5886	0.1490	-1.7140	0.1442
3	195.12	0.7495	0.2249	0.0065	-0.7233	0.0494	-2.4513	0.1751	-2.0960	0.1620
3	195.12	0.7998	0.2460	0.0080	-0.8524	0.0576	-3.2685	0.1977	-2.1913	0.1672
3	195.12	0.8577	0.2273	0.0097	-1.0091	0.0675	-4.3442	0.2219	-2.3254	0.1794
3	195.12	0.9178	0.2215	0.0112	-1.2231	0.0784	-5.5045	0.2521	-2.2365	0.1837
3	195.12	0.9729	0.2511	0.0153	-1.3367	0.0892	-6.6321	0.2777	-2.5716	0.1993
4	195.12	0.2001	-0.0499	0.0010	0.0020	0.0012	-0.0189	0.0041	-0.1277	0.0339
4	195.12	0.2502	-0.0144	0.0012	0.0145	0.0023	-0.0681	0.0076	-0.3741	0.0455
4	195.12	0.3001	0.0200	0.0012	0.0205	0.0037	-0.0978	0.0130	-0.3697	0.0698
4	195.12	0.3502	0.0428	0.0011	0.0328	0.0078	-0.1577	0.0224	-0.4042	0.0596
4	195.12	0.4002	0.0692	0.0015	0.0593	0.0108	-0.2636	0.0327	-0.5731	0.0615
4	195.12	0.4500	0.1057	0.0014	0.0704	0.0147	-0.4234	0.0449	-0.8458	0.0590
4	195.12	0.5001	0.1316	0.0017	0.0630	0.0178	-0.6087	0.0593	-0.8221	0.0661
4	195.12	0.5560	0.1605	0.0021	0.0541	0.0222	-0.9865	0.0783	-1.0820	0.0712
4	195.12	0.6001	0.1849	0.0025	0.0636	0.0259	-1.3645	0.0948	-1.2123	0.0735
4	195.12	0.6501	0.1911	0.0030	0.0106	0.0307	-1.8735	0.1152	-1.1494	0.0812
4	195.12	0.6999	0.2153	0.0039	-0.0379	0.0352	-2.5365	0.1372	-1.2074	0.0792
4	195.12	0.7500	0.2119	0.0048	-0.0473	0.0403	-3.3682	0.1610	-1.2504	0.0890
4	195.12	0.8002	0.2062	0.0062	-0.1142	0.0458	-4.3396	0.1856	-1.4998	0.0946
4	195.12	0.8582	0.2121	0.0083	-0.1685	0.0523	-5.5814	0.2167	-1.7620	0.0967
4	195.12	0.9101	0.2198	0.0101	-0.2407	0.0587	-6.7650	0.2466	-1.7876	0.1071
4	195.12	0.9728	0.2434	0.0124	-0.3004	0.0672	-8.0338	0.2845	-1.3223	0.1158

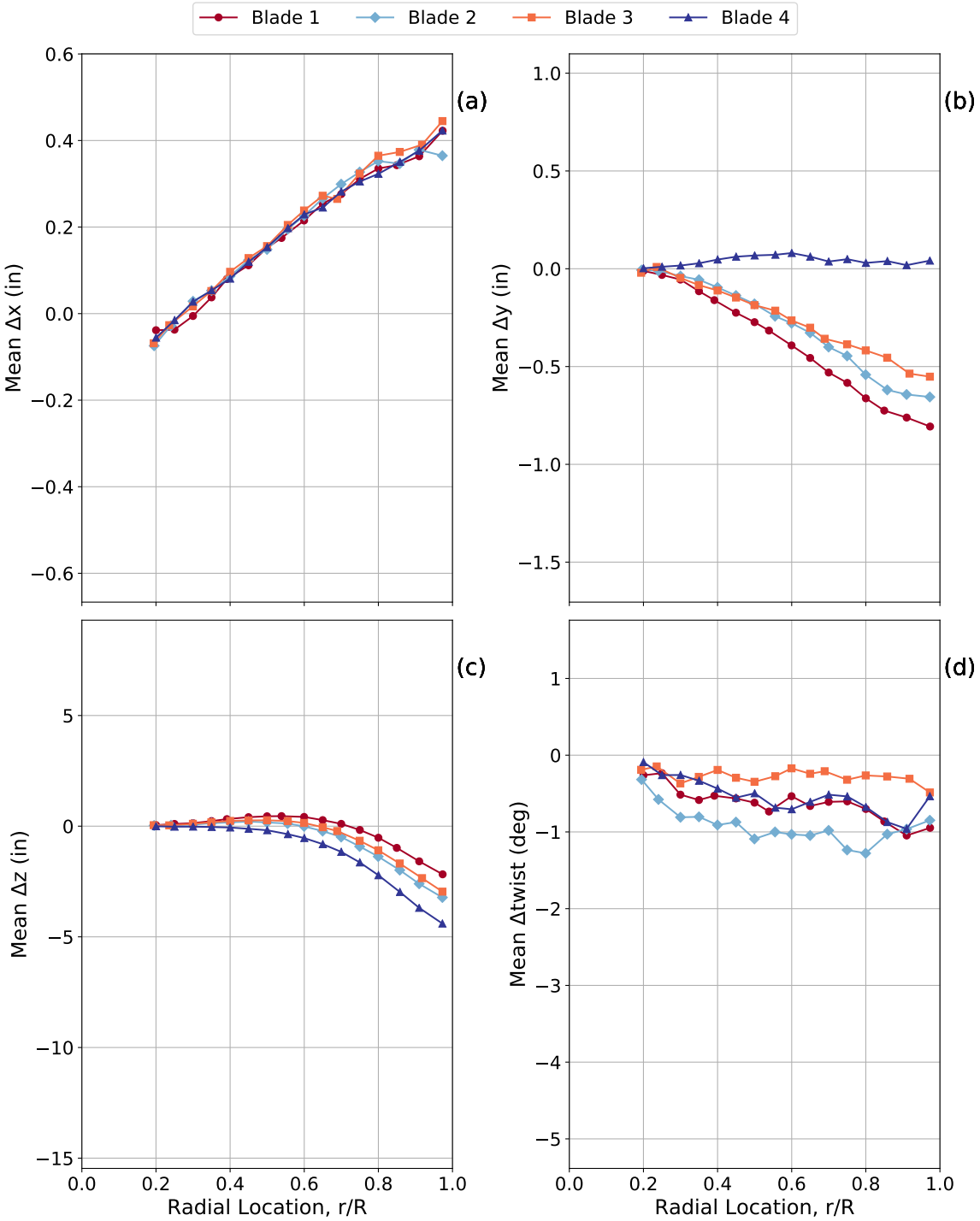


Figure 2.5-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0383	0.0014	-0.0110	0.0015	0.0458	0.0067	-0.2618	0.0364
1	209.88	0.2499	-0.0371	0.0012	-0.0316	0.0030	0.1011	0.0138	-0.2345	0.0519
1	209.88	0.2998	-0.0055	0.0015	-0.0554	0.0055	0.1369	0.0238	-0.5144	0.0795
1	209.88	0.3498	0.0375	0.0018	-0.1149	0.0102	0.2305	0.0393	-0.5840	0.0688
1	209.88	0.3913	0.0800	0.0024	-0.1605	0.0142	0.3184	0.0566	-0.5285	0.0763
1	209.88	0.4496	0.1117	0.0024	-0.2248	0.0197	0.4069	0.0763	-0.5638	0.0740
1	209.88	0.4997	0.1521	0.0027	-0.2731	0.0249	0.4469	0.1006	-0.6188	0.0837
1	209.88	0.5387	0.1748	0.0030	-0.3160	0.0299	0.4544	0.1212	-0.7342	0.0909
1	209.88	0.5996	0.2152	0.0034	-0.3919	0.0370	0.4180	0.1533	-0.5345	0.0917
1	209.88	0.6498	0.2544	0.0035	-0.4560	0.0441	0.2736	0.1836	-0.6621	0.0991
1	209.88	0.6998	0.2761	0.0037	-0.5305	0.0514	0.1040	0.2143	-0.6084	0.1019
1	209.88	0.7500	0.3112	0.0042	-0.5835	0.0594	-0.1710	0.2492	-0.6018	0.1098
1	209.88	0.8001	0.3354	0.0047	-0.6625	0.0679	-0.5232	0.2857	-0.7010	0.1109
1	209.88	0.8497	0.3430	0.0054	-0.7250	0.0760	-0.9805	0.3267	-0.8632	0.1243
1	209.88	0.9102	0.3636	0.0063	-0.7609	0.0865	-1.5886	0.3789	-1.0466	0.1210
1	209.88	0.9734	0.4226	0.0090	-0.8067	0.0972	-2.1751	0.4378	-0.9467	0.1234
2	209.88	0.1949	-0.0743	0.0011	-0.0068	0.0012	0.0307	0.0043	-0.3173	0.0352
2	209.88	0.2405	-0.0279	0.0010	-0.0098	0.0025	0.0404	0.0077	-0.5767	0.0435
2	209.88	0.2999	0.0286	0.0015	-0.0377	0.0042	0.0698	0.0150	-0.8089	0.0727
2	209.88	0.3498	0.0532	0.0018	-0.0562	0.0066	0.1358	0.0238	-0.8035	0.0557
2	209.88	0.3998	0.0865	0.0015	-0.0952	0.0106	0.1713	0.0368	-0.9097	0.0617
2	209.88	0.4496	0.1235	0.0020	-0.1370	0.0138	0.2088	0.0493	-0.8718	0.0690
2	209.88	0.4995	0.1483	0.0022	-0.1797	0.0161	0.1700	0.0635	-1.0912	0.0596
2	209.88	0.5551	0.1953	0.0021	-0.2427	0.0206	0.1185	0.0828	-1.0005	0.0613
2	209.88	0.5996	0.2261	0.0022	-0.2783	0.0239	-0.0090	0.1006	-1.0320	0.0635
2	209.88	0.6497	0.2660	0.0026	-0.3275	0.0279	-0.2227	0.1215	-1.0469	0.0684
2	209.88	0.6996	0.2991	0.0027	-0.4001	0.0322	-0.4883	0.1434	-0.9804	0.0742
2	209.88	0.7495	0.3272	0.0034	-0.4458	0.0367	-0.9173	0.1657	-1.2350	0.0689
2	209.88	0.7996	0.3523	0.0039	-0.5418	0.0414	-1.3727	0.1894	-1.2783	0.0757
2	209.88	0.8578	0.3466	0.0049	-0.6194	0.0475	-1.9860	0.2178	-1.0298	0.0807
2	209.88	0.9100	0.3785	0.0058	-0.6428	0.0529	-2.6020	0.2452	-0.9639	0.0762
2	209.88	0.9727	0.3649	0.0076	-0.6555	0.0598	-3.2214	0.2803	-0.8483	0.0798
3	209.88	0.1938	-0.0685	0.0010	-0.0204	0.0015	0.0444	0.0057	-0.1906	0.0437
3	209.88	0.2357	-0.0267	0.0013	0.0091	0.0027	0.0370	0.0106	-0.1465	0.0628
3	209.88	0.2995	0.0167	0.0013	-0.0467	0.0051	0.1062	0.0198	-0.3678	0.0990
3	209.88	0.3493	0.0522	0.0019	-0.0835	0.0107	0.1767	0.0327	-0.2828	0.0841
3	209.88	0.4000	0.0966	0.0020	-0.1112	0.0154	0.2381	0.0497	-0.1923	0.0838
3	209.88	0.4497	0.1283	0.0024	-0.1472	0.0194	0.2600	0.0663	-0.2941	0.0874
3	209.88	0.4997	0.1560	0.0025	-0.1860	0.0246	0.2671	0.0861	-0.3468	0.0914
3	209.88	0.5556	0.2049	0.0030	-0.2143	0.0305	0.2319	0.1120	-0.2741	0.0896
3	209.88	0.5995	0.2383	0.0031	-0.2641	0.0356	0.1460	0.1352	-0.1713	0.0949
3	209.88	0.6498	0.2724	0.0034	-0.3014	0.0414	-0.0469	0.1638	-0.2424	0.1062
3	209.88	0.6890	0.2651	0.0039	-0.3579	0.0463	-0.2200	0.1865	-0.2089	0.1142
3	209.88	0.7495	0.3235	0.0046	-0.3865	0.0544	-0.6587	0.2237	-0.3200	0.1351
3	209.88	0.7998	0.3648	0.0053	-0.4175	0.0617	-1.0894	0.2555	-0.2640	0.1444
3	209.88	0.8577	0.3736	0.0065	-0.4549	0.0701	-1.6860	0.2940	-0.2777	0.1530
3	209.88	0.9178	0.3904	0.0072	-0.5362	0.0786	-2.3479	0.3338	-0.3072	0.1647
3	209.88	0.9729	0.4449	0.0086	-0.5518	0.0872	-2.9575	0.3705	-0.4857	0.1646
4	209.88	0.2001	-0.0555	0.0010	0.0026	0.0016	-0.0041	0.0050	-0.0902	0.0491
4	209.88	0.2502	-0.0152	0.0012	0.0102	0.0020	-0.0234	0.0103	-0.2602	0.0540
4	209.88	0.3001	0.0276	0.0014	0.0164	0.0054	-0.0205	0.0165	-0.2581	0.0987
4	209.88	0.3502	0.0537	0.0013	0.0281	0.0076	-0.0370	0.0270	-0.3337	0.0770
4	209.88	0.4002	0.0808	0.0014	0.0470	0.0119	-0.0606	0.0409	-0.4359	0.0670
4	209.88	0.4500	0.1197	0.0019	0.0616	0.0144	-0.1187	0.0505	-0.5538	0.0622
4	209.88	0.5001	0.1535	0.0017	0.0678	0.0172	-0.1847	0.0626	-0.4966	0.0614
4	209.88	0.5560	0.1975	0.0019	0.0714	0.0206	-0.3620	0.0762	-0.6845	0.0604
4	209.88	0.6001	0.2291	0.0021	0.0803	0.0237	-0.5379	0.0885	-0.7047	0.0640
4	209.88	0.6501	0.2451	0.0022	0.0618	0.0274	-0.8126	0.1046	-0.6078	0.0691
4	209.88	0.6999	0.2820	0.0024	0.0369	0.0310	-1.1618	0.1215	-0.5149	0.0744
4	209.88	0.7500	0.3053	0.0028	0.0489	0.0352	-1.6384	0.1401	-0.5373	0.0783
4	209.88	0.8002	0.3230	0.0033	0.0298	0.0394	-2.2179	0.1601	-0.6749	0.0768
4	209.88	0.8582	0.3506	0.0041	0.0391	0.0446	-2.9754	0.1820	-0.8719	0.0752
4	209.88	0.9101	0.3764	0.0047	0.0182	0.0494	-3.6906	0.2010	-0.9602	0.0797
4	209.88	0.9728	0.4230	0.0061	0.0415	0.0557	-4.4004	0.2255	-0.5353	0.0799

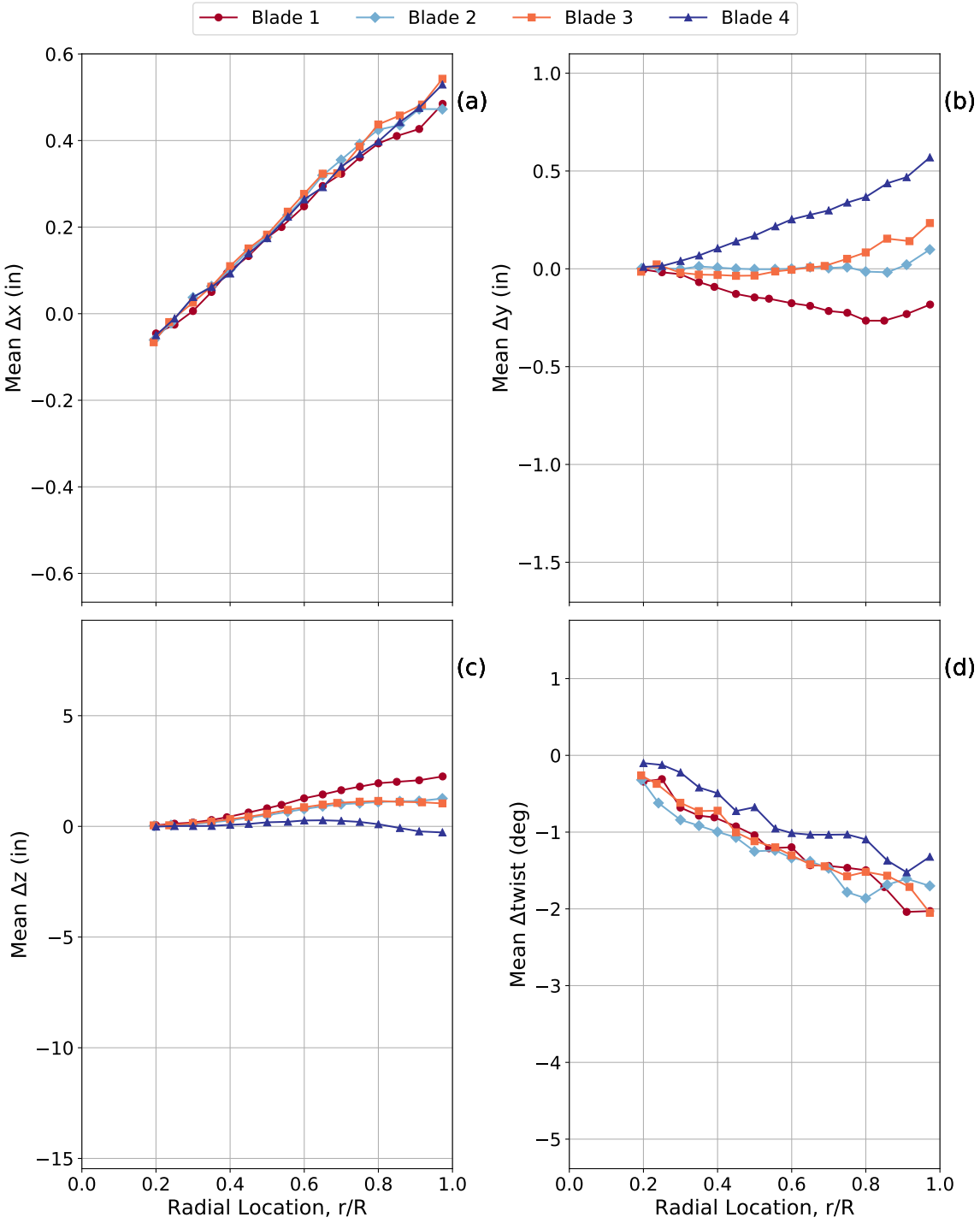


Figure 2.5-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.127$, $\mu = 0.24$, $\alpha = -0°$ NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0456	0.0014	-0.0041	0.0010	0.0513	0.0079	-0.3419	0.0430
1	225	0.2499	-0.0253	0.0013	-0.0178	0.0029	0.1213	0.0138	-0.3094	0.0718
1	225	0.2998	0.0061	0.0013	-0.0275	0.0059	0.1749	0.0254	-0.6806	0.0968
1	225	0.3498	0.0502	0.0015	-0.0679	0.0100	0.2877	0.0407	-0.7856	0.1195
1	225	0.3913	0.0934	0.0022	-0.0924	0.0153	0.4137	0.0570	-0.8081	0.1326
1	225	0.4496	0.1331	0.0029	-0.1283	0.0206	0.6267	0.0758	-0.9256	0.1604
1	225	0.4997	0.1756	0.0031	-0.1463	0.0267	0.8157	0.0953	-1.0412	0.1672
1	225	0.5387	0.2002	0.0034	-0.1528	0.0315	0.9715	0.1114	-1.2106	0.1968
1	225	0.5996	0.2480	0.0047	-0.1757	0.0402	1.2672	0.1366	-1.1971	0.2199
1	225	0.6498	0.2950	0.0046	-0.1894	0.0467	1.4408	0.1581	-1.4315	0.2271
1	225	0.6998	0.3232	0.0052	-0.2156	0.0542	1.6340	0.1806	-1.4403	0.2006
1	225	0.7500	0.3611	0.0053	-0.2248	0.0620	1.7951	0.2035	-1.4653	0.1817
1	225	0.8001	0.3933	0.0057	-0.2650	0.0703	1.9492	0.2290	-1.4964	0.1760
1	225	0.8497	0.4105	0.0058	-0.2652	0.0788	2.0122	0.2551	-1.7163	0.1727
1	225	0.9102	0.4267	0.0065	-0.2311	0.0889	2.0830	0.2882	-2.0394	0.1675
1	225	0.9734	0.4847	0.0103	-0.1827	0.0997	2.2547	0.3234	-2.0287	0.1641
2	225	0.1949	-0.0608	0.0018	0.0021	0.0016	0.0251	0.0058	-0.3192	0.0460
2	225	0.2405	-0.0217	0.0010	0.0048	0.0020	0.0575	0.0095	-0.6206	0.0643
2	225	0.2999	0.0376	0.0015	-0.0011	0.0059	0.0999	0.0193	-0.8406	0.1018
2	225	0.3498	0.0634	0.0020	0.0119	0.0099	0.1784	0.0279	-0.9158	0.0849
2	225	0.3998	0.1018	0.0022	0.0063	0.0148	0.2678	0.0442	-0.9961	0.1178
2	225	0.4496	0.1465	0.0023	0.0005	0.0182	0.3917	0.0517	-1.0699	0.1114
2	225	0.4995	0.1771	0.0025	-0.0022	0.0221	0.4992	0.0634	-1.2502	0.1119
2	225	0.5551	0.2278	0.0024	-0.0020	0.0270	0.6577	0.0803	-1.2374	0.1217
2	225	0.5996	0.2679	0.0026	0.0002	0.0313	0.7839	0.0940	-1.3368	0.1373
2	225	0.6497	0.3196	0.0028	0.0088	0.0364	0.9057	0.1107	-1.3808	0.1409
2	225	0.6996	0.3553	0.0031	0.0040	0.0414	1.0028	0.1264	-1.4709	0.1396
2	225	0.7495	0.3917	0.0035	0.0086	0.0471	1.0454	0.1434	-1.7823	0.1420
2	225	0.7996	0.4249	0.0037	-0.0141	0.0529	1.0981	0.1617	-1.8618	0.1389
2	225	0.8578	0.4357	0.0041	-0.0179	0.0600	1.1308	0.1852	-1.6848	0.1409
2	225	0.9100	0.4728	0.0041	0.0210	0.0668	1.1450	0.2098	-1.6076	0.1443
2	225	0.9727	0.4725	0.0065	0.0984	0.0747	1.2583	0.2440	-1.7007	0.1464
3	225	0.1938	-0.0660	0.0015	-0.0146	0.0017	0.0443	0.0057	-0.2615	0.0516
3	225	0.2357	-0.0194	0.0013	0.0227	0.0027	0.0486	0.0109	-0.3707	0.0763
3	225	0.2995	0.0255	0.0015	-0.0200	0.0073	0.1413	0.0221	-0.6177	0.1221
3	225	0.3493	0.0624	0.0020	-0.0296	0.0106	0.2141	0.0333	-0.7260	0.1408
3	225	0.4000	0.1098	0.0024	-0.0313	0.0181	0.3246	0.0531	-0.7213	0.1808
3	225	0.4497	0.1507	0.0022	-0.0358	0.0232	0.4314	0.0633	-1.0021	0.1978
3	225	0.4997	0.1826	0.0027	-0.0345	0.0298	0.5696	0.0813	-1.1180	0.2297
3	225	0.5556	0.2357	0.0028	-0.0135	0.0386	0.7442	0.0989	-1.1984	0.2691
3	225	0.5995	0.2767	0.0039	-0.0047	0.0463	0.8627	0.1134	-1.3019	0.2639
3	225	0.6498	0.3235	0.0033	0.0066	0.0550	0.9822	0.1280	-1.4198	0.2707
3	225	0.6890	0.3245	0.0036	0.0147	0.0624	1.0582	0.1396	-1.4452	0.2750
3	225	0.7495	0.3860	0.0038	0.0511	0.0745	1.1142	0.1597	-1.5751	0.2711
3	225	0.7998	0.4371	0.0037	0.0839	0.0843	1.1489	0.1792	-1.5176	0.2684
3	225	0.8577	0.4578	0.0036	0.1542	0.0956	1.1082	0.2023	-1.5679	0.2541
3	225	0.9178	0.4831	0.0038	0.1414	0.1082	1.0877	0.2275	-1.7141	0.2655
3	225	0.9729	0.5427	0.0073	0.2338	0.1184	1.0374	0.2533	-2.0512	0.2487
4	225	0.2001	-0.0497	0.0014	0.0100	0.0008	-0.0104	0.0051	-0.1009	0.0338
4	225	0.2502	-0.0111	0.0011	0.0143	0.0031	0.0152	0.0118	-0.1245	0.0566
4	225	0.3001	0.0385	0.0019	0.0400	0.0057	0.0170	0.0181	-0.2235	0.0754
4	225	0.3502	0.0617	0.0015	0.0682	0.0080	0.0214	0.0296	-0.4190	0.0796
4	225	0.4002	0.0928	0.0022	0.1045	0.0146	0.0698	0.0455	-0.4942	0.1011
4	225	0.4500	0.1394	0.0020	0.1397	0.0177	0.1103	0.0560	-0.7256	0.1007
4	225	0.5001	0.1745	0.0018	0.1695	0.0215	0.1841	0.0741	-0.6751	0.1221
4	225	0.5560	0.2241	0.0026	0.2173	0.0264	0.2077	0.0903	-0.9527	0.1303
4	225	0.6001	0.2642	0.0029	0.2528	0.0302	0.2657	0.1070	-1.0125	0.1380
4	225	0.6501	0.2923	0.0026	0.2760	0.0349	0.2748	0.1233	-1.0334	0.1329
4	225	0.6999	0.3398	0.0026	0.2983	0.0387	0.2505	0.1411	-1.0342	0.1230
4	225	0.7500	0.3691	0.0025	0.3384	0.0436	0.2007	0.1582	-1.0310	0.1271
4	225	0.8002	0.3978	0.0025	0.3675	0.0484	0.0972	0.1782	-1.0950	0.1221
4	225	0.8582	0.4425	0.0025	0.4374	0.0543	-0.0750	0.2034	-1.3709	0.1186
4	225	0.9101	0.4754	0.0028	0.4684	0.0597	-0.2279	0.2284	-1.5233	0.1149
4	225	0.9728	0.5294	0.0048	0.5694	0.0666	-0.2732	0.2617	-1.3211	0.1118

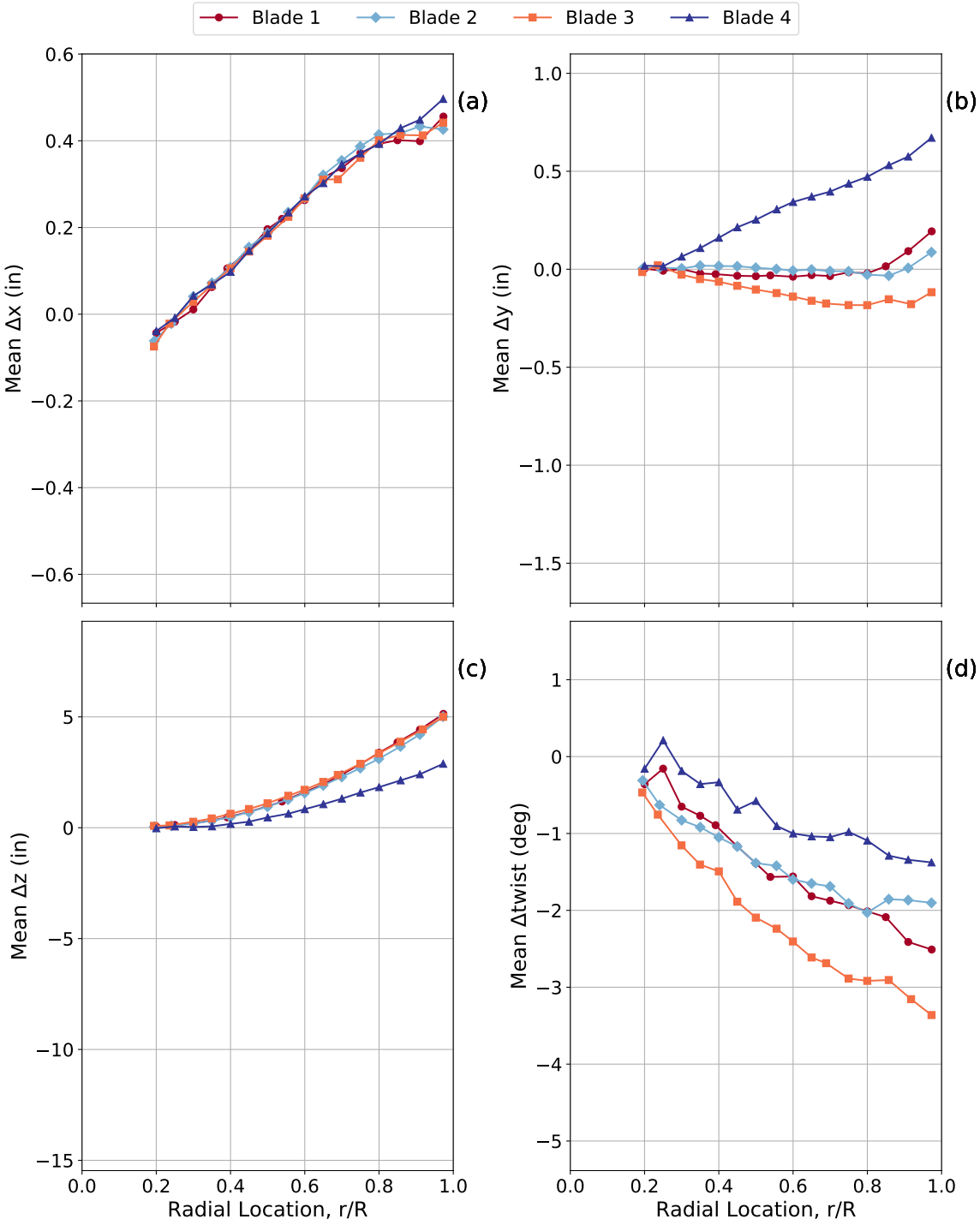


Figure 2.5-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0432	0.0012	0.0026	0.0007	0.0517	0.0076	-0.3584	0.0786
1	240.12	0.2499	-0.0173	0.0012	-0.0076	0.0021	0.1220	0.0147	-0.1568	0.1292
1	240.12	0.2998	0.0110	0.0011	0.0009	0.0040	0.1919	0.0254	-0.6512	0.1805
1	240.12	0.3498	0.0627	0.0015	-0.0216	0.0070	0.3269	0.0397	-0.7694	0.2176
1	240.12	0.3913	0.1055	0.0023	-0.0250	0.0107	0.4699	0.0573	-0.8924	0.2276
1	240.12	0.4496	0.1470	0.0023	-0.0333	0.0141	0.7169	0.0736	-1.1677	0.2779
1	240.12	0.4997	0.1961	0.0028	-0.0353	0.0183	0.9629	0.0888	-1.3871	0.3065
1	240.12	0.5387	0.2198	0.0033	-0.0312	0.0207	1.1835	0.0978	-1.5649	0.3403
1	240.12	0.5996	0.2632	0.0042	-0.0380	0.0267	1.6061	0.1134	-1.5595	0.3512
1	240.12	0.6498	0.3152	0.0041	-0.0297	0.0316	1.9532	0.1301	-1.8162	0.3553
1	240.12	0.6998	0.3370	0.0047	-0.0346	0.0372	2.3965	0.1462	-1.8741	0.3814
1	240.12	0.7500	0.3715	0.0054	-0.0155	0.0431	2.8679	0.1628	-1.9329	0.3971
1	240.12	0.8001	0.3930	0.0059	-0.0205	0.0496	3.3819	0.1787	-2.0131	0.4063
1	240.12	0.8497	0.4013	0.0064	0.0151	0.0563	3.8491	0.1924	-2.0881	0.4171
1	240.12	0.9102	0.3990	0.0071	0.0925	0.0647	4.4231	0.2075	-2.4110	0.4306
1	240.12	0.9734	0.4558	0.0096	0.1935	0.0737	5.1332	0.2217	-2.5096	0.4287
2	240.12	0.1949	-0.0617	0.0012	0.0037	0.0007	0.0467	0.0040	-0.3105	0.0522
2	240.12	0.2405	-0.0216	0.0012	0.0082	0.0023	0.0920	0.0079	-0.6299	0.0743
2	240.12	0.2999	0.0409	0.0016	0.0041	0.0045	0.1839	0.0141	-0.8274	0.1203
2	240.12	0.3498	0.0722	0.0018	0.0183	0.0071	0.3151	0.0228	-0.9180	0.1451
2	240.12	0.3998	0.1080	0.0024	0.0167	0.0121	0.4783	0.0341	-1.0508	0.1597
2	240.12	0.4496	0.1546	0.0023	0.0151	0.0153	0.7014	0.0442	-1.1700	0.1869
2	240.12	0.4995	0.1875	0.0031	0.0077	0.0199	0.9467	0.0569	-1.3852	0.2009
2	240.12	0.5551	0.2352	0.0029	0.0009	0.0255	1.2727	0.0708	-1.4206	0.2345
2	240.12	0.5996	0.2679	0.0029	-0.0068	0.0302	1.5621	0.0837	-1.5989	0.2581
2	240.12	0.6497	0.3211	0.0034	-0.0015	0.0358	1.9102	0.0976	-1.6499	0.2777
2	240.12	0.6996	0.3545	0.0038	-0.0094	0.0421	2.2908	0.1129	-1.6885	0.2508
2	240.12	0.7495	0.3870	0.0041	-0.0103	0.0485	2.6892	0.1286	-1.9099	0.2363
2	240.12	0.7996	0.4146	0.0043	-0.0278	0.0554	3.1082	0.1446	-2.0289	0.2317
2	240.12	0.8578	0.4176	0.0049	-0.0327	0.0633	3.6655	0.1647	-1.8551	0.2342
2	240.12	0.9100	0.4331	0.0055	0.0063	0.0709	4.2057	0.1830	-1.8666	0.2247
2	240.12	0.9727	0.4262	0.0077	0.0871	0.0801	5.0102	0.2046	-1.9021	0.2164
3	240.12	0.1938	-0.0745	0.0011	-0.0142	0.0006	0.0846	0.0052	-0.4665	0.0503
3	240.12	0.2357	-0.0217	0.0011	0.0203	0.0018	0.1039	0.0123	-0.7548	0.0753
3	240.12	0.2995	0.0286	0.0017	-0.0275	0.0043	0.2698	0.0236	-1.1548	0.1219
3	240.12	0.3493	0.0665	0.0018	-0.0501	0.0064	0.4185	0.0370	-1.4043	0.1419
3	240.12	0.4000	0.1058	0.0020	-0.0634	0.0114	0.6287	0.0595	-1.4930	0.1718
3	240.12	0.4497	0.1445	0.0025	-0.0843	0.0136	0.8424	0.0731	-1.8872	0.1851
3	240.12	0.4997	0.1810	0.0032	-0.1036	0.0178	1.1017	0.0912	-2.0942	0.2135
3	240.12	0.5556	0.2246	0.0027	-0.1214	0.0214	1.4423	0.1096	-2.2383	0.2166
3	240.12	0.5995	0.2669	0.0036	-0.1393	0.0252	1.7086	0.1248	-2.4045	0.2381
3	240.12	0.6498	0.3105	0.0038	-0.1609	0.0301	2.0654	0.1406	-2.6128	0.2477
3	240.12	0.6890	0.3112	0.0045	-0.1748	0.0344	2.3789	0.1530	-2.6872	0.2816
3	240.12	0.7495	0.3609	0.0053	-0.1829	0.0415	2.8835	0.1717	-2.8868	0.2949
3	240.12	0.7998	0.4010	0.0061	-0.1832	0.0480	3.3492	0.1887	-2.9172	0.3076
3	240.12	0.8577	0.4134	0.0067	-0.1532	0.0558	3.8789	0.2108	-2.9061	0.3182
3	240.12	0.9178	0.4124	0.0077	-0.1781	0.0643	4.4359	0.2344	-3.1552	0.3188
3	240.12	0.9729	0.4418	0.0112	-0.1172	0.0724	5.0015	0.2602	-3.3616	0.3262
4	240.12	0.2001	-0.0387	0.0012	0.0183	0.0006	-0.0244	0.0062	-0.1578	0.0522
4	240.12	0.2502	-0.0084	0.0011	0.0150	0.0028	0.0571	0.0136	0.2109	0.0844
4	240.12	0.3001	0.0425	0.0012	0.0646	0.0047	0.0335	0.0229	-0.1868	0.1182
4	240.12	0.3502	0.0688	0.0017	0.1084	0.0076	0.0619	0.0354	-0.3575	0.1429
4	240.12	0.4002	0.0977	0.0020	0.1608	0.0135	0.1711	0.0558	-0.3336	0.1724
4	240.12	0.4500	0.1464	0.0023	0.2143	0.0174	0.2716	0.0755	-0.6894	0.1961
4	240.12	0.5001	0.1863	0.0031	0.2529	0.0225	0.4649	0.0976	-0.5766	0.2198
4	240.12	0.5560	0.2347	0.0024	0.3057	0.0297	0.6333	0.1269	-0.9029	0.2471
4	240.12	0.6001	0.2715	0.0030	0.3433	0.0352	0.8364	0.1493	-1.0002	0.2761
4	240.12	0.6501	0.3023	0.0038	0.3706	0.0424	1.0624	0.1775	-1.0373	0.2744
4	240.12	0.6999	0.3455	0.0043	0.3963	0.0503	1.3097	0.2067	-1.0477	0.2824
4	240.12	0.7500	0.3709	0.0051	0.4367	0.0590	1.5860	0.2379	-0.9794	0.2861
4	240.12	0.8002	0.3928	0.0058	0.4718	0.0680	1.8306	0.2701	-1.0922	0.2876
4	240.12	0.8582	0.4292	0.0068	0.5310	0.0789	2.1362	0.3134	-1.2892	0.2855
4	240.12	0.9101	0.4485	0.0084	0.5749	0.0891	2.4115	0.3547	-1.3420	0.2924
4	240.12	0.9728	0.4965	0.0130	0.6709	0.1013	2.8839	0.4069	-1.3762	0.2871

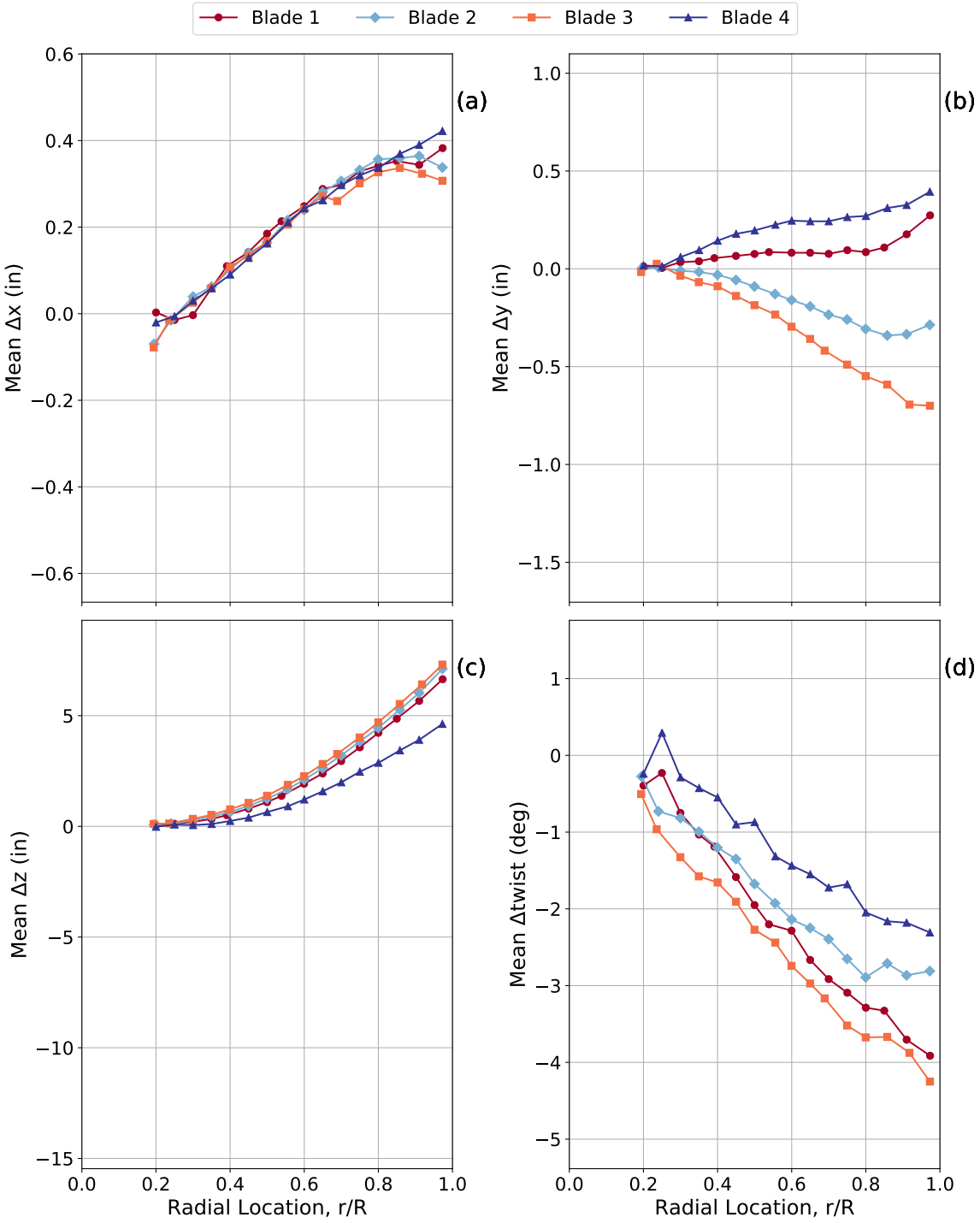


Figure 2.5-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	0.0028	0.0088	0.0126	0.0022	0.0445	0.0116	-0.3937	0.0655
1	254.88	0.2499	-0.0145	0.0015	0.0044	0.0022	0.1149	0.0149	-0.2296	0.1484
1	254.88	0.2998	-0.0034	0.0015	0.0340	0.0090	0.2052	0.0318	-0.7498	0.1646
1	254.88	0.3498	0.0591	0.0015	0.0386	0.0161	0.3318	0.0508	-1.0325	0.1679
1	254.88	0.3913	0.1098	0.0021	0.0548	0.0223	0.5052	0.0680	-1.1895	0.1740
1	254.88	0.4496	0.1421	0.0024	0.0660	0.0304	0.7988	0.0925	-1.5860	0.1914
1	254.88	0.4997	0.1848	0.0029	0.0759	0.0381	1.0941	0.1161	-1.9500	0.2106
1	254.88	0.5387	0.2135	0.0033	0.0855	0.0440	1.3786	0.1356	-2.2013	0.2284
1	254.88	0.5996	0.2483	0.0042	0.0822	0.0539	1.9245	0.1667	-2.2842	0.2374
1	254.88	0.6498	0.2881	0.0053	0.0820	0.0622	2.3885	0.1918	-2.6653	0.2388
1	254.88	0.6998	0.2975	0.0063	0.0766	0.0704	2.9499	0.2178	-2.9146	0.2539
1	254.88	0.7500	0.3289	0.0075	0.0952	0.0787	3.5688	0.2428	-3.0926	0.2697
1	254.88	0.8001	0.3418	0.0086	0.0854	0.0872	4.2249	0.2692	-3.2872	0.2732
1	254.88	0.8497	0.3526	0.0099	0.1088	0.0958	4.8636	0.2953	-3.3265	0.2734
1	254.88	0.9102	0.3438	0.0116	0.1765	0.1067	5.6682	0.3296	-3.7044	0.2821
1	254.88	0.9734	0.3825	0.0163	0.2732	0.1184	6.6464	0.3684	-3.9135	0.2849
2	254.88	0.1949	-0.0699	0.0013	0.0004	0.0007	0.0785	0.0060	-0.2749	0.0577
2	254.88	0.2405	-0.0150	0.0010	0.0071	0.0018	0.1217	0.0096	-0.7298	0.0950
2	254.88	0.2999	0.0394	0.0014	-0.0103	0.0040	0.2631	0.0194	-0.8164	0.1412
2	254.88	0.3498	0.0622	0.0017	-0.0158	0.0069	0.4367	0.0314	-0.9944	0.1668
2	254.88	0.3998	0.1015	0.0020	-0.0308	0.0114	0.6455	0.0470	-1.2028	0.1943
2	254.88	0.4496	0.1396	0.0021	-0.0573	0.0160	0.9269	0.0641	-1.3498	0.2209
2	254.88	0.4995	0.1642	0.0028	-0.0904	0.0213	1.2479	0.0868	-1.6746	0.2554
2	254.88	0.5551	0.2158	0.0036	-0.1288	0.0281	1.6792	0.1124	-1.9265	0.2869
2	254.88	0.5996	0.2393	0.0042	-0.1597	0.0342	2.1042	0.1348	-2.1377	0.3077
2	254.88	0.6497	0.2810	0.0053	-0.1922	0.0418	2.6305	0.1594	-2.2494	0.3099
2	254.88	0.6996	0.3064	0.0065	-0.2345	0.0500	3.2026	0.1829	-2.3935	0.3372
2	254.88	0.7495	0.3320	0.0077	-0.2592	0.0586	3.8278	0.2060	-2.6520	0.3664
2	254.88	0.7996	0.3568	0.0085	-0.3077	0.0674	4.4458	0.2294	-2.8926	0.3851
2	254.88	0.8578	0.3594	0.0097	-0.3406	0.0782	5.2699	0.2581	-2.7110	0.3989
2	254.88	0.9100	0.3643	0.0113	-0.3346	0.0880	6.0261	0.2861	-2.8654	0.4070
2	254.88	0.9727	0.3378	0.0152	-0.2865	0.1005	7.1157	0.3232	-2.8101	0.4258
3	254.88	0.1938	-0.0780	0.0015	-0.0162	0.0008	0.1129	0.0065	-0.5041	0.0318
3	254.88	0.2357	-0.0150	0.0011	0.0255	0.0012	0.1305	0.0095	-0.9633	0.0606
3	254.88	0.2995	0.0254	0.0012	-0.0353	0.0031	0.3383	0.0206	-1.3264	0.0796
3	254.88	0.3493	0.0593	0.0016	-0.0681	0.0057	0.5195	0.0347	-1.5767	0.0855
3	254.88	0.4000	0.1077	0.0022	-0.0893	0.0089	0.7693	0.0513	-1.6566	0.0983
3	254.88	0.4497	0.1345	0.0023	-0.1386	0.0122	1.0600	0.0687	-1.9071	0.1166
3	254.88	0.4997	0.1663	0.0024	-0.1859	0.0165	1.3832	0.0895	-2.2719	0.1284
3	254.88	0.5556	0.2057	0.0026	-0.2340	0.0219	1.8762	0.1134	-2.4389	0.1449
3	254.88	0.5995	0.2419	0.0034	-0.2960	0.0263	2.2680	0.1340	-2.7421	0.1544
3	254.88	0.6498	0.2716	0.0040	-0.3583	0.0323	2.8156	0.1589	-2.9722	0.1653
3	254.88	0.6890	0.2602	0.0049	-0.4183	0.0372	3.2686	0.1784	-3.1661	0.1759
3	254.88	0.7495	0.3012	0.0062	-0.4896	0.0454	4.0191	0.2089	-3.5193	0.1875
3	254.88	0.7998	0.3267	0.0073	-0.5485	0.0522	4.7009	0.2350	-3.6744	0.1862
3	254.88	0.8577	0.3367	0.0088	-0.5917	0.0601	5.5303	0.2656	-3.6684	0.1921
3	254.88	0.9178	0.3233	0.0108	-0.6938	0.0678	6.4147	0.2978	-3.8757	0.1978
3	254.88	0.9729	0.3071	0.0144	-0.6999	0.0752	7.3084	0.3279	-4.2501	0.1977
4	254.88	0.2001	-0.0202	0.0016	0.0171	0.0006	-0.0196	0.0077	-0.2390	0.0383
4	254.88	0.2502	-0.0060	0.0012	0.0123	0.0017	0.0817	0.0126	0.2939	0.0800
4	254.88	0.3001	0.0299	0.0013	0.0599	0.0034	0.0571	0.0238	-0.2865	0.0928
4	254.88	0.3502	0.0586	0.0013	0.0956	0.0066	0.1071	0.0389	-0.4267	0.0994
4	254.88	0.4002	0.0904	0.0016	0.1436	0.0103	0.2429	0.0574	-0.5488	0.1081
4	254.88	0.4500	0.1289	0.0019	0.1787	0.0141	0.3952	0.0794	-0.9000	0.1157
4	254.88	0.5001	0.1622	0.0020	0.1960	0.0192	0.6463	0.1058	-0.8693	0.1282
4	254.88	0.5560	0.2109	0.0027	0.2253	0.0249	0.9104	0.1375	-1.3153	0.1358
4	254.88	0.6001	0.2436	0.0033	0.2461	0.0297	1.2118	0.1629	-1.4364	0.1458
4	254.88	0.6501	0.2620	0.0043	0.2428	0.0353	1.5853	0.1907	-1.5491	0.1486
4	254.88	0.6999	0.2969	0.0051	0.2429	0.0413	1.9895	0.2181	-1.7220	0.1425
4	254.88	0.7500	0.3195	0.0060	0.2643	0.0476	2.4680	0.2455	-1.6793	0.1546
4	254.88	0.8002	0.3368	0.0070	0.2701	0.0540	2.8707	0.2720	-2.0469	0.1550
4	254.88	0.8582	0.3693	0.0080	0.3108	0.0621	3.4327	0.3035	-2.1618	0.1679
4	254.88	0.9101	0.3900	0.0092	0.3261	0.0694	3.9091	0.3323	-2.1806	0.1696
4	254.88	0.9728	0.4220	0.0129	0.3941	0.0786	4.6270	0.3692	-2.3077	0.1711

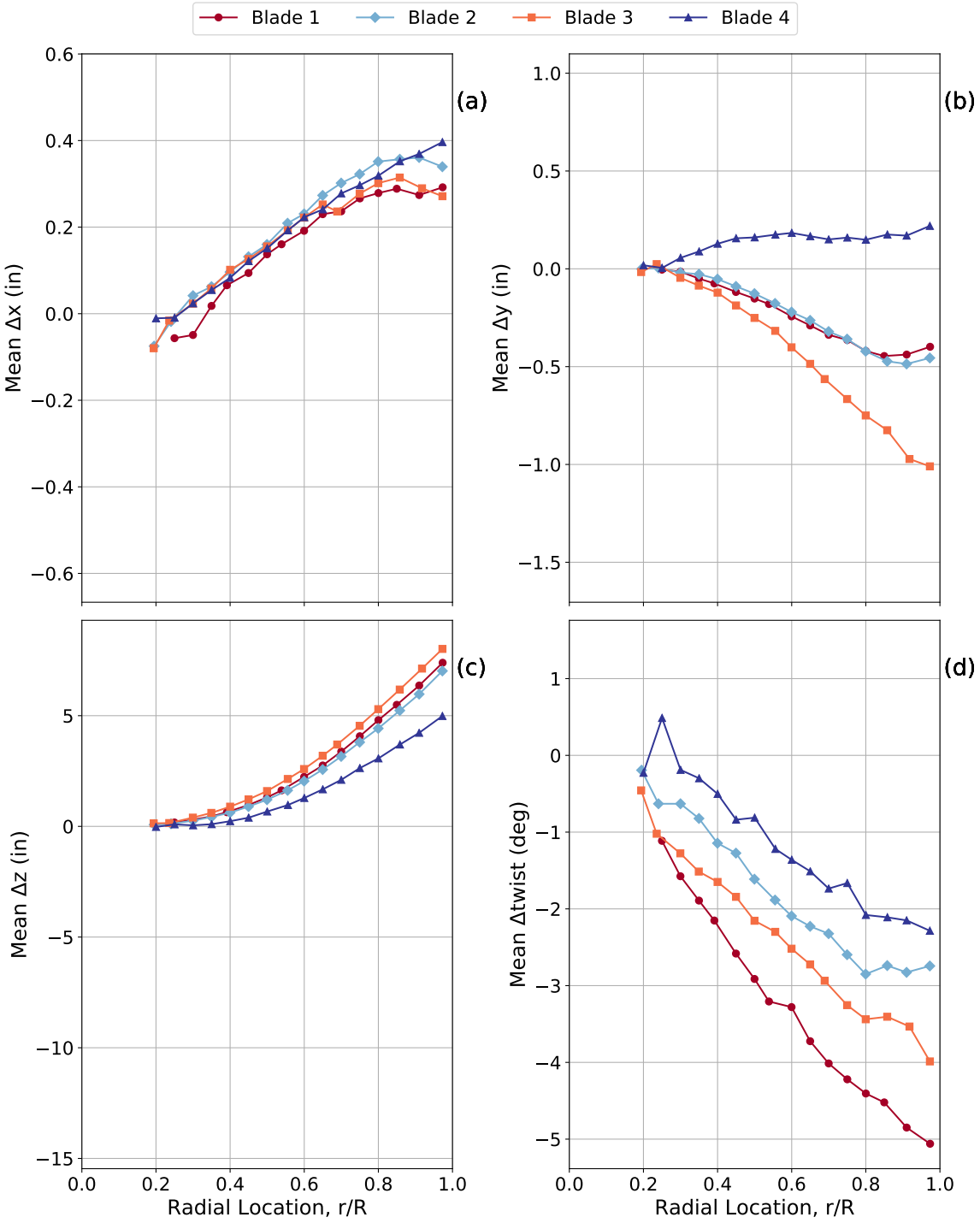


Figure 2.5-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2499	-0.0566	0.0027	-0.0043	0.0017	0.1749	0.0178	-1.1134	0.0999
1	260.16	0.2998	-0.0492	0.0014	-0.0144	0.0036	0.3015	0.0294	-1.5748	0.1419
1	260.16	0.3498	0.0180	0.0019	-0.0500	0.0076	0.4499	0.0475	-1.8920	0.1362
1	260.16	0.3913	0.0657	0.0024	-0.0747	0.0112	0.6405	0.0661	-2.1517	0.1420
1	260.16	0.4496	0.0940	0.0028	-0.1184	0.0159	0.9646	0.0929	-2.5822	0.1500
1	260.16	0.4997	0.1372	0.0035	-0.1521	0.0204	1.3079	0.1195	-2.9130	0.1602
1	260.16	0.5387	0.1604	0.0042	-0.1800	0.0240	1.6259	0.1427	-3.2067	0.1699
1	260.16	0.5996	0.1915	0.0052	-0.2431	0.0301	2.2346	0.1778	-3.2796	0.1822
1	260.16	0.6498	0.2299	0.0064	-0.2895	0.0349	2.7511	0.2074	-3.7240	0.1895
1	260.16	0.6998	0.2365	0.0078	-0.3375	0.0407	3.3792	0.2368	-4.0139	0.2077
1	260.16	0.7500	0.2663	0.0090	-0.3638	0.0464	4.0721	0.2658	-4.2208	0.2236
1	260.16	0.8001	0.2787	0.0102	-0.4204	0.0527	4.7997	0.2929	-4.4053	0.2298
1	260.16	0.8497	0.2887	0.0115	-0.4458	0.0593	5.4897	0.3189	-4.5212	0.2291
1	260.16	0.9102	0.2741	0.0132	-0.4383	0.0677	6.3626	0.3511	-4.8491	0.2383
1	260.16	0.9734	0.2920	0.0171	-0.3985	0.0770	7.3910	0.3875	-5.0602	0.2430
2	260.16	0.1949	-0.0749	0.0027	-0.0009	0.0008	0.0803	0.0080	-0.1929	0.0514
2	260.16	0.2405	-0.0180	0.0015	0.0040	0.0018	0.1159	0.0102	-0.6305	0.1039
2	260.16	0.2999	0.0417	0.0017	-0.0192	0.0034	0.2558	0.0227	-0.6306	0.1301
2	260.16	0.3498	0.0625	0.0016	-0.0277	0.0064	0.4256	0.0373	-0.8220	0.1375
2	260.16	0.3998	0.0962	0.0019	-0.0527	0.0099	0.6204	0.0532	-1.1443	0.1540
2	260.16	0.4496	0.1316	0.0027	-0.0899	0.0135	0.8949	0.0703	-1.2737	0.1615
2	260.16	0.4995	0.1599	0.0029	-0.1267	0.0180	1.2043	0.0894	-1.6131	0.1861
2	260.16	0.5551	0.2090	0.0036	-0.1770	0.0235	1.6267	0.1144	-1.8850	0.2000
2	260.16	0.5996	0.2306	0.0043	-0.2210	0.0283	2.0455	0.1366	-2.0932	0.2199
2	260.16	0.6497	0.2733	0.0051	-0.2635	0.0342	2.5677	0.1617	-2.2274	0.2166
2	260.16	0.6996	0.3017	0.0063	-0.3206	0.0404	3.1592	0.1883	-2.3231	0.2280
2	260.16	0.7495	0.3224	0.0073	-0.3593	0.0466	3.8009	0.2156	-2.5969	0.2516
2	260.16	0.7996	0.3514	0.0084	-0.4215	0.0532	4.4244	0.2440	-2.8499	0.2565
2	260.16	0.8578	0.3568	0.0098	-0.4727	0.0610	5.2330	0.2802	-2.7389	0.2694
2	260.16	0.9100	0.3608	0.0114	-0.4863	0.0685	5.9733	0.3151	-2.8270	0.2749
2	260.16	0.9727	0.3395	0.0152	-0.4558	0.0778	7.0206	0.3608	-2.7439	0.2739
3	260.16	0.1938	-0.0798	0.0042	-0.0165	0.0010	0.1373	0.0097	-0.4564	0.0445
3	260.16	0.2357	-0.0159	0.0017	0.0240	0.0016	0.1491	0.0106	-1.0213	0.1319
3	260.16	0.2995	0.0232	0.0016	-0.0460	0.0035	0.3957	0.0265	-1.2766	0.1405
3	260.16	0.3493	0.0581	0.0018	-0.0859	0.0062	0.6085	0.0418	-1.5140	0.1548
3	260.16	0.4000	0.1014	0.0023	-0.1216	0.0096	0.8906	0.0607	-1.6493	0.1654
3	260.16	0.4497	0.1263	0.0024	-0.1873	0.0133	1.2193	0.0804	-1.8432	0.1718
3	260.16	0.4997	0.1556	0.0031	-0.2510	0.0176	1.5947	0.1024	-2.1547	0.1850
3	260.16	0.5556	0.1927	0.0037	-0.3171	0.0224	2.1411	0.1285	-2.2994	0.1998
3	260.16	0.5995	0.2219	0.0045	-0.4012	0.0268	2.5904	0.1510	-2.5187	0.2045
3	260.16	0.6498	0.2523	0.0056	-0.4858	0.0319	3.1912	0.1768	-2.7238	0.2163
3	260.16	0.6890	0.2361	0.0066	-0.5637	0.0363	3.6975	0.1980	-2.9364	0.2205
3	260.16	0.7495	0.2773	0.0083	-0.6656	0.0432	4.5437	0.2304	-3.2543	0.2280
3	260.16	0.7998	0.3016	0.0097	-0.7497	0.0492	5.2950	0.2568	-3.4382	0.2276
3	260.16	0.8577	0.3145	0.0113	-0.8251	0.0566	6.1798	0.2853	-3.4053	0.2325
3	260.16	0.9178	0.2897	0.0131	-0.9722	0.0649	7.1278	0.3135	-3.5330	0.2334
3	260.16	0.9729	0.2714	0.0166	-1.0097	0.0724	8.0163	0.3397	-3.9874	0.2314
4	260.16	0.2001	-0.0107	0.0035	0.0180	0.0010	-0.0252	0.0093	-0.2272	0.0511
4	260.16	0.2502	-0.0093	0.0018	0.0046	0.0020	0.0905	0.0136	0.4871	0.1263
4	260.16	0.3001	0.0239	0.0014	0.0561	0.0041	0.0466	0.0251	-0.1893	0.1282
4	260.16	0.3502	0.0547	0.0014	0.0888	0.0080	0.0988	0.0412	-0.2989	0.1298
4	260.16	0.4002	0.0830	0.0018	0.1281	0.0121	0.2341	0.0584	-0.5025	0.1402
4	260.16	0.4500	0.1215	0.0021	0.1560	0.0166	0.3928	0.0778	-0.8383	0.1486
4	260.16	0.5001	0.1512	0.0022	0.1606	0.0215	0.6701	0.0998	-0.8117	0.1616
4	260.16	0.5560	0.1925	0.0031	0.1745	0.0272	0.9641	0.1252	-1.2192	0.1704
4	260.16	0.6001	0.2229	0.0036	0.1834	0.0322	1.2812	0.1453	-1.3610	0.1778
4	260.16	0.6501	0.2410	0.0043	0.1666	0.0380	1.6742	0.1678	-1.5107	0.1796
4	260.16	0.6999	0.2779	0.0051	0.1503	0.0437	2.1029	0.1887	-1.7354	0.1898
4	260.16	0.7500	0.2969	0.0060	0.1595	0.0498	2.6329	0.2085	-1.6635	0.2017
4	260.16	0.8002	0.3189	0.0064	0.1486	0.0558	3.0713	0.2281	-2.0796	0.1987
4	260.16	0.8582	0.3521	0.0073	0.1752	0.0631	3.6973	0.2485	-2.1101	0.2027
4	260.16	0.9101	0.3691	0.0082	0.1696	0.0700	4.2257	0.2683	-2.1500	0.2019
4	260.16	0.9728	0.3964	0.0113	0.2193	0.0784	4.9851	0.2940	-2.2851	0.2069

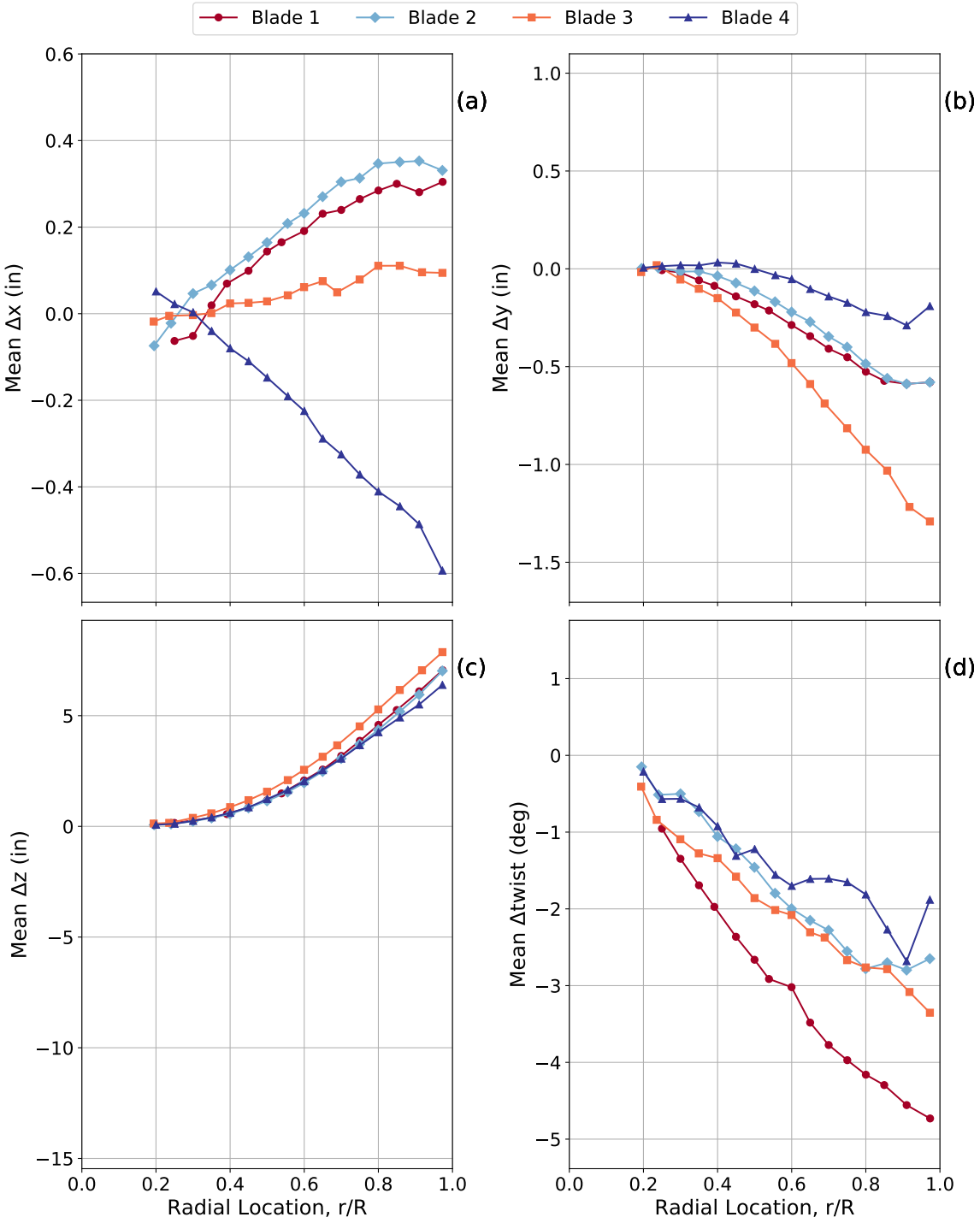


Figure 2.5-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2499	-0.0629	0.0055	-0.0071	0.0022	0.1555	0.0420	-0.9542	0.2890
1	265.08	0.2998	-0.0514	0.0023	-0.0194	0.0047	0.2707	0.0636	-1.3472	0.4091
1	265.08	0.3498	0.0193	0.0029	-0.0586	0.0108	0.3867	0.1095	-1.6928	0.3759
1	265.08	0.3913	0.0695	0.0039	-0.0870	0.0165	0.5551	0.1455	-1.9735	0.3792
1	265.08	0.4496	0.0992	0.0052	-0.1409	0.0239	0.8543	0.1972	-2.3638	0.3721
1	265.08	0.4997	0.1438	0.0065	-0.1808	0.0303	1.1800	0.2424	-2.6629	0.3777
1	265.08	0.5387	0.1651	0.0077	-0.2133	0.0353	1.4885	0.2786	-2.9135	0.3811
1	265.08	0.5996	0.1910	0.0099	-0.2872	0.0433	2.0736	0.3376	-3.0199	0.3834
1	265.08	0.6498	0.2309	0.0121	-0.3442	0.0500	2.5671	0.3877	-3.4818	0.3855
1	265.08	0.6998	0.2397	0.0144	-0.4084	0.0565	3.1822	0.4382	-3.7734	0.3918
1	265.08	0.7500	0.2648	0.0169	-0.4520	0.0631	3.8645	0.4897	-3.9715	0.3992
1	265.08	0.8001	0.2846	0.0196	-0.5258	0.0696	4.5828	0.5430	-4.1603	0.3962
1	265.08	0.8497	0.3001	0.0222	-0.5727	0.0762	5.2553	0.5954	-4.2956	0.3994
1	265.08	0.9102	0.2807	0.0258	-0.5882	0.0851	6.0997	0.6581	-4.5563	0.4004
1	265.08	0.9734	0.3046	0.0338	-0.5799	0.0943	7.0573	0.7234	-4.7306	0.3985
2	265.08	0.1949	-0.0741	0.0050	0.0018	0.0013	0.0689	0.0163	-0.1497	0.0739
2	265.08	0.2405	-0.0219	0.0032	0.0043	0.0023	0.1076	0.0180	-0.5139	0.2035
2	265.08	0.2999	0.0465	0.0027	-0.0141	0.0047	0.2304	0.0406	-0.5013	0.2081
2	265.08	0.3498	0.0662	0.0026	-0.0132	0.0095	0.3782	0.0681	-0.7330	0.1880
2	265.08	0.3998	0.1008	0.0027	-0.0365	0.0141	0.5607	0.0926	-1.0575	0.1844
2	265.08	0.4496	0.1313	0.0033	-0.0724	0.0187	0.8314	0.1156	-1.2174	0.1979
2	265.08	0.4995	0.1644	0.0038	-0.1131	0.0240	1.1492	0.1413	-1.4585	0.1985
2	265.08	0.5551	0.2084	0.0046	-0.1687	0.0306	1.5518	0.1692	-1.7966	0.2056
2	265.08	0.5996	0.2319	0.0053	-0.2209	0.0362	1.9632	0.1910	-1.9975	0.2039
2	265.08	0.6497	0.2703	0.0064	-0.2711	0.0427	2.4784	0.2148	-2.1499	0.2100
2	265.08	0.6996	0.3045	0.0073	-0.3461	0.0499	3.0645	0.2385	-2.2786	0.2139
2	265.08	0.7495	0.3132	0.0083	-0.4002	0.0574	3.7148	0.2617	-2.5523	0.2224
2	265.08	0.7996	0.3468	0.0094	-0.4851	0.0656	4.3571	0.2849	-2.7812	0.2245
2	265.08	0.8578	0.3505	0.0108	-0.5599	0.0755	5.1854	0.3120	-2.7009	0.2263
2	265.08	0.9100	0.3528	0.0121	-0.5882	0.0849	5.9503	0.3369	-2.7978	0.2236
2	265.08	0.9727	0.3310	0.0166	-0.5797	0.0962	7.0242	0.3686	-2.6489	0.2326
3	265.08	0.1938	-0.0182	0.0113	-0.0166	0.0039	0.1285	0.0186	-0.4074	0.0629
3	265.08	0.2357	-0.0050	0.0021	0.0186	0.0024	0.1575	0.0163	-0.8399	0.1719
3	265.08	0.2995	-0.0033	0.0029	-0.0547	0.0134	0.3827	0.0434	-1.0926	0.1837
3	265.08	0.3493	0.0014	0.0037	-0.1020	0.0231	0.5863	0.0680	-1.2770	0.1892
3	265.08	0.4000	0.0237	0.0036	-0.1497	0.0351	0.8665	0.0932	-1.3397	0.2012
3	265.08	0.4497	0.0250	0.0036	-0.2236	0.0454	1.1822	0.1197	-1.5802	0.2060
3	265.08	0.4997	0.0285	0.0048	-0.3003	0.0560	1.5637	0.1474	-1.8596	0.2163
3	265.08	0.5556	0.0425	0.0056	-0.3835	0.0688	2.0893	0.1800	-2.0154	0.2305
3	265.08	0.5995	0.0614	0.0069	-0.4819	0.0790	2.5556	0.2063	-2.0802	0.2454
3	265.08	0.6498	0.0751	0.0082	-0.5889	0.0909	3.1439	0.2389	-2.3049	0.2524
3	265.08	0.6890	0.0494	0.0094	-0.6887	0.1003	3.6602	0.2651	-2.3729	0.2656
3	265.08	0.7495	0.0790	0.0118	-0.8151	0.1150	4.5164	0.3064	-2.6683	0.2725
3	265.08	0.7998	0.1107	0.0139	-0.9248	0.1275	5.2820	0.3430	-2.7635	0.2765
3	265.08	0.8577	0.1108	0.0160	-1.0316	0.1426	6.1607	0.3862	-2.7850	0.2772
3	265.08	0.9178	0.0957	0.0188	-1.2171	0.1574	7.0525	0.4300	-3.0831	0.2793
3	265.08	0.9729	0.0943	0.0250	-1.2915	0.1717	7.8707	0.4723	-3.3528	0.2739
4	265.08	0.2001	0.0514	0.0040	0.0058	0.0016	0.0725	0.0112	-0.2121	0.1018
4	265.08	0.2502	0.0221	0.0023	0.0136	0.0050	0.1176	0.0278	-0.5688	0.1145
4	265.08	0.3001	0.0031	0.0027	0.0184	0.0056	0.2465	0.0338	-0.5658	0.2053
4	265.08	0.3502	-0.0401	0.0029	0.0174	0.0129	0.4061	0.0620	-0.6783	0.1434
4	265.08	0.4002	-0.0800	0.0031	0.0322	0.0192	0.6105	0.0894	-0.9239	0.1547
4	265.08	0.4500	-0.1100	0.0054	0.0266	0.0253	0.8603	0.1139	-1.3089	0.1701
4	265.08	0.5001	-0.1477	0.0062	-0.0007	0.0323	1.2341	0.1465	-1.2211	0.1590
4	265.08	0.5560	-0.1909	0.0082	-0.0328	0.0401	1.6453	0.1807	-1.5565	0.1868
4	265.08	0.6001	-0.2248	0.0097	-0.0529	0.0459	2.0368	0.2098	-1.7006	0.1866
4	265.08	0.6501	-0.2886	0.0115	-0.1032	0.0536	2.5398	0.2440	-1.6099	0.1913
4	265.08	0.6999	-0.3252	0.0130	-0.1413	0.0606	3.0593	0.2787	-1.6067	0.1894
4	265.08	0.7500	-0.3716	0.0149	-0.1737	0.0682	3.6665	0.3134	-1.6519	0.2026
4	265.08	0.8002	-0.4107	0.0176	-0.2213	0.0761	4.2526	0.3485	-1.8127	0.1950
4	265.08	0.8582	-0.4450	0.0196	-0.2411	0.0856	4.9175	0.3888	-2.2692	0.2047
4	265.08	0.9101	-0.4864	0.0226	-0.2892	0.0935	5.5059	0.4263	-2.6815	0.2471
4	265.08	0.9728	-0.5936	0.0278	-0.1906	0.1041	6.3888	0.4757	-1.8815	0.2152

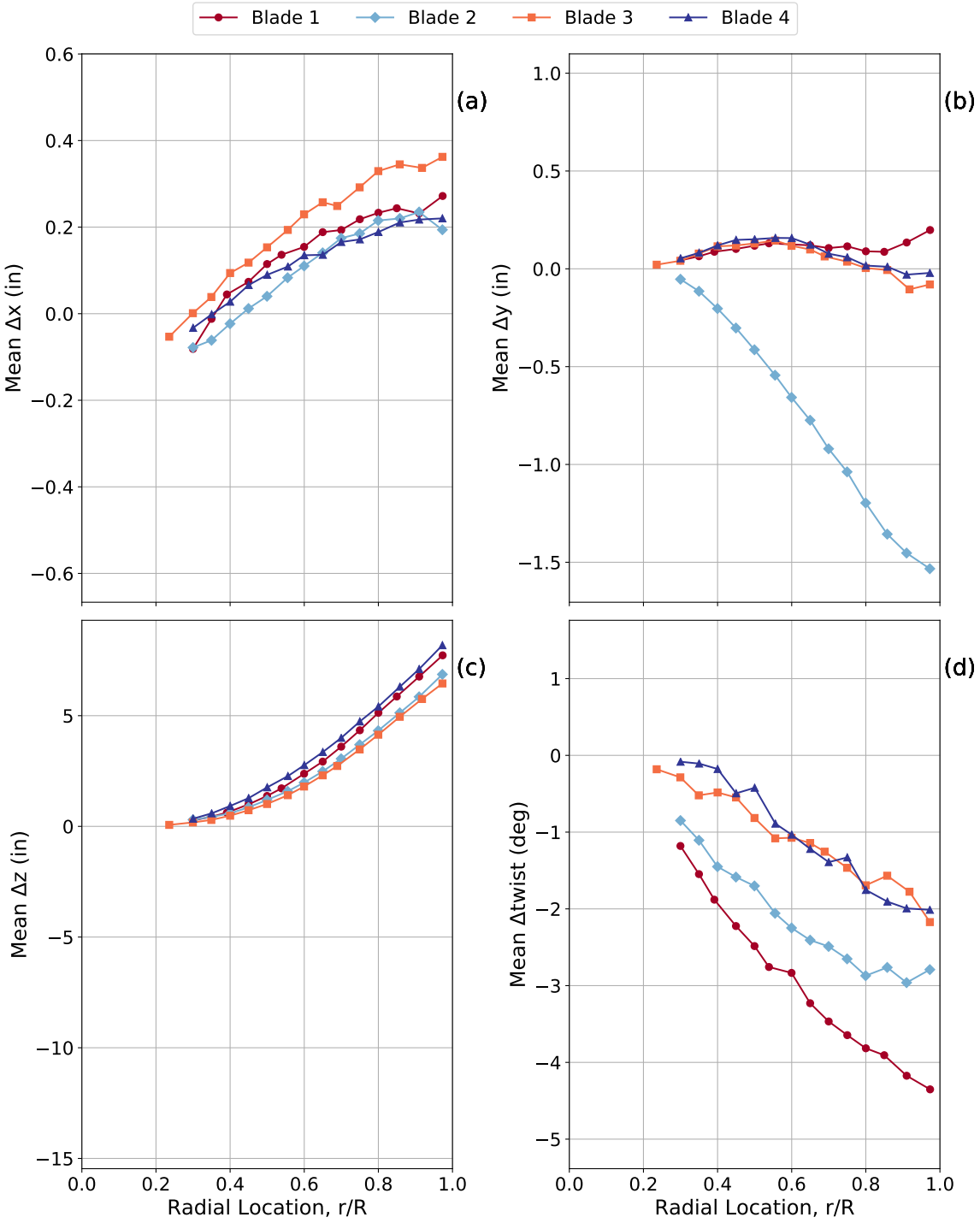


Figure 2.5-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2998	-0.0814	0.0182	0.0430	0.0100	0.2687	0.2017	-1.1803	0.4949
1	270	0.3498	-0.0119	0.0139	0.0642	0.0210	0.4351	0.3101	-1.5471	0.6439
1	270	0.3913	0.0445	0.0184	0.0872	0.0350	0.6198	0.4285	-1.8801	0.6389
1	270	0.4496	0.0736	0.0226	0.1016	0.0520	0.9936	0.5857	-2.2237	0.6479
1	270	0.4997	0.1147	0.0274	0.1179	0.0666	1.3735	0.7214	-2.4847	0.6548
1	270	0.5387	0.1361	0.0316	0.1303	0.0774	1.7176	0.8274	-2.7574	0.6561
1	270	0.5996	0.1543	0.0391	0.1247	0.0936	2.3760	0.9935	-2.8341	0.6663
1	270	0.6498	0.1884	0.0454	0.1202	0.1067	2.9260	1.1316	-3.2293	0.6607
1	270	0.6998	0.1933	0.0523	0.1061	0.1189	3.6008	1.2682	-3.4667	0.6679
1	270	0.7500	0.2182	0.0599	0.1149	0.1309	4.3408	1.4047	-3.6453	0.6750
1	270	0.8001	0.2331	0.0676	0.0895	0.1426	5.1302	1.5409	-3.8163	0.6806
1	270	0.8497	0.2436	0.0745	0.0869	0.1550	5.8665	1.6743	-3.9065	0.6918
1	270	0.9102	0.2317	0.0845	0.1345	0.1703	6.7664	1.8357	-4.1739	0.6945
1	270	0.9734	0.2719	0.1037	0.1983	0.1870	7.7264	2.0067	-4.3515	0.7092
2	270.35	0.2999	-0.0782	0.0106	-0.0533	0.0068	0.3010	0.1339	-0.8493	0.4214
2	270.35	0.3498	-0.0614	0.0068	-0.1146	0.0139	0.4279	0.2093	-1.1060	0.5527
2	270.35	0.3998	-0.0232	0.0095	-0.2033	0.0258	0.5912	0.3113	-1.4503	0.5426
2	270.35	0.4496	0.0119	0.0116	-0.3026	0.0366	0.8581	0.4072	-1.5854	0.5545
2	270.35	0.4995	0.0402	0.0150	-0.4138	0.0480	1.1950	0.5055	-1.7011	0.5591
2	270.35	0.5551	0.0831	0.0185	-0.5439	0.0607	1.5834	0.6139	-2.0573	0.5680
2	270.35	0.5996	0.1102	0.0219	-0.6574	0.0711	1.9781	0.7020	-2.2485	0.5664
2	270.35	0.6497	0.1406	0.0259	-0.7740	0.0826	2.4810	0.7991	-2.4072	0.5738
2	270.35	0.6996	0.1745	0.0302	-0.9200	0.0942	3.0539	0.8974	-2.4895	0.5765
2	270.35	0.7495	0.1852	0.0353	-1.0379	0.1056	3.6894	0.9956	-2.6515	0.5838
2	270.35	0.7996	0.2153	0.0395	-1.1968	0.1173	4.3227	1.0938	-2.8711	0.5909
2	270.35	0.8578	0.2200	0.0453	-1.3562	0.1310	5.1287	1.2105	-2.7628	0.5903
2	270.35	0.9100	0.2349	0.0514	-1.4529	0.1439	5.8521	1.3138	-2.9611	0.5951
2	270.35	0.9727	0.1939	0.0655	-1.5330	0.1587	6.8657	1.4393	-2.7913	0.6057
3	270	0.2357	-0.0532	0.0093	0.0210	0.0017	0.0666	0.0383	-0.1812	0.2881
3	270	0.2995	0.0012	0.0043	0.0411	0.0040	0.1791	0.0672	-0.2866	0.4585
3	270	0.3493	0.0385	0.0028	0.0779	0.0109	0.2905	0.1186	-0.5209	0.4366
3	270	0.4000	0.0939	0.0030	0.1150	0.0173	0.4822	0.1682	-0.4833	0.4432
3	270	0.4497	0.1180	0.0040	0.1192	0.0232	0.7293	0.2145	-0.5484	0.4641
3	270	0.4997	0.1533	0.0042	0.1299	0.0296	1.0105	0.2642	-0.8161	0.4694
3	270	0.5556	0.1935	0.0050	0.1446	0.0366	1.4083	0.3207	-1.0809	0.4824
3	270	0.5995	0.2295	0.0065	0.1175	0.0419	1.8002	0.3679	-1.0734	0.4851
3	270	0.6498	0.2574	0.0084	0.0989	0.0485	2.3060	0.4200	-1.1416	0.5015
3	270	0.6890	0.2488	0.0101	0.0633	0.0536	2.7287	0.4639	-1.2547	0.5090
3	270	0.7495	0.2919	0.0129	0.0367	0.0616	3.4749	0.5297	-1.4646	0.5315
3	270	0.7998	0.3294	0.0156	0.0040	0.0689	4.1412	0.5866	-1.6929	0.5374
3	270	0.8577	0.3450	0.0188	-0.0061	0.0771	4.9495	0.6529	-1.5679	0.5451
3	270	0.9178	0.3368	0.0226	-0.1050	0.0864	5.7537	0.7252	-1.7764	0.5418
3	270	0.9729	0.3623	0.0297	-0.0800	0.0951	6.4549	0.7933	-2.1721	0.5500
4	270	0.3001	-0.0328	0.0102	0.0535	0.0092	0.3470	0.1022	-0.0830	0.3015
4	270	0.3502	-0.0015	0.0075	0.0819	0.0183	0.5883	0.1584	-0.1071	0.3957
4	270	0.4002	0.0277	0.0109	0.1198	0.0319	0.9222	0.2342	-0.1778	0.3918
4	270	0.4500	0.0662	0.0123	0.1476	0.0437	1.2765	0.3012	-0.4946	0.4006
4	270	0.5001	0.0898	0.0147	0.1511	0.0560	1.7635	0.3721	-0.4223	0.4093
4	270	0.5560	0.1089	0.0183	0.1579	0.0701	2.2719	0.4521	-0.8898	0.4108
4	270	0.6001	0.1350	0.0212	0.1571	0.0812	2.7669	0.5162	-1.0335	0.4132
4	270	0.6501	0.1360	0.0246	0.1235	0.0936	3.3566	0.5896	-1.2190	0.4269
4	270	0.6999	0.1656	0.0282	0.0772	0.1061	3.9983	0.6620	-1.3910	0.4419
4	270	0.7500	0.1716	0.0324	0.0590	0.1185	4.7379	0.7360	-1.3297	0.4446
4	270	0.8002	0.1887	0.0363	0.0165	0.1311	5.4151	0.8114	-1.7536	0.4446
4	270	0.8582	0.2108	0.0413	0.0106	0.1458	6.3103	0.9007	-1.9057	0.4405
4	270	0.9101	0.2174	0.0464	-0.0297	0.1588	7.1059	0.9827	-1.9939	0.4381
4	270	0.9728	0.2202	0.0586	-0.0211	0.1747	8.1827	1.0840	-2.0123	0.4485

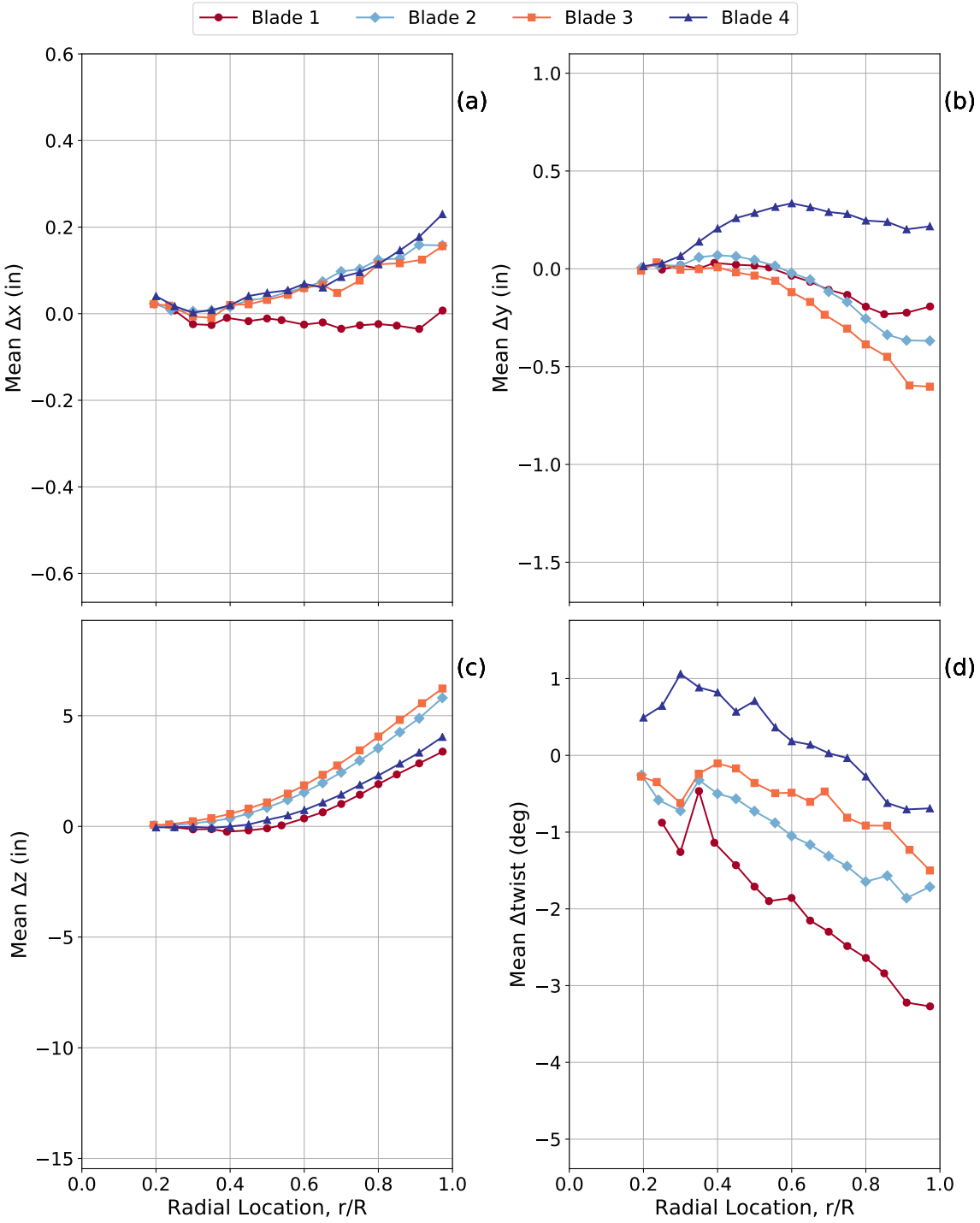


Figure 2.5-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.127$, $\mu = 0.24$, $\alpha = -0°$ NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2499	0.0076	0.0102	-0.0038	0.0071	-0.0458	0.1698	-0.8771	0.1974
1	274.92	0.2998	-0.0243	0.0133	0.0194	0.0305	-0.1346	0.3072	-1.2590	0.2756
1	274.92	0.3498	-0.0262	0.0137	0.0011	0.0590	-0.1247	0.4459	-0.4651	0.5103
1	274.92	0.3913	-0.0096	0.0127	0.0303	0.1008	-0.2408	0.6503	-1.1382	0.2441
1	274.92	0.4496	-0.0172	0.0126	0.0210	0.1350	-0.1814	0.8297	-1.4310	0.2610
1	274.92	0.4997	-0.0111	0.0130	0.0165	0.1651	-0.0899	0.9856	-1.7105	0.2601
1	274.92	0.5387	-0.0149	0.0133	0.0070	0.1886	0.0446	1.1045	-1.8987	0.2816
1	274.92	0.5996	-0.0252	0.0156	-0.0350	0.2252	0.3595	1.2935	-1.8577	0.2986
1	274.92	0.6498	-0.0202	0.0194	-0.0663	0.2555	0.6363	1.4505	-2.1521	0.3080
1	274.92	0.6998	-0.0348	0.0259	-0.1072	0.2848	1.0123	1.6052	-2.2978	0.3028
1	274.92	0.7500	-0.0268	0.0340	-0.1333	0.3145	1.4303	1.7618	-2.4845	0.3205
1	274.92	0.8001	-0.0240	0.0440	-0.1935	0.3435	1.9069	1.9179	-2.6397	0.3349
1	274.92	0.8497	-0.0276	0.0548	-0.2319	0.3719	2.3435	2.0713	-2.8399	0.3360
1	274.92	0.9102	-0.0352	0.0710	-0.2244	0.4058	2.8457	2.2601	-3.2210	0.3334
1	274.92	0.9734	0.0073	0.0985	-0.1926	0.4420	3.3766	2.4593	-3.2705	0.3348
2	274.92	0.1949	0.0236	0.0023	0.0062	0.0010	0.0295	0.0115	-0.2557	0.0638
2	274.92	0.2405	0.0081	0.0053	0.0184	0.0025	0.0504	0.0173	-0.5821	0.1044
2	274.92	0.2999	0.0056	0.0042	0.0157	0.0054	0.1353	0.0331	-0.7219	0.1511
2	274.92	0.3498	0.0073	0.0061	0.0591	0.0101	0.2303	0.0584	-0.3223	0.1131
2	274.92	0.3998	0.0161	0.0063	0.0692	0.0159	0.3600	0.0820	-0.4996	0.1372
2	274.92	0.4496	0.0312	0.0062	0.0635	0.0188	0.5751	0.0995	-0.5654	0.1355
2	274.92	0.4995	0.0360	0.0061	0.0451	0.0237	0.8481	0.1222	-0.7266	0.1678
2	274.92	0.5551	0.0497	0.0074	0.0148	0.0301	1.1963	0.1494	-0.8794	0.1624
2	274.92	0.5996	0.0602	0.0080	-0.0213	0.0353	1.5297	0.1727	-1.0493	0.1690
2	274.92	0.6497	0.0743	0.0088	-0.0551	0.0423	1.9603	0.2008	-1.1645	0.1843
2	274.92	0.6996	0.0977	0.0093	-0.1169	0.0498	2.4400	0.2266	-1.3128	0.1802
2	274.92	0.7495	0.1027	0.0106	-0.1691	0.0580	2.9727	0.2554	-1.4447	0.1972
2	274.92	0.7996	0.1247	0.0117	-0.2551	0.0672	3.5305	0.2810	-1.6452	0.1962
2	274.92	0.8578	0.1275	0.0129	-0.3369	0.0787	4.2552	0.3124	-1.5686	0.2063
2	274.92	0.9100	0.1589	0.0145	-0.3658	0.0890	4.8816	0.3404	-1.8586	0.2006
2	274.92	0.9727	0.1578	0.0204	-0.3684	0.1015	5.8059	0.3787	-1.7126	0.2118
3	274.92	0.1938	0.0221	0.0038	-0.0093	0.0012	0.0668	0.0135	-0.2761	0.0532
3	274.92	0.2357	0.0187	0.0043	0.0333	0.0026	0.0839	0.0216	-0.3479	0.1040
3	274.92	0.2995	-0.0063	0.0042	-0.0045	0.0063	0.2326	0.0470	-0.6204	0.1345
3	274.92	0.3493	-0.0098	0.0070	-0.0019	0.0113	0.3709	0.0667	-0.2390	0.1687
3	274.92	0.4000	0.0201	0.0065	0.0076	0.0197	0.5652	0.1052	-0.1048	0.1574
3	274.92	0.4497	0.0218	0.0079	-0.0179	0.0248	0.8039	0.1288	-0.1702	0.1926
3	274.92	0.4997	0.0318	0.0079	-0.0345	0.0320	1.0823	0.1594	-0.3597	0.2000
3	274.92	0.5556	0.0436	0.0086	-0.0611	0.0408	1.4778	0.1969	-0.4930	0.2222
3	274.92	0.5995	0.0593	0.0091	-0.1194	0.0488	1.8527	0.2263	-0.4868	0.2351
3	274.92	0.6498	0.0669	0.0096	-0.1693	0.0592	2.3289	0.2624	-0.6051	0.2522
3	274.92	0.6890	0.0480	0.0109	-0.2348	0.0672	2.7504	0.2905	-0.4708	0.2709
3	274.92	0.7495	0.0767	0.0127	-0.3057	0.0806	3.4340	0.3328	-0.8116	0.2829
3	274.92	0.7998	0.1142	0.0146	-0.3864	0.0927	4.0586	0.3674	-0.9142	0.2913
3	274.92	0.8577	0.1165	0.0164	-0.4496	0.1074	4.8087	0.4065	-0.9165	0.2994
3	274.92	0.9178	0.1248	0.0187	-0.5963	0.1234	5.5625	0.4464	-1.2302	0.3087
3	274.92	0.9729	0.1560	0.0246	-0.6025	0.1386	6.2274	0.4829	-1.4995	0.3229
4	274.92	0.2001	0.0406	0.0068	0.0136	0.0038	-0.0458	0.0171	0.4924	0.2086
4	274.92	0.2502	0.0172	0.0103	0.0277	0.0177	-0.0343	0.0644	0.6453	0.2111
4	274.92	0.3001	0.0026	0.0123	0.0658	0.0087	-0.0229	0.0532	1.0604	0.4262
4	274.92	0.3502	0.0084	0.0069	0.1390	0.0316	-0.0657	0.1054	0.8845	0.2978
4	274.92	0.4002	0.0195	0.0102	0.2064	0.0476	-0.0052	0.1550	0.8194	0.2765
4	274.92	0.4500	0.0409	0.0096	0.2593	0.0609	0.0837	0.1876	0.5694	0.2962
4	274.92	0.5001	0.0483	0.0125	0.2857	0.0749	0.2922	0.2280	0.7094	0.3173
4	274.92	0.5560	0.0541	0.0154	0.3165	0.0901	0.4983	0.2727	0.3641	0.3233
4	274.92	0.6001	0.0690	0.0184	0.3348	0.1027	0.7360	0.3099	0.1842	0.3141
4	274.92	0.6501	0.0604	0.0219	0.3153	0.1161	1.0737	0.3494	0.1392	0.3271
4	274.92	0.6999	0.0847	0.0263	0.2905	0.1295	1.4382	0.3894	0.0278	0.3346
4	274.92	0.7500	0.0958	0.0306	0.2803	0.1429	1.8763	0.4286	-0.0350	0.3388
4	274.92	0.8002	0.1141	0.0358	0.2466	0.1567	2.3004	0.4677	-0.2751	0.3403
4	274.92	0.8582	0.1465	0.0433	0.2398	0.1736	2.8355	0.5120	-0.6205	0.3412
4	274.92	0.9101	0.1774	0.0516	0.2017	0.1895	3.3326	0.5520	-0.7040	0.3456
4	274.92	0.9728	0.2299	0.0606	0.2171	0.2109	4.0400	0.5996	-0.6906	0.3533

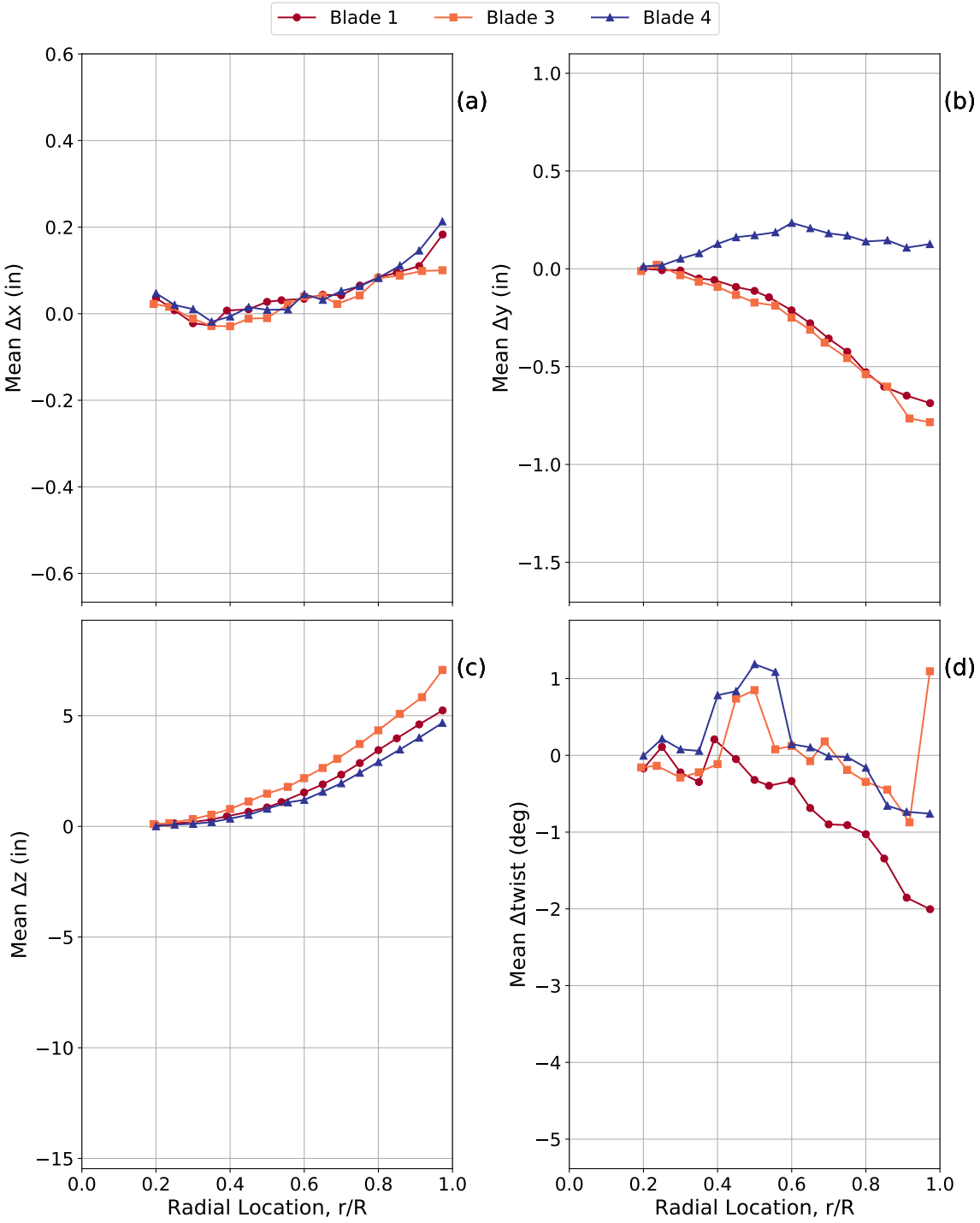


Figure 2.5-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0361	0.0023	0.0005	0.0006	0.0567	0.0129	-0.1707	0.0546
1	279.84	0.2499	0.0080	0.0047	-0.0070	0.0036	0.1342	0.0227	0.1103	0.1281
1	279.84	0.2998	-0.0222	0.0016	-0.0087	0.0063	0.1933	0.0390	-0.2217	0.1366
1	279.84	0.3498	-0.0274	0.0023	-0.0494	0.0092	0.3140	0.0630	-0.3475	0.1204
1	279.84	0.3913	0.0073	0.0075	-0.0574	0.0169	0.4539	0.0872	0.2083	0.1686
1	279.84	0.4496	0.0102	0.0069	-0.0927	0.0179	0.6582	0.1029	-0.0485	0.1745
1	279.84	0.4997	0.0274	0.0058	-0.1128	0.0223	0.8566	0.1202	-0.3200	0.1490
1	279.84	0.5387	0.0311	0.0056	-0.1456	0.0261	1.0982	0.1344	-0.3956	0.1640
1	279.84	0.5996	0.0344	0.0060	-0.2122	0.0331	1.5314	0.1634	-0.3349	0.1533
1	279.84	0.6498	0.0437	0.0061	-0.2785	0.0395	1.8952	0.1852	-0.6858	0.1689
1	279.84	0.6998	0.0425	0.0069	-0.3565	0.0466	2.3353	0.2085	-0.8992	0.1659
1	279.84	0.7500	0.0650	0.0077	-0.4237	0.0544	2.8598	0.2322	-0.9088	0.1697
1	279.84	0.8001	0.0840	0.0092	-0.5287	0.0628	3.4451	0.2587	-1.0272	0.1879
1	279.84	0.8497	0.0947	0.0098	-0.6033	0.0719	3.9759	0.2874	-1.3443	0.1670
1	279.84	0.9102	0.1099	0.0116	-0.6485	0.0826	4.6056	0.3262	-1.8542	0.1777
1	279.84	0.9734	0.1830	0.0159	-0.6866	0.0938	5.2381	0.3741	-2.0043	0.1716
3	279.84	0.1938	0.0225	0.0040	-0.0114	0.0014	0.1016	0.0109	-0.1564	0.0858
3	279.84	0.2357	0.0159	0.0041	0.0206	0.0020	0.1449	0.0194	-0.1364	0.0961
3	279.84	0.2995	-0.0115	0.0032	-0.0328	0.0051	0.3285	0.0397	-0.2889	0.1751
3	279.84	0.3493	-0.0285	0.0034	-0.0655	0.0090	0.5281	0.0561	-0.2207	0.1583
3	279.84	0.4000	-0.0290	0.0044	-0.0923	0.0156	0.7859	0.0897	-0.1145	0.1622
3	279.84	0.4497	-0.0114	0.0055	-0.1338	0.0210	1.1224	0.1147	0.7392	0.1588
3	279.84	0.4997	-0.0102	0.0059	-0.1725	0.0262	1.4762	0.1438	0.8498	0.1827
3	279.84	0.5556	0.0211	0.0068	-0.1880	0.0331	1.7827	0.1800	0.0786	0.2080
3	279.84	0.5995	0.0395	0.0085	-0.2494	0.0399	2.1775	0.2095	0.1218	0.2389
3	279.84	0.6498	0.0407	0.0080	-0.3113	0.0474	2.6381	0.2419	-0.0748	0.2326
3	279.84	0.6890	0.0225	0.0087	-0.3776	0.0529	3.0527	0.2663	0.1813	0.2736
3	279.84	0.7495	0.0422	0.0102	-0.4564	0.0630	3.7218	0.3006	-0.1897	0.2645
3	279.84	0.7998	0.0819	0.0118	-0.5391	0.0712	4.3383	0.3292	-0.3448	0.2714
3	279.84	0.8577	0.0881	0.0130	-0.6024	0.0818	5.0797	0.3580	-0.4464	0.2770
3	279.84	0.9178	0.0986	0.0151	-0.7649	0.0929	5.8361	0.3916	-0.8729	0.2940
3	279.84	0.9729	0.1003	0.0191	-0.7842	0.1031	7.0666	0.4218	1.0957	0.2925
4	279.84	0.2001	0.0472	0.0043	0.0125	0.0009	0.0056	0.0098	-0.0045	0.0513
4	279.84	0.2502	0.0202	0.0037	0.0178	0.0027	0.0795	0.0191	0.2162	0.0802
4	279.84	0.3001	0.0104	0.0022	0.0519	0.0045	0.1134	0.0322	0.0783	0.1078
4	279.84	0.3502	-0.0185	0.0028	0.0798	0.0082	0.1930	0.0529	0.0581	0.1234
4	279.84	0.4002	-0.0065	0.0075	0.1275	0.0142	0.3515	0.0791	0.7834	0.1461
4	279.84	0.4500	0.0149	0.0068	0.1615	0.0174	0.5213	0.0911	0.8357	0.1613
4	279.84	0.5001	0.0089	0.0064	0.1717	0.0235	0.7979	0.1153	1.1878	0.1566
4	279.84	0.5560	0.0096	0.0052	0.1867	0.0302	1.0827	0.1387	1.0869	0.1849
4	279.84	0.6001	0.0449	0.0059	0.2348	0.0374	1.1970	0.1666	0.1454	0.2039
4	279.84	0.6501	0.0320	0.0068	0.2077	0.0443	1.5634	0.1905	0.1043	0.2467
4	279.84	0.6999	0.0523	0.0071	0.1814	0.0519	1.9463	0.2173	-0.0129	0.2562
4	279.84	0.7500	0.0637	0.0086	0.1695	0.0600	2.4202	0.2418	-0.0218	0.2622
4	279.84	0.8002	0.0826	0.0091	0.1399	0.0688	2.9070	0.2653	-0.1603	0.2693
4	279.84	0.8582	0.1109	0.0107	0.1457	0.0782	3.4733	0.2907	-0.6567	0.2514
4	279.84	0.9101	0.1458	0.0119	0.1082	0.0885	4.0043	0.3129	-0.7351	0.2725
4	279.84	0.9728	0.2132	0.0171	0.1263	0.1001	4.6762	0.3374	-0.7598	0.2625

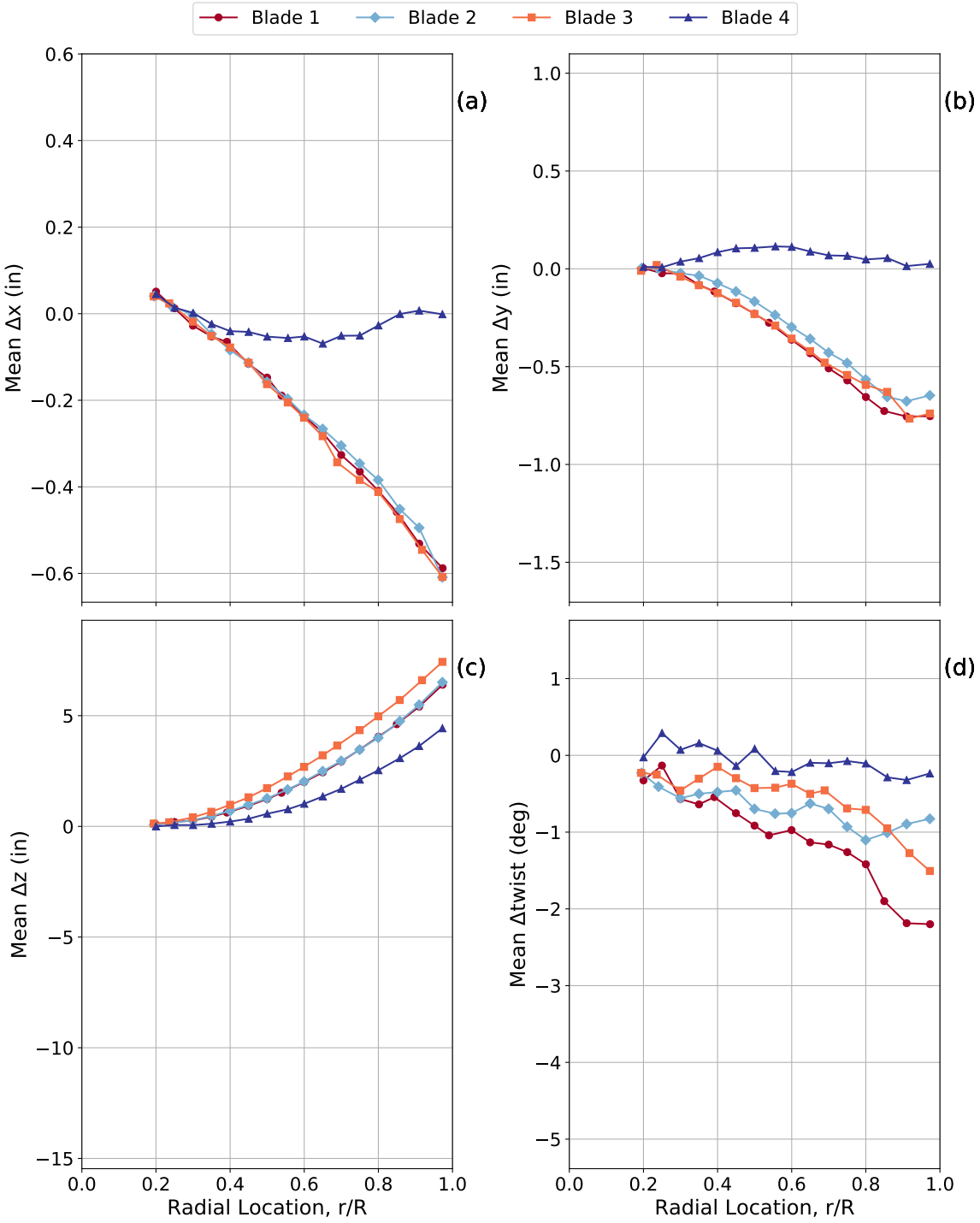


Figure 2.5-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0510	0.0045	0.0031	0.0019	0.0799	0.0150	-0.3262	0.0844
1	285.12	0.2499	0.0125	0.0046	-0.0228	0.0030	0.1981	0.0260	-0.1328	0.1339
1	285.12	0.2998	-0.0277	0.0032	-0.0239	0.0067	0.2641	0.0445	-0.5688	0.1800
1	285.12	0.3498	-0.0528	0.0033	-0.0818	0.0129	0.4348	0.0701	-0.6386	0.1858
1	285.12	0.3913	-0.0649	0.0067	-0.1159	0.0183	0.6241	0.0978	-0.5438	0.1686
1	285.12	0.4496	-0.1158	0.0044	-0.1760	0.0252	0.9255	0.1314	-0.7531	0.1769
1	285.12	0.4997	-0.1476	0.0048	-0.2301	0.0323	1.2303	0.1591	-0.9152	0.1922
1	285.12	0.5387	-0.1892	0.0059	-0.2756	0.0382	1.5165	0.1831	-1.0421	0.1768
1	285.12	0.5996	-0.2365	0.0068	-0.3625	0.0480	2.0012	0.2156	-0.9736	0.1858
1	285.12	0.6498	-0.2749	0.0083	-0.4316	0.0564	2.4372	0.2400	-1.1335	0.2140
1	285.12	0.6998	-0.3265	0.0096	-0.5087	0.0656	2.9274	0.2683	-1.1623	0.2079
1	285.12	0.7500	-0.3648	0.0107	-0.5704	0.0759	3.4716	0.2976	-1.2608	0.2247
1	285.12	0.8001	-0.4095	0.0119	-0.6555	0.0867	4.0496	0.3268	-1.4188	0.2396
1	285.12	0.8497	-0.4582	0.0132	-0.7269	0.0975	4.6155	0.3552	-1.8996	0.2412
1	285.12	0.9102	-0.5313	0.0156	-0.7551	0.1109	5.4099	0.3952	-2.1867	0.2290
1	285.12	0.9734	-0.5880	0.0217	-0.7532	0.1250	6.3990	0.4405	-2.1996	0.2462
2	285.12	0.1949	0.0407	0.0042	0.0028	0.0013	0.0822	0.0107	-0.2301	0.0800
2	285.12	0.2405	0.0188	0.0027	0.0008	0.0031	0.1506	0.0193	-0.4071	0.1390
2	285.12	0.2999	-0.0032	0.0024	-0.0228	0.0053	0.2787	0.0333	-0.5583	0.1890
2	285.12	0.3498	-0.0471	0.0030	-0.0356	0.0114	0.4694	0.0527	-0.5008	0.1766
2	285.12	0.3998	-0.0840	0.0065	-0.0734	0.0172	0.6930	0.0782	-0.4781	0.1838
2	285.12	0.4496	-0.1132	0.0048	-0.1161	0.0224	0.9730	0.0999	-0.4558	0.2003
2	285.12	0.4995	-0.1576	0.0049	-0.1668	0.0276	1.2612	0.1248	-0.6979	0.2239
2	285.12	0.5551	-0.1966	0.0058	-0.2361	0.0340	1.6613	0.1551	-0.7597	0.2174
2	285.12	0.5996	-0.2340	0.0068	-0.2972	0.0395	2.0263	0.1793	-0.7529	0.2358
2	285.12	0.6497	-0.2664	0.0069	-0.3581	0.0462	2.4931	0.2076	-0.6273	0.2511
2	285.12	0.6996	-0.3048	0.0076	-0.4286	0.0529	2.9554	0.2371	-0.6966	0.2622
2	285.12	0.7495	-0.3462	0.0091	-0.4814	0.0602	3.4640	0.2695	-0.9304	0.2763
2	285.12	0.7996	-0.3841	0.0100	-0.5662	0.0678	4.0002	0.3004	-1.1037	0.2733
2	285.12	0.8578	-0.4515	0.0123	-0.6546	0.0771	4.7526	0.3409	-1.0085	0.2796
2	285.12	0.9100	-0.4946	0.0140	-0.6768	0.0854	5.4900	0.3752	-0.8944	0.3037
2	285.12	0.9727	-0.6090	0.0187	-0.6471	0.0960	6.5094	0.4207	-0.8266	0.3051
3	285.12	0.1938	0.0399	0.0030	-0.0099	0.0016	0.1283	0.0109	-0.2278	0.0930
3	285.12	0.2357	0.0238	0.0033	0.0194	0.0027	0.1857	0.0164	-0.2506	0.1197
3	285.12	0.2995	-0.0184	0.0028	-0.0402	0.0046	0.4074	0.0302	-0.4573	0.2034
3	285.12	0.3493	-0.0511	0.0036	-0.0839	0.0094	0.6587	0.0486	-0.3039	0.1570
3	285.12	0.4000	-0.0781	0.0038	-0.1244	0.0144	0.9734	0.0710	-0.1488	0.1983
3	285.12	0.4497	-0.1132	0.0046	-0.1733	0.0188	1.3120	0.0909	-0.2973	0.2056
3	285.12	0.4997	-0.1627	0.0055	-0.2311	0.0241	1.7266	0.1160	-0.4263	0.1914
3	285.12	0.5556	-0.2051	0.0059	-0.2904	0.0294	2.2566	0.1444	-0.4216	0.2118
3	285.12	0.5995	-0.2402	0.0064	-0.3566	0.0342	2.6887	0.1684	-0.3697	0.2153
3	285.12	0.6498	-0.2830	0.0080	-0.4208	0.0398	3.2112	0.1947	-0.5012	0.2393
3	285.12	0.6890	-0.3433	0.0090	-0.4796	0.0451	3.6509	0.2195	-0.4557	0.2209
3	285.12	0.7495	-0.3840	0.0103	-0.5428	0.0531	4.3470	0.2500	-0.6907	0.2358
3	285.12	0.7998	-0.4120	0.0118	-0.5931	0.0604	4.9726	0.2760	-0.7100	0.2329
3	285.12	0.8577	-0.4744	0.0131	-0.6291	0.0697	5.7071	0.3015	-0.9507	0.2412
3	285.12	0.9178	-0.5455	0.0155	-0.7657	0.0798	6.6018	0.3290	-1.2735	0.2407
3	285.12	0.9729	-0.6081	0.0187	-0.7397	0.0891	7.4304	0.3559	-1.5065	0.2478
4	285.12	0.2001	0.0451	0.0037	0.0099	0.0008	-0.0033	0.0084	-0.0254	0.0768
4	285.12	0.2502	0.0140	0.0020	0.0077	0.0025	0.0616	0.0187	0.2909	0.1155
4	285.12	0.3001	0.0018	0.0034	0.0366	0.0042	0.0578	0.0276	0.0729	0.1705
4	285.12	0.3502	-0.0239	0.0024	0.0546	0.0086	0.1183	0.0422	0.1593	0.1611
4	285.12	0.4002	-0.0403	0.0054	0.0851	0.0142	0.2169	0.0656	0.0603	0.1471
4	285.12	0.4500	-0.0421	0.0035	0.1045	0.0177	0.3426	0.0862	-0.1370	0.1699
4	285.12	0.5001	-0.0530	0.0071	0.1073	0.0225	0.5692	0.1125	0.0850	0.1591
4	285.12	0.5560	-0.0562	0.0038	0.1145	0.0284	0.7741	0.1374	-0.2039	0.1665
4	285.12	0.6001	-0.0527	0.0044	0.1122	0.0332	1.0203	0.1588	-0.2169	0.1900
4	285.12	0.6501	-0.0692	0.0051	0.0882	0.0390	1.3508	0.1852	-0.0965	0.1891
4	285.12	0.6999	-0.0510	0.0057	0.0686	0.0451	1.6945	0.2111	-0.1028	0.1914
4	285.12	0.7500	-0.0506	0.0073	0.0663	0.0542	2.1101	0.2455	-0.0741	0.1896
4	285.12	0.8002	-0.0271	0.0074	0.0478	0.0592	2.5361	0.2662	-0.1056	0.2016
4	285.12	0.8582	-0.0007	0.0085	0.0551	0.0677	3.0827	0.2944	-0.2862	0.2082
4	285.12	0.9101	0.0071	0.0101	0.0139	0.0756	3.6285	0.3173	-0.3216	0.2052
4	285.12	0.9728	-0.0013	0.0139	0.0253	0.0865	4.4315	0.3476	-0.2358	0.2116

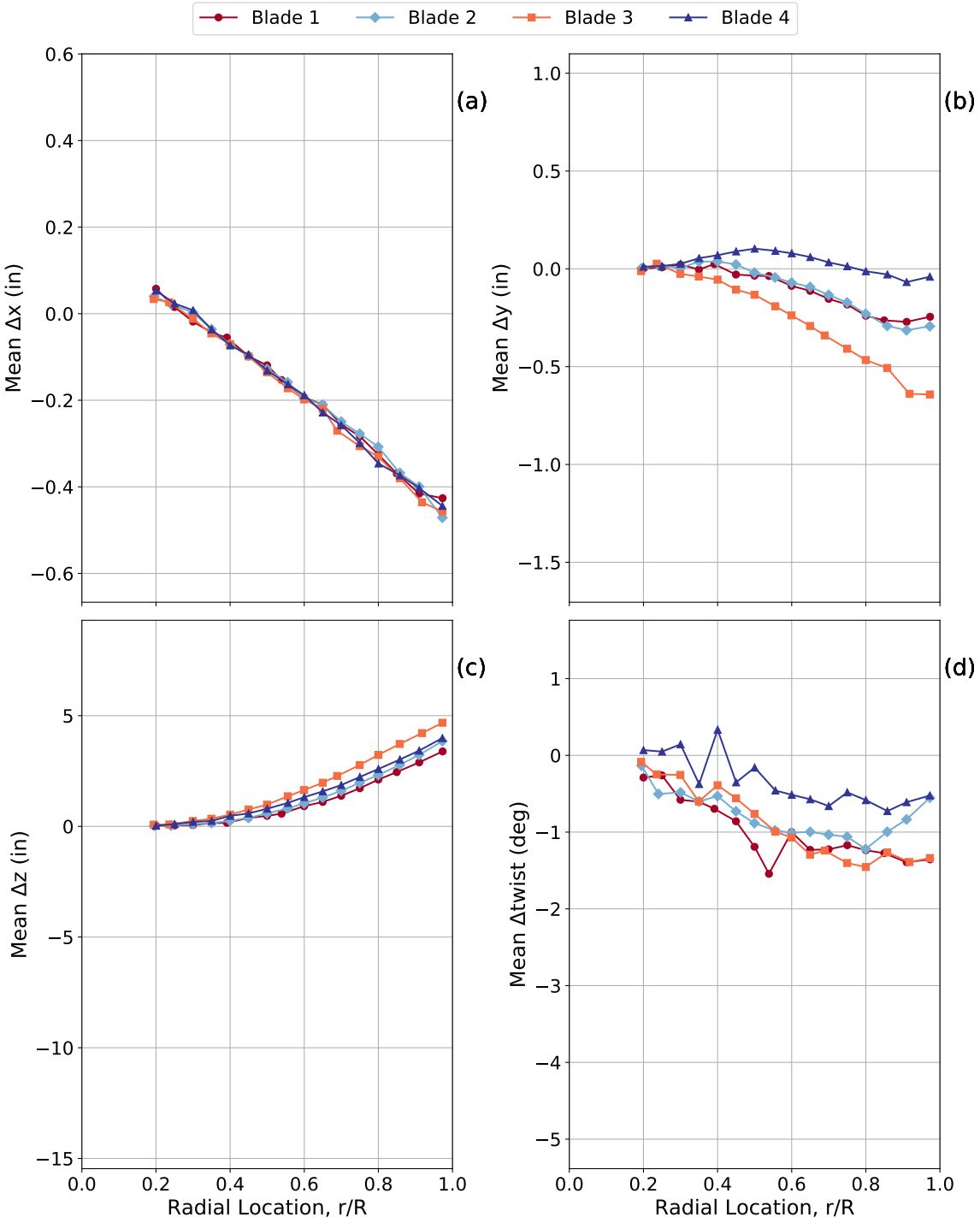


Figure 2.5-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0577	0.0027	0.0020	0.0013	0.0286	0.0144	-0.2890	0.0805
1	299.88	0.2499	0.0155	0.0028	0.0077	0.0038	0.0425	0.0280	-0.2607	0.1341
1	299.88	0.2998	-0.0182	0.0033	0.0211	0.0077	0.0590	0.0455	-0.5789	0.1789
1	299.88	0.3498	-0.0436	0.0040	-0.0035	0.0138	0.1497	0.0693	-0.6039	0.1751
1	299.88	0.3913	-0.0551	0.0049	0.0238	0.0219	0.1618	0.1011	-0.6961	0.1956
1	299.88	0.4496	-0.0983	0.0043	-0.0293	0.0268	0.3781	0.1285	-0.8586	0.1807
1	299.88	0.4997	-0.1193	0.0038	-0.0350	0.0343	0.4766	0.1616	-1.1913	0.1875
1	299.88	0.5387	-0.1532	0.0048	-0.0368	0.0393	0.5719	0.1855	-1.5432	0.1967
1	299.88	0.5996	-0.1934	0.0050	-0.0873	0.0485	0.9117	0.2287	-0.9991	0.1870
1	299.88	0.6498	-0.2098	0.0059	-0.1126	0.0559	1.1026	0.2635	-1.2314	0.2008
1	299.88	0.6998	-0.2558	0.0068	-0.1536	0.0636	1.3827	0.2993	-1.2247	0.1980
1	299.88	0.7500	-0.2833	0.0075	-0.1827	0.0717	1.7216	0.3304	-1.1705	0.2050
1	299.88	0.8001	-0.3256	0.0082	-0.2399	0.0798	2.1136	0.3624	-1.2363	0.2023
1	299.88	0.8497	-0.3692	0.0089	-0.2636	0.0882	2.4529	0.3931	-1.2744	0.2026
1	299.88	0.9102	-0.4156	0.0103	-0.2711	0.0984	2.8905	0.4334	-1.3930	0.2077
1	299.88	0.9734	-0.4262	0.0144	-0.2451	0.1092	3.3876	0.4818	-1.3549	0.2262
2	299.88	0.1949	0.0401	0.0025	0.0030	0.0012	0.0252	0.0110	-0.1350	0.1001
2	299.88	0.2405	0.0221	0.0029	0.0165	0.0025	0.0370	0.0232	-0.5029	0.1229
2	299.88	0.2999	0.0027	0.0035	0.0043	0.0043	0.1044	0.0391	-0.4822	0.2093
2	299.88	0.3498	-0.0360	0.0038	0.0368	0.0092	0.1547	0.0632	-0.6005	0.1798
2	299.88	0.3998	-0.0707	0.0033	0.0375	0.0137	0.2495	0.0964	-0.5301	0.1904
2	299.88	0.4496	-0.0967	0.0042	0.0221	0.0172	0.3859	0.1231	-0.7285	0.1736
2	299.88	0.4995	-0.1279	0.0037	-0.0196	0.0225	0.5877	0.1505	-0.8834	0.1883
2	299.88	0.5551	-0.1584	0.0048	-0.0442	0.0283	0.8094	0.1837	-0.9788	0.2127
2	299.88	0.5996	-0.1955	0.0055	-0.0704	0.0335	1.0391	0.2114	-1.0084	0.2255
2	299.88	0.6497	-0.2104	0.0061	-0.0928	0.0399	1.3019	0.2416	-0.9965	0.2336
2	299.88	0.6996	-0.2495	0.0073	-0.1332	0.0461	1.6063	0.2691	-1.0340	0.2437
2	299.88	0.7495	-0.2771	0.0082	-0.1722	0.0531	1.9655	0.2914	-1.0598	0.2462
2	299.88	0.7996	-0.3076	0.0086	-0.2299	0.0605	2.3199	0.3147	-1.2203	0.2545
2	299.88	0.8578	-0.3678	0.0096	-0.2918	0.0692	2.7768	0.3414	-0.9959	0.2754
2	299.88	0.9100	-0.3995	0.0102	-0.3140	0.0775	3.2286	0.3666	-0.8347	0.2675
2	299.88	0.9727	-0.4713	0.0138	-0.2936	0.0877	3.8488	0.4012	-0.5523	0.2849
3	299.88	0.1938	0.0338	0.0030	-0.0118	0.0019	0.0769	0.0089	-0.0853	0.1064
3	299.88	0.2357	0.0263	0.0024	0.0262	0.0024	0.0857	0.0242	-0.2478	0.1139
3	299.88	0.2995	-0.0117	0.0033	-0.0258	0.0046	0.2424	0.0355	-0.2550	0.2233
3	299.88	0.3493	-0.0455	0.0031	-0.0395	0.0098	0.3457	0.0582	-0.6005	0.2227
3	299.88	0.4000	-0.0704	0.0043	-0.0554	0.0149	0.5326	0.0902	-0.3894	0.1881
3	299.88	0.4497	-0.0986	0.0036	-0.1067	0.0198	0.7638	0.1106	-0.5590	0.2378
3	299.88	0.4997	-0.1353	0.0046	-0.1327	0.0252	0.9810	0.1401	-0.7625	0.2291
3	299.88	0.5556	-0.1723	0.0053	-0.1916	0.0320	1.3594	0.1692	-0.9937	0.2415
3	299.88	0.5995	-0.1980	0.0060	-0.2382	0.0389	1.6404	0.1950	-1.0703	0.2441
3	299.88	0.6498	-0.2198	0.0068	-0.2921	0.0467	1.9711	0.2245	-1.2953	0.2597
3	299.88	0.6890	-0.2705	0.0074	-0.3404	0.0532	2.2766	0.2490	-1.2403	0.2698
3	299.88	0.7495	-0.3060	0.0081	-0.4086	0.0647	2.7701	0.2865	-1.4024	0.2904
3	299.88	0.7998	-0.3303	0.0091	-0.4663	0.0750	3.2273	0.3167	-1.4547	0.2930
3	299.88	0.8577	-0.3802	0.0099	-0.5069	0.0874	3.7227	0.3558	-1.2640	0.2927
3	299.88	0.9178	-0.4358	0.0114	-0.6389	0.1010	4.2137	0.3972	-1.3900	0.2960
3	299.88	0.9729	-0.4569	0.0147	-0.6422	0.1134	4.6809	0.4379	-1.3377	0.2944
4	299.88	0.2001	0.0533	0.0031	0.0108	0.0016	0.0287	0.0165	0.0687	0.1060
4	299.88	0.2502	0.0235	0.0038	0.0141	0.0030	0.1025	0.0374	0.0489	0.1382
4	299.88	0.3001	0.0079	0.0030	0.0255	0.0053	0.2011	0.0580	0.1437	0.2243
4	299.88	0.3502	-0.0363	0.0025	0.0546	0.0103	0.2452	0.0894	-0.3740	0.2131
4	299.88	0.4002	-0.0733	0.0049	0.0694	0.0173	0.4761	0.1400	0.3343	0.2212
4	299.88	0.4500	-0.0947	0.0041	0.0889	0.0242	0.5851	0.1687	-0.3520	0.2454
4	299.88	0.5001	-0.1313	0.0047	0.1030	0.0330	0.7973	0.2178	-0.1590	0.2401
4	299.88	0.5560	-0.1630	0.0061	0.0919	0.0434	1.0612	0.2709	-0.4582	0.2672
4	299.88	0.6001	-0.1885	0.0068	0.0793	0.0527	1.3215	0.3132	-0.5134	0.3120
4	299.88	0.6501	-0.2283	0.0076	0.0600	0.0635	1.5810	0.3666	-0.5726	0.3072
4	299.88	0.6999	-0.2577	0.0085	0.0329	0.0759	1.8653	0.4166	-0.6608	0.3443
4	299.88	0.7500	-0.2990	0.0100	0.0129	0.0880	2.2316	0.4652	-0.4824	0.3589
4	299.88	0.8002	-0.3461	0.0115	-0.0125	0.1005	2.5922	0.5144	-0.5833	0.3612
4	299.88	0.8582	-0.3736	0.0128	-0.0289	0.1157	3.0199	0.5674	-0.7262	0.3579
4	299.88	0.9101	-0.4028	0.0146	-0.0678	0.1292	3.4224	0.6145	-0.6101	0.3752
4	299.88	0.9728	-0.4440	0.0202	-0.0404	0.1460	3.9878	0.6707	-0.5234	0.3771

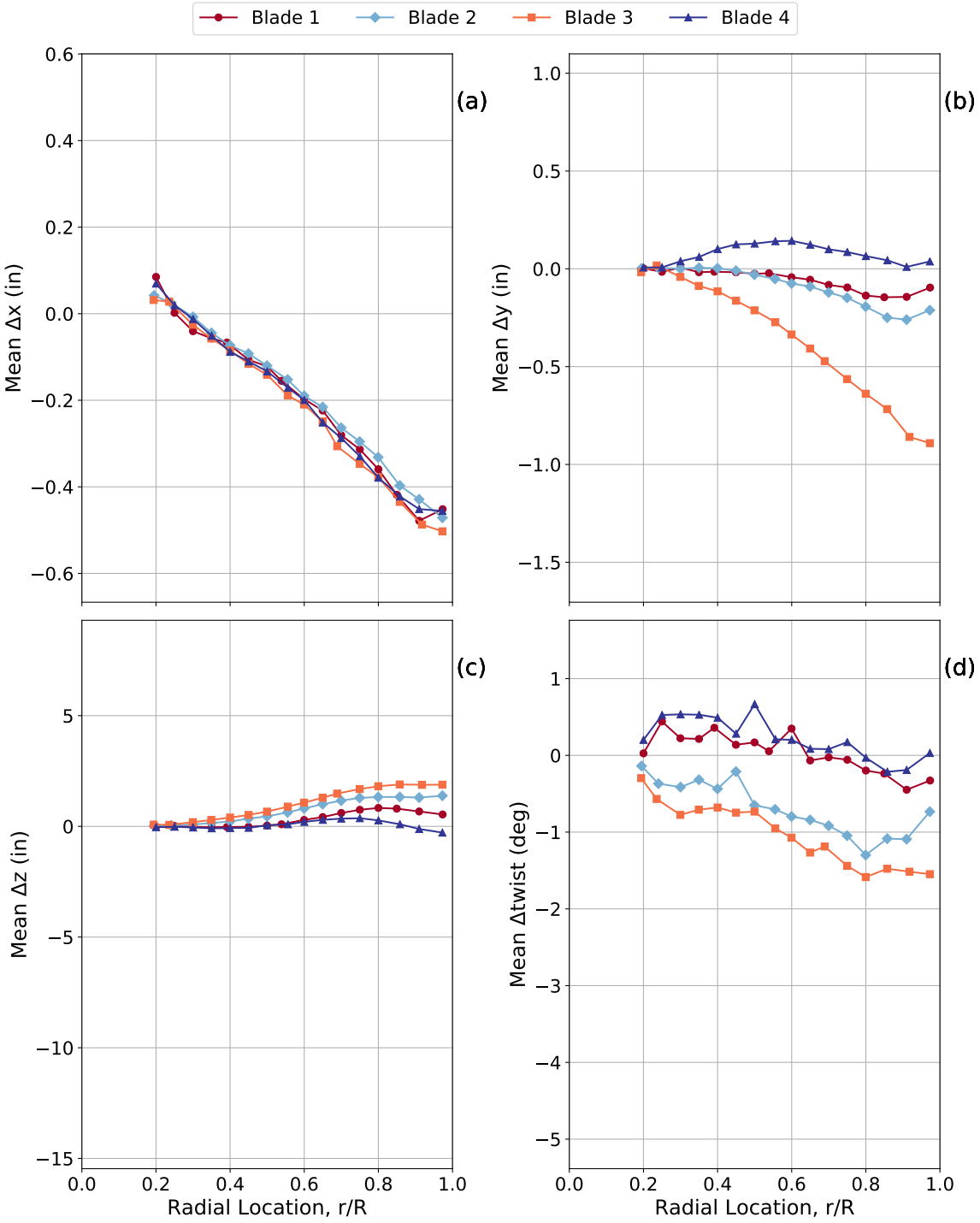


Figure 2.5-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0850	0.0031	0.0020	0.0015	-0.0158	0.0061	0.0263	0.0697
1	315	0.2499	0.0021	0.0030	-0.0153	0.0045	0.0194	0.0130	0.4415	0.0855
1	315	0.2998	-0.0405	0.0069	0.0061	0.0064	-0.0247	0.0211	0.2227	0.1428
1	315	0.3498	-0.0569	0.0028	-0.0173	0.0153	-0.0402	0.0349	0.2142	0.1451
1	315	0.3913	-0.0666	0.0032	-0.0148	0.0196	-0.0302	0.0497	0.3598	0.1644
1	315	0.4496	-0.1064	0.0036	-0.0177	0.0257	-0.0221	0.0692	0.1379	0.1645
1	315	0.4997	-0.1218	0.0045	-0.0252	0.0319	0.0348	0.0927	0.1688	0.1690
1	315	0.5387	-0.1551	0.0049	-0.0228	0.0368	0.0955	0.1167	0.0542	0.1921
1	315	0.5996	-0.1974	0.0053	-0.0432	0.0447	0.2908	0.1550	0.3491	0.1977
1	315	0.6498	-0.2237	0.0058	-0.0557	0.0526	0.4195	0.1876	-0.0667	0.1967
1	315	0.6998	-0.2807	0.0061	-0.0823	0.0604	0.6047	0.2176	-0.0256	0.1872
1	315	0.7500	-0.3135	0.0070	-0.0954	0.0681	0.7491	0.2438	-0.0573	0.2036
1	315	0.8001	-0.3594	0.0077	-0.1368	0.0771	0.8330	0.2695	-0.1976	0.2001
1	315	0.8497	-0.4184	0.0077	-0.1454	0.0867	0.8003	0.2936	-0.2378	0.2026
1	315	0.9102	-0.4784	0.0079	-0.1435	0.0984	0.6735	0.3251	-0.4481	0.2150
1	315	0.9734	-0.4517	0.0109	-0.0959	0.1109	0.5375	0.3666	-0.3278	0.2288
2	315	0.1949	0.0422	0.0027	0.0017	0.0013	0.0246	0.0082	-0.1383	0.0540
2	315	0.2405	0.0250	0.0026	0.0049	0.0029	0.0417	0.0173	-0.3681	0.0789
2	315	0.2999	-0.0075	0.0042	0.0007	0.0050	0.0837	0.0304	-0.4135	0.1168
2	315	0.3498	-0.0445	0.0036	0.0051	0.0103	0.1538	0.0491	-0.3177	0.1219
2	315	0.3998	-0.0731	0.0031	0.0028	0.0151	0.2213	0.0765	-0.4368	0.1354
2	315	0.4496	-0.0922	0.0043	-0.0096	0.0186	0.3500	0.1061	-0.2111	0.1266
2	315	0.4995	-0.1201	0.0043	-0.0301	0.0227	0.4520	0.1429	-0.6500	0.1406
2	315	0.5551	-0.1521	0.0050	-0.0515	0.0291	0.6305	0.1868	-0.7035	0.1749
2	315	0.5996	-0.1897	0.0060	-0.0749	0.0331	0.8115	0.2242	-0.7967	0.1878
2	315	0.6497	-0.2156	0.0064	-0.0906	0.0391	1.0021	0.2647	-0.8408	0.2081
2	315	0.6996	-0.2635	0.0075	-0.1208	0.0446	1.1626	0.3024	-0.9165	0.2131
2	315	0.7495	-0.2954	0.0077	-0.1480	0.0506	1.2862	0.3374	-1.0462	0.2280
2	315	0.7996	-0.3317	0.0079	-0.1934	0.0571	1.3264	0.3672	-1.2991	0.2310
2	315	0.8578	-0.3971	0.0078	-0.2494	0.0653	1.3279	0.4088	-1.0851	0.2354
2	315	0.9100	-0.4289	0.0081	-0.2599	0.0728	1.3016	0.4477	-1.0916	0.2681
2	315	0.9727	-0.4714	0.0108	-0.2115	0.0817	1.3836	0.5061	-0.7338	0.2884
3	315	0.1938	0.0316	0.0025	-0.0171	0.0012	0.0787	0.0091	-0.2966	0.0483
3	315	0.2357	0.0277	0.0038	0.0169	0.0039	0.0683	0.0144	-0.5679	0.0786
3	315	0.2995	-0.0256	0.0039	-0.0412	0.0045	0.1894	0.0307	-0.7754	0.1053
3	315	0.3493	-0.0575	0.0033	-0.0875	0.0138	0.2893	0.0466	-0.7077	0.1075
3	315	0.4000	-0.0850	0.0041	-0.1149	0.0184	0.3987	0.0724	-0.6792	0.1145
3	315	0.4497	-0.1158	0.0040	-0.1627	0.0241	0.5162	0.0952	-0.7459	0.1198
3	315	0.4997	-0.1411	0.0047	-0.2123	0.0308	0.6664	0.1174	-0.7326	0.1524
3	315	0.5556	-0.1890	0.0048	-0.2729	0.0381	0.8909	0.1429	-0.9506	0.1487
3	315	0.5995	-0.2099	0.0049	-0.3356	0.0450	1.0720	0.1659	-1.0724	0.1666
3	315	0.6498	-0.2490	0.0055	-0.4075	0.0531	1.2955	0.1912	-1.2662	0.1752
3	315	0.6890	-0.3062	0.0058	-0.4720	0.0588	1.4805	0.2112	-1.1873	0.1846
3	315	0.7495	-0.3470	0.0062	-0.5638	0.0696	1.6859	0.2410	-1.4394	0.2038
3	315	0.7998	-0.3779	0.0065	-0.6386	0.0783	1.8114	0.2654	-1.5858	0.2097
3	315	0.8577	-0.4348	0.0068	-0.7173	0.0888	1.8941	0.2898	-1.4769	0.2022
3	315	0.9178	-0.4871	0.0070	-0.8594	0.1005	1.8773	0.3128	-1.5156	0.2204
3	315	0.9729	-0.5029	0.0096	-0.8911	0.1107	1.8832	0.3348	-1.5479	0.2247
4	315	0.2001	0.0696	0.0020	0.0068	0.0010	-0.0377	0.0092	0.2015	0.0650
4	315	0.2502	0.0193	0.0046	0.0073	0.0045	-0.0176	0.0179	0.5259	0.1005
4	315	0.3001	-0.0125	0.0047	0.0388	0.0050	-0.0501	0.0276	0.5345	0.1339
4	315	0.3502	-0.0510	0.0024	0.0607	0.0105	-0.0868	0.0486	0.5292	0.1174
4	315	0.4002	-0.0882	0.0029	0.1008	0.0166	-0.0777	0.0692	0.4908	0.1293
4	315	0.4500	-0.1104	0.0032	0.1248	0.0218	-0.0658	0.0911	0.2819	0.1412
4	315	0.5001	-0.1334	0.0043	0.1287	0.0269	0.0487	0.1147	0.6670	0.1548
4	315	0.5560	-0.1712	0.0048	0.1410	0.0344	0.0945	0.1400	0.2094	0.1599
4	315	0.6001	-0.1994	0.0045	0.1431	0.0403	0.2028	0.1594	0.2023	0.1863
4	315	0.6501	-0.2515	0.0046	0.1231	0.0471	0.2949	0.1823	0.0856	0.1771
4	315	0.6999	-0.2873	0.0050	0.0998	0.0553	0.3493	0.2046	0.0812	0.1987
4	315	0.7500	-0.3295	0.0056	0.0857	0.0632	0.3686	0.2274	0.1730	0.1992
4	315	0.8002	-0.3789	0.0063	0.0650	0.0726	0.2695	0.2491	-0.0307	0.2010
4	315	0.8582	-0.4222	0.0061	0.0434	0.0838	0.0948	0.2747	-0.2141	0.2078
4	315	0.9101	-0.4514	0.0066	0.0097	0.0939	-0.1183	0.3011	-0.1908	0.2136
4	315	0.9728	-0.4556	0.0095	0.0376	0.1064	-0.2825	0.3366	0.0311	0.2117

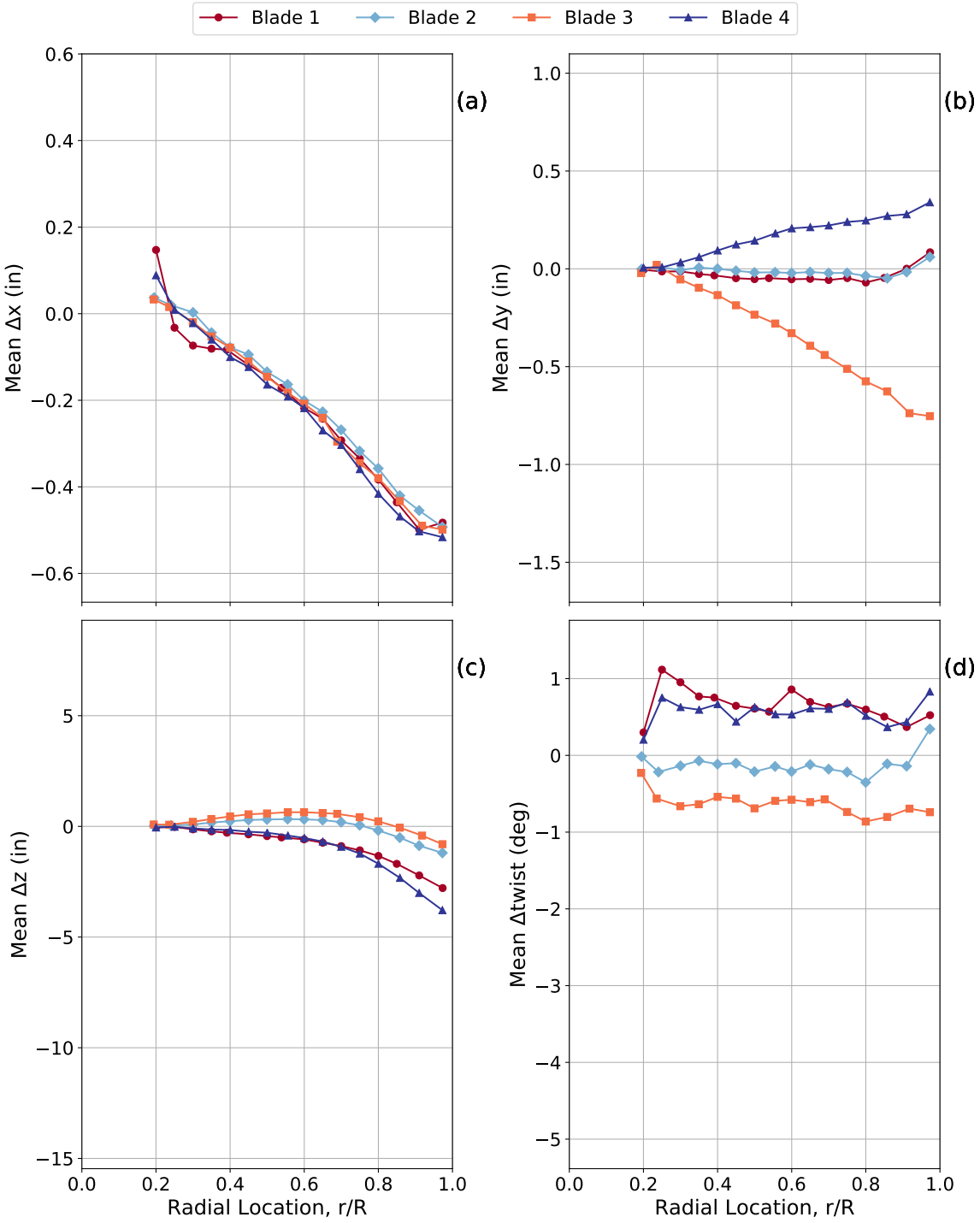


Figure 2.5-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.1473	0.0036	-0.0053	0.0015	-0.0464	0.0074	0.2994	0.0480
1	330.12	0.2499	-0.0324	0.0035	-0.0135	0.0057	-0.0251	0.0126	1.1166	0.0892
1	330.12	0.2998	-0.0736	0.0051	-0.0131	0.0063	-0.1335	0.0248	0.9522	0.1107
1	330.12	0.3498	-0.0809	0.0040	-0.0266	0.0148	-0.2256	0.0434	0.7678	0.1080
1	330.12	0.3913	-0.0831	0.0043	-0.0336	0.0204	-0.2872	0.0601	0.7524	0.1201
1	330.12	0.4496	-0.1185	0.0050	-0.0480	0.0276	-0.3599	0.0832	0.6456	0.1276
1	330.12	0.4997	-0.1438	0.0054	-0.0527	0.0337	-0.4397	0.1037	0.6089	0.1476
1	330.12	0.5387	-0.1712	0.0063	-0.0476	0.0397	-0.4994	0.1223	0.5692	0.1538
1	330.12	0.5996	-0.2175	0.0063	-0.0535	0.0484	-0.5869	0.1465	0.8583	0.1605
1	330.12	0.6498	-0.2426	0.0055	-0.0514	0.0560	-0.7381	0.1659	0.6955	0.1821
1	330.12	0.6998	-0.2928	0.0065	-0.0573	0.0640	-0.8918	0.1822	0.6295	0.1927
1	330.12	0.7500	-0.3351	0.0059	-0.0474	0.0728	-1.0828	0.1981	0.6728	0.2051
1	330.12	0.8001	-0.3833	0.0061	-0.0700	0.0817	-1.3345	0.2156	0.5965	0.2145
1	330.12	0.8497	-0.4357	0.0061	-0.0466	0.0901	-1.6926	0.2345	0.5045	0.2338
1	330.12	0.9102	-0.4985	0.0065	0.0005	0.1005	-2.2164	0.2599	0.3692	0.2570
1	330.12	0.9734	-0.4827	0.0085	0.0845	0.1113	-2.7867	0.2916	0.5233	0.2645
2	330.12	0.1949	0.0371	0.0028	-0.0016	0.0018	0.0290	0.0060	-0.0156	0.0381
2	330.12	0.2405	0.0197	0.0034	0.0103	0.0033	0.0362	0.0111	-0.2165	0.0595
2	330.12	0.2999	0.0029	0.0043	-0.0066	0.0067	0.0846	0.0217	-0.1363	0.0864
2	330.12	0.3498	-0.0438	0.0044	0.0057	0.0152	0.1727	0.0331	-0.0707	0.0970
2	330.12	0.3998	-0.0778	0.0049	0.0002	0.0208	0.2327	0.0520	-0.1147	0.1011
2	330.12	0.4496	-0.0945	0.0055	-0.0101	0.0263	0.2884	0.0700	-0.1016	0.1084
2	330.12	0.4995	-0.1343	0.0059	-0.0188	0.0327	0.3107	0.0900	-0.2123	0.1062
2	330.12	0.5551	-0.1633	0.0068	-0.0177	0.0397	0.3286	0.1118	-0.1443	0.1083
2	330.12	0.5996	-0.2007	0.0061	-0.0215	0.0462	0.3170	0.1298	-0.2102	0.1015
2	330.12	0.6497	-0.2267	0.0066	-0.0167	0.0525	0.2836	0.1516	-0.1203	0.1217
2	330.12	0.6996	-0.2683	0.0069	-0.0215	0.0600	0.1917	0.1723	-0.1800	0.1176
2	330.12	0.7495	-0.3173	0.0072	-0.0210	0.0669	0.0503	0.1932	-0.2171	0.1290
2	330.12	0.7996	-0.3574	0.0078	-0.0363	0.0740	-0.1848	0.2158	-0.3519	0.1327
2	330.12	0.8578	-0.4203	0.0078	-0.0482	0.0827	-0.5097	0.2419	-0.1108	0.1370
2	330.12	0.9100	-0.4547	0.0081	-0.0163	0.0905	-0.8719	0.2691	-0.1401	0.1310
2	330.12	0.9727	-0.4927	0.0100	0.0605	0.1001	-1.1972	0.3033	0.3434	0.1413
3	330.12	0.1938	0.0329	0.0031	-0.0216	0.0016	0.0864	0.0061	-0.2284	0.0416
3	330.12	0.2357	0.0154	0.0030	0.0203	0.0039	0.0738	0.0107	-0.5630	0.0589
3	330.12	0.2995	-0.0196	0.0045	-0.0545	0.0066	0.2052	0.0205	-0.6625	0.0912
3	330.12	0.3493	-0.0525	0.0033	-0.0968	0.0151	0.3327	0.0317	-0.6369	0.0837
3	330.12	0.4000	-0.0783	0.0034	-0.1342	0.0218	0.4496	0.0501	-0.5403	0.0843
3	330.12	0.4497	-0.1104	0.0036	-0.1864	0.0270	0.5448	0.0690	-0.5634	0.1106
3	330.12	0.4997	-0.1458	0.0046	-0.2345	0.0332	0.5840	0.0908	-0.6903	0.1074
3	330.12	0.5556	-0.1824	0.0050	-0.2797	0.0401	0.6390	0.1134	-0.5923	0.1042
3	330.12	0.5995	-0.2079	0.0052	-0.3289	0.0465	0.6387	0.1336	-0.5781	0.1011
3	330.12	0.6498	-0.2406	0.0055	-0.3930	0.0542	0.6028	0.1530	-0.6091	0.1184
3	330.12	0.6890	-0.2956	0.0061	-0.4404	0.0602	0.5651	0.1694	-0.5733	0.1220
3	330.12	0.7495	-0.3455	0.0065	-0.5112	0.0699	0.4143	0.1929	-0.7379	0.1289
3	330.12	0.7998	-0.3798	0.0067	-0.5753	0.0787	0.2276	0.2131	-0.8621	0.1349
3	330.12	0.8577	-0.4329	0.0070	-0.6269	0.0890	-0.0577	0.2406	-0.8026	0.1362
3	330.12	0.9178	-0.4898	0.0070	-0.7380	0.1001	-0.4161	0.2719	-0.6943	0.1362
3	330.12	0.9729	-0.4987	0.0097	-0.7530	0.1104	-0.8045	0.3031	-0.7403	0.1332
4	330.12	0.2001	0.0887	0.0028	0.0058	0.0013	-0.0511	0.0091	0.2042	0.0424
4	330.12	0.2502	0.0090	0.0026	0.0077	0.0034	-0.0171	0.0166	0.7514	0.0819
4	330.12	0.3001	-0.0219	0.0041	0.0325	0.0050	-0.0933	0.0311	0.6287	0.0966
4	330.12	0.3502	-0.0599	0.0039	0.0598	0.0099	-0.1433	0.0520	0.5942	0.0908
4	330.12	0.4002	-0.1002	0.0045	0.0937	0.0150	-0.1646	0.0788	0.6671	0.1028
4	330.12	0.4500	-0.1232	0.0052	0.1242	0.0190	-0.2409	0.1059	0.4390	0.1128
4	330.12	0.5001	-0.1638	0.0053	0.1437	0.0240	-0.2872	0.1368	0.6282	0.1149
4	330.12	0.5560	-0.1914	0.0051	0.1810	0.0288	-0.4166	0.1719	0.5348	0.1214
4	330.12	0.6001	-0.2181	0.0058	0.2068	0.0322	-0.5231	0.1998	0.5318	0.1158
4	330.12	0.6501	-0.2696	0.0061	0.2128	0.0374	-0.6867	0.2304	0.6117	0.1234
4	330.12	0.6999	-0.3033	0.0065	0.2216	0.0423	-0.9228	0.2559	0.6054	0.1234
4	330.12	0.7500	-0.3592	0.0070	0.2395	0.0479	-1.2300	0.2768	0.6900	0.1297
4	330.12	0.8002	-0.4161	0.0071	0.2471	0.0540	-1.6898	0.2929	0.5158	0.1329
4	330.12	0.8582	-0.4684	0.0080	0.2701	0.0608	-2.3273	0.3078	0.3679	0.1422
4	330.12	0.9101	-0.5029	0.0085	0.2787	0.0672	-3.0086	0.3204	0.4353	0.1383
4	330.12	0.9728	-0.5163	0.0098	0.3399	0.0755	-3.7865	0.3390	0.8306	0.1472

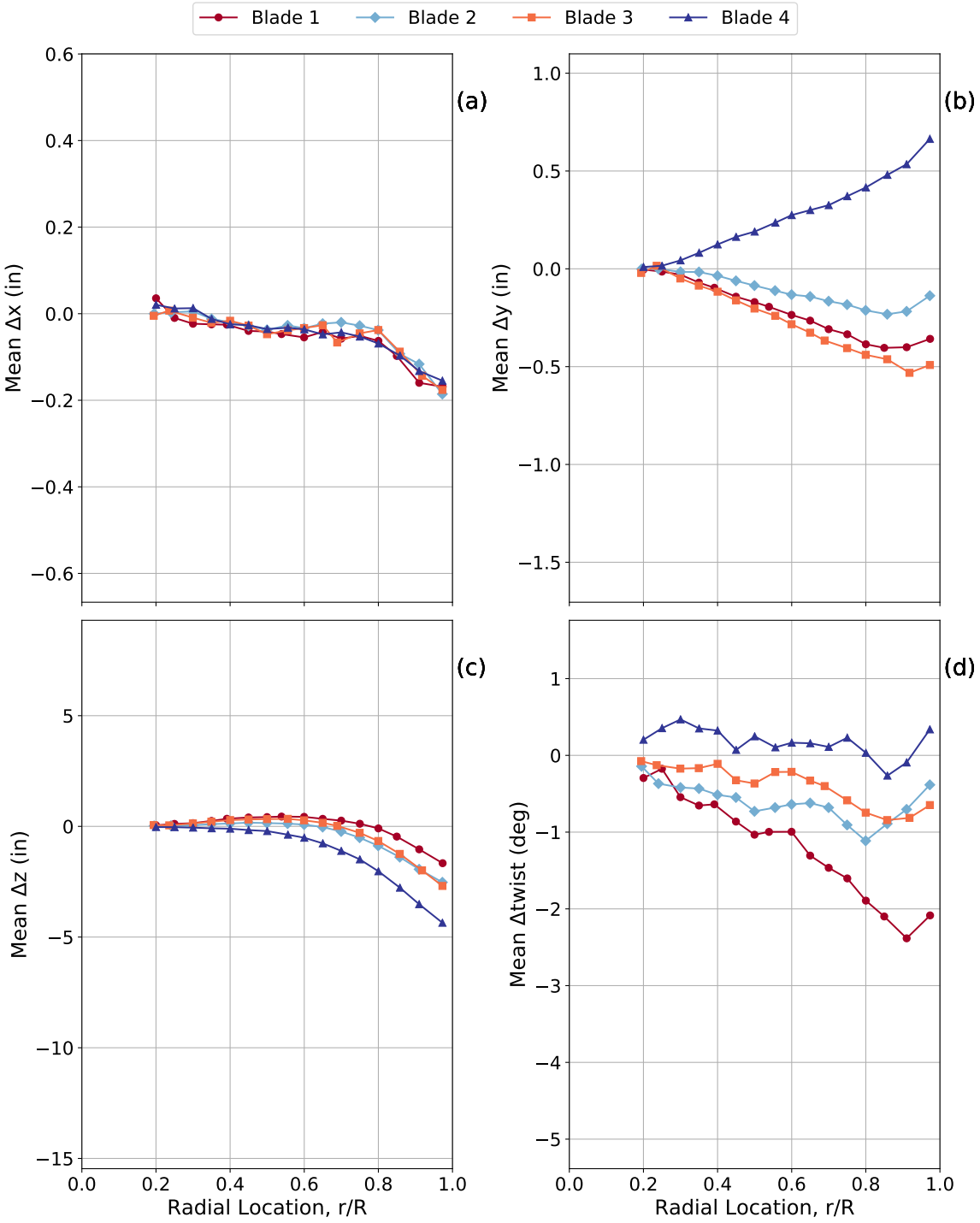


Figure 2.5-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0356	0.0020	-0.0041	0.0008	0.0477	0.0059	-0.2950	0.0648
1	344.88	0.2499	-0.0098	0.0012	-0.0142	0.0020	0.1113	0.0125	-0.1746	0.0937
1	344.88	0.2998	-0.0232	0.0015	-0.0298	0.0042	0.1452	0.0196	-0.5447	0.1427
1	344.88	0.3498	-0.0246	0.0018	-0.0705	0.0072	0.2466	0.0326	-0.6536	0.1458
1	344.88	0.3913	-0.0254	0.0022	-0.0968	0.0106	0.3426	0.0458	-0.6379	0.1585
1	344.88	0.4496	-0.0398	0.0027	-0.1426	0.0154	0.4026	0.0673	-0.8623	0.1872
1	344.88	0.4997	-0.0413	0.0037	-0.1701	0.0214	0.4195	0.0856	-1.0335	0.2079
1	344.88	0.5387	-0.0471	0.0036	-0.1943	0.0249	0.4427	0.1016	-0.9967	0.2163
1	344.88	0.5996	-0.0548	0.0040	-0.2356	0.0321	0.4308	0.1278	-0.9954	0.2425
1	344.88	0.6498	-0.0421	0.0046	-0.2648	0.0391	0.3397	0.1498	-1.3059	0.2592
1	344.88	0.6998	-0.0577	0.0048	-0.3086	0.0459	0.2595	0.1743	-1.4649	0.2792
1	344.88	0.7500	-0.0511	0.0054	-0.3348	0.0538	0.1178	0.2012	-1.6031	0.3052
1	344.88	0.8001	-0.0628	0.0061	-0.3856	0.0619	-0.0921	0.2298	-1.8927	0.3301
1	344.88	0.8497	-0.0976	0.0068	-0.4040	0.0709	-0.4614	0.2605	-2.0990	0.3322
1	344.88	0.9102	-0.1597	0.0078	-0.4008	0.0823	-1.0375	0.2961	-2.3836	0.3544
1	344.88	0.9734	-0.1687	0.0117	-0.3581	0.0950	-1.6639	0.3454	-2.0852	0.3950
2	344.88	0.1949	0.0000	0.0020	-0.0013	0.0010	0.0228	0.0055	-0.1421	0.0427
2	344.88	0.2405	0.0029	0.0012	-0.0003	0.0021	0.0292	0.0101	-0.3683	0.0774
2	344.88	0.2999	0.0054	0.0018	-0.0156	0.0048	0.0524	0.0192	-0.4187	0.1060
2	344.88	0.3498	-0.0121	0.0025	-0.0163	0.0086	0.1024	0.0313	-0.4324	0.0903
2	344.88	0.3998	-0.0197	0.0034	-0.0354	0.0135	0.1296	0.0474	-0.5144	0.1050
2	344.88	0.4496	-0.0281	0.0039	-0.0614	0.0174	0.1674	0.0634	-0.5485	0.1030
2	344.88	0.4995	-0.0373	0.0048	-0.0856	0.0227	0.1489	0.0816	-0.7291	0.1110
2	344.88	0.5551	-0.0270	0.0056	-0.1116	0.0283	0.1243	0.1019	-0.6799	0.1110
2	344.88	0.5996	-0.0335	0.0062	-0.1321	0.0338	0.0815	0.1190	-0.6381	0.1114
2	344.88	0.6497	-0.0230	0.0068	-0.1417	0.0405	-0.0316	0.1394	-0.6212	0.1155
2	344.88	0.6996	-0.0200	0.0075	-0.1656	0.0479	-0.2307	0.1585	-0.6805	0.1192
2	344.88	0.7495	-0.0277	0.0082	-0.1829	0.0557	-0.5116	0.1783	-0.9068	0.1255
2	344.88	0.7996	-0.0379	0.0086	-0.2124	0.0637	-0.8778	0.1965	-1.1134	0.1303
2	344.88	0.8578	-0.0927	0.0102	-0.2322	0.0736	-1.3892	0.2175	-0.8903	0.1404
2	344.88	0.9100	-0.1164	0.0111	-0.2176	0.0828	-1.9375	0.2407	-0.7040	0.1415
2	344.88	0.9727	-0.1857	0.0125	-0.1375	0.0937	-2.5267	0.2751	-0.3839	0.1543
3	344.88	0.1938	-0.0048	0.0016	-0.0210	0.0011	0.0582	0.0059	-0.0748	0.0437
3	344.88	0.2357	0.0071	0.0014	0.0156	0.0029	0.0466	0.0114	-0.1280	0.0569
3	344.88	0.2995	-0.0092	0.0019	-0.0494	0.0067	0.1340	0.0235	-0.1727	0.0981
3	344.88	0.3493	-0.0209	0.0022	-0.0860	0.0090	0.2118	0.0338	-0.1665	0.0804
3	344.88	0.4000	-0.0163	0.0033	-0.1169	0.0171	0.2846	0.0547	-0.1101	0.1057
3	344.88	0.4497	-0.0275	0.0030	-0.1614	0.0191	0.3122	0.0710	-0.3242	0.1089
3	344.88	0.4997	-0.0474	0.0037	-0.2031	0.0235	0.3286	0.0922	-0.3664	0.1262
3	344.88	0.5556	-0.0385	0.0041	-0.2402	0.0285	0.3395	0.1174	-0.2169	0.1366
3	344.88	0.5995	-0.0332	0.0046	-0.2832	0.0334	0.2737	0.1398	-0.2150	0.1507
3	344.88	0.6498	-0.0266	0.0049	-0.3265	0.0393	0.1614	0.1620	-0.3284	0.1673
3	344.88	0.6890	-0.0665	0.0056	-0.3666	0.0446	0.0233	0.1811	-0.4002	0.1702
3	344.88	0.7495	-0.0455	0.0061	-0.4054	0.0528	-0.2917	0.2089	-0.5860	0.1834
3	344.88	0.7998	-0.0377	0.0065	-0.4396	0.0598	-0.6617	0.2364	-0.7462	0.1890
3	344.88	0.8577	-0.0876	0.0074	-0.4623	0.0686	-1.2441	0.2712	-0.8430	0.1976
3	344.88	0.9178	-0.1433	0.0089	-0.5316	0.0773	-1.9877	0.3107	-0.8146	0.1888
3	344.88	0.9729	-0.1762	0.0115	-0.4916	0.0858	-2.6903	0.3564	-0.6477	0.2213
4	344.88	0.2001	0.0206	0.0017	0.0093	0.0011	-0.0310	0.0067	0.2034	0.0392
4	344.88	0.2502	0.0120	0.0014	0.0158	0.0023	-0.0360	0.0111	0.3543	0.0562
4	344.88	0.3001	0.0128	0.0019	0.0432	0.0037	-0.0570	0.0220	0.4682	0.0840
4	344.88	0.3502	-0.0121	0.0026	0.0819	0.0075	-0.0867	0.0351	0.3507	0.0843
4	344.88	0.4002	-0.0246	0.0037	0.1246	0.0099	-0.1044	0.0527	0.3230	0.0961
4	344.88	0.4500	-0.0267	0.0037	0.1631	0.0121	-0.1678	0.0706	0.0713	0.1020
4	344.88	0.5001	-0.0356	0.0046	0.1902	0.0165	-0.2134	0.0933	0.2478	0.1089
4	344.88	0.5560	-0.0324	0.0046	0.2360	0.0216	-0.3761	0.1199	0.1043	0.1248
4	344.88	0.6001	-0.0362	0.0054	0.2745	0.0256	-0.5138	0.1401	0.1647	0.1210
4	344.88	0.6501	-0.0479	0.0057	0.3002	0.0305	-0.7681	0.1624	0.1576	0.1338
4	344.88	0.6999	-0.0431	0.0061	0.3253	0.0362	-1.1087	0.1819	0.1098	0.1363
4	344.88	0.7500	-0.0529	0.0071	0.3711	0.0415	-1.4925	0.2026	0.2299	0.1339
4	344.88	0.8002	-0.0689	0.0080	0.4160	0.0470	-2.0291	0.2199	0.0329	0.1418
4	344.88	0.8582	-0.0967	0.0087	0.4802	0.0534	-2.7719	0.2396	-0.2641	0.1562
4	344.88	0.9101	-0.1324	0.0100	0.5345	0.0597	-3.5167	0.2600	-0.0929	0.1504
4	344.88	0.9728	-0.1548	0.0127	0.6640	0.0673	-4.3548	0.2860	0.3386	0.1572

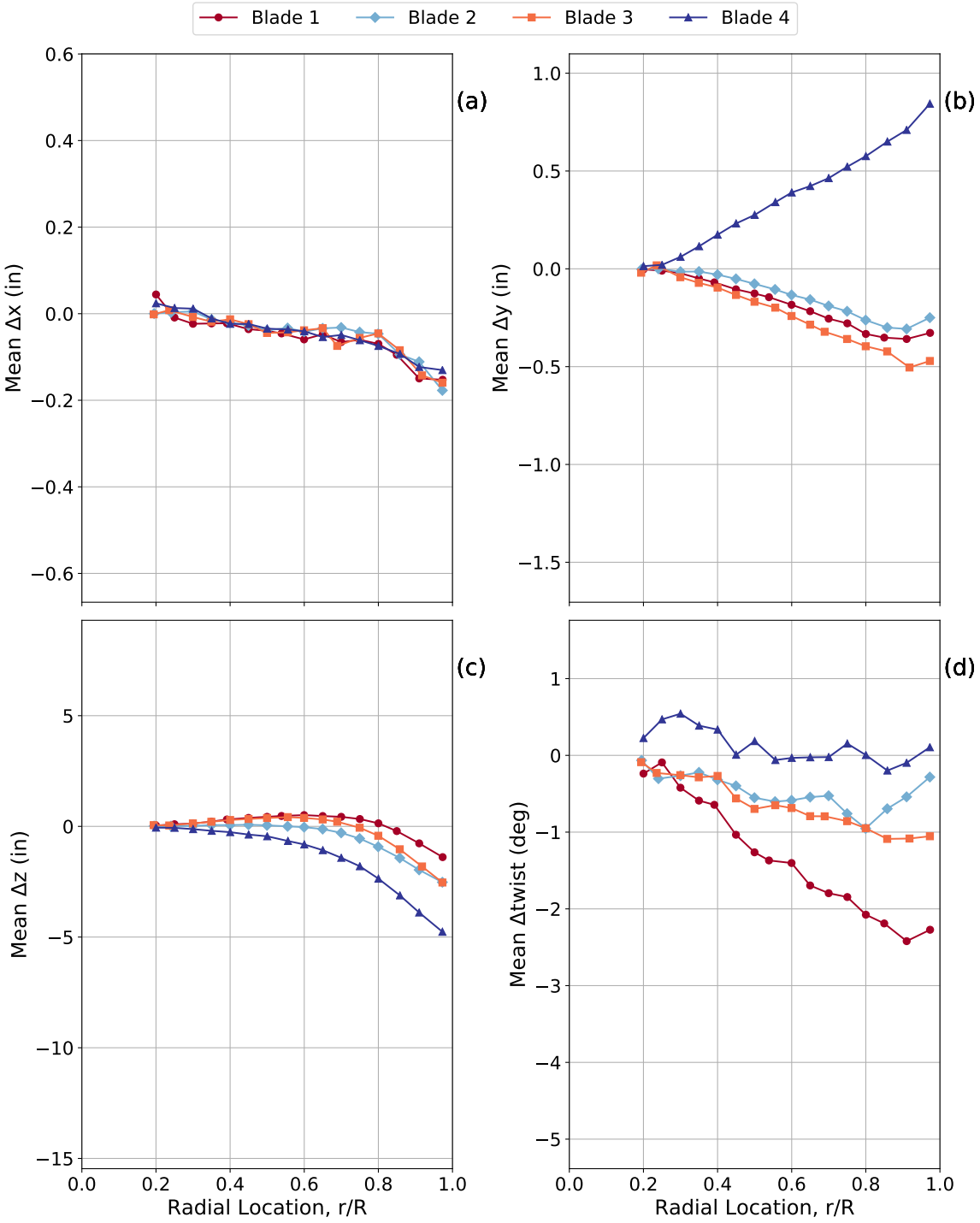


Figure 2.5-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0444	0.0018	-0.0031	0.0008	0.0367	0.0060	-0.2376	0.0623
1	350.16	0.2499	-0.0089	0.0016	-0.0095	0.0024	0.0965	0.0122	-0.0918	0.0998
1	350.16	0.2998	-0.0233	0.0017	-0.0225	0.0043	0.1279	0.0218	-0.4212	0.1402
1	350.16	0.3498	-0.0225	0.0021	-0.0493	0.0074	0.2163	0.0365	-0.5893	0.1733
1	350.16	0.3913	-0.0221	0.0029	-0.0693	0.0114	0.3114	0.0523	-0.6442	0.2030
1	350.16	0.4496	-0.0357	0.0032	-0.1048	0.0161	0.3827	0.0761	-1.0343	0.2452
1	350.16	0.4997	-0.0395	0.0037	-0.1261	0.0220	0.4319	0.0980	-1.2631	0.2826
1	350.16	0.5387	-0.0456	0.0042	-0.1451	0.0267	0.4700	0.1163	-1.3689	0.2896
1	350.16	0.5996	-0.0594	0.0042	-0.1838	0.0355	0.5095	0.1457	-1.4025	0.3102
1	350.16	0.6498	-0.0476	0.0046	-0.2167	0.0428	0.4668	0.1687	-1.6950	0.3242
1	350.16	0.6998	-0.0656	0.0052	-0.2548	0.0510	0.4317	0.1897	-1.7960	0.3432
1	350.16	0.7500	-0.0603	0.0048	-0.2788	0.0590	0.3319	0.2099	-1.8458	0.3688
1	350.16	0.8001	-0.0697	0.0054	-0.3330	0.0677	0.1378	0.2306	-2.0759	0.3862
1	350.16	0.8497	-0.0950	0.0064	-0.3517	0.0776	-0.2128	0.2535	-2.1897	0.3963
1	350.16	0.9102	-0.1496	0.0067	-0.3588	0.0901	-0.7673	0.2915	-2.4204	0.3840
1	350.16	0.9734	-0.1526	0.0092	-0.3275	0.1036	-1.3894	0.3316	-2.2720	0.4155
2	350.16	0.1949	0.0002	0.0018	-0.0021	0.0006	0.0148	0.0056	-0.0653	0.0355
2	350.16	0.2405	0.0030	0.0017	-0.0001	0.0021	0.0111	0.0106	-0.3035	0.0590
2	350.16	0.2999	0.0053	0.0014	-0.0146	0.0043	0.0226	0.0211	-0.2648	0.0842
2	350.16	0.3498	-0.0134	0.0021	-0.0139	0.0074	0.0568	0.0332	-0.2214	0.1092
2	350.16	0.3998	-0.0209	0.0029	-0.0298	0.0122	0.0583	0.0510	-0.3187	0.1142
2	350.16	0.4496	-0.0272	0.0037	-0.0514	0.0164	0.0730	0.0687	-0.3976	0.1387
2	350.16	0.4995	-0.0382	0.0041	-0.0768	0.0216	0.0470	0.0874	-0.5516	0.1372
2	350.16	0.5551	-0.0331	0.0042	-0.1055	0.0269	0.0008	0.1110	-0.6027	0.1411
2	350.16	0.5996	-0.0417	0.0046	-0.1336	0.0326	-0.0353	0.1310	-0.5857	0.1551
2	350.16	0.6497	-0.0339	0.0048	-0.1573	0.0376	-0.1229	0.1510	-0.5439	0.1613
2	350.16	0.6996	-0.0319	0.0053	-0.1898	0.0442	-0.2922	0.1724	-0.5263	0.1702
2	350.16	0.7495	-0.0424	0.0053	-0.2171	0.0500	-0.5498	0.1928	-0.7591	0.1863
2	350.16	0.7996	-0.0464	0.0059	-0.2622	0.0566	-0.9227	0.2131	-0.9525	0.2018
2	350.16	0.8578	-0.0942	0.0076	-0.3004	0.0640	-1.4273	0.2377	-0.6955	0.2268
2	350.16	0.9100	-0.1111	0.0079	-0.3073	0.0711	-1.9650	0.2619	-0.5404	0.2181
2	350.16	0.9727	-0.1772	0.0099	-0.2497	0.0801	-2.5233	0.2974	-0.2827	0.2451
3	350.16	0.1938	-0.0015	0.0016	-0.0198	0.0008	0.0556	0.0083	-0.0886	0.0462
3	350.16	0.2357	0.0082	0.0014	0.0178	0.0018	0.0407	0.0147	-0.2294	0.0632
3	350.16	0.2995	-0.0075	0.0013	-0.0430	0.0042	0.1349	0.0302	-0.2580	0.1058
3	350.16	0.3493	-0.0185	0.0019	-0.0718	0.0081	0.2079	0.0482	-0.2858	0.1244
3	350.16	0.4000	-0.0130	0.0026	-0.0959	0.0129	0.2874	0.0740	-0.2682	0.1374
3	350.16	0.4497	-0.0242	0.0026	-0.1337	0.0163	0.3342	0.0983	-0.5605	0.1538
3	350.16	0.4997	-0.0445	0.0028	-0.1684	0.0209	0.3775	0.1266	-0.6976	0.1771
3	350.16	0.5556	-0.0430	0.0034	-0.1985	0.0273	0.4179	0.1595	-0.6493	0.1917
3	350.16	0.5995	-0.0384	0.0035	-0.2412	0.0316	0.3824	0.1822	-0.6861	0.2156
3	350.16	0.6498	-0.0335	0.0040	-0.2855	0.0380	0.3127	0.2076	-0.7924	0.2287
3	350.16	0.6890	-0.0744	0.0044	-0.3218	0.0432	0.2103	0.2275	-0.7940	0.2213
3	350.16	0.7495	-0.0560	0.0044	-0.3588	0.0525	-0.0611	0.2545	-0.8571	0.2393
3	350.16	0.7998	-0.0456	0.0050	-0.3959	0.0602	-0.4239	0.2768	-0.9490	0.2397
3	350.16	0.8577	-0.0844	0.0057	-0.4224	0.0692	-1.0343	0.3004	-1.0884	0.2540
3	350.16	0.9178	-0.1425	0.0065	-0.5044	0.0801	-1.8109	0.3269	-1.0835	0.2400
3	350.16	0.9729	-0.1594	0.0074	-0.4710	0.0897	-2.5355	0.3498	-1.0537	0.2728
4	350.16	0.2001	0.0240	0.0020	0.0136	0.0010	-0.0572	0.0077	0.2250	0.0362
4	350.16	0.2502	0.0131	0.0016	0.0203	0.0034	-0.0662	0.0162	0.4687	0.0591
4	350.16	0.3001	0.0116	0.0017	0.0612	0.0050	-0.1251	0.0263	0.5427	0.0817
4	350.16	0.3502	-0.0110	0.0023	0.1153	0.0105	-0.2013	0.0427	0.3869	0.0908
4	350.16	0.4002	-0.0234	0.0030	0.1744	0.0162	-0.2620	0.0655	0.3355	0.1179
4	350.16	0.4500	-0.0239	0.0028	0.2317	0.0215	-0.3707	0.0878	0.0077	0.1164
4	350.16	0.5001	-0.0345	0.0033	0.2754	0.0267	-0.4476	0.1080	0.1856	0.1226
4	350.16	0.5560	-0.0365	0.0040	0.3407	0.0332	-0.6604	0.1356	-0.0612	0.1318
4	350.16	0.6001	-0.0407	0.0042	0.3901	0.0390	-0.8172	0.1555	-0.0332	0.1418
4	350.16	0.6501	-0.0540	0.0044	0.4230	0.0459	-1.0763	0.1769	-0.0254	0.1463
4	350.16	0.6999	-0.0491	0.0046	0.4635	0.0522	-1.4206	0.1982	-0.0225	0.1478
4	350.16	0.7500	-0.0613	0.0054	0.5218	0.0596	-1.8026	0.2193	0.1532	0.1542
4	350.16	0.8002	-0.0745	0.0057	0.5759	0.0668	-2.3628	0.2396	0.0039	0.1621
4	350.16	0.8582	-0.0929	0.0068	0.6502	0.0756	-3.1197	0.2673	-0.1982	0.1869
4	350.16	0.9101	-0.1231	0.0080	0.7098	0.0827	-3.8926	0.2940	-0.0972	0.1789
4	350.16	0.9728	-0.1303	0.0094	0.8437	0.0924	-4.7617	0.3328	0.1059	0.1833

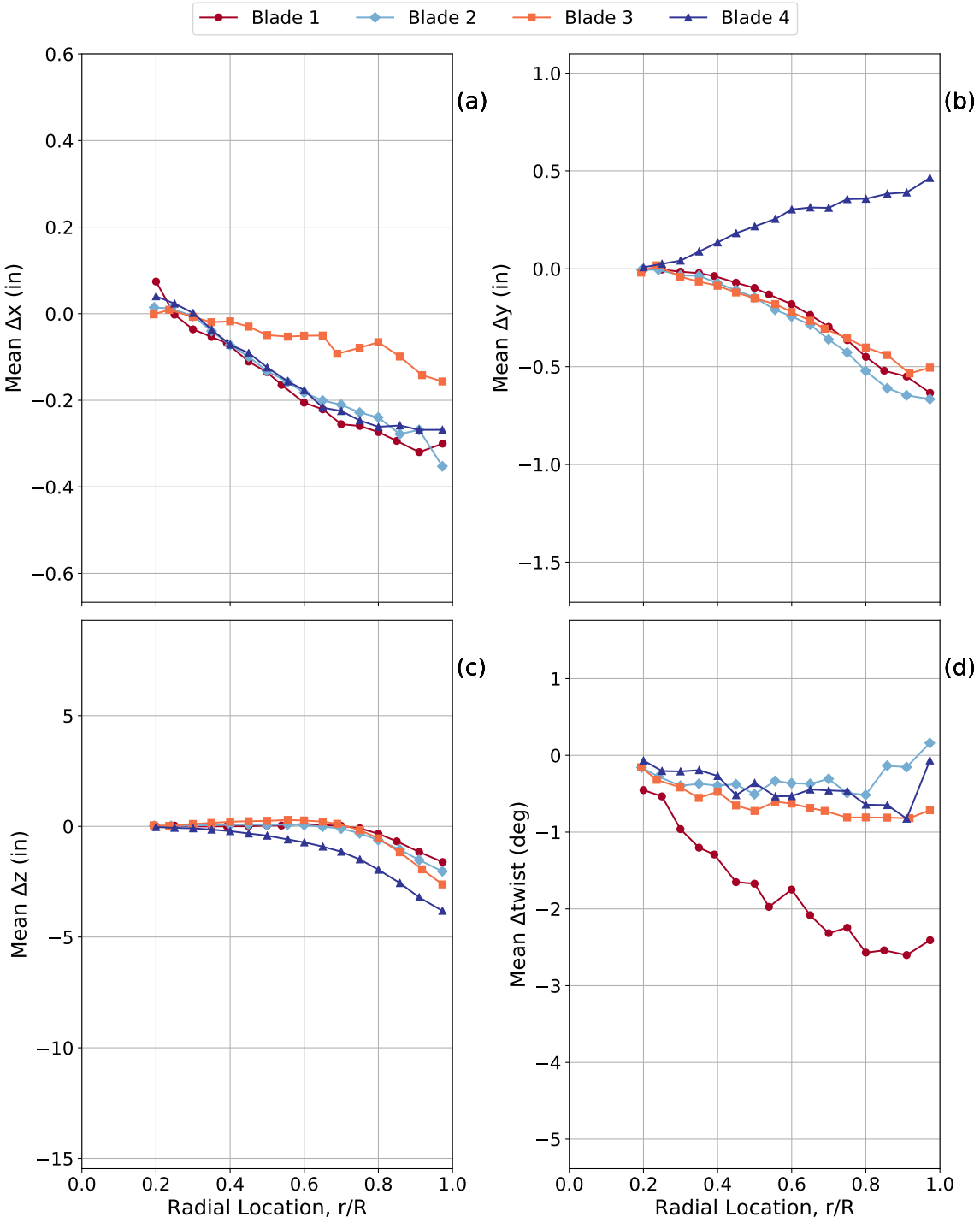


Figure 2.5-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.127, μ = 0.24, α = -0° NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Table 2.5-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.127, μ = 0.24, α = -0°
NFAC run 42, points 46 to 49. BD run 19, points 1112 to 1152.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0743	0.0030	-0.0015	0.0022	-0.0012	0.0112	-0.4521	0.0644
1	355.08	0.2499	-0.0022	0.0023	-0.0035	0.0054	0.0358	0.0168	-0.5343	0.1315
1	355.08	0.2998	-0.0362	0.0019	-0.0150	0.0092	-0.0018	0.0326	-0.9612	0.1490
1	355.08	0.3498	-0.0536	0.0025	-0.0219	0.0177	-0.0054	0.0536	-1.2023	0.1421
1	355.08	0.3913	-0.0681	0.0031	-0.0371	0.0248	0.0053	0.0722	-1.2915	0.1570
1	355.08	0.4496	-0.1105	0.0031	-0.0709	0.0329	0.0046	0.0983	-1.6519	0.1665
1	355.08	0.4997	-0.1354	0.0032	-0.0979	0.0406	0.0371	0.1217	-1.6717	0.1822
1	355.08	0.5387	-0.1644	0.0036	-0.1315	0.0471	0.0387	0.1392	-1.9737	0.1953
1	355.08	0.5996	-0.2055	0.0039	-0.1808	0.0572	0.1101	0.1644	-1.7490	0.1982
1	355.08	0.6498	-0.2209	0.0043	-0.2360	0.0665	0.0604	0.1816	-2.0825	0.2197
1	355.08	0.6998	-0.2554	0.0042	-0.2963	0.0759	0.0185	0.1965	-2.3166	0.2242
1	355.08	0.7500	-0.2594	0.0046	-0.3644	0.0844	-0.0869	0.2153	-2.2454	0.2256
1	355.08	0.8001	-0.2735	0.0050	-0.4500	0.0943	-0.3346	0.2386	-2.5700	0.2655
1	355.08	0.8497	-0.2939	0.0050	-0.5209	0.1043	-0.6758	0.2654	-2.5402	0.2525
1	355.08	0.9102	-0.3198	0.0072	-0.5505	0.1175	-1.1567	0.3069	-2.6022	0.2666
1	355.08	0.9734	-0.3002	0.0088	-0.6344	0.1272	-1.6104	0.3453	-2.4087	0.2875
2	355.08	0.1949	0.0144	0.0020	-0.0046	0.0015	0.0180	0.0070	-0.1586	0.0474
2	355.08	0.2405	0.0118	0.0016	-0.0048	0.0033	0.0208	0.0142	-0.2775	0.0687
2	355.08	0.2999	-0.0054	0.0016	-0.0336	0.0054	0.0360	0.0256	-0.3954	0.1037
2	355.08	0.3498	-0.0399	0.0018	-0.0355	0.0096	0.0577	0.0428	-0.3700	0.0989
2	355.08	0.3998	-0.0725	0.0022	-0.0730	0.0151	0.0714	0.0653	-0.3928	0.1050
2	355.08	0.4496	-0.0991	0.0023	-0.1091	0.0187	0.0859	0.0858	-0.3766	0.1140
2	355.08	0.4995	-0.1323	0.0028	-0.1464	0.0245	0.0624	0.1109	-0.5065	0.1124
2	355.08	0.5551	-0.1578	0.0036	-0.2094	0.0307	0.0829	0.1354	-0.3338	0.1188
2	355.08	0.5996	-0.1823	0.0033	-0.2439	0.0359	0.0563	0.1544	-0.3621	0.1209
2	355.08	0.6497	-0.2005	0.0037	-0.2851	0.0411	-0.0141	0.1764	-0.3713	0.1315
2	355.08	0.6996	-0.2103	0.0039	-0.3611	0.0492	-0.0990	0.1939	-0.3059	0.1270
2	355.08	0.7495	-0.2283	0.0044	-0.4275	0.0560	-0.3105	0.2104	-0.4902	0.1453
2	355.08	0.7996	-0.2396	0.0047	-0.5222	0.0637	-0.6163	0.2276	-0.5145	0.1660
2	355.08	0.8578	-0.2781	0.0057	-0.6106	0.0727	-1.0439	0.2490	-0.1351	0.1791
2	355.08	0.9100	-0.2684	0.0062	-0.6466	0.0810	-1.5185	0.2719	-0.1533	0.2137
2	355.08	0.9727	-0.3524	0.0091	-0.6658	0.0894	-2.0283	0.3062	0.1601	0.1871
3	355.08	0.1938	-0.0015	0.0016	-0.0193	0.0007	0.0481	0.0064	-0.1553	0.0427
3	355.08	0.2357	0.0089	0.0014	0.0177	0.0019	0.0237	0.0111	-0.3180	0.0699
3	355.08	0.2995	-0.0072	0.0014	-0.0405	0.0040	0.1071	0.0232	-0.4174	0.1047
3	355.08	0.3493	-0.0197	0.0017	-0.0652	0.0062	0.1540	0.0379	-0.5538	0.1203
3	355.08	0.4000	-0.0177	0.0019	-0.0866	0.0108	0.2096	0.0580	-0.4737	0.1549
3	355.08	0.4497	-0.0299	0.0025	-0.1210	0.0138	0.2310	0.0765	-0.6529	0.1523
3	355.08	0.4997	-0.0494	0.0029	-0.1509	0.0177	0.2484	0.0959	-0.7242	0.1691
3	355.08	0.5556	-0.0530	0.0035	-0.1804	0.0226	0.2881	0.1157	-0.6033	0.1799
3	355.08	0.5995	-0.0509	0.0038	-0.2208	0.0263	0.2623	0.1330	-0.6281	0.1812
3	355.08	0.6498	-0.0505	0.0041	-0.2656	0.0312	0.2139	0.1537	-0.6857	0.1949
3	355.08	0.6890	-0.0926	0.0044	-0.3062	0.0353	0.1156	0.1708	-0.7241	0.1911
3	355.08	0.7495	-0.0788	0.0049	-0.3549	0.0417	-0.1645	0.1929	-0.8098	0.2041
3	355.08	0.7998	-0.0658	0.0056	-0.4023	0.0475	-0.5435	0.2079	-0.8095	0.2165
3	355.08	0.8577	-0.0989	0.0062	-0.4404	0.0538	-1.1687	0.2227	-0.8117	0.2442
3	355.08	0.9178	-0.1420	0.0074	-0.5347	0.0608	-1.9381	0.2435	-0.8190	0.2453
3	355.08	0.9729	-0.1566	0.0095	-0.5053	0.0670	-2.6231	0.2686	-0.7143	0.2780
4	355.08	0.2001	0.0401	0.0023	0.0077	0.0016	-0.0313	0.0066	-0.0674	0.0519
4	355.08	0.2502	0.0233	0.0016	0.0253	0.0032	-0.0671	0.0125	-0.2039	0.0966
4	355.08	0.3001	0.0016	0.0016	0.0419	0.0058	-0.0898	0.0207	-0.2092	0.1194
4	355.08	0.3502	-0.0369	0.0024	0.0884	0.0110	-0.1463	0.0364	-0.1929	0.1112
4	355.08	0.4002	-0.0716	0.0026	0.1347	0.0162	-0.2143	0.0535	-0.2682	0.1262
4	355.08	0.4500	-0.0908	0.0025	0.1818	0.0209	-0.3216	0.0744	-0.5188	0.1469
4	355.08	0.5001	-0.1243	0.0030	0.2170	0.0261	-0.4197	0.0943	-0.3599	0.1501
4	355.08	0.5560	-0.1565	0.0031	0.2551	0.0334	-0.5916	0.1178	-0.5339	0.1570
4	355.08	0.6001	-0.1767	0.0033	0.3033	0.0386	-0.7220	0.1362	-0.5300	0.1645
4	355.08	0.6501	-0.2170	0.0037	0.3134	0.0460	-0.9139	0.1582	-0.4444	0.1802
4	355.08	0.6999	-0.2249	0.0041	0.3116	0.0533	-1.1445	0.1798	-0.4566	0.1988
4	355.08	0.7500	-0.2467	0.0045	0.3562	0.0600	-1.4903	0.2019	-0.4662	0.1984
4	355.08	0.8002	-0.2614	0.0055	0.3579	0.0679	-1.9597	0.2242	-0.6426	0.2044
4	355.08	0.8582	-0.2583	0.0076	0.3835	0.0779	-2.5636	0.2558	-0.6482	0.2255
4	355.08	0.9101	-0.2684	0.0080	0.3902	0.0859	-3.2085	0.2890	-0.8248	0.2332
4	355.08	0.9728	-0.2683	0.0104	0.4643	0.0965	-3.8142	0.3405	-0.0663	0.2306

2.6 Run 42, Points 60 to 63

2.6.1 Pitch, Flap, and Lag

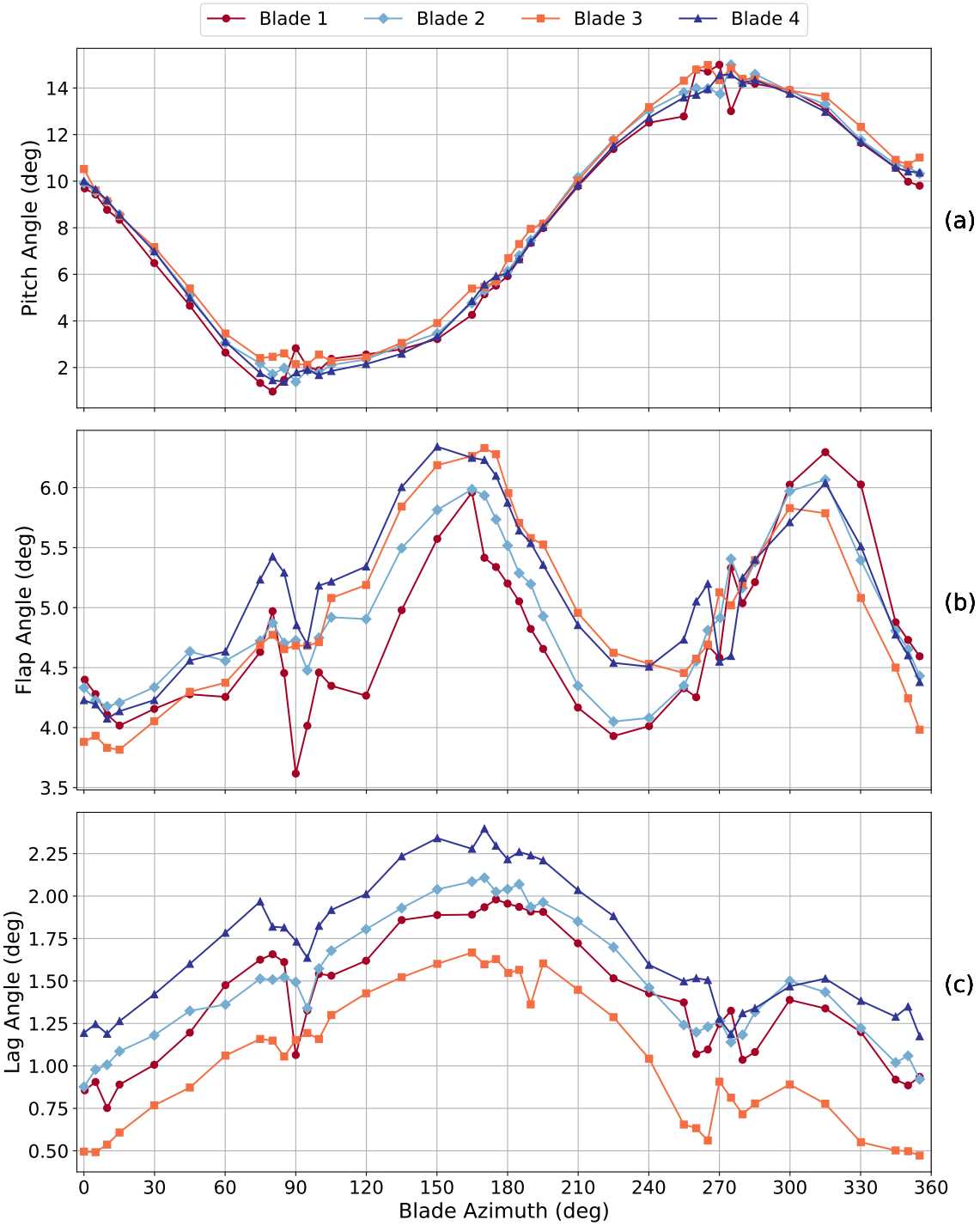


Figure 2.6-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	9.6892	4.3993	0.8562	0.1712	0.1322	0.0772
4.92	9.4280	4.2791	0.9055	0.1350	0.1142	0.0636
9.84	8.7684	4.1085	0.7520	0.1397	0.1141	0.0716
15.12	8.3399	4.0173	0.8901	0.1564	0.1110	0.0727
29.88	6.4846	4.1559	1.0067	0.1533	0.0763	0.0848
45	4.6535	4.2774	1.1960	0.1790	0.1119	0.1004
60.12	2.6431	4.2560	1.4755	0.1462	0.1009	0.0579
74.88	1.3365	4.6300	1.6256	0.1616	0.0997	0.0634
80.16	0.9672	4.9702	1.6575	0.1580	0.1203	0.0861
85.08	1.4716	4.4547	1.6117	0.1434	0.1060	0.0742
90	2.8296	3.6168	1.0644	0.1500	0.0946	0.0937
94.92	2.0292	4.0152	1.3265	0.1496	0.0992	0.0532
99.84	1.8785	4.4590	1.5421	0.1379	0.1303	0.0819
105.12	2.3735	4.3484	1.5315	0.1073	0.1145	0.0940
119.88	2.5607	4.2662	1.6195	0.0980	0.1382	0.0512
135	2.7832	4.9792	1.8590	0.1420	0.1772	0.0787
150.12	3.2213	5.5732	1.8886	0.1201	0.1476	0.0577
164.88	4.2604	5.9606	1.8910	0.1343	0.1572	0.0555
170.16	5.1440	5.4157	1.9348	0.1159	0.1830	0.1061
175.08	5.5131	5.3387	1.9802	0.1450	0.1851	0.0894
180	5.9239	5.2014	1.9555	0.0967	0.2129	0.0956
184.92	6.6446	5.0527	1.9363	0.1082	0.1893	0.0810
189.84	7.3473	4.8224	1.9089	0.1017	0.1664	0.0797
195.12	7.9841	4.6563	1.9069	0.1102	0.2046	0.0731
209.88	9.7792	4.1670	1.7221	0.1366	0.1491	0.0775
225	11.3807	3.9294	1.5160	0.1814	0.1677	0.0821
240.12	12.5095	4.0125	1.4277	0.2645	0.1243	0.0920
254.88	12.7818	4.3275	1.3738	0.3738	0.1371	0.1516
260.16	14.7844	4.2528	1.0695	0.1747	0.1107	0.0757
265.08	14.7050	4.6839	1.0966	0.4152	0.1336	0.0922
270	14.9993	4.5826	1.2475	0.5495	0.4163	0.1761
274.92	13.0072	5.3318	1.3250	0.2065	0.0992	0.1165
279.84	14.2085	5.0370	1.0362	0.2248	0.1316	0.1052
285.12	14.1810	5.2125	1.0818	0.2145	0.1238	0.1161
299.88	13.9154	6.0249	1.3888	0.1331	0.0850	0.0497
315	13.1127	6.2962	1.3384	0.1832	0.0814	0.0972
330.12	11.6430	6.0264	1.1993	0.1886	0.1197	0.0756
344.88	10.5751	4.8777	0.9190	0.1610	0.1056	0.0747
350.16	9.9778	4.7307	0.8856	0.1641	0.1106	0.0729
355.08	9.8058	4.5944	0.9356	0.1351	0.1079	0.0521

Table 2.6-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	9.9163	4.3322	0.8766	0.1158	0.0833	0.1088
4.92	9.5498	4.2277	0.9784	0.1507	0.1125	0.0638
9.84	9.1511	4.1770	1.0071	0.1294	0.0961	0.0670
15.12	8.5715	4.2065	1.0860	0.1400	0.1089	0.1007
29.88	7.0063	4.3364	1.1803	0.1402	0.0905	0.0676
45	5.1021	4.6340	1.3241	0.1441	0.1003	0.0940
60.12	3.0595	4.5563	1.3613	0.1251	0.0855	0.0623
74.88	2.1745	4.7231	1.5128	0.1535	0.1135	0.0692
80.16	1.7122	4.8726	1.5083	0.1473	0.1120	0.0963
85.08	1.9775	4.7054	1.5219	0.1419	0.1225	0.1065
90	1.3855	4.7270	1.4938	0.1517	0.0996	0.0971
94.92	1.8807	4.4775	1.3397	0.1499	0.1023	0.0763
99.84	1.7701	4.7488	1.5735	0.1324	0.1246	0.1024
105.12	2.1086	4.9198	1.6787	0.1717	0.1056	0.0675
119.88	2.3475	4.9050	1.8048	0.1306	0.1173	0.0911
135	2.9462	5.4957	1.9295	0.1757	0.1697	0.0858
150.12	3.4677	5.8144	2.0394	0.1516	0.1909	0.0948
164.88	4.7646	5.9862	2.0855	0.1230	0.1448	0.1475
170.16	5.3048	5.9349	2.1079	0.1057	0.1172	0.0869
175.08	5.7048	5.7355	2.0252	0.1178	0.1795	0.0823
180	6.1373	5.5175	2.0408	0.1102	0.1716	0.0974
184.92	6.8030	5.2874	2.0698	0.1714	0.1640	0.0869
189.84	7.4677	5.1966	1.9347	0.1407	0.2175	0.1115
195.12	8.1377	4.9285	1.9634	0.1441	0.1313	0.1063
209.88	10.1624	4.3486	1.8511	0.0943	0.0976	0.0626
225	11.7805	4.0502	1.6994	0.1670	0.1590	0.1071
240.12	13.0362	4.0806	1.4609	0.1857	0.1140	0.0948
254.88	13.8067	4.3493	1.2410	0.1987	0.1306	0.0734
260.16	13.9903	4.5541	1.1984	0.1579	0.1264	0.1218
265.08	13.9756	4.8110	1.2301	0.1890	0.1168	0.0787
270.35	13.7422	4.9148	1.2650	0.4458	0.2061	0.1246
274.92	14.9964	5.4065	1.1402	1.2355	0.7845	0.3244
279.84	14.1986	5.1640	1.1833	0.2019	0.1076	0.0721
285.12	14.5937	5.3798	1.3176	0.1847	0.0876	0.1203
299.88	13.8575	5.9701	1.5003	0.1909	0.1028	0.1035
315	13.3017	6.0665	1.4349	0.1186	0.0961	0.1476
330.12	11.7670	5.3944	1.2223	0.1421	0.1098	0.0933
344.88	10.7265	4.8071	1.0197	0.1202	0.1138	0.0790
350.16	10.5927	4.6525	1.0591	0.1883	0.1252	0.0988
355.08	10.3250	4.4308	0.9210	0.1133	0.1078	0.0897

Table 2.6-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	10.5199	3.8810	0.4953	0.1734	0.1023	0.0839
4.92	9.6021	3.9317	0.4920	0.1440	0.0899	0.0699
9.84	9.1404	3.8314	0.5366	0.1428	0.0928	0.0910
15.12	8.5002	3.8161	0.6082	0.1365	0.1300	0.0535
29.88	7.1697	4.0530	0.7678	0.1415	0.0862	0.0777
45	5.3904	4.2983	0.8724	0.1775	0.1141	0.0772
60.12	3.4613	4.3738	1.0608	0.2373	0.1475	0.1075
74.88	2.4052	4.6896	1.1585	0.1686	0.1177	0.1485
80.16	2.4631	4.7731	1.1493	0.1435	0.1051	0.0657
85.08	2.6070	4.6536	1.0554	0.2025	0.1295	0.0627
90	2.1441	4.6834	1.1522	0.1636	0.1172	0.0953
94.92	2.1203	4.6823	1.1936	0.1481	0.1314	0.0953
99.84	2.5521	4.7125	1.1580	0.1731	0.1375	0.0836
105.12	2.2742	5.0803	1.2996	0.1375	0.1074	0.1108
119.88	2.4273	5.1885	1.4276	0.1430	0.1375	0.0591
135	3.0580	5.8427	1.5221	0.1572	0.1220	0.1169
150.12	3.9085	6.1874	1.6010	0.1132	0.1505	0.0830
164.88	5.3871	6.2635	1.6677	0.1697	0.1570	0.0738
170.16	5.4628	6.3305	1.5985	0.1060	0.1076	0.0823
175.08	5.7060	6.2788	1.6291	0.1361	0.1644	0.0604
180.35	6.6950	5.9548	1.5475	0.1072	0.1846	0.0782
184.92	7.2996	5.7064	1.5654	0.1122	0.2219	0.0629
189.84	7.9520	5.5797	1.3623	0.1556	0.1564	0.0738
195.12	8.1747	5.5254	1.6035	0.1179	0.1876	0.0985
209.88	10.0224	4.9565	1.4483	0.1582	0.1879	0.0832
225	11.7467	4.6232	1.2871	0.1446	0.1524	0.1105
240.12	13.1750	4.5318	1.0428	0.1054	0.1355	0.0877
254.88	14.3119	4.4556	0.6547	0.1316	0.1391	0.0788
260.16	14.7891	4.5744	0.6333	0.2175	0.1311	0.1168
265.08	14.9859	4.6926	0.5607	0.2842	0.1539	0.0991
270	14.3352	5.1280	0.9071	0.2930	0.1707	0.1188
274.92	14.8416	5.0193	0.8129	0.5644	0.4351	0.1827
279.84	14.3907	5.1969	0.7151	0.2015	0.1000	0.0964
285.12	14.3762	5.3957	0.7788	0.3286	0.1113	0.1002
299.88	13.8916	5.8293	0.8907	0.1715	0.0949	0.0549
315	13.6363	5.7867	0.7770	0.1655	0.1032	0.0806
330.12	12.3287	5.0807	0.5507	0.1323	0.1230	0.0667
344.88	10.9157	4.5003	0.5022	0.1167	0.0955	0.0659
350.16	10.6992	4.2436	0.4976	0.1595	0.1070	0.0888
355.08	11.0132	3.9823	0.4721	0.1698	0.1538	0.1005

Table 2.6-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	9.9982	4.2289	1.1945	0.1819	0.0932	0.0941
4.92	9.6478	4.1933	1.2465	0.1511	0.1047	0.0909
9.84	9.1834	4.0750	1.1892	0.1522	0.1254	0.0993
15.12	8.5627	4.1366	1.2637	0.2081	0.0953	0.1101
29.88	6.9882	4.2290	1.4217	0.1922	0.1047	0.0637
45	4.9931	4.5588	1.6012	0.1459	0.1271	0.1127
60.12	3.1089	4.6338	1.7842	0.1282	0.1240	0.0797
74.88	1.7650	5.2337	1.9683	0.1745	0.1250	0.0733
80.16	1.4549	5.4252	1.8198	0.1482	0.1051	0.0887
85.08	1.3891	5.2912	1.8148	0.1458	0.1273	0.0624
90.35	1.7934	4.8539	1.7319	0.1100	0.1155	0.0713
94.92	1.9077	4.6924	1.6366	0.1517	0.1123	0.0717
99.84	1.6759	5.1836	1.8250	0.1304	0.1091	0.0645
105.12	1.8505	5.2173	1.9185	0.1650	0.1284	0.0988
119.88	2.1487	5.3429	2.0121	0.1450	0.1495	0.0938
135	2.5909	6.0048	2.2345	0.1623	0.1289	0.1216
150.12	3.3237	6.3417	2.3413	0.1184	0.1489	0.0678
164.88	4.8513	6.2488	2.2786	0.1535	0.1694	0.0832
170.16	5.5643	6.2309	2.3972	0.1070	0.1570	0.1041
175.08	5.9220	6.0997	2.2969	0.1322	0.2058	0.0758
180	6.0456	5.8753	2.2170	0.1628	0.1786	0.1064
184.92	6.6512	5.6424	2.2605	0.1127	0.1903	0.0611
189.84	7.3856	5.5388	2.2399	0.1177	0.1345	0.0670
195.12	8.0320	5.3567	2.2100	0.1505	0.1658	0.1034
209.88	9.8338	4.8546	2.0357	0.1170	0.1568	0.0757
225	11.5063	4.5398	1.8826	0.1182	0.1457	0.0713
240.12	12.7281	4.5080	1.5952	0.1077	0.1273	0.0655
254.88	13.5875	4.7335	1.4981	0.1098	0.1105	0.0701
260.16	13.7080	5.0515	1.5165	0.2153	0.1530	0.1010
265.08	13.9475	5.1981	1.5060	0.2994	0.1541	0.1206
270	14.5499	4.5497	1.2770	0.3412	0.2123	0.1565
274.92	14.5790	4.5972	1.1878	0.5678	0.4479	0.1922
279.84	14.2186	5.2490	1.3109	0.1864	0.1117	0.1051
285.12	14.3395	5.3988	1.3395	0.2297	0.1051	0.0869
299.88	13.7538	5.7121	1.4685	0.2082	0.1230	0.0861
315	12.9768	6.0393	1.5141	0.1870	0.1107	0.0923
330.12	11.6984	5.5111	1.3834	0.2586	0.1321	0.0849
344.88	10.5843	4.7753	1.2900	0.3117	0.1206	0.1323
350.16	10.4149	4.6026	1.3491	0.1224	0.0845	0.0686
355.08	10.3679	4.3797	1.1747	0.1552	0.1130	0.0789

2.6.2 Spanwise Elastic Deformations

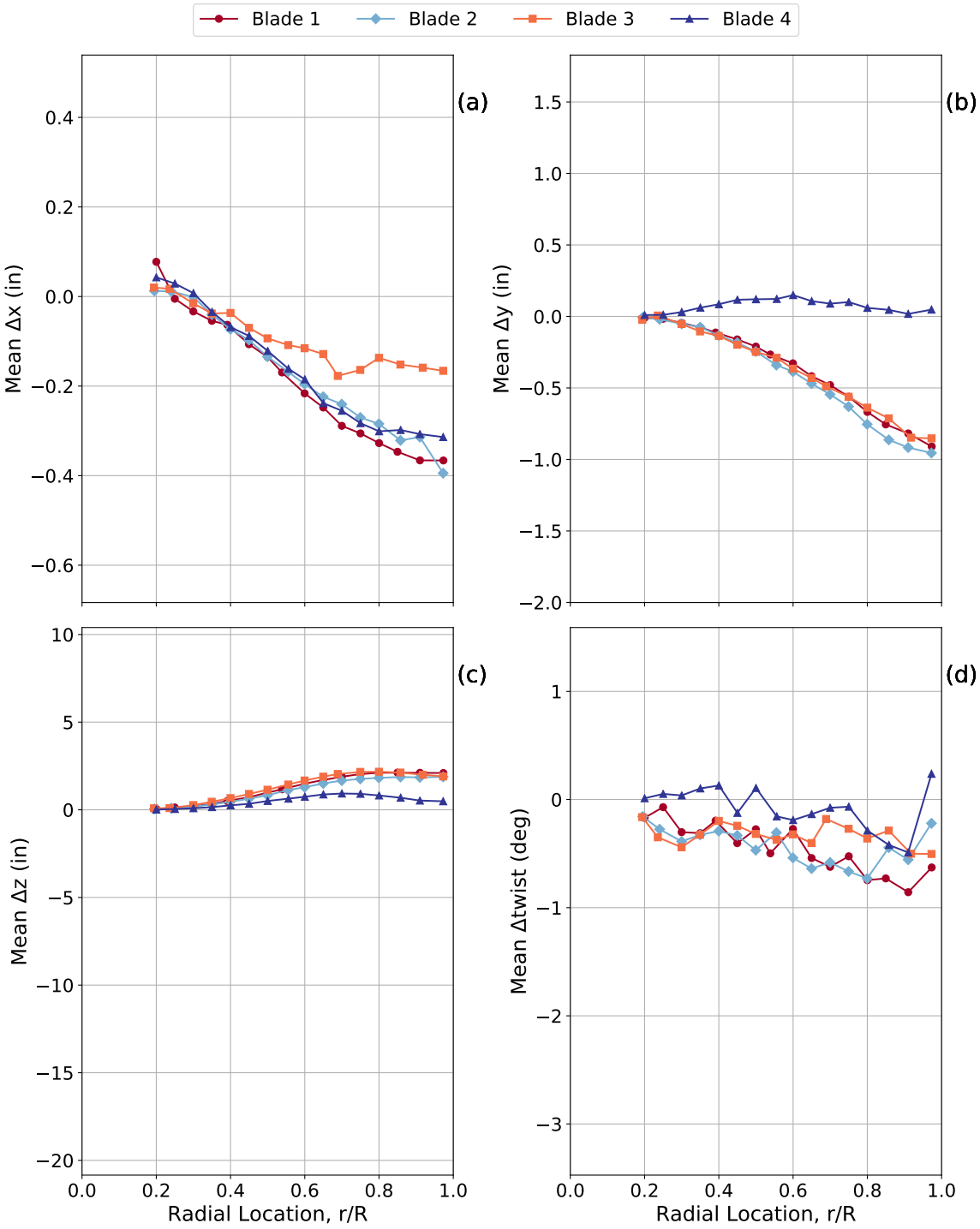


Figure 2.6-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0775	0.0032	-0.0093	0.0021	0.0479	0.0067	-0.1685	0.0523
1	0.35	0.2499	-0.0050	0.0020	-0.0162	0.0033	0.1326	0.0104	-0.0706	0.1028
1	0.35	0.2998	-0.0333	0.0018	-0.0453	0.0071	0.1975	0.0206	-0.3017	0.1220
1	0.35	0.3498	-0.0543	0.0025	-0.0759	0.0132	0.3379	0.0349	-0.3108	0.1112
1	0.35	0.3913	-0.0632	0.0028	-0.1124	0.0176	0.4979	0.0477	-0.1952	0.1082
1	0.35	0.4496	-0.1066	0.0032	-0.1606	0.0232	0.7203	0.0667	-0.4036	0.1071
1	0.35	0.4997	-0.1350	0.0034	-0.2105	0.0287	0.9798	0.0836	-0.2749	0.1101
1	0.35	0.5387	-0.1696	0.0037	-0.2662	0.0336	1.1717	0.0998	-0.4974	0.1149
1	0.35	0.5996	-0.2163	0.0039	-0.3278	0.0412	1.4890	0.1266	-0.2720	0.1106
1	0.35	0.6498	-0.2478	0.0043	-0.4175	0.0494	1.7012	0.1526	-0.5410	0.1165
1	0.35	0.6998	-0.2888	0.0047	-0.4800	0.0573	1.8858	0.1826	-0.6224	0.1182
1	0.35	0.7500	-0.3057	0.0057	-0.5615	0.0658	2.0382	0.2159	-0.5249	0.1242
1	0.35	0.8001	-0.3273	0.0063	-0.6676	0.0753	2.1132	0.2525	-0.7454	0.1269
1	0.35	0.8497	-0.3467	0.0065	-0.7552	0.0848	2.1202	0.2955	-0.7294	0.1279
1	0.35	0.9102	-0.3659	0.0077	-0.8180	0.0975	2.1091	0.3568	-0.8568	0.1448
1	0.35	0.9734	-0.3661	0.0099	-0.9092	0.1109	2.0986	0.4272	-0.6281	0.1186
2	0	0.1949	0.0126	0.0026	-0.0069	0.0017	0.0488	0.0058	-0.1570	0.0429
2	0	0.2405	0.0112	0.0018	-0.0201	0.0030	0.0916	0.0106	-0.2746	0.0633
2	0	0.2999	-0.0010	0.0017	-0.0513	0.0061	0.1797	0.0206	-0.3878	0.0960
2	0	0.3498	-0.0404	0.0021	-0.0751	0.0114	0.3054	0.0359	-0.3263	0.0814
2	0	0.3998	-0.0730	0.0024	-0.1330	0.0169	0.4582	0.0534	-0.2921	0.0809
2	0	0.4496	-0.0972	0.0029	-0.1832	0.0221	0.6336	0.0704	-0.3319	0.0910
2	0	0.4995	-0.1344	0.0033	-0.2451	0.0272	0.8269	0.0904	-0.4683	0.0867
2	0	0.5551	-0.1680	0.0037	-0.3400	0.0335	1.1269	0.1140	-0.3061	0.0984
2	0	0.5996	-0.1956	0.0039	-0.3861	0.0388	1.2879	0.1308	-0.5393	0.1010
2	0	0.6497	-0.2239	0.0043	-0.4695	0.0454	1.5015	0.1523	-0.6387	0.1043
2	0	0.6996	-0.2405	0.0047	-0.5451	0.0522	1.6674	0.1745	-0.5817	0.1151
2	0	0.7495	-0.2701	0.0052	-0.6301	0.0593	1.7621	0.1988	-0.6649	0.1149
2	0	0.7996	-0.2844	0.0056	-0.7541	0.0665	1.8236	0.2252	-0.7299	0.1135
2	0	0.8578	-0.3212	0.0057	-0.8630	0.0749	1.8707	0.2597	-0.4446	0.1248
2	0	0.9100	-0.3139	0.0060	-0.9166	0.0799	1.8485	0.2940	-0.5566	0.1620
2	0	0.9727	-0.3945	0.0088	-0.9548	0.0903	1.8794	0.3305	-0.2201	0.1384
3	0	0.1938	0.0200	0.0050	-0.0230	0.0021	0.0853	0.0076	-0.1628	0.0520
3	0	0.2357	0.0172	0.0029	0.0064	0.0035	0.0962	0.0119	-0.3489	0.0916
3	0	0.2995	-0.0151	0.0023	-0.0528	0.0074	0.2671	0.0249	-0.4413	0.1252
3	0	0.3493	-0.0378	0.0021	-0.1048	0.0124	0.4581	0.0387	-0.3260	0.1056
3	0	0.4000	-0.0367	0.0036	-0.1361	0.0195	0.6651	0.0595	-0.1978	0.1126
3	0	0.4497	-0.0700	0.0038	-0.1975	0.0247	0.9035	0.0773	-0.2430	0.1039
3	0	0.4997	-0.0934	0.0042	-0.2478	0.0302	1.1451	0.0984	-0.3182	0.1081
3	0	0.5556	-0.1085	0.0040	-0.2893	0.0371	1.4415	0.1225	-0.3730	0.1093
3	0	0.5995	-0.1155	0.0051	-0.3652	0.0440	1.6702	0.1456	-0.3224	0.1137
3	0	0.6498	-0.1285	0.0046	-0.4300	0.0504	1.8891	0.1690	-0.4026	0.1116
3	0	0.6890	-0.1773	0.0057	-0.4890	0.0577	2.0404	0.1905	-0.1799	0.1159
3	0	0.7495	-0.1639	0.0059	-0.5616	0.0666	2.1617	0.2220	-0.2703	0.1151
3	0	0.7998	-0.1370	0.0064	-0.6378	0.0746	2.1701	0.2535	-0.3603	0.1237
3	0	0.8577	-0.1519	0.0062	-0.7126	0.0845	2.1237	0.2916	-0.2870	0.1283
3	0	0.9178	-0.1589	0.0073	-0.8476	0.0967	1.9993	0.3329	-0.5008	0.1183
3	0	0.9729	-0.1659	0.0100	-0.8526	0.1062	1.9066	0.3741	-0.5032	0.1287
4	0	0.2001	0.0428	0.0024	0.0098	0.0018	0.0132	0.0068	0.0117	0.0420
4	0	0.2502	0.0289	0.0015	0.0112	0.0040	0.0457	0.0124	0.0519	0.0667
4	0	0.3001	0.0075	0.0015	0.0308	0.0068	0.0894	0.0221	0.0379	0.0891
4	0	0.3502	-0.0344	0.0023	0.0615	0.0126	0.1526	0.0366	0.1026	0.0774
4	0	0.4002	-0.0685	0.0025	0.0853	0.0191	0.2557	0.0549	0.1294	0.0816
4	0	0.4500	-0.0881	0.0030	0.1167	0.0245	0.3419	0.0735	-0.1235	0.0806
4	0	0.5001	-0.1215	0.0030	0.1202	0.0306	0.5049	0.0922	0.1065	0.0801
4	0	0.5560	-0.1614	0.0032	0.1223	0.0384	0.6348	0.1147	-0.1560	0.0885
4	0	0.6001	-0.1850	0.0036	0.1492	0.0456	0.7451	0.1315	-0.1899	0.0946
4	0	0.6501	-0.2382	0.0041	0.1071	0.0536	0.8752	0.1517	-0.1348	0.0956
4	0	0.6999	-0.2551	0.0047	0.0895	0.0630	0.9289	0.1758	-0.0760	0.0921
4	0	0.7500	-0.2829	0.0055	0.1006	0.0731	0.9111	0.2035	-0.0665	0.1012
4	0	0.8002	-0.3010	0.0057	0.0599	0.0835	0.8172	0.2366	-0.2869	0.1083
4	0	0.8582	-0.2981	0.0068	0.0460	0.0968	0.6885	0.2806	-0.4206	0.1115
4	0	0.9101	-0.3073	0.0068	0.0178	0.1088	0.5268	0.3274	-0.4892	0.1296
4	0	0.9728	-0.3139	0.0121	0.0477	0.1224	0.4858	0.3845	0.2378	0.1358

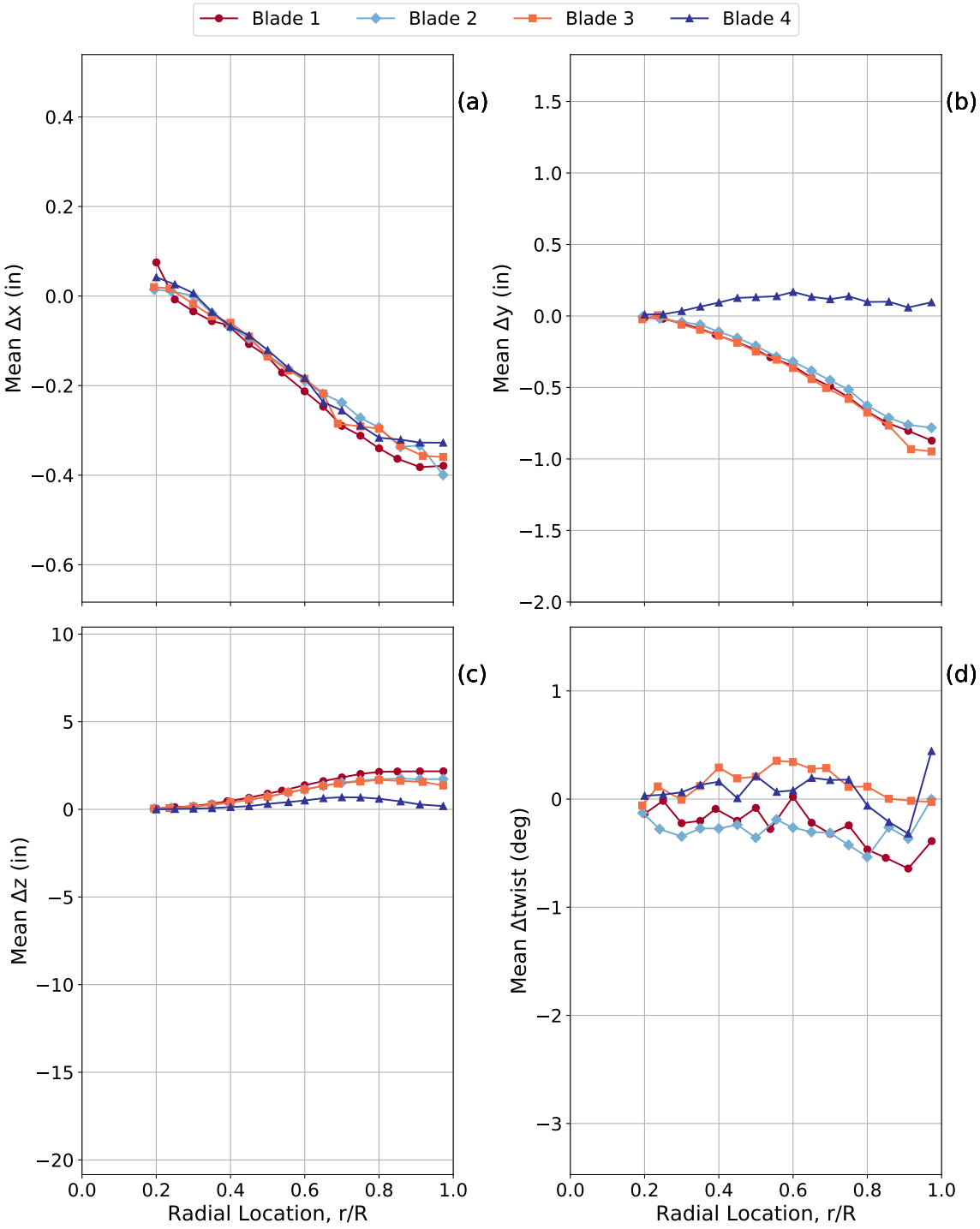


Figure 2.6-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0752	0.0031	-0.0114	0.0021	0.0466	0.0084	-0.1347	0.0418
1	4.92	0.2499	-0.0076	0.0020	-0.0191	0.0039	0.1251	0.0153	-0.0162	0.0751
1	4.92	0.2998	-0.0342	0.0018	-0.0521	0.0080	0.1842	0.0296	-0.2228	0.0935
1	4.92	0.3498	-0.0560	0.0028	-0.0890	0.0147	0.3186	0.0497	-0.2017	0.0919
1	4.92	0.3913	-0.0642	0.0029	-0.1294	0.0202	0.4638	0.0704	-0.0909	0.0879
1	4.92	0.4496	-0.1072	0.0033	-0.1845	0.0266	0.6619	0.1008	-0.2012	0.0878
1	4.92	0.4997	-0.1350	0.0035	-0.2355	0.0328	0.8901	0.1294	-0.0814	0.0943
1	4.92	0.5387	-0.1707	0.0036	-0.2882	0.0382	1.0631	0.1522	-0.2768	0.0943
1	4.92	0.5996	-0.2127	0.0044	-0.3487	0.0464	1.3747	0.1873	0.0213	0.0943
1	4.92	0.6498	-0.2470	0.0049	-0.4313	0.0535	1.6087	0.2169	-0.2187	0.0929
1	4.92	0.6998	-0.2900	0.0055	-0.4918	0.0603	1.8200	0.2477	-0.3211	0.0961
1	4.92	0.7500	-0.3119	0.0058	-0.5690	0.0683	2.0182	0.2807	-0.2435	0.1002
1	4.92	0.8001	-0.3401	0.0061	-0.6679	0.0768	2.1384	0.3183	-0.4667	0.1046
1	4.92	0.8497	-0.3633	0.0066	-0.7432	0.0852	2.1611	0.3575	-0.5433	0.1069
1	4.92	0.9102	-0.3819	0.0076	-0.8031	0.0957	2.1691	0.4068	-0.6422	0.1180
1	4.92	0.9734	-0.3792	0.0109	-0.8718	0.1066	2.1724	0.4649	-0.3884	0.1175
2	4.92	0.1949	0.0144	0.0024	-0.0054	0.0017	0.0395	0.0075	-0.1280	0.0362
2	4.92	0.2405	0.0109	0.0017	-0.0171	0.0035	0.0798	0.0131	-0.2775	0.0656
2	4.92	0.2999	0.0005	0.0016	-0.0432	0.0076	0.1512	0.0282	-0.3457	0.0830
2	4.92	0.3498	-0.0384	0.0022	-0.0607	0.0125	0.2602	0.0472	-0.2712	0.0703
2	4.92	0.3998	-0.0701	0.0028	-0.1102	0.0199	0.3921	0.0718	-0.2720	0.0742
2	4.92	0.4496	-0.0948	0.0034	-0.1539	0.0253	0.5478	0.0966	-0.2376	0.0775
2	4.92	0.4995	-0.1311	0.0039	-0.2084	0.0329	0.7108	0.1233	-0.3573	0.0797
2	4.92	0.5551	-0.1632	0.0049	-0.2857	0.0420	0.9688	0.1552	-0.1893	0.0874
2	4.92	0.5996	-0.1891	0.0054	-0.3187	0.0498	1.1260	0.1768	-0.2643	0.0891
2	4.92	0.6497	-0.2185	0.0062	-0.3833	0.0597	1.3459	0.2060	-0.3042	0.0935
2	4.92	0.6996	-0.2378	0.0065	-0.4491	0.0706	1.5242	0.2367	-0.3132	0.0901
2	4.92	0.7495	-0.2721	0.0072	-0.5149	0.0818	1.6401	0.2735	-0.4245	0.0926
2	4.92	0.7996	-0.2931	0.0076	-0.6263	0.0935	1.7213	0.3156	-0.5356	0.1035
2	4.92	0.8578	-0.3369	0.0084	-0.7120	0.1083	1.7561	0.3707	-0.2615	0.1112
2	4.92	0.9100	-0.3336	0.0088	-0.7613	0.1207	1.7180	0.4269	-0.3648	0.1080
2	4.92	0.9727	-0.3994	0.0135	-0.7813	0.1374	1.7272	0.4985	-0.0019	0.1172
3	4.92	0.1938	0.0201	0.0023	-0.0228	0.0016	0.0465	0.0059	-0.0590	0.0332
3	4.92	0.2357	0.0170	0.0022	0.0056	0.0034	0.0690	0.0104	0.1161	0.0647
3	4.92	0.2995	-0.0176	0.0014	-0.0604	0.0062	0.1671	0.0217	-0.0066	0.0798
3	4.92	0.3493	-0.0449	0.0023	-0.0960	0.0113	0.2629	0.0369	0.1204	0.0762
3	4.92	0.4000	-0.0597	0.0030	-0.1379	0.0177	0.4045	0.0563	0.2918	0.0808
3	4.92	0.4497	-0.0905	0.0034	-0.1864	0.0232	0.5348	0.0770	0.1918	0.0823
3	4.92	0.4997	-0.1348	0.0039	-0.2486	0.0300	0.7226	0.0998	0.2064	0.0838
3	4.92	0.5556	-0.1662	0.0041	-0.3055	0.0374	0.9740	0.1240	0.3547	0.0901
3	4.92	0.5995	-0.1845	0.0040	-0.3639	0.0437	1.1316	0.1428	0.3431	0.0854
3	4.92	0.6498	-0.2176	0.0045	-0.4418	0.0513	1.3419	0.1629	0.2783	0.0902
3	4.92	0.6890	-0.2849	0.0047	-0.5038	0.0577	1.4712	0.1788	0.2868	0.0944
3	4.92	0.7495	-0.2911	0.0054	-0.5800	0.0693	1.5940	0.2026	0.1126	0.1009
3	4.92	0.7998	-0.2961	0.0055	-0.6753	0.0790	1.6717	0.2243	0.1161	0.0907
3	4.92	0.8577	-0.3338	0.0061	-0.7663	0.0912	1.6242	0.2545	0.0030	0.1015
3	4.92	0.9178	-0.3569	0.0066	-0.9316	0.1035	1.5636	0.2926	-0.0159	0.1248
3	4.92	0.9729	-0.3594	0.0101	-0.9471	0.1163	1.3620	0.3288	-0.0262	0.1252
4	4.92	0.2001	0.0420	0.0025	0.0103	0.0017	-0.0001	0.0068	0.0304	0.0422
4	4.92	0.2502	0.0260	0.0018	0.0119	0.0032	0.0219	0.0110	0.0402	0.0839
4	4.92	0.3001	0.0064	0.0014	0.0348	0.0065	0.0418	0.0222	0.0629	0.0998
4	4.92	0.3502	-0.0352	0.0021	0.0656	0.0108	0.0673	0.0375	0.1319	0.0979
4	4.92	0.4002	-0.0681	0.0025	0.0938	0.0168	0.1291	0.0557	0.1608	0.0962
4	4.92	0.4500	-0.0882	0.0027	0.1263	0.0213	0.1817	0.0762	0.0083	0.1031
4	4.92	0.5001	-0.1207	0.0030	0.1317	0.0279	0.3086	0.1004	0.2143	0.0957
4	4.92	0.5560	-0.1604	0.0035	0.1384	0.0356	0.4142	0.1282	0.0668	0.1067
4	4.92	0.6001	-0.1830	0.0038	0.1683	0.0421	0.5072	0.1515	0.0798	0.1013
4	4.92	0.6501	-0.2371	0.0042	0.1341	0.0506	0.6362	0.1785	0.1963	0.1030
4	4.92	0.6999	-0.2554	0.0048	0.1177	0.0595	0.6886	0.2058	0.1759	0.1084
4	4.92	0.7500	-0.2891	0.0048	0.1376	0.0691	0.6794	0.2351	0.1801	0.1042
4	4.92	0.8002	-0.3163	0.0051	0.0982	0.0789	0.6060	0.2663	-0.0605	0.1084
4	4.92	0.8582	-0.3207	0.0058	0.0999	0.0912	0.4526	0.3078	-0.2112	0.1069
4	4.92	0.9101	-0.3272	0.0058	0.0596	0.1019	0.2768	0.3471	-0.3196	0.1156
4	4.92	0.9728	-0.3275	0.0096	0.0957	0.1156	0.1870	0.4054	0.4440	0.1162

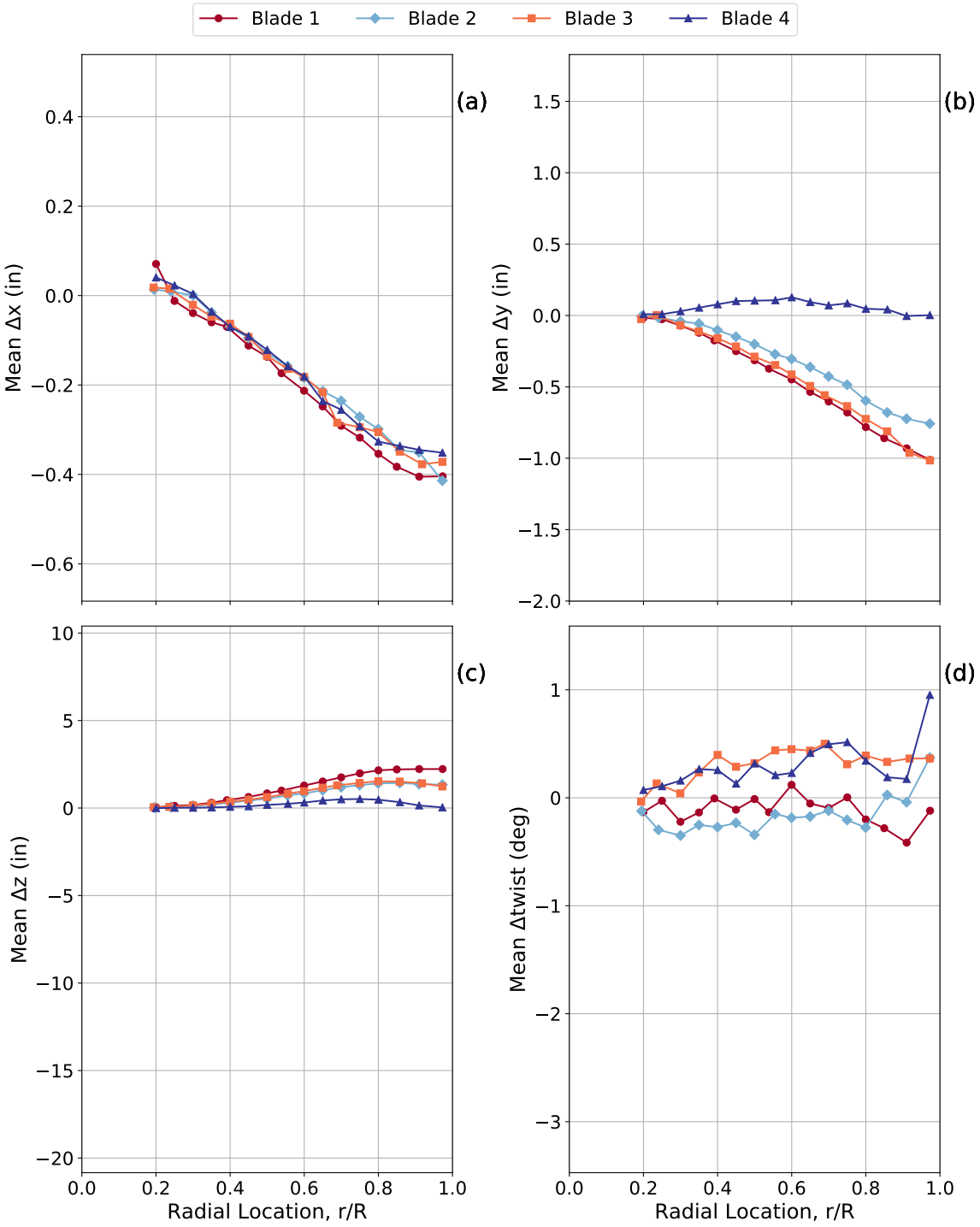


Figure 2.6-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0708	0.0031	-0.0164	0.0017	0.0460	0.0070	-0.1323	0.0403
1	9.84	0.2499	-0.0120	0.0017	-0.0261	0.0033	0.1260	0.0121	-0.0279	0.0782
1	9.84	0.2998	-0.0391	0.0018	-0.0713	0.0073	0.1778	0.0234	-0.2220	0.0938
1	9.84	0.3498	-0.0598	0.0022	-0.1210	0.0122	0.3070	0.0401	-0.1361	0.0865
1	9.84	0.3913	-0.0697	0.0028	-0.1748	0.0179	0.4466	0.0555	-0.0063	0.0864
1	9.84	0.4496	-0.1118	0.0032	-0.2498	0.0238	0.6324	0.0777	-0.1105	0.0882
1	9.84	0.4997	-0.1368	0.0035	-0.3140	0.0296	0.8360	0.0989	-0.0118	0.0845
1	9.84	0.5387	-0.1738	0.0037	-0.3729	0.0341	0.9961	0.1158	-0.1335	0.0864
1	9.84	0.5996	-0.2128	0.0036	-0.4479	0.0415	1.2842	0.1438	0.1198	0.0805
1	9.84	0.6498	-0.2479	0.0042	-0.5352	0.0476	1.5176	0.1680	-0.0529	0.0870
1	9.84	0.6998	-0.2912	0.0045	-0.6027	0.0548	1.7532	0.1944	-0.0951	0.0903
1	9.84	0.7500	-0.3178	0.0051	-0.6799	0.0617	1.9845	0.2244	0.0035	0.0992
1	9.84	0.8001	-0.3539	0.0051	-0.7820	0.0688	2.1557	0.2594	-0.2012	0.1026
1	9.84	0.8497	-0.3829	0.0056	-0.8596	0.0768	2.2054	0.2990	-0.2821	0.0994
1	9.84	0.9102	-0.4051	0.0061	-0.9304	0.0871	2.2280	0.3566	-0.4156	0.1008
1	9.84	0.9734	-0.4042	0.0089	-1.0119	0.0976	2.2264	0.4242	-0.1199	0.1058
2	9.84	0.1949	0.0136	0.0022	-0.0057	0.0014	0.0304	0.0061	-0.1227	0.0301
2	9.84	0.2405	0.0094	0.0019	-0.0154	0.0028	0.0648	0.0117	-0.2969	0.0531
2	9.84	0.2999	0.0003	0.0016	-0.0412	0.0060	0.1140	0.0230	-0.3494	0.0704
2	9.84	0.3498	-0.0378	0.0021	-0.0570	0.0113	0.2030	0.0394	-0.2520	0.0702
2	9.84	0.3998	-0.0696	0.0022	-0.1032	0.0168	0.3012	0.0595	-0.2720	0.0736
2	9.84	0.4496	-0.0948	0.0023	-0.1491	0.0214	0.4240	0.0802	-0.2327	0.0754
2	9.84	0.4995	-0.1281	0.0026	-0.2007	0.0275	0.5340	0.1050	-0.3427	0.0746
2	9.84	0.5551	-0.1580	0.0030	-0.2709	0.0345	0.7200	0.1305	-0.1514	0.0802
2	9.84	0.5996	-0.1841	0.0034	-0.3042	0.0401	0.8389	0.1495	-0.1853	0.0822
2	9.84	0.6497	-0.2136	0.0039	-0.3614	0.0472	1.0189	0.1702	-0.1737	0.0784
2	9.84	0.6996	-0.2355	0.0044	-0.4268	0.0542	1.1904	0.1895	-0.1193	0.0786
2	9.84	0.7495	-0.2711	0.0046	-0.4853	0.0618	1.3043	0.2066	-0.2054	0.0778
2	9.84	0.7996	-0.2986	0.0046	-0.5965	0.0706	1.4089	0.2217	-0.2760	0.0902
2	9.84	0.8578	-0.3460	0.0054	-0.6795	0.0809	1.4347	0.2391	0.0258	0.0848
2	9.84	0.9100	-0.3506	0.0053	-0.7238	0.0901	1.3654	0.2548	-0.0408	0.1008
2	9.84	0.9727	-0.4140	0.0084	-0.7578	0.1000	1.3335	0.2781	0.3712	0.1021
3	9.84	0.1938	0.0180	0.0029	-0.0252	0.0016	0.0432	0.0068	-0.0350	0.0296
3	9.84	0.2357	0.0157	0.0020	0.0028	0.0027	0.0666	0.0098	0.1329	0.0611
3	9.84	0.2995	-0.0207	0.0016	-0.0674	0.0057	0.1490	0.0234	0.0408	0.0727
3	9.84	0.3493	-0.0471	0.0020	-0.1121	0.0104	0.2440	0.0393	0.2340	0.0687
3	9.84	0.4000	-0.0629	0.0027	-0.1593	0.0158	0.3668	0.0593	0.3966	0.0722
3	9.84	0.4497	-0.0927	0.0028	-0.2166	0.0201	0.4707	0.0782	0.2870	0.0663
3	9.84	0.4997	-0.1349	0.0028	-0.2884	0.0249	0.6236	0.0970	0.3201	0.0729
3	9.84	0.5556	-0.1641	0.0033	-0.3471	0.0315	0.8210	0.1171	0.4390	0.0741
3	9.84	0.5995	-0.1821	0.0036	-0.4132	0.0370	0.9655	0.1321	0.4503	0.0755
3	9.84	0.6498	-0.2165	0.0040	-0.4936	0.0442	1.1623	0.1503	0.4364	0.0805
3	9.84	0.6890	-0.2843	0.0044	-0.5584	0.0501	1.2962	0.1656	0.5001	0.0753
3	9.84	0.7495	-0.2944	0.0049	-0.6349	0.0598	1.4325	0.1895	0.3102	0.0799
3	9.84	0.7998	-0.3052	0.0049	-0.7247	0.0688	1.5323	0.2130	0.3908	0.0833
3	9.84	0.8577	-0.3490	0.0053	-0.8120	0.0798	1.5076	0.2445	0.3324	0.0917
3	9.84	0.9178	-0.3773	0.0057	-0.9621	0.0919	1.4138	0.2812	0.3636	0.0996
3	9.84	0.9729	-0.3719	0.0086	-1.0153	0.1029	1.2304	0.3194	0.3639	0.0923
4	9.84	0.2001	0.0405	0.0024	0.0089	0.0013	-0.0053	0.0055	0.0718	0.0363
4	9.84	0.2502	0.0226	0.0017	0.0088	0.0030	0.0146	0.0117	0.1070	0.0717
4	9.84	0.3001	0.0035	0.0013	0.0296	0.0050	0.0176	0.0190	0.1590	0.0830
4	9.84	0.3502	-0.0362	0.0016	0.0546	0.0089	0.0322	0.0324	0.2654	0.0793
4	9.84	0.4002	-0.0702	0.0020	0.0780	0.0136	0.0706	0.0493	0.2562	0.0802
4	9.84	0.4500	-0.0911	0.0025	0.1007	0.0177	0.0988	0.0662	0.1309	0.0805
4	9.84	0.5001	-0.1215	0.0023	0.1038	0.0229	0.1794	0.0854	0.3173	0.0798
4	9.84	0.5560	-0.1581	0.0028	0.1067	0.0294	0.2398	0.1075	0.2091	0.0842
4	9.84	0.6001	-0.1812	0.0033	0.1273	0.0351	0.3138	0.1267	0.2298	0.0893
4	9.84	0.6501	-0.2359	0.0037	0.0938	0.0424	0.4317	0.1498	0.4149	0.0922
4	9.84	0.6999	-0.2554	0.0042	0.0707	0.0496	0.4976	0.1730	0.4958	0.0965
4	9.84	0.7500	-0.2924	0.0045	0.0849	0.0579	0.5148	0.1996	0.5145	0.1009
4	9.84	0.8002	-0.3267	0.0046	0.0468	0.0660	0.4760	0.2309	0.3436	0.1011
4	9.84	0.8582	-0.3364	0.0051	0.0419	0.0763	0.3335	0.2721	0.1900	0.1124
4	9.84	0.9101	-0.3451	0.0052	-0.0037	0.0850	0.1463	0.3164	0.1741	0.1200
4	9.84	0.9728	-0.3515	0.0082	0.0023	0.0958	0.0356	0.3729	0.9523	0.1157

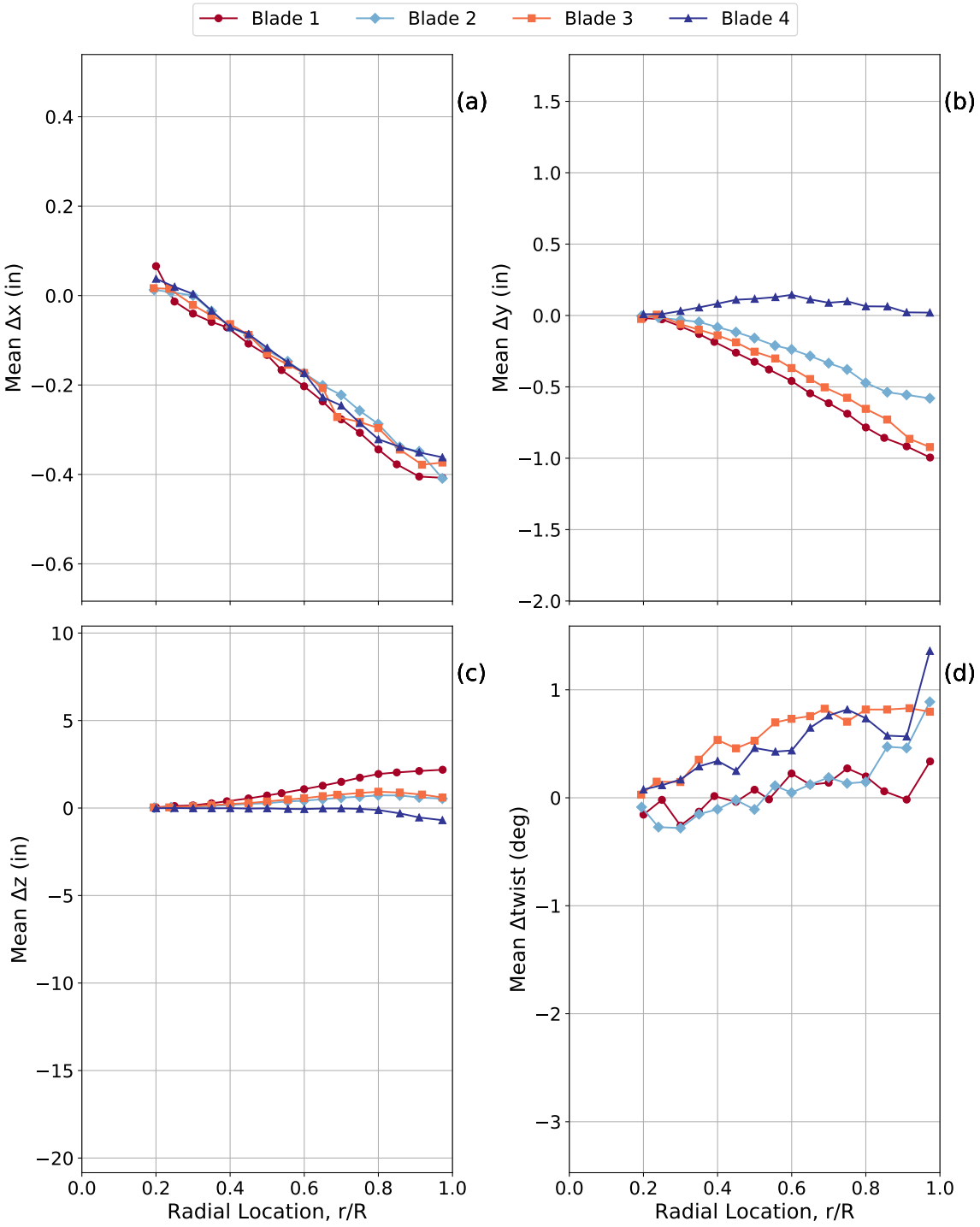


Figure 2.6-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0658	0.0033	-0.0185	0.0016	0.0408	0.0058	-0.1562	0.0376
1	15.12	0.2499	-0.0134	0.0019	-0.0266	0.0030	0.1148	0.0112	-0.0193	0.0767
1	15.12	0.2998	-0.0403	0.0017	-0.0761	0.0058	0.1534	0.0212	-0.2576	0.0876
1	15.12	0.3498	-0.0589	0.0021	-0.1298	0.0104	0.2705	0.0352	-0.1291	0.0797
1	15.12	0.3913	-0.0708	0.0026	-0.1847	0.0144	0.3895	0.0506	0.0156	0.0803
1	15.12	0.4496	-0.1075	0.0032	-0.2605	0.0203	0.5485	0.0741	-0.0376	0.0796
1	15.12	0.4997	-0.1329	0.0033	-0.3243	0.0254	0.7164	0.0959	0.0746	0.0815
1	15.12	0.5387	-0.1666	0.0032	-0.3784	0.0297	0.8490	0.1137	-0.0145	0.0850
1	15.12	0.5996	-0.2029	0.0034	-0.4588	0.0365	1.0788	0.1419	0.2248	0.0899
1	15.12	0.6498	-0.2368	0.0038	-0.5455	0.0432	1.2769	0.1654	0.1212	0.0928
1	15.12	0.6998	-0.2769	0.0044	-0.6142	0.0495	1.4950	0.1872	0.1395	0.1032
1	15.12	0.7500	-0.3069	0.0050	-0.6882	0.0568	1.7361	0.2081	0.2721	0.1021
1	15.12	0.8001	-0.3442	0.0054	-0.7843	0.0643	1.9450	0.2310	0.1976	0.1082
1	15.12	0.8497	-0.3775	0.0057	-0.8572	0.0720	2.0339	0.2551	0.0601	0.1115
1	15.12	0.9102	-0.4048	0.0060	-0.9168	0.0821	2.1157	0.2934	-0.0166	0.1290
1	15.12	0.9734	-0.4077	0.0087	-0.9948	0.0936	2.1876	0.3404	0.3371	0.1093
2	15.12	0.1949	0.0128	0.0024	-0.0037	0.0012	0.0179	0.0055	-0.0864	0.0256
2	15.12	0.2405	0.0078	0.0019	-0.0146	0.0032	0.0399	0.0117	-0.2718	0.0471
2	15.12	0.2999	0.0000	0.0016	-0.0317	0.0054	0.0619	0.0216	-0.2805	0.0582
2	15.12	0.3498	-0.0347	0.0018	-0.0452	0.0099	0.1199	0.0379	-0.1520	0.0559
2	15.12	0.3998	-0.0703	0.0028	-0.0821	0.0152	0.1708	0.0578	-0.1065	0.0582
2	15.12	0.4496	-0.0890	0.0036	-0.1164	0.0194	0.2351	0.0797	-0.0209	0.0641
2	15.12	0.4995	-0.1227	0.0036	-0.1585	0.0240	0.2768	0.1041	-0.1081	0.0656
2	15.12	0.5551	-0.1470	0.0035	-0.2111	0.0305	0.3782	0.1339	0.1116	0.0657
2	15.12	0.5996	-0.1733	0.0036	-0.2377	0.0358	0.4184	0.1601	0.0474	0.0698
2	15.12	0.6497	-0.2011	0.0038	-0.2839	0.0428	0.5050	0.1895	0.1224	0.0726
2	15.12	0.6996	-0.2224	0.0040	-0.3341	0.0496	0.5887	0.2206	0.1875	0.0716
2	15.12	0.7495	-0.2575	0.0043	-0.3782	0.0567	0.6491	0.2536	0.1334	0.0784
2	15.12	0.7996	-0.2872	0.0045	-0.4718	0.0644	0.7247	0.2932	0.1463	0.0761
2	15.12	0.8578	-0.3384	0.0048	-0.5375	0.0736	0.7178	0.3434	0.4726	0.0882
2	15.12	0.9100	-0.3486	0.0051	-0.5562	0.0818	0.6038	0.3965	0.4608	0.0966
2	15.12	0.9727	-0.4089	0.0078	-0.5801	0.0917	0.5372	0.4582	0.8884	0.1103
3	15.12	0.1938	0.0165	0.0026	-0.0243	0.0012	0.0331	0.0052	0.0287	0.0258
3	15.12	0.2357	0.0152	0.0018	0.0057	0.0022	0.0368	0.0102	0.1490	0.0493
3	15.12	0.2995	-0.0209	0.0016	-0.0607	0.0046	0.0988	0.0217	0.1458	0.0631
3	15.12	0.3493	-0.0448	0.0016	-0.0995	0.0081	0.1594	0.0371	0.3531	0.0610
3	15.12	0.4000	-0.0638	0.0023	-0.1391	0.0126	0.2325	0.0577	0.5353	0.0642
3	15.12	0.4497	-0.0880	0.0028	-0.1879	0.0158	0.2828	0.0822	0.4579	0.0693
3	15.12	0.4997	-0.1298	0.0028	-0.2538	0.0198	0.3750	0.1111	0.5277	0.0760
3	15.12	0.5556	-0.1548	0.0036	-0.3011	0.0250	0.4862	0.1448	0.6982	0.0801
3	15.12	0.5995	-0.1732	0.0037	-0.3684	0.0295	0.5615	0.1711	0.7313	0.0846
3	15.12	0.6498	-0.2070	0.0041	-0.4452	0.0351	0.6780	0.1998	0.7560	0.0880
3	15.12	0.6890	-0.2716	0.0041	-0.5032	0.0400	0.7588	0.2241	0.8245	0.0834
3	15.12	0.7495	-0.2827	0.0050	-0.5760	0.0492	0.8592	0.2630	0.7046	0.0861
3	15.12	0.7998	-0.2962	0.0058	-0.6540	0.0572	0.9313	0.2982	0.8174	0.0940
3	15.12	0.8577	-0.3444	0.0062	-0.7292	0.0678	0.8841	0.3429	0.8173	0.1017
3	15.12	0.9178	-0.3783	0.0065	-0.8641	0.0789	0.7690	0.3924	0.8295	0.1009
3	15.12	0.9729	-0.3735	0.0087	-0.9217	0.0885	0.6009	0.4355	0.7968	0.1179
4	15.12	0.2001	0.0376	0.0025	0.0090	0.0014	-0.0113	0.0070	0.0765	0.0408
4	15.12	0.2502	0.0195	0.0018	0.0096	0.0027	-0.0023	0.0124	0.1163	0.0762
4	15.12	0.3001	0.0036	0.0018	0.0320	0.0058	-0.0131	0.0245	0.1694	0.0949
4	15.12	0.3502	-0.0339	0.0020	0.0564	0.0096	-0.0152	0.0408	0.2910	0.0981
4	15.12	0.4002	-0.0710	0.0026	0.0828	0.0152	-0.0092	0.0621	0.3410	0.1010
4	15.12	0.4500	-0.0863	0.0028	0.1103	0.0200	-0.0305	0.0826	0.2485	0.1086
4	15.12	0.5001	-0.1169	0.0033	0.1166	0.0250	-0.0172	0.1031	0.4611	0.1168
4	15.12	0.5560	-0.1497	0.0035	0.1287	0.0315	-0.0503	0.1234	0.4275	0.1214
4	15.12	0.6001	-0.1734	0.0036	0.1446	0.0369	-0.0578	0.1391	0.4381	0.1234
4	15.12	0.6501	-0.2275	0.0042	0.1127	0.0437	-0.0279	0.1568	0.6492	0.1269
4	15.12	0.6999	-0.2459	0.0047	0.0892	0.0524	-0.0238	0.1760	0.7622	0.1271
4	15.12	0.7500	-0.2852	0.0055	0.0989	0.0625	-0.0461	0.1963	0.8177	0.1294
4	15.12	0.8002	-0.3214	0.0059	0.0642	0.0731	-0.1158	0.2215	0.7356	0.1418
4	15.12	0.8582	-0.3386	0.0064	0.0630	0.0852	-0.3056	0.2581	0.5752	0.1453
4	15.12	0.9101	-0.3507	0.0061	0.0219	0.0975	-0.5399	0.2976	0.5677	0.1381
4	15.12	0.9728	-0.3618	0.0099	0.0200	0.1120	-0.6943	0.3486	1.3602	0.1447

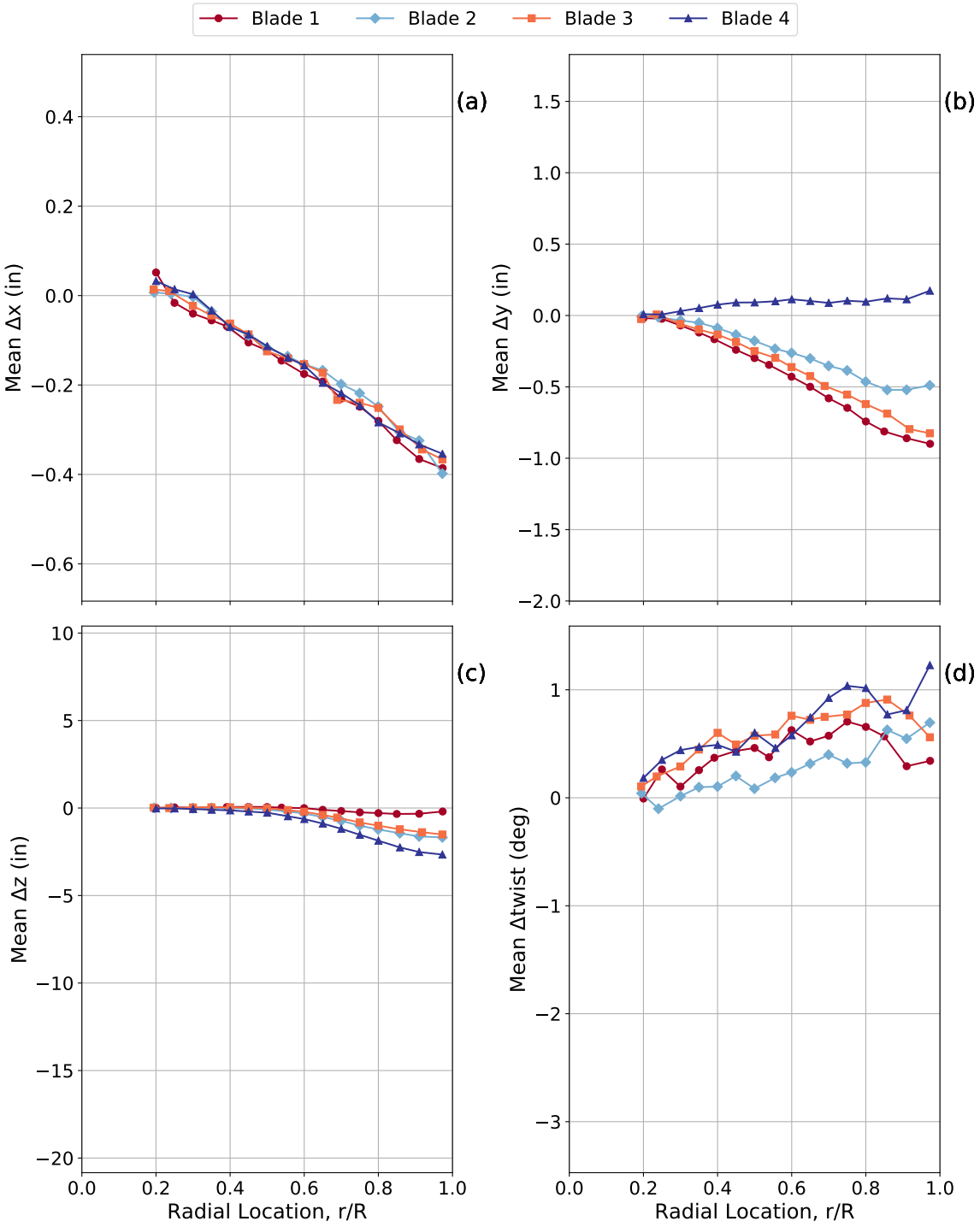


Figure 2.6-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0517	0.0031	-0.0186	0.0012	0.0082	0.0053	-0.0074	0.0355
1	29.88	0.2499	-0.0163	0.0020	-0.0230	0.0032	0.0367	0.0112	0.2624	0.0609
1	29.88	0.2998	-0.0403	0.0018	-0.0701	0.0053	0.0217	0.0200	0.1032	0.0799
1	29.88	0.3498	-0.0555	0.0022	-0.1193	0.0101	0.0425	0.0351	0.2557	0.0754
1	29.88	0.3913	-0.0687	0.0023	-0.1661	0.0144	0.0594	0.0497	0.3707	0.0826
1	29.88	0.4496	-0.1049	0.0031	-0.2405	0.0198	0.0652	0.0723	0.4337	0.0844
1	29.88	0.4997	-0.1228	0.0034	-0.2984	0.0252	0.0567	0.0924	0.4614	0.0942
1	29.88	0.5387	-0.1454	0.0037	-0.3460	0.0300	0.0225	0.1064	0.3751	0.0909
1	29.88	0.5996	-0.1753	0.0039	-0.4288	0.0381	-0.0052	0.1293	0.6262	0.0851
1	29.88	0.6498	-0.1922	0.0045	-0.4993	0.0451	-0.1027	0.1472	0.5214	0.0897
1	29.88	0.6998	-0.2304	0.0046	-0.5802	0.0527	-0.1720	0.1666	0.5748	0.1023
1	29.88	0.7500	-0.2486	0.0047	-0.6473	0.0606	-0.2465	0.1883	0.7055	0.1047
1	29.88	0.8001	-0.2805	0.0054	-0.7425	0.0692	-0.2901	0.2147	0.6564	0.1031
1	29.88	0.8497	-0.3234	0.0056	-0.8124	0.0778	-0.3382	0.2442	0.5690	0.1040
1	29.88	0.9102	-0.3655	0.0055	-0.8599	0.0885	-0.3275	0.2851	0.2923	0.1124
1	29.88	0.9734	-0.3858	0.0082	-0.8991	0.1004	-0.1991	0.3311	0.3421	0.1203
2	29.88	0.1949	0.0070	0.0020	-0.0062	0.0010	0.0051	0.0045	0.0419	0.0269
2	29.88	0.2405	0.0040	0.0018	-0.0125	0.0018	-0.0004	0.0077	-0.1016	0.0497
2	29.88	0.2999	-0.0029	0.0016	-0.0352	0.0036	-0.0026	0.0168	0.0154	0.0663
2	29.88	0.3498	-0.0355	0.0019	-0.0509	0.0068	-0.0011	0.0287	0.0980	0.0621
2	29.88	0.3998	-0.0685	0.0029	-0.0874	0.0098	-0.0152	0.0435	0.1038	0.0702
2	29.88	0.4496	-0.0891	0.0032	-0.1340	0.0126	-0.0185	0.0561	0.2018	0.0713
2	29.88	0.4995	-0.1172	0.0034	-0.1778	0.0157	-0.0906	0.0707	0.0841	0.0783
2	29.88	0.5551	-0.1356	0.0031	-0.2335	0.0197	-0.1922	0.0866	0.1848	0.0776
2	29.88	0.5996	-0.1538	0.0033	-0.2622	0.0227	-0.3192	0.0985	0.2355	0.0812
2	29.88	0.6497	-0.1673	0.0036	-0.3010	0.0271	-0.5124	0.1150	0.3158	0.0864
2	29.88	0.6996	-0.1981	0.0038	-0.3533	0.0320	-0.7299	0.1357	0.3989	0.0849
2	29.88	0.7495	-0.2184	0.0042	-0.3853	0.0367	-1.0077	0.1583	0.3195	0.0891
2	29.88	0.7996	-0.2483	0.0046	-0.4635	0.0418	-1.2224	0.1842	0.3282	0.0933
2	29.88	0.8578	-0.3057	0.0048	-0.5211	0.0479	-1.4393	0.2150	0.6286	0.0949
2	29.88	0.9100	-0.3243	0.0047	-0.5207	0.0537	-1.6250	0.2414	0.5476	0.0992
2	29.88	0.9727	-0.3982	0.0058	-0.4894	0.0605	-1.6769	0.2741	0.6962	0.1018
3	29.88	0.1938	0.0135	0.0022	-0.0251	0.0010	0.0207	0.0037	0.1044	0.0268
3	29.88	0.2357	0.0102	0.0023	0.0071	0.0021	-0.0032	0.0075	0.1974	0.0445
3	29.88	0.2995	-0.0228	0.0016	-0.0589	0.0042	0.0320	0.0151	0.2898	0.0622
3	29.88	0.3493	-0.0445	0.0023	-0.0982	0.0072	0.0394	0.0251	0.4465	0.0687
3	29.88	0.4000	-0.0626	0.0028	-0.1336	0.0114	0.0442	0.0396	0.6015	0.0706
3	29.88	0.4497	-0.0867	0.0035	-0.1855	0.0161	0.0094	0.0547	0.4927	0.0821
3	29.88	0.4997	-0.1247	0.0034	-0.2492	0.0212	-0.0131	0.0719	0.5748	0.0779
3	29.88	0.5556	-0.1408	0.0040	-0.2970	0.0277	-0.1176	0.0931	0.5863	0.0794
3	29.88	0.5995	-0.1532	0.0041	-0.3613	0.0334	-0.2117	0.1098	0.7599	0.0817
3	29.88	0.6498	-0.1725	0.0045	-0.4244	0.0401	-0.3940	0.1272	0.7220	0.0848
3	29.88	0.6890	-0.2334	0.0046	-0.4940	0.0459	-0.5428	0.1426	0.7491	0.0915
3	29.88	0.7495	-0.2398	0.0051	-0.5541	0.0555	-0.8218	0.1678	0.7707	0.0994
3	29.88	0.7998	-0.2512	0.0059	-0.6204	0.0638	-1.0076	0.1908	0.8784	0.1029
3	29.88	0.8577	-0.2993	0.0061	-0.6875	0.0739	-1.2132	0.2212	0.9098	0.1011
3	29.88	0.9178	-0.3441	0.0062	-0.7960	0.0850	-1.3818	0.2554	0.7620	0.1120
3	29.88	0.9729	-0.3666	0.0088	-0.8251	0.0954	-1.5122	0.2880	0.5603	0.1106
4	29.88	0.2001	0.0325	0.0025	0.0090	0.0010	-0.0228	0.0050	0.1836	0.0340
4	29.88	0.2502	0.0140	0.0021	0.0072	0.0030	-0.0239	0.0105	0.3510	0.0546
4	29.88	0.3001	0.0028	0.0016	0.0305	0.0047	-0.0579	0.0182	0.4415	0.0755
4	29.88	0.3502	-0.0336	0.0017	0.0519	0.0085	-0.1005	0.0329	0.4717	0.0793
4	29.88	0.4002	-0.0704	0.0024	0.0759	0.0132	-0.1356	0.0491	0.4902	0.0783
4	29.88	0.4500	-0.0872	0.0030	0.0906	0.0177	-0.2002	0.0662	0.4269	0.0843
4	29.88	0.5001	-0.1132	0.0036	0.0914	0.0230	-0.2675	0.0826	0.6026	0.0961
4	29.88	0.5560	-0.1389	0.0036	0.0996	0.0299	-0.4701	0.1019	0.4613	0.0895
4	29.88	0.6001	-0.1565	0.0036	0.1133	0.0354	-0.6300	0.1166	0.5785	0.0894
4	29.88	0.6501	-0.1952	0.0039	0.1013	0.0425	-0.8887	0.1343	0.7441	0.0970
4	29.88	0.6999	-0.2182	0.0047	0.0879	0.0504	-1.1863	0.1506	0.9248	0.0977
4	29.88	0.7500	-0.2456	0.0050	0.1035	0.0584	-1.5294	0.1690	1.0366	0.0990
4	29.88	0.8002	-0.2836	0.0056	0.0963	0.0670	-1.8673	0.1879	1.0168	0.1047
4	29.88	0.8582	-0.3083	0.0061	0.1197	0.0771	-2.2517	0.2138	0.7712	0.1049
4	29.88	0.9101	-0.3329	0.0061	0.1132	0.0864	-2.5137	0.2397	0.8112	0.1181
4	29.88	0.9728	-0.3539	0.0083	0.1732	0.0973	-2.6599	0.2740	1.2278	0.1305

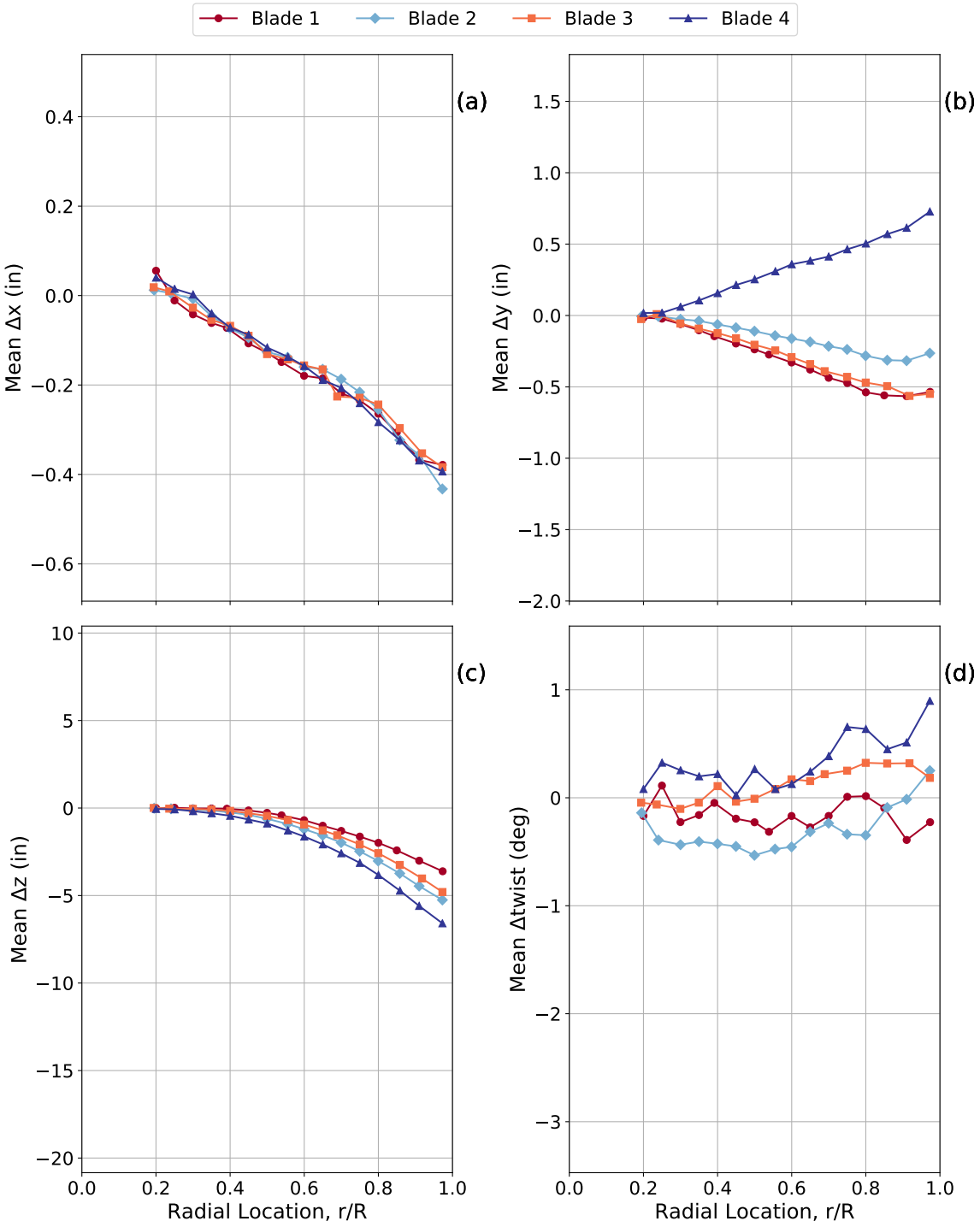


Figure 2.6-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0556	0.0022	-0.0156	0.0013	-0.0046	0.0047	-0.1681	0.0345
1	45	0.2499	-0.0109	0.0024	-0.0219	0.0034	0.0160	0.0119	0.1129	0.0632
1	45	0.2998	-0.0420	0.0019	-0.0605	0.0063	-0.0232	0.0207	-0.2252	0.0799
1	45	0.3498	-0.0612	0.0024	-0.1035	0.0107	-0.0255	0.0345	-0.1598	0.0902
1	45	0.3913	-0.0723	0.0033	-0.1452	0.0160	-0.0396	0.0516	-0.0473	0.0892
1	45	0.4496	-0.1069	0.0034	-0.1963	0.0227	-0.1380	0.0762	-0.1938	0.0902
1	45	0.4997	-0.1279	0.0032	-0.2372	0.0293	-0.2742	0.1012	-0.2270	0.0920
1	45	0.5387	-0.1486	0.0034	-0.2737	0.0348	-0.4168	0.1213	-0.3148	0.0908
1	45	0.5996	-0.1794	0.0035	-0.3294	0.0438	-0.6959	0.1542	-0.1687	0.0967
1	45	0.6498	-0.1852	0.0036	-0.3789	0.0522	-1.0115	0.1809	-0.2739	0.1022
1	45	0.6998	-0.2186	0.0042	-0.4364	0.0609	-1.3071	0.2093	-0.1683	0.1005
1	45	0.7500	-0.2345	0.0041	-0.4731	0.0699	-1.6326	0.2378	0.0090	0.1008
1	45	0.8001	-0.2644	0.0044	-0.5381	0.0789	-1.9880	0.2659	0.0153	0.1043
1	45	0.8497	-0.3064	0.0049	-0.5595	0.0881	-2.4204	0.2930	-0.0953	0.1032
1	45	0.9102	-0.3675	0.0053	-0.5657	0.0995	-3.0093	0.3269	-0.3906	0.1066
1	45	0.9734	-0.3787	0.0074	-0.5353	0.1119	-3.6142	0.3633	-0.2259	0.1112
2	45	0.1949	0.0123	0.0018	-0.0059	0.0013	-0.0108	0.0053	-0.1395	0.0246
2	45	0.2405	0.0052	0.0019	-0.0067	0.0027	-0.0441	0.0097	-0.3918	0.0398
2	45	0.2999	-0.0072	0.0018	-0.0263	0.0059	-0.0937	0.0219	-0.4347	0.0575
2	45	0.3498	-0.0458	0.0019	-0.0380	0.0101	-0.1402	0.0370	-0.4060	0.0629
2	45	0.3998	-0.0733	0.0025	-0.0628	0.0159	-0.2498	0.0572	-0.4261	0.0629
2	45	0.4496	-0.0941	0.0027	-0.0854	0.0211	-0.3894	0.0802	-0.4504	0.0628
2	45	0.4995	-0.1259	0.0026	-0.1099	0.0273	-0.6133	0.1026	-0.5328	0.0673
2	45	0.5551	-0.1382	0.0028	-0.1412	0.0350	-0.9114	0.1286	-0.4754	0.0666
2	45	0.5996	-0.1597	0.0028	-0.1616	0.0420	-1.2054	0.1472	-0.4551	0.0713
2	45	0.6497	-0.1649	0.0035	-0.1850	0.0507	-1.5617	0.1682	-0.3147	0.0770
2	45	0.6996	-0.1870	0.0037	-0.2155	0.0591	-1.9758	0.1871	-0.2354	0.0821
2	45	0.7495	-0.2160	0.0044	-0.2379	0.0684	-2.4720	0.2064	-0.3376	0.0827
2	45	0.7996	-0.2544	0.0048	-0.2822	0.0783	-3.0272	0.2256	-0.3471	0.0828
2	45	0.8578	-0.3232	0.0060	-0.3130	0.0898	-3.7369	0.2491	-0.0906	0.0911
2	45	0.9100	-0.3564	0.0072	-0.3167	0.1006	-4.4582	0.2742	-0.0141	0.0887
2	45	0.9727	-0.4325	0.0094	-0.2640	0.1135	-5.2536	0.3080	0.2516	0.1001
3	45	0.1938	0.0186	0.0017	-0.0251	0.0011	0.0044	0.0047	-0.0454	0.0252
3	45	0.2357	0.0094	0.0018	0.0095	0.0025	-0.0366	0.0088	-0.0623	0.0478
3	45	0.2995	-0.0270	0.0020	-0.0560	0.0052	-0.0467	0.0187	-0.1029	0.0636
3	45	0.3493	-0.0543	0.0021	-0.0919	0.0090	-0.0876	0.0335	-0.0449	0.0654
3	45	0.4000	-0.0677	0.0033	-0.1234	0.0144	-0.1608	0.0511	0.1078	0.0670
3	45	0.4497	-0.0899	0.0040	-0.1595	0.0197	-0.2943	0.0713	-0.0359	0.0752
3	45	0.4997	-0.1309	0.0040	-0.2048	0.0259	-0.4503	0.0948	-0.0090	0.0809
3	45	0.5556	-0.1428	0.0042	-0.2447	0.0338	-0.6855	0.1219	0.0818	0.0836
3	45	0.5995	-0.1562	0.0051	-0.2915	0.0406	-0.9424	0.1431	0.1707	0.0819
3	45	0.6498	-0.1653	0.0055	-0.3404	0.0488	-1.2773	0.1691	0.1550	0.0911
3	45	0.6890	-0.2258	0.0059	-0.3900	0.0560	-1.5588	0.1901	0.2186	0.0945
3	45	0.7495	-0.2286	0.0066	-0.4301	0.0672	-2.0796	0.2239	0.2513	0.0896
3	45	0.7998	-0.2438	0.0075	-0.4698	0.0769	-2.5778	0.2525	0.3237	0.0941
3	45	0.8577	-0.2965	0.0086	-0.4950	0.0887	-3.2521	0.2877	0.3174	0.0987
3	45	0.9178	-0.3528	0.0093	-0.5634	0.1013	-4.0260	0.3273	0.3202	0.1022
3	45	0.9729	-0.3839	0.0128	-0.5491	0.1129	-4.7988	0.3656	0.1844	0.1043
4	45	0.2001	0.0401	0.0020	0.0172	0.0014	-0.0528	0.0053	0.0811	0.0244
4	45	0.2502	0.0150	0.0022	0.0192	0.0035	-0.0763	0.0108	0.3249	0.0516
4	45	0.3001	0.0023	0.0022	0.0611	0.0064	-0.1777	0.0207	0.2547	0.0585
4	45	0.3502	-0.0401	0.0024	0.1055	0.0111	-0.2987	0.0351	0.1985	0.0604
4	45	0.4002	-0.0717	0.0031	0.1564	0.0175	-0.4437	0.0542	0.2201	0.0626
4	45	0.4500	-0.0877	0.0038	0.2136	0.0219	-0.6583	0.0745	0.0235	0.0638
4	45	0.5001	-0.1163	0.0040	0.2535	0.0295	-0.8849	0.0962	0.2656	0.0710
4	45	0.5560	-0.1371	0.0043	0.3094	0.0382	-1.2877	0.1197	0.0804	0.0756
4	45	0.6001	-0.1576	0.0043	0.3586	0.0452	-1.6282	0.1390	0.1270	0.0778
4	45	0.6501	-0.1888	0.0047	0.3836	0.0539	-2.0771	0.1583	0.2421	0.0782
4	45	0.6999	-0.2065	0.0049	0.4127	0.0638	-2.5857	0.1789	0.3853	0.0810
4	45	0.7500	-0.2406	0.0053	0.4636	0.0743	-3.1353	0.2003	0.6554	0.0837
4	45	0.8002	-0.2830	0.0060	0.5040	0.0842	-3.8281	0.2234	0.6372	0.0836
4	45	0.8582	-0.3237	0.0068	0.5699	0.0967	-4.7216	0.2543	0.4500	0.0917
4	45	0.9101	-0.3689	0.0082	0.6140	0.1083	-5.5939	0.2837	0.5120	0.0900
4	45	0.9728	-0.3934	0.0107	0.7275	0.1223	-6.5877	0.3228	0.8976	0.0980

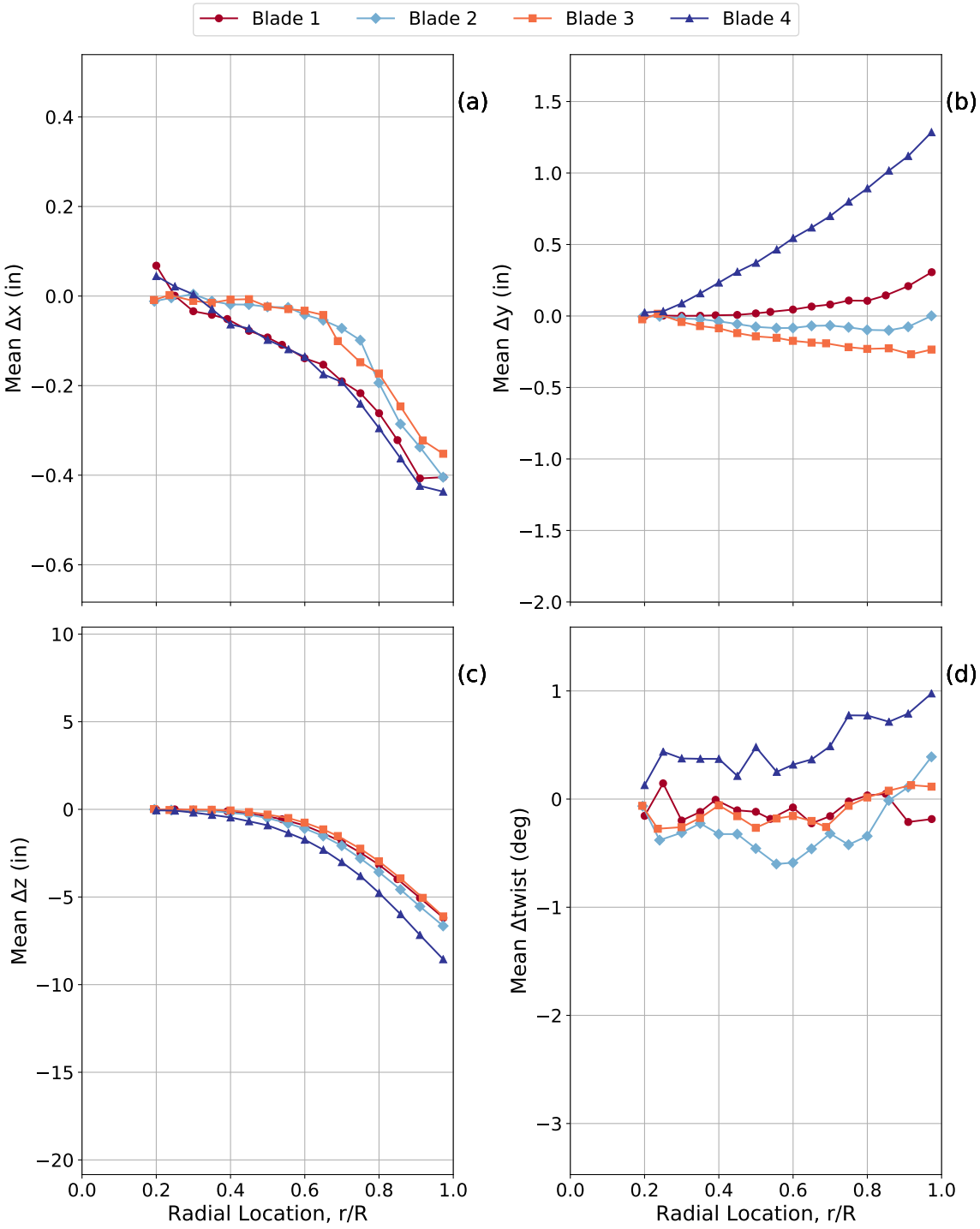


Figure 2.6-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0679	0.0024	-0.0006	0.0014	-0.0189	0.0045	-0.1550	0.0350
1	60.12	0.2499	0.0007	0.0026	0.0028	0.0027	-0.0029	0.0097	0.1454	0.0528
1	60.12	0.2998	-0.0339	0.0025	0.0012	0.0056	-0.0588	0.0186	-0.1984	0.0758
1	60.12	0.3498	-0.0419	0.0023	0.0017	0.0098	-0.0841	0.0326	-0.1190	0.0644
1	60.12	0.3913	-0.0513	0.0033	0.0050	0.0139	-0.1143	0.0469	-0.0067	0.0661
1	60.12	0.4496	-0.0776	0.0038	0.0076	0.0184	-0.2404	0.0665	-0.1041	0.0764
1	60.12	0.4997	-0.0924	0.0038	0.0183	0.0229	-0.4021	0.0867	-0.1175	0.0754
1	60.12	0.5387	-0.1089	0.0041	0.0288	0.0272	-0.5661	0.1032	-0.1834	0.0754
1	60.12	0.5996	-0.1389	0.0044	0.0451	0.0348	-0.9181	0.1282	-0.0778	0.0785
1	60.12	0.6498	-0.1533	0.0047	0.0660	0.0413	-1.3617	0.1488	-0.2244	0.0821
1	60.12	0.6998	-0.1903	0.0051	0.0803	0.0484	-1.8596	0.1682	-0.1579	0.0768
1	60.12	0.7500	-0.2169	0.0063	0.1081	0.0559	-2.4711	0.1880	-0.0226	0.0830
1	60.12	0.8001	-0.2617	0.0069	0.1063	0.0643	-3.1637	0.2085	0.0338	0.0795
1	60.12	0.8497	-0.3217	0.0079	0.1442	0.0732	-3.9802	0.2307	0.0480	0.0763
1	60.12	0.9102	-0.4072	0.0092	0.2090	0.0839	-5.0529	0.2613	-0.2119	0.0862
1	60.12	0.9734	-0.4045	0.0121	0.3064	0.0949	-6.1881	0.2945	-0.1850	0.0841
2	60.12	0.1949	-0.0117	0.0013	-0.0041	0.0008	-0.0061	0.0038	-0.0650	0.0263
2	60.12	0.2405	-0.0039	0.0010	-0.0027	0.0020	-0.0416	0.0082	-0.3799	0.0400
2	60.12	0.2999	0.0042	0.0015	-0.0169	0.0038	-0.0752	0.0170	-0.3107	0.0605
2	60.12	0.3498	-0.0114	0.0017	-0.0220	0.0067	-0.1047	0.0299	-0.2247	0.0578
2	60.12	0.3998	-0.0187	0.0025	-0.0372	0.0105	-0.1978	0.0462	-0.3235	0.0643
2	60.12	0.4496	-0.0191	0.0026	-0.0561	0.0130	-0.3015	0.0616	-0.3239	0.0729
2	60.12	0.4995	-0.0241	0.0030	-0.0760	0.0171	-0.4993	0.0806	-0.4569	0.0778
2	60.12	0.5551	-0.0254	0.0033	-0.0847	0.0217	-0.8061	0.1046	-0.6004	0.0736
2	60.12	0.5996	-0.0415	0.0036	-0.0836	0.0264	-1.0943	0.1246	-0.5881	0.0790
2	60.12	0.6497	-0.0540	0.0043	-0.0690	0.0319	-1.5218	0.1488	-0.4600	0.0875
2	60.12	0.6996	-0.0720	0.0050	-0.0667	0.0381	-2.0758	0.1739	-0.3189	0.0845
2	60.12	0.7495	-0.0985	0.0069	-0.0790	0.0446	-2.7948	0.2006	-0.4219	0.0871
2	60.12	0.7996	-0.1939	0.0087	-0.0973	0.0518	-3.5762	0.2282	-0.3428	0.0939
2	60.12	0.8578	-0.2858	0.0112	-0.1002	0.0608	-4.5748	0.2639	-0.0126	0.0868
2	60.12	0.9100	-0.3370	0.0127	-0.0757	0.0688	-5.5393	0.2999	0.1101	0.0932
2	60.12	0.9727	-0.4045	0.0161	0.0011	0.0794	-6.6511	0.3459	0.3903	0.1051
3	60.12	0.1938	-0.0088	0.0019	-0.0232	0.0017	0.0164	0.0057	-0.0623	0.0231
3	60.12	0.2357	0.0022	0.0020	0.0156	0.0023	-0.0380	0.0083	-0.2745	0.0454
3	60.12	0.2995	-0.0108	0.0016	-0.0418	0.0059	-0.0080	0.0223	-0.2597	0.0526
3	60.12	0.3493	-0.0152	0.0016	-0.0705	0.0103	-0.0227	0.0373	-0.1746	0.0564
3	60.12	0.4000	-0.0079	0.0020	-0.0858	0.0156	-0.0639	0.0576	-0.0578	0.0577
3	60.12	0.4497	-0.0070	0.0025	-0.1195	0.0211	-0.1546	0.0774	-0.1581	0.0648
3	60.12	0.4997	-0.0235	0.0030	-0.1425	0.0277	-0.2960	0.0999	-0.2655	0.0684
3	60.12	0.5556	-0.0291	0.0033	-0.1526	0.0357	-0.4977	0.1270	-0.1795	0.0655
3	60.12	0.5995	-0.0327	0.0036	-0.1738	0.0427	-0.7582	0.1503	-0.1563	0.0791
3	60.12	0.6498	-0.0423	0.0043	-0.1861	0.0512	-1.1432	0.1773	-0.2024	0.0739
3	60.12	0.6890	-0.1006	0.0044	-0.1910	0.0587	-1.5222	0.1989	-0.2580	0.0728
3	60.12	0.7495	-0.1478	0.0056	-0.2180	0.0704	-2.2434	0.2294	-0.0619	0.0784
3	60.12	0.7998	-0.1730	0.0063	-0.2302	0.0812	-2.9640	0.2579	0.0150	0.0766
3	60.12	0.8577	-0.2464	0.0079	-0.2259	0.0938	-3.9357	0.2916	0.0776	0.0762
3	60.12	0.9178	-0.3224	0.0096	-0.2675	0.1079	-5.0499	0.3276	0.1289	0.0783
3	60.12	0.9729	-0.3522	0.0122	-0.2347	0.1209	-6.1073	0.3661	0.1148	0.0762
4	60.12	0.2001	0.0446	0.0017	0.0248	0.0012	-0.0564	0.0041	0.1294	0.0259
4	60.12	0.2502	0.0214	0.0018	0.0326	0.0019	-0.0749	0.0078	0.4382	0.0554
4	60.12	0.3001	0.0038	0.0020	0.0886	0.0044	-0.1848	0.0149	0.3757	0.0602
4	60.12	0.3502	-0.0293	0.0019	0.1585	0.0073	-0.3166	0.0261	0.3723	0.0580
4	60.12	0.4002	-0.0635	0.0021	0.2335	0.0112	-0.4635	0.0397	0.3715	0.0616
4	60.12	0.4500	-0.0725	0.0026	0.3088	0.0149	-0.6819	0.0539	0.2139	0.0658
4	60.12	0.5001	-0.0979	0.0032	0.3719	0.0189	-0.9128	0.0685	0.4796	0.0667
4	60.12	0.5560	-0.1188	0.0033	0.4649	0.0242	-1.3518	0.0880	0.2514	0.0694
4	60.12	0.6001	-0.1356	0.0036	0.5449	0.0284	-1.7329	0.1024	0.3187	0.0691
4	60.12	0.6501	-0.1747	0.0039	0.6186	0.0333	-2.3072	0.1214	0.3670	0.0711
4	60.12	0.6999	-0.1920	0.0042	0.6989	0.0389	-3.0114	0.1415	0.4889	0.0685
4	60.12	0.7500	-0.2405	0.0054	0.7995	0.0452	-3.8037	0.1656	0.7743	0.0658
4	60.12	0.8002	-0.2952	0.0066	0.8928	0.0514	-4.7712	0.1898	0.7727	0.0743
4	60.12	0.8582	-0.3627	0.0089	1.0167	0.0591	-5.9843	0.2221	0.7150	0.0688
4	60.12	0.9101	-0.4239	0.0107	1.1187	0.0663	-7.1682	0.2551	0.7904	0.0771
4	60.12	0.9728	-0.4368	0.0137	1.2850	0.0756	-8.5533	0.2985	0.9768	0.0800

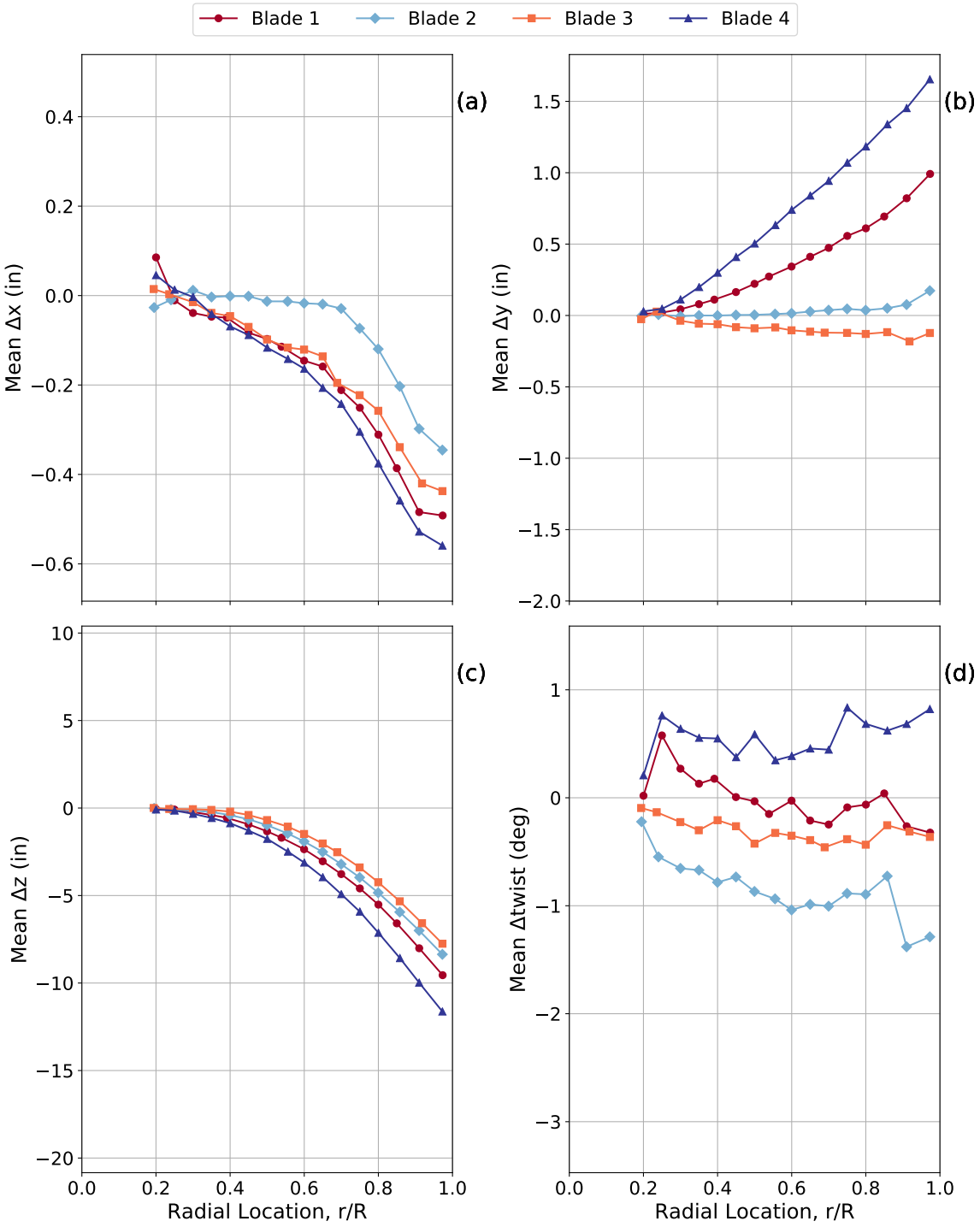


Figure 2.6-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0854	0.0039	0.0105	0.0016	-0.0596	0.0048	0.0189	0.0362
1	74.88	0.2499	-0.0107	0.0016	0.0202	0.0028	-0.0868	0.0106	0.5774	0.0816
1	74.88	0.2998	-0.0389	0.0021	0.0431	0.0063	-0.2334	0.0205	0.2693	0.0896
1	74.88	0.3498	-0.0472	0.0030	0.0794	0.0106	-0.3992	0.0365	0.1304	0.0949
1	74.88	0.3913	-0.0494	0.0029	0.1111	0.0151	-0.5627	0.0524	0.1763	0.0938
1	74.88	0.4496	-0.0829	0.0035	0.1640	0.0202	-0.9330	0.0786	0.0065	0.0974
1	74.88	0.4997	-0.0971	0.0037	0.2218	0.0254	-1.3307	0.1060	-0.0326	0.0988
1	74.88	0.5387	-0.1144	0.0048	0.2727	0.0294	-1.6973	0.1278	-0.1501	0.1001
1	74.88	0.5996	-0.1456	0.0057	0.3426	0.0360	-2.3535	0.1642	-0.0267	0.1050
1	74.88	0.6498	-0.1587	0.0064	0.4111	0.0420	-3.0407	0.1957	-0.2109	0.1076
1	74.88	0.6998	-0.2114	0.0074	0.4736	0.0481	-3.7742	0.2256	-0.2478	0.1125
1	74.88	0.7500	-0.2509	0.0083	0.5573	0.0550	-4.5935	0.2572	-0.0891	0.1155
1	74.88	0.8001	-0.3111	0.0100	0.6105	0.0618	-5.5201	0.2855	-0.0635	0.1163
1	74.88	0.8497	-0.3862	0.0122	0.6932	0.0696	-6.5898	0.3184	0.0402	0.1176
1	74.88	0.9102	-0.4843	0.0150	0.8210	0.0791	-8.0124	0.3579	-0.2639	0.1238
1	74.88	0.9734	-0.4919	0.0169	0.9916	0.0893	-9.5510	0.4021	-0.3228	0.1309
2	74.88	0.1949	-0.0268	0.0011	-0.0029	0.0010	-0.0167	0.0037	-0.2218	0.0257
2	74.88	0.2405	-0.0095	0.0013	0.0062	0.0023	-0.0843	0.0085	-0.5475	0.0478
2	74.88	0.2999	0.0118	0.0014	-0.0049	0.0047	-0.1527	0.0179	-0.6539	0.0651
2	74.88	0.3498	-0.0032	0.0019	0.0001	0.0080	-0.2260	0.0299	-0.6702	0.0528
2	74.88	0.3998	-0.0012	0.0023	-0.0005	0.0126	-0.4065	0.0478	-0.7831	0.0679
2	74.88	0.4496	-0.0014	0.0027	0.0034	0.0163	-0.6419	0.0673	-0.7335	0.0749
2	74.88	0.4995	-0.0129	0.0032	0.0042	0.0216	-0.9800	0.0891	-0.8678	0.0767
2	74.88	0.5551	-0.0130	0.0041	0.0099	0.0277	-1.4522	0.1144	-0.9362	0.0845
2	74.88	0.5996	-0.0171	0.0042	0.0151	0.0334	-1.9127	0.1358	-1.0389	0.0955
2	74.88	0.6497	-0.0192	0.0057	0.0275	0.0404	-2.5078	0.1582	-0.9872	0.1202
2	74.88	0.6996	-0.0290	0.0067	0.0373	0.0465	-3.2078	0.1818	-1.0041	0.1215
2	74.88	0.7495	-0.0732	0.0084	0.0460	0.0537	-3.9656	0.2073	-0.8856	0.1191
2	74.88	0.7996	-0.1195	0.0103	0.0369	0.0610	-4.8409	0.2369	-0.8943	0.1548
2	74.88	0.8578	-0.2030	0.0200	0.0507	0.0707	-5.9454	0.2662	-0.7259	0.3308
2	74.88	0.9100	-0.2980	0.0159	0.0762	0.0818	-7.0017	0.3044	-1.3803	0.2282
2	74.88	0.9727	-0.3455	0.0148	0.1735	0.0884	-8.3606	0.3495	-1.2879	0.1632
3	74.88	0.1938	0.0146	0.0017	-0.0258	0.0012	0.0030	0.0056	-0.0948	0.0383
3	74.88	0.2357	0.0031	0.0015	0.0270	0.0024	-0.0554	0.0100	-0.1338	0.0711
3	74.88	0.2995	-0.0147	0.0018	-0.0366	0.0056	-0.0666	0.0244	-0.2254	0.0987
3	74.88	0.3493	-0.0387	0.0018	-0.0573	0.0096	-0.1078	0.0423	-0.3009	0.0929
3	74.88	0.4000	-0.0460	0.0023	-0.0610	0.0151	-0.2049	0.0657	-0.2078	0.0846
3	74.88	0.4497	-0.0701	0.0028	-0.0818	0.0210	-0.3987	0.0921	-0.2635	0.1004
3	74.88	0.4997	-0.0983	0.0026	-0.0898	0.0282	-0.6892	0.1209	-0.4247	0.0987
3	74.88	0.5556	-0.1163	0.0033	-0.0837	0.0373	-1.0642	0.1563	-0.3254	0.0990
3	74.88	0.5995	-0.1208	0.0036	-0.1039	0.0449	-1.4822	0.1837	-0.3512	0.1050
3	74.88	0.6498	-0.1361	0.0042	-0.1132	0.0546	-2.0261	0.2151	-0.3923	0.1112
3	74.88	0.6890	-0.1953	0.0048	-0.1202	0.0628	-2.5244	0.2380	-0.4587	0.1104
3	74.88	0.7495	-0.2228	0.0059	-0.1220	0.0767	-3.3941	0.2728	-0.3837	0.1222
3	74.88	0.7998	-0.2577	0.0068	-0.1293	0.0888	-4.2411	0.3008	-0.4347	0.1213
3	74.88	0.8577	-0.3391	0.0090	-0.1168	0.1034	-5.3291	0.3336	-0.2543	0.1282
3	74.88	0.9178	-0.4202	0.0107	-0.1814	0.1185	-6.5816	0.3682	-0.3129	0.1228
3	74.88	0.9729	-0.4374	0.0130	-0.1228	0.1331	-7.7525	0.4048	-0.3627	0.1297
4	74.88	0.2001	0.0456	0.0024	0.0289	0.0010	-0.0858	0.0053	0.2079	0.0249
4	74.88	0.2502	0.0130	0.0019	0.0467	0.0022	-0.1476	0.0107	0.7618	0.0477
4	74.88	0.3001	-0.0032	0.0027	0.1117	0.0037	-0.3321	0.0212	0.6382	0.0555
4	74.88	0.3502	-0.0414	0.0024	0.1990	0.0067	-0.5706	0.0368	0.5552	0.0544
4	74.88	0.4002	-0.0689	0.0030	0.2995	0.0101	-0.8707	0.0566	0.5492	0.0492
4	74.88	0.4500	-0.0884	0.0035	0.4092	0.0137	-1.2948	0.0753	0.3757	0.0556
4	74.88	0.5001	-0.1166	0.0036	0.5037	0.0174	-1.7632	0.0966	0.5876	0.0614
4	74.88	0.5560	-0.1419	0.0045	0.6331	0.0226	-2.4952	0.1240	0.3472	0.0632
4	74.88	0.6001	-0.1636	0.0053	0.7400	0.0273	-3.1194	0.1471	0.3869	0.0624
4	74.88	0.6501	-0.2065	0.0063	0.8400	0.0334	-3.9540	0.1757	0.4563	0.0671
4	74.88	0.6999	-0.2424	0.0083	0.9428	0.0397	-4.9209	0.2067	0.4456	0.0725
4	74.88	0.7500	-0.3046	0.0097	1.0699	0.0472	-5.9223	0.2398	0.8346	0.0661
4	74.88	0.8002	-0.3755	0.0124	1.1841	0.0549	-7.1304	0.2757	0.6842	0.0684
4	74.88	0.8582	-0.4585	0.0154	1.3388	0.0648	-8.5791	0.3199	0.6220	0.0736
4	74.88	0.9101	-0.5280	0.0181	1.4523	0.0739	-9.9802	0.3595	0.6836	0.0815
4	74.88	0.9728	-0.5593	0.0209	1.6540	0.0856	-11.6291	0.4082	0.8210	0.0893

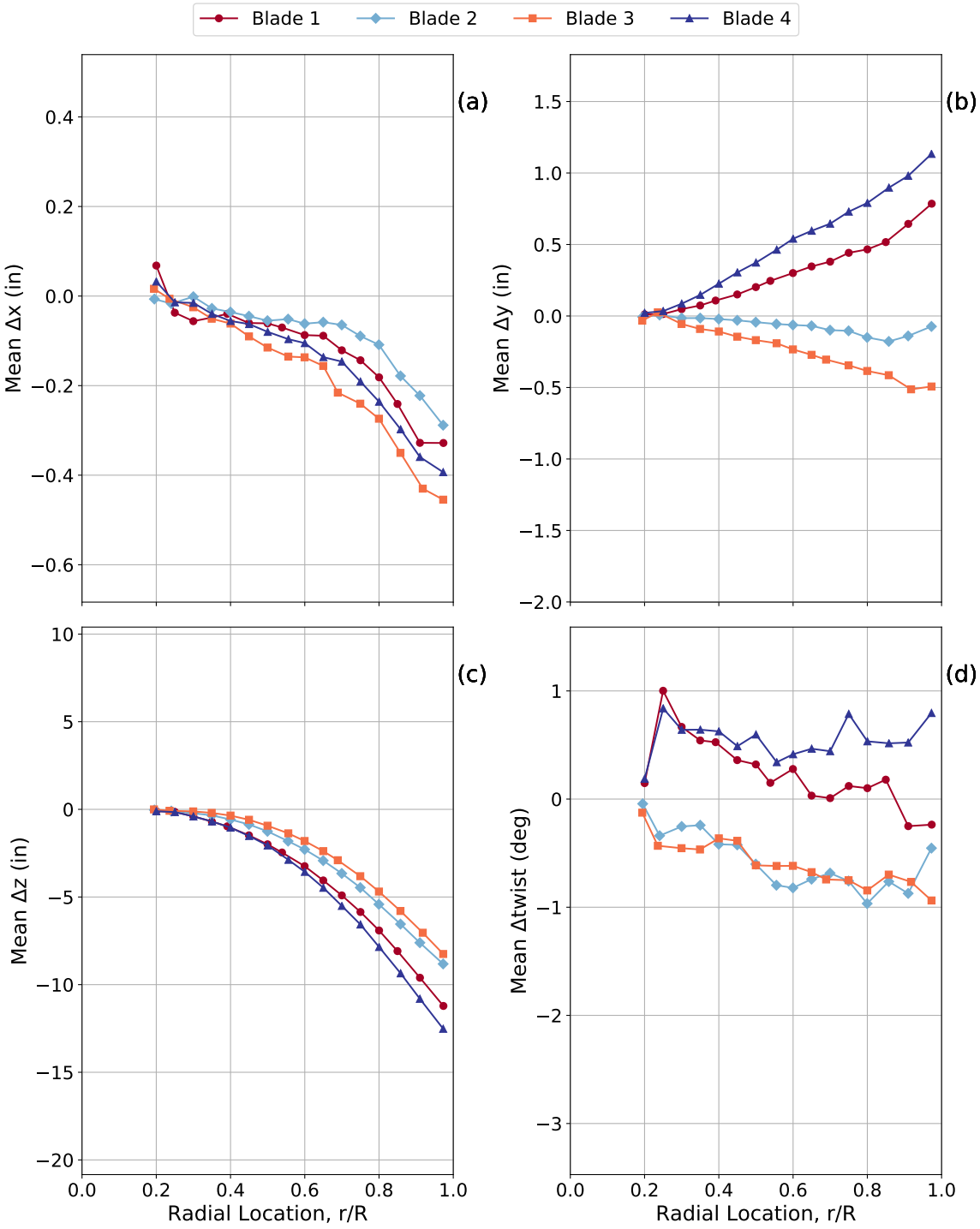


Figure 2.6-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-13. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0681	0.0038	0.0117	0.0022	-0.1023	0.0074	0.1476	0.0594
1	80.16	0.2499	-0.0372	0.0028	0.0138	0.0033	-0.1436	0.0125	1.0015	0.1447
1	80.16	0.2998	-0.0561	0.0032	0.0478	0.0082	-0.3991	0.0310	0.6673	0.1568
1	80.16	0.3498	-0.0479	0.0034	0.0736	0.0145	-0.6947	0.0544	0.5422	0.1558
1	80.16	0.3913	-0.0397	0.0036	0.1081	0.0200	-0.9703	0.0770	0.5260	0.1513
1	80.16	0.4496	-0.0602	0.0044	0.1506	0.0280	-1.4824	0.1132	0.3602	0.1557
1	80.16	0.4997	-0.0610	0.0057	0.2021	0.0356	-1.9944	0.1477	0.3203	0.1576
1	80.16	0.5387	-0.0702	0.0065	0.2455	0.0419	-2.4620	0.1775	0.1500	0.1622
1	80.16	0.5996	-0.0872	0.0079	0.3003	0.0525	-3.2421	0.2269	0.2780	0.1627
1	80.16	0.6498	-0.0886	0.0095	0.3465	0.0619	-4.0542	0.2702	0.0318	0.1668
1	80.16	0.6998	-0.1211	0.0117	0.3800	0.0716	-4.9087	0.3139	0.0087	0.1700
1	80.16	0.7500	-0.1434	0.0140	0.4418	0.0820	-5.8555	0.3616	0.1207	0.1640
1	80.16	0.8001	-0.1815	0.0172	0.4660	0.0929	-6.9105	0.4081	0.1009	0.1705
1	80.16	0.8497	-0.2410	0.0204	0.5168	0.1041	-8.0863	0.4582	0.1795	0.1690
1	80.16	0.9102	-0.3278	0.0244	0.6442	0.1183	-9.6061	0.5205	-0.2503	0.1689
1	80.16	0.9734	-0.3281	0.0269	0.7853	0.1336	-11.2161	0.5890	-0.2365	0.1731
2	80.16	0.1949	-0.0067	0.0019	-0.0066	0.0010	-0.0368	0.0041	-0.0435	0.0258
2	80.16	0.2405	-0.0169	0.0015	0.0068	0.0017	-0.0995	0.0078	-0.3385	0.0453
2	80.16	0.2999	-0.0014	0.0017	-0.0149	0.0042	-0.2196	0.0172	-0.2534	0.0608
2	80.16	0.3498	-0.0275	0.0013	-0.0145	0.0070	-0.3453	0.0300	-0.2417	0.0602
2	80.16	0.3998	-0.0357	0.0017	-0.0215	0.0109	-0.5786	0.0461	-0.4176	0.0580
2	80.16	0.4496	-0.0449	0.0024	-0.0302	0.0153	-0.8617	0.0648	-0.4238	0.0667
2	80.16	0.4995	-0.0550	0.0027	-0.0431	0.0203	-1.2542	0.0860	-0.6015	0.0657
2	80.16	0.5551	-0.0515	0.0030	-0.0560	0.0269	-1.8129	0.1111	-0.7967	0.0702
2	80.16	0.5996	-0.0617	0.0034	-0.0627	0.0328	-2.2874	0.1322	-0.8212	0.0707
2	80.16	0.6497	-0.0583	0.0044	-0.0688	0.0401	-2.9258	0.1567	-0.7407	0.0768
2	80.16	0.6996	-0.0645	0.0051	-0.0989	0.0480	-3.6562	0.1825	-0.6847	0.0759
2	80.16	0.7495	-0.0893	0.0063	-0.1038	0.0562	-4.4631	0.2085	-0.7578	0.0834
2	80.16	0.7996	-0.1087	0.0077	-0.1501	0.0647	-5.4185	0.2363	-0.9664	0.0852
2	80.16	0.8578	-0.1784	0.0097	-0.1779	0.0755	-6.5464	0.2691	-0.7627	0.0898
2	80.16	0.9100	-0.2223	0.0112	-0.1395	0.0852	-7.6094	0.3007	-0.8724	0.0907
2	80.16	0.9727	-0.2884	0.0134	-0.0731	0.0970	-8.8187	0.3401	-0.4536	0.0994
3	80.16	0.1938	0.0162	0.0023	-0.0324	0.0011	-0.0042	0.0034	-0.1257	0.0312
3	80.16	0.2357	-0.0060	0.0018	0.0254	0.0024	-0.0823	0.0058	-0.4318	0.0517
3	80.16	0.2995	-0.0250	0.0020	-0.0557	0.0046	-0.1177	0.0133	-0.4542	0.0735
3	80.16	0.3493	-0.0506	0.0020	-0.0906	0.0081	-0.2012	0.0226	-0.4661	0.0661
3	80.16	0.4000	-0.0614	0.0023	-0.1084	0.0128	-0.3555	0.0349	-0.3632	0.0773
3	80.16	0.4497	-0.0901	0.0023	-0.1448	0.0169	-0.5946	0.0492	-0.3859	0.0807
3	80.16	0.4997	-0.1150	0.0027	-0.1689	0.0221	-0.9337	0.0677	-0.6129	0.0822
3	80.16	0.5556	-0.1352	0.0031	-0.1906	0.0289	-1.3686	0.0881	-0.6184	0.0909
3	80.16	0.5995	-0.1368	0.0032	-0.2337	0.0343	-1.8053	0.1054	-0.6174	0.0968
3	80.16	0.6498	-0.1560	0.0040	-0.2715	0.0419	-2.3837	0.1258	-0.6757	0.1008
3	80.16	0.6890	-0.2156	0.0043	-0.3050	0.0481	-2.9032	0.1421	-0.7434	0.0997
3	80.16	0.7495	-0.2403	0.0054	-0.3450	0.0579	-3.8136	0.1683	-0.7503	0.1023
3	80.16	0.7998	-0.2739	0.0062	-0.3844	0.0672	-4.6897	0.1899	-0.8448	0.1115
3	80.16	0.8577	-0.3502	0.0078	-0.4142	0.0780	-5.7973	0.2139	-0.6984	0.1124
3	80.16	0.9178	-0.4300	0.0090	-0.5127	0.0896	-7.0388	0.2388	-0.7659	0.1125
3	80.16	0.9729	-0.4547	0.0114	-0.4931	0.1003	-8.2517	0.2648	-0.9376	0.1159
4	80.16	0.2001	0.0324	0.0055	0.0216	0.0015	-0.1083	0.0052	0.1873	0.0321
4	80.16	0.2502	-0.0141	0.0022	0.0344	0.0032	-0.1569	0.0120	0.8386	0.0677
4	80.16	0.3001	-0.0153	0.0028	0.0860	0.0062	-0.4045	0.0221	0.6403	0.0773
4	80.16	0.3502	-0.0399	0.0049	0.1478	0.0108	-0.6915	0.0373	0.6416	0.0711
4	80.16	0.4002	-0.0557	0.0073	0.2261	0.0169	-1.0447	0.0590	0.6260	0.0769
4	80.16	0.4500	-0.0626	0.0084	0.3048	0.0241	-1.5218	0.0837	0.4891	0.0768
4	80.16	0.5001	-0.0800	0.0089	0.3734	0.0323	-2.0626	0.1122	0.5968	0.0815
4	80.16	0.5560	-0.0963	0.0091	0.4634	0.0421	-2.8821	0.1454	0.3409	0.0822
4	80.16	0.6001	-0.1051	0.0090	0.5403	0.0506	-3.5676	0.1725	0.4144	0.0836
4	80.16	0.6501	-0.1364	0.0096	0.5959	0.0603	-4.4758	0.2023	0.4655	0.0839
4	80.16	0.6999	-0.1464	0.0123	0.6455	0.0700	-5.5092	0.2328	0.4425	0.0849
4	80.16	0.7500	-0.1911	0.0167	0.7297	0.0798	-6.5707	0.2648	0.7870	0.0936
4	80.16	0.8002	-0.2360	0.0234	0.7907	0.0899	-7.8533	0.2984	0.5338	0.0920
4	80.16	0.8582	-0.2976	0.0324	0.8975	0.1016	-9.3572	0.3414	0.5157	0.0957
4	80.16	0.9101	-0.3594	0.0417	0.9803	0.1118	-10.8093	0.3822	0.5227	0.0983
4	80.16	0.9728	-0.3933	0.0526	1.1336	0.1257	-12.5194	0.4347	0.7957	0.0989

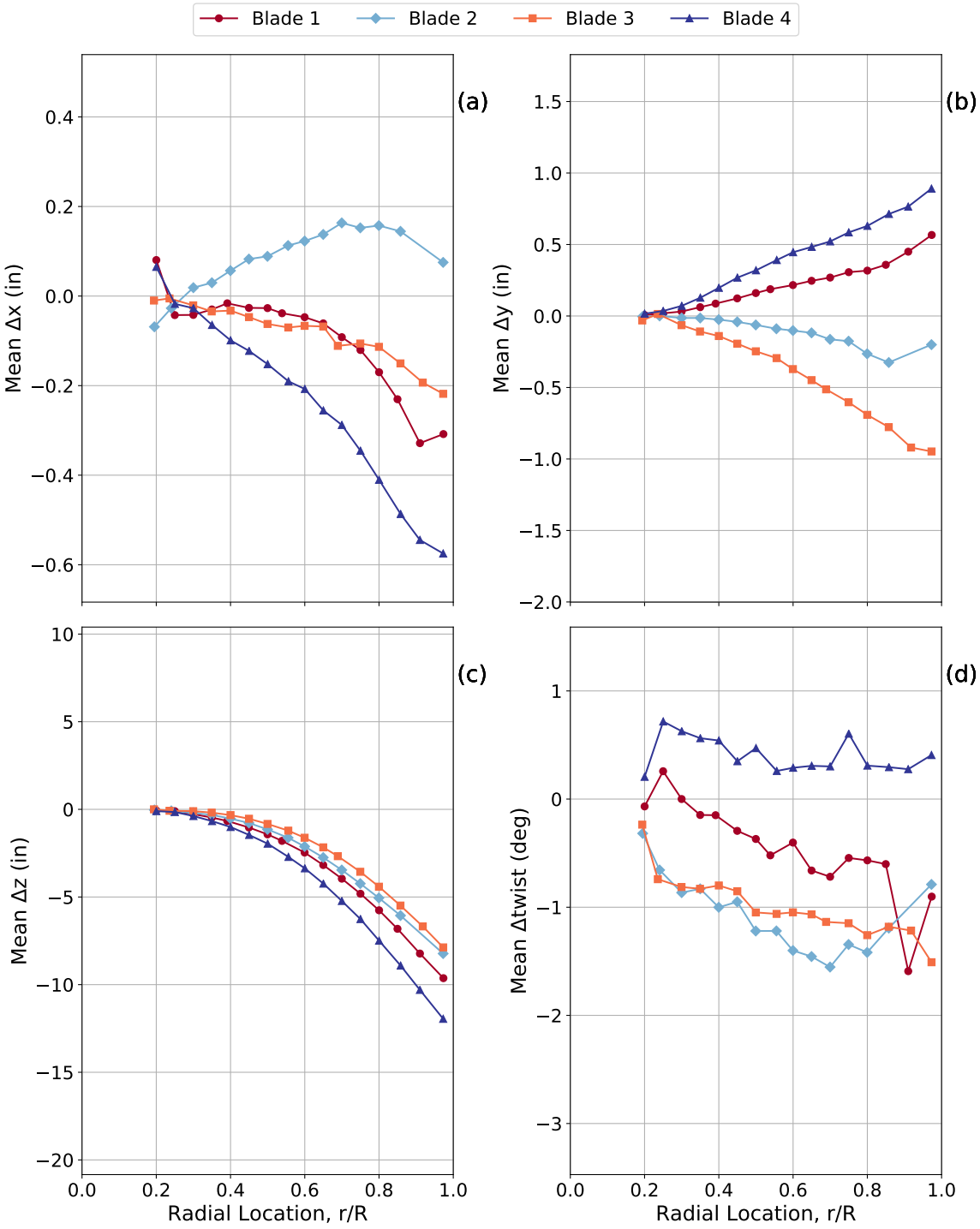


Figure 2.6-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0804	0.0047	0.0069	0.0030	-0.0684	0.0068	-0.0679	0.0405
1	85.08	0.2499	-0.0425	0.0016	0.0187	0.0038	-0.1038	0.0119	0.2576	0.1075
1	85.08	0.2998	-0.0421	0.0018	0.0313	0.0108	-0.2727	0.0277	0.0004	0.1095
1	85.08	0.3498	-0.0299	0.0019	0.0617	0.0185	-0.4687	0.0475	-0.1471	0.1102
1	85.08	0.3913	-0.0162	0.0024	0.0866	0.0256	-0.6626	0.0679	-0.1490	0.1132
1	85.08	0.4496	-0.0264	0.0033	0.1232	0.0354	-1.0362	0.1002	-0.2939	0.1139
1	85.08	0.4997	-0.0269	0.0036	0.1604	0.0449	-1.4276	0.1294	-0.3689	0.1118
1	85.08	0.5387	-0.0384	0.0035	0.1874	0.0524	-1.7993	0.1527	-0.5204	0.1076
1	85.08	0.5996	-0.0472	0.0049	0.2163	0.0646	-2.4659	0.1898	-0.4023	0.1162
1	85.08	0.6498	-0.0610	0.0060	0.2462	0.0758	-3.1772	0.2205	-0.6606	0.1139
1	85.08	0.6998	-0.0918	0.0069	0.2687	0.0867	-3.9554	0.2501	-0.7183	0.1187
1	85.08	0.7500	-0.1205	0.0087	0.3065	0.0988	-4.8150	0.2815	-0.5446	0.1260
1	85.08	0.8001	-0.1701	0.0110	0.3174	0.1116	-5.7592	0.3098	-0.5667	0.1315
1	85.08	0.8497	-0.2304	0.0120	0.3580	0.1235	-6.8152	0.3388	-0.6012	0.1262
1	85.08	0.9102	-0.3285	0.0178	0.4498	0.1387	-8.2274	0.3715	-1.5913	0.1628
1	85.08	0.9734	-0.3082	0.0230	0.5667	0.1517	-9.6308	0.4031	-0.9019	0.2667
2	85.08	0.1949	-0.0687	0.0013	-0.0038	0.0010	-0.0364	0.0047	-0.3174	0.0248
2	85.08	0.2405	-0.0271	0.0013	0.0006	0.0020	-0.0871	0.0091	-0.6560	0.0366
2	85.08	0.2999	0.0187	0.0015	-0.0138	0.0043	-0.2038	0.0207	-0.8649	0.0559
2	85.08	0.3498	0.0297	0.0018	-0.0139	0.0076	-0.3178	0.0356	-0.8300	0.0531
2	85.08	0.3998	0.0567	0.0022	-0.0253	0.0117	-0.5296	0.0553	-1.0008	0.0597
2	85.08	0.4496	0.0826	0.0027	-0.0410	0.0161	-0.7771	0.0752	-0.9500	0.0596
2	85.08	0.4995	0.0887	0.0029	-0.0625	0.0213	-1.1429	0.0974	-1.2198	0.0680
2	85.08	0.5551	0.1128	0.0039	-0.0893	0.0275	-1.6206	0.1222	-1.2192	0.0787
2	85.08	0.5996	0.1228	0.0039	-0.1019	0.0332	-2.1184	0.1416	-1.4006	0.0840
2	85.08	0.6497	0.1376	0.0053	-0.1180	0.0397	-2.7478	0.1623	-1.4560	0.0891
2	85.08	0.6996	0.1633	0.0056	-0.1634	0.0467	-3.4600	0.1825	-1.5534	0.1098
2	85.08	0.7495	0.1523	0.0068	-0.1759	0.0544	-4.2372	0.2034	-1.3446	0.1049
2	85.08	0.7996	0.1574	0.0077	-0.2643	0.0630	-5.0544	0.2195	-1.4178	0.1112
2	85.08	0.8578	0.1445	0.0099	-0.3251	0.0734	-6.0590	0.2414	-1.1932	0.1785
2	85.08	0.9727	0.0752	0.0163	-0.2003	0.0953	-8.2272	0.2720	-0.7892	0.3323
3	85.08	0.1938	-0.0100	0.0027	-0.0311	0.0014	0.0002	0.0067	-0.2364	0.0287
3	85.08	0.2357	-0.0053	0.0016	0.0141	0.0021	-0.0811	0.0105	-0.7407	0.0678
3	85.08	0.2995	-0.0208	0.0015	-0.0642	0.0058	-0.1040	0.0266	-0.8129	0.0785
3	85.08	0.3493	-0.0343	0.0018	-0.1084	0.0098	-0.1852	0.0468	-0.8295	0.0724
3	85.08	0.4000	-0.0325	0.0022	-0.1402	0.0153	-0.3289	0.0715	-0.7990	0.0795
3	85.08	0.4497	-0.0470	0.0025	-0.1935	0.0213	-0.5353	0.0987	-0.8523	0.0785
3	85.08	0.4997	-0.0623	0.0027	-0.2469	0.0280	-0.8321	0.1265	-1.0482	0.0807
3	85.08	0.5556	-0.0702	0.0028	-0.2945	0.0363	-1.2149	0.1594	-1.0616	0.0812
3	85.08	0.5995	-0.0665	0.0031	-0.3714	0.0434	-1.6193	0.1844	-1.0472	0.0869
3	85.08	0.6498	-0.0680	0.0036	-0.4486	0.0520	-2.1682	0.2119	-1.0660	0.0909
3	85.08	0.6890	-0.1112	0.0042	-0.5128	0.0587	-2.6717	0.2331	-1.1359	0.0929
3	85.08	0.7495	-0.1060	0.0054	-0.6030	0.0702	-3.5617	0.2657	-1.1481	0.0959
3	85.08	0.7998	-0.1134	0.0068	-0.6914	0.0799	-4.4126	0.2915	-1.2583	0.1002
3	85.08	0.8577	-0.1504	0.0087	-0.7772	0.0917	-5.4889	0.3205	-1.1805	0.1073
3	85.08	0.9178	-0.1933	0.0103	-0.9199	0.1044	-6.6772	0.3513	-1.2160	0.1103
3	85.08	0.9729	-0.2183	0.0120	-0.9474	0.1164	-7.8755	0.3803	-1.5087	0.1165
4	85.08	0.2001	0.0651	0.0025	0.0163	0.0015	-0.1025	0.0053	0.2056	0.0352
4	85.08	0.2502	-0.0175	0.0018	0.0353	0.0033	-0.1541	0.0115	0.7175	0.0803
4	85.08	0.3001	-0.0271	0.0022	0.0709	0.0060	-0.3833	0.0221	0.6272	0.0878
4	85.08	0.3502	-0.0646	0.0025	0.1278	0.0112	-0.6723	0.0380	0.5628	0.0854
4	85.08	0.4002	-0.0990	0.0028	0.1969	0.0168	-1.0087	0.0592	0.5413	0.0865
4	85.08	0.4500	-0.1225	0.0030	0.2682	0.0234	-1.4615	0.0838	0.3498	0.0902
4	85.08	0.5001	-0.1522	0.0037	0.3194	0.0312	-1.9594	0.1120	0.4710	0.0935
4	85.08	0.5560	-0.1904	0.0041	0.3912	0.0414	-2.7157	0.1466	0.2597	0.1010
4	85.08	0.6001	-0.2075	0.0055	0.4459	0.0509	-3.3662	0.1759	0.2894	0.0990
4	85.08	0.6501	-0.2555	0.0063	0.4830	0.0620	-4.2378	0.2093	0.3073	0.1011
4	85.08	0.6999	-0.2879	0.0080	0.5216	0.0739	-5.2287	0.2420	0.3018	0.1068
4	85.08	0.7500	-0.3455	0.0095	0.5846	0.0864	-6.2610	0.2751	0.6045	0.1085
4	85.08	0.8002	-0.4104	0.0117	0.6302	0.0995	-7.4940	0.3091	0.3091	0.1114
4	85.08	0.8582	-0.4868	0.0152	0.7135	0.1150	-8.9158	0.3496	0.2949	0.1190
4	85.08	0.9101	-0.5447	0.0181	0.7648	0.1293	-10.3012	0.3881	0.2763	0.1221
4	85.08	0.9728	-0.5749	0.0198	0.8906	0.1467	-11.9514	0.4379	0.4069	0.1304

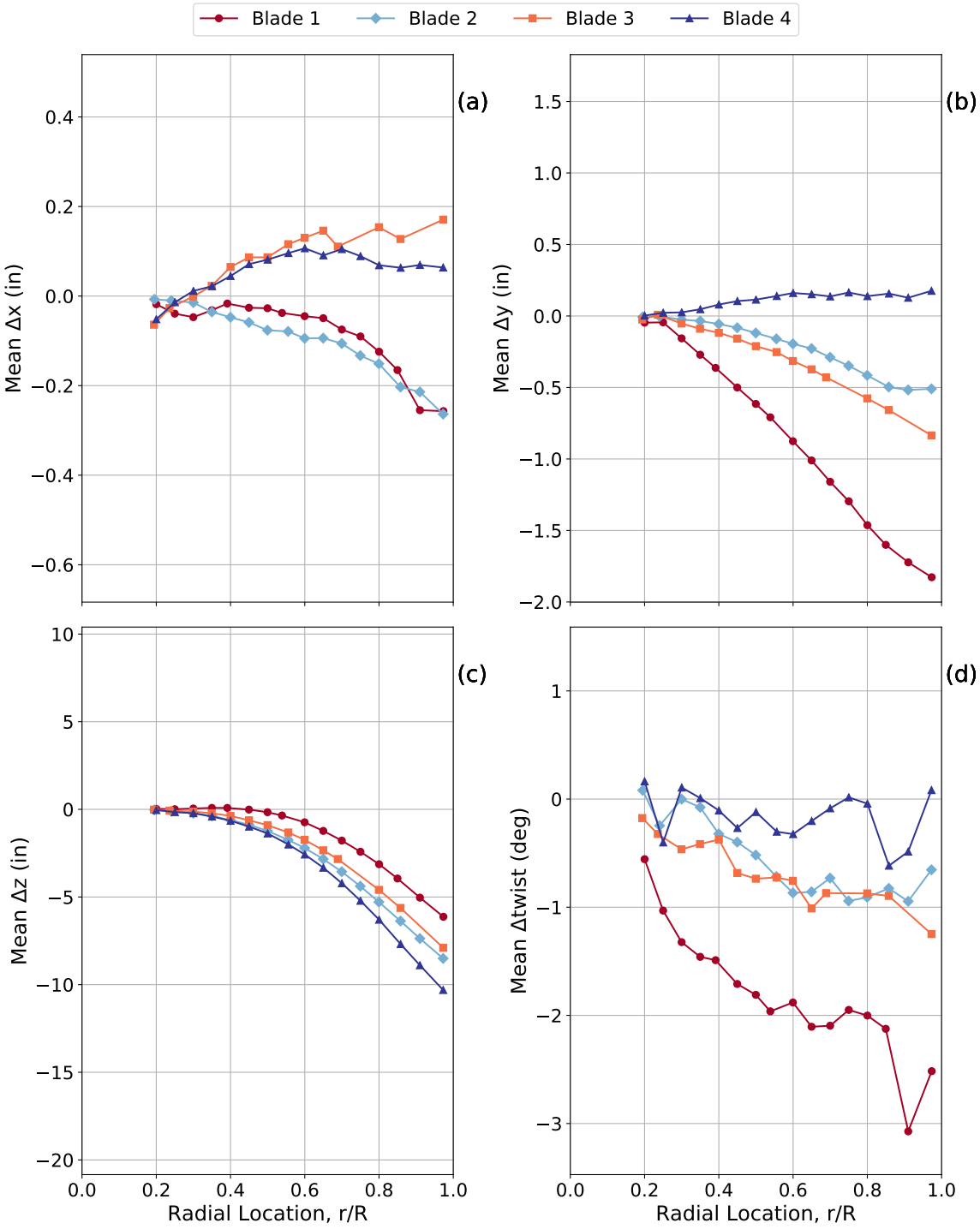


Figure 2.6-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0182	0.0038	-0.0463	0.0025	0.0278	0.0069	-0.5555	0.0334
1	90	0.2499	-0.0393	0.0017	-0.0443	0.0035	0.0084	0.0111	-1.0308	0.0825
1	90	0.2998	-0.0472	0.0020	-0.1563	0.0090	0.0478	0.0244	-1.3230	0.0849
1	90	0.3498	-0.0316	0.0021	-0.2709	0.0155	0.0824	0.0411	-1.4587	0.0817
1	90	0.3913	-0.0167	0.0027	-0.3626	0.0213	0.0808	0.0579	-1.4896	0.0815
1	90	0.4496	-0.0261	0.0029	-0.5001	0.0297	-0.0139	0.0853	-1.7096	0.0858
1	90	0.4997	-0.0272	0.0028	-0.6149	0.0387	-0.1634	0.1117	-1.8100	0.0841
1	90	0.5387	-0.0377	0.0030	-0.7084	0.0457	-0.3512	0.1328	-1.9627	0.0925
1	90	0.5996	-0.0449	0.0033	-0.8757	0.0578	-0.7388	0.1668	-1.8809	0.0902
1	90	0.6498	-0.0494	0.0039	-1.0101	0.0686	-1.2292	0.1959	-2.1055	0.0955
1	90	0.6998	-0.0748	0.0042	-1.1593	0.0801	-1.7823	0.2266	-2.0956	0.0970
1	90	0.7500	-0.0902	0.0052	-1.2957	0.0925	-2.4196	0.2593	-1.9496	0.0962
1	90	0.8001	-0.1242	0.0065	-1.4628	0.1045	-3.1301	0.2920	-2.0018	0.1096
1	90	0.8497	-0.1653	0.0080	-1.6006	0.1173	-3.9450	0.3272	-2.1245	0.1055
1	90	0.9102	-0.2549	0.0102	-1.7228	0.1336	-5.0363	0.3713	-3.0726	0.0940
1	90	0.9734	-0.2569	0.0121	-1.8270	0.1490	-6.1298	0.4187	-2.5159	0.1326
2	90	0.1949	-0.0073	0.0022	-0.0071	0.0014	-0.0368	0.0053	0.0810	0.0302
2	90	0.2405	-0.0101	0.0020	-0.0027	0.0025	-0.1110	0.0099	-0.2462	0.0697
2	90	0.2999	-0.0146	0.0018	-0.0256	0.0058	-0.2227	0.0209	-0.0009	0.0744
2	90	0.3498	-0.0355	0.0019	-0.0350	0.0099	-0.3734	0.0382	-0.0762	0.0717
2	90	0.3998	-0.0474	0.0019	-0.0561	0.0153	-0.6116	0.0573	-0.3215	0.0759
2	90	0.4496	-0.0588	0.0024	-0.0822	0.0207	-0.8782	0.0787	-0.3982	0.0786
2	90	0.4995	-0.0763	0.0025	-0.1188	0.0272	-1.2309	0.1045	-0.5178	0.0781
2	90	0.5551	-0.0790	0.0033	-0.1600	0.0356	-1.7394	0.1361	-0.7170	0.0842
2	90	0.5996	-0.0944	0.0035	-0.1944	0.0428	-2.2074	0.1613	-0.8679	0.0878
2	90	0.6497	-0.0940	0.0038	-0.2277	0.0518	-2.8326	0.1911	-0.8577	0.0905
2	90	0.6996	-0.1059	0.0049	-0.2888	0.0614	-3.5567	0.2204	-0.7307	0.1009
2	90	0.7495	-0.1329	0.0059	-0.3481	0.0728	-4.3844	0.2521	-0.9422	0.1299
2	90	0.7996	-0.1512	0.0076	-0.4151	0.0828	-5.2863	0.2813	-0.9079	0.0992
2	90	0.8578	-0.2032	0.0096	-0.4968	0.0958	-6.3707	0.3193	-0.8258	0.1024
2	90	0.9100	-0.2140	0.0113	-0.5171	0.1079	-7.3696	0.3552	-0.9455	0.1040
2	90	0.9727	-0.2636	0.0127	-0.5095	0.1224	-8.5046	0.4003	-0.6538	0.1100
3	90	0.1938	-0.0639	0.0015	-0.0243	0.0009	-0.0152	0.0037	-0.1758	0.0282
3	90	0.2357	-0.0269	0.0013	0.0085	0.0022	-0.0710	0.0079	-0.3229	0.0461
3	90	0.2995	-0.0009	0.0018	-0.0525	0.0045	-0.1303	0.0163	-0.4644	0.0654
3	90	0.3493	0.0227	0.0020	-0.0893	0.0081	-0.2224	0.0287	-0.4160	0.0678
3	90	0.4000	0.0649	0.0023	-0.1174	0.0126	-0.3740	0.0448	-0.3742	0.0673
3	90	0.4497	0.0864	0.0028	-0.1583	0.0174	-0.6240	0.0623	-0.6835	0.0734
3	90	0.4997	0.0866	0.0034	-0.2108	0.0232	-0.9014	0.0813	-0.7365	0.0773
3	90	0.5556	0.1158	0.0040	-0.2524	0.0310	-1.3200	0.1036	-0.7249	0.0798
3	90	0.5995	0.1301	0.0049	-0.3148	0.0375	-1.7366	0.1219	-0.7559	0.0825
3	90	0.6498	0.1460	0.0052	-0.3731	0.0458	-2.3379	0.1426	-1.0108	0.0881
3	90	0.6890	0.1104	0.0064	-0.4292	0.0529	-2.8357	0.1597	-0.8698	0.0958
3	90	0.7998	0.1537	0.0092	-0.5764	0.0744	-4.5939	0.2082	-0.8723	0.0934
3	90	0.8577	0.1274	0.0107	-0.6576	0.0863	-5.6236	0.2354	-0.8951	0.1678
3	90	0.9729	0.1707	0.0168	-0.8352	0.1127	-7.8976	0.3006	-1.2480	0.2812
4	90.35	0.2001	-0.0517	0.0014	0.0030	0.0013	-0.0425	0.0048	0.1640	0.0341
4	90.35	0.2502	-0.0138	0.0013	0.0224	0.0025	-0.1572	0.0099	-0.4011	0.0483
4	90.35	0.3001	0.0115	0.0015	0.0256	0.0046	-0.2205	0.0189	0.1065	0.0736
4	90.35	0.3502	0.0220	0.0018	0.0472	0.0083	-0.4101	0.0328	0.0086	0.0690
4	90.35	0.4002	0.0448	0.0025	0.0801	0.0125	-0.6519	0.0503	-0.1059	0.0734
4	90.35	0.4500	0.0713	0.0031	0.1042	0.0183	-0.9853	0.0722	-0.2677	0.0700
4	90.35	0.5001	0.0813	0.0033	0.1144	0.0247	-1.3763	0.0959	-0.1199	0.0719
4	90.35	0.5560	0.0960	0.0040	0.1396	0.0329	-2.0063	0.1237	-0.3018	0.0750
4	90.35	0.6001	0.1067	0.0052	0.1607	0.0403	-2.5763	0.1474	-0.3241	0.0739
4	90.35	0.6501	0.0909	0.0064	0.1519	0.0493	-3.3308	0.1735	-0.2026	0.0892
4	90.35	0.6999	0.1048	0.0076	0.1367	0.0591	-4.2154	0.1990	-0.0854	0.0915
4	90.35	0.7500	0.0891	0.0101	0.1643	0.0749	-5.2146	0.2315	0.0158	0.1054
4	90.35	0.8002	0.0688	0.0112	0.1387	0.0806	-6.2963	0.2520	-0.0422	0.1011
4	90.35	0.8582	0.0632	0.0149	0.1565	0.0951	-7.6893	0.2887	-0.6159	0.1208
4	90.35	0.9101	0.0694	0.0175	0.1277	0.1062	-8.8943	0.3258	-0.4860	0.1134
4	90.35	0.9728	0.0637	0.0192	0.1759	0.1219	-10.3064	0.3683	0.0830	0.1430

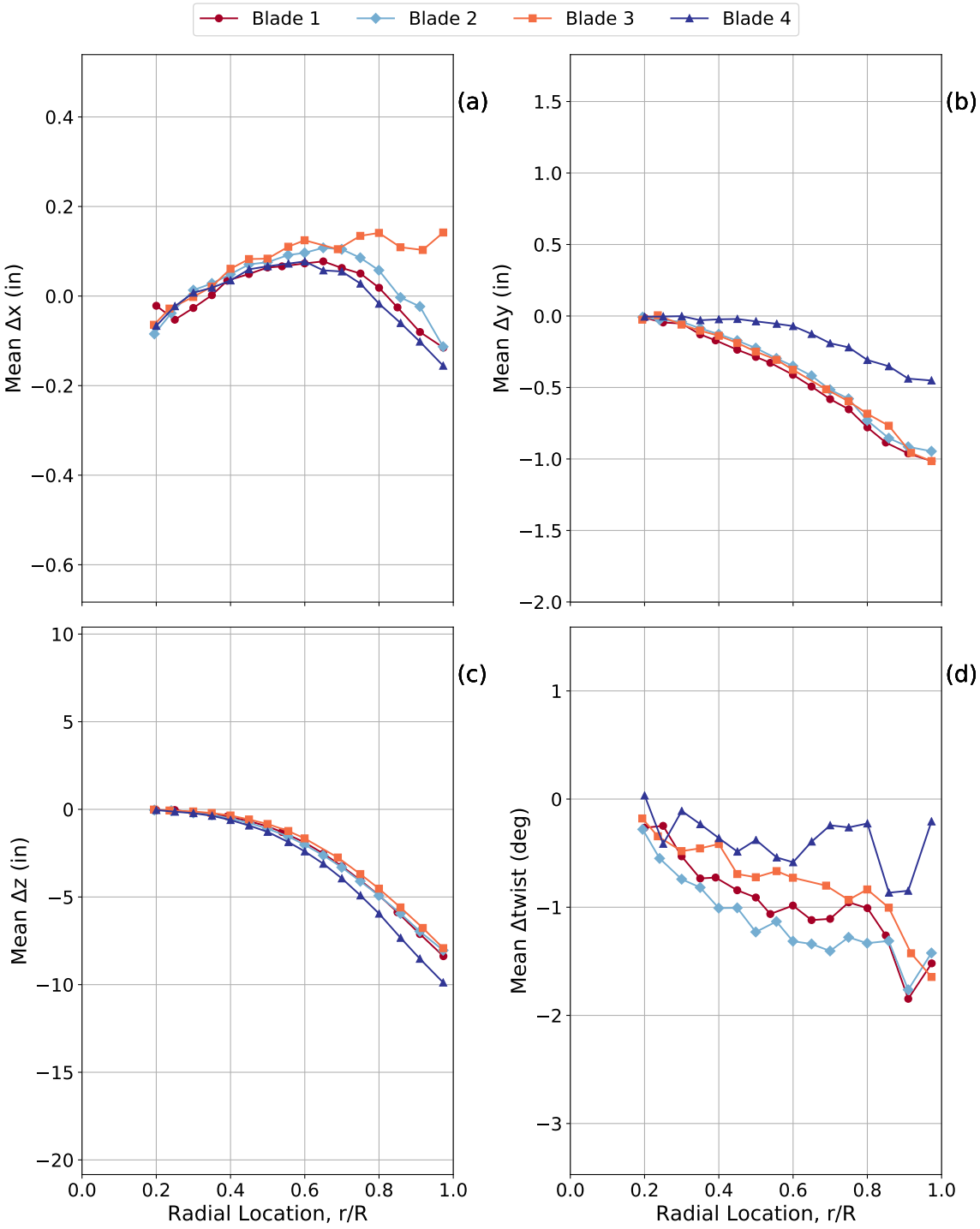


Figure 2.6-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0217	0.0020	-0.0123	0.0013	-0.0480	0.0041	-0.2654	0.0382
1	94.92	0.2499	-0.0528	0.0017	-0.0452	0.0031	-0.0403	0.0089	-0.2475	0.0613
1	94.92	0.2998	-0.0266	0.0015	-0.0530	0.0055	-0.1844	0.0170	-0.5294	0.0862
1	94.92	0.3498	0.0020	0.0021	-0.1289	0.0096	-0.2798	0.0290	-0.7340	0.0812
1	94.92	0.3913	0.0344	0.0026	-0.1705	0.0141	-0.4041	0.0421	-0.7255	0.0847
1	94.92	0.4496	0.0492	0.0029	-0.2360	0.0194	-0.6710	0.0617	-0.8431	0.0926
1	94.92	0.4997	0.0638	0.0032	-0.2861	0.0240	-0.9743	0.0790	-0.9103	0.0952
1	94.92	0.5387	0.0663	0.0037	-0.3277	0.0286	-1.2924	0.0958	-1.0627	0.0982
1	94.92	0.5996	0.0729	0.0045	-0.4110	0.0371	-1.8864	0.1245	-0.9847	0.1009
1	94.92	0.6498	0.0774	0.0056	-0.4935	0.0453	-2.5218	0.1501	-1.1189	0.1038
1	94.92	0.6998	0.0627	0.0060	-0.5815	0.0536	-3.2403	0.1744	-1.1076	0.1075
1	94.92	0.7500	0.0503	0.0069	-0.6525	0.0621	-4.0487	0.1985	-0.9548	0.1101
1	94.92	0.8001	0.0185	0.0083	-0.7790	0.0722	-4.9085	0.2226	-1.0081	0.1114
1	94.92	0.8497	-0.0254	0.0094	-0.8849	0.0824	-5.8732	0.2460	-1.2611	0.1187
1	94.92	0.9102	-0.0803	0.0120	-0.9613	0.0952	-7.1138	0.2776	-1.8468	0.1730
1	94.92	0.9734	-0.1152	0.0148	-1.0147	0.1106	-8.3771	0.3202	-1.5191	0.1665
2	94.92	0.1949	-0.0846	0.0016	-0.0079	0.0012	-0.0389	0.0040	-0.2800	0.0335
2	94.92	0.2405	-0.0382	0.0013	-0.0262	0.0022	-0.0750	0.0074	-0.5487	0.0491
2	94.92	0.2999	0.0132	0.0013	-0.0406	0.0046	-0.2084	0.0163	-0.7407	0.0763
2	94.92	0.3498	0.0282	0.0020	-0.0863	0.0089	-0.3117	0.0294	-0.8175	0.0658
2	94.92	0.3998	0.0487	0.0023	-0.1276	0.0130	-0.5244	0.0441	-1.0081	0.0740
2	94.92	0.4496	0.0707	0.0031	-0.1721	0.0173	-0.7685	0.0593	-1.0059	0.0758
2	94.92	0.4995	0.0755	0.0038	-0.2242	0.0220	-1.1062	0.0751	-1.2292	0.0863
2	94.92	0.5551	0.0915	0.0046	-0.2966	0.0286	-1.5436	0.0951	-1.1321	0.0949
2	94.92	0.5996	0.0965	0.0054	-0.3499	0.0340	-2.0182	0.1130	-1.3143	0.0927
2	94.92	0.6497	0.1077	0.0063	-0.4183	0.0401	-2.6211	0.1315	-1.3398	0.1082
2	94.92	0.6996	0.1044	0.0070	-0.5155	0.0475	-3.3088	0.1551	-1.4047	0.1076
2	94.92	0.7495	0.0855	0.0083	-0.5788	0.0550	-4.1031	0.1802	-1.2780	0.0925
2	94.92	0.7996	0.0576	0.0094	-0.7303	0.0635	-4.9206	0.2053	-1.3325	0.1110
2	94.92	0.8578	-0.0031	0.0112	-0.8544	0.0731	-5.9437	0.2340	-1.3116	0.1375
2	94.92	0.9100	-0.0233	0.0129	-0.9147	0.0817	-6.9623	0.2669	-1.7634	0.1777
2	94.92	0.9727	-0.1131	0.0148	-0.9460	0.0928	-8.0428	0.3048	-1.4231	0.1522
3	94.92	0.1938	-0.0642	0.0015	-0.0256	0.0011	-0.0132	0.0053	-0.1791	0.0317
3	94.92	0.2357	-0.0280	0.0015	0.0050	0.0018	-0.0670	0.0077	-0.3440	0.0606
3	94.92	0.2995	-0.0021	0.0014	-0.0602	0.0040	-0.1207	0.0205	-0.4809	0.0809
3	94.92	0.3493	0.0210	0.0019	-0.1022	0.0070	-0.2079	0.0345	-0.4560	0.0728
3	94.92	0.4000	0.0609	0.0022	-0.1384	0.0107	-0.3500	0.0534	-0.4156	0.0719
3	94.92	0.4497	0.0826	0.0030	-0.1886	0.0144	-0.5778	0.0709	-0.6933	0.0732
3	94.92	0.4997	0.0835	0.0035	-0.2493	0.0188	-0.8347	0.0903	-0.7228	0.0828
3	94.92	0.5556	0.1101	0.0043	-0.3064	0.0236	-1.2358	0.1090	-0.6660	0.0784
3	94.92	0.5995	0.1246	0.0048	-0.3761	0.0277	-1.6567	0.1212	-0.7275	0.0786
3	94.92	0.6890	0.1046	0.0064	-0.5126	0.0367	-2.7479	0.1432	-0.8004	0.0853
3	94.92	0.7495	0.1344	0.0075	-0.5962	0.0433	-3.6922	0.1577	-0.9317	0.0876
3	94.92	0.7998	0.1410	0.0082	-0.6832	0.0493	-4.5239	0.1717	-0.8357	0.0877
3	94.92	0.8577	0.1090	0.0101	-0.7675	0.0567	-5.5954	0.1867	-1.0041	0.1007
3	94.92	0.9178	0.1029	0.0132	-0.9574	0.0639	-6.7667	0.2069	-1.4258	0.1457
3	94.92	0.9729	0.1419	0.0155	-1.0149	0.0708	-7.9198	0.2283	-1.6450	0.1177
4	94.92	0.2001	-0.0665	0.0021	-0.0046	0.0012	-0.0401	0.0040	0.0332	0.0347
4	94.92	0.2502	-0.0227	0.0015	-0.0039	0.0029	-0.1354	0.0085	-0.4136	0.0532
4	94.92	0.3001	0.0075	0.0015	-0.0013	0.0054	-0.2184	0.0163	-0.1099	0.0767
4	94.92	0.3502	0.0186	0.0019	-0.0296	0.0089	-0.3706	0.0270	-0.2324	0.0703
4	94.92	0.4002	0.0349	0.0028	-0.0231	0.0142	-0.6096	0.0425	-0.3614	0.0747
4	94.92	0.4500	0.0597	0.0031	-0.0210	0.0185	-0.9248	0.0571	-0.4862	0.0755
4	94.92	0.5001	0.0665	0.0039	-0.0376	0.0243	-1.2870	0.0754	-0.3780	0.0702
4	94.92	0.5560	0.0725	0.0045	-0.0547	0.0316	-1.8688	0.0976	-0.5400	0.0743
4	94.92	0.6001	0.0772	0.0052	-0.0707	0.0381	-2.4012	0.1154	-0.5844	0.0762
4	94.92	0.6501	0.0573	0.0063	-0.1259	0.0459	-3.1055	0.1367	-0.3930	0.0804
4	94.92	0.6999	0.0549	0.0071	-0.1907	0.0540	-3.9388	0.1591	-0.2427	0.0818
4	94.92	0.7500	0.0278	0.0083	-0.2195	0.0630	-4.9116	0.1806	-0.2620	0.0841
4	94.92	0.8002	-0.0172	0.0095	-0.3079	0.0728	-5.9503	0.2035	-0.2255	0.1007
4	94.92	0.8582	-0.0603	0.0116	-0.3517	0.0841	-7.3320	0.2319	-0.8657	0.1046
4	94.92	0.9101	-0.1018	0.0143	-0.4380	0.0960	-8.5251	0.2612	-0.8480	0.1107
4	94.92	0.9728	-0.1556	0.0169	-0.4511	0.1082	-9.8806	0.2987	-0.2066	0.1219

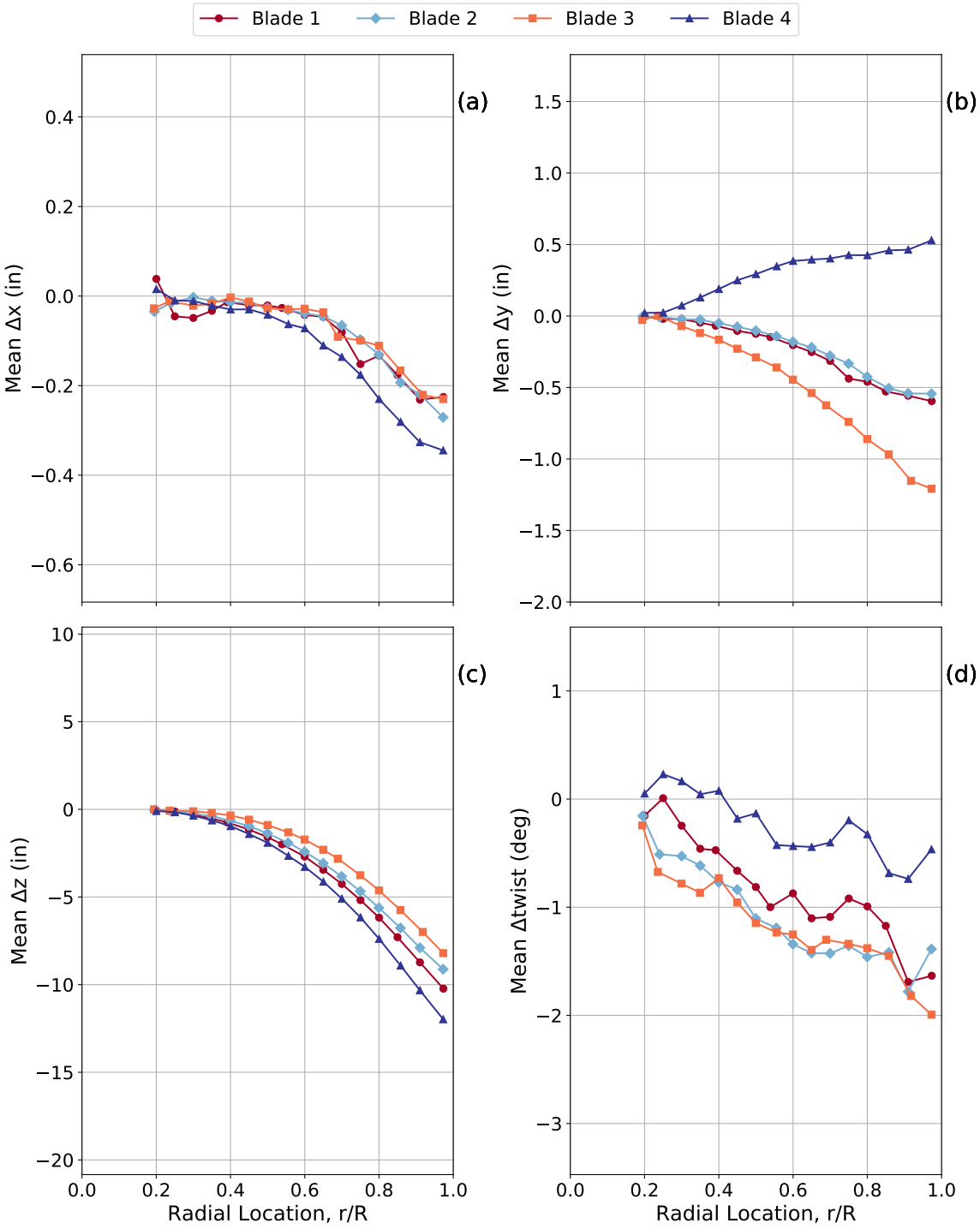


Figure 2.6-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	0.0383	0.0053	-0.0035	0.0017	-0.0775	0.0053	-0.1533	0.0462
1	99.84	0.2499	-0.0453	0.0030	-0.0197	0.0030	-0.1193	0.0107	0.0083	0.0806
1	99.84	0.2998	-0.0489	0.0028	-0.0217	0.0062	-0.3048	0.0199	-0.2461	0.1054
1	99.84	0.3498	-0.0330	0.0019	-0.0467	0.0113	-0.5291	0.0367	-0.4595	0.0913
1	99.84	0.3913	-0.0136	0.0020	-0.0680	0.0155	-0.7438	0.0508	-0.4727	0.0893
1	99.84	0.4496	-0.0204	0.0026	-0.1040	0.0217	-1.1514	0.0676	-0.6632	0.0970
1	99.84	0.4997	-0.0210	0.0030	-0.1252	0.0275	-1.5865	0.0861	-0.8133	0.1006
1	99.84	0.5387	-0.0265	0.0034	-0.1475	0.0324	-1.9945	0.1020	-0.9993	0.1011
1	99.84	0.5996	-0.0420	0.0042	-0.2036	0.0407	-2.6928	0.1305	-0.8719	0.1032
1	99.84	0.6498	-0.0466	0.0053	-0.2524	0.0482	-3.4494	0.1563	-1.1024	0.1135
1	99.84	0.6998	-0.0806	0.0068	-0.3143	0.0564	-4.2585	0.1845	-1.0893	0.1096
1	99.84	0.7500	-0.1519	0.0084	-0.4379	0.0645	-5.1790	0.2146	-0.9194	0.1071
1	99.84	0.8001	-0.1329	0.0107	-0.4597	0.0744	-6.1764	0.2469	-0.9926	0.1049
1	99.84	0.8497	-0.1764	0.0131	-0.5282	0.0838	-7.2944	0.2792	-1.1724	0.1106
1	99.84	0.9102	-0.2313	0.0160	-0.5577	0.0956	-8.7295	0.3190	-1.6916	0.1333
1	99.84	0.9734	-0.2253	0.0184	-0.5957	0.1084	-10.2286	0.3656	-1.6336	0.1301
2	99.84	0.1949	-0.0347	0.0028	-0.0031	0.0015	-0.0417	0.0041	-0.1559	0.0278
2	99.84	0.2405	-0.0149	0.0020	-0.0077	0.0024	-0.1140	0.0076	-0.5110	0.0558
2	99.84	0.2999	-0.0027	0.0020	-0.0222	0.0054	-0.2415	0.0158	-0.5275	0.0678
2	99.84	0.3498	-0.0105	0.0016	-0.0262	0.0090	-0.3955	0.0275	-0.6155	0.0595
2	99.84	0.3998	-0.0139	0.0021	-0.0508	0.0138	-0.6497	0.0420	-0.7700	0.0627
2	99.84	0.4496	-0.0152	0.0021	-0.0759	0.0181	-0.9568	0.0563	-0.8370	0.0651
2	99.84	0.4995	-0.0265	0.0028	-0.1028	0.0223	-1.3690	0.0725	-1.1040	0.0699
2	99.84	0.5551	-0.0312	0.0031	-0.1410	0.0280	-1.9102	0.0934	-1.1922	0.0750
2	99.84	0.5996	-0.0386	0.0035	-0.1801	0.0327	-2.4136	0.1094	-1.3413	0.0754
2	99.84	0.6497	-0.0451	0.0045	-0.2190	0.0380	-3.0780	0.1304	-1.4247	0.0828
2	99.84	0.6996	-0.0656	0.0057	-0.2779	0.0436	-3.8274	0.1533	-1.4272	0.0921
2	99.84	0.7495	-0.0972	0.0076	-0.3330	0.0498	-4.6757	0.1804	-1.3555	0.0883
2	99.84	0.7996	-0.1306	0.0096	-0.4251	0.0560	-5.6156	0.2121	-1.4597	0.0877
2	99.84	0.8578	-0.1933	0.0123	-0.5056	0.0642	-6.7690	0.2554	-1.4180	0.0965
2	99.84	0.9100	-0.2195	0.0152	-0.5413	0.0716	-7.8962	0.2989	-1.7801	0.1086
2	99.84	0.9727	-0.2708	0.0184	-0.5437	0.0809	-9.1220	0.3563	-1.3870	0.1099
3	99.84	0.1938	-0.0275	0.0040	-0.0275	0.0017	-0.0047	0.0054	-0.2433	0.0309
3	99.84	0.2357	-0.0114	0.0017	0.0013	0.0019	-0.0790	0.0067	-0.6734	0.0834
3	99.84	0.2995	-0.0216	0.0018	-0.0705	0.0053	-0.1119	0.0177	-0.7817	0.0893
3	99.84	0.3493	-0.0172	0.0019	-0.1190	0.0091	-0.2041	0.0290	-0.8658	0.0903
3	99.84	0.4000	-0.0030	0.0023	-0.1660	0.0136	-0.3499	0.0442	-0.7312	0.0965
3	99.84	0.4497	-0.0123	0.0027	-0.2288	0.0176	-0.5891	0.0608	-0.9556	0.1021
3	99.84	0.4997	-0.0272	0.0029	-0.2893	0.0222	-0.8954	0.0799	-1.1465	0.1120
3	99.84	0.5556	-0.0298	0.0034	-0.3600	0.0275	-1.3134	0.1040	-1.2339	0.1129
3	99.84	0.5995	-0.0282	0.0037	-0.4454	0.0318	-1.7206	0.1232	-1.2522	0.1179
3	99.84	0.6498	-0.0364	0.0046	-0.5386	0.0375	-2.3041	0.1470	-1.3950	0.1178
3	99.84	0.6890	-0.0911	0.0055	-0.6245	0.0422	-2.8150	0.1680	-1.3007	0.1206
3	99.84	0.7495	-0.0992	0.0072	-0.7405	0.0497	-3.7576	0.2056	-1.3387	0.1227
3	99.84	0.7998	-0.1109	0.0090	-0.8604	0.0563	-4.6260	0.2407	-1.3788	0.1229
3	99.84	0.8577	-0.1663	0.0117	-0.9675	0.0638	-5.7483	0.2841	-1.4494	0.1319
3	99.84	0.9178	-0.2206	0.0142	-1.1528	0.0719	-6.9927	0.3321	-1.8198	0.1473
3	99.84	0.9729	-0.2301	0.0169	-1.2078	0.0790	-8.2044	0.3829	-1.9941	0.1308
4	99.84	0.2001	0.0155	0.0036	0.0215	0.0024	-0.0934	0.0066	0.0511	0.0329
4	99.84	0.2502	-0.0099	0.0038	0.0234	0.0034	-0.1633	0.0103	0.2298	0.0913
4	99.84	0.3001	-0.0110	0.0021	0.0729	0.0067	-0.3595	0.0203	0.1656	0.0713
4	99.84	0.3502	-0.0218	0.0021	0.1299	0.0114	-0.6331	0.0336	0.0444	0.0741
4	99.84	0.4002	-0.0300	0.0024	0.1887	0.0161	-0.9578	0.0499	0.0769	0.0742
4	99.84	0.4500	-0.0297	0.0028	0.2501	0.0218	-1.4084	0.0673	-0.1812	0.0776
4	99.84	0.5001	-0.0418	0.0031	0.2930	0.0280	-1.9083	0.0877	-0.1322	0.0825
4	99.84	0.5560	-0.0628	0.0037	0.3475	0.0356	-2.6539	0.1124	-0.4253	0.0830
4	99.84	0.6001	-0.0720	0.0042	0.3851	0.0426	-3.2812	0.1343	-0.4345	0.0882
4	99.84	0.6501	-0.1105	0.0051	0.3946	0.0505	-4.1273	0.1608	-0.4430	0.0864
4	99.84	0.6999	-0.1360	0.0067	0.4023	0.0586	-5.0992	0.1867	-0.4013	0.0880
4	99.84	0.7500	-0.1759	0.0080	0.4260	0.0676	-6.1643	0.2133	-0.1962	0.0932
4	99.84	0.8002	-0.2299	0.0101	0.4250	0.0769	-7.3915	0.2404	-0.3253	0.0922
4	99.84	0.8582	-0.2810	0.0129	0.4589	0.0880	-8.9145	0.2714	-0.6849	0.0926
4	99.84	0.9101	-0.3263	0.0146	0.4635	0.0983	-10.3240	0.2995	-0.7378	0.0940
4	99.84	0.9728	-0.3447	0.0162	0.5291	0.1107	-11.9753	0.3343	-0.4646	0.0889

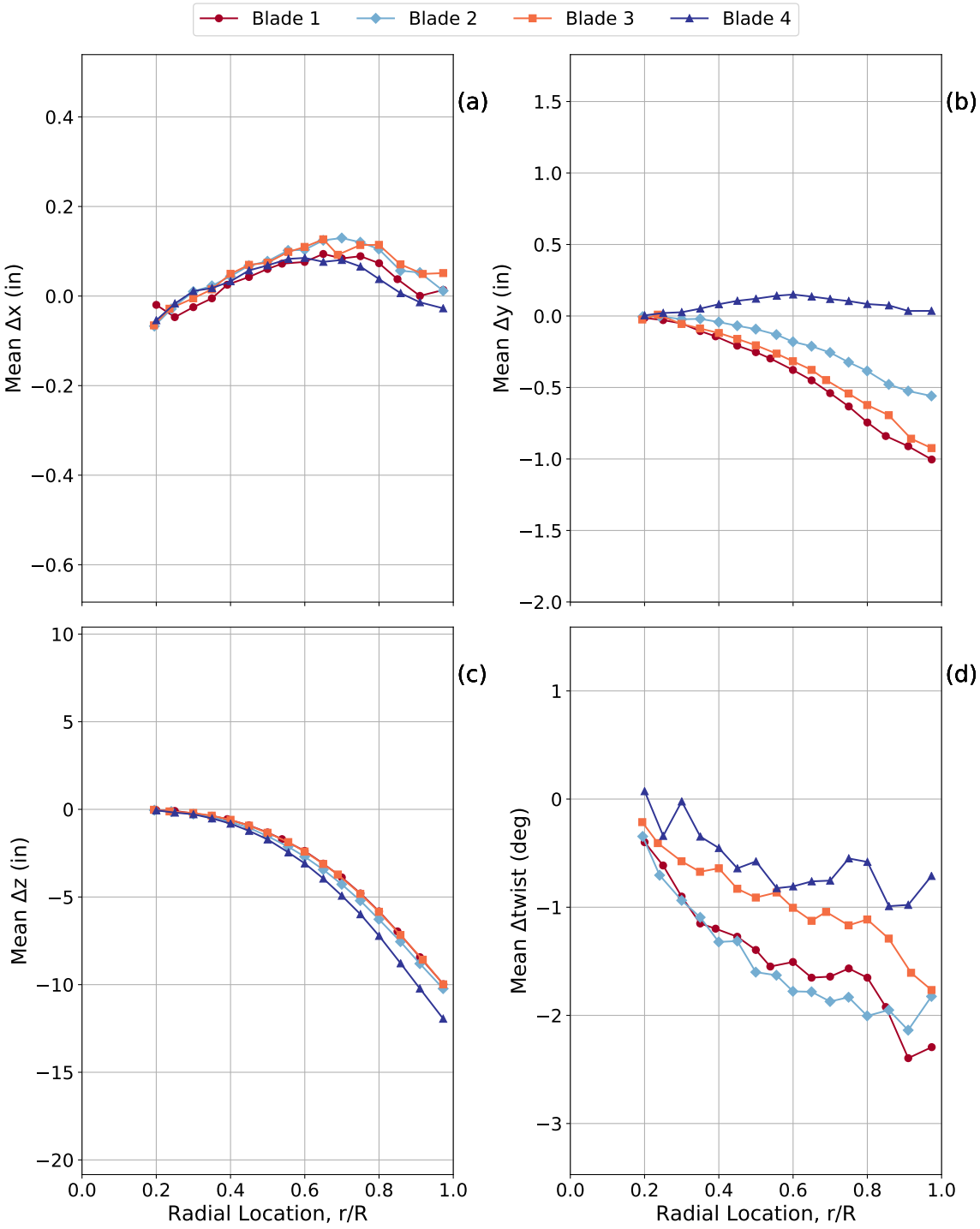


Figure 2.6-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0197	0.0015	-0.0135	0.0009	-0.0519	0.0029	-0.3989	0.0294
1	105.12	0.2499	-0.0471	0.0014	-0.0288	0.0024	-0.0930	0.0081	-0.6141	0.0422
1	105.12	0.2998	-0.0248	0.0014	-0.0524	0.0040	-0.2310	0.0135	-0.9016	0.0623
1	105.12	0.3498	-0.0051	0.0019	-0.1054	0.0076	-0.3770	0.0233	-1.1504	0.0574
1	105.12	0.3913	0.0252	0.0023	-0.1424	0.0107	-0.5579	0.0347	-1.1983	0.0564
1	105.12	0.4496	0.0426	0.0031	-0.2075	0.0149	-0.9139	0.0518	-1.2728	0.0544
1	105.12	0.4997	0.0605	0.0035	-0.2531	0.0193	-1.3174	0.0691	-1.3953	0.0607
1	105.12	0.5387	0.0723	0.0042	-0.2971	0.0233	-1.6996	0.0813	-1.5484	0.0617
1	105.12	0.5996	0.0762	0.0052	-0.3775	0.0306	-2.3733	0.1030	-1.5066	0.0630
1	105.12	0.6498	0.0940	0.0065	-0.4500	0.0374	-3.0981	0.1214	-1.6514	0.0765
1	105.12	0.6998	0.0841	0.0076	-0.5395	0.0446	-3.8828	0.1411	-1.6417	0.0727
1	105.12	0.7500	0.0890	0.0096	-0.6328	0.0525	-4.7960	0.1646	-1.5663	0.0688
1	105.12	0.8001	0.0733	0.0119	-0.7447	0.0612	-5.8191	0.1914	-1.6517	0.0721
1	105.12	0.8497	0.0377	0.0145	-0.8396	0.0703	-6.9631	0.2235	-1.9225	0.0810
1	105.12	0.9102	0.0004	0.0177	-0.9109	0.0818	-8.4344	0.2664	-2.3956	0.0958
1	105.12	0.9734	0.0137	0.0218	-1.0036	0.0939	-9.9757	0.3159	-2.2938	0.0986
2	105.12	0.1949	-0.0671	0.0014	-0.0044	0.0011	-0.0475	0.0043	-0.3453	0.0276
2	105.12	0.2405	-0.0287	0.0011	-0.0020	0.0021	-0.1257	0.0084	-0.7042	0.0461
2	105.12	0.2999	0.0101	0.0014	-0.0226	0.0047	-0.2689	0.0188	-0.9369	0.0665
2	105.12	0.3498	0.0228	0.0017	-0.0200	0.0079	-0.4410	0.0325	-1.0934	0.0666
2	105.12	0.3998	0.0441	0.0021	-0.0423	0.0123	-0.7219	0.0500	-1.3210	0.0637
2	105.12	0.4496	0.0680	0.0024	-0.0682	0.0165	-1.0530	0.0701	-1.3128	0.0700
2	105.12	0.4995	0.0776	0.0031	-0.0918	0.0219	-1.5264	0.0936	-1.6004	0.0707
2	105.12	0.5551	0.1019	0.0036	-0.1302	0.0280	-2.1292	0.1214	-1.6289	0.0735
2	105.12	0.5996	0.1033	0.0043	-0.1802	0.0332	-2.6954	0.1417	-1.7777	0.0734
2	105.12	0.6497	0.1244	0.0055	-0.2115	0.0397	-3.4382	0.1653	-1.7820	0.0764
2	105.12	0.6996	0.1296	0.0064	-0.2554	0.0464	-4.2773	0.1861	-1.8720	0.0806
2	105.12	0.7495	0.1202	0.0078	-0.3234	0.0532	-5.2097	0.2058	-1.8322	0.0812
2	105.12	0.7996	0.1048	0.0095	-0.3843	0.0608	-6.2724	0.2230	-2.0049	0.0757
2	105.12	0.8578	0.0566	0.0125	-0.4786	0.0703	-7.5497	0.2435	-1.9507	0.0791
2	105.12	0.9100	0.0526	0.0146	-0.5249	0.0787	-8.8030	0.2657	-2.1369	0.0944
2	105.12	0.9727	0.0118	0.0187	-0.5593	0.0899	-10.2279	0.3005	-1.8249	0.0979
3	105.12	0.1938	-0.0655	0.0018	-0.0245	0.0011	-0.0245	0.0045	-0.2132	0.0302
3	105.12	0.2357	-0.0283	0.0016	0.0094	0.0019	-0.1177	0.0069	-0.4072	0.0473
3	105.12	0.2995	-0.0050	0.0016	-0.0555	0.0042	-0.2060	0.0171	-0.5750	0.0711
3	105.12	0.3493	0.0149	0.0019	-0.0873	0.0065	-0.3588	0.0297	-0.6724	0.0655
3	105.12	0.4000	0.0496	0.0025	-0.1191	0.0104	-0.5973	0.0455	-0.6400	0.0697
3	105.12	0.4497	0.0697	0.0031	-0.1603	0.0139	-0.9309	0.0630	-0.8295	0.0744
3	105.12	0.4997	0.0744	0.0034	-0.2051	0.0178	-1.3376	0.0832	-0.9106	0.0773
3	105.12	0.5556	0.0985	0.0041	-0.2632	0.0231	-1.8684	0.1063	-0.8635	0.0815
3	105.12	0.5995	0.1097	0.0048	-0.3164	0.0274	-2.4079	0.1254	-1.0052	0.0912
3	105.12	0.6498	0.1267	0.0055	-0.3770	0.0333	-3.1157	0.1469	-1.1257	0.0965
3	105.12	0.6890	0.0921	0.0064	-0.4482	0.0381	-3.7168	0.1625	-1.0431	0.0964
3	105.12	0.7495	0.1140	0.0080	-0.5420	0.0463	-4.8199	0.1848	-1.1675	0.0984
3	105.12	0.7998	0.1143	0.0097	-0.6227	0.0536	-5.8441	0.2017	-1.1132	0.0992
3	105.12	0.8577	0.0708	0.0117	-0.6937	0.0627	-7.1678	0.2227	-1.2900	0.1091
3	105.12	0.9178	0.0494	0.0135	-0.8580	0.0725	-8.5779	0.2446	-1.6064	0.1204
3	105.12	0.9729	0.0513	0.0171	-0.9238	0.0817	-9.9846	0.2658	-1.7656	0.1149
4	105.12	0.2001	-0.0540	0.0013	0.0045	0.0008	-0.0579	0.0037	0.0730	0.0269
4	105.12	0.2502	-0.0167	0.0015	0.0209	0.0022	-0.1865	0.0081	-0.3407	0.0437
4	105.12	0.3001	0.0111	0.0013	0.0263	0.0035	-0.2816	0.0151	-0.0221	0.0586
4	105.12	0.3502	0.0177	0.0015	0.0517	0.0056	-0.5184	0.0255	-0.3471	0.0550
4	105.12	0.4002	0.0330	0.0025	0.0823	0.0091	-0.8166	0.0397	-0.4528	0.0537
4	105.12	0.4500	0.0573	0.0027	0.1061	0.0122	-1.2272	0.0575	-0.6406	0.0540
4	105.12	0.5001	0.0685	0.0038	0.1208	0.0163	-1.7180	0.0782	-0.5762	0.0540
4	105.12	0.5560	0.0830	0.0046	0.1417	0.0212	-2.4597	0.1051	-0.8239	0.0568
4	105.12	0.6001	0.0852	0.0056	0.1502	0.0255	-3.0881	0.1291	-0.8075	0.0540
4	105.12	0.6501	0.0764	0.0073	0.1358	0.0305	-3.9504	0.1587	-0.7610	0.0565
4	105.12	0.6999	0.0806	0.0092	0.1189	0.0363	-4.9286	0.1909	-0.7540	0.0590
4	105.12	0.7500	0.0658	0.0119	0.1043	0.0423	-5.9860	0.2263	-0.5490	0.0676
4	105.12	0.8002	0.0379	0.0148	0.0835	0.0484	-7.2196	0.2643	-0.5812	0.0735
4	105.12	0.8582	0.0064	0.0190	0.0739	0.0557	-8.7857	0.3104	-0.9903	0.0677
4	105.12	0.9101	-0.0139	0.0223	0.0354	0.0625	-10.2239	0.3510	-0.9786	0.0712
4	105.12	0.9728	-0.0274	0.0259	0.0357	0.0711	-11.9459	0.4016	-0.7109	0.0812

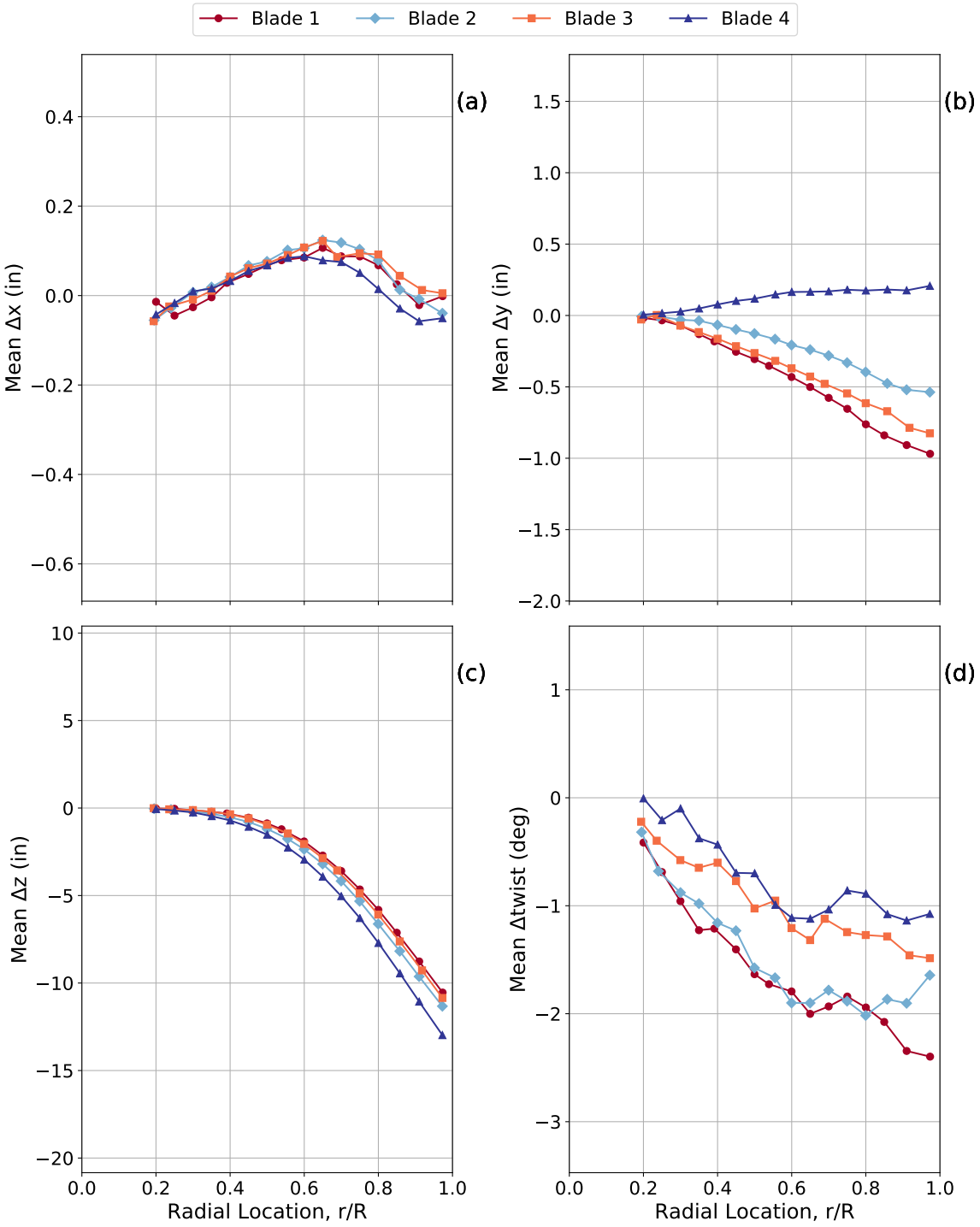


Figure 2.6-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0139	0.0016	-0.0176	0.0007	-0.0292	0.0039	-0.4148	0.0239
1	119.88	0.2499	-0.0448	0.0013	-0.0340	0.0023	-0.0439	0.0087	-0.6879	0.0441
1	119.88	0.2998	-0.0261	0.0013	-0.0703	0.0034	-0.1273	0.0157	-0.9573	0.0529
1	119.88	0.3498	-0.0039	0.0020	-0.1307	0.0058	-0.2140	0.0276	-1.2266	0.0455
1	119.88	0.3913	0.0285	0.0020	-0.1815	0.0089	-0.3096	0.0395	-1.2117	0.0594
1	119.88	0.4496	0.0484	0.0023	-0.2542	0.0120	-0.5526	0.0547	-1.4041	0.0601
1	119.88	0.4997	0.0674	0.0028	-0.3058	0.0155	-0.8780	0.0728	-1.6341	0.0519
1	119.88	0.5387	0.0790	0.0031	-0.3528	0.0188	-1.2122	0.0878	-1.7265	0.0585
1	119.88	0.5996	0.0850	0.0042	-0.4310	0.0238	-1.9074	0.1140	-1.7936	0.0624
1	119.88	0.6498	0.1067	0.0045	-0.5009	0.0290	-2.7143	0.1374	-2.0013	0.0617
1	119.88	0.6998	0.0878	0.0059	-0.5770	0.0342	-3.5994	0.1624	-1.9324	0.0670
1	119.88	0.7500	0.0875	0.0077	-0.6540	0.0398	-4.6528	0.1931	-1.8409	0.0662
1	119.88	0.8001	0.0677	0.0101	-0.7623	0.0459	-5.8204	0.2264	-1.9422	0.0684
1	119.88	0.8497	0.0253	0.0129	-0.8393	0.0523	-7.1240	0.2616	-2.0760	0.0730
1	119.88	0.9102	-0.0213	0.0166	-0.9078	0.0606	-8.7669	0.3085	-2.3449	0.0767
1	119.88	0.9734	-0.0014	0.0203	-0.9690	0.0693	-10.5452	0.3634	-2.3975	0.0798
2	119.88	0.1949	-0.0552	0.0015	-0.0061	0.0010	-0.0363	0.0032	-0.3184	0.0274
2	119.88	0.2405	-0.0275	0.0015	-0.0065	0.0019	-0.0884	0.0069	-0.6799	0.0494
2	119.88	0.2999	0.0074	0.0018	-0.0302	0.0044	-0.1983	0.0139	-0.8785	0.0660
2	119.88	0.3498	0.0190	0.0028	-0.0365	0.0068	-0.3280	0.0229	-0.9805	0.0631
2	119.88	0.3998	0.0416	0.0021	-0.0663	0.0110	-0.5327	0.0364	-1.1583	0.0602
2	119.88	0.4496	0.0672	0.0029	-0.0979	0.0143	-0.7895	0.0483	-1.2313	0.0712
2	119.88	0.4995	0.0764	0.0036	-0.1268	0.0185	-1.1867	0.0621	-1.5754	0.0775
2	119.88	0.5551	0.1017	0.0037	-0.1659	0.0241	-1.7574	0.0813	-1.6674	0.0805
2	119.88	0.5996	0.1059	0.0040	-0.2072	0.0293	-2.3567	0.0982	-1.9000	0.0840
2	119.88	0.6497	0.1241	0.0050	-0.2395	0.0355	-3.1957	0.1198	-1.9005	0.0906
2	119.88	0.6996	0.1185	0.0063	-0.2809	0.0422	-4.1706	0.1451	-1.7818	0.0922
2	119.88	0.7495	0.1036	0.0087	-0.3309	0.0492	-5.3243	0.1733	-1.8835	0.0981
2	119.88	0.7996	0.0788	0.0116	-0.3958	0.0567	-6.6251	0.2082	-2.0163	0.1018
2	119.88	0.8578	0.0131	0.0157	-0.4760	0.0657	-8.1791	0.2543	-1.8662	0.1042
2	119.88	0.9100	-0.0079	0.0196	-0.5204	0.0741	-9.6295	0.3008	-1.9032	0.1090
2	119.88	0.9727	-0.0395	0.0245	-0.5372	0.0844	-11.3239	0.3622	-1.6432	0.1152
3	119.88	0.1938	-0.0573	0.0014	-0.0279	0.0008	-0.0098	0.0039	-0.2221	0.0337
3	119.88	0.2357	-0.0244	0.0020	0.0032	0.0021	-0.0731	0.0084	-0.3975	0.0380
3	119.88	0.2995	-0.0088	0.0018	-0.0707	0.0043	-0.1182	0.0183	-0.5775	0.0723
3	119.88	0.3493	0.0107	0.0020	-0.1162	0.0071	-0.2128	0.0318	-0.6482	0.0643
3	119.88	0.4000	0.0425	0.0027	-0.1627	0.0116	-0.3578	0.0492	-0.6012	0.0677
3	119.88	0.4497	0.0613	0.0035	-0.2151	0.0150	-0.5913	0.0666	-0.7715	0.0815
3	119.88	0.4997	0.0717	0.0038	-0.2632	0.0197	-0.9516	0.0857	-1.0253	0.0765
3	119.88	0.5556	0.0906	0.0047	-0.3178	0.0262	-1.4546	0.1094	-0.9525	0.0864
3	119.88	0.5995	0.1075	0.0055	-0.3701	0.0316	-2.0522	0.1288	-1.2069	0.0880
3	119.88	0.6498	0.1221	0.0065	-0.4278	0.0386	-2.8617	0.1536	-1.3181	0.0875
3	119.88	0.6890	0.0862	0.0082	-0.4788	0.0445	-3.5654	0.1756	-1.1208	0.0908
3	119.88	0.7495	0.0946	0.0109	-0.5458	0.0542	-4.8765	0.2180	-1.2442	0.0959
3	119.88	0.7998	0.0919	0.0142	-0.6144	0.0630	-6.0885	0.2587	-1.2713	0.0973
3	119.88	0.8577	0.0442	0.0185	-0.6706	0.0739	-7.6232	0.3099	-1.2844	0.1034
3	119.88	0.9178	0.0124	0.0228	-0.7867	0.0856	-9.2773	0.3668	-1.4589	0.1135
3	119.88	0.9729	0.0052	0.0283	-0.8254	0.0967	-10.8516	0.4227	-1.4854	0.1090
4	119.88	0.2001	-0.0423	0.0018	0.0058	0.0010	-0.0594	0.0037	-0.0058	0.0326
4	119.88	0.2502	-0.0168	0.0015	0.0157	0.0021	-0.1457	0.0086	-0.2072	0.0523
4	119.88	0.3001	0.0093	0.0018	0.0272	0.0042	-0.2522	0.0142	-0.0999	0.0723
4	119.88	0.3502	0.0160	0.0022	0.0490	0.0070	-0.4640	0.0254	-0.3755	0.0679
4	119.88	0.4002	0.0326	0.0027	0.0770	0.0109	-0.7111	0.0390	-0.4341	0.0579
4	119.88	0.4500	0.0551	0.0031	0.1020	0.0147	-1.0716	0.0520	-0.6954	0.0718
4	119.88	0.5001	0.0675	0.0040	0.1175	0.0191	-1.5235	0.0703	-0.6995	0.0707
4	119.88	0.5560	0.0842	0.0050	0.1468	0.0246	-2.2609	0.0956	-0.9918	0.0765
4	119.88	0.6001	0.0878	0.0065	0.1646	0.0298	-2.9499	0.1209	-1.1123	0.0782
4	119.88	0.6501	0.0788	0.0084	0.1658	0.0357	-3.9215	0.1564	-1.1204	0.0871
4	119.88	0.6999	0.0750	0.0116	0.1689	0.0421	-5.0363	0.2008	-1.0344	0.0843
4	119.88	0.7500	0.0508	0.0156	0.1804	0.0490	-6.2885	0.2537	-0.8592	0.0941
4	119.88	0.8002	0.0145	0.0213	0.1748	0.0566	-7.7112	0.3147	-0.8884	0.0963
4	119.88	0.8582	-0.0290	0.0285	0.1817	0.0657	-9.4492	0.3938	-1.0782	0.1081
4	119.88	0.9101	-0.0575	0.0346	0.1758	0.0741	-11.0629	0.4696	-1.1372	0.1069
4	119.88	0.9728	-0.0506	0.0430	0.2072	0.0850	-12.9771	0.5679	-1.0755	0.1145

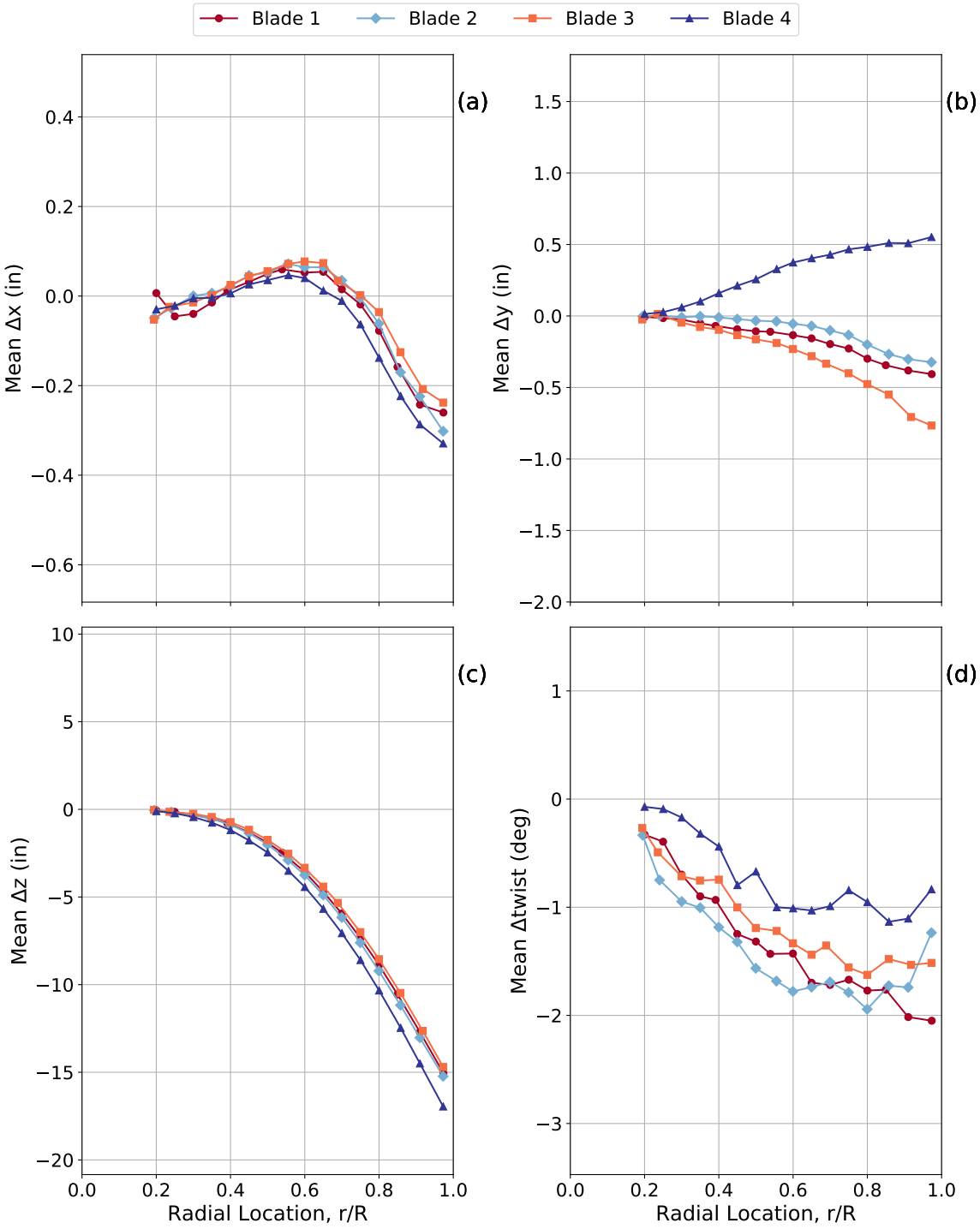


Figure 2.6-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	0.0066	0.0024	-0.0061	0.0012	-0.0696	0.0041	-0.3296	0.0294
1	135	0.2499	-0.0454	0.0016	-0.0150	0.0023	-0.1453	0.0107	-0.3941	0.0542
1	135	0.2998	-0.0398	0.0020	-0.0244	0.0045	-0.3183	0.0199	-0.6987	0.0677
1	135	0.3498	-0.0144	0.0022	-0.0514	0.0080	-0.5311	0.0326	-0.8991	0.0744
1	135	0.3913	0.0121	0.0029	-0.0691	0.0112	-0.7875	0.0498	-0.9327	0.0825
1	135	0.4496	0.0316	0.0036	-0.0923	0.0146	-1.3111	0.0760	-1.2482	0.0853
1	135	0.4997	0.0494	0.0054	-0.1070	0.0184	-1.9071	0.1092	-1.3173	0.1051
1	135	0.5387	0.0596	0.0061	-0.1104	0.0219	-2.4722	0.1405	-1.4314	0.1113
1	135	0.5996	0.0524	0.0096	-0.1337	0.0279	-3.5628	0.1958	-1.4283	0.1125
1	135	0.6498	0.0541	0.0129	-0.1564	0.0332	-4.7065	0.2495	-1.6984	0.1121
1	135	0.6998	0.0151	0.0176	-0.1964	0.0389	-5.9420	0.3092	-1.7183	0.1170
1	135	0.7500	-0.0188	0.0234	-0.2278	0.0454	-7.3467	0.3774	-1.6704	0.1236
1	135	0.8001	-0.0775	0.0307	-0.2988	0.0520	-8.8872	0.4512	-1.7705	0.1217
1	135	0.8497	-0.1583	0.0392	-0.3442	0.0592	-10.5579	0.5319	-1.7628	0.1269
1	135	0.9102	-0.2425	0.0500	-0.3812	0.0686	-12.7103	0.6380	-2.0157	0.1257
1	135	0.9734	-0.2602	0.0625	-0.4067	0.0790	-15.0525	0.7582	-2.0495	0.1246
2	135	0.1949	-0.0488	0.0020	-0.0024	0.0013	-0.0566	0.0048	-0.3340	0.0279
2	135	0.2405	-0.0270	0.0023	0.0034	0.0024	-0.1589	0.0101	-0.7491	0.0512
2	135	0.2999	0.0003	0.0022	-0.0094	0.0057	-0.3311	0.0214	-0.9476	0.0676
2	135	0.3498	0.0065	0.0025	-0.0018	0.0082	-0.5383	0.0371	-1.0046	0.0793
2	135	0.3998	0.0217	0.0035	-0.0097	0.0137	-0.8880	0.0579	-1.1849	0.0754
2	135	0.4496	0.0461	0.0038	-0.0218	0.0174	-1.3577	0.0822	-1.3208	0.0817
2	135	0.4995	0.0523	0.0056	-0.0328	0.0218	-2.0050	0.1118	-1.5648	0.0867
2	135	0.5551	0.0718	0.0074	-0.0375	0.0272	-2.8972	0.1536	-1.6829	0.0993
2	135	0.5996	0.0642	0.0093	-0.0548	0.0321	-3.7498	0.1930	-1.7786	0.1002
2	135	0.6497	0.0644	0.0124	-0.0697	0.0386	-4.8872	0.2431	-1.7387	0.1022
2	135	0.6996	0.0351	0.0170	-0.1011	0.0455	-6.1649	0.2997	-1.6908	0.1043
2	135	0.7495	-0.0042	0.0224	-0.1327	0.0530	-7.6095	0.3617	-1.7882	0.1091
2	135	0.7996	-0.0615	0.0290	-0.1997	0.0611	-9.2206	0.4284	-1.9434	0.1082
2	135	0.8578	-0.1703	0.0377	-0.2672	0.0710	-11.1758	0.5105	-1.7257	0.1112
2	135	0.9100	-0.2240	0.0456	-0.3020	0.0801	-13.0259	0.5880	-1.7411	0.1116
2	135	0.9727	-0.3020	0.0556	-0.3231	0.0917	-15.2289	0.6862	-1.2358	0.1140
3	135	0.1938	-0.0526	0.0015	-0.0241	0.0014	-0.0322	0.0038	-0.2676	0.0315
3	135	0.2357	-0.0242	0.0015	0.0143	0.0021	-0.1390	0.0074	-0.4921	0.0600
3	135	0.2995	-0.0142	0.0025	-0.0464	0.0054	-0.2562	0.0161	-0.7132	0.0767
3	135	0.3493	0.0019	0.0023	-0.0766	0.0090	-0.4361	0.0284	-0.7529	0.0817
3	135	0.4000	0.0248	0.0024	-0.0967	0.0140	-0.7297	0.0438	-0.7448	0.0791
3	135	0.4497	0.0440	0.0041	-0.1340	0.0171	-1.1664	0.0607	-1.0016	0.0886
3	135	0.4997	0.0557	0.0043	-0.1629	0.0223	-1.7432	0.0829	-1.1923	0.1016
3	135	0.5556	0.0719	0.0059	-0.1886	0.0282	-2.5332	0.1115	-1.2192	0.1095
3	135	0.5995	0.0773	0.0074	-0.2312	0.0332	-3.3371	0.1387	-1.3332	0.1095
3	135	0.6498	0.0737	0.0100	-0.2812	0.0397	-4.4075	0.1753	-1.4394	0.1200
3	135	0.6890	0.0340	0.0122	-0.3337	0.0449	-5.3331	0.2071	-1.3538	0.1169
3	135	0.7495	0.0022	0.0168	-0.4005	0.0537	-7.0033	0.2631	-1.5575	0.1309
3	135	0.7998	-0.0358	0.0221	-0.4760	0.0615	-8.5455	0.3158	-1.6252	0.1303
3	135	0.8577	-0.1254	0.0291	-0.5499	0.0709	-10.4755	0.3836	-1.4793	0.1318
3	135	0.9178	-0.2077	0.0370	-0.7066	0.0809	-12.6384	0.4619	-1.5329	0.1436
3	135	0.9729	-0.2379	0.0448	-0.7658	0.0902	-14.6959	0.5395	-1.5148	0.1496
4	135	0.2001	-0.0297	0.0017	0.0140	0.0011	-0.1036	0.0033	-0.0715	0.0304
4	135	0.2502	-0.0216	0.0015	0.0269	0.0026	-0.2271	0.0074	-0.0921	0.0517
4	135	0.3001	-0.0050	0.0020	0.0603	0.0049	-0.4405	0.0137	-0.1708	0.0663
4	135	0.3502	-0.0039	0.0021	0.1019	0.0077	-0.7588	0.0227	-0.3204	0.0669
4	135	0.4002	0.0060	0.0033	0.1598	0.0125	-1.1842	0.0359	-0.4396	0.0764
4	135	0.4500	0.0259	0.0039	0.2118	0.0152	-1.7744	0.0499	-0.7957	0.0910
4	135	0.5001	0.0355	0.0044	0.2567	0.0195	-2.4645	0.0693	-0.6703	0.1003
4	135	0.5560	0.0467	0.0058	0.3281	0.0246	-3.5067	0.0965	-1.0005	0.1158
4	135	0.6001	0.0401	0.0071	0.3742	0.0288	-4.4311	0.1235	-1.0106	0.1198
4	135	0.6501	0.0121	0.0099	0.4036	0.0347	-5.6743	0.1578	-1.0299	0.1224
4	135	0.6999	-0.0108	0.0129	0.4288	0.0405	-7.0641	0.1975	-0.9899	0.1244
4	135	0.7500	-0.0633	0.0172	0.4663	0.0473	-8.5992	0.2421	-0.8432	0.1264
4	135	0.8002	-0.1380	0.0223	0.4834	0.0549	-10.3343	0.2910	-0.9526	0.1253
4	135	0.8582	-0.2235	0.0294	0.5105	0.0638	-12.4674	0.3529	-1.1344	0.1271
4	135	0.9101	-0.2867	0.0358	0.5090	0.0722	-14.4964	0.4116	-1.1051	0.1274
4	135	0.9728	-0.3292	0.0446	0.5520	0.0826	-16.9541	0.4874	-0.8347	0.1276

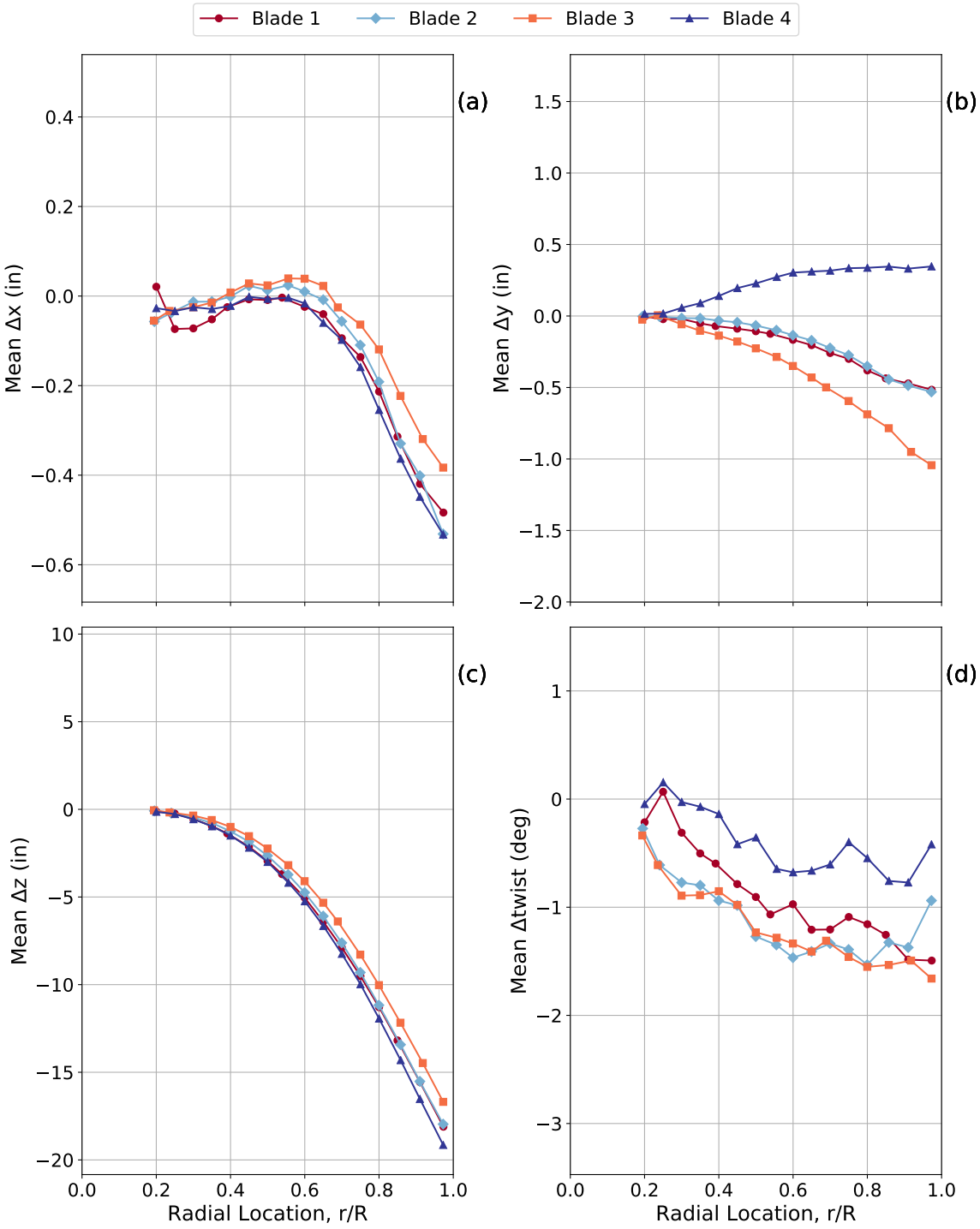


Figure 2.6-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	0.0208	0.0024	-0.0037	0.0015	-0.1265	0.0050	-0.2149	0.0292
1	150.12	0.2499	-0.0736	0.0024	-0.0220	0.0032	-0.2439	0.0122	0.0675	0.0466
1	150.12	0.2998	-0.0722	0.0020	-0.0202	0.0064	-0.5516	0.0238	-0.3109	0.0646
1	150.12	0.3498	-0.0520	0.0026	-0.0515	0.0101	-0.9516	0.0384	-0.5026	0.0697
1	150.12	0.3913	-0.0248	0.0028	-0.0704	0.0152	-1.3772	0.0586	-0.5963	0.0676
1	150.12	0.4496	-0.0072	0.0038	-0.0886	0.0208	-2.1290	0.0847	-0.7859	0.0703
1	150.12	0.4997	-0.0088	0.0053	-0.1066	0.0267	-2.9423	0.1125	-0.9054	0.0730
1	150.12	0.5387	-0.0035	0.0062	-0.1245	0.0318	-3.6955	0.1365	-1.0667	0.0818
1	150.12	0.5996	-0.0241	0.0093	-0.1665	0.0407	-5.0380	0.1803	-0.9726	0.0862
1	150.12	0.6498	-0.0404	0.0123	-0.2040	0.0492	-6.4090	0.2210	-1.2083	0.0882
1	150.12	0.6998	-0.0942	0.0165	-0.2589	0.0577	-7.8865	0.2641	-1.2061	0.0867
1	150.12	0.7500	-0.1362	0.0213	-0.2999	0.0673	-9.5161	0.3101	-1.0904	0.0923
1	150.12	0.8001	-0.2133	0.0263	-0.3807	0.0777	-11.2845	0.3556	-1.1572	0.0884
1	150.12	0.8497	-0.3138	0.0318	-0.4363	0.0884	-13.1823	0.4007	-1.2556	0.0912
1	150.12	0.9102	-0.4194	0.0390	-0.4714	0.1019	-15.5606	0.4560	-1.4845	0.0943
1	150.12	0.9734	-0.4835	0.0456	-0.5159	0.1168	-18.1057	0.5196	-1.4933	0.1030
2	150.12	0.1949	-0.0570	0.0018	-0.0024	0.0009	-0.0878	0.0043	-0.2720	0.0355
2	150.12	0.2405	-0.0373	0.0019	-0.0040	0.0020	-0.2123	0.0101	-0.6101	0.0536
2	150.12	0.2999	-0.0128	0.0020	-0.0149	0.0041	-0.4632	0.0211	-0.7719	0.0818
2	150.12	0.3498	-0.0124	0.0027	-0.0163	0.0062	-0.7789	0.0355	-0.7973	0.0889
2	150.12	0.3998	-0.0014	0.0038	-0.0321	0.0099	-1.2508	0.0565	-0.9382	0.0869
2	150.12	0.4496	0.0229	0.0047	-0.0442	0.0131	-1.8477	0.0795	-0.9826	0.0978
2	150.12	0.4995	0.0132	0.0062	-0.0667	0.0165	-2.6459	0.1078	-1.2710	0.1006
2	150.12	0.5551	0.0241	0.0087	-0.0997	0.0214	-3.7240	0.1442	-1.3484	0.1073
2	150.12	0.5996	0.0100	0.0111	-0.1346	0.0252	-4.7446	0.1775	-1.4665	0.1118
2	150.12	0.6497	-0.0083	0.0147	-0.1708	0.0305	-6.0913	0.2208	-1.4096	0.1154
2	150.12	0.6996	-0.0564	0.0199	-0.2239	0.0363	-7.6157	0.2694	-1.3352	0.1231
2	150.12	0.7495	-0.1095	0.0262	-0.2735	0.0427	-9.3059	0.3232	-1.3914	0.1176
2	150.12	0.7996	-0.1915	0.0334	-0.3511	0.0501	-11.1725	0.3832	-1.5321	0.1256
2	150.12	0.8578	-0.3294	0.0438	-0.4437	0.0596	-13.4238	0.4610	-1.3252	0.1311
2	150.12	0.9100	-0.4011	0.0528	-0.4863	0.0689	-15.5210	0.5368	-1.3723	0.1312
2	150.12	0.9727	-0.5313	0.0649	-0.5308	0.0802	-17.9606	0.6329	-0.9384	0.1323
3	150.12	0.1938	-0.0549	0.0015	-0.0254	0.0010	-0.0530	0.0035	-0.3365	0.0326
3	150.12	0.2357	-0.0333	0.0014	0.0051	0.0026	-0.1753	0.0060	-0.6100	0.0462
3	150.12	0.2995	-0.0250	0.0016	-0.0580	0.0047	-0.3552	0.0135	-0.8929	0.0740
3	150.12	0.3493	-0.0146	0.0026	-0.1033	0.0074	-0.6101	0.0251	-0.8882	0.0681
3	150.12	0.4000	0.0079	0.0030	-0.1370	0.0120	-1.0020	0.0367	-0.8520	0.0699
3	150.12	0.4497	0.0282	0.0041	-0.1784	0.0149	-1.5297	0.0520	-0.9786	0.0779
3	150.12	0.4997	0.0238	0.0045	-0.2262	0.0184	-2.2361	0.0688	-1.2329	0.0773
3	150.12	0.5556	0.0394	0.0063	-0.2864	0.0232	-3.1856	0.0909	-1.2825	0.0793
3	150.12	0.5995	0.0387	0.0075	-0.3497	0.0278	-4.0980	0.1115	-1.3354	0.0808
3	150.12	0.6498	0.0226	0.0097	-0.4299	0.0321	-5.3277	0.1379	-1.4102	0.0804
3	150.12	0.6890	-0.0254	0.0119	-0.4992	0.0359	-6.3971	0.1609	-1.3096	0.0877
3	150.12	0.7495	-0.0637	0.0159	-0.5947	0.0423	-8.2879	0.1998	-1.4600	0.0904
3	150.12	0.7998	-0.1192	0.0196	-0.6879	0.0486	-10.0280	0.2353	-1.5514	0.1012
3	150.12	0.8577	-0.2230	0.0253	-0.7848	0.0559	-12.1731	0.2785	-1.5341	0.1038
3	150.12	0.9178	-0.3193	0.0310	-0.9505	0.0641	-14.4733	0.3269	-1.4932	0.1073
3	150.12	0.9729	-0.3831	0.0365	-1.0433	0.0713	-16.6882	0.3725	-1.6597	0.1155
4	150.12	0.2001	-0.0270	0.0017	0.0146	0.0013	-0.1385	0.0036	-0.0459	0.0363
4	150.12	0.2502	-0.0336	0.0020	0.0168	0.0036	-0.2692	0.0082	0.1544	0.0464
4	150.12	0.3001	-0.0250	0.0019	0.0572	0.0059	-0.5628	0.0142	-0.0279	0.0749
4	150.12	0.3502	-0.0290	0.0025	0.0900	0.0099	-0.9692	0.0255	-0.0712	0.0694
4	150.12	0.4002	-0.0219	0.0031	0.1402	0.0158	-1.4959	0.0389	-0.1390	0.0714
4	150.12	0.4500	-0.0017	0.0041	0.1951	0.0200	-2.1880	0.0537	-0.4178	0.0726
4	150.12	0.5001	-0.0063	0.0053	0.2277	0.0246	-3.0022	0.0729	-0.3550	0.0829
4	150.12	0.5560	-0.0039	0.0061	0.2728	0.0312	-4.1892	0.0982	-0.6460	0.0807
4	150.12	0.6001	-0.0164	0.0074	0.3034	0.0359	-5.2450	0.1213	-0.6774	0.0829
4	150.12	0.6501	-0.0598	0.0099	0.3108	0.0426	-6.6533	0.1478	-0.6620	0.0884
4	150.12	0.6999	-0.0978	0.0127	0.3168	0.0488	-8.2450	0.1780	-0.6048	0.0912
4	150.12	0.7500	-0.1587	0.0164	0.3343	0.0554	-9.9788	0.2110	-0.3982	0.0924
4	150.12	0.8002	-0.2543	0.0208	0.3372	0.0626	-11.9378	0.2482	-0.5465	0.0950
4	150.12	0.8582	-0.3633	0.0268	0.3454	0.0711	-14.3107	0.2940	-0.7571	0.1027
4	150.12	0.9101	-0.4483	0.0322	0.3313	0.0789	-16.5233	0.3396	-0.7715	0.1006
4	150.12	0.9728	-0.5326	0.0390	0.3465	0.0883	-19.1459	0.3981	-0.4190	0.0977

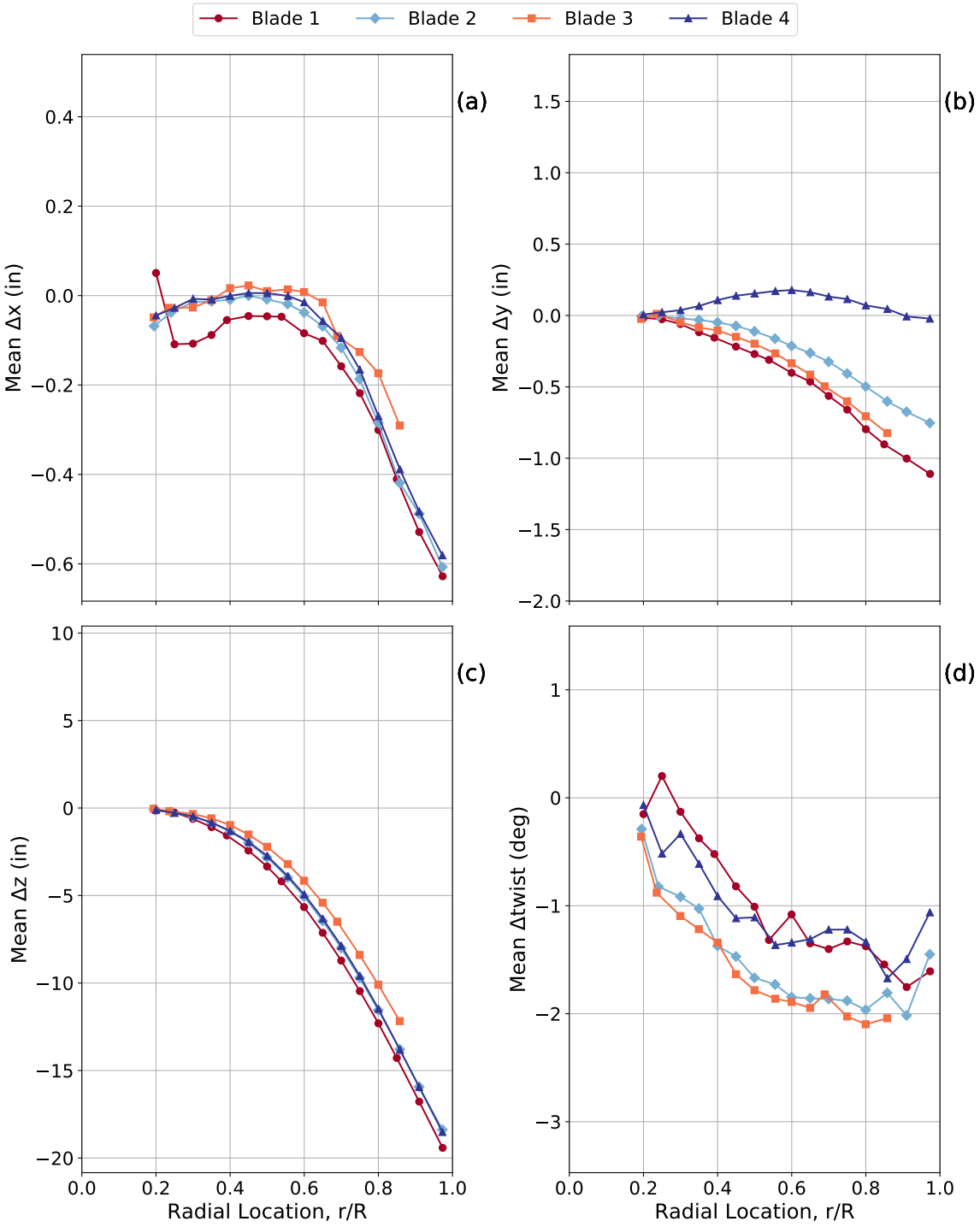


Figure 2.6-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	0.0506	0.0032	-0.0168	0.0016	-0.1397	0.0036	-0.1516	0.0281
1	164.88	0.2499	-0.1089	0.0022	-0.0263	0.0025	-0.2615	0.0089	0.2016	0.0526
1	164.88	0.2998	-0.1075	0.0024	-0.0601	0.0070	-0.6199	0.0155	-0.1294	0.0665
1	164.88	0.3498	-0.0883	0.0025	-0.1171	0.0096	-1.0912	0.0274	-0.3754	0.0591
1	164.88	0.3913	-0.0548	0.0028	-0.1553	0.0150	-1.5681	0.0396	-0.5216	0.0646
1	164.88	0.4496	-0.0458	0.0035	-0.2181	0.0208	-2.4285	0.0587	-0.8202	0.0627
1	164.88	0.4997	-0.0464	0.0043	-0.2699	0.0270	-3.3406	0.0778	-1.0095	0.0631
1	164.88	0.5387	-0.0474	0.0049	-0.3108	0.0310	-4.1881	0.0937	-1.3172	0.0635
1	164.88	0.5996	-0.0842	0.0069	-0.4013	0.0388	-5.6590	0.1208	-1.0807	0.0677
1	164.88	0.6498	-0.1014	0.0087	-0.4631	0.0458	-7.1294	0.1428	-1.3483	0.0751
1	164.88	0.6998	-0.1581	0.0111	-0.5633	0.0531	-8.7193	0.1672	-1.4014	0.0696
1	164.88	0.7500	-0.2183	0.0146	-0.6594	0.0612	-10.4625	0.1954	-1.3308	0.0737
1	164.88	0.8001	-0.3008	0.0186	-0.7969	0.0693	-12.3042	0.2261	-1.3751	0.0698
1	164.88	0.8497	-0.4102	0.0235	-0.9026	0.0777	-14.2824	0.2616	-1.5437	0.0700
1	164.88	0.9102	-0.5287	0.0297	-1.0024	0.0883	-16.7777	0.3128	-1.7530	0.0681
1	164.88	0.9734	-0.6279	0.0373	-1.1097	0.0992	-19.4182	0.3693	-1.6076	0.0687
2	164.88	0.1949	-0.0682	0.0013	-0.0061	0.0014	-0.0886	0.0030	-0.2899	0.0345
2	164.88	0.2405	-0.0378	0.0012	-0.0030	0.0032	-0.2362	0.0055	-0.8231	0.0445
2	164.88	0.2999	-0.0149	0.0013	-0.0210	0.0073	-0.4982	0.0115	-0.9165	0.0753
2	164.88	0.3498	-0.0129	0.0015	-0.0312	0.0103	-0.8272	0.0186	-1.0266	0.0859
2	164.88	0.3998	-0.0091	0.0020	-0.0481	0.0178	-1.3467	0.0289	-1.3720	0.0858
2	164.88	0.4496	-0.0001	0.0021	-0.0730	0.0234	-1.9827	0.0382	-1.4701	0.0942
2	164.88	0.4995	-0.0083	0.0025	-0.1114	0.0278	-2.8221	0.0499	-1.6674	0.1125
2	164.88	0.5551	-0.0189	0.0037	-0.1624	0.0357	-3.9679	0.0655	-1.7289	0.1126
2	164.88	0.5996	-0.0379	0.0043	-0.2133	0.0413	-5.0587	0.0781	-1.8464	0.1156
2	164.88	0.6497	-0.0687	0.0063	-0.2623	0.0482	-6.4519	0.0954	-1.8578	0.1239
2	164.88	0.6996	-0.1168	0.0073	-0.3238	0.0556	-8.0017	0.1127	-1.8641	0.1260
2	164.88	0.7495	-0.1867	0.0104	-0.4068	0.0645	-9.7094	0.1326	-1.8798	0.1188
2	164.88	0.7996	-0.2845	0.0133	-0.4977	0.0722	-11.5490	0.1540	-1.9639	0.1262
2	164.88	0.8578	-0.4191	0.0166	-0.6021	0.0817	-13.7886	0.1859	-1.8067	0.1235
2	164.88	0.9100	-0.4880	0.0257	-0.6748	0.0890	-15.9273	0.2188	-2.0156	0.1884
2	164.88	0.9727	-0.6071	0.0286	-0.7528	0.0996	-18.3796	0.2673	-1.4496	0.1630
3	164.88	0.1938	-0.0487	0.0017	-0.0239	0.0016	-0.0436	0.0052	-0.3597	0.0234
3	164.88	0.2357	-0.0273	0.0015	0.0113	0.0023	-0.1807	0.0091	-0.8789	0.0493
3	164.88	0.2995	-0.0267	0.0012	-0.0468	0.0066	-0.3411	0.0212	-1.0950	0.0615
3	164.88	0.3493	-0.0105	0.0017	-0.0838	0.0100	-0.5859	0.0356	-1.2167	0.0662
3	164.88	0.4000	0.0165	0.0020	-0.1049	0.0162	-0.9757	0.0555	-1.3416	0.0698
3	164.88	0.4497	0.0225	0.0027	-0.1494	0.0212	-1.5128	0.0764	-1.6339	0.0700
3	164.88	0.4997	0.0100	0.0034	-0.1980	0.0268	-2.2135	0.1016	-1.7826	0.0762
3	164.88	0.5556	0.0139	0.0047	-0.2660	0.0331	-3.2018	0.1330	-1.8612	0.0782
3	164.88	0.5995	0.0079	0.0063	-0.3349	0.0384	-4.1539	0.1578	-1.8910	0.0828
3	164.88	0.6498	-0.0150	0.0082	-0.4140	0.0456	-5.4100	0.1883	-1.9466	0.0830
3	164.88	0.6890	-0.0904	0.0105	-0.4961	0.0502	-6.4951	0.2115	-1.8208	0.0839
3	164.88	0.7495	-0.1262	0.0134	-0.6011	0.0589	-8.3957	0.2493	-2.0255	0.0920
3	164.88	0.7998	-0.1736	0.0167	-0.7062	0.0663	-10.0937	0.2807	-2.0977	0.0838
3	164.88	0.8577	-0.2905	0.0221	-0.8235	0.0764	-12.1774	0.3231	-2.0417	0.1031
4	164.88	0.2001	-0.0445	0.0015	0.0069	0.0010	-0.1033	0.0041	-0.0672	0.0322
4	164.88	0.2502	-0.0274	0.0012	0.0225	0.0027	-0.2808	0.0104	-0.5168	0.0465
4	164.88	0.3001	-0.0074	0.0017	0.0373	0.0049	-0.4733	0.0174	-0.3344	0.0707
4	164.88	0.3502	-0.0088	0.0017	0.0667	0.0075	-0.8305	0.0295	-0.6116	0.0770
4	164.88	0.4002	-0.0005	0.0022	0.1075	0.0123	-1.3119	0.0468	-0.9112	0.0738
4	164.88	0.4500	0.0057	0.0028	0.1383	0.0152	-1.9396	0.0638	-1.1157	0.0719
4	164.88	0.5001	0.0054	0.0041	0.1540	0.0197	-2.7339	0.0855	-1.1078	0.0831
4	164.88	0.5560	-0.0008	0.0052	0.1710	0.0247	-3.8973	0.1130	-1.3639	0.0873
4	164.88	0.6001	-0.0149	0.0072	0.1784	0.0292	-4.9424	0.1385	-1.3413	0.0842
4	164.88	0.6501	-0.0568	0.0088	0.1629	0.0342	-6.3247	0.1650	-1.3095	0.0909
4	164.88	0.6999	-0.0948	0.0124	0.1326	0.0398	-7.8718	0.1912	-1.2215	0.0996
4	164.88	0.7500	-0.1656	0.0151	0.1145	0.0460	-9.5918	0.2250	-1.2209	0.1071
4	164.88	0.8002	-0.2698	0.0202	0.0707	0.0528	-11.4766	0.2566	-1.3341	0.1081
4	164.88	0.8582	-0.3887	0.0266	0.0453	0.0598	-13.8133	0.3037	-1.6721	0.1264
4	164.88	0.9101	-0.4828	0.0329	-0.0069	0.0673	-15.9394	0.3538	-1.4939	0.1422
4	164.88	0.9728	-0.5809	0.0411	-0.0221	0.0760	-18.5137	0.4219	-1.0615	0.1534

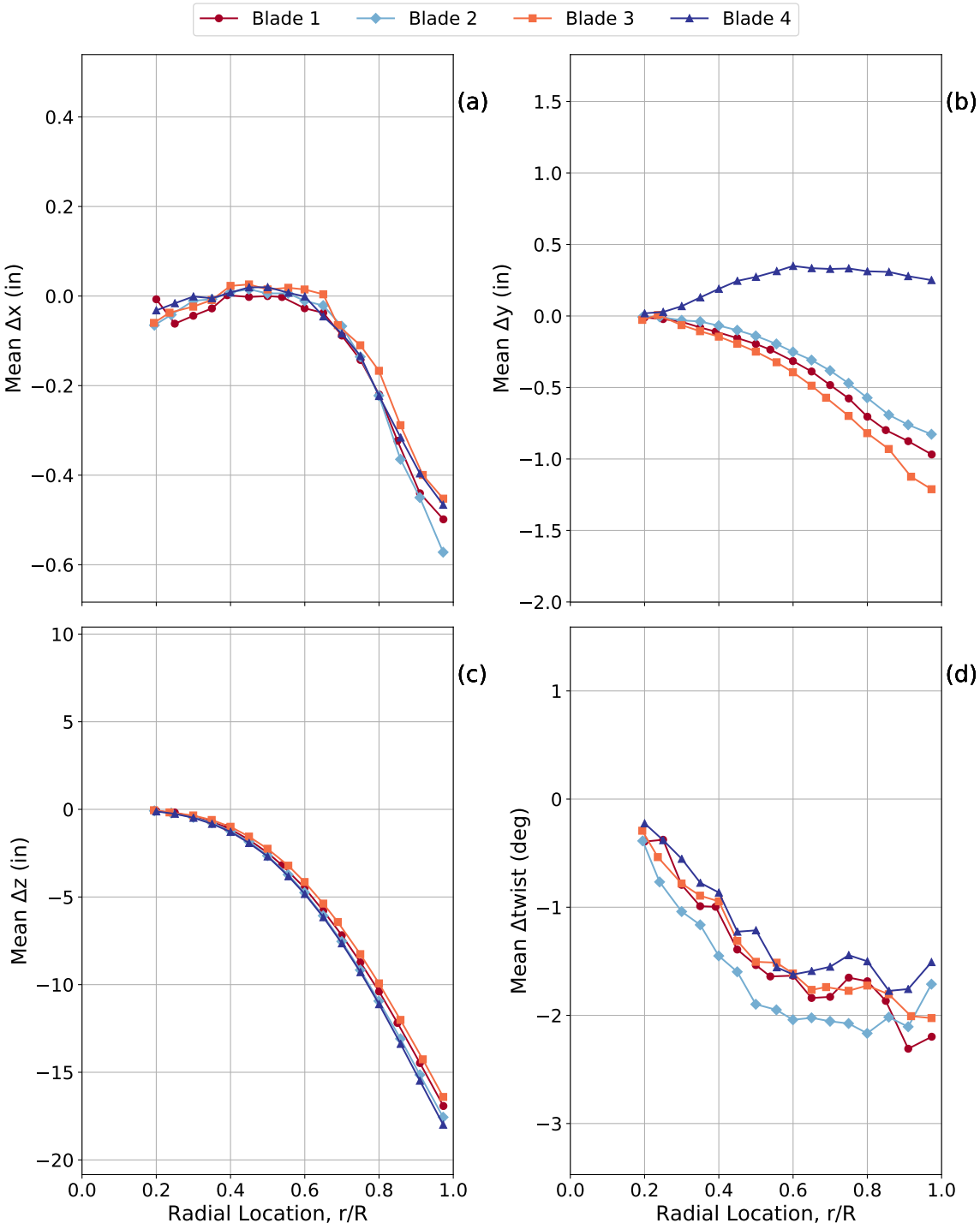


Figure 2.6-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0072	0.0018	-0.0104	0.0013	-0.0963	0.0039	-0.3929	0.0253
1	170.16	0.2499	-0.0617	0.0018	-0.0216	0.0042	-0.1796	0.0088	-0.3763	0.0425
1	170.16	0.2998	-0.0440	0.0014	-0.0407	0.0071	-0.4232	0.0158	-0.7929	0.0573
1	170.16	0.3498	-0.0276	0.0019	-0.0802	0.0117	-0.7142	0.0265	-0.9906	0.0565
1	170.16	0.3913	0.0019	0.0029	-0.1090	0.0182	-1.0424	0.0387	-0.9959	0.0685
1	170.16	0.4496	-0.0020	0.0032	-0.1545	0.0232	-1.7273	0.0540	-1.3912	0.0699
1	170.16	0.4997	-0.0001	0.0038	-0.1955	0.0313	-2.4765	0.0734	-1.5348	0.0740
1	170.16	0.5387	-0.0022	0.0043	-0.2354	0.0369	-3.1819	0.0889	-1.6402	0.0789
1	170.16	0.5996	-0.0273	0.0064	-0.3152	0.0477	-4.4802	0.1186	-1.6331	0.0784
1	170.16	0.6498	-0.0374	0.0079	-0.3881	0.0575	-5.7888	0.1445	-1.8391	0.0744
1	170.16	0.6998	-0.0882	0.0106	-0.4830	0.0683	-7.1814	0.1704	-1.8290	0.0751
1	170.16	0.7500	-0.1427	0.0129	-0.5767	0.0791	-8.7310	0.2000	-1.6512	0.0811
1	170.16	0.8001	-0.2197	0.0161	-0.7043	0.0905	-10.3901	0.2289	-1.6846	0.0867
1	170.16	0.8497	-0.3232	0.0202	-0.7981	0.1024	-12.1854	0.2613	-1.8659	0.0811
1	170.16	0.9102	-0.4404	0.0266	-0.8755	0.1166	-14.4727	0.3051	-2.3085	0.1236
1	170.16	0.9734	-0.4986	0.0294	-0.9684	0.1318	-16.9246	0.3504	-2.1975	0.1162
2	170.16	0.1949	-0.0651	0.0145	-0.0068	0.0011	-0.0853	0.0027	-0.3866	0.0264
2	170.16	0.2405	-0.0417	0.0065	-0.0062	0.0029	-0.2094	0.0068	-0.7661	0.0349
2	170.16	0.2999	-0.0106	0.0051	-0.0303	0.0057	-0.4596	0.0122	-1.0402	0.0561
2	170.16	0.3498	-0.0071	0.0147	-0.0389	0.0101	-0.7688	0.0201	-1.1630	0.0532
2	170.16	0.3998	0.0084	0.0246	-0.0674	0.0159	-1.2407	0.0320	-1.4501	0.0517
2	170.16	0.4496	0.0152	0.0335	-0.0993	0.0206	-1.8441	0.0412	-1.5972	0.0570
2	170.16	0.4995	0.0059	0.0430	-0.1391	0.0265	-2.6432	0.0534	-1.8973	0.0700
2	170.16	0.5551	0.0061	0.0527	-0.1953	0.0339	-3.7212	0.0719	-1.9490	0.0630
2	170.16	0.5996	-0.0106	0.0602	-0.2514	0.0391	-4.7483	0.0895	-2.0410	0.0644
2	170.16	0.6497	-0.0212	0.0674	-0.3083	0.0467	-6.0663	0.1123	-2.0228	0.0689
2	170.16	0.6996	-0.0672	0.0736	-0.3820	0.0539	-7.5358	0.1343	-2.0547	0.0823
2	170.16	0.7495	-0.1357	0.0785	-0.4706	0.0615	-9.1656	0.1602	-2.0751	0.0838
2	170.16	0.7996	-0.2224	0.0825	-0.5723	0.0699	-10.9352	0.1866	-2.1660	0.0848
2	170.16	0.8578	-0.3646	0.0849	-0.6915	0.0794	-13.0905	0.2181	-2.0168	0.0908
2	170.16	0.9100	-0.4500	0.0841	-0.7607	0.0886	-15.1457	0.2491	-2.1053	0.1255
2	170.16	0.9727	-0.5720	0.0817	-0.8272	0.0974	-17.5635	0.2874	-1.7115	0.1204
3	170.16	0.1938	-0.0599	0.0159	-0.0271	0.0014	-0.0504	0.0037	-0.2926	0.0255
3	170.16	0.2357	-0.0371	0.0074	0.0069	0.0023	-0.1739	0.0065	-0.5366	0.0367
3	170.16	0.2995	-0.0236	0.0057	-0.0634	0.0062	-0.3478	0.0149	-0.7804	0.0561
3	170.16	0.3493	-0.0089	0.0159	-0.1064	0.0100	-0.6074	0.0249	-0.8931	0.0602
3	170.16	0.4000	0.0227	0.0256	-0.1444	0.0161	-0.9942	0.0387	-0.9456	0.0650
3	170.16	0.4497	0.0260	0.0356	-0.1940	0.0210	-1.5539	0.0533	-1.3115	0.0812
3	170.16	0.4997	0.0148	0.0454	-0.2491	0.0274	-2.2484	0.0710	-1.5048	0.0886
3	170.16	0.5556	0.0185	0.0551	-0.3236	0.0352	-3.2128	0.0906	-1.5129	0.0827
3	170.16	0.5995	0.0147	0.0628	-0.3933	0.0420	-4.1465	0.1085	-1.6121	0.0867
3	170.16	0.6498	0.0039	0.0693	-0.4874	0.0488	-5.3768	0.1317	-1.7643	0.1090
3	170.16	0.6890	-0.0651	0.0737	-0.5717	0.0549	-6.4285	0.1524	-1.7385	0.1168
3	170.16	0.7495	-0.1099	0.0784	-0.6987	0.0640	-8.2598	0.1840	-1.7728	0.1137
3	170.16	0.7998	-0.1669	0.0799	-0.8195	0.0717	-9.9288	0.2160	-1.7242	0.1171
3	170.16	0.8577	-0.2884	0.0803	-0.9303	0.0807	-12.0133	0.2575	-1.8050	0.1299
3	170.16	0.9178	-0.3995	0.0771	-1.1239	0.0906	-14.2619	0.3090	-2.0074	0.1733
3	170.16	0.9729	-0.4524	0.0718	-1.2115	0.0968	-16.4083	0.3599	-2.0250	0.1695
4	170.16	0.2001	-0.0320	0.0014	0.0188	0.0012	-0.1193	0.0046	-0.2249	0.0236
4	170.16	0.2502	-0.0161	0.0013	0.0283	0.0027	-0.2540	0.0086	-0.3804	0.0377
4	170.16	0.3001	-0.0010	0.0015	0.0686	0.0050	-0.4837	0.0170	-0.5527	0.0507
4	170.16	0.3502	-0.0048	0.0018	0.1300	0.0083	-0.8287	0.0284	-0.7743	0.0476
4	170.16	0.4002	0.0079	0.0024	0.1898	0.0133	-1.2847	0.0436	-0.8649	0.0568
4	170.16	0.4500	0.0194	0.0028	0.2456	0.0169	-1.9229	0.0605	-1.2265	0.0577
4	170.16	0.5001	0.0198	0.0035	0.2732	0.0220	-2.6886	0.0789	-1.2138	0.0635
4	170.16	0.5560	0.0073	0.0051	0.3135	0.0281	-3.8206	0.1001	-1.5557	0.0682
4	170.16	0.6001	-0.0011	0.0061	0.3499	0.0331	-4.8304	0.1199	-1.6220	0.0646
4	170.16	0.6501	-0.0455	0.0080	0.3343	0.0395	-6.1547	0.1409	-1.5893	0.0701
4	170.16	0.6999	-0.0838	0.0092	0.3291	0.0473	-7.6450	0.1629	-1.5504	0.0788
4	170.16	0.7500	-0.1340	0.0122	0.3324	0.0532	-9.2897	0.1884	-1.4437	0.0768
4	170.16	0.8002	-0.2233	0.0158	0.3128	0.0580	-11.1177	0.2176	-1.5003	0.0909
4	170.16	0.8582	-0.3159	0.0213	0.3081	0.0679	-13.3818	0.2565	-1.7736	0.1005
4	170.16	0.9101	-0.3961	0.0269	0.2784	0.0707	-15.4831	0.2987	-1.7566	0.0931
4	170.16	0.9728	-0.4662	0.0321	0.2509	0.0811	-17.9910	0.3508	-1.5077	0.1115

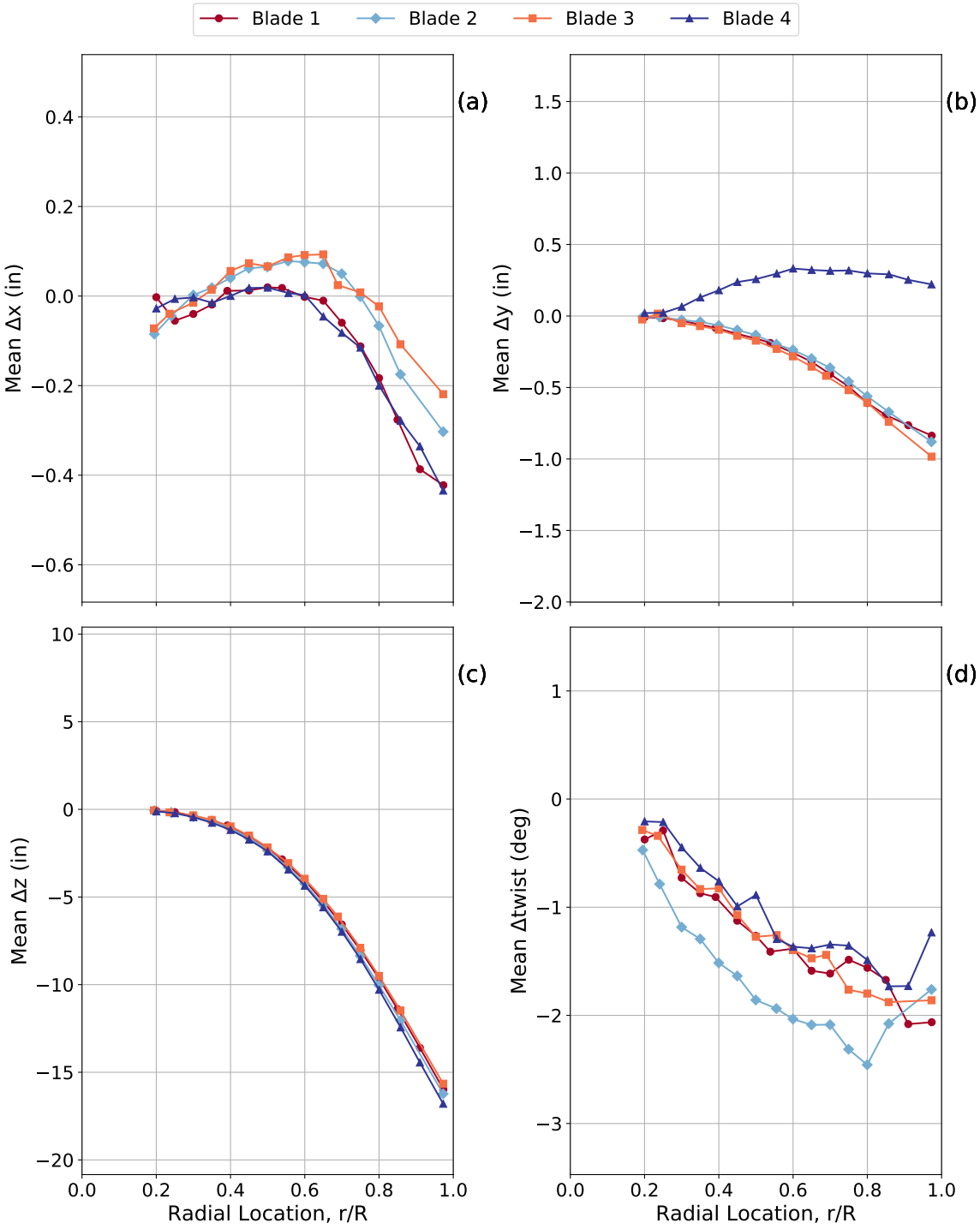


Figure 2.6-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	-0.0025	0.0017	-0.0084	0.0013	-0.0849	0.0041	-0.3735	0.0248
1	175.08	0.2499	-0.0551	0.0015	-0.0153	0.0034	-0.1583	0.0083	-0.2904	0.0419
1	175.08	0.2998	-0.0400	0.0014	-0.0323	0.0060	-0.3754	0.0158	-0.7281	0.0565
1	175.08	0.3498	-0.0191	0.0018	-0.0607	0.0107	-0.6264	0.0271	-0.8707	0.0581
1	175.08	0.3913	0.0116	0.0029	-0.0831	0.0158	-0.9195	0.0388	-0.9058	0.0536
1	175.08	0.4496	0.0125	0.0031	-0.1252	0.0208	-1.5233	0.0523	-1.1251	0.0670
1	175.08	0.4997	0.0195	0.0035	-0.1568	0.0265	-2.2010	0.0660	-1.2643	0.0673
1	175.08	0.5387	0.0180	0.0041	-0.1886	0.0313	-2.8516	0.0783	-1.4112	0.0653
1	175.08	0.5996	-0.0019	0.0058	-0.2565	0.0390	-4.0373	0.1012	-1.3832	0.0717
1	175.08	0.6498	-0.0103	0.0075	-0.3205	0.0463	-5.2536	0.1229	-1.5876	0.0796
1	175.08	0.6998	-0.0596	0.0095	-0.4064	0.0538	-6.5702	0.1467	-1.6135	0.0838
1	175.08	0.7500	-0.1123	0.0119	-0.4940	0.0617	-8.0485	0.1773	-1.4858	0.0818
1	175.08	0.8001	-0.1832	0.0153	-0.6090	0.0697	-9.6533	0.2101	-1.5605	0.0775
1	175.08	0.8497	-0.2761	0.0200	-0.6925	0.0777	-11.3947	0.2447	-1.6720	0.0892
1	175.08	0.9102	-0.3867	0.0253	-0.7641	0.0878	-13.6073	0.2921	-2.0807	0.0935
1	175.08	0.9734	-0.4224	0.0311	-0.8369	0.0989	-15.9795	0.3493	-2.0634	0.1040
2	175.08	0.1949	-0.0849	0.0012	-0.0063	0.0013	-0.0756	0.0042	-0.4715	0.0271
2	175.08	0.2405	-0.0443	0.0013	-0.0074	0.0031	-0.1790	0.0077	-0.7862	0.0449
2	175.08	0.2999	0.0022	0.0014	-0.0279	0.0059	-0.4099	0.0162	-1.1841	0.0623
2	175.08	0.3498	0.0185	0.0020	-0.0404	0.0104	-0.6697	0.0282	-1.2936	0.0624
2	175.08	0.3998	0.0404	0.0019	-0.0666	0.0163	-1.0911	0.0424	-1.5150	0.0660
2	175.08	0.4496	0.0623	0.0029	-0.0980	0.0199	-1.6268	0.0594	-1.6358	0.0700
2	175.08	0.4995	0.0650	0.0036	-0.1332	0.0239	-2.3378	0.0785	-1.8580	0.0696
2	175.08	0.5551	0.0783	0.0045	-0.1975	0.0299	-3.2981	0.0999	-1.9373	0.0815
2	175.08	0.5996	0.0756	0.0059	-0.2367	0.0356	-4.2381	0.1183	-2.0343	0.1066
2	175.08	0.6497	0.0723	0.0075	-0.2976	0.0421	-5.4534	0.1411	-2.0878	0.0985
2	175.08	0.6996	0.0498	0.0092	-0.3621	0.0474	-6.8179	0.1627	-2.0864	0.1247
2	175.08	0.7495	-0.0012	0.0116	-0.4584	0.0553	-8.3606	0.1884	-2.3130	0.1150
2	175.08	0.7996	-0.0665	0.0154	-0.5617	0.0604	-10.0316	0.2167	-2.4571	0.1092
2	175.08	0.8578	-0.1749	0.0207	-0.6714	0.0703	-12.0459	0.2545	-2.0762	0.1457
2	175.08	0.9727	-0.3029	0.0295	-0.8798	0.0859	-16.2279	0.3457	-1.7603	0.1223
3	175.08	0.1938	-0.0722	0.0014	-0.0242	0.0014	-0.0534	0.0029	-0.2861	0.0284
3	175.08	0.2357	-0.0395	0.0012	0.0164	0.0024	-0.1705	0.0064	-0.3399	0.0422
3	175.08	0.2995	-0.0149	0.0014	-0.0504	0.0053	-0.3420	0.0117	-0.6526	0.0633
3	175.08	0.3493	0.0143	0.0015	-0.0706	0.0087	-0.6026	0.0204	-0.8323	0.0549
3	175.08	0.4000	0.0560	0.0015	-0.0961	0.0137	-0.9754	0.0316	-0.8253	0.0500
3	175.08	0.4497	0.0734	0.0022	-0.1382	0.0162	-1.4961	0.0413	-1.0709	0.0656
3	175.08	0.4997	0.0662	0.0024	-0.1724	0.0195	-2.1692	0.0545	-1.2734	0.0695
3	175.08	0.5556	0.0864	0.0035	-0.2305	0.0231	-3.0675	0.0693	-1.2579	0.0749
3	175.08	0.5995	0.0916	0.0039	-0.2822	0.0268	-3.9605	0.0836	-1.3968	0.0797
3	175.08	0.6498	0.0930	0.0054	-0.3544	0.0323	-5.1090	0.0981	-1.4722	0.0959
3	175.08	0.6890	0.0244	0.0060	-0.4181	0.0337	-6.1210	0.1098	-1.4407	0.1151
3	175.08	0.7495	0.0082	0.0084	-0.5185	0.0392	-7.9019	0.1314	-1.7628	0.1235
3	175.08	0.7998	-0.0231	0.0116	-0.6060	0.0419	-9.5038	0.1571	-1.7982	0.1050
3	175.08	0.8577	-0.1078	0.0156	-0.7403	0.0508	-11.4738	0.1921	-1.8773	0.1840
3	175.08	0.9729	-0.2191	0.0286	-0.9833	0.0698	-15.6511	0.2846	-1.8605	0.1865
4	175.08	0.2001	-0.0277	0.0021	0.0206	0.0020	-0.1154	0.0055	-0.2063	0.0306
4	175.08	0.2502	-0.0063	0.0026	0.0225	0.0036	-0.2214	0.0084	-0.2130	0.0693
4	175.08	0.3001	-0.0031	0.0023	0.0649	0.0063	-0.4478	0.0170	-0.4469	0.0691
4	175.08	0.3502	-0.0150	0.0023	0.1301	0.0110	-0.7662	0.0273	-0.6363	0.0643
4	175.08	0.4002	0.0003	0.0024	0.1800	0.0163	-1.1751	0.0410	-0.7603	0.0592
4	175.08	0.4500	0.0179	0.0030	0.2375	0.0200	-1.7290	0.0545	-0.9916	0.0649
4	175.08	0.5001	0.0188	0.0039	0.2578	0.0254	-2.3985	0.0729	-0.8867	0.0750
4	175.08	0.5560	0.0067	0.0046	0.2960	0.0325	-3.4321	0.0968	-1.2938	0.0709
4	175.08	0.6001	0.0022	0.0063	0.3318	0.0380	-4.3571	0.1179	-1.3656	0.0711
4	175.08	0.6501	-0.0458	0.0078	0.3219	0.0454	-5.5906	0.1436	-1.3798	0.0815
4	175.08	0.6999	-0.0821	0.0104	0.3160	0.0520	-6.9842	0.1728	-1.3448	0.0888
4	175.08	0.7500	-0.1152	0.0128	0.3184	0.0603	-8.5450	0.2044	-1.3550	0.0795
4	175.08	0.8002	-0.2001	0.0179	0.2978	0.0671	-10.2930	0.2391	-1.4889	0.1066
4	175.08	0.8582	-0.2785	0.0231	0.2913	0.0779	-12.4399	0.2832	-1.7313	0.1127
4	175.08	0.9101	-0.3356	0.0313	0.2530	0.0880	-14.4437	0.3289	-1.7291	0.1729
4	175.08	0.9728	-0.4344	0.0340	0.2210	0.0942	-16.7970	0.3875	-1.2330	0.1050

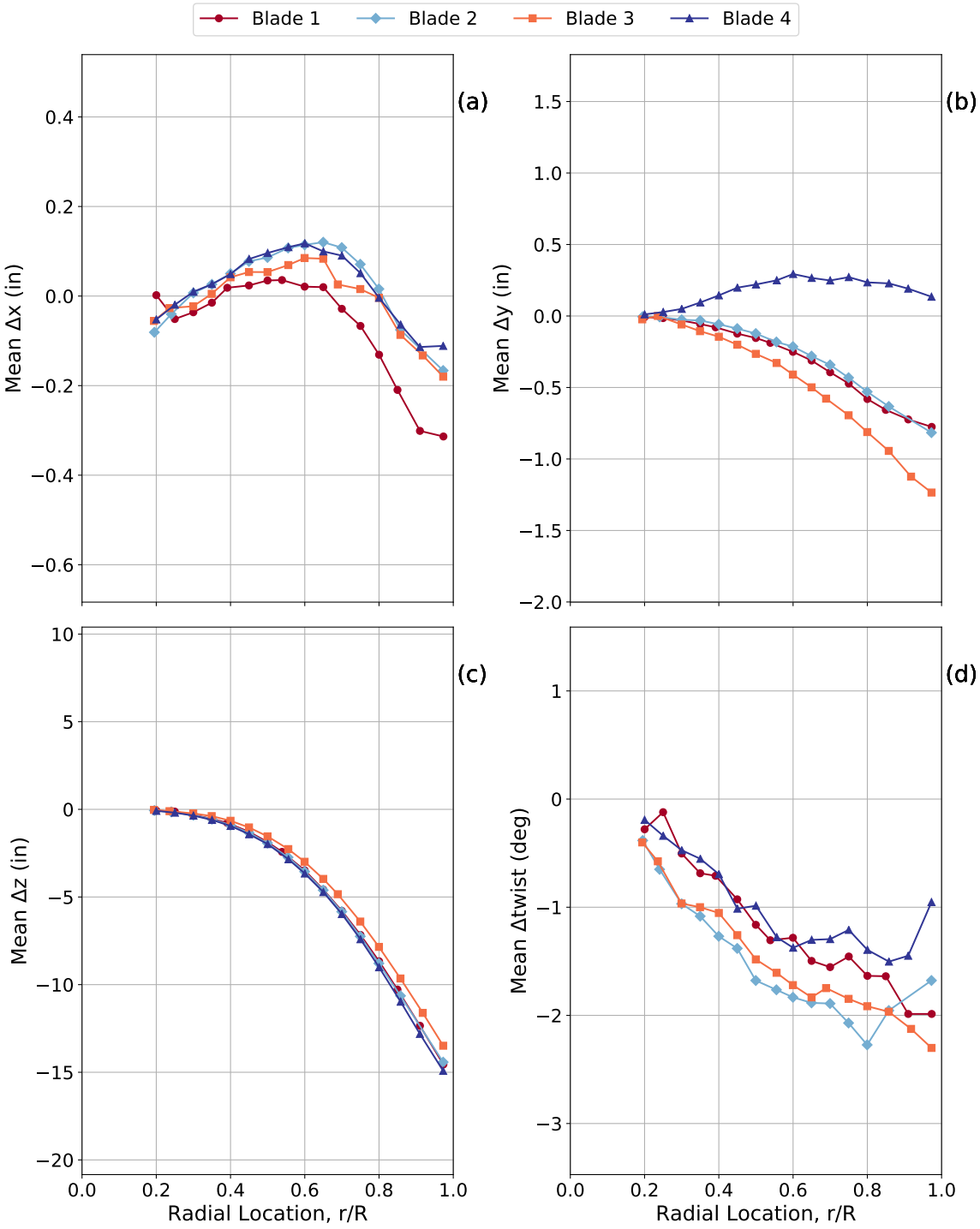


Figure 2.6-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	0.0020	0.0018	-0.0077	0.0010	-0.0738	0.0027	-0.2793	0.0272
1	180	0.2499	-0.0513	0.0014	-0.0147	0.0024	-0.1281	0.0059	-0.1211	0.0432
1	180	0.2998	-0.0362	0.0014	-0.0313	0.0045	-0.3177	0.0107	-0.5032	0.0607
1	180	0.3498	-0.0148	0.0016	-0.0563	0.0078	-0.5346	0.0180	-0.6858	0.0589
1	180	0.3913	0.0185	0.0027	-0.0792	0.0115	-0.7762	0.0262	-0.7094	0.0589
1	180	0.4496	0.0237	0.0025	-0.1232	0.0148	-1.2792	0.0365	-0.9270	0.0655
1	180	0.4997	0.0348	0.0036	-0.1539	0.0188	-1.8663	0.0483	-1.1628	0.0638
1	180	0.5387	0.0357	0.0035	-0.1878	0.0223	-2.4253	0.0593	-1.3052	0.0685
1	180	0.5996	0.0210	0.0050	-0.2505	0.0275	-3.4762	0.0791	-1.2823	0.0711
1	180	0.6498	0.0199	0.0063	-0.3116	0.0326	-4.5797	0.0984	-1.4963	0.0698
1	180	0.6998	-0.0285	0.0080	-0.3936	0.0384	-5.7903	0.1220	-1.5538	0.0808
1	180	0.7500	-0.0667	0.0112	-0.4723	0.0449	-7.1642	0.1499	-1.4558	0.0774
1	180	0.8001	-0.1310	0.0148	-0.5806	0.0516	-8.6678	0.1831	-1.6346	0.0773
1	180	0.8497	-0.2096	0.0192	-0.6566	0.0588	-10.2811	0.2212	-1.6383	0.0890
1	180	0.9102	-0.3011	0.0253	-0.7234	0.0678	-12.3463	0.2752	-1.9869	0.0924
1	180	0.9734	-0.3136	0.0317	-0.7755	0.0780	-14.5543	0.3389	-1.9868	0.0912
2	180	0.1949	-0.0809	0.0011	-0.0049	0.0011	-0.0646	0.0037	-0.3830	0.0272
2	180	0.2405	-0.0404	0.0012	-0.0063	0.0024	-0.1439	0.0085	-0.6499	0.0412
2	180	0.2999	0.0070	0.0013	-0.0263	0.0040	-0.3368	0.0166	-0.9684	0.0617
2	180	0.3498	0.0262	0.0018	-0.0314	0.0073	-0.5570	0.0279	-1.0831	0.0630
2	180	0.3998	0.0502	0.0020	-0.0579	0.0110	-0.8982	0.0440	-1.2687	0.0538
2	180	0.4496	0.0774	0.0027	-0.0881	0.0137	-1.3316	0.0604	-1.3807	0.0631
2	180	0.4995	0.0862	0.0033	-0.1226	0.0172	-1.9265	0.0811	-1.6777	0.0725
2	180	0.5551	0.1073	0.0041	-0.1816	0.0211	-2.7373	0.1027	-1.7635	0.0738
2	180	0.5996	0.1143	0.0050	-0.2139	0.0241	-3.5523	0.1233	-1.8328	0.0757
2	180	0.6497	0.1202	0.0064	-0.2803	0.0282	-4.6093	0.1430	-1.8844	0.0890
2	180	0.6996	0.1082	0.0078	-0.3420	0.0310	-5.8377	0.1647	-1.8905	0.0930
2	180	0.7495	0.0710	0.0094	-0.4314	0.0367	-7.2456	0.1849	-2.0705	0.0802
2	180	0.7996	0.0159	0.0115	-0.5298	0.0403	-8.7892	0.2051	-2.2728	0.0933
2	180	0.8578	-0.0754	0.0148	-0.6328	0.0471	-10.6378	0.2316	-1.9553	0.1263
2	180	0.9727	-0.1663	0.0210	-0.8157	0.0566	-14.4219	0.2899	-1.6775	0.1092
3	180.35	0.1938	-0.0555	0.0016	-0.0234	0.0018	-0.0292	0.0046	-0.4008	0.0314
3	180.35	0.2357	-0.0269	0.0020	0.0005	0.0021	-0.1039	0.0072	-0.5752	0.0462
3	180.35	0.2995	-0.0228	0.0018	-0.0592	0.0051	-0.2309	0.0162	-0.9655	0.0674
3	180.35	0.3493	0.0049	0.0019	-0.1061	0.0084	-0.3862	0.0270	-0.9996	0.0682
3	180.35	0.4000	0.0419	0.0022	-0.1451	0.0125	-0.6520	0.0416	-1.0531	0.0649
3	180.35	0.4497	0.0537	0.0022	-0.2008	0.0158	-1.0315	0.0568	-1.2585	0.0713
3	180.35	0.4997	0.0535	0.0029	-0.2647	0.0193	-1.5408	0.0767	-1.4825	0.0767
3	180.35	0.5556	0.0692	0.0038	-0.3285	0.0236	-2.2679	0.0990	-1.6061	0.0753
3	180.35	0.5995	0.0849	0.0046	-0.4095	0.0273	-2.9906	0.1170	-1.7202	0.0853
3	180.35	0.6498	0.0834	0.0058	-0.4988	0.0320	-3.9690	0.1374	-1.8336	0.0915
3	180.35	0.6890	0.0259	0.0070	-0.5779	0.0352	-4.8418	0.1526	-1.7478	0.0929
3	180.35	0.7495	0.0156	0.0092	-0.6944	0.0422	-6.4016	0.1764	-1.8472	0.0998
3	180.35	0.7998	-0.0040	0.0111	-0.8117	0.0472	-7.8470	0.1967	-1.9155	0.0953
3	180.35	0.8577	-0.0867	0.0145	-0.9435	0.0558	-9.6499	0.2208	-1.9665	0.1042
3	180.35	0.9178	-0.1326	0.0164	-1.1234	0.0614	-11.6110	0.2480	-2.1252	0.0966
3	180.35	0.9729	-0.1800	0.0206	-1.2347	0.0694	-13.4850	0.2763	-2.3010	0.0952
4	180	0.2001	-0.0522	0.0013	0.0112	0.0014	-0.0864	0.0040	-0.1924	0.0228
4	180	0.2502	-0.0193	0.0011	0.0277	0.0031	-0.1912	0.0077	-0.3396	0.0421
4	180	0.3001	0.0096	0.0015	0.0497	0.0052	-0.3582	0.0153	-0.4733	0.0519
4	180	0.3502	0.0267	0.0016	0.0946	0.0096	-0.6049	0.0251	-0.5523	0.0577
4	180	0.4002	0.0490	0.0021	0.1443	0.0146	-0.9470	0.0390	-0.6945	0.0515
4	180	0.4500	0.0827	0.0024	0.1981	0.0179	-1.4219	0.0529	-1.0136	0.0575
4	180	0.5001	0.0962	0.0025	0.2203	0.0227	-1.9822	0.0691	-0.9863	0.0606
4	180	0.5560	0.1092	0.0034	0.2495	0.0288	-2.8490	0.0876	-1.2773	0.0646
4	180	0.6001	0.1177	0.0045	0.2935	0.0333	-3.6615	0.1025	-1.3745	0.0772
4	180	0.6501	0.0997	0.0053	0.2662	0.0384	-4.7221	0.1199	-1.3021	0.0799
4	180	0.6999	0.0903	0.0065	0.2484	0.0446	-5.9722	0.1356	-1.2949	0.0865
4	180	0.7500	0.0511	0.0083	0.2717	0.0500	-7.4100	0.1543	-1.2095	0.0973
4	180	0.8002	-0.0039	0.0108	0.2351	0.0543	-9.0101	0.1743	-1.3943	0.1049
4	180	0.8582	-0.0637	0.0142	0.2280	0.0663	-10.9747	0.1989	-1.5029	0.0950
4	180	0.9101	-0.1138	0.0162	0.1911	0.0729	-12.8106	0.2250	-1.4487	0.1295
4	180	0.9728	-0.1113	0.0220	0.1346	0.0817	-14.9208	0.2633	-0.9528	0.1296

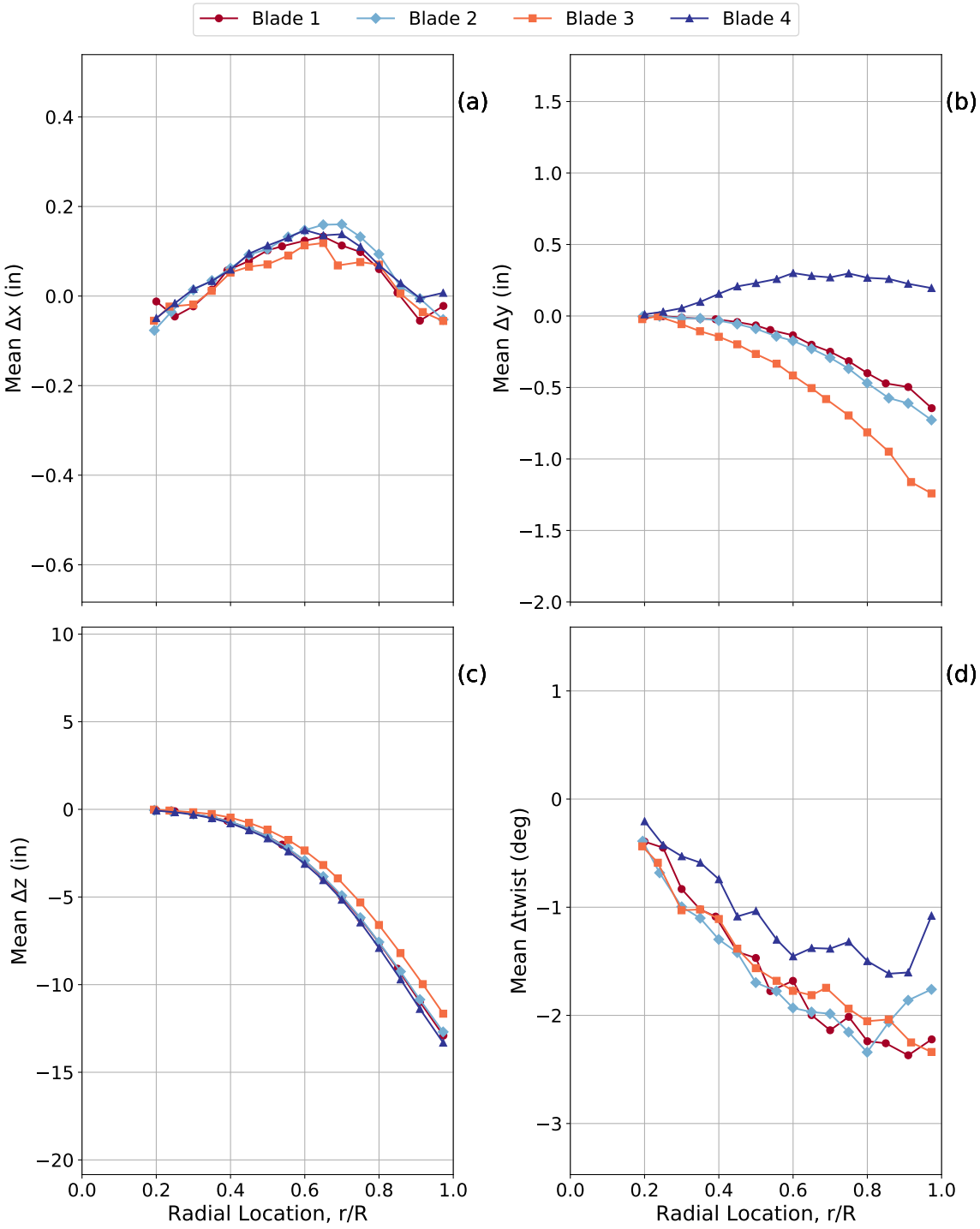


Figure 2.6-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0121	0.0013	-0.0040	0.0012	-0.0643	0.0043	-0.3935	0.0301
1	184.92	0.2499	-0.0456	0.0012	-0.0011	0.0024	-0.1081	0.0088	-0.4495	0.0469
1	184.92	0.2998	-0.0230	0.0013	-0.0109	0.0049	-0.2709	0.0163	-0.8318	0.0672
1	184.92	0.3498	0.0145	0.0014	-0.0186	0.0081	-0.4478	0.0279	-1.0209	0.0650
1	184.92	0.3913	0.0571	0.0018	-0.0229	0.0117	-0.6519	0.0399	-1.0868	0.0608
1	184.92	0.4496	0.0784	0.0023	-0.0421	0.0159	-1.0776	0.0564	-1.4120	0.0631
1	184.92	0.4997	0.1021	0.0026	-0.0657	0.0203	-1.5331	0.0727	-1.4694	0.0633
1	184.92	0.5387	0.1111	0.0034	-0.0980	0.0237	-2.0139	0.0868	-1.7757	0.0685
1	184.92	0.5996	0.1236	0.0040	-0.1350	0.0306	-2.9207	0.1094	-1.6809	0.0702
1	184.92	0.6498	0.1329	0.0052	-0.2010	0.0361	-3.8929	0.1308	-1.9977	0.0789
1	184.92	0.6998	0.1129	0.0069	-0.2497	0.0431	-4.9971	0.1507	-2.1374	0.0841
1	184.92	0.7500	0.0983	0.0090	-0.3161	0.0490	-6.2300	0.1750	-2.0135	0.0853
1	184.92	0.8001	0.0602	0.0118	-0.4001	0.0557	-7.6146	0.2015	-2.2393	0.0964
1	184.92	0.8497	0.0075	0.0159	-0.4712	0.0635	-9.0889	0.2336	-2.2579	0.0879
1	184.92	0.9102	-0.0550	0.0198	-0.4968	0.0752	-10.9834	0.2740	-2.3690	0.1161
1	184.92	0.9734	-0.0221	0.0255	-0.6447	0.0819	-12.9058	0.3313	-2.2220	0.1166
2	184.92	0.1949	-0.0766	0.0012	-0.0033	0.0011	-0.0513	0.0042	-0.3893	0.0265
2	184.92	0.2405	-0.0354	0.0013	-0.0021	0.0030	-0.1151	0.0081	-0.6821	0.0398
2	184.92	0.2999	0.0139	0.0019	-0.0161	0.0048	-0.2727	0.0171	-0.9964	0.0575
2	184.92	0.3498	0.0347	0.0023	-0.0167	0.0087	-0.4414	0.0301	-1.1012	0.0566
2	184.92	0.3998	0.0620	0.0030	-0.0323	0.0136	-0.7196	0.0458	-1.2977	0.0552
2	184.92	0.4496	0.0921	0.0034	-0.0564	0.0167	-1.0683	0.0628	-1.4194	0.0612
2	184.92	0.4995	0.1050	0.0039	-0.0888	0.0211	-1.5497	0.0836	-1.6971	0.0659
2	184.92	0.5551	0.1320	0.0051	-0.1420	0.0257	-2.2209	0.1072	-1.7754	0.0698
2	184.92	0.5996	0.1471	0.0059	-0.1735	0.0302	-2.9187	0.1301	-1.9312	0.0742
2	184.92	0.6497	0.1592	0.0077	-0.2290	0.0361	-3.8378	0.1567	-1.9690	0.0730
2	184.92	0.6996	0.1602	0.0096	-0.2915	0.0419	-4.9181	0.1852	-1.9852	0.0753
2	184.92	0.7495	0.1322	0.0122	-0.3678	0.0486	-6.1806	0.2157	-2.1545	0.0773
2	184.92	0.7996	0.0937	0.0155	-0.4689	0.0551	-7.5711	0.2505	-2.3408	0.0851
2	184.92	0.8578	0.0207	0.0200	-0.5742	0.0627	-9.2520	0.2901	-2.0625	0.0942
2	184.92	0.9100	-0.0055	0.0231	-0.6105	0.0722	-10.8530	0.3354	-1.8607	0.2111
2	184.92	0.9727	-0.0524	0.0274	-0.7271	0.0810	-12.6976	0.3814	-1.7597	0.0900
3	184.92	0.1938	-0.0551	0.0026	-0.0219	0.0020	-0.0169	0.0067	-0.4371	0.0482
3	184.92	0.2357	-0.0235	0.0032	-0.0022	0.0035	-0.0694	0.0114	-0.5888	0.0640
3	184.92	0.2995	-0.0188	0.0024	-0.0570	0.0062	-0.1673	0.0249	-1.0283	0.1000
3	184.92	0.3493	0.0116	0.0026	-0.1065	0.0110	-0.2692	0.0418	-1.0208	0.0869
3	184.92	0.4000	0.0525	0.0030	-0.1452	0.0166	-0.4703	0.0646	-1.1089	0.0935
3	184.92	0.4497	0.0655	0.0031	-0.1980	0.0204	-0.7697	0.0890	-1.3831	0.0914
3	184.92	0.4997	0.0706	0.0038	-0.2656	0.0249	-1.1586	0.1160	-1.5638	0.0888
3	184.92	0.5556	0.0905	0.0046	-0.3335	0.0307	-1.7423	0.1480	-1.6806	0.0922
3	184.92	0.5995	0.1132	0.0054	-0.4157	0.0351	-2.3471	0.1739	-1.7731	0.0992
3	184.92	0.6498	0.1185	0.0063	-0.5042	0.0405	-3.1772	0.2026	-1.8132	0.1027
3	184.92	0.6890	0.0683	0.0079	-0.5810	0.0454	-3.9375	0.2250	-1.7452	0.1006
3	184.92	0.7495	0.0759	0.0103	-0.6955	0.0522	-5.3115	0.2592	-1.9385	0.1011
3	184.92	0.7998	0.0702	0.0127	-0.8141	0.0593	-6.5973	0.2892	-2.0540	0.1076
3	184.92	0.8577	0.0055	0.0164	-0.9486	0.0669	-8.2007	0.3227	-2.0376	0.1110
3	184.92	0.9178	-0.0358	0.0209	-1.1615	0.0755	-9.9716	0.3597	-2.2503	0.1243
3	184.92	0.9729	-0.0556	0.0227	-1.2407	0.0832	-11.6572	0.3956	-2.3387	0.1160
4	184.92	0.2001	-0.0493	0.0012	0.0114	0.0013	-0.0733	0.0041	-0.2053	0.0262
4	184.92	0.2502	-0.0160	0.0013	0.0301	0.0027	-0.1649	0.0079	-0.4249	0.0430
4	184.92	0.3001	0.0158	0.0016	0.0547	0.0053	-0.3033	0.0150	-0.5286	0.0575
4	184.92	0.3502	0.0336	0.0018	0.0988	0.0087	-0.5053	0.0256	-0.5879	0.0577
4	184.92	0.4002	0.0591	0.0021	0.1552	0.0137	-0.7949	0.0393	-0.7415	0.0590
4	184.92	0.4500	0.0947	0.0025	0.2071	0.0170	-1.1942	0.0538	-1.0853	0.0603
4	184.92	0.5001	0.1128	0.0030	0.2301	0.0222	-1.6539	0.0707	-1.0346	0.0612
4	184.92	0.5560	0.1305	0.0036	0.2589	0.0271	-2.3970	0.0898	-1.3000	0.0619
4	184.92	0.6001	0.1473	0.0040	0.3004	0.0328	-3.1078	0.1040	-1.4539	0.0638
4	184.92	0.6501	0.1356	0.0052	0.2806	0.0397	-4.0387	0.1195	-1.3774	0.0713
4	184.92	0.6999	0.1381	0.0064	0.2699	0.0468	-5.1544	0.1362	-1.3831	0.0757
4	184.92	0.7500	0.1100	0.0087	0.2976	0.0538	-6.4511	0.1541	-1.3197	0.0800
4	184.92	0.8002	0.0688	0.0116	0.2671	0.0627	-7.9064	0.1753	-1.4983	0.0856
4	184.92	0.8582	0.0289	0.0159	0.2590	0.0724	-9.7011	0.2064	-1.6148	0.1062
4	184.92	0.9101	-0.0048	0.0198	0.2252	0.0841	-11.3853	0.2397	-1.6034	0.1191
4	184.92	0.9728	0.0072	0.0257	0.1953	0.0922	-13.3118	0.2886	-1.0790	0.1212

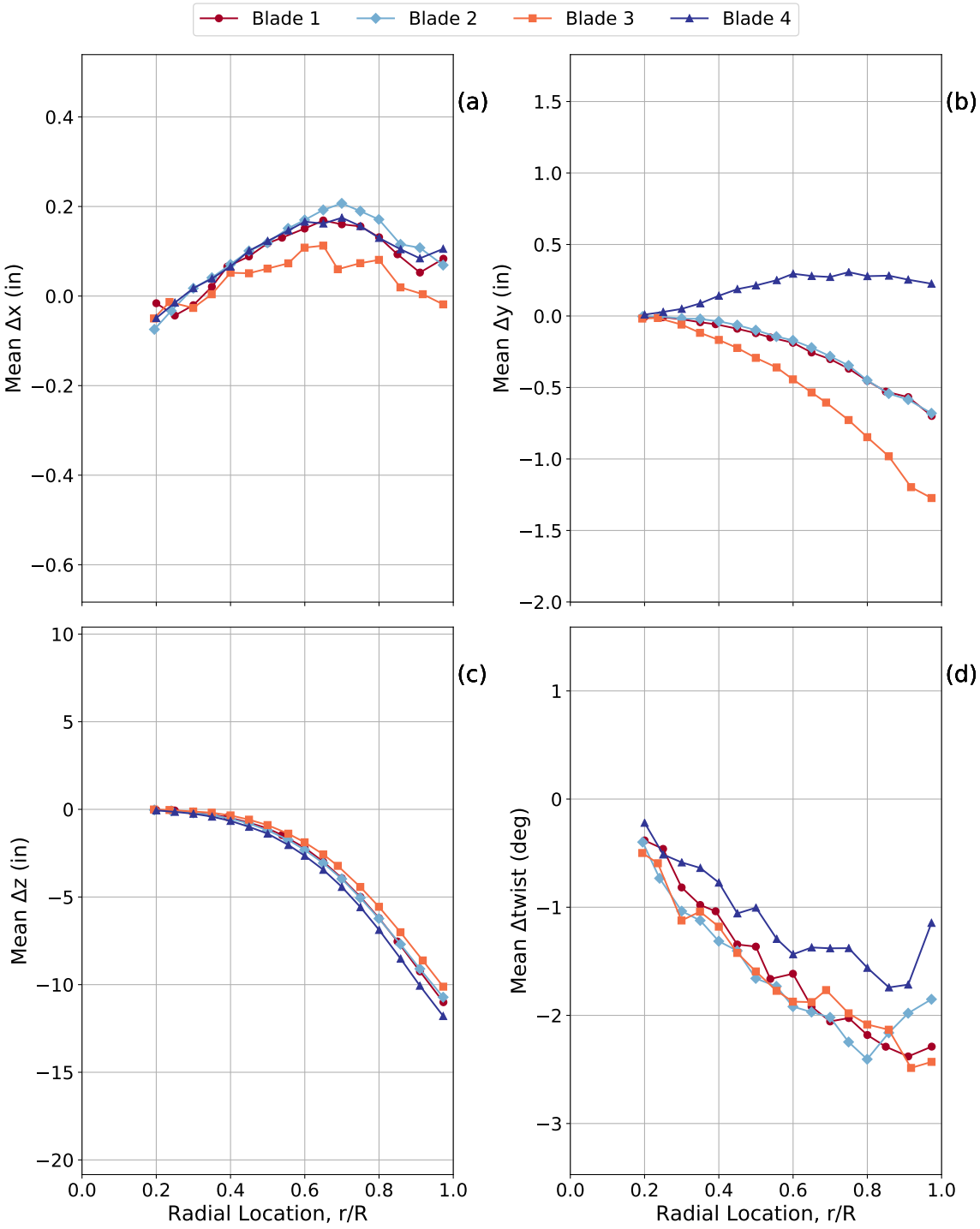


Figure 2.6-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0160	0.0014	-0.0066	0.0009	-0.0422	0.0039	-0.3825	0.0270
1	189.84	0.2499	-0.0435	0.0012	-0.0086	0.0021	-0.0648	0.0075	-0.4607	0.0422
1	189.84	0.2998	-0.0204	0.0014	-0.0229	0.0038	-0.1854	0.0152	-0.8171	0.0590
1	189.84	0.3498	0.0208	0.0016	-0.0436	0.0064	-0.3006	0.0256	-0.9792	0.0489
1	189.84	0.3913	0.0657	0.0020	-0.0576	0.0092	-0.4423	0.0369	-1.0373	0.0476
1	189.84	0.4496	0.0885	0.0026	-0.0890	0.0128	-0.7550	0.0541	-1.3447	0.0513
1	189.84	0.4997	0.1178	0.0033	-0.1202	0.0159	-1.0874	0.0718	-1.3642	0.0544
1	189.84	0.5387	0.1303	0.0036	-0.1500	0.0187	-1.4644	0.0862	-1.6632	0.0548
1	189.84	0.5996	0.1507	0.0047	-0.1873	0.0239	-2.1903	0.1115	-1.6152	0.0593
1	189.84	0.6498	0.1688	0.0061	-0.2553	0.0281	-2.9883	0.1344	-1.9196	0.0649
1	189.84	0.6998	0.1602	0.0078	-0.3016	0.0339	-3.9251	0.1591	-2.0561	0.0703
1	189.84	0.7500	0.1556	0.0104	-0.3687	0.0400	-4.9970	0.1890	-2.0247	0.0686
1	189.84	0.8001	0.1313	0.0138	-0.4534	0.0472	-6.2065	0.2243	-2.1817	0.0754
1	189.84	0.8497	0.0932	0.0176	-0.5288	0.0550	-7.5373	0.2627	-2.2899	0.0665
1	189.84	0.9102	0.0525	0.0230	-0.5673	0.0665	-9.2455	0.3168	-2.3796	0.1122
1	189.84	0.9734	0.0834	0.0303	-0.6990	0.0759	-11.0021	0.3823	-2.2889	0.0981
2	189.84	0.1949	-0.0744	0.0014	-0.0035	0.0012	-0.0347	0.0040	-0.3979	0.0308
2	189.84	0.2405	-0.0329	0.0012	-0.0033	0.0027	-0.0858	0.0079	-0.7326	0.0525
2	189.84	0.2999	0.0174	0.0018	-0.0174	0.0043	-0.2037	0.0148	-1.0362	0.0704
2	189.84	0.3498	0.0410	0.0018	-0.0207	0.0089	-0.3209	0.0275	-1.1223	0.0526
2	189.84	0.3998	0.0707	0.0021	-0.0377	0.0128	-0.5360	0.0405	-1.3142	0.0577
2	189.84	0.4496	0.1008	0.0026	-0.0634	0.0162	-0.8067	0.0561	-1.4030	0.0620
2	189.84	0.4995	0.1189	0.0031	-0.0990	0.0212	-1.1928	0.0748	-1.6583	0.0655
2	189.84	0.5551	0.1511	0.0040	-0.1440	0.0263	-1.7377	0.0982	-1.7318	0.0813
2	189.84	0.5996	0.1699	0.0042	-0.1699	0.0313	-2.3131	0.1156	-1.9191	0.0886
2	189.84	0.6497	0.1923	0.0054	-0.2210	0.0371	-3.0669	0.1381	-1.9695	0.0908
2	189.84	0.6996	0.2070	0.0068	-0.2817	0.0433	-3.9686	0.1612	-2.0182	0.0892
2	189.84	0.7495	0.1897	0.0086	-0.3460	0.0509	-5.0502	0.1866	-2.2464	0.0920
2	189.84	0.7996	0.1711	0.0110	-0.4494	0.0593	-6.2320	0.2117	-2.4058	0.0979
2	189.84	0.8578	0.1155	0.0136	-0.5429	0.0677	-7.6982	0.2411	-2.1614	0.0953
2	189.84	0.9100	0.1078	0.0162	-0.5849	0.0781	-9.0973	0.2712	-1.9801	0.1538
2	189.84	0.9727	0.0691	0.0199	-0.6803	0.0882	-10.7159	0.3059	-1.8513	0.1009
3	189.84	0.1938	-0.0500	0.0040	-0.0181	0.0057	-0.0095	0.0119	-0.4986	0.0707
3	189.84	0.2357	-0.0133	0.0087	-0.0141	0.0081	-0.0377	0.0155	-0.5934	0.1224
3	189.84	0.2995	-0.0265	0.0055	-0.0600	0.0138	-0.1239	0.0300	-1.1228	0.1460
3	189.84	0.3493	0.0040	0.0059	-0.1176	0.0208	-0.1892	0.0475	-1.0407	0.1101
3	189.84	0.4000	0.0520	0.0050	-0.1673	0.0315	-0.3451	0.0695	-1.1799	0.1172
3	189.84	0.4497	0.0509	0.0051	-0.2236	0.0393	-0.5886	0.0883	-1.4225	0.1154
3	189.84	0.4997	0.0613	0.0051	-0.2928	0.0471	-0.8984	0.1081	-1.5939	0.1230
3	189.84	0.5556	0.0731	0.0056	-0.3598	0.0582	-1.3883	0.1303	-1.7731	0.1170
3	189.84	0.5995	0.1081	0.0056	-0.4432	0.0657	-1.8805	0.1449	-1.8732	0.1285
3	189.84	0.6498	0.1126	0.0056	-0.5345	0.0753	-2.5694	0.1618	-1.8774	0.1368
3	189.84	0.6890	0.0599	0.0058	-0.6054	0.0836	-3.2234	0.1757	-1.7661	0.1376
3	189.84	0.7495	0.0734	0.0069	-0.7277	0.0970	-4.4278	0.1984	-1.9809	0.1314
3	189.84	0.7998	0.0808	0.0091	-0.8475	0.1085	-5.5601	0.2189	-2.0842	0.1330
3	189.84	0.8577	0.0194	0.0128	-0.9811	0.1213	-7.0114	0.2493	-2.1326	0.1406
3	189.84	0.9178	0.0041	0.0193	-1.1970	0.1358	-8.6205	0.2880	-2.4861	0.1449
3	189.84	0.9729	-0.0186	0.0206	-1.2731	0.1500	-10.1156	0.3296	-2.4301	0.1394
4	189.84	0.2001	-0.0492	0.0010	0.0096	0.0012	-0.0594	0.0046	-0.2192	0.0257
4	189.84	0.2502	-0.0147	0.0010	0.0285	0.0025	-0.1442	0.0094	-0.5129	0.0483
4	189.84	0.3001	0.0176	0.0013	0.0498	0.0044	-0.2503	0.0175	-0.5858	0.0588
4	189.84	0.3502	0.0392	0.0018	0.0884	0.0070	-0.4175	0.0293	-0.6372	0.0556
4	189.84	0.4002	0.0658	0.0017	0.1416	0.0112	-0.6602	0.0455	-0.7728	0.0535
4	189.84	0.4500	0.1012	0.0024	0.1878	0.0137	-0.9980	0.0624	-1.0574	0.0575
4	189.84	0.5001	0.1230	0.0026	0.2136	0.0176	-1.3882	0.0832	-1.0042	0.0587
4	189.84	0.5560	0.1464	0.0035	0.2506	0.0223	-2.0363	0.1062	-1.2933	0.0664
4	189.84	0.6001	0.1660	0.0041	0.2955	0.0262	-2.6490	0.1244	-1.4351	0.0713
4	189.84	0.6501	0.1619	0.0054	0.2797	0.0306	-3.4504	0.1459	-1.3720	0.0725
4	189.84	0.6999	0.1749	0.0065	0.2728	0.0354	-4.4273	0.1677	-1.3799	0.0764
4	189.84	0.7500	0.1562	0.0087	0.3069	0.0416	-5.5818	0.1927	-1.3785	0.0752
4	189.84	0.8002	0.1298	0.0115	0.2786	0.0474	-6.8799	0.2202	-1.5606	0.0887
4	189.84	0.8582	0.1044	0.0149	0.2819	0.0556	-8.5209	0.2546	-1.7417	0.0940
4	189.84	0.9101	0.0842	0.0177	0.2539	0.0638	-10.0637	0.2892	-1.7156	0.0922
4	189.84	0.9728	0.1054	0.0209	0.2258	0.0722	-11.7936	0.3312	-1.1448	0.1021

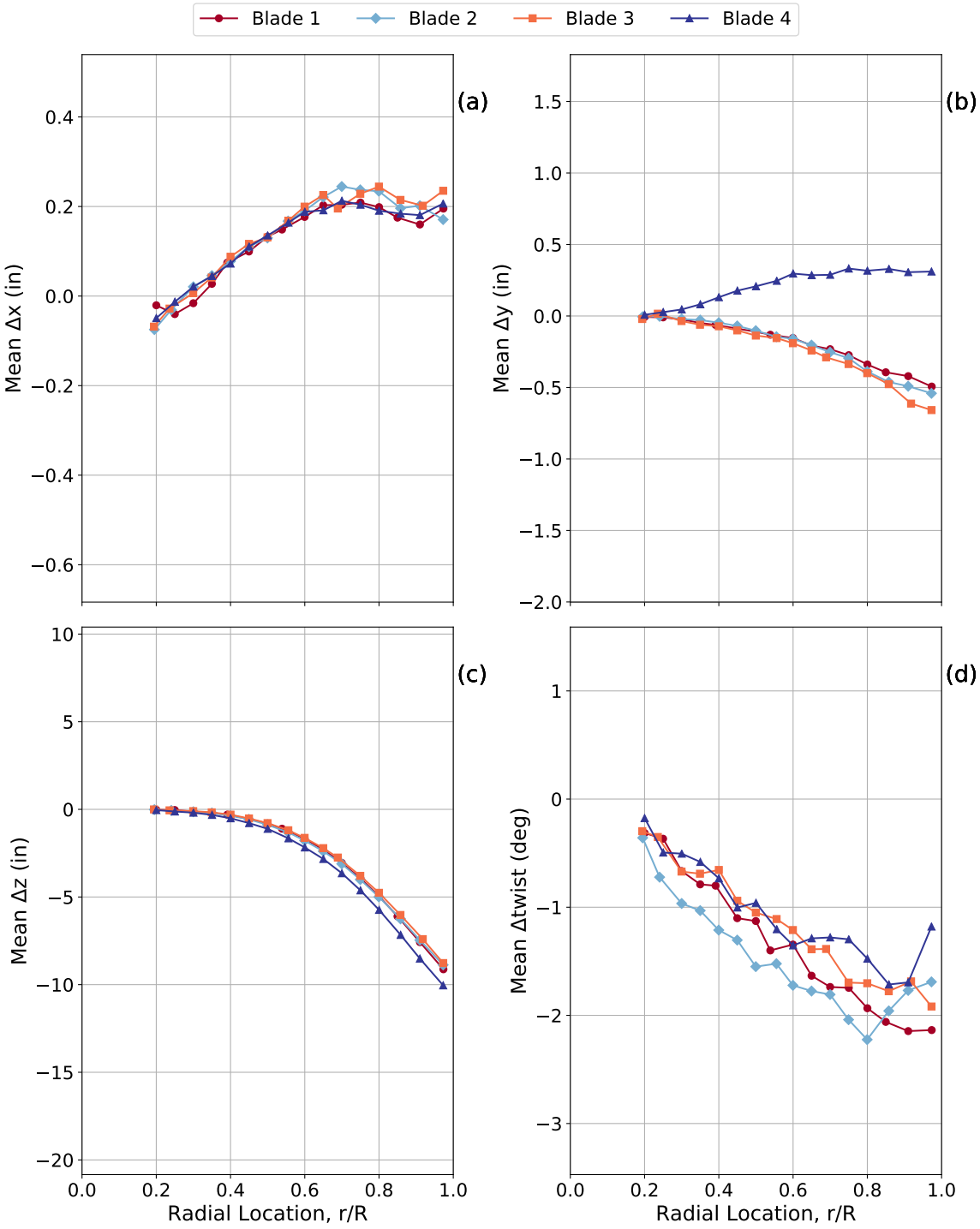


Figure 2.6-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0206	0.0014	-0.0070	0.0010	-0.0269	0.0050	-0.3140	0.0265
1	195.12	0.2499	-0.0403	0.0013	-0.0097	0.0028	-0.0400	0.0100	-0.3667	0.0423
1	195.12	0.2998	-0.0160	0.0017	-0.0239	0.0048	-0.1267	0.0195	-0.6655	0.0586
1	195.12	0.3498	0.0273	0.0021	-0.0485	0.0083	-0.2017	0.0330	-0.7887	0.0508
1	195.12	0.3913	0.0745	0.0026	-0.0625	0.0124	-0.3019	0.0474	-0.8008	0.0500
1	195.12	0.4496	0.0995	0.0030	-0.0881	0.0161	-0.5465	0.0670	-1.1014	0.0505
1	195.12	0.4997	0.1327	0.0034	-0.1102	0.0204	-0.8069	0.0864	-1.1280	0.0522
1	195.12	0.5387	0.1485	0.0040	-0.1309	0.0242	-1.1033	0.1028	-1.3996	0.0524
1	195.12	0.5996	0.1767	0.0049	-0.1539	0.0301	-1.6682	0.1318	-1.3453	0.0551
1	195.12	0.6498	0.2028	0.0061	-0.2063	0.0355	-2.3018	0.1608	-1.6334	0.0657
1	195.12	0.6998	0.2040	0.0079	-0.2322	0.0415	-3.0557	0.1943	-1.7376	0.0738
1	195.12	0.7500	0.2088	0.0104	-0.2740	0.0487	-3.9372	0.2323	-1.7452	0.0681
1	195.12	0.8001	0.1986	0.0135	-0.3391	0.0557	-4.9565	0.2749	-1.9340	0.0726
1	195.12	0.8497	0.1751	0.0169	-0.3936	0.0639	-6.1021	0.3206	-2.0602	0.0817
1	195.12	0.9102	0.1598	0.0211	-0.4207	0.0741	-7.5756	0.3802	-2.1454	0.0786
1	195.12	0.9734	0.1953	0.0266	-0.4935	0.0835	-9.1242	0.4451	-2.1360	0.1041
2	195.12	0.1949	-0.0748	0.0012	-0.0054	0.0013	-0.0167	0.0054	-0.3583	0.0374
2	195.12	0.2405	-0.0306	0.0012	-0.0025	0.0030	-0.0619	0.0098	-0.7221	0.0578
2	195.12	0.2999	0.0207	0.0018	-0.0212	0.0054	-0.1367	0.0204	-0.9654	0.0836
2	195.12	0.3498	0.0457	0.0017	-0.0283	0.0104	-0.2057	0.0340	-1.0312	0.0899
2	195.12	0.3998	0.0777	0.0019	-0.0468	0.0154	-0.3635	0.0516	-1.2115	0.0747
2	195.12	0.4496	0.1103	0.0020	-0.0694	0.0200	-0.5695	0.0685	-1.3040	0.0718
2	195.12	0.4995	0.1297	0.0025	-0.1026	0.0246	-0.8813	0.0845	-1.5494	0.0723
2	195.12	0.5551	0.1674	0.0029	-0.1450	0.0311	-1.3086	0.1017	-1.5221	0.0724
2	195.12	0.5996	0.1905	0.0034	-0.1597	0.0369	-1.7836	0.1131	-1.7223	0.0806
2	195.12	0.6497	0.2210	0.0039	-0.2036	0.0430	-2.3872	0.1275	-1.7751	0.0882
2	195.12	0.6996	0.2446	0.0051	-0.2530	0.0500	-3.1092	0.1428	-1.8071	0.0757
2	195.12	0.7495	0.2372	0.0065	-0.2947	0.0577	-4.0061	0.1592	-2.0400	0.0747
2	195.12	0.7996	0.2341	0.0093	-0.3875	0.0665	-4.9968	0.1804	-2.2243	0.0800
2	195.12	0.8578	0.1961	0.0122	-0.4618	0.0770	-6.2480	0.2125	-1.9586	0.0794
2	195.12	0.9100	0.2018	0.0155	-0.4910	0.0855	-7.4606	0.2486	-1.7694	0.0991
2	195.12	0.9727	0.1708	0.0203	-0.5408	0.0972	-8.8768	0.2983	-1.6902	0.0898
3	195.12	0.1938	-0.0683	0.0012	-0.0210	0.0011	-0.0048	0.0045	-0.2969	0.0273
3	195.12	0.2357	-0.0280	0.0010	0.0162	0.0021	-0.0568	0.0072	-0.3508	0.0485
3	195.12	0.2995	0.0065	0.0013	-0.0354	0.0051	-0.1017	0.0169	-0.6703	0.0669
3	195.12	0.3493	0.0414	0.0013	-0.0611	0.0086	-0.1706	0.0284	-0.6901	0.0497
3	195.12	0.4000	0.0878	0.0019	-0.0719	0.0136	-0.3028	0.0431	-0.6556	0.0547
3	195.12	0.4497	0.1165	0.0019	-0.1008	0.0169	-0.5199	0.0569	-0.9402	0.0569
3	195.12	0.4997	0.1310	0.0025	-0.1369	0.0208	-0.7841	0.0714	-1.0496	0.0610
3	195.12	0.5556	0.1683	0.0030	-0.1544	0.0267	-1.1925	0.0903	-1.1092	0.0659
3	195.12	0.5995	0.1997	0.0034	-0.1904	0.0313	-1.6271	0.1050	-1.2111	0.0661
3	195.12	0.6498	0.2257	0.0042	-0.2414	0.0372	-2.2135	0.1251	-1.3887	0.0761
3	195.12	0.6890	0.1955	0.0052	-0.2892	0.0418	-2.7506	0.1408	-1.3860	0.0772
3	195.12	0.7495	0.2284	0.0070	-0.3360	0.0503	-3.7937	0.1714	-1.6969	0.0844
3	195.12	0.7998	0.2444	0.0090	-0.3997	0.0583	-4.7613	0.2001	-1.7030	0.0794
3	195.12	0.8577	0.2147	0.0122	-0.4768	0.0674	-6.0263	0.2370	-1.7768	0.0857
3	195.12	0.9178	0.2017	0.0151	-0.6125	0.0761	-7.4042	0.2810	-1.6858	0.1114
3	195.12	0.9729	0.2351	0.0183	-0.6580	0.0861	-8.7694	0.3232	-1.9181	0.0947
4	195.12	0.2001	-0.0493	0.0010	0.0085	0.0013	-0.0430	0.0054	-0.1762	0.0284
4	195.12	0.2502	-0.0128	0.0012	0.0270	0.0033	-0.1226	0.0106	-0.4946	0.0480
4	195.12	0.3001	0.0210	0.0016	0.0457	0.0060	-0.1909	0.0200	-0.5048	0.0631
4	195.12	0.3502	0.0448	0.0017	0.0817	0.0101	-0.3178	0.0327	-0.5815	0.0612
4	195.12	0.4002	0.0725	0.0021	0.1313	0.0162	-0.5100	0.0504	-0.7331	0.0569
4	195.12	0.4500	0.1106	0.0024	0.1771	0.0206	-0.7860	0.0664	-1.0029	0.0651
4	195.12	0.5001	0.1353	0.0028	0.2077	0.0254	-1.1118	0.0845	-0.9597	0.0661
4	195.12	0.5560	0.1640	0.0037	0.2460	0.0320	-1.6555	0.1048	-1.2036	0.0728
4	195.12	0.6001	0.1881	0.0044	0.2966	0.0378	-2.1743	0.1239	-1.3531	0.0772
4	195.12	0.6501	0.1915	0.0054	0.2855	0.0442	-2.8324	0.1454	-1.2879	0.0842
4	195.12	0.6999	0.2127	0.0072	0.2880	0.0511	-3.6453	0.1702	-1.2794	0.0791
4	195.12	0.7500	0.2039	0.0094	0.3317	0.0590	-4.6232	0.2007	-1.2968	0.0859
4	195.12	0.8002	0.1905	0.0122	0.3168	0.0675	-5.7380	0.2381	-1.4759	0.0878
4	195.12	0.8582	0.1839	0.0163	0.3291	0.0783	-7.1635	0.2870	-1.7145	0.0872
4	195.12	0.9101	0.1807	0.0200	0.3065	0.0871	-8.5153	0.3354	-1.6950	0.0850
4	195.12	0.9728	0.2065	0.0258	0.3109	0.1009	-10.0430	0.3985	-1.1787	0.0882

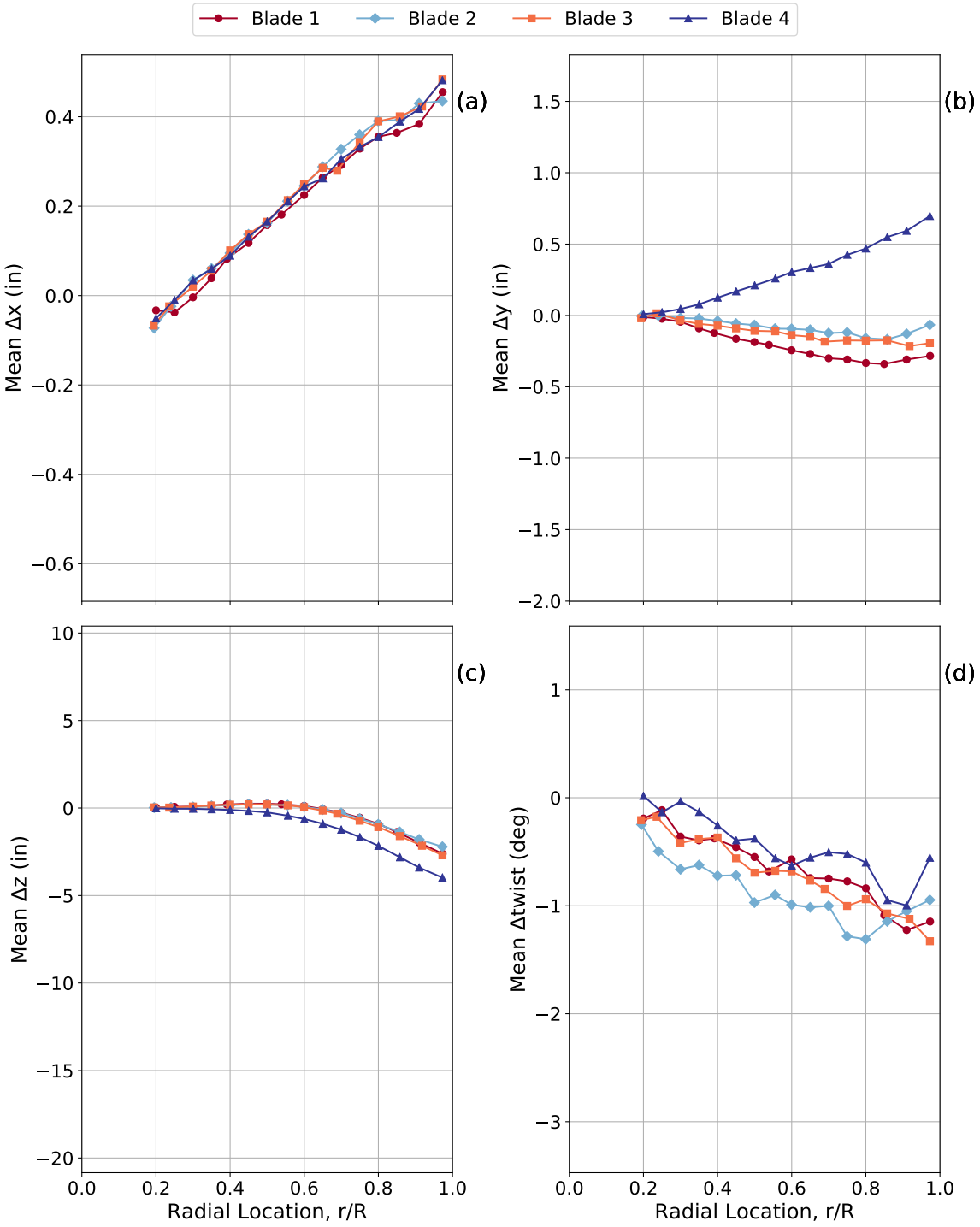


Figure 2.6-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0330	0.0015	-0.0105	0.0014	0.0269	0.0043	-0.1925	0.0286
1	209.88	0.2499	-0.0375	0.0012	-0.0230	0.0025	0.0667	0.0097	-0.1150	0.0468
1	209.88	0.2998	-0.0040	0.0011	-0.0440	0.0057	0.0818	0.0161	-0.3591	0.0641
1	209.88	0.3498	0.0388	0.0017	-0.0904	0.0093	0.1459	0.0268	-0.3945	0.0633
1	209.88	0.3913	0.0822	0.0026	-0.1224	0.0135	0.2001	0.0389	-0.3764	0.0665
1	209.88	0.4496	0.1178	0.0021	-0.1636	0.0175	0.2481	0.0544	-0.4572	0.0581
1	209.88	0.4997	0.1576	0.0023	-0.1865	0.0215	0.2445	0.0716	-0.5490	0.0589
1	209.88	0.5387	0.1810	0.0024	-0.2063	0.0246	0.2130	0.0847	-0.6828	0.0702
1	209.88	0.5996	0.2250	0.0025	-0.2437	0.0305	0.1205	0.1094	-0.5709	0.0724
1	209.88	0.6498	0.2640	0.0027	-0.2697	0.0357	-0.0622	0.1323	-0.7439	0.0684
1	209.88	0.6998	0.2921	0.0032	-0.2995	0.0410	-0.2660	0.1570	-0.7479	0.0730
1	209.88	0.7500	0.3287	0.0038	-0.3082	0.0468	-0.5576	0.1862	-0.7739	0.0729
1	209.88	0.8001	0.3554	0.0044	-0.3326	0.0523	-0.9071	0.2176	-0.8381	0.0743
1	209.88	0.8497	0.3640	0.0053	-0.3398	0.0576	-1.3700	0.2537	-1.0882	0.0714
1	209.88	0.9102	0.3840	0.0064	-0.3084	0.0645	-1.9737	0.3013	-1.2250	0.0732
1	209.88	0.9734	0.4550	0.0080	-0.2834	0.0724	-2.6128	0.3542	-1.1466	0.0821
2	209.88	0.1949	-0.0728	0.0010	-0.0037	0.0008	0.0230	0.0037	-0.2481	0.0304
2	209.88	0.2405	-0.0241	0.0012	-0.0015	0.0026	0.0310	0.0079	-0.4965	0.0472
2	209.88	0.2999	0.0346	0.0014	-0.0176	0.0037	0.0598	0.0150	-0.6623	0.0709
2	209.88	0.3498	0.0606	0.0012	-0.0211	0.0066	0.1258	0.0237	-0.6238	0.0738
2	209.88	0.3998	0.0951	0.0017	-0.0380	0.0105	0.1633	0.0370	-0.7224	0.0662
2	209.88	0.4496	0.1370	0.0023	-0.0564	0.0128	0.2128	0.0481	-0.7176	0.0692
2	209.88	0.4995	0.1622	0.0024	-0.0675	0.0171	0.1885	0.0619	-0.9707	0.0620
2	209.88	0.5551	0.2113	0.0021	-0.0923	0.0207	0.1644	0.0767	-0.8999	0.0646
2	209.88	0.5996	0.2453	0.0022	-0.0937	0.0234	0.0684	0.0897	-0.9899	0.0697
2	209.88	0.6497	0.2881	0.0025	-0.1003	0.0272	-0.0865	0.1063	-1.0148	0.0714
2	209.88	0.6996	0.3274	0.0028	-0.1231	0.0315	-0.2850	0.1256	-1.0007	0.0748
2	209.88	0.7495	0.3599	0.0034	-0.1185	0.0362	-0.6103	0.1464	-1.2828	0.0790
2	209.88	0.7996	0.3904	0.0040	-0.1589	0.0413	-0.9288	0.1706	-1.3098	0.0765
2	209.88	0.8578	0.3928	0.0050	-0.1672	0.0477	-1.3666	0.2012	-1.1444	0.0786
2	209.88	0.9100	0.4298	0.0057	-0.1287	0.0541	-1.7931	0.2323	-1.0508	0.0822
2	209.88	0.9727	0.4350	0.0073	-0.0658	0.0615	-2.2105	0.2713	-0.9459	0.0831
3	209.88	0.1938	-0.0672	0.0014	-0.0194	0.0012	0.0341	0.0049	-0.2075	0.0465
3	209.88	0.2357	-0.0241	0.0013	0.0153	0.0026	0.0243	0.0092	-0.1759	0.0637
3	209.88	0.2995	0.0199	0.0014	-0.0343	0.0042	0.0830	0.0175	-0.4190	0.1070
3	209.88	0.3493	0.0558	0.0016	-0.0590	0.0088	0.1427	0.0329	-0.3826	0.0718
3	209.88	0.4000	0.1011	0.0021	-0.0712	0.0126	0.1924	0.0476	-0.3682	0.0683
3	209.88	0.4497	0.1374	0.0024	-0.0903	0.0153	0.2093	0.0648	-0.5610	0.0886
3	209.88	0.4997	0.1652	0.0026	-0.1075	0.0188	0.2027	0.0849	-0.6941	0.0787
3	209.88	0.5556	0.2136	0.0025	-0.1111	0.0235	0.1512	0.1107	-0.6768	0.0761
3	209.88	0.5995	0.2490	0.0029	-0.1378	0.0275	0.0459	0.1329	-0.6815	0.0866
3	209.88	0.6498	0.2857	0.0031	-0.1487	0.0314	-0.1476	0.1604	-0.7665	0.0844
3	209.88	0.6890	0.2793	0.0036	-0.1834	0.0354	-0.3222	0.1845	-0.8439	0.0808
3	209.88	0.7495	0.3435	0.0044	-0.1748	0.0413	-0.7244	0.2246	-1.0020	0.0860
3	209.88	0.7998	0.3896	0.0053	-0.1762	0.0464	-1.0873	0.2626	-0.9392	0.0854
3	209.88	0.8577	0.4008	0.0067	-0.1742	0.0523	-1.6024	0.3120	-1.0719	0.0782
3	209.88	0.9178	0.4229	0.0079	-0.2146	0.0594	-2.1555	0.3692	-1.1220	0.0801
3	209.88	0.9729	0.4836	0.0099	-0.1939	0.0664	-2.7040	0.4261	-1.3282	0.0844
4	209.88	0.2001	-0.0508	0.0012	0.0094	0.0017	-0.0150	0.0057	0.0166	0.0379
4	209.88	0.2502	-0.0100	0.0011	0.0226	0.0026	-0.0405	0.0095	-0.1341	0.0584
4	209.88	0.3001	0.0341	0.0014	0.0455	0.0051	-0.0435	0.0174	-0.0341	0.0793
4	209.88	0.3502	0.0599	0.0018	0.0782	0.0098	-0.0735	0.0295	-0.1317	0.0719
4	209.88	0.4002	0.0893	0.0023	0.1249	0.0138	-0.1084	0.0433	-0.2572	0.0786
4	209.88	0.4500	0.1318	0.0024	0.1688	0.0170	-0.1675	0.0585	-0.3943	0.0716
4	209.88	0.5001	0.1657	0.0025	0.2110	0.0199	-0.2493	0.0753	-0.3778	0.0823
4	209.88	0.5560	0.2107	0.0026	0.2595	0.0241	-0.4410	0.0997	-0.5598	0.0777
4	209.88	0.6001	0.2445	0.0029	0.3041	0.0270	-0.6264	0.1210	-0.6290	0.0817
4	209.88	0.6501	0.2622	0.0033	0.3327	0.0313	-0.8993	0.1490	-0.5545	0.0853
4	209.88	0.6999	0.3053	0.0037	0.3610	0.0362	-1.2368	0.1788	-0.5037	0.0835
4	209.88	0.7500	0.3325	0.0044	0.4252	0.0407	-1.6655	0.2121	-0.5203	0.0902
4	209.88	0.8002	0.3547	0.0053	0.4691	0.0461	-2.1643	0.2474	-0.6003	0.0844
4	209.88	0.8582	0.3892	0.0068	0.5495	0.0525	-2.8163	0.2917	-0.9477	0.0867
4	209.88	0.9101	0.4175	0.0077	0.5929	0.0580	-3.4026	0.3364	-0.9972	0.0830
4	209.88	0.9728	0.4817	0.0096	0.6966	0.0657	-3.9772	0.3939	-0.5559	0.0865

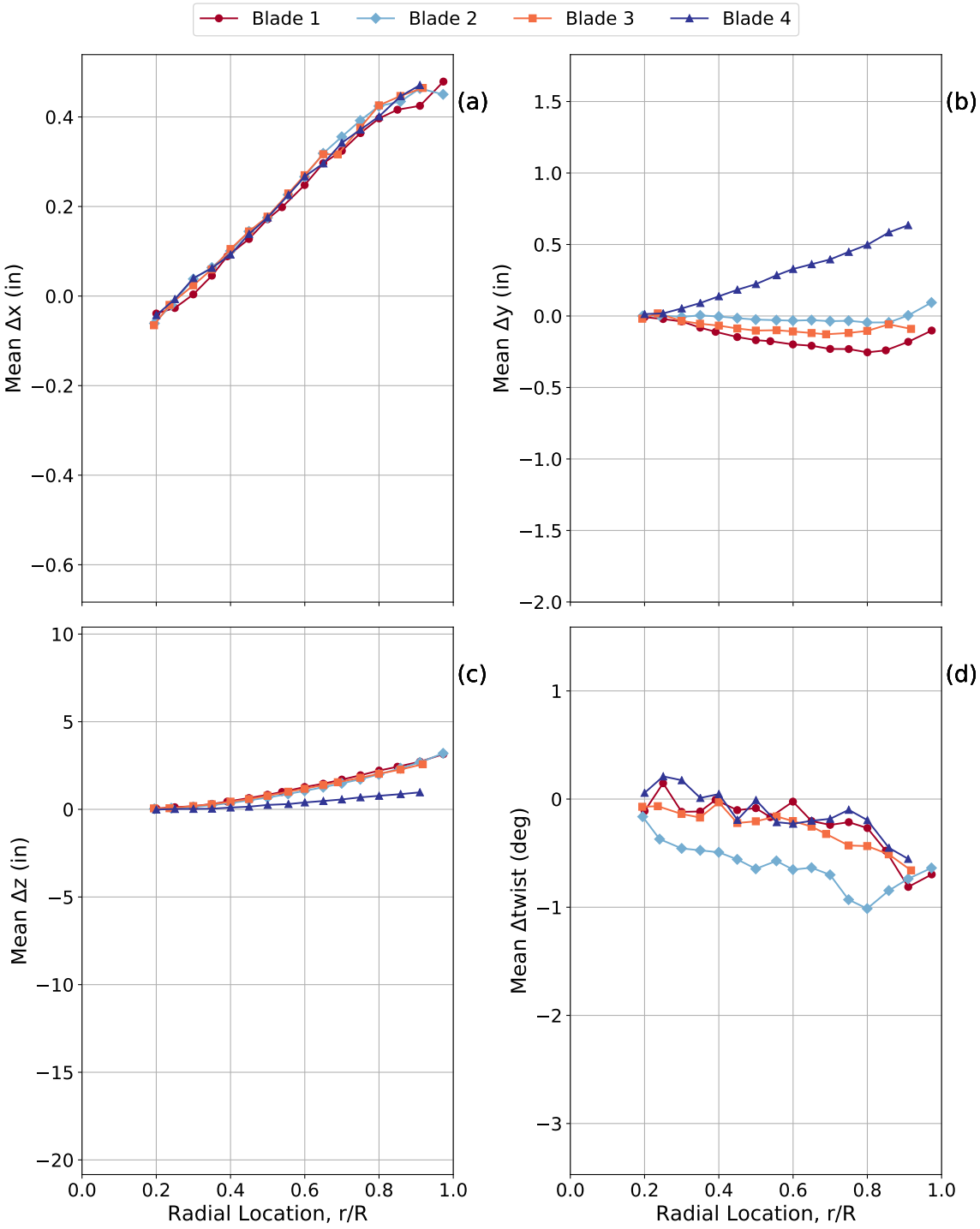


Figure 2.6-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0390	0.0015	-0.0083	0.0009	0.0489	0.0062	-0.1109	0.0247
1	225	0.2499	-0.0267	0.0010	-0.0212	0.0030	0.1207	0.0115	0.1467	0.0428
1	225	0.2998	0.0037	0.0013	-0.0381	0.0053	0.1819	0.0215	-0.1180	0.0550
1	225	0.3498	0.0456	0.0013	-0.0813	0.0085	0.3057	0.0359	-0.1148	0.0623
1	225	0.3913	0.0888	0.0020	-0.1107	0.0135	0.4435	0.0505	-0.0069	0.0702
1	225	0.4496	0.1275	0.0017	-0.1471	0.0164	0.6438	0.0689	-0.1022	0.0647
1	225	0.4997	0.1716	0.0022	-0.1689	0.0217	0.8348	0.0884	-0.0839	0.0667
1	225	0.5387	0.1984	0.0025	-0.1762	0.0256	0.9891	0.1043	-0.1669	0.0794
1	225	0.5996	0.2479	0.0030	-0.1988	0.0324	1.2748	0.1284	-0.0237	0.0831
1	225	0.6498	0.2967	0.0036	-0.2080	0.0374	1.4620	0.1465	-0.2033	0.0740
1	225	0.6998	0.3243	0.0037	-0.2304	0.0436	1.6982	0.1655	-0.2387	0.0791
1	225	0.7500	0.3639	0.0044	-0.2312	0.0504	1.9457	0.1847	-0.2136	0.0779
1	225	0.8001	0.3967	0.0048	-0.2542	0.0578	2.2111	0.2059	-0.2680	0.0707
1	225	0.8497	0.4161	0.0050	-0.2403	0.0649	2.4302	0.2287	-0.4776	0.0763
1	225	0.9102	0.4248	0.0058	-0.1806	0.0742	2.7192	0.2587	-0.8122	0.0752
1	225	0.9734	0.4789	0.0088	-0.1017	0.0844	3.1473	0.2955	-0.6968	0.0777
2	225	0.1949	-0.0610	0.0016	-0.0001	0.0009	0.0332	0.0057	-0.1626	0.0343
2	225	0.2405	-0.0199	0.0013	0.0039	0.0029	0.0655	0.0111	-0.3703	0.0464
2	225	0.2999	0.0382	0.0019	-0.0058	0.0060	0.1324	0.0219	-0.4563	0.0719
2	225	0.3498	0.0637	0.0019	0.0041	0.0093	0.2383	0.0358	-0.4740	0.0626
2	225	0.3998	0.1006	0.0025	-0.0035	0.0159	0.3568	0.0550	-0.4921	0.0766
2	225	0.4496	0.1444	0.0025	-0.0152	0.0198	0.5141	0.0750	-0.5575	0.0792
2	225	0.4995	0.1748	0.0025	-0.0252	0.0240	0.6691	0.0952	-0.6453	0.0634
2	225	0.5551	0.2263	0.0027	-0.0292	0.0285	0.8775	0.1217	-0.5716	0.0659
2	225	0.5996	0.2665	0.0031	-0.0325	0.0334	1.0539	0.1454	-0.6522	0.0727
2	225	0.6497	0.3187	0.0035	-0.0287	0.0389	1.2626	0.1715	-0.6347	0.0796
2	225	0.6996	0.3557	0.0041	-0.0361	0.0450	1.4842	0.1981	-0.7004	0.0804
2	225	0.7495	0.3919	0.0046	-0.0333	0.0512	1.7151	0.2254	-0.9301	0.0829
2	225	0.7996	0.4242	0.0051	-0.0454	0.0575	1.9904	0.2538	-1.0126	0.0779
2	225	0.8578	0.4345	0.0059	-0.0448	0.0652	2.3460	0.2893	-0.8460	0.0845
2	225	0.9100	0.4635	0.0067	0.0038	0.0724	2.6801	0.3234	-0.7371	0.0865
2	225	0.9727	0.4504	0.0099	0.0941	0.0812	3.1959	0.3682	-0.6370	0.0865
3	225	0.1938	-0.0652	0.0013	-0.0190	0.0012	0.0544	0.0055	-0.0711	0.0323
3	225	0.2357	-0.0198	0.0013	0.0185	0.0023	0.0627	0.0092	-0.0659	0.0472
3	225	0.2995	0.0239	0.0016	-0.0343	0.0054	0.1843	0.0207	-0.1376	0.0753
3	225	0.3493	0.0595	0.0018	-0.0541	0.0088	0.2869	0.0335	-0.1707	0.0692
3	225	0.4000	0.1050	0.0024	-0.0672	0.0145	0.4382	0.0516	-0.0301	0.0630
3	225	0.4497	0.1442	0.0027	-0.0873	0.0184	0.5844	0.0713	-0.2214	0.0748
3	225	0.4997	0.1773	0.0028	-0.1020	0.0238	0.7719	0.0927	-0.2055	0.0710
3	225	0.5556	0.2292	0.0029	-0.0994	0.0304	1.0050	0.1187	-0.1605	0.0751
3	225	0.5995	0.2699	0.0032	-0.1082	0.0358	1.1759	0.1379	-0.2032	0.0792
3	225	0.6498	0.3167	0.0037	-0.1191	0.0430	1.3864	0.1624	-0.2547	0.0800
3	225	0.6890	0.3163	0.0040	-0.1279	0.0489	1.5466	0.1799	-0.3226	0.0844
3	225	0.7495	0.3760	0.0046	-0.1186	0.0591	1.8002	0.2086	-0.4290	0.0874
3	225	0.7998	0.4258	0.0047	-0.1041	0.0680	2.0302	0.2318	-0.4346	0.0920
3	225	0.8577	0.4468	0.0049	-0.0584	0.0778	2.2715	0.2609	-0.5106	0.0940
3	225	0.9178	0.4647	0.0057	-0.0902	0.0886	2.5731	0.2943	-0.6593	0.0924
4	225	0.2001	-0.0427	0.0013	0.0136	0.0013	-0.0125	0.0049	0.0576	0.0379
4	225	0.2502	-0.0069	0.0013	0.0184	0.0029	0.0199	0.0112	0.2097	0.0452
4	225	0.3001	0.0400	0.0020	0.0529	0.0045	0.0257	0.0173	0.1740	0.0760
4	225	0.3502	0.0627	0.0019	0.0909	0.0076	0.0372	0.0294	0.0103	0.0630
4	225	0.4002	0.0927	0.0020	0.1380	0.0117	0.1031	0.0452	0.0465	0.0649
4	225	0.4500	0.1387	0.0022	0.1834	0.0151	0.1518	0.0632	-0.1925	0.0658
4	225	0.5001	0.1755	0.0027	0.2231	0.0201	0.2525	0.0811	-0.0094	0.0597
4	225	0.5560	0.2260	0.0029	0.2852	0.0259	0.3018	0.1024	-0.2138	0.0676
4	225	0.6001	0.2671	0.0028	0.3287	0.0318	0.3943	0.1190	-0.2283	0.0700
4	225	0.6501	0.2962	0.0037	0.3621	0.0382	0.4761	0.1385	-0.2006	0.0612
4	225	0.6999	0.3423	0.0034	0.3957	0.0449	0.5660	0.1563	-0.1828	0.0678
4	225	0.7500	0.3717	0.0042	0.4483	0.0521	0.6854	0.1750	-0.0994	0.0580
4	225	0.8002	0.4013	0.0042	0.4983	0.0601	0.7720	0.1953	-0.1951	0.0615
4	225	0.8582	0.4463	0.0045	0.5847	0.0699	0.8685	0.2235	-0.4508	0.0638
4	225	0.9101	0.4710	0.0049	0.6351	0.0786	0.9701	0.2509	-0.5533	0.0608

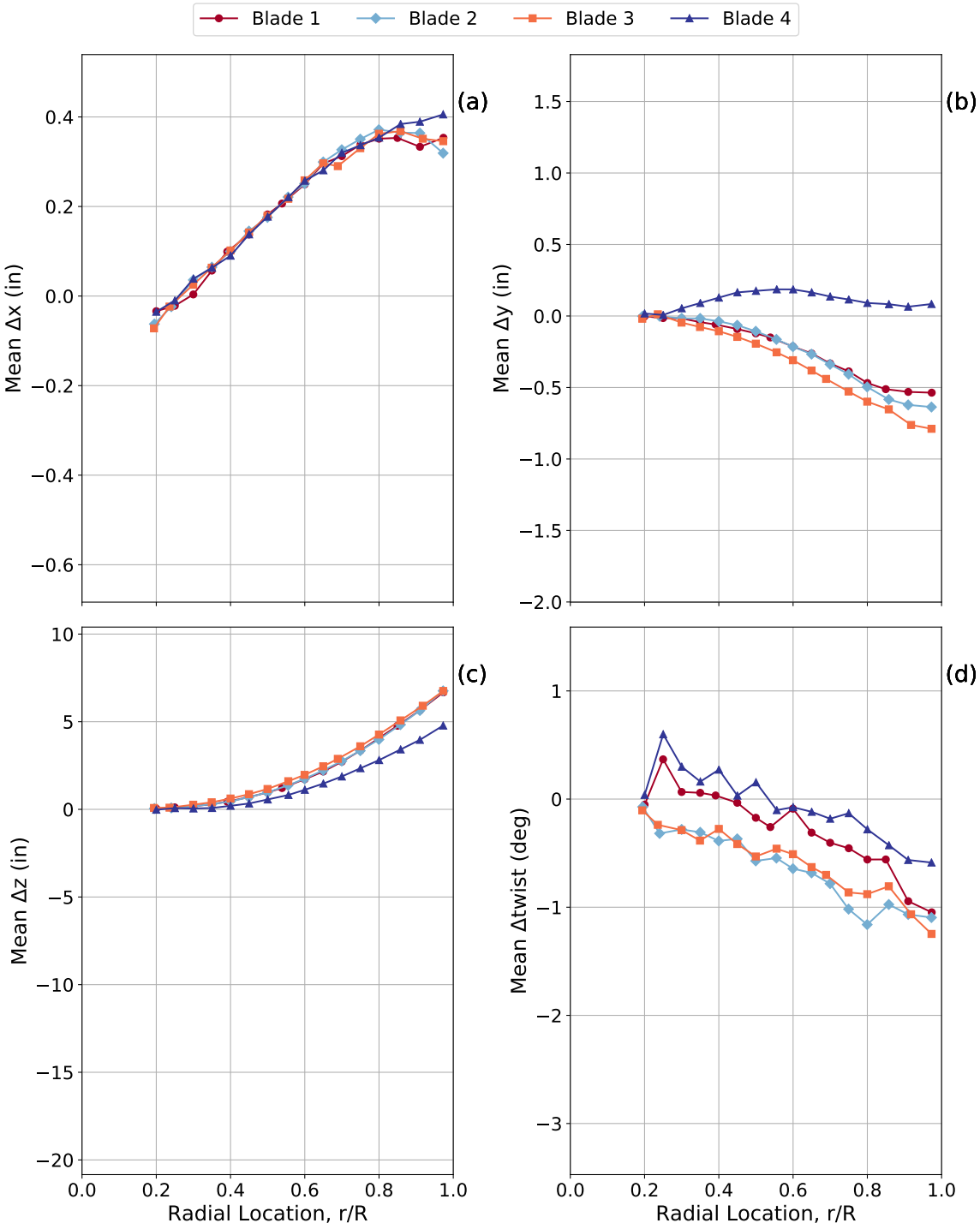


Figure 2.6-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0338	0.0016	-0.0021	0.0010	0.0432	0.0069	-0.0518	0.0282
1	240.12	0.2499	-0.0217	0.0012	-0.0145	0.0031	0.1117	0.0142	0.3676	0.0500
1	240.12	0.2998	0.0036	0.0012	-0.0167	0.0058	0.1756	0.0255	0.0657	0.0642
1	240.12	0.3498	0.0569	0.0017	-0.0431	0.0099	0.2954	0.0382	0.0579	0.0674
1	240.12	0.3913	0.0992	0.0040	-0.0595	0.0153	0.4353	0.0575	0.0334	0.0786
1	240.12	0.4496	0.1375	0.0027	-0.0911	0.0207	0.6990	0.0764	-0.0341	0.0810
1	240.12	0.4997	0.1822	0.0033	-0.1216	0.0275	0.9606	0.0980	-0.1729	0.0774
1	240.12	0.5387	0.2066	0.0044	-0.1500	0.0347	1.2166	0.1168	-0.2588	0.0791
1	240.12	0.5996	0.2492	0.0049	-0.2138	0.0460	1.7159	0.1482	-0.0889	0.0920
1	240.12	0.6498	0.2959	0.0065	-0.2617	0.0573	2.1570	0.1749	-0.3103	0.0997
1	240.12	0.6998	0.3125	0.0077	-0.3318	0.0697	2.7179	0.2029	-0.4039	0.0909
1	240.12	0.7500	0.3380	0.0087	-0.3874	0.0832	3.3556	0.2302	-0.4546	0.0918
1	240.12	0.8001	0.3514	0.0104	-0.4689	0.0975	4.0660	0.2590	-0.5588	0.0900
1	240.12	0.8497	0.3531	0.0113	-0.5117	0.1118	4.7701	0.2900	-0.5583	0.0965
1	240.12	0.9102	0.3333	0.0133	-0.5308	0.1299	5.6474	0.3315	-0.9444	0.1024
1	240.12	0.9734	0.3534	0.0195	-0.5363	0.1486	6.6759	0.3797	-1.0472	0.1033
2	240.12	0.1949	-0.0624	0.0013	-0.0014	0.0007	0.0463	0.0049	-0.0722	0.0306
2	240.12	0.2405	-0.0238	0.0011	-0.0017	0.0018	0.0823	0.0102	-0.3178	0.0472
2	240.12	0.2999	0.0359	0.0015	-0.0166	0.0043	0.1775	0.0195	-0.2808	0.0710
2	240.12	0.3498	0.0645	0.0017	-0.0170	0.0064	0.2972	0.0308	-0.3071	0.0738
2	240.12	0.3998	0.0997	0.0021	-0.0372	0.0111	0.4518	0.0483	-0.3872	0.0658
2	240.12	0.4496	0.1450	0.0024	-0.0646	0.0130	0.6942	0.0583	-0.3678	0.0649
2	240.12	0.4995	0.1756	0.0023	-0.1068	0.0167	0.9689	0.0739	-0.5718	0.0618
2	240.12	0.5551	0.2211	0.0027	-0.1637	0.0220	1.3714	0.0925	-0.5453	0.0668
2	240.12	0.5996	0.2510	0.0029	-0.2147	0.0262	1.7473	0.1085	-0.6434	0.0712
2	240.12	0.6497	0.2994	0.0035	-0.2667	0.0313	2.2220	0.1281	-0.6825	0.0690
2	240.12	0.6996	0.3268	0.0041	-0.3380	0.0370	2.7561	0.1471	-0.7818	0.0733
2	240.12	0.7495	0.3504	0.0049	-0.4070	0.0431	3.3460	0.1673	-1.0175	0.0735
2	240.12	0.7996	0.3716	0.0058	-0.4961	0.0500	3.9845	0.1881	-1.1607	0.0727
2	240.12	0.8578	0.3651	0.0068	-0.5836	0.0579	4.8333	0.2126	-0.9747	0.0745
2	240.12	0.9100	0.3639	0.0081	-0.6216	0.0652	5.6391	0.2362	-1.0667	0.0733
2	240.12	0.9727	0.3191	0.0113	-0.6367	0.0743	6.7573	0.2665	-1.0954	0.0717
3	240.12	0.1938	-0.0721	0.0014	-0.0192	0.0008	0.0788	0.0053	-0.1044	0.0324
3	240.12	0.2357	-0.0235	0.0013	0.0120	0.0019	0.0951	0.0091	-0.2381	0.0403
3	240.12	0.2995	0.0253	0.0014	-0.0462	0.0046	0.2639	0.0200	-0.2872	0.0717
3	240.12	0.3493	0.0633	0.0016	-0.0771	0.0075	0.4030	0.0329	-0.3840	0.0663
3	240.12	0.4000	0.1018	0.0028	-0.1065	0.0124	0.6170	0.0504	-0.2759	0.0703
3	240.12	0.4497	0.1420	0.0025	-0.1463	0.0162	0.8650	0.0682	-0.4158	0.0797
3	240.12	0.4997	0.1793	0.0032	-0.1936	0.0215	1.1614	0.0891	-0.5308	0.0659
3	240.12	0.5556	0.2172	0.0032	-0.2540	0.0286	1.6059	0.1160	-0.4587	0.0696
3	240.12	0.5995	0.2584	0.0035	-0.3092	0.0344	1.9665	0.1362	-0.5097	0.0816
3	240.12	0.6498	0.2965	0.0041	-0.3813	0.0424	2.4568	0.1631	-0.6290	0.0688
3	240.12	0.6890	0.2901	0.0051	-0.4400	0.0488	2.8810	0.1845	-0.7011	0.0801
3	240.12	0.7495	0.3302	0.0057	-0.5282	0.0595	3.5982	0.2166	-0.8631	0.0768
3	240.12	0.7998	0.3624	0.0066	-0.5990	0.0688	4.2674	0.2438	-0.8792	0.0762
3	240.12	0.8577	0.3683	0.0081	-0.6531	0.0799	5.0736	0.2776	-0.8065	0.0769
3	240.12	0.9178	0.3513	0.0100	-0.7620	0.0917	5.9107	0.3145	-1.0653	0.0800
3	240.12	0.9729	0.3458	0.0133	-0.7888	0.1025	6.7528	0.3513	-1.2469	0.0852
4	240.12	0.2001	-0.0351	0.0013	0.0174	0.0007	-0.0217	0.0054	0.0382	0.0333
4	240.12	0.2502	-0.0098	0.0012	0.0072	0.0024	0.0689	0.0120	0.5989	0.0471
4	240.12	0.3001	0.0387	0.0018	0.0536	0.0045	0.0483	0.0211	0.2990	0.0722
4	240.12	0.3502	0.0633	0.0015	0.0908	0.0069	0.0767	0.0334	0.1617	0.0636
4	240.12	0.4002	0.0902	0.0024	0.1286	0.0121	0.2021	0.0526	0.2720	0.0660
4	240.12	0.4500	0.1378	0.0025	0.1651	0.0156	0.3342	0.0723	0.0317	0.0697
4	240.12	0.5001	0.1773	0.0022	0.1756	0.0209	0.5632	0.0950	0.1547	0.0715
4	240.12	0.5560	0.2209	0.0030	0.1863	0.0267	0.8206	0.1187	-0.1024	0.0760
4	240.12	0.6001	0.2575	0.0031	0.1860	0.0317	1.1161	0.1394	-0.0751	0.0791
4	240.12	0.6501	0.2808	0.0038	0.1647	0.0384	1.4722	0.1643	-0.1180	0.0793
4	240.12	0.6999	0.3197	0.0048	0.1359	0.0447	1.8747	0.1863	-0.1819	0.0785
4	240.12	0.7500	0.3369	0.0051	0.1154	0.0516	2.3458	0.2100	-0.1308	0.0796
4	240.12	0.8002	0.3538	0.0060	0.0911	0.0589	2.8094	0.2339	-0.2801	0.0806
4	240.12	0.8582	0.3841	0.0071	0.0825	0.0676	3.4171	0.2624	-0.4272	0.0807
4	240.12	0.9101	0.3893	0.0085	0.0650	0.0754	3.9638	0.2899	-0.5633	0.0834
4	240.12	0.9728	0.4056	0.0123	0.0837	0.0853	4.7799	0.3271	-0.5868	0.0892

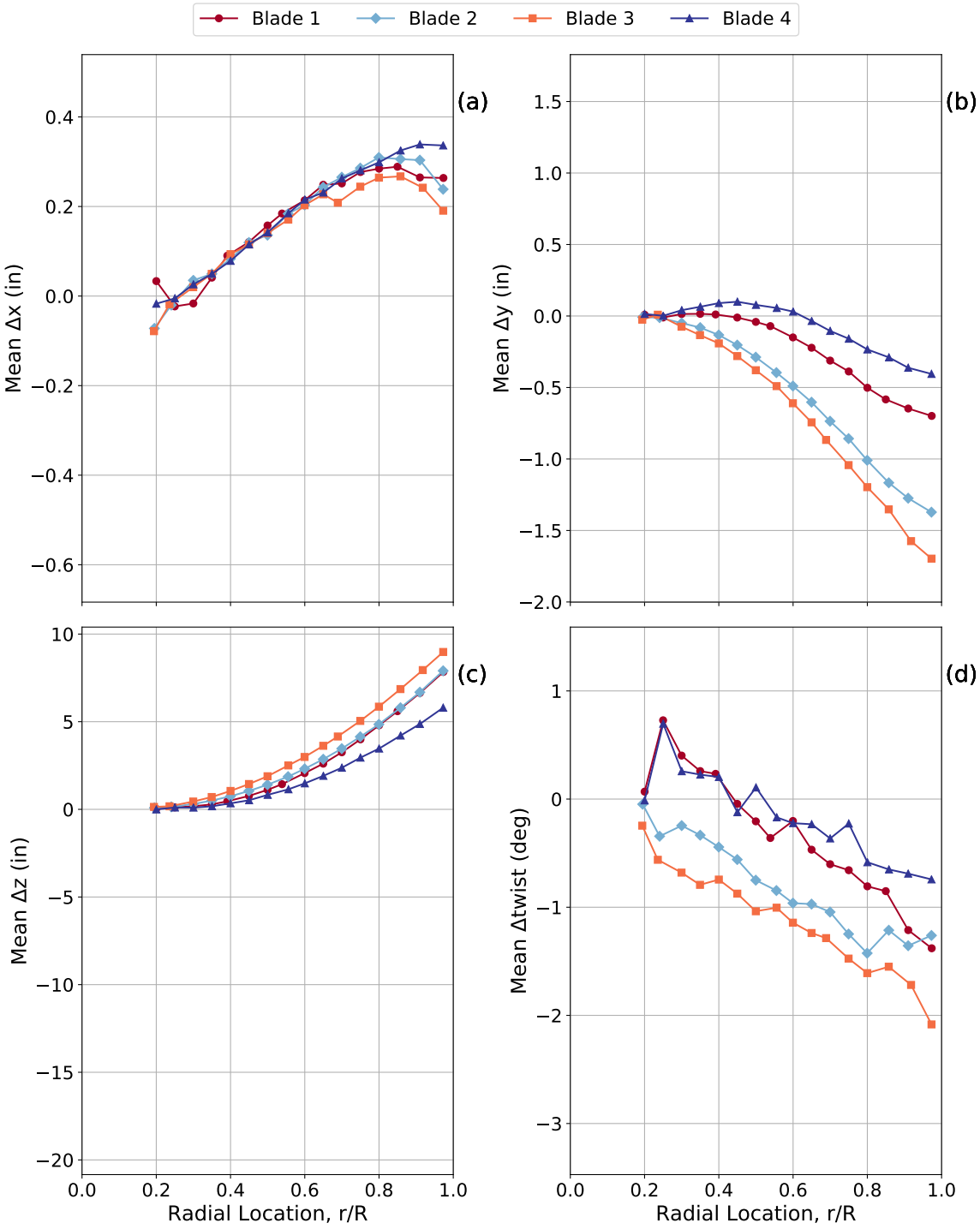


Figure 2.6-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	0.0334	0.0079	0.0088	0.0025	0.0270	0.0151	0.0687	0.0773
1	254.88	0.2499	-0.0231	0.0019	-0.0105	0.0026	0.1132	0.0181	0.7285	0.2102
1	254.88	0.2998	-0.0166	0.0017	0.0139	0.0101	0.1752	0.0432	0.4021	0.2110
1	254.88	0.3498	0.0412	0.0018	0.0150	0.0184	0.2839	0.0699	0.2589	0.2169
1	254.88	0.3913	0.0901	0.0022	0.0107	0.0251	0.4590	0.0934	0.2334	0.2170
1	254.88	0.4496	0.1206	0.0028	-0.0109	0.0334	0.7662	0.1261	-0.0443	0.2205
1	254.88	0.4997	0.1576	0.0032	-0.0412	0.0407	1.1111	0.1558	-0.2058	0.2244
1	254.88	0.5387	0.1843	0.0038	-0.0707	0.0463	1.4358	0.1800	-0.3599	0.2221
1	254.88	0.5996	0.2137	0.0056	-0.1498	0.0549	2.0663	0.2189	-0.2025	0.2241
1	254.88	0.6498	0.2485	0.0067	-0.2220	0.0618	2.6066	0.2524	-0.4680	0.2171
1	254.88	0.6998	0.2515	0.0084	-0.3118	0.0688	3.2551	0.2866	-0.6022	0.2175
1	254.88	0.7500	0.2770	0.0100	-0.3881	0.0760	3.9930	0.3216	-0.6578	0.2231
1	254.88	0.8001	0.2845	0.0118	-0.5020	0.0835	4.7932	0.3573	-0.8069	0.2271
1	254.88	0.8497	0.2888	0.0138	-0.5834	0.0911	5.5993	0.3937	-0.8513	0.2265
1	254.88	0.9102	0.2649	0.0166	-0.6471	0.1004	6.6390	0.4401	-1.2118	0.2201
1	254.88	0.9734	0.2637	0.0222	-0.6988	0.1104	7.8410	0.4900	-1.3795	0.2254
2	254.88	0.1949	-0.0722	0.0019	-0.0085	0.0009	0.0888	0.0069	-0.0475	0.0317
2	254.88	0.2405	-0.0202	0.0013	-0.0114	0.0017	0.1421	0.0103	-0.3438	0.0534
2	254.88	0.2999	0.0351	0.0013	-0.0494	0.0036	0.3022	0.0230	-0.2454	0.0714
2	254.88	0.3498	0.0495	0.0016	-0.0810	0.0066	0.5024	0.0372	-0.3337	0.0704
2	254.88	0.3998	0.0833	0.0016	-0.1330	0.0100	0.7452	0.0558	-0.4435	0.0753
2	254.88	0.4496	0.1196	0.0023	-0.2033	0.0140	1.0490	0.0763	-0.5592	0.0783
2	254.88	0.4995	0.1360	0.0026	-0.2878	0.0187	1.4052	0.1006	-0.7500	0.0835
2	254.88	0.5551	0.1837	0.0032	-0.3960	0.0248	1.8676	0.1298	-0.8458	0.0885
2	254.88	0.5996	0.2034	0.0040	-0.4898	0.0300	2.3117	0.1556	-0.9623	0.0930
2	254.88	0.6497	0.2429	0.0052	-0.6028	0.0366	2.8590	0.1851	-0.9713	0.0952
2	254.88	0.6996	0.2654	0.0062	-0.7358	0.0436	3.4637	0.2138	-1.0444	0.0963
2	254.88	0.7495	0.2858	0.0077	-0.8575	0.0508	4.1421	0.2448	-1.2479	0.1021
2	254.88	0.7996	0.3096	0.0091	-1.0092	0.0587	4.8483	0.2762	-1.4251	0.1031
2	254.88	0.8578	0.3058	0.0108	-1.1665	0.0682	5.7970	0.3143	-1.2127	0.1037
2	254.88	0.9100	0.3035	0.0132	-1.2742	0.0770	6.6824	0.3501	-1.3561	0.1097
2	254.88	0.9727	0.2385	0.0176	-1.3719	0.0880	7.9049	0.3954	-1.2611	0.1158
3	254.88	0.1938	-0.0784	0.0021	-0.0257	0.0010	0.1399	0.0077	-0.2458	0.0277
3	254.88	0.2357	-0.0183	0.0014	0.0091	0.0017	0.1739	0.0121	-0.5614	0.0570
3	254.88	0.2995	0.0198	0.0013	-0.0750	0.0040	0.4458	0.0270	-0.6800	0.0696
3	254.88	0.3493	0.0495	0.0016	-0.1337	0.0068	0.7028	0.0443	-0.7930	0.0720
3	254.88	0.4000	0.0936	0.0020	-0.1917	0.0110	1.0502	0.0675	-0.7444	0.0774
3	254.88	0.4497	0.1152	0.0023	-0.2803	0.0152	1.4449	0.0940	-0.8742	0.0834
3	254.88	0.4997	0.1405	0.0032	-0.3793	0.0204	1.8881	0.1257	-1.0374	0.0939
3	254.88	0.5556	0.1706	0.0043	-0.4905	0.0269	2.5053	0.1643	-1.0042	0.0842
3	254.88	0.5995	0.2028	0.0059	-0.6103	0.0332	2.9886	0.1963	-1.1427	0.0925
3	254.88	0.6498	0.2272	0.0077	-0.7437	0.0406	3.6250	0.2336	-1.2385	0.1053
3	254.88	0.6890	0.2085	0.0090	-0.8668	0.0469	4.1554	0.2622	-1.2856	0.1003
3	254.88	0.7495	0.2443	0.0111	-1.0427	0.0574	5.0448	0.3057	-1.4749	0.0974
3	254.88	0.7998	0.2644	0.0134	-1.1971	0.0667	5.8583	0.3412	-1.6094	0.1063
3	254.88	0.8577	0.2673	0.0158	-1.3524	0.0785	6.8610	0.3816	-1.5500	0.1147
3	254.88	0.9178	0.2420	0.0190	-1.5744	0.0915	7.9450	0.4231	-1.7185	0.1178
3	254.88	0.9729	0.1906	0.0234	-1.6969	0.1035	8.9782	0.4637	-2.0835	0.1197
4	254.88	0.2001	-0.0171	0.0021	0.0143	0.0007	-0.0060	0.0063	-0.0122	0.0312
4	254.88	0.2502	-0.0051	0.0013	0.0012	0.0017	0.1048	0.0108	0.6970	0.0800
4	254.88	0.3001	0.0261	0.0013	0.0406	0.0031	0.0989	0.0205	0.2574	0.0802
4	254.88	0.3502	0.0497	0.0016	0.0647	0.0055	0.1751	0.0342	0.2259	0.0794
4	254.88	0.4002	0.0786	0.0016	0.0901	0.0086	0.3435	0.0511	0.2040	0.0835
4	254.88	0.4500	0.1153	0.0019	0.0997	0.0118	0.5190	0.0699	-0.1217	0.0833
4	254.88	0.5001	0.1421	0.0019	0.0776	0.0155	0.8260	0.0920	0.1072	0.0890
4	254.88	0.5560	0.1848	0.0024	0.0560	0.0202	1.1437	0.1189	-0.1692	0.0964
4	254.88	0.6001	0.2154	0.0027	0.0307	0.0243	1.4832	0.1415	-0.2229	0.0894
4	254.88	0.6501	0.2311	0.0037	-0.0349	0.0292	1.9112	0.1684	-0.2327	0.0938
4	254.88	0.6999	0.2625	0.0046	-0.1046	0.0348	2.3740	0.1960	-0.3640	0.1041
4	254.88	0.7500	0.2808	0.0058	-0.1590	0.0406	2.9501	0.2256	-0.2264	0.1078
4	254.88	0.8002	0.2987	0.0072	-0.2341	0.0470	3.4674	0.2561	-0.5842	0.1110
4	254.88	0.8582	0.3251	0.0088	-0.2896	0.0549	4.2107	0.2909	-0.6508	0.1132
4	254.88	0.9101	0.3386	0.0106	-0.3621	0.0623	4.8694	0.3223	-0.6896	0.1175
4	254.88	0.9728	0.3363	0.0143	-0.4051	0.0713	5.7993	0.3599	-0.7427	0.1168

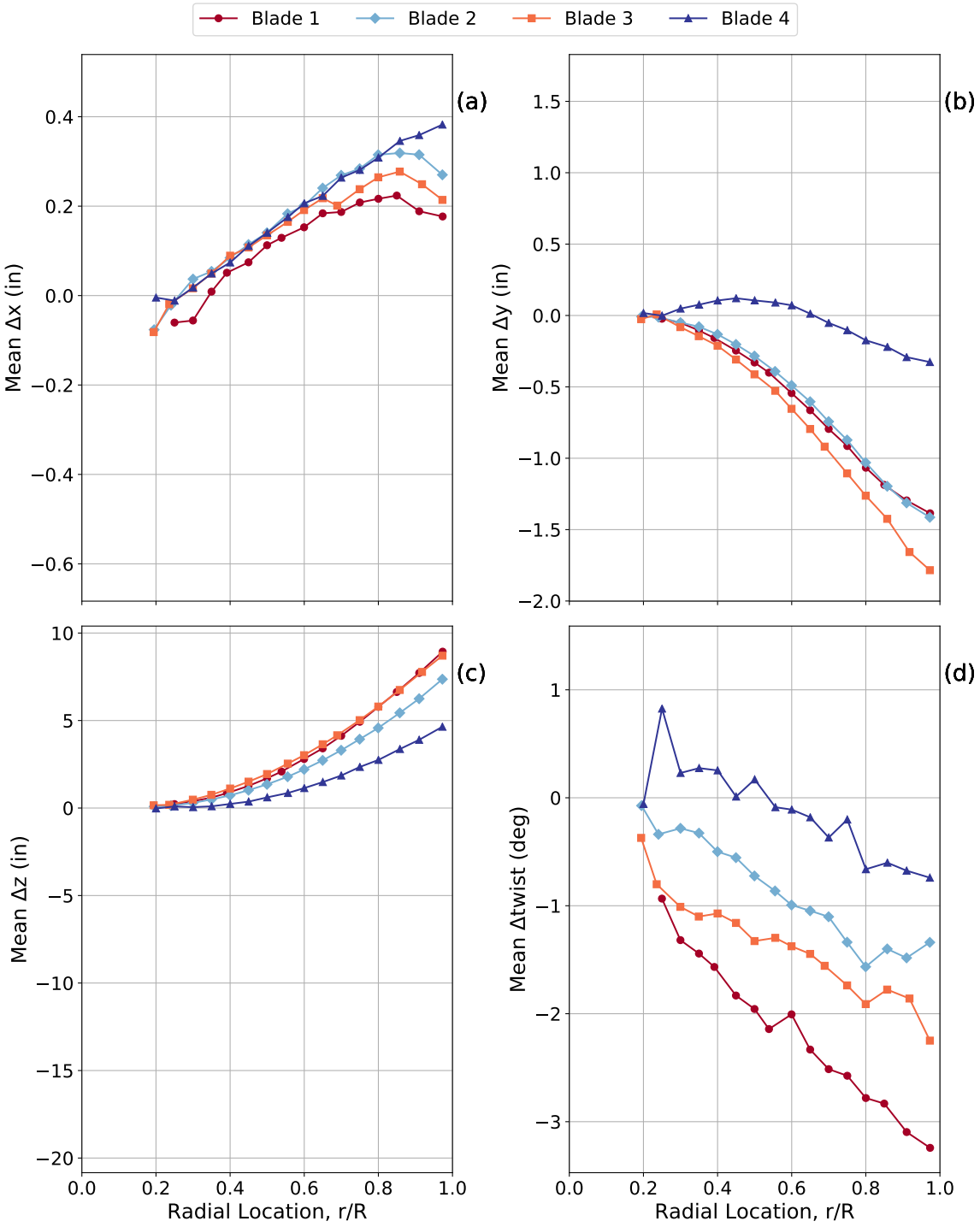


Figure 2.6-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2499	-0.0604	0.0035	-0.0227	0.0018	0.2239	0.0217	-0.9340	0.1238
1	260.16	0.2998	-0.0558	0.0023	-0.0505	0.0041	0.3890	0.0353	-1.3184	0.1755
1	260.16	0.3498	0.0088	0.0023	-0.1053	0.0080	0.5963	0.0580	-1.4428	0.1740
1	260.16	0.3913	0.0511	0.0030	-0.1576	0.0121	0.8500	0.0799	-1.5669	0.1723
1	260.16	0.4496	0.0744	0.0039	-0.2458	0.0172	1.2633	0.1093	-1.8315	0.1695
1	260.16	0.4997	0.1126	0.0047	-0.3295	0.0220	1.6996	0.1369	-1.9563	0.1716
1	260.16	0.5387	0.1292	0.0056	-0.4006	0.0259	2.0840	0.1597	-2.1421	0.1707
1	260.16	0.5996	0.1527	0.0071	-0.5437	0.0326	2.8036	0.1981	-2.0058	0.1650
1	260.16	0.6498	0.1840	0.0085	-0.6637	0.0383	3.4093	0.2327	-2.3321	0.1697
1	260.16	0.6998	0.1870	0.0103	-0.7947	0.0444	4.1268	0.2691	-2.5135	0.1673
1	260.16	0.7500	0.2082	0.0122	-0.9144	0.0507	4.9295	0.3074	-2.5745	0.1744
1	260.16	0.8001	0.2165	0.0145	-1.0665	0.0574	5.7823	0.3479	-2.7808	0.1712
1	260.16	0.8497	0.2237	0.0167	-1.1867	0.0645	6.6312	0.3905	-2.8324	0.1724
1	260.16	0.9102	0.1886	0.0203	-1.2955	0.0738	7.7178	0.4452	-3.0960	0.1719
1	260.16	0.9734	0.1769	0.0265	-1.3857	0.0839	8.9349	0.5047	-3.2423	0.1764
2	260.16	0.1949	-0.0764	0.0032	-0.0080	0.0011	0.0884	0.0094	-0.0730	0.0432
2	260.16	0.2405	-0.0214	0.0020	-0.0115	0.0023	0.1354	0.0124	-0.3384	0.0860
2	260.16	0.2999	0.0369	0.0015	-0.0500	0.0052	0.2928	0.0291	-0.2830	0.1034
2	260.16	0.3498	0.0541	0.0021	-0.0786	0.0094	0.4914	0.0466	-0.3272	0.0940
2	260.16	0.3998	0.0844	0.0022	-0.1323	0.0147	0.7216	0.0685	-0.4992	0.0883
2	260.16	0.4496	0.1141	0.0026	-0.2028	0.0199	1.0197	0.0933	-0.5547	0.0886
2	260.16	0.4995	0.1405	0.0032	-0.2839	0.0261	1.3527	0.1236	-0.7238	0.0878
2	260.16	0.5551	0.1831	0.0043	-0.3919	0.0339	1.7878	0.1610	-0.8632	0.0905
2	260.16	0.5996	0.2010	0.0051	-0.4897	0.0407	2.2066	0.1941	-0.9933	0.0908
2	260.16	0.6497	0.2404	0.0066	-0.6040	0.0489	2.7244	0.2331	-1.0464	0.0995
2	260.16	0.6996	0.2690	0.0081	-0.7433	0.0574	3.3020	0.2746	-1.1020	0.0957
2	260.16	0.7495	0.2837	0.0100	-0.8723	0.0661	3.9337	0.3167	-1.3377	0.0960
2	260.16	0.7996	0.3150	0.0118	-1.0306	0.0750	4.5764	0.3607	-1.5654	0.0982
2	260.16	0.8578	0.3189	0.0143	-1.1964	0.0855	5.4375	0.4106	-1.4001	0.1030
2	260.16	0.9100	0.3151	0.0170	-1.3128	0.0947	6.2467	0.4561	-1.4830	0.1027
2	260.16	0.9727	0.2701	0.0229	-1.4137	0.1056	7.3621	0.5120	-1.3391	0.1087
3	260.16	0.1938	-0.0817	0.0056	-0.0258	0.0014	0.1567	0.0152	-0.3716	0.0496
3	260.16	0.2357	-0.0192	0.0020	0.0074	0.0019	0.1836	0.0176	-0.8008	0.1321
3	260.16	0.2995	0.0163	0.0016	-0.0815	0.0061	0.4782	0.0438	-1.0102	0.1450
3	260.16	0.3493	0.0493	0.0023	-0.1450	0.0113	0.7543	0.0715	-1.1002	0.1448
3	260.16	0.4000	0.0892	0.0029	-0.2119	0.0177	1.1140	0.1037	-1.0717	0.1496
3	260.16	0.4497	0.1076	0.0039	-0.3086	0.0240	1.5075	0.1395	-1.1592	0.1501
3	260.16	0.4997	0.1348	0.0051	-0.4126	0.0320	1.9418	0.1808	-1.3271	0.1470
3	260.16	0.5556	0.1649	0.0069	-0.5275	0.0413	2.5377	0.2273	-1.2973	0.1509
3	260.16	0.5995	0.1913	0.0086	-0.6537	0.0494	3.0201	0.2674	-1.3752	0.1552
3	260.16	0.6498	0.2178	0.0109	-0.7951	0.0593	3.6429	0.3134	-1.4461	0.1561
3	260.16	0.6890	0.2012	0.0128	-0.9188	0.0674	4.1566	0.3485	-1.5563	0.1564
3	260.16	0.7495	0.2379	0.0159	-1.1060	0.0807	5.0212	0.4017	-1.7378	0.1563
3	260.16	0.7998	0.2645	0.0183	-1.2623	0.0922	5.7972	0.4446	-1.9111	0.1571
3	260.16	0.8577	0.2773	0.0208	-1.4246	0.1061	6.7461	0.4917	-1.7766	0.1601
3	260.16	0.9178	0.2490	0.0240	-1.6570	0.1212	7.7777	0.5401	-1.8593	0.1617
3	260.16	0.9729	0.2140	0.0302	-1.7842	0.1349	8.7067	0.5875	-2.2491	0.1639
4	260.16	0.2001	-0.0045	0.0037	0.0171	0.0011	-0.0238	0.0082	-0.0580	0.0526
4	260.16	0.2502	-0.0113	0.0024	-0.0016	0.0023	0.0905	0.0117	0.8260	0.1166
4	260.16	0.3001	0.0181	0.0016	0.0481	0.0043	0.0490	0.0237	0.2298	0.1271
4	260.16	0.3502	0.0494	0.0017	0.0757	0.0073	0.0987	0.0389	0.2746	0.1213
4	260.16	0.4002	0.0740	0.0019	0.1049	0.0114	0.2341	0.0564	0.2535	0.1270
4	260.16	0.4500	0.1110	0.0024	0.1207	0.0160	0.3652	0.0767	0.0109	0.1321
4	260.16	0.5001	0.1405	0.0024	0.1056	0.0213	0.6094	0.0999	0.1698	0.1344
4	260.16	0.5560	0.1757	0.0028	0.0904	0.0282	0.8594	0.1317	-0.0875	0.1350
4	260.16	0.6001	0.2064	0.0034	0.0711	0.0340	1.1394	0.1595	-0.1096	0.1283
4	260.16	0.6501	0.2230	0.0041	0.0122	0.0413	1.4842	0.1971	-0.1811	0.1237
4	260.16	0.6999	0.2638	0.0052	-0.0523	0.0488	1.8572	0.2400	-0.3685	0.1309
4	260.16	0.7500	0.2811	0.0066	-0.1034	0.0569	2.3468	0.2898	-0.2017	0.1313
4	260.16	0.8002	0.3086	0.0079	-0.1740	0.0652	2.7495	0.3467	-0.6619	0.1313
4	260.16	0.8582	0.3459	0.0105	-0.2203	0.0750	3.3712	0.4205	-0.6015	0.1289
4	260.16	0.9101	0.3589	0.0135	-0.2918	0.0839	3.8970	0.4912	-0.6751	0.1295
4	260.16	0.9728	0.3824	0.0199	-0.3263	0.0948	4.6446	0.5805	-0.7403	0.1371

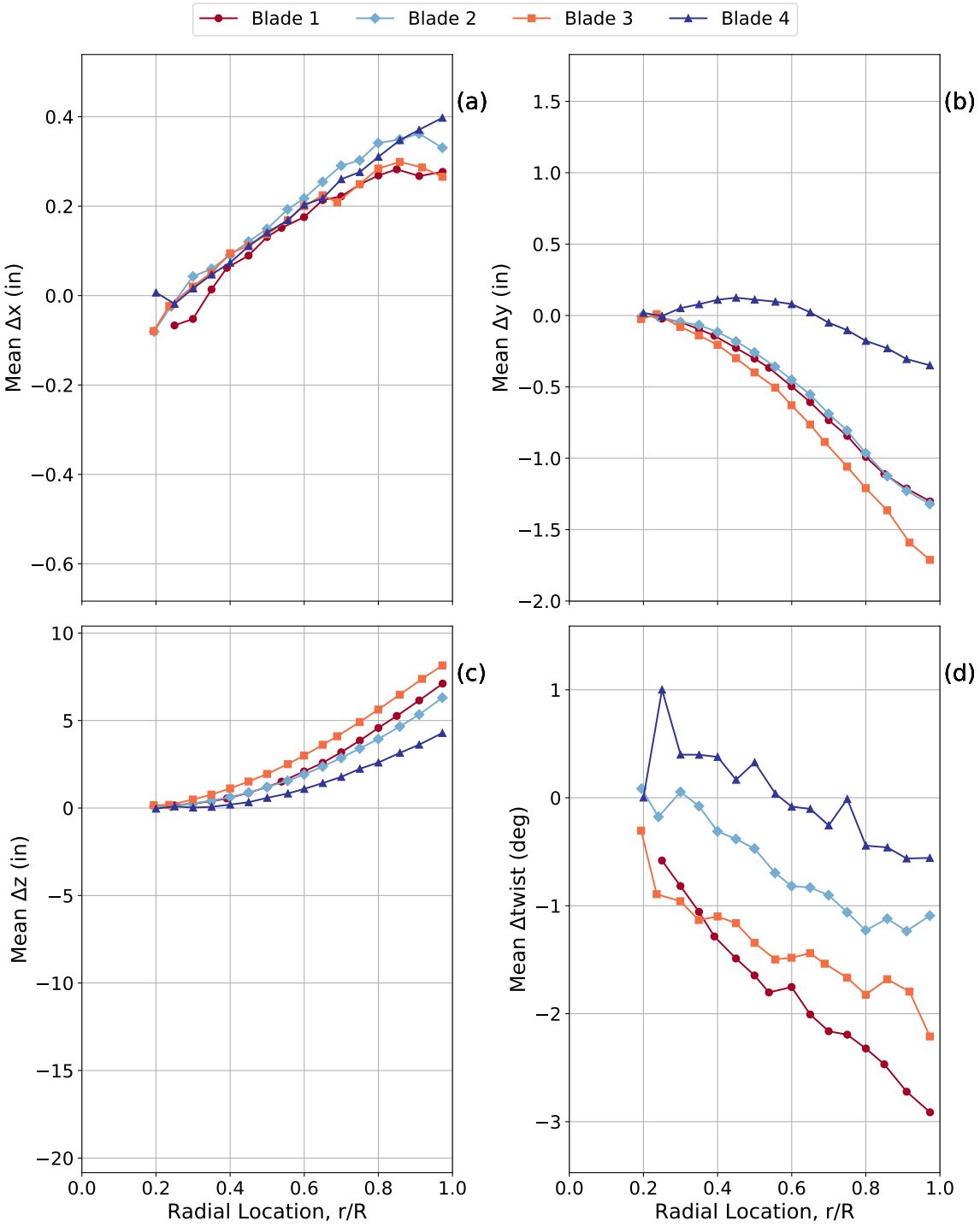


Figure 2.6-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2499	-0.0667	0.0066	-0.0221	0.0033	0.1511	0.0383	-0.5810	0.2891
1	265.08	0.2998	-0.0523	0.0026	-0.0460	0.0069	0.2593	0.0587	-0.8172	0.4100
1	265.08	0.3498	0.0137	0.0034	-0.0961	0.0144	0.3854	0.1030	-1.0557	0.3798
1	265.08	0.3913	0.0621	0.0045	-0.1414	0.0211	0.5476	0.1375	-1.2844	0.3819
1	265.08	0.4496	0.0894	0.0050	-0.2279	0.0291	0.8660	0.1803	-1.4883	0.3889
1	265.08	0.4997	0.1310	0.0063	-0.3020	0.0369	1.1987	0.2211	-1.6457	0.3827
1	265.08	0.5387	0.1514	0.0072	-0.3664	0.0430	1.5089	0.2521	-1.8030	0.3812
1	265.08	0.5996	0.1754	0.0088	-0.4964	0.0533	2.0933	0.3016	-1.7528	0.3807
1	265.08	0.6498	0.2135	0.0106	-0.6068	0.0629	2.5859	0.3450	-2.0064	0.3723
1	265.08	0.6998	0.2220	0.0124	-0.7335	0.0725	3.1865	0.3871	-2.1623	0.3804
1	265.08	0.7500	0.2486	0.0146	-0.8436	0.0832	3.8570	0.4310	-2.1941	0.3825
1	265.08	0.8001	0.2687	0.0166	-0.9904	0.0940	4.5759	0.4755	-2.3222	0.3780
1	265.08	0.8497	0.2823	0.0189	-1.1110	0.1051	5.2643	0.5195	-2.4682	0.3772
1	265.08	0.9102	0.2674	0.0220	-1.2120	0.1185	6.1489	0.5728	-2.7223	0.3804
1	265.08	0.9734	0.2767	0.0292	-1.3024	0.1328	7.1110	0.6305	-2.9132	0.3781
2	265.08	0.1949	-0.0805	0.0062	-0.0076	0.0015	0.0812	0.0115	0.0846	0.0591
2	265.08	0.2405	-0.0243	0.0041	-0.0088	0.0023	0.1053	0.0152	-0.1770	0.1451
2	265.08	0.2999	0.0428	0.0029	-0.0465	0.0048	0.2557	0.0322	0.0539	0.1578
2	265.08	0.3498	0.0599	0.0028	-0.0669	0.0094	0.4295	0.0542	-0.0772	0.1407
2	265.08	0.3998	0.0906	0.0029	-0.1163	0.0136	0.6223	0.0767	-0.3111	0.1394
2	265.08	0.4496	0.1207	0.0032	-0.1817	0.0184	0.8858	0.0986	-0.3821	0.1438
2	265.08	0.4995	0.1491	0.0039	-0.2587	0.0235	1.1945	0.1235	-0.4705	0.1437
2	265.08	0.5551	0.1927	0.0045	-0.3590	0.0298	1.5571	0.1519	-0.6954	0.1430
2	265.08	0.5996	0.2173	0.0053	-0.4503	0.0353	1.9195	0.1765	-0.8178	0.1441
2	265.08	0.6497	0.2545	0.0061	-0.5539	0.0416	2.3700	0.2032	-0.8310	0.1493
2	265.08	0.6996	0.2905	0.0071	-0.6885	0.0484	2.8610	0.2317	-0.9023	0.1521
2	265.08	0.7495	0.3024	0.0080	-0.8061	0.0558	3.4032	0.2625	-1.0609	0.1516
2	265.08	0.7996	0.3412	0.0090	-0.9635	0.0636	3.9411	0.2946	-1.2275	0.1522
2	265.08	0.8578	0.3492	0.0104	-1.1253	0.0730	4.6581	0.3342	-1.1197	0.1579
2	265.08	0.9100	0.3622	0.0122	-1.2284	0.0819	5.3423	0.3711	-1.2348	0.1543
2	265.08	0.9727	0.3306	0.0164	-1.3211	0.0928	6.3022	0.4163	-1.0919	0.1613
3	265.08	0.1938	-0.0793	0.0134	-0.0252	0.0023	0.1637	0.0207	-0.3045	0.0922
3	265.08	0.2357	-0.0233	0.0048	0.0094	0.0023	0.1750	0.0185	-0.8928	0.2697
3	265.08	0.2995	0.0201	0.0041	-0.0802	0.0074	0.4847	0.0506	-0.9580	0.2888
3	265.08	0.3493	0.0510	0.0038	-0.1391	0.0130	0.7647	0.0816	-1.1322	0.2819
3	265.08	0.4000	0.0944	0.0041	-0.2056	0.0194	1.1206	0.1128	-1.0996	0.2883
3	265.08	0.4497	0.1117	0.0049	-0.2994	0.0262	1.5144	0.1477	-1.1615	0.2881
3	265.08	0.4997	0.1372	0.0055	-0.3993	0.0332	1.9480	0.1845	-1.3439	0.2908
3	265.08	0.5556	0.1687	0.0071	-0.5053	0.0417	2.5092	0.2307	-1.4974	0.2956
3	265.08	0.5995	0.2000	0.0082	-0.6287	0.0485	2.9973	0.2703	-1.4817	0.2917
3	265.08	0.6498	0.2243	0.0101	-0.7641	0.0569	3.6139	0.3185	-1.4396	0.2956
3	265.08	0.6890	0.2085	0.0116	-0.8859	0.0635	4.1011	0.3567	-1.5368	0.2954
3	265.08	0.7495	0.2492	0.0146	-1.0592	0.0741	4.9141	0.4182	-1.6657	0.2985
3	265.08	0.7998	0.2842	0.0172	-1.2097	0.0831	5.6254	0.4707	-1.8238	0.2933
3	265.08	0.8577	0.2991	0.0203	-1.3649	0.0935	6.4776	0.5307	-1.6804	0.2970
3	265.08	0.9178	0.2865	0.0242	-1.5905	0.1043	7.3787	0.5936	-1.7956	0.3006
3	265.08	0.9729	0.2658	0.0315	-1.7121	0.1148	8.1482	0.6521	-2.2103	0.3037
4	265.08	0.2001	0.0068	0.0108	0.0180	0.0025	-0.0347	0.0174	0.0020	0.1234
4	265.08	0.2502	-0.0185	0.0071	-0.0036	0.0040	0.0924	0.0197	1.0012	0.2768
4	265.08	0.3001	0.0159	0.0036	0.0514	0.0084	0.0266	0.0469	0.3995	0.2987
4	265.08	0.3502	0.0471	0.0033	0.0787	0.0144	0.0677	0.0719	0.3982	0.2960
4	265.08	0.4002	0.0737	0.0036	0.1101	0.0216	0.1963	0.1028	0.3786	0.2980
4	265.08	0.4500	0.1106	0.0042	0.1247	0.0296	0.3331	0.1366	0.1666	0.3012
4	265.08	0.5001	0.1410	0.0046	0.1110	0.0390	0.5816	0.1737	0.3280	0.2955
4	265.08	0.5560	0.1688	0.0053	0.0966	0.0505	0.8297	0.2212	0.0381	0.3050
4	265.08	0.6001	0.2031	0.0061	0.0793	0.0604	1.0924	0.2603	-0.0827	0.3040
4	265.08	0.6501	0.2176	0.0074	0.0219	0.0720	1.4266	0.3081	-0.1028	0.3067
4	265.08	0.6999	0.2603	0.0089	-0.0507	0.0843	1.7790	0.3563	-0.2563	0.3000
4	265.08	0.7500	0.2763	0.0106	-0.1032	0.0972	2.2434	0.4047	-0.0119	0.3040
4	265.08	0.8002	0.3104	0.0123	-0.1780	0.1103	2.6005	0.4512	-0.4435	0.3079
4	265.08	0.8582	0.3477	0.0140	-0.2302	0.1258	3.1522	0.5030	-0.4601	0.3080
4	265.08	0.9101	0.3709	0.0161	-0.3056	0.1400	3.6204	0.5484	-0.5622	0.3054
4	265.08	0.9728	0.3977	0.0224	-0.3490	0.1572	4.2873	0.6020	-0.5571	0.2983

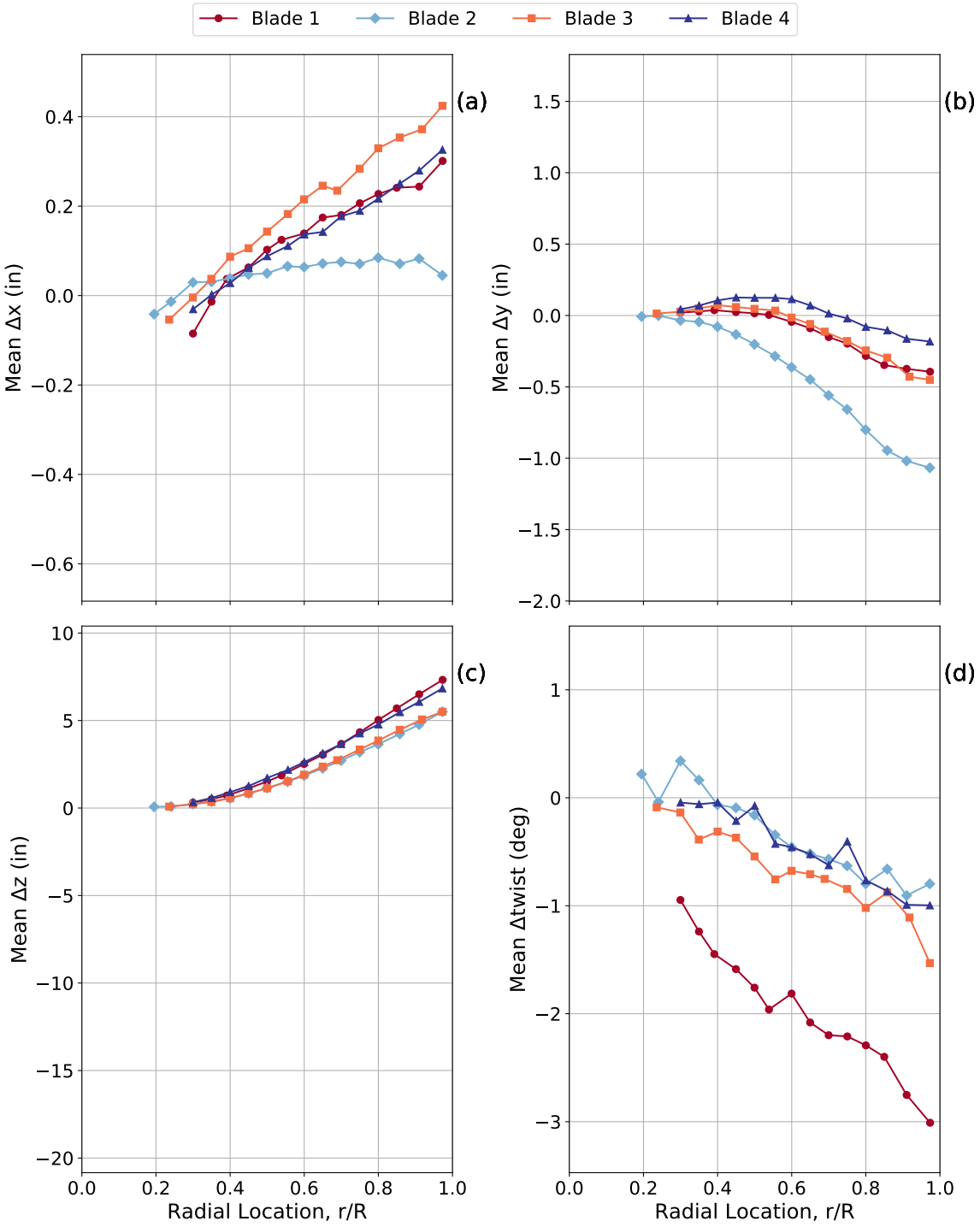


Figure 2.6-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2998	-0.0850	0.0177	0.0200	0.0163	0.3103	0.1771	-0.9465	0.4082
1	270	0.3498	-0.0137	0.0127	0.0284	0.0312	0.5021	0.2743	-1.2388	0.5318
1	270	0.3913	0.0372	0.0171	0.0372	0.0485	0.7149	0.3806	-1.4480	0.5037
1	270	0.4496	0.0629	0.0208	0.0242	0.0699	1.1239	0.5190	-1.5871	0.5071
1	270	0.4997	0.1026	0.0251	0.0150	0.0887	1.5169	0.6402	-1.7587	0.5010
1	270	0.5387	0.1246	0.0285	0.0041	0.1030	1.8655	0.7333	-1.9614	0.5018
1	270	0.5996	0.1389	0.0344	-0.0447	0.1248	2.5196	0.8788	-1.8137	0.5034
1	270	0.6498	0.1745	0.0395	-0.0895	0.1434	3.0441	1.0008	-2.0814	0.4970
1	270	0.6998	0.1802	0.0448	-0.1511	0.1615	3.6619	1.1224	-2.1989	0.4956
1	270	0.7500	0.2065	0.0505	-0.1974	0.1794	4.3310	1.2456	-2.2103	0.4923
1	270	0.8001	0.2273	0.0567	-0.2834	0.1976	5.0343	1.3692	-2.2931	0.4892
1	270	0.8497	0.2411	0.0618	-0.3474	0.2154	5.6954	1.4913	-2.3992	0.4884
1	270	0.9102	0.2437	0.0699	-0.3739	0.2377	6.5012	1.6391	-2.7523	0.4946
1	270	0.9734	0.3011	0.0869	-0.3940	0.2614	7.3248	1.7949	-3.0099	0.4930
2	270.35	0.1949	-0.0415	0.0147	-0.0068	0.0037	0.0691	0.0334	0.2194	0.1618
2	270.35	0.2405	-0.0135	0.0086	-0.0010	0.0052	0.0884	0.0308	-0.0386	0.4589
2	270.35	0.2999	0.0295	0.0068	-0.0347	0.0121	0.2299	0.0855	0.3417	0.4596
2	270.35	0.3498	0.0308	0.0062	-0.0445	0.0222	0.3773	0.1365	0.1644	0.4310
2	270.35	0.3998	0.0385	0.0069	-0.0789	0.0327	0.5584	0.1891	-0.0652	0.4332
2	270.35	0.4496	0.0472	0.0075	-0.1328	0.0432	0.8332	0.2403	-0.0930	0.4275
2	270.35	0.4995	0.0498	0.0089	-0.2021	0.0545	1.1453	0.2958	-0.1607	0.4302
2	270.35	0.5551	0.0656	0.0105	-0.2854	0.0684	1.5084	0.3607	-0.3439	0.4325
2	270.35	0.5996	0.0637	0.0119	-0.3626	0.0804	1.8511	0.4148	-0.4582	0.4303
2	270.35	0.6497	0.0717	0.0139	-0.4484	0.0943	2.2700	0.4788	-0.5185	0.4347
2	270.35	0.6996	0.0753	0.0161	-0.5599	0.1090	2.7139	0.5461	-0.5688	0.4324
2	270.35	0.7495	0.0709	0.0187	-0.6576	0.1245	3.1956	0.6145	-0.6305	0.4332
2	270.35	0.7996	0.0846	0.0210	-0.8005	0.1403	3.6429	0.6862	-0.7968	0.4294
2	270.35	0.8578	0.0712	0.0239	-0.9452	0.1590	4.2355	0.7696	-0.6607	0.4334
2	270.35	0.9100	0.0826	0.0275	-1.0189	0.1759	4.7654	0.8466	-0.9055	0.4322
2	270.35	0.9727	0.0451	0.0366	-1.0669	0.1961	5.5022	0.9399	-0.7970	0.4346
3	270	0.2357	-0.0538	0.0062	0.0137	0.0022	0.0843	0.0252	-0.0880	0.1816
3	270	0.2995	-0.0043	0.0027	0.0264	0.0059	0.2144	0.0463	-0.1360	0.2893
3	270	0.3493	0.0374	0.0030	0.0494	0.0126	0.3425	0.0798	-0.3871	0.2791
3	270	0.4000	0.0870	0.0035	0.0726	0.0200	0.5613	0.1156	-0.3135	0.2869
3	270	0.4497	0.1059	0.0044	0.0593	0.0272	0.8317	0.1502	-0.3700	0.2884
3	270	0.4997	0.1430	0.0052	0.0468	0.0360	1.1287	0.1886	-0.5436	0.2824
3	270	0.5556	0.1825	0.0062	0.0344	0.0462	1.5264	0.2338	-0.7554	0.2826
3	270	0.5995	0.2153	0.0077	-0.0145	0.0547	1.9034	0.2712	-0.6761	0.2908
3	270	0.6498	0.2458	0.0092	-0.0598	0.0651	2.3651	0.3150	-0.7081	0.2866
3	270	0.6890	0.2347	0.0106	-0.1135	0.0737	2.7322	0.3510	-0.7516	0.2866
3	270	0.7495	0.2837	0.0129	-0.1790	0.0874	3.3440	0.4072	-0.8443	0.2819
3	270	0.7998	0.3295	0.0146	-0.2452	0.0995	3.8552	0.4564	-1.0203	0.2840
3	270	0.8577	0.3536	0.0170	-0.2956	0.1137	4.4743	0.5144	-0.8767	0.2818
3	270	0.9178	0.3720	0.0198	-0.4287	0.1287	5.0605	0.5759	-1.1087	0.2848
3	270	0.9729	0.4244	0.0273	-0.4507	0.1433	5.5001	0.6340	-1.5313	0.2831
4	270	0.3001	-0.0305	0.0078	0.0431	0.0082	0.3348	0.0842	-0.0444	0.2293
4	270	0.3502	0.0022	0.0060	0.0696	0.0158	0.5754	0.1334	-0.0593	0.3013
4	270	0.4002	0.0280	0.0089	0.1058	0.0266	0.9096	0.2002	-0.0442	0.2966
4	270	0.4500	0.0620	0.0106	0.1258	0.0362	1.2591	0.2580	-0.2136	0.3025
4	270	0.5001	0.0881	0.0123	0.1238	0.0467	1.7201	0.3225	-0.0748	0.3088
4	270	0.5560	0.1111	0.0152	0.1236	0.0590	2.1826	0.3951	-0.4264	0.3037
4	270	0.6001	0.1367	0.0177	0.1144	0.0693	2.6247	0.4554	-0.4577	0.3019
4	270	0.6501	0.1425	0.0208	0.0701	0.0815	3.1384	0.5254	-0.5226	0.3046
4	270	0.6999	0.1775	0.0239	0.0134	0.0945	3.6575	0.5986	-0.6249	0.3039
4	270	0.7500	0.1896	0.0274	-0.0207	0.1078	4.2660	0.6761	-0.4055	0.3056
4	270	0.8002	0.2170	0.0304	-0.0795	0.1220	4.7776	0.7548	-0.7649	0.3141
4	270	0.8582	0.2505	0.0348	-0.1044	0.1385	5.4784	0.8491	-0.8641	0.3069
4	270	0.9101	0.2795	0.0401	-0.1630	0.1538	6.0672	0.9354	-0.9909	0.3072
4	270	0.9728	0.3262	0.0507	-0.1825	0.1718	6.8353	1.0412	-0.9966	0.3123

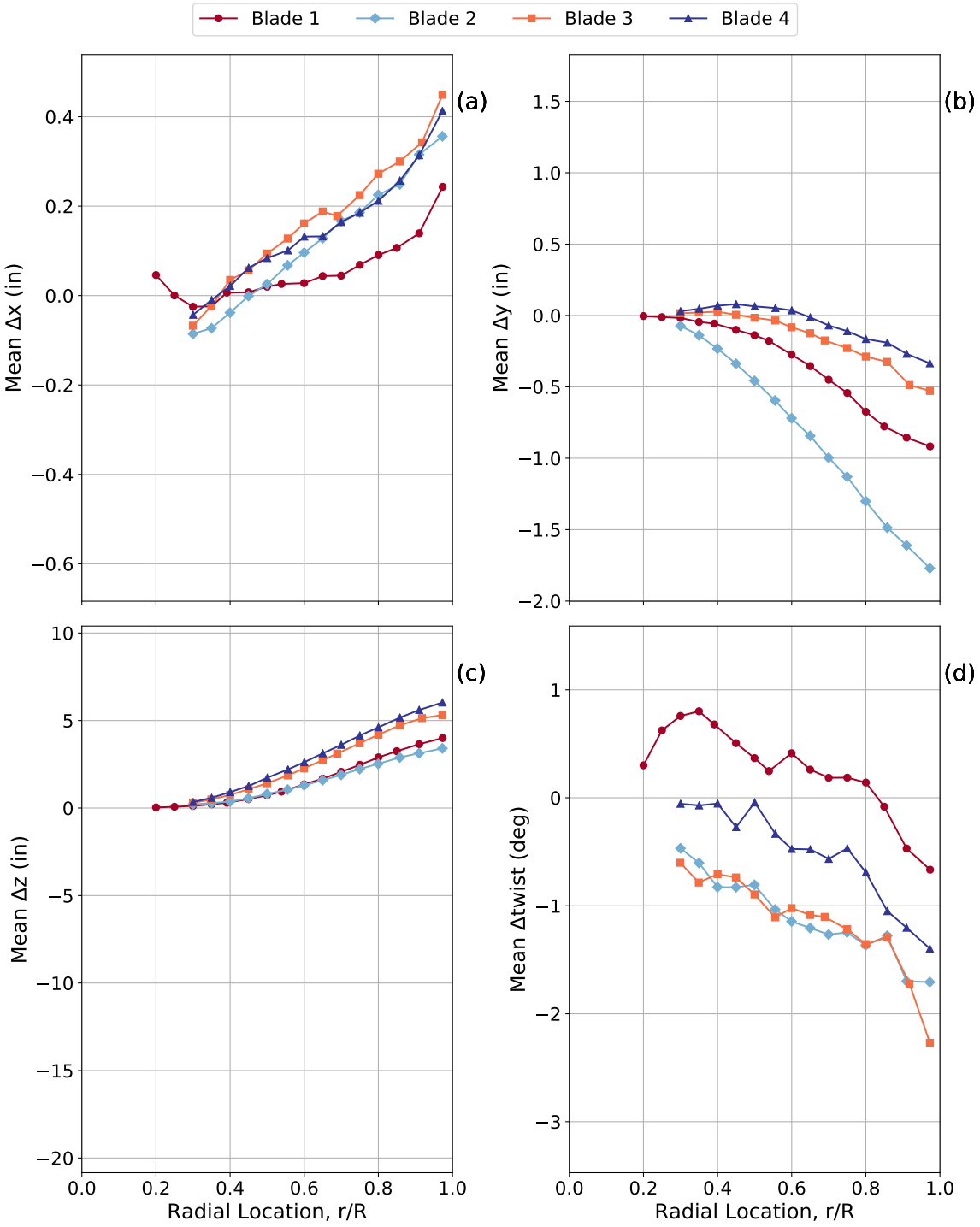


Figure 2.6-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0459	0.0045	-0.0041	0.0015	0.0331	0.0105	0.3005	0.0741
1	274.92	0.2499	0.0003	0.0057	-0.0116	0.0069	0.0719	0.0271	0.6239	0.0981
1	274.92	0.2998	-0.0249	0.0044	-0.0168	0.0094	0.1209	0.0360	0.7580	0.1573
1	274.92	0.3498	-0.0240	0.0047	-0.0456	0.0190	0.2126	0.0637	0.8013	0.1506
1	274.92	0.3913	0.0066	0.0052	-0.0570	0.0281	0.2993	0.0891	0.6798	0.1342
1	274.92	0.4496	0.0074	0.0054	-0.1007	0.0394	0.5107	0.1200	0.5057	0.1391
1	274.92	0.4997	0.0199	0.0065	-0.1384	0.0501	0.7277	0.1509	0.3672	0.1327
1	274.92	0.5387	0.0260	0.0061	-0.1781	0.0593	0.9386	0.1763	0.2474	0.1454
1	274.92	0.5996	0.0278	0.0077	-0.2739	0.0751	1.3529	0.2188	0.4127	0.1406
1	274.92	0.6498	0.0436	0.0090	-0.3545	0.0884	1.6828	0.2559	0.2610	0.1466
1	274.92	0.6998	0.0445	0.0103	-0.4500	0.1023	2.0663	0.2940	0.1854	0.1489
1	274.92	0.7500	0.0687	0.0117	-0.5432	0.1186	2.4675	0.3322	0.1867	0.1625
1	274.92	0.8001	0.0908	0.0130	-0.6742	0.1342	2.8928	0.3716	0.1412	0.1567
1	274.92	0.8497	0.1068	0.0143	-0.7773	0.1505	3.2481	0.4096	-0.0827	0.1641
1	274.92	0.9102	0.1393	0.0163	-0.8559	0.1710	3.6481	0.4578	-0.4700	0.1647
1	274.92	0.9734	0.2432	0.0233	-0.9173	0.1930	3.9985	0.5095	-0.6662	0.1702
2	274.92	0.2999	-0.0856	0.0284	-0.0731	0.0170	0.2077	0.2951	-0.4681	0.9673
2	274.92	0.3498	-0.0731	0.0177	-0.1390	0.0369	0.2800	0.4690	-0.6038	1.2725
2	274.92	0.3998	-0.0382	0.0204	-0.2327	0.0663	0.3691	0.7053	-0.8277	1.2669
2	274.92	0.4496	-0.0010	0.0247	-0.3378	0.0930	0.5557	0.9371	-0.8287	1.2704
2	274.92	0.4995	0.0255	0.0310	-0.4577	0.1194	0.8006	1.1718	-0.8063	1.2737
2	274.92	0.5551	0.0676	0.0371	-0.5955	0.1493	1.0540	1.4359	-1.0349	1.2706
2	274.92	0.5996	0.0961	0.0435	-0.7196	0.1728	1.2958	1.6486	-1.1453	1.2654
2	274.92	0.6497	0.1281	0.0506	-0.8432	0.1993	1.5917	1.8854	-1.2065	1.2681
2	274.92	0.6996	0.1668	0.0580	-0.9967	0.2260	1.8938	2.1227	-1.2664	1.2744
2	274.92	0.7495	0.1857	0.0655	-1.1298	0.2518	2.2267	2.3619	-1.2476	1.2657
2	274.92	0.7996	0.2254	0.0723	-1.3014	0.2789	2.5279	2.6028	-1.3657	1.2592
2	274.92	0.8578	0.2488	0.0800	-1.4867	0.3102	2.8884	2.8818	-1.2781	1.2585
2	274.92	0.9100	0.3152	0.0889	-1.6103	0.3398	3.1303	3.1317	-1.6991	1.2642
2	274.92	0.9727	0.3562	0.1100	-1.7709	0.3752	3.4073	3.4328	-1.7069	1.2745
3	274.92	0.2995	-0.0674	0.0151	0.0160	0.0093	0.2996	0.1737	-0.6020	0.4353
3	274.92	0.3493	-0.0235	0.0098	0.0209	0.0195	0.4875	0.2726	-0.7850	0.5679
3	274.92	0.4000	0.0350	0.0146	0.0269	0.0348	0.7508	0.4097	-0.7073	0.5319
3	274.92	0.4497	0.0564	0.0176	0.0050	0.0480	1.0734	0.5292	-0.7379	0.5485
3	274.92	0.4997	0.0942	0.0222	-0.0163	0.0631	1.4170	0.6565	-0.8952	0.5465
3	274.92	0.5556	0.1276	0.0271	-0.0351	0.0809	1.8617	0.8002	-1.1077	0.5363
3	274.92	0.5995	0.1613	0.0308	-0.0830	0.0952	2.2667	0.9093	-1.0221	0.5513
3	274.92	0.6498	0.1880	0.0361	-0.1248	0.1128	2.7379	1.0386	-1.0855	0.5451
3	274.92	0.6890	0.1780	0.0402	-0.1749	0.1273	3.1084	1.1404	-1.1034	0.5389
3	274.92	0.7495	0.2248	0.0469	-0.2282	0.1508	3.7023	1.2958	-1.2173	0.5426
3	274.92	0.7998	0.2725	0.0517	-0.2879	0.1712	4.1837	1.4266	-1.3561	0.5354
3	274.92	0.8577	0.2998	0.0567	-0.3251	0.1957	4.7248	1.5761	-1.2923	0.5367
3	274.92	0.9178	0.3427	0.0633	-0.4873	0.2215	5.1378	1.7318	-1.7220	0.5408
3	274.92	0.9729	0.4490	0.0769	-0.5284	0.2478	5.3117	1.8749	-2.2697	0.5415
4	274.92	0.3001	-0.0430	0.0162	0.0303	0.0118	0.3444	0.1774	-0.0557	0.4534
4	274.92	0.3502	-0.0097	0.0128	0.0467	0.0235	0.5829	0.2827	-0.0711	0.5955
4	274.92	0.4002	0.0215	0.0206	0.0687	0.0404	0.9128	0.4259	-0.0537	0.5624
4	274.92	0.4500	0.0620	0.0209	0.0794	0.0544	1.2604	0.5398	-0.2720	0.5889
4	274.92	0.5001	0.0840	0.0259	0.0640	0.0699	1.7306	0.6727	-0.0437	0.5683
4	274.92	0.5560	0.1010	0.0317	0.0523	0.0877	2.2060	0.8142	-0.3337	0.5777
4	274.92	0.6001	0.1319	0.0369	0.0357	0.1022	2.6194	0.9312	-0.4740	0.5718
4	274.92	0.6501	0.1324	0.0427	-0.0136	0.1193	3.1255	1.0652	-0.4775	0.5713
4	274.92	0.6999	0.1644	0.0484	-0.0701	0.1369	3.6101	1.1982	-0.5661	0.5793
4	274.92	0.7500	0.1853	0.0546	-0.1101	0.1546	4.1424	1.3350	-0.4686	0.5790
4	274.92	0.8002	0.2121	0.0598	-0.1651	0.1739	4.6147	1.4707	-0.6918	0.5822
4	274.92	0.8582	0.2570	0.0662	-0.1908	0.1963	5.1681	1.6308	-1.0500	0.5780
4	274.92	0.9101	0.3138	0.0730	-0.2683	0.2170	5.6060	1.7754	-1.2038	0.5766
4	274.92	0.9728	0.4130	0.0877	-0.3352	0.2429	6.0292	1.9513	-1.3969	0.5824

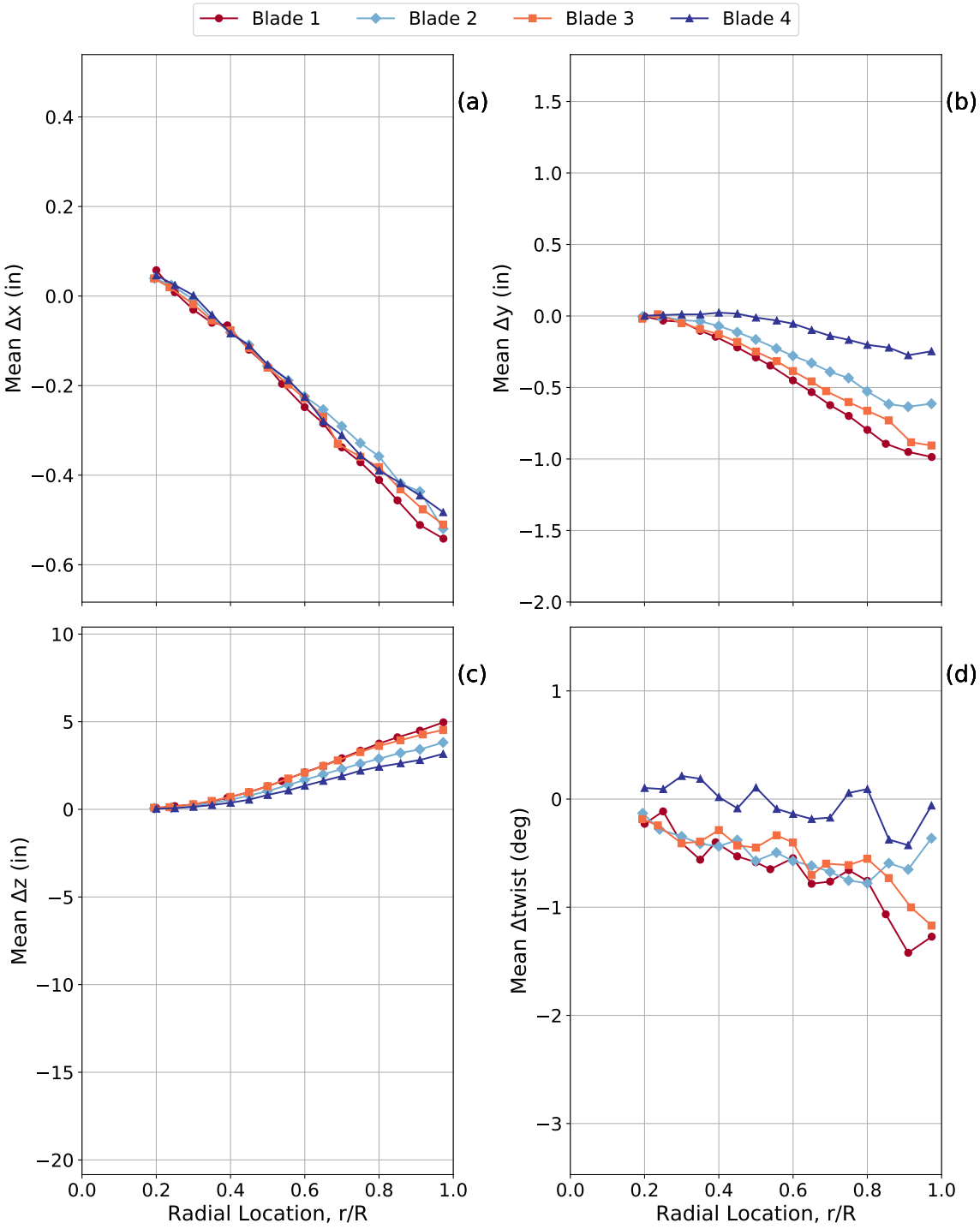


Figure 2.6-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0577	0.0042	-0.0040	0.0013	0.0791	0.0121	-0.2287	0.0574
1	279.84	0.2499	0.0086	0.0030	-0.0319	0.0044	0.1846	0.0230	-0.1138	0.1075
1	279.84	0.2998	-0.0304	0.0027	-0.0405	0.0066	0.2766	0.0415	-0.4079	0.1330
1	279.84	0.3498	-0.0597	0.0037	-0.1035	0.0136	0.4548	0.0639	-0.5603	0.1165
1	279.84	0.3913	-0.0654	0.0044	-0.1449	0.0192	0.6562	0.0930	-0.3992	0.1051
1	279.84	0.4496	-0.1197	0.0043	-0.2198	0.0258	0.9833	0.1236	-0.5293	0.1272
1	279.84	0.4997	-0.1576	0.0063	-0.2901	0.0334	1.3175	0.1599	-0.5839	0.1463
1	279.84	0.5387	-0.1961	0.0059	-0.3466	0.0401	1.6101	0.1816	-0.6486	0.1218
1	279.84	0.5996	-0.2480	0.0080	-0.4500	0.0503	2.1103	0.2208	-0.5468	0.1513
1	279.84	0.6498	-0.2844	0.0091	-0.5323	0.0615	2.4832	0.2588	-0.7834	0.1395
1	279.84	0.6998	-0.3379	0.0104	-0.6234	0.0732	2.9130	0.2953	-0.7625	0.1398
1	279.84	0.7500	-0.3711	0.0123	-0.6988	0.0853	3.3489	0.3327	-0.6572	0.1305
1	279.84	0.8001	-0.4108	0.0133	-0.7965	0.0981	3.7542	0.3695	-0.7562	0.1342
1	279.84	0.8497	-0.4563	0.0146	-0.8936	0.1116	4.1114	0.4085	-1.0653	0.1444
1	279.84	0.9102	-0.5113	0.0166	-0.9504	0.1280	4.4900	0.4574	-1.4211	0.1597
1	279.84	0.9734	-0.5417	0.0223	-0.9860	0.1455	4.9639	0.5106	-1.2724	0.1485
2	279.84	0.1949	0.0396	0.0032	-0.0036	0.0016	0.0626	0.0098	-0.1309	0.0751
2	279.84	0.2405	0.0243	0.0043	-0.0017	0.0040	0.0983	0.0169	-0.2806	0.1462
2	279.84	0.2999	-0.0073	0.0034	-0.0291	0.0073	0.2175	0.0311	-0.3454	0.1928
2	279.84	0.3498	-0.0499	0.0029	-0.0369	0.0111	0.3625	0.0527	-0.4134	0.1081
2	279.84	0.3998	-0.0813	0.0032	-0.0701	0.0178	0.5398	0.0767	-0.4374	0.1666
2	279.84	0.4496	-0.1090	0.0034	-0.1135	0.0219	0.7833	0.1000	-0.3785	0.1293
2	279.84	0.4995	-0.1561	0.0039	-0.1641	0.0290	1.0371	0.1289	-0.5717	0.1186
2	279.84	0.5551	-0.1882	0.0043	-0.2275	0.0377	1.3872	0.1627	-0.4946	0.1278
2	279.84	0.5996	-0.2243	0.0050	-0.2786	0.0461	1.6773	0.1933	-0.5725	0.1355
2	279.84	0.6497	-0.2536	0.0059	-0.3287	0.0550	1.9958	0.2227	-0.6166	0.1522
2	279.84	0.6996	-0.2907	0.0066	-0.3906	0.0659	2.3031	0.2600	-0.6721	0.1516
2	279.84	0.7495	-0.3281	0.0071	-0.4335	0.0771	2.6012	0.2945	-0.7527	0.1517
2	279.84	0.7996	-0.3578	0.0076	-0.5272	0.0889	2.8875	0.3348	-0.7783	0.1568
2	279.84	0.8578	-0.4185	0.0091	-0.6163	0.1031	3.2171	0.3843	-0.5933	0.1478
2	279.84	0.9100	-0.4365	0.0102	-0.6345	0.1166	3.4186	0.4278	-0.6505	0.1486
2	279.84	0.9727	-0.5196	0.0147	-0.6132	0.1321	3.8153	0.4822	-0.3625	0.1493
3	279.84	0.1938	0.0393	0.0066	-0.0187	0.0022	0.0913	0.0146	-0.1856	0.0723
3	279.84	0.2357	0.0196	0.0042	0.0116	0.0042	0.1205	0.0142	-0.2438	0.1937
3	279.84	0.2995	-0.0181	0.0047	-0.0503	0.0072	0.2951	0.0352	-0.4082	0.1740
3	279.84	0.3493	-0.0544	0.0036	-0.0913	0.0160	0.4789	0.0550	-0.3939	0.1676
3	279.84	0.4000	-0.0765	0.0041	-0.1278	0.0228	0.7114	0.0772	-0.2871	0.1819
3	279.84	0.4497	-0.1159	0.0061	-0.1814	0.0299	0.9805	0.1001	-0.4291	0.1787
3	279.84	0.4997	-0.1598	0.0036	-0.2489	0.0363	1.3175	0.1245	-0.4487	0.1700
3	279.84	0.5556	-0.1973	0.0051	-0.3156	0.0440	1.7582	0.1554	-0.3350	0.1770
3	279.84	0.5995	-0.2289	0.0062	-0.3851	0.0511	2.0945	0.1838	-0.4017	0.1664
3	279.84	0.6498	-0.2697	0.0061	-0.4576	0.0593	2.4710	0.2159	-0.7029	0.1729
3	279.84	0.6890	-0.3301	0.0071	-0.5254	0.0656	2.7897	0.2420	-0.5972	0.1857
3	279.84	0.7495	-0.3590	0.0086	-0.6020	0.0769	3.2663	0.2819	-0.6108	0.1844
3	279.84	0.7998	-0.3821	0.0093	-0.6627	0.0864	3.6196	0.3169	-0.5515	0.1780
3	279.84	0.8577	-0.4317	0.0105	-0.7301	0.0979	3.9413	0.3542	-0.7307	0.1890
3	279.84	0.9178	-0.4763	0.0117	-0.8833	0.1097	4.2744	0.3925	-1.0019	0.2000
3	279.84	0.9729	-0.5102	0.0155	-0.9056	0.1216	4.5290	0.4257	-1.1696	0.1949
4	279.84	0.2001	0.0462	0.0059	0.0018	0.0017	0.0377	0.0099	0.1027	0.0805
4	279.84	0.2502	0.0245	0.0040	0.0067	0.0047	0.0652	0.0170	0.0923	0.1804
4	279.84	0.3001	0.0017	0.0025	0.0111	0.0074	0.1447	0.0261	0.2136	0.1964
4	279.84	0.3502	-0.0420	0.0041	0.0111	0.0157	0.2452	0.0487	0.1877	0.1678
4	279.84	0.4002	-0.0833	0.0041	0.0235	0.0233	0.3753	0.0666	0.0186	0.1948
4	279.84	0.4500	-0.1103	0.0040	0.0162	0.0298	0.5521	0.0864	-0.0856	0.1763
4	279.84	0.5001	-0.1532	0.0038	-0.0111	0.0373	0.8201	0.1113	0.1062	0.1955
4	279.84	0.5560	-0.1878	0.0053	-0.0316	0.0463	1.0798	0.1447	-0.0907	0.2009
4	279.84	0.6001	-0.2249	0.0072	-0.0542	0.0549	1.3505	0.1759	-0.1373	0.1807
4	279.84	0.6501	-0.2794	0.0063	-0.0979	0.0644	1.6264	0.2107	-0.1842	0.1790
4	279.84	0.6999	-0.3107	0.0072	-0.1392	0.0749	1.8964	0.2474	-0.1715	0.1863
4	279.84	0.7500	-0.3557	0.0087	-0.1669	0.0867	2.2067	0.2920	0.0568	0.1930
4	279.84	0.8002	-0.3895	0.0090	-0.2018	0.0977	2.4284	0.3356	0.0924	0.1918
4	279.84	0.8582	-0.4179	0.0108	-0.2213	0.1113	2.6295	0.3915	-0.3745	0.1823
4	279.84	0.9101	-0.4454	0.0123	-0.2745	0.1242	2.8152	0.4427	-0.4268	0.2027
4	279.84	0.9728	-0.4827	0.0185	-0.2467	0.1392	3.1652	0.5089	-0.0595	0.1858

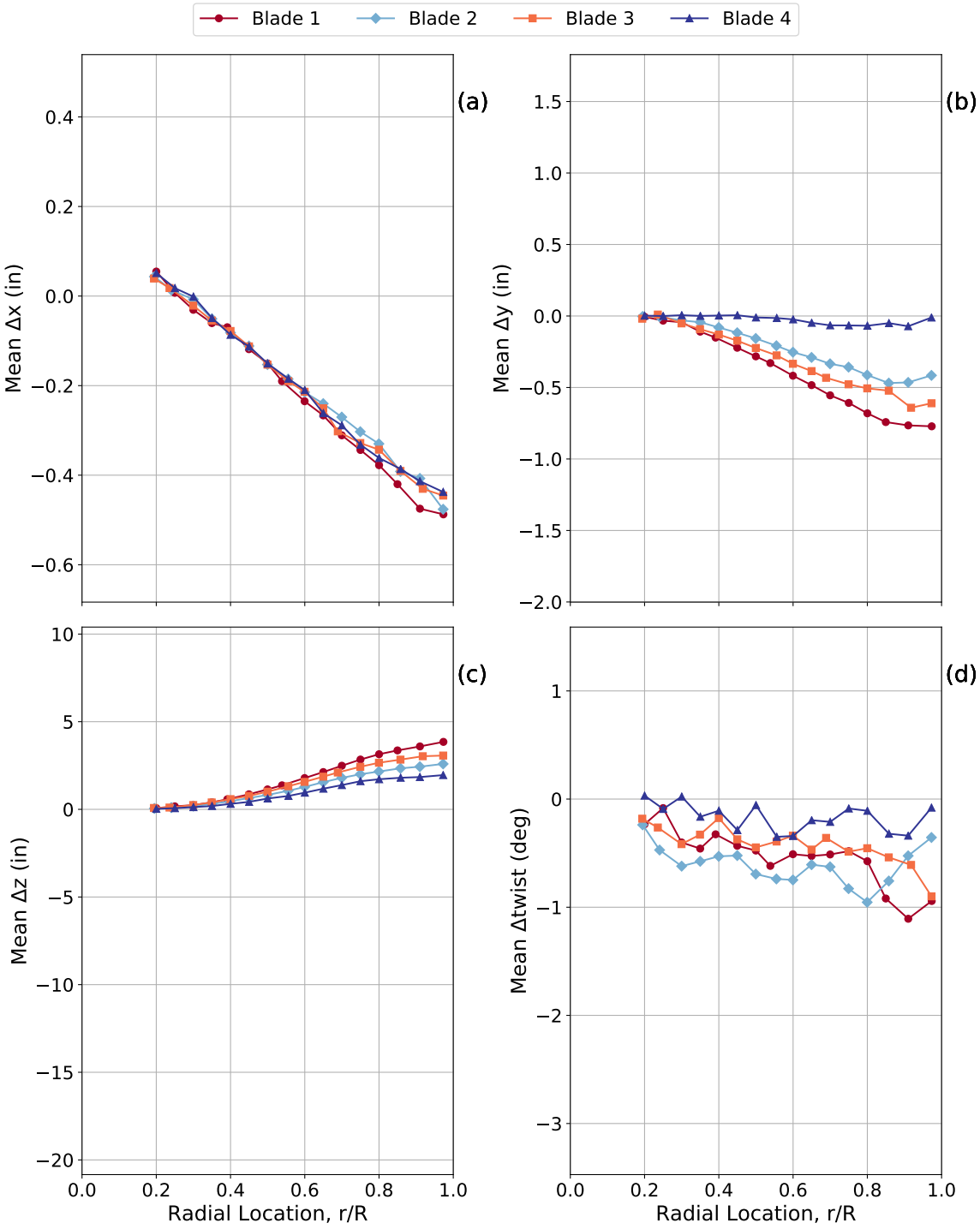


Figure 2.6-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0547	0.0036	-0.0056	0.0018	0.0703	0.0104	-0.2324	0.0583
1	285.12	0.2499	0.0073	0.0038	-0.0325	0.0039	0.1706	0.0240	-0.0834	0.0789
1	285.12	0.2998	-0.0307	0.0027	-0.0437	0.0084	0.2391	0.0371	-0.4012	0.1171
1	285.12	0.3498	-0.0604	0.0039	-0.1094	0.0142	0.4020	0.0596	-0.4578	0.1154
1	285.12	0.3913	-0.0696	0.0040	-0.1511	0.0205	0.5740	0.0871	-0.3258	0.0916
1	285.12	0.4496	-0.1186	0.0051	-0.2221	0.0298	0.8591	0.1252	-0.4319	0.1022
1	285.12	0.4997	-0.1505	0.0047	-0.2823	0.0406	1.1381	0.1621	-0.4759	0.1219
1	285.12	0.5387	-0.1901	0.0061	-0.3293	0.0497	1.3711	0.1935	-0.6177	0.1322
1	285.12	0.5996	-0.2349	0.0082	-0.4176	0.0655	1.7849	0.2431	-0.5099	0.1364
1	285.12	0.6498	-0.2665	0.0082	-0.4835	0.0793	2.1272	0.2822	-0.5261	0.1312
1	285.12	0.6998	-0.3110	0.0095	-0.5547	0.0949	2.4878	0.3208	-0.5121	0.1408
1	285.12	0.7500	-0.3437	0.0106	-0.6078	0.1116	2.8415	0.3588	-0.4817	0.1556
1	285.12	0.8001	-0.3777	0.0119	-0.6806	0.1287	3.1449	0.3932	-0.5746	0.1617
1	285.12	0.8497	-0.4201	0.0125	-0.7419	0.1464	3.3619	0.4257	-0.9194	0.1573
1	285.12	0.9102	-0.4748	0.0134	-0.7650	0.1691	3.5897	0.4667	-1.1067	0.1732
1	285.12	0.9734	-0.4875	0.0193	-0.7715	0.1931	3.8488	0.5098	-0.9424	0.1769
2	285.12	0.1949	0.0433	0.0033	-0.0032	0.0019	0.0530	0.0084	-0.2383	0.0830
2	285.12	0.2405	0.0135	0.0039	-0.0052	0.0046	0.0983	0.0203	-0.4711	0.1289
2	285.12	0.2999	-0.0073	0.0029	-0.0309	0.0069	0.1827	0.0317	-0.6203	0.1759
2	285.12	0.3498	-0.0508	0.0032	-0.0435	0.0117	0.3140	0.0483	-0.5755	0.1450
2	285.12	0.3998	-0.0818	0.0045	-0.0803	0.0196	0.4627	0.0774	-0.5293	0.1285
2	285.12	0.4496	-0.1115	0.0043	-0.1172	0.0242	0.6461	0.0963	-0.5223	0.1575
2	285.12	0.4995	-0.1530	0.0034	-0.1570	0.0307	0.8209	0.1152	-0.6936	0.1489
2	285.12	0.5551	-0.1853	0.0047	-0.2081	0.0389	1.0575	0.1438	-0.7385	0.1488
2	285.12	0.5996	-0.2147	0.0045	-0.2531	0.0455	1.2766	0.1654	-0.7478	0.1508
2	285.12	0.6497	-0.2402	0.0049	-0.2896	0.0540	1.5513	0.1909	-0.6067	0.1418
2	285.12	0.6996	-0.2703	0.0059	-0.3344	0.0635	1.7958	0.2190	-0.6266	0.1503
2	285.12	0.7495	-0.3029	0.0065	-0.3576	0.0734	2.0011	0.2453	-0.8283	0.1498
2	285.12	0.7996	-0.3299	0.0072	-0.4129	0.0834	2.1576	0.2761	-0.9539	0.1523
2	285.12	0.8578	-0.3917	0.0077	-0.4691	0.0964	2.3405	0.3150	-0.7576	0.1583
2	285.12	0.9100	-0.4072	0.0080	-0.4645	0.1082	2.4336	0.3539	-0.5247	0.1549
2	285.12	0.9727	-0.4761	0.0123	-0.4154	0.1225	2.5922	0.4029	-0.3551	0.1639
3	285.12	0.1938	0.0392	0.0029	-0.0189	0.0014	0.0779	0.0092	-0.1814	0.0644
3	285.12	0.2357	0.0179	0.0045	0.0099	0.0035	0.1019	0.0149	-0.2629	0.1309
3	285.12	0.2995	-0.0213	0.0030	-0.0516	0.0066	0.2456	0.0310	-0.4166	0.1623
3	285.12	0.3493	-0.0547	0.0033	-0.0919	0.0109	0.3936	0.0471	-0.3288	0.1261
3	285.12	0.4000	-0.0780	0.0043	-0.1299	0.0186	0.5831	0.0726	-0.1752	0.1400
3	285.12	0.4497	-0.1124	0.0051	-0.1729	0.0252	0.7697	0.0986	-0.3724	0.1756
3	285.12	0.4997	-0.1532	0.0054	-0.2238	0.0345	1.0069	0.1237	-0.4469	0.1517
3	285.12	0.5556	-0.1900	0.0057	-0.2754	0.0456	1.3182	0.1604	-0.3925	0.1545
3	285.12	0.5995	-0.2137	0.0056	-0.3342	0.0554	1.5668	0.1915	-0.3377	0.1697
3	285.12	0.6498	-0.2506	0.0069	-0.3854	0.0689	1.8651	0.2293	-0.4671	0.1673
3	285.12	0.6890	-0.3021	0.0077	-0.4322	0.0801	2.1018	0.2581	-0.3591	0.1665
3	285.12	0.7495	-0.3282	0.0094	-0.4778	0.0994	2.4286	0.3048	-0.4863	0.1731
3	285.12	0.7998	-0.3431	0.0102	-0.5061	0.1167	2.6589	0.3422	-0.4545	0.1779
3	285.12	0.8577	-0.3905	0.0112	-0.5221	0.1376	2.8368	0.3829	-0.5391	0.1831
3	285.12	0.9178	-0.4304	0.0123	-0.6416	0.1606	3.0302	0.4304	-0.6088	0.1895
3	285.12	0.9729	-0.4455	0.0187	-0.6103	0.1815	3.0687	0.4761	-0.8995	0.1936
4	285.12	0.2001	0.0513	0.0029	0.0023	0.0012	0.0286	0.0071	0.0316	0.0728
4	285.12	0.2502	0.0177	0.0071	-0.0001	0.0039	0.0672	0.0165	-0.0911	0.1347
4	285.12	0.3001	-0.0013	0.0028	0.0056	0.0059	0.1260	0.0278	0.0230	0.1684
4	285.12	0.3502	-0.0491	0.0034	0.0007	0.0093	0.1903	0.0392	-0.1634	0.1592
4	285.12	0.4002	-0.0866	0.0049	0.0031	0.0157	0.3137	0.0650	-0.1076	0.1618
4	285.12	0.4500	-0.1126	0.0043	0.0053	0.0216	0.4268	0.0827	-0.2869	0.1899
4	285.12	0.5001	-0.1507	0.0054	-0.0103	0.0278	0.6186	0.1026	-0.0559	0.1641
4	285.12	0.5560	-0.1846	0.0053	-0.0143	0.0362	0.7648	0.1259	-0.3491	0.1676
4	285.12	0.6001	-0.2101	0.0070	-0.0237	0.0438	0.9523	0.1476	-0.3413	0.1642
4	285.12	0.6501	-0.2616	0.0068	-0.0477	0.0538	1.1793	0.1728	-0.1954	0.1674
4	285.12	0.6999	-0.2887	0.0081	-0.0654	0.0633	1.3838	0.2012	-0.2109	0.1786
4	285.12	0.7500	-0.3319	0.0093	-0.0660	0.0746	1.6058	0.2301	-0.0873	0.1832
4	285.12	0.8002	-0.3616	0.0097	-0.0682	0.0866	1.7181	0.2599	-0.1084	0.1723
4	285.12	0.8582	-0.3863	0.0106	-0.0500	0.1012	1.8029	0.3000	-0.3208	0.1907
4	285.12	0.9101	-0.4134	0.0121	-0.0717	0.1146	1.8415	0.3396	-0.3383	0.2108
4	285.12	0.9728	-0.4375	0.0162	-0.0107	0.1304	1.9542	0.3945	-0.0793	0.2098

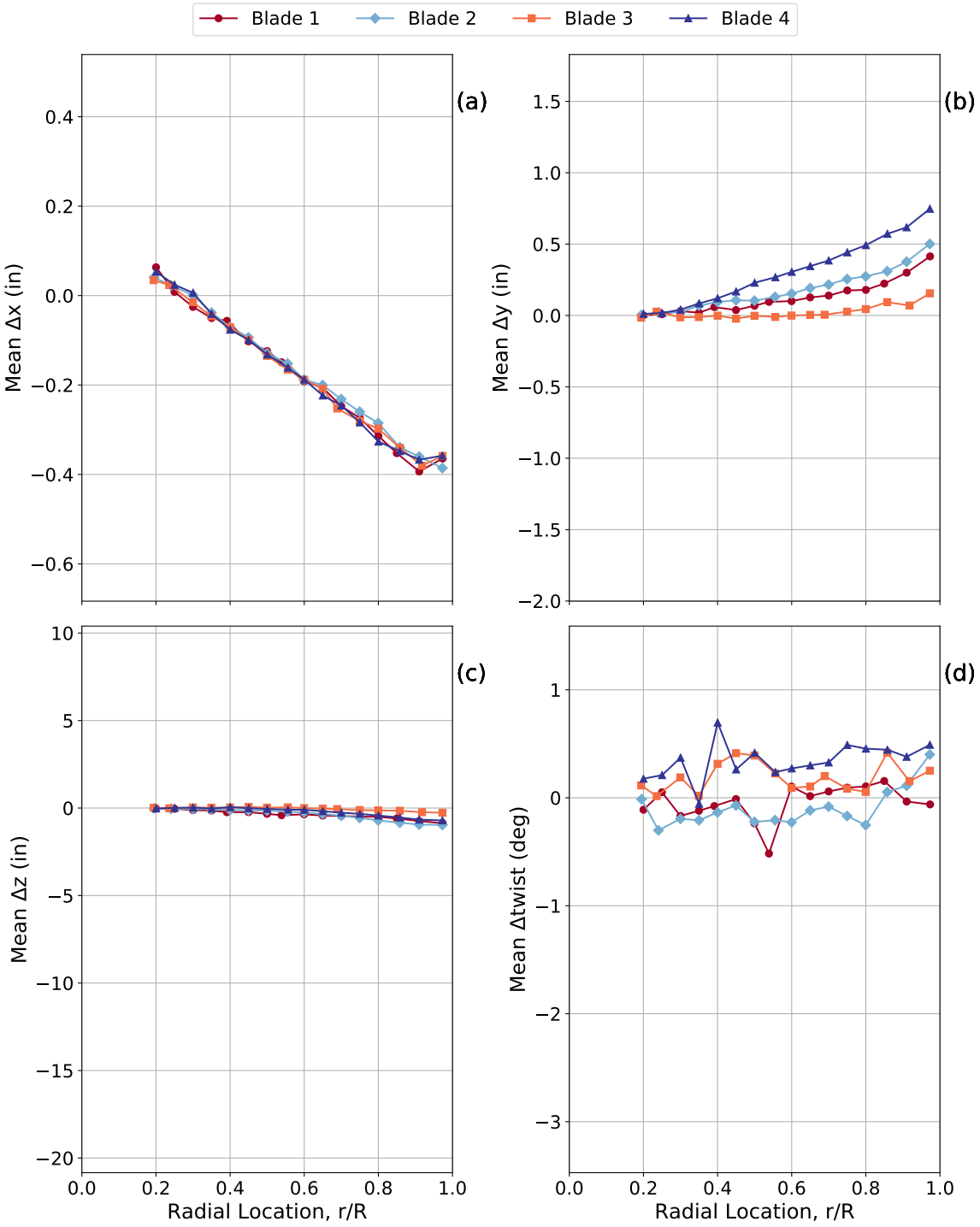


Figure 2.6-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0633	0.0026	0.0011	0.0014	-0.0293	0.0072	-0.1108	0.0429
1	299.88	0.2499	0.0084	0.0038	0.0090	0.0042	-0.0425	0.0164	0.0515	0.1024
1	299.88	0.2998	-0.0253	0.0029	0.0307	0.0068	-0.1193	0.0267	-0.1685	0.1074
1	299.88	0.3498	-0.0503	0.0027	0.0193	0.0133	-0.1440	0.0417	-0.1201	0.1128
1	299.88	0.3913	-0.0566	0.0046	0.0587	0.0192	-0.2379	0.0630	-0.0766	0.1512
1	299.88	0.4496	-0.1024	0.0035	0.0380	0.0233	-0.2356	0.0753	-0.0120	0.1228
1	299.88	0.4997	-0.1241	0.0039	0.0681	0.0292	-0.3303	0.0897	-0.2376	0.0996
1	299.88	0.5387	-0.1492	0.0043	0.0956	0.0334	-0.4104	0.1074	-0.5169	0.1227
1	299.88	0.5996	-0.1918	0.0051	0.1005	0.0406	-0.3602	0.1337	0.1040	0.1026
1	299.88	0.6498	-0.2058	0.0047	0.1266	0.0473	-0.4330	0.1598	0.0154	0.1011
1	299.88	0.6998	-0.2474	0.0056	0.1395	0.0540	-0.4577	0.1890	0.0584	0.1105
1	299.88	0.7500	-0.2738	0.0061	0.1753	0.0611	-0.4897	0.2207	0.0940	0.1229
1	299.88	0.8001	-0.3143	0.0067	0.1793	0.0683	-0.5032	0.2553	0.1052	0.1284
1	299.88	0.8497	-0.3525	0.0074	0.2232	0.0758	-0.5967	0.2928	0.1552	0.1324
1	299.88	0.9102	-0.3935	0.0074	0.2999	0.0850	-0.7433	0.3440	-0.0347	0.1228
1	299.88	0.9734	-0.3644	0.0094	0.4139	0.0948	-0.8670	0.4072	-0.0616	0.1148
2	299.88	0.1949	0.0407	0.0026	0.0037	0.0010	-0.0157	0.0094	-0.0134	0.0713
2	299.88	0.2405	0.0224	0.0041	0.0207	0.0030	-0.0397	0.0169	-0.3012	0.0933
2	299.88	0.2999	0.0010	0.0041	0.0223	0.0051	-0.0498	0.0289	-0.1953	0.1489
2	299.88	0.3498	-0.0382	0.0042	0.0696	0.0094	-0.0786	0.0552	-0.2082	0.1009
2	299.88	0.3998	-0.0702	0.0033	0.0943	0.0146	-0.1164	0.0761	-0.1357	0.1240
2	299.88	0.4496	-0.0936	0.0041	0.1065	0.0175	-0.1321	0.0908	-0.0712	0.1054
2	299.88	0.4995	-0.1290	0.0044	0.1037	0.0210	-0.1464	0.1116	-0.2234	0.1082
2	299.88	0.5551	-0.1521	0.0045	0.1304	0.0274	-0.2087	0.1409	-0.2074	0.1060
2	299.88	0.5996	-0.1882	0.0047	0.1529	0.0314	-0.2511	0.1656	-0.2271	0.1078
2	299.88	0.6497	-0.2002	0.0047	0.1918	0.0371	-0.3397	0.1938	-0.1162	0.1237
2	299.88	0.6996	-0.2316	0.0049	0.2164	0.0430	-0.4404	0.2212	-0.0821	0.1068
2	299.88	0.7495	-0.2598	0.0054	0.2549	0.0496	-0.5623	0.2493	-0.1693	0.1087
2	299.88	0.7996	-0.2851	0.0060	0.2740	0.0561	-0.7076	0.2774	-0.2533	0.1061
2	299.88	0.8578	-0.3393	0.0069	0.3099	0.0644	-0.8374	0.3118	0.0533	0.1114
2	299.88	0.9100	-0.3602	0.0070	0.3762	0.0725	-0.9446	0.3446	0.1116	0.1091
2	299.88	0.9727	-0.3858	0.0087	0.5012	0.0823	-0.9685	0.3883	0.4010	0.1102
3	299.88	0.1938	0.0344	0.0047	-0.0151	0.0016	0.0175	0.0078	0.1144	0.0807
3	299.88	0.2357	0.0236	0.0032	0.0271	0.0031	-0.0185	0.0140	0.0151	0.1366
3	299.88	0.2995	-0.0148	0.0039	-0.0128	0.0058	0.0323	0.0227	0.1888	0.1976
3	299.88	0.3493	-0.0462	0.0026	-0.0111	0.0109	0.0189	0.0417	0.0189	0.1582
3	299.88	0.4000	-0.0709	0.0033	-0.0015	0.0171	0.0311	0.0594	0.3146	0.1463
3	299.88	0.4497	-0.0991	0.0052	-0.0221	0.0204	0.0644	0.0750	0.4131	0.1603
3	299.88	0.4997	-0.1348	0.0039	-0.0021	0.0259	0.0233	0.0947	0.3914	0.1685
3	299.88	0.5556	-0.1656	0.0038	-0.0105	0.0312	0.0438	0.1122	0.2254	0.1497
3	299.88	0.5995	-0.1880	0.0043	-0.0007	0.0371	-0.0023	0.1334	0.0917	0.1388
3	299.88	0.6498	-0.2084	0.0049	0.0041	0.0421	-0.0363	0.1526	0.1040	0.1372
3	299.88	0.6890	-0.2527	0.0050	0.0054	0.0465	-0.0600	0.1694	0.2007	0.1431
3	299.88	0.7495	-0.2805	0.0052	0.0271	0.0538	-0.1134	0.1969	0.0845	0.1545
3	299.88	0.7998	-0.2975	0.0056	0.0447	0.0601	-0.1332	0.2210	0.0545	0.1455
3	299.88	0.8577	-0.3403	0.0063	0.0935	0.0671	-0.1545	0.2505	0.4173	0.1461
3	299.88	0.9178	-0.3805	0.0066	0.0700	0.0753	-0.2399	0.2821	0.1542	0.1433
3	299.88	0.9729	-0.3586	0.0083	0.1553	0.0828	-0.2681	0.3154	0.2503	0.1440
4	299.88	0.2001	0.0533	0.0039	0.0110	0.0011	-0.0231	0.0097	0.1762	0.0805
4	299.88	0.2502	0.0241	0.0034	0.0177	0.0037	0.0076	0.0206	0.2097	0.1474
4	299.88	0.3001	0.0062	0.0037	0.0407	0.0066	0.0227	0.0300	0.3713	0.1874
4	299.88	0.3502	-0.0411	0.0036	0.0844	0.0118	-0.0306	0.0575	-0.0556	0.1748
4	299.88	0.4002	-0.0763	0.0037	0.1206	0.0192	0.0498	0.0804	0.6963	0.1656
4	299.88	0.4500	-0.0992	0.0037	0.1680	0.0233	-0.0126	0.0995	0.2622	0.1574
4	299.88	0.5001	-0.1318	0.0040	0.2294	0.0285	-0.0512	0.1204	0.4159	0.1660
4	299.88	0.5560	-0.1612	0.0039	0.2679	0.0351	-0.0947	0.1444	0.2370	0.1658
4	299.88	0.6001	-0.1879	0.0037	0.3054	0.0400	-0.0980	0.1675	0.2719	0.1536
4	299.88	0.6501	-0.2235	0.0044	0.3458	0.0458	-0.1803	0.1886	0.3001	0.1517
4	299.88	0.6999	-0.2460	0.0048	0.3850	0.0520	-0.2664	0.2131	0.3269	0.1409
4	299.88	0.7500	-0.2837	0.0048	0.4420	0.0584	-0.3346	0.2384	0.4889	0.1519
4	299.88	0.8002	-0.3266	0.0051	0.4927	0.0649	-0.4324	0.2647	0.4548	0.1482
4	299.88	0.8582	-0.3480	0.0057	0.5719	0.0724	-0.5417	0.2937	0.4449	0.1557
4	299.88	0.9101	-0.3671	0.0060	0.6175	0.0794	-0.6642	0.3227	0.3794	0.1515
4	299.88	0.9728	-0.3581	0.0077	0.7474	0.0881	-0.7058	0.3590	0.4906	0.1515

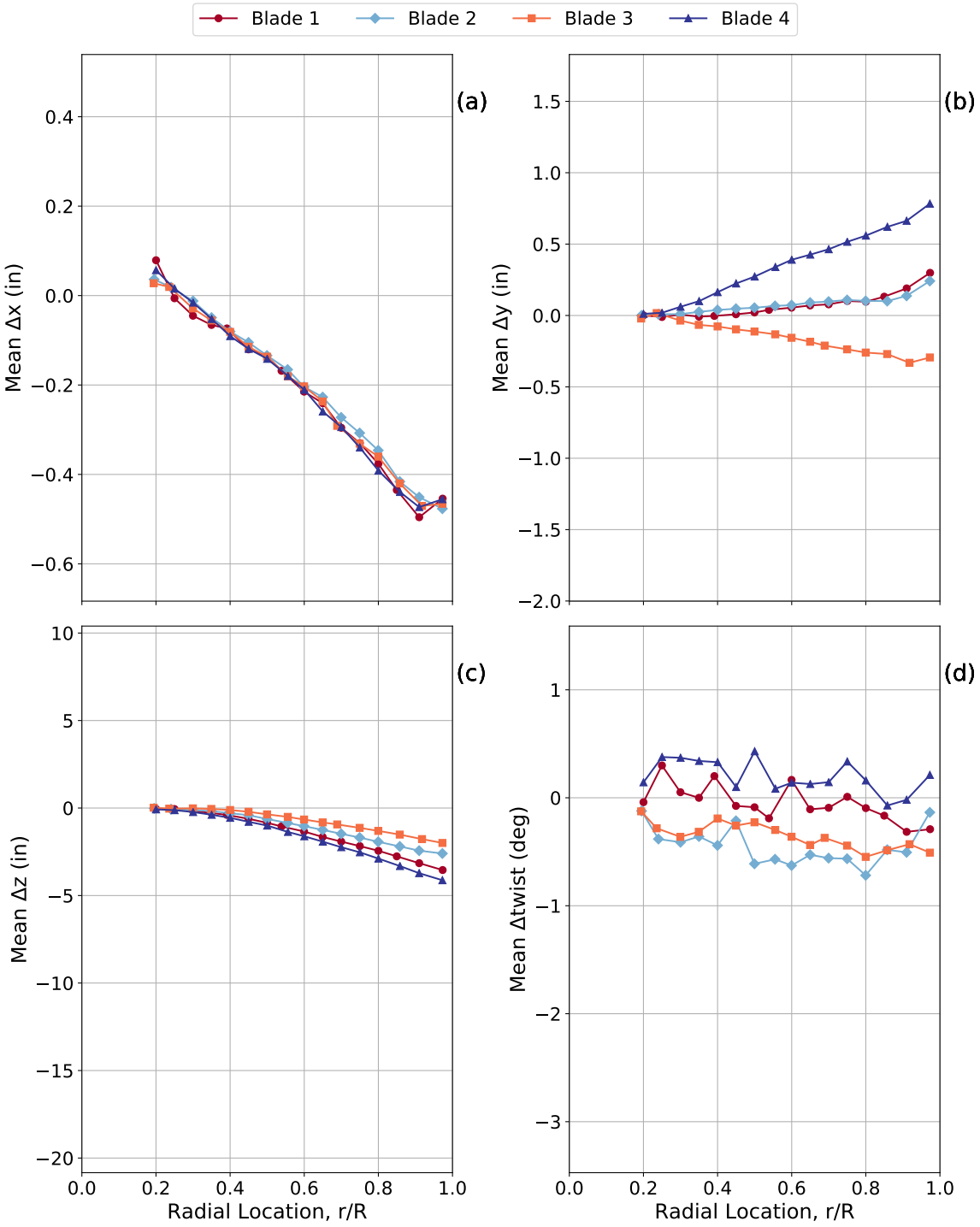


Figure 2.6-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0790	0.0035	0.0006	0.0021	-0.0502	0.0062	-0.0408	0.0479
1	315	0.2499	-0.0060	0.0041	-0.0107	0.0047	-0.0573	0.0126	0.2996	0.0915
1	315	0.2998	-0.0451	0.0075	0.0061	0.0082	-0.1724	0.0225	0.0516	0.1077
1	315	0.3498	-0.0657	0.0040	-0.0082	0.0173	-0.2852	0.0377	-0.0004	0.1025
1	315	0.3913	-0.0735	0.0057	-0.0030	0.0230	-0.3926	0.0549	0.2008	0.1103
1	315	0.4496	-0.1203	0.0048	0.0085	0.0279	-0.6156	0.0705	-0.0753	0.1035
1	315	0.4997	-0.1362	0.0051	0.0211	0.0348	-0.8444	0.0841	-0.0877	0.1028
1	315	0.5387	-0.1683	0.0059	0.0393	0.0404	-1.0510	0.0963	-0.1903	0.1172
1	315	0.5996	-0.2149	0.0064	0.0549	0.0502	-1.3419	0.1185	0.1654	0.1171
1	315	0.6498	-0.2407	0.0065	0.0703	0.0589	-1.6532	0.1376	-0.1066	0.1124
1	315	0.6998	-0.2956	0.0071	0.0779	0.0675	-1.9170	0.1587	-0.0928	0.1213
1	315	0.7500	-0.3300	0.0083	0.1015	0.0768	-2.1759	0.1808	0.0088	0.1224
1	315	0.8001	-0.3763	0.0088	0.0965	0.0862	-2.4424	0.2093	-0.0957	0.1215
1	315	0.8497	-0.4349	0.0093	0.1318	0.0959	-2.7611	0.2402	-0.1657	0.1282
1	315	0.9102	-0.4958	0.0101	0.1897	0.1080	-3.1508	0.2832	-0.3155	0.1279
1	315	0.9734	-0.4542	0.0118	0.2988	0.1205	-3.5436	0.3303	-0.2911	0.1390
2	315	0.1949	0.0362	0.0025	0.0002	0.0010	-0.0202	0.0075	-0.1221	0.0597
2	315	0.2405	0.0186	0.0027	0.0085	0.0033	-0.0660	0.0133	-0.3821	0.0784
2	315	0.2999	-0.0121	0.0056	0.0095	0.0044	-0.1153	0.0254	-0.4117	0.1186
2	315	0.3498	-0.0493	0.0036	0.0252	0.0085	-0.1759	0.0398	-0.3585	0.1188
2	315	0.3998	-0.0803	0.0040	0.0384	0.0134	-0.2966	0.0612	-0.4412	0.1111
2	315	0.4496	-0.1048	0.0039	0.0475	0.0166	-0.4096	0.0723	-0.2133	0.1093
2	315	0.4995	-0.1341	0.0042	0.0542	0.0207	-0.6255	0.0872	-0.6116	0.1123
2	315	0.5551	-0.1655	0.0047	0.0669	0.0252	-0.8529	0.1073	-0.5697	0.1083
2	315	0.5996	-0.2041	0.0048	0.0725	0.0296	-1.0372	0.1250	-0.6271	0.1116
2	315	0.6497	-0.2271	0.0053	0.0904	0.0341	-1.2487	0.1438	-0.5282	0.0990
2	315	0.6996	-0.2725	0.0060	0.0976	0.0385	-1.4724	0.1664	-0.5589	0.1016
2	315	0.7495	-0.3074	0.0066	0.1085	0.0437	-1.6869	0.1922	-0.5644	0.0955
2	315	0.7996	-0.3462	0.0072	0.1022	0.0495	-1.9287	0.2181	-0.7186	0.0988
2	315	0.8578	-0.4160	0.0080	0.1007	0.0556	-2.1961	0.2545	-0.4816	0.0974
2	315	0.9100	-0.4509	0.0087	0.1374	0.0615	-2.4344	0.2892	-0.5055	0.1000
2	315	0.9727	-0.4767	0.0093	0.2414	0.0685	-2.5981	0.3347	-0.1352	0.1024
3	315	0.1938	0.0276	0.0023	-0.0211	0.0011	0.0187	0.0064	-0.1255	0.0488
3	315	0.2357	0.0193	0.0028	0.0169	0.0039	-0.0350	0.0122	-0.2826	0.0664
3	315	0.2995	-0.0286	0.0057	-0.0357	0.0055	-0.0191	0.0246	-0.3618	0.1019
3	315	0.3493	-0.0556	0.0033	-0.0657	0.0127	-0.0513	0.0388	-0.3154	0.1003
3	315	0.4000	-0.0811	0.0043	-0.0769	0.0183	-0.1138	0.0610	-0.1918	0.1006
3	315	0.4497	-0.1145	0.0035	-0.0971	0.0245	-0.2147	0.0768	-0.2577	0.0896
3	315	0.4997	-0.1367	0.0035	-0.1124	0.0299	-0.3615	0.0994	-0.2270	0.0975
3	315	0.5556	-0.1806	0.0051	-0.1320	0.0380	-0.5060	0.1231	-0.2980	0.0840
3	315	0.5995	-0.2031	0.0045	-0.1562	0.0445	-0.6572	0.1447	-0.3609	0.0919
3	315	0.6498	-0.2368	0.0049	-0.1840	0.0522	-0.8216	0.1708	-0.4377	0.0924
3	315	0.6890	-0.2914	0.0052	-0.2110	0.0586	-0.9377	0.1916	-0.3713	0.0990
3	315	0.7495	-0.3313	0.0062	-0.2371	0.0682	-1.1331	0.2324	-0.4429	0.0915
3	315	0.7998	-0.3602	0.0064	-0.2597	0.0770	-1.3059	0.2682	-0.5474	0.0909
3	315	0.8577	-0.4202	0.0071	-0.2702	0.0882	-1.5174	0.3132	-0.4861	0.0891
3	315	0.9178	-0.4705	0.0076	-0.3315	0.0994	-1.7756	0.3628	-0.4299	0.0890
3	315	0.9729	-0.4657	0.0091	-0.2940	0.1100	-1.9958	0.4107	-0.5082	0.0999
4	315	0.2001	0.0568	0.0030	0.0115	0.0014	-0.0772	0.0095	0.1431	0.0442
4	315	0.2502	0.0154	0.0032	0.0191	0.0040	-0.1229	0.0140	0.3773	0.0966
4	315	0.3001	-0.0158	0.0048	0.0611	0.0071	-0.2301	0.0276	0.3704	0.0948
4	315	0.3502	-0.0524	0.0035	0.1005	0.0127	-0.3864	0.0500	0.3409	0.0656
4	315	0.4002	-0.0907	0.0040	0.1634	0.0197	-0.5591	0.0700	0.3296	0.0775
4	315	0.4500	-0.1192	0.0041	0.2241	0.0235	-0.7874	0.0878	0.0996	0.0699
4	315	0.5001	-0.1415	0.0051	0.2726	0.0304	-1.0037	0.1133	0.4304	0.0922
4	315	0.5560	-0.1799	0.0052	0.3393	0.0384	-1.3668	0.1439	0.0836	0.0664
4	315	0.6001	-0.2107	0.0057	0.3903	0.0449	-1.6148	0.1671	0.1398	0.0845
4	315	0.6501	-0.2593	0.0057	0.4262	0.0531	-1.9223	0.1998	0.1273	0.0784
4	315	0.6999	-0.2941	0.0060	0.4640	0.0619	-2.2380	0.2359	0.1445	0.0795
4	315	0.7500	-0.3399	0.0072	0.5160	0.0717	-2.5310	0.2772	0.3356	0.0853
4	315	0.8002	-0.3916	0.0076	0.5594	0.0818	-2.8897	0.3177	0.1602	0.0789
4	315	0.8582	-0.4393	0.0083	0.6207	0.0939	-3.3165	0.3683	-0.0716	0.0899
4	315	0.9101	-0.4731	0.0089	0.6632	0.1051	-3.7233	0.4151	-0.0190	0.0924
4	315	0.9728	-0.4555	0.0103	0.7831	0.1185	-4.1256	0.4723	0.2116	0.0969

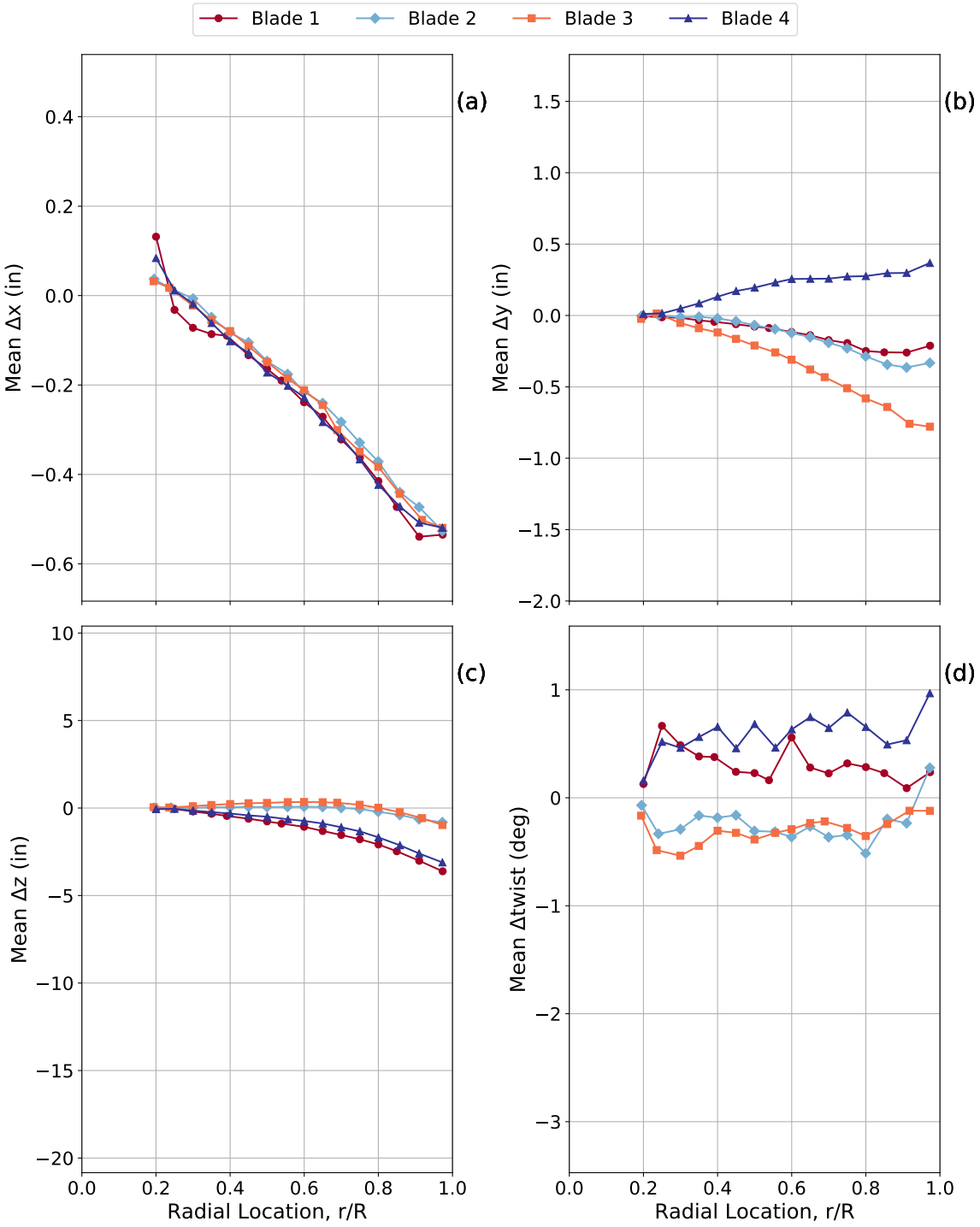


Figure 2.6-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.1317	0.0034	-0.0051	0.0014	-0.0552	0.0042	0.1273	0.0368
1	330.12	0.2499	-0.0319	0.0029	-0.0127	0.0036	-0.0538	0.0099	0.6660	0.0761
1	330.12	0.2998	-0.0721	0.0036	-0.0161	0.0053	-0.1972	0.0166	0.4866	0.0889
1	330.12	0.3498	-0.0862	0.0032	-0.0342	0.0116	-0.3282	0.0271	0.3828	0.0880
1	330.12	0.3913	-0.0897	0.0042	-0.0444	0.0147	-0.4522	0.0404	0.3772	0.0774
1	330.12	0.4496	-0.1334	0.0038	-0.0611	0.0198	-0.6101	0.0546	0.2404	0.0757
1	330.12	0.4997	-0.1639	0.0044	-0.0778	0.0240	-0.7652	0.0724	0.2287	0.0796
1	330.12	0.5387	-0.1900	0.0042	-0.0879	0.0278	-0.8903	0.0870	0.1625	0.0893
1	330.12	0.5996	-0.2386	0.0046	-0.1155	0.0342	-1.0731	0.1092	0.5586	0.0893
1	330.12	0.6498	-0.2710	0.0055	-0.1380	0.0400	-1.3132	0.1305	0.2800	0.0869
1	330.12	0.6998	-0.3219	0.0054	-0.1726	0.0460	-1.5397	0.1521	0.2262	0.0849
1	330.12	0.7500	-0.3628	0.0064	-0.1931	0.0526	-1.7840	0.1743	0.3185	0.0929
1	330.12	0.8001	-0.4150	0.0067	-0.2489	0.0599	-2.0830	0.1992	0.2840	0.0942
1	330.12	0.8497	-0.4729	0.0072	-0.2579	0.0674	-2.4709	0.2259	0.2279	0.0937
1	330.12	0.9102	-0.5394	0.0078	-0.2598	0.0767	-3.0141	0.2596	0.0894	0.0949
1	330.12	0.9734	-0.5348	0.0098	-0.2116	0.0874	-3.6134	0.2955	0.2369	0.1010
2	330.12	0.1949	0.0369	0.0020	-0.0035	0.0009	0.0083	0.0056	-0.0696	0.0581
2	330.12	0.2405	0.0156	0.0023	0.0034	0.0033	0.0102	0.0093	-0.3339	0.0678
2	330.12	0.2999	-0.0068	0.0033	-0.0134	0.0054	0.0093	0.0190	-0.2914	0.1251
2	330.12	0.3498	-0.0484	0.0024	-0.0091	0.0115	0.0449	0.0312	-0.1648	0.0844
2	330.12	0.3998	-0.0834	0.0036	-0.0204	0.0173	0.0415	0.0446	-0.1839	0.0844
2	330.12	0.4496	-0.1047	0.0043	-0.0406	0.0223	0.0638	0.0610	-0.1617	0.0910
2	330.12	0.4995	-0.1466	0.0055	-0.0678	0.0278	0.0554	0.0772	-0.3073	0.0885
2	330.12	0.5551	-0.1757	0.0050	-0.0950	0.0338	0.0649	0.0995	-0.3150	0.0843
2	330.12	0.5996	-0.2156	0.0058	-0.1227	0.0391	0.0738	0.1202	-0.3635	0.0891
2	330.12	0.6497	-0.2406	0.0055	-0.1513	0.0460	0.0615	0.1439	-0.2643	0.0900
2	330.12	0.6996	-0.2827	0.0062	-0.1908	0.0532	0.0081	0.1723	-0.3646	0.0843
2	330.12	0.7495	-0.3288	0.0068	-0.2292	0.0606	-0.0594	0.1988	-0.3449	0.0980
2	330.12	0.7996	-0.3711	0.0078	-0.2865	0.0687	-0.2122	0.2298	-0.5149	0.0931
2	330.12	0.8578	-0.4399	0.0082	-0.3438	0.0789	-0.3981	0.2660	-0.1970	0.0872
2	330.12	0.9100	-0.4732	0.0090	-0.3642	0.0882	-0.6365	0.3019	-0.2354	0.0839
2	330.12	0.9727	-0.5266	0.0110	-0.3322	0.0996	-0.8139	0.3482	0.2776	0.0943
3	330.12	0.1938	0.0321	0.0021	-0.0238	0.0012	0.0485	0.0062	-0.1657	0.0429
3	330.12	0.2357	0.0174	0.0020	0.0140	0.0040	0.0290	0.0108	-0.4846	0.0605
3	330.12	0.2995	-0.0224	0.0054	-0.0525	0.0061	0.1052	0.0229	-0.5368	0.0975
3	330.12	0.3493	-0.0547	0.0025	-0.0893	0.0148	0.1748	0.0384	-0.4465	0.0778
3	330.12	0.4000	-0.0794	0.0037	-0.1188	0.0208	0.2273	0.0587	-0.3053	0.0851
3	330.12	0.4497	-0.1131	0.0036	-0.1636	0.0274	0.2754	0.0790	-0.3247	0.0811
3	330.12	0.4997	-0.1486	0.0054	-0.2103	0.0348	0.2919	0.1030	-0.3870	0.0719
3	330.12	0.5556	-0.1856	0.0059	-0.2585	0.0433	0.3378	0.1326	-0.3252	0.0852
3	330.12	0.5995	-0.2116	0.0052	-0.3099	0.0521	0.3479	0.1565	-0.2915	0.0945
3	330.12	0.6498	-0.2449	0.0052	-0.3784	0.0616	0.3313	0.1865	-0.2335	0.1053
3	330.12	0.6890	-0.3008	0.0060	-0.4318	0.0703	0.3010	0.2092	-0.2191	0.0845
3	330.12	0.7495	-0.3488	0.0071	-0.5095	0.0845	0.1860	0.2409	-0.2795	0.0997
3	330.12	0.7998	-0.3831	0.0076	-0.5810	0.0968	0.0163	0.2626	-0.3542	0.0971
3	330.12	0.8577	-0.4436	0.0085	-0.6410	0.1122	-0.2394	0.2850	-0.2437	0.0970
3	330.12	0.9178	-0.5017	0.0096	-0.7587	0.1298	-0.5787	0.3059	-0.1202	0.0938
3	330.12	0.9729	-0.5196	0.0135	-0.7789	0.1459	-0.9716	0.3241	-0.1207	0.1006
4	330.12	0.2001	0.0839	0.0024	0.0109	0.0021	-0.0603	0.0060	0.1599	0.0306
4	330.12	0.2502	0.0113	0.0030	0.0151	0.0064	-0.0453	0.0107	0.5180	0.0617
4	330.12	0.3001	-0.0189	0.0060	0.0487	0.0089	-0.1479	0.0191	0.4626	0.0715
4	330.12	0.3502	-0.0614	0.0031	0.0851	0.0203	-0.2330	0.0322	0.5633	0.0737
4	330.12	0.4002	-0.1022	0.0047	0.1317	0.0293	-0.3146	0.0487	0.6566	0.0746
4	330.12	0.4500	-0.1281	0.0042	0.1711	0.0358	-0.4223	0.0655	0.4585	0.0740
4	330.12	0.5001	-0.1722	0.0054	0.1952	0.0449	-0.4947	0.0873	0.6829	0.0833
4	330.12	0.5560	-0.2017	0.0049	0.2308	0.0540	-0.6440	0.1174	0.4645	0.0830
4	330.12	0.6001	-0.2281	0.0050	0.2556	0.0618	-0.7377	0.1416	0.6332	0.1015
4	330.12	0.6501	-0.2830	0.0050	0.2568	0.0704	-0.8854	0.1744	0.7472	0.0962
4	330.12	0.6999	-0.3162	0.0057	0.2579	0.0793	-1.1004	0.2058	0.6457	0.1024
4	330.12	0.7500	-0.3664	0.0057	0.2727	0.0892	-1.3332	0.2392	0.7892	0.0979
4	330.12	0.8002	-0.4234	0.0062	0.2759	0.0992	-1.6780	0.2768	0.6561	0.0919
4	330.12	0.8582	-0.4719	0.0077	0.2965	0.1112	-2.1286	0.3221	0.4936	0.1037
4	330.12	0.9101	-0.5079	0.0083	0.2983	0.1224	-2.5989	0.3672	0.5330	0.0951
4	330.12	0.9728	-0.5193	0.0110	0.3677	0.1363	-3.1083	0.4238	0.9682	0.1024

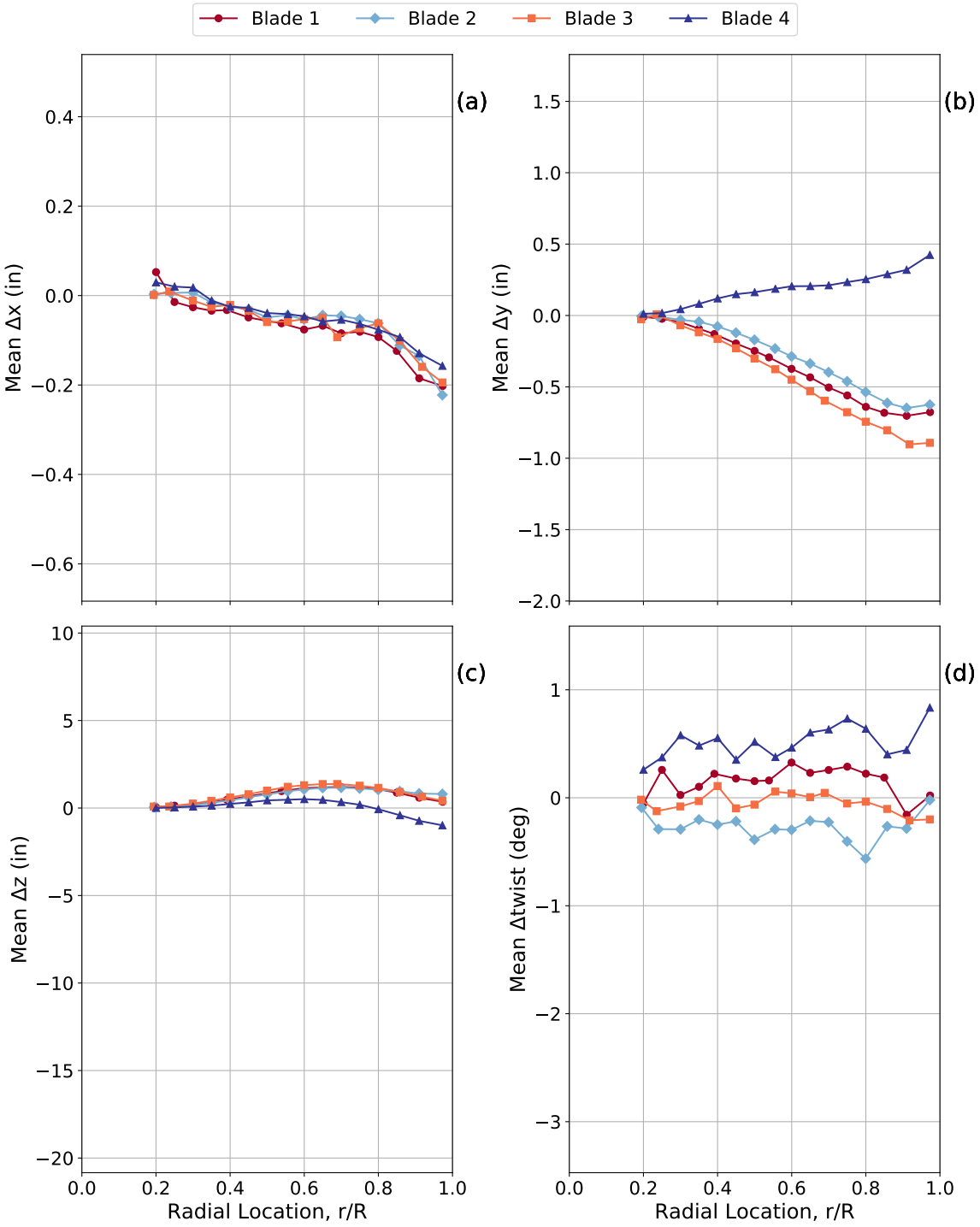


Figure 2.6-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0526	0.0022	-0.0099	0.0015	0.0462	0.0058	-0.0523	0.0333
1	344.88	0.2499	-0.0144	0.0014	-0.0231	0.0028	0.1355	0.0123	0.2582	0.0566
1	344.88	0.2998	-0.0261	0.0019	-0.0472	0.0062	0.1819	0.0226	0.0261	0.0724
1	344.88	0.3498	-0.0339	0.0024	-0.0928	0.0101	0.3266	0.0368	0.1018	0.0685
1	344.88	0.3913	-0.0324	0.0027	-0.1301	0.0149	0.4712	0.0541	0.2222	0.0755
1	344.88	0.4496	-0.0489	0.0031	-0.1963	0.0192	0.6690	0.0784	0.1779	0.0883
1	344.88	0.4997	-0.0567	0.0032	-0.2480	0.0241	0.8389	0.1015	0.1543	0.0845
1	344.88	0.5387	-0.0621	0.0036	-0.2936	0.0267	0.9683	0.1232	0.1602	0.0780
1	344.88	0.5996	-0.0760	0.0041	-0.3738	0.0337	1.1379	0.1584	0.3260	0.0872
1	344.88	0.6498	-0.0675	0.0043	-0.4332	0.0389	1.1801	0.1875	0.2310	0.1014
1	344.88	0.6998	-0.0843	0.0046	-0.5044	0.0453	1.2042	0.2208	0.2571	0.1003
1	344.88	0.7500	-0.0809	0.0048	-0.5601	0.0507	1.1654	0.2564	0.2879	0.1145
1	344.88	0.8001	-0.0928	0.0058	-0.6400	0.0585	1.0765	0.2933	0.2229	0.1138
1	344.88	0.8497	-0.1237	0.0053	-0.6816	0.0648	0.8779	0.3289	0.1871	0.1336
1	344.88	0.9102	-0.1850	0.0076	-0.7026	0.0735	0.5919	0.3723	-0.1573	0.1348
1	344.88	0.9734	-0.2023	0.0092	-0.6770	0.0826	0.3578	0.4155	0.0211	0.1419
2	344.88	0.1949	0.0032	0.0018	-0.0046	0.0010	0.0475	0.0041	-0.0904	0.0362
2	344.88	0.2405	0.0058	0.0019	-0.0088	0.0031	0.0793	0.0073	-0.2902	0.0409
2	344.88	0.2999	0.0070	0.0016	-0.0303	0.0050	0.1648	0.0161	-0.2919	0.0742
2	344.88	0.3498	-0.0157	0.0020	-0.0439	0.0086	0.3002	0.0259	-0.2017	0.0671
2	344.88	0.3998	-0.0246	0.0025	-0.0769	0.0139	0.4349	0.0401	-0.2487	0.0746
2	344.88	0.4496	-0.0315	0.0028	-0.1210	0.0165	0.6218	0.0557	-0.2184	0.0802
2	344.88	0.4995	-0.0486	0.0029	-0.1707	0.0225	0.7757	0.0749	-0.3880	0.0865
2	344.88	0.5551	-0.0440	0.0036	-0.2321	0.0285	0.9587	0.0977	-0.2917	0.0884
2	344.88	0.5996	-0.0533	0.0034	-0.2867	0.0345	1.0695	0.1191	-0.2967	0.0894
2	344.88	0.6497	-0.0439	0.0042	-0.3367	0.0410	1.1497	0.1425	-0.2134	0.0939
2	344.88	0.6996	-0.0455	0.0047	-0.3974	0.0486	1.1630	0.1705	-0.2258	0.0880
2	344.88	0.7495	-0.0528	0.0051	-0.4616	0.0567	1.1206	0.2001	-0.4039	0.0899
2	344.88	0.7996	-0.0618	0.0058	-0.5359	0.0652	1.0441	0.2299	-0.5635	0.0887
2	344.88	0.8578	-0.1117	0.0058	-0.6129	0.0754	0.9545	0.2678	-0.2649	0.0946
2	344.88	0.9100	-0.1348	0.0058	-0.6483	0.0846	0.8279	0.3056	-0.2843	0.1113
2	344.88	0.9727	-0.2225	0.0090	-0.6247	0.0960	0.8011	0.3494	-0.0208	0.1353
3	344.88	0.1938	0.0013	0.0017	-0.0268	0.0008	0.0831	0.0042	-0.0177	0.0432
3	344.88	0.2357	0.0091	0.0017	0.0076	0.0031	0.0858	0.0084	-0.1239	0.0486
3	344.88	0.2995	-0.0112	0.0015	-0.0689	0.0050	0.2551	0.0166	-0.0803	0.0934
3	344.88	0.3493	-0.0251	0.0017	-0.1177	0.0087	0.4137	0.0272	-0.0309	0.0926
3	344.88	0.4000	-0.0208	0.0026	-0.1644	0.0144	0.6082	0.0422	0.1083	0.0817
3	344.88	0.4497	-0.0338	0.0026	-0.2297	0.0175	0.7875	0.0547	-0.0978	0.0934
3	344.88	0.4997	-0.0592	0.0032	-0.3016	0.0217	0.9967	0.0726	-0.0636	0.0771
3	344.88	0.5556	-0.0579	0.0037	-0.3766	0.0276	1.2122	0.0921	0.0576	0.0837
3	344.88	0.5995	-0.0525	0.0041	-0.4497	0.0330	1.3027	0.1084	0.0400	0.0782
3	344.88	0.6498	-0.0496	0.0044	-0.5312	0.0389	1.3691	0.1277	0.0057	0.0863
3	344.88	0.6890	-0.0931	0.0043	-0.5968	0.0442	1.3713	0.1435	0.0453	0.0926
3	344.88	0.7495	-0.0731	0.0050	-0.6775	0.0524	1.2760	0.1679	-0.0528	0.0925
3	344.88	0.7998	-0.0623	0.0053	-0.7441	0.0608	1.1495	0.1904	-0.0360	0.1007
3	344.88	0.8577	-0.1015	0.0065	-0.8040	0.0698	0.9193	0.2139	-0.1033	0.1097
3	344.88	0.9178	-0.1594	0.0079	-0.9030	0.0791	0.6526	0.2410	-0.2088	0.1163
3	344.88	0.9729	-0.1944	0.0108	-0.8921	0.0884	0.4183	0.2704	-0.2003	0.1483
4	344.88	0.2001	0.0295	0.0017	0.0120	0.0013	0.0075	0.0055	0.2601	0.0332
4	344.88	0.2502	0.0200	0.0016	0.0165	0.0034	0.0347	0.0138	0.3745	0.0551
4	344.88	0.3001	0.0178	0.0017	0.0440	0.0059	0.0817	0.0236	0.5796	0.0716
4	344.88	0.3502	-0.0112	0.0023	0.0814	0.0099	0.1345	0.0354	0.4833	0.0790
4	344.88	0.4002	-0.0251	0.0030	0.1194	0.0159	0.2373	0.0583	0.5532	0.0862
4	344.88	0.4500	-0.0275	0.0029	0.1491	0.0196	0.3229	0.0735	0.3521	0.0721
4	344.88	0.5001	-0.0391	0.0036	0.1630	0.0254	0.4384	0.0940	0.5182	0.0713
4	344.88	0.5560	-0.0415	0.0038	0.1869	0.0324	0.4739	0.1191	0.3771	0.0734
4	344.88	0.6001	-0.0464	0.0043	0.2049	0.0392	0.5079	0.1406	0.4644	0.0807
4	344.88	0.6501	-0.0580	0.0048	0.2057	0.0468	0.4643	0.1653	0.6040	0.0877
4	344.88	0.6999	-0.0540	0.0050	0.2113	0.0559	0.3383	0.1941	0.6326	0.0867
4	344.88	0.7500	-0.0634	0.0057	0.2337	0.0646	0.1857	0.2254	0.7332	0.0866
4	344.88	0.8002	-0.0764	0.0064	0.2542	0.0743	-0.0684	0.2581	0.6394	0.0856
4	344.88	0.8582	-0.0931	0.0075	0.2889	0.0861	-0.4131	0.3008	0.4023	0.0946
4	344.88	0.9101	-0.1290	0.0077	0.3196	0.0963	-0.7316	0.3413	0.4430	0.1001
4	344.88	0.9728	-0.1572	0.0104	0.4242	0.1092	-0.9891	0.3859	0.8343	0.1312

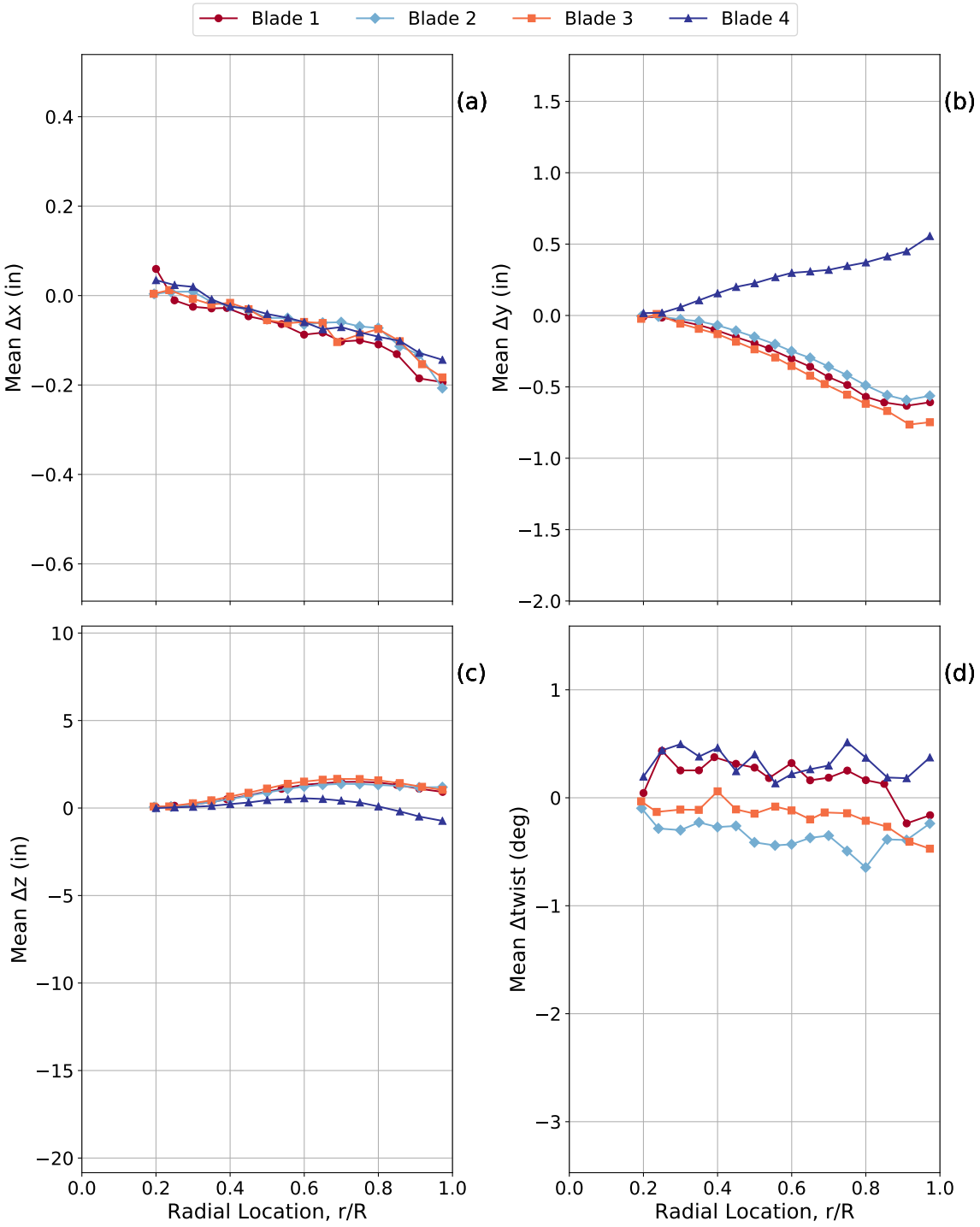


Figure 2.6-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -0° NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0596	0.0017	-0.0082	0.0011	0.0454	0.0058	0.0438	0.0295
1	350.16	0.2499	-0.0107	0.0015	-0.0146	0.0031	0.1310	0.0133	0.4351	0.0448
1	350.16	0.2998	-0.0250	0.0018	-0.0394	0.0055	0.1943	0.0231	0.2533	0.0646
1	350.16	0.3498	-0.0287	0.0023	-0.0670	0.0098	0.3416	0.0377	0.2542	0.0826
1	350.16	0.3913	-0.0277	0.0027	-0.0984	0.0145	0.5014	0.0559	0.3761	0.0803
1	350.16	0.4496	-0.0463	0.0027	-0.1513	0.0182	0.7251	0.0778	0.3143	0.0937
1	350.16	0.4997	-0.0553	0.0034	-0.1939	0.0235	0.9396	0.0986	0.2791	0.0856
1	350.16	0.5387	-0.0638	0.0035	-0.2316	0.0281	1.0975	0.1159	0.1828	0.0959
1	350.16	0.5996	-0.0874	0.0038	-0.3019	0.0363	1.3307	0.1465	0.3212	0.0961
1	350.16	0.6498	-0.0829	0.0038	-0.3587	0.0442	1.4132	0.1722	0.1619	0.0917
1	350.16	0.6998	-0.1026	0.0044	-0.4314	0.0516	1.4913	0.1978	0.1860	0.0946
1	350.16	0.7500	-0.1002	0.0049	-0.4867	0.0595	1.4997	0.2261	0.2520	0.1135
1	350.16	0.8001	-0.1093	0.0045	-0.5697	0.0681	1.4589	0.2578	0.1632	0.1153
1	350.16	0.8497	-0.1308	0.0054	-0.6090	0.0767	1.3231	0.2900	0.1285	0.1009
1	350.16	0.9102	-0.1852	0.0061	-0.6324	0.0875	1.1040	0.3296	-0.2375	0.1197
1	350.16	0.9734	-0.1938	0.0084	-0.6077	0.0988	0.9207	0.3684	-0.1616	0.1199
2	350.16	0.1949	0.0037	0.0016	-0.0044	0.0009	0.0549	0.0056	-0.0971	0.0234
2	350.16	0.2405	0.0083	0.0019	-0.0071	0.0031	0.0855	0.0107	-0.2843	0.0403
2	350.16	0.2999	0.0089	0.0018	-0.0271	0.0068	0.1889	0.0225	-0.2997	0.0564
2	350.16	0.3498	-0.0143	0.0020	-0.0401	0.0093	0.3470	0.0354	-0.2279	0.0691
2	350.16	0.3998	-0.0235	0.0029	-0.0691	0.0171	0.5005	0.0556	-0.2713	0.0642
2	350.16	0.4496	-0.0319	0.0034	-0.1073	0.0214	0.7033	0.0732	-0.2608	0.0758
2	350.16	0.4995	-0.0499	0.0036	-0.1500	0.0268	0.8889	0.0932	-0.4132	0.0788
2	350.16	0.5551	-0.0501	0.0039	-0.2011	0.0355	1.0926	0.1172	-0.4412	0.0797
2	350.16	0.5996	-0.0647	0.0046	-0.2505	0.0417	1.2300	0.1368	-0.4311	0.0822
2	350.16	0.6497	-0.0606	0.0051	-0.2973	0.0499	1.3323	0.1589	-0.3710	0.0879
2	350.16	0.6996	-0.0595	0.0056	-0.3578	0.0589	1.3821	0.1860	-0.3506	0.0787
2	350.16	0.7495	-0.0690	0.0061	-0.4179	0.0685	1.3727	0.2177	-0.4932	0.0836
2	350.16	0.7996	-0.0725	0.0063	-0.4893	0.0786	1.3204	0.2496	-0.6455	0.0812
2	350.16	0.8578	-0.1134	0.0067	-0.5584	0.0906	1.2651	0.2901	-0.3856	0.1082
2	350.16	0.9100	-0.1319	0.0063	-0.5930	0.1016	1.1814	0.3251	-0.3913	0.0968
2	350.16	0.9727	-0.2069	0.0098	-0.5627	0.1150	1.1931	0.3714	-0.2383	0.1158
3	350.16	0.1938	0.0040	0.0017	-0.0232	0.0011	0.0830	0.0047	-0.0328	0.0271
3	350.16	0.2357	0.0123	0.0015	0.0104	0.0026	0.0900	0.0109	-0.1310	0.0422
3	350.16	0.2995	-0.0072	0.0017	-0.0572	0.0059	0.2717	0.0211	-0.1096	0.0647
3	350.16	0.3493	-0.0198	0.0026	-0.0933	0.0104	0.4397	0.0339	-0.1120	0.0736
3	350.16	0.4000	-0.0163	0.0027	-0.1303	0.0166	0.6579	0.0543	0.0596	0.0652
3	350.16	0.4497	-0.0305	0.0028	-0.1835	0.0218	0.8714	0.0737	-0.1075	0.0761
3	350.16	0.4997	-0.0549	0.0035	-0.2370	0.0282	1.1135	0.0937	-0.1472	0.0767
3	350.16	0.5556	-0.0617	0.0039	-0.2941	0.0369	1.3826	0.1162	-0.0819	0.0863
3	350.16	0.5995	-0.0590	0.0039	-0.3535	0.0444	1.5104	0.1347	-0.1173	0.0845
3	350.16	0.6498	-0.0614	0.0047	-0.4217	0.0530	1.6171	0.1566	-0.2001	0.0995
3	350.16	0.6890	-0.1040	0.0050	-0.4799	0.0594	1.6657	0.1764	-0.1362	0.0941
3	350.16	0.7495	-0.0869	0.0054	-0.5549	0.0701	1.6565	0.2138	-0.1433	0.1028
3	350.16	0.7998	-0.0749	0.0052	-0.6182	0.0792	1.5816	0.2493	-0.2128	0.1078
3	350.16	0.8577	-0.1021	0.0065	-0.6687	0.0899	1.4232	0.2919	-0.2685	0.1217
3	350.16	0.9178	-0.1535	0.0064	-0.7639	0.1007	1.2124	0.3437	-0.4072	0.1268
3	350.16	0.9729	-0.1830	0.0101	-0.7477	0.1114	1.0346	0.3907	-0.4716	0.1536
4	350.16	0.2001	0.0345	0.0017	0.0166	0.0010	-0.0013	0.0051	0.1962	0.0272
4	350.16	0.2502	0.0235	0.0015	0.0191	0.0025	0.0380	0.0100	0.4392	0.0448
4	350.16	0.3001	0.0195	0.0015	0.0584	0.0046	0.0691	0.0184	0.4966	0.0604
4	350.16	0.3502	-0.0086	0.0021	0.1066	0.0081	0.1194	0.0308	0.3817	0.0668
4	350.16	0.4002	-0.0247	0.0025	0.1551	0.0126	0.2245	0.0473	0.4628	0.0596
4	350.16	0.4500	-0.0294	0.0024	0.1998	0.0173	0.3152	0.0646	0.2460	0.0756
4	350.16	0.5001	-0.0412	0.0037	0.2260	0.0231	0.4522	0.0808	0.4012	0.0832
4	350.16	0.5560	-0.0499	0.0034	0.2686	0.0285	0.5063	0.0987	0.1338	0.0826
4	350.16	0.6001	-0.0594	0.0032	0.2985	0.0337	0.5571	0.1114	0.2199	0.0904
4	350.16	0.6501	-0.0754	0.0038	0.3082	0.0396	0.5174	0.1247	0.2641	0.0863
4	350.16	0.6999	-0.0705	0.0040	0.3195	0.0466	0.4211	0.1428	0.2986	0.0885
4	350.16	0.7500	-0.0823	0.0044	0.3468	0.0534	0.3139	0.1599	0.5137	0.0933
4	350.16	0.8002	-0.0920	0.0049	0.3716	0.0601	0.0901	0.1819	0.3713	0.0958
4	350.16	0.8582	-0.1015	0.0054	0.4137	0.0686	-0.1947	0.2096	0.1876	0.0952
4	350.16	0.9101	-0.1281	0.0051	0.4492	0.0763	-0.4859	0.2360	0.1813	0.1035
4	350.16	0.9728	-0.1437	0.0078	0.5562	0.0861	-0.7335	0.2703	0.3736	0.1207

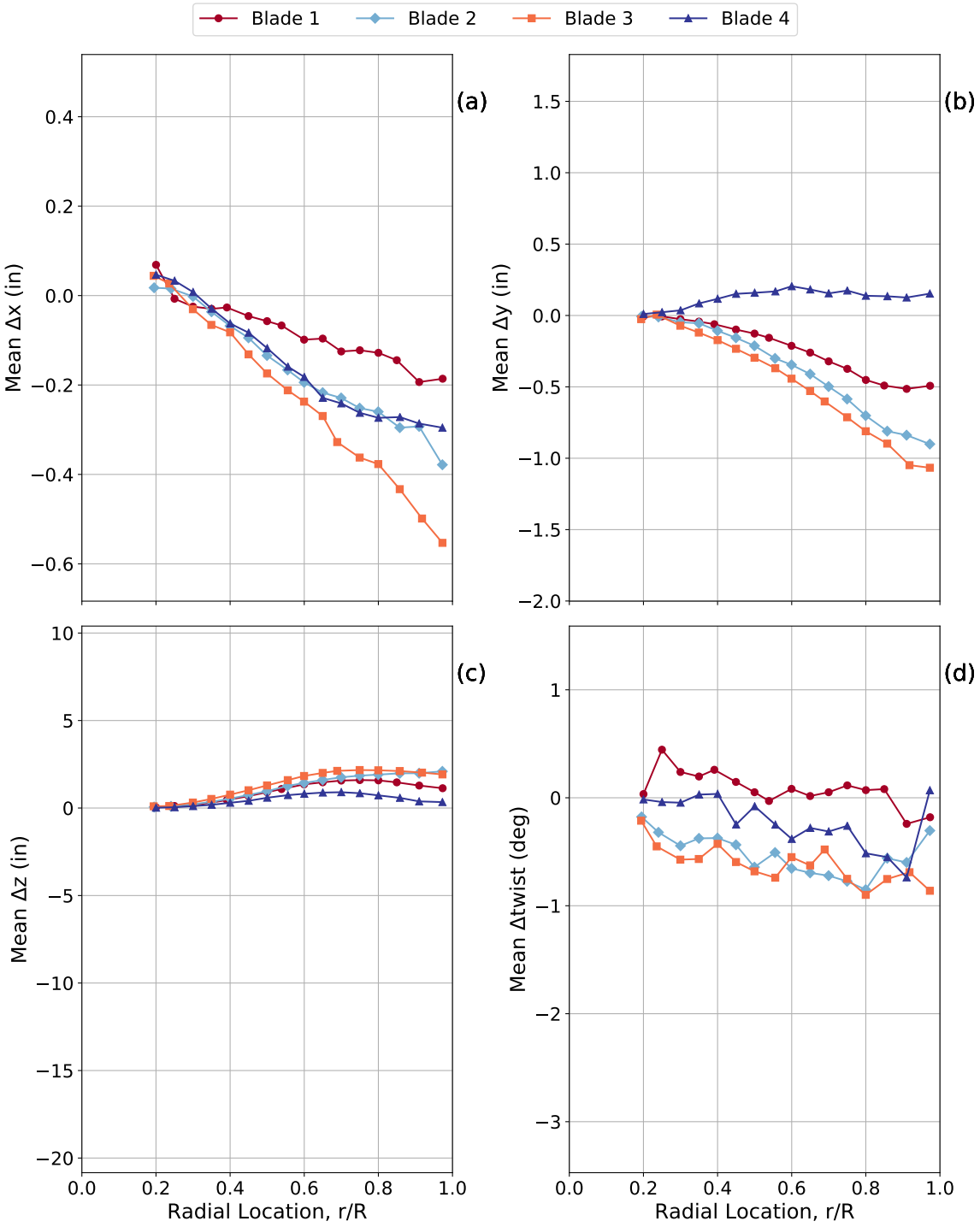


Figure 2.6-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Table 2.6-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 42, points 60 to 63. BD run 19, points 1263 to 1302.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0688	0.0021	-0.0060	0.0012	0.0374	0.0057	0.0343	0.0322
1	355.08	0.2499	-0.0071	0.0015	-0.0065	0.0028	0.1172	0.0106	0.4453	0.0628
1	355.08	0.2998	-0.0247	0.0014	-0.0257	0.0051	0.1728	0.0201	0.2390	0.0760
1	355.08	0.3498	-0.0297	0.0018	-0.0427	0.0101	0.3071	0.0333	0.1971	0.0768
1	355.08	0.3913	-0.0266	0.0021	-0.0612	0.0141	0.4551	0.0473	0.2593	0.0931
1	355.08	0.4496	-0.0459	0.0027	-0.0986	0.0206	0.6811	0.0678	0.1468	0.0848
1	355.08	0.4997	-0.0572	0.0030	-0.1267	0.0264	0.9048	0.0877	0.0513	0.0810
1	355.08	0.5387	-0.0669	0.0040	-0.1563	0.0325	1.0852	0.1064	-0.0295	0.0896
1	355.08	0.5996	-0.0986	0.0044	-0.2125	0.0402	1.3518	0.1364	0.0825	0.0871
1	355.08	0.6498	-0.0962	0.0049	-0.2600	0.0475	1.4687	0.1628	0.0161	0.0913
1	355.08	0.6998	-0.1250	0.0054	-0.3213	0.0556	1.5692	0.1925	0.0514	0.0966
1	355.08	0.7500	-0.1223	0.0058	-0.3739	0.0639	1.5981	0.2252	0.1147	0.0940
1	355.08	0.8001	-0.1280	0.0060	-0.4516	0.0720	1.5808	0.2599	0.0708	0.0980
1	355.08	0.8497	-0.1446	0.0061	-0.4908	0.0803	1.4671	0.2966	0.0803	0.0940
1	355.08	0.9102	-0.1934	0.0067	-0.5142	0.0912	1.2852	0.3408	-0.2416	0.0984
1	355.08	0.9734	-0.1860	0.0088	-0.4924	0.1028	1.1313	0.3873	-0.1803	0.1092
2	355.08	0.1949	0.0175	0.0026	-0.0067	0.0020	0.0580	0.0062	-0.1770	0.0431
2	355.08	0.2405	0.0157	0.0017	-0.0104	0.0040	0.0961	0.0113	-0.3201	0.0694
2	355.08	0.2999	-0.0021	0.0017	-0.0471	0.0074	0.2110	0.0204	-0.4446	0.0972
2	355.08	0.3498	-0.0363	0.0030	-0.0549	0.0149	0.3581	0.0349	-0.3758	0.0889
2	355.08	0.3998	-0.0678	0.0032	-0.1067	0.0216	0.5358	0.0514	-0.3731	0.0870
2	355.08	0.4496	-0.0945	0.0036	-0.1563	0.0276	0.7456	0.0666	-0.4356	0.0930
2	355.08	0.4995	-0.1341	0.0041	-0.2125	0.0354	0.9589	0.0838	-0.6424	0.1027
2	355.08	0.5551	-0.1664	0.0047	-0.3006	0.0436	1.2644	0.1023	-0.5074	0.1137
2	355.08	0.5996	-0.1941	0.0052	-0.3456	0.0505	1.4320	0.1172	-0.6541	0.1021
2	355.08	0.6497	-0.2171	0.0056	-0.4103	0.0598	1.6035	0.1344	-0.6956	0.1059
2	355.08	0.6996	-0.2290	0.0062	-0.4979	0.0683	1.7553	0.1537	-0.7214	0.1047
2	355.08	0.7495	-0.2517	0.0070	-0.5853	0.0791	1.8505	0.1756	-0.7737	0.1106
2	355.08	0.7996	-0.2598	0.0080	-0.7015	0.0890	1.9088	0.2005	-0.8506	0.0979
2	355.08	0.8578	-0.2954	0.0082	-0.8102	0.1013	1.9839	0.2294	-0.5602	0.1294
2	355.08	0.9100	-0.2927	0.0090	-0.8384	0.1152	1.9893	0.2605	-0.5989	0.1789
2	355.08	0.9727	-0.3784	0.0140	-0.9008	0.1276	2.0956	0.2970	-0.3040	0.1188
3	355.08	0.1938	0.0442	0.0053	-0.0256	0.0018	0.0978	0.0090	-0.2123	0.0447
3	355.08	0.2357	0.0270	0.0055	0.0061	0.0026	0.1162	0.0121	-0.4504	0.0988
3	355.08	0.2995	-0.0305	0.0034	-0.0717	0.0065	0.3133	0.0311	-0.5729	0.1174
3	355.08	0.3493	-0.0656	0.0039	-0.1197	0.0110	0.5186	0.0492	-0.5670	0.1094
3	355.08	0.4000	-0.0822	0.0044	-0.1726	0.0170	0.7650	0.0761	-0.4270	0.1085
3	355.08	0.4497	-0.1315	0.0048	-0.2333	0.0223	1.0156	0.0967	-0.5951	0.1205
3	355.08	0.4997	-0.1742	0.0048	-0.2960	0.0296	1.2920	0.1235	-0.6814	0.1291
3	355.08	0.5556	-0.2119	0.0060	-0.3695	0.0374	1.5942	0.1490	-0.7402	0.1290
3	355.08	0.5995	-0.2372	0.0062	-0.4425	0.0432	1.8312	0.1707	-0.5499	0.1244
3	355.08	0.6498	-0.2694	0.0066	-0.5294	0.0512	2.0068	0.1941	-0.6265	0.1332
3	355.08	0.6890	-0.3277	0.0064	-0.6023	0.0580	2.1232	0.2143	-0.4791	0.1258
3	355.08	0.7495	-0.3623	0.0075	-0.7130	0.0690	2.1704	0.2487	-0.7510	0.1392
3	355.08	0.7998	-0.3769	0.0073	-0.8109	0.0789	2.1566	0.2809	-0.8991	0.1383
3	355.08	0.8577	-0.4330	0.0081	-0.8975	0.0907	2.1136	0.3188	-0.7523	0.1486
3	355.08	0.9178	-0.4987	0.0082	-1.0485	0.1029	2.0239	0.3666	-0.6894	0.1341
3	355.08	0.9729	-0.5531	0.0113	-1.0666	0.1145	1.9210	0.4165	-0.8613	0.1435
4	355.08	0.2001	0.0466	0.0028	0.0103	0.0018	0.0189	0.0055	-0.0156	0.0459
4	355.08	0.2502	0.0331	0.0018	0.0229	0.0038	0.0432	0.0098	-0.0398	0.0798
4	355.08	0.3001	0.0078	0.0016	0.0360	0.0066	0.1090	0.0173	-0.0456	0.1006
4	355.08	0.3502	-0.0294	0.0020	0.0846	0.0124	0.1836	0.0272	0.0294	0.0876
4	355.08	0.4002	-0.0625	0.0024	0.1168	0.0182	0.3011	0.0418	0.0358	0.0911
4	355.08	0.4500	-0.0831	0.0027	0.1516	0.0232	0.4126	0.0550	-0.2477	0.0978
4	355.08	0.5001	-0.1178	0.0030	0.1589	0.0296	0.5890	0.0722	-0.0787	0.0944
4	355.08	0.5560	-0.1590	0.0033	0.1686	0.0363	0.7373	0.0938	-0.2492	0.1006
4	355.08	0.6001	-0.1820	0.0035	0.2049	0.0428	0.8124	0.1089	-0.3812	0.0967
4	355.08	0.6501	-0.2288	0.0039	0.1821	0.0503	0.8830	0.1319	-0.2795	0.1061
4	355.08	0.6999	-0.2412	0.0044	0.1549	0.0590	0.9042	0.1574	-0.3125	0.1091
4	355.08	0.7500	-0.2623	0.0047	0.1745	0.0672	0.8460	0.1847	-0.2597	0.1051
4	355.08	0.8002	-0.2734	0.0047	0.1380	0.0772	0.7227	0.2114	-0.5144	0.1339
4	355.08	0.8582	-0.2718	0.0051	0.1346	0.0889	0.5807	0.2452	-0.5502	0.1249
4	355.08	0.9101	-0.2863	0.0058	0.1257	0.0961	0.3794	0.2775	-0.7377	0.1283
4	355.08	0.9728	-0.2955	0.0102	0.1530	0.1091	0.3390	0.3167	0.0694	0.1364

2.7 Run 43, Points 8 to 11

2.7.1 Pitch, Flap, and Lag

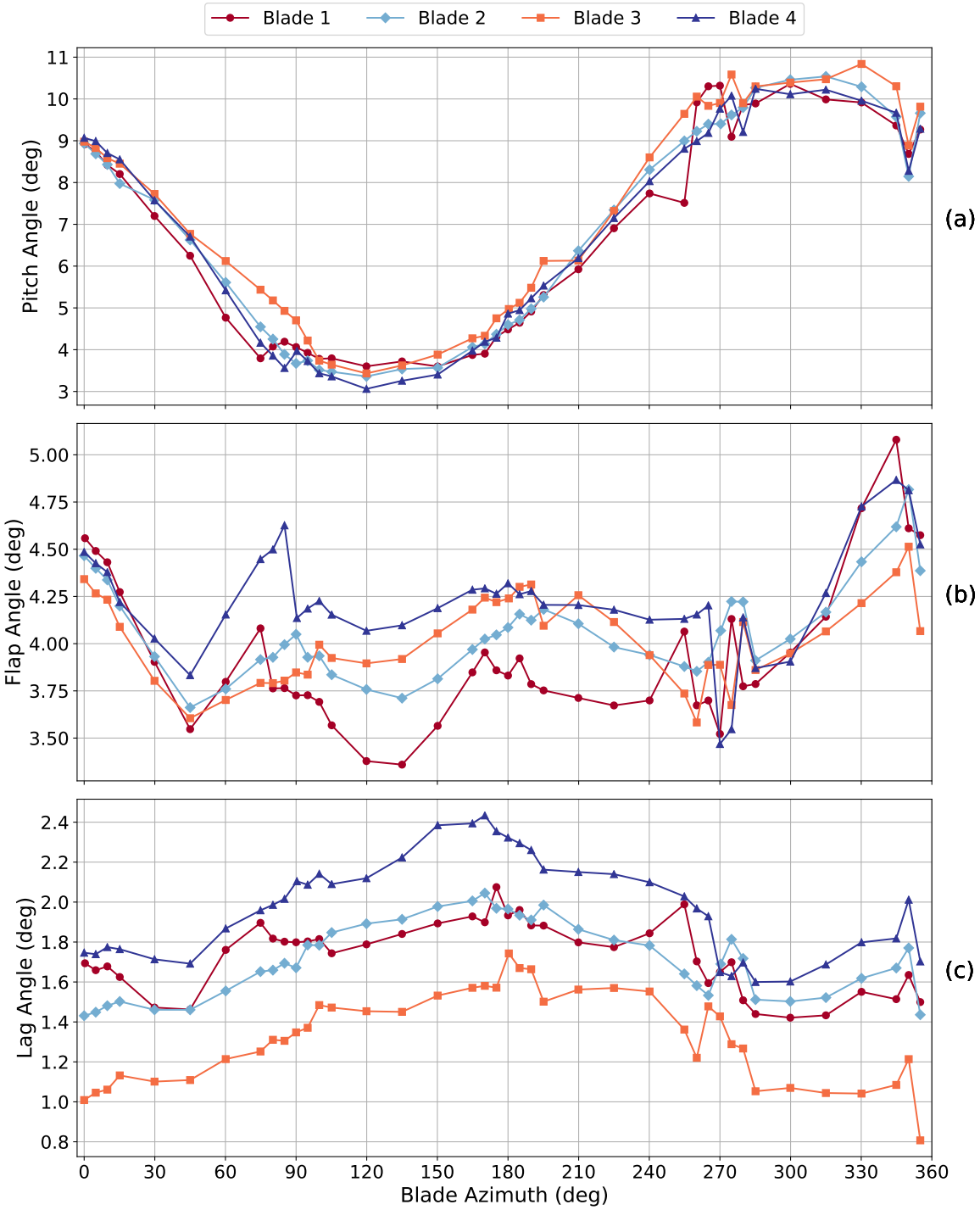


Figure 2.7-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-1. Pitch, flap, and lag vs azimuth for Blade 1.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	8.9186	4.5583	1.6938	0.1108	0.0525	0.0342
4.92	8.7391	4.4907	1.6590	0.1073	0.0451	0.0351
9.84	8.4196	4.4311	1.6779	0.0807	0.0383	0.0290
15.12	8.2033	4.2733	1.6249	0.0821	0.0626	0.0279
29.88	7.1990	3.9037	1.4720	0.0788	0.0506	0.0475
45	6.2484	3.5472	1.4624	0.0643	0.0381	0.0456
60.12	4.7658	3.7979	1.7607	0.0456	0.0481	0.0219
74.88	3.7936	4.0811	1.8961	0.0785	0.0409	0.0310
80.16	4.0758	3.7630	1.8172	0.0699	0.0402	0.0295
85.08	4.1915	3.7645	1.8018	0.0627	0.0370	0.0304
90	4.0626	3.7260	1.7988	0.0437	0.0389	0.0255
94.92	3.9242	3.7271	1.8031	0.0489	0.0335	0.0378
99.84	3.7813	3.6917	1.8149	0.0459	0.0331	0.0258
105.12	3.7939	3.5676	1.7436	0.0471	0.0365	0.0189
119.88	3.6015	3.3782	1.7882	0.0473	0.0339	0.0219
135	3.7196	3.3595	1.8404	0.0420	0.0479	0.0243
150.12	3.5990	3.5648	1.8932	0.0447	0.0280	0.0182
164.88	3.8736	3.8479	1.9283	0.0603	0.0383	0.0248
170.16	3.9043	3.9536	1.8989	0.0728	0.0503	0.0266
175.08	4.3086	3.8589	2.0750	0.0766	0.0459	0.0350
180	4.4857	3.8311	1.9334	0.1293	0.0708	0.0475
184.92	4.6451	3.9221	1.9604	0.0569	0.0405	0.0194
189.84	4.9136	3.7857	1.8831	0.0520	0.0311	0.0234
195.12	5.3082	3.7525	1.8823	0.0479	0.0449	0.0176
209.88	5.9242	3.7126	1.7984	0.0676	0.0517	0.0250
225	6.9055	3.6728	1.7743	0.0627	0.0262	0.0218
240.12	7.7392	3.6993	1.8438	0.0608	0.0372	0.0284
254.88	7.5135	4.0640	1.9887	0.2347	0.0957	0.0583
260.16	9.9179	3.6734	1.7031	0.1457	0.0630	0.0301
265.08	10.3026	3.6991	1.5943	0.2887	0.1284	0.0569
270	10.3180	3.5220	1.6495	0.4260	0.3201	0.1247
274.92	9.0948	4.1307	1.6988	0.0617	0.0320	0.0274
279.84	9.8568	3.7742	1.5084	0.0728	0.0368	0.0437
285.12	9.8914	3.7863	1.4397	0.0501	0.0328	0.0308
299.88	10.3608	3.9529	1.4213	0.0613	0.0479	0.0417
315	9.9890	4.1428	1.4331	0.0868	0.0630	0.0162
330.12	9.9158	4.7172	1.5507	0.0673	0.0474	0.0484
344.88	9.3653	5.0799	1.5140	0.1157	0.0542	0.0151
350.16	8.6836	4.6108	1.6351	0.1153	0.0266	0.0339
355.08	9.2677	4.5743	1.4994	0.1084	0.0463	0.0388

Table 2.7-2. Pitch, flap, and lag vs azimuth for Blade 2.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	8.9357	4.4655	1.4310	0.0832	0.0393	0.0325
4.92	8.6862	4.3990	1.4488	0.0794	0.0343	0.0360
9.84	8.4310	4.3374	1.4811	0.0772	0.0482	0.0321
15.12	7.9748	4.1991	1.5024	0.0879	0.0476	0.0275
29.88	7.5845	3.9318	1.4609	0.0602	0.0353	0.0242
45	6.6261	3.6616	1.4607	0.0662	0.0439	0.0256
60.12	5.6094	3.7601	1.5552	0.0584	0.0381	0.0194
74.88	4.5471	3.9159	1.6520	0.0597	0.0428	0.0247
80.16	4.2535	3.9275	1.6593	0.0597	0.0380	0.0262
85.08	3.8881	3.9948	1.6938	0.0723	0.0326	0.0210
90	3.6713	4.0496	1.6711	0.0737	0.0364	0.0217
94.92	3.7373	3.9278	1.7850	0.0554	0.0396	0.0163
99.84	3.5159	3.9354	1.7839	0.0443	0.0301	0.0169
105.12	3.4723	3.8354	1.8475	0.0478	0.0390	0.0168
119.88	3.3605	3.7576	1.8920	0.0482	0.0386	0.0325
135	3.5373	3.7114	1.9138	0.0367	0.0381	0.0286
150.12	3.5675	3.8138	1.9778	0.0563	0.0302	0.0304
164.88	4.0632	3.9692	2.0060	0.0418	0.0468	0.0260
170.16	4.1401	4.0244	2.0451	0.0464	0.0346	0.0183
175.08	4.3696	4.0465	1.9688	0.0478	0.0429	0.0196
180	4.5974	4.0855	1.9654	0.1205	0.0634	0.0368
184.92	4.7125	4.1564	1.9340	0.0571	0.0464	0.0303
189.84	4.9793	4.1244	1.9106	0.0602	0.0429	0.0352
195.12	5.2587	4.1813	1.9851	0.0527	0.0385	0.0241
209.88	6.3677	4.1057	1.8639	0.0559	0.0420	0.0394
225	7.3427	3.9819	1.8098	0.0713	0.0381	0.0317
240.12	8.3065	3.9401	1.7824	0.0641	0.0387	0.0254
254.88	8.9952	3.8790	1.6405	0.0760	0.0417	0.0178
260.16	9.2259	3.8535	1.5816	0.1002	0.0426	0.0236
265.08	9.3973	3.9018	1.5329	0.1466	0.0592	0.0338
270.35	9.4037	4.0690	1.6900	0.1840	0.0683	0.0496
274.92	9.6169	4.2234	1.8135	0.1092	0.0567	0.0256
279.84	9.7931	4.2216	1.7179	0.0956	0.0417	0.0272
285.12	10.2665	3.9109	1.5116	0.0912	0.0227	0.0125
299.88	10.4603	4.0250	1.5026	0.0571	0.0409	0.0599
315	10.5392	4.1670	1.5218	0.1032	0.0349	0.0389
330.12	10.2912	4.4335	1.6185	0.0651	0.0468	0.0191
344.88	9.5718	4.6187	1.6700	0.0610	0.0341	0.0193
350.16	8.1467	4.8162	1.7704	0.0690	0.0338	0.0264
355.08	9.6599	4.3863	1.4359	0.0524	0.0249	0.0292

Table 2.7-3. Pitch, flap, and lag vs azimuth for Blade 3.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	8.9777	4.3417	1.0088	0.0771	0.0425	0.0303
4.92	8.8264	4.2662	1.0459	0.0726	0.0344	0.0218
9.84	8.5834	4.2327	1.0611	0.0614	0.0306	0.0226
15.12	8.4510	4.0891	1.1322	0.0691	0.0364	0.0262
29.88	7.7277	3.8032	1.1012	0.0680	0.0397	0.0260
45	6.7719	3.6052	1.1090	0.0635	0.0361	0.0383
60.12	6.1217	3.7017	1.2139	0.0550	0.0376	0.0361
74.88	5.4355	3.7922	1.2520	0.0550	0.0380	0.0254
80.16	5.1794	3.7910	1.3106	0.0742	0.0463	0.0225
85.08	4.9293	3.8043	1.3054	0.0640	0.0439	0.0190
90	4.7020	3.8476	1.3476	0.0912	0.0447	0.0266
94.92	4.2192	3.8360	1.3708	0.0726	0.0393	0.0360
99.84	3.7382	3.9943	1.4843	0.0546	0.0360	0.0266
105.12	3.6424	3.9242	1.4720	0.0382	0.0315	0.0292
119.88	3.4325	3.8956	1.4536	0.0382	0.0469	0.0437
135	3.6238	3.9187	1.4504	0.0578	0.0573	0.0311
150.12	3.8828	4.0544	1.5319	0.0501	0.0485	0.0397
164.88	4.2723	4.1803	1.5708	0.0568	0.0454	0.0230
170.16	4.3332	4.2436	1.5808	0.0513	0.0503	0.0314
175.08	4.7512	4.2198	1.5715	0.0559	0.0487	0.0390
180.35	4.9732	4.2395	1.7428	0.0368	0.0385	0.0338
184.92	5.1221	4.3008	1.6697	0.0511	0.0471	0.0388
189.84	5.4825	4.3133	1.6638	0.0690	0.0412	0.0390
195.12	6.1244	4.0948	1.5015	0.1212	0.0640	0.0420
209.88	6.1314	4.2566	1.5621	0.0939	0.0342	0.0626
225	7.3195	4.1145	1.5700	0.0720	0.0374	0.0531
240.12	8.6017	3.9393	1.5523	0.0540	0.0430	0.0183
254.88	9.6432	3.7358	1.3618	0.0638	0.0341	0.0204
260.16	10.0560	3.5828	1.2205	0.1464	0.0618	0.0317
265.08	9.8353	3.8873	1.4778	0.1251	0.0558	0.0338
270	9.9020	3.8880	1.4278	0.2510	0.0937	0.0423
274.92	10.5843	3.6752	1.2885	0.4986	0.3255	0.1038
279.84	9.8984	4.1144	1.2670	0.0846	0.0351	0.0338
285.12	10.3003	3.8604	1.0529	0.1035	0.0361	0.0269
299.88	10.3915	3.9481	1.0697	0.0938	0.0269	0.0319
315	10.4718	4.0649	1.0441	0.1074	0.0394	0.0161
330.12	10.8368	4.2145	1.0413	0.0787	0.0374	0.0164
344.88	10.3042	4.3781	1.0846	0.0639	0.0260	0.0144
350.16	8.8840	4.5134	1.2137	0.0843	0.0341	0.0236
355.08	9.8153	4.0664	0.8071	0.0589	0.0398	0.0386

Table 2.7-4. Pitch, flap, and lag vs azimuth for Blade 4.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	9.0682	4.4855	1.7465	0.1020	0.0400	0.0312
4.92	8.9897	4.4259	1.7391	0.0868	0.0377	0.0343
9.84	8.7049	4.3787	1.7744	0.0800	0.0341	0.0285
15.12	8.5531	4.2199	1.7641	0.0647	0.0361	0.0281
29.88	7.5735	4.0268	1.7135	0.0669	0.0399	0.0373
45	6.7057	3.8330	1.6917	0.0448	0.0385	0.0360
60.12	5.4200	4.1540	1.8679	0.0556	0.0306	0.0358
74.88	4.1655	4.4474	1.9588	0.0614	0.0375	0.0184
80.16	3.8571	4.4988	1.9860	0.0584	0.0397	0.0224
85.08	3.5616	4.6264	2.0160	0.0709	0.0434	0.0339
90.35	3.9690	4.1355	2.1043	0.0495	0.0432	0.0180
94.92	3.7272	4.1856	2.0868	0.0498	0.0330	0.0295
99.84	3.4356	4.2259	2.1413	0.0723	0.0436	0.0308
105.12	3.3603	4.1534	2.0899	0.0498	0.0341	0.0314
119.88	3.0622	4.0680	2.1195	0.0456	0.0406	0.0597
135	3.2566	4.0971	2.2231	0.0493	0.0427	0.0467
150.12	3.4042	4.1878	2.3846	0.0417	0.0245	0.0183
164.88	3.9753	4.2854	2.3939	0.0401	0.0363	0.0243
170.16	4.1903	4.2927	2.4338	0.0489	0.0301	0.0215
175.08	4.2854	4.2639	2.3543	0.0502	0.0305	0.0299
180	4.8626	4.3194	2.3228	0.0656	0.0376	0.0266
184.92	4.9464	4.2616	2.2945	0.0491	0.0378	0.0324
189.84	5.2293	4.2784	2.2602	0.0443	0.0381	0.0248
195.12	5.5331	4.2053	2.1624	0.0625	0.0452	0.0246
209.88	6.1911	4.2044	2.1505	0.0524	0.0339	0.0270
225	7.1497	4.1796	2.1398	0.0725	0.0352	0.0238
240.12	8.0325	4.1267	2.0991	0.0729	0.0428	0.0267
254.88	8.8083	4.1311	2.0285	0.0803	0.0420	0.0193
260.16	8.9905	4.1541	1.9679	0.1019	0.0394	0.0229
265.08	9.1865	4.2024	1.9289	0.2352	0.0644	0.0308
270	9.7667	3.4685	1.6495	0.2222	0.1573	0.0639
274.92	10.0768	3.5468	1.6293	0.4074	0.3035	0.1040
279.84	9.2088	4.1387	1.6971	0.1442	0.0674	0.0372
285.12	10.2427	3.8704	1.5998	0.1131	0.0593	0.0130
299.88	10.1121	3.9049	1.6022	0.0798	0.0350	0.0220
315	10.2216	4.2678	1.6873	0.0672	0.0469	0.0266
330.12	9.9581	4.7262	1.7985	0.0720	0.0383	0.0421
344.88	9.6689	4.8668	1.8180	0.0426	0.0410	0.0271
350.16	8.2783	4.8124	2.0118	0.0632	0.0359	0.0275
355.08	9.2870	4.5254	1.7026	0.0800	0.0310	0.0241

2.7.2 Spanwise Elastic Deformations

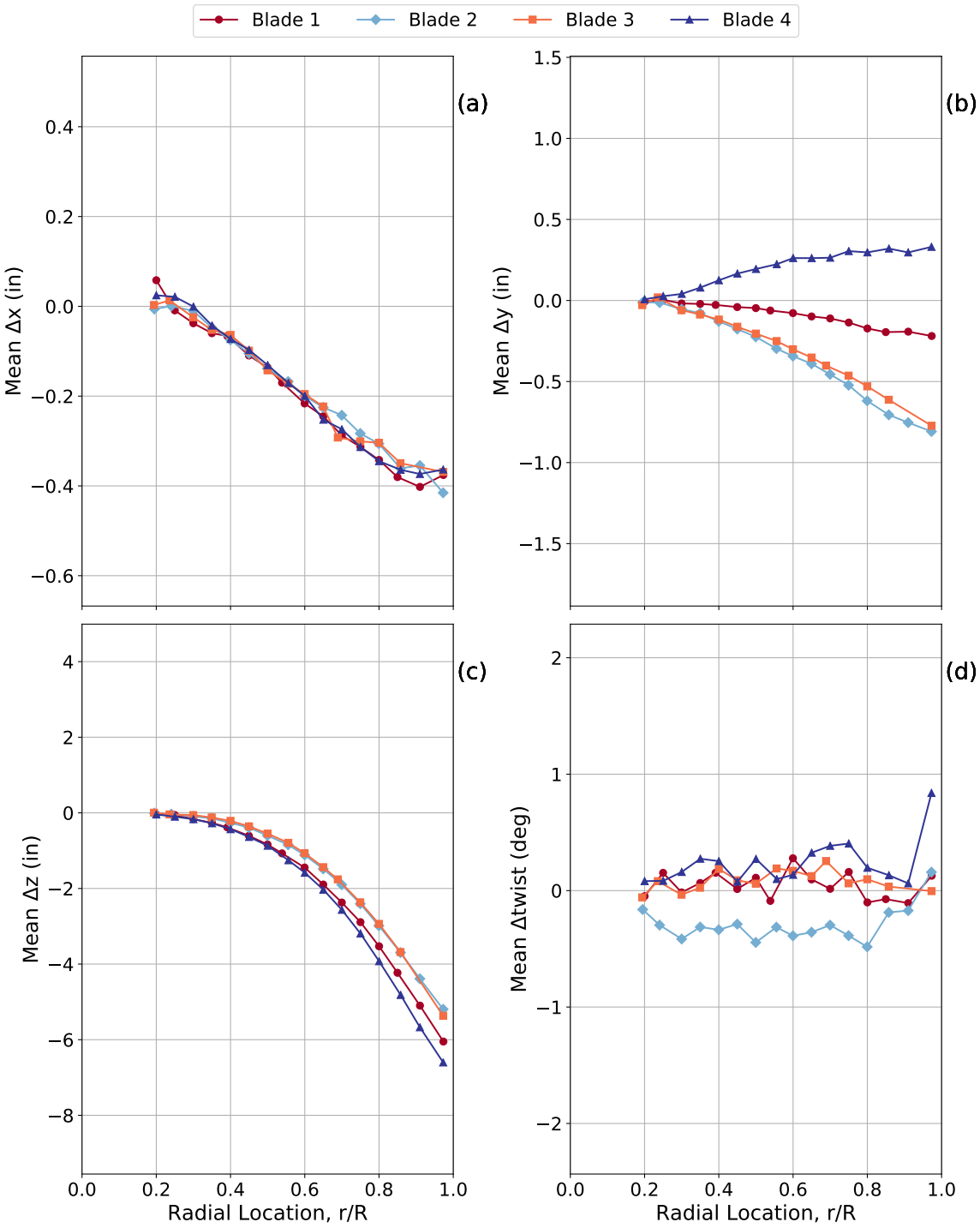


Figure 2.7-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-5. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0581	0.0031	-0.0070	0.0020	-0.0406	0.0061	-0.0480	0.0555
1	0.35	0.2499	-0.0091	0.0021	0.0039	0.0042	-0.0567	0.0107	0.1528	0.0942
1	0.35	0.2998	-0.0377	0.0015	-0.0182	0.0084	-0.1653	0.0197	-0.0155	0.1197
1	0.35	0.3498	-0.0599	0.0019	-0.0213	0.0140	-0.2631	0.0309	0.0653	0.1037
1	0.35	0.3913	-0.0660	0.0023	-0.0274	0.0204	-0.3837	0.0435	0.1532	0.0937
1	0.35	0.4496	-0.1096	0.0023	-0.0407	0.0267	-0.6076	0.0570	0.0138	0.0946
1	0.35	0.4997	-0.1362	0.0024	-0.0470	0.0324	-0.8368	0.0683	0.1102	0.0936
1	0.35	0.5387	-0.1701	0.0024	-0.0618	0.0369	-1.0711	0.0766	-0.0882	0.0997
1	0.35	0.5996	-0.2164	0.0023	-0.0779	0.0436	-1.4462	0.0898	0.2779	0.0950
1	0.35	0.6498	-0.2450	0.0025	-0.0986	0.0494	-1.8961	0.1000	0.0963	0.0937
1	0.35	0.6998	-0.2875	0.0023	-0.1108	0.0554	-2.3718	0.1117	0.0152	0.0930
1	0.35	0.7500	-0.3133	0.0030	-0.1362	0.0620	-2.8906	0.1239	0.1601	0.0972
1	0.35	0.8001	-0.3422	0.0036	-0.1727	0.0685	-3.5288	0.1368	-0.1015	0.0987
1	0.35	0.8497	-0.3803	0.0037	-0.1951	0.0750	-4.2298	0.1480	-0.0732	0.0942
1	0.35	0.9102	-0.4022	0.0043	-0.1924	0.0818	-5.0984	0.1607	-0.1071	0.1106
1	0.35	0.9734	-0.3757	0.0051	-0.2192	0.0910	-6.0493	0.1747	0.1276	0.1235
2	0	0.1949	-0.0061	0.0028	-0.0120	0.0023	-0.0077	0.0057	-0.1623	0.0371
2	0	0.2405	0.0006	0.0018	-0.0131	0.0037	-0.0352	0.0080	-0.2962	0.0612
2	0	0.2999	-0.0102	0.0013	-0.0535	0.0077	-0.0928	0.0159	-0.4156	0.0808
2	0	0.3498	-0.0477	0.0025	-0.0787	0.0145	-0.1470	0.0268	-0.3128	0.0702
2	0	0.3998	-0.0748	0.0028	-0.1290	0.0209	-0.2617	0.0381	-0.3362	0.0645
2	0	0.4496	-0.1051	0.0025	-0.1761	0.0253	-0.3917	0.0469	-0.2879	0.0687
2	0	0.4995	-0.1387	0.0023	-0.2244	0.0305	-0.6013	0.0560	-0.4452	0.0755
2	0	0.5551	-0.1674	0.0025	-0.2968	0.0362	-0.8444	0.0673	-0.3137	0.0683
2	0	0.5996	-0.1995	0.0026	-0.3436	0.0408	-1.1137	0.0765	-0.3885	0.0675
2	0	0.6497	-0.2251	0.0024	-0.3904	0.0450	-1.4827	0.0856	-0.3573	0.0760
2	0	0.6996	-0.2426	0.0025	-0.4557	0.0502	-1.9004	0.0940	-0.2965	0.0688
2	0	0.7495	-0.2832	0.0027	-0.5227	0.0568	-2.4050	0.1019	-0.3868	0.0695
2	0	0.7996	-0.3060	0.0031	-0.6191	0.0617	-2.9860	0.1109	-0.4830	0.0752
2	0	0.8578	-0.3609	0.0041	-0.7055	0.0678	-3.6958	0.1206	-0.1869	0.0677
2	0	0.9100	-0.3546	0.0040	-0.7532	0.0757	-4.3886	0.1292	-0.1717	0.1401
2	0	0.9727	-0.4153	0.0054	-0.8082	0.0812	-5.1950	0.1464	0.1584	0.0694
3	0	0.1938	0.0029	0.0021	-0.0284	0.0017	0.0037	0.0048	-0.0582	0.0366
3	0	0.2357	0.0133	0.0019	0.0190	0.0035	-0.0418	0.0072	0.0810	0.0674
3	0	0.2995	-0.0244	0.0015	-0.0601	0.0061	-0.0593	0.0151	-0.0354	0.0794
3	0	0.3493	-0.0524	0.0016	-0.0865	0.0104	-0.1221	0.0238	0.0245	0.0621
3	0	0.4000	-0.0637	0.0020	-0.1177	0.0165	-0.2121	0.0359	0.1861	0.0672
3	0	0.4497	-0.0988	0.0018	-0.1618	0.0193	-0.3567	0.0428	0.0887	0.0730
3	0	0.4997	-0.1426	0.0021	-0.2043	0.0246	-0.5494	0.0539	0.0596	0.0626
3	0	0.5556	-0.1723	0.0021	-0.2503	0.0292	-0.7932	0.0654	0.1902	0.0676
3	0	0.5995	-0.1954	0.0022	-0.3009	0.0331	-1.0655	0.0738	0.1695	0.0594
3	0	0.6498	-0.2232	0.0023	-0.3520	0.0374	-1.4375	0.0846	0.1245	0.0685
3	0	0.6890	-0.2923	0.0025	-0.4018	0.0408	-1.7594	0.0925	0.2538	0.0691
3	0	0.7495	-0.3008	0.0025	-0.4636	0.0470	-2.3667	0.1044	0.0623	0.0654
3	0	0.7998	-0.3039	0.0026	-0.5298	0.0513	-2.9369	0.1138	0.0973	0.0666
3	0	0.8577	-0.3494	0.0035	-0.6124	0.0569	-3.6807	0.1253	0.0344	0.0860
3	0	0.9729	-0.3688	0.0059	-0.7725	0.0675	-5.3687	0.1436	-0.0044	0.0743
4	0	0.2001	0.0245	0.0027	0.0074	0.0017	-0.0435	0.0045	0.0814	0.0441
4	0	0.2502	0.0211	0.0016	0.0264	0.0034	-0.1020	0.0087	0.0837	0.0724
4	0	0.3001	-0.0007	0.0014	0.0405	0.0061	-0.1683	0.0147	0.1600	0.0972
4	0	0.3502	-0.0428	0.0017	0.0795	0.0107	-0.2763	0.0240	0.2738	0.0839
4	0	0.4002	-0.0727	0.0021	0.1245	0.0162	-0.4326	0.0364	0.2528	0.0900
4	0	0.4500	-0.0973	0.0022	0.1659	0.0196	-0.6374	0.0436	0.0758	0.0892
4	0	0.5001	-0.1310	0.0022	0.1942	0.0243	-0.8704	0.0539	0.2719	0.0761
4	0	0.5560	-0.1708	0.0021	0.2237	0.0284	-1.2541	0.0638	0.0992	0.0823
4	0	0.6001	-0.1997	0.0022	0.2615	0.0323	-1.5836	0.0710	0.1353	0.0832
4	0	0.6501	-0.2526	0.0023	0.2613	0.0369	-2.0333	0.0811	0.3255	0.0751
4	0	0.6999	-0.2739	0.0023	0.2637	0.0414	-2.5653	0.0893	0.3845	0.0808
4	0	0.7500	-0.3134	0.0026	0.3045	0.0455	-3.1921	0.0998	0.4040	0.0817
4	0	0.8002	-0.3449	0.0033	0.2967	0.0501	-3.9250	0.1109	0.1960	0.0821
4	0	0.8582	-0.3641	0.0040	0.3201	0.0557	-4.8176	0.1231	0.1316	0.0931
4	0	0.9101	-0.3735	0.0047	0.2964	0.0608	-5.6717	0.1353	0.0620	0.0935
4	0	0.9728	-0.3636	0.0055	0.3306	0.0666	-6.6018	0.1506	0.8385	0.1004

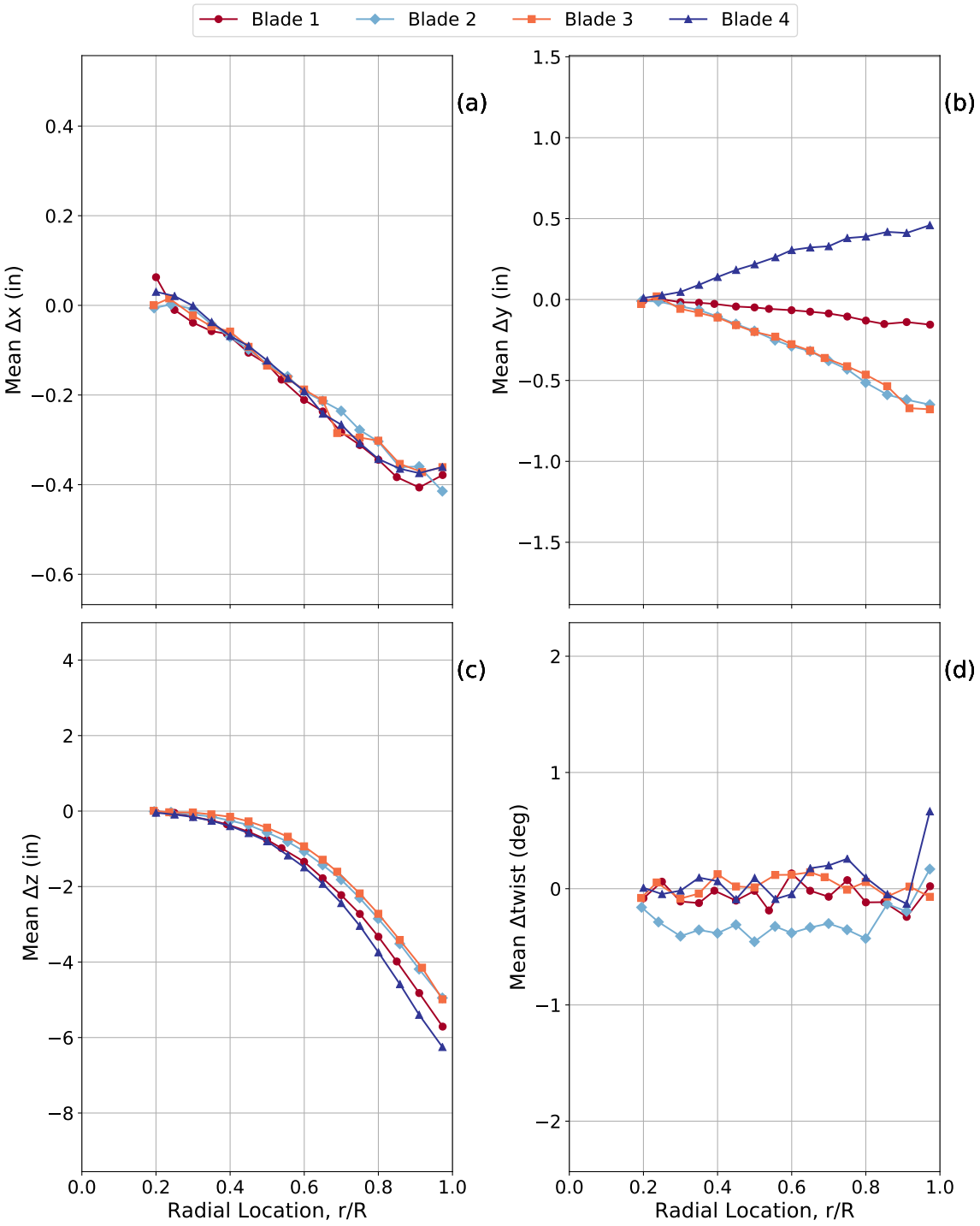


Figure 2.7-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-6. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0628	0.0038	-0.0057	0.0022	-0.0391	0.0057	-0.0823	0.0533
1	4.92	0.2499	-0.0102	0.0024	0.0015	0.0043	-0.0477	0.0101	0.0603	0.0884
1	4.92	0.2998	-0.0386	0.0017	-0.0162	0.0087	-0.1511	0.0173	-0.1102	0.1163
1	4.92	0.3498	-0.0575	0.0019	-0.0200	0.0153	-0.2466	0.0294	-0.1233	0.1023
1	4.92	0.3913	-0.0635	0.0023	-0.0271	0.0216	-0.3506	0.0399	-0.0168	0.1009
1	4.92	0.4496	-0.1056	0.0023	-0.0432	0.0279	-0.5472	0.0535	-0.1026	0.1004
1	4.92	0.4997	-0.1308	0.0024	-0.0488	0.0332	-0.7608	0.0643	-0.0183	0.0996
1	4.92	0.5387	-0.1656	0.0022	-0.0576	0.0374	-0.9824	0.0736	-0.1873	0.0984
1	4.92	0.5996	-0.2108	0.0023	-0.0660	0.0444	-1.3428	0.0882	0.1315	0.0986
1	4.92	0.6498	-0.2367	0.0026	-0.0752	0.0504	-1.7792	0.1013	-0.0175	0.1059
1	4.92	0.6998	-0.2832	0.0026	-0.0861	0.0561	-2.2271	0.1153	-0.0692	0.1018
1	4.92	0.7500	-0.3116	0.0030	-0.1052	0.0619	-2.7255	0.1295	0.0736	0.1108
1	4.92	0.8001	-0.3444	0.0035	-0.1301	0.0680	-3.3289	0.1473	-0.1176	0.1015
1	4.92	0.8497	-0.3832	0.0045	-0.1512	0.0732	-3.9853	0.1642	-0.1157	0.1102
1	4.92	0.9102	-0.4063	0.0057	-0.1393	0.0800	-4.8212	0.1858	-0.2421	0.1229
1	4.92	0.9734	-0.3785	0.0066	-0.1552	0.0875	-5.7105	0.2122	0.0213	0.1100
2	4.92	0.1949	-0.0059	0.0022	-0.0093	0.0014	-0.0110	0.0039	-0.1604	0.0446
2	4.92	0.2405	0.0021	0.0015	-0.0118	0.0027	-0.0321	0.0077	-0.2865	0.0541
2	4.92	0.2999	-0.0080	0.0013	-0.0427	0.0052	-0.0923	0.0128	-0.4084	0.0925
2	4.92	0.3498	-0.0422	0.0017	-0.0643	0.0093	-0.1459	0.0217	-0.3548	0.0780
2	4.92	0.3998	-0.0702	0.0022	-0.1050	0.0140	-0.2530	0.0325	-0.3831	0.0769
2	4.92	0.4496	-0.0983	0.0021	-0.1513	0.0162	-0.3669	0.0405	-0.3103	0.0675
2	4.92	0.4995	-0.1302	0.0024	-0.1945	0.0199	-0.5671	0.0498	-0.4559	0.0673
2	4.92	0.5551	-0.1586	0.0025	-0.2512	0.0241	-0.8094	0.0594	-0.3243	0.0700
2	4.92	0.5996	-0.1919	0.0025	-0.2883	0.0273	-1.0654	0.0678	-0.3807	0.0751
2	4.92	0.6497	-0.2134	0.0027	-0.3192	0.0303	-1.4263	0.0765	-0.3336	0.0755
2	4.92	0.6996	-0.2357	0.0026	-0.3782	0.0335	-1.8173	0.0857	-0.2999	0.0732
2	4.92	0.7495	-0.2780	0.0027	-0.4306	0.0381	-2.3006	0.0954	-0.3531	0.0687
2	4.92	0.7996	-0.3036	0.0028	-0.5134	0.0413	-2.8515	0.1049	-0.4282	0.0744
2	4.92	0.8578	-0.3608	0.0034	-0.5880	0.0459	-3.5160	0.1173	-0.1326	0.0822
2	4.92	0.9100	-0.3596	0.0044	-0.6194	0.0487	-4.1873	0.1301	-0.1950	0.1214
2	4.92	0.9727	-0.4145	0.0053	-0.6496	0.0548	-4.9502	0.1435	0.1686	0.0831
3	4.92	0.1938	0.0004	0.0019	-0.0276	0.0014	0.0068	0.0040	-0.0796	0.0377
3	4.92	0.2357	0.0156	0.0015	0.0194	0.0026	-0.0317	0.0067	0.0534	0.0489
3	4.92	0.2995	-0.0226	0.0012	-0.0574	0.0048	-0.0373	0.0119	-0.0850	0.0720
3	4.92	0.3493	-0.0469	0.0014	-0.0820	0.0090	-0.0872	0.0203	-0.0421	0.0595
3	4.92	0.4000	-0.0585	0.0017	-0.1110	0.0135	-0.1525	0.0296	0.1247	0.0554
3	4.92	0.4497	-0.0926	0.0018	-0.1582	0.0161	-0.2725	0.0372	0.0191	0.0575
3	4.92	0.4997	-0.1343	0.0019	-0.1996	0.0198	-0.4395	0.0456	0.0111	0.0504
3	4.92	0.5556	-0.1642	0.0020	-0.2296	0.0234	-0.6799	0.0552	0.1184	0.0532
3	4.92	0.5995	-0.1878	0.0020	-0.2762	0.0265	-0.9343	0.0616	0.1199	0.0552
3	4.92	0.6498	-0.2119	0.0021	-0.3163	0.0301	-1.2901	0.0693	0.1418	0.0611
3	4.92	0.6890	-0.2848	0.0019	-0.3613	0.0328	-1.6070	0.0750	0.0991	0.0582
3	4.92	0.7495	-0.2949	0.0021	-0.4125	0.0376	-2.1813	0.0853	-0.0083	0.0628
3	4.92	0.7998	-0.3019	0.0027	-0.4643	0.0413	-2.7210	0.0942	0.0580	0.0637
3	4.92	0.8577	-0.3537	0.0032	-0.5355	0.0458	-3.4147	0.1062	-0.0677	0.0739
3	4.92	0.9178	-0.3719	0.0035	-0.6714	0.0518	-4.1487	0.1188	0.0181	0.1055
3	4.92	0.9729	-0.3610	0.0053	-0.6782	0.0563	-4.9871	0.1324	-0.0702	0.0740
4	4.92	0.2001	0.0302	0.0027	0.0101	0.0014	-0.0434	0.0039	0.0077	0.0438
4	4.92	0.2502	0.0207	0.0015	0.0262	0.0032	-0.0923	0.0071	-0.0465	0.0647
4	4.92	0.3001	-0.0011	0.0013	0.0472	0.0048	-0.1579	0.0121	-0.0163	0.0927
4	4.92	0.3502	-0.0374	0.0019	0.0909	0.0089	-0.2581	0.0199	0.0951	0.0746
4	4.92	0.4002	-0.0684	0.0022	0.1392	0.0133	-0.3985	0.0295	0.0643	0.0774
4	4.92	0.4500	-0.0909	0.0023	0.1828	0.0166	-0.5844	0.0368	-0.0912	0.0766
4	4.92	0.5001	-0.1232	0.0020	0.2175	0.0203	-0.8009	0.0467	0.0918	0.0764
4	4.92	0.5560	-0.1625	0.0020	0.2613	0.0242	-1.1769	0.0568	-0.0887	0.0800
4	4.92	0.6001	-0.1915	0.0021	0.3058	0.0280	-1.4907	0.0656	-0.0470	0.0773
4	4.92	0.6501	-0.2417	0.0022	0.3217	0.0317	-1.9285	0.0736	0.1760	0.0830
4	4.92	0.6999	-0.2663	0.0023	0.3292	0.0359	-2.4382	0.0838	0.1999	0.0803
4	4.92	0.7500	-0.3076	0.0024	0.3798	0.0393	-3.0423	0.0940	0.2577	0.0796
4	4.92	0.8002	-0.3428	0.0027	0.3889	0.0443	-3.7433	0.1056	0.0949	0.0852
4	4.92	0.8582	-0.3645	0.0033	0.4180	0.0490	-4.5872	0.1187	-0.0483	0.0863
4	4.92	0.9101	-0.3743	0.0039	0.4112	0.0542	-5.3987	0.1312	-0.1300	0.0821
4	4.92	0.9728	-0.3607	0.0050	0.4593	0.0598	-6.2514	0.1469	0.6650	0.0913

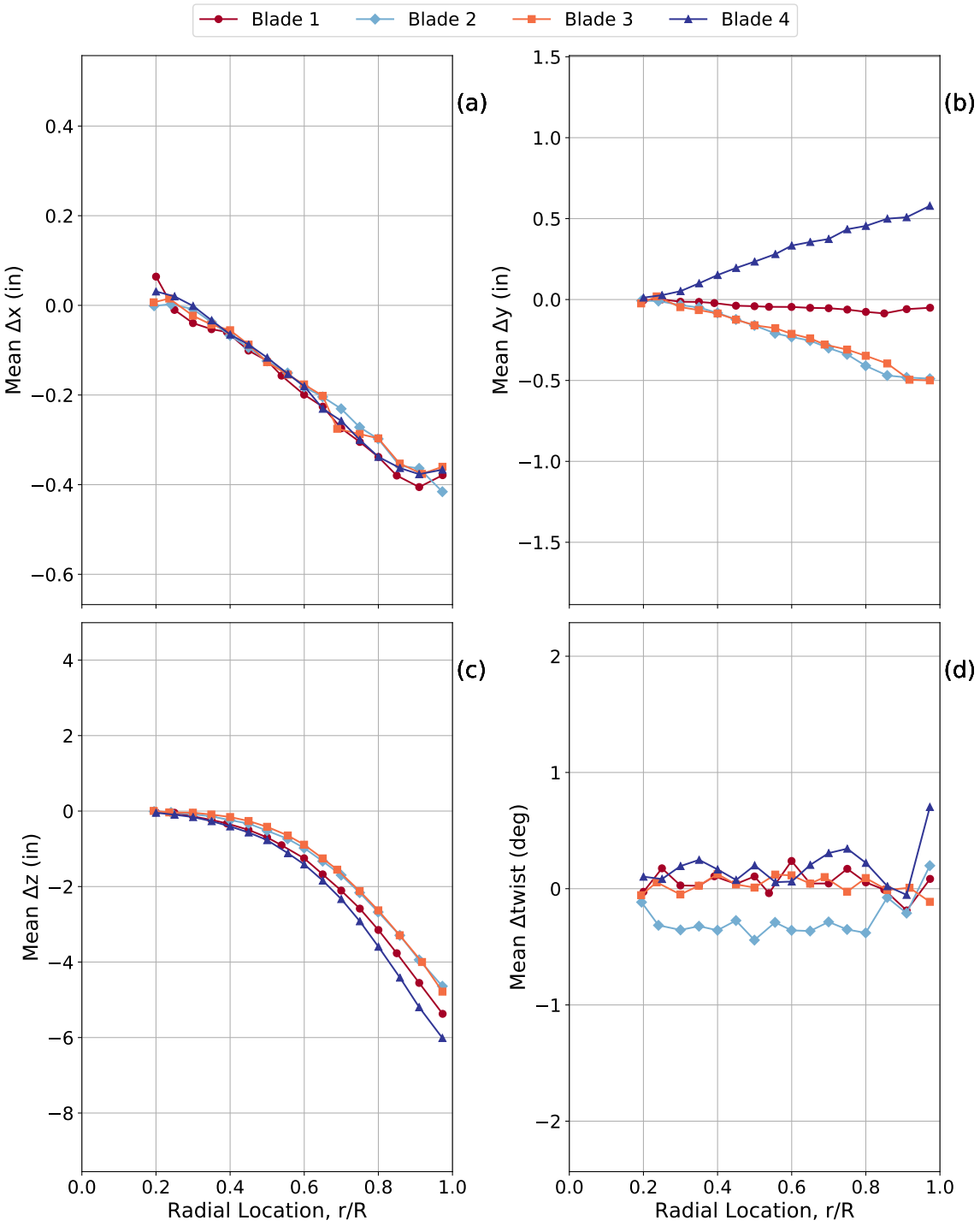


Figure 2.7-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-7. 10° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0641	0.0036	-0.0044	0.0018	-0.0379	0.0049	-0.0269	0.0329
1	9.84	0.2499	-0.0102	0.0019	0.0008	0.0032	-0.0447	0.0090	0.1753	0.0653
1	9.84	0.2998	-0.0396	0.0016	-0.0135	0.0068	-0.1418	0.0155	0.0280	0.0696
1	9.84	0.3498	-0.0532	0.0017	-0.0147	0.0120	-0.2331	0.0262	0.0247	0.0686
1	9.84	0.3913	-0.0594	0.0019	-0.0218	0.0167	-0.3280	0.0361	0.1068	0.0635
1	9.84	0.4496	-0.1009	0.0018	-0.0381	0.0221	-0.4980	0.0491	0.0411	0.0640
1	9.84	0.4997	-0.1234	0.0019	-0.0413	0.0270	-0.6967	0.0614	0.1053	0.0634
1	9.84	0.5387	-0.1568	0.0018	-0.0451	0.0305	-0.9043	0.0711	-0.0382	0.0698
1	9.84	0.5996	-0.1992	0.0018	-0.0458	0.0366	-1.2504	0.0872	0.2385	0.0652
1	9.84	0.6498	-0.2259	0.0019	-0.0515	0.0415	-1.6764	0.0985	0.0446	0.0674
1	9.84	0.6998	-0.2742	0.0020	-0.0536	0.0466	-2.1064	0.1100	0.0450	0.0714
1	9.84	0.7500	-0.3047	0.0021	-0.0621	0.0519	-2.5843	0.1214	0.1709	0.0730
1	9.84	0.8001	-0.3382	0.0023	-0.0762	0.0570	-3.1501	0.1326	0.0543	0.0672
1	9.84	0.8497	-0.3797	0.0030	-0.0858	0.0625	-3.7663	0.1431	-0.0083	0.0669
1	9.84	0.9102	-0.4054	0.0030	-0.0594	0.0690	-4.5528	0.1582	-0.1871	0.0686
1	9.84	0.9734	-0.3788	0.0041	-0.0509	0.0755	-5.3721	0.1739	0.0843	0.0722
2	9.84	0.1949	-0.0011	0.0023	-0.0071	0.0015	-0.0100	0.0046	-0.1161	0.0296
2	9.84	0.2405	0.0025	0.0017	-0.0093	0.0026	-0.0363	0.0069	-0.3150	0.0539
2	9.84	0.2999	-0.0084	0.0011	-0.0344	0.0049	-0.0856	0.0151	-0.3546	0.0649
2	9.84	0.3498	-0.0376	0.0019	-0.0490	0.0091	-0.1399	0.0244	-0.3227	0.0571
2	9.84	0.3998	-0.0672	0.0022	-0.0826	0.0133	-0.2398	0.0367	-0.3576	0.0557
2	9.84	0.4496	-0.0940	0.0023	-0.1231	0.0170	-0.3317	0.0484	-0.2740	0.0526
2	9.84	0.4995	-0.1240	0.0027	-0.1599	0.0217	-0.5184	0.0634	-0.4422	0.0556
2	9.84	0.5551	-0.1508	0.0025	-0.2090	0.0264	-0.7349	0.0806	-0.2896	0.0562
2	9.84	0.5996	-0.1819	0.0027	-0.2315	0.0308	-0.9778	0.0947	-0.3584	0.0607
2	9.84	0.6497	-0.2041	0.0022	-0.2540	0.0357	-1.3281	0.1115	-0.3642	0.0579
2	9.84	0.6996	-0.2307	0.0024	-0.2999	0.0403	-1.6969	0.1271	-0.2856	0.0573
2	9.84	0.7495	-0.2718	0.0028	-0.3387	0.0457	-2.1624	0.1434	-0.3508	0.0591
2	9.84	0.7996	-0.2979	0.0030	-0.4097	0.0514	-2.6759	0.1627	-0.3800	0.0611
2	9.84	0.8578	-0.3581	0.0038	-0.4694	0.0580	-3.2930	0.1847	-0.0756	0.0667
2	9.84	0.9100	-0.3636	0.0043	-0.4812	0.0633	-3.9420	0.2070	-0.2105	0.0805
2	9.84	0.9727	-0.4157	0.0048	-0.4891	0.0708	-4.6402	0.2339	0.1981	0.0787
3	9.84	0.1938	0.0068	0.0022	-0.0239	0.0011	0.0043	0.0034	-0.0559	0.0308
3	9.84	0.2357	0.0152	0.0017	0.0193	0.0025	-0.0352	0.0053	0.0549	0.0483
3	9.84	0.2995	-0.0231	0.0012	-0.0470	0.0042	-0.0425	0.0102	-0.0494	0.0677
3	9.84	0.3493	-0.0430	0.0017	-0.0651	0.0078	-0.0906	0.0168	0.0255	0.0598
3	9.84	0.4000	-0.0555	0.0021	-0.0864	0.0119	-0.1580	0.0248	0.1252	0.0575
3	9.84	0.4497	-0.0876	0.0019	-0.1241	0.0148	-0.2626	0.0311	0.0367	0.0602
3	9.84	0.4997	-0.1267	0.0019	-0.1593	0.0179	-0.4168	0.0383	0.0096	0.0562
3	9.84	0.5556	-0.1545	0.0019	-0.1769	0.0215	-0.6466	0.0472	0.1212	0.0580
3	9.84	0.5995	-0.1764	0.0019	-0.2120	0.0244	-0.8905	0.0546	0.1150	0.0616
3	9.84	0.6498	-0.2018	0.0020	-0.2400	0.0279	-1.2545	0.0635	0.0438	0.0559
3	9.84	0.6890	-0.2753	0.0020	-0.2781	0.0303	-1.5526	0.0692	0.0997	0.0594
3	9.84	0.7495	-0.2870	0.0023	-0.3093	0.0346	-2.1197	0.0807	-0.0257	0.0635
3	9.84	0.7998	-0.2967	0.0024	-0.3476	0.0382	-2.6301	0.0894	0.0915	0.0624
3	9.84	0.8577	-0.3530	0.0025	-0.3951	0.0427	-3.2902	0.0988	-0.0112	0.0681
3	9.84	0.9178	-0.3760	0.0034	-0.4956	0.0472	-3.9994	0.1082	0.0083	0.0731
3	9.84	0.9729	-0.3601	0.0038	-0.4994	0.0514	-4.7833	0.1199	-0.1129	0.0797
4	9.84	0.2001	0.0310	0.0024	0.0119	0.0014	-0.0453	0.0041	0.1033	0.0363
4	9.84	0.2502	0.0200	0.0015	0.0270	0.0022	-0.0965	0.0059	0.0833	0.0638
4	9.84	0.3001	-0.0014	0.0012	0.0518	0.0045	-0.1592	0.0121	0.1946	0.0807
4	9.84	0.3502	-0.0335	0.0016	0.1003	0.0083	-0.2677	0.0195	0.2482	0.0791
4	9.84	0.4002	-0.0652	0.0022	0.1514	0.0118	-0.4069	0.0286	0.1652	0.0753
4	9.84	0.4500	-0.0876	0.0025	0.1951	0.0150	-0.5671	0.0362	0.0750	0.0722
4	9.84	0.5001	-0.1166	0.0026	0.2344	0.0181	-0.7705	0.0449	0.2005	0.0736
4	9.84	0.5560	-0.1531	0.0023	0.2807	0.0218	-1.1169	0.0543	0.0561	0.0718
4	9.84	0.6001	-0.1805	0.0023	0.3333	0.0245	-1.4141	0.0621	0.0615	0.0744
4	9.84	0.6501	-0.2307	0.0021	0.3556	0.0280	-1.8431	0.0714	0.2048	0.0692
4	9.84	0.6999	-0.2577	0.0023	0.3740	0.0317	-2.3310	0.0811	0.3064	0.0704
4	9.84	0.7500	-0.3001	0.0024	0.4342	0.0351	-2.9197	0.0896	0.3443	0.0699
4	9.84	0.8002	-0.3380	0.0026	0.4549	0.0389	-3.5943	0.0992	0.2220	0.0745
4	9.84	0.8582	-0.3629	0.0030	0.4995	0.0430	-4.4127	0.1117	0.0215	0.0785
4	9.84	0.9101	-0.3767	0.0031	0.5085	0.0471	-5.1967	0.1217	-0.0532	0.0806
4	9.84	0.9728	-0.3666	0.0048	0.5790	0.0510	-6.0127	0.1381	0.7029	0.0810

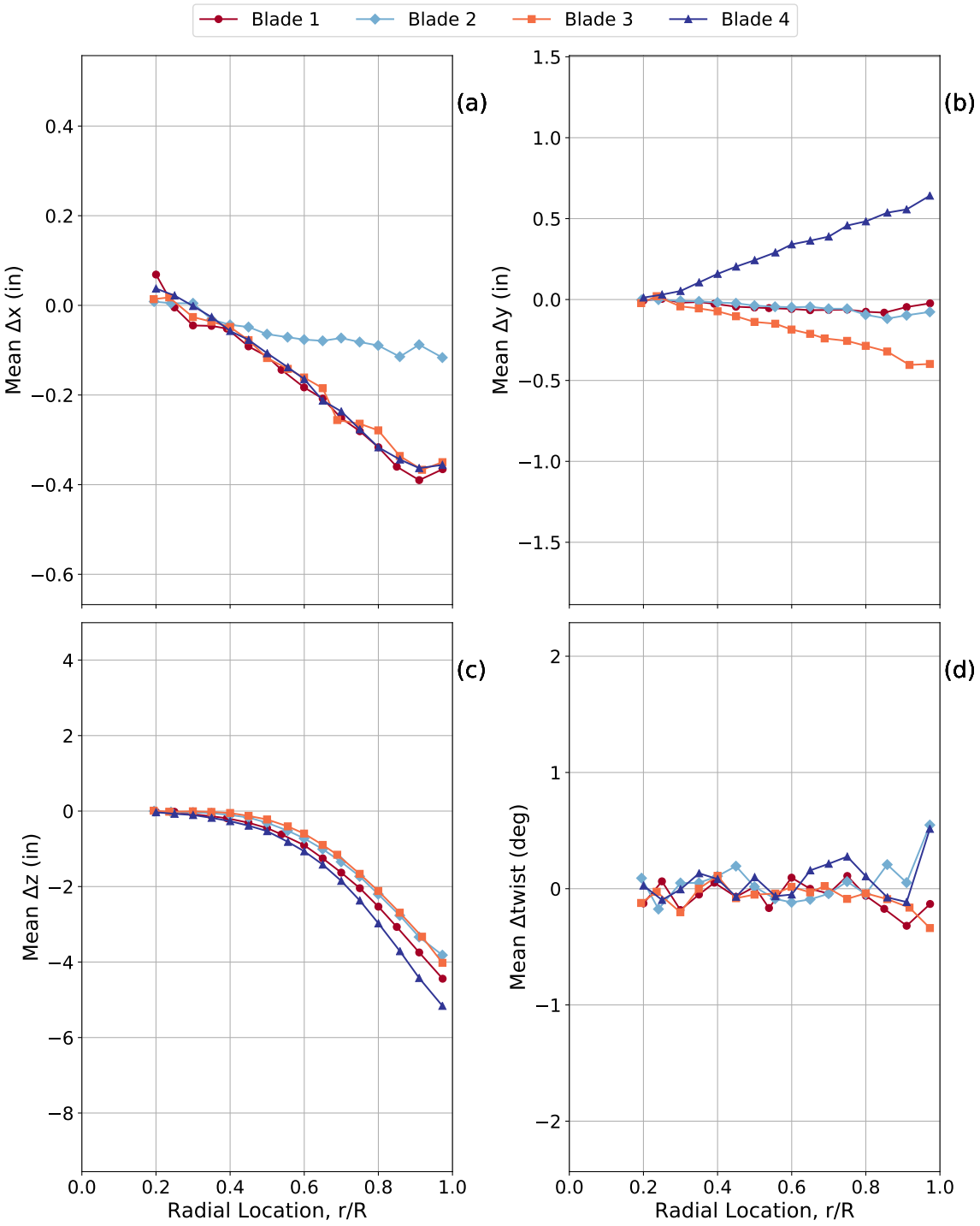


Figure 2.7-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-8. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0687	0.0030	-0.0059	0.0013	-0.0237	0.0048	-0.1266	0.0385
1	15.12	0.2499	-0.0047	0.0020	0.0042	0.0025	-0.0190	0.0091	0.0633	0.0707
1	15.12	0.2998	-0.0449	0.0017	-0.0195	0.0050	-0.0841	0.0163	-0.1836	0.0884
1	15.12	0.3498	-0.0458	0.0016	-0.0154	0.0086	-0.1374	0.0292	-0.0505	0.0798
1	15.12	0.3913	-0.0518	0.0017	-0.0265	0.0122	-0.1891	0.0400	0.0514	0.0775
1	15.12	0.4496	-0.0915	0.0019	-0.0443	0.0161	-0.3082	0.0541	-0.0703	0.0800
1	15.12	0.4997	-0.1139	0.0020	-0.0494	0.0198	-0.4502	0.0681	0.0157	0.0785
1	15.12	0.5387	-0.1438	0.0020	-0.0530	0.0232	-0.6175	0.0802	-0.1664	0.0786
1	15.12	0.5996	-0.1830	0.0020	-0.0581	0.0279	-0.9019	0.0993	0.0949	0.0794
1	15.12	0.6498	-0.2080	0.0022	-0.0659	0.0317	-1.2521	0.1148	-0.0010	0.0781
1	15.12	0.6998	-0.2515	0.0025	-0.0642	0.0358	-1.6303	0.1304	-0.0420	0.0783
1	15.12	0.7500	-0.2808	0.0027	-0.0622	0.0399	-2.0434	0.1471	0.1094	0.0810
1	15.12	0.8001	-0.3166	0.0034	-0.0756	0.0439	-2.5323	0.1670	-0.0611	0.0783
1	15.12	0.8497	-0.3599	0.0041	-0.0811	0.0484	-3.0694	0.1867	-0.1732	0.0851
1	15.12	0.9102	-0.3899	0.0044	-0.0464	0.0533	-3.7457	0.2126	-0.3192	0.0759
1	15.12	0.9734	-0.3655	0.0053	-0.0234	0.0591	-4.4415	0.2430	-0.1313	0.0893
2	15.12	0.1949	0.0084	0.0054	-0.0022	0.0015	-0.0006	0.0055	0.0907	0.0406
2	15.12	0.2405	0.0047	0.0031	-0.0010	0.0027	-0.0258	0.0085	-0.1755	0.0795
2	15.12	0.2999	0.0047	0.0028	-0.0081	0.0054	-0.0373	0.0162	0.0492	0.0887
2	15.12	0.3498	-0.0315	0.0035	-0.0114	0.0080	-0.0540	0.0250	0.0501	0.0826
2	15.12	0.3998	-0.0434	0.0035	-0.0181	0.0132	-0.1053	0.0377	0.1078	0.0867
2	15.12	0.4496	-0.0483	0.0033	-0.0229	0.0158	-0.1700	0.0459	0.1942	0.0945
2	15.12	0.4995	-0.0642	0.0030	-0.0375	0.0194	-0.3095	0.0577	0.0167	0.0819
2	15.12	0.5551	-0.0710	0.0028	-0.0446	0.0236	-0.5183	0.0703	-0.0874	0.0757
2	15.12	0.5996	-0.0764	0.0029	-0.0478	0.0265	-0.7221	0.0812	-0.1176	0.0773
2	15.12	0.6497	-0.0791	0.0029	-0.0451	0.0302	-1.0082	0.0909	-0.0920	0.0851
2	15.12	0.6996	-0.0729	0.0033	-0.0569	0.0349	-1.3453	0.1051	-0.0434	0.0862
2	15.12	0.7495	-0.0818	0.0037	-0.0571	0.0386	-1.7300	0.1171	0.0613	0.0754
2	15.12	0.7996	-0.0895	0.0039	-0.0942	0.0423	-2.2026	0.1279	-0.0460	0.0906
2	15.12	0.8578	-0.1145	0.0040	-0.1180	0.0475	-2.7663	0.1410	0.2075	0.0811
2	15.12	0.9100	-0.0878	0.0038	-0.0972	0.0516	-3.3365	0.1531	0.0524	0.0793
2	15.12	0.9727	-0.1165	0.0041	-0.0766	0.0574	-3.8162	0.1669	0.5479	0.0974
3	15.12	0.1938	0.0139	0.0025	-0.0223	0.0012	0.0105	0.0036	-0.1228	0.0292
3	15.12	0.2357	0.0177	0.0019	0.0207	0.0020	-0.0172	0.0065	-0.0264	0.0534
3	15.12	0.2995	-0.0261	0.0012	-0.0423	0.0036	-0.0067	0.0124	-0.2025	0.0676
3	15.12	0.3493	-0.0363	0.0012	-0.0547	0.0066	-0.0214	0.0222	-0.0006	0.0550
3	15.12	0.4000	-0.0483	0.0015	-0.0726	0.0099	-0.0508	0.0328	0.1105	0.0532
3	15.12	0.4497	-0.0776	0.0017	-0.1034	0.0126	-0.1273	0.0429	-0.0815	0.0526
3	15.12	0.4997	-0.1175	0.0019	-0.1385	0.0151	-0.2223	0.0542	-0.0510	0.0545
3	15.12	0.5556	-0.1417	0.0019	-0.1494	0.0185	-0.4053	0.0667	-0.0419	0.0524
3	15.12	0.5995	-0.1609	0.0021	-0.1854	0.0210	-0.5964	0.0768	0.0159	0.0537
3	15.12	0.6498	-0.1848	0.0020	-0.2120	0.0240	-0.8969	0.0884	-0.0314	0.0531
3	15.12	0.6890	-0.2559	0.0020	-0.2403	0.0266	-1.1563	0.0973	0.0227	0.0568
3	15.12	0.7495	-0.2640	0.0019	-0.2555	0.0306	-1.6633	0.1116	-0.0875	0.0587
3	15.12	0.7998	-0.2789	0.0022	-0.2862	0.0347	-2.1167	0.1248	-0.0396	0.0571
3	15.12	0.8577	-0.3360	0.0028	-0.3212	0.0388	-2.6915	0.1420	-0.0899	0.0673
3	15.12	0.9178	-0.3668	0.0034	-0.4041	0.0434	-3.3281	0.1622	-0.1627	0.0703
3	15.12	0.9729	-0.3498	0.0046	-0.3982	0.0468	-4.0207	0.1815	-0.3385	0.0672
4	15.12	0.2001	0.0374	0.0026	0.0121	0.0012	-0.0321	0.0032	0.0267	0.0339
4	15.12	0.2502	0.0219	0.0019	0.0302	0.0028	-0.0724	0.0074	-0.0969	0.0639
4	15.12	0.3001	-0.0015	0.0015	0.0527	0.0039	-0.1052	0.0097	-0.0055	0.0757
4	15.12	0.3502	-0.0262	0.0020	0.1059	0.0074	-0.1795	0.0171	0.1325	0.0665
4	15.12	0.4002	-0.0573	0.0023	0.1585	0.0109	-0.2682	0.0253	0.0824	0.0657
4	15.12	0.4500	-0.0771	0.0022	0.2033	0.0137	-0.3874	0.0325	-0.0692	0.0670
4	15.12	0.5001	-0.1069	0.0022	0.2430	0.0168	-0.5326	0.0393	0.0989	0.0678
4	15.12	0.5560	-0.1382	0.0020	0.2908	0.0204	-0.8167	0.0476	-0.0646	0.0678
4	15.12	0.6001	-0.1647	0.0022	0.3408	0.0232	-1.0666	0.0548	-0.0501	0.0660
4	15.12	0.6501	-0.2125	0.0022	0.3638	0.0266	-1.4188	0.0626	0.1575	0.0701
4	15.12	0.6999	-0.2366	0.0022	0.3888	0.0300	-1.8502	0.0695	0.2144	0.0684
4	15.12	0.7500	-0.2766	0.0022	0.4573	0.0336	-2.3711	0.0766	0.2760	0.0682
4	15.12	0.8002	-0.3167	0.0024	0.4831	0.0370	-2.9756	0.0832	0.1067	0.0733
4	15.12	0.8582	-0.3440	0.0027	0.5368	0.0411	-3.7126	0.0920	-0.0750	0.0708
4	15.12	0.9101	-0.3631	0.0030	0.5569	0.0452	-4.4235	0.1001	-0.1149	0.0716
4	15.12	0.9728	-0.3560	0.0035	0.6418	0.0497	-5.1608	0.1109	0.5150	0.0738

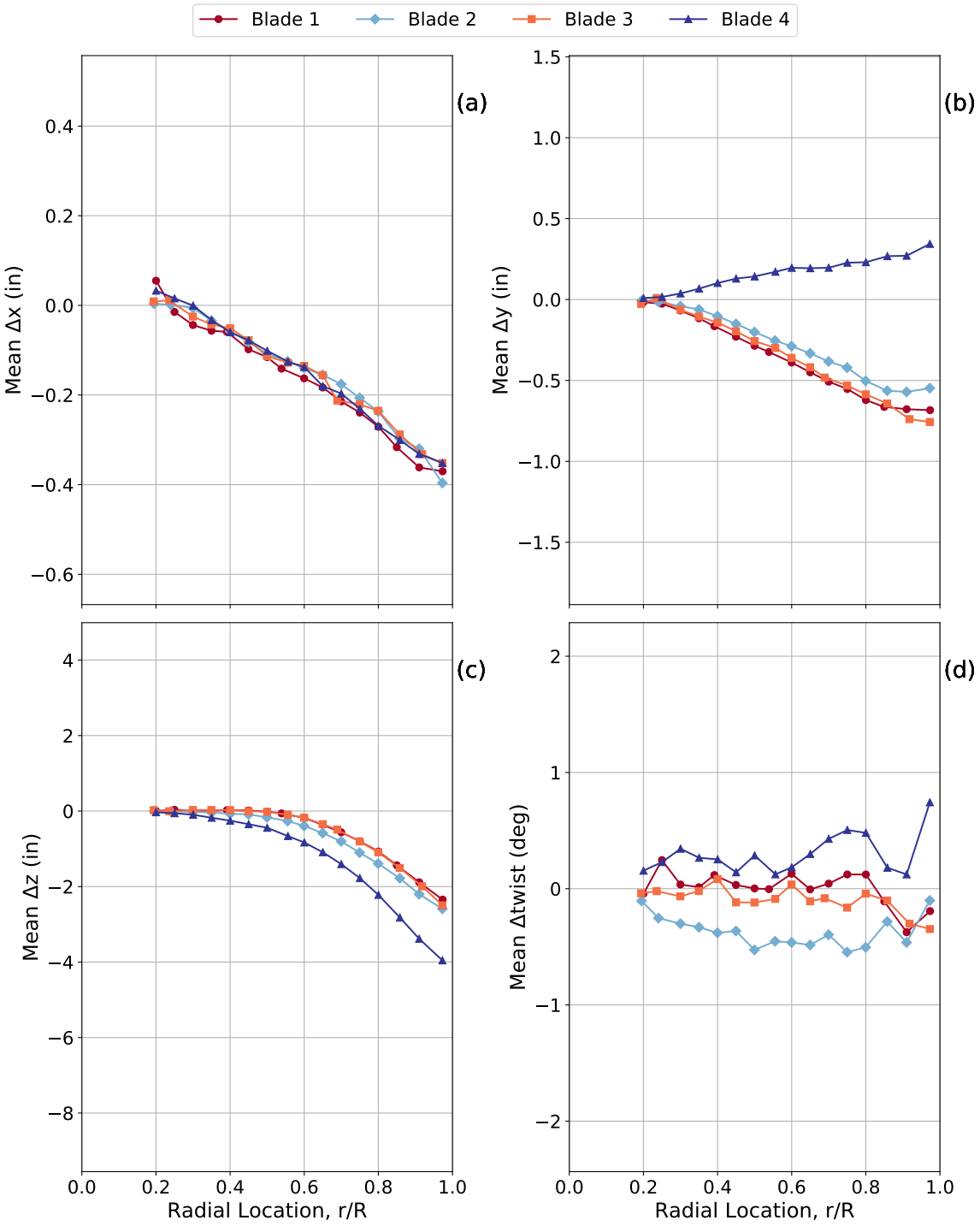


Figure 2.7-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-9. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0550	0.0024	-0.0168	0.0011	0.0031	0.0045	-0.0433	0.0309
1	29.88	0.2499	-0.0147	0.0019	-0.0256	0.0024	0.0346	0.0085	0.2458	0.0585
1	29.88	0.2998	-0.0439	0.0017	-0.0679	0.0048	0.0094	0.0157	0.0360	0.0702
1	29.88	0.3498	-0.0566	0.0017	-0.1161	0.0082	0.0102	0.0267	0.0126	0.0683
1	29.88	0.3913	-0.0591	0.0020	-0.1649	0.0119	0.0249	0.0372	0.1175	0.0580
1	29.88	0.4496	-0.0980	0.0023	-0.2297	0.0148	0.0143	0.0504	0.0321	0.0589
1	29.88	0.4997	-0.1154	0.0023	-0.2858	0.0183	-0.0158	0.0626	0.0022	0.0627
1	29.88	0.5387	-0.1412	0.0023	-0.3241	0.0217	-0.0609	0.0730	-0.0038	0.0609
1	29.88	0.5996	-0.1628	0.0023	-0.3892	0.0261	-0.1785	0.0887	0.1284	0.0648
1	29.88	0.6498	-0.1832	0.0022	-0.4495	0.0299	-0.3653	0.1035	-0.0060	0.0630
1	29.88	0.6998	-0.2143	0.0021	-0.5074	0.0338	-0.5626	0.1185	0.0436	0.0613
1	29.88	0.7500	-0.2393	0.0022	-0.5528	0.0375	-0.7998	0.1345	0.1224	0.0610
1	29.88	0.8001	-0.2709	0.0022	-0.6212	0.0417	-1.0723	0.1506	0.1223	0.0630
1	29.88	0.8497	-0.3164	0.0022	-0.6634	0.0462	-1.4363	0.1681	-0.1090	0.0601
1	29.88	0.9102	-0.3615	0.0025	-0.6777	0.0513	-1.8865	0.1873	-0.3741	0.0634
1	29.88	0.9734	-0.3702	0.0030	-0.6838	0.0564	-2.3451	0.2087	-0.1927	0.0699
2	29.88	0.1949	0.0035	0.0026	-0.0076	0.0008	0.0024	0.0031	-0.1049	0.0249
2	29.88	0.2405	0.0011	0.0018	-0.0145	0.0014	-0.0078	0.0049	-0.2527	0.0346
2	29.88	0.2999	-0.0059	0.0019	-0.0408	0.0028	-0.0214	0.0111	-0.3011	0.0497
2	29.88	0.3498	-0.0342	0.0020	-0.0613	0.0048	-0.0381	0.0174	-0.3315	0.0560
2	29.88	0.3998	-0.0576	0.0022	-0.1030	0.0071	-0.0731	0.0269	-0.3799	0.0442
2	29.88	0.4496	-0.0818	0.0023	-0.1506	0.0090	-0.0874	0.0352	-0.3637	0.0421
2	29.88	0.4995	-0.1080	0.0024	-0.2010	0.0111	-0.1651	0.0429	-0.5266	0.0452
2	29.88	0.5551	-0.1250	0.0023	-0.2540	0.0134	-0.2646	0.0508	-0.4523	0.0444
2	29.88	0.5996	-0.1397	0.0023	-0.2885	0.0153	-0.3927	0.0582	-0.4624	0.0455
2	29.88	0.6497	-0.1550	0.0023	-0.3324	0.0176	-0.5825	0.0657	-0.4844	0.0459
2	29.88	0.6996	-0.1759	0.0024	-0.3828	0.0203	-0.8022	0.0738	-0.3957	0.0460
2	29.88	0.7495	-0.2063	0.0025	-0.4208	0.0230	-1.1021	0.0825	-0.5460	0.0484
2	29.88	0.7996	-0.2367	0.0026	-0.5028	0.0259	-1.3929	0.0930	-0.5043	0.0463
2	29.88	0.8578	-0.2978	0.0029	-0.5636	0.0290	-1.7794	0.1056	-0.2827	0.0491
2	29.88	0.9100	-0.3199	0.0026	-0.5708	0.0319	-2.2016	0.1169	-0.4624	0.0532
2	29.88	0.9727	-0.3963	0.0034	-0.5479	0.0358	-2.5893	0.1315	-0.1014	0.0462
3	29.88	0.1938	0.0087	0.0020	-0.0274	0.0007	0.0225	0.0029	-0.0394	0.0223
3	29.88	0.2357	0.0110	0.0019	0.0091	0.0016	-0.0057	0.0055	-0.0212	0.0430
3	29.88	0.2995	-0.0250	0.0013	-0.0631	0.0027	0.0293	0.0112	-0.0658	0.0523
3	29.88	0.3493	-0.0425	0.0015	-0.1052	0.0047	0.0285	0.0180	-0.0200	0.0548
3	29.88	0.4000	-0.0508	0.0017	-0.1424	0.0075	0.0259	0.0284	0.0831	0.0482
3	29.88	0.4497	-0.0778	0.0018	-0.1961	0.0093	-0.0031	0.0361	-0.1174	0.0555
3	29.88	0.4997	-0.1133	0.0020	-0.2569	0.0118	-0.0205	0.0450	-0.1189	0.0574
3	29.88	0.5556	-0.1278	0.0022	-0.2993	0.0143	-0.0949	0.0563	-0.0878	0.0533
3	29.88	0.5995	-0.1351	0.0019	-0.3606	0.0168	-0.1752	0.0654	0.0358	0.0491
3	29.88	0.6498	-0.1556	0.0021	-0.4184	0.0194	-0.3467	0.0751	-0.1083	0.0531
3	29.88	0.6890	-0.2123	0.0022	-0.4826	0.0216	-0.4912	0.0838	-0.0822	0.0541
3	29.88	0.7495	-0.2207	0.0023	-0.5311	0.0250	-0.8056	0.0962	-0.1628	0.0527
3	29.88	0.7998	-0.2353	0.0023	-0.5858	0.0282	-1.0928	0.1069	-0.0426	0.0555
3	29.88	0.8577	-0.2879	0.0022	-0.6424	0.0320	-1.5079	0.1204	-0.1019	0.0584
3	29.88	0.9178	-0.3320	0.0022	-0.7392	0.0361	-1.9919	0.1365	-0.3007	0.0583
3	29.88	0.9729	-0.3518	0.0034	-0.7567	0.0400	-2.4967	0.1512	-0.3470	0.0626
4	29.88	0.2001	0.0328	0.0023	0.0091	0.0010	-0.0311	0.0032	0.1551	0.0274
4	29.88	0.2502	0.0156	0.0018	0.0160	0.0018	-0.0571	0.0056	0.2288	0.0561
4	29.88	0.3001	-0.0006	0.0015	0.0373	0.0039	-0.0962	0.0118	0.3437	0.0636
4	29.88	0.3502	-0.0328	0.0017	0.0673	0.0063	-0.1778	0.0170	0.2659	0.0585
4	29.88	0.4002	-0.0599	0.0018	0.1021	0.0092	-0.2542	0.0272	0.2523	0.0538
4	29.88	0.4500	-0.0781	0.0020	0.1293	0.0119	-0.3480	0.0355	0.1410	0.0541
4	29.88	0.5001	-0.1014	0.0024	0.1425	0.0147	-0.4434	0.0469	0.2862	0.0549
4	29.88	0.5560	-0.1255	0.0023	0.1716	0.0180	-0.6628	0.0557	0.1235	0.0556
4	29.88	0.6001	-0.1377	0.0022	0.1958	0.0204	-0.8320	0.0642	0.1842	0.0568
4	29.88	0.6501	-0.1802	0.0022	0.1937	0.0236	-1.0908	0.0738	0.2985	0.0525
4	29.88	0.6999	-0.1969	0.0019	0.1962	0.0264	-1.4059	0.0839	0.4289	0.0523
4	29.88	0.7500	-0.2307	0.0020	0.2274	0.0297	-1.7770	0.0947	0.5050	0.0560
4	29.88	0.8002	-0.2687	0.0022	0.2306	0.0328	-2.2208	0.1055	0.4802	0.0564
4	29.88	0.8582	-0.3004	0.0024	0.2679	0.0364	-2.8227	0.1207	0.1803	0.0591
4	29.88	0.9101	-0.3315	0.0026	0.2705	0.0398	-3.3833	0.1335	0.1229	0.0595
4	29.88	0.9728	-0.3518	0.0030	0.3437	0.0436	-3.9556	0.1507	0.7432	0.0589

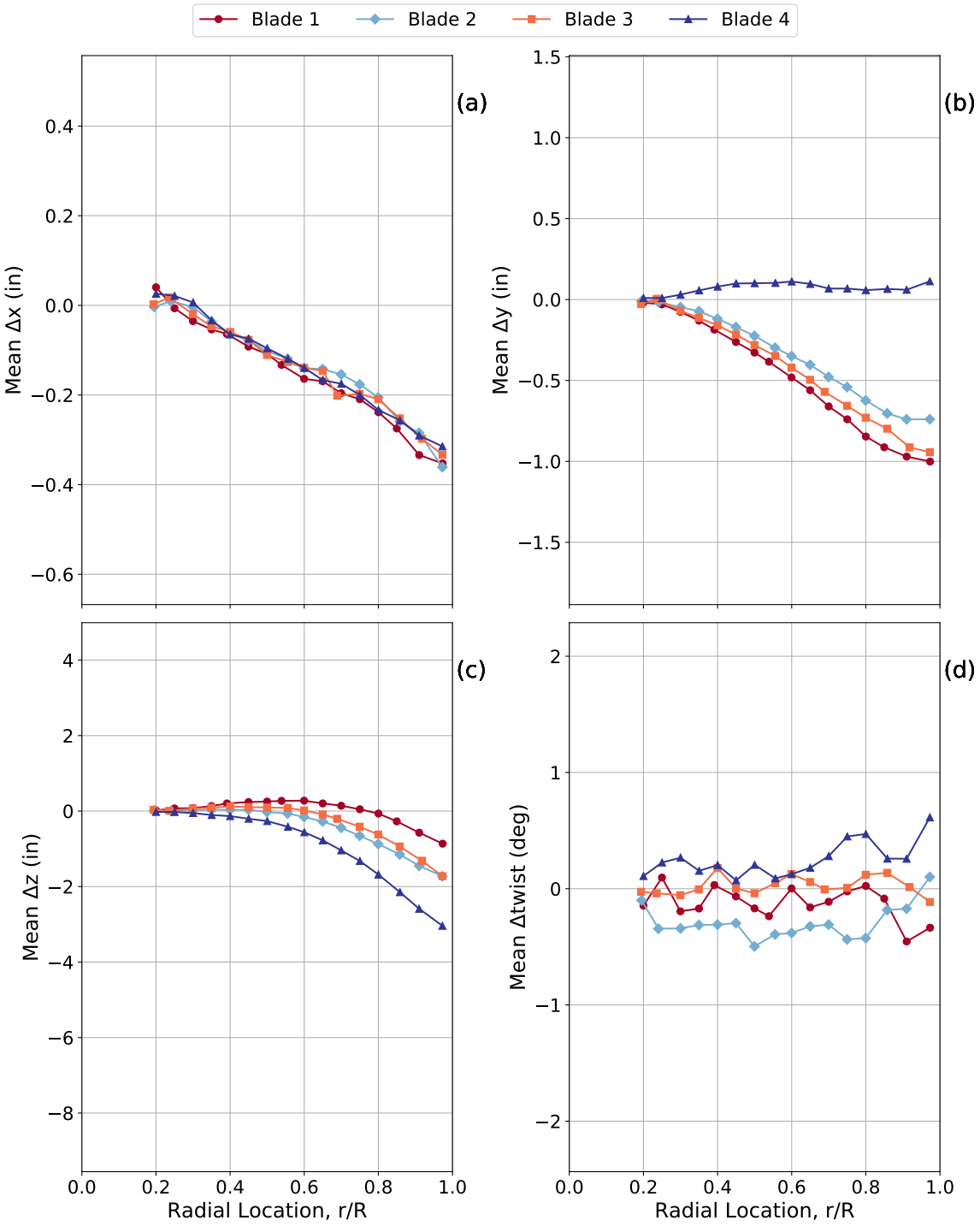


Figure 2.7-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-10. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0403	0.0020	-0.0188	0.0008	0.0193	0.0032	-0.1456	0.0292
1	45	0.2499	-0.0065	0.0018	-0.0299	0.0023	0.0702	0.0073	0.0958	0.0513
1	45	0.2998	-0.0352	0.0017	-0.0763	0.0039	0.0791	0.0124	-0.1945	0.0654
1	45	0.3498	-0.0536	0.0022	-0.1304	0.0064	0.1325	0.0205	-0.1707	0.0516
1	45	0.3913	-0.0639	0.0025	-0.1857	0.0098	0.2016	0.0299	0.0314	0.0556
1	45	0.4496	-0.0920	0.0020	-0.2625	0.0119	0.2393	0.0390	-0.0664	0.0560
1	45	0.4997	-0.1084	0.0024	-0.3278	0.0135	0.2526	0.0471	-0.1695	0.0633
1	45	0.5387	-0.1329	0.0028	-0.3845	0.0160	0.2709	0.0551	-0.2366	0.0588
1	45	0.5996	-0.1639	0.0023	-0.4815	0.0194	0.2760	0.0647	0.0022	0.0554
1	45	0.6498	-0.1693	0.0024	-0.5604	0.0221	0.2026	0.0739	-0.1607	0.0552
1	45	0.6998	-0.1960	0.0027	-0.6604	0.0252	0.1417	0.0827	-0.1124	0.0615
1	45	0.7500	-0.2094	0.0024	-0.7400	0.0283	0.0479	0.0923	-0.0232	0.0572
1	45	0.8001	-0.2383	0.0024	-0.8464	0.0318	-0.0660	0.1017	0.0235	0.0622
1	45	0.8497	-0.2746	0.0023	-0.9129	0.0351	-0.2723	0.1119	-0.0852	0.0649
1	45	0.9102	-0.3339	0.0024	-0.9703	0.0394	-0.5723	0.1264	-0.4541	0.0632
1	45	0.9734	-0.3525	0.0035	-1.0012	0.0440	-0.8640	0.1418	-0.3353	0.0606
2	45	0.1949	-0.0034	0.0014	-0.0095	0.0008	0.0160	0.0026	-0.1000	0.0240
2	45	0.2405	0.0092	0.0016	-0.0160	0.0015	0.0022	0.0048	-0.3441	0.0410
2	45	0.2999	-0.0035	0.0017	-0.0471	0.0035	0.0210	0.0101	-0.3417	0.0554
2	45	0.3498	-0.0364	0.0016	-0.0726	0.0049	0.0380	0.0161	-0.3123	0.0491
2	45	0.3998	-0.0631	0.0026	-0.1192	0.0083	0.0344	0.0250	-0.3091	0.0525
2	45	0.4496	-0.0783	0.0023	-0.1706	0.0090	0.0356	0.0331	-0.2961	0.0556
2	45	0.4995	-0.1024	0.0023	-0.2244	0.0114	-0.0253	0.0424	-0.4964	0.0555
2	45	0.5551	-0.1190	0.0022	-0.2979	0.0138	-0.0658	0.0519	-0.3932	0.0450
2	45	0.5996	-0.1399	0.0021	-0.3495	0.0155	-0.1557	0.0610	-0.3812	0.0495
2	45	0.6497	-0.1423	0.0020	-0.4035	0.0184	-0.2751	0.0713	-0.3238	0.0545
2	45	0.6996	-0.1541	0.0020	-0.4782	0.0214	-0.4434	0.0834	-0.3090	0.0600
2	45	0.7495	-0.1764	0.0020	-0.5411	0.0243	-0.6548	0.0947	-0.4361	0.0537
2	45	0.7996	-0.2054	0.0020	-0.6238	0.0276	-0.8724	0.1073	-0.4251	0.0523
2	45	0.8578	-0.2589	0.0022	-0.7041	0.0315	-1.1487	0.1213	-0.1834	0.0516
2	45	0.9100	-0.2847	0.0024	-0.7400	0.0347	-1.4514	0.1343	-0.1722	0.0570
2	45	0.9727	-0.3609	0.0030	-0.7399	0.0391	-1.7264	0.1504	0.1008	0.0562
3	45	0.1938	0.0026	0.0017	-0.0273	0.0006	0.0299	0.0020	-0.0265	0.0262
3	45	0.2357	0.0175	0.0020	0.0044	0.0013	0.0080	0.0047	-0.0397	0.0307
3	45	0.2995	-0.0195	0.0016	-0.0691	0.0031	0.0648	0.0081	-0.0555	0.0544
3	45	0.3493	-0.0467	0.0014	-0.1138	0.0045	0.0898	0.0136	-0.0054	0.0501
3	45	0.4000	-0.0593	0.0021	-0.1592	0.0076	0.1222	0.0213	0.1788	0.0454
3	45	0.4497	-0.0769	0.0024	-0.2162	0.0093	0.1051	0.0263	0.0021	0.0406
3	45	0.4997	-0.1106	0.0026	-0.2809	0.0117	0.0961	0.0327	-0.0394	0.0520
3	45	0.5556	-0.1263	0.0027	-0.3484	0.0146	0.0835	0.0404	0.0476	0.0441
3	45	0.5995	-0.1394	0.0026	-0.4204	0.0167	0.0155	0.0469	0.1261	0.0411
3	45	0.6498	-0.1462	0.0025	-0.4960	0.0202	-0.0892	0.0532	0.0578	0.0437
3	45	0.6890	-0.2014	0.0028	-0.5703	0.0221	-0.2044	0.0597	-0.0053	0.0456
3	45	0.7495	-0.1975	0.0024	-0.6564	0.0259	-0.4152	0.0702	0.0068	0.0387
3	45	0.7998	-0.2094	0.0027	-0.7301	0.0288	-0.6215	0.0790	0.1200	0.0437
3	45	0.8577	-0.2521	0.0026	-0.7981	0.0324	-0.9390	0.0897	0.1366	0.0440
3	45	0.9178	-0.2976	0.0027	-0.9131	0.0362	-1.3169	0.1014	0.0142	0.0467
3	45	0.9729	-0.3334	0.0035	-0.9432	0.0398	-1.7245	0.1116	-0.1141	0.0480
4	45	0.2001	0.0259	0.0018	0.0094	0.0007	-0.0222	0.0026	0.1088	0.0219
4	45	0.2502	0.0211	0.0016	0.0092	0.0025	-0.0251	0.0074	0.2253	0.0353
4	45	0.3001	0.0064	0.0018	0.0302	0.0045	-0.0527	0.0113	0.2667	0.0466
4	45	0.3502	-0.0335	0.0016	0.0565	0.0053	-0.1041	0.0174	0.1539	0.0488
4	45	0.4002	-0.0649	0.0020	0.0799	0.0105	-0.1338	0.0289	0.2030	0.0417
4	45	0.4500	-0.0744	0.0018	0.0990	0.0116	-0.2036	0.0336	0.0714	0.0444
4	45	0.5001	-0.0958	0.0018	0.1007	0.0141	-0.2647	0.0419	0.2052	0.0519
4	45	0.5560	-0.1193	0.0019	0.1026	0.0166	-0.4168	0.0498	0.0886	0.0394
4	45	0.6001	-0.1394	0.0017	0.1113	0.0182	-0.5603	0.0566	0.1253	0.0458
4	45	0.6501	-0.1668	0.0019	0.0963	0.0205	-0.7767	0.0647	0.1802	0.0423
4	45	0.6999	-0.1750	0.0019	0.0677	0.0239	-1.0412	0.0711	0.2805	0.0447
4	45	0.7500	-0.1999	0.0018	0.0677	0.0263	-1.3234	0.0782	0.4496	0.0413
4	45	0.8002	-0.2334	0.0017	0.0581	0.0295	-1.6821	0.0852	0.4704	0.0439
4	45	0.8582	-0.2565	0.0019	0.0654	0.0329	-2.1486	0.0924	0.2589	0.0447
4	45	0.9101	-0.2904	0.0021	0.0602	0.0363	-2.5884	0.0992	0.2578	0.0421
4	45	0.9728	-0.3146	0.0026	0.1126	0.0402	-3.0396	0.1075	0.6134	0.0461

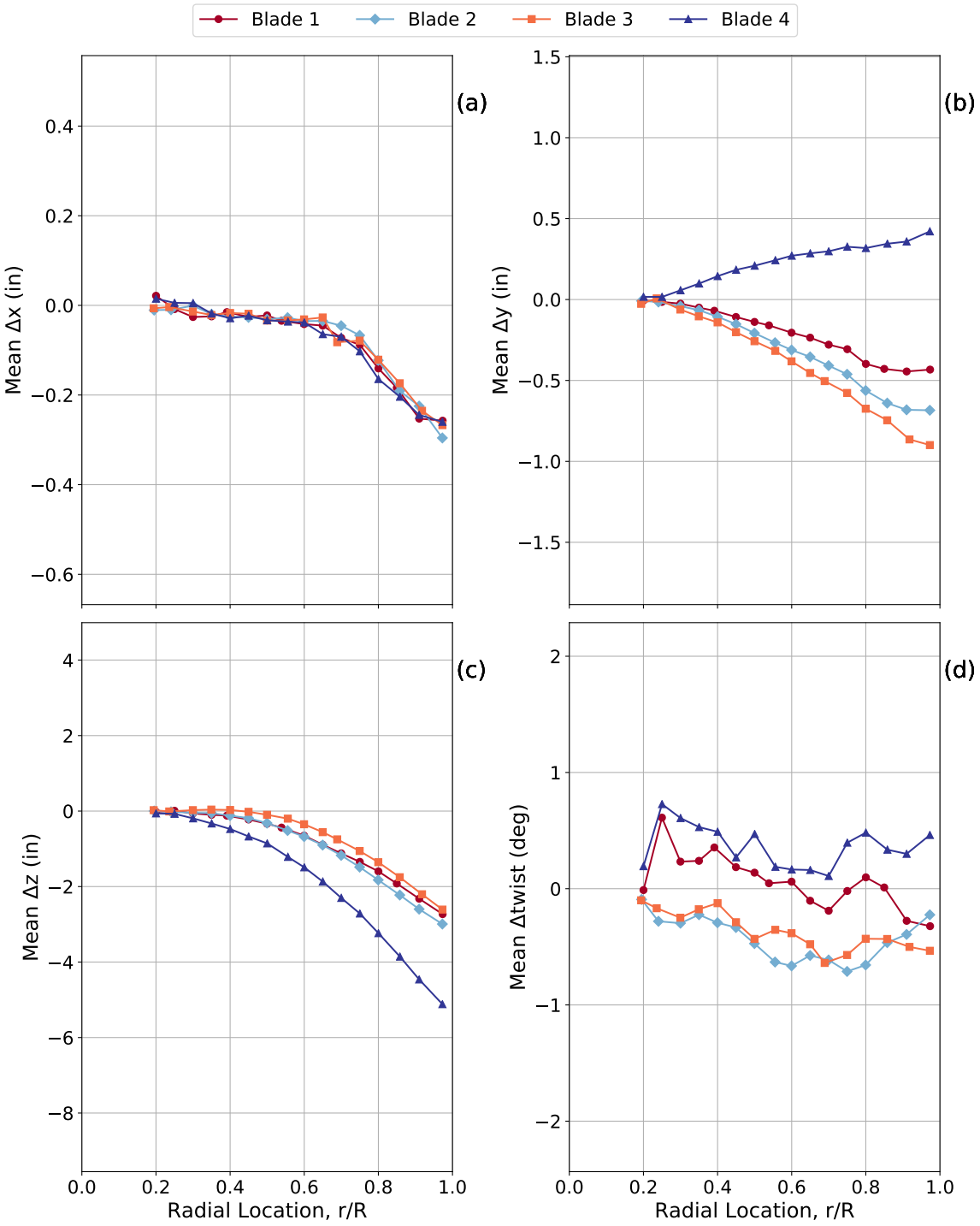


Figure 2.7-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-11. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0214	0.0017	-0.0060	0.0008	-0.0231	0.0027	-0.0118	0.0210
1	60.12	0.2499	-0.0084	0.0012	-0.0148	0.0015	0.0089	0.0059	0.6115	0.0391
1	60.12	0.2998	-0.0260	0.0011	-0.0255	0.0031	-0.0630	0.0105	0.2329	0.0472
1	60.12	0.3498	-0.0246	0.0012	-0.0499	0.0049	-0.0994	0.0173	0.2397	0.0433
1	60.12	0.3913	-0.0151	0.0017	-0.0693	0.0071	-0.1211	0.0255	0.3547	0.0565
1	60.12	0.4496	-0.0256	0.0020	-0.1078	0.0093	-0.2224	0.0290	0.1854	0.0455
1	60.12	0.4997	-0.0225	0.0014	-0.1383	0.0116	-0.3348	0.0372	0.1380	0.0519
1	60.12	0.5387	-0.0344	0.0016	-0.1596	0.0134	-0.4374	0.0451	0.0469	0.0497
1	60.12	0.5996	-0.0418	0.0016	-0.2049	0.0163	-0.6502	0.0539	0.0606	0.0466
1	60.12	0.6498	-0.0452	0.0016	-0.2355	0.0189	-0.8918	0.0629	-0.1035	0.0499
1	60.12	0.6998	-0.0726	0.0021	-0.2789	0.0219	-1.1205	0.0714	-0.1896	0.0606
1	60.12	0.7500	-0.0882	0.0016	-0.3069	0.0250	-1.3457	0.0790	-0.0197	0.0476
1	60.12	0.8001	-0.1407	0.0019	-0.3978	0.0279	-1.5974	0.0870	0.0977	0.0451
1	60.12	0.8497	-0.1838	0.0020	-0.4286	0.0308	-1.9191	0.0946	0.0105	0.0470
1	60.12	0.9102	-0.2527	0.0020	-0.4445	0.0344	-2.3216	0.1059	-0.2763	0.0477
1	60.12	0.9734	-0.2573	0.0025	-0.4329	0.0384	-2.7306	0.1189	-0.3223	0.0509
2	60.12	0.1949	-0.0106	0.0010	-0.0084	0.0006	0.0012	0.0023	-0.0927	0.0185
2	60.12	0.2405	-0.0099	0.0010	-0.0151	0.0014	-0.0205	0.0056	-0.2804	0.0281
2	60.12	0.2999	-0.0006	0.0011	-0.0413	0.0027	-0.0453	0.0110	-0.2969	0.0415
2	60.12	0.3498	-0.0197	0.0012	-0.0656	0.0044	-0.0548	0.0173	-0.2238	0.0465
2	60.12	0.3998	-0.0251	0.0017	-0.1063	0.0071	-0.1209	0.0283	-0.2926	0.0387
2	60.12	0.4496	-0.0268	0.0014	-0.1519	0.0083	-0.1863	0.0326	-0.3339	0.0461
2	60.12	0.4995	-0.0309	0.0015	-0.2075	0.0104	-0.3191	0.0429	-0.4720	0.0357
2	60.12	0.5551	-0.0274	0.0018	-0.2666	0.0122	-0.5155	0.0513	-0.6309	0.0455
2	60.12	0.5996	-0.0351	0.0020	-0.3118	0.0144	-0.6774	0.0615	-0.6642	0.0419
2	60.12	0.6497	-0.0347	0.0017	-0.3544	0.0165	-0.9005	0.0706	-0.5747	0.0396
2	60.12	0.6996	-0.0454	0.0020	-0.4084	0.0192	-1.1737	0.0811	-0.6133	0.0444
2	60.12	0.7495	-0.0669	0.0018	-0.4617	0.0219	-1.4839	0.0892	-0.7118	0.0444
2	60.12	0.7996	-0.1227	0.0023	-0.5624	0.0241	-1.8255	0.0987	-0.6565	0.0436
2	60.12	0.8578	-0.1908	0.0026	-0.6399	0.0274	-2.2246	0.1098	-0.4639	0.0514
2	60.12	0.9100	-0.2247	0.0022	-0.6815	0.0307	-2.5981	0.1212	-0.3934	0.0442
2	60.12	0.9727	-0.2958	0.0030	-0.6843	0.0344	-2.9929	0.1350	-0.2246	0.0469
3	60.12	0.1938	-0.0065	0.0012	-0.0264	0.0006	0.0238	0.0020	-0.1000	0.0176
3	60.12	0.2357	-0.0038	0.0011	0.0069	0.0010	-0.0099	0.0031	-0.1679	0.0302
3	60.12	0.2995	-0.0137	0.0012	-0.0619	0.0024	0.0248	0.0065	-0.2495	0.0413
3	60.12	0.3493	-0.0215	0.0010	-0.1039	0.0037	0.0395	0.0111	-0.1769	0.0382
3	60.12	0.4000	-0.0170	0.0017	-0.1412	0.0060	0.0286	0.0167	-0.1246	0.0368
3	60.12	0.4497	-0.0187	0.0018	-0.2017	0.0074	-0.0193	0.0217	-0.2883	0.0401
3	60.12	0.4997	-0.0339	0.0022	-0.2576	0.0093	-0.0984	0.0273	-0.4320	0.0441
3	60.12	0.5556	-0.0336	0.0017	-0.3172	0.0106	-0.2003	0.0345	-0.3537	0.0437
3	60.12	0.5995	-0.0313	0.0018	-0.3818	0.0126	-0.3495	0.0397	-0.3828	0.0443
3	60.12	0.6498	-0.0270	0.0016	-0.4539	0.0151	-0.5585	0.0456	-0.4781	0.0436
3	60.12	0.6890	-0.0823	0.0020	-0.5041	0.0171	-0.7494	0.0506	-0.6387	0.0442
3	60.12	0.7495	-0.0787	0.0019	-0.5773	0.0203	-1.0574	0.0575	-0.5702	0.0490
3	60.12	0.7998	-0.1212	0.0020	-0.6746	0.0228	-1.3542	0.0620	-0.4308	0.0443
3	60.12	0.8577	-0.1738	0.0025	-0.7462	0.0261	-1.7527	0.0675	-0.4326	0.0509
3	60.12	0.9178	-0.2352	0.0023	-0.8643	0.0294	-2.2038	0.0758	-0.5007	0.0471
3	60.12	0.9729	-0.2672	0.0029	-0.8994	0.0328	-2.6095	0.0849	-0.5340	0.0522
4	60.12	0.2001	0.0148	0.0011	0.0167	0.0006	-0.0617	0.0019	0.1935	0.0175
4	60.12	0.2502	0.0056	0.0010	0.0162	0.0015	-0.0730	0.0037	0.7276	0.0289
4	60.12	0.3001	0.0050	0.0011	0.0570	0.0024	-0.1934	0.0071	0.6074	0.0388
4	60.12	0.3502	-0.0183	0.0016	0.0988	0.0044	-0.3287	0.0116	0.5297	0.0340
4	60.12	0.4002	-0.0288	0.0018	0.1445	0.0068	-0.4758	0.0179	0.4896	0.0357
4	60.12	0.4500	-0.0231	0.0020	0.1834	0.0092	-0.6730	0.0237	0.2691	0.0357
4	60.12	0.5001	-0.0333	0.0016	0.2089	0.0103	-0.8563	0.0292	0.4705	0.0477
4	60.12	0.5560	-0.0363	0.0018	0.2427	0.0117	-1.2147	0.0363	0.1880	0.0422
4	60.12	0.6001	-0.0382	0.0017	0.2706	0.0141	-1.4906	0.0436	0.1650	0.0455
4	60.12	0.6501	-0.0643	0.0016	0.2854	0.0165	-1.8691	0.0502	0.1607	0.0438
4	60.12	0.6999	-0.0701	0.0019	0.2981	0.0187	-2.3014	0.0549	0.1088	0.0411
4	60.12	0.7500	-0.1026	0.0017	0.3260	0.0209	-2.7144	0.0617	0.3958	0.0423
4	60.12	0.8002	-0.1645	0.0026	0.3179	0.0235	-3.2349	0.0667	0.4823	0.0424
4	60.12	0.8582	-0.2040	0.0026	0.3449	0.0266	-3.8571	0.0721	0.3355	0.0403
4	60.12	0.9101	-0.2444	0.0024	0.3582	0.0292	-4.4609	0.0776	0.2997	0.0426
4	60.12	0.9728	-0.2599	0.0030	0.4210	0.0328	-5.1158	0.0848	0.4620	0.0458

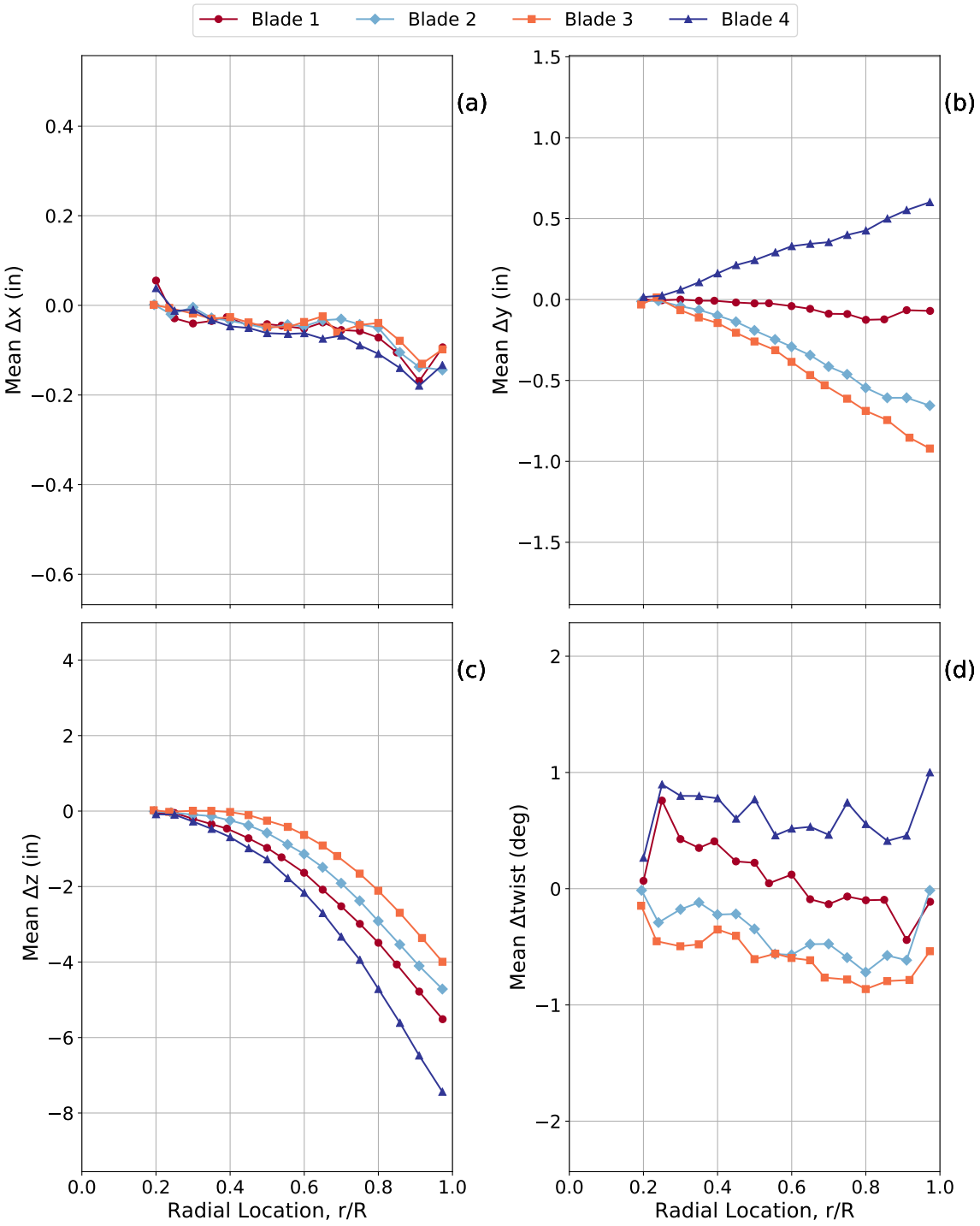


Figure 2.7-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-12. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0553	0.0022	-0.0002	0.0012	-0.0605	0.0039	0.0678	0.0293
1	74.88	0.2499	-0.0289	0.0013	-0.0043	0.0020	-0.0498	0.0055	0.7582	0.0754
1	74.88	0.2998	-0.0404	0.0014	-0.0003	0.0045	-0.2031	0.0143	0.4268	0.0763
1	74.88	0.3498	-0.0348	0.0015	-0.0072	0.0077	-0.3461	0.0227	0.3507	0.0741
1	74.88	0.3913	-0.0262	0.0016	-0.0074	0.0108	-0.4635	0.0324	0.4074	0.0689
1	74.88	0.4496	-0.0447	0.0020	-0.0182	0.0147	-0.7207	0.0428	0.2347	0.0710
1	74.88	0.4997	-0.0420	0.0022	-0.0238	0.0175	-0.9755	0.0505	0.2228	0.0782
1	74.88	0.5387	-0.0451	0.0017	-0.0230	0.0208	-1.2250	0.0604	0.0465	0.0788
1	74.88	0.5996	-0.0519	0.0018	-0.0406	0.0254	-1.6348	0.0749	0.1213	0.0673
1	74.88	0.6498	-0.0382	0.0018	-0.0576	0.0295	-2.0826	0.0837	-0.0907	0.0731
1	74.88	0.6998	-0.0551	0.0018	-0.0880	0.0341	-2.5233	0.0946	-0.1330	0.0761
1	74.88	0.7500	-0.0572	0.0025	-0.0895	0.0380	-2.9887	0.1048	-0.0674	0.0756
1	74.88	0.8001	-0.0719	0.0027	-0.1254	0.0429	-3.4891	0.1156	-0.0993	0.0804
1	74.88	0.8497	-0.1050	0.0030	-0.1226	0.0473	-4.0649	0.1272	-0.0956	0.0728
1	74.88	0.9102	-0.1689	0.0034	-0.0657	0.0535	-4.7826	0.1393	-0.4411	0.0821
1	74.88	0.9734	-0.0936	0.0042	-0.0703	0.0595	-5.5139	0.1540	-0.1125	0.0827
2	74.88	0.1949	0.0015	0.0016	-0.0115	0.0007	-0.0097	0.0026	-0.0141	0.0225
2	74.88	0.2405	-0.0197	0.0012	-0.0075	0.0013	-0.0408	0.0044	-0.2911	0.0361
2	74.88	0.2999	-0.0043	0.0010	-0.0413	0.0026	-0.0944	0.0093	-0.1775	0.0511
2	74.88	0.3498	-0.0281	0.0015	-0.0643	0.0045	-0.1340	0.0156	-0.1186	0.0449
2	74.88	0.3998	-0.0345	0.0016	-0.0986	0.0069	-0.2468	0.0237	-0.2229	0.0475
2	74.88	0.4496	-0.0424	0.0023	-0.1374	0.0087	-0.3792	0.0315	-0.2171	0.0500
2	74.88	0.4995	-0.0514	0.0020	-0.1908	0.0104	-0.5790	0.0393	-0.3465	0.0459
2	74.88	0.5551	-0.0430	0.0016	-0.2468	0.0127	-0.8870	0.0495	-0.5618	0.0445
2	74.88	0.5996	-0.0467	0.0016	-0.2917	0.0148	-1.1376	0.0565	-0.5697	0.0477
2	74.88	0.6497	-0.0332	0.0017	-0.3438	0.0169	-1.4904	0.0662	-0.4776	0.0515
2	74.88	0.6996	-0.0306	0.0019	-0.4142	0.0192	-1.9116	0.0772	-0.4751	0.0444
2	74.88	0.7495	-0.0426	0.0022	-0.4621	0.0215	-2.3778	0.0888	-0.5929	0.0480
2	74.88	0.7996	-0.0498	0.0028	-0.5453	0.0242	-2.9141	0.1015	-0.7178	0.0497
2	74.88	0.8578	-0.1050	0.0032	-0.6072	0.0275	-3.5363	0.1184	-0.5748	0.0510
2	74.88	0.9100	-0.1375	0.0033	-0.6071	0.0306	-4.1021	0.1349	-0.6151	0.0483
2	74.88	0.9727	-0.1441	0.0040	-0.6553	0.0341	-4.7151	0.1548	-0.0142	0.0576
3	74.88	0.1938	0.0011	0.0029	-0.0307	0.0007	0.0215	0.0029	-0.1467	0.0174
3	74.88	0.2357	-0.0057	0.0017	0.0130	0.0010	-0.0211	0.0034	-0.4520	0.0449
3	74.88	0.2995	-0.0184	0.0017	-0.0654	0.0023	0.0082	0.0083	-0.4951	0.0491
3	74.88	0.3493	-0.0297	0.0029	-0.1107	0.0042	0.0056	0.0138	-0.4789	0.0473
3	74.88	0.4000	-0.0263	0.0040	-0.1450	0.0062	-0.0238	0.0204	-0.3509	0.0520
3	74.88	0.4497	-0.0380	0.0051	-0.2053	0.0079	-0.1068	0.0252	-0.4051	0.0449
3	74.88	0.4997	-0.0483	0.0051	-0.2592	0.0096	-0.2539	0.0309	-0.6061	0.0516
3	74.88	0.5556	-0.0486	0.0056	-0.3129	0.0115	-0.4189	0.0363	-0.5592	0.0491
3	74.88	0.5995	-0.0371	0.0049	-0.3853	0.0137	-0.6316	0.0406	-0.5960	0.0539
3	74.88	0.6498	-0.0245	0.0046	-0.4670	0.0160	-0.9119	0.0473	-0.6159	0.0528
3	74.88	0.6890	-0.0607	0.0042	-0.5298	0.0180	-1.1906	0.0498	-0.7648	0.0531
3	74.88	0.7495	-0.0438	0.0051	-0.6128	0.0212	-1.6571	0.0568	-0.7812	0.0565
3	74.88	0.7998	-0.0393	0.0070	-0.6882	0.0243	-2.1099	0.0634	-0.8635	0.0544
3	74.88	0.8577	-0.0790	0.0108	-0.7448	0.0274	-2.6949	0.0705	-0.7948	0.0522
3	74.88	0.9178	-0.1302	0.0154	-0.8536	0.0314	-3.3638	0.0780	-0.7852	0.0532
3	74.88	0.9729	-0.0982	0.0209	-0.9207	0.0358	-3.9926	0.0858	-0.5377	0.0551
4	74.88	0.2001	0.0384	0.0015	0.0156	0.0006	-0.0841	0.0022	0.2661	0.0212
4	74.88	0.2502	-0.0122	0.0011	0.0239	0.0012	-0.0961	0.0040	0.8971	0.0383
4	74.88	0.3001	-0.0098	0.0011	0.0607	0.0022	-0.2772	0.0079	0.7986	0.0480
4	74.88	0.3502	-0.0329	0.0012	0.1070	0.0038	-0.4722	0.0136	0.7972	0.0423
4	74.88	0.4002	-0.0468	0.0016	0.1617	0.0056	-0.6908	0.0206	0.7776	0.0433
4	74.88	0.4500	-0.0504	0.0015	0.2126	0.0071	-0.9856	0.0263	0.6020	0.0448
4	74.88	0.5001	-0.0620	0.0015	0.2435	0.0089	-1.2798	0.0325	0.7677	0.0440
4	74.88	0.5560	-0.0638	0.0016	0.2915	0.0114	-1.7774	0.0399	0.4587	0.0455
4	74.88	0.6001	-0.0621	0.0016	0.3298	0.0133	-2.1655	0.0459	0.5168	0.0490
4	74.88	0.6501	-0.0745	0.0015	0.3441	0.0157	-2.7035	0.0528	0.5322	0.0540
4	74.88	0.6999	-0.0676	0.0017	0.3544	0.0181	-3.3287	0.0605	0.4637	0.0553
4	74.88	0.7500	-0.0893	0.0019	0.3990	0.0209	-3.9418	0.0684	0.7409	0.0503
4	74.88	0.8002	-0.1082	0.0022	0.4262	0.0236	-4.7153	0.0759	0.5561	0.0551
4	74.88	0.8582	-0.1398	0.0026	0.4999	0.0272	-5.6117	0.0855	0.4113	0.0573
4	74.88	0.9101	-0.1793	0.0029	0.5524	0.0302	-6.4767	0.0954	0.4564	0.0575
4	74.88	0.9728	-0.1332	0.0036	0.6015	0.0343	-7.4372	0.1067	1.0008	0.0539

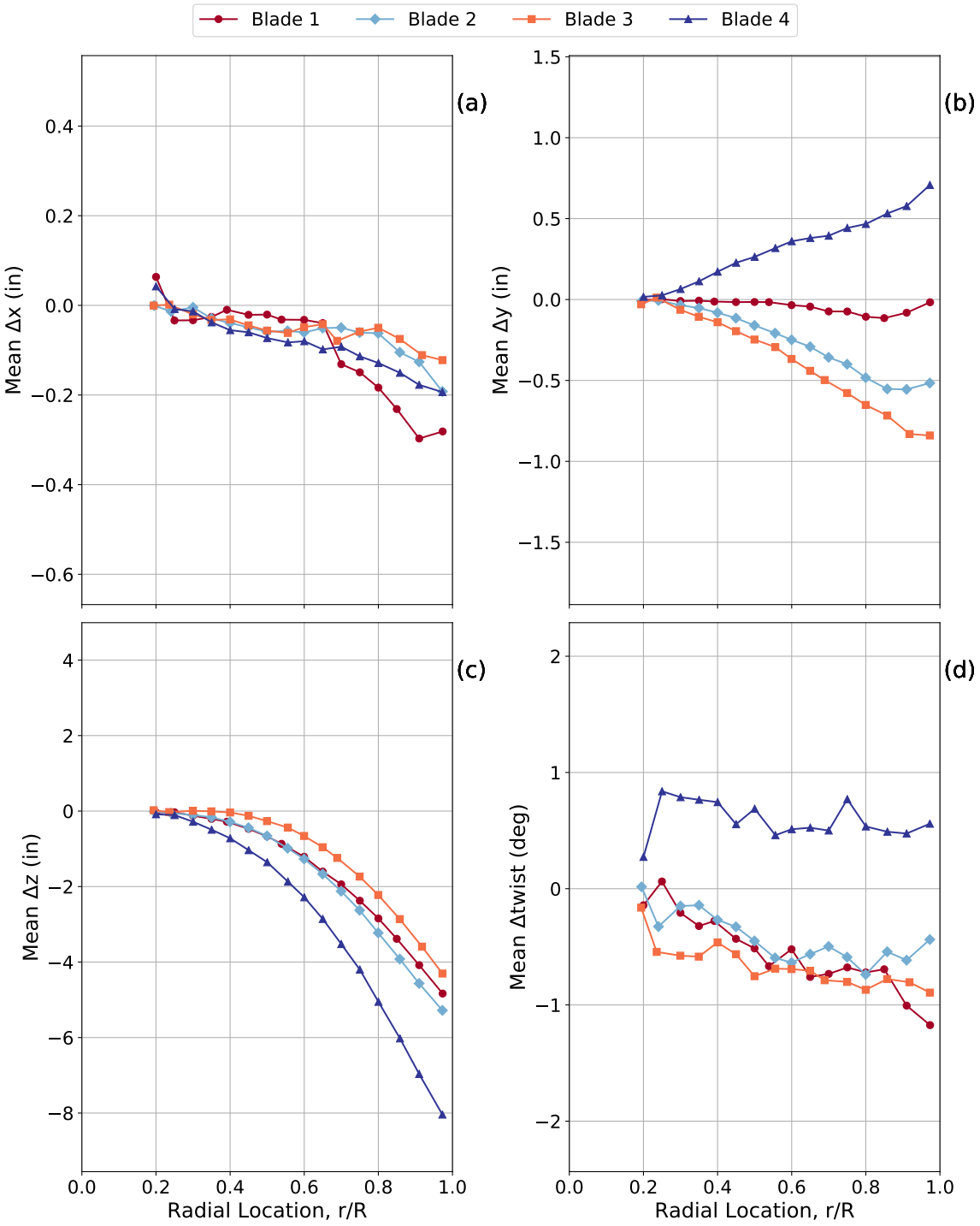


Figure 2.7-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-13. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0635	0.0049	-0.0026	0.0024	-0.0350	0.0035	-0.1423	0.0260
1	80.16	0.2499	-0.0337	0.0009	0.0019	0.0028	-0.0317	0.0046	0.0621	0.0640
1	80.16	0.2998	-0.0332	0.0010	-0.0092	0.0089	-0.1230	0.0119	-0.2077	0.0675
1	80.16	0.3498	-0.0259	0.0011	-0.0070	0.0148	-0.2061	0.0190	-0.3212	0.0704
1	80.16	0.3913	-0.0099	0.0010	-0.0126	0.0205	-0.2816	0.0265	-0.2776	0.0683
1	80.16	0.4496	-0.0211	0.0014	-0.0158	0.0275	-0.4698	0.0360	-0.4311	0.0715
1	80.16	0.4997	-0.0206	0.0013	-0.0152	0.0342	-0.6690	0.0448	-0.5136	0.0666
1	80.16	0.5387	-0.0318	0.0016	-0.0160	0.0389	-0.8677	0.0514	-0.6666	0.0738
1	80.16	0.5996	-0.0323	0.0017	-0.0346	0.0469	-1.2114	0.0634	-0.5211	0.0662
1	80.16	0.6498	-0.0396	0.0027	-0.0437	0.0541	-1.6032	0.0720	-0.7593	0.0862
1	80.16	0.6998	-0.1312	0.0020	-0.0735	0.0603	-1.9409	0.0813	-0.7332	0.0695
1	80.16	0.7500	-0.1494	0.0020	-0.0738	0.0668	-2.3745	0.0913	-0.6774	0.0693
1	80.16	0.8001	-0.1835	0.0022	-0.1063	0.0736	-2.8443	0.1021	-0.7200	0.0677
1	80.16	0.8497	-0.2313	0.0026	-0.1148	0.0799	-3.3846	0.1130	-0.6932	0.0703
1	80.16	0.9102	-0.2971	0.0027	-0.0814	0.0882	-4.0816	0.1274	-1.0060	0.0700
1	80.16	0.9734	-0.2813	0.0030	-0.0168	0.0968	-4.8343	0.1456	-1.1736	0.0681
2	80.16	0.1949	-0.0005	0.0015	-0.0096	0.0007	-0.0119	0.0028	0.0161	0.0260
2	80.16	0.2405	-0.0137	0.0011	-0.0057	0.0014	-0.0532	0.0046	-0.3260	0.0519
2	80.16	0.2999	-0.0043	0.0012	-0.0349	0.0028	-0.1037	0.0096	-0.1491	0.0635
2	80.16	0.3498	-0.0293	0.0012	-0.0523	0.0049	-0.1647	0.0156	-0.1422	0.0594
2	80.16	0.3998	-0.0394	0.0011	-0.0814	0.0074	-0.2863	0.0240	-0.2684	0.0552
2	80.16	0.4496	-0.0489	0.0016	-0.1148	0.0095	-0.4419	0.0307	-0.3278	0.0554
2	80.16	0.4995	-0.0589	0.0014	-0.1598	0.0120	-0.6591	0.0375	-0.4495	0.0553
2	80.16	0.5551	-0.0569	0.0014	-0.2078	0.0150	-0.9841	0.0458	-0.5953	0.0540
2	80.16	0.5996	-0.0605	0.0014	-0.2488	0.0175	-1.2680	0.0523	-0.6355	0.0553
2	80.16	0.6497	-0.0507	0.0016	-0.2914	0.0204	-1.6682	0.0622	-0.5630	0.0575
2	80.16	0.6996	-0.0498	0.0017	-0.3574	0.0237	-2.1226	0.0726	-0.4969	0.0567
2	80.16	0.7495	-0.0607	0.0019	-0.3999	0.0273	-2.6285	0.0833	-0.5889	0.0556
2	80.16	0.7996	-0.0623	0.0021	-0.4829	0.0310	-3.2273	0.0938	-0.7383	0.0533
2	80.16	0.8578	-0.1047	0.0026	-0.5527	0.0354	-3.9204	0.1054	-0.5423	0.0566
2	80.16	0.9100	-0.1260	0.0027	-0.5552	0.0395	-4.5661	0.1155	-0.6154	0.0585
2	80.16	0.9727	-0.1921	0.0031	-0.5160	0.0444	-5.2802	0.1286	-0.4374	0.0579
3	80.16	0.1938	-0.0004	0.0019	-0.0295	0.0009	0.0214	0.0039	-0.1626	0.0247
3	80.16	0.2357	0.0016	0.0013	0.0121	0.0012	-0.0277	0.0047	-0.5436	0.0509
3	80.16	0.2995	-0.0201	0.0012	-0.0632	0.0029	0.0082	0.0128	-0.5762	0.0628
3	80.16	0.3493	-0.0324	0.0014	-0.1067	0.0052	-0.0074	0.0218	-0.5846	0.0566
3	80.16	0.4000	-0.0314	0.0013	-0.1401	0.0077	-0.0365	0.0325	-0.4620	0.0535
3	80.16	0.4497	-0.0447	0.0014	-0.1953	0.0097	-0.1250	0.0425	-0.5639	0.0585
3	80.16	0.4997	-0.0564	0.0018	-0.2472	0.0122	-0.2659	0.0540	-0.7527	0.0633
3	80.16	0.5556	-0.0615	0.0014	-0.2937	0.0152	-0.4373	0.0679	-0.6879	0.0556
3	80.16	0.5995	-0.0487	0.0013	-0.3672	0.0175	-0.6592	0.0789	-0.6916	0.0584
3	80.16	0.6498	-0.0420	0.0015	-0.4407	0.0206	-0.9580	0.0924	-0.7059	0.0590
3	80.16	0.6890	-0.0792	0.0015	-0.4975	0.0228	-1.2412	0.1032	-0.7872	0.0577
3	80.16	0.7495	-0.0585	0.0017	-0.5778	0.0269	-1.7351	0.1188	-0.8017	0.0643
3	80.16	0.7998	-0.0500	0.0018	-0.6515	0.0304	-2.2235	0.1327	-0.8697	0.0604
3	80.16	0.8577	-0.0749	0.0022	-0.7170	0.0346	-2.8623	0.1476	-0.7771	0.0590
3	80.16	0.9178	-0.1110	0.0024	-0.8311	0.0390	-3.5925	0.1641	-0.8047	0.0617
3	80.16	0.9729	-0.1222	0.0172	-0.8400	0.0440	-4.3050	0.1795	-0.8938	0.2210
4	80.16	0.2001	0.0423	0.0015	0.0164	0.0009	-0.0847	0.0030	0.2735	0.0244
4	80.16	0.2502	-0.0082	0.0015	0.0257	0.0013	-0.1065	0.0043	0.8378	0.0519
4	80.16	0.3001	-0.0135	0.0014	0.0648	0.0029	-0.2823	0.0105	0.7872	0.0579
4	80.16	0.3502	-0.0380	0.0011	0.1129	0.0050	-0.4944	0.0170	0.7650	0.0524
4	80.16	0.4002	-0.0554	0.0015	0.1718	0.0074	-0.7210	0.0258	0.7446	0.0506
4	80.16	0.4500	-0.0601	0.0014	0.2273	0.0096	-1.0364	0.0324	0.5546	0.0532
4	80.16	0.5001	-0.0730	0.0017	0.2637	0.0119	-1.3556	0.0407	0.6876	0.0561
4	80.16	0.5560	-0.0827	0.0016	0.3179	0.0147	-1.8700	0.0505	0.4602	0.0579
4	80.16	0.6001	-0.0800	0.0017	0.3600	0.0171	-2.2842	0.0579	0.5117	0.0614
4	80.16	0.6501	-0.0983	0.0018	0.3801	0.0202	-2.8590	0.0671	0.5245	0.0562
4	80.16	0.6999	-0.0923	0.0019	0.3942	0.0233	-3.5241	0.0762	0.5004	0.0560
4	80.16	0.7500	-0.1137	0.0021	0.4421	0.0266	-4.2009	0.0847	0.7698	0.0583
4	80.16	0.8002	-0.1287	0.0024	0.4669	0.0300	-5.0539	0.0932	0.5351	0.0546
4	80.16	0.8582	-0.1505	0.0030	0.5319	0.0342	-6.0224	0.1016	0.4899	0.0575
4	80.16	0.9101	-0.1773	0.0032	0.5774	0.0379	-6.9667	0.1098	0.4746	0.0591
4	80.16	0.9728	-0.1935	0.0035	0.7077	0.0427	-8.0414	0.1204	0.5590	0.0557

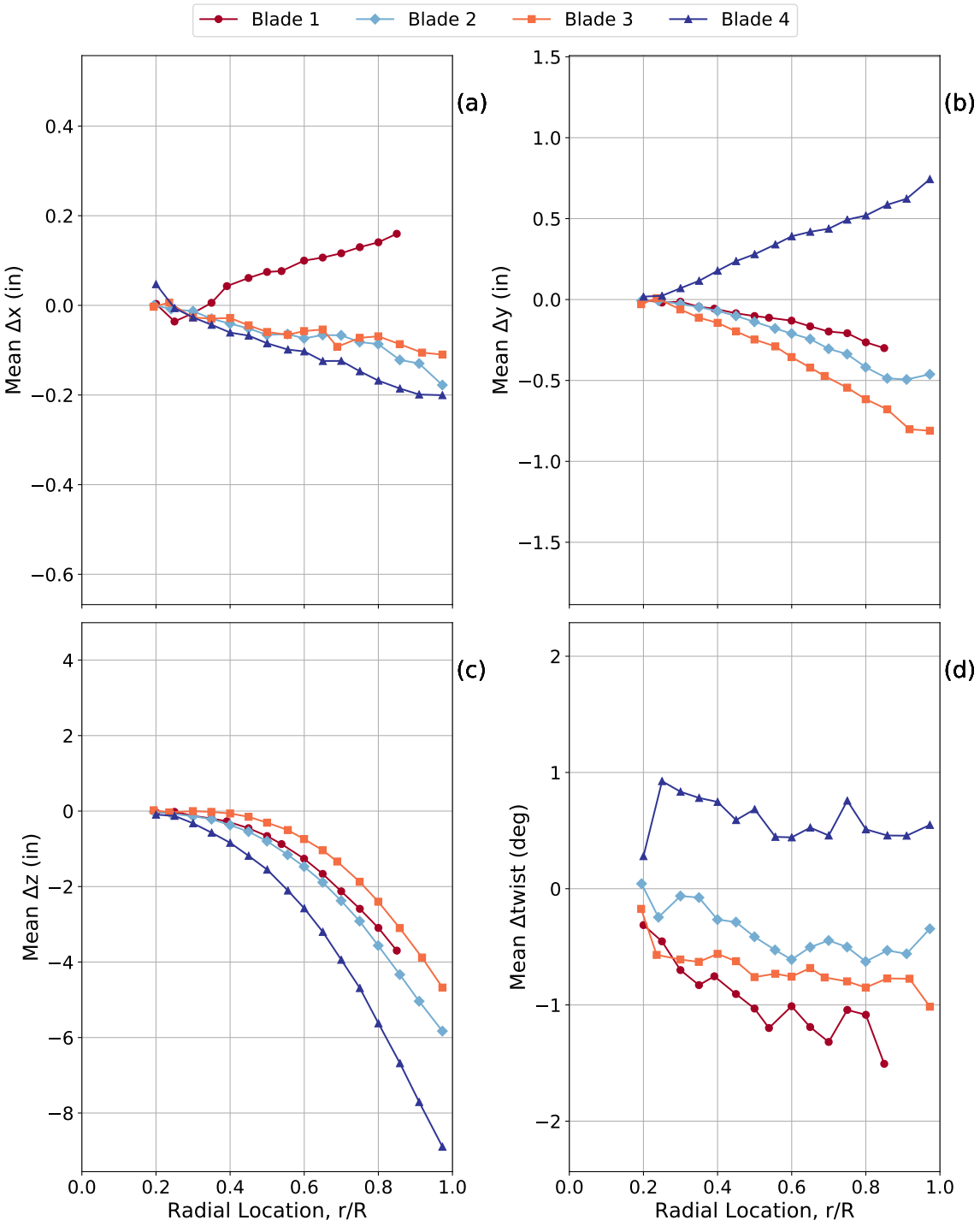


Figure 2.7-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-14. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0032	0.0010	-0.0027	0.0006	-0.0356	0.0019	-0.3131	0.0212
1	85.08	0.2499	-0.0360	0.0009	-0.0188	0.0012	-0.0204	0.0052	-0.4529	0.0360
1	85.08	0.2998	-0.0174	0.0010	-0.0133	0.0023	-0.1249	0.0083	-0.7001	0.0480
1	85.08	0.3498	0.0057	0.0011	-0.0448	0.0042	-0.1962	0.0140	-0.8293	0.0410
1	85.08	0.3913	0.0429	0.0011	-0.0563	0.0058	-0.2710	0.0210	-0.7535	0.0409
1	85.08	0.4496	0.0611	0.0014	-0.0849	0.0076	-0.4534	0.0275	-0.9060	0.0418
1	85.08	0.4997	0.0745	0.0015	-0.1021	0.0096	-0.6619	0.0343	-1.0312	0.0446
1	85.08	0.5387	0.0765	0.0019	-0.1124	0.0113	-0.8738	0.0404	-1.1985	0.0473
1	85.08	0.5996	0.0998	0.0015	-0.1305	0.0143	-1.2629	0.0491	-1.0110	0.0485
1	85.08	0.6498	0.1066	0.0028	-0.1656	0.0170	-1.6642	0.0570	-1.1902	0.0697
1	85.08	0.6998	0.1162	0.0039	-0.1977	0.0198	-2.1263	0.0646	-1.3184	0.0808
1	85.08	0.7500	0.1298	0.0060	-0.2080	0.0246	-2.5895	0.0713	-1.0429	0.1330
1	85.08	0.8001	0.1407	0.0137	-0.2644	0.0277	-3.0950	0.0853	-1.0849	0.2283
1	85.08	0.8497	0.1597	0.0070	-0.3000	0.0302	-3.6971	0.0922	-1.5066	0.1336
2	85.08	0.1949	0.0002	0.0030	-0.0075	0.0007	-0.0172	0.0032	0.0430	0.0279
2	85.08	0.2405	-0.0081	0.0017	-0.0074	0.0013	-0.0702	0.0045	-0.2459	0.0499
2	85.08	0.2999	-0.0129	0.0016	-0.0279	0.0027	-0.1344	0.0103	-0.0628	0.0643
2	85.08	0.3498	-0.0299	0.0025	-0.0471	0.0046	-0.2164	0.0173	-0.0763	0.0593
2	85.08	0.3998	-0.0408	0.0038	-0.0709	0.0071	-0.3705	0.0256	-0.2660	0.0606
2	85.08	0.4496	-0.0514	0.0044	-0.1008	0.0092	-0.5441	0.0331	-0.2871	0.0561
2	85.08	0.4995	-0.0659	0.0051	-0.1378	0.0117	-0.7971	0.0421	-0.4139	0.0575
2	85.08	0.5551	-0.0641	0.0054	-0.1787	0.0147	-1.1564	0.0517	-0.5270	0.0536
2	85.08	0.5996	-0.0737	0.0054	-0.2101	0.0173	-1.4724	0.0590	-0.6098	0.0582
2	85.08	0.6497	-0.0662	0.0049	-0.2439	0.0205	-1.8872	0.0663	-0.5030	0.0607
2	85.08	0.6996	-0.0668	0.0044	-0.3045	0.0237	-2.3759	0.0743	-0.4458	0.0587
2	85.08	0.7495	-0.0819	0.0036	-0.3373	0.0270	-2.9167	0.0816	-0.5019	0.0609
2	85.08	0.7996	-0.0864	0.0037	-0.4182	0.0308	-3.5640	0.0898	-0.6266	0.0570
2	85.08	0.8578	-0.1217	0.0056	-0.4869	0.0349	-4.3314	0.0991	-0.5314	0.0623
2	85.08	0.9100	-0.1297	0.0086	-0.4941	0.0389	-5.0384	0.1091	-0.5601	0.0595
2	85.08	0.9727	-0.1778	0.0133	-0.4618	0.0441	-5.8290	0.1217	-0.3447	0.0639
3	85.08	0.1938	-0.0030	0.0033	-0.0287	0.0007	0.0211	0.0036	-0.1738	0.0225
3	85.08	0.2357	0.0061	0.0020	0.0085	0.0010	-0.0347	0.0042	-0.5693	0.0534
3	85.08	0.2995	-0.0272	0.0016	-0.0611	0.0022	-0.0018	0.0109	-0.6093	0.0559
3	85.08	0.3493	-0.0296	0.0025	-0.1120	0.0037	-0.0213	0.0177	-0.6296	0.0558
3	85.08	0.4000	-0.0282	0.0036	-0.1440	0.0055	-0.0635	0.0266	-0.5608	0.0552
3	85.08	0.4497	-0.0445	0.0045	-0.1968	0.0069	-0.1522	0.0326	-0.6238	0.0604
3	85.08	0.4997	-0.0594	0.0049	-0.2470	0.0083	-0.3068	0.0407	-0.7605	0.0589
3	85.08	0.5556	-0.0656	0.0049	-0.2896	0.0102	-0.5029	0.0500	-0.7317	0.0585
3	85.08	0.5995	-0.0574	0.0045	-0.3557	0.0117	-0.7407	0.0570	-0.7567	0.0601
3	85.08	0.6498	-0.0539	0.0039	-0.4207	0.0136	-1.0378	0.0662	-0.6828	0.0604
3	85.08	0.6890	-0.0925	0.0031	-0.4725	0.0151	-1.3368	0.0728	-0.7636	0.0639
3	85.08	0.7495	-0.0724	0.0029	-0.5445	0.0177	-1.8726	0.0838	-0.7973	0.0662
3	85.08	0.7998	-0.0691	0.0046	-0.6159	0.0201	-2.4012	0.0922	-0.8505	0.0654
3	85.08	0.8577	-0.0866	0.0076	-0.6785	0.0231	-3.0996	0.1024	-0.7720	0.0661
3	85.08	0.9178	-0.1054	0.0121	-0.8016	0.0262	-3.8800	0.1136	-0.7745	0.0639
3	85.08	0.9729	-0.1098	0.0167	-0.8107	0.0296	-4.6758	0.1231	-1.0149	0.0608
4	85.08	0.2001	0.0472	0.0019	0.0179	0.0007	-0.0945	0.0032	0.2801	0.0287
4	85.08	0.2502	-0.0062	0.0018	0.0233	0.0012	-0.1267	0.0046	0.9252	0.0651
4	85.08	0.3001	-0.0269	0.0016	0.0701	0.0023	-0.3250	0.0103	0.8340	0.0690
4	85.08	0.3502	-0.0434	0.0018	0.1157	0.0041	-0.5730	0.0168	0.7809	0.0590
4	85.08	0.4002	-0.0607	0.0015	0.1779	0.0059	-0.8412	0.0250	0.7466	0.0592
4	85.08	0.4500	-0.0676	0.0017	0.2373	0.0077	-1.1871	0.0315	0.5905	0.0585
4	85.08	0.5001	-0.0847	0.0018	0.2800	0.0095	-1.5523	0.0392	0.6837	0.0582
4	85.08	0.5560	-0.0987	0.0019	0.3404	0.0120	-2.1067	0.0488	0.4458	0.0548
4	85.08	0.6001	-0.1027	0.0019	0.3908	0.0140	-2.5765	0.0561	0.4417	0.0580
4	85.08	0.6501	-0.1242	0.0021	0.4185	0.0169	-3.2016	0.0650	0.5255	0.0574
4	85.08	0.6999	-0.1239	0.0023	0.4375	0.0197	-3.9409	0.0737	0.4575	0.0617
4	85.08	0.7500	-0.1471	0.0026	0.4936	0.0227	-4.6901	0.0827	0.7573	0.0627
4	85.08	0.8002	-0.1680	0.0029	0.5193	0.0261	-5.6237	0.0919	0.5106	0.0636
4	85.08	0.8582	-0.1856	0.0035	0.5858	0.0304	-6.6803	0.1026	0.4576	0.0618
4	85.08	0.9101	-0.1989	0.0037	0.6229	0.0344	-7.7089	0.1123	0.4561	0.0630
4	85.08	0.9728	-0.2004	0.0040	0.7436	0.0391	-8.8923	0.1242	0.5487	0.0620

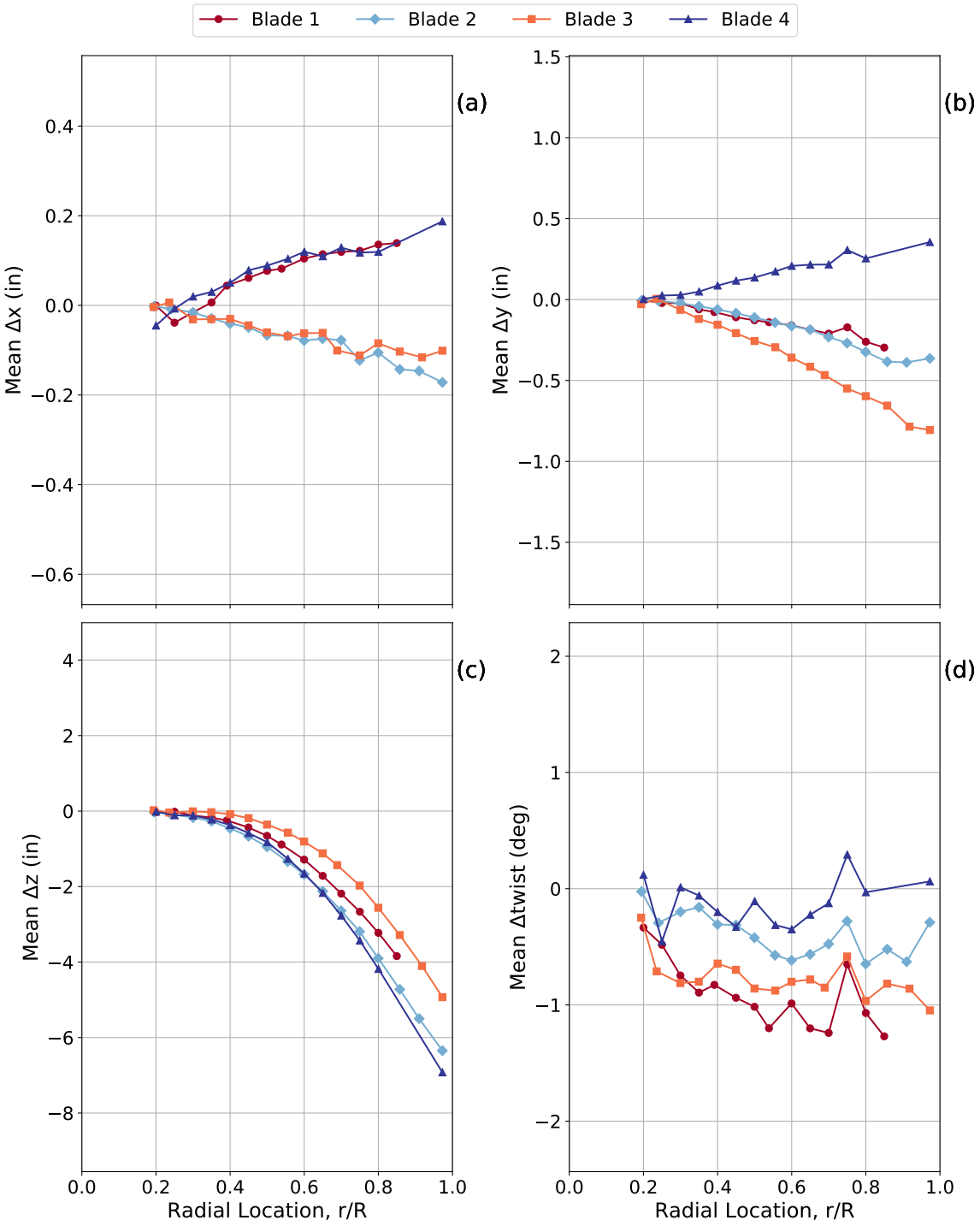


Figure 2.7-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-15. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0007	0.0010	-0.0054	0.0005	-0.0317	0.0016	-0.3342	0.0197
1	90	0.2499	-0.0387	0.0008	-0.0214	0.0015	-0.0161	0.0042	-0.4823	0.0300
1	90	0.2998	-0.0156	0.0009	-0.0224	0.0024	-0.1157	0.0061	-0.7465	0.0423
1	90	0.3498	0.0064	0.0010	-0.0607	0.0042	-0.1748	0.0114	-0.8939	0.0328
1	90	0.3913	0.0439	0.0012	-0.0775	0.0063	-0.2471	0.0160	-0.8273	0.0348
1	90	0.4496	0.0612	0.0012	-0.1096	0.0077	-0.4345	0.0214	-0.9384	0.0387
1	90	0.4997	0.0770	0.0014	-0.1283	0.0096	-0.6565	0.0273	-1.0159	0.0384
1	90	0.5387	0.0818	0.0018	-0.1404	0.0112	-0.8852	0.0324	-1.2003	0.0379
1	90	0.5996	0.1044	0.0014	-0.1594	0.0139	-1.2867	0.0409	-0.9871	0.0380
1	90	0.6498	0.1141	0.0023	-0.1863	0.0161	-1.7156	0.0478	-1.2013	0.0525
1	90	0.6998	0.1193	0.0026	-0.2104	0.0188	-2.1872	0.0561	-1.2406	0.0657
1	90	0.7500	0.1216	0.0037	-0.1720	0.0207	-2.6669	0.0655	-0.6508	0.0877
1	90	0.8001	0.1356	0.0056	-0.2607	0.0247	-3.2258	0.0753	-1.0695	0.1056
1	90	0.8497	0.1389	0.0061	-0.2968	0.0280	-3.8430	0.0828	-1.2702	0.0871
2	90	0.1949	-0.0022	0.0034	-0.0057	0.0008	-0.0259	0.0041	-0.0250	0.0278
2	90	0.2405	-0.0081	0.0023	-0.0083	0.0015	-0.0803	0.0050	-0.2942	0.0659
2	90	0.2999	-0.0157	0.0018	-0.0225	0.0028	-0.1710	0.0119	-0.1988	0.0711
2	90	0.3498	-0.0293	0.0028	-0.0415	0.0049	-0.2697	0.0197	-0.1596	0.0605
2	90	0.3998	-0.0408	0.0037	-0.0615	0.0074	-0.4571	0.0286	-0.3072	0.0596
2	90	0.4496	-0.0492	0.0040	-0.0841	0.0086	-0.6679	0.0360	-0.3131	0.0601
2	90	0.4995	-0.0667	0.0045	-0.1110	0.0109	-0.9456	0.0441	-0.4221	0.0559
2	90	0.5551	-0.0681	0.0048	-0.1417	0.0130	-1.3376	0.0525	-0.5726	0.0598
2	90	0.5996	-0.0786	0.0045	-0.1640	0.0149	-1.6761	0.0591	-0.6162	0.0620
2	90	0.6497	-0.0743	0.0038	-0.1858	0.0170	-2.1261	0.0673	-0.5644	0.0606
2	90	0.6996	-0.0777	0.0026	-0.2317	0.0195	-2.6406	0.0759	-0.4754	0.0594
2	90	0.7495	-0.1226	0.0039	-0.2688	0.0292	-3.1911	0.0839	-0.2797	0.1298
2	90	0.7996	-0.1055	0.0036	-0.3235	0.0246	-3.9009	0.0940	-0.6475	0.0589
2	90	0.8578	-0.1427	0.0069	-0.3844	0.0278	-4.7233	0.1043	-0.5206	0.0635
2	90	0.9100	-0.1463	0.0105	-0.3883	0.0308	-5.4996	0.1145	-0.6283	0.0634
2	90	0.9727	-0.1718	0.0155	-0.3638	0.0352	-6.3485	0.1280	-0.2890	0.0614
3	90	0.1938	-0.0037	0.0030	-0.0286	0.0008	0.0218	0.0044	-0.2492	0.0270
3	90	0.2357	0.0064	0.0021	0.0047	0.0013	-0.0400	0.0049	-0.7112	0.0758
3	90	0.2995	-0.0313	0.0015	-0.0636	0.0027	-0.0078	0.0127	-0.8120	0.0793
3	90	0.3493	-0.0308	0.0016	-0.1200	0.0047	-0.0309	0.0205	-0.7999	0.0798
3	90	0.4000	-0.0302	0.0017	-0.1556	0.0072	-0.0828	0.0305	-0.6445	0.0756
3	90	0.4497	-0.0446	0.0018	-0.2075	0.0095	-0.1890	0.0383	-0.6977	0.0762
3	90	0.4997	-0.0603	0.0017	-0.2561	0.0119	-0.3581	0.0464	-0.8588	0.0829
3	90	0.5556	-0.0688	0.0018	-0.2950	0.0149	-0.5716	0.0568	-0.8763	0.0798
3	90	0.5995	-0.0622	0.0020	-0.3589	0.0173	-0.8062	0.0645	-0.8007	0.0789
3	90	0.6498	-0.0614	0.0019	-0.4152	0.0206	-1.1208	0.0735	-0.7810	0.0779
3	90	0.6890	-0.1007	0.0020	-0.4671	0.0229	-1.4322	0.0807	-0.8509	0.0789
3	90	0.7495	-0.1117	0.0022	-0.5498	0.0271	-1.9735	0.0912	-0.5829	0.0788
3	90	0.7998	-0.0846	0.0023	-0.5970	0.0308	-2.5607	0.1004	-0.9651	0.0771
3	90	0.8577	-0.1030	0.0027	-0.6553	0.0353	-3.2837	0.1106	-0.8175	0.0770
3	90	0.9178	-0.1159	0.0030	-0.7855	0.0398	-4.1044	0.1211	-0.8598	0.0756
3	90	0.9729	-0.1012	0.0033	-0.8063	0.0443	-4.9305	0.1315	-1.0471	0.0795
4	90.35	0.2001	-0.0450	0.0011	0.0027	0.0006	-0.0163	0.0016	0.1193	0.0197
4	90.35	0.2502	-0.0072	0.0009	0.0246	0.0033	-0.1117	0.0047	-0.4525	0.0316
4	90.35	0.3001	0.0196	0.0008	0.0279	0.0031	-0.1176	0.0066	0.0117	0.0433
4	90.35	0.3502	0.0301	0.0011	0.0492	0.0067	-0.2238	0.0108	-0.0596	0.0401
4	90.35	0.4002	0.0504	0.0014	0.0863	0.0106	-0.3713	0.0174	-0.2009	0.0347
4	90.35	0.4500	0.0782	0.0012	0.1166	0.0123	-0.5838	0.0225	-0.3288	0.0376
4	90.35	0.5001	0.0887	0.0015	0.1358	0.0149	-0.8246	0.0287	-0.1076	0.0387
4	90.35	0.5560	0.1039	0.0017	0.1735	0.0178	-1.2649	0.0334	-0.3126	0.0368
4	90.35	0.6001	0.1196	0.0016	0.2078	0.0203	-1.6570	0.0382	-0.3500	0.0430
4	90.35	0.6501	0.1095	0.0021	0.2152	0.0232	-2.1691	0.0434	-0.2236	0.0501
4	90.35	0.6999	0.1288	0.0022	0.2164	0.0266	-2.7689	0.0501	-0.1249	0.0514
4	90.35	0.7500	0.1176	0.0033	0.3056	0.0256	-3.4329	0.0556	0.2929	0.0736
4	90.35	0.8002	0.1193	0.0046	0.2541	0.0333	-4.1817	0.0624	-0.0307	0.0915
4	90.35	0.9728	0.1874	0.0076	0.3549	0.0464	-6.9226	0.0919	0.0625	0.1672

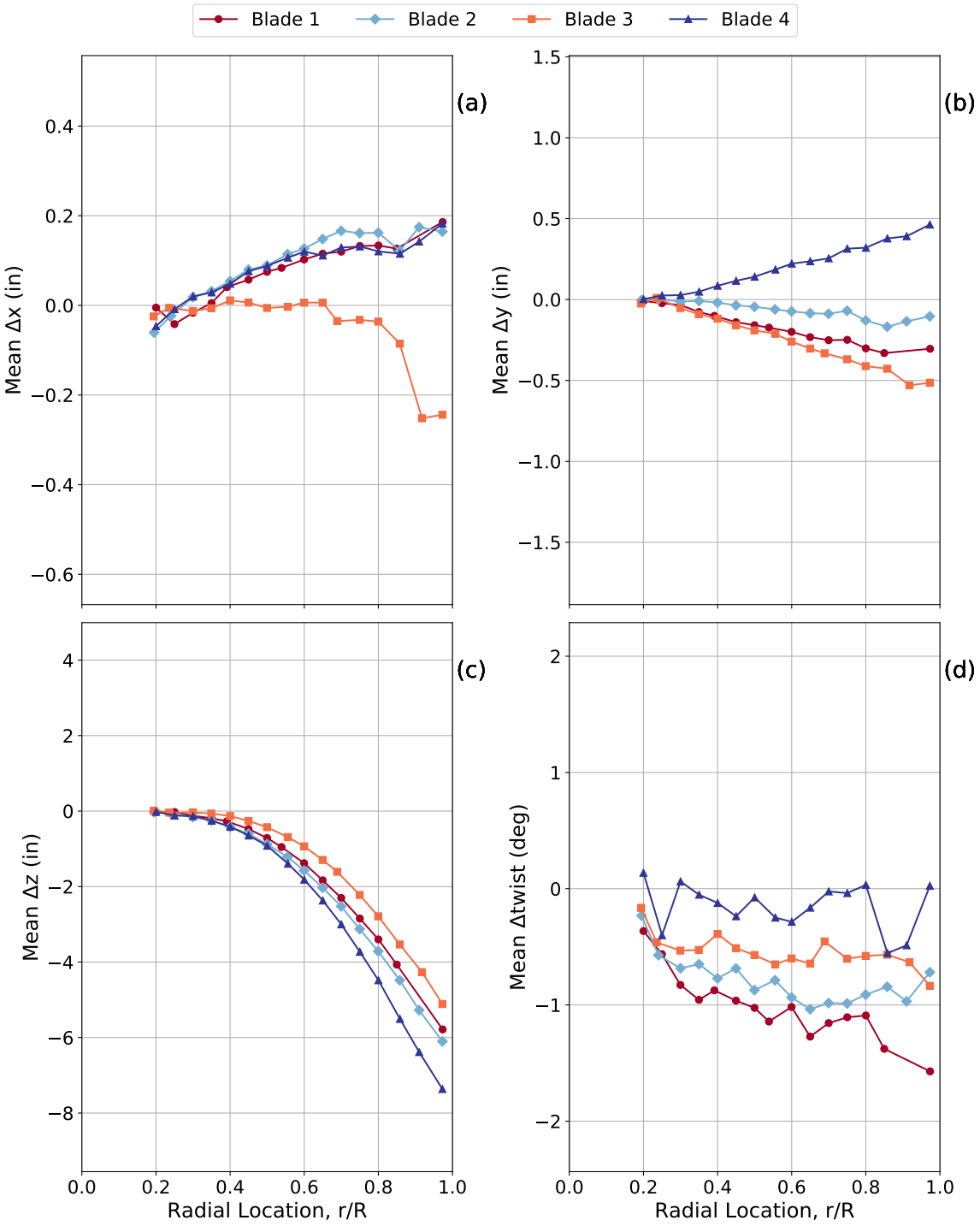


Figure 2.7-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-16. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0050	0.0011	-0.0088	0.0005	-0.0314	0.0019	-0.3641	0.0129
1	94.92	0.2499	-0.0419	0.0011	-0.0230	0.0017	-0.0241	0.0041	-0.5629	0.0230
1	94.92	0.2998	-0.0165	0.0009	-0.0340	0.0024	-0.1225	0.0075	-0.8279	0.0280
1	94.92	0.3498	0.0050	0.0009	-0.0772	0.0047	-0.1888	0.0130	-0.9561	0.0273
1	94.92	0.3913	0.0407	0.0012	-0.1010	0.0066	-0.2713	0.0184	-0.8746	0.0269
1	94.92	0.4496	0.0573	0.0012	-0.1397	0.0084	-0.4744	0.0237	-0.9628	0.0230
1	94.92	0.4997	0.0749	0.0013	-0.1588	0.0103	-0.7135	0.0291	-1.0252	0.0271
1	94.92	0.5387	0.0836	0.0012	-0.1735	0.0122	-0.9519	0.0344	-1.1425	0.0279
1	94.92	0.5996	0.1023	0.0014	-0.1995	0.0155	-1.3812	0.0421	-1.0175	0.0279
1	94.92	0.6498	0.1153	0.0020	-0.2323	0.0188	-1.8345	0.0491	-1.2724	0.0405
1	94.92	0.6998	0.1198	0.0020	-0.2513	0.0211	-2.3017	0.0580	-1.1562	0.0408
1	94.92	0.7500	0.1325	0.0028	-0.2492	0.0238	-2.8474	0.0664	-1.1063	0.0406
1	94.92	0.8001	0.1335	0.0038	-0.3018	0.0273	-3.4000	0.0756	-1.0908	0.0561
1	94.92	0.8497	0.1266	0.0037	-0.3308	0.0309	-4.0672	0.0853	-1.3773	0.0539
1	94.92	0.9734	0.1860	0.0070	-0.3043	0.0404	-5.7848	0.1163	-1.5717	0.1410
2	94.92	0.1949	-0.0607	0.0009	-0.0036	0.0006	-0.0268	0.0017	-0.2320	0.0193
2	94.92	0.2405	-0.0236	0.0007	0.0027	0.0012	-0.0727	0.0039	-0.5721	0.0337
2	94.92	0.2999	0.0185	0.0007	-0.0130	0.0027	-0.1589	0.0072	-0.6845	0.0470
2	94.92	0.3498	0.0315	0.0012	-0.0086	0.0045	-0.2512	0.0128	-0.6496	0.0411
2	94.92	0.3998	0.0541	0.0013	-0.0192	0.0071	-0.4197	0.0198	-0.7714	0.0391
2	94.92	0.4496	0.0797	0.0011	-0.0357	0.0080	-0.6016	0.0259	-0.6862	0.0365
2	94.92	0.4995	0.0889	0.0014	-0.0450	0.0100	-0.8770	0.0328	-0.8721	0.0395
2	94.92	0.5551	0.1142	0.0017	-0.0609	0.0118	-1.2160	0.0399	-0.7876	0.0371
2	94.92	0.5996	0.1264	0.0018	-0.0735	0.0135	-1.5759	0.0461	-0.9357	0.0501
2	94.92	0.6497	0.1480	0.0021	-0.0848	0.0151	-2.0296	0.0526	-1.0365	0.0479
2	94.92	0.6996	0.1662	0.0023	-0.0881	0.0176	-2.5236	0.0603	-0.9840	0.0528
2	94.92	0.7495	0.1611	0.0025	-0.0696	0.0202	-3.1271	0.0671	-0.9872	0.0502
2	94.92	0.7996	0.1620	0.0030	-0.1293	0.0219	-3.7139	0.0758	-0.9115	0.0561
2	94.92	0.8578	0.1218	0.0041	-0.1683	0.0245	-4.4832	0.0874	-0.8435	0.0843
2	94.92	0.9100	0.1745	0.0129	-0.1348	0.0279	-5.2736	0.0934	-0.9690	0.2370
2	94.92	0.9727	0.1646	0.0056	-0.1042	0.0302	-6.1020	0.1101	-0.7183	0.1241
3	94.92	0.1938	-0.0246	0.0027	-0.0250	0.0012	0.0105	0.0029	-0.1650	0.0218
3	94.92	0.2357	-0.0056	0.0015	0.0098	0.0017	-0.0406	0.0037	-0.4617	0.0472
3	94.92	0.2995	-0.0126	0.0014	-0.0527	0.0040	-0.0341	0.0079	-0.5325	0.0545
3	94.92	0.3493	-0.0064	0.0021	-0.0907	0.0066	-0.0650	0.0130	-0.5271	0.0536
3	94.92	0.4000	0.0110	0.0035	-0.1179	0.0101	-0.1320	0.0191	-0.3896	0.0507
3	94.92	0.4497	0.0063	0.0045	-0.1589	0.0129	-0.2613	0.0243	-0.5117	0.0507
3	94.92	0.4997	-0.0058	0.0059	-0.1904	0.0159	-0.4280	0.0302	-0.5708	0.0529
3	94.92	0.5556	-0.0032	0.0077	-0.2117	0.0199	-0.6886	0.0377	-0.6512	0.0492
3	94.92	0.5995	0.0061	0.0090	-0.2599	0.0231	-0.9351	0.0438	-0.6001	0.0511
3	94.92	0.6498	0.0061	0.0107	-0.3027	0.0264	-1.2942	0.0505	-0.6442	0.0508
3	94.92	0.6890	-0.0351	0.0130	-0.3324	0.0298	-1.6083	0.0573	-0.4542	0.0644
3	94.92	0.7495	-0.0324	0.0138	-0.3693	0.0343	-2.2224	0.0653	-0.6027	0.0507
3	94.92	0.7998	-0.0362	0.0156	-0.4118	0.0381	-2.7884	0.0737	-0.5786	0.0518
3	94.92	0.8577	-0.0854	0.0179	-0.4273	0.0430	-3.5343	0.0819	-0.5678	0.0644
3	94.92	0.9178	-0.2519	0.0063	-0.5300	0.0716	-4.2690	0.1138	-0.6324	0.0618
3	94.92	0.9729	-0.2440	0.0060	-0.5140	0.0774	-5.1123	0.1229	-0.8357	0.0638
4	94.92	0.2001	-0.0465	0.0008	0.0025	0.0006	-0.0204	0.0017	0.1368	0.0211
4	94.92	0.2502	-0.0085	0.0008	0.0247	0.0012	-0.1195	0.0030	-0.4005	0.0291
4	94.92	0.3001	0.0198	0.0008	0.0273	0.0024	-0.1336	0.0053	0.0617	0.0449
4	94.92	0.3502	0.0289	0.0010	0.0485	0.0037	-0.2533	0.0094	-0.0518	0.0447
4	94.92	0.4002	0.0481	0.0013	0.0851	0.0058	-0.4156	0.0138	-0.1231	0.0433
4	94.92	0.4500	0.0761	0.0011	0.1156	0.0066	-0.6472	0.0174	-0.2374	0.0391
4	94.92	0.5001	0.0880	0.0012	0.1407	0.0083	-0.9193	0.0224	-0.0754	0.0385
4	94.92	0.5560	0.1064	0.0014	0.1851	0.0106	-1.3948	0.0276	-0.2488	0.0426
4	94.92	0.6001	0.1199	0.0016	0.2219	0.0125	-1.8167	0.0319	-0.2850	0.0460
4	94.92	0.6501	0.1112	0.0018	0.2365	0.0148	-2.3698	0.0382	-0.1635	0.0508
4	94.92	0.6999	0.1289	0.0022	0.2547	0.0177	-3.0018	0.0435	-0.0237	0.0463
4	94.92	0.7500	0.1314	0.0026	0.3143	0.0207	-3.7295	0.0505	-0.0379	0.0463
4	94.92	0.8002	0.1204	0.0034	0.3200	0.0233	-4.4825	0.0613	0.0329	0.0816
4	94.92	0.8582	0.1152	0.0056	0.3775	0.0273	-5.5068	0.0724	-0.5547	0.0879
4	94.92	0.9101	0.1423	0.0080	0.3910	0.0313	-6.3849	0.0825	-0.4870	0.0812
4	94.92	0.9728	0.1824	0.0063	0.4632	0.0346	-7.3646	0.0970	0.0249	0.0980

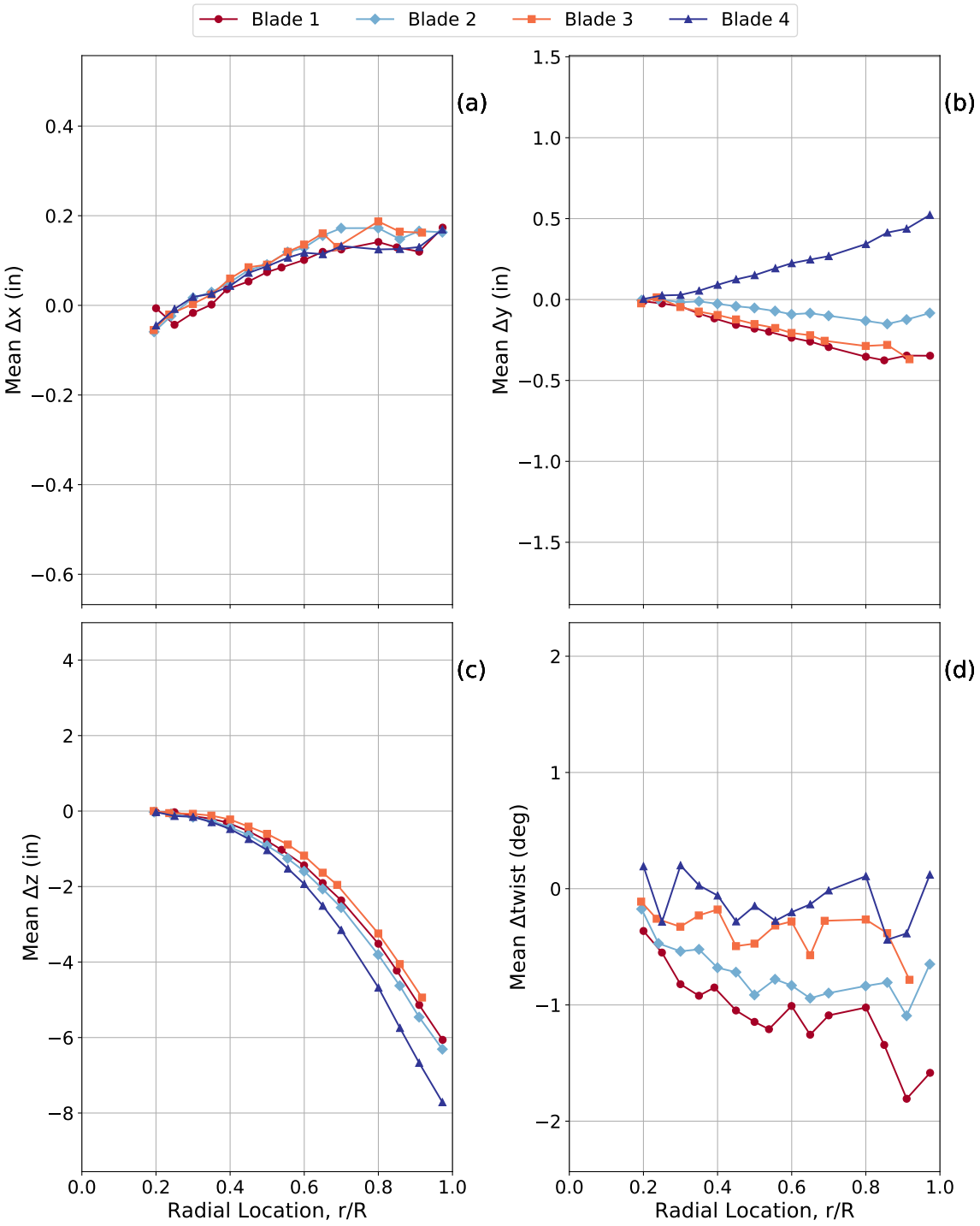


Figure 2.7-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-17. 100° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0064	0.0011	-0.0107	0.0004	-0.0330	0.0015	-0.3639	0.0179
1	99.84	0.2499	-0.0433	0.0010	-0.0246	0.0017	-0.0306	0.0029	-0.5495	0.0230
1	99.84	0.2998	-0.0168	0.0010	-0.0417	0.0027	-0.1350	0.0057	-0.8218	0.0373
1	99.84	0.3498	0.0017	0.0010	-0.0871	0.0038	-0.2055	0.0094	-0.9209	0.0279
1	99.84	0.3913	0.0359	0.0012	-0.1166	0.0066	-0.3011	0.0134	-0.8502	0.0376
1	99.84	0.4496	0.0533	0.0013	-0.1563	0.0084	-0.5336	0.0179	-1.0476	0.0347
1	99.84	0.4997	0.0742	0.0014	-0.1797	0.0106	-0.7897	0.0239	-1.1459	0.0318
1	99.84	0.5387	0.0845	0.0017	-0.1989	0.0121	-1.0259	0.0281	-1.2087	0.0335
1	99.84	0.5996	0.1013	0.0019	-0.2359	0.0150	-1.4388	0.0356	-1.0090	0.0357
1	99.84	0.6498	0.1193	0.0019	-0.2597	0.0176	-1.9071	0.0413	-1.2563	0.0408
1	99.84	0.6998	0.1247	0.0021	-0.2936	0.0198	-2.3658	0.0467	-1.0898	0.0400
1	99.84	0.8001	0.1413	0.0027	-0.3535	0.0251	-3.5150	0.0570	-1.0224	0.0454
1	99.84	0.8497	0.1294	0.0034	-0.3757	0.0279	-4.2256	0.0624	-1.3442	0.0504
1	99.84	0.9102	0.1198	0.0062	-0.3463	0.0322	-5.1371	0.0727	-1.8071	0.1192
1	99.84	0.9734	0.1734	0.0053	-0.3473	0.0352	-6.0613	0.0831	-1.5841	0.0777
2	99.84	0.1949	-0.0591	0.0007	-0.0040	0.0004	-0.0275	0.0015	-0.1751	0.0184
2	99.84	0.2405	-0.0238	0.0007	0.0019	0.0009	-0.0750	0.0028	-0.4709	0.0234
2	99.84	0.2999	0.0170	0.0007	-0.0170	0.0017	-0.1621	0.0059	-0.5384	0.0390
2	99.84	0.3498	0.0294	0.0008	-0.0113	0.0027	-0.2591	0.0097	-0.5217	0.0332
2	99.84	0.3998	0.0516	0.0010	-0.0264	0.0042	-0.4305	0.0151	-0.6801	0.0355
2	99.84	0.4496	0.0784	0.0011	-0.0416	0.0053	-0.6322	0.0187	-0.7180	0.0341
2	99.84	0.4995	0.0910	0.0011	-0.0522	0.0068	-0.9151	0.0241	-0.9140	0.0351
2	99.84	0.5551	0.1190	0.0014	-0.0710	0.0085	-1.2549	0.0290	-0.7793	0.0364
2	99.84	0.5996	0.1284	0.0014	-0.0912	0.0101	-1.5939	0.0333	-0.8327	0.0363
2	99.84	0.6497	0.1556	0.0015	-0.0844	0.0119	-2.0646	0.0382	-0.9423	0.0405
2	99.84	0.6996	0.1722	0.0018	-0.1004	0.0140	-2.5563	0.0421	-0.8980	0.0409
2	99.84	0.7996	0.1724	0.0021	-0.1316	0.0180	-3.8047	0.0532	-0.8369	0.0439
2	99.84	0.8578	0.1479	0.0025	-0.1509	0.0206	-4.6275	0.0593	-0.8066	0.0540
2	99.84	0.9100	0.1657	0.0040	-0.1240	0.0231	-5.4588	0.0648	-1.0932	0.0763
2	99.84	0.9727	0.1631	0.0041	-0.0834	0.0255	-6.3086	0.0743	-0.6493	0.0738
3	99.84	0.1938	-0.0551	0.0008	-0.0236	0.0005	0.0017	0.0014	-0.1113	0.0178
3	99.84	0.2357	-0.0204	0.0008	0.0137	0.0010	-0.0545	0.0033	-0.2587	0.0230
3	99.84	0.2995	0.0030	0.0007	-0.0463	0.0016	-0.0721	0.0055	-0.3272	0.0388
3	99.84	0.3493	0.0239	0.0009	-0.0746	0.0038	-0.1202	0.0103	-0.2299	0.0315
3	99.84	0.4000	0.0598	0.0011	-0.0955	0.0051	-0.2229	0.0155	-0.1790	0.0320
3	99.84	0.4497	0.0850	0.0010	-0.1230	0.0061	-0.4115	0.0187	-0.4941	0.0300
3	99.84	0.4997	0.0908	0.0012	-0.1516	0.0076	-0.6035	0.0237	-0.4726	0.0306
3	99.84	0.5556	0.1195	0.0013	-0.1760	0.0092	-0.8855	0.0296	-0.3169	0.0323
3	99.84	0.5995	0.1356	0.0014	-0.2065	0.0107	-1.1793	0.0349	-0.2821	0.0374
3	99.84	0.6498	0.1605	0.0018	-0.2208	0.0120	-1.6325	0.0403	-0.5723	0.0391
3	99.84	0.6890	0.1304	0.0017	-0.2549	0.0139	-1.9558	0.0445	-0.2761	0.0411
3	99.84	0.7998	0.1873	0.0025	-0.2870	0.0180	-3.2427	0.0569	-0.2651	0.0461
3	99.84	0.8577	0.1643	0.0034	-0.2802	0.0203	-4.0541	0.0639	-0.3823	0.0714
3	99.84	0.9178	0.1623	0.0064	-0.3691	0.0228	-4.9407	0.0709	-0.7836	0.0913
4	99.84	0.2001	-0.0449	0.0010	0.0036	0.0006	-0.0266	0.0017	0.1926	0.0210
4	99.84	0.2502	-0.0080	0.0009	0.0253	0.0013	-0.1303	0.0040	-0.2842	0.0360
4	99.84	0.3001	0.0188	0.0009	0.0284	0.0026	-0.1549	0.0067	0.2007	0.0477
4	99.84	0.3502	0.0259	0.0011	0.0547	0.0038	-0.2947	0.0111	0.0280	0.0384
4	99.84	0.4002	0.0435	0.0012	0.0908	0.0060	-0.4752	0.0174	-0.0590	0.0358
4	99.84	0.4500	0.0726	0.0013	0.1244	0.0077	-0.7408	0.0204	-0.2816	0.0404
4	99.84	0.5001	0.0872	0.0016	0.1504	0.0097	-1.0371	0.0253	-0.1478	0.0345
4	99.84	0.5560	0.1064	0.0017	0.1929	0.0116	-1.5243	0.0314	-0.2761	0.0375
4	99.84	0.6001	0.1175	0.0016	0.2244	0.0134	-1.9334	0.0353	-0.2019	0.0401
4	99.84	0.6501	0.1141	0.0019	0.2469	0.0155	-2.5099	0.0410	-0.1345	0.0430
4	99.84	0.6999	0.1322	0.0020	0.2681	0.0173	-3.1521	0.0455	-0.0150	0.0385
4	99.84	0.8002	0.1248	0.0024	0.3427	0.0218	-4.6789	0.0566	0.1077	0.0476
4	99.84	0.8582	0.1257	0.0034	0.4137	0.0244	-5.7467	0.0622	-0.4389	0.0633
4	99.84	0.9101	0.1301	0.0047	0.4373	0.0272	-6.6720	0.0714	-0.3847	0.0589
4	99.84	0.9728	0.1692	0.0044	0.5225	0.0301	-7.7139	0.0784	0.1201	0.0657

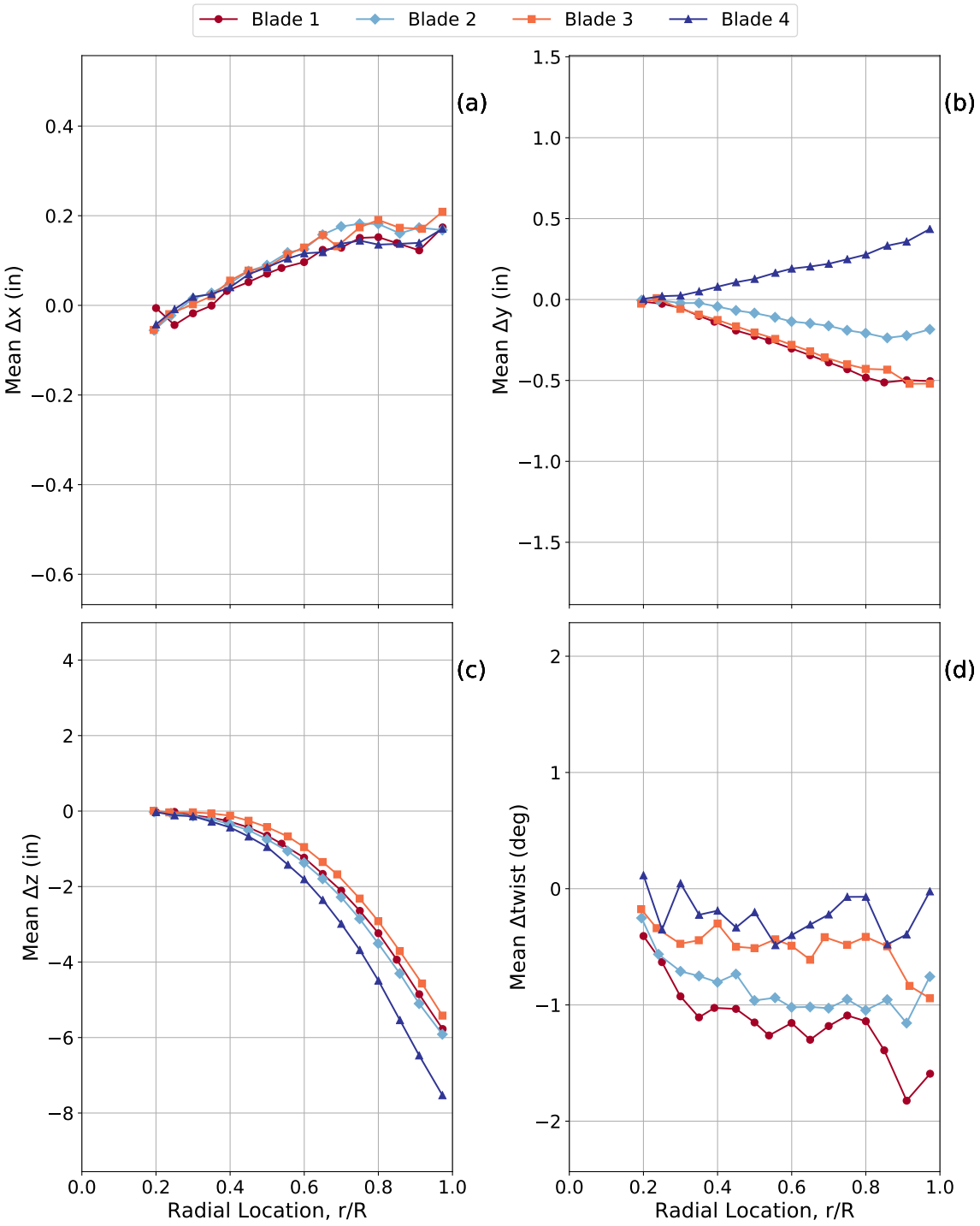


Figure 2.7-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0060	0.0012	-0.0134	0.0005	-0.0279	0.0019	-0.4072	0.0153
1	105.12	0.2499	-0.0438	0.0008	-0.0263	0.0014	-0.0217	0.0038	-0.6316	0.0268
1	105.12	0.2998	-0.0178	0.0008	-0.0515	0.0026	-0.1128	0.0070	-0.9263	0.0342
1	105.12	0.3498	-0.0006	0.0008	-0.1013	0.0037	-0.1762	0.0125	-1.1072	0.0330
1	105.12	0.3913	0.0322	0.0011	-0.1369	0.0060	-0.2537	0.0174	-1.0254	0.0287
1	105.12	0.4496	0.0520	0.0012	-0.1914	0.0077	-0.4322	0.0229	-1.0341	0.0286
1	105.12	0.4997	0.0707	0.0013	-0.2245	0.0091	-0.6511	0.0287	-1.1506	0.0305
1	105.12	0.5387	0.0834	0.0013	-0.2532	0.0108	-0.8645	0.0342	-1.2629	0.0292
1	105.12	0.5996	0.0965	0.0016	-0.3029	0.0130	-1.2353	0.0423	-1.1555	0.0316
1	105.12	0.6498	0.1238	0.0017	-0.3443	0.0153	-1.6656	0.0488	-1.2995	0.0300
1	105.12	0.6998	0.1286	0.0016	-0.3888	0.0172	-2.1097	0.0564	-1.1818	0.0340
1	105.12	0.7500	0.1505	0.0019	-0.4306	0.0198	-2.6429	0.0640	-1.0909	0.0343
1	105.12	0.8001	0.1520	0.0024	-0.4817	0.0221	-3.2371	0.0727	-1.1402	0.0322
1	105.12	0.8497	0.1390	0.0028	-0.5125	0.0246	-3.9373	0.0805	-1.3905	0.0397
1	105.12	0.9102	0.1227	0.0033	-0.4983	0.0274	-4.8529	0.0939	-1.8236	0.0531
1	105.12	0.9734	0.1739	0.0039	-0.5041	0.0310	-5.7740	0.1070	-1.5918	0.0491
2	105.12	0.1949	-0.0557	0.0007	-0.0040	0.0005	-0.0240	0.0015	-0.2520	0.0220
2	105.12	0.2405	-0.0224	0.0007	-0.0033	0.0012	-0.0575	0.0044	-0.5642	0.0260
2	105.12	0.2999	0.0154	0.0009	-0.0219	0.0021	-0.1311	0.0079	-0.7109	0.0467
2	105.12	0.3498	0.0276	0.0008	-0.0214	0.0038	-0.2168	0.0120	-0.7510	0.0431
2	105.12	0.3998	0.0492	0.0009	-0.0437	0.0059	-0.3521	0.0203	-0.8048	0.0329
2	105.12	0.4496	0.0762	0.0010	-0.0675	0.0067	-0.5039	0.0240	-0.7344	0.0389
2	105.12	0.4995	0.0896	0.0013	-0.0837	0.0082	-0.7502	0.0305	-0.9617	0.0305
2	105.12	0.5551	0.1178	0.0013	-0.1098	0.0100	-1.0583	0.0374	-0.9384	0.0335
2	105.12	0.5996	0.1256	0.0015	-0.1360	0.0114	-1.3701	0.0435	-1.0201	0.0398
2	105.12	0.6497	0.1576	0.0015	-0.1474	0.0131	-1.7950	0.0496	-1.0174	0.0392
2	105.12	0.6996	0.1760	0.0017	-0.1626	0.0149	-2.2810	0.0552	-1.0282	0.0419
2	105.12	0.7495	0.1819	0.0020	-0.1900	0.0164	-2.8530	0.0617	-0.9518	0.0375
2	105.12	0.7996	0.1818	0.0023	-0.2079	0.0184	-3.5079	0.0683	-1.0457	0.0417
2	105.12	0.8578	0.1606	0.0027	-0.2370	0.0208	-4.3041	0.0767	-0.9545	0.0442
2	105.12	0.9100	0.1733	0.0029	-0.2228	0.0229	-5.1020	0.0838	-1.1561	0.0588
2	105.12	0.9727	0.1680	0.0038	-0.1844	0.0253	-5.9135	0.0954	-0.7562	0.0520
3	105.12	0.1938	-0.0548	0.0008	-0.0252	0.0006	0.0078	0.0014	-0.1759	0.0177
3	105.12	0.2357	-0.0196	0.0008	0.0083	0.0012	-0.0347	0.0026	-0.3398	0.0240
3	105.12	0.2995	0.0024	0.0010	-0.0577	0.0020	-0.0331	0.0052	-0.4739	0.0376
3	105.12	0.3493	0.0204	0.0008	-0.0931	0.0031	-0.0616	0.0080	-0.4435	0.0274
3	105.12	0.4000	0.0552	0.0012	-0.1266	0.0050	-0.1221	0.0127	-0.2998	0.0296
3	105.12	0.4497	0.0775	0.0011	-0.1656	0.0058	-0.2560	0.0173	-0.4992	0.0279
3	105.12	0.4997	0.0839	0.0017	-0.2036	0.0074	-0.4232	0.0218	-0.5117	0.0333
3	105.12	0.5556	0.1139	0.0016	-0.2433	0.0094	-0.6725	0.0271	-0.4356	0.0298
3	105.12	0.5995	0.1290	0.0017	-0.2799	0.0111	-0.9541	0.0316	-0.4908	0.0335
3	105.12	0.6498	0.1572	0.0018	-0.3198	0.0132	-1.3501	0.0368	-0.6111	0.0312
3	105.12	0.6890	0.1318	0.0019	-0.3575	0.0150	-1.6779	0.0401	-0.4171	0.0326
3	105.12	0.7495	0.1740	0.0019	-0.4002	0.0180	-2.3179	0.0455	-0.4830	0.0297
3	105.12	0.7998	0.1905	0.0021	-0.4285	0.0206	-2.9164	0.0495	-0.4145	0.0318
3	105.12	0.8577	0.1730	0.0026	-0.4332	0.0236	-3.7085	0.0556	-0.4954	0.0496
3	105.12	0.9178	0.1709	0.0039	-0.5205	0.0270	-4.5680	0.0635	-0.8362	0.0515
3	105.12	0.9729	0.2088	0.0045	-0.5199	0.0302	-5.4185	0.0739	-0.9423	0.0445
4	105.12	0.2001	-0.0425	0.0007	0.0040	0.0006	-0.0278	0.0018	0.1153	0.0219
4	105.12	0.2502	-0.0086	0.0009	0.0209	0.0020	-0.1146	0.0041	-0.3516	0.0280
4	105.12	0.3001	0.0190	0.0008	0.0245	0.0022	-0.1378	0.0056	0.0453	0.0422
4	105.12	0.3502	0.0251	0.0010	0.0500	0.0047	-0.2819	0.0095	-0.2246	0.0385
4	105.12	0.4002	0.0404	0.0010	0.0792	0.0068	-0.4340	0.0144	-0.1891	0.0392
4	105.12	0.4500	0.0694	0.0013	0.1067	0.0085	-0.6740	0.0177	-0.3337	0.0356
4	105.12	0.5001	0.0851	0.0014	0.1274	0.0106	-0.9523	0.0225	-0.2023	0.0328
4	105.12	0.5560	0.1045	0.0016	0.1650	0.0136	-1.4227	0.0284	-0.4861	0.0331
4	105.12	0.6001	0.1160	0.0015	0.1909	0.0157	-1.8071	0.0328	-0.3993	0.0329
4	105.12	0.6501	0.1186	0.0014	0.2038	0.0189	-2.3562	0.0375	-0.3089	0.0375
4	105.12	0.6999	0.1376	0.0017	0.2207	0.0221	-2.9868	0.0422	-0.2219	0.0367
4	105.12	0.7500	0.1444	0.0020	0.2488	0.0258	-3.6835	0.0469	-0.0705	0.0366
4	105.12	0.8002	0.1355	0.0024	0.2775	0.0299	-4.4927	0.0523	-0.0697	0.0353
4	105.12	0.8582	0.1373	0.0030	0.3326	0.0349	-5.5399	0.0587	-0.4791	0.0420
4	105.12	0.9101	0.1394	0.0034	0.3575	0.0394	-6.4748	0.0657	-0.3938	0.0421
4	105.12	0.9728	0.1709	0.0040	0.4356	0.0450	-7.5280	0.0769	-0.0231	0.0441

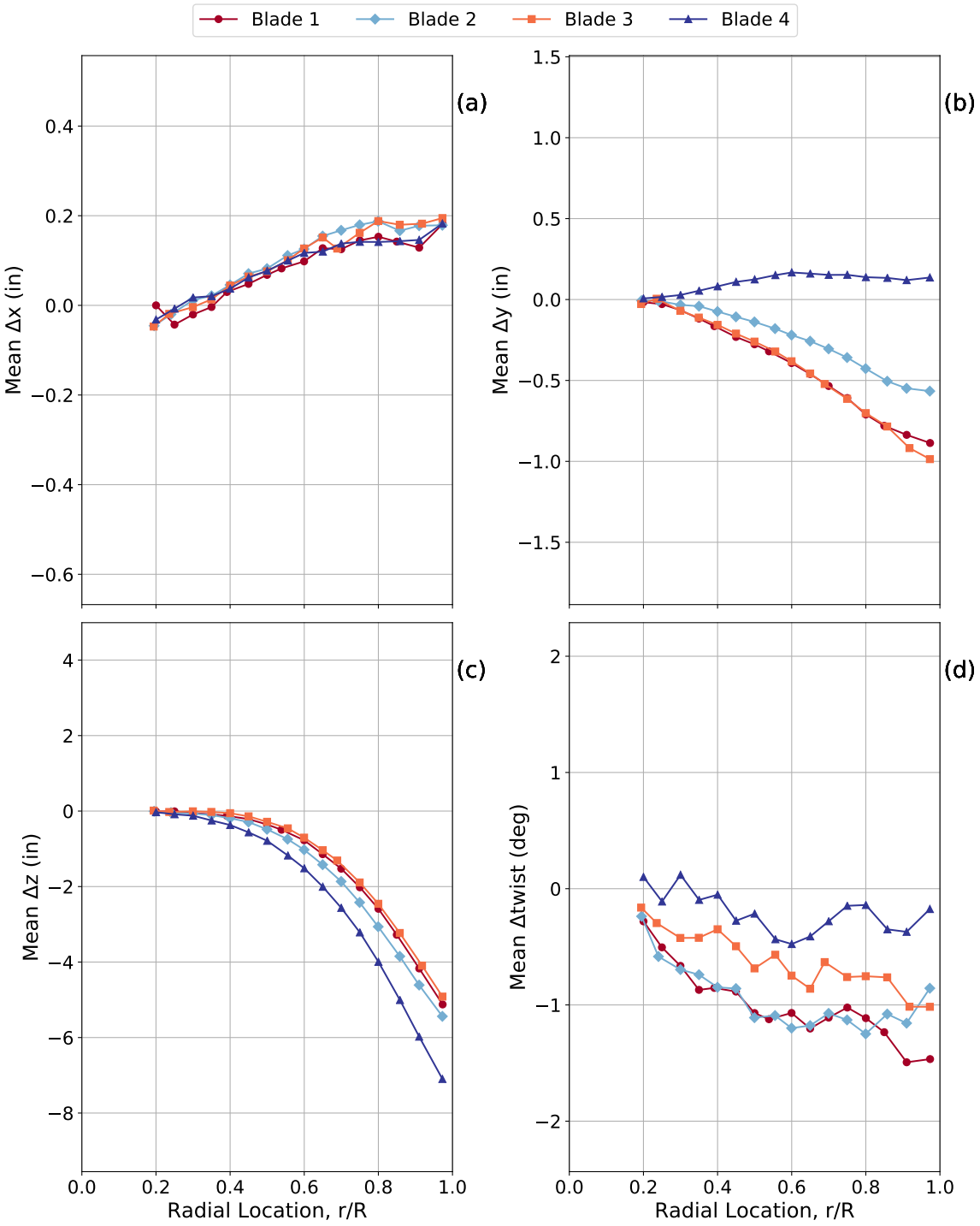


Figure 2.7-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-19. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0000	0.0008	-0.0168	0.0005	-0.0114	0.0017	-0.2807	0.0137
1	119.88	0.2499	-0.0430	0.0009	-0.0283	0.0011	-0.0073	0.0035	-0.5047	0.0242
1	119.88	0.2998	-0.0204	0.0009	-0.0661	0.0020	-0.0528	0.0062	-0.6640	0.0311
1	119.88	0.3498	-0.0037	0.0009	-0.1178	0.0033	-0.0880	0.0114	-0.8704	0.0292
1	119.88	0.3913	0.0298	0.0013	-0.1645	0.0049	-0.1262	0.0159	-0.8535	0.0305
1	119.88	0.4496	0.0479	0.0016	-0.2312	0.0065	-0.2119	0.0207	-0.8850	0.0329
1	119.88	0.4997	0.0680	0.0013	-0.2767	0.0086	-0.3554	0.0271	-1.0697	0.0296
1	119.88	0.5387	0.0824	0.0014	-0.3202	0.0103	-0.4951	0.0320	-1.1228	0.0301
1	119.88	0.5996	0.0981	0.0018	-0.3924	0.0135	-0.7731	0.0399	-1.0691	0.0319
1	119.88	0.6498	0.1275	0.0017	-0.4604	0.0161	-1.1427	0.0457	-1.2030	0.0349
1	119.88	0.6998	0.1253	0.0019	-0.5343	0.0190	-1.5264	0.0524	-1.1090	0.0288
1	119.88	0.7500	0.1449	0.0021	-0.6087	0.0224	-2.0196	0.0586	-1.0224	0.0333
1	119.88	0.8001	0.1530	0.0023	-0.7106	0.0259	-2.5886	0.0645	-1.1137	0.0309
1	119.88	0.8497	0.1422	0.0027	-0.7802	0.0295	-3.2776	0.0718	-1.2345	0.0319
1	119.88	0.9102	0.1287	0.0030	-0.8363	0.0341	-4.1694	0.0820	-1.4932	0.0336
1	119.88	0.9734	0.1815	0.0040	-0.8865	0.0390	-5.1231	0.0937	-1.4658	0.0341
2	119.88	0.1949	-0.0455	0.0007	-0.0064	0.0005	-0.0053	0.0016	-0.2377	0.0185
2	119.88	0.2405	-0.0200	0.0009	-0.0081	0.0013	-0.0388	0.0033	-0.5837	0.0254
2	119.88	0.2999	0.0117	0.0008	-0.0332	0.0020	-0.0670	0.0055	-0.6960	0.0370
2	119.88	0.3498	0.0213	0.0009	-0.0410	0.0032	-0.1061	0.0101	-0.7398	0.0305
2	119.88	0.3998	0.0456	0.0016	-0.0742	0.0052	-0.1895	0.0145	-0.8482	0.0299
2	119.88	0.4496	0.0708	0.0012	-0.1069	0.0066	-0.2905	0.0194	-0.8589	0.0275
2	119.88	0.4995	0.0820	0.0014	-0.1383	0.0092	-0.4826	0.0258	-1.1097	0.0271
2	119.88	0.5551	0.1112	0.0014	-0.1799	0.0106	-0.7445	0.0308	-1.0913	0.0289
2	119.88	0.5996	0.1257	0.0015	-0.2197	0.0126	-1.0248	0.0362	-1.1995	0.0299
2	119.88	0.6497	0.1546	0.0016	-0.2573	0.0151	-1.4208	0.0427	-1.1774	0.0289
2	119.88	0.6996	0.1674	0.0016	-0.3047	0.0177	-1.8654	0.0496	-1.0724	0.0336
2	119.88	0.7495	0.1796	0.0018	-0.3586	0.0206	-2.4213	0.0568	-1.1290	0.0306
2	119.88	0.7996	0.1876	0.0022	-0.4268	0.0235	-3.0638	0.0636	-1.2491	0.0303
2	119.88	0.8578	0.1664	0.0023	-0.5048	0.0271	-3.8485	0.0714	-1.0783	0.0342
2	119.88	0.9100	0.1776	0.0026	-0.5487	0.0304	-4.6096	0.0796	-1.1570	0.0337
2	119.88	0.9727	0.1787	0.0031	-0.5660	0.0345	-5.4383	0.0883	-0.8564	0.0331
3	119.88	0.1938	-0.0473	0.0011	-0.0278	0.0005	0.0128	0.0016	-0.1625	0.0146
3	119.88	0.2357	-0.0190	0.0007	0.0049	0.0012	-0.0238	0.0033	-0.2956	0.0185
3	119.88	0.2995	-0.0039	0.0007	-0.0696	0.0024	-0.0068	0.0073	-0.4238	0.0310
3	119.88	0.3493	0.0132	0.0012	-0.1115	0.0035	-0.0224	0.0109	-0.4224	0.0214
3	119.88	0.4000	0.0443	0.0010	-0.1566	0.0060	-0.0560	0.0183	-0.3490	0.0326
3	119.88	0.4497	0.0643	0.0014	-0.2105	0.0074	-0.1398	0.0225	-0.4951	0.0287
3	119.88	0.4997	0.0757	0.0012	-0.2600	0.0090	-0.2840	0.0275	-0.6856	0.0215
3	119.88	0.5556	0.1008	0.0014	-0.3213	0.0114	-0.4578	0.0349	-0.5681	0.0265
3	119.88	0.5995	0.1268	0.0013	-0.3814	0.0131	-0.7035	0.0415	-0.7477	0.0246
3	119.88	0.6498	0.1515	0.0013	-0.4570	0.0158	-1.0364	0.0504	-0.8605	0.0311
3	119.88	0.6890	0.1267	0.0016	-0.5218	0.0178	-1.3102	0.0574	-0.6315	0.0276
3	119.88	0.7495	0.1618	0.0018	-0.6137	0.0215	-1.8915	0.0693	-0.7600	0.0263
3	119.88	0.7998	0.1881	0.0020	-0.7019	0.0247	-2.4560	0.0802	-0.7530	0.0281
3	119.88	0.8577	0.1798	0.0024	-0.7846	0.0286	-3.2301	0.0927	-0.7627	0.0305
3	119.88	0.9178	0.1822	0.0025	-0.9179	0.0328	-4.0933	0.1061	-1.0152	0.0317
3	119.88	0.9729	0.1947	0.0032	-0.9860	0.0371	-4.9153	0.1195	-1.0161	0.0293
4	119.88	0.2001	-0.0317	0.0011	0.0069	0.0006	-0.0307	0.0016	0.1011	0.0181
4	119.88	0.2502	-0.0073	0.0010	0.0159	0.0015	-0.0851	0.0038	-0.1104	0.0293
4	119.88	0.3001	0.0175	0.0008	0.0280	0.0027	-0.1232	0.0061	0.1191	0.0402
4	119.88	0.3502	0.0205	0.0019	0.0545	0.0048	-0.2499	0.0116	-0.0964	0.0269
4	119.88	0.4002	0.0372	0.0014	0.0814	0.0074	-0.3702	0.0172	-0.0517	0.0388
4	119.88	0.4500	0.0620	0.0022	0.1088	0.0090	-0.5645	0.0206	-0.2756	0.0335
4	119.88	0.5001	0.0771	0.0015	0.1242	0.0117	-0.7882	0.0255	-0.2148	0.0333
4	119.88	0.5560	0.0999	0.0019	0.1507	0.0152	-1.1784	0.0323	-0.4349	0.0275
4	119.88	0.6001	0.1169	0.0021	0.1672	0.0178	-1.5167	0.0378	-0.4762	0.0327
4	119.88	0.6501	0.1199	0.0020	0.1602	0.0206	-2.0062	0.0433	-0.4104	0.0378
4	119.88	0.6999	0.1378	0.0023	0.1521	0.0244	-2.5649	0.0505	-0.2798	0.0317
4	119.88	0.7500	0.1417	0.0025	0.1527	0.0276	-3.2151	0.0568	-0.1471	0.0328
4	119.88	0.8002	0.1414	0.0030	0.1381	0.0308	-3.9959	0.0646	-0.1403	0.0339
4	119.88	0.8582	0.1432	0.0031	0.1335	0.0347	-5.0071	0.0740	-0.3497	0.0347
4	119.88	0.9101	0.1460	0.0034	0.1197	0.0384	-5.9768	0.0830	-0.3712	0.0351
4	119.88	0.9728	0.1826	0.0047	0.1360	0.0424	-7.0978	0.0959	-0.1749	0.0368

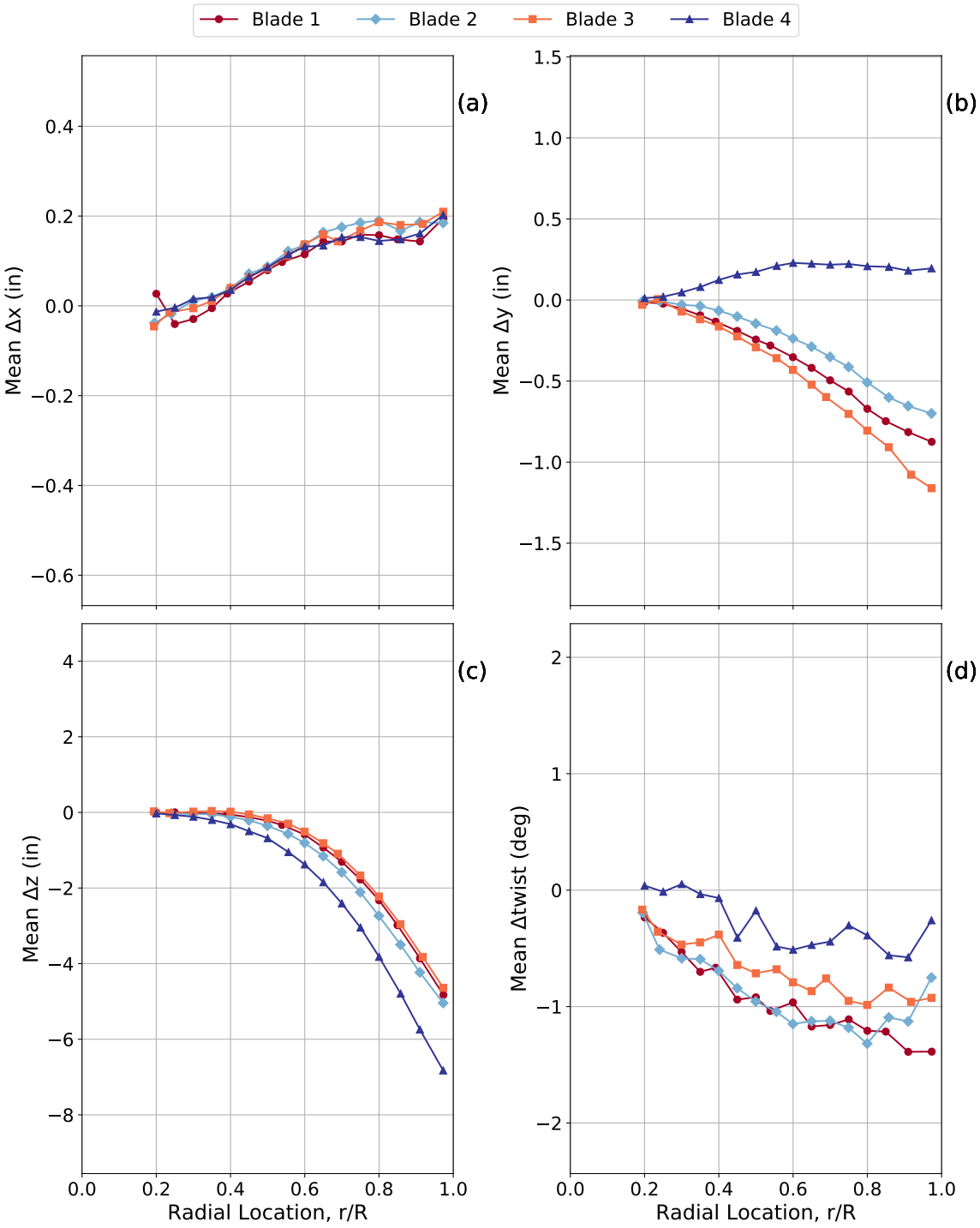


Figure 2.7-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-20. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	0.0269	0.0009	-0.0132	0.0005	-0.0019	0.0017	-0.2339	0.0149
1	135	0.2499	-0.0405	0.0007	-0.0229	0.0014	0.0018	0.0040	-0.3667	0.0239
1	135	0.2998	-0.0293	0.0012	-0.0537	0.0024	-0.0211	0.0064	-0.5319	0.0330
1	135	0.3498	-0.0051	0.0010	-0.0942	0.0041	-0.0263	0.0129	-0.7015	0.0227
1	135	0.3913	0.0273	0.0013	-0.1334	0.0061	-0.0470	0.0174	-0.6662	0.0264
1	135	0.4496	0.0541	0.0014	-0.1903	0.0082	-0.1257	0.0241	-0.9400	0.0291
1	135	0.4997	0.0794	0.0021	-0.2437	0.0105	-0.2212	0.0287	-0.9201	0.0422
1	135	0.5387	0.0976	0.0014	-0.2806	0.0114	-0.3332	0.0363	-1.0376	0.0364
1	135	0.5996	0.1149	0.0016	-0.3527	0.0153	-0.5864	0.0430	-0.9640	0.0368
1	135	0.6498	0.1433	0.0014	-0.4184	0.0178	-0.9320	0.0491	-1.1715	0.0327
1	135	0.6998	0.1434	0.0017	-0.4951	0.0204	-1.3062	0.0535	-1.1583	0.0460
1	135	0.7500	0.1587	0.0020	-0.5649	0.0237	-1.7740	0.0603	-1.1102	0.0376
1	135	0.8001	0.1574	0.0022	-0.6713	0.0273	-2.3245	0.0665	-1.2077	0.0292
1	135	0.8497	0.1481	0.0025	-0.7473	0.0308	-2.9831	0.0724	-1.2153	0.0329
1	135	0.9102	0.1434	0.0027	-0.8148	0.0354	-3.8614	0.0811	-1.3887	0.0321
1	135	0.9734	0.1952	0.0041	-0.8748	0.0404	-4.8290	0.0916	-1.3871	0.0339
2	135	0.1949	-0.0384	0.0009	-0.0060	0.0005	0.0019	0.0013	-0.1934	0.0182
2	135	0.2405	-0.0176	0.0009	-0.0067	0.0013	-0.0277	0.0029	-0.5111	0.0205
2	135	0.2999	0.0117	0.0008	-0.0295	0.0024	-0.0451	0.0061	-0.5854	0.0377
2	135	0.3498	0.0191	0.0013	-0.0369	0.0037	-0.0504	0.0095	-0.5927	0.0278
2	135	0.3998	0.0392	0.0023	-0.0659	0.0062	-0.1177	0.0151	-0.6931	0.0371
2	135	0.4496	0.0714	0.0024	-0.1017	0.0071	-0.2092	0.0180	-0.8419	0.0308
2	135	0.4995	0.0873	0.0018	-0.1451	0.0087	-0.3553	0.0218	-0.9561	0.0286
2	135	0.5551	0.1217	0.0013	-0.1889	0.0114	-0.5694	0.0264	-1.0447	0.0271
2	135	0.5996	0.1357	0.0017	-0.2373	0.0129	-0.8078	0.0308	-1.1491	0.0275
2	135	0.6497	0.1640	0.0016	-0.2878	0.0149	-1.1560	0.0356	-1.1261	0.0294
2	135	0.6996	0.1753	0.0019	-0.3507	0.0176	-1.5839	0.0412	-1.1226	0.0302
2	135	0.7495	0.1853	0.0022	-0.4131	0.0202	-2.1111	0.0469	-1.1814	0.0302
2	135	0.7996	0.1899	0.0022	-0.5079	0.0230	-2.7359	0.0540	-1.3182	0.0292
2	135	0.8578	0.1672	0.0028	-0.6012	0.0265	-3.4994	0.0638	-1.0931	0.0296
2	135	0.9100	0.1865	0.0033	-0.6540	0.0300	-4.2323	0.0739	-1.1272	0.0275
2	135	0.9727	0.1846	0.0043	-0.6999	0.0341	-5.0413	0.0876	-0.7507	0.0294
3	135	0.1938	-0.0457	0.0008	-0.0296	0.0005	0.0252	0.0020	-0.1675	0.0264
3	135	0.2357	-0.0145	0.0012	0.0055	0.0008	-0.0200	0.0065	-0.3566	0.0267
3	135	0.2995	-0.0053	0.0010	-0.0712	0.0018	0.0207	0.0106	-0.4673	0.0554
3	135	0.3493	0.0108	0.0011	-0.1188	0.0031	0.0372	0.0210	-0.4488	0.0380
3	135	0.4000	0.0398	0.0015	-0.1629	0.0046	0.0185	0.0318	-0.3818	0.0337
3	135	0.4497	0.0636	0.0014	-0.2247	0.0050	-0.0545	0.0372	-0.6426	0.0442
3	135	0.4997	0.0835	0.0019	-0.2916	0.0066	-0.1573	0.0466	-0.7143	0.0330
3	135	0.5556	0.1119	0.0016	-0.3584	0.0085	-0.2970	0.0549	-0.6793	0.0400
3	135	0.5995	0.1372	0.0017	-0.4310	0.0100	-0.5087	0.0616	-0.7913	0.0408
3	135	0.6498	0.1589	0.0018	-0.5224	0.0118	-0.8148	0.0716	-0.8676	0.0388
3	135	0.6890	0.1435	0.0023	-0.5988	0.0132	-1.0925	0.0767	-0.7585	0.0456
3	135	0.7495	0.1674	0.0020	-0.7024	0.0160	-1.6681	0.0890	-0.9511	0.0393
3	135	0.7998	0.1864	0.0026	-0.8057	0.0184	-2.2239	0.0983	-0.9857	0.0415
3	135	0.8577	0.1801	0.0031	-0.9083	0.0215	-2.9559	0.1119	-0.8367	0.0408
3	135	0.9178	0.1825	0.0036	-1.0777	0.0250	-3.8232	0.1276	-0.9592	0.0422
3	135	0.9729	0.2097	0.0048	-1.1609	0.0282	-4.6384	0.1436	-0.9251	0.0387
4	135	0.2001	-0.0130	0.0009	0.0117	0.0007	-0.0267	0.0022	0.0387	0.0170
4	135	0.2502	-0.0040	0.0008	0.0200	0.0022	-0.0699	0.0050	-0.0140	0.0354
4	135	0.3001	0.0154	0.0011	0.0472	0.0029	-0.1142	0.0081	0.0518	0.0415
4	135	0.3502	0.0193	0.0014	0.0805	0.0059	-0.1995	0.0156	-0.0340	0.0309
4	135	0.4002	0.0353	0.0021	0.1240	0.0088	-0.3123	0.0232	-0.0680	0.0361
4	135	0.4500	0.0645	0.0011	0.1575	0.0105	-0.4978	0.0287	-0.4079	0.0300
4	135	0.5001	0.0861	0.0015	0.1733	0.0130	-0.6829	0.0339	-0.1761	0.0358
4	135	0.5560	0.1143	0.0016	0.2106	0.0160	-1.0509	0.0434	-0.4844	0.0292
4	135	0.6001	0.1317	0.0021	0.2291	0.0183	-1.3776	0.0510	-0.5115	0.0339
4	135	0.6501	0.1342	0.0017	0.2238	0.0210	-1.8480	0.0572	-0.4707	0.0389
4	135	0.6999	0.1530	0.0018	0.2179	0.0240	-2.4078	0.0681	-0.4420	0.0375
4	135	0.7500	0.1533	0.0026	0.2224	0.0271	-3.0470	0.0798	-0.3027	0.0321
4	135	0.8002	0.1446	0.0027	0.2085	0.0305	-3.8213	0.0929	-0.3894	0.0334
4	135	0.8582	0.1483	0.0033	0.2040	0.0344	-4.7943	0.1098	-0.5595	0.0392
4	135	0.9101	0.1611	0.0042	0.1808	0.0381	-5.7440	0.1259	-0.5772	0.0321
4	135	0.9728	0.2024	0.0049	0.1953	0.0426	-6.8256	0.1459	-0.2590	0.0311

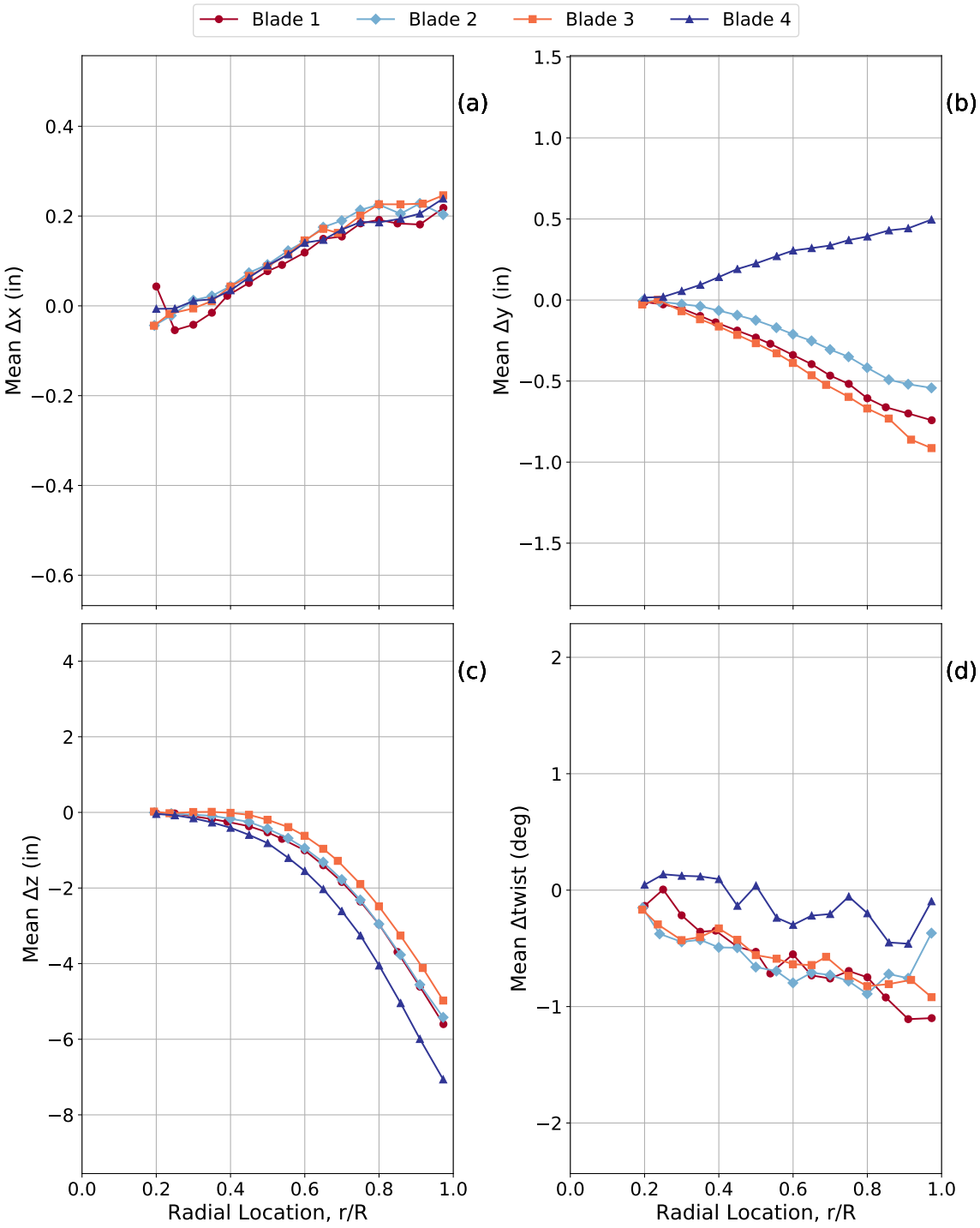


Figure 2.7-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	0.0432	0.0013	-0.0125	0.0007	-0.0254	0.0018	-0.1358	0.0164
1	150.12	0.2499	-0.0541	0.0013	-0.0270	0.0017	-0.0280	0.0061	0.0053	0.0251
1	150.12	0.2998	-0.0421	0.0012	-0.0523	0.0028	-0.1024	0.0107	-0.2163	0.0360
1	150.12	0.3498	-0.0153	0.0010	-0.0985	0.0054	-0.1775	0.0147	-0.3573	0.0292
1	150.12	0.3913	0.0224	0.0011	-0.1378	0.0074	-0.2477	0.0256	-0.3479	0.0475
1	150.12	0.4496	0.0511	0.0013	-0.1886	0.0080	-0.3667	0.0281	-0.4858	0.0374
1	150.12	0.4997	0.0773	0.0020	-0.2317	0.0095	-0.5263	0.0359	-0.5299	0.0352
1	150.12	0.5387	0.0912	0.0019	-0.2701	0.0109	-0.6998	0.0395	-0.7158	0.0380
1	150.12	0.5996	0.1187	0.0021	-0.3393	0.0141	-1.0032	0.0476	-0.5513	0.0354
1	150.12	0.6498	0.1493	0.0023	-0.3957	0.0160	-1.3988	0.0556	-0.7323	0.0389
1	150.12	0.6998	0.1544	0.0022	-0.4662	0.0181	-1.8407	0.0609	-0.7588	0.0405
1	150.12	0.7500	0.1837	0.0024	-0.5174	0.0213	-2.3601	0.0691	-0.6946	0.0353
1	150.12	0.8001	0.1915	0.0028	-0.6064	0.0239	-2.9621	0.0775	-0.7487	0.0385
1	150.12	0.8497	0.1835	0.0032	-0.6616	0.0270	-3.6912	0.0843	-0.9218	0.0345
1	150.12	0.9102	0.1812	0.0037	-0.6999	0.0307	-4.6097	0.0957	-1.1079	0.0315
1	150.12	0.9734	0.2182	0.0048	-0.7416	0.0345	-5.6006	0.1078	-1.0993	0.0371
2	150.12	0.1949	-0.0436	0.0007	-0.0047	0.0005	-0.0048	0.0015	-0.1512	0.0167
2	150.12	0.2405	-0.0217	0.0010	-0.0099	0.0015	-0.0325	0.0031	-0.3756	0.0256
2	150.12	0.2999	0.0125	0.0014	-0.0259	0.0035	-0.0624	0.0063	-0.4442	0.0392
2	150.12	0.3498	0.0220	0.0012	-0.0386	0.0040	-0.0896	0.0102	-0.4265	0.0354
2	150.12	0.3998	0.0438	0.0010	-0.0652	0.0077	-0.1675	0.0156	-0.4918	0.0347
2	150.12	0.4496	0.0738	0.0015	-0.0936	0.0087	-0.2523	0.0204	-0.4946	0.0346
2	150.12	0.4995	0.0919	0.0020	-0.1249	0.0114	-0.4326	0.0261	-0.6609	0.0373
2	150.12	0.5551	0.1228	0.0015	-0.1705	0.0128	-0.6832	0.0315	-0.6948	0.0398
2	150.12	0.5996	0.1435	0.0020	-0.2111	0.0146	-0.9461	0.0349	-0.7965	0.0364
2	150.12	0.6497	0.1753	0.0013	-0.2521	0.0171	-1.3161	0.0420	-0.7085	0.0366
2	150.12	0.6996	0.1898	0.0018	-0.3055	0.0195	-1.7764	0.0489	-0.7292	0.0370
2	150.12	0.7495	0.2135	0.0019	-0.3502	0.0218	-2.3154	0.0566	-0.7812	0.0380
2	150.12	0.7996	0.2254	0.0020	-0.4176	0.0244	-2.9525	0.0673	-0.8910	0.0385
2	150.12	0.8578	0.2051	0.0026	-0.4913	0.0274	-3.7662	0.0799	-0.7206	0.0398
2	150.12	0.9100	0.2282	0.0032	-0.5193	0.0301	-4.5569	0.0922	-0.7566	0.0403
2	150.12	0.9727	0.2033	0.0037	-0.5422	0.0337	-5.4211	0.1067	-0.3692	0.0410
3	150.12	0.1938	-0.0442	0.0009	-0.0275	0.0005	0.0215	0.0015	-0.1676	0.0213
3	150.12	0.2357	-0.0178	0.0010	0.0016	0.0015	-0.0221	0.0046	-0.2945	0.0245
3	150.12	0.2995	-0.0057	0.0009	-0.0689	0.0029	0.0099	0.0078	-0.4295	0.0452
3	150.12	0.3493	0.0105	0.0009	-0.1186	0.0043	0.0144	0.0128	-0.4035	0.0489
3	150.12	0.4000	0.0430	0.0010	-0.1633	0.0076	-0.0124	0.0211	-0.3290	0.0349
3	150.12	0.4497	0.0666	0.0011	-0.2150	0.0085	-0.0637	0.0266	-0.4268	0.0381
3	150.12	0.4997	0.0878	0.0016	-0.2663	0.0101	-0.1954	0.0353	-0.5577	0.0364
3	150.12	0.5556	0.1155	0.0014	-0.3282	0.0126	-0.3892	0.0431	-0.5890	0.0312
3	150.12	0.5995	0.1457	0.0016	-0.3881	0.0140	-0.6194	0.0481	-0.6367	0.0356
3	150.12	0.6498	0.1715	0.0021	-0.4643	0.0159	-0.9632	0.0566	-0.6434	0.0326
3	150.12	0.6890	0.1625	0.0021	-0.5234	0.0180	-1.2814	0.0613	-0.5726	0.0372
3	150.12	0.7495	0.2008	0.0019	-0.5976	0.0206	-1.8942	0.0711	-0.7367	0.0364
3	150.12	0.7998	0.2263	0.0023	-0.6691	0.0233	-2.4855	0.0807	-0.8247	0.0325
3	150.12	0.8577	0.2261	0.0028	-0.7313	0.0264	-3.2579	0.0915	-0.8071	0.0312
3	150.12	0.9178	0.2276	0.0030	-0.8612	0.0297	-4.1149	0.1052	-0.7712	0.0322
3	150.12	0.9729	0.2462	0.0039	-0.9136	0.0331	-4.9764	0.1186	-0.9190	0.0341
4	150.12	0.2001	-0.0066	0.0012	0.0149	0.0005	-0.0411	0.0013	0.0460	0.0147
4	150.12	0.2502	-0.0061	0.0011	0.0194	0.0019	-0.0769	0.0046	0.1360	0.0255
4	150.12	0.3001	0.0112	0.0014	0.0556	0.0031	-0.1558	0.0080	0.1234	0.0336
4	150.12	0.3502	0.0146	0.0009	0.0936	0.0043	-0.2669	0.0105	0.1180	0.0366
4	150.12	0.4002	0.0347	0.0011	0.1418	0.0077	-0.4072	0.0196	0.0946	0.0251
4	150.12	0.4500	0.0632	0.0014	0.1912	0.0092	-0.5953	0.0244	-0.1343	0.0302
4	150.12	0.5001	0.0902	0.0018	0.2256	0.0097	-0.8129	0.0288	0.0385	0.0339
4	150.12	0.5560	0.1146	0.0014	0.2707	0.0125	-1.2057	0.0330	-0.2369	0.0276
4	150.12	0.6001	0.1405	0.0013	0.3053	0.0140	-1.5505	0.0380	-0.2979	0.0355
4	150.12	0.6501	0.1470	0.0019	0.3202	0.0160	-2.0313	0.0426	-0.2188	0.0298
4	150.12	0.6999	0.1699	0.0018	0.3363	0.0189	-2.6120	0.0478	-0.2052	0.0364
4	150.12	0.7500	0.1867	0.0023	0.3697	0.0212	-3.2567	0.0533	-0.0553	0.0320
4	150.12	0.8002	0.1859	0.0020	0.3919	0.0236	-4.0505	0.0577	-0.1986	0.0374
4	150.12	0.8582	0.1941	0.0025	0.4296	0.0265	-5.0455	0.0660	-0.4493	0.0358
4	150.12	0.9101	0.2055	0.0029	0.4423	0.0293	-5.9936	0.0717	-0.4602	0.0345
4	150.12	0.9728	0.2389	0.0037	0.4961	0.0329	-7.0634	0.0823	-0.0956	0.0342

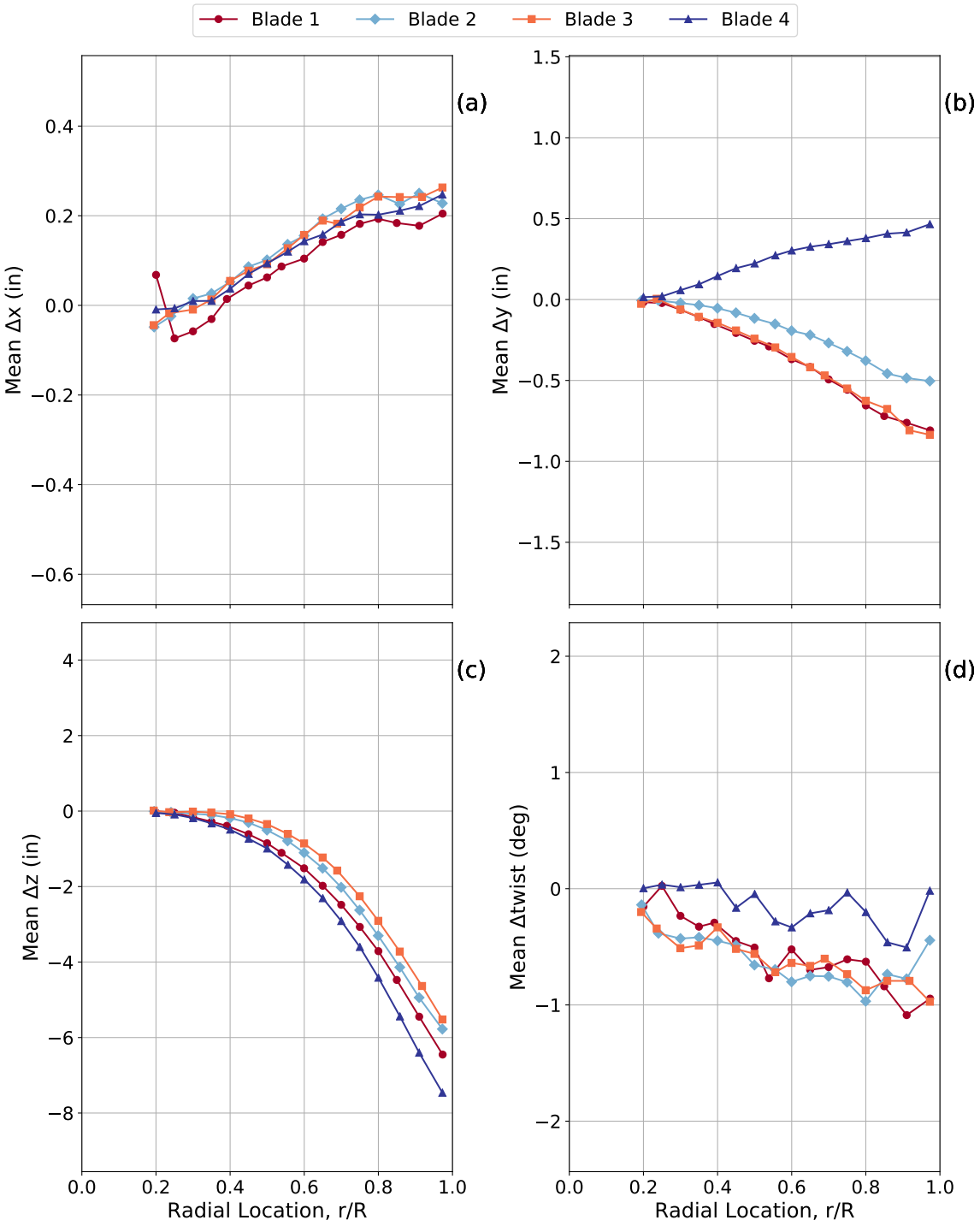


Figure 2.7-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	0.0680	0.0022	-0.0168	0.0008	-0.0404	0.0026	-0.1539	0.0210
1	164.88	0.2499	-0.0737	0.0019	-0.0214	0.0017	-0.0436	0.0048	0.0240	0.0502
1	164.88	0.2998	-0.0579	0.0018	-0.0630	0.0029	-0.1602	0.0108	-0.2337	0.0531
1	164.88	0.3498	-0.0305	0.0019	-0.1092	0.0053	-0.2810	0.0172	-0.3268	0.0513
1	164.88	0.3913	0.0142	0.0019	-0.1511	0.0075	-0.3888	0.0256	-0.2923	0.0603
1	164.88	0.4496	0.0442	0.0018	-0.2067	0.0085	-0.6127	0.0322	-0.4502	0.0627
1	164.88	0.4997	0.0624	0.0022	-0.2550	0.0105	-0.8519	0.0401	-0.5063	0.0626
1	164.88	0.5387	0.0867	0.0020	-0.2899	0.0127	-1.1065	0.0479	-0.7708	0.0549
1	164.88	0.5996	0.1043	0.0024	-0.3688	0.0150	-1.5156	0.0598	-0.5221	0.0618
1	164.88	0.6498	0.1413	0.0023	-0.4168	0.0178	-1.9791	0.0700	-0.6987	0.0547
1	164.88	0.6998	0.1574	0.0034	-0.4938	0.0206	-2.4837	0.0818	-0.6748	0.0610
1	164.88	0.7500	0.1818	0.0029	-0.5574	0.0235	-3.0697	0.0937	-0.6074	0.0613
1	164.88	0.8001	0.1930	0.0037	-0.6547	0.0269	-3.7111	0.1064	-0.6279	0.0578
1	164.88	0.8497	0.1837	0.0042	-0.7202	0.0298	-4.4741	0.1198	-0.8400	0.0578
1	164.88	0.9102	0.1775	0.0048	-0.7615	0.0341	-5.4479	0.1373	-1.0876	0.0576
1	164.88	0.9734	0.2046	0.0060	-0.8086	0.0386	-6.4511	0.1564	-0.9454	0.0614
2	164.88	0.1949	-0.0483	0.0013	-0.0053	0.0006	-0.0073	0.0015	-0.1388	0.0137
2	164.88	0.2405	-0.0241	0.0012	-0.0060	0.0019	-0.0336	0.0028	-0.3834	0.0205
2	164.88	0.2999	0.0153	0.0011	-0.0214	0.0028	-0.0681	0.0054	-0.4289	0.0305
2	164.88	0.3498	0.0264	0.0009	-0.0347	0.0045	-0.1038	0.0083	-0.4184	0.0345
2	164.88	0.3998	0.0524	0.0011	-0.0537	0.0077	-0.1847	0.0134	-0.4476	0.0306
2	164.88	0.4496	0.0861	0.0014	-0.0819	0.0080	-0.3042	0.0173	-0.4869	0.0313
2	164.88	0.4995	0.1014	0.0013	-0.1164	0.0101	-0.5042	0.0215	-0.6566	0.0426
2	164.88	0.5551	0.1361	0.0012	-0.1512	0.0124	-0.7894	0.0268	-0.6954	0.0306
2	164.88	0.5996	0.1554	0.0014	-0.1929	0.0142	-1.1041	0.0309	-0.8012	0.0309
2	164.88	0.6497	0.1931	0.0015	-0.2191	0.0159	-1.5135	0.0362	-0.7505	0.0352
2	164.88	0.6996	0.2154	0.0013	-0.2682	0.0187	-2.0193	0.0394	-0.7541	0.0360
2	164.88	0.7495	0.2353	0.0014	-0.3203	0.0213	-2.6252	0.0444	-0.8043	0.0319
2	164.88	0.7996	0.2464	0.0017	-0.3782	0.0237	-3.3013	0.0489	-0.9681	0.0305
2	164.88	0.8578	0.2259	0.0020	-0.4574	0.0270	-4.1381	0.0543	-0.7356	0.0312
2	164.88	0.9100	0.2501	0.0022	-0.4850	0.0301	-4.9411	0.0604	-0.7755	0.0362
2	164.88	0.9727	0.2277	0.0034	-0.5038	0.0338	-5.7755	0.0685	-0.4437	0.0312
3	164.88	0.1938	-0.0442	0.0014	-0.0261	0.0007	0.0129	0.0028	-0.2008	0.0187
3	164.88	0.2357	-0.0176	0.0014	0.0047	0.0012	-0.0287	0.0034	-0.3427	0.0415
3	164.88	0.2995	-0.0093	0.0011	-0.0613	0.0022	-0.0145	0.0090	-0.5116	0.0486
3	164.88	0.3493	0.0130	0.0012	-0.1068	0.0040	-0.0389	0.0153	-0.4882	0.0487
3	164.88	0.4000	0.0545	0.0011	-0.1437	0.0060	-0.0835	0.0228	-0.3323	0.0494
3	164.88	0.4497	0.0773	0.0012	-0.1911	0.0078	-0.1968	0.0271	-0.5178	0.0441
3	164.88	0.4997	0.0917	0.0015	-0.2416	0.0098	-0.3446	0.0326	-0.5609	0.0494
3	164.88	0.5556	0.1275	0.0012	-0.2960	0.0115	-0.6056	0.0399	-0.7181	0.0495
3	164.88	0.5995	0.1571	0.0014	-0.3548	0.0130	-0.8575	0.0445	-0.6386	0.0526
3	164.88	0.6498	0.1892	0.0015	-0.4186	0.0151	-1.2309	0.0516	-0.6642	0.0492
3	164.88	0.6890	0.1821	0.0027	-0.4689	0.0171	-1.5763	0.0567	-0.6023	0.0517
3	164.88	0.7495	0.2184	0.0020	-0.5498	0.0204	-2.2565	0.0645	-0.7351	0.0457
3	164.88	0.7998	0.2426	0.0023	-0.6255	0.0229	-2.9084	0.0719	-0.8736	0.0433
3	164.88	0.8577	0.2415	0.0026	-0.6761	0.0262	-3.7220	0.0802	-0.7929	0.0434
3	164.88	0.9178	0.2417	0.0027	-0.8081	0.0297	-4.6345	0.0900	-0.7931	0.0458
3	164.88	0.9729	0.2629	0.0038	-0.8360	0.0329	-5.5211	0.0994	-0.9722	0.0474
4	164.88	0.2001	-0.0092	0.0013	0.0149	0.0008	-0.0509	0.0019	0.0040	0.0190
4	164.88	0.2502	-0.0066	0.0014	0.0198	0.0022	-0.0905	0.0035	0.0348	0.0297
4	164.88	0.3001	0.0096	0.0012	0.0578	0.0033	-0.1868	0.0062	0.0125	0.0404
4	164.88	0.3502	0.0100	0.0012	0.0943	0.0059	-0.3266	0.0109	0.0335	0.0338
4	164.88	0.4002	0.0372	0.0014	0.1453	0.0092	-0.4912	0.0160	0.0537	0.0294
4	164.88	0.4500	0.0702	0.0012	0.1936	0.0094	-0.7328	0.0189	-0.1643	0.0373
4	164.88	0.5001	0.0936	0.0014	0.2228	0.0131	-0.9919	0.0230	-0.0454	0.0327
4	164.88	0.5560	0.1199	0.0012	0.2728	0.0162	-1.4243	0.0298	-0.2813	0.0341
4	164.88	0.6001	0.1431	0.0017	0.3029	0.0177	-1.8113	0.0345	-0.3331	0.0342
4	164.88	0.6501	0.1581	0.0015	0.3259	0.0210	-2.3084	0.0394	-0.2120	0.0398
4	164.88	0.6999	0.1864	0.0023	0.3418	0.0236	-2.9139	0.0472	-0.1851	0.0300
4	164.88	0.7500	0.2030	0.0022	0.3608	0.0270	-3.6009	0.0535	-0.0331	0.0386
4	164.88	0.8002	0.2022	0.0025	0.3793	0.0306	-4.4149	0.0599	-0.2013	0.0313
4	164.88	0.8582	0.2113	0.0025	0.4067	0.0347	-5.4411	0.0669	-0.4615	0.0343
4	164.88	0.9101	0.2215	0.0029	0.4145	0.0384	-6.4018	0.0732	-0.5055	0.0340
4	164.88	0.9728	0.2472	0.0037	0.4654	0.0430	-7.4619	0.0816	-0.0175	0.0323

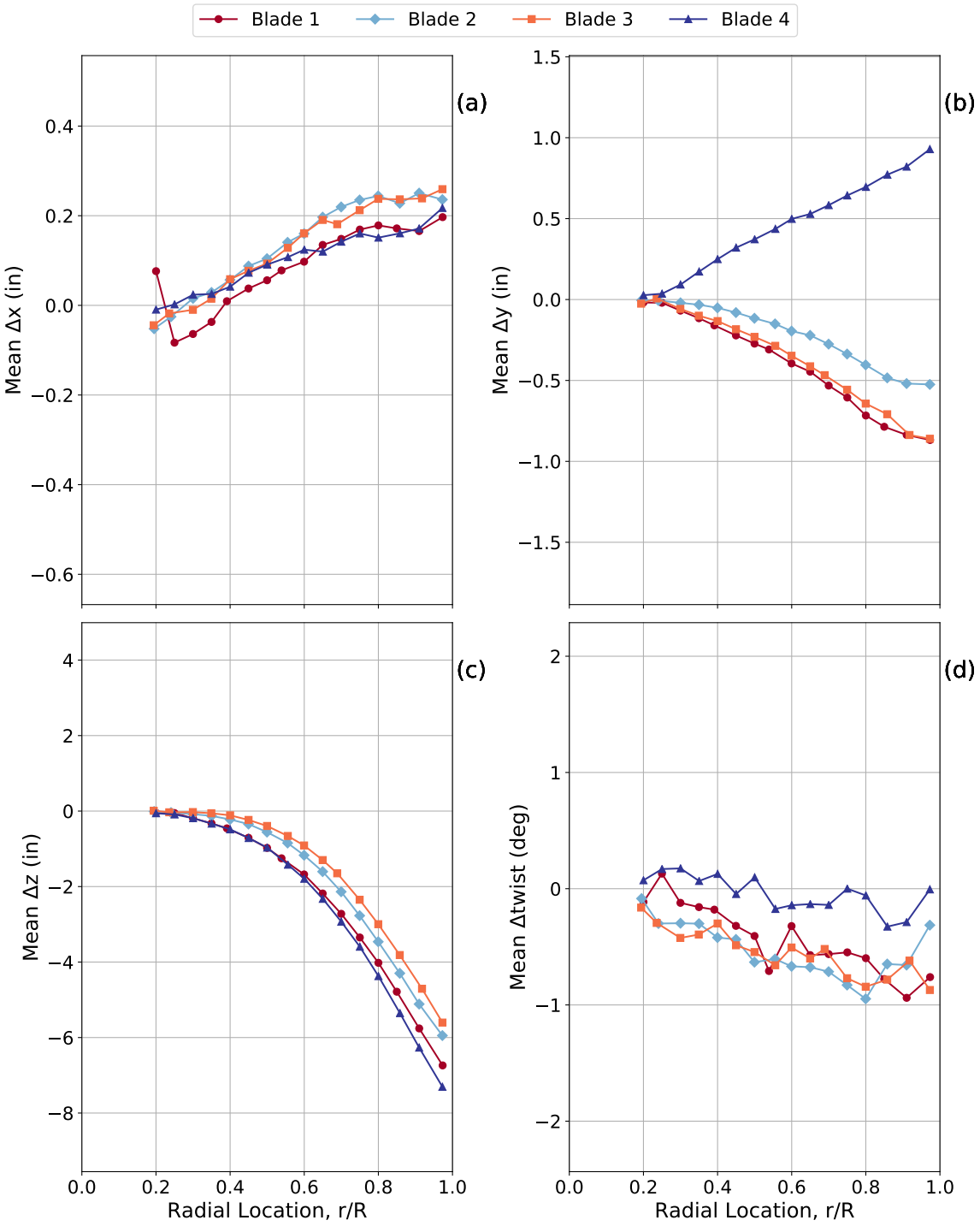


Figure 2.7-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	0.0763	0.0029	-0.0187	0.0010	-0.0462	0.0033	-0.1144	0.0270
1	170.16	0.2499	-0.0832	0.0024	-0.0199	0.0023	-0.0523	0.0056	0.1297	0.0626
1	170.16	0.2998	-0.0639	0.0023	-0.0685	0.0045	-0.1901	0.0132	-0.1216	0.0690
1	170.16	0.3498	-0.0370	0.0020	-0.1156	0.0068	-0.3247	0.0214	-0.1584	0.0680
1	170.16	0.3913	0.0093	0.0024	-0.1596	0.0107	-0.4576	0.0312	-0.1801	0.0706
1	170.16	0.4496	0.0376	0.0022	-0.2219	0.0135	-0.7080	0.0390	-0.3197	0.0665
1	170.16	0.4997	0.0560	0.0024	-0.2723	0.0159	-0.9760	0.0476	-0.4069	0.0692
1	170.16	0.5387	0.0780	0.0024	-0.3087	0.0186	-1.2510	0.0557	-0.7082	0.0670
1	170.16	0.5996	0.0974	0.0028	-0.3948	0.0230	-1.6784	0.0660	-0.3216	0.0674
1	170.16	0.6498	0.1348	0.0026	-0.4457	0.0261	-2.1840	0.0748	-0.5713	0.0698
1	170.16	0.6998	0.1483	0.0029	-0.5316	0.0299	-2.7222	0.0825	-0.5627	0.0711
1	170.16	0.7500	0.1691	0.0032	-0.6055	0.0341	-3.3494	0.0906	-0.5476	0.0738
1	170.16	0.8001	0.1784	0.0034	-0.7167	0.0382	-4.0202	0.1008	-0.5979	0.0641
1	170.16	0.8497	0.1717	0.0038	-0.7862	0.0427	-4.7859	0.1087	-0.7776	0.0670
1	170.16	0.9102	0.1657	0.0043	-0.8368	0.0483	-5.7582	0.1208	-0.9387	0.0674
1	170.16	0.9734	0.1968	0.0054	-0.8680	0.0543	-6.7386	0.1321	-0.7605	0.0688
2	170.16	0.1949	-0.0522	0.0014	-0.0045	0.0006	-0.0105	0.0016	-0.0848	0.0161
2	170.16	0.2405	-0.0253	0.0013	-0.0066	0.0018	-0.0397	0.0039	-0.2995	0.0273
2	170.16	0.2999	0.0155	0.0013	-0.0204	0.0028	-0.0818	0.0079	-0.2970	0.0367
2	170.16	0.3498	0.0288	0.0009	-0.0320	0.0043	-0.1280	0.0111	-0.3008	0.0409
2	170.16	0.3998	0.0568	0.0012	-0.0513	0.0075	-0.2216	0.0193	-0.4204	0.0321
2	170.16	0.4496	0.0876	0.0015	-0.0805	0.0085	-0.3445	0.0240	-0.4363	0.0380
2	170.16	0.4995	0.1042	0.0020	-0.1158	0.0112	-0.5574	0.0294	-0.6320	0.0333
2	170.16	0.5551	0.1406	0.0016	-0.1506	0.0135	-0.8463	0.0340	-0.6051	0.0351
2	170.16	0.5996	0.1601	0.0021	-0.1949	0.0164	-1.1707	0.0400	-0.6678	0.0359
2	170.16	0.6497	0.1968	0.0022	-0.2211	0.0185	-1.6040	0.0484	-0.6754	0.0406
2	170.16	0.6996	0.2196	0.0024	-0.2755	0.0213	-2.1371	0.0545	-0.7139	0.0377
2	170.16	0.7495	0.2351	0.0023	-0.3368	0.0243	-2.7707	0.0614	-0.8289	0.0345
2	170.16	0.7996	0.2441	0.0028	-0.4039	0.0279	-3.4616	0.0697	-0.9476	0.0354
2	170.16	0.8578	0.2277	0.0033	-0.4841	0.0317	-4.2981	0.0801	-0.6479	0.0356
2	170.16	0.9100	0.2504	0.0035	-0.5192	0.0357	-5.1137	0.0891	-0.6570	0.0354
2	170.16	0.9727	0.2360	0.0046	-0.5246	0.0400	-5.9475	0.1016	-0.3135	0.0363
3	170.16	0.1938	-0.0444	0.0013	-0.0255	0.0006	0.0097	0.0024	-0.1625	0.0174
3	170.16	0.2357	-0.0180	0.0016	0.0066	0.0020	-0.0322	0.0035	-0.2943	0.0343
3	170.16	0.2995	-0.0099	0.0011	-0.0578	0.0030	-0.0263	0.0078	-0.4236	0.0418
3	170.16	0.3493	0.0148	0.0012	-0.0999	0.0056	-0.0572	0.0126	-0.3944	0.0357
3	170.16	0.4000	0.0583	0.0015	-0.1332	0.0088	-0.1123	0.0193	-0.2996	0.0320
3	170.16	0.4497	0.0771	0.0013	-0.1836	0.0101	-0.2347	0.0236	-0.4867	0.0368
3	170.16	0.4997	0.0932	0.0017	-0.2307	0.0136	-0.3947	0.0285	-0.5453	0.0379
3	170.16	0.5556	0.1283	0.0015	-0.2860	0.0151	-0.6596	0.0344	-0.6585	0.0405
3	170.16	0.5995	0.1606	0.0015	-0.3473	0.0177	-0.9113	0.0380	-0.5059	0.0494
3	170.16	0.6498	0.1906	0.0017	-0.4125	0.0203	-1.2984	0.0444	-0.6002	0.0378
3	170.16	0.6890	0.1810	0.0021	-0.4673	0.0216	-1.6485	0.0486	-0.5187	0.0367
3	170.16	0.7495	0.2123	0.0018	-0.5573	0.0250	-2.3490	0.0544	-0.7703	0.0402
3	170.16	0.7998	0.2376	0.0018	-0.6430	0.0280	-2.9972	0.0612	-0.8434	0.0373
3	170.16	0.8577	0.2365	0.0021	-0.7088	0.0314	-3.8144	0.0676	-0.7823	0.0426
3	170.16	0.9178	0.2386	0.0024	-0.8371	0.0346	-4.7071	0.0764	-0.6184	0.0421
3	170.16	0.9729	0.2592	0.0032	-0.8602	0.0381	-5.6035	0.0845	-0.8715	0.0423
4	170.16	0.2001	-0.0095	0.0013	0.0268	0.0012	-0.0578	0.0021	0.0724	0.0167
4	170.16	0.2502	0.0022	0.0012	0.0360	0.0025	-0.0900	0.0033	0.1693	0.0295
4	170.16	0.3001	0.0237	0.0010	0.0925	0.0048	-0.1885	0.0060	0.1746	0.0357
4	170.16	0.3502	0.0255	0.0010	0.1727	0.0077	-0.3327	0.0094	0.0664	0.0331
4	170.16	0.4002	0.0417	0.0014	0.2495	0.0123	-0.4848	0.0139	0.1272	0.0339
4	170.16	0.4500	0.0728	0.0012	0.3205	0.0141	-0.7146	0.0168	-0.0459	0.0338
4	170.16	0.5001	0.0909	0.0012	0.3722	0.0165	-0.9680	0.0211	0.0972	0.0355
4	170.16	0.5560	0.1076	0.0012	0.4363	0.0197	-1.4211	0.0256	-0.1743	0.0343
4	170.16	0.6001	0.1242	0.0015	0.4982	0.0221	-1.7931	0.0291	-0.1421	0.0340
4	170.16	0.6501	0.1199	0.0018	0.5287	0.0250	-2.3249	0.0343	-0.1325	0.0329
4	170.16	0.6999	0.1420	0.0027	0.5831	0.0293	-2.9302	0.0388	-0.1395	0.0368
4	170.16	0.7500	0.1604	0.0026	0.6430	0.0312	-3.5940	0.0434	0.0004	0.0425
4	170.16	0.8002	0.1511	0.0026	0.6958	0.0353	-4.3731	0.0494	-0.0585	0.0389
4	170.16	0.8582	0.1607	0.0070	0.7716	0.0381	-5.3538	0.0542	-0.3263	0.0626
4	170.16	0.9101	0.1715	0.0149	0.8210	0.0451	-6.2668	0.0606	-0.2875	0.0578
4	170.16	0.9728	0.2172	0.0116	0.9290	0.0475	-7.3055	0.0695	-0.0060	0.0823

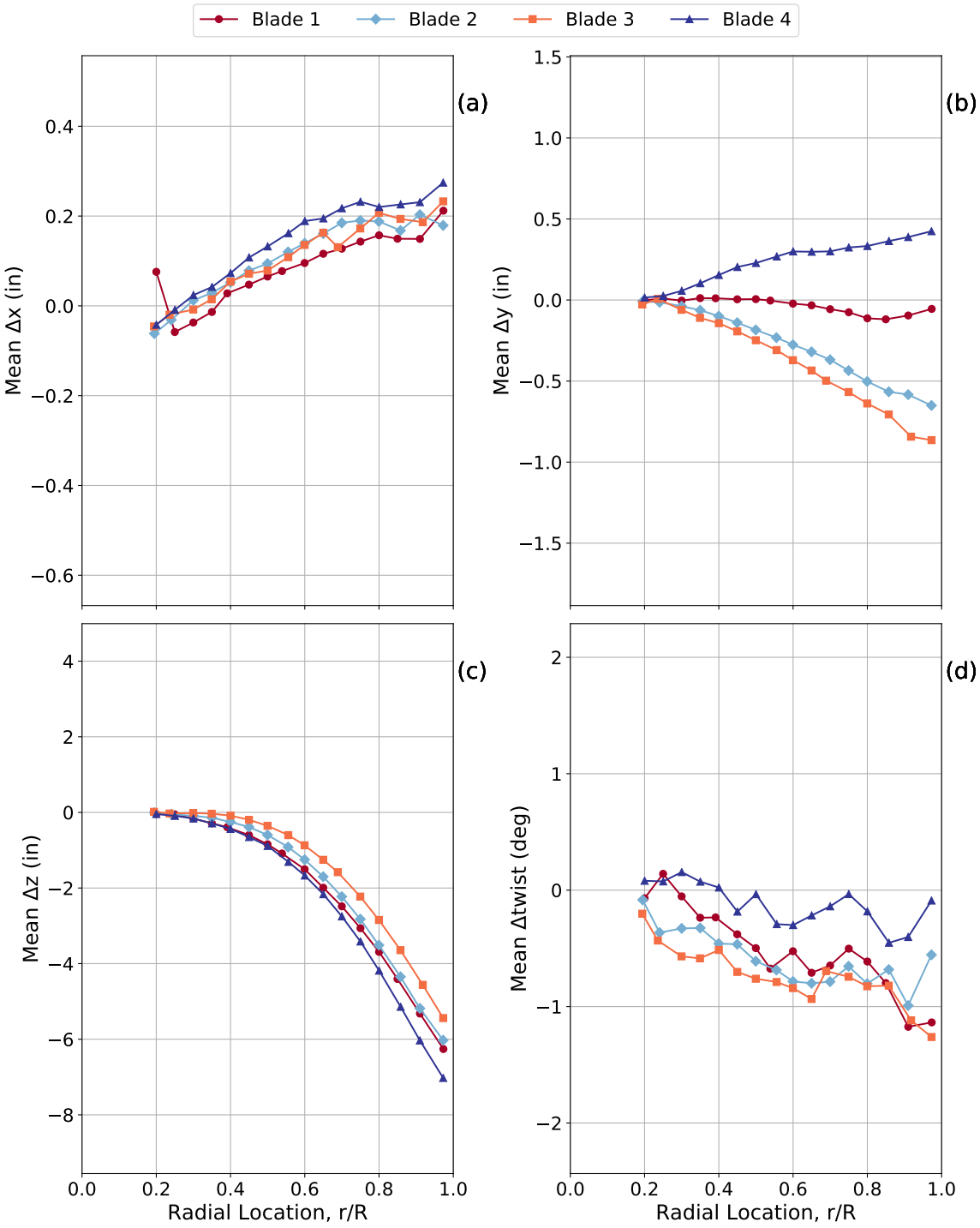


Figure 2.7-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	0.0758	0.0041	-0.0016	0.0017	-0.0453	0.0037	-0.0697	0.0309
1	175.08	0.2499	-0.0583	0.0021	0.0095	0.0031	-0.0534	0.0055	0.1403	0.0722
1	175.08	0.2998	-0.0371	0.0015	-0.0039	0.0062	-0.1641	0.0126	-0.0535	0.0787
1	175.08	0.3498	-0.0136	0.0024	0.0117	0.0113	-0.2875	0.0218	-0.2368	0.0708
1	175.08	0.3913	0.0279	0.0041	0.0107	0.0156	-0.3923	0.0298	-0.2341	0.0700
1	175.08	0.4496	0.0473	0.0066	0.0045	0.0206	-0.6004	0.0397	-0.3793	0.0705
1	175.08	0.4997	0.0653	0.0086	0.0055	0.0255	-0.8436	0.0485	-0.4980	0.0710
1	175.08	0.5387	0.0774	0.0105	-0.0033	0.0292	-1.0867	0.0550	-0.6738	0.0719
1	175.08	0.5996	0.0954	0.0134	-0.0222	0.0350	-1.5028	0.0659	-0.5247	0.0740
1	175.08	0.6498	0.1160	0.0165	-0.0326	0.0405	-1.9921	0.0741	-0.7095	0.0750
1	175.08	0.6998	0.1274	0.0192	-0.0565	0.0465	-2.4843	0.0831	-0.6473	0.0710
1	175.08	0.7500	0.1431	0.0219	-0.0755	0.0518	-3.0627	0.0914	-0.5026	0.0680
1	175.08	0.8001	0.1572	0.0252	-0.1128	0.0580	-3.6892	0.0996	-0.6131	0.0712
1	175.08	0.8497	0.1495	0.0298	-0.1191	0.0638	-4.4054	0.1076	-0.7978	0.0749
1	175.08	0.9102	0.1491	0.0356	-0.0954	0.0719	-5.3211	0.1191	-1.1736	0.0922
1	175.08	0.9734	0.2120	0.0434	-0.0548	0.0826	-6.2588	0.1325	-1.1359	0.0862
2	175.08	0.1949	-0.0617	0.0009	-0.0083	0.0008	-0.0076	0.0020	-0.0838	0.0171
2	175.08	0.2405	-0.0312	0.0008	-0.0140	0.0016	-0.0482	0.0033	-0.3646	0.0296
2	175.08	0.2999	0.0123	0.0010	-0.0380	0.0031	-0.0913	0.0072	-0.3286	0.0401
2	175.08	0.3498	0.0291	0.0009	-0.0629	0.0049	-0.1406	0.0122	-0.3248	0.0374
2	175.08	0.3998	0.0523	0.0011	-0.0992	0.0079	-0.2535	0.0184	-0.4592	0.0363
2	175.08	0.4496	0.0784	0.0011	-0.1397	0.0096	-0.3858	0.0234	-0.4648	0.0339
2	175.08	0.4995	0.0942	0.0016	-0.1844	0.0114	-0.5967	0.0290	-0.6103	0.0352
2	175.08	0.5551	0.1201	0.0017	-0.2321	0.0133	-0.9167	0.0354	-0.6858	0.0324
2	175.08	0.5996	0.1393	0.0018	-0.2758	0.0155	-1.2494	0.0401	-0.7840	0.0398
2	175.08	0.6497	0.1609	0.0022	-0.3196	0.0181	-1.7006	0.0459	-0.7998	0.0436
2	175.08	0.6996	0.1849	0.0020	-0.3682	0.0199	-2.2276	0.0525	-0.7861	0.0478
2	175.08	0.7495	0.1900	0.0030	-0.4352	0.0237	-2.8230	0.0588	-0.6538	0.0490
2	175.08	0.7996	0.1880	0.0031	-0.5024	0.0264	-3.5114	0.0648	-0.8036	0.0524
2	175.08	0.8578	0.1678	0.0053	-0.5662	0.0295	-4.3482	0.0738	-0.6819	0.0631
2	175.08	0.9100	0.2032	0.0054	-0.5836	0.0328	-5.1843	0.0816	-0.9913	0.0615
2	175.08	0.9727	0.1792	0.0092	-0.6505	0.0377	-6.0260	0.0927	-0.5554	0.0616
3	175.08	0.1938	-0.0457	0.0014	-0.0276	0.0013	0.0150	0.0022	-0.2024	0.0216
3	175.08	0.2357	-0.0198	0.0014	0.0070	0.0019	-0.0292	0.0033	-0.4327	0.0361
3	175.08	0.2995	-0.0082	0.0010	-0.0604	0.0044	-0.0158	0.0072	-0.5688	0.0506
3	175.08	0.3493	0.0146	0.0013	-0.1100	0.0068	-0.0349	0.0111	-0.5858	0.0450
3	175.08	0.4000	0.0539	0.0016	-0.1429	0.0108	-0.0855	0.0170	-0.5140	0.0397
3	175.08	0.4497	0.0715	0.0015	-0.1935	0.0130	-0.1960	0.0205	-0.7022	0.0453
3	175.08	0.4997	0.0786	0.0014	-0.2482	0.0159	-0.3542	0.0251	-0.7608	0.0406
3	175.08	0.5556	0.1084	0.0019	-0.3089	0.0189	-0.6010	0.0296	-0.7889	0.0395
3	175.08	0.5995	0.1357	0.0017	-0.3714	0.0215	-0.8704	0.0332	-0.8413	0.0456
3	175.08	0.6498	0.1629	0.0018	-0.4348	0.0244	-1.2546	0.0385	-0.9343	0.0438
3	175.08	0.6890	0.1306	0.0020	-0.4976	0.0270	-1.5818	0.0425	-0.6951	0.0473
3	175.08	0.7495	0.1724	0.0018	-0.5676	0.0312	-2.2269	0.0492	-0.7441	0.0447
3	175.08	0.7998	0.2071	0.0024	-0.6382	0.0346	-2.8457	0.0539	-0.8256	0.0453
3	175.08	0.8577	0.1936	0.0038	-0.7060	0.0379	-3.6439	0.0617	-0.8204	0.0487
3	175.08	0.9178	0.1863	0.0094	-0.8429	0.0413	-4.5620	0.0671	-1.1181	0.0753
3	175.08	0.9729	0.2327	0.0115	-0.8644	0.0467	-5.4401	0.0774	-1.2613	0.0907
4	175.08	0.2001	-0.0422	0.0008	0.0150	0.0006	-0.0431	0.0012	0.0804	0.0110
4	175.08	0.2502	-0.0089	0.0007	0.0251	0.0014	-0.0922	0.0022	0.0749	0.0209
4	175.08	0.3001	0.0239	0.0007	0.0568	0.0023	-0.1615	0.0042	0.1551	0.0256
4	175.08	0.3502	0.0421	0.0007	0.1034	0.0043	-0.2905	0.0073	0.0725	0.0263
4	175.08	0.4002	0.0730	0.0011	0.1543	0.0064	-0.4374	0.0107	0.0224	0.0241
4	175.08	0.4500	0.1077	0.0013	0.2035	0.0076	-0.6531	0.0131	-0.1847	0.0244
4	175.08	0.5001	0.1324	0.0013	0.2283	0.0097	-0.8878	0.0166	-0.0350	0.0339
4	175.08	0.5560	0.1618	0.0014	0.2684	0.0116	-1.3101	0.0207	-0.2920	0.0308
4	175.08	0.6001	0.1888	0.0016	0.2996	0.0140	-1.6703	0.0249	-0.3000	0.0394
4	175.08	0.6501	0.1947	0.0021	0.2977	0.0162	-2.1644	0.0294	-0.2172	0.0356
4	175.08	0.6999	0.2173	0.0023	0.3000	0.0188	-2.7511	0.0332	-0.1391	0.0354
4	175.08	0.7500	0.2318	0.0031	0.3241	0.0222	-3.4157	0.0381	-0.0341	0.0557
4	175.08	0.8002	0.2201	0.0031	0.3330	0.0264	-4.1856	0.0433	-0.1825	0.0575
4	175.08	0.8582	0.2259	0.0038	0.3637	0.0289	-5.1435	0.0486	-0.4520	0.0681
4	175.08	0.9101	0.2309	0.0065	0.3883	0.0348	-6.0332	0.0556	-0.4026	0.1324
4	175.08	0.9728	0.2744	0.0048	0.4244	0.0376	-7.0248	0.0633	-0.0894	0.0832

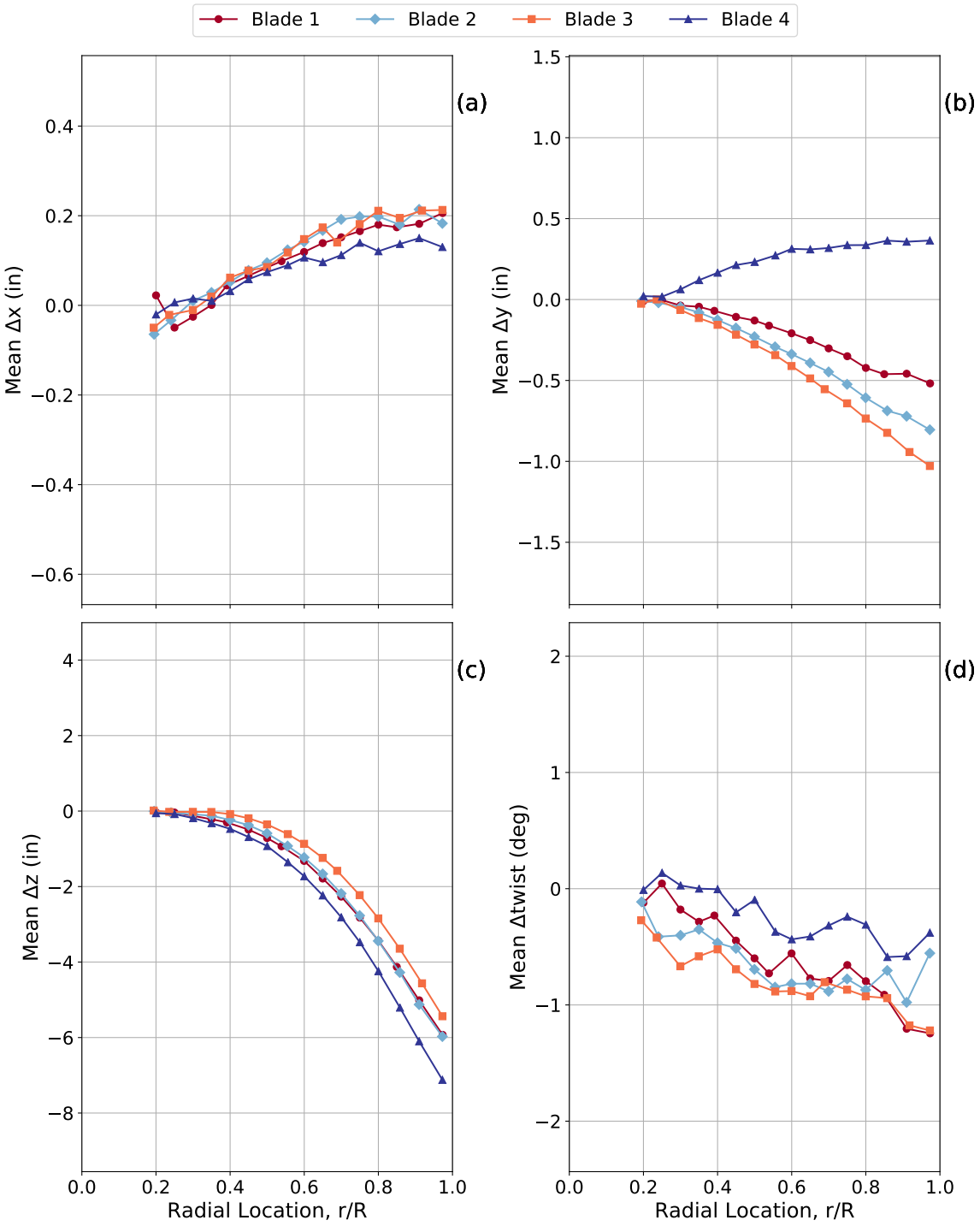


Figure 2.7-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	0.0223	0.0025	-0.0096	0.0029	-0.0335	0.0076	-0.1209	0.0532
1	180	0.2499	-0.0496	0.0017	-0.0036	0.0040	-0.0377	0.0100	0.0444	0.1274
1	180	0.2998	-0.0254	0.0019	-0.0370	0.0108	-0.1260	0.0240	-0.1794	0.1380
1	180	0.3498	0.0009	0.0023	-0.0446	0.0192	-0.2173	0.0406	-0.2845	0.1348
1	180	0.3913	0.0445	0.0038	-0.0698	0.0262	-0.3000	0.0548	-0.2308	0.1313
1	180	0.4496	0.0659	0.0057	-0.1073	0.0359	-0.4906	0.0723	-0.4467	0.1352
1	180	0.4997	0.0846	0.0076	-0.1297	0.0444	-0.7149	0.0876	-0.5991	0.1360
1	180	0.5387	0.0986	0.0092	-0.1613	0.0511	-0.9325	0.0995	-0.7286	0.1374
1	180	0.5996	0.1191	0.0119	-0.2086	0.0626	-1.3208	0.1180	-0.5568	0.1394
1	180	0.6498	0.1389	0.0144	-0.2507	0.0728	-1.7876	0.1337	-0.7722	0.1374
1	180	0.6998	0.1519	0.0168	-0.3019	0.0829	-2.2660	0.1488	-0.7938	0.1425
1	180	0.7500	0.1656	0.0205	-0.3504	0.0936	-2.8227	0.1647	-0.6567	0.1377
1	180	0.8001	0.1800	0.0235	-0.4225	0.1039	-3.4333	0.1804	-0.7960	0.1378
1	180	0.8497	0.1742	0.0258	-0.4612	0.1158	-4.1277	0.1962	-0.9127	0.1408
1	180	0.9102	0.1819	0.0308	-0.4584	0.1316	-5.0136	0.2159	-1.2048	0.1557
1	180	0.9734	0.2059	0.0374	-0.5183	0.1471	-5.9287	0.2355	-1.2442	0.1614
2	180	0.1949	-0.0645	0.0025	-0.0096	0.0032	-0.0043	0.0072	-0.1134	0.0380
2	180	0.2405	-0.0333	0.0023	-0.0198	0.0020	-0.0440	0.0056	-0.4133	0.1151
2	180	0.2999	0.0103	0.0021	-0.0462	0.0096	-0.0860	0.0201	-0.4012	0.1190
2	180	0.3498	0.0287	0.0023	-0.0803	0.0163	-0.1235	0.0329	-0.3497	0.1187
2	180	0.3998	0.0525	0.0024	-0.1256	0.0233	-0.2356	0.0464	-0.4656	0.1170
2	180	0.4496	0.0779	0.0023	-0.1759	0.0297	-0.3732	0.0588	-0.5135	0.1204
2	180	0.4995	0.0950	0.0023	-0.2296	0.0373	-0.5895	0.0735	-0.6941	0.1133
2	180	0.5551	0.1238	0.0023	-0.2923	0.0452	-0.9257	0.0879	-0.8469	0.1151
2	180	0.5996	0.1418	0.0021	-0.3371	0.0510	-1.2277	0.0996	-0.8175	0.1191
2	180	0.6497	0.1671	0.0023	-0.3917	0.0592	-1.6647	0.1139	-0.8167	0.1214
2	180	0.6996	0.1918	0.0023	-0.4472	0.0668	-2.1843	0.1284	-0.8830	0.1153
2	180	0.7495	0.1980	0.0022	-0.5237	0.0749	-2.7685	0.1420	-0.7765	0.1129
2	180	0.7996	0.1983	0.0026	-0.6070	0.0821	-3.4408	0.1561	-0.8709	0.1171
2	180	0.8578	0.1799	0.0035	-0.6873	0.0920	-4.2762	0.1739	-0.7036	0.1163
2	180	0.9100	0.2141	0.0036	-0.7210	0.1008	-5.1257	0.1880	-0.9779	0.1171
2	180	0.9727	0.1829	0.0047	-0.8046	0.1115	-5.9726	0.2061	-0.5549	0.1193
3	180.35	0.1938	-0.0498	0.0023	-0.0257	0.0013	0.0140	0.0023	-0.2713	0.0151
3	180.35	0.2357	-0.0213	0.0015	0.0007	0.0019	-0.0211	0.0030	-0.4204	0.0264
3	180.35	0.2995	-0.0105	0.0012	-0.0644	0.0046	-0.0209	0.0069	-0.6673	0.0320
3	180.35	0.3493	0.0194	0.0024	-0.1143	0.0073	-0.0240	0.0103	-0.5819	0.0295
3	180.35	0.4000	0.0618	0.0037	-0.1562	0.0116	-0.0799	0.0159	-0.5217	0.0265
3	180.35	0.4497	0.0776	0.0055	-0.2170	0.0146	-0.1912	0.0191	-0.6932	0.0312
3	180.35	0.4997	0.0854	0.0075	-0.2778	0.0182	-0.3523	0.0230	-0.8195	0.0276
3	180.35	0.5556	0.1180	0.0100	-0.3434	0.0224	-0.6108	0.0283	-0.8843	0.0339
3	180.35	0.5995	0.1478	0.0124	-0.4109	0.0255	-0.8672	0.0317	-0.8805	0.0297
3	180.35	0.6498	0.1738	0.0154	-0.4875	0.0297	-1.2405	0.0369	-0.9251	0.0328
3	180.35	0.6890	0.1402	0.0173	-0.5542	0.0328	-1.5827	0.0401	-0.8041	0.0362
3	180.35	0.7495	0.1812	0.0215	-0.6414	0.0381	-2.2270	0.0465	-0.8689	0.0321
3	180.35	0.7998	0.2110	0.0247	-0.7352	0.0426	-2.8432	0.0530	-0.9260	0.0371
3	180.35	0.8577	0.1950	0.0305	-0.8235	0.0483	-3.6463	0.0622	-0.9416	0.0490
3	180.35	0.9178	0.2115	0.0282	-0.9424	0.0576	-4.5636	0.0786	-1.1758	0.0374
3	180.35	0.9729	0.2128	0.0412	-1.0285	0.0590	-5.4359	0.0872	-1.2196	0.0673
4	180	0.2001	-0.0203	0.0017	0.0210	0.0023	-0.0563	0.0048	-0.0108	0.0335
4	180	0.2502	0.0065	0.0034	0.0178	0.0034	-0.0798	0.0058	0.1360	0.0495
4	180	0.3001	0.0152	0.0017	0.0633	0.0057	-0.1872	0.0116	0.0275	0.0613
4	180	0.3502	0.0100	0.0018	0.1199	0.0077	-0.3208	0.0161	0.0005	0.0537
4	180	0.4002	0.0319	0.0019	0.1656	0.0112	-0.4720	0.0229	-0.0046	0.0534
4	180	0.4500	0.0583	0.0022	0.2131	0.0136	-0.6884	0.0269	-0.2027	0.0545
4	180	0.5001	0.0743	0.0022	0.2322	0.0168	-0.9280	0.0343	-0.0957	0.0529
4	180	0.5560	0.0897	0.0022	0.2725	0.0202	-1.3569	0.0419	-0.3705	0.0610
4	180	0.6001	0.1067	0.0027	0.3132	0.0232	-1.7278	0.0482	-0.4359	0.0560
4	180	0.6501	0.0963	0.0027	0.3098	0.0261	-2.2356	0.0540	-0.4108	0.0489
4	180	0.6999	0.1121	0.0032	0.3185	0.0291	-2.8152	0.0621	-0.3169	0.0569
4	180	0.7500	0.1396	0.0038	0.3360	0.0337	-3.4748	0.0694	-0.2410	0.0612
4	180	0.8002	0.1207	0.0046	0.3365	0.0350	-4.2434	0.0808	-0.3096	0.0778
4	180	0.8582	0.1369	0.0072	0.3639	0.0404	-5.2081	0.0919	-0.5879	0.0836
4	180	0.9101	0.1499	0.0148	0.3572	0.0455	-6.1006	0.1019	-0.5806	0.1390
4	180	0.9728	0.1301	0.0095	0.3645	0.0508	-7.1219	0.1109	-0.3789	0.0911

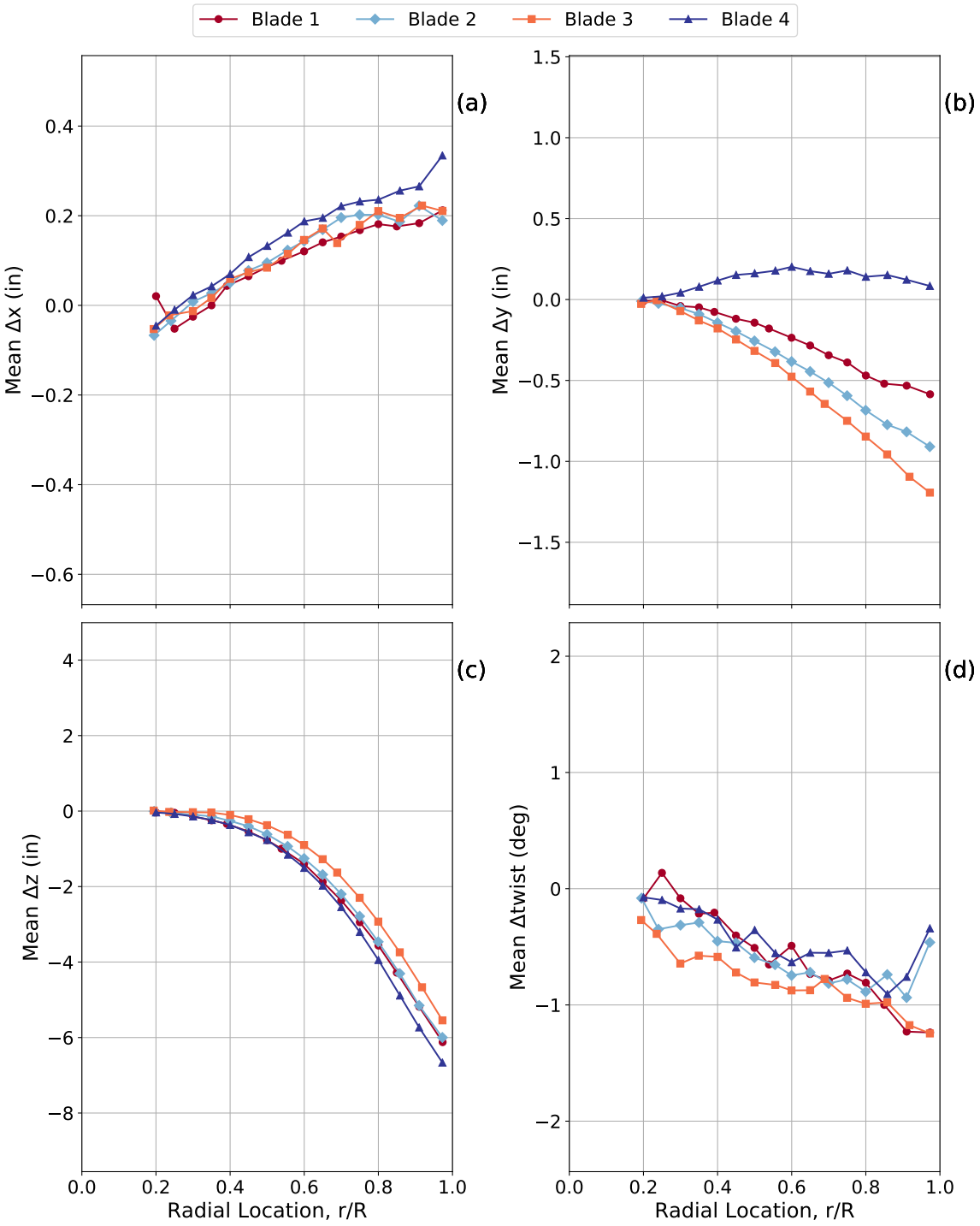


Figure 2.7-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-26. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	0.0205	0.0016	-0.0102	0.0013	-0.0373	0.0028	-0.0850	0.0253
1	184.92	0.2499	-0.0521	0.0017	-0.0045	0.0024	-0.0446	0.0049	0.1363	0.0404
1	184.92	0.2998	-0.0253	0.0015	-0.0403	0.0051	-0.1431	0.0094	-0.0827	0.0532
1	184.92	0.3498	-0.0000	0.0015	-0.0481	0.0082	-0.2439	0.0147	-0.2155	0.0440
1	184.92	0.3913	0.0435	0.0014	-0.0764	0.0120	-0.3402	0.0210	-0.2060	0.0418
1	184.92	0.4496	0.0651	0.0017	-0.1188	0.0150	-0.5415	0.0271	-0.4027	0.0411
1	184.92	0.4997	0.0853	0.0015	-0.1431	0.0181	-0.7716	0.0336	-0.5092	0.0387
1	184.92	0.5387	0.0995	0.0017	-0.1792	0.0206	-0.9977	0.0386	-0.6523	0.0429
1	184.92	0.5996	0.1205	0.0019	-0.2361	0.0245	-1.3984	0.0472	-0.4910	0.0430
1	184.92	0.6498	0.1406	0.0019	-0.2841	0.0280	-1.8775	0.0543	-0.7341	0.0501
1	184.92	0.6998	0.1535	0.0020	-0.3441	0.0315	-2.3679	0.0619	-0.7899	0.0456
1	184.92	0.7500	0.1678	0.0025	-0.3888	0.0346	-2.9458	0.0696	-0.7301	0.0456
1	184.92	0.8001	0.1812	0.0029	-0.4696	0.0387	-3.5627	0.0783	-0.8090	0.0452
1	184.92	0.8497	0.1761	0.0031	-0.5199	0.0415	-4.2804	0.0882	-0.9992	0.0440
1	184.92	0.9102	0.1834	0.0061	-0.5322	0.0479	-5.1845	0.0989	-1.2293	0.0657
1	184.92	0.9734	0.2120	0.0050	-0.5855	0.0508	-6.1220	0.1142	-1.2372	0.0601
2	184.92	0.1949	-0.0669	0.0012	-0.0102	0.0012	-0.0061	0.0026	-0.0813	0.0172
2	184.92	0.2405	-0.0345	0.0012	-0.0239	0.0018	-0.0466	0.0039	-0.3489	0.0369
2	184.92	0.2999	0.0081	0.0011	-0.0523	0.0042	-0.0956	0.0080	-0.3137	0.0419
2	184.92	0.3498	0.0272	0.0011	-0.0903	0.0066	-0.1393	0.0136	-0.2910	0.0375
2	184.92	0.3998	0.0505	0.0013	-0.1431	0.0103	-0.2612	0.0200	-0.4517	0.0372
2	184.92	0.4496	0.0776	0.0014	-0.1961	0.0118	-0.4022	0.0237	-0.4655	0.0384
2	184.92	0.4995	0.0949	0.0016	-0.2559	0.0141	-0.6165	0.0288	-0.5930	0.0359
2	184.92	0.5551	0.1231	0.0016	-0.3227	0.0173	-0.9351	0.0353	-0.6538	0.0387
2	184.92	0.5996	0.1434	0.0015	-0.3832	0.0197	-1.2555	0.0411	-0.7459	0.0370
2	184.92	0.6497	0.1688	0.0017	-0.4447	0.0225	-1.6831	0.0466	-0.7190	0.0401
2	184.92	0.6996	0.1958	0.0016	-0.5139	0.0256	-2.1990	0.0535	-0.8153	0.0408
2	184.92	0.7495	0.2021	0.0020	-0.5944	0.0285	-2.7872	0.0595	-0.7799	0.0390
2	184.92	0.7996	0.2021	0.0024	-0.6844	0.0314	-3.4632	0.0662	-0.8864	0.0378
2	184.92	0.8578	0.1866	0.0025	-0.7733	0.0350	-4.3058	0.0740	-0.7387	0.0463
2	184.92	0.9100	0.2222	0.0077	-0.8176	0.0385	-5.1511	0.0820	-0.9367	0.0936
2	184.92	0.9727	0.1893	0.0036	-0.9093	0.0428	-5.9982	0.0894	-0.4617	0.0462
3	184.92	0.1938	-0.0528	0.0025	-0.0268	0.0015	0.0130	0.0027	-0.2698	0.0222
3	184.92	0.2357	-0.0223	0.0021	-0.0038	0.0022	-0.0223	0.0046	-0.3885	0.0359
3	184.92	0.2995	-0.0128	0.0016	-0.0712	0.0054	-0.0300	0.0089	-0.6441	0.0503
3	184.92	0.3493	0.0167	0.0030	-0.1292	0.0089	-0.0366	0.0143	-0.5762	0.0444
3	184.92	0.4000	0.0590	0.0050	-0.1785	0.0138	-0.1034	0.0219	-0.5867	0.0438
3	184.92	0.4497	0.0741	0.0072	-0.2468	0.0178	-0.2166	0.0270	-0.7209	0.0448
3	184.92	0.4997	0.0841	0.0098	-0.3174	0.0224	-0.3744	0.0338	-0.8065	0.0433
3	184.92	0.5556	0.1148	0.0129	-0.3926	0.0272	-0.6278	0.0407	-0.8281	0.0448
3	184.92	0.5995	0.1459	0.0154	-0.4767	0.0317	-0.8988	0.0474	-0.8751	0.0431
3	184.92	0.6498	0.1715	0.0186	-0.5687	0.0364	-1.2751	0.0551	-0.8735	0.0421
3	184.92	0.6890	0.1389	0.0217	-0.6449	0.0405	-1.6298	0.0602	-0.7765	0.0498
3	184.92	0.7495	0.1795	0.0253	-0.7495	0.0462	-2.2980	0.0697	-0.9389	0.0485
3	184.92	0.7998	0.2102	0.0292	-0.8468	0.0522	-2.9295	0.0779	-0.9901	0.0521
3	184.92	0.8577	0.1951	0.0332	-0.9571	0.0585	-3.7416	0.0879	-0.9778	0.0539
3	184.92	0.9178	0.2226	0.0363	-1.0952	0.0628	-4.6684	0.0989	-1.1738	0.0538
3	184.92	0.9729	0.2107	0.0444	-1.1932	0.0736	-5.5447	0.1068	-1.2452	0.0573
4	184.92	0.2001	-0.0454	0.0012	0.0112	0.0008	-0.0358	0.0016	-0.0742	0.0196
4	184.92	0.2502	-0.0098	0.0007	0.0197	0.0018	-0.0758	0.0038	-0.0973	0.0374
4	184.92	0.3001	0.0229	0.0009	0.0426	0.0031	-0.1431	0.0063	-0.1707	0.0452
4	184.92	0.3502	0.0425	0.0009	0.0790	0.0054	-0.2363	0.0098	-0.1765	0.0397
4	184.92	0.4002	0.0700	0.0010	0.1174	0.0082	-0.3699	0.0156	-0.2663	0.0464
4	184.92	0.4500	0.1076	0.0012	0.1518	0.0102	-0.5618	0.0193	-0.5061	0.0434
4	184.92	0.5001	0.1326	0.0013	0.1617	0.0125	-0.7671	0.0239	-0.3558	0.0455
4	184.92	0.5560	0.1622	0.0012	0.1784	0.0151	-1.1562	0.0306	-0.5552	0.0437
4	184.92	0.6001	0.1875	0.0014	0.2022	0.0175	-1.5057	0.0350	-0.6323	0.0468
4	184.92	0.6501	0.1952	0.0015	0.1756	0.0196	-1.9763	0.0414	-0.5509	0.0455
4	184.92	0.6999	0.2214	0.0015	0.1589	0.0219	-2.5441	0.0481	-0.5523	0.0474
4	184.92	0.7500	0.2317	0.0018	0.1799	0.0262	-3.2041	0.0555	-0.5314	0.0663
4	184.92	0.8002	0.2358	0.0025	0.1406	0.0292	-3.9464	0.0603	-0.7193	0.0665
4	184.92	0.8582	0.2559	0.0024	0.1513	0.0330	-4.8875	0.0674	-0.9066	0.0988
4	184.92	0.9101	0.2655	0.0037	0.1224	0.0387	-5.7334	0.0719	-0.7587	0.1391
4	184.92	0.9728	0.3344	0.0043	0.0838	0.0391	-6.6642	0.0881	-0.3416	0.1113

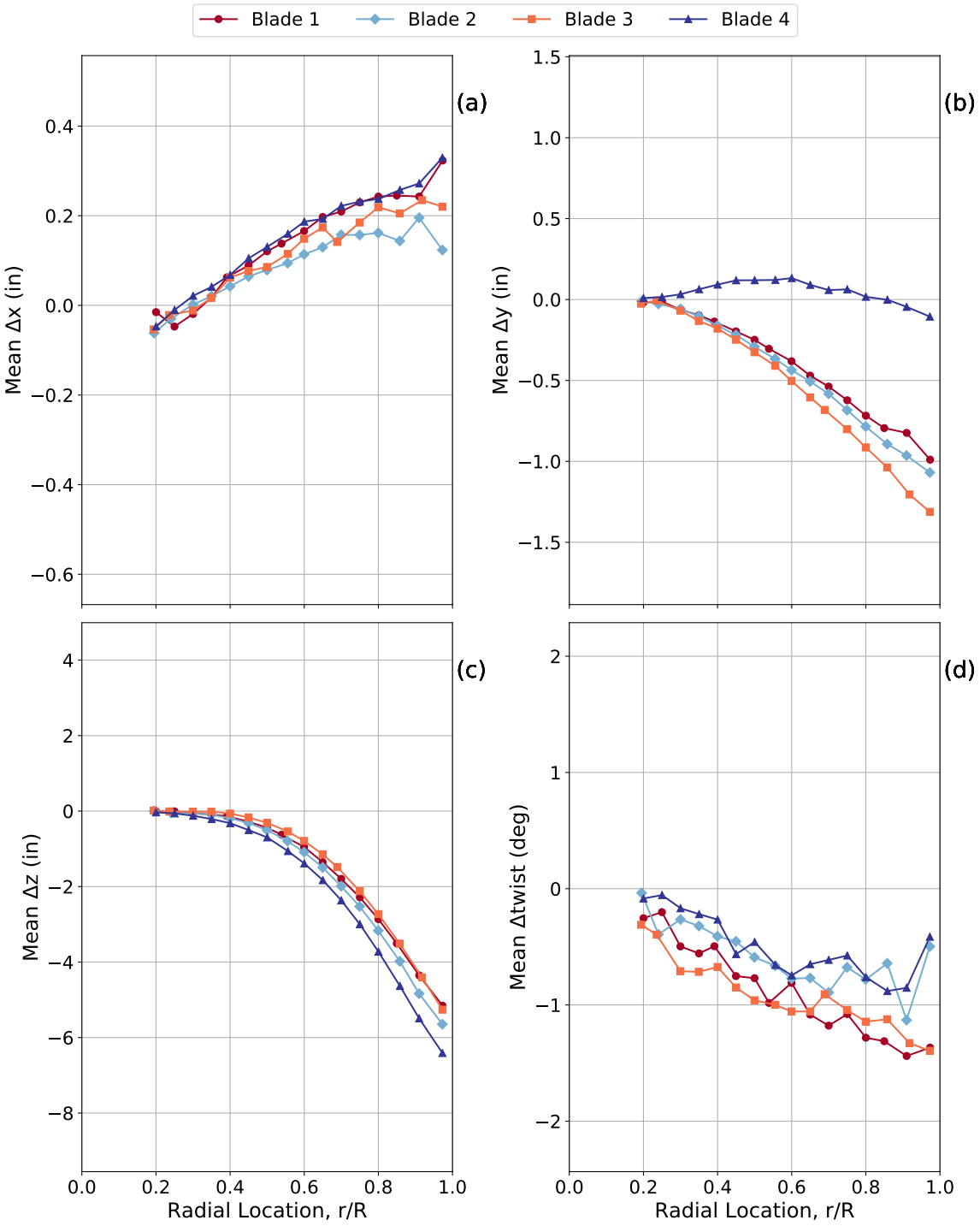


Figure 2.7-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0151	0.0012	-0.0178	0.0009	-0.0111	0.0022	-0.2539	0.0215
1	189.84	0.2499	-0.0473	0.0009	-0.0131	0.0022	-0.0068	0.0048	-0.2015	0.0405
1	189.84	0.2998	-0.0193	0.0009	-0.0626	0.0032	-0.0577	0.0086	-0.4962	0.0491
1	189.84	0.3498	0.0180	0.0010	-0.0973	0.0060	-0.0913	0.0141	-0.5567	0.0442
1	189.84	0.3913	0.0626	0.0012	-0.1359	0.0084	-0.1361	0.0206	-0.4951	0.0441
1	189.84	0.4496	0.0889	0.0013	-0.1967	0.0111	-0.2813	0.0268	-0.7519	0.0459
1	189.84	0.4997	0.1205	0.0013	-0.2485	0.0130	-0.4402	0.0337	-0.7699	0.0456
1	189.84	0.5387	0.1378	0.0013	-0.3042	0.0147	-0.6268	0.0396	-0.9825	0.0448
1	189.84	0.5996	0.1658	0.0016	-0.3815	0.0179	-0.9505	0.0488	-0.8099	0.0495
1	189.84	0.6498	0.1971	0.0016	-0.4702	0.0201	-1.3543	0.0560	-1.0832	0.0542
1	189.84	0.6998	0.2093	0.0017	-0.5380	0.0236	-1.7971	0.0653	-1.1782	0.0510
1	189.84	0.7500	0.2298	0.0020	-0.6225	0.0270	-2.2863	0.0743	-1.0786	0.0500
1	189.84	0.8001	0.2427	0.0025	-0.7176	0.0294	-2.8643	0.0833	-1.2819	0.0728
1	189.84	0.8497	0.2450	0.0026	-0.7944	0.0317	-3.5067	0.0929	-1.3120	0.0598
1	189.84	0.9102	0.2427	0.0032	-0.8239	0.0359	-4.3539	0.1058	-1.4392	0.1163
1	189.84	0.9734	0.3231	0.0043	-0.9896	0.0386	-5.1579	0.1184	-1.3669	0.1181
2	189.84	0.1949	-0.0618	0.0019	-0.0114	0.0019	0.0031	0.0036	-0.0364	0.0232
2	189.84	0.2405	-0.0297	0.0022	-0.0271	0.0031	-0.0393	0.0063	-0.3934	0.0450
2	189.84	0.2999	0.0017	0.0022	-0.0580	0.0065	-0.0618	0.0122	-0.2646	0.0535
2	189.84	0.3498	0.0207	0.0020	-0.1028	0.0112	-0.0963	0.0194	-0.3207	0.0548
2	189.84	0.3998	0.0424	0.0022	-0.1612	0.0169	-0.1899	0.0297	-0.4099	0.0505
2	189.84	0.4496	0.0645	0.0023	-0.2190	0.0196	-0.3127	0.0355	-0.4534	0.0484
2	189.84	0.4995	0.0788	0.0025	-0.2911	0.0236	-0.5042	0.0414	-0.5901	0.0537
2	189.84	0.5551	0.0941	0.0024	-0.3665	0.0281	-0.7942	0.0511	-0.6621	0.0515
2	189.84	0.5996	0.1138	0.0023	-0.4359	0.0325	-1.0879	0.0586	-0.7734	0.0542
2	189.84	0.6497	0.1297	0.0025	-0.5061	0.0368	-1.4942	0.0655	-0.7682	0.0579
2	189.84	0.6996	0.1574	0.0030	-0.5827	0.0408	-1.9899	0.0737	-0.8930	0.0592
2	189.84	0.7495	0.1570	0.0031	-0.6834	0.0455	-2.5267	0.0830	-0.6763	0.0501
2	189.84	0.7996	0.1617	0.0037	-0.7850	0.0505	-3.1653	0.0921	-0.7808	0.0588
2	189.84	0.8578	0.1438	0.0042	-0.8932	0.0555	-3.9804	0.1021	-0.6424	0.0588
2	189.84	0.9100	0.1956	0.0106	-0.9642	0.0624	-4.8359	0.1127	-1.1300	0.0901
2	189.84	0.9727	0.1234	0.0051	-1.0691	0.0662	-5.6466	0.1232	-0.4972	0.0623
3	189.84	0.1938	-0.0536	0.0014	-0.0259	0.0016	0.0143	0.0035	-0.3104	0.0313
3	189.84	0.2357	-0.0216	0.0021	-0.0063	0.0026	-0.0118	0.0057	-0.3950	0.0420
3	189.84	0.2995	-0.0115	0.0016	-0.0687	0.0059	-0.0149	0.0112	-0.7099	0.0636
3	189.84	0.3493	0.0167	0.0018	-0.1323	0.0089	-0.0165	0.0150	-0.7152	0.0571
3	189.84	0.4000	0.0618	0.0017	-0.1796	0.0143	-0.0654	0.0247	-0.6735	0.0513
3	189.84	0.4497	0.0769	0.0020	-0.2481	0.0174	-0.1691	0.0294	-0.8497	0.0496
3	189.84	0.4997	0.0856	0.0018	-0.3256	0.0218	-0.3114	0.0357	-0.9601	0.0490
3	189.84	0.5556	0.1149	0.0023	-0.4092	0.0259	-0.5407	0.0419	-0.9990	0.0524
3	189.84	0.5995	0.1486	0.0019	-0.5030	0.0297	-0.7909	0.0474	-1.0564	0.0529
3	189.84	0.6498	0.1737	0.0021	-0.6047	0.0336	-1.1455	0.0532	-1.0562	0.0568
3	189.84	0.6890	0.1415	0.0022	-0.6821	0.0370	-1.4830	0.0580	-0.9085	0.0573
3	189.84	0.7495	0.1848	0.0023	-0.8013	0.0426	-2.1187	0.0661	-1.0434	0.0506
3	189.84	0.7998	0.2189	0.0026	-0.9138	0.0474	-2.7298	0.0716	-1.1442	0.0577
3	189.84	0.8577	0.2052	0.0031	-1.0376	0.0527	-3.5140	0.0791	-1.1233	0.0602
3	189.84	0.9178	0.2347	0.0030	-1.2046	0.0580	-4.4078	0.0859	-1.3289	0.0542
3	189.84	0.9729	0.2201	0.0053	-1.3122	0.0642	-5.2605	0.0935	-1.3949	0.0636
4	189.84	0.2001	-0.0469	0.0011	0.0090	0.0009	-0.0335	0.0019	-0.0841	0.0151
4	189.84	0.2502	-0.0102	0.0008	0.0155	0.0018	-0.0619	0.0041	-0.0550	0.0278
4	189.84	0.3001	0.0213	0.0009	0.0324	0.0038	-0.1236	0.0074	-0.1685	0.0334
4	189.84	0.3502	0.0413	0.0013	0.0636	0.0059	-0.2121	0.0115	-0.2191	0.0303
4	189.84	0.4002	0.0680	0.0017	0.0920	0.0095	-0.3215	0.0184	-0.2659	0.0296
4	189.84	0.4500	0.1050	0.0020	0.1188	0.0125	-0.5040	0.0236	-0.5631	0.0307
4	189.84	0.5001	0.1305	0.0022	0.1192	0.0152	-0.6982	0.0294	-0.4582	0.0325
4	189.84	0.5560	0.1598	0.0023	0.1209	0.0191	-1.0608	0.0378	-0.6565	0.0362
4	189.84	0.6001	0.1867	0.0023	0.1323	0.0227	-1.3874	0.0441	-0.7460	0.0345
4	189.84	0.6501	0.1929	0.0020	0.0905	0.0270	-1.8303	0.0524	-0.6496	0.0412
4	189.84	0.6999	0.2219	0.0022	0.0584	0.0313	-2.3662	0.0602	-0.6127	0.0428
4	189.84	0.7500	0.2315	0.0027	0.0627	0.0354	-2.9987	0.0699	-0.5752	0.0391
4	189.84	0.8002	0.2373	0.0038	0.0168	0.0407	-3.7252	0.0783	-0.7608	0.0586
4	189.84	0.8582	0.2575	0.0065	-0.0015	0.0471	-4.6348	0.0929	-0.8807	0.0607
4	189.84	0.9101	0.2719	0.0089	-0.0453	0.0522	-5.4937	0.1085	-0.8524	0.1010
4	189.84	0.9728	0.3294	0.0133	-0.1056	0.0607	-6.4101	0.1308	-0.4139	0.0750

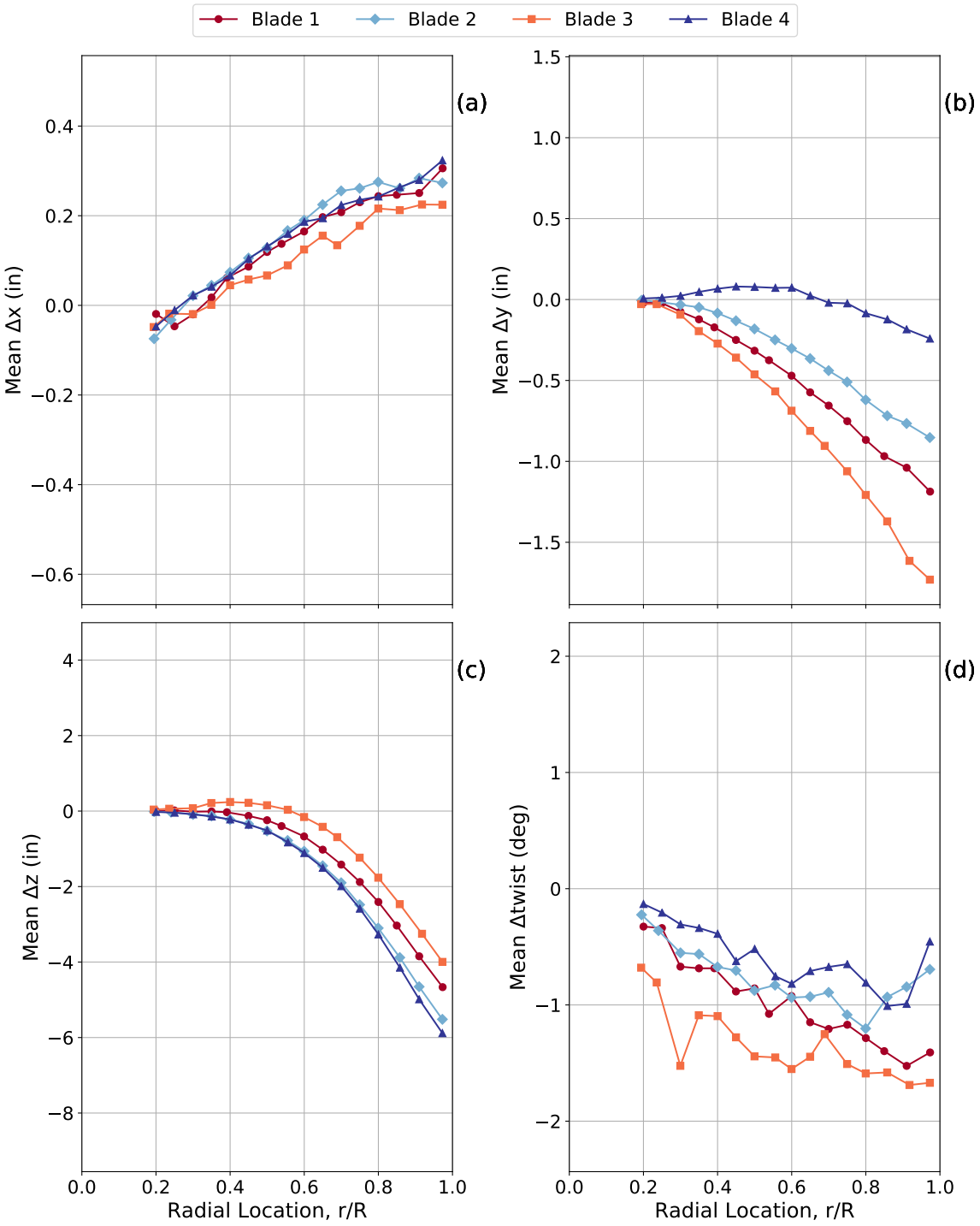


Figure 2.7-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0192	0.0012	-0.0201	0.0009	0.0020	0.0025	-0.3261	0.0195
1	195.12	0.2499	-0.0467	0.0009	-0.0221	0.0019	0.0166	0.0046	-0.3387	0.0398
1	195.12	0.2998	-0.0202	0.0009	-0.0750	0.0035	-0.0167	0.0089	-0.6707	0.0471
1	195.12	0.3498	0.0175	0.0011	-0.1224	0.0061	-0.0096	0.0157	-0.6851	0.0405
1	195.12	0.3913	0.0614	0.0013	-0.1720	0.0088	-0.0305	0.0217	-0.6846	0.0401
1	195.12	0.4496	0.0864	0.0011	-0.2498	0.0108	-0.1278	0.0262	-0.8844	0.0441
1	195.12	0.4997	0.1191	0.0014	-0.3162	0.0136	-0.2421	0.0326	-0.8577	0.0417
1	195.12	0.5387	0.1373	0.0014	-0.3751	0.0159	-0.3978	0.0376	-1.0768	0.0464
1	195.12	0.5996	0.1649	0.0013	-0.4706	0.0194	-0.6721	0.0433	-0.9239	0.0425
1	195.12	0.6498	0.1968	0.0015	-0.5736	0.0222	-1.0223	0.0480	-1.1491	0.0511
1	195.12	0.6998	0.2079	0.0019	-0.6554	0.0257	-1.4176	0.0536	-1.2069	0.0564
1	195.12	0.7500	0.2301	0.0019	-0.7517	0.0300	-1.8788	0.0601	-1.1705	0.0483
1	195.12	0.8001	0.2436	0.0020	-0.8676	0.0328	-2.4085	0.0658	-1.2852	0.0531
1	195.12	0.8497	0.2467	0.0022	-0.9678	0.0368	-3.0332	0.0725	-1.3973	0.0550
1	195.12	0.9102	0.2506	0.0024	-1.0394	0.0413	-3.8475	0.0804	-1.5244	0.0894
1	195.12	0.9734	0.3057	0.0035	-1.1868	0.0469	-4.6648	0.0909	-1.4085	0.0801
2	195.12	0.1949	-0.0744	0.0011	-0.0047	0.0007	-0.0141	0.0014	-0.2243	0.0182
2	195.12	0.2405	-0.0323	0.0008	-0.0150	0.0013	-0.0280	0.0030	-0.3604	0.0265
2	195.12	0.2999	0.0215	0.0007	-0.0324	0.0024	-0.0894	0.0050	-0.5519	0.0390
2	195.12	0.3498	0.0446	0.0008	-0.0481	0.0041	-0.1294	0.0079	-0.5626	0.0384
2	195.12	0.3998	0.0738	0.0012	-0.0839	0.0063	-0.2258	0.0124	-0.6732	0.0311
2	195.12	0.4496	0.1055	0.0013	-0.1313	0.0074	-0.3380	0.0155	-0.7038	0.0307
2	195.12	0.4995	0.1283	0.0012	-0.1817	0.0089	-0.5257	0.0201	-0.8758	0.0329
2	195.12	0.5551	0.1667	0.0012	-0.2494	0.0110	-0.7794	0.0268	-0.8298	0.0284
2	195.12	0.5996	0.1898	0.0014	-0.3022	0.0127	-1.0639	0.0314	-0.9368	0.0389
2	195.12	0.6497	0.2247	0.0016	-0.3649	0.0149	-1.4496	0.0393	-0.9290	0.0441
2	195.12	0.6996	0.2553	0.0016	-0.4392	0.0174	-1.8990	0.0467	-0.8922	0.0417
2	195.12	0.7495	0.2611	0.0017	-0.5095	0.0193	-2.4796	0.0548	-1.0848	0.0391
2	195.12	0.7996	0.2752	0.0021	-0.6201	0.0218	-3.1000	0.0635	-1.2029	0.0420
2	195.12	0.8578	0.2612	0.0028	-0.7182	0.0242	-3.8802	0.0744	-0.9322	0.0481
2	195.12	0.9100	0.2838	0.0031	-0.7661	0.0288	-4.6534	0.0822	-0.8445	0.1017
2	195.12	0.9727	0.2731	0.0035	-0.8530	0.0307	-5.5175	0.0934	-0.6940	0.0500
3	195.12	0.1938	-0.0484	0.0074	-0.0283	0.0025	0.0395	0.0073	-0.6793	0.0906
3	195.12	0.2357	-0.0185	0.0059	-0.0285	0.0074	0.0616	0.0197	-0.8067	0.0956
3	195.12	0.2995	-0.0195	0.0037	-0.0934	0.0084	0.0751	0.0226	-1.5238	0.1841
3	195.12	0.3493	0.0011	0.0071	-0.1953	0.0205	0.2132	0.0513	-1.0887	0.1198
3	195.12	0.4000	0.0449	0.0115	-0.2722	0.0289	0.2400	0.0702	-1.0963	0.1052
3	195.12	0.4497	0.0576	0.0137	-0.3589	0.0354	0.2193	0.0861	-1.2786	0.1062
3	195.12	0.4997	0.0667	0.0168	-0.4626	0.0426	0.1545	0.1010	-1.4424	0.1090
3	195.12	0.5556	0.0893	0.0202	-0.5675	0.0509	0.0344	0.1212	-1.4518	0.1112
3	195.12	0.5995	0.1246	0.0220	-0.6869	0.0583	-0.1578	0.1371	-1.5514	0.1131
3	195.12	0.6498	0.1555	0.0239	-0.8117	0.0664	-0.4180	0.1543	-1.4457	0.1187
3	195.12	0.6890	0.1341	0.0249	-0.9043	0.0726	-0.6913	0.1664	-1.2516	0.1211
3	195.12	0.7495	0.1775	0.0266	-1.0613	0.0839	-1.2343	0.1895	-1.5081	0.1172
3	195.12	0.7998	0.2160	0.0278	-1.2074	0.0931	-1.7647	0.2084	-1.5895	0.1196
3	195.12	0.8577	0.2124	0.0288	-1.3709	0.1045	-2.4658	0.2324	-1.5807	0.1194
3	195.12	0.9178	0.2250	0.0294	-1.6147	0.1168	-3.2511	0.2570	-1.6887	0.1158
3	195.12	0.9729	0.2245	0.0310	-1.7309	0.1281	-3.9959	0.2791	-1.6699	0.1188
4	195.12	0.2001	-0.0471	0.0010	0.0065	0.0007	-0.0225	0.0017	-0.1318	0.0237
4	195.12	0.2502	-0.0107	0.0008	0.0116	0.0016	-0.0434	0.0039	-0.2062	0.0358
4	195.12	0.3001	0.0222	0.0007	0.0227	0.0027	-0.0853	0.0056	-0.3074	0.0516
4	195.12	0.3502	0.0416	0.0008	0.0472	0.0047	-0.1442	0.0103	-0.3380	0.0396
4	195.12	0.4002	0.0667	0.0011	0.0667	0.0070	-0.2211	0.0151	-0.3882	0.0433
4	195.12	0.4500	0.1036	0.0010	0.0803	0.0088	-0.3609	0.0190	-0.6229	0.0410
4	195.12	0.5001	0.1317	0.0010	0.0778	0.0106	-0.5148	0.0235	-0.5183	0.0432
4	195.12	0.5560	0.1596	0.0011	0.0720	0.0133	-0.8298	0.0294	-0.7532	0.0436
4	195.12	0.6001	0.1865	0.0009	0.0734	0.0153	-1.1124	0.0344	-0.8179	0.0470
4	195.12	0.6501	0.1944	0.0014	0.0239	0.0181	-1.5029	0.0399	-0.7086	0.0491
4	195.12	0.6999	0.2238	0.0014	-0.0197	0.0204	-1.9901	0.0464	-0.6731	0.0447
4	195.12	0.7500	0.2353	0.0015	-0.0237	0.0229	-2.5857	0.0511	-0.6494	0.0488
4	195.12	0.8002	0.2428	0.0020	-0.0849	0.0263	-3.2691	0.0575	-0.8087	0.0524
4	195.12	0.8582	0.2636	0.0022	-0.1230	0.0292	-4.1493	0.0653	-1.0088	0.0578
4	195.12	0.9101	0.2797	0.0025	-0.1842	0.0334	-4.9866	0.0715	-0.9911	0.0638
4	195.12	0.9728	0.3234	0.0034	-0.2414	0.0365	-5.8840	0.0813	-0.4552	0.0597

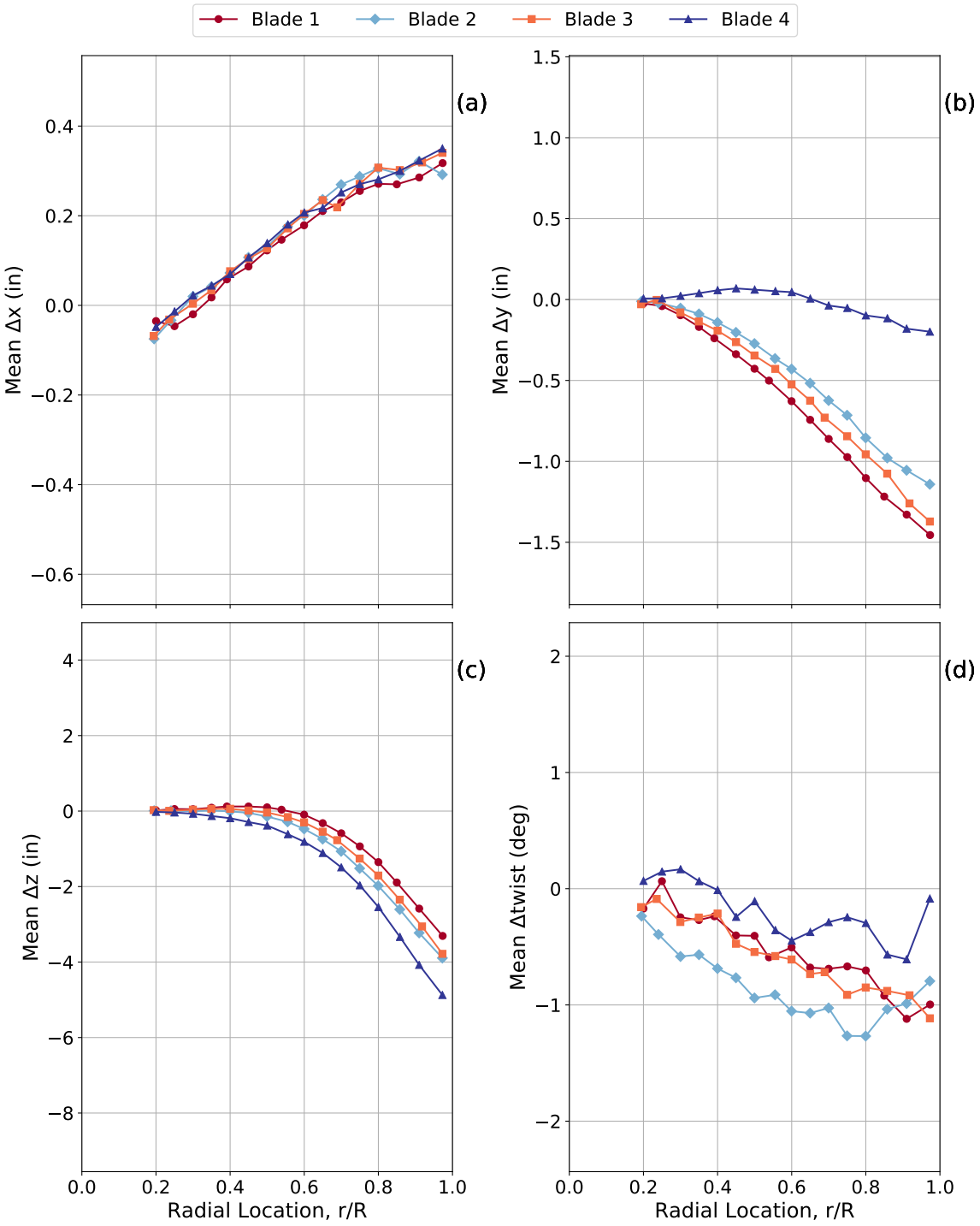


Figure 2.7-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0351	0.0011	-0.0240	0.0009	0.0178	0.0026	-0.1709	0.0159
1	209.88	0.2499	-0.0464	0.0008	-0.0405	0.0027	0.0539	0.0051	0.0645	0.0295
1	209.88	0.2998	-0.0199	0.0010	-0.0970	0.0054	0.0498	0.0106	-0.2463	0.0351
1	209.88	0.3498	0.0177	0.0013	-0.1692	0.0073	0.0886	0.0145	-0.2699	0.0311
1	209.88	0.3913	0.0580	0.0019	-0.2395	0.0125	0.1223	0.0229	-0.2376	0.0348
1	209.88	0.4496	0.0867	0.0013	-0.3377	0.0134	0.1209	0.0238	-0.4021	0.0323
1	209.88	0.4997	0.1226	0.0017	-0.4277	0.0155	0.0994	0.0289	-0.4054	0.0525
1	209.88	0.5387	0.1465	0.0017	-0.5010	0.0187	0.0359	0.0361	-0.5903	0.0425
1	209.88	0.5996	0.1786	0.0021	-0.6281	0.0229	-0.0945	0.0438	-0.5050	0.0370
1	209.88	0.6498	0.2104	0.0019	-0.7434	0.0259	-0.3201	0.0508	-0.6786	0.0377
1	209.88	0.6998	0.2298	0.0017	-0.8613	0.0292	-0.5886	0.0579	-0.6889	0.0416
1	209.88	0.7500	0.2553	0.0020	-0.9738	0.0326	-0.9358	0.0647	-0.6688	0.0345
1	209.88	0.8001	0.2711	0.0022	-1.1034	0.0366	-1.3529	0.0727	-0.7032	0.0358
1	209.88	0.8497	0.2700	0.0024	-1.2177	0.0403	-1.8921	0.0800	-0.9204	0.0369
1	209.88	0.9102	0.2853	0.0028	-1.3290	0.0449	-2.5838	0.0888	-1.1196	0.0414
1	209.88	0.9734	0.3174	0.0036	-1.4554	0.0493	-3.3079	0.0981	-0.9961	0.0418
2	209.88	0.1949	-0.0748	0.0010	-0.0110	0.0008	0.0094	0.0021	-0.2355	0.0182
2	209.88	0.2405	-0.0333	0.0009	-0.0209	0.0026	0.0084	0.0042	-0.3939	0.0293
2	209.88	0.2999	0.0200	0.0013	-0.0533	0.0045	-0.0034	0.0075	-0.5832	0.0422
2	209.88	0.3498	0.0417	0.0011	-0.0891	0.0069	0.0146	0.0129	-0.5677	0.0374
2	209.88	0.3998	0.0724	0.0019	-0.1414	0.0119	-0.0091	0.0190	-0.6867	0.0368
2	209.88	0.4496	0.1070	0.0016	-0.2031	0.0136	-0.0462	0.0210	-0.7663	0.0578
2	209.88	0.4995	0.1303	0.0015	-0.2723	0.0163	-0.1439	0.0279	-0.9399	0.0343
2	209.88	0.5551	0.1757	0.0015	-0.3648	0.0197	-0.2840	0.0332	-0.9128	0.0341
2	209.88	0.5996	0.2005	0.0016	-0.4295	0.0222	-0.4737	0.0374	-1.0532	0.0393
2	209.88	0.6497	0.2362	0.0016	-0.5171	0.0255	-0.7429	0.0435	-1.0701	0.0373
2	209.88	0.6996	0.2694	0.0018	-0.6238	0.0284	-1.0658	0.0496	-1.0264	0.0387
2	209.88	0.7495	0.2876	0.0017	-0.7150	0.0316	-1.5183	0.0567	-1.2661	0.0377
2	209.88	0.7996	0.3059	0.0020	-0.8547	0.0353	-1.9796	0.0639	-1.2682	0.0411
2	209.88	0.8578	0.2927	0.0022	-0.9788	0.0386	-2.6061	0.0734	-1.0364	0.0412
2	209.88	0.9100	0.3216	0.0023	-1.0552	0.0423	-3.2279	0.0835	-0.9876	0.0451
2	209.88	0.9727	0.2918	0.0035	-1.1416	0.0468	-3.8939	0.0950	-0.7947	0.0436
3	209.88	0.1938	-0.0683	0.0009	-0.0291	0.0007	0.0246	0.0017	-0.1586	0.0160
3	209.88	0.2357	-0.0317	0.0011	-0.0025	0.0019	0.0059	0.0037	-0.0881	0.0218
3	209.88	0.2995	0.0037	0.0008	-0.0798	0.0034	0.0368	0.0071	-0.2865	0.0351
3	209.88	0.3493	0.0337	0.0010	-0.1356	0.0059	0.0574	0.0108	-0.2482	0.0387
3	209.88	0.4000	0.0761	0.0013	-0.1924	0.0096	0.0608	0.0175	-0.2137	0.0380
3	209.88	0.4497	0.1044	0.0023	-0.2630	0.0125	0.0132	0.0202	-0.4736	0.0455
3	209.88	0.4997	0.1271	0.0025	-0.3458	0.0157	-0.0381	0.0250	-0.5443	0.0428
3	209.88	0.5556	0.1718	0.0016	-0.4286	0.0180	-0.1592	0.0291	-0.5796	0.0303
3	209.88	0.5995	0.2039	0.0017	-0.5244	0.0209	-0.2998	0.0334	-0.6091	0.0341
3	209.88	0.6498	0.2345	0.0018	-0.6250	0.0237	-0.5472	0.0374	-0.7341	0.0378
3	209.88	0.6890	0.2187	0.0019	-0.7298	0.0262	-0.7715	0.0420	-0.7182	0.0403
3	209.88	0.7495	0.2708	0.0019	-0.8449	0.0302	-1.2585	0.0482	-0.9131	0.0294
3	209.88	0.7998	0.3073	0.0022	-0.9566	0.0337	-1.7085	0.0551	-0.8500	0.0348
3	209.88	0.8577	0.3017	0.0025	-1.0759	0.0378	-2.3485	0.0630	-0.8793	0.0438
3	209.88	0.9178	0.3190	0.0048	-1.2599	0.0433	-3.0567	0.0716	-0.9170	0.0445
3	209.88	0.9729	0.3403	0.0042	-1.3718	0.0460	-3.7826	0.0813	-1.1150	0.0447
4	209.88	0.2001	-0.0481	0.0010	0.0064	0.0007	-0.0217	0.0021	0.0670	0.0212
4	209.88	0.2502	-0.0136	0.0008	0.0070	0.0019	-0.0379	0.0044	0.1467	0.0300
4	209.88	0.3001	0.0221	0.0013	0.0223	0.0033	-0.0705	0.0084	0.1669	0.0454
4	209.88	0.3502	0.0440	0.0009	0.0391	0.0052	-0.1311	0.0125	0.0639	0.0387
4	209.88	0.4002	0.0698	0.0013	0.0574	0.0085	-0.1889	0.0201	-0.0120	0.0478
4	209.88	0.4500	0.1069	0.0018	0.0687	0.0097	-0.2915	0.0232	-0.2427	0.0473
4	209.88	0.5001	0.1389	0.0014	0.0608	0.0123	-0.3843	0.0286	-0.1083	0.0357
4	209.88	0.5560	0.1802	0.0014	0.0516	0.0143	-0.6143	0.0343	-0.3570	0.0418
4	209.88	0.6001	0.2068	0.0013	0.0455	0.0171	-0.8132	0.0395	-0.4472	0.0322
4	209.88	0.6501	0.2173	0.0016	0.0056	0.0192	-1.1113	0.0454	-0.3730	0.0432
4	209.88	0.6999	0.2519	0.0013	-0.0372	0.0221	-1.4911	0.0516	-0.2880	0.0420
4	209.88	0.7500	0.2704	0.0014	-0.0526	0.0246	-1.9682	0.0588	-0.2456	0.0403
4	209.88	0.8002	0.2811	0.0017	-0.0983	0.0278	-2.5443	0.0664	-0.2954	0.0399
4	209.88	0.8582	0.2998	0.0019	-0.1162	0.0314	-3.3353	0.0749	-0.5669	0.0436
4	209.88	0.9101	0.3230	0.0021	-0.1802	0.0347	-4.0756	0.0834	-0.6078	0.0452
4	209.88	0.9728	0.3498	0.0027	-0.1988	0.0382	-4.8737	0.0943	-0.0856	0.0498

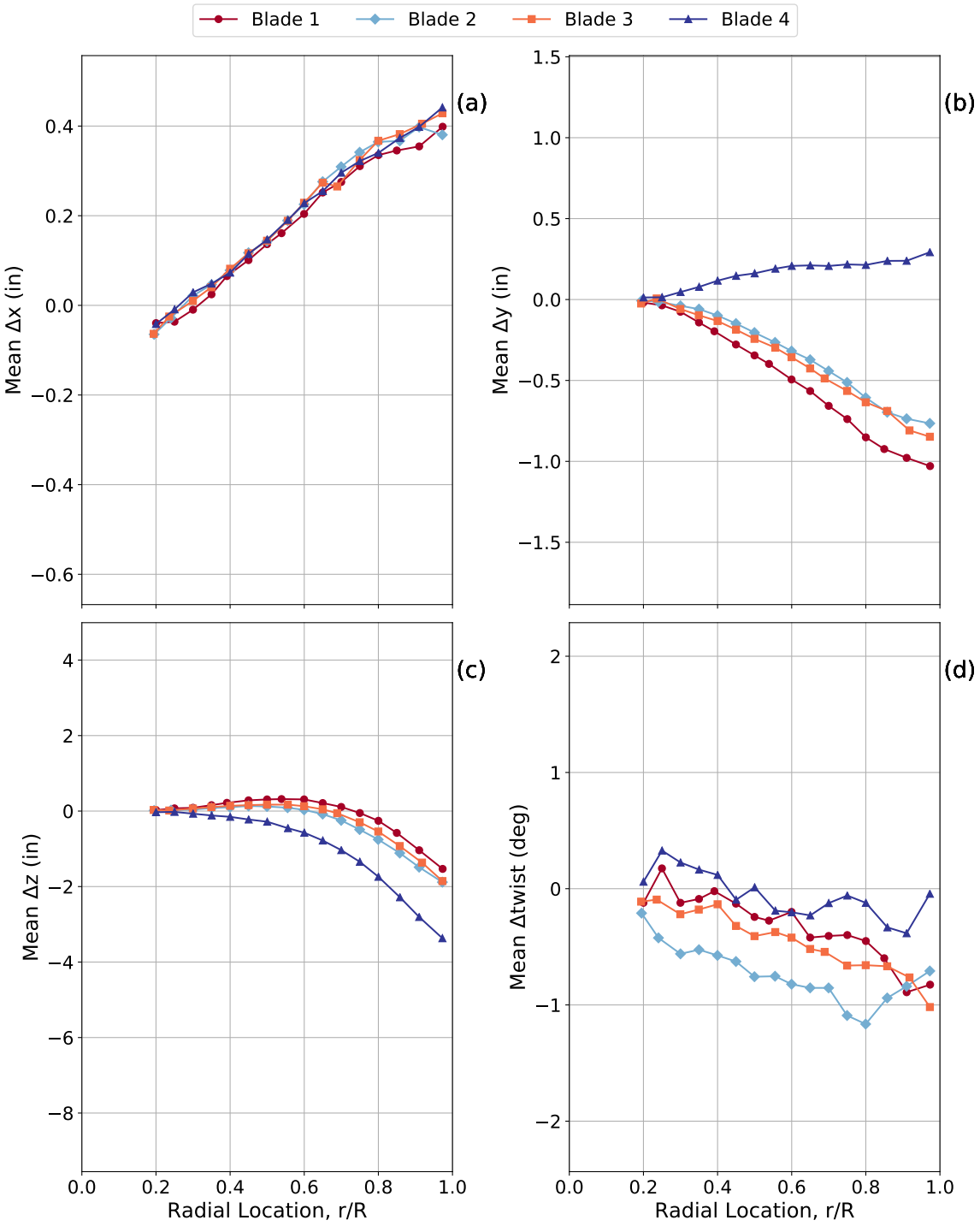


Figure 2.7-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-30. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0396	0.0010	-0.0188	0.0006	0.0270	0.0019	-0.1211	0.0169
1	225	0.2499	-0.0365	0.0007	-0.0360	0.0015	0.0718	0.0043	0.1747	0.0290
1	225	0.2998	-0.0097	0.0008	-0.0755	0.0026	0.0876	0.0084	-0.1213	0.0377
1	225	0.3498	0.0246	0.0009	-0.1417	0.0040	0.1567	0.0112	-0.0884	0.0387
1	225	0.3913	0.0653	0.0014	-0.1962	0.0063	0.2185	0.0180	-0.0212	0.0299
1	225	0.4496	0.1009	0.0012	-0.2780	0.0082	0.2844	0.0199	-0.1285	0.0447
1	225	0.4997	0.1365	0.0015	-0.3452	0.0095	0.3087	0.0257	-0.2428	0.0403
1	225	0.5387	0.1610	0.0020	-0.3978	0.0100	0.3181	0.0293	-0.2749	0.0561
1	225	0.5996	0.2040	0.0013	-0.4940	0.0125	0.3093	0.0345	-0.1998	0.0541
1	225	0.6498	0.2517	0.0014	-0.5653	0.0142	0.2125	0.0401	-0.4203	0.0421
1	225	0.6998	0.2752	0.0019	-0.6570	0.0167	0.1094	0.0454	-0.4064	0.0430
1	225	0.7500	0.3106	0.0012	-0.7389	0.0189	-0.0518	0.0492	-0.3988	0.0355
1	225	0.8001	0.3352	0.0013	-0.8516	0.0210	-0.2577	0.0551	-0.4503	0.0352
1	225	0.8497	0.3455	0.0012	-0.9239	0.0235	-0.5782	0.0617	-0.5982	0.0371
1	225	0.9102	0.3546	0.0012	-0.9784	0.0265	-1.0374	0.0686	-0.8906	0.0350
1	225	0.9734	0.3985	0.0021	-1.0292	0.0298	-1.5317	0.0769	-0.8256	0.0330
2	225	0.1949	-0.0647	0.0009	-0.0073	0.0005	0.0162	0.0018	-0.2103	0.0315
2	225	0.2405	-0.0282	0.0008	-0.0138	0.0023	0.0247	0.0054	-0.4232	0.0299
2	225	0.2999	0.0216	0.0014	-0.0389	0.0034	0.0397	0.0090	-0.5604	0.0640
2	225	0.3498	0.0463	0.0014	-0.0591	0.0058	0.0789	0.0139	-0.5248	0.0502
2	225	0.3998	0.0782	0.0012	-0.0987	0.0097	0.1017	0.0227	-0.5740	0.0571
2	225	0.4496	0.1174	0.0015	-0.1484	0.0092	0.1360	0.0237	-0.6264	0.0593
2	225	0.4995	0.1430	0.0017	-0.2040	0.0123	0.1213	0.0284	-0.7572	0.0671
2	225	0.5551	0.1891	0.0014	-0.2648	0.0154	0.0891	0.0364	-0.7530	0.0386
2	225	0.5996	0.2253	0.0015	-0.3182	0.0183	0.0321	0.0432	-0.8215	0.0521
2	225	0.6497	0.2759	0.0016	-0.3718	0.0202	-0.0802	0.0459	-0.8533	0.0474
2	225	0.6996	0.3092	0.0017	-0.4416	0.0222	-0.2462	0.0508	-0.8535	0.0464
2	225	0.7495	0.3415	0.0017	-0.5122	0.0256	-0.4903	0.0583	-1.0909	0.0431
2	225	0.7996	0.3647	0.0017	-0.6066	0.0284	-0.7535	0.0645	-1.1646	0.0411
2	225	0.8578	0.3669	0.0019	-0.6966	0.0320	-1.1126	0.0724	-0.9401	0.0427
2	225	0.9100	0.3977	0.0020	-0.7366	0.0354	-1.4868	0.0796	-0.8395	0.0420
2	225	0.9727	0.3805	0.0031	-0.7653	0.0394	-1.8835	0.0896	-0.7079	0.0416
3	225	0.1938	-0.0635	0.0009	-0.0246	0.0006	0.0301	0.0024	-0.1113	0.0254
3	225	0.2357	-0.0249	0.0010	0.0065	0.0022	0.0142	0.0051	-0.0939	0.0283
3	225	0.2995	0.0099	0.0015	-0.0583	0.0048	0.0672	0.0101	-0.2196	0.0528
3	225	0.3493	0.0404	0.0021	-0.0971	0.0064	0.1040	0.0148	-0.1794	0.0484
3	225	0.4000	0.0817	0.0017	-0.1328	0.0119	0.1394	0.0242	-0.1339	0.0309
3	225	0.4497	0.1162	0.0025	-0.1863	0.0132	0.1576	0.0322	-0.3203	0.0437
3	225	0.4997	0.1442	0.0021	-0.2430	0.0160	0.1701	0.0338	-0.4080	0.0485
3	225	0.5556	0.1886	0.0016	-0.2975	0.0190	0.1709	0.0393	-0.3731	0.0426
3	225	0.5995	0.2289	0.0022	-0.3563	0.0219	0.1294	0.0466	-0.4207	0.0429
3	225	0.6498	0.2737	0.0017	-0.4258	0.0251	0.0467	0.0545	-0.5185	0.0357
3	225	0.6890	0.2652	0.0021	-0.4875	0.0282	-0.0562	0.0605	-0.5436	0.0406
3	225	0.7495	0.3242	0.0017	-0.5648	0.0322	-0.2965	0.0689	-0.6613	0.0384
3	225	0.7998	0.3672	0.0016	-0.6348	0.0356	-0.5417	0.0758	-0.6579	0.0383
3	225	0.8577	0.3820	0.0018	-0.6885	0.0402	-0.9267	0.0850	-0.6674	0.0380
3	225	0.9178	0.4052	0.0018	-0.8087	0.0449	-1.3651	0.0947	-0.7634	0.0379
3	225	0.9729	0.4285	0.0030	-0.8479	0.0490	-1.8546	0.1030	-1.0182	0.0426
4	225	0.2001	-0.0415	0.0010	0.0129	0.0008	-0.0296	0.0026	0.0600	0.0237
4	225	0.2502	-0.0089	0.0009	0.0139	0.0032	-0.0220	0.0080	0.3280	0.0291
4	225	0.3001	0.0291	0.0015	0.0463	0.0052	-0.0694	0.0119	0.2252	0.0456
4	225	0.3502	0.0486	0.0018	0.0781	0.0076	-0.1170	0.0178	0.1639	0.0452
4	225	0.4002	0.0730	0.0017	0.1166	0.0137	-0.1528	0.0300	0.1183	0.0404
4	225	0.4500	0.1147	0.0013	0.1463	0.0152	-0.2232	0.0324	-0.0950	0.0331
4	225	0.5001	0.1470	0.0018	0.1617	0.0180	-0.2820	0.0381	0.0117	0.0573
4	225	0.5560	0.1906	0.0015	0.1906	0.0222	-0.4536	0.0438	-0.1893	0.0563
4	225	0.6001	0.2280	0.0017	0.2078	0.0246	-0.5733	0.0516	-0.2030	0.0454
4	225	0.6501	0.2549	0.0015	0.2110	0.0284	-0.7805	0.0583	-0.2297	0.0540
4	225	0.6999	0.2959	0.0017	0.2074	0.0334	-1.0350	0.0694	-0.1239	0.0432
4	225	0.7500	0.3219	0.0013	0.2170	0.0358	-1.3446	0.0733	-0.0590	0.0481
4	225	0.8002	0.3402	0.0015	0.2138	0.0396	-1.7416	0.0828	-0.1220	0.0329
4	225	0.8582	0.3735	0.0017	0.2389	0.0445	-2.2838	0.0925	-0.3329	0.0297
4	225	0.9101	0.3982	0.0015	0.2394	0.0484	-2.8062	0.1000	-0.3832	0.0342
4	225	0.9728	0.4415	0.0024	0.2924	0.0536	-3.3690	0.1092	-0.0437	0.0326

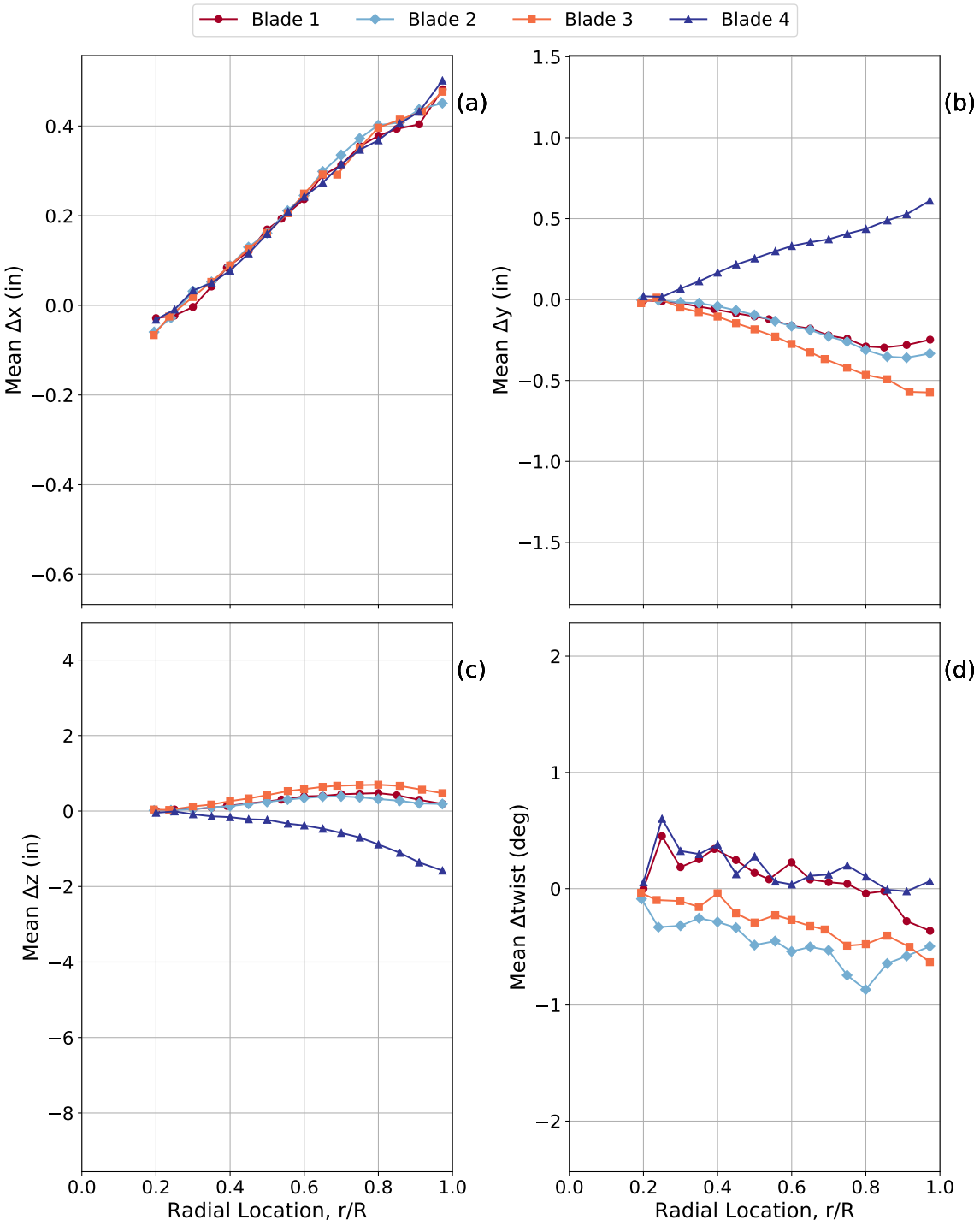


Figure 2.7-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0285	0.0013	-0.0056	0.0008	0.0103	0.0027	-0.0002	0.0188
1	240.12	0.2499	-0.0229	0.0009	-0.0112	0.0017	0.0426	0.0047	0.4526	0.0399
1	240.12	0.2998	-0.0037	0.0012	-0.0223	0.0039	0.0516	0.0093	0.1854	0.0454
1	240.12	0.3498	0.0420	0.0009	-0.0438	0.0055	0.0871	0.0144	0.2543	0.0458
1	240.12	0.3913	0.0841	0.0016	-0.0596	0.0089	0.1359	0.0210	0.3418	0.0548
1	240.12	0.4496	0.1206	0.0013	-0.0851	0.0109	0.2015	0.0257	0.2465	0.0419
1	240.12	0.4997	0.1692	0.0019	-0.1040	0.0132	0.2552	0.0328	0.1365	0.0471
1	240.12	0.5387	0.1933	0.0013	-0.1212	0.0148	0.3047	0.0339	0.0806	0.0494
1	240.12	0.5996	0.2368	0.0017	-0.1615	0.0182	0.3904	0.0416	0.2269	0.0412
1	240.12	0.6498	0.2903	0.0016	-0.1798	0.0205	0.4031	0.0478	0.0799	0.0507
1	240.12	0.6998	0.3130	0.0017	-0.2220	0.0229	0.4457	0.0532	0.0559	0.0486
1	240.12	0.7500	0.3553	0.0015	-0.2423	0.0259	0.4629	0.0586	0.0418	0.0510
1	240.12	0.8001	0.3782	0.0016	-0.2900	0.0289	0.4766	0.0644	-0.0406	0.0466
1	240.12	0.8497	0.3935	0.0017	-0.2965	0.0317	0.4215	0.0703	-0.0213	0.0419
1	240.12	0.9102	0.4038	0.0018	-0.2810	0.0357	0.2997	0.0771	-0.2789	0.0425
1	240.12	0.9734	0.4819	0.0027	-0.2479	0.0398	0.1892	0.0848	-0.3624	0.0467
2	240.12	0.1949	-0.0594	0.0011	-0.0032	0.0006	0.0178	0.0021	-0.0883	0.0160
2	240.12	0.2405	-0.0279	0.0009	-0.0043	0.0017	0.0209	0.0053	-0.3308	0.0301
2	240.12	0.2999	0.0316	0.0010	-0.0179	0.0035	0.0500	0.0103	-0.3185	0.0388
2	240.12	0.3498	0.0522	0.0010	-0.0226	0.0046	0.0973	0.0136	-0.2539	0.0425
2	240.12	0.3998	0.0885	0.0010	-0.0410	0.0085	0.1313	0.0239	-0.2860	0.0508
2	240.12	0.4496	0.1299	0.0023	-0.0666	0.0088	0.1910	0.0265	-0.3353	0.0372
2	240.12	0.4995	0.1613	0.0012	-0.0952	0.0124	0.2423	0.0333	-0.4848	0.0356
2	240.12	0.5551	0.2111	0.0013	-0.1338	0.0138	0.3047	0.0400	-0.4504	0.0380
2	240.12	0.5996	0.2451	0.0014	-0.1646	0.0160	0.3475	0.0436	-0.5397	0.0412
2	240.12	0.6497	0.2988	0.0014	-0.1882	0.0185	0.3818	0.0507	-0.5008	0.0484
2	240.12	0.6996	0.3354	0.0013	-0.2278	0.0207	0.3893	0.0543	-0.5294	0.0364
2	240.12	0.7495	0.3723	0.0019	-0.2601	0.0235	0.3667	0.0593	-0.7448	0.0390
2	240.12	0.7996	0.4019	0.0015	-0.3121	0.0260	0.3206	0.0648	-0.8681	0.0370
2	240.12	0.8578	0.4081	0.0017	-0.3534	0.0291	0.2729	0.0707	-0.6438	0.0370
2	240.12	0.9100	0.4371	0.0017	-0.3597	0.0319	0.2045	0.0762	-0.5791	0.0377
2	240.12	0.9727	0.4510	0.0026	-0.3338	0.0355	0.1882	0.0831	-0.4954	0.0371
3	240.12	0.1938	-0.0663	0.0010	-0.0224	0.0005	0.0405	0.0022	-0.0366	0.0276
3	240.12	0.2357	-0.0249	0.0010	0.0114	0.0015	0.0287	0.0045	-0.0976	0.0416
3	240.12	0.2995	0.0186	0.0008	-0.0496	0.0034	0.1213	0.0089	-0.1064	0.0655
3	240.12	0.3493	0.0523	0.0016	-0.0777	0.0044	0.1733	0.0132	-0.1570	0.0590
3	240.12	0.4000	0.0888	0.0023	-0.1052	0.0082	0.2641	0.0211	-0.0401	0.0430
3	240.12	0.4497	0.1263	0.0020	-0.1461	0.0088	0.3356	0.0242	-0.2117	0.0406
3	240.12	0.4997	0.1613	0.0012	-0.1841	0.0104	0.4221	0.0298	-0.2909	0.0533
3	240.12	0.5556	0.2054	0.0014	-0.2292	0.0125	0.5296	0.0350	-0.2274	0.0582
3	240.12	0.5995	0.2493	0.0015	-0.2742	0.0152	0.5811	0.0407	-0.2690	0.0500
3	240.12	0.6498	0.2920	0.0015	-0.3260	0.0183	0.6420	0.0457	-0.3220	0.0569
3	240.12	0.6890	0.2917	0.0014	-0.3678	0.0202	0.6712	0.0493	-0.3510	0.0542
3	240.12	0.7495	0.3514	0.0016	-0.4211	0.0229	0.6874	0.0565	-0.4902	0.0500
3	240.12	0.7998	0.3962	0.0016	-0.4656	0.0262	0.6983	0.0623	-0.4770	0.0536
3	240.12	0.8577	0.4143	0.0016	-0.4927	0.0295	0.6681	0.0687	-0.4039	0.0550
3	240.12	0.9178	0.4320	0.0017	-0.5704	0.0331	0.5663	0.0758	-0.5007	0.0515
3	240.12	0.9729	0.4766	0.0027	-0.5743	0.0366	0.4746	0.0821	-0.6320	0.0532
4	240.12	0.2001	-0.0319	0.0009	0.0197	0.0006	-0.0454	0.0025	0.0552	0.0269
4	240.12	0.2502	-0.0092	0.0006	0.0163	0.0019	-0.0098	0.0065	0.6011	0.0349
4	240.12	0.3001	0.0334	0.0007	0.0673	0.0037	-0.0856	0.0113	0.3245	0.0565
4	240.12	0.3502	0.0500	0.0020	0.1128	0.0051	-0.1400	0.0157	0.2980	0.0422
4	240.12	0.4002	0.0775	0.0011	0.1661	0.0093	-0.1618	0.0270	0.3795	0.0563
4	240.12	0.4500	0.1160	0.0015	0.2163	0.0089	-0.2176	0.0279	0.1248	0.0481
4	240.12	0.5001	0.1596	0.0015	0.2540	0.0134	-0.2312	0.0401	0.2774	0.0514
4	240.12	0.5560	0.2089	0.0020	0.2984	0.0153	-0.3342	0.0472	0.0616	0.0571
4	240.12	0.6001	0.2425	0.0014	0.3309	0.0173	-0.3814	0.0533	0.0361	0.0447
4	240.12	0.6501	0.2736	0.0013	0.3542	0.0187	-0.4679	0.0574	0.1113	0.0533
4	240.12	0.6999	0.3149	0.0011	0.3721	0.0211	-0.5795	0.0650	0.1222	0.0495
4	240.12	0.7500	0.3472	0.0012	0.4062	0.0240	-0.7010	0.0716	0.1998	0.0535
4	240.12	0.8002	0.3682	0.0013	0.4363	0.0262	-0.8844	0.0780	0.1044	0.0509
4	240.12	0.8582	0.4056	0.0013	0.4885	0.0291	-1.1065	0.0856	-0.0092	0.0467
4	240.12	0.9101	0.4319	0.0013	0.5271	0.0317	-1.3599	0.0907	-0.0224	0.0458
4	240.12	0.9728	0.5015	0.0020	0.6105	0.0349	-1.5761	0.0977	0.0647	0.0502

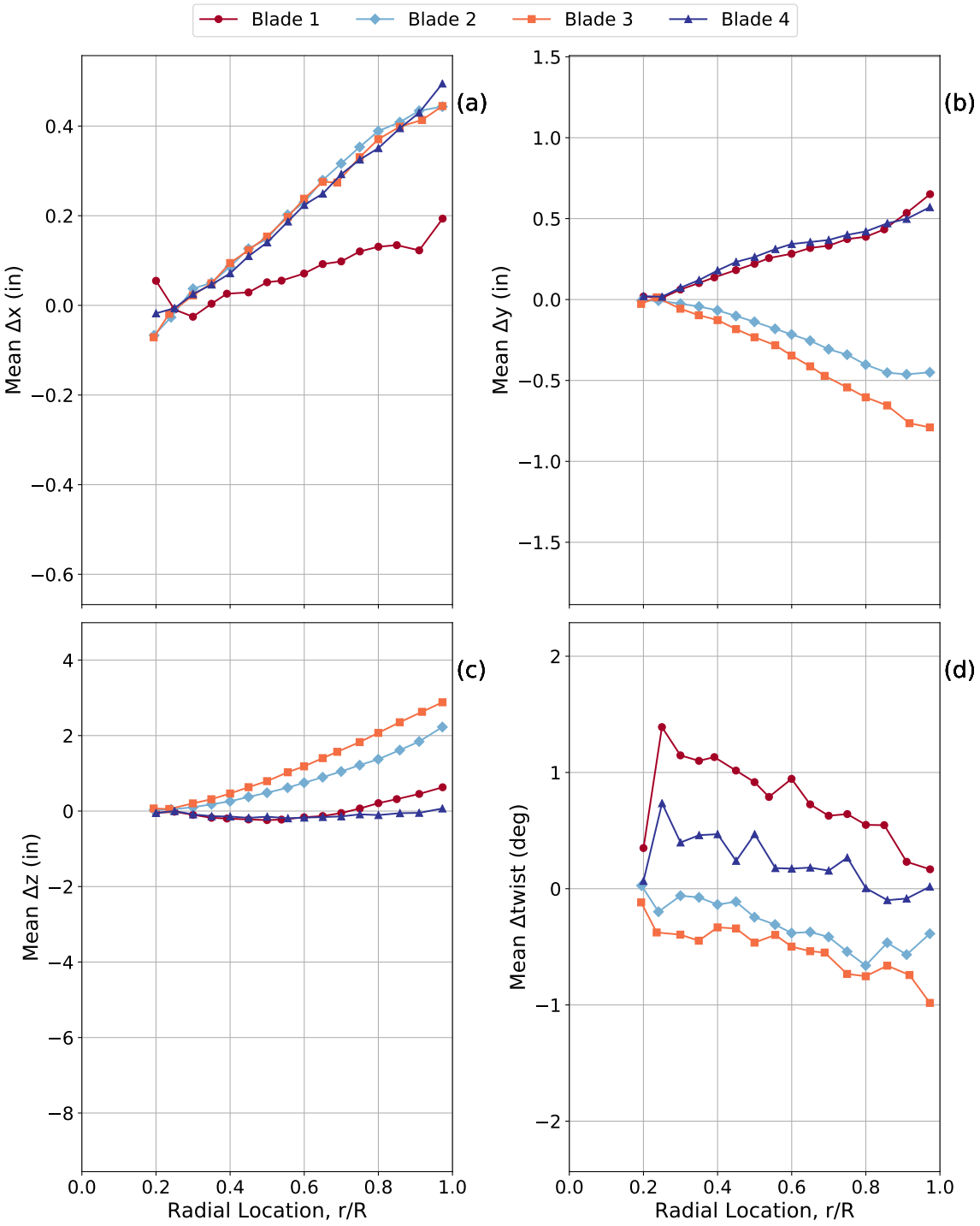


Figure 2.7-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	0.0548	0.0072	0.0184	0.0040	-0.0459	0.0136	0.3498	0.0837
1	254.88	0.2499	-0.0093	0.0021	0.0096	0.0039	-0.0168	0.0146	1.3904	0.2308
1	254.88	0.2998	-0.0254	0.0021	0.0619	0.0146	-0.0989	0.0423	1.1470	0.2331
1	254.88	0.3498	0.0036	0.0018	0.1019	0.0254	-0.1782	0.0708	1.1001	0.2344
1	254.88	0.3913	0.0260	0.0019	0.1367	0.0345	-0.1978	0.0944	1.1322	0.2327
1	254.88	0.4496	0.0289	0.0017	0.1819	0.0468	-0.2221	0.1275	1.0163	0.2347
1	254.88	0.4997	0.0515	0.0021	0.2207	0.0579	-0.2389	0.1564	0.9167	0.2321
1	254.88	0.5387	0.0552	0.0015	0.2561	0.0665	-0.2255	0.1799	0.7894	0.2298
1	254.88	0.5996	0.0710	0.0013	0.2829	0.0796	-0.1637	0.2155	0.9449	0.2281
1	254.88	0.6498	0.0921	0.0014	0.3185	0.0907	-0.1309	0.2446	0.7256	0.2336
1	254.88	0.6998	0.0980	0.0018	0.3329	0.1015	-0.0524	0.2739	0.6276	0.2331
1	254.88	0.7500	0.1203	0.0019	0.3736	0.1123	0.0685	0.3027	0.6420	0.2315
1	254.88	0.8001	0.1308	0.0022	0.3877	0.1232	0.2102	0.3318	0.5490	0.2314
1	254.88	0.8497	0.1343	0.0023	0.4335	0.1341	0.3166	0.3606	0.5468	0.2317
1	254.88	0.9102	0.1227	0.0030	0.5351	0.1473	0.4541	0.3958	0.2313	0.2313
1	254.88	0.9734	0.1935	0.0072	0.6510	0.1611	0.6309	0.4332	0.1670	0.2343
2	254.88	0.1949	-0.0668	0.0016	-0.0062	0.0009	0.0308	0.0041	0.0265	0.0243
2	254.88	0.2405	-0.0266	0.0011	-0.0070	0.0014	0.0434	0.0051	-0.1982	0.0578
2	254.88	0.2999	0.0371	0.0009	-0.0260	0.0026	0.1008	0.0114	-0.0605	0.0625
2	254.88	0.3498	0.0506	0.0009	-0.0431	0.0046	0.1794	0.0190	-0.0749	0.0568
2	254.88	0.3998	0.0861	0.0012	-0.0669	0.0067	0.2581	0.0269	-0.1365	0.0562
2	254.88	0.4496	0.1263	0.0011	-0.1016	0.0083	0.3750	0.0338	-0.1119	0.0619
2	254.88	0.4995	0.1480	0.0012	-0.1377	0.0105	0.4855	0.0418	-0.2450	0.0582
2	254.88	0.5551	0.2020	0.0010	-0.1810	0.0129	0.6189	0.0521	-0.3086	0.0564
2	254.88	0.5996	0.2297	0.0014	-0.2157	0.0152	0.7499	0.0607	-0.3815	0.0586
2	254.88	0.6497	0.2791	0.0013	-0.2545	0.0174	0.8969	0.0694	-0.3727	0.0565
2	254.88	0.6996	0.3164	0.0016	-0.3068	0.0202	1.0486	0.0790	-0.4150	0.0582
2	254.88	0.7495	0.3532	0.0017	-0.3407	0.0228	1.2164	0.0877	-0.5413	0.0608
2	254.88	0.7996	0.3887	0.0019	-0.4024	0.0255	1.3727	0.0976	-0.6609	0.0551
2	254.88	0.8578	0.4087	0.0022	-0.4520	0.0289	1.6154	0.1081	-0.4648	0.0566
2	254.88	0.9100	0.4340	0.0021	-0.4623	0.0321	1.8428	0.1175	-0.5674	0.0610
2	254.88	0.9727	0.4433	0.0035	-0.4497	0.0360	2.2270	0.1300	-0.3871	0.0603
3	254.88	0.1938	-0.0713	0.0026	-0.0267	0.0010	0.0685	0.0039	-0.1179	0.0285
3	254.88	0.2357	-0.0188	0.0012	0.0133	0.0010	0.0551	0.0042	-0.3765	0.0603
3	254.88	0.2995	0.0221	0.0011	-0.0568	0.0029	0.2038	0.0099	-0.3953	0.0731
3	254.88	0.3493	0.0492	0.0007	-0.0970	0.0048	0.3139	0.0163	-0.4474	0.0676
3	254.88	0.4000	0.0944	0.0012	-0.1270	0.0071	0.4655	0.0230	-0.3329	0.0624
3	254.88	0.4497	0.1232	0.0018	-0.1828	0.0096	0.6332	0.0291	-0.3421	0.0643
3	254.88	0.4997	0.1535	0.0013	-0.2331	0.0116	0.7928	0.0362	-0.4639	0.0795
3	254.88	0.5556	0.1971	0.0012	-0.2824	0.0141	1.0287	0.0439	-0.3975	0.0693
3	254.88	0.5995	0.2379	0.0017	-0.3462	0.0162	1.1849	0.0512	-0.4983	0.0654
3	254.88	0.6498	0.2756	0.0015	-0.4127	0.0189	1.4027	0.0585	-0.5376	0.0804
3	254.88	0.6890	0.2740	0.0015	-0.4719	0.0213	1.5698	0.0643	-0.5494	0.0714
3	254.88	0.7495	0.3305	0.0018	-0.5431	0.0250	1.8271	0.0740	-0.7334	0.0662
3	254.88	0.7998	0.3705	0.0019	-0.6042	0.0284	2.0722	0.0819	-0.7532	0.0672
3	254.88	0.8577	0.3986	0.0020	-0.6547	0.0326	2.3531	0.0905	-0.6621	0.0682
3	254.88	0.9178	0.4135	0.0023	-0.7642	0.0369	2.6296	0.1005	-0.7426	0.0666
3	254.88	0.9729	0.4446	0.0033	-0.7899	0.0410	2.8822	0.1097	-0.9826	0.0697
4	254.88	0.2001	-0.0178	0.0019	0.0208	0.0009	-0.0510	0.0034	0.0668	0.0243
4	254.88	0.2502	-0.0063	0.0011	0.0170	0.0013	-0.0009	0.0051	0.7354	0.0579
4	254.88	0.3001	0.0254	0.0010	0.0735	0.0028	-0.0872	0.0107	0.3975	0.0599
4	254.88	0.3502	0.0464	0.0011	0.1203	0.0048	-0.1354	0.0175	0.4606	0.0569
4	254.88	0.4002	0.0716	0.0009	0.1799	0.0070	-0.1456	0.0260	0.4687	0.0568
4	254.88	0.4500	0.1099	0.0010	0.2323	0.0092	-0.1798	0.0331	0.2395	0.0567
4	254.88	0.5001	0.1405	0.0014	0.2628	0.0112	-0.1489	0.0427	0.4690	0.0570
4	254.88	0.5560	0.1870	0.0012	0.3116	0.0139	-0.1911	0.0529	0.1773	0.0678
4	254.88	0.6001	0.2240	0.0015	0.3430	0.0166	-0.1733	0.0639	0.1727	0.0612
4	254.88	0.6501	0.2492	0.0014	0.3554	0.0192	-0.1583	0.0753	0.1815	0.0673
4	254.88	0.6999	0.2927	0.0013	0.3680	0.0223	-0.1416	0.0870	0.1552	0.0623
4	254.88	0.7500	0.3252	0.0014	0.3996	0.0258	-0.0870	0.0987	0.2669	0.0583
4	254.88	0.8002	0.3508	0.0015	0.4208	0.0295	-0.1056	0.1082	0.0047	0.0620
4	254.88	0.8582	0.3952	0.0015	0.4713	0.0339	-0.0558	0.1193	-0.0986	0.0618
4	254.88	0.9101	0.4298	0.0018	0.4981	0.0380	-0.0470	0.1291	-0.0850	0.0587
4	254.88	0.9728	0.4948	0.0029	0.5706	0.0429	0.0682	0.1391	0.0174	0.0614

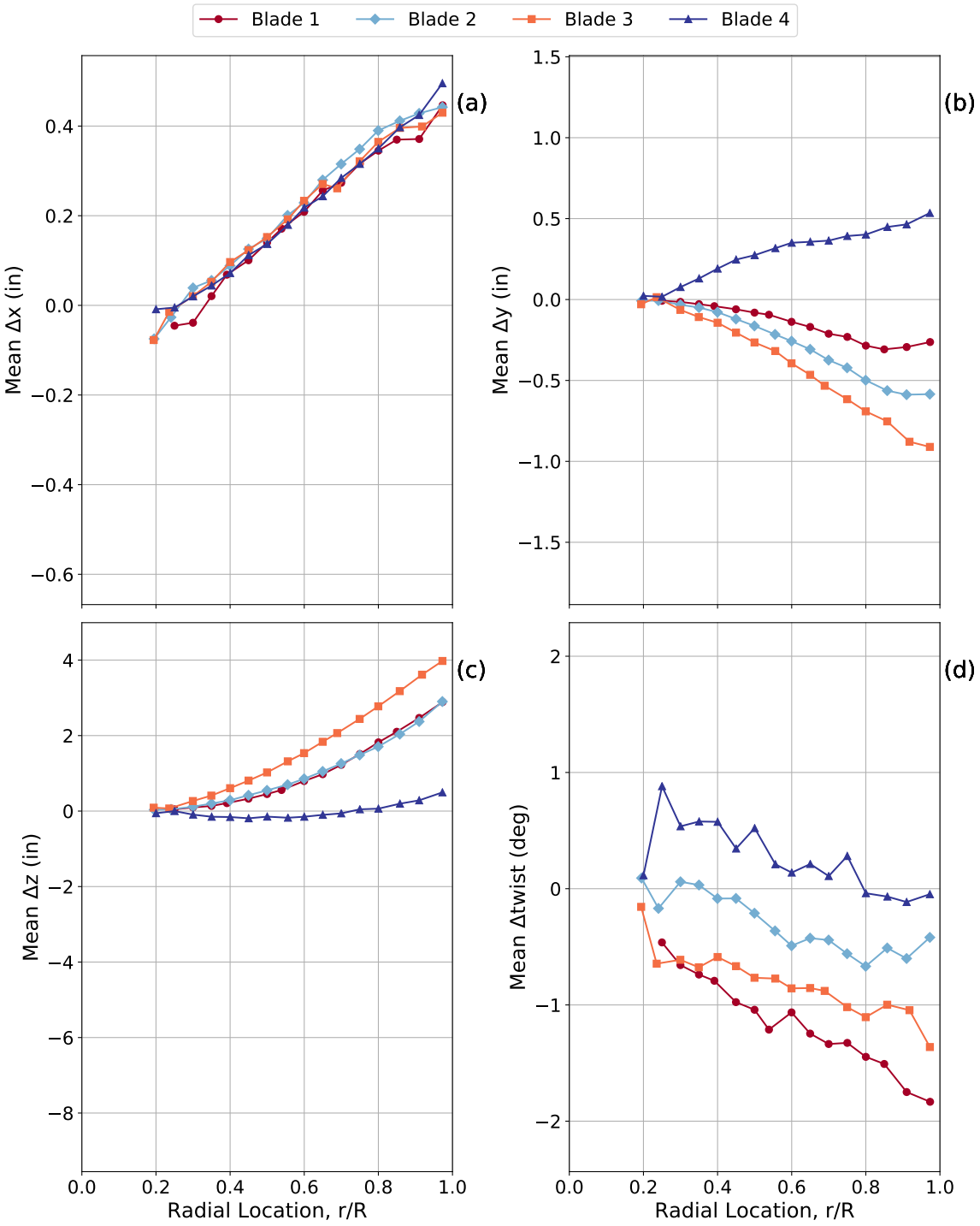


Figure 2.7-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2499	-0.0454	0.0030	-0.0078	0.0029	0.0461	0.0156	-0.4621	0.1151
1	260.16	0.2998	-0.0388	0.0015	-0.0145	0.0059	0.0960	0.0263	-0.6573	0.1635
1	260.16	0.3498	0.0206	0.0016	-0.0286	0.0107	0.1360	0.0442	-0.7386	0.1621
1	260.16	0.3913	0.0684	0.0016	-0.0410	0.0158	0.2106	0.0616	-0.7922	0.1549
1	260.16	0.4496	0.1006	0.0021	-0.0603	0.0211	0.3280	0.0828	-0.9759	0.1562
1	260.16	0.4997	0.1403	0.0024	-0.0809	0.0264	0.4511	0.1011	-1.0415	0.1528
1	260.16	0.5387	0.1710	0.0024	-0.0939	0.0299	0.5582	0.1153	-1.2124	0.1527
1	260.16	0.5996	0.2087	0.0030	-0.1377	0.0358	0.7955	0.1370	-1.0642	0.1545
1	260.16	0.6498	0.2561	0.0033	-0.1694	0.0408	0.9762	0.1552	-1.2465	0.1495
1	260.16	0.6998	0.2735	0.0039	-0.2115	0.0456	1.2244	0.1731	-1.3361	0.1508
1	260.16	0.7500	0.3162	0.0043	-0.2310	0.0507	1.5121	0.1911	-1.3265	0.1518
1	260.16	0.8001	0.3451	0.0047	-0.2850	0.0558	1.8211	0.2091	-1.4466	0.1508
1	260.16	0.8497	0.3697	0.0050	-0.3080	0.0610	2.1011	0.2264	-1.5077	0.1519
1	260.16	0.9102	0.3711	0.0057	-0.2935	0.0672	2.4687	0.2476	-1.7494	0.1499
1	260.16	0.9734	0.4464	0.0081	-0.2627	0.0737	2.8889	0.2699	-1.8333	0.1501
2	260.16	0.1949	-0.0747	0.0026	-0.0080	0.0012	0.0358	0.0046	0.0915	0.0355
2	260.16	0.2405	-0.0266	0.0020	-0.0064	0.0018	0.0451	0.0057	-0.1694	0.0691
2	260.16	0.2999	0.0390	0.0015	-0.0323	0.0035	0.1155	0.0116	0.0595	0.0853
2	260.16	0.3498	0.0556	0.0013	-0.0494	0.0061	0.1995	0.0200	0.0317	0.0786
2	260.16	0.3998	0.0885	0.0013	-0.0782	0.0089	0.2883	0.0272	-0.0847	0.0781
2	260.16	0.4496	0.1256	0.0015	-0.1203	0.0112	0.4187	0.0338	-0.0836	0.0851
2	260.16	0.4995	0.1490	0.0014	-0.1630	0.0140	0.5485	0.0417	-0.2110	0.0743
2	260.16	0.5551	0.2007	0.0018	-0.2155	0.0173	0.6998	0.0505	-0.3632	0.0782
2	260.16	0.5996	0.2289	0.0019	-0.2571	0.0197	0.8556	0.0581	-0.4907	0.0775
2	260.16	0.6497	0.2797	0.0020	-0.3075	0.0228	1.0505	0.0668	-0.4257	0.0798
2	260.16	0.6996	0.3153	0.0021	-0.3742	0.0260	1.2591	0.0763	-0.4417	0.0775
2	260.16	0.7495	0.3485	0.0023	-0.4219	0.0292	1.4854	0.0857	-0.5593	0.0792
2	260.16	0.7996	0.3899	0.0024	-0.4986	0.0325	1.7074	0.0955	-0.6677	0.0795
2	260.16	0.8578	0.4116	0.0025	-0.5630	0.0361	2.0386	0.1068	-0.5101	0.0828
2	260.16	0.9100	0.4283	0.0028	-0.5879	0.0395	2.3722	0.1173	-0.6005	0.0814
2	260.16	0.9727	0.4422	0.0041	-0.5847	0.0436	2.9020	0.1307	-0.4191	0.0801
3	260.16	0.1938	-0.0774	0.0062	-0.0293	0.0020	0.0906	0.0107	-0.1563	0.0363
3	260.16	0.2357	-0.0143	0.0023	0.0145	0.0016	0.0689	0.0067	-0.6451	0.1361
3	260.16	0.2995	0.0202	0.0016	-0.0640	0.0065	0.2663	0.0269	-0.6116	0.1286
3	260.16	0.3493	0.0524	0.0016	-0.1082	0.0109	0.4103	0.0423	-0.6762	0.1294
3	260.16	0.4000	0.0966	0.0017	-0.1434	0.0164	0.6065	0.0593	-0.5878	0.1247
3	260.16	0.4497	0.1233	0.0017	-0.2044	0.0208	0.8080	0.0748	-0.6666	0.1289
3	260.16	0.4997	0.1524	0.0020	-0.2653	0.0255	1.0235	0.0912	-0.7663	0.1276
3	260.16	0.5556	0.1920	0.0023	-0.3183	0.0306	1.3173	0.1103	-0.7732	0.1239
3	260.16	0.5995	0.2332	0.0025	-0.3941	0.0347	1.5351	0.1253	-0.8574	0.1300
3	260.16	0.6498	0.2708	0.0030	-0.4652	0.0395	1.8356	0.1430	-0.8546	0.1273
3	260.16	0.6890	0.2611	0.0032	-0.5328	0.0433	2.0663	0.1572	-0.8793	0.1276
3	260.16	0.7495	0.3215	0.0038	-0.6158	0.0492	2.4407	0.1790	-1.0188	0.1263
3	260.16	0.7998	0.3646	0.0042	-0.6910	0.0542	2.7756	0.1969	-1.1052	0.1272
3	260.16	0.8577	0.3958	0.0047	-0.7529	0.0600	3.1779	0.2177	-0.9980	0.1285
3	260.16	0.9178	0.3989	0.0056	-0.8786	0.0660	3.6136	0.2394	-1.0452	0.1266
3	260.16	0.9729	0.4298	0.0081	-0.9108	0.0713	3.9770	0.2593	-1.3622	0.1275
4	260.16	0.2001	-0.0087	0.0033	0.0226	0.0014	-0.0567	0.0059	0.1152	0.0506
4	260.16	0.2502	-0.0049	0.0022	0.0171	0.0021	-0.0002	0.0068	0.8818	0.1116
4	260.16	0.3001	0.0200	0.0013	0.0771	0.0044	-0.0941	0.0161	0.5367	0.1224
4	260.16	0.3502	0.0442	0.0015	0.1302	0.0074	-0.1505	0.0261	0.5781	0.1167
4	260.16	0.4002	0.0720	0.0015	0.1910	0.0110	-0.1580	0.0370	0.5752	0.1165
4	260.16	0.4500	0.1121	0.0014	0.2466	0.0139	-0.1912	0.0473	0.3452	0.1169
4	260.16	0.5001	0.1369	0.0014	0.2741	0.0166	-0.1475	0.0575	0.5210	0.1188
4	260.16	0.5560	0.1795	0.0016	0.3174	0.0207	-0.1766	0.0712	0.2099	0.1164
4	260.16	0.6001	0.2180	0.0014	0.3508	0.0236	-0.1503	0.0806	0.1384	0.1165
4	260.16	0.6501	0.2434	0.0014	0.3568	0.0272	-0.1002	0.0919	0.2124	0.1183
4	260.16	0.6999	0.2843	0.0017	0.3640	0.0306	-0.0608	0.1039	0.1085	0.1162
4	260.16	0.7500	0.3155	0.0018	0.3925	0.0342	0.0465	0.1165	0.2811	0.1162
4	260.16	0.8002	0.3500	0.0018	0.4014	0.0382	0.0642	0.1293	-0.0391	0.1164
4	260.16	0.8582	0.3972	0.0020	0.4483	0.0428	0.1957	0.1455	-0.0681	0.1185
4	260.16	0.9101	0.4246	0.0022	0.4643	0.0468	0.2843	0.1601	-0.1147	0.1183
4	260.16	0.9728	0.4954	0.0035	0.5347	0.0518	0.4951	0.1786	-0.0474	0.1194

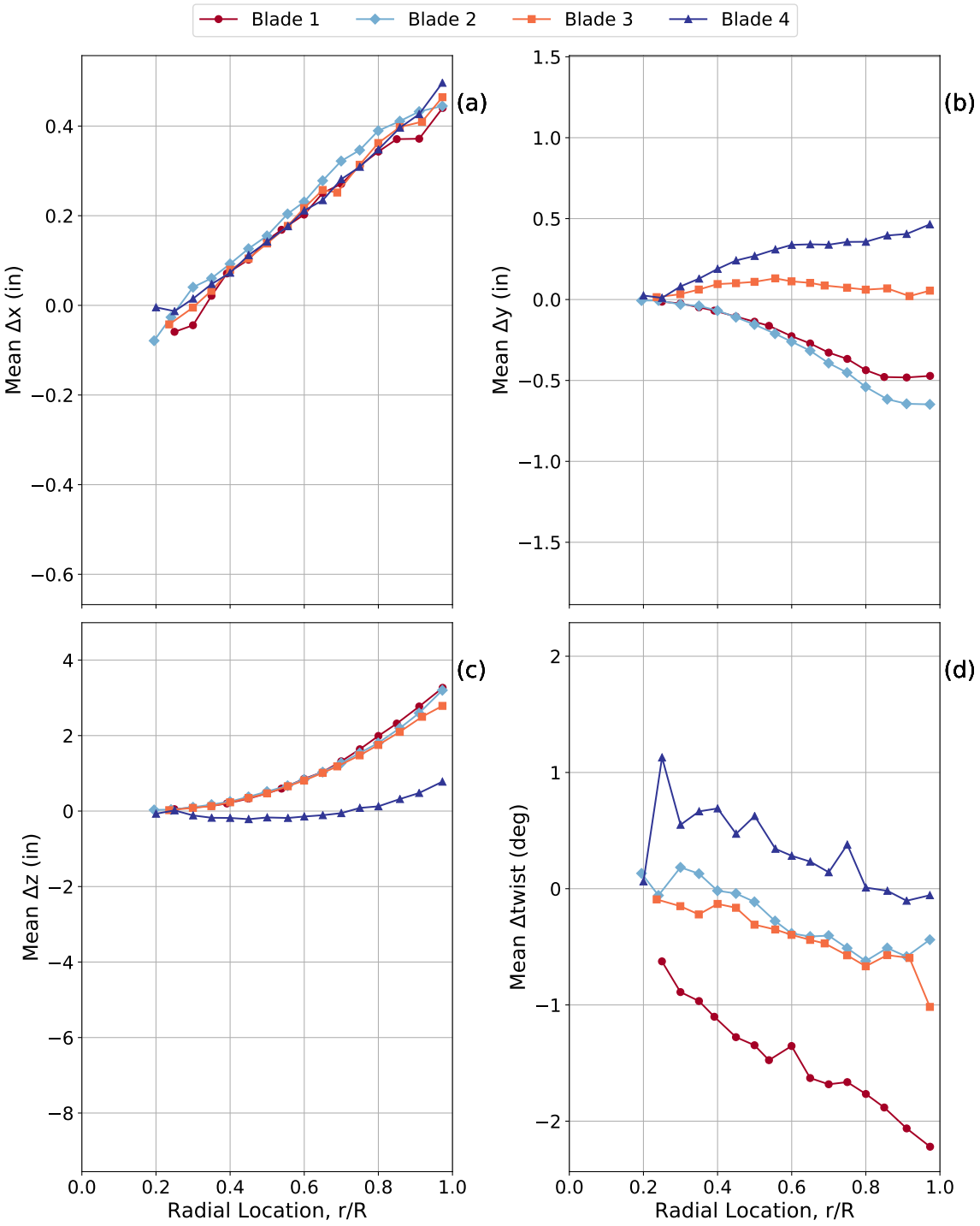


Figure 2.7-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2499	-0.0591	0.0059	-0.0134	0.0046	0.0498	0.0303	-0.6252	0.2215
1	265.08	0.2998	-0.0444	0.0020	-0.0241	0.0085	0.0946	0.0485	-0.8893	0.3144
1	265.08	0.3498	0.0213	0.0022	-0.0483	0.0168	0.1349	0.0854	-0.9665	0.3021
1	265.08	0.3913	0.0712	0.0027	-0.0685	0.0240	0.2015	0.1162	-1.1016	0.2986
1	265.08	0.4496	0.1018	0.0029	-0.1056	0.0329	0.3298	0.1569	-1.2772	0.2953
1	265.08	0.4997	0.1452	0.0033	-0.1369	0.0405	0.4677	0.1922	-1.3468	0.2960
1	265.08	0.5387	0.1686	0.0037	-0.1625	0.0465	0.5948	0.2194	-1.4751	0.3004
1	265.08	0.5996	0.2024	0.0048	-0.2265	0.0558	0.8543	0.2636	-1.3533	0.3031
1	265.08	0.6498	0.2506	0.0056	-0.2713	0.0637	1.0355	0.3008	-1.6290	0.2964
1	265.08	0.6998	0.2708	0.0064	-0.3280	0.0713	1.3187	0.3366	-1.6826	0.2977
1	265.08	0.7500	0.3114	0.0073	-0.3669	0.0789	1.6381	0.3726	-1.6639	0.2998
1	265.08	0.8001	0.3430	0.0084	-0.4366	0.0865	1.9903	0.4086	-1.7660	0.3005
1	265.08	0.8497	0.3708	0.0094	-0.4787	0.0942	2.3194	0.4443	-1.8823	0.2982
1	265.08	0.9102	0.3717	0.0108	-0.4816	0.1035	2.7711	0.4879	-2.0624	0.2996
1	265.08	0.9734	0.4403	0.0157	-0.4719	0.1134	3.2657	0.5343	-2.2197	0.3017
2	265.08	0.1949	-0.0789	0.0058	-0.0063	0.0018	0.0301	0.0086	0.1319	0.0555
2	265.08	0.2405	-0.0265	0.0035	-0.0058	0.0023	0.0397	0.0101	-0.0579	0.1164
2	265.08	0.2999	0.0405	0.0023	-0.0301	0.0052	0.1011	0.0215	0.1835	0.1316
2	265.08	0.3498	0.0604	0.0023	-0.0391	0.0085	0.1715	0.0363	0.1293	0.1237
2	265.08	0.3998	0.0925	0.0024	-0.0683	0.0126	0.2519	0.0498	-0.0173	0.1194
2	265.08	0.4496	0.1264	0.0023	-0.1093	0.0158	0.3775	0.0639	-0.0411	0.1190
2	265.08	0.4995	0.1551	0.0026	-0.1544	0.0193	0.5172	0.0767	-0.1131	0.1202
2	265.08	0.5551	0.2040	0.0024	-0.2113	0.0233	0.6715	0.0922	-0.2782	0.1186
2	265.08	0.5996	0.2309	0.0023	-0.2603	0.0263	0.8362	0.1047	-0.3849	0.1210
2	265.08	0.6497	0.2781	0.0025	-0.3161	0.0299	1.0321	0.1184	-0.4112	0.1238
2	265.08	0.6996	0.3219	0.0028	-0.3929	0.0335	1.2726	0.1326	-0.4035	0.1222
2	265.08	0.7495	0.3463	0.0029	-0.4515	0.0369	1.5386	0.1472	-0.5114	0.1214
2	265.08	0.7996	0.3895	0.0031	-0.5401	0.0405	1.8047	0.1626	-0.6223	0.1193
2	265.08	0.8578	0.4109	0.0035	-0.6159	0.0449	2.1961	0.1794	-0.5101	0.1244
2	265.08	0.9100	0.4323	0.0038	-0.6442	0.0486	2.5962	0.1956	-0.5840	0.1237
2	265.08	0.9727	0.4447	0.0053	-0.6478	0.0532	3.2011	0.2148	-0.4388	0.1242
3	265.08	0.2357	-0.0425	0.0030	0.0146	0.0015	0.0239	0.0083	-0.0922	0.0821
3	265.08	0.2995	-0.0049	0.0017	0.0330	0.0038	0.0832	0.0160	-0.1503	0.1318
3	265.08	0.3493	0.0324	0.0015	0.0617	0.0067	0.1313	0.0284	-0.2214	0.1223
3	265.08	0.4000	0.0795	0.0016	0.0955	0.0107	0.2324	0.0415	-0.1310	0.1198
3	265.08	0.4497	0.1044	0.0018	0.1010	0.0140	0.3471	0.0528	-0.1640	0.1225
3	265.08	0.4997	0.1381	0.0018	0.1093	0.0168	0.4694	0.0635	-0.3097	0.1201
3	265.08	0.5556	0.1772	0.0021	0.1308	0.0204	0.6570	0.0774	-0.3510	0.1198
3	265.08	0.5995	0.2169	0.0021	0.1124	0.0236	0.8088	0.0882	-0.3970	0.1228
3	265.08	0.6498	0.2574	0.0025	0.1028	0.0268	1.0113	0.1003	-0.4404	0.1208
3	265.08	0.6890	0.2517	0.0024	0.0865	0.0296	1.1840	0.1093	-0.4706	0.1198
3	265.08	0.7495	0.3137	0.0027	0.0730	0.0338	1.4761	0.1238	-0.5730	0.1191
3	265.08	0.7998	0.3621	0.0030	0.0611	0.0374	1.7520	0.1356	-0.6676	0.1182
3	265.08	0.8577	0.3976	0.0034	0.0688	0.0415	2.0990	0.1481	-0.5715	0.1214
3	265.08	0.9178	0.4097	0.0035	0.0210	0.0459	2.4981	0.1615	-0.5955	0.1191
3	265.08	0.9729	0.4644	0.0052	0.0550	0.0500	2.7869	0.1737	-1.0170	0.1174
4	265.08	0.2001	-0.0044	0.0078	0.0248	0.0026	-0.0702	0.0116	0.0627	0.0897
4	265.08	0.2502	-0.0130	0.0055	0.0101	0.0028	0.0180	0.0103	1.1290	0.2362
4	265.08	0.3001	0.0150	0.0034	0.0811	0.0069	-0.1154	0.0294	0.5498	0.2298
4	265.08	0.3502	0.0476	0.0032	0.1291	0.0111	-0.1776	0.0459	0.6652	0.2243
4	265.08	0.4002	0.0728	0.0036	0.1893	0.0153	-0.1820	0.0631	0.6904	0.2216
4	265.08	0.4500	0.1120	0.0037	0.2413	0.0196	-0.2146	0.0797	0.4724	0.2195
4	265.08	0.5001	0.1421	0.0034	0.2692	0.0237	-0.1693	0.0968	0.6253	0.2248
4	265.08	0.5560	0.1765	0.0035	0.3093	0.0287	-0.1824	0.1159	0.3430	0.2207
4	265.08	0.6001	0.2115	0.0035	0.3377	0.0326	-0.1444	0.1306	0.2828	0.2237
4	265.08	0.6501	0.2346	0.0036	0.3412	0.0371	-0.1090	0.1481	0.2327	0.2235
4	265.08	0.6999	0.2814	0.0034	0.3388	0.0416	-0.0548	0.1648	0.1413	0.2227
4	265.08	0.7500	0.3090	0.0036	0.3560	0.0461	0.0836	0.1823	0.3793	0.2224
4	265.08	0.8002	0.3478	0.0038	0.3569	0.0512	0.1258	0.1990	0.0095	0.2254
4	265.08	0.8582	0.3964	0.0039	0.3957	0.0567	0.3192	0.2194	-0.0185	0.2257
4	265.08	0.9101	0.4265	0.0042	0.4051	0.0614	0.4799	0.2379	-0.1037	0.2226
4	265.08	0.9728	0.4965	0.0056	0.4645	0.0672	0.7788	0.2599	-0.0561	0.2252

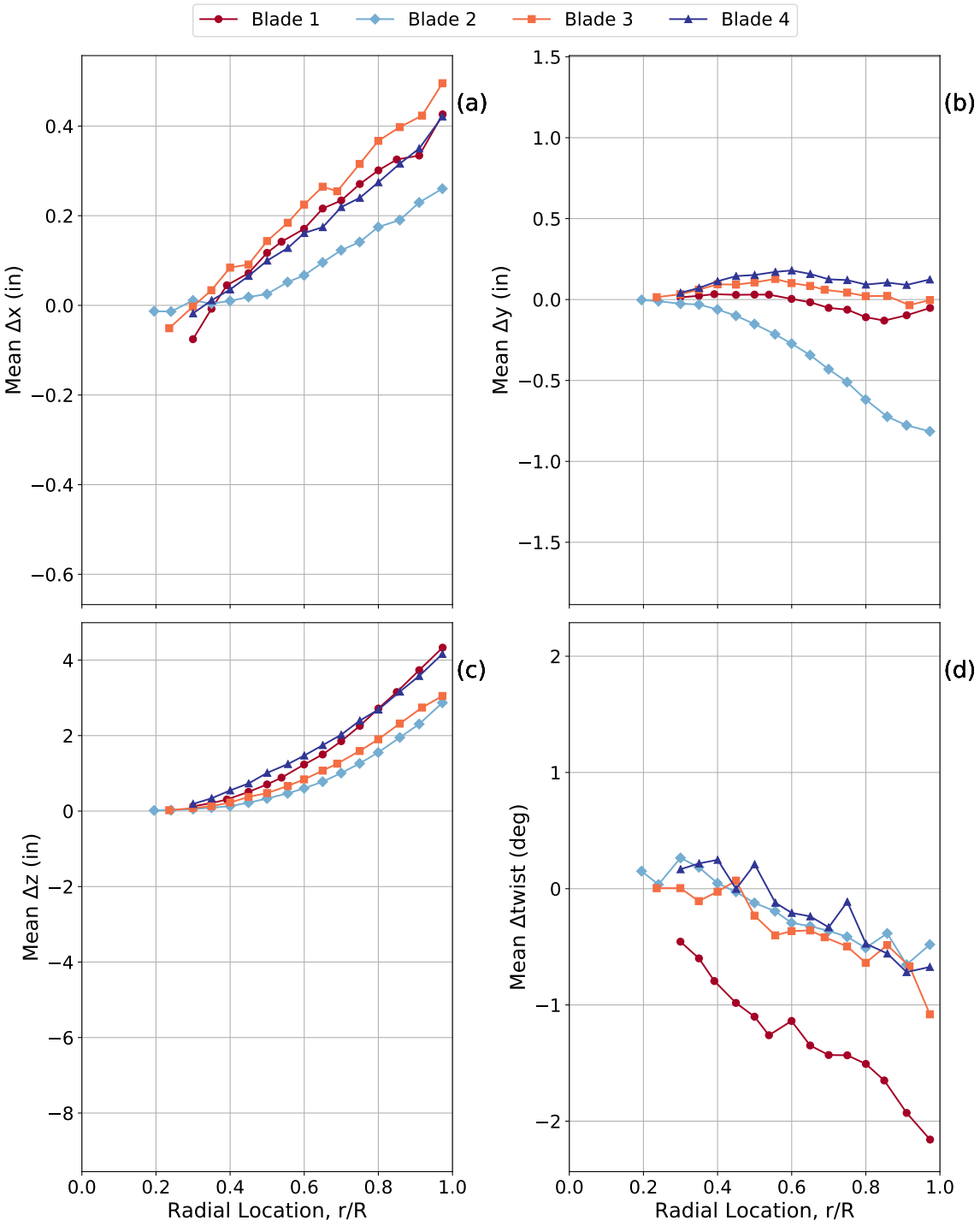


Figure 2.7-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-35. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2998	-0.0755	0.0088	0.0137	0.0184	0.1258	0.1282	-0.4557	0.3261
1	270	0.3498	-0.0075	0.0052	0.0229	0.0327	0.2110	0.2063	-0.5994	0.4277
1	270	0.3913	0.0449	0.0082	0.0332	0.0489	0.3066	0.2928	-0.7944	0.4116
1	270	0.4496	0.0718	0.0099	0.0290	0.0691	0.5083	0.4015	-0.9827	0.4100
1	270	0.4997	0.1172	0.0114	0.0304	0.0864	0.7063	0.4949	-1.1011	0.4109
1	270	0.5387	0.1420	0.0136	0.0303	0.1001	0.8849	0.5695	-1.2606	0.4085
1	270	0.5996	0.1706	0.0165	0.0039	0.1212	1.2331	0.6837	-1.1378	0.4149
1	270	0.6498	0.2160	0.0188	-0.0168	0.1386	1.4995	0.7786	-1.3488	0.4105
1	270	0.6998	0.2340	0.0216	-0.0516	0.1559	1.8519	0.8725	-1.4309	0.4098
1	270	0.7500	0.2707	0.0244	-0.0627	0.1730	2.2570	0.9666	-1.4330	0.4128
1	270	0.8001	0.3012	0.0278	-0.1093	0.1899	2.7172	1.0612	-1.5075	0.4114
1	270	0.8497	0.3254	0.0308	-0.1301	0.2067	3.1539	1.1533	-1.6498	0.4137
1	270	0.9102	0.3342	0.0355	-0.0973	0.2272	3.7330	1.2661	-1.9291	0.4148
1	270	0.9734	0.4261	0.0474	-0.0519	0.2484	4.3305	1.3861	-2.1582	0.4148
2	270.35	0.1949	-0.0130	0.0098	-0.0025	0.0051	0.0167	0.0161	0.1511	0.0640
2	270.35	0.2405	-0.0138	0.0038	-0.0102	0.0040	0.0236	0.0113	0.0359	0.2109
2	270.35	0.2999	0.0110	0.0027	-0.0259	0.0137	0.0530	0.0384	0.2647	0.1893
2	270.35	0.3498	0.0039	0.0032	-0.0306	0.0233	0.0898	0.0597	0.1839	0.1836
2	270.35	0.3998	0.0098	0.0043	-0.0616	0.0324	0.1301	0.0811	0.0466	0.1872
2	270.35	0.4496	0.0186	0.0045	-0.1002	0.0422	0.2219	0.1020	-0.0273	0.1796
2	270.35	0.4995	0.0251	0.0060	-0.1514	0.0509	0.3325	0.1225	-0.1223	0.1854
2	270.35	0.5551	0.0519	0.0064	-0.2147	0.0614	0.4689	0.1461	-0.1936	0.1857
2	270.35	0.5996	0.0668	0.0070	-0.2725	0.0697	0.6022	0.1647	-0.2940	0.1851
2	270.35	0.6497	0.0957	0.0079	-0.3433	0.0789	0.7787	0.1866	-0.3226	0.1858
2	270.35	0.6996	0.1230	0.0090	-0.4304	0.0884	1.0071	0.2080	-0.3623	0.1847
2	270.35	0.7495	0.1413	0.0100	-0.5103	0.0977	1.2622	0.2308	-0.4138	0.1828
2	270.35	0.7996	0.1748	0.0118	-0.6179	0.1074	1.5528	0.2536	-0.5095	0.1827
2	270.35	0.8578	0.1903	0.0141	-0.7239	0.1180	1.9492	0.2809	-0.3843	0.1801
2	270.35	0.9100	0.2295	0.0167	-0.7770	0.1280	2.3054	0.3044	-0.6534	0.1850
2	270.35	0.9727	0.2603	0.0216	-0.8146	0.1398	2.8693	0.3349	-0.4807	0.1852
3	270	0.2357	-0.0510	0.0051	0.0144	0.0025	0.0237	0.0174	0.0041	0.1619
3	270	0.2995	-0.0028	0.0029	0.0327	0.0056	0.0799	0.0331	0.0050	0.2593
3	270	0.3493	0.0337	0.0024	0.0608	0.0114	0.1301	0.0598	-0.1066	0.2567
3	270	0.4000	0.0842	0.0022	0.0942	0.0174	0.2272	0.0873	-0.0253	0.2511
3	270	0.4497	0.0911	0.0027	0.0923	0.0223	0.3755	0.1125	0.0696	0.2460
3	270	0.4997	0.1435	0.0023	0.1058	0.0274	0.4768	0.1373	-0.2319	0.2452
3	270	0.5556	0.1843	0.0028	0.1272	0.0329	0.6649	0.1666	-0.4013	0.2407
3	270	0.5995	0.2248	0.0030	0.1015	0.0374	0.8393	0.1896	-0.3648	0.2443
3	270	0.6498	0.2647	0.0034	0.0841	0.0422	1.0722	0.2163	-0.3591	0.2439
3	270	0.6890	0.2545	0.0038	0.0605	0.0458	1.2562	0.2372	-0.4177	0.2425
3	270	0.7495	0.3155	0.0045	0.0432	0.0514	1.5922	0.2698	-0.4967	0.2462
3	270	0.7998	0.3670	0.0052	0.0212	0.0560	1.9023	0.2965	-0.6375	0.2446
3	270	0.8577	0.3976	0.0057	0.0224	0.0611	2.3169	0.3281	-0.4846	0.2392
3	270	0.9178	0.4233	0.0070	-0.0348	0.0665	2.7430	0.3595	-0.6676	0.2444
3	270	0.9729	0.4956	0.0095	-0.0031	0.0721	3.0493	0.3881	-1.0808	0.2465
4	270	0.3001	-0.0178	0.0050	0.0416	0.0090	0.1897	0.0580	0.1672	0.1821
4	270	0.3502	0.0114	0.0030	0.0716	0.0160	0.3390	0.0947	0.2175	0.2404
4	270	0.4002	0.0355	0.0047	0.1133	0.0259	0.5485	0.1449	0.2482	0.2303
4	270	0.4500	0.0657	0.0051	0.1447	0.0347	0.7324	0.1904	-0.0016	0.2261
4	270	0.5001	0.0998	0.0062	0.1517	0.0438	1.0136	0.2377	0.2094	0.2220
4	270	0.5560	0.1281	0.0074	0.1708	0.0541	1.2454	0.2910	-0.1211	0.2243
4	270	0.6001	0.1614	0.0085	0.1797	0.0621	1.4716	0.3330	-0.2084	0.2264
4	270	0.6501	0.1745	0.0098	0.1579	0.0713	1.7477	0.3820	-0.2381	0.2231
4	270	0.6999	0.2193	0.0110	0.1250	0.0804	2.0245	0.4302	-0.3323	0.2227
4	270	0.7500	0.2399	0.0125	0.1202	0.0894	2.3970	0.4781	-0.1126	0.2201
4	270	0.8002	0.2746	0.0137	0.0923	0.0988	2.6892	0.5262	-0.4729	0.2236
4	270	0.8582	0.3163	0.0154	0.1048	0.1092	3.1666	0.5819	-0.5581	0.2232
4	270	0.9101	0.3499	0.0176	0.0902	0.1186	3.5789	0.6322	-0.7173	0.2184
4	270	0.9728	0.4214	0.0234	0.1239	0.1295	4.1622	0.6922	-0.6732	0.2204

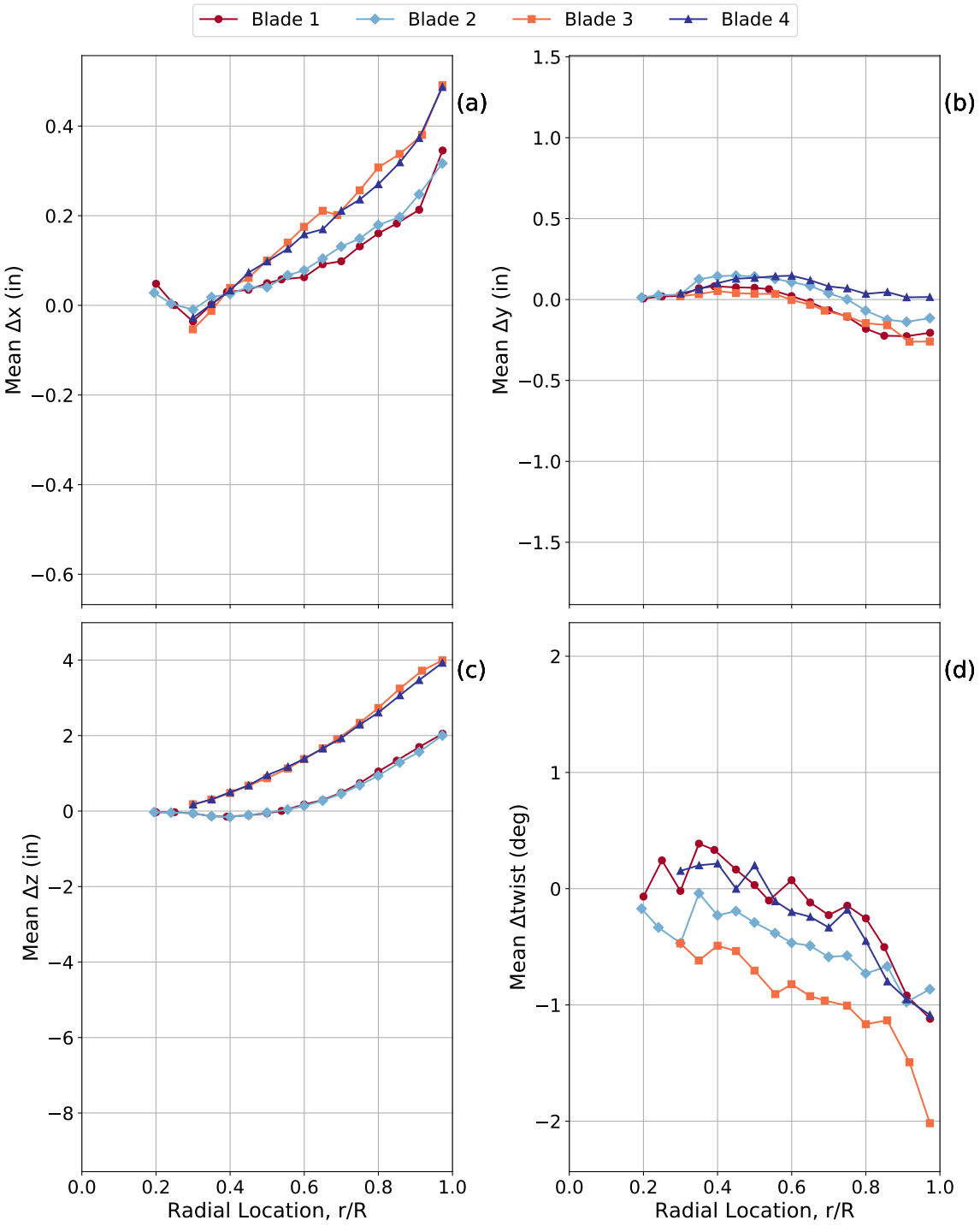


Figure 2.7-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-36. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0482	0.0014	0.0066	0.0007	-0.0305	0.0036	-0.0679	0.0329
1	274.92	0.2499	0.0005	0.0017	0.0189	0.0028	-0.0288	0.0115	0.2435	0.0346
1	274.92	0.2998	-0.0359	0.0017	0.0222	0.0053	-0.0629	0.0176	-0.0193	0.0666
1	274.92	0.3498	0.0022	0.0033	0.0698	0.0067	-0.1353	0.0257	0.3877	0.0817
1	274.92	0.3913	0.0298	0.0021	0.0818	0.0123	-0.1471	0.0409	0.3335	0.0420
1	274.92	0.4496	0.0348	0.0024	0.0750	0.0156	-0.1116	0.0501	0.1649	0.0466
1	274.92	0.4997	0.0493	0.0025	0.0727	0.0186	-0.0600	0.0573	0.0315	0.0579
1	274.92	0.5387	0.0579	0.0030	0.0640	0.0214	0.0040	0.0653	-0.1015	0.0487
1	274.92	0.5996	0.0627	0.0028	0.0211	0.0261	0.1752	0.0743	0.0732	0.0502
1	274.92	0.6498	0.0917	0.0030	-0.0165	0.0300	0.2902	0.0820	-0.1190	0.0511
1	274.92	0.6998	0.0983	0.0028	-0.0664	0.0342	0.4878	0.0890	-0.2269	0.0612
1	274.92	0.7500	0.1317	0.0034	-0.1068	0.0381	0.7409	0.0971	-0.1460	0.0495
1	274.92	0.8001	0.1606	0.0035	-0.1807	0.0426	1.0494	0.1040	-0.2550	0.0627
1	274.92	0.8497	0.1826	0.0035	-0.2236	0.0472	1.3364	0.1116	-0.5025	0.0492
1	274.92	0.9102	0.2132	0.0038	-0.2264	0.0530	1.6971	0.1212	-0.9191	0.0596
1	274.92	0.9734	0.3455	0.0059	-0.2056	0.0593	2.0504	0.1326	-1.1195	0.0585
2	274.92	0.1949	0.0281	0.0023	0.0126	0.0007	-0.0301	0.0032	-0.1718	0.0522
2	274.92	0.2405	0.0039	0.0010	0.0262	0.0015	-0.0404	0.0088	-0.3334	0.0665
2	274.92	0.2999	-0.0097	0.0016	0.0309	0.0038	-0.0576	0.0120	-0.4684	0.1180
2	274.92	0.3498	0.0183	0.0015	0.1253	0.0051	-0.1364	0.0292	-0.0397	0.0655
2	274.92	0.3998	0.0254	0.0015	0.1444	0.0089	-0.1564	0.0389	-0.2295	0.0860
2	274.92	0.4496	0.0409	0.0018	0.1479	0.0107	-0.1065	0.0475	-0.1927	0.0917
2	274.92	0.4995	0.0405	0.0020	0.1423	0.0121	-0.0388	0.0584	-0.2912	0.0767
2	274.92	0.5551	0.0670	0.0022	0.1283	0.0155	0.0410	0.0718	-0.3831	0.0786
2	274.92	0.5996	0.0781	0.0020	0.1075	0.0182	0.1376	0.0824	-0.4661	0.0839
2	274.92	0.6497	0.1043	0.0020	0.0846	0.0213	0.2767	0.0944	-0.4908	0.0940
2	274.92	0.6996	0.1312	0.0022	0.0387	0.0245	0.4579	0.1088	-0.5867	0.0904
2	274.92	0.7495	0.1488	0.0025	0.0012	0.0280	0.6846	0.1231	-0.5763	0.0875
2	274.92	0.7996	0.1794	0.0024	-0.0687	0.0315	0.9362	0.1391	-0.7297	0.0812
2	274.92	0.8578	0.1968	0.0027	-0.1251	0.0363	1.2878	0.1557	-0.6679	0.0881
2	274.92	0.9100	0.2477	0.0025	-0.1378	0.0399	1.5674	0.1716	-0.9758	0.0979
2	274.92	0.9727	0.3168	0.0035	-0.1149	0.0450	2.0026	0.1931	-0.8647	0.0958
3	274.92	0.2995	-0.0535	0.0102	0.0200	0.0110	0.1800	0.1246	-0.4702	0.3835
3	274.92	0.3493	-0.0121	0.0054	0.0333	0.0199	0.3031	0.2001	-0.6176	0.5025
3	274.92	0.4000	0.0390	0.0082	0.0522	0.0329	0.4773	0.3055	-0.4905	0.4856
3	274.92	0.4497	0.0613	0.0095	0.0399	0.0447	0.6729	0.4032	-0.5364	0.4761
3	274.92	0.4997	0.0998	0.0121	0.0352	0.0564	0.8709	0.5030	-0.7050	0.4653
3	274.92	0.5556	0.1400	0.0143	0.0344	0.0692	1.1269	0.6105	-0.9068	0.4716
3	274.92	0.5995	0.1752	0.0163	-0.0027	0.0789	1.3761	0.6958	-0.8216	0.4751
3	274.92	0.6498	0.2110	0.0187	-0.0322	0.0903	1.6630	0.7948	-0.9244	0.4734
3	274.92	0.6890	0.2015	0.0210	-0.0684	0.0988	1.9022	0.8717	-0.9624	0.4718
3	274.92	0.7495	0.2566	0.0250	-0.1046	0.1120	2.3368	0.9901	-1.0057	0.4737
3	274.92	0.7998	0.3075	0.0280	-0.1459	0.1223	2.7301	1.0885	-1.1655	0.4725
3	274.92	0.8577	0.3377	0.0317	-0.1584	0.1344	3.2437	1.2002	-1.1329	0.4736
3	274.92	0.9178	0.3802	0.0369	-0.2608	0.1472	3.7189	1.3177	-1.4938	0.4762
3	274.92	0.9729	0.4912	0.0464	-0.2595	0.1603	3.9932	1.4260	-2.0179	0.4832
4	274.92	0.3001	-0.0274	0.0103	0.0371	0.0146	0.1742	0.1143	0.1536	0.3254
4	274.92	0.3502	0.0030	0.0043	0.0639	0.0263	0.3104	0.1864	0.2011	0.4287
4	274.92	0.4002	0.0333	0.0091	0.1011	0.0426	0.5012	0.2852	0.2161	0.4049
4	274.92	0.4500	0.0732	0.0084	0.1286	0.0558	0.6824	0.3649	-0.0007	0.4201
4	274.92	0.5001	0.0980	0.0105	0.1340	0.0698	0.9533	0.4526	0.2005	0.4159
4	274.92	0.5560	0.1262	0.0129	0.1442	0.0858	1.1732	0.5516	-0.1080	0.4135
4	274.92	0.6001	0.1586	0.0149	0.1473	0.0983	1.3900	0.6298	-0.2000	0.4133
4	274.92	0.6501	0.1698	0.0173	0.1191	0.1123	1.6585	0.7186	-0.2420	0.4048
4	274.92	0.6999	0.2110	0.0197	0.0811	0.1261	1.9323	0.8066	-0.3337	0.4094
4	274.92	0.7500	0.2362	0.0223	0.0690	0.1396	2.2909	0.8947	-0.1799	0.4064
4	274.92	0.8002	0.2704	0.0248	0.0352	0.1534	2.6120	0.9829	-0.4491	0.4116
4	274.92	0.8582	0.3191	0.0282	0.0463	0.1688	3.0684	1.0837	-0.7978	0.4103
4	274.92	0.9101	0.3734	0.0323	0.0138	0.1823	3.4706	1.1753	-0.9513	0.4070
4	274.92	0.9728	0.4872	0.0416	0.0155	0.1994	3.9294	1.2837	-1.0849	0.4100

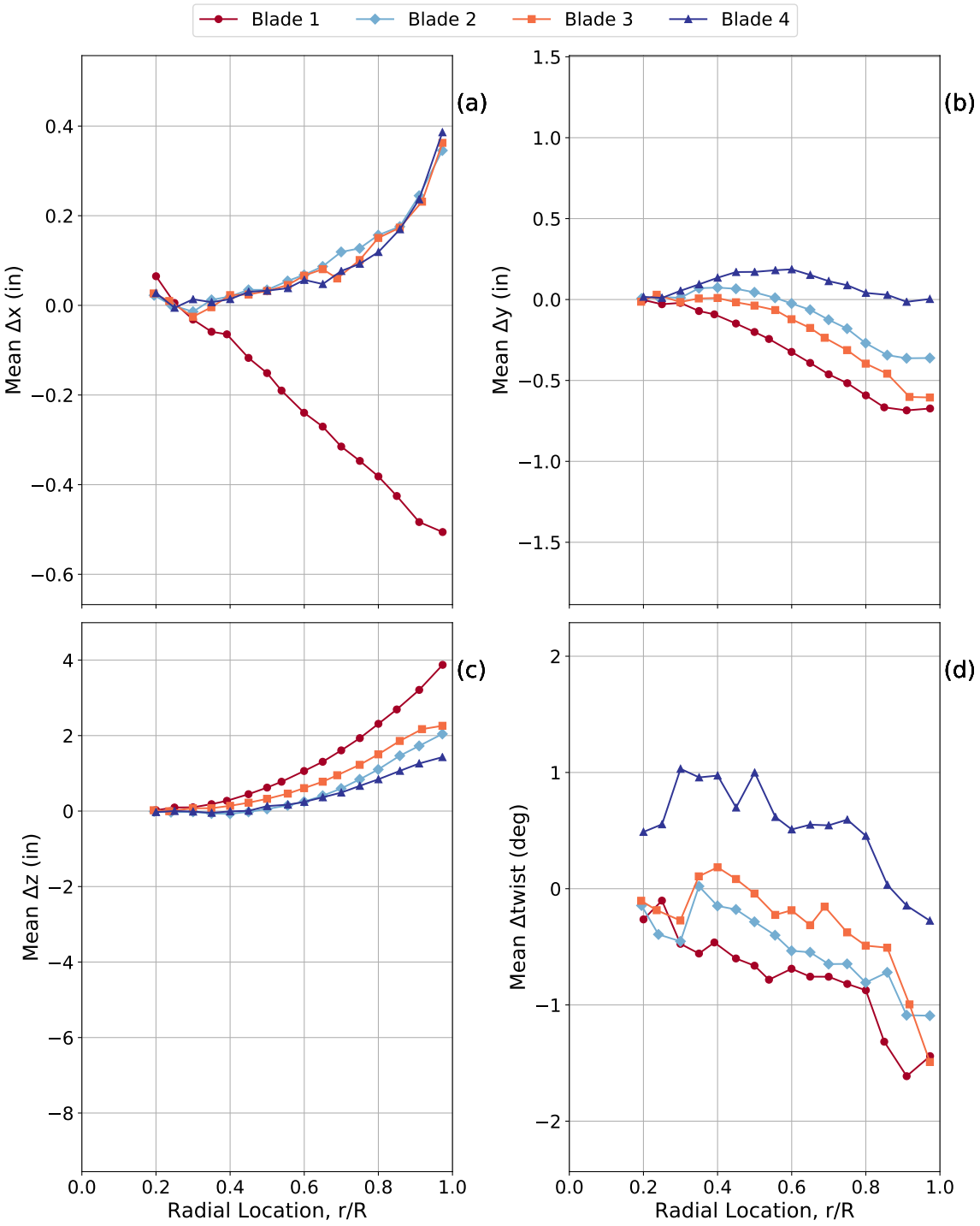


Figure 2.7-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-37. 280° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0650	0.0017	-0.0029	0.0021	0.0231	0.0068	-0.2641	0.0447
1	279.84	0.2499	0.0054	0.0014	-0.0290	0.0028	0.0949	0.0072	-0.1025	0.0671
1	279.84	0.2998	-0.0317	0.0013	-0.0208	0.0073	0.0994	0.0166	-0.4743	0.0883
1	279.84	0.3498	-0.0589	0.0018	-0.0710	0.0126	0.1839	0.0280	-0.5578	0.0925
1	279.84	0.3913	-0.0646	0.0022	-0.0916	0.0172	0.2724	0.0340	-0.4625	0.0800
1	279.84	0.4496	-0.1172	0.0022	-0.1482	0.0199	0.4476	0.0416	-0.6003	0.0818
1	279.84	0.4997	-0.1511	0.0030	-0.2005	0.0241	0.6224	0.0518	-0.6624	0.0703
1	279.84	0.5387	-0.1901	0.0035	-0.2437	0.0278	0.7777	0.0604	-0.7829	0.1059
1	279.84	0.5996	-0.2396	0.0047	-0.3237	0.0316	1.0618	0.0643	-0.6887	0.0773
1	279.84	0.6498	-0.2705	0.0027	-0.3917	0.0373	1.3060	0.0752	-0.7568	0.0635
1	279.84	0.6998	-0.3150	0.0038	-0.4622	0.0415	1.6084	0.0867	-0.7574	0.0679
1	279.84	0.7500	-0.3470	0.0041	-0.5169	0.0459	1.9326	0.0930	-0.8194	0.0779
1	279.84	0.8001	-0.3817	0.0046	-0.5922	0.0511	2.3120	0.1031	-0.8736	0.1004
1	279.84	0.8497	-0.4253	0.0043	-0.6662	0.0551	2.6926	0.1112	-1.3163	0.0752
1	279.84	0.9102	-0.4834	0.0042	-0.6850	0.0609	3.2101	0.1192	-1.6129	0.0822
1	279.84	0.9734	-0.5057	0.0063	-0.6733	0.0681	3.8741	0.1226	-1.4406	0.0999
2	279.84	0.1949	0.0224	0.0013	0.0061	0.0008	-0.0101	0.0028	-0.1447	0.0183
2	279.84	0.2405	0.0010	0.0013	0.0158	0.0019	-0.0301	0.0065	-0.3935	0.0343
2	279.84	0.2999	-0.0141	0.0014	0.0108	0.0046	-0.0198	0.0122	-0.4527	0.0442
2	279.84	0.3498	0.0123	0.0024	0.0701	0.0065	-0.0638	0.0180	0.0209	0.0534
2	279.84	0.3998	0.0198	0.0031	0.0738	0.0114	-0.0716	0.0298	-0.1481	0.0500
2	279.84	0.4496	0.0346	0.0023	0.0664	0.0136	-0.0218	0.0327	-0.1788	0.0387
2	279.84	0.4995	0.0344	0.0037	0.0447	0.0156	0.0556	0.0443	-0.2848	0.0664
2	279.84	0.5551	0.0544	0.0025	0.0107	0.0190	0.1489	0.0501	-0.4004	0.0422
2	279.84	0.5996	0.0680	0.0023	-0.0246	0.0212	0.2494	0.0568	-0.5342	0.0430
2	279.84	0.6497	0.0868	0.0023	-0.0633	0.0249	0.4073	0.0650	-0.5469	0.0472
2	279.84	0.6996	0.1192	0.0025	-0.1248	0.0278	0.5984	0.0729	-0.6486	0.0426
2	279.84	0.7495	0.1271	0.0026	-0.1799	0.0310	0.8398	0.0813	-0.6468	0.0451
2	279.84	0.7996	0.1567	0.0028	-0.2696	0.0339	1.1028	0.0896	-0.8076	0.0534
2	279.84	0.8578	0.1757	0.0030	-0.3434	0.0382	1.4662	0.0979	-0.7197	0.0508
2	279.84	0.9100	0.2447	0.0028	-0.3629	0.0419	1.7263	0.1061	-1.0884	0.0569
2	279.84	0.9727	0.3455	0.0045	-0.3614	0.0460	2.0436	0.1132	-1.0926	0.0566
3	279.84	0.1938	0.0266	0.0024	-0.0134	0.0006	0.0217	0.0041	-0.1039	0.0388
3	279.84	0.2357	0.0097	0.0018	0.0295	0.0027	-0.0038	0.0122	-0.1849	0.0440
3	279.84	0.2995	-0.0254	0.0017	-0.0155	0.0063	0.0750	0.0257	-0.2733	0.0829
3	279.84	0.3493	-0.0042	0.0037	0.0066	0.0080	0.0756	0.0311	0.1061	0.1085
3	279.84	0.4000	0.0228	0.0047	0.0095	0.0156	0.1393	0.0580	0.1841	0.0787
3	279.84	0.4497	0.0241	0.0052	-0.0169	0.0165	0.2220	0.0638	0.0830	0.0921
3	279.84	0.4997	0.0321	0.0032	-0.0374	0.0202	0.3243	0.0774	-0.0421	0.0814
3	279.84	0.5556	0.0454	0.0036	-0.0651	0.0246	0.4626	0.0945	-0.2255	0.0599
3	279.84	0.5995	0.0662	0.0026	-0.1217	0.0282	0.6073	0.1048	-0.1855	0.0661
3	279.84	0.6498	0.0807	0.0028	-0.1757	0.0325	0.7781	0.1197	-0.3139	0.0683
3	279.84	0.6890	0.0600	0.0030	-0.2363	0.0356	0.9495	0.1310	-0.1545	0.0608
3	279.84	0.7495	0.1011	0.0037	-0.3127	0.0411	1.2254	0.1479	-0.3757	0.0627
3	279.84	0.7998	0.1504	0.0038	-0.3961	0.0462	1.5030	0.1613	-0.4898	0.0594
3	279.84	0.8577	0.1733	0.0045	-0.4582	0.0515	1.8581	0.1755	-0.5076	0.0698
3	279.84	0.9178	0.2313	0.0050	-0.6019	0.0580	2.1709	0.1913	-0.9953	0.0559
3	279.84	0.9729	0.3625	0.0068	-0.6053	0.0640	2.2595	0.2027	-1.4912	0.0791
4	279.84	0.2001	0.0274	0.0048	0.0167	0.0017	-0.0263	0.0083	0.4885	0.1307
4	279.84	0.2502	-0.0054	0.0052	0.0101	0.0086	0.0009	0.0270	0.5540	0.1312
4	279.84	0.3001	0.0136	0.0083	0.0543	0.0088	-0.0139	0.0322	1.0313	0.2699
4	279.84	0.3502	0.0070	0.0052	0.0939	0.0191	-0.0454	0.0614	0.9575	0.1437
4	279.84	0.4002	0.0139	0.0076	0.1347	0.0295	-0.0083	0.0910	0.9731	0.1538
4	279.84	0.4500	0.0302	0.0057	0.1699	0.0352	0.0071	0.1051	0.6981	0.1307
4	279.84	0.5001	0.0327	0.0064	0.1708	0.0410	0.1324	0.1247	0.9991	0.1463
4	279.84	0.5560	0.0384	0.0071	0.1811	0.0489	0.1688	0.1474	0.6169	0.1402
4	279.84	0.6001	0.0568	0.0068	0.1866	0.0553	0.2437	0.1656	0.5099	0.1363
4	279.84	0.6501	0.0475	0.0076	0.1518	0.0626	0.3653	0.1869	0.5507	0.1376
4	279.84	0.6999	0.0767	0.0089	0.1136	0.0704	0.4896	0.2092	0.5451	0.1276
4	279.84	0.7500	0.0927	0.0106	0.0881	0.0776	0.6681	0.2289	0.5940	0.1295
4	279.84	0.8002	0.1190	0.0120	0.0409	0.0851	0.8425	0.2500	0.4547	0.1299
4	279.84	0.8582	0.1697	0.0145	0.0286	0.0938	1.0656	0.2722	0.0325	0.1346
4	279.84	0.9101	0.2365	0.0170	-0.0142	0.1019	1.2603	0.2932	-0.1454	0.1346
4	279.84	0.9728	0.3861	0.0207	0.0032	0.1118	1.4290	0.3185	-0.2753	0.1384

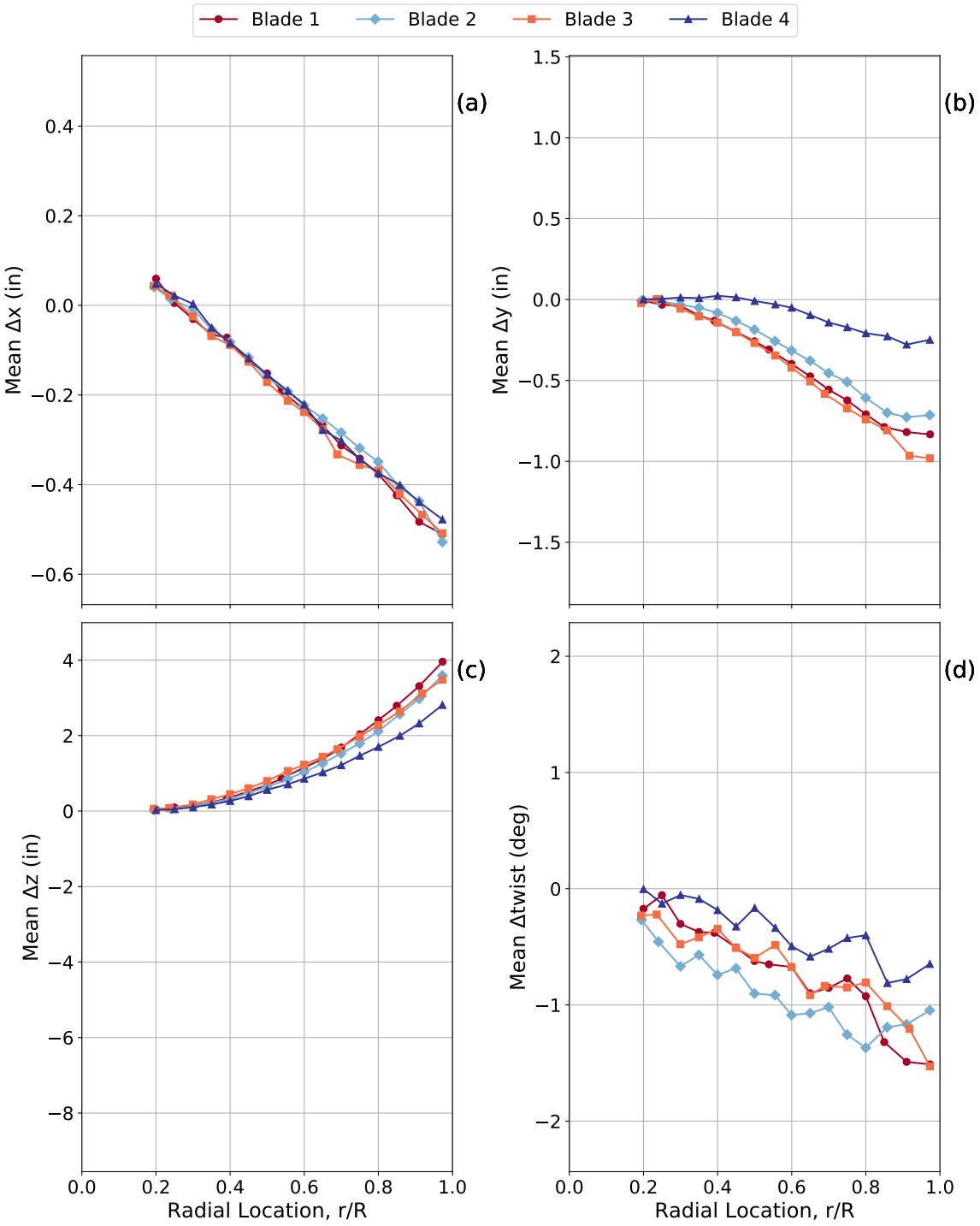


Figure 2.7-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-38. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0596	0.0027	-0.0078	0.0011	0.0387	0.0038	-0.1733	0.0325
1	285.12	0.2499	0.0052	0.0015	-0.0323	0.0033	0.0969	0.0073	-0.0558	0.0438
1	285.12	0.2998	-0.0305	0.0012	-0.0395	0.0049	0.1305	0.0126	-0.3027	0.0648
1	285.12	0.3498	-0.0651	0.0022	-0.0985	0.0102	0.2364	0.0185	-0.3725	0.0771
1	285.12	0.3913	-0.0720	0.0034	-0.1314	0.0135	0.3282	0.0262	-0.3794	0.0544
1	285.12	0.4496	-0.1255	0.0020	-0.1997	0.0174	0.5224	0.0320	-0.5056	0.0772
1	285.12	0.4997	-0.1517	0.0026	-0.2580	0.0196	0.6885	0.0401	-0.6222	0.0556
1	285.12	0.5387	-0.1909	0.0035	-0.3087	0.0221	0.8619	0.0449	-0.6507	0.0671
1	285.12	0.5996	-0.2324	0.0025	-0.3980	0.0249	1.1520	0.0562	-0.6736	0.1105
1	285.12	0.6498	-0.2680	0.0022	-0.4746	0.0299	1.3813	0.0598	-0.8999	0.0468
1	285.12	0.6998	-0.3126	0.0033	-0.5569	0.0331	1.6836	0.0713	-0.8535	0.0472
1	285.12	0.7500	-0.3418	0.0027	-0.6233	0.0360	2.0348	0.0776	-0.7725	0.0516
1	285.12	0.8001	-0.3764	0.0029	-0.7094	0.0401	2.4075	0.0881	-0.9255	0.0427
1	285.12	0.8497	-0.4237	0.0033	-0.7878	0.0434	2.7899	0.0973	-1.3197	0.0447
1	285.12	0.9102	-0.4829	0.0035	-0.8191	0.0485	3.3110	0.1104	-1.4899	0.0565
1	285.12	0.9734	-0.5104	0.0048	-0.8333	0.0535	3.9575	0.1273	-1.5112	0.0674
2	285.12	0.1949	0.0412	0.0025	-0.0068	0.0012	0.0374	0.0064	-0.2684	0.0357
2	285.12	0.2405	0.0139	0.0024	-0.0071	0.0026	0.0618	0.0112	-0.4561	0.0574
2	285.12	0.2999	-0.0081	0.0012	-0.0330	0.0055	0.1174	0.0257	-0.6680	0.0687
2	285.12	0.3498	-0.0540	0.0021	-0.0504	0.0113	0.2268	0.0338	-0.5693	0.1103
2	285.12	0.3998	-0.0818	0.0019	-0.0825	0.0163	0.3157	0.0571	-0.7411	0.0427
2	285.12	0.4496	-0.1160	0.0032	-0.1323	0.0195	0.4867	0.0592	-0.6853	0.0743
2	285.12	0.4995	-0.1614	0.0034	-0.1861	0.0256	0.6337	0.0745	-0.9022	0.0438
2	285.12	0.5551	-0.1918	0.0038	-0.2574	0.0281	0.8502	0.0829	-0.9162	0.0795
2	285.12	0.5996	-0.2229	0.0029	-0.3154	0.0319	1.0314	0.0958	-1.0875	0.0650
2	285.12	0.6497	-0.2526	0.0033	-0.3784	0.0371	1.2648	0.1046	-1.0710	0.0509
2	285.12	0.6996	-0.2840	0.0037	-0.4547	0.0412	1.5261	0.1115	-1.0192	0.0657
2	285.12	0.7495	-0.3186	0.0036	-0.5094	0.0459	1.7901	0.1235	-1.2560	0.0713
2	285.12	0.7996	-0.3488	0.0037	-0.6074	0.0510	2.1142	0.1325	-1.3690	0.0657
2	285.12	0.8578	-0.4059	0.0039	-0.6995	0.0566	2.5687	0.1446	-1.1920	0.0724
2	285.12	0.9100	-0.4368	0.0047	-0.7270	0.0619	2.9755	0.1534	-1.1664	0.1026
2	285.12	0.9727	-0.5279	0.0060	-0.7139	0.0686	3.5937	0.1680	-1.0462	0.0994
3	285.12	0.1938	0.0436	0.0029	-0.0219	0.0015	0.0567	0.0058	-0.2313	0.0392
3	285.12	0.2357	0.0220	0.0018	0.0032	0.0034	0.0792	0.0107	-0.2223	0.0719
3	285.12	0.2995	-0.0247	0.0033	-0.0565	0.0062	0.1774	0.0254	-0.4779	0.0985
3	285.12	0.3493	-0.0684	0.0025	-0.1038	0.0080	0.3122	0.0324	-0.4186	0.0924
3	285.12	0.4000	-0.0887	0.0051	-0.1421	0.0152	0.4486	0.0571	-0.3459	0.0959
3	285.12	0.4497	-0.1255	0.0046	-0.2015	0.0161	0.6035	0.0641	-0.5096	0.1093
3	285.12	0.4997	-0.1711	0.0033	-0.2685	0.0199	0.7958	0.0726	-0.5955	0.0838
3	285.12	0.5556	-0.2126	0.0032	-0.3453	0.0230	1.0607	0.0830	-0.4842	0.0944
3	285.12	0.5995	-0.2380	0.0022	-0.4211	0.0265	1.2284	0.0889	-0.6736	0.1052
3	285.12	0.6498	-0.2761	0.0032	-0.5063	0.0299	1.4405	0.1009	-0.9161	0.0947
3	285.12	0.6890	-0.3325	0.0041	-0.5825	0.0326	1.6351	0.1172	-0.8364	0.1246
3	285.12	0.7495	-0.3557	0.0031	-0.6725	0.0364	1.9766	0.1276	-0.8492	0.1099
3	285.12	0.7998	-0.3684	0.0038	-0.7405	0.0403	2.2778	0.1415	-0.8070	0.1028
3	285.12	0.8577	-0.4206	0.0050	-0.8082	0.0446	2.6403	0.1535	-1.0107	0.1097
3	285.12	0.9178	-0.4671	0.0052	-0.9652	0.0492	3.1101	0.1661	-1.2059	0.1259
3	285.12	0.9729	-0.5084	0.0061	-0.9814	0.0533	3.4836	0.1837	-1.5282	0.1032
4	285.12	0.2001	0.0477	0.0014	0.0015	0.0008	0.0250	0.0031	-0.0030	0.0673
4	285.12	0.2502	0.0216	0.0011	0.0040	0.0023	0.0488	0.0192	-0.1282	0.0425
4	285.12	0.3001	0.0032	0.0012	0.0126	0.0022	0.1011	0.0223	-0.0542	0.1233
4	285.12	0.3502	-0.0498	0.0016	0.0086	0.0038	0.1739	0.0316	-0.0877	0.1634
4	285.12	0.4002	-0.0842	0.0015	0.0232	0.0061	0.2684	0.0598	-0.1838	0.0724
4	285.12	0.4500	-0.1183	0.0014	0.0137	0.0078	0.3940	0.0686	-0.3252	0.0874
4	285.12	0.5001	-0.1545	0.0019	-0.0089	0.0103	0.5631	0.0880	-0.1652	0.0684
4	285.12	0.5560	-0.1913	0.0026	-0.0301	0.0122	0.7106	0.0983	-0.3367	0.0914
4	285.12	0.6001	-0.2213	0.0036	-0.0501	0.0141	0.8591	0.1182	-0.4948	0.0852
4	285.12	0.6501	-0.2780	0.0027	-0.0958	0.0160	1.0274	0.1284	-0.5837	0.1298
4	285.12	0.6999	-0.3017	0.0024	-0.1421	0.0184	1.2167	0.1426	-0.5165	0.1303
4	285.12	0.7500	-0.3431	0.0028	-0.1715	0.0211	1.4674	0.1600	-0.4238	0.1049
4	285.12	0.8002	-0.3742	0.0027	-0.2082	0.0237	1.7003	0.1744	-0.4007	0.1041
4	285.12	0.8582	-0.4010	0.0032	-0.2272	0.0274	1.9954	0.1938	-0.8118	0.1148
4	285.12	0.9101	-0.4386	0.0046	-0.2784	0.0308	2.3227	0.2131	-0.7774	0.1092
4	285.12	0.9728	-0.4776	0.0060	-0.2485	0.0346	2.8120	0.2383	-0.6475	0.1111

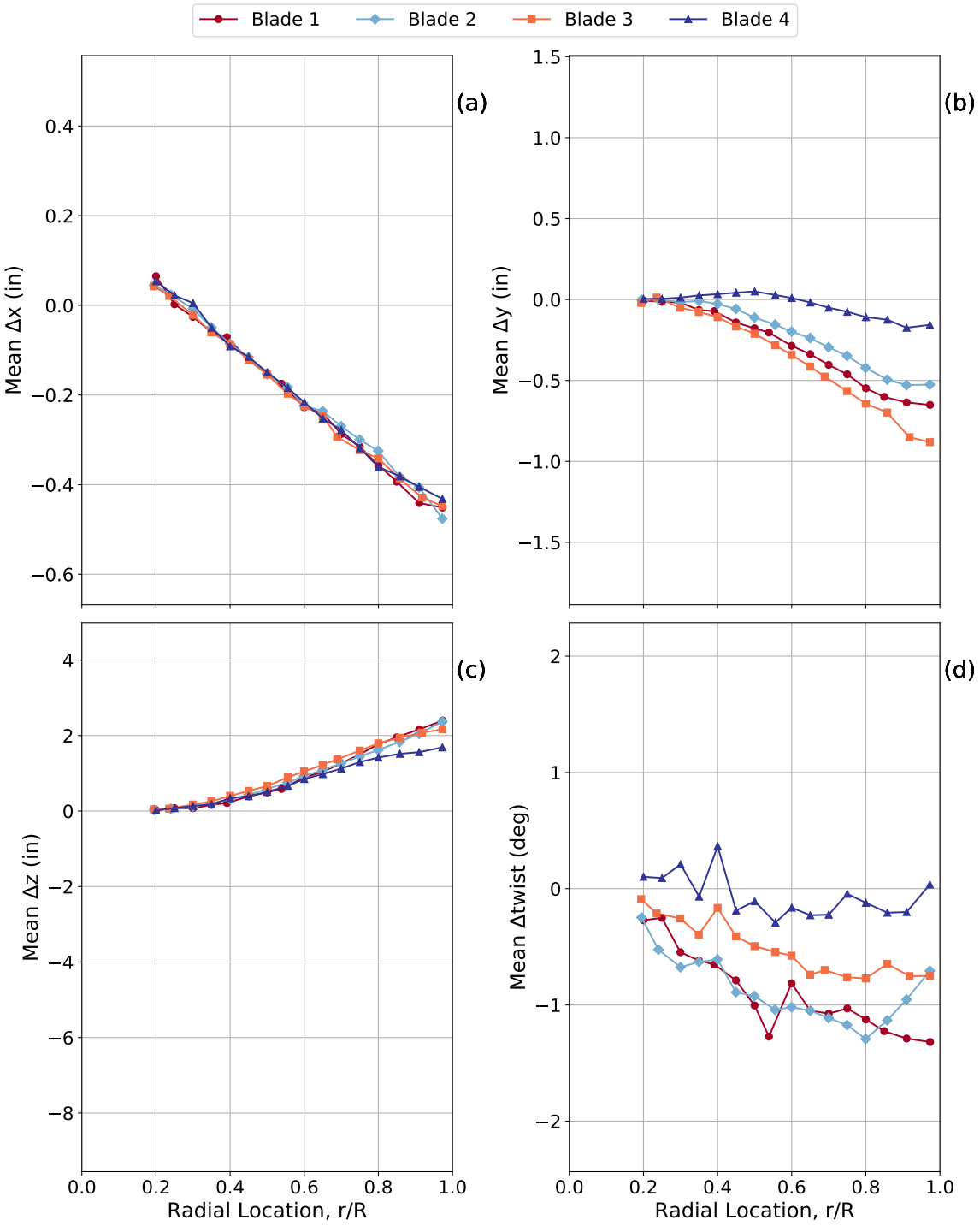


Figure 2.7-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-39. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0649	0.0012	-0.0067	0.0010	0.0232	0.0052	-0.2715	0.0417
1	299.88	0.2499	0.0023	0.0028	-0.0141	0.0025	0.0766	0.0111	-0.2506	0.0957
1	299.88	0.2998	-0.0256	0.0020	-0.0189	0.0045	0.0739	0.0200	-0.5464	0.1044
1	299.88	0.3498	-0.0597	0.0030	-0.0648	0.0073	0.1631	0.0305	-0.6189	0.0842
1	299.88	0.3913	-0.0711	0.0026	-0.0716	0.0112	0.2144	0.0453	-0.6518	0.0985
1	299.88	0.4496	-0.1210	0.0024	-0.1418	0.0121	0.3881	0.0539	-0.7890	0.0832
1	299.88	0.4997	-0.1506	0.0046	-0.1780	0.0152	0.4943	0.0691	-1.0043	0.0913
1	299.88	0.5387	-0.1748	0.0042	-0.2041	0.0176	0.5877	0.0761	-1.2722	0.0917
1	299.88	0.5996	-0.2273	0.0028	-0.2858	0.0197	0.8886	0.0893	-0.8141	0.0937
1	299.88	0.6498	-0.2407	0.0031	-0.3377	0.0227	1.0404	0.0994	-1.0478	0.1013
1	299.88	0.6998	-0.2870	0.0033	-0.4040	0.0254	1.2631	0.1122	-1.0747	0.0903
1	299.88	0.7500	-0.3155	0.0037	-0.4623	0.0284	1.5043	0.1277	-1.0298	0.0665
1	299.88	0.8001	-0.3565	0.0037	-0.5483	0.0313	1.7707	0.1405	-1.1248	0.0766
1	299.88	0.8497	-0.3933	0.0034	-0.6017	0.0346	1.9540	0.1555	-1.2251	0.0732
1	299.88	0.9102	-0.4410	0.0038	-0.6357	0.0384	2.1652	0.1753	-1.2889	0.0691
1	299.88	0.9734	-0.4510	0.0053	-0.6512	0.0428	2.3976	0.1951	-1.3191	0.0790
2	299.88	0.1949	0.0451	0.0021	-0.0017	0.0007	0.0290	0.0048	-0.2480	0.0437
2	299.88	0.2405	0.0231	0.0031	0.0006	0.0017	0.0602	0.0087	-0.5241	0.1134
2	299.88	0.2999	-0.0078	0.0017	-0.0163	0.0045	0.1196	0.0224	-0.6756	0.1252
2	299.88	0.3498	-0.0492	0.0034	-0.0086	0.0051	0.2070	0.0261	-0.6293	0.1648
2	299.88	0.3998	-0.0858	0.0024	-0.0276	0.0100	0.3161	0.0472	-0.6083	0.1527
2	299.88	0.4496	-0.1156	0.0023	-0.0583	0.0108	0.4272	0.0586	-0.8913	0.1180
2	299.88	0.4995	-0.1533	0.0038	-0.1116	0.0120	0.5885	0.0657	-0.9236	0.1223
2	299.88	0.5551	-0.1830	0.0039	-0.1549	0.0141	0.7538	0.0826	-1.0410	0.1296
2	299.88	0.5996	-0.2240	0.0024	-0.1981	0.0179	0.9281	0.0900	-1.0194	0.1186
2	299.88	0.6497	-0.2359	0.0021	-0.2380	0.0201	1.0904	0.1012	-1.0488	0.1271
2	299.88	0.6996	-0.2697	0.0029	-0.2949	0.0229	1.2641	0.1104	-1.1122	0.1287
2	299.88	0.7495	-0.2996	0.0026	-0.3484	0.0262	1.4462	0.1212	-1.1726	0.1125
2	299.88	0.7996	-0.3247	0.0028	-0.4221	0.0296	1.6149	0.1302	-1.2926	0.1112
2	299.88	0.8578	-0.3828	0.0031	-0.4951	0.0335	1.8362	0.1394	-1.1315	0.1175
2	299.88	0.9100	-0.4060	0.0032	-0.5287	0.0375	2.0455	0.1487	-0.9534	0.1061
2	299.88	0.9727	-0.4759	0.0042	-0.5257	0.0420	2.3707	0.1597	-0.7070	0.1182
3	299.88	0.1938	0.0426	0.0019	-0.0208	0.0007	0.0495	0.0032	-0.0904	0.0615
3	299.88	0.2357	0.0211	0.0011	0.0117	0.0021	0.0632	0.0068	-0.2125	0.0924
3	299.88	0.2995	-0.0213	0.0013	-0.0507	0.0030	0.1733	0.0137	-0.2561	0.1419
3	299.88	0.3493	-0.0601	0.0039	-0.0763	0.0067	0.2578	0.0214	-0.3953	0.0990
3	299.88	0.4000	-0.0868	0.0022	-0.1087	0.0088	0.4025	0.0302	-0.1654	0.0983
3	299.88	0.4497	-0.1220	0.0027	-0.1662	0.0107	0.5336	0.0432	-0.4099	0.0823
3	299.88	0.4997	-0.1544	0.0046	-0.2116	0.0138	0.6635	0.0497	-0.4943	0.1176
3	299.88	0.5556	-0.1970	0.0034	-0.2824	0.0157	0.8938	0.0608	-0.5444	0.0937
3	299.88	0.5995	-0.2246	0.0039	-0.3430	0.0180	1.0511	0.0718	-0.5763	0.0987
3	299.88	0.6498	-0.2469	0.0027	-0.4142	0.0206	1.2235	0.0826	-0.7404	0.0766
3	299.88	0.6890	-0.2935	0.0031	-0.4765	0.0232	1.3715	0.0906	-0.7002	0.0874
3	299.88	0.7495	-0.3228	0.0036	-0.5656	0.0266	1.6007	0.0978	-0.7618	0.0818
3	299.88	0.7998	-0.3416	0.0031	-0.6427	0.0297	1.7931	0.1067	-0.7723	0.0904
3	299.88	0.8577	-0.3865	0.0029	-0.6984	0.0337	1.9429	0.1204	-0.6473	0.0847
3	299.88	0.9178	-0.4287	0.0029	-0.8508	0.0378	2.0723	0.1388	-0.7519	0.0807
3	299.88	0.9729	-0.4476	0.0042	-0.8811	0.0420	2.1680	0.1572	-0.7508	0.0881
4	299.88	0.2001	0.0536	0.0017	0.0045	0.0007	0.0161	0.0053	0.1027	0.0351
4	299.88	0.2502	0.0220	0.0027	0.0045	0.0026	0.0785	0.0119	0.0917	0.0845
4	299.88	0.3001	0.0049	0.0014	0.0117	0.0052	0.1334	0.0229	0.2101	0.0858
4	299.88	0.3502	-0.0501	0.0014	0.0255	0.0066	0.1789	0.0290	-0.0684	0.0984
4	299.88	0.4002	-0.0915	0.0038	0.0329	0.0127	0.3407	0.0508	0.3656	0.0890
4	299.88	0.4500	-0.1149	0.0020	0.0423	0.0144	0.3954	0.0574	-0.1881	0.0758
4	299.88	0.5001	-0.1497	0.0027	0.0497	0.0164	0.5099	0.0695	-0.1081	0.1006
4	299.88	0.5560	-0.1843	0.0029	0.0275	0.0207	0.6700	0.0826	-0.2917	0.0939
4	299.88	0.6001	-0.2163	0.0030	0.0093	0.0250	0.8496	0.0957	-0.1630	0.0711
4	299.88	0.6501	-0.2525	0.0022	-0.0185	0.0274	0.9801	0.1033	-0.2286	0.1144
4	299.88	0.6999	-0.2780	0.0027	-0.0506	0.0313	1.1263	0.1195	-0.2238	0.0812
4	299.88	0.7500	-0.3186	0.0032	-0.0756	0.0350	1.2988	0.1320	-0.0446	0.0830
4	299.88	0.8002	-0.3605	0.0029	-0.1086	0.0385	1.4175	0.1439	-0.1215	0.0824
4	299.88	0.8582	-0.3813	0.0030	-0.1246	0.0429	1.5170	0.1600	-0.2066	0.0852
4	299.88	0.9101	-0.4049	0.0033	-0.1745	0.0469	1.5606	0.1757	-0.2010	0.0827
4	299.88	0.9728	-0.4318	0.0047	-0.1564	0.0516	1.6866	0.1935	0.0361	0.0909

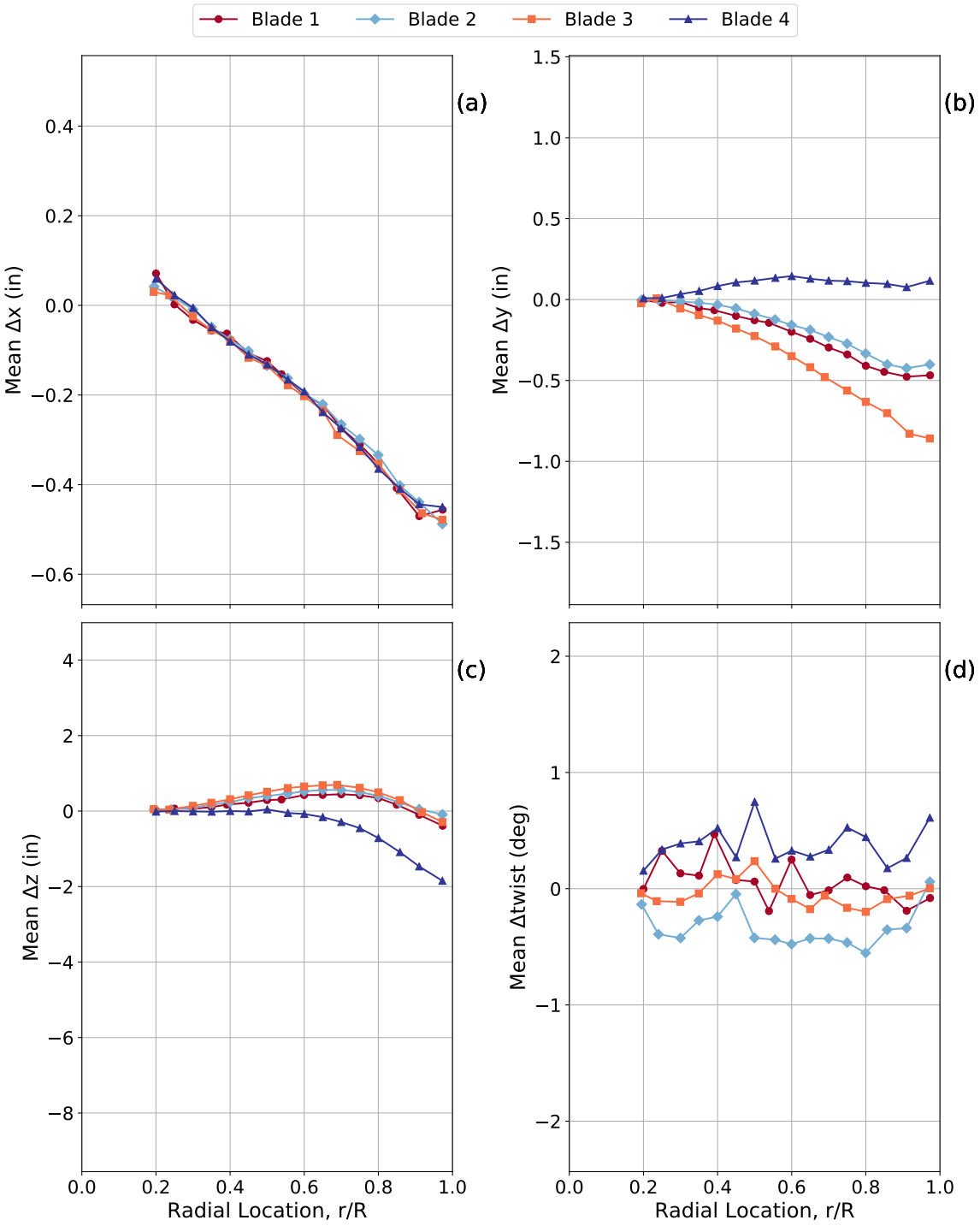


Figure 2.7-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-40. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0712	0.0021	-0.0028	0.0011	0.0098	0.0052	-0.0025	0.0325
1	315	0.2499	0.0021	0.0021	-0.0206	0.0026	0.0656	0.0169	0.3263	0.0457
1	315	0.2998	-0.0325	0.0021	-0.0151	0.0052	0.0598	0.0273	0.1320	0.0703
1	315	0.3498	-0.0561	0.0049	-0.0528	0.0091	0.1059	0.0397	0.1123	0.0741
1	315	0.3913	-0.0630	0.0022	-0.0658	0.0133	0.1707	0.0659	0.4688	0.0882
1	315	0.4496	-0.1063	0.0045	-0.1013	0.0132	0.2216	0.0738	0.0754	0.0623
1	315	0.4997	-0.1244	0.0017	-0.1279	0.0184	0.2916	0.0930	0.0614	0.0510
1	315	0.5387	-0.1537	0.0029	-0.1439	0.0200	0.3054	0.1005	-0.1925	0.0616
1	315	0.5996	-0.1993	0.0027	-0.1992	0.0225	0.4238	0.1171	0.2507	0.0676
1	315	0.6498	-0.2216	0.0034	-0.2427	0.0267	0.4287	0.1346	-0.0543	0.0614
1	315	0.6998	-0.2739	0.0031	-0.2964	0.0295	0.4455	0.1467	-0.0138	0.0644
1	315	0.7500	-0.3102	0.0022	-0.3395	0.0332	0.4205	0.1637	0.0958	0.0670
1	315	0.8001	-0.3535	0.0028	-0.4097	0.0375	0.3451	0.1857	0.0211	0.0562
1	315	0.8497	-0.4079	0.0029	-0.4467	0.0408	0.1689	0.2014	-0.0130	0.0589
1	315	0.9102	-0.4703	0.0030	-0.4768	0.0456	-0.0989	0.2218	-0.1897	0.0543
1	315	0.9734	-0.4559	0.0039	-0.4680	0.0506	-0.3889	0.2466	-0.0802	0.0532
2	315	0.1949	0.0418	0.0020	-0.0025	0.0005	0.0285	0.0038	-0.1350	0.0266
2	315	0.2405	0.0207	0.0020	-0.0024	0.0030	0.0386	0.0110	-0.3921	0.0504
2	315	0.2999	-0.0087	0.0026	-0.0133	0.0065	0.0873	0.0180	-0.4241	0.0642
2	315	0.3498	-0.0484	0.0033	-0.0192	0.0061	0.1724	0.0231	-0.2725	0.0713
2	315	0.3998	-0.0758	0.0028	-0.0327	0.0145	0.2371	0.0442	-0.2403	0.0524
2	315	0.4496	-0.1020	0.0042	-0.0543	0.0155	0.3414	0.0381	-0.0463	0.1058
2	315	0.4995	-0.1345	0.0041	-0.0885	0.0170	0.3991	0.0554	-0.4230	0.0782
2	315	0.5551	-0.1624	0.0031	-0.1241	0.0197	0.4646	0.0638	-0.4391	0.0598
2	315	0.5996	-0.1973	0.0031	-0.1578	0.0214	0.5224	0.0704	-0.4773	0.0785
2	315	0.6497	-0.2209	0.0025	-0.1879	0.0243	0.5609	0.0832	-0.4275	0.0710
2	315	0.6996	-0.2655	0.0023	-0.2318	0.0272	0.5592	0.1004	-0.4292	0.0601
2	315	0.7495	-0.2985	0.0014	-0.2727	0.0299	0.5079	0.1123	-0.4633	0.0502
2	315	0.7996	-0.3340	0.0023	-0.3338	0.0323	0.4036	0.1289	-0.5525	0.0495
2	315	0.8578	-0.4019	0.0025	-0.4010	0.0354	0.2287	0.1459	-0.3528	0.0455
2	315	0.9100	-0.4391	0.0026	-0.4244	0.0383	0.0477	0.1642	-0.3389	0.0479
2	315	0.9727	-0.4877	0.0031	-0.4013	0.0415	-0.0891	0.1825	0.0593	0.0495
3	315	0.1938	0.0300	0.0015	-0.0228	0.0007	0.0514	0.0041	-0.0390	0.0365
3	315	0.2357	0.0226	0.0020	0.0072	0.0040	0.0388	0.0090	-0.1073	0.0555
3	315	0.2995	-0.0247	0.0022	-0.0552	0.0087	0.1383	0.0174	-0.1130	0.0864
3	315	0.3493	-0.0551	0.0027	-0.0955	0.0100	0.2199	0.0264	-0.0403	0.0795
3	315	0.4000	-0.0786	0.0025	-0.1303	0.0211	0.3130	0.0436	0.1246	0.0968
3	315	0.4497	-0.1169	0.0027	-0.1793	0.0221	0.4166	0.0458	0.0822	0.0600
3	315	0.4997	-0.1341	0.0026	-0.2256	0.0274	0.5111	0.0575	0.2368	0.0871
3	315	0.5556	-0.1782	0.0021	-0.2900	0.0307	0.6103	0.0705	0.0000	0.0986
3	315	0.5995	-0.2026	0.0027	-0.3498	0.0343	0.6513	0.0782	-0.0873	0.0712
3	315	0.6498	-0.2348	0.0032	-0.4181	0.0398	0.6825	0.0857	-0.1754	0.0901
3	315	0.6890	-0.2891	0.0023	-0.4791	0.0445	0.6934	0.0981	-0.0595	0.0810
3	315	0.7495	-0.3251	0.0026	-0.5622	0.0498	0.6161	0.1084	-0.1640	0.0623
3	315	0.7998	-0.3533	0.0027	-0.6323	0.0560	0.4968	0.1173	-0.1988	0.0800
3	315	0.8577	-0.4126	0.0029	-0.7022	0.0622	0.2898	0.1293	-0.0895	0.0691
3	315	0.9178	-0.4638	0.0031	-0.8296	0.0693	-0.0289	0.1424	-0.0604	0.0723
3	315	0.9729	-0.4783	0.0045	-0.8585	0.0751	-0.2924	0.1545	0.0036	0.0745
4	315	0.2001	0.0595	0.0021	0.0080	0.0006	-0.0142	0.0035	0.1549	0.0589
4	315	0.2502	0.0225	0.0024	0.0095	0.0027	0.0003	0.0108	0.3369	0.0449
4	315	0.3001	-0.0056	0.0025	0.0332	0.0036	-0.0102	0.0203	0.3891	0.1134
4	315	0.3502	-0.0489	0.0027	0.0527	0.0055	-0.0162	0.0254	0.4079	0.0722
4	315	0.4002	-0.0809	0.0063	0.0830	0.0097	0.0004	0.0434	0.5209	0.0702
4	315	0.4500	-0.1100	0.0022	0.1058	0.0122	-0.0111	0.0486	0.2705	0.0535
4	315	0.5001	-0.1318	0.0022	0.1169	0.0134	0.0432	0.0590	0.7475	0.0828
4	315	0.5560	-0.1658	0.0025	0.1337	0.0161	-0.0510	0.0680	0.2582	0.1014
4	315	0.6001	-0.1920	0.0022	0.1446	0.0183	-0.0773	0.0776	0.3274	0.0596
4	315	0.6501	-0.2383	0.0028	0.1286	0.0216	-0.1609	0.0849	0.2767	0.0681
4	315	0.6999	-0.2745	0.0030	0.1167	0.0240	-0.2905	0.0935	0.3344	0.0729
4	315	0.7500	-0.3158	0.0030	0.1135	0.0277	-0.4533	0.1024	0.5260	0.0801
4	315	0.8002	-0.3646	0.0023	0.1029	0.0304	-0.7148	0.1116	0.4438	0.0575
4	315	0.8582	-0.4089	0.0020	0.0963	0.0343	-1.0884	0.1235	0.1763	0.0691
4	315	0.9101	-0.4438	0.0020	0.0765	0.0378	-1.4675	0.1340	0.2643	0.0725
4	315	0.9728	-0.4499	0.0028	0.1161	0.0421	-1.8469	0.1480	0.6107	0.0751

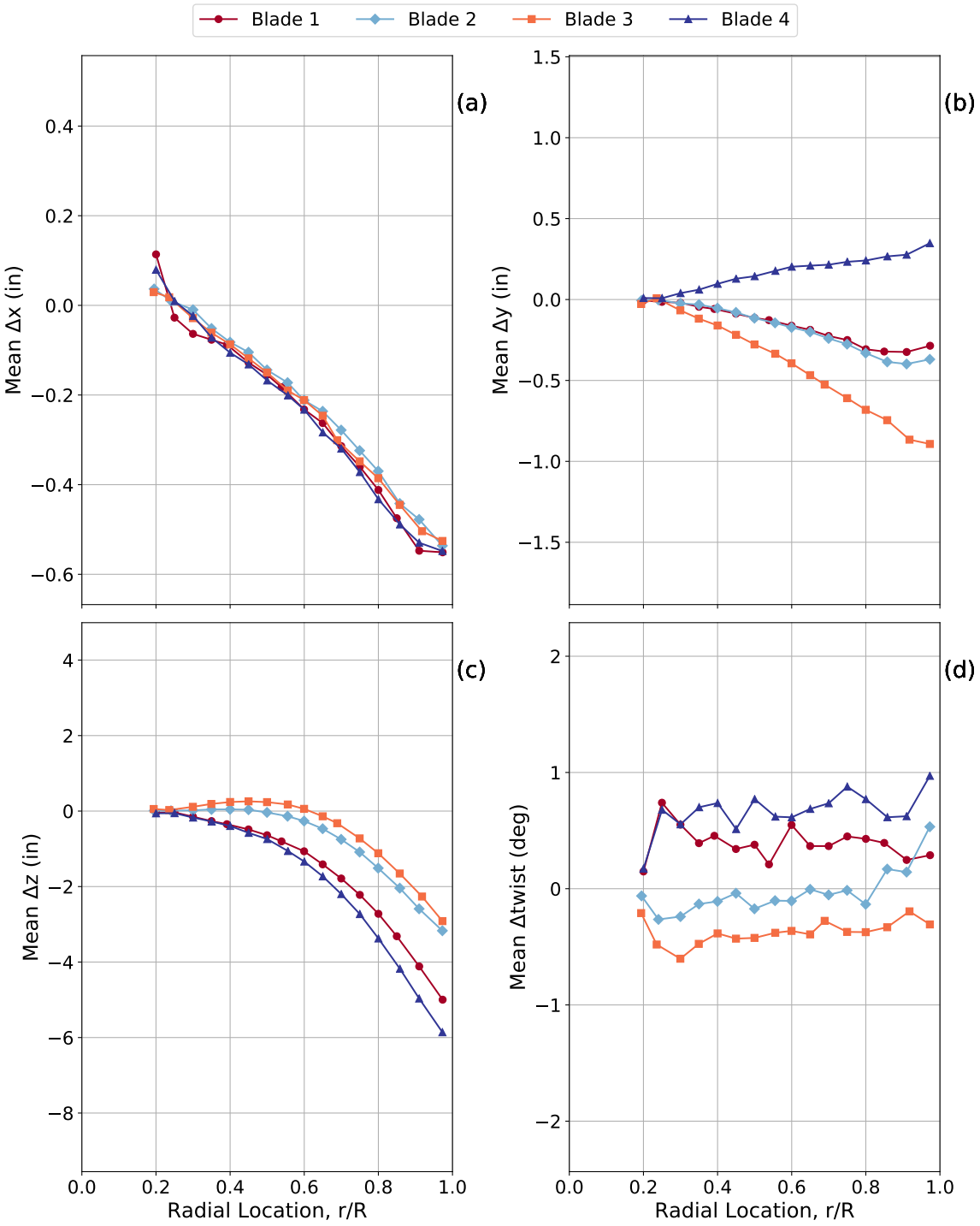


Figure 2.7-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-41. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.1138	0.0016	-0.0056	0.0013	-0.0450	0.0052	0.1481	0.0287
1	330.12	0.2499	-0.0274	0.0018	-0.0144	0.0038	-0.0339	0.0109	0.7397	0.0462
1	330.12	0.2998	-0.0636	0.0020	-0.0198	0.0089	-0.1495	0.0203	0.5510	0.0614
1	330.12	0.3498	-0.0767	0.0019	-0.0449	0.0117	-0.2649	0.0299	0.3918	0.0619
1	330.12	0.3913	-0.0876	0.0033	-0.0582	0.0207	-0.3480	0.0458	0.4552	0.0643
1	330.12	0.4496	-0.1274	0.0030	-0.0874	0.0250	-0.4862	0.0555	0.3414	0.0674
1	330.12	0.4997	-0.1548	0.0024	-0.1136	0.0303	-0.6399	0.0694	0.3785	0.0636
1	330.12	0.5387	-0.1826	0.0028	-0.1273	0.0355	-0.8033	0.0754	0.2091	0.0662
1	330.12	0.5996	-0.2322	0.0028	-0.1617	0.0433	-1.0653	0.0938	0.5485	0.0652
1	330.12	0.6498	-0.2626	0.0028	-0.1873	0.0486	-1.4118	0.1015	0.3668	0.0617
1	330.12	0.6998	-0.3140	0.0029	-0.2251	0.0558	-1.7862	0.1121	0.3667	0.0660
1	330.12	0.7500	-0.3602	0.0032	-0.2503	0.0626	-2.2202	0.1255	0.4495	0.0633
1	330.12	0.8001	-0.4119	0.0030	-0.3072	0.0686	-2.7215	0.1361	0.4287	0.0640
1	330.12	0.8497	-0.4748	0.0032	-0.3214	0.0756	-3.3164	0.1480	0.3938	0.0512
1	330.12	0.9102	-0.5474	0.0037	-0.3242	0.0846	-4.1158	0.1605	0.2473	0.0520
1	330.12	0.9734	-0.5509	0.0042	-0.2856	0.0935	-4.9973	0.1742	0.2883	0.0591
2	330.12	0.1949	0.0366	0.0009	-0.0056	0.0006	0.0124	0.0022	-0.0621	0.0195
2	330.12	0.2405	0.0101	0.0012	-0.0026	0.0013	0.0083	0.0052	-0.2643	0.0334
2	330.12	0.2999	-0.0098	0.0021	-0.0241	0.0033	0.0195	0.0115	-0.2398	0.0460
2	330.12	0.3498	-0.0516	0.0023	-0.0311	0.0051	0.0430	0.0152	-0.1318	0.0480
2	330.12	0.3998	-0.0821	0.0019	-0.0532	0.0078	0.0451	0.0266	-0.1092	0.0510
2	330.12	0.4496	-0.1045	0.0027	-0.0796	0.0094	0.0363	0.0332	-0.0392	0.0555
2	330.12	0.4995	-0.1441	0.0026	-0.1151	0.0115	-0.0360	0.0406	-0.1731	0.0444
2	330.12	0.5551	-0.1724	0.0022	-0.1443	0.0131	-0.1369	0.0528	-0.1029	0.0500
2	330.12	0.5996	-0.2118	0.0025	-0.1726	0.0151	-0.2643	0.0657	-0.1051	0.0376
2	330.12	0.6497	-0.2363	0.0022	-0.1999	0.0171	-0.4681	0.0753	-0.0053	0.0495
2	330.12	0.6996	-0.2782	0.0020	-0.2404	0.0201	-0.7501	0.0856	-0.0531	0.0482
2	330.12	0.7495	-0.3240	0.0020	-0.2756	0.0226	-1.0857	0.0959	-0.0142	0.0559
2	330.12	0.7996	-0.3698	0.0023	-0.3308	0.0259	-1.5122	0.1045	-0.1342	0.0420
2	330.12	0.8578	-0.4421	0.0025	-0.3853	0.0293	-2.0418	0.1153	0.1686	0.0354
2	330.12	0.9100	-0.4776	0.0028	-0.3982	0.0325	-2.5900	0.1261	0.1429	0.0392
2	330.12	0.9727	-0.5363	0.0037	-0.3695	0.0368	-3.1698	0.1382	0.5330	0.0407
3	330.12	0.1938	0.0295	0.0016	-0.0276	0.0006	0.0549	0.0025	-0.2100	0.0196
3	330.12	0.2357	0.0180	0.0013	0.0079	0.0015	0.0276	0.0071	-0.4802	0.0331
3	330.12	0.2995	-0.0285	0.0021	-0.0669	0.0043	0.1129	0.0143	-0.6024	0.0455
3	330.12	0.3493	-0.0609	0.0025	-0.1181	0.0051	0.1891	0.0186	-0.4746	0.0896
3	330.12	0.4000	-0.0870	0.0022	-0.1605	0.0095	0.2400	0.0336	-0.3848	0.0511
3	330.12	0.4497	-0.1183	0.0020	-0.2183	0.0115	0.2582	0.0429	-0.4296	0.0543
3	330.12	0.4997	-0.1498	0.0022	-0.2776	0.0120	0.2374	0.0466	-0.4234	0.0540
3	330.12	0.5556	-0.1900	0.0031	-0.3350	0.0159	0.1743	0.0570	-0.3792	0.0542
3	330.12	0.5995	-0.2113	0.0021	-0.3940	0.0196	0.0588	0.0686	-0.3630	0.0591
3	330.12	0.6498	-0.2462	0.0022	-0.4674	0.0224	-0.1383	0.0752	-0.3931	0.0677
3	330.12	0.6890	-0.3008	0.0024	-0.5257	0.0252	-0.3217	0.0839	-0.2766	0.0530
3	330.12	0.7495	-0.3479	0.0029	-0.6095	0.0289	-0.7239	0.0960	-0.3718	0.0618
3	330.12	0.7998	-0.3856	0.0027	-0.6814	0.0322	-1.1175	0.1056	-0.3737	0.0582
3	330.12	0.8577	-0.4451	0.0029	-0.7456	0.0364	-1.6539	0.1192	-0.3315	0.0528
3	330.12	0.9178	-0.5038	0.0033	-0.8659	0.0408	-2.2641	0.1321	-0.1950	0.0528
3	330.12	0.9729	-0.5256	0.0041	-0.8925	0.0447	-2.9149	0.1453	-0.3073	0.0528
4	330.12	0.2001	0.0794	0.0014	0.0092	0.0008	-0.0600	0.0032	0.1726	0.0491
4	330.12	0.2502	0.0094	0.0018	0.0081	0.0040	-0.0562	0.0084	0.6790	0.0516
4	330.12	0.3001	-0.0236	0.0021	0.0395	0.0062	-0.1724	0.0103	0.5538	0.1002
4	330.12	0.3502	-0.0720	0.0018	0.0611	0.0086	-0.2769	0.0211	0.7008	0.0798
4	330.12	0.4002	-0.1057	0.0021	0.0970	0.0163	-0.3951	0.0298	0.7367	0.0750
4	330.12	0.4500	-0.1318	0.0028	0.1286	0.0206	-0.5775	0.0381	0.5127	0.0637
4	330.12	0.5001	-0.1676	0.0032	0.1440	0.0213	-0.7422	0.0530	0.7708	0.0742
4	330.12	0.5560	-0.2010	0.0022	0.1772	0.0277	-1.0588	0.0618	0.6198	0.0577
4	330.12	0.6001	-0.2327	0.0026	0.2028	0.0308	-1.3382	0.0677	0.6141	0.0852
4	330.12	0.6501	-0.2835	0.0019	0.2093	0.0356	-1.7306	0.0783	0.6863	0.0731
4	330.12	0.6999	-0.3196	0.0025	0.2152	0.0395	-2.1993	0.0884	0.7351	0.0740
4	330.12	0.7500	-0.3720	0.0023	0.2331	0.0446	-2.7295	0.1004	0.8778	0.0740
4	330.12	0.8002	-0.4326	0.0027	0.2412	0.0485	-3.3755	0.1060	0.7704	0.0779
4	330.12	0.8582	-0.4888	0.0028	0.2666	0.0535	-4.1791	0.1169	0.6147	0.0710
4	330.12	0.9101	-0.5295	0.0030	0.2769	0.0587	-4.9664	0.1260	0.6234	0.0690
4	330.12	0.9728	-0.5480	0.0038	0.3481	0.0642	-5.8600	0.1376	0.9710	0.0684

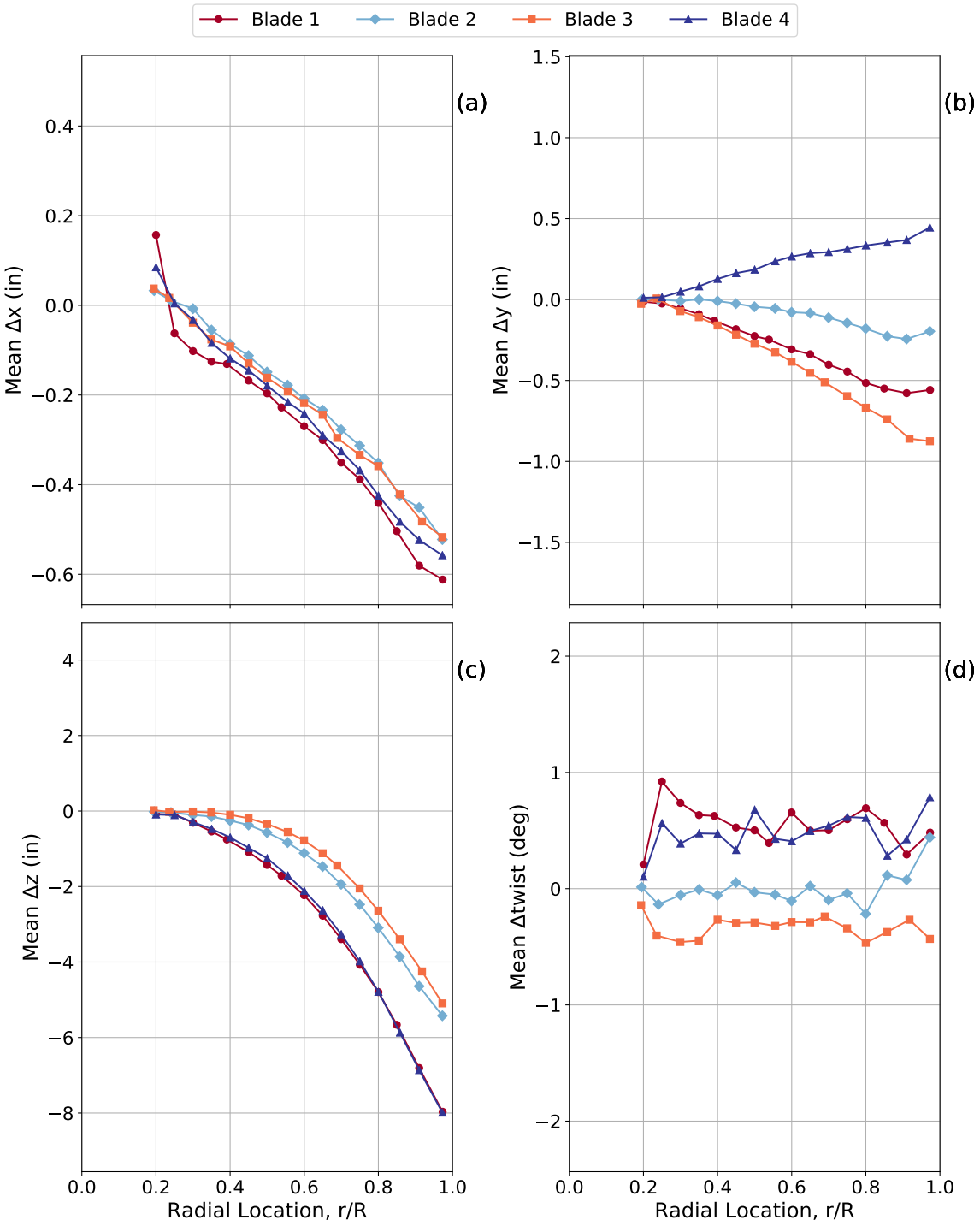


Figure 2.7-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.1570	0.0032	-0.0135	0.0011	-0.0776	0.0055	0.2082	0.0445
1	344.88	0.2499	-0.0624	0.0029	-0.0248	0.0035	-0.0921	0.0064	0.9222	0.1063
1	344.88	0.2998	-0.1021	0.0035	-0.0544	0.0049	-0.3101	0.0182	0.7378	0.1167
1	344.88	0.3498	-0.1256	0.0031	-0.0911	0.0119	-0.5412	0.0308	0.6331	0.1022
1	344.88	0.3913	-0.1309	0.0034	-0.1316	0.0151	-0.7536	0.0419	0.6258	0.1084
1	344.88	0.4496	-0.1677	0.0031	-0.1834	0.0186	-1.0824	0.0573	0.5263	0.1023
1	344.88	0.4997	-0.1962	0.0037	-0.2258	0.0224	-1.4268	0.0694	0.5016	0.1238
1	344.88	0.5387	-0.2278	0.0035	-0.2478	0.0279	-1.7125	0.0796	0.3926	0.1056
1	344.88	0.5996	-0.2697	0.0037	-0.3082	0.0332	-2.2300	0.0945	0.6555	0.1064
1	344.88	0.6498	-0.3006	0.0039	-0.3382	0.0354	-2.7730	0.1083	0.4984	0.1177
1	344.88	0.6998	-0.3507	0.0043	-0.4030	0.0405	-3.3921	0.1216	0.5031	0.1052
1	344.88	0.7500	-0.3881	0.0046	-0.4451	0.0446	-4.0717	0.1344	0.5973	0.1131
1	344.88	0.8001	-0.4408	0.0053	-0.5153	0.0499	-4.7958	0.1476	0.6923	0.1153
1	344.88	0.8497	-0.5037	0.0058	-0.5501	0.0552	-5.6619	0.1618	0.5671	0.1062
1	344.88	0.9102	-0.5806	0.0064	-0.5783	0.0612	-6.8083	0.1773	0.2938	0.1054
1	344.88	0.9734	-0.6119	0.0070	-0.5585	0.0679	-7.9670	0.1935	0.4826	0.1050
2	344.88	0.1949	0.0328	0.0014	-0.0010	0.0008	-0.0186	0.0025	0.0135	0.0254
2	344.88	0.2405	0.0104	0.0012	0.0005	0.0018	-0.0403	0.0053	-0.1351	0.0358
2	344.88	0.2999	-0.0075	0.0016	-0.0090	0.0052	-0.1028	0.0086	-0.0549	0.0565
2	344.88	0.3498	-0.0551	0.0016	0.0008	0.0065	-0.1461	0.0160	-0.0070	0.0420
2	344.88	0.3998	-0.0860	0.0020	-0.0094	0.0119	-0.2520	0.0230	-0.0565	0.0454
2	344.88	0.4496	-0.1122	0.0019	-0.0254	0.0144	-0.3691	0.0288	0.0523	0.0458
2	344.88	0.4995	-0.1488	0.0019	-0.0447	0.0153	-0.5682	0.0358	-0.0309	0.0570
2	344.88	0.5551	-0.1781	0.0021	-0.0548	0.0199	-0.8333	0.0427	-0.0510	0.0534
2	344.88	0.5996	-0.2077	0.0021	-0.0785	0.0235	-1.1140	0.0488	-0.1053	0.0639
2	344.88	0.6497	-0.2339	0.0021	-0.0839	0.0258	-1.4701	0.0551	0.0221	0.0451
2	344.88	0.6996	-0.2775	0.0023	-0.1120	0.0289	-1.9408	0.0628	-0.0977	0.0465
2	344.88	0.7495	-0.3128	0.0025	-0.1445	0.0319	-2.4755	0.0689	-0.0398	0.0543
2	344.88	0.7996	-0.3516	0.0028	-0.1794	0.0357	-3.0909	0.0772	-0.2168	0.0537
2	344.88	0.8578	-0.4251	0.0026	-0.2268	0.0399	-3.8579	0.0859	0.1148	0.0429
2	344.88	0.9100	-0.4512	0.0030	-0.2439	0.0439	-4.6399	0.0933	0.0759	0.0416
2	344.88	0.9727	-0.5223	0.0034	-0.1964	0.0483	-5.4228	0.1012	0.4412	0.0472
3	344.88	0.1938	0.0376	0.0020	-0.0264	0.0022	0.0214	0.0030	-0.1426	0.0321
3	344.88	0.2357	0.0166	0.0038	0.0065	0.0044	-0.0225	0.0040	-0.4031	0.0421
3	344.88	0.2995	-0.0387	0.0038	-0.0719	0.0104	-0.0141	0.0101	-0.4586	0.0699
3	344.88	0.3493	-0.0761	0.0032	-0.1091	0.0198	-0.0375	0.0145	-0.4470	0.0437
3	344.88	0.4000	-0.0917	0.0023	-0.1604	0.0299	-0.0988	0.0252	-0.2668	0.0645
3	344.88	0.4497	-0.1296	0.0037	-0.2174	0.0345	-0.1920	0.0297	-0.2948	0.0446
3	344.88	0.4997	-0.1614	0.0037	-0.2731	0.0388	-0.3424	0.0401	-0.2909	0.0782
3	344.88	0.5556	-0.1920	0.0047	-0.3258	0.0464	-0.5567	0.0466	-0.3203	0.0791
3	344.88	0.5995	-0.2179	0.0031	-0.3841	0.0518	-0.7783	0.0516	-0.2870	0.0659
3	344.88	0.6498	-0.2441	0.0034	-0.4530	0.0599	-1.1172	0.0613	-0.2894	0.0745
3	344.88	0.6890	-0.2958	0.0035	-0.5112	0.0659	-1.4403	0.0651	-0.2392	0.0565
3	344.88	0.7495	-0.3337	0.0027	-0.5972	0.0752	-2.0504	0.0762	-0.3409	0.0572
3	344.88	0.7998	-0.3587	0.0037	-0.6686	0.0817	-2.6414	0.0823	-0.4654	0.0624
3	344.88	0.8577	-0.4217	0.0040	-0.7406	0.0898	-3.3964	0.0913	-0.3721	0.0554
3	344.88	0.9178	-0.4820	0.0043	-0.8600	0.0980	-4.2486	0.1015	-0.2672	0.0537
3	344.88	0.9729	-0.5171	0.0062	-0.8756	0.1057	-5.0952	0.1130	-0.4321	0.0538
4	344.88	0.2001	0.0850	0.0021	0.0109	0.0008	-0.0916	0.0030	0.1039	0.0255
4	344.88	0.2502	0.0044	0.0024	0.0142	0.0037	-0.1084	0.0058	0.5626	0.0352
4	344.88	0.3001	-0.0326	0.0030	0.0484	0.0027	-0.2918	0.0112	0.3883	0.0485
4	344.88	0.3502	-0.0838	0.0018	0.0814	0.0092	-0.4759	0.0178	0.4758	0.0430
4	344.88	0.4002	-0.1187	0.0025	0.1273	0.0096	-0.6999	0.0287	0.4728	0.0499
4	344.88	0.4500	-0.1453	0.0024	0.1626	0.0138	-0.9740	0.0335	0.3325	0.0437
4	344.88	0.5001	-0.1790	0.0023	0.1846	0.0157	-1.2517	0.0410	0.6784	0.0531
4	344.88	0.5560	-0.2162	0.0028	0.2365	0.0200	-1.7116	0.0533	0.4288	0.0517
4	344.88	0.6001	-0.2414	0.0027	0.2658	0.0214	-2.1163	0.0617	0.4083	0.0467
4	344.88	0.6501	-0.2903	0.0030	0.2863	0.0258	-2.6326	0.0698	0.4968	0.0523
4	344.88	0.6999	-0.3255	0.0027	0.2933	0.0291	-3.2646	0.0819	0.5423	0.0546
4	344.88	0.7500	-0.3680	0.0039	0.3121	0.0332	-3.9797	0.0911	0.6165	0.0727
4	344.88	0.8002	-0.4246	0.0044	0.3339	0.0370	-4.7886	0.1017	0.6089	0.0504
4	344.88	0.8582	-0.4826	0.0046	0.3524	0.0413	-5.8700	0.1123	0.2837	0.0496
4	344.88	0.9101	-0.5234	0.0044	0.3681	0.0456	-6.8625	0.1238	0.4249	0.0486
4	344.88	0.9728	-0.5575	0.0058	0.4445	0.0505	-7.9888	0.1361	0.7868	0.0454

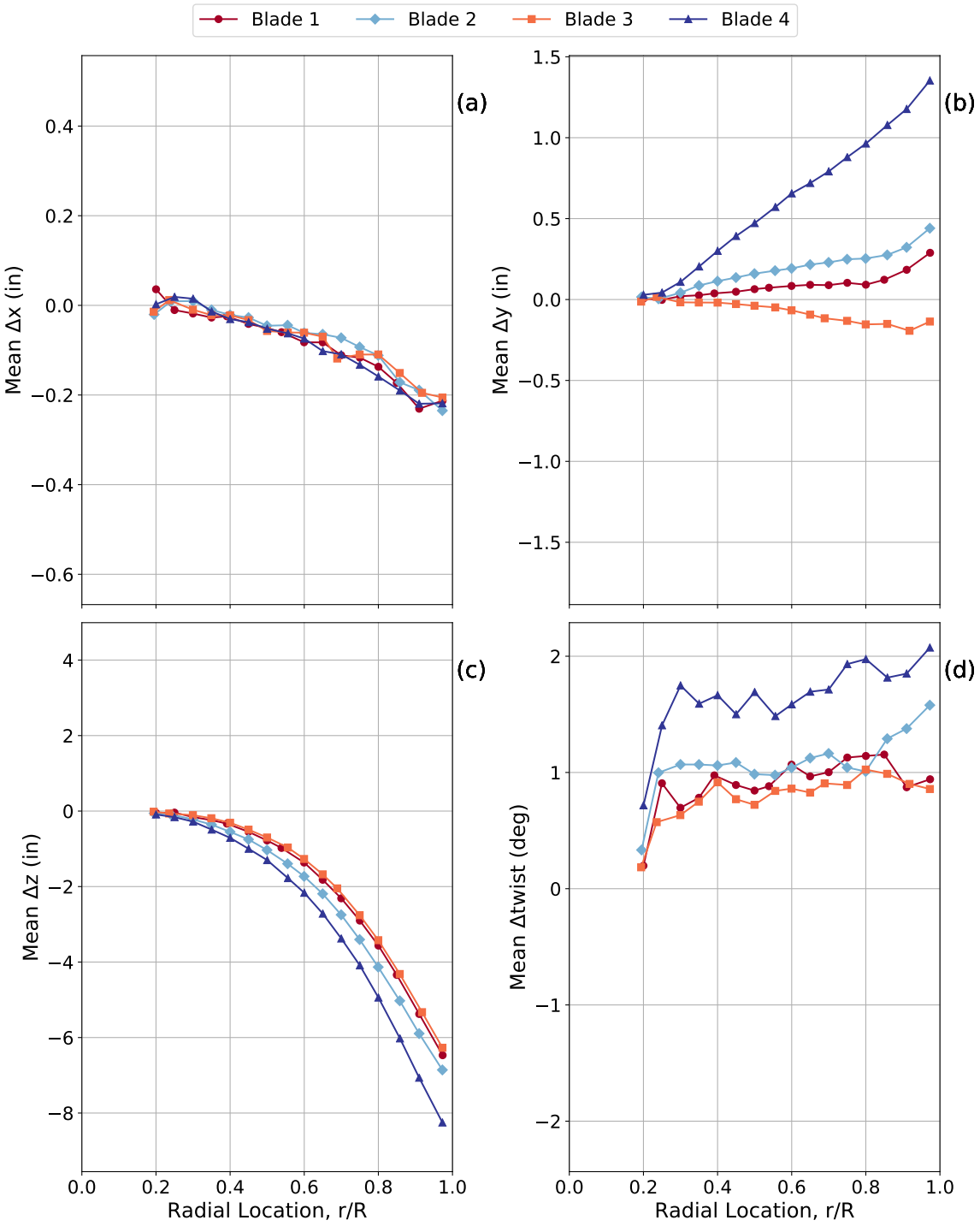


Figure 2.7-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-43. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0359	0.0013	0.0059	0.0018	-0.0498	0.0037	0.1974	0.0536
1	350.16	0.2499	-0.0105	0.0010	-0.0021	0.0017	-0.0402	0.0060	0.9071	0.1148
1	350.16	0.2998	-0.0182	0.0020	0.0205	0.0053	-0.1596	0.0111	0.6960	0.1343
1	350.16	0.3498	-0.0272	0.0015	0.0263	0.0088	-0.2403	0.0193	0.7823	0.1135
1	350.16	0.3913	-0.0244	0.0015	0.0379	0.0114	-0.3324	0.0263	0.9749	0.1276
1	350.16	0.4496	-0.0414	0.0019	0.0480	0.0166	-0.5491	0.0328	0.8922	0.1200
1	350.16	0.4997	-0.0506	0.0024	0.0641	0.0208	-0.7790	0.0415	0.8442	0.1446
1	350.16	0.5387	-0.0598	0.0019	0.0729	0.0224	-0.9771	0.0458	0.8818	0.1342
1	350.16	0.5996	-0.0824	0.0031	0.0840	0.0296	-1.3638	0.0557	1.0672	0.1247
1	350.16	0.6498	-0.0826	0.0021	0.0908	0.0324	-1.8200	0.0627	0.9663	0.1339
1	350.16	0.6998	-0.1113	0.0020	0.0889	0.0369	-2.3115	0.0687	1.0022	0.1350
1	350.16	0.7500	-0.1167	0.0021	0.1033	0.0409	-2.9018	0.0727	1.1283	0.1276
1	350.16	0.8001	-0.1371	0.0028	0.0916	0.0462	-3.5632	0.0766	1.1421	0.1321
1	350.16	0.8497	-0.1729	0.0028	0.1222	0.0512	-4.3402	0.0831	1.1541	0.1232
1	350.16	0.9102	-0.2306	0.0035	0.1838	0.0573	-5.3758	0.0878	0.8727	0.1274
1	350.16	0.9734	-0.2126	0.0045	0.2888	0.0639	-6.4681	0.0971	0.9416	0.1431
2	350.16	0.1949	-0.0204	0.0017	0.0156	0.0013	-0.0583	0.0024	0.3332	0.0296
2	350.16	0.2405	0.0091	0.0013	0.0045	0.0015	-0.0942	0.0053	0.9978	0.0700
2	350.16	0.2999	0.0095	0.0014	0.0418	0.0048	-0.2211	0.0096	1.0687	0.0830
2	350.16	0.3498	-0.0100	0.0016	0.0868	0.0074	-0.3586	0.0154	1.0684	0.0801
2	350.16	0.3998	-0.0214	0.0022	0.1135	0.0114	-0.5495	0.0242	1.0602	0.0809
2	350.16	0.4496	-0.0272	0.0017	0.1358	0.0116	-0.7517	0.0285	1.0856	0.0883
2	350.16	0.4995	-0.0455	0.0015	0.1598	0.0157	-1.0320	0.0374	0.9854	0.0809
2	350.16	0.5551	-0.0443	0.0017	0.1784	0.0186	-1.3951	0.0431	0.9770	0.0776
2	350.16	0.5996	-0.0613	0.0023	0.1924	0.0237	-1.7299	0.0522	1.0411	0.0931
2	350.16	0.6497	-0.0645	0.0019	0.2157	0.0250	-2.1914	0.0576	1.1240	0.0891
2	350.16	0.6996	-0.0724	0.0021	0.2295	0.0290	-2.7481	0.0629	1.1634	0.0820
2	350.16	0.7495	-0.0929	0.0025	0.2489	0.0319	-3.4035	0.0705	1.0430	0.0879
2	350.16	0.7996	-0.1116	0.0030	0.2535	0.0355	-4.1330	0.0783	1.0084	0.0948
2	350.16	0.8578	-0.1716	0.0036	0.2756	0.0398	-5.0268	0.0880	1.2905	0.0980
2	350.16	0.9100	-0.1891	0.0040	0.3225	0.0439	-5.8950	0.0973	1.3771	0.0949
2	350.16	0.9727	-0.2348	0.0051	0.4405	0.0488	-6.8583	0.1070	1.5790	0.1014
3	350.16	0.1938	-0.0142	0.0014	-0.0128	0.0008	-0.0158	0.0024	0.1842	0.0464
3	350.16	0.2357	0.0117	0.0012	0.0163	0.0013	-0.0639	0.0042	0.5726	0.0925
3	350.16	0.2995	-0.0096	0.0012	-0.0172	0.0034	-0.1076	0.0097	0.6330	0.1259
3	350.16	0.3493	-0.0218	0.0010	-0.0184	0.0050	-0.1895	0.0139	0.7488	0.0864
3	350.16	0.4000	-0.0221	0.0014	-0.0189	0.0083	-0.3080	0.0225	0.9154	0.1203
3	350.16	0.4497	-0.0328	0.0015	-0.0279	0.0101	-0.4914	0.0286	0.7700	0.0666
3	350.16	0.4997	-0.0571	0.0014	-0.0384	0.0120	-0.7001	0.0337	0.7217	0.1154
3	350.16	0.5556	-0.0605	0.0019	-0.0486	0.0162	-0.9651	0.0421	0.8413	0.0696
3	350.16	0.5995	-0.0609	0.0019	-0.0666	0.0173	-1.2689	0.0478	0.8609	0.1159
3	350.16	0.6498	-0.0698	0.0021	-0.0934	0.0203	-1.6763	0.0537	0.8267	0.1093
3	350.16	0.6890	-0.1186	0.0018	-0.1159	0.0230	-2.0486	0.0603	0.9062	0.0872
3	350.16	0.7495	-0.1097	0.0018	-0.1316	0.0268	-2.7582	0.0694	0.8923	0.0986
3	350.16	0.7998	-0.1096	0.0023	-0.1536	0.0301	-3.4210	0.0779	1.0250	0.0960
3	350.16	0.8577	-0.1509	0.0028	-0.1506	0.0343	-4.3168	0.0888	0.9882	0.1107
3	350.16	0.9178	-0.1951	0.0040	-0.1930	0.0386	-5.3274	0.0981	0.9015	0.1003
3	350.16	0.9729	-0.2055	0.0053	-0.1361	0.0424	-6.2702	0.1125	0.8575	0.1207
4	350.16	0.2001	0.0024	0.0014	0.0290	0.0008	-0.0910	0.0021	0.7171	0.0253
4	350.16	0.2502	0.0189	0.0020	0.0429	0.0029	-0.1615	0.0063	1.4054	0.0633
4	350.16	0.3001	0.0148	0.0012	0.1090	0.0047	-0.2798	0.0116	1.7482	0.0653
4	350.16	0.3502	-0.0137	0.0011	0.2040	0.0068	-0.4911	0.0130	1.5914	0.0668
4	350.16	0.4002	-0.0307	0.0015	0.3004	0.0121	-0.7102	0.0253	1.6644	0.0715
4	350.16	0.4500	-0.0376	0.0018	0.3924	0.0155	-0.9998	0.0310	1.5005	0.0605
4	350.16	0.5001	-0.0522	0.0017	0.4722	0.0191	-1.3002	0.0372	1.6918	0.0779
4	350.16	0.5560	-0.0625	0.0021	0.5717	0.0221	-1.7769	0.0453	1.4848	0.0663
4	350.16	0.6001	-0.0742	0.0015	0.6557	0.0261	-2.1652	0.0518	1.5855	0.0705
4	350.16	0.6501	-0.1021	0.0021	0.7197	0.0300	-2.7181	0.0557	1.6944	0.0757
4	350.16	0.6999	-0.1093	0.0020	0.7916	0.0344	-3.3765	0.0635	1.7135	0.0744
4	350.16	0.7500	-0.1327	0.0021	0.8798	0.0380	-4.0893	0.0719	1.9321	0.0697
4	350.16	0.8002	-0.1588	0.0026	0.9635	0.0427	-4.9418	0.0775	1.9750	0.0712
4	350.16	0.8582	-0.1900	0.0028	1.0783	0.0482	-6.0232	0.0861	1.8158	0.0751
4	350.16	0.9101	-0.2195	0.0032	1.1771	0.0530	-7.0650	0.0944	1.8503	0.0669
4	350.16	0.9728	-0.2186	0.0042	1.3531	0.0589	-8.2517	0.1034	2.0740	0.0862

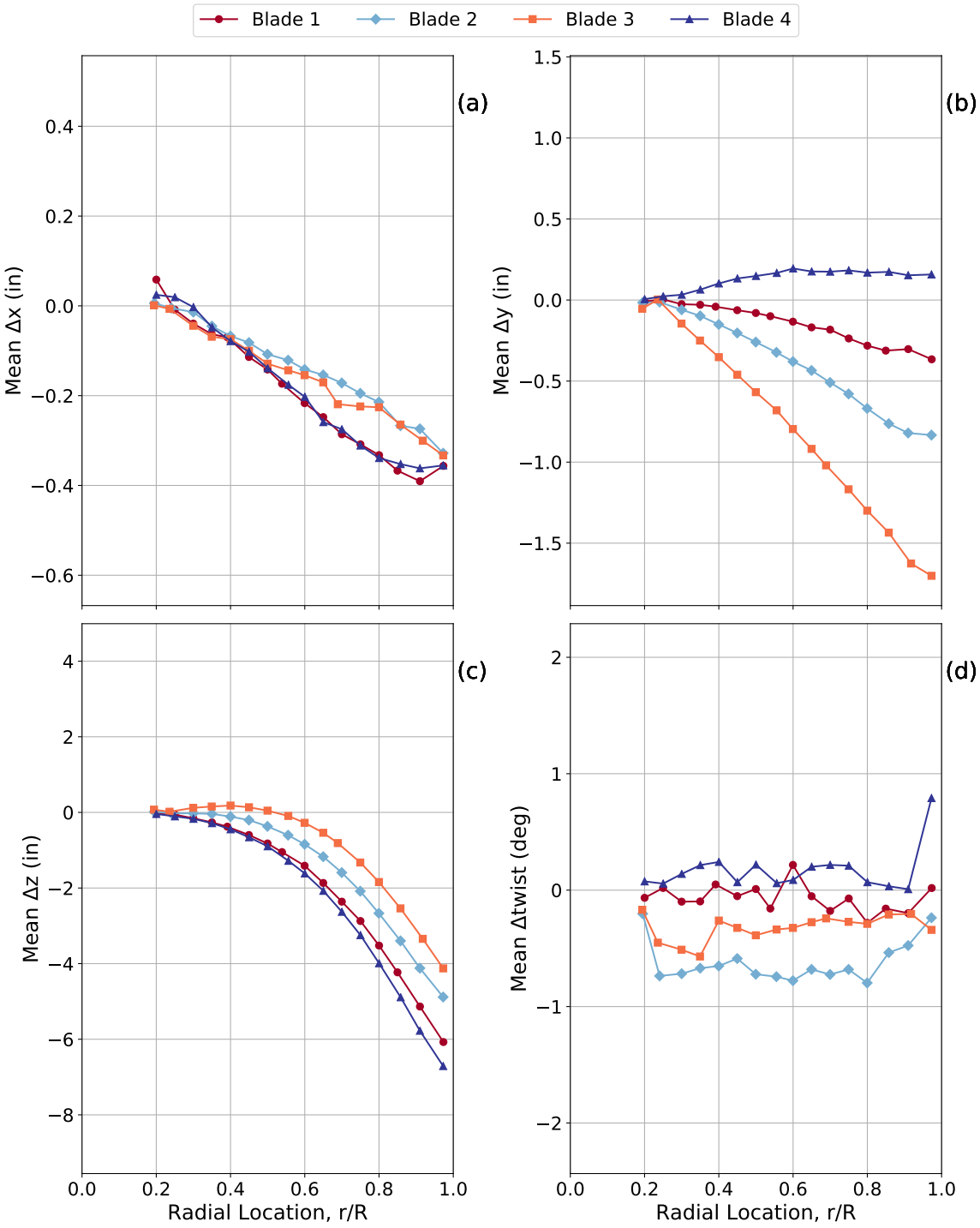


Figure 2.7-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Table 2.7-44. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 8 to 11. BD run 20, points 1378 to 1417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0585	0.0032	-0.0087	0.0027	-0.0373	0.0064	-0.0658	0.0604
1	355.08	0.2499	-0.0085	0.0025	0.0035	0.0053	-0.0593	0.0112	0.0186	0.0806
1	355.08	0.2998	-0.0395	0.0021	-0.0256	0.0105	-0.1550	0.0196	-0.0989	0.1244
1	355.08	0.3498	-0.0634	0.0029	-0.0294	0.0175	-0.2639	0.0319	-0.0970	0.1061
1	355.08	0.3913	-0.0698	0.0033	-0.0411	0.0249	-0.3777	0.0442	0.0487	0.0852
1	355.08	0.4496	-0.1139	0.0033	-0.0628	0.0317	-0.5984	0.0568	-0.0515	0.0890
1	355.08	0.4997	-0.1418	0.0034	-0.0801	0.0377	-0.8217	0.0678	0.0097	0.0908
1	355.08	0.5387	-0.1734	0.0034	-0.0997	0.0431	-1.0496	0.0774	-0.1579	0.0879
1	355.08	0.5996	-0.2167	0.0032	-0.1335	0.0507	-1.4111	0.0907	0.2167	0.0892
1	355.08	0.6498	-0.2478	0.0033	-0.1687	0.0571	-1.8660	0.1020	-0.0523	0.0923
1	355.08	0.6998	-0.2860	0.0035	-0.1828	0.0647	-2.3610	0.1128	-0.1783	0.0998
1	355.08	0.7500	-0.3084	0.0036	-0.2372	0.0700	-2.8729	0.1240	-0.0716	0.1119
1	355.08	0.8001	-0.3325	0.0041	-0.2815	0.0757	-3.5223	0.1338	-0.2808	0.0988
1	355.08	0.8497	-0.3670	0.0049	-0.3121	0.0843	-4.2305	0.1467	-0.1587	0.0991
1	355.08	0.9102	-0.3905	0.0056	-0.3030	0.0916	-5.1347	0.1587	-0.1975	0.1174
1	355.08	0.9734	-0.3564	0.0067	-0.3657	0.1007	-6.0742	0.1773	0.0181	0.1218
2	355.08	0.1949	0.0057	0.0026	-0.0155	0.0012	0.0184	0.0029	-0.2027	0.0165
2	355.08	0.2405	-0.0050	0.0013	-0.0126	0.0016	-0.0242	0.0053	-0.7368	0.0332
2	355.08	0.2999	-0.0140	0.0011	-0.0602	0.0047	-0.0250	0.0111	-0.7175	0.0412
2	355.08	0.3498	-0.0451	0.0014	-0.0978	0.0077	-0.0381	0.0157	-0.6702	0.0358
2	355.08	0.3998	-0.0673	0.0015	-0.1506	0.0120	-0.1115	0.0258	-0.6516	0.0495
2	355.08	0.4496	-0.0818	0.0018	-0.2034	0.0146	-0.2030	0.0303	-0.5875	0.0419
2	355.08	0.4995	-0.1077	0.0018	-0.2594	0.0179	-0.3692	0.0368	-0.7223	0.0442
2	355.08	0.5551	-0.1210	0.0019	-0.3228	0.0206	-0.6029	0.0424	-0.7432	0.0357
2	355.08	0.5996	-0.1416	0.0022	-0.3798	0.0230	-0.8433	0.0476	-0.7777	0.0386
2	355.08	0.6497	-0.1539	0.0023	-0.4346	0.0258	-1.1718	0.0542	-0.6806	0.0410
2	355.08	0.6996	-0.1717	0.0033	-0.5088	0.0291	-1.5924	0.0623	-0.7242	0.0418
2	355.08	0.7495	-0.1948	0.0040	-0.5794	0.0320	-2.0844	0.0680	-0.6808	0.0431
2	355.08	0.7996	-0.2142	0.0055	-0.6691	0.0353	-2.6689	0.0748	-0.7969	0.0404
2	355.08	0.8578	-0.2670	0.0076	-0.7627	0.0392	-3.3988	0.0834	-0.5364	0.0399
2	355.08	0.9100	-0.2739	0.0092	-0.8204	0.0423	-4.1197	0.0919	-0.4755	0.0418
2	355.08	0.9727	-0.3282	0.0121	-0.8333	0.0456	-4.8836	0.1012	-0.2373	0.0456
3	355.08	0.1938	0.0012	0.0022	-0.0539	0.0012	0.0729	0.0037	-0.1687	0.0154
3	355.08	0.2357	-0.0067	0.0012	0.0033	0.0020	0.0178	0.0049	-0.4510	0.0363
3	355.08	0.2995	-0.0443	0.0013	-0.1453	0.0050	0.1208	0.0115	-0.5115	0.0394
3	355.08	0.3493	-0.0688	0.0017	-0.2500	0.0087	0.1554	0.0168	-0.5698	0.0492
3	355.08	0.4000	-0.0742	0.0021	-0.3526	0.0137	0.1812	0.0258	-0.2611	0.0414
3	355.08	0.4497	-0.1000	0.0021	-0.4608	0.0165	0.1358	0.0312	-0.3240	0.0502
3	355.08	0.4997	-0.1288	0.0018	-0.5684	0.0198	0.0464	0.0399	-0.3876	0.0389
3	355.08	0.5556	-0.1435	0.0018	-0.6806	0.0246	-0.0938	0.0460	-0.3381	0.0495
3	355.08	0.5995	-0.1544	0.0021	-0.7959	0.0283	-0.2757	0.0519	-0.3243	0.0478
3	355.08	0.6498	-0.1704	0.0026	-0.9184	0.0329	-0.5389	0.0589	-0.2753	0.0434
3	355.08	0.6890	-0.2191	0.0024	-1.0200	0.0354	-0.8117	0.0626	-0.2425	0.0462
3	355.08	0.7495	-0.2240	0.0024	-1.1678	0.0407	-1.3253	0.0708	-0.2721	0.0496
3	355.08	0.7998	-0.2258	0.0028	-1.2996	0.0454	-1.8420	0.0786	-0.2894	0.0574
3	355.08	0.8577	-0.2645	0.0026	-1.4349	0.0503	-2.5390	0.0878	-0.2091	0.0542
3	355.08	0.9178	-0.3003	0.0025	-1.6255	0.0554	-3.3441	0.1004	-0.2043	0.0556
3	355.08	0.9729	-0.3331	0.0039	-1.7013	0.0602	-4.1258	0.1120	-0.3412	0.0556
4	355.08	0.2001	0.0247	0.0022	0.0052	0.0020	-0.0424	0.0045	0.0752	0.0474
4	355.08	0.2502	0.0192	0.0021	0.0230	0.0047	-0.1053	0.0087	0.0561	0.0739
4	355.08	0.3001	-0.0029	0.0017	0.0325	0.0070	-0.1704	0.0130	0.1395	0.1017
4	355.08	0.3502	-0.0478	0.0021	0.0643	0.0125	-0.2855	0.0235	0.2150	0.0739
4	355.08	0.4002	-0.0786	0.0025	0.1023	0.0188	-0.4477	0.0329	0.2424	0.0691
4	355.08	0.4500	-0.1024	0.0021	0.1329	0.0219	-0.6584	0.0401	0.0683	0.0770
4	355.08	0.5001	-0.1390	0.0023	0.1482	0.0270	-0.8973	0.0496	0.2196	0.0697
4	355.08	0.5560	-0.1758	0.0027	0.1669	0.0324	-1.2813	0.0601	0.0597	0.0666
4	355.08	0.6001	-0.2026	0.0027	0.1945	0.0362	-1.6154	0.0672	0.0872	0.0736
4	355.08	0.6501	-0.2590	0.0026	0.1761	0.0404	-2.0752	0.0755	0.2008	0.0679
4	355.08	0.6999	-0.2748	0.0026	0.1748	0.0463	-2.6301	0.0839	0.2166	0.0905
4	355.08	0.7500	-0.3112	0.0028	0.1827	0.0489	-3.2479	0.0932	0.2101	0.0784
4	355.08	0.8002	-0.3390	0.0038	0.1689	0.0551	-3.9915	0.1031	0.0681	0.0790
4	355.08	0.8582	-0.3525	0.0040	0.1736	0.0608	-4.8906	0.1104	0.0331	0.1045
4	355.08	0.9101	-0.3619	0.0050	0.1527	0.0663	-5.7760	0.1215	0.0082	0.1063
4	355.08	0.9728	-0.3554	0.0055	0.1576	0.0723	-6.7101	0.1301	0.7905	0.0896

2.8 Run 43, Points 28 to 31

2.8.1 Pitch, Flap, and Lag

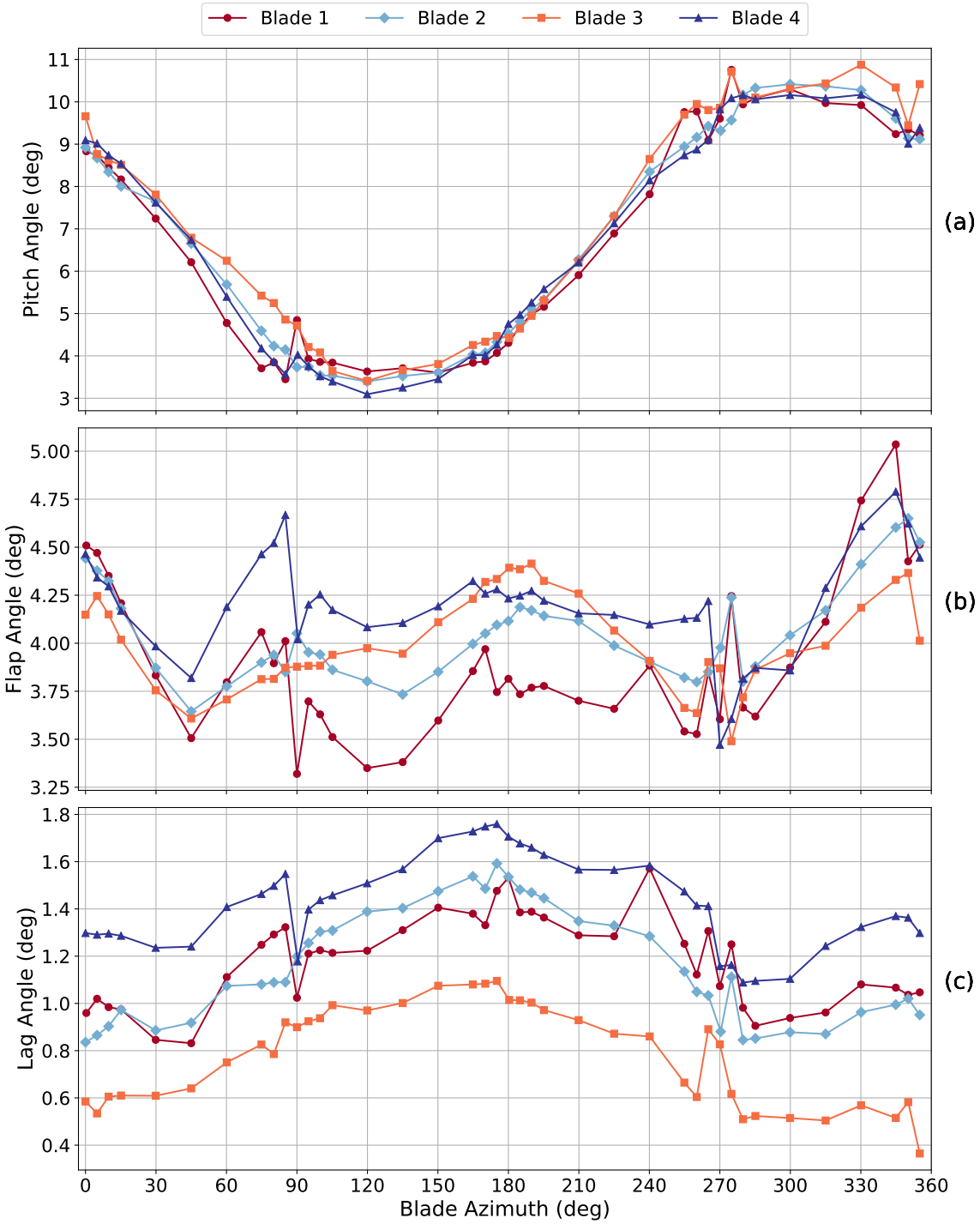


Figure 2.8-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-1. Pitch, flap, and lag vs azimuth for Blade 1.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	8.8317	4.5089	0.9595	0.1070	0.0597	0.0366
4.92	8.7361	4.4705	1.0196	0.0936	0.0488	0.0353
9.84	8.4460	4.3507	0.9842	0.0964	0.0544	0.0381
15.12	8.1676	4.2085	0.9746	0.0843	0.0598	0.0424
29.88	7.2419	3.8326	0.8459	0.0722	0.0412	0.0206
45	6.2118	3.5058	0.8315	0.0741	0.0377	0.0242
60.12	4.7766	3.7966	1.1115	0.0684	0.0421	0.0283
74.88	3.7062	4.0581	1.2480	0.0882	0.0467	0.0229
80.16	3.8477	3.8956	1.2918	0.2504	0.1027	0.0683
85.08	3.4498	4.0109	1.3227	0.0923	0.0465	0.0263
90	4.8448	3.3197	1.0239	0.0728	0.0386	0.0184
94.92	3.9296	3.6971	1.2107	0.0666	0.0418	0.0256
99.84	3.8586	3.6296	1.2251	0.0483	0.0319	0.0261
105.12	3.8408	3.5115	1.2138	0.0551	0.0352	0.0257
119.88	3.6312	3.3498	1.2230	0.0658	0.0327	0.0195
135	3.7090	3.3809	1.3103	0.0341	0.0478	0.0331
150.12	3.6048	3.5974	1.4053	0.0433	0.0525	0.0261
164.88	3.8371	3.8552	1.3798	0.0501	0.0542	0.0130
170.16	3.8715	3.9691	1.3311	0.0866	0.0683	0.0288
175.08	4.0703	3.7457	1.4765	0.0587	0.0554	0.0237
180	4.3067	3.8147	1.5322	0.0454	0.0372	0.0295
184.92	4.6911	3.7349	1.3855	0.0586	0.0416	0.0246
189.84	4.9797	3.7687	1.3881	0.0641	0.0418	0.0277
195.12	5.1594	3.7774	1.3635	0.0555	0.0455	0.0248
209.88	5.9071	3.7004	1.2884	0.0579	0.0574	0.0284
225	6.8910	3.6586	1.2842	0.0750	0.0494	0.0375
240.12	7.8182	3.8834	1.5711	0.0631	0.0552	0.0282
254.88	9.7582	3.5405	1.2523	0.1268	0.0471	0.0287
260.16	9.7728	3.5268	1.1222	0.2009	0.0814	0.0411
265.08	9.0866	3.8493	1.3064	0.0626	0.0321	0.0253
270	9.6047	3.6045	1.0733	0.0998	0.0380	0.0418
274.92	10.7557	4.2461	1.2499	0.6565	0.0294	0.0204
279.84	9.9403	3.6648	0.9814	0.0561	0.0422	0.0200
285.12	10.0890	3.6186	0.9051	0.0738	0.0278	0.0249
299.88	10.2988	3.8736	0.9383	0.0522	0.0528	0.0451
315	9.9711	4.1116	0.9616	0.0980	0.0481	0.0239
330.12	9.9227	4.7430	1.0804	0.0664	0.0541	0.0312
344.88	9.2374	5.0354	1.0667	0.1140	0.0781	0.0565
350.16	9.3462	4.4264	1.0364	0.0532	0.0253	0.0224
355.08	9.2149	4.5134	1.0469	0.0964	0.0575	0.0331

Table 2.8-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	8.9214	4.4421	0.8358	0.0662	0.0444	0.0261
4.92	8.6734	4.3771	0.8652	0.0732	0.0439	0.0233
9.84	8.3454	4.3232	0.9030	0.0696	0.0621	0.0248
15.12	8.0064	4.1818	0.9726	0.0930	0.0588	0.0347
29.88	7.6461	3.8715	0.8857	0.0721	0.0466	0.0204
45	6.6542	3.6450	0.9181	0.0499	0.0333	0.0275
60.12	5.6859	3.7756	1.0742	0.0610	0.0457	0.0251
74.88	4.5915	3.9001	1.0807	0.0530	0.0333	0.0154
80.16	4.2335	3.9391	1.0890	0.0760	0.0389	0.0298
85.08	4.1467	3.8505	1.0900	0.0750	0.0273	0.0248
90	3.7336	4.0513	1.1982	0.0791	0.0349	0.0208
94.92	3.7457	3.9530	1.2558	0.0491	0.0317	0.0269
99.84	3.5404	3.9412	1.3036	0.0473	0.0379	0.0308
105.12	3.5313	3.8614	1.3087	0.0501	0.0463	0.0237
119.88	3.3947	3.8020	1.3886	0.0467	0.0491	0.0261
135	3.5252	3.7334	1.4031	0.0520	0.0432	0.0356
150.12	3.6074	3.8512	1.4748	0.0502	0.0444	0.0260
164.88	4.0348	3.9964	1.5378	0.0511	0.0453	0.0211
170.16	4.0715	4.0509	1.4862	0.0779	0.0441	0.0411
175.08	4.3316	4.0951	1.5923	0.0582	0.0501	0.0217
180	4.5243	4.1155	1.5358	0.0433	0.0473	0.0379
184.92	4.8130	4.1880	1.4817	0.0493	0.0488	0.0249
189.84	5.1017	4.1710	1.4691	0.0414	0.0375	0.0234
195.12	5.3258	4.1425	1.4454	0.0502	0.0511	0.0328
209.88	6.2736	4.1159	1.3482	0.0693	0.0478	0.0308
225	7.3015	3.9876	1.3293	0.0389	0.0380	0.0288
240.12	8.3491	3.9045	1.2842	0.0612	0.0327	0.0205
254.88	8.9413	3.8208	1.1351	0.1212	0.0455	0.0374
260.16	9.1622	3.7984	1.0490	0.1158	0.0513	0.0231
265.08	9.4245	3.8511	1.0336	0.1733	0.0782	0.0359
270.35	9.3183	3.9772	0.8805	0.2096	0.0693	0.0443
274.92	9.5670	4.2379	1.1118	0.0455	0.0367	0.0311
279.84	10.1627	3.8001	0.8453	0.1884	0.0698	0.0414
285.12	10.3262	3.8795	0.8518	0.0751	0.0280	0.0432
299.88	10.4155	4.0415	0.8781	0.0518	0.0301	0.0175
315	10.3677	4.1708	0.8705	0.0557	0.0482	0.0295
330.12	10.2761	4.4112	0.9629	0.0677	0.0432	0.0283
344.88	9.6080	4.6032	0.9947	0.0496	0.0508	0.0276
350.16	9.1387	4.6501	1.0204	0.0661	0.0356	0.0241
355.08	9.1188	4.5256	0.9513	0.0430	0.0413	0.0200

Table 2.8-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	9.6595	4.1484	0.5849	0.0539	0.0371	0.0330
4.92	8.7639	4.2458	0.5343	0.0768	0.0295	0.0335
9.84	8.6210	4.1501	0.6052	0.0815	0.0602	0.0245
15.12	8.5118	4.0184	0.6100	0.0587	0.0454	0.0298
29.88	7.8096	3.7548	0.6091	0.0736	0.0357	0.0348
45	6.7899	3.6080	0.6403	0.0703	0.0445	0.0378
60.12	6.2466	3.7072	0.7503	0.0565	0.0485	0.0256
74.88	5.4230	3.8128	0.8259	0.0733	0.0451	0.0200
80.16	5.2477	3.8143	0.7857	0.1039	0.0523	0.0406
85.08	4.8572	3.8729	0.9198	0.0813	0.0391	0.0293
90	4.7167	3.8779	0.8993	0.0884	0.0467	0.0440
94.92	4.2080	3.8822	0.9243	0.0726	0.0395	0.0333
99.84	4.0808	3.8833	0.9373	0.0806	0.0343	0.0259
105.12	3.6410	3.9398	0.9925	0.0513	0.0340	0.0438
119.88	3.4095	3.9742	0.9702	0.0494	0.0434	0.0366
135	3.6621	3.9458	1.0015	0.0512	0.0455	0.0279
150.12	3.8090	4.1095	1.0748	0.0358	0.0507	0.0182
164.88	4.2575	4.2311	1.0802	0.0648	0.0617	0.0365
170.16	4.3363	4.3190	1.0833	0.0409	0.0482	0.0289
175.08	4.4688	4.3345	1.0952	0.0566	0.0549	0.0329
180.35	4.4233	4.3932	1.0147	0.0442	0.0487	0.0350
184.92	4.6456	4.3849	1.0131	0.0462	0.0384	0.0310
189.84	4.9460	4.4146	1.0033	0.0837	0.0575	0.0397
195.12	5.3113	4.3247	0.9718	0.0510	0.0446	0.0429
209.88	6.2380	4.2586	0.9291	0.0385	0.0507	0.0163
225	7.2986	4.0662	0.8718	0.0471	0.0325	0.0212
240.12	8.6497	3.9077	0.8601	0.0664	0.0304	0.0334
254.88	9.6954	3.6629	0.6648	0.0670	0.0483	0.0232
260.16	9.9481	3.6361	0.6037	0.1508	0.0591	0.0294
265.08	9.8060	3.9020	0.8907	0.1477	0.0565	0.0228
270	9.8590	3.8694	0.8267	0.2999	0.1046	0.0458
274.92	10.7132	3.4898	0.6169	0.5228	0.3286	0.1158
279.84	10.0542	3.7183	0.5097	0.0674	0.0243	0.0418
285.12	10.1014	3.8616	0.5235	0.0766	0.0486	0.0266
299.88	10.3087	3.9482	0.5148	0.0933	0.0240	0.0169
315	10.4345	3.9868	0.5044	0.0623	0.0300	0.0310
330.12	10.8754	4.1850	0.5687	0.0862	0.0414	0.0251
344.88	10.3383	4.3300	0.5153	0.0688	0.0332	0.0269
350.16	9.4437	4.3658	0.5822	0.0513	0.0322	0.0331
355.08	10.4187	4.0131	0.3646	0.0521	0.0444	0.0299

Table 2.8-4. Pitch, flap, and lag vs azimuth for Blade 4.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	9.0941	4.4647	1.2978	0.1019	0.0482	0.0466
4.92	9.0156	4.3423	1.2909	0.0857	0.0473	0.0278
9.84	8.7383	4.2960	1.2952	0.0849	0.0485	0.0243
15.12	8.5385	4.1690	1.2863	0.0650	0.0477	0.0303
29.88	7.6212	3.9838	1.2354	0.0732	0.0352	0.0308
45	6.7381	3.8188	1.2404	0.0635	0.0456	0.0297
60.12	5.3954	4.1886	1.4080	0.0529	0.0354	0.0174
74.88	4.1771	4.4633	1.4631	0.0649	0.0496	0.0403
80.16	3.8647	4.5217	1.4977	0.0608	0.0415	0.0296
85.08	3.5689	4.6677	1.5480	0.0787	0.0460	0.0302
90.35	4.0244	4.0208	1.1776	0.0507	0.0367	0.0265
94.92	3.7571	4.2013	1.3972	0.0537	0.0353	0.0315
99.84	3.5204	4.2539	1.4371	0.0917	0.0409	0.0422
105.12	3.3950	4.1731	1.4575	0.0403	0.0411	0.0440
119.88	3.0943	4.0834	1.5085	0.0500	0.0576	0.0193
135	3.2509	4.1053	1.5682	0.0433	0.0307	0.0210
150.12	3.4529	4.1921	1.6995	0.0610	0.0315	0.0285
164.88	4.0173	4.3238	1.7279	0.0472	0.0540	0.0150
170.16	4.0175	4.2584	1.7486	0.0440	0.0412	0.0251
175.08	4.2620	4.2808	1.7594	0.0379	0.0468	0.0182
180	4.7530	4.2330	1.7059	0.0523	0.0545	0.0189
184.92	4.9715	4.2477	1.6771	0.0570	0.0490	0.0264
189.84	5.2587	4.2729	1.6594	0.0492	0.0400	0.0293
195.12	5.5789	4.2213	1.6285	0.0402	0.0450	0.0287
209.88	6.2065	4.1556	1.5665	0.0566	0.0325	0.0172
225	7.1325	4.1473	1.5649	0.0741	0.0391	0.0260
240.12	8.1464	4.0978	1.5833	0.0580	0.0382	0.0206
254.88	8.7377	4.1269	1.4740	0.0734	0.0323	0.0208
260.16	8.8754	4.1324	1.4141	0.1314	0.0500	0.0279
265.08	9.1060	4.2198	1.4116	0.2249	0.0777	0.0338
270	9.8221	3.4708	1.1577	0.2347	0.1335	0.0679
274.92	10.0857	3.6057	1.1627	0.4404	0.2878	0.1033
279.84	10.1591	3.8154	1.0882	0.1257	0.0237	0.0336
285.12	10.0592	3.8716	1.0951	0.1100	0.0634	0.0546
299.88	10.1610	3.8585	1.1041	0.0844	0.0537	0.0278
315	10.0836	4.2877	1.2433	0.0809	0.0580	0.0350
330.12	10.1671	4.6088	1.3233	0.0705	0.0451	0.0223
344.88	9.7529	4.7890	1.3696	0.0833	0.0597	0.0334
350.16	9.0103	4.6230	1.3627	0.0884	0.0230	0.0425
355.08	9.3851	4.4457	1.2978	0.0875	0.0418	0.0353

2.8.2 Spanwise Elastic Deformations

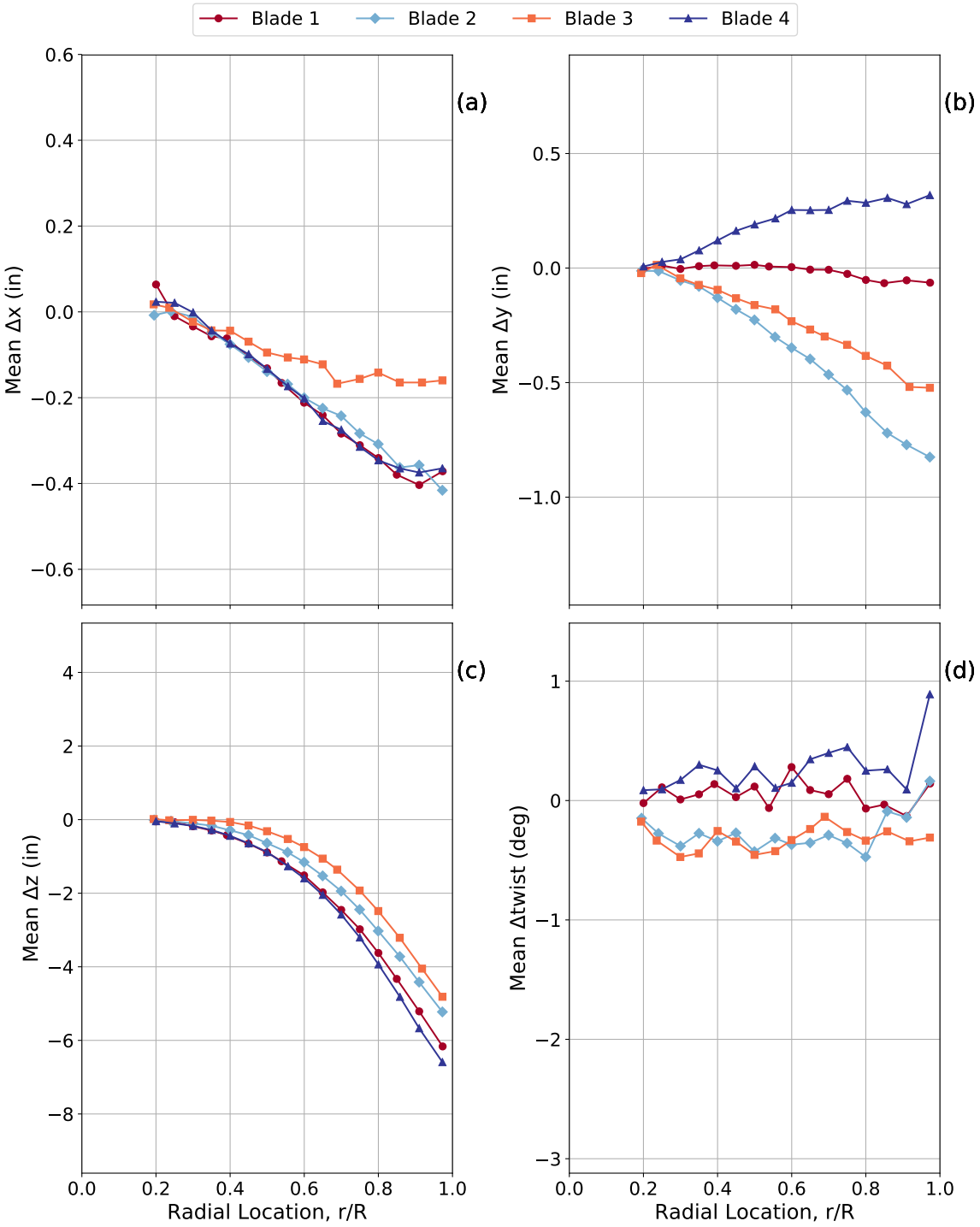


Figure 2.8-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-5. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0638	0.0034	-0.0034	0.0022	-0.0474	0.0073	-0.0214	0.0633
1	0.35	0.2499	-0.0100	0.0021	0.0110	0.0050	-0.0692	0.0129	0.1105	0.1097
1	0.35	0.2998	-0.0339	0.0016	-0.0040	0.0088	-0.1812	0.0217	0.0091	0.1375
1	0.35	0.3498	-0.0569	0.0022	0.0082	0.0164	-0.2952	0.0386	0.0521	0.1095
1	0.35	0.3913	-0.0617	0.0025	0.0117	0.0230	-0.4223	0.0508	0.1377	0.1042
1	0.35	0.4496	-0.1053	0.0025	0.0097	0.0293	-0.6538	0.0657	0.0288	0.1038
1	0.35	0.4997	-0.1316	0.0025	0.0140	0.0357	-0.8922	0.0804	0.1170	0.1087
1	0.35	0.5387	-0.1655	0.0029	0.0066	0.0406	-1.1315	0.0911	-0.0624	0.1083
1	0.35	0.5996	-0.2117	0.0028	0.0041	0.0482	-1.5160	0.1085	0.2803	0.1122
1	0.35	0.6498	-0.2406	0.0029	-0.0069	0.0552	-1.9771	0.1241	0.0879	0.1024
1	0.35	0.6998	-0.2837	0.0029	-0.0075	0.0615	-2.4535	0.1372	0.0533	0.1110
1	0.35	0.7500	-0.3107	0.0033	-0.0256	0.0677	-2.9797	0.1529	0.1822	0.1072
1	0.35	0.8001	-0.3407	0.0036	-0.0519	0.0743	-3.6242	0.1670	-0.0670	0.1159
1	0.35	0.8497	-0.3795	0.0040	-0.0660	0.0819	-4.3295	0.1828	-0.0343	0.1079
1	0.35	0.9102	-0.4035	0.0049	-0.0536	0.0894	-5.2115	0.2012	-0.1303	0.1135
1	0.35	0.9734	-0.3715	0.0062	-0.0639	0.0983	-6.1645	0.2227	0.1423	0.1217
2	0	0.1949	-0.0078	0.0024	-0.0125	0.0017	-0.0093	0.0046	-0.1479	0.0429
2	0	0.2405	0.0013	0.0020	-0.0126	0.0037	-0.0415	0.0077	-0.2756	0.0582
2	0	0.2999	-0.0115	0.0011	-0.0539	0.0056	-0.1027	0.0144	-0.3815	0.0902
2	0	0.3498	-0.0480	0.0020	-0.0800	0.0110	-0.1648	0.0247	-0.2743	0.0693
2	0	0.3998	-0.0754	0.0025	-0.1297	0.0161	-0.2903	0.0359	-0.3410	0.0626
2	0	0.4496	-0.1063	0.0024	-0.1801	0.0202	-0.4215	0.0439	-0.2710	0.0617
2	0	0.4995	-0.1393	0.0029	-0.2265	0.0241	-0.6390	0.0511	-0.4278	0.0692
2	0	0.5551	-0.1684	0.0029	-0.3010	0.0297	-0.8878	0.0610	-0.3151	0.0680
2	0	0.5996	-0.2001	0.0029	-0.3480	0.0329	-1.1561	0.0685	-0.3695	0.0715
2	0	0.6497	-0.2247	0.0030	-0.3972	0.0374	-1.5291	0.0759	-0.3541	0.0691
2	0	0.6996	-0.2424	0.0032	-0.4650	0.0426	-1.9428	0.0855	-0.2894	0.0652
2	0	0.7495	-0.2832	0.0031	-0.5324	0.0465	-2.4440	0.0923	-0.3573	0.0659
2	0	0.7996	-0.3082	0.0034	-0.6297	0.0517	-3.0272	0.1017	-0.4727	0.0680
2	0	0.8578	-0.3627	0.0043	-0.7199	0.0578	-3.7218	0.1131	-0.0901	0.0813
2	0	0.9100	-0.3572	0.0041	-0.7712	0.0649	-4.4162	0.1241	-0.1414	0.1133
2	0	0.9727	-0.4158	0.0062	-0.8252	0.0690	-5.2262	0.1392	0.1626	0.0726
3	0	0.1938	0.0175	0.0036	-0.0221	0.0014	0.0150	0.0038	-0.1766	0.0243
3	0	0.2357	0.0095	0.0024	0.0137	0.0024	-0.0181	0.0054	-0.3354	0.0465
3	0	0.2995	-0.0232	0.0016	-0.0447	0.0049	-0.0059	0.0096	-0.4729	0.0533
3	0	0.3493	-0.0432	0.0024	-0.0737	0.0083	-0.0271	0.0154	-0.4427	0.0465
3	0	0.4000	-0.0439	0.0035	-0.0951	0.0130	-0.0646	0.0221	-0.2551	0.0486
3	0	0.4497	-0.0694	0.0048	-0.1318	0.0177	-0.1591	0.0273	-0.3434	0.0526
3	0	0.4997	-0.0947	0.0063	-0.1615	0.0238	-0.3150	0.0346	-0.4552	0.0484
3	0	0.5556	-0.1063	0.0081	-0.1804	0.0303	-0.5265	0.0421	-0.4239	0.0537
3	0	0.5995	-0.1109	0.0099	-0.2322	0.0355	-0.7457	0.0486	-0.3308	0.0483
3	0	0.6498	-0.1223	0.0120	-0.2685	0.0402	-1.0595	0.0557	-0.2386	0.0469
3	0	0.6890	-0.1675	0.0137	-0.2989	0.0444	-1.3596	0.0613	-0.1361	0.0543
3	0	0.7495	-0.1562	0.0166	-0.3350	0.0489	-1.9273	0.0704	-0.2635	0.0531
3	0	0.7998	-0.1415	0.0198	-0.3834	0.0530	-2.4850	0.0796	-0.3357	0.0518
3	0	0.8577	-0.1646	0.0229	-0.4259	0.0578	-3.2111	0.0900	-0.2579	0.0511
3	0	0.9178	-0.1646	0.0266	-0.5189	0.0619	-4.0500	0.0998	-0.3413	0.0536
3	0	0.9729	-0.1597	0.0302	-0.5227	0.0676	-4.8146	0.1118	-0.3101	0.0598
4	0	0.2001	0.0236	0.0025	0.0067	0.0019	-0.0438	0.0049	0.0867	0.0410
4	0	0.2502	0.0211	0.0019	0.0266	0.0036	-0.1042	0.0093	0.0939	0.0773
4	0	0.3001	-0.0013	0.0015	0.0383	0.0068	-0.1708	0.0156	0.1730	0.0910
4	0	0.3502	-0.0435	0.0019	0.0772	0.0118	-0.2818	0.0246	0.2996	0.0785
4	0	0.4002	-0.0738	0.0023	0.1208	0.0176	-0.4413	0.0374	0.2522	0.0818
4	0	0.4500	-0.0988	0.0022	0.1626	0.0213	-0.6464	0.0462	0.1018	0.0746
4	0	0.5001	-0.1330	0.0024	0.1901	0.0261	-0.8819	0.0579	0.2864	0.0723
4	0	0.5560	-0.1734	0.0029	0.2167	0.0303	-1.2683	0.0695	0.1059	0.0731
4	0	0.6001	-0.2018	0.0028	0.2534	0.0354	-1.5959	0.0791	0.1487	0.0760
4	0	0.6501	-0.2542	0.0027	0.2526	0.0389	-2.0470	0.0892	0.3456	0.0744
4	0	0.6999	-0.2748	0.0028	0.2536	0.0435	-2.5806	0.0992	0.3988	0.0809
4	0	0.7500	-0.3146	0.0029	0.2936	0.0485	-3.2044	0.1096	0.4475	0.0764
4	0	0.8002	-0.3461	0.0033	0.2848	0.0534	-3.9366	0.1208	0.2503	0.0840
4	0	0.8582	-0.3649	0.0038	0.3060	0.0594	-4.8179	0.1335	0.2618	0.0902
4	0	0.9101	-0.3744	0.0042	0.2787	0.0642	-5.6714	0.1455	0.0925	0.0850
4	0	0.9728	-0.3646	0.0049	0.3182	0.0706	-6.5910	0.1605	0.8897	0.0880

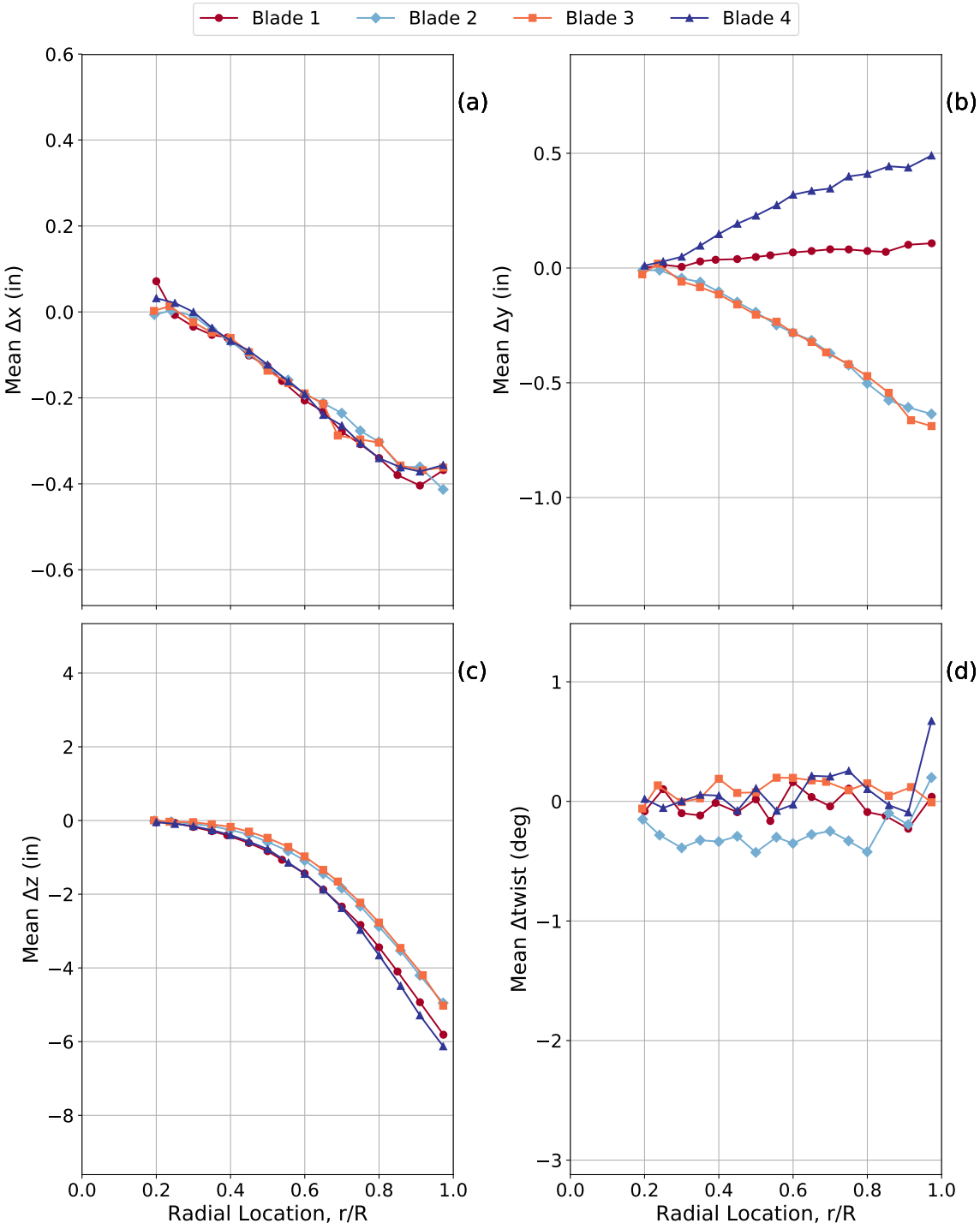


Figure 2.8-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-6. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0714	0.0035	-0.0002	0.0021	-0.0506	0.0061	-0.0830	0.0391
1	4.92	0.2499	-0.0071	0.0021	0.0142	0.0041	-0.0626	0.0095	0.1023	0.0815
1	4.92	0.2998	-0.0344	0.0019	0.0051	0.0078	-0.1752	0.0186	-0.0987	0.0882
1	4.92	0.3498	-0.0535	0.0020	0.0287	0.0145	-0.2910	0.0312	-0.1175	0.0884
1	4.92	0.3913	-0.0595	0.0025	0.0360	0.0198	-0.4020	0.0422	-0.0127	0.0756
1	4.92	0.4496	-0.1016	0.0024	0.0389	0.0253	-0.6100	0.0546	-0.0901	0.0775
1	4.92	0.4997	-0.1263	0.0025	0.0481	0.0318	-0.8315	0.0674	0.0174	0.0840
1	4.92	0.5387	-0.1606	0.0028	0.0555	0.0363	-1.0655	0.0773	-0.1640	0.0759
1	4.92	0.5996	-0.2061	0.0029	0.0678	0.0431	-1.4370	0.0928	0.1617	0.0779
1	4.92	0.6498	-0.2316	0.0032	0.0741	0.0491	-1.8767	0.1063	0.0363	0.0744
1	4.92	0.6998	-0.2790	0.0036	0.0816	0.0555	-2.3357	0.1187	-0.0415	0.0781
1	4.92	0.7500	-0.3078	0.0033	0.0810	0.0609	-2.8336	0.1325	0.1066	0.0722
1	4.92	0.8001	-0.3400	0.0038	0.0741	0.0671	-3.4414	0.1447	-0.0891	0.0838
1	4.92	0.8497	-0.3795	0.0044	0.0703	0.0727	-4.0974	0.1571	-0.1215	0.0864
1	4.92	0.9102	-0.4040	0.0044	0.1013	0.0803	-4.9303	0.1727	-0.2285	0.0882
1	4.92	0.9734	-0.3681	0.0063	0.1078	0.0888	-5.8121	0.1905	0.0381	0.0831
2	4.92	0.1949	-0.0063	0.0024	-0.0099	0.0015	-0.0112	0.0042	-0.1493	0.0315
2	4.92	0.2405	0.0031	0.0019	-0.0095	0.0030	-0.0353	0.0079	-0.2820	0.0539
2	4.92	0.2999	-0.0090	0.0014	-0.0445	0.0057	-0.0923	0.0143	-0.3887	0.0694
2	4.92	0.3498	-0.0410	0.0021	-0.0613	0.0096	-0.1511	0.0247	-0.3244	0.0651
2	4.92	0.3998	-0.0690	0.0025	-0.1033	0.0149	-0.2580	0.0364	-0.3362	0.0602
2	4.92	0.4496	-0.0978	0.0022	-0.1485	0.0181	-0.3778	0.0469	-0.2917	0.0594
2	4.92	0.4995	-0.1298	0.0025	-0.1924	0.0222	-0.5799	0.0580	-0.4266	0.0659
2	4.92	0.5551	-0.1583	0.0027	-0.2480	0.0256	-0.8257	0.0699	-0.2995	0.0705
2	4.92	0.5996	-0.1916	0.0028	-0.2827	0.0295	-1.0859	0.0811	-0.3516	0.0704
2	4.92	0.6497	-0.2123	0.0029	-0.3153	0.0334	-1.4445	0.0929	-0.2766	0.0674
2	4.92	0.6996	-0.2356	0.0030	-0.3719	0.0369	-1.8377	0.1042	-0.2488	0.0615
2	4.92	0.7495	-0.2766	0.0034	-0.4230	0.0409	-2.3224	0.1146	-0.3302	0.0650
2	4.92	0.7996	-0.3022	0.0037	-0.5028	0.0453	-2.8761	0.1263	-0.4220	0.0639
2	4.92	0.8578	-0.3613	0.0035	-0.5761	0.0502	-3.5316	0.1384	-0.0989	0.0686
2	4.92	0.9100	-0.3605	0.0042	-0.6074	0.0551	-4.2031	0.1508	-0.1943	0.0917
2	4.92	0.9727	-0.4131	0.0047	-0.6360	0.0600	-4.9504	0.1676	0.1994	0.0639
3	4.92	0.1938	0.0024	0.0021	-0.0276	0.0015	0.0034	0.0041	-0.0601	0.0391
3	4.92	0.2357	0.0135	0.0018	0.0188	0.0023	-0.0330	0.0063	0.1339	0.0634
3	4.92	0.2995	-0.0238	0.0014	-0.0593	0.0049	-0.0449	0.0123	-0.0059	0.0881
3	4.92	0.3493	-0.0481	0.0017	-0.0831	0.0081	-0.1037	0.0223	0.0255	0.0733
3	4.92	0.4000	-0.0606	0.0020	-0.1146	0.0125	-0.1734	0.0319	0.1888	0.0742
3	4.92	0.4497	-0.0937	0.0020	-0.1587	0.0156	-0.3020	0.0408	0.0707	0.0751
3	4.92	0.4997	-0.1367	0.0022	-0.2034	0.0192	-0.4713	0.0507	0.0758	0.0681
3	4.92	0.5556	-0.1657	0.0022	-0.2339	0.0232	-0.7159	0.0619	0.1980	0.0690
3	4.92	0.5995	-0.1897	0.0022	-0.2816	0.0258	-0.9749	0.0700	0.1969	0.0668
3	4.92	0.6498	-0.2137	0.0024	-0.3226	0.0296	-1.3396	0.0796	0.1759	0.0748
3	4.92	0.6890	-0.2876	0.0027	-0.3676	0.0321	-1.6569	0.0867	0.1638	0.0778
3	4.92	0.7495	-0.2969	0.0028	-0.4194	0.0371	-2.2279	0.0966	0.0929	0.0797
3	4.92	0.7998	-0.3040	0.0032	-0.4708	0.0415	-2.7700	0.1049	0.1511	0.0805
3	4.92	0.8577	-0.3573	0.0035	-0.5437	0.0455	-3.4587	0.1137	0.0469	0.0775
3	4.92	0.9178	-0.3684	0.0038	-0.6633	0.0530	-4.1986	0.1247	0.1195	0.1026
3	4.92	0.9729	-0.3621	0.0055	-0.6888	0.0557	-5.0235	0.1305	-0.0078	0.0866
4	4.92	0.2001	0.0319	0.0028	0.0107	0.0016	-0.0444	0.0053	0.0206	0.0385
4	4.92	0.2502	0.0209	0.0015	0.0285	0.0030	-0.0928	0.0085	-0.0549	0.0781
4	4.92	0.3001	-0.0001	0.0017	0.0493	0.0054	-0.1539	0.0162	0.0014	0.0875
4	4.92	0.3502	-0.0372	0.0021	0.0975	0.0100	-0.2618	0.0277	0.0551	0.0727
4	4.92	0.4002	-0.0675	0.0024	0.1480	0.0144	-0.3949	0.0404	0.0483	0.0713
4	4.92	0.4500	-0.0905	0.0026	0.1931	0.0179	-0.5725	0.0520	-0.0770	0.0747
4	4.92	0.5001	-0.1226	0.0026	0.2282	0.0222	-0.7782	0.0645	0.1095	0.0721
4	4.92	0.5560	-0.1616	0.0026	0.2740	0.0266	-1.1448	0.0797	-0.0782	0.0746
4	4.92	0.6001	-0.1911	0.0027	0.3197	0.0298	-1.4474	0.0914	-0.0268	0.0697
4	4.92	0.6501	-0.2396	0.0028	0.3366	0.0344	-1.8717	0.1053	0.2137	0.0796
4	4.92	0.6999	-0.2641	0.0030	0.3466	0.0389	-2.3760	0.1184	0.2081	0.0822
4	4.92	0.7500	-0.3057	0.0034	0.3991	0.0435	-2.9678	0.1320	0.2552	0.0773
4	4.92	0.8002	-0.3403	0.0035	0.4104	0.0476	-3.6600	0.1459	0.1030	0.0823
4	4.92	0.8582	-0.3616	0.0043	0.4434	0.0528	-4.4882	0.1625	-0.0317	0.0813
4	4.92	0.9101	-0.3714	0.0047	0.4378	0.0579	-5.2879	0.1792	-0.0925	0.0881
4	4.92	0.9728	-0.3563	0.0056	0.4903	0.0632	-6.1268	0.1983	0.6731	0.0924

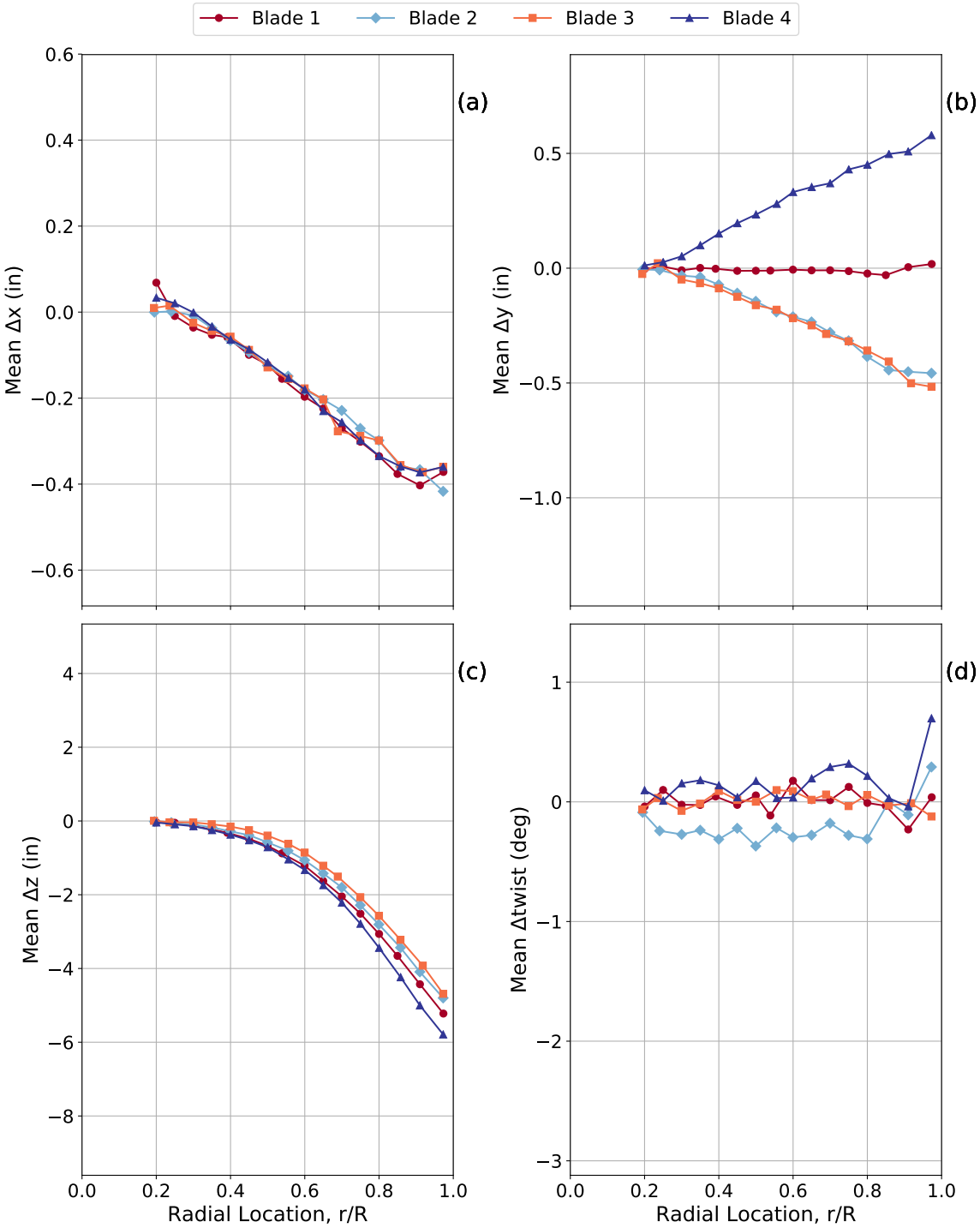


Figure 2.8-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0684	0.0033	-0.0035	0.0019	-0.0374	0.0062	-0.0390	0.0484
1	9.84	0.2499	-0.0090	0.0022	0.0071	0.0034	-0.0486	0.0093	0.0993	0.0871
1	9.84	0.2998	-0.0360	0.0017	-0.0093	0.0071	-0.1371	0.0190	-0.0243	0.1077
1	9.84	0.3498	-0.0528	0.0021	0.0011	0.0127	-0.2293	0.0322	-0.0261	0.0955
1	9.84	0.3913	-0.0584	0.0028	-0.0026	0.0174	-0.3204	0.0434	0.0447	0.0890
1	9.84	0.4496	-0.0994	0.0030	-0.0116	0.0231	-0.4837	0.0586	-0.0253	0.0963
1	9.84	0.4997	-0.1223	0.0027	-0.0111	0.0282	-0.6739	0.0727	0.0538	0.0911
1	9.84	0.5387	-0.1551	0.0028	-0.0105	0.0318	-0.8780	0.0827	-0.1140	0.0925
1	9.84	0.5996	-0.1969	0.0028	-0.0064	0.0378	-1.2129	0.0991	0.1762	0.0929
1	9.84	0.6498	-0.2241	0.0029	-0.0095	0.0431	-1.6267	0.1116	0.0149	0.0946
1	9.84	0.6998	-0.2705	0.0031	-0.0091	0.0486	-2.0458	0.1247	0.0140	0.0930
1	9.84	0.7500	-0.3015	0.0030	-0.0128	0.0538	-2.5140	0.1380	0.1247	0.0978
1	9.84	0.8001	-0.3352	0.0033	-0.0233	0.0593	-3.0639	0.1514	-0.0089	0.0978
1	9.84	0.8497	-0.3763	0.0036	-0.0303	0.0649	-3.6580	0.1645	-0.0335	0.0987
1	9.84	0.9102	-0.4029	0.0041	0.0044	0.0720	-4.4280	0.1843	-0.2308	0.0949
1	9.84	0.9734	-0.3717	0.0049	0.0181	0.0797	-5.2228	0.2070	0.0385	0.0989
2	9.84	0.1949	-0.0002	0.0027	-0.0058	0.0014	-0.0157	0.0044	-0.0883	0.0334
2	9.84	0.2405	0.0016	0.0017	-0.0078	0.0031	-0.0439	0.0077	-0.2423	0.0590
2	9.84	0.2999	-0.0077	0.0015	-0.0325	0.0051	-0.1018	0.0143	-0.2719	0.0757
2	9.84	0.3498	-0.0371	0.0017	-0.0386	0.0094	-0.1715	0.0246	-0.2370	0.0685
2	9.84	0.3998	-0.0661	0.0024	-0.0720	0.0141	-0.2825	0.0362	-0.3127	0.0640
2	9.84	0.4496	-0.0931	0.0024	-0.1087	0.0177	-0.3845	0.0459	-0.2208	0.0604
2	9.84	0.4995	-0.1240	0.0028	-0.1443	0.0216	-0.5790	0.0572	-0.3694	0.0619
2	9.84	0.5551	-0.1490	0.0026	-0.1906	0.0252	-0.8081	0.0700	-0.2176	0.0671
2	9.84	0.5996	-0.1809	0.0026	-0.2113	0.0289	-1.0638	0.0823	-0.2966	0.0638
2	9.84	0.6497	-0.2033	0.0028	-0.2341	0.0326	-1.4224	0.0920	-0.2782	0.0729
2	9.84	0.6996	-0.2288	0.0027	-0.2796	0.0366	-1.8004	0.1043	-0.1787	0.0683
2	9.84	0.7495	-0.2705	0.0031	-0.3163	0.0411	-2.2826	0.1164	-0.2795	0.0640
2	9.84	0.7996	-0.2984	0.0032	-0.3853	0.0456	-2.8066	0.1282	-0.3101	0.0698
2	9.84	0.8578	-0.3593	0.0036	-0.4434	0.0499	-3.4353	0.1418	-0.0000	0.0678
2	9.84	0.9100	-0.3664	0.0044	-0.4510	0.0544	-4.0924	0.1551	-0.1086	0.0785
2	9.84	0.9727	-0.4168	0.0052	-0.4573	0.0598	-4.7998	0.1701	0.2915	0.0840
3	9.84	0.1938	0.0096	0.0030	-0.0251	0.0016	0.0055	0.0043	-0.0632	0.0349
3	9.84	0.2357	0.0151	0.0020	0.0215	0.0031	-0.0356	0.0068	0.0321	0.0628
3	9.84	0.2995	-0.0249	0.0015	-0.0493	0.0053	-0.0380	0.0132	-0.0747	0.0831
3	9.84	0.3493	-0.0437	0.0014	-0.0654	0.0091	-0.0881	0.0226	-0.0147	0.0741
3	9.84	0.4000	-0.0571	0.0019	-0.0878	0.0143	-0.1516	0.0331	0.0911	0.0653
3	9.84	0.4497	-0.0879	0.0020	-0.1245	0.0177	-0.2496	0.0418	0.0163	0.0690
3	9.84	0.4997	-0.1286	0.0021	-0.1612	0.0217	-0.3964	0.0528	0.0014	0.0686
3	9.84	0.5556	-0.1556	0.0022	-0.1810	0.0263	-0.6183	0.0658	0.0979	0.0678
3	9.84	0.5995	-0.1774	0.0026	-0.2177	0.0299	-0.8569	0.0779	0.0894	0.0678
3	9.84	0.6498	-0.2031	0.0025	-0.2492	0.0341	-1.2131	0.0903	0.0172	0.0724
3	9.84	0.6890	-0.2771	0.0025	-0.2865	0.0374	-1.5083	0.1001	0.0612	0.0746
3	9.84	0.7495	-0.2880	0.0024	-0.3183	0.0424	-2.0665	0.1137	-0.0354	0.0740
3	9.84	0.7998	-0.2986	0.0028	-0.3585	0.0475	-2.5717	0.1274	0.0577	0.0776
3	9.84	0.8577	-0.3556	0.0031	-0.4067	0.0526	-3.2215	0.1451	-0.0298	0.0851
3	9.84	0.9178	-0.3722	0.0040	-0.5011	0.0579	-3.9222	0.1682	-0.0115	0.0882
3	9.84	0.9729	-0.3597	0.0044	-0.5165	0.0634	-4.6873	0.1891	-0.1224	0.0840
4	9.84	0.2001	0.0334	0.0027	0.0121	0.0014	-0.0415	0.0040	0.0970	0.0411
4	9.84	0.2502	0.0205	0.0017	0.0264	0.0027	-0.0920	0.0079	0.0090	0.0707
4	9.84	0.3001	-0.0010	0.0015	0.0518	0.0051	-0.1426	0.0131	0.1546	0.0918
4	9.84	0.3502	-0.0337	0.0017	0.1000	0.0094	-0.2485	0.0215	0.1808	0.0758
4	9.84	0.4002	-0.0642	0.0022	0.1506	0.0139	-0.3722	0.0325	0.1380	0.0825
4	9.84	0.4500	-0.0870	0.0024	0.1959	0.0171	-0.5240	0.0416	0.0378	0.0778
4	9.84	0.5001	-0.1169	0.0026	0.2337	0.0213	-0.7124	0.0523	0.1745	0.0787
4	9.84	0.5560	-0.1532	0.0025	0.2800	0.0257	-1.0442	0.0641	0.0312	0.0784
4	9.84	0.6001	-0.1802	0.0025	0.3315	0.0292	-1.3295	0.0727	0.0363	0.0815
4	9.84	0.6501	-0.2302	0.0029	0.3532	0.0335	-1.7420	0.0818	0.1956	0.0790
4	9.84	0.6999	-0.2560	0.0027	0.3698	0.0375	-2.2151	0.0903	0.2911	0.0820
4	9.84	0.7500	-0.2982	0.0029	0.4302	0.0417	-2.7883	0.0986	0.3187	0.0745
4	9.84	0.8002	-0.3347	0.0030	0.4505	0.0468	-3.4420	0.1056	0.2168	0.0879
4	9.84	0.8582	-0.3590	0.0030	0.4971	0.0523	-4.2388	0.1148	0.0306	0.0874
4	9.84	0.9101	-0.3727	0.0038	0.5084	0.0568	-5.0021	0.1241	-0.0381	0.0902
4	9.84	0.9728	-0.3600	0.0049	0.5792	0.0636	-5.7900	0.1368	0.6979	0.0826

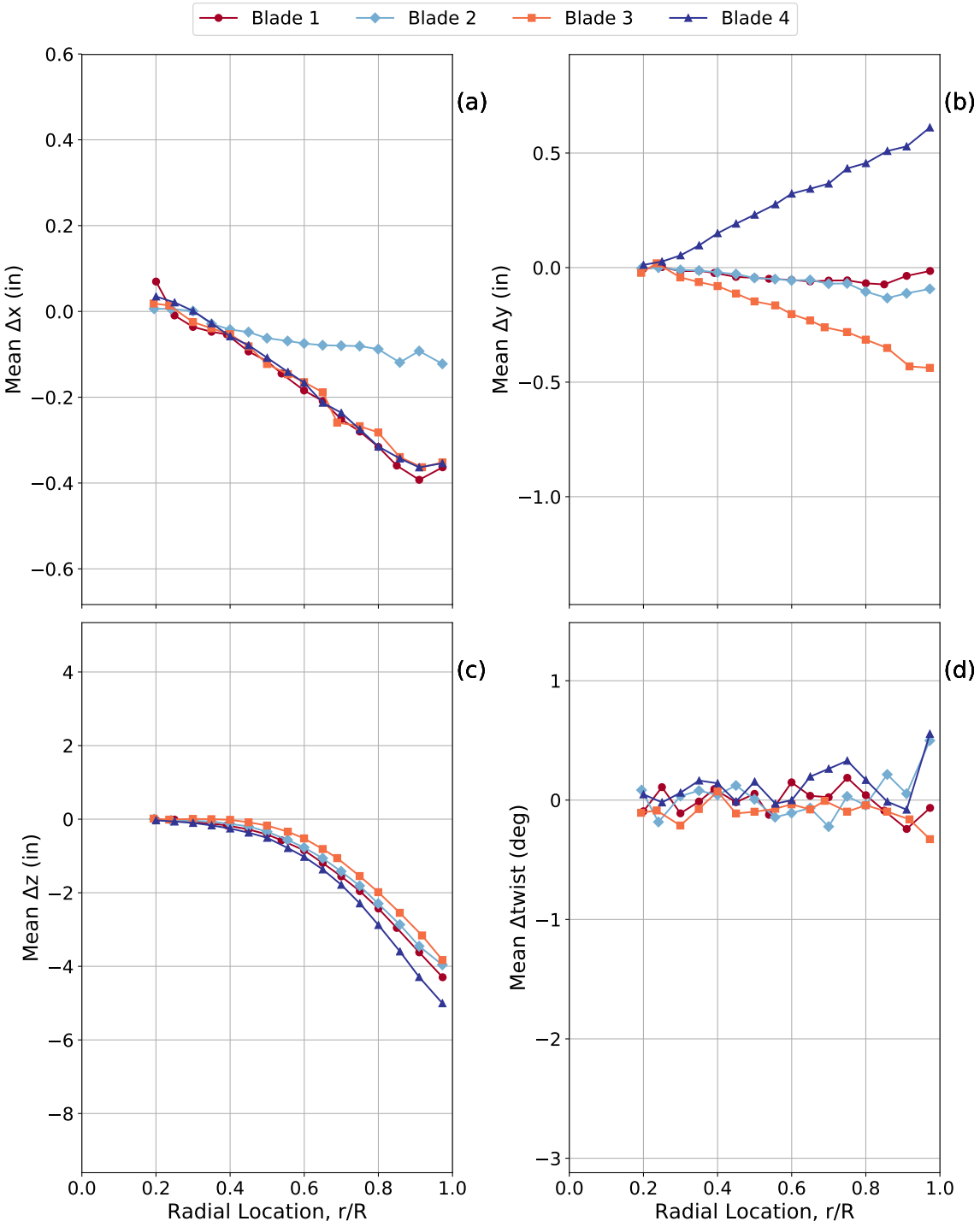


Figure 2.8-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-8. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0696	0.0036	-0.0047	0.0015	-0.0236	0.0047	-0.0939	0.0400
1	15.12	0.2499	-0.0094	0.0023	0.0023	0.0031	-0.0114	0.0096	0.1083	0.0672
1	15.12	0.2998	-0.0361	0.0017	-0.0158	0.0059	-0.0804	0.0157	-0.1110	0.0875
1	15.12	0.3498	-0.0474	0.0018	-0.0140	0.0105	-0.1220	0.0276	-0.0122	0.0750
1	15.12	0.3913	-0.0536	0.0020	-0.0234	0.0149	-0.1690	0.0384	0.0923	0.0723
1	15.12	0.4496	-0.0933	0.0024	-0.0406	0.0196	-0.2780	0.0516	-0.0177	0.0754
1	15.12	0.4997	-0.1161	0.0022	-0.0446	0.0239	-0.4161	0.0647	0.0521	0.0711
1	15.12	0.5387	-0.1448	0.0022	-0.0488	0.0274	-0.5746	0.0747	-0.1232	0.0730
1	15.12	0.5996	-0.1843	0.0024	-0.0539	0.0328	-0.8472	0.0899	0.1486	0.0733
1	15.12	0.6498	-0.2089	0.0027	-0.0604	0.0374	-1.1905	0.1027	0.0357	0.0742
1	15.12	0.6998	-0.2513	0.0026	-0.0567	0.0423	-1.5554	0.1162	0.0240	0.0717
1	15.12	0.7500	-0.2800	0.0025	-0.0558	0.0477	-1.9553	0.1294	0.1868	0.0791
1	15.12	0.8001	-0.3159	0.0025	-0.0686	0.0523	-2.4293	0.1441	0.0410	0.0777
1	15.12	0.8497	-0.3593	0.0028	-0.0735	0.0575	-2.9555	0.1597	-0.0885	0.0813
1	15.12	0.9102	-0.3925	0.0030	-0.0362	0.0639	-3.6193	0.1803	-0.2419	0.0864
1	15.12	0.9734	-0.3633	0.0039	-0.0148	0.0712	-4.2971	0.2040	-0.0656	0.0911
2	15.12	0.1949	0.0062	0.0061	-0.0029	0.0019	0.0000	0.0061	0.0840	0.0496
2	15.12	0.2405	0.0058	0.0045	-0.0004	0.0033	-0.0332	0.0103	-0.1836	0.0833
2	15.12	0.2999	0.0009	0.0032	-0.0103	0.0071	-0.0461	0.0190	0.0339	0.1144
2	15.12	0.3498	-0.0289	0.0046	-0.0127	0.0128	-0.0642	0.0329	0.0789	0.0980
2	15.12	0.3998	-0.0422	0.0061	-0.0211	0.0190	-0.1294	0.0476	0.0434	0.0938
2	15.12	0.4496	-0.0481	0.0082	-0.0283	0.0228	-0.1961	0.0555	0.1222	0.1011
2	15.12	0.4995	-0.0624	0.0097	-0.0451	0.0289	-0.3385	0.0674	0.0067	0.1108
2	15.12	0.5551	-0.0689	0.0120	-0.0503	0.0353	-0.5654	0.0817	-0.1434	0.0989
2	15.12	0.5996	-0.0747	0.0132	-0.0561	0.0398	-0.7688	0.0935	-0.1086	0.0882
2	15.12	0.6497	-0.0788	0.0159	-0.0539	0.0448	-1.0622	0.1025	-0.0668	0.1072
2	15.12	0.6996	-0.0799	0.0170	-0.0704	0.0508	-1.4194	0.1148	-0.2222	0.1107
2	15.12	0.7495	-0.0808	0.0185	-0.0691	0.0560	-1.8112	0.1275	0.0313	0.1064
2	15.12	0.7996	-0.0879	0.0197	-0.1049	0.0614	-2.2950	0.1395	-0.0426	0.1204
2	15.12	0.8578	-0.1190	0.0209	-0.1330	0.0665	-2.8654	0.1524	0.2146	0.1041
2	15.12	0.9100	-0.0923	0.0222	-0.1123	0.0721	-3.4516	0.1659	0.0535	0.1058
2	15.12	0.9727	-0.1222	0.0242	-0.0931	0.0783	-3.9595	0.1836	0.4986	0.1042
3	15.12	0.1938	0.0184	0.0024	-0.0228	0.0012	0.0146	0.0036	-0.1063	0.0270
3	15.12	0.2357	0.0140	0.0021	0.0186	0.0022	-0.0123	0.0054	-0.0868	0.0489
3	15.12	0.2995	-0.0247	0.0016	-0.0428	0.0034	0.0068	0.0113	-0.2130	0.0609
3	15.12	0.3493	-0.0393	0.0017	-0.0630	0.0064	-0.0001	0.0193	-0.0746	0.0552
3	15.12	0.4000	-0.0531	0.0019	-0.0807	0.0095	-0.0187	0.0284	0.0721	0.0531
3	15.12	0.4497	-0.0814	0.0019	-0.1133	0.0118	-0.0840	0.0371	-0.1121	0.0519
3	15.12	0.4997	-0.1226	0.0020	-0.1477	0.0145	-0.1729	0.0467	-0.0976	0.0491
3	15.12	0.5556	-0.1463	0.0021	-0.1650	0.0179	-0.3397	0.0584	-0.0724	0.0517
3	15.12	0.5995	-0.1648	0.0022	-0.2032	0.0203	-0.5231	0.0687	-0.0355	0.0510
3	15.12	0.6498	-0.1885	0.0020	-0.2308	0.0238	-0.8114	0.0788	-0.0781	0.0532
3	15.12	0.6890	-0.2592	0.0021	-0.2606	0.0262	-1.0586	0.0874	-0.0062	0.0443
3	15.12	0.7495	-0.2675	0.0022	-0.2815	0.0304	-1.5465	0.0986	-0.0971	0.0520
3	15.12	0.7998	-0.2821	0.0024	-0.3146	0.0347	-1.9842	0.1102	-0.0433	0.0475
3	15.12	0.8577	-0.3395	0.0026	-0.3509	0.0389	-2.5444	0.1235	-0.0970	0.0562
3	15.12	0.9178	-0.3632	0.0030	-0.4313	0.0435	-3.1604	0.1398	-0.1617	0.0717
3	15.12	0.9729	-0.3519	0.0038	-0.4377	0.0483	-3.8280	0.1581	-0.3273	0.0577
4	15.12	0.2001	0.0348	0.0022	0.0118	0.0012	-0.0316	0.0039	0.0478	0.0297
4	15.12	0.2502	0.0210	0.0021	0.0264	0.0026	-0.0649	0.0072	-0.0195	0.0632
4	15.12	0.3001	0.0011	0.0014	0.0533	0.0042	-0.1023	0.0127	0.0620	0.0702
4	15.12	0.3502	-0.0277	0.0019	0.0970	0.0073	-0.1695	0.0218	0.1636	0.0645
4	15.12	0.4002	-0.0582	0.0022	0.1500	0.0108	-0.2537	0.0322	0.1406	0.0587
4	15.12	0.4500	-0.0789	0.0028	0.1917	0.0137	-0.3666	0.0402	-0.0118	0.0614
4	15.12	0.5001	-0.1082	0.0024	0.2308	0.0161	-0.5073	0.0492	0.1547	0.0587
4	15.12	0.5560	-0.1411	0.0022	0.2761	0.0195	-0.7861	0.0603	-0.0301	0.0590
4	15.12	0.6001	-0.1663	0.0022	0.3228	0.0223	-1.0245	0.0684	-0.0010	0.0587
4	15.12	0.6501	-0.2129	0.0024	0.3441	0.0258	-1.3672	0.0777	0.1967	0.0612
4	15.12	0.6999	-0.2362	0.0028	0.3665	0.0293	-1.7837	0.0867	0.2621	0.0601
4	15.12	0.7500	-0.2750	0.0026	0.4328	0.0326	-2.2892	0.0950	0.3299	0.0592
4	15.12	0.8002	-0.3151	0.0032	0.4558	0.0363	-2.8771	0.1042	0.1686	0.0601
4	15.12	0.8582	-0.3428	0.0034	0.5089	0.0409	-3.5958	0.1137	-0.0136	0.0657
4	15.12	0.9101	-0.3635	0.0039	0.5289	0.0453	-4.2917	0.1242	-0.0802	0.0688
4	15.12	0.9728	-0.3538	0.0047	0.6115	0.0497	-5.0038	0.1385	0.5551	0.0636

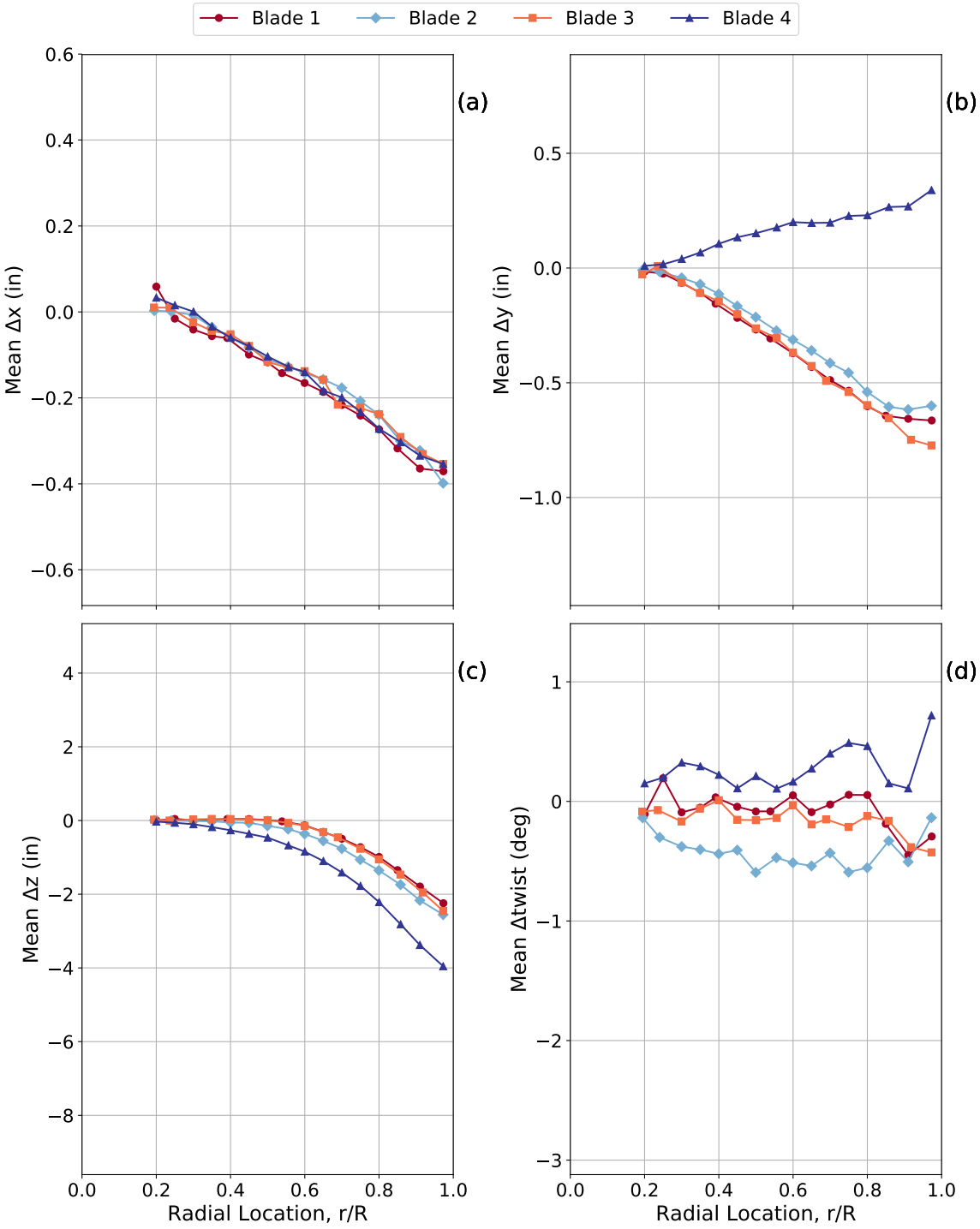


Figure 2.8-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-9. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0589	0.0028	-0.0155	0.0010	0.0025	0.0036	-0.1068	0.0315
1	29.88	0.2499	-0.0156	0.0022	-0.0242	0.0026	0.0417	0.0073	0.1943	0.0588
1	29.88	0.2998	-0.0410	0.0020	-0.0643	0.0040	0.0106	0.0125	-0.0913	0.0712
1	29.88	0.3498	-0.0564	0.0023	-0.1080	0.0078	0.0239	0.0220	-0.0526	0.0650
1	29.88	0.3913	-0.0607	0.0027	-0.1552	0.0109	0.0415	0.0303	0.0342	0.0622
1	29.88	0.4496	-0.0992	0.0031	-0.2170	0.0139	0.0387	0.0411	-0.0448	0.0595
1	29.88	0.4997	-0.1172	0.0034	-0.2678	0.0170	0.0134	0.0500	-0.0840	0.0665
1	29.88	0.5387	-0.1424	0.0032	-0.3067	0.0201	-0.0229	0.0580	-0.0829	0.0616
1	29.88	0.5996	-0.1653	0.0028	-0.3713	0.0232	-0.1305	0.0689	0.0508	0.0609
1	29.88	0.6498	-0.1862	0.0027	-0.4310	0.0269	-0.3090	0.0779	-0.0896	0.0635
1	29.88	0.6998	-0.2166	0.0025	-0.4886	0.0300	-0.4945	0.0863	-0.0257	0.0654
1	29.88	0.7500	-0.2411	0.0026	-0.5349	0.0338	-0.7233	0.0948	0.0549	0.0644
1	29.88	0.8001	-0.2733	0.0027	-0.6021	0.0371	-0.9882	0.1033	0.0534	0.0658
1	29.88	0.8497	-0.3176	0.0026	-0.6435	0.0406	-1.3460	0.1124	-0.1880	0.0665
1	29.88	0.9102	-0.3644	0.0028	-0.6570	0.0449	-1.7903	0.1237	-0.4486	0.0635
1	29.88	0.9734	-0.3708	0.0039	-0.6644	0.0499	-2.2446	0.1375	-0.2935	0.0677
2	29.88	0.1949	0.0030	0.0019	-0.0088	0.0007	0.0048	0.0027	-0.1374	0.0257
2	29.88	0.2405	0.0010	0.0016	-0.0159	0.0016	-0.0029	0.0057	-0.3006	0.0405
2	29.88	0.2999	-0.0070	0.0014	-0.0430	0.0031	-0.0147	0.0104	-0.3783	0.0571
2	29.88	0.3498	-0.0356	0.0019	-0.0707	0.0052	-0.0238	0.0181	-0.4028	0.0508
2	29.88	0.3998	-0.0590	0.0026	-0.1131	0.0082	-0.0544	0.0274	-0.4386	0.0486
2	29.88	0.4496	-0.0828	0.0022	-0.1660	0.0090	-0.0628	0.0354	-0.4078	0.0459
2	29.88	0.4995	-0.1101	0.0026	-0.2139	0.0115	-0.1443	0.0446	-0.5940	0.0442
2	29.88	0.5551	-0.1274	0.0027	-0.2736	0.0137	-0.2336	0.0550	-0.4708	0.0490
2	29.88	0.5996	-0.1420	0.0028	-0.3124	0.0159	-0.3632	0.0638	-0.5133	0.0491
2	29.88	0.6497	-0.1570	0.0027	-0.3596	0.0181	-0.5507	0.0729	-0.5396	0.0492
2	29.88	0.6996	-0.1768	0.0026	-0.4140	0.0205	-0.7634	0.0827	-0.4318	0.0488
2	29.88	0.7495	-0.2074	0.0026	-0.4563	0.0230	-1.0620	0.0924	-0.5915	0.0489
2	29.88	0.7996	-0.2392	0.0025	-0.5401	0.0255	-1.3532	0.1026	-0.5551	0.0499
2	29.88	0.8578	-0.3005	0.0023	-0.6049	0.0286	-1.7405	0.1154	-0.3300	0.0518
2	29.88	0.9100	-0.3226	0.0026	-0.6167	0.0315	-2.1664	0.1286	-0.5059	0.0538
2	29.88	0.9727	-0.3985	0.0035	-0.6005	0.0356	-2.5548	0.1450	-0.1364	0.0528
3	29.88	0.1938	0.0102	0.0021	-0.0276	0.0008	0.0238	0.0032	-0.0852	0.0296
3	29.88	0.2357	0.0099	0.0019	0.0084	0.0016	-0.0014	0.0053	-0.0729	0.0462
3	29.88	0.2995	-0.0240	0.0017	-0.0631	0.0030	0.0305	0.0111	-0.1680	0.0626
3	29.88	0.3493	-0.0442	0.0017	-0.1085	0.0051	0.0423	0.0180	-0.0608	0.0549
3	29.88	0.4000	-0.0520	0.0028	-0.1454	0.0081	0.0387	0.0277	0.0093	0.0515
3	29.88	0.4497	-0.0791	0.0028	-0.2013	0.0097	0.0193	0.0344	-0.1539	0.0565
3	29.88	0.4997	-0.1159	0.0032	-0.2630	0.0125	0.0076	0.0407	-0.1569	0.0528
3	29.88	0.5556	-0.1301	0.0030	-0.3054	0.0146	-0.0651	0.0484	-0.1384	0.0597
3	29.88	0.5995	-0.1378	0.0030	-0.3687	0.0167	-0.1451	0.0532	-0.0330	0.0570
3	29.88	0.6498	-0.1577	0.0030	-0.4269	0.0196	-0.3158	0.0614	-0.1919	0.0576
3	29.88	0.6890	-0.2153	0.0032	-0.4916	0.0213	-0.4553	0.0677	-0.1501	0.0581
3	29.88	0.7495	-0.2233	0.0034	-0.5402	0.0250	-0.7674	0.0784	-0.2139	0.0561
3	29.88	0.7998	-0.2380	0.0035	-0.5976	0.0278	-1.0551	0.0882	-0.1221	0.0587
3	29.88	0.8577	-0.2909	0.0037	-0.6541	0.0313	-1.4679	0.1005	-0.1628	0.0628
3	29.88	0.9178	-0.3309	0.0037	-0.7485	0.0350	-1.9524	0.1130	-0.3831	0.0627
3	29.88	0.9729	-0.3536	0.0042	-0.7731	0.0387	-2.4550	0.1255	-0.4263	0.0690
4	29.88	0.2001	0.0332	0.0020	0.0092	0.0008	-0.0307	0.0027	0.1508	0.0318
4	29.88	0.2502	0.0153	0.0019	0.0164	0.0022	-0.0612	0.0052	0.1992	0.0527
4	29.88	0.3001	0.0007	0.0016	0.0395	0.0029	-0.1023	0.0096	0.3244	0.0703
4	29.88	0.3502	-0.0343	0.0017	0.0679	0.0051	-0.1794	0.0149	0.2940	0.0594
4	29.88	0.4002	-0.0598	0.0019	0.1057	0.0081	-0.2654	0.0231	0.2221	0.0578
4	29.88	0.4500	-0.0796	0.0021	0.1338	0.0106	-0.3617	0.0300	0.1093	0.0560
4	29.88	0.5001	-0.1037	0.0020	0.1516	0.0122	-0.4653	0.0369	0.2117	0.0616
4	29.88	0.5560	-0.1275	0.0022	0.1766	0.0149	-0.6758	0.0450	0.1068	0.0547
4	29.88	0.6001	-0.1400	0.0023	0.1999	0.0180	-0.8449	0.0523	0.1653	0.0583
4	29.88	0.6501	-0.1831	0.0023	0.1964	0.0201	-1.1009	0.0602	0.2743	0.0566
4	29.88	0.6999	-0.1990	0.0025	0.1976	0.0233	-1.4110	0.0693	0.4001	0.0586
4	29.88	0.7500	-0.2327	0.0025	0.2271	0.0264	-1.7750	0.0796	0.4888	0.0626
4	29.88	0.8002	-0.2718	0.0026	0.2297	0.0298	-2.2151	0.0914	0.4626	0.0609
4	29.88	0.8582	-0.3031	0.0028	0.2659	0.0337	-2.8166	0.1037	0.1511	0.0620
4	29.88	0.9101	-0.3345	0.0031	0.2683	0.0375	-3.3787	0.1160	0.1085	0.0637
4	29.88	0.9728	-0.3539	0.0034	0.3394	0.0421	-3.9551	0.1318	0.7186	0.0651

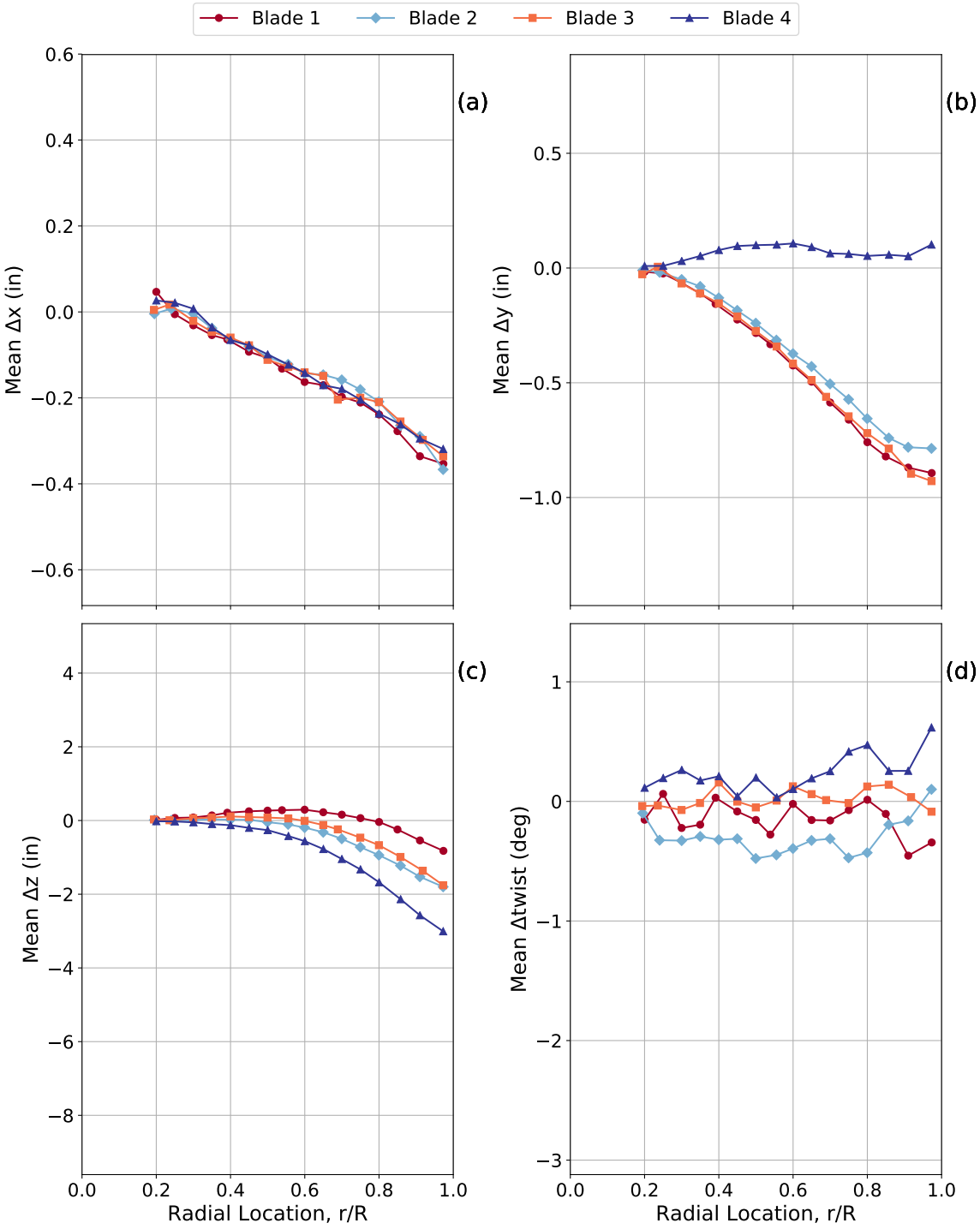


Figure 2.8-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-10. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0467	0.0022	-0.0164	0.0007	0.0187	0.0034	-0.1533	0.0267
1	45	0.2499	-0.0053	0.0022	-0.0238	0.0019	0.0699	0.0065	0.0626	0.0526
1	45	0.2998	-0.0312	0.0019	-0.0649	0.0031	0.0817	0.0120	-0.2223	0.0620
1	45	0.3498	-0.0539	0.0021	-0.1109	0.0055	0.1383	0.0205	-0.1947	0.0574
1	45	0.3913	-0.0640	0.0023	-0.1565	0.0079	0.2111	0.0287	0.0308	0.0631
1	45	0.4496	-0.0926	0.0029	-0.2244	0.0101	0.2491	0.0381	-0.0843	0.0597
1	45	0.4997	-0.1071	0.0028	-0.2831	0.0123	0.2681	0.0490	-0.1551	0.0627
1	45	0.5387	-0.1320	0.0032	-0.3321	0.0136	0.2803	0.0548	-0.2776	0.0565
1	45	0.5996	-0.1630	0.0032	-0.4246	0.0166	0.2935	0.0662	-0.0213	0.0572
1	45	0.6498	-0.1703	0.0028	-0.4952	0.0188	0.2239	0.0747	-0.1558	0.0634
1	45	0.6998	-0.1976	0.0028	-0.5861	0.0217	0.1584	0.0859	-0.1594	0.0586
1	45	0.7500	-0.2109	0.0030	-0.6607	0.0242	0.0643	0.0950	-0.0728	0.0580
1	45	0.8001	-0.2387	0.0028	-0.7590	0.0270	-0.0399	0.1038	0.0134	0.0560
1	45	0.8497	-0.2774	0.0027	-0.8211	0.0299	-0.2441	0.1122	-0.1046	0.0595
1	45	0.9102	-0.3358	0.0024	-0.8697	0.0334	-0.5402	0.1231	-0.4538	0.0611
1	45	0.9734	-0.3534	0.0030	-0.8935	0.0374	-0.8239	0.1339	-0.3434	0.0615
2	45	0.1949	-0.0043	0.0019	-0.0101	0.0007	0.0150	0.0025	-0.0983	0.0176
2	45	0.2405	0.0077	0.0018	-0.0185	0.0011	0.0021	0.0041	-0.3246	0.0328
2	45	0.2999	-0.0040	0.0017	-0.0501	0.0025	0.0162	0.0086	-0.3280	0.0407
2	45	0.3498	-0.0378	0.0018	-0.0803	0.0045	0.0306	0.0147	-0.2937	0.0405
2	45	0.3998	-0.0641	0.0024	-0.1300	0.0066	0.0224	0.0221	-0.3205	0.0492
2	45	0.4496	-0.0799	0.0026	-0.1847	0.0080	0.0185	0.0276	-0.3124	0.0541
2	45	0.4995	-0.1049	0.0028	-0.2404	0.0097	-0.0446	0.0361	-0.4774	0.0531
2	45	0.5551	-0.1219	0.0029	-0.3143	0.0116	-0.1053	0.0421	-0.4475	0.0496
2	45	0.5996	-0.1428	0.0029	-0.3733	0.0134	-0.1918	0.0483	-0.3942	0.0464
2	45	0.6497	-0.1463	0.0033	-0.4291	0.0157	-0.3191	0.0553	-0.3265	0.0583
2	45	0.6996	-0.1581	0.0034	-0.5051	0.0176	-0.4964	0.0624	-0.3126	0.0524
2	45	0.7495	-0.1807	0.0031	-0.5723	0.0200	-0.7213	0.0688	-0.4722	0.0489
2	45	0.7996	-0.2088	0.0028	-0.6563	0.0223	-0.9396	0.0754	-0.4291	0.0478
2	45	0.8578	-0.2644	0.0030	-0.7407	0.0252	-1.2238	0.0836	-0.1950	0.0526
2	45	0.9100	-0.2896	0.0030	-0.7811	0.0282	-1.5269	0.0917	-0.1629	0.0503
2	45	0.9727	-0.3667	0.0033	-0.7861	0.0313	-1.7997	0.1027	0.1007	0.0575
3	45	0.1938	0.0047	0.0017	-0.0271	0.0006	0.0279	0.0027	-0.0389	0.0237
3	45	0.2357	0.0172	0.0020	0.0054	0.0016	0.0071	0.0047	-0.0345	0.0319
3	45	0.2995	-0.0208	0.0019	-0.0672	0.0032	0.0598	0.0102	-0.0719	0.0497
3	45	0.3493	-0.0463	0.0020	-0.1107	0.0048	0.0807	0.0163	-0.0134	0.0438
3	45	0.4000	-0.0597	0.0030	-0.1540	0.0082	0.1101	0.0256	0.1582	0.0453
3	45	0.4497	-0.0777	0.0031	-0.2110	0.0099	0.0933	0.0320	-0.0016	0.0501
3	45	0.4997	-0.1115	0.0031	-0.2743	0.0124	0.0793	0.0395	-0.0504	0.0592
3	45	0.5556	-0.1277	0.0028	-0.3421	0.0144	0.0572	0.0468	0.0067	0.0403
3	45	0.5995	-0.1406	0.0030	-0.4164	0.0159	-0.0088	0.0534	0.1261	0.0476
3	45	0.6498	-0.1489	0.0030	-0.4880	0.0187	-0.1230	0.0613	0.0608	0.0452
3	45	0.6890	-0.2041	0.0027	-0.5613	0.0207	-0.2411	0.0670	0.0108	0.0475
3	45	0.7495	-0.1997	0.0027	-0.6462	0.0241	-0.4655	0.0753	-0.0136	0.0455
3	45	0.7998	-0.2100	0.0024	-0.7195	0.0274	-0.6702	0.0831	0.1244	0.0429
3	45	0.8577	-0.2550	0.0029	-0.7870	0.0306	-0.9892	0.0916	0.1395	0.0469
3	45	0.9178	-0.2978	0.0028	-0.8962	0.0343	-1.3630	0.1014	0.0355	0.0483
3	45	0.9729	-0.3360	0.0034	-0.9286	0.0379	-1.7563	0.1105	-0.0862	0.0536
4	45	0.2001	0.0267	0.0018	0.0086	0.0009	-0.0200	0.0029	0.1137	0.0248
4	45	0.2502	0.0212	0.0019	0.0094	0.0023	-0.0261	0.0070	0.1946	0.0445
4	45	0.3001	0.0072	0.0015	0.0306	0.0033	-0.0496	0.0104	0.2628	0.0549
4	45	0.3502	-0.0360	0.0016	0.0527	0.0068	-0.0966	0.0179	0.1746	0.0507
4	45	0.4002	-0.0653	0.0022	0.0782	0.0101	-0.1270	0.0273	0.2102	0.0496
4	45	0.4500	-0.0778	0.0022	0.0958	0.0112	-0.1998	0.0344	0.0419	0.0515
4	45	0.5001	-0.0988	0.0021	0.0997	0.0135	-0.2620	0.0411	0.1991	0.0537
4	45	0.5560	-0.1227	0.0024	0.1018	0.0173	-0.4222	0.0497	0.0332	0.0447
4	45	0.6001	-0.1421	0.0023	0.1071	0.0201	-0.5609	0.0551	0.1033	0.0522
4	45	0.6501	-0.1705	0.0023	0.0913	0.0232	-0.7753	0.0620	0.1927	0.0487
4	45	0.6999	-0.1791	0.0026	0.0638	0.0262	-1.0456	0.0687	0.2526	0.0525
4	45	0.7500	-0.2043	0.0028	0.0613	0.0296	-1.3280	0.0754	0.4160	0.0526
4	45	0.8002	-0.2366	0.0025	0.0528	0.0331	-1.6772	0.0813	0.4721	0.0523
4	45	0.8582	-0.2618	0.0025	0.0576	0.0373	-2.1376	0.0876	0.2548	0.0536
4	45	0.9101	-0.2946	0.0023	0.0514	0.0411	-2.5714	0.0942	0.2552	0.0571
4	45	0.9728	-0.3190	0.0031	0.1019	0.0457	-3.0071	0.1024	0.6174	0.0582

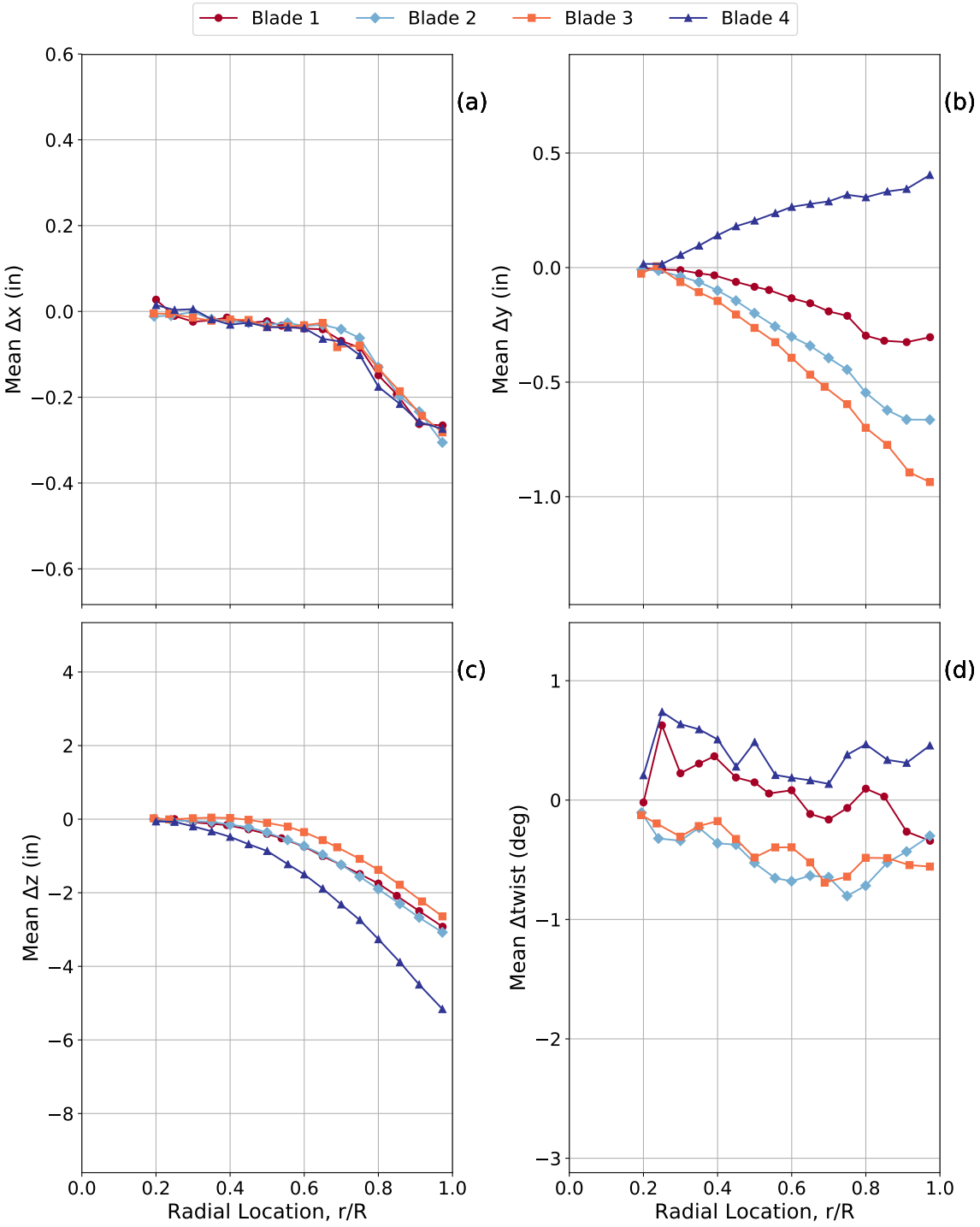


Figure 2.8-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-11. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0274	0.0020	-0.0027	0.0008	-0.0290	0.0029	-0.0196	0.0267
1	60.12	0.2499	-0.0103	0.0014	-0.0085	0.0016	0.0022	0.0059	0.6264	0.0507
1	60.12	0.2998	-0.0240	0.0013	-0.0112	0.0028	-0.0841	0.0108	0.2246	0.0625
1	60.12	0.3498	-0.0206	0.0021	-0.0252	0.0051	-0.1250	0.0183	0.3056	0.0554
1	60.12	0.3913	-0.0143	0.0030	-0.0338	0.0071	-0.1617	0.0264	0.3671	0.0611
1	60.12	0.4496	-0.0264	0.0037	-0.0626	0.0090	-0.2763	0.0332	0.1892	0.0556
1	60.12	0.4997	-0.0229	0.0043	-0.0839	0.0118	-0.4029	0.0422	0.1485	0.0639
1	60.12	0.5387	-0.0333	0.0046	-0.0978	0.0142	-0.5183	0.0505	0.0552	0.0597
1	60.12	0.5996	-0.0399	0.0057	-0.1336	0.0162	-0.7462	0.0625	0.0824	0.0652
1	60.12	0.6498	-0.0417	0.0068	-0.1558	0.0187	-1.0072	0.0707	-0.1165	0.0585
1	60.12	0.6998	-0.0687	0.0085	-0.1912	0.0216	-1.2436	0.0802	-0.1628	0.0706
1	60.12	0.7500	-0.0846	0.0110	-0.2106	0.0242	-1.4902	0.0883	-0.0661	0.0608
1	60.12	0.8001	-0.1490	0.0061	-0.2971	0.0403	-1.7503	0.1098	0.0955	0.0596
1	60.12	0.8497	-0.1932	0.0060	-0.3194	0.0437	-2.0831	0.1181	0.0294	0.0627
1	60.12	0.9102	-0.2626	0.0060	-0.3254	0.0474	-2.4970	0.1283	-0.2647	0.0625
1	60.12	0.9734	-0.2656	0.0059	-0.3039	0.0515	-2.9235	0.1382	-0.3409	0.0727
2	60.12	0.1949	-0.0114	0.0012	-0.0087	0.0007	0.0004	0.0021	-0.1054	0.0198
2	60.12	0.2405	-0.0099	0.0012	-0.0129	0.0011	-0.0274	0.0044	-0.3215	0.0318
2	60.12	0.2999	-0.0013	0.0009	-0.0387	0.0026	-0.0572	0.0089	-0.3402	0.0454
2	60.12	0.3498	-0.0180	0.0013	-0.0631	0.0042	-0.0689	0.0142	-0.2312	0.0435
2	60.12	0.3998	-0.0233	0.0020	-0.0997	0.0066	-0.1500	0.0229	-0.3621	0.0517
2	60.12	0.4496	-0.0264	0.0020	-0.1446	0.0078	-0.2191	0.0274	-0.3733	0.0450
2	60.12	0.4995	-0.0313	0.0020	-0.1991	0.0102	-0.3606	0.0343	-0.5256	0.0382
2	60.12	0.5551	-0.0264	0.0022	-0.2570	0.0120	-0.5638	0.0429	-0.6534	0.0399
2	60.12	0.5996	-0.0339	0.0019	-0.3013	0.0140	-0.7297	0.0502	-0.6795	0.0448
2	60.12	0.6497	-0.0313	0.0018	-0.3415	0.0162	-0.9665	0.0589	-0.6332	0.0495
2	60.12	0.6996	-0.0416	0.0021	-0.3943	0.0184	-1.2395	0.0661	-0.6453	0.0482
2	60.12	0.7495	-0.0618	0.0027	-0.4452	0.0207	-1.5609	0.0743	-0.8029	0.0464
2	60.12	0.7996	-0.1297	0.0025	-0.5459	0.0235	-1.8994	0.0830	-0.7170	0.0538
2	60.12	0.8578	-0.1984	0.0032	-0.6224	0.0258	-2.3011	0.0935	-0.5235	0.0499
2	60.12	0.9100	-0.2334	0.0026	-0.6633	0.0284	-2.6712	0.1026	-0.4312	0.0495
2	60.12	0.9727	-0.3054	0.0032	-0.6643	0.0317	-3.0755	0.1133	-0.2995	0.0505
3	60.12	0.1938	-0.0047	0.0012	-0.0265	0.0006	0.0236	0.0019	-0.1261	0.0195
3	60.12	0.2357	-0.0056	0.0012	0.0059	0.0013	-0.0071	0.0042	-0.1957	0.0307
3	60.12	0.2995	-0.0144	0.0014	-0.0631	0.0027	0.0251	0.0080	-0.3065	0.0446
3	60.12	0.3493	-0.0217	0.0013	-0.1070	0.0043	0.0426	0.0129	-0.2175	0.0385
3	60.12	0.4000	-0.0189	0.0023	-0.1457	0.0070	0.0323	0.0205	-0.1763	0.0411
3	60.12	0.4497	-0.0198	0.0019	-0.2049	0.0083	-0.0173	0.0265	-0.3258	0.0384
3	60.12	0.4997	-0.0365	0.0022	-0.2632	0.0099	-0.0991	0.0322	-0.4812	0.0430
3	60.12	0.5556	-0.0349	0.0019	-0.3257	0.0126	-0.2034	0.0390	-0.3962	0.0453
3	60.12	0.5995	-0.0323	0.0017	-0.3936	0.0144	-0.3509	0.0442	-0.3955	0.0422
3	60.12	0.6498	-0.0267	0.0020	-0.4673	0.0170	-0.5696	0.0513	-0.5216	0.0435
3	60.12	0.6890	-0.0833	0.0018	-0.5203	0.0191	-0.7638	0.0559	-0.6914	0.0469
3	60.12	0.7495	-0.0798	0.0022	-0.5960	0.0221	-1.0786	0.0628	-0.6408	0.0524
3	60.12	0.7998	-0.1328	0.0025	-0.6992	0.0249	-1.3782	0.0683	-0.4836	0.0459
3	60.12	0.8577	-0.1861	0.0027	-0.7737	0.0280	-1.7832	0.0744	-0.4858	0.0458
3	60.12	0.9178	-0.2435	0.0020	-0.8942	0.0311	-2.2360	0.0821	-0.5446	0.0434
3	60.12	0.9729	-0.2819	0.0028	-0.9361	0.0340	-2.6419	0.0901	-0.5570	0.0502
4	60.12	0.2001	0.0146	0.0014	0.0162	0.0006	-0.0617	0.0023	0.2079	0.0174
4	60.12	0.2502	0.0034	0.0012	0.0157	0.0015	-0.0736	0.0050	0.7383	0.0348
4	60.12	0.3001	0.0053	0.0012	0.0558	0.0026	-0.1964	0.0087	0.6358	0.0402
4	60.12	0.3502	-0.0181	0.0013	0.0960	0.0042	-0.3300	0.0145	0.5926	0.0363
4	60.12	0.4002	-0.0309	0.0017	0.1409	0.0069	-0.4811	0.0226	0.5080	0.0429
4	60.12	0.4500	-0.0263	0.0016	0.1804	0.0079	-0.6817	0.0286	0.2804	0.0418
4	60.12	0.5001	-0.0365	0.0020	0.2051	0.0090	-0.8653	0.0359	0.4860	0.0539
4	60.12	0.5560	-0.0374	0.0019	0.2379	0.0121	-1.2255	0.0446	0.2098	0.0467
4	60.12	0.6001	-0.0390	0.0021	0.2650	0.0130	-1.5018	0.0494	0.1875	0.0483
4	60.12	0.6501	-0.0639	0.0020	0.2777	0.0153	-1.8864	0.0565	0.1655	0.0506
4	60.12	0.6999	-0.0704	0.0022	0.2889	0.0174	-2.3189	0.0624	0.1355	0.0492
4	60.12	0.7500	-0.1019	0.0019	0.3178	0.0192	-2.7411	0.0682	0.3802	0.0425
4	60.12	0.8002	-0.1757	0.0021	0.3068	0.0216	-3.2636	0.0733	0.4672	0.0496
4	60.12	0.8582	-0.2157	0.0023	0.3321	0.0242	-3.8871	0.0814	0.3368	0.0492
4	60.12	0.9101	-0.2576	0.0024	0.3434	0.0267	-4.4964	0.0879	0.3119	0.0437
4	60.12	0.9728	-0.2738	0.0028	0.4043	0.0296	-5.1616	0.0955	0.4571	0.0488

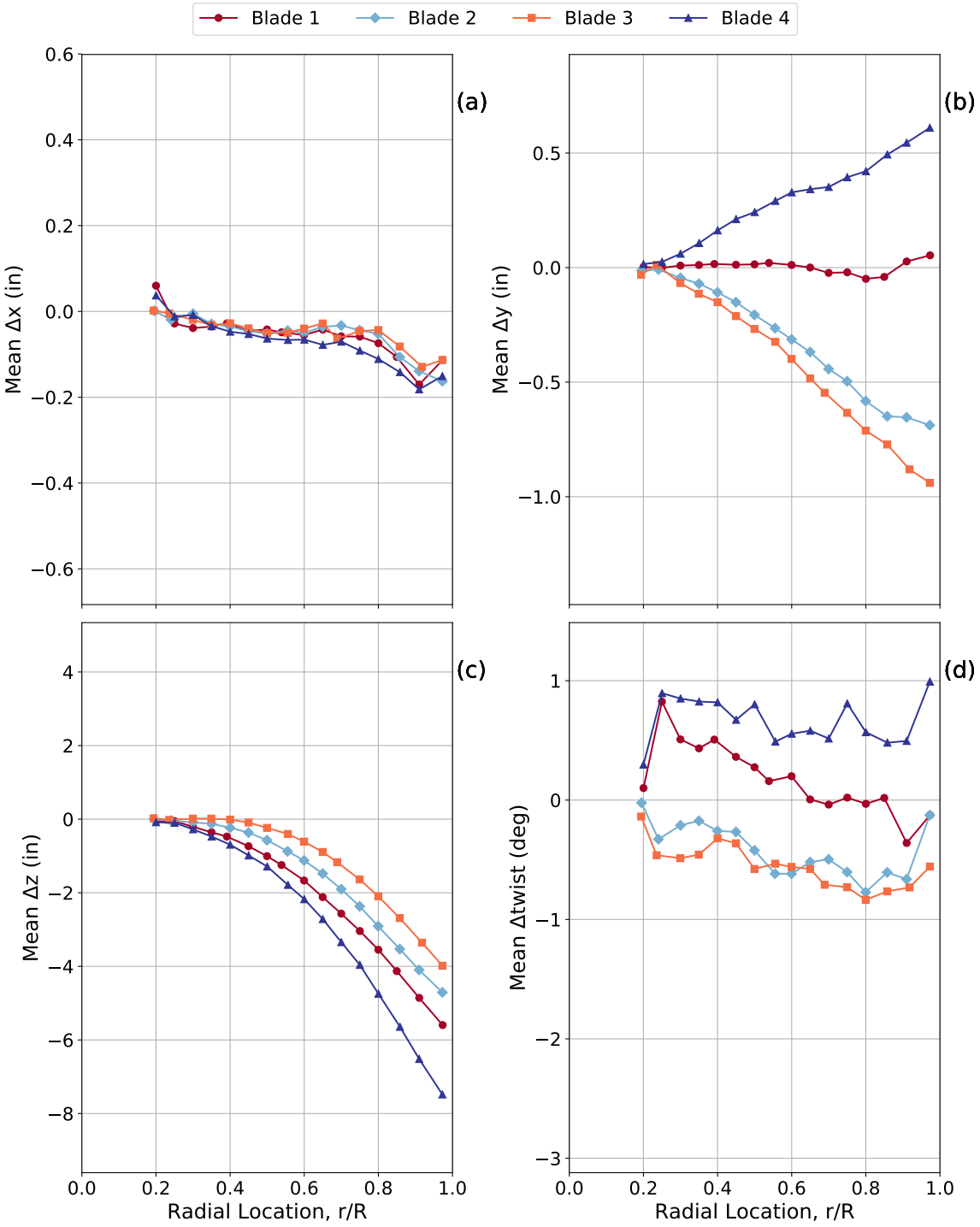


Figure 2.8-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-12. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0600	0.0025	0.0026	0.0013	-0.0630	0.0040	0.1007	0.0333
1	74.88	0.2499	-0.0282	0.0014	-0.0008	0.0018	-0.0509	0.0060	0.8243	0.0771
1	74.88	0.2998	-0.0388	0.0014	0.0086	0.0048	-0.2078	0.0144	0.5084	0.0852
1	74.88	0.3498	-0.0353	0.0020	0.0113	0.0081	-0.3564	0.0249	0.4333	0.0787
1	74.88	0.3913	-0.0279	0.0015	0.0158	0.0113	-0.4738	0.0346	0.5068	0.0793
1	74.88	0.4496	-0.0454	0.0025	0.0123	0.0152	-0.7350	0.0462	0.3622	0.0820
1	74.88	0.4997	-0.0420	0.0023	0.0141	0.0187	-1.0057	0.0572	0.2751	0.0811
1	74.88	0.5387	-0.0487	0.0022	0.0205	0.0217	-1.2469	0.0660	0.1590	0.0838
1	74.88	0.5996	-0.0550	0.0022	0.0114	0.0266	-1.6667	0.0795	0.1999	0.0890
1	74.88	0.6498	-0.0424	0.0022	0.0003	0.0308	-2.1193	0.0912	0.0056	0.0871
1	74.88	0.6998	-0.0580	0.0026	-0.0231	0.0351	-2.5669	0.1022	-0.0377	0.0870
1	74.88	0.7500	-0.0588	0.0029	-0.0207	0.0398	-3.0402	0.1138	0.0208	0.0851
1	74.88	0.8001	-0.0740	0.0032	-0.0491	0.0444	-3.5497	0.1254	-0.0316	0.0817
1	74.88	0.8497	-0.1062	0.0034	-0.0407	0.0492	-4.1298	0.1365	0.0183	0.0865
1	74.88	0.9102	-0.1705	0.0036	0.0266	0.0552	-4.8567	0.1511	-0.3592	0.0831
1	74.88	0.9734	-0.1133	0.0037	0.0535	0.0616	-5.5960	0.1664	-0.1255	0.0852
2	74.88	0.1949	0.0012	0.0026	-0.0123	0.0007	-0.0080	0.0025	-0.0230	0.0237
2	74.88	0.2405	-0.0194	0.0012	-0.0086	0.0011	-0.0392	0.0043	-0.3278	0.0393
2	74.88	0.2999	-0.0052	0.0013	-0.0451	0.0023	-0.0881	0.0087	-0.2112	0.0553
2	74.88	0.3498	-0.0293	0.0022	-0.0703	0.0041	-0.1269	0.0144	-0.1739	0.0458
2	74.88	0.3998	-0.0353	0.0031	-0.1082	0.0059	-0.2342	0.0220	-0.2578	0.0469
2	74.88	0.4496	-0.0459	0.0038	-0.1511	0.0073	-0.3646	0.0270	-0.2666	0.0489
2	74.88	0.4995	-0.0516	0.0040	-0.2063	0.0087	-0.5708	0.0336	-0.4203	0.0473
2	74.88	0.5551	-0.0447	0.0041	-0.2645	0.0108	-0.8746	0.0409	-0.6168	0.0448
2	74.88	0.5996	-0.0501	0.0038	-0.3134	0.0126	-1.1222	0.0464	-0.6172	0.0448
2	74.88	0.6497	-0.0358	0.0035	-0.3685	0.0145	-1.4794	0.0534	-0.5191	0.0500
2	74.88	0.6996	-0.0328	0.0039	-0.4424	0.0166	-1.9016	0.0606	-0.4964	0.0511
2	74.88	0.7495	-0.0440	0.0051	-0.4963	0.0187	-2.3685	0.0680	-0.6030	0.0437
2	74.88	0.7996	-0.0523	0.0069	-0.5827	0.0210	-2.9088	0.0752	-0.7716	0.0484
2	74.88	0.8578	-0.1065	0.0098	-0.6492	0.0232	-3.5305	0.0839	-0.6056	0.0531
2	74.88	0.9100	-0.1390	0.0130	-0.6536	0.0260	-4.0974	0.0904	-0.6627	0.0488
2	74.88	0.9727	-0.1627	0.0179	-0.6879	0.0296	-4.7082	0.1008	-0.1259	0.0533
3	74.88	0.1938	0.0020	0.0036	-0.0309	0.0008	0.0237	0.0030	-0.1377	0.0236
3	74.88	0.2357	-0.0048	0.0017	0.0118	0.0011	-0.0206	0.0049	-0.4619	0.0454
3	74.88	0.2995	-0.0194	0.0020	-0.0675	0.0027	0.0132	0.0101	-0.4867	0.0584
3	74.88	0.3493	-0.0318	0.0031	-0.1142	0.0045	0.0148	0.0172	-0.4570	0.0534
3	74.88	0.4000	-0.0278	0.0045	-0.1510	0.0070	-0.0118	0.0260	-0.3202	0.0513
3	74.88	0.4497	-0.0395	0.0056	-0.2119	0.0086	-0.0914	0.0325	-0.3620	0.0582
3	74.88	0.4997	-0.0507	0.0059	-0.2679	0.0108	-0.2368	0.0407	-0.5770	0.0607
3	74.88	0.5556	-0.0501	0.0055	-0.3241	0.0134	-0.4034	0.0503	-0.5328	0.0602
3	74.88	0.5995	-0.0400	0.0047	-0.3987	0.0154	-0.6113	0.0573	-0.5597	0.0709
3	74.88	0.6498	-0.0281	0.0042	-0.4836	0.0180	-0.8935	0.0657	-0.5770	0.0636
3	74.88	0.6890	-0.0637	0.0045	-0.5463	0.0199	-1.1697	0.0722	-0.7094	0.0663
3	74.88	0.7495	-0.0458	0.0068	-0.6340	0.0233	-1.6382	0.0826	-0.7296	0.0720
3	74.88	0.7998	-0.0434	0.0097	-0.7116	0.0265	-2.0970	0.0932	-0.8350	0.0711
3	74.88	0.8577	-0.0819	0.0147	-0.7721	0.0300	-2.6871	0.1058	-0.7647	0.0704
3	74.88	0.9178	-0.1292	0.0213	-0.8807	0.0345	-3.3575	0.1186	-0.7314	0.0700
3	74.88	0.9729	-0.1131	0.0290	-0.9396	0.0399	-3.9838	0.1304	-0.5573	0.0709
4	74.88	0.2001	0.0372	0.0015	0.0152	0.0007	-0.0832	0.0024	0.2973	0.0241
4	74.88	0.2502	-0.0119	0.0013	0.0250	0.0013	-0.0996	0.0033	0.8952	0.0443
4	74.88	0.3001	-0.0083	0.0012	0.0605	0.0028	-0.2760	0.0080	0.8505	0.0545
4	74.88	0.3502	-0.0344	0.0013	0.1069	0.0046	-0.4739	0.0126	0.8251	0.0498
4	74.88	0.4002	-0.0473	0.0018	0.1623	0.0071	-0.6936	0.0189	0.8184	0.0556
4	74.88	0.4500	-0.0527	0.0017	0.2115	0.0089	-0.9863	0.0236	0.6723	0.0556
4	74.88	0.5001	-0.0634	0.0019	0.2422	0.0107	-1.2875	0.0292	0.8020	0.0549
4	74.88	0.5560	-0.0665	0.0018	0.2909	0.0132	-1.7868	0.0358	0.4898	0.0563
4	74.88	0.6001	-0.0657	0.0017	0.3283	0.0153	-2.1752	0.0413	0.5559	0.0587
4	74.88	0.6501	-0.0780	0.0019	0.3421	0.0177	-2.7160	0.0480	0.5810	0.0502
4	74.88	0.6999	-0.0705	0.0020	0.3518	0.0201	-3.3435	0.0538	0.5153	0.0604
4	74.88	0.7500	-0.0913	0.0023	0.3941	0.0227	-3.9602	0.0609	0.8089	0.0576
4	74.88	0.8002	-0.1110	0.0024	0.4206	0.0258	-4.7452	0.0667	0.5685	0.0634
4	74.88	0.8582	-0.1416	0.0026	0.4937	0.0289	-5.6437	0.0739	0.4807	0.0655
4	74.88	0.9101	-0.1817	0.0029	0.5449	0.0323	-6.5182	0.0806	0.4953	0.0593
4	74.88	0.9728	-0.1508	0.0032	0.6103	0.0362	-7.4826	0.0902	0.9923	0.0643

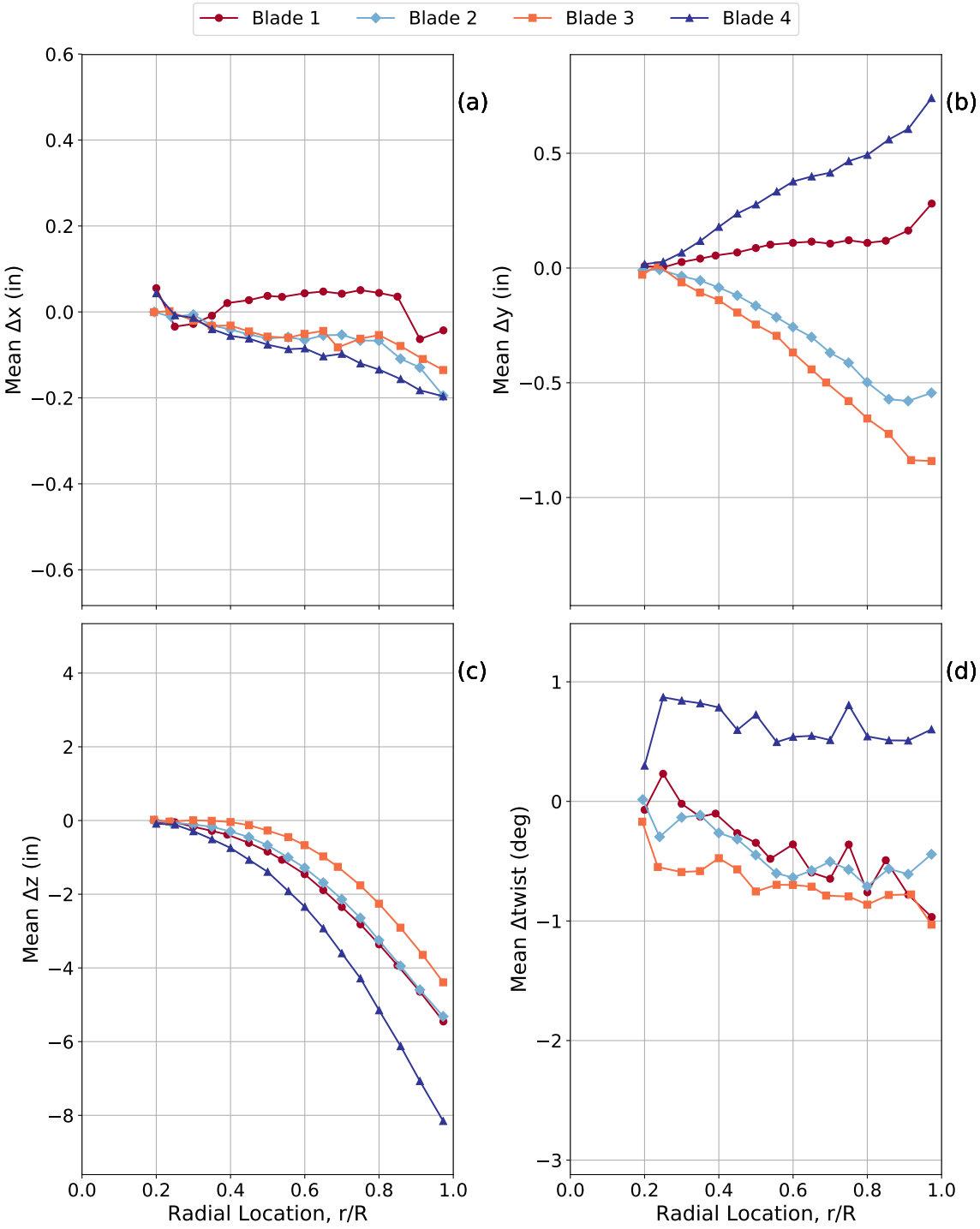


Figure 2.8-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-13. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0553	0.0136	0.0082	0.0066	-0.0492	0.0119	-0.0704	0.0858
1	80.16	0.2499	-0.0342	0.0017	0.0027	0.0066	-0.0463	0.0127	0.2309	0.2320
1	80.16	0.2998	-0.0279	0.0017	0.0260	0.0232	-0.1685	0.0392	-0.0198	0.2366
1	80.16	0.3498	-0.0089	0.0018	0.0410	0.0402	-0.2817	0.0675	-0.1284	0.2310
1	80.16	0.3913	0.0206	0.0017	0.0545	0.0543	-0.3833	0.0904	-0.1019	0.2338
1	80.16	0.4496	0.0274	0.0020	0.0678	0.0747	-0.6088	0.1230	-0.2659	0.2328
1	80.16	0.4997	0.0374	0.0022	0.0872	0.0924	-0.8424	0.1511	-0.3465	0.2327
1	80.16	0.5387	0.0350	0.0026	0.1020	0.1065	-1.0664	0.1730	-0.4802	0.2300
1	80.16	0.5996	0.0434	0.0028	0.1097	0.1284	-1.4574	0.2059	-0.3596	0.2404
1	80.16	0.6498	0.0475	0.0039	0.1151	0.1469	-1.8883	0.2352	-0.5948	0.2401
1	80.16	0.6998	0.0423	0.0057	0.1062	0.1659	-2.3482	0.2630	-0.6471	0.2389
1	80.16	0.7500	0.0507	0.0072	0.1211	0.1860	-2.8186	0.2916	-0.3609	0.2503
1	80.16	0.8001	0.0442	0.0085	0.1096	0.2045	-3.3610	0.3182	-0.7604	0.2405
1	80.16	0.8497	0.0356	0.0104	0.1188	0.2239	-3.9309	0.3518	-0.4922	0.2437
1	80.16	0.9102	-0.0633	0.0068	0.1634	0.2469	-4.6465	0.3784	-0.7803	0.2389
1	80.16	0.9734	-0.0429	0.0037	0.2807	0.2716	-5.4534	0.4145	-0.9670	0.2322
2	80.16	0.1949	-0.0001	0.0029	-0.0096	0.0006	-0.0130	0.0024	0.0154	0.0253
2	80.16	0.2405	-0.0116	0.0016	-0.0070	0.0012	-0.0539	0.0038	-0.2962	0.0436
2	80.16	0.2999	-0.0062	0.0015	-0.0356	0.0021	-0.1094	0.0081	-0.1339	0.0581
2	80.16	0.3498	-0.0315	0.0026	-0.0547	0.0039	-0.1703	0.0140	-0.1151	0.0556
2	80.16	0.3998	-0.0408	0.0040	-0.0849	0.0058	-0.2976	0.0208	-0.2640	0.0551
2	80.16	0.4496	-0.0525	0.0041	-0.1196	0.0073	-0.4508	0.0279	-0.3154	0.0541
2	80.16	0.4995	-0.0616	0.0045	-0.1647	0.0091	-0.6722	0.0348	-0.4481	0.0481
2	80.16	0.5551	-0.0587	0.0045	-0.2145	0.0112	-1.0028	0.0427	-0.6016	0.0469
2	80.16	0.5996	-0.0651	0.0042	-0.2572	0.0129	-1.2842	0.0493	-0.6366	0.0537
2	80.16	0.6497	-0.0546	0.0035	-0.3011	0.0151	-1.6880	0.0581	-0.5785	0.0528
2	80.16	0.6996	-0.0532	0.0032	-0.3689	0.0176	-2.1399	0.0656	-0.5042	0.0537
2	80.16	0.7495	-0.0665	0.0039	-0.4131	0.0200	-2.6449	0.0738	-0.5702	0.0537
2	80.16	0.7996	-0.0670	0.0056	-0.4979	0.0224	-3.2475	0.0825	-0.7110	0.0512
2	80.16	0.8578	-0.1090	0.0094	-0.5716	0.0254	-3.9488	0.0933	-0.5639	0.0534
2	80.16	0.9100	-0.1293	0.0128	-0.5794	0.0283	-4.5924	0.1040	-0.6087	0.0517
2	80.16	0.9727	-0.1950	0.0186	-0.5440	0.0316	-5.3170	0.1173	-0.4422	0.0535
3	80.16	0.1938	-0.0005	0.0045	-0.0292	0.0008	0.0213	0.0036	-0.1700	0.0273
3	80.16	0.2357	0.0018	0.0022	0.0115	0.0011	-0.0283	0.0047	-0.5487	0.0572
3	80.16	0.2995	-0.0202	0.0020	-0.0626	0.0026	0.0051	0.0103	-0.5909	0.0699
3	80.16	0.3493	-0.0323	0.0041	-0.1069	0.0049	-0.0085	0.0180	-0.5830	0.0647
3	80.16	0.4000	-0.0317	0.0055	-0.1400	0.0071	-0.0417	0.0262	-0.4749	0.0626
3	80.16	0.4497	-0.0455	0.0063	-0.1940	0.0089	-0.1288	0.0325	-0.5684	0.0641
3	80.16	0.4997	-0.0574	0.0069	-0.2464	0.0109	-0.2728	0.0390	-0.7532	0.0654
3	80.16	0.5556	-0.0600	0.0062	-0.2953	0.0134	-0.4520	0.0479	-0.6973	0.0675
3	80.16	0.5995	-0.0511	0.0055	-0.3680	0.0156	-0.6697	0.0543	-0.6986	0.0677
3	80.16	0.6498	-0.0442	0.0047	-0.4418	0.0178	-0.9743	0.0621	-0.7130	0.0696
3	80.16	0.6890	-0.0826	0.0040	-0.4989	0.0201	-1.2571	0.0691	-0.7879	0.0673
3	80.16	0.7495	-0.0623	0.0054	-0.5799	0.0232	-1.7603	0.0804	-0.7950	0.0701
3	80.16	0.7998	-0.0538	0.0090	-0.6557	0.0260	-2.2569	0.0910	-0.8628	0.0758
3	80.16	0.8577	-0.0792	0.0143	-0.7227	0.0291	-2.9083	0.1050	-0.7827	0.0728
3	80.16	0.9178	-0.1096	0.0213	-0.8372	0.0330	-3.6473	0.1200	-0.7780	0.0759
3	80.16	0.9729	-0.1352	0.0292	-0.8411	0.0372	-4.3913	0.1342	-1.0305	0.0771
4	80.16	0.2001	0.0434	0.0017	0.0169	0.0009	-0.0865	0.0030	0.2987	0.0268
4	80.16	0.2502	-0.0078	0.0015	0.0273	0.0016	-0.1118	0.0046	0.8709	0.0528
4	80.16	0.3001	-0.0136	0.0016	0.0671	0.0030	-0.2917	0.0101	0.8425	0.0616
4	80.16	0.3502	-0.0401	0.0012	0.1181	0.0053	-0.5090	0.0168	0.8203	0.0544
4	80.16	0.4002	-0.0556	0.0015	0.1793	0.0079	-0.7457	0.0253	0.7855	0.0554
4	80.16	0.4500	-0.0621	0.0020	0.2374	0.0101	-1.0674	0.0324	0.5973	0.0549
4	80.16	0.5001	-0.0762	0.0018	0.2770	0.0125	-1.3941	0.0407	0.7248	0.0538
4	80.16	0.5560	-0.0867	0.0020	0.3333	0.0150	-1.9193	0.0501	0.4960	0.0568
4	80.16	0.6001	-0.0849	0.0020	0.3772	0.0173	-2.3422	0.0579	0.5395	0.0590
4	80.16	0.6501	-0.1034	0.0022	0.3989	0.0203	-2.9262	0.0677	0.5485	0.0566
4	80.16	0.6999	-0.0975	0.0024	0.4154	0.0232	-3.6029	0.0777	0.5127	0.0569
4	80.16	0.7500	-0.1199	0.0027	0.4657	0.0261	-4.2852	0.0875	0.8044	0.0623
4	80.16	0.8002	-0.1342	0.0029	0.4930	0.0295	-5.1500	0.0974	0.5436	0.0590
4	80.16	0.8582	-0.1563	0.0034	0.5603	0.0333	-6.1238	0.1093	0.5105	0.0590
4	80.16	0.9101	-0.1823	0.0038	0.6060	0.0370	-7.0718	0.1199	0.5088	0.0595
4	80.16	0.9728	-0.1963	0.0041	0.7405	0.0414	-8.1545	0.1326	0.6021	0.0573

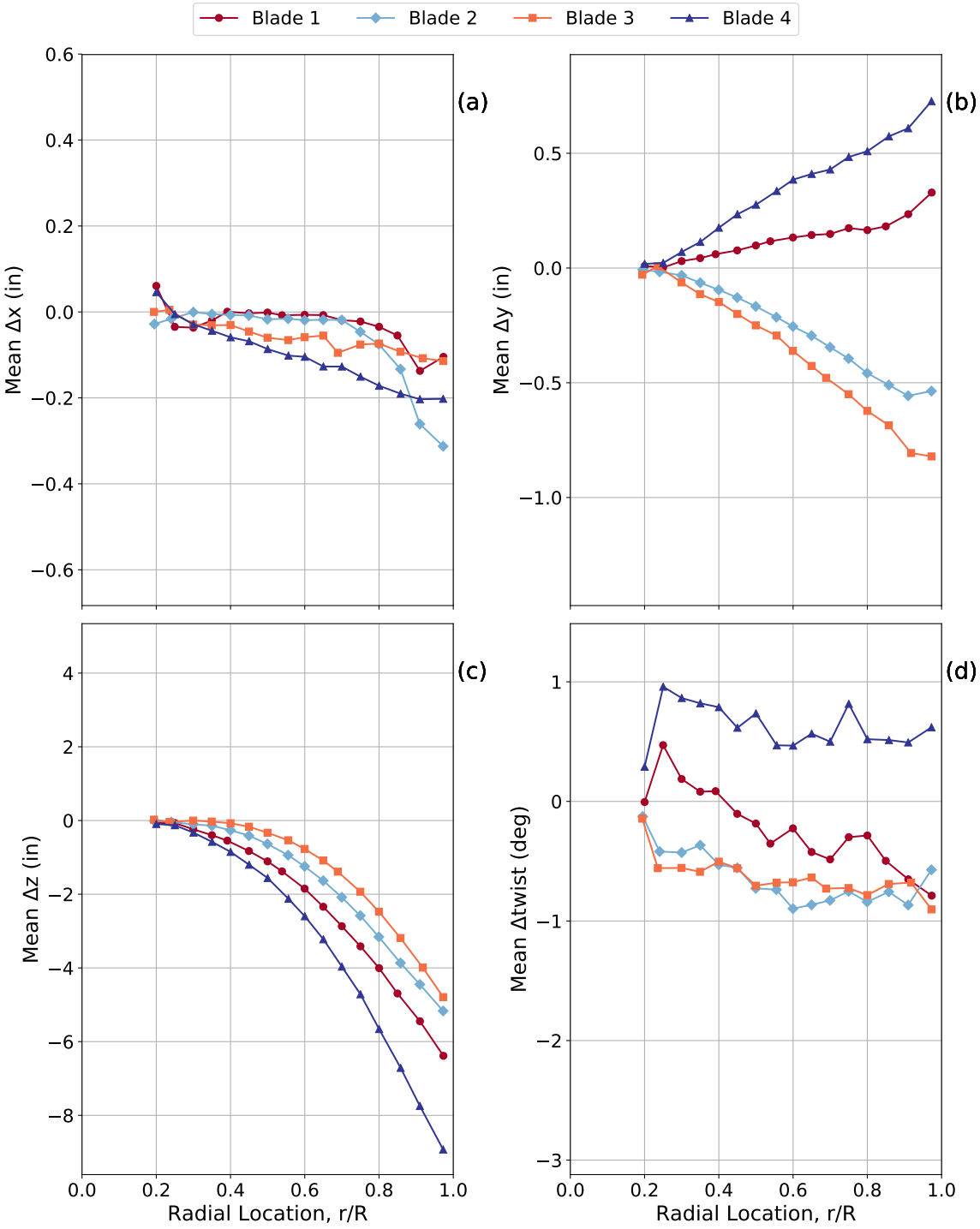


Figure 2.8-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-14. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0606	0.0041	0.0090	0.0019	-0.0676	0.0040	-0.0056	0.0328
1	85.08	0.2499	-0.0347	0.0013	0.0021	0.0020	-0.0686	0.0042	0.4704	0.0909
1	85.08	0.2998	-0.0367	0.0014	0.0302	0.0067	-0.2378	0.0135	0.1872	0.0909
1	85.08	0.3498	-0.0199	0.0014	0.0430	0.0112	-0.3979	0.0228	0.0811	0.0905
1	85.08	0.3913	0.0005	0.0014	0.0602	0.0154	-0.5458	0.0308	0.0855	0.0899
1	85.08	0.4496	-0.0032	0.0019	0.0769	0.0213	-0.8282	0.0421	-0.1040	0.0890
1	85.08	0.4997	-0.0014	0.0020	0.0982	0.0263	-1.1089	0.0527	-0.1852	0.0880
1	85.08	0.5387	-0.0078	0.0018	0.1166	0.0304	-1.3792	0.0604	-0.3532	0.0880
1	85.08	0.5996	-0.0067	0.0021	0.1330	0.0370	-1.8488	0.0727	-0.2255	0.0960
1	85.08	0.6498	-0.0074	0.0023	0.1438	0.0428	-2.3406	0.0841	-0.4235	0.0947
1	85.08	0.6998	-0.0191	0.0031	0.1484	0.0485	-2.8678	0.0937	-0.4849	0.0990
1	85.08	0.7500	-0.0222	0.0034	0.1738	0.0547	-3.4147	0.1047	-0.2991	0.1055
1	85.08	0.8001	-0.0346	0.0063	0.1651	0.0612	-4.0052	0.1185	-0.2852	0.1259
1	85.08	0.8497	-0.0549	0.0039	0.1816	0.0679	-4.6938	0.1255	-0.4971	0.1022
1	85.08	0.9102	-0.1372	0.0039	0.2346	0.0750	-5.4465	0.1363	-0.6514	0.0913
1	85.08	0.9734	-0.1046	0.0038	0.3289	0.0834	-6.3850	0.1494	-0.7882	0.0930
2	85.08	0.1949	-0.0282	0.0027	-0.0070	0.0007	-0.0102	0.0020	-0.1268	0.0212
2	85.08	0.2405	-0.0159	0.0014	-0.0168	0.0017	-0.0448	0.0031	-0.4194	0.0374
2	85.08	0.2999	-0.0005	0.0015	-0.0320	0.0030	-0.1028	0.0063	-0.4277	0.0505
2	85.08	0.3498	-0.0051	0.0028	-0.0642	0.0051	-0.1408	0.0108	-0.3665	0.0453
2	85.08	0.3998	-0.0070	0.0042	-0.0951	0.0079	-0.2641	0.0160	-0.5300	0.0474
2	85.08	0.4496	-0.0083	0.0053	-0.1287	0.0101	-0.4114	0.0207	-0.5557	0.0438
2	85.08	0.4995	-0.0171	0.0068	-0.1674	0.0128	-0.6360	0.0268	-0.7273	0.0424
2	85.08	0.5551	-0.0158	0.0082	-0.2142	0.0163	-0.9419	0.0320	-0.7385	0.0468
2	85.08	0.5996	-0.0192	0.0091	-0.2547	0.0188	-1.2456	0.0373	-0.8971	0.0501
2	85.08	0.6497	-0.0182	0.0104	-0.2949	0.0220	-1.6333	0.0418	-0.8650	0.0574
2	85.08	0.6996	-0.0187	0.0111	-0.3451	0.0252	-2.0830	0.0478	-0.8278	0.0638
2	85.08	0.7495	-0.0462	0.0119	-0.3945	0.0286	-2.5822	0.0534	-0.7519	0.0544
2	85.08	0.7996	-0.0753	0.0124	-0.4582	0.0324	-3.1584	0.0611	-0.8408	0.0647
2	85.08	0.8578	-0.1331	0.0148	-0.5098	0.0365	-3.8651	0.0740	-0.7562	0.1070
2	85.08	0.9100	-0.2609	0.0069	-0.5567	0.0557	-4.4486	0.1082	-0.8667	0.0517
2	85.08	0.9727	-0.3125	0.0062	-0.5364	0.0607	-5.1675	0.1215	-0.5720	0.0511
3	85.08	0.1938	0.0001	0.0039	-0.0290	0.0008	0.0216	0.0038	-0.1442	0.0234
3	85.08	0.2357	0.0048	0.0023	0.0081	0.0011	-0.0391	0.0048	-0.5580	0.0510
3	85.08	0.2995	-0.0294	0.0018	-0.0629	0.0027	-0.0032	0.0117	-0.5564	0.0555
3	85.08	0.3493	-0.0311	0.0034	-0.1139	0.0046	-0.0286	0.0202	-0.5890	0.0525
3	85.08	0.4000	-0.0305	0.0050	-0.1478	0.0069	-0.0737	0.0299	-0.5039	0.0563
3	85.08	0.4497	-0.0457	0.0060	-0.2000	0.0089	-0.1687	0.0381	-0.5590	0.0527
3	85.08	0.4997	-0.0600	0.0069	-0.2499	0.0110	-0.3322	0.0474	-0.7053	0.0575
3	85.08	0.5556	-0.0655	0.0070	-0.2942	0.0138	-0.5364	0.0578	-0.6792	0.0548
3	85.08	0.5995	-0.0588	0.0066	-0.3610	0.0160	-0.7731	0.0659	-0.6765	0.0572
3	85.08	0.6498	-0.0551	0.0053	-0.4269	0.0191	-1.0844	0.0754	-0.6361	0.0577
3	85.08	0.6890	-0.0952	0.0044	-0.4784	0.0215	-1.3882	0.0826	-0.7290	0.0573
3	85.08	0.7495	-0.0759	0.0040	-0.5499	0.0254	-1.9325	0.0931	-0.7246	0.0603
3	85.08	0.7998	-0.0736	0.0059	-0.6226	0.0287	-2.4746	0.1018	-0.7834	0.0573
3	85.08	0.8577	-0.0927	0.0106	-0.6855	0.0330	-3.1892	0.1107	-0.6907	0.0619
3	85.08	0.9178	-0.1077	0.0168	-0.8062	0.0376	-3.9910	0.1202	-0.6790	0.0591
3	85.08	0.9729	-0.1143	0.0239	-0.8210	0.0421	-4.7929	0.1281	-0.9032	0.0631
4	85.08	0.2001	0.0460	0.0018	0.0180	0.0009	-0.0951	0.0032	0.2896	0.0300
4	85.08	0.2502	-0.0054	0.0018	0.0221	0.0017	-0.1286	0.0054	0.9589	0.0636
4	85.08	0.3001	-0.0288	0.0016	0.0701	0.0032	-0.3289	0.0109	0.8640	0.0727
4	85.08	0.3502	-0.0439	0.0019	0.1137	0.0057	-0.5793	0.0195	0.8201	0.0662
4	85.08	0.4002	-0.0591	0.0019	0.1756	0.0086	-0.8519	0.0287	0.7877	0.0663
4	85.08	0.4500	-0.0683	0.0020	0.2341	0.0106	-1.1999	0.0360	0.6155	0.0667
4	85.08	0.5001	-0.0865	0.0021	0.2759	0.0134	-1.5619	0.0454	0.7357	0.0640
4	85.08	0.5560	-0.1017	0.0022	0.3357	0.0165	-2.1247	0.0559	0.4688	0.0633
4	85.08	0.6001	-0.1044	0.0026	0.3851	0.0189	-2.5988	0.0645	0.4664	0.0686
4	85.08	0.6501	-0.1270	0.0027	0.4099	0.0219	-3.2234	0.0749	0.5662	0.0704
4	85.08	0.6999	-0.1272	0.0031	0.4293	0.0250	-3.9652	0.0861	0.4990	0.0685
4	85.08	0.7500	-0.1507	0.0036	0.4839	0.0282	-4.7164	0.0975	0.8155	0.0747
4	85.08	0.8002	-0.1718	0.0044	0.5090	0.0317	-5.6596	0.1103	0.5199	0.0695
4	85.08	0.8582	-0.1903	0.0053	0.5738	0.0357	-6.7137	0.1249	0.5128	0.0723
4	85.08	0.9101	-0.2032	0.0058	0.6089	0.0395	-7.7477	0.1393	0.4926	0.0714
4	85.08	0.9728	-0.2022	0.0069	0.7269	0.0439	-8.9291	0.1580	0.6193	0.0715

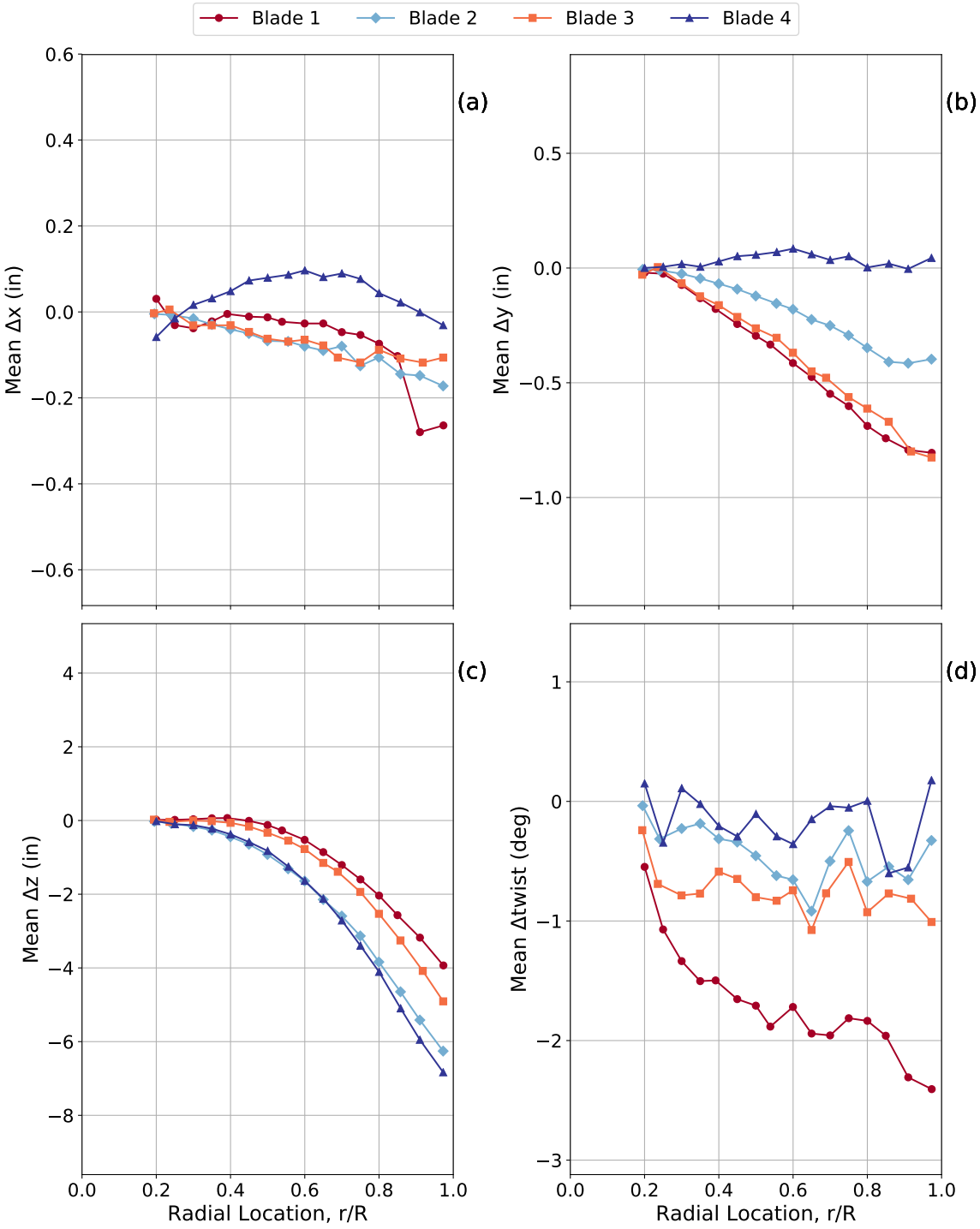


Figure 2.8-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-15. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0305	0.0023	-0.0204	0.0011	0.0185	0.0025	-0.5476	0.0264
1	90	0.2499	-0.0307	0.0013	-0.0249	0.0020	0.0173	0.0053	-1.0709	0.0427
1	90	0.2998	-0.0381	0.0011	-0.0738	0.0042	0.0350	0.0082	-1.3356	0.0582
1	90	0.3498	-0.0220	0.0014	-0.1314	0.0072	0.0614	0.0150	-1.5029	0.0491
1	90	0.3913	-0.0047	0.0015	-0.1782	0.0100	0.0671	0.0203	-1.4971	0.0494
1	90	0.4496	-0.0109	0.0017	-0.2440	0.0134	-0.0093	0.0275	-1.6536	0.0467
1	90	0.4997	-0.0126	0.0017	-0.2953	0.0164	-0.1233	0.0339	-1.7081	0.0468
1	90	0.5387	-0.0229	0.0016	-0.3335	0.0187	-0.2699	0.0391	-1.8833	0.0448
1	90	0.5996	-0.0269	0.0015	-0.4141	0.0223	-0.5250	0.0465	-1.7191	0.0518
1	90	0.6498	-0.0269	0.0021	-0.4749	0.0253	-0.8580	0.0525	-1.9414	0.0607
1	90	0.6998	-0.0470	0.0020	-0.5484	0.0285	-1.2079	0.0590	-1.9568	0.0609
1	90	0.7500	-0.0535	0.0021	-0.6017	0.0315	-1.5991	0.0666	-1.8132	0.0564
1	90	0.8001	-0.0740	0.0031	-0.6881	0.0346	-2.0372	0.0738	-1.8353	0.0740
1	90	0.8497	-0.1027	0.0038	-0.7420	0.0381	-2.5689	0.0849	-1.9597	0.0730
1	90	0.9102	-0.2797	0.0024	-0.7928	0.0420	-3.1780	0.0937	-2.3076	0.0556
1	90	0.9734	-0.2641	0.0032	-0.8053	0.0463	-3.9329	0.1064	-2.4062	0.0577
2	90	0.1949	-0.0045	0.0035	-0.0060	0.0010	-0.0246	0.0040	-0.0359	0.0360
2	90	0.2405	-0.0070	0.0023	-0.0096	0.0013	-0.0778	0.0053	-0.3144	0.0758
2	90	0.2999	-0.0153	0.0017	-0.0251	0.0032	-0.1650	0.0114	-0.2268	0.0893
2	90	0.3498	-0.0292	0.0027	-0.0454	0.0059	-0.2613	0.0204	-0.1857	0.0745
2	90	0.3998	-0.0403	0.0044	-0.0684	0.0084	-0.4428	0.0286	-0.3130	0.0739
2	90	0.4496	-0.0503	0.0055	-0.0920	0.0103	-0.6463	0.0376	-0.3402	0.0736
2	90	0.4995	-0.0673	0.0061	-0.1219	0.0125	-0.9218	0.0462	-0.4548	0.0763
2	90	0.5551	-0.0687	0.0064	-0.1544	0.0156	-1.3111	0.0575	-0.6208	0.0786
2	90	0.5996	-0.0800	0.0064	-0.1798	0.0179	-1.6419	0.0656	-0.6547	0.0763
2	90	0.6497	-0.0899	0.0031	-0.2244	0.0250	-2.1450	0.0792	-0.9178	0.1472
2	90	0.6996	-0.0798	0.0042	-0.2509	0.0238	-2.5927	0.0837	-0.4999	0.0794
2	90	0.7495	-0.1254	0.0039	-0.2933	0.0324	-3.1324	0.0938	-0.2447	0.1404
2	90	0.7996	-0.1059	0.0039	-0.3479	0.0306	-3.8387	0.1031	-0.6705	0.0783
2	90	0.8578	-0.1445	0.0069	-0.4088	0.0344	-4.6475	0.1145	-0.5448	0.0819
2	90	0.9100	-0.1481	0.0109	-0.4150	0.0383	-5.4145	0.1258	-0.6551	0.0836
2	90	0.9727	-0.1723	0.0164	-0.3972	0.0435	-6.2567	0.1419	-0.3267	0.0904
3	90	0.1938	-0.0032	0.0030	-0.0290	0.0009	0.0231	0.0043	-0.2411	0.0329
3	90	0.2357	0.0056	0.0018	0.0039	0.0015	-0.0359	0.0049	-0.6900	0.0869
3	90	0.2995	-0.0314	0.0018	-0.0665	0.0035	0.0000	0.0121	-0.7859	0.0975
3	90	0.3493	-0.0311	0.0016	-0.1232	0.0058	-0.0189	0.0204	-0.7708	0.0946
3	90	0.4000	-0.0311	0.0020	-0.1620	0.0091	-0.0623	0.0296	-0.5875	0.0968
3	90	0.4497	-0.0466	0.0020	-0.2132	0.0114	-0.1629	0.0375	-0.6485	0.0925
3	90	0.4997	-0.0624	0.0021	-0.2629	0.0143	-0.3293	0.0462	-0.8009	0.0904
3	90	0.5556	-0.0690	0.0019	-0.3040	0.0178	-0.5459	0.0556	-0.8305	0.0917
3	90	0.5995	-0.0647	0.0021	-0.3691	0.0204	-0.7739	0.0628	-0.7438	0.0960
3	90	0.6498	-0.0780	0.0021	-0.4507	0.0239	-1.1506	0.0712	-1.0755	0.0957
3	90	0.6890	-0.1062	0.0023	-0.4781	0.0267	-1.3905	0.0781	-0.7685	0.0981
3	90	0.7495	-0.1177	0.0026	-0.5624	0.0314	-1.9384	0.0886	-0.5065	0.0977
3	90	0.7998	-0.0882	0.0026	-0.6125	0.0361	-2.5321	0.0970	-0.9265	0.0916
3	90	0.8577	-0.1085	0.0031	-0.6700	0.0413	-3.2548	0.1069	-0.7698	0.0911
3	90	0.9178	-0.1178	0.0031	-0.7994	0.0469	-4.0809	0.1171	-0.8137	0.0928
3	90	0.9729	-0.1062	0.0038	-0.8257	0.0524	-4.9074	0.1281	-1.0085	0.0929
4	90.35	0.2001	-0.0584	0.0011	0.0003	0.0008	-0.0175	0.0017	0.1498	0.0232
4	90.35	0.2502	-0.0151	0.0008	0.0052	0.0022	-0.1016	0.0041	-0.3454	0.0412
4	90.35	0.3001	0.0164	0.0009	0.0172	0.0037	-0.1258	0.0061	0.1095	0.0521
4	90.35	0.3502	0.0316	0.0015	0.0053	0.0056	-0.2214	0.0099	-0.0219	0.0488
4	90.35	0.4002	0.0483	0.0016	0.0287	0.0095	-0.3755	0.0155	-0.2067	0.0443
4	90.35	0.4500	0.0730	0.0019	0.0514	0.0117	-0.5856	0.0198	-0.2937	0.0463
4	90.35	0.5001	0.0795	0.0020	0.0575	0.0142	-0.8258	0.0240	-0.1054	0.0428
4	90.35	0.5560	0.0865	0.0021	0.0695	0.0177	-1.2533	0.0299	-0.2924	0.0452
4	90.35	0.6001	0.0966	0.0021	0.0843	0.0200	-1.6373	0.0354	-0.3574	0.0439
4	90.35	0.6501	0.0811	0.0022	0.0598	0.0237	-2.1234	0.0421	-0.1488	0.0528
4	90.35	0.6999	0.0894	0.0025	0.0350	0.0268	-2.7133	0.0490	-0.0400	0.0562
4	90.35	0.7500	0.0768	0.0028	0.0512	0.0302	-3.3973	0.0565	-0.0523	0.0671
4	90.35	0.8002	0.0436	0.0041	0.0026	0.0343	-4.1083	0.0626	0.0048	0.1105
4	90.35	0.8582	0.0220	0.0062	0.0187	0.0381	-5.0989	0.0769	-0.6009	0.1527
4	90.35	0.9101	-0.0010	0.0157	-0.0038	0.0473	-5.9512	0.0884	-0.5524	0.1585
4	90.35	0.9728	-0.0309	0.0069	0.0438	0.0462	-6.8330	0.1092	0.1767	0.2082

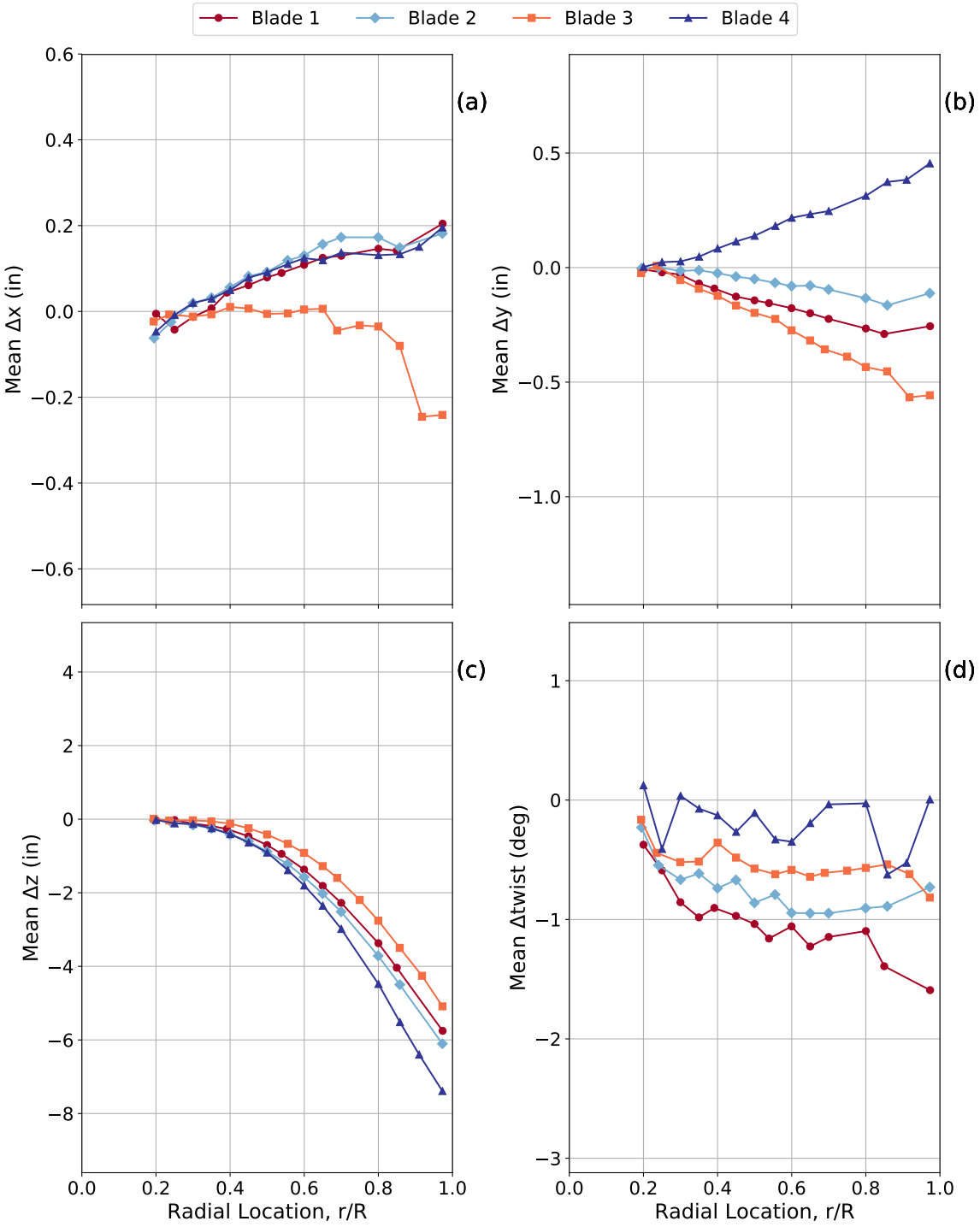


Figure 2.8-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-16. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0055	0.0010	-0.0079	0.0005	-0.0312	0.0020	-0.3741	0.0230
1	94.92	0.2499	-0.0424	0.0008	-0.0208	0.0013	-0.0233	0.0044	-0.5885	0.0364
1	94.92	0.2998	-0.0129	0.0010	-0.0308	0.0022	-0.1221	0.0078	-0.8556	0.0511
1	94.92	0.3498	0.0071	0.0011	-0.0696	0.0040	-0.1840	0.0141	-0.9824	0.0471
1	94.92	0.3913	0.0439	0.0013	-0.0913	0.0057	-0.2667	0.0197	-0.9035	0.0450
1	94.92	0.4496	0.0611	0.0015	-0.1266	0.0072	-0.4658	0.0268	-0.9701	0.0401
1	94.92	0.4997	0.0794	0.0015	-0.1430	0.0089	-0.7041	0.0349	-1.0379	0.0414
1	94.92	0.5387	0.0897	0.0016	-0.1550	0.0106	-0.9417	0.0416	-1.1596	0.0452
1	94.92	0.5996	0.1085	0.0018	-0.1773	0.0138	-1.3692	0.0511	-1.0581	0.0415
1	94.92	0.6498	0.1250	0.0024	-0.1993	0.0166	-1.8140	0.0599	-1.2261	0.0515
1	94.92	0.6998	0.1297	0.0023	-0.2239	0.0194	-2.2755	0.0681	-1.1465	0.0598
1	94.92	0.8001	0.1461	0.0038	-0.2658	0.0265	-3.3709	0.0856	-1.0971	0.0560
1	94.92	0.8497	0.1416	0.0041	-0.2898	0.0295	-4.0386	0.0977	-1.3916	0.0588
1	94.92	0.9734	0.2045	0.0063	-0.2558	0.0380	-5.7528	0.1313	-1.5920	0.1672
2	94.92	0.1949	-0.0620	0.0009	-0.0034	0.0005	-0.0275	0.0016	-0.2298	0.0233
2	94.92	0.2405	-0.0247	0.0009	0.0007	0.0011	-0.0698	0.0039	-0.5457	0.0314
2	94.92	0.2999	0.0193	0.0009	-0.0143	0.0023	-0.1597	0.0069	-0.6664	0.0518
2	94.92	0.3498	0.0319	0.0009	-0.0117	0.0038	-0.2490	0.0125	-0.6150	0.0428
2	94.92	0.3998	0.0562	0.0014	-0.0244	0.0057	-0.4170	0.0190	-0.7384	0.0384
2	94.92	0.4496	0.0820	0.0016	-0.0394	0.0069	-0.6015	0.0240	-0.6693	0.0364
2	94.92	0.4995	0.0917	0.0017	-0.0498	0.0088	-0.8775	0.0311	-0.8605	0.0385
2	94.92	0.5551	0.1189	0.0016	-0.0663	0.0108	-1.2197	0.0376	-0.7910	0.0378
2	94.92	0.5996	0.1301	0.0021	-0.0809	0.0127	-1.5752	0.0447	-0.9449	0.0456
2	94.92	0.6497	0.1565	0.0022	-0.0786	0.0150	-2.0257	0.0508	-0.9481	0.0522
2	94.92	0.6996	0.1728	0.0025	-0.0955	0.0175	-2.5166	0.0590	-0.9476	0.0404
2	94.92	0.7996	0.1727	0.0027	-0.1336	0.0229	-3.7149	0.0737	-0.9053	0.0583
2	94.92	0.8578	0.1486	0.0041	-0.1644	0.0255	-4.4977	0.0817	-0.8900	0.0957
2	94.92	0.9727	0.1816	0.0064	-0.1120	0.0338	-6.1034	0.1035	-0.7289	0.1237
3	94.92	0.1938	-0.0235	0.0036	-0.0245	0.0014	0.0102	0.0036	-0.1647	0.0222
3	94.92	0.2357	-0.0072	0.0017	0.0077	0.0017	-0.0370	0.0033	-0.4423	0.0567
3	94.92	0.2995	-0.0120	0.0016	-0.0546	0.0047	-0.0307	0.0101	-0.5197	0.0627
3	94.92	0.3493	-0.0069	0.0026	-0.0923	0.0082	-0.0594	0.0171	-0.5149	0.0594
3	94.92	0.4000	0.0105	0.0039	-0.1230	0.0124	-0.1211	0.0245	-0.3562	0.0569
3	94.92	0.4497	0.0067	0.0051	-0.1657	0.0158	-0.2476	0.0317	-0.4817	0.0559
3	94.92	0.4997	-0.0057	0.0064	-0.1976	0.0196	-0.4166	0.0387	-0.5741	0.0595
3	94.92	0.5556	-0.0046	0.0077	-0.2242	0.0238	-0.6699	0.0472	-0.6208	0.0581
3	94.92	0.5995	0.0045	0.0087	-0.2739	0.0276	-0.9163	0.0544	-0.5849	0.0620
3	94.92	0.6498	0.0062	0.0101	-0.3180	0.0321	-1.2762	0.0630	-0.6427	0.0585
3	94.92	0.6890	-0.0446	0.0111	-0.3569	0.0359	-1.5958	0.0701	-0.6096	0.0582
3	94.92	0.7495	-0.0323	0.0128	-0.3887	0.0415	-2.1955	0.0803	-0.5908	0.0625
3	94.92	0.7998	-0.0352	0.0150	-0.4340	0.0468	-2.7581	0.0883	-0.5679	0.0601
3	94.92	0.8577	-0.0802	0.0169	-0.4530	0.0526	-3.4978	0.0984	-0.5387	0.0736
3	94.92	0.9178	-0.2456	0.0066	-0.5661	0.0868	-4.2561	0.1328	-0.6200	0.0703
3	94.92	0.9729	-0.2412	0.0060	-0.5572	0.0939	-5.0873	0.1439	-0.8164	0.0715
4	94.92	0.2001	-0.0470	0.0007	0.0027	0.0005	-0.0203	0.0015	0.1234	0.0288
4	94.92	0.2502	-0.0083	0.0008	0.0237	0.0017	-0.1158	0.0041	-0.4094	0.0410
4	94.92	0.3001	0.0199	0.0008	0.0269	0.0028	-0.1302	0.0062	0.0357	0.0628
4	94.92	0.3502	0.0298	0.0010	0.0477	0.0044	-0.2476	0.0103	-0.0719	0.0492
4	94.92	0.4002	0.0498	0.0014	0.0832	0.0074	-0.4047	0.0163	-0.1280	0.0469
4	94.92	0.4500	0.0786	0.0012	0.1137	0.0082	-0.6362	0.0203	-0.2661	0.0457
4	94.92	0.5001	0.0910	0.0012	0.1388	0.0105	-0.9079	0.0268	-0.1071	0.0500
4	94.92	0.5560	0.1104	0.0013	0.1818	0.0133	-1.3874	0.0340	-0.3298	0.0504
4	94.92	0.6001	0.1241	0.0015	0.2174	0.0157	-1.8040	0.0401	-0.3487	0.0520
4	94.92	0.6501	0.1192	0.0021	0.2330	0.0188	-2.3546	0.0480	-0.1927	0.0545
4	94.92	0.6999	0.1370	0.0021	0.2467	0.0217	-2.9844	0.0558	-0.0359	0.0563
4	94.92	0.8002	0.1311	0.0029	0.3134	0.0283	-4.4794	0.0726	-0.0276	0.0647
4	94.92	0.8582	0.1333	0.0045	0.3737	0.0322	-5.5179	0.0838	-0.6233	0.0971
4	94.92	0.9101	0.1506	0.0075	0.3834	0.0359	-6.3997	0.0909	-0.5257	0.0816
4	94.92	0.9728	0.1956	0.0047	0.4547	0.0403	-7.3898	0.1044	0.0054	0.1024

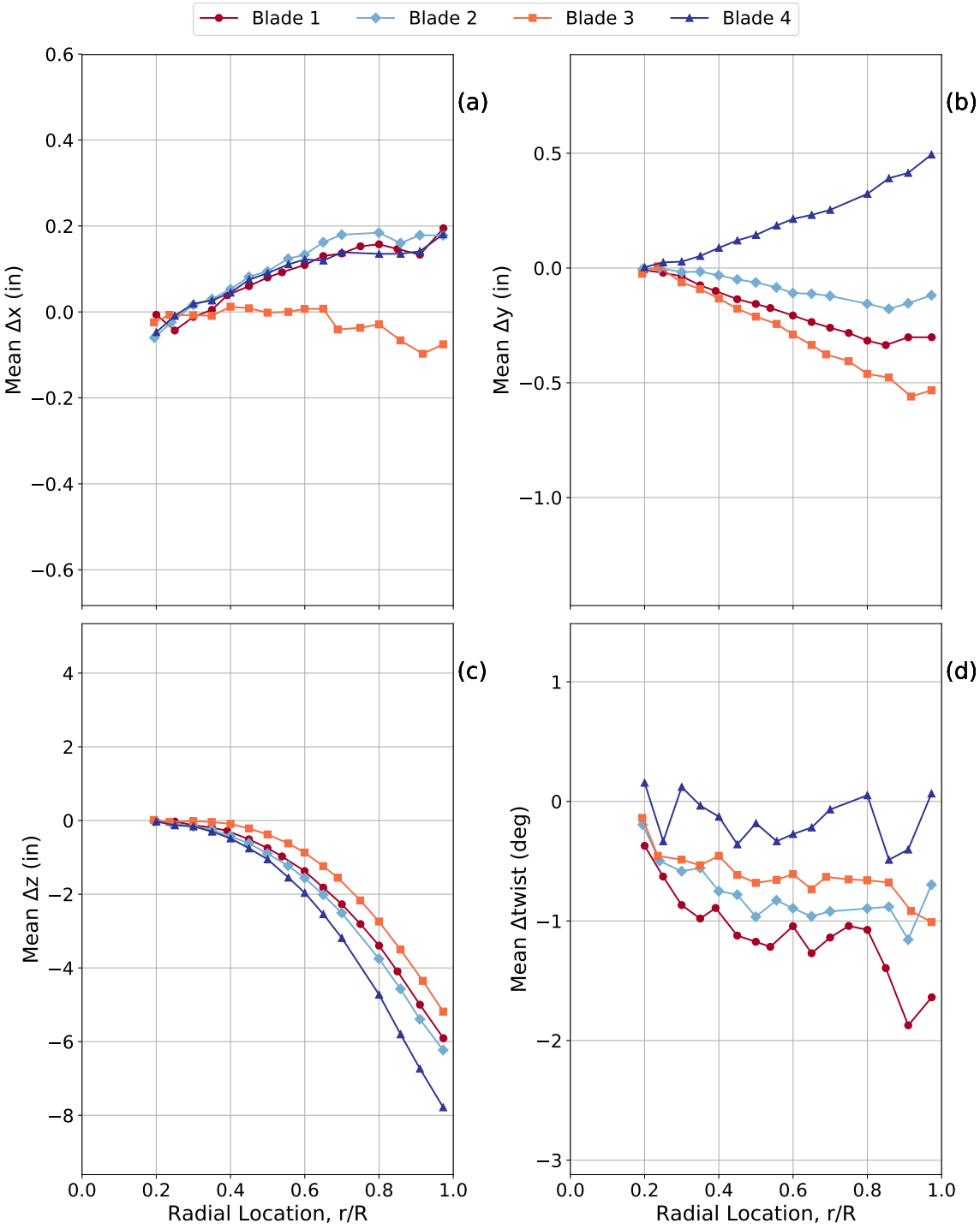


Figure 2.8-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-17. 100° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0065	0.0011	-0.0094	0.0006	-0.0308	0.0020	-0.3713	0.0197
1	99.84	0.2499	-0.0432	0.0008	-0.0208	0.0019	-0.0293	0.0046	-0.6285	0.0316
1	99.84	0.2998	-0.0116	0.0010	-0.0358	0.0029	-0.1260	0.0079	-0.8671	0.0440
1	99.84	0.3498	0.0048	0.0010	-0.0753	0.0045	-0.1919	0.0140	-0.9798	0.0368
1	99.84	0.3913	0.0390	0.0011	-0.1000	0.0073	-0.2814	0.0200	-0.8913	0.0372
1	99.84	0.4496	0.0600	0.0013	-0.1360	0.0092	-0.5096	0.0247	-1.1220	0.0378
1	99.84	0.4997	0.0803	0.0014	-0.1565	0.0113	-0.7492	0.0303	-1.1738	0.0382
1	99.84	0.5387	0.0922	0.0016	-0.1745	0.0133	-0.9748	0.0352	-1.2162	0.0370
1	99.84	0.5996	0.1093	0.0016	-0.2069	0.0161	-1.3728	0.0420	-1.0434	0.0396
1	99.84	0.6498	0.1300	0.0019	-0.2354	0.0184	-1.8198	0.0478	-1.2701	0.0468
1	99.84	0.6998	0.1361	0.0022	-0.2603	0.0215	-2.2731	0.0529	-1.1384	0.0463
1	99.84	0.7500	0.1527	0.0022	-0.2829	0.0244	-2.8107	0.0577	-1.0414	0.0500
1	99.84	0.8001	0.1574	0.0027	-0.3166	0.0274	-3.3945	0.0629	-1.0744	0.0493
1	99.84	0.8497	0.1465	0.0025	-0.3358	0.0305	-4.0945	0.0684	-1.3943	0.0468
1	99.84	0.9102	0.1332	0.0051	-0.3018	0.0347	-4.9977	0.0747	-1.8729	0.1054
1	99.84	0.9734	0.1947	0.0048	-0.3017	0.0391	-5.9084	0.0811	-1.6383	0.0647
2	99.84	0.1949	-0.0599	0.0010	-0.0043	0.0005	-0.0265	0.0015	-0.1947	0.0205
2	99.84	0.2405	-0.0244	0.0009	0.0003	0.0010	-0.0742	0.0029	-0.4986	0.0310
2	99.84	0.2999	0.0166	0.0008	-0.0178	0.0022	-0.1603	0.0061	-0.5843	0.0462
2	99.84	0.3498	0.0300	0.0008	-0.0158	0.0037	-0.2539	0.0102	-0.5570	0.0386
2	99.84	0.3998	0.0526	0.0010	-0.0317	0.0058	-0.4249	0.0158	-0.7504	0.0359
2	99.84	0.4496	0.0819	0.0011	-0.0498	0.0072	-0.6220	0.0206	-0.7804	0.0370
2	99.84	0.4995	0.0945	0.0014	-0.0628	0.0088	-0.8964	0.0267	-0.9648	0.0401
2	99.84	0.5551	0.1238	0.0015	-0.0846	0.0110	-1.2282	0.0331	-0.8271	0.0401
2	99.84	0.5996	0.1331	0.0018	-0.1093	0.0129	-1.5606	0.0393	-0.8942	0.0394
2	99.84	0.6497	0.1621	0.0019	-0.1120	0.0154	-2.0143	0.0455	-0.9609	0.0472
2	99.84	0.6996	0.1796	0.0024	-0.1217	0.0177	-2.5079	0.0529	-0.9199	0.0471
2	99.84	0.7996	0.1844	0.0029	-0.1558	0.0228	-3.7495	0.0692	-0.8953	0.0484
2	99.84	0.8578	0.1602	0.0038	-0.1782	0.0263	-4.5700	0.0805	-0.8817	0.0553
2	99.84	0.9100	0.1785	0.0044	-0.1537	0.0291	-5.3928	0.0925	-1.1563	0.0710
2	99.84	0.9727	0.1781	0.0053	-0.1189	0.0331	-6.2279	0.1054	-0.6968	0.0864
3	99.84	0.1938	-0.0242	0.0048	-0.0249	0.0015	0.0163	0.0041	-0.1382	0.0244
3	99.84	0.2357	-0.0068	0.0020	0.0078	0.0020	-0.0403	0.0046	-0.4564	0.0645
3	99.84	0.2995	-0.0075	0.0016	-0.0625	0.0050	-0.0155	0.0123	-0.4867	0.0695
3	99.84	0.3493	-0.0091	0.0026	-0.0919	0.0089	-0.0407	0.0206	-0.5343	0.0644
3	99.84	0.4000	0.0122	0.0038	-0.1327	0.0132	-0.0926	0.0303	-0.4554	0.0677
3	99.84	0.4497	0.0084	0.0046	-0.1772	0.0174	-0.2156	0.0369	-0.6151	0.0659
3	99.84	0.4997	-0.0016	0.0058	-0.2117	0.0215	-0.3777	0.0452	-0.6812	0.0646
3	99.84	0.5556	0.0001	0.0067	-0.2436	0.0266	-0.6213	0.0535	-0.6564	0.0653
3	99.84	0.5995	0.0070	0.0076	-0.2898	0.0306	-0.8690	0.0614	-0.6083	0.0676
3	99.84	0.6498	0.0073	0.0088	-0.3352	0.0349	-1.2398	0.0686	-0.7345	0.0682
3	99.84	0.6890	-0.0407	0.0098	-0.3763	0.0380	-1.5523	0.0752	-0.6313	0.0684
3	99.84	0.7495	-0.0370	0.0123	-0.4058	0.0551	-2.1698	0.0838	-0.6526	0.0833
3	99.84	0.7998	-0.0289	0.0127	-0.4611	0.0471	-2.7413	0.0917	-0.6598	0.0692
3	99.84	0.8577	-0.0662	0.0148	-0.4772	0.0520	-3.5013	0.0994	-0.6782	0.0858
3	99.84	0.9178	-0.0974	0.0172	-0.5600	0.0575	-4.3495	0.1100	-0.9166	0.0745
3	99.84	0.9729	-0.0753	0.0207	-0.5326	0.0628	-5.1860	0.1207	-1.0094	0.0755
4	99.84	0.2001	-0.0470	0.0009	0.0035	0.0010	-0.0282	0.0024	0.1563	0.0196
4	99.84	0.2502	-0.0089	0.0008	0.0244	0.0014	-0.1305	0.0037	-0.3332	0.0474
4	99.84	0.3001	0.0192	0.0010	0.0279	0.0034	-0.1605	0.0079	0.1205	0.0468
4	99.84	0.3502	0.0267	0.0011	0.0526	0.0045	-0.3014	0.0122	-0.0356	0.0442
4	99.84	0.4002	0.0450	0.0011	0.0881	0.0071	-0.4863	0.0186	-0.1284	0.0439
4	99.84	0.4500	0.0749	0.0013	0.1203	0.0091	-0.7573	0.0247	-0.3593	0.0442
4	99.84	0.5001	0.0903	0.0014	0.1442	0.0118	-1.0543	0.0334	-0.1826	0.0426
4	99.84	0.5560	0.1108	0.0015	0.1852	0.0146	-1.5495	0.0422	-0.3334	0.0459
4	99.84	0.6001	0.1221	0.0018	0.2142	0.0170	-1.9626	0.0507	-0.2731	0.0466
4	99.84	0.6501	0.1195	0.0021	0.2313	0.0189	-2.5431	0.0603	-0.2180	0.0500
4	99.84	0.6999	0.1387	0.0025	0.2534	0.0228	-3.1894	0.0709	-0.0677	0.0502
4	99.84	0.8002	0.1351	0.0031	0.3231	0.0295	-4.7254	0.0880	0.0512	0.0531
4	99.84	0.8582	0.1353	0.0038	0.3912	0.0335	-5.8013	0.0974	-0.4883	0.0529
4	99.84	0.9101	0.1412	0.0047	0.4146	0.0378	-6.7344	0.1058	-0.4026	0.0637
4	99.84	0.9728	0.1806	0.0047	0.4945	0.0423	-7.7824	0.1200	0.0658	0.0700

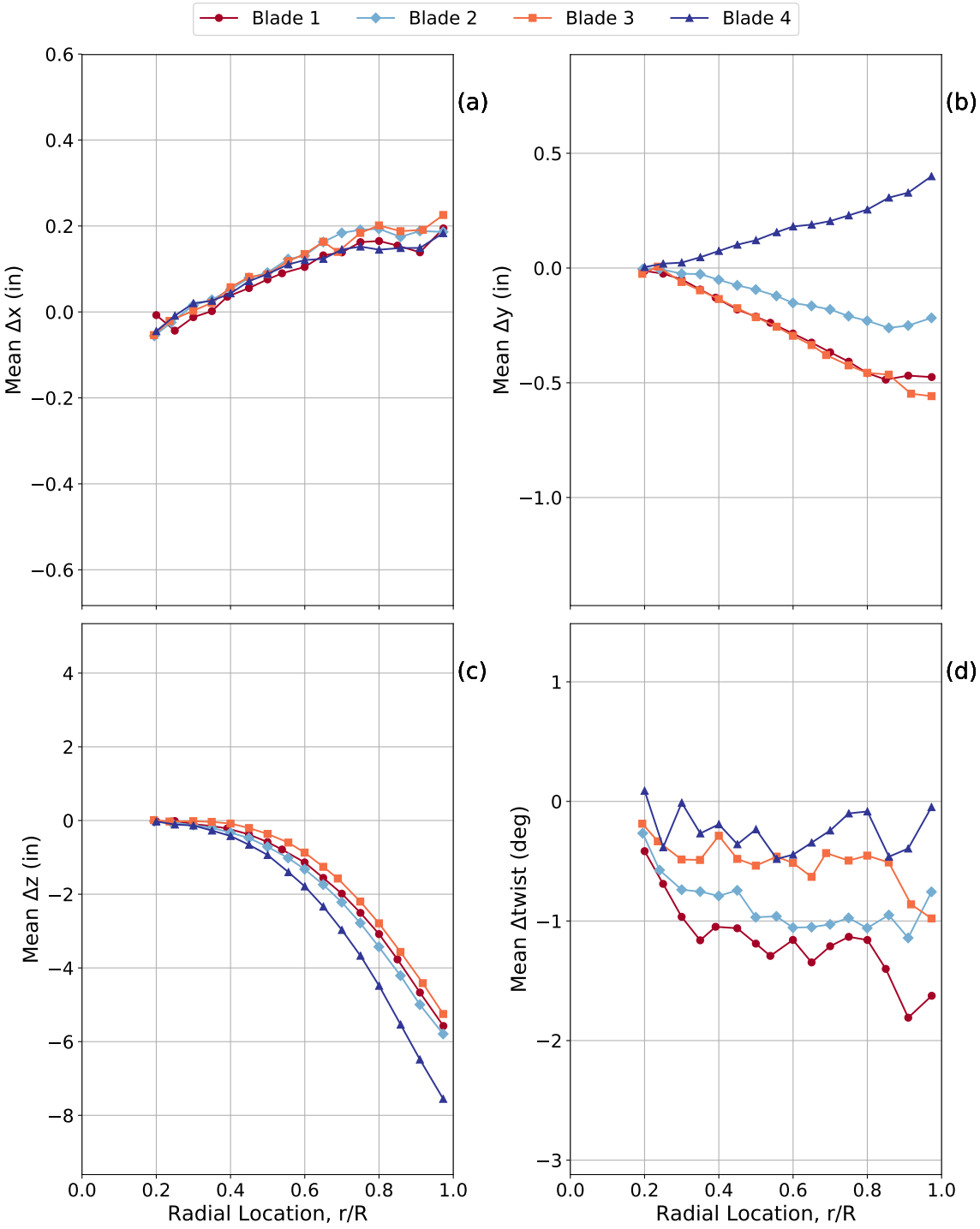


Figure 2.8-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-18. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0074	0.0011	-0.0124	0.0006	-0.0250	0.0016	-0.4161	0.0161
1	105.12	0.2499	-0.0436	0.0012	-0.0247	0.0013	-0.0140	0.0034	-0.6898	0.0250
1	105.12	0.2998	-0.0123	0.0008	-0.0494	0.0020	-0.0980	0.0069	-0.9653	0.0352
1	105.12	0.3498	0.0019	0.0011	-0.0936	0.0043	-0.1508	0.0108	-1.1616	0.0305
1	105.12	0.3913	0.0354	0.0011	-0.1291	0.0053	-0.2156	0.0163	-1.0484	0.0289
1	105.12	0.4496	0.0555	0.0014	-0.1810	0.0069	-0.3769	0.0236	-1.0610	0.0302
1	105.12	0.4997	0.0757	0.0014	-0.2118	0.0089	-0.5854	0.0298	-1.1894	0.0265
1	105.12	0.5387	0.0899	0.0014	-0.2386	0.0101	-0.7871	0.0359	-1.2921	0.0293
1	105.12	0.5996	0.1046	0.0017	-0.2854	0.0126	-1.1377	0.0449	-1.1584	0.0303
1	105.12	0.6498	0.1316	0.0017	-0.3249	0.0148	-1.5579	0.0532	-1.3464	0.0340
1	105.12	0.6998	0.1385	0.0020	-0.3671	0.0171	-1.9854	0.0620	-1.2114	0.0338
1	105.12	0.7500	0.1624	0.0023	-0.4082	0.0195	-2.5060	0.0709	-1.1327	0.0347
1	105.12	0.8001	0.1650	0.0029	-0.4582	0.0222	-3.0824	0.0797	-1.1589	0.0369
1	105.12	0.8497	0.1544	0.0031	-0.4862	0.0248	-3.7693	0.0903	-1.4007	0.0402
1	105.12	0.9102	0.1387	0.0040	-0.4689	0.0282	-4.6681	0.1037	-1.8085	0.0447
1	105.12	0.9734	0.1944	0.0039	-0.4752	0.0319	-5.5760	0.1190	-1.6254	0.0474
2	105.12	0.1949	-0.0558	0.0009	-0.0048	0.0005	-0.0227	0.0014	-0.2663	0.0194
2	105.12	0.2405	-0.0245	0.0008	-0.0042	0.0013	-0.0517	0.0038	-0.5748	0.0288
2	105.12	0.2999	0.0159	0.0008	-0.0247	0.0027	-0.1247	0.0068	-0.7388	0.0440
2	105.12	0.3498	0.0283	0.0011	-0.0266	0.0035	-0.2013	0.0111	-0.7542	0.0408
2	105.12	0.3998	0.0521	0.0012	-0.0511	0.0063	-0.3300	0.0178	-0.7906	0.0394
2	105.12	0.4496	0.0792	0.0012	-0.0755	0.0071	-0.4759	0.0221	-0.7441	0.0405
2	105.12	0.4995	0.0915	0.0013	-0.0938	0.0087	-0.7125	0.0272	-0.9688	0.0364
2	105.12	0.5551	0.1229	0.0010	-0.1215	0.0104	-1.0168	0.0319	-0.9614	0.0380
2	105.12	0.5996	0.1307	0.0014	-0.1521	0.0119	-1.3223	0.0363	-1.0556	0.0444
2	105.12	0.6497	0.1626	0.0012	-0.1651	0.0137	-1.7400	0.0407	-1.0517	0.0464
2	105.12	0.6996	0.1838	0.0016	-0.1805	0.0156	-2.2171	0.0458	-1.0284	0.0444
2	105.12	0.7495	0.1911	0.0019	-0.2095	0.0175	-2.7826	0.0514	-0.9744	0.0410
2	105.12	0.7996	0.1933	0.0020	-0.2298	0.0194	-3.4281	0.0582	-1.0592	0.0471
2	105.12	0.8578	0.1746	0.0025	-0.2609	0.0220	-4.2098	0.0670	-0.9502	0.0472
2	105.12	0.9100	0.1883	0.0028	-0.2507	0.0238	-4.9968	0.0761	-1.1418	0.0530
2	105.12	0.9727	0.1862	0.0032	-0.2174	0.0266	-5.7917	0.0896	-0.7562	0.0514
3	105.12	0.1938	-0.0539	0.0009	-0.0251	0.0005	0.0100	0.0015	-0.1866	0.0251
3	105.12	0.2357	-0.0210	0.0009	0.0060	0.0012	-0.0266	0.0036	-0.3338	0.0344
3	105.12	0.2995	0.0027	0.0010	-0.0608	0.0024	-0.0184	0.0063	-0.4859	0.0577
3	105.12	0.3493	0.0211	0.0009	-0.0971	0.0042	-0.0376	0.0117	-0.4896	0.0444
3	105.12	0.4000	0.0574	0.0012	-0.1351	0.0065	-0.0820	0.0174	-0.2873	0.0396
3	105.12	0.4497	0.0814	0.0011	-0.1752	0.0079	-0.2043	0.0222	-0.4810	0.0443
3	105.12	0.4997	0.0874	0.0012	-0.2142	0.0095	-0.3633	0.0282	-0.5374	0.0377
3	105.12	0.5556	0.1184	0.0013	-0.2558	0.0121	-0.5987	0.0338	-0.4621	0.0414
3	105.12	0.5995	0.1346	0.0013	-0.2952	0.0141	-0.8702	0.0377	-0.5143	0.0430
3	105.12	0.6498	0.1634	0.0013	-0.3357	0.0166	-1.2567	0.0429	-0.6312	0.0424
3	105.12	0.6890	0.1397	0.0016	-0.3792	0.0188	-1.5738	0.0465	-0.4323	0.0436
3	105.12	0.7495	0.1838	0.0014	-0.4243	0.0225	-2.1993	0.0528	-0.4947	0.0437
3	105.12	0.7998	0.2013	0.0019	-0.4567	0.0256	-2.7898	0.0586	-0.4533	0.0434
3	105.12	0.8577	0.1879	0.0022	-0.4646	0.0293	-3.5674	0.0676	-0.5107	0.0552
3	105.12	0.9178	0.1909	0.0034	-0.5478	0.0337	-4.4135	0.0785	-0.8609	0.0498
3	105.12	0.9729	0.2256	0.0035	-0.5583	0.0375	-5.2508	0.0894	-0.9788	0.0619
4	105.12	0.2001	-0.0447	0.0011	0.0041	0.0006	-0.0276	0.0017	0.0888	0.0241
4	105.12	0.2502	-0.0088	0.0008	0.0190	0.0020	-0.1092	0.0039	-0.3837	0.0417
4	105.12	0.3001	0.0202	0.0011	0.0236	0.0025	-0.1358	0.0068	-0.0115	0.0551
4	105.12	0.3502	0.0260	0.0010	0.0470	0.0043	-0.2731	0.0112	-0.2676	0.0488
4	105.12	0.4002	0.0432	0.0013	0.0744	0.0070	-0.4216	0.0176	-0.1916	0.0492
4	105.12	0.4500	0.0717	0.0016	0.1016	0.0088	-0.6594	0.0225	-0.3584	0.0442
4	105.12	0.5001	0.0883	0.0016	0.1211	0.0108	-0.9366	0.0294	-0.2337	0.0456
4	105.12	0.5560	0.1106	0.0019	0.1560	0.0129	-1.4026	0.0376	-0.4811	0.0480
4	105.12	0.6001	0.1207	0.0017	0.1811	0.0147	-1.7889	0.0442	-0.4453	0.0566
4	105.12	0.6501	0.1235	0.0020	0.1891	0.0169	-2.3365	0.0531	-0.3447	0.0519
4	105.12	0.6999	0.1452	0.0023	0.2045	0.0192	-2.9702	0.0626	-0.2431	0.0524
4	105.12	0.7500	0.1520	0.0028	0.2294	0.0217	-3.6698	0.0722	-0.1006	0.0526
4	105.12	0.8002	0.1448	0.0032	0.2548	0.0243	-4.4850	0.0829	-0.0842	0.0517
4	105.12	0.8582	0.1487	0.0043	0.3068	0.0273	-5.5383	0.0967	-0.4624	0.0597
4	105.12	0.9101	0.1489	0.0046	0.3283	0.0303	-6.4857	0.1100	-0.3941	0.0627
4	105.12	0.9728	0.1833	0.0059	0.3999	0.0336	-7.5535	0.1259	-0.0478	0.0641

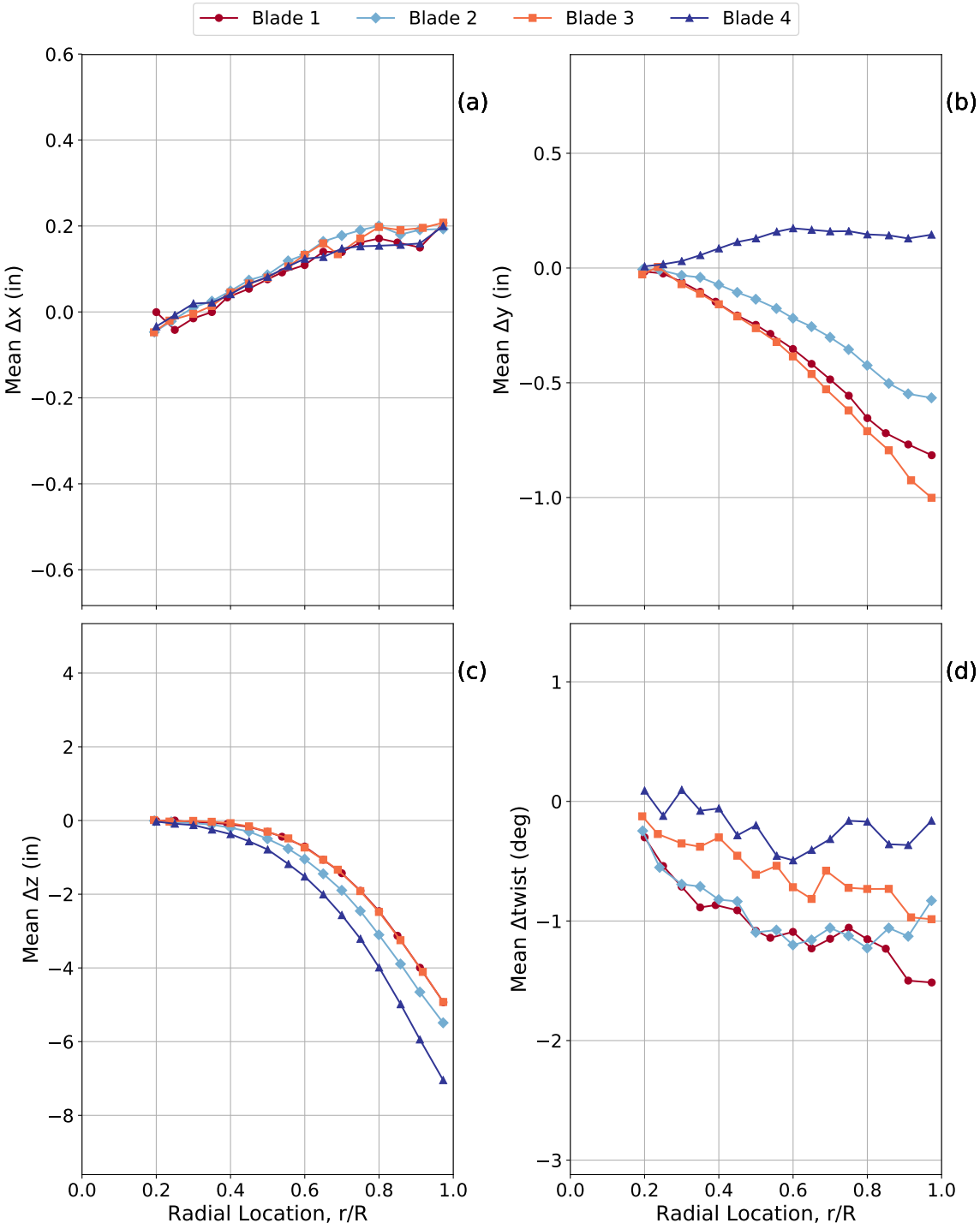


Figure 2.8-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0005	0.0009	-0.0154	0.0005	-0.0088	0.0012	-0.3007	0.0128
1	119.88	0.2499	-0.0418	0.0007	-0.0239	0.0015	-0.0008	0.0032	-0.5405	0.0215
1	119.88	0.2998	-0.0150	0.0009	-0.0608	0.0026	-0.0428	0.0057	-0.7126	0.0282
1	119.88	0.3498	-0.0003	0.0012	-0.1038	0.0041	-0.0628	0.0092	-0.8866	0.0275
1	119.88	0.3913	0.0337	0.0013	-0.1470	0.0064	-0.0944	0.0139	-0.8670	0.0312
1	119.88	0.4496	0.0540	0.0014	-0.2070	0.0075	-0.1726	0.0186	-0.9107	0.0296
1	119.88	0.4997	0.0759	0.0016	-0.2478	0.0095	-0.3074	0.0249	-1.0820	0.0279
1	119.88	0.5387	0.0919	0.0017	-0.2870	0.0109	-0.4401	0.0295	-1.1409	0.0273
1	119.88	0.5996	0.1090	0.0024	-0.3529	0.0142	-0.7066	0.0361	-1.0912	0.0287
1	119.88	0.6498	0.1400	0.0020	-0.4177	0.0165	-1.0636	0.0425	-1.2294	0.0278
1	119.88	0.6998	0.1393	0.0023	-0.4856	0.0193	-1.4308	0.0485	-1.1492	0.0266
1	119.88	0.7500	0.1617	0.0024	-0.5563	0.0221	-1.9072	0.0550	-1.0564	0.0275
1	119.88	0.8001	0.1709	0.0025	-0.6541	0.0256	-2.4599	0.0605	-1.1532	0.0277
1	119.88	0.8497	0.1616	0.0027	-0.7196	0.0290	-3.1268	0.0674	-1.2318	0.0273
1	119.88	0.9102	0.1499	0.0029	-0.7689	0.0332	-3.9950	0.0766	-1.4987	0.0284
1	119.88	0.9734	0.2069	0.0040	-0.8158	0.0378	-4.9322	0.0876	-1.5144	0.0302
2	119.88	0.1949	-0.0469	0.0012	-0.0061	0.0006	-0.0082	0.0019	-0.2465	0.0150
2	119.88	0.2405	-0.0217	0.0009	-0.0085	0.0014	-0.0360	0.0045	-0.5521	0.0294
2	119.88	0.2999	0.0105	0.0009	-0.0321	0.0032	-0.0715	0.0086	-0.6929	0.0376
2	119.88	0.3498	0.0250	0.0014	-0.0407	0.0050	-0.1133	0.0143	-0.7117	0.0337
2	119.88	0.3998	0.0488	0.0013	-0.0730	0.0081	-0.1972	0.0229	-0.8211	0.0276
2	119.88	0.4496	0.0740	0.0014	-0.1063	0.0098	-0.2994	0.0278	-0.8364	0.0294
2	119.88	0.4995	0.0863	0.0017	-0.1360	0.0115	-0.4971	0.0337	-1.0951	0.0289
2	119.88	0.5551	0.1188	0.0018	-0.1763	0.0147	-0.7635	0.0415	-1.0762	0.0288
2	119.88	0.5996	0.1332	0.0019	-0.2188	0.0167	-1.0475	0.0475	-1.2007	0.0354
2	119.88	0.6497	0.1640	0.0019	-0.2555	0.0194	-1.4464	0.0544	-1.1584	0.0375
2	119.88	0.6996	0.1777	0.0021	-0.3018	0.0223	-1.8944	0.0622	-1.0584	0.0394
2	119.88	0.7495	0.1901	0.0024	-0.3550	0.0257	-2.4556	0.0696	-1.1241	0.0321
2	119.88	0.7996	0.2003	0.0026	-0.4243	0.0290	-3.1020	0.0773	-1.2267	0.0357
2	119.88	0.8578	0.1801	0.0030	-0.5029	0.0331	-3.8932	0.0874	-1.0589	0.0402
2	119.88	0.9100	0.1911	0.0032	-0.5483	0.0369	-4.6546	0.0976	-1.1283	0.0417
2	119.88	0.9727	0.1932	0.0042	-0.5657	0.0414	-5.4895	0.1096	-0.8301	0.0416
3	119.88	0.1938	-0.0475	0.0009	-0.0278	0.0006	0.0124	0.0015	-0.1248	0.0176
3	119.88	0.2357	-0.0203	0.0009	0.0046	0.0013	-0.0287	0.0036	-0.2728	0.0184
3	119.88	0.2995	-0.0045	0.0009	-0.0704	0.0031	-0.0106	0.0067	-0.3516	0.0353
3	119.88	0.3493	0.0138	0.0011	-0.1117	0.0044	-0.0345	0.0119	-0.3791	0.0274
3	119.88	0.4000	0.0455	0.0018	-0.1580	0.0077	-0.0726	0.0183	-0.3012	0.0278
3	119.88	0.4497	0.0662	0.0017	-0.2108	0.0085	-0.1591	0.0199	-0.4541	0.0335
3	119.88	0.4997	0.0798	0.0017	-0.2620	0.0108	-0.3036	0.0269	-0.6123	0.0375
3	119.88	0.5556	0.1058	0.0019	-0.3224	0.0126	-0.4859	0.0337	-0.5385	0.0336
3	119.88	0.5995	0.1328	0.0020	-0.3852	0.0151	-0.7323	0.0406	-0.7177	0.0295
3	119.88	0.6498	0.1596	0.0020	-0.4618	0.0173	-1.0650	0.0479	-0.8155	0.0329
3	119.88	0.6890	0.1343	0.0021	-0.5284	0.0199	-1.3348	0.0554	-0.5795	0.0331
3	119.88	0.7495	0.1710	0.0023	-0.6205	0.0230	-1.9164	0.0674	-0.7225	0.0359
3	119.88	0.7998	0.1977	0.0028	-0.7111	0.0260	-2.4812	0.0780	-0.7323	0.0317
3	119.88	0.8577	0.1904	0.0029	-0.7942	0.0299	-3.2486	0.0914	-0.7316	0.0339
3	119.88	0.9178	0.1957	0.0036	-0.9251	0.0338	-4.1087	0.1067	-0.9701	0.0349
3	119.88	0.9729	0.2076	0.0042	-1.0012	0.0376	-4.9242	0.1209	-0.9852	0.0379
4	119.88	0.2001	-0.0337	0.0009	0.0071	0.0006	-0.0296	0.0023	0.0902	0.0193
4	119.88	0.2502	-0.0073	0.0009	0.0165	0.0013	-0.0868	0.0056	-0.1211	0.0347
4	119.88	0.3001	0.0194	0.0013	0.0301	0.0022	-0.1248	0.0090	0.0963	0.0446
4	119.88	0.3502	0.0216	0.0010	0.0561	0.0040	-0.2464	0.0168	-0.0782	0.0361
4	119.88	0.4002	0.0412	0.0012	0.0854	0.0059	-0.3712	0.0252	-0.0589	0.0376
4	119.88	0.4500	0.0652	0.0015	0.1134	0.0082	-0.5654	0.0287	-0.2834	0.0454
4	119.88	0.5001	0.0816	0.0015	0.1292	0.0103	-0.7874	0.0377	-0.2000	0.0427
4	119.88	0.5560	0.1063	0.0017	0.1581	0.0133	-1.1832	0.0464	-0.4551	0.0459
4	119.88	0.6001	0.1238	0.0018	0.1732	0.0159	-1.5221	0.0547	-0.4929	0.0400
4	119.88	0.6501	0.1278	0.0019	0.1663	0.0191	-2.0072	0.0645	-0.4058	0.0447
4	119.88	0.6999	0.1475	0.0024	0.1597	0.0225	-2.5678	0.0735	-0.3146	0.0417
4	119.88	0.7500	0.1527	0.0023	0.1607	0.0262	-3.2110	0.0837	-0.1621	0.0448
4	119.88	0.8002	0.1540	0.0030	0.1465	0.0300	-3.9885	0.0961	-0.1697	0.0381
4	119.88	0.8582	0.1561	0.0038	0.1424	0.0346	-4.9860	0.1099	-0.3583	0.0423
4	119.88	0.9101	0.1594	0.0041	0.1289	0.0389	-5.9420	0.1239	-0.3651	0.0403
4	119.88	0.9728	0.1997	0.0051	0.1453	0.0438	-7.0454	0.1419	-0.1612	0.0426

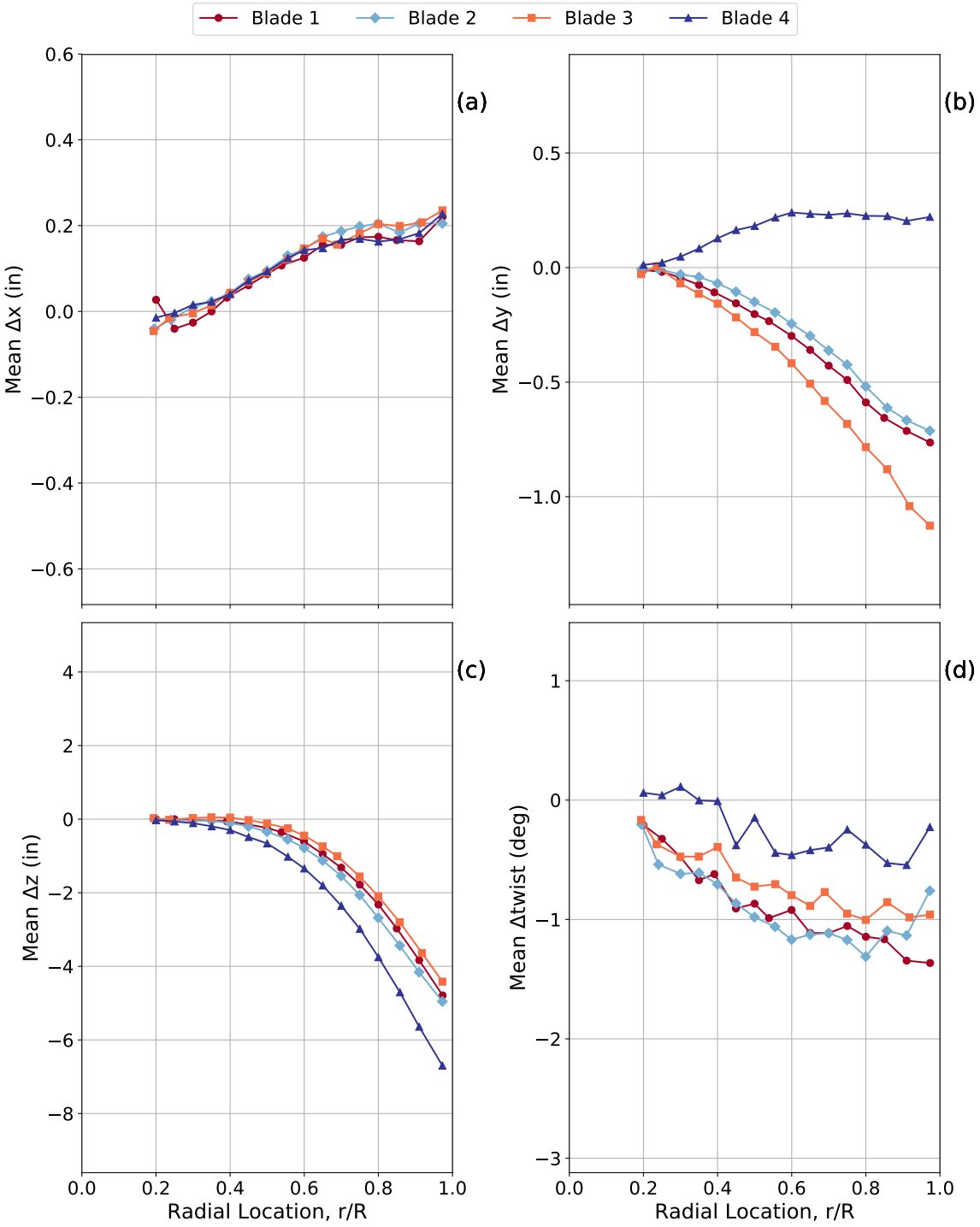


Figure 2.8-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	0.0271	0.0011	-0.0106	0.0005	-0.0044	0.0013	-0.2098	0.0187
1	135	0.2499	-0.0403	0.0008	-0.0185	0.0016	-0.0014	0.0039	-0.3244	0.0248
1	135	0.2998	-0.0260	0.0010	-0.0440	0.0027	-0.0246	0.0057	-0.4758	0.0399
1	135	0.3498	-0.0000	0.0008	-0.0756	0.0044	-0.0387	0.0105	-0.6712	0.0332
1	135	0.3913	0.0321	0.0014	-0.1081	0.0067	-0.0582	0.0150	-0.6199	0.0304
1	135	0.4496	0.0608	0.0013	-0.1560	0.0078	-0.1443	0.0189	-0.9079	0.0306
1	135	0.4997	0.0867	0.0012	-0.2030	0.0102	-0.2396	0.0239	-0.8679	0.0278
1	135	0.5387	0.1072	0.0014	-0.2338	0.0117	-0.3512	0.0264	-0.9884	0.0371
1	135	0.5996	0.1251	0.0012	-0.2983	0.0147	-0.6069	0.0335	-0.9202	0.0367
1	135	0.6498	0.1549	0.0013	-0.3593	0.0173	-0.9491	0.0404	-1.1130	0.0324
1	135	0.6998	0.1553	0.0018	-0.4282	0.0202	-1.3195	0.0459	-1.1137	0.0380
1	135	0.7500	0.1729	0.0018	-0.4906	0.0233	-1.7797	0.0534	-1.0545	0.0369
1	135	0.8001	0.1738	0.0023	-0.5886	0.0263	-2.3202	0.0618	-1.1447	0.0355
1	135	0.8497	0.1661	0.0027	-0.6561	0.0296	-2.9707	0.0721	-1.1649	0.0358
1	135	0.9102	0.1635	0.0028	-0.7129	0.0339	-3.8344	0.0851	-1.3449	0.0356
1	135	0.9734	0.2205	0.0035	-0.7636	0.0385	-4.7905	0.1005	-1.3644	0.0372
2	135	0.1949	-0.0405	0.0009	-0.0068	0.0006	0.0029	0.0011	-0.2042	0.0164
2	135	0.2405	-0.0194	0.0009	-0.0067	0.0012	-0.0257	0.0022	-0.5395	0.0280
2	135	0.2999	0.0103	0.0013	-0.0300	0.0024	-0.0383	0.0041	-0.6178	0.0393
2	135	0.3498	0.0232	0.0011	-0.0410	0.0042	-0.0444	0.0068	-0.6091	0.0374
2	135	0.3998	0.0427	0.0013	-0.0690	0.0065	-0.1041	0.0105	-0.7055	0.0362
2	135	0.4496	0.0755	0.0016	-0.1053	0.0074	-0.1977	0.0136	-0.8653	0.0352
2	135	0.4995	0.0944	0.0017	-0.1495	0.0091	-0.3398	0.0180	-0.9799	0.0325
2	135	0.5551	0.1300	0.0016	-0.1961	0.0117	-0.5482	0.0242	-1.0604	0.0380
2	135	0.5996	0.1441	0.0015	-0.2448	0.0136	-0.7808	0.0294	-1.1686	0.0353
2	135	0.6497	0.1745	0.0019	-0.2981	0.0160	-1.1230	0.0366	-1.1271	0.0341
2	135	0.6996	0.1867	0.0018	-0.3617	0.0185	-1.5425	0.0435	-1.1148	0.0366
2	135	0.7495	0.1982	0.0023	-0.4238	0.0213	-2.0615	0.0518	-1.1707	0.0338
2	135	0.7996	0.2046	0.0025	-0.5188	0.0244	-2.6808	0.0609	-1.3113	0.0333
2	135	0.8578	0.1836	0.0030	-0.6124	0.0279	-3.4359	0.0726	-1.0958	0.0340
2	135	0.9100	0.2048	0.0036	-0.6664	0.0311	-4.1587	0.0849	-1.1341	0.0368
2	135	0.9727	0.2050	0.0045	-0.7126	0.0349	-4.9545	0.1005	-0.7596	0.0379
3	135	0.1938	-0.0457	0.0010	-0.0286	0.0006	0.0276	0.0015	-0.1663	0.0169
3	135	0.2357	-0.0153	0.0010	0.0056	0.0008	-0.0179	0.0034	-0.3705	0.0200
3	135	0.2995	-0.0042	0.0012	-0.0691	0.0017	0.0316	0.0065	-0.4738	0.0355
3	135	0.3493	0.0142	0.0010	-0.1143	0.0031	0.0511	0.0102	-0.4736	0.0360
3	135	0.4000	0.0432	0.0016	-0.1573	0.0044	0.0433	0.0168	-0.3926	0.0308
3	135	0.4497	0.0688	0.0018	-0.2171	0.0056	-0.0256	0.0213	-0.6480	0.0325
3	135	0.4997	0.0900	0.0014	-0.2814	0.0066	-0.1173	0.0264	-0.7251	0.0349
3	135	0.5556	0.1206	0.0017	-0.3459	0.0087	-0.2495	0.0329	-0.7042	0.0308
3	135	0.5995	0.1468	0.0023	-0.4177	0.0104	-0.4484	0.0385	-0.7965	0.0274
3	135	0.6498	0.1699	0.0016	-0.5068	0.0128	-0.7408	0.0454	-0.8860	0.0347
3	135	0.6890	0.1558	0.0024	-0.5821	0.0146	-1.0056	0.0514	-0.7709	0.0279
3	135	0.7495	0.1816	0.0018	-0.6824	0.0181	-1.5576	0.0610	-0.9511	0.0293
3	135	0.7998	0.2034	0.0023	-0.7837	0.0209	-2.0955	0.0708	-1.0038	0.0290
3	135	0.8577	0.1992	0.0026	-0.8804	0.0245	-2.8000	0.0824	-0.8550	0.0270
3	135	0.9178	0.2076	0.0029	-1.0413	0.0282	-3.6375	0.0970	-0.9826	0.0266
3	135	0.9729	0.2356	0.0037	-1.1268	0.0317	-4.4171	0.1111	-0.9599	0.0332
4	135	0.2001	-0.0147	0.0011	0.0118	0.0004	-0.0276	0.0012	0.0614	0.0124
4	135	0.2502	-0.0035	0.0009	0.0213	0.0013	-0.0637	0.0039	0.0408	0.0221
4	135	0.3001	0.0154	0.0012	0.0479	0.0019	-0.1085	0.0055	0.1117	0.0270
4	135	0.3502	0.0227	0.0009	0.0832	0.0035	-0.1949	0.0089	-0.0026	0.0280
4	135	0.4002	0.0402	0.0016	0.1278	0.0054	-0.2967	0.0150	-0.0091	0.0361
4	135	0.4500	0.0720	0.0013	0.1639	0.0064	-0.4868	0.0165	-0.3784	0.0371
4	135	0.5001	0.0933	0.0012	0.1815	0.0088	-0.6604	0.0219	-0.1483	0.0295
4	135	0.5560	0.1243	0.0015	0.2188	0.0107	-1.0217	0.0269	-0.4423	0.0279
4	135	0.6001	0.1430	0.0018	0.2401	0.0131	-1.3405	0.0343	-0.4608	0.0345
4	135	0.6501	0.1474	0.0023	0.2344	0.0156	-1.8032	0.0385	-0.4192	0.0364
4	135	0.6999	0.1672	0.0018	0.2299	0.0185	-2.3563	0.0435	-0.3966	0.0390
4	135	0.7500	0.1691	0.0021	0.2369	0.0218	-2.9821	0.0493	-0.2468	0.0340
4	135	0.8002	0.1626	0.0021	0.2257	0.0251	-3.7520	0.0554	-0.3736	0.0308
4	135	0.8582	0.1685	0.0026	0.2247	0.0295	-4.7063	0.0637	-0.5276	0.0303
4	135	0.9101	0.1824	0.0031	0.2036	0.0333	-5.6415	0.0727	-0.5441	0.0291
4	135	0.9728	0.2274	0.0043	0.2212	0.0382	-6.6990	0.0854	-0.2261	0.0300

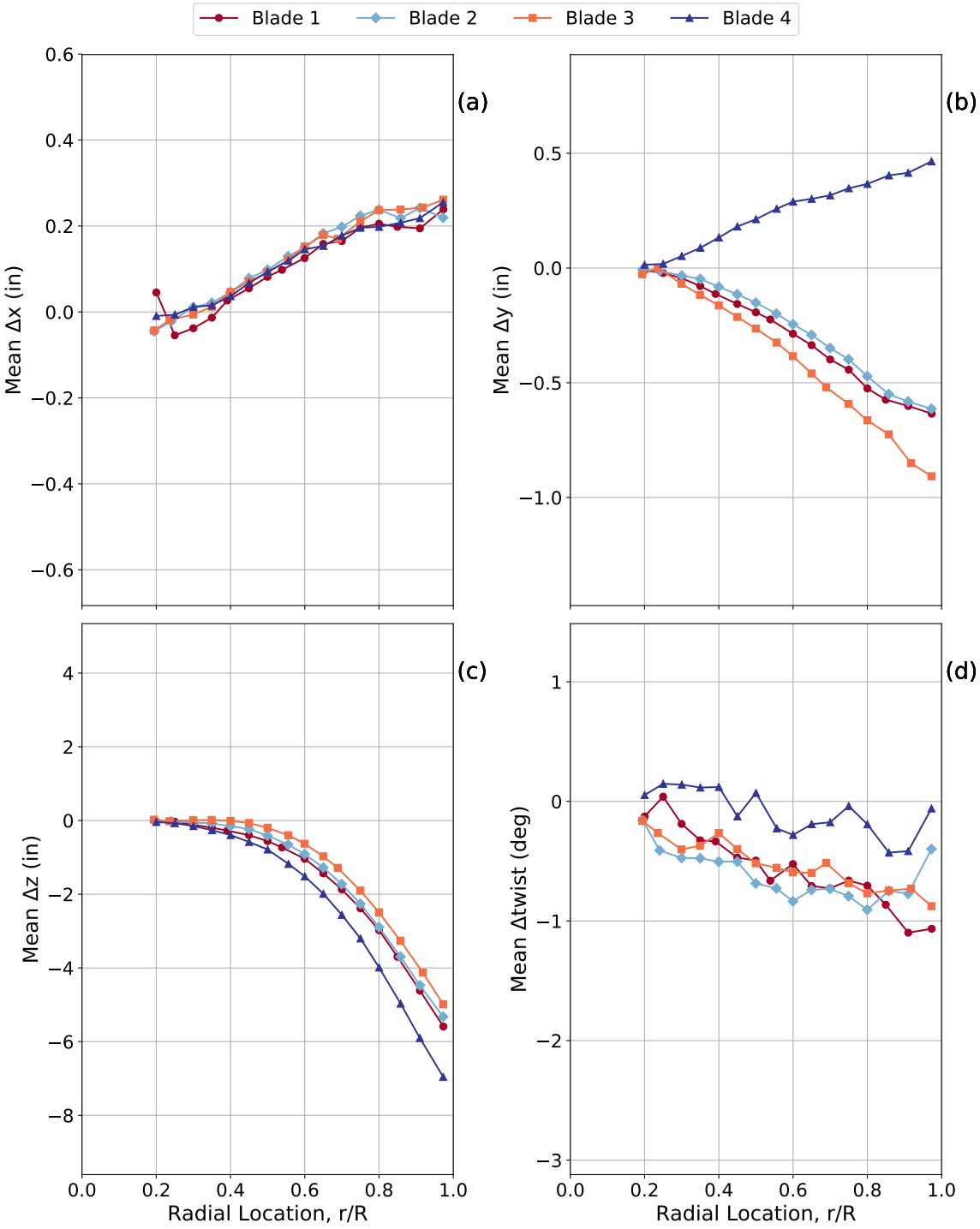


Figure 2.8-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-21. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	0.0452	0.0012	-0.0100	0.0009	-0.0289	0.0014	-0.1265	0.0259
1	150.12	0.2499	-0.0544	0.0013	-0.0218	0.0021	-0.0329	0.0049	0.0392	0.0303
1	150.12	0.2998	-0.0380	0.0011	-0.0441	0.0042	-0.1152	0.0080	-0.1881	0.0536
1	150.12	0.3498	-0.0134	0.0012	-0.0784	0.0065	-0.1956	0.0114	-0.3253	0.0358
1	150.12	0.3913	0.0266	0.0011	-0.1129	0.0101	-0.2747	0.0187	-0.3348	0.0532
1	150.12	0.4496	0.0550	0.0014	-0.1566	0.0115	-0.3978	0.0180	-0.4700	0.0407
1	150.12	0.4997	0.0818	0.0031	-0.1931	0.0146	-0.5586	0.0238	-0.4947	0.0355
1	150.12	0.5387	0.0980	0.0014	-0.2242	0.0166	-0.7310	0.0280	-0.6630	0.0393
1	150.12	0.5996	0.1253	0.0021	-0.2864	0.0201	-1.0393	0.0331	-0.5242	0.0369
1	150.12	0.6498	0.1582	0.0024	-0.3361	0.0227	-1.4343	0.0381	-0.7080	0.0501
1	150.12	0.6998	0.1647	0.0026	-0.3986	0.0266	-1.8705	0.0418	-0.7270	0.0402
1	150.12	0.7500	0.1962	0.0025	-0.4431	0.0298	-2.3846	0.0477	-0.6620	0.0405
1	150.12	0.8001	0.2051	0.0027	-0.5249	0.0331	-2.9777	0.0521	-0.7046	0.0406
1	150.12	0.8497	0.1980	0.0026	-0.5738	0.0367	-3.6990	0.0594	-0.8645	0.0434
1	150.12	0.9102	0.1945	0.0029	-0.6011	0.0413	-4.6158	0.0680	-1.0981	0.0469
1	150.12	0.9734	0.2387	0.0041	-0.6347	0.0460	-5.5912	0.0773	-1.0653	0.0440
2	150.12	0.1949	-0.0450	0.0009	-0.0058	0.0005	-0.0032	0.0014	-0.1583	0.0188
2	150.12	0.2405	-0.0220	0.0010	-0.0124	0.0021	-0.0293	0.0027	-0.4096	0.0252
2	150.12	0.2999	0.0112	0.0013	-0.0331	0.0032	-0.0556	0.0059	-0.4732	0.0421
2	150.12	0.3498	0.0209	0.0011	-0.0475	0.0058	-0.0801	0.0097	-0.4760	0.0492
2	150.12	0.3998	0.0459	0.0013	-0.0821	0.0093	-0.1517	0.0142	-0.5041	0.0321
2	150.12	0.4496	0.0783	0.0014	-0.1148	0.0107	-0.2320	0.0181	-0.5033	0.0296
2	150.12	0.4995	0.0980	0.0019	-0.1510	0.0134	-0.4093	0.0236	-0.6859	0.0469
2	150.12	0.5551	0.1294	0.0018	-0.1991	0.0161	-0.6529	0.0296	-0.7266	0.0322
2	150.12	0.5996	0.1495	0.0017	-0.2451	0.0178	-0.9123	0.0333	-0.8358	0.0345
2	150.12	0.6497	0.1827	0.0019	-0.2918	0.0202	-1.2760	0.0389	-0.7396	0.0368
2	150.12	0.6996	0.1978	0.0018	-0.3489	0.0230	-1.7264	0.0438	-0.7314	0.0376
2	150.12	0.7495	0.2236	0.0022	-0.3979	0.0260	-2.2600	0.0502	-0.7924	0.0384
2	150.12	0.7996	0.2378	0.0022	-0.4714	0.0290	-2.8917	0.0555	-0.9062	0.0343
2	150.12	0.8578	0.2182	0.0023	-0.5498	0.0326	-3.6961	0.0626	-0.7491	0.0382
2	150.12	0.9100	0.2419	0.0026	-0.5818	0.0360	-4.4734	0.0695	-0.7715	0.0403
2	150.12	0.9727	0.2193	0.0034	-0.6133	0.0398	-5.3261	0.0771	-0.3990	0.0379
3	150.12	0.1938	-0.0434	0.0009	-0.0270	0.0004	0.0199	0.0012	-0.1618	0.0171
3	150.12	0.2357	-0.0190	0.0009	0.0011	0.0010	-0.0195	0.0029	-0.2641	0.0237
3	150.12	0.2995	-0.0059	0.0009	-0.0689	0.0022	0.0101	0.0057	-0.4019	0.0390
3	150.12	0.3493	0.0118	0.0007	-0.1171	0.0028	0.0135	0.0098	-0.3710	0.0376
3	150.12	0.4000	0.0465	0.0011	-0.1628	0.0053	-0.0099	0.0155	-0.2647	0.0495
3	150.12	0.4497	0.0708	0.0012	-0.2131	0.0055	-0.0676	0.0231	-0.3991	0.0316
3	150.12	0.4997	0.0923	0.0019	-0.2642	0.0070	-0.1997	0.0271	-0.5173	0.0336
3	150.12	0.5556	0.1217	0.0012	-0.3248	0.0082	-0.4000	0.0332	-0.5554	0.0332
3	150.12	0.5995	0.1521	0.0019	-0.3842	0.0094	-0.6292	0.0395	-0.5942	0.0328
3	150.12	0.6498	0.1793	0.0016	-0.4594	0.0109	-0.9738	0.0459	-0.5980	0.0337
3	150.12	0.6890	0.1700	0.0021	-0.5196	0.0120	-1.2873	0.0511	-0.5148	0.0348
3	150.12	0.7495	0.2104	0.0019	-0.5920	0.0145	-1.9018	0.0608	-0.6842	0.0337
3	150.12	0.7998	0.2370	0.0023	-0.6637	0.0164	-2.4921	0.0695	-0.7688	0.0335
3	150.12	0.8577	0.2382	0.0025	-0.7251	0.0189	-3.2643	0.0816	-0.7458	0.0325
3	150.12	0.9178	0.2428	0.0027	-0.8503	0.0214	-4.1269	0.0942	-0.7296	0.0330
3	150.12	0.9729	0.2611	0.0037	-0.9074	0.0240	-4.9857	0.1075	-0.8758	0.0317
4	150.12	0.2001	-0.0094	0.0009	0.0140	0.0008	-0.0409	0.0012	0.0532	0.0162
4	150.12	0.2502	-0.0065	0.0010	0.0181	0.0019	-0.0735	0.0028	0.1470	0.0253
4	150.12	0.3001	0.0114	0.0013	0.0521	0.0024	-0.1507	0.0059	0.1404	0.0347
4	150.12	0.3502	0.0154	0.0010	0.0880	0.0062	-0.2630	0.0075	0.1155	0.0445
4	150.12	0.4002	0.0366	0.0012	0.1330	0.0079	-0.3961	0.0133	0.1201	0.0299
4	150.12	0.4500	0.0672	0.0013	0.1808	0.0091	-0.5820	0.0180	-0.1252	0.0403
4	150.12	0.5001	0.0933	0.0016	0.2128	0.0113	-0.7886	0.0224	0.0707	0.0271
4	150.12	0.5560	0.1189	0.0018	0.2581	0.0140	-1.1769	0.0279	-0.2258	0.0309
4	150.12	0.6001	0.1457	0.0014	0.2893	0.0165	-1.5167	0.0350	-0.2808	0.0320
4	150.12	0.6501	0.1536	0.0020	0.3014	0.0185	-1.9893	0.0402	-0.1905	0.0357
4	150.12	0.6999	0.1775	0.0024	0.3167	0.0211	-2.5623	0.0491	-0.1743	0.0297
4	150.12	0.7500	0.1959	0.0022	0.3475	0.0242	-3.2016	0.0589	-0.0394	0.0332
4	150.12	0.8002	0.1979	0.0026	0.3665	0.0269	-3.9889	0.0700	-0.1917	0.0341
4	150.12	0.8582	0.2075	0.0034	0.4036	0.0305	-4.9710	0.0835	-0.4286	0.0356
4	150.12	0.9101	0.2183	0.0037	0.4149	0.0340	-5.9040	0.0965	-0.4158	0.0362
4	150.12	0.9728	0.2551	0.0045	0.4648	0.0380	-6.9567	0.1117	-0.0591	0.0376

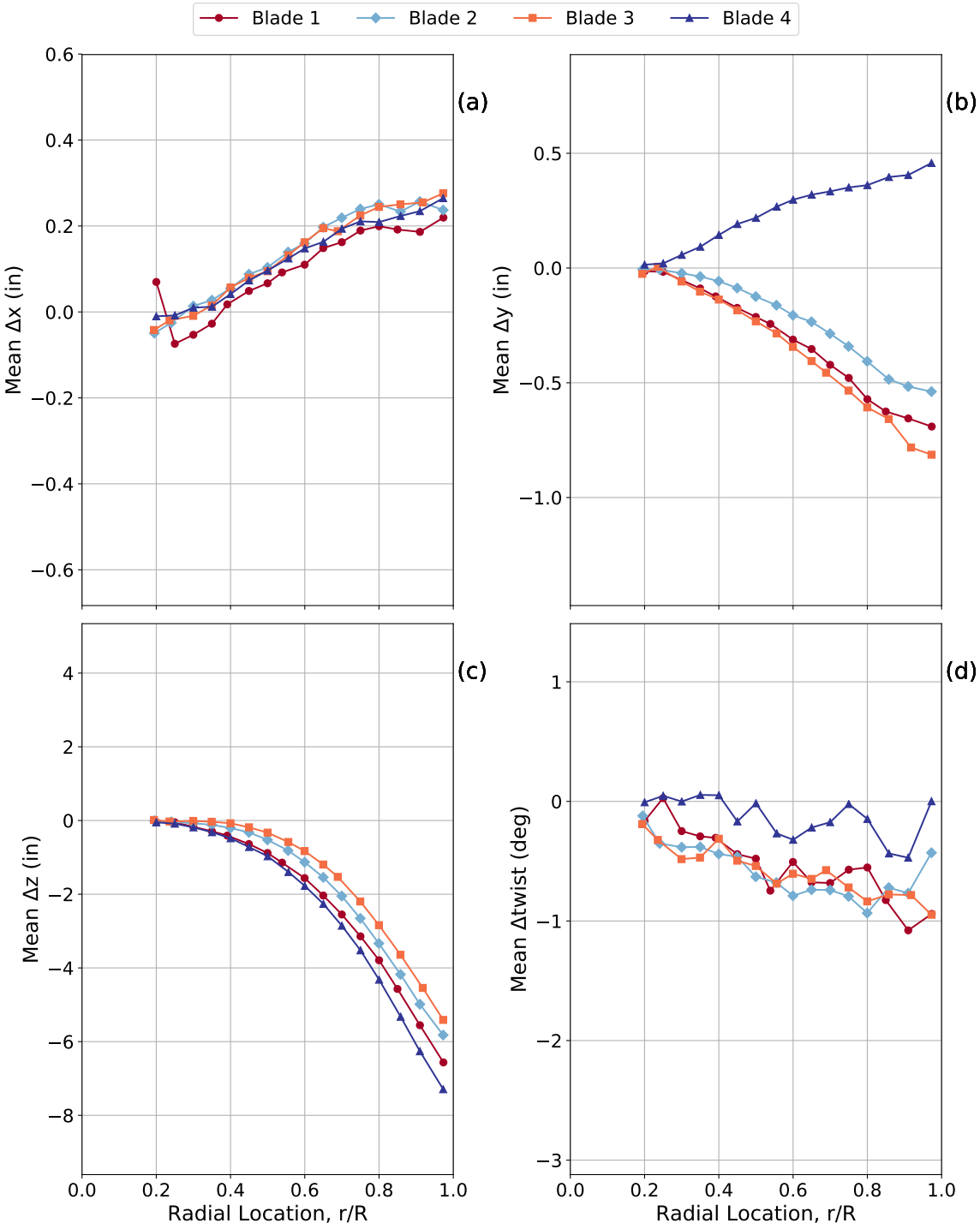


Figure 2.8-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-22. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	0.0697	0.0022	-0.0142	0.0006	-0.0427	0.0023	-0.1630	0.0229
1	164.88	0.2499	-0.0741	0.0020	-0.0164	0.0025	-0.0480	0.0052	0.0272	0.0461
1	164.88	0.2998	-0.0532	0.0020	-0.0526	0.0037	-0.1712	0.0104	-0.2485	0.0550
1	164.88	0.3498	-0.0274	0.0016	-0.0890	0.0053	-0.2911	0.0176	-0.2924	0.0493
1	164.88	0.3913	0.0176	0.0024	-0.1236	0.0093	-0.4089	0.0262	-0.3049	0.0521
1	164.88	0.4496	0.0488	0.0022	-0.1737	0.0111	-0.6383	0.0322	-0.4413	0.0533
1	164.88	0.4997	0.0667	0.0022	-0.2133	0.0130	-0.8817	0.0398	-0.4790	0.0530
1	164.88	0.5387	0.0919	0.0022	-0.2437	0.0149	-1.1428	0.0457	-0.7466	0.0460
1	164.88	0.5996	0.1099	0.0026	-0.3120	0.0172	-1.5627	0.0549	-0.5063	0.0499
1	164.88	0.6498	0.1485	0.0025	-0.3531	0.0203	-2.0360	0.0610	-0.6772	0.0497
1	164.88	0.6998	0.1623	0.0026	-0.4219	0.0230	-2.5504	0.0683	-0.6823	0.0570
1	164.88	0.7500	0.1893	0.0032	-0.4789	0.0259	-3.1431	0.0736	-0.5711	0.0494
1	164.88	0.8001	0.1995	0.0030	-0.5718	0.0293	-3.7915	0.0797	-0.5527	0.0521
1	164.88	0.8497	0.1917	0.0034	-0.6253	0.0323	-4.5700	0.0862	-0.8253	0.0473
1	164.88	0.9102	0.1862	0.0039	-0.6554	0.0363	-5.5544	0.0933	-1.0783	0.0504
1	164.88	0.9734	0.2195	0.0050	-0.6908	0.0407	-6.5645	0.1022	-0.9408	0.0533
2	164.88	0.1949	-0.0494	0.0014	-0.0056	0.0007	-0.0088	0.0014	-0.1211	0.0180
2	164.88	0.2405	-0.0251	0.0014	-0.0066	0.0023	-0.0365	0.0041	-0.3515	0.0241
2	164.88	0.2999	0.0136	0.0015	-0.0227	0.0048	-0.0755	0.0078	-0.3831	0.0385
2	164.88	0.3498	0.0274	0.0013	-0.0372	0.0060	-0.1160	0.0109	-0.3806	0.0441
2	164.88	0.3998	0.0549	0.0013	-0.0574	0.0115	-0.2041	0.0194	-0.4403	0.0266
2	164.88	0.4496	0.0878	0.0017	-0.0873	0.0143	-0.3223	0.0238	-0.4631	0.0378
2	164.88	0.4995	0.1035	0.0019	-0.1244	0.0168	-0.5251	0.0285	-0.6301	0.0401
2	164.88	0.5551	0.1393	0.0019	-0.1621	0.0188	-0.8152	0.0349	-0.6783	0.0310
2	164.88	0.5996	0.1595	0.0021	-0.2059	0.0219	-1.1307	0.0382	-0.7892	0.0328
2	164.88	0.6497	0.1971	0.0023	-0.2343	0.0253	-1.5424	0.0434	-0.7388	0.0364
2	164.88	0.6996	0.2190	0.0020	-0.2860	0.0289	-2.0497	0.0476	-0.7409	0.0317
2	164.88	0.7495	0.2395	0.0020	-0.3416	0.0315	-2.6559	0.0514	-0.7944	0.0350
2	164.88	0.7996	0.2504	0.0019	-0.4067	0.0348	-3.3362	0.0561	-0.9340	0.0348
2	164.88	0.8578	0.2334	0.0025	-0.4850	0.0394	-4.1771	0.0620	-0.7207	0.0346
2	164.88	0.9100	0.2568	0.0025	-0.5163	0.0435	-4.9853	0.0682	-0.7681	0.0387
2	164.88	0.9727	0.2371	0.0039	-0.5385	0.0479	-5.8214	0.0757	-0.4296	0.0378
3	164.88	0.1938	-0.0421	0.0013	-0.0255	0.0007	0.0128	0.0022	-0.1902	0.0188
3	164.88	0.2357	-0.0196	0.0013	0.0054	0.0018	-0.0270	0.0034	-0.3221	0.0371
3	164.88	0.2995	-0.0091	0.0011	-0.0588	0.0031	-0.0118	0.0073	-0.4828	0.0480
3	164.88	0.3493	0.0150	0.0013	-0.1030	0.0055	-0.0344	0.0123	-0.4700	0.0483
3	164.88	0.4000	0.0568	0.0015	-0.1374	0.0088	-0.0752	0.0188	-0.3127	0.0499
3	164.88	0.4497	0.0795	0.0015	-0.1841	0.0110	-0.1845	0.0238	-0.4958	0.0490
3	164.88	0.4997	0.0946	0.0015	-0.2323	0.0127	-0.3290	0.0304	-0.5402	0.0480
3	164.88	0.5556	0.1320	0.0016	-0.2848	0.0158	-0.5836	0.0372	-0.6875	0.0444
3	164.88	0.5995	0.1620	0.0017	-0.3436	0.0173	-0.8281	0.0417	-0.6049	0.0515
3	164.88	0.6498	0.1949	0.0020	-0.4054	0.0205	-1.1947	0.0484	-0.6480	0.0418
3	164.88	0.6890	0.1878	0.0021	-0.4560	0.0229	-1.5301	0.0537	-0.5750	0.0488
3	164.88	0.7495	0.2246	0.0022	-0.5341	0.0264	-2.1972	0.0618	-0.7195	0.0449
3	164.88	0.7998	0.2444	0.0027	-0.6073	0.0292	-2.8399	0.0675	-0.8361	0.0469
3	164.88	0.8577	0.2503	0.0026	-0.6581	0.0336	-3.6427	0.0760	-0.7780	0.0426
3	164.88	0.9178	0.2548	0.0029	-0.7820	0.0376	-4.5429	0.0856	-0.7833	0.0490
3	164.88	0.9729	0.2762	0.0039	-0.8136	0.0416	-5.4105	0.0942	-0.9476	0.0439
4	164.88	0.2001	-0.0102	0.0015	0.0145	0.0008	-0.0505	0.0019	-0.0072	0.0185
4	164.88	0.2502	-0.0081	0.0019	0.0201	0.0028	-0.0866	0.0040	0.0466	0.0328
4	164.88	0.3001	0.0099	0.0017	0.0574	0.0046	-0.1867	0.0075	-0.0011	0.0406
4	164.88	0.3502	0.0121	0.0018	0.0927	0.0073	-0.3182	0.0126	0.0540	0.0375
4	164.88	0.4002	0.0415	0.0017	0.1442	0.0123	-0.4826	0.0193	0.0513	0.0372
4	164.88	0.4500	0.0733	0.0017	0.1916	0.0119	-0.7203	0.0225	-0.1677	0.0336
4	164.88	0.5001	0.0963	0.0014	0.2185	0.0157	-0.9706	0.0278	-0.0160	0.0475
4	164.88	0.5560	0.1245	0.0018	0.2673	0.0183	-1.3983	0.0363	-0.2678	0.0402
4	164.88	0.6001	0.1478	0.0020	0.2977	0.0202	-1.7746	0.0414	-0.3209	0.0403
4	164.88	0.6501	0.1631	0.0018	0.3195	0.0237	-2.2628	0.0481	-0.2187	0.0430
4	164.88	0.6999	0.1936	0.0026	0.3339	0.0261	-2.8551	0.0545	-0.1740	0.0391
4	164.88	0.7500	0.2107	0.0027	0.3511	0.0290	-3.5228	0.0601	-0.0221	0.0419
4	164.88	0.8002	0.2091	0.0027	0.3611	0.0318	-4.3196	0.0668	-0.1470	0.0455
4	164.88	0.8582	0.2233	0.0025	0.3965	0.0349	-5.3249	0.0723	-0.4354	0.0356
4	164.88	0.9101	0.2345	0.0030	0.4051	0.0383	-6.2620	0.0783	-0.4709	0.0387
4	164.88	0.9728	0.2647	0.0037	0.4576	0.0423	-7.2922	0.0846	0.0011	0.0419

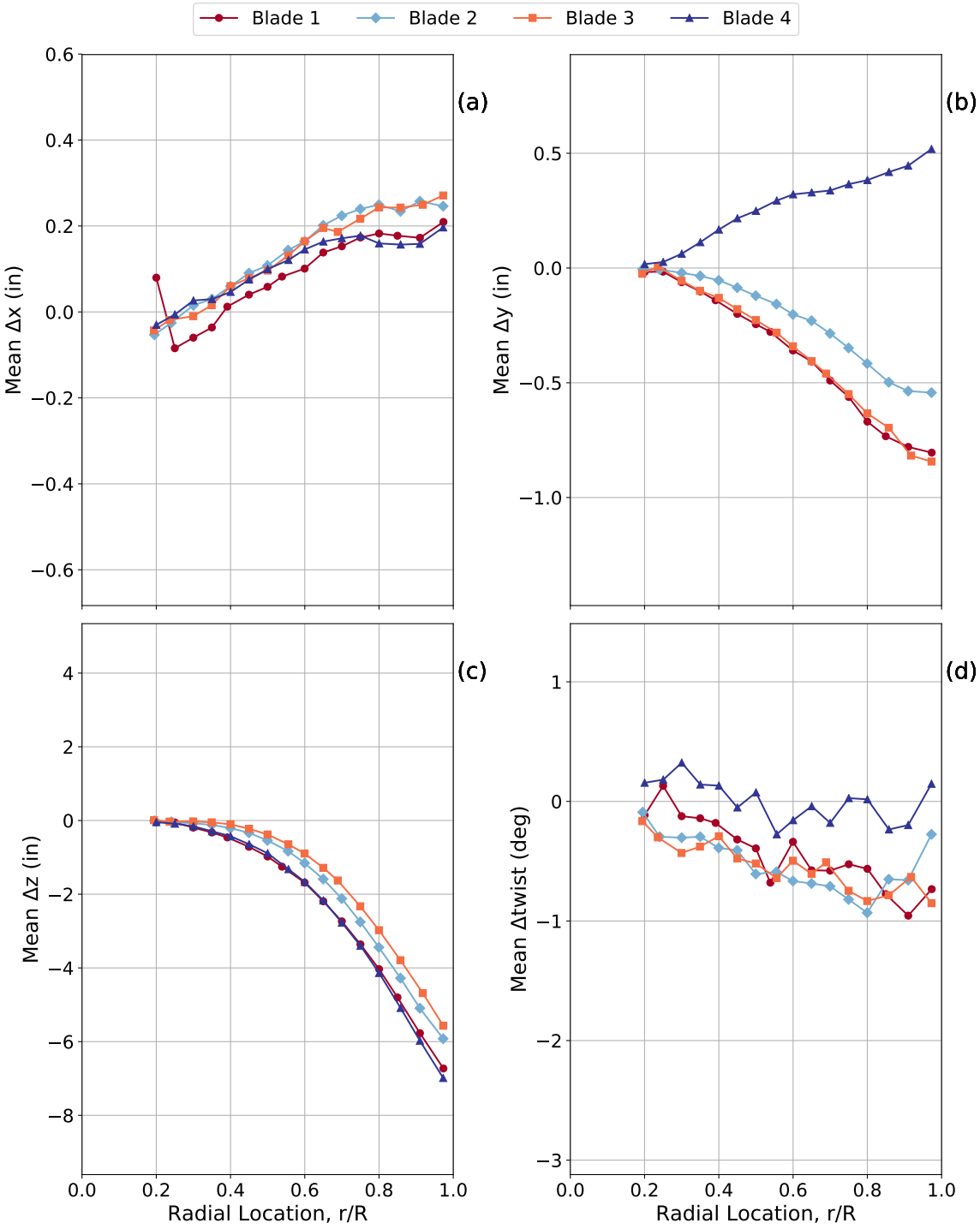


Figure 2.8-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	0.0797	0.0028	-0.0173	0.0011	-0.0472	0.0034	-0.1155	0.0276
1	170.16	0.2499	-0.0845	0.0027	-0.0157	0.0030	-0.0519	0.0044	0.1296	0.0693
1	170.16	0.2998	-0.0599	0.0026	-0.0618	0.0058	-0.1928	0.0123	-0.1239	0.0723
1	170.16	0.3498	-0.0362	0.0024	-0.1021	0.0085	-0.3248	0.0208	-0.1412	0.0698
1	170.16	0.3913	0.0122	0.0032	-0.1406	0.0139	-0.4592	0.0288	-0.1803	0.0750
1	170.16	0.4496	0.0402	0.0030	-0.1998	0.0163	-0.7134	0.0385	-0.3185	0.0747
1	170.16	0.4997	0.0584	0.0029	-0.2446	0.0200	-0.9769	0.0481	-0.3927	0.0754
1	170.16	0.5387	0.0822	0.0033	-0.2782	0.0228	-1.2526	0.0549	-0.6795	0.0760
1	170.16	0.5996	0.1008	0.0037	-0.3592	0.0265	-1.6844	0.0666	-0.3379	0.0761
1	170.16	0.6498	0.1382	0.0036	-0.4071	0.0313	-2.1919	0.0768	-0.5762	0.0708
1	170.16	0.6998	0.1527	0.0041	-0.4903	0.0357	-2.7363	0.0848	-0.5792	0.0748
1	170.16	0.7500	0.1732	0.0041	-0.5620	0.0397	-3.3613	0.0942	-0.5253	0.0711
1	170.16	0.8001	0.1826	0.0042	-0.6693	0.0443	-4.0330	0.1027	-0.5637	0.0736
1	170.16	0.8497	0.1773	0.0045	-0.7331	0.0486	-4.8008	0.1113	-0.7759	0.0725
1	170.16	0.9102	0.1725	0.0050	-0.7796	0.0542	-5.7704	0.1222	-0.9554	0.0729
1	170.16	0.9734	0.2094	0.0063	-0.8045	0.0606	-6.7289	0.1325	-0.7336	0.0768
2	170.16	0.1949	-0.0531	0.0012	-0.0052	0.0007	-0.0099	0.0019	-0.0903	0.0220
2	170.16	0.2405	-0.0252	0.0014	-0.0063	0.0015	-0.0362	0.0038	-0.2957	0.0342
2	170.16	0.2999	0.0153	0.0013	-0.0212	0.0027	-0.0772	0.0078	-0.3035	0.0513
2	170.16	0.3498	0.0298	0.0011	-0.0345	0.0044	-0.1192	0.0128	-0.2956	0.0443
2	170.16	0.3998	0.0598	0.0015	-0.0537	0.0068	-0.2076	0.0201	-0.3891	0.0382
2	170.16	0.4496	0.0903	0.0018	-0.0857	0.0081	-0.3328	0.0240	-0.4086	0.0455
2	170.16	0.4995	0.1078	0.0015	-0.1206	0.0096	-0.5411	0.0305	-0.6072	0.0453
2	170.16	0.5551	0.1438	0.0014	-0.1571	0.0118	-0.8314	0.0332	-0.5894	0.0392
2	170.16	0.5996	0.1640	0.0017	-0.2022	0.0133	-1.1558	0.0391	-0.6661	0.0447
2	170.16	0.6497	0.2015	0.0023	-0.2296	0.0148	-1.5896	0.0459	-0.6865	0.0445
2	170.16	0.6996	0.2239	0.0019	-0.2852	0.0170	-2.1192	0.0507	-0.7102	0.0416
2	170.16	0.7495	0.2395	0.0021	-0.3483	0.0190	-2.7521	0.0571	-0.8199	0.0390
2	170.16	0.7996	0.2495	0.0023	-0.4163	0.0214	-3.4416	0.0639	-0.9313	0.0416
2	170.16	0.8578	0.2341	0.0029	-0.4976	0.0242	-4.2776	0.0724	-0.6508	0.0428
2	170.16	0.9100	0.2575	0.0030	-0.5363	0.0269	-5.0938	0.0808	-0.6589	0.0438
2	170.16	0.9727	0.2461	0.0040	-0.5430	0.0306	-5.9203	0.0916	-0.2755	0.0390
3	170.16	0.1938	-0.0431	0.0014	-0.0250	0.0007	0.0107	0.0022	-0.1653	0.0124
3	170.16	0.2357	-0.0187	0.0015	0.0062	0.0014	-0.0310	0.0031	-0.3002	0.0262
3	170.16	0.2995	-0.0099	0.0016	-0.0556	0.0030	-0.0243	0.0084	-0.4314	0.0299
3	170.16	0.3493	0.0156	0.0016	-0.0991	0.0044	-0.0496	0.0128	-0.3781	0.0291
3	170.16	0.4000	0.0600	0.0015	-0.1302	0.0074	-0.1036	0.0206	-0.2916	0.0357
3	170.16	0.4497	0.0787	0.0014	-0.1792	0.0088	-0.2235	0.0246	-0.4775	0.0290
3	170.16	0.4997	0.0962	0.0015	-0.2269	0.0111	-0.3798	0.0332	-0.5195	0.0371
3	170.16	0.5556	0.1312	0.0018	-0.2818	0.0126	-0.6456	0.0386	-0.6415	0.0339
3	170.16	0.5995	0.1641	0.0018	-0.3412	0.0148	-0.8954	0.0453	-0.4961	0.0355
3	170.16	0.6498	0.1954	0.0016	-0.4055	0.0167	-1.2841	0.0512	-0.6054	0.0280
3	170.16	0.6890	0.1861	0.0022	-0.4600	0.0185	-1.6283	0.0577	-0.5098	0.0312
3	170.16	0.7495	0.2169	0.0024	-0.5494	0.0214	-2.3287	0.0672	-0.7476	0.0346
3	170.16	0.7998	0.2431	0.0023	-0.6332	0.0241	-2.9759	0.0760	-0.8332	0.0325
3	170.16	0.8577	0.2428	0.0026	-0.6963	0.0276	-3.7914	0.0853	-0.7846	0.0325
3	170.16	0.9178	0.2494	0.0030	-0.8173	0.0308	-4.6831	0.0958	-0.6321	0.0298
3	170.16	0.9729	0.2710	0.0036	-0.8433	0.0341	-5.5671	0.1076	-0.8511	0.0306
4	170.16	0.2001	-0.0301	0.0012	0.0167	0.0005	-0.0450	0.0015	0.1557	0.0145
4	170.16	0.2502	-0.0060	0.0011	0.0263	0.0018	-0.0871	0.0040	0.1814	0.0263
4	170.16	0.3001	0.0266	0.0010	0.0622	0.0028	-0.1573	0.0065	0.3234	0.0318
4	170.16	0.3502	0.0298	0.0012	0.1125	0.0046	-0.2916	0.0103	0.1409	0.0334
4	170.16	0.4002	0.0465	0.0017	0.1674	0.0077	-0.4280	0.0167	0.1314	0.0395
4	170.16	0.4500	0.0752	0.0018	0.2167	0.0085	-0.6439	0.0191	-0.0512	0.0375
4	170.16	0.5001	0.0995	0.0023	0.2489	0.0104	-0.8903	0.0233	0.0749	0.0371
4	170.16	0.5560	0.1208	0.0027	0.2938	0.0135	-1.3210	0.0286	-0.2754	0.0718
4	170.16	0.6001	0.1454	0.0034	0.3210	0.0152	-1.6679	0.0331	-0.1572	0.0363
4	170.16	0.6501	0.1637	0.0033	0.3294	0.0180	-2.1712	0.0383	-0.0404	0.0436
4	170.16	0.6999	0.1714	0.0053	0.3378	0.0211	-2.7717	0.0475	-0.1797	0.1110
4	170.16	0.7500	0.1774	0.0029	0.3652	0.0243	-3.3973	0.0473	0.0273	0.0468
4	170.16	0.8002	0.1594	0.0035	0.3831	0.0275	-4.1382	0.0532	0.0171	0.0486
4	170.16	0.8582	0.1567	0.0044	0.4182	0.0318	-5.0880	0.0611	-0.2349	0.0762
4	170.16	0.9101	0.1584	0.0087	0.4460	0.0360	-5.9761	0.0683	-0.1982	0.0853
4	170.16	0.9728	0.1966	0.0091	0.5184	0.0405	-6.9872	0.0780	0.1471	0.1404

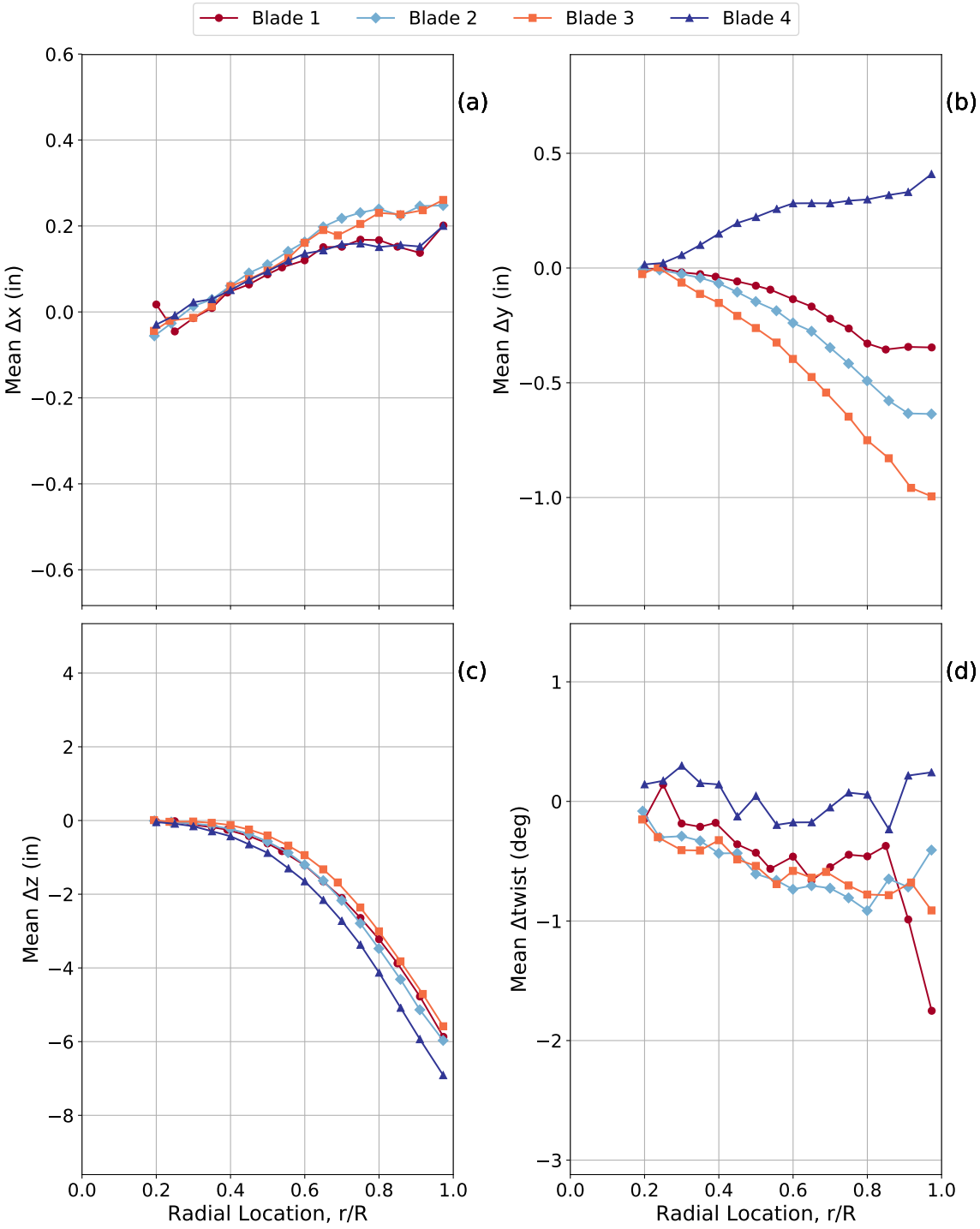


Figure 2.8-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-24. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	0.0173	0.0016	-0.0055	0.0009	-0.0337	0.0018	-0.1479	0.0211
1	175.08	0.2499	-0.0454	0.0014	-0.0023	0.0021	-0.0194	0.0039	0.1407	0.0391
1	175.08	0.2998	-0.0145	0.0013	-0.0189	0.0042	-0.1161	0.0071	-0.1851	0.0488
1	175.08	0.3498	0.0092	0.0013	-0.0266	0.0067	-0.1811	0.0114	-0.2125	0.0411
1	175.08	0.3913	0.0451	0.0020	-0.0378	0.0102	-0.2498	0.0168	-0.1793	0.0401
1	175.08	0.4496	0.0639	0.0019	-0.0584	0.0131	-0.4204	0.0218	-0.3592	0.0404
1	175.08	0.4997	0.0874	0.0022	-0.0770	0.0149	-0.6221	0.0259	-0.4294	0.0397
1	175.08	0.5387	0.1036	0.0019	-0.0943	0.0175	-0.8312	0.0293	-0.5639	0.0431
1	175.08	0.5996	0.1201	0.0021	-0.1356	0.0222	-1.2129	0.0357	-0.4617	0.0508
1	175.08	0.6498	0.1506	0.0026	-0.1680	0.0253	-1.6556	0.0409	-0.6606	0.0501
1	175.08	0.6998	0.1517	0.0020	-0.2208	0.0289	-2.1031	0.0448	-0.5503	0.0548
1	175.08	0.7500	0.1681	0.0029	-0.2635	0.0330	-2.6445	0.0500	-0.4460	0.0511
1	175.08	0.8001	0.1670	0.0038	-0.3291	0.0360	-3.2220	0.0559	-0.4596	0.1089
1	175.08	0.8497	0.1518	0.0043	-0.3551	0.0408	-3.8774	0.0605	-0.3723	0.0971
1	175.08	0.9102	0.1375	0.0066	-0.3438	0.0472	-4.7760	0.0679	-0.9877	0.0988
1	175.08	0.9734	0.2012	0.0083	-0.3461	0.0514	-5.8702	0.0939	-1.7510	0.2195
2	175.08	0.1949	-0.0557	0.0016	-0.0060	0.0008	-0.0101	0.0021	-0.0812	0.0218
2	175.08	0.2405	-0.0265	0.0017	-0.0086	0.0023	-0.0423	0.0041	-0.3009	0.0395
2	175.08	0.2999	0.0135	0.0019	-0.0263	0.0042	-0.0838	0.0078	-0.2910	0.0522
2	175.08	0.3498	0.0291	0.0016	-0.0423	0.0064	-0.1358	0.0132	-0.3303	0.0459
2	175.08	0.3998	0.0609	0.0019	-0.0671	0.0108	-0.2331	0.0205	-0.4347	0.0477
2	175.08	0.4496	0.0906	0.0019	-0.1048	0.0116	-0.3606	0.0250	-0.4328	0.0444
2	175.08	0.4995	0.1100	0.0021	-0.1462	0.0146	-0.5703	0.0292	-0.6066	0.0525
2	175.08	0.5551	0.1409	0.0019	-0.1862	0.0160	-0.8744	0.0371	-0.6606	0.0475
2	175.08	0.5996	0.1629	0.0022	-0.2393	0.0193	-1.2022	0.0425	-0.7349	0.0499
2	175.08	0.6497	0.1980	0.0022	-0.2755	0.0217	-1.6318	0.0483	-0.7048	0.0541
2	175.08	0.6996	0.2178	0.0020	-0.3468	0.0242	-2.1691	0.0553	-0.7261	0.0562
2	175.08	0.7495	0.2310	0.0022	-0.4162	0.0269	-2.7903	0.0611	-0.8068	0.0530
2	175.08	0.7996	0.2396	0.0023	-0.4916	0.0297	-3.4763	0.0676	-0.9134	0.0512
2	175.08	0.8578	0.2244	0.0026	-0.5782	0.0328	-4.3109	0.0763	-0.6490	0.0526
2	175.08	0.9100	0.2463	0.0030	-0.6337	0.0359	-5.1364	0.0837	-0.7159	0.0514
2	175.08	0.9727	0.2477	0.0037	-0.6360	0.0394	-5.9673	0.0949	-0.4072	0.0553
3	175.08	0.1938	-0.0441	0.0017	-0.0264	0.0009	0.0110	0.0028	-0.1511	0.0247
3	175.08	0.2357	-0.0205	0.0020	0.0029	0.0026	-0.0350	0.0042	-0.2996	0.0428
3	175.08	0.2995	-0.0137	0.0018	-0.0635	0.0042	-0.0288	0.0091	-0.4077	0.0582
3	175.08	0.3493	0.0130	0.0017	-0.1128	0.0079	-0.0635	0.0150	-0.4103	0.0502
3	175.08	0.4000	0.0596	0.0020	-0.1521	0.0123	-0.1244	0.0227	-0.3245	0.0484
3	175.08	0.4497	0.0764	0.0019	-0.2086	0.0141	-0.2457	0.0266	-0.4852	0.0510
3	175.08	0.4997	0.0961	0.0020	-0.2615	0.0170	-0.4062	0.0327	-0.5395	0.0520
3	175.08	0.5556	0.1251	0.0018	-0.3248	0.0200	-0.6815	0.0394	-0.6919	0.0541
3	175.08	0.5995	0.1609	0.0027	-0.3962	0.0230	-0.9401	0.0436	-0.5814	0.0542
3	175.08	0.6498	0.1906	0.0022	-0.4750	0.0255	-1.3258	0.0494	-0.6380	0.0542
3	175.08	0.6890	0.1780	0.0023	-0.5427	0.0278	-1.6821	0.0539	-0.5896	0.0579
3	175.08	0.7495	0.2047	0.0023	-0.6477	0.0324	-2.3609	0.0597	-0.7031	0.0553
3	175.08	0.7998	0.2305	0.0025	-0.7505	0.0360	-3.0081	0.0656	-0.7788	0.0569
3	175.08	0.8577	0.2270	0.0029	-0.8290	0.0405	-3.8221	0.0732	-0.7840	0.0573
3	175.08	0.9178	0.2367	0.0033	-0.9581	0.0449	-4.7073	0.0829	-0.6786	0.0543
3	175.08	0.9729	0.2606	0.0042	-0.9952	0.0494	-5.5840	0.0928	-0.9117	0.0587
4	175.08	0.2001	-0.0294	0.0011	0.0154	0.0006	-0.0447	0.0012	0.1425	0.0145
4	175.08	0.2502	-0.0081	0.0008	0.0221	0.0015	-0.0874	0.0033	0.1725	0.0236
4	175.08	0.3001	0.0224	0.0011	0.0567	0.0022	-0.1564	0.0054	0.2986	0.0318
4	175.08	0.3502	0.0299	0.0010	0.1006	0.0039	-0.2924	0.0087	0.1531	0.0328
4	175.08	0.4002	0.0508	0.0013	0.1498	0.0061	-0.4283	0.0141	0.1414	0.0315
4	175.08	0.4500	0.0742	0.0014	0.1960	0.0069	-0.6477	0.0169	-0.1257	0.0346
4	175.08	0.5001	0.0947	0.0018	0.2221	0.0084	-0.8796	0.0220	0.0453	0.0317
4	175.08	0.5560	0.1190	0.0015	0.2574	0.0109	-1.2998	0.0266	-0.1966	0.0349
4	175.08	0.6001	0.1358	0.0019	0.2819	0.0123	-1.6508	0.0307	-0.1758	0.0386
4	175.08	0.6501	0.1432	0.0023	0.2824	0.0147	-2.1567	0.0350	-0.1748	0.0421
4	175.08	0.6999	0.1572	0.0021	0.2819	0.0166	-2.7260	0.0390	-0.0501	0.0425
4	175.08	0.7500	0.1592	0.0025	0.2932	0.0195	-3.3726	0.0423	0.0734	0.0469
4	175.08	0.8002	0.1510	0.0023	0.2988	0.0223	-4.1293	0.0479	0.0565	0.0461
4	175.08	0.8582	0.1558	0.0055	0.3180	0.0266	-5.0833	0.0545	-0.2337	0.1077
4	175.08	0.9101	0.1522	0.0042	0.3312	0.0278	-5.9353	0.0583	0.2158	0.1678
4	175.08	0.9728	0.2003	0.0056	0.4093	0.0303	-6.9116	0.0759	0.2430	0.1108

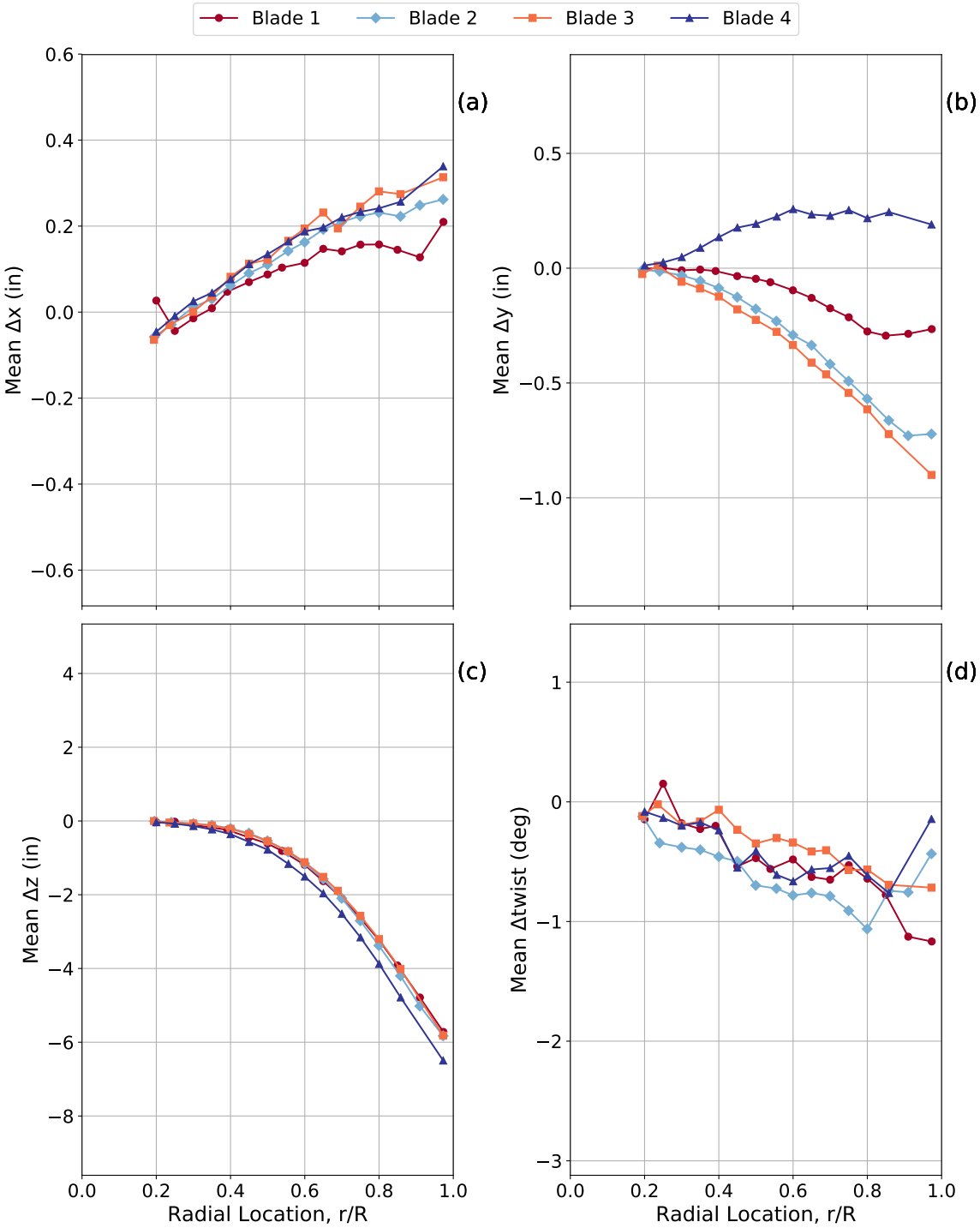


Figure 2.8-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	0.0268	0.0045	-0.0025	0.0012	-0.0336	0.0022	-0.1462	0.0152
1	180	0.2499	-0.0437	0.0019	0.0016	0.0020	-0.0195	0.0039	0.1516	0.0337
1	180	0.2998	-0.0145	0.0018	-0.0093	0.0045	-0.1136	0.0085	-0.1790	0.0370
1	180	0.3498	0.0090	0.0033	-0.0061	0.0079	-0.1760	0.0134	-0.2271	0.0384
1	180	0.3913	0.0474	0.0055	-0.0123	0.0110	-0.2423	0.0200	-0.2003	0.0401
1	180	0.4496	0.0699	0.0066	-0.0346	0.0143	-0.4460	0.0240	-0.5392	0.0416
1	180	0.4997	0.0876	0.0084	-0.0462	0.0181	-0.6145	0.0299	-0.4705	0.0424
1	180	0.5387	0.1035	0.0095	-0.0610	0.0214	-0.8114	0.0363	-0.5606	0.0430
1	180	0.5996	0.1146	0.0111	-0.0963	0.0260	-1.1898	0.0444	-0.4815	0.0475
1	180	0.6498	0.1472	0.0121	-0.1296	0.0305	-1.6317	0.0504	-0.6275	0.0452
1	180	0.6998	0.1414	0.0139	-0.1747	0.0349	-2.0968	0.0584	-0.6505	0.0462
1	180	0.7500	0.1569	0.0151	-0.2138	0.0400	-2.6361	0.0652	-0.5295	0.0453
1	180	0.8001	0.1573	0.0161	-0.2756	0.0445	-3.2344	0.0721	-0.6418	0.0488
1	180	0.8497	0.1449	0.0174	-0.2939	0.0492	-3.9191	0.0806	-0.7775	0.0524
1	180	0.9102	0.1274	0.0196	-0.2858	0.0545	-4.7868	0.0905	-1.1268	0.0658
1	180	0.9734	0.2098	0.0212	-0.2653	0.0595	-5.7205	0.1037	-1.1669	0.0643
2	180	0.1949	-0.0576	0.0018	-0.0065	0.0011	-0.0076	0.0022	-0.1231	0.0193
2	180	0.2405	-0.0286	0.0023	-0.0140	0.0023	-0.0344	0.0056	-0.3435	0.0296
2	180	0.2999	0.0117	0.0021	-0.0312	0.0046	-0.0723	0.0100	-0.3799	0.0423
2	180	0.3498	0.0302	0.0018	-0.0556	0.0078	-0.1157	0.0149	-0.4007	0.0444
2	180	0.3998	0.0617	0.0028	-0.0863	0.0123	-0.2018	0.0253	-0.4579	0.0381
2	180	0.4496	0.0903	0.0023	-0.1262	0.0132	-0.3296	0.0288	-0.4971	0.0396
2	180	0.4995	0.1106	0.0025	-0.1779	0.0169	-0.5388	0.0331	-0.6980	0.0422
2	180	0.5551	0.1421	0.0021	-0.2307	0.0194	-0.8396	0.0431	-0.7242	0.0391
2	180	0.5996	0.1626	0.0022	-0.2913	0.0223	-1.1548	0.0487	-0.7813	0.0379
2	180	0.6497	0.1923	0.0023	-0.3357	0.0255	-1.5715	0.0565	-0.7614	0.0449
2	180	0.6996	0.2100	0.0024	-0.4179	0.0286	-2.0980	0.0628	-0.7879	0.0405
2	180	0.7495	0.2231	0.0025	-0.4919	0.0315	-2.7060	0.0714	-0.9094	0.0385
2	180	0.7996	0.2315	0.0028	-0.5687	0.0350	-3.3787	0.0808	-1.0625	0.0427
2	180	0.8578	0.2227	0.0031	-0.6629	0.0396	-4.2011	0.0927	-0.7430	0.0446
2	180	0.9100	0.2485	0.0034	-0.7296	0.0434	-5.0195	0.1040	-0.7559	0.0450
2	180	0.9727	0.2621	0.0043	-0.7222	0.0480	-5.8280	0.1200	-0.4337	0.0432
3	180.35	0.1938	-0.0643	0.0010	-0.0256	0.0011	-0.0017	0.0016	-0.1189	0.0208
3	180.35	0.2357	-0.0304	0.0010	0.0111	0.0025	-0.0432	0.0029	-0.0206	0.0336
3	180.35	0.2995	0.0006	0.0011	-0.0591	0.0036	-0.0678	0.0055	-0.1906	0.0491
3	180.35	0.3493	0.0359	0.0012	-0.0884	0.0060	-0.1218	0.0094	-0.1641	0.0386
3	180.35	0.4000	0.0821	0.0020	-0.1232	0.0097	-0.2128	0.0143	-0.0662	0.0424
3	180.35	0.4497	0.1125	0.0014	-0.1795	0.0111	-0.3539	0.0170	-0.2333	0.0389
3	180.35	0.4997	0.1220	0.0014	-0.2251	0.0137	-0.5470	0.0215	-0.3474	0.0402
3	180.35	0.5556	0.1658	0.0017	-0.2773	0.0172	-0.8216	0.0274	-0.3018	0.0386
3	180.35	0.5995	0.1944	0.0017	-0.3345	0.0197	-1.1185	0.0315	-0.3397	0.0391
3	180.35	0.6498	0.2316	0.0024	-0.4112	0.0221	-1.5175	0.0361	-0.4151	0.0554
3	180.35	0.6890	0.1946	0.0022	-0.4624	0.0256	-1.8933	0.0400	-0.4042	0.0627
3	180.35	0.7495	0.2453	0.0028	-0.5431	0.0292	-2.5720	0.0471	-0.5698	0.0697
3	180.35	0.7998	0.2808	0.0035	-0.6150	0.0322	-3.2020	0.0529	-0.5656	0.0675
3	180.35	0.8577	0.2744	0.0044	-0.7226	0.0400	-4.0135	0.0647	-0.6930	0.1528
3	180.35	0.9729	0.3136	0.0098	-0.9003	0.0517	-5.8179	0.0845	-0.7171	0.1865
4	180	0.2001	-0.0455	0.0010	0.0116	0.0011	-0.0349	0.0024	-0.0820	0.0195
4	180	0.2502	-0.0090	0.0008	0.0251	0.0023	-0.0747	0.0039	-0.1341	0.0352
4	180	0.3001	0.0253	0.0009	0.0482	0.0044	-0.1381	0.0083	-0.1991	0.0430
4	180	0.3502	0.0449	0.0013	0.0888	0.0075	-0.2297	0.0127	-0.1716	0.0427
4	180	0.4002	0.0765	0.0015	0.1351	0.0116	-0.3581	0.0196	-0.2382	0.0378
4	180	0.4500	0.1113	0.0012	0.1766	0.0131	-0.5692	0.0230	-0.5499	0.0448
4	180	0.5001	0.1346	0.0016	0.1930	0.0165	-0.7780	0.0298	-0.4097	0.0378
4	180	0.5560	0.1642	0.0015	0.2247	0.0201	-1.1646	0.0360	-0.6099	0.0399
4	180	0.6001	0.1876	0.0016	0.2572	0.0232	-1.5082	0.0416	-0.6641	0.0399
4	180	0.6501	0.1966	0.0018	0.2336	0.0259	-1.9634	0.0478	-0.5652	0.0521
4	180	0.6999	0.2205	0.0023	0.2279	0.0298	-2.5189	0.0551	-0.5532	0.0516
4	180	0.7500	0.2332	0.0023	0.2528	0.0322	-3.1573	0.0635	-0.4513	0.0702
4	180	0.8002	0.2415	0.0032	0.2176	0.0365	-3.8773	0.0718	-0.6146	0.0857
4	180	0.8582	0.2567	0.0039	0.2442	0.0442	-4.7858	0.0784	-0.7617	0.1174
4	180	0.9728	0.3390	0.0081	0.1901	0.0531	-6.4969	0.1057	-0.1431	0.1557

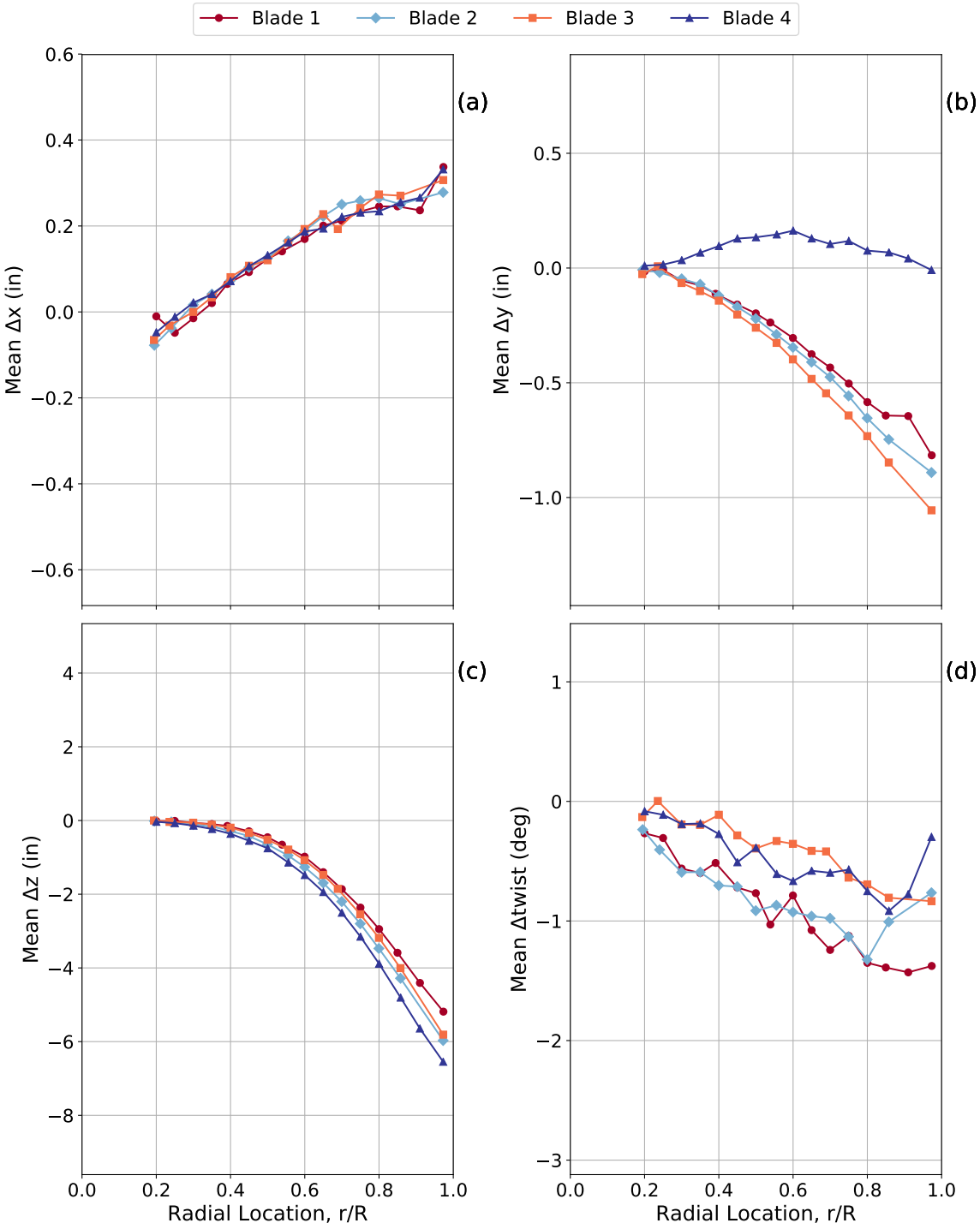


Figure 2.8-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-26. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0103	0.0013	-0.0147	0.0010	-0.0127	0.0022	-0.2668	0.0228
1	184.92	0.2499	-0.0485	0.0010	-0.0092	0.0024	-0.0120	0.0040	-0.3062	0.0384
1	184.92	0.2998	-0.0148	0.0010	-0.0548	0.0042	-0.0640	0.0070	-0.5616	0.0509
1	184.92	0.3498	0.0206	0.0013	-0.0758	0.0074	-0.0969	0.0124	-0.5991	0.0439
1	184.92	0.3913	0.0651	0.0013	-0.1122	0.0106	-0.1477	0.0169	-0.5149	0.0462
1	184.92	0.4496	0.0927	0.0014	-0.1591	0.0135	-0.2924	0.0223	-0.7201	0.0475
1	184.92	0.4997	0.1228	0.0013	-0.1976	0.0170	-0.4543	0.0276	-0.7676	0.0389
1	184.92	0.5387	0.1410	0.0013	-0.2373	0.0185	-0.6561	0.0314	-1.0298	0.0444
1	184.92	0.5996	0.1697	0.0016	-0.3048	0.0230	-0.9824	0.0378	-0.7867	0.0516
1	184.92	0.6498	0.2008	0.0016	-0.3756	0.0262	-1.4020	0.0443	-1.0767	0.0533
1	184.92	0.6998	0.2121	0.0020	-0.4337	0.0291	-1.8626	0.0498	-1.2420	0.0609
1	184.92	0.7500	0.2338	0.0020	-0.5035	0.0341	-2.3624	0.0560	-1.1248	0.0769
1	184.92	0.8001	0.2454	0.0023	-0.5844	0.0385	-2.9470	0.0621	-1.3501	0.0770
1	184.92	0.8497	0.2456	0.0029	-0.6429	0.0404	-3.5886	0.0705	-1.3891	0.0646
1	184.92	0.9102	0.2364	0.0049	-0.6451	0.0519	-4.4073	0.0851	-1.4295	0.1373
1	184.92	0.9734	0.3373	0.0050	-0.8161	0.0507	-5.1868	0.1007	-1.3762	0.1831
2	184.92	0.1949	-0.0776	0.0012	-0.0080	0.0012	-0.0150	0.0019	-0.2359	0.0177
2	184.92	0.2405	-0.0380	0.0008	-0.0196	0.0017	-0.0409	0.0031	-0.4044	0.0278
2	184.92	0.2999	0.0168	0.0010	-0.0472	0.0041	-0.1090	0.0063	-0.5926	0.0384
2	184.92	0.3498	0.0414	0.0011	-0.0711	0.0059	-0.1633	0.0095	-0.5913	0.0364
2	184.92	0.3998	0.0730	0.0014	-0.1208	0.0094	-0.2856	0.0149	-0.7030	0.0369
2	184.92	0.4496	0.1038	0.0018	-0.1692	0.0115	-0.4235	0.0188	-0.7129	0.0386
2	184.92	0.4995	0.1248	0.0016	-0.2205	0.0138	-0.6465	0.0240	-0.9139	0.0345
2	184.92	0.5551	0.1652	0.0015	-0.2896	0.0160	-0.9497	0.0300	-0.8689	0.0421
2	184.92	0.5996	0.1889	0.0021	-0.3457	0.0191	-1.2632	0.0349	-0.9260	0.0488
2	184.92	0.6497	0.2225	0.0022	-0.4100	0.0215	-1.6947	0.0413	-0.9601	0.0528
2	184.92	0.6996	0.2503	0.0025	-0.4750	0.0249	-2.1997	0.0475	-0.9779	0.0561
2	184.92	0.7495	0.2590	0.0026	-0.5572	0.0277	-2.8005	0.0548	-1.1318	0.0537
2	184.92	0.7996	0.2648	0.0031	-0.6543	0.0313	-3.4726	0.0635	-1.3227	0.0688
2	184.92	0.8578	0.2507	0.0036	-0.7469	0.0349	-4.2809	0.0727	-1.0073	0.0785
2	184.92	0.9727	0.2782	0.0055	-0.8912	0.0444	-5.9693	0.1027	-0.7641	0.0747
3	184.92	0.1938	-0.0653	0.0010	-0.0266	0.0008	-0.0008	0.0018	-0.1311	0.0177
3	184.92	0.2357	-0.0316	0.0009	0.0075	0.0019	-0.0376	0.0029	0.0030	0.0326
3	184.92	0.2995	-0.0000	0.0008	-0.0653	0.0032	-0.0595	0.0056	-0.1936	0.0417
3	184.92	0.3493	0.0338	0.0009	-0.1006	0.0057	-0.1134	0.0100	-0.1968	0.0357
3	184.92	0.4000	0.0809	0.0011	-0.1421	0.0088	-0.1947	0.0145	-0.1122	0.0317
3	184.92	0.4497	0.1074	0.0011	-0.2027	0.0107	-0.3352	0.0173	-0.2844	0.0402
3	184.92	0.4997	0.1202	0.0012	-0.2600	0.0133	-0.5212	0.0219	-0.3937	0.0395
3	184.92	0.5556	0.1610	0.0017	-0.3263	0.0152	-0.7889	0.0265	-0.3311	0.0410
3	184.92	0.5995	0.1929	0.0014	-0.3982	0.0178	-1.0768	0.0293	-0.3550	0.0482
3	184.92	0.6498	0.2275	0.0017	-0.4832	0.0202	-1.4769	0.0346	-0.4138	0.0469
3	184.92	0.6890	0.1930	0.0021	-0.5459	0.0227	-1.8555	0.0392	-0.4184	0.0494
3	184.92	0.7495	0.2418	0.0019	-0.6425	0.0258	-2.5450	0.0435	-0.6374	0.0512
3	184.92	0.7998	0.2733	0.0023	-0.7327	0.0297	-3.1831	0.0496	-0.6939	0.0626
3	184.92	0.8577	0.2705	0.0032	-0.8475	0.0348	-4.0056	0.0569	-0.8055	0.1096
3	184.92	0.9729	0.3068	0.0055	-1.0560	0.0444	-5.8101	0.0755	-0.8347	0.1195
4	184.92	0.2001	-0.0474	0.0011	0.0100	0.0008	-0.0350	0.0018	-0.0825	0.0186
4	184.92	0.2502	-0.0114	0.0009	0.0149	0.0022	-0.0722	0.0040	-0.1121	0.0338
4	184.92	0.3001	0.0217	0.0010	0.0343	0.0037	-0.1402	0.0065	-0.1895	0.0410
4	184.92	0.3502	0.0415	0.0011	0.0670	0.0060	-0.2314	0.0109	-0.1852	0.0353
4	184.92	0.4002	0.0716	0.0012	0.0957	0.0097	-0.3620	0.0167	-0.2731	0.0350
4	184.92	0.4500	0.1064	0.0013	0.1283	0.0119	-0.5518	0.0211	-0.5092	0.0384
4	184.92	0.5001	0.1319	0.0013	0.1339	0.0146	-0.7543	0.0265	-0.3875	0.0382
4	184.92	0.5560	0.1616	0.0013	0.1462	0.0178	-1.1418	0.0334	-0.6069	0.0412
4	184.92	0.6001	0.1869	0.0016	0.1628	0.0205	-1.4804	0.0392	-0.6660	0.0441
4	184.92	0.6501	0.1940	0.0017	0.1288	0.0228	-1.9417	0.0442	-0.5801	0.0437
4	184.92	0.6999	0.2212	0.0017	0.1045	0.0269	-2.5026	0.0513	-0.5969	0.0505
4	184.92	0.7500	0.2311	0.0021	0.1178	0.0304	-3.1524	0.0588	-0.5704	0.0680
4	184.92	0.8002	0.2342	0.0022	0.0758	0.0336	-3.8878	0.0649	-0.7504	0.0664
4	184.92	0.8582	0.2547	0.0026	0.0680	0.0387	-4.8067	0.0793	-0.9161	0.0917
4	184.92	0.9101	0.2658	0.0037	0.0415	0.0409	-5.6450	0.0853	-0.7760	0.1313
4	184.92	0.9728	0.3317	0.0051	-0.0089	0.0481	-6.5472	0.0964	-0.2974	0.1145

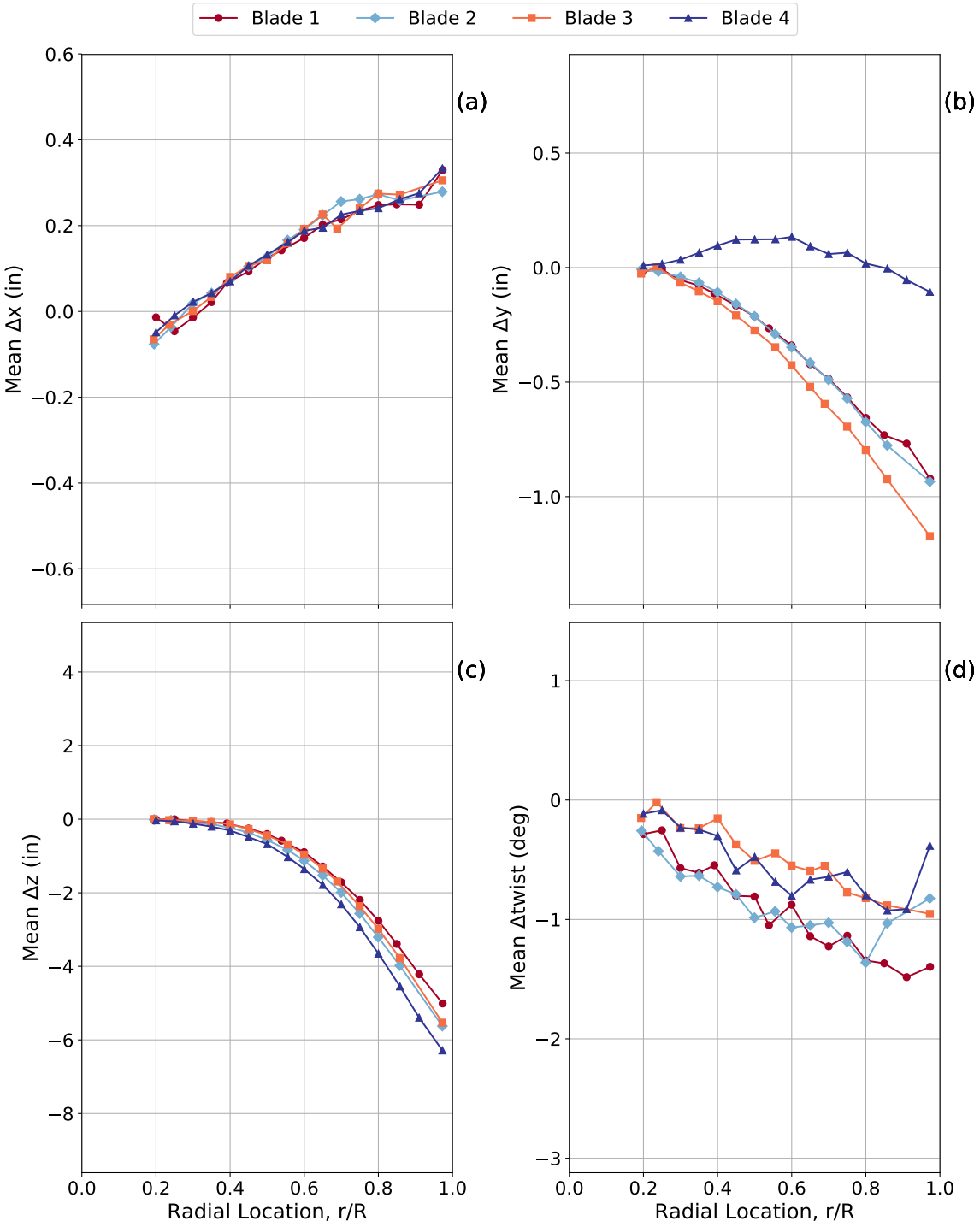


Figure 2.8-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0137	0.0013	-0.0152	0.0010	-0.0109	0.0025	-0.2845	0.0215
1	189.84	0.2499	-0.0463	0.0008	-0.0092	0.0025	-0.0023	0.0049	-0.2531	0.0413
1	189.84	0.2998	-0.0142	0.0010	-0.0541	0.0042	-0.0523	0.0092	-0.5694	0.0501
1	189.84	0.3498	0.0218	0.0011	-0.0790	0.0075	-0.0777	0.0147	-0.6087	0.0501
1	189.84	0.3913	0.0664	0.0015	-0.1129	0.0107	-0.1163	0.0214	-0.5462	0.0440
1	189.84	0.4496	0.0932	0.0016	-0.1659	0.0131	-0.2535	0.0274	-0.8014	0.0432
1	189.84	0.4997	0.1244	0.0017	-0.2127	0.0162	-0.4042	0.0343	-0.8074	0.0418
1	189.84	0.5387	0.1426	0.0019	-0.2652	0.0189	-0.5842	0.0397	-1.0482	0.0460
1	189.84	0.5996	0.1711	0.0021	-0.3393	0.0232	-0.8955	0.0492	-0.8766	0.0516
1	189.84	0.6498	0.2019	0.0023	-0.4219	0.0275	-1.2879	0.0584	-1.1400	0.0508
1	189.84	0.6998	0.2147	0.0023	-0.4861	0.0311	-1.7160	0.0670	-1.2254	0.0490
1	189.84	0.7500	0.2345	0.0028	-0.5663	0.0360	-2.1945	0.0765	-1.1362	0.0534
1	189.84	0.8001	0.2479	0.0032	-0.6560	0.0400	-2.7616	0.0874	-1.3439	0.0633
1	189.84	0.8497	0.2494	0.0038	-0.7313	0.0445	-3.3905	0.1007	-1.3676	0.0617
1	189.84	0.9102	0.2488	0.0040	-0.7685	0.0527	-4.2165	0.1186	-1.4832	0.1117
1	189.84	0.9734	0.3295	0.0056	-0.9218	0.0570	-5.0088	0.1296	-1.3965	0.1186
2	189.84	0.1949	-0.0762	0.0010	-0.0078	0.0007	-0.0127	0.0015	-0.2570	0.0181
2	189.84	0.2405	-0.0363	0.0007	-0.0169	0.0016	-0.0299	0.0030	-0.4281	0.0261
2	189.84	0.2999	0.0191	0.0009	-0.0408	0.0031	-0.0910	0.0057	-0.6395	0.0397
2	189.84	0.3498	0.0428	0.0008	-0.0659	0.0049	-0.1333	0.0097	-0.6331	0.0385
2	189.84	0.3998	0.0732	0.0012	-0.1073	0.0079	-0.2349	0.0146	-0.7283	0.0377
2	189.84	0.4496	0.1047	0.0011	-0.1587	0.0096	-0.3615	0.0174	-0.7889	0.0326
2	189.84	0.4995	0.1270	0.0014	-0.2126	0.0113	-0.5662	0.0221	-0.9853	0.0344
2	189.84	0.5551	0.1662	0.0015	-0.2901	0.0146	-0.8336	0.0271	-0.9322	0.0345
2	189.84	0.5996	0.1906	0.0015	-0.3477	0.0159	-1.1297	0.0312	-1.0676	0.0459
2	189.84	0.6497	0.2241	0.0017	-0.4153	0.0179	-1.5271	0.0370	-1.0498	0.0418
2	189.84	0.6996	0.2562	0.0019	-0.4901	0.0206	-1.9906	0.0420	-1.0272	0.0427
2	189.84	0.7495	0.2617	0.0021	-0.5714	0.0234	-2.5666	0.0483	-1.1876	0.0447
2	189.84	0.7996	0.2732	0.0023	-0.6736	0.0257	-3.2076	0.0535	-1.3614	0.0466
2	189.84	0.8578	0.2587	0.0028	-0.7762	0.0285	-3.9810	0.0611	-1.0321	0.0570
2	189.84	0.9727	0.2790	0.0039	-0.9344	0.0353	-5.6242	0.0791	-0.8232	0.0725
3	189.84	0.1938	-0.0650	0.0010	-0.0260	0.0010	0.0030	0.0021	-0.1498	0.0182
3	189.84	0.2357	-0.0308	0.0010	0.0049	0.0020	-0.0259	0.0034	-0.0184	0.0284
3	189.84	0.2995	0.0010	0.0010	-0.0658	0.0039	-0.0402	0.0060	-0.2347	0.0407
3	189.84	0.3493	0.0338	0.0008	-0.1036	0.0067	-0.0766	0.0108	-0.2359	0.0359
3	189.84	0.4000	0.0802	0.0013	-0.1470	0.0105	-0.1386	0.0155	-0.1533	0.0372
3	189.84	0.4497	0.1059	0.0012	-0.2084	0.0127	-0.2697	0.0204	-0.3703	0.0364
3	189.84	0.4997	0.1193	0.0013	-0.2744	0.0160	-0.4397	0.0249	-0.5085	0.0418
3	189.84	0.5556	0.1593	0.0013	-0.3474	0.0201	-0.6854	0.0308	-0.4459	0.0474
3	189.84	0.5995	0.1925	0.0017	-0.4262	0.0227	-0.9627	0.0348	-0.5486	0.0409
3	189.84	0.6498	0.2259	0.0016	-0.5203	0.0275	-1.3418	0.0407	-0.5931	0.0490
3	189.84	0.6890	0.1930	0.0019	-0.5949	0.0305	-1.6939	0.0459	-0.5511	0.0550
3	189.84	0.7495	0.2401	0.0023	-0.6943	0.0352	-2.3648	0.0536	-0.7731	0.0572
3	189.84	0.7998	0.2746	0.0028	-0.7973	0.0409	-2.9799	0.0632	-0.8211	0.0561
3	189.84	0.8577	0.2722	0.0032	-0.9239	0.0451	-3.7713	0.0705	-0.8812	0.0967
3	189.84	0.9729	0.3055	0.0046	-1.1724	0.0570	-5.5305	0.0943	-0.9538	0.0932
4	189.84	0.2001	-0.0487	0.0009	0.0091	0.0010	-0.0333	0.0019	-0.1142	0.0166
4	189.84	0.2502	-0.0092	0.0008	0.0162	0.0018	-0.0574	0.0031	-0.0848	0.0334
4	189.84	0.3001	0.0225	0.0009	0.0345	0.0036	-0.1215	0.0064	-0.2311	0.0384
4	189.84	0.3502	0.0429	0.0011	0.0650	0.0059	-0.2034	0.0100	-0.2472	0.0360
4	189.84	0.4002	0.0701	0.0014	0.0960	0.0090	-0.3094	0.0153	-0.3002	0.0391
4	189.84	0.4500	0.1065	0.0012	0.1222	0.0108	-0.4885	0.0199	-0.5889	0.0357
4	189.84	0.5001	0.1325	0.0012	0.1230	0.0138	-0.6772	0.0251	-0.4762	0.0387
4	189.84	0.5560	0.1616	0.0013	0.1236	0.0164	-1.0336	0.0335	-0.6841	0.0356
4	189.84	0.6001	0.1879	0.0016	0.1342	0.0186	-1.3574	0.0376	-0.8013	0.0431
4	189.84	0.6501	0.1950	0.0015	0.0929	0.0214	-1.7866	0.0454	-0.6666	0.0419
4	189.84	0.6999	0.2255	0.0020	0.0592	0.0240	-2.3134	0.0521	-0.6415	0.0446
4	189.84	0.7500	0.2344	0.0018	0.0653	0.0266	-2.9368	0.0599	-0.6016	0.0446
4	189.84	0.8002	0.2406	0.0023	0.0177	0.0303	-3.6542	0.0680	-0.7974	0.0610
4	189.84	0.8582	0.2617	0.0027	-0.0042	0.0347	-4.5464	0.0779	-0.9249	0.0639
4	189.84	0.9101	0.2755	0.0032	-0.0542	0.0415	-5.3957	0.0886	-0.9137	0.0910
4	189.84	0.9728	0.3333	0.0038	-0.1059	0.0414	-6.2867	0.1016	-0.3826	0.0889

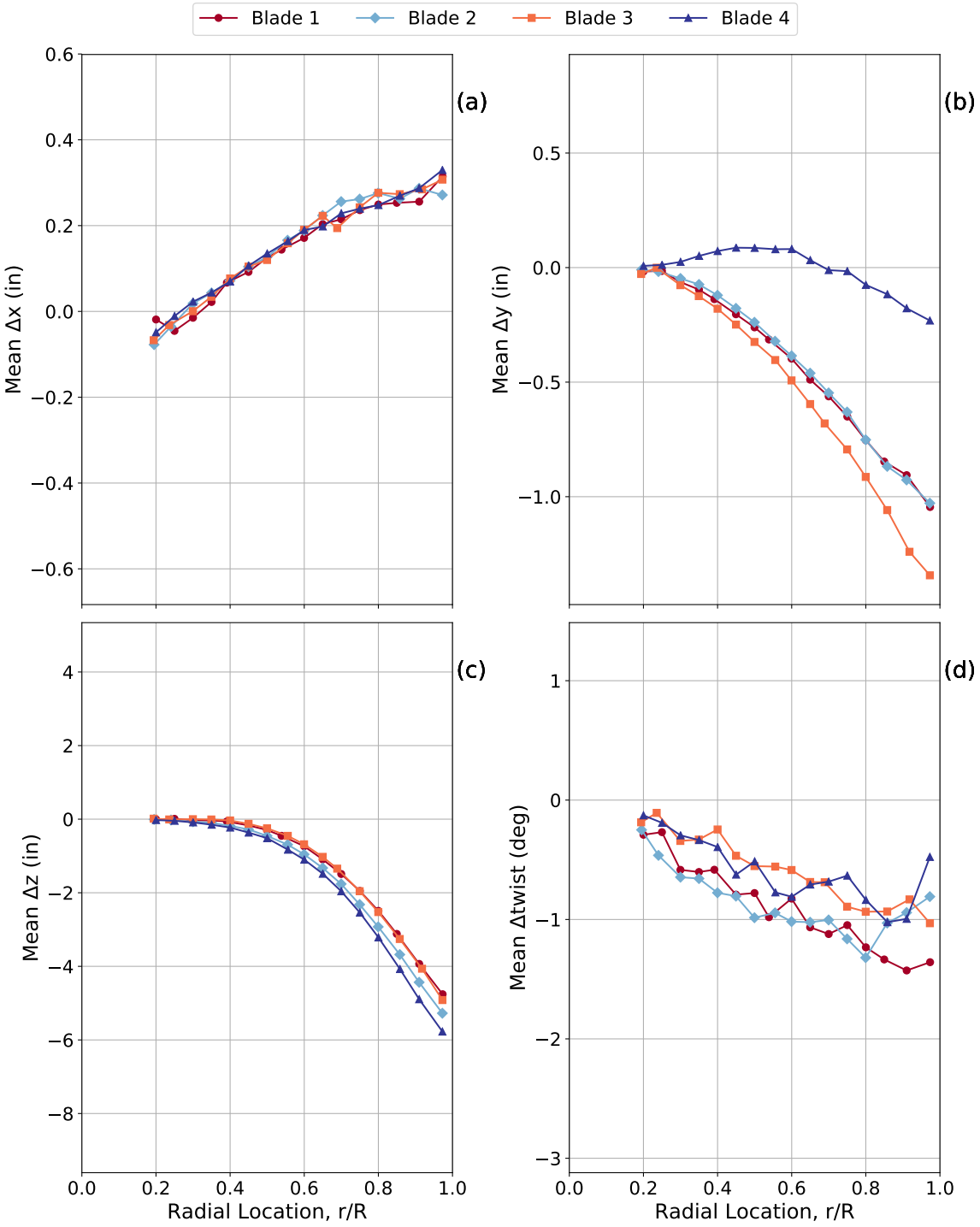


Figure 2.8-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-28. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0188	0.0011	-0.0171	0.0009	-0.0038	0.0020	-0.2903	0.0194
1	195.12	0.2499	-0.0454	0.0009	-0.0147	0.0021	0.0098	0.0039	-0.2686	0.0330
1	195.12	0.2998	-0.0148	0.0009	-0.0633	0.0040	-0.0311	0.0072	-0.5844	0.0429
1	195.12	0.3498	0.0220	0.0009	-0.0962	0.0065	-0.0346	0.0115	-0.6023	0.0418
1	195.12	0.3913	0.0671	0.0018	-0.1378	0.0098	-0.0615	0.0166	-0.5833	0.0374
1	195.12	0.4496	0.0921	0.0013	-0.2038	0.0119	-0.1700	0.0225	-0.7917	0.0378
1	195.12	0.4997	0.1250	0.0014	-0.2610	0.0141	-0.2946	0.0283	-0.7787	0.0388
1	195.12	0.5387	0.1440	0.0019	-0.3139	0.0170	-0.4529	0.0330	-0.9810	0.0406
1	195.12	0.5996	0.1713	0.0018	-0.3973	0.0204	-0.7339	0.0417	-0.8252	0.0416
1	195.12	0.6498	0.2034	0.0017	-0.4892	0.0232	-1.0932	0.0499	-1.0657	0.0441
1	195.12	0.6998	0.2147	0.0022	-0.5621	0.0271	-1.4901	0.0584	-1.1219	0.0442
1	195.12	0.7500	0.2361	0.0026	-0.6503	0.0302	-1.9503	0.0670	-1.0474	0.0455
1	195.12	0.8001	0.2492	0.0026	-0.7537	0.0340	-2.4930	0.0753	-1.2331	0.0540
1	195.12	0.8497	0.2531	0.0029	-0.8466	0.0379	-3.1184	0.0846	-1.3349	0.0501
1	195.12	0.9102	0.2558	0.0034	-0.9060	0.0421	-3.9342	0.0944	-1.4271	0.0874
1	195.12	0.9734	0.3145	0.0041	-1.0451	0.0470	-4.7584	0.1108	-1.3578	0.0785
2	195.12	0.1949	-0.0774	0.0010	-0.0095	0.0006	-0.0065	0.0014	-0.2496	0.0160
2	195.12	0.2405	-0.0353	0.0007	-0.0173	0.0016	-0.0226	0.0030	-0.4630	0.0275
2	195.12	0.2999	0.0186	0.0008	-0.0475	0.0031	-0.0692	0.0052	-0.6457	0.0373
2	195.12	0.3498	0.0432	0.0009	-0.0737	0.0048	-0.0980	0.0083	-0.6575	0.0348
2	195.12	0.3998	0.0717	0.0011	-0.1209	0.0080	-0.1817	0.0129	-0.7765	0.0355
2	195.12	0.4496	0.1041	0.0012	-0.1779	0.0092	-0.2789	0.0160	-0.8045	0.0347
2	195.12	0.4995	0.1266	0.0013	-0.2388	0.0107	-0.4547	0.0204	-0.9852	0.0353
2	195.12	0.5551	0.1659	0.0015	-0.3214	0.0132	-0.6910	0.0243	-0.9445	0.0371
2	195.12	0.5996	0.1885	0.0015	-0.3850	0.0154	-0.9560	0.0294	-1.0177	0.0431
2	195.12	0.6497	0.2236	0.0015	-0.4608	0.0176	-1.3266	0.0357	-1.0227	0.0394
2	195.12	0.6996	0.2560	0.0018	-0.5470	0.0200	-1.7604	0.0419	-1.0038	0.0431
2	195.12	0.7495	0.2618	0.0019	-0.6305	0.0221	-2.3200	0.0489	-1.1625	0.0407
2	195.12	0.7996	0.2759	0.0024	-0.7515	0.0250	-2.9266	0.0556	-1.3199	0.0447
2	195.12	0.8578	0.2627	0.0025	-0.8677	0.0278	-3.6796	0.0646	-1.0301	0.0535
2	195.12	0.9100	0.2869	0.0029	-0.9270	0.0307	-4.4333	0.0698	-0.9421	0.1052
2	195.12	0.9727	0.2714	0.0039	-1.0283	0.0349	-5.2744	0.0804	-0.8086	0.0608
3	195.12	0.1938	-0.0671	0.0009	-0.0279	0.0007	0.0132	0.0015	-0.1861	0.0169
3	195.12	0.2357	-0.0318	0.0008	-0.0006	0.0014	-0.0079	0.0028	-0.1069	0.0262
3	195.12	0.2995	0.0005	0.0010	-0.0768	0.0028	-0.0005	0.0050	-0.3422	0.0381
3	195.12	0.3493	0.0341	0.0011	-0.1245	0.0043	-0.0084	0.0087	-0.3306	0.0307
3	195.12	0.4000	0.0769	0.0011	-0.1795	0.0069	-0.0349	0.0130	-0.2462	0.0279
3	195.12	0.4497	0.1045	0.0011	-0.2488	0.0086	-0.1262	0.0162	-0.4663	0.0287
3	195.12	0.4997	0.1199	0.0011	-0.3246	0.0102	-0.2489	0.0200	-0.5529	0.0289
3	195.12	0.5556	0.1589	0.0012	-0.4035	0.0128	-0.4539	0.0256	-0.5571	0.0269
3	195.12	0.5995	0.1902	0.0013	-0.4925	0.0143	-0.6831	0.0303	-0.5858	0.0347
3	195.12	0.6498	0.2227	0.0015	-0.5957	0.0168	-1.0245	0.0366	-0.6860	0.0393
3	195.12	0.6890	0.1942	0.0018	-0.6803	0.0185	-1.3448	0.0414	-0.6882	0.0361
3	195.12	0.7495	0.2426	0.0021	-0.7938	0.0212	-1.9576	0.0521	-0.8930	0.0315
3	195.12	0.7998	0.2765	0.0023	-0.9137	0.0239	-2.5248	0.0627	-0.9349	0.0354
3	195.12	0.8577	0.2733	0.0031	-1.0585	0.0262	-3.2565	0.0735	-0.9333	0.0596
3	195.12	0.9178	0.2845	0.0037	-1.2404	0.0306	-4.0643	0.0879	-0.8319	0.1191
3	195.12	0.9729	0.3072	0.0045	-1.3432	0.0335	-4.9162	0.1002	-1.0313	0.0633
4	195.12	0.2001	-0.0487	0.0010	0.0073	0.0007	-0.0240	0.0018	-0.1280	0.0183
4	195.12	0.2502	-0.0108	0.0008	0.0120	0.0015	-0.0446	0.0036	-0.1907	0.0265
4	195.12	0.3001	0.0228	0.0007	0.0248	0.0030	-0.0881	0.0067	-0.2953	0.0380
4	195.12	0.3502	0.0441	0.0008	0.0510	0.0042	-0.1509	0.0100	-0.3351	0.0335
4	195.12	0.4002	0.0698	0.0010	0.0720	0.0070	-0.2287	0.0159	-0.3936	0.0282
4	195.12	0.4500	0.1064	0.0010	0.0868	0.0082	-0.3655	0.0192	-0.6243	0.0292
4	195.12	0.5001	0.1349	0.0011	0.0858	0.0099	-0.5174	0.0236	-0.5136	0.0280
4	195.12	0.5560	0.1638	0.0012	0.0801	0.0122	-0.8300	0.0295	-0.7732	0.0339
4	195.12	0.6001	0.1897	0.0012	0.0808	0.0137	-1.1010	0.0348	-0.8098	0.0327
4	195.12	0.6501	0.1980	0.0012	0.0324	0.0158	-1.4846	0.0419	-0.7076	0.0338
4	195.12	0.6999	0.2286	0.0014	-0.0111	0.0181	-1.9607	0.0483	-0.6829	0.0399
4	195.12	0.7500	0.2395	0.0015	-0.0156	0.0203	-2.5405	0.0570	-0.6329	0.0386
4	195.12	0.8002	0.2478	0.0022	-0.0757	0.0230	-3.2144	0.0649	-0.8364	0.0458
4	195.12	0.8582	0.2697	0.0023	-0.1165	0.0257	-4.0744	0.0745	-1.0226	0.0451
4	195.12	0.9101	0.2872	0.0030	-0.1777	0.0275	-4.8946	0.0846	-0.9948	0.0599
4	195.12	0.9728	0.3296	0.0038	-0.2312	0.0320	-5.7735	0.0976	-0.4762	0.0603

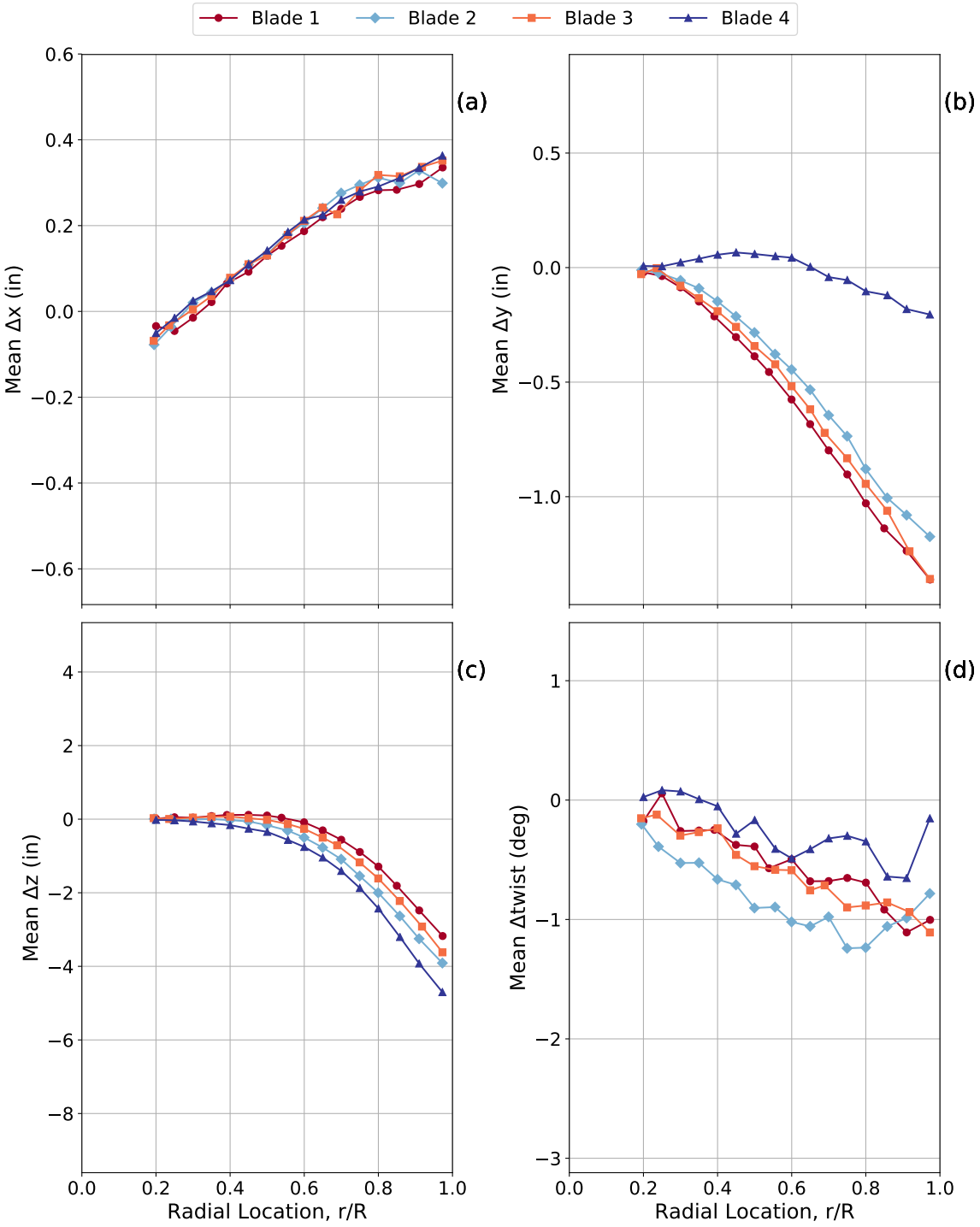


Figure 2.8-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-29. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0342	0.0011	-0.0207	0.0009	0.0150	0.0024	-0.1758	0.0155
1	209.88	0.2499	-0.0456	0.0008	-0.0369	0.0027	0.0520	0.0066	0.0563	0.0275
1	209.88	0.2998	-0.0147	0.0010	-0.0864	0.0055	0.0428	0.0113	-0.2593	0.0348
1	209.88	0.3498	0.0218	0.0014	-0.1483	0.0073	0.0838	0.0153	-0.2549	0.0396
1	209.88	0.3913	0.0650	0.0021	-0.2129	0.0125	0.1139	0.0257	-0.2493	0.0341
1	209.88	0.4496	0.0925	0.0016	-0.3033	0.0144	0.1175	0.0271	-0.3750	0.0342
1	209.88	0.4997	0.1295	0.0015	-0.3872	0.0187	0.0989	0.0363	-0.3888	0.0425
1	209.88	0.5387	0.1530	0.0019	-0.4557	0.0207	0.0396	0.0386	-0.5710	0.0438
1	209.88	0.5996	0.1871	0.0023	-0.5757	0.0255	-0.0851	0.0451	-0.4957	0.0428
1	209.88	0.6498	0.2195	0.0021	-0.6834	0.0298	-0.3042	0.0522	-0.6799	0.0411
1	209.88	0.6998	0.2393	0.0022	-0.7980	0.0340	-0.5591	0.0573	-0.6785	0.0393
1	209.88	0.7500	0.2669	0.0021	-0.9031	0.0386	-0.8926	0.0634	-0.6523	0.0431
1	209.88	0.8001	0.2824	0.0023	-1.0291	0.0433	-1.2894	0.0696	-0.6913	0.0385
1	209.88	0.8497	0.2835	0.0022	-1.1383	0.0483	-1.8096	0.0763	-0.9171	0.0404
1	209.88	0.9102	0.2970	0.0024	-1.2367	0.0545	-2.4804	0.0853	-1.1084	0.0456
1	209.88	0.9734	0.3354	0.0039	-1.3618	0.0600	-3.1762	0.0929	-1.0032	0.0499
2	209.88	0.1949	-0.0776	0.0010	-0.0108	0.0007	0.0086	0.0018	-0.2020	0.0238
2	209.88	0.2405	-0.0358	0.0010	-0.0226	0.0017	0.0037	0.0039	-0.3893	0.0255
2	209.88	0.2999	0.0204	0.0007	-0.0561	0.0045	-0.0078	0.0078	-0.5271	0.0498
2	209.88	0.3498	0.0441	0.0010	-0.0908	0.0051	0.0022	0.0111	-0.5253	0.0519
2	209.88	0.3998	0.0750	0.0017	-0.1475	0.0098	-0.0262	0.0182	-0.6639	0.0410
2	209.88	0.4496	0.1091	0.0017	-0.2133	0.0116	-0.0606	0.0238	-0.7105	0.0533
2	209.88	0.4995	0.1327	0.0015	-0.2837	0.0135	-0.1630	0.0300	-0.9036	0.0319
2	209.88	0.5551	0.1794	0.0014	-0.3780	0.0167	-0.3080	0.0387	-0.8962	0.0319
2	209.88	0.5996	0.2057	0.0014	-0.4450	0.0189	-0.4974	0.0454	-1.0203	0.0349
2	209.88	0.6497	0.2409	0.0016	-0.5331	0.0216	-0.7710	0.0531	-1.0578	0.0388
2	209.88	0.6996	0.2759	0.0015	-0.6445	0.0245	-1.0877	0.0616	-0.9781	0.0436
2	209.88	0.7495	0.2950	0.0018	-0.7359	0.0275	-1.5451	0.0721	-1.2413	0.0417
2	209.88	0.7996	0.3118	0.0019	-0.8789	0.0307	-2.0004	0.0826	-1.2356	0.0389
2	209.88	0.8578	0.2993	0.0022	-1.0055	0.0342	-2.6326	0.0972	-1.0584	0.0465
2	209.88	0.9100	0.3289	0.0026	-1.0804	0.0374	-3.2498	0.1102	-0.9876	0.0480
2	209.88	0.9727	0.2989	0.0031	-1.1745	0.0412	-3.9103	0.1277	-0.7827	0.0497
3	209.88	0.1938	-0.0685	0.0009	-0.0287	0.0006	0.0266	0.0016	-0.1523	0.0119
3	209.88	0.2357	-0.0325	0.0008	-0.0024	0.0016	0.0049	0.0035	-0.1220	0.0192
3	209.88	0.2995	0.0044	0.0012	-0.0793	0.0033	0.0417	0.0074	-0.2974	0.0257
3	209.88	0.3493	0.0357	0.0009	-0.1337	0.0050	0.0630	0.0101	-0.2679	0.0332
3	209.88	0.4000	0.0784	0.0013	-0.1905	0.0082	0.0694	0.0168	-0.2366	0.0413
3	209.88	0.4497	0.1098	0.0012	-0.2588	0.0086	0.0278	0.0176	-0.4591	0.0312
3	209.88	0.4997	0.1306	0.0014	-0.3425	0.0110	-0.0175	0.0233	-0.5539	0.0367
3	209.88	0.5556	0.1783	0.0011	-0.4221	0.0137	-0.1323	0.0278	-0.5839	0.0302
3	209.88	0.5995	0.2111	0.0017	-0.5179	0.0151	-0.2615	0.0320	-0.5875	0.0384
3	209.88	0.6498	0.2418	0.0015	-0.6186	0.0181	-0.5022	0.0371	-0.7556	0.0334
3	209.88	0.6890	0.2263	0.0012	-0.7214	0.0202	-0.7093	0.0399	-0.7143	0.0373
3	209.88	0.7495	0.2819	0.0014	-0.8323	0.0234	-1.1742	0.0466	-0.8988	0.0295
3	209.88	0.7998	0.3181	0.0013	-0.9440	0.0258	-1.6112	0.0527	-0.8829	0.0308
3	209.88	0.8577	0.3149	0.0019	-1.0613	0.0299	-2.2231	0.0598	-0.8572	0.0391
3	209.88	0.9178	0.3369	0.0022	-1.2385	0.0331	-2.9192	0.0681	-0.9379	0.0459
3	209.88	0.9729	0.3515	0.0026	-1.3590	0.0377	-3.6189	0.0752	-1.1086	0.0418
4	209.88	0.2001	-0.0505	0.0012	0.0070	0.0008	-0.0196	0.0019	0.0255	0.0167
4	209.88	0.2502	-0.0149	0.0011	0.0056	0.0023	-0.0312	0.0041	0.0830	0.0303
4	209.88	0.3001	0.0247	0.0007	0.0226	0.0035	-0.0617	0.0086	0.0721	0.0374
4	209.88	0.3502	0.0471	0.0009	0.0388	0.0062	-0.1127	0.0102	0.0074	0.0455
4	209.88	0.4002	0.0729	0.0015	0.0561	0.0092	-0.1615	0.0179	-0.0523	0.0379
4	209.88	0.4500	0.1093	0.0022	0.0660	0.0109	-0.2577	0.0203	-0.2815	0.0334
4	209.88	0.5001	0.1419	0.0018	0.0593	0.0127	-0.3453	0.0236	-0.1673	0.0466
4	209.88	0.5560	0.1852	0.0012	0.0497	0.0159	-0.5650	0.0307	-0.4082	0.0387
4	209.88	0.6001	0.2139	0.0021	0.0432	0.0186	-0.7549	0.0353	-0.4884	0.0402
4	209.88	0.6501	0.2243	0.0016	0.0034	0.0217	-1.0414	0.0409	-0.4108	0.0404
4	209.88	0.6999	0.2600	0.0017	-0.0415	0.0248	-1.4071	0.0447	-0.3211	0.0418
4	209.88	0.7500	0.2794	0.0019	-0.0547	0.0280	-1.8725	0.0510	-0.2992	0.0400
4	209.88	0.8002	0.2912	0.0018	-0.1035	0.0314	-2.4285	0.0560	-0.3461	0.0444
4	209.88	0.8582	0.3114	0.0023	-0.1209	0.0364	-3.2030	0.0637	-0.6406	0.0445
4	209.88	0.9101	0.3343	0.0022	-0.1812	0.0389	-3.9238	0.0699	-0.6531	0.0418
4	209.88	0.9728	0.3631	0.0032	-0.2049	0.0447	-4.7015	0.0785	-0.1531	0.0517

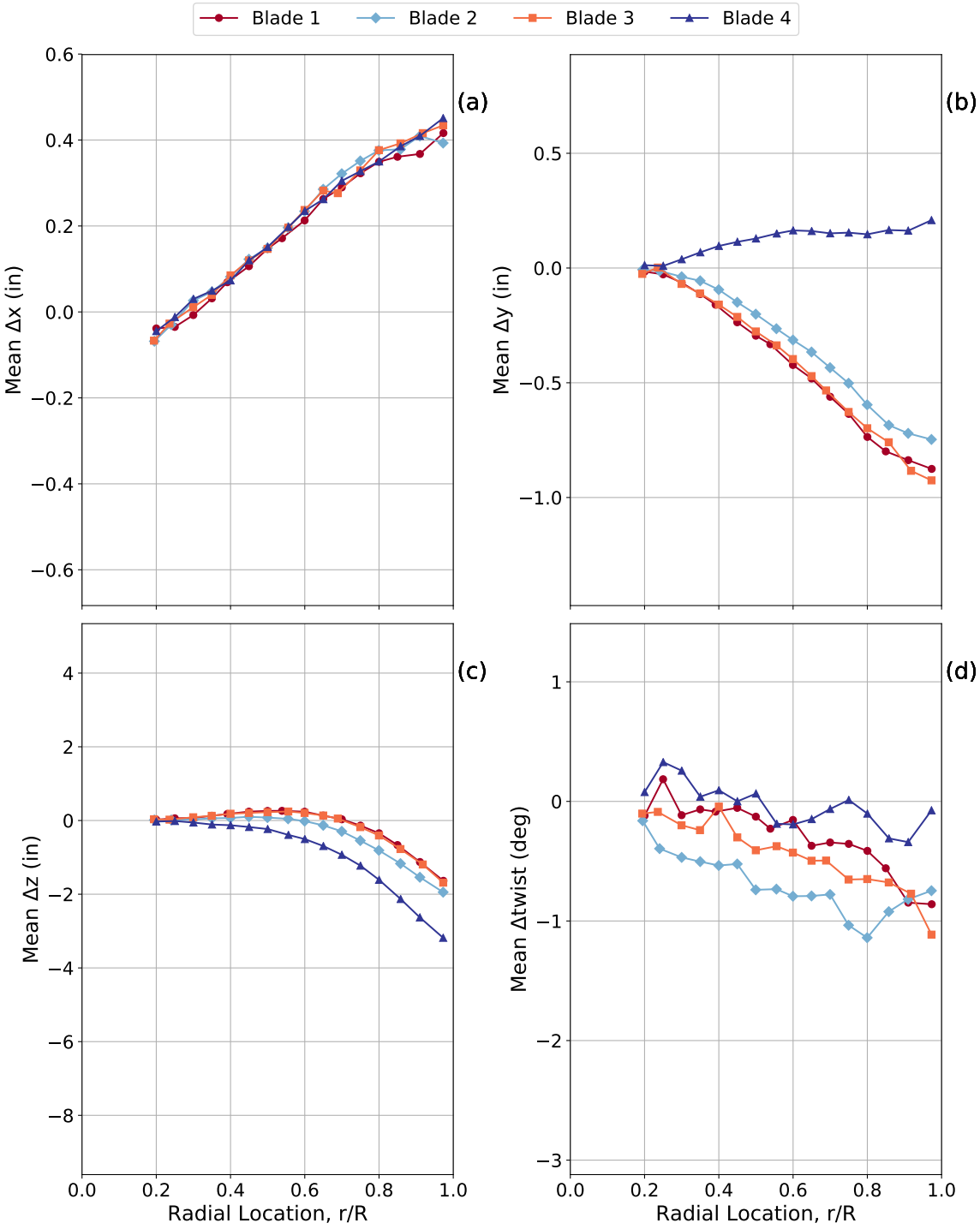


Figure 2.8-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-30. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0384	0.0009	-0.0157	0.0008	0.0212	0.0019	-0.1190	0.0188
1	225	0.2499	-0.0349	0.0012	-0.0277	0.0021	0.0599	0.0043	0.1854	0.0298
1	225	0.2998	-0.0073	0.0010	-0.0637	0.0040	0.0685	0.0080	-0.1154	0.0414
1	225	0.3498	0.0316	0.0009	-0.1136	0.0060	0.1284	0.0112	-0.0667	0.0346
1	225	0.3913	0.0691	0.0020	-0.1598	0.0095	0.1766	0.0174	-0.0857	0.0414
1	225	0.4496	0.1064	0.0014	-0.2365	0.0110	0.2413	0.0211	-0.0542	0.0334
1	225	0.4997	0.1468	0.0018	-0.2950	0.0135	0.2600	0.0265	-0.1276	0.0474
1	225	0.5387	0.1715	0.0017	-0.3321	0.0158	0.2628	0.0291	-0.2283	0.0436
1	225	0.5996	0.2129	0.0023	-0.4226	0.0199	0.2388	0.0374	-0.1553	0.0456
1	225	0.6498	0.2627	0.0023	-0.4814	0.0236	0.1334	0.0410	-0.3711	0.0444
1	225	0.6998	0.2898	0.0024	-0.5611	0.0270	0.0326	0.0473	-0.3435	0.0371
1	225	0.7500	0.3226	0.0024	-0.6357	0.0309	-0.1384	0.0532	-0.3554	0.0384
1	225	0.8001	0.3494	0.0024	-0.7361	0.0353	-0.3459	0.0594	-0.4138	0.0382
1	225	0.8497	0.3610	0.0025	-0.7991	0.0394	-0.6658	0.0657	-0.5591	0.0377
1	225	0.9102	0.3676	0.0026	-0.8374	0.0443	-1.1260	0.0748	-0.8466	0.0416
1	225	0.9734	0.4162	0.0038	-0.8754	0.0498	-1.6365	0.0857	-0.8599	0.0379
2	225	0.1949	-0.0682	0.0012	-0.0072	0.0007	0.0154	0.0021	-0.1620	0.0336
2	225	0.2405	-0.0297	0.0011	-0.0126	0.0025	0.0149	0.0056	-0.3950	0.0414
2	225	0.2999	0.0264	0.0017	-0.0381	0.0049	0.0294	0.0075	-0.4684	0.0739
2	225	0.3498	0.0467	0.0016	-0.0557	0.0068	0.0593	0.0144	-0.5036	0.0489
2	225	0.3998	0.0816	0.0013	-0.0944	0.0124	0.0692	0.0204	-0.5361	0.0457
2	225	0.4496	0.1226	0.0015	-0.1492	0.0145	0.1013	0.0262	-0.5234	0.0668
2	225	0.4995	0.1490	0.0020	-0.2010	0.0167	0.0794	0.0285	-0.7394	0.0524
2	225	0.5551	0.1962	0.0015	-0.2645	0.0203	0.0454	0.0346	-0.7337	0.0549
2	225	0.5996	0.2342	0.0016	-0.3137	0.0234	-0.0168	0.0382	-0.7933	0.0488
2	225	0.6497	0.2854	0.0014	-0.3660	0.0268	-0.1310	0.0434	-0.7907	0.0519
2	225	0.6996	0.3216	0.0020	-0.4343	0.0310	-0.2940	0.0480	-0.7782	0.0500
2	225	0.7495	0.3513	0.0020	-0.5020	0.0340	-0.5451	0.0530	-1.0357	0.0461
2	225	0.7996	0.3759	0.0018	-0.5960	0.0379	-0.8103	0.0578	-1.1401	0.0498
2	225	0.8578	0.3785	0.0020	-0.6847	0.0425	-1.1689	0.0638	-0.9218	0.0525
2	225	0.9100	0.4094	0.0021	-0.7205	0.0468	-1.5396	0.0708	-0.8183	0.0531
2	225	0.9727	0.3930	0.0034	-0.7471	0.0518	-1.9453	0.0786	-0.7468	0.0486
3	225	0.1938	-0.0668	0.0011	-0.0256	0.0006	0.0337	0.0025	-0.1020	0.0202
3	225	0.2357	-0.0271	0.0010	0.0020	0.0012	0.0234	0.0046	-0.0879	0.0300
3	225	0.2995	0.0110	0.0011	-0.0692	0.0027	0.0879	0.0085	-0.1996	0.0469
3	225	0.3493	0.0396	0.0015	-0.1107	0.0045	0.1271	0.0171	-0.2404	0.0370
3	225	0.4000	0.0851	0.0018	-0.1595	0.0071	0.1839	0.0242	-0.0435	0.0390
3	225	0.4497	0.1199	0.0017	-0.2130	0.0074	0.2057	0.0220	-0.3011	0.0627
3	225	0.4997	0.1467	0.0015	-0.2764	0.0095	0.2272	0.0313	-0.4089	0.0408
3	225	0.5556	0.1961	0.0011	-0.3370	0.0124	0.2441	0.0378	-0.3747	0.0402
3	225	0.5995	0.2372	0.0016	-0.3967	0.0133	0.2055	0.0414	-0.4281	0.0412
3	225	0.6498	0.2823	0.0014	-0.4710	0.0160	0.1349	0.0463	-0.4960	0.0416
3	225	0.6890	0.2764	0.0018	-0.5336	0.0180	0.0528	0.0506	-0.4947	0.0461
3	225	0.7495	0.3293	0.0019	-0.6272	0.0212	-0.1796	0.0576	-0.6535	0.0412
3	225	0.7998	0.3764	0.0015	-0.6982	0.0241	-0.4066	0.0623	-0.6496	0.0368
3	225	0.8577	0.3923	0.0017	-0.7593	0.0272	-0.7748	0.0682	-0.6779	0.0400
3	225	0.9178	0.4160	0.0020	-0.8837	0.0309	-1.1935	0.0754	-0.7719	0.0390
3	225	0.9729	0.4342	0.0025	-0.9254	0.0342	-1.6863	0.0832	-1.1141	0.0380
4	225	0.2001	-0.0447	0.0011	0.0123	0.0007	-0.0282	0.0020	0.0779	0.0206
4	225	0.2502	-0.0119	0.0008	0.0091	0.0016	-0.0140	0.0047	0.3284	0.0356
4	225	0.3001	0.0302	0.0011	0.0381	0.0023	-0.0556	0.0076	0.2567	0.0468
4	225	0.3502	0.0493	0.0019	0.0684	0.0050	-0.1093	0.0124	0.0390	0.0569
4	225	0.4002	0.0733	0.0015	0.0962	0.0062	-0.1282	0.0185	0.0931	0.0411
4	225	0.4500	0.1200	0.0016	0.1140	0.0081	-0.1771	0.0219	0.0004	0.0467
4	225	0.5001	0.1511	0.0017	0.1285	0.0094	-0.2320	0.0281	0.0653	0.0488
4	225	0.5560	0.1977	0.0018	0.1503	0.0112	-0.3910	0.0338	-0.1874	0.0438
4	225	0.6001	0.2350	0.0017	0.1639	0.0127	-0.5044	0.0384	-0.1926	0.0446
4	225	0.6501	0.2623	0.0013	0.1611	0.0142	-0.6933	0.0423	-0.1483	0.0505
4	225	0.6999	0.3051	0.0015	0.1511	0.0156	-0.9307	0.0489	-0.0635	0.0504
4	225	0.7500	0.3276	0.0016	0.1542	0.0177	-1.2255	0.0530	0.0121	0.0552
4	225	0.8002	0.3501	0.0014	0.1469	0.0201	-1.6112	0.0600	-0.1026	0.0420
4	225	0.8582	0.3854	0.0014	0.1655	0.0230	-2.1309	0.0674	-0.3095	0.0449
4	225	0.9101	0.4095	0.0017	0.1627	0.0254	-2.6315	0.0752	-0.3406	0.0426
4	225	0.9728	0.4510	0.0021	0.2085	0.0282	-3.1838	0.0846	-0.0750	0.0451

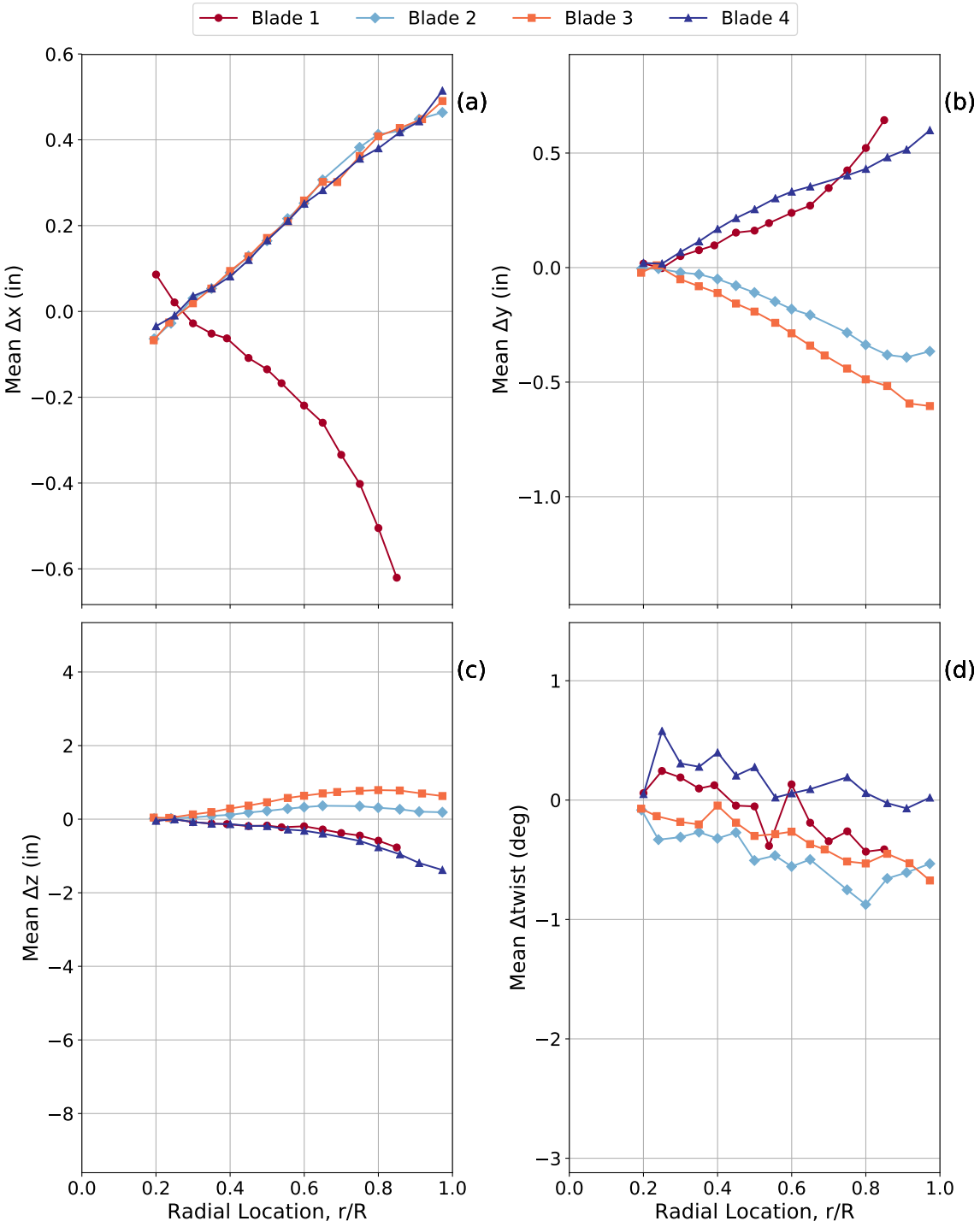


Figure 2.8-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-31. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	0.0860	0.0015	0.0175	0.0013	-0.0374	0.0038	0.0581	0.0302
1	240.12	0.2499	0.0210	0.0020	-0.0023	0.0045	-0.0012	0.0090	0.2441	0.0473
1	240.12	0.2998	-0.0278	0.0016	0.0502	0.0070	-0.0805	0.0144	0.1898	0.0634
1	240.12	0.3498	-0.0517	0.0015	0.0761	0.0112	-0.1182	0.0223	0.0971	0.0574
1	240.12	0.3913	-0.0628	0.0018	0.0970	0.0179	-0.1343	0.0334	0.1243	0.0442
1	240.12	0.4496	-0.1085	0.0019	0.1527	0.0186	-0.1874	0.0365	-0.0463	0.0613
1	240.12	0.4997	-0.1350	0.0022	0.1614	0.0232	-0.1737	0.0455	-0.0530	0.0664
1	240.12	0.5387	-0.1674	0.0025	0.1942	0.0249	-0.2203	0.0508	-0.3836	0.0604
1	240.12	0.5996	-0.2194	0.0028	0.2388	0.0302	-0.1937	0.0610	0.1318	0.0690
1	240.12	0.6498	-0.2594	0.0037	0.2706	0.0336	-0.2802	0.0657	-0.1898	0.0866
1	240.12	0.6998	-0.3343	0.0042	0.3472	0.0383	-0.3771	0.0758	-0.3446	0.1020
1	240.12	0.7500	-0.4021	0.0048	0.4242	0.0424	-0.4460	0.0790	-0.2617	0.1764
1	240.12	0.8001	-0.5050	0.0065	0.5219	0.0470	-0.5855	0.0918	-0.4318	0.2843
1	240.12	0.8497	-0.6206	0.0068	0.6436	0.0556	-0.7689	0.1007	-0.4128	0.2318
2	240.12	0.1949	-0.0638	0.0011	-0.0046	0.0006	0.0177	0.0019	-0.0833	0.0229
2	240.12	0.2405	-0.0275	0.0009	-0.0046	0.0013	0.0185	0.0050	-0.3314	0.0305
2	240.12	0.2999	0.0306	0.0009	-0.0215	0.0025	0.0460	0.0089	-0.3103	0.0486
2	240.12	0.3498	0.0534	0.0013	-0.0293	0.0034	0.0889	0.0125	-0.2684	0.0532
2	240.12	0.3998	0.0903	0.0010	-0.0500	0.0060	0.1174	0.0213	-0.3211	0.0479
2	240.12	0.4496	0.1288	0.0018	-0.0789	0.0078	0.1803	0.0242	-0.2718	0.0465
2	240.12	0.4995	0.1645	0.0019	-0.1090	0.0105	0.2254	0.0324	-0.5059	0.0408
2	240.12	0.5551	0.2164	0.0016	-0.1481	0.0111	0.2848	0.0352	-0.4648	0.0496
2	240.12	0.5996	0.2521	0.0015	-0.1812	0.0134	0.3265	0.0410	-0.5562	0.0492
2	240.12	0.6497	0.3067	0.0016	-0.2070	0.0161	0.3642	0.0488	-0.4977	0.0477
2	240.12	0.7495	0.3824	0.0014	-0.2840	0.0197	0.3532	0.0615	-0.7515	0.0429
2	240.12	0.7996	0.4129	0.0016	-0.3370	0.0223	0.3112	0.0677	-0.8744	0.0378
2	240.12	0.8578	0.4205	0.0016	-0.3810	0.0253	0.2690	0.0753	-0.6568	0.0408
2	240.12	0.9100	0.4481	0.0018	-0.3914	0.0279	0.2034	0.0824	-0.6066	0.0404
2	240.12	0.9727	0.4637	0.0025	-0.3655	0.0314	0.1880	0.0898	-0.5329	0.0455
3	240.12	0.1938	-0.0673	0.0010	-0.0225	0.0006	0.0430	0.0026	-0.0719	0.0256
3	240.12	0.2357	-0.0257	0.0008	0.0101	0.0020	0.0344	0.0049	-0.1346	0.0305
3	240.12	0.2995	0.0190	0.0019	-0.0510	0.0043	0.1292	0.0083	-0.1828	0.0528
3	240.12	0.3493	0.0532	0.0017	-0.0814	0.0056	0.1922	0.0153	-0.2039	0.0407
3	240.12	0.4000	0.0942	0.0019	-0.1107	0.0105	0.2891	0.0220	-0.0459	0.0406
3	240.12	0.4497	0.1280	0.0020	-0.1569	0.0116	0.3683	0.0274	-0.1893	0.0523
3	240.12	0.4997	0.1711	0.0017	-0.1921	0.0111	0.4595	0.0285	-0.3000	0.0621
3	240.12	0.5556	0.2102	0.0019	-0.2409	0.0153	0.5762	0.0373	-0.2849	0.0486
3	240.12	0.5995	0.2584	0.0020	-0.2869	0.0181	0.6366	0.0451	-0.2647	0.0448
3	240.12	0.6498	0.3019	0.0025	-0.3405	0.0211	0.7002	0.0506	-0.3691	0.0473
3	240.12	0.6890	0.3015	0.0021	-0.3836	0.0223	0.7376	0.0540	-0.4136	0.0431
3	240.12	0.7495	0.3622	0.0023	-0.4407	0.0270	0.7695	0.0617	-0.5141	0.0389
3	240.12	0.7998	0.4081	0.0024	-0.4879	0.0305	0.7902	0.0673	-0.5308	0.0415
3	240.12	0.8577	0.4275	0.0025	-0.5169	0.0349	0.7788	0.0743	-0.4497	0.0440
3	240.12	0.9178	0.4481	0.0026	-0.5934	0.0396	0.6973	0.0821	-0.5289	0.0403
3	240.12	0.9729	0.4903	0.0039	-0.6044	0.0438	0.6290	0.0900	-0.6733	0.0473
4	240.12	0.2001	-0.0344	0.0010	0.0198	0.0007	-0.0442	0.0022	0.0501	0.0223
4	240.12	0.2502	-0.0095	0.0008	0.0172	0.0020	-0.0036	0.0041	0.5787	0.0374
4	240.12	0.3001	0.0358	0.0008	0.0680	0.0032	-0.0767	0.0069	0.3069	0.0502
4	240.12	0.3502	0.0535	0.0014	0.1145	0.0056	-0.1238	0.0124	0.2790	0.0491
4	240.12	0.4002	0.0815	0.0013	0.1688	0.0090	-0.1349	0.0177	0.3985	0.0419
4	240.12	0.4500	0.1199	0.0022	0.2160	0.0103	-0.1794	0.0240	0.2054	0.0447
4	240.12	0.5001	0.1656	0.0014	0.2548	0.0126	-0.1880	0.0288	0.2762	0.0424
4	240.12	0.5560	0.2107	0.0018	0.3024	0.0146	-0.2814	0.0351	0.0217	0.0537
4	240.12	0.6001	0.2511	0.0016	0.3315	0.0168	-0.3136	0.0389	0.0564	0.0474
4	240.12	0.6501	0.2826	0.0014	0.3539	0.0194	-0.3918	0.0454	0.0920	0.0480
4	240.12	0.7500	0.3560	0.0014	0.4021	0.0239	-0.5913	0.0556	0.1917	0.0442
4	240.12	0.8002	0.3802	0.0016	0.4309	0.0267	-0.7629	0.0617	0.0595	0.0453
4	240.12	0.8582	0.4177	0.0016	0.4814	0.0300	-0.9555	0.0697	-0.0261	0.0420
4	240.12	0.9101	0.4430	0.0016	0.5150	0.0330	-1.1919	0.0781	-0.0693	0.0402
4	240.12	0.9728	0.5145	0.0023	0.5994	0.0364	-1.3818	0.0879	0.0205	0.0444

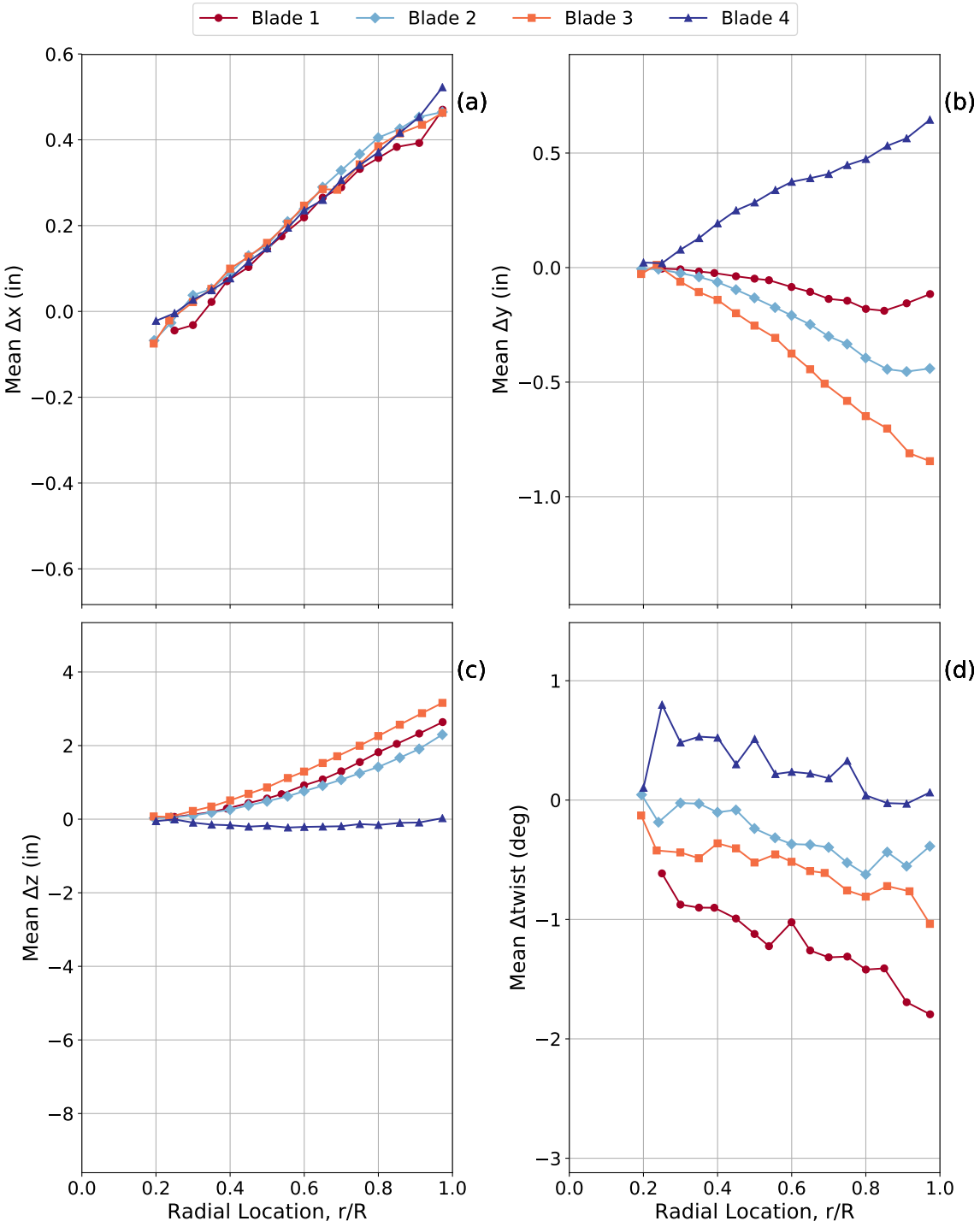


Figure 2.8-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2499	-0.0444	0.0023	-0.0044	0.0022	0.0617	0.0106	-0.6141	0.0949
1	254.88	0.2998	-0.0319	0.0014	-0.0076	0.0043	0.1233	0.0173	-0.8754	0.1352
1	254.88	0.3498	0.0221	0.0013	-0.0171	0.0079	0.1921	0.0308	-0.9007	0.1216
1	254.88	0.3913	0.0704	0.0017	-0.0238	0.0114	0.2891	0.0421	-0.9017	0.1225
1	254.88	0.4496	0.1034	0.0019	-0.0378	0.0153	0.4356	0.0557	-0.9920	0.1247
1	254.88	0.4997	0.1463	0.0027	-0.0484	0.0197	0.5611	0.0689	-1.1213	0.1208
1	254.88	0.5387	0.1752	0.0025	-0.0551	0.0227	0.6801	0.0777	-1.2233	0.1247
1	254.88	0.5996	0.2191	0.0031	-0.0847	0.0275	0.9195	0.0924	-1.0233	0.1223
1	254.88	0.6498	0.2652	0.0031	-0.1060	0.0320	1.0802	0.1056	-1.2595	0.1267
1	254.88	0.6998	0.2893	0.0032	-0.1367	0.0359	1.3009	0.1189	-1.3173	0.1224
1	254.88	0.7500	0.3321	0.0031	-0.1446	0.0403	1.5516	0.1322	-1.3109	0.1243
1	254.88	0.8001	0.3576	0.0035	-0.1803	0.0448	1.8199	0.1463	-1.4195	0.1221
1	254.88	0.8497	0.3834	0.0036	-0.1885	0.0493	2.0470	0.1595	-1.4096	0.1241
1	254.88	0.9102	0.3926	0.0038	-0.1559	0.0551	2.3267	0.1763	-1.6929	0.1207
1	254.88	0.9734	0.4701	0.0057	-0.1155	0.0613	2.6383	0.1934	-1.7944	0.1232
2	254.88	0.1949	-0.0678	0.0021	-0.0057	0.0010	0.0313	0.0037	0.0449	0.0272
2	254.88	0.2405	-0.0266	0.0013	-0.0070	0.0016	0.0409	0.0048	-0.1853	0.0533
2	254.88	0.2999	0.0377	0.0011	-0.0245	0.0033	0.1011	0.0101	-0.0248	0.0645
2	254.88	0.3498	0.0526	0.0012	-0.0407	0.0058	0.1803	0.0165	-0.0299	0.0591
2	254.88	0.3998	0.0902	0.0014	-0.0634	0.0087	0.2582	0.0232	-0.1022	0.0563
2	254.88	0.4496	0.1298	0.0016	-0.0964	0.0108	0.3751	0.0285	-0.0828	0.0587
2	254.88	0.4995	0.1537	0.0016	-0.1323	0.0134	0.4853	0.0351	-0.2382	0.0547
2	254.88	0.5551	0.2094	0.0019	-0.1743	0.0168	0.6210	0.0426	-0.3159	0.0525
2	254.88	0.5996	0.2387	0.0020	-0.2088	0.0194	0.7605	0.0485	-0.3683	0.0536
2	254.88	0.6497	0.2897	0.0021	-0.2483	0.0224	0.9115	0.0546	-0.3735	0.0550
2	254.88	0.6996	0.3284	0.0021	-0.3002	0.0257	1.0731	0.0605	-0.3959	0.0553
2	254.88	0.7495	0.3667	0.0023	-0.3337	0.0290	1.2483	0.0665	-0.5242	0.0542
2	254.88	0.7996	0.4049	0.0024	-0.3946	0.0324	1.4170	0.0718	-0.6230	0.0542
2	254.88	0.8578	0.4255	0.0027	-0.4437	0.0366	1.6701	0.0782	-0.4356	0.0588
2	254.88	0.9100	0.4530	0.0026	-0.4538	0.0404	1.9074	0.0846	-0.5534	0.0549
2	254.88	0.9727	0.4648	0.0036	-0.4406	0.0449	2.2994	0.0926	-0.3866	0.0580
3	254.88	0.1938	-0.0749	0.0028	-0.0280	0.0010	0.0744	0.0044	-0.1290	0.0287
3	254.88	0.2357	-0.0210	0.0011	0.0119	0.0011	0.0618	0.0046	-0.4220	0.0624
3	254.88	0.2995	0.0216	0.0010	-0.0616	0.0030	0.2229	0.0122	-0.4384	0.0758
3	254.88	0.3493	0.0525	0.0011	-0.1067	0.0053	0.3425	0.0201	-0.4869	0.0714
3	254.88	0.4000	0.0997	0.0012	-0.1408	0.0077	0.5094	0.0288	-0.3625	0.0672
3	254.88	0.4497	0.1275	0.0013	-0.1993	0.0103	0.6877	0.0363	-0.4043	0.0719
3	254.88	0.4997	0.1598	0.0018	-0.2533	0.0127	0.8621	0.0449	-0.5228	0.0714
3	254.88	0.5556	0.2048	0.0019	-0.3067	0.0160	1.1186	0.0549	-0.4550	0.0700
3	254.88	0.5995	0.2466	0.0017	-0.3753	0.0185	1.2939	0.0626	-0.5169	0.0711
3	254.88	0.6498	0.2850	0.0018	-0.4438	0.0215	1.5258	0.0720	-0.5943	0.0765
3	254.88	0.6890	0.2835	0.0019	-0.5070	0.0240	1.7096	0.0789	-0.6102	0.0769
3	254.88	0.7495	0.3428	0.0022	-0.5817	0.0279	1.9956	0.0899	-0.7569	0.0746
3	254.88	0.7998	0.3849	0.0023	-0.6483	0.0312	2.2603	0.0998	-0.8085	0.0716
3	254.88	0.8577	0.4148	0.0025	-0.7026	0.0355	2.5677	0.1116	-0.7206	0.0654
3	254.88	0.9178	0.4349	0.0029	-0.8105	0.0401	2.8808	0.1242	-0.7640	0.0651
3	254.88	0.9729	0.4629	0.0041	-0.8450	0.0443	3.1608	0.1356	-1.0371	0.0702
4	254.88	0.2001	-0.0219	0.0022	0.0219	0.0009	-0.0535	0.0037	0.1029	0.0308
4	254.88	0.2502	-0.0042	0.0013	0.0191	0.0018	-0.0065	0.0047	0.7979	0.0718
4	254.88	0.3001	0.0271	0.0011	0.0784	0.0035	-0.0947	0.0108	0.4822	0.0756
4	254.88	0.3502	0.0494	0.0012	0.1287	0.0056	-0.1487	0.0168	0.5312	0.0761
4	254.88	0.4002	0.0770	0.0012	0.1930	0.0088	-0.1648	0.0245	0.5225	0.0720
4	254.88	0.4500	0.1160	0.0013	0.2497	0.0114	-0.2038	0.0304	0.2995	0.0707
4	254.88	0.5001	0.1471	0.0016	0.2844	0.0138	-0.1774	0.0368	0.5110	0.0697
4	254.88	0.5560	0.1951	0.0017	0.3383	0.0172	-0.2274	0.0450	0.2180	0.0715
4	254.88	0.6001	0.2356	0.0020	0.3744	0.0203	-0.2110	0.0506	0.2367	0.0791
4	254.88	0.6501	0.2598	0.0019	0.3903	0.0233	-0.2017	0.0586	0.2219	0.0766
4	254.88	0.6999	0.3065	0.0018	0.4085	0.0268	-0.1926	0.0650	0.1823	0.0822
4	254.88	0.7500	0.3411	0.0019	0.4474	0.0299	-0.1335	0.0722	0.3291	0.0748
4	254.88	0.8002	0.3711	0.0019	0.4740	0.0336	-0.1580	0.0786	0.0394	0.0745
4	254.88	0.8582	0.4166	0.0021	0.5316	0.0375	-0.1005	0.0864	-0.0256	0.0753
4	254.88	0.9101	0.4530	0.0021	0.5644	0.0414	-0.0905	0.0939	-0.0304	0.0762
4	254.88	0.9728	0.5224	0.0031	0.6452	0.0457	0.0264	0.1026	0.0640	0.0774

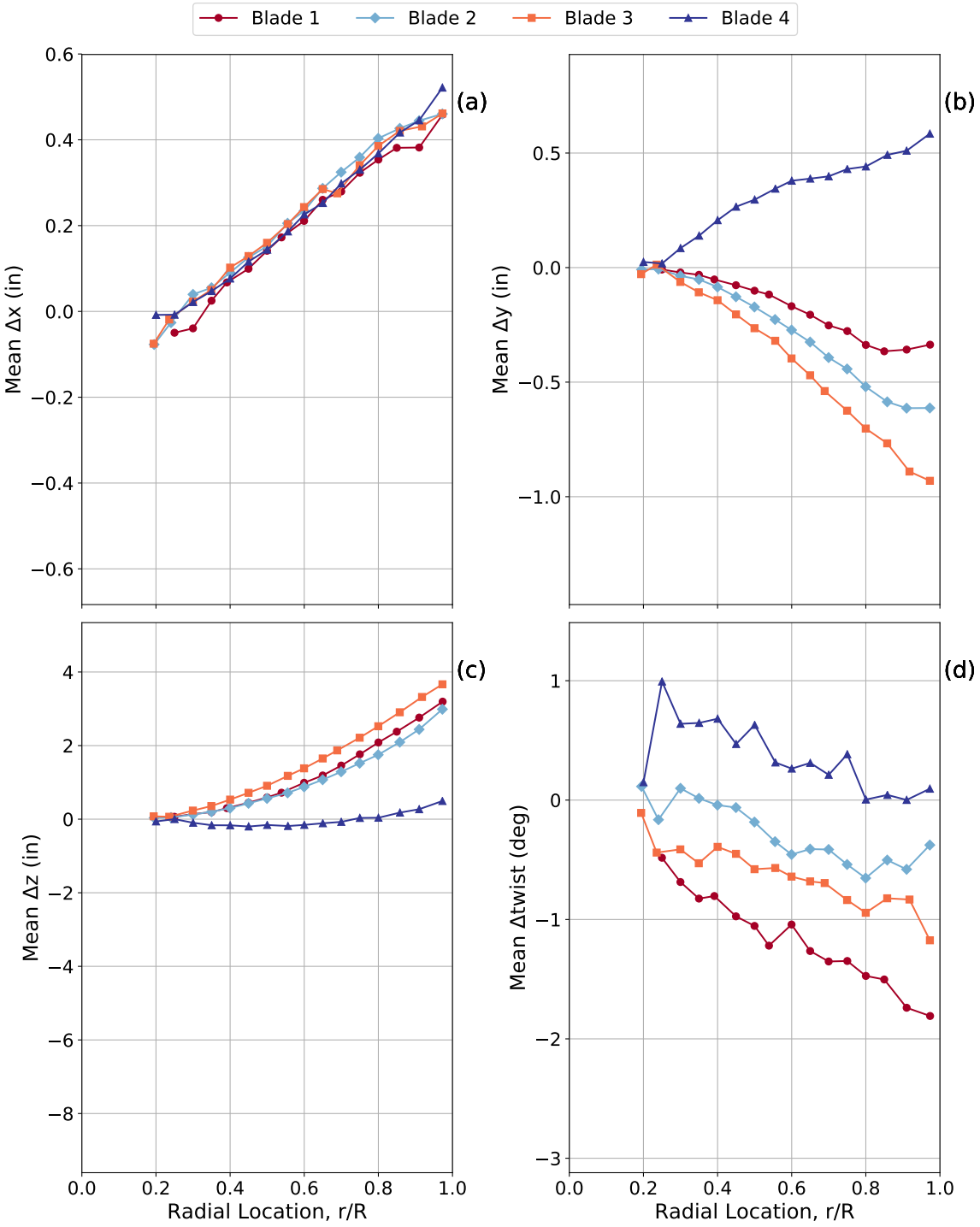


Figure 2.8-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2499	-0.0497	0.0036	-0.0084	0.0031	0.0646	0.0184	-0.4828	0.1324
1	260.16	0.2998	-0.0395	0.0015	-0.0214	0.0061	0.1385	0.0300	-0.6863	0.1882
1	260.16	0.3498	0.0250	0.0016	-0.0316	0.0114	0.1905	0.0525	-0.8251	0.1767
1	260.16	0.3913	0.0675	0.0019	-0.0519	0.0166	0.2997	0.0719	-0.8037	0.1732
1	260.16	0.4496	0.0995	0.0024	-0.0769	0.0228	0.4465	0.0976	-0.9737	0.1720
1	260.16	0.4997	0.1414	0.0026	-0.1009	0.0283	0.5919	0.1195	-1.0540	0.1709
1	260.16	0.5387	0.1725	0.0030	-0.1176	0.0326	0.7196	0.1368	-1.2193	0.1709
1	260.16	0.5996	0.2110	0.0036	-0.1686	0.0396	0.9895	0.1646	-1.0423	0.1714
1	260.16	0.6498	0.2601	0.0039	-0.2058	0.0455	1.1878	0.1874	-1.2642	0.1696
1	260.16	0.6998	0.2795	0.0045	-0.2524	0.0514	1.4568	0.2093	-1.3517	0.1719
1	260.16	0.7500	0.3232	0.0051	-0.2771	0.0574	1.7630	0.2313	-1.3477	0.1693
1	260.16	0.8001	0.3539	0.0056	-0.3376	0.0633	2.0849	0.2527	-1.4728	0.1704
1	260.16	0.8497	0.3813	0.0060	-0.3654	0.0695	2.3782	0.2741	-1.5025	0.1714
1	260.16	0.9102	0.3820	0.0068	-0.3580	0.0769	2.7609	0.3016	-1.7393	0.1710
1	260.16	0.9734	0.4589	0.0096	-0.3365	0.0847	3.1942	0.3326	-1.8083	0.1675
2	260.16	0.1949	-0.0770	0.0043	-0.0086	0.0016	0.0372	0.0071	0.1141	0.0370
2	260.16	0.2405	-0.0262	0.0019	-0.0066	0.0016	0.0459	0.0075	-0.1644	0.0932
2	260.16	0.2999	0.0397	0.0016	-0.0362	0.0050	0.1243	0.0200	0.0986	0.1020
2	260.16	0.3498	0.0552	0.0018	-0.0518	0.0089	0.2018	0.0329	0.0145	0.0998
2	260.16	0.3998	0.0904	0.0019	-0.0847	0.0128	0.2999	0.0466	-0.0422	0.0946
2	260.16	0.4496	0.1257	0.0020	-0.1274	0.0161	0.4311	0.0581	-0.0626	0.0992
2	260.16	0.4995	0.1518	0.0022	-0.1720	0.0197	0.5632	0.0702	-0.1838	0.1004
2	260.16	0.5551	0.2054	0.0022	-0.2267	0.0235	0.7149	0.0840	-0.3481	0.0977
2	260.16	0.5996	0.2342	0.0022	-0.2725	0.0268	0.8772	0.0954	-0.4556	0.0949
2	260.16	0.6497	0.2868	0.0023	-0.3249	0.0305	1.0717	0.1085	-0.4104	0.0954
2	260.16	0.6996	0.3246	0.0024	-0.3928	0.0343	1.2882	0.1214	-0.4137	0.0987
2	260.16	0.7495	0.3591	0.0026	-0.4426	0.0381	1.5207	0.1354	-0.5394	0.0974
2	260.16	0.7996	0.4033	0.0027	-0.5200	0.0417	1.7505	0.1491	-0.6534	0.0978
2	260.16	0.8578	0.4266	0.0030	-0.5861	0.0460	2.0931	0.1652	-0.5024	0.0983
2	260.16	0.9100	0.4445	0.0032	-0.6136	0.0498	2.4402	0.1802	-0.5800	0.0995
2	260.16	0.9727	0.4604	0.0050	-0.6129	0.0541	2.9879	0.1986	-0.3764	0.1002
3	260.16	0.1938	-0.0752	0.0061	-0.0286	0.0019	0.0775	0.0101	-0.1072	0.0503
3	260.16	0.2357	-0.0187	0.0020	0.0129	0.0014	0.0653	0.0082	-0.4396	0.1407
3	260.16	0.2995	0.0230	0.0018	-0.0626	0.0056	0.2336	0.0262	-0.4128	0.1539
3	260.16	0.3493	0.0502	0.0019	-0.1079	0.0100	0.3565	0.0423	-0.5290	0.1446
3	260.16	0.4000	0.1021	0.0019	-0.1424	0.0144	0.5321	0.0598	-0.3919	0.1432
3	260.16	0.4497	0.1290	0.0020	-0.2043	0.0185	0.7165	0.0756	-0.4500	0.1424
3	260.16	0.4997	0.1599	0.0021	-0.2647	0.0227	0.9076	0.0921	-0.5789	0.1407
3	260.16	0.5556	0.2036	0.0022	-0.3194	0.0274	1.1770	0.1107	-0.5687	0.1410
3	260.16	0.5995	0.2432	0.0024	-0.3966	0.0311	1.3816	0.1250	-0.6409	0.1445
3	260.16	0.6498	0.2852	0.0027	-0.4702	0.0353	1.6497	0.1419	-0.6811	0.1426
3	260.16	0.6890	0.2752	0.0028	-0.5390	0.0387	1.8694	0.1547	-0.6949	0.1451
3	260.16	0.7495	0.3407	0.0033	-0.6247	0.0440	2.2140	0.1751	-0.8373	0.1421
3	260.16	0.7998	0.3856	0.0037	-0.7025	0.0484	2.5256	0.1917	-0.9438	0.1453
3	260.16	0.8577	0.4208	0.0042	-0.7672	0.0535	2.9051	0.2115	-0.8226	0.1428
3	260.16	0.9178	0.4312	0.0048	-0.8902	0.0589	3.3213	0.2323	-0.8329	0.1423
3	260.16	0.9729	0.4615	0.0071	-0.9307	0.0639	3.6657	0.2528	-1.1744	0.1401
4	260.16	0.2001	-0.0081	0.0037	0.0245	0.0013	-0.0614	0.0054	0.1497	0.0502
4	260.16	0.2502	-0.0077	0.0024	0.0179	0.0023	0.0014	0.0080	0.9929	0.1104
4	260.16	0.3001	0.0218	0.0018	0.0849	0.0040	-0.0978	0.0153	0.6388	0.1213
4	260.16	0.3502	0.0474	0.0019	0.1392	0.0070	-0.1648	0.0253	0.6462	0.1149
4	260.16	0.4002	0.0766	0.0021	0.2068	0.0103	-0.1672	0.0366	0.6815	0.1128
4	260.16	0.4500	0.1162	0.0019	0.2656	0.0134	-0.1993	0.0470	0.4695	0.1124
4	260.16	0.5001	0.1439	0.0019	0.2966	0.0167	-0.1577	0.0578	0.6297	0.1155
4	260.16	0.5560	0.1864	0.0024	0.3444	0.0200	-0.1869	0.0697	0.3149	0.1154
4	260.16	0.6001	0.2260	0.0022	0.3791	0.0230	-0.1559	0.0792	0.2636	0.1166
4	260.16	0.6501	0.2527	0.0022	0.3883	0.0263	-0.1112	0.0899	0.3113	0.1203
4	260.16	0.6999	0.2981	0.0023	0.3983	0.0297	-0.0739	0.1010	0.2117	0.1168
4	260.16	0.7500	0.3304	0.0025	0.4301	0.0332	0.0331	0.1120	0.3838	0.1164
4	260.16	0.8002	0.3682	0.0025	0.4413	0.0371	0.0387	0.1237	0.0043	0.1154
4	260.16	0.8582	0.4169	0.0027	0.4919	0.0415	0.1785	0.1374	0.0433	0.1171
4	260.16	0.9101	0.4454	0.0028	0.5101	0.0456	0.2701	0.1515	0.0011	0.1165
4	260.16	0.9728	0.5216	0.0037	0.5844	0.0502	0.4938	0.1686	0.0952	0.1176

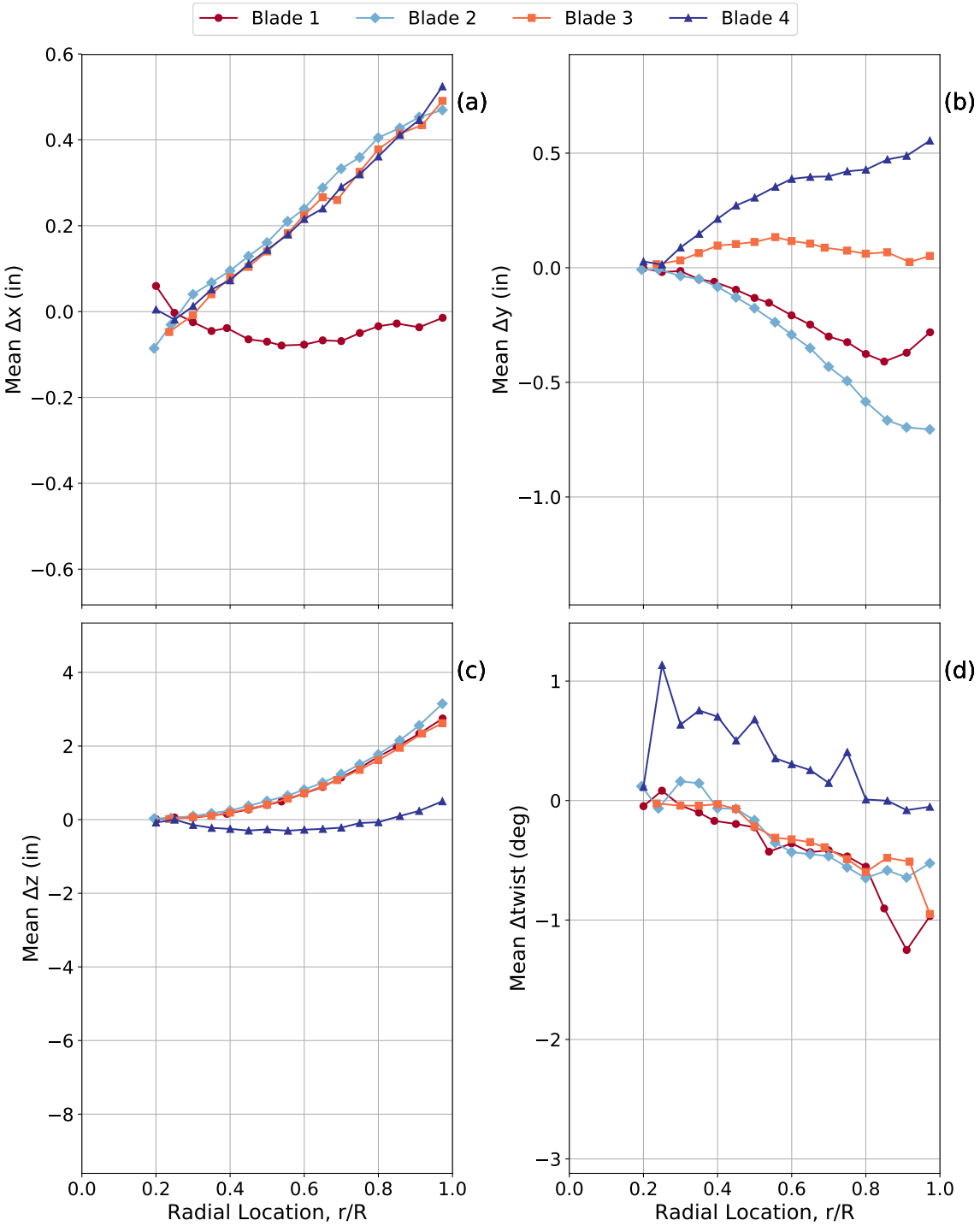


Figure 2.8-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-34. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	0.0597	0.0037	-0.0031	0.0009	0.0123	0.0040	-0.0473	0.0211
1	265.08	0.2499	-0.0029	0.0013	-0.0187	0.0023	0.0586	0.0079	0.0827	0.0576
1	265.08	0.2998	-0.0247	0.0025	-0.0144	0.0052	0.0510	0.0161	-0.0411	0.0534
1	265.08	0.3498	-0.0452	0.0038	-0.0503	0.0076	0.1130	0.0220	-0.1009	0.0707
1	265.08	0.3913	-0.0384	0.0065	-0.0617	0.0122	0.1576	0.0345	-0.1701	0.0543
1	265.08	0.4496	-0.0646	0.0062	-0.0959	0.0149	0.2764	0.0420	-0.1962	0.0694
1	265.08	0.4997	-0.0700	0.0076	-0.1318	0.0202	0.3994	0.0555	-0.2236	0.0668
1	265.08	0.5387	-0.0790	0.0072	-0.1528	0.0230	0.4933	0.0649	-0.4278	0.0620
1	265.08	0.5996	-0.0770	0.0068	-0.2077	0.0291	0.7108	0.0806	-0.3587	0.0759
1	265.08	0.6498	-0.0670	0.0074	-0.2479	0.0335	0.8877	0.0943	-0.4320	0.0562
1	265.08	0.6998	-0.0687	0.0093	-0.3000	0.0401	1.1452	0.1116	-0.4167	0.0592
1	265.08	0.7500	-0.0499	0.0134	-0.3247	0.0469	1.4061	0.1258	-0.4679	0.0850
1	265.08	0.8001	-0.0341	0.0198	-0.3761	0.0553	1.7102	0.1459	-0.5541	0.0680
1	265.08	0.8497	-0.0278	0.0282	-0.4093	0.0632	1.9784	0.1638	-0.9036	0.0760
1	265.08	0.9102	-0.0365	0.0418	-0.3709	0.0744	2.3358	0.1872	-1.2510	0.1039
1	265.08	0.9734	-0.0145	0.0597	-0.2814	0.0917	2.7470	0.2153	-0.9660	0.1257
2	265.08	0.1949	-0.0856	0.0059	-0.0077	0.0021	0.0304	0.0107	0.1197	0.0655
2	265.08	0.2405	-0.0304	0.0040	-0.0077	0.0025	0.0405	0.0115	-0.0657	0.1552
2	265.08	0.2999	0.0404	0.0028	-0.0358	0.0063	0.0974	0.0285	0.1605	0.1735
2	265.08	0.3498	0.0675	0.0026	-0.0491	0.0117	0.1717	0.0481	0.1450	0.1642
2	265.08	0.3998	0.0953	0.0027	-0.0833	0.0165	0.2463	0.0667	-0.0643	0.1601
2	265.08	0.4496	0.1290	0.0026	-0.1290	0.0211	0.3738	0.0825	-0.0692	0.1664
2	265.08	0.4995	0.1608	0.0029	-0.1764	0.0257	0.5055	0.1008	-0.1644	0.1594
2	265.08	0.5551	0.2102	0.0031	-0.2377	0.0310	0.6517	0.1210	-0.3533	0.1611
2	265.08	0.5996	0.2392	0.0033	-0.2921	0.0351	0.8147	0.1376	-0.4316	0.1580
2	265.08	0.6497	0.2884	0.0030	-0.3506	0.0398	1.0057	0.1564	-0.4493	0.1600
2	265.08	0.6996	0.3329	0.0031	-0.4315	0.0446	1.2380	0.1765	-0.4645	0.1559
2	265.08	0.7495	0.3592	0.0033	-0.4937	0.0491	1.5013	0.1962	-0.5590	0.1599
2	265.08	0.7996	0.4051	0.0037	-0.5843	0.0539	1.7708	0.2156	-0.6489	0.1604
2	265.08	0.8578	0.4276	0.0042	-0.6657	0.0593	2.1541	0.2375	-0.5848	0.1579
2	265.08	0.9100	0.4531	0.0046	-0.6963	0.0640	2.5564	0.2569	-0.6436	0.1591
2	265.08	0.9727	0.4695	0.0068	-0.7053	0.0694	3.1499	0.2795	-0.5247	0.1604
3	265.08	0.2357	-0.0475	0.0026	0.0151	0.0015	0.0169	0.0093	-0.0249	0.0925
3	265.08	0.2995	-0.0082	0.0017	0.0322	0.0037	0.0655	0.0184	-0.0425	0.1484
3	265.08	0.3493	0.0405	0.0015	0.0640	0.0069	0.1068	0.0326	-0.0427	0.1490
3	265.08	0.4000	0.0796	0.0017	0.0967	0.0107	0.1914	0.0483	-0.0302	0.1462
3	265.08	0.4497	0.1043	0.0022	0.1033	0.0138	0.2953	0.0616	-0.0703	0.1435
3	265.08	0.4997	0.1401	0.0024	0.1124	0.0174	0.4057	0.0757	-0.2168	0.1457
3	265.08	0.5556	0.1828	0.0022	0.1337	0.0214	0.5709	0.0905	-0.3114	0.1461
3	265.08	0.5995	0.2243	0.0026	0.1165	0.0245	0.7186	0.1026	-0.3246	0.1475
3	265.08	0.6498	0.2663	0.0028	0.1052	0.0286	0.9102	0.1166	-0.3480	0.1481
3	265.08	0.6890	0.2600	0.0028	0.0875	0.0316	1.0746	0.1272	-0.3914	0.1484
3	265.08	0.7495	0.3256	0.0030	0.0748	0.0367	1.3520	0.1444	-0.4904	0.1459
3	265.08	0.7998	0.3777	0.0033	0.0613	0.0407	1.6162	0.1581	-0.5975	0.1476
3	265.08	0.8577	0.4143	0.0034	0.0674	0.0456	1.9525	0.1747	-0.4793	0.1464
3	265.08	0.9178	0.4343	0.0038	0.0248	0.0506	2.3398	0.1922	-0.5111	0.1511
3	265.08	0.9729	0.4908	0.0054	0.0514	0.0552	2.6190	0.2086	-0.9494	0.1510
4	265.08	0.2001	0.0049	0.0098	0.0273	0.0027	-0.0785	0.0121	0.1149	0.0897
4	265.08	0.2502	-0.0188	0.0058	0.0136	0.0037	0.0001	0.0142	1.1342	0.2160
4	265.08	0.3001	0.0128	0.0038	0.0884	0.0078	-0.1443	0.0321	0.6353	0.2184
4	265.08	0.3502	0.0519	0.0037	0.1479	0.0132	-0.2229	0.0507	0.7541	0.2212
4	265.08	0.4002	0.0729	0.0037	0.2136	0.0190	-0.2523	0.0718	0.7017	0.2092
4	265.08	0.4500	0.1114	0.0038	0.2716	0.0241	-0.2968	0.0907	0.5019	0.2106
4	265.08	0.5001	0.1441	0.0037	0.3060	0.0294	-0.2652	0.1104	0.6793	0.2106
4	265.08	0.5560	0.1795	0.0036	0.3533	0.0353	-0.3006	0.1314	0.3533	0.2142
4	265.08	0.6001	0.2157	0.0036	0.3876	0.0400	-0.2731	0.1485	0.3047	0.2125
4	265.08	0.6501	0.2402	0.0034	0.3965	0.0455	-0.2518	0.1685	0.2549	0.2143
4	265.08	0.6999	0.2903	0.0036	0.3983	0.0510	-0.2172	0.1881	0.1475	0.2148
4	265.08	0.7500	0.3198	0.0035	0.4207	0.0564	-0.0916	0.2073	0.4053	0.2141
4	265.08	0.8002	0.3614	0.0037	0.4279	0.0621	-0.0696	0.2266	0.0086	0.2157
4	265.08	0.8582	0.4115	0.0035	0.4723	0.0687	0.0993	0.2486	-0.0014	0.2149
4	265.08	0.9101	0.4464	0.0037	0.4883	0.0747	0.2374	0.2690	-0.0802	0.2144
4	265.08	0.9728	0.5246	0.0051	0.5545	0.0817	0.4991	0.2933	-0.0522	0.2153

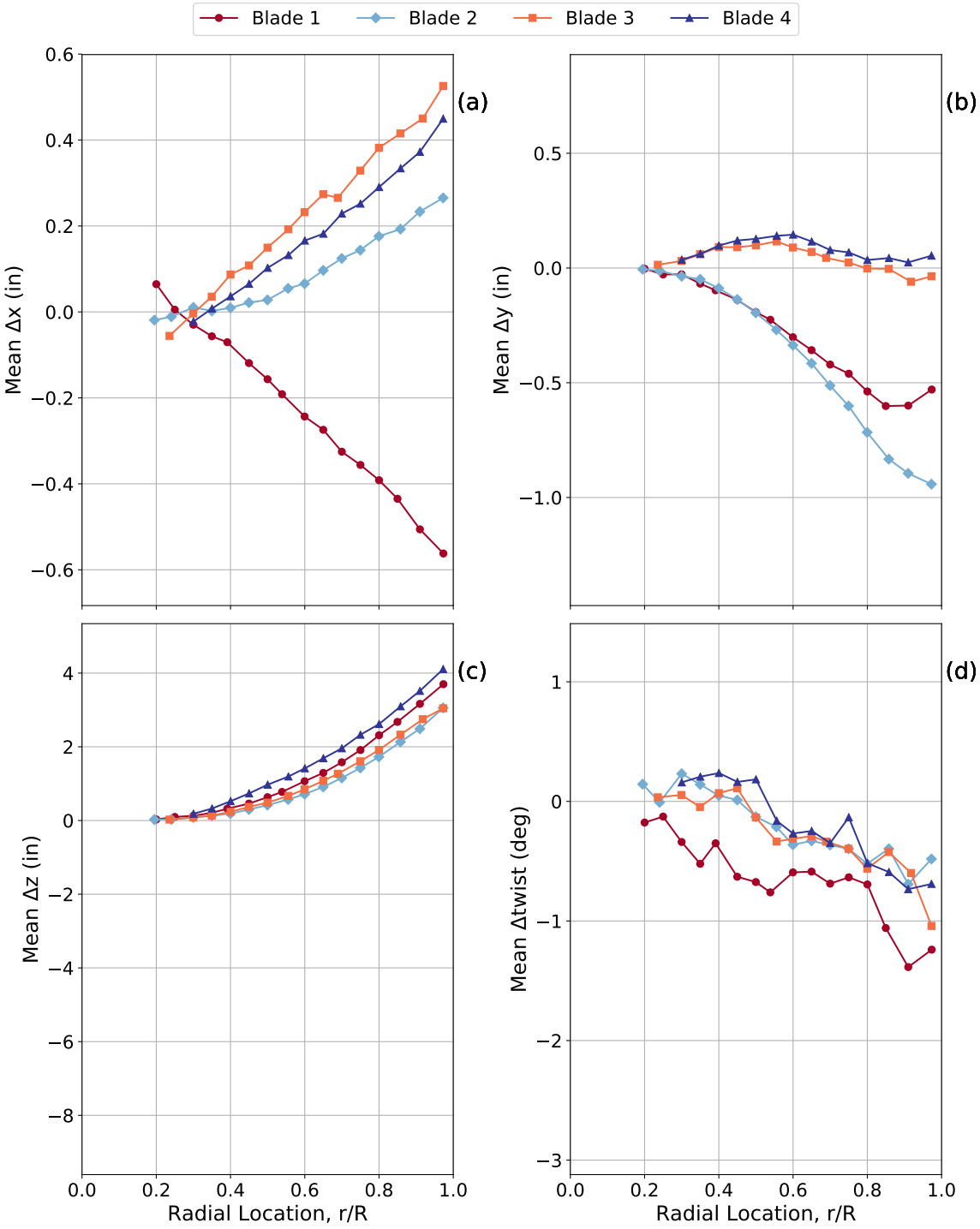


Figure 2.8-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	0.0646	0.0037	-0.0033	0.0015	0.0289	0.0042	-0.1768	0.0335
1	270	0.2499	0.0052	0.0022	-0.0280	0.0033	0.0968	0.0075	-0.1272	0.0482
1	270	0.2998	-0.0297	0.0023	-0.0276	0.0050	0.1279	0.0152	-0.3393	0.0709
1	270	0.3498	-0.0567	0.0045	-0.0680	0.0106	0.2086	0.0219	-0.5219	0.0640
1	270	0.3913	-0.0705	0.0072	-0.0971	0.0136	0.3210	0.0316	-0.3502	0.0848
1	270	0.4496	-0.1190	0.0070	-0.1387	0.0170	0.4587	0.0384	-0.6300	0.0637
1	270	0.4997	-0.1566	0.0060	-0.1920	0.0208	0.6333	0.0481	-0.6745	0.0842
1	270	0.5387	-0.1914	0.0073	-0.2255	0.0242	0.7756	0.0534	-0.7606	0.0653
1	270	0.5996	-0.2434	0.0088	-0.3015	0.0307	1.0660	0.0627	-0.5936	0.0674
1	270	0.6498	-0.2743	0.0111	-0.3580	0.0370	1.2922	0.0798	-0.5873	0.0955
1	270	0.6998	-0.3253	0.0149	-0.4206	0.0419	1.5810	0.0832	-0.6878	0.0842
1	270	0.7500	-0.3561	0.0198	-0.4605	0.0481	1.9121	0.0974	-0.6350	0.0860
1	270	0.8001	-0.3916	0.0274	-0.5379	0.0555	2.3129	0.1099	-0.6944	0.1028
1	270	0.8497	-0.4347	0.0366	-0.6013	0.0643	2.6761	0.1265	-1.0592	0.0925
1	270	0.9102	-0.5059	0.0505	-0.5994	0.0753	3.1649	0.1452	-1.3855	0.1257
1	270	0.9734	-0.5621	0.0720	-0.5296	0.0919	3.6987	0.1713	-1.2399	0.1018
2	270.35	0.1949	-0.0189	0.0102	-0.0055	0.0048	0.0266	0.0153	0.1438	0.0885
2	270.35	0.2405	-0.0112	0.0052	-0.0122	0.0057	0.0294	0.0159	-0.0077	0.2044
2	270.35	0.2999	0.0105	0.0032	-0.0360	0.0128	0.0820	0.0357	0.2311	0.2181
2	270.35	0.3498	0.0024	0.0039	-0.0490	0.0234	0.1286	0.0597	0.1415	0.2098
2	270.35	0.3998	0.0095	0.0049	-0.0881	0.0325	0.1889	0.0797	0.0483	0.2122
2	270.35	0.4496	0.0218	0.0050	-0.1371	0.0417	0.2975	0.1011	0.0119	0.2101
2	270.35	0.4995	0.0279	0.0051	-0.1952	0.0504	0.4186	0.1215	-0.1286	0.2083
2	270.35	0.5551	0.0547	0.0060	-0.2693	0.0604	0.5696	0.1441	-0.2133	0.2109
2	270.35	0.5996	0.0658	0.0066	-0.3364	0.0683	0.7145	0.1628	-0.3627	0.2104
2	270.35	0.6497	0.0967	0.0072	-0.4155	0.0774	0.9110	0.1847	-0.3299	0.2030
2	270.35	0.6996	0.1245	0.0078	-0.5122	0.0867	1.1538	0.2064	-0.3652	0.2092
2	270.35	0.7495	0.1438	0.0088	-0.6012	0.0961	1.4264	0.2278	-0.3961	0.2081
2	270.35	0.7996	0.1761	0.0102	-0.7161	0.1052	1.7255	0.2492	-0.5217	0.2099
2	270.35	0.8578	0.1927	0.0112	-0.8329	0.1157	2.1334	0.2747	-0.3962	0.2105
2	270.35	0.9100	0.2334	0.0134	-0.8949	0.1251	2.4898	0.2975	-0.6926	0.2082
2	270.35	0.9727	0.2653	0.0166	-0.9419	0.1361	3.0562	0.3241	-0.4815	0.2098
3	270	0.2357	-0.0557	0.0059	0.0142	0.0030	0.0252	0.0203	0.0342	0.2001
3	270	0.2995	-0.0036	0.0035	0.0306	0.0066	0.0820	0.0378	0.0538	0.3204
3	270	0.3493	0.0355	0.0022	0.0601	0.0137	0.1352	0.0690	-0.0467	0.3036
3	270	0.4000	0.0871	0.0023	0.0910	0.0207	0.2338	0.0999	0.0690	0.3033
3	270	0.4497	0.1081	0.0032	0.0908	0.0266	0.3710	0.1274	0.1101	0.3021
3	270	0.4997	0.1497	0.0028	0.0986	0.0331	0.4849	0.1550	-0.1340	0.2987
3	270	0.5556	0.1922	0.0035	0.1160	0.0402	0.6679	0.1872	-0.3358	0.2987
3	270	0.5995	0.2321	0.0040	0.0894	0.0455	0.8464	0.2129	-0.3127	0.2955
3	270	0.6498	0.2739	0.0046	0.0701	0.0518	1.0786	0.2421	-0.2899	0.2936
3	270	0.6890	0.2655	0.0051	0.0443	0.0568	1.2674	0.2645	-0.3361	0.2930
3	270	0.7495	0.3289	0.0058	0.0238	0.0645	1.6069	0.2986	-0.3963	0.2979
3	270	0.7998	0.3819	0.0066	-0.0022	0.0709	1.9145	0.3271	-0.5622	0.2982
3	270	0.8577	0.4153	0.0071	-0.0036	0.0781	2.3284	0.3602	-0.4237	0.2938
3	270	0.9178	0.4501	0.0087	-0.0598	0.0857	2.7488	0.3933	-0.5991	0.2996
3	270	0.9729	0.5258	0.0115	-0.0360	0.0929	3.0448	0.4263	-1.0415	0.2960
4	270	0.3001	-0.0223	0.0046	0.0360	0.0096	0.1824	0.0508	0.1587	0.1767
4	270	0.3502	0.0078	0.0037	0.0618	0.0171	0.3249	0.0827	0.2067	0.2333
4	270	0.4002	0.0363	0.0046	0.0977	0.0275	0.5246	0.1263	0.2371	0.2278
4	270	0.4500	0.0653	0.0051	0.1201	0.0360	0.7357	0.1632	0.1628	0.2258
4	270	0.5001	0.1026	0.0063	0.1271	0.0455	0.9717	0.2030	0.1841	0.2273
4	270	0.5560	0.1322	0.0070	0.1402	0.0562	1.1938	0.2476	-0.1628	0.2224
4	270	0.6001	0.1660	0.0078	0.1454	0.0643	1.4151	0.2819	-0.2687	0.2206
4	270	0.6501	0.1819	0.0087	0.1154	0.0738	1.6883	0.3212	-0.2473	0.2215
4	270	0.6999	0.2288	0.0097	0.0784	0.0833	1.9594	0.3619	-0.3485	0.2186
4	270	0.7500	0.2519	0.0109	0.0680	0.0928	2.3275	0.4015	-0.1334	0.2229
4	270	0.8002	0.2905	0.0118	0.0351	0.1024	2.6166	0.4416	-0.5170	0.2233
4	270	0.8582	0.3341	0.0134	0.0434	0.1135	3.0981	0.4887	-0.5910	0.2199
4	270	0.9101	0.3724	0.0150	0.0244	0.1231	3.5166	0.5296	-0.7342	0.2232
4	270	0.9728	0.4496	0.0204	0.0538	0.1351	4.1080	0.5806	-0.6902	0.2278

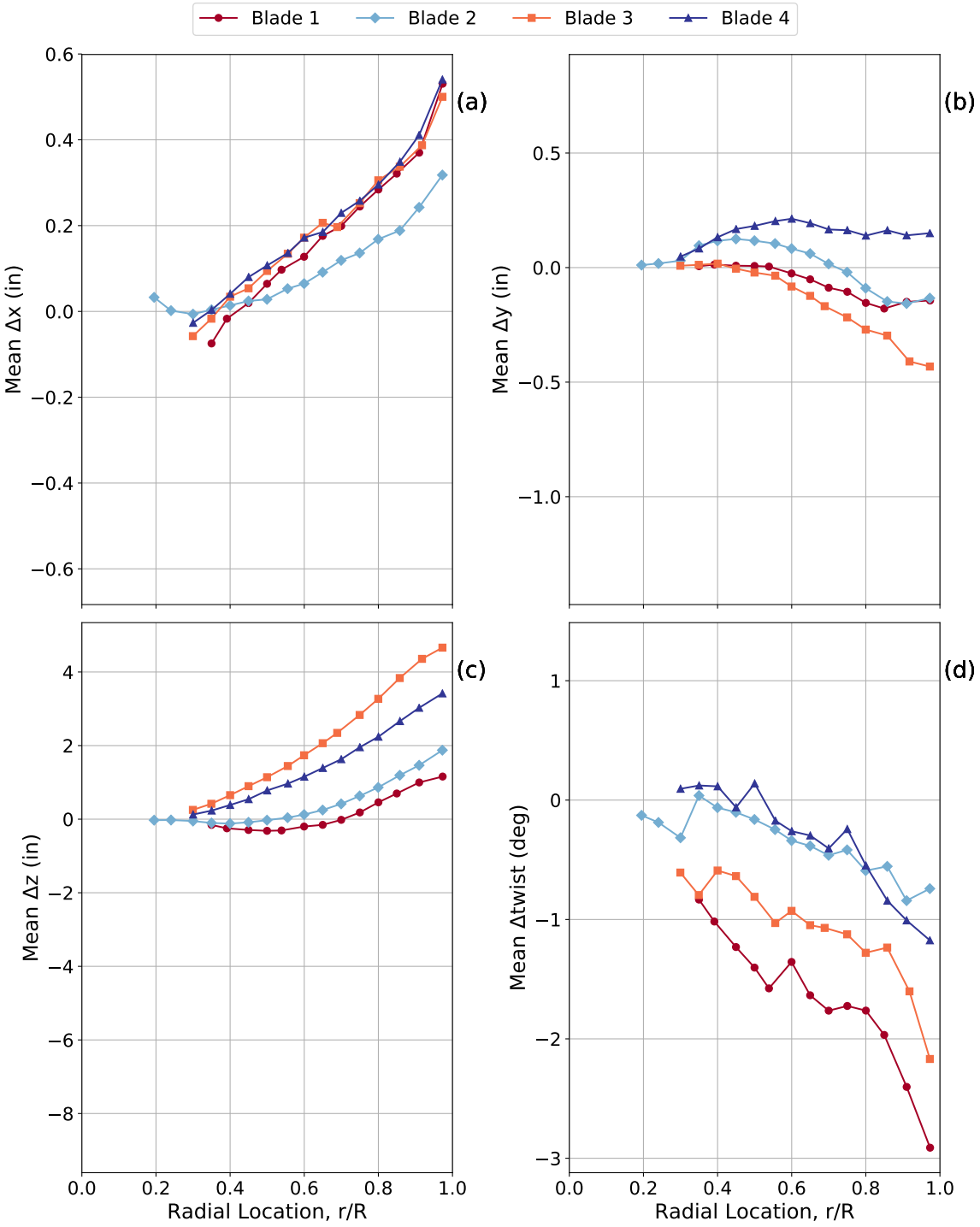


Figure 2.8-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-36. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.3498	-0.0747	0.0075	0.0061	0.0025	-0.1560	0.0453	-0.8333	0.5380
1	274.92	0.3913	-0.0170	0.0028	0.0131	0.0046	-0.2486	0.0717	-1.0171	0.6566
1	274.92	0.4496	0.0195	0.0025	0.0082	0.0040	-0.2938	0.0765	-1.2308	0.6493
1	274.92	0.4997	0.0644	0.0030	0.0072	0.0040	-0.3171	0.0815	-1.4029	0.6420
1	274.92	0.5387	0.0972	0.0032	0.0044	0.0045	-0.3070	0.0873	-1.5771	0.6495
1	274.92	0.5996	0.1274	0.0032	-0.0255	0.0052	-0.2002	0.0943	-1.3556	0.6485
1	274.92	0.6498	0.1760	0.0034	-0.0513	0.0059	-0.1543	0.1010	-1.6349	0.6518
1	274.92	0.6998	0.1991	0.0035	-0.0879	0.0073	-0.0184	0.1064	-1.7638	0.6487
1	274.92	0.7500	0.2445	0.0033	-0.1057	0.0094	0.1827	0.1122	-1.7244	0.6455
1	274.92	0.8001	0.2841	0.0035	-0.1541	0.0126	0.4580	0.1188	-1.7632	0.6484
1	274.92	0.8497	0.3212	0.0037	-0.1788	0.0155	0.6978	0.1250	-1.9671	0.6474
1	274.92	0.9102	0.3700	0.0038	-0.1494	0.0193	0.9978	0.1346	-2.4023	0.6470
1	274.92	0.9734	0.5307	0.0041	-0.1437	0.0224	1.1583	0.1466	-2.9115	0.6564
2	274.92	0.1949	0.0328	0.0029	0.0109	0.0023	-0.0272	0.0083	-0.1277	0.0220
2	274.92	0.2405	0.0018	0.0018	0.0179	0.0044	-0.0230	0.0122	-0.1872	0.0416
2	274.92	0.2999	-0.0063	0.0017	0.0302	0.0070	-0.0506	0.0194	-0.3157	0.0541
2	274.92	0.3498	0.0039	0.0034	0.0959	0.0213	-0.1035	0.0466	0.0377	0.0443
2	274.92	0.3998	0.0139	0.0032	0.1169	0.0266	-0.1192	0.0568	-0.0634	0.0452
2	274.92	0.4496	0.0243	0.0034	0.1250	0.0317	-0.0856	0.0653	-0.1024	0.0462
2	274.92	0.4995	0.0282	0.0038	0.1173	0.0365	-0.0269	0.0746	-0.1623	0.0529
2	274.92	0.5551	0.0530	0.0045	0.1048	0.0411	0.0410	0.0833	-0.2472	0.0410
2	274.92	0.5996	0.0648	0.0057	0.0828	0.0459	0.1251	0.0925	-0.3390	0.0482
2	274.92	0.6497	0.0914	0.0069	0.0610	0.0506	0.2482	0.1014	-0.3836	0.0456
2	274.92	0.6996	0.1190	0.0085	0.0161	0.0553	0.4159	0.1115	-0.4626	0.0475
2	274.92	0.7495	0.1361	0.0099	-0.0201	0.0602	0.6310	0.1199	-0.4171	0.0471
2	274.92	0.7996	0.1683	0.0124	-0.0898	0.0648	0.8638	0.1290	-0.5910	0.0512
2	274.92	0.8578	0.1884	0.0145	-0.1482	0.0707	1.1933	0.1396	-0.5550	0.0400
2	274.92	0.9100	0.2425	0.0182	-0.1569	0.0750	1.4644	0.1496	-0.8421	0.0490
2	274.92	0.9727	0.3179	0.0228	-0.1333	0.0803	1.8749	0.1605	-0.7417	0.0484
3	274.92	0.2995	-0.0576	0.0118	0.0081	0.0122	0.2524	0.1270	-0.6070	0.4023
3	274.92	0.3493	-0.0170	0.0075	0.0120	0.0222	0.4184	0.2020	-0.7956	0.5263
3	274.92	0.4000	0.0343	0.0101	0.0172	0.0367	0.6522	0.3064	-0.5899	0.5095
3	274.92	0.4497	0.0539	0.0117	-0.0047	0.0494	0.8968	0.3974	-0.6365	0.5297
3	274.92	0.4997	0.0943	0.0144	-0.0216	0.0626	1.1402	0.4964	-0.8103	0.5046
3	274.92	0.5556	0.1344	0.0165	-0.0355	0.0771	1.4444	0.6021	-1.0297	0.5108
3	274.92	0.5995	0.1719	0.0190	-0.0826	0.0880	1.7369	0.6859	-0.9278	0.5087
3	274.92	0.6498	0.2065	0.0220	-0.1234	0.1008	2.0652	0.7826	-1.0478	0.5064
3	274.92	0.6890	0.1966	0.0240	-0.1685	0.1107	2.3452	0.8559	-1.0704	0.5148
3	274.92	0.7495	0.2523	0.0283	-0.2173	0.1257	2.8325	0.9723	-1.1244	0.5102
3	274.92	0.7998	0.3056	0.0319	-0.2706	0.1379	3.2706	1.0690	-1.2788	0.5070
3	274.92	0.8577	0.3373	0.0355	-0.2969	0.1516	3.8357	1.1794	-1.2352	0.5102
3	274.92	0.9178	0.3873	0.0411	-0.4099	0.1665	4.3572	1.2958	-1.6020	0.5078
3	274.92	0.9729	0.5002	0.0515	-0.4320	0.1813	4.6621	1.4015	-2.1685	0.5182
4	274.92	0.3001	-0.0266	0.0068	0.0481	0.0130	0.1257	0.1060	0.0946	0.3480
4	274.92	0.3502	0.0035	0.0046	0.0834	0.0234	0.2334	0.1751	0.1222	0.4592
4	274.92	0.4002	0.0410	0.0072	0.1325	0.0380	0.3858	0.2701	0.1151	0.4372
4	274.92	0.4500	0.0801	0.0085	0.1680	0.0500	0.5437	0.3475	-0.0613	0.4439
4	274.92	0.5001	0.1072	0.0106	0.1821	0.0626	0.7807	0.4320	0.1387	0.4385
4	274.92	0.5560	0.1362	0.0117	0.2029	0.0769	0.9662	0.5252	-0.1724	0.4345
4	274.92	0.6001	0.1720	0.0133	0.2132	0.0880	1.1547	0.5997	-0.2606	0.4370
4	274.92	0.6501	0.1851	0.0153	0.1937	0.1006	1.3914	0.6827	-0.2968	0.4353
4	274.92	0.6999	0.2296	0.0178	0.1664	0.1133	1.6297	0.7661	-0.4052	0.4397
4	274.92	0.7500	0.2579	0.0199	0.1631	0.1253	1.9553	0.8498	-0.2428	0.4413
4	274.92	0.8002	0.2956	0.0222	0.1395	0.1377	2.2408	0.9342	-0.5478	0.4404
4	274.92	0.8582	0.3488	0.0252	0.1626	0.1514	2.6645	1.0318	-0.8428	0.4389
4	274.92	0.9101	0.4110	0.0287	0.1407	0.1640	3.0267	1.1189	-1.0078	0.4392
4	274.92	0.9728	0.5405	0.0375	0.1502	0.1798	3.4177	1.2232	-1.1746	0.4408

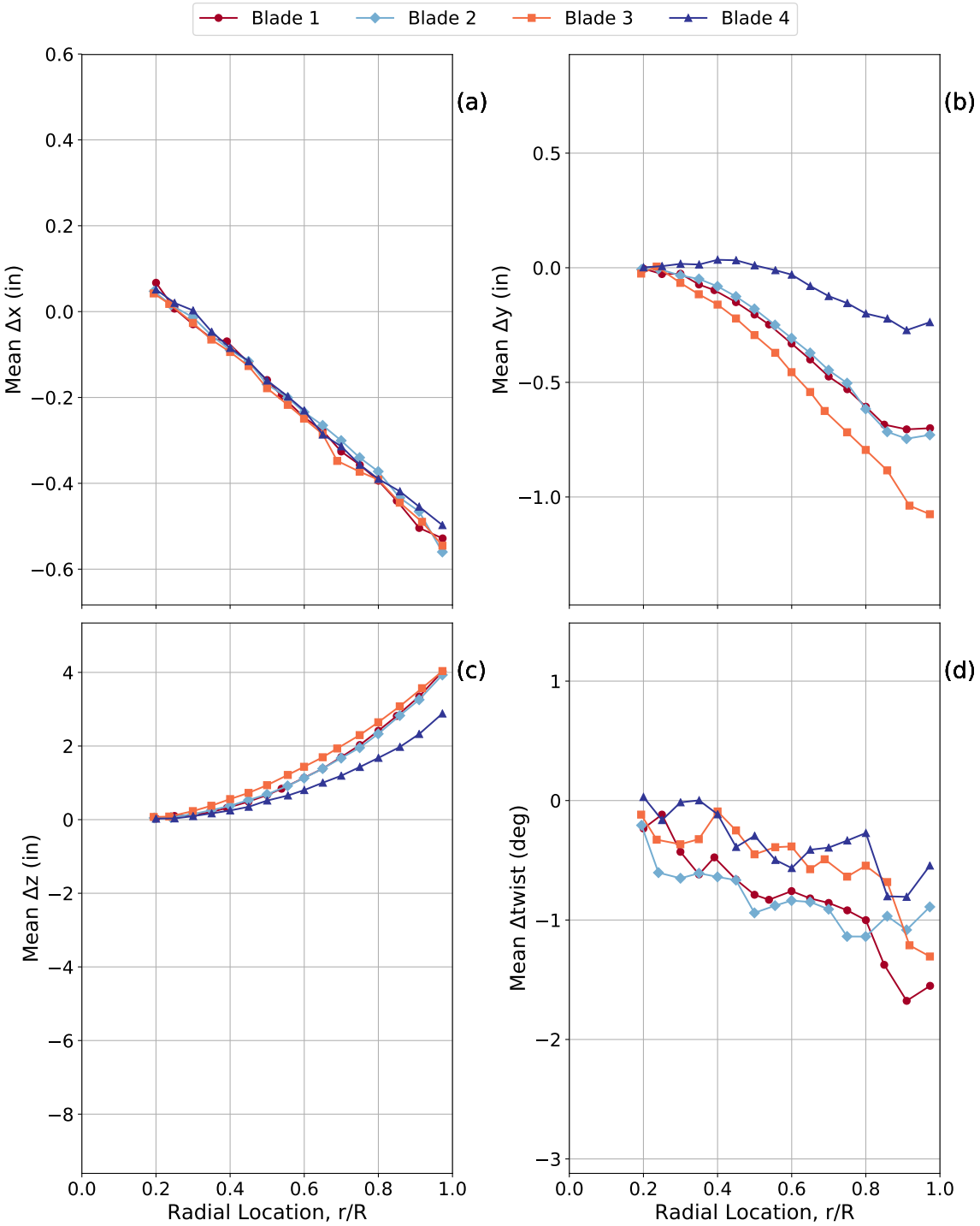


Figure 2.8-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0672	0.0023	-0.0040	0.0009	0.0289	0.0033	-0.2338	0.0317
1	279.84	0.2499	0.0068	0.0024	-0.0276	0.0032	0.1001	0.0109	-0.1177	0.0539
1	279.84	0.2998	-0.0296	0.0014	-0.0260	0.0065	0.1232	0.0129	-0.4293	0.0689
1	279.84	0.3498	-0.0623	0.0015	-0.0731	0.0086	0.2103	0.0199	-0.6187	0.0646
1	279.84	0.3913	-0.0693	0.0017	-0.0977	0.0151	0.3171	0.0306	-0.4756	0.0567
1	279.84	0.4496	-0.1193	0.0036	-0.1502	0.0211	0.4895	0.0393	-0.6614	0.0556
1	279.84	0.4997	-0.1594	0.0051	-0.2042	0.0226	0.6681	0.0470	-0.7886	0.0959
1	279.84	0.5387	-0.1960	0.0035	-0.2476	0.0282	0.8398	0.0542	-0.8305	0.0672
1	279.84	0.5996	-0.2462	0.0028	-0.3307	0.0323	1.1367	0.0605	-0.7581	0.0563
1	279.84	0.6498	-0.2778	0.0029	-0.4002	0.0370	1.3864	0.0687	-0.8191	0.0578
1	279.84	0.6998	-0.3259	0.0030	-0.4745	0.0408	1.6994	0.0777	-0.8570	0.0563
1	279.84	0.7500	-0.3572	0.0034	-0.5300	0.0463	2.0274	0.0878	-0.9191	0.0537
1	279.84	0.8001	-0.3940	0.0032	-0.6064	0.0507	2.4148	0.0967	-1.0012	0.0598
1	279.84	0.8497	-0.4406	0.0034	-0.6844	0.0559	2.8174	0.1067	-1.3751	0.0689
1	279.84	0.9102	-0.5040	0.0041	-0.7050	0.0620	3.3458	0.1169	-1.6767	0.0763
1	279.84	0.9734	-0.5283	0.0059	-0.6999	0.0678	4.0285	0.1359	-1.5509	0.1065
2	279.84	0.1949	0.0474	0.0015	-0.0074	0.0008	0.0473	0.0059	-0.2072	0.0517
2	279.84	0.2405	0.0155	0.0020	-0.0049	0.0031	0.0606	0.0113	-0.6035	0.1034
2	279.84	0.2999	-0.0136	0.0009	-0.0339	0.0045	0.1521	0.0246	-0.6505	0.1315
2	279.84	0.3498	-0.0555	0.0014	-0.0490	0.0084	0.2591	0.0354	-0.6085	0.1544
2	279.84	0.3998	-0.0894	0.0030	-0.0811	0.0132	0.3759	0.0578	-0.6391	0.1110
2	279.84	0.4496	-0.1159	0.0030	-0.1255	0.0170	0.5315	0.0759	-0.6661	0.0981
2	279.84	0.4995	-0.1692	0.0036	-0.1796	0.0201	0.6880	0.0906	-0.9404	0.0973
2	279.84	0.5551	-0.2005	0.0032	-0.2499	0.0219	0.9179	0.1088	-0.8797	0.0790
2	279.84	0.5996	-0.2342	0.0033	-0.3072	0.0263	1.1271	0.1225	-0.8375	0.1055
2	279.84	0.6497	-0.2650	0.0034	-0.3716	0.0290	1.3855	0.1409	-0.8489	0.0840
2	279.84	0.6996	-0.3005	0.0040	-0.4468	0.0322	1.6711	0.1583	-0.9096	0.0878
2	279.84	0.7495	-0.3401	0.0042	-0.5034	0.0359	1.9544	0.1731	-1.1377	0.1092
2	279.84	0.7996	-0.3724	0.0054	-0.6161	0.0397	2.3303	0.1933	-1.1386	0.1183
2	279.84	0.8578	-0.4338	0.0056	-0.7157	0.0437	2.8278	0.2162	-0.9681	0.1093
2	279.84	0.9100	-0.4656	0.0061	-0.7458	0.0479	3.2577	0.2384	-1.0830	0.0958
2	279.84	0.9727	-0.5599	0.0082	-0.7293	0.0527	3.9309	0.2619	-0.8900	0.1348
3	279.84	0.1938	0.0423	0.0024	-0.0255	0.0008	0.0733	0.0047	-0.1177	0.0558
3	279.84	0.2357	0.0179	0.0025	0.0052	0.0041	0.0839	0.0104	-0.3276	0.0652
3	279.84	0.2995	-0.0263	0.0018	-0.0660	0.0071	0.2322	0.0187	-0.3660	0.1182
3	279.84	0.3493	-0.0652	0.0014	-0.1158	0.0099	0.3778	0.0291	-0.3234	0.0862
3	279.84	0.4000	-0.0941	0.0030	-0.1608	0.0187	0.5588	0.0452	-0.0913	0.0759
3	279.84	0.4497	-0.1268	0.0030	-0.2213	0.0234	0.7267	0.0465	-0.2501	0.0920
3	279.84	0.4997	-0.1785	0.0029	-0.2937	0.0269	0.9365	0.0623	-0.4501	0.0653
3	279.84	0.5556	-0.2172	0.0043	-0.3711	0.0320	1.2143	0.0680	-0.3904	0.1265
3	279.84	0.5995	-0.2492	0.0029	-0.4556	0.0367	1.4366	0.0696	-0.3844	0.1092
3	279.84	0.6498	-0.2855	0.0029	-0.5421	0.0416	1.6955	0.0810	-0.5747	0.0861
3	279.84	0.6890	-0.3478	0.0038	-0.6249	0.0454	1.9333	0.0850	-0.4917	0.1005
3	279.84	0.7495	-0.3729	0.0038	-0.7178	0.0514	2.2966	0.0976	-0.6368	0.0918
3	279.84	0.7998	-0.3916	0.0037	-0.7948	0.0559	2.6449	0.1039	-0.5454	0.0857
3	279.84	0.8577	-0.4451	0.0043	-0.8840	0.0618	3.0785	0.1132	-0.6823	0.0979
3	279.84	0.9178	-0.4897	0.0048	-1.0379	0.0682	3.5701	0.1209	-1.2116	0.1241
3	279.84	0.9729	-0.5452	0.0065	-1.0752	0.0746	4.0362	0.1306	-1.3054	0.0927
4	279.84	0.2001	0.0513	0.0014	0.0016	0.0012	0.0273	0.0048	0.0296	0.0665
4	279.84	0.2502	0.0202	0.0011	0.0069	0.0039	0.0337	0.0124	-0.1636	0.0911
4	279.84	0.3001	0.0027	0.0020	0.0169	0.0061	0.0949	0.0162	-0.0148	0.1448
4	279.84	0.3502	-0.0470	0.0033	0.0140	0.0109	0.1705	0.0295	0.0015	0.1561
4	279.84	0.4002	-0.0848	0.0026	0.0347	0.0173	0.2490	0.0435	-0.1154	0.0911
4	279.84	0.4500	-0.1155	0.0028	0.0325	0.0216	0.3487	0.0548	-0.3887	0.1071
4	279.84	0.5001	-0.1607	0.0026	0.0103	0.0224	0.5185	0.0566	-0.2952	0.1187
4	279.84	0.5560	-0.1979	0.0025	-0.0108	0.0279	0.6555	0.0717	-0.4973	0.1099
4	279.84	0.6001	-0.2304	0.0039	-0.0303	0.0290	0.8034	0.0753	-0.5652	0.1417
4	279.84	0.6501	-0.2865	0.0035	-0.0798	0.0342	1.0034	0.0896	-0.4116	0.1266
4	279.84	0.6999	-0.3139	0.0030	-0.1238	0.0384	1.1931	0.0993	-0.3939	0.1575
4	279.84	0.7500	-0.3568	0.0037	-0.1546	0.0432	1.4303	0.1127	-0.3347	0.1027
4	279.84	0.8002	-0.3900	0.0039	-0.2000	0.0474	1.6779	0.1205	-0.2717	0.1224
4	279.84	0.8582	-0.4189	0.0041	-0.2221	0.0526	1.9757	0.1356	-0.8016	0.1097
4	279.84	0.9101	-0.4545	0.0047	-0.2725	0.0577	2.3259	0.1435	-0.8064	0.1282
4	279.84	0.9728	-0.4974	0.0065	-0.2377	0.0648	2.8821	0.1569	-0.5444	0.1357

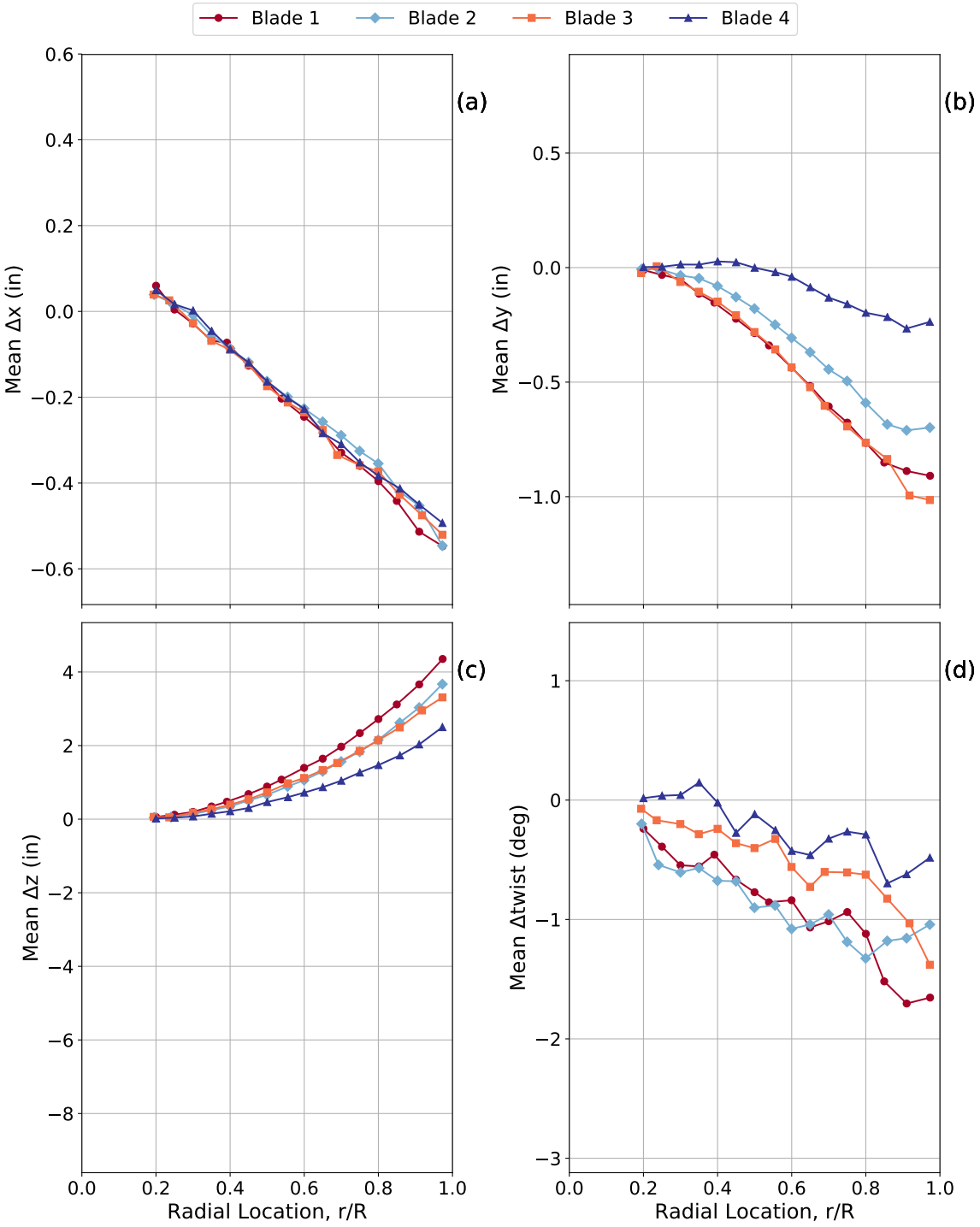


Figure 2.8-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$ NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-38. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0599	0.0021	-0.0109	0.0011	0.0609	0.0059	-0.2398	0.0331
1	285.12	0.2499	0.0043	0.0015	-0.0319	0.0023	0.1209	0.0115	-0.3898	0.0518
1	285.12	0.2998	-0.0284	0.0021	-0.0504	0.0051	0.1974	0.0207	-0.5458	0.0711
1	285.12	0.3498	-0.0682	0.0018	-0.1139	0.0079	0.3457	0.0314	-0.5555	0.0553
1	285.12	0.3913	-0.0728	0.0039	-0.1529	0.0121	0.4743	0.0466	-0.4570	0.0414
1	285.12	0.4496	-0.1264	0.0018	-0.2232	0.0145	0.6811	0.0555	-0.6661	0.0356
1	285.12	0.4997	-0.1637	0.0029	-0.2857	0.0176	0.8866	0.0663	-0.7715	0.0452
1	285.12	0.5387	-0.2032	0.0027	-0.3397	0.0191	1.0752	0.0717	-0.8557	0.0653
1	285.12	0.5996	-0.2456	0.0027	-0.4364	0.0236	1.3949	0.0809	-0.8391	0.0452
1	285.12	0.6498	-0.2826	0.0030	-0.5168	0.0267	1.6439	0.0933	-1.0672	0.0605
1	285.12	0.6998	-0.3291	0.0031	-0.6060	0.0307	1.9692	0.1012	-1.0147	0.0784
1	285.12	0.7500	-0.3601	0.0031	-0.6766	0.0336	2.3385	0.1125	-0.9378	0.0539
1	285.12	0.8001	-0.3956	0.0036	-0.7653	0.0373	2.7213	0.1204	-1.1199	0.0587
1	285.12	0.8497	-0.4417	0.0047	-0.8510	0.0413	3.1180	0.1278	-1.5186	0.0764
1	285.12	0.9102	-0.5134	0.0049	-0.8879	0.0458	3.6617	0.1427	-1.7040	0.0663
1	285.12	0.9734	-0.5471	0.0056	-0.9088	0.0507	4.3541	0.1546	-1.6542	0.0708
2	285.12	0.1949	0.0392	0.0025	-0.0068	0.0011	0.0455	0.0038	-0.1994	0.0362
2	285.12	0.2405	0.0205	0.0025	-0.0056	0.0034	0.0540	0.0100	-0.5428	0.0495
2	285.12	0.2999	-0.0086	0.0017	-0.0344	0.0042	0.1396	0.0191	-0.6052	0.0752
2	285.12	0.3498	-0.0559	0.0014	-0.0466	0.0051	0.2431	0.0256	-0.5684	0.0924
2	285.12	0.3998	-0.0860	0.0060	-0.0807	0.0109	0.3461	0.0443	-0.6757	0.0984
2	285.12	0.4496	-0.1183	0.0050	-0.1282	0.0116	0.5075	0.0500	-0.6802	0.0636
2	285.12	0.4995	-0.1626	0.0059	-0.1792	0.0150	0.6596	0.0574	-0.9013	0.0936
2	285.12	0.5551	-0.1994	0.0042	-0.2494	0.0183	0.8881	0.0656	-0.8820	0.0729
2	285.12	0.5996	-0.2262	0.0052	-0.3067	0.0207	1.0597	0.0732	-1.0787	0.0752
2	285.12	0.6497	-0.2572	0.0042	-0.3694	0.0237	1.2988	0.0835	-1.0418	0.0706
2	285.12	0.6996	-0.2889	0.0047	-0.4440	0.0266	1.5658	0.0905	-0.9586	0.0864
2	285.12	0.7495	-0.3254	0.0037	-0.4952	0.0299	1.8331	0.0941	-1.1876	0.0674
2	285.12	0.7996	-0.3546	0.0044	-0.5903	0.0337	2.1526	0.1020	-1.3254	0.0588
2	285.12	0.8578	-0.4204	0.0059	-0.6841	0.0380	2.6206	0.1116	-1.1795	0.0703
2	285.12	0.9100	-0.4527	0.0042	-0.7104	0.0414	3.0325	0.1193	-1.1565	0.0677
2	285.12	0.9727	-0.5460	0.0062	-0.6983	0.0461	3.6706	0.1369	-1.0421	0.1033
3	285.12	0.1938	0.0393	0.0015	-0.0241	0.0005	0.0616	0.0024	-0.0726	0.0437
3	285.12	0.2357	0.0258	0.0017	0.0058	0.0021	0.0489	0.0089	-0.1688	0.0439
3	285.12	0.2995	-0.0273	0.0018	-0.0628	0.0038	0.1754	0.0123	-0.2010	0.0907
3	285.12	0.3493	-0.0685	0.0021	-0.1053	0.0052	0.2696	0.0232	-0.2853	0.0661
3	285.12	0.4000	-0.0896	0.0025	-0.1485	0.0082	0.3947	0.0345	-0.2408	0.0571
3	285.12	0.4497	-0.1238	0.0026	-0.2080	0.0095	0.5392	0.0400	-0.3609	0.0615
3	285.12	0.4997	-0.1743	0.0027	-0.2814	0.0115	0.7290	0.0473	-0.4021	0.0783
3	285.12	0.5556	-0.2123	0.0029	-0.3573	0.0142	0.9737	0.0550	-0.3247	0.0786
3	285.12	0.5995	-0.2351	0.0039	-0.4354	0.0164	1.1188	0.0683	-0.5602	0.0564
3	285.12	0.6498	-0.2765	0.0024	-0.5222	0.0187	1.3326	0.0714	-0.7264	0.0688
3	285.12	0.6890	-0.3346	0.0035	-0.6031	0.0209	1.5274	0.0813	-0.6019	0.0851
3	285.12	0.7495	-0.3584	0.0029	-0.6931	0.0246	1.8569	0.0923	-0.6058	0.0678
3	285.12	0.7998	-0.3729	0.0034	-0.7645	0.0279	2.1431	0.1042	-0.6246	0.0635
3	285.12	0.8577	-0.4275	0.0035	-0.8357	0.0315	2.4936	0.1152	-0.8256	0.0757
3	285.12	0.9178	-0.4752	0.0042	-0.9947	0.0359	2.9555	0.1261	-1.0319	0.0912
3	285.12	0.9729	-0.5205	0.0051	-1.0146	0.0394	3.3103	0.1401	-1.3792	0.0904
4	285.12	0.2001	0.0495	0.0046	0.0022	0.0022	0.0188	0.0127	0.0162	0.0588
4	285.12	0.2502	0.0165	0.0021	0.0035	0.0030	0.0404	0.0175	0.0365	0.1072
4	285.12	0.3001	0.0021	0.0017	0.0134	0.0106	0.0729	0.0437	0.0427	0.1236
4	285.12	0.3502	-0.0455	0.0024	0.0129	0.0144	0.1482	0.0619	0.1471	0.1264
4	285.12	0.4002	-0.0875	0.0028	0.0269	0.0246	0.2163	0.0972	-0.0214	0.0920
4	285.12	0.4500	-0.1191	0.0060	0.0232	0.0312	0.3040	0.1173	-0.2744	0.1100
4	285.12	0.5001	-0.1635	0.0047	-0.0007	0.0363	0.4647	0.1282	-0.1177	0.1001
4	285.12	0.5560	-0.2020	0.0037	-0.0199	0.0424	0.5982	0.1531	-0.2514	0.0885
4	285.12	0.6001	-0.2272	0.0024	-0.0400	0.0478	0.7218	0.1693	-0.4252	0.0961
4	285.12	0.6501	-0.2838	0.0035	-0.0858	0.0531	0.8704	0.1841	-0.4605	0.1336
4	285.12	0.6999	-0.3092	0.0044	-0.1311	0.0582	1.0452	0.2099	-0.3230	0.1011
4	285.12	0.7500	-0.3519	0.0051	-0.1595	0.0641	1.2676	0.2271	-0.2642	0.0887
4	285.12	0.8002	-0.3831	0.0047	-0.1971	0.0696	1.4704	0.2467	-0.2880	0.0897
4	285.12	0.8582	-0.4128	0.0049	-0.2158	0.0758	1.7331	0.2658	-0.6973	0.0907
4	285.12	0.9101	-0.4502	0.0068	-0.2660	0.0820	2.0315	0.2877	-0.6208	0.1033
4	285.12	0.9728	-0.4930	0.0086	-0.2370	0.0894	2.5013	0.3037	-0.4824	0.1204

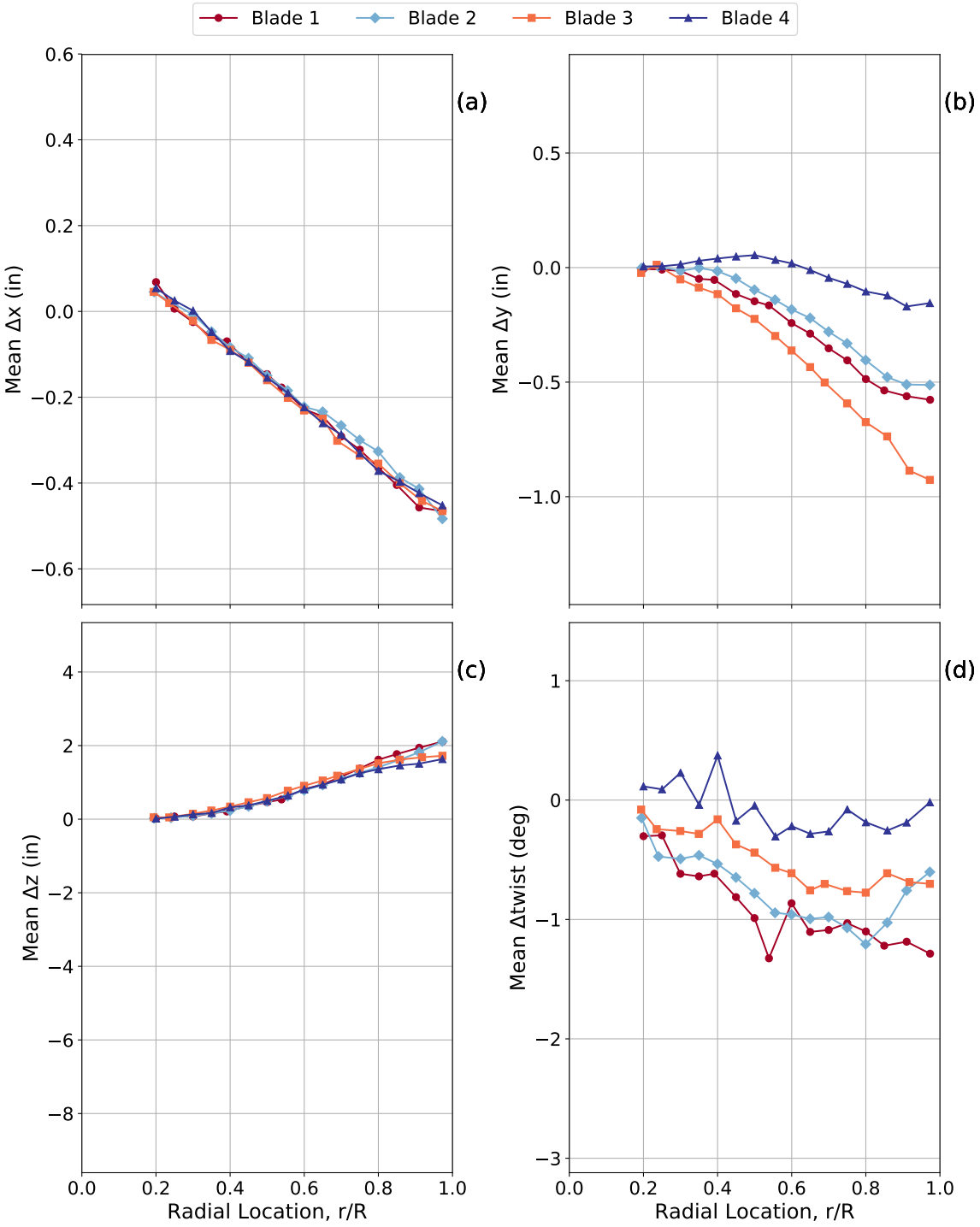


Figure 2.8-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0684	0.0020	-0.0055	0.0011	0.0213	0.0067	-0.3025	0.0345
1	299.88	0.2499	0.0064	0.0017	-0.0089	0.0030	0.0730	0.0119	-0.2953	0.0891
1	299.88	0.2998	-0.0249	0.0023	-0.0149	0.0057	0.0694	0.0244	-0.6174	0.0900
1	299.88	0.3498	-0.0612	0.0021	-0.0491	0.0094	0.1596	0.0365	-0.6390	0.1165
1	299.88	0.3913	-0.0697	0.0033	-0.0537	0.0142	0.2083	0.0539	-0.6164	0.0877
1	299.88	0.4496	-0.1195	0.0042	-0.1152	0.0149	0.3619	0.0668	-0.8127	0.1078
1	299.88	0.4997	-0.1461	0.0054	-0.1469	0.0198	0.4594	0.0863	-0.9885	0.0726
1	299.88	0.5387	-0.1774	0.0041	-0.1651	0.0233	0.5363	0.1021	-1.3253	0.0968
1	299.88	0.5996	-0.2277	0.0042	-0.2420	0.0265	0.8143	0.1188	-0.8642	0.0878
1	299.88	0.6498	-0.2449	0.0040	-0.2884	0.0308	0.9459	0.1395	-1.1043	0.0769
1	299.88	0.6998	-0.2914	0.0046	-0.3523	0.0356	1.1565	0.1582	-1.0877	0.0715
1	299.88	0.7500	-0.3222	0.0048	-0.4049	0.0403	1.3764	0.1801	-1.0317	0.0792
1	299.88	0.8001	-0.3645	0.0052	-0.4866	0.0447	1.6163	0.2025	-1.1003	0.0766
1	299.88	0.8497	-0.4045	0.0051	-0.5362	0.0496	1.7682	0.2302	-1.2197	0.0781
1	299.88	0.9102	-0.4570	0.0056	-0.5614	0.0554	1.9412	0.2684	-1.1861	0.0766
1	299.88	0.9734	-0.4656	0.0080	-0.5770	0.0616	2.1114	0.3096	-1.2865	0.0893
2	299.88	0.1949	0.0454	0.0024	-0.0025	0.0011	0.0239	0.0038	-0.1493	0.0321
2	299.88	0.2405	0.0212	0.0016	0.0051	0.0018	0.0390	0.0076	-0.4727	0.0381
2	299.88	0.2999	-0.0072	0.0022	-0.0139	0.0035	0.0887	0.0173	-0.4923	0.0673
2	299.88	0.3498	-0.0472	0.0016	-0.0014	0.0065	0.1587	0.0240	-0.4623	0.0646
2	299.88	0.3998	-0.0834	0.0027	-0.0154	0.0097	0.2345	0.0401	-0.5349	0.0847
2	299.88	0.4496	-0.1091	0.0022	-0.0475	0.0101	0.3483	0.0377	-0.6477	0.0646
2	299.88	0.4995	-0.1499	0.0023	-0.0971	0.0120	0.4852	0.0472	-0.7809	0.0533
2	299.88	0.5551	-0.1845	0.0039	-0.1409	0.0139	0.6283	0.0571	-0.9442	0.0548
2	299.88	0.5996	-0.2224	0.0018	-0.1829	0.0159	0.7854	0.0648	-0.9581	0.0669
2	299.88	0.6497	-0.2339	0.0023	-0.2203	0.0193	0.9285	0.0742	-0.9950	0.0476
2	299.88	0.6996	-0.2659	0.0028	-0.2799	0.0207	1.0963	0.0791	-0.9799	0.0522
2	299.88	0.7495	-0.2997	0.0026	-0.3313	0.0236	1.2611	0.0886	-1.0693	0.0474
2	299.88	0.7996	-0.3263	0.0028	-0.4040	0.0268	1.4093	0.0950	-1.2072	0.0434
2	299.88	0.8578	-0.3872	0.0029	-0.4781	0.0300	1.6159	0.1025	-1.0264	0.0459
2	299.88	0.9100	-0.4136	0.0031	-0.5104	0.0331	1.8179	0.1108	-0.7573	0.0498
2	299.88	0.9727	-0.4833	0.0039	-0.5124	0.0368	2.1139	0.1204	-0.6021	0.0518
3	299.88	0.1938	0.0455	0.0023	-0.0233	0.0007	0.0505	0.0030	-0.0794	0.0484
3	299.88	0.2357	0.0195	0.0017	0.0125	0.0020	0.0479	0.0066	-0.2437	0.0501
3	299.88	0.2995	-0.0217	0.0016	-0.0515	0.0038	0.1467	0.0107	-0.2591	0.1023
3	299.88	0.3493	-0.0665	0.0032	-0.0868	0.0062	0.2351	0.0175	-0.2832	0.0784
3	299.88	0.4000	-0.0894	0.0030	-0.1157	0.0101	0.3414	0.0270	-0.1613	0.0868
3	299.88	0.4497	-0.1196	0.0026	-0.1777	0.0119	0.4602	0.0348	-0.3712	0.0954
3	299.88	0.4997	-0.1603	0.0034	-0.2240	0.0141	0.5721	0.0467	-0.4397	0.0742
3	299.88	0.5556	-0.2015	0.0037	-0.2985	0.0186	0.7732	0.0525	-0.5670	0.0711
3	299.88	0.5995	-0.2309	0.0049	-0.3618	0.0213	0.9067	0.0641	-0.6123	0.0517
3	299.88	0.6498	-0.2500	0.0036	-0.4345	0.0255	1.0501	0.0749	-0.7558	0.0571
3	299.88	0.6890	-0.3015	0.0029	-0.5015	0.0284	1.1803	0.0814	-0.7020	0.0582
3	299.88	0.7495	-0.3361	0.0039	-0.5928	0.0328	1.3670	0.0913	-0.7625	0.0866
3	299.88	0.7998	-0.3548	0.0035	-0.6745	0.0372	1.5183	0.1025	-0.7750	0.0647
3	299.88	0.8577	-0.4007	0.0035	-0.7370	0.0420	1.6170	0.1173	-0.6129	0.0637
3	299.88	0.9178	-0.4417	0.0036	-0.8864	0.0472	1.6825	0.1351	-0.6872	0.0687
3	299.88	0.9729	-0.4653	0.0051	-0.9267	0.0519	1.7229	0.1548	-0.7016	0.0689
4	299.88	0.2001	0.0541	0.0020	0.0049	0.0008	0.0160	0.0039	0.1148	0.0652
4	299.88	0.2502	0.0252	0.0017	0.0058	0.0017	0.0673	0.0116	0.0899	0.0659
4	299.88	0.3001	0.0016	0.0015	0.0138	0.0025	0.1298	0.0191	0.2286	0.1306
4	299.88	0.3502	-0.0480	0.0019	0.0297	0.0050	0.1661	0.0261	-0.0404	0.0752
4	299.88	0.4002	-0.0922	0.0017	0.0395	0.0070	0.3210	0.0450	0.3736	0.1123
4	299.88	0.4500	-0.1176	0.0029	0.0482	0.0092	0.3753	0.0515	-0.1727	0.0952
4	299.88	0.5001	-0.1546	0.0032	0.0542	0.0102	0.4984	0.0565	-0.0464	0.0876
4	299.88	0.5560	-0.1903	0.0024	0.0337	0.0135	0.6411	0.0726	-0.3049	0.1086
4	299.88	0.6001	-0.2234	0.0024	0.0182	0.0163	0.8092	0.0852	-0.2185	0.0975
4	299.88	0.6501	-0.2606	0.0025	-0.0108	0.0185	0.9379	0.0945	-0.2826	0.1096
4	299.88	0.6999	-0.2869	0.0026	-0.0448	0.0217	1.0792	0.1090	-0.2625	0.0975
4	299.88	0.7500	-0.3306	0.0029	-0.0711	0.0242	1.2487	0.1213	-0.0786	0.0989
4	299.88	0.8002	-0.3717	0.0029	-0.1043	0.0275	1.3573	0.1349	-0.1859	0.0802
4	299.88	0.8582	-0.3970	0.0031	-0.1221	0.0313	1.4613	0.1503	-0.2548	0.0779
4	299.88	0.9101	-0.4234	0.0032	-0.1698	0.0349	1.5082	0.1643	-0.1883	0.0761
4	299.88	0.9728	-0.4520	0.0044	-0.1550	0.0388	1.6322	0.1817	-0.0187	0.0830

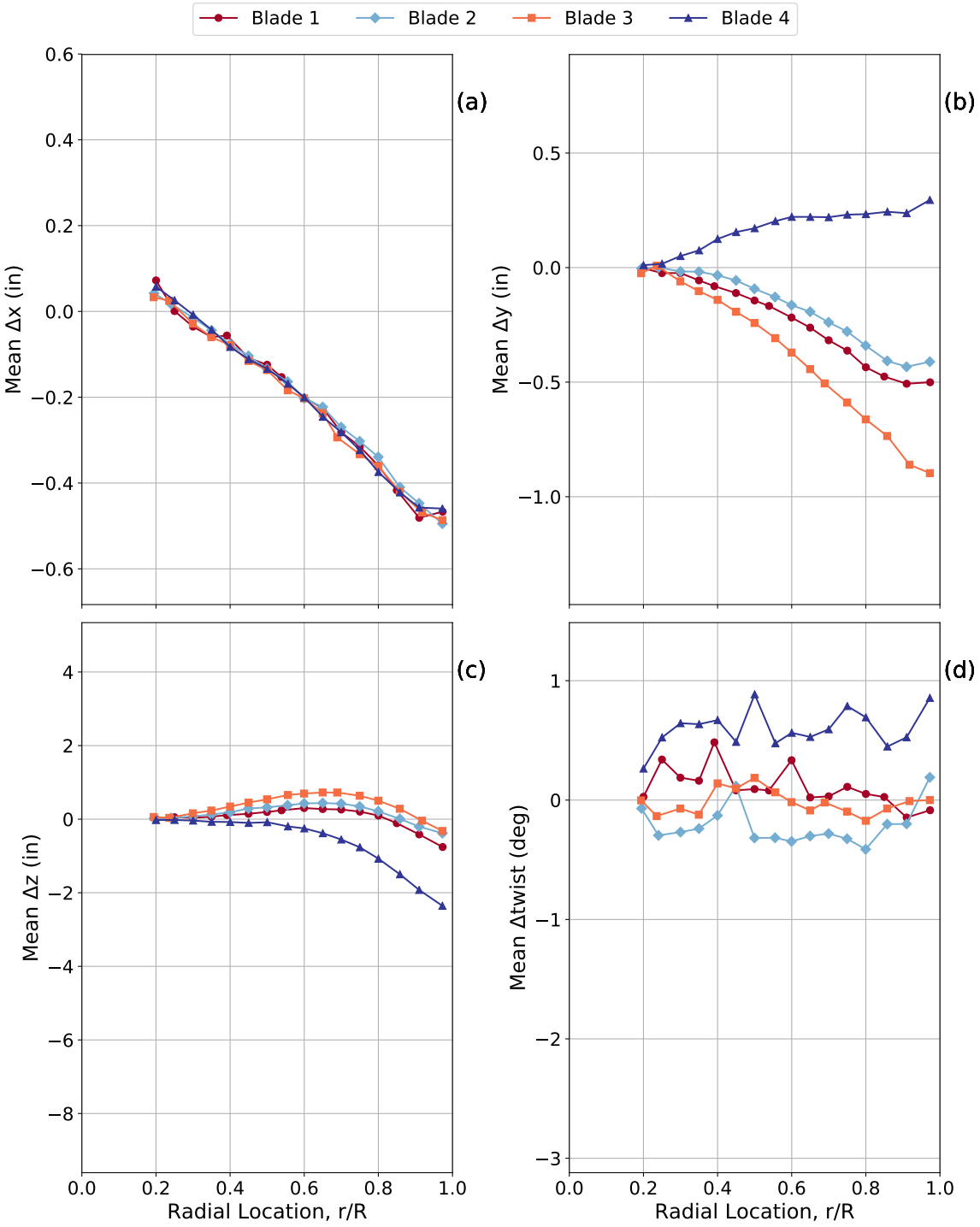


Figure 2.8-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0723	0.0016	-0.0029	0.0008	0.0049	0.0026	0.0276	0.0379
1	315	0.2499	0.0008	0.0016	-0.0241	0.0021	0.0532	0.0108	0.3397	0.0365
1	315	0.2998	-0.0354	0.0032	-0.0238	0.0037	0.0361	0.0146	0.1877	0.0727
1	315	0.3498	-0.0598	0.0022	-0.0559	0.0062	0.0657	0.0231	0.1621	0.0632
1	315	0.3913	-0.0562	0.0037	-0.0812	0.0092	0.1104	0.0374	0.4840	0.0806
1	315	0.4496	-0.1084	0.0036	-0.1111	0.0125	0.1456	0.0453	0.0817	0.1008
1	315	0.4997	-0.1243	0.0029	-0.1436	0.0137	0.1956	0.0526	0.0918	0.0908
1	315	0.5387	-0.1530	0.0025	-0.1675	0.0147	0.2403	0.0639	0.0805	0.0536
1	315	0.5996	-0.2011	0.0033	-0.2180	0.0186	0.3012	0.0799	0.3338	0.0614
1	315	0.6498	-0.2251	0.0026	-0.2621	0.0215	0.2749	0.0912	0.0218	0.0747
1	315	0.6998	-0.2817	0.0034	-0.3173	0.0246	0.2624	0.1068	0.0314	0.0591
1	315	0.7500	-0.3150	0.0035	-0.3626	0.0283	0.2054	0.1200	0.1110	0.0770
1	315	0.8001	-0.3597	0.0031	-0.4351	0.0315	0.0981	0.1370	0.0514	0.0557
1	315	0.8497	-0.4168	0.0026	-0.4757	0.0354	-0.1094	0.1537	0.0259	0.0525
1	315	0.9102	-0.4810	0.0027	-0.5070	0.0396	-0.4142	0.1757	-0.1459	0.0548
1	315	0.9734	-0.4667	0.0034	-0.5006	0.0444	-0.7569	0.2005	-0.0850	0.0516
2	315	0.1949	0.0423	0.0014	-0.0038	0.0007	0.0223	0.0055	-0.0700	0.0286
2	315	0.2405	0.0174	0.0024	0.0005	0.0015	0.0300	0.0129	-0.2956	0.0431
2	315	0.2999	-0.0145	0.0018	-0.0169	0.0038	0.0762	0.0233	-0.2682	0.0640
2	315	0.3498	-0.0440	0.0025	-0.0179	0.0067	0.1266	0.0387	-0.2391	0.0741
2	315	0.3998	-0.0764	0.0018	-0.0336	0.0098	0.1878	0.0606	-0.1287	0.0621
2	315	0.4496	-0.1037	0.0024	-0.0561	0.0107	0.2898	0.0665	0.1170	0.0621
2	315	0.4995	-0.1337	0.0021	-0.0926	0.0142	0.3206	0.0778	-0.3173	0.0496
2	315	0.5551	-0.1637	0.0025	-0.1285	0.0167	0.3782	0.0860	-0.3158	0.0767
2	315	0.5996	-0.2027	0.0024	-0.1639	0.0188	0.4274	0.1038	-0.3463	0.0526
2	315	0.6497	-0.2227	0.0028	-0.1928	0.0222	0.4385	0.1113	-0.3012	0.0561
2	315	0.6996	-0.2698	0.0031	-0.2388	0.0241	0.4223	0.1272	-0.2810	0.0458
2	315	0.7495	-0.3026	0.0024	-0.2789	0.0276	0.3463	0.1369	-0.3240	0.0503
2	315	0.7996	-0.3392	0.0025	-0.3405	0.0308	0.2136	0.1489	-0.4121	0.0452
2	315	0.8578	-0.4096	0.0025	-0.4073	0.0345	0.0089	0.1625	-0.2017	0.0455
2	315	0.9100	-0.4473	0.0028	-0.4331	0.0378	-0.2032	0.1744	-0.1996	0.0447
2	315	0.9727	-0.4948	0.0035	-0.4109	0.0419	-0.3806	0.1899	0.1903	0.0467
3	315	0.1938	0.0331	0.0026	-0.0246	0.0008	0.0586	0.0031	-0.0022	0.0294
3	315	0.2357	0.0249	0.0031	0.0082	0.0035	0.0369	0.0045	-0.1340	0.0518
3	315	0.2995	-0.0285	0.0038	-0.0601	0.0054	0.1593	0.0104	-0.0707	0.0706
3	315	0.3493	-0.0597	0.0055	-0.1026	0.0097	0.2348	0.0185	-0.1224	0.0420
3	315	0.4000	-0.0788	0.0038	-0.1409	0.0156	0.3434	0.0254	0.1400	0.0813
3	315	0.4497	-0.1155	0.0030	-0.1926	0.0159	0.4505	0.0283	0.0979	0.0618
3	315	0.4997	-0.1365	0.0034	-0.2417	0.0187	0.5395	0.0354	0.1857	0.0717
3	315	0.5556	-0.1838	0.0054	-0.3081	0.0211	0.6563	0.0399	0.0652	0.0847
3	315	0.5995	-0.2025	0.0036	-0.3708	0.0243	0.6966	0.0487	-0.0168	0.0611
3	315	0.6498	-0.2370	0.0040	-0.4432	0.0274	0.7250	0.0532	-0.0868	0.0668
3	315	0.6890	-0.2936	0.0033	-0.5055	0.0300	0.7244	0.0595	-0.0198	0.0625
3	315	0.7495	-0.3328	0.0038	-0.5891	0.0336	0.6369	0.0669	-0.0963	0.0703
3	315	0.7998	-0.3610	0.0033	-0.6626	0.0369	0.5030	0.0731	-0.1733	0.0729
3	315	0.8577	-0.4199	0.0029	-0.7351	0.0404	0.2837	0.0835	-0.0706	0.0587
3	315	0.9178	-0.4688	0.0031	-0.8604	0.0446	-0.0412	0.0933	-0.0086	0.0470
3	315	0.9729	-0.4864	0.0041	-0.8973	0.0480	-0.3207	0.1031	0.0002	0.0541
4	315	0.2001	0.0576	0.0020	0.0105	0.0009	-0.0239	0.0042	0.2637	0.0520
4	315	0.2502	0.0258	0.0013	0.0165	0.0029	-0.0216	0.0106	0.5244	0.0752
4	315	0.3001	-0.0079	0.0019	0.0504	0.0072	-0.0382	0.0145	0.6439	0.1125
4	315	0.3502	-0.0430	0.0024	0.0753	0.0077	-0.0716	0.0270	0.6356	0.0650
4	315	0.4002	-0.0828	0.0025	0.1249	0.0159	-0.0768	0.0394	0.6702	0.0856
4	315	0.4500	-0.1114	0.0028	0.1549	0.0172	-0.1027	0.0448	0.4873	0.0775
4	315	0.5001	-0.1338	0.0029	0.1718	0.0206	-0.0823	0.0560	0.8857	0.0661
4	315	0.5560	-0.1686	0.0032	0.2027	0.0261	-0.1969	0.0679	0.4757	0.0791
4	315	0.6001	-0.2004	0.0037	0.2214	0.0294	-0.2512	0.0791	0.5635	0.0755
4	315	0.6501	-0.2456	0.0024	0.2212	0.0333	-0.3819	0.0928	0.5288	0.0722
4	315	0.6999	-0.2817	0.0029	0.2199	0.0381	-0.5537	0.1071	0.5928	0.0593
4	315	0.7500	-0.3233	0.0034	0.2310	0.0421	-0.7644	0.1208	0.7877	0.0705
4	315	0.8002	-0.3743	0.0030	0.2333	0.0461	-1.0746	0.1351	0.6928	0.0672
4	315	0.8582	-0.4220	0.0032	0.2437	0.0519	-1.4988	0.1534	0.4484	0.0617
4	315	0.9101	-0.4572	0.0034	0.2376	0.0565	-1.9233	0.1682	0.5259	0.0653
4	315	0.9728	-0.4595	0.0043	0.2952	0.0623	-2.3554	0.1870	0.8557	0.0687

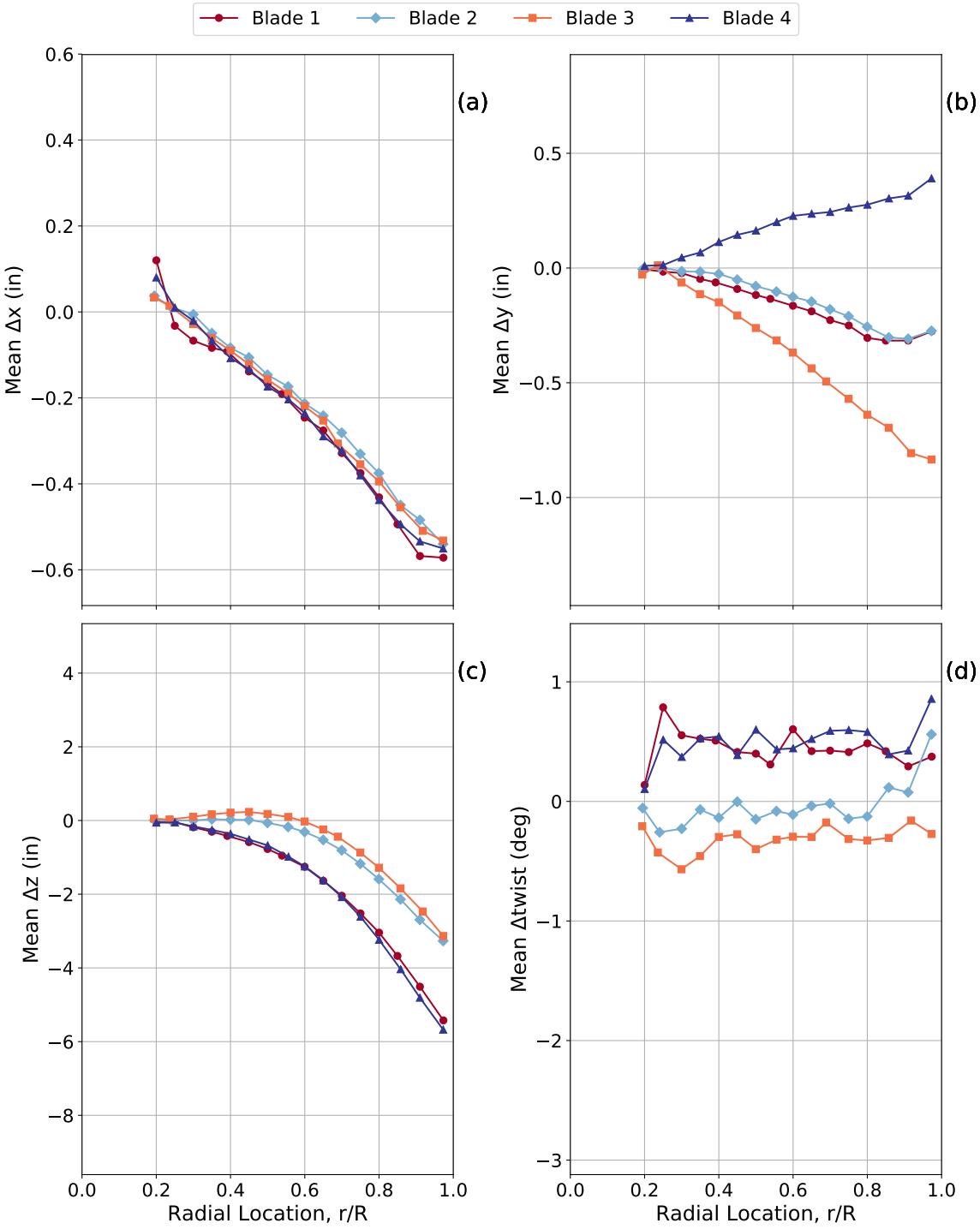


Figure 2.8-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-41. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.1201	0.0017	-0.0061	0.0008	-0.0512	0.0042	0.1375	0.0248
1	330.12	0.2499	-0.0323	0.0016	-0.0157	0.0020	-0.0440	0.0089	0.7867	0.0541
1	330.12	0.2998	-0.0669	0.0023	-0.0221	0.0050	-0.1840	0.0143	0.5533	0.0540
1	330.12	0.3498	-0.0836	0.0027	-0.0475	0.0055	-0.3038	0.0261	0.5234	0.0441
1	330.12	0.3913	-0.0917	0.0038	-0.0628	0.0103	-0.4187	0.0362	0.5082	0.0478
1	330.12	0.4496	-0.1385	0.0021	-0.0913	0.0124	-0.5856	0.0456	0.4129	0.0458
1	330.12	0.4997	-0.1668	0.0031	-0.1174	0.0154	-0.7734	0.0578	0.3990	0.0519
1	330.12	0.5387	-0.1910	0.0028	-0.1343	0.0171	-0.9533	0.0642	0.3084	0.0572
1	330.12	0.5996	-0.2459	0.0030	-0.1643	0.0206	-1.2553	0.0823	0.6034	0.0599
1	330.12	0.6498	-0.2758	0.0030	-0.1887	0.0245	-1.6362	0.0923	0.4203	0.0521
1	330.12	0.6998	-0.3284	0.0036	-0.2270	0.0279	-2.0415	0.1063	0.4246	0.0556
1	330.12	0.7500	-0.3751	0.0038	-0.2504	0.0312	-2.5209	0.1202	0.4124	0.0488
1	330.12	0.8001	-0.4315	0.0039	-0.3044	0.0354	-3.0424	0.1360	0.4852	0.0529
1	330.12	0.8497	-0.4941	0.0044	-0.3164	0.0392	-3.6743	0.1490	0.4195	0.0464
1	330.12	0.9102	-0.5680	0.0047	-0.3162	0.0442	-4.5094	0.1681	0.2927	0.0442
1	330.12	0.9734	-0.5718	0.0054	-0.2758	0.0494	-5.4244	0.1861	0.3741	0.0444
2	330.12	0.1949	0.0373	0.0013	-0.0053	0.0007	0.0094	0.0024	-0.0559	0.0320
2	330.12	0.2405	0.0109	0.0014	0.0039	0.0033	0.0018	0.0099	-0.2581	0.0474
2	330.12	0.2999	-0.0057	0.0028	-0.0145	0.0046	0.0041	0.0158	-0.2285	0.0722
2	330.12	0.3498	-0.0495	0.0030	-0.0166	0.0077	0.0345	0.0237	-0.0687	0.0802
2	330.12	0.3998	-0.0834	0.0019	-0.0257	0.0130	0.0212	0.0423	-0.1369	0.0562
2	330.12	0.4496	-0.1060	0.0020	-0.0509	0.0169	0.0174	0.0513	-0.0028	0.0599
2	330.12	0.4995	-0.1463	0.0023	-0.0790	0.0196	-0.0627	0.0633	-0.1494	0.0586
2	330.12	0.5551	-0.1737	0.0025	-0.1031	0.0232	-0.1736	0.0785	-0.0813	0.0678
2	330.12	0.5996	-0.2131	0.0032	-0.1259	0.0268	-0.3092	0.0927	-0.1104	0.0672
2	330.12	0.6497	-0.2415	0.0030	-0.1465	0.0290	-0.5270	0.1080	-0.0377	0.0824
2	330.12	0.6996	-0.2813	0.0025	-0.1802	0.0337	-0.8082	0.1254	-0.0182	0.0632
2	330.12	0.7495	-0.3305	0.0028	-0.2102	0.0368	-1.1734	0.1410	-0.1448	0.0568
2	330.12	0.7996	-0.3752	0.0034	-0.2561	0.0407	-1.5906	0.1568	-0.1262	0.0601
2	330.12	0.8578	-0.4495	0.0037	-0.3028	0.0453	-2.1380	0.1759	0.1160	0.0541
2	330.12	0.9100	-0.4842	0.0043	-0.3086	0.0494	-2.6924	0.1919	0.0757	0.0582
2	330.12	0.9727	-0.5404	0.0054	-0.2740	0.0540	-3.2685	0.2096	0.5610	0.0595
3	330.12	0.1938	0.0335	0.0017	-0.0285	0.0009	0.0492	0.0028	-0.2078	0.0462
3	330.12	0.2357	0.0144	0.0014	0.0118	0.0019	0.0274	0.0044	-0.4271	0.0624
3	330.12	0.2995	-0.0282	0.0016	-0.0631	0.0039	0.1011	0.0096	-0.5675	0.1067
3	330.12	0.3493	-0.0610	0.0020	-0.1140	0.0053	0.1678	0.0148	-0.4574	0.0828
3	330.12	0.4000	-0.0902	0.0022	-0.1495	0.0095	0.2131	0.0220	-0.2972	0.1044
3	330.12	0.4497	-0.1216	0.0023	-0.2065	0.0113	0.2324	0.0286	-0.2750	0.0743
3	330.12	0.4997	-0.1570	0.0027	-0.2614	0.0131	0.1772	0.0347	-0.3997	0.0850
3	330.12	0.5556	-0.1899	0.0028	-0.3157	0.0144	0.0975	0.0403	-0.3200	0.0727
3	330.12	0.5995	-0.2193	0.0026	-0.3688	0.0174	-0.0267	0.0460	-0.2953	0.0575
3	330.12	0.6498	-0.2528	0.0033	-0.4373	0.0183	-0.2429	0.0542	-0.2974	0.0936
3	330.12	0.6890	-0.3063	0.0028	-0.4942	0.0208	-0.4396	0.0581	-0.1760	0.0702
3	330.12	0.7495	-0.3544	0.0026	-0.5701	0.0245	-0.8692	0.0697	-0.3146	0.0807
3	330.12	0.7998	-0.3944	0.0030	-0.6390	0.0275	-1.2818	0.0783	-0.3266	0.0781
3	330.12	0.8577	-0.4545	0.0032	-0.6962	0.0310	-1.8404	0.0887	-0.3051	0.0670
3	330.12	0.9178	-0.5094	0.0034	-0.8067	0.0344	-2.4691	0.1008	-0.1602	0.0748
3	330.12	0.9729	-0.5320	0.0041	-0.8345	0.0380	-3.1338	0.1133	-0.2726	0.0770
4	330.12	0.2001	0.0801	0.0015	0.0093	0.0008	-0.0574	0.0028	0.1038	0.0223
4	330.12	0.2502	0.0100	0.0018	0.0130	0.0021	-0.0531	0.0047	0.5157	0.0489
4	330.12	0.3001	-0.0206	0.0019	0.0456	0.0034	-0.1600	0.0086	0.3718	0.0533
4	330.12	0.3502	-0.0669	0.0019	0.0680	0.0047	-0.2557	0.0160	0.5271	0.0473
4	330.12	0.4002	-0.1075	0.0019	0.1132	0.0083	-0.3619	0.0227	0.5435	0.0551
4	330.12	0.4500	-0.1334	0.0033	0.1447	0.0096	-0.5167	0.0304	0.3870	0.0459
4	330.12	0.5001	-0.1738	0.0038	0.1633	0.0141	-0.6757	0.0376	0.6001	0.0470
4	330.12	0.5560	-0.2035	0.0031	0.2004	0.0154	-0.9824	0.0451	0.4349	0.0582
4	330.12	0.6001	-0.2357	0.0023	0.2274	0.0172	-1.2465	0.0513	0.4438	0.0625
4	330.12	0.6501	-0.2895	0.0033	0.2364	0.0186	-1.6241	0.0607	0.5223	0.0531
4	330.12	0.6999	-0.3226	0.0032	0.2441	0.0214	-2.0786	0.0668	0.5900	0.0533
4	330.12	0.7500	-0.3803	0.0035	0.2636	0.0247	-2.6112	0.0732	0.5965	0.0593
4	330.12	0.8002	-0.4378	0.0035	0.2759	0.0260	-3.2377	0.0822	0.5807	0.0548
4	330.12	0.8582	-0.4942	0.0036	0.3033	0.0294	-4.0360	0.0912	0.3936	0.0580
4	330.12	0.9101	-0.5339	0.0037	0.3152	0.0318	-4.8091	0.0998	0.4251	0.0453
4	330.12	0.9728	-0.5506	0.0044	0.3907	0.0348	-5.6746	0.1104	0.8576	0.0466

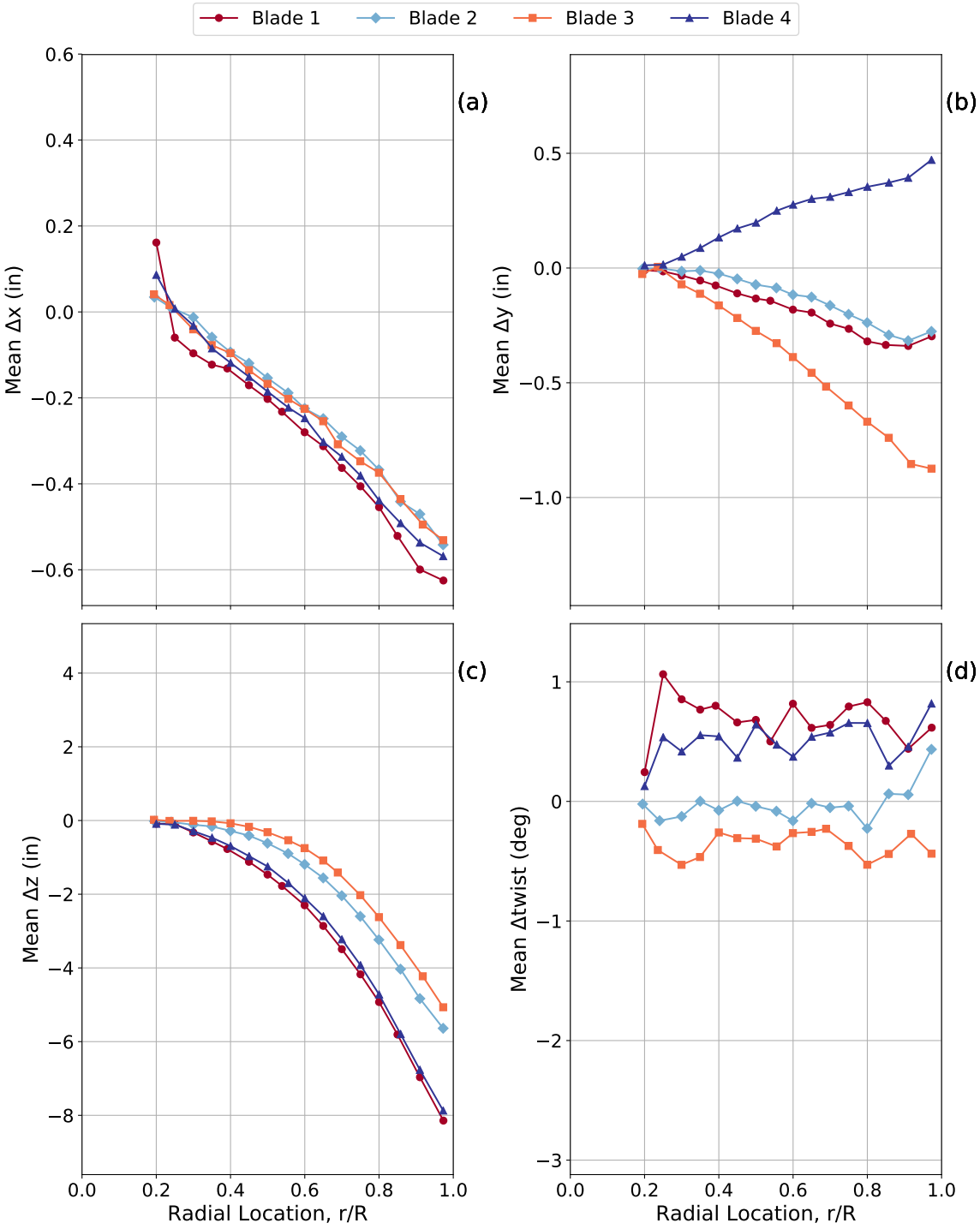


Figure 2.8-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.1614	0.0039	-0.0096	0.0015	-0.0878	0.0074	0.2445	0.0568
1	344.88	0.2499	-0.0598	0.0035	-0.0146	0.0042	-0.0936	0.0083	1.0632	0.1468
1	344.88	0.2998	-0.0963	0.0043	-0.0330	0.0080	-0.3247	0.0224	0.8537	0.1542
1	344.88	0.3498	-0.1227	0.0042	-0.0543	0.0133	-0.5649	0.0411	0.7674	0.1379
1	344.88	0.3913	-0.1316	0.0048	-0.0759	0.0205	-0.7733	0.0535	0.7999	0.1409
1	344.88	0.4496	-0.1706	0.0051	-0.1105	0.0266	-1.1200	0.0703	0.6603	0.1484
1	344.88	0.4997	-0.2025	0.0050	-0.1330	0.0315	-1.4674	0.0850	0.6814	0.1507
1	344.88	0.5387	-0.2322	0.0049	-0.1426	0.0376	-1.7759	0.0953	0.5014	0.1544
1	344.88	0.5996	-0.2801	0.0058	-0.1813	0.0472	-2.3007	0.1144	0.8165	0.1447
1	344.88	0.6498	-0.3125	0.0060	-0.1943	0.0530	-2.8609	0.1300	0.6149	0.1502
1	344.88	0.6998	-0.3630	0.0060	-0.2423	0.0603	-3.4914	0.1467	0.6395	0.1504
1	344.88	0.7500	-0.4058	0.0063	-0.2650	0.0674	-4.1735	0.1637	0.7934	0.1511
1	344.88	0.8001	-0.4543	0.0070	-0.3196	0.0757	-4.9264	0.1785	0.8294	0.1502
1	344.88	0.8497	-0.5213	0.0076	-0.3352	0.0843	-5.8081	0.1947	0.6730	0.1452
1	344.88	0.9102	-0.5994	0.0081	-0.3396	0.0948	-6.9661	0.2114	0.4400	0.1509
1	344.88	0.9734	-0.6250	0.0092	-0.2975	0.1060	-8.1434	0.2306	0.6166	0.1376
2	344.88	0.1949	0.0345	0.0025	-0.0030	0.0007	-0.0196	0.0023	-0.0221	0.0268
2	344.88	0.2405	0.0095	0.0016	-0.0006	0.0044	-0.0432	0.0048	-0.1615	0.0369
2	344.88	0.2999	-0.0126	0.0025	-0.0142	0.0058	-0.1150	0.0102	-0.1258	0.0592
2	344.88	0.3498	-0.0587	0.0021	-0.0110	0.0087	-0.1607	0.0144	0.0014	0.0506
2	344.88	0.3998	-0.0935	0.0023	-0.0245	0.0166	-0.2816	0.0259	-0.0749	0.0596
2	344.88	0.4496	-0.1194	0.0025	-0.0475	0.0170	-0.4090	0.0298	0.0024	0.0622
2	344.88	0.4995	-0.1537	0.0029	-0.0726	0.0198	-0.6164	0.0338	-0.0410	0.0486
2	344.88	0.5551	-0.1884	0.0031	-0.0866	0.0265	-0.8969	0.0418	-0.0819	0.0524
2	344.88	0.5996	-0.2247	0.0026	-0.1164	0.0333	-1.1900	0.0483	-0.1623	0.0555
2	344.88	0.6497	-0.2483	0.0030	-0.1265	0.0341	-1.5585	0.0522	-0.0161	0.0689
2	344.88	0.6996	-0.2903	0.0031	-0.1632	0.0380	-2.0409	0.0593	-0.0520	0.0645
2	344.88	0.7495	-0.3228	0.0030	-0.2019	0.0422	-2.6011	0.0647	-0.0390	0.0640
2	344.88	0.7996	-0.3670	0.0034	-0.2381	0.0455	-3.2359	0.0693	-0.2265	0.0570
2	344.88	0.8578	-0.4414	0.0036	-0.2920	0.0507	-4.0327	0.0777	0.0634	0.0540
2	344.88	0.9100	-0.4704	0.0040	-0.3166	0.0553	-4.8321	0.0852	0.0561	0.0536
2	344.88	0.9727	-0.5419	0.0043	-0.2762	0.0604	-5.6391	0.0938	0.4351	0.0482
3	344.88	0.1938	0.0410	0.0023	-0.0261	0.0006	0.0199	0.0025	-0.1880	0.0228
3	344.88	0.2357	0.0160	0.0019	0.0050	0.0039	-0.0117	0.0044	-0.4067	0.0397
3	344.88	0.2995	-0.0405	0.0024	-0.0712	0.0048	-0.0089	0.0084	-0.5305	0.0556
3	344.88	0.3493	-0.0772	0.0024	-0.1121	0.0099	-0.0237	0.0152	-0.4651	0.0576
3	344.88	0.4000	-0.0959	0.0021	-0.1630	0.0155	-0.0756	0.0224	-0.2599	0.0580
3	344.88	0.4497	-0.1356	0.0029	-0.2177	0.0155	-0.1714	0.0269	-0.3070	0.0526
3	344.88	0.4997	-0.1674	0.0027	-0.2739	0.0190	-0.3170	0.0333	-0.3118	0.0674
3	344.88	0.5556	-0.2024	0.0030	-0.3275	0.0241	-0.5353	0.0403	-0.3771	0.0777
3	344.88	0.5995	-0.2254	0.0029	-0.3881	0.0282	-0.7495	0.0444	-0.2654	0.0475
3	344.88	0.6498	-0.2544	0.0028	-0.4565	0.0312	-1.0858	0.0495	-0.2553	0.0635
3	344.88	0.6890	-0.3081	0.0026	-0.5170	0.0331	-1.4116	0.0536	-0.2288	0.0668
3	344.88	0.7495	-0.3475	0.0030	-0.5990	0.0378	-2.0258	0.0600	-0.3722	0.0615
3	344.88	0.7998	-0.3742	0.0030	-0.6697	0.0424	-2.6223	0.0648	-0.5296	0.0565
3	344.88	0.8577	-0.4354	0.0033	-0.7399	0.0466	-3.3804	0.0708	-0.4395	0.0479
3	344.88	0.9178	-0.4948	0.0036	-0.8541	0.0511	-4.2268	0.0760	-0.2713	0.0495
3	344.88	0.9729	-0.5312	0.0041	-0.8743	0.0555	-5.0674	0.0816	-0.4373	0.0463
4	344.88	0.2001	0.0862	0.0018	0.0118	0.0011	-0.0897	0.0032	0.1280	0.0333
4	344.88	0.2502	0.0073	0.0025	0.0147	0.0045	-0.1128	0.0054	0.5365	0.0561
4	344.88	0.3001	-0.0318	0.0029	0.0494	0.0062	-0.2895	0.0095	0.4172	0.0745
4	344.88	0.3502	-0.0848	0.0023	0.0876	0.0123	-0.4675	0.0159	0.5540	0.0546
4	344.88	0.4002	-0.1185	0.0020	0.1332	0.0192	-0.6932	0.0245	0.5432	0.0574
4	344.88	0.4500	-0.1511	0.0022	0.1723	0.0243	-0.9676	0.0297	0.3654	0.0541
4	344.88	0.5001	-0.1855	0.0026	0.1976	0.0292	-1.2487	0.0359	0.6432	0.0611
4	344.88	0.5560	-0.2227	0.0026	0.2497	0.0336	-1.6984	0.0431	0.4742	0.0513
4	344.88	0.6001	-0.2473	0.0031	0.2761	0.0373	-2.1081	0.0489	0.3737	0.0531
4	344.88	0.6501	-0.3027	0.0025	0.3012	0.0428	-2.5989	0.0547	0.5404	0.0686
4	344.88	0.6999	-0.3371	0.0030	0.3102	0.0466	-3.2242	0.0625	0.5756	0.0576
4	344.88	0.7500	-0.3809	0.0030	0.3310	0.0520	-3.9253	0.0678	0.6560	0.0608
4	344.88	0.8002	-0.4387	0.0028	0.3539	0.0569	-4.7211	0.0738	0.6554	0.0663
4	344.88	0.8582	-0.4916	0.0033	0.3721	0.0623	-5.7965	0.0820	0.2992	0.0598
4	344.88	0.9101	-0.5369	0.0033	0.3931	0.0673	-6.7659	0.0887	0.4572	0.0598
4	344.88	0.9728	-0.5684	0.0040	0.4712	0.0737	-7.8707	0.0979	0.8179	0.0548

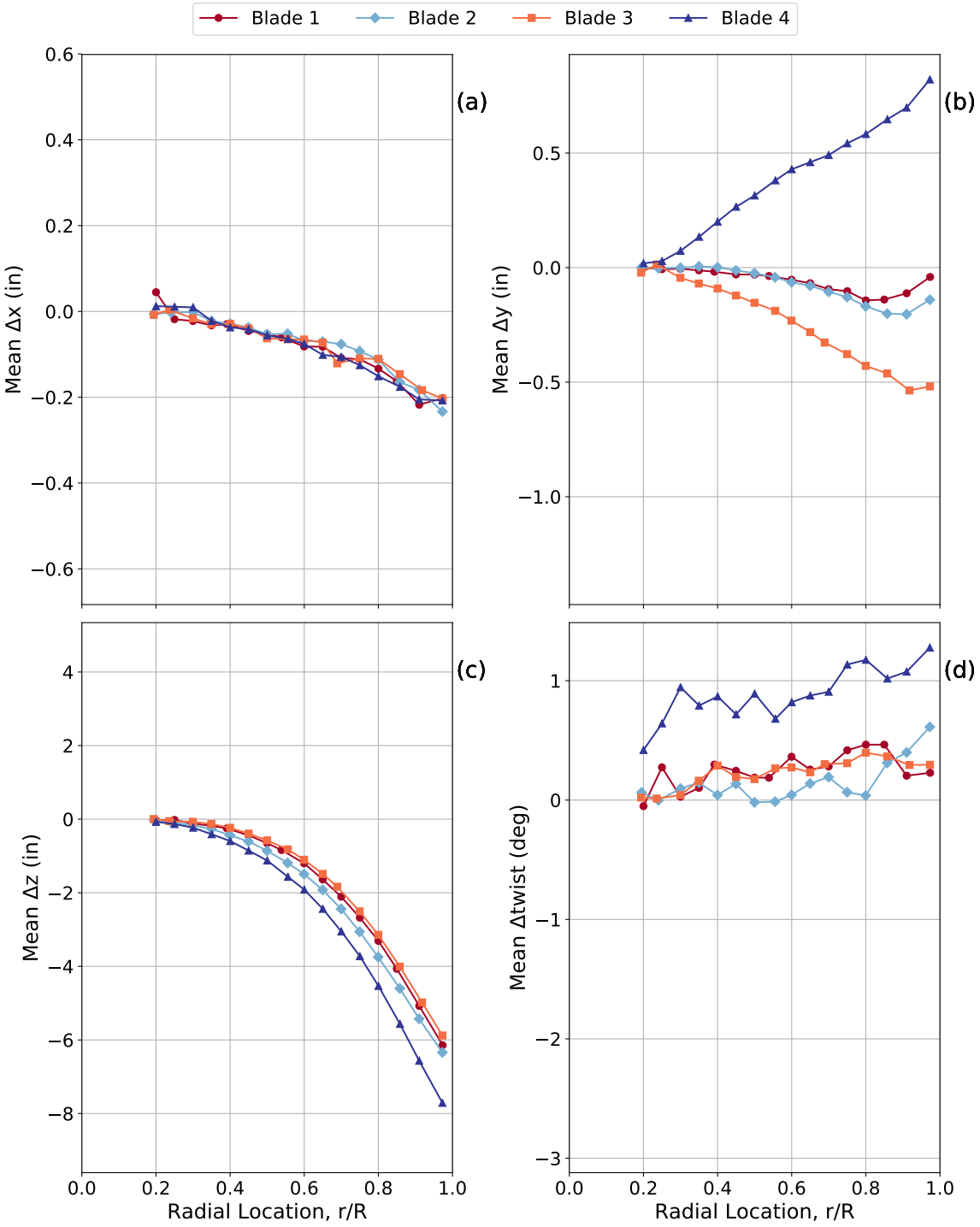


Figure 2.8-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = -4°
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0448	0.0013	-0.0007	0.0006	-0.0361	0.0029	-0.0506	0.0248
1	350.16	0.2499	-0.0182	0.0011	-0.0070	0.0018	-0.0202	0.0066	0.2745	0.0475
1	350.16	0.2998	-0.0224	0.0012	-0.0052	0.0030	-0.1205	0.0140	0.0280	0.0501
1	350.16	0.3498	-0.0326	0.0016	-0.0121	0.0049	-0.1804	0.0173	0.1021	0.0623
1	350.16	0.3913	-0.0295	0.0014	-0.0180	0.0076	-0.2506	0.0295	0.2974	0.0571
1	350.16	0.4496	-0.0456	0.0015	-0.0300	0.0097	-0.4398	0.0372	0.2453	0.0511
1	350.16	0.4997	-0.0525	0.0018	-0.0306	0.0125	-0.6514	0.0453	0.1885	0.0626
1	350.16	0.5387	-0.0606	0.0024	-0.0367	0.0138	-0.8385	0.0481	0.1870	0.0623
1	350.16	0.5996	-0.0818	0.0026	-0.0531	0.0180	-1.1991	0.0595	0.3630	0.0543
1	350.16	0.6498	-0.0822	0.0018	-0.0683	0.0198	-1.6388	0.0646	0.2554	0.0460
1	350.16	0.6998	-0.1087	0.0022	-0.0942	0.0232	-2.1092	0.0735	0.2819	0.0514
1	350.16	0.7500	-0.1115	0.0022	-0.1030	0.0259	-2.6769	0.0805	0.4172	0.0543
1	350.16	0.8001	-0.1333	0.0028	-0.1433	0.0295	-3.3080	0.0890	0.4643	0.0539
1	350.16	0.8497	-0.1625	0.0030	-0.1395	0.0332	-4.0670	0.0968	0.4643	0.0522
1	350.16	0.9102	-0.2175	0.0040	-0.1122	0.0378	-5.0740	0.1080	0.2043	0.0660
1	350.16	0.9734	-0.2022	0.0046	-0.0410	0.0427	-6.1427	0.1207	0.2287	0.0660
2	350.16	0.1949	-0.0058	0.0034	0.0014	0.0010	-0.0307	0.0028	0.0641	0.0304
2	350.16	0.2405	-0.0027	0.0016	-0.0027	0.0022	-0.0810	0.0053	-0.0020	0.0509
2	350.16	0.2999	-0.0014	0.0017	-0.0008	0.0057	-0.1682	0.0095	0.0965	0.0713
2	350.16	0.3498	-0.0223	0.0027	0.0051	0.0086	-0.2649	0.0163	0.1459	0.0601
2	350.16	0.3998	-0.0286	0.0039	0.0012	0.0143	-0.4384	0.0235	0.0427	0.0635
2	350.16	0.4496	-0.0374	0.0046	-0.0124	0.0178	-0.6062	0.0280	0.1357	0.0730
2	350.16	0.4995	-0.0532	0.0053	-0.0245	0.0207	-0.8580	0.0340	-0.0190	0.0654
2	350.16	0.5551	-0.0520	0.0059	-0.0428	0.0247	-1.1893	0.0426	-0.0127	0.0529
2	350.16	0.5996	-0.0685	0.0063	-0.0641	0.0269	-1.4940	0.0480	0.0434	0.0647
2	350.16	0.6497	-0.0703	0.0069	-0.0792	0.0314	-1.9217	0.0532	0.1386	0.0698
2	350.16	0.6996	-0.0763	0.0078	-0.1057	0.0352	-2.4402	0.0589	0.1925	0.0759
2	350.16	0.7495	-0.0926	0.0095	-0.1286	0.0396	-3.0600	0.0682	0.0662	0.0741
2	350.16	0.7996	-0.1118	0.0106	-0.1693	0.0435	-3.7478	0.0755	0.0381	0.0704
2	350.16	0.8578	-0.1647	0.0126	-0.2013	0.0478	-4.6007	0.0831	0.3115	0.0698
2	350.16	0.9100	-0.1827	0.0146	-0.2036	0.0522	-5.4260	0.0891	0.3991	0.0712
2	350.16	0.9727	-0.2334	0.0183	-0.1405	0.0573	-6.3399	0.0979	0.6131	0.0775
3	350.16	0.1938	-0.0079	0.0011	-0.0219	0.0006	0.0027	0.0029	0.0207	0.0263
3	350.16	0.2357	0.0036	0.0019	0.0133	0.0031	-0.0526	0.0069	0.0128	0.0389
3	350.16	0.2995	-0.0160	0.0010	-0.0445	0.0054	-0.0716	0.0127	0.0418	0.0513
3	350.16	0.3493	-0.0298	0.0012	-0.0697	0.0085	-0.1299	0.0190	0.1616	0.0431
3	350.16	0.4000	-0.0290	0.0015	-0.0912	0.0151	-0.2342	0.0314	0.2889	0.0464
3	350.16	0.4497	-0.0395	0.0018	-0.1218	0.0165	-0.3924	0.0365	0.1939	0.0439
3	350.16	0.4997	-0.0627	0.0021	-0.1537	0.0216	-0.5768	0.0433	0.1759	0.0464
3	350.16	0.5556	-0.0650	0.0021	-0.1887	0.0257	-0.8209	0.0539	0.2654	0.0495
3	350.16	0.5995	-0.0654	0.0022	-0.2314	0.0296	-1.1035	0.0588	0.2730	0.0454
3	350.16	0.6498	-0.0727	0.0020	-0.2816	0.0324	-1.4872	0.0689	0.2328	0.0492
3	350.16	0.6890	-0.1211	0.0026	-0.3274	0.0367	-1.8358	0.0781	0.3010	0.0529
3	350.16	0.7495	-0.1097	0.0022	-0.3776	0.0411	-2.5068	0.0877	0.3092	0.0568
3	350.16	0.7998	-0.1105	0.0031	-0.4290	0.0460	-3.1431	0.1002	0.3975	0.0499
3	350.16	0.8577	-0.1462	0.0032	-0.4622	0.0510	-4.0082	0.1128	0.3659	0.0571
3	350.16	0.9178	-0.1834	0.0045	-0.5362	0.0561	-4.9807	0.1261	0.2941	0.0556
3	350.16	0.9729	-0.2032	0.0058	-0.5187	0.0604	-5.8795	0.1432	0.2958	0.0758
4	350.16	0.2001	0.0122	0.0012	0.0186	0.0015	-0.0736	0.0037	0.4194	0.0545
4	350.16	0.2502	0.0108	0.0011	0.0283	0.0030	-0.1327	0.0112	0.6421	0.0720
4	350.16	0.3001	0.0094	0.0020	0.0731	0.0070	-0.2321	0.0148	0.9449	0.1140
4	350.16	0.3502	-0.0222	0.0020	0.1343	0.0095	-0.4097	0.0261	0.7917	0.0801
4	350.16	0.4002	-0.0372	0.0025	0.2006	0.0163	-0.5954	0.0404	0.8679	0.0704
4	350.16	0.4500	-0.0415	0.0018	0.2655	0.0173	-0.8555	0.0426	0.7175	0.1077
4	350.16	0.5001	-0.0559	0.0022	0.3146	0.0225	-1.1240	0.0573	0.8915	0.0747
4	350.16	0.5560	-0.0640	0.0020	0.3807	0.0263	-1.5669	0.0643	0.6811	0.0885
4	350.16	0.6001	-0.0759	0.0027	0.4292	0.0317	-1.9157	0.0736	0.8201	0.0835
4	350.16	0.6501	-0.1013	0.0023	0.4600	0.0347	-2.4385	0.0810	0.8756	0.0907
4	350.16	0.6999	-0.1061	0.0027	0.4911	0.0398	-3.0526	0.0914	0.9073	0.0951
4	350.16	0.7500	-0.1254	0.0026	0.5423	0.0448	-3.7237	0.1009	1.1349	0.0864
4	350.16	0.8002	-0.1512	0.0031	0.5829	0.0500	-4.5333	0.1127	1.1749	0.0922
4	350.16	0.8582	-0.1759	0.0038	0.6470	0.0559	-5.5653	0.1247	1.0179	0.0949
4	350.16	0.9101	-0.2050	0.0045	0.6982	0.0616	-6.5663	0.1358	1.0754	0.1038
4	350.16	0.9728	-0.2076	0.0051	0.8209	0.0681	-7.7110	0.1546	1.2769	0.0984

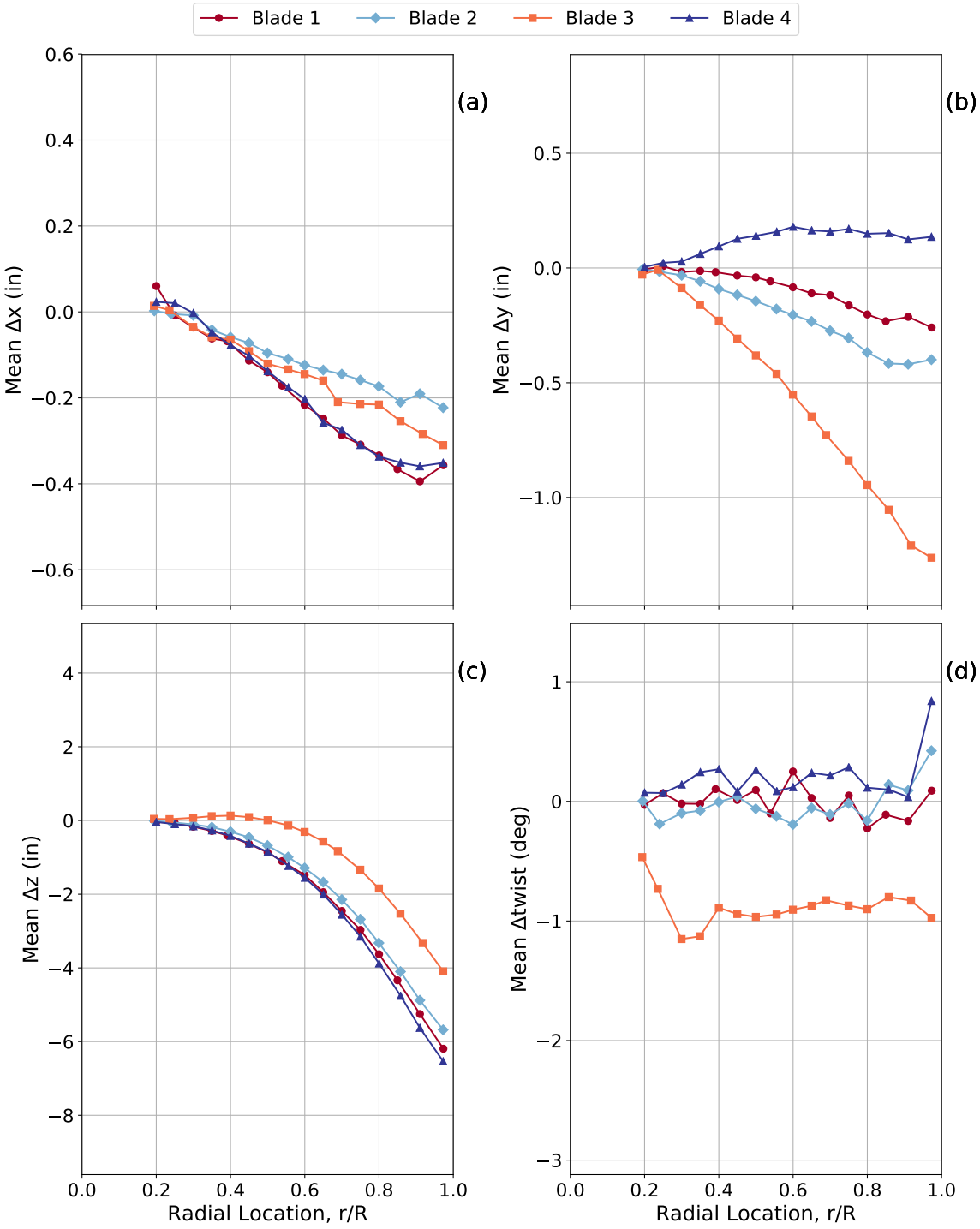


Figure 2.8-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.15, α = -4° NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Table 2.8-44. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = -4°$
NFAC run 43, points 28 to 31. BD run 20, points 1587 to 1626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0600	0.0030	-0.0069	0.0024	-0.0416	0.0075	-0.0289	0.0544
1	355.08	0.2499	-0.0083	0.0026	0.0079	0.0063	-0.0687	0.0123	0.0679	0.1109
1	355.08	0.2998	-0.0364	0.0019	-0.0172	0.0094	-0.1686	0.0225	-0.0190	0.1199
1	355.08	0.3498	-0.0619	0.0022	-0.0128	0.0174	-0.2840	0.0372	-0.0210	0.1008
1	355.08	0.3913	-0.0682	0.0026	-0.0180	0.0248	-0.4073	0.0500	0.1028	0.0984
1	355.08	0.4496	-0.1132	0.0025	-0.0332	0.0312	-0.6346	0.0645	0.0116	0.0963
1	355.08	0.4997	-0.1403	0.0027	-0.0408	0.0380	-0.8663	0.0778	0.0945	0.0928
1	355.08	0.5387	-0.1716	0.0024	-0.0582	0.0434	-1.1033	0.0880	-0.1008	0.0937
1	355.08	0.5996	-0.2164	0.0029	-0.0841	0.0514	-1.4807	0.1037	0.2500	0.0943
1	355.08	0.6498	-0.2479	0.0030	-0.1103	0.0594	-1.9443	0.1177	0.0278	0.0938
1	355.08	0.6998	-0.2871	0.0029	-0.1184	0.0664	-2.4554	0.1293	-0.1389	0.1044
1	355.08	0.7500	-0.3089	0.0033	-0.1628	0.0737	-2.9686	0.1437	0.0487	0.1082
1	355.08	0.8001	-0.3339	0.0036	-0.2026	0.0800	-3.6293	0.1566	-0.2261	0.0988
1	355.08	0.8497	-0.3659	0.0048	-0.2318	0.0877	-4.3364	0.1706	-0.1116	0.0918
1	355.08	0.9102	-0.3943	0.0050	-0.2130	0.0984	-5.2515	0.1876	-0.1641	0.1296
1	355.08	0.9734	-0.3566	0.0076	-0.2594	0.1093	-6.1935	0.2049	0.0893	0.1143
2	355.08	0.1949	0.0024	0.0019	-0.0057	0.0010	-0.0144	0.0029	0.0020	0.0257
2	355.08	0.2405	-0.0048	0.0012	-0.0164	0.0026	-0.0484	0.0059	-0.1895	0.0357
2	355.08	0.2999	-0.0081	0.0015	-0.0320	0.0038	-0.1094	0.0102	-0.0983	0.0560
2	355.08	0.3498	-0.0416	0.0014	-0.0580	0.0071	-0.1804	0.0169	-0.0779	0.0472
2	355.08	0.3998	-0.0585	0.0017	-0.0914	0.0110	-0.3048	0.0254	-0.0055	0.0473
2	355.08	0.4496	-0.0723	0.0017	-0.1171	0.0135	-0.4576	0.0313	0.0410	0.0419
2	355.08	0.4995	-0.0956	0.0017	-0.1445	0.0163	-0.6804	0.0382	-0.0619	0.0457
2	355.08	0.5551	-0.1095	0.0017	-0.1787	0.0194	-0.9924	0.0453	-0.1250	0.0444
2	355.08	0.5996	-0.1237	0.0021	-0.2044	0.0221	-1.2882	0.0509	-0.1936	0.0401
2	355.08	0.6497	-0.1352	0.0021	-0.2328	0.0252	-1.6715	0.0571	-0.0553	0.0534
2	355.08	0.6996	-0.1447	0.0024	-0.2733	0.0284	-2.1456	0.0626	-0.1102	0.0400
2	355.08	0.7495	-0.1586	0.0026	-0.3052	0.0303	-2.6800	0.0690	-0.0169	0.0439
2	355.08	0.7996	-0.1732	0.0028	-0.3675	0.0344	-3.3229	0.0764	-0.1610	0.0421
2	355.08	0.8578	-0.2101	0.0031	-0.4160	0.0386	-4.1012	0.0848	0.1390	0.0436
2	355.08	0.9100	-0.1904	0.0033	-0.4194	0.0418	-4.8777	0.0938	0.0914	0.0478
2	355.08	0.9727	-0.2228	0.0045	-0.3994	0.0462	-5.6793	0.1054	0.4229	0.0471
3	355.08	0.1938	0.0141	0.0036	-0.0288	0.0013	0.0431	0.0043	-0.4662	0.0197
3	355.08	0.2357	0.0039	0.0025	-0.0079	0.0025	0.0357	0.0062	-0.7311	0.0431
3	355.08	0.2995	-0.0350	0.0013	-0.0875	0.0055	0.0728	0.0135	-1.1510	0.0494
3	355.08	0.3493	-0.0588	0.0015	-0.1612	0.0104	0.1157	0.0214	-1.1281	0.0529
3	355.08	0.4000	-0.0646	0.0020	-0.2297	0.0158	0.1313	0.0326	-0.8889	0.0427
3	355.08	0.4497	-0.0914	0.0022	-0.3076	0.0209	0.0903	0.0403	-0.9414	0.0464
3	355.08	0.4997	-0.1204	0.0022	-0.3809	0.0262	0.0070	0.0493	-0.9659	0.0479
3	355.08	0.5556	-0.1339	0.0024	-0.4614	0.0318	-0.1360	0.0586	-0.9458	0.0508
3	355.08	0.5995	-0.1446	0.0028	-0.5517	0.0359	-0.3111	0.0661	-0.9055	0.0558
3	355.08	0.6498	-0.1597	0.0035	-0.6468	0.0405	-0.5701	0.0760	-0.8730	0.0612
3	355.08	0.6890	-0.2097	0.0040	-0.7277	0.0443	-0.8330	0.0849	-0.8270	0.0495
3	355.08	0.7495	-0.2142	0.0053	-0.8405	0.0508	-1.3365	0.0970	-0.8713	0.0486
3	355.08	0.7998	-0.2155	0.0070	-0.9461	0.0556	-1.8449	0.1045	-0.9014	0.0517
3	355.08	0.8577	-0.2541	0.0089	-1.0536	0.0618	-2.5259	0.1172	-0.8000	0.0486
3	355.08	0.9178	-0.2840	0.0111	-1.2090	0.0677	-3.3244	0.1279	-0.8293	0.0521
3	355.08	0.9729	-0.3099	0.0150	-1.2624	0.0715	-4.0936	0.1408	-0.9739	0.0520
4	355.08	0.2001	0.0233	0.0027	0.0046	0.0023	-0.0399	0.0052	0.0723	0.0469
4	355.08	0.2502	0.0204	0.0020	0.0225	0.0049	-0.0999	0.0098	0.0695	0.0823
4	355.08	0.3001	-0.0027	0.0018	0.0279	0.0082	-0.1582	0.0168	0.1406	0.1020
4	355.08	0.3502	-0.0475	0.0022	0.0615	0.0143	-0.2691	0.0251	0.2443	0.0845
4	355.08	0.4002	-0.0778	0.0029	0.0945	0.0217	-0.4191	0.0390	0.2694	0.0866
4	355.08	0.4500	-0.1023	0.0025	0.1273	0.0242	-0.6277	0.0463	0.0830	0.0820
4	355.08	0.5001	-0.1378	0.0025	0.1405	0.0291	-0.8534	0.0552	0.2620	0.0840
4	355.08	0.5560	-0.1756	0.0025	0.1579	0.0351	-1.2331	0.0654	0.0855	0.0762
4	355.08	0.6001	-0.2027	0.0027	0.1797	0.0398	-1.5550	0.0738	0.1186	0.0789
4	355.08	0.6501	-0.2579	0.0026	0.1640	0.0452	-2.0071	0.0830	0.2388	0.0866
4	355.08	0.6999	-0.2742	0.0028	0.1591	0.0498	-2.5551	0.0919	0.2165	0.0862
4	355.08	0.7500	-0.3098	0.0033	0.1702	0.0568	-3.1515	0.1030	0.2859	0.0928
4	355.08	0.8002	-0.3367	0.0039	0.1493	0.0622	-3.8808	0.1131	0.1143	0.0945
4	355.08	0.8582	-0.3507	0.0044	0.1522	0.0680	-4.7574	0.1255	0.0980	0.1113
4	355.08	0.9101	-0.3593	0.0054	0.1247	0.0771	-5.6273	0.1386	0.0361	0.1275
4	355.08	0.9728	-0.3511	0.0079	0.1359	0.0801	-6.5342	0.1566	0.8391	0.0847

2.9 Run 47, Points 10 to 15

2.9.1 Pitch, Flap, and Lag

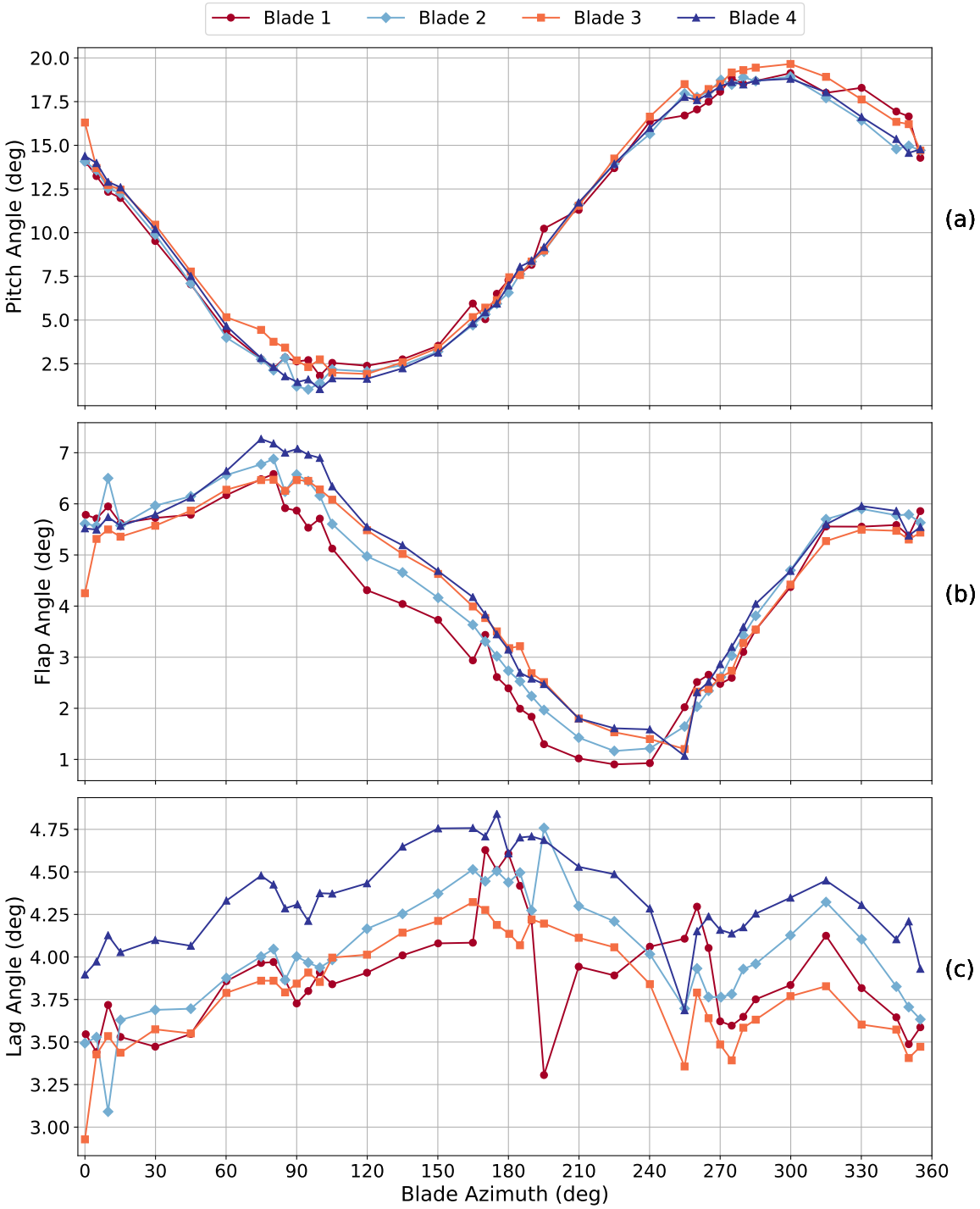


Figure 2.9-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	14.0404	5.7850	3.5458	0.1495	0.1132	0.0517
4.92	13.2390	5.7129	3.4405	0.1356	0.0853	0.0645
9.84	12.3389	5.9493	3.7180	0.1413	0.0897	0.1163
15.12	11.9847	5.6200	3.5299	0.1718	0.0899	0.0756
29.88	9.5234	5.7242	3.4728	0.2067	0.1171	0.0772
45	7.0414	5.7862	3.5475	0.1370	0.1173	0.0866
60.12	4.3734	6.1704	3.8580	0.1531	0.0992	0.0823
74.88	2.7652	6.4826	3.9647	0.1547	0.1199	0.0842
80.16	2.2194	6.5833	3.9702	0.1688	0.1013	0.1331
85.08	2.8588	5.9159	3.8641	0.1745	0.0758	0.0724
90	2.6327	5.8671	3.7267	0.3426	0.1378	0.0802
94.92	2.7101	5.5331	3.7996	0.2302	0.0822	0.0921
99.84	1.8157	5.7112	3.9097	0.2578	0.1145	0.1082
105.12	2.5522	5.1241	3.8395	0.1350	0.0807	0.0734
119.88	2.3850	4.3100	3.9074	0.0912	0.0849	0.0617
135	2.7540	4.0410	4.0095	0.1116	0.1004	0.0633
150.12	3.5310	3.7299	4.0799	0.1110	0.1228	0.0721
164.88	5.9470	2.9379	4.0839	0.7310	0.2914	0.0837
170.16	5.0493	3.4359	4.6284	0.1195	0.1417	0.0679
175.08	6.5044	2.6113	4.5103	0.1260	0.1243	0.0685
180	7.2852	2.3910	4.6062	0.2166	0.2114	0.1120
184.92	7.6306	1.9920	4.4182	0.1440	0.1021	0.0880
189.84	8.1581	1.8347	4.2146	0.0833	0.1888	0.0778
195.12	10.2316	1.2977	3.3060	0.3211	0.3004	0.1603
209.88	11.3044	1.0195	3.9429	0.1372	0.1269	0.0674
225	13.6925	0.9028	3.8915	0.1806	0.1123	0.0765
240.12	16.3702	0.9272	4.0604	0.1650	0.0740	0.0720
254.88	16.7078	2.0212	4.1071	0.2608	0.1005	0.1013
260.16	17.0524	2.5136	4.2955	0.1738	0.2337	0.1880
265.08	17.4965	2.6564	4.0527	0.1414	0.1347	0.0926
270	18.0669	2.4776	3.6217	0.2321	0.1037	0.1168
274.92	18.8517	2.5955	3.5964	0.1240	0.1006	0.1129
279.84	18.5127	3.1022	3.6483	0.2617	0.0899	0.0846
285.12	18.6811	3.5353	3.7510	0.1146	0.1282	0.0661
299.88	19.1273	4.3721	3.8350	0.2746	0.1034	0.0876
315	18.0036	5.5562	4.1247	0.2246	0.1007	0.0838
330.12	18.2897	5.5536	3.8169	0.2757	0.1118	0.0998
344.88	16.9337	5.5862	3.6451	0.2978	0.1474	0.0753
350.16	16.6518	5.3757	3.4875	0.4141	0.1074	0.0881
355.08	14.2844	5.8583	3.5868	0.1261	0.1288	0.1024

Table 2.9-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	14.0746	5.6114	3.4932	0.1480	0.0843	0.0649
4.92	13.5758	5.5690	3.5287	0.1265	0.1087	0.1092
9.84	12.5401	6.5015	3.0909	0.4945	0.3854	0.2240
15.12	12.2466	5.5771	3.6295	0.1261	0.0917	0.0499
29.88	9.8929	5.9645	3.6889	0.1386	0.0904	0.0676
45	7.0984	6.1476	3.6959	0.1390	0.1069	0.0614
60.12	3.9955	6.5637	3.8762	0.1072	0.0785	0.0747
74.88	2.7499	6.7734	4.0023	0.1883	0.0758	0.0429
80.16	2.1331	6.8771	4.0463	0.1355	0.1357	0.0794
85.08	2.8357	6.2390	3.8644	0.1099	0.1091	0.0666
90	1.2070	6.5742	4.0029	0.1416	0.1193	0.0864
94.92	1.0322	6.4418	3.9662	0.1193	0.1027	0.0733
99.84	1.3965	6.1599	3.9374	0.1917	0.0929	0.0773
105.12	2.1732	5.6046	3.9830	0.1672	0.1038	0.0797
119.88	2.0577	4.9736	4.1655	0.1093	0.0949	0.0832
135	2.4193	4.6570	4.2534	0.0997	0.1101	0.0915
150.12	3.1981	4.1624	4.3723	0.1127	0.1223	0.0821
164.88	4.7106	3.6339	4.5139	0.0998	0.1474	0.1026
170.16	5.3302	3.3078	4.4452	0.1140	0.1114	0.1255
175.08	5.9353	3.0187	4.5049	0.1237	0.1496	0.1062
180	6.5683	2.7345	4.4385	0.1544	0.2059	0.1085
184.92	7.6356	2.5269	4.4959	0.1451	0.1560	0.1207
189.84	8.3423	2.2381	4.2736	0.1601	0.1634	0.0847
195.12	8.9176	1.9653	4.7581	0.3751	0.3866	0.1642
209.88	11.6152	1.4258	4.2991	0.2156	0.1755	0.1020
225	13.9411	1.1650	4.2094	0.1997	0.1330	0.0871
240.12	15.6483	1.2160	4.0166	0.1703	0.1406	0.1452
254.88	17.9635	1.6439	3.6971	0.4968	0.3176	0.1829
260.16	17.7551	2.0326	3.9324	0.2099	0.0821	0.0905
265.08	18.0703	2.3430	3.7643	0.1820	0.1045	0.1597
270.35	18.7327	2.6133	3.7640	0.2206	0.1078	0.0828
274.92	18.4760	3.0306	3.7814	0.1781	0.1070	0.0777
279.84	18.8926	3.4275	3.9286	0.1278	0.0737	0.0932
285.12	18.6757	3.8099	3.9596	0.2466	0.0915	0.0727
299.88	18.9290	4.6999	4.1273	0.2023	0.0907	0.0705
315	17.7097	5.6987	4.3225	0.2168	0.0908	0.0750
330.12	16.4261	5.9009	4.1040	0.2138	0.1259	0.1215
344.88	14.7901	5.7776	3.8260	0.1978	0.1244	0.1204
350.16	14.9673	5.7896	3.7056	0.3467	0.0867	0.1444
355.08	14.7134	5.6322	3.6335	0.1115	0.0967	0.0870

Table 2.9-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	16.3023	4.2522	2.9279	0.2895	0.2308	0.1962
4.92	13.6979	5.3144	3.4272	0.0952	0.0900	0.0811
9.84	12.7262	5.4989	3.5347	0.1326	0.1061	0.0807
15.12	12.4657	5.3577	3.4374	0.1215	0.0763	0.0732
29.88	10.4587	5.5717	3.5747	0.1532	0.1055	0.0786
45	7.7774	5.8669	3.5507	0.1149	0.0828	0.1029
60.12	5.1603	6.2764	3.7890	0.1069	0.0774	0.0947
74.88	4.4369	6.4653	3.8604	0.1623	0.0925	0.0806
80.16	3.7581	6.4716	3.8603	0.2412	0.1644	0.0996
85.08	3.4241	6.2561	3.7919	0.1430	0.1074	0.0966
90	2.6908	6.4643	3.8433	0.1990	0.1276	0.0895
94.92	2.3136	6.4497	3.9084	0.2011	0.0876	0.0787
99.84	2.7490	6.2809	3.8531	0.1319	0.1013	0.1046
105.12	1.9923	6.0811	3.9962	0.1380	0.1047	0.0750
119.88	1.9162	5.4841	4.0134	0.1801	0.1470	0.1201
135	2.5839	5.0199	4.1430	0.1769	0.1471	0.1128
150.12	3.4129	4.6284	4.2118	0.1378	0.1774	0.1096
164.88	5.1683	3.9921	4.3224	0.1285	0.1546	0.0883
170.16	5.7123	3.7661	4.2761	0.1133	0.1772	0.0968
175.08	6.1400	3.5046	4.1881	0.1960	0.2058	0.1392
180.35	7.4503	3.1766	4.1361	0.1084	0.1145	0.1290
184.92	7.5793	3.2149	4.0688	0.2708	0.1825	0.0716
189.84	8.3456	2.6875	4.2205	0.1249	0.1117	0.0965
195.12	8.9801	2.5128	4.1963	0.1412	0.1294	0.1125
209.88	11.5408	1.7992	4.1127	0.1475	0.1748	0.0662
225	14.2442	1.5316	4.0569	0.1581	0.1361	0.0764
240.12	16.6407	1.3987	3.8404	0.2430	0.1427	0.1092
254.88	18.5014	1.2038	3.3562	0.3455	0.2808	0.1863
260.16	17.7144	2.3263	3.7907	0.2034	0.1367	0.1694
265.08	18.2209	2.3818	3.6400	0.1126	0.0986	0.0967
270	18.5049	2.5967	3.4854	0.1785	0.1455	0.0935
274.92	19.1687	2.7345	3.3922	0.1508	0.1075	0.1211
279.84	19.3023	3.2770	3.5843	0.1798	0.1021	0.0933
285.12	19.4438	3.5411	3.6314	0.2200	0.0778	0.0627
299.88	19.6546	4.4207	3.7695	0.1723	0.0691	0.0560
315	18.9178	5.2719	3.8279	0.2262	0.1382	0.0689
330.12	17.6233	5.4950	3.6027	0.1444	0.1080	0.0841
344.88	16.3416	5.4731	3.5734	0.2038	0.1259	0.0660
350.16	16.2114	5.3025	3.4060	0.3788	0.1150	0.0857
355.08	14.6990	5.4375	3.4722	0.1358	0.1095	0.0743

Table 2.9-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	14.3874	5.5201	3.8965	0.1537	0.1251	0.0873
4.92	13.9819	5.4955	3.9728	0.1213	0.1037	0.0876
9.84	12.9076	5.7405	4.1275	0.1602	0.0843	0.0759
15.12	12.5974	5.5699	4.0282	0.1293	0.1033	0.0625
29.88	10.1991	5.7894	4.0994	0.1338	0.1043	0.1230
45	7.5159	6.1210	4.0654	0.1640	0.0899	0.1061
60.12	4.6588	6.6436	4.3309	0.1501	0.0822	0.1080
74.88	2.8267	7.2698	4.4780	0.1236	0.1462	0.0931
80.16	2.3181	7.1791	4.4255	0.1607	0.0892	0.0888
85.08	1.7830	7.0015	4.2856	0.1729	0.0759	0.1007
90.35	1.4532	7.0769	4.3087	0.1573	0.0894	0.0593
94.92	1.6029	6.9604	4.2117	0.1883	0.0590	0.0732
99.84	1.0496	6.8982	4.3745	0.1743	0.0738	0.0949
105.12	1.6648	6.3418	4.3722	0.1119	0.0795	0.0938
119.88	1.6397	5.5503	4.4327	0.1209	0.1231	0.0844
135	2.2379	5.1895	4.6487	0.1132	0.1131	0.0922
150.12	3.1374	4.6861	4.7555	0.1552	0.1489	0.0829
164.88	4.8094	4.1758	4.7576	0.1495	0.1993	0.1068
170.16	5.4471	3.8348	4.7084	0.1484	0.1377	0.1447
175.08	5.9424	3.4471	4.8407	0.1032	0.1617	0.0646
180	6.9795	3.1473	4.6087	0.1367	0.1622	0.0927
184.92	8.0508	2.6961	4.7020	0.1134	0.1388	0.1157
189.84	8.3847	2.5803	4.7086	0.0952	0.1412	0.1109
195.12	9.1757	2.4732	4.6870	0.0915	0.1424	0.0670
209.88	11.7267	1.8018	4.5298	0.1097	0.1256	0.0596
225	13.9331	1.6093	4.4863	0.1929	0.1349	0.0708
240.12	15.9901	1.5864	4.2847	0.1073	0.1033	0.0686
254.88	17.7717	1.0694	3.6867	0.3031	0.1901	0.1311
260.16	17.5873	2.3127	4.1510	0.1553	0.0745	0.0868
265.08	17.9397	2.5168	4.2380	0.1474	0.1056	0.0947
270	18.3688	2.8629	4.1593	0.1210	0.1315	0.1047
274.92	18.6179	3.1995	4.1376	0.1668	0.0654	0.0746
279.84	18.4801	3.5891	4.1745	0.2153	0.0873	0.1018
285.12	18.7051	4.0437	4.2547	0.2441	0.1246	0.1063
299.88	18.8043	4.6874	4.3482	0.1251	0.1011	0.0940
315	18.0343	5.5983	4.4495	0.1792	0.0896	0.0750
330.12	16.6216	5.9569	4.3055	0.1849	0.0898	0.0737
344.88	15.3609	5.8614	4.1037	0.2674	0.0986	0.0912
350.16	14.5654	5.3794	4.2088	0.4881	0.0948	0.3173
355.08	14.7687	5.5461	3.9302	0.1127	0.0739	0.0668

2.9.2 Spanwise Elastic Deformations

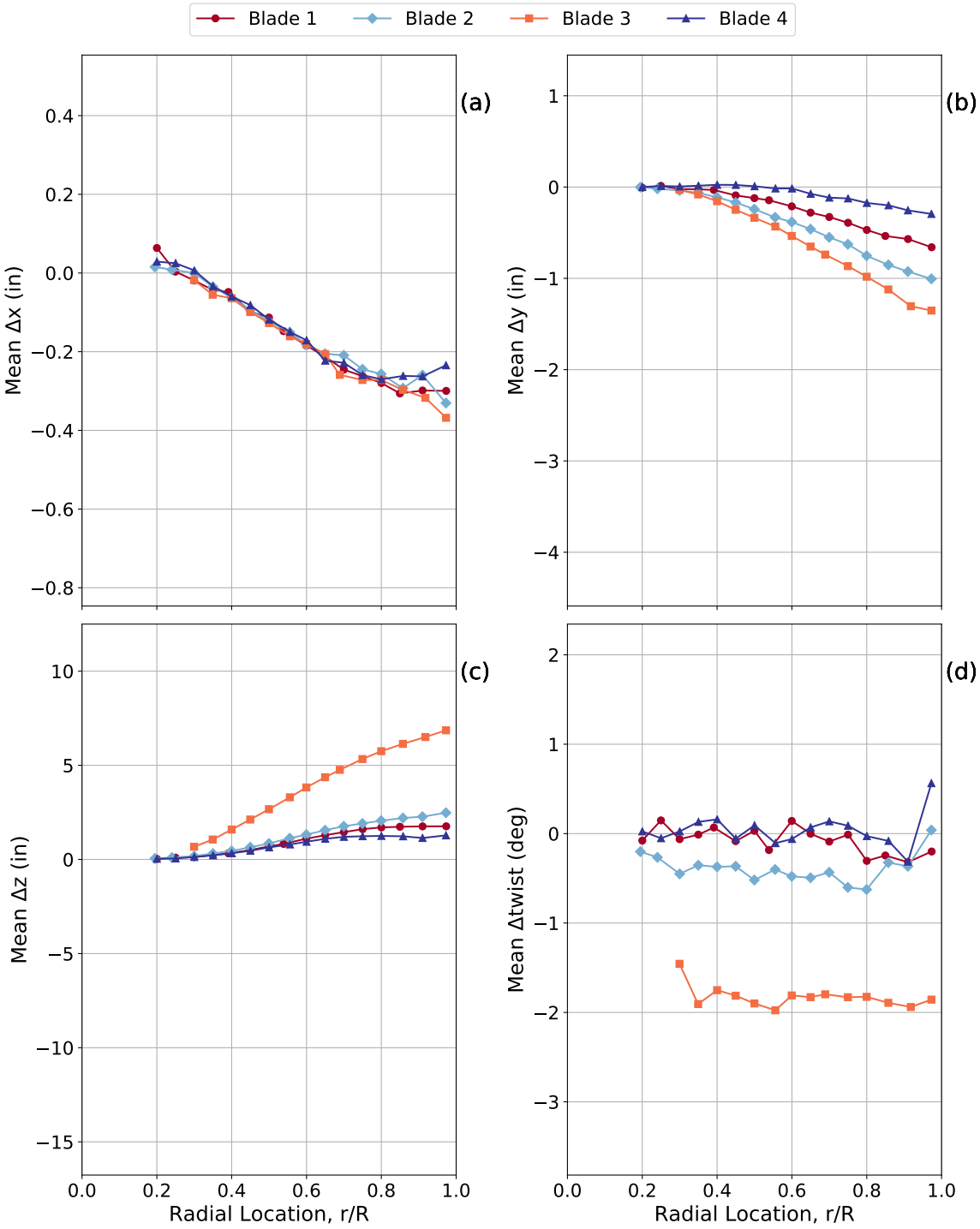


Figure 2.9-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0636	0.0029	-0.0077	0.0018	0.0317	0.0093	-0.0780	0.0557
1	0.35	0.2499	0.0035	0.0020	0.0124	0.0046	0.0942	0.0151	0.1480	0.1012
1	0.35	0.2998	-0.0191	0.0019	-0.0225	0.0073	0.1223	0.0274	-0.0621	0.1205
1	0.35	0.3498	-0.0431	0.0025	-0.0244	0.0142	0.2302	0.0442	-0.0114	0.1018
1	0.35	0.3913	-0.0483	0.0030	-0.0322	0.0194	0.3256	0.0603	0.0679	0.0872
1	0.35	0.4496	-0.0977	0.0030	-0.0915	0.0257	0.4955	0.0811	-0.0842	0.0942
1	0.35	0.4997	-0.1132	0.0038	-0.1215	0.0325	0.6994	0.0990	0.0313	0.0961
1	0.35	0.5387	-0.1478	0.0039	-0.1445	0.0382	0.8243	0.1163	-0.1836	0.0944
1	0.35	0.5996	-0.1844	0.0043	-0.2114	0.0470	1.1048	0.1432	0.1419	0.1028
1	0.35	0.6498	-0.2125	0.0047	-0.2799	0.0545	1.2863	0.1671	-0.0012	0.0953
1	0.35	0.6998	-0.2456	0.0059	-0.3283	0.0639	1.4519	0.1928	-0.0890	0.1053
1	0.35	0.7500	-0.2623	0.0058	-0.3914	0.0724	1.6084	0.2238	-0.0115	0.0990
1	0.35	0.8001	-0.2796	0.0067	-0.4700	0.0811	1.7013	0.2544	-0.3048	0.1042
1	0.35	0.8497	-0.3061	0.0080	-0.5360	0.0894	1.7351	0.2849	-0.2446	0.1127
1	0.35	0.9102	-0.2987	0.0074	-0.5695	0.1024	1.7566	0.3250	-0.3193	0.1183
1	0.35	0.9734	-0.2996	0.0130	-0.6595	0.1146	1.7603	0.3698	-0.2002	0.1215
2	0	0.1949	0.0155	0.0023	-0.0018	0.0015	0.0535	0.0070	-0.2017	0.0457
2	0	0.2405	0.0082	0.0023	-0.0186	0.0045	0.0998	0.0118	-0.2653	0.0756
2	0	0.2999	-0.0001	0.0015	-0.0373	0.0063	0.1772	0.0215	-0.4501	0.1001
2	0	0.3498	-0.0350	0.0022	-0.0632	0.0125	0.3126	0.0358	-0.3534	0.0772
2	0	0.3998	-0.0628	0.0030	-0.1121	0.0192	0.4524	0.0522	-0.3714	0.0768
2	0	0.4496	-0.0937	0.0030	-0.1694	0.0238	0.6482	0.0677	-0.3655	0.0764
2	0	0.4995	-0.1230	0.0037	-0.2423	0.0300	0.8473	0.0861	-0.5192	0.0777
2	0	0.5551	-0.1503	0.0044	-0.3319	0.0370	1.1283	0.1083	-0.4012	0.0764
2	0	0.5996	-0.1821	0.0048	-0.3831	0.0440	1.3161	0.1266	-0.4782	0.0859
2	0	0.6497	-0.2053	0.0051	-0.4609	0.0513	1.5526	0.1495	-0.4936	0.0879
2	0	0.6996	-0.2091	0.0063	-0.5509	0.0601	1.7627	0.1711	-0.4328	0.0954
2	0	0.7495	-0.2447	0.0079	-0.6266	0.0666	1.9102	0.1948	-0.6015	0.0958
2	0	0.7996	-0.2567	0.0086	-0.7524	0.0827	2.0577	0.2172	-0.6256	0.1080
2	0	0.8578	-0.2928	0.0078	-0.8530	0.0887	2.2008	0.2552	-0.3235	0.1079
2	0	0.9100	-0.2594	0.0142	-0.9255	0.1005	2.2710	0.2997	-0.3657	0.1896
2	0	0.9727	-0.3305	0.0106	-1.0058	0.1119	2.4790	0.3413	0.0392	0.1279
3	0	0.2995	-0.0181	0.0269	-0.0310	0.0342	0.6730	0.1045	-1.4562	0.2437
3	0	0.3493	-0.0552	0.0224	-0.0806	0.0629	1.0575	0.1506	-1.9066	0.3199
3	0	0.4000	-0.0641	0.0237	-0.1554	0.1044	1.5899	0.2140	-1.7508	0.3103
3	0	0.4497	-0.0993	0.0260	-0.2492	0.1443	2.1201	0.2743	-1.8127	0.3081
3	0	0.4997	-0.1272	0.0291	-0.3364	0.1849	2.6682	0.3362	-1.8997	0.3103
3	0	0.5556	-0.1609	0.0323	-0.4323	0.2297	3.3006	0.4053	-1.9761	0.3108
3	0	0.5995	-0.1802	0.0359	-0.5358	0.2643	3.8228	0.4607	-1.8101	0.3084
3	0	0.6498	-0.2061	0.0393	-0.6519	0.3045	4.3661	0.5240	-1.8290	0.3080
3	0	0.6890	-0.2589	0.0426	-0.7398	0.3345	4.7584	0.5738	-1.7971	0.3156
3	0	0.7495	-0.2719	0.0478	-0.8664	0.3841	5.3324	0.6505	-1.8299	0.3344
3	0	0.7998	-0.2720	0.0527	-0.9821	0.4201	5.7504	0.7212	-1.8256	0.3251
3	0	0.8577	-0.2970	0.0582	-1.1220	0.4693	6.1390	0.7982	-1.8925	0.3156
3	0	0.9178	-0.3173	0.0666	-1.3053	0.5154	6.5013	0.8825	-1.9396	0.3113
3	0	0.9729	-0.3681	0.0829	-1.3530	0.5621	6.8614	0.9561	-1.8566	0.3772
4	0	0.2001	0.0289	0.0021	0.0004	0.0020	0.0363	0.0081	0.0248	0.0632
4	0	0.2502	0.0248	0.0015	0.0118	0.0036	0.0520	0.0128	-0.0516	0.0802
4	0	0.3001	0.0065	0.0015	0.0060	0.0068	0.1310	0.0232	0.0249	0.1235
4	0	0.3502	-0.0336	0.0018	0.0150	0.0112	0.2189	0.0351	0.1312	0.0923
4	0	0.4002	-0.0597	0.0022	0.0247	0.0173	0.3307	0.0520	0.1598	0.0989
4	0	0.4500	-0.0817	0.0023	0.0230	0.0212	0.4602	0.0678	-0.0555	0.0823
4	0	0.5001	-0.1184	0.0026	0.0084	0.0260	0.6415	0.0868	0.0928	0.0909
4	0	0.5560	-0.1498	0.0029	-0.0156	0.0315	0.7959	0.1088	-0.1067	0.0906
4	0	0.6001	-0.1712	0.0032	-0.0158	0.0365	0.9394	0.1280	-0.0601	0.0993
4	0	0.6501	-0.2228	0.0039	-0.0742	0.0425	1.0956	0.1531	0.0699	0.1024
4	0	0.6999	-0.2283	0.0044	-0.1160	0.0496	1.2004	0.1791	0.1370	0.0974
4	0	0.7500	-0.2595	0.0049	-0.1247	0.0554	1.2336	0.2086	0.0881	0.1134
4	0	0.8002	-0.2702	0.0057	-0.1742	0.0630	1.2491	0.2388	-0.0282	0.1030
4	0	0.8582	-0.2616	0.0064	-0.2005	0.0695	1.2281	0.2743	-0.0821	0.1052
4	0	0.9101	-0.2628	0.0057	-0.2554	0.0774	1.1404	0.3119	-0.3135	0.1345
4	0	0.9728	-0.2345	0.0102	-0.2948	0.0882	1.2783	0.3671	0.5640	0.1558

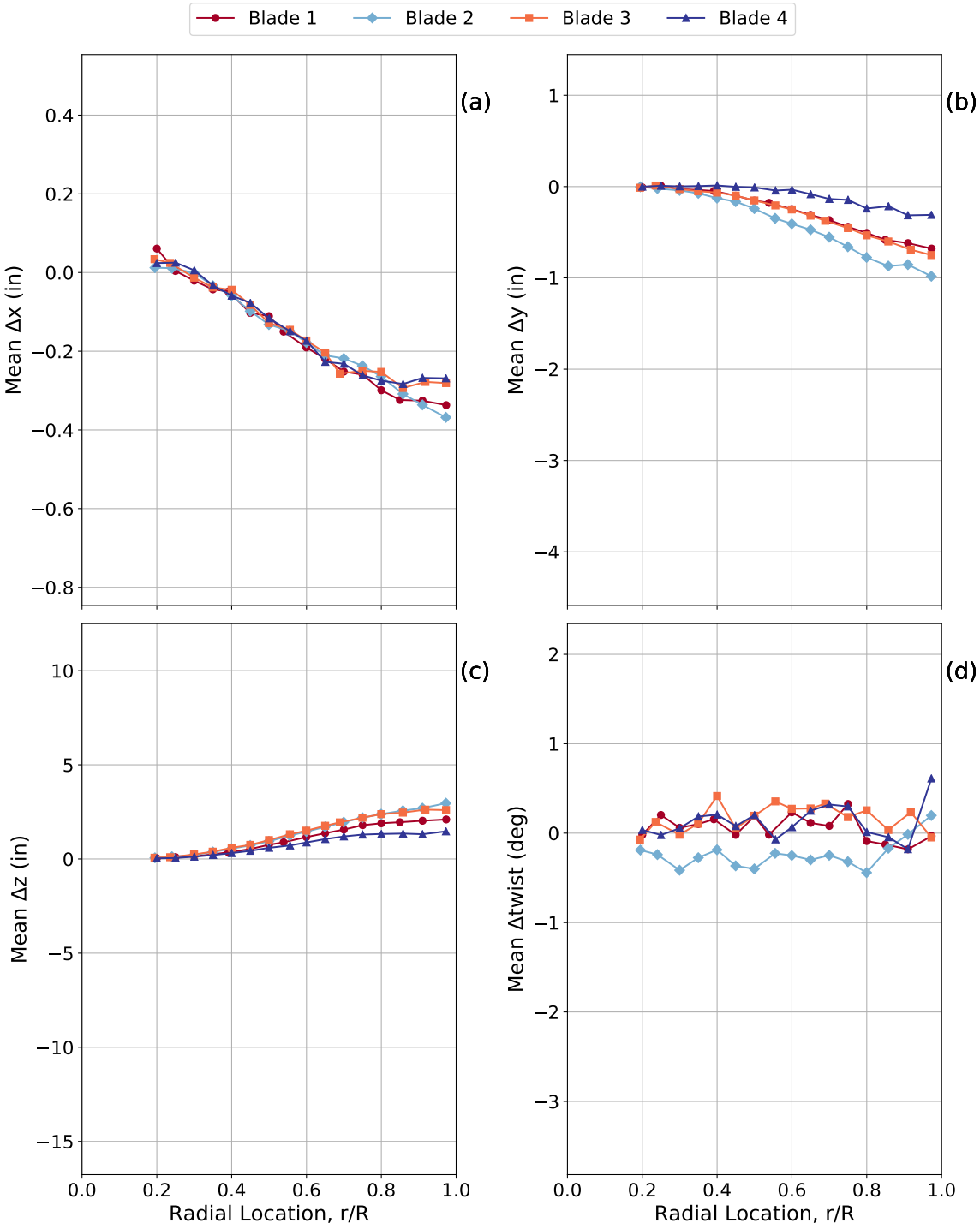


Figure 2.9-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0609	0.0030	-0.0091	0.0017	0.0360	0.0080	-0.0184	0.0523
1	4.92	0.2499	0.0039	0.0028	0.0084	0.0053	0.0976	0.0149	0.2028	0.0819
1	4.92	0.2998	-0.0207	0.0021	-0.0278	0.0071	0.1355	0.0266	0.0596	0.1112
1	4.92	0.3498	-0.0429	0.0029	-0.0368	0.0137	0.2497	0.0447	0.1013	0.0954
1	4.92	0.3913	-0.0482	0.0028	-0.0484	0.0194	0.3524	0.0618	0.1546	0.0921
1	4.92	0.4496	-0.1027	0.0031	-0.0997	0.0252	0.5265	0.0842	-0.0191	0.0914
1	4.92	0.4997	-0.1109	0.0035	-0.1535	0.0305	0.7533	0.1078	0.1873	0.0937
1	4.92	0.5387	-0.1502	0.0036	-0.1780	0.0359	0.8860	0.1257	-0.0175	0.0881
1	4.92	0.5996	-0.1904	0.0040	-0.2469	0.0428	1.1616	0.1547	0.2329	0.0949
1	4.92	0.6498	-0.2193	0.0046	-0.3103	0.0505	1.3671	0.1806	0.1142	0.0940
1	4.92	0.6998	-0.2518	0.0051	-0.3679	0.0567	1.5605	0.2045	0.0803	0.0982
1	4.92	0.7500	-0.2596	0.0064	-0.4410	0.0640	1.7927	0.2373	0.3256	0.1184
1	4.92	0.8001	-0.2991	0.0096	-0.5078	0.0754	1.8948	0.2610	-0.0883	0.1266
1	4.92	0.8497	-0.3238	0.0065	-0.5835	0.0788	1.9506	0.2969	-0.1264	0.1075
1	4.92	0.9102	-0.3256	0.0124	-0.6195	0.0889	2.0285	0.3411	-0.1810	0.1294
1	4.92	0.9734	-0.3369	0.0115	-0.6790	0.1010	2.0966	0.3997	-0.0328	0.1457
2	4.92	0.1949	0.0122	0.0024	-0.0029	0.0018	0.0604	0.0082	-0.1891	0.0492
2	4.92	0.2405	0.0110	0.0024	-0.0210	0.0038	0.1181	0.0143	-0.2400	0.0792
2	4.92	0.2999	-0.0009	0.0018	-0.0419	0.0069	0.2136	0.0279	-0.4143	0.1095
2	4.92	0.3498	-0.0336	0.0020	-0.0735	0.0128	0.3703	0.0436	-0.2748	0.0928
2	4.92	0.3998	-0.0585	0.0028	-0.1267	0.0196	0.5473	0.0668	-0.1865	0.1072
2	4.92	0.4496	-0.0981	0.0037	-0.1649	0.0259	0.7181	0.0843	-0.3658	0.0980
2	4.92	0.4995	-0.1322	0.0055	-0.2416	0.0355	0.9368	0.1084	-0.3998	0.0971
2	4.92	0.5551	-0.1487	0.0042	-0.3483	0.0402	1.2392	0.1356	-0.2258	0.0940
2	4.92	0.5996	-0.1780	0.0060	-0.4080	0.0484	1.4515	0.1604	-0.2501	0.1222
2	4.92	0.6497	-0.2105	0.0058	-0.4730	0.0544	1.7016	0.1845	-0.2993	0.1057
2	4.92	0.6996	-0.2183	0.0064	-0.5544	0.0635	1.9556	0.2122	-0.2481	0.1016
2	4.92	0.7495	-0.2370	0.0081	-0.6590	0.0750	2.1901	0.2425	-0.3193	0.1354
2	4.92	0.7996	-0.2641	0.0111	-0.7758	0.0830	2.3784	0.2683	-0.4416	0.1147
2	4.92	0.8578	-0.3086	0.0105	-0.8703	0.0938	2.5668	0.3118	-0.1696	0.1065
2	4.92	0.9100	-0.3363	0.0132	-0.8544	0.1070	2.6963	0.3556	-0.0141	0.2013
2	4.92	0.9727	-0.3680	0.0166	-0.9824	0.1187	2.9619	0.4144	0.1971	0.1464
3	4.92	0.1938	0.0339	0.0024	-0.0126	0.0014	0.0659	0.0072	-0.0721	0.0408
3	4.92	0.2357	0.0244	0.0020	0.0115	0.0034	0.0925	0.0122	0.1244	0.0595
3	4.92	0.2995	-0.0131	0.0015	-0.0271	0.0063	0.2403	0.0241	-0.0175	0.0809
3	4.92	0.3493	-0.0379	0.0021	-0.0504	0.0117	0.3875	0.0401	0.1051	0.0707
3	4.92	0.4000	-0.0439	0.0030	-0.0655	0.0184	0.5941	0.0605	0.4149	0.0748
3	4.92	0.4497	-0.0821	0.0041	-0.0987	0.0247	0.7468	0.0786	0.0544	0.0773
3	4.92	0.4997	-0.1285	0.0040	-0.1520	0.0300	1.0033	0.1009	0.1938	0.0731
3	4.92	0.5556	-0.1456	0.0045	-0.2064	0.0375	1.3108	0.1265	0.3546	0.0758
3	4.92	0.5995	-0.1728	0.0049	-0.2507	0.0429	1.5019	0.1473	0.2721	0.0823
3	4.92	0.6498	-0.2034	0.0060	-0.3185	0.0508	1.7612	0.1718	0.2753	0.0861
3	4.92	0.6890	-0.2571	0.0057	-0.3745	0.0562	1.9421	0.1901	0.3296	0.0852
3	4.92	0.7495	-0.2496	0.0072	-0.4544	0.0660	2.1899	0.2209	0.1795	0.0867
3	4.92	0.7998	-0.2525	0.0071	-0.5342	0.0746	2.3786	0.2476	0.2546	0.0823
3	4.92	0.8577	-0.2934	0.0072	-0.6014	0.0847	2.4607	0.2759	0.0358	0.1008
3	4.92	0.9178	-0.2779	0.0080	-0.6911	0.0936	2.6188	0.3170	0.2336	0.1444
3	4.92	0.9729	-0.2809	0.0111	-0.7500	0.1020	2.5946	0.3612	-0.0482	0.1094
4	4.92	0.2001	0.0240	0.0022	-0.0007	0.0014	0.0349	0.0068	0.0353	0.0390
4	4.92	0.2502	0.0251	0.0023	0.0086	0.0045	0.0509	0.0125	-0.0211	0.0754
4	4.92	0.3001	0.0056	0.0018	0.0023	0.0064	0.1232	0.0203	0.0547	0.0881
4	4.92	0.3502	-0.0331	0.0020	0.0056	0.0126	0.2086	0.0328	0.1856	0.0784
4	4.92	0.4002	-0.0588	0.0032	0.0118	0.0194	0.3126	0.0486	0.2066	0.0698
4	4.92	0.4500	-0.0772	0.0036	-0.0026	0.0259	0.4334	0.0618	0.0789	0.0866
4	4.92	0.5001	-0.1164	0.0040	-0.0092	0.0322	0.5926	0.0783	0.2019	0.0760
4	4.92	0.5560	-0.1492	0.0044	-0.0432	0.0410	0.7179	0.0989	-0.0698	0.0730
4	4.92	0.6001	-0.1735	0.0052	-0.0339	0.0486	0.8781	0.1134	0.0668	0.0728
4	4.92	0.6501	-0.2270	0.0057	-0.0836	0.0573	1.0571	0.1289	0.2501	0.0821
4	4.92	0.6999	-0.2319	0.0059	-0.1354	0.0678	1.1960	0.1475	0.3199	0.0823
4	4.92	0.7500	-0.2613	0.0067	-0.1460	0.0774	1.2952	0.1661	0.2978	0.0804
4	4.92	0.8002	-0.2747	0.0088	-0.2402	0.0912	1.3278	0.1909	0.0119	0.1027
4	4.92	0.8582	-0.2832	0.0079	-0.2153	0.1028	1.3493	0.2241	-0.0457	0.0913
4	4.92	0.9101	-0.2677	0.0102	-0.3148	0.1174	1.3139	0.2561	-0.1797	0.0985
4	4.92	0.9728	-0.2688	0.0181	-0.3101	0.1307	1.4664	0.3096	0.6119	0.0974

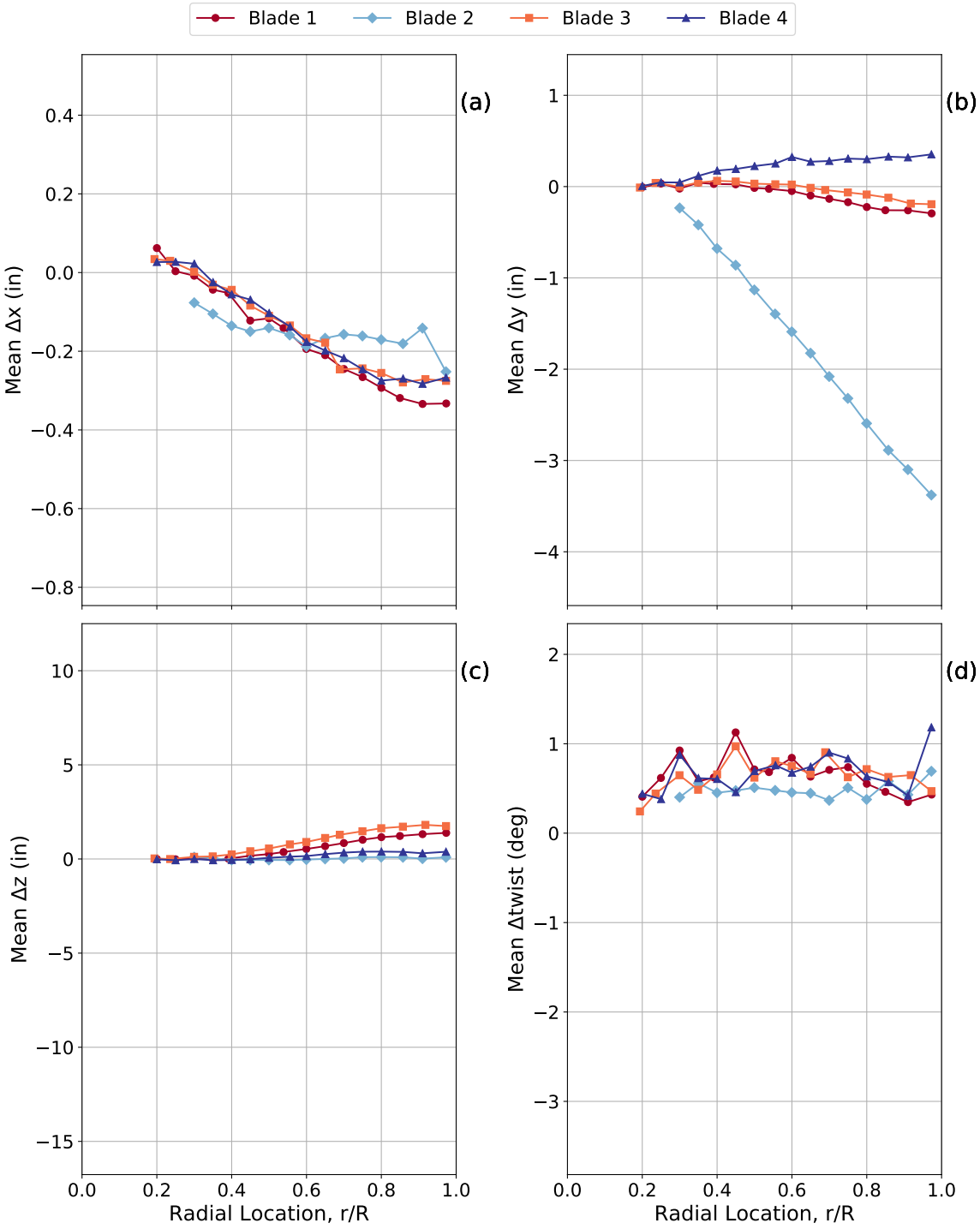


Figure 2.9-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0622	0.0034	-0.0063	0.0022	-0.0034	0.0107	0.4079	0.0708
1	9.84	0.2499	0.0034	0.0026	0.0333	0.0084	-0.0161	0.0200	0.6176	0.1012
1	9.84	0.2998	-0.0081	0.0036	-0.0218	0.0126	0.0211	0.0312	0.9247	0.1490
1	9.84	0.3498	-0.0435	0.0035	0.0423	0.0236	-0.0174	0.0536	0.5780	0.1095
1	9.84	0.3913	-0.0522	0.0028	0.0289	0.0355	0.0165	0.0719	0.6229	0.1063
1	9.84	0.4496	-0.1221	0.0058	0.0246	0.0432	0.1718	0.0940	1.1272	0.1922
1	9.84	0.4997	-0.1164	0.0044	-0.0144	0.0548	0.2596	0.1201	0.7129	0.1068
1	9.84	0.5387	-0.1410	0.0057	-0.0247	0.0568	0.3691	0.1335	0.6831	0.1375
1	9.84	0.5996	-0.1941	0.0108	-0.0488	0.0677	0.5327	0.1609	0.8425	0.1091
1	9.84	0.6498	-0.2100	0.0055	-0.0978	0.0845	0.6815	0.1837	0.6325	0.1063
1	9.84	0.6998	-0.2451	0.0051	-0.1338	0.0935	0.8456	0.2056	0.7077	0.1225
1	9.84	0.7500	-0.2658	0.0059	-0.1709	0.1053	1.0215	0.2279	0.7381	0.1111
1	9.84	0.8001	-0.2930	0.0062	-0.2240	0.1174	1.1594	0.2520	0.5524	0.1205
1	9.84	0.8497	-0.3189	0.0062	-0.2591	0.1296	1.2225	0.2778	0.4622	0.1268
1	9.84	0.9102	-0.3340	0.0075	-0.2601	0.1454	1.3185	0.3139	0.3474	0.1248
1	9.84	0.9734	-0.3328	0.0111	-0.2938	0.1624	1.3873	0.3514	0.4315	0.1374
2	9.84	0.2999	-0.0767	0.0195	-0.2342	0.0402	0.0955	0.1547	0.4016	0.3714
2	9.84	0.3498	-0.1051	0.0157	-0.4192	0.0725	0.0409	0.2448	0.5587	0.4907
2	9.84	0.3998	-0.1353	0.0170	-0.6787	0.1182	-0.0533	0.3675	0.4522	0.4644
2	9.84	0.4496	-0.1499	0.0180	-0.8610	0.1496	-0.0524	0.4794	0.4761	0.4608
2	9.84	0.4995	-0.1406	0.0240	-1.1319	0.1938	-0.0528	0.5911	0.5092	0.4521
2	9.84	0.5551	-0.1588	0.0274	-1.3955	0.2405	-0.0555	0.7241	0.4786	0.4337
2	9.84	0.5996	-0.1881	0.0347	-1.5901	0.2778	-0.0317	0.8188	0.4550	0.4501
2	9.84	0.6497	-0.1669	0.0366	-1.8248	0.3115	0.0031	0.9312	0.4463	0.4616
2	9.84	0.6996	-0.1571	0.0426	-2.0805	0.3491	0.0289	1.0443	0.3669	0.4694
2	9.84	0.7495	-0.1612	0.0478	-2.3196	0.3922	0.0942	1.1575	0.5079	0.4476
2	9.84	0.7996	-0.1705	0.0525	-2.5938	0.4329	0.1012	1.2698	0.3770	0.4518
2	9.84	0.8578	-0.1808	0.0577	-2.8875	0.4813	0.0909	1.4037	0.5820	0.4413
2	9.84	0.9100	-0.1413	0.0617	-3.1000	0.5264	0.0180	1.5202	0.4301	0.4488
2	9.84	0.9727	-0.2521	0.0720	-3.3781	0.5796	0.0893	1.6564	0.6925	0.4813
3	9.84	0.1938	0.0342	0.0020	-0.0105	0.0014	0.0284	0.0074	0.2433	0.0573
3	9.84	0.2357	0.0298	0.0017	0.0396	0.0037	-0.0027	0.0150	0.4431	0.0782
3	9.84	0.2995	0.0022	0.0017	-0.0007	0.0059	0.1142	0.0245	0.6481	0.1259
3	9.84	0.3493	-0.0309	0.0019	0.0450	0.0108	0.1377	0.0466	0.4855	0.0945
3	9.84	0.4000	-0.0440	0.0020	0.0629	0.0172	0.2445	0.0668	0.6568	0.0906
3	9.84	0.4497	-0.0839	0.0040	0.0556	0.0217	0.4107	0.0842	0.9717	0.1399
3	9.84	0.4997	-0.1100	0.0027	0.0318	0.0264	0.5554	0.1074	0.6213	0.0933
3	9.84	0.5556	-0.1345	0.0032	0.0253	0.0334	0.7728	0.1311	0.8043	0.0973
3	9.84	0.5995	-0.1671	0.0065	0.0220	0.0365	0.9028	0.1497	0.7508	0.1017
3	9.84	0.6498	-0.1782	0.0039	-0.0141	0.0432	1.1149	0.1761	0.6633	0.1151
3	9.84	0.6890	-0.2462	0.0047	-0.0378	0.0491	1.2855	0.1965	0.9049	0.1068
3	9.84	0.7495	-0.2436	0.0049	-0.0641	0.0567	1.4726	0.2325	0.6259	0.1053
3	9.84	0.7998	-0.2552	0.0056	-0.0867	0.0641	1.6335	0.2651	0.7157	0.1004
3	9.84	0.8577	-0.2793	0.0062	-0.1221	0.0728	1.7166	0.3050	0.6287	0.1167
3	9.84	0.9178	-0.2710	0.0068	-0.1867	0.0812	1.8122	0.3526	0.6493	0.1293
3	9.84	0.9729	-0.2753	0.0090	-0.1931	0.0895	1.7478	0.3973	0.4698	0.1272
4	9.84	0.2001	0.0267	0.0049	0.0066	0.0020	-0.0142	0.0091	0.4408	0.0565
4	9.84	0.2502	0.0271	0.0028	0.0460	0.0076	-0.0683	0.0187	0.3809	0.0754
4	9.84	0.3001	0.0225	0.0032	0.0453	0.0102	-0.0018	0.0267	0.8753	0.1150
4	9.84	0.3502	-0.0247	0.0062	0.1174	0.0216	-0.0665	0.0441	0.6150	0.0921
4	9.84	0.4002	-0.0555	0.0095	0.1751	0.0333	-0.0522	0.0647	0.6061	0.0930
4	9.84	0.4500	-0.0690	0.0131	0.1927	0.0387	-0.0134	0.0838	0.4583	0.0984
4	9.84	0.5001	-0.1031	0.0159	0.2245	0.0521	0.0640	0.1060	0.6950	0.0917
4	9.84	0.5560	-0.1377	0.0184	0.2524	0.0660	0.1223	0.1363	0.7591	0.0875
4	9.84	0.6001	-0.1764	0.0201	0.3241	0.0765	0.1559	0.1633	0.6761	0.0912
4	9.84	0.6501	-0.1984	0.0208	0.2723	0.0847	0.2576	0.1923	0.7439	0.1014
4	9.84	0.6999	-0.2176	0.0216	0.2803	0.0976	0.3379	0.2262	0.9007	0.1071
4	9.84	0.7500	-0.2460	0.0238	0.3064	0.1140	0.3865	0.2646	0.8342	0.1061
4	9.84	0.8002	-0.2747	0.0278	0.3000	0.1282	0.3927	0.3084	0.6351	0.1061
4	9.84	0.8582	-0.2694	0.0354	0.3279	0.1467	0.3773	0.3649	0.5710	0.1181
4	9.84	0.9101	-0.2829	0.0466	0.3198	0.1637	0.3022	0.4191	0.4194	0.1134
4	9.84	0.9728	-0.2670	0.0644	0.3529	0.1890	0.3839	0.4949	1.1836	0.1191

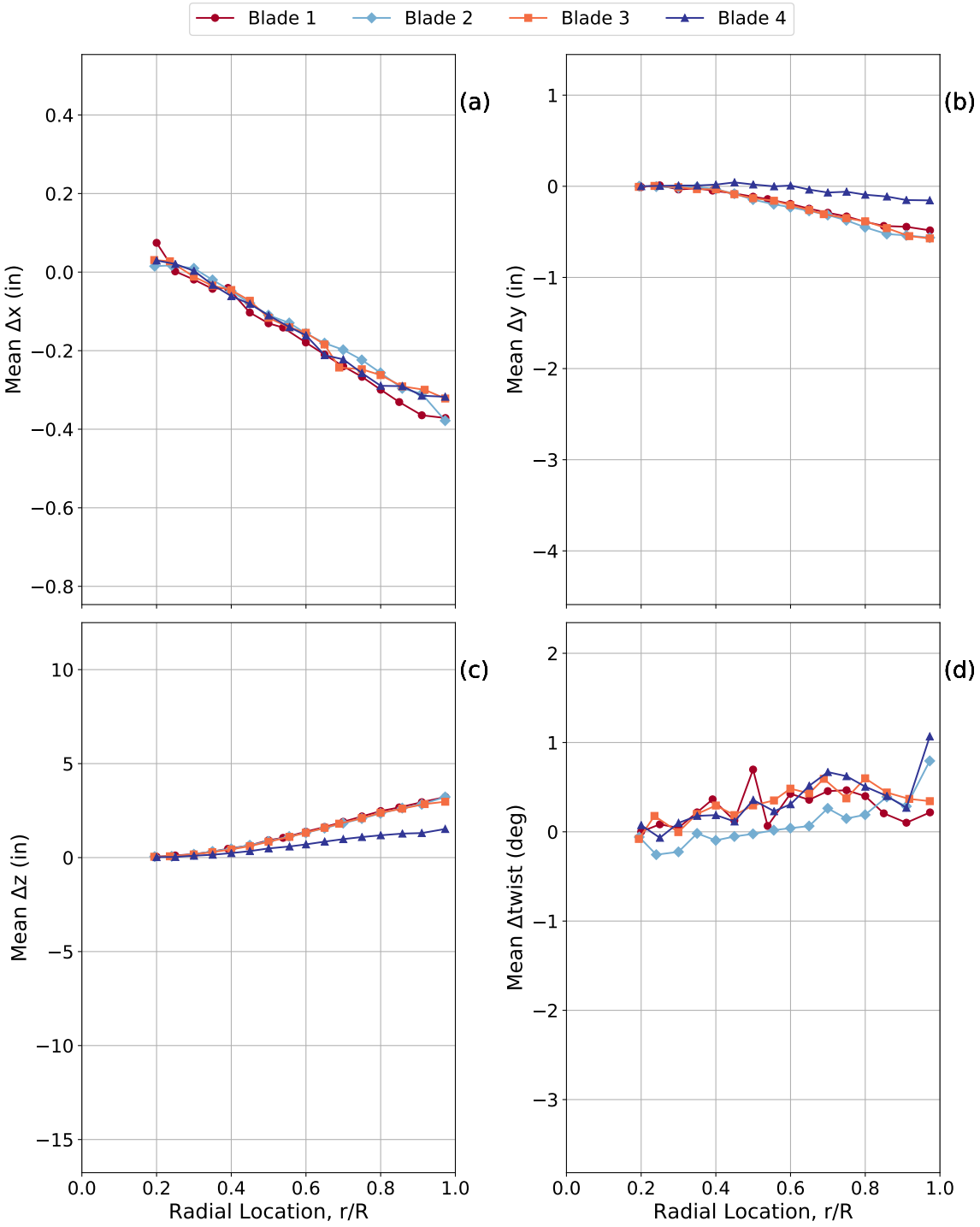


Figure 2.9-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0745	0.0051	-0.0081	0.0028	0.0438	0.0121	0.0017	0.0487
1	15.12	0.2499	0.0018	0.0042	0.0100	0.0124	0.1131	0.0272	0.0836	0.0891
1	15.12	0.2998	-0.0190	0.0040	-0.0348	0.0208	0.1847	0.0432	0.0442	0.1082
1	15.12	0.3498	-0.0426	0.0048	-0.0227	0.0332	0.3204	0.0645	0.2179	0.0993
1	15.12	0.3913	-0.0403	0.0054	-0.0474	0.0548	0.4684	0.0977	0.3638	0.1398
1	15.12	0.4496	-0.1030	0.0071	-0.0785	0.0637	0.6494	0.1171	0.1263	0.0958
1	15.12	0.4997	-0.1304	0.0075	-0.1142	0.0758	0.9234	0.1391	0.6976	0.1798
1	15.12	0.5387	-0.1412	0.0073	-0.1407	0.0791	1.0507	0.1650	0.0657	0.1014
1	15.12	0.5996	-0.1792	0.0069	-0.1933	0.0985	1.3785	0.2030	0.4261	0.1011
1	15.12	0.6498	-0.2099	0.0078	-0.2459	0.1100	1.6274	0.2349	0.3589	0.1006
1	15.12	0.6998	-0.2399	0.0085	-0.2901	0.1202	1.9054	0.2692	0.4560	0.1023
1	15.12	0.7500	-0.2666	0.0088	-0.3309	0.1391	2.1913	0.3030	0.4658	0.1126
1	15.12	0.8001	-0.2994	0.0093	-0.3897	0.1527	2.4754	0.3426	0.3993	0.1148
1	15.12	0.8497	-0.3308	0.0096	-0.4350	0.1691	2.6687	0.3854	0.2068	0.1184
1	15.12	0.9102	-0.3645	0.0093	-0.4446	0.1869	2.9477	0.4416	0.1017	0.1271
1	15.12	0.9734	-0.3715	0.0152	-0.4837	0.2065	3.2281	0.5117	0.2175	0.1328
2	15.12	0.1949	0.0150	0.0032	0.0010	0.0017	0.0533	0.0081	-0.0588	0.0443
2	15.12	0.2405	0.0172	0.0025	-0.0037	0.0082	0.0679	0.0157	-0.2562	0.0526
2	15.12	0.2999	0.0096	0.0026	-0.0156	0.0103	0.1776	0.0265	-0.2247	0.0836
2	15.12	0.3498	-0.0198	0.0035	-0.0074	0.0216	0.3269	0.0413	-0.0179	0.0767
2	15.12	0.3998	-0.0485	0.0036	-0.0311	0.0342	0.4675	0.0629	-0.0961	0.0803
2	15.12	0.4496	-0.0792	0.0037	-0.0817	0.0437	0.6593	0.0808	-0.0526	0.0746
2	15.12	0.4995	-0.1095	0.0035	-0.1464	0.0496	0.8647	0.1012	-0.0232	0.0891
2	15.12	0.5551	-0.1294	0.0044	-0.1967	0.0617	1.1219	0.1293	0.0178	0.0745
2	15.12	0.5996	-0.1558	0.0046	-0.2303	0.0712	1.3175	0.1521	0.0409	0.0736
2	15.12	0.6497	-0.1808	0.0049	-0.2700	0.0819	1.5622	0.1795	0.0643	0.0789
2	15.12	0.6996	-0.1978	0.0058	-0.3155	0.0915	1.8293	0.2095	0.2626	0.0848
2	15.12	0.7495	-0.2236	0.0059	-0.3736	0.1044	2.0772	0.2405	0.1490	0.0864
2	15.12	0.7996	-0.2564	0.0070	-0.4501	0.1131	2.3507	0.2755	0.1908	0.0910
2	15.12	0.8578	-0.2960	0.0074	-0.5238	0.1274	2.6327	0.3178	0.3909	0.1016
2	15.12	0.9100	-0.3097	0.0078	-0.5386	0.1407	2.8347	0.3618	0.2859	0.1046
2	15.12	0.9727	-0.3782	0.0128	-0.5636	0.1553	3.2245	0.4157	0.7942	0.1055
3	15.12	0.1938	0.0307	0.0041	-0.0064	0.0026	0.0441	0.0091	-0.0797	0.0400
3	15.12	0.2357	0.0276	0.0044	0.0039	0.0089	0.0679	0.0114	0.1778	0.0552
3	15.12	0.2995	-0.0115	0.0041	-0.0100	0.0120	0.1678	0.0247	-0.0032	0.0869
3	15.12	0.3493	-0.0345	0.0045	-0.0312	0.0334	0.2873	0.0384	0.1994	0.0693
3	15.12	0.4000	-0.0456	0.0048	-0.0337	0.0455	0.4357	0.0572	0.2946	0.0764
3	15.12	0.4497	-0.0730	0.0047	-0.0870	0.0546	0.6094	0.0770	0.1874	0.0768
3	15.12	0.4997	-0.1165	0.0053	-0.1311	0.0631	0.8406	0.0985	0.2958	0.0846
3	15.12	0.5556	-0.1406	0.0055	-0.1587	0.0793	1.1018	0.1271	0.3513	0.0857
3	15.12	0.5995	-0.1545	0.0059	-0.2071	0.0908	1.3211	0.1512	0.4836	0.0878
3	15.12	0.6498	-0.1843	0.0059	-0.2604	0.1043	1.5847	0.1818	0.4309	0.0895
3	15.12	0.6890	-0.2430	0.0061	-0.3060	0.1145	1.8042	0.2080	0.5937	0.0916
3	15.12	0.7495	-0.2474	0.0072	-0.3495	0.1321	2.0998	0.2517	0.3745	0.0967
3	15.12	0.7998	-0.2622	0.0078	-0.3846	0.1465	2.3850	0.2939	0.5993	0.0893
3	15.12	0.8577	-0.2910	0.0082	-0.4590	0.1641	2.6049	0.3490	0.4402	0.0874
3	15.12	0.9178	-0.2996	0.0089	-0.5468	0.1836	2.8462	0.4110	0.3685	0.1106
3	15.12	0.9729	-0.3218	0.0142	-0.5715	0.2012	2.9729	0.4799	0.3433	0.0969
4	15.12	0.2001	0.0294	0.0029	0.0011	0.0015	0.0252	0.0060	0.0745	0.0344
4	15.12	0.2502	0.0207	0.0019	0.0042	0.0045	0.0331	0.0137	-0.0670	0.0645
4	15.12	0.3001	0.0031	0.0018	0.0084	0.0054	0.0985	0.0213	0.0997	0.0756
4	15.12	0.3502	-0.0324	0.0023	0.0086	0.0112	0.1524	0.0336	0.1786	0.0846
4	15.12	0.4002	-0.0613	0.0026	0.0183	0.0166	0.2395	0.0528	0.1871	0.0769
4	15.12	0.4500	-0.0811	0.0033	0.0428	0.0192	0.3453	0.0678	0.1157	0.0741
4	15.12	0.5001	-0.1103	0.0034	0.0195	0.0246	0.4885	0.0837	0.3566	0.0746
4	15.12	0.5560	-0.1402	0.0038	-0.0007	0.0297	0.5909	0.1028	0.2304	0.0808
4	15.12	0.6001	-0.1612	0.0039	0.0081	0.0344	0.7018	0.1185	0.3086	0.0839
4	15.12	0.6501	-0.2115	0.0042	-0.0366	0.0407	0.8491	0.1358	0.5160	0.0852
4	15.12	0.6999	-0.2221	0.0050	-0.0685	0.0468	0.9824	0.1552	0.6692	0.0876
4	15.12	0.7500	-0.2572	0.0050	-0.0598	0.0546	1.0935	0.1724	0.6230	0.0891
4	15.12	0.8002	-0.2895	0.0056	-0.0926	0.0623	1.1864	0.1915	0.5054	0.0901
4	15.12	0.8582	-0.2904	0.0056	-0.1126	0.0712	1.2763	0.2174	0.4009	0.1024
4	15.12	0.9101	-0.3147	0.0060	-0.1511	0.0796	1.3052	0.2444	0.2691	0.1019
4	15.12	0.9728	-0.3173	0.0077	-0.1545	0.0904	1.5216	0.2831	1.0688	0.0998

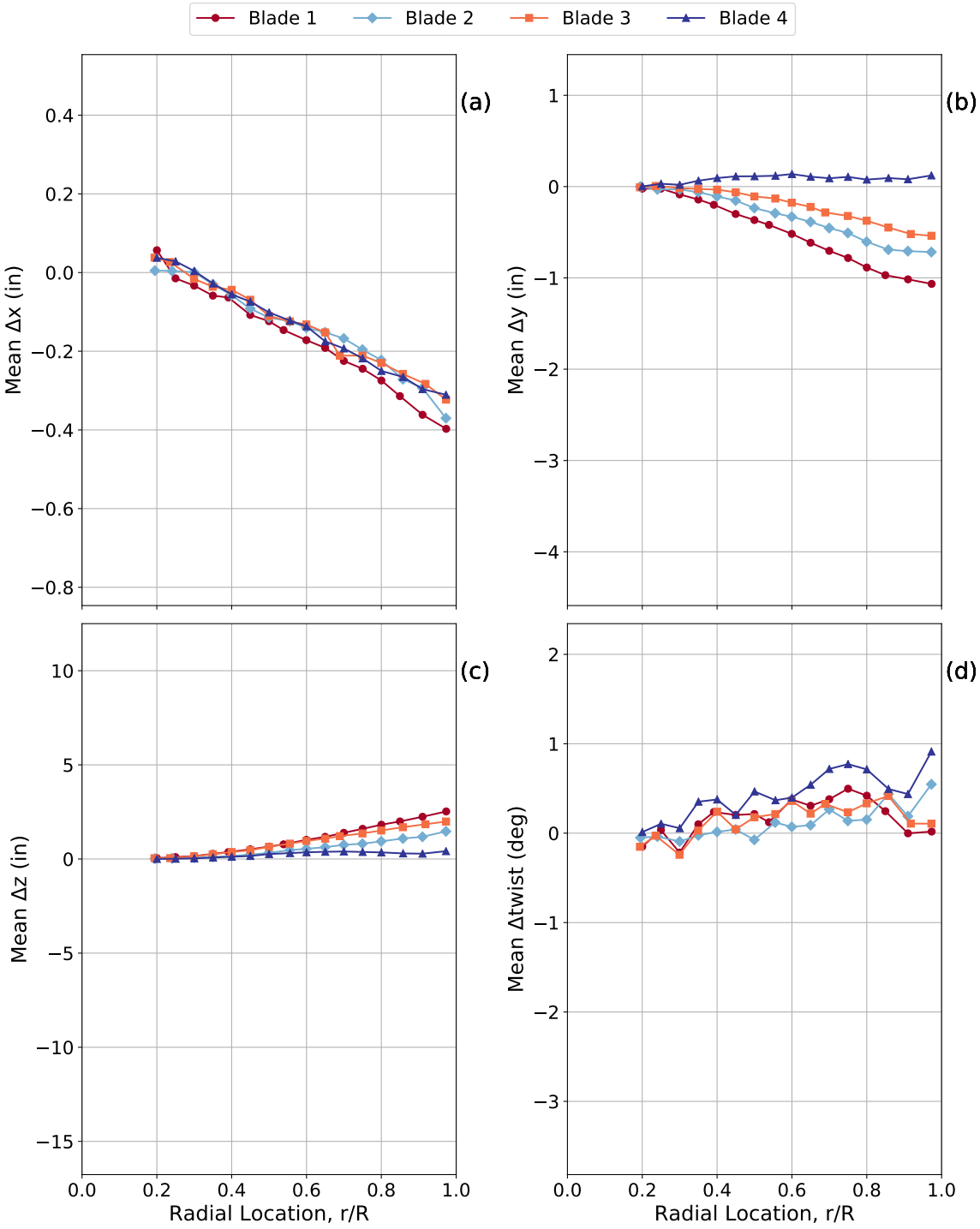


Figure 2.9-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0567	0.0039	-0.0220	0.0015	0.0498	0.0055	-0.1501	0.1158
1	29.88	0.2499	-0.0148	0.0036	-0.0227	0.0084	0.1002	0.0121	0.0337	0.1473
1	29.88	0.2998	-0.0333	0.0032	-0.0856	0.0074	0.1557	0.0194	-0.2171	0.2496
1	29.88	0.3498	-0.0587	0.0037	-0.1417	0.0196	0.2712	0.0388	0.0994	0.1516
1	29.88	0.3913	-0.0634	0.0037	-0.1995	0.0262	0.3704	0.0517	0.2368	0.1585
1	29.88	0.4496	-0.1077	0.0035	-0.3001	0.0346	0.5126	0.0703	0.2033	0.1566
1	29.88	0.4997	-0.1237	0.0039	-0.3665	0.0418	0.6595	0.0894	0.2141	0.1582
1	29.88	0.5387	-0.1462	0.0035	-0.4198	0.0478	0.7792	0.1054	0.1224	0.1525
1	29.88	0.5996	-0.1718	0.0039	-0.5179	0.0573	1.0165	0.1343	0.3766	0.1534
1	29.88	0.6498	-0.1915	0.0043	-0.6147	0.0672	1.1782	0.1620	0.3063	0.1625
1	29.88	0.6998	-0.2246	0.0046	-0.7039	0.0742	1.3901	0.1924	0.3795	0.1611
1	29.88	0.7500	-0.2446	0.0048	-0.7821	0.0841	1.6022	0.2257	0.4970	0.1649
1	29.88	0.8001	-0.2744	0.0049	-0.8865	0.0925	1.8196	0.2626	0.4192	0.1616
1	29.88	0.8497	-0.3141	0.0054	-0.9703	0.1017	1.9937	0.2997	0.2458	0.1552
1	29.88	0.9102	-0.3615	0.0059	-1.0160	0.1137	2.2429	0.3493	-0.0017	0.1618
1	29.88	0.9734	-0.3972	0.0089	-1.0657	0.1259	2.5251	0.4030	0.0178	0.1634
2	29.88	0.1949	0.0049	0.0026	0.0008	0.0016	0.0187	0.0049	-0.0509	0.0609
2	29.88	0.2405	0.0041	0.0019	-0.0311	0.0033	0.0388	0.0108	-0.0385	0.0757
2	29.88	0.2999	0.0007	0.0020	-0.0305	0.0050	0.0626	0.0180	-0.0927	0.1299
2	29.88	0.3498	-0.0298	0.0028	-0.0619	0.0103	0.1090	0.0315	-0.0242	0.0934
2	29.88	0.3998	-0.0577	0.0032	-0.1070	0.0145	0.1589	0.0478	0.0144	0.0951
2	29.88	0.4496	-0.0915	0.0042	-0.1532	0.0182	0.2298	0.0642	0.0418	0.0978
2	29.88	0.4995	-0.1145	0.0042	-0.2351	0.0219	0.3221	0.0837	-0.0747	0.1005
2	29.88	0.5551	-0.1236	0.0044	-0.2919	0.0266	0.4691	0.1063	0.1193	0.1069
2	29.88	0.5996	-0.1405	0.0045	-0.3304	0.0305	0.5400	0.1260	0.0703	0.1058
2	29.88	0.6497	-0.1519	0.0049	-0.3865	0.0353	0.6276	0.1484	0.0892	0.1144
2	29.88	0.6996	-0.1675	0.0046	-0.4544	0.0395	0.7508	0.1728	0.2656	0.1137
2	29.88	0.7495	-0.1959	0.0049	-0.5079	0.0445	0.8103	0.1999	0.1377	0.1100
2	29.88	0.7996	-0.2223	0.0046	-0.6041	0.0491	0.9371	0.2299	0.1515	0.1140
2	29.88	0.8578	-0.2712	0.0049	-0.6911	0.0559	1.0880	0.2673	0.4381	0.1175
2	29.88	0.9100	-0.2933	0.0053	-0.7068	0.0616	1.1770	0.3025	0.1889	0.1301
2	29.88	0.9727	-0.3702	0.0072	-0.7172	0.0689	1.4677	0.3502	0.5466	0.1309
3	29.88	0.1938	0.0380	0.0029	-0.0079	0.0016	0.0432	0.0063	-0.1521	0.0651
3	29.88	0.2357	0.0266	0.0028	0.0068	0.0050	0.0444	0.0107	-0.0276	0.0886
3	29.88	0.2995	-0.0160	0.0022	-0.0157	0.0054	0.1430	0.0243	-0.2419	0.1497
3	29.88	0.3493	-0.0360	0.0027	-0.0259	0.0123	0.2515	0.0443	0.0292	0.0933
3	29.88	0.4000	-0.0440	0.0031	-0.0335	0.0175	0.3681	0.0665	0.2399	0.0900
3	29.88	0.4497	-0.0692	0.0036	-0.0622	0.0220	0.4671	0.0870	0.0431	0.1008
3	29.88	0.4997	-0.1104	0.0036	-0.1078	0.0284	0.6454	0.1122	0.1781	0.0965
3	29.88	0.5556	-0.1242	0.0040	-0.1308	0.0353	0.8147	0.1417	0.2135	0.0969
3	29.88	0.5995	-0.1319	0.0040	-0.1764	0.0412	0.9580	0.1673	0.3606	0.1008
3	29.88	0.6498	-0.1521	0.0045	-0.2229	0.0489	1.0799	0.1977	0.2186	0.1045
3	29.88	0.6890	-0.2113	0.0044	-0.2831	0.0542	1.2120	0.2218	0.3270	0.1016
3	29.88	0.7495	-0.2110	0.0046	-0.3218	0.0645	1.3568	0.2583	0.2337	0.1097
3	29.88	0.7998	-0.2298	0.0049	-0.3738	0.0725	1.5151	0.2926	0.3335	0.1041
3	29.88	0.8577	-0.2577	0.0051	-0.4484	0.0845	1.6879	0.3269	0.4160	0.1145
3	29.88	0.9178	-0.2831	0.0051	-0.5200	0.0943	1.8450	0.3648	0.1069	0.1158
3	29.88	0.9729	-0.3230	0.0074	-0.5388	0.1049	1.9891	0.3972	0.1062	0.1089
4	29.88	0.2001	0.0375	0.0031	0.0020	0.0012	0.0020	0.0050	0.0118	0.0428
4	29.88	0.2502	0.0284	0.0034	0.0308	0.0071	0.0128	0.0093	0.1050	0.0691
4	29.88	0.3001	0.0037	0.0019	0.0195	0.0052	0.0313	0.0164	0.0553	0.0933
4	29.88	0.3502	-0.0279	0.0024	0.0646	0.0148	0.0758	0.0286	0.3519	0.0772
4	29.88	0.4002	-0.0555	0.0030	0.0935	0.0203	0.1179	0.0428	0.3766	0.0706
4	29.88	0.4500	-0.0741	0.0028	0.1122	0.0255	0.1598	0.0571	0.2039	0.0756
4	29.88	0.5001	-0.1014	0.0029	0.1129	0.0329	0.2630	0.0744	0.4661	0.0741
4	29.88	0.5560	-0.1223	0.0027	0.1188	0.0372	0.3116	0.0966	0.3682	0.0719
4	29.88	0.6001	-0.1368	0.0030	0.1371	0.0419	0.3553	0.1147	0.3974	0.0774
4	29.88	0.6501	-0.1751	0.0031	0.1079	0.0476	0.3822	0.1378	0.5417	0.0760
4	29.88	0.6999	-0.1929	0.0036	0.0913	0.0548	0.3979	0.1612	0.7182	0.0762
4	29.88	0.7500	-0.2182	0.0042	0.1062	0.0620	0.3732	0.1870	0.7721	0.0729
4	29.88	0.8002	-0.2501	0.0042	0.0766	0.0698	0.3498	0.2151	0.7129	0.0735
4	29.88	0.8582	-0.2655	0.0049	0.0936	0.0786	0.2970	0.2512	0.4941	0.0809
4	29.88	0.9101	-0.2963	0.0050	0.0800	0.0875	0.2819	0.2880	0.4371	0.0785
4	29.88	0.9728	-0.3106	0.0075	0.1221	0.0980	0.4150	0.3340	0.9123	0.0797

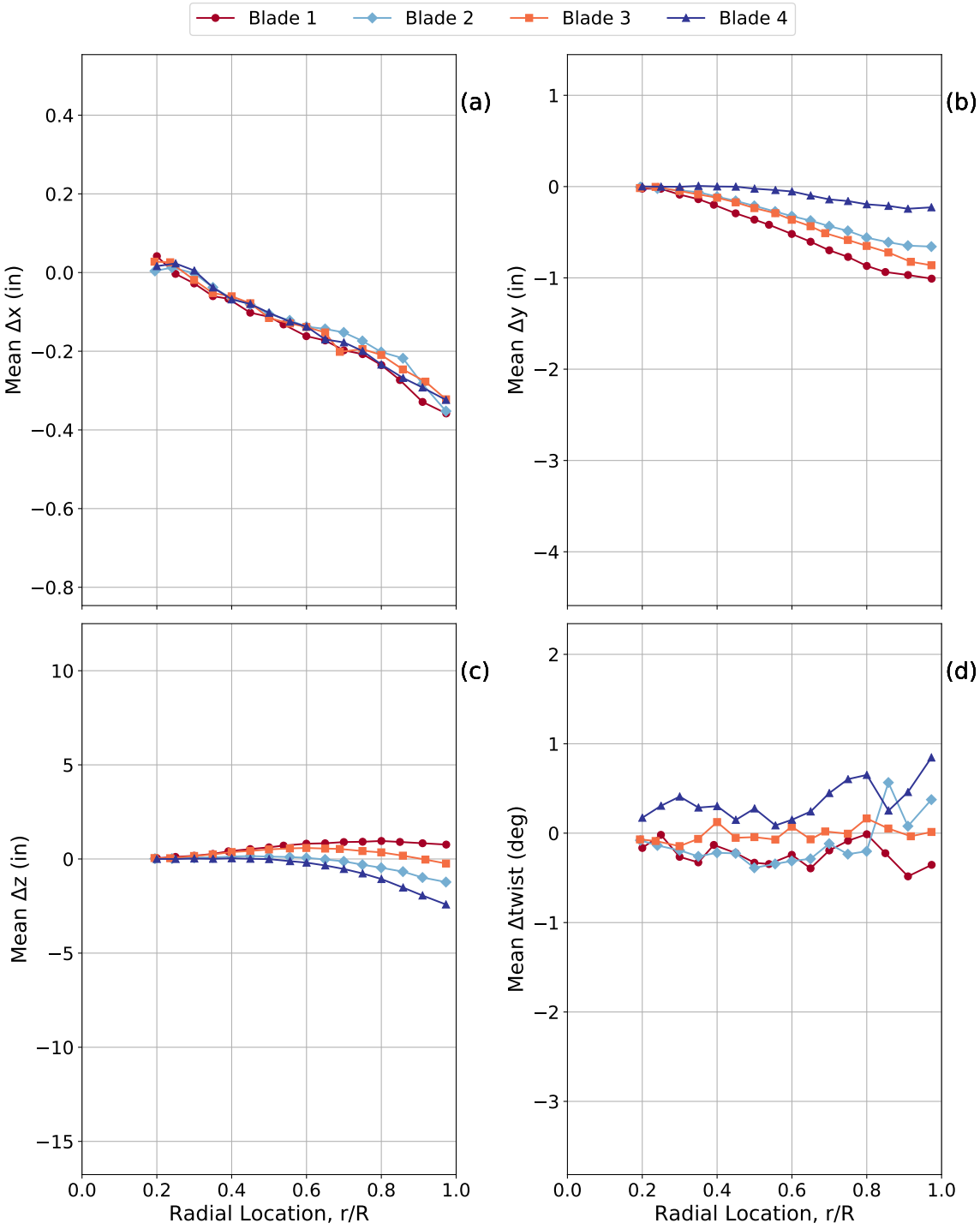


Figure 2.9-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0416	0.0041	-0.0222	0.0031	0.0421	0.0080	-0.1656	0.0397
1	45	0.2499	-0.0034	0.0025	-0.0235	0.0031	0.1100	0.0152	-0.0192	0.0690
1	45	0.2998	-0.0277	0.0023	-0.0879	0.0091	0.1714	0.0274	-0.2646	0.0883
1	45	0.3498	-0.0600	0.0034	-0.1376	0.0183	0.2684	0.0471	-0.3269	0.0727
1	45	0.3913	-0.0667	0.0024	-0.1990	0.0226	0.4081	0.0657	-0.1318	0.0709
1	45	0.4496	-0.1020	0.0028	-0.2930	0.0319	0.5262	0.0949	-0.2224	0.0753
1	45	0.4997	-0.1125	0.0032	-0.3619	0.0403	0.6199	0.1212	-0.3308	0.0947
1	45	0.5387	-0.1319	0.0034	-0.4184	0.0464	0.7108	0.1432	-0.3455	0.0804
1	45	0.5996	-0.1617	0.0040	-0.5190	0.0574	0.8124	0.1757	-0.2423	0.0805
1	45	0.6498	-0.1726	0.0042	-0.6040	0.0671	0.8348	0.2031	-0.3938	0.0883
1	45	0.6998	-0.1977	0.0047	-0.6979	0.0765	0.8987	0.2279	-0.1929	0.0846
1	45	0.7500	-0.2074	0.0050	-0.7706	0.0867	0.9150	0.2546	-0.0847	0.0852
1	45	0.8001	-0.2353	0.0054	-0.8693	0.0967	0.9568	0.2813	-0.0121	0.0876
1	45	0.8497	-0.2732	0.0054	-0.9358	0.1067	0.9052	0.3087	-0.2243	0.0874
1	45	0.9102	-0.3289	0.0060	-0.9686	0.1196	0.8365	0.3474	-0.4832	0.0850
1	45	0.9734	-0.3581	0.0093	-1.0085	0.1332	0.7648	0.3861	-0.3545	0.0924
2	45	0.1949	0.0040	0.0025	-0.0044	0.0010	0.0184	0.0047	-0.0795	0.0317
2	45	0.2405	0.0126	0.0020	-0.0210	0.0023	0.0217	0.0109	-0.1375	0.0499
2	45	0.2999	-0.0018	0.0018	-0.0414	0.0053	0.0588	0.0222	-0.1925	0.0706
2	45	0.3498	-0.0377	0.0024	-0.0608	0.0076	0.0839	0.0351	-0.2597	0.0625
2	45	0.3998	-0.0656	0.0030	-0.1099	0.0131	0.1285	0.0571	-0.2193	0.0664
2	45	0.4496	-0.0813	0.0032	-0.1568	0.0168	0.1566	0.0792	-0.2260	0.0671
2	45	0.4995	-0.1052	0.0031	-0.2108	0.0217	0.1255	0.1047	-0.3876	0.0767
2	45	0.5551	-0.1215	0.0037	-0.2731	0.0277	0.1053	0.1362	-0.3441	0.0679
2	45	0.5996	-0.1374	0.0039	-0.3236	0.0326	0.0605	0.1625	-0.3116	0.0696
2	45	0.6497	-0.1433	0.0042	-0.3727	0.0387	-0.0250	0.1929	-0.2871	0.0669
2	45	0.6996	-0.1522	0.0047	-0.4341	0.0450	-0.1255	0.2231	-0.1176	0.0733
2	45	0.7495	-0.1739	0.0047	-0.4847	0.0519	-0.3045	0.2547	-0.2348	0.0737
2	45	0.7996	-0.2020	0.0049	-0.5594	0.0587	-0.4658	0.2875	-0.2029	0.0744
2	45	0.8578	-0.2179	0.0085	-0.6098	0.0661	-0.6717	0.3262	0.5663	0.1388
2	45	0.9100	-0.2833	0.0054	-0.6467	0.0746	-0.9839	0.3588	0.0781	0.0810
2	45	0.9727	-0.3522	0.0076	-0.6573	0.0842	-1.2254	0.4019	0.3749	0.0835
3	45	0.1938	0.0276	0.0021	-0.0161	0.0011	0.0490	0.0049	-0.0698	0.0323
3	45	0.2357	0.0261	0.0021	-0.0036	0.0024	0.0413	0.0084	-0.0877	0.0419
3	45	0.2995	-0.0188	0.0019	-0.0479	0.0055	0.1578	0.0191	-0.1451	0.0673
3	45	0.3493	-0.0522	0.0024	-0.0852	0.0089	0.2419	0.0307	-0.0644	0.0654
3	45	0.4000	-0.0604	0.0031	-0.1220	0.0147	0.3675	0.0483	0.1238	0.0543
3	45	0.4497	-0.0780	0.0036	-0.1725	0.0191	0.4279	0.0647	-0.0518	0.0683
3	45	0.4997	-0.1156	0.0040	-0.2356	0.0254	0.5088	0.0822	-0.0442	0.0609
3	45	0.5556	-0.1293	0.0049	-0.2914	0.0334	0.5628	0.1011	-0.0713	0.0657
3	45	0.5995	-0.1385	0.0054	-0.3632	0.0400	0.5858	0.1159	0.0737	0.0593
3	45	0.6498	-0.1523	0.0055	-0.4343	0.0488	0.5531	0.1326	-0.0689	0.0659
3	45	0.6890	-0.2015	0.0058	-0.5101	0.0558	0.5347	0.1464	0.0189	0.0594
3	45	0.7495	-0.1947	0.0060	-0.5846	0.0677	0.4226	0.1669	-0.0062	0.0730
3	45	0.7998	-0.2094	0.0060	-0.6498	0.0781	0.3518	0.1840	0.1648	0.0736
3	45	0.8577	-0.2463	0.0113	-0.7213	0.0917	0.1760	0.2069	0.0518	0.0959
3	45	0.9178	-0.2773	0.0064	-0.8240	0.1036	-0.0304	0.2273	-0.0348	0.0803
3	45	0.9729	-0.3222	0.0101	-0.8617	0.1160	-0.2411	0.2498	0.0133	0.0759
4	45	0.2001	0.0163	0.0025	0.0017	0.0010	0.0016	0.0050	0.1720	0.0323
4	45	0.2502	0.0230	0.0020	-0.0014	0.0035	0.0001	0.0103	0.3061	0.0525
4	45	0.3001	0.0050	0.0021	-0.0020	0.0059	0.0229	0.0194	0.4094	0.0707
4	45	0.3502	-0.0380	0.0023	0.0074	0.0095	0.0085	0.0301	0.2860	0.0672
4	45	0.4002	-0.0683	0.0030	0.0011	0.0160	0.0359	0.0476	0.3021	0.0662
4	45	0.4500	-0.0799	0.0031	-0.0010	0.0201	0.0116	0.0633	0.1480	0.0759
4	45	0.5001	-0.1024	0.0034	-0.0231	0.0260	-0.0068	0.0820	0.2760	0.0745
4	45	0.5560	-0.1250	0.0038	-0.0384	0.0335	-0.1160	0.1034	0.0866	0.0734
4	45	0.6001	-0.1373	0.0037	-0.0535	0.0393	-0.1935	0.1199	0.1497	0.0688
4	45	0.6501	-0.1701	0.0042	-0.0987	0.0467	-0.3449	0.1414	0.2420	0.0690
4	45	0.6999	-0.1775	0.0045	-0.1402	0.0552	-0.5311	0.1653	0.4482	0.0728
4	45	0.7500	-0.1995	0.0046	-0.1587	0.0644	-0.7683	0.1909	0.6041	0.0769
4	45	0.8002	-0.2339	0.0047	-0.1941	0.0738	-1.0650	0.2184	0.6514	0.0721
4	45	0.8582	-0.2679	0.0058	-0.2118	0.0854	-1.5197	0.2509	0.2519	0.0833
4	45	0.9101	-0.2922	0.0056	-0.2428	0.0953	-1.9408	0.2823	0.4598	0.0755
4	45	0.9728	-0.3238	0.0085	-0.2273	0.1077	-2.4162	0.3207	0.8456	0.0829

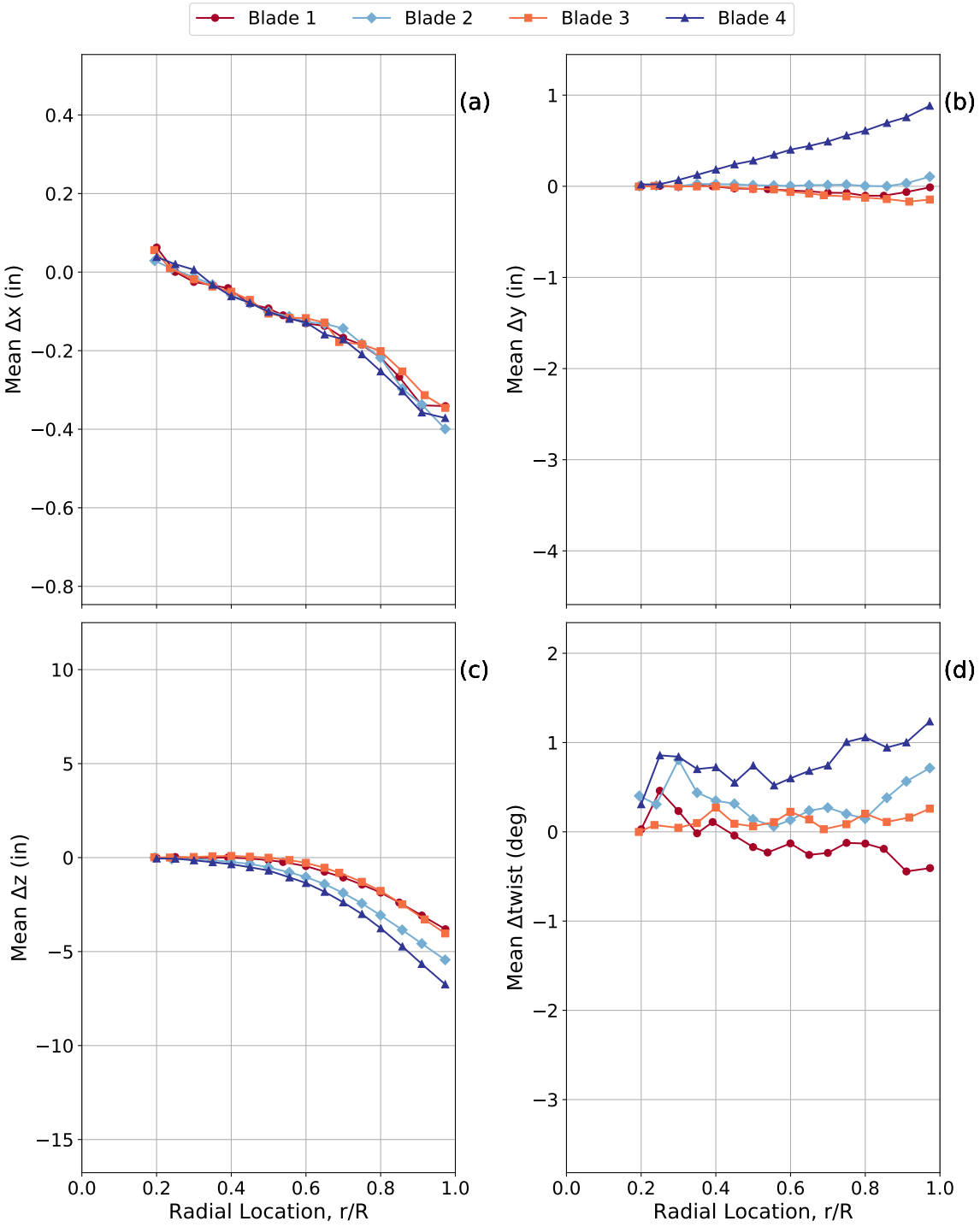


Figure 2.9-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0627	0.0038	-0.0000	0.0035	-0.0155	0.0083	0.0286	0.0376
1	60.12	0.2499	0.0005	0.0049	0.0040	0.0044	0.0334	0.0128	0.4601	0.0787
1	60.12	0.2998	-0.0250	0.0057	-0.0072	0.0096	-0.0192	0.0270	0.2333	0.0763
1	60.12	0.3498	-0.0336	0.0037	0.0105	0.0141	-0.0112	0.0474	-0.0171	0.0635
1	60.12	0.3913	-0.0407	0.0047	0.0005	0.0182	0.0055	0.0645	0.1092	0.0669
1	60.12	0.4496	-0.0806	0.0054	-0.0236	0.0230	-0.0497	0.0848	-0.0415	0.0702
1	60.12	0.4997	-0.0925	0.0054	-0.0288	0.0290	-0.1386	0.1040	-0.1712	0.0776
1	60.12	0.5387	-0.1100	0.0052	-0.0309	0.0326	-0.2354	0.1211	-0.2319	0.0803
1	60.12	0.5996	-0.1305	0.0054	-0.0470	0.0392	-0.4515	0.1493	-0.1300	0.0781
1	60.12	0.6498	-0.1370	0.0055	-0.0556	0.0448	-0.7502	0.1728	-0.2588	0.0852
1	60.12	0.6998	-0.1671	0.0058	-0.0709	0.0505	-1.0595	0.1969	-0.2364	0.0851
1	60.12	0.7500	-0.1852	0.0062	-0.0728	0.0573	-1.4388	0.2213	-0.1239	0.0732
1	60.12	0.8001	-0.2181	0.0066	-0.1036	0.0650	-1.8623	0.2486	-0.1318	0.0764
1	60.12	0.8497	-0.2669	0.0072	-0.1034	0.0717	-2.3916	0.2779	-0.1910	0.0739
1	60.12	0.9102	-0.3392	0.0081	-0.0629	0.0809	-3.0803	0.3140	-0.4441	0.0796
1	60.12	0.9734	-0.3411	0.0098	-0.0116	0.0904	-3.8110	0.3579	-0.4066	0.0848
2	60.12	0.1949	0.0289	0.0023	0.0016	0.0019	0.0000	0.0034	0.4020	0.0345
2	60.12	0.2405	0.0091	0.0024	0.0069	0.0033	-0.0765	0.0094	0.3074	0.0482
2	60.12	0.2999	-0.0129	0.0027	0.0008	0.0050	-0.0680	0.0158	0.8065	0.0759
2	60.12	0.3498	-0.0317	0.0028	0.0254	0.0079	-0.1399	0.0257	0.4383	0.0697
2	60.12	0.3998	-0.0579	0.0034	0.0238	0.0121	-0.2370	0.0417	0.3482	0.0569
2	60.12	0.4496	-0.0788	0.0035	0.0217	0.0155	-0.3340	0.0540	0.3148	0.0611
2	60.12	0.4995	-0.1013	0.0032	0.0117	0.0192	-0.5174	0.0671	0.1405	0.0556
2	60.12	0.5551	-0.1127	0.0030	0.0084	0.0235	-0.7847	0.0843	0.0613	0.0547
2	60.12	0.5996	-0.1267	0.0031	0.0039	0.0278	-1.0330	0.0992	0.1321	0.0627
2	60.12	0.6497	-0.1316	0.0032	0.0124	0.0324	-1.4097	0.1179	0.2370	0.0614
2	60.12	0.6996	-0.1433	0.0037	0.0136	0.0384	-1.8820	0.1357	0.2706	0.0607
2	60.12	0.7495	-0.1823	0.0042	0.0180	0.0441	-2.4365	0.1570	0.2009	0.0640
2	60.12	0.7996	-0.2178	0.0048	0.0038	0.0500	-3.0668	0.1799	0.1466	0.0628
2	60.12	0.8578	-0.2969	0.0062	0.0010	0.0579	-3.8476	0.2068	0.3812	0.0659
2	60.12	0.9100	-0.3371	0.0068	0.0325	0.0645	-4.5768	0.2320	0.5653	0.0662
2	60.12	0.9727	-0.3993	0.0077	0.1059	0.0731	-5.4392	0.2627	0.7143	0.0698
3	60.12	0.1938	0.0560	0.0023	-0.0026	0.0011	0.0132	0.0042	-0.0013	0.0369
3	60.12	0.2357	0.0099	0.0023	0.0044	0.0025	0.0026	0.0067	0.0760	0.0500
3	60.12	0.2995	-0.0184	0.0022	-0.0015	0.0043	0.0324	0.0158	0.0449	0.0830
3	60.12	0.3493	-0.0367	0.0026	-0.0018	0.0082	0.0680	0.0281	0.0980	0.0637
3	60.12	0.4000	-0.0500	0.0027	0.0008	0.0125	0.0887	0.0422	0.2717	0.0622
3	60.12	0.4497	-0.0709	0.0028	-0.0127	0.0164	0.0474	0.0557	0.0904	0.0662
3	60.12	0.4997	-0.1055	0.0034	-0.0281	0.0206	-0.0077	0.0701	0.0613	0.0642
3	60.12	0.5556	-0.1163	0.0034	-0.0344	0.0261	-0.1291	0.0887	0.1081	0.0690
3	60.12	0.5995	-0.1172	0.0032	-0.0616	0.0302	-0.2800	0.1034	0.2238	0.0674
3	60.12	0.6498	-0.1285	0.0030	-0.0787	0.0359	-0.5428	0.1205	0.1390	0.0664
3	60.12	0.6890	-0.1780	0.0035	-0.0984	0.0407	-0.8087	0.1349	0.0289	0.0664
3	60.12	0.7495	-0.1836	0.0038	-0.1107	0.0479	-1.2919	0.1571	0.0848	0.0739
3	60.12	0.7998	-0.2013	0.0038	-0.1248	0.0545	-1.7733	0.1777	0.2030	0.0747
3	60.12	0.8577	-0.2529	0.0043	-0.1401	0.0619	-2.4880	0.2020	0.1105	0.0712
3	60.12	0.9178	-0.3133	0.0060	-0.1683	0.0684	-3.2919	0.2277	0.1606	0.0747
3	60.12	0.9729	-0.3456	0.0065	-0.1457	0.0773	-4.0337	0.2550	0.2594	0.0840
4	60.12	0.2001	0.0384	0.0018	0.0200	0.0013	-0.0480	0.0058	0.3086	0.0357
4	60.12	0.2502	0.0202	0.0029	0.0226	0.0029	-0.0582	0.0110	0.8563	0.0772
4	60.12	0.3001	0.0060	0.0026	0.0697	0.0052	-0.1455	0.0209	0.8414	0.0853
4	60.12	0.3502	-0.0322	0.0028	0.1257	0.0088	-0.2469	0.0384	0.7027	0.0735
4	60.12	0.4002	-0.0615	0.0033	0.1832	0.0134	-0.3546	0.0565	0.7238	0.0779
4	60.12	0.4500	-0.0782	0.0035	0.2407	0.0175	-0.5146	0.0767	0.5508	0.0765
4	60.12	0.5001	-0.1011	0.0042	0.2818	0.0229	-0.6899	0.0974	0.7423	0.0950
4	60.12	0.5560	-0.1190	0.0037	0.3466	0.0293	-1.0546	0.1227	0.5195	0.0816
4	60.12	0.6001	-0.1279	0.0039	0.4017	0.0339	-1.3534	0.1419	0.5999	0.0849
4	60.12	0.6501	-0.1587	0.0043	0.4425	0.0412	-1.8224	0.1658	0.6831	0.0836
4	60.12	0.6999	-0.1710	0.0052	0.4907	0.0489	-2.3822	0.1903	0.7428	0.0845
4	60.12	0.7500	-0.2093	0.0067	0.5569	0.0565	-3.0033	0.2184	1.0064	0.0882
4	60.12	0.8002	-0.2526	0.0077	0.6109	0.0650	-3.7628	0.2477	1.0582	0.0855
4	60.12	0.8582	-0.3036	0.0092	0.6949	0.0750	-4.7295	0.2833	0.9441	0.0921
4	60.12	0.9101	-0.3573	0.0105	0.7579	0.0846	-5.6596	0.3168	1.0017	0.0983
4	60.12	0.9728	-0.3715	0.0121	0.8836	0.0960	-6.7436	0.3581	1.2362	0.0971

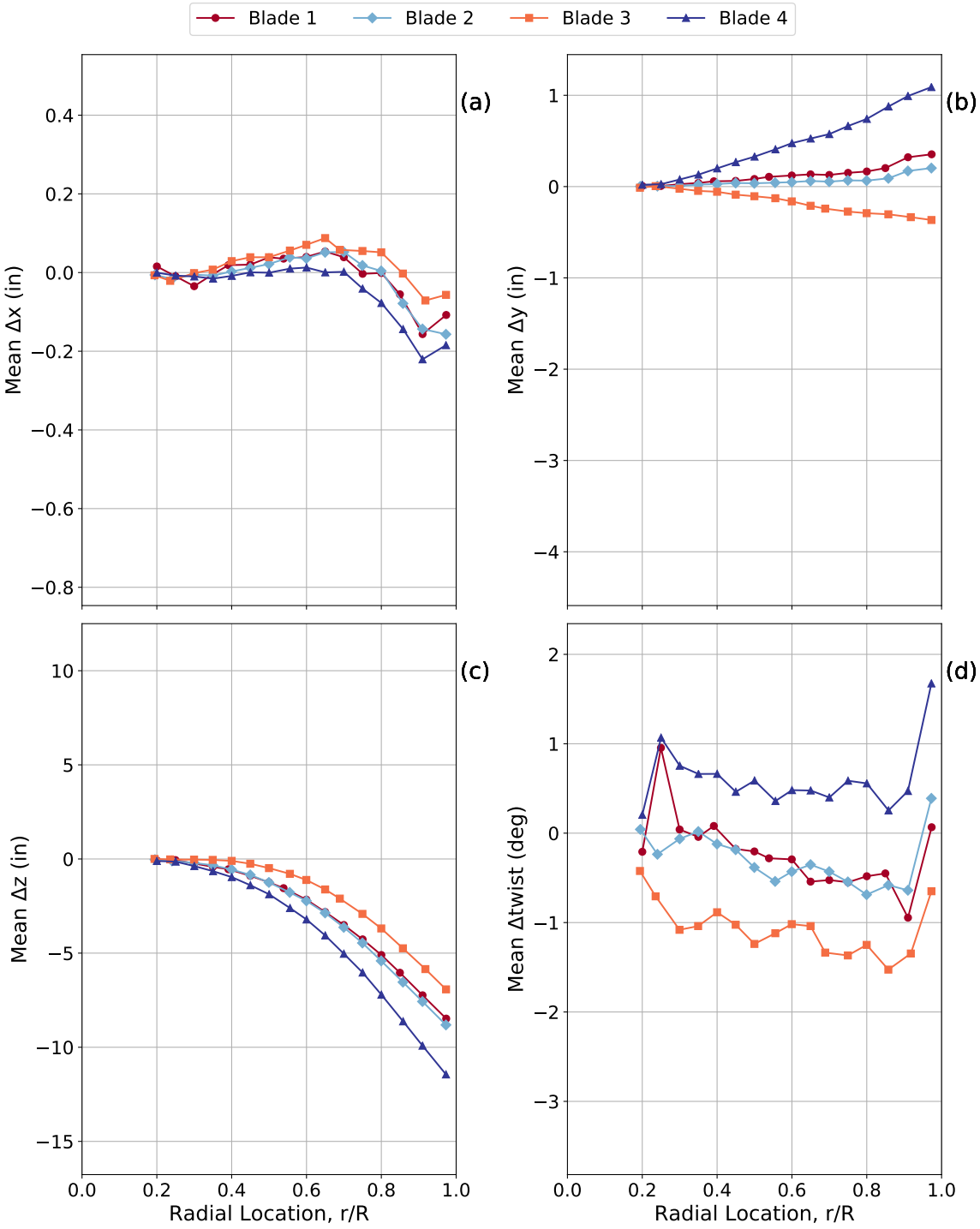


Figure 2.9-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0155	0.0128	0.0065	0.0013	-0.0756	0.0083	-0.2082	0.0499
1	74.88	0.2499	-0.0095	0.0034	0.0068	0.0024	-0.0586	0.0134	0.9546	0.0964
1	74.88	0.2998	-0.0347	0.0054	0.0259	0.0054	-0.2400	0.0330	0.0410	0.1182
1	74.88	0.3498	-0.0043	0.0112	0.0397	0.0091	-0.4160	0.0546	-0.0415	0.1130
1	74.88	0.3913	0.0188	0.0150	0.0579	0.0131	-0.5451	0.0785	0.0803	0.1093
1	74.88	0.4496	0.0201	0.0175	0.0623	0.0187	-0.8918	0.1168	-0.1766	0.1103
1	74.88	0.4997	0.0386	0.0188	0.0833	0.0244	-1.2393	0.1550	-0.2044	0.1140
1	74.88	0.5387	0.0353	0.0186	0.1069	0.0291	-1.5488	0.1862	-0.2810	0.1147
1	74.88	0.5996	0.0397	0.0174	0.1217	0.0377	-2.1593	0.2373	-0.2931	0.1185
1	74.88	0.6498	0.0536	0.0169	0.1340	0.0457	-2.8144	0.2819	-0.5421	0.1219
1	74.88	0.6998	0.0389	0.0183	0.1274	0.0543	-3.5058	0.3244	-0.5246	0.1231
1	74.88	0.7500	-0.0032	0.0233	0.1504	0.0643	-4.2693	0.3705	-0.5490	0.1255
1	74.88	0.8001	-0.0011	0.0315	0.1654	0.0752	-5.0999	0.4166	-0.4819	0.1241
1	74.88	0.8497	-0.0553	0.0421	0.2026	0.0870	-6.0418	0.4617	-0.4502	0.1234
1	74.88	0.9102	-0.1565	0.0572	0.3213	0.1025	-7.2390	0.5186	-0.9452	0.1292
1	74.88	0.9734	-0.1078	0.0759	0.3537	0.1200	-8.4782	0.5784	0.0663	0.1483
2	74.88	0.1949	-0.0060	0.0110	0.0022	0.0018	-0.0331	0.0058	0.0421	0.0326
2	74.88	0.2405	-0.0163	0.0044	0.0049	0.0024	-0.1030	0.0074	-0.2362	0.0908
2	74.88	0.2999	-0.0054	0.0052	0.0078	0.0068	-0.2099	0.0202	-0.0635	0.0954
2	74.88	0.3498	-0.0077	0.0103	0.0215	0.0120	-0.3331	0.0346	0.0181	0.0913
2	74.88	0.3998	0.0026	0.0141	0.0281	0.0180	-0.5604	0.0515	-0.1215	0.0924
2	74.88	0.4496	0.0119	0.0161	0.0393	0.0249	-0.8432	0.0699	-0.1851	0.0973
2	74.88	0.4995	0.0216	0.0170	0.0362	0.0320	-1.2449	0.0881	-0.3837	0.0975
2	74.88	0.5551	0.0386	0.0162	0.0427	0.0409	-1.7753	0.1100	-0.5397	0.0946
2	74.88	0.5996	0.0359	0.0158	0.0489	0.0483	-2.2245	0.1274	-0.4303	0.1011
2	74.88	0.6497	0.0514	0.0164	0.0612	0.0577	-2.8656	0.1486	-0.3520	0.1045
2	74.88	0.6996	0.0522	0.0199	0.0543	0.0672	-3.6306	0.1687	-0.4299	0.1108
2	74.88	0.7495	0.0180	0.0250	0.0679	0.0774	-4.4616	0.1920	-0.5451	0.1034
2	74.88	0.7996	0.0041	0.0321	0.0652	0.0882	-5.4105	0.2176	-0.6880	0.1050
2	74.88	0.8578	-0.0786	0.0429	0.0904	0.1015	-6.5414	0.2510	-0.5812	0.1111
2	74.88	0.9100	-0.1435	0.0536	0.1712	0.1140	-7.5700	0.2836	-0.6390	0.1111
2	74.88	0.9727	-0.1569	0.0668	0.2027	0.1314	-8.8140	0.3223	0.3894	0.1201
3	74.88	0.1938	-0.0069	0.0112	-0.0124	0.0025	0.0034	0.0092	-0.4230	0.0345
3	74.88	0.2357	-0.0211	0.0050	0.0050	0.0021	-0.0228	0.0067	-0.7065	0.1317
3	74.88	0.2995	-0.0014	0.0050	-0.0234	0.0087	-0.0332	0.0271	-1.0809	0.1248
3	74.88	0.3493	0.0074	0.0104	-0.0471	0.0143	-0.0472	0.0432	-1.0395	0.1237
3	74.88	0.4000	0.0290	0.0144	-0.0568	0.0218	-0.0997	0.0639	-0.8847	0.1204
3	74.88	0.4497	0.0389	0.0164	-0.0884	0.0286	-0.2530	0.0830	-1.0244	0.1303
3	74.88	0.4997	0.0389	0.0174	-0.1057	0.0369	-0.4844	0.1061	-1.2389	0.1226
3	74.88	0.5556	0.0559	0.0175	-0.1276	0.0471	-0.7884	0.1301	-1.1191	0.1426
3	74.88	0.5995	0.0704	0.0171	-0.1621	0.0552	-1.1144	0.1517	-1.0177	0.1253
3	74.88	0.6498	0.0876	0.0155	-0.2102	0.0651	-1.6178	0.1741	-1.0396	0.1428
3	74.88	0.6890	0.0577	0.0153	-0.2414	0.0726	-2.1035	0.1929	-1.3359	0.1387
3	74.88	0.7495	0.0548	0.0184	-0.2737	0.0855	-2.9158	0.2249	-1.3676	0.1362
3	74.88	0.7998	0.0514	0.0239	-0.2913	0.0959	-3.6897	0.2532	-1.2496	0.1248
3	74.88	0.8577	-0.0026	0.0332	-0.3035	0.1091	-4.7438	0.2849	-1.5261	0.1312
3	74.88	0.9178	-0.0710	0.0465	-0.3350	0.1236	-5.8483	0.3188	-1.3462	0.1419
3	74.88	0.9729	-0.0567	0.0594	-0.3660	0.1399	-6.9248	0.3505	-0.6495	0.1348
4	74.88	0.2001	-0.0004	0.0166	0.0202	0.0016	-0.1075	0.0068	0.2051	0.0246
4	74.88	0.2502	-0.0077	0.0049	0.0261	0.0028	-0.1417	0.0121	1.0676	0.0475
4	74.88	0.3001	-0.0100	0.0069	0.0777	0.0060	-0.3774	0.0265	0.7538	0.0548
4	74.88	0.3502	-0.0155	0.0156	0.1309	0.0106	-0.6479	0.0446	0.6621	0.0522
4	74.88	0.4002	-0.0085	0.0223	0.1994	0.0161	-0.9628	0.0690	0.6631	0.0629
4	74.88	0.4500	0.0005	0.0270	0.2674	0.0225	-1.3942	0.0968	0.4623	0.0589
4	74.88	0.5001	-0.0004	0.0284	0.3280	0.0297	-1.8746	0.1295	0.5881	0.0653
4	74.88	0.5560	0.0100	0.0275	0.4080	0.0388	-2.6075	0.1693	0.3596	0.0715
4	74.88	0.6001	0.0127	0.0251	0.4759	0.0467	-3.2135	0.2021	0.4812	0.0687
4	74.88	0.6501	0.0004	0.0213	0.5262	0.0557	-4.0632	0.2411	0.4771	0.0745
4	74.88	0.6999	0.0018	0.0196	0.5748	0.0664	-5.0355	0.2815	0.3993	0.0793
4	74.88	0.7500	-0.0409	0.0242	0.6634	0.0761	-6.0341	0.3228	0.5862	0.0794
4	74.88	0.8002	-0.0775	0.0351	0.7414	0.0882	-7.2100	0.3640	0.5568	0.0947
4	74.88	0.8582	-0.1439	0.0542	0.8774	0.1010	-8.6253	0.4162	0.2543	0.0892
4	74.88	0.9101	-0.2206	0.0745	0.9917	0.1135	-9.9184	0.4637	0.4716	0.1045
4	74.88	0.9728	-0.1846	0.1006	1.0898	0.1331	-11.4440	0.5215	1.6745	0.0974

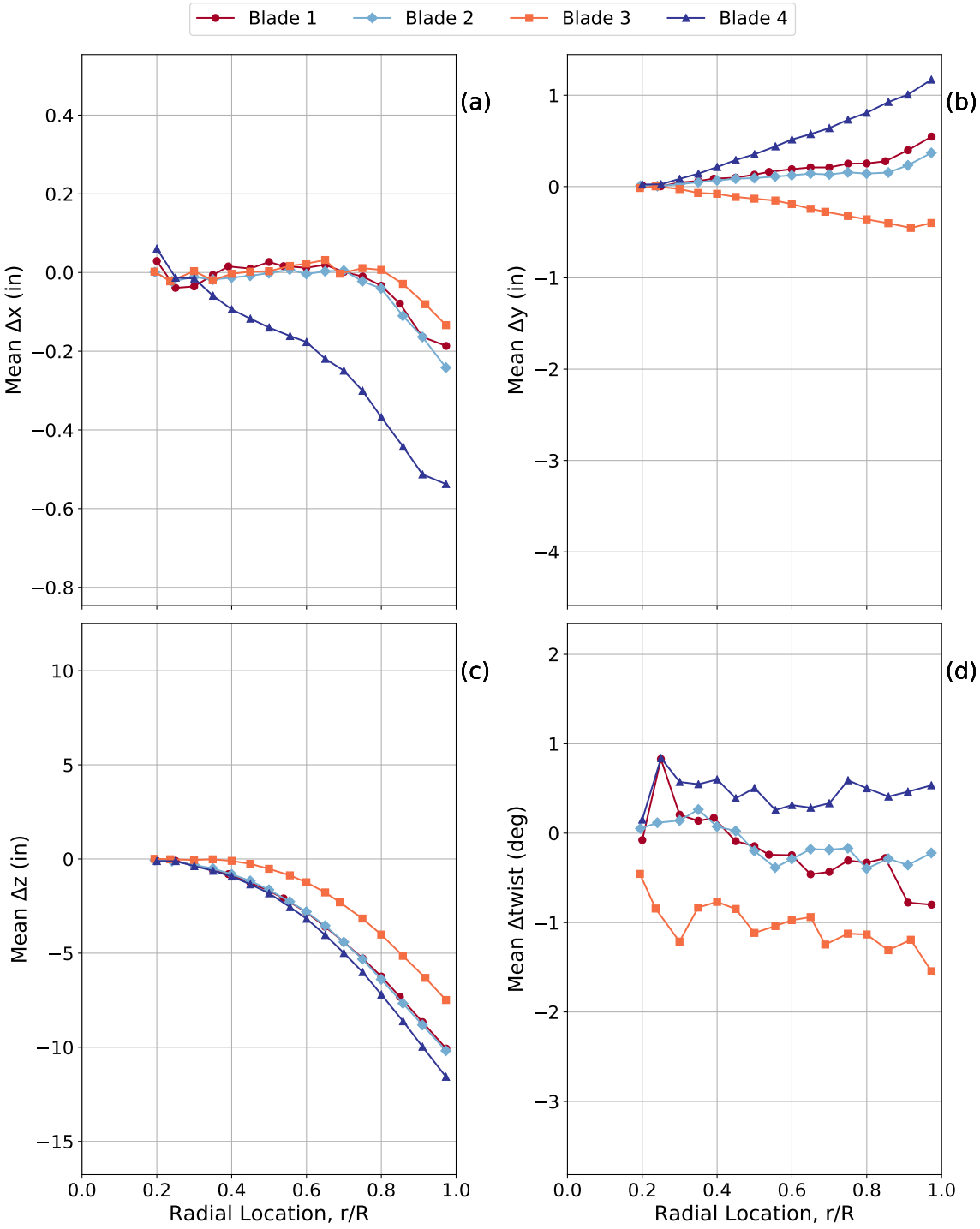


Figure 2.9-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0292	0.0155	0.0128	0.0019	-0.1035	0.0069	-0.0769	0.0430
1	80.16	0.2499	-0.0390	0.0058	0.0028	0.0030	-0.0975	0.0117	0.8297	0.1061
1	80.16	0.2998	-0.0354	0.0065	0.0437	0.0069	-0.3496	0.0257	0.2059	0.1081
1	80.16	0.3498	-0.0064	0.0135	0.0614	0.0120	-0.5992	0.0440	0.1378	0.1063
1	80.16	0.3913	0.0154	0.0182	0.0866	0.0167	-0.8053	0.0622	0.1703	0.1174
1	80.16	0.4496	0.0101	0.0222	0.0976	0.0244	-1.2529	0.0900	-0.0893	0.1111
1	80.16	0.4997	0.0268	0.0235	0.1301	0.0316	-1.6936	0.1166	-0.1456	0.1095
1	80.16	0.5387	0.0161	0.0232	0.1607	0.0380	-2.0923	0.1364	-0.2418	0.1100
1	80.16	0.5996	0.0121	0.0211	0.1904	0.0484	-2.8288	0.1685	-0.2468	0.1149
1	80.16	0.6498	0.0195	0.0186	0.2097	0.0580	-3.5995	0.1949	-0.4604	0.1161
1	80.16	0.6998	0.0014	0.0180	0.2092	0.0686	-4.4121	0.2210	-0.4335	0.1165
1	80.16	0.7500	-0.0101	0.0225	0.2511	0.0805	-5.2770	0.2465	-0.3061	0.1143
1	80.16	0.8001	-0.0337	0.0324	0.2530	0.0929	-6.2458	0.2720	-0.3301	0.1204
1	80.16	0.8497	-0.0790	0.0461	0.2774	0.1066	-7.3189	0.2953	-0.2787	0.1214
1	80.16	0.9102	-0.1638	0.0667	0.3983	0.1243	-8.6639	0.3230	-0.7763	0.1198
1	80.16	0.9734	-0.1866	0.0903	0.5474	0.1446	-10.0698	0.3499	-0.8002	0.1290
2	80.16	0.1949	0.0009	0.0131	0.0079	0.0020	-0.0671	0.0084	0.0515	0.0328
2	80.16	0.2405	-0.0224	0.0044	0.0056	0.0023	-0.1167	0.0099	0.1163	0.0915
2	80.16	0.2999	-0.0115	0.0065	0.0250	0.0074	-0.3166	0.0315	0.1415	0.0951
2	80.16	0.3498	-0.0179	0.0117	0.0485	0.0128	-0.5059	0.0535	0.2638	0.0855
2	80.16	0.3998	-0.0130	0.0155	0.0674	0.0193	-0.8129	0.0808	0.0733	0.0853
2	80.16	0.4496	-0.0082	0.0180	0.0860	0.0263	-1.1630	0.1091	0.0244	0.0927
2	80.16	0.4995	-0.0017	0.0194	0.0930	0.0339	-1.6346	0.1400	-0.1985	0.0956
2	80.16	0.5551	0.0074	0.0194	0.1102	0.0427	-2.2641	0.1776	-0.3849	0.1010
2	80.16	0.5996	-0.0039	0.0184	0.1235	0.0502	-2.8007	0.2095	-0.2897	0.0973
2	80.16	0.6497	0.0030	0.0176	0.1420	0.0595	-3.5441	0.2474	-0.1792	0.1082
2	80.16	0.6996	0.0051	0.0182	0.1320	0.0691	-4.4107	0.2885	-0.1851	0.1038
2	80.16	0.7495	-0.0225	0.0214	0.1561	0.0800	-5.3190	0.3321	-0.1684	0.1013
2	80.16	0.7996	-0.0406	0.0282	0.1421	0.0909	-6.3944	0.3743	-0.3958	0.1117
2	80.16	0.8578	-0.1102	0.0393	0.1538	0.1039	-7.6707	0.4252	-0.2857	0.1116
2	80.16	0.9100	-0.1638	0.0518	0.2330	0.1162	-8.8163	0.4690	-0.3566	0.1176
2	80.16	0.9727	-0.2416	0.0685	0.3694	0.1316	-10.1830	0.5198	-0.2218	0.1248
3	80.16	0.1938	0.0021	0.0163	-0.0156	0.0021	0.0058	0.0113	-0.4557	0.1860
3	80.16	0.2357	-0.0224	0.0063	0.0023	0.0064	-0.0166	0.0358	-0.8430	0.1931
3	80.16	0.2995	0.0035	0.0095	-0.0276	0.0089	-0.0518	0.0455	-1.2127	0.3984
3	80.16	0.3493	-0.0196	0.0131	-0.0697	0.0232	-0.0184	0.1159	-0.8321	0.2023
3	80.16	0.4000	-0.0033	0.0185	-0.0793	0.0316	-0.1010	0.1564	-0.7686	0.2049
3	80.16	0.4497	0.0022	0.0214	-0.1136	0.0405	-0.2587	0.1967	-0.8480	0.2127
3	80.16	0.4997	0.0033	0.0228	-0.1331	0.0507	-0.5235	0.2403	-1.1153	0.2112
3	80.16	0.5556	0.0166	0.0223	-0.1528	0.0630	-0.8701	0.2883	-1.0390	0.2138
3	80.16	0.5995	0.0227	0.0211	-0.1925	0.0731	-1.2374	0.3256	-0.9727	0.2208
3	80.16	0.6498	0.0318	0.0201	-0.2434	0.0857	-1.7750	0.3662	-0.9390	0.2290
3	80.16	0.6890	-0.0030	0.0212	-0.2764	0.0967	-2.2995	0.4016	-1.2457	0.2178
3	80.16	0.7495	0.0111	0.0274	-0.3222	0.1145	-3.1636	0.4531	-1.1238	0.2318
3	80.16	0.7998	0.0067	0.0373	-0.3592	0.1306	-4.0138	0.4981	-1.1329	0.2321
3	80.16	0.8577	-0.0289	0.0522	-0.4018	0.1496	-5.1436	0.5514	-1.3088	0.2350
3	80.16	0.9178	-0.0805	0.0717	-0.4530	0.1702	-6.3150	0.6092	-1.1923	0.2250
3	80.16	0.9729	-0.1338	0.0901	-0.3993	0.1900	-7.4888	0.6631	-1.5445	0.2371
4	80.16	0.2001	0.0608	0.0030	0.0231	0.0019	-0.1116	0.0063	0.1516	0.0334
4	80.16	0.2502	-0.0133	0.0022	0.0248	0.0037	-0.1140	0.0145	0.8398	0.0637
4	80.16	0.3001	-0.0152	0.0026	0.0851	0.0073	-0.3789	0.0246	0.5728	0.0642
4	80.16	0.3502	-0.0591	0.0026	0.1420	0.0131	-0.6268	0.0433	0.5472	0.0579
4	80.16	0.4002	-0.0938	0.0034	0.2141	0.0200	-0.9295	0.0671	0.6005	0.0601
4	80.16	0.4500	-0.1173	0.0038	0.2908	0.0259	-1.3475	0.0947	0.3892	0.0624
4	80.16	0.5001	-0.1399	0.0043	0.3538	0.0339	-1.8221	0.1264	0.5045	0.0618
4	80.16	0.5560	-0.1614	0.0050	0.4400	0.0437	-2.5564	0.1650	0.2575	0.0621
4	80.16	0.6001	-0.1767	0.0060	0.5156	0.0517	-3.1752	0.1988	0.3135	0.0703
4	80.16	0.6501	-0.2194	0.0075	0.5748	0.0624	-4.0363	0.2374	0.2841	0.0696
4	80.16	0.6999	-0.2494	0.0094	0.6399	0.0739	-4.9911	0.2747	0.3339	0.0828
4	80.16	0.7500	-0.3006	0.0116	0.7328	0.0869	-6.0096	0.3144	0.5912	0.0802
4	80.16	0.8002	-0.3678	0.0142	0.8083	0.1005	-7.2017	0.3539	0.5020	0.0837
4	80.16	0.8582	-0.4425	0.0174	0.9264	0.1172	-8.6188	0.3999	0.4089	0.0808
4	80.16	0.9101	-0.5131	0.0203	1.0071	0.1323	-9.9698	0.4417	0.4632	0.0889
4	80.16	0.9728	-0.5376	0.0227	1.1713	0.1509	-11.5678	0.4932	0.5347	0.0837

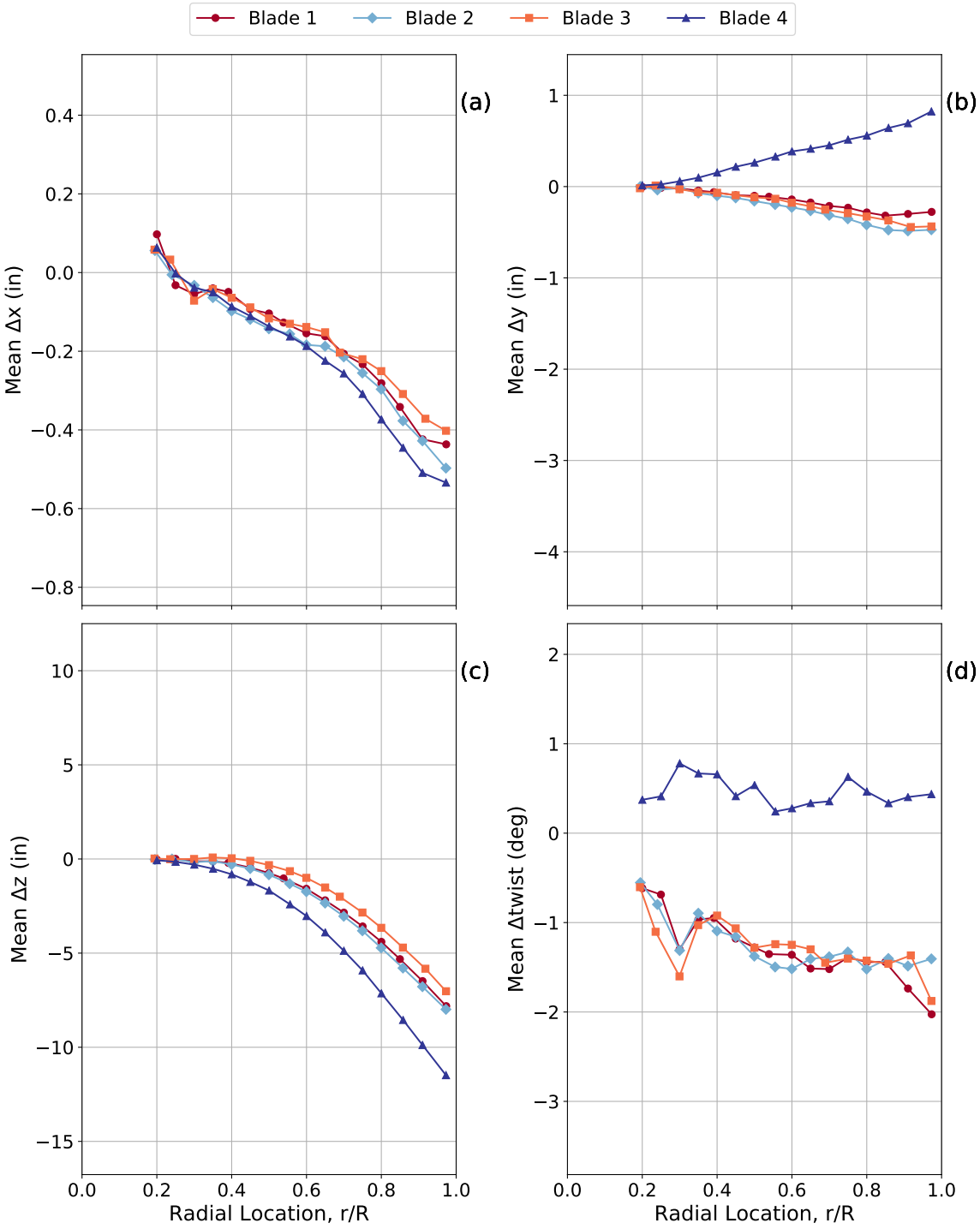


Figure 2.9-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0972	0.0046	-0.0043	0.0020	-0.0322	0.0073	-0.6161	0.0518
1	85.08	0.2499	-0.0322	0.0025	-0.0147	0.0035	0.0064	0.0115	-0.6869	0.1271
1	85.08	0.2998	-0.0549	0.0020	-0.0202	0.0076	-0.1251	0.0261	-1.2986	0.1336
1	85.08	0.3498	-0.0402	0.0024	-0.0442	0.0136	-0.1227	0.0452	-0.9662	0.1270
1	85.08	0.3913	-0.0492	0.0025	-0.0607	0.0189	-0.2078	0.0627	-0.9490	0.1236
1	85.08	0.4496	-0.0931	0.0025	-0.0945	0.0268	-0.4589	0.0861	-1.1791	0.1271
1	85.08	0.4997	-0.1040	0.0025	-0.1011	0.0341	-0.7468	0.1091	-1.2774	0.1265
1	85.08	0.5387	-0.1271	0.0031	-0.1112	0.0402	-1.0302	0.1273	-1.3523	0.1251
1	85.08	0.5996	-0.1544	0.0031	-0.1409	0.0502	-1.5824	0.1559	-1.3606	0.1305
1	85.08	0.6498	-0.1618	0.0036	-0.1748	0.0593	-2.1955	0.1792	-1.5143	0.1331
1	85.08	0.6998	-0.2065	0.0047	-0.2124	0.0690	-2.8480	0.2011	-1.5202	0.1329
1	85.08	0.7500	-0.2334	0.0049	-0.2314	0.0791	-3.5824	0.2241	-1.3897	0.1299
1	85.08	0.8001	-0.2814	0.0058	-0.2831	0.0900	-4.3993	0.2449	-1.4409	0.1335
1	85.08	0.8497	-0.3416	0.0066	-0.3182	0.1012	-5.3186	0.2667	-1.4409	0.1321
1	85.08	0.9102	-0.4238	0.0082	-0.2996	0.1148	-6.4854	0.2944	-1.7378	0.1346
1	85.08	0.9734	-0.4367	0.0095	-0.2773	0.1295	-7.8154	0.3247	-2.0259	0.1373
2	85.08	0.1949	0.0559	0.0033	0.0015	0.0018	-0.0287	0.0070	-0.5535	0.0376
2	85.08	0.2405	-0.0056	0.0032	-0.0368	0.0025	-0.0030	0.0120	-0.7976	0.0831
2	85.08	0.2999	-0.0325	0.0032	-0.0169	0.0067	-0.1665	0.0270	-1.3126	0.1005
2	85.08	0.3498	-0.0638	0.0028	-0.0717	0.0120	-0.1198	0.0517	-0.8956	0.0985
2	85.08	0.3998	-0.0977	0.0032	-0.0999	0.0179	-0.2914	0.0756	-1.0939	0.0954
2	85.08	0.4496	-0.1190	0.0041	-0.1236	0.0234	-0.5091	0.1014	-1.1583	0.1048
2	85.08	0.4995	-0.1429	0.0047	-0.1587	0.0300	-0.8369	0.1292	-1.3757	0.0992
2	85.08	0.5551	-0.1561	0.0046	-0.1969	0.0374	-1.3123	0.1616	-1.4969	0.1018
2	85.08	0.5996	-0.1838	0.0051	-0.2282	0.0438	-1.7371	0.1885	-1.5178	0.0992
2	85.08	0.6497	-0.1873	0.0058	-0.2643	0.0519	-2.3433	0.2178	-1.4074	0.1077
2	85.08	0.6996	-0.2144	0.0065	-0.3143	0.0600	-3.0418	0.2481	-1.3825	0.0988
2	85.08	0.7495	-0.2554	0.0077	-0.3532	0.0688	-3.8128	0.2780	-1.3290	0.1056
2	85.08	0.7996	-0.2966	0.0093	-0.4188	0.0777	-4.7207	0.3104	-1.5206	0.1060
2	85.08	0.8578	-0.3769	0.0116	-0.4754	0.0884	-5.7924	0.3503	-1.4019	0.1011
2	85.08	0.9100	-0.4278	0.0134	-0.4858	0.0980	-6.7822	0.3867	-1.4858	0.1075
2	85.08	0.9727	-0.4971	0.0148	-0.4728	0.1100	-7.9870	0.4310	-1.4059	0.1155
3	85.08	0.1938	0.0582	0.0026	-0.0181	0.0013	0.0243	0.0068	-0.6041	0.0943
3	85.08	0.2357	0.0329	0.0028	0.0116	0.0021	-0.0114	0.0128	-1.1030	0.1146
3	85.08	0.2995	-0.0714	0.0039	-0.0289	0.0050	0.0021	0.0275	-1.6020	0.2106
3	85.08	0.3493	-0.0421	0.0031	-0.0610	0.0083	0.0798	0.0527	-1.0278	0.1166
3	85.08	0.4000	-0.0642	0.0035	-0.0680	0.0131	0.0378	0.0782	-0.9218	0.1134
3	85.08	0.4497	-0.0885	0.0037	-0.0953	0.0174	-0.0976	0.1056	-1.0648	0.1147
3	85.08	0.4997	-0.1166	0.0038	-0.1173	0.0228	-0.3258	0.1395	-1.2816	0.1101
3	85.08	0.5556	-0.1302	0.0042	-0.1335	0.0300	-0.6474	0.1795	-1.2419	0.1210
3	85.08	0.5995	-0.1384	0.0047	-0.1773	0.0357	-1.0006	0.2134	-1.2487	0.1141
3	85.08	0.6498	-0.1518	0.0058	-0.2164	0.0439	-1.5141	0.2510	-1.2995	0.1273
3	85.08	0.6890	-0.2035	0.0061	-0.2517	0.0500	-2.0016	0.2811	-1.4493	0.1159
3	85.08	0.7495	-0.2203	0.0078	-0.2909	0.0610	-2.8438	0.3274	-1.4031	0.1213
3	85.08	0.7998	-0.2506	0.0096	-0.3278	0.0703	-3.6560	0.3659	-1.4255	0.1228
3	85.08	0.8577	-0.3087	0.0122	-0.3704	0.0816	-4.7058	0.4087	-1.4612	0.1180
3	85.08	0.9178	-0.3716	0.0140	-0.4431	0.0937	-5.8281	0.4538	-1.3673	0.1242
3	85.08	0.9729	-0.4022	0.0161	-0.4364	0.1048	-7.0246	0.4956	-1.8769	0.1276
4	85.08	0.2001	0.0632	0.0026	0.0133	0.0013	-0.0683	0.0046	0.3731	0.0419
4	85.08	0.2502	-0.0024	0.0032	0.0238	0.0028	-0.1520	0.0101	0.4119	0.0631
4	85.08	0.3001	-0.0385	0.0031	0.0584	0.0053	-0.3006	0.0184	0.7796	0.0907
4	85.08	0.3502	-0.0501	0.0026	0.0975	0.0093	-0.5193	0.0336	0.6679	0.0683
4	85.08	0.4002	-0.0863	0.0031	0.1536	0.0144	-0.8143	0.0513	0.6579	0.0649
4	85.08	0.4500	-0.1106	0.0038	0.2173	0.0198	-1.2184	0.0705	0.4136	0.0766
4	85.08	0.5001	-0.1372	0.0042	0.2620	0.0259	-1.6773	0.0938	0.5376	0.0808
4	85.08	0.5560	-0.1626	0.0050	0.3282	0.0337	-2.4114	0.1217	0.2424	0.0841
4	85.08	0.6001	-0.1868	0.0059	0.3854	0.0407	-3.0322	0.1424	0.2781	0.0864
4	85.08	0.6501	-0.2242	0.0064	0.4146	0.0494	-3.8994	0.1681	0.3360	0.0920
4	85.08	0.6999	-0.2565	0.0079	0.4521	0.0592	-4.8787	0.1929	0.3564	0.0924
4	85.08	0.7500	-0.3086	0.0091	0.5139	0.0693	-5.9202	0.2179	0.6290	0.0922
4	85.08	0.8002	-0.3735	0.0112	0.5579	0.0800	-7.1379	0.2430	0.4648	0.0973
4	85.08	0.8582	-0.4453	0.0133	0.6419	0.0928	-8.5523	0.2738	0.3348	0.0990
4	85.08	0.9101	-0.5092	0.0156	0.6938	0.1045	-9.8836	0.3027	0.4035	0.1005
4	85.08	0.9728	-0.5340	0.0187	0.8224	0.1188	-11.4850	0.3396	0.4360	0.1004

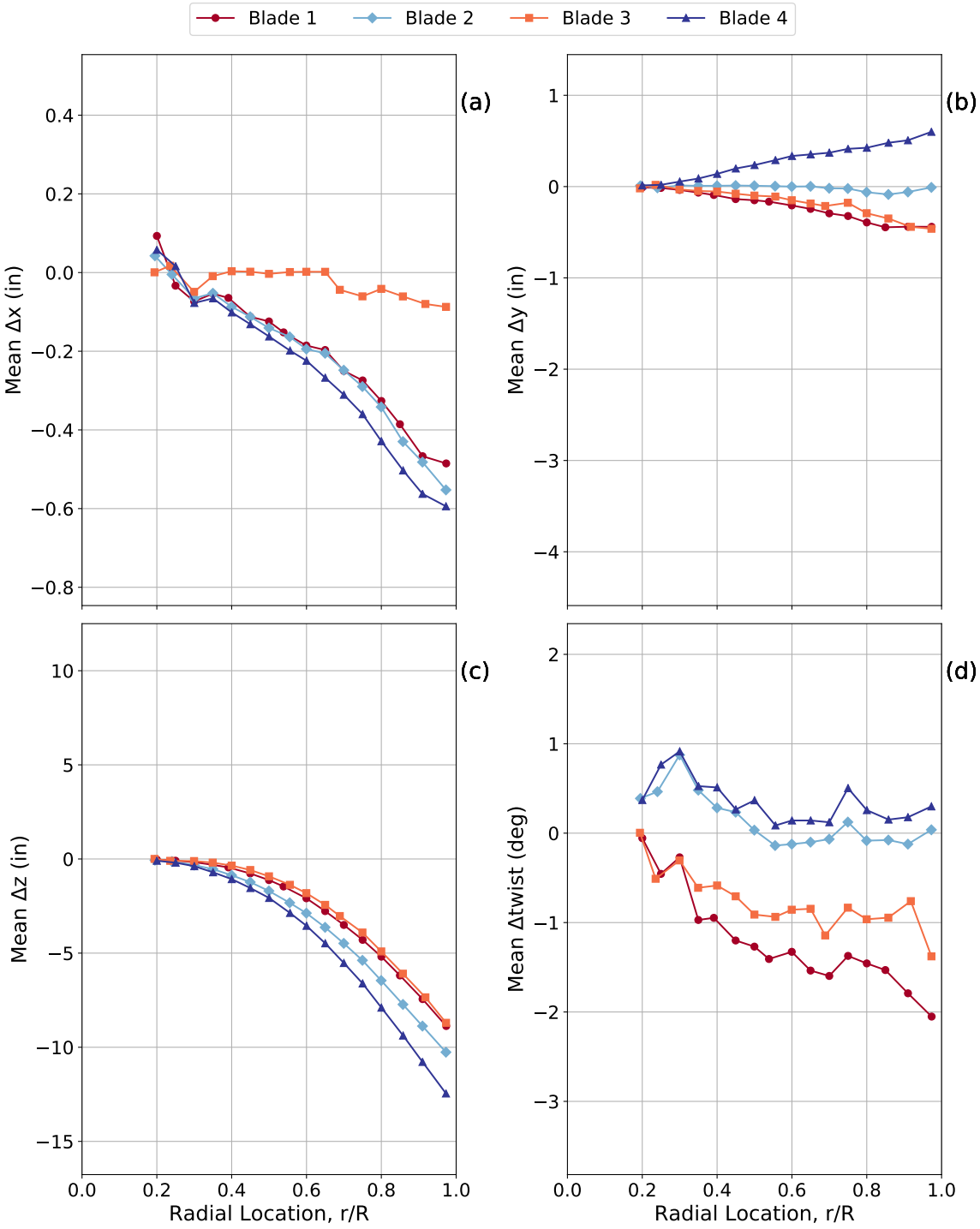


Figure 2.9-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0931	0.0076	-0.0092	0.0031	-0.0355	0.0117	-0.0559	0.1661
1	90	0.2499	-0.0334	0.0028	-0.0148	0.0047	-0.0920	0.0239	-0.4553	0.2315
1	90	0.2998	-0.0734	0.0037	-0.0366	0.0113	-0.1659	0.0429	-0.2702	0.3564
1	90	0.3498	-0.0536	0.0036	-0.0662	0.0199	-0.3121	0.0783	-0.9709	0.2608
1	90	0.3913	-0.0645	0.0039	-0.0919	0.0275	-0.4469	0.1084	-0.9469	0.2635
1	90	0.4496	-0.1123	0.0042	-0.1370	0.0397	-0.7683	0.1541	-1.2003	0.2659
1	90	0.4997	-0.1243	0.0045	-0.1497	0.0510	-1.1211	0.1952	-1.2691	0.2680
1	90	0.5387	-0.1520	0.0049	-0.1651	0.0604	-1.4599	0.2301	-1.4074	0.2676
1	90	0.5996	-0.1855	0.0058	-0.2065	0.0770	-2.0865	0.2856	-1.3270	0.2724
1	90	0.6498	-0.1969	0.0069	-0.2444	0.0916	-2.7690	0.3355	-1.5369	0.2709
1	90	0.6998	-0.2500	0.0086	-0.2932	0.1072	-3.5039	0.3886	-1.5970	0.2701
1	90	0.7500	-0.2742	0.0112	-0.3225	0.1230	-4.2957	0.4447	-1.3727	0.2752
1	90	0.8001	-0.3265	0.0141	-0.3928	0.1400	-5.1879	0.5016	-1.4569	0.2783
1	90	0.8497	-0.3856	0.0175	-0.4458	0.1571	-6.1848	0.5583	-1.5312	0.2767
1	90	0.9102	-0.4668	0.0210	-0.4395	0.1791	-7.4409	0.6270	-1.7911	0.2765
1	90	0.9734	-0.4852	0.0215	-0.4405	0.2028	-8.8716	0.6989	-2.0515	0.2740
2	90	0.1949	0.0425	0.0042	0.0081	0.0020	-0.0634	0.0078	0.3884	0.0421
2	90	0.2405	-0.0049	0.0021	-0.0139	0.0028	-0.1348	0.0104	0.4642	0.0983
2	90	0.2999	-0.0655	0.0038	0.0124	0.0074	-0.3242	0.0297	0.8752	0.1168
2	90	0.3498	-0.0526	0.0019	0.0084	0.0140	-0.5391	0.0535	0.4807	0.1061
2	90	0.3998	-0.0868	0.0028	0.0086	0.0205	-0.8651	0.0794	0.2829	0.1075
2	90	0.4496	-0.1125	0.0035	0.0115	0.0273	-1.2283	0.1081	0.2348	0.1153
2	90	0.4995	-0.1408	0.0038	0.0091	0.0349	-1.6979	0.1397	0.0338	0.1182
2	90	0.5551	-0.1634	0.0044	0.0047	0.0441	-2.3274	0.1781	-0.1384	0.1216
2	90	0.5996	-0.1944	0.0050	-0.0000	0.0518	-2.8770	0.2103	-0.1229	0.1206
2	90	0.6497	-0.2052	0.0062	0.0025	0.0615	-3.6308	0.2475	-0.1006	0.1249
2	90	0.6996	-0.2482	0.0081	-0.0184	0.0710	-4.4816	0.2874	-0.0669	0.1284
2	90	0.7495	-0.2898	0.0105	-0.0214	0.0808	-5.3831	0.3309	0.1240	0.1280
2	90	0.7996	-0.3417	0.0139	-0.0617	0.0917	-6.4556	0.3766	-0.0837	0.1380
2	90	0.8578	-0.4297	0.0177	-0.0861	0.1043	-7.7263	0.4373	-0.0770	0.1344
2	90	0.9100	-0.4818	0.0212	-0.0593	0.1158	-8.8755	0.4944	-0.1228	0.1371
2	90	0.9727	-0.5525	0.0239	-0.0089	0.1296	-10.2622	0.5660	0.0378	0.1429
3	90	0.1938	0.0006	0.0196	-0.0195	0.0013	0.0039	0.0075	0.0042	0.0276
3	90	0.2357	0.0173	0.0068	0.0187	0.0014	-0.0981	0.0080	-0.5101	0.1033
3	90	0.2995	-0.0491	0.0092	-0.0302	0.0045	-0.1102	0.0254	-0.3047	0.0961
3	90	0.3493	-0.0092	0.0163	-0.0480	0.0076	-0.1920	0.0418	-0.6109	0.0963
3	90	0.4000	0.0033	0.0230	-0.0541	0.0114	-0.3504	0.0636	-0.5853	0.0950
3	90	0.4497	0.0022	0.0274	-0.0781	0.0156	-0.5861	0.0863	-0.7062	0.1012
3	90	0.4997	-0.0033	0.0300	-0.0986	0.0206	-0.9203	0.1137	-0.9107	0.1142
3	90	0.5556	0.0013	0.0309	-0.1096	0.0269	-1.3712	0.1471	-0.9364	0.1183
3	90	0.5995	0.0020	0.0292	-0.1496	0.0324	-1.8137	0.1749	-0.8562	0.1234
3	90	0.6498	0.0019	0.0263	-0.1856	0.0396	-2.4367	0.2097	-0.8461	0.1242
3	90	0.6890	-0.0439	0.0249	-0.2128	0.0457	-3.0308	0.2379	-1.1439	0.1277
3	90	0.7495	-0.0605	0.0281	-0.1773	0.0603	-3.9066	0.2810	-0.8334	0.1306
3	90	0.7998	-0.0415	0.0403	-0.2916	0.0661	-4.9100	0.3250	-0.9632	0.1382
3	90	0.8577	-0.0607	0.0602	-0.3495	0.0782	-6.0925	0.3733	-0.9452	0.1454
3	90	0.9178	-0.0799	0.0871	-0.4411	0.0920	-7.3477	0.4248	-0.7604	0.1577
3	90	0.9729	-0.0873	0.1131	-0.4620	0.1083	-8.7009	0.4720	-1.3779	0.1623
4	90.35	0.2001	0.0577	0.0027	0.0129	0.0011	-0.0951	0.0037	0.3706	0.0367
4	90.35	0.2502	0.0161	0.0037	0.0194	0.0032	-0.1965	0.0088	0.7669	0.0662
4	90.35	0.3001	-0.0773	0.0033	0.0545	0.0050	-0.3847	0.0146	0.9144	0.0829
4	90.35	0.3502	-0.0656	0.0021	0.0883	0.0087	-0.7076	0.0266	0.5259	0.0749
4	90.35	0.4002	-0.1014	0.0023	0.1391	0.0139	-1.0704	0.0408	0.5113	0.0715
4	90.35	0.4500	-0.1314	0.0028	0.1981	0.0186	-1.5443	0.0557	0.2653	0.0693
4	90.35	0.5001	-0.1626	0.0029	0.2357	0.0241	-2.0702	0.0721	0.3674	0.0739
4	90.35	0.5560	-0.1985	0.0038	0.2898	0.0310	-2.8681	0.0912	0.0862	0.0740
4	90.35	0.6001	-0.2242	0.0042	0.3351	0.0371	-3.5510	0.1062	0.1416	0.0774
4	90.35	0.6501	-0.2674	0.0043	0.3527	0.0449	-4.4811	0.1236	0.1417	0.0787
4	90.35	0.6999	-0.3107	0.0051	0.3710	0.0527	-5.5266	0.1398	0.1218	0.0809
4	90.35	0.7500	-0.3601	0.0062	0.4133	0.0614	-6.6125	0.1588	0.5032	0.0809
4	90.35	0.8002	-0.4288	0.0074	0.4253	0.0704	-7.8979	0.1785	0.2573	0.0794
4	90.35	0.8582	-0.5030	0.0093	0.4801	0.0816	-9.3795	0.2032	0.1518	0.0833
4	90.35	0.9101	-0.5626	0.0112	0.5072	0.0918	-10.7805	0.2280	0.1782	0.0841
4	90.35	0.9728	-0.5942	0.0141	0.5995	0.1043	-12.4559	0.2616	0.2992	0.0889

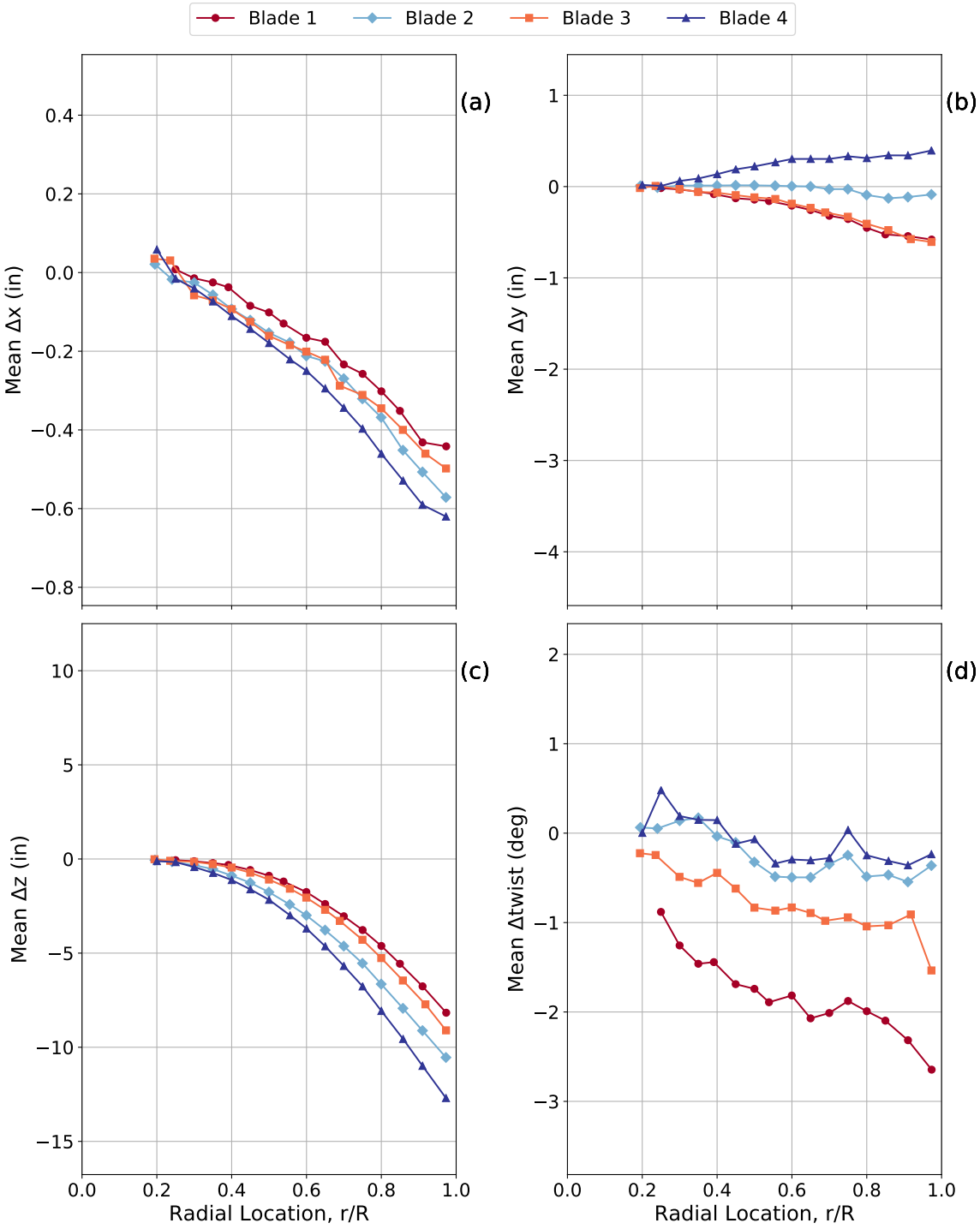


Figure 2.9-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2499	0.0082	0.0029	-0.0165	0.0032	-0.0629	0.0099	-0.8809	0.1240
1	94.92	0.2998	-0.0146	0.0025	-0.0318	0.0064	-0.1188	0.0193	-1.2561	0.1772
1	94.92	0.3498	-0.0251	0.0023	-0.0560	0.0109	-0.2181	0.0325	-1.4608	0.1701
1	94.92	0.3913	-0.0374	0.0023	-0.0819	0.0161	-0.3160	0.0477	-1.4424	0.1767
1	94.92	0.4496	-0.0845	0.0032	-0.1278	0.0220	-0.5856	0.0682	-1.6887	0.1786
1	94.92	0.4997	-0.1014	0.0035	-0.1424	0.0278	-0.8905	0.0892	-1.7413	0.1826
1	94.92	0.5387	-0.1296	0.0034	-0.1585	0.0329	-1.1966	0.1069	-1.8912	0.1873
1	94.92	0.5996	-0.1658	0.0039	-0.2086	0.0412	-1.7540	0.1390	-1.8158	0.1807
1	94.92	0.6498	-0.1759	0.0044	-0.2565	0.0488	-2.3911	0.1697	-2.0712	0.1885
1	94.92	0.6998	-0.2336	0.0056	-0.3195	0.0568	-3.0423	0.2027	-2.0117	0.1887
1	94.92	0.7500	-0.2576	0.0069	-0.3549	0.0653	-3.7742	0.2396	-1.8773	0.1860
1	94.92	0.8001	-0.3019	0.0085	-0.4513	0.0751	-4.6188	0.2779	-1.9916	0.1885
1	94.92	0.8497	-0.3516	0.0105	-0.5238	0.0849	-5.5648	0.3185	-2.0971	0.1917
1	94.92	0.9102	-0.4317	0.0138	-0.5425	0.0972	-6.7645	0.3723	-2.3159	0.1945
1	94.92	0.9734	-0.4418	0.0164	-0.5800	0.1109	-8.1663	0.4343	-2.6452	0.2032
2	94.92	0.1949	0.0211	0.0036	0.0071	0.0013	-0.0595	0.0056	0.0638	0.0394
2	94.92	0.2405	-0.0172	0.0020	-0.0103	0.0023	-0.1442	0.0087	0.0525	0.1011
2	94.92	0.2999	-0.0256	0.0028	0.0107	0.0049	-0.3295	0.0219	0.1396	0.1128
2	94.92	0.3498	-0.0567	0.0030	0.0115	0.0083	-0.5391	0.0373	0.1709	0.1025
2	94.92	0.3998	-0.0927	0.0035	0.0114	0.0128	-0.8804	0.0573	-0.0352	0.1044
2	94.92	0.4496	-0.1210	0.0043	0.0139	0.0165	-1.2620	0.0789	-0.1039	0.1037
2	94.92	0.4995	-0.1531	0.0047	0.0134	0.0206	-1.7577	0.1034	-0.3230	0.1110
2	94.92	0.5551	-0.1779	0.0056	0.0095	0.0257	-2.4188	0.1333	-0.4862	0.1123
2	94.92	0.5996	-0.2120	0.0060	0.0048	0.0300	-2.9950	0.1595	-0.4944	0.1124
2	94.92	0.6497	-0.2257	0.0074	0.0014	0.0355	-3.7772	0.1881	-0.4946	0.1146
2	94.92	0.6996	-0.2697	0.0086	-0.0278	0.0417	-4.6279	0.2193	-0.3477	0.1193
2	94.92	0.7495	-0.3209	0.0105	-0.0276	0.0475	-5.5406	0.2505	-0.2468	0.1194
2	94.92	0.7996	-0.3681	0.0129	-0.0923	0.0541	-6.6443	0.2827	-0.4855	0.1164
2	94.92	0.8578	-0.4516	0.0157	-0.1282	0.0621	-7.9322	0.3220	-0.4667	0.1217
2	94.92	0.9100	-0.5070	0.0180	-0.1146	0.0694	-9.1164	0.3595	-0.5449	0.1244
2	94.92	0.9727	-0.5715	0.0210	-0.0866	0.0779	-10.5432	0.4077	-0.3623	0.1249
3	94.92	0.1938	0.0353	0.0038	-0.0157	0.0013	-0.0141	0.0053	-0.2242	0.0321
3	94.92	0.2357	0.0308	0.0019	0.0073	0.0021	-0.0957	0.0092	-0.2447	0.0680
3	94.92	0.2995	-0.0579	0.0023	-0.0267	0.0054	-0.1497	0.0216	-0.4891	0.0861
3	94.92	0.3493	-0.0707	0.0023	-0.0582	0.0094	-0.2741	0.0386	-0.5567	0.0787
3	94.92	0.4000	-0.0932	0.0027	-0.0665	0.0145	-0.4543	0.0591	-0.4439	0.0809
3	94.92	0.4497	-0.1255	0.0035	-0.0940	0.0190	-0.7260	0.0807	-0.6197	0.0881
3	94.92	0.4997	-0.1609	0.0039	-0.1179	0.0246	-1.0927	0.1066	-0.8330	0.0827
3	94.92	0.5556	-0.1845	0.0047	-0.1358	0.0313	-1.5774	0.1384	-0.8661	0.0865
3	94.92	0.5995	-0.2010	0.0055	-0.1876	0.0373	-2.0509	0.1679	-0.8311	0.0869
3	94.92	0.6498	-0.2216	0.0069	-0.2335	0.0446	-2.7015	0.2059	-0.8931	0.0895
3	94.92	0.6890	-0.2877	0.0085	-0.2828	0.0504	-3.2889	0.2379	-0.9804	0.0919
3	94.92	0.7495	-0.3110	0.0118	-0.3305	0.0605	-4.2911	0.2953	-0.9420	0.0885
3	94.92	0.7998	-0.3451	0.0150	-0.4071	0.0695	-5.2615	0.3508	-1.0427	0.0912
3	94.92	0.8577	-0.3999	0.0196	-0.4769	0.0801	-6.4551	0.4206	-1.0301	0.0979
3	94.92	0.9178	-0.4604	0.0244	-0.5753	0.0913	-7.7197	0.4956	-0.9096	0.0988
3	94.92	0.9729	-0.4980	0.0288	-0.6065	0.1019	-9.1021	0.5705	-1.5356	0.0955
4	94.92	0.2001	0.0583	0.0032	0.0180	0.0011	-0.1140	0.0041	0.0032	0.0414
4	94.92	0.2502	-0.0158	0.0022	0.0068	0.0028	-0.1669	0.0086	0.4798	0.0606
4	94.92	0.3001	-0.0406	0.0027	0.0615	0.0047	-0.4295	0.0156	0.1913	0.0844
4	94.92	0.3502	-0.0736	0.0023	0.0887	0.0084	-0.7413	0.0270	0.1482	0.0635
4	94.92	0.4002	-0.1106	0.0026	0.1356	0.0132	-1.1187	0.0414	0.1460	0.0642
4	94.92	0.4500	-0.1432	0.0030	0.1886	0.0175	-1.6122	0.0563	-0.1190	0.0613
4	94.92	0.5001	-0.1793	0.0036	0.2210	0.0228	-2.1697	0.0744	-0.0680	0.0633
4	94.92	0.5560	-0.2208	0.0039	0.2660	0.0291	-2.9922	0.0969	-0.3392	0.0597
4	94.92	0.6001	-0.2499	0.0044	0.3025	0.0343	-3.6946	0.1134	-0.2948	0.0628
4	94.92	0.6501	-0.2946	0.0056	0.3029	0.0404	-4.6402	0.1333	-0.3035	0.0638
4	94.92	0.6999	-0.3439	0.0066	0.3027	0.0472	-5.6835	0.1539	-0.2782	0.0689
4	94.92	0.7500	-0.3970	0.0079	0.3320	0.0540	-6.7680	0.1738	0.0347	0.0690
4	94.92	0.8002	-0.4607	0.0097	0.3117	0.0614	-8.0735	0.1956	-0.2477	0.0648
4	94.92	0.8582	-0.5289	0.0115	0.3422	0.0699	-9.5609	0.2201	-0.3109	0.0638
4	94.92	0.9101	-0.5905	0.0134	0.3412	0.0784	-10.9903	0.2432	-0.3594	0.0606
4	94.92	0.9728	-0.6203	0.0154	0.3948	0.0881	-12.6997	0.2706	-0.2357	0.0690

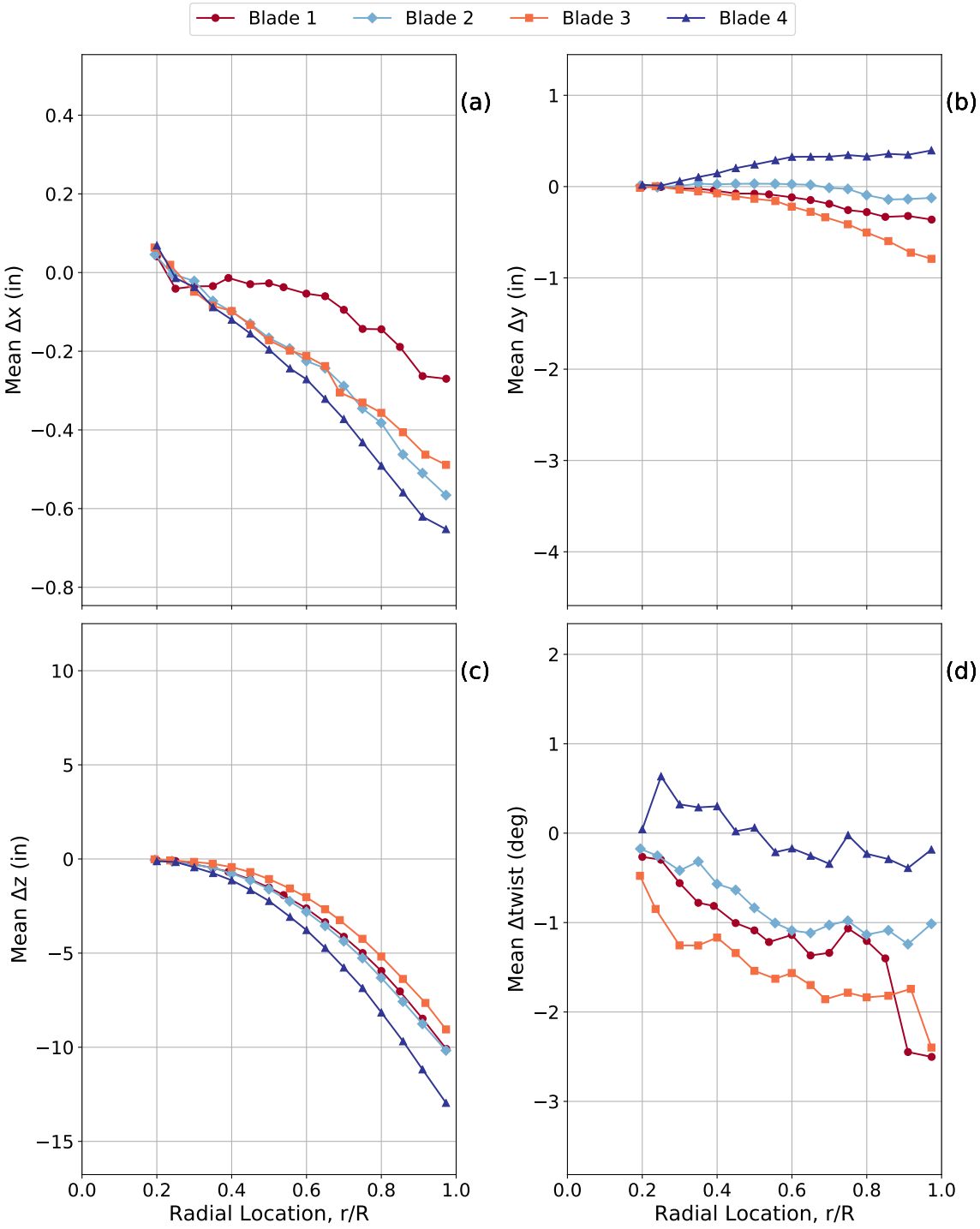


Figure 2.9-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	0.0412	0.0032	-0.0041	0.0040	-0.0711	0.0118	-0.2653	0.0884
1	99.84	0.2499	-0.0411	0.0021	-0.0048	0.0048	-0.1089	0.0127	-0.2976	0.2359
1	99.84	0.2998	-0.0352	0.0018	-0.0217	0.0147	-0.2833	0.0401	-0.5589	0.2397
1	99.84	0.3498	-0.0345	0.0019	-0.0228	0.0254	-0.4772	0.0689	-0.7789	0.2408
1	99.84	0.3913	-0.0138	0.0023	-0.0420	0.0349	-0.6801	0.0929	-0.8143	0.2436
1	99.84	0.4496	-0.0296	0.0026	-0.0757	0.0494	-1.0837	0.1298	-1.0055	0.2378
1	99.84	0.4997	-0.0272	0.0030	-0.0775	0.0622	-1.5139	0.1601	-1.0872	0.2385
1	99.84	0.5387	-0.0373	0.0038	-0.0853	0.0728	-1.9155	0.1836	-1.2178	0.2476
1	99.84	0.5996	-0.0536	0.0053	-0.1175	0.0901	-2.6235	0.2204	-1.1384	0.2471
1	99.84	0.6498	-0.0602	0.0076	-0.1473	0.1051	-3.3599	0.2511	-1.3679	0.2499
1	99.84	0.6998	-0.0947	0.0094	-0.1893	0.1206	-4.1323	0.2822	-1.3388	0.2382
1	99.84	0.7500	-0.1433	0.0208	-0.2575	0.1254	-4.9931	0.3095	-1.0655	0.2180
1	99.84	0.8001	-0.1442	0.0148	-0.2795	0.1526	-5.9479	0.3427	-1.2052	0.2593
1	99.84	0.8497	-0.1890	0.0182	-0.3319	0.1694	-7.0335	0.3767	-1.4007	0.2579
1	99.84	0.9102	-0.2632	0.0185	-0.3218	0.1990	-8.4821	0.4798	-2.4482	1.0640
1	99.84	0.9734	-0.2700	0.0247	-0.3615	0.2135	-10.0842	0.6288	-2.5023	1.1877
2	99.84	0.1949	0.0458	0.0039	0.0092	0.0012	-0.0558	0.0056	-0.1751	0.0367
2	99.84	0.2405	-0.0034	0.0026	-0.0066	0.0023	-0.1178	0.0097	-0.2530	0.0930
2	99.84	0.2999	-0.0216	0.0022	0.0084	0.0051	-0.3053	0.0225	-0.4176	0.1025
2	99.84	0.3498	-0.0724	0.0025	0.0315	0.0087	-0.4620	0.0391	-0.3175	0.1083
2	99.84	0.3998	-0.0995	0.0029	0.0245	0.0136	-0.7760	0.0600	-0.5686	0.1091
2	99.84	0.4496	-0.1302	0.0033	0.0302	0.0183	-1.1293	0.0844	-0.6357	0.1067
2	99.84	0.4995	-0.1661	0.0038	0.0314	0.0238	-1.5997	0.1119	-0.8354	0.1139
2	99.84	0.5551	-0.1932	0.0048	0.0303	0.0307	-2.2437	0.1457	-1.0051	0.1137
2	99.84	0.5996	-0.2250	0.0057	0.0258	0.0369	-2.8034	0.1754	-1.0891	0.1127
2	99.84	0.6497	-0.2432	0.0074	0.0191	0.0436	-3.5495	0.2111	-1.1163	0.1151
2	99.84	0.6996	-0.2886	0.0091	-0.0134	0.0509	-4.3651	0.2493	-1.0280	0.1111
2	99.84	0.7495	-0.3454	0.0112	-0.0260	0.0586	-5.2638	0.2885	-0.9803	0.1201
2	99.84	0.7996	-0.3821	0.0139	-0.0935	0.0664	-6.3102	0.3297	-1.1352	0.1227
2	99.84	0.8578	-0.4624	0.0174	-0.1411	0.0763	-7.5738	0.3789	-1.0872	0.1232
2	99.84	0.9100	-0.5099	0.0200	-0.1371	0.0855	-8.7600	0.4244	-1.2418	0.1320
2	99.84	0.9727	-0.5657	0.0233	-0.1240	0.0963	-10.1687	0.4826	-1.0138	0.1296
3	99.84	0.1938	0.0636	0.0095	-0.0134	0.0013	-0.0203	0.0059	-0.4770	0.0344
3	99.84	0.2357	0.0197	0.0056	0.0038	0.0019	-0.0753	0.0081	-0.8483	0.0889
3	99.84	0.2995	-0.0487	0.0055	-0.0332	0.0047	-0.1554	0.0224	-1.2552	0.0953
3	99.84	0.3493	-0.0845	0.0090	-0.0527	0.0076	-0.2538	0.0377	-1.2563	0.0971
3	99.84	0.4000	-0.0978	0.0113	-0.0742	0.0120	-0.4307	0.0580	-1.1677	0.0947
3	99.84	0.4497	-0.1334	0.0127	-0.1053	0.0158	-0.6960	0.0773	-1.3408	0.0975
3	99.84	0.4997	-0.1720	0.0132	-0.1334	0.0206	-1.0673	0.1000	-1.5400	0.0995
3	99.84	0.5556	-0.1985	0.0129	-0.1580	0.0268	-1.5667	0.1269	-1.6287	0.1049
3	99.84	0.5995	-0.2121	0.0129	-0.2198	0.0321	-2.0275	0.1507	-1.5644	0.1066
3	99.84	0.6498	-0.2378	0.0134	-0.2769	0.0385	-2.6722	0.1799	-1.6988	0.1191
3	99.84	0.6890	-0.3048	0.0151	-0.3363	0.0438	-3.2487	0.2041	-1.8573	0.1221
3	99.84	0.7495	-0.3304	0.0212	-0.4130	0.0521	-4.2408	0.2453	-1.7843	0.1201
3	99.84	0.7998	-0.3566	0.0299	-0.5034	0.0596	-5.1819	0.2831	-1.8362	0.1224
3	99.84	0.8577	-0.4060	0.0432	-0.5976	0.0683	-6.3726	0.3307	-1.8181	0.1264
3	99.84	0.9178	-0.4630	0.0604	-0.7238	0.0779	-7.6461	0.3840	-1.7416	0.1346
3	99.84	0.9729	-0.4888	0.0782	-0.7911	0.0879	-9.0522	0.4354	-2.3978	0.1319
4	99.84	0.2001	0.0688	0.0028	0.0196	0.0011	-0.1168	0.0041	0.0434	0.0482
4	99.84	0.2502	-0.0141	0.0032	0.0103	0.0018	-0.1618	0.0083	0.6347	0.0821
4	99.84	0.3001	-0.0369	0.0022	0.0583	0.0037	-0.4403	0.0150	0.3222	0.1059
4	99.84	0.3502	-0.0882	0.0023	0.1042	0.0064	-0.7499	0.0242	0.2883	0.0945
4	99.84	0.4002	-0.1200	0.0024	0.1446	0.0096	-1.1352	0.0382	0.3004	0.1001
4	99.84	0.4500	-0.1552	0.0031	0.2021	0.0127	-1.6465	0.0481	0.0205	0.1003
4	99.84	0.5001	-0.1960	0.0032	0.2413	0.0165	-2.2341	0.0612	0.0610	0.1054
4	99.84	0.5560	-0.2437	0.0038	0.2885	0.0214	-3.0753	0.0774	-0.2126	0.1159
4	99.84	0.6001	-0.2714	0.0047	0.3255	0.0254	-3.7781	0.0899	-0.1706	0.1090
4	99.84	0.6501	-0.3211	0.0052	0.3270	0.0305	-4.7284	0.1049	-0.2533	0.1015
4	99.84	0.6999	-0.3726	0.0056	0.3278	0.0361	-5.7692	0.1182	-0.3432	0.1097
4	99.84	0.7500	-0.4317	0.0066	0.3453	0.0418	-6.8575	0.1310	-0.0234	0.1190
4	99.84	0.8002	-0.4911	0.0078	0.3290	0.0483	-8.1561	0.1461	-0.2311	0.1115
4	99.84	0.8582	-0.5590	0.0101	0.3584	0.0562	-9.6838	0.1657	-0.2905	0.1156
4	99.84	0.9101	-0.6205	0.0115	0.3481	0.0632	-11.1785	0.1862	-0.3898	0.1078
4	99.84	0.9728	-0.6523	0.0141	0.3961	0.0720	-12.9552	0.2147	-0.1842	0.1058

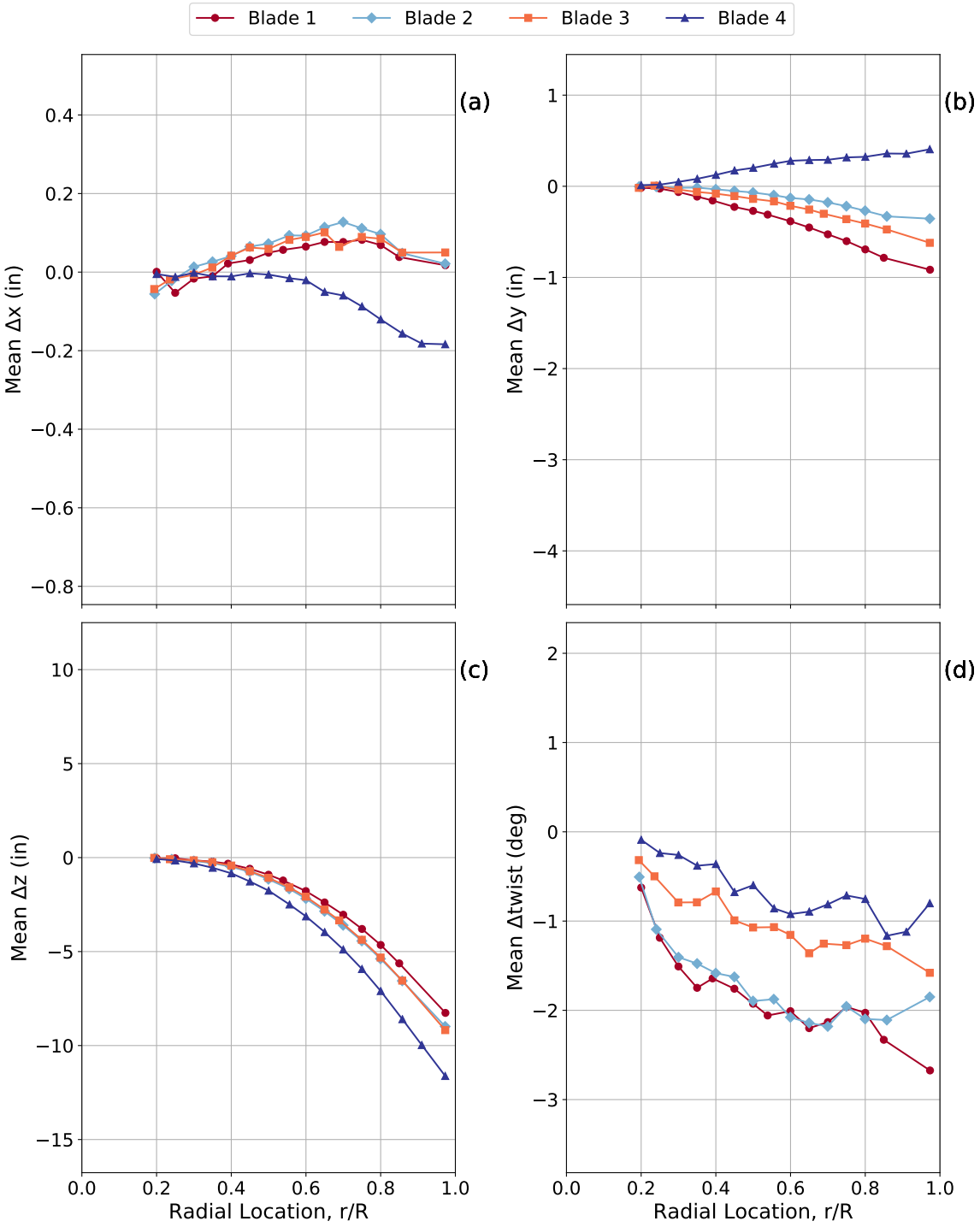


Figure 2.9-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	0.0008	0.0016	-0.0165	0.0009	-0.0347	0.0038	-0.6248	0.0279
1	105.12	0.2499	-0.0528	0.0014	-0.0253	0.0020	-0.0360	0.0085	-1.1870	0.0440
1	105.12	0.2998	-0.0166	0.0014	-0.0630	0.0037	-0.1465	0.0154	-1.5084	0.0617
1	105.12	0.3498	-0.0108	0.0016	-0.1132	0.0065	-0.2180	0.0273	-1.7479	0.0477
1	105.12	0.3913	0.0219	0.0022	-0.1561	0.0093	-0.3257	0.0389	-1.6427	0.0558
1	105.12	0.4496	0.0308	0.0028	-0.2263	0.0129	-0.5939	0.0602	-1.7581	0.0545
1	105.12	0.4997	0.0494	0.0031	-0.2698	0.0171	-0.9116	0.0819	-1.9263	0.0554
1	105.12	0.5387	0.0566	0.0032	-0.3108	0.0204	-1.2179	0.1009	-2.0577	0.0585
1	105.12	0.5996	0.0649	0.0042	-0.3839	0.0264	-1.7815	0.1325	-2.0093	0.0564
1	105.12	0.6498	0.0768	0.0051	-0.4522	0.0317	-2.3851	0.1585	-2.1997	0.0744
1	105.12	0.6998	0.0767	0.0062	-0.5271	0.0374	-3.0399	0.1850	-2.1321	0.0621
1	105.12	0.7500	0.0821	0.0069	-0.6019	0.0436	-3.7967	0.2114	-1.9620	0.0714
1	105.12	0.8001	0.0688	0.0091	-0.6925	0.0502	-4.6487	0.2389	-2.0277	0.0802
1	105.12	0.8497	0.0383	0.0106	-0.7845	0.0573	-5.6275	0.2671	-2.3301	0.0844
1	105.12	0.9734	0.0173	0.0178	-0.9155	0.0758	-8.2624	0.3471	-2.6737	0.0941
2	105.12	0.1949	-0.0558	0.0016	-0.0017	0.0010	-0.0277	0.0052	-0.5061	0.0226
2	105.12	0.2405	-0.0220	0.0017	-0.0046	0.0027	-0.0923	0.0104	-1.0929	0.0363
2	105.12	0.2999	0.0133	0.0017	-0.0161	0.0047	-0.1813	0.0235	-1.4051	0.0494
2	105.12	0.3498	0.0264	0.0023	-0.0143	0.0091	-0.2945	0.0401	-1.4760	0.0474
2	105.12	0.3998	0.0407	0.0029	-0.0331	0.0136	-0.4929	0.0627	-1.5839	0.0503
2	105.12	0.4496	0.0651	0.0031	-0.0511	0.0166	-0.7562	0.0909	-1.6253	0.0535
2	105.12	0.4995	0.0724	0.0044	-0.0682	0.0210	-1.1519	0.1234	-1.8959	0.0523
2	105.12	0.5551	0.0934	0.0056	-0.0977	0.0262	-1.6619	0.1633	-1.8756	0.0542
2	105.12	0.5996	0.0930	0.0071	-0.1284	0.0304	-2.1804	0.1980	-2.0779	0.0550
2	105.12	0.6497	0.1143	0.0085	-0.1443	0.0355	-2.8540	0.2358	-2.1412	0.0630
2	105.12	0.6996	0.1274	0.0106	-0.1768	0.0412	-3.5998	0.2738	-2.1805	0.0702
2	105.12	0.7495	0.1114	0.0130	-0.2184	0.0470	-4.4352	0.3113	-1.9562	0.0658
2	105.12	0.7996	0.0966	0.0153	-0.2683	0.0533	-5.3845	0.3495	-2.0971	0.0708
2	105.12	0.8578	0.0481	0.0191	-0.3301	0.0611	-6.5571	0.3973	-2.1085	0.0743
2	105.12	0.9727	0.0213	0.0280	-0.3554	0.0774	-8.9839	0.5003	-1.8500	0.1300
3	105.12	0.1938	-0.0431	0.0016	-0.0170	0.0010	-0.0149	0.0043	-0.3172	0.0203
3	105.12	0.2357	-0.0186	0.0014	0.0066	0.0022	-0.0869	0.0087	-0.4989	0.0322
3	105.12	0.2995	-0.0067	0.0015	-0.0363	0.0046	-0.1455	0.0204	-0.7914	0.0447
3	105.12	0.3493	0.0117	0.0016	-0.0617	0.0088	-0.2511	0.0333	-0.7898	0.0451
3	105.12	0.4000	0.0419	0.0022	-0.0808	0.0132	-0.4239	0.0537	-0.6684	0.0501
3	105.12	0.4497	0.0626	0.0025	-0.1074	0.0173	-0.7251	0.0749	-0.9923	0.0515
3	105.12	0.4997	0.0591	0.0031	-0.1383	0.0224	-1.0769	0.1012	-1.0718	0.0507
3	105.12	0.5556	0.0821	0.0040	-0.1656	0.0285	-1.5862	0.1333	-1.0679	0.0563
3	105.12	0.5995	0.0895	0.0051	-0.2139	0.0338	-2.0780	0.1626	-1.1553	0.0578
3	105.12	0.6498	0.1011	0.0063	-0.2553	0.0400	-2.7656	0.1959	-1.3606	0.0650
3	105.12	0.6890	0.0642	0.0073	-0.3015	0.0452	-3.3407	0.2257	-1.2531	0.0640
3	105.12	0.7495	0.0895	0.0100	-0.3606	0.0535	-4.3709	0.2749	-1.2699	0.0711
3	105.12	0.7998	0.0850	0.0127	-0.4089	0.0608	-5.3181	0.3213	-1.1968	0.0705
3	105.12	0.8577	0.0497	0.0174	-0.4736	0.0700	-6.5451	0.3801	-1.2812	0.1166
3	105.12	0.9729	0.0500	0.0243	-0.6203	0.0881	-9.1793	0.5110	-1.5794	0.1776
4	105.12	0.2001	-0.0050	0.0031	0.0124	0.0012	-0.0752	0.0039	-0.0898	0.0246
4	105.12	0.2502	-0.0122	0.0018	0.0181	0.0031	-0.1556	0.0082	-0.2380	0.0463
4	105.12	0.3001	-0.0017	0.0019	0.0484	0.0050	-0.3096	0.0161	-0.2595	0.0554
4	105.12	0.3502	-0.0107	0.0024	0.0818	0.0087	-0.5430	0.0259	-0.3799	0.0525
4	105.12	0.4002	-0.0110	0.0030	0.1251	0.0138	-0.8365	0.0413	-0.3614	0.0528
4	105.12	0.4500	-0.0031	0.0032	0.1729	0.0175	-1.2734	0.0582	-0.6756	0.0447
4	105.12	0.5001	-0.0064	0.0040	0.2023	0.0224	-1.7599	0.0774	-0.5981	0.0518
4	105.12	0.5560	-0.0156	0.0061	0.2473	0.0289	-2.4958	0.1031	-0.8583	0.0526
4	105.12	0.6001	-0.0207	0.0085	0.2795	0.0341	-3.1291	0.1234	-0.9215	0.0537
4	105.12	0.6501	-0.0505	0.0123	0.2878	0.0404	-3.9641	0.1484	-0.8943	0.0598
4	105.12	0.6999	-0.0597	0.0167	0.2906	0.0473	-4.8920	0.1741	-0.8125	0.0609
4	105.12	0.7500	-0.0875	0.0220	0.3167	0.0551	-5.9286	0.2017	-0.7134	0.0599
4	105.12	0.8002	-0.1206	0.0282	0.3231	0.0637	-7.1018	0.2312	-0.7530	0.0614
4	105.12	0.8582	-0.1565	0.0366	0.3596	0.0745	-8.5984	0.2677	-1.1647	0.0633
4	105.12	0.9101	-0.1820	0.0460	0.3574	0.0844	-9.9738	0.3026	-1.1197	0.0673
4	105.12	0.9728	-0.1838	0.0548	0.4059	0.0985	-11.6193	0.3430	-0.8009	0.0926

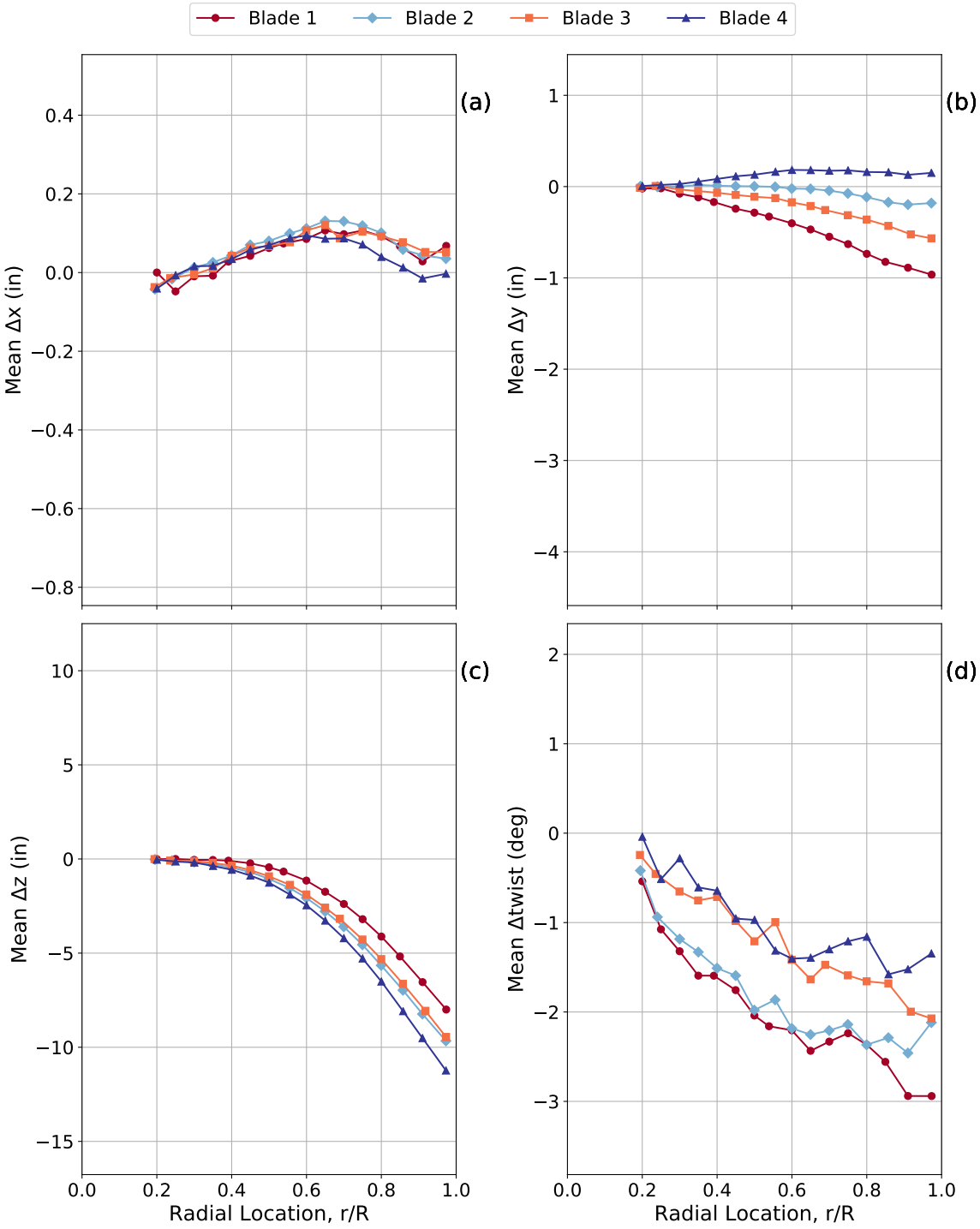


Figure 2.9-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	0.0001	0.0013	-0.0208	0.0007	-0.0079	0.0037	-0.5388	0.0252
1	119.88	0.2499	-0.0479	0.0013	-0.0190	0.0019	-0.0004	0.0077	-1.0757	0.0364
1	119.88	0.2998	-0.0096	0.0011	-0.0773	0.0034	-0.0456	0.0149	-1.3209	0.0546
1	119.88	0.3498	-0.0079	0.0014	-0.1180	0.0056	-0.0504	0.0255	-1.5936	0.0407
1	119.88	0.3913	0.0279	0.0018	-0.1692	0.0084	-0.0893	0.0369	-1.5941	0.0394
1	119.88	0.4496	0.0426	0.0023	-0.2425	0.0114	-0.2290	0.0528	-1.7555	0.0453
1	119.88	0.4997	0.0624	0.0025	-0.2856	0.0149	-0.4423	0.0700	-2.0399	0.0453
1	119.88	0.5387	0.0739	0.0028	-0.3289	0.0177	-0.6701	0.0863	-2.1594	0.0493
1	119.88	0.5996	0.0854	0.0037	-0.4019	0.0230	-1.1469	0.1163	-2.2046	0.0553
1	119.88	0.6498	0.1070	0.0049	-0.4698	0.0275	-1.7411	0.1488	-2.4345	0.0535
1	119.88	0.6998	0.0975	0.0067	-0.5494	0.0330	-2.3886	0.1888	-2.3313	0.0556
1	119.88	0.7500	0.1068	0.0092	-0.6299	0.0390	-3.1976	0.2375	-2.2378	0.0573
1	119.88	0.8001	0.0921	0.0136	-0.7366	0.0458	-4.1193	0.2955	-2.3666	0.0641
1	119.88	0.8497	0.0671	0.0171	-0.8245	0.0532	-5.1760	0.3551	-2.5579	0.0601
1	119.88	0.9102	0.0285	0.0214	-0.8885	0.0628	-6.5393	0.4342	-2.9397	0.0625
1	119.88	0.9734	0.0678	0.0267	-0.9646	0.0731	-7.9968	0.5219	-2.9405	0.0667
2	119.88	0.1949	-0.0422	0.0014	0.0041	0.0006	-0.0259	0.0035	-0.4186	0.0184
2	119.88	0.2405	-0.0162	0.0015	-0.0019	0.0016	-0.0895	0.0074	-0.9381	0.0300
2	119.88	0.2999	0.0127	0.0016	0.0003	0.0026	-0.1663	0.0160	-1.1842	0.0424
2	119.88	0.3498	0.0257	0.0016	0.0173	0.0053	-0.2787	0.0275	-1.3298	0.0435
2	119.88	0.3998	0.0437	0.0020	0.0095	0.0076	-0.4599	0.0430	-1.5101	0.0449
2	119.88	0.4496	0.0702	0.0024	0.0047	0.0098	-0.6905	0.0623	-1.5930	0.0469
2	119.88	0.4995	0.0801	0.0029	0.0030	0.0129	-1.0581	0.0865	-1.9794	0.0522
2	119.88	0.5551	0.0993	0.0042	-0.0028	0.0168	-1.5418	0.1189	-1.8643	0.0549
2	119.88	0.5996	0.1121	0.0045	-0.0217	0.0204	-2.0673	0.1473	-2.1833	0.0566
2	119.88	0.6497	0.1311	0.0061	-0.0253	0.0251	-2.7830	0.1834	-2.2528	0.0568
2	119.88	0.6996	0.1302	0.0078	-0.0440	0.0300	-3.5996	0.2225	-2.2071	0.0632
2	119.88	0.7495	0.1191	0.0100	-0.0748	0.0354	-4.5530	0.2636	-2.1399	0.0585
2	119.88	0.7996	0.1010	0.0134	-0.1150	0.0419	-5.6508	0.3088	-2.3669	0.0852
2	119.88	0.8578	0.0585	0.0166	-0.1717	0.0489	-6.9706	0.3576	-2.2881	0.0697
2	119.88	0.9100	0.0438	0.0196	-0.1972	0.0556	-8.2348	0.4055	-2.4593	0.0683
2	119.88	0.9727	0.0354	0.0225	-0.1806	0.0639	-9.6633	0.4642	-2.1185	0.0812
3	119.88	0.1938	-0.0370	0.0017	-0.0142	0.0009	-0.0073	0.0041	-0.2441	0.0231
3	119.88	0.2357	-0.0143	0.0017	0.0063	0.0017	-0.0817	0.0071	-0.4557	0.0341
3	119.88	0.2995	-0.0047	0.0015	-0.0319	0.0032	-0.1135	0.0174	-0.6530	0.0527
3	119.88	0.3493	0.0107	0.0015	-0.0493	0.0060	-0.2080	0.0302	-0.7524	0.0470
3	119.88	0.4000	0.0425	0.0021	-0.0673	0.0089	-0.3507	0.0469	-0.7140	0.0525
3	119.88	0.4497	0.0632	0.0022	-0.0911	0.0113	-0.5896	0.0670	-0.9816	0.0580
3	119.88	0.4997	0.0673	0.0029	-0.1113	0.0148	-0.9201	0.0918	-1.2097	0.0593
3	119.88	0.5556	0.0769	0.0045	-0.1260	0.0190	-1.3746	0.1292	-0.9955	0.1046
3	119.88	0.5995	0.1069	0.0043	-0.1717	0.0229	-1.8839	0.1597	-1.4166	0.0717
3	119.88	0.6498	0.1206	0.0059	-0.2126	0.0279	-2.5829	0.2050	-1.6356	0.0772
3	119.88	0.6890	0.0872	0.0077	-0.2572	0.0321	-3.1754	0.2461	-1.4724	0.0754
3	119.88	0.7495	0.1041	0.0114	-0.3138	0.0395	-4.2766	0.3194	-1.5906	0.0817
3	119.88	0.7998	0.0925	0.0156	-0.3614	0.0459	-5.3175	0.3871	-1.6574	0.1154
3	119.88	0.8577	0.0769	0.0221	-0.4305	0.0540	-6.6312	0.4807	-1.6809	0.0903
3	119.88	0.9178	0.0522	0.0288	-0.5237	0.0628	-8.0639	0.5834	-1.9967	0.1038
3	119.88	0.9729	0.0522	0.0336	-0.5667	0.0706	-9.4511	0.6844	-2.0727	0.1087
4	119.88	0.2001	-0.0407	0.0014	0.0061	0.0011	-0.0402	0.0051	-0.0405	0.0271
4	119.88	0.2502	-0.0071	0.0016	0.0182	0.0029	-0.1348	0.0112	-0.5133	0.0491
4	119.88	0.3001	0.0158	0.0016	0.0281	0.0045	-0.1905	0.0215	-0.2816	0.0626
4	119.88	0.3502	0.0170	0.0022	0.0546	0.0084	-0.3702	0.0369	-0.6068	0.0595
4	119.88	0.4002	0.0344	0.0026	0.0837	0.0129	-0.5719	0.0576	-0.6436	0.0587
4	119.88	0.4500	0.0581	0.0029	0.1128	0.0168	-0.8818	0.0804	-0.9559	0.0698
4	119.88	0.5001	0.0698	0.0038	0.1302	0.0221	-1.2600	0.1088	-0.9700	0.0726
4	119.88	0.5560	0.0874	0.0047	0.1619	0.0292	-1.8913	0.1473	-1.3139	0.0758
4	119.88	0.6001	0.0945	0.0061	0.1821	0.0354	-2.4605	0.1829	-1.4041	0.0813
4	119.88	0.6501	0.0859	0.0083	0.1803	0.0436	-3.2751	0.2302	-1.3936	0.0822
4	119.88	0.6999	0.0868	0.0109	0.1731	0.0517	-4.2099	0.2828	-1.2994	0.0821
4	119.88	0.7500	0.0711	0.0148	0.1777	0.0610	-5.2866	0.3424	-1.2102	0.0915
4	119.88	0.8002	0.0396	0.0197	0.1599	0.0707	-6.5112	0.4069	-1.1588	0.0899
4	119.88	0.8582	0.0126	0.0260	0.1567	0.0835	-8.0855	0.4881	-1.5791	0.0964
4	119.88	0.9101	-0.0151	0.0315	0.1289	0.0950	-9.5160	0.5644	-1.5222	0.0989
4	119.88	0.9728	-0.0031	0.0379	0.1500	0.1094	-11.2372	0.6605	-1.3468	0.0974

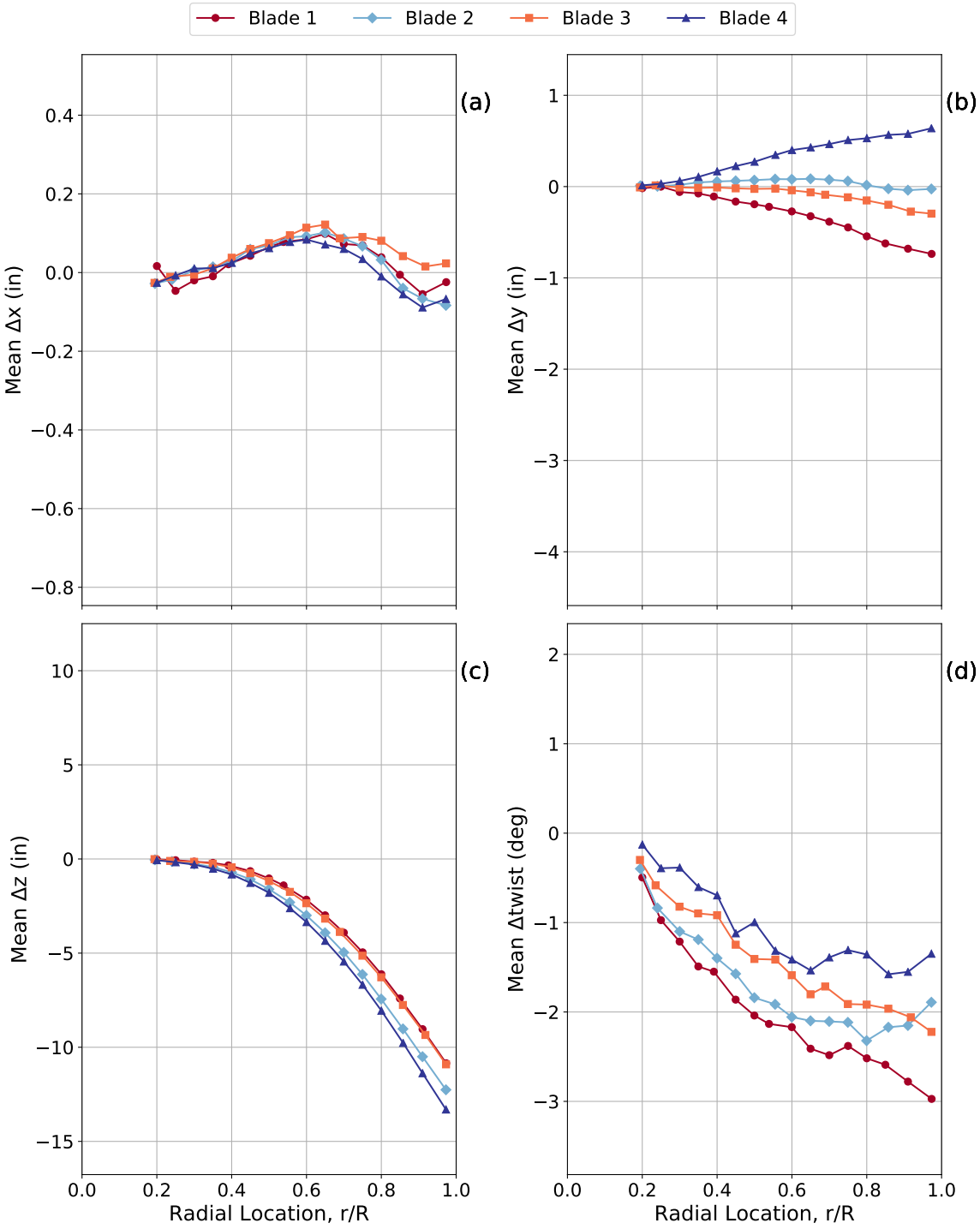


Figure 2.9-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	0.0165	0.0014	-0.0178	0.0007	-0.0237	0.0040	-0.4957	0.0264
1	135	0.2499	-0.0465	0.0011	-0.0009	0.0017	-0.0647	0.0089	-0.9731	0.0443
1	135	0.2998	-0.0199	0.0014	-0.0589	0.0030	-0.1393	0.0176	-1.2127	0.0607
1	135	0.3498	-0.0095	0.0016	-0.0754	0.0051	-0.2086	0.0295	-1.4911	0.0668
1	135	0.3913	0.0211	0.0024	-0.1088	0.0075	-0.3384	0.0436	-1.5492	0.0699
1	135	0.4496	0.0426	0.0028	-0.1641	0.0105	-0.6446	0.0680	-1.8621	0.0735
1	135	0.4997	0.0647	0.0037	-0.1936	0.0140	-1.0315	0.0954	-2.0396	0.0840
1	135	0.5387	0.0777	0.0045	-0.2215	0.0172	-1.4026	0.1195	-2.1333	0.0884
1	135	0.5996	0.0845	0.0056	-0.2721	0.0224	-2.1608	0.1613	-2.1697	0.0983
1	135	0.6498	0.0983	0.0076	-0.3244	0.0276	-2.9916	0.2011	-2.4107	0.1042
1	135	0.6998	0.0726	0.0100	-0.3848	0.0331	-3.9129	0.2456	-2.4832	0.1082
1	135	0.7500	0.0691	0.0133	-0.4475	0.0398	-4.9568	0.2941	-2.3799	0.1110
1	135	0.8001	0.0388	0.0175	-0.5450	0.0466	-6.1218	0.3483	-2.5182	0.1119
1	135	0.8497	-0.0057	0.0223	-0.6225	0.0539	-7.4080	0.4070	-2.5904	0.1222
1	135	0.9102	-0.0549	0.0285	-0.6805	0.0632	-9.0376	0.4833	-2.7791	0.1276
1	135	0.9734	-0.0244	0.0340	-0.7373	0.0730	-10.8500	0.5668	-2.9724	0.1272
2	135	0.1949	-0.0279	0.0013	0.0086	0.0007	-0.0430	0.0030	-0.3979	0.0302
2	135	0.2405	-0.0178	0.0012	0.0031	0.0017	-0.1313	0.0069	-0.8370	0.0341
2	135	0.2999	0.0053	0.0021	0.0196	0.0034	-0.2645	0.0136	-1.0997	0.0642
2	135	0.3498	0.0145	0.0020	0.0457	0.0054	-0.4228	0.0254	-1.1905	0.0536
2	135	0.3998	0.0289	0.0029	0.0559	0.0089	-0.7067	0.0380	-1.3983	0.0570
2	135	0.4496	0.0592	0.0033	0.0626	0.0112	-1.0783	0.0511	-1.5728	0.0565
2	135	0.4995	0.0689	0.0035	0.0706	0.0142	-1.6025	0.0681	-1.8403	0.0605
2	135	0.5551	0.0897	0.0046	0.0818	0.0184	-2.3031	0.0904	-1.9144	0.0681
2	135	0.5996	0.0923	0.0057	0.0803	0.0218	-2.9964	0.1120	-2.0565	0.0686
2	135	0.6497	0.1019	0.0073	0.0850	0.0264	-3.9199	0.1392	-2.0991	0.0740
2	135	0.6996	0.0862	0.0096	0.0757	0.0315	-4.9612	0.1724	-2.1057	0.0750
2	135	0.7495	0.0671	0.0124	0.0602	0.0370	-6.1300	0.2098	-2.1162	0.0796
2	135	0.7996	0.0323	0.0160	0.0156	0.0430	-7.4386	0.2527	-2.3212	0.0826
2	135	0.8578	-0.0398	0.0215	-0.0237	0.0509	-9.0237	0.3103	-2.1708	0.0826
2	135	0.9100	-0.0665	0.0261	-0.0394	0.0585	-10.4993	0.3678	-2.1515	0.0853
2	135	0.9727	-0.0835	0.0326	-0.0258	0.0678	-12.2581	0.4409	-1.8915	0.0913
3	135	0.1938	-0.0262	0.0017	-0.0094	0.0011	-0.0087	0.0044	-0.2996	0.0234
3	135	0.2357	-0.0110	0.0012	0.0132	0.0017	-0.1037	0.0077	-0.5835	0.0403
3	135	0.2995	-0.0054	0.0014	-0.0094	0.0043	-0.1514	0.0186	-0.8224	0.0554
3	135	0.3493	0.0105	0.0018	-0.0139	0.0078	-0.2518	0.0321	-0.8974	0.0585
3	135	0.4000	0.0377	0.0024	-0.0099	0.0118	-0.4437	0.0498	-0.9177	0.0632
3	135	0.4497	0.0600	0.0030	-0.0193	0.0157	-0.7513	0.0719	-1.2478	0.0664
3	135	0.4997	0.0747	0.0039	-0.0251	0.0205	-1.1708	0.1008	-1.4073	0.0765
3	135	0.5556	0.0950	0.0054	-0.0222	0.0261	-1.7470	0.1389	-1.4141	0.0705
3	135	0.5995	0.1140	0.0070	-0.0405	0.0310	-2.3495	0.1763	-1.5889	0.0770
3	135	0.6498	0.1219	0.0093	-0.0631	0.0375	-3.1688	0.2265	-1.8021	0.0745
3	135	0.6890	0.0870	0.0130	-0.0893	0.0425	-3.8726	0.2711	-1.7150	0.0788
3	135	0.7495	0.0904	0.0183	-0.1175	0.0514	-5.1355	0.3543	-1.9114	0.0873
3	135	0.7998	0.0809	0.0248	-0.1517	0.0591	-6.2843	0.4353	-1.9174	0.0928
3	135	0.8577	0.0417	0.0336	-0.1991	0.0687	-7.7545	0.5412	-1.9634	0.0924
3	135	0.9178	0.0154	0.0422	-0.2740	0.0792	-9.3478	0.6600	-2.0598	0.0986
3	135	0.9729	0.0233	0.0504	-0.2963	0.0895	-10.9079	0.7744	-2.2227	0.1024
4	135	0.2001	-0.0262	0.0018	0.0138	0.0008	-0.0649	0.0035	-0.1282	0.0189
4	135	0.2502	-0.0074	0.0013	0.0307	0.0022	-0.1753	0.0076	-0.3921	0.0341
4	135	0.3001	0.0101	0.0014	0.0614	0.0037	-0.2981	0.0147	-0.3850	0.0420
4	135	0.3502	0.0112	0.0020	0.1059	0.0062	-0.5202	0.0247	-0.6032	0.0428
4	135	0.4002	0.0245	0.0027	0.1665	0.0100	-0.8233	0.0389	-0.6964	0.0431
4	135	0.4500	0.0486	0.0033	0.2244	0.0138	-1.2727	0.0554	-1.1207	0.0532
4	135	0.5001	0.0619	0.0038	0.2719	0.0178	-1.7985	0.0758	-0.9960	0.0546
4	135	0.5560	0.0776	0.0050	0.3467	0.0230	-2.6157	0.1025	-1.3155	0.0596
4	135	0.6001	0.0837	0.0066	0.4000	0.0279	-3.3540	0.1285	-1.4131	0.0602
4	135	0.6501	0.0711	0.0084	0.4288	0.0334	-4.3483	0.1613	-1.5352	0.0679
4	135	0.6999	0.0600	0.0110	0.4654	0.0398	-5.4493	0.1995	-1.3898	0.0652
4	135	0.7500	0.0343	0.0139	0.5092	0.0469	-6.6826	0.2425	-1.3086	0.0707
4	135	0.8002	-0.0099	0.0181	0.5295	0.0541	-8.0611	0.2882	-1.3577	0.0703
4	135	0.8582	-0.0554	0.0237	0.5661	0.0632	-9.7711	0.3449	-1.5782	0.0707
4	135	0.9101	-0.0889	0.0280	0.5771	0.0714	-11.3806	0.3985	-1.5514	0.0745
4	135	0.9728	-0.0672	0.0336	0.6384	0.0818	-13.3082	0.4658	-1.3490	0.0773

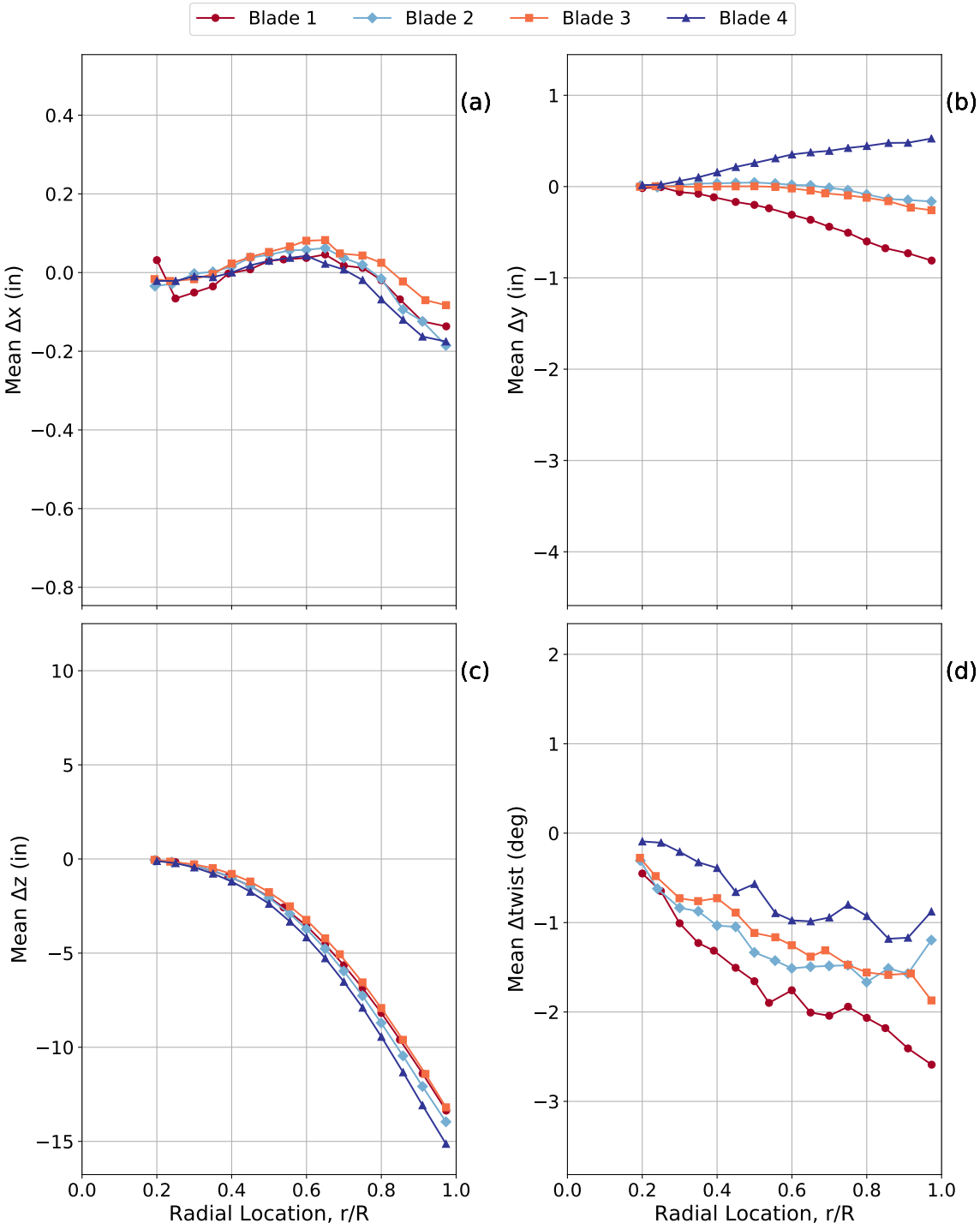


Figure 2.9-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	0.0315	0.0022	-0.0167	0.0011	-0.0824	0.0040	-0.4512	0.0221
1	150.12	0.2499	-0.0660	0.0013	-0.0062	0.0023	-0.1656	0.0086	-0.6486	0.0478
1	150.12	0.2998	-0.0508	0.0017	-0.0600	0.0047	-0.3704	0.0167	-1.0079	0.0547
1	150.12	0.3498	-0.0353	0.0019	-0.0786	0.0078	-0.6291	0.0288	-1.2286	0.0499
1	150.12	0.3913	-0.0024	0.0023	-0.1167	0.0115	-0.9221	0.0418	-1.3146	0.0509
1	150.12	0.4496	0.0081	0.0032	-0.1683	0.0156	-1.4310	0.0608	-1.5059	0.0538
1	150.12	0.4997	0.0297	0.0040	-0.2006	0.0199	-2.0210	0.0810	-1.6559	0.0614
1	150.12	0.5387	0.0333	0.0049	-0.2374	0.0239	-2.5710	0.0995	-1.8984	0.0602
1	150.12	0.5996	0.0371	0.0066	-0.3087	0.0301	-3.5390	0.1343	-1.7576	0.0650
1	150.12	0.6498	0.0459	0.0082	-0.3640	0.0359	-4.5488	0.1672	-2.0065	0.0620
1	150.12	0.6998	0.0175	0.0107	-0.4400	0.0420	-5.6446	0.2048	-2.0423	0.0640
1	150.12	0.7500	0.0119	0.0140	-0.5057	0.0489	-6.8567	0.2460	-1.9414	0.0612
1	150.12	0.8001	-0.0196	0.0180	-0.6010	0.0560	-8.1763	0.2925	-2.0663	0.0634
1	150.12	0.8497	-0.0682	0.0226	-0.6752	0.0635	-9.6035	0.3443	-2.1806	0.0609
1	150.12	0.9102	-0.1243	0.0283	-0.7305	0.0730	-11.3966	0.4118	-2.4077	0.0650
1	150.12	0.9734	-0.1368	0.0343	-0.8101	0.0835	-13.3629	0.4867	-2.5895	0.0692
2	150.12	0.1949	-0.0345	0.0016	0.0097	0.0008	-0.0716	0.0032	-0.3075	0.0189
2	150.12	0.2405	-0.0289	0.0015	-0.0059	0.0024	-0.1652	0.0074	-0.6213	0.0324
2	150.12	0.2999	-0.0027	0.0017	0.0163	0.0046	-0.3702	0.0159	-0.8359	0.0442
2	150.12	0.3498	0.0018	0.0024	0.0329	0.0074	-0.6126	0.0267	-0.8731	0.0421
2	150.12	0.3998	0.0149	0.0028	0.0357	0.0123	-0.9866	0.0425	-1.0343	0.0425
2	150.12	0.4496	0.0376	0.0032	0.0399	0.0150	-1.4337	0.0580	-1.0475	0.0456
2	150.12	0.4995	0.0452	0.0040	0.0446	0.0192	-2.0703	0.0764	-1.3341	0.0486
2	150.12	0.5551	0.0563	0.0049	0.0334	0.0244	-2.9147	0.1001	-1.4262	0.0531
2	150.12	0.5996	0.0578	0.0064	0.0193	0.0287	-3.7136	0.1231	-1.5121	0.0564
2	150.12	0.6497	0.0622	0.0082	0.0128	0.0341	-4.7662	0.1513	-1.4941	0.0587
2	150.12	0.6996	0.0371	0.0108	-0.0138	0.0399	-5.9531	0.1829	-1.4844	0.0533
2	150.12	0.7495	0.0195	0.0137	-0.0398	0.0458	-7.2624	0.2204	-1.4779	0.0577
2	150.12	0.7996	-0.0156	0.0173	-0.0858	0.0521	-8.7101	0.2614	-1.6660	0.0610
2	150.12	0.8578	-0.0940	0.0227	-0.1357	0.0596	-10.4540	0.3115	-1.5132	0.0659
2	150.12	0.9100	-0.1241	0.0271	-0.1467	0.0666	-12.0810	0.3603	-1.5711	0.0625
2	150.12	0.9727	-0.1854	0.0322	-0.1631	0.0758	-13.9605	0.4211	-1.1959	0.0640
3	150.12	0.1938	-0.0166	0.0020	-0.0023	0.0010	-0.0448	0.0056	-0.2762	0.0193
3	150.12	0.2357	-0.0215	0.0016	0.0035	0.0019	-0.1431	0.0096	-0.4804	0.0396
3	150.12	0.2995	-0.0170	0.0018	0.0004	0.0047	-0.2833	0.0243	-0.7283	0.0501
3	150.12	0.3493	-0.0037	0.0022	-0.0033	0.0074	-0.4872	0.0418	-0.7598	0.0541
3	150.12	0.4000	0.0230	0.0029	0.0015	0.0121	-0.7945	0.0651	-0.7276	0.0606
3	150.12	0.4497	0.0396	0.0038	0.0026	0.0166	-1.1991	0.0931	-0.8888	0.0593
3	150.12	0.4997	0.0523	0.0051	0.0040	0.0217	-1.7629	0.1300	-1.1163	0.0665
3	150.12	0.5556	0.0662	0.0070	-0.0036	0.0280	-2.5145	0.1786	-1.1645	0.0684
3	150.12	0.5995	0.0809	0.0094	-0.0204	0.0336	-3.2339	0.2221	-1.2537	0.0749
3	150.12	0.6498	0.0825	0.0125	-0.0435	0.0409	-4.2164	0.2809	-1.3810	0.0853
3	150.12	0.6890	0.0486	0.0160	-0.0734	0.0470	-5.0610	0.3313	-1.3109	0.0813
3	150.12	0.7495	0.0433	0.0228	-0.0962	0.0571	-6.5538	0.4205	-1.4728	0.0865
3	150.12	0.7998	0.0248	0.0296	-0.1218	0.0667	-7.9181	0.5010	-1.5582	0.0859
3	150.12	0.8577	-0.0228	0.0384	-0.1596	0.0779	-9.6061	0.6000	-1.5847	0.0934
3	150.12	0.9178	-0.0702	0.0472	-0.2297	0.0903	-11.4179	0.7092	-1.5693	0.0940
3	150.12	0.9729	-0.0829	0.0544	-0.2587	0.1019	-13.1905	0.8102	-1.8709	0.0974
4	150.12	0.2001	-0.0213	0.0016	0.0161	0.0008	-0.1099	0.0048	-0.0927	0.0188
4	150.12	0.2502	-0.0213	0.0021	0.0214	0.0019	-0.2230	0.0105	-0.1067	0.0270
4	150.12	0.3001	-0.0098	0.0019	0.0616	0.0034	-0.4476	0.0207	-0.2090	0.0396
4	150.12	0.3502	-0.0118	0.0026	0.1019	0.0059	-0.7772	0.0359	-0.3260	0.0407
4	150.12	0.4002	0.0002	0.0036	0.1561	0.0092	-1.1985	0.0562	-0.3896	0.0433
4	150.12	0.4500	0.0183	0.0043	0.2144	0.0116	-1.7386	0.0794	-0.6581	0.0465
4	150.12	0.5001	0.0299	0.0057	0.2587	0.0155	-2.3795	0.1086	-0.5684	0.0495
4	150.12	0.5560	0.0374	0.0075	0.3099	0.0203	-3.3270	0.1461	-0.8941	0.0527
4	150.12	0.6001	0.0424	0.0097	0.3519	0.0245	-4.1627	0.1815	-0.9756	0.0533
4	150.12	0.6501	0.0223	0.0122	0.3752	0.0299	-5.2725	0.2283	-0.9861	0.0520
4	150.12	0.6999	0.0076	0.0167	0.3916	0.0360	-6.5232	0.2815	-0.9431	0.0572
4	150.12	0.7500	-0.0191	0.0223	0.4231	0.0426	-7.9004	0.3445	-0.8011	0.0602
4	150.12	0.8002	-0.0683	0.0289	0.4447	0.0497	-9.4465	0.4166	-0.9272	0.0590
4	150.12	0.8582	-0.1199	0.0381	0.4781	0.0589	-11.3305	0.5074	-1.1814	0.0607
4	150.12	0.9101	-0.1628	0.0455	0.4801	0.0676	-13.0833	0.5954	-1.1695	0.0598
4	150.12	0.9728	-0.1752	0.0555	0.5262	0.0782	-15.1313	0.7059	-0.8771	0.0641

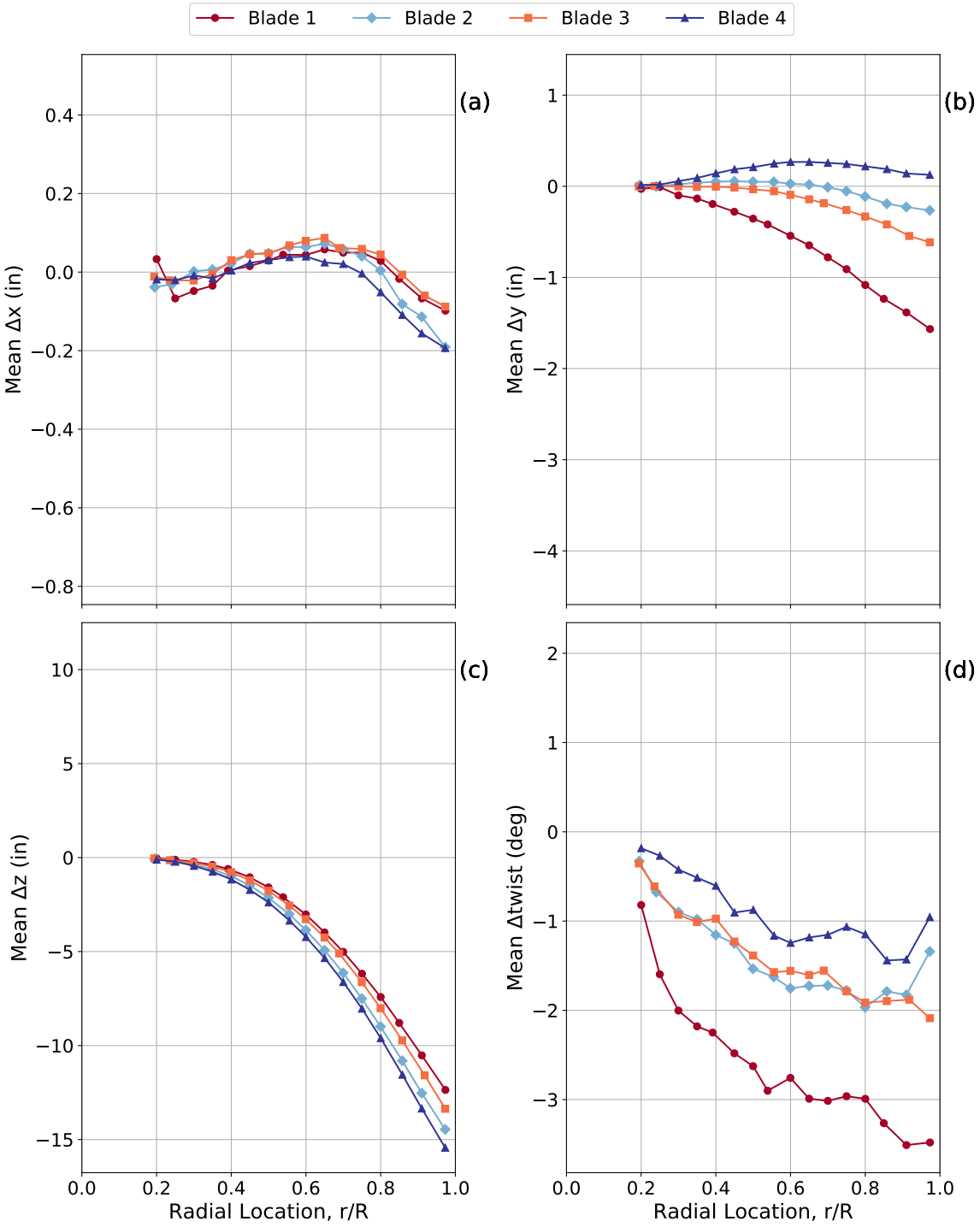


Figure 2.9-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	0.0332	0.0216	-0.0284	0.0048	-0.0352	0.0404	-0.8201	0.2534
1	164.88	0.2499	-0.0671	0.0114	-0.0083	0.0058	-0.1158	0.0410	-1.5967	0.6904
1	164.88	0.2998	-0.0480	0.0109	-0.0994	0.0179	-0.2258	0.1257	-2.0030	0.6957
1	164.88	0.3498	-0.0346	0.0112	-0.1345	0.0314	-0.3921	0.2099	-2.1798	0.6960
1	164.88	0.3913	0.0040	0.0118	-0.1949	0.0432	-0.6048	0.2798	-2.2490	0.6997
1	164.88	0.4496	0.0153	0.0130	-0.2794	0.0616	-1.0500	0.3780	-2.4818	0.6974
1	164.88	0.4997	0.0292	0.0149	-0.3554	0.0796	-1.5872	0.4625	-2.6254	0.6968
1	164.88	0.5387	0.0442	0.0166	-0.4186	0.0948	-2.1076	0.5289	-2.9008	0.6889
1	164.88	0.5996	0.0437	0.0200	-0.5435	0.1195	-3.0260	0.6303	-2.7572	0.6953
1	164.88	0.6498	0.0578	0.0238	-0.6479	0.1434	-3.9811	0.7139	-2.9901	0.6923
1	164.88	0.6998	0.0493	0.0283	-0.7794	0.1671	-5.0159	0.7981	-3.0145	0.6953
1	164.88	0.7500	0.0497	0.0339	-0.9100	0.1934	-6.1773	0.8830	-2.9624	0.6988
1	164.88	0.8001	0.0284	0.0392	-1.0834	0.2203	-7.4192	0.9689	-2.9912	0.6954
1	164.88	0.8497	-0.0170	0.0459	-1.2346	0.2487	-8.7952	1.0535	-3.2645	0.6974
1	164.88	0.9102	-0.0670	0.0536	-1.3838	0.2839	-10.5232	1.1570	-3.5095	0.7034
1	164.88	0.9734	-0.0981	0.0573	-1.5661	0.3215	-12.3616	1.2677	-3.4804	0.6982
2	164.88	0.1949	-0.0384	0.0017	0.0096	0.0011	-0.0711	0.0031	-0.3298	0.0226
2	164.88	0.2405	-0.0310	0.0018	-0.0025	0.0024	-0.1700	0.0052	-0.6759	0.0441
2	164.88	0.2999	0.0017	0.0015	0.0226	0.0047	-0.3725	0.0115	-0.8999	0.0552
2	164.88	0.3498	0.0066	0.0017	0.0382	0.0084	-0.6144	0.0194	-0.9808	0.0537
2	164.88	0.3998	0.0220	0.0020	0.0501	0.0129	-0.9926	0.0294	-1.1558	0.0639
2	164.88	0.4496	0.0466	0.0022	0.0555	0.0159	-1.4771	0.0421	-1.2525	0.0659
2	164.88	0.4995	0.0481	0.0026	0.0498	0.0203	-2.1372	0.0569	-1.5353	0.0679
2	164.88	0.5551	0.0642	0.0030	0.0483	0.0262	-3.0110	0.0768	-1.6258	0.0752
2	164.88	0.5996	0.0637	0.0040	0.0280	0.0310	-3.8554	0.0944	-1.7538	0.0713
2	164.88	0.6497	0.0723	0.0052	0.0189	0.0375	-4.9283	0.1158	-1.7260	0.0787
2	164.88	0.6996	0.0585	0.0062	-0.0106	0.0435	-6.1355	0.1377	-1.7222	0.0794
2	164.88	0.7495	0.0405	0.0080	-0.0533	0.0500	-7.5006	0.1606	-1.7773	0.0830
2	164.88	0.7996	0.0042	0.0100	-0.1123	0.0569	-8.9897	0.1854	-1.9663	0.0832
2	164.88	0.8578	-0.0814	0.0131	-0.1913	0.0651	-10.8105	0.2170	-1.7893	0.0887
2	164.88	0.9100	-0.1138	0.0159	-0.2272	0.0724	-12.5322	0.2471	-1.8270	0.0899
2	164.88	0.9727	-0.1909	0.0191	-0.2644	0.0814	-14.4625	0.2867	-1.3415	0.0925
3	164.88	0.1938	-0.0116	0.0025	-0.0023	0.0012	-0.0427	0.0035	-0.3541	0.0284
3	164.88	0.2357	-0.0210	0.0017	0.0018	0.0024	-0.1411	0.0058	-0.6124	0.0557
3	164.88	0.2995	-0.0213	0.0018	-0.0013	0.0055	-0.2766	0.0127	-0.9290	0.0726
3	164.88	0.3493	-0.0051	0.0021	-0.0064	0.0081	-0.4781	0.0215	-1.0115	0.0725
3	164.88	0.4000	0.0304	0.0024	-0.0041	0.0139	-0.7801	0.0332	-0.9729	0.0759
3	164.88	0.4497	0.0453	0.0029	-0.0140	0.0169	-1.2129	0.0464	-1.2295	0.0870
3	164.88	0.4997	0.0474	0.0035	-0.0330	0.0214	-1.7678	0.0643	-1.3856	0.0955
3	164.88	0.5556	0.0677	0.0041	-0.0540	0.0270	-2.5553	0.0850	-1.5726	0.0963
3	164.88	0.5995	0.0795	0.0052	-0.0938	0.0315	-3.2771	0.1048	-1.5579	0.0990
3	164.88	0.6498	0.0870	0.0069	-0.1429	0.0370	-4.2540	0.1314	-1.6046	0.0987
3	164.88	0.6890	0.0612	0.0080	-0.1854	0.0414	-5.1001	0.1556	-1.5549	0.1021
3	164.88	0.7495	0.0591	0.0115	-0.2610	0.0491	-6.6271	0.1953	-1.7865	0.1056
3	164.88	0.7998	0.0447	0.0144	-0.3318	0.0556	-8.0137	0.2320	-1.9133	0.1078
3	164.88	0.8577	-0.0066	0.0185	-0.4181	0.0638	-9.7266	0.2792	-1.8964	0.1121
3	164.88	0.9178	-0.0596	0.0235	-0.5452	0.0717	-11.5828	0.3323	-1.8809	0.1091
3	164.88	0.9729	-0.0878	0.0281	-0.6144	0.0800	-13.3647	0.3840	-2.0879	0.1003
4	164.88	0.2001	-0.0188	0.0019	0.0144	0.0011	-0.1070	0.0035	-0.1838	0.0287
4	164.88	0.2502	-0.0205	0.0018	0.0190	0.0028	-0.2196	0.0084	-0.2689	0.0425
4	164.88	0.3001	-0.0085	0.0019	0.0564	0.0051	-0.4379	0.0147	-0.4242	0.0628
4	164.88	0.3502	-0.0159	0.0018	0.0918	0.0086	-0.7504	0.0244	-0.5147	0.0662
4	164.88	0.4002	0.0039	0.0027	0.1419	0.0137	-1.1635	0.0390	-0.6041	0.0766
4	164.88	0.4500	0.0233	0.0028	0.1865	0.0178	-1.7222	0.0533	-0.9046	0.0837
4	164.88	0.5001	0.0307	0.0036	0.2097	0.0234	-2.3859	0.0722	-0.8740	0.0874
4	164.88	0.5560	0.0380	0.0045	0.2487	0.0304	-3.3549	0.0962	-1.1637	0.0945
4	164.88	0.6001	0.0396	0.0055	0.2670	0.0353	-4.2273	0.1171	-1.2441	0.0971
4	164.88	0.6501	0.0245	0.0067	0.2667	0.0417	-5.3473	0.1429	-1.1830	0.0984
4	164.88	0.6999	0.0206	0.0085	0.2568	0.0488	-6.6209	0.1706	-1.1542	0.0966
4	164.88	0.7500	-0.0037	0.0109	0.2445	0.0560	-8.0384	0.1997	-1.0644	0.1036
4	164.88	0.8002	-0.0514	0.0140	0.2184	0.0639	-9.6068	0.2317	-1.1480	0.1030
4	164.88	0.8582	-0.1090	0.0182	0.1882	0.0735	-11.5543	0.2711	-1.4407	0.1101
4	164.88	0.9101	-0.1560	0.0220	0.1405	0.0820	-13.3489	0.3099	-1.4301	0.0965
4	164.88	0.9728	-0.1933	0.0264	0.1258	0.0931	-15.4340	0.3594	-0.9559	0.0936

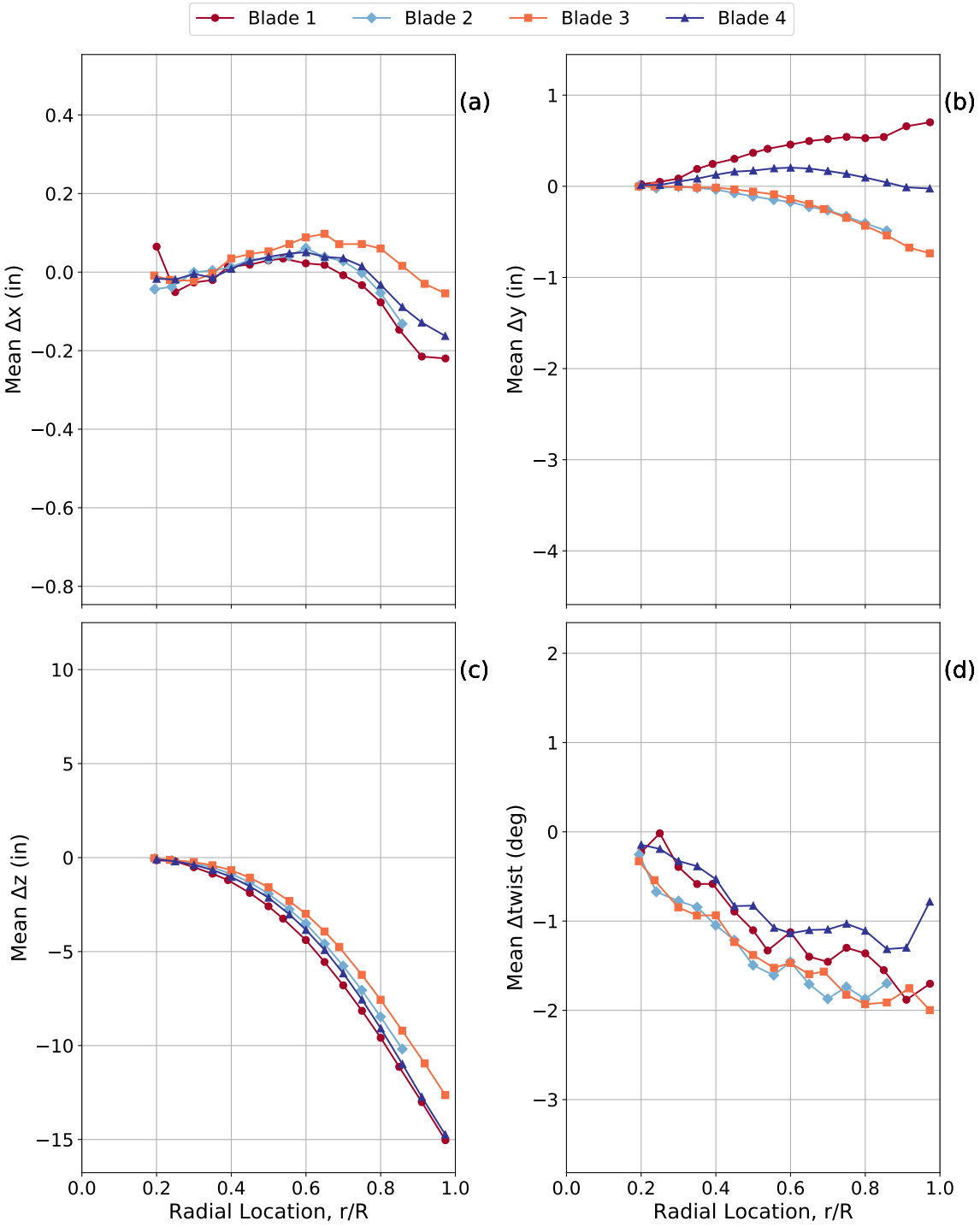


Figure 2.9-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	0.0648	0.0039	0.0226	0.0023	-0.1410	0.0048	-0.2287	0.0298
1	170.16	0.2499	-0.0508	0.0021	0.0490	0.0036	-0.1999	0.0090	-0.0171	0.0569
1	170.16	0.2998	-0.0264	0.0023	0.0844	0.0092	-0.5111	0.0181	-0.3937	0.0696
1	170.16	0.3498	-0.0202	0.0020	0.1898	0.0149	-0.8593	0.0303	-0.5849	0.0719
1	170.16	0.3913	0.0135	0.0023	0.2451	0.0216	-1.2003	0.0433	-0.5837	0.0760
1	170.16	0.4496	0.0189	0.0029	0.3012	0.0288	-1.8789	0.0614	-0.8928	0.0847
1	170.16	0.4997	0.0296	0.0030	0.3670	0.0364	-2.5933	0.0783	-1.1031	0.0874
1	170.16	0.5387	0.0345	0.0035	0.4109	0.0427	-3.2488	0.0936	-1.3298	0.0853
1	170.16	0.5996	0.0223	0.0059	0.4576	0.0531	-4.3866	0.1198	-1.1245	0.1016
1	170.16	0.6498	0.0183	0.0065	0.4965	0.0622	-5.5544	0.1432	-1.3994	0.1002
1	170.16	0.6998	-0.0080	0.0086	0.5173	0.0712	-6.7967	0.1688	-1.4562	0.1084
1	170.16	0.7500	-0.0333	0.0109	0.5413	0.0807	-8.1505	0.1950	-1.2997	0.0918
1	170.16	0.8001	-0.0770	0.0126	0.5287	0.0911	-9.5870	0.2240	-1.3619	0.1058
1	170.16	0.8497	-0.1467	0.0171	0.5408	0.1018	-11.1360	0.2553	-1.5498	0.1082
1	170.16	0.9102	-0.2150	0.0206	0.6584	0.1150	-13.0105	0.2942	-1.8814	0.0958
1	170.16	0.9734	-0.2199	0.0239	0.7021	0.1290	-15.0345	0.3392	-1.7022	0.1044
2	170.16	0.1949	-0.0434	0.0060	0.0050	0.0020	-0.0527	0.0027	-0.2548	0.0244
2	170.16	0.2405	-0.0376	0.0038	-0.0206	0.0043	-0.1555	0.0063	-0.6728	0.0470
2	170.16	0.2999	-0.0005	0.0023	-0.0049	0.0091	-0.3177	0.0098	-0.7749	0.0600
2	170.16	0.3498	0.0043	0.0052	-0.0182	0.0158	-0.5241	0.0169	-0.8441	0.0693
2	170.16	0.3998	0.0122	0.0093	-0.0357	0.0246	-0.8632	0.0264	-1.0475	0.0790
2	170.16	0.4496	0.0320	0.0128	-0.0740	0.0312	-1.3211	0.0331	-1.2125	0.0771
2	170.16	0.4995	0.0328	0.0167	-0.1102	0.0405	-1.9263	0.0436	-1.4944	0.0782
2	170.16	0.5551	0.0412	0.0216	-0.1473	0.0523	-2.7572	0.0597	-1.6067	0.0899
2	170.16	0.5996	0.0611	0.0257	-0.1722	0.0615	-3.5116	0.0758	-1.4570	0.1091
2	170.16	0.6497	0.0381	0.0302	-0.2263	0.0725	-4.5899	0.0910	-1.7066	0.0866
2	170.16	0.6996	0.0282	0.0353	-0.2623	0.0857	-5.7674	0.1103	-1.8708	0.1006
2	170.16	0.7495	-0.0022	0.0410	-0.3297	0.1001	-7.0551	0.1331	-1.7372	0.0914
2	170.16	0.7996	-0.0529	0.0477	-0.4063	0.1166	-8.4698	0.1542	-1.8737	0.0907
2	170.16	0.8578	-0.1318	0.0557	-0.4882	0.1402	-10.1837	0.1852	-1.6973	0.1056
3	170.16	0.1938	-0.0088	0.0038	-0.0020	0.0013	-0.0349	0.0037	-0.3295	0.0317
3	170.16	0.2357	-0.0198	0.0029	-0.0020	0.0023	-0.1224	0.0057	-0.5424	0.0531
3	170.16	0.2995	-0.0222	0.0027	-0.0033	0.0053	-0.2373	0.0117	-0.8462	0.0751
3	170.16	0.3493	-0.0033	0.0025	-0.0138	0.0088	-0.4095	0.0207	-0.9377	0.0710
3	170.16	0.4000	0.0349	0.0030	-0.0148	0.0141	-0.6718	0.0307	-0.9355	0.0815
3	170.16	0.4497	0.0460	0.0035	-0.0342	0.0184	-1.0687	0.0413	-1.2350	0.0880
3	170.16	0.4997	0.0527	0.0035	-0.0584	0.0239	-1.5787	0.0550	-1.3806	0.0947
3	170.16	0.5556	0.0714	0.0038	-0.0887	0.0297	-2.3101	0.0733	-1.5243	0.0968
3	170.16	0.5995	0.0885	0.0045	-0.1394	0.0356	-2.9930	0.0903	-1.4697	0.0965
3	170.16	0.6498	0.0975	0.0054	-0.1943	0.0418	-3.9312	0.1111	-1.5951	0.1028
3	170.16	0.6890	0.0712	0.0060	-0.2499	0.0476	-4.7562	0.1299	-1.5661	0.1036
3	170.16	0.7495	0.0714	0.0082	-0.3454	0.0565	-6.2381	0.1599	-1.8258	0.1110
3	170.16	0.7998	0.0600	0.0104	-0.4323	0.0644	-7.5660	0.1874	-1.9311	0.1074
3	170.16	0.8577	0.0159	0.0135	-0.5392	0.0734	-9.2048	0.2224	-1.9121	0.1018
3	170.16	0.9178	-0.0299	0.0171	-0.6730	0.0840	-10.9516	0.2638	-1.7535	0.1098
3	170.16	0.9729	-0.0540	0.0207	-0.7353	0.0932	-12.6336	0.3031	-1.9977	0.1221
4	170.16	0.2001	-0.0169	0.0021	0.0140	0.0010	-0.0954	0.0037	-0.1456	0.0276
4	170.16	0.2502	-0.0188	0.0027	0.0145	0.0029	-0.1956	0.0060	-0.1919	0.0475
4	170.16	0.3001	-0.0046	0.0020	0.0508	0.0044	-0.3905	0.0126	-0.3273	0.0588
4	170.16	0.3502	-0.0143	0.0021	0.0840	0.0078	-0.6627	0.0199	-0.3863	0.0557
4	170.16	0.4002	0.0082	0.0021	0.1264	0.0122	-1.0309	0.0307	-0.5313	0.0601
4	170.16	0.4500	0.0281	0.0028	0.1602	0.0154	-1.5349	0.0408	-0.8321	0.0676
4	170.16	0.5001	0.0388	0.0033	0.1718	0.0191	-2.1366	0.0548	-0.8280	0.0723
4	170.16	0.5560	0.0475	0.0037	0.1972	0.0240	-3.0286	0.0697	-1.0747	0.0702
4	170.16	0.6001	0.0505	0.0043	0.2042	0.0287	-3.8471	0.0826	-1.1369	0.0665
4	170.16	0.6501	0.0387	0.0054	0.1952	0.0346	-4.9168	0.0986	-1.1005	0.0780
4	170.16	0.6999	0.0355	0.0063	0.1677	0.0401	-6.1611	0.1147	-1.0942	0.0793
4	170.16	0.7500	0.0149	0.0079	0.1370	0.0465	-7.5545	0.1297	-1.0302	0.0813
4	170.16	0.8002	-0.0323	0.0091	0.0952	0.0529	-9.0888	0.1470	-1.1086	0.0784
4	170.16	0.8582	-0.0889	0.0113	0.0408	0.0604	-10.9873	0.1681	-1.3141	0.0756
4	170.16	0.9101	-0.1284	0.0138	-0.0112	0.0673	-12.7365	0.1888	-1.2982	0.0780
4	170.16	0.9728	-0.1626	0.0170	-0.0248	0.0760	-14.7343	0.2200	-0.7829	0.0840

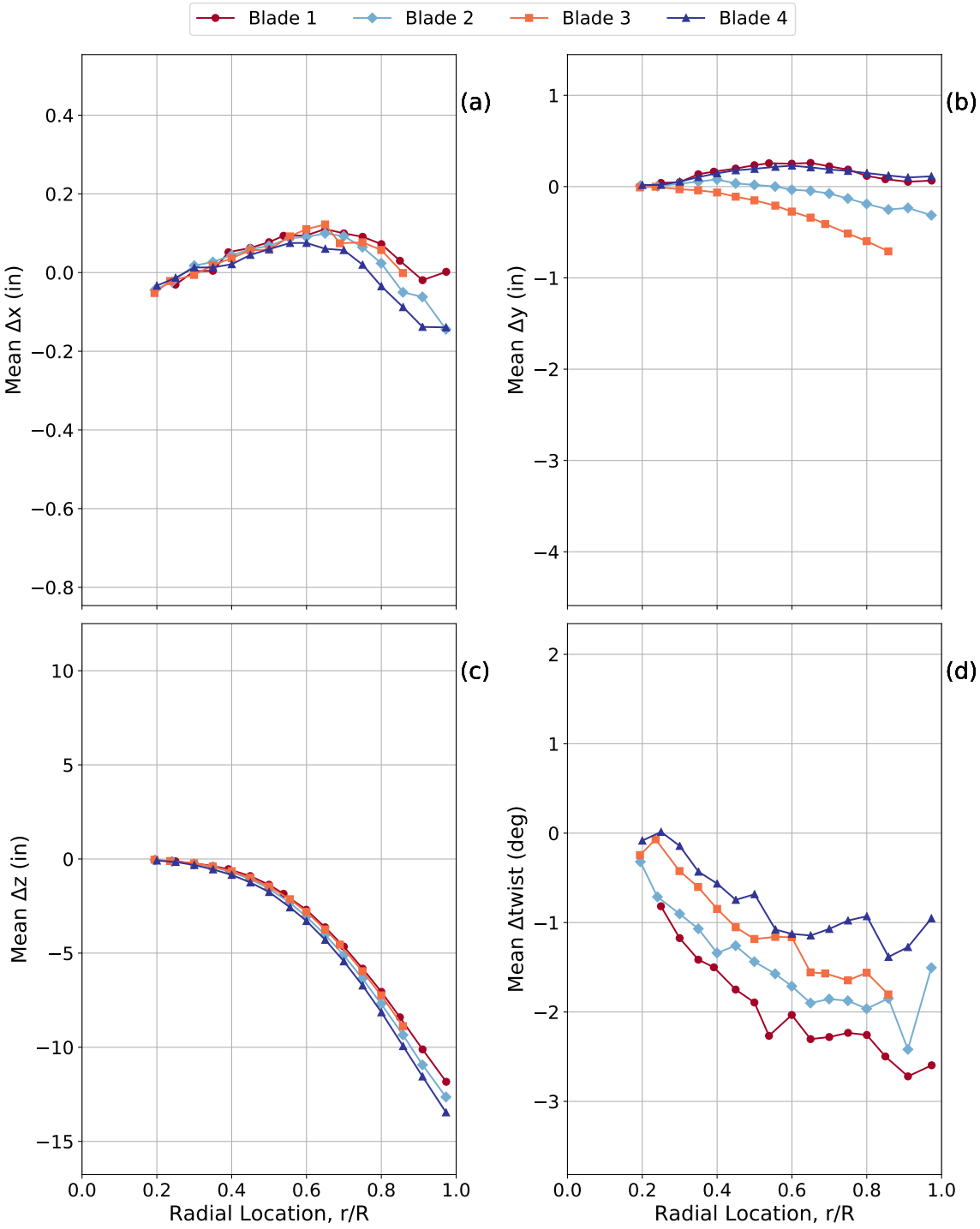


Figure 2.9-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2499	-0.0308	0.0022	0.0405	0.0036	-0.1240	0.0096	-0.8175	0.0868
1	175.08	0.2998	0.0034	0.0038	0.0478	0.0069	-0.2298	0.0178	-1.1738	0.1241
1	175.08	0.3498	0.0044	0.0034	0.1355	0.0120	-0.3699	0.0307	-1.4151	0.1104
1	175.08	0.3913	0.0516	0.0032	0.1639	0.0176	-0.5393	0.0443	-1.5005	0.1162
1	175.08	0.4496	0.0626	0.0039	0.1973	0.0238	-0.9067	0.0598	-1.7492	0.1137
1	175.08	0.4997	0.0771	0.0042	0.2343	0.0297	-1.3662	0.0746	-1.8939	0.1159
1	175.08	0.5387	0.0934	0.0047	0.2556	0.0352	-1.8488	0.0868	-2.2666	0.1216
1	175.08	0.5996	0.0945	0.0054	0.2509	0.0426	-2.6999	0.1073	-2.0334	0.1197
1	175.08	0.6498	0.1105	0.0061	0.2594	0.0499	-3.6284	0.1247	-2.3035	0.1232
1	175.08	0.6998	0.0996	0.0074	0.2220	0.0578	-4.6520	0.1423	-2.2805	0.1179
1	175.08	0.7500	0.0909	0.0087	0.1860	0.0659	-5.8224	0.1613	-2.2337	0.1288
1	175.08	0.8001	0.0723	0.0105	0.1174	0.0742	-7.0574	0.1832	-2.2572	0.1248
1	175.08	0.8497	0.0300	0.0125	0.0809	0.0829	-8.4100	0.2082	-2.4978	0.1283
1	175.08	0.9102	-0.0194	0.0155	0.0530	0.0938	-10.1129	0.2414	-2.7204	0.1247
1	175.08	0.9734	0.0019	0.0193	0.0654	0.1054	-11.8346	0.2808	-2.5962	0.1305
2	175.08	0.1949	-0.0438	0.0056	0.0103	0.0042	-0.0484	0.0034	-0.3198	0.0370
2	175.08	0.2405	-0.0237	0.0025	0.0046	0.0035	-0.1279	0.0060	-0.7128	0.0569
2	175.08	0.2999	0.0176	0.0024	0.0313	0.0138	-0.2667	0.0114	-0.9033	0.0860
2	175.08	0.3498	0.0269	0.0025	0.0549	0.0237	-0.4273	0.0184	-1.0697	0.0855
2	175.08	0.3998	0.0440	0.0027	0.0778	0.0347	-0.7033	0.0284	-1.3396	0.0982
2	175.08	0.4496	0.0593	0.0028	0.0344	0.0440	-1.0631	0.0387	-1.2591	0.0893
2	175.08	0.4995	0.0677	0.0028	0.0187	0.0544	-1.5744	0.0504	-1.4377	0.1011
2	175.08	0.5551	0.0873	0.0036	0.0005	0.0673	-2.3171	0.0696	-1.5727	0.0646
2	175.08	0.5996	0.0905	0.0041	-0.0347	0.0761	-3.0577	0.0822	-1.7125	0.0731
2	175.08	0.6497	0.0995	0.0047	-0.0461	0.0859	-4.0277	0.1003	-1.9003	0.0983
2	175.08	0.6996	0.0926	0.0060	-0.0761	0.0970	-5.1113	0.1176	-1.8554	0.1109
2	175.08	0.7495	0.0644	0.0081	-0.1305	0.1078	-6.3513	0.1404	-1.8742	0.0951
2	175.08	0.7996	0.0236	0.0101	-0.1898	0.1193	-7.6982	0.1667	-1.9634	0.1030
2	175.08	0.8578	-0.0502	0.0135	-0.2514	0.1323	-9.3439	0.2021	-1.8487	0.1178
2	175.08	0.9100	-0.0620	0.0173	-0.2337	0.1451	-10.9350	0.2399	-2.4186	0.1197
2	175.08	0.9727	-0.1442	0.0216	-0.3140	0.1582	-12.6433	0.2917	-1.5048	0.1215
3	175.08	0.1938	-0.0520	0.0209	-0.0090	0.0044	-0.0376	0.0054	-0.2455	0.0680
3	175.08	0.2357	-0.0215	0.0104	-0.0015	0.0108	-0.1097	0.0105	-0.0691	0.1898
3	175.08	0.2995	-0.0060	0.0060	-0.0291	0.0268	-0.2296	0.0267	-0.4239	0.2193
3	175.08	0.3493	0.0185	0.0169	-0.0410	0.0403	-0.4000	0.0418	-0.6018	0.2387
3	175.08	0.4000	0.0365	0.0363	-0.0645	0.0693	-0.6472	0.0692	-0.8475	0.0685
3	175.08	0.4497	0.0566	0.0458	-0.1103	0.0768	-0.9984	0.0856	-1.0519	0.0630
3	175.08	0.4997	0.0580	0.0590	-0.1508	0.0910	-1.4622	0.1043	-1.1841	0.0934
3	175.08	0.5556	0.0918	0.0722	-0.2085	0.1087	-2.1381	0.1247	-1.1604	0.0762
3	175.08	0.5995	0.1102	0.0823	-0.2740	0.1224	-2.8053	0.1398	-1.1634	0.0862
3	175.08	0.6498	0.1222	0.0931	-0.3398	0.1377	-3.7436	0.1593	-1.5573	0.0717
3	175.08	0.6890	0.0744	0.1017	-0.4100	0.1503	-4.5421	0.1780	-1.5688	0.0750
3	175.08	0.7495	0.0768	0.1118	-0.5143	0.1706	-5.9654	0.2035	-1.6462	0.0708
3	175.08	0.7998	0.0574	0.1193	-0.5978	0.1874	-7.2459	0.2278	-1.5612	0.0844
3	175.08	0.8577	-0.0013	0.1261	-0.7095	0.2070	-8.8810	0.2557	-1.8039	0.0855
4	175.08	0.2001	-0.0334	0.0106	0.0170	0.0022	-0.0854	0.0036	-0.0838	0.0203
4	175.08	0.2502	-0.0135	0.0040	0.0182	0.0043	-0.1591	0.0068	0.0143	0.0477
4	175.08	0.3001	0.0128	0.0039	0.0543	0.0102	-0.3231	0.0117	-0.1428	0.0443
4	175.08	0.3502	0.0131	0.0089	0.1037	0.0152	-0.5539	0.0196	-0.4308	0.0477
4	175.08	0.4002	0.0211	0.0164	0.1457	0.0252	-0.8443	0.0306	-0.5640	0.0938
4	175.08	0.4500	0.0449	0.0221	0.1782	0.0292	-1.2476	0.0418	-0.7460	0.0594
4	175.08	0.5001	0.0595	0.0288	0.1946	0.0354	-1.7551	0.0583	-0.6831	0.0688
4	175.08	0.5560	0.0751	0.0360	0.2161	0.0439	-2.5731	0.0779	-1.0782	0.0688
4	175.08	0.6001	0.0752	0.0411	0.2289	0.0507	-3.2949	0.0975	-1.1269	0.0686
4	175.08	0.6501	0.0603	0.0470	0.2107	0.0583	-4.2950	0.1189	-1.1447	0.0987
4	175.08	0.6999	0.0570	0.0527	0.1871	0.0676	-5.4390	0.1412	-1.0711	0.0859
4	175.08	0.7500	0.0199	0.0582	0.1717	0.0774	-6.7222	0.1636	-0.9769	0.0835
4	175.08	0.8002	-0.0350	0.0638	0.1480	0.0879	-8.1447	0.1873	-0.9293	0.0878
4	175.08	0.8582	-0.0880	0.0685	0.1217	0.1005	-9.9394	0.2170	-1.3839	0.0971
4	175.08	0.9101	-0.1382	0.0736	0.0996	0.1119	-11.5529	0.2471	-1.2743	0.0978
4	175.08	0.9728	-0.1394	0.0753	0.1124	0.1234	-13.4589	0.2849	-0.9531	0.1408

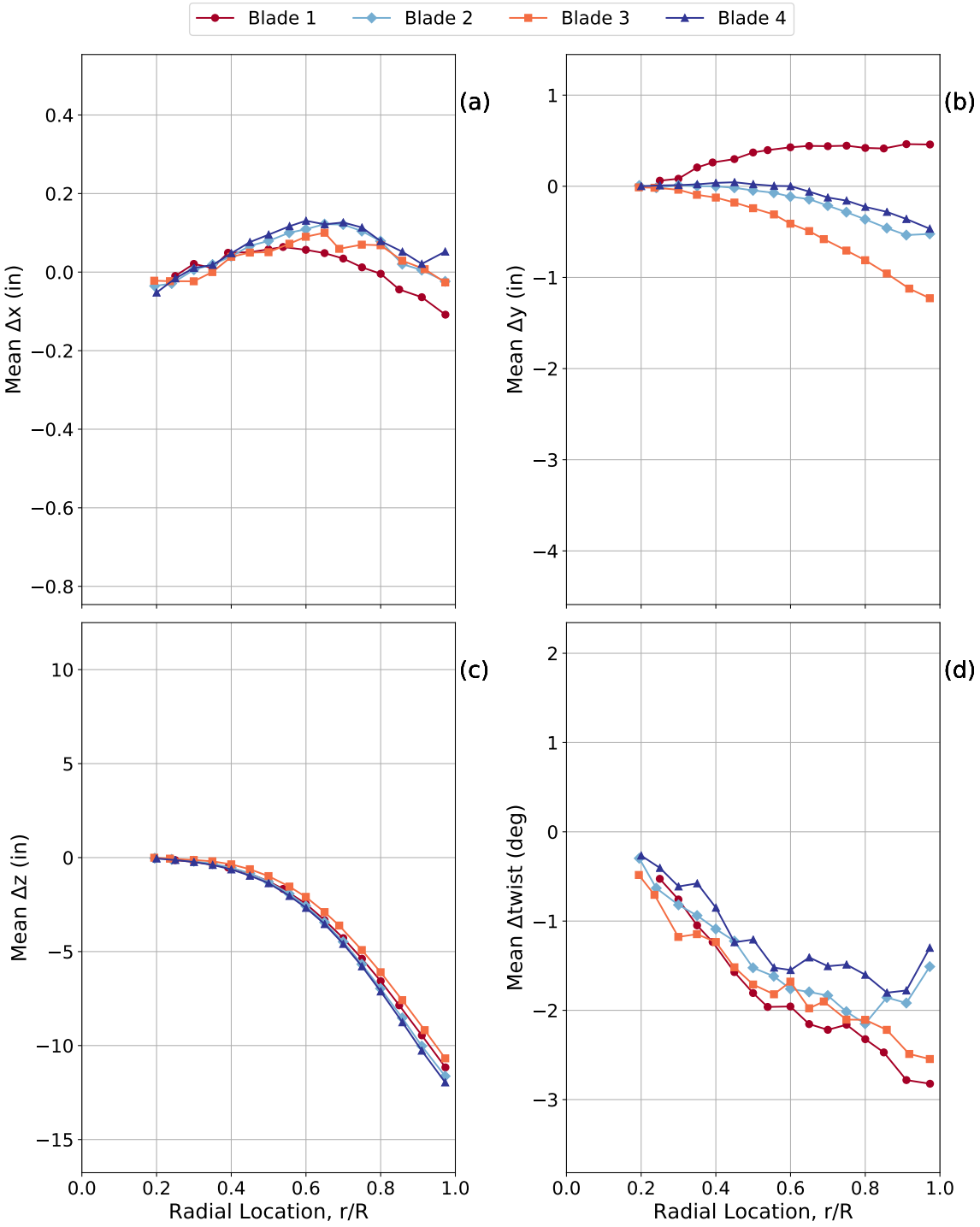


Figure 2.9-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2499	-0.0099	0.0043	0.0613	0.0087	-0.1339	0.0218	-0.5268	0.1340
1	180	0.2998	0.0209	0.0056	0.0826	0.0153	-0.2270	0.0364	-0.7584	0.1906
1	180	0.3498	0.0103	0.0057	0.2064	0.0293	-0.3751	0.0656	-1.0485	0.1636
1	180	0.3913	0.0492	0.0053	0.2614	0.0411	-0.5261	0.0911	-1.2341	0.1602
1	180	0.4496	0.0507	0.0060	0.2982	0.0540	-0.8524	0.1252	-1.5716	0.1655
1	180	0.4997	0.0580	0.0064	0.3707	0.0665	-1.2647	0.1587	-1.8064	0.1579
1	180	0.5387	0.0639	0.0071	0.3966	0.0757	-1.6663	0.1875	-1.9620	0.1645
1	180	0.5996	0.0567	0.0079	0.4278	0.0912	-2.4538	0.2345	-1.9570	0.1624
1	180	0.6498	0.0483	0.0099	0.4429	0.1038	-3.3281	0.2748	-2.1542	0.1651
1	180	0.6998	0.0345	0.0122	0.4401	0.1176	-4.2848	0.3165	-2.2183	0.1652
1	180	0.7500	0.0121	0.0152	0.4454	0.1317	-5.3827	0.3593	-2.1613	0.1690
1	180	0.8001	-0.0043	0.0183	0.4205	0.1462	-6.5733	0.4075	-2.3236	0.1611
1	180	0.8497	-0.0442	0.0225	0.4148	0.1603	-7.8578	0.4529	-2.4715	0.1714
1	180	0.9102	-0.0639	0.0294	0.4625	0.1783	-9.4582	0.5143	-2.7814	0.1735
1	180	0.9734	-0.1084	0.0329	0.4584	0.1958	-11.1618	0.5842	-2.8223	0.1609
2	180	0.1949	-0.0353	0.0052	0.0082	0.0021	-0.0335	0.0058	-0.2970	0.0490
2	180	0.2405	-0.0291	0.0043	-0.0167	0.0022	-0.0947	0.0078	-0.6310	0.1195
2	180	0.2999	0.0061	0.0042	0.0101	0.0065	-0.1978	0.0193	-0.8187	0.1389
2	180	0.3498	0.0193	0.0038	0.0022	0.0114	-0.3265	0.0341	-0.9381	0.1369
2	180	0.3998	0.0399	0.0044	-0.0009	0.0162	-0.5363	0.0500	-1.0891	0.1369
2	180	0.4496	0.0670	0.0046	-0.0168	0.0212	-0.8394	0.0668	-1.2241	0.1344
2	180	0.4995	0.0792	0.0046	-0.0453	0.0259	-1.2879	0.0861	-1.5234	0.1361
2	180	0.5551	0.1002	0.0050	-0.0712	0.0321	-1.9208	0.1096	-1.6182	0.1385
2	180	0.5996	0.1090	0.0062	-0.1134	0.0372	-2.5773	0.1304	-1.7605	0.1435
2	180	0.6497	0.1222	0.0070	-0.1412	0.0431	-3.4436	0.1549	-1.7941	0.1465
2	180	0.6996	0.1211	0.0089	-0.2124	0.0493	-4.4810	0.1827	-1.8341	0.1580
2	180	0.7495	0.1044	0.0107	-0.2838	0.0560	-5.6729	0.2107	-2.0145	0.1502
2	180	0.7996	0.0790	0.0130	-0.3623	0.0631	-6.9657	0.2422	-2.1508	0.1545
2	180	0.8578	0.0203	0.0167	-0.4585	0.0709	-8.5290	0.2823	-1.8562	0.1504
2	180	0.9100	0.0052	0.0202	-0.5353	0.0789	-10.0264	0.3215	-1.9185	0.1596
2	180	0.9727	-0.0236	0.0242	-0.5227	0.0879	-11.6278	0.3716	-1.5103	0.1626
3	180.35	0.1938	-0.0219	0.0067	-0.0118	0.0031	-0.0073	0.0071	-0.4838	0.0360
3	180.35	0.2357	-0.0231	0.0053	-0.0161	0.0040	-0.0561	0.0072	-0.7062	0.0848
3	180.35	0.2995	-0.0234	0.0032	-0.0376	0.0116	-0.1258	0.0186	-1.1778	0.0905
3	180.35	0.3493	0.0001	0.0053	-0.0935	0.0190	-0.1975	0.0290	-1.1466	0.0884
3	180.35	0.4000	0.0389	0.0095	-0.1238	0.0298	-0.3592	0.0420	-1.2352	0.0802
3	180.35	0.4497	0.0497	0.0146	-0.1786	0.0395	-0.6203	0.0516	-1.5179	0.0869
3	180.35	0.4997	0.0506	0.0200	-0.2408	0.0518	-0.9855	0.0643	-1.7108	0.0843
3	180.35	0.5556	0.0722	0.0266	-0.3090	0.0676	-1.5426	0.0764	-1.8204	0.0883
3	180.35	0.5995	0.0900	0.0321	-0.4103	0.0823	-2.0899	0.0870	-1.6785	0.1134
3	180.35	0.6498	0.1002	0.0392	-0.4917	0.0988	-2.9009	0.0988	-1.9774	0.0901
3	180.35	0.6890	0.0593	0.0446	-0.5799	0.1147	-3.6146	0.1092	-1.9010	0.1023
3	180.35	0.7495	0.0699	0.0548	-0.7051	0.1398	-4.9190	0.1266	-2.1038	0.0961
3	180.35	0.7998	0.0684	0.0627	-0.8115	0.1662	-6.0988	0.1451	-2.1064	0.1216
3	180.35	0.8577	0.0291	0.0742	-0.9573	0.1972	-7.5830	0.1735	-2.2190	0.1157
3	180.35	0.9178	0.0074	0.0865	-1.1226	0.2311	-9.1807	0.2082	-2.4890	0.1371
3	180.35	0.9729	-0.0263	0.1016	-1.2281	0.2694	-10.6817	0.2420	-2.5457	0.1401
4	180	0.2001	-0.0521	0.0014	0.0016	0.0015	-0.0513	0.0049	-0.2664	0.0376
4	180	0.2502	-0.0160	0.0015	0.0091	0.0036	-0.1292	0.0094	-0.4050	0.0549
4	180	0.3001	0.0107	0.0017	0.0126	0.0058	-0.2356	0.0173	-0.6125	0.0827
4	180	0.3502	0.0182	0.0024	0.0218	0.0110	-0.3924	0.0291	-0.5778	0.0993
4	180	0.4002	0.0480	0.0025	0.0373	0.0145	-0.6299	0.0443	-0.8508	0.0766
4	180	0.4500	0.0764	0.0024	0.0444	0.0183	-0.9658	0.0586	-1.2374	0.0810
4	180	0.5001	0.0953	0.0028	0.0222	0.0230	-1.3642	0.0776	-1.2074	0.0821
4	180	0.5560	0.1168	0.0031	0.0044	0.0292	-2.0419	0.0997	-1.5217	0.0871
4	180	0.6001	0.1307	0.0042	0.0017	0.0337	-2.6761	0.1207	-1.5486	0.0876
4	180	0.6501	0.1216	0.0054	-0.0588	0.0391	-3.5385	0.1423	-1.4076	0.0969
4	180	0.6999	0.1264	0.0069	-0.1233	0.0439	-4.5934	0.1689	-1.5057	0.0923
4	180	0.7500	0.1135	0.0090	-0.1576	0.0495	-5.7867	0.1967	-1.4876	0.1081
4	180	0.8002	0.0788	0.0133	-0.2257	0.0575	-7.1229	0.2305	-1.6017	0.1108
4	180	0.8582	0.0518	0.0168	-0.2811	0.0645	-8.7622	0.2691	-1.8023	0.1137
4	180	0.9101	0.0209	0.0208	-0.3593	0.0724	-10.2735	0.3109	-1.7778	0.1401
4	180	0.9728	0.0522	0.0272	-0.4660	0.0821	-11.9606	0.3641	-1.2999	0.1505

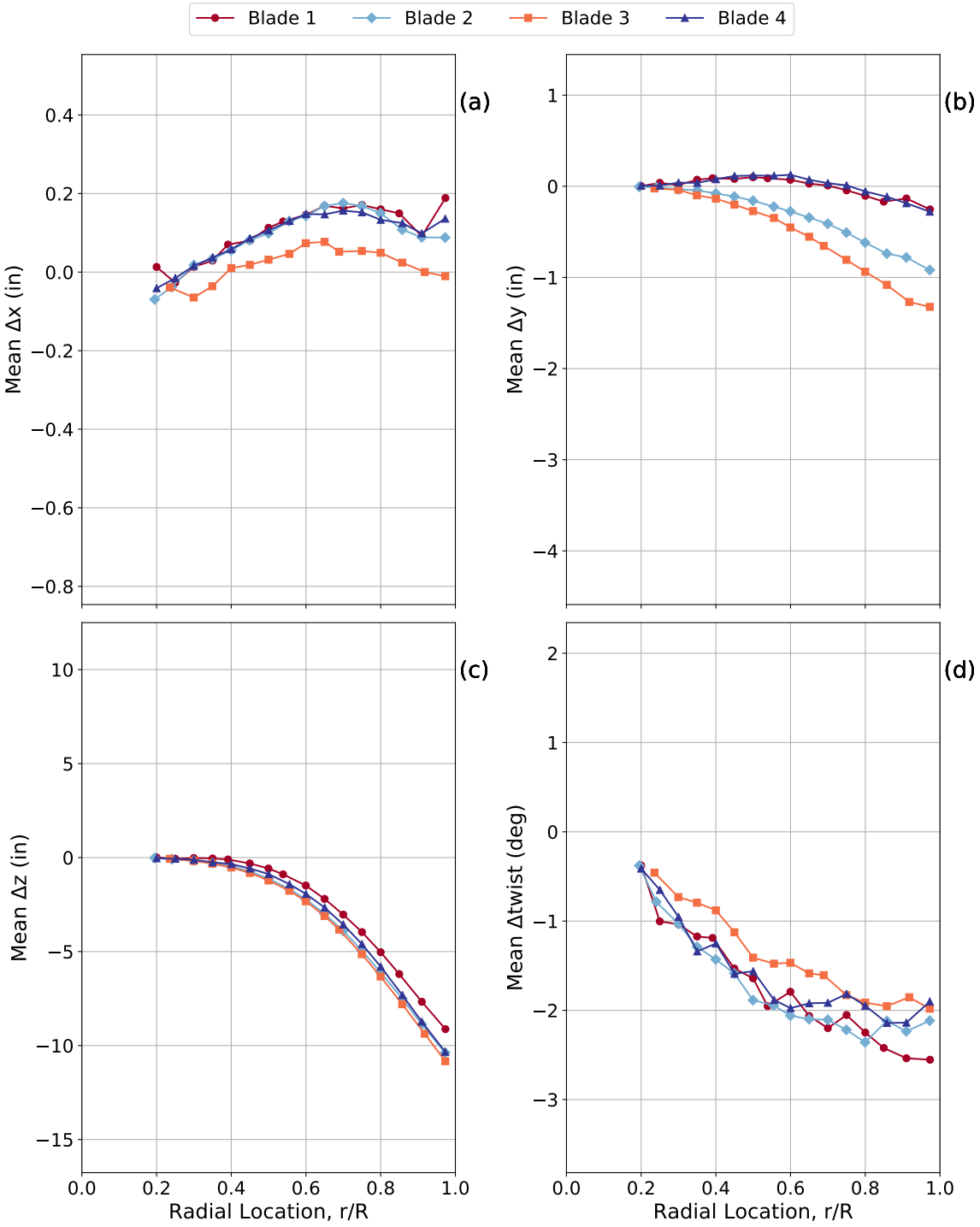


Figure 2.9-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	0.0131	0.0017	0.0013	0.0029	0.0067	0.0078	-0.3776	0.1383
1	184.92	0.2499	-0.0270	0.0024	0.0380	0.0079	-0.0628	0.0324	-1.0032	0.1107
1	184.92	0.2998	0.0133	0.0039	0.0130	0.0133	-0.0223	0.0276	-1.0369	0.2666
1	184.92	0.3498	0.0293	0.0028	0.0721	0.0248	-0.0450	0.0631	-1.1729	0.1917
1	184.92	0.3913	0.0701	0.0021	0.0878	0.0353	-0.1006	0.0846	-1.1890	0.1592
1	184.92	0.4496	0.0801	0.0030	0.0813	0.0449	-0.3104	0.1099	-1.5315	0.1637
1	184.92	0.4997	0.1127	0.0029	0.0994	0.0551	-0.5805	0.1343	-1.6413	0.1596
1	184.92	0.5387	0.1290	0.0037	0.0883	0.0638	-0.8899	0.1536	-1.9536	0.1602
1	184.92	0.5996	0.1458	0.0041	0.0709	0.0770	-1.4850	0.1857	-1.7919	0.1671
1	184.92	0.6498	0.1687	0.0058	0.0290	0.0889	-2.1970	0.2147	-2.0633	0.1709
1	184.92	0.6998	0.1623	0.0070	0.0086	0.1021	-3.0331	0.2467	-2.1991	0.1713
1	184.92	0.7500	0.1710	0.0092	-0.0446	0.1150	-3.9638	0.2806	-2.0524	0.1660
1	184.92	0.8001	0.1599	0.0134	-0.1046	0.1281	-5.0359	0.3186	-2.2490	0.1782
1	184.92	0.8497	0.1496	0.0209	-0.1687	0.1461	-6.1961	0.3570	-2.4219	0.1982
1	184.92	0.9102	0.0916	0.0199	-0.1335	0.1600	-7.6708	0.4128	-2.5368	0.1889
1	184.92	0.9734	0.1885	0.0250	-0.2537	0.1785	-9.1265	0.4709	-2.5534	0.1876
2	184.92	0.1949	-0.0696	0.0021	-0.0052	0.0053	-0.0202	0.0062	-0.3783	0.1065
2	184.92	0.2405	-0.0379	0.0043	-0.0117	0.0097	-0.0888	0.0186	-0.7836	0.1409
2	184.92	0.2999	0.0179	0.0071	-0.0321	0.0192	-0.1595	0.0240	-1.0319	0.2436
2	184.92	0.3498	0.0339	0.0042	-0.0444	0.0411	-0.2866	0.0378	-1.2889	0.2471
2	184.92	0.3998	0.0553	0.0030	-0.0786	0.0577	-0.4704	0.0595	-1.4294	0.2051
2	184.92	0.4496	0.0817	0.0042	-0.1125	0.0695	-0.7316	0.0755	-1.5869	0.2104
2	184.92	0.4995	0.0985	0.0042	-0.1582	0.0836	-1.1237	0.0931	-1.8864	0.2131
2	184.92	0.5551	0.1299	0.0045	-0.2236	0.0991	-1.6616	0.1146	-1.9458	0.2217
2	184.92	0.5996	0.1429	0.0054	-0.2757	0.1126	-2.2251	0.1344	-2.0597	0.2353
2	184.92	0.6497	0.1681	0.0063	-0.3433	0.1282	-2.9902	0.1586	-2.0988	0.2417
2	184.92	0.6996	0.1757	0.0080	-0.4104	0.1442	-3.8931	0.1845	-2.1061	0.2302
2	184.92	0.7495	0.1682	0.0103	-0.5079	0.1603	-4.9427	0.2144	-2.2189	0.2476
2	184.92	0.7996	0.1503	0.0139	-0.6177	0.1772	-6.1014	0.2480	-2.3583	0.2229
2	184.92	0.8578	0.1080	0.0170	-0.7384	0.1993	-7.5061	0.2934	-2.1196	0.2332
2	184.92	0.9100	0.0885	0.0238	-0.7810	0.2198	-8.8716	0.3403	-2.2353	0.2537
2	184.92	0.9727	0.0879	0.0274	-0.9187	0.2417	-10.3776	0.3979	-2.1156	0.2609
3	184.92	0.2357	-0.0391	0.0046	-0.0237	0.0048	-0.0660	0.0143	-0.4576	0.1555
3	184.92	0.2995	-0.0647	0.0080	-0.0387	0.0119	-0.1800	0.0296	-0.7314	0.2526
3	184.92	0.3493	-0.0361	0.0076	-0.0990	0.0209	-0.3217	0.0547	-0.7938	0.2496
3	184.92	0.4000	0.0103	0.0073	-0.1356	0.0334	-0.5266	0.0825	-0.8796	0.2539
3	184.92	0.4497	0.0184	0.0073	-0.2014	0.0426	-0.8178	0.1116	-1.1252	0.2557
3	184.92	0.4997	0.0316	0.0082	-0.2725	0.0527	-1.2154	0.1400	-1.4096	0.2586
3	184.92	0.5556	0.0464	0.0089	-0.3475	0.0648	-1.7656	0.1755	-1.4771	0.2553
3	184.92	0.5995	0.0736	0.0093	-0.4518	0.0748	-2.3230	0.2054	-1.4672	0.2530
3	184.92	0.6498	0.0770	0.0103	-0.5535	0.0866	-3.1068	0.2375	-1.5861	0.2552
3	184.92	0.6890	0.0519	0.0115	-0.6539	0.0958	-3.8324	0.2636	-1.6064	0.2602
3	184.92	0.7495	0.0538	0.0136	-0.8069	0.1106	-5.1383	0.3092	-1.8296	0.2596
3	184.92	0.7998	0.0492	0.0165	-0.9370	0.1234	-6.3290	0.3467	-1.9133	0.2599
3	184.92	0.8577	0.0242	0.0204	-1.0811	0.1391	-7.8013	0.3939	-1.9538	0.2616
3	184.92	0.9178	0.0002	0.0241	-1.2691	0.1553	-9.3717	0.4458	-1.8535	0.2556
3	184.92	0.9729	-0.0104	0.0282	-1.3230	0.1700	-10.8315	0.4929	-1.9821	0.2651
4	184.92	0.2001	-0.0411	0.0020	0.0070	0.0020	-0.0386	0.0043	-0.4120	0.0285
4	184.92	0.2502	-0.0151	0.0018	0.0076	0.0045	-0.0645	0.0135	-0.6519	0.0578
4	184.92	0.3001	0.0161	0.0017	0.0398	0.0081	-0.1191	0.0282	-0.9543	0.0675
4	184.92	0.3502	0.0370	0.0028	0.0373	0.0131	-0.2534	0.0280	-1.3398	0.2313
4	184.92	0.4002	0.0584	0.0026	0.0775	0.0209	-0.3477	0.0524	-1.2518	0.1155
4	184.92	0.4500	0.0860	0.0028	0.1131	0.0268	-0.5813	0.0742	-1.5902	0.0613
4	184.92	0.5001	0.1062	0.0031	0.1176	0.0325	-0.8786	0.0893	-1.5619	0.0631
4	184.92	0.5560	0.1302	0.0030	0.1159	0.0413	-1.4175	0.1059	-1.8847	0.0665
4	184.92	0.6001	0.1479	0.0035	0.1260	0.0490	-1.9353	0.1197	-1.9759	0.0753
4	184.92	0.6501	0.1470	0.0046	0.0717	0.0578	-2.6615	0.1366	-1.9213	0.0774
4	184.92	0.6999	0.1564	0.0057	0.0342	0.0671	-3.5606	0.1526	-1.9159	0.0744
4	184.92	0.7500	0.1522	0.0071	0.0104	0.0777	-4.6049	0.1676	-1.8172	0.0891
4	184.92	0.8002	0.1331	0.0085	-0.0568	0.0892	-5.8088	0.1873	-1.9487	0.0999
4	184.92	0.8582	0.1247	0.0114	-0.1151	0.0984	-7.3164	0.2147	-2.1419	0.0860
4	184.92	0.9101	0.0985	0.0154	-0.1863	0.1152	-8.7304	0.2409	-2.1385	0.1075
4	184.92	0.9728	0.1360	0.0175	-0.2786	0.1298	-10.3347	0.2831	-1.9019	0.1330

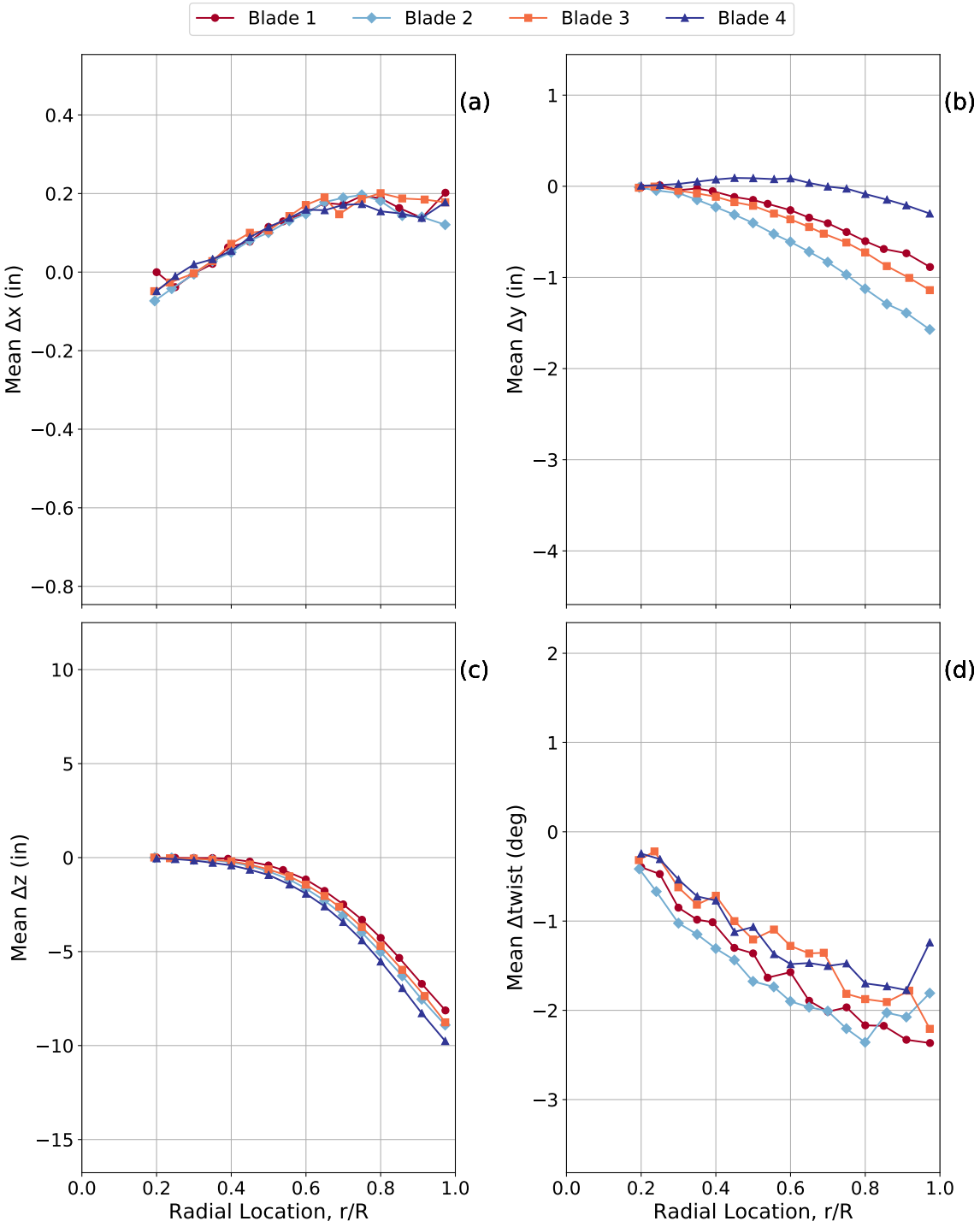


Figure 2.9-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0002	0.0039	-0.0110	0.0045	0.0047	0.0052	-0.3963	0.0272
1	189.84	0.2499	-0.0384	0.0044	0.0109	0.0059	-0.0133	0.0102	-0.4731	0.0436
1	189.84	0.2998	-0.0035	0.0040	-0.0419	0.0147	-0.0206	0.0202	-0.8498	0.0579
1	189.84	0.3498	0.0210	0.0037	-0.0251	0.0254	-0.0253	0.0368	-0.9843	0.0559
1	189.84	0.3913	0.0629	0.0037	-0.0531	0.0338	-0.0634	0.0518	-1.0131	0.0570
1	189.84	0.4496	0.0775	0.0050	-0.1175	0.0435	-0.2125	0.0736	-1.3001	0.0533
1	189.84	0.4997	0.1149	0.0035	-0.1497	0.0566	-0.4169	0.0963	-1.3618	0.0652
1	189.84	0.5387	0.1292	0.0041	-0.1926	0.0600	-0.6623	0.1102	-1.6344	0.0608
1	189.84	0.5996	0.1510	0.0044	-0.2620	0.0718	-1.1648	0.1388	-1.5724	0.0614
1	189.84	0.6498	0.1761	0.0085	-0.3443	0.0770	-1.7736	0.1667	-1.8933	0.0704
1	189.84	0.6998	0.1720	0.0116	-0.4057	0.0852	-2.4904	0.1955	-2.0156	0.0778
1	189.84	0.7500	0.1942	0.0116	-0.5023	0.0978	-3.3073	0.2210	-1.9669	0.0751
1	189.84	0.8001	0.1880	0.0133	-0.6022	0.1090	-4.2722	0.2539	-2.1684	0.1017
1	189.84	0.8497	0.1632	0.0137	-0.6882	0.1250	-5.3377	0.2807	-2.1740	0.0933
1	189.84	0.9102	0.1381	0.0176	-0.7351	0.1331	-6.7185	0.3320	-2.3299	0.1113
1	189.84	0.9734	0.2021	0.0230	-0.8861	0.1496	-8.1306	0.3825	-2.3662	0.1072
2	189.84	0.1949	-0.0733	0.0024	-0.0123	0.0014	-0.0010	0.0075	-0.4157	0.0371
2	189.84	0.2405	-0.0422	0.0027	-0.0458	0.0080	-0.0173	0.0209	-0.6690	0.0396
2	189.84	0.2999	-0.0053	0.0061	-0.0746	0.0068	-0.0937	0.0265	-1.0237	0.0775
2	189.84	0.3498	0.0282	0.0034	-0.1483	0.0201	-0.1247	0.0625	-1.1488	0.0762
2	189.84	0.3998	0.0502	0.0037	-0.2287	0.0275	-0.2539	0.0846	-1.3081	0.0821
2	189.84	0.4496	0.0802	0.0044	-0.3115	0.0350	-0.4351	0.1070	-1.4365	0.0725
2	189.84	0.4995	0.1004	0.0040	-0.4020	0.0452	-0.7308	0.1329	-1.6758	0.0900
2	189.84	0.5551	0.1309	0.0044	-0.5230	0.0552	-1.1648	0.1610	-1.7372	0.0824
2	189.84	0.5996	0.1480	0.0062	-0.6096	0.0621	-1.6448	0.1861	-1.8997	0.0898
2	189.84	0.6497	0.1781	0.0070	-0.7180	0.0760	-2.2886	0.2180	-1.9646	0.0866
2	189.84	0.6996	0.1892	0.0106	-0.8325	0.0864	-3.0679	0.2541	-2.0085	0.0969
2	189.84	0.7495	0.1967	0.0088	-0.9691	0.0963	-3.9855	0.2883	-2.2051	0.0843
2	189.84	0.7996	0.1810	0.0117	-1.1245	0.1036	-5.0210	0.3287	-2.3583	0.1023
2	189.84	0.8578	0.1438	0.0148	-1.2915	0.1148	-6.2918	0.3751	-2.0275	0.1024
2	189.84	0.9100	0.1403	0.0186	-1.3896	0.1281	-7.5390	0.4228	-2.0752	0.1202
2	189.84	0.9727	0.1206	0.0212	-1.5714	0.1371	-8.9089	0.4782	-1.8077	0.0966
3	189.84	0.1938	-0.0486	0.0022	-0.0156	0.0018	0.0029	0.0042	-0.3171	0.0201
3	189.84	0.2357	-0.0266	0.0014	-0.0032	0.0032	-0.0348	0.0066	-0.2200	0.0396
3	189.84	0.2995	-0.0032	0.0015	-0.0478	0.0075	-0.0556	0.0141	-0.6219	0.0492
3	189.84	0.3493	0.0280	0.0019	-0.0774	0.0124	-0.1125	0.0226	-0.8158	0.0469
3	189.84	0.4000	0.0720	0.0017	-0.1149	0.0198	-0.1962	0.0348	-0.7164	0.0480
3	189.84	0.4497	0.1001	0.0033	-0.1741	0.0221	-0.3728	0.0478	-1.0011	0.0513
3	189.84	0.4997	0.1057	0.0036	-0.2139	0.0291	-0.6266	0.0649	-1.2065	0.0699
3	189.84	0.5556	0.1426	0.0038	-0.2995	0.0371	-0.9965	0.0875	-1.0950	0.1195
3	189.84	0.5995	0.1709	0.0035	-0.3622	0.0409	-1.4377	0.1071	-1.2779	0.0723
3	189.84	0.6498	0.1902	0.0054	-0.4466	0.0511	-2.0425	0.1333	-1.3626	0.1226
3	189.84	0.6890	0.1473	0.0072	-0.5201	0.0579	-2.6135	0.1538	-1.3552	0.1390
3	189.84	0.7495	0.1861	0.0065	-0.6170	0.0643	-3.6969	0.1887	-1.8153	0.0958
3	189.84	0.7998	0.2009	0.0090	-0.7259	0.0717	-4.6973	0.2203	-1.8744	0.0679
3	189.84	0.8577	0.1875	0.0122	-0.8759	0.0776	-5.9703	0.2594	-1.9070	0.0766
3	189.84	0.9178	0.1847	0.0152	-1.0053	0.0881	-7.3605	0.3019	-1.7799	0.1200
3	189.84	0.9729	0.1778	0.0169	-1.1398	0.1019	-8.7632	0.3385	-2.2077	0.1187
4	189.84	0.2001	-0.0484	0.0021	0.0066	0.0014	-0.0434	0.0052	-0.2440	0.0238
4	189.84	0.2502	-0.0103	0.0015	0.0131	0.0057	-0.0801	0.0100	-0.3065	0.0340
4	189.84	0.3001	0.0196	0.0021	0.0259	0.0093	-0.1552	0.0195	-0.5350	0.0473
4	189.84	0.3502	0.0329	0.0018	0.0505	0.0127	-0.2777	0.0308	-0.7240	0.0496
4	189.84	0.4002	0.0538	0.0015	0.0746	0.0236	-0.4131	0.0487	-0.7703	0.0499
4	189.84	0.4500	0.0888	0.0018	0.0913	0.0305	-0.6442	0.0665	-1.1220	0.0441
4	189.84	0.5001	0.1146	0.0026	0.0883	0.0326	-0.9259	0.0872	-1.0656	0.0593
4	189.84	0.5560	0.1380	0.0027	0.0783	0.0423	-1.4315	0.1123	-1.3708	0.0582
4	189.84	0.6001	0.1589	0.0040	0.0868	0.0486	-1.9205	0.1316	-1.4824	0.0543
4	189.84	0.6501	0.1575	0.0044	0.0367	0.0581	-2.5969	0.1583	-1.4702	0.0577
4	189.84	0.6999	0.1712	0.0059	-0.0035	0.0631	-3.4298	0.1821	-1.5031	0.0543
4	189.84	0.7500	0.1732	0.0100	-0.0257	0.0684	-4.3989	0.2098	-1.4743	0.0627
4	189.84	0.8002	0.1548	0.0119	-0.0850	0.0764	-5.5291	0.2368	-1.6986	0.0574
4	189.84	0.8582	0.1487	0.0128	-0.1472	0.0904	-6.9417	0.2719	-1.7311	0.0932
4	189.84	0.9101	0.1380	0.0155	-0.2095	0.1004	-8.2811	0.3027	-1.7735	0.0677
4	189.84	0.9728	0.1776	0.0185	-0.2995	0.1145	-9.7611	0.3428	-1.2397	0.0825

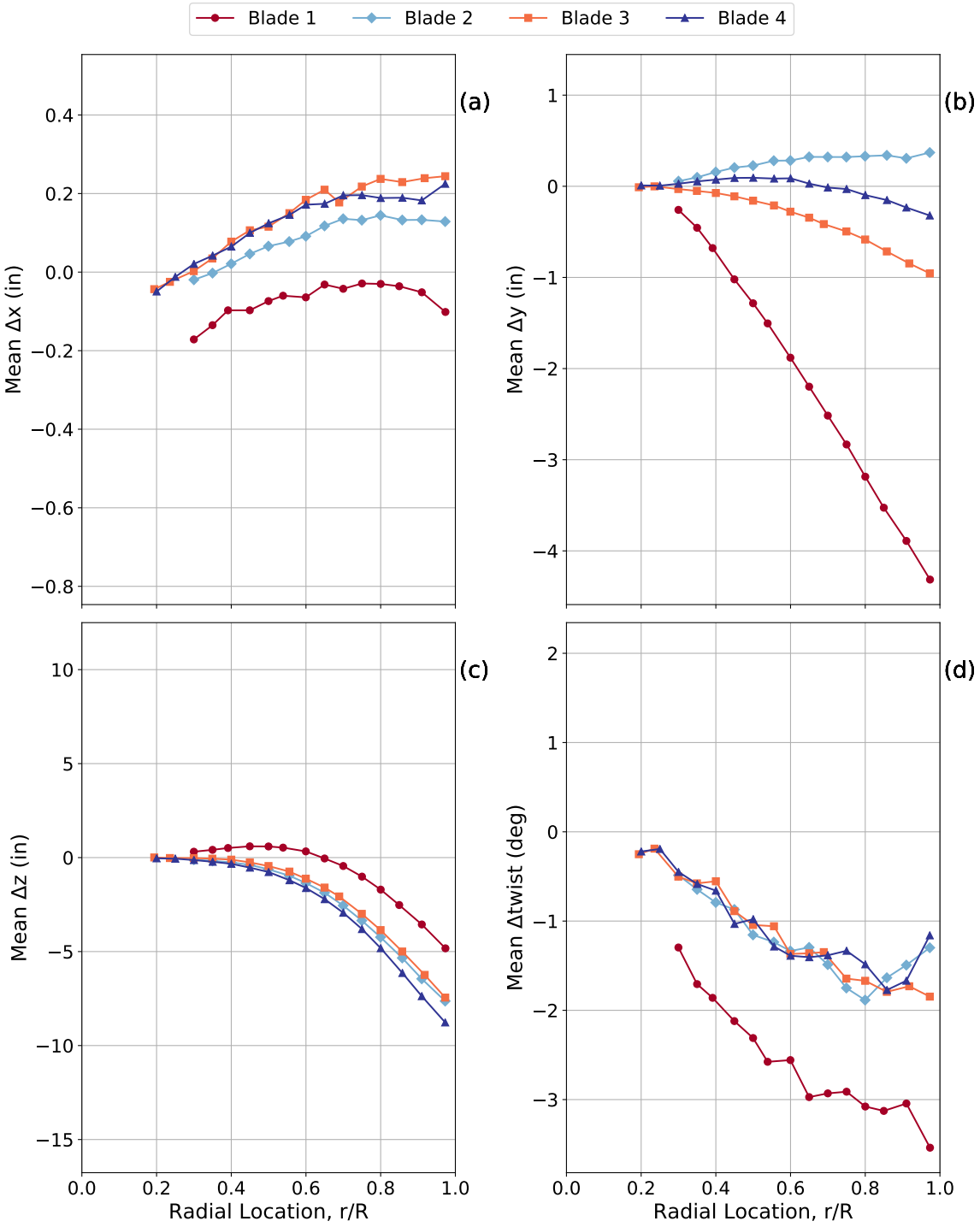


Figure 2.9-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2998	-0.1714	0.0167	-0.2588	0.0306	0.3127	0.0979	-1.2961	0.2214
1	195.12	0.3498	-0.1351	0.0137	-0.4552	0.0535	0.4122	0.1502	-1.7063	0.2921
1	195.12	0.3913	-0.0973	0.0157	-0.6778	0.0795	0.5105	0.2075	-1.8600	0.2836
1	195.12	0.4496	-0.0972	0.0171	-1.0212	0.1138	0.5995	0.2844	-2.1206	0.2790
1	195.12	0.4997	-0.0738	0.0178	-1.2836	0.1437	0.5921	0.3518	-2.3104	0.2776
1	195.12	0.5387	-0.0601	0.0196	-1.5044	0.1654	0.5300	0.4037	-2.5767	0.3184
1	195.12	0.5996	-0.0643	0.0193	-1.8801	0.2058	0.3297	0.4917	-2.5576	0.2924
1	195.12	0.6498	-0.0317	0.0198	-2.1983	0.2378	-0.0472	0.5662	-2.9722	0.2956
1	195.12	0.6998	-0.0425	0.0197	-2.5160	0.2707	-0.4475	0.6392	-2.9304	0.2840
1	195.12	0.7500	-0.0290	0.0196	-2.8329	0.3052	-1.0126	0.7134	-2.9116	0.2827
1	195.12	0.8001	-0.0301	0.0202	-3.1861	0.3400	-1.7039	0.7883	-3.0778	0.2800
1	195.12	0.8497	-0.0360	0.0209	-3.5263	0.3755	-2.5241	0.8622	-3.1268	0.2849
1	195.12	0.9102	-0.0514	0.0199	-3.8908	0.4133	-3.5577	0.9645	-3.0440	0.2982
1	195.12	0.9734	-0.1015	0.0326	-4.3148	0.4687	-4.8270	1.0498	-3.5390	0.3442
2	195.12	0.2999	-0.0195	0.0206	0.0560	0.0479	-0.1120	0.0945	-0.4866	0.2997
2	195.12	0.3498	-0.0025	0.0262	0.0979	0.0832	-0.1739	0.1626	-0.6455	0.3979
2	195.12	0.3998	0.0212	0.0229	0.1565	0.1325	-0.2570	0.2590	-0.7918	0.3871
2	195.12	0.4496	0.0463	0.0230	0.2050	0.1752	-0.3849	0.3372	-0.8704	0.3796
2	195.12	0.4995	0.0660	0.0233	0.2267	0.2208	-0.6243	0.4226	-1.1550	0.3673
2	195.12	0.5551	0.0777	0.0248	0.2804	0.2693	-0.9618	0.5160	-1.2358	0.3733
2	195.12	0.5996	0.0913	0.0258	0.2825	0.3102	-1.3533	0.5964	-1.3353	0.3734
2	195.12	0.6497	0.1176	0.0281	0.3224	0.3537	-1.8666	0.6866	-1.2951	0.3719
2	195.12	0.6996	0.1357	0.0302	0.3214	0.3991	-2.5501	0.7772	-1.4877	0.3772
2	195.12	0.7495	0.1322	0.0341	0.3207	0.4433	-3.3496	0.8708	-1.7499	0.3825
2	195.12	0.7996	0.1445	0.0391	0.3301	0.4881	-4.2347	0.9704	-1.8853	0.3694
2	195.12	0.8578	0.1326	0.0461	0.3396	0.5400	-5.3399	1.0877	-1.6349	0.3794
2	195.12	0.9100	0.1331	0.0515	0.3067	0.5868	-6.4492	1.1977	-1.4933	0.3794
2	195.12	0.9727	0.1287	0.0666	0.3701	0.6435	-7.6346	1.3249	-1.2988	0.3821
3	195.12	0.1938	-0.0434	0.0016	-0.0106	0.0014	0.0073	0.0044	-0.2512	0.0186
3	195.12	0.2357	-0.0248	0.0009	-0.0009	0.0020	-0.0244	0.0064	-0.1885	0.0372
3	195.12	0.2995	0.0025	0.0013	-0.0303	0.0052	-0.0275	0.0149	-0.5019	0.0483
3	195.12	0.3493	0.0347	0.0013	-0.0509	0.0094	-0.0567	0.0248	-0.5776	0.0505
3	195.12	0.4000	0.0776	0.0018	-0.0733	0.0142	-0.1092	0.0371	-0.5543	0.0486
3	195.12	0.4497	0.1064	0.0021	-0.1104	0.0189	-0.2543	0.0508	-0.8886	0.0536
3	195.12	0.4997	0.1156	0.0066	-0.1579	0.0228	-0.4501	0.0666	-1.0436	0.1792
3	195.12	0.5556	0.1501	0.0029	-0.2103	0.0309	-0.7453	0.0818	-1.0578	0.0585
3	195.12	0.5995	0.1840	0.0034	-0.2786	0.0360	-1.1210	0.0981	-1.3682	0.0799
3	195.12	0.6498	0.2098	0.0041	-0.3444	0.0442	-1.5953	0.1172	-1.3612	0.0634
3	195.12	0.6890	0.1773	0.0047	-0.4147	0.0492	-2.0680	0.1337	-1.3480	0.0602
3	195.12	0.7495	0.2178	0.0062	-0.4956	0.0585	-2.9936	0.1622	-1.6448	0.0637
3	195.12	0.7998	0.2373	0.0082	-0.5838	0.0670	-3.8578	0.1894	-1.6691	0.0675
3	195.12	0.8577	0.2291	0.0113	-0.7149	0.0780	-4.9974	0.2257	-1.7931	0.0731
3	195.12	0.9178	0.2391	0.0138	-0.8465	0.0888	-6.2403	0.2644	-1.7304	0.0888
3	195.12	0.9729	0.2441	0.0177	-0.9553	0.1005	-7.4471	0.3084	-1.8464	0.0825
4	195.12	0.2001	-0.0494	0.0010	0.0096	0.0010	-0.0394	0.0034	-0.2206	0.0231
4	195.12	0.2502	-0.0120	0.0011	0.0065	0.0022	-0.0592	0.0052	-0.1923	0.0355
4	195.12	0.3001	0.0208	0.0010	0.0278	0.0040	-0.1321	0.0107	-0.4497	0.0501
4	195.12	0.3502	0.0420	0.0010	0.0537	0.0069	-0.2234	0.0170	-0.5847	0.0478
4	195.12	0.4002	0.0649	0.0014	0.0728	0.0106	-0.3313	0.0251	-0.6595	0.0470
4	195.12	0.4500	0.0999	0.0016	0.0915	0.0135	-0.5344	0.0337	-1.0320	0.0492
4	195.12	0.5001	0.1243	0.0020	0.0932	0.0171	-0.7705	0.0451	-0.9790	0.0559
4	195.12	0.5560	0.1457	0.0029	0.0844	0.0216	-1.2051	0.0604	-1.2852	0.0554
4	195.12	0.6001	0.1716	0.0042	0.0872	0.0239	-1.6197	0.0792	-1.3885	0.1038
4	195.12	0.6501	0.1739	0.0040	0.0286	0.0304	-2.2126	0.0917	-1.4049	0.0634
4	195.12	0.6999	0.1954	0.0051	-0.0143	0.0342	-2.9346	0.1173	-1.3835	0.0622
4	195.12	0.7500	0.1959	0.0065	-0.0302	0.0392	-3.8029	0.1424	-1.3331	0.0581
4	195.12	0.8002	0.1886	0.0085	-0.0968	0.0450	-4.8207	0.1707	-1.4846	0.0669
4	195.12	0.8582	0.1893	0.0113	-0.1516	0.0512	-6.1404	0.2066	-1.7723	0.0657
4	195.12	0.9101	0.1825	0.0135	-0.2331	0.0585	-7.3728	0.2426	-1.6682	0.0626
4	195.12	0.9728	0.2248	0.0178	-0.3207	0.0696	-8.7701	0.2938	-1.1604	0.1312

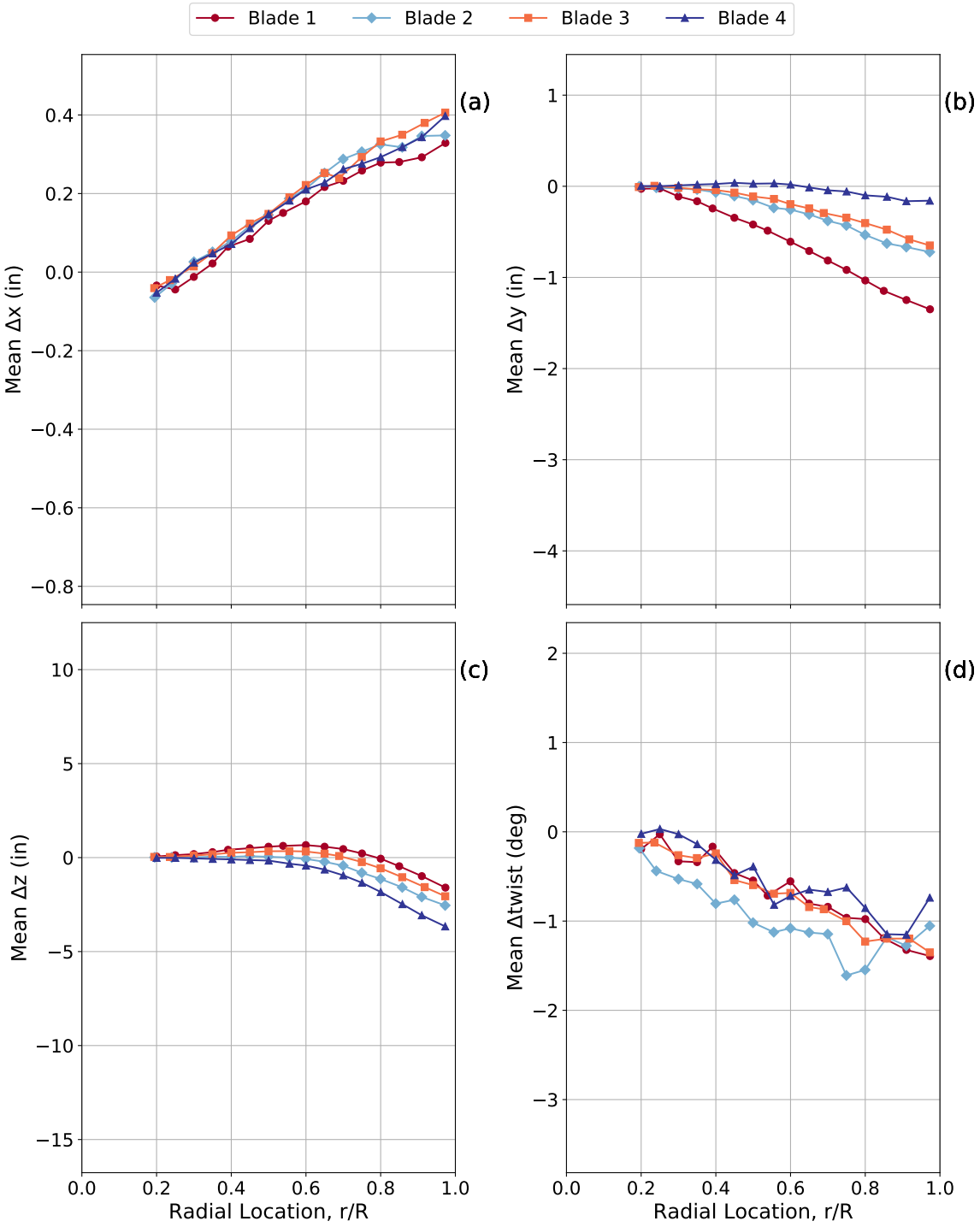


Figure 2.9-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0341	0.0018	-0.0274	0.0011	0.0597	0.0065	-0.1932	0.0206
1	209.88	0.2499	-0.0442	0.0011	-0.0230	0.0035	0.1280	0.0148	-0.0276	0.0361
1	209.88	0.2998	-0.0122	0.0013	-0.1116	0.0071	0.1858	0.0257	-0.3305	0.0463
1	209.88	0.3498	0.0220	0.0013	-0.1641	0.0104	0.2912	0.0378	-0.3398	0.0445
1	209.88	0.3913	0.0646	0.0020	-0.2432	0.0173	0.4159	0.0586	-0.1664	0.0935
1	209.88	0.4496	0.0845	0.0023	-0.3455	0.0188	0.4994	0.0676	-0.4620	0.0526
1	209.88	0.4997	0.1306	0.0027	-0.4196	0.0239	0.5788	0.0860	-0.5458	0.0517
1	209.88	0.5387	0.1507	0.0026	-0.4872	0.0277	0.6233	0.1014	-0.7146	0.0581
1	209.88	0.5996	0.1800	0.0032	-0.6081	0.0340	0.6648	0.1284	-0.5548	0.0668
1	209.88	0.6498	0.2167	0.0034	-0.7097	0.0401	0.5796	0.1547	-0.8045	0.0691
1	209.88	0.6998	0.2324	0.0042	-0.8146	0.0468	0.4531	0.1824	-0.8405	0.0608
1	209.88	0.7500	0.2585	0.0041	-0.9177	0.0503	0.2206	0.2151	-0.9634	0.0786
1	209.88	0.8001	0.2787	0.0047	-1.0334	0.0569	-0.0584	0.2551	-0.9780	0.0652
1	209.88	0.8497	0.2802	0.0058	-1.1471	0.0620	-0.4595	0.2954	-1.1917	0.0696
1	209.88	0.9102	0.2923	0.0064	-1.2479	0.0712	-0.9862	0.3473	-1.3230	0.0684
1	209.88	0.9734	0.3288	0.0100	-1.3493	0.0847	-1.5980	0.4071	-1.3923	0.0662
2	209.88	0.1949	-0.0645	0.0015	-0.0006	0.0010	0.0165	0.0057	-0.1827	0.0305
2	209.88	0.2405	-0.0292	0.0014	-0.0156	0.0031	0.0091	0.0112	-0.4381	0.0417
2	209.88	0.2999	0.0262	0.0016	-0.0233	0.0059	0.0182	0.0222	-0.5297	0.0687
2	209.88	0.3498	0.0514	0.0018	-0.0357	0.0098	0.0456	0.0376	-0.5840	0.0693
2	209.88	0.3998	0.0782	0.0020	-0.0672	0.0161	0.0375	0.0574	-0.8047	0.0675
2	209.88	0.4496	0.1174	0.0029	-0.1066	0.0185	0.0760	0.0772	-0.7618	0.0793
2	209.88	0.4995	0.1455	0.0027	-0.1517	0.0229	0.0413	0.1025	-1.0185	0.0716
2	209.88	0.5551	0.1873	0.0063	-0.2365	0.0242	0.0025	0.1364	-1.1244	0.1748
2	209.88	0.5996	0.2120	0.0031	-0.2556	0.0320	-0.0724	0.1638	-1.0809	0.0944
2	209.88	0.6497	0.2521	0.0031	-0.3083	0.0363	-0.2230	0.1997	-1.1284	0.0906
2	209.88	0.6996	0.2877	0.0034	-0.3788	0.0415	-0.4296	0.2388	-1.1458	0.0830
2	209.88	0.7495	0.3064	0.0083	-0.4292	0.0555	-0.8085	0.2878	-1.6094	0.1436
2	209.88	0.7996	0.3253	0.0059	-0.5334	0.0566	-1.1350	0.3365	-1.5470	0.1080
2	209.88	0.8578	0.3177	0.0092	-0.6269	0.0642	-1.5842	0.3995	-1.1813	0.1681
2	209.88	0.9100	0.3465	0.0097	-0.6665	0.0696	-2.0906	0.4649	-1.2767	0.0870
2	209.88	0.9727	0.3480	0.0118	-0.7211	0.0775	-2.5436	0.5426	-1.0539	0.1059
3	209.88	0.1938	-0.0408	0.0018	-0.0083	0.0010	0.0365	0.0045	-0.1243	0.0252
3	209.88	0.2357	-0.0203	0.0013	0.0049	0.0023	0.0296	0.0092	-0.1203	0.0345
3	209.88	0.2995	0.0144	0.0013	-0.0170	0.0057	0.1102	0.0181	-0.2620	0.0563
3	209.88	0.3493	0.0482	0.0017	-0.0324	0.0091	0.1729	0.0301	-0.2945	0.0535
3	209.88	0.4000	0.0934	0.0021	-0.0409	0.0152	0.2561	0.0467	-0.2423	0.0592
3	209.88	0.4497	0.1236	0.0025	-0.0691	0.0153	0.2874	0.0626	-0.5407	0.0606
3	209.88	0.4997	0.1481	0.0030	-0.1118	0.0210	0.3363	0.0814	-0.5972	0.0598
3	209.88	0.5556	0.1904	0.0025	-0.1389	0.0259	0.3445	0.1077	-0.6934	0.0649
3	209.88	0.5995	0.2217	0.0029	-0.1962	0.0306	0.3248	0.1291	-0.6850	0.0654
3	209.88	0.6498	0.2524	0.0029	-0.2429	0.0356	0.2095	0.1590	-0.8432	0.0557
3	209.88	0.6890	0.2394	0.0033	-0.2934	0.0393	0.0848	0.1846	-0.8675	0.0566
3	209.88	0.7495	0.2930	0.0042	-0.3443	0.0444	-0.2365	0.2312	-1.0014	0.0878
3	209.88	0.7998	0.3326	0.0055	-0.4037	0.0527	-0.5688	0.2711	-1.2295	0.0998
3	209.88	0.8577	0.3497	0.0063	-0.4757	0.0595	-1.0443	0.3242	-1.1965	0.0680
3	209.88	0.9178	0.3799	0.0074	-0.5825	0.0669	-1.5708	0.3834	-1.1961	0.0863
3	209.88	0.9729	0.4060	0.0084	-0.6491	0.0756	-2.0575	0.4436	-1.3509	0.1087
4	209.88	0.2001	-0.0526	0.0013	0.0035	0.0010	-0.0147	0.0053	-0.0232	0.0261
4	209.88	0.2502	-0.0168	0.0012	0.0013	0.0024	-0.0157	0.0105	0.0314	0.0467
4	209.88	0.3001	0.0242	0.0014	0.0099	0.0046	-0.0415	0.0177	-0.0270	0.0599
4	209.88	0.3502	0.0475	0.0012	0.0185	0.0079	-0.0700	0.0307	-0.1391	0.0558
4	209.88	0.4002	0.0715	0.0018	0.0250	0.0124	-0.0983	0.0457	-0.3146	0.0521
4	209.88	0.4500	0.1118	0.0020	0.0380	0.0172	-0.1309	0.0645	-0.4869	0.0650
4	209.88	0.5001	0.1472	0.0022	0.0281	0.0220	-0.1602	0.0857	-0.3902	0.0668
4	209.88	0.5560	0.1820	0.0026	0.0315	0.0272	-0.3258	0.1098	-0.8179	0.0838
4	209.88	0.6001	0.2105	0.0024	0.0189	0.0340	-0.4270	0.1364	-0.7185	0.0863
4	209.88	0.6501	0.2276	0.0025	-0.0128	0.0403	-0.6373	0.1611	-0.6478	0.0732
4	209.88	0.6999	0.2620	0.0027	-0.0438	0.0475	-0.9455	0.1950	-0.6742	0.0729
4	209.88	0.7500	0.2758	0.0041	-0.0572	0.0576	-1.3398	0.2267	-0.6239	0.0916
4	209.88	0.8002	0.2928	0.0045	-0.0993	0.0635	-1.8312	0.2660	-0.8537	0.1173
4	209.88	0.8582	0.3183	0.0057	-0.1152	0.0730	-2.4787	0.3188	-1.1472	0.1228
4	209.88	0.9101	0.3435	0.0069	-0.1634	0.0835	-3.0700	0.3592	-1.1533	0.0785
4	209.88	0.9728	0.3975	0.0076	-0.1581	0.0928	-3.6617	0.4180	-0.7380	0.0822

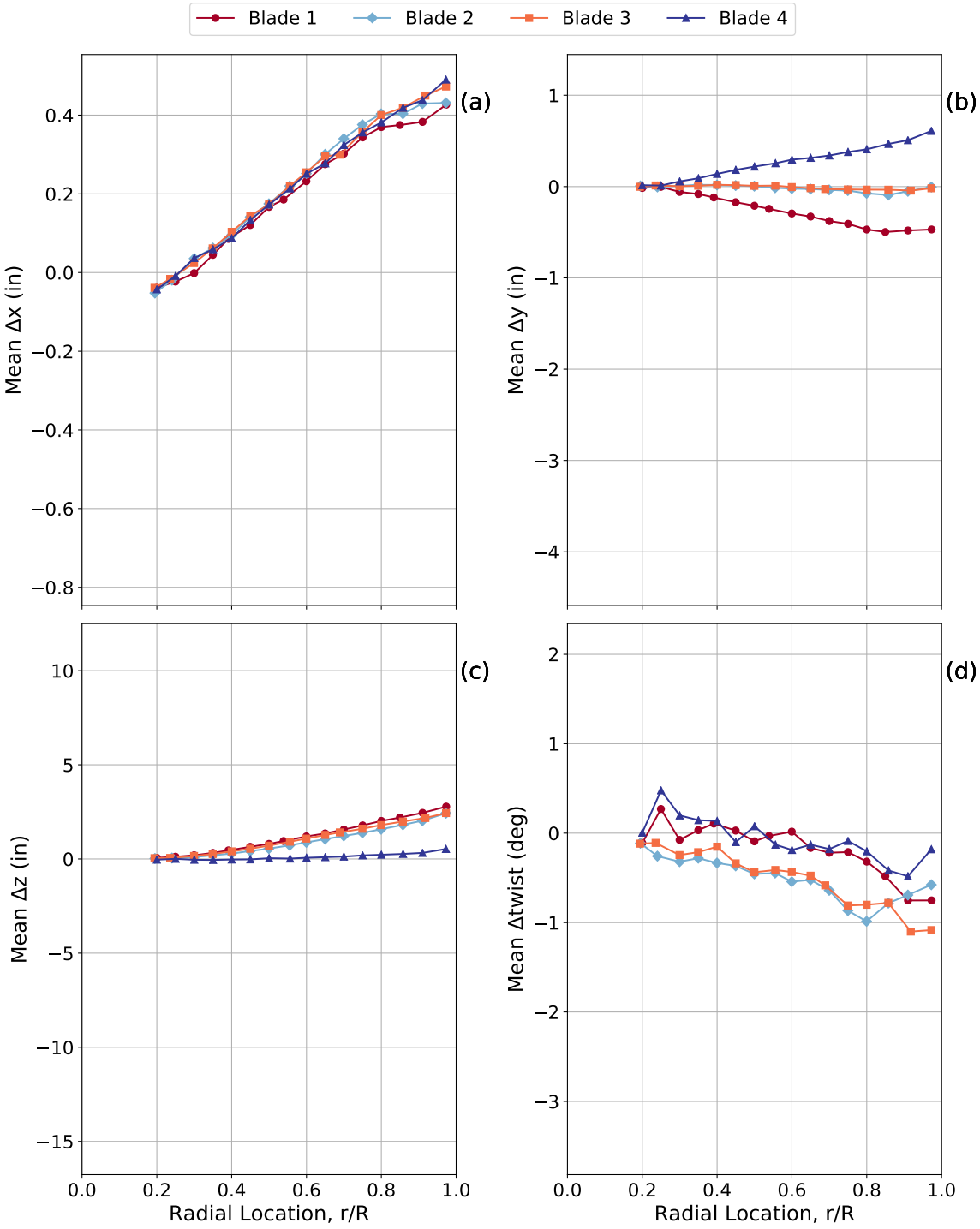


Figure 2.9-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0387	0.0015	-0.0150	0.0010	0.0593	0.0073	-0.1107	0.0226
1	225	0.2499	-0.0230	0.0010	-0.0027	0.0023	0.1184	0.0141	0.2695	0.0494
1	225	0.2998	-0.0015	0.0011	-0.0583	0.0045	0.1960	0.0251	-0.0757	0.0558
1	225	0.3498	0.0450	0.0017	-0.0811	0.0089	0.3216	0.0399	0.0333	0.0590
1	225	0.3913	0.0857	0.0024	-0.1190	0.0123	0.4542	0.0578	0.1068	0.0639
1	225	0.4496	0.1208	0.0022	-0.1711	0.0177	0.6439	0.0796	0.0286	0.0691
1	225	0.4997	0.1668	0.0031	-0.2100	0.0218	0.7989	0.1026	-0.0918	0.0617
1	225	0.5387	0.1854	0.0037	-0.2437	0.0269	0.9536	0.1215	-0.0320	0.0650
1	225	0.5996	0.2322	0.0037	-0.2946	0.0346	1.1967	0.1486	0.0168	0.0722
1	225	0.6498	0.2753	0.0038	-0.3285	0.0412	1.3551	0.1688	-0.1654	0.0701
1	225	0.6998	0.3021	0.0046	-0.3772	0.0477	1.5632	0.1874	-0.2190	0.0718
1	225	0.7500	0.3434	0.0045	-0.4081	0.0545	1.7810	0.2047	-0.2121	0.0677
1	225	0.8001	0.3697	0.0052	-0.4703	0.0619	2.0191	0.2247	-0.3184	0.0623
1	225	0.8497	0.3748	0.0050	-0.4973	0.0678	2.1982	0.2448	-0.4810	0.0593
1	225	0.9102	0.3829	0.0058	-0.4806	0.0781	2.4467	0.2717	-0.7526	0.0622
1	225	0.9734	0.4265	0.0094	-0.4697	0.0878	2.7797	0.3030	-0.7520	0.0669
2	225	0.1949	-0.0521	0.0013	0.0069	0.0008	0.0259	0.0065	-0.1126	0.0241
2	225	0.2405	-0.0193	0.0013	-0.0040	0.0021	0.0487	0.0124	-0.2570	0.0395
2	225	0.2999	0.0358	0.0013	0.0093	0.0045	0.1015	0.0249	-0.3196	0.0545
2	225	0.3498	0.0624	0.0019	0.0194	0.0081	0.1943	0.0396	-0.2803	0.0612
2	225	0.3998	0.0951	0.0021	0.0181	0.0127	0.2844	0.0615	-0.3337	0.0683
2	225	0.4496	0.1414	0.0021	0.0112	0.0173	0.4209	0.0855	-0.3665	0.0509
2	225	0.4995	0.1748	0.0043	0.0045	0.0251	0.5497	0.1122	-0.4560	0.1330
2	225	0.5551	0.2200	0.0043	-0.0134	0.0302	0.7239	0.1482	-0.4467	0.0569
2	225	0.5996	0.2517	0.0036	-0.0223	0.0358	0.8786	0.1769	-0.5429	0.0495
2	225	0.6497	0.3005	0.0042	-0.0267	0.0439	1.0547	0.2105	-0.5225	0.0578
2	225	0.6996	0.3401	0.0050	-0.0362	0.0519	1.2208	0.2436	-0.6396	0.0565
2	225	0.7495	0.3758	0.0054	-0.0440	0.0603	1.3854	0.2769	-0.8660	0.0567
2	225	0.7996	0.4031	0.0060	-0.0736	0.0693	1.5775	0.3124	-0.9862	0.0518
2	225	0.8578	0.4034	0.0072	-0.0923	0.0802	1.8112	0.3525	-0.7824	0.0597
2	225	0.9100	0.4294	0.0070	-0.0517	0.0896	2.0307	0.3934	-0.6920	0.0631
2	225	0.9727	0.4311	0.0118	-0.0051	0.1009	2.4267	0.4437	-0.5771	0.0641
3	225	0.1938	-0.0389	0.0013	-0.0020	0.0007	0.0424	0.0045	-0.1178	0.0221
3	225	0.2357	-0.0162	0.0010	0.0123	0.0015	0.0524	0.0073	-0.1092	0.0394
3	225	0.2995	0.0242	0.0013	0.0049	0.0033	0.1568	0.0159	-0.2451	0.0545
3	225	0.3493	0.0615	0.0015	0.0096	0.0057	0.2655	0.0259	-0.2130	0.0495
3	225	0.4000	0.1035	0.0013	0.0196	0.0092	0.4026	0.0393	-0.1517	0.0542
3	225	0.4497	0.1443	0.0020	0.0160	0.0115	0.5421	0.0509	-0.3380	0.0495
3	225	0.4997	0.1730	0.0023	0.0085	0.0157	0.7089	0.0660	-0.4371	0.0550
3	225	0.5556	0.2202	0.0026	0.0109	0.0192	0.9160	0.0833	-0.4123	0.0632
3	225	0.5995	0.2546	0.0027	-0.0054	0.0227	1.0811	0.0978	-0.4340	0.0740
3	225	0.6498	0.2954	0.0029	-0.0176	0.0273	1.2755	0.1145	-0.4760	0.0620
3	225	0.6890	0.2995	0.0033	-0.0271	0.0317	1.4100	0.1278	-0.5840	0.0650
3	225	0.7495	0.3569	0.0035	-0.0306	0.0385	1.6040	0.1524	-0.8090	0.0612
3	225	0.7998	0.4002	0.0041	-0.0332	0.0445	1.7987	0.1721	-0.8005	0.0647
3	225	0.8577	0.4188	0.0044	-0.0340	0.0522	1.9887	0.1976	-0.7795	0.0692
3	225	0.9178	0.4497	0.0050	-0.0434	0.0603	2.1746	0.2249	-1.1002	0.0673
3	225	0.9729	0.4727	0.0074	-0.0184	0.0676	2.4374	0.2521	-1.0839	0.0687
4	225	0.2001	-0.0426	0.0013	0.0153	0.0008	-0.0368	0.0062	0.0049	0.0314
4	225	0.2502	-0.0085	0.0012	0.0116	0.0021	0.0066	0.0131	0.4776	0.0442
4	225	0.3001	0.0369	0.0017	0.0569	0.0042	-0.0429	0.0217	0.1976	0.0676
4	225	0.3502	0.0593	0.0020	0.0913	0.0074	-0.0521	0.0367	0.1448	0.0624
4	225	0.4002	0.0871	0.0020	0.1389	0.0118	-0.0302	0.0556	0.1357	0.0663
4	225	0.4500	0.1337	0.0018	0.1829	0.0158	-0.0223	0.0766	-0.1003	0.0575
4	225	0.5001	0.1730	0.0038	0.2190	0.0210	0.0396	0.1022	0.0773	0.0884
4	225	0.5560	0.2137	0.0026	0.2555	0.0266	0.0215	0.1324	-0.1291	0.0578
4	225	0.6001	0.2512	0.0028	0.2949	0.0314	0.0636	0.1570	-0.1885	0.0639
4	225	0.6501	0.2775	0.0027	0.3142	0.0377	0.0966	0.1861	-0.1292	0.0724
4	225	0.6999	0.3241	0.0030	0.3403	0.0443	0.1261	0.2166	-0.1782	0.0583
4	225	0.7500	0.3561	0.0038	0.3786	0.0514	0.1905	0.2470	-0.0875	0.0606
4	225	0.8002	0.3815	0.0037	0.4081	0.0583	0.2247	0.2807	-0.2035	0.0606
4	225	0.8582	0.4186	0.0046	0.4672	0.0670	0.2674	0.3210	-0.4178	0.0665
4	225	0.9101	0.4380	0.0045	0.5081	0.0745	0.3219	0.3611	-0.4823	0.0604
4	225	0.9728	0.4903	0.0071	0.6096	0.0840	0.5305	0.4129	-0.1805	0.0661

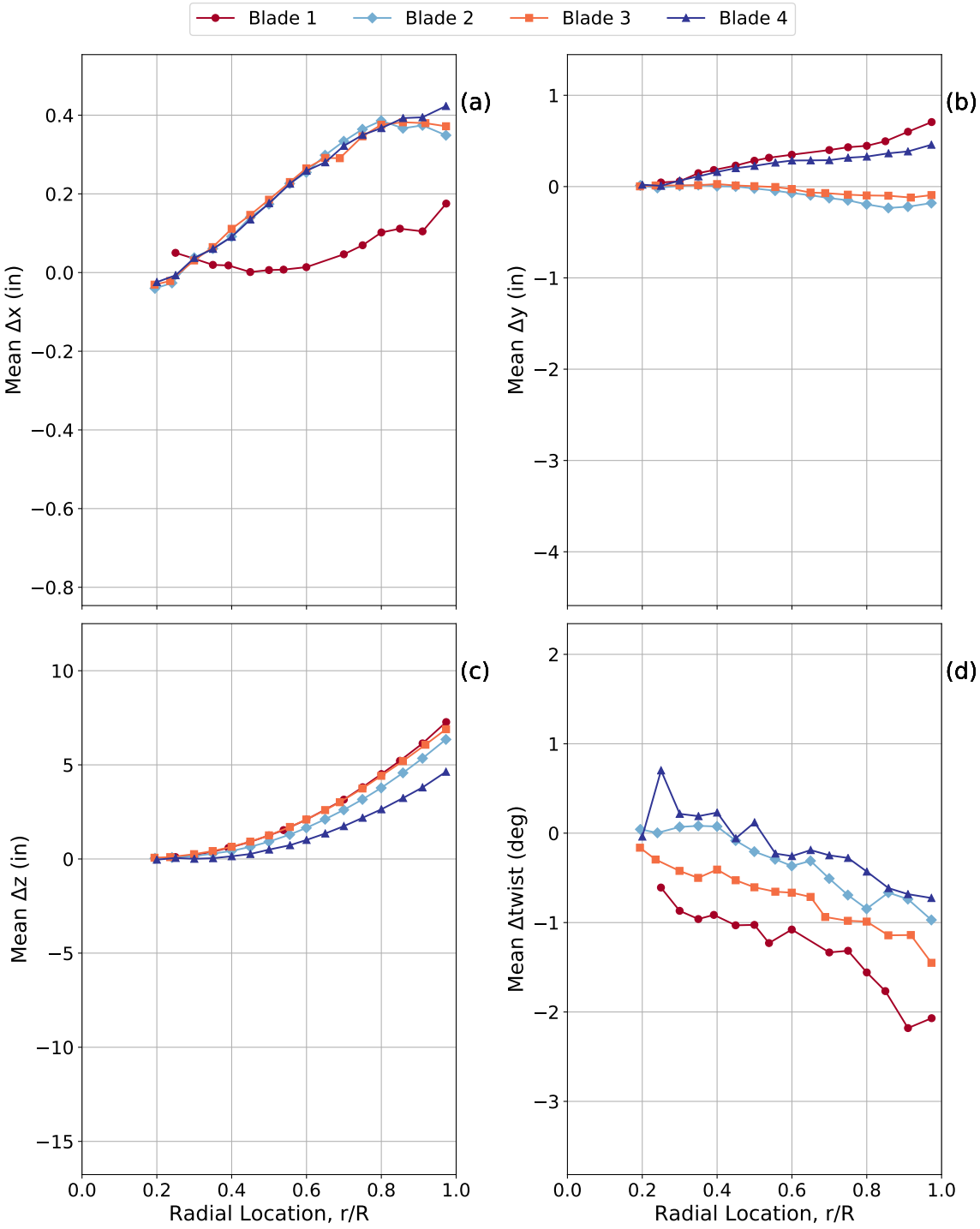


Figure 2.9-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2499	0.0501	0.0177	0.0452	0.0023	0.1015	0.0109	-0.6082	0.0684
1	240.12	0.2998	0.0353	0.0062	0.0571	0.0047	0.2172	0.0187	-0.8685	0.0978
1	240.12	0.3498	0.0195	0.0068	0.1468	0.0085	0.3890	0.0299	-0.9607	0.0908
1	240.12	0.3913	0.0181	0.0174	0.1814	0.0127	0.5878	0.0426	-0.9143	0.0917
1	240.12	0.4496	0.0013	0.0325	0.2300	0.0186	0.9078	0.0585	-1.0306	0.0936
1	240.12	0.4997	0.0063	0.0444	0.2835	0.0242	1.2518	0.0740	-1.0259	0.0985
1	240.12	0.5387	0.0074	0.0538	0.3160	0.0282	1.5349	0.0850	-1.2293	0.0938
1	240.12	0.5996	0.0137	0.0671	0.3490	0.0351	2.0889	0.1056	-1.0780	0.0986
1	240.12	0.6998	0.0464	0.0828	0.4002	0.0469	3.1541	0.1406	-1.3339	0.1081
1	240.12	0.7500	0.0694	0.0865	0.4310	0.0527	3.8119	0.1597	-1.3154	0.0981
1	240.12	0.8001	0.1019	0.0901	0.4465	0.0591	4.5099	0.1799	-1.5580	0.1161
1	240.12	0.8497	0.1115	0.0898	0.4965	0.0668	5.2156	0.2015	-1.7667	0.1120
1	240.12	0.9102	0.1047	0.0868	0.6005	0.0756	6.1396	0.2310	-2.1802	0.1643
1	240.12	0.9734	0.1753	0.0818	0.7067	0.0849	7.2729	0.2628	-2.0695	0.1580
2	240.12	0.1949	-0.0403	0.0030	0.0122	0.0017	0.0352	0.0088	0.0427	0.0300
2	240.12	0.2405	-0.0265	0.0025	-0.0153	0.0043	0.0804	0.0129	0.0033	0.0790
2	240.12	0.2999	0.0376	0.0017	0.0090	0.0087	0.1520	0.0253	0.0695	0.0836
2	240.12	0.3498	0.0610	0.0021	0.0169	0.0137	0.2846	0.0418	0.0819	0.0878
2	240.12	0.3998	0.0914	0.0046	0.0042	0.0235	0.4270	0.0608	0.0747	0.0955
2	240.12	0.4496	0.1404	0.0023	0.0007	0.0273	0.6446	0.0820	-0.0832	0.0915
2	240.12	0.4995	0.1740	0.0036	-0.0204	0.0351	0.9195	0.1092	-0.2065	0.0957
2	240.12	0.5551	0.2262	0.0038	-0.0450	0.0437	1.2943	0.1434	-0.2920	0.0958
2	240.12	0.5996	0.2546	0.0036	-0.0701	0.0519	1.6530	0.1723	-0.3669	0.0992
2	240.12	0.6497	0.2983	0.0073	-0.0949	0.0617	2.1099	0.2088	-0.3099	0.0975
2	240.12	0.6996	0.3337	0.0061	-0.1259	0.0693	2.6079	0.2453	-0.5075	0.1049
2	240.12	0.7495	0.3642	0.0073	-0.1499	0.0802	3.1652	0.2835	-0.6924	0.1152
2	240.12	0.7996	0.3860	0.0084	-0.1945	0.0903	3.7754	0.3208	-0.8463	0.1129
2	240.12	0.8578	0.3667	0.0118	-0.2342	0.1047	4.5737	0.3661	-0.6650	0.1139
2	240.12	0.9100	0.3741	0.0125	-0.2200	0.1132	5.3464	0.4065	-0.7378	0.1134
2	240.12	0.9727	0.3489	0.0178	-0.1807	0.1271	6.3502	0.4573	-0.9707	0.1199
3	240.12	0.1938	-0.0308	0.0030	0.0026	0.0015	0.0665	0.0103	-0.1626	0.0350
3	240.12	0.2357	-0.0214	0.0013	0.0120	0.0022	0.0982	0.0129	-0.2950	0.0852
3	240.12	0.2995	0.0308	0.0016	0.0126	0.0059	0.2575	0.0299	-0.4220	0.0979
3	240.12	0.3493	0.0646	0.0017	0.0155	0.0107	0.4209	0.0471	-0.5002	0.0977
3	240.12	0.4000	0.1111	0.0026	0.0273	0.0168	0.6508	0.0693	-0.4075	0.0964
3	240.12	0.4497	0.1465	0.0030	0.0121	0.0228	0.9239	0.0922	-0.5266	0.0986
3	240.12	0.4997	0.1852	0.0036	0.0045	0.0296	1.2554	0.1179	-0.6054	0.1000
3	240.12	0.5556	0.2300	0.0042	-0.0048	0.0387	1.7012	0.1489	-0.6547	0.1052
3	240.12	0.5995	0.2647	0.0049	-0.0267	0.0460	2.0969	0.1757	-0.6656	0.1080
3	240.12	0.6498	0.2913	0.0101	-0.0653	0.0569	2.5975	0.2069	-0.7133	0.1063
3	240.12	0.6890	0.2907	0.0068	-0.0711	0.0632	3.0158	0.2326	-0.9376	0.0968
3	240.12	0.7495	0.3462	0.0082	-0.0886	0.0753	3.7445	0.2725	-0.9803	0.1064
3	240.12	0.7998	0.3757	0.0098	-0.0970	0.0860	4.4179	0.3054	-0.9890	0.1037
3	240.12	0.8577	0.3820	0.0113	-0.0999	0.0984	5.1980	0.3432	-1.1425	0.1029
3	240.12	0.9178	0.3797	0.0136	-0.1201	0.1123	6.0692	0.3820	-1.1395	0.1067
3	240.12	0.9729	0.3718	0.0185	-0.0933	0.1240	6.8927	0.4154	-1.4501	0.1058
4	240.12	0.2001	-0.0243	0.0022	0.0205	0.0011	-0.0367	0.0061	-0.0383	0.0440
4	240.12	0.2502	-0.0069	0.0016	0.0080	0.0020	0.0546	0.0100	0.7019	0.0848
4	240.12	0.3001	0.0371	0.0017	0.0658	0.0039	0.0103	0.0192	0.2159	0.0992
4	240.12	0.3502	0.0602	0.0016	0.1119	0.0071	0.0411	0.0310	0.1902	0.0992
4	240.12	0.4002	0.0908	0.0020	0.1602	0.0108	0.1448	0.0465	0.2303	0.0971
4	240.12	0.4500	0.1347	0.0020	0.2018	0.0140	0.2652	0.0617	-0.0578	0.0973
4	240.12	0.5001	0.1763	0.0029	0.2269	0.0181	0.4986	0.0803	0.1199	0.0945
4	240.12	0.5560	0.2258	0.0023	0.2627	0.0227	0.7315	0.1018	-0.2285	0.1016
4	240.12	0.6001	0.2588	0.0027	0.2854	0.0272	1.0112	0.1196	-0.2566	0.1116
4	240.12	0.6501	0.2802	0.0033	0.2871	0.0310	1.3534	0.1429	-0.1892	0.1151
4	240.12	0.6999	0.3220	0.0033	0.2892	0.0366	1.7437	0.1632	-0.2479	0.1010
4	240.12	0.7500	0.3498	0.0040	0.3161	0.0422	2.1882	0.1866	-0.2772	0.1021
4	240.12	0.8002	0.3671	0.0049	0.3284	0.0479	2.6387	0.2103	-0.4299	0.1088
4	240.12	0.8582	0.3926	0.0060	0.3644	0.0550	3.2386	0.2363	-0.6149	0.1076
4	240.12	0.9101	0.3946	0.0069	0.3851	0.0617	3.8006	0.2599	-0.6823	0.1047
4	240.12	0.9728	0.4232	0.0099	0.4582	0.0698	4.6329	0.2915	-0.7254	0.1050

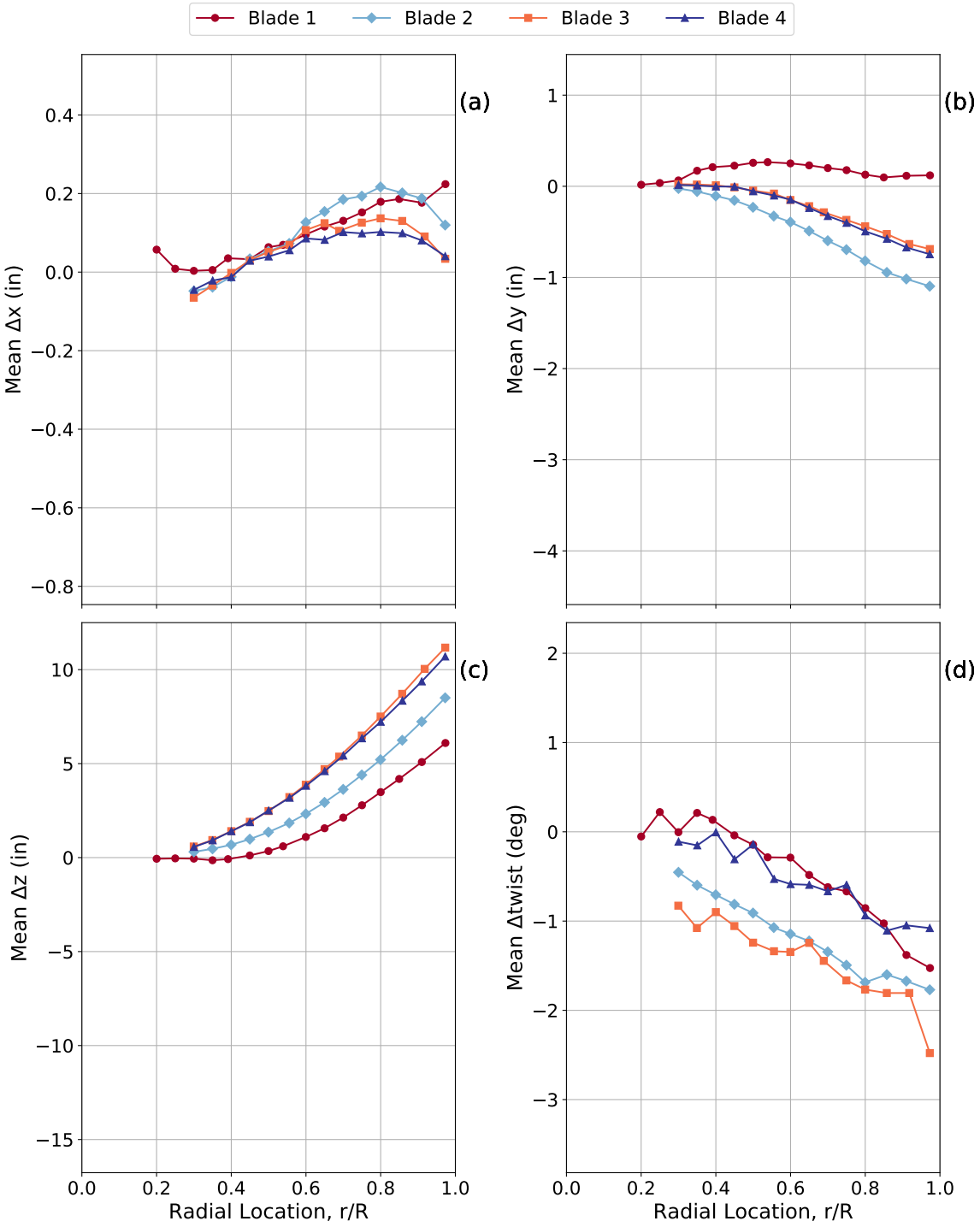


Figure 2.9-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	0.0572	0.0018	0.0167	0.0013	-0.0621	0.0084	-0.0526	0.0449
1	254.88	0.2499	0.0085	0.0019	0.0361	0.0031	-0.0421	0.0152	0.2210	0.0676
1	254.88	0.2998	0.0033	0.0019	0.0642	0.0047	-0.0557	0.0243	-0.0043	0.0982
1	254.88	0.3498	0.0053	0.0021	0.1705	0.0106	-0.1418	0.0423	0.2118	0.0802
1	254.88	0.3913	0.0352	0.0027	0.2098	0.0137	-0.0809	0.0563	0.1339	0.0714
1	254.88	0.4496	0.0328	0.0027	0.2260	0.0172	0.1145	0.0764	-0.0399	0.0792
1	254.88	0.4997	0.0635	0.0026	0.2578	0.0210	0.3469	0.0949	-0.1453	0.0829
1	254.88	0.5387	0.0694	0.0029	0.2648	0.0244	0.6019	0.1110	-0.2857	0.0790
1	254.88	0.5996	0.0958	0.0034	0.2512	0.0300	1.0958	0.1383	-0.2889	0.0892
1	254.88	0.6498	0.1159	0.0045	0.2295	0.0348	1.5603	0.1624	-0.4837	0.0911
1	254.88	0.6998	0.1307	0.0051	0.1999	0.0403	2.1294	0.1895	-0.6200	0.0971
1	254.88	0.7500	0.1521	0.0060	0.1768	0.0464	2.7841	0.2204	-0.6675	0.0942
1	254.88	0.8001	0.1790	0.0075	0.1274	0.0528	3.4831	0.2563	-0.8552	0.0977
1	254.88	0.8497	0.1862	0.0093	0.0970	0.0598	4.1837	0.2947	-1.0265	0.1031
1	254.88	0.9102	0.1766	0.0123	0.1153	0.0688	5.0833	0.3470	-1.3803	0.1101
1	254.88	0.9734	0.2239	0.0171	0.1201	0.0791	6.0962	0.4076	-1.5261	0.1060
2	254.88	0.2999	-0.0480	0.0129	-0.0242	0.0152	0.3050	0.1261	-0.4538	0.3539
2	254.88	0.3498	-0.0383	0.0102	-0.0574	0.0297	0.4656	0.1943	-0.5979	0.4671
2	254.88	0.3998	-0.0122	0.0110	-0.1058	0.0509	0.6802	0.2862	-0.7057	0.4639
2	254.88	0.4496	0.0338	0.0131	-0.1545	0.0702	0.9802	0.3777	-0.8120	0.4646
2	254.88	0.4995	0.0529	0.0159	-0.2306	0.0898	1.3543	0.4727	-0.9101	0.4651
2	254.88	0.5551	0.0729	0.0197	-0.3271	0.1117	1.8410	0.5793	-1.0727	0.4677
2	254.88	0.5996	0.1267	0.0231	-0.3925	0.1290	2.3250	0.6671	-1.1442	0.4656
2	254.88	0.6497	0.1542	0.0280	-0.4899	0.1479	2.9374	0.7649	-1.2232	0.4686
2	254.88	0.6996	0.1850	0.0324	-0.5972	0.1673	3.6300	0.8636	-1.3447	0.4663
2	254.88	0.7495	0.1934	0.0378	-0.6952	0.1860	4.3967	0.9617	-1.4943	0.4642
2	254.88	0.7996	0.2169	0.0430	-0.8186	0.2050	5.2102	1.0606	-1.6863	0.4627
2	254.88	0.8578	0.2016	0.0496	-0.9452	0.2267	6.2435	1.1734	-1.6001	0.4647
2	254.88	0.9100	0.1876	0.0570	-1.0171	0.2462	7.2339	1.2744	-1.6727	0.4637
2	254.88	0.9727	0.1198	0.0723	-1.0963	0.2696	8.4999	1.3934	-1.7696	0.4704
3	254.88	0.2995	-0.0652	0.0155	0.0226	0.0126	0.5905	0.1294	-0.8275	0.2621
3	254.88	0.3493	-0.0343	0.0153	0.0191	0.0257	0.9326	0.1930	-1.0778	0.3426
3	254.88	0.4000	-0.0021	0.0187	0.0112	0.0453	1.4070	0.2795	-0.8998	0.3122
3	254.88	0.4497	0.0299	0.0211	-0.0120	0.0616	1.9036	0.3581	-1.0557	0.3141
3	254.88	0.4997	0.0515	0.0246	-0.0470	0.0780	2.4750	0.4434	-1.2419	0.3079
3	254.88	0.5556	0.0695	0.0291	-0.0802	0.0960	3.2201	0.5379	-1.3379	0.3133
3	254.88	0.5995	0.1069	0.0334	-0.1503	0.1107	3.8764	0.6140	-1.3467	0.3113
3	254.88	0.6498	0.1245	0.0383	-0.2182	0.1275	4.7061	0.7016	-1.2444	0.3110
3	254.88	0.6890	0.1050	0.0427	-0.2855	0.1403	5.3716	0.7696	-1.4458	0.3148
3	254.88	0.7495	0.1259	0.0497	-0.3690	0.1607	6.4931	0.8745	-1.6649	0.3163
3	254.88	0.7998	0.1369	0.0557	-0.4392	0.1780	7.5041	0.9602	-1.7673	0.3153
3	254.88	0.8577	0.1302	0.0624	-0.5237	0.1979	8.7117	1.0577	-1.8062	0.3102
3	254.88	0.9178	0.0907	0.0704	-0.6336	0.2193	10.0390	1.1562	-1.8061	0.3111
3	254.88	0.9729	0.0339	0.0851	-0.6887	0.2394	11.1697	1.2449	-2.4789	0.3160
4	254.88	0.3001	-0.0452	0.0117	0.0149	0.0143	0.5671	0.0852	-0.1107	0.2131
4	254.88	0.3502	-0.0215	0.0121	0.0088	0.0270	0.9203	0.1280	-0.1521	0.2812
4	254.88	0.4002	-0.0128	0.0141	-0.0023	0.0454	1.4031	0.1852	-0.0055	0.2680
4	254.88	0.4500	0.0290	0.0154	-0.0041	0.0592	1.8834	0.2350	-0.3075	0.2710
4	254.88	0.5001	0.0397	0.0179	-0.0548	0.0742	2.5029	0.2899	-0.1407	0.2732
4	254.88	0.5560	0.0557	0.0215	-0.1014	0.0917	3.1818	0.3518	-0.5284	0.2727
4	254.88	0.6001	0.0857	0.0236	-0.1471	0.1052	3.8204	0.4012	-0.5862	0.2705
4	254.88	0.6501	0.0821	0.0268	-0.2379	0.1205	4.5992	0.4576	-0.5944	0.2803
4	254.88	0.6999	0.1019	0.0306	-0.3263	0.1362	5.4273	0.5147	-0.6662	0.2746
4	254.88	0.7500	0.0985	0.0344	-0.4011	0.1519	6.3468	0.5725	-0.5934	0.2747
4	254.88	0.8002	0.1023	0.0382	-0.4946	0.1678	7.2252	0.6310	-0.9360	0.2743
4	254.88	0.8582	0.0989	0.0427	-0.5758	0.1863	8.3463	0.6976	-1.1073	0.2713
4	254.88	0.9101	0.0806	0.0474	-0.6708	0.2029	9.3721	0.7571	-1.0479	0.2730
4	254.88	0.9728	0.0405	0.0584	-0.7458	0.2229	10.6983	0.8282	-1.0789	0.2757

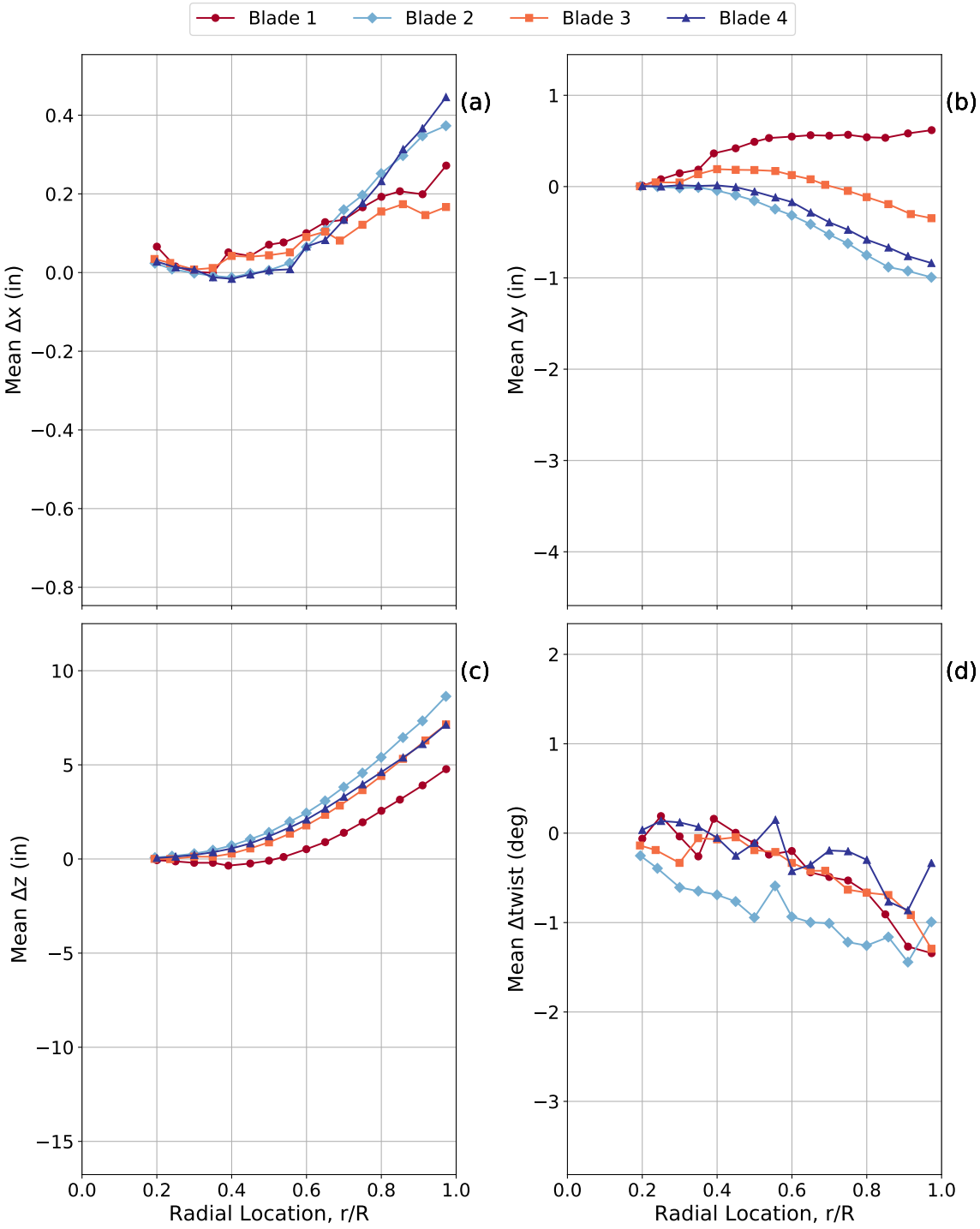


Figure 2.9-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	0.0658	0.0103	0.0089	0.0024	-0.0643	0.0454	-0.0622	0.0422
1	260.16	0.2499	0.0154	0.0048	0.0803	0.0240	-0.1268	0.1045	0.1910	0.0545
1	260.16	0.2998	0.0020	0.0024	0.1465	0.0464	-0.2028	0.1685	-0.0366	0.0919
1	260.16	0.3498	-0.0008	0.0048	0.1856	0.0671	-0.2018	0.2272	-0.2599	0.0974
1	260.16	0.3913	0.0513	0.0096	0.3637	0.1231	-0.3524	0.3602	0.1604	0.1028
1	260.16	0.4496	0.0422	0.0132	0.4194	0.1563	-0.2389	0.4449	0.0042	0.0907
1	260.16	0.4997	0.0708	0.0158	0.4901	0.1856	-0.0887	0.5197	-0.1151	0.0962
1	260.16	0.5387	0.0766	0.0171	0.5319	0.2082	0.1064	0.5781	-0.2399	0.0926
1	260.16	0.5996	0.1000	0.0190	0.5475	0.2438	0.5211	0.6710	-0.1996	0.0964
1	260.16	0.6498	0.1281	0.0201	0.5628	0.2729	0.8956	0.7492	-0.4384	0.1023
1	260.16	0.6998	0.1339	0.0211	0.5576	0.3023	1.3925	0.8262	-0.4901	0.1060
1	260.16	0.7500	0.1658	0.0229	0.5676	0.3315	1.9507	0.9022	-0.5293	0.1061
1	260.16	0.8001	0.1925	0.0253	0.5404	0.3612	2.5599	0.9773	-0.6656	0.1103
1	260.16	0.8497	0.2066	0.0292	0.5343	0.3900	3.1521	1.0505	-0.9082	0.1142
1	260.16	0.9102	0.1990	0.0373	0.5826	0.4254	3.9098	1.1371	-1.2689	0.1232
1	260.16	0.9734	0.2719	0.0549	0.6182	0.4604	4.7728	1.2287	-1.3427	0.1318
2	260.16	0.1949	0.0236	0.0021	0.0056	0.0014	0.0730	0.0074	-0.2523	0.2488
2	260.16	0.2405	0.0088	0.0022	-0.0012	0.0047	0.1514	0.0212	-0.3936	0.2556
2	260.16	0.2999	-0.0016	0.0068	-0.0153	0.0056	0.2820	0.0258	-0.6073	0.5360
2	260.16	0.3498	-0.0085	0.0027	-0.0106	0.0141	0.4688	0.0609	-0.6481	0.2503
2	260.16	0.3998	-0.0125	0.0030	-0.0435	0.0195	0.7160	0.0832	-0.6898	0.2354
2	260.16	0.4496	-0.0023	0.0034	-0.0936	0.0245	1.0492	0.1050	-0.7646	0.2437
2	260.16	0.4995	0.0055	0.0038	-0.1540	0.0305	1.4111	0.1292	-0.9437	0.2387
2	260.16	0.5551	0.0242	0.0055	-0.2462	0.0368	1.9795	0.1609	-0.5902	0.2296
2	260.16	0.5996	0.0649	0.0066	-0.3148	0.0435	2.4442	0.1869	-0.9347	0.2418
2	260.16	0.6497	0.1078	0.0083	-0.4122	0.0501	3.0853	0.2171	-0.9979	0.2502
2	260.16	0.6996	0.1597	0.0100	-0.5263	0.0570	3.8176	0.2498	-1.0089	0.2345
2	260.16	0.7495	0.1966	0.0124	-0.6231	0.0638	4.5669	0.2824	-1.2187	0.2363
2	260.16	0.7996	0.2517	0.0147	-0.7511	0.0717	5.4012	0.3149	-1.2571	0.2282
2	260.16	0.8578	0.2971	0.0177	-0.8816	0.0804	6.4506	0.3499	-1.1618	0.2556
2	260.16	0.9100	0.3474	0.0208	-0.9246	0.0883	7.3359	0.3872	-1.4423	0.2325
2	260.16	0.9727	0.3730	0.0267	-0.9939	0.0986	8.6380	0.4301	-0.9927	0.2427
3	260.16	0.1938	0.0344	0.0097	0.0039	0.0029	0.0045	0.0320	-0.1377	0.0574
3	260.16	0.2357	0.0243	0.0065	0.0459	0.0072	-0.0063	0.0476	-0.1887	0.0668
3	260.16	0.2995	0.0077	0.0031	0.0450	0.0131	0.1239	0.0726	-0.3322	0.1177
3	260.16	0.3493	0.0115	0.0061	0.1359	0.0476	0.1197	0.1642	-0.0559	0.1040
3	260.16	0.4000	0.0422	0.0109	0.1909	0.0607	0.2874	0.2017	-0.0692	0.0985
3	260.16	0.4497	0.0404	0.0137	0.1836	0.0743	0.5619	0.2415	-0.0458	0.0962
3	260.16	0.4997	0.0439	0.0158	0.1812	0.0875	0.8831	0.2819	-0.1898	0.0884
3	260.16	0.5556	0.0513	0.0194	0.1706	0.1033	1.3460	0.3313	-0.2108	0.0935
3	260.16	0.5995	0.0904	0.0202	0.1259	0.1155	1.7811	0.3717	-0.3325	0.0965
3	260.16	0.6498	0.1039	0.0217	0.0796	0.1303	2.3475	0.4185	-0.4209	0.1023
3	260.16	0.6890	0.0813	0.0227	0.0191	0.1417	2.8371	0.4549	-0.4209	0.1062
3	260.16	0.7495	0.1214	0.0241	-0.0469	0.1596	3.6578	0.5114	-0.6320	0.1047
3	260.16	0.7998	0.1552	0.0260	-0.1152	0.1748	4.4110	0.5584	-0.6658	0.1091
3	260.16	0.8577	0.1737	0.0298	-0.1925	0.1924	5.3185	0.6130	-0.6921	0.1097
3	260.16	0.9178	0.1461	0.0375	-0.3013	0.2096	6.2951	0.6703	-0.9151	0.1135
3	260.16	0.9729	0.1666	0.0489	-0.3464	0.2255	7.1490	0.7272	-1.2929	0.1121
4	260.16	0.2001	0.0277	0.0026	0.0061	0.0007	0.0527	0.0061	0.0356	0.0643
4	260.16	0.2502	0.0131	0.0017	0.0006	0.0021	0.1231	0.0115	0.1362	0.1117
4	260.16	0.3001	0.0075	0.0022	0.0143	0.0034	0.2147	0.0196	0.1203	0.1498
4	260.16	0.3502	-0.0121	0.0023	0.0071	0.0057	0.3565	0.0332	0.0691	0.1530
4	260.16	0.4002	-0.0160	0.0025	0.0131	0.0094	0.5607	0.0487	-0.0520	0.1352
4	260.16	0.4500	-0.0050	0.0022	-0.0064	0.0127	0.8291	0.0672	-0.2517	0.1261
4	260.16	0.5001	0.0056	0.0026	-0.0547	0.0164	1.2053	0.0895	-0.1095	0.1206
4	260.16	0.5560	0.0083	0.0041	-0.1190	0.0216	1.6817	0.1179	0.1488	0.1050
4	260.16	0.6001	0.0662	0.0051	-0.1699	0.0264	2.0951	0.1421	-0.4236	0.1239
4	260.16	0.6501	0.0825	0.0065	-0.2842	0.0320	2.6741	0.1710	-0.3525	0.1118
4	260.16	0.6999	0.1341	0.0086	-0.3917	0.0387	3.3050	0.1985	-0.1940	0.1207
4	260.16	0.7500	0.1764	0.0102	-0.4737	0.0456	3.9619	0.2253	-0.2028	0.1182
4	260.16	0.8002	0.2322	0.0117	-0.5817	0.0529	4.6157	0.2559	-0.2990	0.1168
4	260.16	0.8582	0.3133	0.0135	-0.6678	0.0624	5.3856	0.2899	-0.7660	0.1249
4	260.16	0.9101	0.3666	0.0162	-0.7621	0.0708	6.1032	0.3230	-0.8625	0.1309
4	260.16	0.9728	0.4457	0.0210	-0.8376	0.0815	7.1331	0.3664	-0.3339	0.1484

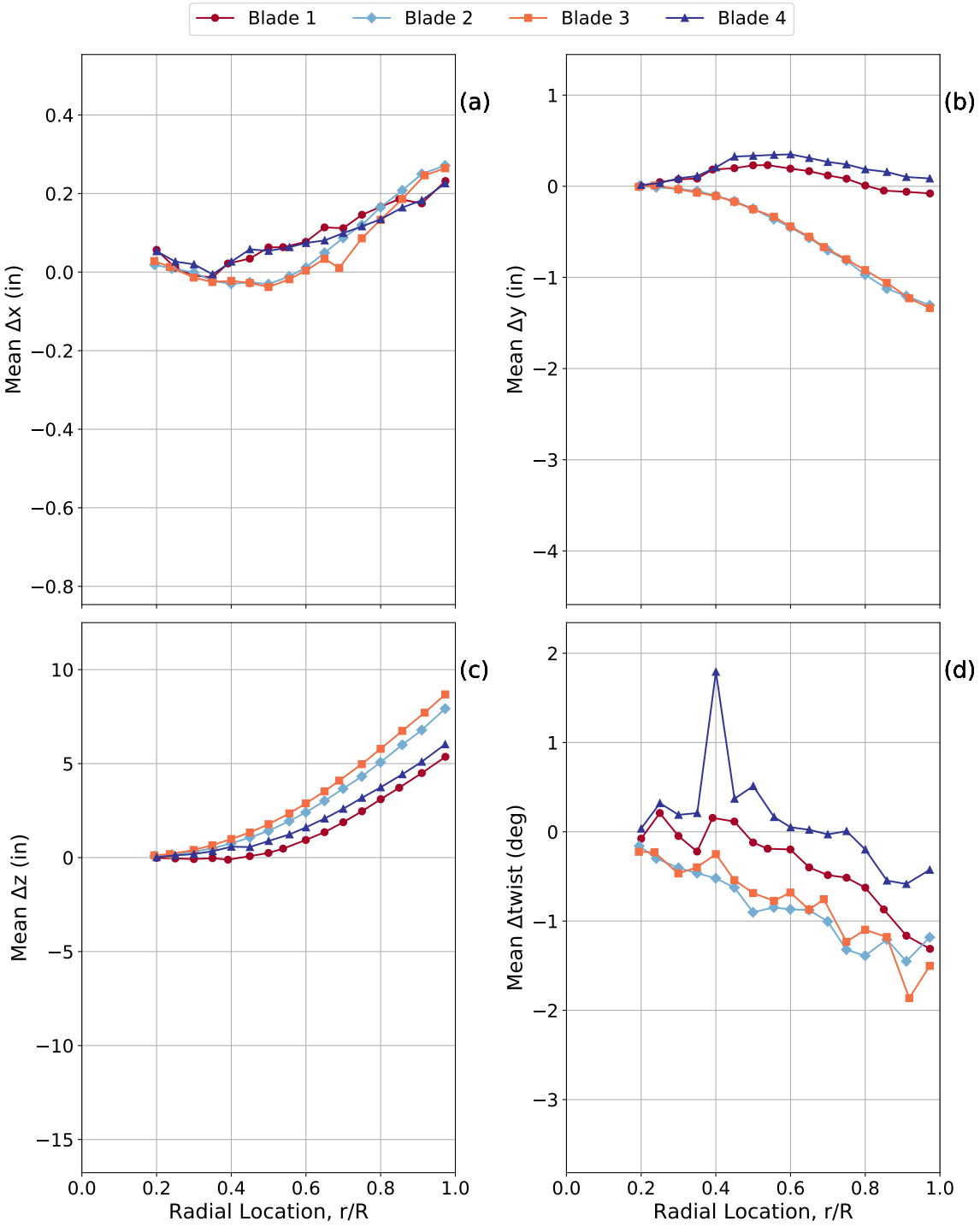


Figure 2.9-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	0.0566	0.0021	0.0024	0.0008	-0.0179	0.0142	-0.0772	0.0453
1	265.08	0.2499	0.0111	0.0026	0.0460	0.0055	-0.0481	0.0330	0.2103	0.0707
1	265.08	0.2998	-0.0084	0.0021	0.0754	0.0105	-0.0791	0.0492	-0.0474	0.0988
1	265.08	0.3498	-0.0139	0.0035	0.0847	0.0160	-0.0314	0.0800	-0.2210	0.0479
1	265.08	0.3913	0.0220	0.0067	0.1836	0.0284	-0.1113	0.1157	0.1560	0.0915
1	265.08	0.4496	0.0342	0.0047	0.1985	0.0308	0.0763	0.1374	0.1148	0.0668
1	265.08	0.4997	0.0629	0.0050	0.2300	0.0367	0.2466	0.1668	-0.1199	0.0606
1	265.08	0.5387	0.0634	0.0051	0.2321	0.0418	0.4757	0.1922	-0.1892	0.0565
1	265.08	0.5996	0.0770	0.0069	0.1937	0.0503	0.9361	0.2368	-0.1979	0.0643
1	265.08	0.6498	0.1138	0.0075	0.1664	0.0581	1.3510	0.2733	-0.3989	0.0626
1	265.08	0.6998	0.1117	0.0089	0.1190	0.0664	1.8798	0.3119	-0.4848	0.0669
1	265.08	0.7500	0.1459	0.0104	0.0828	0.0748	2.4644	0.3525	-0.5144	0.0662
1	265.08	0.8001	0.1663	0.0119	0.0082	0.0839	3.1046	0.3942	-0.6259	0.0674
1	265.08	0.8497	0.1859	0.0135	-0.0476	0.0931	3.7160	0.4376	-0.8699	0.0741
1	265.08	0.9102	0.1749	0.0167	-0.0605	0.1047	4.4983	0.4910	-1.1641	0.0772
1	265.08	0.9734	0.2319	0.0218	-0.0788	0.1170	5.3612	0.5494	-1.3112	0.0795
2	265.08	0.1949	0.0185	0.0022	0.0031	0.0008	0.0885	0.0112	-0.1590	0.0624
2	265.08	0.2405	0.0092	0.0028	-0.0113	0.0040	0.1595	0.0190	-0.2985	0.1049
2	265.08	0.2999	-0.0009	0.0021	-0.0303	0.0063	0.3077	0.0375	-0.4032	0.1529
2	265.08	0.3498	-0.0223	0.0032	-0.0521	0.0124	0.4995	0.0600	-0.4634	0.1115
2	265.08	0.3998	-0.0299	0.0053	-0.1013	0.0199	0.7505	0.0899	-0.5208	0.0862
2	265.08	0.4496	-0.0261	0.0042	-0.1638	0.0247	1.0684	0.1065	-0.6241	0.1077
2	265.08	0.4995	-0.0307	0.0057	-0.2460	0.0332	1.4184	0.1338	-0.9013	0.0926
2	265.08	0.5551	-0.0110	0.0074	-0.3604	0.0425	1.9379	0.1643	-0.8476	0.1025
2	265.08	0.5996	0.0114	0.0087	-0.4499	0.0508	2.4076	0.1920	-0.8689	0.0904
2	265.08	0.6497	0.0492	0.0104	-0.5669	0.0614	3.0146	0.2271	-0.8766	0.0993
2	265.08	0.6996	0.0870	0.0125	-0.7017	0.0723	3.6690	0.2609	-1.0044	0.0993
2	265.08	0.7495	0.1199	0.0148	-0.8128	0.0837	4.3173	0.2982	-1.3206	0.0870
2	265.08	0.7996	0.1650	0.0173	-0.9711	0.0955	5.0707	0.3398	-1.3885	0.0920
2	265.08	0.8578	0.2081	0.0203	-1.1233	0.1092	5.9987	0.3916	-1.2066	0.0935
2	265.08	0.9100	0.2498	0.0239	-1.2036	0.1214	6.7869	0.4426	-1.4509	0.1083
2	265.08	0.9727	0.2715	0.0320	-1.3055	0.1346	7.9244	0.5114	-1.1821	0.1021
3	265.08	0.1938	0.0283	0.0019	-0.0056	0.0006	0.1190	0.0079	-0.2237	0.0299
3	265.08	0.2357	0.0131	0.0019	0.0086	0.0018	0.1847	0.0167	-0.2291	0.0358
3	265.08	0.2995	-0.0139	0.0020	-0.0330	0.0045	0.4064	0.0317	-0.4668	0.0611
3	265.08	0.3493	-0.0252	0.0024	-0.0689	0.0085	0.6562	0.0465	-0.3981	0.0603
3	265.08	0.4000	-0.0222	0.0041	-0.1065	0.0143	0.9881	0.0749	-0.2503	0.1063
3	265.08	0.4497	-0.0275	0.0044	-0.1698	0.0177	1.3349	0.0857	-0.5418	0.0562
3	265.08	0.4997	-0.0380	0.0050	-0.2517	0.0244	1.7766	0.1107	-0.6853	0.0547
3	265.08	0.5556	-0.0182	0.0055	-0.3341	0.0314	2.3521	0.1426	-0.7734	0.0572
3	265.08	0.5995	0.0039	0.0072	-0.4411	0.0383	2.8832	0.1742	-0.6805	0.0629
3	265.08	0.6498	0.0338	0.0086	-0.5539	0.0460	3.5245	0.2102	-0.8713	0.0711
3	265.08	0.6890	0.0106	0.0105	-0.6666	0.0525	4.0950	0.2421	-0.7554	0.0719
3	265.08	0.7495	0.0859	0.0138	-0.8012	0.0631	4.9696	0.2944	-1.2320	0.0764
3	265.08	0.7998	0.1331	0.0165	-0.9197	0.0717	5.7852	0.3401	-1.0977	0.0711
3	265.08	0.8577	0.1860	0.0202	-1.0584	0.0819	6.7394	0.3969	-1.1789	0.0792
3	265.08	0.9178	0.2464	0.0246	-1.2292	0.0928	7.7121	0.4568	-1.8627	0.0962
3	265.08	0.9729	0.2644	0.0317	-1.3359	0.1024	8.6807	0.5222	-1.5015	0.0939
4	265.08	0.2001	0.0532	0.0096	0.0146	0.0012	0.0192	0.0085	0.0359	0.0408
4	265.08	0.2502	0.0267	0.0044	0.0362	0.0065	0.1178	0.0164	0.3209	0.0497
4	265.08	0.3001	0.0198	0.0026	0.0876	0.0118	0.1863	0.0291	0.1902	0.0812
4	265.08	0.3502	-0.0057	0.0051	0.1125	0.0156	0.3396	0.0447	0.2094	0.0691
4	265.08	0.4002	0.0267	0.0080	0.2072	0.0307	0.5772	0.0726	1.7924	0.5025
4	265.08	0.4500	0.0580	0.0102	0.3259	0.0671	0.5599	0.1133	0.3706	0.1072
4	265.08	0.5001	0.0540	0.0116	0.3344	0.0794	0.8843	0.1370	0.5122	0.0740
4	265.08	0.5560	0.0635	0.0136	0.3447	0.0941	1.2347	0.1703	0.1654	0.0800
4	265.08	0.6001	0.0741	0.0156	0.3506	0.1045	1.6081	0.1981	0.0509	0.0737
4	265.08	0.6501	0.0807	0.0165	0.3101	0.1185	2.0786	0.2353	0.0227	0.0835
4	265.08	0.6999	0.0994	0.0181	0.2669	0.1318	2.5962	0.2736	-0.0288	0.0813
4	265.08	0.7500	0.1164	0.0201	0.2402	0.1454	3.1811	0.3152	0.0076	0.0798
4	265.08	0.8002	0.1346	0.0225	0.1861	0.1589	3.7402	0.3586	-0.1989	0.0836
4	265.08	0.8582	0.1644	0.0273	0.1571	0.1748	4.4332	0.4145	-0.5468	0.1243
4	265.08	0.9101	0.1828	0.0317	0.1020	0.1887	5.0994	0.4686	-0.5848	0.0918
4	265.08	0.9728	0.2258	0.0438	0.0857	0.2051	6.0280	0.5352	-0.4255	0.0935

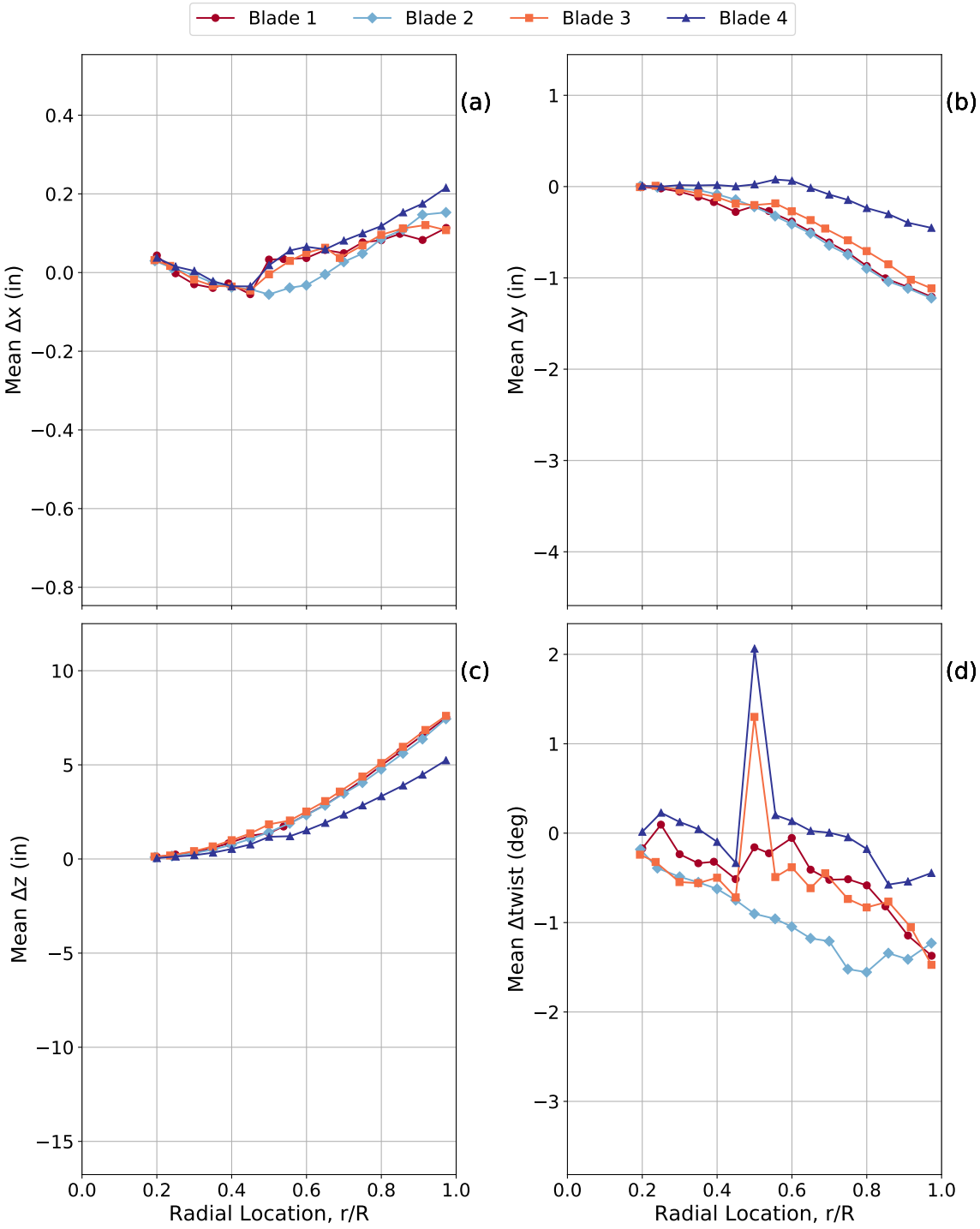


Figure 2.9-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	0.0435	0.0019	-0.0043	0.0007	0.1142	0.0062	-0.1713	0.0509
1	270	0.2499	-0.0020	0.0026	-0.0201	0.0022	0.2363	0.0132	0.0952	0.0519
1	270	0.2998	-0.0298	0.0016	-0.0561	0.0034	0.3668	0.0206	-0.2355	0.0978
1	270	0.3498	-0.0391	0.0024	-0.1119	0.0064	0.5821	0.0317	-0.3366	0.0776
1	270	0.3913	-0.0276	0.0028	-0.1695	0.0097	0.8305	0.0454	-0.3196	0.0614
1	270	0.4496	-0.0551	0.0026	-0.2774	0.0135	1.2329	0.0631	-0.5141	0.0716
1	270	0.4997	0.0330	0.0045	-0.2131	0.0178	1.3769	0.0820	-0.1582	0.0841
1	270	0.5387	0.0343	0.0039	-0.2677	0.0213	1.7259	0.0981	-0.2250	0.0748
1	270	0.5996	0.0368	0.0049	-0.3835	0.0277	2.3517	0.1282	-0.0535	0.0747
1	270	0.6498	0.0573	0.0055	-0.4938	0.0331	2.8740	0.1548	-0.4083	0.0713
1	270	0.6998	0.0492	0.0065	-0.6125	0.0387	3.5129	0.1839	-0.5213	0.0725
1	270	0.7500	0.0768	0.0078	-0.7241	0.0448	4.2072	0.2146	-0.5153	0.0735
1	270	0.8001	0.0822	0.0095	-0.8705	0.0507	4.9683	0.2470	-0.5841	0.0778
1	270	0.8497	0.0983	0.0108	-1.0046	0.0567	5.6787	0.2824	-0.8186	0.0792
1	270	0.9102	0.0828	0.0132	-1.1007	0.0640	6.5727	0.3284	-1.1449	0.0772
1	270	0.9734	0.1134	0.0179	-1.2073	0.0713	7.5179	0.3834	-1.3715	0.0794
2	270.35	0.1949	0.0297	0.0027	0.0056	0.0012	0.0918	0.0077	-0.1812	0.0497
2	270.35	0.2405	0.0116	0.0017	-0.0077	0.0021	0.1560	0.0190	-0.3913	0.0445
2	270.35	0.2999	-0.0061	0.0017	-0.0251	0.0042	0.3108	0.0276	-0.4878	0.0914
2	270.35	0.3498	-0.0265	0.0024	-0.0380	0.0074	0.5041	0.0472	-0.5499	0.0624
2	270.35	0.3998	-0.0377	0.0038	-0.0848	0.0127	0.7526	0.0706	-0.6233	0.0618
2	270.35	0.4496	-0.0423	0.0033	-0.1439	0.0181	1.0614	0.0875	-0.7490	0.1273
2	270.35	0.4995	-0.0556	0.0038	-0.2217	0.0242	1.4206	0.1184	-0.9019	0.0703
2	270.35	0.5551	-0.0388	0.0049	-0.3228	0.0322	1.8948	0.1538	-0.9585	0.0683
2	270.35	0.5996	-0.0323	0.0062	-0.4115	0.0391	2.3349	0.1866	-1.0465	0.0702
2	270.35	0.6497	-0.0047	0.0079	-0.5127	0.0471	2.8506	0.2245	-1.1766	0.0767
2	270.35	0.6996	0.0271	0.0096	-0.6440	0.0562	3.4788	0.2708	-1.2084	0.0744
2	270.35	0.7495	0.0483	0.0116	-0.7456	0.0656	4.0553	0.3163	-1.5213	0.0750
2	270.35	0.7996	0.0855	0.0140	-0.8979	0.0758	4.7654	0.3645	-1.5546	0.0812
2	270.35	0.8578	0.1090	0.0166	-1.0402	0.0879	5.6111	0.4185	-1.3422	0.0856
2	270.35	0.9100	0.1469	0.0199	-1.1149	0.0997	6.3716	0.4704	-1.4112	0.1048
2	270.35	0.9727	0.1528	0.0274	-1.2210	0.1134	7.4420	0.5303	-1.2298	0.0809
3	270	0.1938	0.0315	0.0026	-0.0055	0.0012	0.1272	0.0073	-0.2407	0.0448
3	270	0.2357	0.0169	0.0016	0.0088	0.0025	0.1847	0.0136	-0.3226	0.0454
3	270	0.2995	-0.0177	0.0019	-0.0363	0.0052	0.4163	0.0268	-0.5469	0.0784
3	270	0.3493	-0.0337	0.0021	-0.0743	0.0084	0.6670	0.0429	-0.5585	0.0620
3	270	0.4000	-0.0355	0.0037	-0.1169	0.0139	0.9967	0.0669	-0.4984	0.0707
3	270	0.4497	-0.0457	0.0039	-0.1871	0.0195	1.3575	0.0919	-0.7186	0.0979
3	270	0.4997	-0.0045	0.0045	-0.2024	0.0256	1.8398	0.1281	1.3005	0.0997
3	270	0.5556	0.0297	0.0089	-0.1836	0.0337	2.0437	0.1717	-0.4910	0.0943
3	270	0.5995	0.0499	0.0061	-0.2706	0.0413	2.5203	0.2170	-0.3815	0.0878
3	270	0.6498	0.0630	0.0073	-0.3671	0.0501	3.0740	0.2675	-0.6152	0.0779
3	270	0.6890	0.0373	0.0086	-0.4597	0.0575	3.5781	0.3128	-0.4484	0.0818
3	270	0.7495	0.0690	0.0116	-0.5880	0.0704	4.3768	0.3853	-0.7358	0.0781
3	270	0.7998	0.0960	0.0142	-0.7066	0.0810	5.0958	0.4495	-0.8304	0.0851
3	270	0.8577	0.1122	0.0180	-0.8509	0.0938	5.9583	0.5238	-0.7657	0.0875
3	270	0.9178	0.1207	0.0222	-1.0213	0.1081	6.8510	0.6034	-1.0525	0.0898
3	270	0.9729	0.1078	0.0288	-1.1150	0.1209	7.6023	0.6784	-1.4729	0.0966
4	270	0.2001	0.0376	0.0023	0.0080	0.0007	0.0461	0.0138	0.0156	0.0409
4	270	0.2502	0.0150	0.0013	-0.0002	0.0018	0.1284	0.0246	0.2286	0.0859
4	270	0.3001	0.0041	0.0021	0.0158	0.0046	0.2003	0.0437	0.1246	0.0980
4	270	0.3502	-0.0222	0.0016	0.0127	0.0089	0.3352	0.0715	0.0452	0.0715
4	270	0.4002	-0.0349	0.0028	0.0168	0.0146	0.5349	0.1064	-0.0974	0.0812
4	270	0.4500	-0.0352	0.0027	0.0022	0.0197	0.7724	0.1330	-0.3338	0.1124
4	270	0.5001	0.0186	0.0047	0.0241	0.0272	1.1791	0.1766	2.0633	0.1050
4	270	0.5560	0.0560	0.0095	0.0774	0.0385	1.2097	0.2339	0.2019	0.1788
4	270	0.6001	0.0655	0.0071	0.0643	0.0454	1.5224	0.2739	0.1353	0.1064
4	270	0.6501	0.0590	0.0079	-0.0148	0.0552	1.9179	0.3269	0.0256	0.1097
4	270	0.6999	0.0812	0.0093	-0.0872	0.0655	2.3630	0.3854	0.0057	0.1072
4	270	0.7500	0.0997	0.0119	-0.1466	0.0763	2.8486	0.4444	-0.0459	0.0967
4	270	0.8002	0.1183	0.0141	-0.2353	0.0874	3.3335	0.5040	-0.1768	0.1105
4	270	0.8582	0.1530	0.0165	-0.3018	0.1005	3.9057	0.5755	-0.5753	0.0981
4	270	0.9101	0.1750	0.0201	-0.3959	0.1120	4.4780	0.6388	-0.5411	0.1091
4	270	0.9728	0.2154	0.0275	-0.4521	0.1262	5.2424	0.7203	-0.4456	0.1143

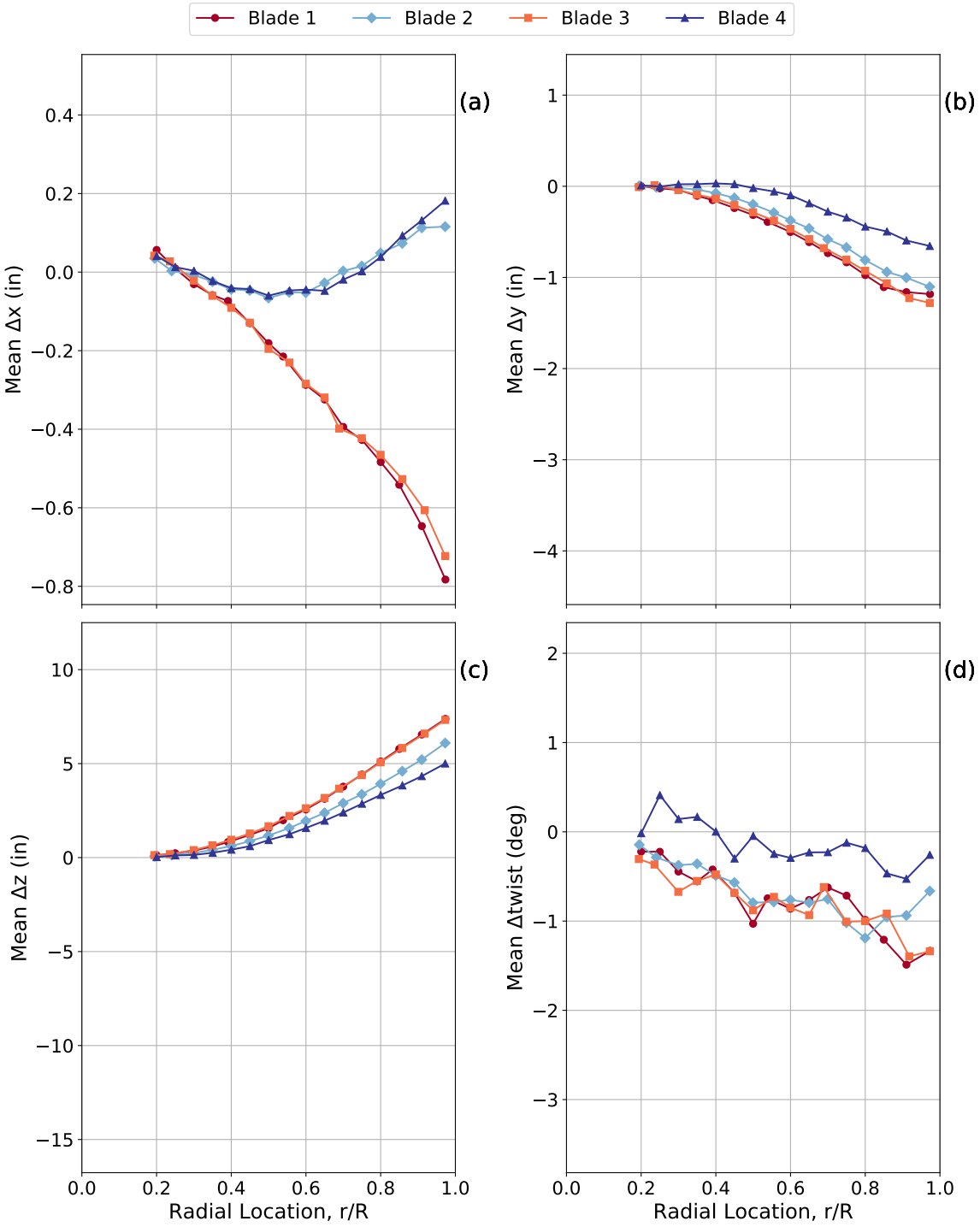


Figure 2.9-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0564	0.0025	0.0005	0.0013	0.1200	0.0131	-0.2214	0.0628
1	274.92	0.2499	0.0093	0.0036	-0.0227	0.0038	0.2330	0.0225	-0.2241	0.0777
1	274.92	0.2998	-0.0307	0.0024	-0.0394	0.0071	0.3703	0.0411	-0.4452	0.1305
1	274.92	0.3498	-0.0587	0.0038	-0.1048	0.0110	0.5882	0.0614	-0.5553	0.0948
1	274.92	0.3913	-0.0735	0.0027	-0.1513	0.0176	0.8278	0.0878	-0.4228	0.1415
1	274.92	0.4496	-0.1301	0.0032	-0.2387	0.0253	1.2081	0.1214	-0.6840	0.1184
1	274.92	0.4997	-0.1809	0.0049	-0.3152	0.0334	1.5604	0.1534	-1.0299	0.1225
1	274.92	0.5387	-0.2149	0.0065	-0.3909	0.0403	1.9874	0.1815	-0.7449	0.0970
1	274.92	0.5996	-0.2872	0.0070	-0.5013	0.0525	2.5601	0.2269	-0.8610	0.1004
1	274.92	0.6498	-0.3243	0.0097	-0.6124	0.0625	3.1297	0.2702	-0.7641	0.1062
1	274.92	0.6998	-0.3941	0.0113	-0.7333	0.0732	3.7739	0.3136	-0.6241	0.1116
1	274.92	0.7500	-0.4273	0.0137	-0.8341	0.0852	4.4191	0.3622	-0.7149	0.1108
1	274.92	0.8001	-0.4836	0.0161	-0.9741	0.0968	5.1133	0.4107	-0.9867	0.1230
1	274.92	0.8497	-0.5414	0.0183	-1.1065	0.1086	5.7809	0.4571	-1.2091	0.1092
1	274.92	0.9102	-0.6467	0.0213	-1.1612	0.1241	6.5462	0.5159	-1.4887	0.1309
1	274.92	0.9734	-0.7828	0.0288	-1.1831	0.1404	7.3777	0.5814	-1.3337	0.1561
2	274.92	0.1949	0.0351	0.0017	0.0051	0.0007	0.0711	0.0089	-0.1448	0.0485
2	274.92	0.2405	0.0031	0.0025	-0.0103	0.0015	0.1346	0.0096	-0.2864	0.1111
2	274.92	0.2999	-0.0070	0.0025	-0.0208	0.0033	0.2479	0.0220	-0.3749	0.1339
2	274.92	0.3498	-0.0243	0.0021	-0.0355	0.0075	0.4119	0.0418	-0.3582	0.0670
2	274.92	0.3998	-0.0441	0.0037	-0.0755	0.0107	0.6148	0.0544	-0.4905	0.0902
2	274.92	0.4496	-0.0466	0.0034	-0.1280	0.0153	0.8746	0.0721	-0.5686	0.0762
2	274.92	0.4995	-0.0659	0.0041	-0.1978	0.0208	1.1707	0.0862	-0.7940	0.0847
2	274.92	0.5551	-0.0515	0.0046	-0.2891	0.0275	1.5702	0.1104	-0.7851	0.1080
2	274.92	0.5996	-0.0524	0.0053	-0.3739	0.0340	1.9488	0.1325	-0.7617	0.1009
2	274.92	0.6497	-0.0277	0.0063	-0.4622	0.0419	2.3767	0.1614	-0.7937	0.1126
2	274.92	0.6996	0.0028	0.0073	-0.5809	0.0503	2.8943	0.1956	-0.7537	0.1277
2	274.92	0.7495	0.0153	0.0087	-0.6711	0.0598	3.3661	0.2326	-1.0186	0.1256
2	274.92	0.7996	0.0486	0.0101	-0.8090	0.0693	3.9209	0.2756	-1.1901	0.1181
2	274.92	0.8578	0.0732	0.0123	-0.9397	0.0812	4.5978	0.3295	-0.9542	0.1182
2	274.92	0.9100	0.1128	0.0148	-1.0027	0.0921	5.2104	0.3773	-0.9372	0.1342
2	274.92	0.9727	0.1158	0.0200	-1.1029	0.1054	6.0941	0.4425	-0.6635	0.1477
3	274.92	0.1938	0.0419	0.0028	-0.0088	0.0012	0.1312	0.0136	-0.3052	0.0608
3	274.92	0.2357	0.0272	0.0044	0.0117	0.0039	0.1839	0.0204	-0.3668	0.1084
3	274.92	0.2995	-0.0217	0.0027	-0.0412	0.0074	0.3981	0.0403	-0.6727	0.1471
3	274.92	0.3493	-0.0603	0.0029	-0.0920	0.0119	0.6547	0.0633	-0.5510	0.1144
3	274.92	0.4000	-0.0909	0.0031	-0.1356	0.0212	0.9508	0.0929	-0.4780	0.1337
3	274.92	0.4497	-0.1287	0.0038	-0.2062	0.0275	1.2801	0.1180	-0.6839	0.1002
3	274.92	0.4997	-0.1955	0.0049	-0.2853	0.0361	1.6676	0.1479	-0.8791	0.1185
3	274.92	0.5556	-0.2302	0.0061	-0.3764	0.0472	2.2152	0.1900	-0.7292	0.1325
3	274.92	0.5995	-0.2843	0.0074	-0.4672	0.0564	2.6242	0.2248	-0.8494	0.1222
3	274.92	0.6498	-0.3193	0.0092	-0.5793	0.0673	3.1718	0.2649	-0.9328	0.1129
3	274.92	0.6890	-0.3983	0.0109	-0.6780	0.0767	3.6696	0.2998	-0.6196	0.1118
3	274.92	0.7495	-0.4229	0.0133	-0.8058	0.0915	4.3888	0.3541	-1.0075	0.1118
3	274.92	0.7998	-0.4652	0.0154	-0.9277	0.1043	5.0671	0.4000	-1.0005	0.1197
3	274.92	0.8577	-0.5270	0.0185	-1.0644	0.1205	5.8314	0.4495	-0.9165	0.1259
3	274.92	0.9178	-0.6063	0.0204	-1.2266	0.1380	6.5971	0.5030	-1.3954	0.1206
3	274.92	0.9729	-0.7229	0.0274	-1.2799	0.1535	7.3233	0.5532	-1.3384	0.1865
4	274.92	0.2001	0.0407	0.0022	0.0100	0.0010	0.0245	0.0078	-0.0161	0.0477
4	274.92	0.2502	0.0126	0.0020	-0.0033	0.0019	0.1150	0.0153	0.4108	0.0612
4	274.92	0.3001	0.0034	0.0021	0.0219	0.0043	0.1414	0.0231	0.1427	0.1008
4	274.92	0.3502	-0.0227	0.0021	0.0238	0.0073	0.2567	0.0396	0.1669	0.0718
4	274.92	0.4002	-0.0408	0.0019	0.0313	0.0123	0.4200	0.0574	0.0019	0.1226
4	274.92	0.4500	-0.0432	0.0032	0.0227	0.0175	0.6081	0.0794	-0.2997	0.0648
4	274.92	0.5001	-0.0599	0.0036	-0.0194	0.0235	0.9314	0.0995	-0.0459	0.0762
4	274.92	0.5560	-0.0468	0.0046	-0.0575	0.0320	1.2446	0.1270	-0.2477	0.1052
4	274.92	0.6001	-0.0446	0.0047	-0.0984	0.0384	1.5738	0.1507	-0.2924	0.0843
4	274.92	0.6501	-0.0476	0.0054	-0.1866	0.0466	1.9612	0.1764	-0.2306	0.0839
4	274.92	0.6999	-0.0191	0.0066	-0.2785	0.0557	2.3986	0.2032	-0.2286	0.0935
4	274.92	0.7500	0.0020	0.0073	-0.3437	0.0653	2.8636	0.2310	-0.1222	0.0930
4	274.92	0.8002	0.0386	0.0086	-0.4421	0.0757	3.3328	0.2596	-0.1816	0.0859
4	274.92	0.8582	0.0929	0.0100	-0.4962	0.0878	3.8382	0.2978	-0.4667	0.0884
4	274.92	0.9101	0.1318	0.0117	-0.5948	0.0990	4.3326	0.3305	-0.5267	0.0929
4	274.92	0.9728	0.1818	0.0169	-0.6551	0.1128	5.0032	0.3711	-0.2581	0.0783

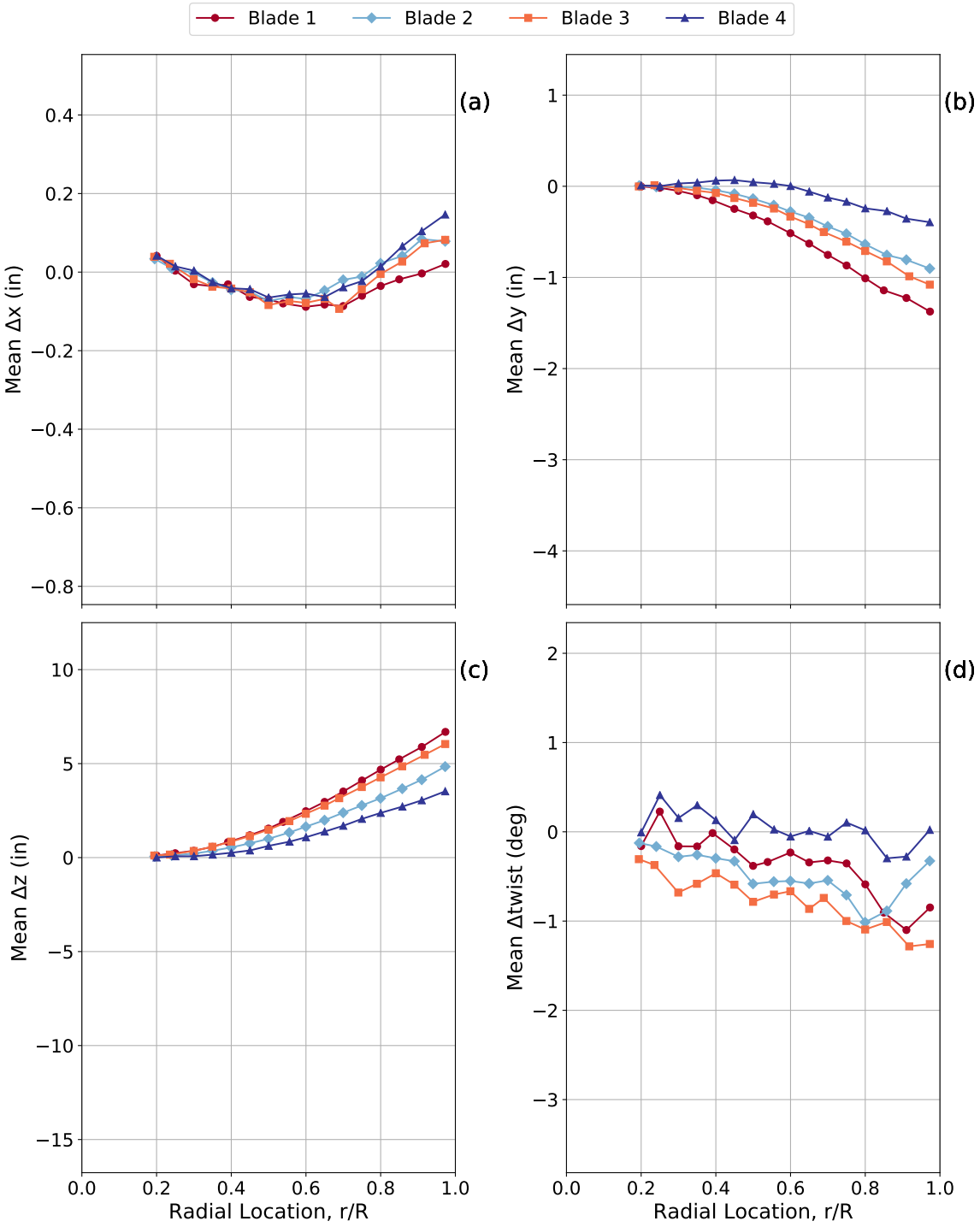


Figure 2.9-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0413	0.0020	-0.0025	0.0010	0.1111	0.0080	-0.1599	0.0518
1	279.84	0.2499	0.0036	0.0031	-0.0167	0.0023	0.2337	0.0170	0.2266	0.0754
1	279.84	0.2998	-0.0310	0.0019	-0.0505	0.0039	0.3643	0.0264	-0.1621	0.1117
1	279.84	0.3498	-0.0358	0.0021	-0.0983	0.0063	0.5724	0.0408	-0.1641	0.0919
1	279.84	0.3913	-0.0310	0.0024	-0.1529	0.0102	0.8246	0.0600	-0.0143	0.1304
1	279.84	0.4496	-0.0632	0.0025	-0.2479	0.0143	1.1893	0.0831	-0.1974	0.0947
1	279.84	0.4997	-0.0693	0.0029	-0.3202	0.0196	1.5446	0.1093	-0.3815	0.0876
1	279.84	0.5387	-0.0799	0.0038	-0.3849	0.0239	1.8994	0.1316	-0.3383	0.0809
1	279.84	0.5996	-0.0884	0.0059	-0.5148	0.0320	2.4684	0.1676	-0.2321	0.0953
1	279.84	0.6498	-0.0826	0.0059	-0.6286	0.0390	2.9627	0.2005	-0.3430	0.0939
1	279.84	0.6998	-0.0864	0.0073	-0.7529	0.0470	3.5160	0.2332	-0.3207	0.0904
1	279.84	0.7500	-0.0603	0.0085	-0.8689	0.0557	4.1009	0.2669	-0.3545	0.0975
1	279.84	0.8001	-0.0353	0.0103	-1.0098	0.0651	4.6802	0.2990	-0.5886	0.1041
1	279.84	0.8497	-0.0184	0.0117	-1.1414	0.0743	5.2277	0.3302	-0.9055	0.1161
1	279.84	0.9102	-0.0035	0.0130	-1.2255	0.0868	5.8856	0.3688	-1.1003	0.1174
1	279.84	0.9734	0.0208	0.0176	-1.3746	0.0996	6.6881	0.4095	-0.8480	0.1149
2	279.84	0.1949	0.0337	0.0022	0.0070	0.0006	0.0594	0.0088	-0.1255	0.0357
2	279.84	0.2405	0.0098	0.0018	-0.0069	0.0020	0.1172	0.0109	-0.1649	0.0860
2	279.84	0.2999	-0.0026	0.0025	-0.0096	0.0039	0.2113	0.0224	-0.2800	0.0977
2	279.84	0.3498	-0.0264	0.0036	-0.0149	0.0081	0.3628	0.0387	-0.2577	0.0683
2	279.84	0.3998	-0.0450	0.0035	-0.0429	0.0127	0.5386	0.0537	-0.2965	0.0700
2	279.84	0.4496	-0.0499	0.0044	-0.0821	0.0164	0.7597	0.0683	-0.3293	0.0783
2	279.84	0.4995	-0.0735	0.0044	-0.1359	0.0220	0.9974	0.0853	-0.5828	0.0753
2	279.84	0.5551	-0.0634	0.0041	-0.2074	0.0282	1.3331	0.1059	-0.5583	0.0808
2	279.84	0.5996	-0.0684	0.0052	-0.2773	0.0340	1.6438	0.1241	-0.5509	0.0893
2	279.84	0.6497	-0.0470	0.0058	-0.3445	0.0413	1.9903	0.1461	-0.5790	0.0925
2	279.84	0.6996	-0.0197	0.0062	-0.4404	0.0492	2.3876	0.1698	-0.5444	0.0918
2	279.84	0.7495	-0.0114	0.0072	-0.5211	0.0576	2.7723	0.1927	-0.7082	0.0940
2	279.84	0.7996	0.0224	0.0077	-0.6357	0.0669	3.1563	0.2176	-1.0134	0.1029
2	279.84	0.8578	0.0411	0.0090	-0.7547	0.0779	3.6661	0.2503	-0.8867	0.1055
2	279.84	0.9100	0.0839	0.0101	-0.8064	0.0880	4.1443	0.2789	-0.5804	0.1167
2	279.84	0.9727	0.0785	0.0137	-0.9025	0.1009	4.8400	0.3173	-0.3263	0.1150
3	279.84	0.1938	0.0390	0.0028	-0.0016	0.0011	0.1101	0.0104	-0.3066	0.0743
3	279.84	0.2357	0.0212	0.0027	0.0119	0.0012	0.1593	0.0241	-0.3719	0.0878
3	279.84	0.2995	-0.0180	0.0024	-0.0188	0.0031	0.3512	0.0402	-0.6805	0.1637
3	279.84	0.3493	-0.0372	0.0018	-0.0479	0.0066	0.5779	0.0643	-0.5824	0.1273
3	279.84	0.4000	-0.0418	0.0028	-0.0734	0.0109	0.8505	0.0995	-0.4642	0.0893
3	279.84	0.4497	-0.0514	0.0047	-0.1285	0.0149	1.1426	0.1184	-0.5923	0.1212
3	279.84	0.4997	-0.0838	0.0037	-0.1810	0.0207	1.4818	0.1453	-0.7844	0.1065
3	279.84	0.5556	-0.0737	0.0054	-0.2441	0.0278	1.9408	0.1756	-0.7027	0.1399
3	279.84	0.5995	-0.0783	0.0061	-0.3322	0.0345	2.3309	0.2037	-0.6659	0.1127
3	279.84	0.6498	-0.0682	0.0075	-0.4163	0.0425	2.7646	0.2369	-0.8637	0.1215
3	279.84	0.6890	-0.0936	0.0085	-0.5021	0.0493	3.1608	0.2642	-0.7408	0.1207
3	279.84	0.7495	-0.0436	0.0102	-0.6076	0.0610	3.7541	0.3085	-0.9993	0.1232
3	279.84	0.7998	-0.0048	0.0122	-0.7097	0.0709	4.2676	0.3492	-1.0944	0.1365
3	279.84	0.8577	0.0268	0.0141	-0.8241	0.0827	4.8553	0.3983	-1.0101	0.1453
3	279.84	0.9178	0.0733	0.0170	-0.9876	0.0957	5.4675	0.4533	-1.2839	0.1446
3	279.84	0.9729	0.0822	0.0223	-1.0792	0.1072	6.0414	0.5009	-1.2569	0.1503
4	279.84	0.2001	0.0417	0.0025	0.0096	0.0009	0.0054	0.0094	-0.0067	0.0447
4	279.84	0.2502	0.0145	0.0034	0.0015	0.0023	0.0701	0.0185	0.4118	0.0642
4	279.84	0.3001	0.0036	0.0026	0.0307	0.0041	0.0719	0.0286	0.1549	0.0920
4	279.84	0.3502	-0.0257	0.0038	0.0403	0.0076	0.1559	0.0484	0.2982	0.1103
4	279.84	0.4002	-0.0412	0.0020	0.0621	0.0128	0.2571	0.0713	0.1312	0.1030
4	279.84	0.4500	-0.0435	0.0032	0.0678	0.0181	0.3801	0.0914	-0.0931	0.0975
4	279.84	0.5001	-0.0649	0.0026	0.0452	0.0249	0.6247	0.1222	0.1966	0.0900
4	279.84	0.5560	-0.0569	0.0037	0.0269	0.0335	0.8460	0.1550	0.0257	0.0745
4	279.84	0.6001	-0.0546	0.0041	0.0029	0.0407	1.0825	0.1824	-0.0524	0.0824
4	279.84	0.6501	-0.0635	0.0048	-0.0583	0.0500	1.3830	0.2184	0.0104	0.0880
4	279.84	0.6999	-0.0387	0.0059	-0.1235	0.0597	1.6926	0.2556	-0.0544	0.0937
4	279.84	0.7500	-0.0230	0.0070	-0.1695	0.0710	2.0599	0.2953	0.1036	0.0927
4	279.84	0.8002	0.0142	0.0087	-0.2420	0.0828	2.3774	0.3373	0.0163	0.1052
4	279.84	0.8582	0.0660	0.0101	-0.2729	0.0970	2.7139	0.3842	-0.2967	0.1084
4	279.84	0.9101	0.1043	0.0116	-0.3550	0.1099	3.0465	0.4301	-0.2779	0.1222
4	279.84	0.9728	0.1465	0.0174	-0.3945	0.1256	3.5259	0.4832	0.0214	0.1444

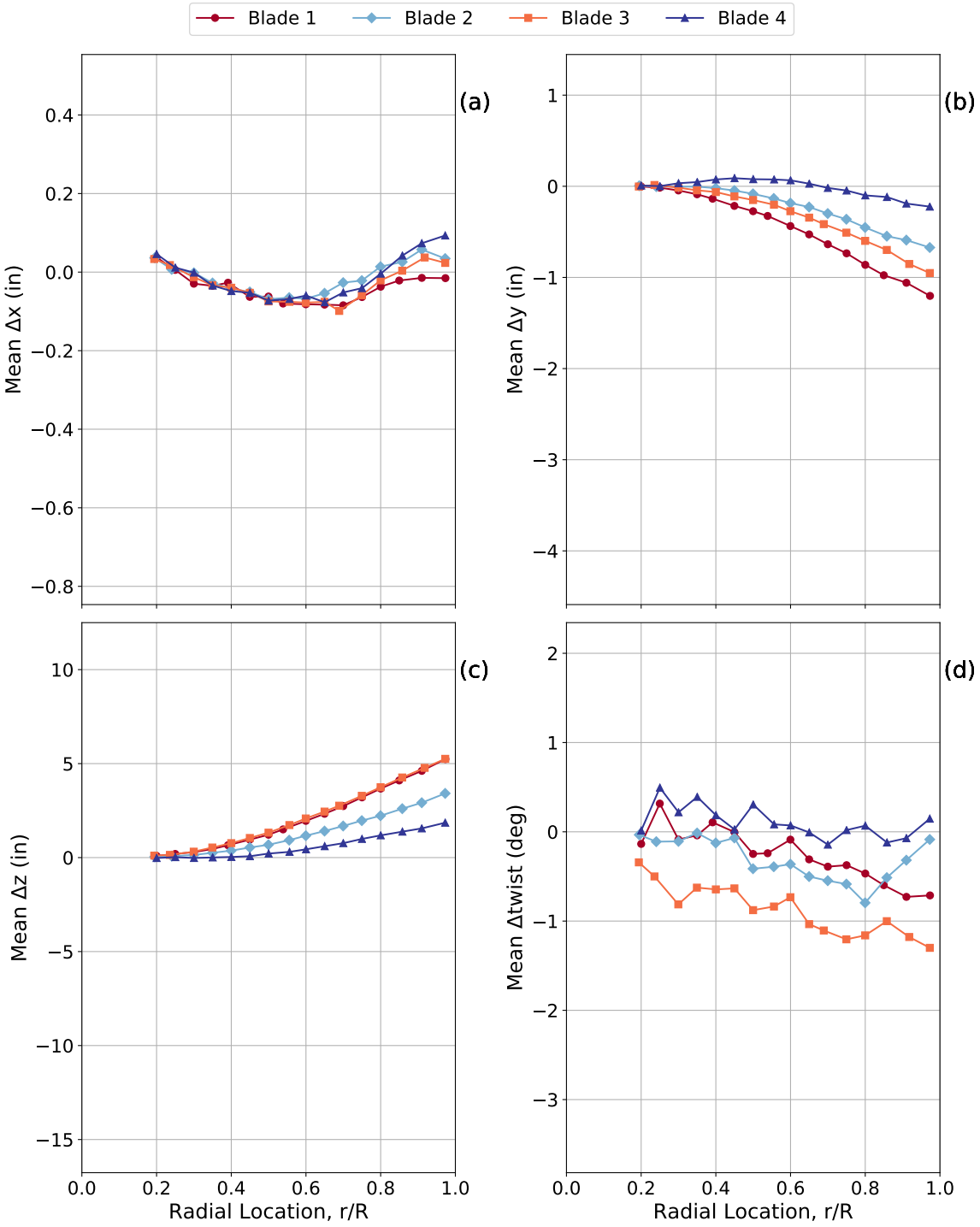


Figure 2.9-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0373	0.0020	-0.0028	0.0006	0.0890	0.0115	-0.1355	0.0451
1	285.12	0.2499	0.0056	0.0037	-0.0154	0.0017	0.1947	0.0240	0.3163	0.0669
1	285.12	0.2998	-0.0295	0.0015	-0.0457	0.0038	0.2903	0.0363	-0.0862	0.0986
1	285.12	0.3498	-0.0349	0.0024	-0.0878	0.0072	0.4569	0.0630	-0.0399	0.0849
1	285.12	0.3913	-0.0270	0.0044	-0.1364	0.0112	0.6591	0.0867	0.1061	0.0714
1	285.12	0.4496	-0.0630	0.0031	-0.2152	0.0161	0.9557	0.1190	-0.0029	0.0866
1	285.12	0.4997	-0.0622	0.0040	-0.2736	0.0215	1.2164	0.1575	-0.2478	0.0918
1	285.12	0.5387	-0.0800	0.0046	-0.3255	0.0258	1.4995	0.1849	-0.2402	0.0795
1	285.12	0.5996	-0.0819	0.0058	-0.4363	0.0343	1.9535	0.2344	-0.0877	0.0889
1	285.12	0.6498	-0.0828	0.0072	-0.5279	0.0417	2.3306	0.2799	-0.3088	0.0966
1	285.12	0.6998	-0.0845	0.0087	-0.6360	0.0497	2.7394	0.3290	-0.3904	0.0949
1	285.12	0.7500	-0.0635	0.0105	-0.7355	0.0588	3.2036	0.3803	-0.3739	0.1094
1	285.12	0.8001	-0.0372	0.0122	-0.8619	0.0680	3.6712	0.4371	-0.4677	0.1073
1	285.12	0.8497	-0.0214	0.0144	-0.9758	0.0777	4.1045	0.4961	-0.5979	0.1141
1	285.12	0.9102	-0.0147	0.0175	-1.0586	0.0890	4.6143	0.5685	-0.7289	0.1242
1	285.12	0.9734	-0.0154	0.0226	-1.2024	0.1012	5.2404	0.6443	-0.7126	0.1292
2	285.12	0.1949	0.0362	0.0021	0.0053	0.0008	0.0404	0.0084	-0.0333	0.0522
2	285.12	0.2405	0.0070	0.0017	-0.0038	0.0020	0.0780	0.0143	-0.1104	0.0528
2	285.12	0.2999	-0.0018	0.0026	-0.0040	0.0041	0.1384	0.0295	-0.1070	0.1052
2	285.12	0.3498	-0.0277	0.0024	-0.0040	0.0080	0.2571	0.0426	-0.0137	0.0810
2	285.12	0.3998	-0.0422	0.0041	-0.0205	0.0133	0.3696	0.0665	-0.1250	0.1151
2	285.12	0.4496	-0.0505	0.0040	-0.0466	0.0185	0.5364	0.0867	-0.0687	0.1098
2	285.12	0.4995	-0.0690	0.0046	-0.0831	0.0253	0.6816	0.1130	-0.4136	0.0878
2	285.12	0.5551	-0.0649	0.0055	-0.1336	0.0338	0.9270	0.1438	-0.3914	0.0911
2	285.12	0.5996	-0.0678	0.0064	-0.1845	0.0409	1.1647	0.1720	-0.3628	0.0898
2	285.12	0.6497	-0.0539	0.0074	-0.2275	0.0502	1.4107	0.2038	-0.5014	0.0868
2	285.12	0.6996	-0.0268	0.0080	-0.2989	0.0602	1.6804	0.2382	-0.5476	0.0868
2	285.12	0.7495	-0.0216	0.0083	-0.3616	0.0705	1.9666	0.2745	-0.5857	0.0956
2	285.12	0.7996	0.0138	0.0092	-0.4518	0.0813	2.2264	0.3167	-0.7956	0.0988
2	285.12	0.8578	0.0259	0.0105	-0.5476	0.0941	2.6018	0.3650	-0.5133	0.0987
2	285.12	0.9100	0.0574	0.0118	-0.5903	0.1062	2.9184	0.4114	-0.3180	0.1048
2	285.12	0.9727	0.0345	0.0166	-0.6718	0.1204	3.4146	0.4679	-0.0857	0.1054
3	285.12	0.1938	0.0333	0.0023	-0.0024	0.0012	0.1052	0.0100	-0.3422	0.0341
3	285.12	0.2357	0.0179	0.0027	0.0139	0.0015	0.1428	0.0149	-0.5001	0.0565
3	285.12	0.2995	-0.0128	0.0017	-0.0153	0.0032	0.3154	0.0334	-0.8130	0.0835
3	285.12	0.3493	-0.0334	0.0021	-0.0441	0.0061	0.5357	0.0489	-0.6254	0.0899
3	285.12	0.4000	-0.0398	0.0033	-0.0632	0.0112	0.7686	0.0758	-0.6452	0.0900
3	285.12	0.4497	-0.0528	0.0056	-0.1112	0.0149	1.0436	0.0958	-0.6338	0.1160
3	285.12	0.4997	-0.0746	0.0063	-0.1509	0.0199	1.3263	0.1214	-0.8777	0.0744
3	285.12	0.5556	-0.0757	0.0048	-0.2023	0.0270	1.7300	0.1489	-0.8370	0.0845
3	285.12	0.5995	-0.0778	0.0062	-0.2734	0.0326	2.0809	0.1726	-0.7329	0.0910
3	285.12	0.6498	-0.0757	0.0065	-0.3439	0.0404	2.4472	0.2003	-1.0344	0.0872
3	285.12	0.6890	-0.0988	0.0076	-0.4154	0.0467	2.7608	0.2240	-1.1055	0.0836
3	285.12	0.7495	-0.0589	0.0087	-0.5087	0.0572	3.2860	0.2605	-1.2045	0.0955
3	285.12	0.7998	-0.0210	0.0100	-0.5989	0.0663	3.7440	0.2911	-1.1604	0.0950
3	285.12	0.8577	0.0036	0.0110	-0.6988	0.0774	4.2608	0.3261	-1.0013	0.1015
3	285.12	0.9178	0.0372	0.0132	-0.8524	0.0889	4.7733	0.3647	-1.1785	0.1100
3	285.12	0.9729	0.0234	0.0161	-0.9519	0.0998	5.2535	0.4007	-1.3000	0.1222
4	285.12	0.2001	0.0459	0.0021	0.0082	0.0009	-0.0223	0.0103	0.0139	0.0390
4	285.12	0.2502	0.0114	0.0031	0.0017	0.0022	0.0237	0.0173	0.4942	0.0710
4	285.12	0.3001	-0.0013	0.0018	0.0335	0.0038	-0.0209	0.0310	0.2187	0.0903
4	285.12	0.3502	-0.0343	0.0043	0.0463	0.0073	0.0078	0.0503	0.3911	0.0716
4	285.12	0.4002	-0.0483	0.0028	0.0749	0.0119	0.0326	0.0749	0.1859	0.1045
4	285.12	0.4500	-0.0527	0.0031	0.0887	0.0169	0.0729	0.1001	0.0263	0.1137
4	285.12	0.5001	-0.0727	0.0052	0.0776	0.0233	0.2139	0.1346	0.3059	0.0931
4	285.12	0.5560	-0.0684	0.0034	0.0749	0.0314	0.3043	0.1702	0.0833	0.0888
4	285.12	0.6001	-0.0597	0.0038	0.0655	0.0387	0.4399	0.2038	0.0712	0.0961
4	285.12	0.6501	-0.0768	0.0043	0.0283	0.0469	0.6057	0.2419	-0.0071	0.1056
4	285.12	0.6999	-0.0518	0.0049	-0.0182	0.0556	0.7673	0.2801	-0.1438	0.0960
4	285.12	0.7500	-0.0409	0.0054	-0.0466	0.0652	0.9928	0.3201	0.0192	0.0956
4	285.12	0.8002	-0.0040	0.0061	-0.0999	0.0753	1.1827	0.3614	0.0686	0.0992
4	285.12	0.8582	0.0421	0.0063	-0.1179	0.0872	1.3799	0.4093	-0.1199	0.1057
4	285.12	0.9101	0.0734	0.0072	-0.1896	0.0984	1.5533	0.4546	-0.0714	0.1091
4	285.12	0.9728	0.0932	0.0106	-0.2233	0.1115	1.8559	0.5119	0.1469	0.1273

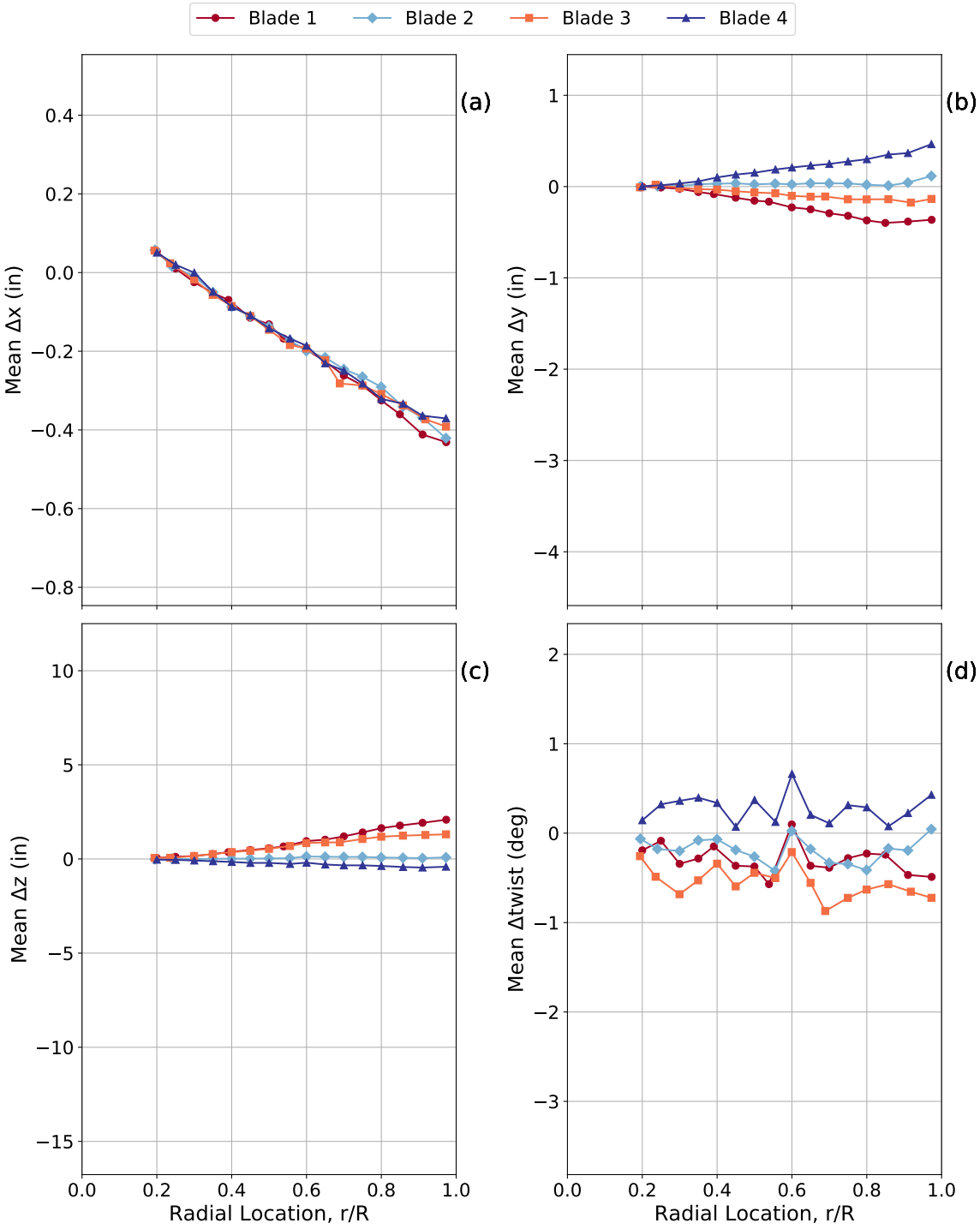


Figure 2.9-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0540	0.0032	-0.0016	0.0010	0.0525	0.0089	-0.1919	0.0616
1	299.88	0.2499	0.0103	0.0028	-0.0104	0.0020	0.1148	0.0172	-0.0854	0.0705
1	299.88	0.2998	-0.0246	0.0024	-0.0231	0.0043	0.1604	0.0278	-0.3432	0.1201
1	299.88	0.3498	-0.0518	0.0026	-0.0595	0.0068	0.2597	0.0485	-0.2835	0.0792
1	299.88	0.3913	-0.0695	0.0028	-0.0821	0.0107	0.3654	0.0659	-0.1483	0.0961
1	299.88	0.4496	-0.1149	0.0040	-0.1215	0.0133	0.4753	0.0819	-0.3644	0.1050
1	299.88	0.4997	-0.1314	0.0048	-0.1542	0.0169	0.5723	0.1060	-0.3731	0.1053
1	299.88	0.5387	-0.1678	0.0050	-0.1654	0.0203	0.6653	0.1233	-0.5704	0.1290
1	299.88	0.5996	-0.1963	0.0054	-0.2277	0.0249	0.9489	0.1487	0.0976	0.1068
1	299.88	0.6498	-0.2255	0.0058	-0.2489	0.0296	1.0270	0.1753	-0.3647	0.1062
1	299.88	0.6998	-0.2618	0.0065	-0.2922	0.0352	1.2012	0.2020	-0.3864	0.1199
1	299.88	0.7500	-0.2873	0.0071	-0.3202	0.0398	1.4110	0.2313	-0.2794	0.1148
1	299.88	0.8001	-0.3250	0.0079	-0.3703	0.0451	1.6387	0.2642	-0.2282	0.1234
1	299.88	0.8497	-0.3603	0.0085	-0.3978	0.0503	1.7763	0.2976	-0.2405	0.1204
1	299.88	0.9102	-0.4117	0.0097	-0.3833	0.0568	1.9213	0.3440	-0.4673	0.1226
1	299.88	0.9734	-0.4312	0.0124	-0.3637	0.0638	2.0859	0.3970	-0.4893	0.1153
2	299.88	0.1949	0.0573	0.0020	0.0020	0.0008	-0.0081	0.0079	-0.0634	0.0584
2	299.88	0.2405	0.0156	0.0026	0.0057	0.0020	0.0087	0.0119	-0.1770	0.0760
2	299.88	0.2999	-0.0090	0.0028	0.0065	0.0041	-0.0103	0.0227	-0.1998	0.1245
2	299.88	0.3498	-0.0499	0.0022	0.0261	0.0067	0.0133	0.0417	-0.0797	0.0802
2	299.88	0.3998	-0.0872	0.0034	0.0314	0.0112	0.0161	0.0567	-0.0686	0.0760
2	299.88	0.4496	-0.1108	0.0038	0.0357	0.0148	0.0223	0.0750	-0.1876	0.0917
2	299.88	0.4995	-0.1373	0.0042	0.0242	0.0199	0.0292	0.0943	-0.2629	0.0900
2	299.88	0.5551	-0.1721	0.0045	0.0319	0.0264	0.0427	0.1179	-0.4211	0.1110
2	299.88	0.5996	-0.1994	0.0053	0.0248	0.0309	0.1341	0.1362	0.0255	0.1132
2	299.88	0.6497	-0.2156	0.0056	0.0365	0.0373	0.1173	0.1591	-0.1776	0.0891
2	299.88	0.6996	-0.2456	0.0066	0.0358	0.0440	0.1106	0.1834	-0.3317	0.0869
2	299.88	0.7495	-0.2650	0.0068	0.0343	0.0512	0.1082	0.2104	-0.3455	0.0865
2	299.88	0.7996	-0.2906	0.0072	0.0200	0.0587	0.0785	0.2394	-0.4128	0.0851
2	299.88	0.8578	-0.3408	0.0086	0.0111	0.0676	0.0625	0.2778	-0.1713	0.0893
2	299.88	0.9100	-0.3687	0.0089	0.0435	0.0758	0.0441	0.3178	-0.1931	0.0886
2	299.88	0.9727	-0.4210	0.0115	0.1161	0.0857	0.0858	0.3722	0.0446	0.0915
3	299.88	0.1938	0.0559	0.0023	-0.0085	0.0012	0.0573	0.0069	-0.2578	0.0447
3	299.88	0.2357	0.0237	0.0019	0.0207	0.0023	0.0625	0.0142	-0.4876	0.0534
3	299.88	0.2995	-0.0178	0.0032	-0.0129	0.0038	0.1577	0.0295	-0.6832	0.0914
3	299.88	0.3493	-0.0567	0.0025	-0.0287	0.0067	0.2598	0.0381	-0.5276	0.1081
3	299.88	0.4000	-0.0851	0.0028	-0.0324	0.0114	0.3674	0.0650	-0.3412	0.0697
3	299.88	0.4497	-0.1105	0.0034	-0.0512	0.0147	0.4389	0.0794	-0.5955	0.0830
3	299.88	0.4997	-0.1454	0.0034	-0.0644	0.0201	0.5392	0.0956	-0.4432	0.0964
3	299.88	0.5556	-0.1842	0.0048	-0.0730	0.0252	0.6901	0.1169	-0.5019	0.0921
3	299.88	0.5995	-0.1929	0.0045	-0.1018	0.0294	0.8437	0.1383	-0.2117	0.0906
3	299.88	0.6498	-0.2230	0.0044	-0.1110	0.0349	0.8815	0.1555	-0.5562	0.0799
3	299.88	0.6890	-0.2819	0.0051	-0.1089	0.0397	0.8836	0.1730	-0.8709	0.0757
3	299.88	0.7495	-0.2871	0.0054	-0.1389	0.0468	1.0623	0.1983	-0.7239	0.0855
3	299.88	0.7998	-0.3087	0.0061	-0.1404	0.0533	1.1833	0.2220	-0.6308	0.0830
3	299.88	0.8577	-0.3379	0.0065	-0.1380	0.0606	1.2400	0.2506	-0.5705	0.0764
3	299.88	0.9178	-0.3731	0.0072	-0.1754	0.0683	1.2756	0.2840	-0.6544	0.0816
3	299.88	0.9729	-0.3914	0.0089	-0.1353	0.0763	1.3099	0.3171	-0.7233	0.0856
4	299.88	0.2001	0.0507	0.0025	0.0031	0.0009	-0.0376	0.0092	0.1444	0.0475
4	299.88	0.2502	0.0198	0.0023	0.0143	0.0028	-0.0480	0.0194	0.3225	0.0888
4	299.88	0.3001	-0.0005	0.0021	0.0338	0.0041	-0.0801	0.0324	0.3618	0.1110
4	299.88	0.3502	-0.0491	0.0017	0.0577	0.0078	-0.1186	0.0457	0.3965	0.0853
4	299.88	0.4002	-0.0869	0.0027	0.1004	0.0137	-0.1560	0.0737	0.3378	0.1057
4	299.88	0.4500	-0.1089	0.0033	0.1315	0.0173	-0.2095	0.0919	0.0703	0.0933
4	299.88	0.5001	-0.1419	0.0042	0.1521	0.0223	-0.2080	0.1166	0.3707	0.0950
4	299.88	0.5560	-0.1677	0.0041	0.1870	0.0274	-0.2620	0.1450	0.1255	0.1059
4	299.88	0.6001	-0.1860	0.0039	0.2089	0.0325	-0.1969	0.1646	0.6628	0.1009
4	299.88	0.6501	-0.2307	0.0035	0.2305	0.0365	-0.2946	0.1901	0.2047	0.0914
4	299.88	0.6999	-0.2492	0.0045	0.2481	0.0420	-0.3383	0.2181	0.1099	0.0985
4	299.88	0.7500	-0.2822	0.0049	0.2746	0.0470	-0.3383	0.2484	0.3125	0.0993
4	299.88	0.8002	-0.3212	0.0051	0.2996	0.0524	-0.3708	0.2819	0.2887	0.0943
4	299.88	0.8582	-0.3336	0.0055	0.3507	0.0586	-0.4265	0.3245	0.0771	0.0985
4	299.88	0.9101	-0.3640	0.0061	0.3673	0.0645	-0.4546	0.3630	0.2247	0.1000
4	299.88	0.9728	-0.3706	0.0076	0.4647	0.0713	-0.4109	0.4143	0.4290	0.1014

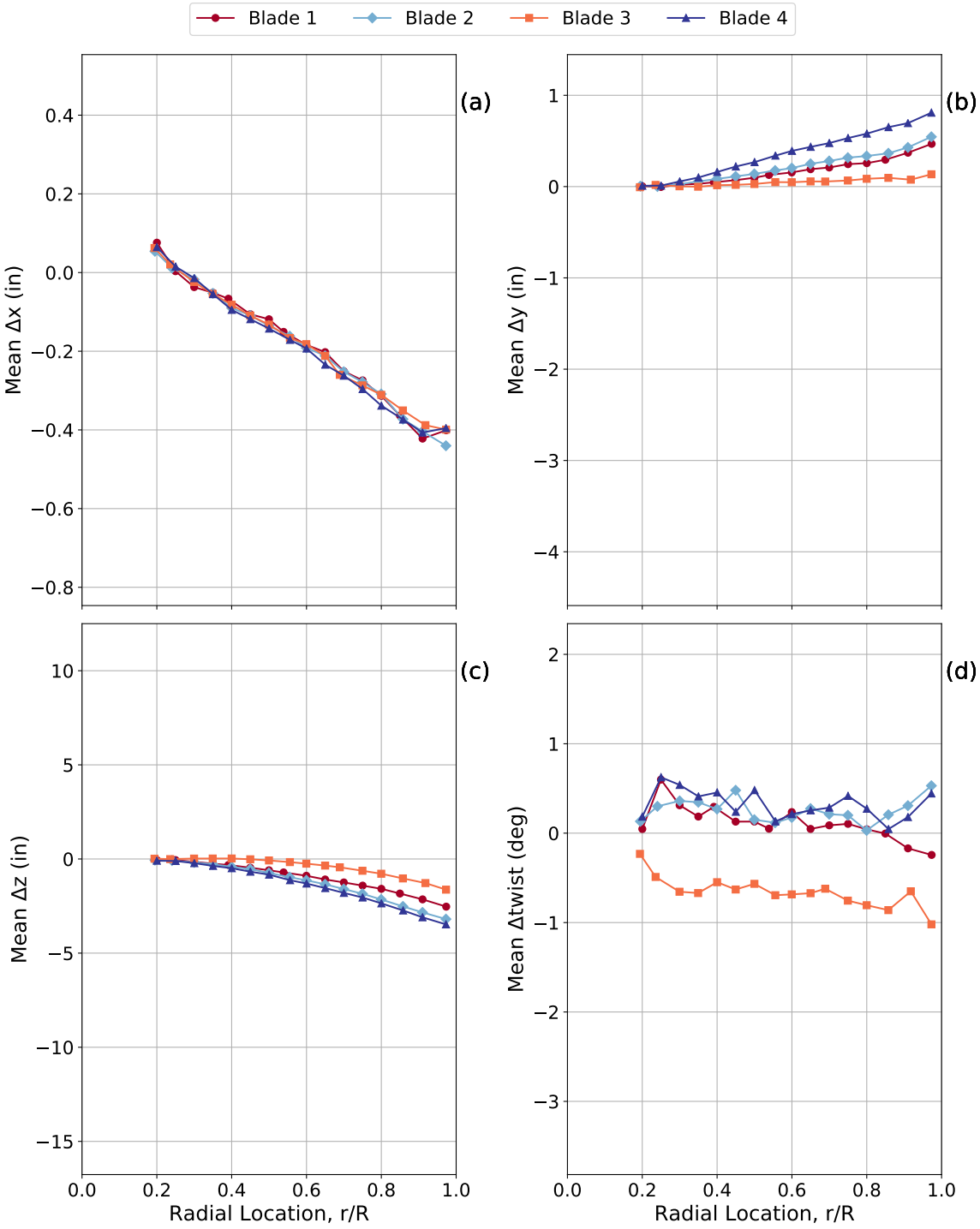


Figure 2.9-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0759	0.0030	0.0028	0.0011	-0.0584	0.0077	0.0467	0.0449
1	315	0.2499	0.0034	0.0028	-0.0042	0.0025	-0.0582	0.0154	0.5991	0.0796
1	315	0.2998	-0.0370	0.0042	0.0211	0.0051	-0.1493	0.0272	0.3123	0.1031
1	315	0.3498	-0.0513	0.0044	0.0297	0.0089	-0.2537	0.0416	0.1855	0.0846
1	315	0.3913	-0.0665	0.0046	0.0472	0.0132	-0.3170	0.0605	0.2945	0.1021
1	315	0.4496	-0.1059	0.0032	0.0705	0.0175	-0.4626	0.0784	0.1290	0.1120
1	315	0.4997	-0.1187	0.0036	0.0968	0.0240	-0.5996	0.0983	0.1296	0.1007
1	315	0.5387	-0.1508	0.0038	0.1275	0.0288	-0.7136	0.1149	0.0501	0.1082
1	315	0.5996	-0.1836	0.0045	0.1551	0.0372	-0.8911	0.1430	0.2357	0.1080
1	315	0.6498	-0.2023	0.0048	0.1904	0.0445	-1.0880	0.1670	0.0475	0.1108
1	315	0.6998	-0.2510	0.0056	0.2092	0.0523	-1.2456	0.1927	0.0878	0.1099
1	315	0.7500	-0.2741	0.0058	0.2458	0.0612	-1.4146	0.2213	0.1039	0.1231
1	315	0.8001	-0.3134	0.0064	0.2566	0.0698	-1.5852	0.2532	0.0429	0.1212
1	315	0.8497	-0.3634	0.0073	0.2941	0.0782	-1.8348	0.2879	-0.0047	0.1154
1	315	0.9102	-0.4221	0.0078	0.3708	0.0891	-2.1443	0.3321	-0.1699	0.1183
1	315	0.9734	-0.4009	0.0082	0.4681	0.1009	-2.5315	0.3827	-0.2435	0.1208
2	315	0.1949	0.0541	0.0024	0.0048	0.0010	-0.0590	0.0089	0.1324	0.0510
2	315	0.2405	0.0117	0.0026	0.0010	0.0022	-0.0820	0.0165	0.3001	0.0944
2	315	0.2999	-0.0178	0.0041	0.0265	0.0047	-0.1797	0.0312	0.3608	0.1247
2	315	0.3498	-0.0528	0.0032	0.0566	0.0080	-0.2827	0.0526	0.3457	0.1007
2	315	0.3998	-0.0897	0.0047	0.0841	0.0128	-0.4140	0.0781	0.2694	0.0819
2	315	0.4496	-0.1091	0.0040	0.1115	0.0154	-0.5380	0.0958	0.4797	0.0933
2	315	0.4995	-0.1350	0.0044	0.1388	0.0192	-0.7408	0.1140	0.1508	0.0908
2	315	0.5551	-0.1617	0.0040	0.1759	0.0239	-0.9669	0.1385	0.1165	0.0986
2	315	0.5996	-0.1914	0.0044	0.2027	0.0288	-1.1309	0.1632	0.1753	0.0803
2	315	0.6497	-0.2115	0.0051	0.2493	0.0340	-1.3444	0.1848	0.2748	0.0884
2	315	0.6996	-0.2522	0.0058	0.2801	0.0381	-1.5957	0.2111	0.2122	0.0973
2	315	0.7495	-0.2783	0.0063	0.3168	0.0437	-1.8468	0.2374	0.2001	0.1005
2	315	0.7996	-0.3088	0.0065	0.3347	0.0491	-2.1506	0.2668	0.0304	0.0930
2	315	0.8578	-0.3727	0.0074	0.3647	0.0556	-2.5192	0.3036	0.2061	0.0923
2	315	0.9100	-0.4036	0.0082	0.4288	0.0614	-2.8368	0.3384	0.3077	0.0970
2	315	0.9727	-0.4402	0.0087	0.5453	0.0687	-3.1930	0.3809	0.5307	0.1008
3	315	0.1938	0.0624	0.0027	-0.0068	0.0015	0.0152	0.0073	-0.2317	0.0663
3	315	0.2357	0.0207	0.0033	0.0181	0.0020	-0.0073	0.0124	-0.4900	0.0938
3	315	0.2995	-0.0240	0.0039	0.0033	0.0063	0.0221	0.0268	-0.6551	0.1550
3	315	0.3493	-0.0544	0.0027	-0.0013	0.0085	0.0244	0.0423	-0.6699	0.1156
3	315	0.4000	-0.0818	0.0041	0.0151	0.0147	0.0262	0.0642	-0.5485	0.1539
3	315	0.4497	-0.1093	0.0037	0.0190	0.0164	-0.0163	0.0792	-0.6300	0.1101
3	315	0.4997	-0.1324	0.0044	0.0281	0.0207	-0.0774	0.0968	-0.5667	0.1285
3	315	0.5556	-0.1663	0.0048	0.0491	0.0265	-0.1653	0.1181	-0.6940	0.1335
3	315	0.5995	-0.1820	0.0057	0.0476	0.0310	-0.2475	0.1372	-0.6848	0.1223
3	315	0.6498	-0.2117	0.0056	0.0565	0.0374	-0.3497	0.1623	-0.6716	0.1249
3	315	0.6890	-0.2600	0.0063	0.0554	0.0432	-0.4411	0.1830	-0.6213	0.1261
3	315	0.7495	-0.2867	0.0068	0.0665	0.0517	-0.6250	0.2177	-0.7546	0.1313
3	315	0.7998	-0.3108	0.0071	0.0853	0.0594	-0.7835	0.2500	-0.8060	0.1308
3	315	0.8577	-0.3505	0.0078	0.0957	0.0684	-1.0322	0.2916	-0.8608	0.1293
3	315	0.9178	-0.3879	0.0087	0.0758	0.0783	-1.2791	0.3373	-0.6502	0.1282
3	315	0.9729	-0.3992	0.0096	0.1348	0.0872	-1.6279	0.3808	-1.0200	0.1261
4	315	0.2001	0.0645	0.0024	0.0090	0.0013	-0.0934	0.0084	0.1842	0.0519
4	315	0.2502	0.0150	0.0021	0.0105	0.0038	-0.1076	0.0203	0.6249	0.0692
4	315	0.3001	-0.0143	0.0027	0.0564	0.0082	-0.2217	0.0277	0.5393	0.1083
4	315	0.3502	-0.0550	0.0043	0.0994	0.0107	-0.3674	0.0454	0.4109	0.0798
4	315	0.4002	-0.0949	0.0036	0.1599	0.0213	-0.4908	0.0680	0.4551	0.0556
4	315	0.4500	-0.1186	0.0035	0.2197	0.0249	-0.6752	0.0836	0.2388	0.0688
4	315	0.5001	-0.1425	0.0048	0.2676	0.0313	-0.8320	0.1023	0.4808	0.0730
4	315	0.5560	-0.1712	0.0048	0.3391	0.0385	-1.1273	0.1236	0.1310	0.0713
4	315	0.6001	-0.1932	0.0057	0.3909	0.0453	-1.3042	0.1457	0.2124	0.0688
4	315	0.6501	-0.2342	0.0060	0.4349	0.0535	-1.5468	0.1694	0.2550	0.0630
4	315	0.6999	-0.2622	0.0067	0.4767	0.0616	-1.8019	0.1938	0.2854	0.0801
4	315	0.7500	-0.2962	0.0070	0.5314	0.0701	-2.0465	0.2167	0.4164	0.0918
4	315	0.8002	-0.3384	0.0077	0.5799	0.0786	-2.3573	0.2440	0.2728	0.0759
4	315	0.8582	-0.3737	0.0088	0.6509	0.0890	-2.7351	0.2776	0.0459	0.0770
4	315	0.9101	-0.4068	0.0090	0.6952	0.0981	-3.0973	0.3090	0.1798	0.0748
4	315	0.9728	-0.3954	0.0103	0.8092	0.1097	-3.4745	0.3497	0.4440	0.0781

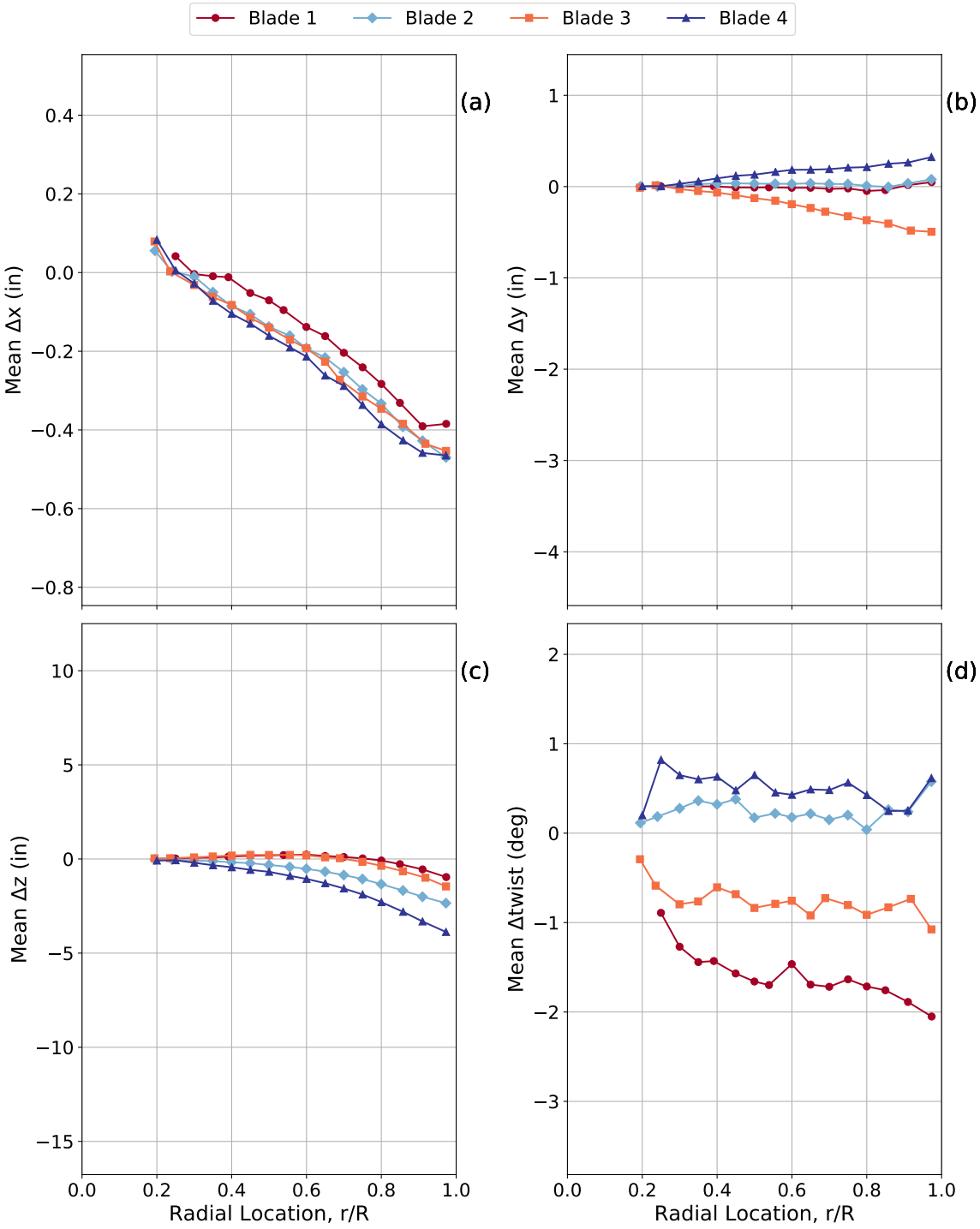


Figure 2.9-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2499	0.0415	0.0034	0.0029	0.0042	0.0286	0.0216	-0.8912	0.1410
1	330.12	0.2998	-0.0038	0.0039	0.0036	0.0106	0.0614	0.0373	-1.2702	0.2002
1	330.12	0.3498	-0.0093	0.0054	0.0021	0.0158	0.0780	0.0596	-1.4423	0.2034
1	330.12	0.3913	-0.0119	0.0040	0.0020	0.0256	0.1244	0.0856	-1.4301	0.1827
1	330.12	0.4496	-0.0520	0.0043	-0.0100	0.0343	0.1717	0.1184	-1.5695	0.1821
1	330.12	0.4997	-0.0706	0.0038	-0.0103	0.0442	0.1925	0.1504	-1.6593	0.1819
1	330.12	0.5387	-0.0954	0.0044	-0.0087	0.0506	0.2081	0.1761	-1.6989	0.1824
1	330.12	0.5996	-0.1383	0.0050	-0.0133	0.0616	0.2344	0.2186	-1.4644	0.1759
1	330.12	0.6498	-0.1616	0.0054	-0.0132	0.0718	0.1593	0.2579	-1.6939	0.1787
1	330.12	0.6998	-0.2040	0.0055	-0.0250	0.0822	0.1080	0.2950	-1.7181	0.1855
1	330.12	0.7500	-0.2409	0.0062	-0.0202	0.0926	0.0320	0.3353	-1.6348	0.1891
1	330.12	0.8001	-0.2832	0.0059	-0.0478	0.1046	-0.0792	0.3781	-1.7149	0.1935
1	330.12	0.8497	-0.3313	0.0065	-0.0381	0.1158	-0.2742	0.4247	-1.7571	0.1901
1	330.12	0.9102	-0.3907	0.0070	0.0159	0.1304	-0.5526	0.4823	-1.8880	0.1957
1	330.12	0.9734	-0.3846	0.0104	0.0490	0.1458	-0.9605	0.5469	-2.0509	0.1959
2	330.12	0.1949	0.0555	0.0025	0.0018	0.0012	-0.0279	0.0063	0.1143	0.0333
2	330.12	0.2405	0.0025	0.0026	0.0022	0.0030	-0.0265	0.0111	0.1853	0.0521
2	330.12	0.2999	-0.0099	0.0030	0.0060	0.0054	-0.0862	0.0232	0.2775	0.0728
2	330.12	0.3498	-0.0499	0.0027	0.0282	0.0098	-0.1128	0.0364	0.3629	0.0734
2	330.12	0.3998	-0.0850	0.0036	0.0332	0.0152	-0.1760	0.0568	0.3215	0.0717
2	330.12	0.4496	-0.1059	0.0044	0.0357	0.0205	-0.2201	0.0758	0.3805	0.0675
2	330.12	0.4995	-0.1377	0.0032	0.0321	0.0279	-0.3157	0.0989	0.1737	0.0550
2	330.12	0.5551	-0.1605	0.0038	0.0311	0.0356	-0.4215	0.1333	0.2209	0.0733
2	330.12	0.5996	-0.1921	0.0038	0.0298	0.0451	-0.5216	0.1638	0.1778	0.0691
2	330.12	0.6497	-0.2161	0.0051	0.0354	0.0550	-0.6730	0.1994	0.2171	0.0646
2	330.12	0.6996	-0.2532	0.0048	0.0290	0.0672	-0.8551	0.2450	0.1502	0.0665
2	330.12	0.7495	-0.2969	0.0050	0.0279	0.0804	-1.0640	0.2910	0.2019	0.0711
2	330.12	0.7996	-0.3329	0.0054	0.0084	0.0946	-1.3354	0.3402	0.0395	0.0640
2	330.12	0.8578	-0.3923	0.0059	-0.0039	0.1113	-1.6764	0.3995	0.2632	0.0662
2	330.12	0.9100	-0.4274	0.0066	0.0347	0.1265	-2.0050	0.4567	0.2396	0.0643
2	330.12	0.9727	-0.4699	0.0084	0.0790	0.1453	-2.3458	0.5270	0.5770	0.0661
3	330.12	0.1938	0.0789	0.0031	-0.0122	0.0012	0.0351	0.0066	-0.2915	0.0309
3	330.12	0.2357	0.0028	0.0026	0.0142	0.0022	0.0410	0.0076	-0.5871	0.0863
3	330.12	0.2995	-0.0317	0.0023	-0.0275	0.0061	0.0848	0.0158	-0.7960	0.0929
3	330.12	0.3493	-0.0616	0.0026	-0.0483	0.0088	0.1349	0.0279	-0.7636	0.0922
3	330.12	0.4000	-0.0824	0.0026	-0.0649	0.0151	0.1834	0.0377	-0.6057	0.0872
3	330.12	0.4497	-0.1149	0.0027	-0.0945	0.0182	0.2188	0.0495	-0.6825	0.0839
3	330.12	0.4997	-0.1400	0.0042	-0.1262	0.0236	0.2137	0.0643	-0.8362	0.0837
3	330.12	0.5556	-0.1709	0.0035	-0.1548	0.0272	0.2165	0.0822	-0.7902	0.0908
3	330.12	0.5995	-0.1924	0.0047	-0.1927	0.0320	0.1939	0.0987	-0.7556	0.0787
3	330.12	0.6498	-0.2267	0.0043	-0.2346	0.0375	0.0878	0.1167	-0.9202	0.1061
3	330.12	0.6890	-0.2724	0.0048	-0.2745	0.0422	0.0407	0.1358	-0.7268	0.1019
3	330.12	0.7495	-0.3152	0.0059	-0.3253	0.0498	-0.1513	0.1687	-0.8040	0.0888
3	330.12	0.7998	-0.3462	0.0062	-0.3681	0.0564	-0.3612	0.1953	-0.9131	0.1035
3	330.12	0.8577	-0.3845	0.0067	-0.4051	0.0644	-0.6516	0.2301	-0.8293	0.0878
3	330.12	0.9178	-0.4352	0.0073	-0.4816	0.0733	-0.9954	0.2691	-0.7348	0.0958
3	330.12	0.9729	-0.4534	0.0094	-0.4950	0.0815	-1.4578	0.3068	-1.0762	0.0973
4	330.12	0.2001	0.0831	0.0020	0.0043	0.0011	-0.0836	0.0073	0.1997	0.0476
4	330.12	0.2502	0.0054	0.0030	0.0038	0.0024	-0.0670	0.0137	0.8198	0.0961
4	330.12	0.3001	-0.0280	0.0023	0.0303	0.0042	-0.2001	0.0246	0.6488	0.1131
4	330.12	0.3502	-0.0717	0.0033	0.0568	0.0074	-0.3322	0.0407	0.6019	0.0698
4	330.12	0.4002	-0.1049	0.0033	0.0904	0.0108	-0.4399	0.0614	0.6312	0.0757
4	330.12	0.4500	-0.1299	0.0033	0.1178	0.0142	-0.5758	0.0759	0.4796	0.0754
4	330.12	0.5001	-0.1608	0.0045	0.1308	0.0184	-0.6807	0.0943	0.6496	0.0888
4	330.12	0.5560	-0.1903	0.0040	0.1612	0.0236	-0.8972	0.1160	0.4540	0.0823
4	330.12	0.6001	-0.2137	0.0055	0.1836	0.0279	-1.0585	0.1345	0.4292	0.0831
4	330.12	0.6501	-0.2618	0.0053	0.1850	0.0349	-1.2878	0.1584	0.4894	0.0933
4	330.12	0.6999	-0.2882	0.0057	0.1912	0.0413	-1.5655	0.1827	0.4823	0.0790
4	330.12	0.7500	-0.3366	0.0068	0.2076	0.0480	-1.8861	0.2084	0.5651	0.0839
4	330.12	0.8002	-0.3859	0.0067	0.2135	0.0558	-2.2921	0.2373	0.4260	0.0754
4	330.12	0.8582	-0.4266	0.0075	0.2500	0.0647	-2.8047	0.2737	0.2477	0.0819
4	330.12	0.9101	-0.4584	0.0083	0.2632	0.0733	-3.3184	0.3088	0.2513	0.0792
4	330.12	0.9728	-0.4650	0.0094	0.3231	0.0838	-3.8761	0.3531	0.6158	0.0797

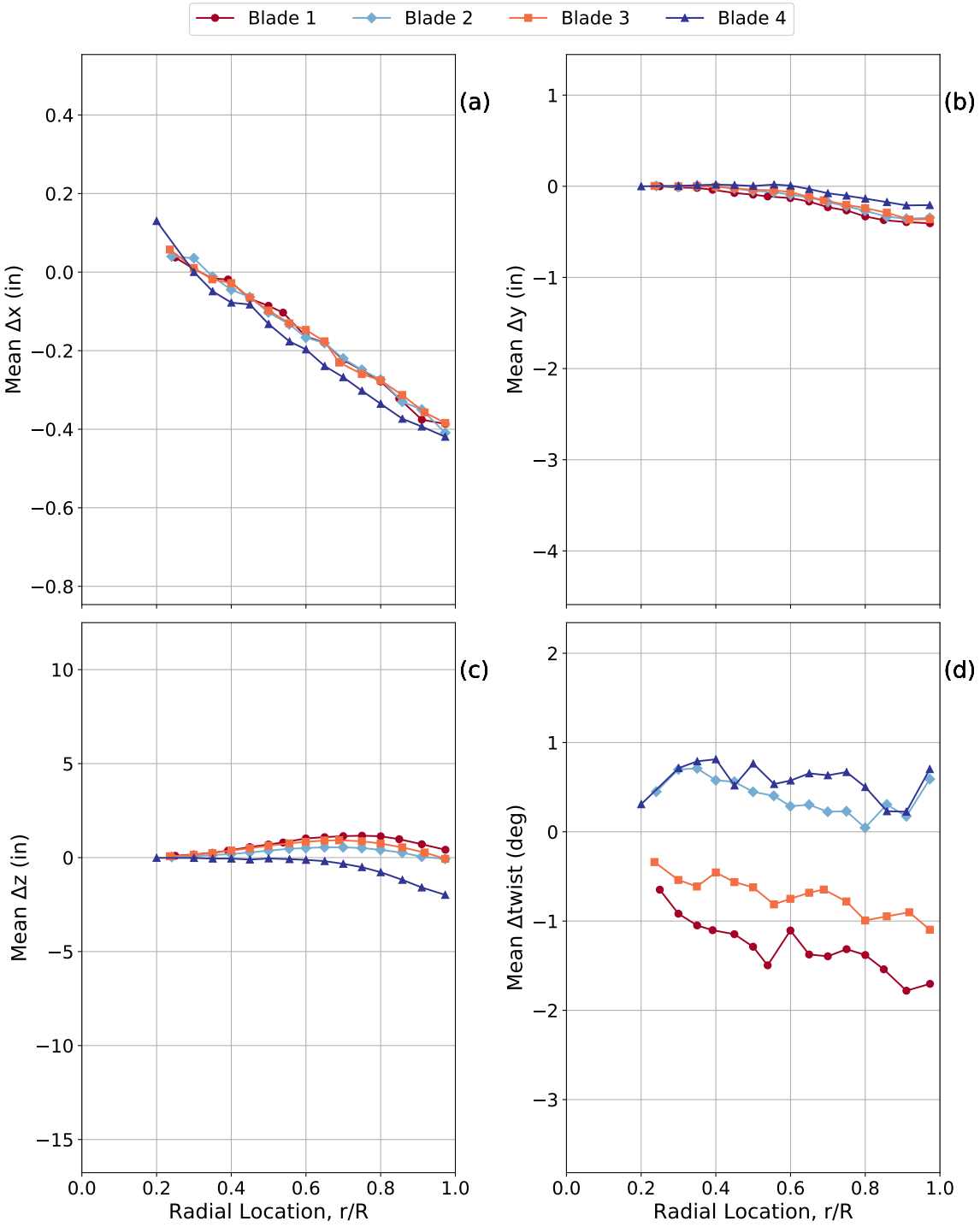


Figure 2.9-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.82°$ NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2499	0.0372	0.0039	-0.0002	0.0038	0.0943	0.0280	-0.6488	0.1771
1	344.88	0.2998	0.0081	0.0048	-0.0136	0.0073	0.1679	0.0469	-0.9174	0.2505
1	344.88	0.3498	-0.0161	0.0042	-0.0177	0.0156	0.2567	0.0742	-1.0487	0.2346
1	344.88	0.3913	-0.0188	0.0037	-0.0384	0.0224	0.3698	0.1039	-1.1021	0.2227
1	344.88	0.4496	-0.0675	0.0056	-0.0734	0.0318	0.5599	0.1414	-1.1471	0.2163
1	344.88	0.4997	-0.0858	0.0050	-0.0920	0.0401	0.6972	0.1737	-1.2875	0.2158
1	344.88	0.5387	-0.1031	0.0056	-0.1112	0.0467	0.8035	0.2006	-1.4959	0.2232
1	344.88	0.5996	-0.1638	0.0070	-0.1294	0.0581	1.0203	0.2450	-1.1058	0.2209
1	344.88	0.6498	-0.1797	0.0068	-0.1676	0.0677	1.0864	0.2838	-1.3744	0.2210
1	344.88	0.6998	-0.2237	0.0075	-0.2296	0.0770	1.1409	0.3252	-1.3947	0.2290
1	344.88	0.7500	-0.2497	0.0083	-0.2650	0.0871	1.1651	0.3686	-1.3149	0.2259
1	344.88	0.8001	-0.2786	0.0080	-0.3309	0.0977	1.1337	0.4141	-1.3804	0.2168
1	344.88	0.8497	-0.3221	0.0084	-0.3711	0.1086	0.9787	0.4610	-1.5407	0.2261
1	344.88	0.9102	-0.3757	0.0088	-0.3932	0.1215	0.7101	0.5199	-1.7803	0.2252
1	344.88	0.9734	-0.3865	0.0117	-0.4057	0.1353	0.4153	0.5845	-1.7032	0.2204
2	344.88	0.2405	0.0400	0.0035	0.0037	0.0048	0.0369	0.0153	0.4495	0.0973
2	344.88	0.2999	0.0355	0.0056	-0.0072	0.0086	0.0616	0.0285	0.6984	0.1496
2	344.88	0.3498	-0.0116	0.0039	0.0098	0.0208	0.1329	0.0444	0.7103	0.1348
2	344.88	0.3998	-0.0448	0.0039	-0.0018	0.0295	0.1874	0.0666	0.5772	0.1418
2	344.88	0.4496	-0.0636	0.0046	-0.0250	0.0390	0.2741	0.0855	0.5607	0.1384
2	344.88	0.4995	-0.1026	0.0047	-0.0502	0.0480	0.3668	0.1094	0.4478	0.1378
2	344.88	0.5551	-0.1326	0.0058	-0.0637	0.0611	0.4704	0.1353	0.4032	0.1429
2	344.88	0.5996	-0.1667	0.0072	-0.0923	0.0711	0.5072	0.1602	0.2866	0.1482
2	344.88	0.6497	-0.1805	0.0068	-0.1236	0.0848	0.5500	0.1887	0.3037	0.1483
2	344.88	0.6996	-0.2199	0.0073	-0.1731	0.0984	0.5463	0.2201	0.2247	0.1462
2	344.88	0.7495	-0.2488	0.0081	-0.2202	0.1130	0.5055	0.2534	0.2301	0.1456
2	344.88	0.7996	-0.2735	0.0085	-0.2682	0.1286	0.4133	0.2877	0.0453	0.1449
2	344.88	0.8578	-0.3301	0.0089	-0.3336	0.1467	0.2600	0.3290	0.3059	0.1421
2	344.88	0.9100	-0.3499	0.0090	-0.3560	0.1636	0.0438	0.3673	0.1737	0.1530
2	344.88	0.9727	-0.4091	0.0142	-0.3459	0.1835	-0.0691	0.4158	0.5904	0.1533
3	344.88	0.2357	0.0574	0.0034	0.0039	0.0027	0.0684	0.0135	-0.3386	0.0847
3	344.88	0.2995	0.0104	0.0043	-0.0003	0.0074	0.1485	0.0282	-0.5396	0.1355
3	344.88	0.3493	-0.0184	0.0038	0.0019	0.0139	0.2412	0.0420	-0.6128	0.1329
3	344.88	0.4000	-0.0279	0.0031	-0.0053	0.0221	0.3750	0.0653	-0.4555	0.1330
3	344.88	0.4497	-0.0648	0.0042	-0.0221	0.0265	0.4964	0.0838	-0.5633	0.1360
3	344.88	0.4997	-0.0977	0.0042	-0.0386	0.0343	0.6338	0.1048	-0.6220	0.1349
3	344.88	0.5556	-0.1304	0.0053	-0.0430	0.0413	0.7573	0.1300	-0.8132	0.1363
3	344.88	0.5995	-0.1472	0.0056	-0.0641	0.0477	0.8393	0.1479	-0.7504	0.1500
3	344.88	0.6498	-0.1762	0.0056	-0.1161	0.0543	0.9086	0.1708	-0.6826	0.1336
3	344.88	0.6890	-0.2303	0.0063	-0.1531	0.0599	0.9212	0.1885	-0.6471	0.1367
3	344.88	0.7495	-0.2595	0.0064	-0.2035	0.0694	0.8677	0.2160	-0.7803	0.1377
3	344.88	0.7998	-0.2758	0.0071	-0.2389	0.0772	0.7497	0.2402	-0.9931	0.1431
3	344.88	0.8577	-0.3129	0.0074	-0.2899	0.0865	0.5434	0.2697	-0.9473	0.1430
3	344.88	0.9178	-0.3573	0.0081	-0.3646	0.0960	0.2690	0.3029	-0.9014	0.1457
3	344.88	0.9729	-0.3840	0.0106	-0.3604	0.1049	-0.0630	0.3371	-1.0971	0.1496
4	344.88	0.2001	0.1300	0.0058	-0.0001	0.0021	-0.0138	0.0082	0.3089	0.0746
4	344.88	0.3001	0.0002	0.0057	0.0043	0.0088	-0.0198	0.0204	0.7134	0.1718
4	344.88	0.3502	-0.0489	0.0038	0.0119	0.0216	-0.0521	0.0349	0.7899	0.1478
4	344.88	0.4002	-0.0777	0.0034	0.0184	0.0301	-0.0535	0.0495	0.8123	0.1482
4	344.88	0.4500	-0.0825	0.0048	0.0128	0.0350	-0.1051	0.0661	0.5187	0.1741
4	344.88	0.5001	-0.1323	0.0039	0.0035	0.0434	-0.0474	0.0812	0.7642	0.1557
4	344.88	0.5560	-0.1766	0.0044	0.0188	0.0522	-0.0826	0.1020	0.5348	0.1666
4	344.88	0.6001	-0.1969	0.0050	0.0078	0.0597	-0.1209	0.1193	0.5741	0.1648
4	344.88	0.6501	-0.2393	0.0047	-0.0304	0.0678	-0.1876	0.1420	0.6547	0.1606
4	344.88	0.6999	-0.2676	0.0050	-0.0766	0.0767	-0.3311	0.1656	0.6331	0.1536
4	344.88	0.7500	-0.3021	0.0051	-0.1031	0.0861	-0.5093	0.1934	0.6689	0.1599
4	344.88	0.8002	-0.3354	0.0059	-0.1356	0.0953	-0.7799	0.2225	0.5014	0.1472
4	344.88	0.8582	-0.3734	0.0058	-0.1738	0.1070	-1.1858	0.2605	0.2307	0.1526
4	344.88	0.9101	-0.3933	0.0062	-0.2099	0.1180	-1.5905	0.2957	0.2250	0.1584
4	344.88	0.9728	-0.4193	0.0087	-0.2066	0.1307	-1.9832	0.3378	0.7021	0.1547

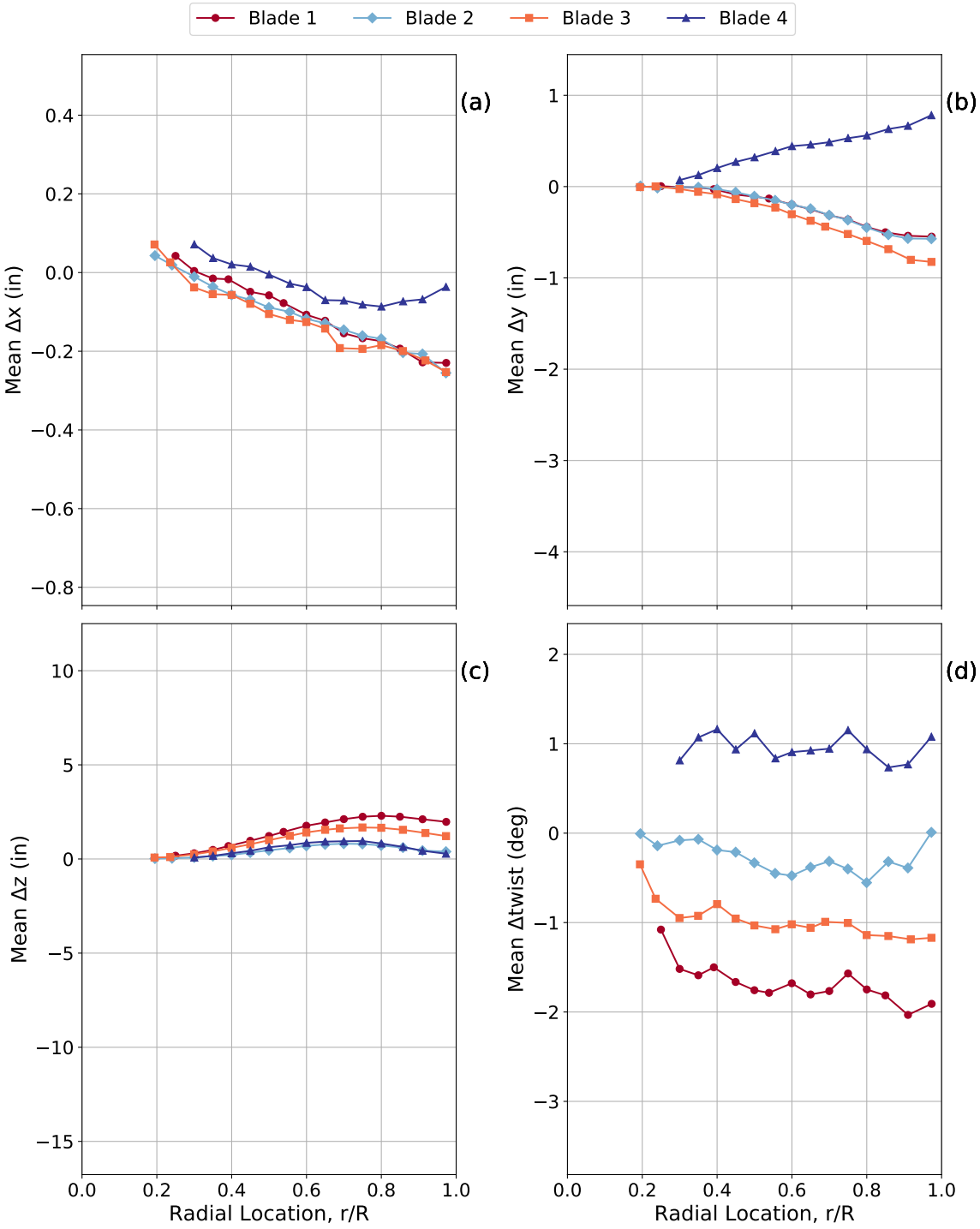


Figure 2.9-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2499	0.0423	0.0043	0.0043	0.0034	0.1731	0.0293	-1.0787	0.2106
1	350.16	0.2998	0.0040	0.0045	-0.0058	0.0071	0.3014	0.0444	-1.5183	0.2967
1	350.16	0.3498	-0.0152	0.0042	-0.0107	0.0159	0.4823	0.0709	-1.5896	0.2832
1	350.16	0.3913	-0.0171	0.0051	-0.0280	0.0234	0.6858	0.0947	-1.5005	0.2763
1	350.16	0.4496	-0.0489	0.0058	-0.0874	0.0337	0.9660	0.1275	-1.6644	0.2757
1	350.16	0.4997	-0.0579	0.0060	-0.1102	0.0430	1.2205	0.1586	-1.7566	0.2759
1	350.16	0.5387	-0.0776	0.0067	-0.1310	0.0502	1.4401	0.1838	-1.7856	0.2725
1	350.16	0.5996	-0.1072	0.0077	-0.1966	0.0625	1.7649	0.2251	-1.6789	0.2746
1	350.16	0.6498	-0.1225	0.0082	-0.2479	0.0722	1.9408	0.2631	-1.8043	0.2698
1	350.16	0.6998	-0.1545	0.0087	-0.3140	0.0832	2.1158	0.3045	-1.7660	0.2771
1	350.16	0.7500	-0.1670	0.0098	-0.3600	0.0946	2.2443	0.3484	-1.5695	0.2759
1	350.16	0.8001	-0.1744	0.0095	-0.4421	0.1051	2.2954	0.3929	-1.7483	0.2789
1	350.16	0.8497	-0.1933	0.0102	-0.5004	0.1172	2.2465	0.4438	-1.8147	0.2718
1	350.16	0.9102	-0.2283	0.0097	-0.5390	0.1312	2.1100	0.5051	-2.0327	0.2756
1	350.16	0.9734	-0.2296	0.0138	-0.5482	0.1465	1.9731	0.5731	-1.9090	0.2769
2	350.16	0.1949	0.0430	0.0062	0.0063	0.0031	0.0215	0.0085	-0.0062	0.1472
2	350.16	0.2405	0.0191	0.0033	-0.0155	0.0090	0.0384	0.0149	-0.1412	0.1498
2	350.16	0.2999	-0.0105	0.0055	-0.0058	0.0066	0.0777	0.0215	-0.0797	0.3003
2	350.16	0.3498	-0.0361	0.0065	-0.0068	0.0151	0.1501	0.0345	-0.0681	0.3013
2	350.16	0.3998	-0.0568	0.0076	-0.0281	0.0253	0.2158	0.0486	-0.1886	0.3039
2	350.16	0.4496	-0.0691	0.0082	-0.0622	0.0358	0.3404	0.0623	-0.2123	0.3028
2	350.16	0.4995	-0.0887	0.0088	-0.1057	0.0461	0.4598	0.0758	-0.3316	0.3028
2	350.16	0.5551	-0.0999	0.0098	-0.1504	0.0569	0.5844	0.0924	-0.4496	0.3058
2	350.16	0.5996	-0.1175	0.0100	-0.1990	0.0659	0.6943	0.1062	-0.4754	0.3041
2	350.16	0.6497	-0.1291	0.0109	-0.2423	0.0761	0.7754	0.1220	-0.3812	0.3059
2	350.16	0.6996	-0.1456	0.0124	-0.3125	0.0878	0.8115	0.1385	-0.3147	0.3073
2	350.16	0.7495	-0.1605	0.0143	-0.3661	0.0998	0.7974	0.1560	-0.4007	0.3129
2	350.16	0.7996	-0.1683	0.0176	-0.4481	0.1127	0.7178	0.1752	-0.5537	0.3127
2	350.16	0.8578	-0.2037	0.0218	-0.5269	0.1286	0.6053	0.2003	-0.3181	0.3185
2	350.16	0.9100	-0.2070	0.0261	-0.5687	0.1436	0.4450	0.2255	-0.3893	0.3145
2	350.16	0.9727	-0.2552	0.0322	-0.5715	0.1616	0.3914	0.2573	0.0093	0.3259
3	350.16	0.1938	0.0713	0.0107	-0.0056	0.0045	0.0775	0.0136	-0.3486	0.1737
3	350.16	0.2357	0.0260	0.0037	0.0023	0.0098	0.1021	0.0201	-0.7337	0.1826
3	350.16	0.2995	-0.0378	0.0071	-0.0263	0.0061	0.2455	0.0347	-0.9492	0.3530
3	350.16	0.3493	-0.0548	0.0091	-0.0571	0.0159	0.4009	0.0559	-0.9248	0.3583
3	350.16	0.4000	-0.0569	0.0109	-0.0845	0.0262	0.5912	0.0782	-0.7936	0.3555
3	350.16	0.4497	-0.0794	0.0117	-0.1368	0.0371	0.7821	0.0992	-0.9554	0.3608
3	350.16	0.4997	-0.1053	0.0127	-0.1817	0.0476	0.9962	0.1217	-1.0320	0.3578
3	350.16	0.5556	-0.1203	0.0140	-0.2304	0.0605	1.2318	0.1462	-1.0745	0.3643
3	350.16	0.5995	-0.1258	0.0140	-0.3024	0.0693	1.4101	0.1681	-1.0194	0.3624
3	350.16	0.6498	-0.1424	0.0150	-0.3742	0.0809	1.5490	0.1919	-1.0590	0.3644
3	350.16	0.6890	-0.1921	0.0165	-0.4385	0.0904	1.6240	0.2128	-0.9917	0.3606
3	350.16	0.7495	-0.1941	0.0195	-0.5195	0.1059	1.6735	0.2457	-1.0042	0.3672
3	350.16	0.7998	-0.1845	0.0232	-0.5949	0.1193	1.6573	0.2747	-1.1399	0.3665
3	350.16	0.8577	-0.1996	0.0284	-0.6855	0.1363	1.5494	0.3087	-1.1505	0.3666
3	350.16	0.9178	-0.2234	0.0342	-0.8025	0.1547	1.3816	0.3471	-1.1877	0.3694
3	350.16	0.9729	-0.2529	0.0409	-0.8250	0.1735	1.2160	0.3821	-1.1704	0.3618
4	350.16	0.3001	0.0715	0.0218	0.0713	0.0512	0.0742	0.1023	0.8139	0.4384
4	350.16	0.3502	0.0368	0.0228	0.1262	0.0950	0.1682	0.1388	1.0710	0.5744
4	350.16	0.4002	0.0206	0.0224	0.2031	0.1569	0.3047	0.1845	1.1622	0.5751
4	350.16	0.4500	0.0148	0.0219	0.2707	0.2194	0.4320	0.2278	0.9365	0.5773
4	350.16	0.5001	-0.0052	0.0221	0.3207	0.2813	0.6252	0.2717	1.1160	0.5814
4	350.16	0.5560	-0.0283	0.0225	0.3882	0.3523	0.7339	0.3194	0.8364	0.5799
4	350.16	0.6001	-0.0370	0.0232	0.4432	0.4091	0.8579	0.3557	0.9066	0.5789
4	350.16	0.6501	-0.0701	0.0257	0.4602	0.4734	0.9220	0.3969	0.9250	0.5815
4	350.16	0.6999	-0.0711	0.0290	0.4863	0.5379	0.9425	0.4384	0.9449	0.5825
4	350.16	0.7500	-0.0815	0.0335	0.5300	0.6041	0.9525	0.4802	1.1513	0.5855
4	350.16	0.8002	-0.0865	0.0382	0.5600	0.6728	0.8232	0.5226	0.9380	0.5797
4	350.16	0.8582	-0.0732	0.0459	0.6305	0.7539	0.6424	0.5705	0.7353	0.5821
4	350.16	0.9101	-0.0682	0.0544	0.6655	0.8279	0.4356	0.6163	0.7691	0.5790
4	350.16	0.9728	-0.0365	0.0677	0.7815	0.9199	0.2796	0.6705	1.0783	0.5865

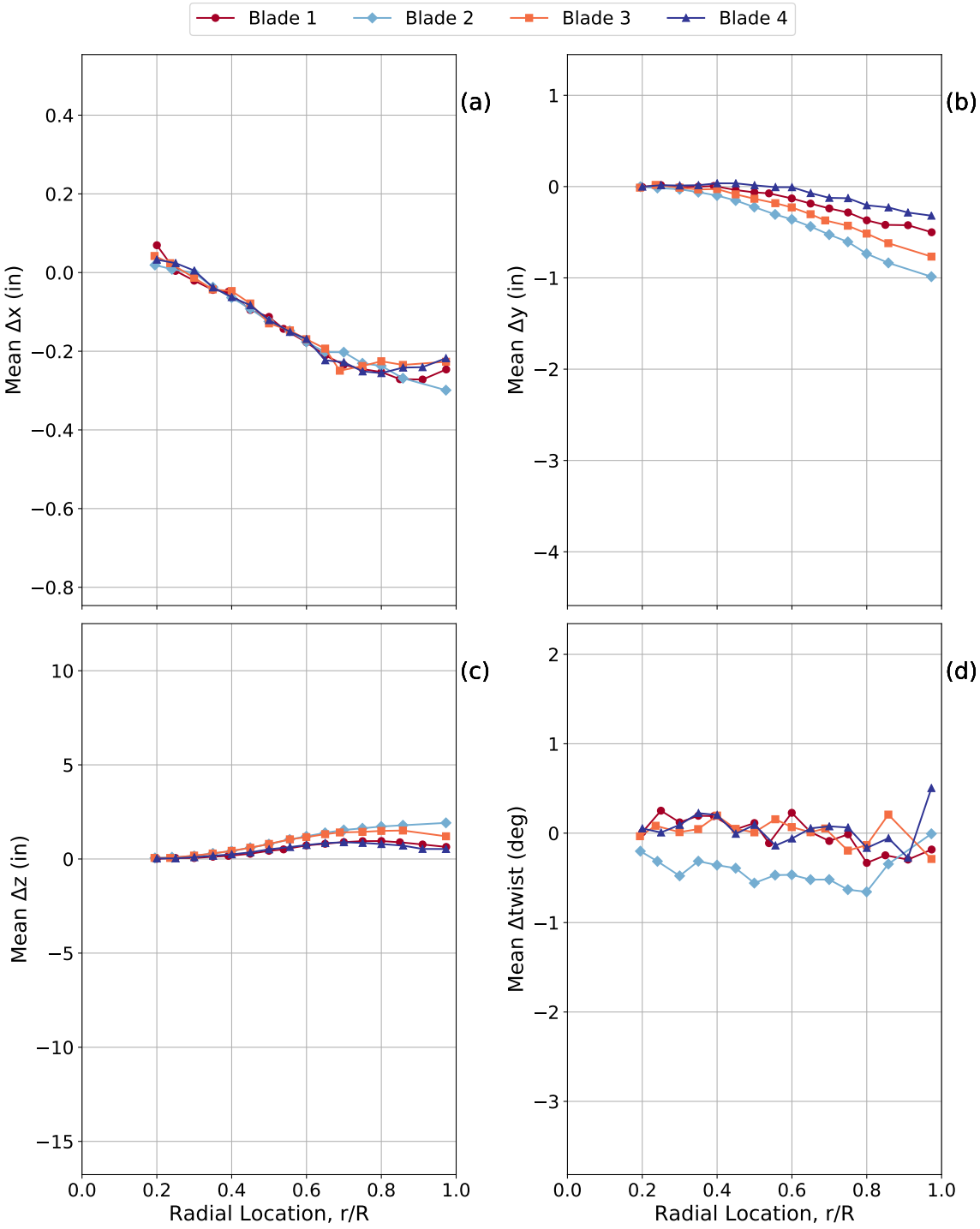


Figure 2.9-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.82° NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Table 2.9-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.82°
NFAC run 47, points 10 to 15. BD run 22, points 2233 to 2272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0694	0.0025	-0.0051	0.0019	0.0108	0.0084	0.0100	0.0777
1	355.08	0.2499	0.0042	0.0019	0.0158	0.0051	0.0538	0.0158	0.2516	0.1205
1	355.08	0.2998	-0.0206	0.0020	-0.0054	0.0075	0.0507	0.0242	0.1209	0.1629
1	355.08	0.3498	-0.0441	0.0028	-0.0011	0.0144	0.1207	0.0406	0.1944	0.1393
1	355.08	0.3913	-0.0488	0.0031	0.0066	0.0204	0.1656	0.0547	0.1907	0.1270
1	355.08	0.4496	-0.0952	0.0036	-0.0377	0.0254	0.2786	0.0728	0.0424	0.1218
1	355.08	0.4997	-0.1127	0.0035	-0.0633	0.0301	0.4354	0.0869	0.1134	0.1381
1	355.08	0.5387	-0.1431	0.0036	-0.0742	0.0343	0.5093	0.0970	-0.1118	0.1340
1	355.08	0.5996	-0.1774	0.0038	-0.1295	0.0408	0.7207	0.1184	0.2276	0.1348
1	355.08	0.6498	-0.2104	0.0047	-0.1861	0.0464	0.8088	0.1338	0.0122	0.1340
1	355.08	0.6998	-0.2345	0.0047	-0.2391	0.0521	0.8966	0.1509	-0.0875	0.1486
1	355.08	0.7500	-0.2454	0.0050	-0.2837	0.0584	0.9474	0.1711	-0.0127	0.1628
1	355.08	0.8001	-0.2529	0.0055	-0.3695	0.0646	0.9530	0.1931	-0.3324	0.1824
1	355.08	0.8497	-0.2710	0.0057	-0.4194	0.0700	0.8874	0.2182	-0.2477	0.1425
1	355.08	0.9102	-0.2719	0.0071	-0.4229	0.0755	0.7707	0.2499	-0.2957	0.2029
1	355.08	0.9734	-0.2463	0.0100	-0.5003	0.0863	0.6405	0.2920	-0.1831	0.1860
2	355.08	0.1949	0.0191	0.0019	-0.0021	0.0018	0.0538	0.0079	-0.2017	0.0598
2	355.08	0.2405	0.0083	0.0018	-0.0154	0.0045	0.0900	0.0152	-0.3148	0.0616
2	355.08	0.2999	-0.0005	0.0015	-0.0290	0.0065	0.1617	0.0248	-0.4779	0.1154
2	355.08	0.3498	-0.0372	0.0029	-0.0612	0.0143	0.2998	0.0417	-0.3136	0.0881
2	355.08	0.3998	-0.0638	0.0031	-0.0980	0.0207	0.4173	0.0613	-0.3578	0.0846
2	355.08	0.4496	-0.0921	0.0033	-0.1523	0.0254	0.5960	0.0776	-0.3918	0.0852
2	355.08	0.4995	-0.1244	0.0038	-0.2242	0.0322	0.7874	0.0989	-0.5584	0.1078
2	355.08	0.5551	-0.1480	0.0043	-0.3050	0.0387	1.0368	0.1239	-0.4692	0.0941
2	355.08	0.5996	-0.1764	0.0046	-0.3588	0.0436	1.2065	0.1439	-0.4659	0.1097
2	355.08	0.6497	-0.2022	0.0055	-0.4373	0.0495	1.3889	0.1712	-0.5198	0.1056
2	355.08	0.6996	-0.2025	0.0059	-0.5263	0.0576	1.5411	0.2021	-0.5190	0.0894
2	355.08	0.7495	-0.2307	0.0068	-0.6054	0.0637	1.6305	0.2341	-0.6320	0.0945
2	355.08	0.7996	-0.2372	0.0070	-0.7355	0.0719	1.7237	0.2641	-0.6562	0.1265
2	355.08	0.8578	-0.2687	0.0077	-0.8359	0.0826	1.7914	0.3004	-0.3451	0.1349
2	355.08	0.9727	-0.2990	0.0124	-0.9869	0.0968	1.9183	0.3687	-0.0068	0.1239
3	355.08	0.1938	0.0421	0.0020	-0.0117	0.0022	0.0564	0.0097	-0.0341	0.0509
3	355.08	0.2357	0.0238	0.0024	0.0182	0.0054	0.0554	0.0170	0.0828	0.0619
3	355.08	0.2995	-0.0133	0.0021	-0.0120	0.0118	0.1804	0.0334	0.0115	0.0971
3	355.08	0.3493	-0.0429	0.0027	-0.0312	0.0184	0.2904	0.0483	0.0454	0.0729
3	355.08	0.4000	-0.0470	0.0047	-0.0271	0.0320	0.4330	0.0758	0.1968	0.1027
3	355.08	0.4497	-0.0786	0.0035	-0.0849	0.0313	0.5980	0.0838	0.0481	0.0848
3	355.08	0.4997	-0.1293	0.0040	-0.1331	0.0366	0.7991	0.1013	0.0091	0.0805
3	355.08	0.5556	-0.1471	0.0047	-0.1816	0.0439	1.0429	0.1210	0.1554	0.0788
3	355.08	0.5995	-0.1694	0.0052	-0.2277	0.0485	1.1600	0.1344	0.0678	0.0770
3	355.08	0.6498	-0.1933	0.0057	-0.3025	0.0548	1.3177	0.1509	0.0108	0.0721
3	355.08	0.6890	-0.2495	0.0062	-0.3707	0.0591	1.4093	0.1650	0.0522	0.0904
3	355.08	0.7495	-0.2376	0.0065	-0.4286	0.0676	1.4396	0.1860	-0.1948	0.1055
3	355.08	0.7998	-0.2255	0.0063	-0.5149	0.0739	1.4920	0.2062	-0.1333	0.0845
3	355.08	0.8577	-0.2348	0.0085	-0.6199	0.0803	1.5129	0.2367	0.2076	0.1948
3	355.08	0.9729	-0.2267	0.0101	-0.7669	0.0977	1.2050	0.2878	-0.2888	0.1212
4	355.08	0.2001	0.0327	0.0017	-0.0009	0.0018	0.0288	0.0074	0.0523	0.0611
4	355.08	0.2502	0.0239	0.0020	0.0150	0.0050	0.0328	0.0148	0.0076	0.0760
4	355.08	0.3001	0.0050	0.0019	0.0117	0.0076	0.0954	0.0217	0.0929	0.1235
4	355.08	0.3502	-0.0379	0.0022	0.0152	0.0118	0.1707	0.0369	0.2240	0.0916
4	355.08	0.4002	-0.0624	0.0026	0.0357	0.0199	0.2465	0.0538	0.2030	0.0821
4	355.08	0.4500	-0.0832	0.0028	0.0355	0.0245	0.3533	0.0663	-0.0071	0.1066
4	355.08	0.5001	-0.1210	0.0037	0.0138	0.0306	0.5151	0.0866	0.0929	0.0823
4	355.08	0.5560	-0.1509	0.0041	-0.0065	0.0381	0.6335	0.1067	-0.1385	0.0900
4	355.08	0.6001	-0.1688	0.0048	-0.0067	0.0445	0.7422	0.1264	-0.0596	0.0971
4	355.08	0.6501	-0.2230	0.0052	-0.0711	0.0526	0.8441	0.1497	0.0542	0.0961
4	355.08	0.6999	-0.2279	0.0060	-0.1237	0.0616	0.8898	0.1729	0.0766	0.1059
4	355.08	0.7500	-0.2513	0.0068	-0.1273	0.0732	0.8534	0.1988	0.0632	0.1135
4	355.08	0.8002	-0.2556	0.0075	-0.2049	0.0826	0.7944	0.2233	-0.1648	0.1137
4	355.08	0.8582	-0.2416	0.0079	-0.2286	0.0962	0.7103	0.2532	-0.0559	0.1325
4	355.08	0.9101	-0.2405	0.0089	-0.2843	0.1079	0.5335	0.2827	-0.2754	0.1269
4	355.08	0.9728	-0.2178	0.0140	-0.3188	0.1218	0.5299	0.3203	0.5044	0.1383

2.10 Run 47, Points 33 to 37

2.10.1 Pitch, Flap, and Lag

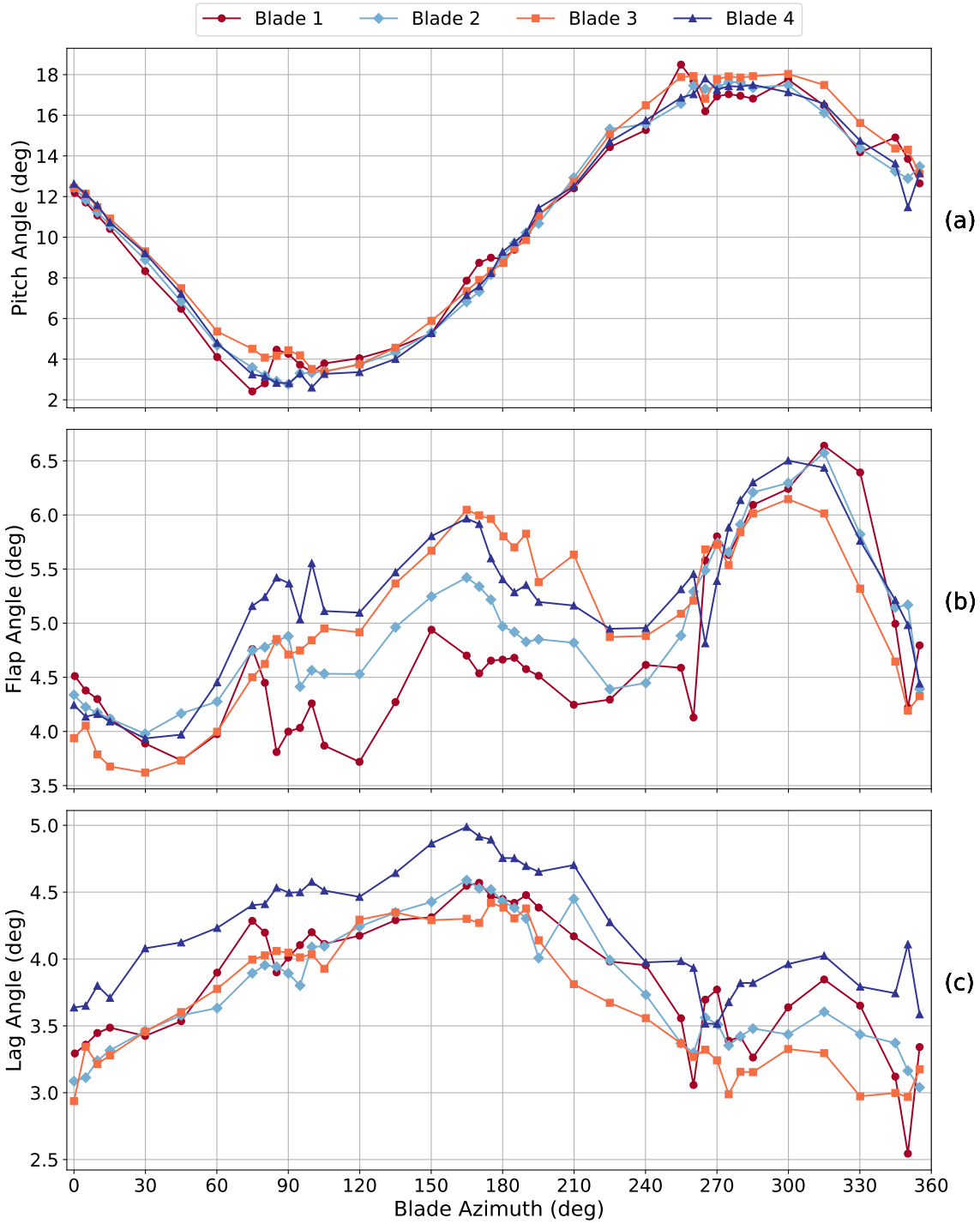


Figure 2.10-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	12.1753	4.5115	3.2936	0.1556	0.0917	0.0740
4.92	11.7096	4.3784	3.3592	0.1539	0.0942	0.1089
9.84	11.0713	4.2990	3.4467	0.1367	0.0865	0.0769
15.12	10.4098	4.1194	3.4864	0.1616	0.1204	0.0650
29.88	8.3297	3.8886	3.4246	0.1609	0.0914	0.0916
45	6.4780	3.7333	3.5349	0.1436	0.0844	0.0723
60.12	4.1039	3.9753	3.8981	0.1339	0.0735	0.0722
74.88	2.4132	4.7612	4.2852	0.1667	0.1067	0.0725
80.16	2.8100	4.4496	4.1976	0.2529	0.1111	0.1597
85.08	4.4655	3.8097	3.9001	0.3335	0.1286	0.1153
90	4.2623	3.9986	4.0113	0.2519	0.0846	0.1060
94.92	3.7214	4.0334	4.1039	0.1409	0.0802	0.0909
99.84	3.3678	4.2590	4.2002	0.2647	0.1406	0.1106
105.12	3.7891	3.8689	4.1127	0.1692	0.0919	0.0715
119.88	4.0469	3.7193	4.1746	0.1854	0.0950	0.1178
135	4.5549	4.2712	4.2904	0.1494	0.1041	0.0511
150.12	5.2730	4.9396	4.3123	0.1070	0.1349	0.1005
164.88	7.8636	4.7013	4.5481	0.1376	0.1345	0.0734
170.16	8.7431	4.5364	4.5696	0.1664	0.1154	0.0515
175.08	8.9933	4.6544	4.4712	0.3909	0.2308	0.1558
180	8.9293	4.6634	4.4484	0.1135	0.1215	0.1251
184.92	9.3872	4.6804	4.4197	0.1488	0.1357	0.0996
189.84	10.2026	4.5760	4.4779	0.1217	0.1367	0.0567
195.12	11.1013	4.5141	4.3846	0.1278	0.1760	0.0897
209.88	12.4067	4.2463	4.1695	0.1826	0.1114	0.1258
225	14.4322	4.2944	3.9812	0.1971	0.1137	0.0840
240.12	15.2741	4.6148	3.9539	0.2062	0.1173	0.0849
254.88	18.4911	4.5879	3.5568	0.3446	0.1492	0.0998
260.16	17.6910	4.1294	3.0578	0.4548	0.3462	0.1813
265.08	16.1958	5.5804	3.6958	0.1801	0.1398	0.1257
270	16.9274	5.8018	3.7714	0.1190	0.0968	0.1440
274.92	17.0352	5.6303	3.3889	0.2710	0.1154	0.0905
279.84	16.9570	5.8479	3.4184	0.2242	0.1202	0.0964
285.12	16.8173	6.0931	3.2632	0.1943	0.0918	0.1084
299.88	17.7650	6.2412	3.6386	0.2478	0.1403	0.1515
315	16.4737	6.6394	3.8469	0.3085	0.1213	0.0875
330.12	14.1835	6.3927	3.6511	0.1345	0.0829	0.0855
344.88	14.9056	4.9944	3.1205	0.2183	0.0979	0.0418
350.16	13.8551	4.2205	2.5443	0.1987	0.1329	0.1300
355.08	12.6478	4.7954	3.3414	0.1289	0.1054	0.0743

Table 2.10-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	12.4437	4.3381	3.0865	0.1196	0.0950	0.0937
4.92	11.8417	4.2250	3.1131	0.1374	0.0873	0.0960
9.84	11.2306	4.1739	3.2395	0.1244	0.0767	0.0984
15.12	10.5876	4.1171	3.3169	0.1488	0.0963	0.0704
29.88	8.8970	3.9788	3.4625	0.2162	0.0852	0.1138
45	6.8382	4.1660	3.5787	0.1485	0.0991	0.0568
60.12	4.6844	4.2755	3.6325	0.1401	0.0939	0.1015
74.88	3.5921	4.7480	3.8938	0.1408	0.0815	0.0653
80.16	3.1922	4.7784	3.9537	0.0983	0.0867	0.0591
85.08	2.9126	4.8370	3.9420	0.1922	0.1070	0.0825
90	2.7641	4.8796	3.8925	0.1783	0.0849	0.1228
94.92	3.3044	4.4136	3.8018	0.1416	0.1264	0.1050
99.84	3.3340	4.5643	4.0903	0.1177	0.0881	0.0639
105.12	3.4014	4.5331	4.0958	0.1312	0.0832	0.0634
119.88	3.7360	4.5300	4.2421	0.0987	0.0881	0.1302
135	4.3298	4.9626	4.3473	0.1325	0.1215	0.0683
150.12	5.3133	5.2465	4.4275	0.1142	0.1533	0.0878
164.88	6.8219	5.4215	4.5894	0.0654	0.1120	0.0641
170.16	7.3247	5.3389	4.5286	0.1074	0.1327	0.0815
175.08	8.1586	5.2176	4.5197	0.1609	0.1737	0.1173
180	9.0637	4.9699	4.4314	0.1232	0.2129	0.1378
184.92	9.7011	4.9188	4.3823	0.1338	0.1352	0.0779
189.84	10.2147	4.8286	4.3028	0.1430	0.1708	0.0973
195.12	10.6740	4.8513	4.0076	0.2533	0.1940	0.1320
209.88	12.9287	4.8197	4.4497	0.2066	0.1625	0.2069
225	15.3207	4.3907	3.9925	0.2581	0.1352	0.0969
240.12	15.5627	4.4471	3.7327	0.1065	0.1034	0.1025
254.88	16.5758	4.8850	3.3695	0.2948	0.1468	0.0882
260.16	17.4591	5.2924	3.2987	0.3877	0.2490	0.1326
265.08	17.2974	5.4880	3.5616	0.1259	0.1307	0.0771
270.35	17.4002	5.7430	3.5109	0.1333	0.1015	0.0956
274.92	17.6255	5.6561	3.3530	0.1718	0.1201	0.1230
279.84	17.6309	5.9121	3.4220	0.1834	0.0945	0.0885
285.12	17.3519	6.2087	3.4799	0.1463	0.1083	0.0536
299.88	17.4847	6.2948	3.4359	0.1681	0.1139	0.0931
315	16.1218	6.5727	3.6049	0.1592	0.1413	0.0809
330.12	14.3716	5.8217	3.4358	0.1117	0.1055	0.0767
344.88	13.2404	5.1460	3.3720	0.0977	0.0875	0.0774
350.16	12.8915	5.1696	3.1639	0.4171	0.2552	0.2199
355.08	13.4821	4.3916	3.0396	0.1746	0.1061	0.0985

Table 2.10-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	12.4258	3.9368	2.9372	0.1245	0.0881	0.1421
4.92	12.1396	4.0533	3.3441	0.2983	0.2426	0.1930
9.84	11.4750	3.7873	3.2146	0.1288	0.0819	0.0768
15.12	10.9157	3.6763	3.2797	0.1583	0.0772	0.0920
29.88	9.3049	3.6206	3.4567	0.1600	0.0725	0.1484
45	7.4903	3.7305	3.6029	0.1875	0.1213	0.0778
60.12	5.3637	3.9974	3.7763	0.1633	0.0899	0.0984
74.88	4.5059	4.5003	3.9953	0.1013	0.0808	0.0886
80.16	4.0748	4.6239	4.0270	0.1226	0.0715	0.0991
85.08	4.1702	4.8535	4.0596	0.1722	0.0962	0.1375
90	4.4369	4.7110	4.0470	0.2078	0.0928	0.1380
94.92	4.1863	4.7485	4.0125	0.1759	0.1076	0.1041
99.84	3.5181	4.8427	4.0357	0.0855	0.0891	0.1121
105.12	3.3892	4.9513	3.9268	0.1299	0.1251	0.1352
119.88	3.7420	4.9162	4.2941	0.1341	0.1368	0.2105
135	4.5615	5.3674	4.3478	0.1710	0.1695	0.0995
150.12	5.8838	5.6702	4.2906	0.1816	0.1524	0.0896
164.88	7.3501	6.0478	4.3006	0.1019	0.1498	0.0740
170.16	7.8941	5.9958	4.2700	0.1428	0.1782	0.0969
175.08	8.3332	5.9637	4.4205	0.1051	0.1749	0.0746
180.35	8.7370	5.8025	4.3847	0.0828	0.1496	0.0803
184.92	9.4448	5.7008	4.3035	0.1417	0.1657	0.1350
189.84	9.8603	5.8268	4.3780	0.1774	0.2264	0.2390
195.12	11.0628	5.3800	4.1404	0.0889	0.1891	0.0604
209.88	12.7035	5.6327	3.8114	0.1343	0.1610	0.1003
225	15.0468	4.8725	3.6726	0.1406	0.1370	0.0768
240.12	16.4924	4.8815	3.5575	0.1097	0.1161	0.0920
254.88	17.8773	5.0874	3.3691	0.1993	0.1229	0.0909
260.16	17.9231	5.2095	3.2681	0.4282	0.1621	0.1692
265.08	16.8141	5.6814	3.3214	0.2416	0.1343	0.1361
270	17.7801	5.7260	3.2424	0.2399	0.1544	0.1154
274.92	17.9124	5.5363	2.9880	0.1616	0.0759	0.1199
279.84	17.8572	5.8413	3.1565	0.1799	0.1297	0.1336
285.12	17.9219	6.0137	3.1541	0.2027	0.1525	0.0859
299.88	18.0325	6.1458	3.3268	0.1385	0.0868	0.1470
315	17.4884	6.0138	3.2957	0.1507	0.1420	0.0589
330.12	15.6197	5.3192	2.9732	0.1992	0.1341	0.0956
344.88	14.3653	4.6458	2.9983	0.1761	0.1252	0.0836
350.16	14.3044	4.1928	2.9683	0.3775	0.0881	0.0687
355.08	13.1211	4.3253	3.1752	0.1298	0.0946	0.0932

Table 2.10-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	12.6316	4.2446	3.6373	0.1523	0.0990	0.1376
4.92	12.1293	4.1364	3.6501	0.1454	0.0658	0.0938
9.84	11.5850	4.1613	3.8001	0.1237	0.0857	0.1006
15.12	10.7311	4.0927	3.7091	0.2001	0.0894	0.1176
29.88	9.2161	3.9361	4.0798	0.2306	0.1058	0.1821
45	7.2128	3.9707	4.1240	0.1272	0.1376	0.0989
60.12	4.7980	4.4540	4.2328	0.1826	0.0944	0.0898
74.88	3.2501	5.1590	4.4026	0.1272	0.0687	0.0456
80.16	3.1414	5.2422	4.4108	0.1474	0.0721	0.1177
85.08	2.8347	5.4212	4.5335	0.1252	0.0875	0.0672
90.35	2.8168	5.3673	4.4955	0.1398	0.0975	0.0816
94.92	3.2947	5.0346	4.4999	0.1186	0.0807	0.1074
99.84	2.6018	5.5543	4.5779	0.1327	0.0901	0.0688
105.12	3.2745	5.1125	4.5121	0.1377	0.1048	0.0654
119.88	3.3628	5.0976	4.4647	0.1234	0.1007	0.0965
135	4.0098	5.4708	4.6434	0.1442	0.1391	0.0815
150.12	5.2894	5.8046	4.8643	0.1031	0.1459	0.0792
164.88	7.1543	5.9673	4.9884	0.1079	0.1455	0.0758
170.16	7.5896	5.9164	4.9160	0.1583	0.1702	0.1470
175.08	8.2373	5.5994	4.8929	0.1402	0.1612	0.0955
180	9.2810	5.4065	4.7554	0.1096	0.1840	0.0990
184.92	9.7601	5.2857	4.7540	0.1449	0.1649	0.0908
189.84	10.2238	5.3531	4.6958	0.1814	0.2018	0.1057
195.12	11.4370	5.1966	4.6522	0.1050	0.1626	0.0847
209.88	12.4985	5.1633	4.7026	0.1266	0.1767	0.1168
225	14.7041	4.9486	4.2756	0.1271	0.1278	0.0521
240.12	15.7519	4.9561	3.9751	0.1695	0.1388	0.0929
254.88	16.8644	5.3138	3.9847	0.2557	0.0976	0.0683
260.16	17.0375	5.4545	3.9335	0.0813	0.1082	0.0628
265.08	17.8093	4.8145	3.5165	0.6474	0.3800	0.1893
270	17.2546	5.3908	3.5152	0.1857	0.1399	0.1552
274.92	17.4332	5.8843	3.6778	0.2245	0.1137	0.0822
279.84	17.4104	6.1378	3.8203	0.1804	0.1136	0.0659
285.12	17.4963	6.3012	3.8213	0.1826	0.0891	0.0798
299.88	17.1305	6.5027	3.9621	0.2518	0.1063	0.1377
315	16.5695	6.4357	4.0248	0.2058	0.1090	0.0816
330.12	14.7478	5.7616	3.7935	0.1221	0.1123	0.0826
344.88	13.6259	5.2134	3.7436	0.1047	0.0802	0.0683
350.16	11.4754	4.9834	4.1097	0.8986	0.2788	0.2876
355.08	13.1537	4.4426	3.5861	0.1330	0.1205	0.1273

2.10.2 Spanwise Elastic Deformations

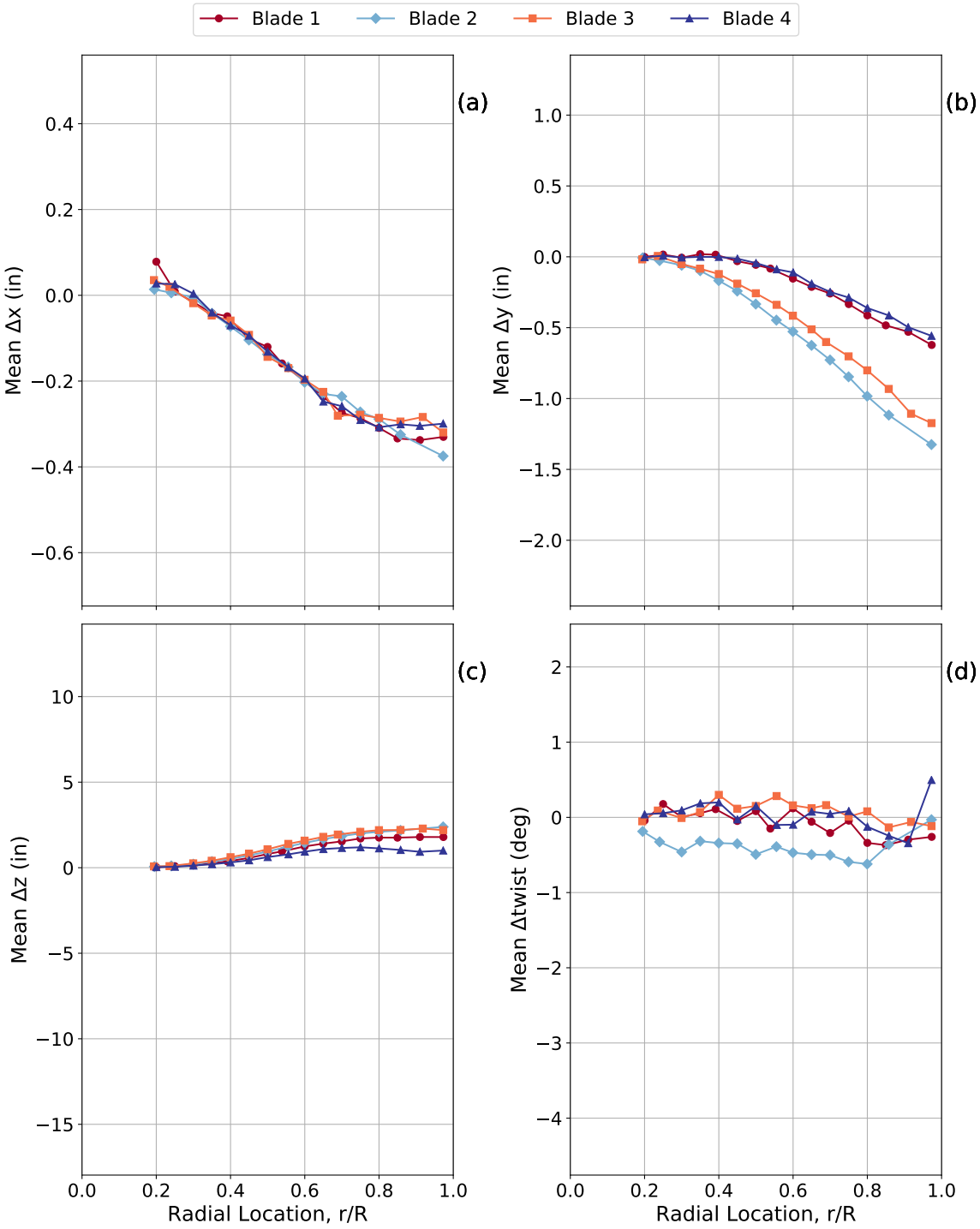


Figure 2.10-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0783	0.0037	-0.0013	0.0029	0.0291	0.0099	-0.0417	0.0639
1	0.35	0.2499	0.0088	0.0022	0.0159	0.0042	0.0906	0.0156	0.1770	0.1048
1	0.35	0.2998	-0.0160	0.0022	-0.0060	0.0095	0.1348	0.0278	0.0039	0.1370
1	0.35	0.3498	-0.0415	0.0032	0.0189	0.0175	0.2560	0.0466	0.0557	0.1141
1	0.35	0.3913	-0.0490	0.0033	0.0151	0.0229	0.3692	0.0624	0.1090	0.1090
1	0.35	0.4496	-0.1015	0.0031	-0.0309	0.0296	0.5696	0.0845	-0.0481	0.1046
1	0.35	0.4997	-0.1203	0.0036	-0.0565	0.0360	0.8005	0.1076	0.0826	0.1063
1	0.35	0.5387	-0.1589	0.0040	-0.0828	0.0409	0.9529	0.1253	-0.1496	0.1130
1	0.35	0.5996	-0.2008	0.0045	-0.1538	0.0497	1.2429	0.1555	0.1201	0.1130
1	0.35	0.6498	-0.2362	0.0050	-0.2121	0.0566	1.4058	0.1789	-0.0583	0.1216
1	0.35	0.6998	-0.2740	0.0054	-0.2589	0.0634	1.5378	0.2032	-0.2077	0.1214
1	0.35	0.7500	-0.2866	0.0058	-0.3337	0.0712	1.7067	0.2289	-0.0437	0.1235
1	0.35	0.8001	-0.3091	0.0063	-0.4132	0.0794	1.7605	0.2571	-0.3394	0.1253
1	0.35	0.8497	-0.3337	0.0069	-0.4835	0.0887	1.7554	0.2874	-0.3693	0.1109
1	0.35	0.9102	-0.3376	0.0072	-0.5292	0.0971	1.7939	0.3244	-0.2966	0.1429
1	0.35	0.9734	-0.3301	0.0111	-0.6220	0.1090	1.7915	0.3691	-0.2595	0.1407
2	0	0.1949	0.0138	0.0024	-0.0069	0.0018	0.0649	0.0074	-0.1868	0.0500
2	0	0.2405	0.0058	0.0022	-0.0267	0.0043	0.1054	0.0119	-0.3255	0.0778
2	0	0.2999	-0.0044	0.0014	-0.0596	0.0064	0.2048	0.0224	-0.4602	0.1094
2	0	0.3498	-0.0420	0.0020	-0.0982	0.0120	0.3566	0.0374	-0.3166	0.0945
2	0	0.3998	-0.0726	0.0027	-0.1680	0.0185	0.5117	0.0542	-0.3420	0.0859
2	0	0.4496	-0.1042	0.0030	-0.2418	0.0231	0.7210	0.0706	-0.3504	0.0883
2	0	0.4995	-0.1375	0.0031	-0.3335	0.0291	0.9384	0.0897	-0.4924	0.0963
2	0	0.5551	-0.1671	0.0034	-0.4469	0.0360	1.2369	0.1134	-0.3896	0.1015
2	0	0.5996	-0.2026	0.0042	-0.5276	0.0413	1.4457	0.1327	-0.4698	0.0936
2	0	0.6497	-0.2298	0.0045	-0.6248	0.0483	1.6687	0.1562	-0.4949	0.1005
2	0	0.6996	-0.2357	0.0052	-0.7279	0.0554	1.8496	0.1827	-0.5016	0.1168
2	0	0.7495	-0.2720	0.0056	-0.8467	0.0641	2.0012	0.2113	-0.5917	0.1107
2	0	0.7996	-0.2884	0.0060	-0.9834	0.0712	2.0957	0.2409	-0.6205	0.1142
2	0	0.8578	-0.3248	0.0072	-1.1169	0.0809	2.1804	0.2775	-0.3612	0.1153
2	0	0.9727	-0.3748	0.0105	-1.3248	0.1007	2.3870	0.3487	-0.0310	0.1225
3	0	0.1938	0.0354	0.0020	-0.0179	0.0018	0.0765	0.0066	-0.0522	0.0522
3	0	0.2357	0.0198	0.0019	0.0060	0.0034	0.0907	0.0104	0.0905	0.0645
3	0	0.2995	-0.0184	0.0016	-0.0510	0.0054	0.2551	0.0202	-0.0082	0.1058
3	0	0.3493	-0.0471	0.0020	-0.0835	0.0101	0.4060	0.0355	0.0706	0.0865
3	0	0.4000	-0.0589	0.0027	-0.1218	0.0152	0.6128	0.0519	0.2987	0.0841
3	0	0.4497	-0.0922	0.0028	-0.1892	0.0186	0.8208	0.0704	0.1148	0.0872
3	0	0.4997	-0.1435	0.0033	-0.2572	0.0241	1.0758	0.0931	0.1513	0.0884
3	0	0.5556	-0.1697	0.0033	-0.3388	0.0298	1.3919	0.1185	0.2832	0.0900
3	0	0.5995	-0.1969	0.0035	-0.4154	0.0346	1.5813	0.1421	0.1595	0.0967
3	0	0.6498	-0.2252	0.0042	-0.5118	0.0402	1.8034	0.1706	0.1215	0.0872
3	0	0.6890	-0.2808	0.0046	-0.6013	0.0462	1.9370	0.1945	0.1626	0.1071
3	0	0.7495	-0.2785	0.0052	-0.7023	0.0549	2.0979	0.2346	0.0095	0.0899
3	0	0.7998	-0.2858	0.0056	-0.8011	0.0627	2.1940	0.2700	0.0799	0.1130
3	0	0.8577	-0.2943	0.0070	-0.9322	0.0707	2.2057	0.3169	-0.1340	0.1036
3	0	0.9178	-0.2837	0.0094	-1.1071	0.0844	2.2871	0.3650	-0.0612	0.1744
3	0	0.9729	-0.3198	0.0115	-1.1734	0.0888	2.1973	0.4147	-0.1165	0.1364
4	0	0.2001	0.0275	0.0024	-0.0021	0.0018	0.0336	0.0081	0.0402	0.0503
4	0	0.2502	0.0258	0.0019	0.0077	0.0046	0.0537	0.0141	0.0558	0.0791
4	0	0.3001	0.0036	0.0015	-0.0050	0.0076	0.1226	0.0242	0.0934	0.1051
4	0	0.3502	-0.0402	0.0024	-0.0002	0.0143	0.2030	0.0397	0.1863	0.0913
4	0	0.4002	-0.0701	0.0031	-0.0010	0.0219	0.3092	0.0582	0.1988	0.0920
4	0	0.4500	-0.0942	0.0029	-0.0132	0.0272	0.4319	0.0779	-0.0271	0.0957
4	0	0.5001	-0.1315	0.0039	-0.0441	0.0348	0.6200	0.1020	0.1501	0.0933
4	0	0.5560	-0.1677	0.0041	-0.0882	0.0437	0.7814	0.1318	-0.1010	0.0895
4	0	0.6001	-0.1941	0.0047	-0.1102	0.0508	0.9353	0.1576	-0.0976	0.0874
4	0	0.6501	-0.2478	0.0055	-0.1899	0.0603	1.0879	0.1868	0.0754	0.0933
4	0	0.6999	-0.2586	0.0057	-0.2479	0.0691	1.1529	0.2149	0.0449	0.0989
4	0	0.7500	-0.2907	0.0067	-0.2878	0.0782	1.1924	0.2416	0.0837	0.1167
4	0	0.8002	-0.3076	0.0077	-0.3615	0.0897	1.1300	0.2691	-0.1256	0.1087
4	0	0.8582	-0.3008	0.0081	-0.4141	0.1025	1.0363	0.2999	-0.2457	0.1236
4	0	0.9101	-0.3044	0.0082	-0.4968	0.1153	0.9294	0.3285	-0.3433	0.1468
4	0	0.9728	-0.2992	0.0126	-0.5577	0.1281	1.0026	0.3656	0.4971	0.1204

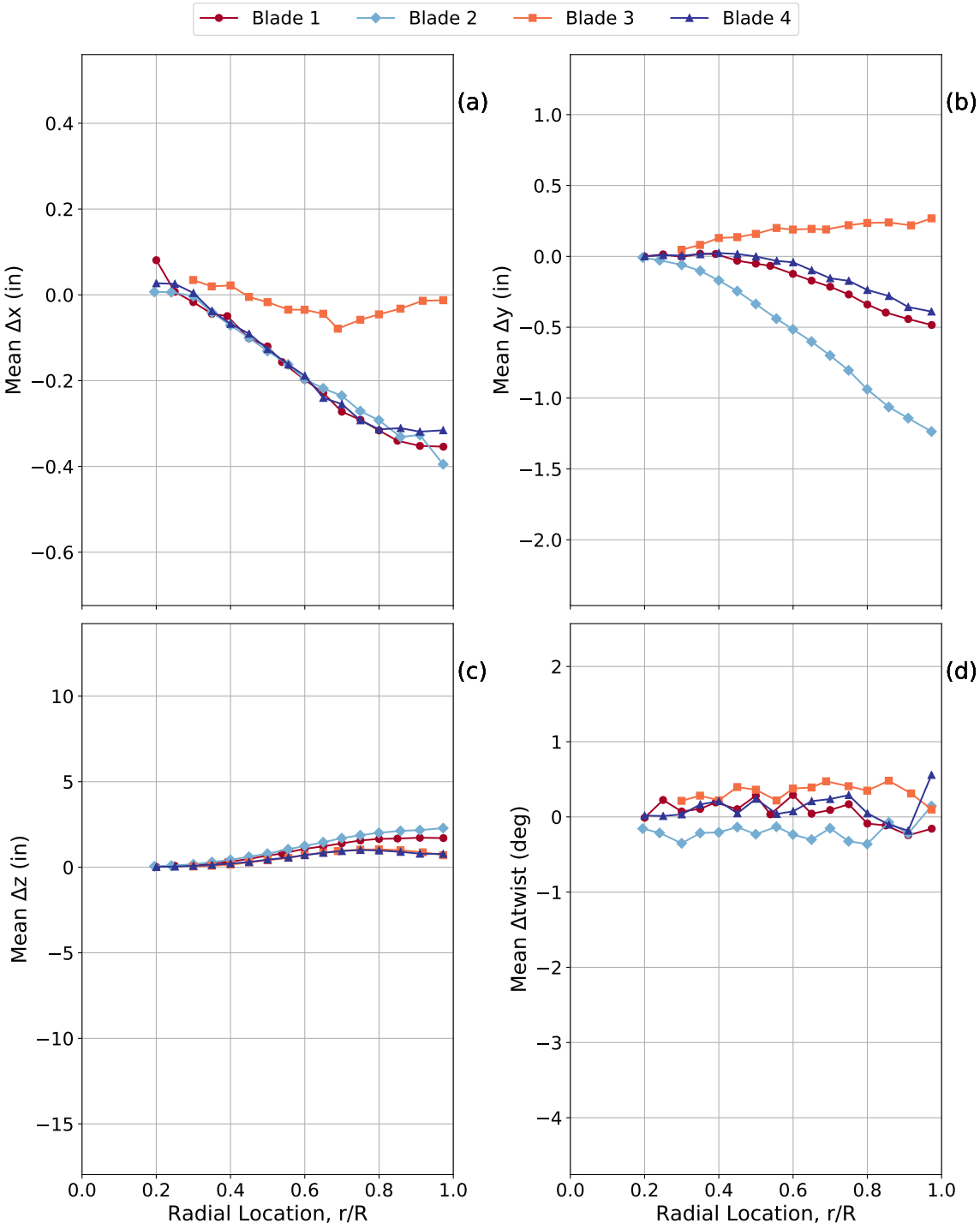


Figure 2.10-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-6. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -4.5°$
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0808	0.0033	-0.0010	0.0023	0.0195	0.0097	-0.0116	0.0618
1	4.92	0.2499	0.0072	0.0026	0.0142	0.0045	0.0815	0.0177	0.2247	0.1148
1	4.92	0.2998	-0.0170	0.0021	-0.0040	0.0092	0.1065	0.0310	0.0724	0.1406
1	4.92	0.3498	-0.0443	0.0024	0.0187	0.0160	0.2076	0.0521	0.1064	0.1222
1	4.92	0.3913	-0.0496	0.0030	0.0166	0.0228	0.3064	0.0721	0.1922	0.1210
1	4.92	0.4496	-0.1013	0.0030	-0.0308	0.0304	0.4823	0.0995	0.1029	0.1228
1	4.92	0.4997	-0.1202	0.0037	-0.0514	0.0370	0.6832	0.1230	0.2825	0.1222
1	4.92	0.5387	-0.1567	0.0039	-0.0669	0.0426	0.8025	0.1422	0.0341	0.1213
1	4.92	0.5996	-0.1978	0.0044	-0.1236	0.0518	1.0736	0.1695	0.2916	0.1275
1	4.92	0.6498	-0.2288	0.0050	-0.1713	0.0597	1.2210	0.1916	0.0428	0.1319
1	4.92	0.6998	-0.2724	0.0055	-0.2144	0.0676	1.3965	0.2121	0.0916	0.1326
1	4.92	0.7500	-0.2914	0.0060	-0.2690	0.0768	1.5657	0.2332	0.1684	0.1368
1	4.92	0.8001	-0.3162	0.0064	-0.3400	0.0855	1.6561	0.2542	-0.0886	0.1352
1	4.92	0.8497	-0.3401	0.0067	-0.3967	0.0944	1.6776	0.2747	-0.1130	0.1393
1	4.92	0.9102	-0.3521	0.0069	-0.4421	0.1061	1.7239	0.3044	-0.2446	0.1482
1	4.92	0.9734	-0.3540	0.0114	-0.4843	0.1168	1.7037	0.3385	-0.1568	0.1784
2	4.92	0.1949	0.0069	0.0025	-0.0079	0.0015	0.0543	0.0061	-0.1559	0.0429
2	4.92	0.2405	0.0061	0.0020	-0.0279	0.0032	0.0939	0.0100	-0.2130	0.0758
2	4.92	0.2999	-0.0031	0.0016	-0.0596	0.0048	0.1713	0.0189	-0.3513	0.1014
2	4.92	0.3498	-0.0409	0.0021	-0.1022	0.0099	0.3015	0.0336	-0.2145	0.0893
2	4.92	0.3998	-0.0710	0.0023	-0.1699	0.0141	0.4314	0.0480	-0.2055	0.0862
2	4.92	0.4496	-0.1000	0.0022	-0.2453	0.0177	0.6139	0.0628	-0.1358	0.0902
2	4.92	0.4995	-0.1310	0.0032	-0.3360	0.0226	0.7929	0.0788	-0.2302	0.0977
2	4.92	0.5551	-0.1622	0.0033	-0.4398	0.0284	1.0489	0.0967	-0.1314	0.0948
2	4.92	0.5996	-0.1967	0.0034	-0.5149	0.0334	1.2435	0.1122	-0.2348	0.0882
2	4.92	0.6497	-0.2181	0.0042	-0.6013	0.0394	1.4616	0.1286	-0.3018	0.0974
2	4.92	0.6996	-0.2352	0.0045	-0.6995	0.0460	1.6983	0.1462	-0.1513	0.0911
2	4.92	0.7495	-0.2710	0.0048	-0.8042	0.0524	1.8702	0.1671	-0.3243	0.0983
2	4.92	0.7996	-0.2922	0.0051	-0.9382	0.0602	2.0131	0.1889	-0.3617	0.1034
2	4.92	0.8578	-0.3313	0.0060	-1.0630	0.0684	2.1240	0.2205	-0.0716	0.1131
2	4.92	0.9100	-0.3267	0.0053	-1.1417	0.0749	2.1697	0.2517	-0.2216	0.1423
2	4.92	0.9727	-0.3950	0.0090	-1.2360	0.0859	2.2859	0.3072	0.1440	0.1431
3	4.92	0.2995	0.0346	0.0133	0.0463	0.0244	0.0431	0.1052	0.2137	0.2253
3	4.92	0.3493	0.0197	0.0084	0.0806	0.0447	0.0872	0.1645	0.2824	0.2949
3	4.92	0.4000	0.0219	0.0085	0.1295	0.0739	0.1520	0.2468	0.2204	0.2710
3	4.92	0.4497	-0.0049	0.0123	0.1353	0.0974	0.2856	0.3086	0.3967	0.2802
3	4.92	0.4997	-0.0170	0.0184	0.1586	0.1247	0.4062	0.3833	0.3617	0.2671
3	4.92	0.5556	-0.0345	0.0255	0.2003	0.1543	0.5500	0.4618	0.2186	0.2794
3	4.92	0.5995	-0.0348	0.0322	0.1891	0.1776	0.7090	0.5239	0.3772	0.2841
3	4.92	0.6498	-0.0442	0.0403	0.1941	0.2048	0.8556	0.5982	0.3912	0.2865
3	4.92	0.6890	-0.0788	0.0466	0.1898	0.2259	0.9434	0.6556	0.4732	0.3008
3	4.92	0.7495	-0.0582	0.0565	0.2197	0.2611	1.0313	0.7512	0.4081	0.2815
3	4.92	0.7998	-0.0455	0.0642	0.2355	0.2915	1.0464	0.8316	0.3492	0.2805
3	4.92	0.8577	-0.0322	0.0736	0.2393	0.3278	0.9983	0.9278	0.4815	0.2850
3	4.92	0.9178	-0.0138	0.0850	0.2188	0.3690	0.8724	1.0324	0.3119	0.2949
3	4.92	0.9729	-0.0125	0.0962	0.2682	0.4065	0.7040	1.1372	0.0982	0.2889
4	4.92	0.2001	0.0271	0.0020	0.0005	0.0016	0.0186	0.0075	0.0166	0.0544
4	4.92	0.2502	0.0255	0.0016	0.0086	0.0029	0.0379	0.0141	0.0119	0.0847
4	4.92	0.3001	0.0044	0.0017	0.0057	0.0064	0.0803	0.0248	0.0336	0.1200
4	4.92	0.3502	-0.0378	0.0022	0.0148	0.0112	0.1359	0.0408	0.1657	0.0965
4	4.92	0.4002	-0.0675	0.0025	0.0232	0.0170	0.2134	0.0617	0.2090	0.0932
4	4.92	0.4500	-0.0907	0.0028	0.0165	0.0225	0.3055	0.0817	0.0482	0.0978
4	4.92	0.5001	-0.1264	0.0032	-0.0010	0.0282	0.4459	0.1011	0.2402	0.0933
4	4.92	0.5560	-0.1626	0.0039	-0.0319	0.0356	0.5668	0.1248	0.0389	0.0951
4	4.92	0.6001	-0.1887	0.0038	-0.0419	0.0428	0.7094	0.1430	0.0742	0.1040
4	4.92	0.6501	-0.2402	0.0043	-0.0984	0.0506	0.8431	0.1633	0.2091	0.0982
4	4.92	0.6999	-0.2547	0.0051	-0.1545	0.0574	0.9475	0.1844	0.2372	0.1080
4	4.92	0.7500	-0.2925	0.0056	-0.1729	0.0682	1.0084	0.2033	0.2898	0.1041
4	4.92	0.8002	-0.3134	0.0059	-0.2372	0.0762	0.9787	0.2274	0.0475	0.1085
4	4.92	0.8582	-0.3108	0.0058	-0.2798	0.0866	0.9004	0.2567	-0.1022	0.0999
4	4.92	0.9101	-0.3190	0.0075	-0.3576	0.0972	0.7913	0.2824	-0.1832	0.1262
4	4.92	0.9728	-0.3157	0.0101	-0.3894	0.1091	0.7821	0.3213	0.5584	0.1163

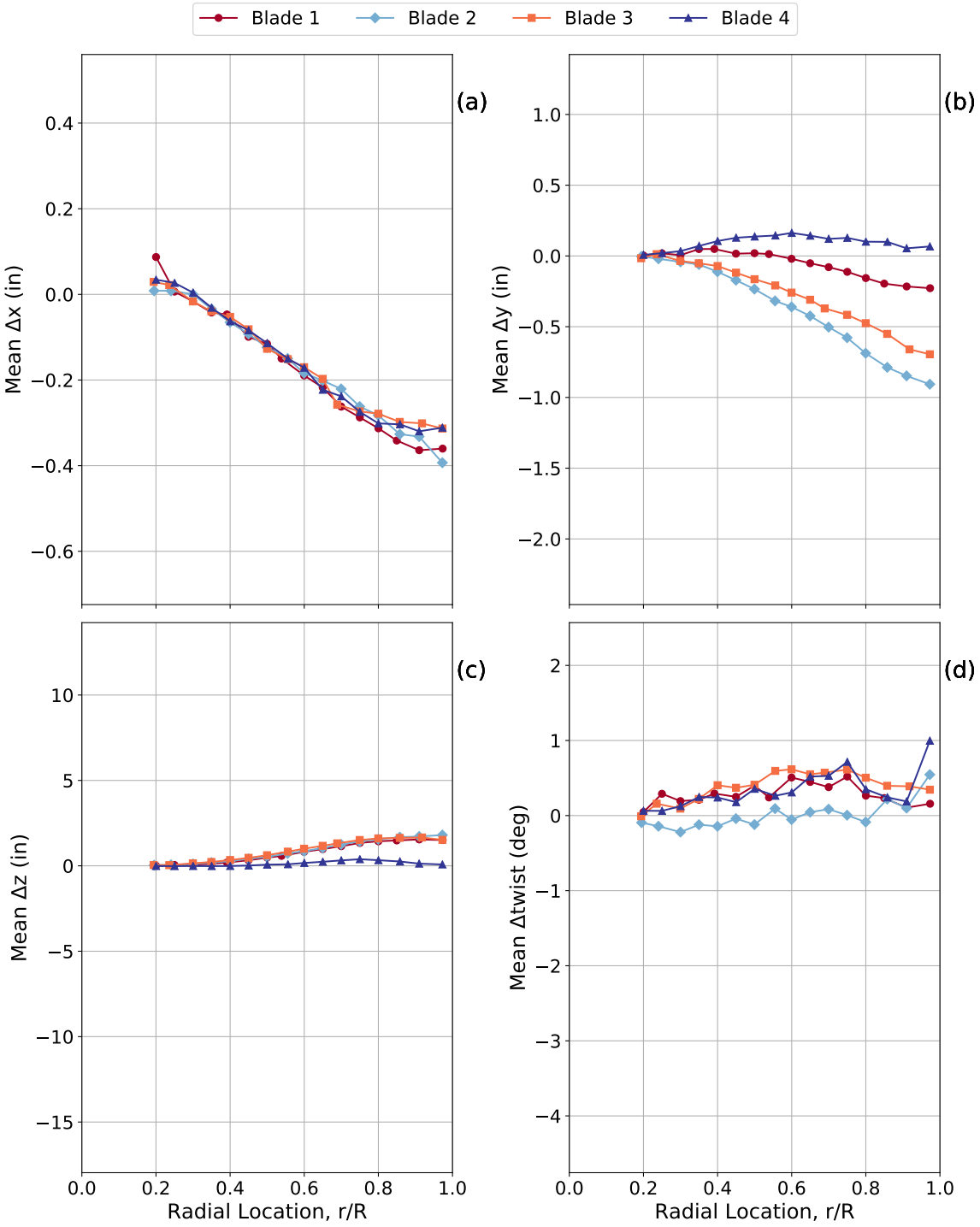


Figure 2.10-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0872	0.0036	0.0027	0.0019	0.0036	0.0072	0.0471	0.0522
1	9.84	0.2499	0.0064	0.0024	0.0186	0.0044	0.0508	0.0142	0.2900	0.0975
1	9.84	0.2998	-0.0163	0.0020	0.0057	0.0078	0.0608	0.0238	0.1932	0.1207
1	9.84	0.3498	-0.0424	0.0025	0.0486	0.0144	0.1202	0.0404	0.2104	0.1128
1	9.84	0.3913	-0.0469	0.0033	0.0492	0.0204	0.1932	0.0567	0.2933	0.1135
1	9.84	0.4496	-0.0991	0.0034	0.0159	0.0273	0.3259	0.0811	0.2496	0.1112
1	9.84	0.4997	-0.1156	0.0036	0.0193	0.0334	0.4788	0.1055	0.3991	0.1111
1	9.84	0.5387	-0.1498	0.0038	0.0132	0.0390	0.5822	0.1267	0.2413	0.1111
1	9.84	0.5996	-0.1893	0.0040	-0.0199	0.0469	0.8192	0.1598	0.5068	0.1097
1	9.84	0.6498	-0.2175	0.0049	-0.0518	0.0544	0.9776	0.1910	0.4480	0.1086
1	9.84	0.6998	-0.2621	0.0049	-0.0794	0.0621	1.1507	0.2206	0.3787	0.1178
1	9.84	0.7500	-0.2874	0.0058	-0.1124	0.0702	1.3418	0.2534	0.5196	0.1125
1	9.84	0.8001	-0.3128	0.0055	-0.1563	0.0790	1.4392	0.2896	0.2654	0.1156
1	9.84	0.8497	-0.3413	0.0061	-0.1956	0.0869	1.4861	0.3306	0.2328	0.1137
1	9.84	0.9102	-0.3639	0.0065	-0.2158	0.0977	1.5464	0.3842	0.1054	0.1220
1	9.84	0.9734	-0.3602	0.0092	-0.2279	0.1093	1.5100	0.4572	0.1575	0.1258
2	9.84	0.1949	0.0084	0.0023	-0.0037	0.0011	0.0345	0.0052	-0.0944	0.0403
2	9.84	0.2405	0.0083	0.0021	-0.0202	0.0032	0.0561	0.0111	-0.1421	0.0725
2	9.84	0.2999	0.0002	0.0017	-0.0419	0.0046	0.1081	0.0197	-0.2199	0.0960
2	9.84	0.3498	-0.0342	0.0019	-0.0603	0.0093	0.1908	0.0329	-0.1213	0.0807
2	9.84	0.3998	-0.0651	0.0025	-0.1117	0.0140	0.2724	0.0505	-0.1432	0.0845
2	9.84	0.4496	-0.0926	0.0028	-0.1716	0.0187	0.4087	0.0675	-0.0404	0.0812
2	9.84	0.4995	-0.1239	0.0031	-0.2343	0.0237	0.5278	0.0856	-0.1197	0.0826
2	9.84	0.5551	-0.1497	0.0036	-0.3179	0.0299	0.7262	0.1075	0.0927	0.0873
2	9.84	0.5996	-0.1839	0.0036	-0.3602	0.0351	0.8590	0.1227	-0.0536	0.0931
2	9.84	0.6497	-0.2014	0.0042	-0.4243	0.0408	1.0461	0.1440	0.0454	0.0858
2	9.84	0.6996	-0.2208	0.0040	-0.5031	0.0472	1.2528	0.1651	0.0850	0.0892
2	9.84	0.7495	-0.2619	0.0052	-0.5779	0.0530	1.4239	0.1902	0.0052	0.1011
2	9.84	0.7996	-0.2823	0.0045	-0.6877	0.0611	1.5567	0.2228	-0.0864	0.0895
2	9.84	0.8578	-0.3265	0.0055	-0.7875	0.0696	1.6791	0.2645	0.2190	0.0977
2	9.84	0.9100	-0.3321	0.0053	-0.8476	0.0774	1.7168	0.3114	0.0998	0.0932
2	9.84	0.9727	-0.3931	0.0083	-0.9067	0.0856	1.8027	0.3685	0.5454	0.1190
3	9.84	0.1938	0.0292	0.0023	-0.0163	0.0016	0.0468	0.0059	-0.0087	0.0423
3	9.84	0.2357	0.0218	0.0018	0.0127	0.0023	0.0393	0.0093	0.1585	0.0656
3	9.84	0.2995	-0.0164	0.0018	-0.0354	0.0054	0.1460	0.0194	0.0926	0.0942
3	9.84	0.3493	-0.0397	0.0019	-0.0518	0.0091	0.2265	0.0327	0.2208	0.0730
3	9.84	0.4000	-0.0526	0.0025	-0.0712	0.0140	0.3398	0.0488	0.4040	0.0764
3	9.84	0.4497	-0.0815	0.0027	-0.1182	0.0178	0.4673	0.0648	0.3700	0.0764
3	9.84	0.4997	-0.1271	0.0028	-0.1646	0.0220	0.6197	0.0838	0.4100	0.0737
3	9.84	0.5556	-0.1512	0.0032	-0.2086	0.0277	0.8314	0.1061	0.5949	0.0809
3	9.84	0.5995	-0.1701	0.0034	-0.2590	0.0323	1.0020	0.1223	0.6160	0.0882
3	9.84	0.6498	-0.1973	0.0041	-0.3095	0.0379	1.1724	0.1484	0.5497	0.0871
3	9.84	0.6890	-0.2576	0.0043	-0.3710	0.0431	1.3162	0.1655	0.5713	0.0900
3	9.84	0.7495	-0.2732	0.0052	-0.4161	0.0509	1.5113	0.2006	0.6132	0.0997
3	9.84	0.7998	-0.2787	0.0053	-0.4751	0.0588	1.6055	0.2353	0.5043	0.0932
3	9.84	0.8577	-0.2979	0.0058	-0.5508	0.0687	1.6364	0.2822	0.3965	0.1028
3	9.84	0.9178	-0.3012	0.0065	-0.6602	0.0790	1.6591	0.3413	0.3895	0.1193
3	9.84	0.9729	-0.3133	0.0085	-0.6950	0.0886	1.5210	0.3971	0.3447	0.1196
4	9.84	0.2001	0.0343	0.0024	0.0077	0.0016	-0.0110	0.0065	0.0636	0.0410
4	9.84	0.2502	0.0267	0.0017	0.0199	0.0035	-0.0166	0.0132	0.0627	0.0708
4	9.84	0.3001	0.0039	0.0020	0.0341	0.0063	-0.0109	0.0221	0.1254	0.0892
4	9.84	0.3502	-0.0313	0.0018	0.0708	0.0109	-0.0153	0.0356	0.2476	0.0869
4	9.84	0.4002	-0.0628	0.0020	0.1052	0.0168	-0.0095	0.0549	0.2404	0.0820
4	9.84	0.4500	-0.0839	0.0028	0.1287	0.0234	0.0176	0.0730	0.1786	0.0825
4	9.84	0.5001	-0.1142	0.0031	0.1370	0.0297	0.0689	0.0928	0.3563	0.0879
4	9.84	0.5560	-0.1502	0.0033	0.1444	0.0373	0.0915	0.1141	0.2634	0.0881
4	9.84	0.6001	-0.1714	0.0040	0.1627	0.0434	0.1673	0.1295	0.3084	0.0925
4	9.84	0.6501	-0.2228	0.0042	0.1432	0.0516	0.2384	0.1500	0.5193	0.0864
4	9.84	0.6999	-0.2381	0.0044	0.1206	0.0608	0.3173	0.1680	0.5296	0.0902
4	9.84	0.7500	-0.2744	0.0057	0.1277	0.0703	0.3874	0.1894	0.7148	0.1639
4	9.84	0.8002	-0.3013	0.0052	0.1007	0.0797	0.3287	0.2092	0.3501	0.0944
4	9.84	0.8582	-0.3035	0.0057	0.0994	0.0919	0.2544	0.2377	0.2419	0.0966
4	9.84	0.9101	-0.3198	0.0060	0.0539	0.1028	0.1289	0.2650	0.1879	0.1069
4	9.84	0.9728	-0.3113	0.0096	0.0670	0.1159	0.0802	0.3006	0.9966	0.0977

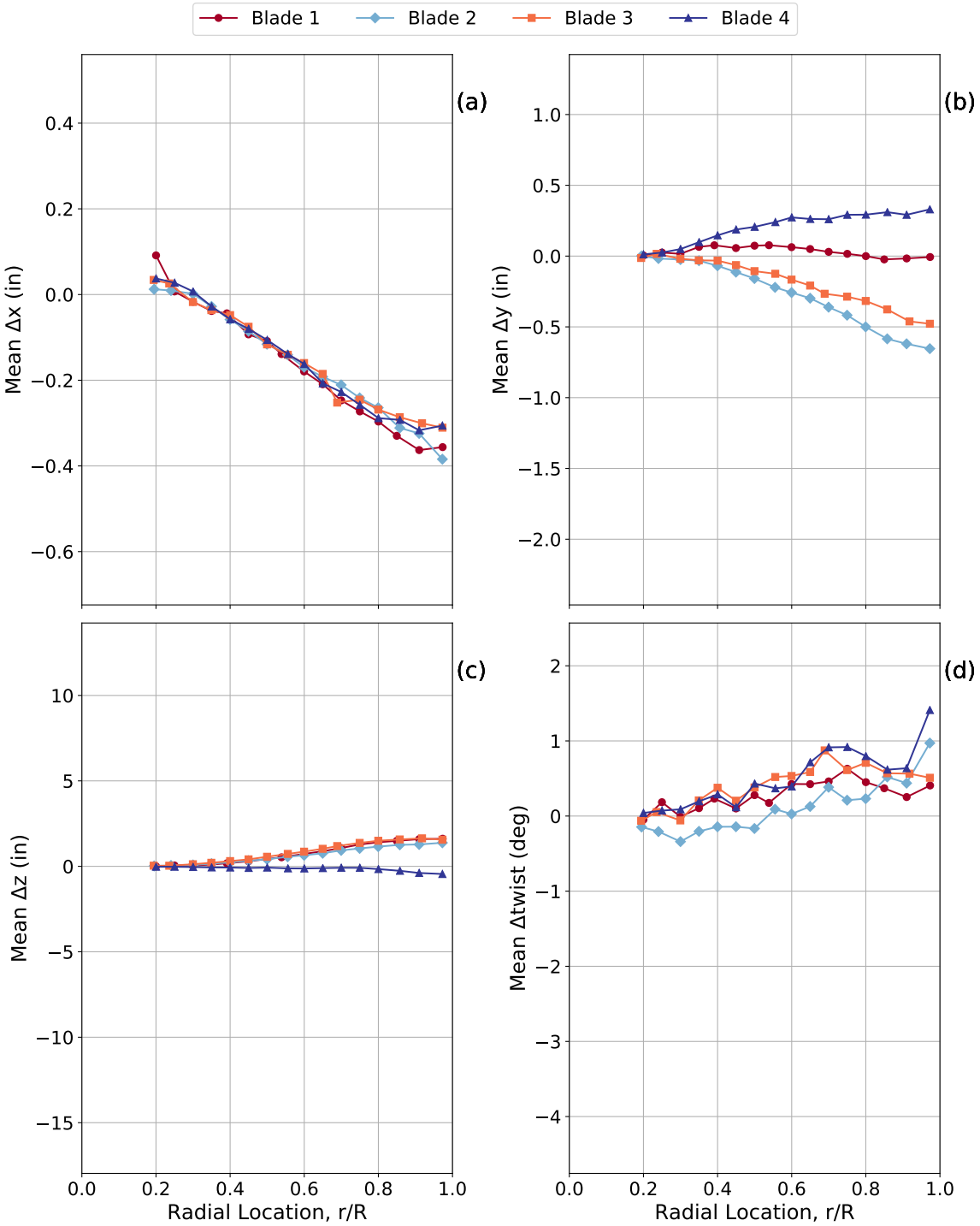


Figure 2.10-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-8. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -4.5°$
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0914	0.0038	0.0040	0.0019	-0.0022	0.0073	-0.0479	0.0552
1	15.12	0.2499	0.0072	0.0020	0.0250	0.0036	0.0507	0.0117	0.1843	0.0966
1	15.12	0.2998	-0.0168	0.0021	0.0159	0.0073	0.0494	0.0233	-0.0092	0.1233
1	15.12	0.3498	-0.0384	0.0026	0.0652	0.0129	0.1076	0.0377	0.1048	0.1102
1	15.12	0.3913	-0.0439	0.0029	0.0765	0.0180	0.1787	0.0523	0.2317	0.1109
1	15.12	0.4496	-0.0930	0.0034	0.0567	0.0235	0.2932	0.0724	0.1008	0.1181
1	15.12	0.4997	-0.1086	0.0033	0.0735	0.0289	0.4295	0.0911	0.2784	0.1192
1	15.12	0.5387	-0.1389	0.0040	0.0769	0.0336	0.5286	0.1061	0.1749	0.1208
1	15.12	0.5996	-0.1795	0.0038	0.0630	0.0410	0.7265	0.1318	0.4266	0.1320
1	15.12	0.6498	-0.2094	0.0043	0.0499	0.0466	0.8816	0.1541	0.4245	0.1243
1	15.12	0.6998	-0.2470	0.0046	0.0300	0.0529	1.0726	0.1781	0.4610	0.1246
1	15.12	0.7500	-0.2728	0.0047	0.0160	0.0599	1.2803	0.2053	0.6294	0.1231
1	15.12	0.8001	-0.2964	0.0043	-0.0002	0.0666	1.4089	0.2359	0.4512	0.1344
1	15.12	0.8497	-0.3297	0.0046	-0.0234	0.0747	1.4909	0.2739	0.3698	0.1432
1	15.12	0.9102	-0.3630	0.0049	-0.0166	0.0843	1.5909	0.3202	0.2529	0.1363
1	15.12	0.9734	-0.3561	0.0069	-0.0067	0.0940	1.6147	0.3749	0.4069	0.1450
2	15.12	0.1949	0.0124	0.0029	0.0007	0.0014	0.0215	0.0061	-0.1457	0.0381
2	15.12	0.2405	0.0093	0.0027	-0.0172	0.0033	0.0525	0.0098	-0.2064	0.0724
2	15.12	0.2999	0.0018	0.0020	-0.0245	0.0054	0.0829	0.0195	-0.3402	0.0916
2	15.12	0.3498	-0.0278	0.0018	-0.0325	0.0102	0.1561	0.0328	-0.2037	0.0821
2	15.12	0.3998	-0.0583	0.0026	-0.0684	0.0156	0.2291	0.0485	-0.1429	0.0815
2	15.12	0.4496	-0.0856	0.0026	-0.1132	0.0197	0.3302	0.0626	-0.1418	0.0886
2	15.12	0.4995	-0.1159	0.0035	-0.1585	0.0255	0.4126	0.0773	-0.1659	0.0929
2	15.12	0.5551	-0.1407	0.0031	-0.2208	0.0317	0.5591	0.0954	0.0906	0.0875
2	15.12	0.5996	-0.1696	0.0036	-0.2577	0.0357	0.6452	0.1099	0.0275	0.0871
2	15.12	0.6497	-0.1919	0.0037	-0.2976	0.0438	0.7641	0.1253	0.1270	0.0940
2	15.12	0.6996	-0.2110	0.0045	-0.3607	0.0498	0.9337	0.1415	0.3836	0.1138
2	15.12	0.7495	-0.2412	0.0040	-0.4176	0.0568	1.0487	0.1580	0.2109	0.0959
2	15.12	0.7996	-0.2641	0.0042	-0.4998	0.0648	1.1526	0.1793	0.2311	0.0919
2	15.12	0.8578	-0.3113	0.0041	-0.5846	0.0738	1.2583	0.2073	0.5203	0.0922
2	15.12	0.9100	-0.3242	0.0045	-0.6196	0.0817	1.2804	0.2335	0.4378	0.0979
2	15.12	0.9727	-0.3843	0.0069	-0.6539	0.0932	1.3789	0.2709	0.9716	0.1024
3	15.12	0.1938	0.0341	0.0030	-0.0133	0.0016	0.0379	0.0052	-0.0624	0.0371
3	15.12	0.2357	0.0259	0.0024	0.0159	0.0024	0.0352	0.0094	0.0528	0.0602
3	15.12	0.2995	-0.0175	0.0017	-0.0190	0.0052	0.1230	0.0177	-0.0583	0.0836
3	15.12	0.3493	-0.0364	0.0022	-0.0299	0.0099	0.2080	0.0305	0.2082	0.0759
3	15.12	0.4000	-0.0480	0.0027	-0.0320	0.0146	0.3068	0.0459	0.3765	0.0748
3	15.12	0.4497	-0.0752	0.0029	-0.0637	0.0185	0.4078	0.0612	0.2041	0.0772
3	15.12	0.4997	-0.1163	0.0032	-0.1063	0.0242	0.5610	0.0782	0.3804	0.0740
3	15.12	0.5556	-0.1406	0.0032	-0.1248	0.0293	0.7279	0.0961	0.5197	0.0802
3	15.12	0.5995	-0.1599	0.0033	-0.1661	0.0339	0.8584	0.1102	0.5333	0.0817
3	15.12	0.6498	-0.1852	0.0036	-0.2082	0.0408	1.0262	0.1290	0.5866	0.0837
3	15.12	0.6890	-0.2521	0.0049	-0.2660	0.0471	1.1848	0.1456	0.8739	0.1128
3	15.12	0.7495	-0.2454	0.0042	-0.2866	0.0556	1.3714	0.1778	0.6118	0.0837
3	15.12	0.7998	-0.2685	0.0049	-0.3169	0.0645	1.4967	0.2095	0.7089	0.0958
3	15.12	0.8577	-0.2863	0.0046	-0.3765	0.0748	1.5733	0.2508	0.5700	0.0960
3	15.12	0.9178	-0.3005	0.0048	-0.4613	0.0865	1.6375	0.3039	0.5642	0.1050
3	15.12	0.9729	-0.3107	0.0079	-0.4781	0.0972	1.5581	0.3535	0.5094	0.1025
4	15.12	0.2001	0.0375	0.0024	0.0120	0.0013	-0.0240	0.0064	0.0414	0.0442
4	15.12	0.2502	0.0274	0.0020	0.0250	0.0044	-0.0246	0.0155	0.0725	0.0731
4	15.12	0.3001	0.0071	0.0019	0.0497	0.0062	-0.0394	0.0237	0.0895	0.0966
4	15.12	0.3502	-0.0280	0.0018	0.0986	0.0113	-0.0641	0.0404	0.1964	0.0888
4	15.12	0.4002	-0.0578	0.0027	0.1464	0.0182	-0.0710	0.0623	0.2882	0.0843
4	15.12	0.4500	-0.0803	0.0024	0.1874	0.0214	-0.0939	0.0831	0.1170	0.0834
4	15.12	0.5001	-0.1061	0.0027	0.2065	0.0295	-0.0741	0.1049	0.4321	0.0860
4	15.12	0.5560	-0.1391	0.0023	0.2399	0.0342	-0.1206	0.1279	0.3688	0.0909
4	15.12	0.6001	-0.1623	0.0026	0.2732	0.0368	-0.1253	0.1469	0.3936	0.0909
4	15.12	0.6501	-0.2073	0.0025	0.2621	0.0427	-0.1044	0.1686	0.7157	0.0932
4	15.12	0.6999	-0.2275	0.0039	0.2604	0.0475	-0.0842	0.1925	0.9144	0.0898
4	15.12	0.7500	-0.2573	0.0029	0.2916	0.0535	-0.0871	0.2176	0.9184	0.0967
4	15.12	0.8002	-0.2884	0.0040	0.2927	0.0580	-0.1619	0.2465	0.7981	0.1038
4	15.12	0.8582	-0.2926	0.0038	0.3102	0.0631	-0.2620	0.2843	0.6171	0.1078
4	15.12	0.9101	-0.3168	0.0039	0.2916	0.0696	-0.3889	0.3188	0.6364	0.1094
4	15.12	0.9728	-0.3059	0.0055	0.3301	0.0771	-0.4488	0.3669	1.4111	0.1102

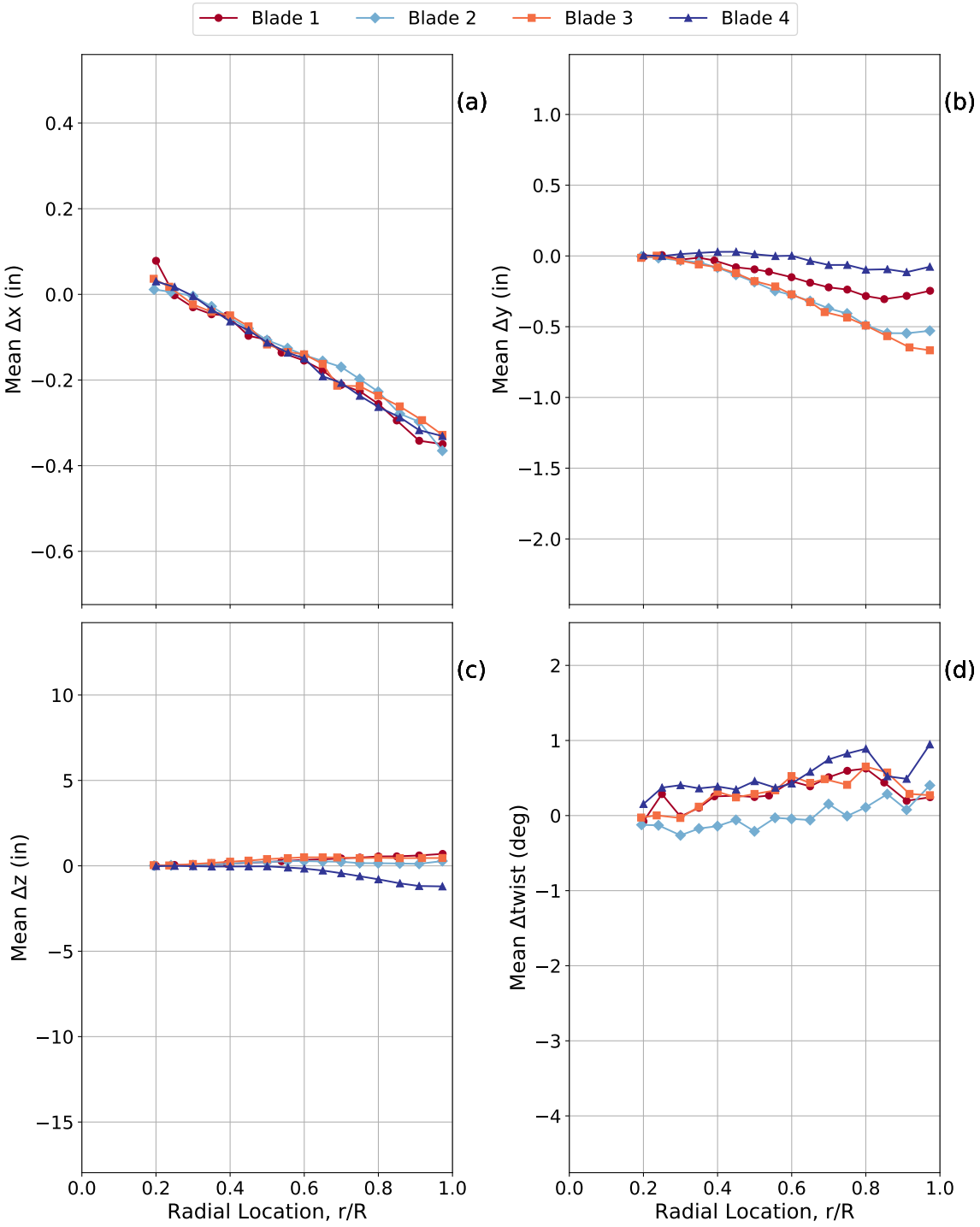


Figure 2.10-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0784	0.0038	-0.0061	0.0016	0.0003	0.0062	-0.0779	0.0460
1	29.88	0.2499	-0.0023	0.0024	0.0060	0.0034	0.0510	0.0115	0.2860	0.0860
1	29.88	0.2998	-0.0302	0.0024	-0.0259	0.0066	0.0315	0.0214	-0.0124	0.1049
1	29.88	0.3498	-0.0465	0.0018	-0.0125	0.0120	0.0719	0.0353	0.1039	0.1023
1	29.88	0.3913	-0.0493	0.0022	-0.0319	0.0170	0.1185	0.0501	0.2560	0.0981
1	29.88	0.4496	-0.0968	0.0021	-0.0799	0.0214	0.1742	0.0694	0.2641	0.0998
1	29.88	0.4997	-0.1059	0.0029	-0.0947	0.0275	0.2244	0.0893	0.2467	0.1087
1	29.88	0.5387	-0.1360	0.0032	-0.1117	0.0320	0.2719	0.1072	0.2669	0.1036
1	29.88	0.5996	-0.1547	0.0032	-0.1503	0.0394	0.3499	0.1400	0.4571	0.1097
1	29.88	0.6498	-0.1775	0.0037	-0.1891	0.0462	0.3799	0.1711	0.3893	0.1147
1	29.88	0.6998	-0.2114	0.0040	-0.2220	0.0533	0.4344	0.2055	0.5104	0.1185
1	29.88	0.7500	-0.2262	0.0040	-0.2377	0.0606	0.4828	0.2427	0.5962	0.1179
1	29.88	0.8001	-0.2560	0.0052	-0.2833	0.0687	0.5515	0.2821	0.6265	0.1239
1	29.88	0.8497	-0.2945	0.0054	-0.3053	0.0759	0.5550	0.3239	0.4401	0.1239
1	29.88	0.9102	-0.3418	0.0057	-0.2824	0.0856	0.6080	0.3811	0.1966	0.1272
1	29.88	0.9734	-0.3498	0.0085	-0.2463	0.0957	0.6984	0.4463	0.2443	0.1319
2	29.88	0.1949	0.0113	0.0027	-0.0037	0.0013	0.0126	0.0046	-0.1232	0.0370
2	29.88	0.2405	0.0059	0.0020	-0.0147	0.0027	0.0314	0.0075	-0.1298	0.0601
2	29.88	0.2999	-0.0041	0.0017	-0.0320	0.0052	0.0425	0.0162	-0.2629	0.0842
2	29.88	0.3498	-0.0281	0.0024	-0.0454	0.0096	0.0830	0.0269	-0.1727	0.0650
2	29.88	0.3998	-0.0550	0.0029	-0.0827	0.0145	0.1174	0.0406	-0.1406	0.0701
2	29.88	0.4496	-0.0797	0.0028	-0.1334	0.0158	0.1934	0.0528	-0.0582	0.0732
2	29.88	0.4995	-0.1068	0.0031	-0.1843	0.0198	0.2196	0.0646	-0.2098	0.0747
2	29.88	0.5551	-0.1257	0.0034	-0.2465	0.0245	0.2767	0.0813	-0.0296	0.0728
2	29.88	0.5996	-0.1419	0.0033	-0.2759	0.0288	0.2790	0.0953	-0.0442	0.0764
2	29.88	0.6497	-0.1556	0.0037	-0.3189	0.0330	0.2545	0.1117	-0.0594	0.0779
2	29.88	0.6996	-0.1696	0.0041	-0.3705	0.0388	0.2402	0.1309	0.1534	0.0783
2	29.88	0.7495	-0.1976	0.0040	-0.4068	0.0442	0.1569	0.1532	-0.0058	0.0808
2	29.88	0.7996	-0.2273	0.0056	-0.4884	0.0509	0.1525	0.1765	0.1089	0.0955
2	29.88	0.8578	-0.2788	0.0058	-0.5455	0.0589	0.1375	0.2051	0.2857	0.0931
2	29.88	0.9100	-0.2974	0.0057	-0.5466	0.0656	0.1170	0.2329	0.0773	0.0861
2	29.88	0.9727	-0.3651	0.0075	-0.5290	0.0739	0.2791	0.2705	0.4020	0.0906
3	29.88	0.1938	0.0364	0.0026	-0.0133	0.0013	0.0380	0.0040	-0.0264	0.0315
3	29.88	0.2357	0.0178	0.0022	0.0020	0.0026	0.0213	0.0062	0.0023	0.0505
3	29.88	0.2995	-0.0234	0.0018	-0.0324	0.0047	0.1054	0.0138	-0.0318	0.0736
3	29.88	0.3493	-0.0408	0.0022	-0.0598	0.0079	0.1681	0.0231	0.1181	0.0597
3	29.88	0.4000	-0.0492	0.0024	-0.0803	0.0126	0.2423	0.0349	0.3171	0.0640
3	29.88	0.4497	-0.0746	0.0030	-0.1215	0.0153	0.3042	0.0462	0.2423	0.0656
3	29.88	0.4997	-0.1171	0.0040	-0.1782	0.0210	0.3934	0.0614	0.2877	0.0703
3	29.88	0.5556	-0.1345	0.0039	-0.2158	0.0270	0.4499	0.0817	0.3358	0.0652
3	29.88	0.5995	-0.1400	0.0043	-0.2712	0.0329	0.4996	0.1010	0.5259	0.0662
3	29.88	0.6498	-0.1623	0.0049	-0.3259	0.0392	0.4959	0.1268	0.4350	0.0685
3	29.88	0.6890	-0.2133	0.0046	-0.3968	0.0450	0.4898	0.1514	0.4854	0.0698
3	29.88	0.7495	-0.2143	0.0063	-0.4354	0.0553	0.4495	0.1938	0.4096	0.0671
3	29.88	0.7998	-0.2364	0.0051	-0.4919	0.0635	0.4703	0.2335	0.6526	0.0698
3	29.88	0.8577	-0.2616	0.0069	-0.5669	0.0745	0.4510	0.2796	0.5737	0.0754
3	29.88	0.9178	-0.2938	0.0068	-0.6463	0.0859	0.4560	0.3308	0.2885	0.0743
3	29.88	0.9729	-0.3281	0.0098	-0.6669	0.0961	0.4589	0.3748	0.2710	0.0782
4	29.88	0.2001	0.0303	0.0021	0.0048	0.0010	-0.0137	0.0050	0.1544	0.0355
4	29.88	0.2502	0.0172	0.0018	-0.0008	0.0029	-0.0020	0.0096	0.3723	0.0531
4	29.88	0.3001	-0.0039	0.0021	0.0130	0.0046	-0.0194	0.0176	0.4049	0.0766
4	29.88	0.3502	-0.0349	0.0020	0.0213	0.0084	-0.0407	0.0292	0.3621	0.0641
4	29.88	0.4002	-0.0632	0.0027	0.0287	0.0130	-0.0386	0.0445	0.3871	0.0671
4	29.88	0.4500	-0.0839	0.0032	0.0293	0.0170	-0.0334	0.0595	0.3463	0.0607
4	29.88	0.5001	-0.1127	0.0029	0.0120	0.0214	-0.0285	0.0768	0.4585	0.0629
4	29.88	0.5560	-0.1362	0.0033	-0.0008	0.0269	-0.1004	0.0968	0.3709	0.0671
4	29.88	0.6001	-0.1496	0.0036	0.0014	0.0320	-0.1601	0.1145	0.4266	0.0632
4	29.88	0.6501	-0.1914	0.0040	-0.0350	0.0385	-0.2748	0.1347	0.5828	0.0662
4	29.88	0.6999	-0.2068	0.0048	-0.0639	0.0448	-0.4323	0.1604	0.7477	0.0681
4	29.88	0.7500	-0.2368	0.0060	-0.0635	0.0525	-0.6101	0.1850	0.8263	0.0737
4	29.88	0.8002	-0.2630	0.0057	-0.0972	0.0612	-0.7904	0.2152	0.8901	0.0811
4	29.88	0.8582	-0.2872	0.0068	-0.0940	0.0717	-1.0261	0.2569	0.5232	0.0787
4	29.88	0.9101	-0.3171	0.0078	-0.1146	0.0826	-1.1820	0.2955	0.4892	0.0751
4	29.88	0.9728	-0.3309	0.0107	-0.0765	0.0958	-1.2044	0.3531	0.9478	0.0875

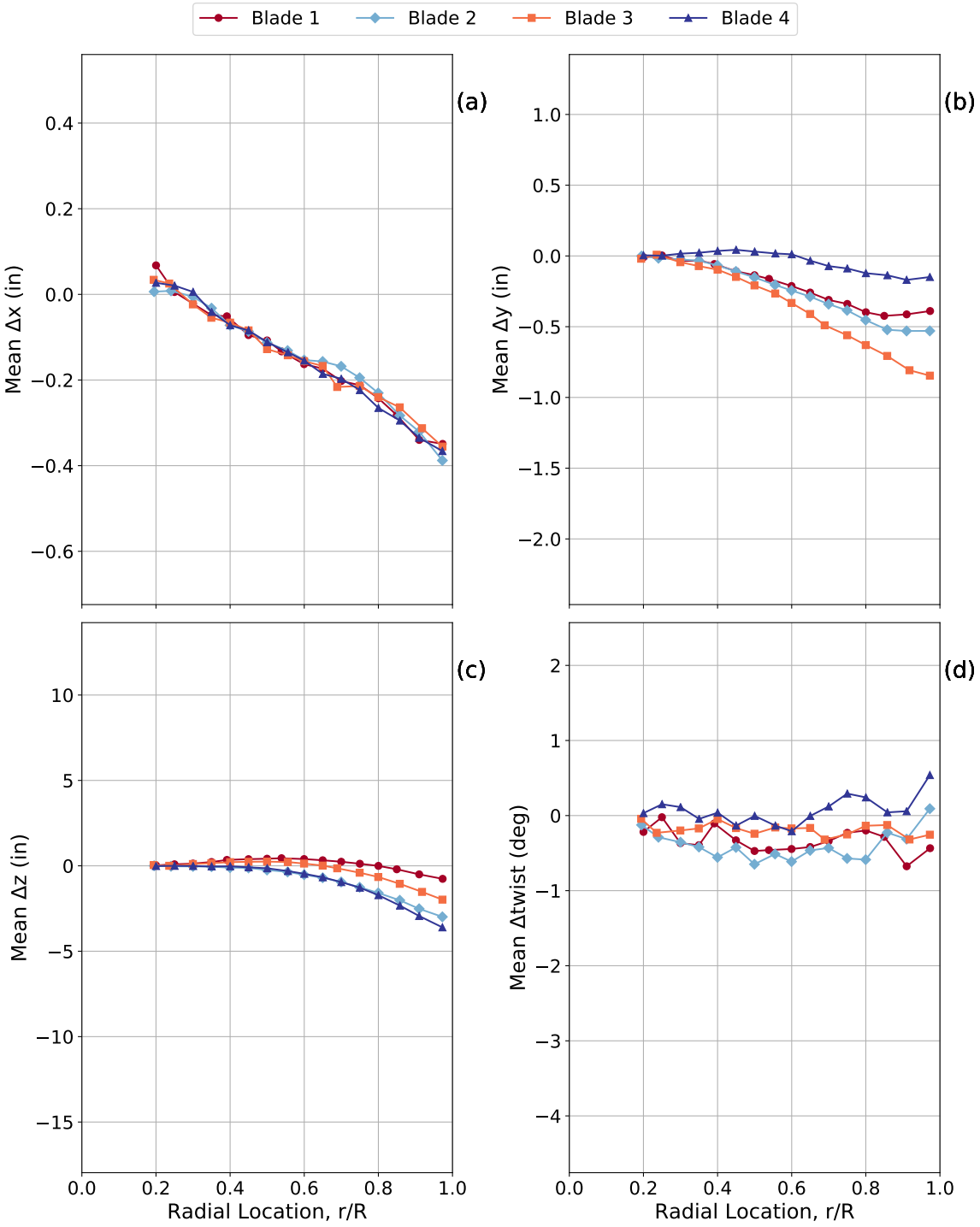


Figure 2.10-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0677	0.0028	-0.0094	0.0012	0.0255	0.0043	-0.2178	0.0316
1	45	0.2499	0.0055	0.0026	0.0037	0.0028	0.0900	0.0088	-0.0219	0.0613
1	45	0.2998	-0.0217	0.0019	-0.0365	0.0053	0.1330	0.0153	-0.3672	0.0705
1	45	0.3498	-0.0488	0.0025	-0.0324	0.0091	0.2228	0.0270	-0.3942	0.0708
1	45	0.3913	-0.0512	0.0033	-0.0573	0.0133	0.3455	0.0380	-0.1049	0.0754
1	45	0.4496	-0.0951	0.0034	-0.1079	0.0191	0.3909	0.0579	-0.3297	0.0703
1	45	0.4997	-0.1076	0.0039	-0.1363	0.0265	0.4172	0.0768	-0.4717	0.0673
1	45	0.5387	-0.1331	0.0042	-0.1622	0.0315	0.4461	0.0926	-0.4596	0.0767
1	45	0.5996	-0.1630	0.0049	-0.2125	0.0410	0.3961	0.1168	-0.4451	0.0755
1	45	0.6498	-0.1733	0.0047	-0.2587	0.0503	0.3259	0.1388	-0.4190	0.0772
1	45	0.6998	-0.2024	0.0053	-0.3108	0.0595	0.2394	0.1599	-0.3395	0.0802
1	45	0.7500	-0.2121	0.0057	-0.3391	0.0689	0.1222	0.1815	-0.2294	0.0796
1	45	0.8001	-0.2425	0.0062	-0.3978	0.0789	-0.0027	0.2067	-0.1985	0.0808
1	45	0.8497	-0.2820	0.0058	-0.4235	0.0881	-0.2013	0.2335	-0.2833	0.0803
1	45	0.9102	-0.3399	0.0064	-0.4129	0.1013	-0.4995	0.2674	-0.6752	0.0846
1	45	0.9734	-0.3492	0.0093	-0.3893	0.1144	-0.7616	0.3057	-0.4346	0.0819
2	45	0.1949	0.0063	0.0020	-0.0009	0.0012	0.0037	0.0047	-0.1250	0.0251
2	45	0.2405	0.0082	0.0019	-0.0159	0.0022	-0.0260	0.0094	-0.2888	0.0424
2	45	0.2999	-0.0055	0.0018	-0.0252	0.0051	-0.0345	0.0200	-0.3546	0.0563
2	45	0.3498	-0.0322	0.0022	-0.0332	0.0083	-0.0498	0.0317	-0.4193	0.0643
2	45	0.3998	-0.0721	0.0028	-0.0669	0.0131	-0.1061	0.0505	-0.5566	0.0651
2	45	0.4496	-0.0866	0.0034	-0.1094	0.0180	-0.1239	0.0657	-0.4240	0.0651
2	45	0.4995	-0.1125	0.0029	-0.1515	0.0229	-0.2441	0.0853	-0.6482	0.0686
2	45	0.5551	-0.1313	0.0031	-0.2046	0.0293	-0.3585	0.1076	-0.5116	0.0654
2	45	0.5996	-0.1533	0.0033	-0.2443	0.0344	-0.5216	0.1243	-0.6132	0.0677
2	45	0.6497	-0.1568	0.0033	-0.2873	0.0419	-0.7007	0.1448	-0.4641	0.0720
2	45	0.6996	-0.1680	0.0037	-0.3407	0.0486	-0.9464	0.1644	-0.4310	0.0797
2	45	0.7495	-0.1947	0.0039	-0.3845	0.0561	-1.2557	0.1856	-0.5711	0.0669
2	45	0.7996	-0.2303	0.0039	-0.4532	0.0642	-1.5868	0.2054	-0.5868	0.0728
2	45	0.8578	-0.2829	0.0039	-0.5218	0.0722	-2.0171	0.2272	-0.2268	0.0716
2	45	0.9100	-0.3205	0.0044	-0.5302	0.0819	-2.5149	0.2473	-0.3134	0.0737
2	45	0.9727	-0.3879	0.0063	-0.5298	0.0920	-2.9867	0.2726	0.0914	0.0768
3	45	0.1938	0.0340	0.0022	-0.0196	0.0015	0.0451	0.0063	-0.0430	0.0289
3	45	0.2357	0.0253	0.0022	0.0086	0.0024	0.0022	0.0118	-0.2297	0.0496
3	45	0.2995	-0.0234	0.0017	-0.0441	0.0060	0.1045	0.0259	-0.1986	0.0663
3	45	0.3493	-0.0546	0.0035	-0.0717	0.0107	0.1562	0.0426	-0.1713	0.0637
3	45	0.4000	-0.0660	0.0027	-0.0970	0.0164	0.2163	0.0670	-0.0462	0.0689
3	45	0.4497	-0.0841	0.0030	-0.1482	0.0207	0.2366	0.0889	-0.1665	0.0705
3	45	0.4997	-0.1279	0.0033	-0.2083	0.0279	0.2479	0.1192	-0.2419	0.0748
3	45	0.5556	-0.1422	0.0037	-0.2655	0.0360	0.2231	0.1532	-0.1584	0.0722
3	45	0.5995	-0.1560	0.0036	-0.3323	0.0431	0.1324	0.1839	-0.1713	0.0739
3	45	0.6498	-0.1672	0.0038	-0.4102	0.0520	0.0137	0.2184	-0.1651	0.0733
3	45	0.6890	-0.2163	0.0041	-0.4901	0.0586	-0.1438	0.2479	-0.3194	0.0768
3	45	0.7495	-0.2140	0.0048	-0.5603	0.0706	-0.4026	0.2925	-0.2513	0.0747
3	45	0.7998	-0.2399	0.0049	-0.6299	0.0804	-0.6538	0.3296	-0.1356	0.0760
3	45	0.8577	-0.2638	0.0073	-0.7067	0.0920	-1.0522	0.3721	-0.1259	0.0777
3	45	0.9178	-0.3126	0.0061	-0.8079	0.1047	-1.5260	0.4177	-0.3183	0.0820
3	45	0.9729	-0.3554	0.0085	-0.8460	0.1166	-1.9788	0.4605	-0.2546	0.0752
4	45	0.2001	0.0270	0.0026	0.0045	0.0016	-0.0110	0.0080	0.0323	0.0297
4	45	0.2502	0.0204	0.0024	0.0021	0.0046	-0.0009	0.0174	0.1509	0.0527
4	45	0.3001	0.0057	0.0021	0.0161	0.0077	-0.0093	0.0308	0.1123	0.0657
4	45	0.3502	-0.0411	0.0032	0.0227	0.0138	-0.0380	0.0511	-0.0443	0.0720
4	45	0.4002	-0.0722	0.0040	0.0353	0.0219	-0.0280	0.0795	0.0386	0.0705
4	45	0.4500	-0.0844	0.0035	0.0434	0.0277	-0.0873	0.1051	-0.1336	0.0727
4	45	0.5001	-0.1117	0.0038	0.0307	0.0363	-0.1438	0.1356	-0.0042	0.0765
4	45	0.5560	-0.1353	0.0042	0.0174	0.0468	-0.3063	0.1745	-0.1345	0.0749
4	45	0.6001	-0.1547	0.0042	0.0116	0.0545	-0.4658	0.2036	-0.2086	0.0830
4	45	0.6501	-0.1857	0.0043	-0.0335	0.0647	-0.6720	0.2381	-0.0046	0.0878
4	45	0.6999	-0.1971	0.0044	-0.0720	0.0749	-0.9525	0.2744	0.1212	0.0928
4	45	0.7500	-0.2236	0.0047	-0.0885	0.0851	-1.2794	0.3138	0.2925	0.0915
4	45	0.8002	-0.2653	0.0052	-0.1219	0.0959	-1.7197	0.3545	0.2418	0.0993
4	45	0.8582	-0.2948	0.0064	-0.1367	0.1082	-2.3307	0.4026	0.0425	0.0979
4	45	0.9101	-0.3349	0.0066	-0.1693	0.1198	-2.9378	0.4472	0.0580	0.0944
4	45	0.9728	-0.3660	0.0088	-0.1489	0.1336	-3.6022	0.4987	0.5394	0.0961

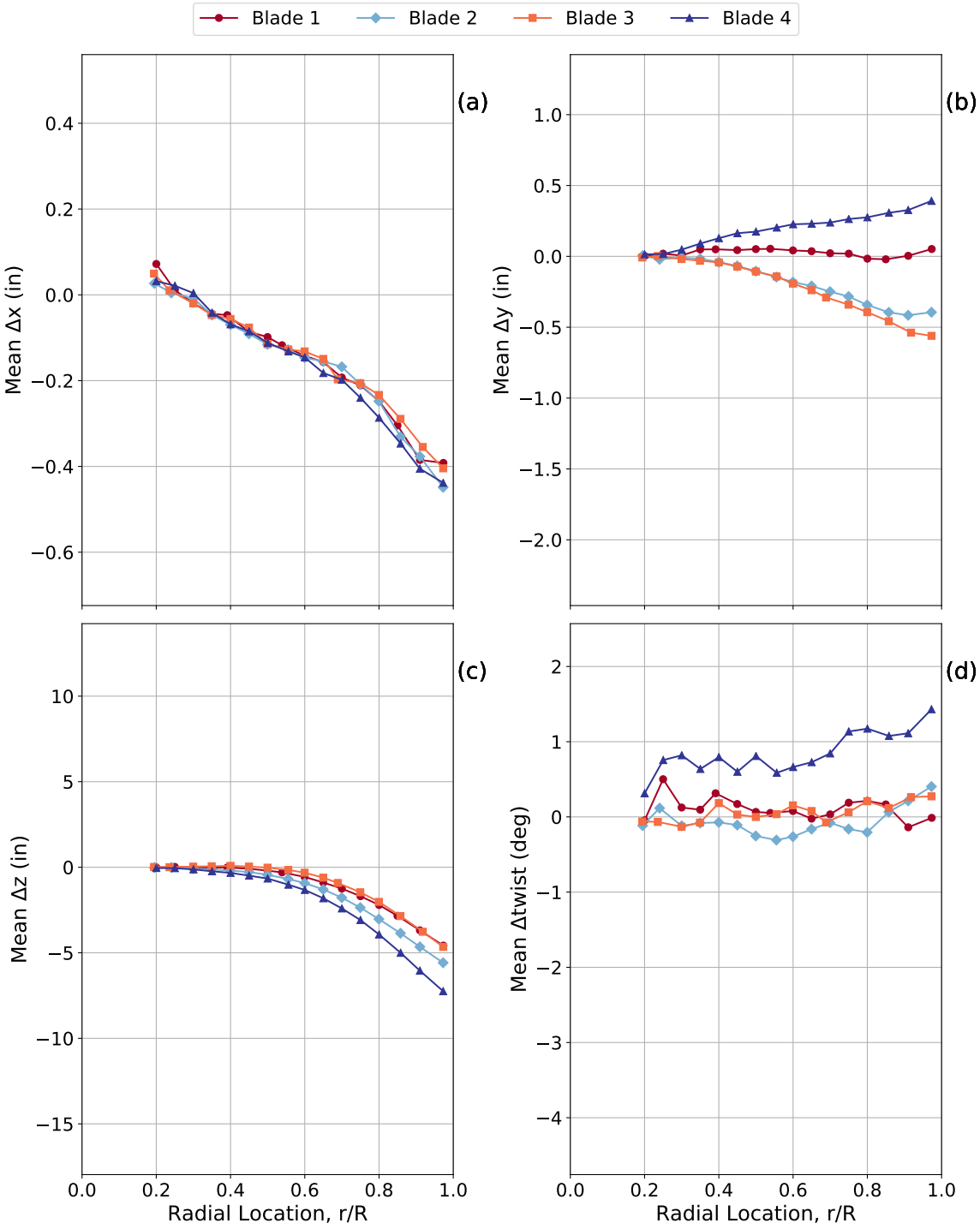


Figure 2.10-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0720	0.0024	0.0027	0.0013	-0.0154	0.0042	-0.0456	0.0402
1	60.12	0.2499	0.0110	0.0024	0.0190	0.0032	0.0205	0.0096	0.5012	0.0632
1	60.12	0.2998	-0.0197	0.0023	0.0059	0.0054	-0.0224	0.0176	0.1245	0.0880
1	60.12	0.3498	-0.0441	0.0024	0.0487	0.0093	-0.0229	0.0290	0.0957	0.0842
1	60.12	0.3913	-0.0473	0.0025	0.0496	0.0135	-0.0126	0.0429	0.3142	0.0781
1	60.12	0.4496	-0.0860	0.0032	0.0441	0.0180	-0.0865	0.0614	0.1713	0.0892
1	60.12	0.4997	-0.0983	0.0036	0.0511	0.0233	-0.1979	0.0795	0.0663	0.0890
1	60.12	0.5387	-0.1174	0.0037	0.0534	0.0265	-0.3005	0.0931	0.0524	0.0877
1	60.12	0.5996	-0.1421	0.0032	0.0421	0.0334	-0.5655	0.1177	0.0785	0.0958
1	60.12	0.6498	-0.1567	0.0034	0.0362	0.0395	-0.8925	0.1378	-0.0233	0.0998
1	60.12	0.6998	-0.1928	0.0035	0.0220	0.0459	-1.2491	0.1560	0.0336	0.0975
1	60.12	0.7500	-0.2110	0.0037	0.0191	0.0521	-1.6932	0.1755	0.1887	0.1026
1	60.12	0.8001	-0.2479	0.0039	-0.0164	0.0588	-2.2062	0.1954	0.2130	0.1017
1	60.12	0.8497	-0.3045	0.0049	-0.0207	0.0655	-2.8420	0.2147	0.1660	0.1096
1	60.12	0.9102	-0.3849	0.0056	0.0040	0.0738	-3.6891	0.2421	-0.1380	0.1088
1	60.12	0.9734	-0.3918	0.0067	0.0518	0.0828	-4.5806	0.2738	-0.0127	0.1177
2	60.12	0.1949	0.0268	0.0017	0.0051	0.0009	-0.0219	0.0035	-0.1156	0.0358
2	60.12	0.2405	0.0045	0.0021	-0.0209	0.0023	-0.0117	0.0074	0.1168	0.0481
2	60.12	0.2999	-0.0082	0.0024	-0.0092	0.0039	-0.0859	0.0160	-0.1193	0.0713
2	60.12	0.3498	-0.0469	0.0028	-0.0169	0.0062	-0.1199	0.0253	-0.0817	0.0690
2	60.12	0.3998	-0.0697	0.0029	-0.0408	0.0102	-0.1951	0.0410	-0.0727	0.0695
2	60.12	0.4496	-0.0909	0.0036	-0.0675	0.0119	-0.2758	0.0527	-0.1086	0.0680
2	60.12	0.4995	-0.1153	0.0034	-0.1047	0.0147	-0.4415	0.0686	-0.2536	0.0785
2	60.12	0.5551	-0.1280	0.0039	-0.1461	0.0180	-0.6842	0.0879	-0.3083	0.0749
2	60.12	0.5996	-0.1465	0.0044	-0.1816	0.0212	-0.9247	0.1034	-0.2633	0.0762
2	60.12	0.6497	-0.1552	0.0044	-0.2090	0.0252	-1.2970	0.1216	-0.1625	0.0720
2	60.12	0.6996	-0.1677	0.0048	-0.2489	0.0290	-1.7742	0.1388	-0.0775	0.0757
2	60.12	0.7495	-0.2084	0.0055	-0.2833	0.0337	-2.3594	0.1582	-0.1615	0.0780
2	60.12	0.7996	-0.2480	0.0070	-0.3427	0.0385	-3.0302	0.1782	-0.2053	0.0768
2	60.12	0.8578	-0.3308	0.0075	-0.3951	0.0443	-3.8590	0.2008	0.0654	0.0843
2	60.12	0.9100	-0.3766	0.0082	-0.4156	0.0494	-4.6512	0.2232	0.2136	0.0857
2	60.12	0.9727	-0.4487	0.0101	-0.3942	0.0563	-5.5826	0.2513	0.4036	0.0795
3	60.12	0.1938	0.0494	0.0020	-0.0079	0.0009	0.0142	0.0038	-0.0602	0.0251
3	60.12	0.2357	0.0105	0.0024	0.0021	0.0020	0.0029	0.0062	-0.0666	0.0368
3	60.12	0.2995	-0.0198	0.0024	-0.0188	0.0039	0.0373	0.0146	-0.1308	0.0540
3	60.12	0.3493	-0.0469	0.0027	-0.0309	0.0063	0.0561	0.0248	-0.0755	0.0505
3	60.12	0.4000	-0.0563	0.0029	-0.0426	0.0102	0.0810	0.0383	0.1833	0.0574
3	60.12	0.4497	-0.0763	0.0027	-0.0722	0.0134	0.0395	0.0527	0.0314	0.0638
3	60.12	0.4997	-0.1149	0.0030	-0.1071	0.0169	-0.0247	0.0664	-0.0010	0.0647
3	60.12	0.5556	-0.1273	0.0032	-0.1418	0.0204	-0.1545	0.0835	0.0365	0.0743
3	60.12	0.5995	-0.1319	0.0034	-0.1921	0.0241	-0.3197	0.0976	0.1536	0.0779
3	60.12	0.6498	-0.1493	0.0037	-0.2390	0.0285	-0.6072	0.1153	0.0784	0.0807
3	60.12	0.6890	-0.1970	0.0038	-0.2898	0.0324	-0.9187	0.1302	-0.0729	0.0753
3	60.12	0.7495	-0.2060	0.0040	-0.3409	0.0389	-1.4629	0.1558	0.0625	0.0731
3	60.12	0.7998	-0.2334	0.0047	-0.3939	0.0441	-2.0246	0.1802	0.2082	0.0746
3	60.12	0.8577	-0.2892	0.0067	-0.4579	0.0510	-2.8533	0.2114	0.1176	0.0848
3	60.12	0.9178	-0.3547	0.0070	-0.5383	0.0585	-3.7705	0.2448	0.2627	0.0814
3	60.12	0.9729	-0.4044	0.0102	-0.5608	0.0663	-4.6569	0.2773	0.2735	0.0850
4	60.12	0.2001	0.0320	0.0020	0.0145	0.0010	-0.0434	0.0043	0.3134	0.0258
4	60.12	0.2502	0.0212	0.0025	0.0163	0.0024	-0.0551	0.0102	0.7552	0.0493
4	60.12	0.3001	0.0040	0.0023	0.0476	0.0040	-0.1271	0.0183	0.8193	0.0583
4	60.12	0.3502	-0.0417	0.0026	0.0905	0.0070	-0.2369	0.0296	0.6372	0.0686
4	60.12	0.4002	-0.0687	0.0030	0.1281	0.0106	-0.3293	0.0475	0.7950	0.0663
4	60.12	0.4500	-0.0852	0.0030	0.1632	0.0144	-0.4916	0.0682	0.5998	0.0646
4	60.12	0.5001	-0.1120	0.0039	0.1743	0.0193	-0.6615	0.0929	0.8099	0.0734
4	60.12	0.5560	-0.1319	0.0035	0.2030	0.0254	-1.0227	0.1250	0.5860	0.0726
4	60.12	0.6001	-0.1459	0.0040	0.2263	0.0312	-1.3271	0.1509	0.6628	0.0710
4	60.12	0.6501	-0.1823	0.0045	0.2304	0.0383	-1.8154	0.1820	0.7273	0.0696
4	60.12	0.6999	-0.1980	0.0049	0.2385	0.0463	-2.4086	0.2137	0.8436	0.0756
4	60.12	0.7500	-0.2401	0.0059	0.2634	0.0539	-3.0873	0.2426	1.1354	0.0679
4	60.12	0.8002	-0.2866	0.0073	0.2754	0.0625	-3.9315	0.2740	1.1733	0.0728
4	60.12	0.8582	-0.3468	0.0086	0.3075	0.0724	-5.0039	0.3098	1.0761	0.0725
4	60.12	0.9101	-0.4054	0.0108	0.3267	0.0811	-6.0474	0.3460	1.1120	0.0725
4	60.12	0.9728	-0.4383	0.0134	0.3912	0.0923	-7.2487	0.3936	1.4311	0.0772

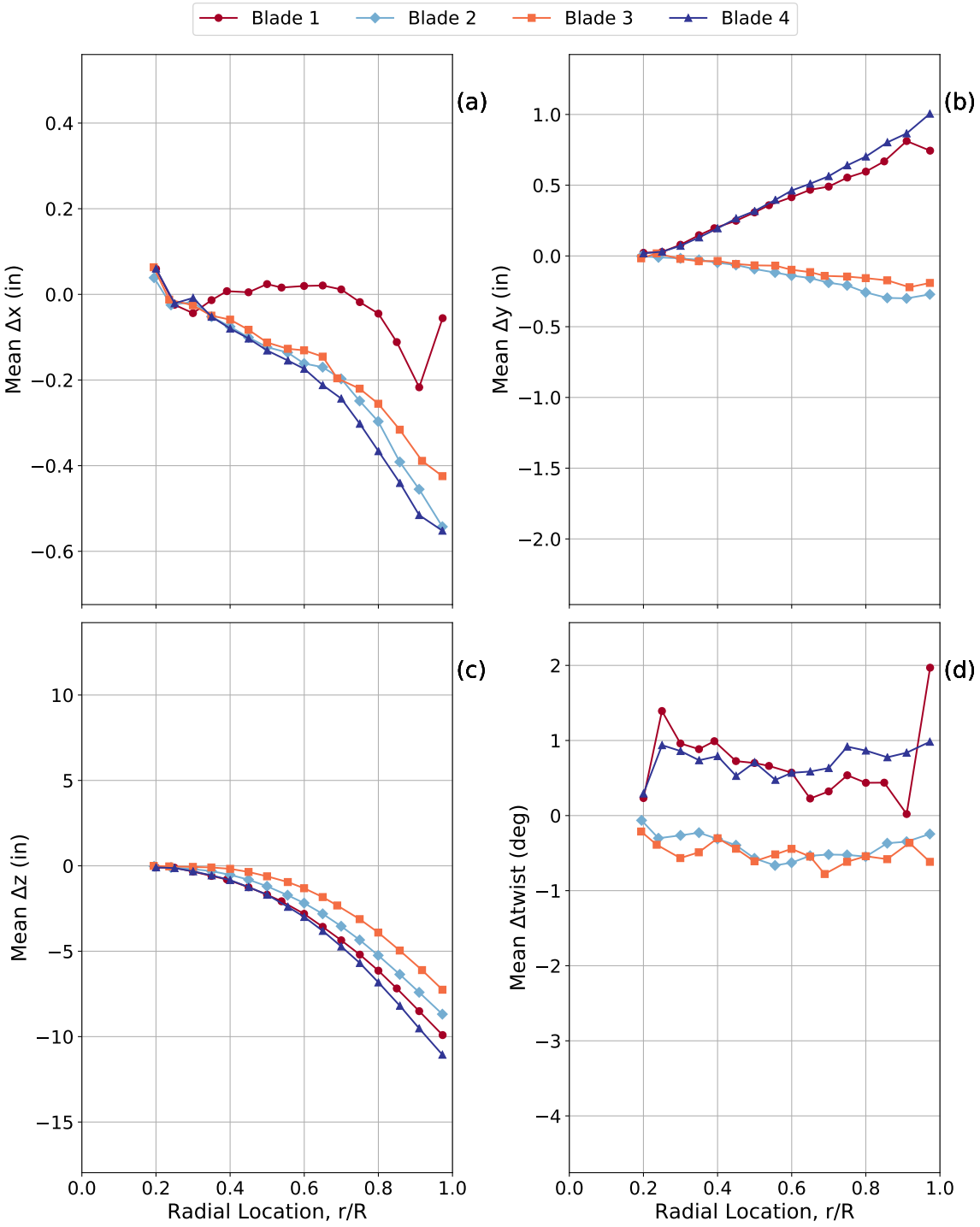


Figure 2.10-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0596	0.0115	0.0222	0.0025	-0.0966	0.0071	0.2332	0.0549
1	74.88	0.2499	-0.0243	0.0036	0.0278	0.0035	-0.1081	0.0107	1.3925	0.1531
1	74.88	0.2998	-0.0438	0.0047	0.0792	0.0092	-0.3365	0.0277	0.9602	0.1540
1	74.88	0.3498	-0.0135	0.0102	0.1467	0.0160	-0.5919	0.0491	0.8847	0.1511
1	74.88	0.3913	0.0075	0.0138	0.1959	0.0222	-0.7984	0.0681	0.9908	0.1527
1	74.88	0.4496	0.0049	0.0174	0.2485	0.0314	-1.2513	0.0971	0.7254	0.1530
1	74.88	0.4997	0.0240	0.0187	0.3076	0.0402	-1.6917	0.1235	0.7003	0.1581
1	74.88	0.5387	0.0159	0.0201	0.3584	0.0474	-2.0752	0.1458	0.6613	0.1569
1	74.88	0.5996	0.0196	0.0190	0.4152	0.0598	-2.8110	0.1818	0.5721	0.1702
1	74.88	0.6498	0.0207	0.0234	0.4675	0.0703	-3.5717	0.2155	0.2269	0.1648
1	74.88	0.6998	0.0115	0.0192	0.4900	0.0819	-4.3597	0.2480	0.3219	0.1686
1	74.88	0.7500	-0.0181	0.0210	0.5539	0.0937	-5.1987	0.2872	0.5366	0.1615
1	74.88	0.8001	-0.0450	0.0257	0.5960	0.1065	-6.1383	0.3263	0.4365	0.1682
1	74.88	0.8497	-0.1114	0.0324	0.6683	0.1193	-7.1800	0.3664	0.4383	0.1731
1	74.88	0.9102	-0.2170	0.0425	0.8120	0.1355	-8.5086	0.4169	0.0203	0.1728
1	74.88	0.9734	-0.0556	0.0559	0.7441	0.1543	-9.9089	0.4690	1.9695	0.1812
2	74.88	0.1949	0.0388	0.0022	-0.0020	0.0013	-0.0287	0.0049	-0.0638	0.0313
2	74.88	0.2405	-0.0247	0.0024	-0.0101	0.0024	-0.0953	0.0089	-0.3018	0.0735
2	74.88	0.2999	-0.0177	0.0025	-0.0170	0.0054	-0.1950	0.0192	-0.2639	0.0829
2	74.88	0.3498	-0.0520	0.0023	-0.0277	0.0089	-0.3114	0.0338	-0.2281	0.0739
2	74.88	0.3998	-0.0754	0.0032	-0.0476	0.0141	-0.5269	0.0516	-0.3110	0.0744
2	74.88	0.4496	-0.1005	0.0037	-0.0640	0.0186	-0.8099	0.0699	-0.3945	0.0818
2	74.88	0.4995	-0.1232	0.0031	-0.0924	0.0233	-1.1961	0.0890	-0.5697	0.0838
2	74.88	0.5551	-0.1358	0.0033	-0.1172	0.0292	-1.7197	0.1120	-0.6640	0.0916
2	74.88	0.5996	-0.1615	0.0042	-0.1387	0.0337	-2.1810	0.1312	-0.6277	0.0981
2	74.88	0.6497	-0.1700	0.0044	-0.1561	0.0402	-2.8101	0.1523	-0.5356	0.0993
2	74.88	0.6996	-0.1973	0.0052	-0.1892	0.0466	-3.5361	0.1760	-0.5189	0.1040
2	74.88	0.7495	-0.2489	0.0061	-0.2080	0.0530	-4.3395	0.1998	-0.5237	0.1077
2	74.88	0.7996	-0.2967	0.0077	-0.2576	0.0596	-5.2443	0.2255	-0.5463	0.1205
2	74.88	0.8578	-0.3913	0.0095	-0.2966	0.0682	-6.3570	0.2575	-0.3682	0.1301
2	74.88	0.9100	-0.4551	0.0110	-0.2998	0.0755	-7.4061	0.2855	-0.3476	0.1253
2	74.88	0.9727	-0.5425	0.0119	-0.2715	0.0844	-8.6849	0.3177	-0.2452	0.1338
3	74.88	0.1938	0.0633	0.0022	-0.0167	0.0012	-0.0037	0.0042	-0.2125	0.0296
3	74.88	0.2357	-0.0122	0.0016	0.0181	0.0021	-0.0342	0.0079	-0.3887	0.0466
3	74.88	0.2995	-0.0255	0.0024	-0.0207	0.0048	-0.0629	0.0171	-0.5661	0.0673
3	74.88	0.3493	-0.0497	0.0023	-0.0373	0.0086	-0.0949	0.0293	-0.4893	0.0586
3	74.88	0.4000	-0.0590	0.0028	-0.0355	0.0132	-0.1751	0.0457	-0.3023	0.0668
3	74.88	0.4497	-0.0827	0.0037	-0.0569	0.0173	-0.3585	0.0610	-0.4415	0.0654
3	74.88	0.4997	-0.1124	0.0033	-0.0666	0.0227	-0.6145	0.0789	-0.6089	0.0673
3	74.88	0.5556	-0.1271	0.0033	-0.0685	0.0298	-0.9495	0.0989	-0.5172	0.0762
3	74.88	0.5995	-0.1307	0.0037	-0.0978	0.0359	-1.3113	0.1144	-0.4434	0.0706
3	74.88	0.6498	-0.1454	0.0037	-0.1143	0.0431	-1.8290	0.1331	-0.5465	0.0789
3	74.88	0.6890	-0.1960	0.0038	-0.1409	0.0496	-2.3220	0.1488	-0.7783	0.0780
3	74.88	0.7495	-0.2202	0.0048	-0.1458	0.0596	-3.1214	0.1745	-0.6156	0.0706
3	74.88	0.7998	-0.2554	0.0058	-0.1569	0.0688	-3.9061	0.1985	-0.5414	0.0692
3	74.88	0.8577	-0.3160	0.0078	-0.1724	0.0805	-4.9593	0.2276	-0.5807	0.0770
3	74.88	0.9178	-0.3888	0.0095	-0.2210	0.0926	-6.1050	0.2617	-0.3629	0.0797
3	74.88	0.9729	-0.4245	0.0117	-0.1907	0.1036	-7.2534	0.2950	-0.6162	0.0967
4	74.88	0.2001	0.0602	0.0014	0.0187	0.0011	-0.0899	0.0039	0.2935	0.0343
4	74.88	0.2502	-0.0209	0.0019	0.0300	0.0030	-0.1315	0.0076	0.9375	0.0597
4	74.88	0.3001	-0.0083	0.0024	0.0716	0.0054	-0.3230	0.0148	0.8595	0.0785
4	74.88	0.3502	-0.0524	0.0026	0.1310	0.0092	-0.5601	0.0270	0.7365	0.0740
4	74.88	0.4002	-0.0799	0.0033	0.1952	0.0146	-0.8360	0.0405	0.7914	0.0709
4	74.88	0.4500	-0.1032	0.0030	0.2651	0.0189	-1.2459	0.0560	0.5279	0.0695
4	74.88	0.5001	-0.1312	0.0033	0.3175	0.0245	-1.6938	0.0756	0.7094	0.0682
4	74.88	0.5560	-0.1546	0.0037	0.3968	0.0313	-2.4020	0.0985	0.4754	0.0770
4	74.88	0.6001	-0.1739	0.0048	0.4624	0.0371	-2.9942	0.1186	0.5696	0.0764
4	74.88	0.6501	-0.2120	0.0054	0.5107	0.0447	-3.8111	0.1445	0.5864	0.0766
4	74.88	0.6999	-0.2434	0.0069	0.5637	0.0523	-4.7244	0.1708	0.6327	0.0749
4	74.88	0.7500	-0.3022	0.0088	0.6403	0.0609	-5.6908	0.1995	0.9177	0.0793
4	74.88	0.8002	-0.3662	0.0107	0.7025	0.0695	-6.8280	0.2308	0.8653	0.0786
4	74.88	0.8582	-0.4405	0.0132	0.8029	0.0802	-8.1970	0.2670	0.7762	0.0908
4	74.88	0.9101	-0.5154	0.0157	0.8659	0.0905	-9.5178	0.3020	0.8372	0.0940
4	74.88	0.9728	-0.5519	0.0182	1.0051	0.1031	-11.0593	0.3451	0.9828	0.0862

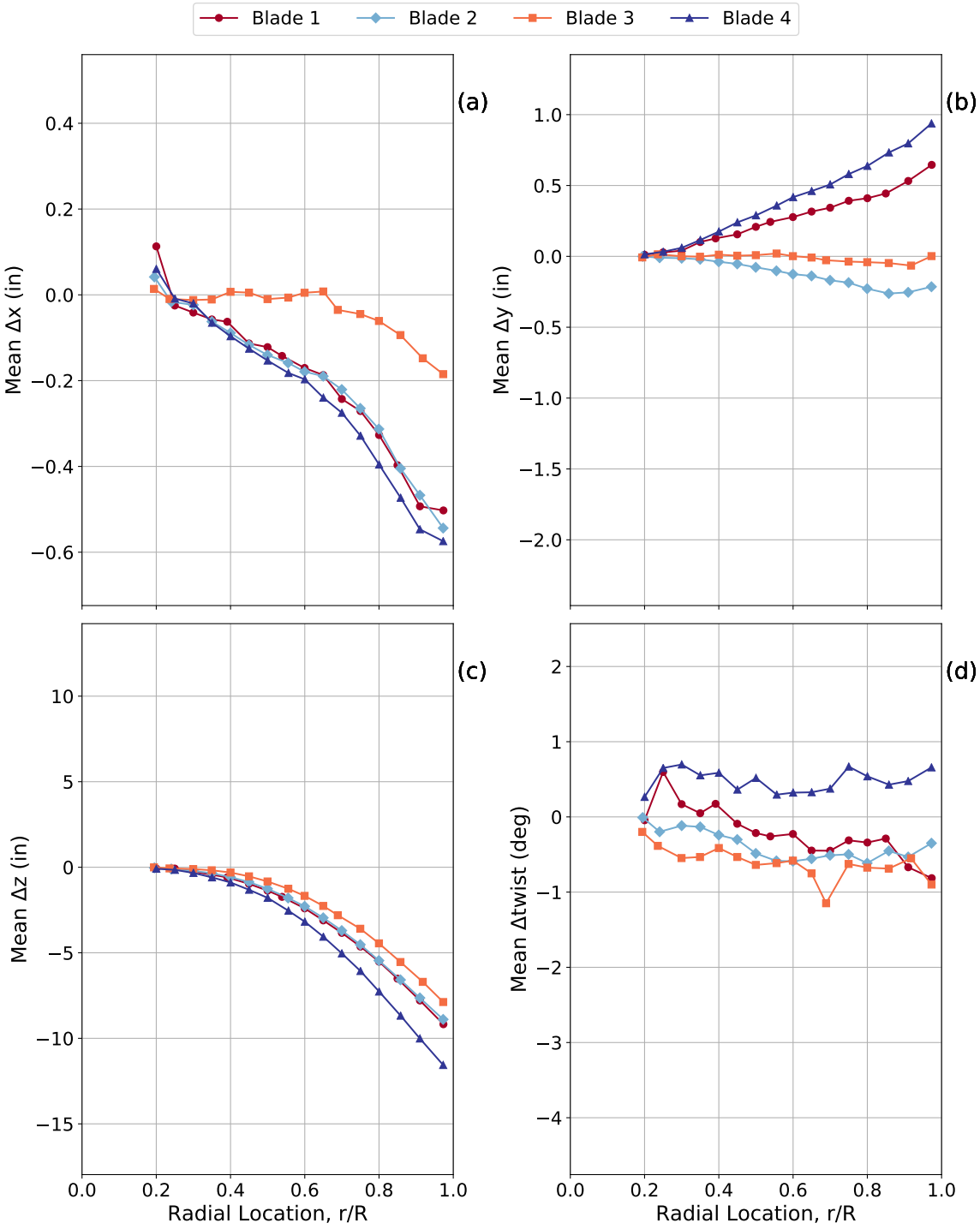


Figure 2.10-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.1130	0.0072	0.0111	0.0035	-0.0737	0.0100	-0.0444	0.0662
1	80.16	0.2499	-0.0249	0.0025	0.0282	0.0048	-0.0783	0.0149	0.5975	0.1797
1	80.16	0.2998	-0.0413	0.0027	0.0402	0.0132	-0.2551	0.0374	0.1694	0.1809
1	80.16	0.3498	-0.0573	0.0033	0.1013	0.0228	-0.4369	0.0652	0.0491	0.1754
1	80.16	0.3913	-0.0627	0.0031	0.1268	0.0317	-0.5932	0.0907	0.1736	0.1795
1	80.16	0.4496	-0.1133	0.0043	0.1553	0.0445	-0.9698	0.1297	-0.0914	0.1816
1	80.16	0.4997	-0.1219	0.0038	0.2082	0.0555	-1.3668	0.1662	-0.2143	0.1837
1	80.16	0.5387	-0.1424	0.0058	0.2431	0.0651	-1.7308	0.1951	-0.2595	0.1834
1	80.16	0.5996	-0.1705	0.0059	0.2771	0.0811	-2.4023	0.2410	-0.2273	0.1941
1	80.16	0.6498	-0.1870	0.0073	0.3159	0.0945	-3.1071	0.2808	-0.4478	0.1887
1	80.16	0.6998	-0.2428	0.0089	0.3432	0.1083	-3.8365	0.3200	-0.4499	0.1922
1	80.16	0.7500	-0.2709	0.0108	0.3922	0.1228	-4.6378	0.3607	-0.3118	0.1918
1	80.16	0.8001	-0.3268	0.0131	0.4102	0.1374	-5.5192	0.4024	-0.3408	0.1969
1	80.16	0.8497	-0.3972	0.0152	0.4435	0.1522	-6.5120	0.4442	-0.2879	0.1988
1	80.16	0.9102	-0.4930	0.0179	0.5320	0.1709	-7.7877	0.4961	-0.6696	0.2009
1	80.16	0.9734	-0.5026	0.0181	0.6456	0.1905	-9.1768	0.5511	-0.8145	0.1984
2	80.16	0.1949	0.0417	0.0020	-0.0006	0.0012	-0.0339	0.0048	-0.0084	0.0301
2	80.16	0.2405	-0.0162	0.0019	-0.0097	0.0028	-0.1019	0.0100	-0.1978	0.0469
2	80.16	0.2999	-0.0235	0.0019	-0.0132	0.0057	-0.2127	0.0209	-0.1164	0.0683
2	80.16	0.3498	-0.0623	0.0022	-0.0207	0.0099	-0.3483	0.0367	-0.1327	0.0624
2	80.16	0.3998	-0.0888	0.0028	-0.0381	0.0156	-0.5780	0.0568	-0.2412	0.0666
2	80.16	0.4496	-0.1167	0.0035	-0.0533	0.0208	-0.8650	0.0781	-0.3009	0.0709
2	80.16	0.4995	-0.1402	0.0034	-0.0773	0.0272	-1.2543	0.1010	-0.4857	0.0683
2	80.16	0.5551	-0.1586	0.0034	-0.1022	0.0345	-1.7973	0.1279	-0.5849	0.0775
2	80.16	0.5996	-0.1791	0.0041	-0.1254	0.0414	-2.2840	0.1505	-0.5896	0.0809
2	80.16	0.6497	-0.1897	0.0047	-0.1381	0.0494	-2.9553	0.1762	-0.5562	0.0867
2	80.16	0.6996	-0.2207	0.0055	-0.1689	0.0579	-3.7023	0.2028	-0.5104	0.0867
2	80.16	0.7495	-0.2647	0.0067	-0.1854	0.0663	-4.5231	0.2286	-0.4980	0.0864
2	80.16	0.7996	-0.3128	0.0084	-0.2281	0.0751	-5.4548	0.2561	-0.6149	0.0857
2	80.16	0.8578	-0.4047	0.0103	-0.2622	0.0861	-6.5829	0.2872	-0.4525	0.0948
2	80.16	0.9100	-0.4671	0.0117	-0.2538	0.0958	-7.6378	0.3176	-0.5327	0.0980
2	80.16	0.9727	-0.5438	0.0129	-0.2144	0.1076	-8.8938	0.3533	-0.3496	0.1032
3	80.16	0.1938	0.0138	0.0037	-0.0073	0.0009	-0.0078	0.0032	-0.1998	0.0204
3	80.16	0.2357	-0.0096	0.0020	0.0146	0.0016	-0.0696	0.0055	-0.3850	0.0335
3	80.16	0.2995	-0.0121	0.0019	0.0008	0.0037	-0.1057	0.0132	-0.5475	0.0477
3	80.16	0.3493	-0.0108	0.0036	-0.0025	0.0065	-0.1770	0.0228	-0.5332	0.0461
3	80.16	0.4000	0.0070	0.0050	0.0117	0.0101	-0.3078	0.0351	-0.4139	0.0455
3	80.16	0.4497	0.0052	0.0069	0.0048	0.0137	-0.5324	0.0470	-0.5330	0.0549
3	80.16	0.4997	-0.0099	0.0082	0.0084	0.0187	-0.8316	0.0603	-0.6384	0.0594
3	80.16	0.5556	-0.0064	0.0101	0.0201	0.0239	-1.2570	0.0746	-0.6148	0.0691
3	80.16	0.5995	0.0049	0.0114	0.0015	0.0286	-1.6728	0.0858	-0.5812	0.0699
3	80.16	0.6498	0.0078	0.0129	-0.0083	0.0342	-2.2614	0.1010	-0.7507	0.0966
3	80.16	0.6890	-0.0351	0.0086	-0.0274	0.0376	-2.8034	0.1198	-1.1480	0.6461
3	80.16	0.7495	-0.0447	0.0218	-0.0368	0.0477	-3.5950	0.1935	-0.6257	0.1152
3	80.16	0.7998	-0.0609	0.0193	-0.0409	0.0540	-4.4490	0.2122	-0.6747	0.1113
3	80.16	0.8577	-0.0938	0.0178	-0.0471	0.0616	-5.5402	0.2364	-0.6878	0.1142
3	80.16	0.9178	-0.1479	0.0198	-0.0651	0.0695	-6.7003	0.2623	-0.5508	0.1152
3	80.16	0.9729	-0.1849	0.0262	0.0018	0.0777	-7.8787	0.2894	-0.8995	0.1244
4	80.16	0.2001	0.0604	0.0020	0.0140	0.0014	-0.0886	0.0045	0.2654	0.0293
4	80.16	0.2502	-0.0088	0.0016	0.0328	0.0039	-0.1538	0.0109	0.6506	0.0524
4	80.16	0.3001	-0.0201	0.0019	0.0603	0.0066	-0.3345	0.0187	0.6966	0.0655
4	80.16	0.3502	-0.0651	0.0023	0.1157	0.0117	-0.5933	0.0330	0.5526	0.0679
4	80.16	0.4002	-0.0965	0.0030	0.1749	0.0185	-0.8923	0.0515	0.5864	0.0636
4	80.16	0.4500	-0.1256	0.0035	0.2398	0.0254	-1.3175	0.0720	0.3625	0.0704
4	80.16	0.5001	-0.1533	0.0038	0.2893	0.0343	-1.7910	0.0949	0.5179	0.0773
4	80.16	0.5560	-0.1822	0.0048	0.3583	0.0447	-2.5440	0.1231	0.2958	0.0780
4	80.16	0.6001	-0.1970	0.0051	0.4178	0.0538	-3.1855	0.1454	0.3226	0.0793
4	80.16	0.6501	-0.2398	0.0061	0.4609	0.0656	-4.0619	0.1699	0.3276	0.0814
4	80.16	0.6999	-0.2750	0.0070	0.5071	0.0784	-5.0381	0.1942	0.3754	0.0868
4	80.16	0.7500	-0.3285	0.0089	0.5806	0.0914	-6.0670	0.2187	0.6683	0.0896
4	80.16	0.8002	-0.3957	0.0106	0.6381	0.1047	-7.2666	0.2426	0.5390	0.0863
4	80.16	0.8582	-0.4732	0.0133	0.7329	0.1212	-8.6784	0.2720	0.4285	0.0852
4	80.16	0.9101	-0.5467	0.0152	0.7970	0.1359	-10.0124	0.3004	0.4764	0.0874
4	80.16	0.9728	-0.5743	0.0184	0.9377	0.1537	-11.5601	0.3375	0.6578	0.0906

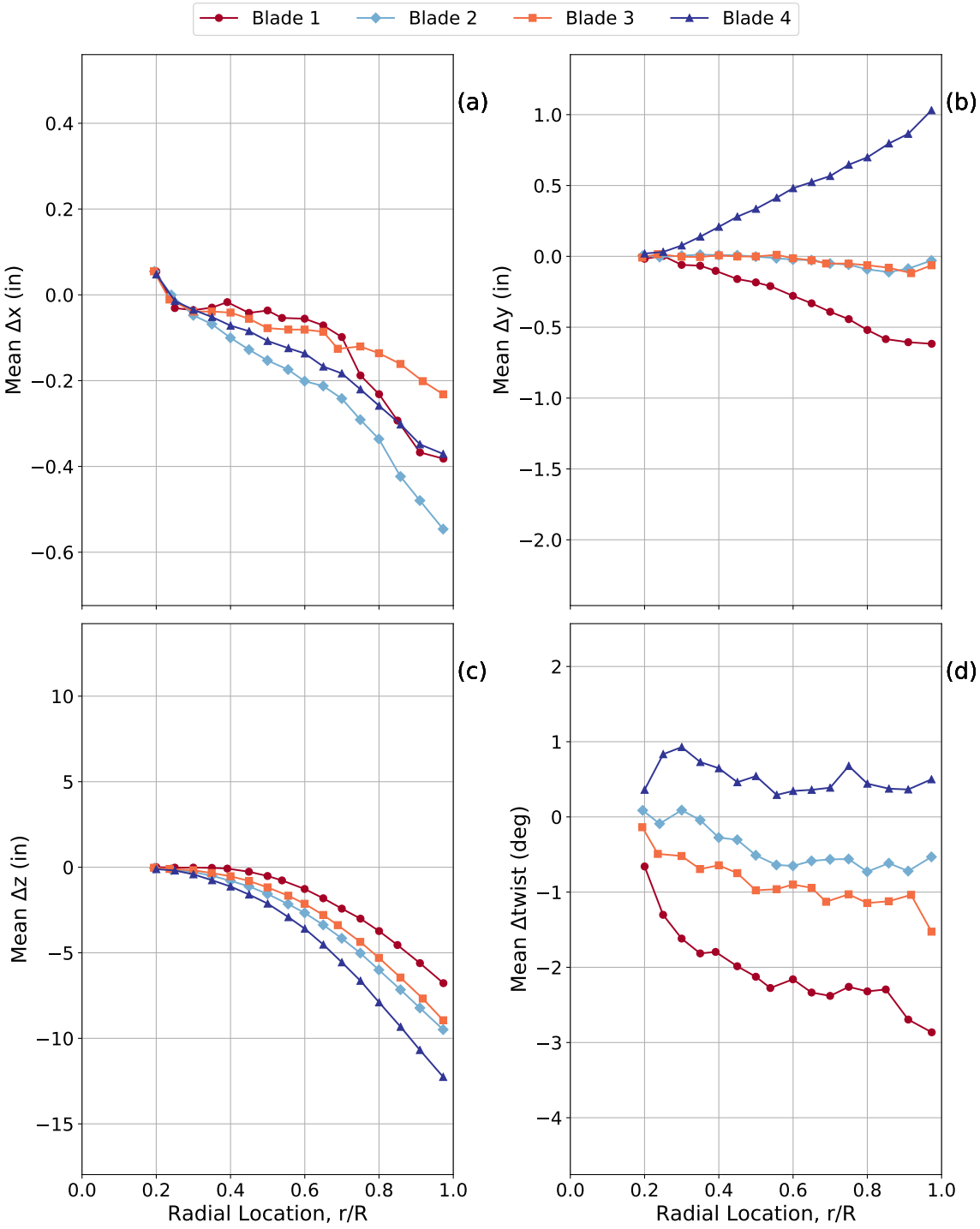


Figure 2.10-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0544	0.0037	-0.0170	0.0055	0.0059	0.0171	-0.6593	0.1039
1	85.08	0.2499	-0.0308	0.0022	0.0032	0.0062	-0.0233	0.0196	-1.3020	0.2726
1	85.08	0.2998	-0.0357	0.0045	-0.0600	0.0197	-0.0200	0.0538	-1.6179	0.2795
1	85.08	0.3498	-0.0298	0.0083	-0.0659	0.0344	-0.0369	0.0897	-1.8150	0.2813
1	85.08	0.3913	-0.0170	0.0110	-0.1024	0.0468	-0.0776	0.1207	-1.7954	0.2801
1	85.08	0.4496	-0.0421	0.0154	-0.1598	0.0644	-0.2626	0.1650	-1.9859	0.2817
1	85.08	0.4997	-0.0365	0.0187	-0.1837	0.0810	-0.5123	0.2036	-2.1253	0.2864
1	85.08	0.5387	-0.0539	0.0208	-0.2100	0.0944	-0.7696	0.2347	-2.2750	0.2820
1	85.08	0.5996	-0.0556	0.0252	-0.2788	0.1148	-1.2707	0.2829	-2.1596	0.2882
1	85.08	0.6498	-0.0713	0.0274	-0.3313	0.1339	-1.8144	0.3229	-2.3353	0.2929
1	85.08	0.6998	-0.0984	0.0302	-0.3913	0.1531	-2.4201	0.3659	-2.3800	0.3013
1	85.08	0.7500	-0.1879	0.0217	-0.4431	0.2376	-3.0055	0.2849	-2.2598	0.2849
1	85.08	0.8001	-0.2316	0.0226	-0.5196	0.2607	-3.7306	0.3207	-2.3198	0.2837
1	85.08	0.8497	-0.2931	0.0238	-0.5837	0.2842	-4.5478	0.3570	-2.2945	0.2822
1	85.08	0.9102	-0.3673	0.0255	-0.6058	0.3128	-5.6055	0.4008	-2.6947	0.2830
1	85.08	0.9734	-0.3819	0.0213	-0.6169	0.3433	-6.7755	0.4478	-2.8642	0.2859
2	85.08	0.1949	0.0547	0.0064	0.0044	0.0014	-0.0513	0.0059	0.0869	0.0337
2	85.08	0.2405	-0.0003	0.0022	-0.0050	0.0031	-0.1407	0.0088	-0.0908	0.0956
2	85.08	0.2999	-0.0477	0.0021	0.0046	0.0060	-0.2826	0.0231	0.0895	0.0967
2	85.08	0.3498	-0.0683	0.0024	0.0119	0.0109	-0.4989	0.0404	-0.0426	0.0949
2	85.08	0.3998	-0.1002	0.0026	0.0091	0.0167	-0.7920	0.0609	-0.2751	0.0961
2	85.08	0.4496	-0.1277	0.0031	0.0078	0.0228	-1.1197	0.0828	-0.3041	0.0976
2	85.08	0.4995	-0.1530	0.0031	-0.0019	0.0303	-1.5610	0.1065	-0.5103	0.0998
2	85.08	0.5551	-0.1743	0.0038	-0.0133	0.0393	-2.1533	0.1366	-0.6393	0.0975
2	85.08	0.5996	-0.2013	0.0046	-0.0230	0.0468	-2.6682	0.1613	-0.6514	0.1013
2	85.08	0.6497	-0.2125	0.0056	-0.0270	0.0558	-3.3711	0.1909	-0.5850	0.1097
2	85.08	0.6996	-0.2418	0.0069	-0.0510	0.0665	-4.1549	0.2218	-0.5649	0.1055
2	85.08	0.7495	-0.2911	0.0081	-0.0581	0.0771	-5.0205	0.2543	-0.5602	0.1063
2	85.08	0.7996	-0.3360	0.0101	-0.0915	0.0885	-6.0014	0.2881	-0.7288	0.1075
2	85.08	0.8578	-0.4235	0.0125	-0.1109	0.1016	-7.1572	0.3285	-0.6158	0.1118
2	85.08	0.9100	-0.4796	0.0143	-0.0868	0.1138	-8.2245	0.3661	-0.7204	0.1146
2	85.08	0.9727	-0.5461	0.0164	-0.0294	0.1285	-9.4897	0.4120	-0.5316	0.1216
3	85.08	0.1938	0.0549	0.0088	-0.0085	0.0014	-0.0288	0.0055	-0.1369	0.0437
3	85.08	0.2357	-0.0109	0.0049	0.0155	0.0021	-0.1003	0.0093	-0.4919	0.1115
3	85.08	0.2995	-0.0389	0.0039	-0.0026	0.0055	-0.1755	0.0219	-0.5198	0.1303
3	85.08	0.3493	-0.0389	0.0089	-0.0046	0.0094	-0.3388	0.0366	-0.6931	0.1245
3	85.08	0.4000	-0.0413	0.0130	0.0072	0.0145	-0.5273	0.0573	-0.6441	0.1209
3	85.08	0.4497	-0.0558	0.0152	-0.0010	0.0202	-0.8010	0.0797	-0.7478	0.1158
3	85.08	0.4997	-0.0776	0.0171	-0.0009	0.0271	-1.1777	0.1064	-0.9760	0.1171
3	85.08	0.5556	-0.0809	0.0166	0.0110	0.0353	-1.6642	0.1374	-0.9615	0.1146
3	85.08	0.5995	-0.0810	0.0156	-0.0135	0.0423	-2.1359	0.1642	-0.8994	0.1200
3	85.08	0.6498	-0.0861	0.0140	-0.0274	0.0509	-2.7917	0.1939	-0.9434	0.1116
3	85.08	0.6890	-0.1258	0.0126	-0.0502	0.0579	-3.3856	0.2196	-1.1284	0.1217
3	85.08	0.7495	-0.1203	0.0128	-0.0512	0.0691	-4.3636	0.2594	-1.0295	0.1188
3	85.08	0.7998	-0.1361	0.0175	-0.0625	0.0788	-5.2974	0.2954	-1.1449	0.1183
3	85.08	0.8577	-0.1611	0.0266	-0.0803	0.0904	-6.4478	0.3431	-1.1221	0.1261
3	85.08	0.9178	-0.2012	0.0390	-0.1183	0.1022	-7.6761	0.3958	-1.0363	0.1234
3	85.08	0.9729	-0.2319	0.0530	-0.0629	0.1136	-8.9468	0.4487	-1.5258	0.1313
4	85.08	0.2001	0.0475	0.0063	0.0199	0.0012	-0.1116	0.0050	0.3603	0.0312
4	85.08	0.2502	-0.0142	0.0031	0.0315	0.0025	-0.1935	0.0091	0.8336	0.0581
4	85.08	0.3001	-0.0349	0.0022	0.0768	0.0051	-0.4143	0.0200	0.9284	0.0721
4	85.08	0.3502	-0.0517	0.0052	0.1394	0.0085	-0.7595	0.0327	0.7293	0.0609
4	85.08	0.4002	-0.0718	0.0070	0.2085	0.0134	-1.1271	0.0511	0.6463	0.0618
4	85.08	0.4500	-0.0847	0.0086	0.2802	0.0184	-1.5983	0.0722	0.4610	0.0662
4	85.08	0.5001	-0.1076	0.0096	0.3353	0.0245	-2.1259	0.0971	0.5423	0.0653
4	85.08	0.5560	-0.1244	0.0097	0.4141	0.0317	-2.9188	0.1286	0.2919	0.0655
4	85.08	0.6001	-0.1367	0.0097	0.4810	0.0381	-3.5946	0.1563	0.3447	0.0643
4	85.08	0.6501	-0.1672	0.0097	0.5239	0.0462	-4.5247	0.1890	0.3600	0.0641
4	85.08	0.6999	-0.1832	0.0112	0.5668	0.0546	-5.5590	0.2224	0.3881	0.0734
4	85.08	0.7500	-0.2204	0.0136	0.6466	0.0638	-6.6390	0.2593	0.6768	0.0720
4	85.08	0.8002	-0.2586	0.0186	0.6988	0.0732	-7.8991	0.2979	0.4415	0.0692
4	85.08	0.8582	-0.3023	0.0263	0.7965	0.0848	-9.3306	0.3450	0.3752	0.0676
4	85.08	0.9101	-0.3485	0.0346	0.8644	0.0957	-10.6859	0.3886	0.3647	0.0704
4	85.08	0.9728	-0.3709	0.0465	1.0308	0.1104	-12.2584	0.4409	0.5000	0.0745

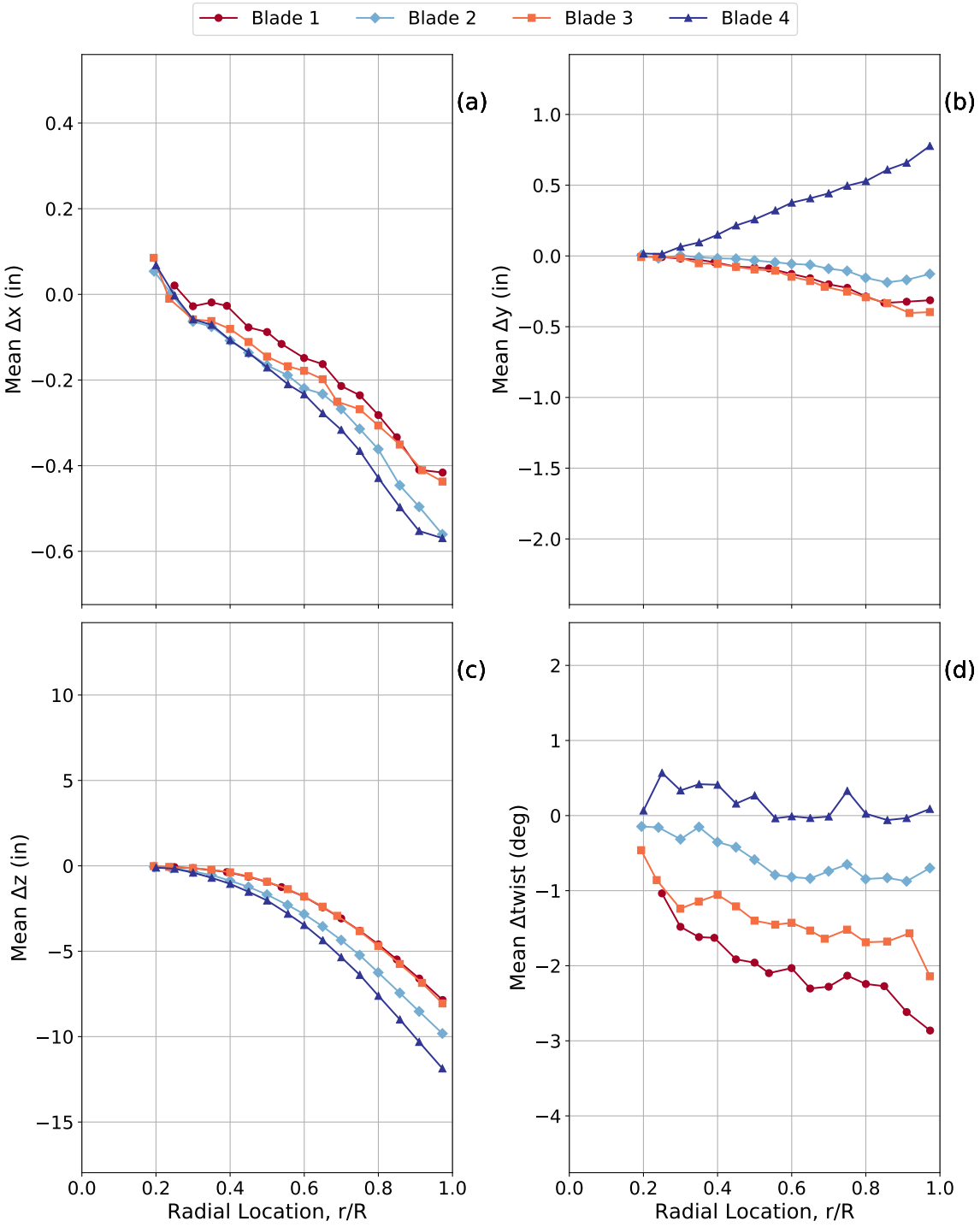


Figure 2.10-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-15. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -4.5°$
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2499	0.0207	0.0030	-0.0082	0.0041	-0.0751	0.0143	-1.0363	0.1147
1	90	0.2998	-0.0277	0.0025	-0.0187	0.0081	-0.1338	0.0260	-1.4816	0.1639
1	90	0.3498	-0.0188	0.0032	-0.0278	0.0141	-0.2565	0.0457	-1.6183	0.1457
1	90	0.3913	-0.0268	0.0025	-0.0441	0.0207	-0.3629	0.0654	-1.6281	0.1494
1	90	0.4496	-0.0771	0.0034	-0.0757	0.0286	-0.6392	0.0930	-1.9145	0.1471
1	90	0.4997	-0.0879	0.0038	-0.0814	0.0358	-0.9431	0.1203	-1.9589	0.1485
1	90	0.5387	-0.1158	0.0038	-0.0881	0.0424	-1.2455	0.1412	-2.0985	0.1539
1	90	0.5996	-0.1486	0.0041	-0.1273	0.0526	-1.7996	0.1752	-2.0316	0.1555
1	90	0.6498	-0.1629	0.0049	-0.1573	0.0615	-2.4289	0.2030	-2.3033	0.1551
1	90	0.6998	-0.2140	0.0057	-0.2002	0.0708	-3.0795	0.2303	-2.2795	0.1651
1	90	0.7500	-0.2357	0.0065	-0.2254	0.0809	-3.8023	0.2580	-2.1322	0.1551
1	90	0.8001	-0.2819	0.0076	-0.2871	0.0913	-4.5997	0.2832	-2.2431	0.1613
1	90	0.8497	-0.3337	0.0089	-0.3319	0.1021	-5.4805	0.3094	-2.2723	0.1564
1	90	0.9102	-0.4097	0.0105	-0.3235	0.1155	-6.5979	0.3419	-2.6169	0.1554
1	90	0.9734	-0.4161	0.0121	-0.3130	0.1296	-7.8561	0.3794	-2.8626	0.1524
2	90	0.1949	0.0539	0.0045	0.0052	0.0016	-0.0647	0.0052	-0.1455	0.0423
2	90	0.2405	0.0025	0.0027	-0.0164	0.0022	-0.1312	0.0078	-0.1580	0.0882
2	90	0.2999	-0.0633	0.0021	0.0028	0.0058	-0.3293	0.0205	-0.3149	0.1111
2	90	0.3498	-0.0754	0.0022	-0.0096	0.0100	-0.5421	0.0351	-0.1522	0.0996
2	90	0.3998	-0.1078	0.0023	-0.0169	0.0152	-0.8724	0.0536	-0.3530	0.0994
2	90	0.4496	-0.1363	0.0030	-0.0197	0.0197	-1.2324	0.0733	-0.4214	0.1027
2	90	0.4995	-0.1657	0.0034	-0.0318	0.0246	-1.6864	0.0967	-0.5867	0.0995
2	90	0.5551	-0.1888	0.0044	-0.0450	0.0311	-2.2970	0.1248	-0.7900	0.0998
2	90	0.5996	-0.2195	0.0048	-0.0559	0.0363	-2.8258	0.1479	-0.8190	0.1009
2	90	0.6497	-0.2327	0.0060	-0.0625	0.0427	-3.5502	0.1730	-0.8378	0.1036
2	90	0.6996	-0.2677	0.0066	-0.0900	0.0499	-4.3503	0.1991	-0.7409	0.1054
2	90	0.7495	-0.3141	0.0082	-0.1060	0.0571	-5.2294	0.2266	-0.6509	0.0990
2	90	0.7996	-0.3613	0.0098	-0.1549	0.0646	-6.2452	0.2553	-0.8453	0.0999
2	90	0.8578	-0.4460	0.0120	-0.1870	0.0741	-7.4422	0.2922	-0.8291	0.1036
2	90	0.9100	-0.4960	0.0141	-0.1694	0.0828	-8.5242	0.3290	-0.8751	0.1062
2	90	0.9727	-0.5603	0.0167	-0.1272	0.0933	-9.8182	0.3745	-0.6988	0.1115
3	90	0.1938	0.0853	0.0042	-0.0076	0.0015	-0.0175	0.0060	-0.4610	0.0337
3	90	0.2357	-0.0101	0.0031	-0.0055	0.0020	-0.0647	0.0074	-0.8593	0.0947
3	90	0.2995	-0.0584	0.0024	-0.0128	0.0051	-0.1320	0.0192	-1.2394	0.1026
3	90	0.3493	-0.0623	0.0024	-0.0518	0.0087	-0.2280	0.0335	-1.1446	0.0968
3	90	0.4000	-0.0807	0.0025	-0.0556	0.0132	-0.3781	0.0499	-1.0545	0.0973
3	90	0.4497	-0.1112	0.0029	-0.0772	0.0174	-0.6106	0.0676	-1.2093	0.0942
3	90	0.4997	-0.1453	0.0028	-0.0955	0.0225	-0.9296	0.0888	-1.3996	0.0919
3	90	0.5556	-0.1679	0.0032	-0.1037	0.0279	-1.3661	0.1127	-1.4528	0.0913
3	90	0.5995	-0.1784	0.0035	-0.1471	0.0332	-1.7936	0.1328	-1.4281	0.0885
3	90	0.6498	-0.1982	0.0043	-0.1767	0.0397	-2.3909	0.1568	-1.5310	0.0942
3	90	0.6890	-0.2505	0.0047	-0.2181	0.0450	-2.9265	0.1764	-1.6403	0.0959
3	90	0.7495	-0.2683	0.0061	-0.2521	0.0534	-3.8262	0.2061	-1.5193	0.0954
3	90	0.7998	-0.3062	0.0075	-0.2922	0.0609	-4.6904	0.2313	-1.6875	0.0954
3	90	0.8577	-0.3507	0.0093	-0.3343	0.0697	-5.7454	0.2614	-1.6778	0.0916
3	90	0.9178	-0.4107	0.0109	-0.4031	0.0794	-6.8535	0.2913	-1.5675	0.0954
3	90	0.9729	-0.4371	0.0123	-0.3968	0.0880	-8.0565	0.3196	-2.1407	0.1013
4	90.35	0.2001	0.0682	0.0023	0.0171	0.0012	-0.1053	0.0050	0.0666	0.0337
4	90.35	0.2502	-0.0028	0.0019	0.0134	0.0027	-0.1701	0.0096	0.5686	0.0659
4	90.35	0.3001	-0.0583	0.0022	0.0648	0.0051	-0.4014	0.0193	0.3343	0.0758
4	90.35	0.3502	-0.0712	0.0020	0.0956	0.0086	-0.7002	0.0324	0.4179	0.0666
4	90.35	0.4002	-0.1070	0.0025	0.1502	0.0134	-1.0583	0.0502	0.4102	0.0646
4	90.35	0.4500	-0.1365	0.0035	0.2155	0.0180	-1.5217	0.0687	0.1592	0.0627
4	90.35	0.5001	-0.1708	0.0039	0.2584	0.0232	-2.0330	0.0905	0.2670	0.0685
4	90.35	0.5560	-0.2100	0.0041	0.3218	0.0298	-2.8090	0.1163	-0.0362	0.0652
4	90.35	0.6001	-0.2334	0.0050	0.3766	0.0352	-3.4660	0.1370	-0.0100	0.0681
4	90.35	0.6501	-0.2777	0.0061	0.4073	0.0422	-4.3585	0.1625	-0.0324	0.0744
4	90.35	0.6999	-0.3163	0.0073	0.4423	0.0496	-5.3525	0.1901	-0.0130	0.0718
4	90.35	0.7500	-0.3656	0.0092	0.4958	0.0572	-6.3870	0.2194	0.3282	0.0758
4	90.35	0.8002	-0.4289	0.0110	0.5289	0.0655	-7.6105	0.2508	0.0248	0.0728
4	90.35	0.8582	-0.4971	0.0136	0.6095	0.0750	-9.0015	0.2892	-0.0602	0.0753
4	90.35	0.9101	-0.5526	0.0160	0.6584	0.0839	-10.3107	0.3251	-0.0334	0.0744
4	90.35	0.9728	-0.5693	0.0171	0.7775	0.0944	-11.8645	0.3692	0.0881	0.0794

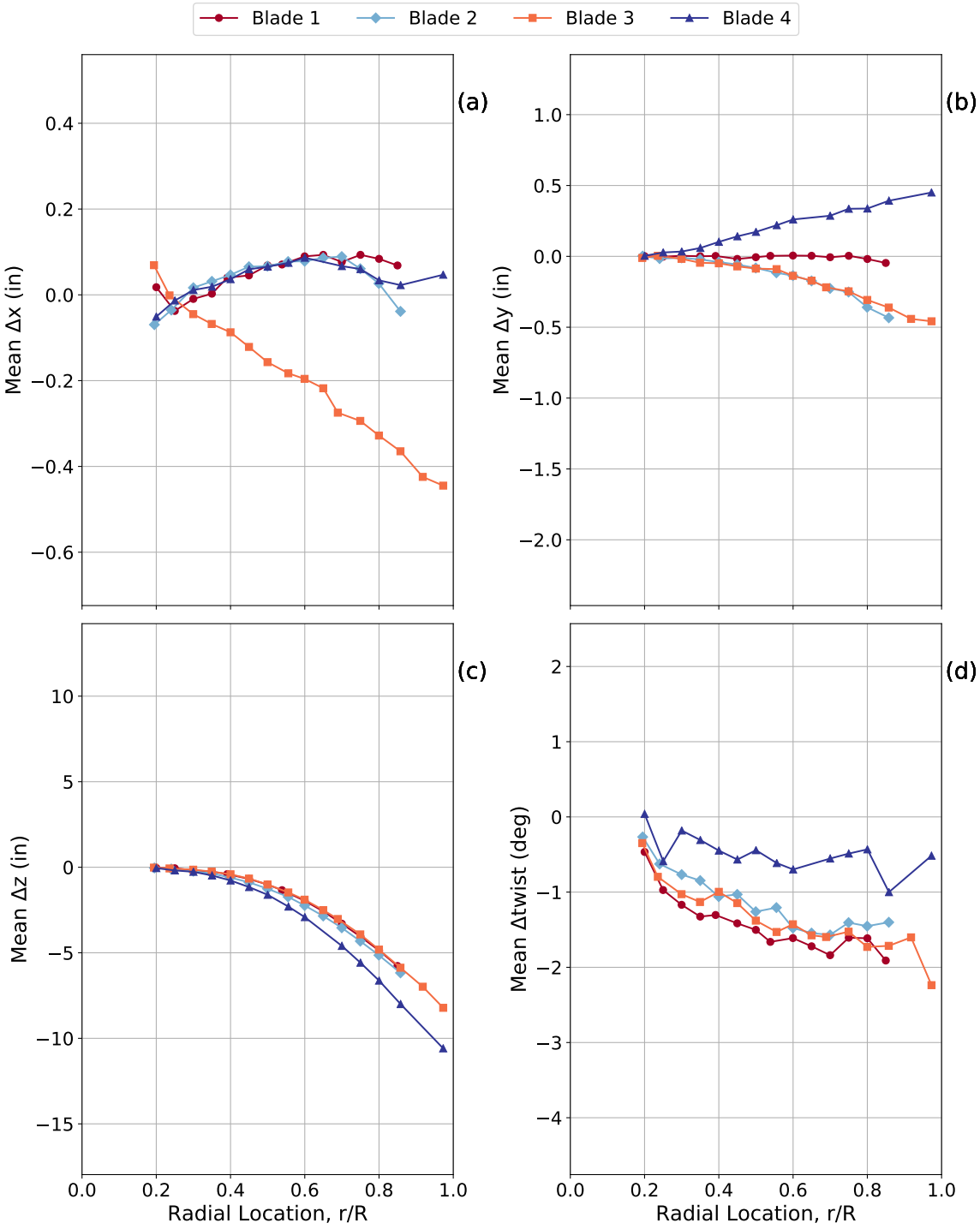


Figure 2.10-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	0.0178	0.0018	0.0012	0.0008	-0.0407	0.0036	-0.4659	0.0279
1	94.92	0.2499	-0.0375	0.0014	-0.0021	0.0021	-0.0613	0.0083	-0.9726	0.0491
1	94.92	0.2998	-0.0095	0.0015	0.0039	0.0037	-0.1759	0.0155	-1.1689	0.0636
1	94.92	0.3498	0.0027	0.0017	0.0006	0.0060	-0.2626	0.0263	-1.3255	0.0619
1	94.92	0.3913	0.0400	0.0024	0.0028	0.0093	-0.3987	0.0386	-1.3045	0.0597
1	94.92	0.4496	0.0453	0.0027	-0.0182	0.0122	-0.6838	0.0580	-1.4153	0.0599
1	94.92	0.4997	0.0687	0.0031	-0.0060	0.0161	-1.0124	0.0776	-1.5022	0.0581
1	94.92	0.5387	0.0707	0.0032	0.0036	0.0194	-1.3402	0.0940	-1.6618	0.0616
1	94.92	0.5996	0.0897	0.0040	0.0056	0.0252	-1.9607	0.1219	-1.6115	0.0682
1	94.92	0.6498	0.0932	0.0048	0.0042	0.0302	-2.5781	0.1450	-1.7206	0.0729
1	94.92	0.6998	0.0767	0.0054	-0.0062	0.0359	-3.2996	0.1702	-1.8389	0.0804
1	94.92	0.7500	0.0933	0.0070	0.0041	0.0419	-4.0563	0.1922	-1.6062	0.0840
1	94.92	0.8001	0.0839	0.0093	-0.0186	0.0483	-4.8684	0.2171	-1.6140	0.1262
1	94.92	0.8497	0.0685	0.0103	-0.0466	0.0544	-5.7718	0.2367	-1.9097	0.1123
2	94.92	0.1949	-0.0695	0.0099	0.0019	0.0015	-0.0406	0.0058	-0.2666	0.0262
2	94.92	0.2405	-0.0354	0.0035	-0.0156	0.0029	-0.1014	0.0104	-0.6256	0.0450
2	94.92	0.2999	0.0166	0.0050	-0.0104	0.0066	-0.2304	0.0243	-0.7670	0.0620
2	94.92	0.3498	0.0315	0.0110	-0.0215	0.0111	-0.3670	0.0414	-0.8467	0.0616
2	94.92	0.3998	0.0465	0.0164	-0.0403	0.0174	-0.6076	0.0638	-1.0602	0.0739
2	94.92	0.4496	0.0656	0.0203	-0.0577	0.0241	-0.8798	0.0894	-1.0305	0.0718
2	94.92	0.4995	0.0669	0.0235	-0.0818	0.0326	-1.2553	0.1186	-1.2605	0.0798
2	94.92	0.5551	0.0776	0.0258	-0.1159	0.0419	-1.7301	0.1534	-1.2060	0.0910
2	94.92	0.5996	0.0784	0.0281	-0.1360	0.0516	-2.2355	0.1849	-1.4775	0.1041
2	94.92	0.6497	0.0863	0.0304	-0.1732	0.0628	-2.8506	0.2225	-1.5445	0.1194
2	94.92	0.6996	0.0892	0.0341	-0.2264	0.0752	-3.5403	0.2631	-1.5694	0.1316
2	94.92	0.7495	0.0609	0.0413	-0.2516	0.0889	-4.3202	0.3082	-1.4056	0.1186
2	94.92	0.7996	0.0264	0.0514	-0.3593	0.1041	-5.1412	0.3565	-1.4526	0.1375
2	94.92	0.8578	-0.0386	0.0686	-0.4335	0.1206	-6.1746	0.4119	-1.4011	0.1703
3	94.92	0.1938	0.0692	0.0069	-0.0113	0.0017	-0.0211	0.0072	-0.3485	0.0393
3	94.92	0.2357	-0.0013	0.0034	0.0041	0.0022	-0.0703	0.0070	-0.7970	0.1006
3	94.92	0.2995	-0.0450	0.0029	-0.0176	0.0061	-0.1433	0.0228	-1.0274	0.1121
3	94.92	0.3493	-0.0679	0.0024	-0.0452	0.0107	-0.2534	0.0372	-1.1317	0.1159
3	94.92	0.4000	-0.0873	0.0026	-0.0489	0.0162	-0.4122	0.0559	-0.9965	0.1121
3	94.92	0.4497	-0.1214	0.0031	-0.0708	0.0213	-0.6628	0.0745	-1.1460	0.1158
3	94.92	0.4997	-0.1569	0.0032	-0.0862	0.0272	-1.0087	0.0958	-1.3794	0.1166
3	94.92	0.5556	-0.1829	0.0033	-0.0902	0.0343	-1.4729	0.1236	-1.5301	0.1217
3	94.92	0.5995	-0.1959	0.0038	-0.1371	0.0410	-1.8962	0.1475	-1.4277	0.1199
3	94.92	0.6498	-0.2178	0.0043	-0.1715	0.0490	-2.5059	0.1775	-1.5746	0.1254
3	94.92	0.6890	-0.2747	0.0051	-0.2184	0.0557	-3.0247	0.2005	-1.5970	0.1256
3	94.92	0.7495	-0.2939	0.0065	-0.2467	0.0659	-3.9255	0.2397	-1.5261	0.1232
3	94.92	0.7998	-0.3280	0.0083	-0.3076	0.0753	-4.8129	0.2726	-1.7287	0.1233
3	94.92	0.8577	-0.3647	0.0104	-0.3612	0.0864	-5.8727	0.3144	-1.7147	0.1205
3	94.92	0.9178	-0.4244	0.0122	-0.4414	0.0973	-6.9828	0.3568	-1.6018	0.1184
3	94.92	0.9729	-0.4448	0.0123	-0.4581	0.1085	-8.2165	0.3973	-2.2372	0.1208
4	94.92	0.2001	-0.0508	0.0014	0.0040	0.0010	-0.0513	0.0033	0.0389	0.0241
4	94.92	0.2502	-0.0132	0.0014	0.0275	0.0024	-0.1872	0.0072	-0.5899	0.0429
4	94.92	0.3001	0.0112	0.0012	0.0340	0.0043	-0.2681	0.0137	-0.1815	0.0539
4	94.92	0.3502	0.0190	0.0017	0.0591	0.0076	-0.4820	0.0215	-0.3079	0.0497
4	94.92	0.4002	0.0365	0.0024	0.1023	0.0117	-0.7755	0.0346	-0.4484	0.0514
4	94.92	0.4500	0.0596	0.0026	0.1413	0.0150	-1.1611	0.0461	-0.5674	0.0503
4	94.92	0.5001	0.0656	0.0027	0.1727	0.0189	-1.6114	0.0599	-0.4429	0.0543
4	94.92	0.5560	0.0746	0.0030	0.2198	0.0244	-2.3019	0.0763	-0.6140	0.0551
4	94.92	0.6001	0.0865	0.0035	0.2603	0.0287	-2.9174	0.0891	-0.6989	0.0563
4	94.92	0.6999	0.0670	0.0056	0.2866	0.0395	-4.5991	0.1161	-0.5537	0.0782
4	94.92	0.7500	0.0601	0.0069	0.3357	0.0455	-5.5815	0.1298	-0.4877	0.0799
4	94.92	0.8002	0.0338	0.0087	0.3374	0.0524	-6.6287	0.1462	-0.4317	0.1107
4	94.92	0.8582	0.0226	0.0139	0.3926	0.0605	-8.0012	0.1678	-1.0005	0.2104
4	94.92	0.9728	0.0469	0.0181	0.4505	0.0732	-10.5884	0.2304	-0.5164	0.2164

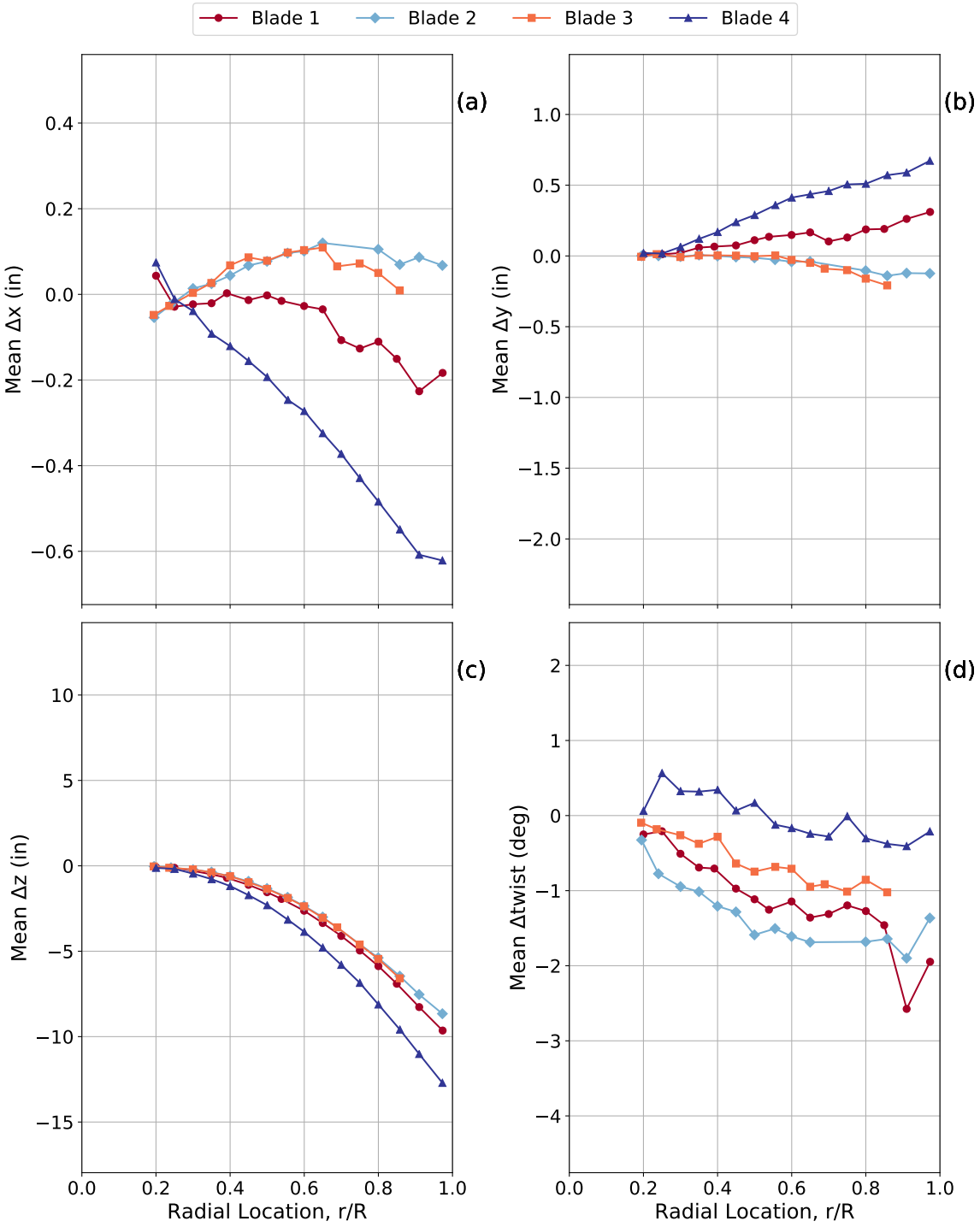


Figure 2.10-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	0.0435	0.0060	0.0080	0.0052	-0.0781	0.0160	-0.2513	0.0854
1	99.84	0.2499	-0.0289	0.0025	0.0116	0.0057	-0.1149	0.0185	-0.2085	0.2246
1	99.84	0.2998	-0.0232	0.0025	0.0210	0.0184	-0.2968	0.0534	-0.5086	0.2283
1	99.84	0.3498	-0.0207	0.0027	0.0588	0.0316	-0.4980	0.0905	-0.6920	0.2276
1	99.84	0.3913	0.0027	0.0032	0.0659	0.0432	-0.7038	0.1228	-0.7056	0.2269
1	99.84	0.4496	-0.0134	0.0031	0.0743	0.0601	-1.1146	0.1682	-0.9729	0.2295
1	99.84	0.4997	-0.0023	0.0036	0.1114	0.0755	-1.5452	0.2079	-1.1152	0.2323
1	99.84	0.5387	-0.0152	0.0039	0.1353	0.0877	-1.9390	0.2396	-1.2539	0.2343
1	99.84	0.5996	-0.0272	0.0052	0.1483	0.1075	-2.6291	0.2903	-1.1442	0.2333
1	99.84	0.6498	-0.0350	0.0065	0.1664	0.1245	-3.3489	0.3316	-1.3588	0.2348
1	99.84	0.6998	-0.1069	0.0213	0.1026	0.1317	-4.1056	0.3611	-1.3113	0.2421
1	99.84	0.7500	-0.1265	0.0230	0.1305	0.1496	-4.9586	0.4001	-1.1964	0.2441
1	99.84	0.8001	-0.1104	0.0142	0.1875	0.1792	-5.8731	0.4473	-1.2721	0.2400
1	99.84	0.8497	-0.1506	0.0179	0.1908	0.1988	-6.9035	0.4840	-1.4598	0.2390
1	99.84	0.9102	-0.2263	0.0200	0.2617	0.2365	-8.2706	0.6009	-2.5750	1.1875
1	99.84	0.9734	-0.1834	0.0257	0.3109	0.2484	-9.6438	0.5778	-1.9471	0.2569
2	99.84	0.1949	-0.0541	0.0011	0.0005	0.0008	-0.0366	0.0035	-0.3252	0.0208
2	99.84	0.2405	-0.0240	0.0012	0.0011	0.0020	-0.1132	0.0087	-0.7749	0.0337
2	99.84	0.2999	0.0137	0.0013	-0.0045	0.0040	-0.2253	0.0166	-0.9457	0.0460
2	99.84	0.3498	0.0250	0.0015	0.0064	0.0071	-0.3677	0.0293	-1.0136	0.0476
2	99.84	0.3998	0.0439	0.0020	-0.0007	0.0109	-0.6098	0.0457	-1.2071	0.0459
2	99.84	0.4496	0.0674	0.0025	-0.0077	0.0145	-0.9099	0.0625	-1.2829	0.0473
2	99.84	0.4995	0.0771	0.0028	-0.0131	0.0193	-1.3289	0.0831	-1.5887	0.0474
2	99.84	0.5551	0.0963	0.0038	-0.0264	0.0248	-1.8440	0.1061	-1.5048	0.0543
2	99.84	0.5996	0.1010	0.0044	-0.0411	0.0301	-2.3479	0.1266	-1.6092	0.0608
2	99.84	0.6497	0.1200	0.0054	-0.0396	0.0362	-2.9993	0.1502	-1.6866	0.0674
2	99.84	0.7996	0.1052	0.0086	-0.1038	0.0573	-5.3835	0.2168	-1.6815	0.0706
2	99.84	0.8578	0.0697	0.0101	-0.1402	0.0658	-6.4603	0.2436	-1.6422	0.1011
2	99.84	0.9100	0.0868	0.0218	-0.1214	0.0757	-7.5340	0.2828	-1.8994	0.3490
2	99.84	0.9727	0.0676	0.0162	-0.1237	0.0837	-8.6586	0.3122	-1.3649	0.1685
3	99.84	0.1938	-0.0480	0.0097	-0.0056	0.0012	-0.0354	0.0037	-0.0946	0.0281
3	99.84	0.2357	-0.0269	0.0043	0.0125	0.0028	-0.1131	0.0072	-0.1816	0.0408
3	99.84	0.2995	0.0035	0.0047	-0.0075	0.0055	-0.2085	0.0155	-0.2622	0.0622
3	99.84	0.3493	0.0266	0.0107	0.0041	0.0093	-0.3869	0.0257	-0.3754	0.0597
3	99.84	0.4000	0.0678	0.0170	0.0040	0.0150	-0.6084	0.0406	-0.2823	0.0589
3	99.84	0.4497	0.0864	0.0223	0.0023	0.0207	-0.9613	0.0563	-0.6389	0.0669
3	99.84	0.4997	0.0785	0.0273	-0.0025	0.0276	-1.3523	0.0739	-0.7464	0.0762
3	99.84	0.5556	0.0976	0.0327	0.0034	0.0368	-1.8824	0.0976	-0.6834	0.0755
3	99.84	0.5995	0.1033	0.0371	-0.0281	0.0445	-2.3698	0.1177	-0.7083	0.0872
3	99.84	0.6498	0.1094	0.0422	-0.0486	0.0539	-3.0422	0.1421	-0.9478	0.0940
3	99.84	0.6890	0.0654	0.0464	-0.0897	0.0624	-3.6012	0.1646	-0.9147	0.0908
3	99.84	0.7495	0.0721	0.0541	-0.1004	0.0769	-4.6108	0.1965	-1.0130	0.1000
3	99.84	0.7998	0.0501	0.0630	-0.1603	0.0899	-5.4515	0.2254	-0.8554	0.1031
3	99.84	0.8577	0.0092	0.0783	-0.2083	0.1059	-6.5865	0.2613	-1.0215	0.1387
4	99.84	0.2001	0.0745	0.0034	0.0206	0.0012	-0.1208	0.0061	0.0627	0.0404
4	99.84	0.2502	-0.0113	0.0035	0.0172	0.0026	-0.1818	0.0112	0.5649	0.0930
4	99.84	0.3001	-0.0390	0.0027	0.0644	0.0043	-0.4568	0.0203	0.3246	0.0897
4	99.84	0.3502	-0.0921	0.0023	0.1207	0.0075	-0.7829	0.0340	0.3188	0.0890
4	99.84	0.4002	-0.1209	0.0026	0.1689	0.0116	-1.1858	0.0518	0.3430	0.0924
4	99.84	0.4500	-0.1557	0.0037	0.2388	0.0159	-1.7195	0.0695	0.0674	0.0856
4	99.84	0.5001	-0.1932	0.0042	0.2890	0.0211	-2.3084	0.0922	0.1698	0.0951
4	99.84	0.5560	-0.2465	0.0054	0.3592	0.0274	-3.1562	0.1213	-0.1224	0.0934
4	99.84	0.6001	-0.2725	0.0061	0.4123	0.0326	-3.8637	0.1462	-0.1672	0.1033
4	99.84	0.6501	-0.3243	0.0080	0.4360	0.0394	-4.7895	0.1773	-0.2424	0.0995
4	99.84	0.6999	-0.3725	0.0097	0.4587	0.0468	-5.7995	0.2097	-0.2800	0.1012
4	99.84	0.7500	-0.4290	0.0114	0.5055	0.0549	-6.8541	0.2439	-0.0093	0.0984
4	99.84	0.8002	-0.4840	0.0142	0.5100	0.0635	-8.1208	0.2765	-0.3035	0.1097
4	99.84	0.8582	-0.5491	0.0175	0.5708	0.0737	-9.5908	0.3188	-0.3772	0.0987
4	99.84	0.9101	-0.6080	0.0203	0.5892	0.0828	-11.0180	0.3558	-0.4078	0.1110
4	99.84	0.9728	-0.6215	0.0230	0.6724	0.0945	-12.7097	0.4052	-0.2122	0.1033

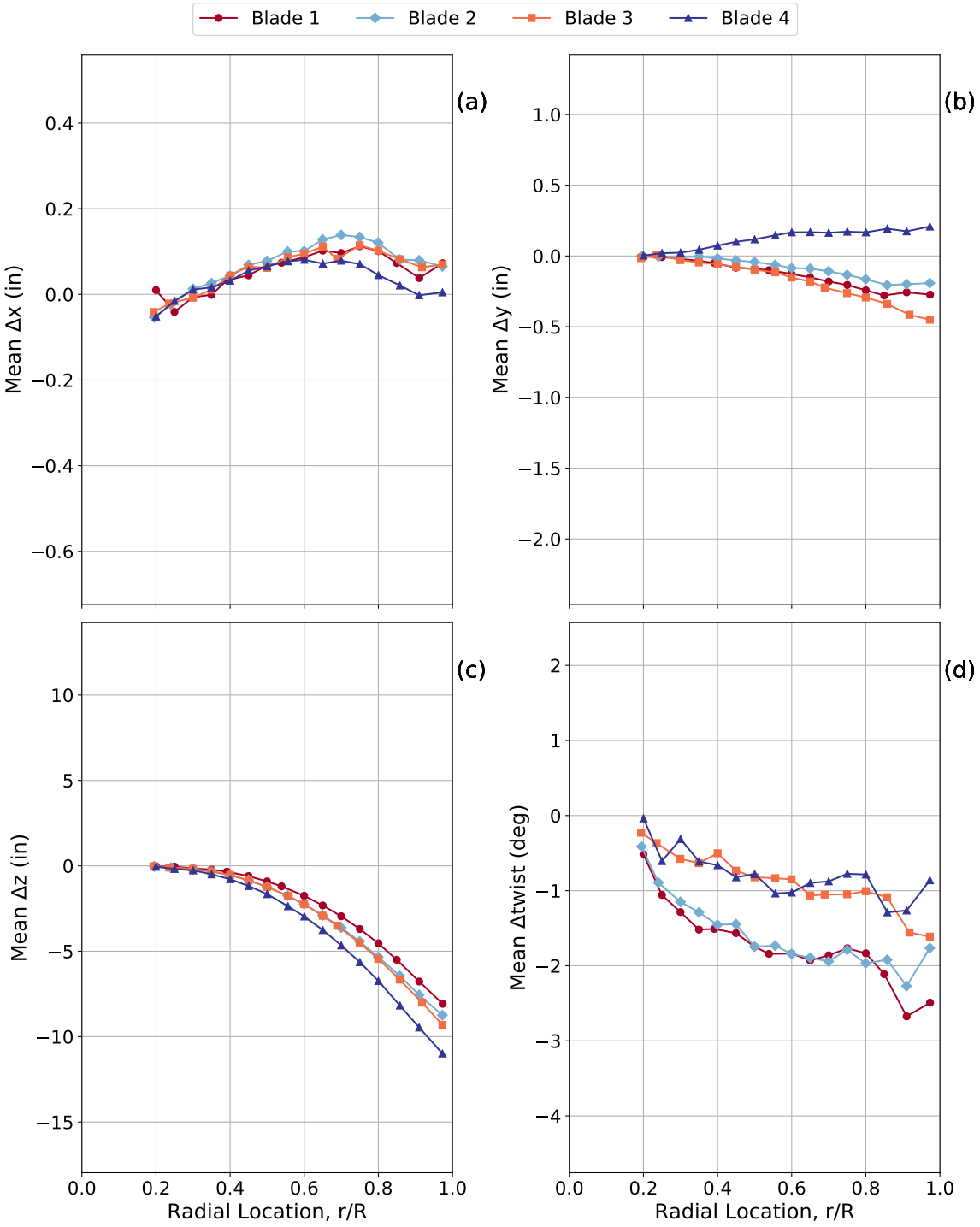


Figure 2.10-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	0.0099	0.0017	-0.0052	0.0009	-0.0330	0.0032	-0.5169	0.0242
1	105.12	0.2499	-0.0409	0.0010	-0.0074	0.0019	-0.0505	0.0082	-1.0571	0.0499
1	105.12	0.2998	-0.0065	0.0012	-0.0215	0.0037	-0.1502	0.0145	-1.2856	0.0582
1	105.12	0.3498	-0.0011	0.0016	-0.0341	0.0065	-0.2227	0.0245	-1.5185	0.0587
1	105.12	0.3913	0.0327	0.0020	-0.0499	0.0094	-0.3421	0.0364	-1.5099	0.0601
1	105.12	0.4496	0.0445	0.0024	-0.0833	0.0139	-0.6007	0.0562	-1.5659	0.0572
1	105.12	0.4997	0.0675	0.0025	-0.0910	0.0188	-0.9129	0.0768	-1.7451	0.0613
1	105.12	0.5387	0.0738	0.0028	-0.1010	0.0233	-1.1992	0.0952	-1.8415	0.0634
1	105.12	0.5996	0.0868	0.0036	-0.1272	0.0307	-1.7504	0.1240	-1.8380	0.0660
1	105.12	0.6498	0.1021	0.0040	-0.1517	0.0375	-2.3203	0.1468	-1.9291	0.0699
1	105.12	0.6998	0.0966	0.0049	-0.1810	0.0451	-2.9531	0.1664	-1.8611	0.0703
1	105.12	0.7500	0.1125	0.0060	-0.2052	0.0536	-3.7009	0.1844	-1.7670	0.0753
1	105.12	0.8001	0.1011	0.0076	-0.2431	0.0627	-4.5367	0.2029	-1.8338	0.0781
1	105.12	0.8497	0.0731	0.0100	-0.2793	0.0723	-5.5004	0.2236	-2.1124	0.0816
1	105.12	0.9102	0.0381	0.0128	-0.2570	0.0840	-6.7727	0.2565	-2.6737	0.1156
1	105.12	0.9734	0.0727	0.0175	-0.2736	0.0978	-8.0768	0.3022	-2.4917	0.1132
2	105.12	0.1949	-0.0537	0.0015	-0.0000	0.0007	-0.0332	0.0031	-0.4126	0.0277
2	105.12	0.2405	-0.0239	0.0012	-0.0029	0.0018	-0.1023	0.0064	-0.8934	0.0429
2	105.12	0.2999	0.0128	0.0012	-0.0101	0.0032	-0.2041	0.0138	-1.1489	0.0639
2	105.12	0.3498	0.0263	0.0015	-0.0033	0.0058	-0.3368	0.0236	-1.2892	0.0597
2	105.12	0.3998	0.0437	0.0020	-0.0172	0.0089	-0.5562	0.0368	-1.4538	0.0526
2	105.12	0.4496	0.0688	0.0023	-0.0321	0.0113	-0.8255	0.0519	-1.4455	0.0535
2	105.12	0.4995	0.0782	0.0028	-0.0423	0.0146	-1.2307	0.0727	-1.7454	0.0596
2	105.12	0.5551	0.1001	0.0037	-0.0629	0.0187	-1.7411	0.0988	-1.7321	0.0600
2	105.12	0.5996	0.1011	0.0042	-0.0861	0.0222	-2.2419	0.1216	-1.8425	0.0625
2	105.12	0.6497	0.1281	0.0056	-0.0897	0.0265	-2.8991	0.1500	-1.8931	0.0639
2	105.12	0.6996	0.1388	0.0065	-0.1085	0.0313	-3.6196	0.1793	-1.9424	0.0678
2	105.12	0.7495	0.1338	0.0078	-0.1332	0.0361	-4.4286	0.2115	-1.7880	0.0650
2	105.12	0.7996	0.1208	0.0102	-0.1647	0.0414	-5.3362	0.2475	-1.9677	0.0765
2	105.12	0.8578	0.0812	0.0133	-0.2061	0.0475	-6.4438	0.2921	-1.9198	0.0811
2	105.12	0.9100	0.0796	0.0167	-0.1998	0.0533	-7.5588	0.3386	-2.2709	0.0907
2	105.12	0.9727	0.0655	0.0182	-0.1921	0.0605	-8.7416	0.3964	-1.7644	0.0927
3	105.12	0.1938	-0.0412	0.0015	-0.0151	0.0009	-0.0242	0.0031	-0.2281	0.0255
3	105.12	0.2357	-0.0215	0.0014	0.0098	0.0017	-0.1029	0.0056	-0.3670	0.0332
3	105.12	0.2995	-0.0077	0.0013	-0.0291	0.0040	-0.1839	0.0129	-0.5769	0.0564
3	105.12	0.3493	0.0108	0.0014	-0.0459	0.0070	-0.3279	0.0230	-0.6342	0.0472
3	105.12	0.4000	0.0438	0.0019	-0.0586	0.0106	-0.5365	0.0351	-0.5026	0.0422
3	105.12	0.4497	0.0650	0.0020	-0.0780	0.0139	-0.8604	0.0490	-0.7346	0.0497
3	105.12	0.4997	0.0620	0.0024	-0.0975	0.0183	-1.2361	0.0660	-0.8219	0.0459
3	105.12	0.5556	0.0865	0.0032	-0.1157	0.0239	-1.7606	0.0892	-0.8342	0.0488
3	105.12	0.5995	0.0951	0.0037	-0.1526	0.0287	-2.2456	0.1089	-0.8487	0.0510
3	105.12	0.6498	0.1113	0.0045	-0.1808	0.0349	-2.9261	0.1335	-1.0633	0.0591
3	105.12	0.6890	0.0829	0.0051	-0.2239	0.0396	-3.5088	0.1522	-1.0527	0.0590
3	105.12	0.7495	0.1146	0.0071	-0.2628	0.0479	-4.5145	0.1846	-1.0480	0.0577
3	105.12	0.7998	0.1020	0.0087	-0.2936	0.0553	-5.4502	0.2141	-1.0067	0.0727
3	105.12	0.8577	0.0822	0.0109	-0.3389	0.0637	-6.6619	0.2515	-1.0877	0.0929
3	105.12	0.9178	0.0631	0.0147	-0.4156	0.0729	-8.0059	0.2955	-1.5575	0.1252
3	105.12	0.9729	0.0698	0.0172	-0.4503	0.0810	-9.3055	0.3392	-1.6126	0.1145
4	105.12	0.2001	-0.0518	0.0013	0.0031	0.0010	-0.0548	0.0049	-0.0368	0.0272
4	105.12	0.2502	-0.0152	0.0012	0.0199	0.0026	-0.1827	0.0113	-0.6061	0.0418
4	105.12	0.3001	0.0112	0.0014	0.0234	0.0043	-0.2684	0.0202	-0.3131	0.0580
4	105.12	0.3502	0.0163	0.0019	0.0442	0.0080	-0.4965	0.0351	-0.6125	0.0481
4	105.12	0.4002	0.0318	0.0026	0.0735	0.0121	-0.7825	0.0544	-0.6612	0.0448
4	105.12	0.4500	0.0554	0.0030	0.1001	0.0165	-1.1800	0.0789	-0.8214	0.0472
4	105.12	0.5001	0.0657	0.0039	0.1174	0.0220	-1.6552	0.1088	-0.7796	0.0507
4	105.12	0.5560	0.0772	0.0054	0.1461	0.0294	-2.3663	0.1477	-1.0368	0.0524
4	105.12	0.6001	0.0809	0.0068	0.1669	0.0359	-2.9661	0.1819	-1.0248	0.0524
4	105.12	0.6501	0.0718	0.0088	0.1681	0.0435	-3.7600	0.2240	-0.8969	0.0585
4	105.12	0.6999	0.0788	0.0113	0.1637	0.0529	-4.6582	0.2680	-0.8757	0.0656
4	105.12	0.7500	0.0705	0.0142	0.1715	0.0611	-5.6412	0.3163	-0.7756	0.0673
4	105.12	0.8002	0.0449	0.0180	0.1669	0.0709	-6.7434	0.3680	-0.7850	0.0694
4	105.12	0.8582	0.0207	0.0225	0.1926	0.0822	-8.1793	0.4325	-1.2891	0.0809
4	105.12	0.9101	-0.0021	0.0275	0.1741	0.0924	-9.4660	0.4936	-1.2643	0.0745
4	105.12	0.9728	0.0047	0.0314	0.2077	0.1061	-10.9880	0.5676	-0.8607	0.0917

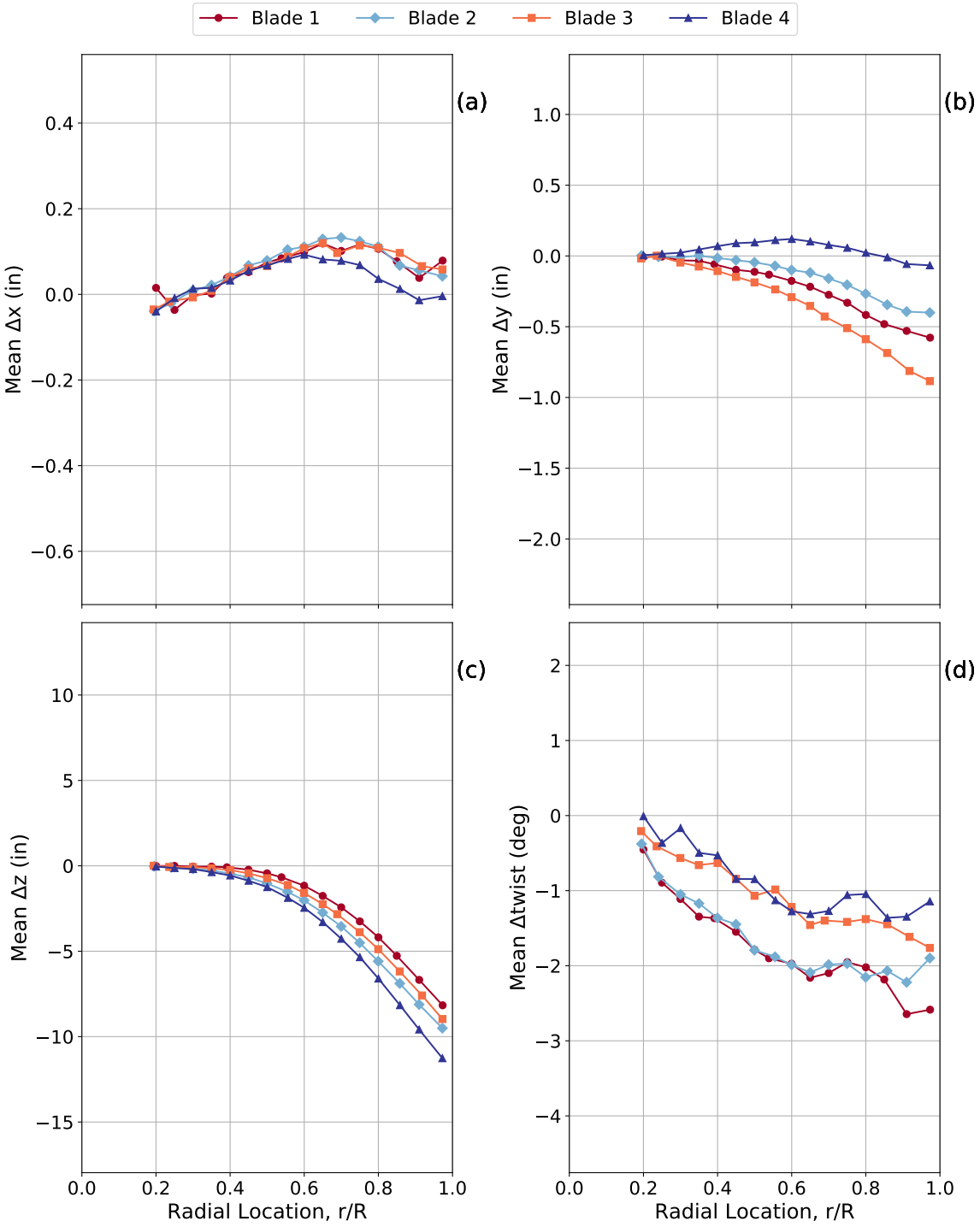


Figure 2.10-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	0.0152	0.0015	-0.0069	0.0011	-0.0078	0.0044	-0.4523	0.0256
1	119.88	0.2499	-0.0363	0.0012	-0.0044	0.0022	-0.0029	0.0088	-0.8934	0.0428
1	119.88	0.2998	-0.0017	0.0013	-0.0314	0.0045	-0.0443	0.0169	-1.1110	0.0572
1	119.88	0.3498	0.0016	0.0016	-0.0339	0.0077	-0.0459	0.0299	-1.3464	0.0595
1	119.88	0.3913	0.0378	0.0021	-0.0589	0.0111	-0.0846	0.0421	-1.3672	0.0593
1	119.88	0.4496	0.0520	0.0026	-0.0980	0.0159	-0.2281	0.0613	-1.5479	0.0667
1	119.88	0.4997	0.0746	0.0031	-0.1122	0.0207	-0.4394	0.0780	-1.7868	0.0736
1	119.88	0.5387	0.0842	0.0035	-0.1321	0.0247	-0.6682	0.0908	-1.9007	0.0737
1	119.88	0.5996	0.0988	0.0044	-0.1764	0.0321	-1.1621	0.1101	-1.9728	0.0849
1	119.88	0.6498	0.1187	0.0052	-0.2176	0.0384	-1.7609	0.1276	-2.1596	0.0857
1	119.88	0.6998	0.1015	0.0077	-0.2745	0.0462	-2.4297	0.1453	-2.0979	0.0898
1	119.88	0.7500	0.1165	0.0083	-0.3308	0.0548	-3.2518	0.1637	-1.9517	0.0919
1	119.88	0.8001	0.1063	0.0104	-0.4170	0.0645	-4.1866	0.1840	-2.0210	0.0940
1	119.88	0.8497	0.0773	0.0135	-0.4814	0.0749	-5.2684	0.2058	-2.1836	0.0992
1	119.88	0.9102	0.0384	0.0176	-0.5298	0.0881	-6.6785	0.2364	-2.6443	0.1001
1	119.88	0.9734	0.0788	0.0235	-0.5777	0.1027	-8.1654	0.2739	-2.5852	0.1029
2	119.88	0.1949	-0.0390	0.0016	0.0023	0.0006	-0.0263	0.0031	-0.3774	0.0238
2	119.88	0.2405	-0.0207	0.0013	-0.0060	0.0014	-0.0840	0.0061	-0.8151	0.0324
2	119.88	0.2999	0.0095	0.0015	-0.0081	0.0029	-0.1653	0.0130	-1.0498	0.0519
2	119.88	0.3498	0.0214	0.0014	0.0014	0.0047	-0.2732	0.0232	-1.1711	0.0420
2	119.88	0.3998	0.0417	0.0019	-0.0146	0.0074	-0.4520	0.0353	-1.3640	0.0389
2	119.88	0.4496	0.0675	0.0023	-0.0300	0.0095	-0.6764	0.0499	-1.4481	0.0431
2	119.88	0.4995	0.0790	0.0031	-0.0449	0.0126	-1.0302	0.0668	-1.7925	0.0463
2	119.88	0.5551	0.1045	0.0035	-0.0704	0.0165	-1.5239	0.0912	-1.8812	0.0492
2	119.88	0.5996	0.1110	0.0043	-0.0997	0.0201	-2.0217	0.1140	-1.9880	0.0566
2	119.88	0.6497	0.1293	0.0053	-0.1178	0.0246	-2.7387	0.1437	-2.0901	0.0595
2	119.88	0.6996	0.1328	0.0075	-0.1593	0.0289	-3.5457	0.1753	-1.9850	0.0715
2	119.88	0.7495	0.1241	0.0095	-0.2041	0.0339	-4.5070	0.2151	-1.9715	0.0611
2	119.88	0.7996	0.1114	0.0117	-0.2674	0.0388	-5.5869	0.2530	-2.1536	0.0713
2	119.88	0.8578	0.0674	0.0160	-0.3448	0.0454	-6.8872	0.3034	-2.0681	0.0648
2	119.88	0.9100	0.0561	0.0187	-0.3934	0.0518	-8.1181	0.3469	-2.2208	0.0719
2	119.88	0.9727	0.0424	0.0215	-0.4006	0.0597	-9.5052	0.3999	-1.8983	0.0705
3	119.88	0.1938	-0.0353	0.0012	-0.0178	0.0008	0.0040	0.0029	-0.2073	0.0219
3	119.88	0.2357	-0.0171	0.0014	0.0018	0.0018	-0.0655	0.0055	-0.4097	0.0349
3	119.88	0.2995	-0.0071	0.0013	-0.0466	0.0033	-0.0725	0.0110	-0.5655	0.0490
3	119.88	0.3493	0.0086	0.0016	-0.0747	0.0057	-0.1399	0.0190	-0.6595	0.0418
3	119.88	0.4000	0.0405	0.0021	-0.1065	0.0090	-0.2473	0.0294	-0.6310	0.0577
3	119.88	0.4497	0.0607	0.0027	-0.1478	0.0116	-0.4391	0.0409	-0.8416	0.0600
3	119.88	0.4997	0.0661	0.0032	-0.1868	0.0148	-0.7220	0.0555	-1.0685	0.0548
3	119.88	0.5556	0.0880	0.0044	-0.2367	0.0191	-1.1215	0.0787	-0.9854	0.0582
3	119.88	0.5995	0.1079	0.0044	-0.2913	0.0229	-1.5844	0.1025	-1.2168	0.0611
3	119.88	0.6498	0.1198	0.0056	-0.3534	0.0273	-2.2448	0.1355	-1.4575	0.0674
3	119.88	0.6890	0.0965	0.0077	-0.4282	0.0316	-2.8302	0.1684	-1.3981	0.0668
3	119.88	0.7495	0.1143	0.0101	-0.5101	0.0377	-3.8803	0.2276	-1.4164	0.0697
3	119.88	0.7998	0.1087	0.0136	-0.5885	0.0430	-4.8798	0.2846	-1.3792	0.0679
3	119.88	0.8577	0.0967	0.0181	-0.6858	0.0497	-6.1828	0.3549	-1.4470	0.0721
3	119.88	0.9178	0.0659	0.0224	-0.8130	0.0571	-7.5903	0.4323	-1.6156	0.0834
3	119.88	0.9729	0.0583	0.0269	-0.8847	0.0641	-8.9683	0.5070	-1.7625	0.0794
4	119.88	0.2001	-0.0399	0.0016	0.0053	0.0010	-0.0428	0.0033	-0.0084	0.0263
4	119.88	0.2502	-0.0086	0.0012	0.0146	0.0019	-0.1302	0.0066	-0.3641	0.0453
4	119.88	0.3001	0.0133	0.0015	0.0230	0.0036	-0.1914	0.0121	-0.1671	0.0600
4	119.88	0.3502	0.0151	0.0017	0.0459	0.0068	-0.3700	0.0221	-0.4966	0.0582
4	119.88	0.4002	0.0323	0.0025	0.0691	0.0097	-0.5664	0.0329	-0.5302	0.0566
4	119.88	0.4500	0.0552	0.0029	0.0900	0.0127	-0.8736	0.0444	-0.8438	0.0557
4	119.88	0.5001	0.0676	0.0031	0.0956	0.0170	-1.2475	0.0576	-0.8459	0.0558
4	119.88	0.5560	0.0828	0.0039	0.1119	0.0219	-1.8763	0.0742	-1.1277	0.0567
4	119.88	0.6001	0.0926	0.0047	0.1200	0.0272	-2.4582	0.0906	-1.2751	0.0628
4	119.88	0.6501	0.0816	0.0058	0.1022	0.0340	-3.2946	0.1111	-1.3120	0.0641
4	119.88	0.6999	0.0784	0.0071	0.0777	0.0410	-4.2693	0.1368	-1.2705	0.0712
4	119.88	0.7500	0.0683	0.0092	0.0576	0.0490	-5.3509	0.1703	-1.0583	0.0610
4	119.88	0.8002	0.0361	0.0120	0.0225	0.0581	-6.6006	0.2072	-1.0452	0.0646
4	119.88	0.8582	0.0127	0.0160	-0.0101	0.0689	-8.1590	0.2541	-1.3617	0.0664
4	119.88	0.9101	-0.0137	0.0193	-0.0571	0.0795	-9.5840	0.3002	-1.3464	0.0653
4	119.88	0.9728	-0.0042	0.0237	-0.0665	0.0928	-11.2643	0.3594	-1.1427	0.0677

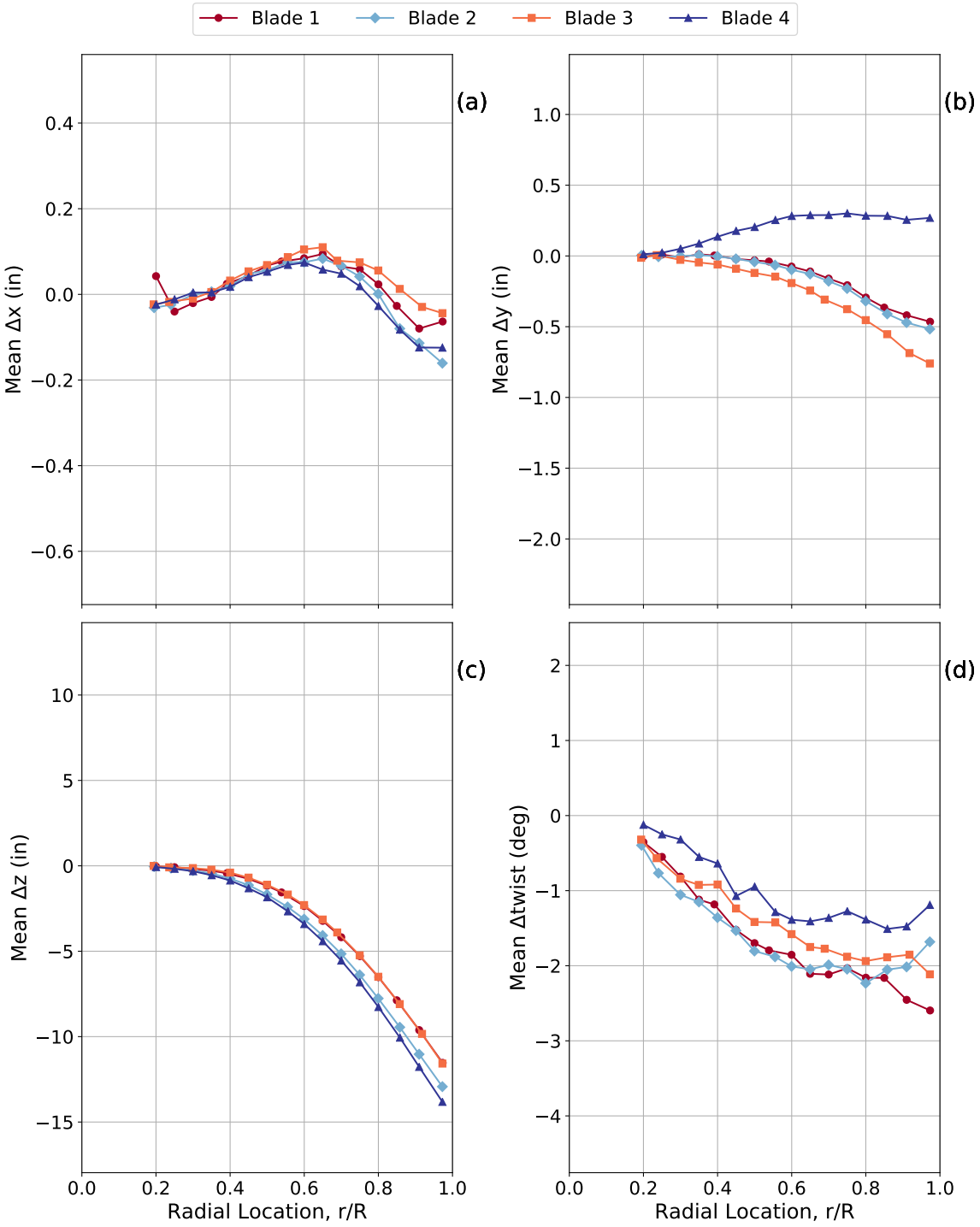


Figure 2.10-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	0.0426	0.0015	-0.0019	0.0008	-0.0398	0.0026	-0.3543	0.0258
1	135	0.2499	-0.0401	0.0012	0.0096	0.0015	-0.0796	0.0062	-0.5503	0.0487
1	135	0.2998	-0.0204	0.0015	-0.0102	0.0030	-0.1808	0.0119	-0.8127	0.0609
1	135	0.3498	-0.0060	0.0014	0.0120	0.0051	-0.2876	0.0202	-1.1197	0.0613
1	135	0.3913	0.0246	0.0027	0.0030	0.0072	-0.4339	0.0299	-1.1835	0.0633
1	135	0.4496	0.0434	0.0027	-0.0215	0.0095	-0.7612	0.0442	-1.5226	0.0625
1	135	0.4997	0.0671	0.0041	-0.0311	0.0121	-1.1704	0.0615	-1.6987	0.0693
1	135	0.5387	0.0766	0.0037	-0.0394	0.0141	-1.5569	0.0764	-1.7950	0.0696
1	135	0.5996	0.0843	0.0053	-0.0751	0.0176	-2.3518	0.1063	-1.8545	0.0690
1	135	0.6498	0.0943	0.0071	-0.1098	0.0213	-3.2218	0.1365	-2.1072	0.0758
1	135	0.6998	0.0650	0.0096	-0.1600	0.0248	-4.1804	0.1719	-2.1169	0.0766
1	135	0.7500	0.0586	0.0126	-0.2068	0.0293	-5.2866	0.2131	-2.0333	0.0778
1	135	0.8001	0.0234	0.0166	-0.2940	0.0342	-6.5184	0.2605	-2.1592	0.0798
1	135	0.8497	-0.0270	0.0218	-0.3649	0.0390	-7.8721	0.3128	-2.1615	0.0785
1	135	0.9102	-0.0798	0.0267	-0.4193	0.0469	-9.6181	0.3792	-2.4542	0.0833
1	135	0.9734	-0.0634	0.0325	-0.4650	0.0546	-11.5352	0.4532	-2.5957	0.0810
2	135	0.1949	-0.0312	0.0012	0.0035	0.0005	-0.0463	0.0048	-0.3961	0.0257
2	135	0.2405	-0.0242	0.0014	-0.0057	0.0013	-0.1322	0.0110	-0.7669	0.0398
2	135	0.2999	-0.0007	0.0020	-0.0024	0.0024	-0.2785	0.0237	-1.0552	0.0609
2	135	0.3498	0.0061	0.0026	0.0068	0.0042	-0.4454	0.0409	-1.1505	0.0536
2	135	0.3998	0.0193	0.0039	-0.0037	0.0065	-0.7422	0.0644	-1.3589	0.0605
2	135	0.4496	0.0479	0.0045	-0.0207	0.0085	-1.1306	0.0944	-1.5317	0.0616
2	135	0.4995	0.0560	0.0064	-0.0416	0.0117	-1.6756	0.1322	-1.8042	0.0656
2	135	0.5551	0.0752	0.0084	-0.0650	0.0154	-2.4058	0.1828	-1.8814	0.0639
2	135	0.5996	0.0750	0.0109	-0.0973	0.0187	-3.1195	0.2306	-2.0084	0.0718
2	135	0.6497	0.0835	0.0147	-0.1278	0.0231	-4.0780	0.2912	-2.0476	0.0744
2	135	0.6996	0.0667	0.0199	-0.1785	0.0282	-5.1515	0.3597	-1.9885	0.0767
2	135	0.7495	0.0416	0.0259	-0.2302	0.0341	-6.3837	0.4352	-2.0456	0.0744
2	135	0.7996	0.0012	0.0338	-0.3191	0.0403	-7.7632	0.5191	-2.2330	0.0732
2	135	0.8578	-0.0799	0.0444	-0.4097	0.0482	-9.4483	0.6255	-2.0524	0.0786
2	135	0.9100	-0.1139	0.0537	-0.4710	0.0565	-11.0301	0.7291	-2.0152	0.0762
2	135	0.9727	-0.1607	0.0661	-0.5165	0.0662	-12.9274	0.8587	-1.6818	0.0783
3	135	0.1938	-0.0233	0.0017	-0.0129	0.0008	-0.0055	0.0032	-0.3198	0.0336
3	135	0.2357	-0.0176	0.0012	0.0056	0.0014	-0.0897	0.0063	-0.5673	0.0446
3	135	0.2995	-0.0098	0.0014	-0.0275	0.0034	-0.1338	0.0140	-0.8403	0.0760
3	135	0.3493	0.0054	0.0019	-0.0459	0.0054	-0.2226	0.0243	-0.9238	0.0647
3	135	0.4000	0.0322	0.0024	-0.0604	0.0086	-0.3967	0.0377	-0.9182	0.0710
3	135	0.4497	0.0537	0.0029	-0.0903	0.0111	-0.6907	0.0544	-1.2376	0.0750
3	135	0.4997	0.0684	0.0040	-0.1201	0.0145	-1.1056	0.0764	-1.4172	0.0911
3	135	0.5556	0.0870	0.0050	-0.1461	0.0183	-1.6819	0.1040	-1.4227	0.0777
3	135	0.5995	0.1048	0.0063	-0.1916	0.0222	-2.2975	0.1317	-1.5791	0.0898
3	135	0.6498	0.1101	0.0078	-0.2445	0.0268	-3.1444	0.1685	-1.7506	0.1017
3	135	0.6890	0.0787	0.0103	-0.3087	0.0307	-3.9002	0.2016	-1.7733	0.0965
3	135	0.7495	0.0747	0.0142	-0.3761	0.0380	-5.2387	0.2644	-1.8803	0.1004
3	135	0.7998	0.0557	0.0188	-0.4538	0.0444	-6.4948	0.3262	-1.9383	0.1046
3	135	0.8577	0.0127	0.0262	-0.5532	0.0523	-8.0952	0.4072	-1.8870	0.1061
3	135	0.9178	-0.0293	0.0335	-0.6865	0.0607	-9.8395	0.4981	-1.8526	0.1167
3	135	0.9729	-0.0439	0.0398	-0.7599	0.0689	-11.5782	0.5865	-2.1141	0.1145
4	135	0.2001	-0.0239	0.0015	0.0121	0.0008	-0.0744	0.0017	-0.1232	0.0264
4	135	0.2502	-0.0116	0.0012	0.0226	0.0023	-0.1744	0.0052	-0.2508	0.0401
4	135	0.3001	0.0041	0.0018	0.0510	0.0036	-0.3175	0.0078	-0.3191	0.0574
4	135	0.3502	0.0045	0.0017	0.0877	0.0068	-0.5511	0.0137	-0.5513	0.0525
4	135	0.4002	0.0176	0.0026	0.1361	0.0104	-0.8602	0.0218	-0.6385	0.0606
4	135	0.4500	0.0402	0.0026	0.1770	0.0138	-1.3155	0.0316	-1.0709	0.0577
4	135	0.5001	0.0529	0.0031	0.2043	0.0175	-1.8434	0.0433	-0.9470	0.0650
4	135	0.5560	0.0687	0.0042	0.2535	0.0228	-2.6684	0.0618	-1.2851	0.0602
4	135	0.6001	0.0743	0.0048	0.2825	0.0277	-3.4119	0.0802	-1.3874	0.0673
4	135	0.6501	0.0578	0.0063	0.2882	0.0331	-4.4159	0.1055	-1.4089	0.0773
4	135	0.6999	0.0483	0.0083	0.2887	0.0400	-5.5490	0.1364	-1.3629	0.0672
4	135	0.7500	0.0189	0.0112	0.3007	0.0471	-6.8230	0.1729	-1.2738	0.0702
4	135	0.8002	-0.0272	0.0145	0.2843	0.0549	-8.2686	0.2152	-1.3849	0.0759
4	135	0.8582	-0.0824	0.0200	0.2829	0.0642	-10.0612	0.2702	-1.5099	0.0713
4	135	0.9101	-0.1241	0.0249	0.2552	0.0726	-11.7743	0.3240	-1.4770	0.0731
4	135	0.9728	-0.1245	0.0314	0.2690	0.0832	-13.8207	0.3938	-1.1907	0.0750

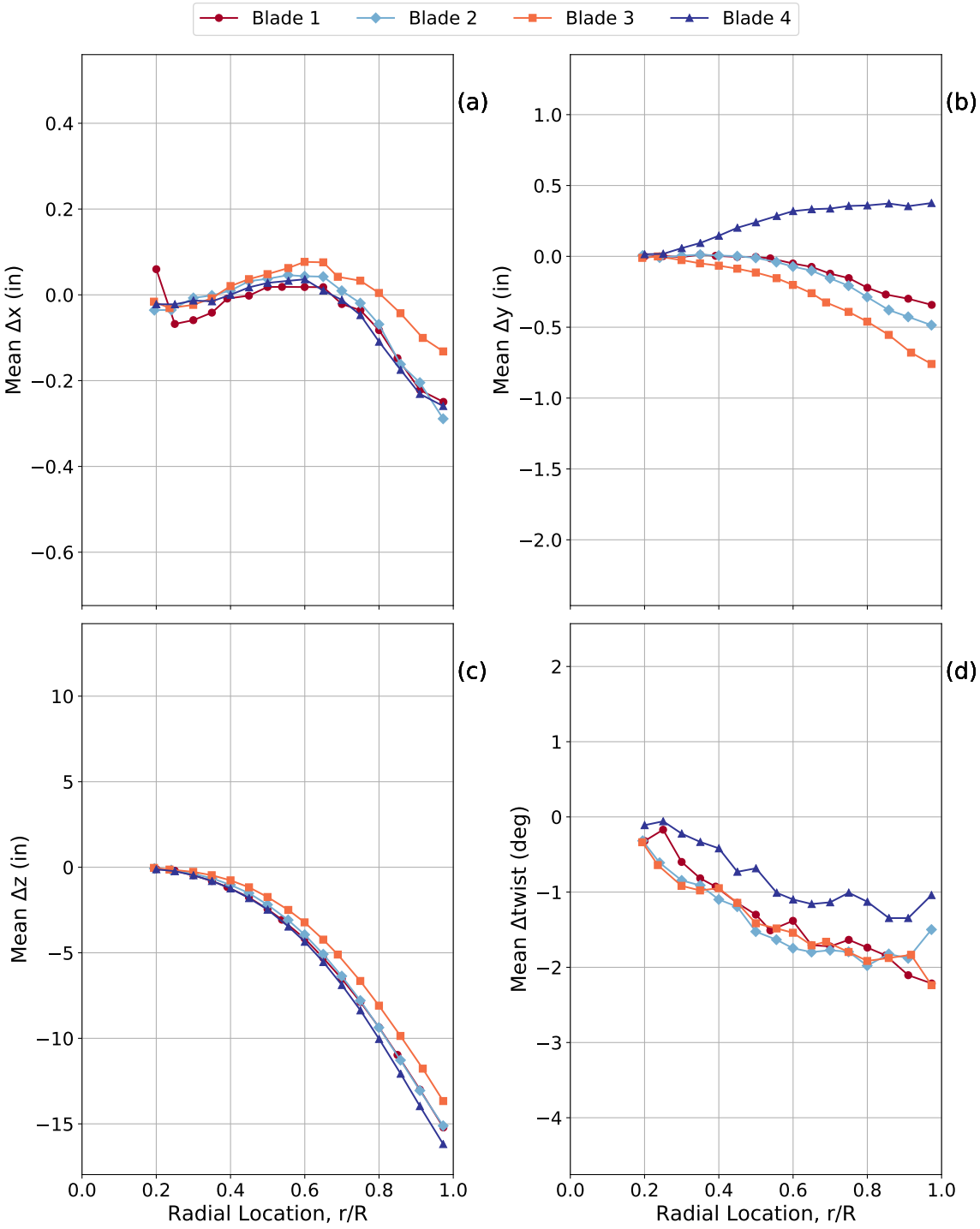


Figure 2.10-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	0.0598	0.0024	0.0003	0.0011	-0.1124	0.0040	-0.3205	0.0258
1	150.12	0.2499	-0.0679	0.0016	0.0020	0.0027	-0.2025	0.0079	-0.1703	0.0532
1	150.12	0.2998	-0.0590	0.0019	-0.0051	0.0048	-0.4712	0.0164	-0.5991	0.0621
1	150.12	0.3498	-0.0415	0.0023	0.0126	0.0086	-0.8020	0.0278	-0.8166	0.0606
1	150.12	0.3913	-0.0087	0.0026	0.0038	0.0125	-1.1564	0.0405	-0.9267	0.0625
1	150.12	0.4496	-0.0019	0.0030	-0.0040	0.0181	-1.7644	0.0608	-1.1436	0.0640
1	150.12	0.4997	0.0184	0.0050	-0.0041	0.0228	-2.4484	0.0804	-1.3002	0.0666
1	150.12	0.5387	0.0185	0.0049	-0.0140	0.0275	-3.0680	0.0986	-1.5087	0.0604
1	150.12	0.5996	0.0182	0.0066	-0.0503	0.0348	-4.1651	0.1284	-1.3819	0.0717
1	150.12	0.6498	0.0179	0.0082	-0.0743	0.0422	-5.3051	0.1527	-1.7049	0.0730
1	150.12	0.6998	-0.0215	0.0103	-0.1220	0.0496	-6.5248	0.1779	-1.7224	0.0741
1	150.12	0.7500	-0.0359	0.0126	-0.1534	0.0584	-7.8821	0.2051	-1.6347	0.0733
1	150.12	0.8001	-0.0823	0.0157	-0.2216	0.0674	-9.3632	0.2332	-1.7380	0.0771
1	150.12	0.8497	-0.1477	0.0195	-0.2692	0.0772	-10.9690	0.2645	-1.8420	0.0746
1	150.12	0.9102	-0.2218	0.0244	-0.2989	0.0899	-13.0014	0.3079	-2.1048	0.0775
1	150.12	0.9734	-0.2496	0.0309	-0.3424	0.1039	-15.2107	0.3600	-2.2148	0.0876
2	150.12	0.1949	-0.0357	0.0017	0.0060	0.0009	-0.0755	0.0053	-0.3176	0.0248
2	150.12	0.2405	-0.0351	0.0018	-0.0086	0.0022	-0.1704	0.0108	-0.6098	0.0420
2	150.12	0.2999	-0.0072	0.0018	0.0041	0.0046	-0.3884	0.0240	-0.8450	0.0599
2	150.12	0.3498	-0.0014	0.0021	0.0123	0.0076	-0.6407	0.0410	-0.9102	0.0669
2	150.12	0.3998	0.0099	0.0025	0.0057	0.0118	-1.0323	0.0640	-1.0983	0.0721
2	150.12	0.4496	0.0318	0.0033	0.0014	0.0157	-1.5137	0.0910	-1.1943	0.0679
2	150.12	0.4995	0.0374	0.0046	-0.0106	0.0202	-2.1875	0.1249	-1.5249	0.0726
2	150.12	0.5551	0.0459	0.0065	-0.0404	0.0261	-3.0837	0.1686	-1.6326	0.0769
2	150.12	0.5996	0.0434	0.0086	-0.0719	0.0309	-3.9411	0.2082	-1.7464	0.0753
2	150.12	0.6497	0.0424	0.0118	-0.1008	0.0371	-5.0844	0.2577	-1.7974	0.0813
2	150.12	0.6996	0.0095	0.0160	-0.1552	0.0435	-6.3643	0.3135	-1.7727	0.0819
2	150.12	0.7495	-0.0193	0.0219	-0.2073	0.0496	-7.7916	0.3760	-1.7942	0.0848
2	150.12	0.7996	-0.0686	0.0284	-0.2872	0.0562	-9.3708	0.4449	-1.9784	0.0897
2	150.12	0.8578	-0.1619	0.0378	-0.3786	0.0641	-11.2773	0.5322	-1.8226	0.0878
2	150.12	0.9100	-0.2046	0.0464	-0.4268	0.0712	-13.0545	0.6162	-1.8801	0.0923
2	150.12	0.9727	-0.2889	0.0551	-0.4853	0.0801	-15.1109	0.7196	-1.4982	0.0933
3	150.12	0.1938	-0.0159	0.0035	-0.0107	0.0010	-0.0383	0.0054	-0.3370	0.0250
3	150.12	0.2357	-0.0308	0.0016	-0.0005	0.0024	-0.1372	0.0097	-0.6406	0.0640
3	150.12	0.2995	-0.0234	0.0020	-0.0261	0.0054	-0.2694	0.0227	-0.9166	0.0732
3	150.12	0.3493	-0.0080	0.0027	-0.0493	0.0075	-0.4658	0.0381	-0.9776	0.0736
3	150.12	0.4000	0.0205	0.0030	-0.0658	0.0133	-0.7666	0.0601	-0.9479	0.0757
3	150.12	0.4497	0.0366	0.0042	-0.0869	0.0177	-1.1725	0.0858	-1.1428	0.0792
3	150.12	0.4997	0.0483	0.0053	-0.1140	0.0235	-1.7409	0.1186	-1.4142	0.0784
3	150.12	0.5556	0.0625	0.0070	-0.1540	0.0308	-2.4960	0.1613	-1.4834	0.0762
3	150.12	0.5995	0.0769	0.0089	-0.2015	0.0376	-3.2221	0.2008	-1.5403	0.0841
3	150.12	0.6498	0.0758	0.0114	-0.2601	0.0458	-4.2309	0.2527	-1.7076	0.0839
3	150.12	0.6890	0.0421	0.0151	-0.3252	0.0530	-5.1033	0.2960	-1.6604	0.0801
3	150.12	0.7495	0.0330	0.0209	-0.3916	0.0653	-6.6490	0.3749	-1.7961	0.0781
3	150.12	0.7998	0.0044	0.0277	-0.4605	0.0766	-8.0896	0.4484	-1.9153	0.0749
3	150.12	0.8577	-0.0429	0.0372	-0.5541	0.0907	-9.8615	0.5443	-1.8764	0.0745
3	150.12	0.9178	-0.1004	0.0470	-0.6794	0.1066	-11.7723	0.6537	-1.8336	0.0778
3	150.12	0.9729	-0.1319	0.0569	-0.7593	0.1216	-13.6663	0.7565	-2.2373	0.0800
4	150.12	0.2001	-0.0219	0.0014	0.0149	0.0011	-0.1178	0.0035	-0.1100	0.0223
4	150.12	0.2502	-0.0221	0.0015	0.0178	0.0027	-0.2316	0.0075	-0.0584	0.0326
4	150.12	0.3001	-0.0133	0.0015	0.0580	0.0049	-0.4700	0.0142	-0.2229	0.0485
4	150.12	0.3502	-0.0151	0.0018	0.0945	0.0081	-0.8056	0.0230	-0.3334	0.0508
4	150.12	0.4002	0.0003	0.0019	0.1456	0.0129	-1.2420	0.0364	-0.4185	0.0535
4	150.12	0.4500	0.0175	0.0021	0.2018	0.0172	-1.8072	0.0495	-0.7299	0.0517
4	150.12	0.5001	0.0279	0.0027	0.2403	0.0224	-2.4807	0.0655	-0.6836	0.0574
4	150.12	0.5560	0.0327	0.0038	0.2848	0.0285	-3.4706	0.0863	-1.0093	0.0548
4	150.12	0.6001	0.0362	0.0045	0.3193	0.0345	-4.3565	0.1028	-1.0986	0.0554
4	150.12	0.6501	0.0099	0.0052	0.3326	0.0416	-5.5432	0.1232	-1.1583	0.0676
4	150.12	0.6999	-0.0119	0.0073	0.3371	0.0499	-6.8846	0.1437	-1.1355	0.0694
4	150.12	0.7500	-0.0473	0.0082	0.3557	0.0582	-8.3675	0.1646	-1.0081	0.0582
4	150.12	0.8002	-0.1093	0.0107	0.3593	0.0673	-10.0386	0.1879	-1.1287	0.0683
4	150.12	0.8582	-0.1749	0.0138	0.3727	0.0782	-12.0706	0.2161	-1.3455	0.0665
4	150.12	0.9101	-0.2311	0.0165	0.3540	0.0882	-13.9647	0.2421	-1.3454	0.0626
4	150.12	0.9728	-0.2592	0.0201	0.3761	0.1008	-16.1818	0.2775	-1.0396	0.0600

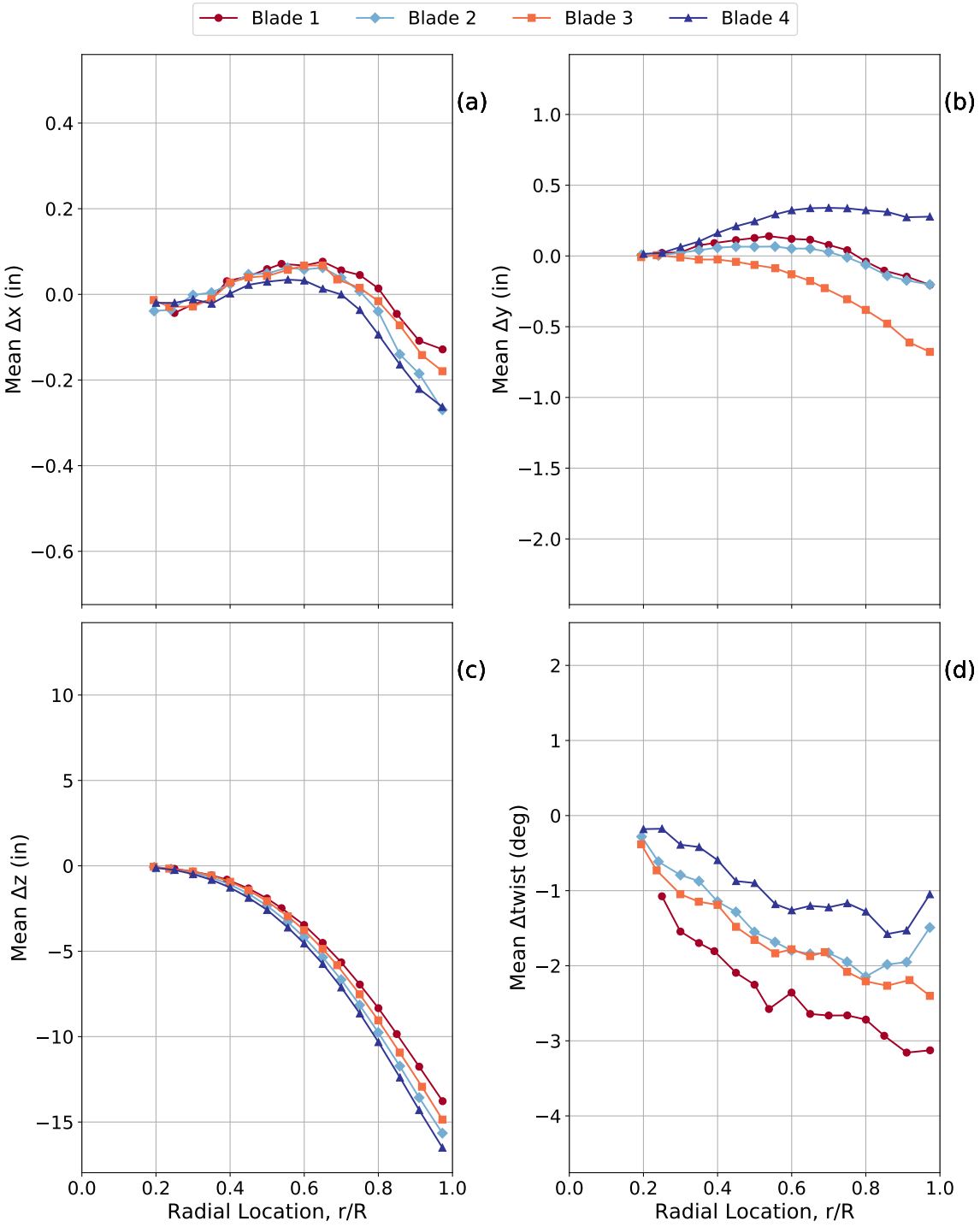


Figure 2.10-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2499	-0.0435	0.0037	0.0216	0.0043	-0.1768	0.0106	-1.0751	0.0767
1	164.88	0.2998	-0.0232	0.0042	0.0248	0.0086	-0.3359	0.0200	-1.5447	0.1096
1	164.88	0.3498	-0.0123	0.0039	0.0754	0.0150	-0.5523	0.0347	-1.6977	0.0972
1	164.88	0.3913	0.0307	0.0041	0.0908	0.0220	-0.8109	0.0507	-1.8060	0.0939
1	164.88	0.4496	0.0422	0.0044	0.1117	0.0266	-1.3225	0.0691	-2.0938	0.0995
1	164.88	0.4997	0.0590	0.0049	0.1269	0.0323	-1.9088	0.0895	-2.2529	0.0973
1	164.88	0.5387	0.0712	0.0054	0.1399	0.0376	-2.4781	0.1062	-2.5765	0.0968
1	164.88	0.5996	0.0673	0.0064	0.1206	0.0456	-3.4625	0.1360	-2.3577	0.0982
1	164.88	0.6498	0.0764	0.0077	0.1146	0.0521	-4.5110	0.1626	-2.6421	0.1021
1	164.88	0.6998	0.0561	0.0089	0.0776	0.0589	-5.6505	0.1914	-2.6628	0.0984
1	164.88	0.7500	0.0451	0.0118	0.0406	0.0664	-6.9490	0.2224	-2.6611	0.0981
1	164.88	0.8001	0.0138	0.0145	-0.0403	0.0736	-8.3323	0.2545	-2.7177	0.1008
1	164.88	0.8497	-0.0456	0.0179	-0.1039	0.0813	-9.8503	0.2896	-2.9329	0.1025
1	164.88	0.9102	-0.1084	0.0221	-0.1459	0.0912	-11.7580	0.3385	-3.1568	0.1002
1	164.88	0.9734	-0.1285	0.0267	-0.2046	0.1015	-13.7788	0.3914	-3.1263	0.1044
2	164.88	0.1949	-0.0389	0.0025	0.0069	0.0009	-0.0794	0.0034	-0.2813	0.0260
2	164.88	0.2405	-0.0358	0.0019	0.0034	0.0023	-0.1920	0.0049	-0.6142	0.0485
2	164.88	0.2999	-0.0014	0.0019	0.0227	0.0051	-0.4147	0.0117	-0.7919	0.0632
2	164.88	0.3498	0.0041	0.0016	0.0408	0.0079	-0.6802	0.0196	-0.8732	0.0613
2	164.88	0.3998	0.0241	0.0023	0.0585	0.0131	-1.1006	0.0292	-1.1444	0.0584
2	164.88	0.4496	0.0469	0.0026	0.0656	0.0177	-1.6331	0.0380	-1.2832	0.0652
2	164.88	0.4995	0.0487	0.0030	0.0648	0.0206	-2.3338	0.0487	-1.5500	0.0693
2	164.88	0.5551	0.0623	0.0033	0.0665	0.0253	-3.2814	0.0631	-1.6848	0.0671
2	164.88	0.5996	0.0582	0.0039	0.0519	0.0296	-4.1895	0.0746	-1.7965	0.0639
2	164.88	0.6497	0.0622	0.0045	0.0523	0.0352	-5.3560	0.0898	-1.8421	0.0724
2	164.88	0.6996	0.0391	0.0058	0.0279	0.0403	-6.6643	0.1051	-1.8286	0.0687
2	164.88	0.7495	0.0074	0.0073	-0.0100	0.0456	-8.1516	0.1232	-1.9481	0.0682
2	164.88	0.7996	-0.0396	0.0093	-0.0626	0.0517	-9.7577	0.1438	-2.1449	0.0667
2	164.88	0.8578	-0.1400	0.0123	-0.1393	0.0586	-11.7255	0.1715	-1.9834	0.0666
2	164.88	0.9100	-0.1852	0.0152	-0.1729	0.0649	-13.5680	0.1992	-1.9516	0.0701
2	164.88	0.9727	-0.2695	0.0182	-0.2024	0.0726	-15.6523	0.2346	-1.4907	0.0716
3	164.88	0.1938	-0.0133	0.0030	-0.0082	0.0009	-0.0520	0.0043	-0.3830	0.0230
3	164.88	0.2357	-0.0291	0.0024	0.0052	0.0020	-0.1651	0.0070	-0.7298	0.0496
3	164.88	0.2995	-0.0283	0.0023	-0.0106	0.0042	-0.3327	0.0162	-1.0475	0.0584
3	164.88	0.3493	-0.0111	0.0022	-0.0256	0.0070	-0.5728	0.0267	-1.1468	0.0579
3	164.88	0.4000	0.0277	0.0024	-0.0251	0.0113	-0.9352	0.0416	-1.1896	0.0639
3	164.88	0.4497	0.0396	0.0032	-0.0413	0.0151	-1.4342	0.0570	-1.4819	0.0596
3	164.88	0.4997	0.0427	0.0036	-0.0638	0.0204	-2.0685	0.0753	-1.6560	0.0592
3	164.88	0.5556	0.0573	0.0041	-0.0868	0.0254	-2.9534	0.0974	-1.8346	0.0618
3	164.88	0.5995	0.0672	0.0051	-0.1298	0.0303	-3.7665	0.1166	-1.7814	0.0650
3	164.88	0.6498	0.0675	0.0064	-0.1768	0.0358	-4.8671	0.1392	-1.8708	0.0694
3	164.88	0.6890	0.0348	0.0076	-0.2276	0.0405	-5.8157	0.1584	-1.8196	0.0663
3	164.88	0.7495	0.0153	0.0100	-0.3061	0.0477	-7.5210	0.1888	-2.0812	0.0721
3	164.88	0.7998	-0.0158	0.0126	-0.3813	0.0541	-9.0486	0.2178	-2.2076	0.0733
3	164.88	0.8577	-0.0721	0.0168	-0.4786	0.0616	-10.9335	0.2549	-2.2662	0.0734
3	164.88	0.9178	-0.1417	0.0209	-0.6117	0.0697	-12.9356	0.2951	-2.1909	0.0731
3	164.88	0.9729	-0.1794	0.0241	-0.6782	0.0771	-14.8586	0.3371	-2.4011	0.0742
4	164.88	0.2001	-0.0197	0.0021	0.0146	0.0011	-0.1232	0.0043	-0.1804	0.0351
4	164.88	0.2502	-0.0199	0.0039	0.0218	0.0031	-0.2419	0.0058	-0.1754	0.0496
4	164.88	0.3001	-0.0113	0.0023	0.0632	0.0048	-0.4903	0.0123	-0.3883	0.0699
4	164.88	0.3502	-0.0218	0.0022	0.1028	0.0081	-0.8209	0.0189	-0.4193	0.0743
4	164.88	0.4002	0.0020	0.0028	0.1624	0.0131	-1.2748	0.0281	-0.5938	0.0783
4	164.88	0.4500	0.0223	0.0037	0.2097	0.0159	-1.8729	0.0363	-0.8724	0.0784
4	164.88	0.5001	0.0295	0.0041	0.2448	0.0195	-2.5856	0.0482	-0.8985	0.0868
4	164.88	0.5560	0.0344	0.0052	0.2940	0.0238	-3.6139	0.0643	-1.1801	0.0809
4	164.88	0.6001	0.0323	0.0062	0.3229	0.0276	-4.5466	0.0804	-1.2617	0.0866
4	164.88	0.6501	0.0131	0.0078	0.3375	0.0317	-5.7465	0.1002	-1.2022	0.0897
4	164.88	0.6999	-0.0004	0.0098	0.3399	0.0362	-7.1204	0.1218	-1.2219	0.0899
4	164.88	0.7500	-0.0365	0.0120	0.3365	0.0404	-8.6443	0.1468	-1.1676	0.0923
4	164.88	0.8002	-0.0940	0.0151	0.3229	0.0455	-10.3214	0.1745	-1.2784	0.0951
4	164.88	0.8582	-0.1640	0.0192	0.3113	0.0512	-12.3945	0.2124	-1.5774	0.0946
4	164.88	0.9101	-0.2208	0.0235	0.2735	0.0566	-14.3003	0.2506	-1.5296	0.1006
4	164.88	0.9728	-0.2630	0.0290	0.2776	0.0632	-16.5026	0.3020	-1.0480	0.1040

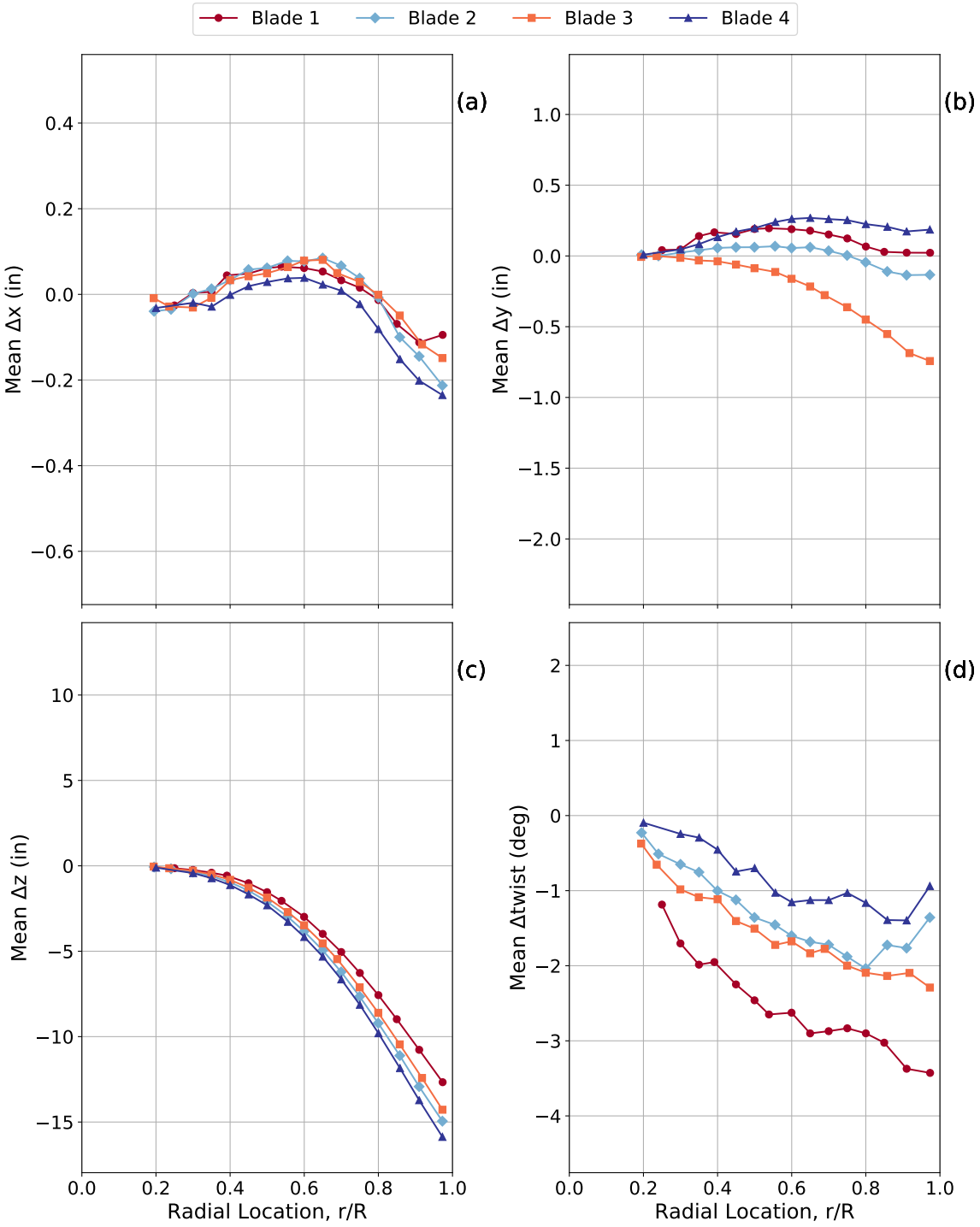


Figure 2.10-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2499	-0.0259	0.0030	0.0409	0.0053	-0.1390	0.0131	-1.1857	0.1071
1	170.16	0.2998	0.0032	0.0030	0.0457	0.0101	-0.2441	0.0222	-1.7027	0.1525
1	170.16	0.3498	0.0060	0.0034	0.1402	0.0184	-0.4030	0.0376	-1.9855	0.1360
1	170.16	0.3913	0.0443	0.0031	0.1669	0.0265	-0.5737	0.0528	-1.9514	0.1378
1	170.16	0.4496	0.0485	0.0034	0.1552	0.0372	-1.0179	0.0728	-2.2485	0.1349
1	170.16	0.4997	0.0613	0.0039	0.1906	0.0464	-1.5425	0.0917	-2.4606	0.1408
1	170.16	0.5387	0.0647	0.0040	0.1957	0.0538	-2.0498	0.1078	-2.6491	0.1414
1	170.16	0.5996	0.0615	0.0049	0.1893	0.0662	-2.9853	0.1370	-2.6254	0.1389
1	170.16	0.6498	0.0533	0.0059	0.1784	0.0762	-3.9851	0.1616	-2.9009	0.1431
1	170.16	0.6998	0.0329	0.0074	0.1516	0.0870	-5.0483	0.1876	-2.8715	0.1447
1	170.16	0.7500	0.0155	0.0092	0.1236	0.0984	-6.2723	0.2157	-2.8332	0.1362
1	170.16	0.8001	-0.0132	0.0113	0.0666	0.1100	-7.5707	0.2451	-2.9004	0.1436
1	170.16	0.8497	-0.0690	0.0155	0.0290	0.1211	-8.9804	0.2768	-3.0249	0.1497
1	170.16	0.9102	-0.1122	0.0219	0.0230	0.1379	-10.7724	0.3238	-3.3721	0.2136
1	170.16	0.9734	-0.0946	0.0254	0.0224	0.1534	-12.6681	0.3725	-3.4272	0.1635
2	170.16	0.1949	-0.0395	0.0035	0.0082	0.0011	-0.0704	0.0042	-0.2281	0.0285
2	170.16	0.2405	-0.0349	0.0032	0.0001	0.0023	-0.1701	0.0066	-0.5113	0.0637
2	170.16	0.2999	0.0013	0.0027	0.0239	0.0047	-0.3637	0.0151	-0.6499	0.0740
2	170.16	0.3498	0.0129	0.0026	0.0401	0.0074	-0.5995	0.0251	-0.7540	0.0821
2	170.16	0.3998	0.0337	0.0035	0.0566	0.0119	-0.9667	0.0386	-1.0020	0.0831
2	170.16	0.4496	0.0578	0.0038	0.0613	0.0137	-1.4488	0.0511	-1.1228	0.0813
2	170.16	0.4995	0.0618	0.0044	0.0617	0.0175	-2.0895	0.0654	-1.3572	0.0813
2	170.16	0.5551	0.0783	0.0049	0.0687	0.0222	-2.9724	0.0829	-1.4556	0.0842
2	170.16	0.5996	0.0770	0.0056	0.0558	0.0257	-3.8369	0.0980	-1.6003	0.0838
2	170.16	0.6497	0.0849	0.0066	0.0616	0.0302	-4.9455	0.1151	-1.6810	0.0892
2	170.16	0.6996	0.0667	0.0081	0.0363	0.0359	-6.2104	0.1320	-1.7206	0.0835
2	170.16	0.7495	0.0379	0.0101	0.0038	0.0412	-7.6509	0.1515	-1.8788	0.0802
2	170.16	0.7996	-0.0073	0.0118	-0.0447	0.0468	-9.2125	0.1727	-2.0368	0.0829
2	170.16	0.8578	-0.1000	0.0150	-0.1100	0.0536	-11.1112	0.2029	-1.7243	0.0910
2	170.16	0.9100	-0.1446	0.0184	-0.1356	0.0597	-12.9248	0.2327	-1.7647	0.0931
2	170.16	0.9727	-0.2128	0.0227	-0.1332	0.0670	-14.9488	0.2741	-1.3572	0.0928
3	170.16	0.1938	-0.0088	0.0048	-0.0068	0.0014	-0.0446	0.0047	-0.3733	0.0390
3	170.16	0.2357	-0.0284	0.0048	-0.0004	0.0021	-0.1424	0.0075	-0.6538	0.0728
3	170.16	0.2995	-0.0307	0.0034	-0.0133	0.0057	-0.2912	0.0145	-0.9830	0.0922
3	170.16	0.3493	-0.0081	0.0033	-0.0318	0.0090	-0.5006	0.0249	-1.0874	0.0891
3	170.16	0.4000	0.0331	0.0034	-0.0376	0.0143	-0.8197	0.0372	-1.1145	0.0846
3	170.16	0.4497	0.0423	0.0039	-0.0609	0.0177	-1.2818	0.0490	-1.4048	0.0848
3	170.16	0.4997	0.0492	0.0037	-0.0868	0.0224	-1.8596	0.0624	-1.5059	0.0906
3	170.16	0.5556	0.0637	0.0046	-0.1132	0.0278	-2.7041	0.0786	-1.7224	0.0870
3	170.16	0.5995	0.0788	0.0053	-0.1614	0.0325	-3.4814	0.0954	-1.6750	0.0878
3	170.16	0.6498	0.0806	0.0064	-0.2159	0.0380	-4.5418	0.1160	-1.8342	0.0910
3	170.16	0.6890	0.0498	0.0076	-0.2769	0.0421	-5.4611	0.1333	-1.7754	0.0883
3	170.16	0.7495	0.0290	0.0100	-0.3624	0.0479	-7.1128	0.1659	-1.9987	0.0835
3	170.16	0.7998	-0.0010	0.0135	-0.4498	0.0561	-8.6065	0.1978	-2.0929	0.0891
3	170.16	0.8577	-0.0494	0.0176	-0.5518	0.0633	-10.4544	0.2372	-2.1359	0.0909
3	170.16	0.9178	-0.1170	0.0225	-0.6866	0.0716	-12.4205	0.2844	-2.0955	0.0975
3	170.16	0.9729	-0.1487	0.0271	-0.7428	0.0790	-14.2794	0.3313	-2.2906	0.0967
4	170.16	0.2001	-0.0318	0.0037	0.0089	0.0009	-0.1062	0.0035	-0.0955	0.0371
4	170.16	0.3001	-0.0196	0.0028	0.0463	0.0041	-0.4274	0.0140	-0.2446	0.0870
4	170.16	0.3502	-0.0287	0.0024	0.0839	0.0075	-0.7257	0.0244	-0.2940	0.0759
4	170.16	0.4002	-0.0012	0.0029	0.1329	0.0114	-1.1277	0.0374	-0.4548	0.0809
4	170.16	0.4500	0.0192	0.0030	0.1718	0.0145	-1.6742	0.0486	-0.7456	0.0835
4	170.16	0.5001	0.0288	0.0039	0.1967	0.0183	-2.3127	0.0642	-0.7005	0.0866
4	170.16	0.5560	0.0374	0.0047	0.2398	0.0231	-3.2794	0.0824	-1.0277	0.0903
4	170.16	0.6001	0.0386	0.0055	0.2615	0.0270	-4.1665	0.0977	-1.1540	0.0959
4	170.16	0.6501	0.0228	0.0070	0.2688	0.0320	-5.3173	0.1182	-1.1259	0.0937
4	170.16	0.6999	0.0085	0.0085	0.2605	0.0374	-6.6492	0.1389	-1.1260	0.0955
4	170.16	0.7500	-0.0228	0.0097	0.2530	0.0454	-8.1363	0.1607	-1.0298	0.0955
4	170.16	0.8002	-0.0811	0.0130	0.2249	0.0483	-9.8036	0.1882	-1.1633	0.0902
4	170.16	0.8582	-0.1514	0.0168	0.2056	0.0549	-11.8436	0.2198	-1.3913	0.1004
4	170.16	0.9101	-0.2015	0.0205	0.1732	0.0617	-13.7233	0.2536	-1.3966	0.1045
4	170.16	0.9728	-0.2352	0.0251	0.1860	0.0696	-15.8713	0.2974	-0.9387	0.1016

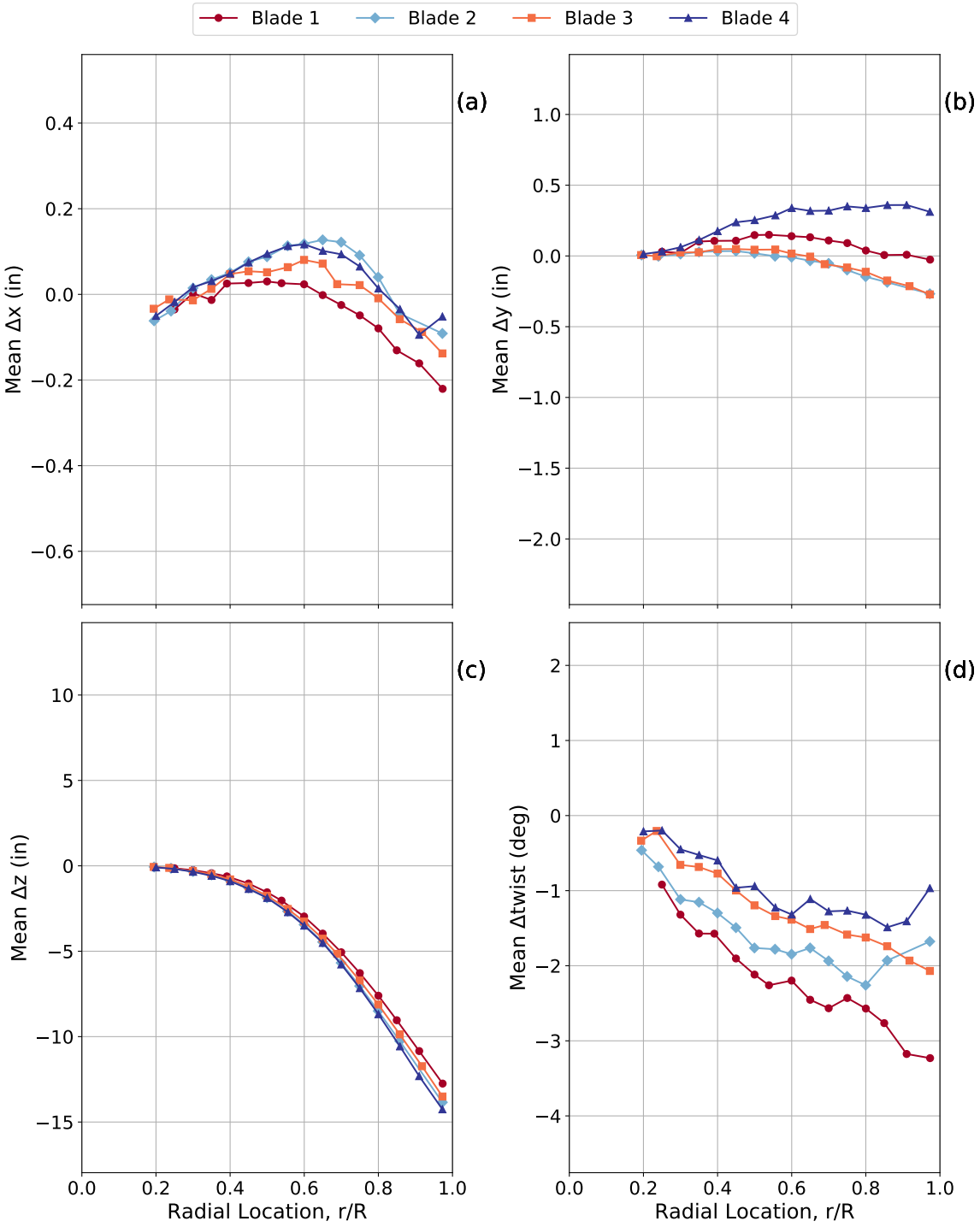


Figure 2.10-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2499	-0.0352	0.0205	0.0298	0.0335	-0.1420	0.0487	-0.9193	0.3254
1	175.08	0.2998	0.0024	0.0158	0.0209	0.0627	-0.2529	0.0716	-1.3199	0.4592
1	175.08	0.3498	-0.0131	0.0159	0.1015	0.1163	-0.4329	0.1050	-1.5711	0.4170
1	175.08	0.3913	0.0252	0.0205	0.1065	0.1677	-0.6178	0.1378	-1.5731	0.3428
1	175.08	0.4496	0.0266	0.0199	0.1076	0.2254	-1.0360	0.1764	-1.9036	0.3343
1	175.08	0.4997	0.0302	0.0197	0.1475	0.2742	-1.5485	0.2103	-2.1178	0.3356
1	175.08	0.5387	0.0261	0.0194	0.1495	0.3152	-2.0355	0.2366	-2.2597	0.3274
1	175.08	0.5996	0.0235	0.0189	0.1399	0.3770	-2.9664	0.2786	-2.1980	0.3290
1	175.08	0.6498	-0.0017	0.0190	0.1322	0.4323	-3.9673	0.3092	-2.4535	0.3381
1	175.08	0.6998	-0.0249	0.0192	0.1093	0.4855	-5.0612	0.3396	-2.5661	0.3419
1	175.08	0.7500	-0.0491	0.0181	0.0908	0.5382	-6.2805	0.3693	-2.4299	0.3492
1	175.08	0.8001	-0.0795	0.0212	0.0384	0.5964	-7.6041	0.3938	-2.5702	0.3529
1	175.08	0.8497	-0.1307	0.0241	0.0064	0.6550	-9.0399	0.4200	-2.7643	0.3431
1	175.08	0.9102	-0.1611	0.0297	0.0084	0.7262	-10.8446	0.4523	-3.1752	0.3465
1	175.08	0.9734	-0.2206	0.0418	-0.0260	0.7982	-12.7494	0.4883	-3.2304	0.3703
2	175.08	0.1949	-0.0618	0.0012	0.0064	0.0014	-0.0676	0.0039	-0.4617	0.0328
2	175.08	0.2405	-0.0390	0.0013	-0.0021	0.0024	-0.1417	0.0070	-0.6816	0.0494
2	175.08	0.2999	0.0147	0.0012	0.0133	0.0054	-0.3313	0.0139	-1.1172	0.0734
2	175.08	0.3498	0.0344	0.0014	0.0279	0.0088	-0.5348	0.0231	-1.1539	0.0704
2	175.08	0.3998	0.0506	0.0016	0.0335	0.0138	-0.8618	0.0352	-1.2978	0.0681
2	175.08	0.4496	0.0760	0.0056	0.0345	0.0165	-1.2907	0.0457	-1.4932	0.0904
2	175.08	0.4995	0.0879	0.0020	0.0188	0.0213	-1.8671	0.0596	-1.7632	0.0759
2	175.08	0.5551	0.1134	0.0030	-0.0021	0.0259	-2.6569	0.0797	-1.7803	0.0799
2	175.08	0.5996	0.1180	0.0058	-0.0087	0.0304	-3.4447	0.0975	-1.8464	0.0972
2	175.08	0.6497	0.1273	0.0045	-0.0342	0.0360	-4.4615	0.1165	-1.7636	0.0911
2	175.08	0.6996	0.1219	0.0074	-0.0525	0.0401	-5.6812	0.1390	-1.9358	0.0903
2	175.08	0.7495	0.0912	0.0081	-0.0994	0.0467	-7.0357	0.1609	-2.1429	0.1006
2	175.08	0.7996	0.0402	0.0102	-0.1467	0.0525	-8.4995	0.1838	-2.2597	0.0863
2	175.08	0.8578	-0.0451	0.0142	-0.1863	0.0601	-10.2638	0.2122	-1.9309	0.1016
2	175.08	0.9727	-0.0913	0.0215	-0.2676	0.0746	-13.8462	0.2782	-1.6765	0.1224
3	175.08	0.1938	-0.0336	0.0017	0.0063	0.0022	-0.0648	0.0053	-0.3343	0.0329
3	175.08	0.2357	-0.0117	0.0025	-0.0019	0.0028	-0.1202	0.0077	-0.2052	0.0623
3	175.08	0.2995	-0.0139	0.0019	0.0241	0.0072	-0.3063	0.0146	-0.6566	0.0715
3	175.08	0.3493	0.0128	0.0024	0.0260	0.0115	-0.4935	0.0240	-0.6846	0.0732
3	175.08	0.4000	0.0473	0.0018	0.0479	0.0180	-0.7951	0.0363	-0.7724	0.0699
3	175.08	0.4497	0.0540	0.0020	0.0488	0.0237	-1.2110	0.0484	-0.9976	0.0781
3	175.08	0.4997	0.0516	0.0027	0.0441	0.0286	-1.7525	0.0635	-1.1959	0.0815
3	175.08	0.5556	0.0635	0.0027	0.0452	0.0365	-2.5248	0.0818	-1.3386	0.0822
3	175.08	0.5995	0.0805	0.0034	0.0167	0.0418	-3.2608	0.0969	-1.3861	0.0895
3	175.08	0.6498	0.0719	0.0044	-0.0047	0.0487	-4.2651	0.1148	-1.5110	0.1058
3	175.08	0.6890	0.0238	0.0055	-0.0582	0.0548	-5.1523	0.1263	-1.4574	0.0964
3	175.08	0.7495	0.0216	0.0069	-0.0817	0.0639	-6.7148	0.1453	-1.5849	0.0992
3	175.08	0.7998	-0.0092	0.0082	-0.1121	0.0710	-8.1179	0.1602	-1.6241	0.1095
3	175.08	0.8577	-0.0579	0.0116	-0.1738	0.0811	-9.8665	0.1832	-1.7400	0.1162
3	175.08	0.9178	-0.0878	0.0146	-0.2137	0.0896	-11.7310	0.2105	-1.9319	0.1274
3	175.08	0.9729	-0.1379	0.0198	-0.2720	0.0984	-13.5066	0.2454	-2.0694	0.1144
4	175.08	0.2001	-0.0503	0.0014	0.0133	0.0014	-0.0923	0.0040	-0.2108	0.0300
4	175.08	0.2502	-0.0178	0.0013	0.0316	0.0031	-0.1815	0.0084	-0.1989	0.0496
4	175.08	0.3001	0.0167	0.0015	0.0618	0.0055	-0.3490	0.0152	-0.4503	0.0656
4	175.08	0.3502	0.0310	0.0016	0.1129	0.0098	-0.5846	0.0236	-0.5257	0.0647
4	175.08	0.4002	0.0487	0.0018	0.1753	0.0147	-0.8994	0.0379	-0.5979	0.0684
4	175.08	0.4500	0.0745	0.0060	0.2379	0.0186	-1.3525	0.0498	-0.9615	0.0748
4	175.08	0.5001	0.0945	0.0027	0.2532	0.0219	-1.8791	0.0659	-0.9402	0.0706
4	175.08	0.5560	0.1128	0.0039	0.2869	0.0269	-2.7154	0.0865	-1.2253	0.0736
4	175.08	0.6001	0.1167	0.0039	0.3386	0.0306	-3.4997	0.1019	-1.3183	0.0821
4	175.08	0.6501	0.1016	0.0052	0.3183	0.0358	-4.5131	0.1225	-1.1120	0.0957
4	175.08	0.6999	0.0935	0.0065	0.3201	0.0411	-5.7740	0.1414	-1.2757	0.0803
4	175.08	0.7500	0.0650	0.0086	0.3501	0.0474	-7.1622	0.1633	-1.2664	0.0882
4	175.08	0.8002	0.0137	0.0109	0.3390	0.0518	-8.6883	0.1859	-1.3207	0.0892
4	175.08	0.8582	-0.0347	0.0145	0.3595	0.0584	-10.5718	0.2151	-1.4879	0.1207
4	175.08	0.9101	-0.0944	0.0194	0.3600	0.0652	-12.3137	0.2447	-1.4078	0.1580
4	175.08	0.9728	-0.0518	0.0224	0.3118	0.0727	-14.2549	0.2880	-0.9665	0.1240

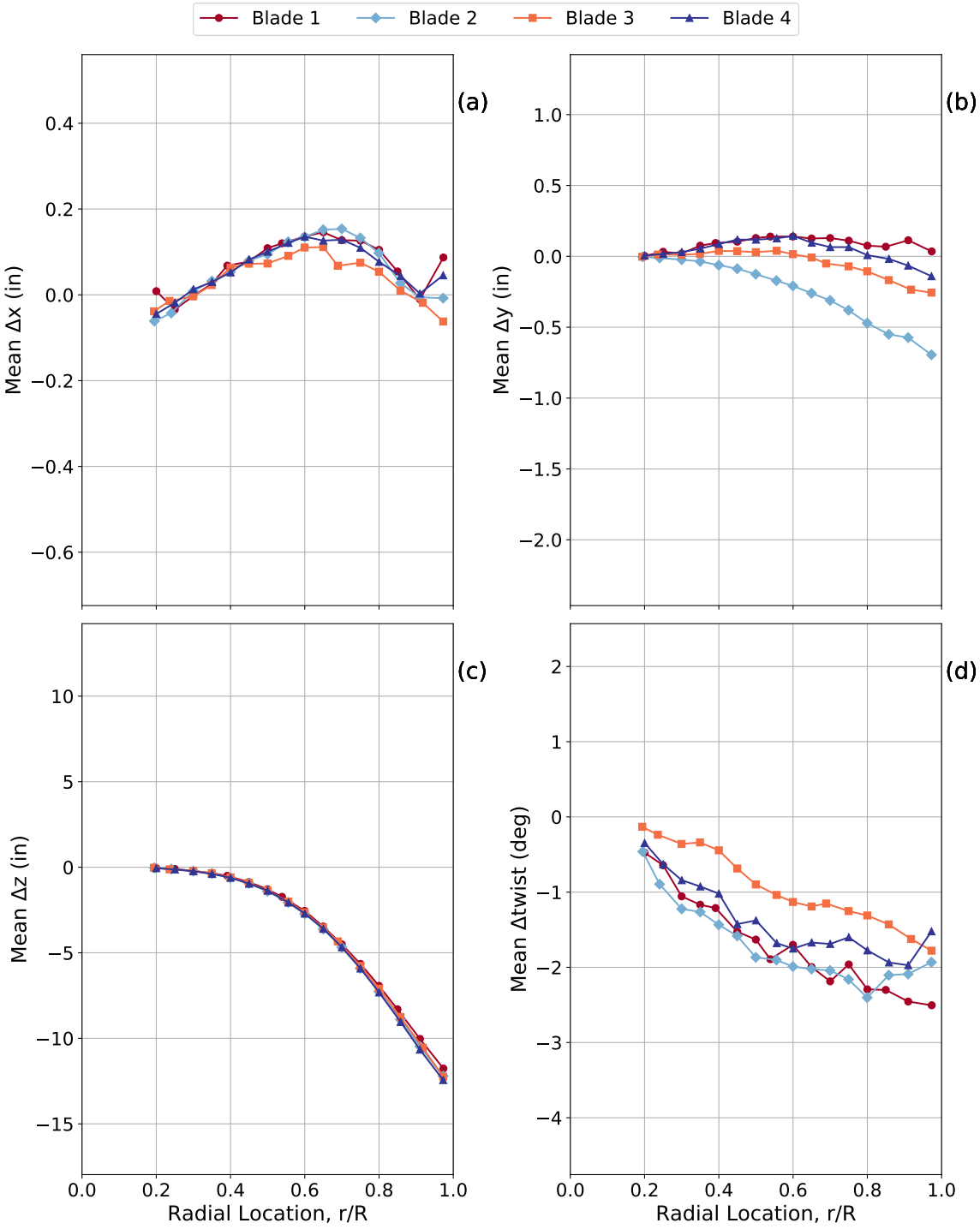


Figure 2.10-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	0.0086	0.0015	0.0034	0.0020	-0.0544	0.0039	-0.4754	0.0378
1	180	0.2499	-0.0343	0.0023	0.0325	0.0036	-0.0977	0.0079	-0.6430	0.0529
1	180	0.2998	-0.0028	0.0023	0.0199	0.0080	-0.2161	0.0135	-1.0565	0.0810
1	180	0.3498	0.0261	0.0027	0.0756	0.0145	-0.3386	0.0230	-1.1678	0.0762
1	180	0.3913	0.0681	0.0030	0.0942	0.0203	-0.5007	0.0325	-1.2122	0.0801
1	180	0.4496	0.0774	0.0034	0.1034	0.0286	-0.8666	0.0467	-1.5266	0.0793
1	180	0.4997	0.1089	0.0038	0.1293	0.0350	-1.2870	0.0612	-1.6312	0.0860
1	180	0.5387	0.1202	0.0042	0.1397	0.0413	-1.7299	0.0746	-1.8924	0.0843
1	180	0.5996	0.1359	0.0049	0.1399	0.0510	-2.5513	0.0971	-1.7009	0.0827
1	180	0.6498	0.1459	0.0055	0.1262	0.0604	-3.4663	0.1178	-1.9961	0.0950
1	180	0.6998	0.1274	0.0080	0.1292	0.0666	-4.5074	0.1398	-2.1862	0.0733
1	180	0.7500	0.1264	0.0085	0.1107	0.0775	-5.6508	0.1631	-1.9622	0.0888
1	180	0.8001	0.1049	0.0106	0.0755	0.0886	-6.9349	0.1888	-2.2934	0.1084
1	180	0.8497	0.0546	0.0127	0.0680	0.0996	-8.3021	0.2170	-2.3004	0.0936
1	180	0.9102	-0.0102	0.0168	0.1135	0.1108	-10.0334	0.2504	-2.4550	0.1353
1	180	0.9734	0.0871	0.0202	0.0349	0.1300	-11.7658	0.2914	-2.5047	0.1377
2	180	0.1949	-0.0612	0.0010	-0.0031	0.0015	-0.0343	0.0042	-0.4608	0.0326
2	180	0.2405	-0.0424	0.0019	-0.0115	0.0026	-0.1032	0.0068	-0.8947	0.0470
2	180	0.2999	0.0090	0.0017	-0.0234	0.0059	-0.2266	0.0145	-1.2234	0.0718
2	180	0.3498	0.0321	0.0024	-0.0357	0.0109	-0.3652	0.0246	-1.2647	0.0711
2	180	0.3998	0.0536	0.0022	-0.0622	0.0163	-0.6136	0.0369	-1.4339	0.0703
2	180	0.4496	0.0797	0.0028	-0.0872	0.0203	-0.9422	0.0479	-1.5827	0.0748
2	180	0.4995	0.0946	0.0034	-0.1255	0.0246	-1.4082	0.0613	-1.8680	0.0747
2	180	0.5551	0.1237	0.0045	-0.1714	0.0306	-2.0580	0.0817	-1.9024	0.0775
2	180	0.5996	0.1349	0.0049	-0.2086	0.0353	-2.7198	0.1002	-1.9904	0.0922
2	180	0.6497	0.1518	0.0063	-0.2601	0.0415	-3.6155	0.1229	-2.0230	0.0880
2	180	0.6996	0.1538	0.0086	-0.3108	0.0466	-4.6741	0.1481	-2.0424	0.0884
2	180	0.7495	0.1327	0.0095	-0.3802	0.0544	-5.9092	0.1726	-2.1603	0.0897
2	180	0.7996	0.0975	0.0134	-0.4709	0.0608	-7.2657	0.2007	-2.4030	0.0902
2	180	0.8578	0.0272	0.0166	-0.5503	0.0706	-8.9045	0.2352	-2.1041	0.1136
2	180	0.9100	-0.0059	0.0207	-0.5731	0.0801	-10.4746	0.2698	-2.0897	0.1789
2	180	0.9727	-0.0077	0.0253	-0.6947	0.0878	-12.2060	0.3101	-1.9316	0.1141
3	180.35	0.1938	-0.0385	0.0019	-0.0027	0.0019	-0.0287	0.0043	-0.1320	0.0358
3	180.35	0.2357	-0.0141	0.0030	0.0127	0.0036	-0.1226	0.0079	-0.2372	0.0514
3	180.35	0.2995	-0.0035	0.0036	0.0113	0.0070	-0.2139	0.0159	-0.3595	0.0785
3	180.35	0.3493	0.0228	0.0028	0.0179	0.0150	-0.3494	0.0274	-0.3396	0.0687
3	180.35	0.4000	0.0635	0.0037	0.0385	0.0212	-0.5898	0.0413	-0.4444	0.0639
3	180.35	0.4497	0.0726	0.0038	0.0368	0.0268	-0.9230	0.0533	-0.6858	0.0687
3	180.35	0.4997	0.0730	0.0039	0.0295	0.0346	-1.3599	0.0708	-0.8986	0.0740
3	180.35	0.5556	0.0909	0.0047	0.0395	0.0412	-2.0070	0.0915	-1.0382	0.0724
3	180.35	0.5995	0.1104	0.0052	0.0154	0.0481	-2.6469	0.1105	-1.1313	0.0796
3	180.35	0.6498	0.1114	0.0061	-0.0078	0.0564	-3.5306	0.1336	-1.1912	0.0772
3	180.35	0.6890	0.0678	0.0072	-0.0506	0.0622	-4.3363	0.1519	-1.1515	0.0780
3	180.35	0.7495	0.0749	0.0092	-0.0706	0.0725	-5.7705	0.1815	-1.2524	0.0829
3	180.35	0.7998	0.0539	0.0121	-0.1057	0.0818	-7.0945	0.2083	-1.3107	0.0834
3	180.35	0.8577	0.0098	0.0159	-0.1674	0.0929	-8.7557	0.2406	-1.4296	0.0871
3	180.35	0.9178	-0.0186	0.0200	-0.2350	0.1053	-10.5478	0.2757	-1.6237	0.1107
3	180.35	0.9729	-0.0622	0.0236	-0.2556	0.1135	-12.2411	0.3104	-1.7790	0.1027
4	180	0.2001	-0.0445	0.0013	0.0056	0.0020	-0.0562	0.0042	-0.3469	0.0308
4	180	0.2502	-0.0183	0.0021	0.0171	0.0030	-0.1280	0.0068	-0.6300	0.0554
4	180	0.3001	0.0130	0.0030	0.0300	0.0072	-0.2341	0.0142	-0.8417	0.0711
4	180	0.3502	0.0299	0.0028	0.0545	0.0128	-0.3927	0.0249	-0.9257	0.0659
4	180	0.4002	0.0523	0.0037	0.0870	0.0189	-0.6174	0.0370	-1.0210	0.0708
4	180	0.4500	0.0823	0.0036	0.1183	0.0257	-0.9644	0.0480	-1.4259	0.0697
4	180	0.5001	0.1005	0.0042	0.1178	0.0317	-1.3699	0.0602	-1.3763	0.0732
4	180	0.5560	0.1212	0.0043	0.1268	0.0401	-2.0624	0.0737	-1.6793	0.0860
4	180	0.6001	0.1356	0.0051	0.1447	0.0470	-2.7102	0.0859	-1.7510	0.0852
4	180	0.6501	0.1264	0.0054	0.0962	0.0548	-3.5953	0.0984	-1.6709	0.0907
4	180	0.6999	0.1286	0.0062	0.0652	0.0627	-4.6753	0.1148	-1.6894	0.0905
4	180	0.7500	0.1096	0.0078	0.0652	0.0708	-5.9201	0.1301	-1.6008	0.0968
4	180	0.8002	0.0769	0.0093	0.0084	0.0794	-7.3171	0.1482	-1.7748	0.1044
4	180	0.8582	0.0439	0.0125	-0.0182	0.0914	-9.0460	0.1698	-1.9360	0.1207
4	180	0.9101	0.0031	0.0142	-0.0654	0.1020	-10.6608	0.1939	-1.9726	0.1093
4	180	0.9728	0.0455	0.0196	-0.1402	0.1100	-12.4394	0.2249	-1.5218	0.1319

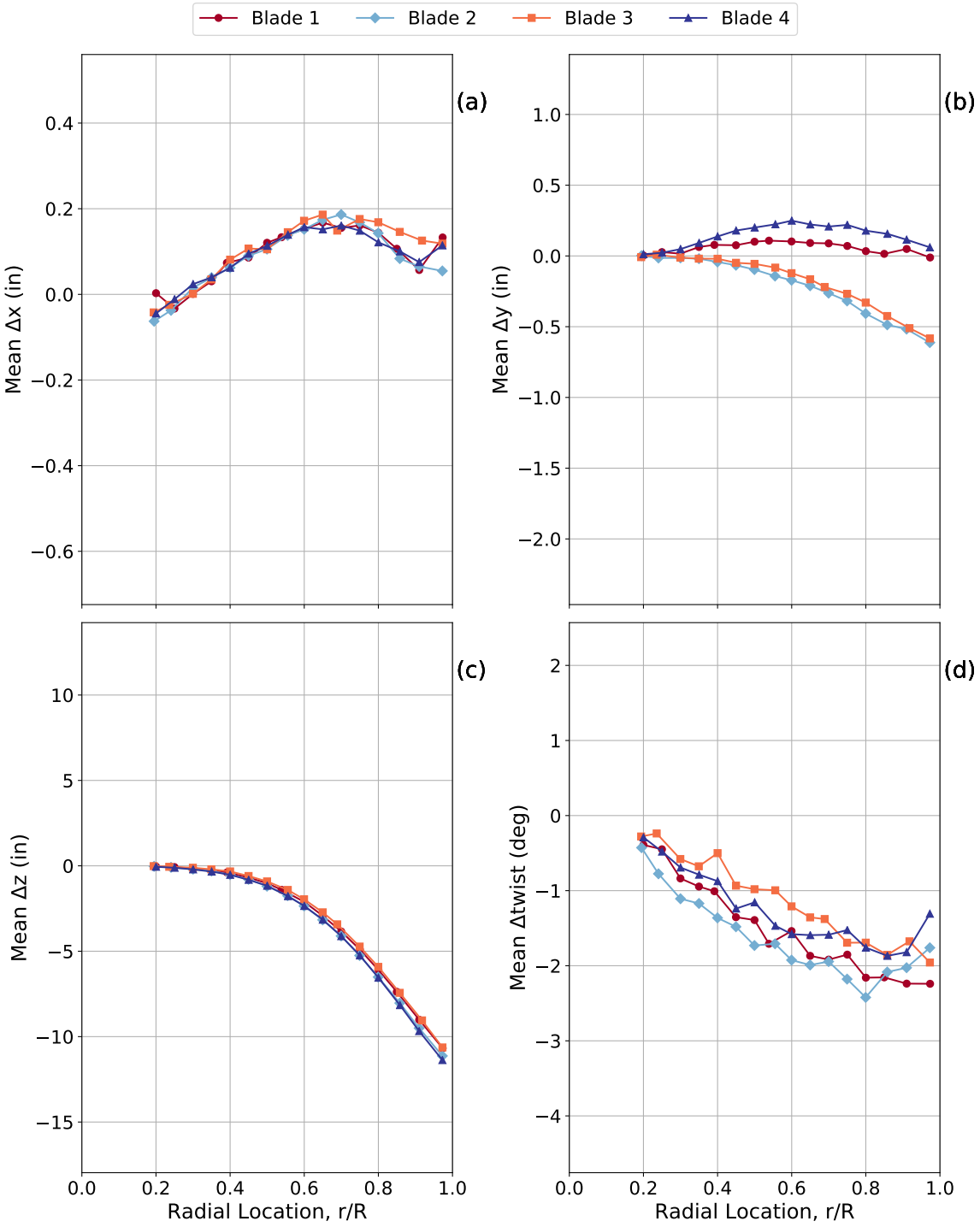


Figure 2.10-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	0.0028	0.0015	0.0027	0.0019	-0.0444	0.0052	-0.3908	0.0309
1	184.92	0.2499	-0.0332	0.0015	0.0271	0.0039	-0.0729	0.0091	-0.4491	0.0585
1	184.92	0.2998	0.0011	0.0020	0.0160	0.0077	-0.1715	0.0166	-0.8373	0.0718
1	184.92	0.3498	0.0305	0.0021	0.0632	0.0148	-0.2617	0.0269	-0.9454	0.0644
1	184.92	0.3913	0.0736	0.0021	0.0781	0.0203	-0.3874	0.0379	-1.0077	0.0600
1	184.92	0.4496	0.0858	0.0025	0.0757	0.0279	-0.6842	0.0540	-1.3530	0.0697
1	184.92	0.4997	0.1205	0.0027	0.1007	0.0355	-1.0182	0.0724	-1.3916	0.0671
1	184.92	0.5387	0.1334	0.0032	0.1081	0.0399	-1.4034	0.0893	-1.7080	0.0641
1	184.92	0.5996	0.1526	0.0039	0.1023	0.0484	-2.1024	0.1177	-1.5382	0.0664
1	184.92	0.6498	0.1676	0.0047	0.0916	0.0594	-2.9226	0.1399	-1.8683	0.0699
1	184.92	0.6998	0.1552	0.0061	0.0888	0.0682	-3.8449	0.1620	-1.9182	0.0812
1	184.92	0.7500	0.1610	0.0070	0.0706	0.0790	-4.8969	0.1828	-1.8520	0.0727
1	184.92	0.8001	0.1439	0.0092	0.0339	0.0908	-6.0999	0.2048	-2.1589	0.0805
1	184.92	0.8497	0.1065	0.0114	0.0148	0.1037	-7.3750	0.2255	-2.1553	0.0852
1	184.92	0.9102	0.0569	0.0151	0.0494	0.1173	-9.0142	0.2571	-2.2383	0.1128
1	184.92	0.9734	0.1329	0.0193	-0.0110	0.1356	-10.6784	0.2870	-2.2403	0.1159
2	184.92	0.1949	-0.0628	0.0013	0.0017	0.0020	-0.0301	0.0042	-0.4279	0.0266
2	184.92	0.2405	-0.0373	0.0022	-0.0144	0.0025	-0.0866	0.0081	-0.7753	0.0443
2	184.92	0.2999	0.0157	0.0021	-0.0140	0.0065	-0.1948	0.0155	-1.1079	0.0607
2	184.92	0.3498	0.0391	0.0017	-0.0193	0.0132	-0.3046	0.0260	-1.1708	0.0605
2	184.92	0.3998	0.0622	0.0018	-0.0426	0.0184	-0.5167	0.0396	-1.3627	0.0626
2	184.92	0.4496	0.0901	0.0021	-0.0656	0.0226	-0.7894	0.0528	-1.4810	0.0628
2	184.92	0.4995	0.1057	0.0024	-0.0963	0.0286	-1.1936	0.0701	-1.7304	0.0587
2	184.92	0.5551	0.1377	0.0028	-0.1421	0.0351	-1.7495	0.0988	-1.7076	0.1123
2	184.92	0.5996	0.1519	0.0035	-0.1718	0.0363	-2.3544	0.1079	-1.9250	0.0765
2	184.92	0.6497	0.1740	0.0045	-0.2109	0.0422	-3.1644	0.1266	-1.9905	0.0905
2	184.92	0.6996	0.1865	0.0062	-0.2629	0.0503	-4.1076	0.1455	-1.9445	0.0919
2	184.92	0.7495	0.1681	0.0078	-0.3181	0.0551	-5.2510	0.1666	-2.1780	0.0731
2	184.92	0.7996	0.1428	0.0101	-0.4072	0.0631	-6.5123	0.1899	-2.4220	0.0797
2	184.92	0.8578	0.0835	0.0135	-0.4869	0.0717	-8.0353	0.2211	-2.0838	0.0983
2	184.92	0.9100	0.0651	0.0169	-0.5169	0.0806	-9.5023	0.2516	-2.0263	0.1233
2	184.92	0.9727	0.0547	0.0230	-0.6125	0.0908	-11.1288	0.2963	-1.7607	0.0944
3	184.92	0.1938	-0.0421	0.0020	-0.0085	0.0023	-0.0172	0.0077	-0.2787	0.0297
3	184.92	0.2357	-0.0245	0.0023	0.0088	0.0070	-0.0575	0.0179	-0.2385	0.0500
3	184.92	0.2995	0.0013	0.0019	-0.0116	0.0069	-0.1108	0.0395	-0.5786	0.0707
3	184.92	0.3493	0.0350	0.0023	-0.0192	0.0124	-0.2059	0.0573	-0.6758	0.0651
3	184.92	0.4000	0.0811	0.0056	-0.0198	0.0218	-0.3270	0.0978	-0.5005	0.1159
3	184.92	0.4497	0.1070	0.0035	-0.0485	0.0238	-0.5964	0.1022	-0.9332	0.0718
3	184.92	0.4997	0.1053	0.0055	-0.0559	0.0313	-0.9125	0.1326	-0.9810	0.0695
3	184.92	0.5556	0.1452	0.0047	-0.0825	0.0398	-1.4115	0.1575	-0.9952	0.0713
3	184.92	0.5995	0.1719	0.0056	-0.1218	0.0459	-1.9593	0.1811	-1.2092	0.0733
3	184.92	0.6498	0.1863	0.0062	-0.1647	0.0546	-2.7215	0.2086	-1.3559	0.0743
3	184.92	0.6890	0.1489	0.0079	-0.2193	0.0632	-3.4245	0.2247	-1.3780	0.0895
3	184.92	0.7495	0.1760	0.0096	-0.2676	0.0720	-4.7264	0.2556	-1.6932	0.0800
3	184.92	0.7998	0.1684	0.0122	-0.3297	0.0811	-5.9154	0.2734	-1.6923	0.0783
3	184.92	0.8577	0.1459	0.0147	-0.4246	0.0962	-7.4353	0.2960	-1.8557	0.1226
3	184.92	0.9178	0.1256	0.0204	-0.5104	0.1096	-9.0504	0.3319	-1.6749	0.1922
3	184.92	0.9729	0.1185	0.0226	-0.5828	0.1246	-10.6321	0.3550	-1.9573	0.1039
4	184.92	0.2001	-0.0446	0.0011	0.0119	0.0019	-0.0554	0.0051	-0.2910	0.0285
4	184.92	0.2502	-0.0112	0.0020	0.0224	0.0047	-0.1134	0.0087	-0.4802	0.0503
4	184.92	0.3001	0.0239	0.0024	0.0484	0.0075	-0.2084	0.0158	-0.6927	0.0632
4	184.92	0.3502	0.0399	0.0020	0.0923	0.0159	-0.3389	0.0257	-0.7878	0.0563
4	184.92	0.4002	0.0622	0.0017	0.1378	0.0230	-0.5267	0.0382	-0.8739	0.0553
4	184.92	0.4500	0.0949	0.0019	0.1794	0.0293	-0.8199	0.0515	-1.2388	0.0571
4	184.92	0.5001	0.1134	0.0023	0.2006	0.0349	-1.1658	0.0663	-1.1559	0.0585
4	184.92	0.5560	0.1392	0.0026	0.2236	0.0413	-1.7764	0.0834	-1.4680	0.0579
4	184.92	0.6001	0.1569	0.0030	0.2492	0.0462	-2.3492	0.0981	-1.5796	0.0662
4	184.92	0.6501	0.1518	0.0040	0.2224	0.0512	-3.1531	0.1145	-1.5925	0.0795
4	184.92	0.6999	0.1607	0.0058	0.2078	0.0591	-4.1182	0.1316	-1.5871	0.0757
4	184.92	0.7500	0.1487	0.0065	0.2194	0.0668	-5.2460	0.1462	-1.5247	0.0778
4	184.92	0.8002	0.1214	0.0085	0.1787	0.0767	-6.5510	0.1652	-1.7591	0.0840
4	184.92	0.8582	0.1003	0.0113	0.1561	0.0837	-8.1572	0.1867	-1.8683	0.0886
4	184.92	0.9101	0.0753	0.0129	0.1148	0.0937	-9.6791	0.2103	-1.8199	0.0974
4	184.92	0.9728	0.1143	0.0184	0.0607	0.1018	-11.3737	0.2474	-1.3076	0.0845

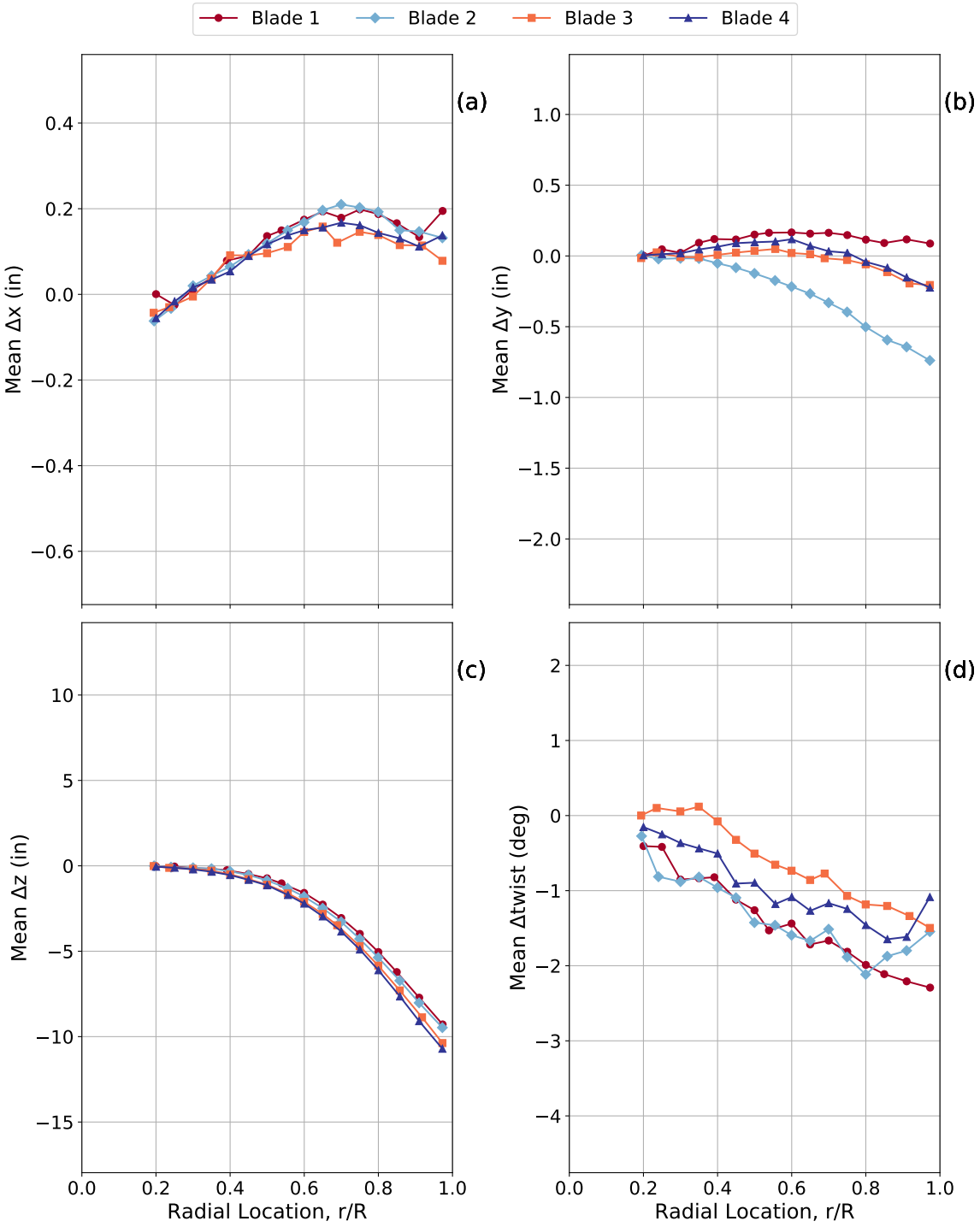


Figure 2.10-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	0.0006	0.0015	0.0016	0.0012	-0.0399	0.0038	-0.4063	0.0371
1	189.84	0.2499	-0.0250	0.0015	0.0468	0.0038	-0.0415	0.0088	-0.4174	0.0538
1	189.84	0.2998	0.0112	0.0020	0.0219	0.0061	-0.1311	0.0147	-0.8521	0.0811
1	189.84	0.3498	0.0383	0.0019	0.0928	0.0104	-0.1734	0.0252	-0.8357	0.0716
1	189.84	0.3913	0.0788	0.0027	0.1194	0.0157	-0.2569	0.0362	-0.8215	0.0630
1	189.84	0.4496	0.0904	0.0023	0.1161	0.0167	-0.4823	0.0499	-1.1197	0.0681
1	189.84	0.4997	0.1361	0.0025	0.1509	0.0255	-0.7305	0.0652	-1.2604	0.0650
1	189.84	0.5387	0.1494	0.0027	0.1637	0.0259	-1.0266	0.0803	-1.5291	0.0731
1	189.84	0.5996	0.1744	0.0039	0.1660	0.0355	-1.5855	0.1040	-1.4380	0.0757
1	189.84	0.6498	0.1935	0.0049	0.1576	0.0408	-2.2697	0.1282	-1.7166	0.0770
1	189.84	0.6998	0.1789	0.0066	0.1636	0.0474	-3.0551	0.1545	-1.6650	0.0762
1	189.84	0.7500	0.1985	0.0085	0.1474	0.0560	-3.9850	0.1859	-1.8134	0.0859
1	189.84	0.8001	0.1875	0.0116	0.1152	0.0659	-5.0485	0.2201	-1.9888	0.0823
1	189.84	0.8497	0.1661	0.0142	0.0913	0.0753	-6.2204	0.2547	-2.1115	0.0915
1	189.84	0.9102	0.1340	0.0179	0.1170	0.0873	-7.7185	0.3047	-2.2079	0.1048
1	189.84	0.9734	0.1948	0.0230	0.0875	0.1013	-9.2858	0.3590	-2.2914	0.1032
2	189.84	0.1949	-0.0622	0.0021	0.0048	0.0031	-0.0013	0.0071	-0.2729	0.0382
2	189.84	0.2405	-0.0328	0.0035	-0.0212	0.0040	-0.0785	0.0100	-0.8146	0.0460
2	189.84	0.2999	0.0201	0.0039	-0.0167	0.0123	-0.1145	0.0200	-0.8802	0.0649
2	189.84	0.3498	0.0433	0.0036	-0.0182	0.0206	-0.1669	0.0337	-0.8185	0.0650
2	189.84	0.3998	0.0648	0.0047	-0.0517	0.0317	-0.3257	0.0529	-0.9594	0.0534
2	189.84	0.4496	0.0931	0.0032	-0.0828	0.0322	-0.5377	0.0675	-1.0945	0.0541
2	189.84	0.4995	0.1187	0.0036	-0.1235	0.0416	-0.8575	0.0840	-1.4253	0.0509
2	189.84	0.5551	0.1496	0.0043	-0.1739	0.0472	-1.3139	0.1039	-1.4606	0.0559
2	189.84	0.5996	0.1683	0.0035	-0.2169	0.0561	-1.7995	0.1219	-1.5933	0.0575
2	189.84	0.6497	0.1965	0.0057	-0.2668	0.0590	-2.4835	0.1440	-1.6690	0.0706
2	189.84	0.6996	0.2100	0.0054	-0.3306	0.0688	-3.2765	0.1637	-1.5134	0.0676
2	189.84	0.7495	0.2028	0.0069	-0.3961	0.0748	-4.2754	0.1860	-1.8836	0.0675
2	189.84	0.7996	0.1927	0.0094	-0.5016	0.0806	-5.3670	0.2092	-2.1156	0.0613
2	189.84	0.8578	0.1499	0.0118	-0.5940	0.0860	-6.7221	0.2378	-1.8733	0.0664
2	189.84	0.9100	0.1467	0.0141	-0.6429	0.0953	-8.0224	0.2649	-1.7984	0.0875
2	189.84	0.9727	0.1320	0.0166	-0.7388	0.1031	-9.4724	0.2988	-1.5457	0.0793
3	189.84	0.1938	-0.0430	0.0151	-0.0150	0.0065	-0.0137	0.0083	0.0008	0.1192
3	189.84	0.2357	-0.0299	0.0163	0.0252	0.0345	-0.1197	0.0642	0.1012	0.1299
3	189.84	0.2995	-0.0051	0.0122	-0.0076	0.0261	-0.1738	0.0603	0.0551	0.2562
3	189.84	0.3493	0.0369	0.0168	-0.0094	0.0583	-0.2878	0.1072	0.1185	0.1980
3	189.84	0.4000	0.0913	0.0186	0.0075	0.0978	-0.5007	0.1723	-0.0771	0.1436
3	189.84	0.4497	0.0909	0.0240	0.0235	0.1350	-0.7766	0.2215	-0.3232	0.1610
3	189.84	0.4997	0.0961	0.0298	0.0362	0.1759	-1.1086	0.2779	-0.5065	0.1638
3	189.84	0.5556	0.1107	0.0364	0.0493	0.2193	-1.6116	0.3401	-0.6540	0.1444
3	189.84	0.5995	0.1456	0.0429	0.0208	0.2565	-2.1065	0.3879	-0.7344	0.1515
3	189.84	0.6498	0.1583	0.0485	0.0119	0.2991	-2.8173	0.4418	-0.8578	0.1517
3	189.84	0.6890	0.1206	0.0535	-0.0162	0.3336	-3.4824	0.4882	-0.7725	0.1546
3	189.84	0.7495	0.1461	0.0603	-0.0285	0.3904	-4.7009	0.5561	-1.0699	0.1463
3	189.84	0.7998	0.1387	0.0668	-0.0591	0.4382	-5.8456	0.6118	-1.1839	0.1526
3	189.84	0.8577	0.1150	0.0738	-0.1143	0.4962	-7.2956	0.6777	-1.2039	0.1569
3	189.84	0.9178	0.1142	0.0811	-0.1943	0.5577	-8.8706	0.7479	-1.3382	0.1574
3	189.84	0.9729	0.0784	0.0874	-0.2055	0.6156	-10.3756	0.8122	-1.4966	0.1675
4	189.84	0.2001	-0.0555	0.0023	0.0046	0.0022	-0.0528	0.0045	-0.1533	0.0284
4	189.84	0.2502	-0.0165	0.0032	0.0128	0.0078	-0.1120	0.0101	-0.2501	0.0425
4	189.84	0.3001	0.0164	0.0046	0.0190	0.0128	-0.2105	0.0167	-0.3659	0.0615
4	189.84	0.3502	0.0344	0.0038	0.0459	0.0219	-0.3478	0.0294	-0.4374	0.0577
4	189.84	0.4002	0.0538	0.0048	0.0650	0.0357	-0.5441	0.0471	-0.5064	0.0492
4	189.84	0.4500	0.0895	0.0040	0.0902	0.0351	-0.8232	0.0637	-0.9057	0.0703
4	189.84	0.5001	0.1170	0.0067	0.0967	0.0403	-1.1412	0.0814	-0.8944	0.0664
4	189.84	0.5560	0.1379	0.0056	0.1019	0.0535	-1.7100	0.1086	-1.1781	0.0676
4	189.84	0.6001	0.1499	0.0099	0.1181	0.0571	-2.2138	0.1340	-1.0853	0.0819
4	189.84	0.6501	0.1561	0.0081	0.0709	0.0639	-2.9631	0.1689	-1.2678	0.0893
4	189.84	0.6999	0.1673	0.0090	0.0330	0.0768	-3.8473	0.2052	-1.1672	0.1044
4	189.84	0.7500	0.1614	0.0123	0.0220	0.0834	-4.9031	0.2412	-1.2433	0.0750
4	189.84	0.8002	0.1436	0.0154	-0.0417	0.0928	-6.1156	0.2800	-1.4584	0.0872
4	189.84	0.8582	0.1306	0.0193	-0.0834	0.1026	-7.6495	0.3253	-1.6475	0.0696
4	189.84	0.9101	0.1115	0.0224	-0.1523	0.1133	-9.0930	0.3649	-1.6162	0.0803
4	189.84	0.9728	0.1378	0.0274	-0.2240	0.1260	-10.7106	0.4156	-1.0858	0.0979

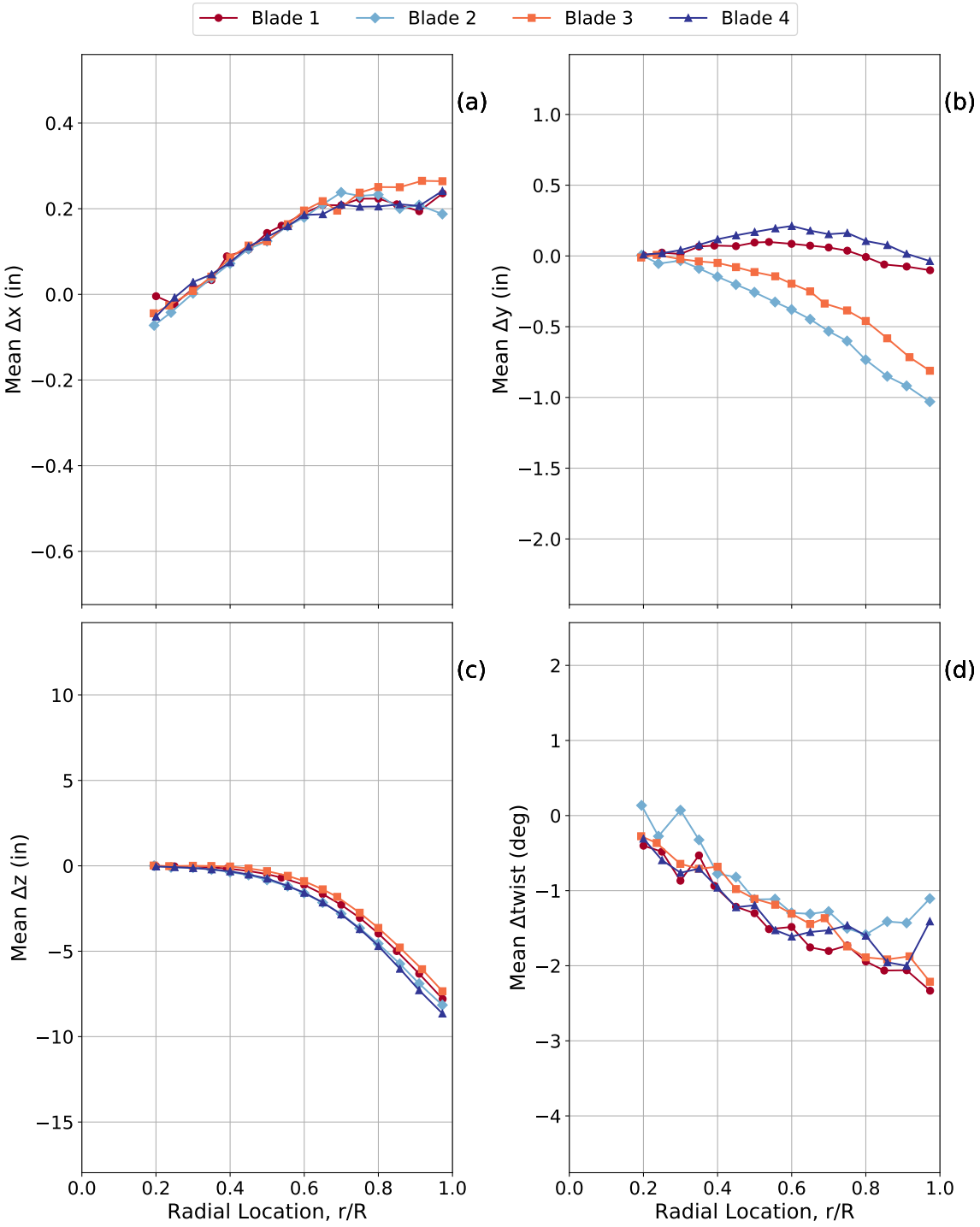


Figure 2.10-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0043	0.0032	0.0043	0.0023	-0.0220	0.0047	-0.4014	0.0938
1	195.12	0.2499	-0.0232	0.0030	0.0235	0.0105	-0.0306	0.0114	-0.4809	0.1028
1	195.12	0.2998	0.0135	0.0066	0.0136	0.0172	-0.0848	0.0203	-0.8677	0.1968
1	195.12	0.3498	0.0334	0.0079	0.0665	0.0267	-0.0902	0.0299	-0.5303	0.2443
1	195.12	0.3913	0.0888	0.0038	0.0733	0.0425	-0.1561	0.0484	-0.9366	0.1095
1	195.12	0.4496	0.1048	0.0034	0.0693	0.0569	-0.3025	0.0655	-1.2142	0.1036
1	195.12	0.4997	0.1433	0.0037	0.0947	0.0693	-0.4855	0.0837	-1.3009	0.1049
1	195.12	0.5387	0.1604	0.0042	0.0987	0.0780	-0.6925	0.0984	-1.5127	0.1069
1	195.12	0.5996	0.1895	0.0049	0.0856	0.0907	-1.1135	0.1274	-1.4834	0.1125
1	195.12	0.6498	0.2086	0.0054	0.0729	0.1042	-1.6528	0.1531	-1.7552	0.1123
1	195.12	0.6998	0.2080	0.0067	0.0598	0.1144	-2.2854	0.1812	-1.8038	0.1157
1	195.12	0.7500	0.2234	0.0089	0.0372	0.1264	-3.0503	0.2143	-1.7306	0.1023
1	195.12	0.8001	0.2235	0.0111	-0.0076	0.1394	-3.9637	0.2507	-1.9428	0.1280
1	195.12	0.8497	0.2103	0.0130	-0.0604	0.1510	-4.9917	0.2894	-2.0637	0.0962
1	195.12	0.9102	0.1942	0.0159	-0.0751	0.1663	-6.3183	0.3324	-2.0600	0.1101
1	195.12	0.9734	0.2358	0.0210	-0.1010	0.1829	-7.7926	0.3890	-2.3322	0.1143
2	195.12	0.1949	-0.0724	0.0023	0.0051	0.0039	0.0042	0.0044	0.1354	0.1497
2	195.12	0.2405	-0.0422	0.0031	-0.0540	0.0077	-0.0875	0.0118	-0.2753	0.1646
2	195.12	0.2999	0.0026	0.0066	-0.0331	0.0097	-0.1063	0.0182	0.0718	0.3287
2	195.12	0.3498	0.0384	0.0038	-0.0884	0.0202	-0.2093	0.0381	-0.3234	0.2020
2	195.12	0.3998	0.0721	0.0023	-0.1469	0.0283	-0.3690	0.0556	-0.7749	0.1725
2	195.12	0.4496	0.1060	0.0020	-0.2025	0.0364	-0.5354	0.0705	-0.8194	0.1830
2	195.12	0.4995	0.1242	0.0023	-0.2568	0.0427	-0.8222	0.0883	-1.1175	0.1813
2	195.12	0.5551	0.1595	0.0033	-0.3257	0.0463	-1.1892	0.1105	-1.1123	0.1794
2	195.12	0.5996	0.1797	0.0042	-0.3788	0.0516	-1.5982	0.1302	-1.2961	0.1789
2	195.12	0.6497	0.2101	0.0037	-0.4472	0.0609	-2.1531	0.1515	-1.3088	0.1875
2	195.12	0.6996	0.2380	0.0051	-0.5320	0.0656	-2.8049	0.1750	-1.2783	0.1951
2	195.12	0.7495	0.2299	0.0063	-0.6014	0.0686	-3.6498	0.2018	-1.5019	0.1637
2	195.12	0.7996	0.2328	0.0078	-0.7338	0.0796	-4.5559	0.2265	-1.5851	0.2284
2	195.12	0.8578	0.2006	0.0102	-0.8508	0.0843	-5.7372	0.2691	-1.4118	0.1606
2	195.12	0.9100	0.2085	0.0128	-0.9184	0.0856	-6.8994	0.3007	-1.4302	0.1224
2	195.12	0.9727	0.1876	0.0152	-1.0302	0.0959	-8.1512	0.3349	-1.1057	0.2067
3	195.12	0.1938	-0.0443	0.0016	-0.0111	0.0014	0.0165	0.0038	-0.2750	0.0280
3	195.12	0.2357	-0.0259	0.0011	0.0074	0.0021	-0.0181	0.0059	-0.3654	0.0417
3	195.12	0.2995	0.0079	0.0017	-0.0225	0.0056	0.0019	0.0130	-0.6435	0.0632
3	195.12	0.3493	0.0414	0.0019	-0.0383	0.0100	-0.0103	0.0220	-0.7082	0.0673
3	195.12	0.4000	0.0861	0.0025	-0.0493	0.0154	-0.0394	0.0335	-0.6818	0.0686
3	195.12	0.4497	0.1139	0.0037	-0.0794	0.0194	-0.1526	0.0480	-0.9792	0.0868
3	195.12	0.4997	0.1239	0.0036	-0.1139	0.0265	-0.3103	0.0647	-1.1096	0.0850
3	195.12	0.5556	0.1638	0.0044	-0.1439	0.0331	-0.5850	0.0909	-1.1874	0.0958
3	195.12	0.5995	0.1957	0.0051	-0.1962	0.0400	-0.8994	0.1146	-1.3068	0.0941
3	195.12	0.6498	0.2176	0.0065	-0.2505	0.0479	-1.3770	0.1472	-1.4445	0.1019
3	195.12	0.6890	0.1955	0.0077	-0.3367	0.0547	-1.8167	0.1771	-1.3668	0.0971
3	195.12	0.7495	0.2375	0.0103	-0.3852	0.0647	-2.7457	0.2285	-1.7430	0.1795
3	195.12	0.7998	0.2506	0.0129	-0.4598	0.0745	-3.6350	0.2757	-1.8886	0.1052
3	195.12	0.8577	0.2502	0.0170	-0.5821	0.0876	-4.7828	0.3355	-1.9155	0.1043
3	195.12	0.9178	0.2651	0.0213	-0.7156	0.1000	-6.0549	0.3963	-1.8748	0.1131
3	195.12	0.9729	0.2642	0.0258	-0.8114	0.1126	-7.3424	0.4545	-2.2133	0.1662
4	195.12	0.2001	-0.0518	0.0019	0.0101	0.0017	-0.0356	0.0065	-0.3068	0.0357
4	195.12	0.2502	-0.0074	0.0025	0.0189	0.0064	-0.0768	0.0137	-0.5946	0.0605
4	195.12	0.3001	0.0287	0.0026	0.0414	0.0149	-0.1309	0.0233	-0.7615	0.0800
4	195.12	0.3502	0.0469	0.0022	0.0788	0.0164	-0.2062	0.0337	-0.7071	0.1629
4	195.12	0.4002	0.0750	0.0034	0.1179	0.0343	-0.3232	0.0539	-0.9597	0.0684
4	195.12	0.4500	0.1116	0.0032	0.1453	0.0464	-0.5074	0.0725	-1.2210	0.0755
4	195.12	0.5001	0.1341	0.0041	0.1695	0.0542	-0.7446	0.0961	-1.1946	0.0703
4	195.12	0.5560	0.1594	0.0050	0.1950	0.0632	-1.1802	0.1249	-1.5269	0.0784
4	195.12	0.6001	0.1853	0.0065	0.2117	0.0698	-1.5759	0.1519	-1.6115	0.0875
4	195.12	0.6501	0.1872	0.0070	0.1789	0.0852	-2.1446	0.1863	-1.5511	0.0931
4	195.12	0.6999	0.2098	0.0088	0.1537	0.0978	-2.8453	0.2256	-1.5274	0.0819
4	195.12	0.7500	0.2047	0.0105	0.1625	0.1101	-3.7020	0.2681	-1.4628	0.1000
4	195.12	0.8002	0.2053	0.0141	0.1056	0.1225	-4.6983	0.3120	-1.6000	0.1220
4	195.12	0.8582	0.2102	0.0180	0.0770	0.1340	-6.0265	0.3601	-1.9546	0.1836
4	195.12	0.9101	0.2065	0.0208	0.0153	0.1489	-7.2842	0.4095	-2.0009	0.1561
4	195.12	0.9728	0.2414	0.0265	-0.0362	0.1686	-8.6450	0.4828	-1.4093	0.0888

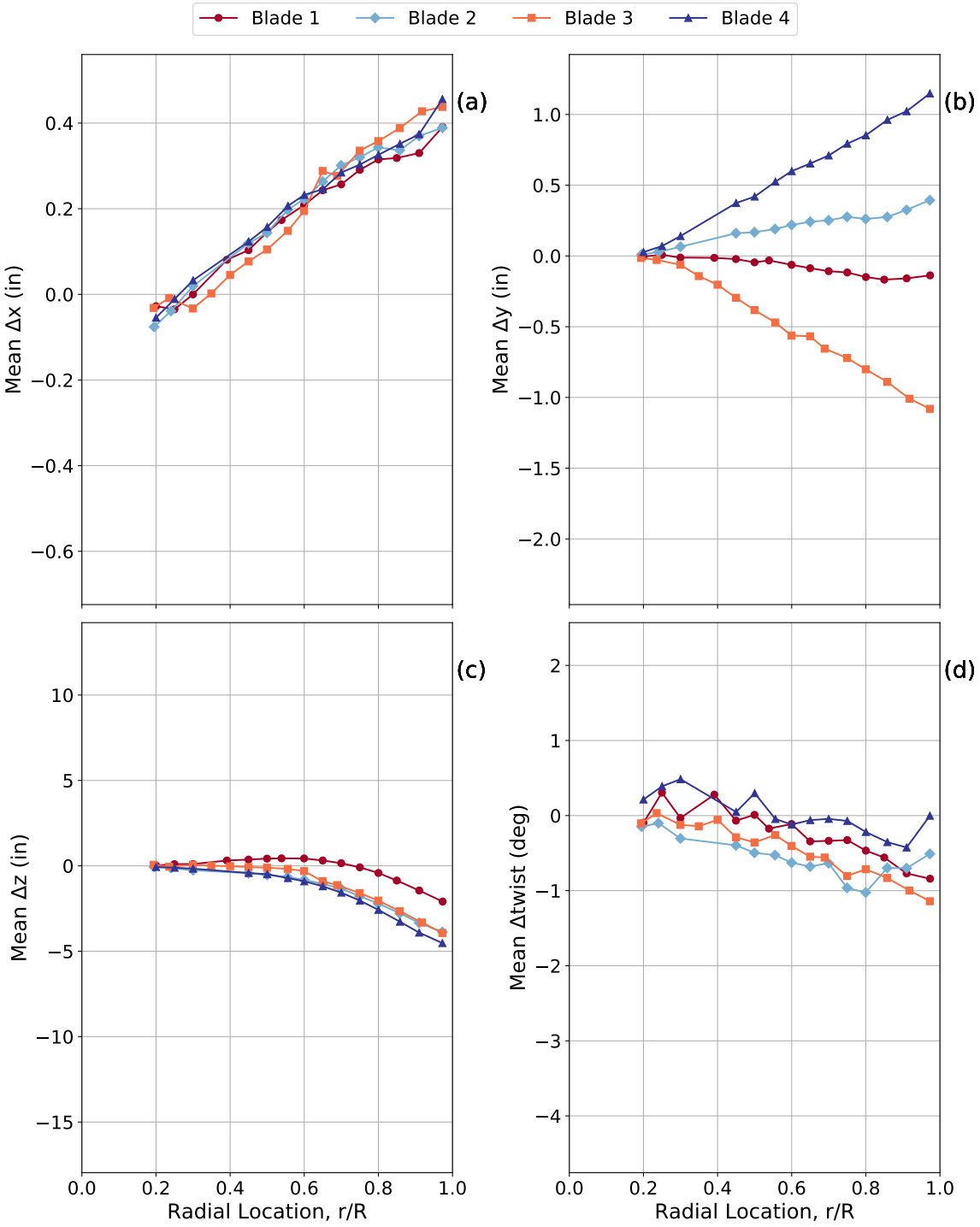


Figure 2.10-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0277	0.0018	-0.0039	0.0017	0.0197	0.0067	-0.0962	0.0267
1	209.88	0.2499	-0.0349	0.0012	0.0075	0.0023	0.0983	0.0097	0.3056	0.0595
1	209.88	0.2998	-0.0001	0.0021	-0.0115	0.0068	0.1038	0.0195	-0.0327	0.0601
1	209.88	0.3913	0.0807	0.0020	-0.0135	0.0149	0.3095	0.0406	0.2788	0.0660
1	209.88	0.4496	0.1032	0.0019	-0.0220	0.0207	0.3656	0.0578	-0.0674	0.0659
1	209.88	0.4997	0.1450	0.0022	-0.0455	0.0218	0.4221	0.0716	0.0098	0.0737
1	209.88	0.5387	0.1736	0.0027	-0.0315	0.0258	0.4391	0.0846	-0.1740	0.0592
1	209.88	0.5996	0.2084	0.0026	-0.0627	0.0345	0.4322	0.1054	-0.1126	0.0815
1	209.88	0.6498	0.2431	0.0027	-0.0868	0.0398	0.3120	0.1248	-0.3439	0.0785
1	209.88	0.6998	0.2569	0.0029	-0.1076	0.0446	0.1545	0.1433	-0.3368	0.0815
1	209.88	0.7500	0.2907	0.0057	-0.1168	0.0512	-0.0882	0.1656	-0.3267	0.0868
1	209.88	0.8001	0.3151	0.0051	-0.1491	0.0583	-0.4184	0.1875	-0.4669	0.0806
1	209.88	0.8497	0.3184	0.0044	-0.1674	0.0623	-0.8607	0.2069	-0.5589	0.1274
1	209.88	0.9102	0.3300	0.0050	-0.1585	0.0686	-1.4444	0.2378	-0.7706	0.0932
1	209.88	0.9734	0.3909	0.0066	-0.1375	0.0773	-2.0912	0.2744	-0.8413	0.0960
2	209.88	0.1949	-0.0760	0.0071	0.0107	0.0059	-0.0673	0.0130	-0.1468	0.0317
2	209.88	0.2405	-0.0389	0.0065	0.0272	0.0144	-0.1290	0.0212	-0.1009	0.0403
2	209.88	0.2999	0.0194	0.0056	0.0649	0.0336	-0.2600	0.0395	-0.3049	0.0674
2	209.88	0.4496	0.1191	0.0079	0.1602	0.0820	-0.4309	0.0927	-0.3961	0.0660
2	209.88	0.4995	0.1438	0.0076	0.1675	0.1030	-0.5354	0.1133	-0.4961	0.0634
2	209.88	0.5551	0.1972	0.0064	0.1903	0.1128	-0.6575	0.1411	-0.5269	0.0674
2	209.88	0.5996	0.2223	0.0066	0.2192	0.1260	-0.8177	0.1649	-0.6279	0.0677
2	209.88	0.6497	0.2633	0.0073	0.2415	0.1416	-1.0544	0.1950	-0.6785	0.0752
2	209.88	0.6996	0.3012	0.0075	0.2516	0.1570	-1.3407	0.2294	-0.6346	0.0729
2	209.88	0.7495	0.3199	0.0066	0.2761	0.1702	-1.7715	0.2689	-0.9629	0.1149
2	209.88	0.7996	0.3433	0.0078	0.2616	0.1831	-2.2084	0.3109	-1.0251	0.0903
2	209.88	0.8578	0.3363	0.0119	0.2755	0.2024	-2.7790	0.3645	-0.6979	0.0981
2	209.88	0.9100	0.3699	0.0130	0.3252	0.2147	-3.3357	0.4151	-0.7013	0.0914
2	209.88	0.9727	0.3890	0.0162	0.3942	0.2319	-3.8758	0.4793	-0.5101	0.0761
3	209.88	0.1938	-0.0317	0.0055	-0.0141	0.0009	0.0604	0.0060	-0.1032	0.0230
3	209.88	0.2357	-0.0086	0.0054	-0.0283	0.0046	-0.0552	0.0103	0.0324	0.0403
3	209.88	0.2995	-0.0330	0.0051	-0.0622	0.0115	0.0620	0.0209	-0.1234	0.0532
3	209.88	0.3493	0.0023	0.0184	-0.1428	0.0120	0.0079	0.0314	-0.1420	0.0557
3	209.88	0.4000	0.0454	0.0053	-0.2031	0.0263	-0.0215	0.0526	-0.0565	0.0668
3	209.88	0.4497	0.0768	0.0054	-0.2958	0.0307	-0.0709	0.0688	-0.2896	0.0733
3	209.88	0.4997	0.1047	0.0065	-0.3829	0.0381	-0.1106	0.0859	-0.3576	0.0625
3	209.88	0.5556	0.1483	0.0068	-0.4700	0.0481	-0.1786	0.1102	-0.2586	0.1163
3	209.88	0.5995	0.1945	0.0064	-0.5628	0.0524	-0.3074	0.1317	-0.4051	0.1146
3	209.88	0.6498	0.2882	0.0063	-0.5678	0.0585	-0.9052	0.1557	-0.5478	0.0733
3	209.88	0.6890	0.2766	0.0068	-0.6553	0.0646	-1.1285	0.1764	-0.5590	0.0735
3	209.88	0.7495	0.3357	0.0074	-0.7212	0.0751	-1.5941	0.2132	-0.8044	0.0698
3	209.88	0.7998	0.3579	0.0095	-0.8012	0.0817	-2.0355	0.2480	-0.7145	0.0990
3	209.88	0.8577	0.3883	0.0094	-0.8897	0.0895	-2.6553	0.2886	-0.8309	0.0721
3	209.88	0.9178	0.4275	0.0106	-1.0090	0.0975	-3.3188	0.3348	-0.9984	0.0703
3	209.88	0.9729	0.4377	0.0125	-1.0805	0.1059	-3.9344	0.3795	-1.1410	0.0795
4	209.88	0.2001	-0.0544	0.0084	0.0272	0.0108	-0.0703	0.0265	0.2136	0.0367
4	209.88	0.2502	-0.0108	0.0082	0.0699	0.0270	-0.1113	0.0488	0.3900	0.0671
4	209.88	0.3001	0.0329	0.0070	0.1406	0.0539	-0.1670	0.0837	0.4844	0.0792
4	209.88	0.4500	0.1234	0.0076	0.3739	0.1179	-0.4206	0.1760	0.0475	0.0816
4	209.88	0.5001	0.1573	0.0090	0.4196	0.1498	-0.4914	0.2085	0.2985	0.0916
4	209.88	0.5560	0.2066	0.0070	0.5248	0.1679	-0.7182	0.2443	-0.0458	0.1131
4	209.88	0.6001	0.2322	0.0078	0.5994	0.1934	-0.9063	0.2750	-0.1193	0.0889
4	209.88	0.6501	0.2456	0.0083	0.6533	0.2163	-1.1976	0.3100	-0.0606	0.0925
4	209.88	0.6999	0.2845	0.0087	0.7101	0.2426	-1.5700	0.3452	-0.0439	0.1060
4	209.88	0.7500	0.3030	0.0082	0.7934	0.2644	-2.0341	0.3845	-0.0715	0.0957
4	209.88	0.8002	0.3259	0.0085	0.8528	0.2875	-2.5793	0.4244	-0.2187	0.1037
4	209.88	0.8582	0.3516	0.0093	0.9620	0.3215	-3.2735	0.4719	-0.3538	0.0808
4	209.88	0.9101	0.3739	0.0108	1.0227	0.3488	-3.9105	0.5173	-0.4251	0.0996
4	209.88	0.9728	0.4561	0.0163	1.1485	0.3786	-4.5239	0.5748	-0.0021	0.1076

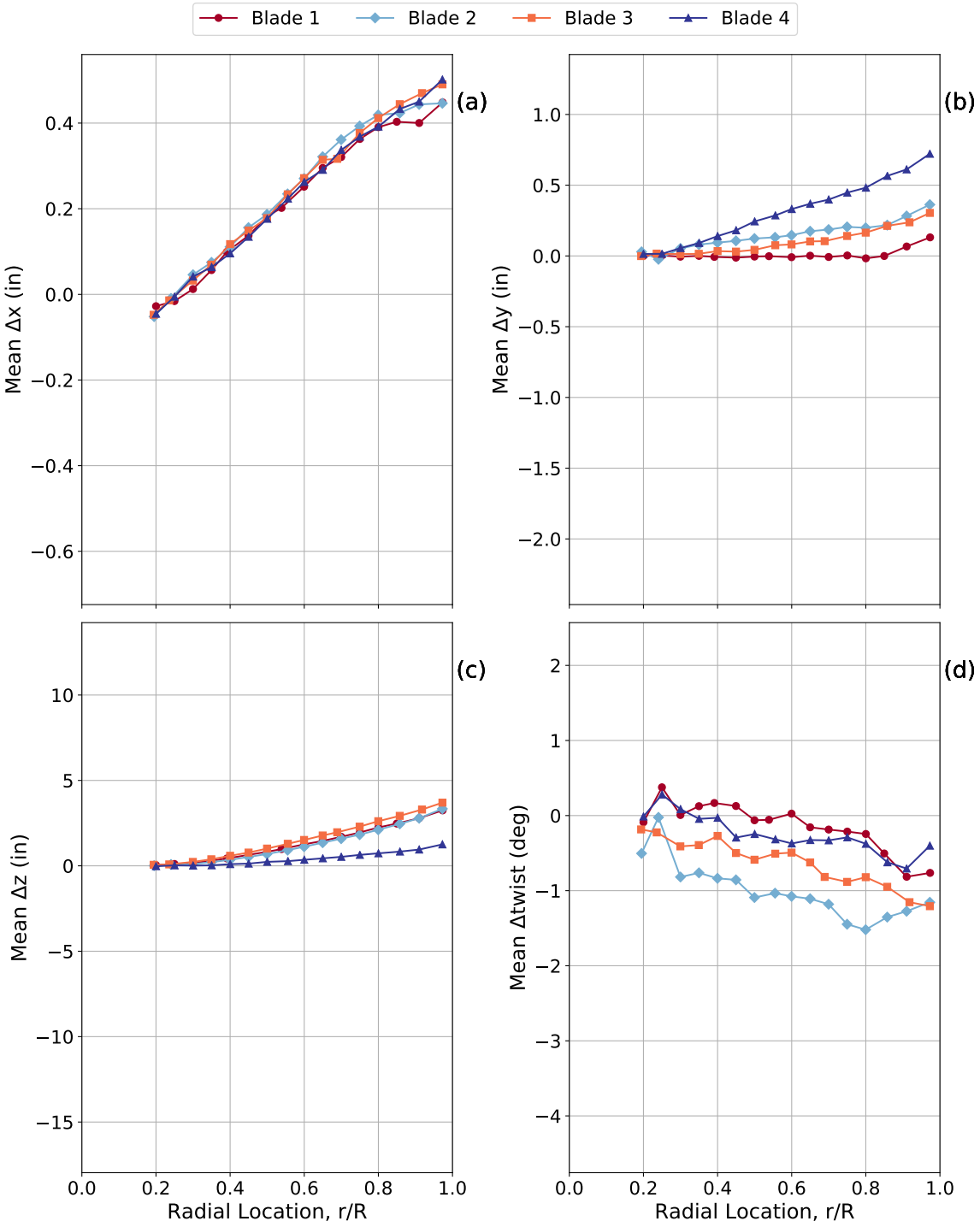


Figure 2.10-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0276	0.0013	0.0005	0.0009	0.0386	0.0076	-0.0889	0.0259
1	225	0.2499	-0.0157	0.0014	0.0035	0.0030	0.1074	0.0146	0.3766	0.0410
1	225	0.2998	0.0124	0.0009	-0.0052	0.0046	0.1668	0.0254	0.0074	0.0587
1	225	0.3498	0.0567	0.0017	0.0005	0.0093	0.2952	0.0427	0.1251	0.0584
1	225	0.3913	0.0993	0.0023	-0.0067	0.0133	0.4314	0.0597	0.1674	0.0715
1	225	0.4496	0.1372	0.0060	-0.0120	0.0220	0.6427	0.0818	0.1273	0.0694
1	225	0.4997	0.1821	0.0031	-0.0045	0.0208	0.8217	0.1042	-0.0626	0.0698
1	225	0.5387	0.2019	0.0033	-0.0018	0.0261	0.9805	0.1212	-0.0563	0.0764
1	225	0.5996	0.2514	0.0034	-0.0088	0.0322	1.2575	0.1488	0.0257	0.0803
1	225	0.6498	0.2953	0.0040	0.0018	0.0368	1.4600	0.1705	-0.1560	0.0801
1	225	0.6998	0.3207	0.0043	-0.0073	0.0421	1.6999	0.1931	-0.1862	0.0787
1	225	0.7500	0.3629	0.0049	0.0033	0.0465	1.9532	0.2187	-0.2132	0.0832
1	225	0.8001	0.3905	0.0054	-0.0169	0.0536	2.2472	0.2487	-0.2452	0.0878
1	225	0.8497	0.4030	0.0057	-0.0004	0.0581	2.4740	0.2861	-0.5048	0.0909
1	225	0.9102	0.4002	0.0068	0.0667	0.0666	2.7910	0.3369	-0.8149	0.0945
1	225	0.9734	0.4483	0.0101	0.1313	0.0736	3.2478	0.3990	-0.7635	0.1008
2	225	0.1949	-0.0519	0.0036	0.0292	0.0039	0.0093	0.0069	-0.5042	0.0629
2	225	0.2405	-0.0096	0.0080	-0.0237	0.0061	0.0778	0.0125	-0.0239	0.0878
2	225	0.2999	0.0459	0.0042	0.0532	0.0073	0.1033	0.0220	-0.8182	0.0988
2	225	0.3498	0.0747	0.0038	0.0804	0.0090	0.2199	0.0371	-0.7628	0.0898
2	225	0.3998	0.1108	0.0037	0.0942	0.0133	0.3477	0.0555	-0.8362	0.1017
2	225	0.4496	0.1559	0.0063	0.1066	0.0163	0.5193	0.0740	-0.8561	0.1018
2	225	0.4995	0.1868	0.0047	0.1229	0.0245	0.6906	0.0962	-1.0914	0.0823
2	225	0.5551	0.2346	0.0039	0.1318	0.0292	0.9169	0.1203	-1.0337	0.0858
2	225	0.5996	0.2706	0.0043	0.1464	0.0346	1.1191	0.1412	-1.0760	0.0895
2	225	0.6497	0.3214	0.0052	0.1748	0.0417	1.3542	0.1644	-1.1077	0.0964
2	225	0.6996	0.3612	0.0052	0.1865	0.0487	1.5898	0.1859	-1.1810	0.0920
2	225	0.7495	0.3931	0.0057	0.2055	0.0572	1.8252	0.2088	-1.4473	0.0896
2	225	0.7996	0.4190	0.0062	0.1990	0.0654	2.1121	0.2314	-1.5200	0.0923
2	225	0.8578	0.4234	0.0069	0.2179	0.0750	2.4563	0.2590	-1.3524	0.0976
2	225	0.9100	0.4436	0.0074	0.2825	0.0851	2.7882	0.2834	-1.2742	0.0918
2	225	0.9727	0.4462	0.0108	0.3627	0.0982	3.3381	0.3171	-1.1547	0.1015
3	225	0.1938	-0.0476	0.0038	-0.0009	0.0009	0.0599	0.0075	-0.1845	0.0260
3	225	0.2357	-0.0140	0.0016	0.0165	0.0026	0.0842	0.0120	-0.2242	0.0400
3	225	0.2995	0.0323	0.0014	0.0131	0.0047	0.2299	0.0254	-0.4104	0.0608
3	225	0.3493	0.0693	0.0018	0.0152	0.0094	0.3842	0.0423	-0.3932	0.0639
3	225	0.4000	0.1173	0.0029	0.0341	0.0146	0.5889	0.0632	-0.2710	0.0753
3	225	0.4497	0.1491	0.0052	0.0305	0.0224	0.7764	0.0860	-0.4985	0.0879
3	225	0.4997	0.1781	0.0040	0.0430	0.0244	1.0097	0.1077	-0.5881	0.0952
3	225	0.5556	0.2336	0.0033	0.0756	0.0323	1.2906	0.1338	-0.5076	0.0761
3	225	0.5995	0.2714	0.0042	0.0814	0.0385	1.5145	0.1550	-0.4931	0.0790
3	225	0.6498	0.3142	0.0044	0.1027	0.0462	1.7764	0.1783	-0.6240	0.0731
3	225	0.6890	0.3165	0.0048	0.1045	0.0525	1.9648	0.1963	-0.8172	0.0744
3	225	0.7495	0.3768	0.0061	0.1411	0.0642	2.2946	0.2216	-0.8833	0.0680
3	225	0.7998	0.4117	0.0063	0.1648	0.0724	2.6129	0.2430	-0.8206	0.0674
3	225	0.8577	0.4441	0.0084	0.2126	0.0850	2.9260	0.2681	-0.9488	0.0760
3	225	0.9178	0.4699	0.0080	0.2377	0.0951	3.2964	0.2975	-1.1534	0.0769
3	225	0.9729	0.4904	0.0122	0.3042	0.1058	3.6997	0.3262	-1.2069	0.0796
4	225	0.2001	-0.0453	0.0016	0.0143	0.0008	-0.0214	0.0059	-0.0125	0.0211
4	225	0.2502	-0.0054	0.0011	0.0150	0.0027	0.0265	0.0114	0.2801	0.0408
4	225	0.3001	0.0415	0.0013	0.0556	0.0042	0.0136	0.0189	0.0848	0.0478
4	225	0.3502	0.0637	0.0016	0.0917	0.0078	0.0295	0.0317	-0.0439	0.0516
4	225	0.4002	0.0957	0.0026	0.1403	0.0127	0.0994	0.0473	-0.0296	0.0469
4	225	0.4500	0.1344	0.0047	0.1812	0.0152	0.1297	0.0688	-0.2931	0.0995
4	225	0.5001	0.1765	0.0028	0.2441	0.0211	0.2332	0.0804	-0.2461	0.0627
4	225	0.5560	0.2237	0.0025	0.2865	0.0271	0.2752	0.1019	-0.3167	0.0541
4	225	0.6001	0.2625	0.0025	0.3313	0.0316	0.3533	0.1174	-0.3715	0.0693
4	225	0.6501	0.2908	0.0033	0.3689	0.0383	0.4393	0.1368	-0.3261	0.0608
4	225	0.6999	0.3372	0.0034	0.3982	0.0446	0.5255	0.1549	-0.3301	0.0661
4	225	0.7500	0.3683	0.0043	0.4475	0.0521	0.6418	0.1743	-0.2904	0.0635
4	225	0.8002	0.3917	0.0039	0.4824	0.0586	0.7325	0.1952	-0.3761	0.0575
4	225	0.8582	0.4330	0.0046	0.5658	0.0669	0.8336	0.2204	-0.6225	0.0641
4	225	0.9101	0.4500	0.0047	0.6115	0.0746	0.9528	0.2452	-0.7055	0.0606
4	225	0.9728	0.5017	0.0080	0.7220	0.0847	1.2549	0.2781	-0.4010	0.0592

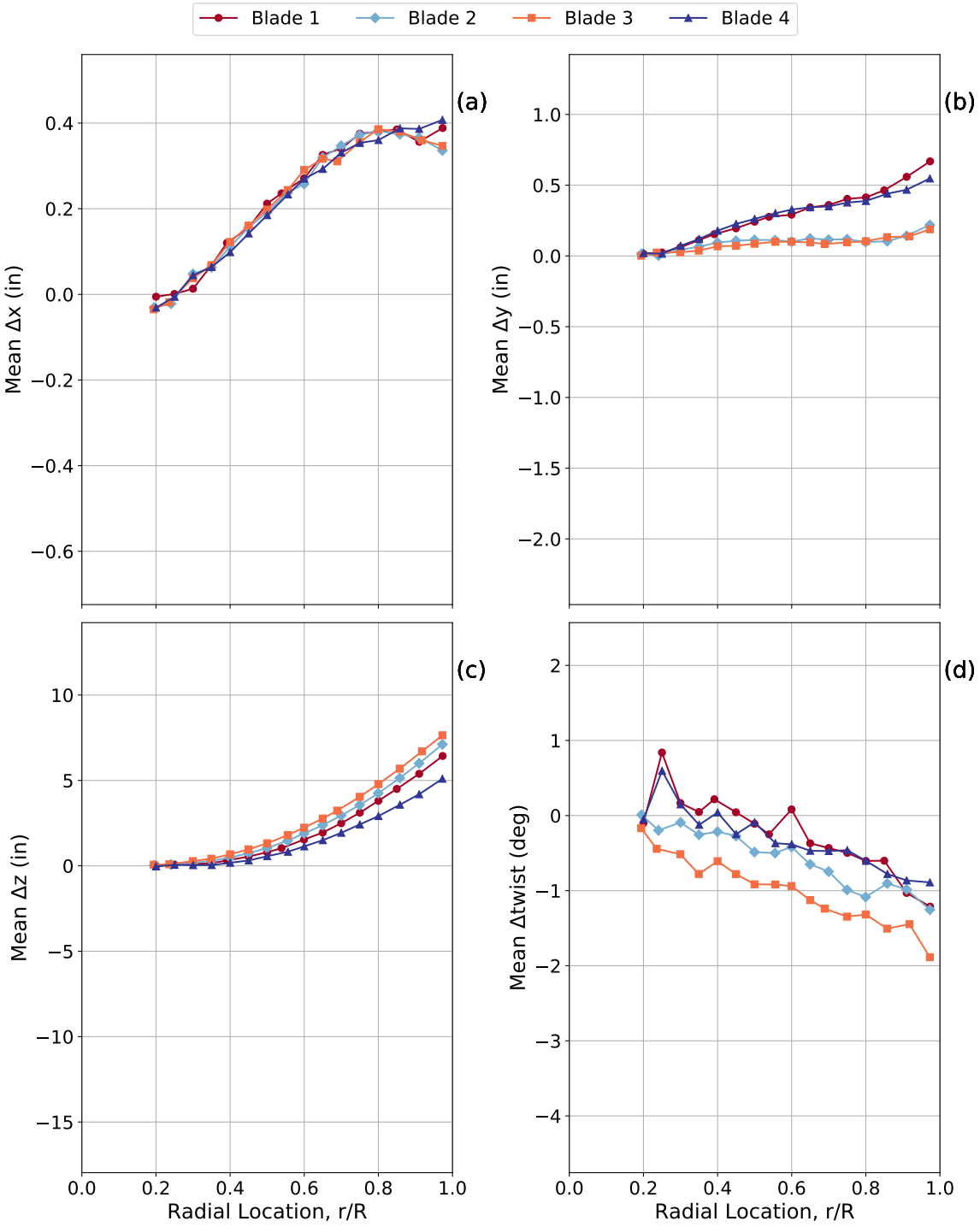


Figure 2.10-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0055	0.0035	0.0153	0.0023	-0.0087	0.0159	-0.0994	0.0671
1	240.12	0.2499	0.0010	0.0020	0.0244	0.0027	0.0739	0.0203	0.8398	0.1800
1	240.12	0.2998	0.0131	0.0016	0.0604	0.0104	0.1018	0.0449	0.1662	0.1811
1	240.12	0.3498	0.0680	0.0031	0.1121	0.0188	0.1558	0.0698	0.0475	0.1917
1	240.12	0.3913	0.1200	0.0026	0.1539	0.0263	0.3116	0.0942	0.2173	0.1793
1	240.12	0.4496	0.1554	0.0030	0.1953	0.0350	0.5416	0.1229	0.0443	0.1962
1	240.12	0.4997	0.2119	0.0039	0.2418	0.0446	0.7934	0.1516	-0.1088	0.1793
1	240.12	0.5387	0.2359	0.0038	0.2762	0.0509	1.0346	0.1714	-0.2497	0.2001
1	240.12	0.5996	0.2708	0.0065	0.2916	0.0628	1.5408	0.2030	0.0822	0.1967
1	240.12	0.6498	0.3258	0.0050	0.3431	0.0707	1.9467	0.2288	-0.3692	0.1911
1	240.12	0.6998	0.3406	0.0058	0.3599	0.0798	2.4933	0.2543	-0.4322	0.1993
1	240.12	0.7500	0.3754	0.0067	0.4032	0.0888	3.1123	0.2787	-0.4973	0.2020
1	240.12	0.8001	0.3800	0.0082	0.4139	0.0986	3.8076	0.3042	-0.6040	0.2040
1	240.12	0.8497	0.3851	0.0094	0.4641	0.1080	4.5030	0.3286	-0.6011	0.2036
1	240.12	0.9102	0.3563	0.0109	0.5590	0.1191	5.3882	0.3594	-1.0300	0.2040
1	240.12	0.9734	0.3885	0.0153	0.6686	0.1316	6.4308	0.3915	-1.2125	0.2008
2	240.12	0.1949	-0.0309	0.0111	0.0152	0.0045	0.0302	0.0141	0.0097	0.0350
2	240.12	0.2405	-0.0218	0.0016	0.0026	0.0018	0.0779	0.0180	-0.1969	0.1048
2	240.12	0.2999	0.0479	0.0014	0.0436	0.0148	0.1790	0.0380	-0.0919	0.1039
2	240.12	0.3498	0.0631	0.0024	0.0650	0.0265	0.2909	0.0598	-0.2553	0.1061
2	240.12	0.3998	0.1105	0.0020	0.0948	0.0380	0.4807	0.0860	-0.2143	0.1060
2	240.12	0.4496	0.1561	0.0027	0.1070	0.0486	0.7366	0.1112	-0.2717	0.1082
2	240.12	0.4995	0.1910	0.0026	0.1138	0.0599	1.0414	0.1401	-0.4864	0.1106
2	240.12	0.5551	0.2375	0.0027	0.1115	0.0718	1.4666	0.1731	-0.4993	0.1150
2	240.12	0.5996	0.2578	0.0049	0.1013	0.0813	1.8927	0.1997	-0.4183	0.1143
2	240.12	0.6497	0.3192	0.0046	0.1235	0.0924	2.3796	0.2305	-0.6492	0.1142
2	240.12	0.6996	0.3471	0.0055	0.1152	0.1035	2.9435	0.2611	-0.7452	0.1222
2	240.12	0.7495	0.3723	0.0067	0.1183	0.1147	3.5603	0.2913	-0.9896	0.1202
2	240.12	0.7996	0.3815	0.0084	0.0980	0.1257	4.2485	0.3227	-1.0848	0.1202
2	240.12	0.8578	0.3738	0.0094	0.1039	0.1388	5.1431	0.3605	-0.9042	0.1250
2	240.12	0.9100	0.3660	0.0124	0.1426	0.1505	6.0003	0.3956	-0.9836	0.1281
2	240.12	0.9727	0.3360	0.0175	0.2187	0.1645	7.1114	0.4381	-1.2533	0.1434
3	240.12	0.1938	-0.0349	0.0020	0.0022	0.0012	0.0666	0.0059	-0.1680	0.0301
3	240.12	0.2357	-0.0181	0.0019	0.0236	0.0022	0.0918	0.0081	-0.4431	0.0506
3	240.12	0.2995	0.0378	0.0019	0.0258	0.0040	0.2773	0.0188	-0.5150	0.0693
3	240.12	0.3493	0.0681	0.0025	0.0378	0.0062	0.4178	0.0289	-0.7783	0.0701
3	240.12	0.4000	0.1225	0.0018	0.0682	0.0103	0.6754	0.0443	-0.6076	0.0748
3	240.12	0.4497	0.1605	0.0023	0.0717	0.0139	0.9640	0.0591	-0.7796	0.0847
3	240.12	0.4997	0.1980	0.0023	0.0861	0.0170	1.3180	0.0769	-0.9156	0.0785
3	240.12	0.5556	0.2437	0.0032	0.0999	0.0222	1.8017	0.0953	-0.9181	0.0723
3	240.12	0.5995	0.2905	0.0052	0.1006	0.0266	2.2347	0.1139	-0.9384	0.1059
3	240.12	0.6498	0.3168	0.0039	0.0954	0.0315	2.7687	0.1299	-1.1258	0.0976
3	240.12	0.6890	0.3108	0.0045	0.0847	0.0353	3.2319	0.1449	-1.2396	0.0903
3	240.12	0.7495	0.3558	0.0054	0.0957	0.0418	4.0387	0.1640	-1.3463	0.0853
3	240.12	0.7998	0.3857	0.0099	0.1040	0.0540	4.7829	0.1762	-1.3173	0.0827
3	240.12	0.8577	0.3799	0.0071	0.1328	0.0536	5.6887	0.1956	-1.5057	0.0855
3	240.12	0.9178	0.3599	0.0079	0.1387	0.0608	6.6990	0.2130	-1.4463	0.0956
3	240.12	0.9729	0.3468	0.0109	0.1885	0.0671	7.6425	0.2265	-1.8867	0.0910
4	240.12	0.2001	-0.0310	0.0016	0.0199	0.0014	-0.0337	0.0044	-0.0494	0.0342
4	240.12	0.2502	-0.0056	0.0019	0.0156	0.0019	0.0563	0.0107	0.5952	0.0554
4	240.12	0.3001	0.0445	0.0015	0.0716	0.0037	0.0390	0.0160	0.1487	0.0744
4	240.12	0.3502	0.0640	0.0033	0.1197	0.0079	0.0429	0.0247	-0.1231	0.0727
4	240.12	0.4002	0.0985	0.0020	0.1784	0.0104	0.1787	0.0392	0.0413	0.0733
4	240.12	0.4500	0.1422	0.0028	0.2263	0.0126	0.3133	0.0516	-0.2480	0.0805
4	240.12	0.5001	0.1849	0.0025	0.2617	0.0171	0.5631	0.0677	-0.0888	0.0801
4	240.12	0.5560	0.2333	0.0056	0.3016	0.0233	0.8228	0.0870	-0.3684	0.0772
4	240.12	0.6001	0.2700	0.0111	0.3282	0.0308	1.1379	0.1026	-0.3828	0.1209
4	240.12	0.6501	0.2929	0.0031	0.3438	0.0310	1.5007	0.1204	-0.4691	0.0842
4	240.12	0.6999	0.3309	0.0040	0.3504	0.0368	1.9330	0.1382	-0.4727	0.0870
4	240.12	0.7500	0.3536	0.0043	0.3771	0.0428	2.4216	0.1604	-0.4612	0.0875
4	240.12	0.8002	0.3603	0.0046	0.3883	0.0490	2.9140	0.1821	-0.6024	0.0902
4	240.12	0.8582	0.3877	0.0060	0.4400	0.0573	3.5776	0.2097	-0.7785	0.0954
4	240.12	0.9101	0.3863	0.0072	0.4679	0.0652	4.1902	0.2358	-0.8640	0.0976
4	240.12	0.9728	0.4074	0.0102	0.5476	0.0742	5.0983	0.2686	-0.8901	0.1046

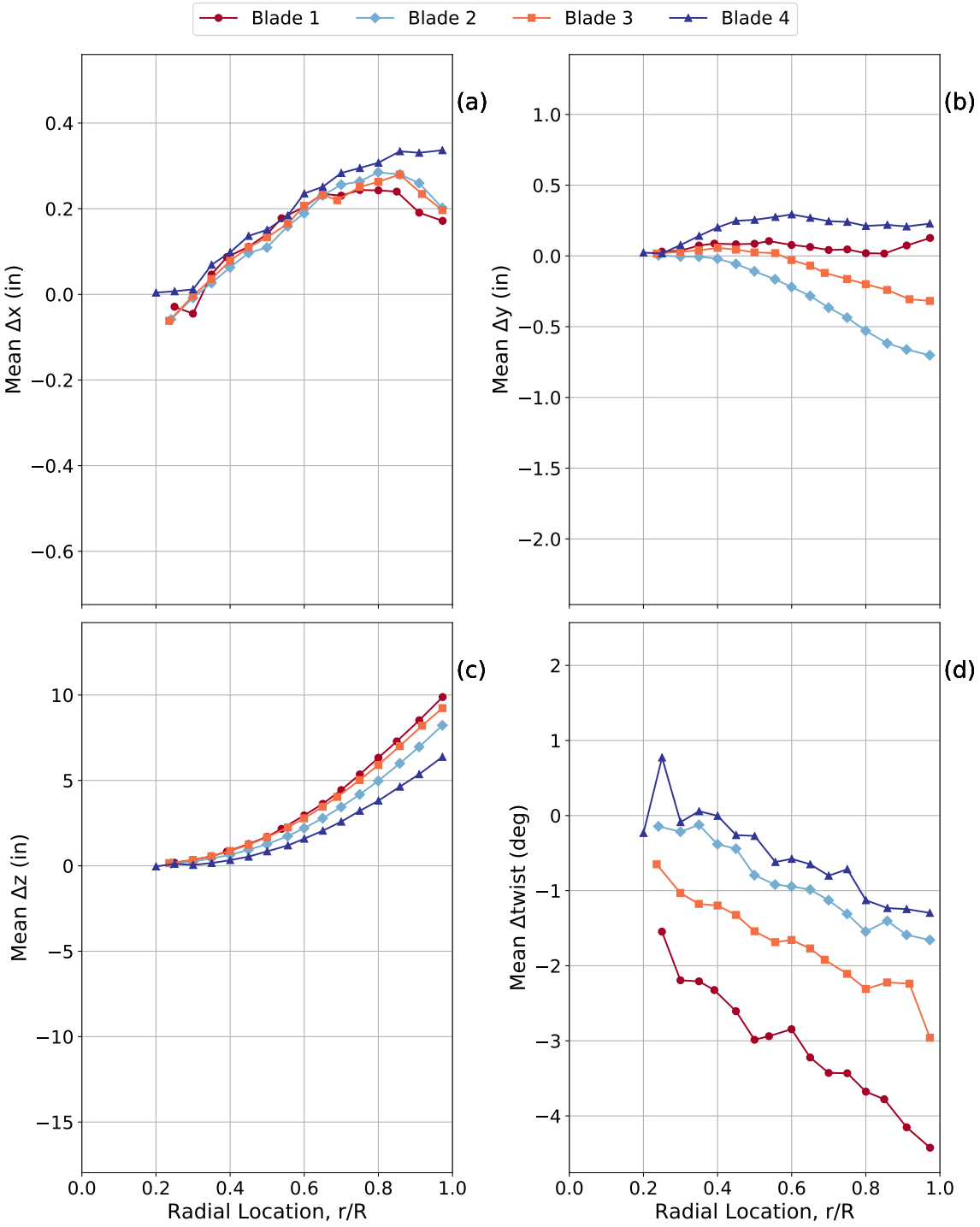


Figure 2.10-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2499	-0.0289	0.0083	0.0306	0.0040	0.1844	0.0429	-1.5456	0.2640
1	254.88	0.2998	-0.0451	0.0043	0.0369	0.0075	0.3501	0.0638	-2.1938	0.3735
1	254.88	0.3498	0.0464	0.0045	0.0738	0.0161	0.5649	0.1114	-2.2077	0.3469
1	254.88	0.3913	0.0871	0.0050	0.0873	0.0236	0.8308	0.1468	-2.3243	0.3496
1	254.88	0.4496	0.1111	0.0063	0.0825	0.0318	1.2739	0.1973	-2.6052	0.3549
1	254.88	0.4997	0.1406	0.0078	0.0862	0.0397	1.7016	0.2421	-2.9859	0.3542
1	254.88	0.5387	0.1777	0.0103	0.1051	0.0449	2.1638	0.2759	-2.9383	0.3600
1	254.88	0.5996	0.2041	0.0116	0.0775	0.0544	2.9508	0.3319	-2.8455	0.3529
1	254.88	0.6498	0.2346	0.0141	0.0634	0.0618	3.6285	0.3772	-3.2219	0.3559
1	254.88	0.6998	0.2306	0.0164	0.0422	0.0690	4.4385	0.4235	-3.4273	0.3556
1	254.88	0.7500	0.2437	0.0197	0.0461	0.0765	5.3544	0.4692	-3.4316	0.3597
1	254.88	0.8001	0.2428	0.0227	0.0194	0.0839	6.3267	0.5150	-3.6768	0.3604
1	254.88	0.8497	0.2400	0.0257	0.0168	0.0914	7.2875	0.5607	-3.7787	0.3614
1	254.88	0.9102	0.1908	0.0299	0.0739	0.1009	8.5189	0.6154	-4.1520	0.3663
1	254.88	0.9734	0.1716	0.0378	0.1270	0.1106	9.8809	0.6726	-4.4234	0.3667
2	254.88	0.2405	-0.0586	0.0051	0.0042	0.0021	0.1355	0.0291	-0.1439	0.1877
2	254.88	0.2999	-0.0080	0.0020	-0.0042	0.0054	0.2384	0.0499	-0.2150	0.2880
2	254.88	0.3498	0.0264	0.0026	-0.0052	0.0123	0.4397	0.0844	-0.1239	0.2821
2	254.88	0.3998	0.0629	0.0033	-0.0200	0.0197	0.6353	0.1209	-0.3825	0.2817
2	254.88	0.4496	0.0966	0.0038	-0.0564	0.0264	0.9410	0.1594	-0.4410	0.2815
2	254.88	0.4995	0.1094	0.0050	-0.1087	0.0333	1.2626	0.1996	-0.7939	0.2878
2	254.88	0.5551	0.1591	0.0072	-0.1649	0.0415	1.7358	0.2504	-0.9197	0.2757
2	254.88	0.5996	0.1892	0.0078	-0.2197	0.0478	2.2058	0.2931	-0.9444	0.2757
2	254.88	0.6497	0.2310	0.0097	-0.2824	0.0552	2.7848	0.3415	-0.9853	0.2822
2	254.88	0.6996	0.2561	0.0120	-0.3654	0.0624	3.4431	0.3910	-1.1277	0.2839
2	254.88	0.7495	0.2635	0.0147	-0.4358	0.0696	4.1772	0.4420	-1.3099	0.2822
2	254.88	0.7996	0.2850	0.0172	-0.5293	0.0770	4.9695	0.4932	-1.5445	0.2801
2	254.88	0.8578	0.2801	0.0207	-0.6176	0.0856	5.9992	0.5527	-1.4032	0.2818
2	254.88	0.9100	0.2597	0.0245	-0.6615	0.0926	6.9643	0.6067	-1.5891	0.2834
2	254.88	0.9727	0.2017	0.0322	-0.7018	0.1018	8.2257	0.6719	-1.6563	0.2795
3	254.88	0.2357	-0.0617	0.0035	0.0169	0.0023	0.1580	0.0190	-0.6491	0.1310
3	254.88	0.2995	-0.0035	0.0021	0.0296	0.0049	0.3404	0.0346	-1.0304	0.2090
3	254.88	0.3493	0.0359	0.0029	0.0398	0.0109	0.5613	0.0583	-1.1765	0.1976
3	254.88	0.4000	0.0783	0.0038	0.0572	0.0166	0.8685	0.0845	-1.1983	0.2011
3	254.88	0.4497	0.1095	0.0037	0.0447	0.0206	1.2356	0.1136	-1.3232	0.1995
3	254.88	0.4997	0.1332	0.0043	0.0253	0.0261	1.6679	0.1473	-1.5404	0.2075
3	254.88	0.5556	0.1650	0.0056	0.0200	0.0329	2.2485	0.1875	-1.6858	0.2120
3	254.88	0.5995	0.2069	0.0070	-0.0289	0.0386	2.7832	0.2223	-1.6573	0.2073
3	254.88	0.6498	0.2323	0.0087	-0.0689	0.0455	3.4612	0.2634	-1.7699	0.2078
3	254.88	0.6890	0.2199	0.0102	-0.1197	0.0515	4.0349	0.2955	-1.9207	0.2101
3	254.88	0.7495	0.2508	0.0130	-0.1629	0.0606	5.0221	0.3437	-2.1077	0.2111
3	254.88	0.7998	0.2629	0.0153	-0.1995	0.0693	5.9050	0.3811	-2.3090	0.2109
3	254.88	0.8577	0.2798	0.0180	-0.2401	0.0799	7.0103	0.4211	-2.2224	0.2180
3	254.88	0.9178	0.2343	0.0208	-0.3061	0.0920	8.2041	0.4610	-2.2387	0.2172
3	254.88	0.9729	0.1966	0.0250	-0.3180	0.1029	9.2334	0.4971	-2.9584	0.2215
4	254.88	0.2001	0.0041	0.0068	0.0233	0.0020	-0.0361	0.0148	-0.2319	0.0890
4	254.88	0.2502	0.0072	0.0027	0.0178	0.0027	0.1165	0.0172	0.7735	0.2356
4	254.88	0.3001	0.0116	0.0024	0.0770	0.0081	0.0512	0.0390	-0.0872	0.2335
4	254.88	0.3502	0.0691	0.0025	0.1419	0.0140	0.1624	0.0596	0.0583	0.2327
4	254.88	0.4002	0.0982	0.0026	0.2017	0.0215	0.3339	0.0851	-0.0040	0.2253
4	254.88	0.4500	0.1365	0.0026	0.2480	0.0280	0.5376	0.1107	-0.2600	0.2319
4	254.88	0.5001	0.1509	0.0033	0.2554	0.0348	0.8483	0.1407	-0.2716	0.2325
4	254.88	0.5560	0.1844	0.0041	0.2756	0.0435	1.1947	0.1771	-0.6188	0.2277
4	254.88	0.6001	0.2356	0.0045	0.2934	0.0501	1.5858	0.2073	-0.5767	0.2331
4	254.88	0.6501	0.2512	0.0061	0.2698	0.0582	2.0553	0.2428	-0.6491	0.2359
4	254.88	0.6999	0.2834	0.0076	0.2456	0.0667	2.5856	0.2775	-0.8008	0.2319
4	254.88	0.7500	0.2951	0.0092	0.2406	0.0758	3.2212	0.3115	-0.7150	0.2396
4	254.88	0.8002	0.3074	0.0110	0.2118	0.0846	3.8143	0.3442	-1.1274	0.2342
4	254.88	0.8582	0.3341	0.0128	0.2197	0.0952	4.6350	0.3804	-1.2325	0.2385
4	254.88	0.9101	0.3306	0.0147	0.2083	0.1052	5.3637	0.4119	-1.2459	0.2406
4	254.88	0.9728	0.3366	0.0198	0.2284	0.1172	6.3776	0.4481	-1.2964	0.2394

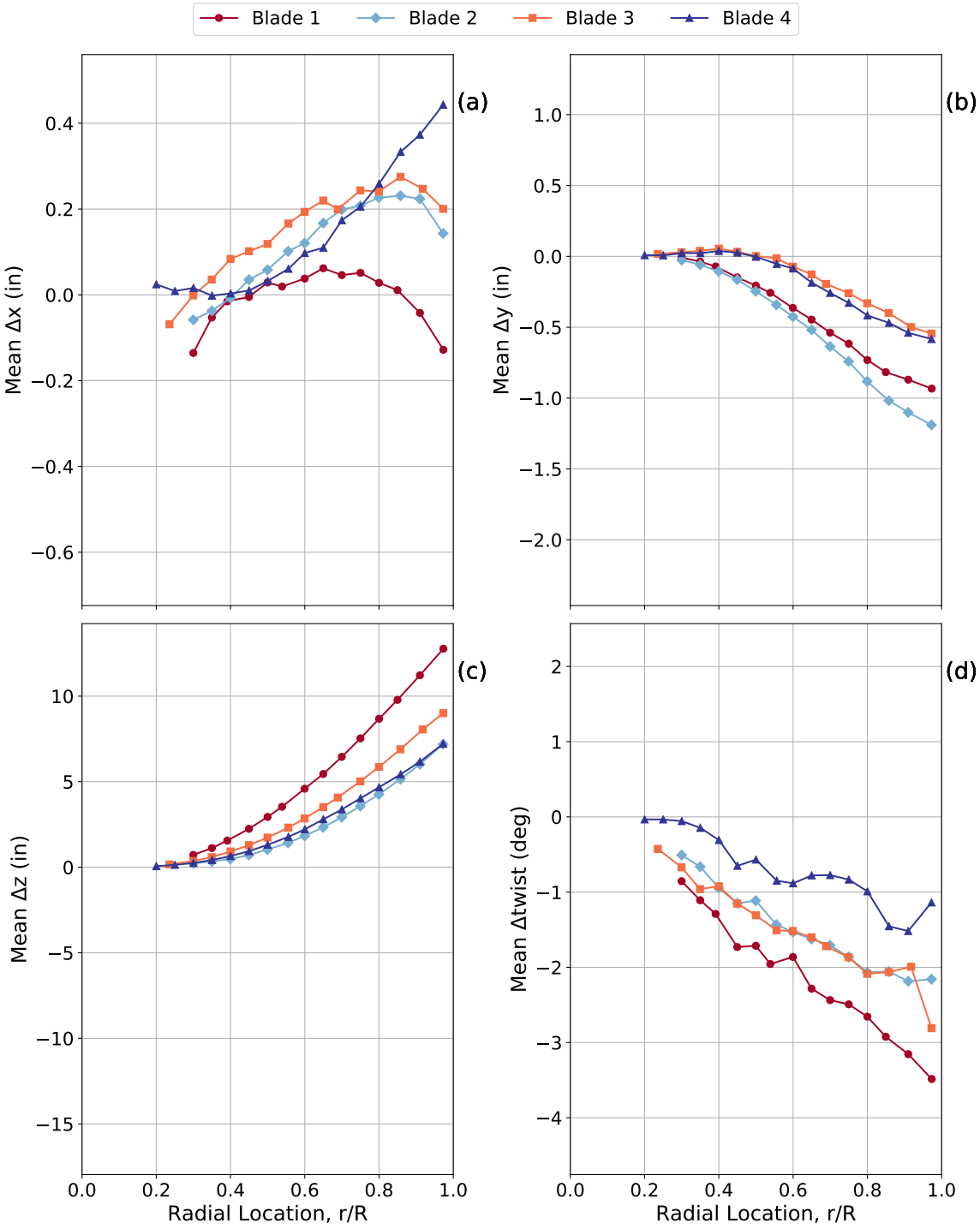


Figure 2.10-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2998	-0.1356	0.0225	-0.0090	0.0149	0.7200	0.1606	-0.8545	0.3611
1	260.16	0.3498	-0.0528	0.0219	-0.0372	0.0281	1.1204	0.2432	-1.1082	0.4721
1	260.16	0.3913	-0.0152	0.0270	-0.0714	0.0436	1.5590	0.3330	-1.2898	0.4580
1	260.16	0.4496	-0.0049	0.0320	-0.1484	0.0618	2.2461	0.4518	-1.7305	0.4572
1	260.16	0.4997	0.0288	0.0371	-0.2065	0.0776	2.9410	0.5535	-1.7134	0.4617
1	260.16	0.5387	0.0193	0.0418	-0.2572	0.0892	3.5336	0.6335	-1.9562	0.4603
1	260.16	0.5996	0.0379	0.0493	-0.3637	0.1071	4.5901	0.7587	-1.8621	0.4593
1	260.16	0.6498	0.0620	0.0558	-0.4463	0.1218	5.4519	0.8638	-2.2841	0.4543
1	260.16	0.6998	0.0460	0.0629	-0.5385	0.1357	6.4551	0.9684	-2.4360	0.4579
1	260.16	0.7500	0.0515	0.0708	-0.6164	0.1494	7.5357	1.0749	-2.4922	0.4604
1	260.16	0.8001	0.0280	0.0788	-0.7319	0.1629	8.6779	1.1830	-2.6565	0.4589
1	260.16	0.8497	0.0110	0.0865	-0.8170	0.1764	9.7831	1.2911	-2.9229	0.4593
1	260.16	0.9102	-0.0421	0.0989	-0.8702	0.1927	11.2226	1.4232	-3.1545	0.4791
1	260.16	0.9734	-0.1281	0.1180	-0.9330	0.2095	12.7747	1.5678	-3.4852	0.4699
2	260.16	0.2999	-0.0582	0.0080	-0.0261	0.0082	0.2273	0.0899	-0.5068	0.2449
2	260.16	0.3498	-0.0373	0.0053	-0.0588	0.0165	0.3373	0.1400	-0.6627	0.3220
2	260.16	0.3998	-0.0078	0.0067	-0.1063	0.0289	0.4823	0.2076	-0.9451	0.3173
2	260.16	0.4496	0.0354	0.0080	-0.1639	0.0401	0.7129	0.2737	-1.1496	0.3255
2	260.16	0.4995	0.0582	0.0091	-0.2461	0.0509	1.0378	0.3413	-1.1137	0.3244
2	260.16	0.5551	0.1016	0.0118	-0.3418	0.0635	1.4231	0.4192	-1.4330	0.3213
2	260.16	0.5996	0.1205	0.0142	-0.4255	0.0731	1.8306	0.4829	-1.5315	0.3260
2	260.16	0.6497	0.1672	0.0170	-0.5183	0.0840	2.3344	0.5572	-1.6238	0.3259
2	260.16	0.6996	0.1989	0.0200	-0.6362	0.0943	2.9248	0.6326	-1.7070	0.3298
2	260.16	0.7495	0.2076	0.0238	-0.7420	0.1053	3.5716	0.7103	-1.8626	0.3316
2	260.16	0.7996	0.2267	0.0274	-0.8822	0.1156	4.2614	0.7914	-2.0638	0.3298
2	260.16	0.8578	0.2312	0.0325	-1.0178	0.1278	5.1498	0.8857	-2.0566	0.3380
2	260.16	0.9100	0.2237	0.0381	-1.1011	0.1385	6.0210	0.9717	-2.1852	0.3368
2	260.16	0.9727	0.1431	0.0504	-1.1893	0.1514	7.1892	1.0756	-2.1585	0.3476
3	260.16	0.2357	-0.0686	0.0090	0.0172	0.0024	0.1659	0.0318	-0.4258	0.2319
3	260.16	0.2995	-0.0014	0.0026	0.0290	0.0058	0.3674	0.0550	-0.6707	0.3689
3	260.16	0.3493	0.0356	0.0037	0.0387	0.0132	0.5874	0.0934	-0.9594	0.3445
3	260.16	0.4000	0.0836	0.0049	0.0545	0.0207	0.9214	0.1321	-0.9227	0.3515
3	260.16	0.4497	0.1016	0.0062	0.0321	0.0273	1.2911	0.1711	-1.1525	0.3473
3	260.16	0.4997	0.1187	0.0072	0.0023	0.0350	1.7317	0.2127	-1.3074	0.3409
3	260.16	0.5556	0.1662	0.0087	-0.0139	0.0438	2.3148	0.2615	-1.5077	0.3516
3	260.16	0.5995	0.1934	0.0102	-0.0724	0.0507	2.8515	0.3015	-1.5177	0.3546
3	260.16	0.6498	0.2199	0.0125	-0.1272	0.0591	3.5160	0.3498	-1.6004	0.3536
3	260.16	0.6890	0.1993	0.0145	-0.1946	0.0663	4.0746	0.3890	-1.7193	0.3561
3	260.16	0.7495	0.2435	0.0178	-0.2598	0.0775	5.0211	0.4482	-1.8666	0.3611
3	260.16	0.7998	0.2412	0.0214	-0.3311	0.0877	5.8609	0.4983	-2.0865	0.3658
3	260.16	0.8577	0.2752	0.0240	-0.3998	0.0991	6.8952	0.5555	-2.0630	0.3520
3	260.16	0.9178	0.2471	0.0292	-0.4988	0.1123	8.0552	0.6148	-1.9927	0.3705
3	260.16	0.9729	0.2004	0.0347	-0.5446	0.1238	9.0063	0.6709	-2.8092	0.3661
4	260.16	0.2001	0.0245	0.0023	0.0080	0.0009	0.0621	0.0100	-0.0334	0.0402
4	260.16	0.2502	0.0089	0.0031	0.0069	0.0039	0.1378	0.0162	-0.0340	0.0611
4	260.16	0.3001	0.0161	0.0020	0.0232	0.0067	0.2482	0.0357	-0.0562	0.0853
4	260.16	0.3502	-0.0019	0.0021	0.0223	0.0109	0.4224	0.0469	-0.1457	0.0782
4	260.16	0.4002	0.0032	0.0041	0.0379	0.0187	0.6555	0.0767	-0.3078	0.0800
4	260.16	0.4500	0.0101	0.0039	0.0260	0.0236	0.9385	0.1019	-0.6511	0.1001
4	260.16	0.5001	0.0323	0.0036	-0.0030	0.0303	1.3147	0.1255	-0.5677	0.1078
4	260.16	0.5560	0.0607	0.0052	-0.0536	0.0391	1.7751	0.1629	-0.8487	0.1003
4	260.16	0.6001	0.0975	0.0063	-0.0856	0.0465	2.2168	0.1891	-0.8831	0.0941
4	260.16	0.6501	0.1099	0.0082	-0.1858	0.0558	2.8037	0.2262	-0.7782	0.1113
4	260.16	0.6999	0.1738	0.0104	-0.2580	0.0643	3.3777	0.2617	-0.7747	0.0969
4	260.16	0.7500	0.2055	0.0122	-0.3282	0.0748	4.0303	0.3031	-0.8335	0.1067
4	260.16	0.8002	0.2590	0.0143	-0.4168	0.0851	4.6750	0.3457	-0.9902	0.1135
4	260.16	0.8582	0.3334	0.0172	-0.4692	0.0972	5.4309	0.3901	-1.4544	0.1263
4	260.16	0.9101	0.3732	0.0201	-0.5391	0.1084	6.1655	0.4321	-1.5179	0.1222
4	260.16	0.9728	0.4432	0.0270	-0.5837	0.1219	7.2231	0.4830	-1.1372	0.1238

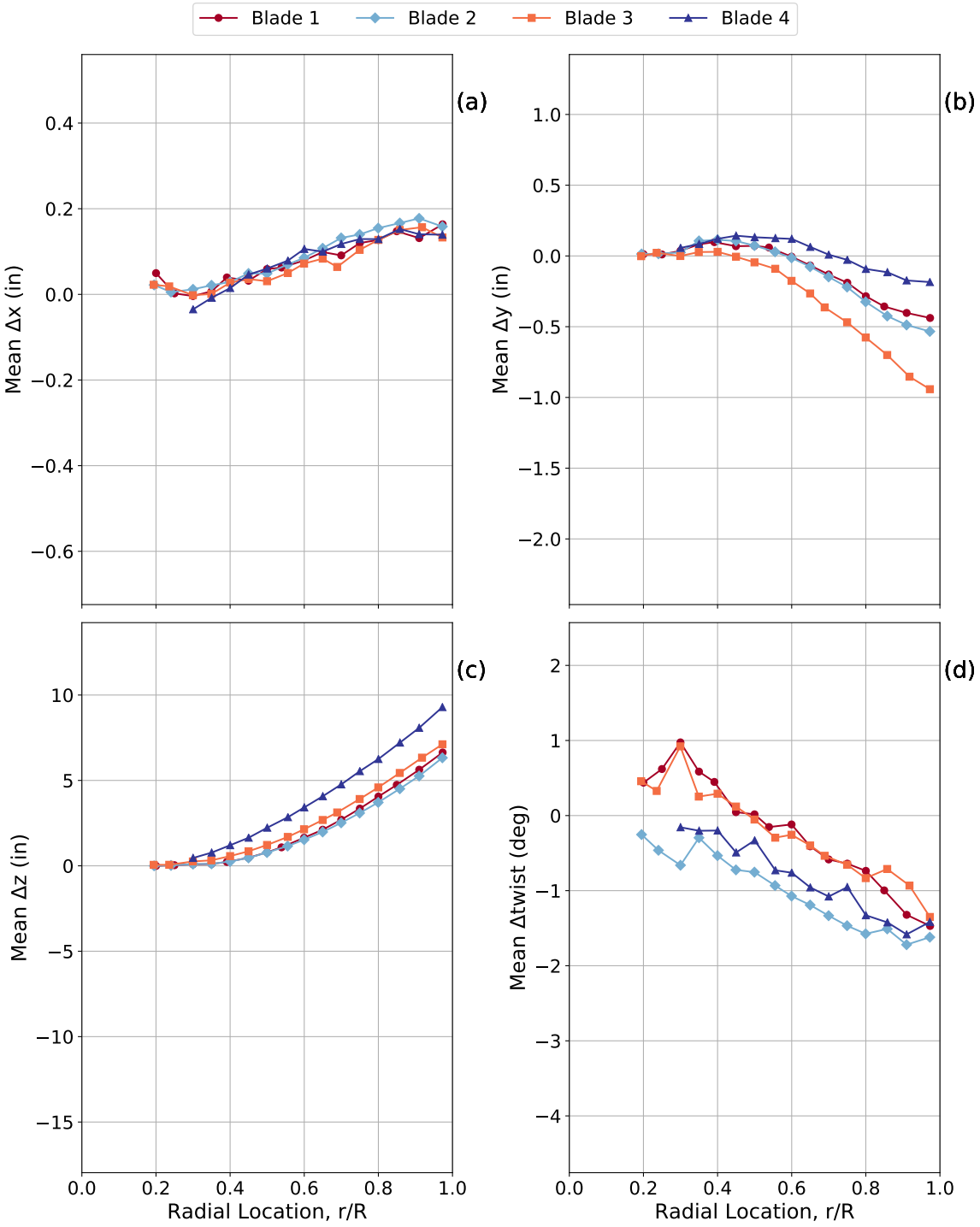


Figure 2.10-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	0.0496	0.0039	0.0123	0.0013	-0.0036	0.0105	0.4386	0.1014
1	265.08	0.2499	0.0023	0.0031	0.0105	0.0044	0.0368	0.0266	0.6198	0.0923
1	265.08	0.2998	-0.0039	0.0030	0.0361	0.0072	0.0879	0.0366	0.9747	0.2025
1	265.08	0.3498	0.0071	0.0043	0.0822	0.0138	0.1061	0.0620	0.5855	0.1352
1	265.08	0.3913	0.0395	0.0043	0.0975	0.0199	0.2289	0.0883	0.4481	0.1348
1	265.08	0.4496	0.0319	0.0036	0.0689	0.0267	0.4728	0.1246	0.0457	0.1154
1	265.08	0.4997	0.0591	0.0033	0.0713	0.0336	0.7907	0.1580	0.0163	0.1244
1	265.08	0.5387	0.0626	0.0041	0.0596	0.0395	1.0827	0.1887	-0.1530	0.1264
1	265.08	0.5996	0.0791	0.0055	-0.0053	0.0488	1.6474	0.2408	-0.1183	0.1312
1	265.08	0.6498	0.0988	0.0079	-0.0672	0.0568	2.1159	0.2853	-0.4091	0.1407
1	265.08	0.6998	0.0910	0.0086	-0.1310	0.0650	2.7017	0.3318	-0.5841	0.1294
1	265.08	0.7500	0.1199	0.0110	-0.1893	0.0742	3.3515	0.3769	-0.6402	0.1384
1	265.08	0.8001	0.1271	0.0138	-0.2848	0.0836	4.0557	0.4220	-0.7363	0.1414
1	265.08	0.8497	0.1474	0.0156	-0.3572	0.0929	4.7396	0.4646	-0.9966	0.1439
1	265.08	0.9102	0.1314	0.0183	-0.4027	0.1049	5.6279	0.5156	-1.3219	0.1542
1	265.08	0.9734	0.1636	0.0251	-0.4384	0.1183	6.6374	0.5693	-1.4702	0.1595
2	265.08	0.1949	0.0220	0.0016	0.0136	0.0013	0.0008	0.0107	-0.2530	0.0463
2	265.08	0.2405	0.0053	0.0023	0.0152	0.0024	0.0234	0.0190	-0.4625	0.0731
2	265.08	0.2999	0.0118	0.0030	0.0248	0.0048	0.1006	0.0359	-0.6616	0.1087
2	265.08	0.3498	0.0212	0.0036	0.1063	0.0118	0.1153	0.0604	-0.2957	0.0902
2	265.08	0.3998	0.0289	0.0037	0.1143	0.0165	0.2542	0.0894	-0.5338	0.0872
2	265.08	0.4496	0.0488	0.0042	0.1057	0.0209	0.4646	0.1108	-0.7233	0.0970
2	265.08	0.4995	0.0486	0.0048	0.0732	0.0263	0.7783	0.1428	-0.7536	0.0984
2	265.08	0.5551	0.0697	0.0050	0.0289	0.0330	1.1568	0.1808	-0.9322	0.0996
2	265.08	0.5996	0.0853	0.0056	-0.0135	0.0389	1.5285	0.2151	-1.0722	0.1085
2	265.08	0.6497	0.1077	0.0075	-0.0763	0.0463	1.9832	0.2576	-1.1913	0.1162
2	265.08	0.6996	0.1318	0.0084	-0.1482	0.0546	2.5170	0.3055	-1.3332	0.1168
2	265.08	0.7495	0.1399	0.0101	-0.2199	0.0634	3.0909	0.3539	-1.4670	0.1215
2	265.08	0.7996	0.1547	0.0119	-0.3244	0.0730	3.7131	0.4040	-1.5748	0.1230
2	265.08	0.8578	0.1665	0.0147	-0.4248	0.0842	4.5114	0.4607	-1.5097	0.1285
2	265.08	0.9100	0.1775	0.0183	-0.4878	0.0951	5.2590	0.5139	-1.7198	0.1329
2	265.08	0.9727	0.1584	0.0241	-0.5336	0.1075	6.3251	0.5783	-1.6198	0.1278
3	265.08	0.1938	0.0225	0.0065	-0.0016	0.0020	0.0575	0.0278	0.4579	0.2666
3	265.08	0.2357	0.0186	0.0038	0.0221	0.0035	0.0602	0.0423	0.3280	0.2619
3	265.08	0.2995	-0.0019	0.0026	-0.0004	0.0080	0.2578	0.0633	0.9221	0.5632
3	265.08	0.3493	0.0009	0.0042	0.0275	0.0299	0.3213	0.1561	0.2529	0.2180
3	265.08	0.4000	0.0274	0.0061	0.0291	0.0370	0.5699	0.1894	0.2912	0.2127
3	265.08	0.4497	0.0357	0.0087	-0.0055	0.0432	0.8526	0.2183	0.1202	0.2324
3	265.08	0.4997	0.0307	0.0105	-0.0455	0.0512	1.2218	0.2525	-0.0529	0.2316
3	265.08	0.5556	0.0498	0.0134	-0.0907	0.0603	1.6926	0.2909	-0.2944	0.2252
3	265.08	0.5995	0.0719	0.0169	-0.1760	0.0685	2.1415	0.3217	-0.2556	0.2328
3	265.08	0.6498	0.0834	0.0206	-0.2651	0.0776	2.6843	0.3583	-0.3982	0.2395
3	265.08	0.6890	0.0640	0.0239	-0.3636	0.0851	3.1247	0.3887	-0.5356	0.2275
3	265.08	0.7495	0.1039	0.0311	-0.4690	0.0978	3.9107	0.4361	-0.6551	0.2289
3	265.08	0.7998	0.1272	0.0377	-0.5764	0.1086	4.5900	0.4767	-0.8332	0.2251
3	265.08	0.8577	0.1503	0.0470	-0.7001	0.1215	5.4384	0.5244	-0.7116	0.2271
3	265.08	0.9178	0.1568	0.0589	-0.8533	0.1349	6.3333	0.5762	-0.9322	0.2223
3	265.08	0.9729	0.1329	0.0733	-0.9418	0.1457	7.1157	0.6237	-1.3505	0.2292
4	265.08	0.3001	-0.0349	0.0196	0.0568	0.0116	0.4610	0.1687	-0.1561	0.4457
4	265.08	0.3502	-0.0080	0.0167	0.0845	0.0241	0.7742	0.2599	-0.2024	0.5844
4	265.08	0.4002	0.0148	0.0227	0.1211	0.0431	1.2067	0.3825	-0.1994	0.5674
4	265.08	0.4500	0.0462	0.0268	0.1431	0.0603	1.6457	0.4954	-0.4918	0.5754
4	265.08	0.5001	0.0603	0.0311	0.1322	0.0778	2.2315	0.6167	-0.3304	0.5709
4	265.08	0.5560	0.0789	0.0377	0.1256	0.0979	2.8485	0.7512	-0.7292	0.5832
4	265.08	0.6001	0.1060	0.0434	0.1204	0.1139	3.4209	0.8613	-0.7612	0.5735
4	265.08	0.6501	0.0997	0.0504	0.0638	0.1326	4.0754	0.9843	-0.9573	0.5730
4	265.08	0.6999	0.1176	0.0571	0.0090	0.1515	4.7676	1.1060	-1.0782	0.5782
4	265.08	0.7500	0.1292	0.0642	-0.0276	0.1705	5.5422	1.2282	-0.9534	0.5801
4	265.08	0.8002	0.1290	0.0709	-0.0919	0.1903	6.2542	1.3506	-1.3280	0.5774
4	265.08	0.8582	0.1525	0.0793	-0.1153	0.2132	7.2131	1.4898	-1.4228	0.5782
4	265.08	0.9101	0.1404	0.0897	-0.1732	0.2339	8.0789	1.6162	-1.5824	0.5717
4	265.08	0.9728	0.1393	0.1082	-0.1847	0.2578	9.2925	1.7674	-1.4168	0.5795

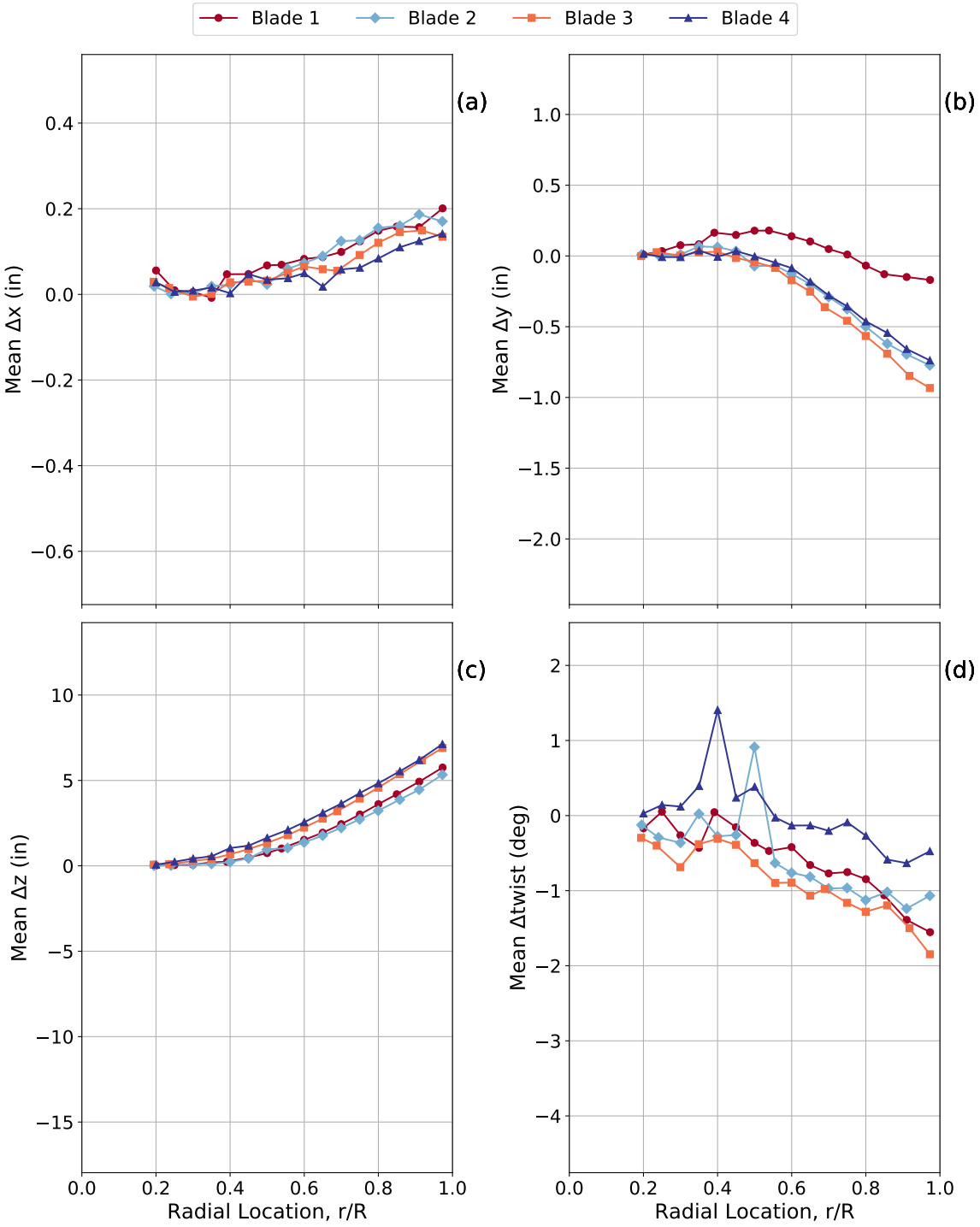


Figure 2.10-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	0.0558	0.0018	0.0098	0.0009	0.0182	0.0093	-0.1695	0.0474
1	270	0.2499	0.0096	0.0018	0.0343	0.0038	0.0426	0.0245	0.0509	0.0594
1	270	0.2998	0.0056	0.0017	0.0759	0.0071	0.0646	0.0352	-0.2631	0.0952
1	270	0.3498	-0.0080	0.0029	0.0832	0.0115	0.2051	0.0510	-0.4303	0.1357
1	270	0.3913	0.0470	0.0060	0.1644	0.0197	0.2388	0.0796	0.0453	0.0940
1	270	0.4496	0.0473	0.0060	0.1485	0.0254	0.4836	0.1038	-0.1553	0.1034
1	270	0.4997	0.0677	0.0053	0.1785	0.0304	0.7457	0.1257	-0.3638	0.0961
1	270	0.5387	0.0691	0.0060	0.1796	0.0348	1.0166	0.1461	-0.4711	0.0914
1	270	0.5996	0.0828	0.0064	0.1394	0.0416	1.5192	0.1786	-0.4205	0.0921
1	270	0.6498	0.0871	0.0078	0.1024	0.0483	1.9400	0.2072	-0.6588	0.0971
1	270	0.6998	0.0991	0.0086	0.0489	0.0549	2.4428	0.2348	-0.7701	0.1024
1	270	0.7500	0.1236	0.0095	0.0100	0.0620	3.0053	0.2621	-0.7531	0.1037
1	270	0.8001	0.1486	0.0108	-0.0682	0.0697	3.6123	0.2891	-0.8467	0.1040
1	270	0.8497	0.1583	0.0111	-0.1289	0.0778	4.1917	0.3184	-1.0619	0.0997
1	270	0.9102	0.1568	0.0137	-0.1489	0.0872	4.9253	0.3565	-1.3897	0.1062
1	270	0.9734	0.2008	0.0182	-0.1694	0.0970	5.7563	0.4050	-1.5529	0.1095
2	270.35	0.1949	0.0190	0.0032	0.0092	0.0013	0.0079	0.0083	-0.1254	0.0501
2	270.35	0.2405	0.0012	0.0024	0.0075	0.0031	0.0194	0.0228	-0.2916	0.0670
2	270.35	0.2999	0.0029	0.0030	0.0098	0.0084	0.0882	0.0405	-0.3626	0.1086
2	270.35	0.3498	0.0189	0.0051	0.0671	0.0097	0.1155	0.0498	0.0228	0.1402
2	270.35	0.3998	0.0227	0.0051	0.0628	0.0206	0.2226	0.0888	-0.2769	0.0936
2	270.35	0.4496	0.0357	0.0036	0.0341	0.0261	0.4361	0.1086	-0.2589	0.0862
2	270.35	0.4995	0.0233	0.0044	-0.0714	0.0341	0.9613	0.1357	0.9125	0.0961
2	270.35	0.5551	0.0596	0.0046	-0.0682	0.0424	1.0454	0.1672	-0.6320	0.0794
2	270.35	0.5996	0.0730	0.0054	-0.1258	0.0504	1.3723	0.1957	-0.7628	0.0867
2	270.35	0.6497	0.0893	0.0065	-0.1994	0.0602	1.7741	0.2290	-0.8151	0.0868
2	270.35	0.6996	0.1243	0.0072	-0.2901	0.0704	2.2234	0.2610	-0.9715	0.0860
2	270.35	0.7495	0.1263	0.0084	-0.3753	0.0815	2.7205	0.2956	-0.9640	0.0907
2	270.35	0.7996	0.1553	0.0097	-0.4991	0.0934	3.2269	0.3302	-1.1256	0.0948
2	270.35	0.8578	0.1603	0.0111	-0.6202	0.1071	3.8784	0.3727	-1.0173	0.0964
2	270.35	0.9100	0.1867	0.0132	-0.6956	0.1198	4.4584	0.4132	-1.2387	0.0861
2	270.35	0.9727	0.1704	0.0190	-0.7727	0.1357	5.3349	0.4649	-1.0674	0.0938
3	270	0.1938	0.0294	0.0025	-0.0011	0.0011	0.0685	0.0097	-0.2966	0.0482
3	270	0.2357	0.0149	0.0025	0.0263	0.0026	0.0929	0.0230	-0.3999	0.0527
3	270	0.2995	-0.0051	0.0034	0.0022	0.0074	0.2834	0.0401	-0.6869	0.1004
3	270	0.3493	0.0010	0.0046	0.0257	0.0115	0.4104	0.0592	-0.3813	0.1208
3	270	0.4000	0.0281	0.0058	0.0296	0.0204	0.6726	0.0954	-0.3090	0.0951
3	270	0.4497	0.0296	0.0061	-0.0143	0.0257	0.9763	0.1167	-0.3895	0.1101
3	270	0.4997	0.0318	0.0050	-0.0418	0.0317	1.3362	0.1469	-0.6336	0.0895
3	270	0.5556	0.0504	0.0064	-0.0842	0.0415	1.7976	0.1872	-0.8969	0.0902
3	270	0.5995	0.0652	0.0073	-0.1719	0.0501	2.2398	0.2266	-0.8924	0.0873
3	270	0.6498	0.0586	0.0094	-0.2526	0.0604	2.7629	0.2726	-1.0663	0.0890
3	270	0.6890	0.0550	0.0115	-0.3620	0.0690	3.1964	0.3122	-0.9781	0.0943
3	270	0.7495	0.0920	0.0141	-0.4581	0.0832	3.9365	0.3796	-1.1624	0.0991
3	270	0.7998	0.1205	0.0166	-0.5658	0.0956	4.5749	0.4417	-1.2806	0.1034
3	270	0.8577	0.1453	0.0201	-0.6912	0.1101	5.3658	0.5173	-1.1964	0.1125
3	270	0.9178	0.1492	0.0250	-0.8483	0.1250	6.1736	0.6017	-1.4992	0.1089
3	270	0.9729	0.1345	0.0341	-0.9335	0.1383	6.9009	0.6795	-1.8472	0.1241
4	270	0.2001	0.0282	0.0061	0.0155	0.0029	0.0673	0.0117	0.0284	0.0791
4	270	0.2502	0.0059	0.0032	-0.0078	0.0061	0.2401	0.0508	0.1415	0.1141
4	270	0.3001	0.0087	0.0050	-0.0083	0.0148	0.4256	0.0932	0.1195	0.1728
4	270	0.3502	0.0160	0.0062	0.0384	0.0104	0.5619	0.0844	0.3939	0.1598
4	270	0.4002	0.0025	0.0076	-0.0062	0.0290	1.0417	0.1949	1.4054	0.3662
4	270	0.4500	0.0472	0.0080	0.0343	0.0302	1.1798	0.1674	0.2388	0.1484
4	270	0.5001	0.0341	0.0095	-0.0032	0.0395	1.6437	0.2055	0.3835	0.1349
4	270	0.5560	0.0378	0.0121	-0.0477	0.0521	2.1078	0.2500	-0.0265	0.1369
4	270	0.6001	0.0495	0.0138	-0.0860	0.0644	2.5554	0.2899	-0.1328	0.1428
4	270	0.6501	0.0179	0.0168	-0.1820	0.0786	3.1020	0.3360	-0.1314	0.1472
4	270	0.6999	0.0582	0.0194	-0.2786	0.0941	3.6440	0.3821	-0.2035	0.1375
4	270	0.7500	0.0622	0.0220	-0.3568	0.1106	4.2605	0.4292	-0.0901	0.1395
4	270	0.8002	0.0840	0.0248	-0.4625	0.1275	4.8352	0.4752	-0.2691	0.1405
4	270	0.8582	0.1100	0.0291	-0.5443	0.1481	5.5394	0.5293	-0.5861	0.1486
4	270	0.9101	0.1246	0.0343	-0.6575	0.1663	6.1957	0.5777	-0.6336	0.1420
4	270	0.9728	0.1416	0.0430	-0.7383	0.1885	7.1253	0.6357	-0.4750	0.1472

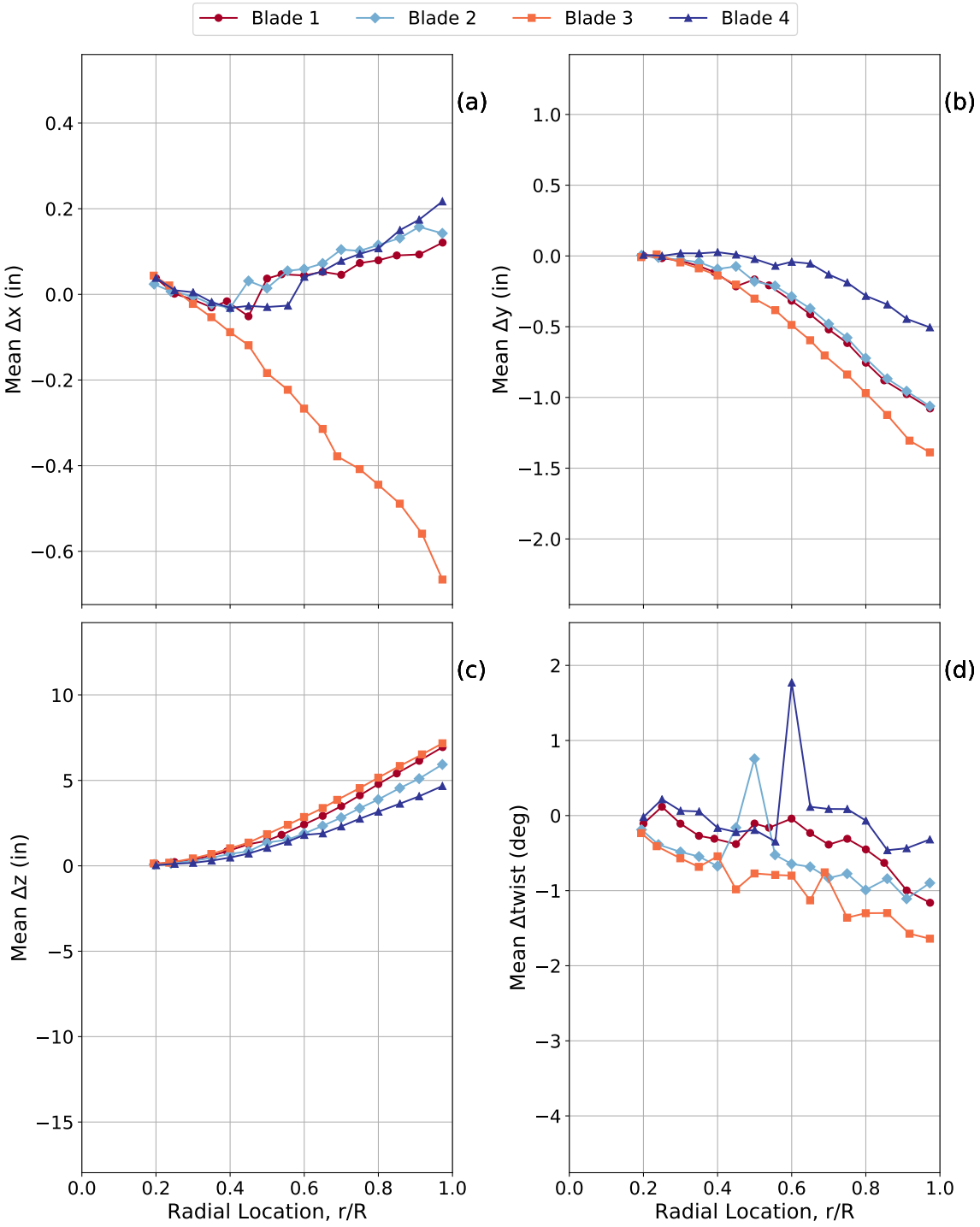


Figure 2.10-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0378	0.0016	0.0008	0.0010	0.1075	0.0098	-0.1076	0.0351
1	274.92	0.2499	0.0015	0.0018	-0.0157	0.0017	0.2216	0.0152	0.1176	0.0728
1	274.92	0.2998	-0.0123	0.0022	-0.0338	0.0044	0.3622	0.0285	-0.1076	0.0841
1	274.92	0.3498	-0.0304	0.0023	-0.0717	0.0082	0.5974	0.0479	-0.2696	0.0588
1	274.92	0.3913	-0.0162	0.0028	-0.1140	0.0119	0.8473	0.0640	-0.3084	0.0709
1	274.92	0.4496	-0.0513	0.0040	-0.2152	0.0170	1.2615	0.0912	-0.3794	0.0861
1	274.92	0.4997	0.0369	0.0058	-0.1658	0.0226	1.4708	0.1227	-0.1059	0.0866
1	274.92	0.5387	0.0469	0.0060	-0.2079	0.0278	1.8162	0.1486	-0.1616	0.0872
1	274.92	0.5996	0.0442	0.0071	-0.3164	0.0358	2.4197	0.1904	-0.0405	0.0922
1	274.92	0.6498	0.0525	0.0093	-0.4125	0.0438	2.9254	0.2250	-0.2320	0.1062
1	274.92	0.6998	0.0457	0.0094	-0.5194	0.0517	3.4933	0.2628	-0.3864	0.0864
1	274.92	0.7500	0.0731	0.0112	-0.6155	0.0608	4.1284	0.3022	-0.3094	0.0904
1	274.92	0.8001	0.0796	0.0125	-0.7546	0.0696	4.7867	0.3438	-0.4509	0.0973
1	274.92	0.8497	0.0909	0.0147	-0.8795	0.0791	5.4094	0.3850	-0.6304	0.1043
1	274.92	0.9102	0.0932	0.0174	-0.9764	0.0909	6.1488	0.4432	-0.9973	0.1004
1	274.92	0.9734	0.1209	0.0235	-1.0781	0.1030	6.9493	0.5084	-1.1611	0.1084
2	274.92	0.1949	0.0239	0.0013	0.0045	0.0009	0.0863	0.0085	-0.1877	0.0527
2	274.92	0.2405	0.0067	0.0030	-0.0109	0.0017	0.1426	0.0165	-0.3858	0.0604
2	274.92	0.2999	-0.0041	0.0023	-0.0274	0.0046	0.2853	0.0290	-0.4844	0.1124
2	274.92	0.3498	-0.0230	0.0022	-0.0444	0.0087	0.4727	0.0465	-0.5456	0.0817
2	274.92	0.3998	-0.0318	0.0042	-0.0923	0.0139	0.6967	0.0699	-0.6741	0.0846
2	274.92	0.4496	0.0313	0.0083	-0.0741	0.0203	0.8477	0.0968	-0.1609	0.1403
2	274.92	0.4995	0.0145	0.0050	-0.1804	0.0269	1.3623	0.1265	0.7552	0.1010
2	274.92	0.5551	0.0550	0.0063	-0.2118	0.0347	1.5308	0.1608	-0.5234	0.1153
2	274.92	0.5996	0.0592	0.0071	-0.2867	0.0431	1.8925	0.1965	-0.6443	0.1181
2	274.92	0.6497	0.0722	0.0076	-0.3711	0.0526	2.3387	0.2362	-0.6826	0.1242
2	274.92	0.6996	0.1046	0.0085	-0.4805	0.0623	2.8215	0.2820	-0.8313	0.1099
2	274.92	0.7495	0.1016	0.0106	-0.5778	0.0728	3.3690	0.3322	-0.7741	0.1220
2	274.92	0.7996	0.1152	0.0123	-0.7225	0.0841	3.8832	0.3872	-0.9909	0.1093
2	274.92	0.8578	0.1314	0.0150	-0.8678	0.0973	4.5531	0.4555	-0.8409	0.1145
2	274.92	0.9100	0.1577	0.0185	-0.9557	0.1090	5.1027	0.5171	-1.1086	0.1211
2	274.92	0.9727	0.1425	0.0270	-1.0617	0.1234	5.9347	0.5987	-0.8978	0.1139
3	274.92	0.1938	0.0437	0.0026	-0.0085	0.0011	0.1384	0.0111	-0.2341	0.0755
3	274.92	0.2357	0.0208	0.0018	0.0109	0.0023	0.1821	0.0159	-0.4077	0.0858
3	274.92	0.2995	-0.0222	0.0016	-0.0458	0.0056	0.4329	0.0367	-0.5690	0.1495
3	274.92	0.3493	-0.0533	0.0021	-0.0876	0.0093	0.6955	0.0555	-0.6834	0.1267
3	274.92	0.4000	-0.0883	0.0025	-0.1380	0.0158	1.0270	0.0846	-0.5430	0.1319
3	274.92	0.4497	-0.1188	0.0063	-0.2023	0.0201	1.3591	0.1046	-0.9823	0.1307
3	274.92	0.4997	-0.1839	0.0040	-0.3019	0.0248	1.8522	0.1238	-0.7713	0.1131
3	274.92	0.5556	-0.2228	0.0063	-0.3832	0.0300	2.4003	0.1465	-0.7908	0.1205
3	274.92	0.5995	-0.2668	0.0073	-0.4875	0.0352	2.8578	0.1651	-0.7995	0.1344
3	274.92	0.6498	-0.3142	0.0079	-0.5961	0.0416	3.3825	0.1879	-1.1289	0.1306
3	274.92	0.6890	-0.3782	0.0085	-0.7034	0.0468	3.8611	0.2028	-0.7560	0.1459
3	274.92	0.7495	-0.4080	0.0103	-0.8380	0.0553	4.5496	0.2294	-1.3598	0.1288
3	274.92	0.7998	-0.4445	0.0113	-0.9693	0.0632	5.1622	0.2484	-1.2999	0.1292
3	274.92	0.8577	-0.4887	0.0123	-1.1238	0.0725	5.8452	0.2746	-1.2981	0.1358
3	274.92	0.9178	-0.5588	0.0151	-1.3052	0.0818	6.5232	0.3000	-1.5734	0.1497
3	274.92	0.9729	-0.6660	0.0176	-1.3883	0.0913	7.1736	0.3323	-1.6400	0.1968
4	274.92	0.2001	0.0386	0.0016	0.0080	0.0007	0.0380	0.0084	-0.0197	0.0363
4	274.92	0.2502	0.0096	0.0025	0.0006	0.0015	0.1181	0.0192	0.2170	0.0622
4	274.92	0.3001	0.0049	0.0034	0.0189	0.0031	0.1749	0.0300	0.0637	0.0806
4	274.92	0.3502	-0.0181	0.0018	0.0181	0.0057	0.3053	0.0479	0.0547	0.0779
4	274.92	0.4002	-0.0315	0.0022	0.0266	0.0093	0.4859	0.0751	-0.1635	0.0907
4	274.92	0.4500	-0.0270	0.0034	0.0095	0.0139	0.7190	0.0950	-0.2197	0.0951
4	274.92	0.5001	-0.0295	0.0031	-0.0216	0.0193	1.0559	0.1215	-0.1913	0.0958
4	274.92	0.5560	-0.0263	0.0047	-0.0697	0.0267	1.4220	0.1618	-0.3457	0.1005
4	274.92	0.6001	0.0411	0.0049	-0.0416	0.0334	1.8094	0.1914	1.7721	0.1166
4	274.92	0.6501	0.0544	0.0069	-0.0541	0.0419	1.8997	0.2295	0.1165	0.1090
4	274.92	0.6999	0.0783	0.0087	-0.1310	0.0508	2.3083	0.2691	0.0879	0.1138
4	274.92	0.7500	0.0944	0.0091	-0.1885	0.0602	2.7608	0.3089	0.0864	0.1072
4	274.92	0.8002	0.1076	0.0108	-0.2824	0.0711	3.1724	0.3543	-0.0673	0.1178
4	274.92	0.8582	0.1501	0.0125	-0.3433	0.0832	3.6387	0.4086	-0.4611	0.1127
4	274.92	0.9101	0.1744	0.0145	-0.4448	0.0953	4.0720	0.4592	-0.4354	0.1157
4	274.92	0.9728	0.2170	0.0209	-0.5047	0.1097	4.6718	0.5230	-0.3181	0.1200

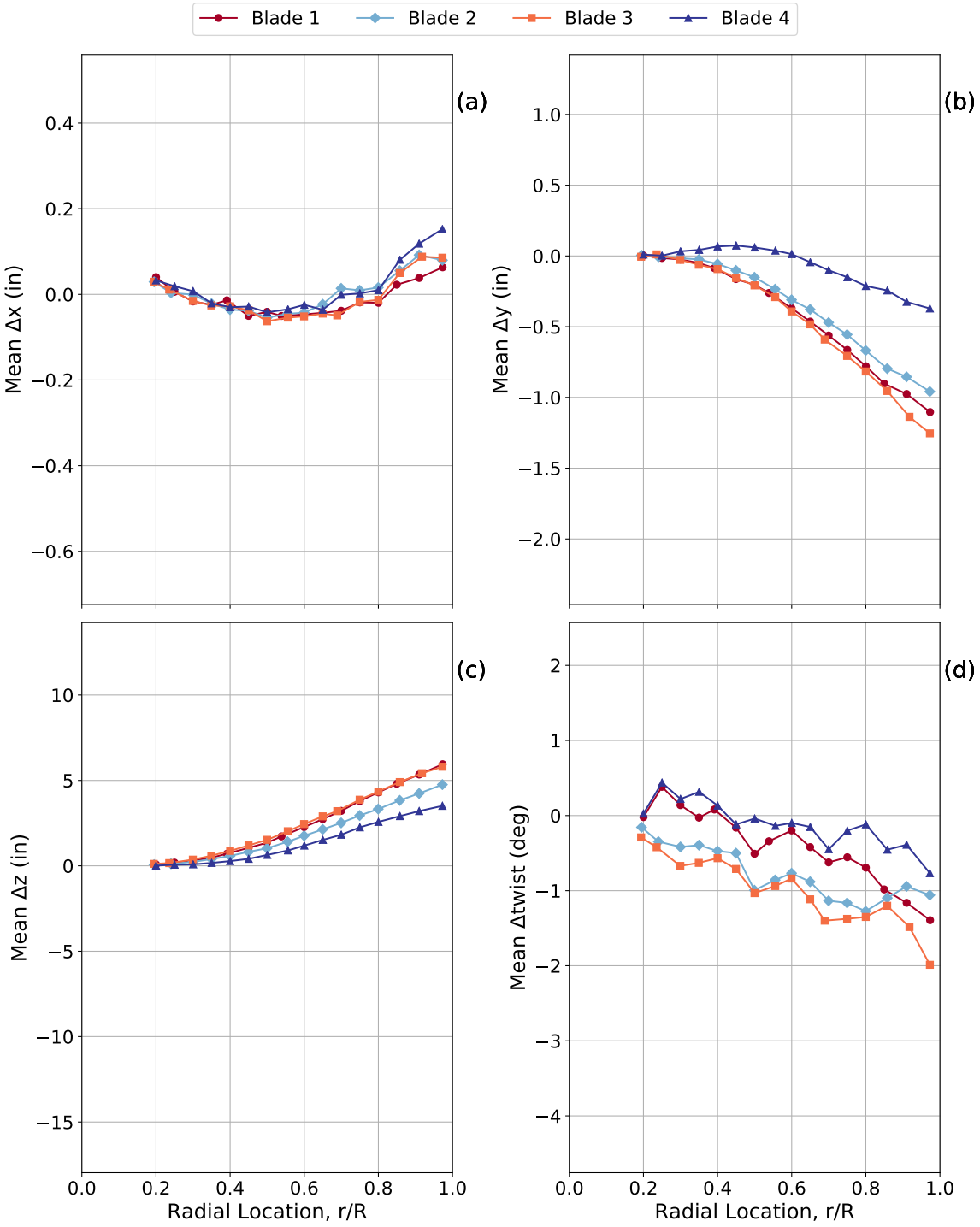


Figure 2.10-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0402	0.0015	0.0025	0.0006	0.0809	0.0086	-0.0206	0.0457
1	279.84	0.2499	0.0060	0.0023	-0.0146	0.0025	0.1868	0.0174	0.3824	0.0747
1	279.84	0.2998	-0.0165	0.0023	-0.0250	0.0042	0.3002	0.0292	0.1388	0.1017
1	279.84	0.3498	-0.0242	0.0015	-0.0500	0.0080	0.4781	0.0426	-0.0275	0.1102
1	279.84	0.3913	-0.0139	0.0036	-0.0864	0.0127	0.7055	0.0632	0.0805	0.0874
1	279.84	0.4496	-0.0502	0.0039	-0.1636	0.0163	1.0548	0.0844	-0.1608	0.1262
1	279.84	0.4997	-0.0407	0.0032	-0.2041	0.0211	1.3577	0.1088	-0.5088	0.1240
1	279.84	0.5387	-0.0504	0.0039	-0.2616	0.0247	1.7253	0.1286	-0.3415	0.1103
1	279.84	0.5996	-0.0467	0.0050	-0.3691	0.0312	2.2695	0.1651	-0.1979	0.1177
1	279.84	0.6498	-0.0430	0.0065	-0.4638	0.0366	2.7344	0.1976	-0.4201	0.1262
1	279.84	0.6998	-0.0383	0.0077	-0.5625	0.0426	3.2166	0.2340	-0.6236	0.1112
1	279.84	0.7500	-0.0187	0.0090	-0.6641	0.0491	3.7950	0.2691	-0.5553	0.1319
1	279.84	0.8001	-0.0196	0.0104	-0.7797	0.0559	4.3017	0.3081	-0.6937	0.1295
1	279.84	0.8497	0.0225	0.0118	-0.9023	0.0627	4.8027	0.3458	-0.9833	0.1330
1	279.84	0.9102	0.0382	0.0137	-0.9759	0.0715	5.3468	0.3942	-1.1620	0.1305
1	279.84	0.9734	0.0631	0.0179	-1.1034	0.0804	5.9469	0.4463	-1.3938	0.1373
2	279.84	0.1949	0.0292	0.0014	0.0047	0.0006	0.0674	0.0094	-0.1556	0.0719
2	279.84	0.2405	0.0035	0.0041	-0.0061	0.0018	0.1197	0.0202	-0.3470	0.1039
2	279.84	0.2999	-0.0005	0.0019	-0.0159	0.0043	0.2307	0.0323	-0.4175	0.1678
2	279.84	0.3498	-0.0216	0.0028	-0.0246	0.0081	0.3927	0.0531	-0.3935	0.0929
2	279.84	0.3998	-0.0356	0.0022	-0.0567	0.0134	0.5792	0.0789	-0.4723	0.1153
2	279.84	0.4496	-0.0381	0.0031	-0.1022	0.0197	0.8172	0.1050	-0.5000	0.1306
2	279.84	0.4995	-0.0545	0.0041	-0.1510	0.0268	1.0299	0.1353	-0.9941	0.1021
2	279.84	0.5551	-0.0453	0.0046	-0.2350	0.0354	1.4111	0.1698	-0.8583	0.1298
2	279.84	0.5996	-0.0427	0.0053	-0.3101	0.0429	1.7609	0.1992	-0.7678	0.1141
2	279.84	0.6497	-0.0230	0.0065	-0.3779	0.0522	2.1344	0.2351	-0.8812	0.1182
2	279.84	0.6996	0.0140	0.0073	-0.4706	0.0621	2.5147	0.2769	-1.1346	0.1243
2	279.84	0.7495	0.0094	0.0088	-0.5557	0.0720	2.9451	0.3186	-1.1627	0.1193
2	279.84	0.7996	0.0159	0.0101	-0.6682	0.0828	3.3251	0.3628	-1.2742	0.1194
2	279.84	0.8578	0.0553	0.0113	-0.7958	0.0953	3.8320	0.4178	-1.0972	0.1262
2	279.84	0.9100	0.0920	0.0133	-0.8544	0.1067	4.2382	0.4693	-0.9428	0.1197
2	279.84	0.9727	0.0798	0.0188	-0.9587	0.1203	4.7563	0.5300	-1.0588	0.1177
3	279.84	0.1938	0.0294	0.0027	-0.0056	0.0012	0.1126	0.0113	-0.2907	0.0516
3	279.84	0.2357	0.0112	0.0028	0.0112	0.0016	0.1583	0.0168	-0.4216	0.0678
3	279.84	0.2995	-0.0153	0.0033	-0.0281	0.0040	0.3630	0.0340	-0.6710	0.1100
3	279.84	0.3493	-0.0258	0.0047	-0.0624	0.0079	0.5909	0.0593	-0.6298	0.1036
3	279.84	0.4000	-0.0279	0.0038	-0.0932	0.0124	0.8754	0.0843	-0.5679	0.0629
3	279.84	0.4497	-0.0370	0.0042	-0.1561	0.0171	1.1961	0.1049	-0.7114	0.0860
3	279.84	0.4997	-0.0628	0.0046	-0.2083	0.0233	1.5240	0.1323	-1.0321	0.1173
3	279.84	0.5556	-0.0543	0.0058	-0.2910	0.0305	2.0272	0.1641	-0.9381	0.1004
3	279.84	0.5995	-0.0514	0.0071	-0.3918	0.0369	2.4450	0.1895	-0.8386	0.1137
3	279.84	0.6498	-0.0449	0.0084	-0.4839	0.0455	2.8965	0.2219	-1.1151	0.1057
3	279.84	0.6890	-0.0491	0.0080	-0.5909	0.0521	3.2014	0.2455	-1.3996	0.1262
3	279.84	0.7495	-0.0175	0.0111	-0.7064	0.0635	3.8698	0.2888	-1.3756	0.1221
3	279.84	0.7998	-0.0128	0.0115	-0.8164	0.0734	4.3476	0.3257	-1.3504	0.0975
3	279.84	0.8577	0.0498	0.0143	-0.9543	0.0849	4.9049	0.3682	-1.2016	0.1103
3	279.84	0.9178	0.0880	0.0168	-1.1370	0.0967	5.4226	0.4122	-1.4843	0.1320
3	279.84	0.9729	0.0857	0.0214	-1.2541	0.1090	5.8033	0.4668	-1.9877	0.1268
4	279.84	0.2001	0.0325	0.0082	0.0099	0.0011	0.0099	0.0093	0.0261	0.0413
4	279.84	0.2502	0.0190	0.0031	0.0022	0.0027	0.0654	0.0178	0.4391	0.0775
4	279.84	0.3001	0.0074	0.0046	0.0329	0.0059	0.0839	0.0280	0.2206	0.0967
4	279.84	0.3502	-0.0209	0.0076	0.0429	0.0110	0.1694	0.0474	0.3162	0.0900
4	279.84	0.4002	-0.0300	0.0079	0.0672	0.0174	0.2763	0.0697	0.1321	0.0851
4	279.84	0.4500	-0.0284	0.0095	0.0734	0.0247	0.4078	0.0874	-0.1181	0.1045
4	279.84	0.5001	-0.0418	0.0109	0.0601	0.0330	0.6368	0.1115	-0.0393	0.1113
4	279.84	0.5560	-0.0348	0.0139	0.0377	0.0434	0.9004	0.1377	-0.1369	0.1075
4	279.84	0.6001	-0.0244	0.0154	0.0129	0.0523	1.1844	0.1567	-0.0984	0.1080
4	279.84	0.6501	-0.0358	0.0201	-0.0445	0.0630	1.5191	0.1823	-0.1522	0.1015
4	279.84	0.6999	-0.0010	0.0270	-0.1016	0.0747	1.8224	0.2100	-0.4480	0.1005
4	279.84	0.7500	0.0023	0.0358	-0.1507	0.0867	2.2538	0.2367	-0.2005	0.0998
4	279.84	0.8002	0.0099	0.0471	-0.2127	0.0992	2.5733	0.2664	-0.1173	0.1093
4	279.84	0.8582	0.0808	0.0627	-0.2439	0.1145	2.9103	0.3026	-0.4543	0.1132
4	279.84	0.9101	0.1185	0.0794	-0.3244	0.1284	3.2038	0.3417	-0.3882	0.1163
4	279.84	0.9728	0.1524	0.1041	-0.3712	0.1453	3.5104	0.3912	-0.7674	0.1515

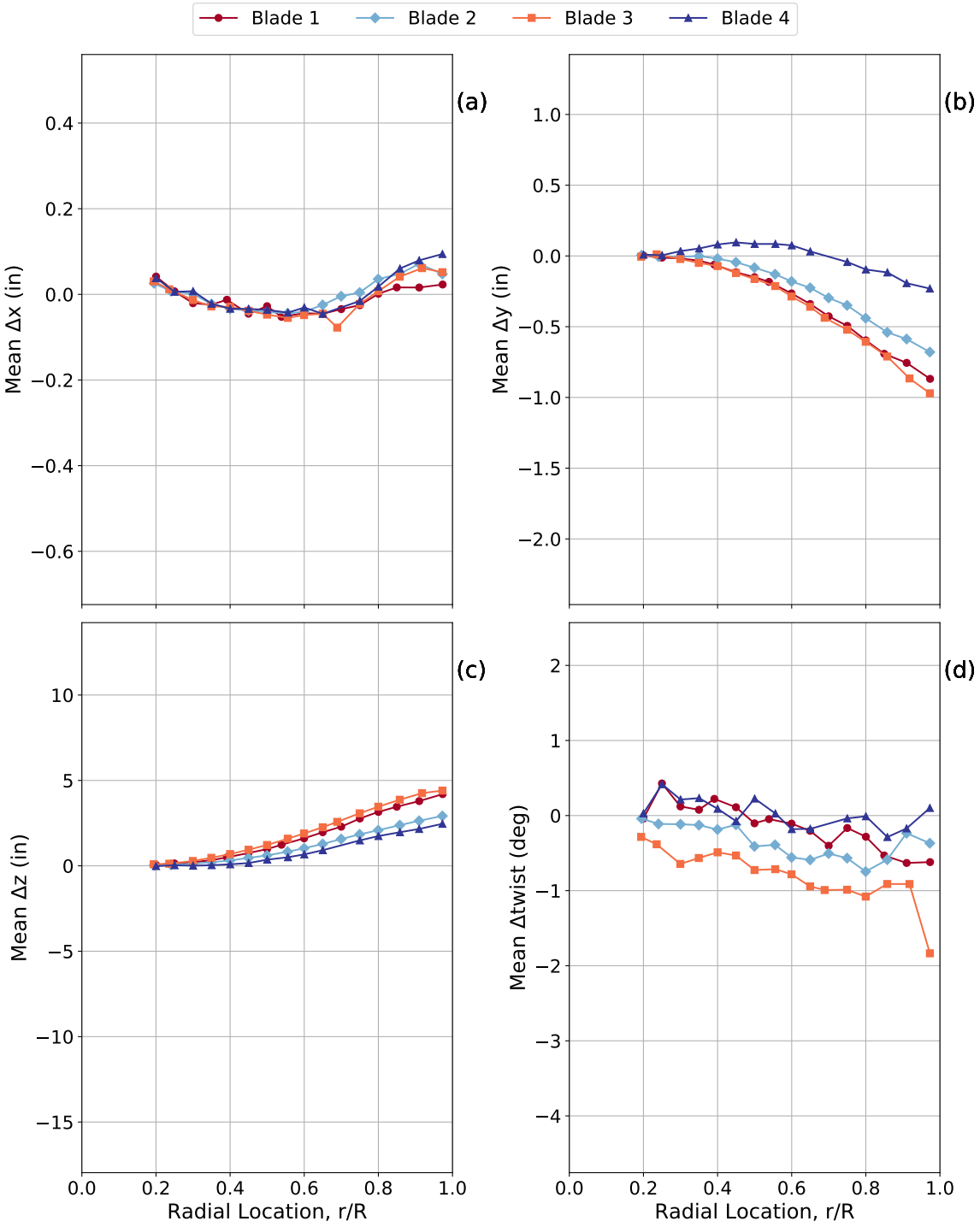


Figure 2.10-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0416	0.0018	0.0026	0.0007	0.0527	0.0088	-0.0388	0.0442
1	285.12	0.2499	0.0071	0.0038	-0.0120	0.0018	0.1393	0.0192	0.4279	0.0691
1	285.12	0.2998	-0.0207	0.0028	-0.0179	0.0036	0.2065	0.0274	0.1213	0.0970
1	285.12	0.3498	-0.0240	0.0027	-0.0329	0.0071	0.3313	0.0498	0.0774	0.0919
1	285.12	0.3913	-0.0126	0.0042	-0.0615	0.0107	0.4963	0.0669	0.2223	0.0797
1	285.12	0.4496	-0.0452	0.0034	-0.1153	0.0154	0.7505	0.0883	0.1112	0.0791
1	285.12	0.4997	-0.0276	0.0038	-0.1498	0.0209	0.9793	0.1120	-0.1034	0.0940
1	285.12	0.5387	-0.0525	0.0039	-0.1833	0.0259	1.2333	0.1303	-0.0474	0.0985
1	285.12	0.5996	-0.0439	0.0044	-0.2649	0.0335	1.6097	0.1608	-0.1073	0.0977
1	285.12	0.6498	-0.0454	0.0049	-0.3395	0.0406	1.9665	0.1914	-0.2031	0.0985
1	285.12	0.6998	-0.0345	0.0059	-0.4266	0.0484	2.2902	0.2211	-0.4020	0.1107
1	285.12	0.7500	-0.0253	0.0065	-0.4943	0.0563	2.7706	0.2555	-0.1655	0.0965
1	285.12	0.8001	0.0014	0.0075	-0.5967	0.0646	3.1570	0.2922	-0.2820	0.1088
1	285.12	0.8497	0.0162	0.0082	-0.6913	0.0734	3.4601	0.3307	-0.5317	0.1130
1	285.12	0.9102	0.0160	0.0100	-0.7557	0.0839	3.7900	0.3809	-0.6311	0.1198
1	285.12	0.9734	0.0230	0.0132	-0.8686	0.0948	4.1981	0.4338	-0.6196	0.1367
2	285.12	0.1949	0.0259	0.0025	0.0050	0.0014	0.0346	0.0072	-0.0401	0.0446
2	285.12	0.2405	0.0075	0.0054	-0.0042	0.0020	0.0625	0.0131	-0.1116	0.0716
2	285.12	0.2999	0.0011	0.0021	-0.0057	0.0058	0.1198	0.0227	-0.1154	0.0959
2	285.12	0.3498	-0.0226	0.0023	-0.0010	0.0117	0.2138	0.0374	-0.1270	0.0828
2	285.12	0.3998	-0.0335	0.0043	-0.0191	0.0174	0.3115	0.0554	-0.1860	0.0913
2	285.12	0.4496	-0.0379	0.0036	-0.0446	0.0245	0.4650	0.0759	-0.1227	0.0854
2	285.12	0.4995	-0.0412	0.0040	-0.0830	0.0323	0.6086	0.0983	-0.4101	0.0807
2	285.12	0.5551	-0.0442	0.0046	-0.1291	0.0424	0.8276	0.1276	-0.3901	0.0814
2	285.12	0.5996	-0.0407	0.0050	-0.1801	0.0505	1.0297	0.1513	-0.5576	0.0843
2	285.12	0.6497	-0.0246	0.0055	-0.2251	0.0606	1.2786	0.1782	-0.5896	0.0968
2	285.12	0.6996	-0.0044	0.0062	-0.2965	0.0718	1.5684	0.2079	-0.5055	0.1266
2	285.12	0.7495	0.0043	0.0070	-0.3493	0.0824	1.8422	0.2472	-0.5671	0.1013
2	285.12	0.7996	0.0357	0.0078	-0.4400	0.0936	2.0846	0.2880	-0.7453	0.1096
2	285.12	0.8578	0.0476	0.0087	-0.5398	0.1070	2.3828	0.3385	-0.5876	0.1118
2	285.12	0.9100	0.0716	0.0101	-0.5872	0.1187	2.6370	0.3850	-0.2347	0.1113
2	285.12	0.9727	0.0474	0.0147	-0.6794	0.1325	2.9190	0.4521	-0.3682	0.1117
3	285.12	0.1938	0.0304	0.0024	-0.0052	0.0011	0.0909	0.0097	-0.2842	0.0562
3	285.12	0.2357	0.0118	0.0042	0.0116	0.0018	0.1257	0.0175	-0.3824	0.0981
3	285.12	0.2995	-0.0132	0.0051	-0.0218	0.0043	0.2846	0.0348	-0.6443	0.1379
3	285.12	0.3493	-0.0281	0.0028	-0.0492	0.0080	0.4700	0.0570	-0.5653	0.1153
3	285.12	0.4000	-0.0290	0.0027	-0.0718	0.0129	0.6881	0.0856	-0.4896	0.1312
3	285.12	0.4497	-0.0384	0.0034	-0.1204	0.0181	0.9431	0.1112	-0.5318	0.1356
3	285.12	0.4997	-0.0473	0.0041	-0.1630	0.0243	1.2202	0.1465	-0.7252	0.1467
3	285.12	0.5556	-0.0549	0.0046	-0.2127	0.0321	1.5885	0.1878	-0.7141	0.1461
3	285.12	0.5995	-0.0484	0.0052	-0.2864	0.0392	1.8944	0.2233	-0.7818	0.1580
3	285.12	0.6498	-0.0452	0.0071	-0.3593	0.0479	2.2579	0.2665	-0.9436	0.1591
3	285.12	0.6890	-0.0776	0.0070	-0.4369	0.0556	2.5749	0.3031	-0.9918	0.1327
3	285.12	0.7495	-0.0223	0.0096	-0.5213	0.0670	3.0749	0.3586	-0.9879	0.1634
3	285.12	0.7998	0.0073	0.0112	-0.6066	0.0774	3.4625	0.4098	-1.0789	0.1656
3	285.12	0.8577	0.0412	0.0123	-0.7107	0.0896	3.8696	0.4695	-0.9113	0.1722
3	285.12	0.9178	0.0613	0.0143	-0.8656	0.1024	4.2554	0.5341	-0.9117	0.1852
3	285.12	0.9729	0.0518	0.0186	-0.9709	0.1156	4.4053	0.5962	-1.8344	0.1787
4	285.12	0.2001	0.0379	0.0038	0.0092	0.0014	-0.0159	0.0084	0.0298	0.0424
4	285.12	0.2502	0.0060	0.0029	0.0047	0.0018	0.0331	0.0158	0.4173	0.0554
4	285.12	0.3001	0.0073	0.0045	0.0342	0.0045	0.0070	0.0267	0.2133	0.0881
4	285.12	0.3502	-0.0219	0.0023	0.0527	0.0077	0.0376	0.0443	0.2325	0.1173
4	285.12	0.4002	-0.0335	0.0036	0.0809	0.0119	0.0883	0.0659	0.0904	0.0903
4	285.12	0.4500	-0.0339	0.0033	0.0958	0.0162	0.1639	0.0913	-0.0741	0.0761
4	285.12	0.5001	-0.0362	0.0033	0.0846	0.0221	0.3609	0.1206	0.2263	0.0648
4	285.12	0.5560	-0.0427	0.0032	0.0847	0.0297	0.5026	0.1564	0.0275	0.0776
4	285.12	0.6001	-0.0307	0.0041	0.0747	0.0358	0.6695	0.1863	-0.1805	0.0835
4	285.12	0.6501	-0.0455	0.0044	0.0317	0.0436	0.9152	0.2208	-0.1771	0.1021
4	285.12	0.7500	-0.0154	0.0060	-0.0429	0.0609	1.4882	0.2897	-0.0373	0.0942
4	285.12	0.8002	0.0181	0.0068	-0.0957	0.0704	1.7429	0.3220	-0.0094	0.1001
4	285.12	0.8582	0.0603	0.0074	-0.1168	0.0818	1.9678	0.3571	-0.2865	0.1025
4	285.12	0.9101	0.0794	0.0080	-0.1924	0.0924	2.1592	0.3876	-0.1712	0.1120
4	285.12	0.9728	0.0942	0.0117	-0.2307	0.1048	2.4601	0.4243	0.1012	0.1317

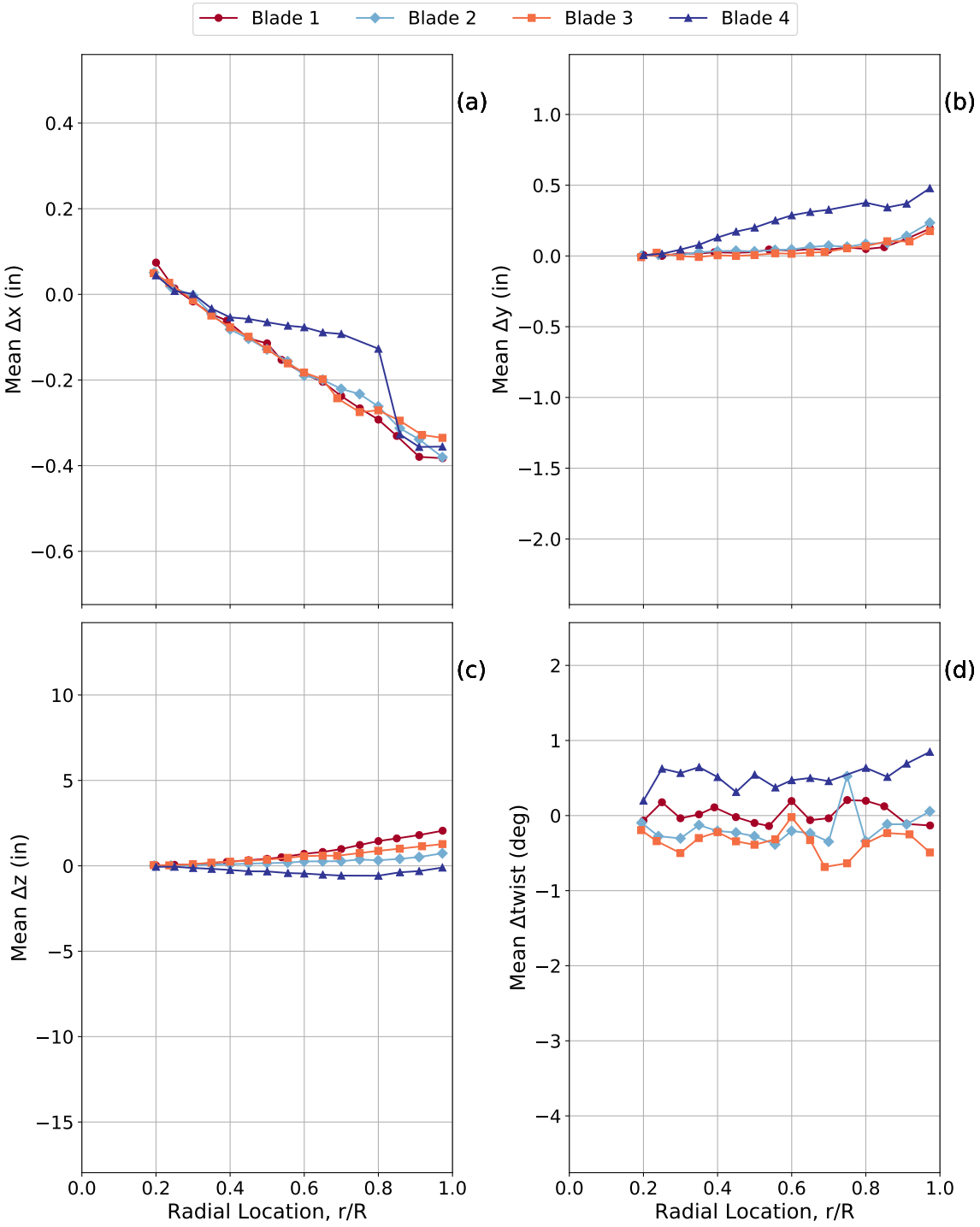


Figure 2.10-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0742	0.0028	0.0060	0.0012	0.0186	0.0104	-0.0663	0.0603
1	299.88	0.2499	0.0139	0.0028	0.0003	0.0029	0.0579	0.0195	0.1773	0.0954
1	299.88	0.2998	-0.0166	0.0036	0.0176	0.0051	0.0828	0.0322	-0.0359	0.1268
1	299.88	0.3498	-0.0461	0.0039	0.0169	0.0090	0.1642	0.0525	0.0156	0.1140
1	299.88	0.3913	-0.0614	0.0038	0.0262	0.0138	0.2319	0.0738	0.1093	0.1064
1	299.88	0.4496	-0.1028	0.0045	0.0220	0.0176	0.3308	0.0937	-0.0206	0.1159
1	299.88	0.4997	-0.1144	0.0047	0.0273	0.0226	0.4092	0.1182	-0.0986	0.1332
1	299.88	0.5387	-0.1529	0.0046	0.0455	0.0269	0.5020	0.1386	-0.1388	0.1276
1	299.88	0.5996	-0.1861	0.0054	0.0376	0.0343	0.7023	0.1734	0.1933	0.1253
1	299.88	0.6498	-0.2043	0.0062	0.0486	0.0411	0.8109	0.2032	-0.0607	0.1329
1	299.88	0.6998	-0.2375	0.0072	0.0441	0.0484	0.9815	0.2375	-0.0358	0.1183
1	299.88	0.7500	-0.2661	0.0081	0.0598	0.0560	1.2211	0.2758	0.2068	0.1301
1	299.88	0.8001	-0.2925	0.0093	0.0490	0.0634	1.4494	0.3168	0.1965	0.1213
1	299.88	0.8497	-0.3306	0.0103	0.0618	0.0718	1.6045	0.3602	0.1233	0.1257
1	299.88	0.9102	-0.3794	0.0121	0.1216	0.0823	1.8018	0.4166	-0.1117	0.1231
1	299.88	0.9734	-0.3827	0.0162	0.1933	0.0933	2.0558	0.4860	-0.1320	0.1297
2	299.88	0.1949	0.0509	0.0019	0.0016	0.0010	0.0075	0.0074	-0.0958	0.0576
2	299.88	0.2405	0.0175	0.0017	0.0091	0.0022	0.0120	0.0129	-0.2754	0.0984
2	299.88	0.2999	-0.0023	0.0038	0.0075	0.0039	0.0171	0.0231	-0.3035	0.1296
2	299.88	0.3498	-0.0454	0.0031	0.0260	0.0073	0.0790	0.0390	-0.1267	0.1026
2	299.88	0.3998	-0.0817	0.0046	0.0336	0.0112	0.0886	0.0561	-0.2055	0.1083
2	299.88	0.4496	-0.1034	0.0049	0.0368	0.0145	0.1297	0.0732	-0.2263	0.1111
2	299.88	0.4995	-0.1285	0.0048	0.0318	0.0186	0.1573	0.0909	-0.2749	0.1079
2	299.88	0.5551	-0.1563	0.0046	0.0422	0.0233	0.1845	0.1123	-0.3848	0.1128
2	299.88	0.5996	-0.1898	0.0047	0.0457	0.0279	0.2553	0.1309	-0.2050	0.1163
2	299.88	0.6497	-0.1994	0.0051	0.0632	0.0334	0.2659	0.1513	-0.2356	0.1185
2	299.88	0.6996	-0.2207	0.0061	0.0725	0.0398	0.2705	0.1761	-0.3476	0.1045
2	299.88	0.7495	-0.2328	0.0060	0.0649	0.0459	0.3705	0.2039	0.5247	0.1122
2	299.88	0.7996	-0.2616	0.0071	0.0856	0.0528	0.3215	0.2383	-0.3402	0.1092
2	299.88	0.8578	-0.3127	0.0075	0.0929	0.0611	0.4092	0.2834	-0.1155	0.1088
2	299.88	0.9100	-0.3384	0.0082	0.1407	0.0687	0.5141	0.3292	-0.1158	0.1153
2	299.88	0.9727	-0.3803	0.0109	0.2349	0.0779	0.7318	0.3887	0.0562	0.1141
3	299.88	0.1938	0.0494	0.0018	-0.0086	0.0013	0.0400	0.0074	-0.1939	0.0615
3	299.88	0.2357	0.0270	0.0024	0.0228	0.0023	0.0275	0.0150	-0.3404	0.0719
3	299.88	0.2995	-0.0138	0.0027	-0.0022	0.0052	0.0982	0.0253	-0.4989	0.1244
3	299.88	0.3493	-0.0495	0.0032	-0.0071	0.0083	0.1851	0.0375	-0.2993	0.1111
3	299.88	0.4000	-0.0770	0.0043	0.0049	0.0145	0.2451	0.0586	-0.2206	0.1078
3	299.88	0.4497	-0.0989	0.0044	-0.0001	0.0190	0.3015	0.0731	-0.3427	0.1024
3	299.88	0.4997	-0.1281	0.0049	0.0062	0.0250	0.3588	0.0959	-0.3888	0.1389
3	299.88	0.5556	-0.1612	0.0051	0.0188	0.0320	0.4661	0.1175	-0.3161	0.1056
3	299.88	0.5995	-0.1826	0.0055	0.0154	0.0379	0.5686	0.1377	-0.0211	0.1405
3	299.88	0.6498	-0.1982	0.0064	0.0233	0.0453	0.5946	0.1589	-0.3263	0.1136
3	299.88	0.6890	-0.2426	0.0072	0.0279	0.0517	0.5898	0.1761	-0.6844	0.1384
3	299.88	0.7495	-0.2749	0.0075	0.0539	0.0627	0.7489	0.2085	-0.6354	0.0934
3	299.88	0.7998	-0.2708	0.0083	0.0693	0.0713	0.8775	0.2289	-0.3703	0.1009
3	299.88	0.8577	-0.2949	0.0090	0.1035	0.0828	1.0035	0.2567	-0.2328	0.1049
3	299.88	0.9178	-0.3283	0.0094	0.1029	0.0948	1.1445	0.2894	-0.2505	0.1013
3	299.88	0.9729	-0.3350	0.0128	0.1755	0.1056	1.2735	0.3229	-0.4912	0.1039
4	299.88	0.2001	0.0444	0.0022	0.0065	0.0011	-0.0549	0.0072	0.1987	0.0418
4	299.88	0.2502	0.0079	0.0023	0.0152	0.0028	-0.0540	0.0145	0.6244	0.0527
4	299.88	0.3001	0.0007	0.0030	0.0452	0.0050	-0.1268	0.0234	0.5668	0.0817
4	299.88	0.3502	-0.0332	0.0032	0.0791	0.0098	-0.1769	0.0369	0.6449	0.0647
4	299.88	0.4002	-0.0537	0.0030	0.1304	0.0151	-0.2419	0.0566	0.5125	0.0699
4	299.88	0.4500	-0.0574	0.0029	0.1717	0.0202	-0.3204	0.0785	0.3141	0.0641
4	299.88	0.5001	-0.0651	0.0031	0.2005	0.0259	-0.3280	0.1042	0.5441	0.0772
4	299.88	0.5560	-0.0732	0.0038	0.2510	0.0335	-0.4238	0.1393	0.3740	0.0717
4	299.88	0.6001	-0.0768	0.0043	0.2870	0.0402	-0.4518	0.1714	0.4715	0.0789
4	299.88	0.6501	-0.0888	0.0048	0.3108	0.0480	-0.5177	0.2102	0.5006	0.0876
4	299.88	0.6999	-0.0925	0.0057	0.3264	0.0572	-0.5719	0.2504	0.4586	0.0802
4	299.88	0.8002	-0.1270	0.0068	0.3763	0.0766	-0.5786	0.3394	0.6354	0.0941
4	299.88	0.8582	-0.3269	0.0067	0.3429	0.0870	-0.3785	0.3907	0.5148	0.0876
4	299.88	0.9101	-0.3563	0.0079	0.3696	0.0981	-0.3095	0.4411	0.6920	0.0867
4	299.88	0.9728	-0.3555	0.0124	0.4785	0.1111	-0.1026	0.5038	0.8483	0.0858

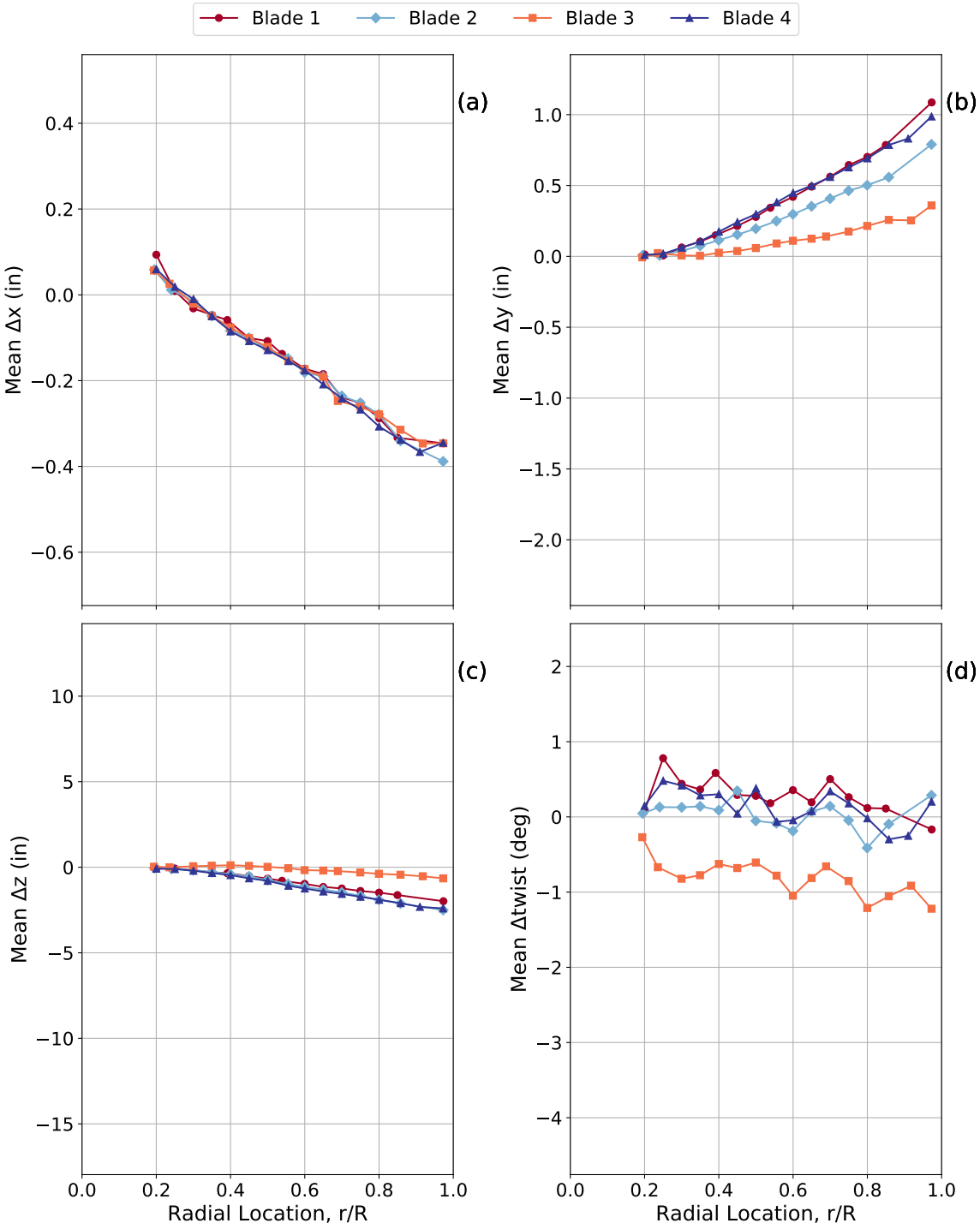


Figure 2.10-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0937	0.0028	0.0133	0.0008	-0.0805	0.0082	0.0850	0.0514
1	315	0.2499	0.0093	0.0029	0.0061	0.0044	-0.0699	0.0151	0.7803	0.0719
1	315	0.2998	-0.0316	0.0030	0.0625	0.0079	-0.1828	0.0253	0.4393	0.1076
1	315	0.3498	-0.0470	0.0032	0.1040	0.0097	-0.2899	0.0431	0.3638	0.0976
1	315	0.3913	-0.0587	0.0041	0.1488	0.0194	-0.3517	0.0585	0.5841	0.0933
1	315	0.4496	-0.1006	0.0049	0.2141	0.0223	-0.5138	0.0773	0.2910	0.1152
1	315	0.4997	-0.1078	0.0051	0.2784	0.0266	-0.6645	0.0992	0.2798	0.1002
1	315	0.5387	-0.1377	0.0057	0.3427	0.0294	-0.7903	0.1147	0.1821	0.1201
1	315	0.5996	-0.1722	0.0080	0.4197	0.0365	-0.9704	0.1538	0.3560	0.1297
1	315	0.6498	-0.1847	0.0064	0.4920	0.0414	-1.1503	0.1711	0.1945	0.0999
1	315	0.6998	-0.2391	0.0058	0.5617	0.0474	-1.2415	0.1967	0.5029	0.1092
1	315	0.7500	-0.2519	0.0075	0.6444	0.0544	-1.3851	0.2258	0.2618	0.1027
1	315	0.8001	-0.2875	0.0084	0.7020	0.0607	-1.4847	0.2606	0.1182	0.1101
1	315	0.8497	-0.3332	0.0088	0.7859	0.0674	-1.6265	0.2835	0.1108	0.1091
1	315	0.9734	-0.3462	0.0111	1.0865	0.0848	-1.9858	0.3706	-0.1678	0.1084
2	315	0.1949	0.0586	0.0021	0.0073	0.0011	-0.0566	0.0078	0.0463	0.0483
2	315	0.2405	0.0118	0.0034	0.0068	0.0027	-0.0819	0.0154	0.1304	0.0766
2	315	0.2999	-0.0149	0.0030	0.0388	0.0046	-0.1768	0.0314	0.1271	0.1109
2	315	0.3498	-0.0492	0.0028	0.0741	0.0091	-0.2746	0.0502	0.1407	0.0811
2	315	0.3998	-0.0836	0.0035	0.1138	0.0133	-0.4068	0.0785	0.0890	0.0829
2	315	0.4496	-0.1004	0.0044	0.1536	0.0163	-0.5347	0.0980	0.3470	0.1205
2	315	0.4995	-0.1252	0.0035	0.1952	0.0218	-0.7484	0.1254	-0.0528	0.1037
2	315	0.5551	-0.1483	0.0043	0.2492	0.0278	-0.9776	0.1600	-0.0835	0.1002
2	315	0.5996	-0.1811	0.0047	0.2974	0.0334	-1.1542	0.1872	-0.1876	0.1121
2	315	0.6497	-0.1900	0.0046	0.3530	0.0404	-1.3079	0.2234	0.0718	0.0927
2	315	0.6996	-0.2357	0.0065	0.4077	0.0473	-1.4701	0.2582	0.1420	0.0966
2	315	0.7495	-0.2517	0.0059	0.4634	0.0547	-1.6711	0.2939	-0.0452	0.0929
2	315	0.7996	-0.2785	0.0062	0.5019	0.0627	-1.9016	0.3284	-0.4133	0.1114
2	315	0.8578	-0.3402	0.0071	0.5582	0.0713	-2.1170	0.3675	-0.0949	0.0874
2	315	0.9727	-0.3883	0.0082	0.7900	0.0899	-2.4992	0.4526	0.2877	0.0930
3	315	0.1938	0.0568	0.0163	-0.0071	0.0012	0.0310	0.0086	-0.2707	0.0534
3	315	0.2357	0.0260	0.0073	0.0229	0.0033	-0.0054	0.0167	-0.6694	0.0572
3	315	0.2995	-0.0207	0.0084	0.0062	0.0085	0.0590	0.0310	-0.8221	0.1076
3	315	0.3493	-0.0494	0.0160	0.0044	0.0112	0.0916	0.0484	-0.7757	0.0822
3	315	0.4000	-0.0761	0.0208	0.0254	0.0220	0.1150	0.0744	-0.6258	0.0895
3	315	0.4497	-0.1005	0.0225	0.0377	0.0257	0.0798	0.0941	-0.6802	0.0858
3	315	0.4997	-0.1213	0.0239	0.0588	0.0336	0.0216	0.1243	-0.6068	0.1059
3	315	0.5556	-0.1538	0.0233	0.0911	0.0409	-0.0551	0.1589	-0.7811	0.0987
3	315	0.5995	-0.1735	0.0198	0.1102	0.0478	-0.1699	0.1845	-1.0471	0.1029
3	315	0.6498	-0.1913	0.0166	0.1246	0.0567	-0.1927	0.2159	-0.8131	0.1000
3	315	0.6890	-0.2474	0.0144	0.1403	0.0630	-0.2254	0.2429	-0.6578	0.0934
3	315	0.7495	-0.2607	0.0149	0.1751	0.0746	-0.3048	0.2839	-0.8532	0.0936
3	315	0.7998	-0.2787	0.0227	0.2146	0.0851	-0.3846	0.3185	-1.2109	0.1107
3	315	0.8577	-0.3145	0.0364	0.2572	0.0972	-0.4393	0.3592	-1.0559	0.1061
3	315	0.9178	-0.3466	0.0536	0.2538	0.1111	-0.5259	0.4012	-0.9142	0.1181
3	315	0.9729	-0.3461	0.0724	0.3594	0.1253	-0.6501	0.4449	-1.2210	0.1149
4	315	0.2001	0.0596	0.0021	0.0096	0.0010	-0.0823	0.0081	0.1480	0.0977
4	315	0.2502	0.0187	0.0030	0.0187	0.0044	-0.1079	0.0225	0.4802	0.1268
4	315	0.3001	-0.0101	0.0043	0.0616	0.0090	-0.2036	0.0297	0.4173	0.2107
4	315	0.3502	-0.0498	0.0059	0.1062	0.0110	-0.3398	0.0502	0.2852	0.1696
4	315	0.4002	-0.0852	0.0036	0.1741	0.0223	-0.4622	0.0794	0.3013	0.1677
4	315	0.4500	-0.1078	0.0038	0.2411	0.0239	-0.6490	0.0980	0.0436	0.1367
4	315	0.5001	-0.1289	0.0041	0.2983	0.0314	-0.7959	0.1209	0.3802	0.1379
4	315	0.5560	-0.1545	0.0047	0.3815	0.0374	-1.0825	0.1449	-0.0659	0.1466
4	315	0.6001	-0.1763	0.0062	0.4475	0.0427	-1.2441	0.1690	-0.0440	0.1487
4	315	0.6501	-0.2088	0.0055	0.4995	0.0488	-1.4197	0.1948	0.0769	0.1574
4	315	0.6999	-0.2417	0.0064	0.5600	0.0555	-1.5585	0.2218	0.3401	0.1640
4	315	0.7500	-0.2675	0.0067	0.6277	0.0614	-1.7262	0.2511	0.1789	0.1471
4	315	0.8002	-0.3070	0.0073	0.6914	0.0678	-1.9010	0.2785	-0.0188	0.1576
4	315	0.8582	-0.3379	0.0080	0.7861	0.0757	-2.0985	0.3117	-0.2989	0.1560
4	315	0.9101	-0.3662	0.0084	0.8311	0.0840	-2.3181	0.3384	-0.2521	0.1672
4	315	0.9728	-0.3450	0.0096	0.9867	0.0911	-2.4087	0.3788	0.2023	0.1516

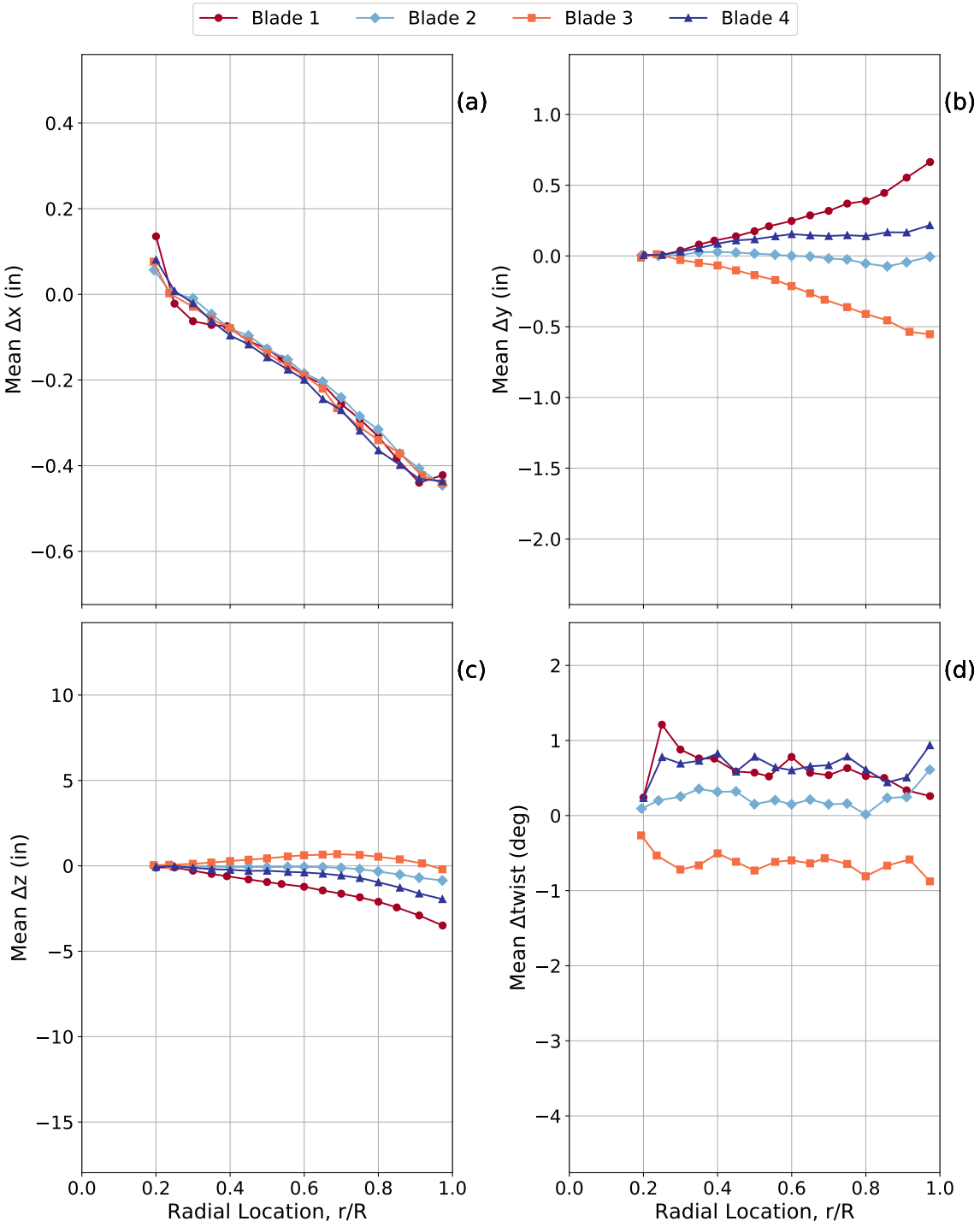


Figure 2.10-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.1354	0.0039	0.0067	0.0017	-0.1042	0.0088	0.2409	0.0468
1	330.12	0.2499	-0.0217	0.0038	0.0058	0.0040	-0.0969	0.0133	1.2106	0.1038
1	330.12	0.2998	-0.0627	0.0040	0.0377	0.0086	-0.2859	0.0293	0.8792	0.1138
1	330.12	0.3498	-0.0715	0.0053	0.0804	0.0140	-0.4735	0.0450	0.7609	0.1209
1	330.12	0.3913	-0.0743	0.0050	0.1083	0.0216	-0.6086	0.0651	0.7585	0.1321
1	330.12	0.4496	-0.1090	0.0059	0.1385	0.0277	-0.7980	0.0844	0.5860	0.1318
1	330.12	0.4997	-0.1267	0.0053	0.1750	0.0347	-0.9482	0.1085	0.5716	0.1176
1	330.12	0.5387	-0.1511	0.0059	0.2097	0.0406	-1.0642	0.1265	0.5209	0.1340
1	330.12	0.5996	-0.1895	0.0068	0.2472	0.0502	-1.2252	0.1590	0.7803	0.1239
1	330.12	0.6498	-0.2097	0.0077	0.2867	0.0581	-1.4420	0.1893	0.5687	0.1280
1	330.12	0.6998	-0.2562	0.0078	0.3184	0.0675	-1.6310	0.2212	0.5381	0.1415
1	330.12	0.7500	-0.2912	0.0082	0.3699	0.0771	-1.8421	0.2556	0.6318	0.1198
1	330.12	0.8001	-0.3323	0.0090	0.3884	0.0875	-2.1040	0.2934	0.5265	0.1251
1	330.12	0.8497	-0.3833	0.0097	0.4454	0.0974	-2.4373	0.3320	0.5008	0.1227
1	330.12	0.9102	-0.4398	0.0106	0.5535	0.1102	-2.9058	0.3823	0.3367	0.1260
1	330.12	0.9734	-0.4221	0.0134	0.6637	0.1242	-3.4927	0.4409	0.2591	0.1360
2	330.12	0.1949	0.0569	0.0021	0.0037	0.0012	-0.0200	0.0051	0.0930	0.0452
2	330.12	0.2405	0.0037	0.0023	0.0005	0.0028	0.0015	0.0110	0.2000	0.0548
2	330.12	0.2999	-0.0094	0.0029	0.0065	0.0050	-0.0434	0.0200	0.2535	0.0942
2	330.12	0.3498	-0.0460	0.0035	0.0266	0.0083	-0.0452	0.0325	0.3546	0.0880
2	330.12	0.3998	-0.0802	0.0026	0.0285	0.0128	-0.0642	0.0501	0.3156	0.0724
2	330.12	0.4496	-0.0962	0.0036	0.0239	0.0155	-0.0602	0.0604	0.3209	0.0760
2	330.12	0.4995	-0.1274	0.0034	0.0170	0.0206	-0.0712	0.0728	0.1510	0.0772
2	330.12	0.5551	-0.1522	0.0036	0.0089	0.0255	-0.0609	0.0913	0.2047	0.0805
2	330.12	0.5996	-0.1846	0.0042	-0.0000	0.0306	-0.0579	0.1055	0.1499	0.0731
2	330.12	0.6497	-0.2038	0.0041	-0.0032	0.0376	-0.0753	0.1231	0.2119	0.0740
2	330.12	0.6996	-0.2407	0.0049	-0.0180	0.0445	-0.1193	0.1388	0.1509	0.0778
2	330.12	0.7495	-0.2845	0.0051	-0.0247	0.0514	-0.1940	0.1572	0.1594	0.0847
2	330.12	0.7996	-0.3155	0.0057	-0.0533	0.0594	-0.3300	0.1750	0.0160	0.0792
2	330.12	0.8578	-0.3718	0.0063	-0.0738	0.0693	-0.5104	0.1981	0.2350	0.0753
2	330.12	0.9100	-0.4064	0.0067	-0.0448	0.0784	-0.6987	0.2205	0.2462	0.0816
2	330.12	0.9727	-0.4459	0.0093	-0.0053	0.0898	-0.8577	0.2519	0.6103	0.0839
3	330.12	0.1938	0.0763	0.0029	-0.0121	0.0010	0.0394	0.0071	-0.2642	0.0572
3	330.12	0.2357	0.0026	0.0023	0.0118	0.0042	0.0557	0.0095	-0.5318	0.0941
3	330.12	0.2995	-0.0289	0.0040	-0.0284	0.0081	0.1193	0.0190	-0.7186	0.1371
3	330.12	0.3493	-0.0576	0.0040	-0.0494	0.0130	0.1910	0.0324	-0.6634	0.1121
3	330.12	0.4000	-0.0791	0.0029	-0.0674	0.0229	0.2793	0.0468	-0.5037	0.1329
3	330.12	0.4497	-0.1084	0.0039	-0.1019	0.0276	0.3598	0.0605	-0.6157	0.1272
3	330.12	0.4997	-0.1376	0.0049	-0.1356	0.0357	0.4350	0.0787	-0.7318	0.1228
3	330.12	0.5556	-0.1675	0.0053	-0.1700	0.0432	0.5499	0.0986	-0.6168	0.1223
3	330.12	0.5995	-0.1891	0.0053	-0.2130	0.0515	0.6182	0.1158	-0.5957	0.1175
3	330.12	0.6498	-0.2200	0.0061	-0.2639	0.0607	0.6550	0.1413	-0.6367	0.1220
3	330.12	0.6890	-0.2660	0.0060	-0.3094	0.0684	0.6832	0.1616	-0.5685	0.1303
3	330.12	0.7495	-0.3092	0.0067	-0.3618	0.0812	0.6369	0.1954	-0.6446	0.1270
3	330.12	0.7998	-0.3404	0.0067	-0.4102	0.0923	0.5312	0.2256	-0.8088	0.1295
3	330.12	0.8577	-0.3712	0.0072	-0.4554	0.1054	0.3795	0.2638	-0.6663	0.1250
3	330.12	0.9178	-0.4227	0.0080	-0.5362	0.1199	0.1457	0.3018	-0.5848	0.1263
3	330.12	0.9729	-0.4414	0.0108	-0.5535	0.1325	-0.1984	0.3397	-0.8761	0.1294
4	330.12	0.2001	0.0809	0.0023	0.0057	0.0016	-0.0593	0.0065	0.2335	0.0643
4	330.12	0.2502	0.0076	0.0035	0.0075	0.0030	-0.0224	0.0137	0.7797	0.0624
4	330.12	0.3001	-0.0208	0.0031	0.0301	0.0070	-0.1162	0.0230	0.6929	0.1251
4	330.12	0.3502	-0.0625	0.0040	0.0560	0.0121	-0.1950	0.0370	0.7299	0.0823
4	330.12	0.4002	-0.0961	0.0039	0.0868	0.0183	-0.2315	0.0564	0.8252	0.0938
4	330.12	0.4500	-0.1168	0.0036	0.1103	0.0232	-0.2943	0.0791	0.5851	0.0907
4	330.12	0.5001	-0.1469	0.0043	0.1179	0.0290	-0.2873	0.1033	0.7845	0.0848
4	330.12	0.5560	-0.1756	0.0046	0.1392	0.0370	-0.3546	0.1358	0.6422	0.0848
4	330.12	0.6001	-0.1992	0.0055	0.1543	0.0432	-0.3863	0.1645	0.6033	0.1079
4	330.12	0.6501	-0.2445	0.0053	0.1455	0.0510	-0.4586	0.1975	0.6562	0.1009
4	330.12	0.6999	-0.2702	0.0057	0.1411	0.0596	-0.5654	0.2375	0.6709	0.0969
4	330.12	0.7500	-0.3182	0.0063	0.1465	0.0689	-0.7129	0.2825	0.7867	0.1002
4	330.12	0.8002	-0.3643	0.0063	0.1405	0.0783	-0.9610	0.3317	0.6119	0.1102
4	330.12	0.8582	-0.3984	0.0074	0.1673	0.0901	-1.2766	0.3934	0.4433	0.1063
4	330.12	0.9101	-0.4308	0.0075	0.1662	0.1011	-1.6204	0.4518	0.5079	0.1106
4	330.12	0.9728	-0.4361	0.0099	0.2172	0.1143	-1.9480	0.5263	0.9371	0.1138

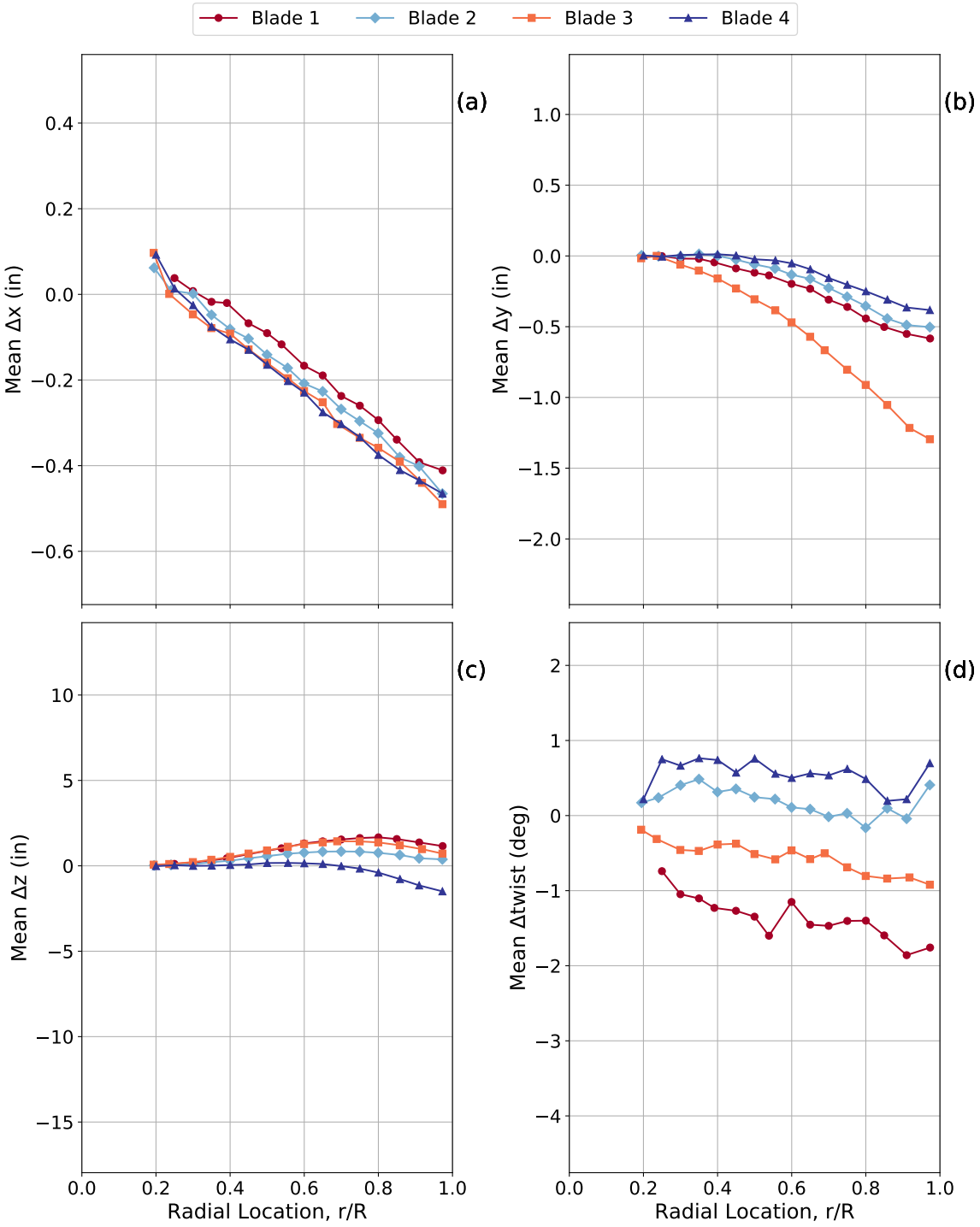


Figure 2.10-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2499	0.0380	0.0033	-0.0015	0.0036	0.1119	0.0196	-0.7403	0.1269
1	344.88	0.2998	0.0077	0.0038	-0.0187	0.0074	0.1909	0.0327	-1.0477	0.1798
1	344.88	0.3498	-0.0174	0.0030	-0.0199	0.0135	0.3157	0.0555	-1.1034	0.1532
1	344.88	0.3913	-0.0201	0.0032	-0.0451	0.0198	0.4438	0.0772	-1.2296	0.1648
1	344.88	0.4496	-0.0675	0.0034	-0.0878	0.0260	0.6821	0.1048	-1.2681	0.1528
1	344.88	0.4997	-0.0905	0.0043	-0.1179	0.0335	0.8802	0.1292	-1.3464	0.1535
1	344.88	0.5387	-0.1168	0.0043	-0.1376	0.0376	1.0275	0.1473	-1.6002	0.1668
1	344.88	0.5996	-0.1666	0.0054	-0.1969	0.0451	1.3124	0.1809	-1.1507	0.1606
1	344.88	0.6498	-0.1893	0.0060	-0.2321	0.0524	1.4342	0.2065	-1.4532	0.1595
1	344.88	0.6998	-0.2373	0.0064	-0.3090	0.0595	1.5420	0.2349	-1.4688	0.1615
1	344.88	0.7500	-0.2599	0.0074	-0.3605	0.0670	1.6273	0.2646	-1.4032	0.1664
1	344.88	0.8001	-0.2937	0.0075	-0.4423	0.0746	1.6682	0.2935	-1.3999	0.1733
1	344.88	0.8497	-0.3392	0.0076	-0.5019	0.0829	1.5676	0.3253	-1.5961	0.1641
1	344.88	0.9102	-0.3918	0.0082	-0.5508	0.0935	1.3686	0.3642	-1.8591	0.1547
1	344.88	0.9734	-0.4110	0.0113	-0.5835	0.1049	1.1563	0.4051	-1.7577	0.1567
2	344.88	0.1949	0.0620	0.0038	0.0038	0.0012	0.0224	0.0072	0.1711	0.0321
2	344.88	0.2405	0.0092	0.0037	-0.0021	0.0037	0.0546	0.0098	0.2385	0.0776
2	344.88	0.2999	0.0017	0.0035	-0.0042	0.0047	0.0957	0.0236	0.4046	0.0836
2	344.88	0.3498	-0.0479	0.0026	0.0138	0.0136	0.2105	0.0348	0.4850	0.0976
2	344.88	0.3998	-0.0810	0.0036	0.0003	0.0178	0.3002	0.0534	0.3145	0.0832
2	344.88	0.4496	-0.1034	0.0046	-0.0256	0.0231	0.4386	0.0709	0.3547	0.0909
2	344.88	0.4995	-0.1409	0.0041	-0.0594	0.0284	0.5677	0.0913	0.2451	0.0823
2	344.88	0.5551	-0.1719	0.0049	-0.0886	0.0339	0.7090	0.1178	0.2191	0.0907
2	344.88	0.5996	-0.2081	0.0046	-0.1326	0.0389	0.7725	0.1400	0.1086	0.1003
2	344.88	0.6497	-0.2267	0.0050	-0.1617	0.0444	0.8312	0.1651	0.0853	0.0940
2	344.88	0.6996	-0.2680	0.0056	-0.2257	0.0505	0.8424	0.1930	-0.0158	0.1066
2	344.88	0.7495	-0.2958	0.0057	-0.2887	0.0565	0.8297	0.2202	0.0300	0.0936
2	344.88	0.7996	-0.3243	0.0061	-0.3540	0.0628	0.7614	0.2501	-0.1628	0.1001
2	344.88	0.8578	-0.3803	0.0066	-0.4429	0.0706	0.6340	0.2901	0.0970	0.0945
2	344.88	0.9100	-0.4014	0.0071	-0.4887	0.0778	0.4421	0.3300	-0.0417	0.0953
2	344.88	0.9727	-0.4654	0.0087	-0.5028	0.0864	0.3781	0.3801	0.4076	0.1049
3	344.88	0.1938	0.0969	0.0073	-0.0164	0.0015	0.0683	0.0091	-0.1883	0.0499
3	344.88	0.2357	0.0010	0.0049	0.0004	0.0044	0.1053	0.0094	-0.3120	0.1235
3	344.88	0.2995	-0.0467	0.0052	-0.0613	0.0090	0.2184	0.0244	-0.4579	0.1394
3	344.88	0.3493	-0.0788	0.0052	-0.1034	0.0175	0.3551	0.0393	-0.4712	0.1357
3	344.88	0.4000	-0.0917	0.0042	-0.1591	0.0275	0.5243	0.0568	-0.3857	0.1351
3	344.88	0.4497	-0.1285	0.0048	-0.2299	0.0328	0.7172	0.0737	-0.3748	0.1354
3	344.88	0.4997	-0.1598	0.0062	-0.3064	0.0390	0.9006	0.0894	-0.5126	0.1607
3	344.88	0.5556	-0.1959	0.0053	-0.3841	0.0478	1.1170	0.1159	-0.5831	0.1316
3	344.88	0.5995	-0.2258	0.0060	-0.4697	0.0553	1.2754	0.1331	-0.4637	0.1367
3	344.88	0.6498	-0.2518	0.0069	-0.5713	0.0631	1.3733	0.1583	-0.5794	0.1415
3	344.88	0.6890	-0.3027	0.0072	-0.6663	0.0698	1.4364	0.1749	-0.5020	0.1351
3	344.88	0.7495	-0.3350	0.0073	-0.8040	0.0809	1.4318	0.2048	-0.6894	0.1382
3	344.88	0.7998	-0.3583	0.0075	-0.9116	0.0905	1.3709	0.2321	-0.8044	0.1342
3	344.88	0.8577	-0.3906	0.0082	-1.0532	0.1016	1.2035	0.2651	-0.8391	0.1347
3	344.88	0.9178	-0.4401	0.0087	-1.2155	0.1135	0.9788	0.3031	-0.8239	0.1429
3	344.88	0.9729	-0.4900	0.0116	-1.2955	0.1246	0.7162	0.3421	-0.9210	0.1459
4	344.88	0.2001	0.0926	0.0036	0.0030	0.0013	-0.0162	0.0079	0.2181	0.0498
4	344.88	0.2502	0.0136	0.0041	-0.0050	0.0053	0.0345	0.0114	0.7498	0.0989
4	344.88	0.3001	-0.0254	0.0036	0.0068	0.0060	-0.0009	0.0219	0.6641	0.1125
4	344.88	0.3502	-0.0755	0.0022	0.0098	0.0146	0.0088	0.0344	0.7637	0.1006
4	344.88	0.4002	-0.1051	0.0030	0.0118	0.0210	0.0488	0.0508	0.7398	0.1016
4	344.88	0.4500	-0.1295	0.0035	0.0036	0.0234	0.0791	0.0650	0.5721	0.1083
4	344.88	0.5001	-0.1644	0.0036	-0.0236	0.0299	0.1650	0.0834	0.7587	0.0955
4	344.88	0.5560	-0.2025	0.0045	-0.0318	0.0391	0.1701	0.1033	0.5572	0.0928
4	344.88	0.6001	-0.2293	0.0048	-0.0524	0.0438	0.1481	0.1212	0.5013	0.1078
4	344.88	0.6501	-0.2753	0.0055	-0.0943	0.0507	0.1065	0.1392	0.5616	0.1131
4	344.88	0.6999	-0.3030	0.0059	-0.1561	0.0578	-0.0146	0.1581	0.5351	0.1220
4	344.88	0.7500	-0.3334	0.0064	-0.2038	0.0656	-0.1624	0.1786	0.6204	0.1226
4	344.88	0.8002	-0.3749	0.0065	-0.2496	0.0739	-0.3972	0.1978	0.4869	0.1166
4	344.88	0.8582	-0.4104	0.0070	-0.3093	0.0837	-0.7770	0.2246	0.1959	0.1134
4	344.88	0.9101	-0.4343	0.0075	-0.3643	0.0924	-1.1470	0.2524	0.2180	0.1100
4	344.88	0.9728	-0.4651	0.0100	-0.3826	0.1034	-1.4950	0.2882	0.6972	0.1138

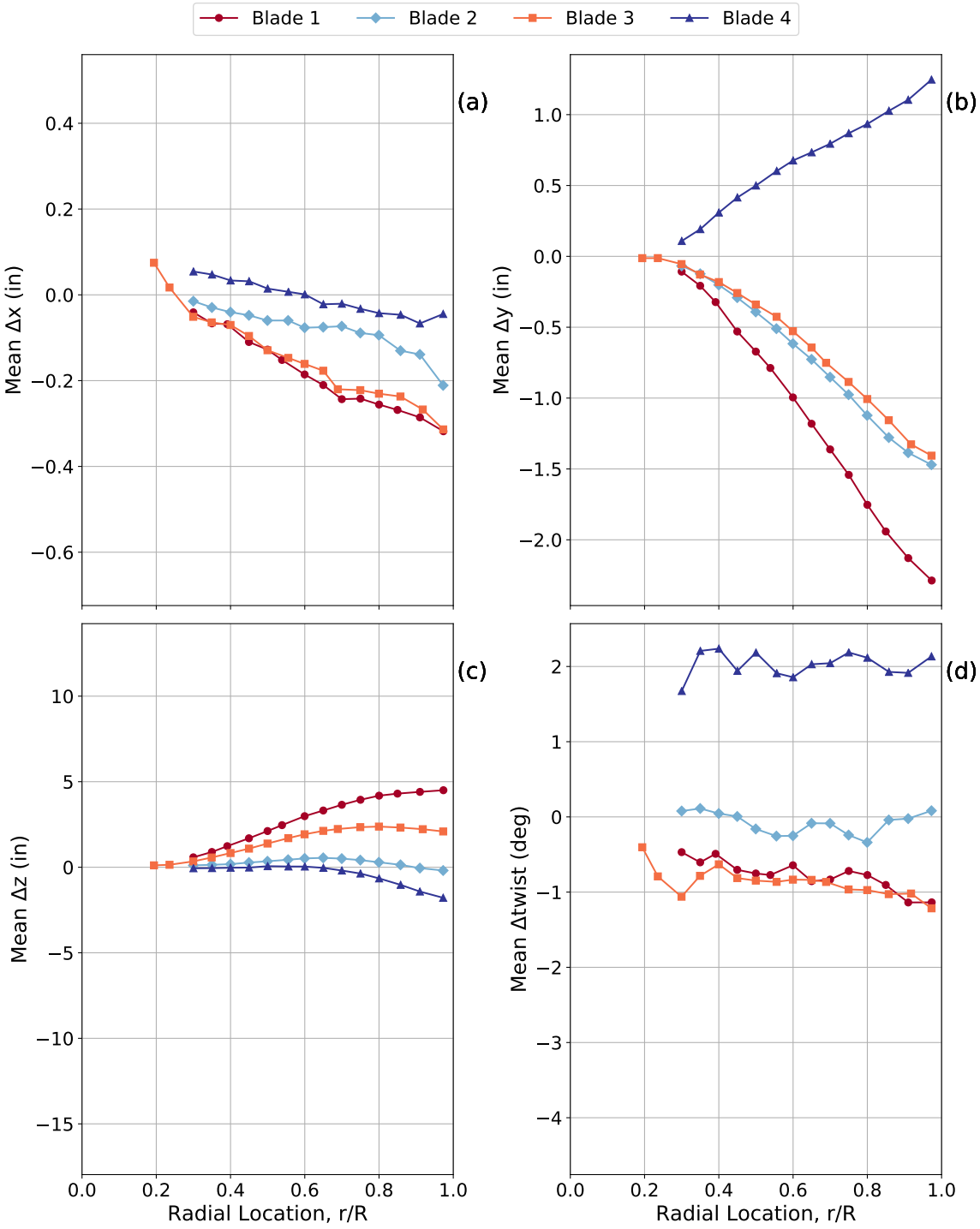


Figure 2.10-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2998	-0.0408	0.0091	-0.1076	0.0132	0.5799	0.0557	-0.4687	0.1140
1	350.16	0.3498	-0.0665	0.0090	-0.2075	0.0242	0.8920	0.0873	-0.6042	0.1502
1	350.16	0.3913	-0.0685	0.0097	-0.3227	0.0368	1.2323	0.1224	-0.4910	0.1403
1	350.16	0.4496	-0.1099	0.0113	-0.5302	0.0523	1.6929	0.1664	-0.7037	0.1416
1	350.16	0.4997	-0.1277	0.0142	-0.6719	0.0662	2.1158	0.2062	-0.7525	0.1415
1	350.16	0.5387	-0.1518	0.0170	-0.7876	0.0776	2.4607	0.2367	-0.7728	0.1473
1	350.16	0.5996	-0.1856	0.0224	-0.9952	0.0947	2.9849	0.2862	-0.6432	0.1491
1	350.16	0.6498	-0.2103	0.0281	-1.1812	0.1095	3.3162	0.3266	-0.8546	0.1508
1	350.16	0.6998	-0.2432	0.0354	-1.3622	0.1240	3.6513	0.3666	-0.8330	0.1537
1	350.16	0.7500	-0.2420	0.0419	-1.5418	0.1397	3.9429	0.4111	-0.7189	0.1492
1	350.16	0.8001	-0.2558	0.0499	-1.7532	0.1575	4.1838	0.4544	-0.7733	0.1584
1	350.16	0.8497	-0.2683	0.0584	-1.9414	0.1743	4.3033	0.4990	-0.9050	0.1533
1	350.16	0.9102	-0.2857	0.0706	-2.1291	0.1957	4.4047	0.5544	-1.1375	0.1586
1	350.16	0.9734	-0.3180	0.0855	-2.2873	0.2219	4.5017	0.6158	-1.1362	0.1574
2	350.16	0.2999	-0.0148	0.0072	-0.0674	0.0254	0.1101	0.1154	0.0780	0.3692
2	350.16	0.3498	-0.0295	0.0081	-0.1231	0.0471	0.1425	0.1804	0.1114	0.4865
2	350.16	0.3998	-0.0403	0.0090	-0.2015	0.0779	0.1807	0.2682	0.0452	0.4667
2	350.16	0.4496	-0.0477	0.0102	-0.2913	0.1041	0.2740	0.3485	0.0060	0.4612
2	350.16	0.4995	-0.0598	0.0110	-0.3919	0.1313	0.3484	0.4299	-0.1602	0.4640
2	350.16	0.5551	-0.0598	0.0124	-0.5102	0.1619	0.4393	0.5211	-0.2552	0.4644
2	350.16	0.5996	-0.0766	0.0139	-0.6162	0.1872	0.5157	0.5940	-0.2510	0.4655
2	350.16	0.6497	-0.0753	0.0148	-0.7267	0.2160	0.5489	0.6780	-0.0843	0.4778
2	350.16	0.6996	-0.0732	0.0153	-0.8521	0.2451	0.5043	0.7620	-0.0858	0.4662
2	350.16	0.7495	-0.0889	0.0160	-0.9760	0.2753	0.4170	0.8464	-0.2413	0.4717
2	350.16	0.7996	-0.0940	0.0159	-1.1224	0.3057	0.2910	0.9333	-0.3390	0.4642
2	350.16	0.8578	-0.1302	0.0153	-1.2786	0.3416	0.1400	1.0333	-0.0406	0.4599
2	350.16	0.9100	-0.1389	0.0159	-1.3855	0.3737	-0.0507	1.1211	-0.0230	0.4674
2	350.16	0.9727	-0.2110	0.0259	-1.4704	0.4118	-0.1906	1.2356	0.0818	0.4539
3	350.16	0.1938	0.0748	0.0097	-0.0127	0.0042	0.1104	0.0110	-0.4038	0.1570
3	350.16	0.2357	0.0171	0.0050	-0.0124	0.0083	0.1434	0.0173	-0.7911	0.1553
3	350.16	0.2995	-0.0512	0.0070	-0.0546	0.0083	0.3422	0.0297	-1.0613	0.3232
3	350.16	0.3493	-0.0642	0.0096	-0.1280	0.0228	0.5696	0.0468	-0.7838	0.3476
3	350.16	0.4000	-0.0703	0.0113	-0.1815	0.0321	0.8304	0.0674	-0.6306	0.3458
3	350.16	0.4497	-0.0959	0.0118	-0.2585	0.0422	1.0886	0.0876	-0.8135	0.3459
3	350.16	0.4997	-0.1292	0.0119	-0.3398	0.0531	1.3846	0.1102	-0.8471	0.3418
3	350.16	0.5556	-0.1470	0.0118	-0.4264	0.0662	1.7015	0.1345	-0.8639	0.3464
3	350.16	0.5995	-0.1610	0.0116	-0.5279	0.0771	1.9257	0.1541	-0.8343	0.3468
3	350.16	0.6498	-0.1769	0.0119	-0.6433	0.0902	2.1265	0.1742	-0.8375	0.3485
3	350.16	0.6890	-0.2201	0.0131	-0.7511	0.1003	2.2343	0.1915	-0.8649	0.3492
3	350.16	0.7495	-0.2222	0.0169	-0.8861	0.1166	2.3440	0.2178	-0.9646	0.3517
3	350.16	0.7998	-0.2304	0.0211	-1.0068	0.1300	2.3767	0.2397	-0.9733	0.3573
3	350.16	0.8577	-0.2370	0.0289	-1.1561	0.1472	2.3198	0.2652	-1.0272	0.3499
3	350.16	0.9178	-0.2673	0.0390	-1.3265	0.1648	2.2239	0.2920	-1.0191	0.3596
3	350.16	0.9729	-0.3137	0.0477	-1.4062	0.1836	2.0912	0.3164	-1.2156	0.3564
4	350.16	0.3001	0.0544	0.0081	0.1084	0.0482	-0.0600	0.1360	1.6740	0.7526
4	350.16	0.3502	0.0473	0.0138	0.1920	0.0863	-0.0505	0.2118	2.2073	0.9936
4	350.16	0.4002	0.0335	0.0137	0.3091	0.1396	-0.0294	0.3141	2.2366	0.9783
4	350.16	0.4500	0.0316	0.0144	0.4154	0.1908	-0.0188	0.4075	1.9412	0.9776
4	350.16	0.5001	0.0145	0.0148	0.4997	0.2416	0.0616	0.5034	2.1847	0.9853
4	350.16	0.5560	0.0070	0.0154	0.6025	0.2991	0.0435	0.6110	1.9103	1.0001
4	350.16	0.6001	0.0011	0.0161	0.6766	0.3455	0.0402	0.6992	1.8567	0.9830
4	350.16	0.6501	-0.0220	0.0167	0.7340	0.3985	-0.0364	0.7986	2.0296	0.9969
4	350.16	0.6999	-0.0207	0.0171	0.7944	0.4526	-0.1927	0.8976	2.0437	0.9870
4	350.16	0.7500	-0.0326	0.0168	0.8686	0.5085	-0.3683	0.9964	2.1865	0.9884
4	350.16	0.8002	-0.0427	0.0162	0.9344	0.5651	-0.6519	1.0923	2.1162	0.9888
4	350.16	0.8582	-0.0465	0.0157	1.0269	0.6316	-1.0295	1.2019	1.9281	0.9828
4	350.16	0.9101	-0.0667	0.0153	1.1044	0.6925	-1.4208	1.3014	1.9150	0.9847
4	350.16	0.9728	-0.0446	0.0292	1.2469	0.7648	-1.7867	1.4177	2.1340	0.9867

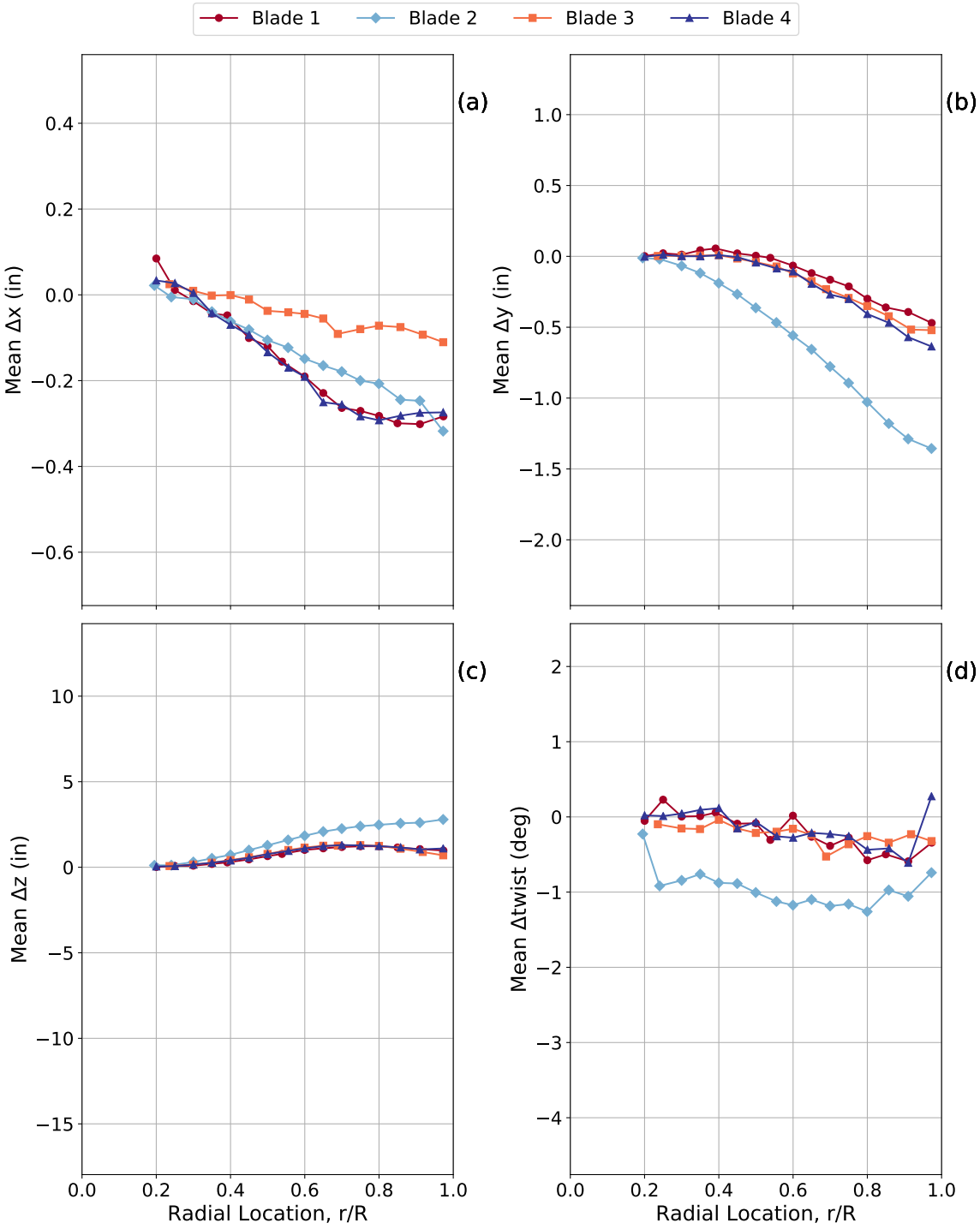


Figure 2.10-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -4.5° NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Table 2.10-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -4.5°
NFAC run 47, points 33 to 37. BD run 22, points 2304 to 2343.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0847	0.0037	0.0019	0.0028	0.0146	0.0100	-0.0524	0.0554
1	355.08	0.2499	0.0113	0.0024	0.0217	0.0061	0.0741	0.0155	0.2289	0.1069
1	355.08	0.2998	-0.0147	0.0024	0.0120	0.0105	0.0917	0.0283	0.0049	0.1181
1	355.08	0.3498	-0.0437	0.0032	0.0433	0.0200	0.1936	0.0448	0.0098	0.1022
1	355.08	0.3913	-0.0478	0.0034	0.0557	0.0274	0.2821	0.0611	0.0572	0.0968
1	355.08	0.4496	-0.1007	0.0035	0.0208	0.0361	0.4574	0.0822	-0.0908	0.1126
1	355.08	0.4997	-0.1196	0.0040	0.0046	0.0444	0.6502	0.1040	-0.0841	0.1062
1	355.08	0.5387	-0.1557	0.0044	-0.0105	0.0504	0.7772	0.1180	-0.3059	0.1151
1	355.08	0.5996	-0.1903	0.0047	-0.0654	0.0617	1.0145	0.1409	0.0165	0.1143
1	355.08	0.6498	-0.2289	0.0054	-0.1184	0.0701	1.1052	0.1584	-0.2639	0.1172
1	355.08	0.6998	-0.2636	0.0055	-0.1650	0.0803	1.1833	0.1802	-0.3849	0.1160
1	355.08	0.7500	-0.2706	0.0061	-0.2122	0.0889	1.2247	0.1999	-0.2766	0.1044
1	355.08	0.8001	-0.2823	0.0071	-0.2995	0.0997	1.2267	0.2243	-0.5760	0.1541
1	355.08	0.8497	-0.2994	0.0070	-0.3603	0.1096	1.1537	0.2494	-0.4978	0.1238
1	355.08	0.9102	-0.3014	0.0088	-0.3925	0.1200	1.0598	0.2846	-0.5908	0.1336
1	355.08	0.9734	-0.2833	0.0121	-0.4700	0.1377	0.9788	0.3320	-0.3426	0.1671
2	355.08	0.1949	0.0219	0.0043	-0.0114	0.0017	0.1096	0.0106	-0.2274	0.0575
2	355.08	0.2405	-0.0050	0.0022	-0.0189	0.0019	0.1179	0.0131	-0.9180	0.1325
2	355.08	0.2999	-0.0102	0.0020	-0.0670	0.0062	0.3052	0.0294	-0.8440	0.1583
2	355.08	0.3498	-0.0392	0.0022	-0.1180	0.0115	0.5197	0.0488	-0.7608	0.1509
2	355.08	0.3998	-0.0620	0.0023	-0.1888	0.0170	0.7236	0.0690	-0.8766	0.1465
2	355.08	0.4496	-0.0810	0.0028	-0.2668	0.0220	1.0001	0.0881	-0.8862	0.1543
2	355.08	0.4995	-0.1055	0.0032	-0.3632	0.0275	1.2796	0.1097	-1.0057	0.1519
2	355.08	0.5551	-0.1231	0.0037	-0.4671	0.0344	1.5931	0.1344	-1.1241	0.1554
2	355.08	0.5996	-0.1489	0.0041	-0.5585	0.0393	1.8405	0.1551	-1.1736	0.1583
2	355.08	0.6497	-0.1649	0.0050	-0.6562	0.0455	2.0848	0.1799	-1.0987	0.1639
2	355.08	0.6996	-0.1790	0.0055	-0.7777	0.0518	2.2568	0.2057	-1.1849	0.1641
2	355.08	0.7495	-0.1999	0.0059	-0.8934	0.0591	2.3979	0.2320	-1.1595	0.1646
2	355.08	0.7996	-0.2072	0.0066	-1.0278	0.0664	2.4786	0.2583	-1.2595	0.1628
2	355.08	0.8578	-0.2444	0.0071	-1.1795	0.0748	2.5691	0.2899	-0.9725	0.1597
2	355.08	0.9100	-0.2470	0.0068	-1.2882	0.0830	2.6063	0.3180	-1.0558	0.1608
2	355.08	0.9727	-0.3177	0.0098	-1.3558	0.0916	2.7920	0.3566	-0.7416	0.1532
3	355.08	0.2357	0.0248	0.0102	0.0029	0.0028	0.0694	0.0107	-0.0979	0.0471
3	355.08	0.2995	0.0094	0.0027	0.0048	0.0080	0.1572	0.0223	-0.1537	0.0757
3	355.08	0.3493	-0.0017	0.0043	0.0057	0.0134	0.2659	0.0319	-0.1615	0.0731
3	355.08	0.4000	-0.0006	0.0094	0.0081	0.0224	0.4170	0.0501	-0.0380	0.0687
3	355.08	0.4497	-0.0110	0.0133	-0.0153	0.0295	0.5808	0.0632	-0.1541	0.0740
3	355.08	0.4997	-0.0373	0.0174	-0.0409	0.0391	0.7787	0.0786	-0.2130	0.0828
3	355.08	0.5556	-0.0406	0.0226	-0.0715	0.0490	1.0080	0.0965	-0.1969	0.0719
3	355.08	0.5995	-0.0444	0.0256	-0.1203	0.0581	1.1487	0.1112	-0.1580	0.0748
3	355.08	0.6498	-0.0552	0.0297	-0.1741	0.0673	1.2584	0.1280	-0.2388	0.0922
3	355.08	0.6890	-0.0911	0.0329	-0.2312	0.0751	1.2597	0.1429	-0.5269	0.1023
3	355.08	0.7495	-0.0799	0.0389	-0.2932	0.0881	1.2926	0.1681	-0.3637	0.0954
3	355.08	0.7998	-0.0718	0.0447	-0.3509	0.0998	1.2497	0.1907	-0.2561	0.1047
3	355.08	0.8577	-0.0752	0.0514	-0.4224	0.1132	1.0814	0.2176	-0.3432	0.1082
3	355.08	0.9178	-0.0929	0.0602	-0.5168	0.1279	0.8911	0.2500	-0.2306	0.1208
3	355.08	0.9729	-0.1104	0.0709	-0.5207	0.1420	0.6964	0.2811	-0.3215	0.1352
4	355.08	0.2001	0.0335	0.0023	-0.0025	0.0023	0.0443	0.0074	0.0203	0.0532
4	355.08	0.2502	0.0272	0.0018	0.0117	0.0047	0.0684	0.0141	0.0111	0.0739
4	355.08	0.3001	0.0044	0.0017	0.0011	0.0082	0.1548	0.0211	0.0440	0.1045
4	355.08	0.3502	-0.0428	0.0027	0.0004	0.0145	0.2631	0.0337	0.0933	0.0922
4	355.08	0.4002	-0.0699	0.0030	0.0093	0.0220	0.3935	0.0494	0.1164	0.0903
4	355.08	0.4500	-0.0934	0.0031	-0.0057	0.0260	0.5533	0.0630	-0.1520	0.0841
4	355.08	0.5001	-0.1339	0.0034	-0.0436	0.0311	0.7682	0.0762	-0.0670	0.0838
4	355.08	0.5560	-0.1698	0.0038	-0.0853	0.0380	0.9523	0.0932	-0.2583	0.0890
4	355.08	0.6001	-0.1910	0.0037	-0.1066	0.0437	1.1024	0.1068	-0.2767	0.0809
4	355.08	0.6501	-0.2504	0.0042	-0.1939	0.0491	1.2328	0.1214	-0.2128	0.0972
4	355.08	0.6999	-0.2560	0.0047	-0.2692	0.0560	1.2978	0.1411	-0.2283	0.0991
4	355.08	0.7500	-0.2832	0.0047	-0.3012	0.0634	1.2745	0.1623	-0.2567	0.1127
4	355.08	0.8002	-0.2925	0.0058	-0.4070	0.0694	1.2366	0.1907	-0.4369	0.1161
4	355.08	0.8582	-0.2817	0.0066	-0.4689	0.0784	1.1565	0.2204	-0.4190	0.1319
4	355.08	0.9101	-0.2750	0.0064	-0.5703	0.0854	1.0410	0.2561	-0.6107	0.1468
4	355.08	0.9728	-0.2740	0.0104	-0.6359	0.0973	1.0983	0.3047	0.2745	0.1348

2.11 Run 47, Points 52 to 58

2.11.1 Pitch, Flap, and Lag

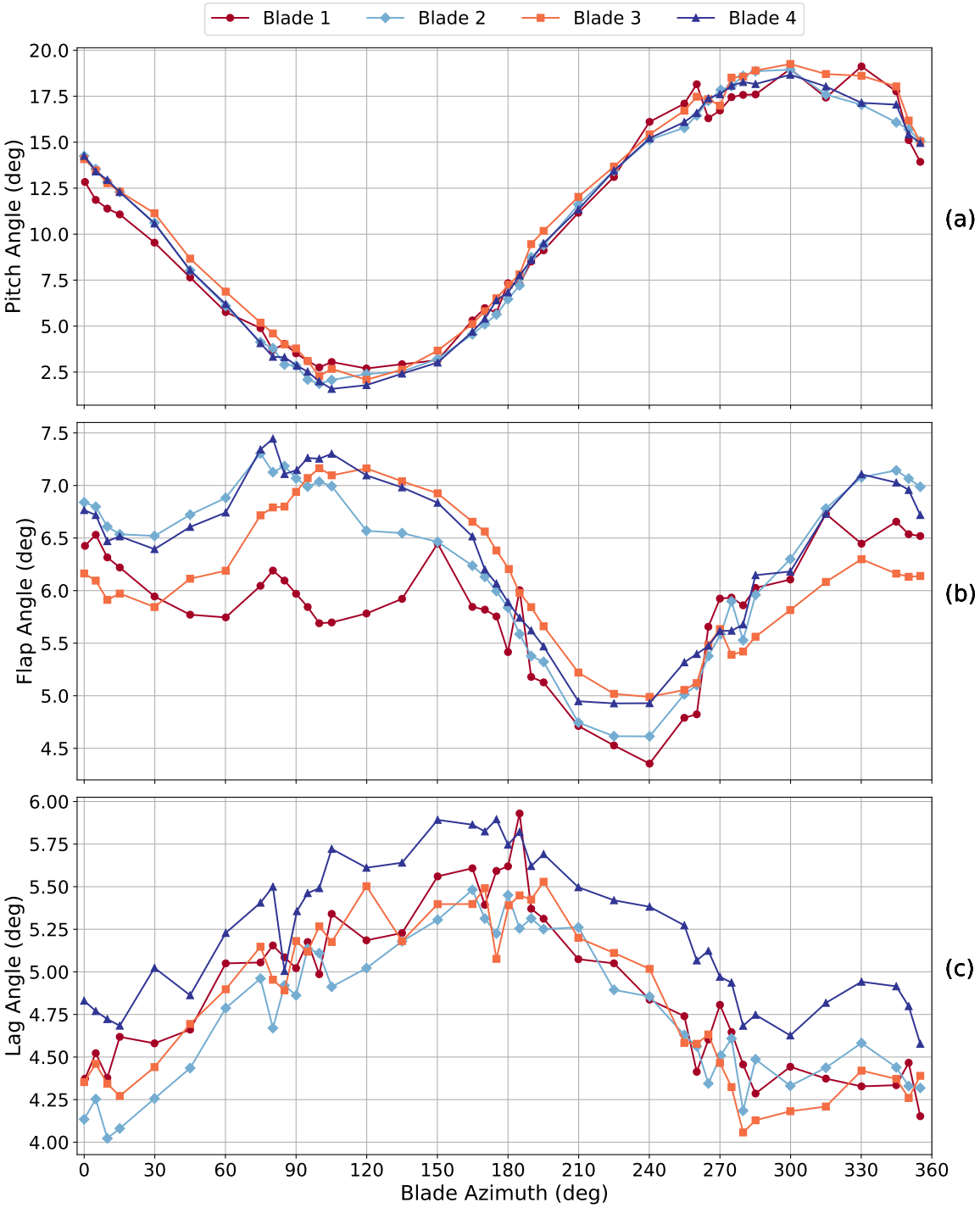


Figure 2.11-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	12.8363	6.4254	4.3729	0.3409	0.1449	0.2769
4.92	11.8616	6.5309	4.5224	0.2241	0.1235	0.1086
9.84	11.3885	6.3157	4.3779	0.2290	0.1076	0.1483
15.12	11.0726	6.2199	4.6184	0.1982	0.0890	0.1430
29.88	9.5372	5.9443	4.5804	0.1575	0.1050	0.1169
45	7.6469	5.7709	4.6608	0.1597	0.0976	0.1076
60.12	5.7634	5.7451	5.0498	0.1201	0.1240	0.1580
74.88	4.8882	6.0454	5.0550	0.0947	0.1221	0.1363
80.16	3.7017	6.1907	5.1549	0.1804	0.0920	0.0955
85.08	4.0341	6.0954	5.0857	0.1191	0.1201	0.1281
90	3.5167	5.9700	5.0221	0.0980	0.1255	0.1485
94.92	3.1042	5.8441	5.1752	0.0941	0.1239	0.1602
99.84	2.7520	5.6900	4.9862	0.1111	0.1363	0.0877
105.12	3.0472	5.6972	5.3404	0.1593	0.0990	0.2047
119.88	2.6958	5.7821	5.1852	0.0989	0.1090	0.0817
135	2.9272	5.9216	5.2281	0.1153	0.1284	0.0938
150.12	3.1477	6.4471	5.5605	0.1065	0.1239	0.1909
164.88	5.3107	5.8452	5.6081	0.1307	0.1001	0.0957
170.16	5.9792	5.8190	5.3933	0.1263	0.1174	0.1588
175.08	5.7363	5.7543	5.5924	0.1447	0.1550	0.1763
180	7.3334	5.4157	5.6196	0.2060	0.1497	0.1543
184.92	7.2677	6.0043	5.9298	0.1691	0.1210	0.1737
189.84	8.5133	5.1792	5.3707	0.1232	0.1475	0.0818
195.12	9.1191	5.1271	5.3119	0.2022	0.1333	0.1692
209.88	11.1622	4.7126	5.0743	0.1507	0.1326	0.1278
225	13.1086	4.5273	5.0501	0.1314	0.0828	0.1037
240.12	16.1050	4.3542	4.8372	0.2168	0.1413	0.1476
254.88	17.0980	4.7901	4.7398	0.1745	0.0999	0.0799
260.16	18.1502	4.8234	4.4132	0.4014	0.1782	0.1380
265.08	16.2997	5.6564	4.6024	0.2066	0.0938	0.1238
270	16.7240	5.9242	4.8064	0.2796	0.0974	0.1623
274.92	17.4500	5.9336	4.6460	0.1826	0.0999	0.1476
279.84	17.5724	5.8601	4.4559	0.4381	0.0895	0.2543
285.12	17.5964	6.0259	4.2856	0.2886	0.0964	0.1541
299.88	18.9809	6.1055	4.4428	0.1514	0.1032	0.1069
315	17.4260	6.7298	4.3733	0.1424	0.1193	0.1275
330.12	19.1208	6.4463	4.3278	0.2721	0.1550	0.1468
344.88	17.7652	6.6555	4.3348	0.2352	0.0876	0.0990
350.16	15.1138	6.5367	4.4661	0.0911	0.0904	0.1115
355.08	13.9319	6.5188	4.1526	0.2945	0.1650	0.1822

Table 2.11-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	14.2503	6.8398	4.1346	0.1553	0.1241	0.1461
4.92	13.5358	6.7982	4.2533	0.1993	0.1189	0.1526
9.84	12.8396	6.6090	4.0225	0.1673	0.0859	0.0737
15.12	12.2909	6.5358	4.0806	0.1665	0.0916	0.1190
29.88	10.6211	6.5198	4.2565	0.1279	0.0823	0.0841
45	8.0356	6.7220	4.4350	0.0859	0.0844	0.0879
60.12	6.0932	6.8824	4.7873	0.1155	0.1117	0.1798
74.88	4.1310	7.3054	4.9608	0.0862	0.0881	0.1025
80.16	3.7979	7.1263	4.6698	0.1327	0.0772	0.1618
85.08	2.9082	7.1841	4.9209	0.1176	0.0821	0.1889
90	2.8448	7.0678	4.8619	0.1507	0.1047	0.1656
94.92	2.0918	6.9898	5.1360	0.1208	0.0791	0.1914
99.84	1.8716	7.0354	5.1098	0.1531	0.1273	0.1295
105.12	2.0691	6.9944	4.9122	0.1405	0.1101	0.1577
119.88	2.3941	6.5692	5.0219	0.1041	0.1197	0.1505
135	2.5241	6.5471	5.1791	0.1017	0.1221	0.1262
150.12	3.2157	6.4639	5.3053	0.1493	0.1835	0.1515
164.88	4.5515	6.2369	5.4819	0.0864	0.0924	0.0728
170.16	5.1019	6.1318	5.3129	0.1085	0.1190	0.1148
175.08	5.6311	5.9956	5.2251	0.1185	0.1267	0.1387
180	6.4659	5.8378	5.4502	0.1462	0.1385	0.1465
184.92	7.2066	5.5863	5.2549	0.2088	0.1158	0.1548
189.84	8.7433	5.3774	5.3136	0.1884	0.1056	0.2417
195.12	9.3958	5.3224	5.2506	0.1868	0.1599	0.1573
209.88	11.6076	4.7455	5.2613	0.1221	0.0926	0.1015
225	13.4451	4.6150	4.8945	0.1266	0.0900	0.1251
240.12	15.1350	4.6138	4.8552	0.1602	0.0940	0.0986
254.88	15.7825	5.0136	4.6291	0.1826	0.0843	0.1051
260.16	16.4572	5.1006	4.5626	0.2697	0.1159	0.0871
265.08	17.2527	5.3776	4.3446	0.2009	0.1517	0.2033
270.35	17.8420	5.5859	4.5086	0.3457	0.1045	0.2386
274.92	18.0473	5.8985	4.6090	0.1009	0.2439	0.1638
279.84	18.6039	5.5282	4.1848	0.1897	0.0909	0.1463
285.12	18.8568	5.9596	4.4865	0.1840	0.0961	0.1288
299.88	18.9427	6.2994	4.3310	0.1544	0.0904	0.1033
315	17.5902	6.7806	4.4372	0.1164	0.1234	0.1019
330.12	17.0355	7.0776	4.5822	0.2315	0.0923	0.1400
344.88	16.0795	7.1434	4.4394	0.2638	0.1476	0.1083
350.16	15.6978	7.0656	4.3295	0.2480	0.1045	0.0989
355.08	15.0519	6.9873	4.3184	0.1435	0.1027	0.1046

Table 2.11-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	14.0792	6.1631	4.3529	0.1894	0.0994	0.1655
4.92	13.4681	6.0950	4.4599	0.2085	0.1172	0.2017
9.84	12.7731	5.9122	4.3433	0.1320	0.1249	0.1072
15.12	12.3123	5.9720	4.2715	0.2046	0.1116	0.1544
29.88	11.1366	5.8440	4.4409	0.2192	0.1369	0.1616
45	8.6689	6.1130	4.6941	0.1053	0.1098	0.1415
60.12	6.8743	6.1891	4.8978	0.1596	0.1645	0.1924
74.88	5.1864	6.7162	5.1475	0.1201	0.0803	0.0977
80.16	4.6024	6.7910	4.9537	0.1480	0.1180	0.1330
85.08	4.0070	6.7992	4.8912	0.1170	0.1213	0.1592
90	3.7845	6.9389	5.1811	0.2097	0.1213	0.1727
94.92	3.1050	7.0704	5.1183	0.1255	0.1175	0.1890
99.84	2.2731	7.1641	5.2670	0.1508	0.1207	0.2851
105.12	2.6753	7.0967	5.1754	0.1779	0.1123	0.1760
119.88	2.0818	7.1623	5.5027	0.1141	0.1167	0.1279
135	2.6327	7.0398	5.1806	0.1107	0.1048	0.1219
150.12	3.6661	6.9253	5.3976	0.1292	0.1221	0.1183
164.88	5.1129	6.6547	5.3980	0.1238	0.1132	0.1158
170.16	5.8099	6.5617	5.4910	0.0985	0.0861	0.0963
175.08	6.5124	6.3817	5.0763	0.1207	0.1280	0.1659
180.35	7.2490	6.2052	5.3907	0.1278	0.1370	0.2474
184.92	7.8164	5.9779	5.4490	0.1082	0.0849	0.1160
189.84	9.4583	5.8428	5.4246	0.1870	0.1314	0.1417
195.12	10.1749	5.6608	5.5287	0.1557	0.0904	0.1402
209.88	12.0257	5.2208	5.1999	0.1196	0.1094	0.0975
225	13.6748	5.0180	5.1112	0.1071	0.0778	0.1185
240.12	15.4239	4.9890	5.0174	0.1246	0.0815	0.1523
254.88	16.7092	5.0553	4.5830	0.2148	0.0930	0.0951
260.16	17.4738	5.1202	4.5776	0.2216	0.0959	0.0733
265.08	17.3378	5.4825	4.6324	0.2226	0.0926	0.0945
270	16.9871	5.6348	4.4653	0.2391	0.0781	0.1521
274.92	18.5092	5.3897	4.3234	0.2707	0.0951	0.1626
279.84	18.5624	5.4208	4.0573	0.3115	0.1479	0.1022
285.12	18.8963	5.5613	4.1286	0.2097	0.0940	0.1297
299.88	19.2510	5.8148	4.1818	0.1380	0.0878	0.0972
315	18.7063	6.0825	4.2091	0.1995	0.1319	0.1158
330.12	18.6110	6.2985	4.4201	0.3028	0.1107	0.1758
344.88	18.0336	6.1617	4.3719	0.5358	0.2391	0.1430
350.16	16.1766	6.1313	4.2595	0.1946	0.1123	0.1525
355.08	15.0416	6.1392	4.3896	0.2447	0.1230	0.1901

Table 2.11-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	14.2551	6.7660	4.8304	0.1909	0.1219	0.1652
4.92	13.4084	6.7185	4.7699	0.1683	0.1198	0.1603
9.84	12.9492	6.4702	4.7225	0.1624	0.1283	0.2324
15.12	12.2892	6.5160	4.6838	0.1706	0.1170	0.1569
29.88	10.5808	6.3945	5.0234	0.1446	0.0952	0.1028
45	8.0369	6.6054	4.8626	0.1444	0.1006	0.1241
60.12	6.1939	6.7425	5.2283	0.1080	0.1275	0.1242
74.88	4.0726	7.3419	5.4059	0.1150	0.0786	0.0971
80.16	3.3303	7.4445	5.4998	0.1383	0.0958	0.1067
85.08	3.3077	7.1087	5.0048	0.2661	0.1302	0.1370
90.35	2.8475	7.1465	5.3560	0.1398	0.1199	0.2568
94.92	2.5201	7.2617	5.4621	0.1021	0.0961	0.1007
99.84	1.9917	7.2548	5.4911	0.1180	0.0944	0.1348
105.12	1.5839	7.3014	5.7218	0.0850	0.0972	0.1232
119.88	1.7888	7.0959	5.6111	0.1032	0.0954	0.0832
135	2.4150	6.9817	5.6408	0.1050	0.1069	0.1102
150.12	3.0158	6.8355	5.8922	0.0790	0.0808	0.1302
164.88	4.6937	6.5149	5.8640	0.0880	0.1234	0.0997
170.16	5.4000	6.2005	5.8242	0.0725	0.1005	0.0701
175.08	6.3994	6.0665	5.8954	0.1033	0.1115	0.0937
180	6.8305	5.8897	5.7465	0.1639	0.1187	0.1163
184.92	7.7498	5.7414	5.8212	0.1203	0.1019	0.1459
189.84	8.5969	5.6210	5.6211	0.1217	0.1245	0.0760
195.12	9.5032	5.4689	5.6912	0.1225	0.0825	0.1219
209.88	11.3420	4.9477	5.4966	0.0843	0.0837	0.0802
225	13.4539	4.9274	5.4202	0.1171	0.0965	0.0849
240.12	15.2115	4.9288	5.3821	0.2122	0.0750	0.1507
254.88	16.0937	5.3176	5.2731	0.1442	0.0770	0.0770
260.16	16.5853	5.3967	5.0669	0.2183	0.0527	0.1336
265.08	17.3842	5.4739	5.1231	0.2828	0.0826	0.1379
270	17.6100	5.6166	4.9710	0.2815	0.0888	0.1176
274.92	18.0755	5.6183	4.9368	0.1936	0.0804	0.1697
279.84	18.2699	5.6783	4.6832	0.2171	0.0978	0.0740
285.12	18.1624	6.1467	4.7477	0.2706	0.0969	0.1328
299.88	18.6691	6.1814	4.6266	0.2442	0.1004	0.1432
315	18.0294	6.7311	4.8179	0.1645	0.1167	0.1075
330.12	17.1399	7.1064	4.9419	0.2995	0.1735	0.1641
344.88	17.0421	7.0276	4.9150	0.1840	0.1087	0.0998
350.16	15.4262	6.9569	4.7983	0.1796	0.1036	0.1131
355.08	14.9573	6.7191	4.5776	0.1714	0.1063	0.1419

2.11.2 Spanwise Elastic Deformations

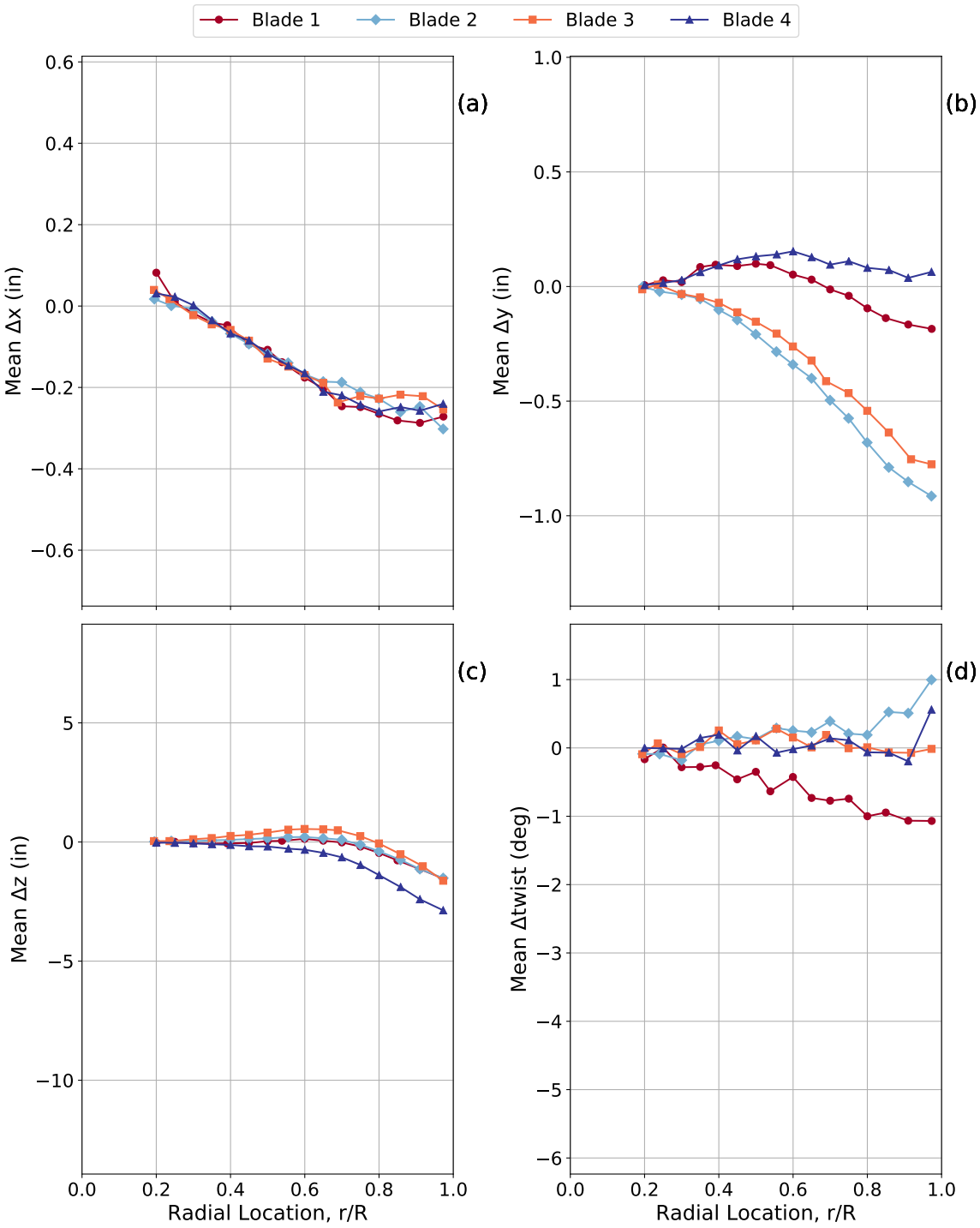


Figure 2.11-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0820	0.0038	0.0058	0.0028	-0.0331	0.0141	-0.1654	0.1066
1	0.35	0.2499	0.0096	0.0021	0.0272	0.0050	0.0080	0.0203	0.0054	0.1894
1	0.35	0.2998	-0.0177	0.0022	0.0195	0.0114	-0.0535	0.0405	-0.2822	0.2437
1	0.35	0.3498	-0.0407	0.0031	0.0850	0.0217	-0.0661	0.0676	-0.2785	0.2280
1	0.35	0.3913	-0.0472	0.0032	0.0952	0.0295	-0.0591	0.0898	-0.2542	0.2410
1	0.35	0.4496	-0.0941	0.0039	0.0895	0.0401	-0.0430	0.1218	-0.4597	0.2580
1	0.35	0.4997	-0.1075	0.0043	0.0995	0.0504	0.0348	0.1516	-0.3497	0.2616
1	0.35	0.5387	-0.1380	0.0041	0.0933	0.0589	0.0504	0.1735	-0.6347	0.2779
1	0.35	0.5996	-0.1758	0.0049	0.0521	0.0724	0.1304	0.2086	-0.4252	0.2842
1	0.35	0.6498	-0.2027	0.0057	0.0302	0.0839	0.0541	0.2387	-0.7321	0.2947
1	0.35	0.6998	-0.2462	0.0057	-0.0126	0.0961	-0.0184	0.2688	-0.7724	0.2912
1	0.35	0.7500	-0.2483	0.0060	-0.0405	0.1085	-0.1916	0.2988	-0.7428	0.3300
1	0.35	0.8001	-0.2649	0.0061	-0.0952	0.1222	-0.4612	0.3290	-0.9997	0.3208
1	0.35	0.8497	-0.2811	0.0070	-0.1376	0.1345	-0.7707	0.3576	-0.9455	0.3340
1	0.35	0.9102	-0.2871	0.0090	-0.1658	0.1526	-1.1392	0.3984	-1.0649	0.3232
1	0.35	0.9734	-0.2716	0.0116	-0.1848	0.1703	-1.5350	0.4419	-1.0684	0.3507
2	0	0.1949	0.0172	0.0021	-0.0009	0.0017	0.0140	0.0082	-0.0874	0.0430
2	0	0.2405	0.0009	0.0018	-0.0218	0.0035	0.0365	0.0119	-0.0893	0.0958
2	0	0.2999	-0.0061	0.0016	-0.0352	0.0063	0.0341	0.0252	-0.1793	0.1085
2	0	0.3498	-0.0381	0.0021	-0.0536	0.0112	0.0692	0.0410	0.0493	0.1123
2	0	0.3998	-0.0677	0.0026	-0.1014	0.0173	0.0889	0.0604	0.1054	0.1064
2	0	0.4496	-0.0933	0.0026	-0.1458	0.0223	0.1238	0.0810	0.1700	0.1215
2	0	0.4995	-0.1173	0.0028	-0.2083	0.0285	0.1510	0.1068	0.1277	0.1267
2	0	0.5551	-0.1396	0.0032	-0.2843	0.0361	0.2033	0.1352	0.2902	0.1282
2	0	0.5996	-0.1678	0.0035	-0.3402	0.0429	0.2097	0.1571	0.2541	0.1345
2	0	0.6497	-0.1857	0.0042	-0.4003	0.0502	0.1560	0.1826	0.2285	0.1355
2	0	0.6996	-0.1873	0.0040	-0.4961	0.0590	0.0937	0.2055	0.3906	0.1325
2	0	0.7495	-0.2118	0.0044	-0.5748	0.0678	-0.1102	0.2305	0.2091	0.1415
2	0	0.7996	-0.2276	0.0052	-0.6807	0.0764	-0.3873	0.2545	0.1897	0.1411
2	0	0.8578	-0.2603	0.0058	-0.7890	0.0862	-0.7494	0.2862	0.5257	0.1439
2	0	0.9100	-0.2469	0.0062	-0.8520	0.0970	-1.1345	0.3235	0.5077	0.1682
2	0	0.9727	-0.3021	0.0095	-0.9143	0.1080	-1.5163	0.3655	0.9973	0.1484
3	0	0.1938	0.0396	0.0030	-0.0121	0.0019	0.0368	0.0087	-0.0926	0.0588
3	0	0.2357	0.0171	0.0017	0.0083	0.0031	0.0370	0.0116	0.0665	0.0889
3	0	0.2995	-0.0225	0.0014	-0.0326	0.0068	0.1146	0.0273	-0.0902	0.1281
3	0	0.3493	-0.0450	0.0021	-0.0473	0.0121	0.1639	0.0429	0.0132	0.1370
3	0	0.4000	-0.0587	0.0025	-0.0707	0.0186	0.2516	0.0645	0.2549	0.1493
3	0	0.4497	-0.0851	0.0028	-0.1125	0.0245	0.3015	0.0869	0.0544	0.1609
3	0	0.4997	-0.1291	0.0030	-0.1534	0.0305	0.3941	0.1091	0.1104	0.1712
3	0	0.5556	-0.1487	0.0030	-0.2052	0.0373	0.5175	0.1364	0.2799	0.1677
3	0	0.5995	-0.1697	0.0034	-0.2616	0.0427	0.5461	0.1571	0.1526	0.1729
3	0	0.6498	-0.1888	0.0038	-0.3231	0.0505	0.5311	0.1803	0.0084	0.1845
3	0	0.6890	-0.2369	0.0040	-0.4130	0.0562	0.4908	0.1988	0.1897	0.1820
3	0	0.7495	-0.2210	0.0048	-0.4649	0.0662	0.2461	0.2263	-0.0044	0.1965
3	0	0.7998	-0.2275	0.0054	-0.5423	0.0746	-0.0616	0.2521	0.0090	0.2097
3	0	0.8577	-0.2178	0.0069	-0.6370	0.0866	-0.5139	0.2828	-0.0656	0.2176
3	0	0.9178	-0.2216	0.0070	-0.7537	0.0974	-1.0184	0.3127	-0.0723	0.2770
3	0	0.9729	-0.2541	0.0104	-0.7757	0.1102	-1.6257	0.3388	-0.0141	0.2131
4	0	0.2001	0.0310	0.0021	0.0061	0.0016	-0.0251	0.0082	0.0004	0.0547
4	0	0.2502	0.0227	0.0016	0.0155	0.0033	-0.0366	0.0127	-0.0080	0.1001
4	0	0.3001	0.0018	0.0017	0.0283	0.0059	-0.0569	0.0248	-0.0137	0.1238
4	0	0.3502	-0.0348	0.0019	0.0629	0.0103	-0.0930	0.0390	0.1454	0.1120
4	0	0.4002	-0.0672	0.0023	0.0921	0.0154	-0.1237	0.0579	0.1940	0.1055
4	0	0.4500	-0.0849	0.0025	0.1187	0.0202	-0.1799	0.0748	-0.0367	0.1114
4	0	0.5001	-0.1170	0.0025	0.1316	0.0251	-0.1898	0.0965	0.1732	0.1290
4	0	0.5560	-0.1462	0.0032	0.1400	0.0324	-0.2811	0.1214	-0.0700	0.1230
4	0	0.6001	-0.1652	0.0031	0.1535	0.0387	-0.3257	0.1432	-0.0180	0.1342
4	0	0.6501	-0.2107	0.0035	0.1280	0.0464	-0.4569	0.1690	0.0352	0.1423
4	0	0.6999	-0.2195	0.0037	0.0954	0.0542	-0.6437	0.1982	0.1400	0.1403
4	0	0.7500	-0.2426	0.0045	0.1104	0.0632	-0.9649	0.2267	0.1120	0.1538
4	0	0.8002	-0.2591	0.0044	0.0815	0.0728	-1.3916	0.2614	-0.0641	0.1662
4	0	0.8582	-0.2482	0.0053	0.0720	0.0836	-1.8906	0.3016	-0.0697	0.1641
4	0	0.9101	-0.2572	0.0062	0.0376	0.0960	-2.4058	0.3420	-0.1969	0.1703
4	0	0.9728	-0.2403	0.0074	0.0637	0.1106	-2.8678	0.3942	0.5600	0.1969

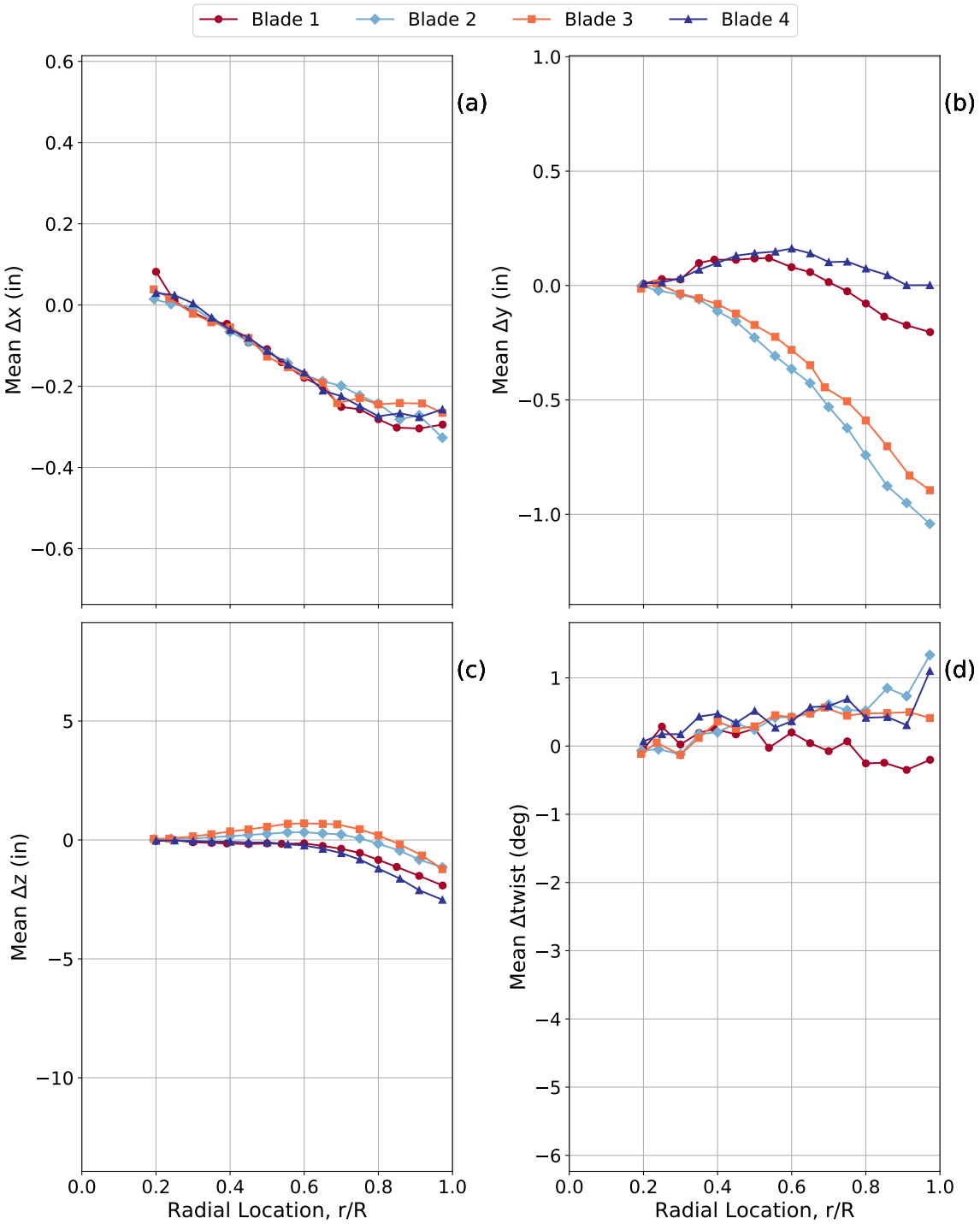


Figure 2.11-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0819	0.0043	0.0074	0.0025	-0.0459	0.0130	-0.0467	0.0972
1	4.92	0.2499	0.0093	0.0023	0.0283	0.0049	-0.0092	0.0213	0.2851	0.1594
1	4.92	0.2998	-0.0177	0.0022	0.0266	0.0116	-0.0964	0.0404	0.0234	0.2177
1	4.92	0.3498	-0.0405	0.0030	0.0981	0.0200	-0.1233	0.0677	0.1916	0.1784
1	4.92	0.3913	-0.0463	0.0030	0.1131	0.0292	-0.1452	0.0923	0.2525	0.1871
1	4.92	0.4496	-0.0924	0.0032	0.1124	0.0396	-0.1727	0.1266	0.1712	0.1894
1	4.92	0.4997	-0.1086	0.0035	0.1184	0.0489	-0.1451	0.1541	0.2554	0.2016
1	4.92	0.5387	-0.1409	0.0037	0.1202	0.0565	-0.1632	0.1765	-0.0248	0.2040
1	4.92	0.5996	-0.1790	0.0041	0.0803	0.0680	-0.1438	0.2093	0.1994	0.2041
1	4.92	0.6498	-0.2019	0.0041	0.0586	0.0787	-0.2510	0.2363	0.0423	0.2031
1	4.92	0.6998	-0.2509	0.0044	0.0152	0.0889	-0.3692	0.2652	-0.0743	0.2035
1	4.92	0.7500	-0.2569	0.0049	-0.0253	0.1007	-0.5470	0.2930	0.0685	0.2134
1	4.92	0.8001	-0.2812	0.0056	-0.0788	0.1126	-0.8397	0.3224	-0.2541	0.2124
1	4.92	0.8497	-0.3019	0.0062	-0.1359	0.1250	-1.1347	0.3507	-0.2450	0.2161
1	4.92	0.9102	-0.3039	0.0068	-0.1737	0.1412	-1.5105	0.3828	-0.3496	0.2301
1	4.92	0.9734	-0.2944	0.0097	-0.2036	0.1580	-1.9131	0.4179	-0.2016	0.2332
2	4.92	0.1949	0.0147	0.0033	-0.0021	0.0020	0.0206	0.0079	-0.0661	0.0411
2	4.92	0.2405	0.0023	0.0016	-0.0221	0.0027	0.0467	0.0117	-0.0473	0.0847
2	4.92	0.2999	-0.0059	0.0016	-0.0404	0.0062	0.0599	0.0235	-0.1208	0.1013
2	4.92	0.3498	-0.0361	0.0021	-0.0596	0.0127	0.1140	0.0403	0.1719	0.0910
2	4.92	0.3998	-0.0657	0.0025	-0.1121	0.0178	0.1564	0.0583	0.2022	0.0944
2	4.92	0.4496	-0.0898	0.0025	-0.1568	0.0230	0.2156	0.0778	0.3291	0.0976
2	4.92	0.4995	-0.1170	0.0027	-0.2276	0.0291	0.2564	0.0990	0.2412	0.1096
2	4.92	0.5551	-0.1426	0.0032	-0.3080	0.0362	0.3186	0.1236	0.4196	0.1066
2	4.92	0.5996	-0.1720	0.0035	-0.3646	0.0416	0.3244	0.1404	0.4240	0.1196
2	4.92	0.6497	-0.1878	0.0035	-0.4269	0.0483	0.2733	0.1632	0.4874	0.1220
2	4.92	0.6996	-0.1989	0.0035	-0.5305	0.0550	0.2310	0.1858	0.6088	0.1268
2	4.92	0.7495	-0.2229	0.0039	-0.6226	0.0632	0.0680	0.2108	0.5267	0.1277
2	4.92	0.7996	-0.2426	0.0045	-0.7414	0.0703	-0.1558	0.2367	0.5183	0.1466
2	4.92	0.8578	-0.2816	0.0055	-0.8764	0.0802	-0.4498	0.2664	0.8487	0.1229
2	4.92	0.9100	-0.2715	0.0053	-0.9500	0.0897	-0.8228	0.2939	0.7325	0.1401
2	4.92	0.9727	-0.3267	0.0091	-1.0416	0.0990	-1.1519	0.3289	1.3350	0.1323
3	4.92	0.1938	0.0386	0.0032	-0.0136	0.0019	0.0469	0.0083	-0.1138	0.0470
3	4.92	0.2357	0.0172	0.0018	0.0085	0.0032	0.0553	0.0131	0.0504	0.0810
3	4.92	0.2995	-0.0215	0.0015	-0.0357	0.0065	0.1511	0.0271	-0.1302	0.1116
3	4.92	0.3493	-0.0424	0.0019	-0.0557	0.0120	0.2402	0.0444	0.1198	0.1135
3	4.92	0.4000	-0.0553	0.0025	-0.0807	0.0184	0.3593	0.0668	0.3600	0.1152
3	4.92	0.4497	-0.0813	0.0028	-0.1227	0.0237	0.4405	0.0877	0.2530	0.1219
3	4.92	0.4997	-0.1270	0.0030	-0.1724	0.0287	0.5541	0.1087	0.2887	0.1331
3	4.92	0.5556	-0.1530	0.0035	-0.2244	0.0359	0.6789	0.1337	0.4520	0.1383
3	4.92	0.5995	-0.1733	0.0036	-0.2813	0.0411	0.6977	0.1533	0.4249	0.1420
3	4.92	0.6498	-0.1911	0.0046	-0.3481	0.0480	0.6789	0.1737	0.4766	0.1480
3	4.92	0.6890	-0.2417	0.0040	-0.4450	0.0540	0.6543	0.1918	0.5648	0.1575
3	4.92	0.7495	-0.2293	0.0045	-0.5058	0.0625	0.4517	0.2161	0.4459	0.1575
3	4.92	0.7998	-0.2446	0.0046	-0.5900	0.0698	0.1937	0.2384	0.4796	0.1572
3	4.92	0.8577	-0.2414	0.0053	-0.7027	0.0795	-0.1860	0.2612	0.4828	0.1499
3	4.92	0.9178	-0.2424	0.0073	-0.8304	0.0901	-0.6533	0.2894	0.4981	0.1798
3	4.92	0.9729	-0.2654	0.0097	-0.8948	0.1006	-1.2265	0.3147	0.4106	0.1826
4	4.92	0.2001	0.0296	0.0026	0.0083	0.0016	-0.0255	0.0077	0.0698	0.0569
4	4.92	0.2502	0.0243	0.0018	0.0134	0.0034	-0.0219	0.0124	0.1732	0.0982
4	4.92	0.3001	0.0042	0.0015	0.0323	0.0061	-0.0446	0.0223	0.1737	0.1268
4	4.92	0.3502	-0.0308	0.0020	0.0694	0.0110	-0.0643	0.0381	0.4313	0.1118
4	4.92	0.4002	-0.0611	0.0025	0.0990	0.0166	-0.0744	0.0549	0.4720	0.1253
4	4.92	0.4500	-0.0803	0.0028	0.1306	0.0215	-0.1079	0.0732	0.3385	0.1283
4	4.92	0.5001	-0.1127	0.0027	0.1412	0.0267	-0.1009	0.0914	0.5176	0.1352
4	4.92	0.5560	-0.1466	0.0028	0.1485	0.0334	-0.1816	0.1125	0.2693	0.1405
4	4.92	0.6001	-0.1662	0.0034	0.1618	0.0381	-0.2317	0.1297	0.3645	0.1483
4	4.92	0.6501	-0.2106	0.0033	0.1408	0.0452	-0.3701	0.1529	0.5702	0.1474
4	4.92	0.6999	-0.2244	0.0037	0.1023	0.0512	-0.5534	0.1760	0.5856	0.1661
4	4.92	0.7500	-0.2493	0.0037	0.1045	0.0587	-0.8219	0.2035	0.6910	0.1662
4	4.92	0.8002	-0.2740	0.0048	0.0746	0.0665	-1.2051	0.2319	0.4154	0.1690
4	4.92	0.8582	-0.2664	0.0058	0.0455	0.0756	-1.6275	0.2661	0.4256	0.1761
4	4.92	0.9101	-0.2761	0.0063	0.0013	0.0846	-2.1123	0.2948	0.3064	0.1689
4	4.92	0.9728	-0.2570	0.0082	0.0017	0.0968	-2.5152	0.3286	1.1006	0.1850

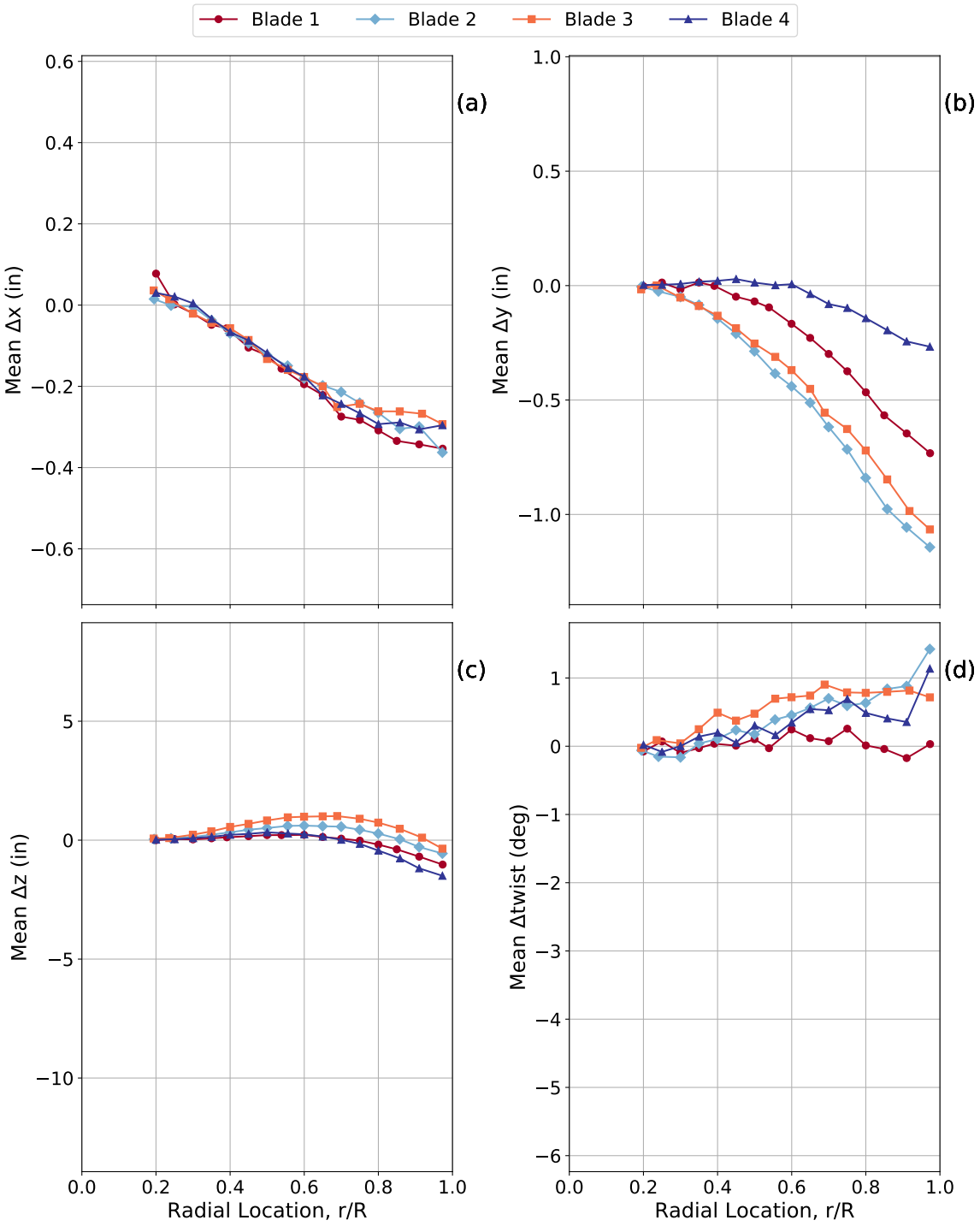


Figure 2.11-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0775	0.0036	-0.0030	0.0021	0.0015	0.0111	-0.0763	0.0656
1	9.84	0.2499	0.0018	0.0023	0.0133	0.0047	0.0458	0.0194	0.0701	0.1373
1	9.84	0.2998	-0.0204	0.0017	-0.0168	0.0094	0.0320	0.0359	-0.0977	0.1568
1	9.84	0.3498	-0.0485	0.0018	0.0137	0.0170	0.0777	0.0586	-0.0273	0.1487
1	9.84	0.3913	-0.0568	0.0026	-0.0012	0.0244	0.1201	0.0820	0.0374	0.1492
1	9.84	0.4496	-0.1046	0.0028	-0.0485	0.0336	0.1673	0.1132	0.0082	0.1538
1	9.84	0.4997	-0.1238	0.0032	-0.0692	0.0421	0.2129	0.1418	0.1038	0.1575
1	9.84	0.5387	-0.1565	0.0032	-0.0952	0.0485	0.2117	0.1620	-0.0282	0.1550
1	9.84	0.5996	-0.1947	0.0038	-0.1669	0.0590	0.2222	0.1935	0.2458	0.1567
1	9.84	0.6498	-0.2214	0.0043	-0.2285	0.0690	0.1340	0.2190	0.1186	0.1548
1	9.84	0.6998	-0.2745	0.0048	-0.2986	0.0792	0.0636	0.2416	0.0748	0.1613
1	9.84	0.7500	-0.2826	0.0049	-0.3743	0.0897	-0.0200	0.2669	0.2570	0.1562
1	9.84	0.8001	-0.3084	0.0053	-0.4662	0.1007	-0.1874	0.2888	0.0118	0.1680
1	9.84	0.8497	-0.3343	0.0052	-0.5669	0.1112	-0.3855	0.3101	-0.0405	0.1683
1	9.84	0.9102	-0.3428	0.0069	-0.6461	0.1229	-0.6930	0.3398	-0.1733	0.1692
1	9.84	0.9734	-0.3534	0.0092	-0.7324	0.1397	-1.0257	0.3750	0.0314	0.1774
2	9.84	0.1949	0.0149	0.0026	-0.0049	0.0014	0.0430	0.0065	-0.0602	0.0419
2	9.84	0.2405	-0.0009	0.0015	-0.0251	0.0026	0.0741	0.0115	-0.1523	0.0824
2	9.84	0.2999	-0.0035	0.0014	-0.0494	0.0055	0.1326	0.0216	-0.1622	0.1009
2	9.84	0.3498	-0.0372	0.0018	-0.0844	0.0100	0.2313	0.0355	0.0398	0.1020
2	9.84	0.3998	-0.0695	0.0023	-0.1441	0.0152	0.3298	0.0534	0.1057	0.0992
2	9.84	0.4496	-0.0940	0.0026	-0.2100	0.0201	0.4383	0.0712	0.2375	0.0987
2	9.84	0.4995	-0.1233	0.0029	-0.2869	0.0247	0.5105	0.0899	0.1742	0.0941
2	9.84	0.5551	-0.1493	0.0032	-0.3843	0.0315	0.5996	0.1128	0.3897	0.1021
2	9.84	0.5996	-0.1805	0.0035	-0.4402	0.0369	0.6123	0.1300	0.4550	0.1087
2	9.84	0.6497	-0.1980	0.0038	-0.5119	0.0428	0.5869	0.1499	0.5607	0.1119
2	9.84	0.6996	-0.2139	0.0040	-0.6177	0.0492	0.5666	0.1678	0.7002	0.1093
2	9.84	0.7495	-0.2408	0.0044	-0.7153	0.0554	0.4398	0.1852	0.5935	0.1204
2	9.84	0.7996	-0.2651	0.0046	-0.8402	0.0618	0.2775	0.2028	0.6345	0.1181
2	9.84	0.8578	-0.3045	0.0054	-0.9765	0.0691	0.0392	0.2254	0.8397	0.1299
2	9.84	0.9100	-0.2992	0.0057	-1.0563	0.0767	-0.2870	0.2497	0.8810	0.1300
2	9.84	0.9727	-0.3627	0.0079	-1.1432	0.0856	-0.5604	0.2780	1.4236	0.1261
3	9.84	0.1938	0.0361	0.0034	-0.0163	0.0017	0.0690	0.0068	-0.0230	0.0446
3	9.84	0.2357	0.0145	0.0018	0.0009	0.0029	0.0881	0.0114	0.0896	0.0741
3	9.84	0.2995	-0.0210	0.0017	-0.0520	0.0064	0.2295	0.0228	0.0416	0.1010
3	9.84	0.3493	-0.0437	0.0022	-0.0891	0.0118	0.3710	0.0381	0.2489	0.0953
3	9.84	0.4000	-0.0569	0.0028	-0.1317	0.0182	0.5563	0.0577	0.4919	0.0966
3	9.84	0.4497	-0.0859	0.0036	-0.1861	0.0239	0.6857	0.0774	0.3756	0.0952
3	9.84	0.4997	-0.1327	0.0038	-0.2532	0.0315	0.8282	0.0998	0.4771	0.1046
3	9.84	0.5556	-0.1596	0.0045	-0.3114	0.0408	0.9591	0.1249	0.6969	0.1088
3	9.84	0.5995	-0.1770	0.0045	-0.3693	0.0492	0.9864	0.1442	0.7182	0.1141
3	9.84	0.6498	-0.1999	0.0052	-0.4513	0.0578	1.0010	0.1657	0.7425	0.1159
3	9.84	0.6890	-0.2510	0.0060	-0.5553	0.0660	1.0121	0.1818	0.9038	0.1206
3	9.84	0.7495	-0.2430	0.0055	-0.6267	0.0786	0.8999	0.2102	0.7892	0.1216
3	9.84	0.7998	-0.2614	0.0062	-0.7206	0.0910	0.7383	0.2335	0.7822	0.1252
3	9.84	0.8577	-0.2617	0.0070	-0.8471	0.1030	0.4778	0.2632	0.7973	0.1357
3	9.84	0.9178	-0.2674	0.0082	-0.9852	0.1186	0.1062	0.2947	0.8163	0.1448
3	9.84	0.9729	-0.2930	0.0124	-1.0656	0.1315	-0.3574	0.3192	0.7168	0.1476
4	9.84	0.2001	0.0302	0.0027	0.0030	0.0014	0.0195	0.0072	0.0201	0.0463
4	9.84	0.2502	0.0210	0.0016	0.0033	0.0036	0.0391	0.0123	-0.0824	0.0871
4	9.84	0.3001	0.0043	0.0018	0.0072	0.0060	0.0859	0.0219	0.0023	0.1074
4	9.84	0.3502	-0.0340	0.0020	0.0169	0.0108	0.1418	0.0366	0.1416	0.1052
4	9.84	0.4002	-0.0662	0.0026	0.0210	0.0171	0.2252	0.0542	0.1983	0.1163
4	9.84	0.4500	-0.0875	0.0022	0.0285	0.0223	0.2649	0.0736	0.0517	0.1158
4	9.84	0.5001	-0.1180	0.0030	0.0131	0.0300	0.3301	0.0925	0.3036	0.1115
4	9.84	0.5560	-0.1552	0.0028	0.0016	0.0370	0.2796	0.1139	0.1635	0.1183
4	9.84	0.6001	-0.1759	0.0029	0.0060	0.0457	0.2467	0.1324	0.3461	0.1315
4	9.84	0.6501	-0.2221	0.0033	-0.0367	0.0520	0.1524	0.1542	0.5443	0.1269
4	9.84	0.6999	-0.2431	0.0044	-0.0808	0.0626	0.0177	0.1812	0.5280	0.1321
4	9.84	0.7500	-0.2665	0.0036	-0.0977	0.0696	-0.1569	0.2111	0.6922	0.1339
4	9.84	0.8002	-0.2930	0.0041	-0.1424	0.0788	-0.4387	0.2455	0.4879	0.1348
4	9.84	0.8582	-0.2888	0.0048	-0.1953	0.0876	-0.7661	0.2864	0.4075	0.1305
4	9.84	0.9101	-0.3060	0.0063	-0.2439	0.0984	-1.1839	0.3258	0.3549	0.1382
4	9.84	0.9728	-0.2957	0.0075	-0.2671	0.1086	-1.4975	0.3692	1.1366	0.1490

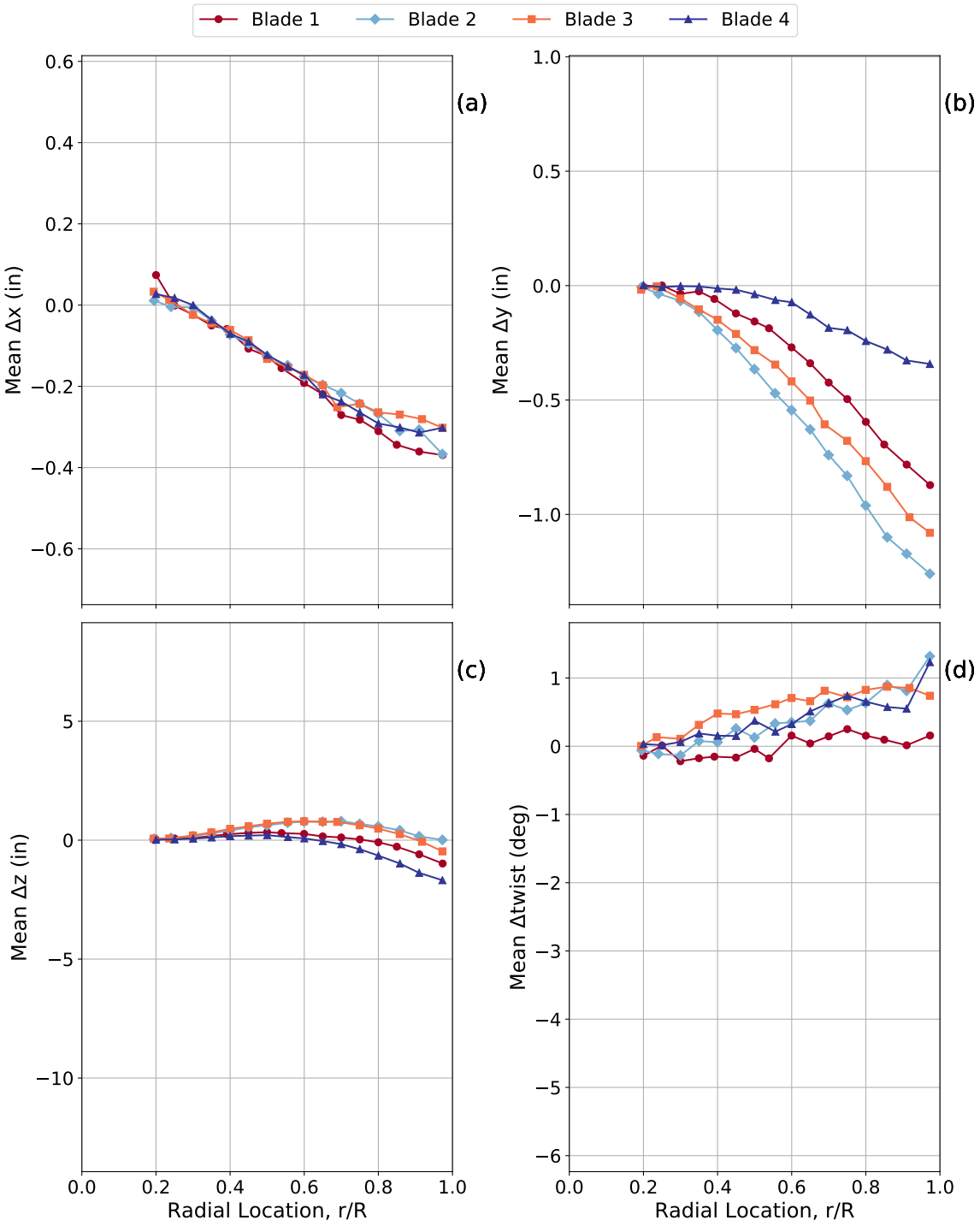


Figure 2.11-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0740	0.0035	-0.0059	0.0017	0.0223	0.0084	-0.1387	0.0486
1	15.12	0.2499	-0.0012	0.0016	0.0004	0.0034	0.0735	0.0151	0.0098	0.0982
1	15.12	0.2998	-0.0236	0.0016	-0.0359	0.0075	0.0885	0.0278	-0.2192	0.1137
1	15.12	0.3498	-0.0502	0.0022	-0.0251	0.0128	0.1738	0.0465	-0.1754	0.1139
1	15.12	0.3913	-0.0589	0.0027	-0.0583	0.0186	0.2447	0.0648	-0.1527	0.1162
1	15.12	0.4496	-0.1072	0.0026	-0.1216	0.0247	0.3077	0.0920	-0.1663	0.1109
1	15.12	0.4997	-0.1258	0.0029	-0.1568	0.0308	0.3347	0.1145	-0.0391	0.1167
1	15.12	0.5387	-0.1552	0.0032	-0.1865	0.0363	0.2982	0.1333	-0.1772	0.1202
1	15.12	0.5996	-0.1916	0.0035	-0.2700	0.0436	0.2638	0.1587	0.1561	0.1222
1	15.12	0.6498	-0.2193	0.0034	-0.3394	0.0504	0.1579	0.1795	0.0409	0.1185
1	15.12	0.6998	-0.2706	0.0043	-0.4237	0.0574	0.1133	0.2001	0.1451	0.1229
1	15.12	0.7500	-0.2822	0.0046	-0.4960	0.0644	0.0304	0.2202	0.2505	0.1324
1	15.12	0.8001	-0.3102	0.0046	-0.5954	0.0730	-0.0891	0.2409	0.1542	0.1267
1	15.12	0.8497	-0.3439	0.0047	-0.6945	0.0812	-0.2748	0.2591	0.0959	0.1336
1	15.12	0.9102	-0.3606	0.0050	-0.7822	0.0921	-0.5946	0.2833	0.0141	0.1443
1	15.12	0.9734	-0.3692	0.0083	-0.8718	0.1028	-0.9826	0.3082	0.1572	0.1518
2	15.12	0.1949	0.0109	0.0027	-0.0065	0.0016	0.0531	0.0082	-0.0595	0.0427
2	15.12	0.2405	-0.0041	0.0018	-0.0357	0.0030	0.0916	0.0126	-0.1121	0.0724
2	15.12	0.2999	-0.0057	0.0018	-0.0662	0.0069	0.1604	0.0280	-0.1345	0.1015
2	15.12	0.3498	-0.0386	0.0019	-0.1144	0.0121	0.2867	0.0441	0.0762	0.0966
2	15.12	0.3998	-0.0727	0.0024	-0.1945	0.0189	0.4038	0.0670	0.0592	0.0997
2	15.12	0.4496	-0.0953	0.0025	-0.2727	0.0244	0.5437	0.0906	0.2596	0.1021
2	15.12	0.4995	-0.1256	0.0032	-0.3652	0.0301	0.6214	0.1159	0.1280	0.1117
2	15.12	0.5551	-0.1481	0.0033	-0.4707	0.0379	0.7341	0.1448	0.3338	0.1060
2	15.12	0.5996	-0.1760	0.0034	-0.5442	0.0452	0.7733	0.1652	0.3518	0.1139
2	15.12	0.6497	-0.1962	0.0040	-0.6285	0.0508	0.7745	0.1886	0.3715	0.1169
2	15.12	0.6996	-0.2167	0.0038	-0.7403	0.0578	0.7970	0.2109	0.6270	0.1156
2	15.12	0.7495	-0.2430	0.0039	-0.8310	0.0649	0.6837	0.2333	0.5307	0.1223
2	15.12	0.7996	-0.2676	0.0041	-0.9610	0.0733	0.5794	0.2582	0.6299	0.1213
2	15.12	0.8578	-0.3098	0.0045	-1.0998	0.0815	0.4153	0.2923	0.8961	0.1286
2	15.12	0.9100	-0.3067	0.0045	-1.1720	0.0886	0.1597	0.3250	0.8117	0.1412
2	15.12	0.9727	-0.3668	0.0068	-1.2593	0.0980	0.0122	0.3645	1.3184	0.1349
3	15.12	0.1938	0.0330	0.0028	-0.0178	0.0015	0.0671	0.0070	0.0036	0.0412
3	15.12	0.2357	0.0128	0.0016	-0.0032	0.0031	0.0705	0.0112	0.1327	0.0716
3	15.12	0.2995	-0.0239	0.0021	-0.0563	0.0076	0.1995	0.0241	0.1089	0.0955
3	15.12	0.3493	-0.0449	0.0026	-0.1038	0.0122	0.3281	0.0396	0.3131	0.0950
3	15.12	0.4000	-0.0611	0.0032	-0.1495	0.0203	0.4757	0.0607	0.4796	0.0996
3	15.12	0.4497	-0.0865	0.0034	-0.2112	0.0259	0.5827	0.0808	0.4689	0.0998
3	15.12	0.4997	-0.1325	0.0037	-0.2822	0.0348	0.6921	0.1009	0.5333	0.1188
3	15.12	0.5556	-0.1533	0.0046	-0.3451	0.0449	0.7755	0.1226	0.6157	0.1159
3	15.12	0.5995	-0.1716	0.0051	-0.4187	0.0522	0.7947	0.1404	0.7069	0.1284
3	15.12	0.6498	-0.1974	0.0053	-0.5023	0.0624	0.7751	0.1587	0.6598	0.1254
3	15.12	0.6890	-0.2515	0.0055	-0.6064	0.0703	0.7662	0.1734	0.8133	0.1298
3	15.12	0.7495	-0.2427	0.0064	-0.6782	0.0846	0.6279	0.1981	0.7180	0.1281
3	15.12	0.7998	-0.2640	0.0062	-0.7670	0.0956	0.4850	0.2218	0.8262	0.1333
3	15.12	0.8577	-0.2695	0.0068	-0.8795	0.1088	0.2532	0.2541	0.8726	0.1383
3	15.12	0.9178	-0.2807	0.0083	-1.0122	0.1236	-0.0680	0.2926	0.8544	0.1452
3	15.12	0.9729	-0.3020	0.0111	-1.0803	0.1374	-0.4715	0.3313	0.7397	0.1501
4	15.12	0.2001	0.0272	0.0027	0.0020	0.0015	0.0178	0.0090	0.0316	0.0447
4	15.12	0.2502	0.0175	0.0015	-0.0067	0.0030	0.0308	0.0170	0.0166	0.0744
4	15.12	0.3001	-0.0002	0.0015	-0.0023	0.0064	0.0638	0.0297	0.0625	0.0975
4	15.12	0.3502	-0.0362	0.0023	-0.0039	0.0116	0.1128	0.0509	0.1875	0.0879
4	15.12	0.4002	-0.0705	0.0027	-0.0124	0.0179	0.1682	0.0759	0.1543	0.0882
4	15.12	0.4500	-0.0900	0.0029	-0.0182	0.0239	0.1916	0.1036	0.1506	0.0970
4	15.12	0.5001	-0.1226	0.0029	-0.0378	0.0319	0.2110	0.1326	0.3736	0.1036
4	15.12	0.5560	-0.1514	0.0035	-0.0630	0.0400	0.1298	0.1652	0.2140	0.0970
4	15.12	0.6001	-0.1717	0.0040	-0.0729	0.0471	0.0732	0.1911	0.3246	0.1032
4	15.12	0.6501	-0.2197	0.0041	-0.1267	0.0560	-0.0383	0.2217	0.5102	0.1135
4	15.12	0.6999	-0.2375	0.0040	-0.1845	0.0659	-0.1678	0.2549	0.6316	0.1109
4	15.12	0.7500	-0.2643	0.0044	-0.1950	0.0753	-0.3815	0.2903	0.7400	0.1158
4	15.12	0.8002	-0.2915	0.0046	-0.2422	0.0857	-0.6512	0.3302	0.6536	0.1224
4	15.12	0.8582	-0.3012	0.0047	-0.2799	0.0979	-0.9822	0.3770	0.5747	0.1251
4	15.12	0.9101	-0.3138	0.0056	-0.3270	0.1083	-1.3753	0.4230	0.5509	0.1373
4	15.12	0.9728	-0.3020	0.0087	-0.3425	0.1215	-1.6839	0.4826	1.2315	0.1484

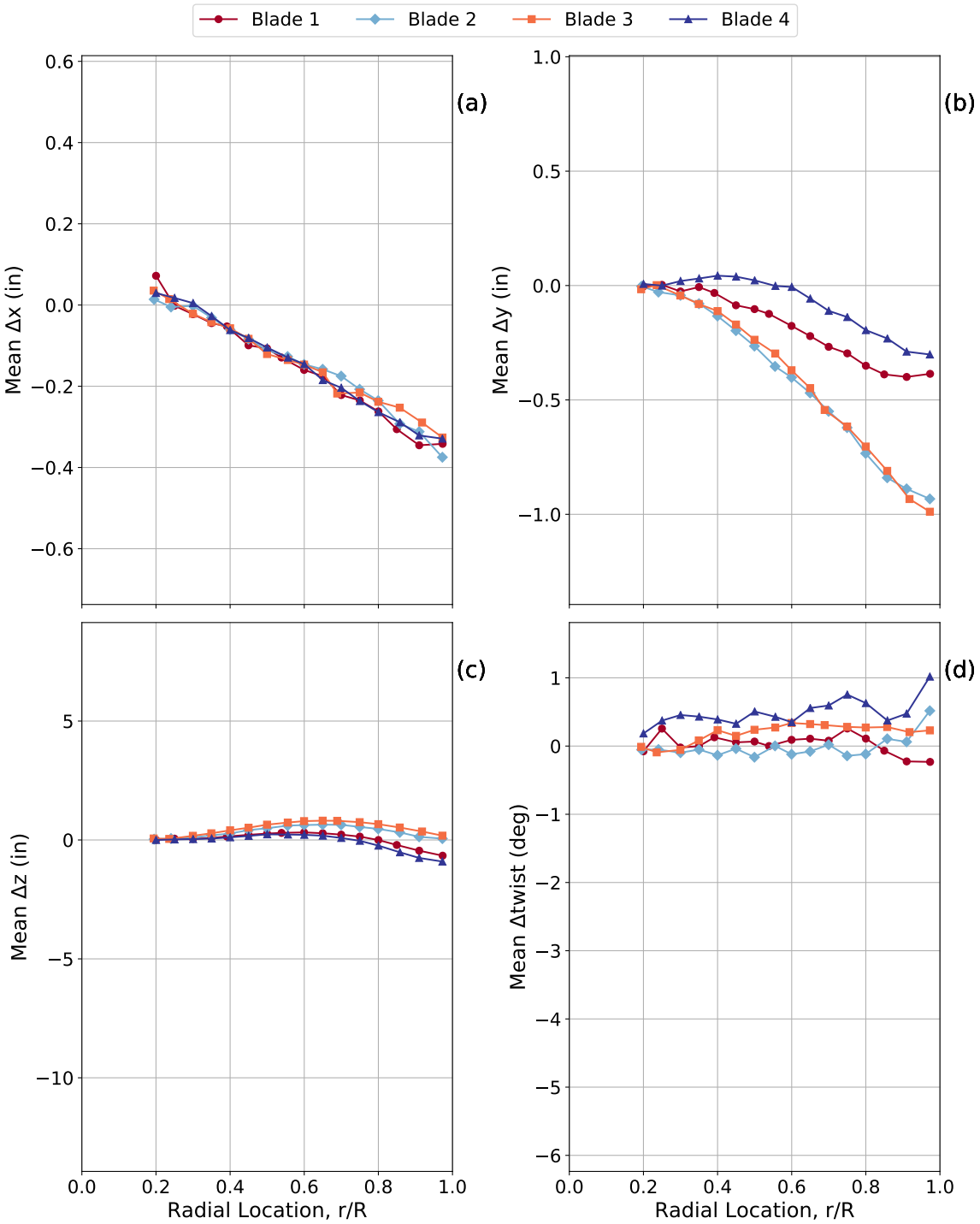


Figure 2.11-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0720	0.0030	-0.0038	0.0014	0.0024	0.0078	-0.0766	0.0505
1	29.88	0.2499	-0.0018	0.0022	0.0030	0.0031	0.0558	0.0148	0.2560	0.0970
1	29.88	0.2998	-0.0226	0.0021	-0.0258	0.0060	0.0458	0.0280	-0.0210	0.1168
1	29.88	0.3498	-0.0445	0.0023	-0.0067	0.0106	0.0837	0.0466	-0.0023	0.1098
1	29.88	0.3913	-0.0526	0.0023	-0.0324	0.0153	0.1450	0.0663	0.1284	0.1128
1	29.88	0.4496	-0.0992	0.0032	-0.0863	0.0220	0.2153	0.0967	0.0544	0.1186
1	29.88	0.4997	-0.1069	0.0035	-0.1031	0.0286	0.2694	0.1259	0.0663	0.1183
1	29.88	0.5387	-0.1293	0.0044	-0.1239	0.0333	0.2980	0.1479	0.0003	0.1236
1	29.88	0.5996	-0.1598	0.0036	-0.1765	0.0416	0.3184	0.1848	0.0914	0.1228
1	29.88	0.6498	-0.1751	0.0038	-0.2210	0.0489	0.2830	0.2147	0.1080	0.1229
1	29.88	0.6998	-0.2216	0.0041	-0.2679	0.0562	0.2243	0.2426	0.0787	0.1256
1	29.88	0.7500	-0.2349	0.0039	-0.2965	0.0639	0.1413	0.2705	0.2575	0.1296
1	29.88	0.8001	-0.2619	0.0044	-0.3506	0.0718	-0.0027	0.2990	0.1094	0.1309
1	29.88	0.8497	-0.3057	0.0047	-0.3884	0.0796	-0.2110	0.3303	-0.0676	0.1323
1	29.88	0.9102	-0.3453	0.0049	-0.3995	0.0892	-0.4507	0.3724	-0.2249	0.1277
1	29.88	0.9734	-0.3418	0.0076	-0.3859	0.0995	-0.6608	0.4235	-0.2321	0.1355
2	29.88	0.1949	0.0140	0.0032	-0.0033	0.0011	0.0329	0.0048	-0.0530	0.0323
2	29.88	0.2405	-0.0048	0.0017	-0.0287	0.0020	0.0611	0.0099	-0.0507	0.0598
2	29.88	0.2999	-0.0020	0.0019	-0.0429	0.0045	0.1049	0.0183	-0.0977	0.0747
2	29.88	0.3498	-0.0312	0.0020	-0.0793	0.0075	0.1912	0.0308	-0.0508	0.0701
2	29.88	0.3998	-0.0605	0.0022	-0.1333	0.0116	0.2715	0.0474	-0.1350	0.0713
2	29.88	0.4496	-0.0841	0.0023	-0.1973	0.0152	0.4120	0.0625	-0.0376	0.0730
2	29.88	0.4995	-0.1112	0.0027	-0.2648	0.0195	0.4937	0.0794	-0.1630	0.0944
2	29.88	0.5551	-0.1268	0.0029	-0.3535	0.0232	0.6023	0.0984	0.0028	0.0825
2	29.88	0.5996	-0.1461	0.0032	-0.4018	0.0272	0.6271	0.1148	-0.1203	0.0830
2	29.88	0.6497	-0.1582	0.0034	-0.4696	0.0316	0.6440	0.1338	-0.0784	0.0864
2	29.88	0.6996	-0.1750	0.0035	-0.5499	0.0361	0.6364	0.1551	0.0202	0.0865
2	29.88	0.7495	-0.2074	0.0034	-0.6213	0.0413	0.5490	0.1774	-0.1434	0.0949
2	29.88	0.7996	-0.2353	0.0036	-0.7337	0.0465	0.4650	0.2023	-0.1178	0.0969
2	29.88	0.8578	-0.2925	0.0039	-0.8404	0.0530	0.3187	0.2312	0.1062	0.0977
2	29.88	0.9100	-0.3118	0.0040	-0.8887	0.0584	0.1324	0.2589	0.0618	0.1023
2	29.88	0.9727	-0.3748	0.0058	-0.9326	0.0653	0.0567	0.2942	0.5173	0.1000
3	29.88	0.1938	0.0355	0.0026	-0.0162	0.0011	0.0615	0.0081	-0.0114	0.0303
3	29.88	0.2357	0.0147	0.0022	0.0017	0.0024	0.0447	0.0104	-0.0923	0.0763
3	29.88	0.2995	-0.0214	0.0019	-0.0435	0.0049	0.1748	0.0286	-0.0559	0.0818
3	29.88	0.3493	-0.0421	0.0019	-0.0808	0.0079	0.2806	0.0440	0.0827	0.0928
3	29.88	0.4000	-0.0572	0.0026	-0.1116	0.0130	0.4058	0.0686	0.2322	0.0873
3	29.88	0.4497	-0.0832	0.0031	-0.1706	0.0176	0.5163	0.0916	0.1494	0.0933
3	29.88	0.4997	-0.1207	0.0028	-0.2371	0.0219	0.6441	0.1155	0.2389	0.1003
3	29.88	0.5556	-0.1354	0.0036	-0.2972	0.0290	0.7323	0.1445	0.2720	0.1078
3	29.88	0.5995	-0.1466	0.0040	-0.3703	0.0348	0.7929	0.1684	0.3381	0.1089
3	29.88	0.6498	-0.1657	0.0038	-0.4483	0.0410	0.8112	0.1942	0.3224	0.1231
3	29.88	0.6890	-0.2179	0.0041	-0.5438	0.0460	0.8048	0.2156	0.3076	0.1211
3	29.88	0.7495	-0.2155	0.0047	-0.6162	0.0555	0.7492	0.2515	0.2815	0.1217
3	29.88	0.7998	-0.2382	0.0048	-0.7037	0.0628	0.6644	0.2847	0.2720	0.1255
3	29.88	0.8577	-0.2527	0.0052	-0.8101	0.0713	0.5234	0.3317	0.2791	0.1357
3	29.88	0.9178	-0.2893	0.0052	-0.9332	0.0808	0.3562	0.3905	0.2042	0.1589
3	29.88	0.9729	-0.3262	0.0076	-0.9887	0.0891	0.1811	0.4533	0.2300	0.1609
4	29.88	0.2001	0.0296	0.0026	0.0069	0.0013	0.0003	0.0083	0.1848	0.0350
4	29.88	0.2502	0.0174	0.0020	-0.0005	0.0027	0.0214	0.0152	0.3733	0.0672
4	29.88	0.3001	0.0047	0.0017	0.0196	0.0054	0.0357	0.0295	0.4554	0.0802
4	29.88	0.3502	-0.0274	0.0021	0.0309	0.0090	0.0584	0.0479	0.4313	0.0747
4	29.88	0.4002	-0.0617	0.0025	0.0430	0.0143	0.1107	0.0738	0.3898	0.0713
4	29.88	0.4500	-0.0814	0.0027	0.0388	0.0191	0.1705	0.0988	0.3267	0.0714
4	29.88	0.5001	-0.1047	0.0030	0.0226	0.0234	0.2363	0.1268	0.5066	0.0794
4	29.88	0.5560	-0.1295	0.0036	-0.0018	0.0308	0.2278	0.1589	0.4286	0.0828
4	29.88	0.6001	-0.1456	0.0035	-0.0062	0.0355	0.2159	0.1829	0.3499	0.0885
4	29.88	0.6501	-0.1849	0.0036	-0.0571	0.0416	0.1796	0.2112	0.5575	0.0909
4	29.88	0.6999	-0.2038	0.0039	-0.1107	0.0476	0.0846	0.2389	0.5947	0.0964
4	29.88	0.7500	-0.2365	0.0036	-0.1379	0.0541	-0.0353	0.2702	0.7541	0.0926
4	29.88	0.8002	-0.2638	0.0045	-0.1950	0.0615	-0.2383	0.3053	0.6296	0.0973
4	29.88	0.8582	-0.2888	0.0046	-0.2316	0.0700	-0.5189	0.3506	0.3743	0.0993
4	29.88	0.9101	-0.3211	0.0047	-0.2889	0.0775	-0.7562	0.3948	0.4749	0.1000
4	29.88	0.9728	-0.3290	0.0072	-0.3014	0.0868	-0.9076	0.4503	1.0177	0.1081

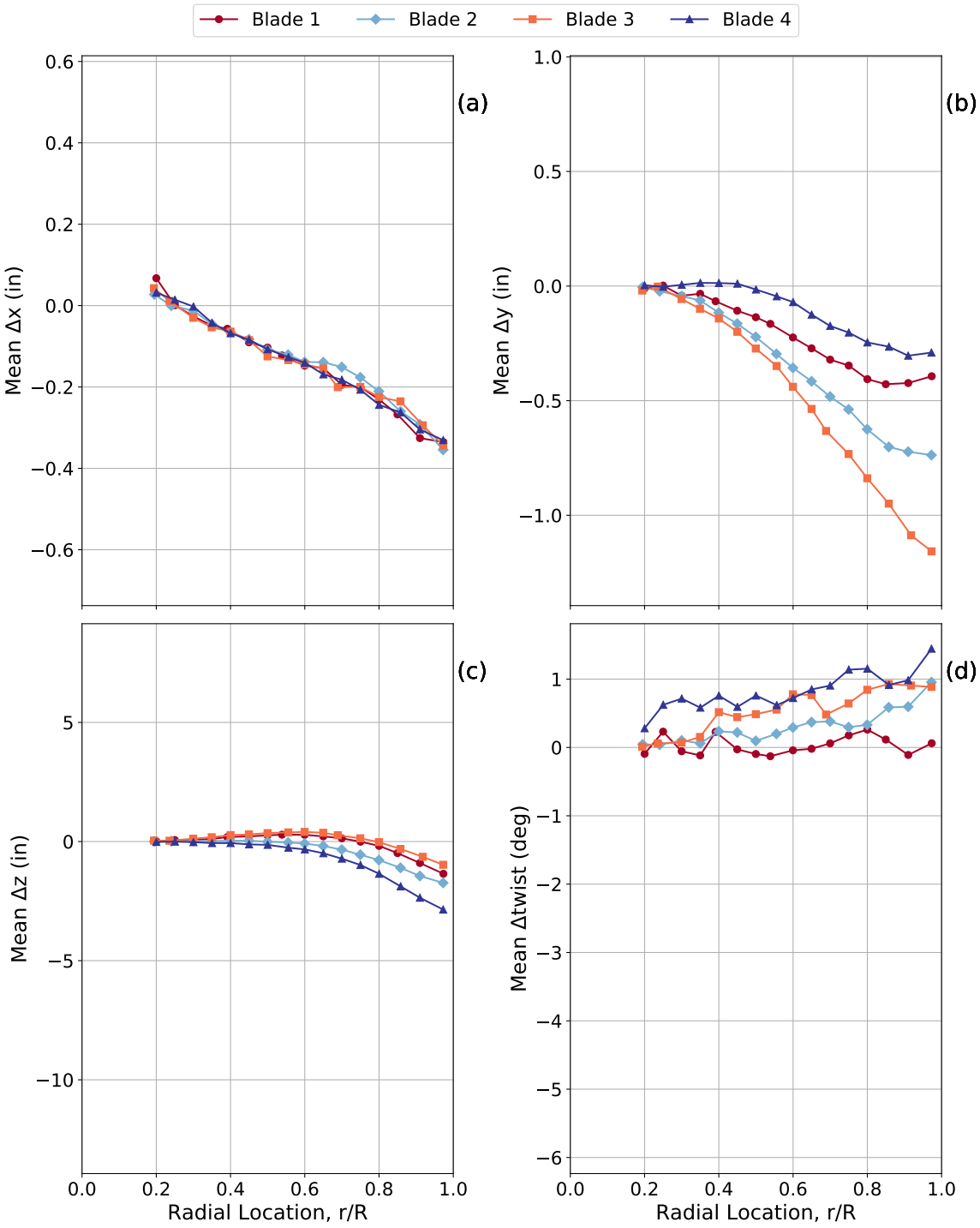


Figure 2.11-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0673	0.0028	-0.0094	0.0012	0.0095	0.0052	-0.0932	0.0322
1	45	0.2499	0.0010	0.0026	0.0021	0.0032	0.0621	0.0100	0.2312	0.0634
1	45	0.2998	-0.0261	0.0022	-0.0420	0.0059	0.0696	0.0195	-0.0559	0.0730
1	45	0.3498	-0.0496	0.0028	-0.0337	0.0098	0.1097	0.0313	-0.1162	0.0665
1	45	0.3913	-0.0570	0.0033	-0.0662	0.0149	0.1870	0.0454	0.2277	0.0718
1	45	0.4496	-0.0903	0.0039	-0.1076	0.0206	0.2179	0.0655	-0.0281	0.0749
1	45	0.4997	-0.1031	0.0042	-0.1359	0.0275	0.2575	0.0855	-0.0961	0.0815
1	45	0.5387	-0.1226	0.0045	-0.1649	0.0330	0.2881	0.1016	-0.1282	0.0888
1	45	0.5996	-0.1476	0.0043	-0.2242	0.0415	0.2829	0.1267	-0.0420	0.0932
1	45	0.6498	-0.1535	0.0044	-0.2716	0.0497	0.2174	0.1476	-0.0193	0.0925
1	45	0.6998	-0.1948	0.0048	-0.3209	0.0583	0.1347	0.1671	0.0600	0.0945
1	45	0.7500	-0.2002	0.0048	-0.3469	0.0677	-0.0068	0.1866	0.1771	0.0994
1	45	0.8001	-0.2309	0.0048	-0.4061	0.0770	-0.1811	0.2056	0.2610	0.1049
1	45	0.8497	-0.2675	0.0051	-0.4282	0.0867	-0.4851	0.2258	0.1155	0.1116
1	45	0.9102	-0.3256	0.0047	-0.4231	0.0985	-0.9015	0.2516	-0.1094	0.1149
1	45	0.9734	-0.3355	0.0076	-0.3934	0.1111	-1.3534	0.2821	0.0618	0.1167
2	45	0.1949	0.0275	0.0030	-0.0042	0.0010	0.0080	0.0050	0.0445	0.0327
2	45	0.2405	-0.0004	0.0022	-0.0224	0.0018	0.0121	0.0095	0.0398	0.0552
2	45	0.2999	-0.0123	0.0025	-0.0441	0.0040	0.0229	0.0202	0.1016	0.0765
2	45	0.3498	-0.0457	0.0026	-0.0628	0.0067	0.0200	0.0340	0.0606	0.0807
2	45	0.3998	-0.0657	0.0029	-0.1161	0.0105	0.0354	0.0524	0.2357	0.0778
2	45	0.4496	-0.0829	0.0035	-0.1641	0.0136	0.0343	0.0682	0.2195	0.0805
2	45	0.4995	-0.1082	0.0036	-0.2218	0.0174	-0.0064	0.0833	0.0960	0.0866
2	45	0.5551	-0.1208	0.0038	-0.2960	0.0221	-0.0418	0.1009	0.1992	0.0987
2	45	0.5996	-0.1385	0.0036	-0.3568	0.0259	-0.0848	0.1140	0.2918	0.0984
2	45	0.6497	-0.1393	0.0036	-0.4156	0.0309	-0.1864	0.1287	0.3705	0.1018
2	45	0.6996	-0.1510	0.0041	-0.4821	0.0363	-0.3403	0.1447	0.3807	0.1136
2	45	0.7495	-0.1764	0.0043	-0.5381	0.0424	-0.5533	0.1619	0.2962	0.1083
2	45	0.7996	-0.2107	0.0046	-0.6248	0.0486	-0.7774	0.1792	0.3310	0.1144
2	45	0.8578	-0.2599	0.0046	-0.7018	0.0561	-1.1039	0.2009	0.5868	0.1164
2	45	0.9100	-0.2920	0.0048	-0.7228	0.0634	-1.4462	0.2210	0.5960	0.1270
2	45	0.9727	-0.3544	0.0070	-0.7373	0.0720	-1.7344	0.2487	0.9558	0.1281
3	45	0.1938	0.0428	0.0022	-0.0196	0.0011	0.0408	0.0050	0.0119	0.0319
3	45	0.2357	0.0115	0.0020	-0.0021	0.0024	0.0329	0.0088	0.0589	0.0498
3	45	0.2995	-0.0299	0.0019	-0.0566	0.0052	0.1203	0.0189	0.0710	0.0722
3	45	0.3493	-0.0534	0.0021	-0.0990	0.0086	0.1815	0.0315	0.1534	0.0702
3	45	0.4000	-0.0639	0.0027	-0.1415	0.0137	0.2702	0.0486	0.5164	0.0717
3	45	0.4497	-0.0849	0.0029	-0.1994	0.0179	0.2998	0.0645	0.4436	0.0825
3	45	0.4997	-0.1247	0.0031	-0.2726	0.0240	0.3537	0.0834	0.4867	0.0946
3	45	0.5556	-0.1339	0.0035	-0.3486	0.0303	0.3835	0.1029	0.5542	0.0982
3	45	0.5995	-0.1442	0.0039	-0.4395	0.0358	0.4031	0.1188	0.7782	0.1090
3	45	0.6498	-0.1548	0.0041	-0.5359	0.0425	0.3668	0.1385	0.7667	0.1183
3	45	0.6890	-0.2004	0.0050	-0.6322	0.0482	0.2656	0.1536	0.4810	0.1194
3	45	0.7495	-0.1998	0.0047	-0.7328	0.0573	0.1356	0.1797	0.6429	0.1388
3	45	0.7998	-0.2248	0.0045	-0.8385	0.0652	-0.0235	0.2013	0.8436	0.1425
3	45	0.8577	-0.2354	0.0060	-0.9492	0.0748	-0.3113	0.2293	0.9287	0.1524
3	45	0.9178	-0.2941	0.0050	-1.0873	0.0844	-0.6409	0.2602	0.9055	0.1642
3	45	0.9729	-0.3436	0.0074	-1.1573	0.0934	-0.9757	0.2922	0.8855	0.1659
4	45	0.2001	0.0318	0.0026	0.0035	0.0011	-0.0172	0.0059	0.2805	0.0316
4	45	0.2502	0.0145	0.0023	-0.0030	0.0024	-0.0043	0.0114	0.6235	0.0568
4	45	0.3001	-0.0023	0.0022	0.0054	0.0044	-0.0252	0.0206	0.7150	0.0704
4	45	0.3502	-0.0423	0.0024	0.0138	0.0082	-0.0656	0.0366	0.5824	0.0708
4	45	0.4002	-0.0680	0.0022	0.0132	0.0123	-0.0648	0.0545	0.7579	0.0666
4	45	0.4500	-0.0842	0.0030	0.0103	0.0155	-0.1195	0.0722	0.5936	0.0793
4	45	0.5001	-0.1074	0.0031	-0.0151	0.0200	-0.1398	0.0890	0.7595	0.0910
4	45	0.5560	-0.1267	0.0030	-0.0448	0.0255	-0.2589	0.1078	0.6186	0.0920
4	45	0.6001	-0.1405	0.0031	-0.0702	0.0303	-0.3305	0.1213	0.7231	0.0879
4	45	0.6501	-0.1691	0.0032	-0.1246	0.0365	-0.4917	0.1370	0.8493	0.0998
4	45	0.6999	-0.1823	0.0035	-0.1740	0.0432	-0.7196	0.1512	0.9052	0.0991
4	45	0.7500	-0.2067	0.0039	-0.2029	0.0506	-0.9855	0.1654	1.1379	0.1002
4	45	0.8002	-0.2440	0.0039	-0.2459	0.0587	-1.3538	0.1782	1.1527	0.1078
4	45	0.8582	-0.2625	0.0047	-0.2646	0.0686	-1.8834	0.1919	0.9137	0.1133
4	45	0.9101	-0.3045	0.0050	-0.3038	0.0788	-2.3587	0.2056	0.9840	0.1078
4	45	0.9728	-0.3307	0.0081	-0.2903	0.0910	-2.8558	0.2260	1.4449	0.1173

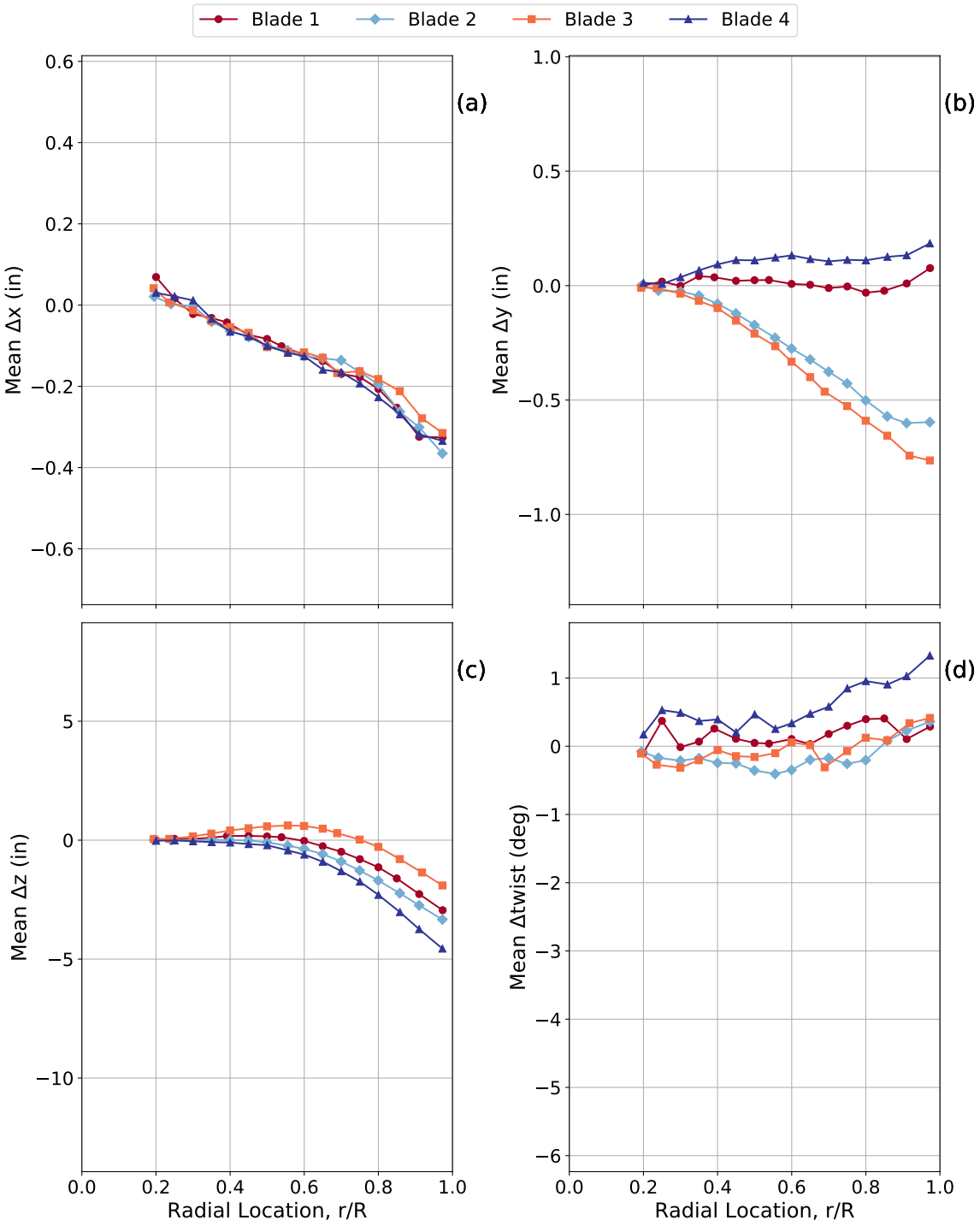


Figure 2.11-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0691	0.0032	0.0014	0.0017	0.0013	0.0053	-0.0964	0.0335
1	60.12	0.2499	0.0163	0.0022	0.0174	0.0041	0.0550	0.0108	0.3718	0.0675
1	60.12	0.2998	-0.0220	0.0027	-0.0010	0.0076	0.0521	0.0198	-0.0133	0.0759
1	60.12	0.3498	-0.0316	0.0031	0.0415	0.0132	0.1035	0.0338	0.0678	0.0788
1	60.12	0.3913	-0.0426	0.0033	0.0363	0.0195	0.1728	0.0482	0.2586	0.0719
1	60.12	0.4496	-0.0731	0.0038	0.0209	0.0267	0.1827	0.0684	0.1091	0.0832
1	60.12	0.4997	-0.0833	0.0041	0.0237	0.0356	0.1578	0.0902	0.0491	0.0884
1	60.12	0.5387	-0.1011	0.0043	0.0244	0.0429	0.1242	0.1094	0.0384	0.0878
1	60.12	0.5996	-0.1224	0.0044	0.0074	0.0535	-0.0297	0.1368	0.1052	0.0930
1	60.12	0.6498	-0.1379	0.0048	0.0035	0.0644	-0.2545	0.1604	0.0309	0.0990
1	60.12	0.6998	-0.1695	0.0058	-0.0107	0.0757	-0.4891	0.1810	0.1800	0.1023
1	60.12	0.7500	-0.1772	0.0060	-0.0040	0.0877	-0.7982	0.1988	0.3002	0.1068
1	60.12	0.8001	-0.2064	0.0065	-0.0309	0.0999	-1.1412	0.2162	0.3969	0.1068
1	60.12	0.8497	-0.2525	0.0075	-0.0225	0.1135	-1.6094	0.2358	0.4068	0.1215
1	60.12	0.9102	-0.3242	0.0073	0.0093	0.1299	-2.2670	0.2592	0.1055	0.1177
1	60.12	0.9734	-0.3256	0.0121	0.0765	0.1478	-2.9437	0.2883	0.2883	0.1282
2	60.12	0.1949	0.0212	0.0022	-0.0002	0.0010	0.0087	0.0044	-0.0785	0.0268
2	60.12	0.2405	0.0029	0.0021	-0.0217	0.0029	-0.0007	0.0093	-0.1697	0.0419
2	60.12	0.2999	-0.0026	0.0022	-0.0260	0.0061	-0.0021	0.0196	-0.2119	0.0600
2	60.12	0.3498	-0.0409	0.0022	-0.0436	0.0089	0.0228	0.0313	-0.1755	0.0579
2	60.12	0.3998	-0.0637	0.0032	-0.0800	0.0156	0.0023	0.0502	-0.2438	0.0620
2	60.12	0.4496	-0.0786	0.0034	-0.1219	0.0196	-0.0107	0.0641	-0.2509	0.0784
2	60.12	0.4995	-0.1004	0.0033	-0.1725	0.0243	-0.0939	0.0825	-0.3553	0.0763
2	60.12	0.5551	-0.1112	0.0038	-0.2281	0.0304	-0.2320	0.1025	-0.4052	0.0829
2	60.12	0.5996	-0.1256	0.0037	-0.2750	0.0352	-0.3645	0.1184	-0.3482	0.0773
2	60.12	0.6497	-0.1311	0.0037	-0.3230	0.0408	-0.5863	0.1339	-0.1982	0.0884
2	60.12	0.6996	-0.1359	0.0036	-0.3765	0.0469	-0.8966	0.1503	-0.1741	0.0881
2	60.12	0.7495	-0.1646	0.0040	-0.4278	0.0531	-1.2751	0.1657	-0.2569	0.0859
2	60.12	0.7996	-0.1947	0.0041	-0.5017	0.0587	-1.6936	0.1810	-0.2047	0.0883
2	60.12	0.8578	-0.2625	0.0046	-0.5715	0.0665	-2.2309	0.2016	0.0785	0.0967
2	60.12	0.9100	-0.3008	0.0050	-0.6009	0.0730	-2.7395	0.2212	0.2271	0.0971
2	60.12	0.9727	-0.3651	0.0066	-0.5964	0.0810	-3.3348	0.2494	0.3606	0.0997
3	60.12	0.1938	0.0415	0.0030	-0.0092	0.0021	0.0468	0.0038	-0.1063	0.0293
3	60.12	0.2357	0.0066	0.0026	-0.0097	0.0029	0.0527	0.0086	-0.2712	0.0501
3	60.12	0.2995	-0.0129	0.0023	-0.0348	0.0062	0.1580	0.0167	-0.3145	0.0691
3	60.12	0.3493	-0.0390	0.0046	-0.0667	0.0119	0.2775	0.0292	-0.2055	0.0737
3	60.12	0.4000	-0.0543	0.0040	-0.0979	0.0171	0.4078	0.0460	-0.0558	0.0793
3	60.12	0.4497	-0.0681	0.0042	-0.1532	0.0227	0.5006	0.0647	-0.1462	0.0889
3	60.12	0.4997	-0.1033	0.0045	-0.2100	0.0306	0.5792	0.0853	-0.1576	0.0894
3	60.12	0.5556	-0.1144	0.0051	-0.2649	0.0402	0.6182	0.1120	-0.1014	0.0915
3	60.12	0.5995	-0.1164	0.0049	-0.3327	0.0487	0.5964	0.1364	0.0564	0.1006
3	60.12	0.6498	-0.1293	0.0057	-0.3999	0.0592	0.4835	0.1636	0.0160	0.0986
3	60.12	0.6890	-0.1673	0.0059	-0.4637	0.0684	0.2944	0.1871	-0.3094	0.0990
3	60.12	0.7495	-0.1627	0.0064	-0.5265	0.0823	0.0239	0.2224	-0.0710	0.1019
3	60.12	0.7998	-0.1819	0.0070	-0.5906	0.0949	-0.2819	0.2556	0.1250	0.1143
3	60.12	0.8577	-0.2119	0.0077	-0.6557	0.1098	-0.7948	0.2974	0.0867	0.1197
3	60.12	0.9178	-0.2786	0.0084	-0.7430	0.1261	-1.3590	0.3476	0.3383	0.1197
3	60.12	0.9729	-0.3148	0.0122	-0.7641	0.1398	-1.9036	0.4005	0.4140	0.1253
4	60.12	0.2001	0.0303	0.0022	0.0120	0.0012	-0.0226	0.0047	0.1725	0.0297
4	60.12	0.2502	0.0215	0.0022	0.0074	0.0023	-0.0129	0.0111	0.5292	0.0505
4	60.12	0.3001	0.0115	0.0029	0.0365	0.0047	-0.0460	0.0203	0.4899	0.0671
4	60.12	0.3502	-0.0340	0.0030	0.0668	0.0081	-0.0820	0.0322	0.3691	0.0692
4	60.12	0.4002	-0.0654	0.0023	0.0928	0.0126	-0.0992	0.0521	0.3932	0.0631
4	60.12	0.4500	-0.0768	0.0026	0.1115	0.0165	-0.1631	0.0708	0.2024	0.0803
4	60.12	0.5001	-0.1003	0.0032	0.1104	0.0215	-0.2140	0.0943	0.4669	0.0782
4	60.12	0.5560	-0.1175	0.0034	0.1226	0.0264	-0.4305	0.1219	0.2539	0.0910
4	60.12	0.6001	-0.1259	0.0034	0.1319	0.0311	-0.6068	0.1440	0.3367	0.0842
4	60.12	0.6501	-0.1590	0.0039	0.1161	0.0371	-0.9085	0.1703	0.4759	0.0915
4	60.12	0.6999	-0.1654	0.0041	0.1059	0.0429	-1.3032	0.1969	0.5798	0.0931
4	60.12	0.7500	-0.1929	0.0045	0.1126	0.0495	-1.7441	0.2231	0.8478	0.1030
4	60.12	0.8002	-0.2267	0.0053	0.1104	0.0563	-2.3009	0.2486	0.9550	0.1040
4	60.12	0.8582	-0.2689	0.0061	0.1258	0.0650	-3.0255	0.2799	0.9050	0.1021
4	60.12	0.9101	-0.3180	0.0074	0.1324	0.0729	-3.7419	0.3106	1.0264	0.1131
4	60.12	0.9728	-0.3341	0.0101	0.1845	0.0826	-4.5585	0.3521	1.3281	0.1164

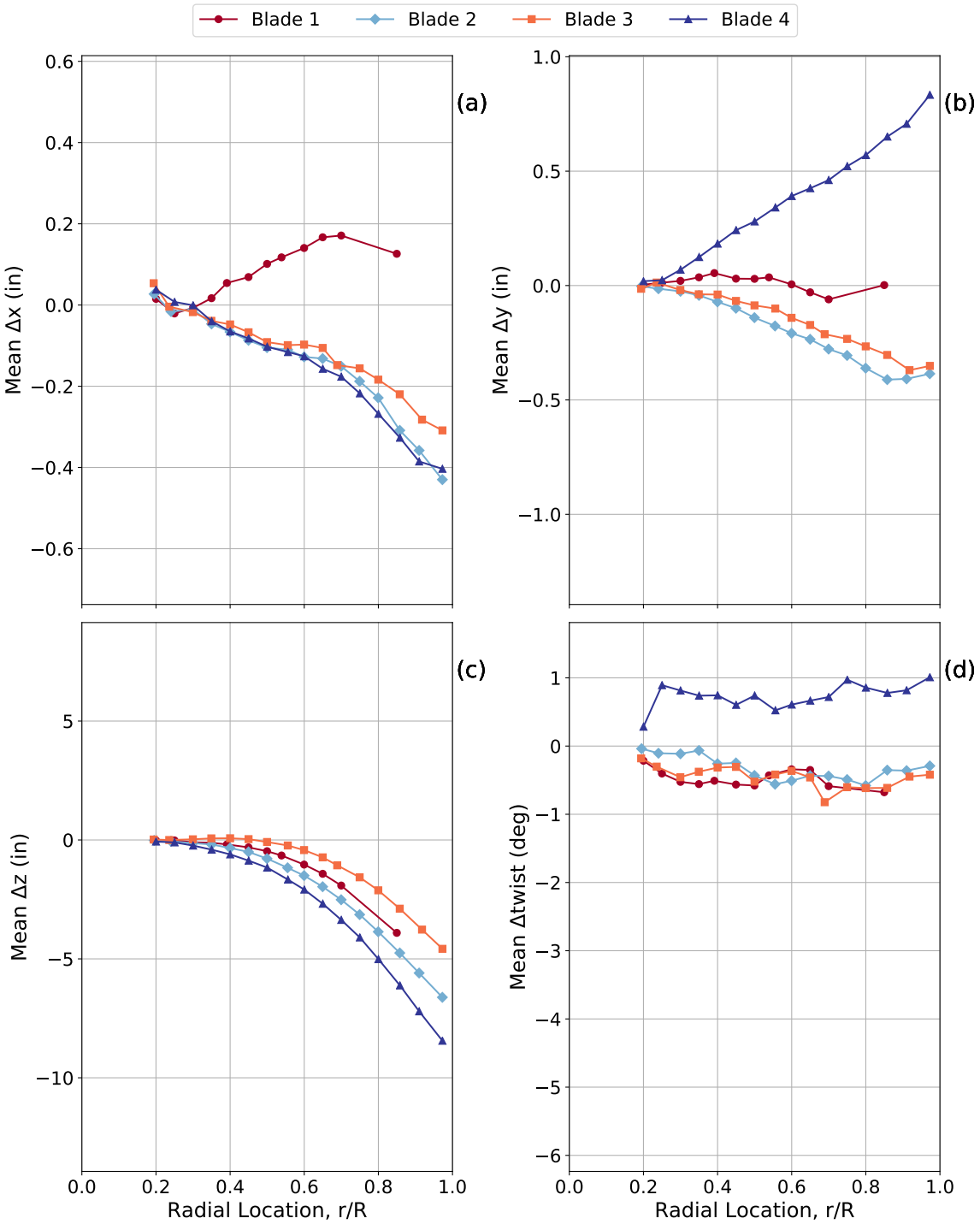


Figure 2.11-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0152	0.0016	0.0038	0.0009	-0.0247	0.0045	-0.2153	0.0238
1	74.88	0.2499	-0.0207	0.0013	0.0124	0.0024	-0.0188	0.0084	-0.4021	0.0392
1	74.88	0.2998	-0.0070	0.0015	0.0204	0.0041	-0.0975	0.0178	-0.5246	0.0515
1	74.88	0.3498	0.0168	0.0019	0.0359	0.0070	-0.1162	0.0300	-0.5574	0.0593
1	74.88	0.3913	0.0542	0.0025	0.0544	0.0104	-0.1871	0.0430	-0.5088	0.0608
1	74.88	0.4496	0.0688	0.0029	0.0300	0.0143	-0.3106	0.0656	-0.5645	0.0844
1	74.88	0.4997	0.1013	0.0037	0.0293	0.0195	-0.4718	0.0848	-0.5779	0.0912
1	74.88	0.5387	0.1174	0.0056	0.0357	0.0250	-0.6532	0.0993	-0.4297	0.0910
1	74.88	0.5996	0.1404	0.0047	0.0051	0.0311	-1.0349	0.1260	-0.3408	0.0913
1	74.88	0.6498	0.1668	0.0085	-0.0296	0.0378	-1.4228	0.1520	-0.3509	0.1417
1	74.88	0.6998	0.1711	0.0073	-0.0604	0.0438	-1.9167	0.1733	-0.5874	0.1732
1	74.88	0.8497	0.1262	0.0127	0.0019	0.0701	-3.9055	0.2431	-0.6769	0.3134
2	74.88	0.1949	0.0271	0.0016	-0.0035	0.0011	-0.0177	0.0034	-0.0383	0.0337
2	74.88	0.2405	-0.0161	0.0018	-0.0140	0.0026	-0.0555	0.0072	-0.1050	0.0548
2	74.88	0.2999	-0.0110	0.0019	-0.0253	0.0045	-0.1316	0.0151	-0.1132	0.0797
2	74.88	0.3498	-0.0465	0.0021	-0.0430	0.0080	-0.1895	0.0247	-0.0648	0.0691
2	74.88	0.3998	-0.0662	0.0028	-0.0714	0.0126	-0.3380	0.0393	-0.2584	0.0824
2	74.88	0.4496	-0.0868	0.0030	-0.0992	0.0162	-0.5018	0.0542	-0.2471	0.1027
2	74.88	0.4995	-0.1049	0.0032	-0.1403	0.0203	-0.7829	0.0699	-0.4309	0.1039
2	74.88	0.5551	-0.1099	0.0032	-0.1768	0.0253	-1.1692	0.0923	-0.5593	0.1099
2	74.88	0.5996	-0.1278	0.0040	-0.2087	0.0307	-1.4991	0.1102	-0.5086	0.1073
2	74.88	0.6497	-0.1318	0.0042	-0.2350	0.0362	-1.9657	0.1319	-0.4346	0.1135
2	74.88	0.6996	-0.1508	0.0043	-0.2777	0.0424	-2.5129	0.1527	-0.4392	0.1158
2	74.88	0.7495	-0.1878	0.0054	-0.3057	0.0491	-3.1377	0.1702	-0.4908	0.1170
2	74.88	0.7996	-0.2284	0.0060	-0.3611	0.0557	-3.8599	0.1907	-0.5788	0.1205
2	74.88	0.8578	-0.3086	0.0075	-0.4113	0.0643	-4.7512	0.2116	-0.3524	0.1204
2	74.88	0.9100	-0.3580	0.0084	-0.4080	0.0718	-5.5948	0.2353	-0.3603	0.1242
2	74.88	0.9727	-0.4299	0.0111	-0.3856	0.0813	-6.6165	0.2691	-0.2909	0.1327
3	74.88	0.1938	0.0537	0.0020	-0.0142	0.0011	0.0183	0.0037	-0.1799	0.0290
3	74.88	0.2357	-0.0041	0.0017	0.0130	0.0022	-0.0018	0.0073	-0.3016	0.0536
3	74.88	0.2995	-0.0175	0.0018	-0.0195	0.0044	0.0278	0.0156	-0.4565	0.0715
3	74.88	0.3493	-0.0389	0.0023	-0.0383	0.0084	0.0666	0.0262	-0.3763	0.0670
3	74.88	0.4000	-0.0478	0.0024	-0.0394	0.0127	0.0710	0.0413	-0.3148	0.0709
3	74.88	0.4497	-0.0671	0.0030	-0.0673	0.0165	0.0349	0.0570	-0.3055	0.0695
3	74.88	0.4997	-0.0913	0.0029	-0.0868	0.0215	-0.0855	0.0724	-0.5212	0.0766
3	74.88	0.5556	-0.0988	0.0028	-0.1007	0.0274	-0.2323	0.0910	-0.4177	0.0773
3	74.88	0.5995	-0.0974	0.0035	-0.1411	0.0320	-0.4257	0.1052	-0.3639	0.0687
3	74.88	0.6498	-0.1057	0.0032	-0.1725	0.0384	-0.7315	0.1221	-0.4604	0.0778
3	74.88	0.6890	-0.1479	0.0039	-0.2128	0.0437	-1.0657	0.1355	-0.8232	0.0790
3	74.88	0.7495	-0.1559	0.0040	-0.2332	0.0523	-1.5699	0.1564	-0.6030	0.0713
3	74.88	0.7998	-0.1837	0.0046	-0.2660	0.0597	-2.1174	0.1754	-0.6162	0.0766
3	74.88	0.8577	-0.2198	0.0054	-0.3034	0.0685	-2.8892	0.2014	-0.6131	0.0897
3	74.88	0.9178	-0.2822	0.0088	-0.3699	0.0784	-3.7686	0.2288	-0.4479	0.0853
3	74.88	0.9729	-0.3087	0.0102	-0.3513	0.0879	-4.5769	0.2609	-0.4199	0.1131
4	74.88	0.2001	0.0378	0.0018	0.0191	0.0010	-0.0680	0.0039	0.2836	0.0295
4	74.88	0.2502	0.0076	0.0017	0.0233	0.0024	-0.1025	0.0090	0.8924	0.0559
4	74.88	0.3001	-0.0007	0.0023	0.0692	0.0045	-0.2368	0.0170	0.8136	0.0688
4	74.88	0.3502	-0.0400	0.0024	0.1244	0.0073	-0.4076	0.0291	0.7387	0.0589
4	74.88	0.4002	-0.0651	0.0029	0.1831	0.0119	-0.6064	0.0458	0.7435	0.0520
4	74.88	0.4500	-0.0823	0.0035	0.2421	0.0143	-0.8695	0.0633	0.6039	0.0608
4	74.88	0.5001	-0.1028	0.0035	0.2800	0.0186	-1.1628	0.0855	0.7405	0.0640
4	74.88	0.5560	-0.1159	0.0040	0.3411	0.0233	-1.6667	0.1104	0.5236	0.0655
4	74.88	0.6001	-0.1262	0.0045	0.3911	0.0274	-2.0870	0.1292	0.6076	0.0766
4	74.88	0.6501	-0.1570	0.0051	0.4253	0.0329	-2.6831	0.1512	0.6656	0.0748
4	74.88	0.6999	-0.1765	0.0055	0.4609	0.0378	-3.3623	0.1727	0.7189	0.0752
4	74.88	0.7500	-0.2176	0.0066	0.5216	0.0434	-4.1001	0.1932	0.9719	0.0887
4	74.88	0.8002	-0.2680	0.0081	0.5701	0.0492	-5.0119	0.2174	0.8563	0.0871
4	74.88	0.8582	-0.3268	0.0094	0.6510	0.0561	-6.1175	0.2449	0.7787	0.0897
4	74.88	0.9101	-0.3852	0.0110	0.7068	0.0626	-7.2065	0.2714	0.8178	0.1033
4	74.88	0.9728	-0.4033	0.0137	0.8336	0.0714	-8.4430	0.3056	1.0089	0.1084

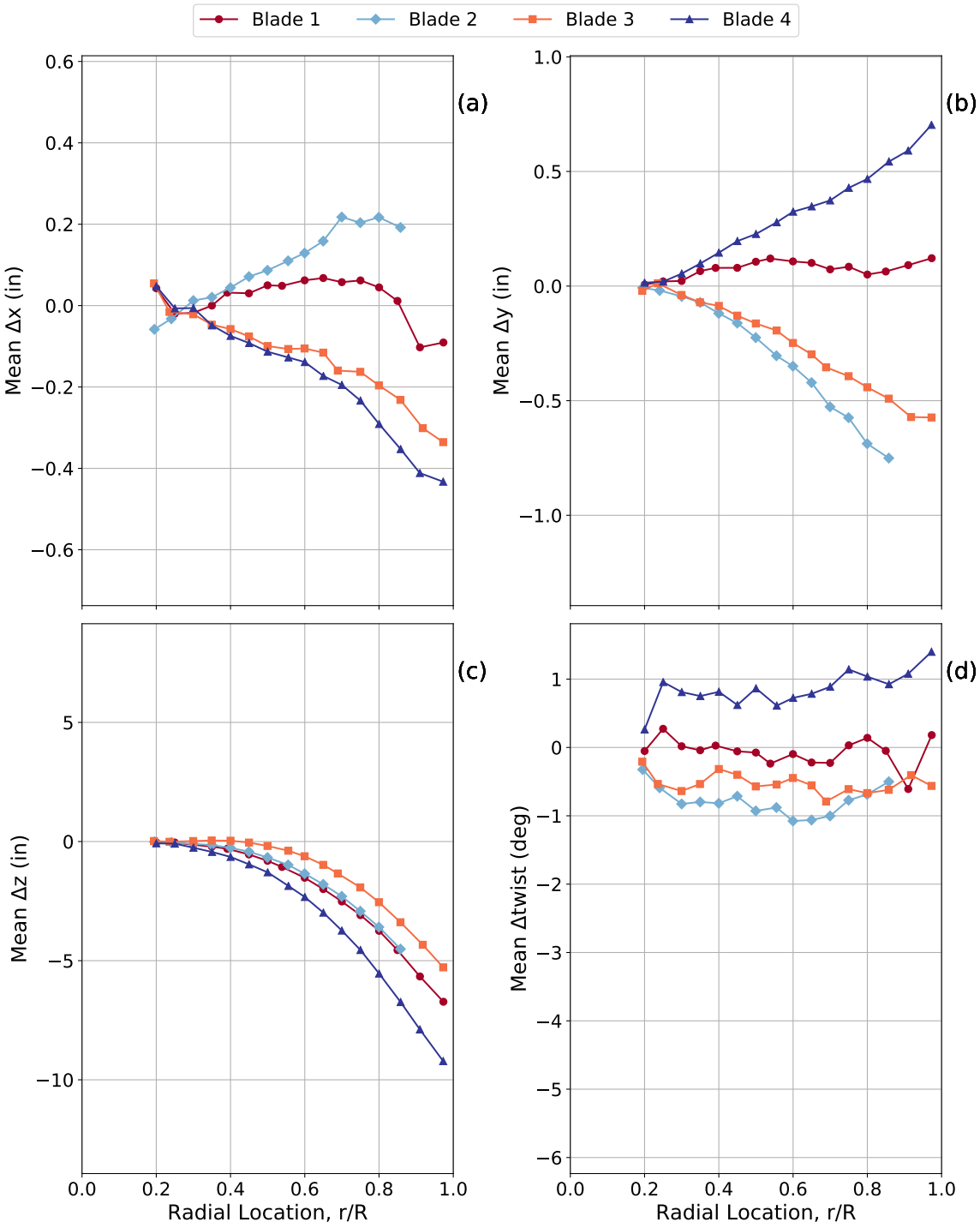


Figure 2.11-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0426	0.0149	0.0063	0.0053	-0.0391	0.0089	-0.0522	0.0628
1	80.16	0.2499	-0.0198	0.0029	0.0202	0.0058	-0.0410	0.0104	0.2729	0.1611
1	80.16	0.2998	-0.0178	0.0031	0.0223	0.0190	-0.1378	0.0286	0.0178	0.1661
1	80.16	0.3498	-0.0000	0.0073	0.0654	0.0328	-0.2151	0.0482	-0.0412	0.1684
1	80.16	0.3913	0.0319	0.0111	0.0793	0.0448	-0.3035	0.0651	0.0275	0.1635
1	80.16	0.4496	0.0302	0.0162	0.0796	0.0618	-0.5430	0.0884	-0.0567	0.1702
1	80.16	0.4997	0.0498	0.0208	0.1062	0.0763	-0.8092	0.1090	-0.0746	0.1711
1	80.16	0.5387	0.0486	0.0246	0.1202	0.0883	-1.0664	0.1262	-0.2365	0.1682
1	80.16	0.5996	0.0621	0.0302	0.1076	0.1073	-1.5202	0.1523	-0.0966	0.1771
1	80.16	0.6498	0.0677	0.0351	0.1010	0.1238	-1.9952	0.1761	-0.2200	0.1759
1	80.16	0.6998	0.0576	0.0415	0.0729	0.1396	-2.5159	0.1988	-0.2263	0.1829
1	80.16	0.7500	0.0619	0.0465	0.0842	0.1567	-3.0897	0.2216	0.0312	0.1964
1	80.16	0.8001	0.0447	0.0332	0.0503	0.1775	-3.7475	0.2812	0.1405	1.6334
1	80.16	0.8497	0.0115	0.0607	0.0636	0.1911	-4.5566	0.2715	-0.0491	0.2118
1	80.16	0.9102	-0.1026	0.0350	0.0914	0.2153	-5.6633	0.4280	-0.6082	0.2038
1	80.16	0.9734	-0.0907	0.0656	0.1216	0.2353	-6.7251	0.4603	0.1810	0.2113
2	80.16	0.1949	-0.0583	0.0013	-0.0077	0.0008	-0.0113	0.0028	-0.3228	0.0288
2	80.16	0.2405	-0.0324	0.0011	-0.0193	0.0015	-0.0422	0.0072	-0.5901	0.0403
2	80.16	0.2999	0.0124	0.0011	-0.0451	0.0032	-0.1012	0.0137	-0.8265	0.0634
2	80.16	0.3498	0.0205	0.0017	-0.0715	0.0055	-0.1470	0.0231	-0.7974	0.0694
2	80.16	0.3998	0.0441	0.0019	-0.1191	0.0085	-0.2659	0.0370	-0.8173	0.0691
2	80.16	0.4496	0.0712	0.0024	-0.1614	0.0114	-0.4249	0.0521	-0.7133	0.0781
2	80.16	0.4995	0.0867	0.0028	-0.2249	0.0155	-0.6690	0.0710	-0.9285	0.0847
2	80.16	0.5551	0.1100	0.0041	-0.3040	0.0207	-0.9809	0.0936	-0.8788	0.0989
2	80.16	0.5996	0.1291	0.0048	-0.3496	0.0250	-1.3489	0.1118	-1.0758	0.1217
2	80.16	0.6497	0.1585	0.0061	-0.4211	0.0298	-1.7957	0.1322	-1.0615	0.1188
2	80.16	0.6996	0.2176	0.0082	-0.5269	0.0350	-2.3004	0.1531	-1.0029	0.2235
2	80.16	0.7495	0.2037	0.0080	-0.5741	0.0418	-2.9230	0.1725	-0.7719	0.1704
2	80.16	0.7996	0.2170	0.0098	-0.6877	0.0479	-3.5892	0.1974	-0.6873	0.2325
2	80.16	0.8578	0.1920	0.0177	-0.7506	0.0557	-4.5115	0.2317	-0.5009	0.3740
3	80.16	0.1938	0.0546	0.0023	-0.0208	0.0012	0.0201	0.0041	-0.2080	0.0374
3	80.16	0.2357	-0.0156	0.0020	0.0122	0.0018	-0.0100	0.0073	-0.5341	0.0681
3	80.16	0.2995	-0.0213	0.0023	-0.0389	0.0048	0.0205	0.0165	-0.6376	0.0934
3	80.16	0.3493	-0.0468	0.0023	-0.0708	0.0078	0.0439	0.0270	-0.5351	0.0938
3	80.16	0.4000	-0.0577	0.0025	-0.0866	0.0124	0.0346	0.0426	-0.3156	0.0881
3	80.16	0.4497	-0.0758	0.0028	-0.1290	0.0160	-0.0430	0.0570	-0.3996	0.0958
3	80.16	0.4997	-0.0994	0.0029	-0.1632	0.0202	-0.1848	0.0736	-0.5700	0.1008
3	80.16	0.5556	-0.1067	0.0031	-0.1938	0.0254	-0.3859	0.0945	-0.5422	0.1071
3	80.16	0.5995	-0.1054	0.0033	-0.2481	0.0303	-0.6176	0.1114	-0.4469	0.1019
3	80.16	0.6498	-0.1156	0.0040	-0.2978	0.0362	-0.9790	0.1303	-0.5546	0.1073
3	80.16	0.6890	-0.1597	0.0036	-0.3544	0.0414	-1.3408	0.1469	-0.7906	0.1148
3	80.16	0.7495	-0.1628	0.0038	-0.3932	0.0494	-1.9242	0.1708	-0.6097	0.1177
3	80.16	0.7998	-0.1961	0.0041	-0.4416	0.0566	-2.5464	0.1905	-0.6679	0.1237
3	80.16	0.8577	-0.2317	0.0052	-0.4911	0.0650	-3.3875	0.2168	-0.6203	0.1266
3	80.16	0.9178	-0.3011	0.0064	-0.5714	0.0748	-4.3328	0.2454	-0.4049	0.1291
3	80.16	0.9729	-0.3356	0.0103	-0.5733	0.0829	-5.2812	0.2754	-0.5624	0.1458
4	80.16	0.2001	0.0474	0.0014	0.0147	0.0012	-0.0763	0.0039	0.2631	0.0291
4	80.16	0.2502	-0.0068	0.0016	0.0195	0.0027	-0.0889	0.0093	0.9566	0.0548
4	80.16	0.3001	-0.0062	0.0023	0.0544	0.0050	-0.2598	0.0164	0.8098	0.0663
4	80.16	0.3502	-0.0487	0.0017	0.0985	0.0088	-0.4368	0.0291	0.7518	0.0619
4	80.16	0.4002	-0.0745	0.0025	0.1457	0.0136	-0.6467	0.0451	0.8143	0.0616
4	80.16	0.4500	-0.0921	0.0026	0.1962	0.0171	-0.9590	0.0616	0.6211	0.0709
4	80.16	0.5001	-0.1134	0.0029	0.2271	0.0217	-1.2933	0.0817	0.8647	0.0727
4	80.16	0.5560	-0.1275	0.0037	0.2784	0.0278	-1.8642	0.1066	0.6113	0.0794
4	80.16	0.6001	-0.1388	0.0039	0.3245	0.0323	-2.3278	0.1295	0.7251	0.0806
4	80.16	0.6501	-0.1729	0.0045	0.3475	0.0383	-2.9859	0.1534	0.7851	0.0867
4	80.16	0.6999	-0.1950	0.0055	0.3736	0.0438	-3.7393	0.1783	0.8882	0.0855
4	80.16	0.7500	-0.2336	0.0063	0.4285	0.0498	-4.5542	0.2009	1.1416	0.0868
4	80.16	0.8002	-0.2910	0.0076	0.4675	0.0561	-5.5418	0.2239	1.0362	0.0869
4	80.16	0.8582	-0.3528	0.0093	0.5431	0.0632	-6.7394	0.2496	0.9246	0.0926
4	80.16	0.9101	-0.4116	0.0104	0.5911	0.0696	-7.8892	0.2723	1.0780	0.0911
4	80.16	0.9728	-0.4328	0.0125	0.7033	0.0779	-9.2164	0.3013	1.3992	0.0938

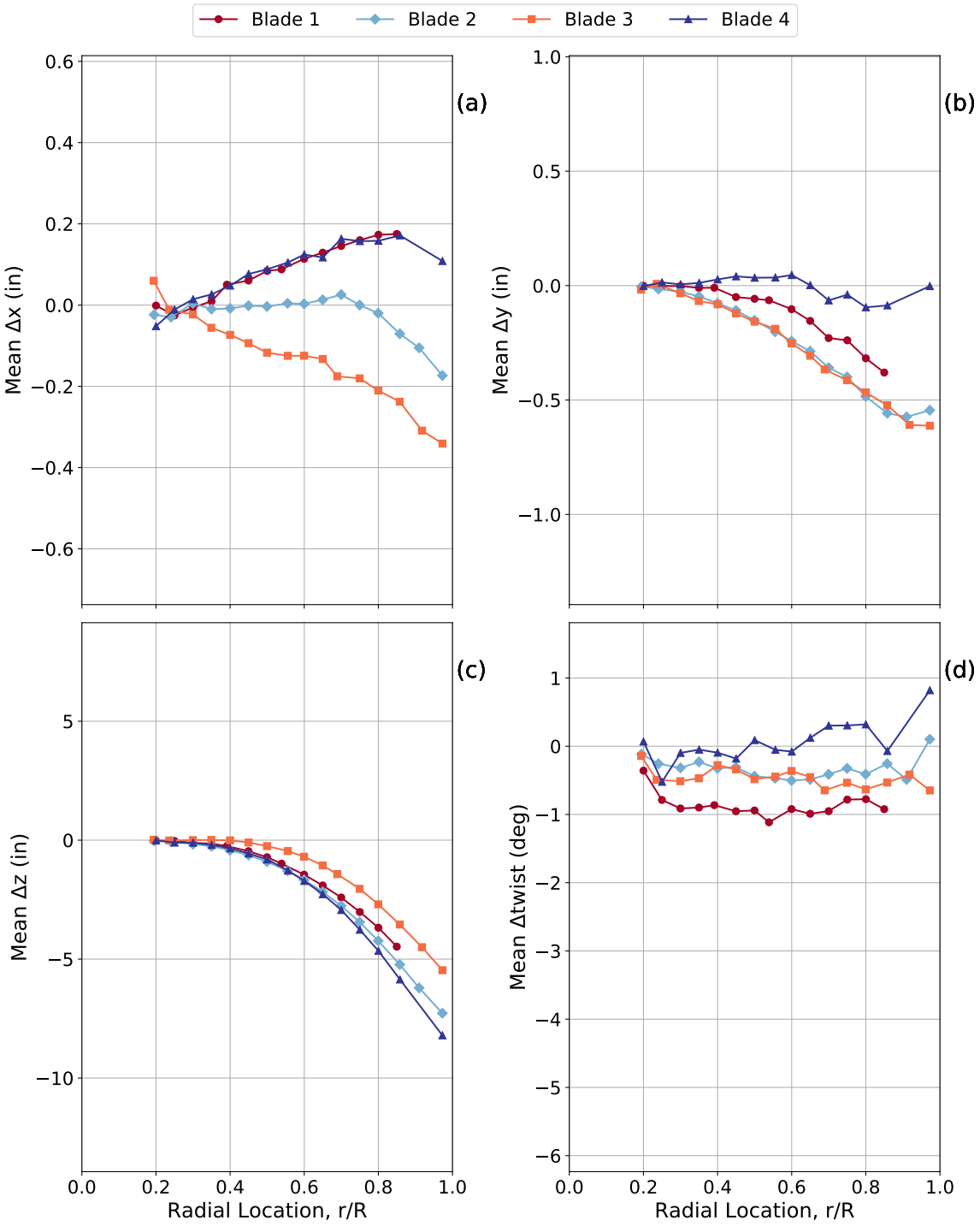


Figure 2.11-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0011	0.0015	-0.0011	0.0009	-0.0230	0.0041	-0.3578	0.0326
1	85.08	0.2499	-0.0256	0.0014	-0.0021	0.0019	-0.0347	0.0087	-0.7871	0.0532
1	85.08	0.2998	-0.0057	0.0013	-0.0019	0.0037	-0.1160	0.0167	-0.9121	0.0732
1	85.08	0.3498	0.0094	0.0014	-0.0100	0.0064	-0.1461	0.0280	-0.8986	0.0727
1	85.08	0.3913	0.0502	0.0020	-0.0094	0.0092	-0.2461	0.0409	-0.8635	0.0668
1	85.08	0.4496	0.0604	0.0021	-0.0501	0.0135	-0.4619	0.0580	-0.9523	0.0737
1	85.08	0.4997	0.0841	0.0033	-0.0576	0.0179	-0.7169	0.0753	-0.9411	0.0813
1	85.08	0.5387	0.0880	0.0031	-0.0639	0.0210	-0.9863	0.0872	-1.1146	0.0914
1	85.08	0.5996	0.1139	0.0038	-0.1031	0.0278	-1.4506	0.1084	-0.9212	0.0937
1	85.08	0.6498	0.1291	0.0041	-0.1541	0.0340	-1.9036	0.1257	-0.9893	0.1101
1	85.08	0.6998	0.1456	0.0056	-0.2292	0.0411	-2.4104	0.1435	-0.9511	0.1295
1	85.08	0.7500	0.1597	0.0060	-0.2390	0.0473	-3.0195	0.1646	-0.7818	0.1340
1	85.08	0.8001	0.1731	0.0084	-0.3177	0.0557	-3.6797	0.1890	-0.7762	0.1655
1	85.08	0.8497	0.1751	0.0089	-0.3799	0.0638	-4.4758	0.2160	-0.9227	0.1491
2	85.08	0.1949	-0.0236	0.0045	-0.0041	0.0011	-0.0300	0.0047	-0.1160	0.0195
2	85.08	0.2405	-0.0297	0.0019	-0.0149	0.0019	-0.0625	0.0095	-0.2560	0.0342
2	85.08	0.2999	0.0042	0.0025	-0.0271	0.0045	-0.1680	0.0218	-0.3178	0.0449
2	85.08	0.3498	-0.0098	0.0050	-0.0473	0.0081	-0.2539	0.0367	-0.2300	0.0417
2	85.08	0.3998	-0.0081	0.0073	-0.0772	0.0123	-0.4282	0.0579	-0.3245	0.0442
2	85.08	0.4496	-0.0014	0.0095	-0.1084	0.0169	-0.6268	0.0821	-0.3075	0.0484
2	85.08	0.4995	-0.0033	0.0120	-0.1516	0.0227	-0.9076	0.1091	-0.4394	0.0512
2	85.08	0.5551	0.0043	0.0138	-0.2015	0.0293	-1.2908	0.1405	-0.4678	0.0540
2	85.08	0.5996	0.0031	0.0157	-0.2426	0.0344	-1.6652	0.1649	-0.5025	0.0579
2	85.08	0.6497	0.0132	0.0181	-0.2866	0.0413	-2.1730	0.1953	-0.4866	0.0639
2	85.08	0.6996	0.0258	0.0211	-0.3585	0.0484	-2.7589	0.2244	-0.4112	0.0825
2	85.08	0.7495	0.0001	0.0240	-0.3992	0.0560	-3.4417	0.2548	-0.3242	0.0852
2	85.08	0.7996	-0.0200	0.0278	-0.4849	0.0635	-4.2330	0.2860	-0.4095	0.0854
2	85.08	0.8578	-0.0706	0.0329	-0.5577	0.0734	-5.2282	0.3237	-0.2558	0.1161
2	85.08	0.9100	-0.1052	0.0286	-0.5736	0.0821	-6.2108	0.3835	-0.4874	1.4664
2	85.08	0.9727	-0.1732	0.0447	-0.5446	0.0932	-7.2756	0.4050	0.1025	0.1952
3	85.08	0.1938	0.0599	0.0034	-0.0176	0.0013	0.0135	0.0043	-0.1424	0.0304
3	85.08	0.2357	-0.0116	0.0015	0.0072	0.0023	-0.0148	0.0078	-0.4925	0.0660
3	85.08	0.2995	-0.0230	0.0021	-0.0334	0.0051	0.0036	0.0176	-0.5123	0.0797
3	85.08	0.3493	-0.0558	0.0022	-0.0675	0.0093	0.0096	0.0297	-0.4699	0.0749
3	85.08	0.4000	-0.0733	0.0022	-0.0815	0.0142	-0.0109	0.0465	-0.2773	0.0765
3	85.08	0.4497	-0.0937	0.0028	-0.1212	0.0187	-0.0968	0.0633	-0.3387	0.0836
3	85.08	0.4997	-0.1171	0.0028	-0.1572	0.0247	-0.2494	0.0825	-0.4831	0.0835
3	85.08	0.5556	-0.1249	0.0028	-0.1889	0.0320	-0.4568	0.1055	-0.4451	0.0920
3	85.08	0.5995	-0.1247	0.0030	-0.2526	0.0386	-0.6948	0.1215	-0.3622	0.0861
3	85.08	0.6498	-0.1326	0.0030	-0.3064	0.0466	-1.0629	0.1420	-0.4522	0.0954
3	85.08	0.6890	-0.1754	0.0032	-0.3664	0.0534	-1.4268	0.1598	-0.6464	0.1012
3	85.08	0.7495	-0.1803	0.0037	-0.4137	0.0640	-2.0447	0.1863	-0.5350	0.1078
3	85.08	0.7998	-0.2104	0.0042	-0.4667	0.0733	-2.6969	0.2102	-0.6325	0.1045
3	85.08	0.8577	-0.2379	0.0050	-0.5225	0.0844	-3.5452	0.2381	-0.5313	0.1110
3	85.08	0.9178	-0.3090	0.0056	-0.6086	0.0965	-4.4994	0.2668	-0.4151	0.1152
3	85.08	0.9729	-0.3409	0.0078	-0.6125	0.1071	-5.4674	0.2946	-0.6479	0.1225
4	85.08	0.2001	-0.0519	0.0014	-0.0023	0.0010	-0.0117	0.0042	0.0688	0.0271
4	85.08	0.2502	-0.0108	0.0013	0.0138	0.0025	-0.1032	0.0086	-0.5211	0.0463
4	85.08	0.3001	0.0144	0.0016	0.0054	0.0045	-0.1077	0.0166	-0.0980	0.0598
4	85.08	0.3502	0.0265	0.0019	0.0120	0.0078	-0.2020	0.0285	-0.0494	0.0593
4	85.08	0.4002	0.0480	0.0028	0.0269	0.0124	-0.3441	0.0437	-0.0945	0.0607
4	85.08	0.4500	0.0766	0.0037	0.0403	0.0169	-0.5607	0.0578	-0.1809	0.0774
4	85.08	0.5001	0.0882	0.0046	0.0345	0.0223	-0.8118	0.0724	0.0897	0.0839
4	85.08	0.5560	0.1050	0.0052	0.0351	0.0294	-1.2778	0.0878	-0.0525	0.0804
4	85.08	0.6001	0.1245	0.0060	0.0461	0.0357	-1.7141	0.1015	-0.0787	0.0868
4	85.08	0.6501	0.1173	0.0067	0.0019	0.0432	-2.2724	0.1173	0.1235	0.0958
4	85.08	0.6999	0.1632	0.0080	-0.0648	0.0509	-2.9374	0.1354	0.3018	0.1067
4	85.08	0.7500	0.1575	0.0099	-0.0396	0.0595	-3.7678	0.1533	0.3047	0.1150
4	85.08	0.8002	0.1582	0.0125	-0.0949	0.0676	-4.6542	0.1746	0.3204	0.1733
4	85.08	0.8582	0.1715	0.0175	-0.0867	0.0785	-5.8558	0.2035	-0.0703	0.2684
4	85.08	0.9728	0.1085	0.0241	-0.0022	0.1020	-8.2061	0.2765	0.8206	0.3073

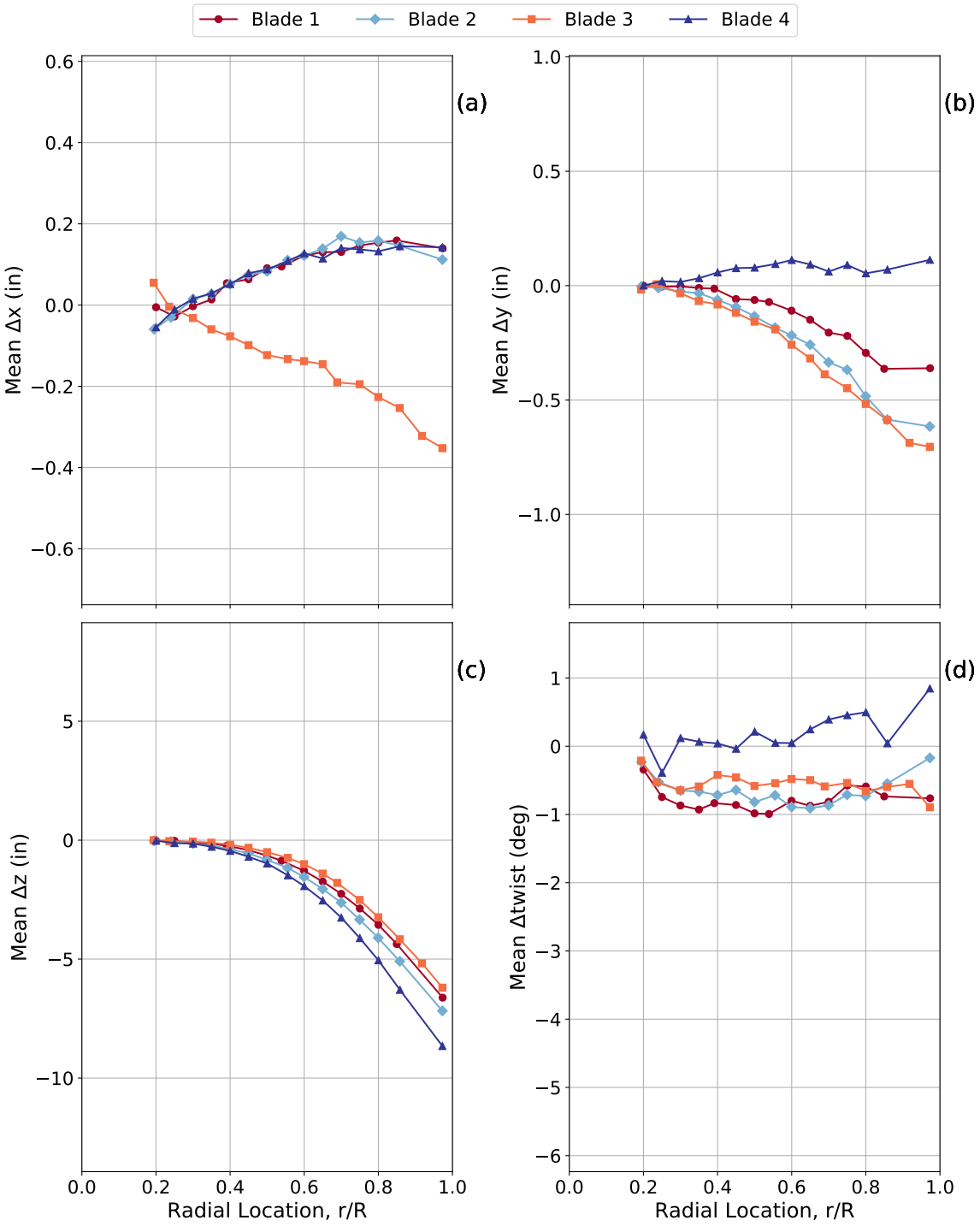


Figure 2.11-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0052	0.0016	-0.0006	0.0011	-0.0262	0.0042	-0.3420	0.0333
1	90	0.2499	-0.0280	0.0012	-0.0041	0.0024	-0.0268	0.0099	-0.7443	0.0595
1	90	0.2998	-0.0028	0.0015	-0.0034	0.0048	-0.1123	0.0182	-0.8686	0.0767
1	90	0.3498	0.0139	0.0017	-0.0103	0.0082	-0.1493	0.0308	-0.9284	0.0735
1	90	0.3913	0.0539	0.0022	-0.0133	0.0120	-0.2350	0.0454	-0.8337	0.0742
1	90	0.4496	0.0637	0.0029	-0.0587	0.0175	-0.4208	0.0689	-0.8614	0.0788
1	90	0.4997	0.0908	0.0038	-0.0627	0.0234	-0.6502	0.0935	-0.9834	0.0784
1	90	0.5387	0.0950	0.0040	-0.0717	0.0280	-0.8644	0.1120	-0.9925	0.0835
1	90	0.5996	0.1218	0.0047	-0.1096	0.0362	-1.2889	0.1431	-0.7991	0.0889
1	90	0.6498	0.1303	0.0057	-0.1492	0.0436	-1.7406	0.1672	-0.8730	0.0982
1	90	0.6998	0.1308	0.0065	-0.2053	0.0508	-2.2563	0.1910	-0.8138	0.1123
1	90	0.7500	0.1466	0.0079	-0.2198	0.0586	-2.8715	0.2165	-0.5747	0.1323
1	90	0.8001	0.1538	0.0095	-0.2940	0.0668	-3.5598	0.2421	-0.5906	0.1141
1	90	0.8497	0.1591	0.0103	-0.3637	0.0751	-4.3680	0.2669	-0.7353	0.1458
1	90	0.9734	0.1399	0.0168	-0.3611	0.0968	-6.6206	0.3348	-0.7631	0.2045
2	90	0.1949	-0.0592	0.0010	-0.0033	0.0008	-0.0252	0.0047	-0.2310	0.0321
2	90	0.2405	-0.0301	0.0011	-0.0105	0.0016	-0.0600	0.0095	-0.5227	0.0484
2	90	0.2999	0.0152	0.0011	-0.0257	0.0036	-0.1428	0.0216	-0.6492	0.0736
2	90	0.3498	0.0276	0.0017	-0.0333	0.0062	-0.2280	0.0362	-0.6646	0.0729
2	90	0.3998	0.0517	0.0022	-0.0625	0.0097	-0.3770	0.0570	-0.7158	0.0774
2	90	0.4496	0.0746	0.0027	-0.0931	0.0139	-0.5572	0.0825	-0.6411	0.0851
2	90	0.4995	0.0830	0.0032	-0.1342	0.0191	-0.8263	0.1098	-0.8175	0.0822
2	90	0.5551	0.1108	0.0037	-0.1838	0.0249	-1.1643	0.1408	-0.7188	0.0861
2	90	0.5996	0.1218	0.0043	-0.2176	0.0300	-1.5494	0.1647	-0.8901	0.1024
2	90	0.6497	0.1389	0.0049	-0.2583	0.0363	-2.0514	0.1907	-0.9089	0.1104
2	90	0.6996	0.1694	0.0062	-0.3352	0.0432	-2.6245	0.2105	-0.8660	0.1343
2	90	0.7495	0.1540	0.0073	-0.3679	0.0505	-3.3411	0.2366	-0.7117	0.1224
2	90	0.7996	0.1588	0.0084	-0.4832	0.0579	-4.1071	0.2660	-0.7291	0.1333
2	90	0.8578	0.1459	0.0115	-0.5854	0.0668	-5.0924	0.2973	-0.5480	0.1619
2	90	0.9727	0.1120	0.0161	-0.6154	0.0846	-7.1756	0.3746	-0.1712	0.2241
3	90	0.1938	0.0550	0.0041	-0.0172	0.0014	-0.0007	0.0057	-0.2116	0.0520
3	90	0.2357	-0.0039	0.0019	0.0061	0.0023	-0.0414	0.0072	-0.5307	0.1031
3	90	0.2995	-0.0318	0.0024	-0.0335	0.0055	-0.0601	0.0193	-0.6457	0.1365
3	90	0.3493	-0.0597	0.0022	-0.0675	0.0096	-0.1061	0.0337	-0.5895	0.1492
3	90	0.4000	-0.0768	0.0023	-0.0824	0.0149	-0.1880	0.0504	-0.4208	0.1584
3	90	0.4497	-0.0984	0.0026	-0.1188	0.0197	-0.3212	0.0666	-0.4560	0.1673
3	90	0.4997	-0.1230	0.0030	-0.1576	0.0263	-0.5049	0.0849	-0.5826	0.1790
3	90	0.5556	-0.1329	0.0036	-0.1912	0.0340	-0.7443	0.1033	-0.5415	0.1923
3	90	0.5995	-0.1379	0.0034	-0.2584	0.0409	-1.0080	0.1176	-0.4801	0.2056
3	90	0.6498	-0.1456	0.0036	-0.3183	0.0494	-1.4052	0.1350	-0.4971	0.2132
3	90	0.6890	-0.1904	0.0042	-0.3878	0.0566	-1.7950	0.1481	-0.5889	0.2187
3	90	0.7495	-0.1948	0.0047	-0.4482	0.0685	-2.5126	0.1681	-0.5374	0.2197
3	90	0.7998	-0.2263	0.0052	-0.5171	0.0786	-3.2422	0.1834	-0.6578	0.2299
3	90	0.8577	-0.2534	0.0063	-0.5879	0.0906	-4.1660	0.2009	-0.5975	0.2394
3	90	0.9178	-0.3220	0.0073	-0.6871	0.1032	-5.1775	0.2180	-0.5515	0.2373
3	90	0.9729	-0.3522	0.0106	-0.7045	0.1148	-6.2007	0.2379	-0.8947	0.2571
4	90.35	0.2001	-0.0547	0.0012	0.0003	0.0009	-0.0229	0.0034	0.1693	0.0278
4	90.35	0.2502	-0.0109	0.0013	0.0197	0.0024	-0.1244	0.0089	-0.3887	0.0447
4	90.35	0.3001	0.0155	0.0012	0.0160	0.0041	-0.1448	0.0145	0.1196	0.0619
4	90.35	0.3502	0.0293	0.0018	0.0324	0.0072	-0.2774	0.0251	0.0660	0.0604
4	90.35	0.4002	0.0518	0.0021	0.0575	0.0113	-0.4510	0.0394	0.0404	0.0690
4	90.35	0.4500	0.0784	0.0023	0.0763	0.0160	-0.6990	0.0561	-0.0366	0.0740
4	90.35	0.5001	0.0880	0.0027	0.0785	0.0219	-0.9816	0.0750	0.2139	0.0835
4	90.35	0.5560	0.1086	0.0033	0.0943	0.0285	-1.4796	0.0970	0.0493	0.0883
4	90.35	0.6001	0.1273	0.0036	0.1118	0.0347	-1.9319	0.1140	0.0461	0.0851
4	90.35	0.6501	0.1146	0.0040	0.0921	0.0424	-2.5369	0.1331	0.2480	0.0916
4	90.35	0.6999	0.1407	0.0049	0.0612	0.0511	-3.2577	0.1530	0.3914	0.1124
4	90.35	0.7500	0.1370	0.0057	0.0902	0.0604	-4.1193	0.1727	0.4547	0.1130
4	90.35	0.8002	0.1324	0.0068	0.0537	0.0701	-5.0509	0.1921	0.4978	0.1242
4	90.35	0.8582	0.1449	0.0091	0.0699	0.0816	-6.2939	0.2216	0.0420	0.1678
4	90.35	0.9728	0.1423	0.0130	0.1127	0.1085	-8.6542	0.2780	0.8462	0.1924

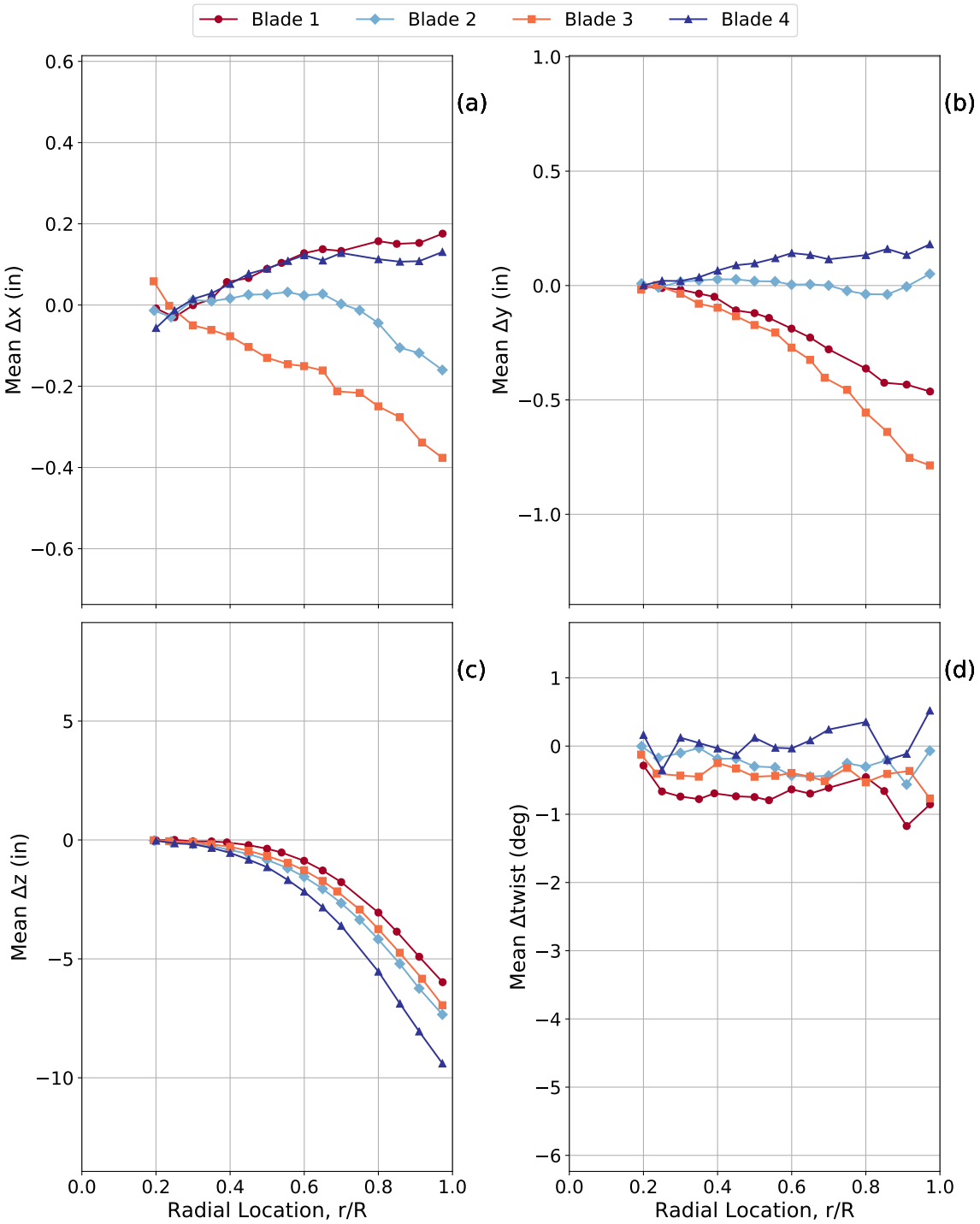


Figure 2.11-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0084	0.0013	-0.0040	0.0010	-0.0147	0.0043	-0.2857	0.0319
1	94.92	0.2499	-0.0300	0.0013	-0.0106	0.0024	0.0037	0.0089	-0.6651	0.0530
1	94.92	0.2998	-0.0004	0.0013	-0.0177	0.0044	-0.0608	0.0167	-0.7401	0.0722
1	94.92	0.3498	0.0143	0.0014	-0.0354	0.0077	-0.0581	0.0296	-0.7772	0.0668
1	94.92	0.3913	0.0566	0.0023	-0.0492	0.0112	-0.1014	0.0418	-0.6934	0.0744
1	94.92	0.4496	0.0666	0.0025	-0.1085	0.0166	-0.2158	0.0610	-0.7365	0.0764
1	94.92	0.4997	0.0890	0.0031	-0.1207	0.0221	-0.3682	0.0786	-0.7475	0.0782
1	94.92	0.5387	0.1038	0.0033	-0.1417	0.0269	-0.5268	0.0937	-0.7942	0.0911
1	94.92	0.5996	0.1276	0.0036	-0.1883	0.0346	-0.8748	0.1179	-0.6350	0.0955
1	94.92	0.6498	0.1375	0.0044	-0.2274	0.0414	-1.2830	0.1380	-0.6970	0.1031
1	94.92	0.6998	0.1331	0.0056	-0.2789	0.0484	-1.7720	0.1583	-0.6123	0.1154
1	94.92	0.8001	0.1572	0.0079	-0.3629	0.0638	-3.0538	0.2049	-0.4559	0.1311
1	94.92	0.8497	0.1506	0.0086	-0.4249	0.0722	-3.8543	0.2319	-0.6594	0.1229
1	94.92	0.9102	0.1529	0.0119	-0.4331	0.0831	-4.9106	0.2698	-1.1724	0.2073
1	94.92	0.9734	0.1758	0.0141	-0.4632	0.0929	-5.9806	0.3110	-0.8544	0.1780
2	94.92	0.1949	-0.0135	0.0076	0.0087	0.0025	-0.0284	0.0043	-0.0025	0.0229
2	94.92	0.2405	-0.0297	0.0042	-0.0084	0.0045	-0.0698	0.0065	-0.1745	0.0459
2	94.92	0.2999	0.0121	0.0040	0.0165	0.0100	-0.1617	0.0164	-0.1016	0.0531
2	94.92	0.3498	0.0096	0.0094	0.0224	0.0179	-0.2495	0.0278	-0.0273	0.0568
2	94.92	0.3998	0.0162	0.0152	0.0273	0.0273	-0.4184	0.0422	-0.1875	0.0622
2	94.92	0.4496	0.0255	0.0201	0.0269	0.0368	-0.5923	0.0574	-0.1835	0.0647
2	94.92	0.4995	0.0264	0.0261	0.0193	0.0471	-0.8350	0.0729	-0.2987	0.0697
2	94.92	0.5551	0.0318	0.0332	0.0178	0.0594	-1.1835	0.0923	-0.3121	0.0734
2	94.92	0.5996	0.0237	0.0386	0.0038	0.0692	-1.5483	0.1097	-0.4328	0.0798
2	94.92	0.6497	0.0273	0.0448	0.0052	0.0808	-2.0528	0.1295	-0.4479	0.0832
2	94.92	0.6996	0.0027	0.0519	0.0004	0.0931	-2.6546	0.1489	-0.4338	0.0803
2	94.92	0.7495	-0.0130	0.0587	-0.0229	0.1059	-3.3544	0.1666	-0.2519	0.0858
2	94.92	0.7996	-0.0443	0.0664	-0.0376	0.1199	-4.1711	0.1822	-0.3024	0.0991
2	94.92	0.8578	-0.1051	0.0761	-0.0388	0.1378	-5.2067	0.2006	-0.2047	0.1145
2	94.92	0.9100	-0.1181	0.0861	-0.0048	0.1589	-6.2407	0.2165	-0.5631	0.1740
2	94.92	0.9727	-0.1600	0.1001	0.0510	0.1801	-7.3401	0.2322	-0.0692	0.1331
3	94.92	0.1938	0.0584	0.0054	-0.0175	0.0017	-0.0119	0.0078	-0.1249	0.0358
3	94.92	0.2357	-0.0019	0.0024	0.0019	0.0021	-0.0526	0.0076	-0.4046	0.0910
3	94.92	0.2995	-0.0500	0.0022	-0.0358	0.0066	-0.0930	0.0249	-0.4338	0.0996
3	94.92	0.3493	-0.0613	0.0021	-0.0794	0.0117	-0.1805	0.0426	-0.4482	0.1013
3	94.92	0.4000	-0.0768	0.0025	-0.0969	0.0177	-0.2871	0.0631	-0.2483	0.0968
3	94.92	0.4497	-0.1032	0.0025	-0.1341	0.0232	-0.4547	0.0821	-0.3281	0.1027
3	94.92	0.4997	-0.1300	0.0030	-0.1726	0.0300	-0.6732	0.1028	-0.4499	0.1069
3	94.92	0.5556	-0.1456	0.0029	-0.2053	0.0377	-0.9643	0.1259	-0.4366	0.1144
3	94.92	0.5995	-0.1504	0.0032	-0.2714	0.0449	-1.2758	0.1444	-0.3944	0.1155
3	94.92	0.6498	-0.1611	0.0049	-0.3248	0.0557	-1.7237	0.1665	-0.4487	0.1375
3	94.92	0.6890	-0.2125	0.0039	-0.4030	0.0597	-2.1620	0.1806	-0.5142	0.1204
3	94.92	0.7495	-0.2165	0.0044	-0.4558	0.0714	-2.9256	0.2052	-0.3204	0.1220
3	94.92	0.7998	-0.2495	0.0055	-0.5549	0.0811	-3.7465	0.2250	-0.5313	0.1307
3	94.92	0.8577	-0.2761	0.0062	-0.6399	0.0932	-4.7440	0.2470	-0.4085	0.1249
3	94.92	0.9178	-0.3385	0.0073	-0.7533	0.1064	-5.8346	0.2671	-0.3649	0.1335
3	94.92	0.9729	-0.3762	0.0088	-0.7861	0.1189	-6.9500	0.2837	-0.7681	0.1403
4	94.92	0.2001	-0.0565	0.0010	0.0009	0.0009	-0.0304	0.0039	0.1630	0.0254
4	94.92	0.2502	-0.0133	0.0012	0.0208	0.0022	-0.1418	0.0084	-0.3516	0.0483
4	94.92	0.3001	0.0149	0.0012	0.0196	0.0038	-0.1813	0.0155	0.1228	0.0593
4	94.92	0.3502	0.0291	0.0015	0.0364	0.0068	-0.3335	0.0271	0.0447	0.0598
4	94.92	0.4002	0.0520	0.0019	0.0654	0.0106	-0.5441	0.0417	-0.0351	0.0642
4	94.92	0.4500	0.0770	0.0025	0.0888	0.0144	-0.8291	0.0579	-0.1306	0.0745
4	94.92	0.5001	0.0896	0.0028	0.0969	0.0192	-1.1450	0.0772	0.1216	0.0720
4	94.92	0.5560	0.1085	0.0037	0.1197	0.0258	-1.6850	0.0991	-0.0245	0.0764
4	94.92	0.6001	0.1226	0.0043	0.1419	0.0316	-2.1720	0.1204	-0.0342	0.0809
4	94.92	0.6501	0.1096	0.0051	0.1336	0.0388	-2.8364	0.1424	0.0841	0.0833
4	94.92	0.6999	0.1281	0.0068	0.1147	0.0468	-3.6112	0.1660	0.2425	0.0905
4	94.92	0.8002	0.1128	0.0103	0.1331	0.0656	-5.5376	0.2146	0.3536	0.0988
4	94.92	0.8582	0.1067	0.0113	0.1599	0.0764	-6.8834	0.2454	-0.2039	0.1240
4	94.92	0.9101	0.1080	0.0150	0.1339	0.0866	-8.0537	0.2684	-0.1138	0.1259
4	94.92	0.9728	0.1306	0.0161	0.1802	0.1016	-9.3971	0.3049	0.5200	0.1309

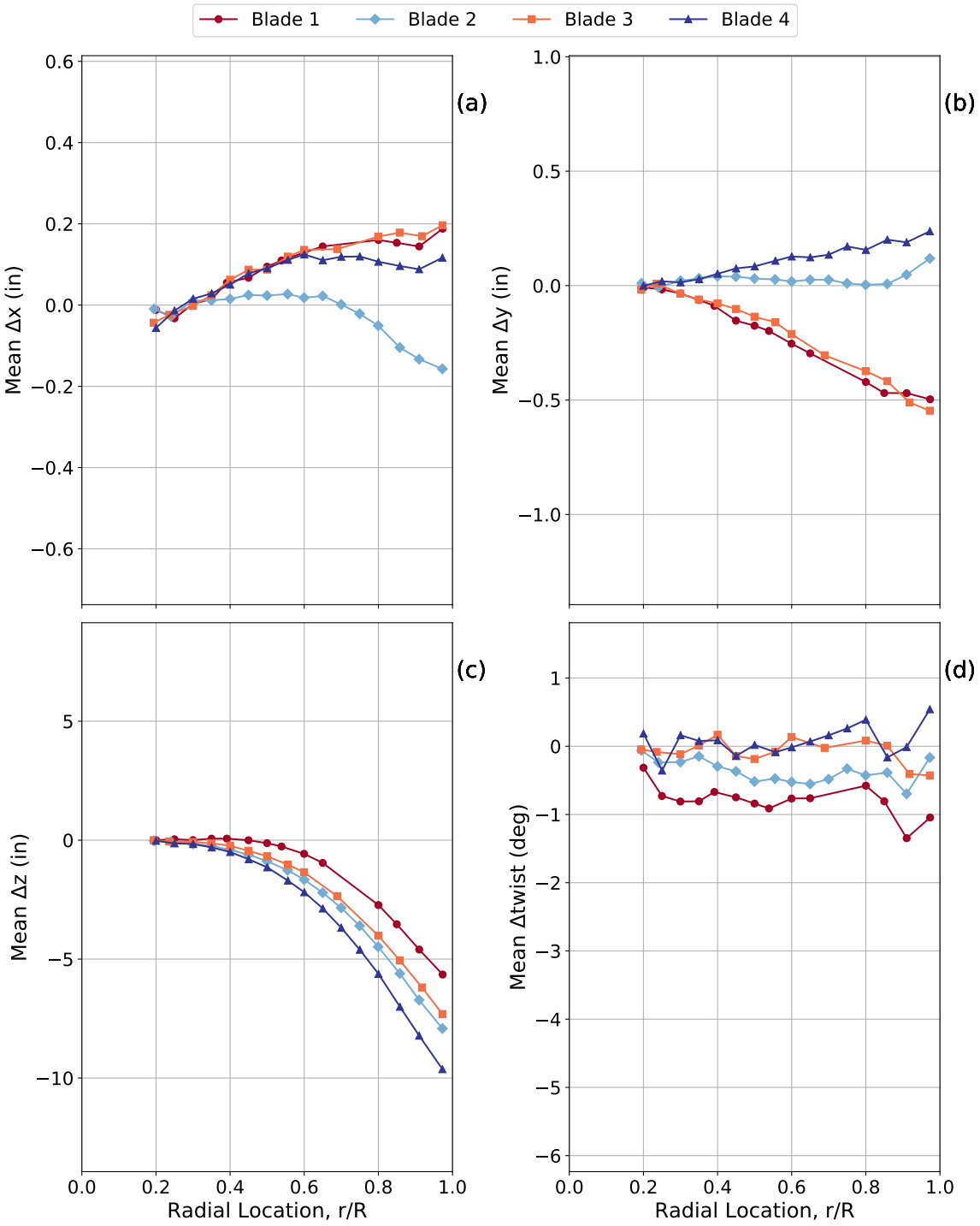


Figure 2.11-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.122$, $\mu = 0.237$, $\alpha = -1.37°$ NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0117	0.0013	-0.0083	0.0008	0.0023	0.0031	-0.3143	0.0238
1	99.84	0.2499	-0.0326	0.0011	-0.0164	0.0016	0.0377	0.0056	-0.7289	0.0425
1	99.84	0.2998	0.0033	0.0012	-0.0346	0.0032	0.0037	0.0121	-0.8101	0.0553
1	99.84	0.3498	0.0147	0.0014	-0.0626	0.0051	0.0627	0.0200	-0.8070	0.0588
1	99.84	0.3913	0.0551	0.0017	-0.0884	0.0075	0.0647	0.0288	-0.6697	0.0645
1	99.84	0.4496	0.0675	0.0021	-0.1531	0.0109	-0.0032	0.0427	-0.7487	0.0698
1	99.84	0.4997	0.0945	0.0028	-0.1752	0.0141	-0.1259	0.0563	-0.8397	0.0696
1	99.84	0.5387	0.1099	0.0030	-0.1981	0.0170	-0.2667	0.0678	-0.9116	0.0744
1	99.84	0.5996	0.1295	0.0036	-0.2536	0.0221	-0.5752	0.0891	-0.7664	0.0758
1	99.84	0.6498	0.1444	0.0041	-0.2960	0.0271	-0.9559	0.1081	-0.7625	0.0933
1	99.84	0.8001	0.1603	0.0070	-0.4213	0.0440	-2.7275	0.1718	-0.5784	0.1003
1	99.84	0.8497	0.1534	0.0086	-0.4694	0.0510	-3.5345	0.1986	-0.8072	0.0971
1	99.84	0.9102	0.1444	0.0108	-0.4699	0.0601	-4.5981	0.2311	-1.3474	0.1341
1	99.84	0.9734	0.1881	0.0146	-0.4968	0.0699	-5.6482	0.2724	-1.0451	0.1263
2	99.84	0.1949	-0.0094	0.0072	0.0100	0.0029	-0.0257	0.0038	-0.0611	0.0317
2	99.84	0.2405	-0.0275	0.0042	-0.0068	0.0046	-0.0700	0.0064	-0.2381	0.0721
2	99.84	0.2999	0.0110	0.0038	0.0213	0.0108	-0.1607	0.0134	-0.2316	0.0860
2	99.84	0.3498	0.0116	0.0096	0.0315	0.0191	-0.2354	0.0230	-0.1473	0.0836
2	99.84	0.3998	0.0152	0.0156	0.0405	0.0289	-0.4082	0.0352	-0.2954	0.0881
2	99.84	0.4496	0.0249	0.0223	0.0393	0.0386	-0.6072	0.0481	-0.3676	0.0961
2	99.84	0.4995	0.0235	0.0299	0.0310	0.0496	-0.8813	0.0638	-0.5178	0.0943
2	99.84	0.5551	0.0271	0.0394	0.0270	0.0638	-1.2650	0.0813	-0.4745	0.0944
2	99.84	0.5996	0.0182	0.0474	0.0181	0.0757	-1.6580	0.0960	-0.5236	0.1008
2	99.84	0.6497	0.0225	0.0572	0.0257	0.0900	-2.2094	0.1138	-0.5533	0.1027
2	99.84	0.6996	0.0016	0.0673	0.0254	0.1053	-2.8440	0.1318	-0.4829	0.1091
2	99.84	0.7495	-0.0214	0.0780	0.0098	0.1236	-3.6013	0.1527	-0.3303	0.1089
2	99.84	0.7996	-0.0506	0.0897	0.0035	0.1439	-4.4844	0.1739	-0.4268	0.1163
2	99.84	0.8578	-0.1044	0.1052	0.0073	0.1716	-5.6056	0.2028	-0.3856	0.1144
2	99.84	0.9100	-0.1331	0.1192	0.0477	0.1986	-6.7207	0.2287	-0.6977	0.1424
2	99.84	0.9727	-0.1570	0.1428	0.1185	0.2392	-7.9193	0.2671	-0.1660	0.1251
3	99.84	0.1938	-0.0434	0.0012	-0.0175	0.0008	-0.0029	0.0027	-0.0462	0.0226
3	99.84	0.2357	-0.0238	0.0011	0.0084	0.0015	-0.0544	0.0059	-0.0842	0.0355
3	99.84	0.2995	-0.0018	0.0012	-0.0352	0.0032	-0.0795	0.0120	-0.1166	0.0526
3	99.84	0.3493	0.0242	0.0016	-0.0609	0.0057	-0.1309	0.0213	0.0099	0.0629
3	99.84	0.4000	0.0625	0.0020	-0.0775	0.0088	-0.2350	0.0332	0.1679	0.0785
3	99.84	0.4497	0.0870	0.0025	-0.1022	0.0121	-0.4466	0.0456	-0.1426	0.0937
3	99.84	0.4997	0.0873	0.0031	-0.1359	0.0162	-0.6763	0.0588	-0.1869	0.0921
3	99.84	0.5556	0.1193	0.0035	-0.1598	0.0212	-1.0253	0.0757	-0.0803	0.0818
3	99.84	0.5995	0.1360	0.0043	-0.2115	0.0262	-1.3463	0.0914	0.1359	0.1246
3	99.84	0.6890	0.1378	0.0062	-0.3046	0.0382	-2.3564	0.1223	-0.0241	0.1241
3	99.84	0.7998	0.1688	0.0076	-0.3735	0.0538	-4.0111	0.1434	0.0834	0.1306
3	99.84	0.8577	0.1784	0.0093	-0.4174	0.0632	-5.0520	0.1530	0.0081	0.1432
3	99.84	0.9178	0.1696	0.0124	-0.5105	0.0723	-6.1916	0.1672	-0.4063	0.2034
3	99.84	0.9729	0.1965	0.0130	-0.5467	0.0833	-7.3088	0.1839	-0.4282	0.1875
4	99.84	0.2001	-0.0563	0.0011	-0.0003	0.0008	-0.0258	0.0031	0.1864	0.0230
4	99.84	0.2502	-0.0134	0.0010	0.0186	0.0016	-0.1340	0.0063	-0.3564	0.0426
4	99.84	0.3001	0.0155	0.0010	0.0141	0.0032	-0.1628	0.0116	0.1613	0.0529
4	99.84	0.3502	0.0289	0.0015	0.0281	0.0052	-0.3051	0.0210	0.0774	0.0552
4	99.84	0.4002	0.0504	0.0021	0.0517	0.0082	-0.4989	0.0315	0.0873	0.0588
4	99.84	0.4500	0.0782	0.0023	0.0752	0.0112	-0.8024	0.0432	-0.1421	0.0609
4	99.84	0.5001	0.0907	0.0026	0.0839	0.0148	-1.1428	0.0563	0.0195	0.0660
4	99.84	0.5560	0.1114	0.0033	0.1086	0.0190	-1.7021	0.0716	-0.0873	0.0666
4	99.84	0.6001	0.1246	0.0037	0.1272	0.0227	-2.1886	0.0843	-0.0161	0.0732
4	99.84	0.6501	0.1104	0.0049	0.1234	0.0272	-2.8729	0.0980	0.0698	0.0739
4	99.84	0.6999	0.1190	0.0055	0.1349	0.0331	-3.6831	0.1110	0.1605	0.0868
4	99.84	0.7500	0.1197	0.0067	0.1711	0.0393	-4.6077	0.1228	0.2617	0.0971
4	99.84	0.8002	0.1068	0.0080	0.1560	0.0460	-5.6210	0.1385	0.3888	0.1032
4	99.84	0.8582	0.0962	0.0094	0.2007	0.0540	-7.0057	0.1531	-0.1632	0.1090
4	99.84	0.9101	0.0882	0.0114	0.1891	0.0613	-8.2190	0.1702	-0.0123	0.1094
4	99.84	0.9728	0.1166	0.0140	0.2376	0.0705	-9.6267	0.1994	0.5417	0.1125

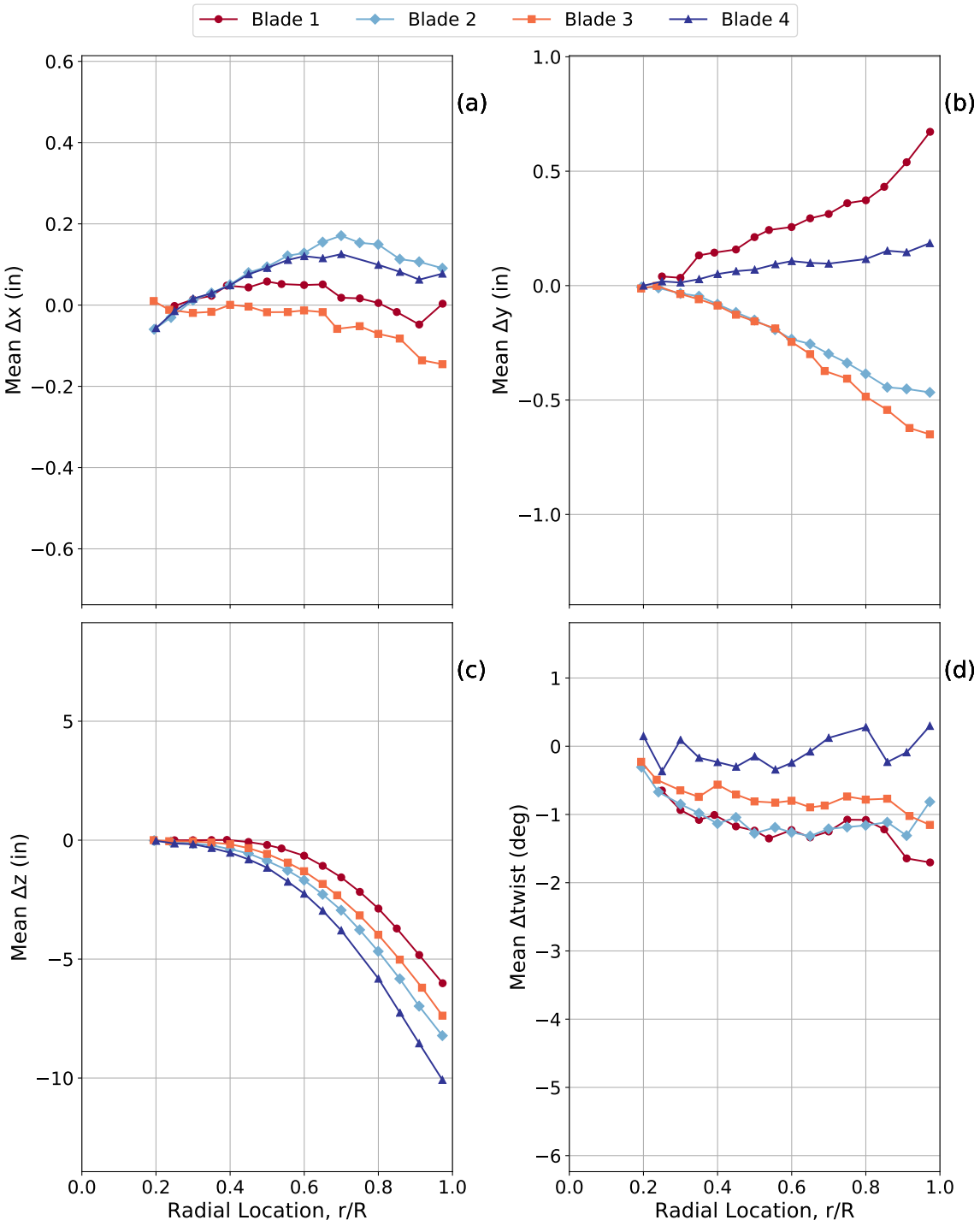


Figure 2.11-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2499	-0.0021	0.0080	0.0400	0.0086	-0.0037	0.0144	-0.6489	0.1344
1	105.12	0.2998	0.0139	0.0050	0.0339	0.0160	-0.0023	0.0254	-0.9341	0.1914
1	105.12	0.3498	0.0229	0.0043	0.1321	0.0292	0.0047	0.0456	-1.0795	0.1762
1	105.12	0.3913	0.0480	0.0066	0.1441	0.0419	0.0097	0.0643	-1.0075	0.1738
1	105.12	0.4496	0.0435	0.0107	0.1578	0.0573	-0.0764	0.0834	-1.1744	0.1850
1	105.12	0.4997	0.0581	0.0162	0.2119	0.0719	-0.2010	0.1031	-1.2369	0.1826
1	105.12	0.5387	0.0518	0.0207	0.2429	0.0839	-0.3492	0.1189	-1.3517	0.1843
1	105.12	0.5996	0.0494	0.0310	0.2559	0.1014	-0.6537	0.1434	-1.2287	0.1830
1	105.12	0.6498	0.0509	0.0404	0.2940	0.1162	-1.0805	0.1650	-1.3354	0.1844
1	105.12	0.6998	0.0181	0.0515	0.3130	0.1305	-1.5641	0.1867	-1.2492	0.1907
1	105.12	0.7500	0.0166	0.0641	0.3601	0.1458	-2.1751	0.2109	-1.0769	0.1957
1	105.12	0.8001	0.0052	0.0783	0.3729	0.1628	-2.8761	0.2360	-1.0798	0.1955
1	105.12	0.8497	-0.0170	0.0938	0.4317	0.1799	-3.7134	0.2636	-1.2181	0.1988
1	105.12	0.9102	-0.0478	0.1142	0.5392	0.2028	-4.8271	0.2953	-1.6440	0.2091
1	105.12	0.9734	0.0034	0.1420	0.6721	0.2283	-6.0138	0.3283	-1.7029	0.2002
2	105.12	0.1949	-0.0596	0.0014	-0.0064	0.0009	-0.0171	0.0034	-0.3066	0.0258
2	105.12	0.2405	-0.0304	0.0012	-0.0102	0.0026	-0.0741	0.0071	-0.6707	0.0411
2	105.12	0.2999	0.0120	0.0013	-0.0345	0.0046	-0.1365	0.0145	-0.8493	0.0596
2	105.12	0.3498	0.0299	0.0015	-0.0461	0.0083	-0.2189	0.0269	-0.9820	0.0629
2	105.12	0.3998	0.0504	0.0019	-0.0814	0.0132	-0.3760	0.0404	-1.1334	0.0630
2	105.12	0.4496	0.0800	0.0023	-0.1171	0.0162	-0.5609	0.0566	-1.0430	0.0652
2	105.12	0.4995	0.0942	0.0031	-0.1505	0.0206	-0.8688	0.0782	-1.2764	0.0728
2	105.12	0.5551	0.1214	0.0037	-0.1926	0.0268	-1.2692	0.1053	-1.1896	0.0758
2	105.12	0.5996	0.1282	0.0046	-0.2342	0.0316	-1.6843	0.1314	-1.2631	0.0835
2	105.12	0.6497	0.1551	0.0060	-0.2551	0.0373	-2.2784	0.1598	-1.3163	0.0767
2	105.12	0.6996	0.1709	0.0067	-0.2984	0.0434	-2.9443	0.1904	-1.2107	0.0926
2	105.12	0.7495	0.1534	0.0077	-0.3382	0.0533	-3.7700	0.2180	-1.1849	0.0978
2	105.12	0.7996	0.1493	0.0102	-0.3855	0.0585	-4.6735	0.2503	-1.1600	0.0805
2	105.12	0.8578	0.1131	0.0125	-0.4443	0.0672	-5.8284	0.2867	-1.1132	0.0956
2	105.12	0.9100	0.1066	0.0151	-0.4515	0.0750	-6.9776	0.3180	-1.3095	0.1028
2	105.12	0.9727	0.0908	0.0179	-0.4666	0.0854	-8.2180	0.3584	-0.8140	0.0929
3	105.12	0.1938	0.0100	0.0121	-0.0126	0.0030	0.0014	0.0079	-0.2285	0.0379
3	105.12	0.2357	-0.0116	0.0039	-0.0012	0.0031	-0.0434	0.0068	-0.4911	0.1064
3	105.12	0.2995	-0.0192	0.0044	-0.0367	0.0101	-0.0509	0.0234	-0.6463	0.1158
3	105.12	0.3493	-0.0165	0.0078	-0.0596	0.0179	-0.0968	0.0401	-0.7422	0.1168
3	105.12	0.4000	0.0006	0.0108	-0.0872	0.0267	-0.1697	0.0582	-0.5626	0.1240
3	105.12	0.4497	-0.0037	0.0138	-0.1272	0.0357	-0.3354	0.0775	-0.7074	0.1246
3	105.12	0.4997	-0.0175	0.0169	-0.1561	0.0457	-0.5773	0.0981	-0.8090	0.1279
3	105.12	0.5556	-0.0171	0.0213	-0.1872	0.0581	-0.9444	0.1237	-0.8264	0.1341
3	105.12	0.5995	-0.0131	0.0248	-0.2459	0.0683	-1.3067	0.1459	-0.7991	0.1420
3	105.12	0.6498	-0.0173	0.0303	-0.2995	0.0802	-1.8414	0.1707	-0.8954	0.1485
3	105.12	0.6890	-0.0585	0.0350	-0.3732	0.0900	-2.3178	0.1907	-0.8691	0.1497
3	105.12	0.7495	-0.0519	0.0447	-0.4066	0.1085	-3.1618	0.2232	-0.7365	0.1413
3	105.12	0.7998	-0.0708	0.0543	-0.4853	0.1213	-3.9763	0.2502	-0.7820	0.1483
3	105.12	0.8577	-0.0824	0.0672	-0.5433	0.1374	-5.0232	0.2811	-0.7690	0.1523
3	105.12	0.9178	-0.1359	0.0829	-0.6225	0.1569	-6.2019	0.3140	-1.0218	0.1606
3	105.12	0.9729	-0.1455	0.0996	-0.6501	0.1751	-7.3782	0.3444	-1.1532	0.1610
4	105.12	0.2001	-0.0567	0.0015	-0.0003	0.0011	-0.0283	0.0034	0.1474	0.0308
4	105.12	0.2502	-0.0148	0.0015	0.0185	0.0030	-0.1400	0.0072	-0.3673	0.0501
4	105.12	0.3001	0.0159	0.0013	0.0134	0.0050	-0.1704	0.0137	0.0925	0.0693
4	105.12	0.3502	0.0293	0.0017	0.0280	0.0086	-0.3279	0.0229	-0.1691	0.0635
4	105.12	0.4002	0.0488	0.0022	0.0506	0.0137	-0.5281	0.0359	-0.2332	0.0669
4	105.12	0.4500	0.0759	0.0022	0.0631	0.0171	-0.8092	0.0471	-0.3005	0.0713
4	105.12	0.5001	0.0916	0.0028	0.0696	0.0215	-1.1597	0.0609	-0.1483	0.0714
4	105.12	0.5560	0.1111	0.0031	0.0932	0.0269	-1.7464	0.0770	-0.3428	0.0747
4	105.12	0.6001	0.1205	0.0037	0.1071	0.0316	-2.2501	0.0888	-0.2424	0.0805
4	105.12	0.6501	0.1154	0.0045	0.0993	0.0371	-2.9674	0.1034	-0.0784	0.0843
4	105.12	0.6999	0.1255	0.0056	0.0960	0.0434	-3.7957	0.1171	0.1223	0.0811
4	105.12	0.8002	0.0991	0.0076	0.1160	0.0558	-5.8219	0.1473	0.2795	0.0884
4	105.12	0.8582	0.0818	0.0093	0.1523	0.0639	-7.2544	0.1681	-0.2313	0.0905
4	105.12	0.9101	0.0626	0.0111	0.1457	0.0712	-8.5419	0.1883	-0.0895	0.0954
4	105.12	0.9728	0.0774	0.0141	0.1855	0.0806	-10.0793	0.2171	0.2975	0.0898

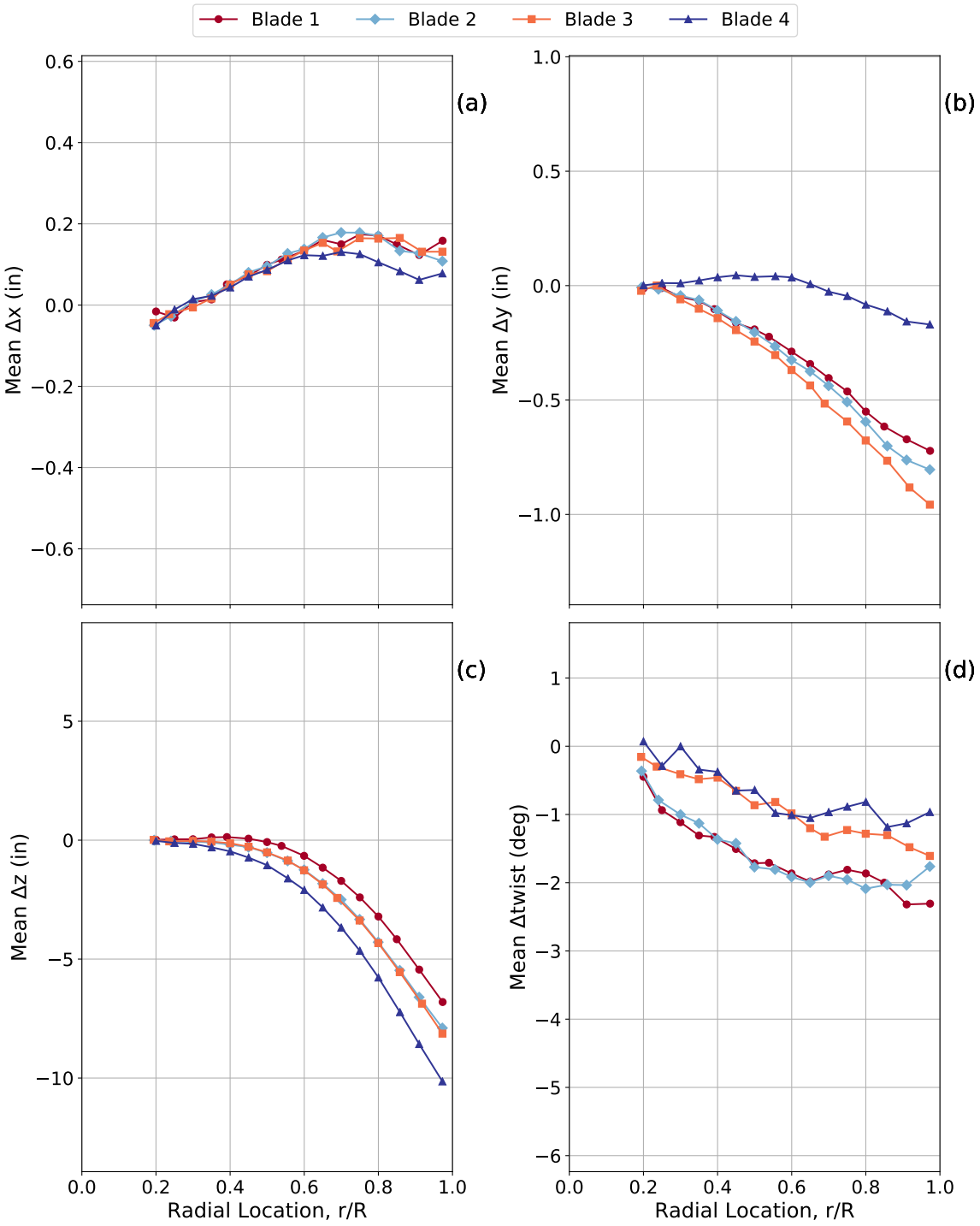


Figure 2.11-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0157	0.0014	-0.0121	0.0009	0.0166	0.0036	-0.4477	0.0263
1	119.88	0.2499	-0.0306	0.0010	-0.0106	0.0020	0.0361	0.0083	-0.9370	0.0448
1	119.88	0.2998	0.0071	0.0011	-0.0495	0.0038	0.0408	0.0152	-1.1135	0.0601
1	119.88	0.3498	0.0139	0.0016	-0.0669	0.0069	0.1166	0.0264	-1.3082	0.0648
1	119.88	0.3913	0.0511	0.0017	-0.1028	0.0097	0.1315	0.0382	-1.3291	0.0640
1	119.88	0.4496	0.0717	0.0021	-0.1635	0.0135	0.0634	0.0543	-1.5056	0.0745
1	119.88	0.4997	0.0992	0.0023	-0.1912	0.0174	-0.0797	0.0687	-1.7147	0.0787
1	119.88	0.5387	0.1120	0.0025	-0.2235	0.0209	-0.2413	0.0806	-1.7080	0.0773
1	119.88	0.5996	0.1336	0.0032	-0.2884	0.0268	-0.6589	0.0975	-1.8645	0.0765
1	119.88	0.6498	0.1603	0.0038	-0.3427	0.0323	-1.1550	0.1122	-1.9830	0.0829
1	119.88	0.6998	0.1498	0.0045	-0.4040	0.0384	-1.7111	0.1290	-1.8792	0.0854
1	119.88	0.7500	0.1743	0.0055	-0.4625	0.0451	-2.4054	0.1498	-1.8103	0.0894
1	119.88	0.8001	0.1712	0.0070	-0.5506	0.0522	-3.2102	0.1757	-1.8646	0.0875
1	119.88	0.8497	0.1494	0.0089	-0.6159	0.0596	-4.1653	0.2050	-1.9997	0.0908
1	119.88	0.9102	0.1232	0.0111	-0.6717	0.0691	-5.4409	0.2458	-2.3185	0.0914
1	119.88	0.9734	0.1585	0.0145	-0.7221	0.0792	-6.8052	0.2936	-2.3071	0.0913
2	119.88	0.1949	-0.0497	0.0016	-0.0077	0.0009	-0.0010	0.0034	-0.3633	0.0236
2	119.88	0.2405	-0.0276	0.0011	-0.0159	0.0022	-0.0432	0.0069	-0.7890	0.0427
2	119.88	0.2999	0.0087	0.0014	-0.0439	0.0043	-0.0669	0.0146	-1.0016	0.0569
2	119.88	0.3498	0.0260	0.0017	-0.0631	0.0075	-0.0954	0.0258	-1.1294	0.0611
2	119.88	0.3998	0.0507	0.0022	-0.1089	0.0118	-0.1876	0.0394	-1.3657	0.0652
2	119.88	0.4496	0.0804	0.0023	-0.1565	0.0158	-0.2944	0.0541	-1.4229	0.0659
2	119.88	0.4995	0.0957	0.0030	-0.2040	0.0205	-0.5269	0.0720	-1.7713	0.0739
2	119.88	0.5551	0.1271	0.0035	-0.2656	0.0264	-0.8714	0.0916	-1.8061	0.0738
2	119.88	0.5996	0.1379	0.0040	-0.3249	0.0312	-1.2475	0.1085	-1.9150	0.0781
2	119.88	0.6497	0.1664	0.0048	-0.3745	0.0378	-1.8251	0.1267	-1.9975	0.0833
2	119.88	0.6996	0.1786	0.0061	-0.4376	0.0446	-2.4998	0.1437	-1.8983	0.0819
2	119.88	0.7495	0.1784	0.0073	-0.5084	0.0533	-3.3312	0.1630	-1.9533	0.0838
2	119.88	0.7996	0.1706	0.0096	-0.5947	0.0611	-4.2879	0.1843	-2.0872	0.0893
2	119.88	0.8578	0.1337	0.0119	-0.7009	0.0712	-5.4729	0.2117	-2.0292	0.0934
2	119.88	0.9100	0.1277	0.0137	-0.7621	0.0807	-6.6014	0.2391	-2.0352	0.0971
2	119.88	0.9727	0.1082	0.0184	-0.8041	0.0920	-7.8975	0.2755	-1.7623	0.1005
3	119.88	0.1938	-0.0441	0.0012	-0.0227	0.0008	0.0134	0.0030	-0.1561	0.0243
3	119.88	0.2357	-0.0224	0.0011	0.0004	0.0020	-0.0500	0.0076	-0.2989	0.0334
3	119.88	0.2995	-0.0057	0.0013	-0.0600	0.0041	-0.0323	0.0153	-0.4100	0.0537
3	119.88	0.3493	0.0164	0.0017	-0.1009	0.0068	-0.0599	0.0263	-0.4832	0.0543
3	119.88	0.4000	0.0504	0.0023	-0.1422	0.0112	-0.1290	0.0420	-0.4595	0.0508
3	119.88	0.4497	0.0757	0.0027	-0.1945	0.0145	-0.2765	0.0573	-0.6542	0.0632
3	119.88	0.4997	0.0835	0.0032	-0.2445	0.0190	-0.5141	0.0740	-0.8640	0.0688
3	119.88	0.5556	0.1132	0.0034	-0.3035	0.0247	-0.8572	0.0924	-0.8178	0.0753
3	119.88	0.5995	0.1343	0.0041	-0.3690	0.0293	-1.2654	0.1054	-0.9846	0.0833
3	119.88	0.6498	0.1532	0.0046	-0.4363	0.0351	-1.8594	0.1210	-1.2013	0.0884
3	119.88	0.6890	0.1321	0.0054	-0.5156	0.0400	-2.4283	0.1336	-1.3260	0.0906
3	119.88	0.7495	0.1647	0.0068	-0.5939	0.0477	-3.3782	0.1573	-1.2282	0.0920
3	119.88	0.7998	0.1637	0.0082	-0.6769	0.0546	-4.3273	0.1808	-1.2823	0.0998
3	119.88	0.8577	0.1653	0.0105	-0.7652	0.0626	-5.5485	0.2134	-1.3028	0.0999
3	119.88	0.9178	0.1314	0.0126	-0.8822	0.0713	-6.8733	0.2506	-1.4801	0.1140
3	119.88	0.9729	0.1314	0.0149	-0.9573	0.0792	-8.1325	0.2866	-1.6079	0.1221
4	119.88	0.2001	-0.0502	0.0013	0.0011	0.0008	-0.0299	0.0029	0.0709	0.0293
4	119.88	0.2502	-0.0108	0.0012	0.0111	0.0019	-0.1166	0.0069	-0.2886	0.0440
4	119.88	0.3001	0.0147	0.0012	0.0103	0.0029	-0.1531	0.0118	-0.0022	0.0650
4	119.88	0.3502	0.0229	0.0014	0.0224	0.0059	-0.3022	0.0216	-0.3420	0.0619
4	119.88	0.4002	0.0434	0.0018	0.0364	0.0085	-0.4710	0.0327	-0.3755	0.0653
4	119.88	0.4500	0.0701	0.0018	0.0451	0.0114	-0.7345	0.0445	-0.6501	0.0690
4	119.88	0.5001	0.0870	0.0024	0.0380	0.0149	-1.0552	0.0574	-0.6413	0.0734
4	119.88	0.5560	0.1101	0.0027	0.0410	0.0193	-1.6083	0.0729	-0.9775	0.0781
4	119.88	0.6001	0.1229	0.0033	0.0358	0.0228	-2.0943	0.0858	-1.0107	0.0841
4	119.88	0.6501	0.1212	0.0039	0.0067	0.0276	-2.8310	0.1021	-1.0512	0.0866
4	119.88	0.6999	0.1308	0.0050	-0.0266	0.0325	-3.6754	0.1224	-0.9657	0.0948
4	119.88	0.7500	0.1254	0.0064	-0.0457	0.0378	-4.6511	0.1467	-0.8862	0.1005
4	119.88	0.8002	0.1053	0.0090	-0.0831	0.0433	-5.7744	0.1764	-0.8155	0.1126
4	119.88	0.8582	0.0833	0.0123	-0.1126	0.0502	-7.2314	0.2175	-1.1846	0.1208
4	119.88	0.9101	0.0621	0.0149	-0.1568	0.0563	-8.5728	0.2588	-1.1296	0.1233
4	119.88	0.9728	0.0780	0.0189	-0.1701	0.0637	-10.1424	0.3146	-0.9647	0.1277

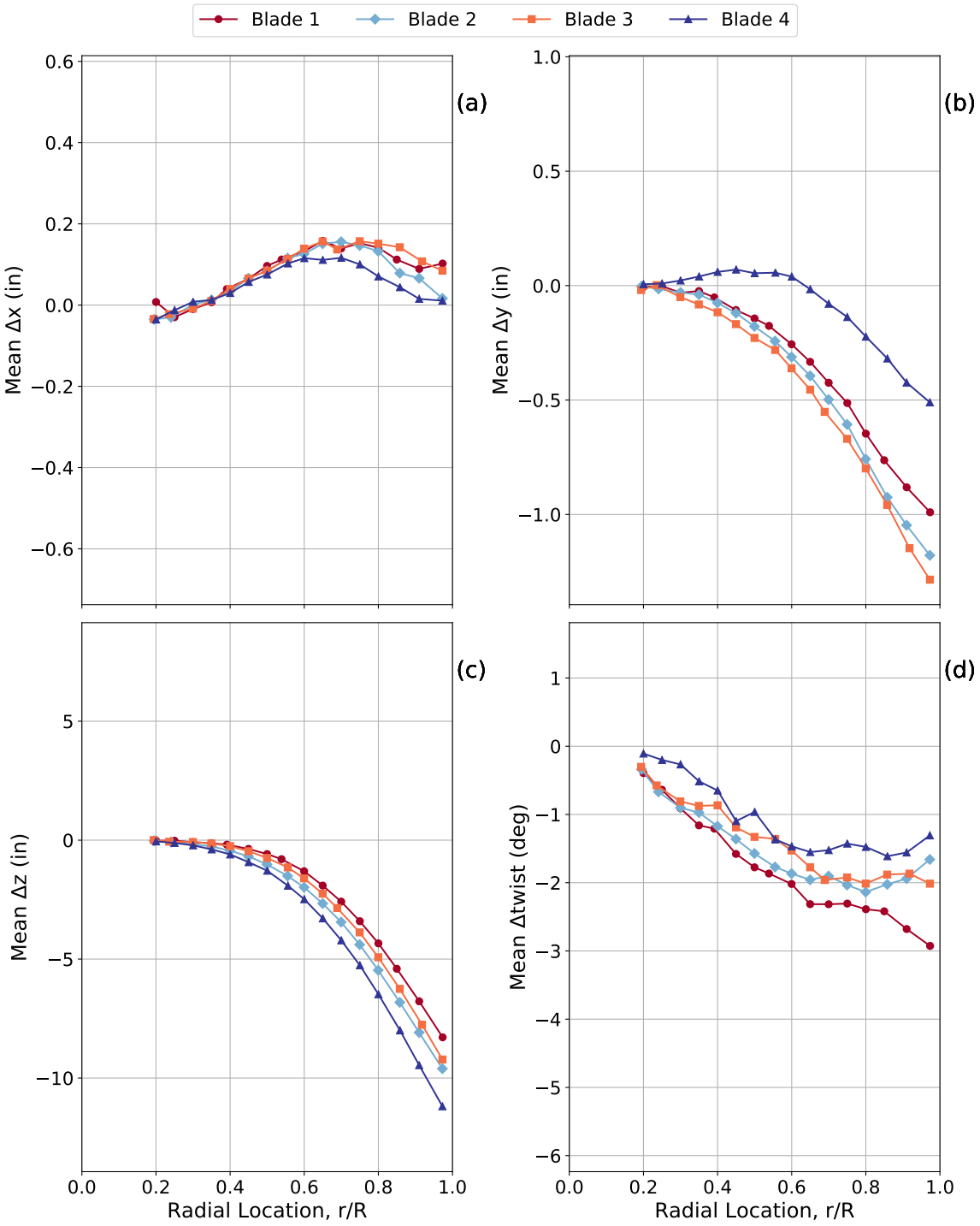


Figure 2.11-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	0.0077	0.0014	-0.0058	0.0007	-0.0204	0.0028	-0.3939	0.0250
1	135	0.2499	-0.0298	0.0010	-0.0022	0.0019	-0.0233	0.0067	-0.6373	0.0437
1	135	0.2998	-0.0097	0.0014	-0.0311	0.0034	-0.0857	0.0119	-0.9092	0.0568
1	135	0.3498	0.0070	0.0017	-0.0238	0.0057	-0.1261	0.0208	-1.1600	0.0641
1	135	0.3913	0.0397	0.0026	-0.0515	0.0086	-0.1897	0.0301	-1.2078	0.0703
1	135	0.4496	0.0649	0.0019	-0.1067	0.0115	-0.3676	0.0469	-1.5783	0.0846
1	135	0.4997	0.0964	0.0022	-0.1435	0.0155	-0.5842	0.0640	-1.7745	0.0931
1	135	0.5387	0.1121	0.0030	-0.1760	0.0189	-0.7982	0.0804	-1.8654	0.1046
1	135	0.5996	0.1325	0.0029	-0.2564	0.0252	-1.3054	0.1078	-2.0184	0.1222
1	135	0.6498	0.1579	0.0037	-0.3331	0.0310	-1.9097	0.1343	-2.3143	0.1390
1	135	0.6998	0.1395	0.0049	-0.4246	0.0376	-2.5838	0.1632	-2.3155	0.1530
1	135	0.7500	0.1524	0.0064	-0.5131	0.0451	-3.4072	0.1956	-2.3060	0.1592
1	135	0.8001	0.1414	0.0091	-0.6470	0.0533	-4.3385	0.2340	-2.3885	0.1654
1	135	0.8497	0.1121	0.0118	-0.7632	0.0612	-5.4048	0.2759	-2.4192	0.1803
1	135	0.9102	0.0891	0.0153	-0.8816	0.0722	-6.7744	0.3325	-2.6787	0.1887
1	135	0.9734	0.1023	0.0185	-0.9906	0.0840	-8.2873	0.3952	-2.9261	0.1941
2	135	0.1949	-0.0351	0.0011	-0.0030	0.0006	-0.0256	0.0023	-0.3394	0.0263
2	135	0.2405	-0.0301	0.0011	-0.0144	0.0020	-0.0772	0.0056	-0.6680	0.0354
2	135	0.2999	0.0013	0.0015	-0.0303	0.0034	-0.1665	0.0104	-0.9021	0.0588
2	135	0.3498	0.0130	0.0018	-0.0391	0.0057	-0.2623	0.0185	-0.9722	0.0613
2	135	0.3998	0.0339	0.0019	-0.0756	0.0093	-0.4438	0.0289	-1.1727	0.0619
2	135	0.4496	0.0659	0.0021	-0.1202	0.0125	-0.6827	0.0393	-1.3603	0.0742
2	135	0.4995	0.0837	0.0024	-0.1785	0.0163	-1.0184	0.0513	-1.5717	0.0756
2	135	0.5551	0.1156	0.0027	-0.2426	0.0211	-1.5054	0.0667	-1.7704	0.0780
2	135	0.5996	0.1260	0.0029	-0.3118	0.0253	-1.9803	0.0814	-1.8662	0.0852
2	135	0.6497	0.1510	0.0034	-0.3943	0.0308	-2.6629	0.0986	-1.9570	0.0908
2	135	0.6996	0.1559	0.0041	-0.4979	0.0364	-3.4434	0.1169	-1.9020	0.0967
2	135	0.7495	0.1467	0.0055	-0.6066	0.0423	-4.3898	0.1367	-2.0343	0.1030
2	135	0.7996	0.1328	0.0073	-0.7581	0.0485	-5.4678	0.1615	-2.1366	0.1155
2	135	0.8578	0.0787	0.0099	-0.9251	0.0557	-6.8192	0.1952	-2.0241	0.1201
2	135	0.9100	0.0662	0.0125	-1.0471	0.0624	-8.0856	0.2338	-1.9403	0.1166
2	135	0.9727	0.0164	0.0168	-1.1787	0.0705	-9.6072	0.2891	-1.6595	0.1292
3	135	0.1938	-0.0342	0.0015	-0.0193	0.0006	0.0035	0.0021	-0.3024	0.0245
3	135	0.2357	-0.0222	0.0010	0.0020	0.0015	-0.0660	0.0057	-0.5744	0.0321
3	135	0.2995	-0.0086	0.0014	-0.0502	0.0031	-0.0780	0.0109	-0.8085	0.0541
3	135	0.3493	0.0102	0.0018	-0.0824	0.0052	-0.1374	0.0181	-0.8745	0.0615
3	135	0.4000	0.0398	0.0020	-0.1166	0.0084	-0.2513	0.0295	-0.8653	0.0562
3	135	0.4497	0.0656	0.0021	-0.1684	0.0112	-0.4646	0.0401	-1.1892	0.0637
3	135	0.4997	0.0849	0.0021	-0.2287	0.0146	-0.7467	0.0532	-1.3285	0.0709
3	135	0.5556	0.1137	0.0026	-0.2812	0.0190	-1.1457	0.0707	-1.3578	0.0760
3	135	0.5995	0.1391	0.0033	-0.3614	0.0230	-1.6051	0.0869	-1.5281	0.0814
3	135	0.6498	0.1567	0.0038	-0.4546	0.0285	-2.2493	0.1076	-1.7741	0.0854
3	135	0.6890	0.1369	0.0050	-0.5518	0.0331	-2.8530	0.1252	-1.9602	0.0926
3	135	0.7495	0.1572	0.0065	-0.6697	0.0415	-3.8781	0.1567	-1.9231	0.1021
3	135	0.7998	0.1513	0.0086	-0.7990	0.0489	-4.9233	0.1869	-2.0132	0.1060
3	135	0.8577	0.1424	0.0113	-0.9588	0.0582	-6.2521	0.2270	-1.8806	0.1080
3	135	0.9178	0.1076	0.0140	-1.1473	0.0681	-7.7570	0.2732	-1.8671	0.1208
3	135	0.9729	0.0846	0.0171	-1.2851	0.0775	-9.2207	0.3198	-2.0139	0.1143
4	135	0.2001	-0.0354	0.0012	0.0059	0.0007	-0.0513	0.0030	-0.1072	0.0240
4	135	0.2502	-0.0125	0.0012	0.0091	0.0017	-0.1180	0.0063	-0.2011	0.0377
4	135	0.3001	0.0081	0.0012	0.0223	0.0031	-0.2181	0.0118	-0.2666	0.0533
4	135	0.3502	0.0127	0.0014	0.0399	0.0051	-0.3883	0.0207	-0.5151	0.0606
4	135	0.4002	0.0298	0.0020	0.0598	0.0081	-0.6005	0.0317	-0.6490	0.0561
4	135	0.4500	0.0570	0.0022	0.0700	0.0108	-0.9261	0.0433	-1.0973	0.0572
4	135	0.5001	0.0753	0.0025	0.0542	0.0139	-1.2842	0.0570	-0.9628	0.0602
4	135	0.5560	0.1025	0.0030	0.0564	0.0178	-1.9146	0.0756	-1.3663	0.0614
4	135	0.6001	0.1155	0.0039	0.0392	0.0215	-2.4838	0.0920	-1.4669	0.0612
4	135	0.6501	0.1112	0.0048	-0.0161	0.0260	-3.2877	0.1136	-1.5511	0.0686
4	135	0.6999	0.1164	0.0061	-0.0796	0.0309	-4.2118	0.1395	-1.5226	0.0694
4	135	0.7500	0.1001	0.0081	-0.1374	0.0361	-5.2602	0.1697	-1.4275	0.0715
4	135	0.8002	0.0705	0.0115	-0.2231	0.0421	-6.4799	0.2059	-1.4760	0.0731
4	135	0.8582	0.0440	0.0148	-0.3187	0.0489	-7.9945	0.2507	-1.6125	0.0783
4	135	0.9101	0.0153	0.0185	-0.4239	0.0553	-9.4595	0.2957	-1.5572	0.0834
4	135	0.9728	0.0109	0.0229	-0.5102	0.0637	-11.1887	0.3554	-1.3070	0.0842

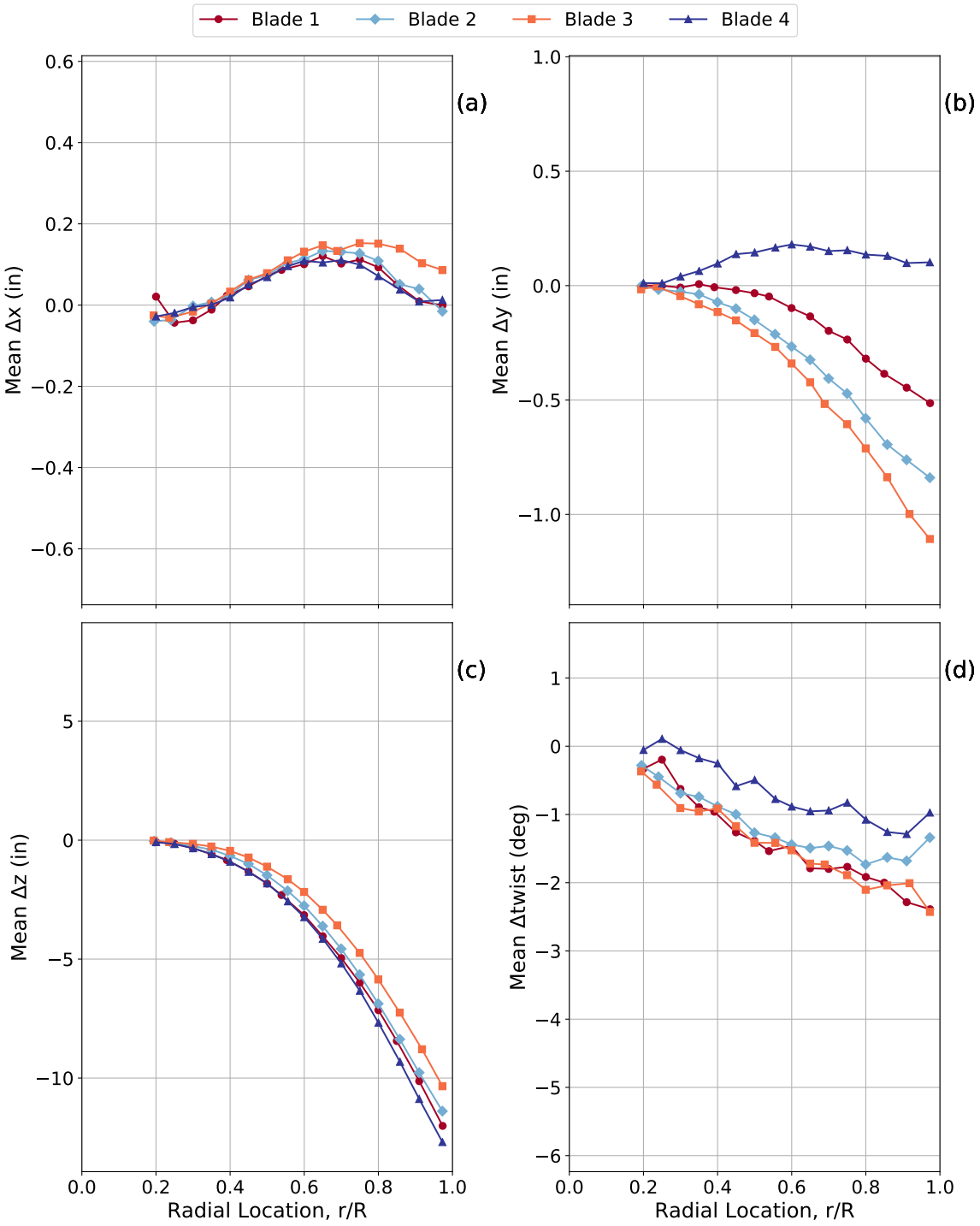


Figure 2.11-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	0.0208	0.0018	0.0005	0.0011	-0.0822	0.0027	-0.3284	0.0299
1	150.12	0.2499	-0.0434	0.0016	-0.0003	0.0030	-0.1508	0.0074	-0.1967	0.0453
1	150.12	0.2998	-0.0375	0.0019	-0.0086	0.0051	-0.3400	0.0135	-0.6264	0.0653
1	150.12	0.3498	-0.0111	0.0017	0.0066	0.0084	-0.5855	0.0212	-0.8938	0.0653
1	150.12	0.3913	0.0230	0.0024	-0.0071	0.0127	-0.8394	0.0331	-0.9593	0.0633
1	150.12	0.4496	0.0463	0.0025	-0.0195	0.0162	-1.3137	0.0445	-1.2624	0.0655
1	150.12	0.4997	0.0718	0.0027	-0.0333	0.0210	-1.8281	0.0579	-1.3870	0.0683
1	150.12	0.5387	0.0867	0.0031	-0.0478	0.0249	-2.3060	0.0679	-1.5365	0.0673
1	150.12	0.5996	0.1007	0.0038	-0.0981	0.0323	-3.1505	0.0856	-1.4589	0.0765
1	150.12	0.6498	0.1208	0.0041	-0.1346	0.0393	-4.0365	0.0982	-1.7888	0.0772
1	150.12	0.6998	0.1022	0.0052	-0.1975	0.0462	-4.9563	0.1110	-1.7980	0.0779
1	150.12	0.7500	0.1121	0.0060	-0.2359	0.0540	-5.9950	0.1229	-1.7675	0.0810
1	150.12	0.8001	0.0929	0.0071	-0.3193	0.0623	-7.1461	0.1360	-1.9158	0.0815
1	150.12	0.8497	0.0511	0.0086	-0.3855	0.0706	-8.4416	0.1499	-1.9991	0.0840
1	150.12	0.9102	0.0092	0.0106	-0.4461	0.0807	-10.1297	0.1696	-2.2855	0.0848
1	150.12	0.9734	-0.0003	0.0132	-0.5136	0.0915	-12.0117	0.1932	-2.3889	0.0868
2	150.12	0.1949	-0.0400	0.0014	-0.0014	0.0010	-0.0438	0.0039	-0.2813	0.0301
2	150.12	0.2405	-0.0363	0.0015	-0.0172	0.0025	-0.1080	0.0084	-0.4483	0.0378
2	150.12	0.2999	-0.0023	0.0019	-0.0265	0.0050	-0.2496	0.0177	-0.6891	0.0657
2	150.12	0.3498	0.0073	0.0024	-0.0380	0.0086	-0.4011	0.0311	-0.7408	0.0622
2	150.12	0.3998	0.0247	0.0028	-0.0725	0.0136	-0.6623	0.0479	-0.8819	0.0663
2	150.12	0.4496	0.0619	0.0034	-0.1010	0.0172	-0.9996	0.0647	-0.9980	0.0671
2	150.12	0.4995	0.0735	0.0037	-0.1497	0.0219	-1.4727	0.0844	-1.2672	0.0640
2	150.12	0.5551	0.1039	0.0046	-0.2126	0.0281	-2.1292	0.1102	-1.3394	0.0683
2	150.12	0.5996	0.1129	0.0055	-0.2662	0.0334	-2.7557	0.1341	-1.4408	0.0758
2	150.12	0.6497	0.1334	0.0072	-0.3241	0.0397	-3.6136	0.1651	-1.4923	0.0759
2	150.12	0.6996	0.1313	0.0090	-0.4059	0.0467	-4.5694	0.2019	-1.4624	0.0774
2	150.12	0.7495	0.1271	0.0118	-0.4716	0.0543	-5.6531	0.2450	-1.5283	0.0790
2	150.12	0.7996	0.1088	0.0155	-0.5800	0.0619	-6.8740	0.2915	-1.7318	0.0804
2	150.12	0.8578	0.0513	0.0200	-0.6945	0.0716	-8.3692	0.3475	-1.6293	0.0895
2	150.12	0.9100	0.0396	0.0238	-0.7613	0.0809	-9.7703	0.3967	-1.6810	0.0961
2	150.12	0.9727	-0.0152	0.0268	-0.8395	0.0924	-11.3926	0.4563	-1.3381	0.1051
3	150.12	0.1938	-0.0252	0.0018	-0.0162	0.0011	-0.0173	0.0042	-0.3686	0.0229
3	150.12	0.2357	-0.0314	0.0012	-0.0035	0.0020	-0.0825	0.0067	-0.5629	0.0506
3	150.12	0.2995	-0.0160	0.0016	-0.0459	0.0049	-0.1564	0.0166	-0.9065	0.0593
3	150.12	0.3493	0.0035	0.0019	-0.0816	0.0080	-0.2664	0.0275	-0.9568	0.0656
3	150.12	0.4000	0.0331	0.0026	-0.1153	0.0128	-0.4505	0.0429	-0.9133	0.0687
3	150.12	0.4497	0.0628	0.0025	-0.1520	0.0161	-0.7300	0.0585	-1.1731	0.0734
3	150.12	0.4997	0.0786	0.0033	-0.2076	0.0203	-1.1138	0.0778	-1.4147	0.0730
3	150.12	0.5556	0.1102	0.0035	-0.2680	0.0253	-1.6426	0.1016	-1.4167	0.0760
3	150.12	0.5995	0.1315	0.0045	-0.3403	0.0292	-2.1775	0.1234	-1.5252	0.0813
3	150.12	0.6498	0.1472	0.0057	-0.4226	0.0341	-2.9274	0.1513	-1.7200	0.0849
3	150.12	0.6890	0.1332	0.0068	-0.5171	0.0377	-3.5798	0.1743	-1.7333	0.0861
3	150.12	0.7495	0.1526	0.0095	-0.6057	0.0438	-4.7396	0.2143	-1.8892	0.0887
3	150.12	0.7998	0.1513	0.0118	-0.7114	0.0493	-5.8540	0.2487	-2.1037	0.0892
3	150.12	0.8577	0.1389	0.0151	-0.8374	0.0556	-7.2497	0.2895	-2.0395	0.0911
3	150.12	0.9178	0.1030	0.0186	-0.9981	0.0626	-8.7903	0.3325	-2.0072	0.0900
3	150.12	0.9729	0.0862	0.0210	-1.1074	0.0694	-10.3445	0.3727	-2.4284	0.0902
4	150.12	0.2001	-0.0281	0.0017	0.0112	0.0009	-0.0836	0.0032	-0.0546	0.0200
4	150.12	0.2502	-0.0191	0.0015	0.0098	0.0023	-0.1648	0.0065	0.1081	0.0415
4	150.12	0.3001	-0.0047	0.0012	0.0398	0.0044	-0.3402	0.0129	-0.0572	0.0481
4	150.12	0.3502	0.0008	0.0020	0.0640	0.0072	-0.5879	0.0221	-0.1753	0.0520
4	150.12	0.4002	0.0189	0.0024	0.0965	0.0115	-0.9070	0.0342	-0.2526	0.0481
4	150.12	0.4500	0.0505	0.0026	0.1374	0.0137	-1.3338	0.0458	-0.5856	0.0531
4	150.12	0.5001	0.0688	0.0031	0.1448	0.0175	-1.8169	0.0600	-0.4937	0.0561
4	150.12	0.5560	0.0959	0.0034	0.1661	0.0221	-2.5732	0.0778	-0.7735	0.0608
4	150.12	0.6001	0.1090	0.0041	0.1798	0.0262	-3.2384	0.0946	-0.8841	0.0653
4	150.12	0.6501	0.1047	0.0052	0.1702	0.0311	-4.1483	0.1139	-0.9541	0.0728
4	150.12	0.6999	0.1109	0.0064	0.1508	0.0364	-5.1816	0.1374	-0.9420	0.0778
4	150.12	0.7500	0.0993	0.0082	0.1545	0.0418	-6.3334	0.1633	-0.8272	0.0825
4	150.12	0.8002	0.0713	0.0106	0.1356	0.0476	-7.6764	0.1910	-1.0761	0.0885
4	150.12	0.8582	0.0380	0.0138	0.1298	0.0547	-9.3178	0.2267	-1.2572	0.0971
4	150.12	0.9101	0.0087	0.0164	0.0985	0.0611	-10.8808	0.2584	-1.2873	0.1012
4	150.12	0.9728	0.0126	0.0187	0.1018	0.0689	-12.6918	0.2981	-0.9726	0.1123

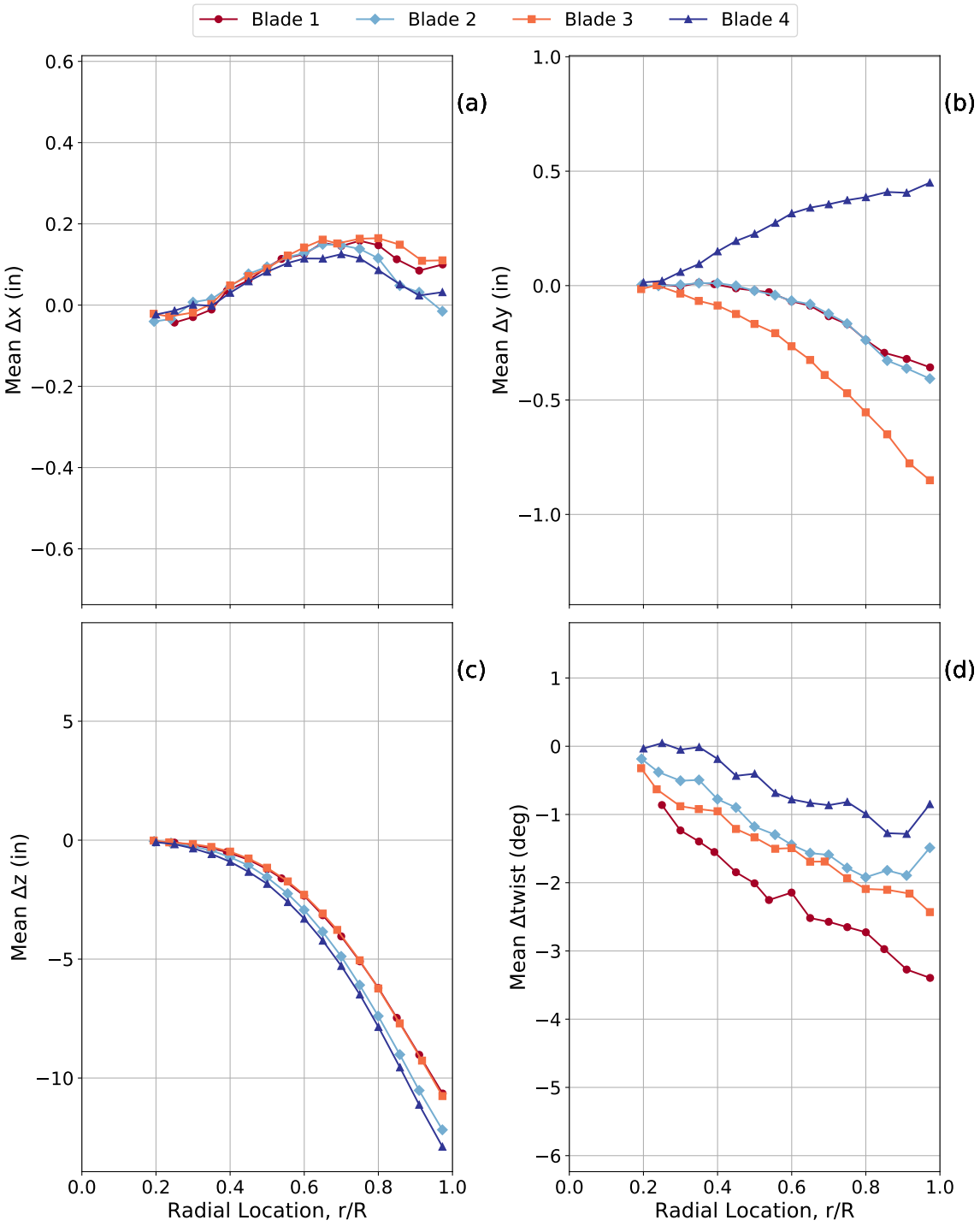


Figure 2.11-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.122$, $\mu = 0.237$, $\alpha = -1.37°$ NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2499	-0.0431	0.0028	0.0040	0.0049	-0.1030	0.0080	-0.8617	0.0692
1	164.88	0.2998	-0.0295	0.0030	-0.0038	0.0101	-0.1956	0.0152	-1.2337	0.0983
1	164.88	0.3498	-0.0109	0.0033	0.0132	0.0168	-0.3416	0.0238	-1.3961	0.1055
1	164.88	0.3913	0.0350	0.0030	0.0062	0.0253	-0.4984	0.0350	-1.5506	0.0967
1	164.88	0.4496	0.0611	0.0035	-0.0118	0.0340	-0.8228	0.0505	-1.8467	0.1004
1	164.88	0.4997	0.0932	0.0034	-0.0218	0.0426	-1.2164	0.0674	-2.0089	0.1017
1	164.88	0.5387	0.1137	0.0036	-0.0287	0.0493	-1.6064	0.0799	-2.2536	0.1014
1	164.88	0.5996	0.1253	0.0045	-0.0687	0.0600	-2.3340	0.1005	-2.1445	0.1085
1	164.88	0.6498	0.1531	0.0048	-0.0878	0.0689	-3.1550	0.1187	-2.5177	0.1123
1	164.88	0.6998	0.1454	0.0054	-0.1339	0.0785	-4.0441	0.1353	-2.5731	0.1155
1	164.88	0.7500	0.1583	0.0064	-0.1688	0.0885	-5.0943	0.1550	-2.6512	0.1124
1	164.88	0.8001	0.1473	0.0080	-0.2381	0.0983	-6.2130	0.1749	-2.7265	0.1111
1	164.88	0.8497	0.1128	0.0095	-0.2936	0.1082	-7.4684	0.1983	-2.9736	0.1115
1	164.88	0.9102	0.0850	0.0117	-0.3205	0.1205	-9.0233	0.2289	-3.2727	0.1146
1	164.88	0.9734	0.1000	0.0143	-0.3573	0.1331	-10.6508	0.2642	-3.3953	0.1162
2	164.88	0.1949	-0.0403	0.0019	0.0024	0.0009	-0.0491	0.0032	-0.1860	0.0216
2	164.88	0.2405	-0.0344	0.0016	-0.0008	0.0024	-0.1195	0.0073	-0.3791	0.0426
2	164.88	0.2999	0.0072	0.0016	0.0033	0.0048	-0.2737	0.0149	-0.5056	0.0521
2	164.88	0.3498	0.0148	0.0016	0.0109	0.0070	-0.4316	0.0239	-0.4941	0.0561
2	164.88	0.3998	0.0453	0.0019	0.0106	0.0120	-0.7156	0.0386	-0.7760	0.0572
2	164.88	0.4496	0.0769	0.0025	-0.0007	0.0157	-1.0617	0.0530	-0.8984	0.0590
2	164.88	0.4995	0.0941	0.0027	-0.0221	0.0205	-1.5598	0.0705	-1.1781	0.0655
2	164.88	0.5551	0.1182	0.0035	-0.0417	0.0243	-2.2472	0.0919	-1.2965	0.0576
2	164.88	0.5996	0.1278	0.0041	-0.0661	0.0303	-2.9346	0.1100	-1.4433	0.0617
2	164.88	0.6497	0.1496	0.0053	-0.0812	0.0354	-3.8497	0.1313	-1.5669	0.0657
2	164.88	0.6996	0.1473	0.0067	-0.1230	0.0416	-4.8852	0.1542	-1.5918	0.0705
2	164.88	0.7495	0.1384	0.0079	-0.1662	0.0476	-6.0903	0.1787	-1.7840	0.0701
2	164.88	0.7996	0.1153	0.0100	-0.2379	0.0543	-7.3953	0.2054	-1.9201	0.0665
2	164.88	0.8578	0.0480	0.0129	-0.3277	0.0621	-9.0136	0.2383	-1.8193	0.0690
2	164.88	0.9100	0.0316	0.0154	-0.3614	0.0693	-10.5200	0.2692	-1.8938	0.0741
2	164.88	0.9727	-0.0151	0.0181	-0.4067	0.0780	-12.1768	0.3074	-1.4875	0.0692
3	164.88	0.1938	-0.0213	0.0023	-0.0152	0.0012	-0.0161	0.0045	-0.3222	0.0225
3	164.88	0.2357	-0.0282	0.0017	0.0018	0.0030	-0.0920	0.0048	-0.6309	0.0610
3	164.88	0.2995	-0.0183	0.0021	-0.0347	0.0068	-0.1631	0.0143	-0.8795	0.0623
3	164.88	0.3493	0.0026	0.0021	-0.0669	0.0095	-0.2855	0.0225	-0.9211	0.0669
3	164.88	0.4000	0.0485	0.0024	-0.0871	0.0167	-0.4811	0.0343	-0.9526	0.0637
3	164.88	0.4497	0.0716	0.0030	-0.1240	0.0200	-0.7717	0.0466	-1.2123	0.0733
3	164.88	0.4997	0.0899	0.0029	-0.1675	0.0249	-1.1592	0.0619	-1.3350	0.0699
3	164.88	0.5556	0.1220	0.0038	-0.2079	0.0333	-1.7337	0.0791	-1.5026	0.0764
3	164.88	0.5995	0.1418	0.0040	-0.2650	0.0359	-2.2959	0.0922	-1.4931	0.0768
3	164.88	0.6498	0.1611	0.0046	-0.3250	0.0426	-3.0851	0.1084	-1.6921	0.0872
3	164.88	0.6890	0.1517	0.0051	-0.3906	0.0475	-3.7732	0.1208	-1.6896	0.0839
3	164.88	0.7495	0.1634	0.0065	-0.4702	0.0562	-5.0510	0.1398	-1.9343	0.0954
3	164.88	0.7998	0.1647	0.0073	-0.5538	0.0636	-6.2361	0.1566	-2.0917	0.1035
3	164.88	0.8577	0.1487	0.0091	-0.6500	0.0725	-7.7013	0.1788	-2.1037	0.1021
3	164.88	0.9178	0.1091	0.0111	-0.7769	0.0821	-9.2681	0.2048	-2.1597	0.1054
3	164.88	0.9729	0.1101	0.0135	-0.8506	0.0910	-10.7570	0.2306	-2.4310	0.1095
4	164.88	0.2001	-0.0232	0.0014	0.0142	0.0009	-0.0852	0.0027	-0.0325	0.0314
4	164.88	0.2502	-0.0136	0.0015	0.0203	0.0030	-0.1727	0.0075	0.0459	0.0439
4	164.88	0.3001	0.0010	0.0016	0.0598	0.0053	-0.3464	0.0125	-0.0504	0.0673
4	164.88	0.3502	-0.0017	0.0017	0.0944	0.0071	-0.5846	0.0203	-0.0123	0.0593
4	164.88	0.4002	0.0303	0.0017	0.1496	0.0121	-0.9098	0.0331	-0.1863	0.0631
4	164.88	0.4500	0.0586	0.0020	0.1951	0.0157	-1.3321	0.0447	-0.4336	0.0659
4	164.88	0.5001	0.0821	0.0027	0.2265	0.0199	-1.8374	0.0595	-0.4033	0.0715
4	164.88	0.5560	0.1037	0.0032	0.2743	0.0248	-2.6033	0.0776	-0.6844	0.0759
4	164.88	0.6001	0.1147	0.0036	0.3158	0.0300	-3.3011	0.0925	-0.7796	0.0786
4	164.88	0.6501	0.1145	0.0044	0.3406	0.0358	-4.2256	0.1089	-0.8319	0.0815
4	164.88	0.6999	0.1254	0.0053	0.3554	0.0421	-5.2876	0.1276	-0.8640	0.0864
4	164.88	0.7500	0.1151	0.0066	0.3734	0.0487	-6.4902	0.1480	-0.8168	0.0924
4	164.88	0.8002	0.0860	0.0089	0.3864	0.0557	-7.8539	0.1701	-0.9936	0.0884
4	164.88	0.8582	0.0510	0.0111	0.4091	0.0647	-9.5534	0.1989	-1.2738	0.0909
4	164.88	0.9101	0.0236	0.0134	0.4056	0.0728	-11.1231	0.2255	-1.2847	0.0938
4	164.88	0.9728	0.0318	0.0159	0.4497	0.0827	-12.8869	0.2578	-0.8489	0.0963

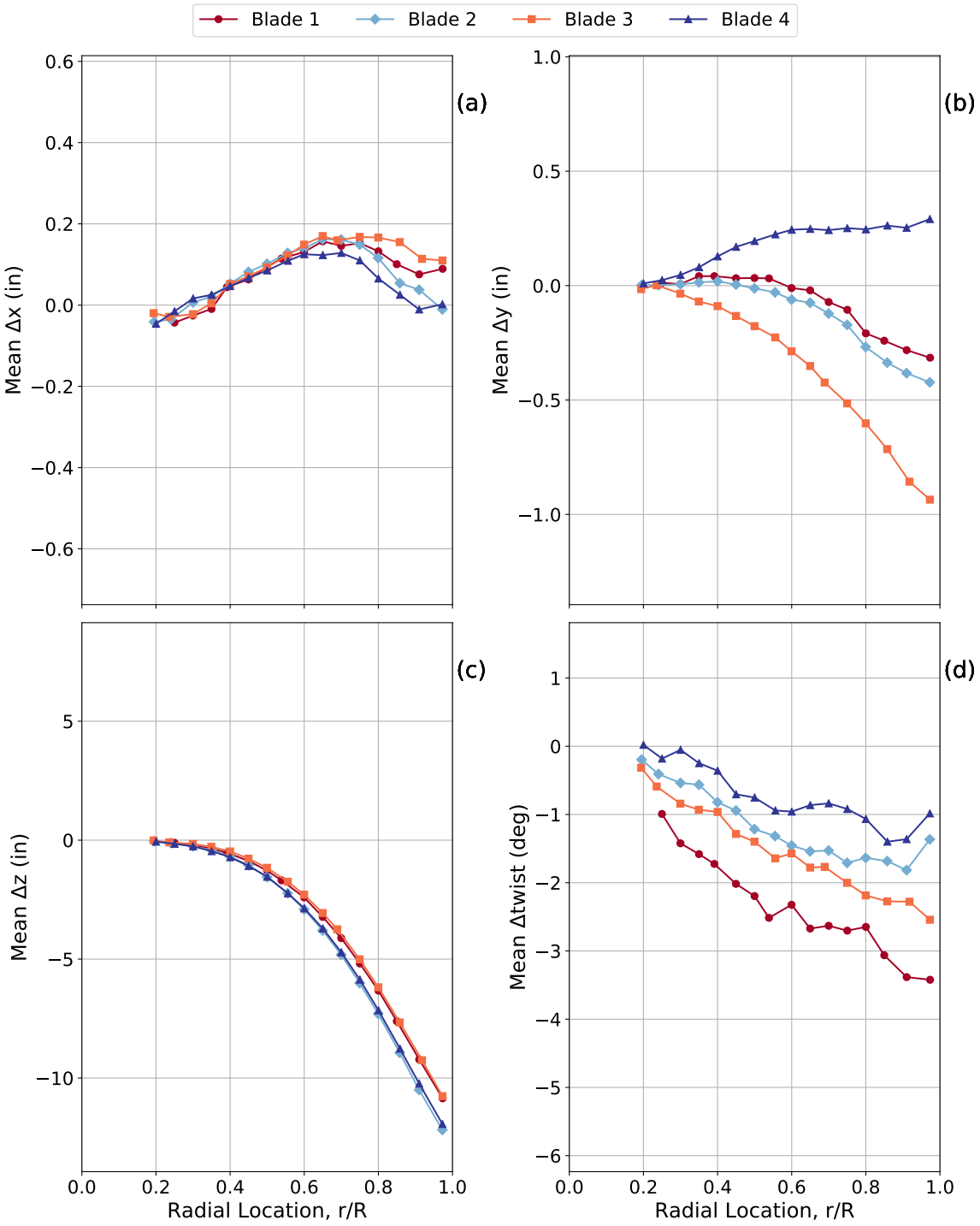


Figure 2.11-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2499	-0.0432	0.0029	0.0122	0.0044	-0.1098	0.0075	-0.9925	0.0610
1	170.16	0.2998	-0.0257	0.0038	0.0069	0.0091	-0.2133	0.0142	-1.4222	0.0871
1	170.16	0.3498	-0.0095	0.0034	0.0413	0.0150	-0.3573	0.0246	-1.5812	0.0839
1	170.16	0.3913	0.0441	0.0036	0.0413	0.0226	-0.5276	0.0358	-1.7246	0.0876
1	170.16	0.4496	0.0632	0.0038	0.0321	0.0297	-0.8723	0.0511	-2.0168	0.0846
1	170.16	0.4997	0.0944	0.0042	0.0332	0.0370	-1.2812	0.0649	-2.1957	0.0834
1	170.16	0.5387	0.1146	0.0040	0.0315	0.0422	-1.6889	0.0764	-2.5150	0.0857
1	170.16	0.5996	0.1308	0.0044	-0.0105	0.0508	-2.4065	0.0936	-2.3234	0.0870
1	170.16	0.6498	0.1570	0.0054	-0.0208	0.0586	-3.2264	0.1077	-2.6717	0.0895
1	170.16	0.6998	0.1458	0.0061	-0.0717	0.0665	-4.1170	0.1228	-2.6311	0.0958
1	170.16	0.7500	0.1526	0.0070	-0.1058	0.0745	-5.1843	0.1390	-2.7027	0.0904
1	170.16	0.8001	0.1324	0.0091	-0.2087	0.0833	-6.3243	0.1566	-2.6479	0.1217
1	170.16	0.8497	0.1007	0.0097	-0.2409	0.0906	-7.6117	0.1766	-3.0628	0.0930
1	170.16	0.9102	0.0756	0.0120	-0.2820	0.1003	-9.2169	0.2055	-3.3834	0.0952
1	170.16	0.9734	0.0893	0.0150	-0.3151	0.1109	-10.8528	0.2405	-3.4225	0.1012
2	170.16	0.1949	-0.0412	0.0019	0.0020	0.0010	-0.0454	0.0039	-0.1968	0.0261
2	170.16	0.2405	-0.0349	0.0018	0.0021	0.0024	-0.1192	0.0074	-0.4077	0.0459
2	170.16	0.2999	0.0067	0.0017	0.0061	0.0057	-0.2628	0.0160	-0.5382	0.0629
2	170.16	0.3498	0.0207	0.0020	0.0141	0.0083	-0.4147	0.0263	-0.5635	0.0657
2	170.16	0.3998	0.0528	0.0021	0.0187	0.0140	-0.6911	0.0413	-0.8209	0.0592
2	170.16	0.4496	0.0817	0.0026	0.0046	0.0190	-1.0486	0.0568	-0.9423	0.0644
2	170.16	0.4995	0.1015	0.0026	-0.0121	0.0248	-1.5470	0.0748	-1.2144	0.0669
2	170.16	0.5551	0.1282	0.0029	-0.0297	0.0314	-2.2307	0.0945	-1.3167	0.0621
2	170.16	0.5996	0.1397	0.0034	-0.0613	0.0371	-2.9097	0.1104	-1.4553	0.0646
2	170.16	0.6497	0.1621	0.0039	-0.0749	0.0445	-3.7954	0.1281	-1.5404	0.0702
2	170.16	0.6996	0.1613	0.0049	-0.1222	0.0519	-4.8145	0.1469	-1.5286	0.0710
2	170.16	0.7495	0.1491	0.0062	-0.1716	0.0597	-6.0074	0.1661	-1.7090	0.0691
2	170.16	0.7996	0.1161	0.0083	-0.2685	0.0667	-7.2996	0.1867	-1.6366	0.0937
2	170.16	0.8578	0.0541	0.0101	-0.3366	0.0770	-8.9379	0.2126	-1.6835	0.0726
2	170.16	0.9100	0.0377	0.0122	-0.3828	0.0855	-10.4967	0.2368	-1.8155	0.0718
2	170.16	0.9727	-0.0105	0.0140	-0.4226	0.0958	-12.1812	0.2685	-1.3646	0.0737
3	170.16	0.1938	-0.0198	0.0027	-0.0155	0.0012	-0.0133	0.0039	-0.3141	0.0303
3	170.16	0.2357	-0.0289	0.0025	0.0016	0.0027	-0.0919	0.0051	-0.5902	0.0484
3	170.16	0.2995	-0.0223	0.0021	-0.0351	0.0061	-0.1593	0.0119	-0.8412	0.0692
3	170.16	0.3493	0.0043	0.0023	-0.0695	0.0100	-0.2787	0.0211	-0.9302	0.0757
3	170.16	0.4000	0.0520	0.0025	-0.0897	0.0159	-0.4743	0.0305	-0.9629	0.0697
3	170.16	0.4497	0.0709	0.0028	-0.1327	0.0196	-0.7766	0.0410	-1.2855	0.0799
3	170.16	0.4997	0.0931	0.0032	-0.1772	0.0245	-1.1629	0.0517	-1.3990	0.0769
3	170.16	0.5556	0.1224	0.0032	-0.2263	0.0310	-1.7470	0.0655	-1.6430	0.0772
3	170.16	0.5995	0.1489	0.0042	-0.2871	0.0364	-2.2888	0.0753	-1.5702	0.0790
3	170.16	0.6498	0.1700	0.0042	-0.3514	0.0429	-3.0617	0.0863	-1.7781	0.0824
3	170.16	0.6890	0.1594	0.0049	-0.4236	0.0478	-3.7445	0.0937	-1.7680	0.0833
3	170.16	0.7495	0.1679	0.0055	-0.5144	0.0565	-5.0096	0.1068	-2.0017	0.0846
3	170.16	0.7998	0.1662	0.0067	-0.6020	0.0628	-6.1846	0.1183	-2.1861	0.0909
3	170.16	0.8577	0.1551	0.0080	-0.7147	0.0726	-7.6647	0.1341	-2.2731	0.0834
3	170.16	0.9178	0.1139	0.0093	-0.8569	0.0819	-9.2524	0.1529	-2.2785	0.0866
3	170.16	0.9729	0.1099	0.0116	-0.9354	0.0900	-10.7619	0.1722	-2.5425	0.0901
4	170.16	0.2001	-0.0460	0.0016	0.0097	0.0009	-0.0622	0.0031	0.0201	0.0282
4	170.16	0.2502	-0.0152	0.0013	0.0237	0.0036	-0.1556	0.0079	-0.1811	0.0407
4	170.16	0.3001	0.0164	0.0013	0.0465	0.0052	-0.2611	0.0136	-0.0529	0.0607
4	170.16	0.3502	0.0254	0.0014	0.0802	0.0084	-0.4630	0.0212	-0.2487	0.0596
4	170.16	0.4002	0.0467	0.0025	0.1277	0.0144	-0.7176	0.0345	-0.3593	0.0834
4	170.16	0.4500	0.0670	0.0031	0.1693	0.0174	-1.0874	0.0440	-0.7044	0.0718
4	170.16	0.5001	0.0853	0.0026	0.1948	0.0220	-1.5385	0.0570	-0.7529	0.0799
4	170.16	0.5560	0.1091	0.0032	0.2239	0.0264	-2.2336	0.0726	-0.9418	0.0804
4	170.16	0.6001	0.1252	0.0035	0.2440	0.0308	-2.8673	0.0861	-0.9583	0.0994
4	170.16	0.6501	0.1230	0.0045	0.2477	0.0358	-3.7121	0.0975	-0.8630	0.0824
4	170.16	0.6999	0.1284	0.0050	0.2425	0.0410	-4.7135	0.1135	-0.8372	0.0772
4	170.16	0.7500	0.1099	0.0065	0.2510	0.0462	-5.8632	0.1306	-0.9201	0.0861
4	170.16	0.8002	0.0654	0.0084	0.2457	0.0518	-7.1526	0.1500	-1.0662	0.1003
4	170.16	0.8582	0.0254	0.0098	0.2623	0.0586	-8.7638	0.1733	-1.3988	0.1144
4	170.16	0.9101	-0.0108	0.0144	0.2526	0.0652	-10.2337	0.1997	-1.3623	0.1137
4	170.16	0.9728	0.0021	0.0147	0.2907	0.0723	-11.9326	0.2304	-0.9840	0.1421

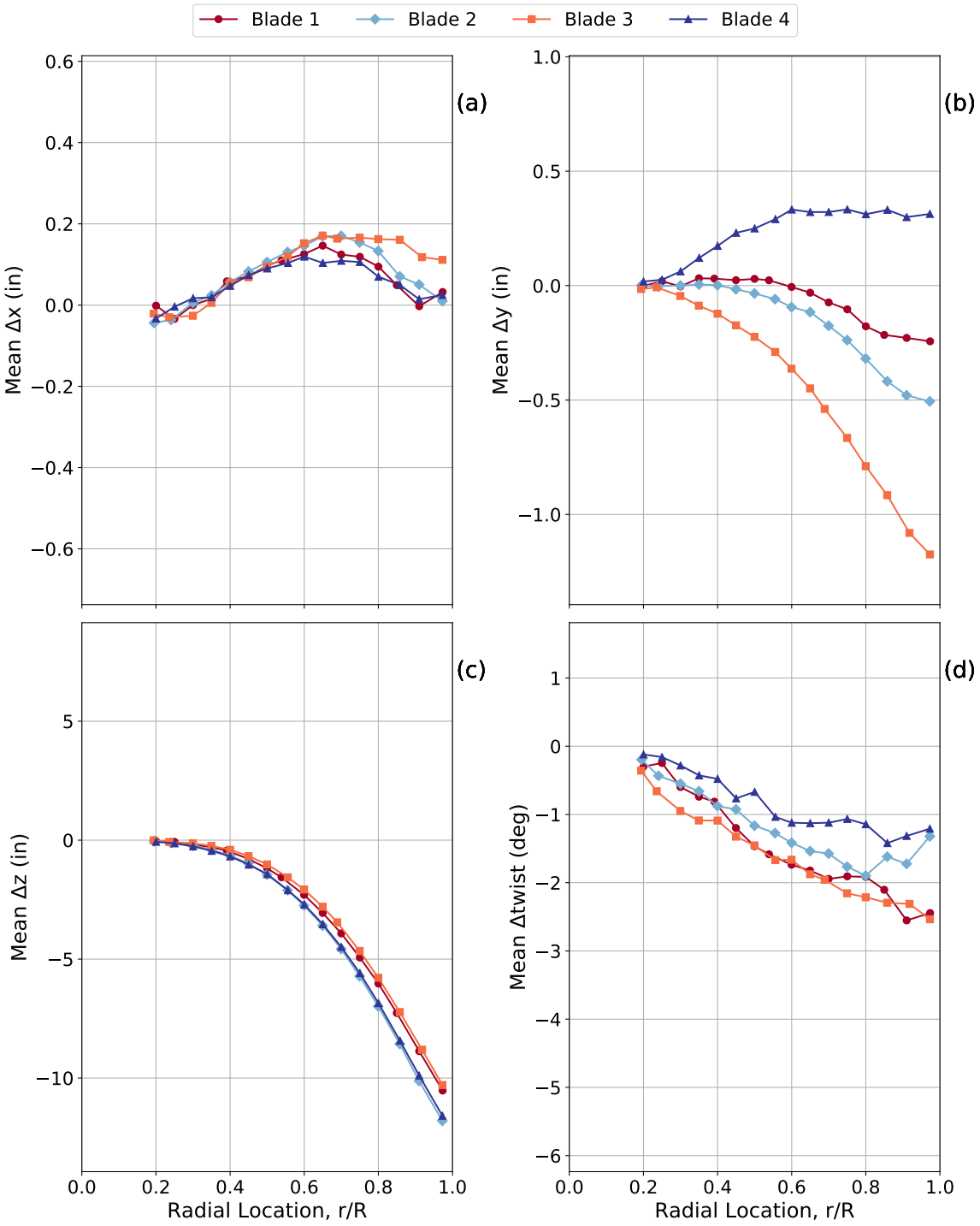


Figure 2.11-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	-0.0014	0.0018	-0.0012	0.0010	-0.0469	0.0058	-0.2979	0.0290
1	175.08	0.2499	-0.0340	0.0022	0.0192	0.0030	-0.0718	0.0073	-0.2458	0.0818
1	175.08	0.2998	-0.0000	0.0017	-0.0036	0.0055	-0.1923	0.0200	-0.5976	0.0766
1	175.08	0.3498	0.0156	0.0019	0.0320	0.0085	-0.2941	0.0314	-0.7395	0.0833
1	175.08	0.3913	0.0585	0.0028	0.0305	0.0136	-0.4382	0.0442	-0.8119	0.0832
1	175.08	0.4496	0.0709	0.0025	0.0236	0.0162	-0.7899	0.0605	-1.1986	0.0906
1	175.08	0.4997	0.0969	0.0028	0.0294	0.0208	-1.1849	0.0759	-1.4654	0.0910
1	175.08	0.5387	0.1099	0.0031	0.0232	0.0246	-1.5611	0.0882	-1.5831	0.0900
1	175.08	0.5996	0.1256	0.0035	-0.0059	0.0319	-2.2994	0.1084	-1.7362	0.0923
1	175.08	0.6498	0.1463	0.0044	-0.0310	0.0383	-3.0604	0.1270	-1.8215	0.0919
1	175.08	0.6998	0.1245	0.0055	-0.0735	0.0444	-3.9192	0.1430	-1.9441	0.1166
1	175.08	0.7500	0.1189	0.0062	-0.1037	0.0549	-4.9337	0.1685	-1.9068	0.0690
1	175.08	0.8001	0.0946	0.0070	-0.1779	0.0607	-6.0267	0.1836	-1.9156	0.0900
1	175.08	0.8497	0.0492	0.0083	-0.2155	0.0701	-7.2668	0.2006	-2.1036	0.0967
1	175.08	0.9102	-0.0028	0.0119	-0.2286	0.0814	-8.8686	0.2242	-2.5523	0.1254
1	175.08	0.9734	0.0322	0.0130	-0.2435	0.0922	-10.5261	0.2524	-2.4450	0.1425
2	175.08	0.1949	-0.0438	0.0024	0.0018	0.0012	-0.0424	0.0040	-0.1963	0.0321
2	175.08	0.2405	-0.0363	0.0024	-0.0023	0.0030	-0.1130	0.0058	-0.4334	0.0639
2	175.08	0.2999	0.0056	0.0024	0.0002	0.0057	-0.2431	0.0147	-0.5503	0.0794
2	175.08	0.3498	0.0239	0.0026	0.0050	0.0094	-0.3961	0.0233	-0.6591	0.0811
2	175.08	0.3998	0.0566	0.0028	0.0016	0.0153	-0.6511	0.0360	-0.8778	0.0836
2	175.08	0.4496	0.0826	0.0033	-0.0158	0.0182	-0.9826	0.0472	-0.9247	0.0818
2	175.08	0.4995	0.1059	0.0035	-0.0342	0.0222	-1.4493	0.0580	-1.1646	0.0874
2	175.08	0.5551	0.1306	0.0039	-0.0592	0.0273	-2.1024	0.0738	-1.2730	0.0840
2	175.08	0.5996	0.1461	0.0043	-0.0940	0.0320	-2.7471	0.0854	-1.4145	0.0919
2	175.08	0.6497	0.1691	0.0051	-0.1157	0.0375	-3.5899	0.1009	-1.5367	0.0949
2	175.08	0.6996	0.1705	0.0057	-0.1754	0.0436	-4.5702	0.1133	-1.5735	0.1009
2	175.08	0.7495	0.1543	0.0074	-0.2381	0.0497	-5.7200	0.1308	-1.7649	0.0950
2	175.08	0.7996	0.1333	0.0081	-0.3190	0.0565	-6.9855	0.1468	-1.8964	0.0931
2	175.08	0.8578	0.0705	0.0099	-0.4183	0.0646	-8.5673	0.1681	-1.6187	0.0934
2	175.08	0.9100	0.0505	0.0114	-0.4796	0.0723	-10.1236	0.1885	-1.7232	0.1017
2	175.08	0.9727	0.0100	0.0142	-0.5059	0.0814	-11.8006	0.2155	-1.3215	0.0951
3	175.08	0.1938	-0.0211	0.0043	-0.0149	0.0015	-0.0074	0.0050	-0.3583	0.0382
3	175.08	0.2357	-0.0299	0.0032	-0.0076	0.0029	-0.0765	0.0065	-0.6594	0.0720
3	175.08	0.2995	-0.0262	0.0035	-0.0453	0.0065	-0.1303	0.0142	-0.9487	0.0927
3	175.08	0.3493	0.0054	0.0034	-0.0876	0.0114	-0.2378	0.0238	-1.0881	0.0914
3	175.08	0.4000	0.0550	0.0034	-0.1229	0.0177	-0.4050	0.0353	-1.0896	0.0914
3	175.08	0.4497	0.0684	0.0042	-0.1736	0.0221	-0.6686	0.0457	-1.3246	0.1018
3	175.08	0.4997	0.0953	0.0041	-0.2239	0.0274	-1.0177	0.0569	-1.4537	0.1070
3	175.08	0.5556	0.1196	0.0050	-0.2899	0.0339	-1.5631	0.0699	-1.6692	0.1081
3	175.08	0.5995	0.1523	0.0054	-0.3631	0.0394	-2.0714	0.0823	-1.6636	0.1153
3	175.08	0.6498	0.1710	0.0057	-0.4492	0.0465	-2.7986	0.0926	-1.8764	0.1206
3	175.08	0.6890	0.1636	0.0062	-0.5391	0.0517	-3.4534	0.1026	-1.9570	0.1249
3	175.08	0.7495	0.1661	0.0080	-0.6656	0.0599	-4.6601	0.1200	-2.1550	0.1246
3	175.08	0.7998	0.1624	0.0086	-0.7893	0.0686	-5.7841	0.1339	-2.2135	0.1310
3	175.08	0.8577	0.1607	0.0102	-0.9158	0.0774	-7.2262	0.1546	-2.2935	0.1335
3	175.08	0.9178	0.1180	0.0123	-1.0807	0.0870	-8.8077	0.1804	-2.3100	0.1308
3	175.08	0.9729	0.1114	0.0154	-1.1747	0.0958	-10.2934	0.2078	-2.5356	0.1324
4	175.08	0.2001	-0.0330	0.0015	0.0177	0.0015	-0.0706	0.0043	-0.1206	0.0317
4	175.08	0.2502	-0.0039	0.0019	0.0258	0.0032	-0.1354	0.0068	-0.1594	0.0509
4	175.08	0.3001	0.0169	0.0016	0.0619	0.0051	-0.2614	0.0128	-0.2818	0.0646
4	175.08	0.3502	0.0193	0.0017	0.1211	0.0082	-0.4500	0.0211	-0.4271	0.0643
4	175.08	0.4002	0.0473	0.0017	0.1736	0.0129	-0.6828	0.0313	-0.4789	0.0628
4	175.08	0.4500	0.0739	0.0021	0.2306	0.0166	-1.0282	0.0427	-0.7645	0.0623
4	175.08	0.5001	0.0902	0.0024	0.2497	0.0207	-1.4287	0.0555	-0.6689	0.0682
4	175.08	0.5560	0.1037	0.0031	0.2903	0.0261	-2.1037	0.0708	-1.0351	0.0699
4	175.08	0.6001	0.1193	0.0035	0.3322	0.0311	-2.7061	0.0843	-1.1211	0.0747
4	175.08	0.6501	0.1038	0.0045	0.3213	0.0375	-3.5347	0.1005	-1.1278	0.0765
4	175.08	0.6999	0.1090	0.0059	0.3216	0.0435	-4.4913	0.1170	-1.1206	0.0925
4	175.08	0.7500	0.1060	0.0067	0.3328	0.0497	-5.5889	0.1333	-1.0665	0.0831
4	175.08	0.8002	0.0698	0.0077	0.3119	0.0585	-6.8485	0.1495	-1.1431	0.0880
4	175.08	0.8582	0.0493	0.0098	0.3309	0.0667	-8.4300	0.1726	-1.4198	0.0952
4	175.08	0.9101	0.0146	0.0124	0.2992	0.0730	-9.8955	0.1946	-1.3150	0.0900
4	175.08	0.9728	0.0248	0.0142	0.3132	0.0808	-11.5846	0.2256	-1.2090	0.0972

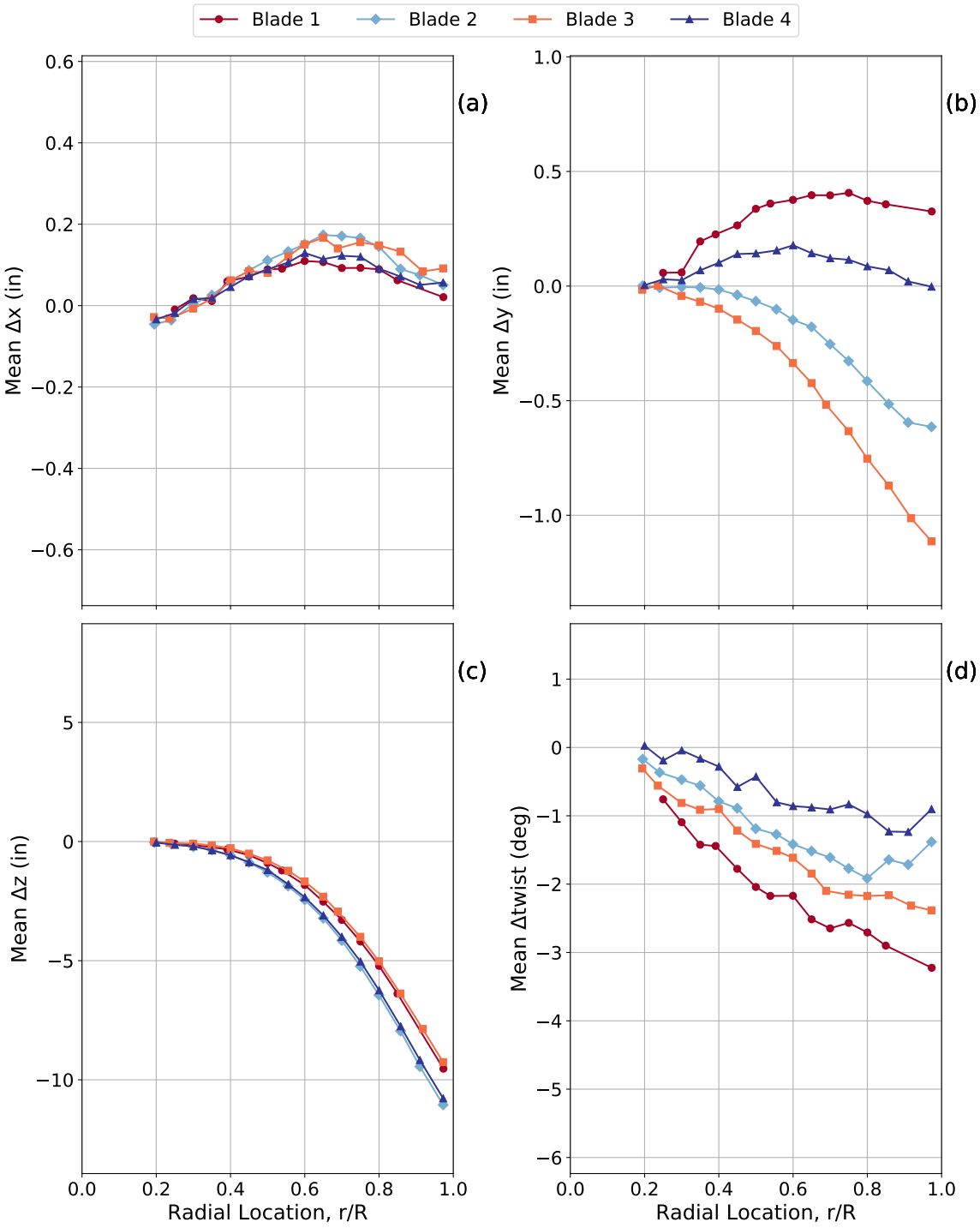


Figure 2.11-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2499	-0.0097	0.0030	0.0578	0.0055	-0.0895	0.0134	-0.7586	0.1228
1	180	0.2998	0.0181	0.0044	0.0595	0.0107	-0.1425	0.0238	-1.0935	0.1748
1	180	0.3498	0.0111	0.0040	0.1947	0.0190	-0.2407	0.0398	-1.4234	0.1686
1	180	0.3913	0.0595	0.0041	0.2256	0.0276	-0.3276	0.0569	-1.4411	0.1693
1	180	0.4496	0.0712	0.0046	0.2648	0.0380	-0.5750	0.0800	-1.7760	0.1711
1	180	0.4997	0.0889	0.0047	0.3370	0.0472	-0.9035	0.1017	-2.0415	0.1783
1	180	0.5387	0.0907	0.0050	0.3598	0.0547	-1.2133	0.1200	-2.1721	0.1801
1	180	0.5996	0.1097	0.0049	0.3760	0.0667	-1.8207	0.1490	-2.1706	0.1880
1	180	0.6498	0.1070	0.0057	0.3966	0.0767	-2.5237	0.1715	-2.5146	0.1895
1	180	0.6998	0.0923	0.0076	0.3960	0.0875	-3.2881	0.1947	-2.6472	0.1863
1	180	0.7500	0.0927	0.0083	0.4067	0.0976	-4.1965	0.2160	-2.5665	0.2174
1	180	0.8001	0.0891	0.0105	0.3720	0.1088	-5.2168	0.2382	-2.7069	0.1857
1	180	0.8497	0.0623	0.0116	0.3569	0.1211	-6.3867	0.2615	-2.8994	0.2079
1	180	0.9734	0.0208	0.0244	0.3255	0.1481	-9.5338	0.3274	-3.2241	0.2348
2	180	0.1949	-0.0458	0.0054	0.0016	0.0018	-0.0389	0.0064	-0.1709	0.0479
2	180	0.2405	-0.0356	0.0049	-0.0073	0.0033	-0.0957	0.0082	-0.3663	0.1214
2	180	0.2999	0.0042	0.0046	-0.0041	0.0066	-0.2184	0.0209	-0.4713	0.1356
2	180	0.3498	0.0258	0.0044	-0.0061	0.0109	-0.3528	0.0355	-0.5590	0.1345
2	180	0.3998	0.0587	0.0044	-0.0153	0.0170	-0.5803	0.0529	-0.7894	0.1330
2	180	0.4496	0.0865	0.0052	-0.0388	0.0218	-0.8748	0.0704	-0.8893	0.1315
2	180	0.4995	0.1113	0.0057	-0.0660	0.0276	-1.2925	0.0905	-1.1886	0.1313
2	180	0.5551	0.1330	0.0059	-0.1012	0.0339	-1.8674	0.1130	-1.2712	0.1344
2	180	0.5996	0.1510	0.0061	-0.1476	0.0399	-2.4462	0.1315	-1.4159	0.1387
2	180	0.6497	0.1736	0.0075	-0.1780	0.0468	-3.2168	0.1533	-1.5164	0.1407
2	180	0.6996	0.1709	0.0082	-0.2535	0.0540	-4.1528	0.1738	-1.6098	0.1381
2	180	0.7495	0.1661	0.0098	-0.3269	0.0624	-5.2367	0.1939	-1.7703	0.1438
2	180	0.7996	0.1449	0.0114	-0.4145	0.0703	-6.4435	0.2147	-1.9155	0.1432
2	180	0.8578	0.0899	0.0136	-0.5148	0.0810	-7.9528	0.2394	-1.6427	0.1407
2	180	0.9100	0.0750	0.0154	-0.5950	0.0906	-9.4455	0.2621	-1.7136	0.1442
2	180	0.9727	0.0508	0.0188	-0.6141	0.1031	-11.0514	0.2901	-1.3811	0.1462
3	180.35	0.1938	-0.0283	0.0158	-0.0159	0.0016	-0.0008	0.0031	-0.3077	0.0197
3	180.35	0.2357	-0.0320	0.0080	0.0020	0.0032	-0.0564	0.0059	-0.5590	0.0292
3	180.35	0.2995	-0.0073	0.0061	-0.0426	0.0063	-0.0887	0.0129	-0.8118	0.0442
3	180.35	0.3493	0.0170	0.0143	-0.0686	0.0114	-0.1586	0.0201	-0.9121	0.0449
3	180.35	0.4000	0.0621	0.0227	-0.0985	0.0176	-0.2804	0.0332	-0.9002	0.0537
3	180.35	0.4497	0.0844	0.0306	-0.1462	0.0244	-0.5073	0.0438	-1.2161	0.0637
3	180.35	0.4997	0.0807	0.0414	-0.1958	0.0333	-0.7907	0.0560	-1.4113	0.1434
3	180.35	0.5556	0.1209	0.0466	-0.2616	0.0427	-1.2270	0.0769	-1.5135	0.0868
3	180.35	0.5995	0.1504	0.0529	-0.3359	0.0510	-1.6750	0.0904	-1.6134	0.1008
3	180.35	0.6498	0.1667	0.0596	-0.4232	0.0609	-2.3145	0.1032	-1.8454	0.0973
3	180.35	0.6890	0.1404	0.0650	-0.5179	0.0692	-2.9406	0.1153	-2.0980	0.1243
3	180.35	0.7495	0.1560	0.0730	-0.6329	0.0822	-4.0004	0.1431	-2.1547	0.1062
3	180.35	0.7998	0.1479	0.0805	-0.7529	0.0942	-5.0254	0.1684	-2.1734	0.1320
3	180.35	0.8577	0.1324	0.0893	-0.8706	0.1075	-6.3801	0.1973	-2.1615	0.1279
3	180.35	0.9178	0.0840	0.0992	-1.0126	0.1218	-7.8675	0.2324	-2.3145	0.1413
3	180.35	0.9729	0.0914	0.1136	-1.1137	0.1304	-9.2596	0.2753	-2.3829	0.1490
4	180	0.2001	-0.0337	0.0053	0.0041	0.0101	-0.0456	0.0277	0.0260	0.1230
4	180	0.2502	-0.0181	0.0048	0.0294	0.0119	-0.1380	0.0208	-0.1907	0.2328
4	180	0.3001	0.0162	0.0024	0.0257	0.0217	-0.2013	0.0582	-0.0434	0.1348
4	180	0.3502	0.0184	0.0060	0.0690	0.0278	-0.3698	0.0756	-0.1638	0.1321
4	180	0.4002	0.0457	0.0112	0.1016	0.0349	-0.5747	0.0943	-0.2810	0.1430
4	180	0.4500	0.0725	0.0167	0.1397	0.0418	-0.8693	0.1148	-0.5776	0.1486
4	180	0.5001	0.0892	0.0240	0.1424	0.0489	-1.1978	0.1343	-0.4272	0.1428
4	180	0.5560	0.1063	0.0317	0.1557	0.0561	-1.7995	0.1572	-0.8024	0.1445
4	180	0.6001	0.1293	0.0388	0.1780	0.0614	-2.3388	0.1771	-0.8582	0.1497
4	180	0.6501	0.1143	0.0475	0.1432	0.0670	-3.1012	0.1998	-0.8780	0.1529
4	180	0.6999	0.1225	0.0575	0.1215	0.0719	-4.0047	0.2222	-0.9072	0.1564
4	180	0.7500	0.1200	0.0678	0.1149	0.0758	-5.0378	0.2444	-0.8324	0.1607
4	180	0.8002	0.0908	0.0790	0.0861	0.0793	-6.2448	0.2685	-0.9748	0.1652
4	180	0.8582	0.0712	0.0933	0.0691	0.0863	-7.7567	0.2955	-1.2305	0.1677
4	180	0.9101	0.0508	0.1076	0.0201	0.0977	-9.1718	0.3224	-1.2363	0.1796
4	180	0.9728	0.0566	0.1241	-0.0027	0.1014	-10.7807	0.3558	-0.9023	0.1817

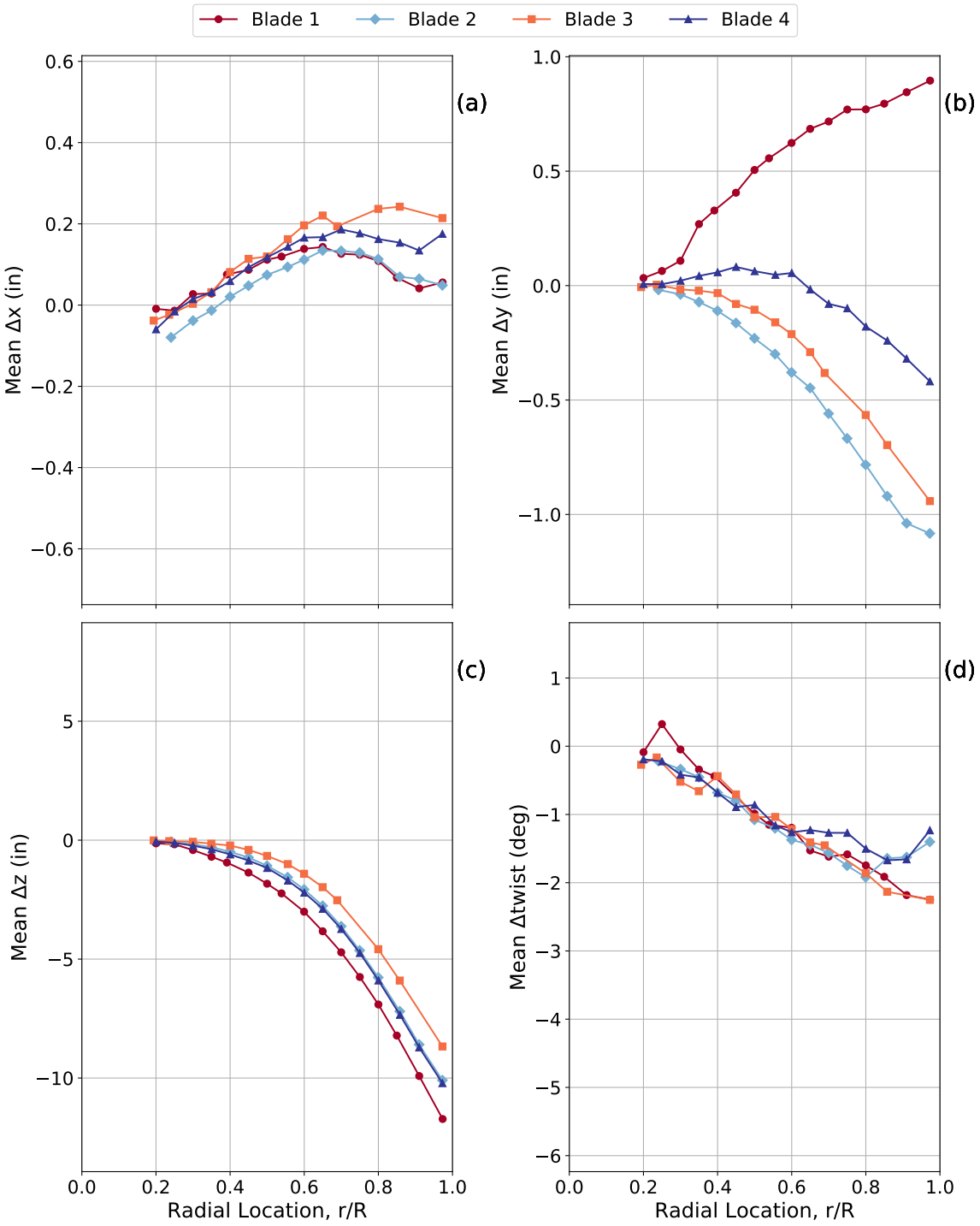


Figure 2.11-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0091	0.0031	0.0332	0.0030	-0.1342	0.0080	-0.0875	0.0693
1	184.92	0.2499	-0.0137	0.0053	0.0638	0.0069	-0.1743	0.0144	0.3246	0.0868
1	184.92	0.2998	0.0271	0.0034	0.1084	0.0106	-0.4173	0.0237	-0.0471	0.1327
1	184.92	0.3498	0.0285	0.0026	0.2688	0.0185	-0.6986	0.0409	-0.3418	0.0913
1	184.92	0.3913	0.0754	0.0028	0.3282	0.0263	-0.9411	0.0548	-0.4398	0.0925
1	184.92	0.4496	0.0868	0.0037	0.4059	0.0314	-1.3638	0.0710	-0.7430	0.1195
1	184.92	0.4997	0.1117	0.0034	0.5053	0.0394	-1.8304	0.0895	-0.9872	0.1089
1	184.92	0.5387	0.1195	0.0039	0.5564	0.0458	-2.2380	0.1027	-1.1499	0.1101
1	184.92	0.5996	0.1384	0.0047	0.6235	0.0524	-3.0071	0.1256	-1.1948	0.1102
1	184.92	0.6498	0.1430	0.0048	0.6849	0.0591	-3.8301	0.1448	-1.5268	0.1133
1	184.92	0.6998	0.1264	0.0059	0.7172	0.0687	-4.7144	0.1654	-1.6183	0.1142
1	184.92	0.7500	0.1240	0.0070	0.7695	0.0768	-5.7528	0.1858	-1.5845	0.1222
1	184.92	0.8001	0.1086	0.0086	0.7702	0.0843	-6.9078	0.2065	-1.7462	0.1242
1	184.92	0.8497	0.0677	0.0109	0.7950	0.0928	-8.2142	0.2305	-1.9132	0.1256
1	184.92	0.9102	0.0412	0.0125	0.8451	0.1047	-9.9150	0.2593	-2.1816	0.1343
1	184.92	0.9734	0.0558	0.0152	0.8958	0.1166	-11.7221	0.2943	-2.2476	0.1262
2	184.92	0.2405	-0.0796	0.0040	-0.0184	0.0047	-0.0705	0.0121	-0.2176	0.1183
2	184.92	0.2999	-0.0383	0.0068	-0.0383	0.0103	-0.1775	0.0252	-0.3367	0.1832
2	184.92	0.3498	-0.0130	0.0059	-0.0719	0.0187	-0.2968	0.0444	-0.4536	0.1709
2	184.92	0.3998	0.0206	0.0055	-0.1102	0.0289	-0.4876	0.0683	-0.6809	0.1775
2	184.92	0.4496	0.0477	0.0059	-0.1634	0.0362	-0.7291	0.0841	-0.7965	0.1798
2	184.92	0.4995	0.0742	0.0066	-0.2303	0.0442	-1.0742	0.1055	-1.0776	0.1879
2	184.92	0.5551	0.0939	0.0067	-0.2991	0.0534	-1.5578	0.1293	-1.2020	0.1883
2	184.92	0.5996	0.1117	0.0076	-0.3795	0.0611	-2.0718	0.1503	-1.3724	0.1893
2	184.92	0.6497	0.1346	0.0083	-0.4471	0.0694	-2.7610	0.1750	-1.4428	0.1957
2	184.92	0.6996	0.1334	0.0097	-0.5594	0.0777	-3.6205	0.2015	-1.5643	0.1956
2	184.92	0.7495	0.1293	0.0112	-0.6678	0.0861	-4.6348	0.2265	-1.7499	0.1972
2	184.92	0.7996	0.1133	0.0131	-0.7830	0.0952	-5.7718	0.2557	-1.9199	0.1923
2	184.92	0.8578	0.0695	0.0160	-0.9203	0.1059	-7.1962	0.2923	-1.6428	0.1990
2	184.92	0.9100	0.0647	0.0188	-1.0385	0.1158	-8.5922	0.3269	-1.6254	0.1999
2	184.92	0.9727	0.0488	0.0232	-1.0830	0.1277	-10.0918	0.3712	-1.4009	0.2029
3	184.92	0.1938	-0.0381	0.0013	-0.0067	0.0013	-0.0105	0.0045	-0.2715	0.0286
3	184.92	0.2357	-0.0237	0.0016	0.0037	0.0029	-0.0401	0.0087	-0.1652	0.0486
3	184.92	0.2995	0.0032	0.0017	-0.0165	0.0058	-0.0693	0.0190	-0.5195	0.0679
3	184.92	0.3493	0.0318	0.0015	-0.0221	0.0093	-0.1488	0.0303	-0.6589	0.0695
3	184.92	0.4000	0.0814	0.0019	-0.0327	0.0154	-0.2254	0.0488	-0.4379	0.0782
3	184.92	0.4497	0.1138	0.0023	-0.0802	0.0174	-0.4092	0.0590	-0.7061	0.0746
3	184.92	0.4997	0.1196	0.0025	-0.1055	0.0238	-0.6624	0.0784	-1.0397	0.0820
3	184.92	0.5556	0.1622	0.0028	-0.1606	0.0288	-1.0057	0.1002	-1.0361	0.0864
3	184.92	0.5995	0.1963	0.0030	-0.2120	0.0331	-1.4122	0.1178	-1.2152	0.0940
3	184.92	0.6498	0.2205	0.0035	-0.2907	0.0391	-1.9769	0.1365	-1.4082	0.1034
3	184.92	0.6890	0.1939	0.0044	-0.3819	0.0455	-2.5248	0.1530	-1.4527	0.1162
3	184.92	0.7998	0.2369	0.0072	-0.5654	0.0599	-4.5829	0.1945	-1.8604	0.1128
3	184.92	0.8577	0.2422	0.0087	-0.6967	0.0715	-5.9020	0.2160	-2.1328	0.1455
3	184.92	0.9729	0.2141	0.0129	-0.9417	0.0893	-8.6737	0.2614	-2.2514	0.1573
4	184.92	0.2001	-0.0596	0.0016	0.0069	0.0016	-0.0572	0.0038	-0.1910	0.0293
4	184.92	0.2502	-0.0157	0.0018	0.0063	0.0050	-0.1146	0.0078	-0.2214	0.0466
4	184.92	0.3001	0.0149	0.0032	0.0213	0.0076	-0.2328	0.0141	-0.4165	0.0648
4	184.92	0.3502	0.0321	0.0028	0.0424	0.0144	-0.3823	0.0257	-0.4585	0.0618
4	184.92	0.4002	0.0592	0.0026	0.0583	0.0223	-0.6003	0.0384	-0.6810	0.0669
4	184.92	0.4500	0.0935	0.0046	0.0817	0.0210	-0.8602	0.0487	-0.8918	0.0914
4	184.92	0.5001	0.1178	0.0029	0.0630	0.0342	-1.1696	0.0658	-0.8601	0.0757
4	184.92	0.5560	0.1437	0.0042	0.0470	0.0399	-1.7008	0.0860	-1.1597	0.0777
4	184.92	0.6001	0.1662	0.0048	0.0551	0.0426	-2.2069	0.0997	-1.2614	0.0842
4	184.92	0.6501	0.1673	0.0050	-0.0170	0.0517	-2.8863	0.1158	-1.2281	0.0870
4	184.92	0.6999	0.1862	0.0051	-0.0799	0.0619	-3.7341	0.1343	-1.2690	0.1027
4	184.92	0.7500	0.1766	0.0078	-0.0992	0.0687	-4.7439	0.1519	-1.2696	0.1098
4	184.92	0.8002	0.1625	0.0087	-0.1791	0.0791	-5.8994	0.1749	-1.5021	0.1125
4	184.92	0.8582	0.1536	0.0113	-0.2407	0.0882	-7.3439	0.2018	-1.6713	0.1189
4	184.92	0.9101	0.1345	0.0140	-0.3193	0.0986	-8.7130	0.2292	-1.6575	0.1854
4	184.92	0.9728	0.1754	0.0183	-0.4185	0.1130	-10.2158	0.2641	-1.2321	0.1605

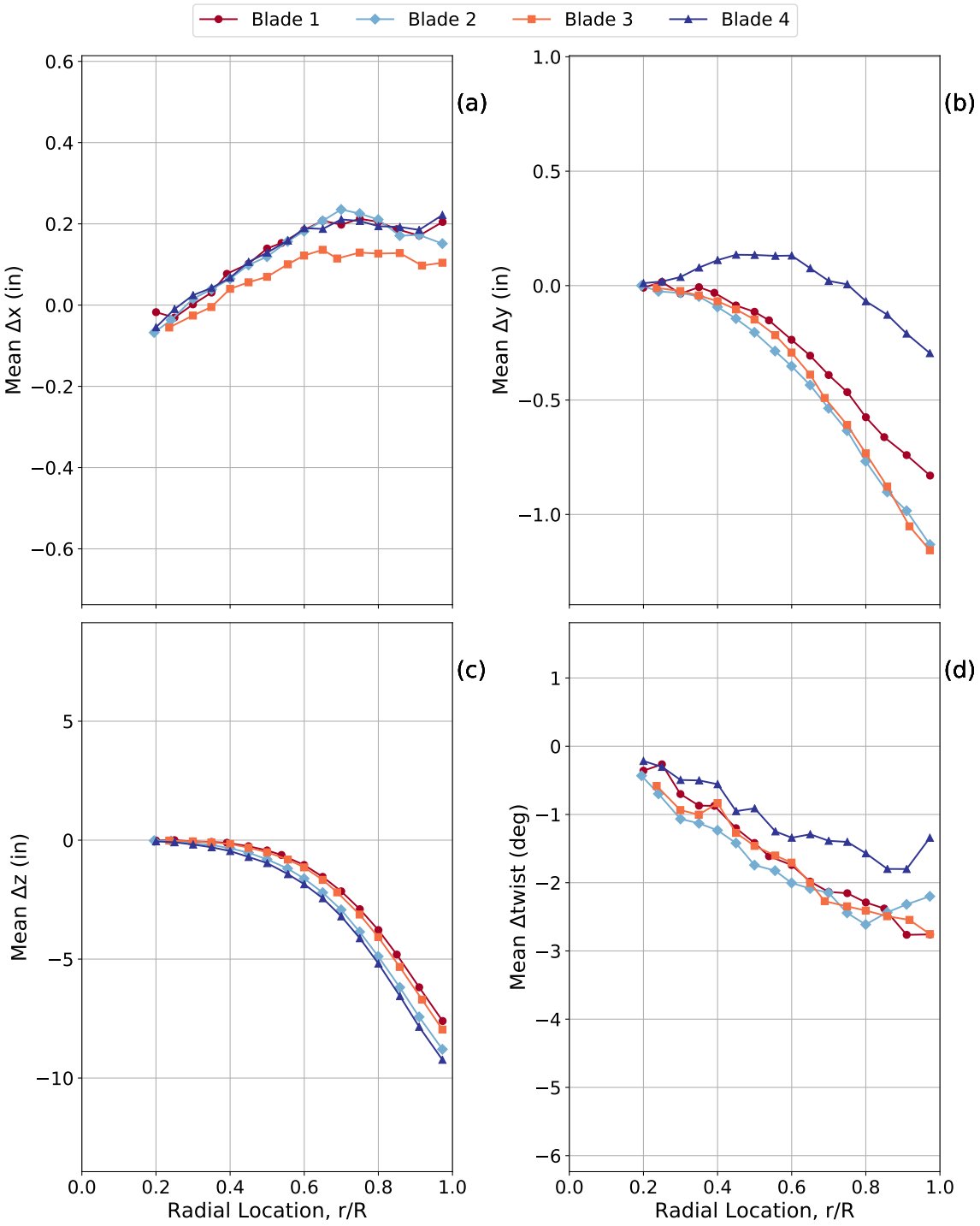


Figure 2.11-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0174	0.0015	-0.0090	0.0013	-0.0147	0.0050	-0.3583	0.0270
1	189.84	0.2499	-0.0307	0.0014	0.0158	0.0029	-0.0000	0.0085	-0.2652	0.0684
1	189.84	0.2998	0.0018	0.0015	-0.0355	0.0054	-0.0539	0.0166	-0.7009	0.0701
1	189.84	0.3498	0.0308	0.0018	-0.0068	0.0098	-0.0765	0.0276	-0.8709	0.0680
1	189.84	0.3913	0.0770	0.0019	-0.0314	0.0140	-0.1090	0.0386	-0.8735	0.0826
1	189.84	0.4496	0.1018	0.0020	-0.0869	0.0177	-0.2540	0.0565	-1.2010	0.0829
1	189.84	0.4997	0.1393	0.0022	-0.1144	0.0213	-0.4308	0.0742	-1.4177	0.0829
1	189.84	0.5387	0.1529	0.0026	-0.1518	0.0249	-0.6229	0.0887	-1.6114	0.0820
1	189.84	0.5996	0.1849	0.0029	-0.2367	0.0309	-1.0423	0.1143	-1.7407	0.0943
1	189.84	0.6498	0.2077	0.0033	-0.3062	0.0369	-1.5419	0.1327	-1.9839	0.1042
1	189.84	0.6998	0.1980	0.0037	-0.3908	0.0409	-2.1495	0.1566	-2.1352	0.1049
1	189.84	0.7500	0.2125	0.0048	-0.4656	0.0475	-2.9010	0.1762	-2.1540	0.1013
1	189.84	0.8001	0.2049	0.0059	-0.5753	0.0547	-3.7794	0.1963	-2.2894	0.1064
1	189.84	0.8497	0.1870	0.0075	-0.6622	0.0603	-4.8088	0.2201	-2.3786	0.1096
1	189.84	0.9102	0.1710	0.0095	-0.7407	0.0698	-6.1855	0.2508	-2.7637	0.1115
1	189.84	0.9734	0.2047	0.0120	-0.8302	0.0777	-7.6030	0.2867	-2.7581	0.1226
2	189.84	0.1949	-0.0675	0.0017	0.0004	0.0015	-0.0217	0.0035	-0.4318	0.0252
2	189.84	0.2405	-0.0369	0.0021	-0.0254	0.0041	-0.0374	0.0053	-0.6978	0.0869
2	189.84	0.2999	0.0156	0.0022	-0.0320	0.0072	-0.1312	0.0113	-1.0657	0.0786
2	189.84	0.3498	0.0386	0.0025	-0.0476	0.0127	-0.2001	0.0176	-1.1298	0.0712
2	189.84	0.3998	0.0647	0.0024	-0.0936	0.0201	-0.3396	0.0273	-1.2319	0.0637
2	189.84	0.4496	0.0988	0.0027	-0.1442	0.0218	-0.5272	0.0355	-1.4193	0.1009
2	189.84	0.4995	0.1191	0.0024	-0.2043	0.0261	-0.8060	0.0475	-1.7420	0.0778
2	189.84	0.5551	0.1567	0.0030	-0.2861	0.0320	-1.1917	0.0631	-1.8240	0.0793
2	189.84	0.5996	0.1818	0.0039	-0.3522	0.0370	-1.6151	0.0759	-2.0036	0.0776
2	189.84	0.6497	0.2075	0.0053	-0.4345	0.0423	-2.2033	0.0931	-2.0858	0.1004
2	189.84	0.6996	0.2353	0.0040	-0.5361	0.0474	-2.9280	0.1082	-2.1469	0.0922
2	189.84	0.7495	0.2253	0.0062	-0.6340	0.0519	-3.8540	0.1262	-2.4430	0.0984
2	189.84	0.7996	0.2106	0.0069	-0.7678	0.0593	-4.8851	0.1467	-2.6129	0.1027
2	189.84	0.8578	0.1709	0.0092	-0.9019	0.0668	-6.1879	0.1742	-2.4346	0.1063
2	189.84	0.9100	0.1727	0.0112	-0.9840	0.0715	-7.4291	0.1976	-2.3175	0.1576
2	189.84	0.9727	0.1513	0.0123	-1.1314	0.0808	-8.7909	0.2287	-2.1999	0.1166
3	189.84	0.2357	-0.0551	0.0034	-0.0100	0.0029	-0.0166	0.0061	-0.5815	0.0504
3	189.84	0.2995	-0.0257	0.0040	-0.0237	0.0049	-0.0523	0.0151	-0.9354	0.0810
3	189.84	0.3493	-0.0048	0.0023	-0.0433	0.0119	-0.0935	0.0234	-1.0036	0.1451
3	189.84	0.4000	0.0401	0.0022	-0.0681	0.0161	-0.1580	0.0385	-0.8337	0.1388
3	189.84	0.4497	0.0561	0.0039	-0.1040	0.0170	-0.3169	0.0513	-1.2698	0.1131
3	189.84	0.4997	0.0696	0.0035	-0.1482	0.0213	-0.5087	0.0670	-1.4604	0.1204
3	189.84	0.5556	0.1004	0.0039	-0.2165	0.0267	-0.8138	0.0887	-1.6016	0.1126
3	189.84	0.5995	0.1220	0.0052	-0.2926	0.0306	-1.1428	0.1006	-1.7060	0.1349
3	189.84	0.6498	0.1361	0.0048	-0.3891	0.0369	-1.6683	0.1148	-2.0030	0.1353
3	189.84	0.6890	0.1147	0.0057	-0.4909	0.0410	-2.1943	0.1267	-2.2708	0.1369
3	189.84	0.7495	0.1293	0.0060	-0.6085	0.0487	-3.1258	0.1494	-2.3466	0.1298
3	189.84	0.7998	0.1268	0.0068	-0.7329	0.0555	-4.0743	0.1678	-2.4083	0.1332
3	189.84	0.8577	0.1281	0.0082	-0.8779	0.0634	-5.3292	0.1900	-2.4915	0.1346
3	189.84	0.9178	0.0973	0.0099	-1.0520	0.0726	-6.7013	0.2145	-2.5453	0.1461
3	189.84	0.9729	0.1043	0.0119	-1.1567	0.0804	-7.9625	0.2371	-2.7530	0.1415
4	189.84	0.2001	-0.0546	0.0009	0.0106	0.0011	-0.0507	0.0038	-0.2163	0.0208
4	189.84	0.2502	-0.0097	0.0010	0.0179	0.0036	-0.0893	0.0069	-0.3031	0.0389
4	189.84	0.3001	0.0244	0.0013	0.0376	0.0056	-0.1844	0.0118	-0.4943	0.0473
4	189.84	0.3502	0.0423	0.0024	0.0787	0.0089	-0.2989	0.0217	-0.5011	0.0507
4	189.84	0.4002	0.0676	0.0023	0.1113	0.0150	-0.4595	0.0314	-0.5565	0.0484
4	189.84	0.4500	0.1063	0.0019	0.1348	0.0188	-0.7075	0.0420	-0.9517	0.0623
4	189.84	0.5001	0.1292	0.0024	0.1339	0.0237	-0.9658	0.0544	-0.9104	0.0535
4	189.84	0.5560	0.1589	0.0023	0.1300	0.0302	-1.4295	0.0704	-1.2484	0.0496
4	189.84	0.6001	0.1893	0.0031	0.1311	0.0363	-1.8533	0.0830	-1.3409	0.0562
4	189.84	0.6501	0.1876	0.0035	0.0757	0.0425	-2.4431	0.0989	-1.2904	0.0722
4	189.84	0.6999	0.2109	0.0044	0.0204	0.0502	-3.2047	0.1161	-1.3864	0.0732
4	189.84	0.7500	0.2071	0.0052	0.0054	0.0548	-4.1234	0.1357	-1.4019	0.0677
4	189.84	0.8002	0.1942	0.0065	-0.0685	0.0644	-5.1903	0.1561	-1.5696	0.0819
4	189.84	0.8582	0.1923	0.0088	-0.1276	0.0759	-6.5587	0.1832	-1.7985	0.0942
4	189.84	0.9101	0.1851	0.0107	-0.2099	0.0851	-7.8471	0.2070	-1.7995	0.0956
4	189.84	0.9728	0.2217	0.0137	-0.2953	0.0950	-9.2332	0.2437	-1.3422	0.0879

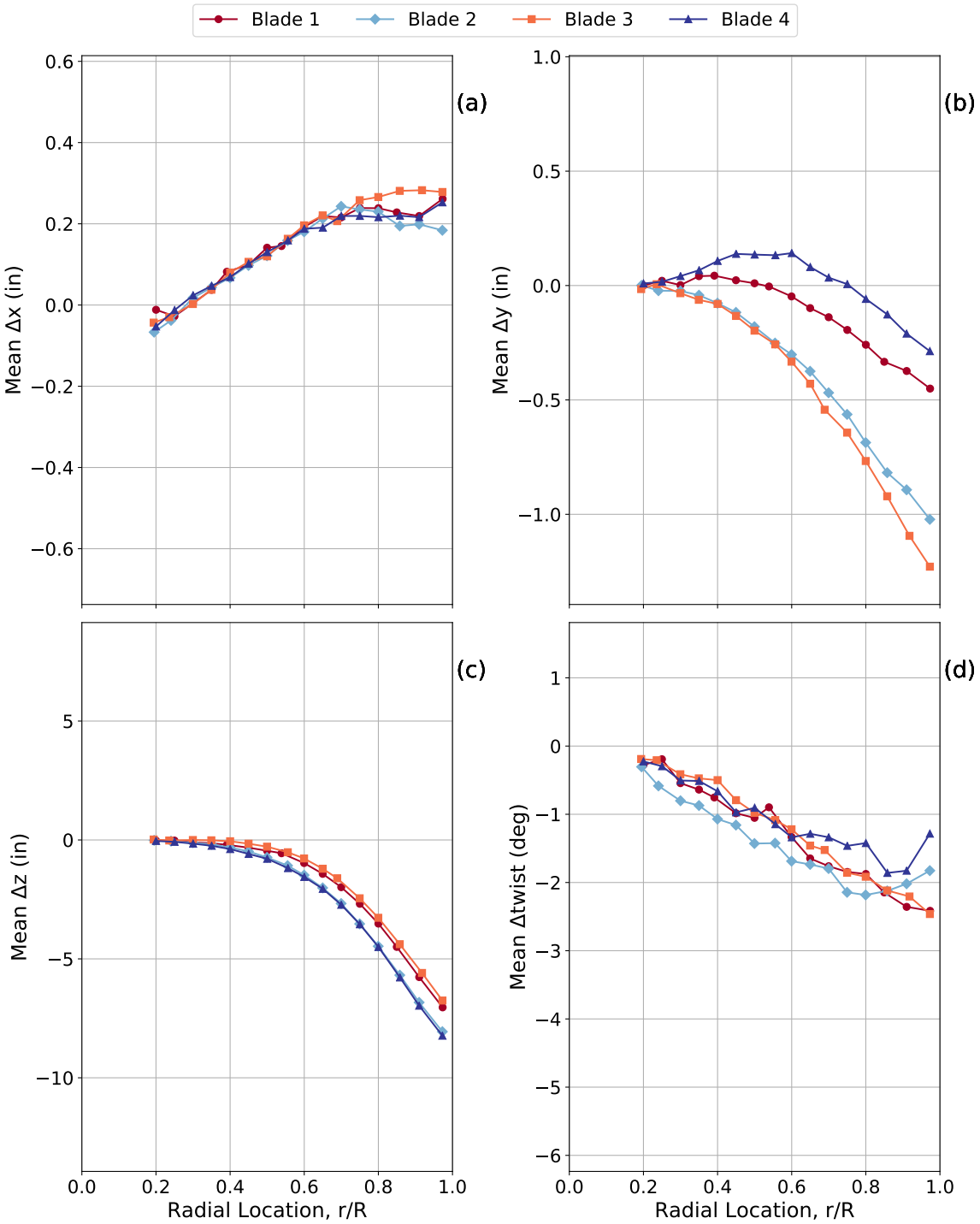


Figure 2.11-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0117	0.0014	0.0002	0.0021	-0.0289	0.0048	-0.2778	0.0263
1	195.12	0.2499	-0.0276	0.0014	0.0207	0.0025	-0.0252	0.0098	-0.1927	0.0462
1	195.12	0.2998	0.0045	0.0016	0.0019	0.0096	-0.0998	0.0187	-0.5435	0.0570
1	195.12	0.3498	0.0374	0.0021	0.0409	0.0123	-0.1391	0.0265	-0.6384	0.0573
1	195.12	0.3913	0.0820	0.0020	0.0431	0.0199	-0.2029	0.0409	-0.7539	0.0644
1	195.12	0.4496	0.0989	0.0036	0.0231	0.0263	-0.3236	0.0537	-0.9848	0.0735
1	195.12	0.4997	0.1412	0.0030	0.0098	0.0339	-0.4528	0.0682	-1.0522	0.0812
1	195.12	0.5387	0.1452	0.0047	-0.0041	0.0386	-0.5583	0.0802	-0.8977	0.1491
1	195.12	0.5996	0.1921	0.0034	-0.0476	0.0468	-0.9704	0.1054	-1.3324	0.0912
1	195.12	0.6498	0.2190	0.0038	-0.0986	0.0518	-1.4245	0.1210	-1.6474	0.0950
1	195.12	0.6998	0.2157	0.0046	-0.1385	0.0604	-1.9859	0.1445	-1.7613	0.1052
1	195.12	0.7500	0.2388	0.0055	-0.1942	0.0642	-2.6839	0.1671	-1.8456	0.1364
1	195.12	0.8001	0.2384	0.0071	-0.2589	0.0745	-3.5173	0.1899	-1.8746	0.1176
1	195.12	0.8497	0.2281	0.0086	-0.3333	0.0808	-4.4973	0.2154	-2.1460	0.1123
1	195.12	0.9102	0.2192	0.0111	-0.3735	0.0883	-5.7667	0.2489	-2.3571	0.1265
1	195.12	0.9734	0.2614	0.0136	-0.4504	0.1008	-7.0392	0.2857	-2.4152	0.1226
2	195.12	0.1949	-0.0668	0.0011	0.0006	0.0010	-0.0142	0.0032	-0.3044	0.0258
2	195.12	0.2405	-0.0379	0.0010	-0.0225	0.0038	-0.0482	0.0058	-0.5838	0.0374
2	195.12	0.2999	0.0177	0.0015	-0.0237	0.0065	-0.1165	0.0119	-0.8017	0.0577
2	195.12	0.3498	0.0431	0.0025	-0.0422	0.0081	-0.1821	0.0214	-0.8719	0.0583
2	195.12	0.3998	0.0670	0.0023	-0.0771	0.0163	-0.3167	0.0311	-1.0700	0.0609
2	195.12	0.4496	0.0975	0.0030	-0.1173	0.0221	-0.4806	0.0419	-1.1587	0.0644
2	195.12	0.4995	0.1213	0.0027	-0.1799	0.0273	-0.7318	0.0559	-1.4288	0.0707
2	195.12	0.5551	0.1587	0.0030	-0.2516	0.0314	-1.0795	0.0814	-1.4234	0.1196
2	195.12	0.5996	0.1803	0.0033	-0.3017	0.0383	-1.4777	0.0920	-1.6872	0.0886
2	195.12	0.6497	0.2129	0.0041	-0.3748	0.0419	-2.0143	0.1190	-1.7351	0.0868
2	195.12	0.6996	0.2430	0.0055	-0.4688	0.0497	-2.6727	0.1416	-1.7955	0.0977
2	195.12	0.7495	0.2353	0.0062	-0.5632	0.0539	-3.5280	0.1695	-2.1440	0.1337
2	195.12	0.7996	0.2299	0.0078	-0.6864	0.0629	-4.4682	0.1935	-2.1831	0.1314
2	195.12	0.8578	0.1947	0.0104	-0.8181	0.0697	-5.6832	0.2286	-2.1232	0.1096
2	195.12	0.9100	0.1988	0.0132	-0.8929	0.0745	-6.8301	0.2571	-2.0189	0.1235
2	195.12	0.9727	0.1840	0.0160	-1.0221	0.0861	-8.0610	0.2974	-1.8262	0.1324
3	195.12	0.1938	-0.0433	0.0012	-0.0155	0.0016	0.0190	0.0031	-0.1899	0.0207
3	195.12	0.2357	-0.0298	0.0009	0.0058	0.0026	-0.0218	0.0055	-0.2079	0.0348
3	195.12	0.2995	0.0025	0.0012	-0.0335	0.0036	-0.0023	0.0114	-0.4132	0.0471
3	195.12	0.3493	0.0377	0.0012	-0.0624	0.0065	-0.0142	0.0192	-0.4737	0.0571
3	195.12	0.4000	0.0800	0.0016	-0.0805	0.0095	-0.0538	0.0293	-0.4996	0.0580
3	195.12	0.4497	0.1063	0.0021	-0.1329	0.0124	-0.1565	0.0400	-0.7930	0.0644
3	195.12	0.4997	0.1200	0.0020	-0.1972	0.0145	-0.2820	0.0522	-0.9789	0.0729
3	195.12	0.5556	0.1631	0.0031	-0.2572	0.0175	-0.5168	0.0667	-1.0845	0.0923
3	195.12	0.5995	0.1962	0.0027	-0.3328	0.0215	-0.7771	0.0792	-1.2198	0.0855
3	195.12	0.6498	0.2207	0.0032	-0.4292	0.0256	-1.2091	0.0933	-1.4588	0.0979
3	195.12	0.6890	0.2066	0.0028	-0.5429	0.0286	-1.6109	0.1043	-1.5237	0.1129
3	195.12	0.7495	0.2581	0.0042	-0.6430	0.0343	-2.4521	0.1240	-1.8569	0.1532
3	195.12	0.7998	0.2659	0.0041	-0.7670	0.0392	-3.2717	0.1365	-1.9157	0.1355
3	195.12	0.8577	0.2811	0.0048	-0.9212	0.0443	-4.3828	0.1556	-2.1172	0.1244
3	195.12	0.9178	0.2827	0.0072	-1.0941	0.0520	-5.5920	0.1752	-2.2052	0.1923
3	195.12	0.9729	0.2783	0.0079	-1.2289	0.0578	-6.7513	0.2008	-2.4622	0.1347
4	195.12	0.2001	-0.0529	0.0012	0.0090	0.0013	-0.0415	0.0038	-0.2251	0.0302
4	195.12	0.2502	-0.0125	0.0016	0.0165	0.0016	-0.0791	0.0070	-0.2960	0.0422
4	195.12	0.3001	0.0239	0.0011	0.0413	0.0044	-0.1550	0.0128	-0.5051	0.0582
4	195.12	0.3502	0.0473	0.0013	0.0670	0.0066	-0.2452	0.0216	-0.5118	0.0588
4	195.12	0.4002	0.0687	0.0016	0.1075	0.0101	-0.3832	0.0326	-0.6637	0.0583
4	195.12	0.4500	0.1018	0.0019	0.1383	0.0120	-0.5881	0.0452	-0.9717	0.0710
4	195.12	0.5001	0.1302	0.0017	0.1352	0.0178	-0.7919	0.0592	-0.9053	0.0639
4	195.12	0.5560	0.1591	0.0031	0.1325	0.0210	-1.1854	0.0763	-1.1455	0.0718
4	195.12	0.6001	0.1877	0.0026	0.1417	0.0240	-1.5556	0.0958	-1.3378	0.0800
4	195.12	0.6501	0.1905	0.0031	0.0807	0.0272	-2.0554	0.1130	-1.2857	0.0770
4	195.12	0.6999	0.2192	0.0038	0.0345	0.0339	-2.7259	0.1348	-1.3377	0.0773
4	195.12	0.7500	0.2194	0.0049	0.0061	0.0395	-3.5457	0.1542	-1.4627	0.0903
4	195.12	0.8002	0.2162	0.0058	-0.0585	0.0432	-4.5014	0.1774	-1.4221	0.1045
4	195.12	0.8582	0.2200	0.0073	-0.1266	0.0496	-5.7812	0.2041	-1.8595	0.0906
4	195.12	0.9101	0.2162	0.0082	-0.2102	0.0533	-6.9689	0.2279	-1.8272	0.0953
4	195.12	0.9728	0.2528	0.0105	-0.2870	0.0649	-8.2298	0.2584	-1.2842	0.0975

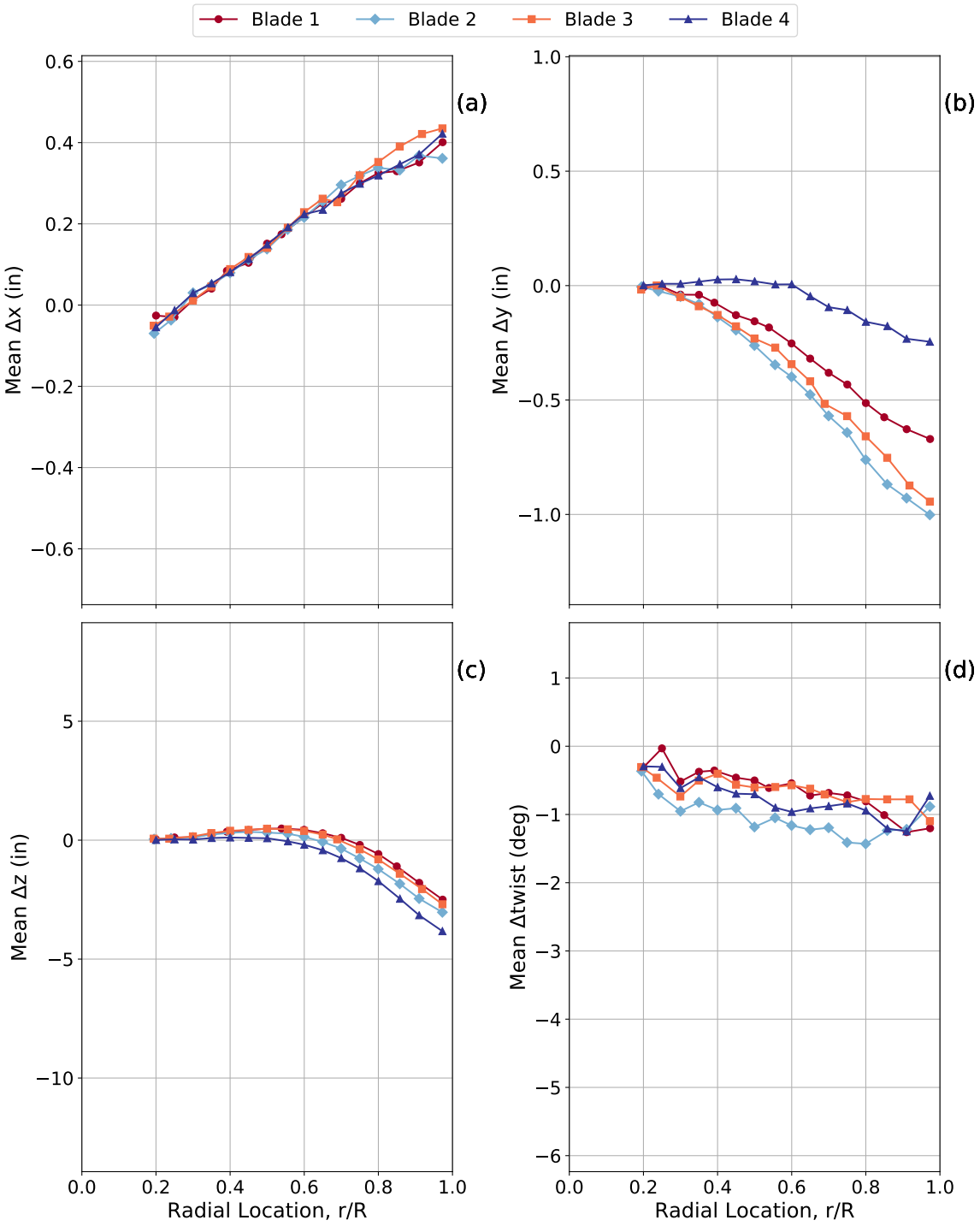


Figure 2.11-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0258	0.0020	-0.0072	0.0013	0.0332	0.0060	-0.3085	0.0297
1	209.88	0.2499	-0.0295	0.0023	-0.0039	0.0063	0.1136	0.0102	-0.0309	0.0314
1	209.88	0.2998	0.0121	0.0012	-0.0395	0.0084	0.1208	0.0168	-0.5176	0.0573
1	209.88	0.3498	0.0406	0.0025	-0.0402	0.0150	0.2639	0.0301	-0.3743	0.0632
1	209.88	0.3913	0.0844	0.0048	-0.0745	0.0237	0.3546	0.0397	-0.3559	0.0573
1	209.88	0.4496	0.1042	0.0025	-0.1290	0.0241	0.4268	0.0564	-0.4602	0.0633
1	209.88	0.4997	0.1513	0.0032	-0.1560	0.0315	0.4826	0.0695	-0.5012	0.0695
1	209.88	0.5387	0.1743	0.0031	-0.1831	0.0363	0.4889	0.0818	-0.6116	0.0712
1	209.88	0.5996	0.2166	0.0034	-0.2527	0.0441	0.4356	0.1031	-0.5427	0.0797
1	209.88	0.6498	0.2506	0.0041	-0.3189	0.0505	0.2911	0.1189	-0.7228	0.0716
1	209.88	0.6998	0.2617	0.0049	-0.3809	0.0585	0.0992	0.1405	-0.6841	0.0755
1	209.88	0.7500	0.2999	0.0038	-0.4323	0.0643	-0.2005	0.1673	-0.7196	0.1028
1	209.88	0.8001	0.3253	0.0043	-0.5133	0.0711	-0.5851	0.1945	-0.8075	0.0991
1	209.88	0.8497	0.3296	0.0046	-0.5753	0.0778	-1.1012	0.2219	-1.0091	0.1052
1	209.88	0.9102	0.3512	0.0057	-0.6275	0.0878	-1.7936	0.2566	-1.2589	0.1275
1	209.88	0.9734	0.4010	0.0082	-0.6704	0.0970	-2.5003	0.2971	-1.2022	0.1032
2	209.88	0.1949	-0.0698	0.0010	-0.0054	0.0008	0.0450	0.0032	-0.3648	0.0253
2	209.88	0.2405	-0.0369	0.0010	-0.0243	0.0021	0.0725	0.0073	-0.7024	0.0393
2	209.88	0.2999	0.0303	0.0013	-0.0481	0.0036	0.1151	0.0128	-0.9523	0.0589
2	209.88	0.3498	0.0498	0.0012	-0.0808	0.0057	0.2366	0.0219	-0.8223	0.0661
2	209.88	0.3998	0.0794	0.0018	-0.1375	0.0092	0.3070	0.0336	-0.9343	0.0650
2	209.88	0.4496	0.1119	0.0017	-0.1943	0.0112	0.3491	0.0452	-0.9084	0.0616
2	209.88	0.4995	0.1380	0.0018	-0.2616	0.0136	0.3198	0.0612	-1.1833	0.0621
2	209.88	0.5551	0.1861	0.0018	-0.3459	0.0172	0.2736	0.0814	-1.0484	0.0642
2	209.88	0.5996	0.2158	0.0020	-0.3988	0.0200	0.1402	0.0999	-1.1613	0.0637
2	209.88	0.6497	0.2550	0.0022	-0.4763	0.0237	-0.0713	0.1222	-1.2230	0.0625
2	209.88	0.6996	0.2959	0.0030	-0.5693	0.0276	-0.3543	0.1478	-1.1946	0.0847
2	209.88	0.7495	0.3184	0.0029	-0.6420	0.0321	-0.7651	0.1715	-1.4103	0.0712
2	209.88	0.7996	0.3379	0.0037	-0.7611	0.0372	-1.2136	0.1968	-1.4304	0.0699
2	209.88	0.8578	0.3324	0.0042	-0.8686	0.0424	-1.8346	0.2260	-1.2348	0.0757
2	209.88	0.9100	0.3680	0.0052	-0.9286	0.0472	-2.4547	0.2504	-1.2182	0.1031
2	209.88	0.9727	0.3612	0.0061	-1.0018	0.0540	-3.0312	0.2797	-0.8840	0.0789
3	209.88	0.1938	-0.0507	0.0013	-0.0173	0.0011	0.0634	0.0034	-0.3053	0.0405
3	209.88	0.2357	-0.0283	0.0011	0.0007	0.0021	0.0623	0.0084	-0.4611	0.0478
3	209.88	0.2995	0.0113	0.0012	-0.0501	0.0048	0.1580	0.0147	-0.7362	0.0874
3	209.88	0.3493	0.0457	0.0015	-0.0903	0.0064	0.2987	0.0239	-0.5041	0.0686
3	209.88	0.4000	0.0886	0.0017	-0.1284	0.0112	0.3958	0.0375	-0.4028	0.0711
3	209.88	0.4497	0.1184	0.0019	-0.1780	0.0133	0.4316	0.0463	-0.5629	0.0654
3	209.88	0.4997	0.1409	0.0019	-0.2312	0.0165	0.4818	0.0599	-0.6048	0.0689
3	209.88	0.5556	0.1905	0.0019	-0.2710	0.0197	0.4559	0.0785	-0.5976	0.0700
3	209.88	0.5995	0.2287	0.0022	-0.3433	0.0235	0.3891	0.0936	-0.5715	0.0768
3	209.88	0.6498	0.2620	0.0027	-0.4180	0.0275	0.2356	0.1151	-0.6226	0.1029
3	209.88	0.6890	0.2532	0.0030	-0.5168	0.0324	0.0337	0.1325	-0.7063	0.1066
3	209.88	0.7495	0.3194	0.0035	-0.5705	0.0356	-0.3844	0.1570	-0.8198	0.1315
3	209.88	0.7998	0.3523	0.0039	-0.6587	0.0413	-0.8071	0.1804	-0.7739	0.0915
3	209.88	0.8577	0.3904	0.0049	-0.7525	0.0467	-1.4094	0.2094	-0.7783	0.0961
3	209.88	0.9178	0.4212	0.0056	-0.8736	0.0534	-2.0563	0.2405	-0.7782	0.1148
3	209.88	0.9729	0.4351	0.0070	-0.9439	0.0597	-2.6951	0.2681	-1.0974	0.1025
4	209.88	0.2001	-0.0545	0.0012	0.0014	0.0012	0.0092	0.0039	-0.2947	0.0275
4	209.88	0.2502	-0.0127	0.0012	0.0079	0.0032	0.0321	0.0092	-0.3029	0.0469
4	209.88	0.3001	0.0294	0.0021	0.0078	0.0056	0.0241	0.0137	-0.6132	0.0607
4	209.88	0.3502	0.0536	0.0012	0.0172	0.0086	0.0903	0.0236	-0.4548	0.0600
4	209.88	0.4002	0.0812	0.0020	0.0266	0.0144	0.1111	0.0365	-0.6011	0.0594
4	209.88	0.4500	0.1137	0.0019	0.0277	0.0169	0.0955	0.0496	-0.6954	0.0596
4	209.88	0.5001	0.1490	0.0020	0.0188	0.0194	0.0808	0.0654	-0.7030	0.0602
4	209.88	0.5560	0.1915	0.0022	0.0050	0.0229	-0.0507	0.0857	-0.9002	0.0579
4	209.88	0.6001	0.2237	0.0025	0.0055	0.0266	-0.1925	0.1045	-0.9628	0.0662
4	209.88	0.6501	0.2346	0.0026	-0.0464	0.0306	-0.4237	0.1279	-0.9108	0.0707
4	209.88	0.6999	0.2754	0.0032	-0.0943	0.0335	-0.7543	0.1537	-0.8780	0.0850
4	209.88	0.7500	0.2988	0.0039	-0.1070	0.0393	-1.1836	0.1803	-0.8392	0.0703
4	209.88	0.8002	0.3191	0.0046	-0.1582	0.0444	-1.7232	0.2114	-0.9423	0.0748
4	209.88	0.8582	0.3468	0.0060	-0.1771	0.0502	-2.4632	0.2488	-1.2071	0.0769
4	209.88	0.9101	0.3706	0.0070	-0.2323	0.0567	-3.1562	0.2831	-1.2472	0.0772
4	209.88	0.9728	0.4220	0.0087	-0.2454	0.0629	-3.8268	0.3264	-0.7265	0.0767

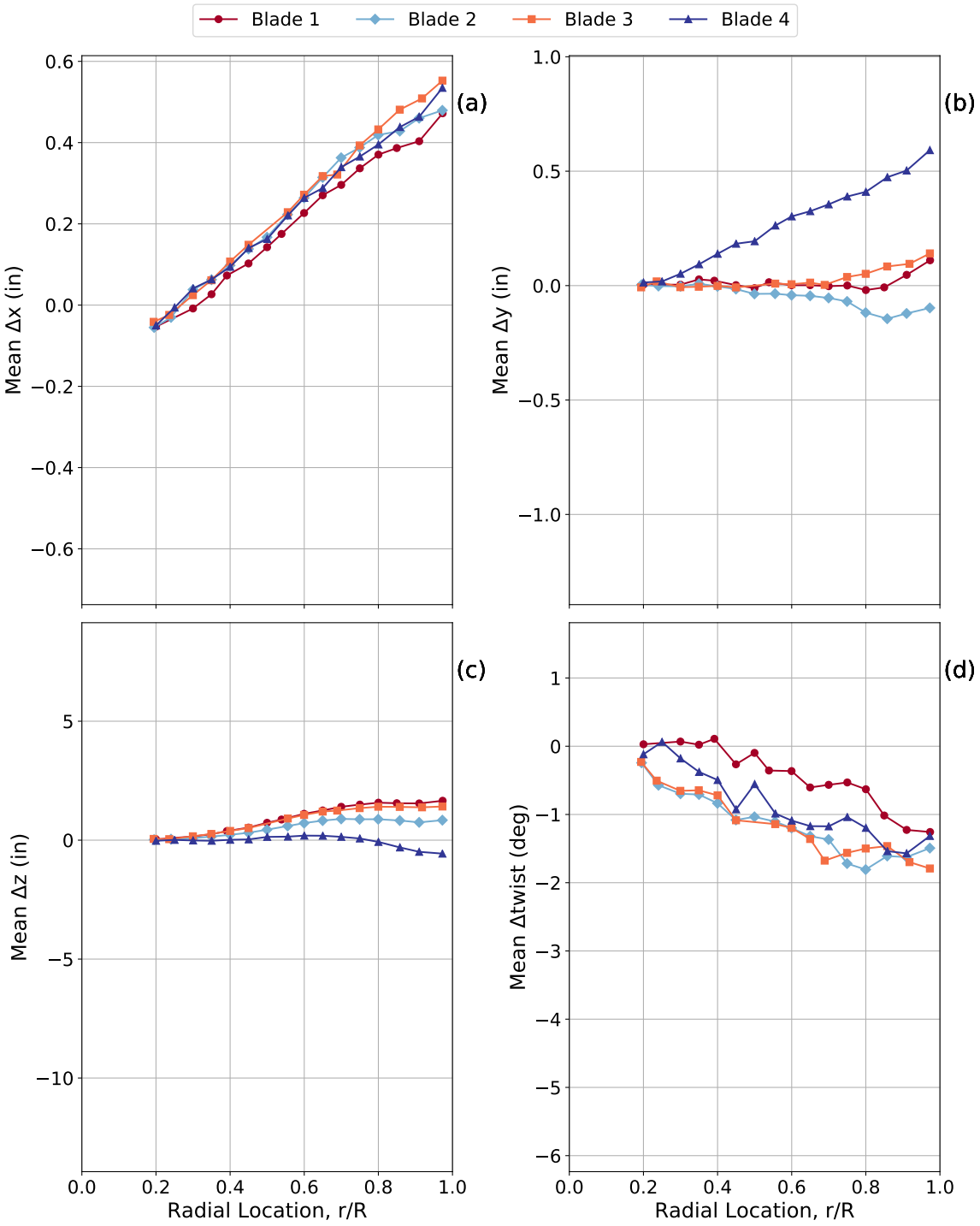


Figure 2.11-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0531	0.0014	0.0044	0.0009	0.0337	0.0045	0.0288	0.0314
1	225	0.2998	-0.0083	0.0010	0.0040	0.0043	0.1565	0.0148	0.0685	0.0725
1	225	0.3498	0.0267	0.0015	0.0272	0.0085	0.2507	0.0232	0.0225	0.0849
1	225	0.3913	0.0729	0.0025	0.0215	0.0119	0.3814	0.0332	0.1088	0.0892
1	225	0.4496	0.1025	0.0020	0.0021	0.0143	0.5279	0.0442	-0.2648	0.0997
1	225	0.4997	0.1425	0.0026	-0.0112	0.0195	0.7305	0.0565	-0.0974	0.1035
1	225	0.5387	0.1752	0.0021	0.0148	0.0218	0.8679	0.0661	-0.3557	0.1238
1	225	0.5996	0.2267	0.0024	0.0017	0.0269	1.1073	0.0847	-0.3641	0.1562
1	225	0.6498	0.2704	0.0027	0.0018	0.0314	1.2485	0.1006	-0.6040	0.1570
1	225	0.6998	0.2959	0.0025	-0.0025	0.0347	1.4025	0.1169	-0.5654	0.1440
1	225	0.7500	0.3367	0.0033	0.0004	0.0407	1.4956	0.1352	-0.5306	0.1197
1	225	0.8001	0.3704	0.0036	-0.0195	0.0460	1.5754	0.1532	-0.6303	0.1177
1	225	0.8497	0.3866	0.0046	-0.0078	0.0517	1.5523	0.1711	-1.0152	0.1406
1	225	0.9102	0.4034	0.0036	0.0470	0.0579	1.5448	0.1984	-1.2262	0.1251
1	225	0.9734	0.4722	0.0056	0.1107	0.0653	1.6567	0.2266	-1.2568	0.1225
2	225	0.1949	-0.0551	0.0012	0.0036	0.0007	0.0229	0.0048	-0.2431	0.0320
2	225	0.2405	-0.0302	0.0014	-0.0020	0.0016	0.0422	0.0078	-0.5712	0.0378
2	225	0.2999	0.0381	0.0011	-0.0032	0.0037	0.0877	0.0183	-0.6963	0.0654
2	225	0.3498	0.0626	0.0014	0.0083	0.0067	0.1492	0.0267	-0.7077	0.0622
2	225	0.3998	0.0977	0.0016	-0.0035	0.0103	0.2256	0.0419	-0.8360	0.0652
2	225	0.4496	0.1382	0.0022	-0.0152	0.0132	0.3110	0.0553	-1.0804	0.0777
2	225	0.4995	0.1671	0.0032	-0.0362	0.0197	0.4407	0.0714	-1.0345	0.0846
2	225	0.5551	0.2229	0.0024	-0.0354	0.0238	0.5937	0.0915	-1.1047	0.0726
2	225	0.5996	0.2638	0.0027	-0.0419	0.0290	0.7168	0.1088	-1.1982	0.0757
2	225	0.6497	0.3143	0.0030	-0.0447	0.0355	0.8228	0.1298	-1.3183	0.0843
2	225	0.6996	0.3627	0.0035	-0.0540	0.0418	0.8937	0.1531	-1.3670	0.0859
2	225	0.7495	0.3878	0.0042	-0.0692	0.0497	0.8781	0.1768	-1.7192	0.0963
2	225	0.7996	0.4188	0.0039	-0.1181	0.0581	0.8802	0.2021	-1.8074	0.0816
2	225	0.8578	0.4284	0.0041	-0.1448	0.0676	0.8257	0.2342	-1.6087	0.0907
2	225	0.9100	0.4602	0.0042	-0.1217	0.0765	0.7484	0.2659	-1.6253	0.0817
2	225	0.9727	0.4794	0.0070	-0.0976	0.0874	0.8398	0.3082	-1.4930	0.0913
3	225	0.1938	-0.0412	0.0013	-0.0076	0.0006	0.0525	0.0043	-0.2296	0.0322
3	225	0.2357	-0.0242	0.0019	0.0183	0.0018	0.0420	0.0084	-0.5043	0.0424
3	225	0.2995	0.0245	0.0013	-0.0069	0.0038	0.1632	0.0165	-0.6534	0.0639
3	225	0.3493	0.0612	0.0014	-0.0050	0.0062	0.2614	0.0261	-0.6456	0.0711
3	225	0.4000	0.1072	0.0022	-0.0012	0.0103	0.3880	0.0409	-0.7198	0.0853
3	225	0.4497	0.1485	0.0025	-0.0078	0.0139	0.5085	0.0538	-1.0849	0.0842
3	225	0.5556	0.2287	0.0029	0.0087	0.0240	0.9102	0.0895	-1.1412	0.1064
3	225	0.5995	0.2717	0.0031	0.0060	0.0287	1.0600	0.1050	-1.1968	0.1125
3	225	0.6498	0.3175	0.0034	0.0130	0.0352	1.2020	0.1230	-1.3594	0.1169
3	225	0.6890	0.3214	0.0035	0.0031	0.0402	1.2438	0.1383	-1.6765	0.1148
3	225	0.7495	0.3930	0.0045	0.0376	0.0486	1.3471	0.1634	-1.5625	0.1171
3	225	0.7998	0.4325	0.0045	0.0515	0.0565	1.4059	0.1838	-1.4988	0.1220
3	225	0.8577	0.4811	0.0047	0.0836	0.0652	1.3977	0.2080	-1.4636	0.1239
3	225	0.9178	0.5088	0.0051	0.0951	0.0752	1.3805	0.2366	-1.6984	0.1269
3	225	0.9729	0.5526	0.0078	0.1407	0.0851	1.4150	0.2611	-1.7915	0.1261
4	225	0.2001	-0.0501	0.0020	0.0136	0.0013	-0.0265	0.0043	-0.1180	0.0312
4	225	0.2502	-0.0060	0.0030	0.0183	0.0022	0.0121	0.0089	0.0637	0.0417
4	225	0.3001	0.0411	0.0020	0.0518	0.0049	-0.0128	0.0150	-0.1789	0.0663
4	225	0.3502	0.0632	0.0020	0.0932	0.0065	-0.0248	0.0243	-0.3772	0.0728
4	225	0.4002	0.0942	0.0028	0.1390	0.0109	0.0166	0.0373	-0.4951	0.0778
4	225	0.4500	0.1405	0.0021	0.1830	0.0137	0.0319	0.0508	-0.9247	0.0989
4	225	0.5001	0.1628	0.0033	0.1938	0.0173	0.1372	0.0649	-0.5554	0.1065
4	225	0.5560	0.2208	0.0026	0.2625	0.0219	0.1480	0.0840	-0.9867	0.1090
4	225	0.6001	0.2639	0.0026	0.3024	0.0263	0.1913	0.0995	-1.0897	0.1333
4	225	0.6501	0.2882	0.0029	0.3252	0.0314	0.1859	0.1189	-1.1712	0.1259
4	225	0.6999	0.3395	0.0029	0.3550	0.0373	0.1393	0.1403	-1.1737	0.1192
4	225	0.7500	0.3657	0.0033	0.3893	0.0435	0.0704	0.1637	-1.0382	0.1157
4	225	0.8002	0.3954	0.0034	0.4098	0.0495	-0.0735	0.1888	-1.1959	0.1166
4	225	0.8582	0.4383	0.0033	0.4737	0.0571	-0.3062	0.2185	-1.5378	0.1129
4	225	0.9101	0.4635	0.0034	0.5028	0.0640	-0.4897	0.2474	-1.5698	0.1155
4	225	0.9728	0.5348	0.0053	0.5919	0.0727	-0.5657	0.2843	-1.3149	0.1156

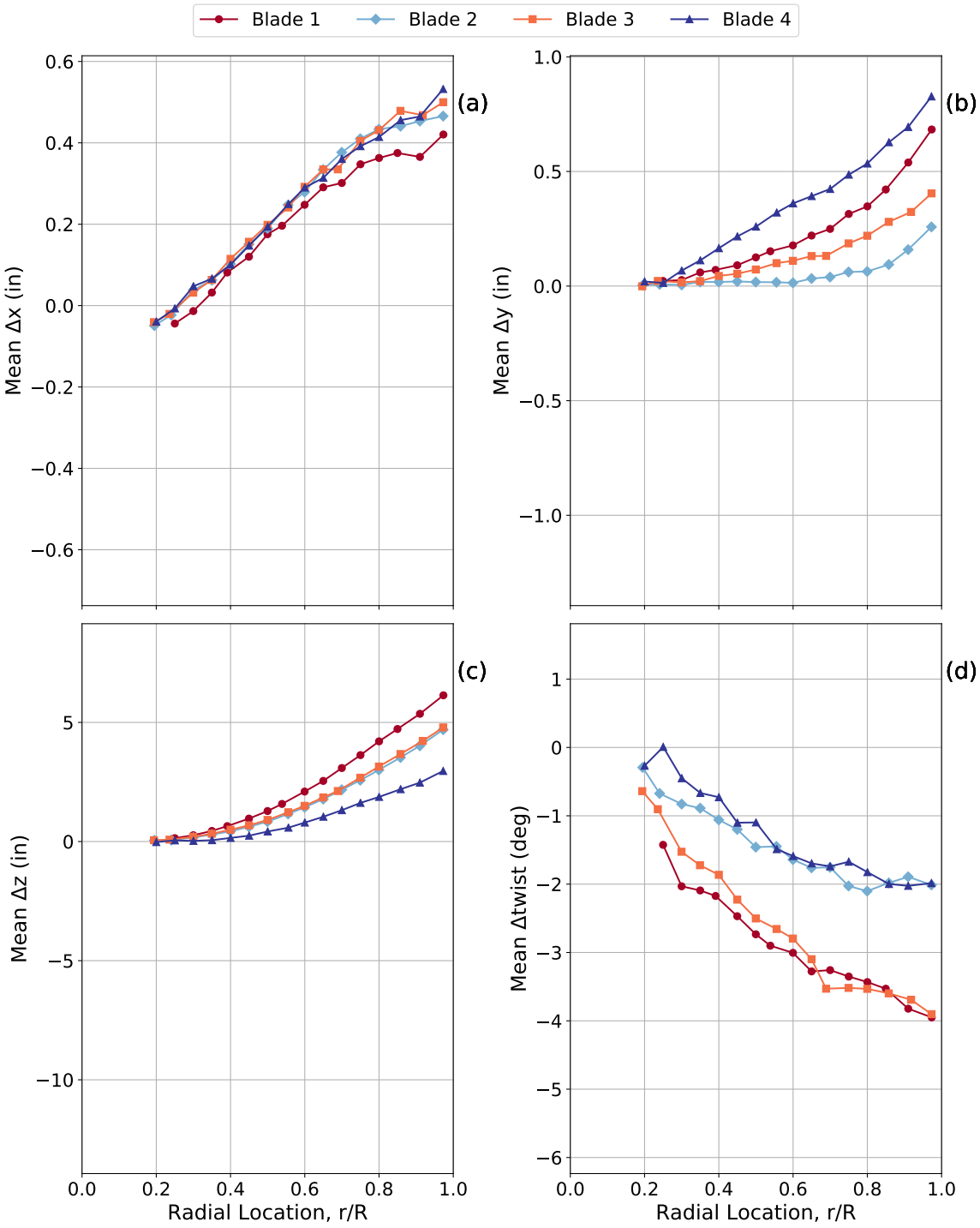


Figure 2.11-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2499	-0.0441	0.0026	0.0222	0.0032	0.1420	0.0200	-1.4251	0.0977
1	240.12	0.2998	-0.0135	0.0029	0.0262	0.0092	0.2644	0.0353	-2.0313	0.1387
1	240.12	0.3498	0.0321	0.0035	0.0595	0.0136	0.4451	0.0505	-2.0923	0.1859
1	240.12	0.3913	0.0813	0.0053	0.0705	0.0230	0.6471	0.0731	-2.1727	0.1866
1	240.12	0.4496	0.1201	0.0045	0.0908	0.0279	0.9624	0.0964	-2.4692	0.2125
1	240.12	0.4997	0.1754	0.0051	0.1252	0.0347	1.2797	0.1183	-2.7337	0.2423
1	240.12	0.5387	0.1962	0.0055	0.1519	0.0401	1.5780	0.1350	-2.9001	0.2588
1	240.12	0.5996	0.2477	0.0048	0.1776	0.0477	2.0978	0.1653	-3.0048	0.2907
1	240.12	0.6498	0.2907	0.0067	0.2204	0.0569	2.5443	0.1910	-3.2767	0.2761
1	240.12	0.6998	0.3013	0.0066	0.2494	0.0639	3.0851	0.2189	-3.2581	0.3150
1	240.12	0.7500	0.3473	0.0085	0.3147	0.0738	3.6280	0.2488	-3.3519	0.3190
1	240.12	0.8001	0.3628	0.0106	0.3477	0.0822	4.2051	0.2792	-3.4330	0.3307
1	240.12	0.8497	0.3750	0.0106	0.4211	0.0914	4.7232	0.3080	-3.5301	0.3448
1	240.12	0.9102	0.3654	0.0128	0.5391	0.1038	5.3607	0.3436	-3.8221	0.3515
1	240.12	0.9734	0.4205	0.0180	0.6832	0.1168	6.1375	0.3841	-3.9499	0.3547
2	240.12	0.1949	-0.0491	0.0014	0.0036	0.0015	0.0510	0.0045	-0.2925	0.0500
2	240.12	0.2405	-0.0230	0.0020	0.0076	0.0023	0.0650	0.0088	-0.6732	0.0729
2	240.12	0.2999	0.0382	0.0015	0.0049	0.0049	0.1704	0.0160	-0.8282	0.1168
2	240.12	0.3498	0.0626	0.0021	0.0181	0.0077	0.2926	0.0239	-0.8883	0.1370
2	240.12	0.3998	0.1024	0.0025	0.0178	0.0122	0.4275	0.0373	-1.0592	0.1593
2	240.12	0.4496	0.1507	0.0019	0.0200	0.0147	0.6198	0.0462	-1.1993	0.1754
2	240.12	0.4995	0.1898	0.0023	0.0176	0.0191	0.8357	0.0588	-1.4586	0.2020
2	240.12	0.5551	0.2473	0.0025	0.0166	0.0235	1.1558	0.0722	-1.4478	0.2433
2	240.12	0.5996	0.2791	0.0027	0.0141	0.0279	1.4354	0.0828	-1.6414	0.2815
2	240.12	0.6497	0.3342	0.0035	0.0328	0.0332	1.7800	0.0968	-1.7611	0.2657
2	240.12	0.6996	0.3766	0.0033	0.0392	0.0387	2.1743	0.1110	-1.7541	0.2588
2	240.12	0.7495	0.4101	0.0043	0.0615	0.0445	2.5726	0.1258	-2.0270	0.2551
2	240.12	0.7996	0.4335	0.0049	0.0636	0.0504	3.0053	0.1427	-2.1016	0.2486
2	240.12	0.8578	0.4409	0.0052	0.0940	0.0575	3.5276	0.1635	-1.9816	0.2433
2	240.12	0.9100	0.4535	0.0068	0.1590	0.0649	4.0187	0.1844	-1.8926	0.2477
2	240.12	0.9727	0.4657	0.0098	0.2581	0.0733	4.6963	0.2133	-2.0113	0.2253
3	240.12	0.1938	-0.0407	0.0015	-0.0009	0.0017	0.0554	0.0053	-0.6394	0.0448
3	240.12	0.2357	-0.0205	0.0021	0.0223	0.0030	0.0785	0.0081	-0.9036	0.0594
3	240.12	0.2995	0.0318	0.0014	0.0161	0.0048	0.1989	0.0185	-1.5258	0.1023
3	240.12	0.3493	0.0631	0.0014	0.0214	0.0070	0.3272	0.0303	-1.7231	0.1283
3	240.12	0.4000	0.1148	0.0023	0.0442	0.0120	0.4966	0.0464	-1.8636	0.1477
3	240.12	0.4497	0.1569	0.0020	0.0538	0.0143	0.6799	0.0606	-2.2264	0.1567
3	240.12	0.4997	0.1984	0.0022	0.0723	0.0179	0.9054	0.0826	-2.5022	0.1742
3	240.12	0.5556	0.2412	0.0032	0.1001	0.0228	1.2293	0.1052	-2.6563	0.1998
3	240.12	0.5995	0.2919	0.0050	0.1101	0.0268	1.4968	0.1203	-2.7959	0.1774
3	240.12	0.6498	0.3346	0.0029	0.1309	0.0317	1.8535	0.1389	-3.0982	0.2067
3	240.12	0.6890	0.3349	0.0046	0.1316	0.0352	2.1204	0.1519	-3.5298	0.2185
3	240.12	0.7495	0.4048	0.0034	0.1862	0.0420	2.6782	0.1710	-3.5183	0.2572
3	240.12	0.7998	0.4311	0.0040	0.2196	0.0476	3.1482	0.1864	-3.5320	0.2722
3	240.12	0.8577	0.4786	0.0045	0.2802	0.0539	3.6722	0.2061	-3.5981	0.2798
3	240.12	0.9178	0.4680	0.0057	0.3233	0.0607	4.2225	0.2260	-3.6912	0.2952
3	240.12	0.9729	0.4998	0.0073	0.4043	0.0674	4.7891	0.2429	-3.9026	0.2994
4	240.12	0.2001	-0.0393	0.0011	0.0199	0.0007	-0.0230	0.0044	-0.2676	0.0343
4	240.12	0.2502	-0.0069	0.0020	0.0136	0.0030	0.0485	0.0097	0.0077	0.0581
4	240.12	0.3001	0.0476	0.0011	0.0677	0.0040	0.0268	0.0158	-0.4503	0.0786
4	240.12	0.3502	0.0663	0.0017	0.1124	0.0065	0.0568	0.0250	-0.6661	0.0959
4	240.12	0.4002	0.1008	0.0021	0.1652	0.0116	0.1523	0.0393	-0.7287	0.1051
4	240.12	0.4500	0.1474	0.0019	0.2167	0.0139	0.2456	0.0528	-1.1013	0.1167
4	240.12	0.5001	0.1938	0.0021	0.2594	0.0185	0.4209	0.0682	-1.0970	0.1394
4	240.12	0.5560	0.2496	0.0024	0.3207	0.0249	0.5824	0.0871	-1.4884	0.1575
4	240.12	0.6001	0.2901	0.0034	0.3608	0.0306	0.7955	0.1049	-1.5894	0.1396
4	240.12	0.6501	0.3140	0.0026	0.3925	0.0351	1.0410	0.1234	-1.6969	0.1539
4	240.12	0.6999	0.3604	0.0030	0.4237	0.0412	1.3161	0.1416	-1.7402	0.1874
4	240.12	0.7500	0.3918	0.0030	0.4860	0.0469	1.6219	0.1663	-1.6720	0.1710
4	240.12	0.8002	0.4143	0.0034	0.5346	0.0528	1.8730	0.1899	-1.8246	0.1860
4	240.12	0.8582	0.4558	0.0038	0.6274	0.0599	2.1965	0.2226	-1.9976	0.1832
4	240.12	0.9101	0.4647	0.0048	0.6939	0.0656	2.4725	0.2529	-2.0249	0.2004
4	240.12	0.9728	0.5323	0.0066	0.8273	0.0739	2.9621	0.2896	-1.9853	0.2050

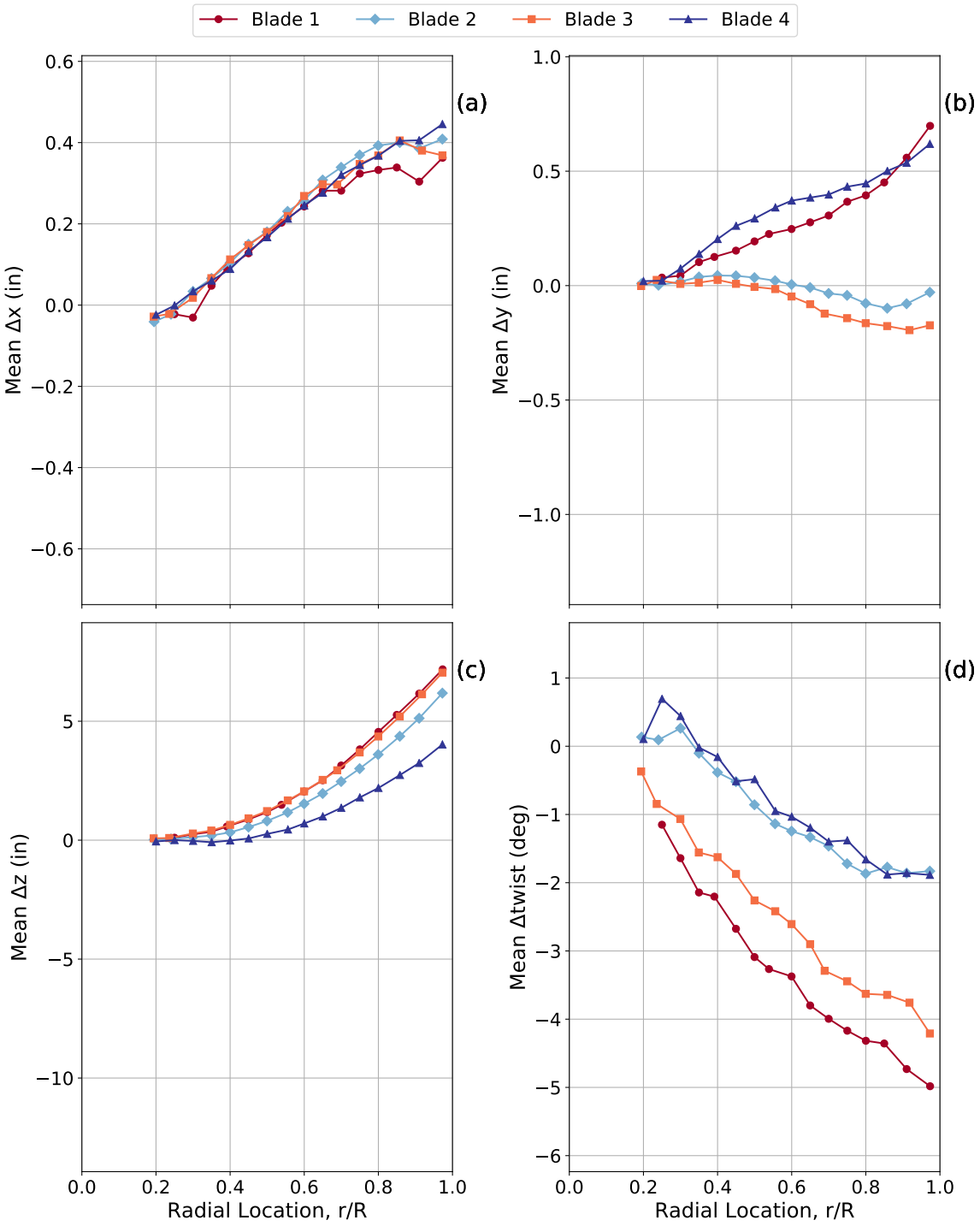


Figure 2.11-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2499	-0.0224	0.0025	0.0349	0.0016	0.1030	0.0186	-1.1500	0.1188
1	254.88	0.2998	-0.0307	0.0023	0.0432	0.0035	0.2476	0.0295	-1.6403	0.1688
1	254.88	0.3498	0.0476	0.0023	0.1027	0.0074	0.3534	0.0495	-2.1432	0.1707
1	254.88	0.3913	0.0906	0.0028	0.1252	0.0110	0.5737	0.0673	-2.2036	0.1787
1	254.88	0.4496	0.1275	0.0035	0.1528	0.0154	0.8703	0.0953	-2.6756	0.1921
1	254.88	0.4997	0.1730	0.0051	0.1933	0.0203	1.1780	0.1221	-3.0898	0.1961
1	254.88	0.5387	0.2029	0.0045	0.2255	0.0233	1.4866	0.1425	-3.2654	0.2106
1	254.88	0.5996	0.2428	0.0083	0.2473	0.0299	2.0447	0.1767	-3.3736	0.2044
1	254.88	0.6498	0.2816	0.0068	0.2764	0.0342	2.5179	0.2036	-3.7992	0.2114
1	254.88	0.6998	0.2817	0.0078	0.3063	0.0393	3.1389	0.2327	-3.9946	0.2177
1	254.88	0.7500	0.3237	0.0098	0.3665	0.0453	3.8177	0.2635	-4.1693	0.2226
1	254.88	0.8001	0.3326	0.0109	0.3944	0.0517	4.5517	0.2924	-4.3166	0.2227
1	254.88	0.8497	0.3387	0.0124	0.4508	0.0583	5.2666	0.3177	-4.3564	0.2296
1	254.88	0.9102	0.3040	0.0147	0.5589	0.0668	6.1603	0.3479	-4.7312	0.2286
1	254.88	0.9734	0.3627	0.0194	0.6980	0.0760	7.1810	0.3775	-4.9827	0.2365
2	254.88	0.1949	-0.0410	0.0052	0.0088	0.0019	0.0237	0.0108	0.1344	0.0650
2	254.88	0.2405	-0.0224	0.0021	0.0017	0.0018	0.0505	0.0123	0.0933	0.1471
2	254.88	0.2999	0.0338	0.0025	0.0174	0.0059	0.1276	0.0303	0.2641	0.1758
2	254.88	0.3498	0.0657	0.0022	0.0378	0.0111	0.1968	0.0499	-0.1022	0.1879
2	254.88	0.3998	0.1039	0.0021	0.0442	0.0158	0.3274	0.0720	-0.3830	0.1973
2	254.88	0.4496	0.1497	0.0027	0.0429	0.0203	0.5491	0.0969	-0.5194	0.2179
2	254.88	0.4995	0.1801	0.0027	0.0349	0.0254	0.8075	0.1232	-0.8578	0.2355
2	254.88	0.5551	0.2307	0.0032	0.0214	0.0308	1.1668	0.1579	-1.1363	0.2543
2	254.88	0.5996	0.2572	0.0032	0.0049	0.0348	1.5297	0.1846	-1.2445	0.2653
2	254.88	0.6497	0.3080	0.0034	-0.0084	0.0394	1.9621	0.2165	-1.3320	0.2874
2	254.88	0.6996	0.3392	0.0042	-0.0342	0.0445	2.4648	0.2476	-1.4626	0.3049
2	254.88	0.7495	0.3695	0.0049	-0.0426	0.0503	3.0074	0.2797	-1.7211	0.3266
2	254.88	0.7996	0.3928	0.0057	-0.0775	0.0553	3.6003	0.3145	-1.8669	0.3336
2	254.88	0.8578	0.4001	0.0077	-0.0988	0.0618	4.3672	0.3559	-1.7722	0.3369
2	254.88	0.9100	0.3857	0.0100	-0.0794	0.0685	5.1244	0.3951	-1.8599	0.3540
2	254.88	0.9727	0.4086	0.0141	-0.0291	0.0795	6.1818	0.4384	-1.8303	0.3670
3	254.88	0.1938	-0.0283	0.0043	-0.0019	0.0013	0.0771	0.0120	-0.3700	0.0514
3	254.88	0.2357	-0.0216	0.0022	0.0248	0.0018	0.0909	0.0094	-0.8457	0.1405
3	254.88	0.2995	0.0180	0.0030	0.0074	0.0047	0.2792	0.0297	-1.0658	0.1544
3	254.88	0.3493	0.0663	0.0016	0.0127	0.0087	0.4043	0.0470	-1.5572	0.1522
3	254.88	0.4000	0.1124	0.0023	0.0249	0.0131	0.6433	0.0659	-1.6263	0.1557
3	254.88	0.4497	0.1474	0.0024	0.0077	0.0171	0.9169	0.0859	-1.8711	0.1614
3	254.88	0.4997	0.1799	0.0024	-0.0057	0.0214	1.2212	0.1065	-2.2599	0.1676
3	254.88	0.5556	0.2193	0.0029	-0.0152	0.0268	1.6705	0.1293	-2.4181	0.1691
3	254.88	0.5995	0.2686	0.0068	-0.0476	0.0326	2.0502	0.1481	-2.6065	0.1802
3	254.88	0.6498	0.2976	0.0044	-0.0812	0.0361	2.5338	0.1679	-2.9006	0.1849
3	254.88	0.6890	0.2968	0.0050	-0.1225	0.0408	2.9370	0.1840	-3.2907	0.1947
3	254.88	0.7495	0.3473	0.0063	-0.1423	0.0480	3.6885	0.2107	-3.4450	0.1975
3	254.88	0.7998	0.3683	0.0073	-0.1642	0.0542	4.3590	0.2345	-3.6285	0.1943
3	254.88	0.8577	0.4053	0.0081	-0.1769	0.0613	5.1999	0.2608	-3.6445	0.2058
3	254.88	0.9178	0.3804	0.0113	-0.1947	0.0693	6.1332	0.2895	-3.7581	0.2052
3	254.88	0.9729	0.3686	0.0173	-0.1734	0.0764	7.0428	0.3174	-4.2100	0.1933
4	254.88	0.2001	-0.0238	0.0042	0.0195	0.0011	-0.0541	0.0076	0.1050	0.0461
4	254.88	0.2502	-0.0009	0.0017	0.0216	0.0019	0.0010	0.0109	0.6946	0.1102
4	254.88	0.3001	0.0339	0.0019	0.0745	0.0041	-0.0313	0.0226	0.4416	0.1161
4	254.88	0.3502	0.0602	0.0016	0.1383	0.0076	-0.0872	0.0368	-0.0200	0.1156
4	254.88	0.4002	0.0889	0.0018	0.2034	0.0114	-0.0147	0.0539	-0.1583	0.1105
4	254.88	0.4500	0.1326	0.0018	0.2612	0.0144	0.0708	0.0722	-0.5129	0.1089
4	254.88	0.5001	0.1670	0.0031	0.2932	0.0181	0.2629	0.0933	-0.4837	0.1159
4	254.88	0.5560	0.2126	0.0021	0.3413	0.0216	0.4471	0.1158	-0.9493	0.1171
4	254.88	0.6001	0.2454	0.0038	0.3714	0.0255	0.7021	0.1344	-1.0331	0.1187
4	254.88	0.6501	0.2765	0.0028	0.3845	0.0288	0.9966	0.1537	-1.1946	0.1322
4	254.88	0.6999	0.3205	0.0034	0.3977	0.0324	1.3590	0.1752	-1.3977	0.1270
4	254.88	0.7500	0.3446	0.0041	0.4321	0.0376	1.7961	0.1970	-1.3798	0.1222
4	254.88	0.8002	0.3679	0.0051	0.4462	0.0423	2.1939	0.2174	-1.6595	0.1236
4	254.88	0.8582	0.4042	0.0056	0.5010	0.0482	2.7388	0.2430	-1.8808	0.1269
4	254.88	0.9101	0.4058	0.0100	0.5366	0.0533	3.2442	0.2657	-1.8587	0.1296
4	254.88	0.9728	0.4455	0.0097	0.6191	0.0612	4.0219	0.2917	-1.8857	0.1247

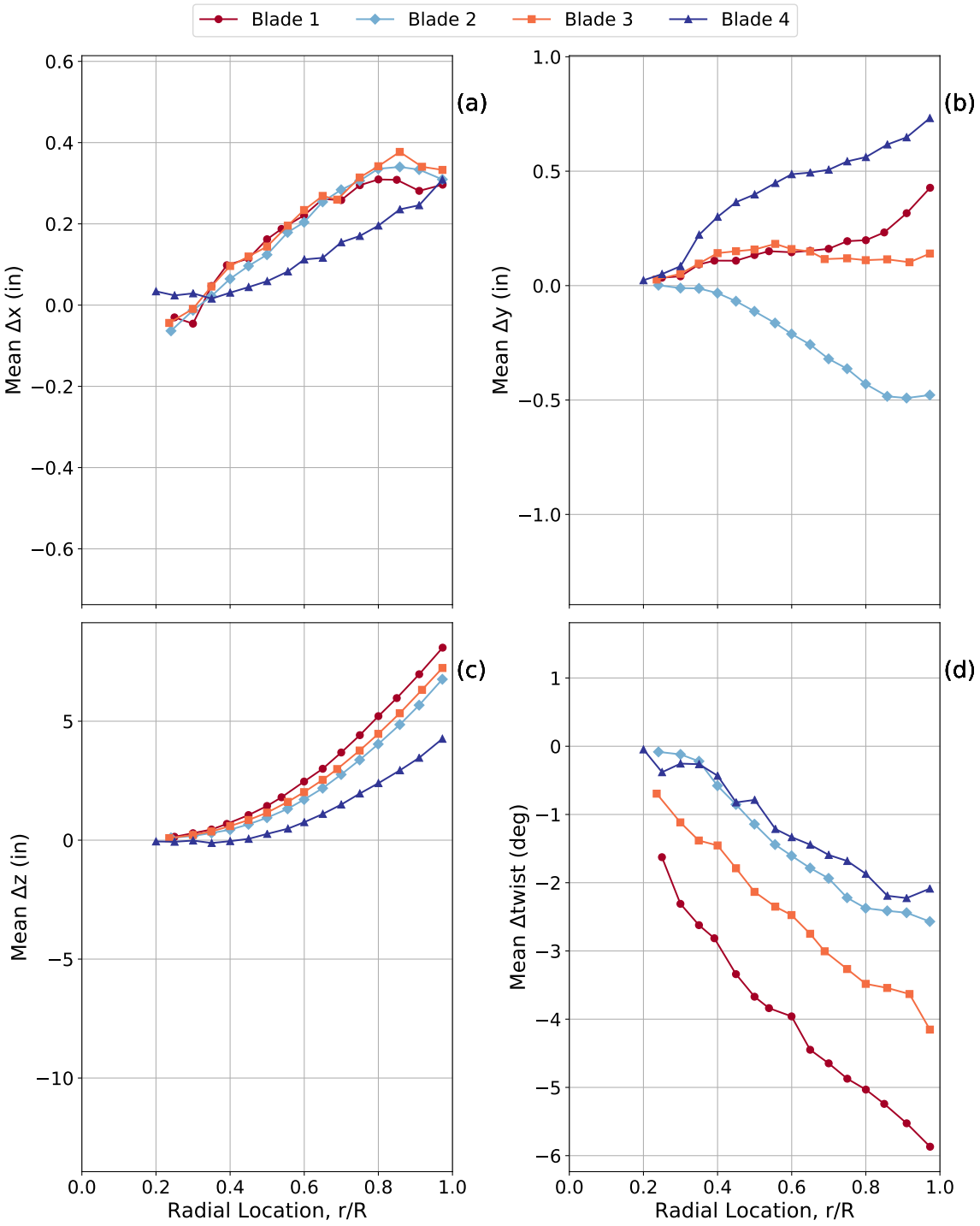


Figure 2.11-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2499	-0.0302	0.0075	0.0345	0.0027	0.1426	0.0480	-1.6259	0.2791
1	260.16	0.2998	-0.0457	0.0030	0.0405	0.0057	0.2928	0.0729	-2.3097	0.3936
1	260.16	0.3498	0.0471	0.0038	0.0923	0.0142	0.4494	0.1245	-2.6221	0.3683
1	260.16	0.3913	0.0982	0.0051	0.1091	0.0212	0.6844	0.1657	-2.8142	0.3642
1	260.16	0.4496	0.1147	0.0067	0.1088	0.0305	1.0544	0.2248	-3.3401	0.3652
1	260.16	0.4997	0.1621	0.0085	0.1336	0.0386	1.4377	0.2773	-3.6707	0.3634
1	260.16	0.5387	0.1875	0.0098	0.1503	0.0446	1.8026	0.3188	-3.8383	0.3576
1	260.16	0.5996	0.2211	0.0127	0.1457	0.0540	2.4636	0.3823	-3.9591	0.3663
1	260.16	0.6498	0.2611	0.0148	0.1522	0.0619	3.0017	0.4354	-4.4487	0.3696
1	260.16	0.6998	0.2585	0.0172	0.1609	0.0695	3.6853	0.4880	-4.6473	0.3679
1	260.16	0.7500	0.2951	0.0198	0.1942	0.0774	4.4140	0.5403	-4.8725	0.3722
1	260.16	0.8001	0.3093	0.0226	0.1984	0.0850	5.2136	0.5920	-5.0320	0.3745
1	260.16	0.8497	0.3084	0.0253	0.2323	0.0931	5.9731	0.6422	-5.2414	0.3829
1	260.16	0.9102	0.2812	0.0291	0.3165	0.1027	6.9753	0.7027	-5.5261	0.3774
1	260.16	0.9734	0.2964	0.0376	0.4275	0.1134	8.0931	0.7668	-5.8692	0.3798
2	260.16	0.2405	-0.0634	0.0046	0.0016	0.0022	0.0983	0.0234	-0.0826	0.1550
2	260.16	0.2999	-0.0128	0.0020	-0.0109	0.0048	0.1748	0.0397	-0.1195	0.2380
2	260.16	0.3498	0.0223	0.0021	-0.0123	0.0113	0.3016	0.0685	-0.2199	0.2401
2	260.16	0.3998	0.0646	0.0026	-0.0328	0.0173	0.4389	0.0978	-0.5790	0.2446
2	260.16	0.4496	0.0964	0.0026	-0.0682	0.0228	0.6657	0.1282	-0.8532	0.2508
2	260.16	0.4995	0.1240	0.0034	-0.1124	0.0285	0.9430	0.1616	-1.1421	0.2521
2	260.16	0.5551	0.1789	0.0043	-0.1636	0.0350	1.3158	0.1992	-1.4408	0.2632
2	260.16	0.5996	0.2039	0.0055	-0.2113	0.0402	1.7074	0.2308	-1.6055	0.2703
2	260.16	0.6497	0.2541	0.0065	-0.2577	0.0461	2.1847	0.2678	-1.7853	0.2741
2	260.16	0.6996	0.2839	0.0081	-0.3202	0.0519	2.7596	0.3059	-1.9358	0.2872
2	260.16	0.7495	0.3061	0.0098	-0.3633	0.0580	3.3733	0.3448	-2.2203	0.3036
2	260.16	0.7996	0.3356	0.0116	-0.4301	0.0644	4.0373	0.3857	-2.3738	0.3069
2	260.16	0.8578	0.3401	0.0140	-0.4839	0.0718	4.8580	0.4344	-2.4123	0.3032
2	260.16	0.9100	0.3335	0.0162	-0.4913	0.0781	5.6753	0.4805	-2.4402	0.3063
2	260.16	0.9727	0.3093	0.0213	-0.4783	0.0866	6.7637	0.5329	-2.5691	0.3179
3	260.16	0.2357	-0.0439	0.0034	0.0264	0.0013	0.0860	0.0150	-0.6951	0.1155
3	260.16	0.2995	-0.0093	0.0013	0.0515	0.0034	0.2183	0.0279	-1.1159	0.1843
3	260.16	0.3493	0.0456	0.0016	0.0961	0.0068	0.3653	0.0459	-1.3818	0.1859
3	260.16	0.4000	0.0963	0.0020	0.1419	0.0111	0.5936	0.0672	-1.4540	0.1942
3	260.16	0.4497	0.1196	0.0023	0.1503	0.0149	0.8480	0.0879	-1.7883	0.2009
3	260.16	0.4997	0.1442	0.0035	0.1577	0.0195	1.1583	0.1093	-2.1347	0.2111
3	260.16	0.5556	0.1956	0.0035	0.1823	0.0242	1.6091	0.1355	-2.3507	0.2169
3	260.16	0.5995	0.2340	0.0046	0.1597	0.0284	2.0192	0.1562	-2.4742	0.2275
3	260.16	0.6498	0.2688	0.0053	0.1490	0.0333	2.5360	0.1805	-2.7485	0.2402
3	260.16	0.6890	0.2596	0.0062	0.1159	0.0371	2.9892	0.2003	-3.0051	0.2415
3	260.16	0.7495	0.3141	0.0075	0.1193	0.0435	3.7687	0.2310	-3.2649	0.2638
3	260.16	0.7998	0.3418	0.0087	0.1112	0.0490	4.4695	0.2589	-3.4825	0.2575
3	260.16	0.8577	0.3771	0.0105	0.1148	0.0558	5.3358	0.2923	-3.5424	0.2609
3	260.16	0.9178	0.3405	0.0132	0.1021	0.0630	6.3192	0.3287	-3.6316	0.2623
3	260.16	0.9729	0.3328	0.0168	0.1401	0.0700	7.2384	0.3646	-4.1526	0.2613
4	260.16	0.2001	0.0339	0.0016	0.0233	0.0011	-0.0540	0.0083	-0.0471	0.0348
4	260.16	0.2502	0.0238	0.0022	0.0504	0.0024	-0.0672	0.0139	-0.3806	0.0805
4	260.16	0.3001	0.0289	0.0018	0.0849	0.0036	-0.0173	0.0234	-0.2544	0.0821
4	260.16	0.3502	0.0159	0.0037	0.2220	0.0092	-0.1195	0.0416	-0.2634	0.0857
4	260.16	0.4002	0.0306	0.0036	0.3005	0.0121	-0.0411	0.0585	-0.4328	0.0971
4	260.16	0.4500	0.0443	0.0035	0.3648	0.0156	0.0555	0.0758	-0.8231	0.1002
4	260.16	0.5001	0.0589	0.0039	0.3983	0.0194	0.2636	0.0937	-0.7860	0.1085
4	260.16	0.5560	0.0828	0.0041	0.4482	0.0247	0.4839	0.1151	-1.2128	0.1246
4	260.16	0.6001	0.1124	0.0044	0.4867	0.0293	0.7560	0.1318	-1.3328	0.1286
4	260.16	0.6501	0.1164	0.0049	0.4939	0.0347	1.1019	0.1522	-1.4433	0.1336
4	260.16	0.6999	0.1546	0.0054	0.5062	0.0409	1.4964	0.1734	-1.5934	0.1457
4	260.16	0.7500	0.1702	0.0059	0.5429	0.0474	1.9605	0.1964	-1.6820	0.1501
4	260.16	0.8002	0.1957	0.0069	0.5616	0.0542	2.3969	0.2201	-1.8703	0.1559
4	260.16	0.8582	0.2357	0.0081	0.6166	0.0623	2.9366	0.2483	-2.1915	0.1522
4	260.16	0.9101	0.2458	0.0092	0.6479	0.0710	3.4628	0.2727	-2.2257	0.1674
4	260.16	0.9728	0.3088	0.0124	0.7319	0.0798	4.2622	0.3039	-2.0869	0.1771

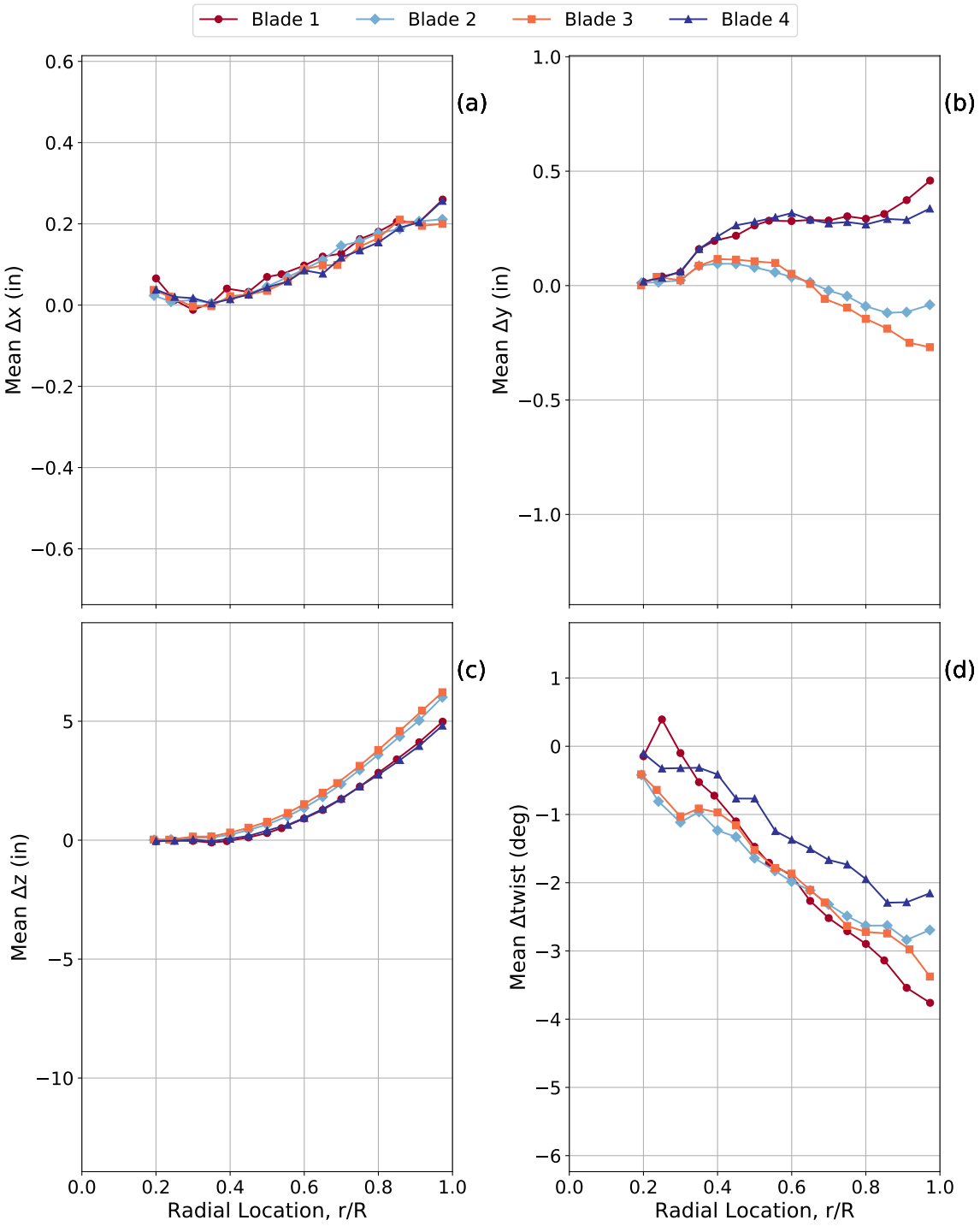


Figure 2.11-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	0.0657	0.0026	0.0152	0.0014	-0.0457	0.0102	-0.1473	0.0632
1	265.08	0.2499	0.0124	0.0029	0.0398	0.0037	-0.0237	0.0202	0.3930	0.0881
1	265.08	0.2998	-0.0116	0.0025	0.0576	0.0050	-0.0314	0.0298	-0.0999	0.1301
1	265.08	0.3498	0.0052	0.0030	0.1593	0.0114	-0.1001	0.0545	-0.5261	0.1127
1	265.08	0.3913	0.0406	0.0032	0.1954	0.0151	-0.0406	0.0722	-0.7241	0.1054
1	265.08	0.4496	0.0325	0.0030	0.2181	0.0200	0.1150	0.0986	-1.1010	0.1116
1	265.08	0.4997	0.0693	0.0032	0.2631	0.0253	0.2983	0.1231	-1.4739	0.1123
1	265.08	0.5387	0.0761	0.0033	0.2836	0.0296	0.5045	0.1432	-1.7087	0.1269
1	265.08	0.5996	0.0973	0.0044	0.2819	0.0366	0.9087	0.1733	-1.8932	0.1377
1	265.08	0.6498	0.1194	0.0056	0.2869	0.0425	1.2689	0.1968	-2.2665	0.1443
1	265.08	0.6998	0.1267	0.0058	0.2844	0.0491	1.7248	0.2202	-2.5183	0.1462
1	265.08	0.7500	0.1624	0.0068	0.3028	0.0558	2.2499	0.2421	-2.7105	0.1653
1	265.08	0.8001	0.1805	0.0078	0.2920	0.0629	2.8332	0.2611	-2.8973	0.1659
1	265.08	0.8497	0.2048	0.0085	0.3129	0.0703	3.3965	0.2795	-3.1388	0.1604
1	265.08	0.9102	0.2044	0.0096	0.3736	0.0803	4.1170	0.3040	-3.5406	0.1612
1	265.08	0.9734	0.2598	0.0133	0.4591	0.0905	4.9824	0.3296	-3.7604	0.1703
2	265.08	0.1949	0.0236	0.0090	0.0119	0.0032	0.0081	0.0335	-0.4206	0.0655
2	265.08	0.2405	0.0083	0.0049	0.0147	0.0086	0.0260	0.0572	-0.8088	0.0809
2	265.08	0.2999	0.0125	0.0045	0.0231	0.0137	0.0918	0.0768	-1.1145	0.1280
2	265.08	0.3498	0.0042	0.0050	0.0866	0.0524	0.1120	0.1774	-0.9619	0.1061
2	265.08	0.3998	0.0161	0.0065	0.0956	0.0653	0.2238	0.2180	-1.2336	0.1221
2	265.08	0.4496	0.0279	0.0084	0.0951	0.0789	0.4253	0.2580	-1.3285	0.1291
2	265.08	0.4995	0.0455	0.0110	0.0798	0.0922	0.6549	0.3011	-1.6398	0.1431
2	265.08	0.5551	0.0689	0.0150	0.0586	0.1075	1.0043	0.3508	-1.8263	0.1507
2	265.08	0.5996	0.0881	0.0194	0.0375	0.1208	1.3574	0.3927	-1.9830	0.1612
2	265.08	0.6497	0.1107	0.0236	0.0144	0.1349	1.8254	0.4409	-2.1136	0.1613
2	265.08	0.6996	0.1459	0.0303	-0.0217	0.1495	2.3592	0.4916	-2.3189	0.1751
2	265.08	0.7495	0.1572	0.0371	-0.0459	0.1646	2.9551	0.5444	-2.4887	0.1866
2	265.08	0.7996	0.1766	0.0454	-0.0902	0.1802	3.5944	0.5987	-2.6288	0.1834
2	265.08	0.8578	0.1878	0.0551	-0.1189	0.1980	4.3600	0.6653	-2.6276	0.1981
2	265.08	0.9100	0.2064	0.0673	-0.1159	0.2140	5.0346	0.7246	-2.8378	0.2005
2	265.08	0.9727	0.2112	0.0867	-0.0838	0.2325	6.0084	0.7975	-2.6936	0.1874
3	265.08	0.1938	0.0372	0.0098	0.0009	0.0040	0.0231	0.0318	-0.4121	0.0802
3	265.08	0.2357	0.0211	0.0056	0.0382	0.0076	0.0205	0.0425	-0.6399	0.0960
3	265.08	0.2995	-0.0032	0.0034	0.0232	0.0137	0.1486	0.0630	-1.0277	0.1835
3	265.08	0.3493	-0.0025	0.0053	0.0862	0.0550	0.1561	0.1536	-0.9133	0.1607
3	265.08	0.4000	0.0219	0.0063	0.1160	0.0669	0.3198	0.1787	-0.9697	0.1460
3	265.08	0.4497	0.0261	0.0078	0.1135	0.0794	0.5221	0.2045	-1.1586	0.1548
3	265.08	0.4997	0.0352	0.0099	0.1062	0.0918	0.7708	0.2316	-1.5211	0.1582
3	265.08	0.5556	0.0590	0.0132	0.0989	0.1059	1.1432	0.2606	-1.7848	0.1673
3	265.08	0.5995	0.0884	0.0160	0.0515	0.1175	1.5117	0.2842	-1.8663	0.1693
3	265.08	0.6498	0.0979	0.0191	0.0074	0.1303	1.9923	0.3100	-2.1059	0.1698
3	265.08	0.6890	0.0988	0.0221	-0.0578	0.1408	2.3980	0.3313	-2.2903	0.1807
3	265.08	0.7495	0.1441	0.0289	-0.0964	0.1566	3.1227	0.3636	-2.6334	0.2005
3	265.08	0.7998	0.1648	0.0359	-0.1450	0.1700	3.7874	0.3892	-2.7213	0.2011
3	265.08	0.8577	0.2102	0.0443	-0.1879	0.1856	4.5887	0.4184	-2.7438	0.2068
3	265.08	0.9178	0.1952	0.0553	-0.2500	0.2008	5.4436	0.4500	-2.9777	0.2075
3	265.08	0.9729	0.2000	0.0700	-0.2692	0.2158	6.2175	0.4750	-3.3750	0.2131
4	265.08	0.2001	0.0379	0.0018	0.0179	0.0009	-0.0349	0.0076	-0.1044	0.0494
4	265.08	0.2502	0.0202	0.0022	0.0342	0.0016	-0.0255	0.0151	-0.3260	0.0763
4	265.08	0.3001	0.0170	0.0016	0.0620	0.0037	0.0264	0.0242	-0.3200	0.1058
4	265.08	0.3502	0.0044	0.0043	0.1600	0.0082	-0.0427	0.0386	-0.3154	0.0966
4	265.08	0.4002	0.0145	0.0045	0.2151	0.0114	0.0622	0.0587	-0.4147	0.1121
4	265.08	0.4500	0.0260	0.0047	0.2634	0.0151	0.1779	0.0755	-0.7665	0.1141
4	265.08	0.5001	0.0437	0.0050	0.2786	0.0197	0.4055	0.0954	-0.7675	0.1245
4	265.08	0.5560	0.0583	0.0050	0.2986	0.0255	0.6454	0.1190	-1.2434	0.1385
4	265.08	0.6001	0.0855	0.0054	0.3169	0.0305	0.9363	0.1393	-1.3700	0.1536
4	265.08	0.6501	0.0775	0.0064	0.2881	0.0374	1.3127	0.1629	-1.5054	0.1497
4	265.08	0.6999	0.1173	0.0070	0.2718	0.0443	1.7433	0.1888	-1.6671	0.1671
4	265.08	0.7500	0.1347	0.0078	0.2777	0.0519	2.2550	0.2151	-1.7347	0.1729
4	265.08	0.8002	0.1544	0.0082	0.2671	0.0604	2.7515	0.2422	-1.9472	0.1752
4	265.08	0.8582	0.1905	0.0111	0.2912	0.0690	3.3686	0.2723	-2.2930	0.1797
4	265.08	0.9101	0.2040	0.0111	0.2872	0.0777	3.9611	0.3034	-2.2866	0.1798
4	265.08	0.9728	0.2566	0.0160	0.3367	0.0872	4.8166	0.3427	-2.1547	0.1804

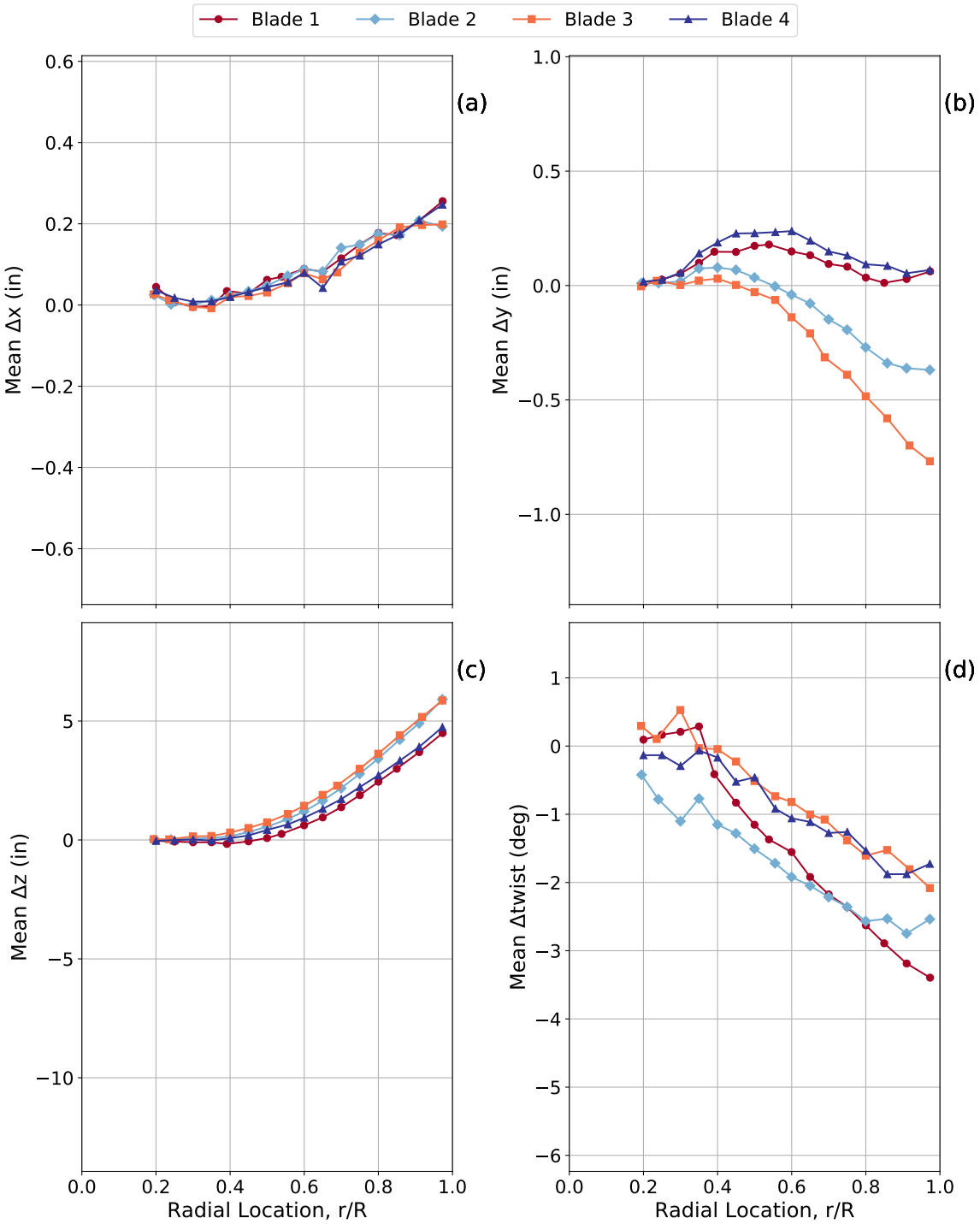


Figure 2.11-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	0.0446	0.0023	0.0077	0.0010	-0.0324	0.0117	0.0939	0.0705
1	270	0.2499	0.0069	0.0028	0.0261	0.0031	-0.0689	0.0248	0.1656	0.0809
1	270	0.2998	-0.0048	0.0024	0.0521	0.0056	-0.0964	0.0401	0.2089	0.1447
1	270	0.3498	-0.0026	0.0044	0.0991	0.0102	-0.0965	0.0626	0.2874	0.1427
1	270	0.3913	0.0344	0.0044	0.1476	0.0166	-0.1666	0.0909	-0.4129	0.1416
1	270	0.4496	0.0283	0.0043	0.1468	0.0233	-0.0586	0.1236	-0.8300	0.1527
1	270	0.4997	0.0621	0.0045	0.1734	0.0308	0.0811	0.1558	-1.1534	0.1694
1	270	0.5387	0.0695	0.0045	0.1791	0.0366	0.2554	0.1806	-1.3693	0.1811
1	270	0.5996	0.0892	0.0053	0.1490	0.0465	0.6166	0.2221	-1.5531	0.2044
1	270	0.6498	0.0819	0.0064	0.1323	0.0556	0.9474	0.2567	-1.9192	0.2146
1	270	0.6998	0.1149	0.0072	0.0945	0.0648	1.3787	0.2910	-2.1738	0.2273
1	270	0.7500	0.1492	0.0086	0.0823	0.0744	1.8847	0.3273	-2.3614	0.2423
1	270	0.8001	0.1775	0.0100	0.0347	0.0842	2.4507	0.3602	-2.6277	0.2587
1	270	0.8497	0.1721	0.0119	0.0117	0.0944	2.9951	0.3897	-2.8912	0.2709
1	270	0.9102	0.2082	0.0125	0.0285	0.1081	3.6922	0.4244	-3.1875	0.2693
1	270	0.9734	0.2557	0.0184	0.0619	0.1226	4.4935	0.4559	-3.3953	0.2640
2	270.35	0.1949	0.0253	0.0022	0.0105	0.0009	0.0048	0.0085	-0.4215	0.0654
2	270.35	0.2405	0.0019	0.0030	0.0110	0.0022	0.0147	0.0137	-0.7813	0.0944
2	270.35	0.2999	0.0017	0.0021	0.0178	0.0056	0.0592	0.0275	-1.1017	0.1517
2	270.35	0.3498	0.0118	0.0056	0.0745	0.0102	0.0814	0.0442	-0.7700	0.1698
2	270.35	0.3998	0.0234	0.0057	0.0787	0.0166	0.1543	0.0662	-1.1519	0.1868
2	270.35	0.4496	0.0338	0.0057	0.0683	0.0214	0.3317	0.0861	-1.2807	0.2137
2	270.35	0.4995	0.0474	0.0064	0.0348	0.0274	0.5585	0.1126	-1.5052	0.2483
2	270.35	0.5551	0.0719	0.0063	-0.0037	0.0347	0.8730	0.1441	-1.7175	0.2738
2	270.35	0.5996	0.0879	0.0060	-0.0401	0.0412	1.1998	0.1711	-1.9191	0.2973
2	270.35	0.6497	0.0827	0.0074	-0.0784	0.0498	1.6516	0.2027	-2.0473	0.3195
2	270.35	0.6996	0.1410	0.0070	-0.1479	0.0579	2.1769	0.2360	-2.2134	0.3452
2	270.35	0.7495	0.1485	0.0078	-0.1934	0.0668	2.7775	0.2699	-2.3572	0.3724
2	270.35	0.7996	0.1748	0.0089	-0.2701	0.0761	3.4235	0.3007	-2.5663	0.3745
2	270.35	0.8578	0.1723	0.0111	-0.3393	0.0871	4.2191	0.3357	-2.5318	0.3737
2	270.35	0.9100	0.2079	0.0108	-0.3615	0.0975	4.9077	0.3670	-2.7480	0.3863
2	270.35	0.9727	0.1940	0.0163	-0.3689	0.1094	5.9111	0.4058	-2.5372	0.3866
3	270	0.1938	0.0266	0.0027	-0.0033	0.0010	0.0343	0.0090	0.2956	0.0769
3	270	0.2357	0.0124	0.0023	0.0206	0.0028	0.0237	0.0150	0.1038	0.1285
3	270	0.2995	-0.0044	0.0026	0.0022	0.0046	0.1519	0.0304	0.5278	0.1871
3	270	0.3493	-0.0080	0.0032	0.0216	0.0082	0.1666	0.0481	-0.0302	0.1826
3	270	0.4000	0.0196	0.0035	0.0302	0.0139	0.3125	0.0729	-0.0458	0.2028
3	270	0.4497	0.0223	0.0034	0.0025	0.0191	0.5032	0.0937	-0.2271	0.2348
3	270	0.4997	0.0309	0.0038	-0.0287	0.0251	0.7411	0.1190	-0.5129	0.2574
3	270	0.5556	0.0536	0.0041	-0.0629	0.0316	1.0908	0.1477	-0.7359	0.2721
3	270	0.5995	0.0781	0.0048	-0.1388	0.0380	1.4382	0.1723	-0.8193	0.2878
3	270	0.6498	0.0634	0.0057	-0.2092	0.0455	1.8939	0.2001	-1.0034	0.3169
3	270	0.6890	0.0803	0.0065	-0.3138	0.0518	2.2851	0.2213	-1.0769	0.3258
3	270	0.7495	0.1290	0.0078	-0.3897	0.0619	2.9914	0.2553	-1.3830	0.3708
3	270	0.7998	0.1591	0.0094	-0.4842	0.0703	3.6254	0.2834	-1.6053	0.3835
3	270	0.8577	0.1916	0.0111	-0.5804	0.0806	4.4024	0.3179	-1.5244	0.3720
3	270	0.9178	0.1970	0.0124	-0.6993	0.0907	5.1710	0.3550	-1.8052	0.3657
3	270	0.9729	0.1984	0.0173	-0.7682	0.1011	5.8643	0.3882	-2.0815	0.3648
4	270	0.2001	0.0358	0.0037	0.0171	0.0010	-0.0366	0.0094	-0.1343	0.0388
4	270	0.2502	0.0178	0.0023	0.0250	0.0030	-0.0052	0.0169	-0.1339	0.0749
4	270	0.3001	0.0083	0.0033	0.0566	0.0051	0.0156	0.0288	-0.2920	0.0885
4	270	0.3502	0.0089	0.0051	0.1409	0.0106	-0.0235	0.0450	-0.0658	0.1052
4	270	0.4002	0.0199	0.0051	0.1882	0.0162	0.0747	0.0672	-0.1689	0.1109
4	270	0.4500	0.0322	0.0048	0.2275	0.0193	0.1890	0.0809	-0.5229	0.1155
4	270	0.5001	0.0439	0.0051	0.2288	0.0249	0.4219	0.1007	-0.4585	0.1290
4	270	0.5560	0.0561	0.0056	0.2335	0.0323	0.6534	0.1262	-0.9185	0.1373
4	270	0.6001	0.0794	0.0053	0.2379	0.0384	0.9342	0.1489	-1.0586	0.1470
4	270	0.6501	0.0422	0.0065	0.1962	0.0458	1.3067	0.1756	-1.1131	0.1537
4	270	0.6999	0.1072	0.0066	0.1491	0.0537	1.7160	0.2038	-1.2745	0.1643
4	270	0.7500	0.1217	0.0074	0.1310	0.0623	2.2256	0.2325	-1.2585	0.1686
4	270	0.8002	0.1493	0.0084	0.0929	0.0709	2.7184	0.2608	-1.5325	0.1773
4	270	0.8582	0.1750	0.0100	0.0860	0.0812	3.3397	0.2941	-1.8784	0.1742
4	270	0.9101	0.2083	0.0110	0.0536	0.0906	3.9145	0.3225	-1.8777	0.1674
4	270	0.9728	0.2471	0.0156	0.0681	0.1017	4.7418	0.3595	-1.7263	0.1618

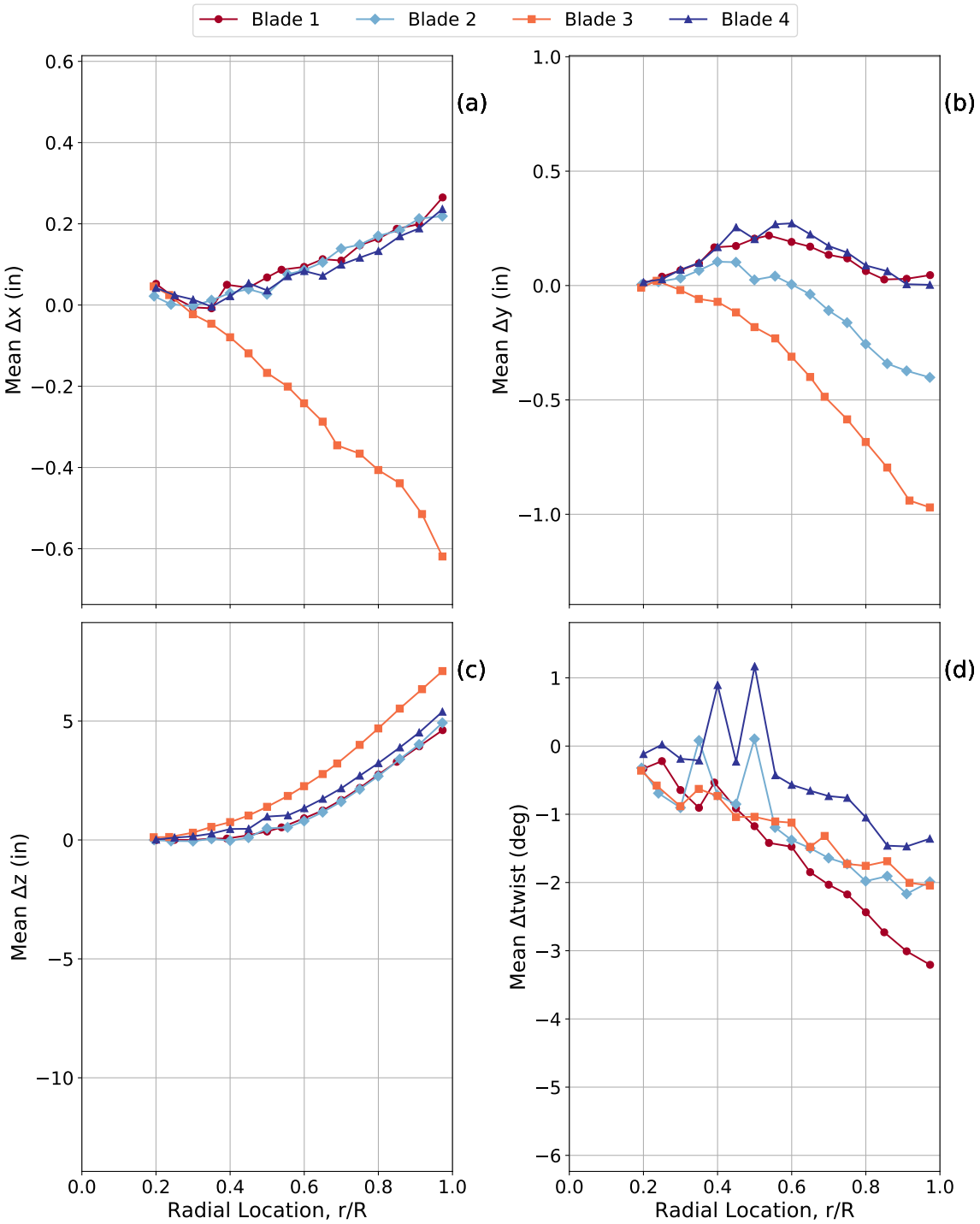


Figure 2.11-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0522	0.0015	0.0088	0.0007	-0.0055	0.0092	-0.3308	0.0543
1	274.92	0.2499	0.0181	0.0017	0.0387	0.0029	0.0033	0.0186	-0.2208	0.0725
1	274.92	0.2998	-0.0057	0.0016	0.0666	0.0055	-0.0028	0.0305	-0.6446	0.1143
1	274.92	0.3498	-0.0081	0.0036	0.0969	0.0092	0.0576	0.0482	-0.9049	0.1212
1	274.92	0.3913	0.0499	0.0059	0.1669	0.0152	0.0581	0.0690	-0.5347	0.1252
1	274.92	0.4496	0.0428	0.0056	0.1730	0.0194	0.1995	0.0927	-0.9132	0.1326
1	274.92	0.4997	0.0680	0.0054	0.2050	0.0242	0.3549	0.1143	-1.1748	0.1429
1	274.92	0.5387	0.0869	0.0052	0.2187	0.0285	0.5297	0.1364	-1.4200	0.1510
1	274.92	0.5996	0.0939	0.0059	0.1907	0.0364	0.9109	0.1701	-1.4754	0.1750
1	274.92	0.6498	0.1129	0.0071	0.1700	0.0432	1.2412	0.2016	-1.8485	0.1820
1	274.92	0.6998	0.1095	0.0069	0.1343	0.0510	1.6805	0.2360	-2.0325	0.1953
1	274.92	0.7500	0.1471	0.0081	0.1186	0.0590	2.1887	0.2692	-2.1751	0.2100
1	274.92	0.8001	0.1634	0.0088	0.0633	0.0680	2.7506	0.3049	-2.4366	0.2181
1	274.92	0.8497	0.1876	0.0098	0.0264	0.0769	3.2874	0.3405	-2.7302	0.2186
1	274.92	0.9102	0.1992	0.0123	0.0295	0.0885	3.9371	0.3864	-3.0083	0.2189
1	274.92	0.9734	0.2649	0.0180	0.0455	0.1010	4.6180	0.4413	-3.2068	0.2320
2	274.92	0.1949	0.0219	0.0065	0.0040	0.0015	0.0036	0.0410	-0.3226	0.0405
2	274.92	0.2405	0.0017	0.0027	0.0165	0.0096	-0.0423	0.0909	-0.6915	0.0857
2	274.92	0.2999	-0.0025	0.0040	0.0327	0.0245	-0.0492	0.1649	-0.9034	0.0978
2	274.92	0.3498	0.0120	0.0054	0.0661	0.0433	0.0476	0.2192	0.0819	0.4098
2	274.92	0.3998	0.0295	0.0081	0.1041	0.0802	-0.0274	0.3662	-0.7202	0.1355
2	274.92	0.4496	0.0391	0.0092	0.1018	0.0970	0.0965	0.4394	-0.8512	0.1302
2	274.92	0.4995	0.0265	0.0125	0.0248	0.0871	0.4882	0.3945	0.1046	0.6642
2	274.92	0.5551	0.0756	0.0173	0.0411	0.1337	0.5296	0.5939	-1.1931	0.1460
2	274.92	0.5996	0.0859	0.0216	0.0049	0.1484	0.7968	0.6590	-1.3779	0.1555
2	274.92	0.6497	0.1053	0.0276	-0.0382	0.1661	1.1681	0.7344	-1.4965	0.1718
2	274.92	0.6996	0.1389	0.0344	-0.1091	0.1834	1.6101	0.8083	-1.6413	0.1744
2	274.92	0.7495	0.1485	0.0422	-0.1623	0.2009	2.1309	0.8826	-1.7278	0.1865
2	274.92	0.7996	0.1702	0.0509	-0.2558	0.2176	2.6817	0.9583	-1.9802	0.1939
2	274.92	0.8578	0.1842	0.0617	-0.3413	0.2373	3.4021	1.0442	-1.9070	0.1960
2	274.92	0.9100	0.2128	0.0731	-0.3729	0.2551	4.0153	1.1217	-2.1666	0.2011
2	274.92	0.9727	0.2188	0.0948	-0.4016	0.2759	4.9255	1.2149	-1.9890	0.2068
3	274.92	0.1938	0.0458	0.0018	-0.0092	0.0013	0.1143	0.0086	-0.3606	0.0703
3	274.92	0.2357	0.0246	0.0017	0.0207	0.0025	0.1237	0.0169	-0.5789	0.0873
3	274.92	0.2995	-0.0227	0.0015	-0.0197	0.0058	0.3053	0.0327	-0.8815	0.1512
3	274.92	0.3493	-0.0460	0.0023	-0.0586	0.0087	0.5486	0.0451	-0.6285	0.1748
3	274.92	0.4000	-0.0794	0.0033	-0.0712	0.0157	0.7513	0.0732	-0.7319	0.1822
3	274.92	0.4497	-0.1189	0.0035	-0.1174	0.0185	1.0278	0.0897	-1.0399	0.1876
3	274.92	0.4997	-0.1671	0.0054	-0.1818	0.0243	1.3934	0.1132	-1.0374	0.2184
3	274.92	0.5556	-0.2009	0.0046	-0.2310	0.0315	1.8513	0.1424	-1.1051	0.2337
3	274.92	0.5995	-0.2420	0.0048	-0.3110	0.0367	2.2622	0.1655	-1.1227	0.2550
3	274.92	0.6498	-0.2872	0.0060	-0.3997	0.0437	2.7709	0.1944	-1.4783	0.2755
3	274.92	0.6890	-0.3455	0.0069	-0.4862	0.0497	3.2153	0.2197	-1.3177	0.2928
3	274.92	0.7495	-0.3659	0.0082	-0.5849	0.0592	3.9982	0.2587	-1.7283	0.3191
3	274.92	0.7998	-0.4063	0.0096	-0.6839	0.0677	4.6898	0.2933	-1.7556	0.3284
3	274.92	0.8577	-0.4388	0.0124	-0.7956	0.0776	5.5247	0.3364	-1.6882	0.3206
3	274.92	0.9178	-0.5147	0.0152	-0.9398	0.0899	6.3405	0.3862	-2.0047	0.3466
3	274.92	0.9729	-0.6191	0.0209	-0.9698	0.0968	7.1013	0.4310	-2.0441	0.3994
4	274.92	0.2001	0.0422	0.0028	0.0146	0.0010	0.0158	0.0067	-0.1171	0.0420
4	274.92	0.2502	0.0243	0.0014	0.0275	0.0029	0.0987	0.0132	0.0213	0.0647
4	274.92	0.3001	0.0135	0.0031	0.0693	0.0063	0.1506	0.0190	-0.1860	0.0916
4	274.92	0.3502	-0.0039	0.0029	0.0993	0.0109	0.2684	0.0327	-0.2112	0.1139
4	274.92	0.4002	0.0219	0.0068	0.1677	0.0182	0.4603	0.0467	0.8941	0.1288
4	274.92	0.4500	0.0536	0.0106	0.2546	0.0250	0.4702	0.0633	-0.2286	0.1690
4	274.92	0.5001	0.0359	0.0062	0.2028	0.0293	0.9836	0.0788	1.1687	0.1505
4	274.92	0.5560	0.0709	0.0079	0.2679	0.0396	1.0355	0.1033	-0.4275	0.1712
4	274.92	0.6001	0.0837	0.0077	0.2719	0.0471	1.3355	0.1183	-0.5683	0.1854
4	274.92	0.6501	0.0721	0.0076	0.2236	0.0558	1.7320	0.1371	-0.6557	0.2019
4	274.92	0.6999	0.0995	0.0093	0.1728	0.0657	2.1724	0.1582	-0.7337	0.2083
4	274.92	0.7500	0.1166	0.0097	0.1439	0.0764	2.7044	0.1811	-0.7590	0.2202
4	274.92	0.8002	0.1330	0.0101	0.0876	0.0875	3.2316	0.2031	-1.0472	0.2336
4	274.92	0.8582	0.1695	0.0113	0.0625	0.1002	3.8925	0.2327	-1.4605	0.2381
4	274.92	0.9101	0.1887	0.0124	0.0058	0.1126	4.5175	0.2595	-1.4713	0.2364
4	274.92	0.9728	0.2363	0.0173	0.0031	0.1270	5.3933	0.2920	-1.3584	0.2412

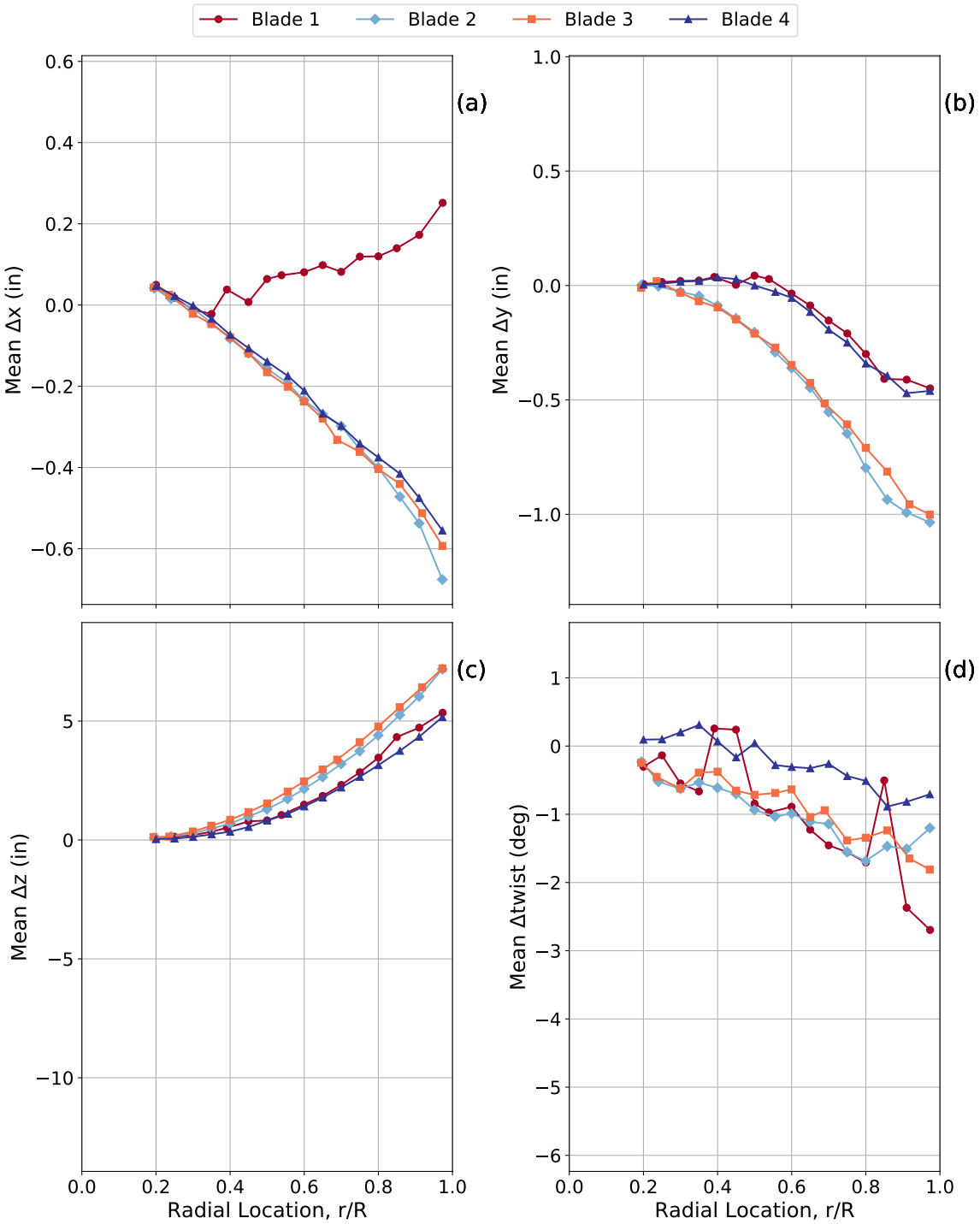


Figure 2.11-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0497	0.0023	0.0063	0.0009	0.0487	0.0093	-0.3027	0.0458
1	279.84	0.2499	0.0176	0.0024	0.0152	0.0038	0.1348	0.0219	-0.1358	0.0807
1	279.84	0.2998	-0.0113	0.0016	0.0200	0.0090	0.2036	0.0388	-0.5483	0.1039
1	279.84	0.3498	-0.0220	0.0033	0.0219	0.0109	0.3453	0.0464	-0.6648	0.1505
1	279.84	0.3913	0.0381	0.0065	0.0375	0.0212	0.5116	0.0797	0.2574	0.1279
1	279.84	0.4496	0.0075	0.0071	0.0032	0.0277	0.7819	0.1063	0.2410	0.1427
1	279.84	0.4997	0.0641	0.0064	0.0434	0.0358	0.8203	0.1344	-0.8434	0.1642
1	279.84	0.5387	0.0734	0.0075	0.0284	0.0419	1.0489	0.1570	-0.9735	0.1828
1	279.84	0.5996	0.0807	0.0076	-0.0350	0.0526	1.4849	0.1901	-0.8894	0.1914
1	279.84	0.6498	0.0982	0.0073	-0.0872	0.0617	1.8524	0.2171	-1.2257	0.1924
1	279.84	0.6998	0.0818	0.0087	-0.1530	0.0713	2.3149	0.2394	-1.4552	0.2122
1	279.84	0.7500	0.1191	0.0101	-0.2096	0.0822	2.8489	0.2665	-1.5560	0.2398
1	279.84	0.8001	0.1199	0.0127	-0.2994	0.0928	3.4589	0.2894	-1.7068	0.2409
1	279.84	0.8497	0.1399	0.0150	-0.4079	0.1033	4.3256	0.3136	-0.5041	0.2431
1	279.84	0.9102	0.1727	0.0134	-0.4114	0.1185	4.7216	0.3467	-2.3697	0.2442
1	279.84	0.9734	0.2517	0.0185	-0.4495	0.1345	5.3497	0.3782	-2.6957	0.2746
2	279.84	0.1949	0.0415	0.0027	0.0021	0.0015	0.0906	0.0108	-0.2304	0.0753
2	279.84	0.2405	0.0153	0.0027	-0.0034	0.0031	0.1396	0.0186	-0.5212	0.0933
2	279.84	0.2999	-0.0087	0.0036	-0.0273	0.0069	0.2809	0.0336	-0.6257	0.1500
2	279.84	0.3498	-0.0439	0.0033	-0.0458	0.0092	0.4772	0.0522	-0.5344	0.1515
2	279.84	0.3998	-0.0826	0.0028	-0.0885	0.0173	0.6865	0.0770	-0.6129	0.1447
2	279.84	0.4496	-0.1182	0.0033	-0.1439	0.0196	0.9970	0.0952	-0.7005	0.1766
2	279.84	0.4995	-0.1560	0.0040	-0.2043	0.0256	1.2919	0.1186	-0.9361	0.1770
2	279.84	0.5551	-0.1926	0.0041	-0.2910	0.0325	1.7288	0.1469	-1.0314	0.1811
2	279.84	0.5996	-0.2343	0.0048	-0.3604	0.0381	2.1446	0.1682	-0.9906	0.1937
2	279.84	0.6497	-0.2688	0.0054	-0.4464	0.0449	2.6459	0.1963	-1.1110	0.1992
2	279.84	0.6996	-0.2981	0.0068	-0.5526	0.0522	3.1960	0.2206	-1.1420	0.2051
2	279.84	0.7495	-0.3542	0.0075	-0.6469	0.0602	3.7358	0.2488	-1.5534	0.2239
2	279.84	0.7996	-0.4000	0.0088	-0.7970	0.0687	4.4022	0.2776	-1.6857	0.2140
2	279.84	0.8578	-0.4720	0.0101	-0.9354	0.0783	5.2576	0.3074	-1.4693	0.2240
2	279.84	0.9100	-0.5375	0.0118	-0.9922	0.0873	6.0309	0.3331	-1.5073	0.2489
2	279.84	0.9727	-0.6759	0.0154	-1.0349	0.0970	7.1803	0.3741	-1.2008	0.2550
3	279.84	0.1938	0.0432	0.0054	-0.0099	0.0015	0.1228	0.0220	-0.2444	0.0828
3	279.84	0.2357	0.0251	0.0037	0.0187	0.0049	0.1404	0.0193	-0.4524	0.2544
3	279.84	0.2995	-0.0215	0.0026	-0.0312	0.0067	0.3530	0.0543	-0.6213	0.2676
3	279.84	0.3493	-0.0470	0.0031	-0.0683	0.0109	0.5985	0.0903	-0.3888	0.2355
3	279.84	0.4000	-0.0793	0.0037	-0.0957	0.0196	0.8506	0.1242	-0.3761	0.2702
3	279.84	0.4497	-0.1190	0.0042	-0.1483	0.0220	1.1695	0.1556	-0.6534	0.2996
3	279.84	0.4997	-0.1654	0.0045	-0.2099	0.0293	1.5341	0.1934	-0.7156	0.3113
3	279.84	0.5556	-0.2011	0.0052	-0.2715	0.0365	2.0339	0.2363	-0.6878	0.3069
3	279.84	0.5995	-0.2375	0.0061	-0.3474	0.0427	2.4613	0.2694	-0.6350	0.3242
3	279.84	0.6498	-0.2795	0.0083	-0.4259	0.0508	2.9618	0.3078	-1.0409	0.3431
3	279.84	0.6890	-0.3320	0.0094	-0.5152	0.0573	3.3780	0.3390	-0.9415	0.3336
3	279.84	0.7495	-0.3614	0.0116	-0.6067	0.0680	4.1083	0.3866	-1.3834	0.3590
3	279.84	0.7998	-0.4036	0.0132	-0.7095	0.0771	4.7692	0.4257	-1.3443	0.3622
3	279.84	0.8577	-0.4406	0.0162	-0.8132	0.0881	5.5828	0.4755	-1.2372	0.3762
3	279.84	0.9178	-0.5124	0.0185	-0.9567	0.1012	6.4186	0.5274	-1.6484	0.4050
3	279.84	0.9729	-0.5932	0.0279	-1.0012	0.1129	7.2169	0.5833	-1.8113	0.4066
4	279.84	0.2001	0.0471	0.0051	0.0040	0.0019	0.0358	0.0114	0.0942	0.0722
4	279.84	0.2502	0.0222	0.0032	0.0082	0.0037	0.0590	0.0178	0.0985	0.1289
4	279.84	0.3001	-0.0016	0.0020	0.0165	0.0062	0.1284	0.0328	0.2023	0.1534
4	279.84	0.3502	-0.0337	0.0028	0.0201	0.0100	0.2359	0.0458	0.3103	0.1535
4	279.84	0.4002	-0.0735	0.0037	0.0356	0.0165	0.3471	0.0693	0.0673	0.1547
4	279.84	0.4500	-0.1063	0.0035	0.0284	0.0198	0.5478	0.0829	-0.1650	0.1930
4	279.84	0.5001	-0.1395	0.0038	0.0000	0.0249	0.8175	0.1053	0.0419	0.1746
4	279.84	0.5560	-0.1747	0.0048	-0.0279	0.0329	1.1019	0.1307	-0.2795	0.1935
4	279.84	0.6001	-0.2110	0.0048	-0.0538	0.0380	1.4131	0.1517	-0.3060	0.1799
4	279.84	0.6501	-0.2675	0.0053	-0.1155	0.0454	1.7834	0.1729	-0.3250	0.2034
4	279.84	0.6999	-0.2976	0.0059	-0.1930	0.0528	2.2066	0.1983	-0.2608	0.2085
4	279.84	0.7500	-0.3412	0.0069	-0.2496	0.0613	2.6549	0.2234	-0.4401	0.2135
4	279.84	0.8002	-0.3754	0.0077	-0.3408	0.0698	3.1487	0.2505	-0.5110	0.2341
4	279.84	0.8582	-0.4155	0.0095	-0.3947	0.0804	3.7488	0.2843	-0.8863	0.2367
4	279.84	0.9101	-0.4750	0.0107	-0.4706	0.0905	4.3417	0.3131	-0.8173	0.2318
4	279.84	0.9728	-0.5552	0.0161	-0.4605	0.1022	5.1676	0.3496	-0.7072	0.2573

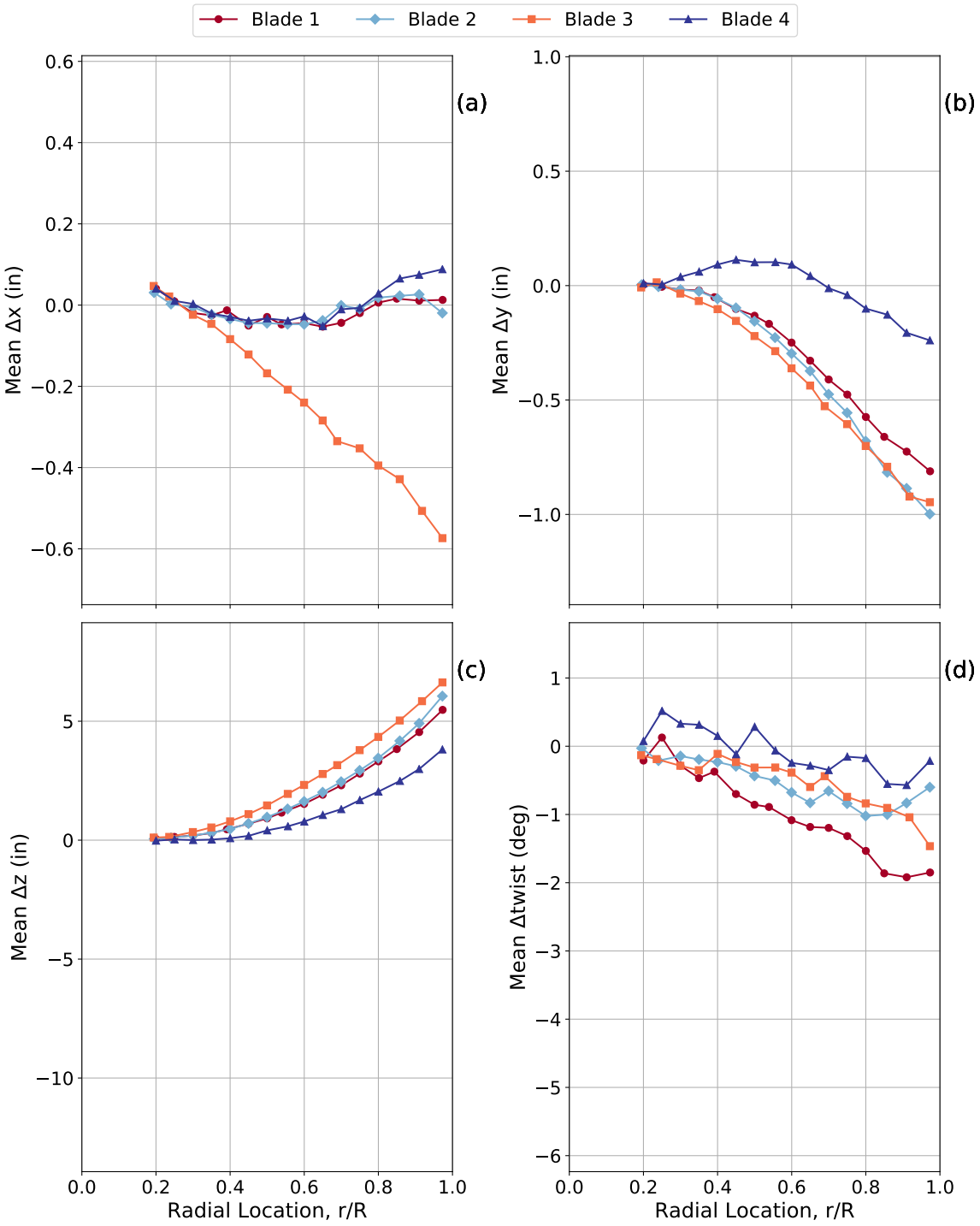


Figure 2.11-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0405	0.0023	0.0033	0.0007	0.0493	0.0089	-0.2100	0.0492
1	285.12	0.2499	0.0090	0.0033	-0.0051	0.0022	0.1362	0.0155	0.1277	0.0791
1	285.12	0.2998	-0.0194	0.0025	-0.0175	0.0046	0.1926	0.0281	-0.2837	0.1092
1	285.12	0.3498	-0.0253	0.0018	-0.0214	0.0082	0.3005	0.0435	-0.4671	0.1308
1	285.12	0.3913	-0.0128	0.0039	-0.0506	0.0128	0.4571	0.0617	-0.3724	0.1673
1	285.12	0.4496	-0.0504	0.0037	-0.1020	0.0177	0.6886	0.0776	-0.7002	0.1719
1	285.12	0.4997	-0.0292	0.0048	-0.1316	0.0242	0.9163	0.0992	-0.8576	0.1862
1	285.12	0.5387	-0.0476	0.0048	-0.1671	0.0291	1.1560	0.1175	-0.8900	0.2003
1	285.12	0.5996	-0.0444	0.0057	-0.2490	0.0391	1.5231	0.1475	-1.0838	0.2148
1	285.12	0.6498	-0.0531	0.0067	-0.3281	0.0481	1.9095	0.1747	-1.1829	0.2282
1	285.12	0.6998	-0.0436	0.0082	-0.4103	0.0581	2.3057	0.2036	-1.1964	0.2377
1	285.12	0.7500	-0.0196	0.0093	-0.4762	0.0685	2.7974	0.2327	-1.3172	0.2436
1	285.12	0.8001	0.0061	0.0106	-0.5742	0.0799	3.3124	0.2630	-1.5339	0.2620
1	285.12	0.8497	0.0158	0.0118	-0.6609	0.0917	3.8290	0.2935	-1.8626	0.2752
1	285.12	0.9102	0.0110	0.0135	-0.7255	0.1058	4.5438	0.3339	-1.9201	0.2659
1	285.12	0.9734	0.0128	0.0199	-0.8114	0.1208	5.4777	0.3766	-1.8505	0.2784
2	285.12	0.1949	0.0308	0.0123	0.0037	0.0011	0.0574	0.0066	-0.0287	0.0509
2	285.12	0.2405	0.0026	0.0085	-0.0046	0.0024	0.0972	0.0105	-0.2105	0.0841
2	285.12	0.2999	-0.0048	0.0056	-0.0176	0.0059	0.1978	0.0196	-0.1440	0.1178
2	285.12	0.3498	-0.0234	0.0113	-0.0254	0.0094	0.3097	0.0317	-0.1940	0.0803
2	285.12	0.3998	-0.0341	0.0148	-0.0576	0.0159	0.4698	0.0458	-0.2317	0.1063
2	285.12	0.4496	-0.0441	0.0166	-0.0973	0.0200	0.7011	0.0596	-0.2936	0.1083
2	285.12	0.4995	-0.0445	0.0173	-0.1557	0.0262	0.9669	0.0738	-0.4346	0.1131
2	285.12	0.5551	-0.0469	0.0168	-0.2272	0.0338	1.3118	0.0942	-0.5031	0.1236
2	285.12	0.5996	-0.0472	0.0180	-0.2967	0.0397	1.6288	0.1094	-0.6769	0.1429
2	285.12	0.6497	-0.0379	0.0247	-0.3729	0.0466	2.0140	0.1284	-0.8288	0.1578
2	285.12	0.6996	-0.0009	0.0368	-0.4749	0.0538	2.4564	0.1496	-0.6560	0.1757
2	285.12	0.7495	-0.0095	0.0530	-0.5558	0.0611	2.9317	0.1724	-0.8409	0.1877
2	285.12	0.7996	0.0184	0.0732	-0.6799	0.0679	3.4490	0.1958	-1.0216	0.2133
2	285.12	0.8578	0.0228	0.1038	-0.8160	0.0758	4.1733	0.2271	-1.0005	0.2153
2	285.12	0.9100	0.0262	0.1367	-0.8863	0.0830	4.9101	0.2573	-0.8319	0.2334
2	285.12	0.9727	-0.0195	0.1869	-0.9982	0.0933	6.0555	0.2962	-0.6004	0.2520
3	285.12	0.1938	0.0471	0.0041	-0.0081	0.0014	0.1103	0.0143	-0.1318	0.0992
3	285.12	0.2357	0.0213	0.0063	0.0144	0.0031	0.1365	0.0218	-0.1890	0.1398
3	285.12	0.2995	-0.0238	0.0037	-0.0347	0.0065	0.3401	0.0479	-0.2863	0.2187
3	285.12	0.3493	-0.0462	0.0028	-0.0675	0.0120	0.5331	0.0686	-0.3507	0.1977
3	285.12	0.4000	-0.0838	0.0035	-0.1029	0.0201	0.7905	0.1061	-0.1117	0.2143
3	285.12	0.4497	-0.1215	0.0039	-0.1543	0.0237	1.0948	0.1248	-0.2307	0.2171
3	285.12	0.4997	-0.1679	0.0042	-0.2205	0.0300	1.4606	0.1562	-0.3123	0.2191
3	285.12	0.5556	-0.2081	0.0051	-0.2865	0.0372	1.9454	0.1881	-0.3114	0.2301
3	285.12	0.5995	-0.2400	0.0063	-0.3614	0.0423	2.3217	0.2091	-0.3859	0.2588
3	285.12	0.6498	-0.2840	0.0080	-0.4368	0.0494	2.7826	0.2355	-0.5974	0.2490
3	285.12	0.6890	-0.3350	0.0088	-0.5271	0.0556	3.1538	0.2531	-0.4386	0.2607
3	285.12	0.7495	-0.3526	0.0100	-0.6054	0.0652	3.7838	0.2784	-0.7415	0.2792
3	285.12	0.7998	-0.3948	0.0110	-0.7009	0.0735	4.3397	0.3009	-0.8377	0.2803
3	285.12	0.8577	-0.4285	0.0121	-0.7917	0.0832	5.0310	0.3246	-0.9039	0.2962
3	285.12	0.9178	-0.5065	0.0139	-0.9219	0.0937	5.8428	0.3513	-1.0411	0.3149
3	285.12	0.9729	-0.5737	0.0176	-0.9465	0.1028	6.6312	0.3743	-1.4645	0.3287
4	285.12	0.2001	0.0405	0.0047	0.0103	0.0012	-0.0214	0.0078	0.0764	0.0669
4	285.12	0.2502	0.0103	0.0059	0.0046	0.0017	0.0299	0.0145	0.5180	0.0731
4	285.12	0.3001	0.0029	0.0029	0.0381	0.0035	0.0042	0.0221	0.3304	0.1312
4	285.12	0.3502	-0.0208	0.0037	0.0608	0.0059	0.0242	0.0361	0.3146	0.1162
4	285.12	0.4002	-0.0290	0.0025	0.0920	0.0091	0.0820	0.0527	0.1512	0.1382
4	285.12	0.4500	-0.0385	0.0037	0.1128	0.0122	0.1813	0.0702	-0.1175	0.1343
4	285.12	0.5001	-0.0328	0.0034	0.1019	0.0159	0.4116	0.0908	0.2838	0.1523
4	285.12	0.5560	-0.0384	0.0042	0.1025	0.0214	0.5825	0.1153	-0.0623	0.1652
4	285.12	0.6001	-0.0277	0.0047	0.0920	0.0260	0.7838	0.1378	-0.2437	0.1863
4	285.12	0.6501	-0.0516	0.0046	0.0422	0.0315	1.0581	0.1660	-0.2843	0.1834
4	285.12	0.6999	-0.0104	0.0057	-0.0114	0.0380	1.3030	0.1984	-0.3498	0.1980
4	285.12	0.7500	-0.0068	0.0066	-0.0413	0.0447	1.6849	0.2342	-0.1534	0.2162
4	285.12	0.8002	0.0286	0.0078	-0.1006	0.0521	2.0426	0.2739	-0.1730	0.2152
4	285.12	0.8582	0.0654	0.0096	-0.1271	0.0609	2.4895	0.3239	-0.5526	0.2279
4	285.12	0.9101	0.0746	0.0120	-0.2061	0.0694	2.9897	0.3715	-0.5692	0.2333
4	285.12	0.9728	0.0883	0.0172	-0.2393	0.0794	3.8118	0.4306	-0.2149	0.2434

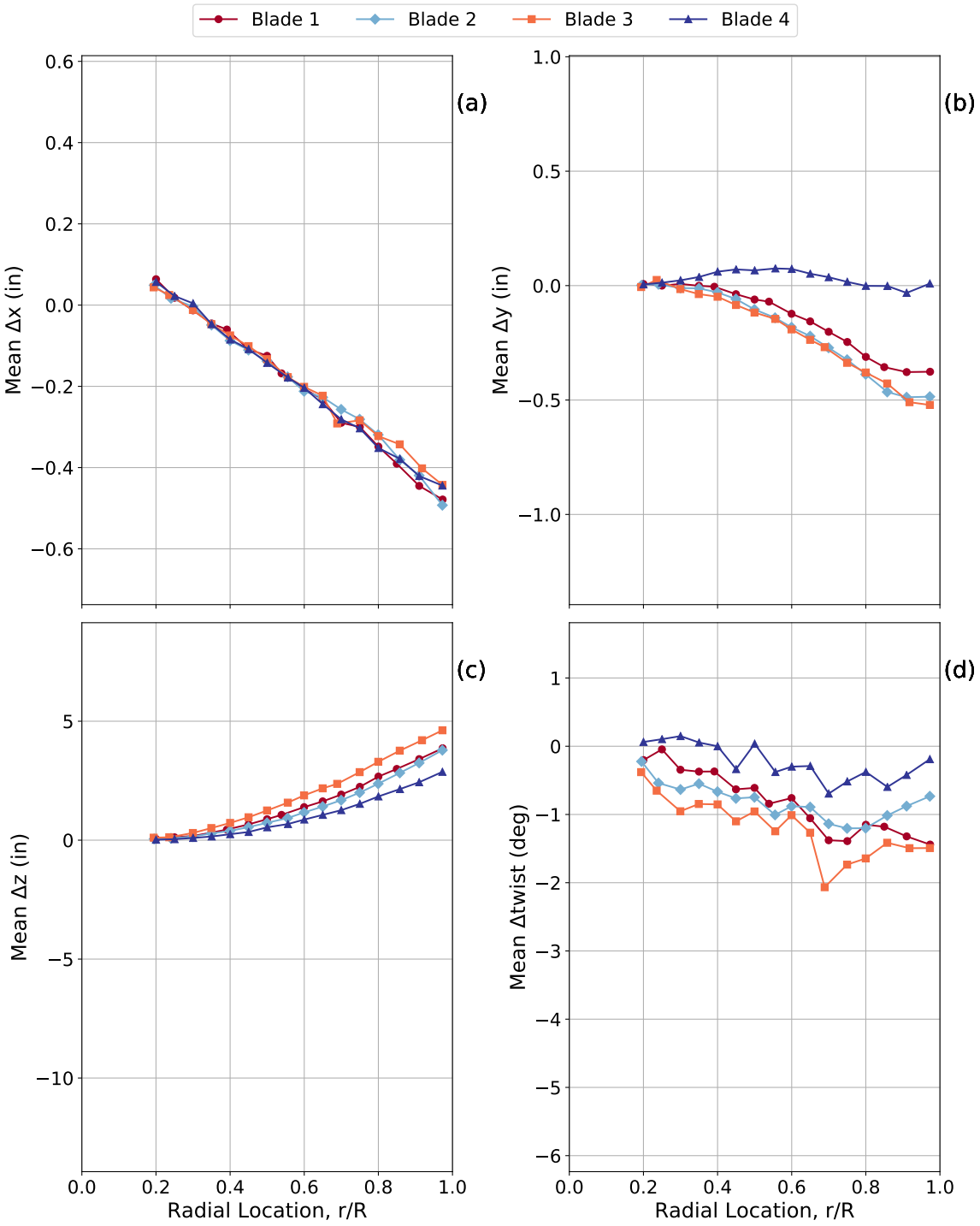


Figure 2.11-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0637	0.0018	0.0070	0.0009	0.0500	0.0079	-0.2030	0.0496
1	299.88	0.2499	0.0180	0.0020	-0.0001	0.0028	0.1202	0.0157	-0.0461	0.0755
1	299.88	0.2998	-0.0130	0.0029	0.0073	0.0047	0.1777	0.0265	-0.3445	0.1022
1	299.88	0.3498	-0.0451	0.0032	-0.0007	0.0076	0.3171	0.0375	-0.3719	0.1232
1	299.88	0.3913	-0.0602	0.0050	-0.0050	0.0125	0.4451	0.0562	-0.3698	0.1171
1	299.88	0.4496	-0.1083	0.0033	-0.0374	0.0157	0.6631	0.0757	-0.6315	0.1239
1	299.88	0.4997	-0.1249	0.0040	-0.0608	0.0208	0.8813	0.0937	-0.6104	0.1437
1	299.88	0.5387	-0.1681	0.0043	-0.0701	0.0240	1.0626	0.1107	-0.8426	0.1498
1	299.88	0.5996	-0.2059	0.0052	-0.1232	0.0294	1.3883	0.1316	-0.7595	0.1642
1	299.88	0.6498	-0.2319	0.0051	-0.1564	0.0348	1.6306	0.1526	-1.0551	0.1576
1	299.88	0.6998	-0.2897	0.0058	-0.2019	0.0403	1.9169	0.1700	-1.3777	0.1874
1	299.88	0.7500	-0.3000	0.0061	-0.2464	0.0462	2.2422	0.1890	-1.3902	0.2055
1	299.88	0.8001	-0.3483	0.0066	-0.3115	0.0530	2.6727	0.2095	-1.1506	0.2020
1	299.88	0.8497	-0.3904	0.0071	-0.3562	0.0596	2.9936	0.2298	-1.1788	0.2089
1	299.88	0.9102	-0.4450	0.0079	-0.3779	0.0676	3.4074	0.2556	-1.3212	0.2079
1	299.88	0.9734	-0.4786	0.0097	-0.3764	0.0768	3.8635	0.2947	-1.4410	0.1941
2	299.88	0.1949	0.0489	0.0025	0.0014	0.0014	0.0536	0.0082	-0.2232	0.0644
2	299.88	0.2405	0.0166	0.0025	0.0058	0.0032	0.0768	0.0173	-0.5394	0.1043
2	299.88	0.2999	-0.0034	0.0026	-0.0106	0.0041	0.1520	0.0265	-0.6341	0.1352
2	299.88	0.3498	-0.0490	0.0035	-0.0121	0.0092	0.2849	0.0456	-0.5487	0.1138
2	299.88	0.3998	-0.0875	0.0043	-0.0296	0.0134	0.3891	0.0664	-0.6663	0.1258
2	299.88	0.4496	-0.1107	0.0040	-0.0586	0.0158	0.5482	0.0787	-0.7644	0.1329
2	299.88	0.4995	-0.1380	0.0032	-0.1042	0.0198	0.7277	0.0970	-0.7477	0.1376
2	299.88	0.5551	-0.1766	0.0033	-0.1406	0.0246	0.9285	0.1209	-1.0062	0.1322
2	299.88	0.5996	-0.2121	0.0041	-0.1822	0.0285	1.1663	0.1400	-0.8790	0.1438
2	299.88	0.6497	-0.2269	0.0044	-0.2208	0.0337	1.4120	0.1603	-0.8912	0.1680
2	299.88	0.6996	-0.2568	0.0052	-0.2718	0.0388	1.6799	0.1796	-1.1364	0.1889
2	299.88	0.7495	-0.2811	0.0056	-0.3239	0.0441	1.9980	0.2029	-1.2034	0.1761
2	299.88	0.7996	-0.3191	0.0061	-0.3878	0.0497	2.3731	0.2249	-1.2007	0.2004
2	299.88	0.8578	-0.3809	0.0066	-0.4647	0.0567	2.8274	0.2581	-1.0149	0.2199
2	299.88	0.9100	-0.4193	0.0076	-0.4878	0.0631	3.2463	0.2952	-0.8779	0.2209
2	299.88	0.9727	-0.4926	0.0105	-0.4854	0.0706	3.7832	0.3483	-0.7332	0.2357
3	299.88	0.1938	0.0437	0.0034	-0.0063	0.0011	0.1048	0.0064	-0.3794	0.0533
3	299.88	0.2357	0.0249	0.0020	0.0246	0.0022	0.1215	0.0126	-0.6509	0.0926
3	299.88	0.2995	-0.0119	0.0027	-0.0152	0.0045	0.3019	0.0213	-0.9529	0.1278
3	299.88	0.3493	-0.0467	0.0030	-0.0370	0.0080	0.5086	0.0350	-0.8461	0.1073
3	299.88	0.4000	-0.0747	0.0051	-0.0487	0.0128	0.7246	0.0524	-0.8525	0.1306
3	299.88	0.4497	-0.1010	0.0041	-0.0847	0.0166	0.9625	0.0700	-1.1003	0.1464
3	299.88	0.4997	-0.1330	0.0048	-0.1178	0.0218	1.2474	0.0887	-0.9558	0.1593
3	299.88	0.5556	-0.1773	0.0050	-0.1456	0.0274	1.5772	0.1133	-1.2459	0.1627
3	299.88	0.5995	-0.2012	0.0056	-0.1914	0.0330	1.8829	0.1308	-1.0105	0.1645
3	299.88	0.6498	-0.2231	0.0061	-0.2370	0.0389	2.1790	0.1543	-1.2670	0.1739
3	299.88	0.6890	-0.2914	0.0068	-0.2690	0.0446	2.3670	0.1758	-2.0660	0.1955
3	299.88	0.7495	-0.2837	0.0075	-0.3374	0.0532	2.8600	0.2101	-1.7348	0.1933
3	299.88	0.7998	-0.3225	0.0086	-0.3798	0.0609	3.2947	0.2412	-1.6441	0.1970
3	299.88	0.8577	-0.3428	0.0097	-0.4279	0.0706	3.7625	0.2804	-1.4145	0.1944
3	299.88	0.9178	-0.4019	0.0114	-0.5095	0.0812	4.2009	0.3265	-1.4941	0.2167
3	299.88	0.9729	-0.4426	0.0151	-0.5216	0.0903	4.6190	0.3735	-1.4921	0.2324
4	299.88	0.2001	0.0569	0.0030	0.0052	0.0009	0.0183	0.0082	0.0627	0.0565
4	299.88	0.2502	0.0223	0.0029	0.0128	0.0028	0.0410	0.0162	0.1036	0.1126
4	299.88	0.3001	0.0042	0.0031	0.0231	0.0040	0.0931	0.0263	0.1485	0.1306
4	299.88	0.3502	-0.0469	0.0035	0.0378	0.0083	0.1546	0.0397	0.0542	0.1226
4	299.88	0.4002	-0.0848	0.0050	0.0608	0.0123	0.2508	0.0607	-0.0004	0.1286
4	299.88	0.4500	-0.1084	0.0044	0.0707	0.0157	0.3443	0.0744	-0.3356	0.1483
4	299.88	0.5001	-0.1423	0.0051	0.0665	0.0201	0.5404	0.0940	0.0364	0.1665
4	299.88	0.5560	-0.1783	0.0047	0.0750	0.0262	0.6777	0.1190	-0.3780	0.1740
4	299.88	0.6001	-0.2038	0.0053	0.0727	0.0305	0.8666	0.1404	-0.2991	0.1793
4	299.88	0.6501	-0.2440	0.0063	0.0520	0.0354	1.0630	0.1627	-0.2899	0.1681
4	299.88	0.6999	-0.2812	0.0055	0.0366	0.0416	1.2609	0.1864	-0.6943	0.1778
4	299.88	0.7500	-0.3034	0.0065	0.0163	0.0472	1.5274	0.2101	-0.5161	0.1914
4	299.88	0.8002	-0.3518	0.0063	-0.0012	0.0532	1.8386	0.2370	-0.3762	0.1913
4	299.88	0.8582	-0.3786	0.0070	-0.0018	0.0604	2.1475	0.2704	-0.5966	0.2004
4	299.88	0.9101	-0.4208	0.0081	-0.0319	0.0677	2.4350	0.3048	-0.4207	0.2175
4	299.88	0.9728	-0.4443	0.0115	0.0088	0.0759	2.8717	0.3528	-0.1897	0.2045

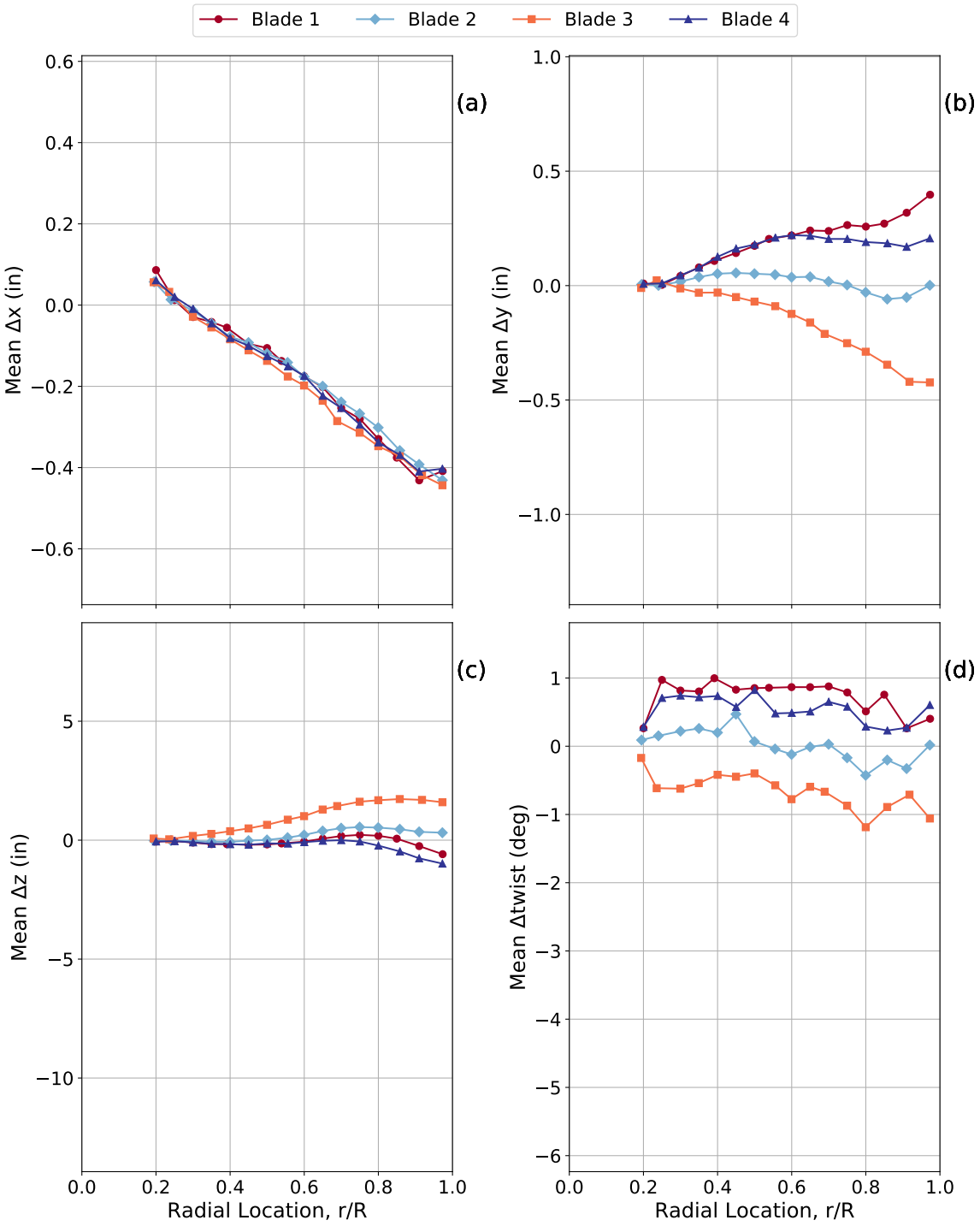


Figure 2.11-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0862	0.0024	0.0091	0.0009	-0.0605	0.0086	0.2642	0.0484
1	315	0.2499	0.0123	0.0019	0.0033	0.0041	-0.0340	0.0145	0.9723	0.0886
1	315	0.2998	-0.0294	0.0031	0.0420	0.0082	-0.1030	0.0248	0.8165	0.1121
1	315	0.3498	-0.0415	0.0044	0.0796	0.0118	-0.1679	0.0407	0.8029	0.1138
1	315	0.3913	-0.0555	0.0042	0.1078	0.0209	-0.1690	0.0559	0.9969	0.1180
1	315	0.4496	-0.0952	0.0049	0.1424	0.0262	-0.1933	0.0747	0.8289	0.1198
1	315	0.4997	-0.1057	0.0050	0.1738	0.0322	-0.1806	0.0948	0.8520	0.1183
1	315	0.5387	-0.1375	0.0054	0.2040	0.0364	-0.1393	0.1085	0.8565	0.1486
1	315	0.5996	-0.1749	0.0070	0.2193	0.0445	-0.0629	0.1343	0.8663	0.1531
1	315	0.6498	-0.2020	0.0061	0.2407	0.0514	0.0645	0.1492	0.8660	0.1280
1	315	0.6998	-0.2532	0.0062	0.2387	0.0584	0.1731	0.1671	0.8771	0.1347
1	315	0.7500	-0.2801	0.0064	0.2646	0.0661	0.2217	0.1863	0.7881	0.1321
1	315	0.8001	-0.3295	0.0079	0.2578	0.0742	0.1853	0.2063	0.5112	0.1295
1	315	0.8497	-0.3755	0.0073	0.2709	0.0814	0.0625	0.2312	0.7556	0.1405
1	315	0.9102	-0.4314	0.0074	0.3185	0.0919	-0.2498	0.2667	0.2623	0.1338
1	315	0.9734	-0.4087	0.0091	0.3972	0.1019	-0.5904	0.3082	0.4025	0.1471
2	315	0.1949	0.0572	0.0029	0.0048	0.0013	-0.0208	0.0072	0.0906	0.0696
2	315	0.2405	0.0135	0.0032	0.0009	0.0038	-0.0165	0.0166	0.1528	0.0718
2	315	0.2999	-0.0137	0.0032	0.0173	0.0074	-0.0388	0.0265	0.2207	0.1399
2	315	0.3498	-0.0452	0.0040	0.0374	0.0111	-0.0614	0.0443	0.2603	0.1211
2	315	0.3998	-0.0779	0.0048	0.0519	0.0199	-0.0731	0.0682	0.1999	0.1117
2	315	0.4496	-0.0922	0.0040	0.0554	0.0235	-0.0198	0.0868	0.4701	0.1259
2	315	0.4995	-0.1192	0.0048	0.0519	0.0287	0.0102	0.1104	0.0689	0.1178
2	315	0.5551	-0.1412	0.0047	0.0479	0.0353	0.1065	0.1390	-0.0403	0.1426
2	315	0.5996	-0.1763	0.0053	0.0367	0.0411	0.2182	0.1612	-0.1199	0.1363
2	315	0.6497	-0.1996	0.0057	0.0384	0.0480	0.3862	0.1895	-0.0100	0.1353
2	315	0.6996	-0.2385	0.0062	0.0178	0.0553	0.5050	0.2181	0.0298	0.1410
2	315	0.7495	-0.2672	0.0063	0.0028	0.0635	0.5514	0.2518	-0.1694	0.1496
2	315	0.7996	-0.3015	0.0067	-0.0294	0.0708	0.5281	0.2893	-0.4264	0.1512
2	315	0.8578	-0.3581	0.0070	-0.0590	0.0805	0.4608	0.3374	-0.2017	0.1551
2	315	0.9100	-0.3922	0.0075	-0.0515	0.0897	0.3494	0.3839	-0.3277	0.1575
2	315	0.9727	-0.4310	0.0092	0.0014	0.1006	0.3137	0.4394	0.0176	0.1626
3	315	0.1938	0.0562	0.0031	-0.0103	0.0019	0.0705	0.0102	-0.1714	0.0744
3	315	0.2357	0.0326	0.0031	0.0232	0.0031	0.0370	0.0216	-0.6147	0.1038
3	315	0.2995	-0.0285	0.0056	-0.0123	0.0055	0.1786	0.0365	-0.6217	0.1647
3	315	0.3493	-0.0550	0.0043	-0.0310	0.0119	0.2645	0.0601	-0.5408	0.1507
3	315	0.4000	-0.0841	0.0047	-0.0304	0.0168	0.3771	0.0920	-0.4184	0.1597
3	315	0.4497	-0.1114	0.0052	-0.0502	0.0199	0.4939	0.1114	-0.4467	0.1739
3	315	0.4997	-0.1373	0.0061	-0.0699	0.0250	0.6452	0.1392	-0.3982	0.1833
3	315	0.5556	-0.1758	0.0065	-0.0900	0.0321	0.8610	0.1686	-0.5727	0.1909
3	315	0.5995	-0.1980	0.0074	-0.1236	0.0373	1.0096	0.1957	-0.7761	0.2000
3	315	0.6498	-0.2355	0.0074	-0.1614	0.0452	1.2882	0.2192	-0.5942	0.1984
3	315	0.6890	-0.2855	0.0082	-0.2110	0.0509	1.4333	0.2422	-0.6668	0.2100
3	315	0.7495	-0.3141	0.0093	-0.2516	0.0612	1.6162	0.2806	-0.8710	0.2153
3	315	0.7998	-0.3473	0.0094	-0.2889	0.0698	1.6787	0.3179	-1.1868	0.2140
3	315	0.8577	-0.3722	0.0104	-0.3455	0.0803	1.7282	0.3640	-0.8906	0.2232
3	315	0.9178	-0.4187	0.0111	-0.4202	0.0911	1.6931	0.4178	-0.7101	0.2344
3	315	0.9729	-0.4435	0.0136	-0.4231	0.1013	1.5943	0.4704	-1.0591	0.2389
4	315	0.2001	0.0611	0.0024	0.0076	0.0015	-0.0546	0.0098	0.2839	0.0673
4	315	0.2502	0.0201	0.0025	0.0097	0.0035	-0.0425	0.0233	0.7081	0.0998
4	315	0.3001	-0.0093	0.0047	0.0449	0.0055	-0.0916	0.0364	0.7420	0.1461
4	315	0.3502	-0.0449	0.0047	0.0784	0.0112	-0.1535	0.0548	0.7177	0.1426
4	315	0.4002	-0.0809	0.0043	0.1260	0.0168	-0.1696	0.0881	0.7360	0.1296
4	315	0.4500	-0.1003	0.0042	0.1616	0.0194	-0.1910	0.1076	0.5758	0.1272
4	315	0.5001	-0.1255	0.0055	0.1795	0.0235	-0.1360	0.1347	0.8245	0.1357
4	315	0.5560	-0.1508	0.0050	0.2096	0.0300	-0.1443	0.1637	0.4808	0.1391
4	315	0.6001	-0.1741	0.0057	0.2205	0.0341	-0.0830	0.1872	0.4884	0.1643
4	315	0.6501	-0.2232	0.0060	0.2178	0.0402	-0.0255	0.2119	0.5091	0.1420
4	315	0.6999	-0.2533	0.0064	0.2039	0.0468	-0.0002	0.2406	0.6506	0.1513
4	315	0.7500	-0.2940	0.0067	0.2038	0.0530	-0.0557	0.2735	0.5793	0.1523
4	315	0.8002	-0.3380	0.0062	0.1904	0.0602	-0.2301	0.3084	0.2882	0.1575
4	315	0.8582	-0.3692	0.0075	0.1848	0.0678	-0.4745	0.3522	0.2305	0.1505
4	315	0.9101	-0.4097	0.0079	0.1694	0.0741	-0.7641	0.3916	0.2710	0.1752
4	315	0.9728	-0.4028	0.0090	0.2064	0.0842	-0.9857	0.4417	0.6047	0.1564

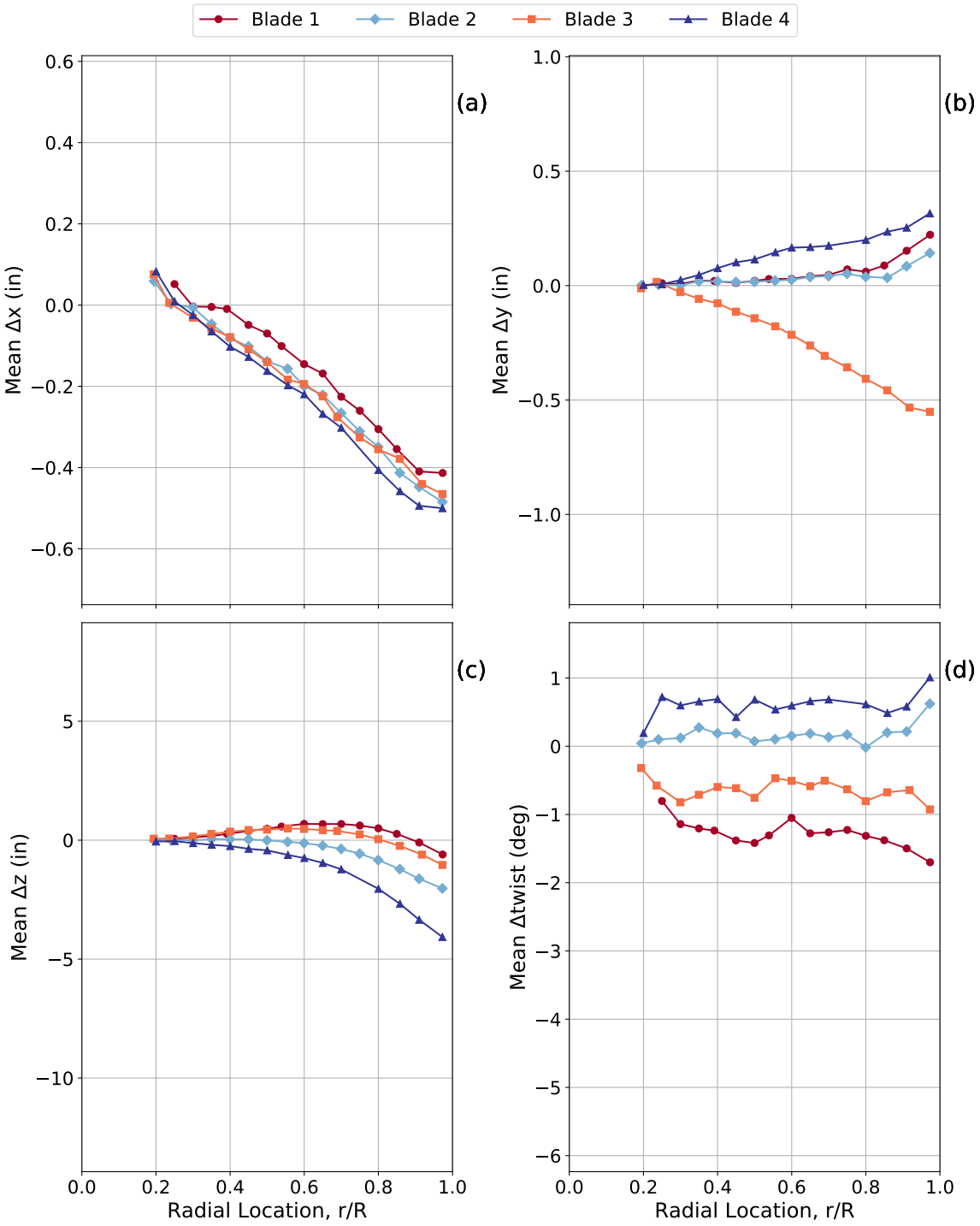


Figure 2.11-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2499	0.0517	0.0041	0.0104	0.0056	0.0582	0.0277	-0.8022	0.1386
1	330.12	0.2998	-0.0035	0.0066	0.0071	0.0112	0.1129	0.0453	-1.1408	0.1959
1	330.12	0.3498	-0.0045	0.0051	0.0226	0.0241	0.1760	0.0665	-1.2053	0.1938
1	330.12	0.3913	-0.0095	0.0045	0.0201	0.0351	0.2619	0.0930	-1.2364	0.1861
1	330.12	0.4496	-0.0488	0.0064	0.0118	0.0466	0.3848	0.1222	-1.3810	0.1992
1	330.12	0.4997	-0.0699	0.0054	0.0208	0.0580	0.4796	0.1493	-1.4179	0.2108
1	330.12	0.5387	-0.1008	0.0051	0.0288	0.0669	0.5714	0.1714	-1.3072	0.2189
1	330.12	0.5996	-0.1453	0.0067	0.0296	0.0807	0.6852	0.2069	-1.0506	0.2113
1	330.12	0.6498	-0.1684	0.0070	0.0412	0.0928	0.6761	0.2359	-1.2762	0.2128
1	330.12	0.6998	-0.2256	0.0072	0.0467	0.1051	0.6801	0.2645	-1.2607	0.2185
1	330.12	0.7500	-0.2601	0.0083	0.0709	0.1169	0.6154	0.2952	-1.2271	0.2218
1	330.12	0.8001	-0.3054	0.0079	0.0609	0.1292	0.4980	0.3251	-1.3134	0.2275
1	330.12	0.8497	-0.3544	0.0084	0.0879	0.1416	0.2628	0.3535	-1.3782	0.2141
1	330.12	0.9102	-0.4095	0.0104	0.1524	0.1568	-0.0991	0.3892	-1.4981	0.2451
1	330.12	0.9734	-0.4133	0.0126	0.2222	0.1727	-0.6039	0.4287	-1.7008	0.3964
2	330.12	0.1949	0.0588	0.0024	0.0012	0.0013	-0.0001	0.0064	0.0435	0.0477
2	330.12	0.2405	0.0026	0.0023	0.0041	0.0027	0.0091	0.0108	0.0984	0.0826
2	330.12	0.2999	-0.0059	0.0029	0.0019	0.0051	-0.0041	0.0208	0.1214	0.1158
2	330.12	0.3498	-0.0465	0.0026	0.0184	0.0111	0.0423	0.0342	0.2727	0.0847
2	330.12	0.3998	-0.0821	0.0029	0.0187	0.0160	0.0377	0.0505	0.1887	0.0956
2	330.12	0.4496	-0.1017	0.0039	0.0158	0.0212	0.0328	0.0658	0.1903	0.1058
2	330.12	0.4995	-0.1383	0.0043	0.0167	0.0242	-0.0070	0.0831	0.0722	0.1094
2	330.12	0.5551	-0.1568	0.0065	0.0217	0.0310	-0.0725	0.1091	0.1029	0.1122
2	330.12	0.5996	-0.1995	0.0053	0.0254	0.0360	-0.1221	0.1254	0.1522	0.1043
2	330.12	0.6497	-0.2211	0.0057	0.0374	0.0426	-0.2297	0.1450	0.1861	0.1102
2	330.12	0.6996	-0.2655	0.0056	0.0414	0.0482	-0.3680	0.1673	0.1328	0.1058
2	330.12	0.7495	-0.3107	0.0081	0.0516	0.0557	-0.5693	0.1895	0.1703	0.1117
2	330.12	0.7996	-0.3492	0.0062	0.0383	0.0624	-0.8374	0.2070	-0.0172	0.1061
2	330.12	0.8578	-0.4130	0.0075	0.0341	0.0706	-1.2175	0.2313	0.2013	0.1107
2	330.12	0.9100	-0.4475	0.0086	0.0847	0.0783	-1.6234	0.2560	0.2149	0.1369
2	330.12	0.9727	-0.4845	0.0099	0.1425	0.0887	-2.0282	0.3007	0.6228	0.1365
3	330.12	0.1938	0.0757	0.0032	-0.0118	0.0012	0.0618	0.0071	-0.3194	0.0442
3	330.12	0.2357	0.0054	0.0042	0.0164	0.0039	0.0667	0.0107	-0.5764	0.0731
3	330.12	0.2995	-0.0311	0.0048	-0.0285	0.0057	0.1550	0.0198	-0.8217	0.1051
3	330.12	0.3493	-0.0579	0.0034	-0.0579	0.0146	0.2625	0.0324	-0.7115	0.0771
3	330.12	0.4000	-0.0788	0.0043	-0.0772	0.0210	0.3571	0.0480	-0.5980	0.0926
3	330.12	0.4497	-0.1089	0.0045	-0.1139	0.0262	0.4243	0.0634	-0.6147	0.0889
3	330.12	0.4997	-0.1402	0.0051	-0.1427	0.0318	0.4429	0.0804	-0.7554	0.1071
3	330.12	0.5556	-0.1833	0.0067	-0.1778	0.0392	0.4925	0.1109	-0.4685	0.1691
3	330.12	0.5995	-0.1941	0.0070	-0.2146	0.0444	0.4723	0.1175	-0.5073	0.1048
3	330.12	0.6498	-0.2246	0.0072	-0.2618	0.0507	0.4192	0.1371	-0.5857	0.1001
3	330.12	0.6890	-0.2759	0.0072	-0.3072	0.0569	0.3884	0.1543	-0.5055	0.1077
3	330.12	0.7495	-0.3256	0.0110	-0.3571	0.0661	0.2405	0.1785	-0.6311	0.1155
3	330.12	0.7998	-0.3549	0.0081	-0.4074	0.0731	0.0393	0.2022	-0.8051	0.1215
3	330.12	0.8577	-0.3782	0.0083	-0.4575	0.0823	-0.2393	0.2354	-0.6750	0.1257
3	330.12	0.9178	-0.4405	0.0085	-0.5330	0.0922	-0.6081	0.2745	-0.6429	0.1347
3	330.12	0.9729	-0.4650	0.0138	-0.5516	0.1014	-1.0412	0.3090	-0.9257	0.2598
4	330.12	0.2001	0.0829	0.0027	0.0026	0.0014	-0.0562	0.0075	0.1930	0.0367
4	330.12	0.2502	0.0089	0.0036	0.0057	0.0044	-0.0391	0.0126	0.7214	0.0697
4	330.12	0.3001	-0.0245	0.0037	0.0246	0.0059	-0.1245	0.0241	0.5981	0.0829
4	330.12	0.3502	-0.0648	0.0030	0.0468	0.0120	-0.1937	0.0399	0.6561	0.0732
4	330.12	0.4002	-0.1026	0.0034	0.0763	0.0182	-0.2506	0.0603	0.6910	0.0799
4	330.12	0.4500	-0.1276	0.0045	0.1017	0.0236	-0.3633	0.0817	0.4278	0.0917
4	330.12	0.5001	-0.1620	0.0048	0.1144	0.0272	-0.4289	0.1082	0.6828	0.0874
4	330.12	0.5560	-0.1975	0.0059	0.1456	0.0347	-0.6224	0.1608	0.5386	0.2061
4	330.12	0.6001	-0.2196	0.0060	0.1659	0.0409	-0.7516	0.1727	0.5949	0.1157
4	330.12	0.6501	-0.2678	0.0063	0.1683	0.0476	-0.9599	0.2046	0.6599	0.1191
4	330.12	0.6999	-0.3020	0.0066	0.1744	0.0558	-1.2267	0.2401	0.6852	0.1241
4	330.12	0.8002	-0.4060	0.0075	0.1995	0.0722	-2.0459	0.3123	0.6148	0.1427
4	330.12	0.8582	-0.4580	0.0098	0.2355	0.0822	-2.6744	0.3568	0.4871	0.1551
4	330.12	0.9101	-0.4940	0.0116	0.2533	0.0913	-3.3471	0.4003	0.5808	0.1582
4	330.12	0.9728	-0.5000	0.0117	0.3156	0.1017	-4.0715	0.4367	1.0092	0.1698

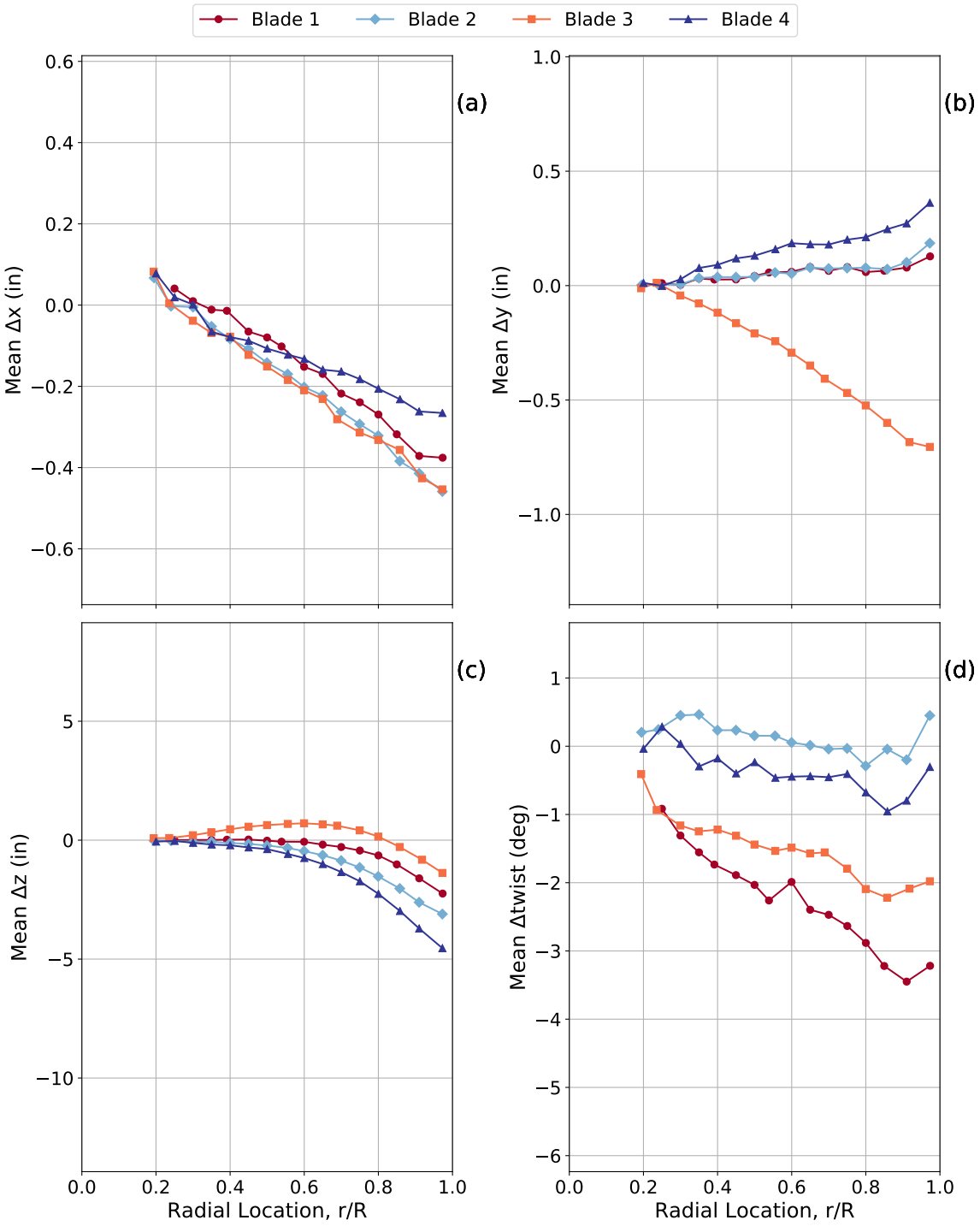


Figure 2.11-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2499	0.0408	0.0052	0.0104	0.0049	0.0019	0.0269	-0.9165	0.1679
1	344.88	0.2998	0.0097	0.0068	0.0029	0.0113	0.0082	0.0420	-1.3084	0.2378
1	344.88	0.3498	-0.0112	0.0056	0.0311	0.0205	0.0105	0.0700	-1.5548	0.2278
1	344.88	0.3913	-0.0140	0.0050	0.0265	0.0316	0.0198	0.0951	-1.7340	0.2382
1	344.88	0.4496	-0.0652	0.0055	0.0270	0.0425	0.0263	0.1290	-1.8887	0.2458
1	344.88	0.4997	-0.0796	0.0057	0.0421	0.0535	-0.0210	0.1608	-2.0322	0.2516
1	344.88	0.5387	-0.1018	0.0059	0.0572	0.0617	-0.0643	0.1871	-2.2603	0.2581
1	344.88	0.5996	-0.1519	0.0060	0.0601	0.0750	-0.0688	0.2283	-1.9889	0.2725
1	344.88	0.6498	-0.1694	0.0061	0.0811	0.0871	-0.1872	0.2619	-2.3962	0.2922
1	344.88	0.6998	-0.2178	0.0063	0.0645	0.0980	-0.2879	0.2957	-2.4706	0.3027
1	344.88	0.7500	-0.2392	0.0063	0.0809	0.1096	-0.4357	0.3279	-2.6345	0.3141
1	344.88	0.8001	-0.2694	0.0067	0.0592	0.1208	-0.6431	0.3607	-2.8826	0.3305
1	344.88	0.8497	-0.3181	0.0072	0.0648	0.1322	-1.0195	0.3919	-3.2206	0.3504
1	344.88	0.9102	-0.3713	0.0074	0.0788	0.1460	-1.6041	0.4318	-3.4496	0.3547
1	344.88	0.9734	-0.3757	0.0100	0.1277	0.1615	-2.2442	0.4769	-3.2179	0.3496
2	344.88	0.1949	0.0669	0.0070	0.0019	0.0015	-0.0199	0.0104	0.2041	0.0606
2	344.88	0.2405	-0.0025	0.0050	0.0043	0.0034	-0.0217	0.0127	0.2444	0.1468
2	344.88	0.2999	-0.0048	0.0056	0.0056	0.0058	-0.0686	0.0308	0.4521	0.1648
2	344.88	0.3498	-0.0525	0.0049	0.0330	0.0124	-0.0644	0.0498	0.4643	0.1669
2	344.88	0.3998	-0.0829	0.0054	0.0374	0.0182	-0.1189	0.0726	0.2350	0.1652
2	344.88	0.4496	-0.1078	0.0058	0.0369	0.0226	-0.1563	0.0951	0.2350	0.1676
2	344.88	0.4995	-0.1419	0.0060	0.0384	0.0265	-0.2261	0.1189	0.1541	0.1803
2	344.88	0.5551	-0.1699	0.0061	0.0568	0.0326	-0.3270	0.1469	0.1521	0.1775
2	344.88	0.5996	-0.2018	0.0078	0.0524	0.0379	-0.4610	0.1694	0.0549	0.1844
2	344.88	0.6497	-0.2226	0.0066	0.0784	0.0438	-0.6329	0.1938	0.0133	0.1881
2	344.88	0.6996	-0.2626	0.0072	0.0745	0.0502	-0.8597	0.2189	-0.0408	0.1878
2	344.88	0.7495	-0.2930	0.0074	0.0767	0.0570	-1.1469	0.2452	-0.0322	0.1947
2	344.88	0.7996	-0.3214	0.0081	0.0779	0.0632	-1.5243	0.2732	-0.2885	0.2087
2	344.88	0.8578	-0.3841	0.0093	0.0718	0.0709	-2.0336	0.3105	-0.0435	0.2282
2	344.88	0.9100	-0.4142	0.0101	0.1015	0.0777	-2.6120	0.3484	-0.1990	0.2082
2	344.88	0.9727	-0.4588	0.0119	0.1855	0.0866	-3.1052	0.3972	0.4503	0.2056
3	344.88	0.1938	0.0824	0.0296	-0.0115	0.0034	0.0833	0.0414	-0.4084	0.1406
3	344.88	0.2357	0.0046	0.0150	0.0122	0.0050	0.0878	0.0288	-0.9351	0.4981
3	344.88	0.2995	-0.0385	0.0141	-0.0432	0.0088	0.2070	0.1097	-1.1617	0.4976
3	344.88	0.3493	-0.0686	0.0139	-0.0777	0.0137	0.3333	0.1762	-1.2479	0.5041
3	344.88	0.4000	-0.0778	0.0129	-0.1182	0.0210	0.4577	0.2497	-1.2221	0.5014
3	344.88	0.4497	-0.1226	0.0127	-0.1643	0.0258	0.5650	0.3197	-1.3117	0.5158
3	344.88	0.4997	-0.1511	0.0122	-0.2091	0.0333	0.6341	0.3947	-1.4408	0.5045
3	344.88	0.5556	-0.1844	0.0112	-0.2430	0.0402	0.6832	0.4765	-1.5335	0.5117
3	344.88	0.5995	-0.2097	0.0115	-0.2930	0.0459	0.7101	0.5389	-1.4861	0.5281
3	344.88	0.6498	-0.2311	0.0114	-0.3492	0.0538	0.6638	0.6096	-1.5710	0.5314
3	344.88	0.6890	-0.2810	0.0112	-0.4068	0.0598	0.6089	0.6650	-1.5557	0.5311
3	344.88	0.7495	-0.3136	0.0114	-0.4690	0.0703	0.4139	0.7500	-1.7941	0.5337
3	344.88	0.7998	-0.3319	0.0118	-0.5238	0.0788	0.1500	0.8218	-2.0932	0.5377
3	344.88	0.8577	-0.3565	0.0134	-0.5998	0.0894	-0.2875	0.9045	-2.2198	0.5561
3	344.88	0.9178	-0.4263	0.0142	-0.6840	0.1008	-0.8224	0.9921	-2.0865	0.5441
3	344.88	0.9729	-0.4537	0.0156	-0.7050	0.1116	-1.3782	1.0740	-1.9792	0.5288
4	344.88	0.2001	0.0779	0.0118	0.0118	0.0054	-0.0598	0.0239	-0.0368	0.1333
4	344.88	0.2502	0.0192	0.0090	-0.0014	0.0126	-0.0328	0.0363	0.2855	0.2288
4	344.88	0.3001	0.0014	0.0065	0.0279	0.0213	-0.1122	0.0507	0.0345	0.3009
4	344.88	0.3502	-0.0656	0.0040	0.0771	0.0577	-0.1843	0.0824	-0.2955	0.1435
4	344.88	0.4002	-0.0788	0.0062	0.0908	0.0782	-0.2159	0.1071	-0.1786	0.1445
4	344.88	0.4500	-0.0878	0.0076	0.1187	0.0929	-0.3064	0.1281	-0.3985	0.1564
4	344.88	0.5001	-0.1071	0.0088	0.1306	0.1077	-0.3772	0.1494	-0.2335	0.1609
4	344.88	0.5560	-0.1221	0.0105	0.1590	0.1236	-0.5805	0.1732	-0.4624	0.1681
4	344.88	0.6001	-0.1326	0.0121	0.1853	0.1354	-0.7519	0.1927	-0.4460	0.1779
4	344.88	0.6501	-0.1590	0.0158	0.1804	0.1486	-1.0058	0.2133	-0.4391	0.1799
4	344.88	0.6999	-0.1636	0.0207	0.1795	0.1621	-1.3417	0.2334	-0.4538	0.1822
4	344.88	0.7500	-0.1822	0.0266	0.2007	0.1744	-1.7294	0.2542	-0.4062	0.1935
4	344.88	0.8002	-0.2060	0.0333	0.2117	0.1863	-2.2582	0.2739	-0.6761	0.1970
4	344.88	0.8582	-0.2318	0.0427	0.2466	0.2003	-2.9782	0.2967	-0.9556	0.2050
4	344.88	0.9101	-0.2618	0.0517	0.2718	0.2116	-3.7137	0.3194	-0.7978	0.2056
4	344.88	0.9728	-0.2656	0.0687	0.3619	0.2218	-4.5419	0.3505	-0.3038	0.1953

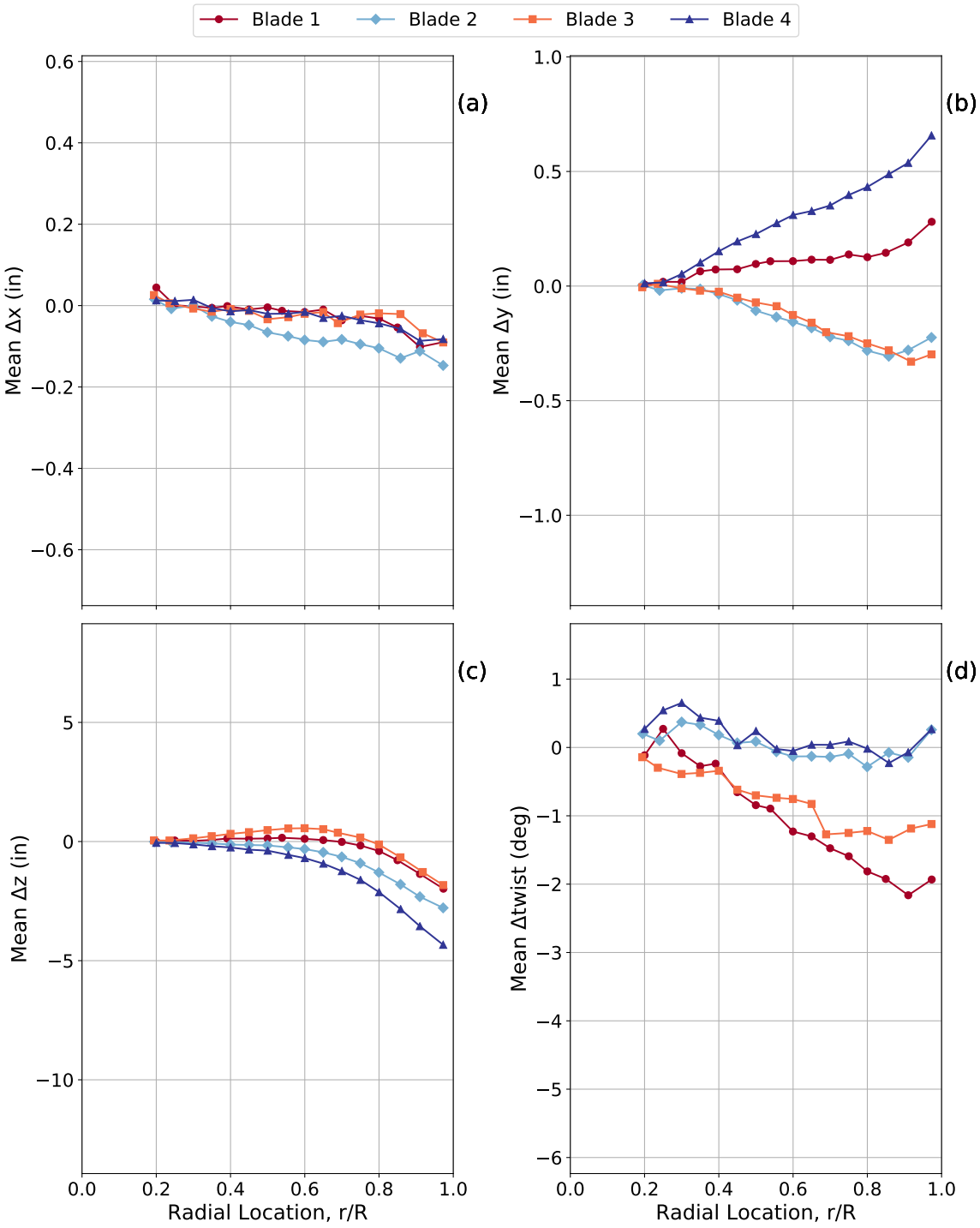


Figure 2.11-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0444	0.0147	0.0063	0.0014	-0.0095	0.0073	-0.1144	0.0450
1	350.16	0.2499	0.0007	0.0047	0.0187	0.0037	0.0450	0.0130	0.2722	0.0738
1	350.16	0.2998	-0.0019	0.0053	0.0182	0.0078	0.0274	0.0224	-0.0837	0.1003
1	350.16	0.3498	-0.0056	0.0125	0.0643	0.0139	0.0651	0.0331	-0.2745	0.1180
1	350.16	0.3913	-0.0012	0.0178	0.0723	0.0208	0.1256	0.0483	-0.2375	0.1282
1	350.16	0.4496	-0.0097	0.0240	0.0734	0.0297	0.1197	0.0645	-0.6547	0.1516
1	350.16	0.4997	-0.0044	0.0283	0.0964	0.0367	0.1296	0.0764	-0.8441	0.1577
1	350.16	0.5387	-0.0128	0.0314	0.1084	0.0430	0.1586	0.0899	-0.8947	0.1592
1	350.16	0.5996	-0.0158	0.0356	0.1088	0.0525	0.1131	0.1101	-1.2296	0.1632
1	350.16	0.6498	-0.0098	0.0401	0.1152	0.0601	0.0621	0.1268	-1.3012	0.1735
1	350.16	0.6998	-0.0361	0.0439	0.1144	0.0682	-0.0160	0.1410	-1.4745	0.1823
1	350.16	0.7500	-0.0252	0.0489	0.1379	0.0770	-0.1671	0.1587	-1.5920	0.1890
1	350.16	0.8001	-0.0318	0.0552	0.1261	0.0860	-0.3983	0.1763	-1.8135	0.1824
1	350.16	0.8497	-0.0538	0.0623	0.1451	0.0946	-0.7841	0.1975	-1.9240	0.1851
1	350.16	0.9102	-0.1016	0.0730	0.1903	0.1056	-1.3605	0.2232	-2.1623	0.1865
1	350.16	0.9734	-0.0897	0.0845	0.2804	0.1184	-1.9801	0.2585	-1.9322	0.2054
2	350.16	0.1949	0.0158	0.0134	0.0041	0.0041	-0.0098	0.0181	0.2002	0.0599
2	350.16	0.2405	-0.0077	0.0034	-0.0188	0.0042	-0.0219	0.0180	0.0994	0.1872
2	350.16	0.2999	0.0004	0.0031	-0.0096	0.0157	-0.0480	0.0443	0.3722	0.1837
2	350.16	0.3498	-0.0264	0.0030	-0.0130	0.0283	-0.0790	0.0666	0.3313	0.1948
2	350.16	0.3998	-0.0401	0.0035	-0.0351	0.0424	-0.1265	0.0921	0.1832	0.1932
2	350.16	0.4496	-0.0478	0.0053	-0.0618	0.0569	-0.1448	0.1167	0.0671	0.1958
2	350.16	0.4995	-0.0657	0.0088	-0.1072	0.0719	-0.1624	0.1419	0.0868	0.1981
2	350.16	0.5551	-0.0751	0.0140	-0.1351	0.0891	-0.2449	0.1707	-0.0628	0.2027
2	350.16	0.5996	-0.0845	0.0189	-0.1560	0.1033	-0.3158	0.1944	-0.1316	0.2071
2	350.16	0.6497	-0.0891	0.0255	-0.1824	0.1184	-0.4536	0.2226	-0.1296	0.2069
2	350.16	0.6996	-0.0832	0.0340	-0.2216	0.1337	-0.6442	0.2517	-0.1387	0.2125
2	350.16	0.7495	-0.0948	0.0427	-0.2385	0.1493	-0.9071	0.2810	-0.0927	0.2081
2	350.16	0.7996	-0.1048	0.0514	-0.2815	0.1642	-1.2973	0.3107	-0.2839	0.2097
2	350.16	0.8578	-0.1293	0.0654	-0.3063	0.1819	-1.7982	0.3460	-0.0748	0.2203
2	350.16	0.9100	-0.1118	0.0779	-0.2795	0.1984	-2.3164	0.3774	-0.1455	0.2253
2	350.16	0.9727	-0.1471	0.0956	-0.2243	0.2177	-2.7842	0.4160	0.2594	0.2388
3	350.16	0.1938	0.0259	0.0149	-0.0051	0.0010	0.0465	0.0074	-0.1426	0.0394
3	350.16	0.2357	0.0056	0.0064	0.0099	0.0029	0.0434	0.0128	-0.2967	0.0525
3	350.16	0.2995	-0.0072	0.0065	-0.0098	0.0067	0.1353	0.0255	-0.3882	0.0886
3	350.16	0.3493	-0.0150	0.0142	-0.0198	0.0113	0.2238	0.0416	-0.3718	0.0854
3	350.16	0.4000	-0.0084	0.0209	-0.0247	0.0192	0.3223	0.0627	-0.3412	0.1044
3	350.16	0.4497	-0.0129	0.0268	-0.0507	0.0247	0.3932	0.0837	-0.6181	0.1065
3	350.16	0.4997	-0.0335	0.0321	-0.0715	0.0318	0.4782	0.1059	-0.7005	0.1236
3	350.16	0.5556	-0.0284	0.0367	-0.0878	0.0408	0.5489	0.1284	-0.7365	0.1334
3	350.16	0.5995	-0.0201	0.0409	-0.1262	0.0473	0.5589	0.1436	-0.7545	0.1399
3	350.16	0.6498	-0.0160	0.0451	-0.1598	0.0557	0.5189	0.1602	-0.8266	0.1385
3	350.16	0.6890	-0.0431	0.0481	-0.2012	0.0621	0.3708	0.1714	-1.2718	0.1402
3	350.16	0.7495	-0.0220	0.0545	-0.2188	0.0717	0.1670	0.1926	-1.2506	0.1459
3	350.16	0.7998	-0.0189	0.0596	-0.2500	0.0796	-0.1241	0.2074	-1.2222	0.1531
3	350.16	0.8577	-0.0209	0.0675	-0.2805	0.0897	-0.6631	0.2246	-1.3520	0.1852
3	350.16	0.9178	-0.0681	0.0757	-0.3298	0.1009	-1.2803	0.2470	-1.1861	0.1880
3	350.16	0.9729	-0.0905	0.0843	-0.2980	0.1117	-1.8293	0.2656	-1.1205	0.2041
4	350.16	0.2001	0.0127	0.0014	0.0122	0.0009	-0.0557	0.0066	0.2712	0.0390
4	350.16	0.2502	0.0111	0.0016	0.0160	0.0025	-0.0623	0.0137	0.5436	0.0586
4	350.16	0.3001	0.0142	0.0017	0.0526	0.0038	-0.1183	0.0216	0.6524	0.0861
4	350.16	0.3502	-0.0061	0.0021	0.1025	0.0088	-0.1956	0.0365	0.4360	0.1045
4	350.16	0.4002	-0.0140	0.0022	0.1521	0.0122	-0.2496	0.0547	0.3899	0.1043
4	350.16	0.4500	-0.0110	0.0025	0.1949	0.0160	-0.3405	0.0700	0.0328	0.1065
4	350.16	0.5001	-0.0203	0.0028	0.2269	0.0214	-0.3831	0.0910	0.2406	0.1344
4	350.16	0.5560	-0.0197	0.0031	0.2745	0.0273	-0.5597	0.1104	-0.0227	0.1177
4	350.16	0.6001	-0.0155	0.0038	0.3101	0.0332	-0.6960	0.1260	-0.0511	0.1178
4	350.16	0.6501	-0.0303	0.0038	0.3276	0.0393	-0.9288	0.1435	0.0397	0.1226
4	350.16	0.6999	-0.0252	0.0042	0.3516	0.0462	-1.2430	0.1611	0.0384	0.1254
4	350.16	0.7500	-0.0358	0.0043	0.3974	0.0537	-1.6105	0.1814	0.0880	0.1259
4	350.16	0.8002	-0.0436	0.0050	0.4325	0.0607	-2.1252	0.2026	-0.0179	0.1350
4	350.16	0.8582	-0.0574	0.0058	0.4883	0.0692	-2.8384	0.2346	-0.2283	0.1454
4	350.16	0.9101	-0.0867	0.0062	0.5374	0.0771	-3.5544	0.2659	-0.0701	0.1158
4	350.16	0.9728	-0.0822	0.0080	0.6570	0.0863	-4.3351	0.3051	0.2665	0.1576

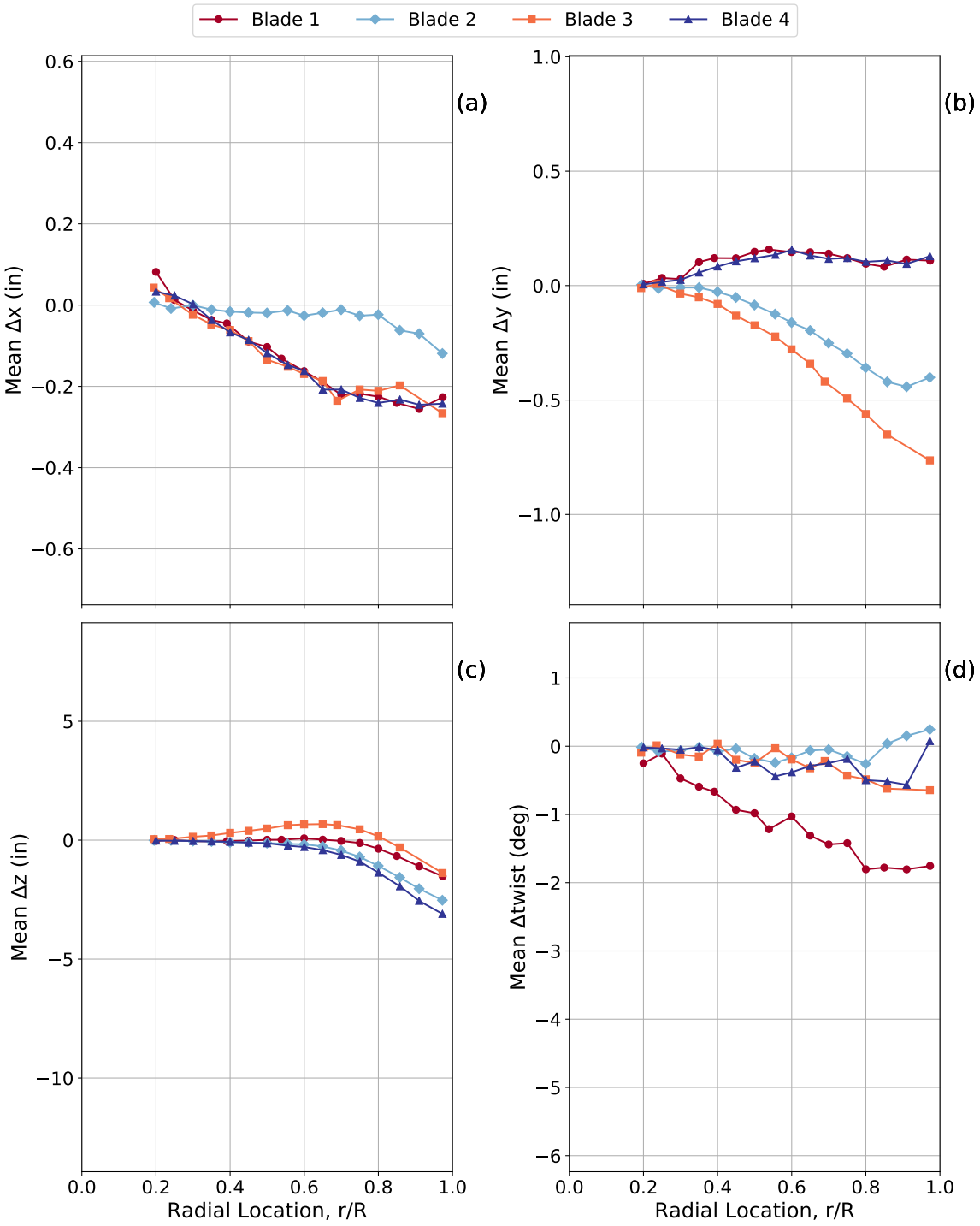


Figure 2.11-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.122, μ = 0.237, α = -1.37° NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Table 2.11-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.122, μ = 0.237, α = -1.37°
NFAC run 47, points 52 to 58. BD run 22, points 2355 to 2394.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0816	0.0041	0.0076	0.0027	-0.0320	0.0162	-0.2512	0.1104
1	355.08	0.2499	0.0126	0.0021	0.0332	0.0059	0.0079	0.0246	-0.1075	0.2143
1	355.08	0.2998	-0.0134	0.0025	0.0282	0.0126	-0.0482	0.0456	-0.4711	0.2595
1	355.08	0.3498	-0.0366	0.0028	0.1027	0.0246	-0.0498	0.0762	-0.5933	0.2600
1	355.08	0.3913	-0.0451	0.0029	0.1204	0.0342	-0.0402	0.1009	-0.6659	0.2729
1	355.08	0.4496	-0.0895	0.0033	0.1198	0.0471	-0.0193	0.1345	-0.9315	0.2964
1	355.08	0.4997	-0.1031	0.0037	0.1476	0.0590	0.0155	0.1656	-0.9819	0.3160
1	355.08	0.5387	-0.1318	0.0042	0.1578	0.0696	0.0172	0.1899	-1.2161	0.3101
1	355.08	0.5996	-0.1626	0.0048	0.1467	0.0860	0.0768	0.2262	-1.0293	0.3393
1	355.08	0.6498	-0.1892	0.0051	0.1455	0.1018	0.0209	0.2540	-1.3090	0.3457
1	355.08	0.6998	-0.2208	0.0059	0.1395	0.1174	-0.0328	0.2777	-1.4387	0.3503
1	355.08	0.7500	-0.2180	0.0061	0.1204	0.1358	-0.1193	0.3007	-1.4202	0.3648
1	355.08	0.8001	-0.2255	0.0072	0.0954	0.1520	-0.3593	0.3264	-1.8027	0.3683
1	355.08	0.8497	-0.2407	0.0070	0.0824	0.1697	-0.6656	0.3567	-1.7783	0.3816
1	355.08	0.9102	-0.2555	0.0085	0.1137	0.1896	-1.1011	0.4068	-1.8038	0.4143
1	355.08	0.9734	-0.2268	0.0108	0.1092	0.2158	-1.5169	0.4708	-1.7541	0.4318
2	355.08	0.1949	0.0067	0.0020	0.0032	0.0008	-0.0081	0.0047	-0.0132	0.0314
2	355.08	0.2405	-0.0084	0.0015	-0.0129	0.0023	-0.0078	0.0096	-0.0786	0.0528
2	355.08	0.2999	-0.0005	0.0015	-0.0085	0.0049	-0.0388	0.0186	-0.0643	0.0761
2	355.08	0.3498	-0.0112	0.0022	-0.0088	0.0076	-0.0544	0.0272	-0.0153	0.0836
2	355.08	0.3998	-0.0160	0.0031	-0.0274	0.0132	-0.0921	0.0440	-0.0807	0.0987
2	355.08	0.4496	-0.0184	0.0037	-0.0519	0.0152	-0.0908	0.0546	-0.0353	0.1051
2	355.08	0.4995	-0.0194	0.0046	-0.0849	0.0199	-0.1258	0.0699	-0.1784	0.1087
2	355.08	0.5551	-0.0133	0.0054	-0.1245	0.0257	-0.1574	0.0863	-0.2418	0.1204
2	355.08	0.5996	-0.0261	0.0060	-0.1616	0.0311	-0.1757	0.0995	-0.1692	0.1185
2	355.08	0.6497	-0.0188	0.0068	-0.1965	0.0381	-0.2608	0.1141	-0.0632	0.1286
2	355.08	0.6996	-0.0113	0.0075	-0.2515	0.0447	-0.4366	0.1313	-0.0487	0.1295
2	355.08	0.7495	-0.0261	0.0084	-0.2971	0.0517	-0.7040	0.1491	-0.1482	0.1406
2	355.08	0.7996	-0.0235	0.0087	-0.3588	0.0598	-1.0795	0.1664	-0.2592	0.1588
2	355.08	0.8578	-0.0621	0.0106	-0.4207	0.0692	-1.5672	0.1926	0.0376	0.1696
2	355.08	0.9100	-0.0704	0.0106	-0.4421	0.0785	-2.0417	0.2151	0.1525	0.1727
2	355.08	0.9727	-0.1192	0.0131	-0.4013	0.0890	-2.5251	0.2482	0.2463	0.1824
3	355.08	0.1938	0.0431	0.0027	-0.0111	0.0020	0.0439	0.0110	-0.0939	0.0725
3	355.08	0.2357	0.0169	0.0018	0.0070	0.0035	0.0492	0.0153	0.0130	0.1310
3	355.08	0.2995	-0.0238	0.0016	-0.0351	0.0078	0.1416	0.0325	-0.1218	0.1740
3	355.08	0.3493	-0.0477	0.0023	-0.0513	0.0147	0.1953	0.0528	-0.1515	0.1711
3	355.08	0.4000	-0.0614	0.0025	-0.0801	0.0224	0.3063	0.0769	0.0367	0.1736
3	355.08	0.4497	-0.0886	0.0027	-0.1314	0.0283	0.3909	0.0977	-0.1988	0.1992
3	355.08	0.4997	-0.1346	0.0029	-0.1735	0.0352	0.4883	0.1215	-0.2458	0.2143
3	355.08	0.5556	-0.1518	0.0030	-0.2224	0.0430	0.6287	0.1518	-0.0291	0.2138
3	355.08	0.5995	-0.1696	0.0038	-0.2786	0.0491	0.6630	0.1735	-0.1940	0.2150
3	355.08	0.6498	-0.1869	0.0040	-0.3416	0.0587	0.6745	0.2022	-0.3230	0.2241
3	355.08	0.6890	-0.2355	0.0044	-0.4195	0.0657	0.6327	0.2232	-0.2168	0.2279
3	355.08	0.7495	-0.2077	0.0052	-0.4934	0.0761	0.4559	0.2578	-0.4314	0.2234
3	355.08	0.7998	-0.2111	0.0049	-0.5610	0.0870	0.1609	0.2892	-0.4849	0.2448
3	355.08	0.8577	-0.1976	0.0074	-0.6508	0.0987	-0.3037	0.3272	-0.6212	0.2513
3	355.08	0.9729	-0.2660	0.0116	-0.7637	0.1218	-1.3806	0.4149	-0.6439	0.2631
4	355.08	0.2001	0.0330	0.0028	0.0051	0.0020	-0.0168	0.0070	-0.0177	0.0732
4	355.08	0.2502	0.0233	0.0019	0.0159	0.0043	-0.0263	0.0132	-0.0316	0.1232
4	355.08	0.3001	0.0020	0.0018	0.0249	0.0069	-0.0342	0.0217	-0.0503	0.1641
4	355.08	0.3502	-0.0367	0.0020	0.0569	0.0122	-0.0557	0.0347	-0.0127	0.1484
4	355.08	0.4002	-0.0672	0.0026	0.0835	0.0187	-0.0712	0.0521	-0.0574	0.1495
4	355.08	0.4500	-0.0859	0.0024	0.1061	0.0228	-0.1062	0.0698	-0.3150	0.1484
4	355.08	0.5001	-0.1183	0.0025	0.1198	0.0282	-0.1296	0.0873	-0.2238	0.1526
4	355.08	0.5560	-0.1475	0.0026	0.1347	0.0351	-0.2332	0.1076	-0.4415	0.1646
4	355.08	0.6001	-0.1622	0.0028	0.1559	0.0411	-0.2874	0.1246	-0.3819	0.1685
4	355.08	0.6501	-0.2079	0.0028	0.1315	0.0479	-0.4185	0.1455	-0.2874	0.1777
4	355.08	0.6999	-0.2079	0.0030	0.1171	0.0547	-0.6199	0.1632	-0.2470	0.1919
4	355.08	0.7500	-0.2285	0.0033	0.1205	0.0631	-0.9016	0.1866	-0.1849	0.1937
4	355.08	0.8002	-0.2407	0.0049	0.1041	0.0711	-1.3647	0.2066	-0.4968	0.2065
4	355.08	0.8582	-0.2324	0.0059	0.1097	0.0811	-1.9409	0.2355	-0.5159	0.2202
4	355.08	0.9101	-0.2453	0.0066	0.0949	0.0901	-2.5525	0.2667	-0.5651	0.2251
4	355.08	0.9728	-0.2426	0.0100	0.1288	0.1007	-3.0997	0.3065	0.0756	0.2384

2.12 Run 50, Points 12 to 15

2.12.1 Pitch, Flap, and Lag

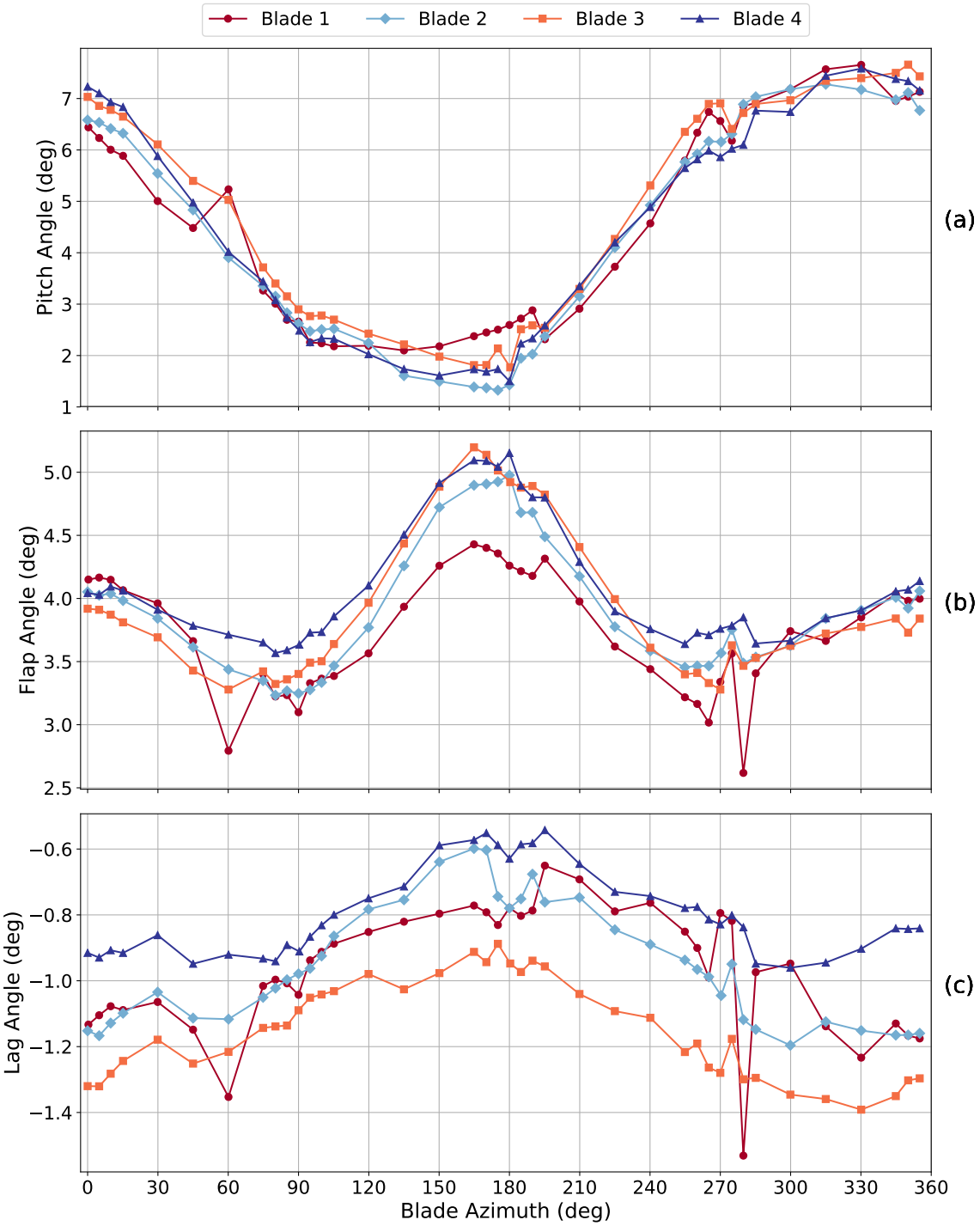


Figure 2.12-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.08, μ = 0.15, α = 4°
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-1. Pitch, flap, and lag vs azimuth for Blade 1.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	6.4398	4.1499	-1.1331	0.0806	0.0431	0.0340
4.92	6.2326	4.1656	-1.1047	0.0668	0.0418	0.0453
9.84	6.0043	4.1480	-1.0774	0.0633	0.0445	0.0258
15.12	5.8855	4.0654	-1.0890	0.0643	0.0423	0.0279
29.88	5.0051	3.9611	-1.0644	0.0609	0.0497	0.0192
45	4.4815	3.6620	-1.1485	0.0660	0.0433	0.0294
60.12	5.2329	2.7938	-1.3529	0.1634	0.0726	0.0419
74.88	3.2651	3.4014	-1.0158	0.0592	0.0489	0.0188
80.16	3.0089	3.2236	-0.9967	0.0489	0.0448	0.0187
85.08	2.6955	3.2343	-1.0078	0.0630	0.0483	0.0187
90	2.6591	3.0987	-1.0426	0.0666	0.0445	0.0309
94.92	2.2556	3.3289	-0.9379	0.0650	0.0370	0.0313
99.84	2.2387	3.3648	-0.9121	0.0734	0.0427	0.0212
105.12	2.1799	3.3861	-0.8875	0.0705	0.0347	0.0292
119.88	2.1905	3.5652	-0.8518	0.0540	0.0235	0.0151
135	2.0992	3.9346	-0.8207	0.0621	0.0479	0.0363
150.12	2.1798	4.2595	-0.7962	0.0826	0.0373	0.0203
164.88	2.3764	4.4289	-0.7716	0.0702	0.0357	0.0213
170.16	2.4486	4.4009	-0.7920	0.0733	0.0348	0.0214
175.08	2.5037	4.3569	-0.8307	0.0820	0.0404	0.0295
180	2.5950	4.2602	-0.7786	0.0664	0.0461	0.0227
184.92	2.7191	4.2163	-0.8029	0.0636	0.0424	0.0304
189.84	2.8798	4.1789	-0.7867	0.0935	0.0576	0.0457
195.12	2.3170	4.3157	-0.6504	0.0731	0.0576	0.0246
209.88	2.9105	3.9762	-0.6922	0.0550	0.0503	0.0333
225	3.7279	3.6193	-0.7893	0.0817	0.0645	0.0303
240.12	4.5707	3.4401	-0.7634	0.0770	0.0519	0.0366
254.88	5.7931	3.2174	-0.8508	0.0630	0.0544	0.0304
260.16	6.3355	3.1645	-0.9004	0.0798	0.0616	0.0288
265.08	6.7395	3.0167	-0.9901	0.0950	0.0636	0.0337
270	6.5631	3.3395	-0.7944	0.0922	0.0830	0.0302
274.92	6.1782	3.5642	-0.8181	0.0666	0.0436	0.0340
279.84	6.8542	2.6182	-1.5310	0.0734	0.0439	0.0360
285.12	6.9123	3.4068	-0.9739	0.0660	0.0289	0.0219
299.88	7.1807	3.7409	-0.9478	0.0874	0.0459	0.0308
315	7.5685	3.6638	-1.1383	0.0735	0.0392	0.0241
330.12	7.6544	3.8501	-1.2335	0.0711	0.0495	0.0222
344.88	6.9539	4.0351	-1.1299	0.0938	0.0395	0.0306
350.16	7.0360	3.9815	-1.1665	0.0768	0.0405	0.0334
355.08	7.1304	3.9980	-1.1752	0.1043	0.0617	0.0383

Table 2.12-2. Pitch, flap, and lag vs azimuth for Blade 2.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	6.5809	4.0523	-1.1519	0.0821	0.0408	0.0289
4.92	6.5340	4.0258	-1.1669	0.0853	0.0395	0.0361
9.84	6.4147	4.0380	-1.1285	0.0657	0.0345	0.0215
15.12	6.3228	3.9834	-1.0985	0.0601	0.0458	0.0243
29.88	5.5421	3.8422	-1.0346	0.0653	0.0447	0.0175
45	4.8328	3.6145	-1.1134	0.0543	0.0480	0.0273
60.12	3.9044	3.4380	-1.1166	0.1078	0.0556	0.0247
74.88	3.3543	3.3484	-1.0504	0.0483	0.0496	0.0249
80.16	3.1533	3.2335	-1.0224	0.0552	0.0462	0.0332
85.08	2.8304	3.2683	-0.9969	0.0535	0.0371	0.0223
90	2.6202	3.2481	-0.9788	0.0510	0.0494	0.0177
94.92	2.4732	3.2769	-0.9625	0.0500	0.0387	0.0241
99.84	2.5057	3.3350	-0.9248	0.0567	0.0435	0.0249
105.12	2.5203	3.4666	-0.8643	0.0517	0.0482	0.0225
119.88	2.2450	3.7699	-0.7831	0.0719	0.0536	0.0274
135	1.6080	4.2582	-0.7542	0.0583	0.0384	0.0309
150.12	1.4969	4.7226	-0.6389	0.0661	0.0543	0.0355
164.88	1.3885	4.8970	-0.5984	0.0691	0.0425	0.0379
170.16	1.3704	4.9071	-0.6030	0.0630	0.0431	0.0284
175.08	1.3260	4.9250	-0.7443	0.0693	0.0435	0.0330
180	1.4273	4.9768	-0.7798	0.1441	0.1412	0.0602
184.92	1.9474	4.6801	-0.7513	0.0564	0.0414	0.0338
189.84	2.0262	4.6820	-0.6763	0.0507	0.0398	0.0263
195.12	2.3747	4.4891	-0.7613	0.0803	0.0593	0.0316
209.88	3.1520	4.1757	-0.7473	0.0609	0.0593	0.0292
225	4.1035	3.7759	-0.8451	0.0856	0.0409	0.0316
240.12	4.9251	3.5848	-0.8898	0.0529	0.0473	0.0219
254.88	5.7652	3.4550	-0.9372	0.0918	0.0543	0.0220
260.16	5.9233	3.4658	-0.9655	0.0857	0.0570	0.0286
265.08	6.1668	3.4656	-0.9881	0.0713	0.0511	0.0196
270.35	6.1578	3.5674	-1.0449	0.1242	0.0500	0.0282
274.92	6.3103	3.7540	-0.9495	0.0972	0.0356	0.0382
279.84	6.8882	3.4874	-1.1182	0.1047	0.0572	0.0290
285.12	7.0345	3.5352	-1.1478	0.0679	0.0369	0.0353
299.88	7.1819	3.6259	-1.1960	0.0509	0.0503	0.0254
315	7.2773	3.8419	-1.1244	0.0748	0.0386	0.0224
330.12	7.1728	3.9066	-1.1512	0.0631	0.0516	0.0221
344.88	6.9749	4.0088	-1.1651	0.0779	0.0393	0.0211
350.16	7.1142	3.9227	-1.1647	0.0763	0.0411	0.0253
355.08	6.7682	4.0592	-1.1596	0.0665	0.0455	0.0272

Table 2.12-3. Pitch, flap, and lag vs azimuth for Blade 3.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	7.0316	3.9189	-1.3200	0.0710	0.0487	0.0258
4.92	6.8574	3.9105	-1.3205	0.0763	0.0309	0.0255
9.84	6.7798	3.8716	-1.2823	0.0738	0.0474	0.0264
15.12	6.6482	3.8109	-1.2435	0.0524	0.0460	0.0293
29.88	6.1067	3.6922	-1.1789	0.0585	0.0386	0.0310
45	5.3978	3.4291	-1.2515	0.0585	0.0416	0.0370
60.12	5.0281	3.2788	-1.2159	0.1137	0.0671	0.0376
74.88	3.7152	3.4225	-1.1432	0.0628	0.0505	0.0214
80.16	3.4012	3.3229	-1.1387	0.0626	0.0524	0.0228
85.08	3.1510	3.3590	-1.1360	0.0728	0.0525	0.0248
90	2.8987	3.4020	-1.0896	0.0651	0.0540	0.0279
94.92	2.7662	3.4918	-1.0514	0.0700	0.0549	0.0208
99.84	2.7793	3.5028	-1.0417	0.0586	0.0354	0.0292
105.12	2.6985	3.6391	-1.0315	0.0601	0.0503	0.0319
119.88	2.4265	3.9660	-0.9795	0.0637	0.0370	0.0268
135	2.2160	4.4350	-1.0260	0.0796	0.0330	0.0299
150.12	1.9795	4.8853	-0.9767	0.0595	0.0493	0.0242
164.88	1.8138	5.1971	-0.9123	0.0568	0.0479	0.0276
170.16	1.8148	5.1380	-0.9435	0.0604	0.0582	0.0216
175.08	2.1384	5.0141	-0.8878	0.0415	0.0560	0.0399
180.35	1.7695	4.9218	-0.9476	0.0953	0.1503	0.0850
184.92	2.5124	4.8782	-0.9734	0.0737	0.0452	0.0525
189.84	2.5879	4.8908	-0.9389	0.0542	0.0519	0.0387
195.12	2.5400	4.8226	-0.9565	0.0508	0.0592	0.0277
209.88	3.2960	4.4071	-1.0402	0.0400	0.0544	0.0339
225	4.2686	3.9946	-1.0922	0.0496	0.0657	0.0225
240.12	5.3087	3.6099	-1.1124	0.0668	0.0748	0.0229
254.88	6.3521	3.3988	-1.2164	0.0839	0.0623	0.0215
260.16	6.6066	3.4104	-1.1908	0.0440	0.0505	0.0240
265.08	6.8951	3.3300	-1.2636	0.0860	0.0453	0.0243
270	6.9074	3.2785	-1.2796	0.0922	0.0543	0.0240
274.92	6.4094	3.6290	-1.1765	0.1014	0.0608	0.0390
279.84	6.7190	3.4666	-1.2992	0.1236	0.0811	0.0277
285.12	6.8933	3.5298	-1.2949	0.1133	0.0487	0.0204
299.88	6.9666	3.6250	-1.3457	0.0749	0.0444	0.0287
315	7.3461	3.7222	-1.3592	0.1172	0.0395	0.0311
330.12	7.3973	3.7743	-1.3914	0.0861	0.0382	0.0293
344.88	7.4986	3.8413	-1.3503	0.0663	0.0476	0.0253
350.16	7.6593	3.7296	-1.3024	0.0934	0.0317	0.0333
355.08	7.4308	3.8407	-1.2963	0.0595	0.0280	0.0243

Table 2.12-4. Pitch, flap, and lag vs azimuth for Blade 4.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	7.2310	4.0429	-0.9154	0.0885	0.0492	0.0328
4.92	7.1011	4.0282	-0.9297	0.0817	0.0360	0.0286
9.84	6.9313	4.0944	-0.9074	0.0690	0.0364	0.0314
15.12	6.8340	4.0620	-0.9155	0.0735	0.0449	0.0274
29.88	5.8806	3.9108	-0.8615	0.0624	0.0393	0.0272
45	4.9762	3.7839	-0.9484	0.0840	0.0507	0.0284
60.12	4.0164	3.7131	-0.9207	0.0694	0.0471	0.0255
74.88	3.4403	3.6511	-0.9327	0.0714	0.0581	0.0292
80.16	3.0788	3.5676	-0.9409	0.0531	0.0511	0.0397
85.08	2.7374	3.5906	-0.8915	0.0647	0.0564	0.0203
90.35	2.4845	3.6339	-0.9111	0.0704	0.0447	0.0260
94.92	2.2596	3.7289	-0.8665	0.0559	0.0576	0.0365
99.84	2.3364	3.7341	-0.8315	0.0484	0.0516	0.0198
105.12	2.3260	3.8578	-0.7996	0.0504	0.0407	0.0247
119.88	2.0259	4.1022	-0.7497	0.0737	0.0475	0.0206
135	1.7357	4.5054	-0.7137	0.0650	0.0569	0.0253
150.12	1.6106	4.9153	-0.5888	0.0638	0.0298	0.0185
164.88	1.7334	5.0944	-0.5725	0.0702	0.0493	0.0224
170.16	1.6854	5.0895	-0.5514	0.0427	0.0504	0.0203
175.08	1.7359	5.0434	-0.5880	0.0550	0.0464	0.0228
180	1.5028	5.1521	-0.6294	0.1178	0.0591	0.0519
184.92	2.2342	4.8942	-0.5859	0.0682	0.0509	0.0322
189.84	2.3336	4.8019	-0.5823	0.0605	0.0494	0.0223
195.12	2.5839	4.7999	-0.5424	0.0651	0.0651	0.0280
209.88	3.3494	4.2897	-0.6451	0.0504	0.0619	0.0195
225	4.1994	3.8980	-0.7299	0.0879	0.0591	0.0447
240.12	4.8890	3.7576	-0.7429	0.0889	0.0588	0.0384
254.88	5.6477	3.6391	-0.7791	0.0594	0.0553	0.0273
260.16	5.8175	3.7282	-0.7758	0.0883	0.0425	0.0251
265.08	5.9873	3.7097	-0.8138	0.0503	0.0443	0.0277
270	5.8596	3.7602	-0.8289	0.0881	0.0508	0.0286
274.92	6.0238	3.7849	-0.8013	0.0641	0.0398	0.0232
279.84	6.0978	3.8501	-0.8378	0.1169	0.0463	0.0267
285.12	6.7645	3.6430	-0.9481	0.0658	0.0405	0.0207
299.88	6.7385	3.6657	-0.9606	0.0799	0.0246	0.0440
315	7.4426	3.8433	-0.9450	0.1088	0.0489	0.0205
330.12	7.5830	3.9058	-0.9029	0.0907	0.0367	0.0302
344.88	7.3807	4.0557	-0.8410	0.0565	0.0338	0.0316
350.16	7.3385	4.0700	-0.8427	0.0591	0.0401	0.0267
355.08	7.1554	4.1380	-0.8409	0.0804	0.0313	0.0349

2.12.2 Spanwise Elastic Deformations

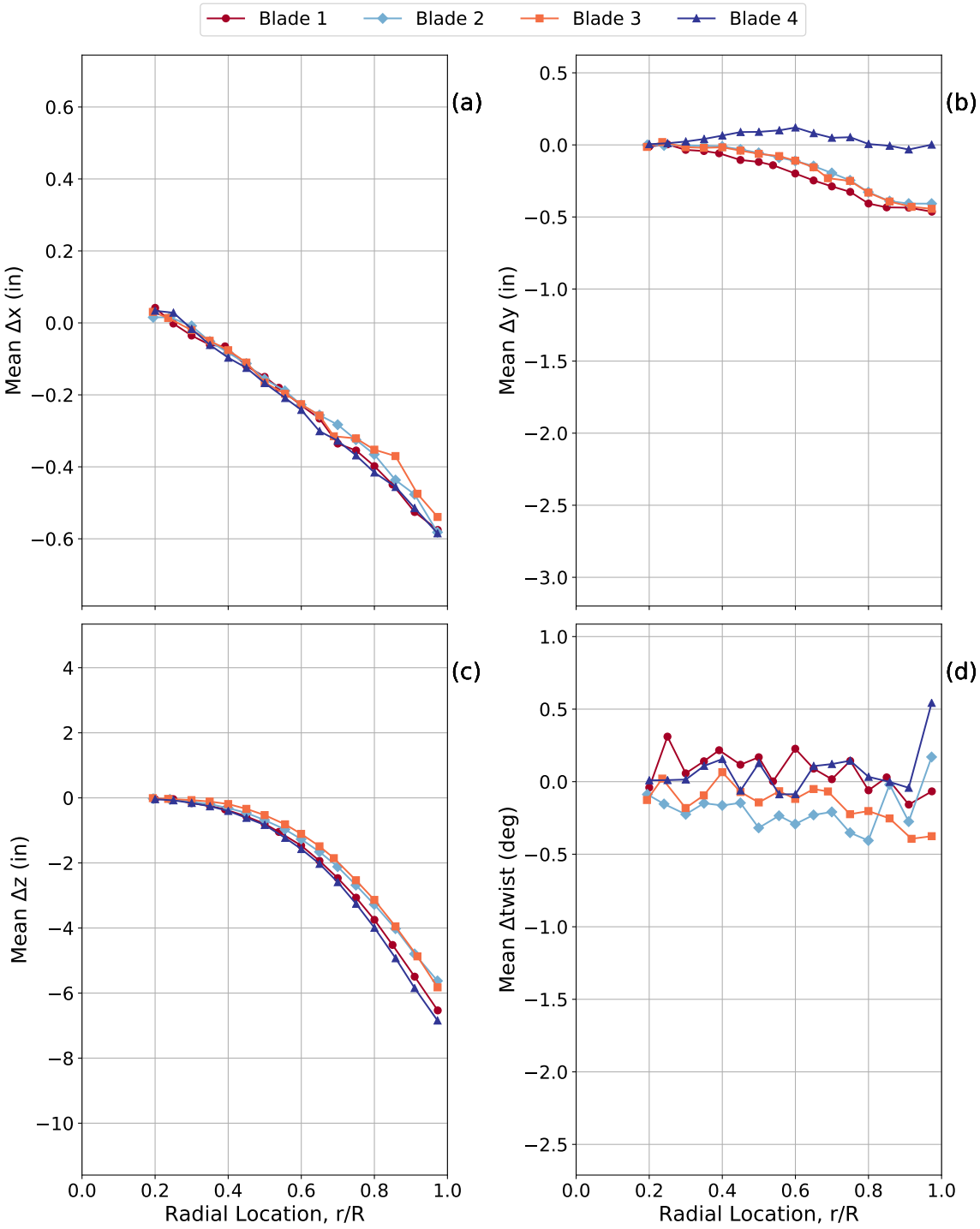


Figure 2.12-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-5. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0418	0.0028	-0.0118	0.0019	-0.0427	0.0039	-0.0405	0.0328
1	0.35	0.2499	-0.0019	0.0019	0.0038	0.0029	-0.0388	0.0066	0.3105	0.0670
1	0.35	0.2998	-0.0352	0.0016	-0.0346	0.0065	-0.1619	0.0130	0.0574	0.0765
1	0.35	0.3498	-0.0611	0.0017	-0.0426	0.0109	-0.2455	0.0215	0.1407	0.0731
1	0.35	0.3913	-0.0652	0.0020	-0.0584	0.0151	-0.3545	0.0300	0.2168	0.0693
1	0.35	0.4496	-0.1194	0.0020	-0.1046	0.0196	-0.5691	0.0415	0.1169	0.0722
1	0.35	0.4997	-0.1499	0.0022	-0.1180	0.0241	-0.7975	0.0519	0.1685	0.0748
1	0.35	0.5387	-0.1802	0.0023	-0.1410	0.0279	-1.0464	0.0595	0.0023	0.0743
1	0.35	0.5996	-0.2291	0.0028	-0.1986	0.0342	-1.4655	0.0718	0.2270	0.0778
1	0.35	0.6498	-0.2659	0.0027	-0.2467	0.0387	-1.9354	0.0821	0.0898	0.0759
1	0.35	0.6998	-0.3354	0.0028	-0.2881	0.0438	-2.4675	0.0907	0.0169	0.0731
1	0.35	0.7500	-0.3546	0.0036	-0.3260	0.0486	-3.0672	0.1023	0.1433	0.0789
1	0.35	0.8001	-0.3981	0.0039	-0.4069	0.0544	-3.7484	0.1135	-0.0596	0.0788
1	0.35	0.8497	-0.4493	0.0051	-0.4334	0.0598	-4.5212	0.1266	0.0297	0.0796
1	0.35	0.9102	-0.5256	0.0058	-0.4353	0.0663	-5.4954	0.1404	-0.1578	0.0901
1	0.35	0.9734	-0.5754	0.0073	-0.4633	0.0740	-6.5337	0.1572	-0.0667	0.1031
2	0	0.1949	0.0154	0.0024	0.0000	0.0014	-0.0250	0.0033	-0.0876	0.0270
2	0	0.2405	0.0157	0.0013	-0.0039	0.0021	-0.0442	0.0054	-0.1537	0.0607
2	0	0.2999	-0.0084	0.0012	-0.0027	0.0050	-0.1253	0.0116	-0.2251	0.0706
2	0	0.3498	-0.0515	0.0013	-0.0072	0.0086	-0.1896	0.0197	-0.1486	0.0617
2	0	0.3998	-0.0829	0.0017	-0.0111	0.0128	-0.3140	0.0295	-0.1638	0.0654
2	0	0.4496	-0.1129	0.0019	-0.0313	0.0162	-0.4609	0.0380	-0.1463	0.0656
2	0	0.4995	-0.1565	0.0021	-0.0553	0.0195	-0.6827	0.0471	-0.3185	0.0676
2	0	0.5551	-0.1887	0.0023	-0.0883	0.0237	-0.9679	0.0570	-0.2349	0.0666
2	0	0.5996	-0.2274	0.0022	-0.1112	0.0272	-1.2695	0.0648	-0.2922	0.0672
2	0	0.6497	-0.2562	0.0020	-0.1468	0.0316	-1.6584	0.0726	-0.2293	0.0651
2	0	0.6996	-0.2829	0.0025	-0.1951	0.0358	-2.1156	0.0806	-0.2084	0.0660
2	0	0.7495	-0.3247	0.0029	-0.2459	0.0394	-2.6820	0.0881	-0.3517	0.0719
2	0	0.7996	-0.3654	0.0034	-0.3277	0.0445	-3.2752	0.0974	-0.4057	0.0780
2	0	0.8578	-0.4368	0.0043	-0.3904	0.0490	-4.0214	0.1096	-0.0195	0.0679
2	0	0.9100	-0.4765	0.0051	-0.4071	0.0551	-4.7964	0.1201	-0.2752	0.0925
2	0	0.9727	-0.5818	0.0069	-0.4076	0.0580	-5.6256	0.1370	0.1700	0.0962
3	0	0.1938	0.0306	0.0019	-0.0140	0.0013	-0.0088	0.0033	-0.1263	0.0253
3	0	0.2357	0.0137	0.0017	0.0196	0.0024	-0.0314	0.0057	0.0213	0.0434
3	0	0.2995	-0.0200	0.0013	-0.0160	0.0043	-0.0686	0.0121	-0.1817	0.0565
3	0	0.3493	-0.0496	0.0015	-0.0202	0.0070	-0.1116	0.0203	-0.0944	0.0511
3	0	0.4000	-0.0759	0.0020	-0.0169	0.0112	-0.1901	0.0314	0.0655	0.0527
3	0	0.4497	-0.1102	0.0022	-0.0397	0.0136	-0.3378	0.0400	-0.0713	0.0554
3	0	0.4997	-0.1656	0.0021	-0.0620	0.0170	-0.5291	0.0503	-0.1431	0.0579
3	0	0.5556	-0.1971	0.0023	-0.0777	0.0207	-0.8128	0.0614	-0.0659	0.0558
3	0	0.5995	-0.2259	0.0027	-0.1093	0.0234	-1.1062	0.0708	-0.1189	0.0649
3	0	0.6498	-0.2573	0.0029	-0.1554	0.0273	-1.4883	0.0819	-0.0508	0.0572
3	0	0.6890	-0.3151	0.0031	-0.2311	0.0305	-1.8532	0.0908	-0.0674	0.0650
3	0	0.7495	-0.3209	0.0029	-0.2499	0.0353	-2.5316	0.1050	-0.2242	0.0685
3	0	0.7998	-0.3523	0.0038	-0.3310	0.0398	-3.1365	0.1160	-0.2024	0.0666
3	0	0.8577	-0.3701	0.0045	-0.3931	0.0445	-3.9509	0.1270	-0.2533	0.0712
3	0	0.9178	-0.4748	0.0064	-0.4297	0.0515	-4.8720	0.1408	-0.3937	0.0888
3	0	0.9729	-0.5393	0.0100	-0.4435	0.0538	-5.8243	0.1545	-0.3758	0.1043
4	0	0.2001	0.0336	0.0022	0.0050	0.0014	-0.0405	0.0035	0.0091	0.0307
4	0	0.2502	0.0283	0.0016	0.0113	0.0030	-0.0761	0.0062	0.0108	0.0586
4	0	0.3001	-0.0171	0.0013	0.0234	0.0055	-0.1568	0.0114	0.0147	0.0709
4	0	0.3502	-0.0615	0.0017	0.0410	0.0094	-0.2601	0.0194	0.1087	0.0599
4	0	0.4002	-0.0968	0.0021	0.0647	0.0146	-0.4027	0.0288	0.1560	0.0572
4	0	0.4500	-0.1252	0.0022	0.0890	0.0186	-0.6157	0.0374	-0.0611	0.0608
4	0	0.5001	-0.1674	0.0021	0.0903	0.0228	-0.8329	0.0475	0.1278	0.0595
4	0	0.5560	-0.2089	0.0023	0.1009	0.0277	-1.2303	0.0579	-0.0871	0.0592
4	0	0.6001	-0.2419	0.0024	0.1204	0.0322	-1.5735	0.0669	-0.0866	0.0586
4	0	0.6501	-0.3011	0.0024	0.0810	0.0369	-2.0294	0.0755	0.1075	0.0671
4	0	0.6999	-0.3276	0.0025	0.0492	0.0415	-2.5913	0.0837	0.1214	0.0592
4	0	0.7500	-0.3684	0.0028	0.0533	0.0473	-3.2580	0.0922	0.1445	0.0669
4	0	0.8002	-0.4159	0.0033	0.0060	0.0516	-3.9938	0.1020	0.0333	0.0660
4	0	0.8582	-0.4561	0.0038	-0.0064	0.0575	-4.9299	0.1128	-0.0020	0.0680
4	0	0.9101	-0.5146	0.0047	-0.0320	0.0630	-5.8469	0.1221	-0.0424	0.0805
4	0	0.9728	-0.5848	0.0075	0.0015	0.0699	-6.8455	0.1370	0.5431	0.0845

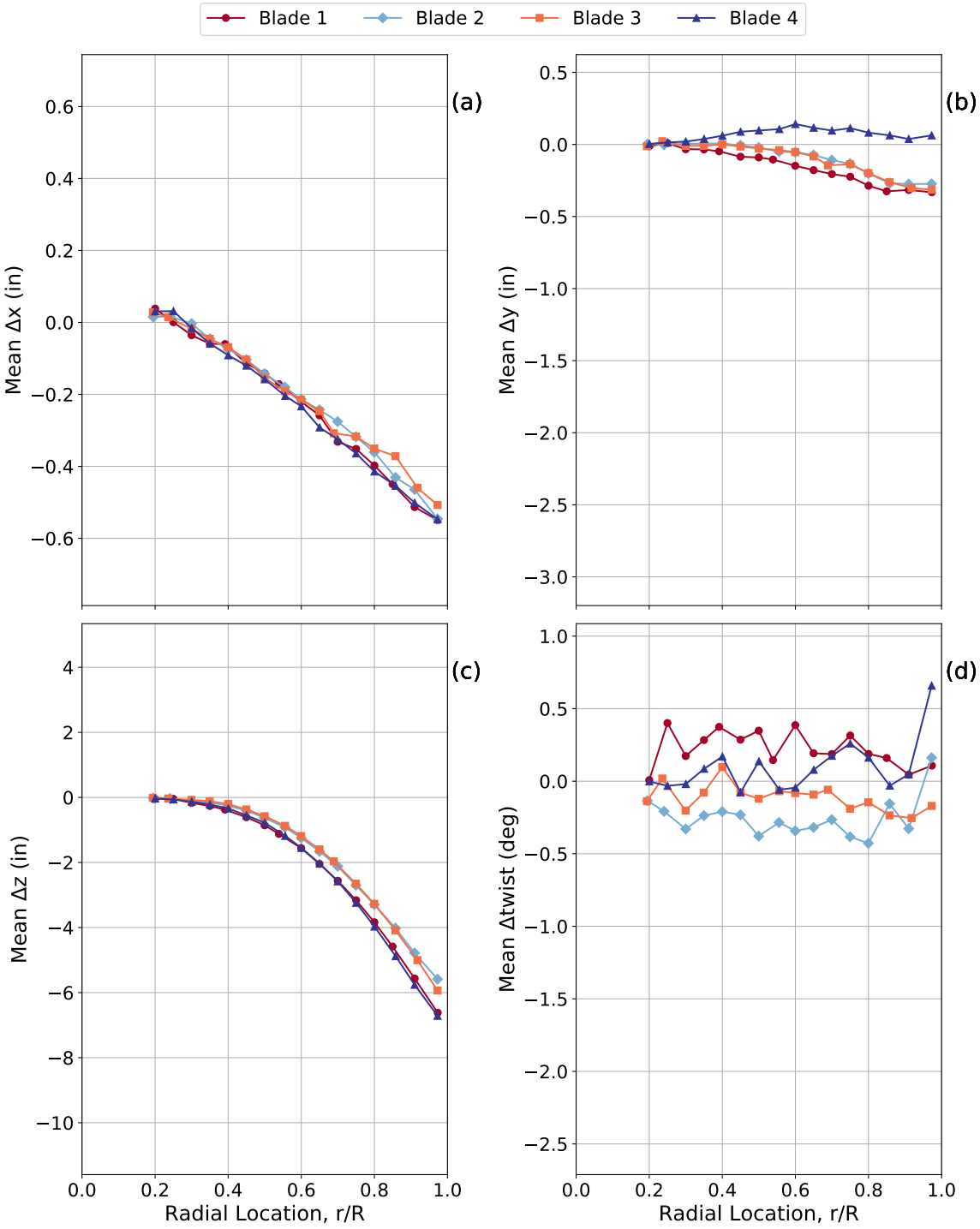


Figure 2.12-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-6. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0383	0.0030	-0.0120	0.0016	-0.0459	0.0040	0.0075	0.0317
1	4.92	0.2499	0.0007	0.0016	0.0086	0.0030	-0.0439	0.0069	0.4009	0.0586
1	4.92	0.2998	-0.0354	0.0014	-0.0331	0.0059	-0.1710	0.0131	0.1734	0.0715
1	4.92	0.3498	-0.0595	0.0019	-0.0347	0.0107	-0.2628	0.0227	0.2837	0.0650
1	4.92	0.3913	-0.0601	0.0021	-0.0478	0.0148	-0.3765	0.0311	0.3744	0.0655
1	4.92	0.4496	-0.1142	0.0025	-0.0853	0.0199	-0.6080	0.0422	0.2862	0.0706
1	4.92	0.4997	-0.1412	0.0025	-0.0903	0.0246	-0.8570	0.0519	0.3483	0.0684
1	4.92	0.5387	-0.1717	0.0027	-0.1050	0.0291	-1.1212	0.0602	0.1456	0.0648
1	4.92	0.5996	-0.2200	0.0029	-0.1478	0.0351	-1.5585	0.0719	0.3863	0.0680
1	4.92	0.6498	-0.2584	0.0033	-0.1785	0.0408	-2.0447	0.0821	0.1925	0.0761
1	4.92	0.6998	-0.3316	0.0034	-0.2056	0.0465	-2.5616	0.0911	0.1871	0.0715
1	4.92	0.7500	-0.3515	0.0034	-0.2241	0.0524	-3.1614	0.1022	0.3149	0.0800
1	4.92	0.8001	-0.3977	0.0038	-0.2864	0.0585	-3.8363	0.1128	0.1882	0.0811
1	4.92	0.8497	-0.4492	0.0043	-0.3254	0.0650	-4.5838	0.1245	0.1598	0.0827
1	4.92	0.9102	-0.5132	0.0059	-0.3157	0.0724	-5.5652	0.1383	0.0449	0.0856
1	4.92	0.9734	-0.5496	0.0066	-0.3318	0.0799	-6.6186	0.1553	0.1078	0.0919
2	4.92	0.1949	0.0149	0.0023	0.0021	0.0013	-0.0234	0.0031	-0.1339	0.0266
2	4.92	0.2405	0.0169	0.0015	-0.0021	0.0022	-0.0323	0.0048	-0.2074	0.0495
2	4.92	0.2999	-0.0032	0.0012	0.0040	0.0044	-0.1081	0.0098	-0.3292	0.0636
2	4.92	0.3498	-0.0457	0.0014	0.0056	0.0082	-0.1548	0.0165	-0.2369	0.0609
2	4.92	0.3998	-0.0738	0.0020	0.0069	0.0120	-0.2582	0.0245	-0.2097	0.0615
2	4.92	0.4496	-0.1034	0.0019	-0.0063	0.0147	-0.4039	0.0331	-0.2317	0.0626
2	4.92	0.4995	-0.1431	0.0019	-0.0212	0.0180	-0.6307	0.0421	-0.3783	0.0610
2	4.92	0.5551	-0.1796	0.0021	-0.0499	0.0213	-0.9195	0.0517	-0.2844	0.0630
2	4.92	0.5996	-0.2138	0.0024	-0.0539	0.0246	-1.2466	0.0601	-0.3421	0.0643
2	4.92	0.6497	-0.2426	0.0023	-0.0730	0.0277	-1.6606	0.0692	-0.3189	0.0575
2	4.92	0.6996	-0.2756	0.0022	-0.1089	0.0316	-2.1171	0.0783	-0.2649	0.0618
2	4.92	0.7495	-0.3179	0.0024	-0.1334	0.0350	-2.6983	0.0880	-0.3829	0.0620
2	4.92	0.7996	-0.3606	0.0030	-0.2018	0.0386	-3.2938	0.0964	-0.4281	0.0679
2	4.92	0.8578	-0.4308	0.0030	-0.2690	0.0434	-4.0179	0.1078	-0.1553	0.0660
2	4.92	0.9100	-0.4642	0.0037	-0.2749	0.0469	-4.7836	0.1163	-0.3269	0.0786
2	4.92	0.9727	-0.5457	0.0058	-0.2734	0.0521	-5.5852	0.1312	0.1614	0.0808
3	4.92	0.1938	0.0281	0.0022	-0.0128	0.0012	-0.0113	0.0036	-0.1379	0.0265
3	4.92	0.2357	0.0146	0.0015	0.0221	0.0021	-0.0327	0.0047	0.0185	0.0491
3	4.92	0.2995	-0.0174	0.0011	-0.0101	0.0041	-0.0755	0.0111	-0.2023	0.0610
3	4.92	0.3493	-0.0457	0.0014	-0.0094	0.0070	-0.1184	0.0191	-0.0786	0.0596
3	4.92	0.4000	-0.0686	0.0016	-0.0001	0.0109	-0.2016	0.0281	0.0970	0.0574
3	4.92	0.4497	-0.1031	0.0020	-0.0144	0.0131	-0.3702	0.0366	-0.0791	0.0609
3	4.92	0.4997	-0.1545	0.0024	-0.0287	0.0159	-0.5764	0.0448	-0.1205	0.0576
3	4.92	0.5556	-0.1914	0.0025	-0.0390	0.0193	-0.8733	0.0544	-0.0689	0.0547
3	4.92	0.5995	-0.2146	0.0025	-0.0531	0.0219	-1.1889	0.0605	-0.0817	0.0587
3	4.92	0.6498	-0.2464	0.0026	-0.0826	0.0249	-1.5993	0.0681	-0.0927	0.0666
3	4.92	0.6890	-0.3079	0.0026	-0.1451	0.0276	-1.9657	0.0753	-0.0585	0.0585
3	4.92	0.7495	-0.3168	0.0027	-0.1372	0.0317	-2.6532	0.0847	-0.1893	0.0655
3	4.92	0.7998	-0.3505	0.0028	-0.1987	0.0351	-3.2734	0.0940	-0.1456	0.0640
3	4.92	0.8577	-0.3716	0.0034	-0.2614	0.0395	-4.0866	0.1044	-0.2355	0.0723
3	4.92	0.9178	-0.4596	0.0050	-0.3026	0.0433	-5.0028	0.1167	-0.2542	0.0821
3	4.92	0.9729	-0.5072	0.0056	-0.3144	0.0470	-5.9339	0.1265	-0.1702	0.0809
4	4.92	0.2001	0.0306	0.0018	0.0034	0.0012	-0.0339	0.0033	-0.0016	0.0281
4	4.92	0.2502	0.0315	0.0013	0.0137	0.0022	-0.0645	0.0061	-0.0320	0.0496
4	4.92	0.3001	-0.0160	0.0011	0.0199	0.0042	-0.1326	0.0114	-0.0197	0.0639
4	4.92	0.3502	-0.0587	0.0014	0.0377	0.0068	-0.2183	0.0194	0.0857	0.0605
4	4.92	0.4002	-0.0914	0.0019	0.0605	0.0107	-0.3395	0.0292	0.1698	0.0547
4	4.92	0.4500	-0.1201	0.0022	0.0883	0.0139	-0.5530	0.0394	-0.0762	0.0549
4	4.92	0.5001	-0.1580	0.0021	0.0967	0.0170	-0.7788	0.0485	0.1368	0.0563
4	4.92	0.5560	-0.2042	0.0023	0.1063	0.0200	-1.1831	0.0580	-0.0585	0.0532
4	4.92	0.6001	-0.2332	0.0025	0.1412	0.0226	-1.5505	0.0656	-0.0444	0.0583
4	4.92	0.6501	-0.2919	0.0026	0.1155	0.0258	-2.0305	0.0731	0.0787	0.0662
4	4.92	0.6999	-0.3250	0.0027	0.0961	0.0284	-2.5817	0.0806	0.1752	0.0555
4	4.92	0.7500	-0.3640	0.0031	0.1130	0.0321	-3.2398	0.0893	0.2601	0.0611
4	4.92	0.8002	-0.4143	0.0032	0.0816	0.0354	-3.9702	0.0967	0.1620	0.0581
4	4.92	0.8582	-0.4541	0.0042	0.0627	0.0393	-4.8798	0.1079	-0.0307	0.0634
4	4.92	0.9101	-0.5011	0.0048	0.0377	0.0436	-5.7597	0.1189	0.0474	0.0670
4	4.92	0.9728	-0.5470	0.0057	0.0626	0.0475	-6.7131	0.1328	0.6587	0.0719

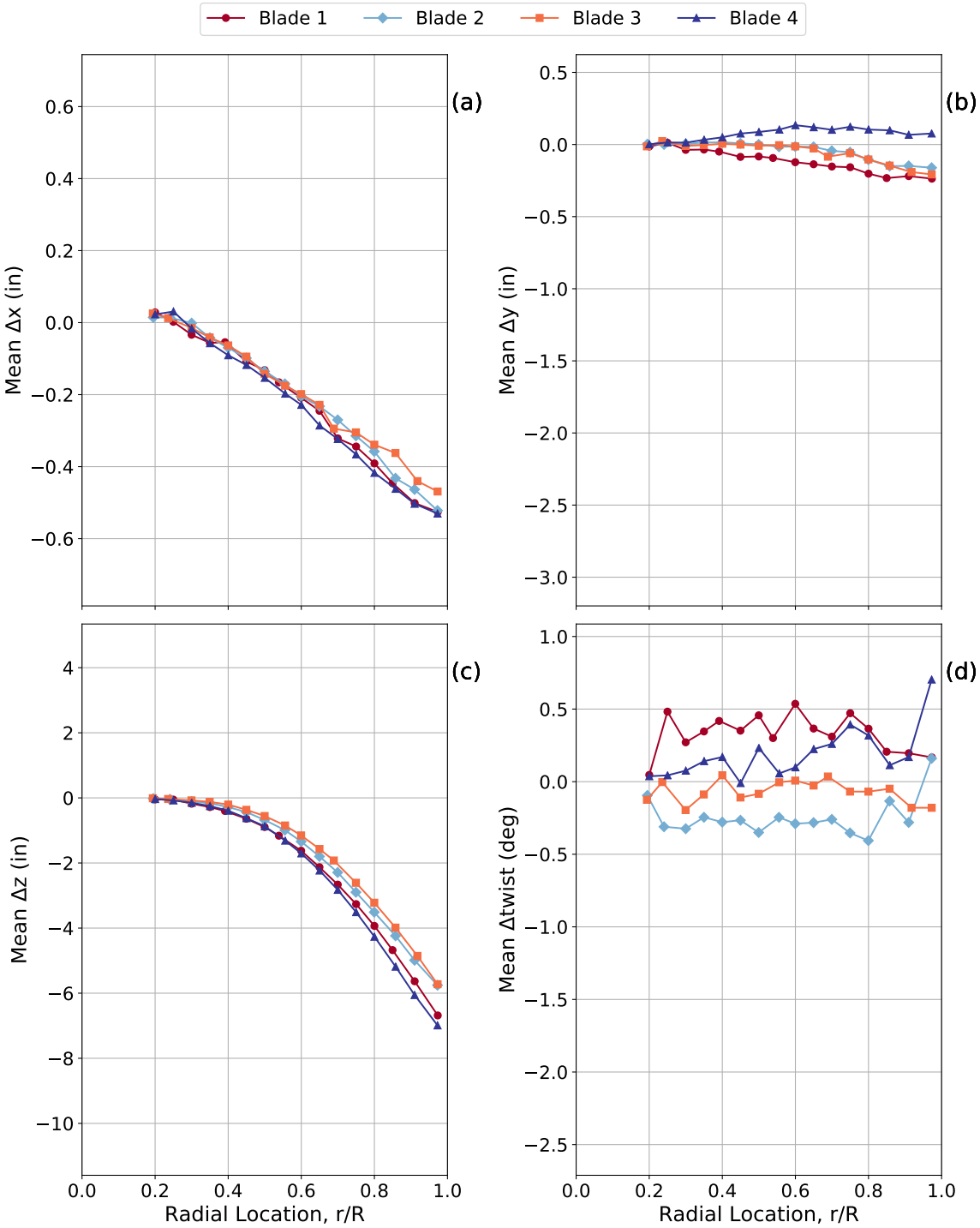


Figure 2.12-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-7. 10° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0284	0.0026	-0.0135	0.0016	-0.0471	0.0042	0.0464	0.0313
1	9.84	0.2499	0.0023	0.0014	0.0121	0.0028	-0.0530	0.0067	0.4824	0.0572
1	9.84	0.2998	-0.0337	0.0017	-0.0370	0.0057	-0.1785	0.0138	0.2712	0.0715
1	9.84	0.3498	-0.0563	0.0018	-0.0348	0.0102	-0.2818	0.0237	0.3460	0.0591
1	9.84	0.3913	-0.0544	0.0025	-0.0491	0.0141	-0.4031	0.0325	0.4184	0.0645
1	9.84	0.4496	-0.1082	0.0027	-0.0858	0.0189	-0.6398	0.0439	0.3516	0.0666
1	9.84	0.4997	-0.1319	0.0028	-0.0829	0.0232	-0.8954	0.0541	0.4571	0.0653
1	9.84	0.5387	-0.1658	0.0029	-0.0934	0.0264	-1.1616	0.0602	0.3003	0.0676
1	9.84	0.5996	-0.2086	0.0030	-0.1227	0.0315	-1.6232	0.0713	0.5363	0.0659
1	9.84	0.6498	-0.2449	0.0031	-0.1368	0.0363	-2.1296	0.0801	0.3658	0.0590
1	9.84	0.6998	-0.3214	0.0030	-0.1526	0.0414	-2.6642	0.0889	0.3101	0.0706
1	9.84	0.7500	-0.3441	0.0031	-0.1575	0.0461	-3.2631	0.0988	0.4717	0.0655
1	9.84	0.8001	-0.3910	0.0037	-0.2022	0.0512	-3.9336	0.1085	0.3648	0.0720
1	9.84	0.8497	-0.4459	0.0039	-0.2326	0.0561	-4.6770	0.1199	0.2063	0.0763
1	9.84	0.9102	-0.5011	0.0044	-0.2191	0.0628	-5.6338	0.1336	0.1959	0.0774
1	9.84	0.9734	-0.5259	0.0059	-0.2366	0.0699	-6.6835	0.1481	0.1672	0.0824
2	9.84	0.1949	0.0145	0.0026	0.0026	0.0010	-0.0208	0.0029	-0.0948	0.0216
2	9.84	0.2405	0.0141	0.0016	0.0005	0.0019	-0.0459	0.0048	-0.3107	0.0476
2	9.84	0.2999	-0.0014	0.0011	0.0048	0.0039	-0.1134	0.0100	-0.3240	0.0557
2	9.84	0.3498	-0.0420	0.0018	0.0138	0.0066	-0.1658	0.0175	-0.2453	0.0533
2	9.84	0.3998	-0.0698	0.0024	0.0152	0.0102	-0.2822	0.0258	-0.2788	0.0546
2	9.84	0.4496	-0.0986	0.0023	0.0083	0.0130	-0.4373	0.0336	-0.2657	0.0547
2	9.84	0.4995	-0.1353	0.0025	0.0008	0.0159	-0.6760	0.0414	-0.3500	0.0574
2	9.84	0.5551	-0.1701	0.0025	-0.0156	0.0192	-0.9908	0.0497	-0.2456	0.0560
2	9.84	0.5996	-0.2050	0.0026	-0.0138	0.0218	-1.3404	0.0556	-0.2896	0.0574
2	9.84	0.6497	-0.2323	0.0026	-0.0165	0.0252	-1.7990	0.0625	-0.2822	0.0590
2	9.84	0.6996	-0.2701	0.0031	-0.0440	0.0292	-2.2917	0.0702	-0.2598	0.0601
2	9.84	0.7495	-0.3145	0.0031	-0.0532	0.0323	-2.8985	0.0775	-0.3532	0.0599
2	9.84	0.7996	-0.3577	0.0034	-0.1049	0.0365	-3.5110	0.0856	-0.4062	0.0638
2	9.84	0.8578	-0.4323	0.0041	-0.1499	0.0416	-4.2370	0.0957	-0.1337	0.0660
2	9.84	0.9100	-0.4633	0.0041	-0.1482	0.0457	-4.9881	0.1061	-0.2809	0.0635
2	9.84	0.9727	-0.5219	0.0054	-0.1609	0.0511	-5.7552	0.1179	0.1604	0.0666
3	9.84	0.1938	0.0255	0.0020	-0.0126	0.0009	-0.0116	0.0029	-0.1247	0.0213
3	9.84	0.2357	0.0126	0.0018	0.0239	0.0022	-0.0349	0.0043	-0.0027	0.0431
3	9.84	0.2995	-0.0146	0.0010	-0.0100	0.0035	-0.0762	0.0094	-0.1956	0.0526
3	9.84	0.3493	-0.0411	0.0018	-0.0037	0.0067	-0.1218	0.0160	-0.0881	0.0515
3	9.84	0.4000	-0.0633	0.0024	0.0053	0.0102	-0.2053	0.0238	0.0442	0.0515
3	9.84	0.4497	-0.0944	0.0024	-0.0006	0.0130	-0.3665	0.0309	-0.1090	0.0519
3	9.84	0.4997	-0.1422	0.0025	-0.0086	0.0155	-0.5567	0.0390	-0.0835	0.0493
3	9.84	0.5556	-0.1752	0.0026	-0.0045	0.0184	-0.8477	0.0473	-0.0043	0.0482
3	9.84	0.5995	-0.1985	0.0027	-0.0129	0.0213	-1.1528	0.0544	0.0075	0.0498
3	9.84	0.6498	-0.2285	0.0025	-0.0271	0.0241	-1.5699	0.0622	-0.0266	0.0565
3	9.84	0.6890	-0.2945	0.0029	-0.0844	0.0266	-1.9235	0.0678	0.0355	0.0531
3	9.84	0.7495	-0.3048	0.0030	-0.0598	0.0304	-2.6078	0.0765	-0.0683	0.0549
3	9.84	0.7998	-0.3390	0.0032	-0.1035	0.0338	-3.2211	0.0846	-0.0686	0.0558
3	9.84	0.8577	-0.3621	0.0034	-0.1461	0.0379	-3.9850	0.0932	-0.0486	0.0560
3	9.84	0.9178	-0.4402	0.0045	-0.1909	0.0418	-4.8556	0.1042	-0.1796	0.0817
3	9.84	0.9729	-0.4690	0.0050	-0.2073	0.0460	-5.7248	0.1133	-0.1797	0.0702
4	9.84	0.2001	0.0229	0.0025	0.0019	0.0012	-0.0362	0.0035	0.0373	0.0219
4	9.84	0.2502	0.0308	0.0013	0.0142	0.0019	-0.0788	0.0064	0.0436	0.0412
4	9.84	0.3001	-0.0165	0.0011	0.0131	0.0044	-0.1503	0.0121	0.0758	0.0491
4	9.84	0.3502	-0.0573	0.0017	0.0331	0.0074	-0.2513	0.0209	0.1412	0.0445
4	9.84	0.4002	-0.0907	0.0023	0.0500	0.0113	-0.3945	0.0314	0.1698	0.0449
4	9.84	0.4500	-0.1177	0.0025	0.0760	0.0151	-0.6239	0.0411	-0.0098	0.0427
4	9.84	0.5001	-0.1534	0.0026	0.0870	0.0185	-0.8731	0.0506	0.2322	0.0441
4	9.84	0.5560	-0.1973	0.0028	0.1033	0.0222	-1.3141	0.0598	0.0567	0.0463
4	9.84	0.6001	-0.2285	0.0029	0.1339	0.0251	-1.7061	0.0677	0.0988	0.0455
4	9.84	0.6501	-0.2858	0.0031	0.1196	0.0288	-2.2327	0.0759	0.2242	0.0488
4	9.84	0.6999	-0.3233	0.0033	0.1021	0.0334	-2.8259	0.0856	0.2600	0.0500
4	9.84	0.7500	-0.3660	0.0037	0.1232	0.0378	-3.5113	0.0957	0.3932	0.0579
4	9.84	0.8002	-0.4173	0.0042	0.1036	0.0422	-4.2660	0.1067	0.3177	0.0581
4	9.84	0.8582	-0.4616	0.0048	0.0985	0.0471	-5.1861	0.1186	0.1134	0.0568
4	9.84	0.9101	-0.5032	0.0053	0.0672	0.0521	-6.0569	0.1321	0.1696	0.0643
4	9.84	0.9728	-0.5304	0.0071	0.0764	0.0574	-6.9898	0.1474	0.7033	0.0764

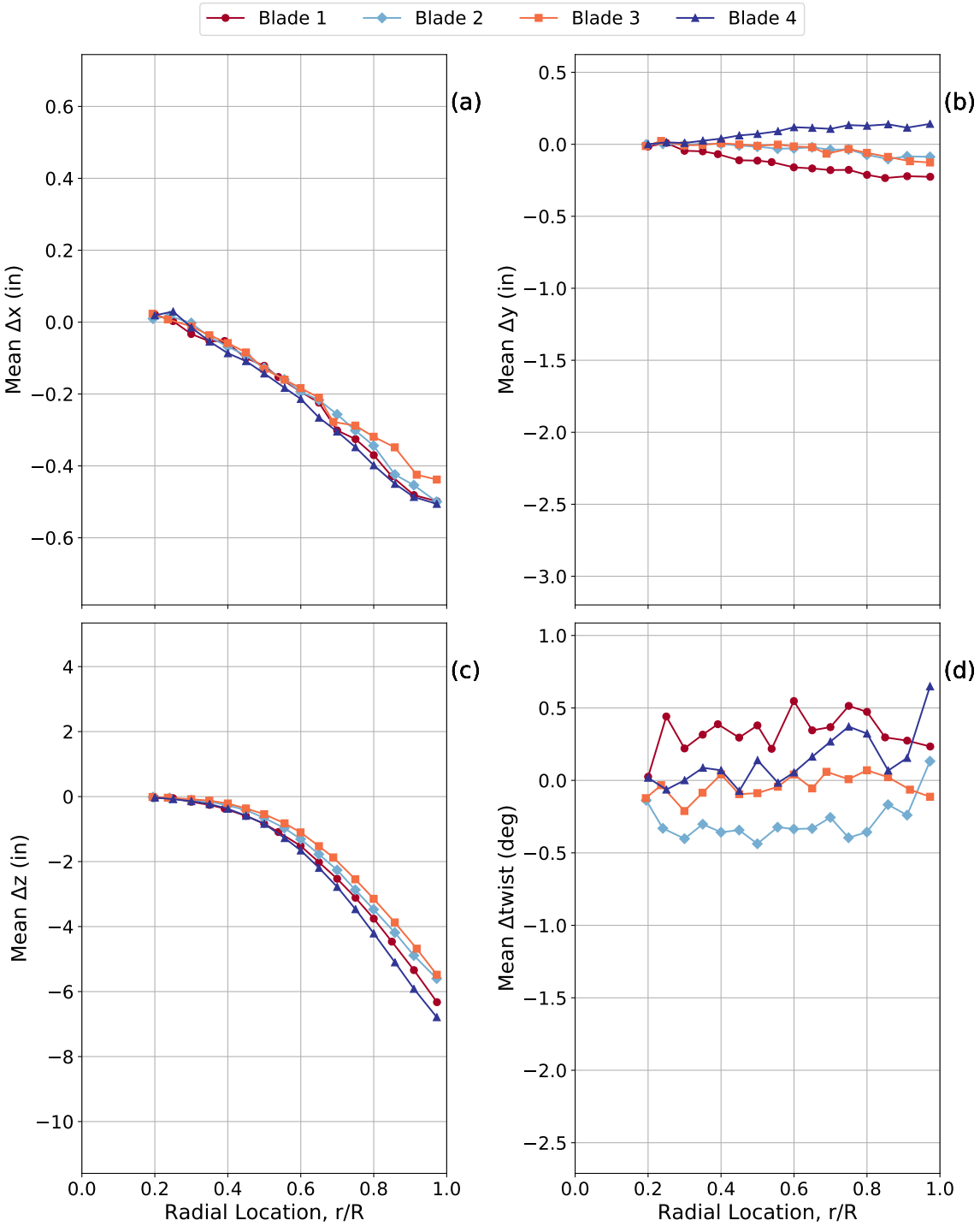


Figure 2.12-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-8. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0213	0.0027	-0.0157	0.0013	-0.0411	0.0036	0.0249	0.0250
1	15.12	0.2499	0.0028	0.0012	0.0094	0.0025	-0.0488	0.0063	0.4409	0.0484
1	15.12	0.2998	-0.0331	0.0012	-0.0451	0.0049	-0.1624	0.0117	0.2205	0.0578
1	15.12	0.3498	-0.0535	0.0020	-0.0489	0.0083	-0.2554	0.0207	0.3155	0.0521
1	15.12	0.3913	-0.0525	0.0024	-0.0685	0.0119	-0.3699	0.0282	0.3877	0.0528
1	15.12	0.4496	-0.0999	0.0026	-0.1109	0.0153	-0.5939	0.0389	0.2953	0.0505
1	15.12	0.4997	-0.1215	0.0026	-0.1137	0.0189	-0.8344	0.0484	0.3793	0.0525
1	15.12	0.5387	-0.1528	0.0025	-0.1237	0.0211	-1.0909	0.0555	0.2179	0.0526
1	15.12	0.5996	-0.1937	0.0027	-0.1602	0.0252	-1.5167	0.0662	0.5475	0.0593
1	15.12	0.6498	-0.2241	0.0030	-0.1678	0.0290	-2.0202	0.0763	0.3456	0.0516
1	15.12	0.6998	-0.3014	0.0031	-0.1791	0.0322	-2.5285	0.0855	0.3676	0.0573
1	15.12	0.7500	-0.3255	0.0034	-0.1776	0.0363	-3.1132	0.0955	0.5140	0.0542
1	15.12	0.8001	-0.3701	0.0038	-0.2124	0.0402	-3.7569	0.1048	0.4728	0.0582
1	15.12	0.8497	-0.4292	0.0042	-0.2344	0.0442	-4.4636	0.1130	0.2967	0.0622
1	15.12	0.9102	-0.4812	0.0048	-0.2216	0.0484	-5.3397	0.1242	0.2744	0.0688
1	15.12	0.9734	-0.4985	0.0062	-0.2258	0.0534	-6.3265	0.1358	0.2338	0.0644
2	15.12	0.1949	0.0094	0.0023	-0.0009	0.0010	-0.0175	0.0027	-0.1374	0.0214
2	15.12	0.2405	0.0169	0.0013	0.0031	0.0019	-0.0453	0.0052	-0.3308	0.0391
2	15.12	0.2999	-0.0024	0.0013	-0.0018	0.0036	-0.1084	0.0099	-0.4022	0.0510
2	15.12	0.3498	-0.0417	0.0016	0.0032	0.0060	-0.1543	0.0177	-0.3022	0.0524
2	15.12	0.3998	-0.0682	0.0022	0.0027	0.0093	-0.2705	0.0266	-0.3577	0.0517
2	15.12	0.4496	-0.0929	0.0028	-0.0085	0.0123	-0.4164	0.0355	-0.3429	0.0486
2	15.12	0.4995	-0.1276	0.0027	-0.0170	0.0149	-0.6535	0.0447	-0.4375	0.0514
2	15.12	0.5551	-0.1595	0.0025	-0.0307	0.0176	-0.9696	0.0553	-0.3229	0.0540
2	15.12	0.5996	-0.1938	0.0029	-0.0285	0.0201	-1.3099	0.0638	-0.3355	0.0519
2	15.12	0.6497	-0.2168	0.0028	-0.0209	0.0233	-1.7744	0.0730	-0.3320	0.0599
2	15.12	0.6996	-0.2567	0.0028	-0.0379	0.0261	-2.2594	0.0823	-0.2555	0.0550
2	15.12	0.7495	-0.3014	0.0032	-0.0355	0.0296	-2.8700	0.0908	-0.3956	0.0618
2	15.12	0.7996	-0.3437	0.0038	-0.0733	0.0330	-3.4720	0.1002	-0.3568	0.0593
2	15.12	0.8578	-0.4241	0.0044	-0.1023	0.0372	-4.1858	0.1116	-0.1675	0.0630
2	15.12	0.9100	-0.4537	0.0043	-0.0833	0.0409	-4.8893	0.1220	-0.2397	0.0571
2	15.12	0.9727	-0.4999	0.0054	-0.0875	0.0455	-5.5997	0.1384	0.1324	0.0744
3	15.12	0.1938	0.0233	0.0023	-0.0122	0.0010	-0.0126	0.0031	-0.1227	0.0180
3	15.12	0.2357	0.0075	0.0015	0.0231	0.0020	-0.0348	0.0056	-0.0331	0.0382
3	15.12	0.2995	-0.0116	0.0011	-0.0080	0.0039	-0.0808	0.0114	-0.2113	0.0438
3	15.12	0.3493	-0.0366	0.0015	-0.0038	0.0071	-0.1240	0.0197	-0.0850	0.0442
3	15.12	0.4000	-0.0583	0.0022	0.0072	0.0110	-0.2122	0.0300	0.0412	0.0419
3	15.12	0.4497	-0.0844	0.0027	-0.0009	0.0142	-0.3652	0.0394	-0.0950	0.0455
3	15.12	0.4997	-0.1302	0.0029	-0.0106	0.0176	-0.5412	0.0490	-0.0879	0.0471
3	15.12	0.5556	-0.1601	0.0028	-0.0024	0.0216	-0.8226	0.0602	-0.0437	0.0474
3	15.12	0.5995	-0.1837	0.0024	-0.0146	0.0247	-1.1021	0.0689	0.0407	0.0477
3	15.12	0.6498	-0.2101	0.0024	-0.0204	0.0284	-1.5262	0.0782	-0.0551	0.0504
3	15.12	0.6890	-0.2777	0.0025	-0.0651	0.0313	-1.8715	0.0851	0.0592	0.0509
3	15.12	0.7495	-0.2879	0.0028	-0.0326	0.0358	-2.5448	0.0952	0.0082	0.0483
3	15.12	0.7998	-0.3189	0.0031	-0.0595	0.0401	-3.1467	0.1035	0.0697	0.0518
3	15.12	0.8577	-0.3485	0.0034	-0.0877	0.0445	-3.8730	0.1144	0.0221	0.0547
3	15.12	0.9178	-0.4246	0.0039	-0.1176	0.0501	-4.6808	0.1265	-0.0639	0.0584
3	15.12	0.9729	-0.4381	0.0047	-0.1264	0.0549	-5.4808	0.1379	-0.1131	0.0619
4	15.12	0.2001	0.0187	0.0021	0.0003	0.0009	-0.0303	0.0032	0.0181	0.0226
4	15.12	0.2502	0.0294	0.0011	0.0136	0.0018	-0.0797	0.0056	-0.0634	0.0401
4	15.12	0.3001	-0.0149	0.0009	0.0091	0.0034	-0.1420	0.0105	0.0011	0.0509
4	15.12	0.3502	-0.0541	0.0012	0.0247	0.0057	-0.2308	0.0184	0.0870	0.0434
4	15.12	0.4002	-0.0867	0.0015	0.0394	0.0089	-0.3753	0.0273	0.0698	0.0413
4	15.12	0.4500	-0.1086	0.0015	0.0616	0.0109	-0.5916	0.0355	-0.0727	0.0437
4	15.12	0.5001	-0.1430	0.0017	0.0717	0.0129	-0.8384	0.0438	0.1391	0.0426
4	15.12	0.5560	-0.1831	0.0017	0.0906	0.0158	-1.2770	0.0533	-0.0162	0.0506
4	15.12	0.6001	-0.2139	0.0020	0.1185	0.0182	-1.6589	0.0599	0.0549	0.0514
4	15.12	0.6501	-0.2659	0.0020	0.1140	0.0205	-2.1944	0.0670	0.1636	0.0487
4	15.12	0.6999	-0.3046	0.0023	0.1071	0.0232	-2.7799	0.0732	0.2679	0.0563
4	15.12	0.7500	-0.3481	0.0023	0.1332	0.0262	-3.4650	0.0808	0.3709	0.0554
4	15.12	0.8002	-0.3984	0.0028	0.1286	0.0294	-4.2118	0.0877	0.3230	0.0622
4	15.12	0.8582	-0.4500	0.0034	0.1387	0.0331	-5.1019	0.0982	0.0679	0.0604
4	15.12	0.9101	-0.4865	0.0038	0.1153	0.0360	-5.9160	0.1101	0.1551	0.0585
4	15.12	0.9728	-0.5057	0.0050	0.1418	0.0404	-6.7887	0.1261	0.6492	0.0640

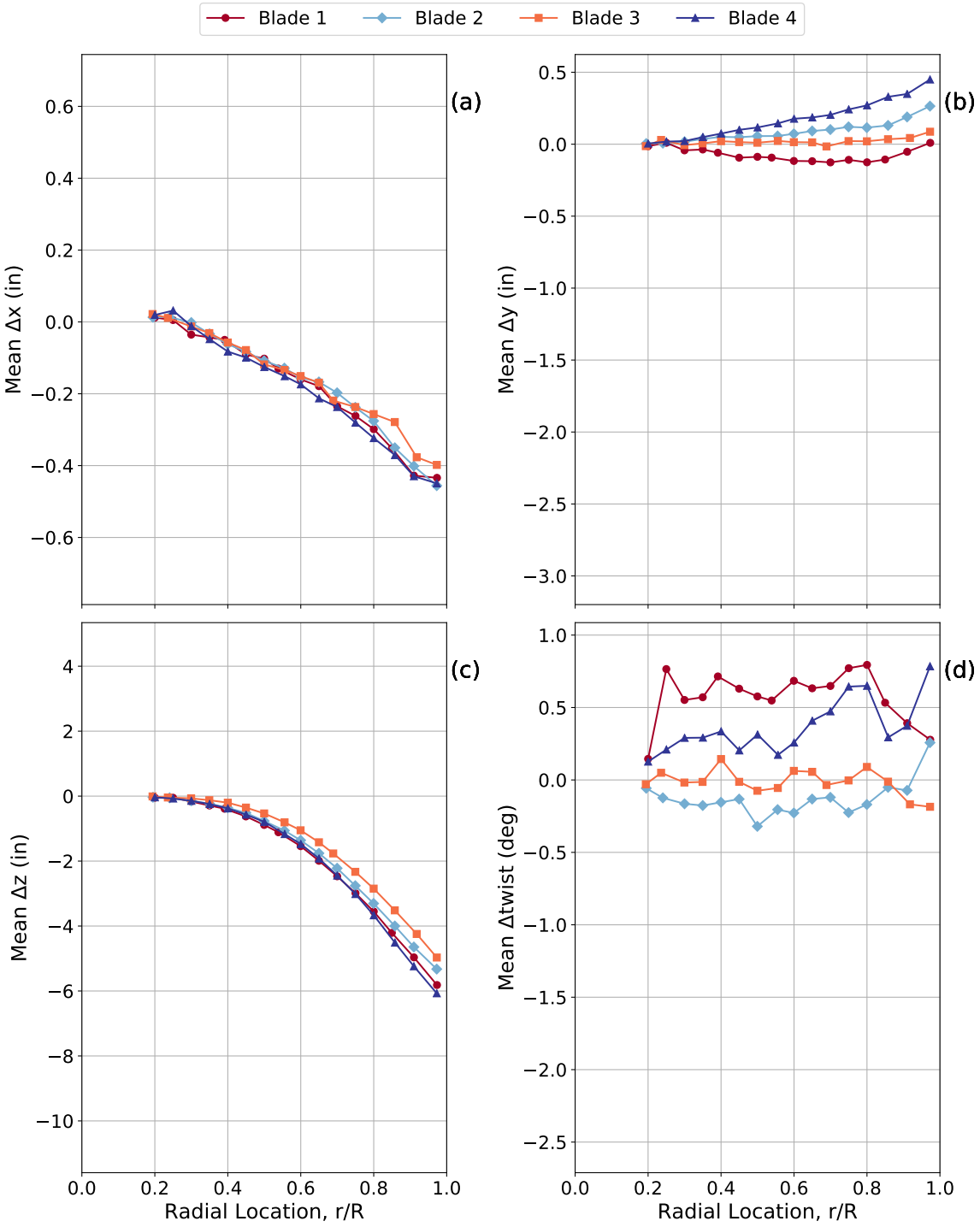


Figure 2.12-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-9. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0120	0.0024	-0.0135	0.0010	-0.0491	0.0032	0.1454	0.0226
1	29.88	0.2499	0.0052	0.0021	0.0098	0.0021	-0.0496	0.0059	0.7654	0.0514
1	29.88	0.2998	-0.0354	0.0014	-0.0427	0.0036	-0.1662	0.0117	0.5522	0.0551
1	29.88	0.3498	-0.0430	0.0020	-0.0367	0.0068	-0.2894	0.0197	0.5708	0.0499
1	29.88	0.3913	-0.0500	0.0031	-0.0592	0.0094	-0.3878	0.0279	0.7146	0.0488
1	29.88	0.4496	-0.0906	0.0038	-0.0938	0.0127	-0.6251	0.0383	0.6300	0.0529
1	29.88	0.4997	-0.1023	0.0037	-0.0877	0.0152	-0.8868	0.0475	0.5765	0.0521
1	29.88	0.5387	-0.1299	0.0035	-0.0932	0.0172	-1.1132	0.0550	0.5484	0.0535
1	29.88	0.5996	-0.1599	0.0033	-0.1163	0.0208	-1.5401	0.0663	0.6844	0.0542
1	29.88	0.6498	-0.1788	0.0035	-0.1180	0.0236	-1.9900	0.0757	0.6327	0.0633
1	29.88	0.6998	-0.2349	0.0036	-0.1263	0.0263	-2.4686	0.0864	0.6488	0.0584
1	29.88	0.7500	-0.2617	0.0039	-0.1087	0.0296	-2.9889	0.0963	0.7715	0.0573
1	29.88	0.8001	-0.2986	0.0042	-0.1257	0.0323	-3.5526	0.1062	0.7942	0.0603
1	29.88	0.8497	-0.3518	0.0047	-0.1065	0.0356	-4.2106	0.1157	0.5331	0.0667
1	29.88	0.9102	-0.4278	0.0051	-0.0526	0.0397	-4.9647	0.1280	0.3917	0.0655
1	29.88	0.9734	-0.4340	0.0059	0.0095	0.0442	-5.8162	0.1436	0.2775	0.0727
2	29.88	0.1949	0.0129	0.0020	0.0046	0.0010	-0.0351	0.0032	-0.0573	0.0202
2	29.88	0.2405	0.0133	0.0015	0.0073	0.0012	-0.0515	0.0046	-0.1237	0.0401
2	29.88	0.2999	-0.0017	0.0013	0.0174	0.0033	-0.1443	0.0116	-0.1645	0.0478
2	29.88	0.3498	-0.0332	0.0016	0.0361	0.0054	-0.2306	0.0189	-0.1765	0.0481
2	29.88	0.3998	-0.0619	0.0016	0.0512	0.0081	-0.3612	0.0288	-0.1543	0.0484
2	29.88	0.4496	-0.0830	0.0019	0.0484	0.0104	-0.5154	0.0381	-0.1321	0.0492
2	29.88	0.4995	-0.1083	0.0023	0.0563	0.0130	-0.7661	0.0491	-0.3204	0.0497
2	29.88	0.5551	-0.1286	0.0022	0.0571	0.0159	-1.0599	0.0613	-0.2048	0.0525
2	29.88	0.5996	-0.1551	0.0023	0.0722	0.0182	-1.3598	0.0711	-0.2280	0.0562
2	29.88	0.6497	-0.1671	0.0025	0.0919	0.0213	-1.7592	0.0811	-0.1318	0.0542
2	29.88	0.6996	-0.1973	0.0029	0.1018	0.0244	-2.2209	0.0909	-0.1200	0.0558
2	29.88	0.7495	-0.2378	0.0027	0.1207	0.0277	-2.7585	0.0999	-0.2253	0.0585
2	29.88	0.7996	-0.2756	0.0032	0.1153	0.0311	-3.3051	0.1100	-0.1695	0.0540
2	29.88	0.8578	-0.3504	0.0035	0.1305	0.0349	-3.9985	0.1206	-0.0510	0.0611
2	29.88	0.9100	-0.4012	0.0039	0.1894	0.0388	-4.6452	0.1319	-0.0721	0.0558
2	29.88	0.9727	-0.4558	0.0048	0.2646	0.0433	-5.3255	0.1464	0.2574	0.0563
3	29.88	0.1938	0.0219	0.0026	-0.0134	0.0008	-0.0099	0.0026	-0.0298	0.0203
3	29.88	0.2357	0.0110	0.0014	0.0297	0.0014	-0.0421	0.0049	0.0495	0.0313
3	29.88	0.2995	-0.0126	0.0015	-0.0064	0.0030	-0.0688	0.0104	-0.0178	0.0450
3	29.88	0.3493	-0.0311	0.0018	0.0058	0.0054	-0.1256	0.0180	-0.0136	0.0387
3	29.88	0.4000	-0.0573	0.0022	0.0212	0.0082	-0.2017	0.0278	0.1442	0.0379
3	29.88	0.4497	-0.0784	0.0026	0.0146	0.0106	-0.3530	0.0377	-0.0130	0.0416
3	29.88	0.4997	-0.1183	0.0025	0.0102	0.0135	-0.5335	0.0488	-0.0747	0.0447
3	29.88	0.5556	-0.1338	0.0029	0.0227	0.0165	-0.8075	0.0603	-0.0554	0.0423
3	29.88	0.5995	-0.1508	0.0030	0.0142	0.0189	-1.0520	0.0701	0.0627	0.0425
3	29.88	0.6498	-0.1691	0.0028	0.0129	0.0216	-1.4208	0.0808	0.0560	0.0472
3	29.88	0.6890	-0.2189	0.0028	-0.0155	0.0241	-1.7650	0.0892	-0.0349	0.0463
3	29.88	0.7495	-0.2369	0.0030	0.0217	0.0281	-2.3308	0.1011	-0.0034	0.0541
3	29.88	0.7998	-0.2565	0.0028	0.0203	0.0321	-2.8479	0.1121	0.0898	0.0476
3	29.88	0.8577	-0.2787	0.0030	0.0346	0.0363	-3.5172	0.1220	-0.0117	0.0482
3	29.88	0.9178	-0.3767	0.0033	0.0430	0.0409	-4.2445	0.1339	-0.1684	0.0459
3	29.88	0.9729	-0.3980	0.0044	0.0868	0.0452	-4.9690	0.1438	-0.1854	0.0562
4	29.88	0.2001	0.0193	0.0016	0.0043	0.0008	-0.0373	0.0030	0.1265	0.0195
4	29.88	0.2502	0.0316	0.0013	0.0181	0.0015	-0.0744	0.0045	0.2097	0.0338
4	29.88	0.3001	-0.0119	0.0012	0.0219	0.0030	-0.1452	0.0098	0.2904	0.0429
4	29.88	0.3502	-0.0480	0.0018	0.0493	0.0052	-0.2443	0.0165	0.2919	0.0409
4	29.88	0.4002	-0.0826	0.0024	0.0738	0.0079	-0.3774	0.0244	0.3350	0.0432
4	29.88	0.4500	-0.0994	0.0025	0.0999	0.0097	-0.5709	0.0336	0.2038	0.0438
4	29.88	0.5001	-0.1256	0.0023	0.1164	0.0122	-0.7934	0.0428	0.3134	0.0466
4	29.88	0.5560	-0.1512	0.0022	0.1447	0.0149	-1.1688	0.0532	0.1730	0.0526
4	29.88	0.6001	-0.1739	0.0022	0.1769	0.0172	-1.4767	0.0608	0.2579	0.0508
4	29.88	0.6501	-0.2129	0.0024	0.1859	0.0198	-1.9236	0.0690	0.4089	0.0511
4	29.88	0.6999	-0.2370	0.0025	0.2037	0.0229	-2.4458	0.0763	0.4734	0.0560
4	29.88	0.7500	-0.2805	0.0023	0.2418	0.0261	-3.0158	0.0839	0.6443	0.0567
4	29.88	0.8002	-0.3235	0.0023	0.2699	0.0294	-3.6697	0.0909	0.6498	0.0585
4	29.88	0.8582	-0.3708	0.0027	0.3293	0.0333	-4.5117	0.0988	0.2941	0.0616
4	29.88	0.9101	-0.4296	0.0031	0.3492	0.0370	-5.2400	0.1059	0.3740	0.0641
4	29.88	0.9728	-0.4494	0.0038	0.4495	0.0415	-6.0714	0.1169	0.7845	0.0614

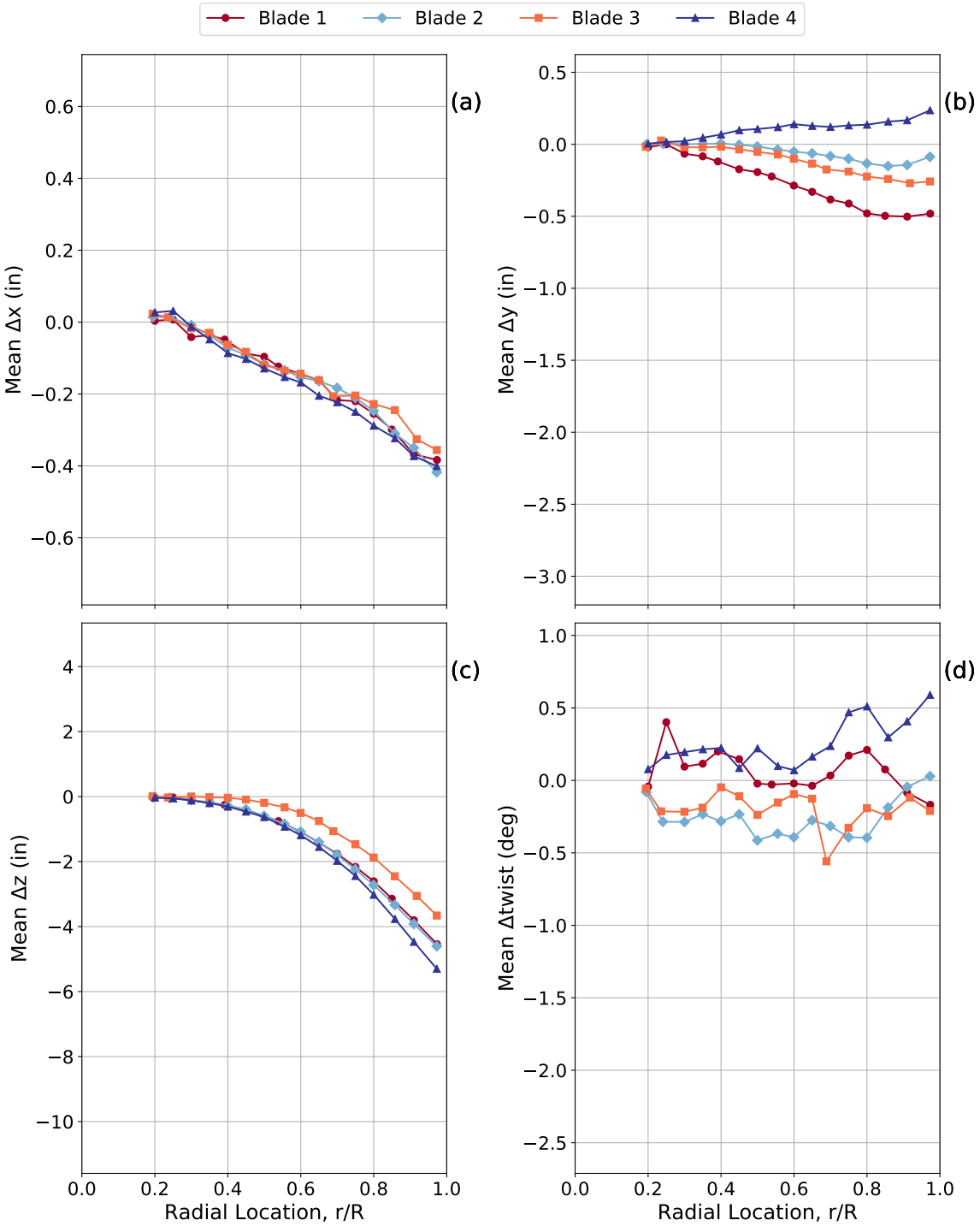


Figure 2.12-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-10. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0036	0.0021	-0.0203	0.0011	-0.0314	0.0029	-0.0431	0.0264
1	45	0.2499	0.0071	0.0015	-0.0002	0.0017	-0.0266	0.0054	0.4019	0.0548
1	45	0.2998	-0.0417	0.0017	-0.0654	0.0040	-0.1048	0.0102	0.0950	0.0628
1	45	0.3498	-0.0364	0.0017	-0.0837	0.0066	-0.1976	0.0179	0.1150	0.0611
1	45	0.3913	-0.0486	0.0021	-0.1192	0.0093	-0.2555	0.0248	0.2000	0.0619
1	45	0.4496	-0.0871	0.0023	-0.1735	0.0126	-0.4071	0.0334	0.1460	0.0620
1	45	0.4997	-0.0964	0.0029	-0.1934	0.0158	-0.6038	0.0418	-0.0223	0.0604
1	45	0.5387	-0.1235	0.0028	-0.2234	0.0184	-0.7552	0.0484	-0.0286	0.0613
1	45	0.5996	-0.1441	0.0028	-0.2865	0.0224	-1.0830	0.0590	-0.0212	0.0603
1	45	0.6498	-0.1615	0.0031	-0.3301	0.0258	-1.4159	0.0689	-0.0367	0.0608
1	45	0.6998	-0.2168	0.0028	-0.3835	0.0300	-1.7607	0.0785	0.0337	0.0638
1	45	0.7500	-0.2201	0.0027	-0.4117	0.0338	-2.1656	0.0876	0.1711	0.0683
1	45	0.8001	-0.2553	0.0029	-0.4798	0.0384	-2.6059	0.0976	0.2102	0.0660
1	45	0.8497	-0.2988	0.0032	-0.4970	0.0428	-3.1421	0.1082	0.0754	0.0667
1	45	0.9102	-0.3675	0.0032	-0.5023	0.0486	-3.8039	0.1229	-0.0857	0.0641
1	45	0.9734	-0.3836	0.0045	-0.4815	0.0546	-4.5417	0.1387	-0.1681	0.0693
2	45	0.1949	0.0144	0.0024	-0.0013	0.0010	-0.0207	0.0029	-0.0805	0.0184
2	45	0.2405	0.0135	0.0017	0.0042	0.0014	-0.0455	0.0046	-0.2853	0.0441
2	45	0.2999	-0.0085	0.0018	0.0007	0.0031	-0.1072	0.0103	-0.2866	0.0480
2	45	0.3498	-0.0367	0.0022	0.0025	0.0054	-0.1716	0.0175	-0.2332	0.0501
2	45	0.3998	-0.0713	0.0028	0.0063	0.0080	-0.2798	0.0266	-0.2822	0.0549
2	45	0.4496	-0.0918	0.0027	-0.0039	0.0102	-0.3919	0.0338	-0.2337	0.0549
2	45	0.4995	-0.1168	0.0032	-0.0155	0.0125	-0.5960	0.0425	-0.4134	0.0557
2	45	0.5551	-0.1342	0.0032	-0.0375	0.0157	-0.8402	0.0522	-0.3676	0.0541
2	45	0.5996	-0.1534	0.0030	-0.0508	0.0178	-1.0866	0.0598	-0.3924	0.0590
2	45	0.6497	-0.1642	0.0028	-0.0634	0.0212	-1.3998	0.0681	-0.2754	0.0588
2	45	0.6996	-0.1831	0.0032	-0.0823	0.0244	-1.7958	0.0761	-0.3152	0.0609
2	45	0.7495	-0.2105	0.0029	-0.1004	0.0275	-2.2382	0.0836	-0.3920	0.0614
2	45	0.7996	-0.2466	0.0029	-0.1330	0.0310	-2.7211	0.0929	-0.3957	0.0645
2	45	0.8578	-0.3101	0.0034	-0.1512	0.0355	-3.3333	0.1048	-0.1872	0.0643
2	45	0.9100	-0.3498	0.0039	-0.1432	0.0396	-3.9179	0.1165	-0.0446	0.0626
2	45	0.9727	-0.4178	0.0041	-0.0870	0.0442	-4.6055	0.1337	0.0289	0.0671
3	45	0.1938	0.0234	0.0022	-0.0175	0.0011	0.0105	0.0028	-0.0562	0.0197
3	45	0.2357	0.0132	0.0017	0.0260	0.0013	-0.0261	0.0046	-0.2136	0.0361
3	45	0.2995	-0.0170	0.0016	-0.0201	0.0033	0.0018	0.0099	-0.2168	0.0453
3	45	0.3493	-0.0298	0.0019	-0.0215	0.0056	-0.0190	0.0171	-0.1883	0.0454
3	45	0.4000	-0.0626	0.0028	-0.0174	0.0085	-0.0356	0.0259	-0.0478	0.0469
3	45	0.4497	-0.0827	0.0029	-0.0356	0.0108	-0.0915	0.0338	-0.1093	0.0452
3	45	0.4997	-0.1190	0.0029	-0.0523	0.0131	-0.1918	0.0422	-0.2381	0.0467
3	45	0.5556	-0.1356	0.0027	-0.0708	0.0166	-0.3325	0.0517	-0.1527	0.0522
3	45	0.5995	-0.1437	0.0026	-0.1008	0.0191	-0.5036	0.0593	-0.0943	0.0533
3	45	0.6498	-0.1616	0.0030	-0.1343	0.0223	-0.7534	0.0667	-0.1263	0.0530
3	45	0.6890	-0.2062	0.0027	-0.1750	0.0248	-1.0635	0.0718	-0.5586	0.0578
3	45	0.7495	-0.2043	0.0031	-0.1897	0.0289	-1.4678	0.0817	-0.3269	0.0533
3	45	0.7998	-0.2279	0.0028	-0.2240	0.0327	-1.8754	0.0908	-0.1916	0.0561
3	45	0.8577	-0.2449	0.0029	-0.2411	0.0372	-2.4518	0.1020	-0.2462	0.0590
3	45	0.9178	-0.3257	0.0032	-0.2701	0.0422	-3.0561	0.1136	-0.1185	0.0573
3	45	0.9729	-0.3559	0.0038	-0.2585	0.0464	-3.6600	0.1246	-0.2111	0.0574
4	45	0.2001	0.0269	0.0019	0.0044	0.0009	-0.0314	0.0026	0.0772	0.0205
4	45	0.2502	0.0312	0.0015	0.0158	0.0016	-0.0579	0.0048	0.1754	0.0407
4	45	0.3001	-0.0127	0.0015	0.0213	0.0033	-0.1200	0.0090	0.1951	0.0482
4	45	0.3502	-0.0481	0.0019	0.0454	0.0056	-0.2013	0.0154	0.2144	0.0466
4	45	0.4002	-0.0863	0.0031	0.0683	0.0086	-0.3095	0.0233	0.2234	0.0479
4	45	0.4500	-0.1025	0.0032	0.0980	0.0109	-0.4623	0.0299	0.0853	0.0488
4	45	0.5001	-0.1290	0.0029	0.1061	0.0133	-0.6312	0.0372	0.2210	0.0526
4	45	0.5560	-0.1530	0.0031	0.1191	0.0166	-0.9297	0.0450	0.0990	0.0485
4	45	0.6001	-0.1679	0.0033	0.1394	0.0194	-1.1890	0.0510	0.0705	0.0538
4	45	0.6501	-0.2049	0.0031	0.1277	0.0229	-1.5501	0.0589	0.1640	0.0564
4	45	0.6999	-0.2230	0.0028	0.1205	0.0266	-1.9775	0.0678	0.2368	0.0603
4	45	0.7500	-0.2495	0.0034	0.1309	0.0308	-2.4447	0.0766	0.4696	0.0560
4	45	0.8002	-0.2881	0.0035	0.1361	0.0354	-3.0210	0.0863	0.5105	0.0602
4	45	0.8582	-0.3231	0.0039	0.1577	0.0408	-3.7666	0.0978	0.2970	0.0584
4	45	0.9101	-0.3728	0.0040	0.1669	0.0459	-4.4703	0.1087	0.4068	0.0619
4	45	0.9728	-0.4007	0.0051	0.2362	0.0523	-5.2994	0.1220	0.5896	0.0595

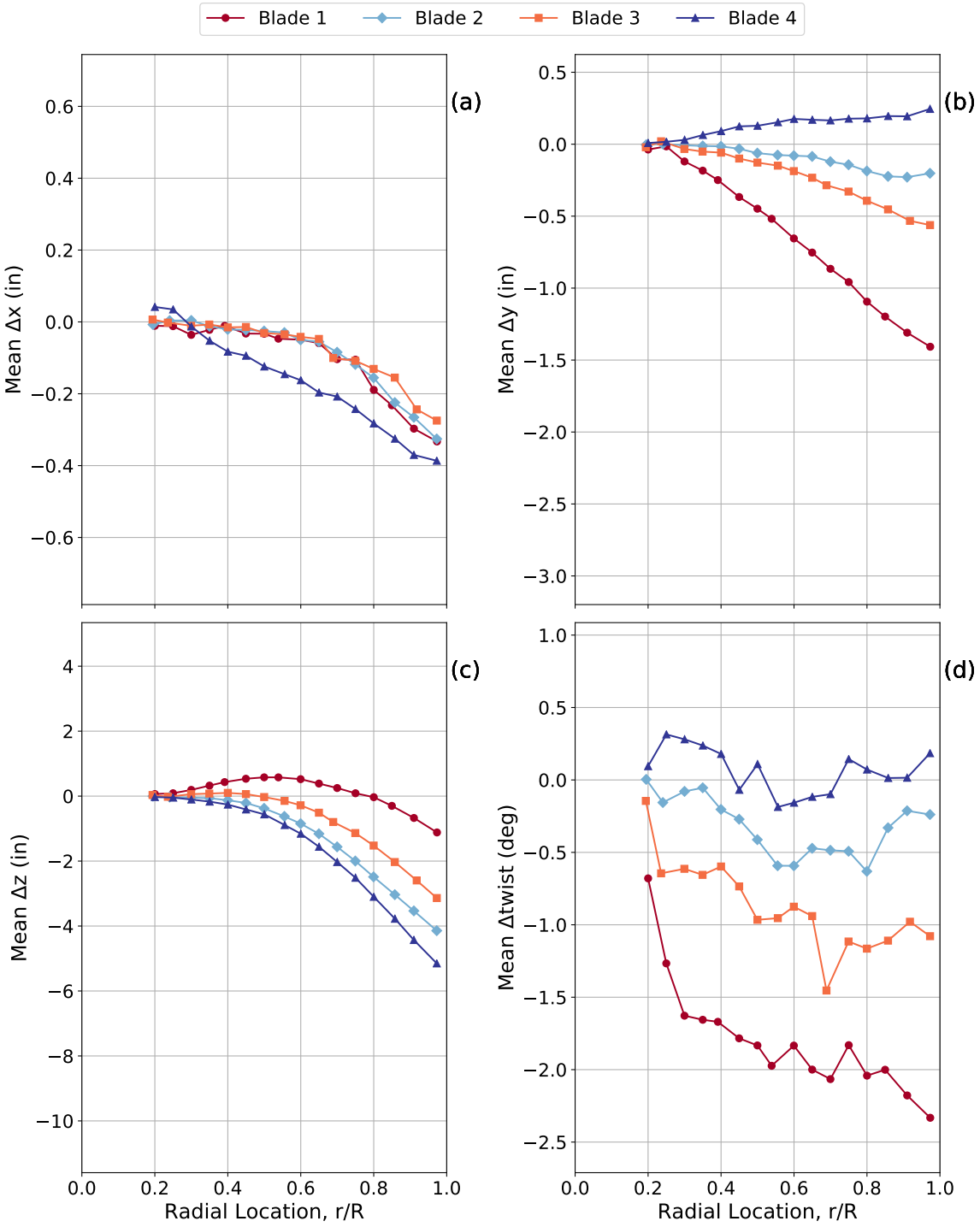


Figure 2.12-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-11. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0108	0.0039	-0.0370	0.0026	0.0640	0.0095	-0.6795	0.0577
1	60.12	0.2499	-0.0119	0.0018	-0.0151	0.0030	0.0887	0.0107	-1.2664	0.1486
1	60.12	0.2998	-0.0361	0.0039	-0.1200	0.0092	0.1916	0.0283	-1.6275	0.1543
1	60.12	0.3498	-0.0220	0.0070	-0.1837	0.0160	0.3237	0.0471	-1.6557	0.1538
1	60.12	0.3913	-0.0111	0.0098	-0.2493	0.0218	0.4320	0.0623	-1.6698	0.1606
1	60.12	0.4496	-0.0324	0.0125	-0.3669	0.0302	0.5348	0.0858	-1.7838	0.1507
1	60.12	0.4997	-0.0329	0.0150	-0.4482	0.0375	0.5783	0.1049	-1.8329	0.1543
1	60.12	0.5387	-0.0467	0.0167	-0.5183	0.0434	0.5777	0.1212	-1.9734	0.1524
1	60.12	0.5996	-0.0495	0.0192	-0.6549	0.0533	0.5224	0.1456	-1.8340	0.1496
1	60.12	0.6498	-0.0591	0.0207	-0.7529	0.0609	0.3863	0.1648	-1.9997	0.1589
1	60.12	0.6998	-0.1037	0.0212	-0.8659	0.0692	0.2494	0.1843	-2.0653	0.1638
1	60.12	0.7500	-0.1051	0.0221	-0.9581	0.0767	0.0882	0.2009	-1.8310	0.2142
1	60.12	0.8001	-0.1892	0.0115	-1.0940	0.1113	-0.0332	0.1393	-2.0414	0.1484
1	60.12	0.8497	-0.2321	0.0115	-1.1978	0.1216	-0.2999	0.1514	-2.0007	0.1586
1	60.12	0.9102	-0.2972	0.0121	-1.3097	0.1339	-0.6721	0.1678	-2.1781	0.1506
1	60.12	0.9734	-0.3328	0.0098	-1.4075	0.1472	-1.1182	0.1858	-2.3323	0.1451
2	60.12	0.1949	-0.0073	0.0045	-0.0036	0.0016	-0.0023	0.0044	0.0038	0.0317
2	60.12	0.2405	0.0037	0.0016	0.0019	0.0017	-0.0290	0.0049	-0.1559	0.0777
2	60.12	0.2999	0.0041	0.0020	-0.0073	0.0049	-0.0488	0.0134	-0.0791	0.0868
2	60.12	0.3498	-0.0121	0.0032	-0.0121	0.0085	-0.0627	0.0232	-0.0542	0.0837
2	60.12	0.3998	-0.0209	0.0041	-0.0149	0.0122	-0.1265	0.0332	-0.2035	0.0857
2	60.12	0.4496	-0.0224	0.0049	-0.0318	0.0163	-0.2107	0.0428	-0.2710	0.0852
2	60.12	0.4995	-0.0255	0.0054	-0.0621	0.0202	-0.3762	0.0517	-0.4122	0.0895
2	60.12	0.5551	-0.0297	0.0061	-0.0754	0.0251	-0.6242	0.0623	-0.5922	0.0921
2	60.12	0.5996	-0.0500	0.0071	-0.0797	0.0287	-0.8470	0.0713	-0.5928	0.0893
2	60.12	0.6497	-0.0553	0.0089	-0.0849	0.0335	-1.1598	0.0800	-0.4717	0.0968
2	60.12	0.6996	-0.0844	0.0100	-0.1215	0.0438	-1.5621	0.1028	-0.4855	0.0967
2	60.12	0.7495	-0.1183	0.0099	-0.1428	0.0479	-1.9979	0.1129	-0.4924	0.0960
2	60.12	0.7996	-0.1553	0.0101	-0.1863	0.0523	-2.4860	0.1205	-0.6309	0.0948
2	60.12	0.8578	-0.2245	0.0101	-0.2235	0.0568	-3.0337	0.1303	-0.3302	0.0957
2	60.12	0.9100	-0.2655	0.0100	-0.2289	0.0618	-3.5341	0.1385	-0.2130	0.1047
2	60.12	0.9727	-0.3257	0.0097	-0.2022	0.0673	-4.1423	0.1516	-0.2388	0.1030
3	60.12	0.1938	0.0066	0.0046	-0.0212	0.0017	0.0337	0.0059	-0.1447	0.0308
3	60.12	0.2357	-0.0019	0.0017	0.0203	0.0017	-0.0213	0.0057	-0.6447	0.0817
3	60.12	0.2995	-0.0107	0.0018	-0.0331	0.0050	0.0605	0.0167	-0.6135	0.0884
3	60.12	0.3493	-0.0073	0.0032	-0.0514	0.0089	0.0781	0.0292	-0.6553	0.0817
3	60.12	0.4000	-0.0152	0.0041	-0.0585	0.0130	0.0992	0.0416	-0.5976	0.0857
3	60.12	0.4497	-0.0141	0.0052	-0.0997	0.0169	0.0624	0.0543	-0.7351	0.0839
3	60.12	0.4997	-0.0310	0.0061	-0.1277	0.0208	-0.0282	0.0667	-0.9656	0.0877
3	60.12	0.5556	-0.0346	0.0073	-0.1490	0.0255	-0.1467	0.0803	-0.9541	0.0874
3	60.12	0.5995	-0.0416	0.0085	-0.1869	0.0293	-0.2822	0.0921	-0.8750	0.0894
3	60.12	0.6498	-0.0474	0.0107	-0.2328	0.0336	-0.5103	0.1047	-0.9398	0.0880
3	60.12	0.6890	-0.1004	0.0117	-0.2854	0.0608	-0.7975	0.1183	-1.4538	0.0883
3	60.12	0.7495	-0.1082	0.0114	-0.3291	0.0682	-1.1368	0.1334	-1.1154	0.0861
3	60.12	0.7998	-0.1308	0.0118	-0.3928	0.0745	-1.5224	0.1468	-1.1646	0.0921
3	60.12	0.8577	-0.1550	0.0120	-0.4532	0.0818	-2.0296	0.1642	-1.1092	0.0902
3	60.12	0.9178	-0.2435	0.0115	-0.5325	0.0900	-2.5958	0.1806	-0.9788	0.0970
3	60.12	0.9729	-0.2747	0.0117	-0.5621	0.0967	-3.1379	0.1986	-1.0786	0.0921
4	60.12	0.2001	0.0417	0.0024	0.0083	0.0013	-0.0281	0.0031	0.0948	0.0260
4	60.12	0.2502	0.0347	0.0019	0.0168	0.0024	-0.0463	0.0054	0.3143	0.0598
4	60.12	0.3001	-0.0129	0.0016	0.0300	0.0045	-0.1045	0.0100	0.2804	0.0649
4	60.12	0.3502	-0.0525	0.0020	0.0638	0.0086	-0.1695	0.0173	0.2373	0.0649
4	60.12	0.4002	-0.0829	0.0019	0.0908	0.0125	-0.2612	0.0255	0.1792	0.0652
4	60.12	0.4500	-0.0942	0.0024	0.1240	0.0163	-0.4108	0.0333	-0.0684	0.0642
4	60.12	0.5001	-0.1241	0.0026	0.1280	0.0202	-0.5618	0.0408	0.1092	0.0642
4	60.12	0.5560	-0.1456	0.0025	0.1527	0.0250	-0.8912	0.0493	-0.1867	0.0638
4	60.12	0.6001	-0.1624	0.0031	0.1757	0.0287	-1.1578	0.0567	-0.1571	0.0599
4	60.12	0.6501	-0.1966	0.0032	0.1696	0.0331	-1.5605	0.0646	-0.1168	0.0614
4	60.12	0.6999	-0.2078	0.0030	0.1652	0.0378	-2.0301	0.0721	-0.0983	0.0622
4	60.12	0.7500	-0.2425	0.0025	0.1774	0.0424	-2.5143	0.0809	0.1441	0.0635
4	60.12	0.8002	-0.2827	0.0029	0.1793	0.0470	-3.1005	0.0881	0.0717	0.0632
4	60.12	0.8582	-0.3251	0.0027	0.1954	0.0523	-3.7760	0.0961	0.0133	0.0668
4	60.12	0.9101	-0.3703	0.0029	0.1938	0.0572	-4.4308	0.1036	0.0151	0.0645
4	60.12	0.9728	-0.3865	0.0035	0.2451	0.0635	-5.1506	0.1125	0.1848	0.0659

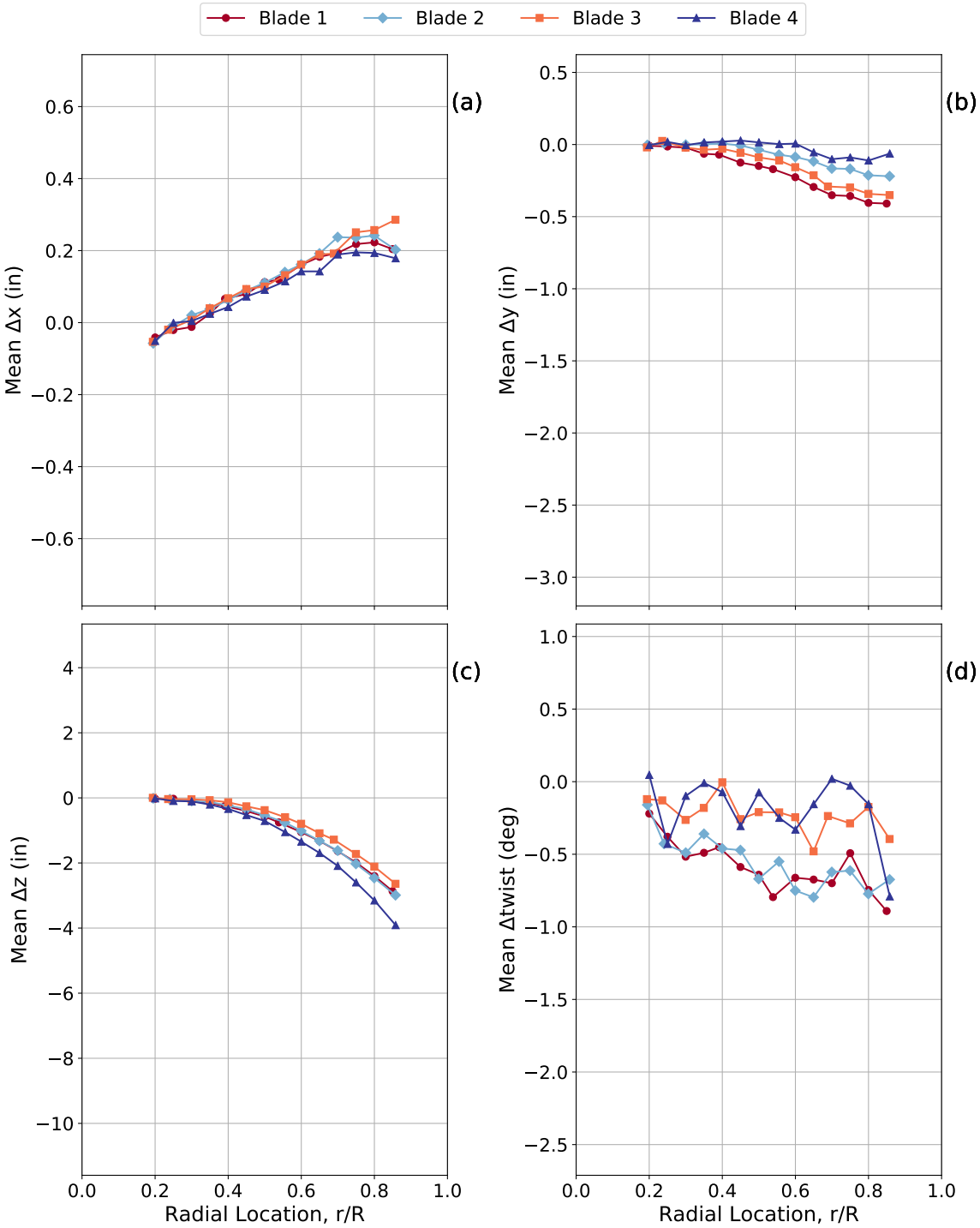


Figure 2.12-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-12. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0411	0.0010	-0.0087	0.0007	-0.0267	0.0019	-0.2200	0.0205
1	74.88	0.2499	-0.0206	0.0007	-0.0139	0.0014	-0.0269	0.0046	-0.3792	0.0318
1	74.88	0.2998	-0.0120	0.0009	-0.0217	0.0027	-0.1162	0.0076	-0.5168	0.0442
1	74.88	0.3498	0.0247	0.0010	-0.0637	0.0044	-0.1581	0.0128	-0.4899	0.0385
1	74.88	0.3913	0.0661	0.0014	-0.0703	0.0064	-0.2467	0.0188	-0.4513	0.0381
1	74.88	0.4496	0.0795	0.0016	-0.1254	0.0087	-0.4024	0.0256	-0.5878	0.0451
1	74.88	0.4997	0.1125	0.0016	-0.1484	0.0112	-0.5735	0.0328	-0.6410	0.0481
1	74.88	0.5387	0.1193	0.0021	-0.1708	0.0129	-0.7535	0.0371	-0.7953	0.0495
1	74.88	0.5996	0.1603	0.0019	-0.2266	0.0167	-1.0508	0.0474	-0.6618	0.0491
1	74.88	0.6498	0.1827	0.0024	-0.2943	0.0198	-1.3239	0.0538	-0.6742	0.0708
1	74.88	0.6998	0.1937	0.0027	-0.3514	0.0229	-1.6365	0.0610	-0.6995	0.0595
1	74.88	0.7500	0.2181	0.0035	-0.3570	0.0265	-1.9879	0.0703	-0.4925	0.0903
1	74.88	0.8001	0.2229	0.0044	-0.4045	0.0307	-2.4013	0.0790	-0.7464	0.1273
1	74.88	0.8497	0.2042	0.0047	-0.4094	0.0351	-2.8654	0.0848	-0.8909	0.0899
2	74.88	0.1949	-0.0573	0.0011	-0.0035	0.0006	-0.0118	0.0018	-0.1596	0.0158
2	74.88	0.2405	-0.0160	0.0009	0.0088	0.0013	-0.0436	0.0037	-0.4278	0.0258
2	74.88	0.2999	0.0203	0.0010	-0.0017	0.0027	-0.0939	0.0078	-0.4897	0.0364
2	74.88	0.3498	0.0382	0.0012	0.0017	0.0047	-0.1273	0.0123	-0.3598	0.0356
2	74.88	0.3998	0.0626	0.0016	0.0068	0.0072	-0.2348	0.0197	-0.4604	0.0396
2	74.88	0.4496	0.0892	0.0016	-0.0064	0.0092	-0.3485	0.0250	-0.4719	0.0389
2	74.88	0.4995	0.1104	0.0019	-0.0360	0.0118	-0.5326	0.0325	-0.6699	0.0422
2	74.88	0.5551	0.1401	0.0022	-0.0710	0.0149	-0.7555	0.0399	-0.5497	0.0521
2	74.88	0.5996	0.1616	0.0025	-0.0861	0.0180	-1.0131	0.0460	-0.7502	0.0537
2	74.88	0.6497	0.1919	0.0025	-0.1165	0.0214	-1.3205	0.0544	-0.7964	0.0511
2	74.88	0.6996	0.2374	0.0026	-0.1659	0.0245	-1.6190	0.0612	-0.6224	0.0700
2	74.88	0.7495	0.2360	0.0027	-0.1692	0.0289	-2.0263	0.0692	-0.6129	0.0823
2	74.88	0.7996	0.2418	0.0034	-0.2131	0.0326	-2.4595	0.0738	-0.7728	0.0854
2	74.88	0.8578	0.2025	0.0036	-0.2200	0.0376	-2.9882	0.0806	-0.6738	0.1242
3	74.88	0.1938	-0.0532	0.0010	-0.0199	0.0007	0.0029	0.0020	-0.1204	0.0157
3	74.88	0.2357	-0.0196	0.0009	0.0249	0.0013	-0.0370	0.0039	-0.1290	0.0260
3	74.88	0.2995	0.0075	0.0012	-0.0213	0.0029	-0.0426	0.0074	-0.2635	0.0332
3	74.88	0.3493	0.0398	0.0011	-0.0363	0.0046	-0.0714	0.0127	-0.1807	0.0343
3	74.88	0.4000	0.0678	0.0017	-0.0295	0.0074	-0.1355	0.0195	-0.0045	0.0333
3	74.88	0.4497	0.0933	0.0019	-0.0571	0.0092	-0.2596	0.0252	-0.2580	0.0315
3	74.88	0.4997	0.1002	0.0020	-0.0893	0.0115	-0.3773	0.0326	-0.2099	0.0396
3	74.88	0.5556	0.1317	0.0022	-0.1104	0.0143	-0.5934	0.0414	-0.2116	0.0430
3	74.88	0.5995	0.1610	0.0025	-0.1571	0.0169	-0.7947	0.0491	-0.2446	0.0455
3	74.88	0.6498	0.1893	0.0024	-0.2130	0.0201	-1.0880	0.0570	-0.4799	0.0483
3	74.88	0.6890	0.1918	0.0023	-0.2911	0.0228	-1.2830	0.0637	-0.2366	0.0572
3	74.88	0.7495	0.2508	0.0030	-0.2981	0.0268	-1.7229	0.0739	-0.2873	0.0665
3	74.88	0.7998	0.2570	0.0037	-0.3420	0.0313	-2.1116	0.0802	-0.1741	0.0584
3	74.88	0.8577	0.2857	0.0057	-0.3507	0.0363	-2.6398	0.0872	-0.3950	0.1546
4	74.88	0.2001	-0.0510	0.0011	-0.0038	0.0008	-0.0157	0.0028	0.0461	0.0223
4	74.88	0.2502	-0.0006	0.0008	0.0180	0.0017	-0.0951	0.0050	-0.4294	0.0408
4	74.88	0.3001	0.0045	0.0010	-0.0044	0.0031	-0.1083	0.0099	-0.0978	0.0509
4	74.88	0.3502	0.0245	0.0012	0.0143	0.0053	-0.2070	0.0172	-0.0090	0.0457
4	74.88	0.4002	0.0434	0.0014	0.0203	0.0082	-0.3402	0.0256	-0.0727	0.0455
4	74.88	0.4500	0.0723	0.0015	0.0275	0.0107	-0.5284	0.0339	-0.3063	0.0445
4	74.88	0.5001	0.0909	0.0017	0.0148	0.0139	-0.7099	0.0437	-0.0742	0.0461
4	74.88	0.5560	0.1147	0.0019	0.0028	0.0180	-1.0535	0.0554	-0.2496	0.0460
4	74.88	0.6001	0.1423	0.0022	0.0064	0.0212	-1.3453	0.0654	-0.3305	0.0458
4	74.88	0.6501	0.1423	0.0025	-0.0545	0.0257	-1.6937	0.0745	-0.1554	0.0555
4	74.88	0.6999	0.1891	0.0031	-0.1015	0.0296	-2.0919	0.0831	0.0197	0.0662
4	74.88	0.7500	0.1952	0.0032	-0.0893	0.0348	-2.5989	0.0916	-0.0278	0.0767
4	74.88	0.8002	0.1934	0.0037	-0.1109	0.0388	-3.1529	0.1012	-0.1553	0.1186
4	74.88	0.8582	0.1786	0.0053	-0.0629	0.0469	-3.9107	0.1081	-0.7908	0.1655

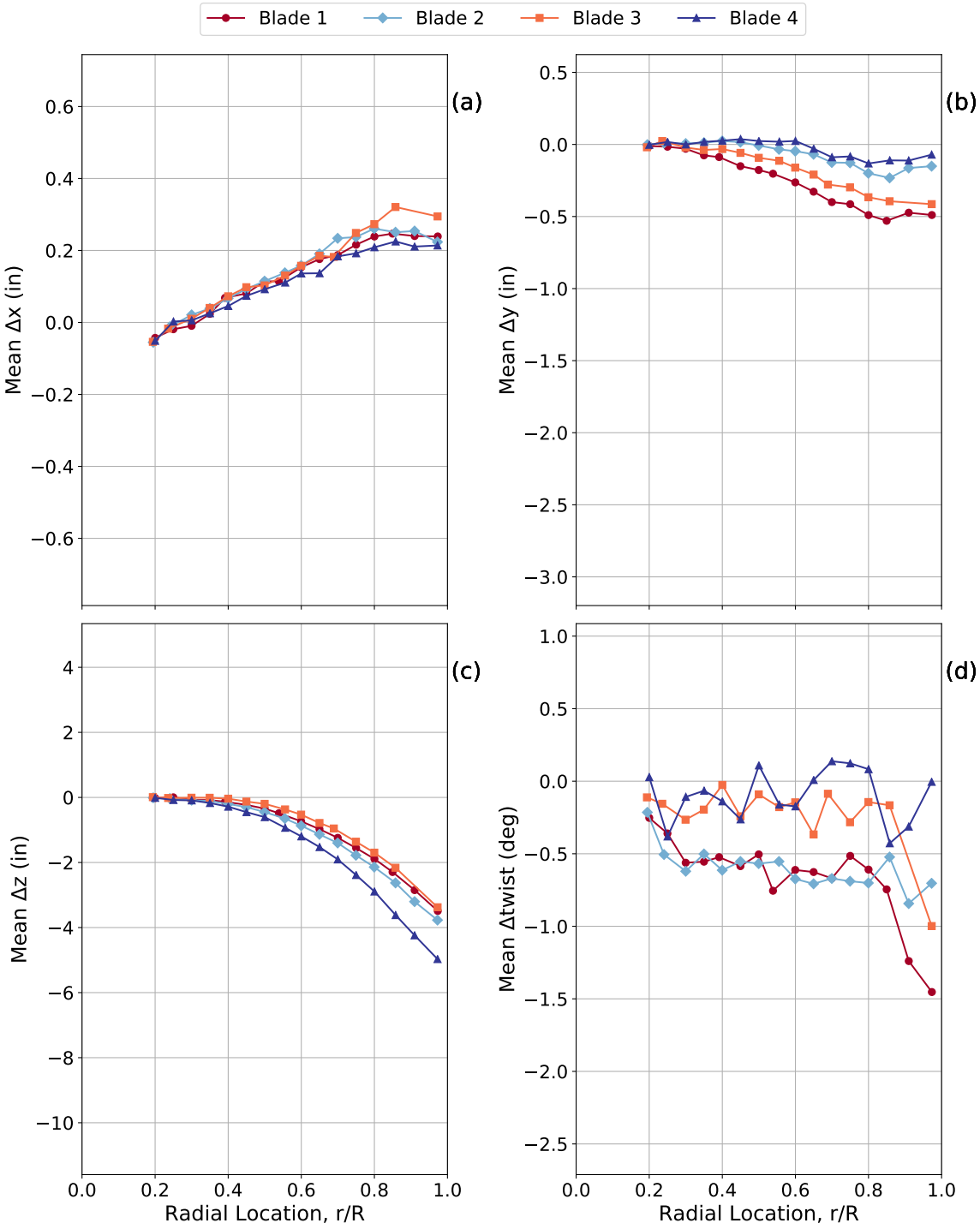


Figure 2.12-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = 4°
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0429	0.0010	-0.0109	0.0007	-0.0186	0.0020	-0.2526	0.0164
1	80.16	0.2499	-0.0189	0.0010	-0.0159	0.0014	0.0026	0.0047	-0.3600	0.0255
1	80.16	0.2998	-0.0095	0.0009	-0.0298	0.0027	-0.0740	0.0080	-0.5619	0.0330
1	80.16	0.3498	0.0239	0.0011	-0.0759	0.0043	-0.0825	0.0136	-0.5546	0.0349
1	80.16	0.3913	0.0683	0.0012	-0.0878	0.0065	-0.1327	0.0198	-0.5235	0.0341
1	80.16	0.4496	0.0806	0.0014	-0.1508	0.0085	-0.2296	0.0269	-0.5853	0.0339
1	80.16	0.4997	0.1142	0.0020	-0.1775	0.0109	-0.3430	0.0333	-0.5042	0.0392
1	80.16	0.5387	0.1142	0.0018	-0.2031	0.0126	-0.4860	0.0389	-0.7550	0.0374
1	80.16	0.5996	0.1532	0.0018	-0.2634	0.0158	-0.7342	0.0474	-0.6117	0.0431
1	80.16	0.6498	0.1761	0.0023	-0.3278	0.0186	-0.9754	0.0539	-0.6259	0.0476
1	80.16	0.6998	0.1872	0.0027	-0.4000	0.0217	-1.2418	0.0610	-0.6693	0.0513
1	80.16	0.7500	0.2160	0.0027	-0.4145	0.0250	-1.5557	0.0679	-0.5147	0.0609
1	80.16	0.8001	0.2388	0.0038	-0.4902	0.0291	-1.8894	0.0753	-0.6091	0.0694
1	80.16	0.8497	0.2468	0.0036	-0.5297	0.0326	-2.2929	0.0832	-0.7456	0.0749
1	80.16	0.9102	0.2401	0.0096	-0.4736	0.0375	-2.8498	0.0968	-1.2395	0.2446
1	80.16	0.9734	0.2390	0.0060	-0.4896	0.0441	-3.4898	0.1084	-1.4530	0.1904
2	80.16	0.1949	-0.0552	0.0010	-0.0015	0.0008	-0.0119	0.0021	-0.2146	0.0160
2	80.16	0.2405	-0.0120	0.0010	0.0099	0.0011	-0.0342	0.0038	-0.5054	0.0326
2	80.16	0.2999	0.0211	0.0009	0.0061	0.0030	-0.0850	0.0082	-0.6206	0.0367
2	80.16	0.3498	0.0389	0.0012	0.0124	0.0051	-0.1083	0.0135	-0.5015	0.0395
2	80.16	0.3998	0.0669	0.0013	0.0242	0.0076	-0.2028	0.0209	-0.6133	0.0359
2	80.16	0.4496	0.0928	0.0015	0.0159	0.0100	-0.2962	0.0262	-0.5533	0.0365
2	80.16	0.4995	0.1147	0.0017	-0.0072	0.0124	-0.4499	0.0324	-0.5677	0.0435
2	80.16	0.5551	0.1380	0.0019	-0.0340	0.0156	-0.6479	0.0389	-0.5533	0.0436
2	80.16	0.5996	0.1581	0.0022	-0.0466	0.0180	-0.8689	0.0442	-0.6735	0.0439
2	80.16	0.6497	0.1906	0.0022	-0.0682	0.0213	-1.1357	0.0512	-0.7071	0.0487
2	80.16	0.6996	0.2338	0.0023	-0.1253	0.0248	-1.4001	0.0564	-0.6704	0.0590
2	80.16	0.7495	0.2373	0.0027	-0.1275	0.0281	-1.7792	0.0614	-0.6892	0.0490
2	80.16	0.7996	0.2607	0.0028	-0.1997	0.0313	-2.1410	0.0671	-0.7015	0.0621
2	80.16	0.8578	0.2507	0.0032	-0.2322	0.0355	-2.6277	0.0748	-0.5226	0.0839
2	80.16	0.9100	0.2540	0.0081	-0.1637	0.0420	-3.2032	0.0824	-0.8432	0.2833
2	80.16	0.9727	0.2236	0.0061	-0.1509	0.0464	-3.7707	0.0931	-0.7034	0.0971
3	80.16	0.1938	-0.0539	0.0009	-0.0197	0.0005	0.0077	0.0024	-0.1114	0.0214
3	80.16	0.2357	-0.0171	0.0008	0.0235	0.0010	-0.0175	0.0042	-0.1555	0.0312
3	80.16	0.2995	0.0102	0.0010	-0.0212	0.0020	-0.0098	0.0084	-0.2653	0.0442
3	80.16	0.3493	0.0403	0.0010	-0.0384	0.0036	-0.0111	0.0145	-0.1958	0.0371
3	80.16	0.4000	0.0726	0.0012	-0.0318	0.0055	-0.0388	0.0221	-0.0257	0.0385
3	80.16	0.4497	0.0979	0.0013	-0.0585	0.0072	-0.1268	0.0288	-0.2416	0.0410
3	80.16	0.4997	0.1030	0.0014	-0.0928	0.0093	-0.1975	0.0365	-0.0905	0.0451
3	80.16	0.5556	0.1303	0.0015	-0.1132	0.0120	-0.3691	0.0443	-0.1786	0.0481
3	80.16	0.5995	0.1574	0.0014	-0.1607	0.0143	-0.5290	0.0504	-0.1456	0.0518
3	80.16	0.6498	0.1853	0.0016	-0.2091	0.0170	-0.7858	0.0579	-0.3669	0.0511
3	80.16	0.6890	0.1820	0.0020	-0.2784	0.0196	-0.9550	0.0631	-0.0865	0.0602
3	80.16	0.7495	0.2487	0.0022	-0.2978	0.0234	-1.3609	0.0705	-0.2828	0.0564
3	80.16	0.7998	0.2731	0.0026	-0.3664	0.0268	-1.6977	0.0774	-0.1436	0.0663
3	80.16	0.8577	0.3208	0.0044	-0.3941	0.0308	-2.1619	0.0878	-0.1658	0.1117
3	80.16	0.9729	0.2946	0.0063	-0.4143	0.0399	-3.3766	0.1173	-0.9984	0.1741
4	80.16	0.2001	-0.0511	0.0011	-0.0026	0.0008	-0.0131	0.0020	0.0279	0.0205
4	80.16	0.2502	0.0025	0.0010	0.0172	0.0023	-0.0794	0.0049	-0.3810	0.0379
4	80.16	0.3001	0.0058	0.0010	-0.0004	0.0034	-0.0920	0.0076	-0.1082	0.0469
4	80.16	0.3502	0.0255	0.0012	0.0176	0.0069	-0.1721	0.0134	-0.0654	0.0385
4	80.16	0.4002	0.0457	0.0016	0.0262	0.0103	-0.2855	0.0203	-0.1388	0.0399
4	80.16	0.4500	0.0739	0.0017	0.0368	0.0137	-0.4520	0.0264	-0.2631	0.0440
4	80.16	0.5001	0.0923	0.0019	0.0236	0.0175	-0.6062	0.0336	0.1089	0.0486
4	80.16	0.5560	0.1108	0.0020	0.0188	0.0220	-0.9336	0.0410	-0.1613	0.0538
4	80.16	0.6001	0.1361	0.0022	0.0243	0.0259	-1.1979	0.0480	-0.1734	0.0497
4	80.16	0.6501	0.1367	0.0021	-0.0298	0.0306	-1.5272	0.0549	0.0085	0.0513
4	80.16	0.6999	0.1836	0.0028	-0.0890	0.0354	-1.9066	0.0621	0.1376	0.0563
4	80.16	0.7500	0.1921	0.0033	-0.0832	0.0405	-2.3855	0.0682	0.1231	0.0613
4	80.16	0.8002	0.2089	0.0032	-0.1321	0.0454	-2.8930	0.0729	0.0827	0.0938
4	80.16	0.8582	0.2249	0.0043	-0.1105	0.0524	-3.6179	0.0829	-0.4279	0.0803
4	80.16	0.9101	0.2108	0.0061	-0.1118	0.0574	-4.2402	0.0871	-0.3127	0.0870
4	80.16	0.9728	0.2139	0.0062	-0.0709	0.0641	-4.9697	0.0990	-0.0043	0.1173

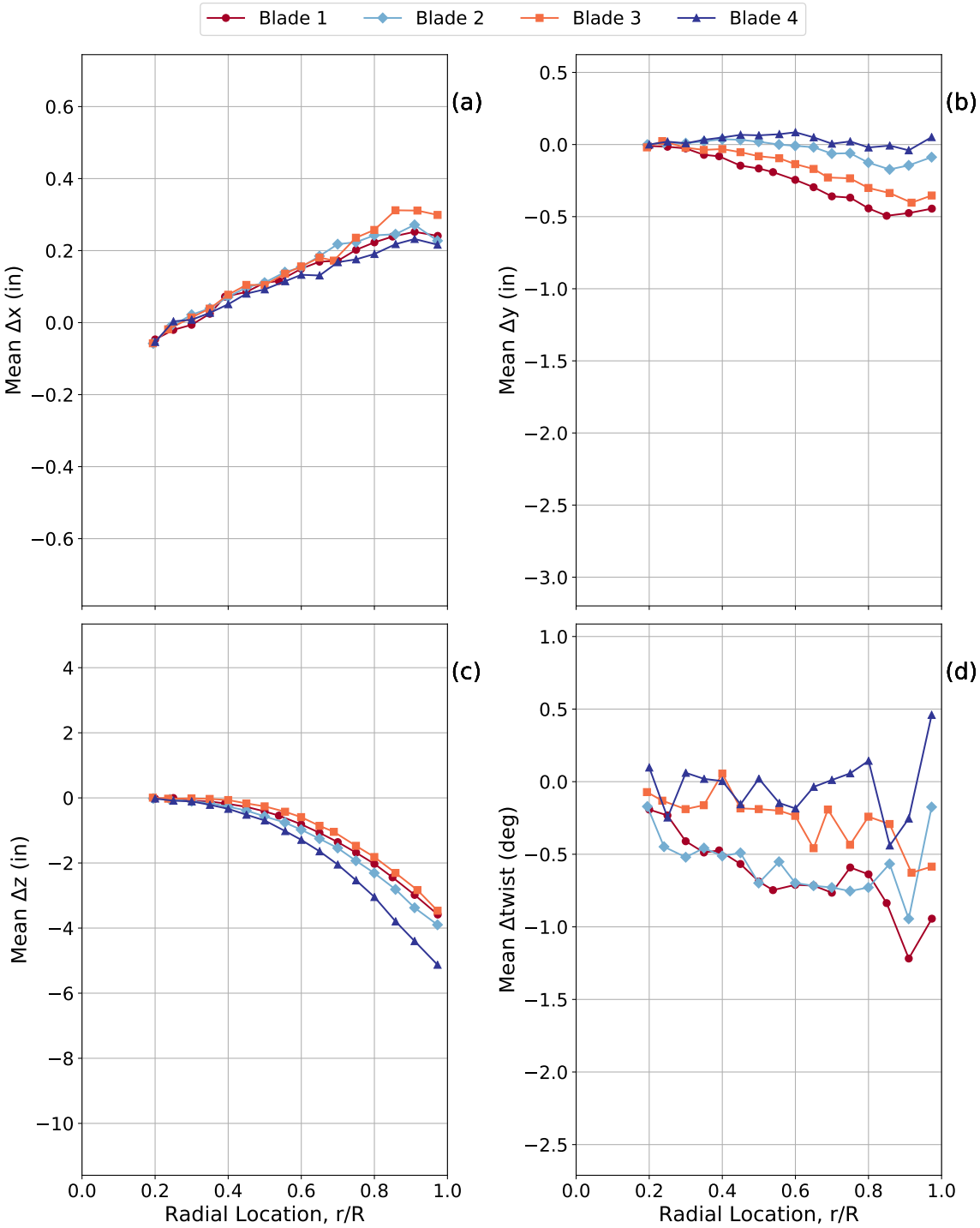


Figure 2.12-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-14. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0466	0.0009	-0.0101	0.0006	-0.0236	0.0019	-0.1923	0.0183
1	85.08	0.2499	-0.0202	0.0011	-0.0154	0.0013	-0.0043	0.0036	-0.2325	0.0339
1	85.08	0.2998	-0.0061	0.0011	-0.0269	0.0025	-0.0871	0.0068	-0.4103	0.0411
1	85.08	0.3498	0.0247	0.0010	-0.0715	0.0042	-0.1127	0.0111	-0.4880	0.0408
1	85.08	0.3913	0.0721	0.0010	-0.0817	0.0061	-0.1682	0.0160	-0.4734	0.0434
1	85.08	0.4496	0.0851	0.0014	-0.1463	0.0083	-0.2760	0.0205	-0.5671	0.0418
1	85.08	0.4997	0.1107	0.0015	-0.1661	0.0104	-0.4157	0.0258	-0.6872	0.0447
1	85.08	0.5387	0.1156	0.0018	-0.1913	0.0122	-0.5445	0.0309	-0.7471	0.0457
1	85.08	0.5996	0.1495	0.0016	-0.2449	0.0155	-0.8114	0.0390	-0.7108	0.0441
1	85.08	0.6498	0.1693	0.0019	-0.2961	0.0188	-1.0726	0.0474	-0.7158	0.0554
1	85.08	0.6998	0.1716	0.0022	-0.3594	0.0222	-1.3586	0.0548	-0.7650	0.0541
1	85.08	0.7500	0.2022	0.0027	-0.3683	0.0259	-1.6829	0.0628	-0.5911	0.0573
1	85.08	0.8001	0.2229	0.0030	-0.4428	0.0294	-2.0271	0.0710	-0.6381	0.0591
1	85.08	0.8497	0.2390	0.0029	-0.4941	0.0332	-2.4421	0.0805	-0.8365	0.0655
1	85.08	0.9102	0.2522	0.0056	-0.4753	0.0381	-2.9806	0.0940	-1.2181	0.1223
1	85.08	0.9734	0.2409	0.0047	-0.4445	0.0423	-3.5839	0.1036	-0.9437	0.1019
2	85.08	0.1949	-0.0579	0.0010	-0.0006	0.0006	-0.0177	0.0016	-0.1710	0.0187
2	85.08	0.2405	-0.0125	0.0011	0.0125	0.0014	-0.0478	0.0036	-0.4483	0.0337
2	85.08	0.2999	0.0220	0.0008	0.0095	0.0024	-0.1050	0.0067	-0.5203	0.0452
2	85.08	0.3498	0.0396	0.0010	0.0218	0.0041	-0.1597	0.0114	-0.4572	0.0446
2	85.08	0.3998	0.0714	0.0014	0.0367	0.0065	-0.2709	0.0177	-0.5121	0.0382
2	85.08	0.4496	0.0975	0.0018	0.0329	0.0085	-0.3881	0.0222	-0.4903	0.0426
2	85.08	0.4995	0.1110	0.0018	0.0192	0.0109	-0.5680	0.0291	-0.6983	0.0421
2	85.08	0.5551	0.1402	0.0018	0.0000	0.0138	-0.7579	0.0346	-0.5517	0.0481
2	85.08	0.5996	0.1540	0.0022	-0.0090	0.0166	-0.9778	0.0405	-0.6981	0.0465
2	85.08	0.6497	0.1848	0.0021	-0.0188	0.0198	-1.2531	0.0484	-0.7170	0.0521
2	85.08	0.6996	0.2179	0.0026	-0.0632	0.0235	-1.5408	0.0545	-0.7290	0.0604
2	85.08	0.7495	0.2233	0.0026	-0.0599	0.0275	-1.9315	0.0638	-0.7535	0.0562
2	85.08	0.7996	0.2423	0.0028	-0.1255	0.0318	-2.3086	0.0713	-0.7290	0.0615
2	85.08	0.8578	0.2456	0.0036	-0.1726	0.0368	-2.8112	0.0815	-0.5663	0.0697
2	85.08	0.9100	0.2716	0.0054	-0.1445	0.0414	-3.3759	0.0904	-0.9447	0.1073
2	85.08	0.9727	0.2274	0.0046	-0.0877	0.0468	-3.8982	0.1000	-0.1747	0.1042
3	85.08	0.1938	-0.0574	0.0010	-0.0197	0.0006	0.0065	0.0023	-0.0719	0.0204
3	85.08	0.2357	-0.0185	0.0008	0.0238	0.0011	-0.0250	0.0044	-0.1309	0.0311
3	85.08	0.2995	0.0144	0.0008	-0.0217	0.0021	-0.0161	0.0090	-0.1891	0.0473
3	85.08	0.3493	0.0388	0.0012	-0.0373	0.0038	-0.0321	0.0163	-0.1621	0.0380
3	85.08	0.4000	0.0775	0.0014	-0.0314	0.0058	-0.0663	0.0247	0.0556	0.0375
3	85.08	0.4497	0.1047	0.0016	-0.0530	0.0076	-0.1695	0.0317	-0.1842	0.0370
3	85.08	0.4997	0.1045	0.0015	-0.0812	0.0098	-0.2605	0.0402	-0.1889	0.0393
3	85.08	0.5556	0.1359	0.0017	-0.0951	0.0126	-0.4256	0.0482	-0.1994	0.0404
3	85.08	0.5995	0.1561	0.0019	-0.1359	0.0152	-0.5910	0.0552	-0.2354	0.0447
3	85.08	0.6498	0.1808	0.0020	-0.1693	0.0180	-0.8584	0.0628	-0.4584	0.0463
3	85.08	0.6890	0.1722	0.0023	-0.2285	0.0201	-1.0434	0.0684	-0.1919	0.0529
3	85.08	0.7495	0.2358	0.0026	-0.2344	0.0243	-1.4726	0.0784	-0.4347	0.0492
3	85.08	0.7998	0.2574	0.0030	-0.3013	0.0282	-1.8170	0.0865	-0.2413	0.0605
3	85.08	0.8577	0.3120	0.0031	-0.3363	0.0327	-2.3054	0.0983	-0.2917	0.0861
3	85.08	0.9178	0.3112	0.0102	-0.4032	0.0394	-2.8313	0.1149	-0.6272	0.1778
3	85.08	0.9729	0.2991	0.0052	-0.3534	0.0415	-3.4661	0.1198	-0.5852	0.1094
4	85.08	0.2001	-0.0538	0.0009	0.0000	0.0005	-0.0207	0.0024	0.0974	0.0194
4	85.08	0.2502	0.0035	0.0008	0.0198	0.0011	-0.0872	0.0043	-0.2471	0.0365
4	85.08	0.3001	0.0080	0.0008	0.0088	0.0019	-0.1090	0.0088	0.0610	0.0437
4	85.08	0.3502	0.0273	0.0010	0.0327	0.0031	-0.2148	0.0149	0.0191	0.0448
4	85.08	0.4002	0.0511	0.0014	0.0488	0.0048	-0.3371	0.0228	0.0043	0.0404
4	85.08	0.4500	0.0805	0.0013	0.0671	0.0066	-0.5182	0.0295	-0.1559	0.0409
4	85.08	0.5001	0.0924	0.0016	0.0637	0.0084	-0.6948	0.0389	0.0206	0.0442
4	85.08	0.5560	0.1150	0.0017	0.0715	0.0109	-1.0211	0.0490	-0.1473	0.0479
4	85.08	0.6001	0.1328	0.0017	0.0848	0.0129	-1.2902	0.0577	-0.1847	0.0455
4	85.08	0.6501	0.1309	0.0020	0.0495	0.0155	-1.6422	0.0695	-0.0358	0.0473
4	85.08	0.6999	0.1678	0.0018	0.0056	0.0183	-2.0500	0.0809	0.0115	0.0545
4	85.08	0.7500	0.1757	0.0021	0.0214	0.0212	-2.5336	0.0920	0.0574	0.0510
4	85.08	0.8002	0.1906	0.0026	-0.0205	0.0248	-3.0458	0.1039	0.1436	0.0667
4	85.08	0.8582	0.2180	0.0033	-0.0074	0.0285	-3.7964	0.1151	-0.4397	0.0770
4	85.08	0.9101	0.2323	0.0044	-0.0403	0.0325	-4.4010	0.1230	-0.2542	0.0880
4	85.08	0.9728	0.2164	0.0039	0.0512	0.0367	-5.1275	0.1362	0.4599	0.0852

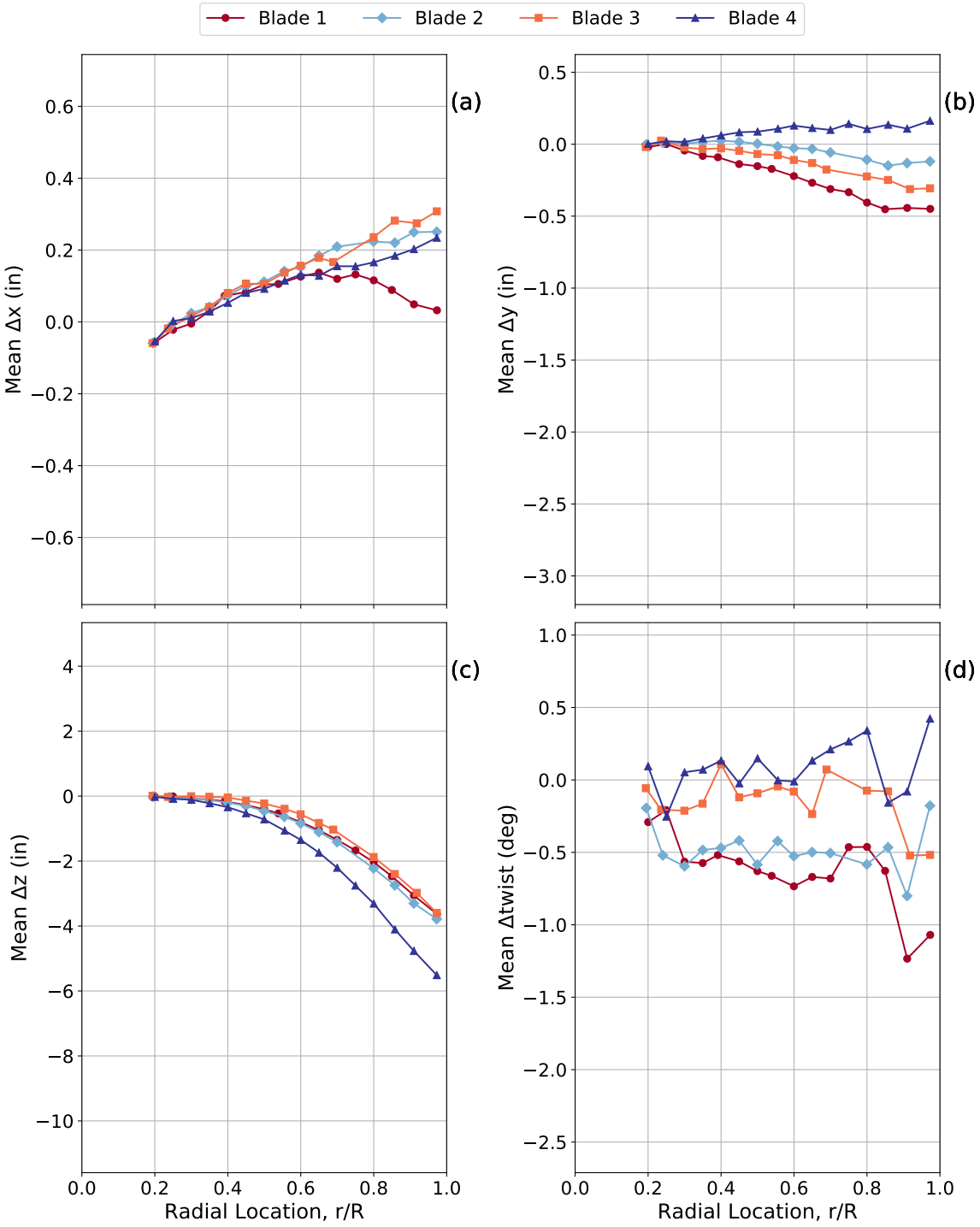


Figure 2.12-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-15. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0568	0.0049	-0.0189	0.0009	-0.0193	0.0023	-0.2911	0.0254
1	90	0.2499	-0.0219	0.0017	0.0010	0.0026	-0.0088	0.0059	-0.2088	0.0457
1	90	0.2998	-0.0048	0.0023	-0.0439	0.0046	-0.0799	0.0105	-0.5644	0.0583
1	90	0.3498	0.0297	0.0047	-0.0816	0.0073	-0.1038	0.0166	-0.5736	0.0526
1	90	0.3913	0.0726	0.0070	-0.0907	0.0113	-0.1608	0.0253	-0.5186	0.0572
1	90	0.4496	0.0828	0.0094	-0.1380	0.0151	-0.2754	0.0335	-0.5624	0.0630
1	90	0.4997	0.1041	0.0106	-0.1523	0.0192	-0.4063	0.0411	-0.6293	0.0612
1	90	0.5387	0.1056	0.0115	-0.1716	0.0229	-0.5318	0.0474	-0.6620	0.0612
1	90	0.5996	0.1261	0.0132	-0.2215	0.0292	-0.8002	0.0567	-0.7344	0.0681
1	90	0.6498	0.1372	0.0155	-0.2680	0.0355	-1.0492	0.0672	-0.6697	0.0630
1	90	0.6998	0.1198	0.0190	-0.3116	0.0421	-1.3457	0.0765	-0.6806	0.0744
1	90	0.7500	0.1321	0.0251	-0.3336	0.0495	-1.6733	0.0876	-0.4640	0.0840
1	90	0.8001	0.1157	0.0324	-0.4057	0.0581	-2.0349	0.1003	-0.4626	0.0881
1	90	0.8497	0.0889	0.0421	-0.4519	0.0656	-2.4690	0.1129	-0.6278	0.0903
1	90	0.9102	0.0490	0.0573	-0.4429	0.0761	-3.0595	0.1316	-1.2340	0.1156
1	90	0.9734	0.0323	0.0773	-0.4492	0.0931	-3.6306	0.1514	-1.0697	0.1042
2	90	0.1949	-0.0587	0.0010	-0.0011	0.0005	-0.0146	0.0017	-0.1938	0.0144
2	90	0.2405	-0.0147	0.0008	0.0104	0.0011	-0.0333	0.0035	-0.5204	0.0301
2	90	0.2999	0.0243	0.0010	0.0044	0.0022	-0.0801	0.0073	-0.5956	0.0344
2	90	0.3498	0.0415	0.0012	0.0162	0.0036	-0.1213	0.0116	-0.4840	0.0333
2	90	0.3998	0.0739	0.0013	0.0249	0.0057	-0.2040	0.0183	-0.4693	0.0352
2	90	0.4496	0.0997	0.0015	0.0164	0.0076	-0.2967	0.0250	-0.4186	0.0331
2	90	0.4995	0.1117	0.0016	0.0033	0.0099	-0.4585	0.0323	-0.5846	0.0396
2	90	0.5551	0.1412	0.0017	-0.0155	0.0124	-0.6349	0.0399	-0.4218	0.0429
2	90	0.5996	0.1534	0.0015	-0.0277	0.0147	-0.8381	0.0454	-0.5264	0.0452
2	90	0.6497	0.1842	0.0018	-0.0321	0.0177	-1.1080	0.0515	-0.4985	0.0527
2	90	0.6996	0.2094	0.0018	-0.0575	0.0212	-1.4143	0.0598	-0.5049	0.0469
2	90	0.7996	0.2236	0.0021	-0.1078	0.0279	-2.2241	0.0760	-0.5831	0.0457
2	90	0.8578	0.2204	0.0027	-0.1489	0.0322	-2.7449	0.0870	-0.4657	0.0623
2	90	0.9100	0.2498	0.0033	-0.1312	0.0362	-3.3038	0.0989	-0.8006	0.0729
2	90	0.9727	0.2508	0.0032	-0.1195	0.0412	-3.7839	0.1127	-0.1780	0.0698
3	90	0.1938	-0.0589	0.0009	-0.0196	0.0006	0.0094	0.0018	-0.0571	0.0209
3	90	0.2357	-0.0183	0.0010	0.0250	0.0011	-0.0249	0.0040	-0.2056	0.0244
3	90	0.2995	0.0156	0.0010	-0.0225	0.0025	-0.0027	0.0077	-0.2121	0.0431
3	90	0.3493	0.0415	0.0014	-0.0337	0.0039	-0.0204	0.0125	-0.1638	0.0400
3	90	0.4000	0.0806	0.0013	-0.0290	0.0064	-0.0413	0.0202	0.1085	0.0405
3	90	0.4497	0.1067	0.0013	-0.0457	0.0086	-0.1398	0.0258	-0.1199	0.0403
3	90	0.4997	0.1055	0.0015	-0.0680	0.0111	-0.2277	0.0308	-0.0923	0.0439
3	90	0.5556	0.1370	0.0017	-0.0764	0.0143	-0.3899	0.0379	-0.0450	0.0406
3	90	0.5995	0.1563	0.0017	-0.1096	0.0169	-0.5581	0.0430	-0.0805	0.0444
3	90	0.6498	0.1784	0.0019	-0.1308	0.0203	-0.8260	0.0483	-0.2351	0.0445
3	90	0.6890	0.1666	0.0019	-0.1760	0.0228	-1.0310	0.0528	0.0718	0.0495
3	90	0.7998	0.2360	0.0024	-0.2242	0.0305	-1.8748	0.0656	-0.0741	0.0487
3	90	0.8577	0.2820	0.0033	-0.2486	0.0344	-2.3979	0.0745	-0.0786	0.0721
3	90	0.9178	0.2744	0.0049	-0.3119	0.0388	-2.9766	0.0835	-0.5212	0.0980
3	90	0.9729	0.3079	0.0043	-0.3063	0.0429	-3.5974	0.0946	-0.5178	0.0781
4	90.35	0.2001	-0.0540	0.0008	0.0017	0.0005	-0.0234	0.0018	0.0943	0.0340
4	90.35	0.2502	0.0025	0.0010	0.0203	0.0014	-0.0841	0.0048	-0.2535	0.0447
4	90.35	0.3001	0.0107	0.0009	0.0153	0.0023	-0.1137	0.0066	0.0528	0.0730
4	90.35	0.3502	0.0287	0.0011	0.0400	0.0040	-0.2200	0.0138	0.0714	0.0552
4	90.35	0.4002	0.0531	0.0012	0.0613	0.0062	-0.3423	0.0197	0.1335	0.0467
4	90.35	0.4500	0.0809	0.0014	0.0828	0.0080	-0.5282	0.0257	-0.0237	0.0511
4	90.35	0.5001	0.0921	0.0015	0.0873	0.0099	-0.7179	0.0316	0.1490	0.0536
4	90.35	0.5560	0.1149	0.0017	0.1070	0.0123	-1.0636	0.0387	-0.0025	0.0519
4	90.35	0.6001	0.1318	0.0018	0.1290	0.0144	-1.3488	0.0453	-0.0107	0.0546
4	90.35	0.6501	0.1284	0.0019	0.1125	0.0170	-1.7417	0.0521	0.1331	0.0573
4	90.35	0.6999	0.1551	0.0021	0.0992	0.0201	-2.2070	0.0590	0.2110	0.0538
4	90.35	0.7500	0.1547	0.0023	0.1411	0.0231	-2.7553	0.0666	0.2659	0.0574
4	90.35	0.8002	0.1659	0.0026	0.1057	0.0266	-3.3108	0.0750	0.3407	0.0642
4	90.35	0.8582	0.1842	0.0030	0.1350	0.0310	-4.1062	0.0827	-0.1575	0.0696
4	90.35	0.9101	0.2025	0.0036	0.1077	0.0353	-4.7672	0.0910	-0.0801	0.0745
4	90.35	0.9728	0.2342	0.0043	0.1628	0.0405	-5.5129	0.1055	0.4231	0.0883

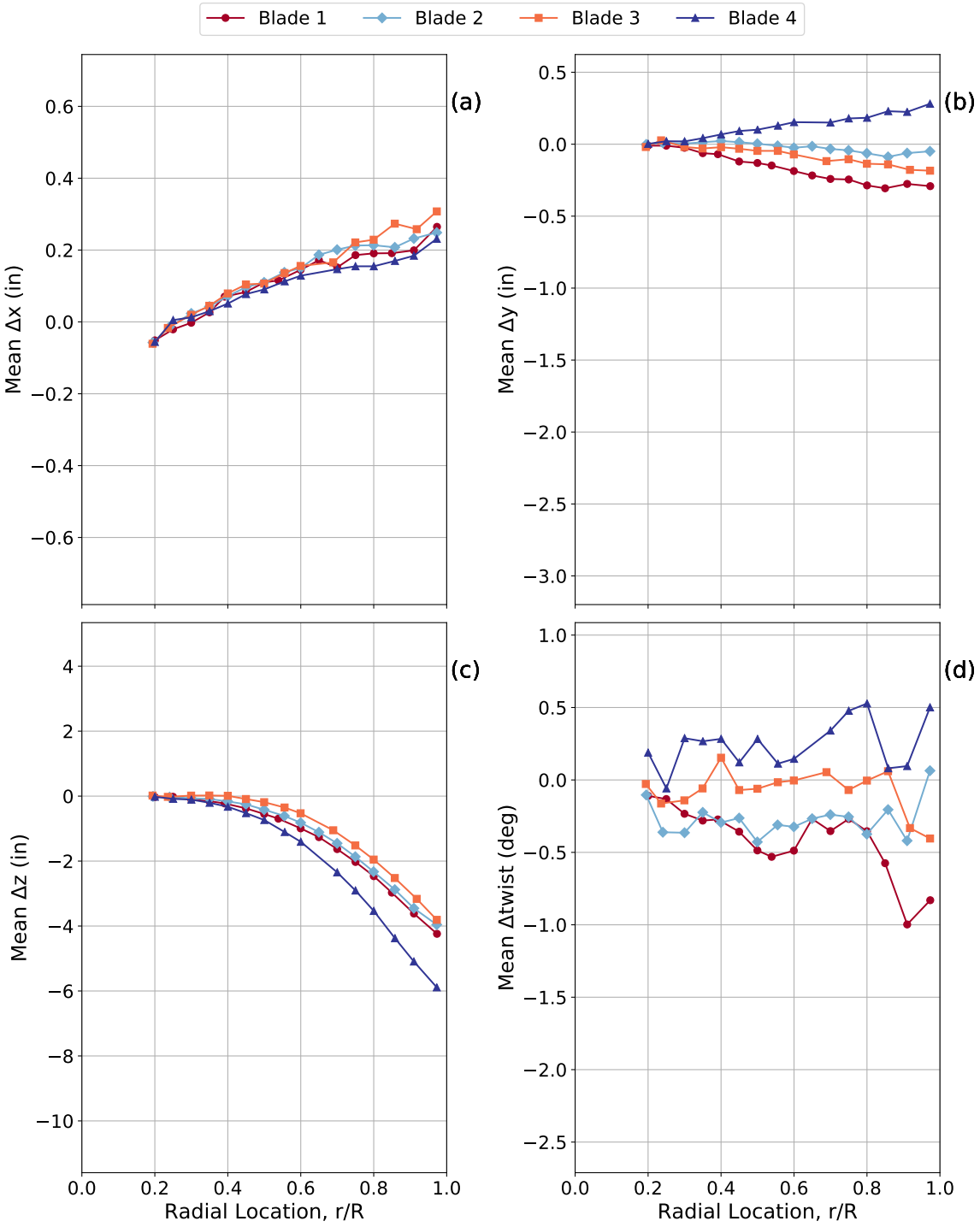


Figure 2.12-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-16. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0514	0.0008	-0.0100	0.0006	-0.0287	0.0019	-0.1099	0.0196
1	94.92	0.2499	-0.0207	0.0008	-0.0103	0.0011	-0.0208	0.0040	-0.1319	0.0277
1	94.92	0.2998	-0.0024	0.0008	-0.0247	0.0022	-0.1062	0.0074	-0.2335	0.0410
1	94.92	0.3498	0.0267	0.0008	-0.0623	0.0037	-0.1556	0.0122	-0.2805	0.0364
1	94.92	0.3913	0.0703	0.0012	-0.0695	0.0052	-0.2250	0.0177	-0.2728	0.0336
1	94.92	0.4496	0.0833	0.0014	-0.1203	0.0072	-0.3763	0.0252	-0.3571	0.0325
1	94.92	0.4997	0.1098	0.0015	-0.1305	0.0092	-0.5496	0.0319	-0.4865	0.0335
1	94.92	0.5387	0.1155	0.0017	-0.1479	0.0110	-0.6945	0.0377	-0.5307	0.0314
1	94.92	0.5996	0.1449	0.0017	-0.1864	0.0142	-0.9929	0.0465	-0.4881	0.0386
1	94.92	0.6498	0.1718	0.0022	-0.2172	0.0176	-1.2632	0.0538	-0.2688	0.0468
1	94.92	0.6998	0.1516	0.0023	-0.2415	0.0201	-1.6312	0.0596	-0.3531	0.0365
1	94.92	0.7500	0.1860	0.0026	-0.2452	0.0232	-2.0274	0.0660	-0.2691	0.0376
1	94.92	0.8001	0.1908	0.0026	-0.2864	0.0268	-2.4645	0.0726	-0.3540	0.0413
1	94.92	0.8497	0.1913	0.0030	-0.3064	0.0302	-2.9715	0.0803	-0.5748	0.0444
1	94.92	0.9102	0.1992	0.0036	-0.2760	0.0350	-3.6157	0.0889	-0.9977	0.0587
1	94.92	0.9734	0.2646	0.0043	-0.2915	0.0397	-4.2392	0.0999	-0.8303	0.0585
2	94.92	0.1949	-0.0574	0.0010	-0.0015	0.0006	-0.0090	0.0018	-0.1036	0.0197
2	94.92	0.2405	-0.0136	0.0008	0.0103	0.0013	-0.0301	0.0039	-0.3610	0.0262
2	94.92	0.2999	0.0236	0.0009	0.0037	0.0027	-0.0659	0.0071	-0.3644	0.0411
2	94.92	0.3498	0.0428	0.0009	0.0137	0.0044	-0.0889	0.0106	-0.2238	0.0427
2	94.92	0.3998	0.0715	0.0013	0.0222	0.0070	-0.1629	0.0176	-0.2940	0.0398
2	94.92	0.4496	0.0966	0.0015	0.0140	0.0090	-0.2524	0.0231	-0.2631	0.0337
2	94.92	0.4995	0.1100	0.0017	0.0034	0.0113	-0.4179	0.0291	-0.4281	0.0392
2	94.92	0.5551	0.1379	0.0020	-0.0111	0.0142	-0.6099	0.0362	-0.3104	0.0391
2	94.92	0.5996	0.1496	0.0019	-0.0246	0.0167	-0.8177	0.0422	-0.3236	0.0349
2	94.92	0.6497	0.1867	0.0028	-0.0142	0.0221	-1.1110	0.0505	-0.2673	0.0784
2	94.92	0.6996	0.2010	0.0020	-0.0328	0.0227	-1.4533	0.0530	-0.2394	0.0449
2	94.92	0.7495	0.2125	0.0024	-0.0427	0.0261	-1.8655	0.0591	-0.2547	0.0428
2	94.92	0.7996	0.2135	0.0025	-0.0631	0.0294	-2.3279	0.0638	-0.3741	0.0480
2	94.92	0.8578	0.2076	0.0026	-0.0878	0.0339	-2.8795	0.0717	-0.2049	0.0495
2	94.92	0.9100	0.2322	0.0029	-0.0619	0.0375	-3.4525	0.0795	-0.4195	0.0617
2	94.92	0.9727	0.2486	0.0039	-0.0493	0.0420	-3.9578	0.0928	0.0639	0.0585
3	94.92	0.1938	-0.0608	0.0010	-0.0195	0.0006	0.0169	0.0020	-0.0279	0.0255
3	94.92	0.2357	-0.0168	0.0009	0.0268	0.0011	-0.0229	0.0046	-0.1627	0.0275
3	94.92	0.2995	0.0198	0.0011	-0.0192	0.0019	0.0157	0.0078	-0.1409	0.0509
3	94.92	0.3493	0.0449	0.0011	-0.0297	0.0037	0.0193	0.0160	-0.0586	0.0371
3	94.92	0.4000	0.0792	0.0017	-0.0207	0.0054	0.0100	0.0229	0.1535	0.0348
3	94.92	0.4497	0.1043	0.0014	-0.0316	0.0076	-0.0895	0.0298	-0.0698	0.0389
3	94.92	0.4997	0.1068	0.0015	-0.0463	0.0098	-0.1861	0.0358	-0.0608	0.0386
3	94.92	0.5556	0.1359	0.0017	-0.0463	0.0127	-0.3506	0.0431	-0.0158	0.0391
3	94.92	0.5995	0.1558	0.0017	-0.0711	0.0154	-0.5280	0.0496	-0.0038	0.0399
3	94.92	0.6890	0.1657	0.0019	-0.1175	0.0216	-1.0512	0.0614	0.0538	0.0394
3	94.92	0.7495	0.2213	0.0020	-0.1043	0.0261	-1.5181	0.0682	-0.0695	0.0461
3	94.92	0.7998	0.2288	0.0022	-0.1357	0.0300	-1.9536	0.0747	-0.0045	0.0505
3	94.92	0.8577	0.2735	0.0022	-0.1401	0.0345	-2.5213	0.0836	0.0602	0.0548
3	94.92	0.9178	0.2581	0.0034	-0.1782	0.0393	-3.1633	0.0916	-0.3321	0.0654
3	94.92	0.9729	0.3076	0.0038	-0.1840	0.0439	-3.8090	0.1006	-0.4043	0.0671
4	94.92	0.2001	-0.0558	0.0010	0.0023	0.0006	-0.0203	0.0022	0.1885	0.0242
4	94.92	0.2502	0.0051	0.0008	0.0207	0.0017	-0.0846	0.0056	-0.0587	0.0368
4	94.92	0.3001	0.0128	0.0009	0.0195	0.0028	-0.1081	0.0084	0.2881	0.0533
4	94.92	0.3502	0.0300	0.0010	0.0421	0.0050	-0.2064	0.0161	0.2671	0.0322
4	94.92	0.4002	0.0511	0.0013	0.0679	0.0078	-0.3275	0.0240	0.2835	0.0301
4	94.92	0.4500	0.0774	0.0015	0.0917	0.0101	-0.5251	0.0300	0.1213	0.0384
4	94.92	0.5001	0.0905	0.0016	0.1008	0.0130	-0.7368	0.0381	0.2828	0.0356
4	94.92	0.5560	0.1129	0.0017	0.1285	0.0163	-1.1064	0.0464	0.1125	0.0363
4	94.92	0.6001	0.1286	0.0018	0.1531	0.0192	-1.4066	0.0535	0.1457	0.0358
4	94.92	0.6999	0.1468	0.0025	0.1505	0.0264	-2.3477	0.0694	0.3407	0.0417
4	94.92	0.7500	0.1548	0.0026	0.1790	0.0305	-2.9072	0.0771	0.4772	0.0385
4	94.92	0.8002	0.1548	0.0029	0.1836	0.0347	-3.5356	0.0846	0.5278	0.0464
4	94.92	0.8582	0.1697	0.0030	0.2293	0.0400	-4.3752	0.0931	0.0806	0.0466
4	94.92	0.9101	0.1842	0.0033	0.2243	0.0449	-5.0932	0.1020	0.0955	0.0438
4	94.92	0.9728	0.2313	0.0043	0.2808	0.0507	-5.8883	0.1150	0.5011	0.0460

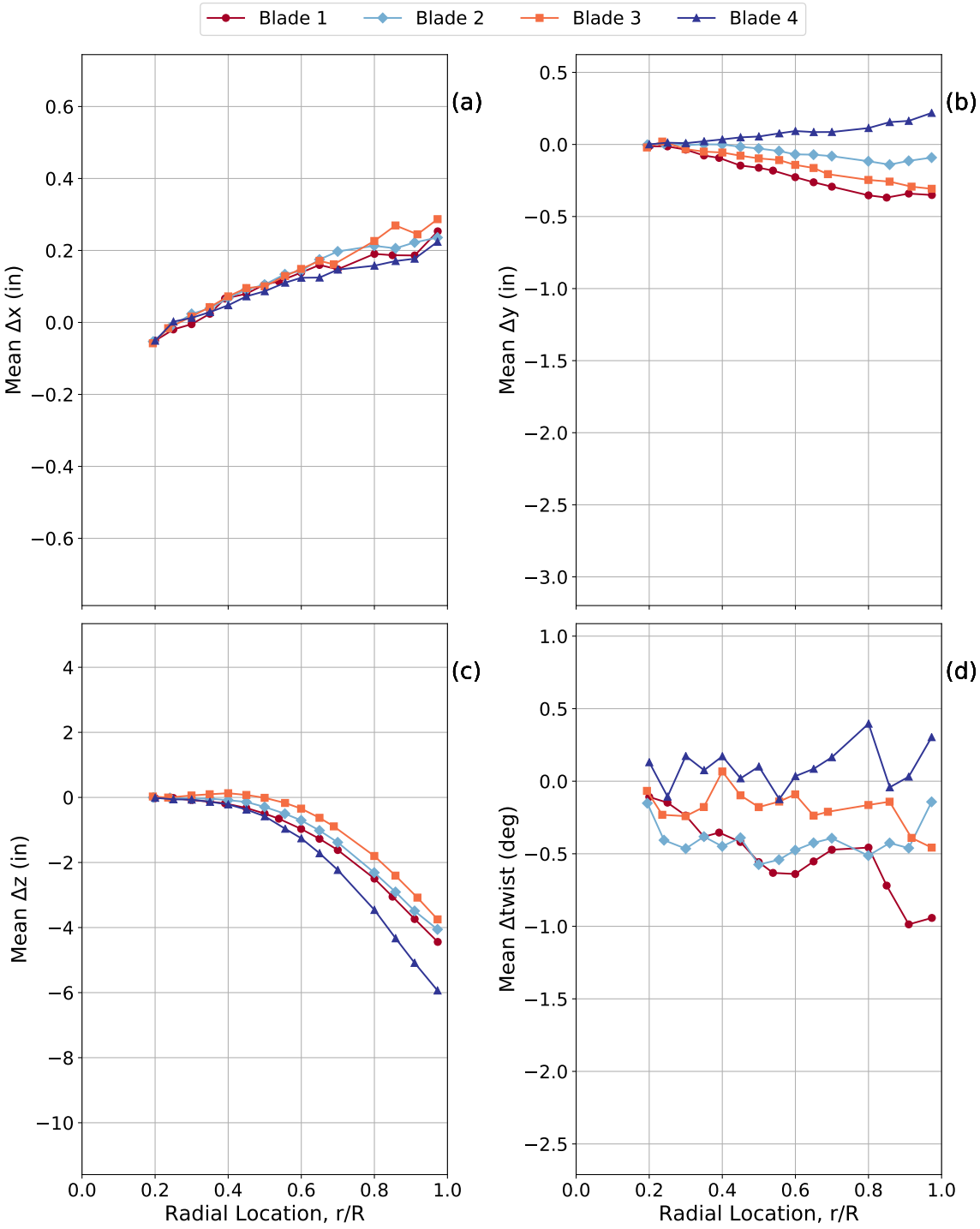


Figure 2.12-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-17. 100° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0508	0.0010	-0.0124	0.0005	-0.0224	0.0015	-0.1086	0.0231
1	99.84	0.2499	-0.0195	0.0011	-0.0136	0.0018	-0.0177	0.0038	-0.1477	0.0371
1	99.84	0.2998	-0.0049	0.0010	-0.0361	0.0028	-0.0840	0.0060	-0.2365	0.0521
1	99.84	0.3498	0.0241	0.0009	-0.0768	0.0044	-0.1291	0.0103	-0.3826	0.0488
1	99.84	0.3913	0.0664	0.0015	-0.0934	0.0071	-0.1841	0.0150	-0.3540	0.0455
1	99.84	0.4496	0.0797	0.0014	-0.1465	0.0086	-0.3237	0.0208	-0.4187	0.0413
1	99.84	0.4997	0.1054	0.0014	-0.1618	0.0112	-0.4970	0.0254	-0.5576	0.0406
1	99.84	0.5387	0.1140	0.0015	-0.1814	0.0129	-0.6553	0.0296	-0.6318	0.0425
1	99.84	0.5996	0.1386	0.0018	-0.2272	0.0162	-0.9686	0.0363	-0.6396	0.0456
1	99.84	0.6498	0.1597	0.0019	-0.2625	0.0192	-1.2720	0.0416	-0.5529	0.0440
1	99.84	0.6998	0.1476	0.0021	-0.2931	0.0222	-1.6175	0.0458	-0.4722	0.0455
1	99.84	0.8001	0.1905	0.0025	-0.3531	0.0291	-2.4962	0.0560	-0.4573	0.0461
1	99.84	0.8497	0.1868	0.0025	-0.3688	0.0328	-3.0510	0.0628	-0.7194	0.0499
1	99.84	0.9102	0.1861	0.0031	-0.3409	0.0376	-3.7383	0.0720	-0.9867	0.0626
1	99.84	0.9734	0.2532	0.0040	-0.3509	0.0421	-4.4416	0.0849	-0.9422	0.0545
2	99.84	0.1949	-0.0530	0.0012	-0.0024	0.0006	-0.0023	0.0019	-0.1516	0.0221
2	99.84	0.2405	-0.0142	0.0009	0.0056	0.0013	-0.0165	0.0040	-0.4066	0.0216
2	99.84	0.2999	0.0238	0.0011	-0.0048	0.0025	-0.0373	0.0091	-0.4647	0.0410
2	99.84	0.3498	0.0392	0.0012	0.0012	0.0045	-0.0370	0.0131	-0.3820	0.0334
2	99.84	0.3998	0.0674	0.0012	-0.0002	0.0068	-0.0845	0.0217	-0.4491	0.0344
2	99.84	0.4496	0.0911	0.0015	-0.0161	0.0081	-0.1399	0.0262	-0.3896	0.0302
2	99.84	0.4995	0.1051	0.0015	-0.0283	0.0102	-0.2920	0.0315	-0.5747	0.0288
2	99.84	0.5551	0.1339	0.0015	-0.0457	0.0126	-0.5007	0.0374	-0.5412	0.0299
2	99.84	0.5996	0.1433	0.0016	-0.0688	0.0146	-0.7047	0.0421	-0.4750	0.0350
2	99.84	0.6497	0.1748	0.0019	-0.0709	0.0173	-1.0171	0.0472	-0.4249	0.0381
2	99.84	0.6996	0.1973	0.0022	-0.0812	0.0201	-1.3807	0.0521	-0.3928	0.0389
2	99.84	0.7996	0.2130	0.0027	-0.1165	0.0264	-2.3116	0.0638	-0.5128	0.0360
2	99.84	0.8578	0.2059	0.0030	-0.1401	0.0303	-2.9075	0.0726	-0.4259	0.0383
2	99.84	0.9100	0.2223	0.0035	-0.1138	0.0340	-3.4901	0.0801	-0.4609	0.0456
2	99.84	0.9727	0.2359	0.0042	-0.0913	0.0384	-4.0574	0.0905	-0.1422	0.0511
3	99.84	0.1938	-0.0579	0.0008	-0.0209	0.0004	0.0273	0.0019	-0.0667	0.0207
3	99.84	0.2357	-0.0160	0.0009	0.0199	0.0016	-0.0044	0.0041	-0.2315	0.0263
3	99.84	0.2995	0.0165	0.0007	-0.0322	0.0026	0.0594	0.0106	-0.2409	0.0418
3	99.84	0.3493	0.0424	0.0011	-0.0497	0.0038	0.0973	0.0145	-0.1781	0.0605
3	99.84	0.4000	0.0724	0.0012	-0.0560	0.0067	0.1289	0.0249	0.0670	0.0343
3	99.84	0.4497	0.0956	0.0012	-0.0782	0.0083	0.0755	0.0318	-0.0972	0.0431
3	99.84	0.4997	0.1004	0.0013	-0.0969	0.0104	-0.0126	0.0396	-0.1785	0.0500
3	99.84	0.5556	0.1290	0.0016	-0.1086	0.0132	-0.1704	0.0481	-0.1402	0.0471
3	99.84	0.5995	0.1487	0.0016	-0.1418	0.0155	-0.3440	0.0538	-0.0906	0.0482
3	99.84	0.6498	0.1712	0.0018	-0.1634	0.0182	-0.6270	0.0596	-0.2371	0.0502
3	99.84	0.6890	0.1615	0.0018	-0.2063	0.0206	-0.8907	0.0643	-0.2107	0.0448
3	99.84	0.7998	0.2263	0.0023	-0.2462	0.0279	-1.8007	0.0780	-0.1639	0.0521
3	99.84	0.8577	0.2695	0.0026	-0.2578	0.0319	-2.4041	0.0872	-0.1412	0.0546
3	99.84	0.9178	0.2449	0.0030	-0.2929	0.0364	-3.0796	0.0972	-0.3907	0.0556
3	99.84	0.9729	0.2870	0.0036	-0.3077	0.0405	-3.7489	0.1080	-0.4575	0.0580
4	99.84	0.2001	-0.0508	0.0010	0.0006	0.0006	-0.0114	0.0022	0.1307	0.0173
4	99.84	0.2502	0.0023	0.0008	0.0121	0.0018	-0.0596	0.0047	-0.1064	0.0285
4	99.84	0.3001	0.0128	0.0010	0.0087	0.0024	-0.0671	0.0071	0.1738	0.0372
4	99.84	0.3502	0.0288	0.0011	0.0219	0.0050	-0.1357	0.0147	0.0757	0.0395
4	99.84	0.4002	0.0478	0.0013	0.0349	0.0072	-0.2150	0.0205	0.1720	0.0351
4	99.84	0.4500	0.0725	0.0013	0.0491	0.0091	-0.3750	0.0250	0.0198	0.0352
4	99.84	0.5001	0.0867	0.0013	0.0550	0.0112	-0.5804	0.0302	0.1010	0.0376
4	99.84	0.5560	0.1105	0.0013	0.0770	0.0138	-0.9634	0.0370	-0.1237	0.0373
4	99.84	0.6001	0.1241	0.0014	0.0930	0.0159	-1.2582	0.0421	0.0350	0.0372
4	99.84	0.6501	0.1247	0.0016	0.0857	0.0185	-1.7170	0.0474	0.0854	0.0438
4	99.84	0.6999	0.1468	0.0017	0.0862	0.0214	-2.2309	0.0524	0.1654	0.0390
4	99.84	0.8002	0.1577	0.0020	0.1137	0.0274	-3.4593	0.0640	0.3965	0.0431
4	99.84	0.8582	0.1706	0.0024	0.1549	0.0312	-4.3313	0.0733	-0.0418	0.0448
4	99.84	0.9101	0.1771	0.0028	0.1634	0.0346	-5.0871	0.0832	0.0311	0.0471
4	99.84	0.9728	0.2241	0.0039	0.2186	0.0391	-5.9362	0.0964	0.3039	0.0492

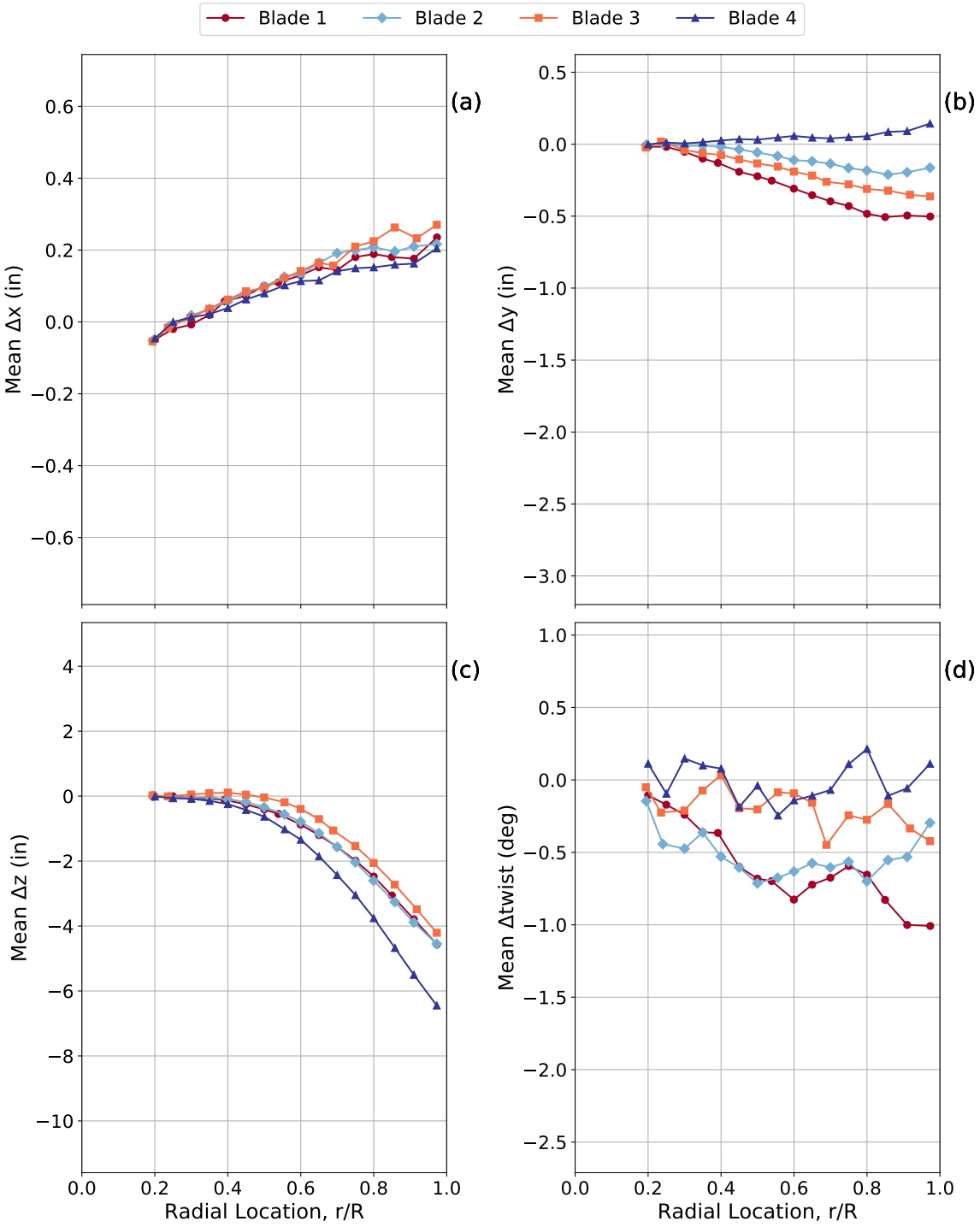


Figure 2.12-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-18. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0490	0.0011	-0.0164	0.0006	-0.0140	0.0019	-0.1061	0.0151
1	105.12	0.2499	-0.0197	0.0008	-0.0186	0.0015	-0.0061	0.0043	-0.1709	0.0298
1	105.12	0.2998	-0.0073	0.0009	-0.0527	0.0028	-0.0538	0.0079	-0.2400	0.0348
1	105.12	0.3498	0.0194	0.0009	-0.1005	0.0044	-0.0796	0.0125	-0.3610	0.0320
1	105.12	0.3913	0.0573	0.0014	-0.1295	0.0068	-0.1145	0.0186	-0.3656	0.0411
1	105.12	0.4496	0.0724	0.0014	-0.1916	0.0092	-0.2546	0.0259	-0.5996	0.0394
1	105.12	0.4997	0.1005	0.0015	-0.2229	0.0121	-0.4079	0.0331	-0.6812	0.0369
1	105.12	0.5387	0.1100	0.0016	-0.2532	0.0142	-0.5498	0.0386	-0.6983	0.0387
1	105.12	0.5996	0.1296	0.0015	-0.3088	0.0182	-0.8764	0.0473	-0.8261	0.0361
1	105.12	0.6498	0.1521	0.0017	-0.3541	0.0217	-1.2013	0.0545	-0.7229	0.0361
1	105.12	0.6998	0.1442	0.0017	-0.3970	0.0255	-1.5641	0.0609	-0.6750	0.0437
1	105.12	0.7500	0.1805	0.0019	-0.4298	0.0297	-1.9842	0.0678	-0.5945	0.0385
1	105.12	0.8001	0.1889	0.0023	-0.4837	0.0337	-2.4772	0.0750	-0.6541	0.0396
1	105.12	0.8497	0.1805	0.0026	-0.5063	0.0380	-3.0579	0.0826	-0.8281	0.0424
1	105.12	0.9102	0.1761	0.0032	-0.4954	0.0434	-3.7902	0.0921	-1.0008	0.0457
1	105.12	0.9734	0.2353	0.0039	-0.5025	0.0493	-4.5684	0.1040	-1.0081	0.0494
2	105.12	0.1949	-0.0519	0.0008	-0.0046	0.0006	0.0026	0.0016	-0.1459	0.0203
2	105.12	0.2405	-0.0110	0.0009	0.0044	0.0009	-0.0273	0.0056	-0.4426	0.0259
2	105.12	0.2999	0.0183	0.0010	-0.0125	0.0020	-0.0399	0.0080	-0.4747	0.0445
2	105.12	0.3498	0.0355	0.0013	-0.0100	0.0036	-0.0368	0.0152	-0.3629	0.0405
2	105.12	0.3998	0.0571	0.0013	-0.0177	0.0053	-0.0979	0.0233	-0.5294	0.0438
2	105.12	0.4496	0.0809	0.0015	-0.0367	0.0066	-0.1812	0.0293	-0.6047	0.0413
2	105.12	0.4995	0.0981	0.0016	-0.0575	0.0085	-0.3383	0.0379	-0.7135	0.0393
2	105.12	0.5551	0.1256	0.0018	-0.0825	0.0104	-0.5619	0.0463	-0.6753	0.0445
2	105.12	0.5996	0.1331	0.0018	-0.1103	0.0124	-0.7865	0.0548	-0.6322	0.0438
2	105.12	0.6497	0.1640	0.0019	-0.1184	0.0149	-1.1415	0.0638	-0.5749	0.0501
2	105.12	0.6996	0.1913	0.0021	-0.1356	0.0173	-1.5662	0.0722	-0.6041	0.0457
2	105.12	0.7495	0.1993	0.0025	-0.1658	0.0200	-2.0358	0.0818	-0.5642	0.0484
2	105.12	0.7996	0.2079	0.0027	-0.1828	0.0228	-2.6019	0.0919	-0.7002	0.0511
2	105.12	0.8578	0.1961	0.0033	-0.2110	0.0259	-3.2574	0.1045	-0.5531	0.0553
2	105.12	0.9100	0.2100	0.0036	-0.1952	0.0292	-3.8888	0.1157	-0.5311	0.0545
2	105.12	0.9727	0.2166	0.0041	-0.1637	0.0332	-4.5513	0.1313	-0.2957	0.0533
3	105.12	0.1938	-0.0541	0.0011	-0.0232	0.0009	0.0274	0.0023	-0.0506	0.0215
3	105.12	0.2357	-0.0161	0.0014	0.0188	0.0013	-0.0085	0.0038	-0.2249	0.0303
3	105.12	0.2995	0.0121	0.0009	-0.0402	0.0036	0.0501	0.0078	-0.2112	0.0466
3	105.12	0.3493	0.0365	0.0011	-0.0619	0.0054	0.0904	0.0122	-0.0731	0.0477
3	105.12	0.4000	0.0620	0.0023	-0.0751	0.0089	0.1088	0.0193	0.0339	0.0356
3	105.12	0.4497	0.0854	0.0019	-0.1053	0.0105	0.0456	0.0245	-0.1955	0.0346
3	105.12	0.4997	0.0943	0.0018	-0.1337	0.0135	-0.0420	0.0313	-0.2033	0.0390
3	105.12	0.5556	0.1221	0.0020	-0.1556	0.0168	-0.1888	0.0389	-0.0858	0.0386
3	105.12	0.5995	0.1417	0.0018	-0.1904	0.0196	-0.3941	0.0443	-0.0924	0.0415
3	105.12	0.6498	0.1648	0.0021	-0.2178	0.0228	-0.7073	0.0506	-0.1575	0.0466
3	105.12	0.6890	0.1569	0.0020	-0.2611	0.0258	-1.0574	0.0551	-0.4484	0.0419
3	105.12	0.7495	0.2096	0.0023	-0.2788	0.0304	-1.5333	0.0621	-0.2445	0.0415
3	105.12	0.7998	0.2247	0.0023	-0.3109	0.0345	-2.0577	0.0679	-0.2747	0.0413
3	105.12	0.8577	0.2629	0.0025	-0.3226	0.0396	-2.7250	0.0745	-0.1650	0.0451
3	105.12	0.9178	0.2328	0.0025	-0.3514	0.0445	-3.4825	0.0837	-0.3349	0.0507
3	105.12	0.9729	0.2704	0.0036	-0.3629	0.0497	-4.2069	0.0939	-0.4224	0.0533
4	105.12	0.2001	-0.0458	0.0010	-0.0010	0.0007	-0.0129	0.0020	0.1124	0.0262
4	105.12	0.2502	-0.0002	0.0010	0.0117	0.0020	-0.0641	0.0061	-0.0949	0.0319
4	105.12	0.3001	0.0127	0.0009	0.0051	0.0027	-0.0838	0.0080	0.1480	0.0499
4	105.12	0.3502	0.0219	0.0010	0.0142	0.0048	-0.1467	0.0151	0.0998	0.0401
4	105.12	0.4002	0.0387	0.0012	0.0256	0.0076	-0.2461	0.0231	0.0784	0.0309
4	105.12	0.4500	0.0626	0.0013	0.0351	0.0092	-0.4256	0.0298	-0.1860	0.0338
4	105.12	0.5001	0.0795	0.0014	0.0315	0.0113	-0.6320	0.0368	-0.0395	0.0362
4	105.12	0.5560	0.1020	0.0018	0.0463	0.0141	-1.0218	0.0447	-0.2455	0.0362
4	105.12	0.6001	0.1136	0.0018	0.0572	0.0165	-1.3420	0.0518	-0.1409	0.0363
4	105.12	0.6501	0.1156	0.0019	0.0459	0.0196	-1.8550	0.0582	-0.1086	0.0403
4	105.12	0.6999	0.1411	0.0023	0.0400	0.0226	-2.4310	0.0646	-0.0689	0.0370
4	105.12	0.7500	0.1494	0.0025	0.0487	0.0258	-3.0481	0.0716	0.1095	0.0386
4	105.12	0.8002	0.1519	0.0026	0.0552	0.0294	-3.7594	0.0790	0.2140	0.0410
4	105.12	0.8582	0.1593	0.0034	0.0857	0.0338	-4.6748	0.0886	-0.1089	0.0390
4	105.12	0.9101	0.1624	0.0037	0.0909	0.0378	-5.5030	0.0974	-0.0576	0.0366
4	105.12	0.9728	0.2045	0.0044	0.1433	0.0428	-6.4475	0.1088	0.1119	0.0441

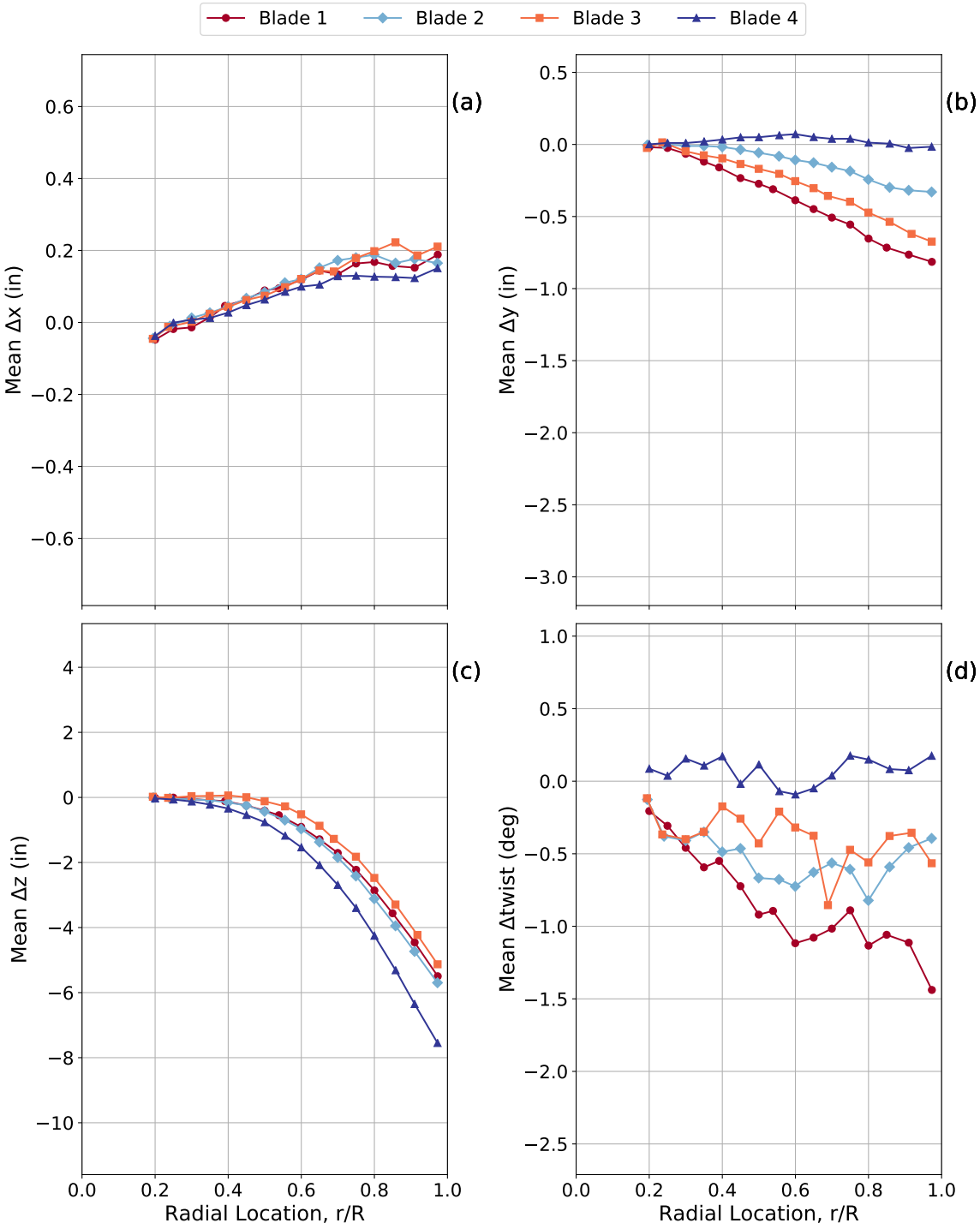


Figure 2.12-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-19. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0479	0.0011	-0.0189	0.0007	-0.0139	0.0022	-0.2056	0.0156
1	119.88	0.2499	-0.0183	0.0009	-0.0245	0.0016	-0.0069	0.0046	-0.3073	0.0360
1	119.88	0.2998	-0.0138	0.0014	-0.0650	0.0030	-0.0481	0.0094	-0.4590	0.0375
1	119.88	0.3498	0.0140	0.0012	-0.1195	0.0052	-0.0869	0.0149	-0.5935	0.0353
1	119.88	0.3913	0.0460	0.0014	-0.1592	0.0076	-0.1135	0.0223	-0.5494	0.0289
1	119.88	0.4496	0.0635	0.0014	-0.2335	0.0100	-0.2482	0.0287	-0.7236	0.0312
1	119.88	0.4997	0.0889	0.0016	-0.2729	0.0131	-0.4066	0.0374	-0.9195	0.0362
1	119.88	0.5387	0.0949	0.0018	-0.3107	0.0146	-0.5470	0.0420	-0.8938	0.0333
1	119.88	0.5996	0.1182	0.0022	-0.3872	0.0183	-0.9047	0.0505	-1.1166	0.0379
1	119.88	0.6498	0.1440	0.0021	-0.4485	0.0215	-1.2863	0.0595	-1.0782	0.0345
1	119.88	0.6998	0.1338	0.0022	-0.5076	0.0250	-1.7075	0.0658	-1.0160	0.0406
1	119.88	0.7500	0.1638	0.0028	-0.5560	0.0289	-2.2248	0.0734	-0.8898	0.0362
1	119.88	0.8001	0.1680	0.0029	-0.6531	0.0332	-2.8599	0.0806	-1.1330	0.0397
1	119.88	0.8497	0.1570	0.0033	-0.7158	0.0373	-3.5613	0.0878	-1.0585	0.0394
1	119.88	0.9102	0.1522	0.0038	-0.7645	0.0423	-4.4566	0.0981	-1.1129	0.0428
1	119.88	0.9734	0.1883	0.0050	-0.8145	0.0478	-5.4965	0.1098	-1.4387	0.0417
2	119.88	0.1949	-0.0440	0.0010	-0.0039	0.0007	-0.0080	0.0030	-0.1265	0.0315
2	119.88	0.2405	-0.0101	0.0008	0.0030	0.0010	-0.0284	0.0057	-0.3795	0.0561
2	119.88	0.2999	0.0127	0.0011	-0.0109	0.0021	-0.0612	0.0118	-0.4093	0.0792
2	119.88	0.3498	0.0268	0.0010	-0.0103	0.0042	-0.0871	0.0215	-0.3501	0.0577
2	119.88	0.3998	0.0444	0.0013	-0.0173	0.0057	-0.1566	0.0321	-0.4867	0.0435
2	119.88	0.4496	0.0673	0.0015	-0.0358	0.0071	-0.2467	0.0387	-0.4638	0.0516
2	119.88	0.4995	0.0837	0.0016	-0.0576	0.0093	-0.4313	0.0486	-0.6669	0.0494
2	119.88	0.5551	0.1104	0.0015	-0.0817	0.0113	-0.6985	0.0591	-0.6766	0.0493
2	119.88	0.5996	0.1202	0.0015	-0.1080	0.0135	-0.9707	0.0681	-0.7251	0.0508
2	119.88	0.6497	0.1519	0.0017	-0.1268	0.0163	-1.3723	0.0786	-0.6278	0.0546
2	119.88	0.6996	0.1725	0.0020	-0.1577	0.0192	-1.8460	0.0890	-0.5633	0.0574
2	119.88	0.7495	0.1800	0.0023	-0.1850	0.0221	-2.4163	0.1010	-0.6074	0.0577
2	119.88	0.7996	0.1881	0.0029	-0.2432	0.0254	-3.1151	0.1146	-0.8219	0.0621
2	119.88	0.8578	0.1649	0.0036	-0.2979	0.0294	-3.9476	0.1319	-0.5906	0.0665
2	119.88	0.9100	0.1764	0.0041	-0.3182	0.0329	-4.7344	0.1499	-0.4577	0.0622
2	119.88	0.9727	0.1648	0.0051	-0.3295	0.0374	-5.6971	0.1722	-0.3940	0.0628
3	119.88	0.1938	-0.0455	0.0010	-0.0243	0.0005	0.0206	0.0013	-0.1172	0.0232
3	119.88	0.2357	-0.0124	0.0011	0.0147	0.0017	-0.0128	0.0052	-0.3669	0.0202
3	119.88	0.2995	0.0016	0.0019	-0.0476	0.0024	0.0379	0.0067	-0.3997	0.0423
3	119.88	0.3493	0.0240	0.0014	-0.0755	0.0052	0.0463	0.0119	-0.3487	0.0409
3	119.88	0.4000	0.0432	0.0020	-0.0969	0.0076	0.0604	0.0196	-0.1736	0.0307
3	119.88	0.4497	0.0623	0.0015	-0.1357	0.0093	0.0059	0.0257	-0.2582	0.0329
3	119.88	0.4997	0.0742	0.0018	-0.1693	0.0118	-0.1184	0.0322	-0.4286	0.0292
3	119.88	0.5556	0.0980	0.0020	-0.2038	0.0150	-0.2752	0.0392	-0.2097	0.0315
3	119.88	0.5995	0.1209	0.0020	-0.2545	0.0177	-0.5203	0.0452	-0.3189	0.0311
3	119.88	0.6498	0.1443	0.0023	-0.3035	0.0217	-0.8706	0.0511	-0.3759	0.0371
3	119.88	0.6890	0.1417	0.0022	-0.3568	0.0248	-1.2737	0.0555	-0.8542	0.0345
3	119.88	0.7495	0.1789	0.0023	-0.3973	0.0300	-1.8224	0.0628	-0.4726	0.0337
3	119.88	0.7998	0.1981	0.0024	-0.4726	0.0347	-2.4745	0.0691	-0.5597	0.0372
3	119.88	0.8577	0.2226	0.0026	-0.5368	0.0404	-3.2916	0.0768	-0.3775	0.0372
3	119.88	0.9178	0.1862	0.0030	-0.6206	0.0465	-4.2270	0.0850	-0.3553	0.0367
3	119.88	0.9729	0.2108	0.0044	-0.6743	0.0523	-5.1292	0.0947	-0.5654	0.0366
4	119.88	0.2001	-0.0375	0.0012	0.0010	0.0006	-0.0307	0.0021	0.0858	0.0229
4	119.88	0.2502	-0.0006	0.0009	0.0104	0.0014	-0.0646	0.0047	0.0372	0.0385
4	119.88	0.3001	0.0076	0.0015	0.0099	0.0028	-0.1262	0.0070	0.1559	0.0515
4	119.88	0.3502	0.0125	0.0010	0.0204	0.0041	-0.2223	0.0144	0.1074	0.0478
4	119.88	0.4002	0.0274	0.0015	0.0339	0.0069	-0.3420	0.0206	0.1715	0.0460
4	119.88	0.4500	0.0481	0.0015	0.0491	0.0081	-0.5398	0.0267	-0.0190	0.0430
4	119.88	0.5001	0.0636	0.0017	0.0501	0.0106	-0.7624	0.0335	0.1149	0.0487
4	119.88	0.5560	0.0852	0.0016	0.0636	0.0136	-1.1763	0.0410	-0.0689	0.0498
4	119.88	0.6001	0.0995	0.0015	0.0713	0.0156	-1.5351	0.0469	-0.0914	0.0528
4	119.88	0.6501	0.1050	0.0016	0.0510	0.0184	-2.0807	0.0536	-0.0491	0.0561
4	119.88	0.6999	0.1285	0.0021	0.0389	0.0214	-2.6905	0.0606	0.0387	0.0547
4	119.88	0.7500	0.1297	0.0022	0.0394	0.0245	-3.3987	0.0688	0.1756	0.0563
4	119.88	0.8002	0.1271	0.0027	0.0123	0.0280	-4.2521	0.0773	0.1491	0.0610
4	119.88	0.8582	0.1259	0.0032	0.0055	0.0321	-5.3131	0.0887	0.0834	0.0562
4	119.88	0.9101	0.1232	0.0037	-0.0247	0.0359	-6.3522	0.0992	0.0755	0.0604
4	119.88	0.9728	0.1508	0.0044	-0.0159	0.0410	-7.5488	0.1133	0.1751	0.0580

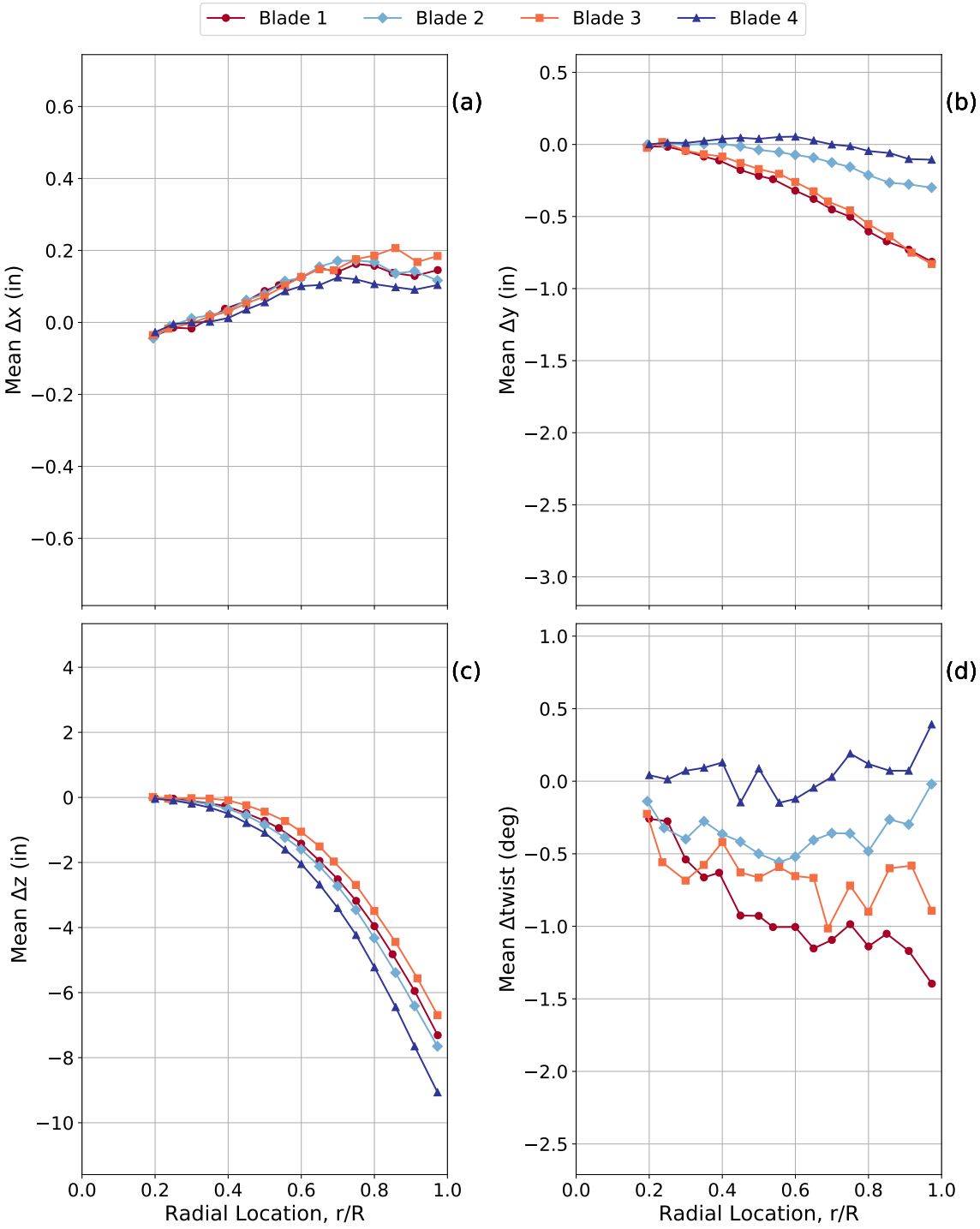


Figure 2.12-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-20. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0373	0.0009	-0.0134	0.0006	-0.0280	0.0017	-0.2591	0.0168
1	135	0.2499	-0.0145	0.0010	-0.0166	0.0016	-0.0392	0.0041	-0.2765	0.0210
1	135	0.2998	-0.0170	0.0007	-0.0453	0.0030	-0.1104	0.0067	-0.5394	0.0347
1	135	0.3498	0.0112	0.0011	-0.0842	0.0048	-0.1860	0.0119	-0.6631	0.0352
1	135	0.3913	0.0380	0.0015	-0.1110	0.0073	-0.2636	0.0169	-0.6307	0.0321
1	135	0.4496	0.0593	0.0016	-0.1771	0.0093	-0.4868	0.0231	-0.9259	0.0277
1	135	0.4997	0.0873	0.0019	-0.2178	0.0118	-0.7179	0.0277	-0.9280	0.0274
1	135	0.5387	0.1035	0.0018	-0.2413	0.0144	-0.9424	0.0337	-1.0053	0.0348
1	135	0.5996	0.1242	0.0021	-0.3203	0.0184	-1.4212	0.0422	-1.0046	0.0327
1	135	0.6498	0.1508	0.0022	-0.3783	0.0220	-1.9504	0.0492	-1.1527	0.0310
1	135	0.6998	0.1406	0.0023	-0.4512	0.0260	-2.5160	0.0580	-1.0939	0.0396
1	135	0.7500	0.1624	0.0028	-0.5014	0.0301	-3.1793	0.0657	-0.9855	0.0376
1	135	0.8001	0.1574	0.0028	-0.6037	0.0343	-3.9583	0.0749	-1.1387	0.0386
1	135	0.8497	0.1376	0.0031	-0.6726	0.0386	-4.8203	0.0840	-1.0513	0.0355
1	135	0.9102	0.1292	0.0038	-0.7300	0.0439	-5.9504	0.0965	-1.1698	0.0393
1	135	0.9734	0.1455	0.0048	-0.8141	0.0499	-7.3102	0.1111	-1.3955	0.0398
2	135	0.1949	-0.0439	0.0007	-0.0018	0.0006	-0.0237	0.0012	-0.1385	0.0208
2	135	0.2405	-0.0111	0.0012	0.0052	0.0016	-0.0595	0.0045	-0.3219	0.0258
2	135	0.2999	0.0112	0.0011	-0.0016	0.0032	-0.1387	0.0078	-0.3989	0.0453
2	135	0.3498	0.0203	0.0031	0.0028	0.0050	-0.2086	0.0123	-0.2766	0.0365
2	135	0.3998	0.0326	0.0013	0.0045	0.0084	-0.3549	0.0211	-0.3644	0.0406
2	135	0.4496	0.0621	0.0016	-0.0133	0.0098	-0.5563	0.0251	-0.4171	0.0378
2	135	0.4995	0.0786	0.0019	-0.0377	0.0118	-0.8383	0.0312	-0.4997	0.0339
2	135	0.5551	0.1151	0.0019	-0.0534	0.0140	-1.2318	0.0374	-0.5577	0.0367
2	135	0.5996	0.1243	0.0019	-0.0726	0.0161	-1.5968	0.0428	-0.5204	0.0367
2	135	0.6497	0.1546	0.0020	-0.0918	0.0181	-2.1167	0.0492	-0.4063	0.0393
2	135	0.6996	0.1707	0.0022	-0.1253	0.0207	-2.7264	0.0545	-0.3580	0.0392
2	135	0.7495	0.1724	0.0025	-0.1559	0.0233	-3.4547	0.0612	-0.3602	0.0375
2	135	0.7996	0.1678	0.0028	-0.2129	0.0262	-4.3218	0.0679	-0.4824	0.0404
2	135	0.8578	0.1361	0.0034	-0.2655	0.0296	-5.3885	0.0772	-0.2640	0.0416
2	135	0.9100	0.1425	0.0039	-0.2768	0.0326	-6.4101	0.0864	-0.2981	0.0450
2	135	0.9727	0.1168	0.0048	-0.2995	0.0365	-7.6508	0.0995	-0.0197	0.0472
3	135	0.1938	-0.0351	0.0016	-0.0233	0.0009	0.0117	0.0018	-0.2252	0.0278
3	135	0.2357	-0.0173	0.0021	0.0165	0.0017	-0.0370	0.0058	-0.5584	0.0261
3	135	0.2995	-0.0020	0.0013	-0.0428	0.0038	-0.0237	0.0080	-0.6848	0.0512
3	135	0.3493	0.0168	0.0013	-0.0677	0.0056	-0.0356	0.0155	-0.5770	0.0441
3	135	0.4000	0.0300	0.0021	-0.0843	0.0095	-0.0898	0.0240	-0.4194	0.0360
3	135	0.4497	0.0528	0.0018	-0.1287	0.0123	-0.2417	0.0289	-0.6286	0.0432
3	135	0.4997	0.0722	0.0019	-0.1711	0.0150	-0.4402	0.0381	-0.6647	0.0412
3	135	0.5556	0.1025	0.0021	-0.2038	0.0185	-0.7260	0.0467	-0.5911	0.0405
3	135	0.5995	0.1266	0.0023	-0.2602	0.0214	-1.0526	0.0530	-0.6539	0.0425
3	135	0.6498	0.1478	0.0026	-0.3253	0.0252	-1.5071	0.0615	-0.6666	0.0463
3	135	0.6890	0.1449	0.0030	-0.3958	0.0278	-1.9711	0.0695	-1.0145	0.0443
3	135	0.7495	0.1758	0.0033	-0.4577	0.0325	-2.6910	0.0812	-0.7193	0.0431
3	135	0.7998	0.1859	0.0034	-0.5531	0.0365	-3.4901	0.0924	-0.8991	0.0437
3	135	0.8577	0.2067	0.0042	-0.6375	0.0412	-4.4427	0.1072	-0.6001	0.0445
3	135	0.9178	0.1679	0.0050	-0.7507	0.0463	-5.5606	0.1249	-0.5822	0.0457
3	135	0.9729	0.1847	0.0063	-0.8294	0.0511	-6.6929	0.1425	-0.8926	0.0417
4	135	0.2001	-0.0271	0.0009	0.0011	0.0008	-0.0423	0.0020	0.0419	0.0223
4	135	0.2502	-0.0046	0.0014	0.0120	0.0021	-0.0943	0.0042	0.0125	0.0369
4	135	0.3001	-0.0008	0.0012	0.0105	0.0031	-0.1902	0.0085	0.0719	0.0505
4	135	0.3502	0.0019	0.0010	0.0240	0.0066	-0.3130	0.0137	0.0928	0.0431
4	135	0.4002	0.0124	0.0014	0.0383	0.0094	-0.5008	0.0216	0.1291	0.0374
4	135	0.4500	0.0357	0.0015	0.0462	0.0120	-0.7863	0.0282	-0.1460	0.0391
4	135	0.5001	0.0560	0.0016	0.0386	0.0153	-1.0861	0.0344	0.0870	0.0458
4	135	0.5560	0.0868	0.0023	0.0521	0.0188	-1.6035	0.0443	-0.1487	0.0367
4	135	0.6001	0.1009	0.0020	0.0541	0.0221	-2.0482	0.0524	-0.1215	0.0393
4	135	0.6501	0.1040	0.0021	0.0275	0.0256	-2.6777	0.0621	-0.0448	0.0394
4	135	0.6999	0.1251	0.0022	-0.0006	0.0295	-3.4005	0.0712	0.0300	0.0444
4	135	0.7500	0.1197	0.0025	-0.0122	0.0338	-4.2295	0.0808	0.1906	0.0408
4	135	0.8002	0.1064	0.0029	-0.0457	0.0382	-5.2243	0.0915	0.1183	0.0386
4	135	0.8582	0.0979	0.0036	-0.0600	0.0437	-6.4446	0.1048	0.0721	0.0422
4	135	0.9101	0.0909	0.0043	-0.1012	0.0485	-7.6511	0.1177	0.0723	0.0424
4	135	0.9728	0.1040	0.0051	-0.1060	0.0545	-9.0667	0.1343	0.3916	0.0418

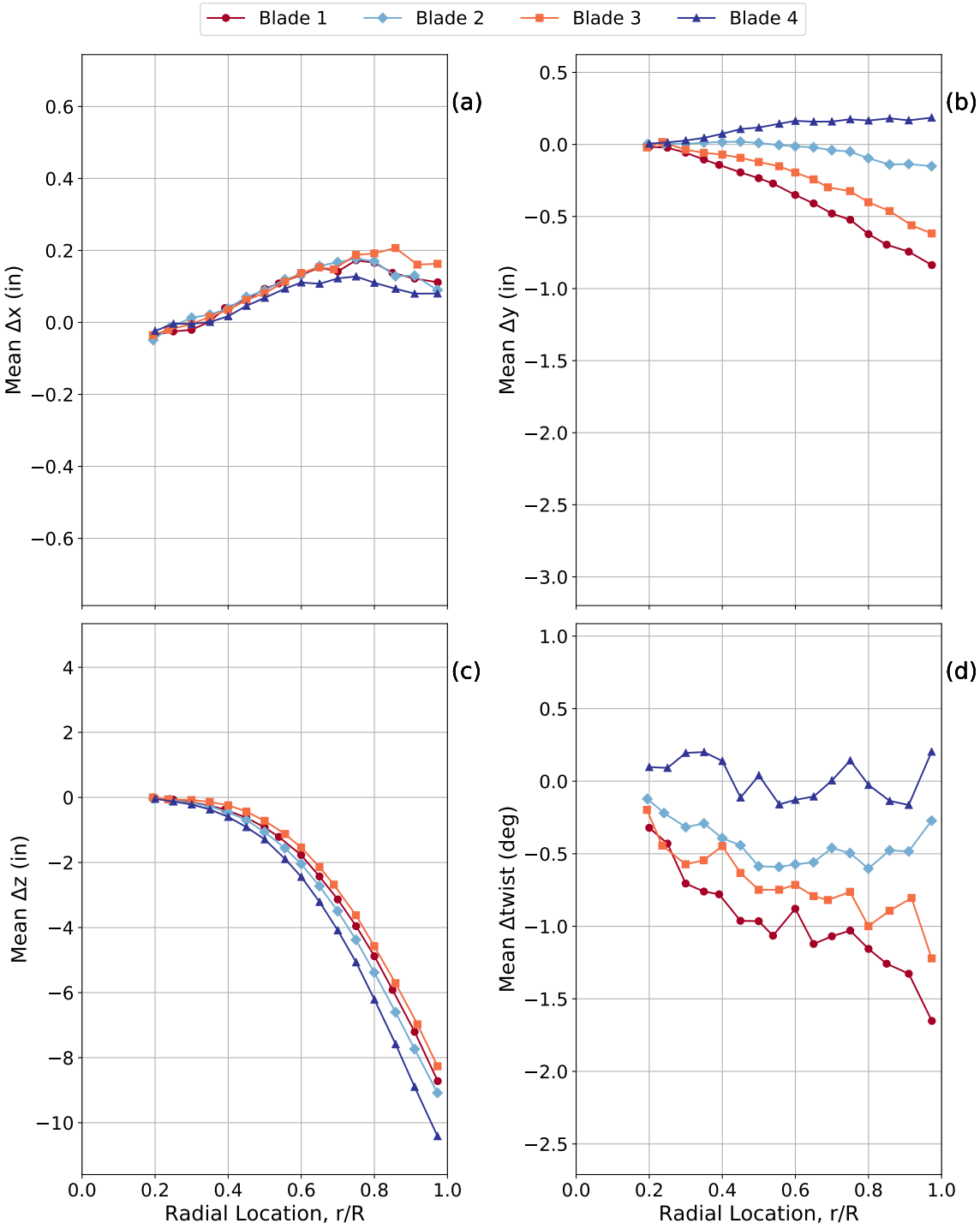


Figure 2.12-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-21. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0340	0.0012	-0.0159	0.0010	-0.0325	0.0018	-0.3214	0.0242
1	150.12	0.2499	-0.0251	0.0013	-0.0230	0.0024	-0.0697	0.0033	-0.4296	0.0307
1	150.12	0.2998	-0.0205	0.0013	-0.0572	0.0038	-0.1496	0.0063	-0.7050	0.0501
1	150.12	0.3498	0.0024	0.0012	-0.1050	0.0065	-0.2520	0.0110	-0.7605	0.0386
1	150.12	0.3913	0.0398	0.0012	-0.1419	0.0095	-0.3729	0.0151	-0.7794	0.0485
1	150.12	0.4496	0.0625	0.0015	-0.1939	0.0114	-0.6215	0.0205	-0.9619	0.0421
1	150.12	0.4997	0.0934	0.0020	-0.2343	0.0137	-0.9218	0.0250	-0.9646	0.0366
1	150.12	0.5387	0.1085	0.0014	-0.2712	0.0162	-1.2133	0.0290	-1.0648	0.0351
1	150.12	0.5996	0.1320	0.0020	-0.3505	0.0194	-1.7718	0.0358	-0.8789	0.0407
1	150.12	0.6498	0.1525	0.0020	-0.4092	0.0232	-2.4306	0.0418	-1.1214	0.0390
1	150.12	0.6998	0.1415	0.0026	-0.4793	0.0265	-3.1353	0.0489	-1.0689	0.0424
1	150.12	0.7500	0.1729	0.0031	-0.5225	0.0303	-3.9567	0.0584	-1.0295	0.0457
1	150.12	0.8001	0.1657	0.0033	-0.6220	0.0344	-4.8808	0.0711	-1.1557	0.0439
1	150.12	0.8497	0.1378	0.0043	-0.6956	0.0386	-5.9163	0.0864	-1.2578	0.0443
1	150.12	0.9102	0.1219	0.0056	-0.7442	0.0438	-7.2049	0.1089	-1.3268	0.0430
1	150.12	0.9734	0.1116	0.0069	-0.8370	0.0494	-8.7195	0.1345	-1.6521	0.0446
2	150.12	0.1949	-0.0489	0.0011	0.0008	0.0012	-0.0308	0.0011	-0.1219	0.0301
2	150.12	0.2405	-0.0136	0.0018	0.0044	0.0019	-0.0778	0.0041	-0.2192	0.0347
2	150.12	0.2999	0.0131	0.0015	0.0039	0.0051	-0.1744	0.0063	-0.3166	0.0646
2	150.12	0.3498	0.0218	0.0011	0.0126	0.0080	-0.2743	0.0113	-0.2910	0.0500
2	150.12	0.3998	0.0387	0.0014	0.0167	0.0126	-0.4563	0.0178	-0.3922	0.0444
2	150.12	0.4496	0.0710	0.0016	0.0193	0.0133	-0.6970	0.0232	-0.4420	0.0413
2	150.12	0.4995	0.0886	0.0019	0.0100	0.0163	-1.0598	0.0282	-0.5866	0.0389
2	150.12	0.5551	0.1195	0.0017	-0.0039	0.0203	-1.5586	0.0339	-0.5907	0.0382
2	150.12	0.5996	0.1338	0.0018	-0.0136	0.0231	-2.0447	0.0395	-0.5730	0.0365
2	150.12	0.6497	0.1569	0.0019	-0.0206	0.0265	-2.7267	0.0449	-0.5593	0.0421
2	150.12	0.6996	0.1674	0.0022	-0.0398	0.0301	-3.4936	0.0505	-0.4601	0.0382
2	150.12	0.7495	0.1774	0.0023	-0.0498	0.0340	-4.3777	0.0557	-0.4954	0.0391
2	150.12	0.7996	0.1700	0.0025	-0.0957	0.0380	-5.3796	0.0619	-0.6021	0.0359
2	150.12	0.8578	0.1284	0.0029	-0.1394	0.0429	-6.6023	0.0693	-0.4766	0.0401
2	150.12	0.9100	0.1299	0.0038	-0.1361	0.0472	-7.7357	0.0777	-0.4836	0.0397
2	150.12	0.9727	0.0902	0.0047	-0.1509	0.0525	-9.0826	0.0885	-0.2719	0.0412
3	150.12	0.1938	-0.0351	0.0010	-0.0210	0.0013	-0.0009	0.0017	-0.1975	0.0346
3	150.12	0.2357	-0.0199	0.0014	0.0165	0.0016	-0.0604	0.0057	-0.4438	0.0416
3	150.12	0.2995	-0.0052	0.0014	-0.0369	0.0046	-0.0786	0.0077	-0.5726	0.0761
3	150.12	0.3493	0.0159	0.0011	-0.0578	0.0085	-0.1363	0.0141	-0.5448	0.0621
3	150.12	0.4000	0.0345	0.0011	-0.0705	0.0126	-0.2429	0.0226	-0.4470	0.0532
3	150.12	0.4497	0.0621	0.0015	-0.0925	0.0150	-0.4350	0.0264	-0.6323	0.0615
3	150.12	0.4997	0.0818	0.0016	-0.1217	0.0177	-0.7202	0.0346	-0.7485	0.0587
3	150.12	0.5556	0.1129	0.0019	-0.1515	0.0221	-1.1243	0.0408	-0.7480	0.0542
3	150.12	0.5995	0.1373	0.0016	-0.1944	0.0252	-1.5390	0.0466	-0.7143	0.0555
3	150.12	0.6498	0.1534	0.0020	-0.2426	0.0288	-2.1399	0.0525	-0.7921	0.0536
3	150.12	0.6890	0.1477	0.0023	-0.2974	0.0319	-2.6807	0.0571	-0.8189	0.0606
3	150.12	0.7495	0.1876	0.0022	-0.3237	0.0367	-3.6202	0.0648	-0.7627	0.0546
3	150.12	0.7998	0.1919	0.0028	-0.4010	0.0408	-4.5736	0.0723	-0.9990	0.0515
3	150.12	0.8577	0.2068	0.0035	-0.4619	0.0460	-5.7102	0.0808	-0.8928	0.0526
3	150.12	0.9178	0.1607	0.0042	-0.5611	0.0515	-6.9750	0.0921	-0.8047	0.0520
3	150.12	0.9729	0.1630	0.0057	-0.6175	0.0569	-8.2643	0.1039	-1.2214	0.0482
4	150.12	0.2001	-0.0236	0.0011	0.0057	0.0011	-0.0443	0.0017	0.0974	0.0180
4	150.12	0.2502	-0.0037	0.0017	0.0142	0.0028	-0.1271	0.0048	0.0918	0.0240
4	150.12	0.3001	-0.0039	0.0019	0.0273	0.0047	-0.2177	0.0071	0.1953	0.0369
4	150.12	0.3502	0.0014	0.0014	0.0458	0.0083	-0.3718	0.0128	0.2008	0.0351
4	150.12	0.4002	0.0172	0.0018	0.0738	0.0130	-0.5994	0.0202	0.1389	0.0236
4	150.12	0.4500	0.0462	0.0016	0.1068	0.0154	-0.9146	0.0247	-0.1126	0.0318
4	150.12	0.5001	0.0685	0.0016	0.1175	0.0178	-1.2907	0.0300	0.0398	0.0385
4	150.12	0.5560	0.0940	0.0029	0.1435	0.0216	-1.8955	0.0396	-0.1599	0.0318
4	150.12	0.6001	0.1110	0.0029	0.1636	0.0257	-2.4437	0.0445	-0.1283	0.0379
4	150.12	0.6501	0.1074	0.0026	0.1579	0.0282	-3.2134	0.0505	-0.1056	0.0364
4	150.12	0.6999	0.1224	0.0028	0.1587	0.0323	-4.0874	0.0554	0.0048	0.0349
4	150.12	0.7500	0.1277	0.0037	0.1747	0.0360	-5.0691	0.0625	0.1426	0.0367
4	150.12	0.8002	0.1101	0.0039	0.1658	0.0401	-6.2142	0.0696	-0.0255	0.0387
4	150.12	0.8582	0.0935	0.0045	0.1811	0.0449	-7.5865	0.0797	-0.1359	0.0342
4	150.12	0.9101	0.0800	0.0052	0.1671	0.0494	-8.8972	0.0902	-0.1637	0.0386
4	150.12	0.9728	0.0804	0.0070	0.1857	0.0551	-10.4140	0.1042	0.2036	0.0366

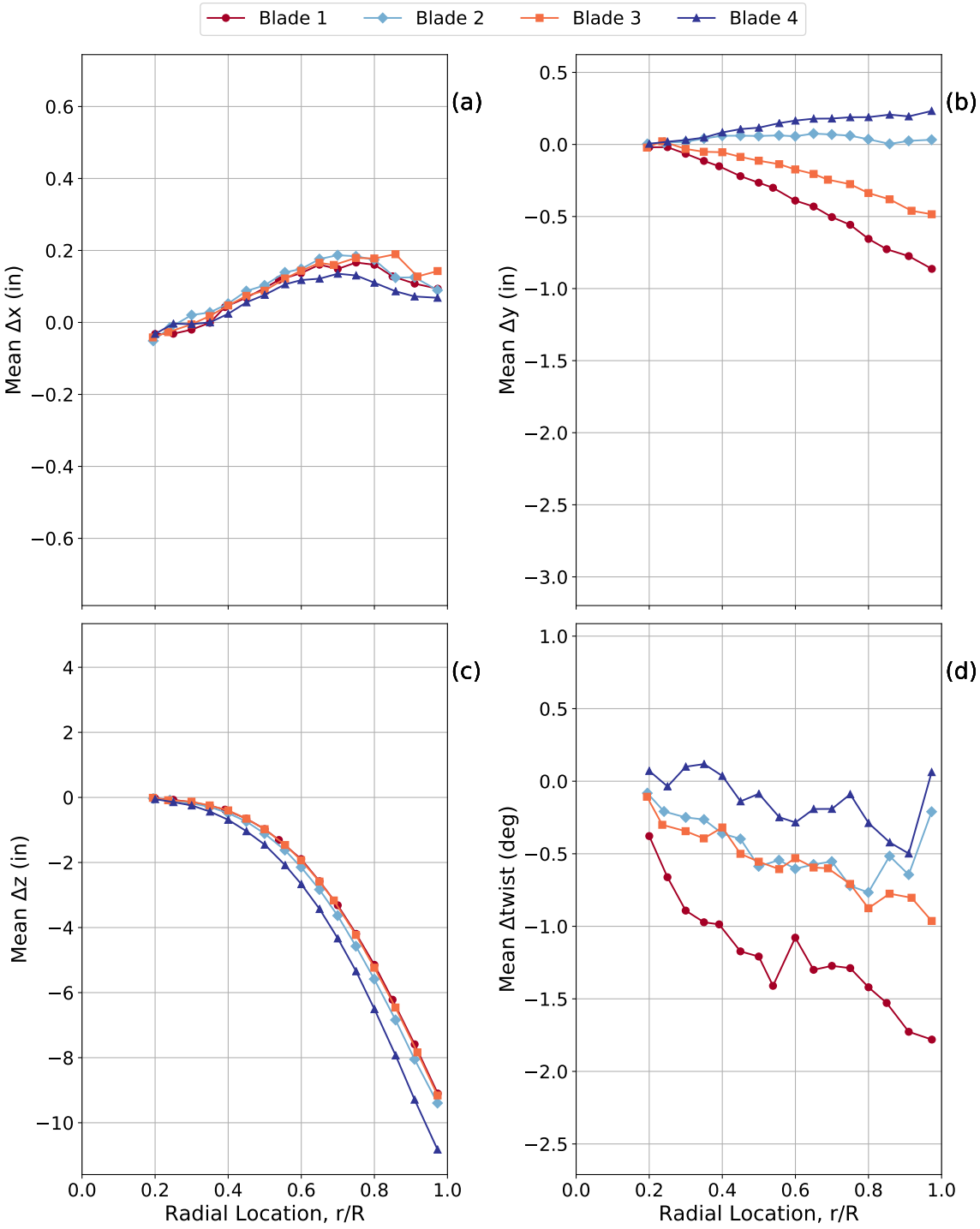


Figure 2.12-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-22. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0322	0.0013	-0.0195	0.0008	-0.0307	0.0023	-0.3781	0.0240
1	164.88	0.2499	-0.0314	0.0018	-0.0189	0.0039	-0.0735	0.0047	-0.6617	0.0319
1	164.88	0.2998	-0.0200	0.0017	-0.0647	0.0055	-0.1456	0.0086	-0.8917	0.0504
1	164.88	0.3498	-0.0009	0.0018	-0.1143	0.0088	-0.2556	0.0150	-0.9722	0.0424
1	164.88	0.3913	0.0427	0.0021	-0.1514	0.0144	-0.3753	0.0211	-0.9867	0.0444
1	164.88	0.4496	0.0689	0.0019	-0.2201	0.0161	-0.6522	0.0282	-1.1727	0.0438
1	164.88	0.4997	0.0953	0.0024	-0.2655	0.0189	-0.9740	0.0330	-1.2084	0.0475
1	164.88	0.5387	0.1183	0.0027	-0.3006	0.0222	-1.3085	0.0394	-1.4103	0.0464
1	164.88	0.5996	0.1369	0.0026	-0.3896	0.0267	-1.8954	0.0494	-1.0783	0.0411
1	164.88	0.6498	0.1605	0.0025	-0.4309	0.0299	-2.5761	0.0582	-1.3000	0.0479
1	164.88	0.6998	0.1487	0.0028	-0.5039	0.0342	-3.3155	0.0670	-1.2726	0.0385
1	164.88	0.7500	0.1665	0.0037	-0.5577	0.0376	-4.1946	0.0764	-1.2881	0.0437
1	164.88	0.8001	0.1603	0.0043	-0.6553	0.0421	-5.1474	0.0856	-1.4202	0.0429
1	164.88	0.8497	0.1280	0.0049	-0.7269	0.0462	-6.2184	0.0953	-1.5284	0.0409
1	164.88	0.9102	0.1079	0.0057	-0.7748	0.0515	-7.5890	0.1081	-1.7270	0.0403
1	164.88	0.9734	0.0937	0.0075	-0.8633	0.0573	-9.1017	0.1215	-1.7807	0.0422
2	164.88	0.1949	-0.0512	0.0016	0.0035	0.0009	-0.0329	0.0016	-0.0822	0.0224
2	164.88	0.2405	-0.0142	0.0018	0.0128	0.0044	-0.0844	0.0037	-0.2086	0.0311
2	164.88	0.2999	0.0205	0.0021	0.0186	0.0067	-0.1817	0.0074	-0.2494	0.0508
2	164.88	0.3498	0.0278	0.0018	0.0408	0.0112	-0.2944	0.0130	-0.2640	0.0382
2	164.88	0.3998	0.0523	0.0020	0.0600	0.0190	-0.4825	0.0200	-0.3607	0.0442
2	164.88	0.4496	0.0872	0.0024	0.0607	0.0189	-0.7409	0.0233	-0.3977	0.0437
2	164.88	0.4995	0.1030	0.0026	0.0588	0.0248	-1.1127	0.0286	-0.5869	0.0493
2	164.88	0.5551	0.1391	0.0028	0.0627	0.0303	-1.6199	0.0362	-0.5439	0.0343
2	164.88	0.5996	0.1485	0.0025	0.0565	0.0338	-2.1466	0.0406	-0.6037	0.0412
2	164.88	0.6497	0.1762	0.0022	0.0753	0.0388	-2.8325	0.0460	-0.5736	0.0389
2	164.88	0.6996	0.1869	0.0025	0.0689	0.0435	-3.6343	0.0513	-0.5538	0.0372
2	164.88	0.7495	0.1839	0.0027	0.0609	0.0483	-4.5742	0.0566	-0.7208	0.0367
2	164.88	0.7996	0.1742	0.0028	0.0359	0.0532	-5.5847	0.0616	-0.7666	0.0384
2	164.88	0.8578	0.1244	0.0034	0.0038	0.0590	-6.8401	0.0683	-0.5163	0.0403
2	164.88	0.9100	0.1255	0.0038	0.0247	0.0644	-8.0502	0.0746	-0.6441	0.0381
2	164.88	0.9727	0.0896	0.0053	0.0327	0.0707	-9.3954	0.0842	-0.2102	0.0432
3	164.88	0.1938	-0.0416	0.0014	-0.0218	0.0010	-0.0133	0.0019	-0.1072	0.0142
3	164.88	0.2357	-0.0270	0.0014	0.0218	0.0027	-0.0867	0.0037	-0.3004	0.0265
3	164.88	0.2995	-0.0053	0.0013	-0.0311	0.0047	-0.1292	0.0065	-0.3444	0.0342
3	164.88	0.3493	0.0177	0.0014	-0.0509	0.0080	-0.2466	0.0115	-0.3942	0.0291
3	164.88	0.4000	0.0472	0.0020	-0.0541	0.0131	-0.3998	0.0177	-0.3188	0.0310
3	164.88	0.4497	0.0739	0.0024	-0.0865	0.0148	-0.6543	0.0236	-0.5005	0.0366
3	164.88	0.4997	0.0881	0.0019	-0.1128	0.0179	-0.9776	0.0296	-0.5546	0.0399
3	164.88	0.5556	0.1222	0.0023	-0.1369	0.0222	-1.4616	0.0372	-0.6060	0.0290
3	164.88	0.5995	0.1436	0.0023	-0.1735	0.0252	-1.9317	0.0432	-0.5304	0.0359
3	164.88	0.6498	0.1656	0.0026	-0.2048	0.0298	-2.5869	0.0502	-0.5948	0.0325
3	164.88	0.6890	0.1597	0.0028	-0.2446	0.0321	-3.1682	0.0550	-0.6003	0.0399
3	164.88	0.7495	0.1793	0.0029	-0.2754	0.0378	-4.2269	0.0621	-0.7080	0.0323
3	164.88	0.7998	0.1777	0.0032	-0.3372	0.0424	-5.2334	0.0682	-0.8754	0.0357
3	164.88	0.8577	0.1896	0.0038	-0.3808	0.0479	-6.4584	0.0753	-0.7752	0.0353
3	164.88	0.9178	0.1276	0.0045	-0.4602	0.0539	-7.8367	0.0832	-0.8033	0.0335
3	164.88	0.9729	0.1428	0.0056	-0.4844	0.0594	-9.1610	0.0907	-0.9633	0.0397
4	164.88	0.2001	-0.0317	0.0009	0.0046	0.0006	-0.0529	0.0018	0.0710	0.0211
4	164.88	0.2502	-0.0033	0.0012	0.0189	0.0021	-0.1449	0.0039	-0.0359	0.0319
4	164.88	0.3001	-0.0048	0.0012	0.0308	0.0038	-0.2469	0.0074	0.1000	0.0450
4	164.88	0.3502	0.0002	0.0013	0.0477	0.0050	-0.4355	0.0105	0.1181	0.0415
4	164.88	0.4002	0.0241	0.0015	0.0835	0.0088	-0.6886	0.0175	0.0364	0.0368
4	164.88	0.4500	0.0559	0.0023	0.1065	0.0108	-1.0391	0.0227	-0.1386	0.0362
4	164.88	0.5001	0.0767	0.0021	0.1163	0.0127	-1.4547	0.0277	-0.0865	0.0434
4	164.88	0.5560	0.1060	0.0020	0.1478	0.0162	-2.0841	0.0337	-0.2484	0.0332
4	164.88	0.6001	0.1178	0.0024	0.1655	0.0191	-2.6668	0.0382	-0.2842	0.0395
4	164.88	0.6501	0.1216	0.0022	0.1787	0.0218	-3.4311	0.0437	-0.1916	0.0350
4	164.88	0.6999	0.1354	0.0024	0.1797	0.0258	-4.3343	0.0500	-0.1908	0.0363
4	164.88	0.7500	0.1305	0.0027	0.1887	0.0297	-5.3452	0.0552	-0.0900	0.0373
4	164.88	0.8002	0.1103	0.0031	0.1892	0.0335	-6.5085	0.0610	-0.2882	0.0405
4	164.88	0.8582	0.0865	0.0037	0.2067	0.0385	-7.9320	0.0689	-0.4217	0.0358
4	164.88	0.9101	0.0721	0.0043	0.1946	0.0432	-9.2911	0.0750	-0.4984	0.0405
4	164.88	0.9728	0.0685	0.0054	0.2321	0.0490	-10.8247	0.0851	0.0627	0.0429

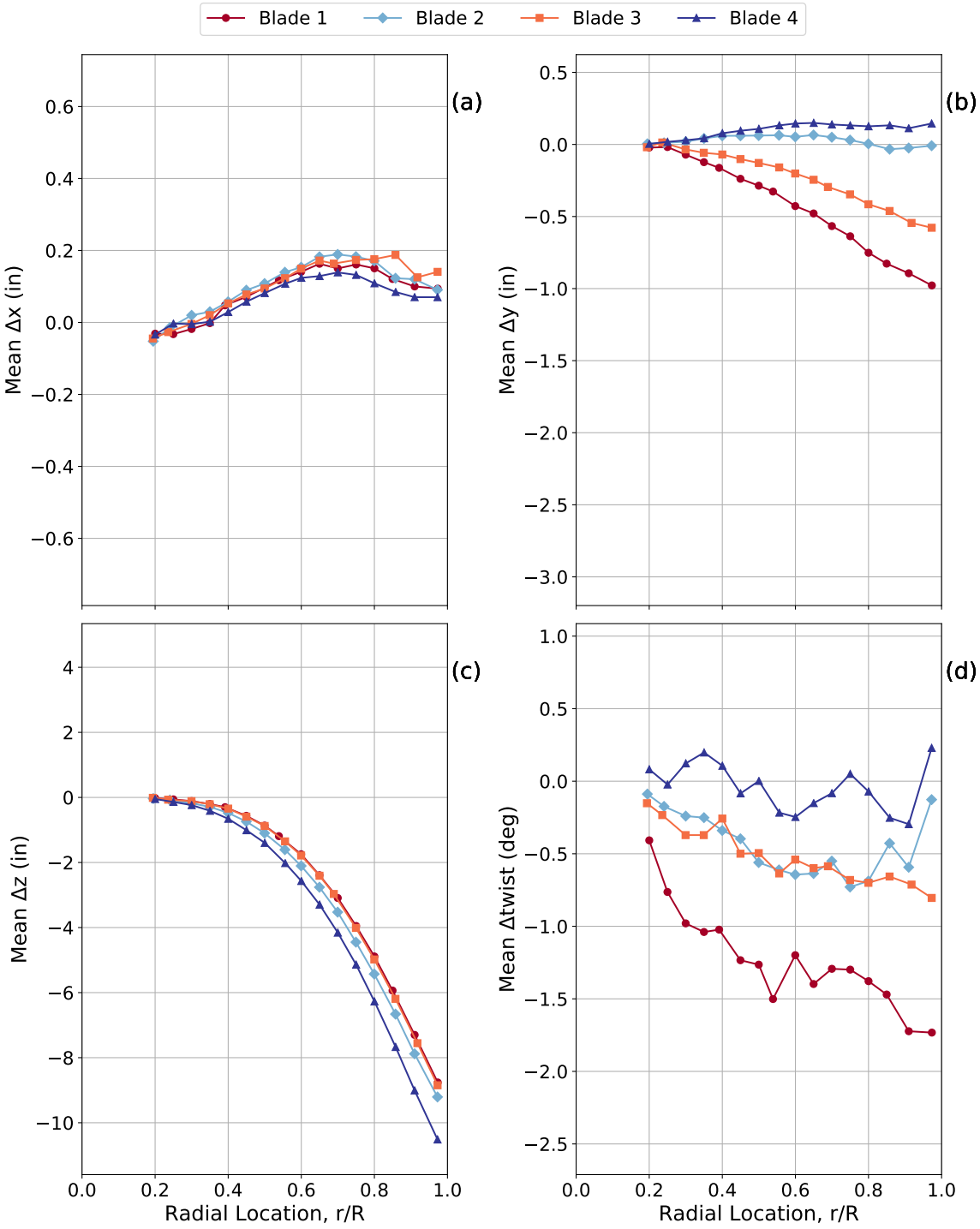


Figure 2.12-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-23. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0312	0.0018	-0.0218	0.0012	-0.0219	0.0026	-0.4076	0.0237
1	170.16	0.2499	-0.0325	0.0015	-0.0181	0.0020	-0.0601	0.0065	-0.7634	0.0421
1	170.16	0.2998	-0.0182	0.0017	-0.0708	0.0045	-0.1136	0.0112	-0.9797	0.0543
1	170.16	0.3498	-0.0019	0.0017	-0.1230	0.0071	-0.2017	0.0182	-1.0392	0.0539
1	170.16	0.3913	0.0475	0.0020	-0.1624	0.0102	-0.2999	0.0273	-1.0230	0.0410
1	170.16	0.4496	0.0711	0.0019	-0.2383	0.0129	-0.5661	0.0352	-1.2337	0.0422
1	170.16	0.4997	0.0967	0.0022	-0.2861	0.0164	-0.8655	0.0407	-1.2642	0.0562
1	170.16	0.5387	0.1175	0.0019	-0.3268	0.0183	-1.1901	0.0472	-1.5013	0.0521
1	170.16	0.5996	0.1407	0.0024	-0.4277	0.0215	-1.7468	0.0579	-1.1990	0.0497
1	170.16	0.6498	0.1630	0.0024	-0.4788	0.0250	-2.3911	0.0645	-1.3978	0.0551
1	170.16	0.6998	0.1500	0.0030	-0.5664	0.0299	-3.0912	0.0735	-1.2930	0.0514
1	170.16	0.7500	0.1610	0.0029	-0.6372	0.0338	-3.9522	0.0827	-1.2986	0.0480
1	170.16	0.8001	0.1503	0.0037	-0.7514	0.0378	-4.8890	0.0922	-1.3782	0.0476
1	170.16	0.8497	0.1208	0.0042	-0.8269	0.0424	-5.9366	0.1018	-1.4701	0.0488
1	170.16	0.9102	0.1000	0.0050	-0.8938	0.0476	-7.2999	0.1149	-1.7232	0.0490
1	170.16	0.9734	0.0940	0.0064	-0.9782	0.0533	-8.7619	0.1286	-1.7325	0.0555
2	170.16	0.1949	-0.0523	0.0015	0.0044	0.0009	-0.0340	0.0016	-0.0884	0.0155
2	170.16	0.2405	-0.0140	0.0013	0.0110	0.0021	-0.0795	0.0030	-0.1735	0.0316
2	170.16	0.2999	0.0198	0.0012	0.0194	0.0042	-0.1821	0.0063	-0.2403	0.0382
2	170.16	0.3498	0.0297	0.0016	0.0415	0.0067	-0.2892	0.0110	-0.2511	0.0357
2	170.16	0.3998	0.0575	0.0020	0.0598	0.0109	-0.4754	0.0167	-0.3397	0.0332
2	170.16	0.4496	0.0896	0.0021	0.0602	0.0120	-0.7413	0.0199	-0.3968	0.0345
2	170.16	0.4995	0.1080	0.0019	0.0616	0.0151	-1.0986	0.0255	-0.5603	0.0427
2	170.16	0.5551	0.1395	0.0021	0.0638	0.0188	-1.6072	0.0322	-0.6113	0.0396
2	170.16	0.5996	0.1535	0.0025	0.0525	0.0212	-2.1050	0.0377	-0.6437	0.0373
2	170.16	0.6497	0.1825	0.0021	0.0657	0.0242	-2.7601	0.0434	-0.6361	0.0350
2	170.16	0.6996	0.1890	0.0024	0.0499	0.0276	-3.5268	0.0499	-0.5504	0.0363
2	170.16	0.7495	0.1829	0.0026	0.0303	0.0314	-4.4489	0.0562	-0.7293	0.0386
2	170.16	0.7996	0.1710	0.0030	0.0043	0.0350	-5.4286	0.0632	-0.6886	0.0356
2	170.16	0.8578	0.1228	0.0034	-0.0329	0.0398	-6.6608	0.0710	-0.4277	0.0364
2	170.16	0.9100	0.1202	0.0039	-0.0248	0.0440	-7.8816	0.0784	-0.5931	0.0423
2	170.16	0.9727	0.0906	0.0046	-0.0088	0.0491	-9.2079	0.0880	-0.1269	0.0384
3	170.16	0.1938	-0.0447	0.0016	-0.0195	0.0009	-0.0132	0.0020	-0.1518	0.0234
3	170.16	0.2357	-0.0268	0.0018	0.0136	0.0040	-0.0692	0.0035	-0.2334	0.0335
3	170.16	0.2995	-0.0043	0.0015	-0.0344	0.0064	-0.1151	0.0068	-0.3714	0.0499
3	170.16	0.3493	0.0203	0.0016	-0.0579	0.0098	-0.2093	0.0120	-0.3714	0.0446
3	170.16	0.4000	0.0529	0.0022	-0.0698	0.0175	-0.3435	0.0177	-0.2573	0.0438
3	170.16	0.4497	0.0777	0.0014	-0.1017	0.0191	-0.5910	0.0210	-0.4996	0.0401
3	170.16	0.4997	0.0944	0.0020	-0.1284	0.0260	-0.8785	0.0266	-0.4954	0.0425
3	170.16	0.5556	0.1230	0.0019	-0.1595	0.0313	-1.3509	0.0319	-0.6357	0.0414
3	170.16	0.5995	0.1496	0.0023	-0.2015	0.0358	-1.7852	0.0371	-0.5401	0.0475
3	170.16	0.6498	0.1719	0.0022	-0.2452	0.0409	-2.4074	0.0422	-0.5988	0.0472
3	170.16	0.6890	0.1635	0.0027	-0.2952	0.0450	-2.9675	0.0471	-0.5861	0.0446
3	170.16	0.7495	0.1737	0.0027	-0.3465	0.0515	-4.0116	0.0549	-0.6808	0.0443
3	170.16	0.7998	0.1758	0.0030	-0.4151	0.0573	-4.9816	0.0615	-0.7003	0.0435
3	170.16	0.8577	0.1876	0.0035	-0.4618	0.0642	-6.1916	0.0697	-0.6569	0.0424
3	170.16	0.9178	0.1254	0.0040	-0.5445	0.0710	-7.5546	0.0781	-0.7125	0.0425
3	170.16	0.9729	0.1406	0.0051	-0.5780	0.0783	-8.8483	0.0853	-0.8045	0.0521
4	170.16	0.2001	-0.0337	0.0013	0.0039	0.0009	-0.0494	0.0018	0.0816	0.0259
4	170.16	0.2502	-0.0031	0.0014	0.0179	0.0026	-0.1395	0.0039	-0.0230	0.0283
4	170.16	0.3001	-0.0046	0.0012	0.0291	0.0029	-0.2373	0.0065	0.1229	0.0515
4	170.16	0.3502	0.0020	0.0014	0.0428	0.0055	-0.4116	0.0108	0.1979	0.0294
4	170.16	0.4002	0.0288	0.0018	0.0775	0.0087	-0.6577	0.0155	0.1063	0.0271
4	170.16	0.4500	0.0578	0.0021	0.0950	0.0099	-1.0089	0.0190	-0.0839	0.0417
4	170.16	0.5001	0.0816	0.0021	0.1080	0.0124	-1.3988	0.0230	0.0019	0.0454
4	170.16	0.5560	0.1076	0.0020	0.1324	0.0148	-2.0190	0.0278	-0.2171	0.0341
4	170.16	0.6001	0.1239	0.0024	0.1451	0.0176	-2.5694	0.0324	-0.2466	0.0293
4	170.16	0.6501	0.1288	0.0024	0.1493	0.0198	-3.2969	0.0374	-0.1508	0.0403
4	170.16	0.6999	0.1390	0.0027	0.1384	0.0232	-4.1574	0.0424	-0.0828	0.0325
4	170.16	0.7500	0.1320	0.0031	0.1321	0.0264	-5.1408	0.0480	0.0504	0.0356
4	170.16	0.8002	0.1087	0.0034	0.1257	0.0299	-6.2723	0.0537	-0.0712	0.0353
4	170.16	0.8582	0.0846	0.0038	0.1325	0.0343	-7.6720	0.0611	-0.2524	0.0318
4	170.16	0.9101	0.0702	0.0043	0.1124	0.0381	-9.0080	0.0683	-0.2961	0.0329
4	170.16	0.9728	0.0701	0.0053	0.1450	0.0430	-10.5154	0.0782	0.2293	0.0380

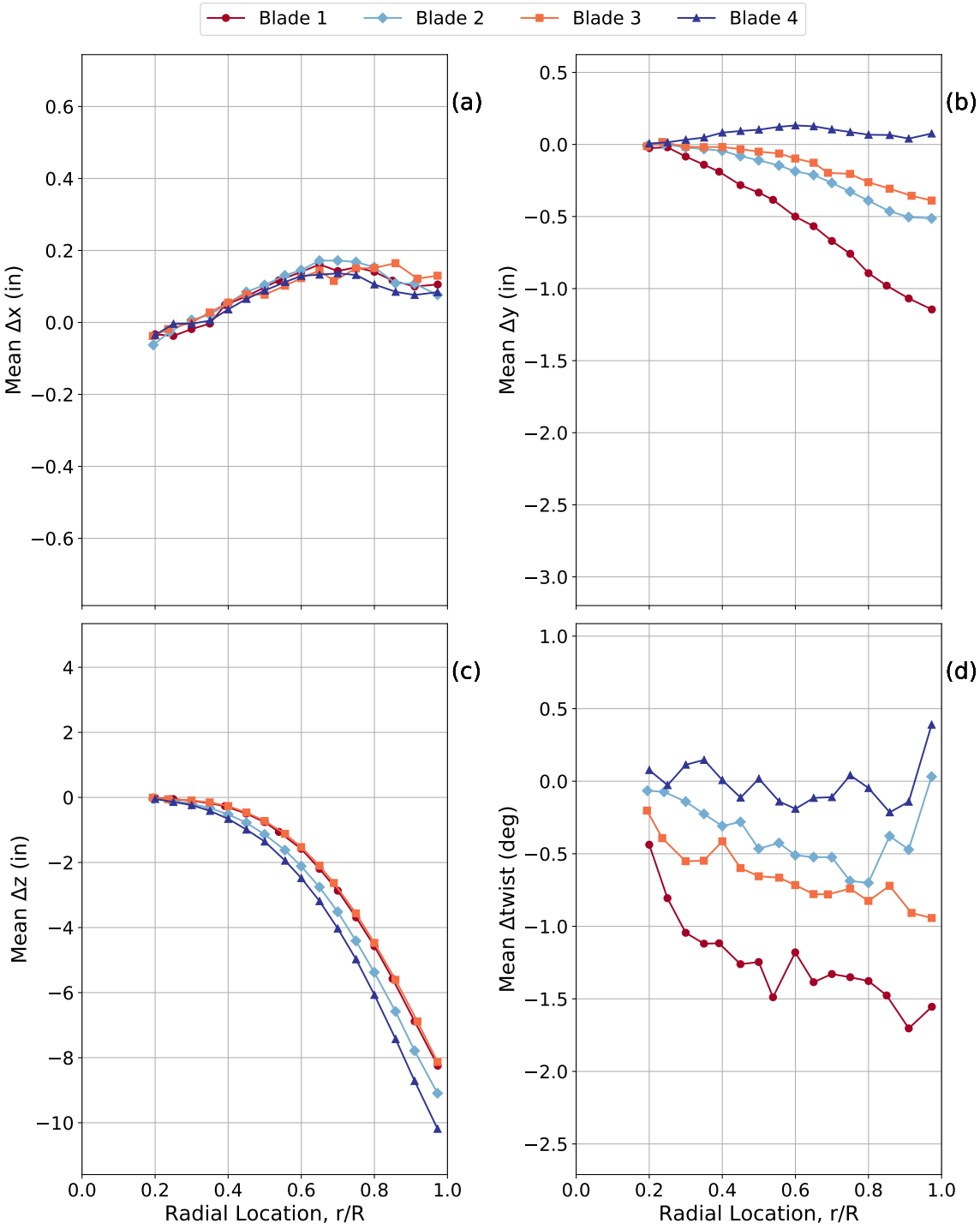


Figure 2.12-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-24. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	-0.0329	0.0019	-0.0254	0.0016	-0.0194	0.0031	-0.4376	0.0341
1	175.08	0.2499	-0.0375	0.0019	-0.0200	0.0021	-0.0498	0.0059	-0.8064	0.0566
1	175.08	0.2998	-0.0185	0.0021	-0.0842	0.0062	-0.1024	0.0113	-1.0445	0.0773
1	175.08	0.3498	-0.0033	0.0022	-0.1407	0.0085	-0.1801	0.0197	-1.1199	0.0696
1	175.08	0.3913	0.0487	0.0025	-0.1889	0.0129	-0.2685	0.0275	-1.1170	0.0694
1	175.08	0.4496	0.0722	0.0020	-0.2821	0.0142	-0.4964	0.0364	-1.2609	0.0584
1	175.08	0.4997	0.0978	0.0025	-0.3341	0.0175	-0.7590	0.0435	-1.2463	0.0625
1	175.08	0.5387	0.1168	0.0030	-0.3843	0.0210	-1.0603	0.0503	-1.4889	0.0672
1	175.08	0.5996	0.1402	0.0024	-0.5005	0.0242	-1.5787	0.0591	-1.1796	0.0723
1	175.08	0.6498	0.1612	0.0032	-0.5674	0.0283	-2.1953	0.0673	-1.3851	0.0718
1	175.08	0.6998	0.1429	0.0030	-0.6698	0.0319	-2.8674	0.0757	-1.3289	0.0674
1	175.08	0.7500	0.1531	0.0035	-0.7584	0.0364	-3.6881	0.0848	-1.3508	0.0719
1	175.08	0.8001	0.1407	0.0037	-0.8931	0.0408	-4.5757	0.0946	-1.3773	0.0651
1	175.08	0.8497	0.1163	0.0043	-0.9796	0.0451	-5.5751	0.1038	-1.4765	0.0723
1	175.08	0.9102	0.0999	0.0049	-1.0684	0.0512	-6.8828	0.1169	-1.7037	0.0678
1	175.08	0.9734	0.1055	0.0063	-1.1450	0.0571	-8.2461	0.1306	-1.5546	0.0740
2	175.08	0.1949	-0.0625	0.0013	-0.0087	0.0015	-0.0413	0.0021	-0.0653	0.0195
2	175.08	0.2405	-0.0259	0.0017	0.0031	0.0017	-0.0779	0.0040	-0.0735	0.0349
2	175.08	0.2999	0.0071	0.0019	-0.0218	0.0063	-0.1967	0.0079	-0.1407	0.0466
2	175.08	0.3498	0.0212	0.0019	-0.0316	0.0075	-0.3274	0.0142	-0.2255	0.0376
2	175.08	0.3998	0.0534	0.0023	-0.0441	0.0131	-0.5193	0.0214	-0.3086	0.0407
2	175.08	0.4496	0.0849	0.0021	-0.0810	0.0143	-0.7787	0.0279	-0.2804	0.0480
2	175.08	0.4995	0.1039	0.0020	-0.1096	0.0187	-1.1351	0.0338	-0.4651	0.0377
2	175.08	0.5551	0.1307	0.0021	-0.1459	0.0213	-1.6211	0.0423	-0.4258	0.0459
2	175.08	0.5996	0.1455	0.0028	-0.1867	0.0253	-2.1139	0.0493	-0.5103	0.0406
2	175.08	0.6497	0.1717	0.0025	-0.2119	0.0292	-2.7556	0.0565	-0.5233	0.0395
2	175.08	0.6996	0.1720	0.0031	-0.2666	0.0331	-3.5155	0.0637	-0.5238	0.0410
2	175.08	0.7495	0.1680	0.0034	-0.3269	0.0369	-4.4097	0.0701	-0.6873	0.0439
2	175.08	0.7996	0.1536	0.0037	-0.3895	0.0413	-5.3757	0.0788	-0.7008	0.0469
2	175.08	0.8578	0.1089	0.0046	-0.4642	0.0464	-6.5792	0.0895	-0.3779	0.0459
2	175.08	0.9100	0.1076	0.0052	-0.5039	0.0512	-7.7877	0.1005	-0.4712	0.0444
2	175.08	0.9727	0.0768	0.0066	-0.5132	0.0568	-9.0955	0.1142	0.0317	0.0474
3	175.08	0.1938	-0.0377	0.0060	-0.0124	0.0009	-0.0076	0.0012	-0.2024	0.0132
3	175.08	0.2357	-0.0183	0.0035	0.0170	0.0022	-0.0573	0.0030	-0.3924	0.0179
3	175.08	0.2995	-0.0005	0.0018	-0.0158	0.0037	-0.0912	0.0047	-0.5514	0.0267
3	175.08	0.3493	0.0277	0.0051	-0.0185	0.0065	-0.1542	0.0078	-0.5478	0.0253
3	175.08	0.4000	0.0551	0.0086	-0.0177	0.0103	-0.2657	0.0127	-0.4142	0.0249
3	175.08	0.4497	0.0781	0.0120	-0.0325	0.0145	-0.4635	0.0156	-0.5985	0.0262
3	175.08	0.4997	0.0770	0.0154	-0.0500	0.0198	-0.7242	0.0195	-0.6551	0.0224
3	175.08	0.5556	0.1020	0.0188	-0.0627	0.0262	-1.1195	0.0238	-0.6650	0.0284
3	175.08	0.5995	0.1231	0.0211	-0.0976	0.0315	-1.5263	0.0279	-0.7158	0.0264
3	175.08	0.6498	0.1444	0.0239	-0.1271	0.0381	-2.0986	0.0335	-0.7782	0.0265
3	175.08	0.6890	0.1153	0.0258	-0.1971	0.0431	-2.6299	0.0375	-0.7799	0.0270
3	175.08	0.7495	0.1500	0.0286	-0.2043	0.0516	-3.5637	0.0455	-0.7405	0.0265
3	175.08	0.7998	0.1513	0.0313	-0.2621	0.0592	-4.4718	0.0528	-0.8251	0.0267
3	175.08	0.8577	0.1647	0.0336	-0.3070	0.0701	-5.6053	0.0615	-0.7207	0.0376
3	175.08	0.9178	0.1217	0.0372	-0.3561	0.0831	-6.8890	0.0720	-0.9079	0.0419
3	175.08	0.9729	0.1299	0.0418	-0.3894	0.0965	-8.1328	0.0820	-0.9429	0.0517
4	175.08	0.2001	-0.0350	0.0014	0.0062	0.0008	-0.0496	0.0018	0.0770	0.0171
4	175.08	0.2502	-0.0039	0.0013	0.0148	0.0018	-0.1403	0.0047	-0.0274	0.0304
4	175.08	0.3001	-0.0034	0.0016	0.0328	0.0034	-0.2376	0.0066	0.1136	0.0361
4	175.08	0.3502	0.0049	0.0018	0.0477	0.0051	-0.4139	0.0097	0.1468	0.0324
4	175.08	0.4002	0.0363	0.0019	0.0821	0.0082	-0.6600	0.0164	0.0073	0.0305
4	175.08	0.4500	0.0654	0.0019	0.0934	0.0102	-0.9896	0.0202	-0.1132	0.0391
4	175.08	0.5001	0.0886	0.0023	0.1022	0.0122	-1.3570	0.0254	0.0174	0.0322
4	175.08	0.5560	0.1124	0.0021	0.1224	0.0157	-1.9461	0.0307	-0.1401	0.0343
4	175.08	0.6001	0.1294	0.0019	0.1319	0.0178	-2.4810	0.0341	-0.1901	0.0351
4	175.08	0.6501	0.1327	0.0028	0.1257	0.0214	-3.1893	0.0391	-0.1151	0.0374
4	175.08	0.6999	0.1365	0.0025	0.1042	0.0244	-4.0312	0.0438	-0.1098	0.0417
4	175.08	0.7500	0.1319	0.0027	0.0862	0.0282	-4.9776	0.0484	0.0411	0.0413
4	175.08	0.8002	0.1056	0.0030	0.0672	0.0314	-6.0716	0.0538	-0.0472	0.0386
4	175.08	0.8582	0.0851	0.0032	0.0653	0.0359	-7.4293	0.0606	-0.2143	0.0376
4	175.08	0.9101	0.0763	0.0037	0.0403	0.0400	-8.7172	0.0672	-0.1415	0.0388
4	175.08	0.9728	0.0841	0.0044	0.0756	0.0450	-10.1880	0.0746	0.3900	0.0396

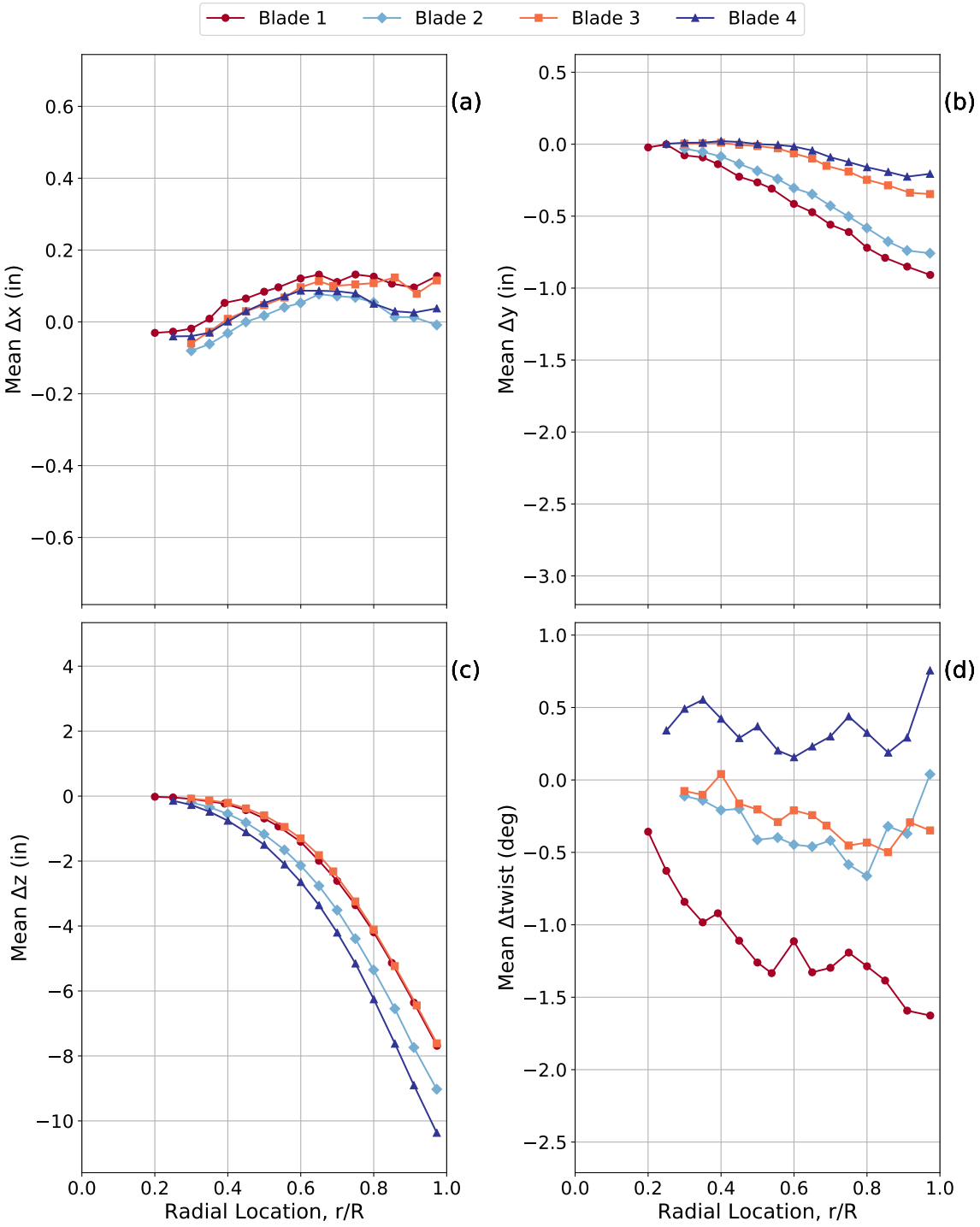


Figure 2.12-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-25. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.0305	0.0018	-0.0223	0.0013	-0.0195	0.0027	-0.3574	0.0200
1	180	0.2499	-0.0271	0.0014	-0.0013	0.0023	-0.0408	0.0047	-0.6273	0.0407
1	180	0.2998	-0.0187	0.0015	-0.0774	0.0048	-0.0866	0.0094	-0.8417	0.0455
1	180	0.3498	0.0089	0.0016	-0.0917	0.0080	-0.1635	0.0148	-0.9834	0.0423
1	180	0.3913	0.0529	0.0018	-0.1387	0.0113	-0.2297	0.0214	-0.9204	0.0464
1	180	0.4496	0.0652	0.0021	-0.2261	0.0148	-0.4303	0.0287	-1.1096	0.0465
1	180	0.4997	0.0841	0.0021	-0.2652	0.0184	-0.6878	0.0355	-1.2605	0.0506
1	180	0.5387	0.0964	0.0023	-0.3088	0.0211	-0.9322	0.0421	-1.3337	0.0466
1	180	0.5996	0.1209	0.0024	-0.4148	0.0258	-1.4044	0.0516	-1.1138	0.0503
1	180	0.6498	0.1317	0.0027	-0.4722	0.0300	-1.9910	0.0596	-1.3281	0.0524
1	180	0.6998	0.1111	0.0030	-0.5592	0.0342	-2.6103	0.0668	-1.2970	0.0518
1	180	0.7500	0.1319	0.0031	-0.6101	0.0386	-3.3587	0.0743	-1.1918	0.0525
1	180	0.8001	0.1260	0.0036	-0.7199	0.0437	-4.1921	0.0831	-1.2866	0.0522
1	180	0.8497	0.1063	0.0044	-0.7895	0.0489	-5.1360	0.0915	-1.3848	0.0484
1	180	0.9102	0.0959	0.0053	-0.8507	0.0547	-6.3599	0.1027	-1.5927	0.0529
1	180	0.9734	0.1277	0.0069	-0.9085	0.0615	-7.6874	0.1165	-1.6265	0.0570
2	180	0.2999	-0.0803	0.0066	-0.0310	0.0165	-0.1927	0.0333	-0.1112	0.1191
2	180	0.3498	-0.0617	0.0071	-0.0537	0.0285	-0.3404	0.0575	-0.1409	0.1575
2	180	0.3998	-0.0315	0.0079	-0.0852	0.0452	-0.5470	0.0913	-0.2086	0.1389
2	180	0.4496	0.0000	0.0077	-0.1367	0.0564	-0.8138	0.1180	-0.1994	0.1448
2	180	0.4995	0.0174	0.0077	-0.1856	0.0706	-1.1744	0.1465	-0.4130	0.1372
2	180	0.5551	0.0408	0.0077	-0.2414	0.0865	-1.6562	0.1781	-0.3981	0.1345
2	180	0.5996	0.0528	0.0086	-0.3047	0.0993	-2.1366	0.2049	-0.4464	0.1331
2	180	0.6497	0.0772	0.0087	-0.3472	0.1135	-2.7630	0.2339	-0.4603	0.1375
2	180	0.6996	0.0718	0.0100	-0.4281	0.1289	-3.5094	0.2634	-0.4183	0.1395
2	180	0.7495	0.0681	0.0106	-0.5024	0.1430	-4.3893	0.2929	-0.5845	0.1369
2	180	0.7996	0.0542	0.0119	-0.5823	0.1579	-5.3511	0.3211	-0.6627	0.1395
2	180	0.8578	0.0136	0.0141	-0.6764	0.1756	-6.5447	0.3548	-0.3207	0.1370
2	180	0.9100	0.0132	0.0156	-0.7389	0.1912	-7.7398	0.3857	-0.3706	0.1385
2	180	0.9727	-0.0085	0.0184	-0.7577	0.2101	-9.0253	0.4235	0.0390	0.1361
3	180.35	0.2995	-0.0599	0.0099	0.0038	0.0203	-0.0772	0.0390	-0.0765	0.0878
3	180.35	0.3493	-0.0272	0.0097	0.0065	0.0349	-0.1309	0.0664	-0.1025	0.1152
3	180.35	0.4000	0.0085	0.0099	0.0104	0.0556	-0.2071	0.1055	0.0406	0.0932
3	180.35	0.4497	0.0298	0.0097	-0.0043	0.0721	-0.3798	0.1372	-0.1635	0.0919
3	180.35	0.4997	0.0468	0.0097	-0.0126	0.0892	-0.5916	0.1671	-0.2035	0.0997
3	180.35	0.5556	0.0678	0.0098	-0.0286	0.1092	-0.9488	0.2029	-0.2908	0.1018
3	180.35	0.5995	0.0964	0.0105	-0.0638	0.1248	-1.3013	0.2336	-0.2103	0.0972
3	180.35	0.6498	0.1133	0.0111	-0.0999	0.1436	-1.8183	0.2656	-0.2431	0.1022
3	180.35	0.6890	0.1001	0.0116	-0.1503	0.1572	-2.3185	0.2900	-0.3151	0.1039
3	180.35	0.7495	0.1043	0.0128	-0.1903	0.1794	-3.2434	0.3282	-0.4529	0.0997
3	180.35	0.7998	0.1080	0.0136	-0.2469	0.1980	-4.1099	0.3583	-0.4323	0.1018
3	180.35	0.8577	0.1236	0.0159	-0.2861	0.2192	-5.2331	0.3931	-0.4986	0.0980
3	180.35	0.9178	0.0783	0.0171	-0.3373	0.2414	-6.4455	0.4265	-0.2930	0.1003
3	180.35	0.9729	0.1155	0.0221	-0.3466	0.2623	-7.6118	0.4601	-0.3484	0.0986
4	180	0.2502	-0.0403	0.0033	0.0030	0.0051	-0.1428	0.0075	0.3414	0.0875
4	180	0.3001	-0.0396	0.0045	0.0101	0.0116	-0.2727	0.0149	0.4913	0.1249
4	180	0.3502	-0.0299	0.0032	0.0109	0.0173	-0.4814	0.0252	0.5542	0.1190
4	180	0.4002	0.0011	0.0046	0.0218	0.0291	-0.7570	0.0399	0.4225	0.1117
4	180	0.4500	0.0298	0.0042	0.0152	0.0349	-1.1101	0.0509	0.2890	0.1071
4	180	0.5001	0.0526	0.0039	0.0010	0.0423	-1.4984	0.0623	0.3693	0.1248
4	180	0.5560	0.0715	0.0054	-0.0052	0.0540	-2.1049	0.0772	0.2027	0.1063
4	180	0.6001	0.0870	0.0043	-0.0162	0.0604	-2.6462	0.0860	0.1567	0.1046
4	180	0.6501	0.0867	0.0051	-0.0441	0.0696	-3.3593	0.0994	0.2313	0.1041
4	180	0.6999	0.0853	0.0057	-0.0907	0.0786	-4.2022	0.1098	0.3004	0.1124
4	180	0.7500	0.0794	0.0063	-0.1242	0.0884	-5.1557	0.1225	0.4382	0.1126
4	180	0.8002	0.0507	0.0073	-0.1601	0.0982	-6.2552	0.1366	0.3253	0.1136
4	180	0.8582	0.0296	0.0078	-0.1928	0.1098	-7.6233	0.1522	0.1887	0.1103
4	180	0.9101	0.0258	0.0086	-0.2257	0.1202	-8.9032	0.1667	0.2923	0.1142
4	180	0.9728	0.0376	0.0109	-0.2061	0.1329	-10.3671	0.1845	0.7559	0.1177

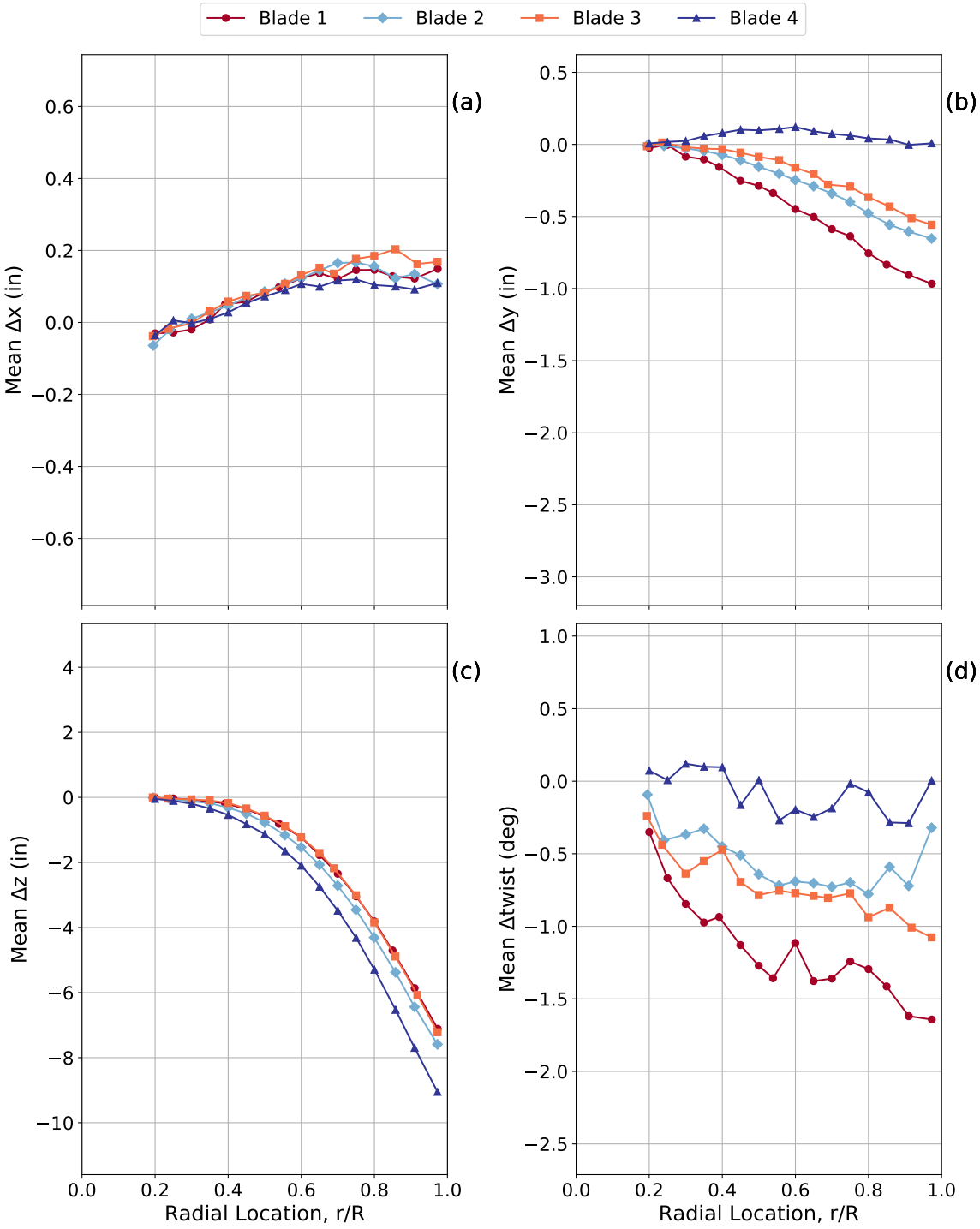


Figure 2.12-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-26. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0303	0.0019	-0.0243	0.0014	-0.0133	0.0030	-0.3507	0.0191
1	184.92	0.2499	-0.0280	0.0017	-0.0034	0.0022	-0.0339	0.0044	-0.6681	0.0494
1	184.92	0.2998	-0.0194	0.0016	-0.0849	0.0051	-0.0680	0.0103	-0.8458	0.0478
1	184.92	0.3498	0.0082	0.0017	-0.1036	0.0083	-0.1296	0.0155	-0.9739	0.0544
1	184.92	0.3913	0.0504	0.0020	-0.1556	0.0116	-0.1863	0.0224	-0.9356	0.0512
1	184.92	0.4496	0.0574	0.0023	-0.2525	0.0152	-0.3592	0.0293	-1.1293	0.0528
1	184.92	0.4997	0.0846	0.0024	-0.2870	0.0186	-0.5921	0.0370	-1.2718	0.0478
1	184.92	0.5387	0.0977	0.0025	-0.3375	0.0212	-0.8116	0.0420	-1.3581	0.0575
1	184.92	0.5996	0.1222	0.0024	-0.4478	0.0254	-1.2258	0.0507	-1.1150	0.0513
1	184.92	0.6498	0.1369	0.0024	-0.5032	0.0295	-1.7738	0.0579	-1.3777	0.0543
1	184.92	0.6998	0.1204	0.0027	-0.5875	0.0333	-2.3475	0.0653	-1.3605	0.0543
1	184.92	0.7500	0.1455	0.0027	-0.6367	0.0374	-3.0424	0.0722	-1.2419	0.0552
1	184.92	0.8001	0.1462	0.0031	-0.7546	0.0414	-3.8109	0.0789	-1.2953	0.0541
1	184.92	0.8497	0.1283	0.0032	-0.8337	0.0461	-4.7030	0.0859	-1.4145	0.0540
1	184.92	0.9102	0.1218	0.0040	-0.9057	0.0515	-5.8626	0.0948	-1.6192	0.0565
1	184.92	0.9734	0.1489	0.0052	-0.9670	0.0570	-7.1141	0.1039	-1.6427	0.0596
2	184.92	0.1949	-0.0643	0.0086	-0.0062	0.0012	-0.0156	0.0024	-0.0929	0.0196
2	184.92	0.2405	-0.0205	0.0038	-0.0100	0.0024	-0.0588	0.0041	-0.4071	0.0390
2	184.92	0.2999	0.0102	0.0029	-0.0279	0.0046	-0.1202	0.0086	-0.3670	0.0489
2	184.92	0.3498	0.0286	0.0080	-0.0456	0.0079	-0.1791	0.0150	-0.3280	0.0412
2	184.92	0.3998	0.0460	0.0126	-0.0721	0.0123	-0.3161	0.0225	-0.4504	0.0422
2	184.92	0.4496	0.0694	0.0163	-0.1093	0.0154	-0.5004	0.0275	-0.5105	0.0393
2	184.92	0.4995	0.0854	0.0201	-0.1548	0.0196	-0.7680	0.0340	-0.6416	0.0400
2	184.92	0.5551	0.1076	0.0230	-0.2029	0.0241	-1.1597	0.0419	-0.7186	0.0386
2	184.92	0.5996	0.1228	0.0258	-0.2472	0.0275	-1.5342	0.0478	-0.6911	0.0402
2	184.92	0.6497	0.1448	0.0280	-0.2897	0.0317	-2.0699	0.0546	-0.7027	0.0396
2	184.92	0.6996	0.1653	0.0298	-0.3403	0.0366	-2.7115	0.0622	-0.7284	0.0455
2	184.92	0.7495	0.1665	0.0318	-0.3992	0.0418	-3.4545	0.0705	-0.6979	0.0391
2	184.92	0.7996	0.1559	0.0336	-0.4778	0.0478	-4.3063	0.0786	-0.7780	0.0457
2	184.92	0.8578	0.1225	0.0359	-0.5579	0.0548	-5.3778	0.0897	-0.5903	0.0437
2	184.92	0.9100	0.1347	0.0387	-0.6047	0.0628	-6.4388	0.1001	-0.7213	0.0434
2	184.92	0.9727	0.1065	0.0440	-0.6526	0.0731	-7.5907	0.1116	-0.3215	0.0512
3	184.92	0.1938	-0.0381	0.0092	-0.0129	0.0018	-0.0022	0.0032	-0.2403	0.0251
3	184.92	0.2357	-0.0174	0.0046	0.0131	0.0022	-0.0382	0.0040	-0.4384	0.0415
3	184.92	0.2995	-0.0023	0.0027	-0.0193	0.0057	-0.0616	0.0090	-0.6373	0.0559
3	184.92	0.3493	0.0305	0.0083	-0.0294	0.0097	-0.0930	0.0151	-0.5504	0.0523
3	184.92	0.4000	0.0581	0.0138	-0.0326	0.0145	-0.1738	0.0221	-0.4722	0.0565
3	184.92	0.4497	0.0740	0.0182	-0.0572	0.0192	-0.3415	0.0275	-0.6944	0.0566
3	184.92	0.4997	0.0818	0.0221	-0.0865	0.0244	-0.5630	0.0336	-0.7846	0.0621
3	184.92	0.5556	0.1073	0.0257	-0.1092	0.0309	-0.8854	0.0401	-0.7539	0.0647
3	184.92	0.5995	0.1316	0.0275	-0.1607	0.0370	-1.2255	0.0464	-0.7712	0.0590
3	184.92	0.6498	0.1519	0.0297	-0.2050	0.0444	-1.7105	0.0514	-0.7901	0.0654
3	184.92	0.6890	0.1355	0.0306	-0.2789	0.0503	-2.1792	0.0566	-0.8045	0.0638
3	184.92	0.7495	0.1768	0.0319	-0.2923	0.0603	-3.0093	0.0643	-0.7723	0.0641
3	184.92	0.7998	0.1847	0.0320	-0.3650	0.0696	-3.8425	0.0713	-0.9375	0.0684
3	184.92	0.8577	0.2035	0.0319	-0.4309	0.0810	-4.8895	0.0793	-0.8720	0.0689
3	184.92	0.9178	0.1624	0.0324	-0.5121	0.0945	-6.0748	0.0887	-1.0091	0.0679
3	184.92	0.9729	0.1685	0.0327	-0.5575	0.1093	-7.2186	0.0953	-1.0762	0.0770
4	184.92	0.2001	-0.0356	0.0017	0.0065	0.0012	-0.0460	0.0025	0.0731	0.0269
4	184.92	0.2502	0.0058	0.0018	0.0175	0.0025	-0.1069	0.0049	0.0077	0.0406
4	184.92	0.3001	-0.0023	0.0013	0.0238	0.0040	-0.1973	0.0077	0.1205	0.0558
4	184.92	0.3502	0.0098	0.0013	0.0571	0.0067	-0.3467	0.0129	0.0998	0.0450
4	184.92	0.4002	0.0281	0.0016	0.0795	0.0100	-0.5392	0.0191	0.0964	0.0485
4	184.92	0.4500	0.0538	0.0020	0.1022	0.0122	-0.8239	0.0235	-0.1641	0.0461
4	184.92	0.5001	0.0724	0.0020	0.0975	0.0150	-1.1286	0.0296	0.0076	0.0485
4	184.92	0.5560	0.0899	0.0023	0.1072	0.0182	-1.6553	0.0356	-0.2691	0.0487
4	184.92	0.6001	0.1070	0.0022	0.1206	0.0212	-2.0972	0.0401	-0.1959	0.0501
4	184.92	0.6501	0.0994	0.0023	0.0910	0.0245	-2.7446	0.0462	-0.2460	0.0506
4	184.92	0.6999	0.1166	0.0024	0.0731	0.0279	-3.4820	0.0522	-0.1868	0.0503
4	184.92	0.7500	0.1194	0.0024	0.0616	0.0321	-4.3157	0.0590	-0.0171	0.0490
4	184.92	0.8002	0.1040	0.0031	0.0417	0.0359	-5.2949	0.0657	-0.0766	0.0479
4	184.92	0.8582	0.0999	0.0030	0.0345	0.0408	-6.5299	0.0747	-0.2846	0.0482
4	184.92	0.9101	0.0916	0.0041	-0.0033	0.0456	-7.6973	0.0817	-0.2890	0.0534
4	184.92	0.9728	0.1095	0.0051	0.0073	0.0508	-9.0499	0.0940	0.0046	0.0499

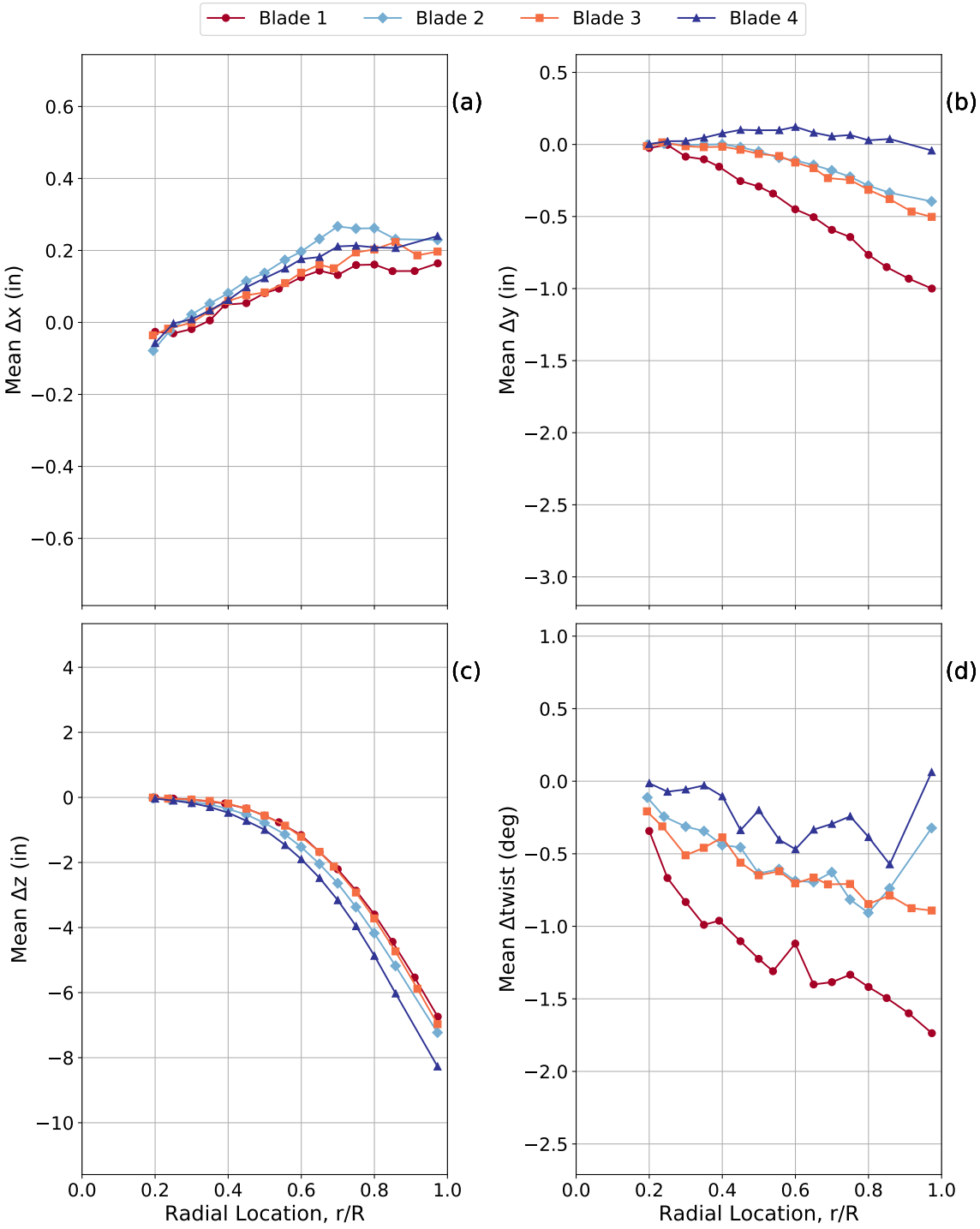


Figure 2.12-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-27. 190° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0261	0.0096	-0.0244	0.0019	-0.0115	0.0047	-0.3430	0.0368
1	189.84	0.2499	-0.0304	0.0045	-0.0028	0.0037	-0.0372	0.0077	-0.6669	0.0751
1	189.84	0.2998	-0.0184	0.0026	-0.0846	0.0071	-0.0635	0.0151	-0.8324	0.0872
1	189.84	0.3498	0.0055	0.0081	-0.1035	0.0129	-0.1299	0.0264	-0.9898	0.0746
1	189.84	0.3913	0.0493	0.0129	-0.1547	0.0179	-0.1850	0.0358	-0.9616	0.0753
1	189.84	0.4496	0.0536	0.0185	-0.2539	0.0250	-0.3417	0.0471	-1.1029	0.0790
1	189.84	0.4997	0.0815	0.0233	-0.2919	0.0309	-0.5609	0.0568	-1.2245	0.0803
1	189.84	0.5387	0.0939	0.0265	-0.3410	0.0364	-0.7635	0.0657	-1.3095	0.0748
1	189.84	0.5996	0.1257	0.0306	-0.4498	0.0447	-1.1584	0.0786	-1.1192	0.0779
1	189.84	0.6498	0.1438	0.0331	-0.5044	0.0525	-1.6754	0.0886	-1.4008	0.0873
1	189.84	0.6998	0.1319	0.0347	-0.5926	0.0606	-2.2085	0.1009	-1.3850	0.0830
1	189.84	0.7500	0.1595	0.0358	-0.6425	0.0690	-2.8670	0.1131	-1.3336	0.0839
1	189.84	0.8001	0.1608	0.0360	-0.7662	0.0775	-3.5991	0.1254	-1.4183	0.0841
1	189.84	0.8497	0.1426	0.0363	-0.8511	0.0868	-4.4396	0.1381	-1.4943	0.0887
1	189.84	0.9102	0.1429	0.0374	-0.9314	0.0994	-5.5366	0.1548	-1.5998	0.0902
1	189.84	0.9734	0.1643	0.0386	-0.9998	0.1140	-6.7405	0.1732	-1.7367	0.0891
2	189.84	0.1949	-0.0783	0.0014	-0.0029	0.0012	-0.0230	0.0017	-0.1122	0.0184
2	189.84	0.2405	-0.0231	0.0012	0.0057	0.0030	-0.0619	0.0048	-0.2440	0.0269
2	189.84	0.2999	0.0221	0.0013	-0.0020	0.0051	-0.1368	0.0095	-0.3129	0.0400
2	189.84	0.3498	0.0525	0.0018	-0.0017	0.0093	-0.2117	0.0134	-0.3437	0.0408
2	189.84	0.3998	0.0813	0.0017	0.0015	0.0142	-0.3567	0.0234	-0.4408	0.0377
2	189.84	0.4496	0.1148	0.0019	-0.0187	0.0178	-0.5277	0.0289	-0.4556	0.0360
2	189.84	0.4995	0.1375	0.0025	-0.0487	0.0213	-0.7861	0.0365	-0.6364	0.0385
2	189.84	0.5551	0.1736	0.0026	-0.0920	0.0250	-1.1358	0.0466	-0.6063	0.0434
2	189.84	0.5996	0.1967	0.0029	-0.1115	0.0290	-1.5230	0.0537	-0.6866	0.0520
2	189.84	0.6497	0.2321	0.0036	-0.1422	0.0325	-2.0456	0.0647	-0.6953	0.0724
2	189.84	0.6996	0.2668	0.0036	-0.1806	0.0371	-2.6396	0.0733	-0.6271	0.0863
2	189.84	0.7495	0.2608	0.0038	-0.2241	0.0407	-3.3698	0.0842	-0.8154	0.0727
2	189.84	0.7996	0.2620	0.0046	-0.2858	0.0456	-4.1740	0.0927	-0.9070	0.0841
2	189.84	0.8578	0.2313	0.0054	-0.3350	0.0526	-5.1782	0.1129	-0.7385	0.1259
2	189.84	0.9727	0.2295	0.0066	-0.3951	0.0597	-7.2282	0.1329	-0.3225	0.1263
3	189.84	0.1938	-0.0357	0.0101	-0.0110	0.0021	-0.0060	0.0036	-0.2078	0.0222
3	189.84	0.2357	-0.0174	0.0054	0.0142	0.0025	-0.0385	0.0047	-0.3114	0.0385
3	189.84	0.2995	-0.0008	0.0036	-0.0123	0.0058	-0.0672	0.0094	-0.5105	0.0441
3	189.84	0.3493	0.0309	0.0096	-0.0189	0.0090	-0.1092	0.0146	-0.4590	0.0405
3	189.84	0.4000	0.0597	0.0164	-0.0159	0.0137	-0.1906	0.0222	-0.3871	0.0400
3	189.84	0.4497	0.0754	0.0213	-0.0363	0.0173	-0.3464	0.0267	-0.5611	0.0434
3	189.84	0.4997	0.0834	0.0261	-0.0658	0.0219	-0.5587	0.0338	-0.6482	0.0395
3	189.84	0.5556	0.1093	0.0309	-0.0802	0.0281	-0.8681	0.0418	-0.6201	0.0469
3	189.84	0.5995	0.1381	0.0336	-0.1252	0.0327	-1.2088	0.0477	-0.7038	0.0474
3	189.84	0.6498	0.1606	0.0355	-0.1641	0.0381	-1.6724	0.0555	-0.6643	0.0530
3	189.84	0.6890	0.1503	0.0374	-0.2336	0.0433	-2.1266	0.0626	-0.7107	0.0495
3	189.84	0.7495	0.1947	0.0389	-0.2462	0.0516	-2.9222	0.0708	-0.7081	0.0525
3	189.84	0.7998	0.2027	0.0390	-0.3145	0.0590	-3.7194	0.0792	-0.8465	0.0515
3	189.84	0.8577	0.2236	0.0384	-0.3791	0.0692	-4.7320	0.0881	-0.7877	0.0538
3	189.84	0.9178	0.1864	0.0374	-0.4658	0.0810	-5.8804	0.0980	-0.8753	0.0556
3	189.84	0.9729	0.1970	0.0374	-0.5026	0.0921	-6.9698	0.1089	-0.8912	0.0625
4	189.84	0.2001	-0.0572	0.0012	0.0029	0.0013	-0.0376	0.0022	-0.0140	0.0215
4	189.84	0.2502	-0.0027	0.0009	0.0223	0.0034	-0.0974	0.0043	-0.0724	0.0368
4	189.84	0.3001	0.0088	0.0017	0.0233	0.0053	-0.1742	0.0079	-0.0568	0.0474
4	189.84	0.3502	0.0337	0.0015	0.0470	0.0095	-0.2954	0.0129	-0.0289	0.0396
4	189.84	0.4002	0.0623	0.0020	0.0772	0.0146	-0.4721	0.0196	-0.1042	0.0387
4	189.84	0.4500	0.0980	0.0016	0.1014	0.0171	-0.7214	0.0229	-0.3370	0.0421
4	189.84	0.5001	0.1229	0.0020	0.0984	0.0207	-0.9953	0.0286	-0.1993	0.0407
4	189.84	0.5560	0.1498	0.0020	0.0990	0.0254	-1.4646	0.0350	-0.4035	0.0453
4	189.84	0.6001	0.1760	0.0024	0.1221	0.0291	-1.8995	0.0396	-0.4685	0.0473
4	189.84	0.6501	0.1819	0.0027	0.0818	0.0335	-2.4770	0.0468	-0.3334	0.0521
4	189.84	0.6999	0.2112	0.0023	0.0562	0.0377	-3.1599	0.0514	-0.2941	0.0627
4	189.84	0.7500	0.2134	0.0029	0.0655	0.0430	-3.9581	0.0568	-0.2418	0.0899
4	189.84	0.8002	0.2085	0.0033	0.0286	0.0489	-4.8692	0.0610	-0.3850	0.1498
4	189.84	0.8582	0.2069	0.0035	0.0379	0.0537	-6.0271	0.0671	-0.5725	0.1833
4	189.84	0.9728	0.2400	0.0052	-0.0421	0.0640	-8.2715	0.0871	0.0627	0.2095

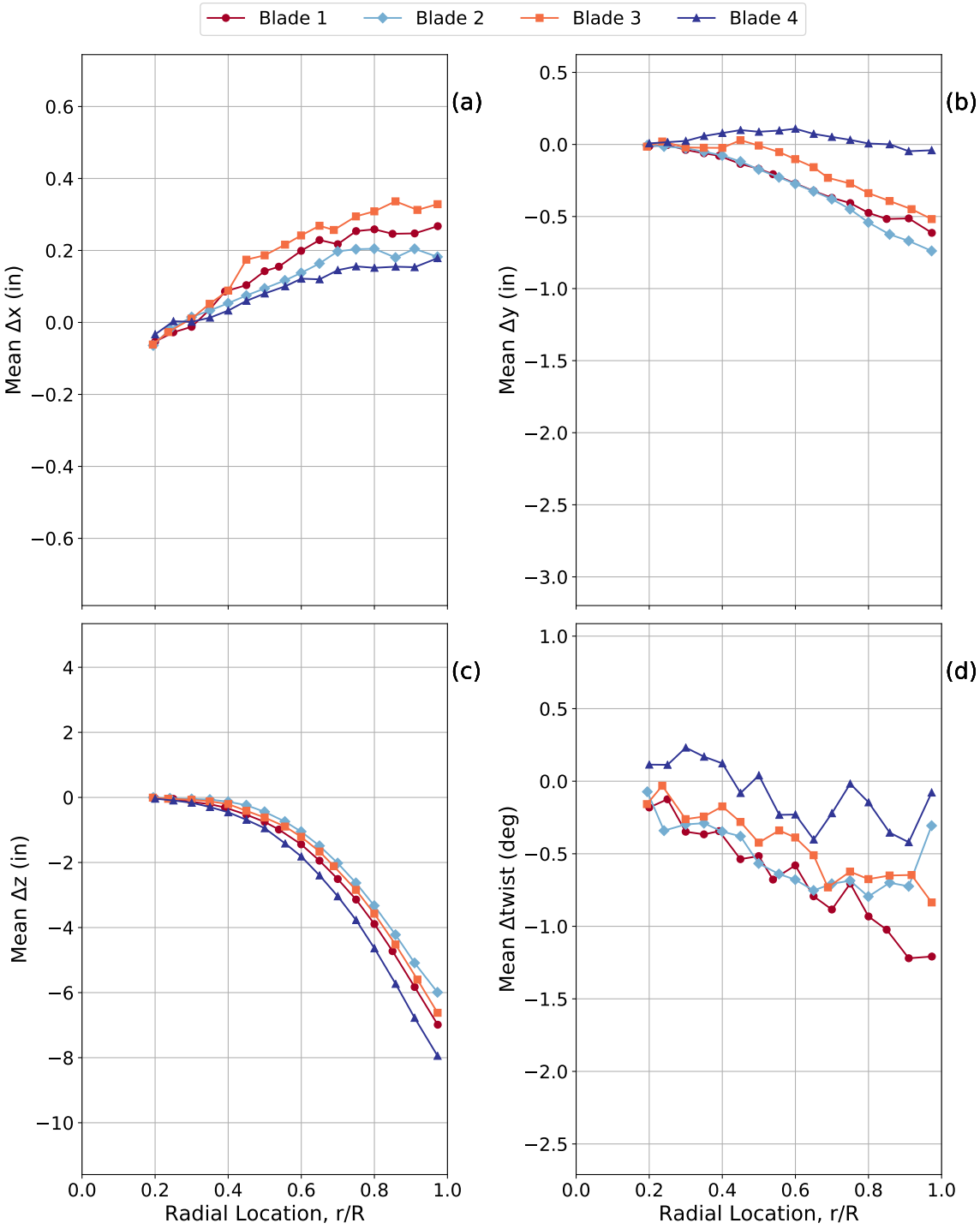


Figure 2.12-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-28. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0533	0.0011	-0.0129	0.0012	-0.0327	0.0018	-0.1809	0.0263
1	195.12	0.2499	-0.0275	0.0011	-0.0038	0.0028	-0.0448	0.0045	-0.1243	0.0378
1	195.12	0.2998	-0.0122	0.0014	-0.0379	0.0052	-0.1363	0.0075	-0.3480	0.0568
1	195.12	0.3498	0.0364	0.0019	-0.0613	0.0077	-0.2081	0.0119	-0.3663	0.0484
1	195.12	0.3913	0.0860	0.0016	-0.0787	0.0117	-0.3098	0.0176	-0.3439	0.0483
1	195.12	0.4496	0.1036	0.0017	-0.1352	0.0145	-0.5304	0.0229	-0.5372	0.0483
1	195.12	0.4997	0.1425	0.0018	-0.1690	0.0171	-0.7527	0.0275	-0.5160	0.0527
1	195.12	0.5387	0.1549	0.0019	-0.2066	0.0196	-0.9875	0.0313	-0.6780	0.0501
1	195.12	0.5996	0.1990	0.0019	-0.2704	0.0231	-1.4421	0.0383	-0.5802	0.0550
1	195.12	0.6498	0.2290	0.0020	-0.3229	0.0265	-1.9444	0.0434	-0.7931	0.0593
1	195.12	0.6998	0.2174	0.0022	-0.3703	0.0296	-2.5085	0.0500	-0.8843	0.0725
1	195.12	0.7500	0.2538	0.0030	-0.4067	0.0344	-3.1402	0.0543	-0.7055	0.0891
1	195.12	0.8001	0.2587	0.0031	-0.4748	0.0375	-3.8924	0.0601	-0.9321	0.0861
1	195.12	0.8497	0.2463	0.0037	-0.5171	0.0400	-4.7259	0.0663	-1.0235	0.0825
1	195.12	0.9102	0.2474	0.0051	-0.5131	0.0502	-5.8275	0.0772	-1.2201	0.2358
1	195.12	0.9734	0.2675	0.0052	-0.6134	0.0528	-6.9872	0.0858	-1.2084	0.2245
2	195.12	0.1949	-0.0640	0.0027	-0.0052	0.0020	-0.0020	0.0042	-0.0725	0.0289
2	195.12	0.2405	-0.0187	0.0019	-0.0142	0.0025	-0.0276	0.0049	-0.3408	0.0662
2	195.12	0.2999	0.0150	0.0015	-0.0261	0.0068	-0.0492	0.0129	-0.2976	0.0751
2	195.12	0.3498	0.0332	0.0016	-0.0502	0.0112	-0.0658	0.0217	-0.2894	0.0645
2	195.12	0.3998	0.0534	0.0023	-0.0764	0.0169	-0.1309	0.0314	-0.3471	0.0635
2	195.12	0.4496	0.0747	0.0027	-0.1185	0.0205	-0.2386	0.0376	-0.3795	0.0713
2	195.12	0.4995	0.0945	0.0029	-0.1736	0.0249	-0.4421	0.0459	-0.5670	0.0675
2	195.12	0.5551	0.1168	0.0030	-0.2281	0.0303	-0.7421	0.0545	-0.6399	0.0714
2	195.12	0.5996	0.1376	0.0030	-0.2739	0.0349	-1.0505	0.0619	-0.6785	0.0682
2	195.12	0.6497	0.1639	0.0031	-0.3249	0.0394	-1.4875	0.0709	-0.7530	0.0742
2	195.12	0.6996	0.1975	0.0028	-0.3793	0.0446	-2.0192	0.0779	-0.7070	0.0739
2	195.12	0.7495	0.2035	0.0031	-0.4487	0.0508	-2.6283	0.0867	-0.6857	0.0686
2	195.12	0.7996	0.2048	0.0035	-0.5411	0.0569	-3.3277	0.0949	-0.7950	0.0781
2	195.12	0.8578	0.1803	0.0041	-0.6242	0.0632	-4.2205	0.1059	-0.6998	0.0698
2	195.12	0.9100	0.2045	0.0039	-0.6692	0.0693	-5.0882	0.1148	-0.7243	0.0751
2	195.12	0.9727	0.1823	0.0048	-0.7388	0.0772	-5.9916	0.1256	-0.3066	0.0813
3	195.12	0.1938	-0.0614	0.0011	-0.0152	0.0011	-0.0072	0.0020	-0.1580	0.0216
3	195.12	0.2357	-0.0267	0.0011	0.0204	0.0023	-0.0417	0.0039	-0.0311	0.0337
3	195.12	0.2995	0.0105	0.0014	-0.0207	0.0044	-0.0713	0.0069	-0.2614	0.0498
3	195.12	0.3493	0.0517	0.0013	-0.0230	0.0080	-0.1207	0.0137	-0.2437	0.0319
3	195.12	0.4000	0.0885	0.0018	-0.0238	0.0123	-0.2056	0.0196	-0.1738	0.0369
3	195.12	0.4497	0.1744	0.0159	0.0296	0.0530	-0.4123	0.0596	-0.2808	0.0419
3	195.12	0.4997	0.1865	0.0171	-0.0079	0.0609	-0.6170	0.0682	-0.4233	0.0430
3	195.12	0.5556	0.2162	0.0186	-0.0531	0.0691	-0.8956	0.0763	-0.3392	0.0419
3	195.12	0.5995	0.2417	0.0189	-0.1021	0.0760	-1.2113	0.0840	-0.3879	0.0446
3	195.12	0.6498	0.2687	0.0196	-0.1579	0.0833	-1.6637	0.0923	-0.5101	0.0457
3	195.12	0.6890	0.2569	0.0200	-0.2316	0.0893	-2.1142	0.0986	-0.7318	0.0496
3	195.12	0.7495	0.2947	0.0200	-0.2708	0.0978	-2.8421	0.1093	-0.6230	0.0453
3	195.12	0.7998	0.3087	0.0201	-0.3378	0.1042	-3.5738	0.1177	-0.6749	0.0479
3	195.12	0.8577	0.3365	0.0201	-0.3925	0.1136	-4.5203	0.1278	-0.6498	0.0614
3	195.12	0.9178	0.3127	0.0043	-0.4492	0.1357	-5.6005	0.1879	-0.6464	0.0576
3	195.12	0.9729	0.3286	0.0215	-0.5180	0.1277	-6.6202	0.1505	-0.8355	0.0778
4	195.12	0.2001	-0.0332	0.0020	0.0074	0.0016	-0.0387	0.0036	0.1144	0.0351
4	195.12	0.2502	0.0033	0.0027	0.0159	0.0033	-0.0944	0.0078	0.1130	0.0538
4	195.12	0.3001	0.0017	0.0024	0.0241	0.0057	-0.1648	0.0124	0.2315	0.0736
4	195.12	0.3502	0.0133	0.0022	0.0584	0.0082	-0.2959	0.0204	0.1689	0.0612
4	195.12	0.4002	0.0330	0.0024	0.0792	0.0134	-0.4574	0.0315	0.1228	0.0657
4	195.12	0.4500	0.0600	0.0019	0.0996	0.0158	-0.6883	0.0368	-0.0814	0.0629
4	195.12	0.5001	0.0805	0.0024	0.0879	0.0190	-0.9479	0.0450	0.0399	0.0661
4	195.12	0.5560	0.1004	0.0024	0.0962	0.0229	-1.4176	0.0551	-0.2319	0.0690
4	195.12	0.6001	0.1216	0.0025	0.1089	0.0262	-1.8168	0.0629	-0.2297	0.0612
4	195.12	0.6501	0.1198	0.0027	0.0729	0.0295	-2.3984	0.0712	-0.4022	0.0610
4	195.12	0.6999	0.1453	0.0028	0.0521	0.0330	-3.0405	0.0788	-0.2207	0.0675
4	195.12	0.7500	0.1557	0.0030	0.0315	0.0369	-3.7714	0.0877	-0.0173	0.0602
4	195.12	0.8002	0.1518	0.0036	0.0065	0.0412	-4.6393	0.0959	-0.1457	0.0599
4	195.12	0.8582	0.1549	0.0040	0.0009	0.0456	-5.7316	0.1074	-0.3548	0.0584
4	195.12	0.9101	0.1535	0.0048	-0.0471	0.0502	-6.7762	0.1175	-0.4204	0.0741
4	195.12	0.9728	0.1787	0.0057	-0.0404	0.0558	-7.9437	0.1309	-0.0781	0.0691

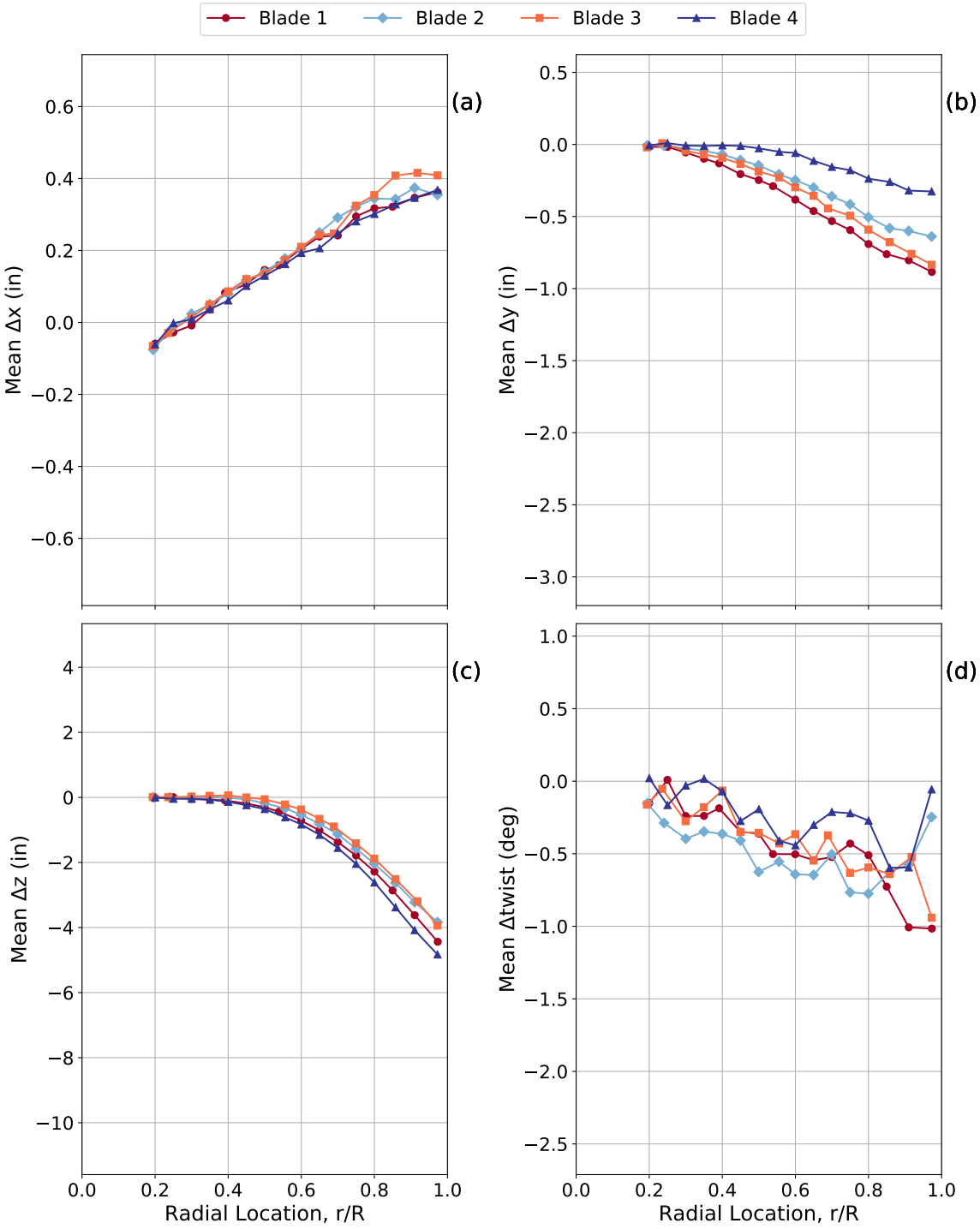


Figure 2.12-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-29. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0587	0.0012	-0.0167	0.0010	-0.0143	0.0021	-0.1508	0.0263
1	209.88	0.2499	-0.0277	0.0010	-0.0174	0.0026	0.0066	0.0054	0.0092	0.0353
1	209.88	0.2998	-0.0084	0.0014	-0.0555	0.0048	-0.0515	0.0086	-0.2399	0.0555
1	209.88	0.3498	0.0358	0.0015	-0.0990	0.0071	-0.0653	0.0146	-0.2391	0.0425
1	209.88	0.3913	0.0825	0.0015	-0.1313	0.0109	-0.0950	0.0209	-0.1865	0.0409
1	209.88	0.4496	0.1058	0.0017	-0.2056	0.0137	-0.1855	0.0273	-0.3490	0.0410
1	209.88	0.4997	0.1460	0.0017	-0.2470	0.0168	-0.3007	0.0342	-0.3614	0.0394
1	209.88	0.5387	0.1591	0.0018	-0.2895	0.0190	-0.4384	0.0394	-0.5020	0.0401
1	209.88	0.5996	0.2041	0.0019	-0.3829	0.0230	-0.7125	0.0472	-0.5034	0.0454
1	209.88	0.6498	0.2387	0.0019	-0.4621	0.0263	-1.0150	0.0541	-0.5443	0.0459
1	209.88	0.6998	0.2416	0.0022	-0.5315	0.0300	-1.3731	0.0608	-0.5233	0.0464
1	209.88	0.7500	0.2946	0.0024	-0.5942	0.0340	-1.7887	0.0671	-0.4299	0.0505
1	209.88	0.8001	0.3172	0.0027	-0.6911	0.0378	-2.2799	0.0742	-0.5098	0.0519
1	209.88	0.8497	0.3214	0.0031	-0.7610	0.0416	-2.8595	0.0811	-0.7265	0.0544
1	209.88	0.9102	0.3464	0.0033	-0.8038	0.0464	-3.6195	0.0916	-1.0073	0.0771
1	209.88	0.9734	0.3620	0.0044	-0.8845	0.0531	-4.4365	0.1054	-1.0157	0.0691
2	209.88	0.1949	-0.0759	0.0011	-0.0066	0.0008	0.0019	0.0016	-0.1522	0.0269
2	209.88	0.2405	-0.0220	0.0010	-0.0083	0.0021	0.0014	0.0050	-0.2877	0.0331
2	209.88	0.2999	0.0241	0.0010	-0.0275	0.0049	-0.0096	0.0094	-0.3964	0.0572
2	209.88	0.3498	0.0506	0.0013	-0.0437	0.0064	0.0027	0.0122	-0.3469	0.0534
2	209.88	0.3998	0.0796	0.0011	-0.0689	0.0110	-0.0143	0.0220	-0.3629	0.0447
2	209.88	0.4496	0.1178	0.0011	-0.1089	0.0129	-0.0542	0.0281	-0.4091	0.0416
2	209.88	0.4995	0.1397	0.0015	-0.1451	0.0156	-0.1801	0.0335	-0.6252	0.0425
2	209.88	0.5551	0.1778	0.0015	-0.2074	0.0178	-0.3345	0.0416	-0.5548	0.0451
2	209.88	0.5996	0.2055	0.0017	-0.2481	0.0202	-0.5328	0.0475	-0.6412	0.0426
2	209.88	0.6497	0.2500	0.0019	-0.2990	0.0226	-0.8112	0.0553	-0.6465	0.0501
2	209.88	0.6996	0.2914	0.0015	-0.3602	0.0252	-1.1275	0.0630	-0.5038	0.0462
2	209.88	0.7495	0.3208	0.0020	-0.4152	0.0286	-1.5752	0.0713	-0.7660	0.0457
2	209.88	0.7996	0.3443	0.0023	-0.5044	0.0319	-2.0331	0.0795	-0.7753	0.0505
2	209.88	0.8578	0.3427	0.0026	-0.5815	0.0351	-2.6270	0.0899	-0.6241	0.0547
2	209.88	0.9100	0.3740	0.0033	-0.6003	0.0390	-3.2213	0.0998	-0.5753	0.1066
2	209.88	0.9727	0.3544	0.0040	-0.6389	0.0431	-3.8315	0.1126	-0.2469	0.0726
3	209.88	0.1938	-0.0655	0.0012	-0.0202	0.0009	0.0125	0.0019	-0.1617	0.0254
3	209.88	0.2357	-0.0294	0.0011	0.0089	0.0029	0.0057	0.0051	-0.0529	0.0313
3	209.88	0.2995	0.0143	0.0008	-0.0442	0.0049	0.0257	0.0086	-0.2759	0.0498
3	209.88	0.3493	0.0497	0.0019	-0.0695	0.0092	0.0494	0.0136	-0.1793	0.0465
3	209.88	0.4000	0.0863	0.0015	-0.0936	0.0144	0.0611	0.0213	-0.0641	0.0407
3	209.88	0.4497	0.1206	0.0015	-0.1348	0.0186	-0.0001	0.0265	-0.3505	0.0404
3	209.88	0.4997	0.1349	0.0015	-0.1872	0.0225	-0.0570	0.0328	-0.3559	0.0362
3	209.88	0.5556	0.1733	0.0015	-0.2289	0.0264	-0.2179	0.0397	-0.4289	0.0379
3	209.88	0.5995	0.2102	0.0018	-0.2973	0.0297	-0.3698	0.0455	-0.3653	0.0403
3	209.88	0.6498	0.2440	0.0019	-0.3561	0.0343	-0.6599	0.0517	-0.5473	0.0429
3	209.88	0.6890	0.2470	0.0019	-0.4434	0.0378	-0.8941	0.0573	-0.3732	0.0458
3	209.88	0.7495	0.3244	0.0023	-0.4944	0.0432	-1.4109	0.0656	-0.6318	0.0417
3	209.88	0.7998	0.3539	0.0026	-0.5908	0.0477	-1.8812	0.0730	-0.5947	0.0465
3	209.88	0.8577	0.4081	0.0029	-0.6778	0.0533	-2.5115	0.0808	-0.6397	0.0585
3	209.88	0.9178	0.4157	0.0516	-0.7591	0.1037	-3.1917	0.1291	-0.5221	1.2485
3	209.88	0.9729	0.4088	0.0041	-0.8341	0.0653	-3.9406	0.1002	-0.9405	0.0958
4	209.88	0.2001	-0.0611	0.0012	-0.0059	0.0016	-0.0014	0.0022	0.0209	0.0249
4	209.88	0.2502	-0.0021	0.0012	0.0093	0.0021	-0.0430	0.0041	-0.1647	0.0299
4	209.88	0.3001	0.0090	0.0015	-0.0079	0.0047	-0.0431	0.0063	-0.0306	0.0514
4	209.88	0.3502	0.0370	0.0013	-0.0106	0.0097	-0.0716	0.0124	0.0163	0.0393
4	209.88	0.4002	0.0609	0.0012	-0.0072	0.0129	-0.1357	0.0169	-0.0704	0.0411
4	209.88	0.4500	0.1013	0.0016	-0.0103	0.0154	-0.2393	0.0210	-0.2742	0.0402
4	209.88	0.5001	0.1295	0.0018	-0.0269	0.0161	-0.3579	0.0266	-0.1927	0.0385
4	209.88	0.5560	0.1620	0.0017	-0.0511	0.0201	-0.6113	0.0342	-0.4105	0.0429
4	209.88	0.6001	0.1931	0.0017	-0.0594	0.0228	-0.8337	0.0403	-0.4423	0.0400
4	209.88	0.6501	0.2062	0.0017	-0.1139	0.0254	-1.1512	0.0465	-0.3013	0.0422
4	209.88	0.6999	0.2476	0.0021	-0.1558	0.0284	-1.5534	0.0542	-0.2120	0.0440
4	209.88	0.7500	0.2809	0.0023	-0.1789	0.0318	-2.0442	0.0618	-0.2208	0.0408
4	209.88	0.8002	0.3014	0.0026	-0.2377	0.0353	-2.6157	0.0698	-0.2717	0.0461
4	209.88	0.8582	0.3281	0.0032	-0.2600	0.0389	-3.3812	0.0789	-0.5971	0.0467
4	209.88	0.9101	0.3463	0.0041	-0.3199	0.0437	-4.0816	0.0892	-0.5945	0.0510
4	209.88	0.9728	0.3680	0.0044	-0.3264	0.0477	-4.8289	0.1017	-0.0564	0.0570

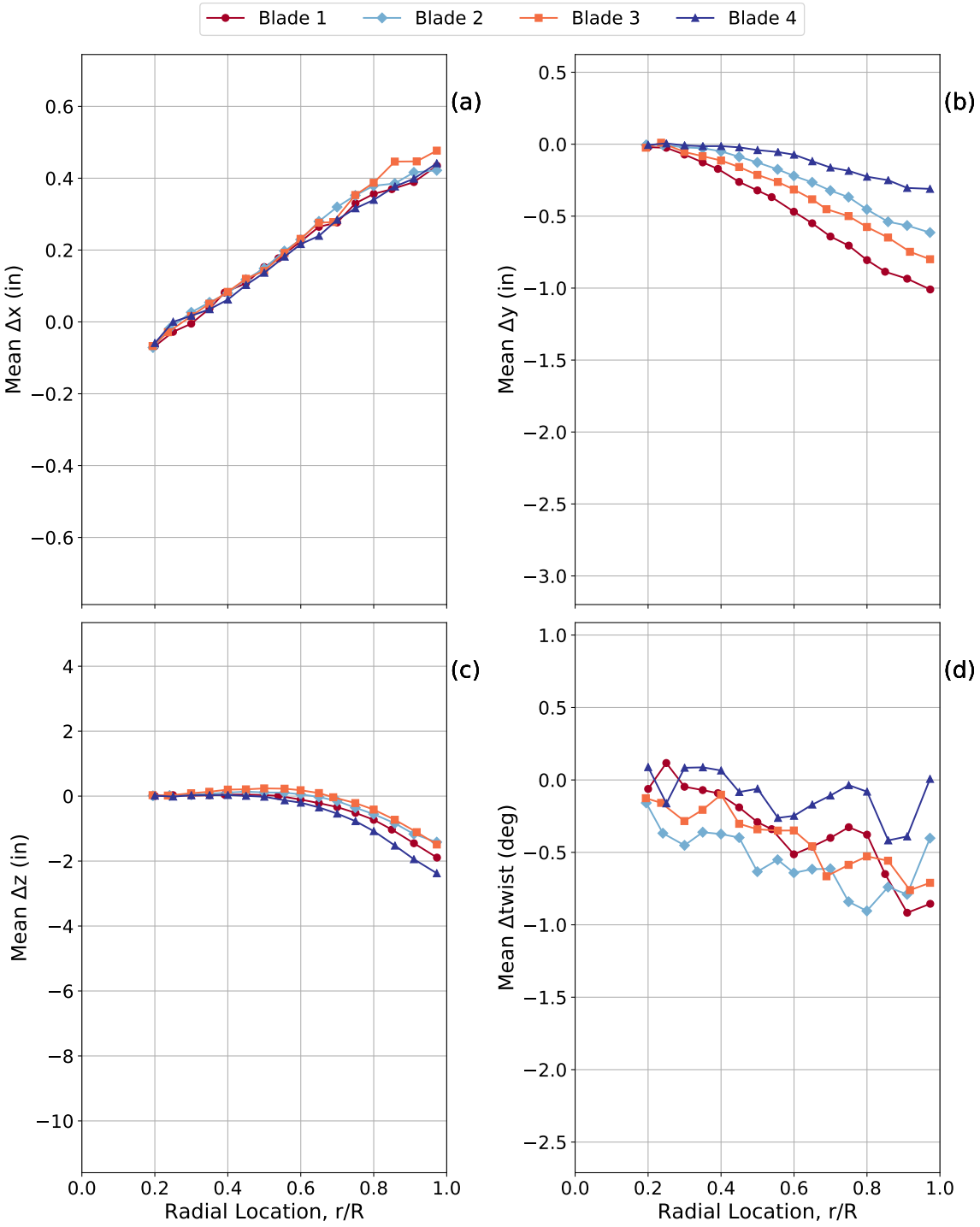


Figure 2.12-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-30. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0676	0.0015	-0.0205	0.0012	0.0029	0.0027	-0.0622	0.0230
1	225	0.2499	-0.0277	0.0012	-0.0249	0.0025	0.0299	0.0058	0.1169	0.0398
1	225	0.2998	-0.0049	0.0010	-0.0720	0.0043	0.0147	0.0104	-0.0470	0.0520
1	225	0.3498	0.0370	0.0015	-0.1264	0.0085	0.0255	0.0162	-0.0701	0.0501
1	225	0.3913	0.0817	0.0017	-0.1715	0.0112	0.0443	0.0243	-0.0913	0.0463
1	225	0.4496	0.1077	0.0017	-0.2620	0.0147	0.0476	0.0306	-0.1894	0.0452
1	225	0.4997	0.1527	0.0018	-0.3213	0.0188	0.0304	0.0375	-0.2913	0.0480
1	225	0.5387	0.1770	0.0017	-0.3677	0.0199	0.0093	0.0425	-0.3396	0.0480
1	225	0.5996	0.2234	0.0015	-0.4690	0.0239	-0.1057	0.0518	-0.5135	0.0508
1	225	0.6498	0.2647	0.0021	-0.5494	0.0281	-0.2157	0.0585	-0.4599	0.0475
1	225	0.6998	0.2767	0.0019	-0.6414	0.0317	-0.3364	0.0663	-0.4001	0.0492
1	225	0.7500	0.3302	0.0024	-0.7046	0.0354	-0.5157	0.0738	-0.3264	0.0489
1	225	0.8001	0.3564	0.0022	-0.8056	0.0393	-0.7292	0.0809	-0.3779	0.0481
1	225	0.8497	0.3695	0.0023	-0.8861	0.0432	-1.0300	0.0889	-0.6498	0.0499
1	225	0.9102	0.3892	0.0030	-0.9348	0.0484	-1.4511	0.0984	-0.9168	0.0570
1	225	0.9734	0.4347	0.0036	-1.0094	0.0534	-1.8930	0.1085	-0.8550	0.0557
2	225	0.1949	-0.0714	0.0015	-0.0047	0.0009	0.0109	0.0022	-0.1587	0.0355
2	225	0.2405	-0.0180	0.0014	-0.0047	0.0031	0.0199	0.0078	-0.3678	0.0424
2	225	0.2999	0.0267	0.0011	-0.0223	0.0052	0.0418	0.0099	-0.4514	0.0761
2	225	0.3498	0.0545	0.0012	-0.0279	0.0095	0.0726	0.0198	-0.3608	0.0585
2	225	0.3998	0.0803	0.0017	-0.0493	0.0148	0.1091	0.0292	-0.3737	0.0654
2	225	0.4496	0.1179	0.0022	-0.0875	0.0191	0.1372	0.0369	-0.3979	0.0585
2	225	0.4995	0.1488	0.0021	-0.1266	0.0215	0.1138	0.0446	-0.6333	0.0494
2	225	0.5551	0.1972	0.0020	-0.1748	0.0257	0.1067	0.0536	-0.5507	0.0479
2	225	0.5996	0.2291	0.0018	-0.2204	0.0296	0.0568	0.0614	-0.6413	0.0459
2	225	0.6497	0.2797	0.0019	-0.2648	0.0334	-0.0273	0.0685	-0.6160	0.0480
2	225	0.6996	0.3198	0.0020	-0.3223	0.0374	-0.1495	0.0759	-0.6131	0.0481
2	225	0.7495	0.3522	0.0021	-0.3676	0.0417	-0.3556	0.0840	-0.8406	0.0515
2	225	0.7996	0.3789	0.0020	-0.4531	0.0461	-0.5540	0.0919	-0.9043	0.0535
2	225	0.8578	0.3853	0.0022	-0.5389	0.0515	-0.8368	0.1025	-0.7396	0.0498
2	225	0.9100	0.4163	0.0022	-0.5651	0.0562	-1.1684	0.1122	-0.7899	0.0522
2	225	0.9727	0.4220	0.0038	-0.6139	0.0618	-1.4171	0.1242	-0.4020	0.0571
3	225	0.1938	-0.0671	0.0013	-0.0241	0.0008	0.0299	0.0022	-0.1262	0.0291
3	225	0.2357	-0.0287	0.0014	0.0104	0.0039	0.0176	0.0074	-0.1582	0.0295
3	225	0.2995	0.0159	0.0011	-0.0538	0.0053	0.0889	0.0104	-0.2839	0.0582
3	225	0.3493	0.0508	0.0014	-0.0831	0.0105	0.1342	0.0198	-0.2063	0.0468
3	225	0.4000	0.0836	0.0020	-0.1133	0.0167	0.2008	0.0297	-0.1021	0.0435
3	225	0.4497	0.1202	0.0024	-0.1588	0.0227	0.2085	0.0376	-0.3028	0.0373
3	225	0.4997	0.1419	0.0023	-0.2132	0.0254	0.2375	0.0426	-0.3408	0.0488
3	225	0.5556	0.1921	0.0023	-0.2622	0.0301	0.2289	0.0522	-0.3496	0.0392
3	225	0.5995	0.2312	0.0021	-0.3152	0.0348	0.1819	0.0596	-0.3489	0.0503
3	225	0.6498	0.2761	0.0024	-0.3828	0.0394	0.0938	0.0690	-0.4580	0.0450
3	225	0.6890	0.2780	0.0027	-0.4516	0.0429	-0.0349	0.0761	-0.6653	0.0473
3	225	0.7495	0.3532	0.0028	-0.4996	0.0498	-0.2137	0.0881	-0.5863	0.0462
3	225	0.7998	0.3872	0.0027	-0.5754	0.0555	-0.4142	0.0980	-0.5278	0.0473
3	225	0.8577	0.4463	0.0028	-0.6485	0.0620	-0.7277	0.1103	-0.5574	0.0518
3	225	0.9178	0.4468	0.0031	-0.7476	0.0690	-1.1090	0.1227	-0.7606	0.0488
3	225	0.9729	0.4768	0.0045	-0.7993	0.0756	-1.4896	0.1327	-0.7102	0.0554
4	225	0.2001	-0.0588	0.0014	-0.0052	0.0013	0.0137	0.0026	0.0885	0.0390
4	225	0.2502	0.0003	0.0011	0.0054	0.0038	-0.0136	0.0083	-0.1618	0.0384
4	225	0.3001	0.0170	0.0014	-0.0084	0.0045	0.0250	0.0098	0.0841	0.0753
4	225	0.3502	0.0354	0.0013	-0.0139	0.0092	0.0308	0.0176	0.0870	0.0535
4	225	0.4002	0.0621	0.0016	-0.0133	0.0135	0.0331	0.0271	0.0652	0.0610
4	225	0.4500	0.1028	0.0021	-0.0218	0.0184	0.0088	0.0343	-0.0834	0.0500
4	225	0.5001	0.1368	0.0018	-0.0409	0.0207	-0.0188	0.0401	-0.0610	0.0557
4	225	0.5560	0.1817	0.0020	-0.0544	0.0251	-0.1295	0.0493	-0.2620	0.0468
4	225	0.6001	0.2167	0.0023	-0.0728	0.0271	-0.2018	0.0526	-0.2476	0.0596
4	225	0.6501	0.2395	0.0020	-0.1186	0.0315	-0.3492	0.0610	-0.1701	0.0530
4	225	0.6999	0.2844	0.0020	-0.1620	0.0352	-0.5387	0.0685	-0.1076	0.0538
4	225	0.7500	0.3162	0.0022	-0.1853	0.0396	-0.7713	0.0759	-0.0360	0.0532
4	225	0.8002	0.3397	0.0022	-0.2258	0.0439	-1.0786	0.0842	-0.0809	0.0549
4	225	0.8582	0.3770	0.0022	-0.2502	0.0489	-1.5237	0.0935	-0.4173	0.0575
4	225	0.9101	0.3987	0.0023	-0.3040	0.0534	-1.9425	0.1014	-0.3901	0.0574
4	225	0.9728	0.4415	0.0035	-0.3104	0.0588	-2.3748	0.1117	0.0072	0.0600

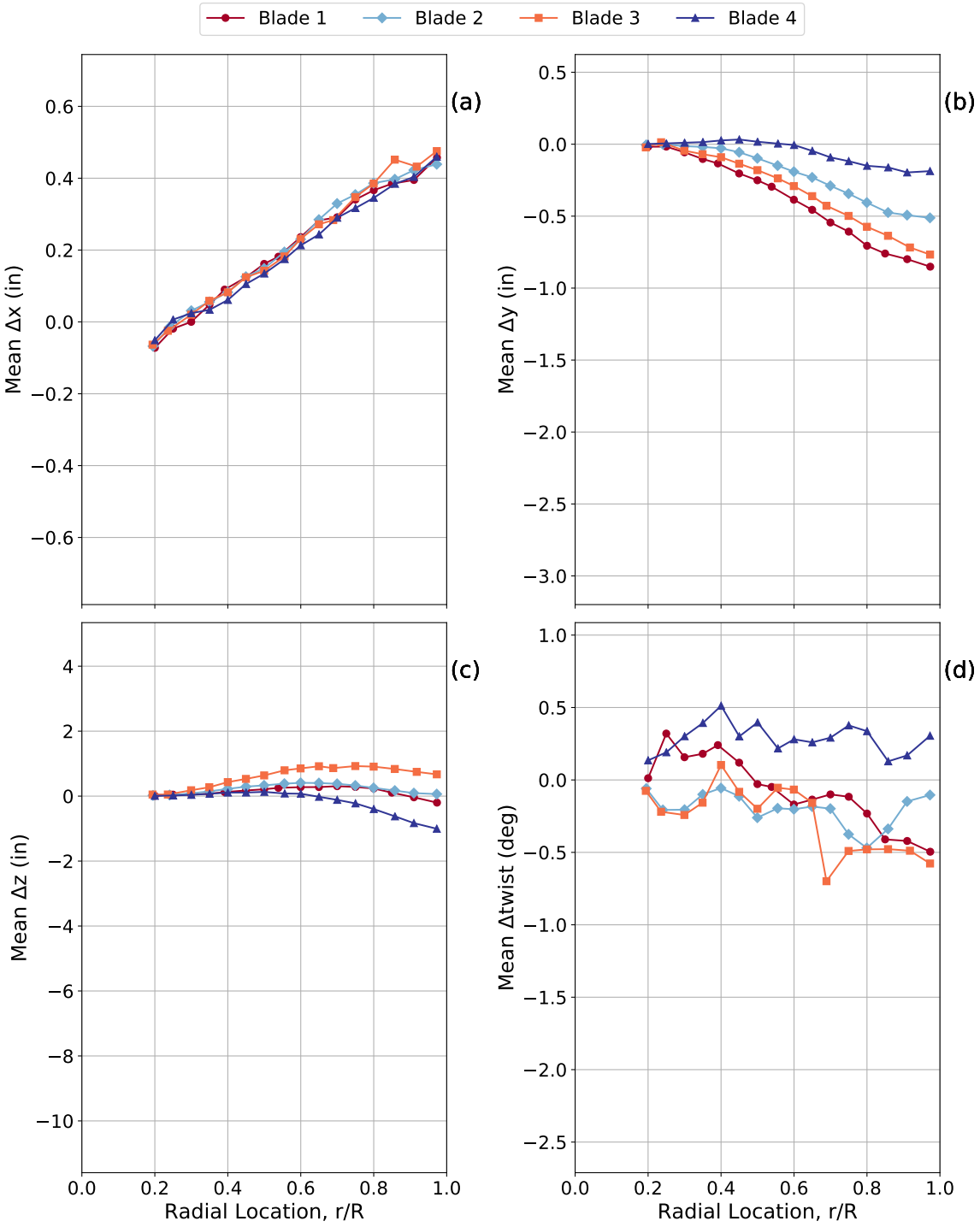


Figure 2.12-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-31. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0721	0.0013	-0.0176	0.0009	0.0088	0.0025	0.0120	0.0184
1	240.12	0.2499	-0.0188	0.0011	-0.0168	0.0025	0.0458	0.0056	0.3202	0.0314
1	240.12	0.2998	0.0002	0.0007	-0.0565	0.0036	0.0489	0.0095	0.1568	0.0411
1	240.12	0.3498	0.0480	0.0012	-0.1027	0.0073	0.0742	0.0161	0.1805	0.0443
1	240.12	0.3913	0.0900	0.0020	-0.1336	0.0100	0.1251	0.0230	0.2405	0.0407
1	240.12	0.4496	0.1240	0.0016	-0.2035	0.0118	0.1739	0.0284	0.1194	0.0429
1	240.12	0.4997	0.1616	0.0016	-0.2507	0.0144	0.2108	0.0340	-0.0287	0.0450
1	240.12	0.5387	0.1815	0.0021	-0.2953	0.0171	0.2548	0.0391	-0.0483	0.0436
1	240.12	0.5996	0.2360	0.0020	-0.3858	0.0198	0.2757	0.0477	-0.1696	0.0428
1	240.12	0.6498	0.2825	0.0023	-0.4559	0.0238	0.2782	0.0543	-0.1356	0.0482
1	240.12	0.6998	0.2912	0.0022	-0.5441	0.0270	0.3060	0.0616	-0.0999	0.0473
1	240.12	0.7500	0.3406	0.0026	-0.6077	0.0305	0.2819	0.0685	-0.1161	0.0464
1	240.12	0.8001	0.3666	0.0027	-0.7058	0.0342	0.2346	0.0761	-0.2320	0.0443
1	240.12	0.8497	0.3845	0.0027	-0.7597	0.0379	0.1066	0.0835	-0.4104	0.0458
1	240.12	0.9102	0.3951	0.0028	-0.7989	0.0426	-0.0366	0.0933	-0.4213	0.0473
1	240.12	0.9734	0.4573	0.0037	-0.8511	0.0475	-0.1999	0.1040	-0.4956	0.0499
2	240.12	0.1949	-0.0676	0.0010	-0.0045	0.0006	0.0214	0.0021	-0.0595	0.0321
2	240.12	0.2405	-0.0143	0.0013	0.0002	0.0022	0.0344	0.0058	-0.2071	0.0353
2	240.12	0.2999	0.0312	0.0015	-0.0135	0.0040	0.0847	0.0093	-0.2054	0.0673
2	240.12	0.3498	0.0557	0.0016	-0.0188	0.0059	0.1475	0.0169	-0.1001	0.0469
2	240.12	0.3998	0.0826	0.0015	-0.0283	0.0101	0.2228	0.0254	-0.0562	0.0531
2	240.12	0.4496	0.1258	0.0018	-0.0559	0.0127	0.2910	0.0329	-0.1127	0.0442
2	240.12	0.4995	0.1488	0.0018	-0.0978	0.0147	0.3313	0.0394	-0.2605	0.0447
2	240.12	0.5551	0.1946	0.0018	-0.1487	0.0163	0.3832	0.0453	-0.1957	0.0504
2	240.12	0.5996	0.2300	0.0019	-0.1909	0.0183	0.4094	0.0521	-0.2022	0.0480
2	240.12	0.6497	0.2847	0.0021	-0.2307	0.0208	0.4025	0.0585	-0.1837	0.0506
2	240.12	0.6996	0.3295	0.0019	-0.2891	0.0232	0.3795	0.0664	-0.1981	0.0459
2	240.12	0.7495	0.3543	0.0019	-0.3437	0.0260	0.3277	0.0726	-0.3754	0.0497
2	240.12	0.7996	0.3861	0.0018	-0.4057	0.0287	0.2540	0.0781	-0.4698	0.0522
2	240.12	0.8578	0.3971	0.0020	-0.4749	0.0316	0.1701	0.0856	-0.3379	0.0497
2	240.12	0.9100	0.4225	0.0021	-0.4928	0.0345	0.0932	0.0934	-0.1484	0.0469
2	240.12	0.9727	0.4389	0.0029	-0.5119	0.0382	0.0632	0.1032	-0.1040	0.0521
3	240.12	0.1938	-0.0633	0.0013	-0.0223	0.0008	0.0489	0.0026	-0.0752	0.0333
3	240.12	0.2357	-0.0247	0.0010	0.0136	0.0033	0.0497	0.0090	-0.2198	0.0309
3	240.12	0.2995	0.0202	0.0016	-0.0447	0.0059	0.1808	0.0155	-0.2419	0.0648
3	240.12	0.3493	0.0587	0.0019	-0.0695	0.0097	0.2735	0.0225	-0.1570	0.0724
3	240.12	0.4000	0.0823	0.0034	-0.0905	0.0164	0.4315	0.0391	0.1034	0.0439
3	240.12	0.4497	0.1242	0.0016	-0.1355	0.0166	0.5301	0.0451	-0.0820	0.0449
3	240.12	0.4997	0.1425	0.0020	-0.1803	0.0191	0.6376	0.0503	-0.1989	0.0673
3	240.12	0.5556	0.1823	0.0022	-0.2372	0.0233	0.7947	0.0639	-0.0538	0.0451
3	240.12	0.5995	0.2309	0.0028	-0.2909	0.0276	0.8532	0.0720	-0.0667	0.0527
3	240.12	0.6498	0.2717	0.0027	-0.3610	0.0309	0.9199	0.0835	-0.1581	0.0432
3	240.12	0.6890	0.2834	0.0027	-0.4278	0.0341	0.8627	0.0915	-0.6990	0.0481
3	240.12	0.7495	0.3474	0.0027	-0.4983	0.0393	0.9252	0.1041	-0.4903	0.0455
3	240.12	0.7998	0.3852	0.0027	-0.5739	0.0437	0.9080	0.1141	-0.4793	0.0484
3	240.12	0.8577	0.4517	0.0029	-0.6365	0.0489	0.8354	0.1264	-0.4778	0.0499
3	240.12	0.9178	0.4323	0.0032	-0.7177	0.0545	0.7467	0.1392	-0.4887	0.0490
3	240.12	0.9729	0.4755	0.0046	-0.7669	0.0597	0.6706	0.1516	-0.5768	0.0520
4	240.12	0.2001	-0.0510	0.0015	0.0016	0.0009	0.0090	0.0021	0.1351	0.0241
4	240.12	0.2502	0.0066	0.0014	0.0055	0.0034	0.0180	0.0081	0.1909	0.0305
4	240.12	0.3001	0.0243	0.0016	0.0102	0.0051	0.0389	0.0104	0.3017	0.0481
4	240.12	0.3502	0.0338	0.0013	0.0146	0.0079	0.0711	0.0158	0.3933	0.0436
4	240.12	0.4002	0.0611	0.0023	0.0261	0.0136	0.1087	0.0273	0.5120	0.0399
4	240.12	0.4500	0.1055	0.0021	0.0327	0.0165	0.1106	0.0330	0.3007	0.0372
4	240.12	0.5001	0.1346	0.0021	0.0171	0.0197	0.1308	0.0399	0.3969	0.0400
4	240.12	0.5560	0.1748	0.0027	0.0041	0.0253	0.0799	0.0496	0.2175	0.0440
4	240.12	0.6001	0.2132	0.0030	-0.0056	0.0290	0.0742	0.0557	0.2806	0.0434
4	240.12	0.6501	0.2435	0.0030	-0.0468	0.0338	-0.0219	0.0632	0.2594	0.0438
4	240.12	0.6999	0.2900	0.0031	-0.0915	0.0386	-0.1154	0.0720	0.2918	0.0429
4	240.12	0.7500	0.3169	0.0032	-0.1181	0.0438	-0.2241	0.0801	0.3765	0.0431
4	240.12	0.8002	0.3453	0.0032	-0.1502	0.0489	-0.3986	0.0870	0.3365	0.0412
4	240.12	0.8582	0.3844	0.0033	-0.1614	0.0556	-0.6230	0.0970	0.1285	0.0417
4	240.12	0.9101	0.4035	0.0033	-0.1962	0.0613	-0.8312	0.1060	0.1692	0.0429
4	240.12	0.9728	0.4598	0.0048	-0.1870	0.0686	-1.0047	0.1181	0.3050	0.0473

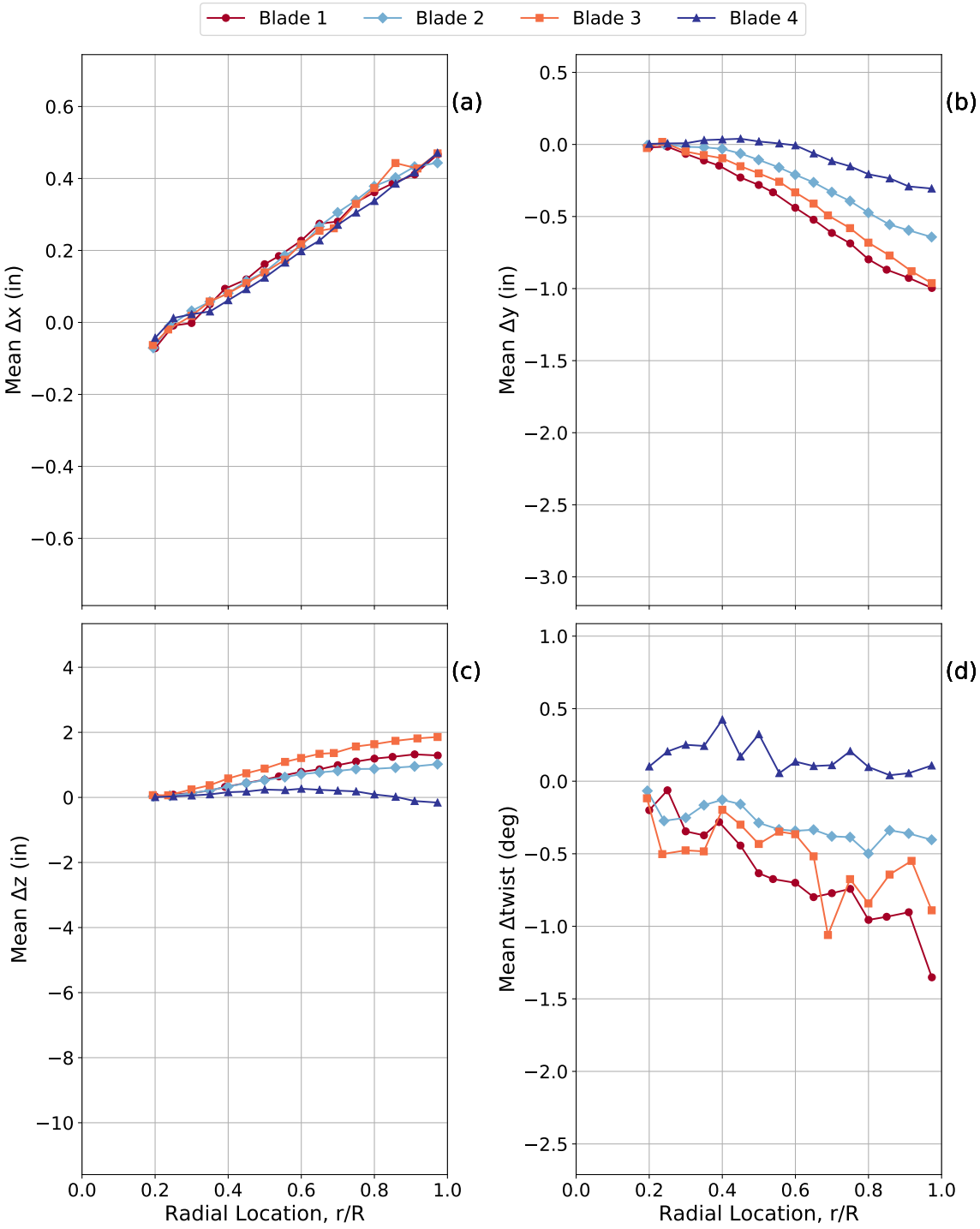


Figure 2.12-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-32. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0716	0.0017	-0.0203	0.0008	0.0321	0.0030	-0.1997	0.0202
1	254.88	0.2499	-0.0087	0.0010	-0.0152	0.0016	0.0846	0.0053	-0.0626	0.0397
1	254.88	0.2998	-0.0017	0.0012	-0.0653	0.0036	0.1365	0.0112	-0.3456	0.0474
1	254.88	0.3498	0.0506	0.0013	-0.1113	0.0054	0.2083	0.0166	-0.3730	0.0510
1	254.88	0.3913	0.0937	0.0024	-0.1471	0.0084	0.3227	0.0248	-0.2815	0.0512
1	254.88	0.4496	0.1197	0.0022	-0.2291	0.0102	0.4440	0.0294	-0.4434	0.0555
1	254.88	0.4997	0.1618	0.0026	-0.2812	0.0123	0.5454	0.0337	-0.6344	0.0466
1	254.88	0.5387	0.1844	0.0025	-0.3321	0.0141	0.6462	0.0383	-0.6745	0.0501
1	254.88	0.5996	0.2272	0.0026	-0.4392	0.0171	0.7856	0.0461	-0.7002	0.0431
1	254.88	0.6498	0.2744	0.0024	-0.5224	0.0195	0.8633	0.0523	-0.7989	0.0442
1	254.88	0.6998	0.2804	0.0024	-0.6141	0.0222	0.9911	0.0587	-0.7717	0.0461
1	254.88	0.7500	0.3338	0.0026	-0.6866	0.0252	1.1025	0.0648	-0.7420	0.0485
1	254.88	0.8001	0.3617	0.0028	-0.7974	0.0285	1.1929	0.0707	-0.9558	0.0461
1	254.88	0.8497	0.3863	0.0029	-0.8691	0.0318	1.2461	0.0770	-0.9344	0.0495
1	254.88	0.9102	0.4111	0.0030	-0.9260	0.0356	1.3235	0.0842	-0.9030	0.0475
1	254.88	0.9734	0.4670	0.0041	-0.9958	0.0401	1.2893	0.0906	-1.3517	0.0527
2	254.88	0.1949	-0.0708	0.0013	-0.0058	0.0006	0.0313	0.0021	-0.0665	0.0195
2	254.88	0.2405	-0.0092	0.0010	0.0024	0.0012	0.0527	0.0036	-0.2733	0.0352
2	254.88	0.2999	0.0321	0.0008	-0.0164	0.0029	0.1267	0.0075	-0.2518	0.0474
2	254.88	0.3498	0.0576	0.0012	-0.0201	0.0041	0.2187	0.0127	-0.1650	0.0409
2	254.88	0.3998	0.0812	0.0017	-0.0309	0.0069	0.3329	0.0192	-0.1280	0.0467
2	254.88	0.4496	0.1149	0.0023	-0.0630	0.0088	0.4374	0.0230	-0.1583	0.0456
2	254.88	0.4995	0.1394	0.0019	-0.1070	0.0106	0.5299	0.0297	-0.2868	0.0498
2	254.88	0.5551	0.1862	0.0016	-0.1595	0.0127	0.6247	0.0374	-0.3326	0.0423
2	254.88	0.5996	0.2120	0.0016	-0.2102	0.0145	0.7137	0.0439	-0.3420	0.0414
2	254.88	0.6497	0.2665	0.0017	-0.2631	0.0167	0.7703	0.0506	-0.3344	0.0486
2	254.88	0.6996	0.3055	0.0019	-0.3312	0.0191	0.8153	0.0579	-0.3800	0.0466
2	254.88	0.7495	0.3392	0.0019	-0.3928	0.0214	0.8727	0.0649	-0.3856	0.0440
2	254.88	0.7996	0.3784	0.0020	-0.4736	0.0240	0.8783	0.0721	-0.4988	0.0440
2	254.88	0.8578	0.4025	0.0022	-0.5563	0.0274	0.9148	0.0798	-0.3385	0.0462
2	254.88	0.9100	0.4328	0.0023	-0.5958	0.0304	0.9541	0.0872	-0.3602	0.0461
2	254.88	0.9727	0.4434	0.0031	-0.6424	0.0341	1.0224	0.0962	-0.4036	0.0520
3	254.88	0.1938	-0.0628	0.0017	-0.0249	0.0009	0.0693	0.0035	-0.1176	0.0272
3	254.88	0.2357	-0.0195	0.0011	0.0175	0.0013	0.0651	0.0046	-0.5024	0.0517
3	254.88	0.2995	0.0184	0.0010	-0.0492	0.0034	0.2458	0.0115	-0.4766	0.0687
3	254.88	0.3493	0.0581	0.0014	-0.0736	0.0054	0.3736	0.0189	-0.4835	0.0630
3	254.88	0.4000	0.0809	0.0016	-0.0960	0.0086	0.5831	0.0285	-0.1969	0.0594
3	254.88	0.4497	0.1092	0.0025	-0.1512	0.0116	0.7407	0.0359	-0.2995	0.0620
3	254.88	0.4997	0.1389	0.0029	-0.2005	0.0143	0.8860	0.0450	-0.4325	0.0619
3	254.88	0.5556	0.1743	0.0025	-0.2585	0.0172	1.0921	0.0547	-0.3475	0.0550
3	254.88	0.5995	0.2177	0.0024	-0.3325	0.0198	1.2111	0.0618	-0.3653	0.0585
3	254.88	0.6498	0.2547	0.0024	-0.4107	0.0232	1.3405	0.0707	-0.5179	0.0591
3	254.88	0.6890	0.2616	0.0024	-0.4921	0.0256	1.3641	0.0781	-1.0601	0.0596
3	254.88	0.7495	0.3294	0.0027	-0.5808	0.0300	1.5654	0.0892	-0.6750	0.0634
3	254.88	0.7998	0.3736	0.0028	-0.6813	0.0334	1.6361	0.0987	-0.8425	0.0627
3	254.88	0.8577	0.4429	0.0028	-0.7706	0.0379	1.7397	0.1104	-0.6433	0.0648
3	254.88	0.9178	0.4279	0.0031	-0.8798	0.0426	1.8145	0.1236	-0.5490	0.0638
3	254.88	0.9729	0.4699	0.0040	-0.9621	0.0470	1.8574	0.1366	-0.8898	0.0756
4	254.88	0.2001	-0.0429	0.0013	0.0039	0.0006	0.0093	0.0018	0.1016	0.0227
4	254.88	0.2502	0.0123	0.0011	0.0070	0.0016	0.0318	0.0042	0.2050	0.0288
4	254.88	0.3001	0.0228	0.0009	0.0083	0.0027	0.0584	0.0074	0.2510	0.0472
4	254.88	0.3502	0.0304	0.0012	0.0298	0.0044	0.0939	0.0112	0.2430	0.0373
4	254.88	0.4002	0.0617	0.0019	0.0346	0.0071	0.1600	0.0180	0.4243	0.0417
4	254.88	0.4500	0.0925	0.0020	0.0395	0.0089	0.1796	0.0236	0.1706	0.0452
4	254.88	0.5001	0.1245	0.0022	0.0204	0.0107	0.2413	0.0281	0.3234	0.0397
4	254.88	0.5560	0.1662	0.0022	0.0067	0.0137	0.2242	0.0352	0.0560	0.0478
4	254.88	0.6001	0.1978	0.0023	-0.0063	0.0160	0.2668	0.0402	0.1349	0.0451
4	254.88	0.6501	0.2278	0.0025	-0.0625	0.0185	0.2333	0.0472	0.1043	0.0365
4	254.88	0.6999	0.2712	0.0025	-0.1155	0.0217	0.2087	0.0544	0.1104	0.0376
4	254.88	0.7500	0.3055	0.0027	-0.1519	0.0250	0.1845	0.0616	0.2073	0.0375
4	254.88	0.8002	0.3375	0.0025	-0.2071	0.0284	0.0910	0.0688	0.0977	0.0366
4	254.88	0.8582	0.3855	0.0026	-0.2356	0.0322	0.0195	0.0771	0.0413	0.0386
4	254.88	0.9101	0.4169	0.0026	-0.2914	0.0363	-0.1106	0.0835	0.0552	0.0378
4	254.88	0.9728	0.4712	0.0037	-0.3060	0.0410	-0.1582	0.0929	0.1082	0.0428

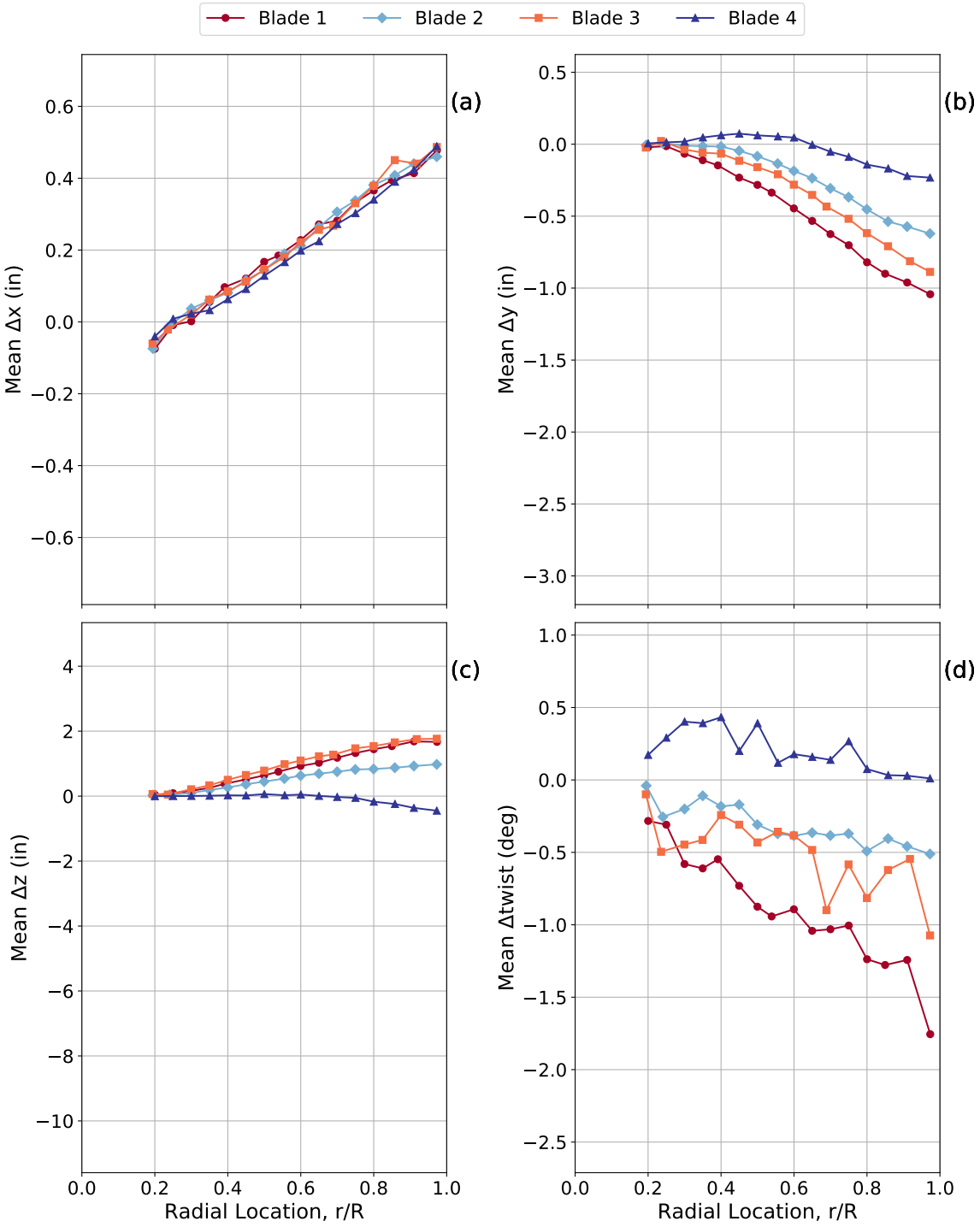


Figure 2.12-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-33. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.0747	0.0020	-0.0207	0.0009	0.0430	0.0037	-0.2830	0.0256
1	260.16	0.2499	-0.0090	0.0011	-0.0139	0.0015	0.0904	0.0063	-0.3090	0.0540
1	260.16	0.2998	0.0017	0.0010	-0.0662	0.0033	0.1620	0.0120	-0.5803	0.0607
1	260.16	0.3498	0.0556	0.0014	-0.1113	0.0056	0.2555	0.0199	-0.6106	0.0609
1	260.16	0.3913	0.0968	0.0017	-0.1471	0.0079	0.3769	0.0275	-0.5474	0.0584
1	260.16	0.4496	0.1208	0.0021	-0.2323	0.0106	0.5152	0.0363	-0.7307	0.0608
1	260.16	0.4997	0.1672	0.0023	-0.2827	0.0132	0.6374	0.0459	-0.8753	0.0642
1	260.16	0.5387	0.1847	0.0024	-0.3363	0.0153	0.7526	0.0530	-0.9423	0.0585
1	260.16	0.5996	0.2277	0.0023	-0.4461	0.0187	0.9297	0.0650	-0.8929	0.0592
1	260.16	0.6498	0.2716	0.0024	-0.5330	0.0221	1.0263	0.0759	-1.0417	0.0598
1	260.16	0.6998	0.2820	0.0024	-0.6247	0.0252	1.1816	0.0863	-1.0309	0.0605
1	260.16	0.7500	0.3329	0.0026	-0.7019	0.0289	1.3263	0.0980	-1.0051	0.0583
1	260.16	0.8001	0.3658	0.0029	-0.8206	0.0325	1.4444	0.1091	-1.2379	0.0607
1	260.16	0.8497	0.3944	0.0029	-0.9001	0.0362	1.5383	0.1201	-1.2775	0.0608
1	260.16	0.9102	0.4140	0.0031	-0.9610	0.0411	1.6846	0.1334	-1.2428	0.0619
1	260.16	0.9734	0.4778	0.0041	-1.0427	0.0461	1.6697	0.1468	-1.7552	0.0662
2	260.16	0.1949	-0.0743	0.0014	-0.0055	0.0006	0.0292	0.0022	-0.0398	0.0207
2	260.16	0.2405	-0.0110	0.0011	0.0056	0.0013	0.0367	0.0038	-0.2553	0.0404
2	260.16	0.2999	0.0368	0.0008	-0.0104	0.0026	0.0991	0.0077	-0.2006	0.0510
2	260.16	0.3498	0.0598	0.0011	-0.0133	0.0040	0.1874	0.0127	-0.1094	0.0466
2	260.16	0.3998	0.0814	0.0018	-0.0163	0.0066	0.2671	0.0193	-0.1823	0.0447
2	260.16	0.4496	0.1158	0.0019	-0.0460	0.0076	0.3636	0.0239	-0.1703	0.0496
2	260.16	0.4995	0.1441	0.0021	-0.0839	0.0095	0.4480	0.0280	-0.3084	0.0447
2	260.16	0.5551	0.1894	0.0019	-0.1352	0.0114	0.5408	0.0333	-0.3717	0.0426
2	260.16	0.5996	0.2123	0.0021	-0.1857	0.0129	0.6296	0.0379	-0.3848	0.0438
2	260.16	0.6497	0.2640	0.0021	-0.2361	0.0149	0.6915	0.0430	-0.3642	0.0470
2	260.16	0.6996	0.3061	0.0022	-0.3070	0.0169	0.7520	0.0490	-0.3837	0.0463
2	260.16	0.7495	0.3375	0.0022	-0.3679	0.0192	0.8207	0.0545	-0.3707	0.0458
2	260.16	0.7996	0.3810	0.0021	-0.4525	0.0214	0.8340	0.0604	-0.4917	0.0482
2	260.16	0.8578	0.4079	0.0023	-0.5375	0.0245	0.8747	0.0679	-0.4050	0.0495
2	260.16	0.9100	0.4404	0.0025	-0.5727	0.0272	0.9269	0.0753	-0.4586	0.0497
2	260.16	0.9727	0.4599	0.0034	-0.6212	0.0305	0.9778	0.0853	-0.5111	0.0495
3	260.16	0.1938	-0.0601	0.0020	-0.0235	0.0009	0.0646	0.0029	-0.0993	0.0201
3	260.16	0.2357	-0.0215	0.0009	0.0221	0.0011	0.0483	0.0038	-0.4960	0.0399
3	260.16	0.2995	0.0207	0.0011	-0.0363	0.0033	0.2107	0.0092	-0.4464	0.0481
3	260.16	0.3493	0.0621	0.0011	-0.0586	0.0053	0.3318	0.0137	-0.4140	0.0454
3	260.16	0.4000	0.0851	0.0018	-0.0659	0.0082	0.5019	0.0212	-0.2421	0.0469
3	260.16	0.4497	0.1117	0.0019	-0.1152	0.0103	0.6502	0.0260	-0.3091	0.0424
3	260.16	0.4997	0.1453	0.0025	-0.1593	0.0131	0.7853	0.0311	-0.4313	0.0458
3	260.16	0.5556	0.1811	0.0022	-0.2091	0.0163	0.9816	0.0379	-0.3573	0.0440
3	260.16	0.5995	0.2220	0.0024	-0.2813	0.0194	1.0960	0.0438	-0.3828	0.0436
3	260.16	0.6498	0.2562	0.0023	-0.3524	0.0224	1.2264	0.0490	-0.4834	0.0452
3	260.16	0.6890	0.2676	0.0024	-0.4333	0.0253	1.2764	0.0545	-0.8989	0.0452
3	260.16	0.7495	0.3301	0.0022	-0.5185	0.0293	1.4717	0.0611	-0.5834	0.0444
3	260.16	0.7998	0.3787	0.0024	-0.6180	0.0329	1.5382	0.0665	-0.8153	0.0457
3	260.16	0.8577	0.4504	0.0025	-0.7091	0.0373	1.6542	0.0739	-0.6219	0.0483
3	260.16	0.9178	0.4406	0.0026	-0.8130	0.0421	1.7566	0.0814	-0.5455	0.0457
3	260.16	0.9729	0.4869	0.0037	-0.8875	0.0463	1.7663	0.0889	-1.0734	0.0437
4	260.16	0.2001	-0.0404	0.0013	0.0057	0.0007	-0.0022	0.0024	0.1725	0.0196
4	260.16	0.2502	0.0087	0.0009	0.0129	0.0017	0.0013	0.0050	0.2918	0.0309
4	260.16	0.3001	0.0228	0.0010	0.0179	0.0026	0.0048	0.0086	0.4024	0.0415
4	260.16	0.3502	0.0327	0.0007	0.0469	0.0050	0.0124	0.0139	0.3917	0.0344
4	260.16	0.4002	0.0632	0.0013	0.0622	0.0075	0.0242	0.0216	0.4331	0.0386
4	260.16	0.4500	0.0916	0.0016	0.0733	0.0092	0.0198	0.0256	0.2002	0.0381
4	260.16	0.5001	0.1283	0.0016	0.0614	0.0123	0.0622	0.0331	0.3913	0.0412
4	260.16	0.5560	0.1664	0.0016	0.0537	0.0152	0.0261	0.0410	0.1182	0.0364
4	260.16	0.6001	0.1986	0.0018	0.0463	0.0176	0.0484	0.0467	0.1777	0.0347
4	260.16	0.6501	0.2246	0.0018	-0.0046	0.0209	0.0063	0.0535	0.1591	0.0364
4	260.16	0.6999	0.2724	0.0019	-0.0525	0.0239	-0.0268	0.0596	0.1387	0.0373
4	260.16	0.7500	0.3028	0.0020	-0.0882	0.0276	-0.0538	0.0658	0.2668	0.0346
4	260.16	0.8002	0.3403	0.0021	-0.1419	0.0313	-0.1718	0.0712	0.0750	0.0343
4	260.16	0.8582	0.3901	0.0021	-0.1689	0.0356	-0.2425	0.0771	0.0329	0.0371
4	260.16	0.9101	0.4231	0.0023	-0.2209	0.0394	-0.3624	0.0821	0.0295	0.0404
4	260.16	0.9728	0.4888	0.0032	-0.2322	0.0445	-0.4482	0.0912	0.0105	0.0393

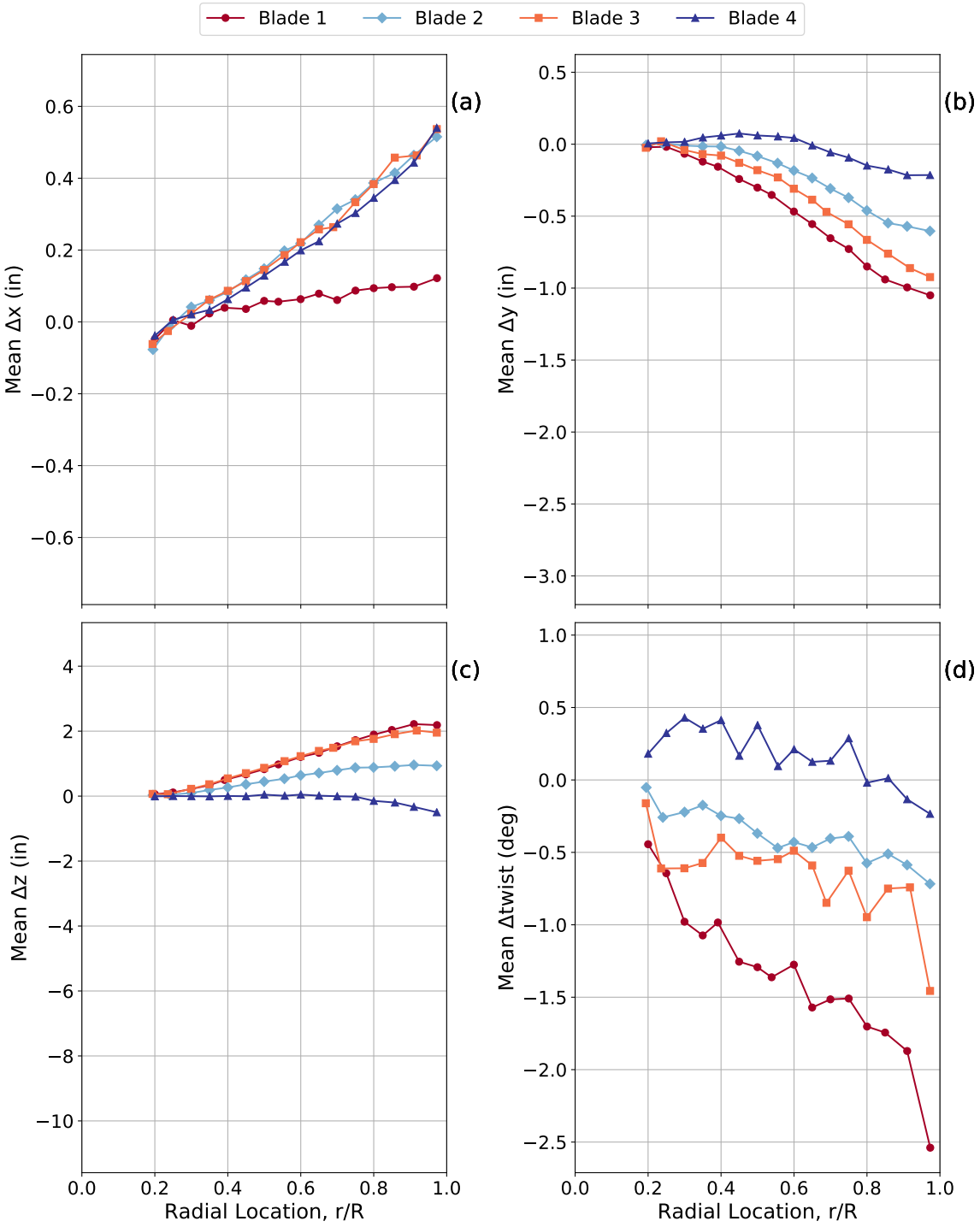


Figure 2.12-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-34. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	-0.0477	0.0039	-0.0206	0.0014	0.0598	0.0061	-0.4439	0.0355
1	265.08	0.2499	0.0047	0.0015	-0.0183	0.0021	0.1125	0.0084	-0.6443	0.0813
1	265.08	0.2998	-0.0110	0.0016	-0.0663	0.0053	0.2192	0.0186	-0.9788	0.0863
1	265.08	0.3498	0.0236	0.0023	-0.1209	0.0087	0.3383	0.0309	-1.0734	0.0758
1	265.08	0.3913	0.0394	0.0035	-0.1568	0.0124	0.4977	0.0417	-0.9841	0.0756
1	265.08	0.4496	0.0361	0.0044	-0.2418	0.0167	0.6692	0.0548	-1.2547	0.0793
1	265.08	0.4997	0.0586	0.0049	-0.3017	0.0201	0.8298	0.0677	-1.2927	0.0734
1	265.08	0.5387	0.0562	0.0051	-0.3527	0.0230	0.9760	0.0774	-1.3623	0.0741
1	265.08	0.5996	0.0633	0.0057	-0.4678	0.0278	1.2063	0.0934	-1.2753	0.0762
1	265.08	0.6498	0.0787	0.0063	-0.5551	0.0317	1.3326	0.1068	-1.5710	0.0722
1	265.08	0.6998	0.0609	0.0070	-0.6533	0.0358	1.5341	0.1196	-1.5147	0.0748
1	265.08	0.7500	0.0872	0.0081	-0.7282	0.0398	1.7240	0.1332	-1.5091	0.0727
1	265.08	0.8001	0.0939	0.0101	-0.8501	0.0437	1.8937	0.1460	-1.7024	0.0759
1	265.08	0.8497	0.0967	0.0127	-0.9397	0.0478	2.0361	0.1595	-1.7440	0.0756
1	265.08	0.9102	0.0980	0.0162	-0.9951	0.0527	2.2178	0.1748	-1.8713	0.0784
1	265.08	0.9734	0.1218	0.0218	-1.0501	0.0583	2.1873	0.1949	-2.5388	0.0913
2	265.08	0.1949	-0.0769	0.0020	-0.0058	0.0007	0.0280	0.0032	-0.0521	0.0199
2	265.08	0.2405	-0.0136	0.0013	0.0058	0.0013	0.0404	0.0043	-0.2584	0.0458
2	265.08	0.2999	0.0415	0.0012	-0.0096	0.0025	0.0963	0.0100	-0.2218	0.0522
2	265.08	0.3498	0.0602	0.0013	-0.0147	0.0045	0.1883	0.0174	-0.1743	0.0523
2	265.08	0.3998	0.0833	0.0017	-0.0162	0.0068	0.2668	0.0251	-0.2474	0.0516
2	265.08	0.4496	0.1175	0.0016	-0.0461	0.0086	0.3642	0.0331	-0.2673	0.0466
2	265.08	0.4995	0.1482	0.0017	-0.0825	0.0108	0.4478	0.0415	-0.3688	0.0493
2	265.08	0.5551	0.1979	0.0019	-0.1319	0.0132	0.5354	0.0520	-0.4699	0.0508
2	265.08	0.5996	0.2185	0.0018	-0.1832	0.0153	0.6394	0.0603	-0.4292	0.0518
2	265.08	0.6497	0.2695	0.0020	-0.2350	0.0178	0.7115	0.0695	-0.4659	0.0491
2	265.08	0.6996	0.3149	0.0020	-0.3083	0.0203	0.7946	0.0782	-0.4040	0.0511
2	265.08	0.7495	0.3404	0.0021	-0.3716	0.0229	0.8761	0.0874	-0.3899	0.0513
2	265.08	0.7996	0.3867	0.0021	-0.4610	0.0256	0.8840	0.0966	-0.5743	0.0481
2	265.08	0.8578	0.4147	0.0025	-0.5480	0.0289	0.9199	0.1060	-0.5105	0.0516
2	265.08	0.9100	0.4640	0.0023	-0.5708	0.0317	0.9601	0.1148	-0.5868	0.0493
2	265.08	0.9727	0.5153	0.0033	-0.6036	0.0354	0.9336	0.1254	-0.7176	0.0573
3	265.08	0.1938	-0.0616	0.0020	-0.0247	0.0008	0.0691	0.0035	-0.1609	0.0225
3	265.08	0.2357	-0.0253	0.0013	0.0203	0.0011	0.0592	0.0051	-0.6111	0.0475
3	265.08	0.2995	0.0228	0.0011	-0.0401	0.0028	0.2245	0.0110	-0.6098	0.0579
3	265.08	0.3493	0.0620	0.0012	-0.0687	0.0047	0.3652	0.0188	-0.5734	0.0526
3	265.08	0.4000	0.0866	0.0016	-0.0791	0.0073	0.5458	0.0278	-0.3988	0.0537
3	265.08	0.4497	0.1134	0.0019	-0.1295	0.0092	0.7070	0.0358	-0.5236	0.0619
3	265.08	0.4997	0.1446	0.0017	-0.1805	0.0116	0.8705	0.0431	-0.5582	0.0503
3	265.08	0.5556	0.1861	0.0019	-0.2308	0.0143	1.0770	0.0536	-0.5467	0.0515
3	265.08	0.5995	0.2218	0.0021	-0.3094	0.0168	1.2302	0.0605	-0.4885	0.0509
3	265.08	0.6498	0.2577	0.0022	-0.3857	0.0197	1.3918	0.0692	-0.5902	0.0578
3	265.08	0.6890	0.2637	0.0022	-0.4704	0.0219	1.4880	0.0757	-0.8482	0.0580
3	265.08	0.7495	0.3333	0.0025	-0.5565	0.0260	1.6888	0.0859	-0.6265	0.0553
3	265.08	0.7998	0.3837	0.0027	-0.6647	0.0292	1.7626	0.0928	-0.9474	0.0552
3	265.08	0.8577	0.4573	0.0030	-0.7607	0.0330	1.9079	0.1021	-0.7497	0.0570
3	265.08	0.9178	0.4635	0.0035	-0.8610	0.0377	2.0206	0.1113	-0.7416	0.0564
3	265.08	0.9729	0.5367	0.0045	-0.9233	0.0416	1.9547	0.1218	-1.4565	0.0557
4	265.08	0.2001	-0.0381	0.0014	0.0055	0.0008	-0.0070	0.0033	0.1810	0.0186
4	265.08	0.2502	0.0056	0.0014	0.0128	0.0014	0.0015	0.0046	0.3238	0.0317
4	265.08	0.3001	0.0208	0.0013	0.0164	0.0027	-0.0020	0.0098	0.4296	0.0393
4	265.08	0.3502	0.0337	0.0012	0.0464	0.0049	-0.0081	0.0171	0.3534	0.0394
4	265.08	0.4002	0.0633	0.0013	0.0600	0.0073	0.0043	0.0243	0.4129	0.0435
4	265.08	0.4500	0.0956	0.0016	0.0745	0.0096	-0.0038	0.0313	0.1669	0.0379
4	265.08	0.5001	0.1287	0.0017	0.0606	0.0123	0.0440	0.0397	0.3781	0.0392
4	265.08	0.5560	0.1674	0.0018	0.0537	0.0154	0.0111	0.0476	0.0952	0.0383
4	265.08	0.6001	0.1991	0.0019	0.0438	0.0183	0.0465	0.0544	0.2117	0.0367
4	265.08	0.6501	0.2245	0.0018	-0.0086	0.0217	0.0138	0.0617	0.1248	0.0372
4	265.08	0.6999	0.2734	0.0022	-0.0571	0.0255	-0.0043	0.0685	0.1326	0.0411
4	265.08	0.7500	0.3031	0.0022	-0.0937	0.0295	-0.0165	0.0745	0.2873	0.0387
4	265.08	0.8002	0.3453	0.0022	-0.1487	0.0338	-0.1462	0.0796	-0.0191	0.0405
4	265.08	0.8582	0.3949	0.0025	-0.1756	0.0390	-0.1985	0.0845	0.0121	0.0380
4	265.08	0.9101	0.4433	0.0026	-0.2155	0.0438	-0.3304	0.0889	-0.1334	0.0437
4	265.08	0.9728	0.5399	0.0038	-0.2144	0.0497	-0.4971	0.0947	-0.2341	0.0432

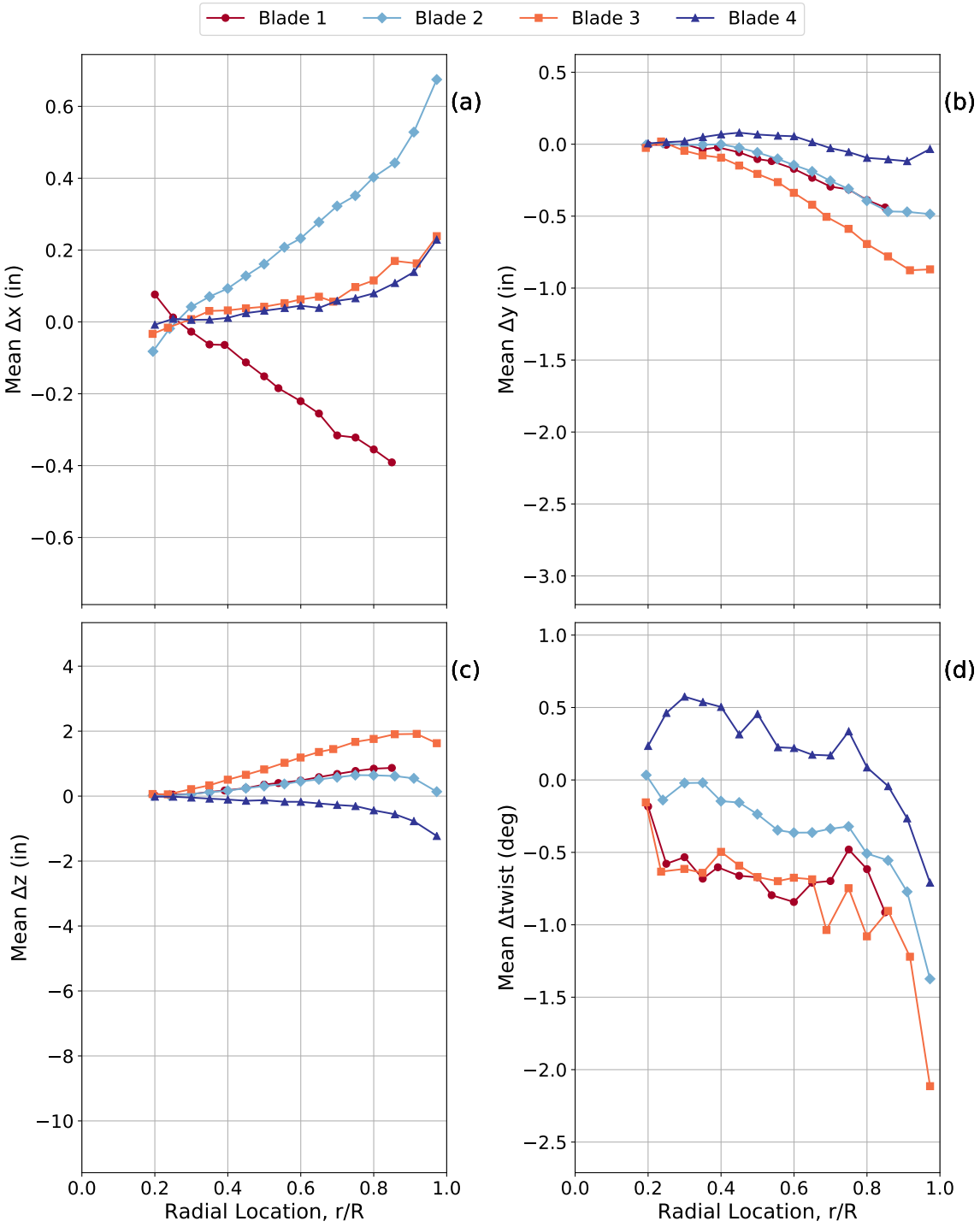


Figure 2.12-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-35. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	0.0763	0.0041	-0.0047	0.0032	0.0178	0.0061	-0.1832	0.0421
1	270	0.2499	0.0124	0.0020	-0.0043	0.0049	0.0470	0.0118	-0.5788	0.0453
1	270	0.2998	-0.0272	0.0038	0.0008	0.0125	0.0621	0.0255	-0.5334	0.0776
1	270	0.3498	-0.0629	0.0026	-0.0365	0.0197	0.1302	0.0280	-0.6815	0.0587
1	270	0.3913	-0.0641	0.0054	-0.0218	0.0284	0.1729	0.0491	-0.6029	0.0659
1	270	0.4496	-0.1127	0.0048	-0.0564	0.0377	0.2450	0.0623	-0.6615	0.0599
1	270	0.4997	-0.1515	0.0030	-0.1032	0.0426	0.3547	0.0728	-0.6723	0.0715
1	270	0.5387	-0.1845	0.0050	-0.1174	0.0495	0.4026	0.0812	-0.7956	0.0683
1	270	0.5996	-0.2206	0.0057	-0.1713	0.0604	0.4795	0.0984	-0.8427	0.0786
1	270	0.6498	-0.2550	0.0055	-0.2335	0.0677	0.5842	0.1156	-0.7095	0.0790
1	270	0.6998	-0.3159	0.0056	-0.2948	0.0752	0.6818	0.1260	-0.6978	0.0895
1	270	0.7500	-0.3219	0.0078	-0.3146	0.0852	0.7741	0.1412	-0.4805	0.0853
1	270	0.8001	-0.3550	0.0070	-0.3881	0.0914	0.8447	0.1510	-0.6160	0.1149
1	270	0.8497	-0.3910	0.0076	-0.4394	0.1014	0.8686	0.1656	-0.9139	0.1500
2	270.35	0.1949	-0.0821	0.0024	-0.0047	0.0010	0.0180	0.0044	0.0335	0.0254
2	270.35	0.2405	-0.0183	0.0018	0.0087	0.0012	0.0228	0.0049	-0.1387	0.0670
2	270.35	0.2999	0.0420	0.0014	-0.0050	0.0035	0.0615	0.0124	-0.0214	0.0706
2	270.35	0.3498	0.0704	0.0015	-0.0036	0.0060	0.1197	0.0211	-0.0196	0.0685
2	270.35	0.3998	0.0930	0.0020	-0.0007	0.0088	0.1694	0.0300	-0.1462	0.0694
2	270.35	0.4496	0.1280	0.0023	-0.0248	0.0110	0.2425	0.0363	-0.1559	0.0701
2	270.35	0.4995	0.1610	0.0026	-0.0574	0.0140	0.3094	0.0447	-0.2363	0.0722
2	270.35	0.5551	0.2079	0.0025	-0.1019	0.0175	0.3737	0.0543	-0.3467	0.0722
2	270.35	0.5996	0.2324	0.0026	-0.1447	0.0207	0.4534	0.0623	-0.3641	0.0687
2	270.35	0.6497	0.2778	0.0026	-0.1892	0.0241	0.5151	0.0718	-0.3631	0.0670
2	270.35	0.6996	0.3224	0.0026	-0.2549	0.0279	0.5801	0.0812	-0.3369	0.0677
2	270.35	0.7495	0.3514	0.0025	-0.3102	0.0318	0.6464	0.0907	-0.3215	0.0746
2	270.35	0.7996	0.4026	0.0026	-0.3930	0.0360	0.6417	0.1015	-0.5080	0.0673
2	270.35	0.8578	0.4425	0.0029	-0.4671	0.0411	0.6184	0.1134	-0.5554	0.0728
2	270.35	0.9100	0.5283	0.0030	-0.4700	0.0457	0.5467	0.1257	-0.7718	0.0671
2	270.35	0.9727	0.6747	0.0050	-0.4856	0.0518	0.1370	0.1379	-1.3734	0.0794
3	270	0.1938	-0.0333	0.0025	-0.0257	0.0009	0.0653	0.0039	-0.1548	0.0282
3	270	0.2357	-0.0160	0.0015	0.0187	0.0015	0.0546	0.0068	-0.6330	0.0530
3	270	0.2995	0.0078	0.0015	-0.0456	0.0036	0.2142	0.0119	-0.6142	0.0631
3	270	0.3493	0.0305	0.0017	-0.0773	0.0057	0.3325	0.0198	-0.6414	0.0561
3	270	0.4000	0.0320	0.0019	-0.0935	0.0090	0.5058	0.0306	-0.4965	0.0541
3	270	0.4497	0.0379	0.0022	-0.1483	0.0112	0.6574	0.0368	-0.5917	0.0579
3	270	0.4997	0.0422	0.0022	-0.2064	0.0134	0.8219	0.0457	-0.6704	0.0551
3	270	0.5556	0.0522	0.0022	-0.2635	0.0165	1.0265	0.0550	-0.6987	0.0586
3	270	0.5995	0.0626	0.0023	-0.3378	0.0192	1.1884	0.0631	-0.6751	0.0576
3	270	0.6498	0.0701	0.0024	-0.4205	0.0220	1.3587	0.0718	-0.6860	0.0590
3	270	0.6890	0.0564	0.0025	-0.5046	0.0246	1.4489	0.0784	-1.0359	0.0601
3	270	0.7495	0.0971	0.0027	-0.5882	0.0284	1.6701	0.0892	-0.7475	0.0631
3	270	0.7998	0.1154	0.0027	-0.6935	0.0318	1.7607	0.0980	-1.0798	0.0597
3	270	0.8577	0.1697	0.0030	-0.7800	0.0360	1.9054	0.1093	-0.9037	0.0655
3	270	0.9178	0.1628	0.0032	-0.8761	0.0401	1.9158	0.1202	-1.2206	0.0707
3	270	0.9729	0.2387	0.0051	-0.8697	0.0449	1.6297	0.1304	-2.1140	0.1198
4	270	0.2001	-0.0079	0.0032	0.0056	0.0008	-0.0170	0.0035	0.2346	0.0293
4	270	0.2502	0.0086	0.0018	0.0144	0.0019	-0.0182	0.0053	0.4626	0.0551
4	270	0.3001	0.0057	0.0015	0.0202	0.0034	-0.0449	0.0118	0.5749	0.0655
4	270	0.3502	0.0063	0.0025	0.0494	0.0048	-0.0776	0.0163	0.5373	0.0503
4	270	0.4002	0.0113	0.0033	0.0682	0.0082	-0.1061	0.0260	0.5038	0.0631
4	270	0.4500	0.0245	0.0040	0.0802	0.0105	-0.1429	0.0335	0.3143	0.0620
4	270	0.5001	0.0311	0.0041	0.0671	0.0128	-0.1256	0.0402	0.4549	0.0596
4	270	0.5560	0.0387	0.0040	0.0590	0.0166	-0.1744	0.0509	0.2255	0.0555
4	270	0.6001	0.0452	0.0038	0.0552	0.0193	-0.1753	0.0591	0.2202	0.0592
4	270	0.6501	0.0390	0.0035	0.0139	0.0227	-0.2254	0.0687	0.1738	0.0589
4	270	0.6999	0.0587	0.0033	-0.0274	0.0261	-0.2723	0.0784	0.1689	0.0636
4	270	0.7500	0.0658	0.0041	-0.0545	0.0301	-0.3072	0.0889	0.3350	0.0632
4	270	0.8002	0.0796	0.0054	-0.0949	0.0342	-0.4380	0.0995	0.0861	0.0661
4	270	0.8582	0.1082	0.0075	-0.1059	0.0393	-0.5588	0.1126	-0.0434	0.0659
4	270	0.9101	0.1390	0.0099	-0.1179	0.0436	-0.7728	0.1249	-0.2653	0.0640
4	270	0.9728	0.2288	0.0137	-0.0335	0.0495	-1.2274	0.1415	-0.7094	0.0866

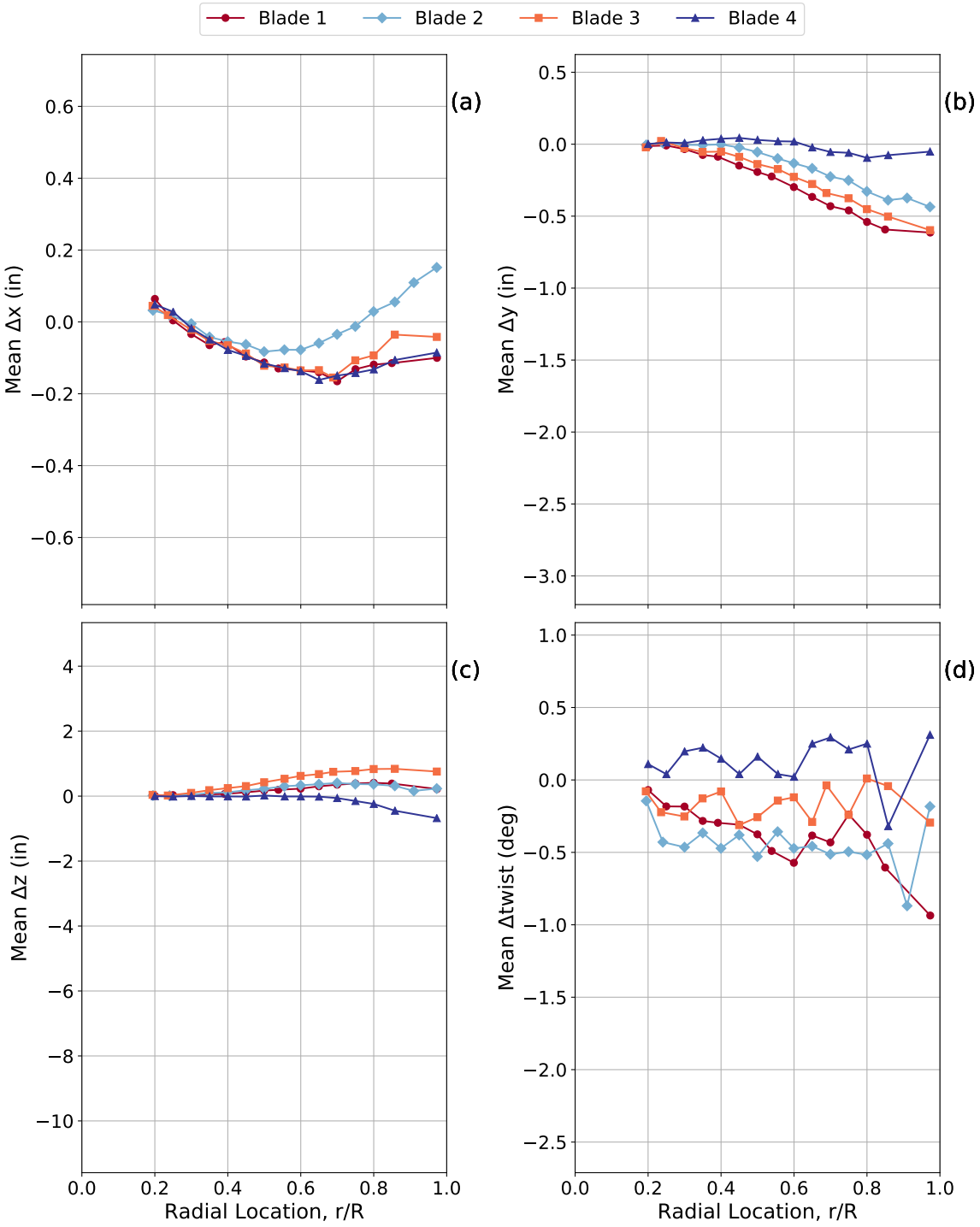


Figure 2.12-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-36. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0641	0.0019	-0.0127	0.0014	0.0082	0.0050	-0.0696	0.0254
1	274.92	0.2499	0.0042	0.0009	-0.0091	0.0025	0.0310	0.0094	-0.1826	0.0381
1	274.92	0.2998	-0.0337	0.0014	-0.0339	0.0049	0.0214	0.0154	-0.1837	0.0548
1	274.92	0.3498	-0.0647	0.0019	-0.0748	0.0104	0.0541	0.0320	-0.2829	0.0420
1	274.92	0.3913	-0.0561	0.0049	-0.0869	0.0133	0.0674	0.0405	-0.2958	0.0545
1	274.92	0.4496	-0.0964	0.0022	-0.1485	0.0142	0.1158	0.0417	-0.3089	0.0528
1	274.92	0.4997	-0.1128	0.0025	-0.1927	0.0182	0.1703	0.0545	-0.3757	0.0478
1	274.92	0.5387	-0.1296	0.0021	-0.2243	0.0200	0.1953	0.0629	-0.4903	0.0491
1	274.92	0.5996	-0.1350	0.0023	-0.2980	0.0236	0.2294	0.0735	-0.5721	0.0532
1	274.92	0.6498	-0.1402	0.0029	-0.3663	0.0265	0.3021	0.0828	-0.3835	0.0653
1	274.92	0.6998	-0.1653	0.0028	-0.4306	0.0298	0.3517	0.0984	-0.4312	0.0861
1	274.92	0.7500	-0.1316	0.0029	-0.4603	0.0333	0.3881	0.1082	-0.2385	0.0681
1	274.92	0.8001	-0.1189	0.0028	-0.5404	0.0364	0.4095	0.1230	-0.3782	0.0707
1	274.92	0.8497	-0.1147	0.0034	-0.5928	0.0402	0.3871	0.1359	-0.6048	0.0684
1	274.92	0.9734	-0.1001	0.0087	-0.6140	0.0495	0.2181	0.1648	-0.9359	0.1953
2	274.92	0.1949	0.0323	0.0050	-0.0048	0.0008	0.0178	0.0033	-0.1450	0.0519
2	274.92	0.2405	0.0192	0.0016	0.0087	0.0026	0.0125	0.0110	-0.4293	0.0456
2	274.92	0.2999	-0.0049	0.0025	-0.0044	0.0042	0.0402	0.0144	-0.4641	0.0981
2	274.92	0.3498	-0.0420	0.0059	-0.0054	0.0073	0.0974	0.0243	-0.3657	0.1034
2	274.92	0.3998	-0.0547	0.0073	-0.0015	0.0119	0.1177	0.0391	-0.4717	0.0613
2	274.92	0.4496	-0.0627	0.0094	-0.0231	0.0149	0.1806	0.0490	-0.3800	0.0732
2	274.92	0.4995	-0.0828	0.0106	-0.0545	0.0193	0.2250	0.0595	-0.5288	0.0744
2	274.92	0.5551	-0.0776	0.0094	-0.0994	0.0232	0.3023	0.0699	-0.3574	0.0840
2	274.92	0.5996	-0.0777	0.0093	-0.1323	0.0272	0.3319	0.0797	-0.4722	0.0776
2	274.92	0.6497	-0.0592	0.0091	-0.1680	0.0316	0.3679	0.0906	-0.4575	0.0942
2	274.92	0.6996	-0.0346	0.0112	-0.2253	0.0363	0.4044	0.0999	-0.5131	0.0996
2	274.92	0.7495	-0.0126	0.0149	-0.2512	0.0423	0.3710	0.1143	-0.4952	0.1030
2	274.92	0.7996	0.0288	0.0220	-0.3282	0.0472	0.3641	0.1239	-0.5168	0.0950
2	274.92	0.8578	0.0555	0.0314	-0.3887	0.0530	0.3164	0.1361	-0.4391	0.0962
2	274.92	0.9100	0.1094	0.0439	-0.3741	0.0594	0.1608	0.1511	-0.8692	0.1885
2	274.92	0.9727	0.1516	0.0634	-0.4355	0.0716	0.2325	0.1648	-0.1832	0.1947
3	274.92	0.1938	0.0448	0.0037	-0.0217	0.0012	0.0396	0.0053	-0.0785	0.0325
3	274.92	0.2357	0.0191	0.0026	0.0222	0.0013	0.0180	0.0084	-0.2228	0.0681
3	274.92	0.2995	-0.0221	0.0018	-0.0271	0.0040	0.0993	0.0206	-0.2522	0.0870
3	274.92	0.3493	-0.0529	0.0013	-0.0536	0.0069	0.1835	0.0321	-0.1274	0.0810
3	274.92	0.4000	-0.0650	0.0018	-0.0517	0.0102	0.2468	0.0509	-0.0796	0.0673
3	274.92	0.4497	-0.0879	0.0026	-0.0882	0.0126	0.3087	0.0621	-0.3117	0.0678
3	274.92	0.4997	-0.1220	0.0021	-0.1381	0.0155	0.4269	0.0737	-0.2569	0.0757
3	274.92	0.5556	-0.1268	0.0024	-0.1727	0.0186	0.5343	0.0889	-0.1422	0.0727
3	274.92	0.5995	-0.1350	0.0025	-0.2268	0.0220	0.6224	0.1038	-0.1199	0.0772
3	274.92	0.6498	-0.1344	0.0032	-0.2765	0.0250	0.6777	0.1146	-0.2898	0.1054
3	274.92	0.6890	-0.1548	0.0032	-0.3391	0.0275	0.7482	0.1246	-0.0370	0.1113
3	274.92	0.7495	-0.1069	0.0030	-0.3756	0.0318	0.7722	0.1464	-0.2409	0.0907
3	274.92	0.7998	-0.0932	0.0034	-0.4512	0.0355	0.8336	0.1616	0.0100	0.0865
3	274.92	0.8577	-0.0354	0.0053	-0.5025	0.0408	0.8403	0.1811	-0.0426	0.1516
3	274.92	0.9729	-0.0418	0.0125	-0.5973	0.0496	0.7567	0.2355	-0.2942	0.3255
4	274.92	0.2001	0.0484	0.0047	0.0015	0.0007	0.0007	0.0027	0.1094	0.0267
4	274.92	0.2502	0.0281	0.0023	0.0120	0.0022	-0.0134	0.0067	0.0400	0.0486
4	274.92	0.3001	-0.0177	0.0017	0.0080	0.0029	0.0027	0.0100	0.1971	0.0502
4	274.92	0.3502	-0.0491	0.0038	0.0274	0.0057	-0.0094	0.0157	0.2228	0.0397
4	274.92	0.4002	-0.0781	0.0071	0.0378	0.0086	-0.0099	0.0256	0.1468	0.0445
4	274.92	0.4500	-0.0945	0.0068	0.0438	0.0113	-0.0135	0.0312	0.0402	0.0453
4	274.92	0.5001	-0.1162	0.0076	0.0299	0.0138	0.0183	0.0373	0.1607	0.0511
4	274.92	0.5560	-0.1287	0.0079	0.0205	0.0169	-0.0108	0.0459	0.0399	0.0558
4	274.92	0.6001	-0.1373	0.0074	0.0186	0.0200	-0.0108	0.0549	0.0217	0.0419
4	274.92	0.6501	-0.1615	0.0080	-0.0223	0.0233	-0.0157	0.0618	0.2505	0.0645
4	274.92	0.6999	-0.1495	0.0072	-0.0540	0.0275	-0.0602	0.0695	0.2933	0.0737
4	274.92	0.7500	-0.1422	0.0079	-0.0598	0.0311	-0.1508	0.0789	0.2101	0.0984
4	274.92	0.8002	-0.1322	0.0109	-0.0948	0.0350	-0.2410	0.0852	0.2505	0.0885
4	274.92	0.8582	-0.1060	0.0171	-0.0764	0.0401	-0.4501	0.1002	-0.3192	0.1152
4	274.92	0.9728	-0.0855	0.0365	-0.0516	0.0506	-0.6775	0.1314	0.3112	0.1875

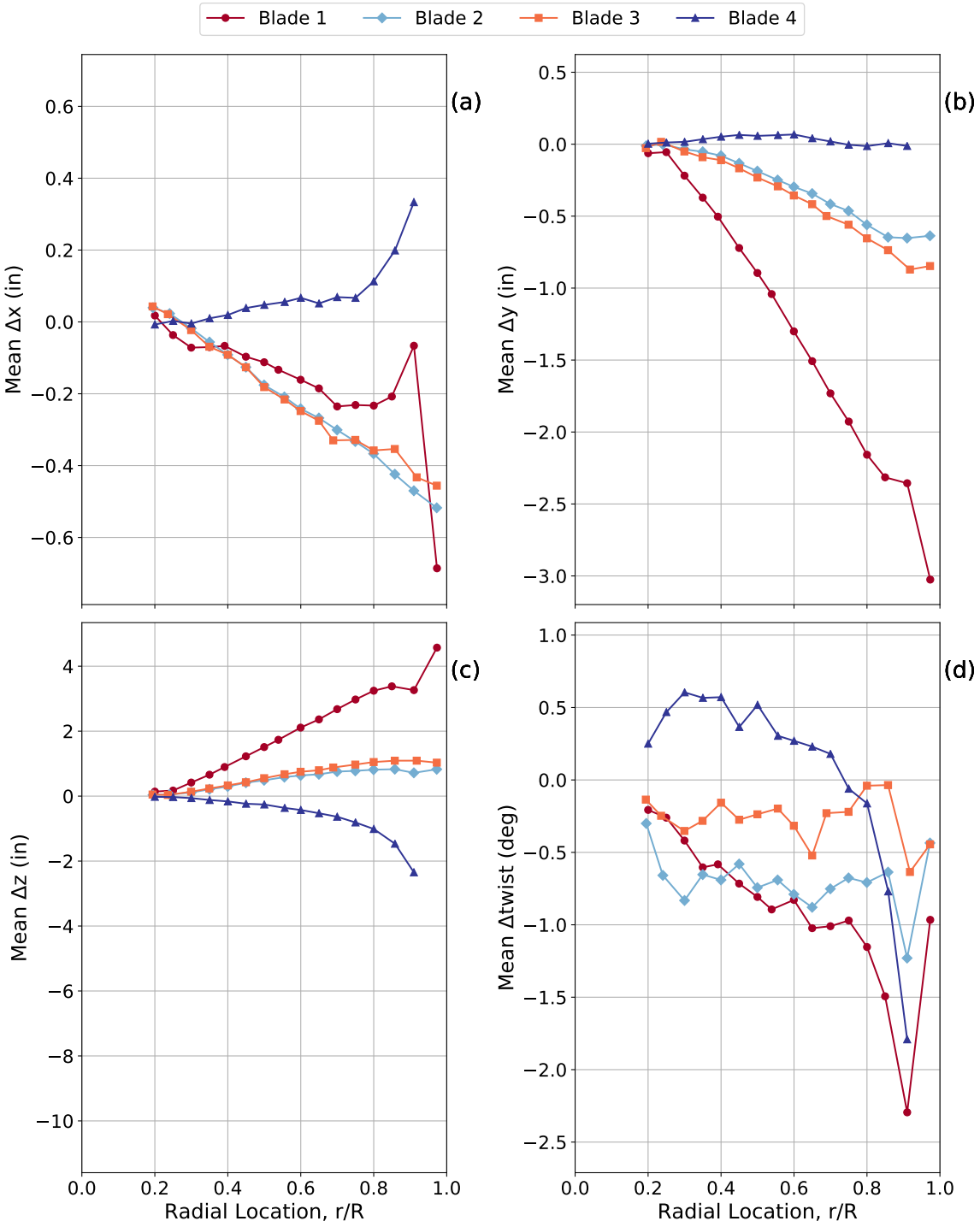


Figure 2.12-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-37. 280° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0177	0.0035	-0.0626	0.0017	0.1399	0.0044	-0.2068	0.0378
1	279.84	0.2499	-0.0366	0.0018	-0.0551	0.0028	0.1718	0.0078	-0.2605	0.0537
1	279.84	0.2998	-0.0716	0.0022	-0.2187	0.0057	0.4178	0.0128	-0.4184	0.0790
1	279.84	0.3498	-0.0702	0.0024	-0.3713	0.0102	0.6600	0.0230	-0.6035	0.0528
1	279.84	0.3913	-0.0667	0.0026	-0.5036	0.0138	0.8958	0.0300	-0.5826	0.0624
1	279.84	0.4496	-0.0969	0.0028	-0.7211	0.0184	1.2259	0.0391	-0.7157	0.0539
1	279.84	0.4997	-0.1122	0.0031	-0.8948	0.0221	1.5104	0.0477	-0.8077	0.0562
1	279.84	0.5387	-0.1332	0.0033	-1.0414	0.0256	1.7342	0.0543	-0.8940	0.0547
1	279.84	0.5996	-0.1610	0.0037	-1.3006	0.0306	2.1094	0.0652	-0.8282	0.0563
1	279.84	0.6498	-0.1851	0.0041	-1.5076	0.0346	2.3623	0.0747	-1.0233	0.0594
1	279.84	0.6998	-0.2353	0.0039	-1.7314	0.0386	2.6772	0.0833	-1.0098	0.0589
1	279.84	0.7500	-0.2313	0.0045	-1.9273	0.0428	2.9749	0.0940	-0.9705	0.0596
1	279.84	0.8001	-0.2330	0.0049	-2.1579	0.0472	3.2456	0.1041	-1.1534	0.0650
1	279.84	0.8497	-0.2077	0.0051	-2.3149	0.0516	3.3805	0.1163	-1.4937	0.0597
1	279.84	0.9102	-0.0664	0.0062	-2.3558	0.0583	3.2634	0.1331	-2.2948	0.0795
1	279.84	0.9734	-0.6858	0.0123	-3.0254	0.0734	4.5717	0.1805	-0.9657	0.3940
2	279.84	0.1949	0.0395	0.0027	-0.0110	0.0013	0.0350	0.0030	-0.3003	0.0533
2	279.84	0.2405	0.0232	0.0016	-0.0011	0.0026	0.0489	0.0078	-0.6587	0.0637
2	279.84	0.2999	-0.0179	0.0021	-0.0357	0.0057	0.1111	0.0111	-0.8320	0.1159
2	279.84	0.3498	-0.0561	0.0021	-0.0525	0.0090	0.2103	0.0224	-0.6532	0.0710
2	279.84	0.3998	-0.0915	0.0019	-0.0799	0.0144	0.2950	0.0319	-0.6904	0.0717
2	279.84	0.4496	-0.1259	0.0043	-0.1326	0.0195	0.4131	0.0378	-0.5803	0.0815
2	279.84	0.4995	-0.1757	0.0029	-0.1868	0.0224	0.4870	0.0434	-0.7435	0.0902
2	279.84	0.5551	-0.2089	0.0032	-0.2489	0.0268	0.5846	0.0526	-0.6905	0.0779
2	279.84	0.5996	-0.2417	0.0036	-0.2964	0.0317	0.6366	0.0600	-0.7894	0.0942
2	279.84	0.6497	-0.2675	0.0036	-0.3429	0.0348	0.6717	0.0705	-0.8792	0.0936
2	279.84	0.6996	-0.3007	0.0038	-0.4160	0.0392	0.7551	0.0810	-0.7517	0.0979
2	279.84	0.7495	-0.3329	0.0039	-0.4636	0.0433	0.7779	0.0934	-0.6763	0.0876
2	279.84	0.7996	-0.3669	0.0051	-0.5600	0.0488	0.8133	0.1049	-0.7080	0.0889
2	279.84	0.8578	-0.4239	0.0045	-0.6463	0.0531	0.8294	0.1174	-0.6363	0.1140
2	279.84	0.9100	-0.4700	0.0055	-0.6526	0.0588	0.7170	0.1285	-1.2299	0.1474
2	279.84	0.9727	-0.5175	0.0068	-0.6366	0.0663	0.8263	0.1479	-0.4352	0.1436
3	279.84	0.1938	0.0431	0.0039	-0.0270	0.0017	0.0488	0.0068	-0.1358	0.0622
3	279.84	0.2357	0.0215	0.0019	0.0164	0.0039	0.0357	0.0114	-0.2473	0.0763
3	279.84	0.2995	-0.0228	0.0021	-0.0506	0.0093	0.1354	0.0240	-0.3522	0.1395
3	279.84	0.3493	-0.0690	0.0040	-0.0904	0.0158	0.2349	0.0431	-0.2823	0.1053
3	279.84	0.4000	-0.0914	0.0032	-0.1111	0.0251	0.3301	0.0631	-0.1571	0.0922
3	279.84	0.4497	-0.1263	0.0030	-0.1675	0.0296	0.4266	0.0802	-0.2747	0.0768
3	279.84	0.4997	-0.1815	0.0029	-0.2316	0.0354	0.5524	0.0914	-0.2372	0.0928
3	279.84	0.5556	-0.2159	0.0038	-0.2930	0.0433	0.6732	0.1111	-0.1976	0.0767
3	279.84	0.5995	-0.2481	0.0050	-0.3562	0.0484	0.7495	0.1225	-0.3162	0.1132
3	279.84	0.6498	-0.2752	0.0046	-0.4171	0.0543	0.7963	0.1387	-0.5214	0.1284
3	279.84	0.6890	-0.3297	0.0050	-0.4990	0.0592	0.8811	0.1533	-0.2293	0.1263
3	279.84	0.7495	-0.3285	0.0045	-0.5594	0.0665	0.9714	0.1720	-0.2202	0.1112
3	279.84	0.7998	-0.3577	0.0047	-0.6540	0.0732	1.0490	0.1885	-0.0397	0.1014
3	279.84	0.8577	-0.3537	0.0058	-0.7364	0.0807	1.0911	0.2032	-0.0355	0.1445
3	279.84	0.9178	-0.4326	0.0095	-0.8710	0.0873	1.0918	0.2223	-0.6353	0.1817
3	279.84	0.9729	-0.4558	0.0101	-0.8466	0.0962	1.0305	0.2445	-0.4446	0.1834
4	279.84	0.2001	-0.0073	0.0026	0.0034	0.0014	-0.0217	0.0067	0.2504	0.0513
4	279.84	0.2502	0.0027	0.0038	0.0117	0.0023	-0.0292	0.0097	0.4684	0.0965
4	279.84	0.3001	-0.0046	0.0026	0.0162	0.0041	-0.0610	0.0178	0.6047	0.1088
4	279.84	0.3502	0.0100	0.0023	0.0348	0.0078	-0.1196	0.0281	0.5666	0.1026
4	279.84	0.4002	0.0193	0.0025	0.0521	0.0108	-0.1629	0.0408	0.5714	0.1013
4	279.84	0.4500	0.0386	0.0026	0.0646	0.0139	-0.2351	0.0488	0.3654	0.1050
4	279.84	0.5001	0.0474	0.0024	0.0579	0.0172	-0.2579	0.0582	0.5178	0.0990
4	279.84	0.5560	0.0555	0.0024	0.0631	0.0208	-0.3636	0.0692	0.3046	0.0978
4	279.84	0.6001	0.0670	0.0025	0.0676	0.0240	-0.4271	0.0788	0.2700	0.0937
4	279.84	0.6501	0.0514	0.0025	0.0415	0.0276	-0.5279	0.0883	0.2298	0.0953
4	279.84	0.6999	0.0690	0.0026	0.0190	0.0312	-0.6351	0.0966	0.1797	0.1023
4	279.84	0.7500	0.0669	0.0028	-0.0041	0.0353	-0.8108	0.1065	-0.0605	0.1002
4	279.84	0.8002	0.1129	0.0027	-0.0132	0.0392	-1.0124	0.1164	-0.1621	0.1050
4	279.84	0.8582	0.1988	0.0030	0.0069	0.0442	-1.4660	0.1269	-0.7694	0.0994
4	279.84	0.9101	0.3332	0.0042	-0.0122	0.0490	-2.3468	0.1373	-1.7908	0.1176

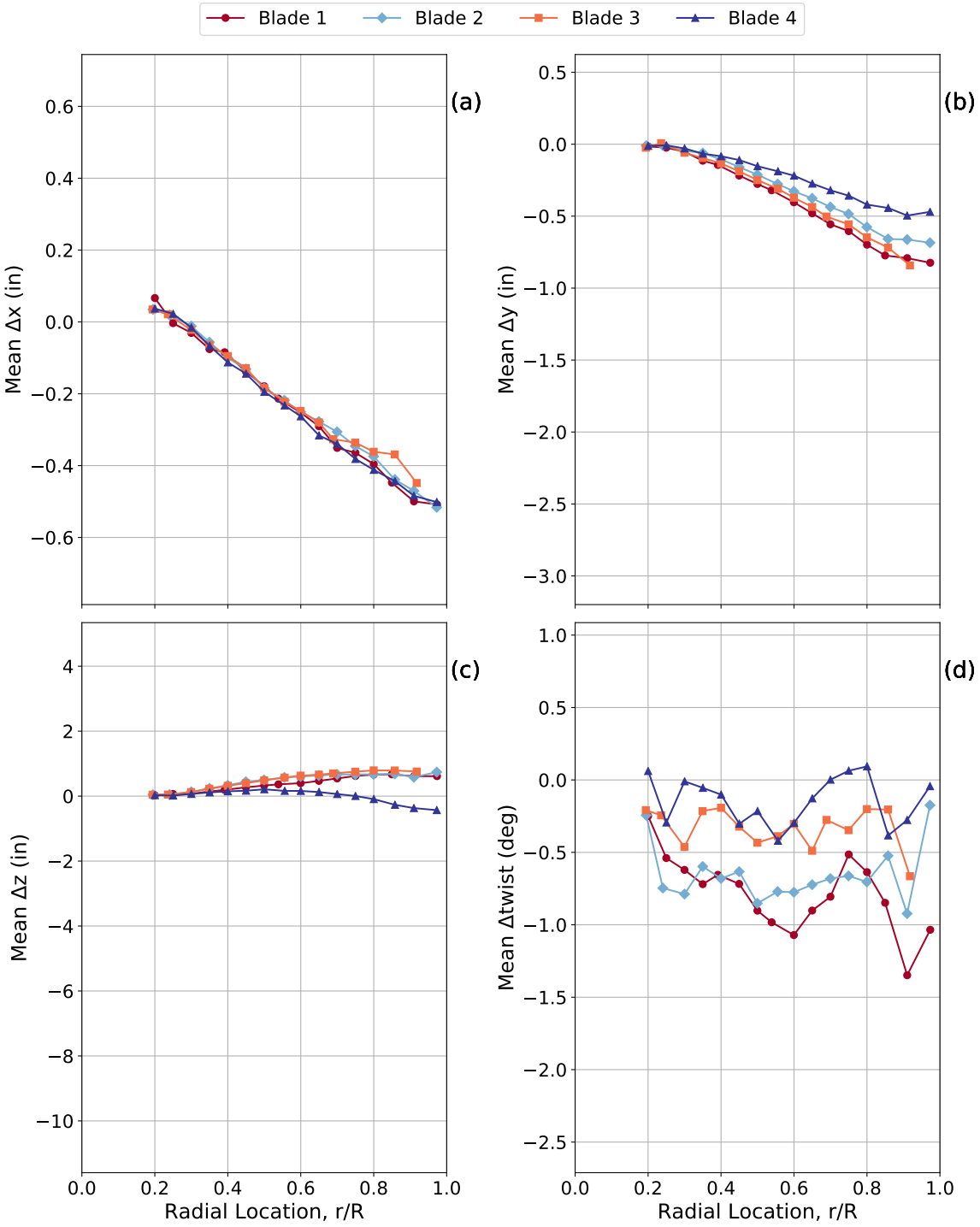


Figure 2.12-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-38. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0665	0.0020	-0.0157	0.0014	0.0230	0.0037	-0.2488	0.0338
1	285.12	0.2499	-0.0035	0.0025	-0.0242	0.0041	0.0666	0.0094	-0.5392	0.0605
1	285.12	0.2998	-0.0307	0.0014	-0.0521	0.0072	0.0708	0.0160	-0.6209	0.0748
1	285.12	0.3498	-0.0757	0.0026	-0.1147	0.0113	0.1437	0.0259	-0.7195	0.0819
1	285.12	0.3913	-0.0844	0.0031	-0.1441	0.0179	0.1911	0.0390	-0.6549	0.0505
1	285.12	0.4496	-0.1381	0.0028	-0.2179	0.0210	0.2703	0.0485	-0.7176	0.0658
1	285.12	0.4997	-0.1789	0.0028	-0.2763	0.0257	0.3257	0.0593	-0.9023	0.0766
1	285.12	0.5387	-0.2135	0.0030	-0.3203	0.0288	0.3627	0.0688	-0.9826	0.0668
1	285.12	0.5996	-0.2523	0.0023	-0.4037	0.0342	0.3977	0.0857	-1.0709	0.0698
1	285.12	0.6498	-0.2903	0.0027	-0.4804	0.0393	0.4686	0.0975	-0.9017	0.0666
1	285.12	0.6998	-0.3507	0.0027	-0.5565	0.0440	0.5452	0.1104	-0.8061	0.0579
1	285.12	0.7500	-0.3643	0.0032	-0.6041	0.0494	0.6201	0.1227	-0.5144	0.0585
1	285.12	0.8001	-0.3958	0.0025	-0.6982	0.0549	0.6631	0.1355	-0.6365	0.0633
1	285.12	0.8497	-0.4475	0.0031	-0.7732	0.0601	0.6703	0.1462	-0.8481	0.0734
1	285.12	0.9102	-0.4996	0.0046	-0.7918	0.0663	0.6120	0.1634	-1.3482	0.0835
1	285.12	0.9734	-0.5081	0.0052	-0.8238	0.0723	0.6155	0.1798	-1.0345	0.0819
2	285.12	0.1949	0.0348	0.0021	-0.0099	0.0008	0.0436	0.0026	-0.2433	0.0219
2	285.12	0.2405	0.0189	0.0029	-0.0089	0.0033	0.0480	0.0052	-0.7466	0.0417
2	285.12	0.2999	-0.0117	0.0014	-0.0460	0.0068	0.1319	0.0121	-0.7879	0.0489
2	285.12	0.3498	-0.0565	0.0027	-0.0616	0.0068	0.2380	0.0140	-0.5975	0.0594
2	285.12	0.3998	-0.1000	0.0019	-0.1055	0.0137	0.3341	0.0249	-0.6803	0.0713
2	285.12	0.4496	-0.1314	0.0020	-0.1588	0.0184	0.4429	0.0316	-0.6332	0.0556
2	285.12	0.4995	-0.1840	0.0028	-0.2122	0.0204	0.4988	0.0348	-0.8516	0.0584
2	285.12	0.5551	-0.2182	0.0034	-0.2767	0.0258	0.5739	0.0433	-0.7710	0.0505
2	285.12	0.5996	-0.2506	0.0031	-0.3274	0.0294	0.6045	0.0482	-0.7752	0.0449
2	285.12	0.6497	-0.2774	0.0030	-0.3762	0.0339	0.6358	0.0559	-0.7230	0.0627
2	285.12	0.6996	-0.3060	0.0030	-0.4361	0.0382	0.6684	0.0635	-0.6810	0.0533
2	285.12	0.7495	-0.3454	0.0031	-0.4848	0.0422	0.6662	0.0686	-0.6622	0.0560
2	285.12	0.7996	-0.3743	0.0029	-0.5756	0.0468	0.6718	0.0758	-0.7037	0.0654
2	285.12	0.8578	-0.4387	0.0034	-0.6584	0.0518	0.6831	0.0846	-0.5234	0.0886
2	285.12	0.9100	-0.4703	0.0036	-0.6624	0.0579	0.5816	0.0933	-0.9228	0.0695
2	285.12	0.9727	-0.5161	0.0075	-0.6845	0.0709	0.7399	0.1363	-0.1742	0.2838
3	285.12	0.1938	0.0347	0.0030	-0.0242	0.0011	0.0422	0.0032	-0.2087	0.0573
3	285.12	0.2357	0.0212	0.0016	0.0070	0.0029	0.0470	0.0096	-0.2442	0.0562
3	285.12	0.2995	-0.0224	0.0019	-0.0593	0.0052	0.1235	0.0105	-0.4626	0.1201
3	285.12	0.3493	-0.0643	0.0024	-0.0958	0.0069	0.2280	0.0253	-0.2151	0.0778
3	285.12	0.4000	-0.0949	0.0043	-0.1335	0.0125	0.3184	0.0341	-0.1921	0.0983
3	285.12	0.4497	-0.1288	0.0043	-0.1884	0.0143	0.3978	0.0388	-0.3223	0.0908
3	285.12	0.4997	-0.1840	0.0069	-0.2495	0.0185	0.4848	0.0493	-0.4333	0.0704
3	285.12	0.5556	-0.2222	0.0042	-0.3096	0.0216	0.5712	0.0584	-0.3882	0.0873
3	285.12	0.5995	-0.2478	0.0046	-0.3716	0.0242	0.6297	0.0643	-0.3036	0.0940
3	285.12	0.6498	-0.2797	0.0043	-0.4359	0.0276	0.6616	0.0730	-0.4888	0.0784
3	285.12	0.6890	-0.3265	0.0048	-0.5026	0.0306	0.6990	0.0799	-0.2761	0.1090
3	285.12	0.7495	-0.3359	0.0046	-0.5568	0.0349	0.7522	0.0927	-0.3468	0.0816
3	285.12	0.7998	-0.3614	0.0049	-0.6467	0.0388	0.7917	0.1037	-0.2012	0.0814
3	285.12	0.8577	-0.3689	0.0051	-0.7182	0.0432	0.7894	0.1121	-0.2042	0.0950
3	285.12	0.9178	-0.4484	0.0053	-0.8419	0.0482	0.7564	0.1238	-0.6646	0.1151
4	285.12	0.2001	0.0370	0.0033	-0.0116	0.0018	0.0289	0.0037	0.0615	0.0296
4	285.12	0.2502	0.0225	0.0016	-0.0077	0.0044	0.0163	0.0074	-0.2941	0.0578
4	285.12	0.3001	-0.0157	0.0025	-0.0297	0.0076	0.0669	0.0100	-0.0098	0.0690
4	285.12	0.3502	-0.0669	0.0039	-0.0657	0.0131	0.1147	0.0191	-0.0548	0.0527
4	285.12	0.4002	-0.1128	0.0035	-0.0836	0.0206	0.1478	0.0266	-0.1014	0.0542
4	285.12	0.4500	-0.1442	0.0027	-0.1103	0.0227	0.1664	0.0312	-0.3026	0.0543
4	285.12	0.5001	-0.1946	0.0052	-0.1531	0.0286	0.2099	0.0407	-0.2152	0.0614
4	285.12	0.5560	-0.2326	0.0030	-0.1885	0.0338	0.1613	0.0473	-0.4202	0.0603
4	285.12	0.6001	-0.2629	0.0024	-0.2187	0.0380	0.1595	0.0535	-0.2958	0.0688
4	285.12	0.6501	-0.3161	0.0034	-0.2740	0.0427	0.1248	0.0606	-0.1272	0.0591
4	285.12	0.6999	-0.3396	0.0030	-0.3203	0.0470	0.0633	0.0680	0.0017	0.0600
4	285.12	0.7500	-0.3815	0.0038	-0.3578	0.0520	0.0032	0.0776	0.0636	0.0626
4	285.12	0.8002	-0.4119	0.0037	-0.4196	0.0565	-0.0930	0.0845	0.0934	0.0711
4	285.12	0.8582	-0.4432	0.0048	-0.4431	0.0626	-0.2676	0.0961	-0.3833	0.0580
4	285.12	0.9101	-0.4841	0.0050	-0.4959	0.0678	-0.3691	0.1022	-0.2768	0.0772
4	285.12	0.9728	-0.5015	0.0056	-0.4700	0.0739	-0.4314	0.1139	-0.0432	0.0953

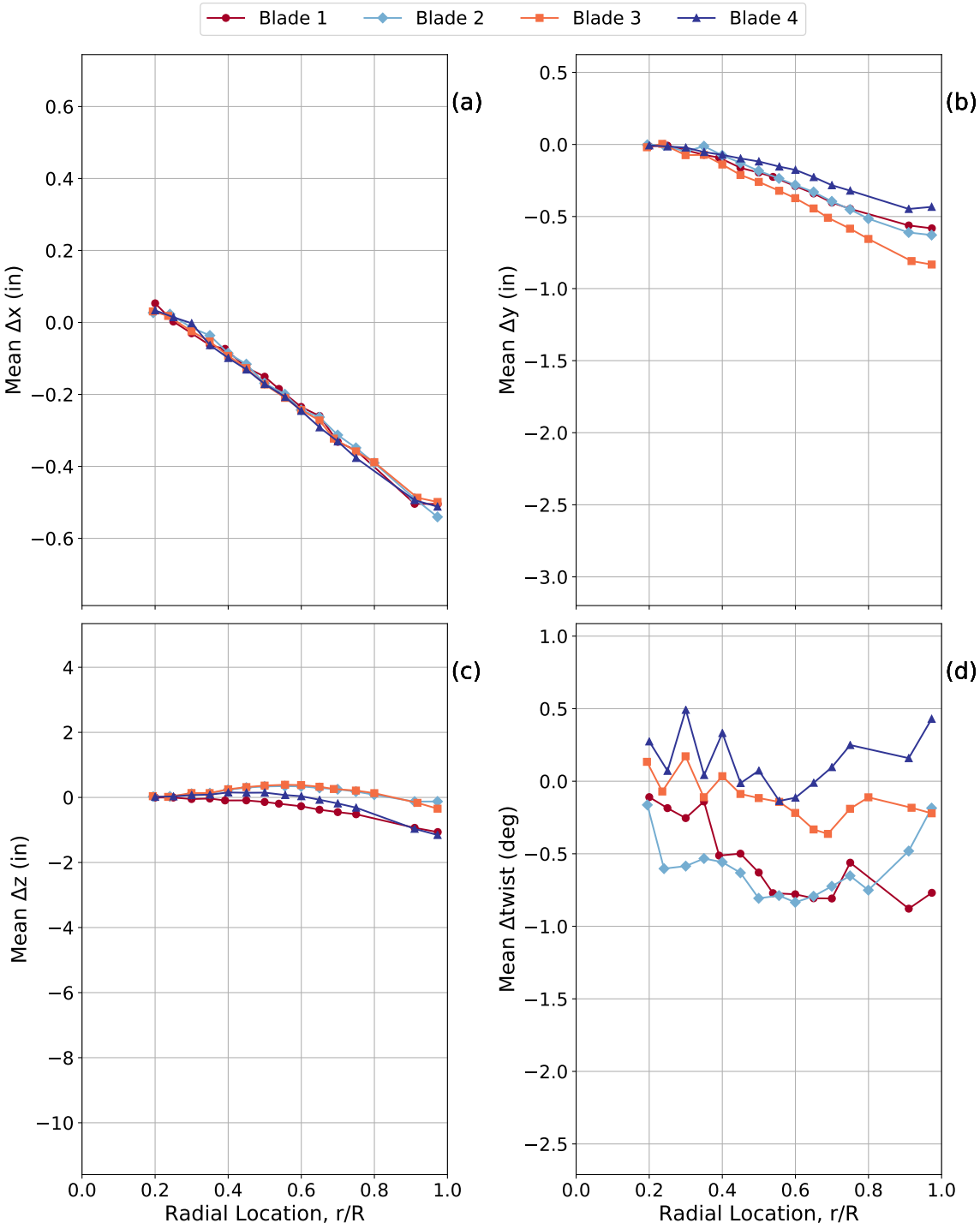


Figure 2.12-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-39. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0531	0.0018	-0.0130	0.0010	-0.0026	0.0041	-0.1097	0.0328
1	299.88	0.2499	0.0024	0.0013	-0.0084	0.0037	-0.0035	0.0110	-0.1855	0.0501
1	299.88	0.2998	-0.0302	0.0016	-0.0398	0.0041	-0.0499	0.0176	-0.2541	0.0665
1	299.88	0.3498	-0.0633	0.0022	-0.0719	0.0080	-0.0345	0.0282	-0.1396	0.0707
1	299.88	0.3913	-0.0734	0.0026	-0.0915	0.0114	-0.0933	0.0427	-0.5124	0.0728
1	299.88	0.4496	-0.1250	0.0024	-0.1622	0.0126	-0.0915	0.0465	-0.4993	0.0576
1	299.88	0.4997	-0.1508	0.0037	-0.1953	0.0159	-0.1401	0.0619	-0.6294	0.0717
1	299.88	0.5387	-0.1847	0.0027	-0.2251	0.0178	-0.1933	0.0689	-0.7716	0.0601
1	299.88	0.5996	-0.2348	0.0025	-0.2893	0.0217	-0.2717	0.0786	-0.7792	0.0600
1	299.88	0.6498	-0.2598	0.0024	-0.3401	0.0247	-0.3775	0.0901	-0.8066	0.0592
1	299.88	0.6998	-0.3317	0.0028	-0.4034	0.0283	-0.4516	0.1048	-0.8084	0.0576
1	299.88	0.7500	-0.3556	0.0026	-0.4468	0.0319	-0.5177	0.1173	-0.5615	0.0601
1	299.88	0.9102	-0.5041	0.0029	-0.5621	0.0444	-0.9345	0.1617	-0.8785	0.0481
1	299.88	0.9734	-0.5044	0.0041	-0.5820	0.0497	-1.0646	0.1806	-0.7692	0.0528
2	299.88	0.1949	0.0269	0.0021	-0.0023	0.0008	0.0243	0.0035	-0.1633	0.0368
2	299.88	0.2405	0.0230	0.0029	-0.0063	0.0027	0.0301	0.0111	-0.6026	0.0497
2	299.88	0.2999	-0.0146	0.0021	-0.0493	0.0039	0.1123	0.0197	-0.5851	0.0825
2	299.88	0.3498	-0.0362	0.0023	-0.0121	0.0059	0.1285	0.0303	-0.5328	0.0803
2	299.88	0.3998	-0.0854	0.0021	-0.0754	0.0099	0.2353	0.0506	-0.5573	0.0793
2	299.88	0.4496	-0.1159	0.0046	-0.1278	0.0127	0.3004	0.0559	-0.6311	0.0521
2	299.88	0.4995	-0.1688	0.0038	-0.1830	0.0159	0.3373	0.0664	-0.8071	0.0659
2	299.88	0.5551	-0.1994	0.0026	-0.2357	0.0178	0.3475	0.0800	-0.7883	0.0502
2	299.88	0.5996	-0.2433	0.0028	-0.2817	0.0198	0.3391	0.0890	-0.8347	0.0559
2	299.88	0.6497	-0.2631	0.0023	-0.3298	0.0227	0.2902	0.1011	-0.7928	0.0505
2	299.88	0.6996	-0.3129	0.0026	-0.3949	0.0262	0.2497	0.1135	-0.7240	0.0478
2	299.88	0.7495	-0.3485	0.0028	-0.4510	0.0294	0.1795	0.1246	-0.6520	0.0587
2	299.88	0.7996	-0.3905	0.0028	-0.5151	0.0328	0.0838	0.1368	-0.7507	0.0568
2	299.88	0.9100	-0.4894	0.0029	-0.6109	0.0407	-0.1283	0.1656	-0.4813	0.0545
2	299.88	0.9727	-0.5405	0.0036	-0.6286	0.0451	-0.1250	0.1823	-0.1851	0.0587
3	299.88	0.1938	0.0307	0.0019	-0.0195	0.0013	0.0372	0.0021	0.1336	0.0290
3	299.88	0.2357	0.0181	0.0032	0.0040	0.0037	0.0165	0.0083	-0.0708	0.0373
3	299.88	0.2995	-0.0244	0.0014	-0.0743	0.0055	0.1351	0.0138	0.1719	0.0622
3	299.88	0.3493	-0.0528	0.0026	-0.0722	0.0062	0.1333	0.0184	-0.1105	0.0567
3	299.88	0.4000	-0.0929	0.0032	-0.1392	0.0131	0.2495	0.0343	0.0347	0.0689
3	299.88	0.4497	-0.1269	0.0032	-0.2118	0.0184	0.3175	0.0421	-0.0878	0.0551
3	299.88	0.4997	-0.1724	0.0025	-0.2599	0.0198	0.3635	0.0466	-0.1161	0.0500
3	299.88	0.5556	-0.2096	0.0025	-0.3215	0.0250	0.3896	0.0596	-0.1425	0.0609
3	299.88	0.5995	-0.2434	0.0027	-0.3728	0.0277	0.3792	0.0667	-0.2186	0.0562
3	299.88	0.6498	-0.2724	0.0028	-0.4441	0.0323	0.3281	0.0766	-0.3324	0.0482
3	299.88	0.6890	-0.3228	0.0026	-0.5086	0.0360	0.2587	0.0858	-0.3630	0.0506
3	299.88	0.7495	-0.3583	0.0029	-0.5843	0.0411	0.2105	0.0960	-0.1900	0.0517
3	299.88	0.7998	-0.3885	0.0033	-0.6557	0.0458	0.1312	0.1041	-0.1110	0.0570
3	299.88	0.9178	-0.4871	0.0034	-0.8091	0.0562	-0.1668	0.1211	-0.1829	0.0630
3	299.88	0.9729	-0.4989	0.0043	-0.8332	0.0610	-0.3455	0.1305	-0.2212	0.0633
4	299.88	0.2001	0.0335	0.0031	-0.0064	0.0022	0.0168	0.0047	0.2742	0.0292
4	299.88	0.2502	0.0145	0.0023	-0.0142	0.0033	0.0313	0.0083	0.0712	0.0602
4	299.88	0.3001	-0.0024	0.0019	-0.0220	0.0060	0.0712	0.0109	0.4920	0.0637
4	299.88	0.3502	-0.0632	0.0016	-0.0528	0.0098	0.0863	0.0202	0.0424	0.0672
4	299.88	0.4002	-0.0989	0.0025	-0.0725	0.0144	0.1529	0.0281	0.3320	0.0597
4	299.88	0.4500	-0.1310	0.0045	-0.0972	0.0172	0.1436	0.0300	-0.0129	0.0678
4	299.88	0.5001	-0.1712	0.0044	-0.1184	0.0208	0.1474	0.0389	0.0732	0.0511
4	299.88	0.5560	-0.2073	0.0029	-0.1538	0.0251	0.0735	0.0453	-0.1360	0.0688
4	299.88	0.6001	-0.2459	0.0034	-0.1767	0.0294	0.0368	0.0515	-0.1135	0.0639
4	299.88	0.6501	-0.2916	0.0036	-0.2267	0.0335	-0.0726	0.0587	-0.0110	0.0487
4	299.88	0.6999	-0.3308	0.0037	-0.2832	0.0390	-0.1856	0.0663	0.0971	0.0512
4	299.88	0.7500	-0.3766	0.0033	-0.3208	0.0432	-0.3153	0.0737	0.2493	0.0471
4	299.88	0.9101	-0.4938	0.0038	-0.4477	0.0602	-0.9651	0.0977	0.1589	0.0467
4	299.88	0.9728	-0.5119	0.0055	-0.4332	0.0673	-1.1549	0.1090	0.4295	0.0499

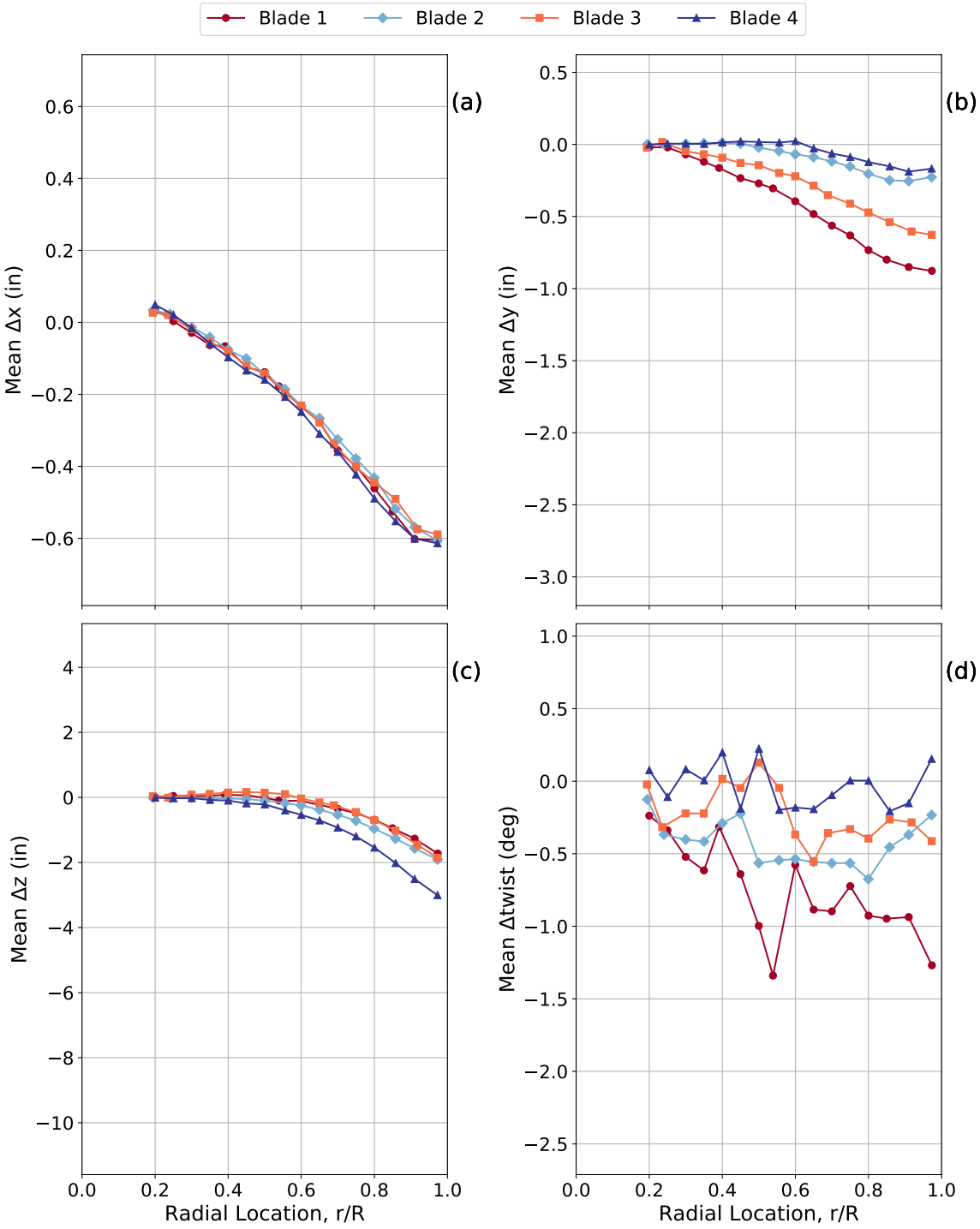


Figure 2.12-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-40. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0364	0.0020	-0.0195	0.0010	0.0104	0.0032	-0.2377	0.0538
1	315	0.2499	0.0034	0.0021	-0.0205	0.0022	0.0445	0.0096	-0.3385	0.0364
1	315	0.2998	-0.0291	0.0017	-0.0691	0.0061	0.0363	0.0114	-0.5214	0.1008
1	315	0.3498	-0.0631	0.0033	-0.1205	0.0067	0.0456	0.0202	-0.6146	0.0680
1	315	0.3913	-0.0660	0.0033	-0.1633	0.0123	0.0796	0.0302	-0.3149	0.0785
1	315	0.4496	-0.1237	0.0038	-0.2338	0.0138	0.0660	0.0386	-0.6406	0.0625
1	315	0.4997	-0.1381	0.0035	-0.2704	0.0169	-0.0145	0.0474	-0.9973	0.0487
1	315	0.5387	-0.1774	0.0034	-0.3051	0.0197	-0.0962	0.0550	-1.3398	0.0593
1	315	0.5996	-0.2339	0.0041	-0.3941	0.0247	-0.1091	0.0626	-0.5762	0.0829
1	315	0.6498	-0.2764	0.0037	-0.4828	0.0284	-0.2284	0.0710	-0.8846	0.0666
1	315	0.6998	-0.3558	0.0043	-0.5629	0.0327	-0.3487	0.0799	-0.8970	0.0798
1	315	0.7500	-0.3996	0.0035	-0.6313	0.0373	-0.4836	0.0923	-0.7232	0.0635
1	315	0.8001	-0.4611	0.0033	-0.7335	0.0422	-0.6883	0.1021	-0.9262	0.0677
1	315	0.8497	-0.5251	0.0031	-0.7997	0.0467	-0.9477	0.1145	-0.9476	0.0677
1	315	0.9102	-0.6017	0.0031	-0.8506	0.0522	-1.2672	0.1309	-0.9364	0.0667
1	315	0.9734	-0.6050	0.0043	-0.8774	0.0581	-1.7250	0.1490	-1.2689	0.0674
2	315	0.1949	0.0340	0.0015	0.0011	0.0005	-0.0007	0.0029	-0.1260	0.0252
2	315	0.2405	0.0231	0.0018	0.0018	0.0019	-0.0111	0.0075	-0.3675	0.0421
2	315	0.2999	-0.0134	0.0027	0.0041	0.0031	-0.0054	0.0144	-0.4026	0.0508
2	315	0.3498	-0.0412	0.0047	0.0085	0.0048	-0.0257	0.0221	-0.4154	0.0440
2	315	0.3998	-0.0760	0.0039	0.0120	0.0080	-0.0324	0.0357	-0.2893	0.0611
2	315	0.4496	-0.1004	0.0033	0.0052	0.0099	-0.0504	0.0386	-0.2223	0.0404
2	315	0.4995	-0.1447	0.0029	-0.0218	0.0114	-0.0996	0.0482	-0.5640	0.0415
2	315	0.5551	-0.1853	0.0026	-0.0460	0.0157	-0.1710	0.0595	-0.5444	0.0446
2	315	0.5996	-0.2326	0.0026	-0.0677	0.0170	-0.2488	0.0645	-0.5369	0.0344
2	315	0.6497	-0.2661	0.0025	-0.0878	0.0204	-0.3778	0.0717	-0.5565	0.0642
2	315	0.6996	-0.3252	0.0027	-0.1180	0.0239	-0.5295	0.0816	-0.5646	0.0403
2	315	0.7495	-0.3782	0.0025	-0.1529	0.0268	-0.7182	0.0907	-0.5646	0.0495
2	315	0.7996	-0.4313	0.0026	-0.2030	0.0304	-0.9619	0.1012	-0.6740	0.0465
2	315	0.8578	-0.5180	0.0031	-0.2489	0.0346	-1.2672	0.1148	-0.4548	0.0439
2	315	0.9100	-0.5686	0.0032	-0.2539	0.0382	-1.5671	0.1287	-0.3686	0.0445
2	315	0.9727	-0.6065	0.0037	-0.2269	0.0428	-1.9076	0.1468	-0.2329	0.0478
3	315	0.1938	0.0270	0.0015	-0.0227	0.0009	0.0390	0.0035	-0.0226	0.0382
3	315	0.2357	0.0210	0.0018	0.0161	0.0028	-0.0072	0.0059	-0.3170	0.0603
3	315	0.2995	-0.0191	0.0029	-0.0471	0.0044	0.0841	0.0089	-0.2218	0.0771
3	315	0.3493	-0.0537	0.0040	-0.0681	0.0056	0.1078	0.0157	-0.2228	0.0655
3	315	0.4000	-0.0805	0.0031	-0.0918	0.0109	0.1509	0.0213	0.0158	0.0561
3	315	0.4497	-0.1208	0.0032	-0.1288	0.0126	0.1675	0.0278	-0.0469	0.0612
3	315	0.4997	-0.1429	0.0031	-0.1442	0.0151	0.1450	0.0333	0.1293	0.0494
3	315	0.5556	-0.1975	0.0039	-0.1980	0.0193	0.1011	0.0408	-0.0464	0.0636
3	315	0.5995	-0.2310	0.0026	-0.2211	0.0200	-0.0321	0.0482	-0.3671	0.0645
3	315	0.6498	-0.2783	0.0031	-0.2859	0.0236	-0.1552	0.0578	-0.5545	0.0559
3	315	0.6890	-0.3388	0.0035	-0.3520	0.0257	-0.2433	0.0636	-0.3577	0.0589
3	315	0.7495	-0.4018	0.0027	-0.4113	0.0297	-0.4509	0.0776	-0.3299	0.0560
3	315	0.7998	-0.4450	0.0029	-0.4719	0.0330	-0.7002	0.0906	-0.3950	0.0544
3	315	0.8577	-0.4907	0.0030	-0.5392	0.0374	-1.0229	0.1070	-0.2635	0.0609
3	315	0.9178	-0.5746	0.0032	-0.6037	0.0420	-1.4558	0.1273	-0.2836	0.0632
3	315	0.9729	-0.5892	0.0039	-0.6273	0.0460	-1.8569	0.1478	-0.4130	0.0629
4	315	0.2001	0.0491	0.0021	-0.0012	0.0012	-0.0084	0.0060	0.0762	0.0246
4	315	0.2502	0.0212	0.0023	0.0058	0.0042	-0.0275	0.0109	-0.1089	0.0502
4	315	0.3001	-0.0160	0.0017	0.0048	0.0082	-0.0240	0.0231	0.0819	0.0568
4	315	0.3502	-0.0588	0.0032	0.0037	0.0112	-0.0770	0.0341	0.0058	0.0595
4	315	0.4002	-0.0970	0.0048	0.0138	0.0206	-0.0979	0.0547	0.1979	0.0440
4	315	0.4500	-0.1336	0.0034	0.0210	0.0246	-0.1851	0.0627	-0.1888	0.0420
4	315	0.5001	-0.1592	0.0047	0.0170	0.0288	-0.2152	0.0725	0.2239	0.0672
4	315	0.5560	-0.2070	0.0033	0.0129	0.0343	-0.3993	0.0844	-0.1979	0.0512
4	315	0.6001	-0.2488	0.0033	0.0232	0.0381	-0.5364	0.0935	-0.1817	0.0513
4	315	0.6501	-0.3096	0.0033	-0.0272	0.0430	-0.7085	0.1057	-0.1924	0.0534
4	315	0.6999	-0.3596	0.0041	-0.0630	0.0504	-0.9289	0.1213	-0.0959	0.0562
4	315	0.7500	-0.4226	0.0043	-0.0872	0.0552	-1.1990	0.1318	0.0046	0.0618
4	315	0.8002	-0.4894	0.0030	-0.1224	0.0612	-1.5432	0.1461	0.0035	0.0542
4	315	0.8582	-0.5525	0.0031	-0.1524	0.0681	-2.0182	0.1637	-0.2063	0.0513
4	315	0.9101	-0.6009	0.0035	-0.1888	0.0743	-2.5083	0.1800	-0.1518	0.0500
4	315	0.9728	-0.6138	0.0050	-0.1678	0.0815	-3.0052	0.2008	0.1538	0.0492

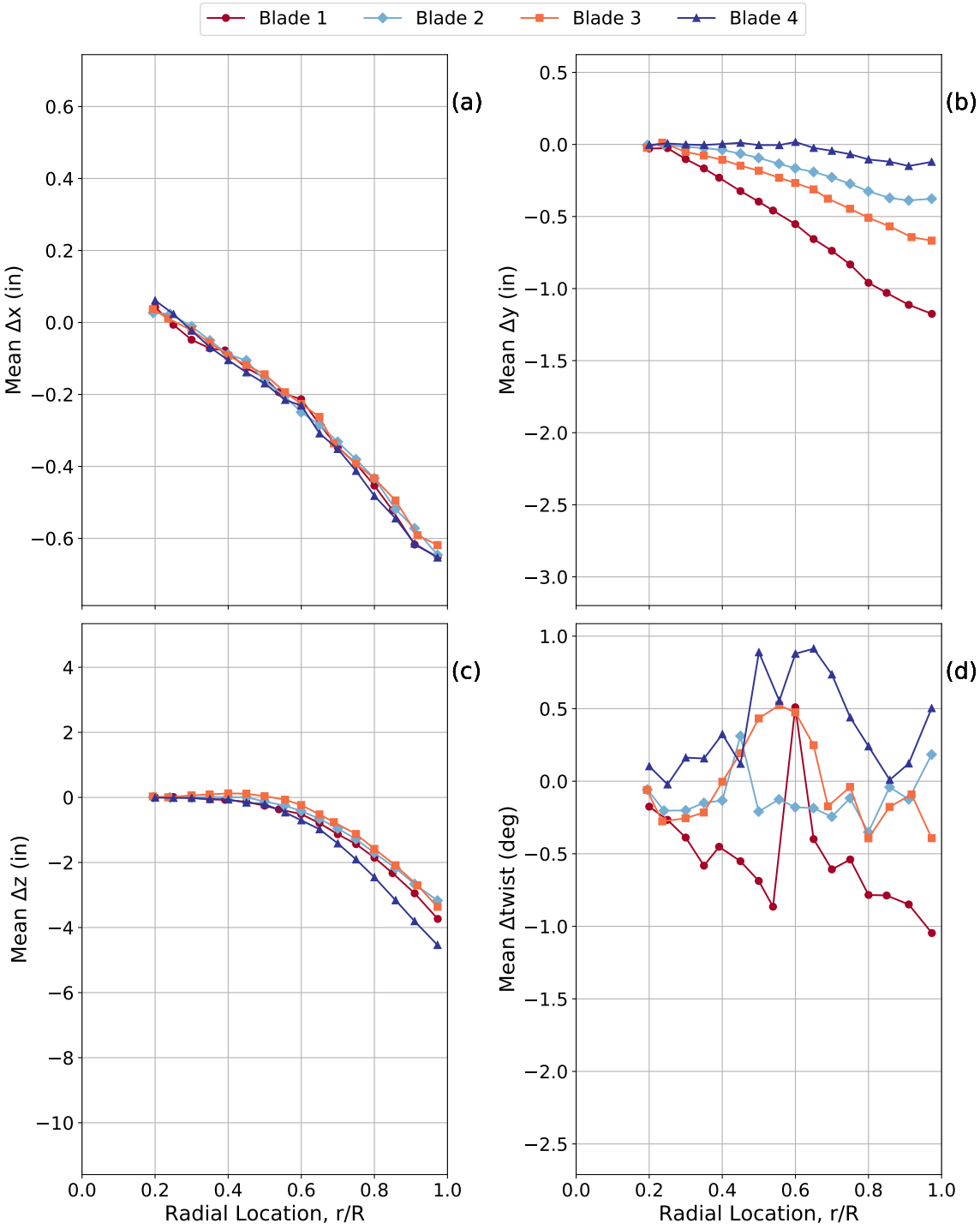


Figure 2.12-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.15, α = 4°
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0427	0.0014	-0.0284	0.0008	0.0009	0.0035	-0.1752	0.0180
1	330.12	0.2499	-0.0064	0.0017	-0.0257	0.0019	0.0132	0.0075	-0.2662	0.0340
1	330.12	0.2998	-0.0481	0.0018	-0.1020	0.0033	-0.0179	0.0160	-0.3883	0.0394
1	330.12	0.3498	-0.0721	0.0026	-0.1666	0.0053	-0.0575	0.0218	-0.5821	0.0476
1	330.12	0.3913	-0.0778	0.0031	-0.2308	0.0080	-0.0721	0.0354	-0.4520	0.0543
1	330.12	0.4496	-0.1258	0.0033	-0.3235	0.0102	-0.1362	0.0392	-0.5513	0.0496
1	330.12	0.4997	-0.1537	0.0038	-0.3965	0.0127	-0.2538	0.0495	-0.6872	0.0699
1	330.12	0.5387	-0.1938	0.0033	-0.4586	0.0168	-0.3665	0.0579	-0.8649	0.0674
1	330.12	0.5996	-0.2134	0.0059	-0.5528	0.0184	-0.5124	0.0715	0.5095	0.0703
1	330.12	0.6498	-0.2829	0.0043	-0.6565	0.0213	-0.7904	0.0778	-0.3989	0.0800
1	330.12	0.6998	-0.3469	0.0052	-0.7378	0.0250	-1.1323	0.0892	-0.6075	0.0497
1	330.12	0.7500	-0.3927	0.0041	-0.8328	0.0277	-1.4354	0.0985	-0.5396	0.0590
1	330.12	0.8001	-0.4534	0.0034	-0.9598	0.0323	-1.8523	0.1092	-0.7840	0.0452
1	330.12	0.8497	-0.5222	0.0033	-1.0301	0.0356	-2.3262	0.1185	-0.7875	0.0440
1	330.12	0.9102	-0.6173	0.0038	-1.1129	0.0400	-2.9481	0.1309	-0.8493	0.0358
1	330.12	0.9734	-0.6518	0.0048	-1.1755	0.0451	-3.7345	0.1461	-1.0464	0.0356
2	330.12	0.1949	0.0266	0.0017	-0.0049	0.0008	0.0056	0.0022	-0.0576	0.0241
2	330.12	0.2405	0.0235	0.0019	-0.0015	0.0027	0.0008	0.0074	-0.2031	0.0317
2	330.12	0.2999	-0.0109	0.0036	-0.0171	0.0040	0.0027	0.0135	-0.2010	0.0524
2	330.12	0.3498	-0.0502	0.0030	-0.0249	0.0083	0.0145	0.0197	-0.1496	0.0626
2	330.12	0.3998	-0.0891	0.0033	-0.0387	0.0122	0.0069	0.0352	-0.1326	0.0449
2	330.12	0.4496	-0.1054	0.0038	-0.0638	0.0134	0.0021	0.0438	0.3117	0.0721
2	330.12	0.4995	-0.1621	0.0036	-0.0934	0.0166	-0.1256	0.0512	-0.2093	0.0499
2	330.12	0.5551	-0.2051	0.0034	-0.1339	0.0196	-0.2532	0.0652	-0.1252	0.0679
2	330.12	0.5996	-0.2495	0.0031	-0.1651	0.0238	-0.4171	0.0749	-0.1793	0.0617
2	330.12	0.6497	-0.2846	0.0031	-0.1909	0.0262	-0.6566	0.0850	-0.1857	0.0494
2	330.12	0.6996	-0.3318	0.0036	-0.2281	0.0299	-0.9552	0.0951	-0.2447	0.0647
2	330.12	0.7495	-0.3804	0.0037	-0.2732	0.0336	-1.2796	0.1078	-0.1168	0.0420
2	330.12	0.7996	-0.4328	0.0035	-0.3254	0.0371	-1.7009	0.1196	-0.3518	0.0430
2	330.12	0.8578	-0.5188	0.0038	-0.3713	0.0418	-2.1721	0.1344	-0.0408	0.0395
2	330.12	0.9100	-0.5722	0.0039	-0.3884	0.0458	-2.6608	0.1492	-0.1244	0.0364
2	330.12	0.9727	-0.6458	0.0048	-0.3769	0.0506	-3.1721	0.1672	0.1839	0.0418
3	330.12	0.1938	0.0369	0.0015	-0.0231	0.0006	0.0296	0.0029	-0.0605	0.0267
3	330.12	0.2357	0.0108	0.0014	0.0125	0.0014	0.0050	0.0063	-0.2767	0.0428
3	330.12	0.2995	-0.0216	0.0022	-0.0516	0.0039	0.0641	0.0131	-0.2553	0.0631
3	330.12	0.3493	-0.0560	0.0020	-0.0774	0.0046	0.0919	0.0191	-0.2156	0.0535
3	330.12	0.4000	-0.0923	0.0033	-0.1067	0.0083	0.1244	0.0314	-0.0038	0.0575
3	330.12	0.4497	-0.1185	0.0051	-0.1475	0.0101	0.1149	0.0347	0.1941	0.0691
3	330.12	0.4997	-0.1441	0.0037	-0.1819	0.0120	0.0378	0.0413	0.4326	0.0961
3	330.12	0.5556	-0.1939	0.0039	-0.2311	0.0142	-0.0696	0.0517	0.5240	0.0846
3	330.12	0.5995	-0.2262	0.0044	-0.2675	0.0170	-0.2337	0.0586	0.4746	0.1021
3	330.12	0.6498	-0.2626	0.0055	-0.3121	0.0207	-0.5223	0.0681	0.2482	0.0678
3	330.12	0.6890	-0.3361	0.0044	-0.3764	0.0226	-0.7598	0.0742	-0.1730	0.0694
3	330.12	0.7495	-0.3930	0.0034	-0.4466	0.0258	-1.1241	0.0842	-0.0393	0.0720
3	330.12	0.7998	-0.4332	0.0031	-0.5085	0.0286	-1.5825	0.0948	-0.3933	0.0526
3	330.12	0.8577	-0.4946	0.0031	-0.5682	0.0321	-2.0862	0.1067	-0.1769	0.0547
3	330.12	0.9178	-0.5914	0.0032	-0.6431	0.0361	-2.7025	0.1217	-0.0909	0.0527
3	330.12	0.9729	-0.6186	0.0040	-0.6674	0.0400	-3.3626	0.1366	-0.3924	0.0532
4	330.12	0.2001	0.0611	0.0014	-0.0032	0.0007	-0.0059	0.0026	0.1030	0.0287
4	330.12	0.2502	0.0233	0.0019	0.0065	0.0032	-0.0159	0.0078	-0.0224	0.0386
4	330.12	0.3001	-0.0230	0.0015	-0.0005	0.0041	-0.0179	0.0119	0.1625	0.0619
4	330.12	0.3502	-0.0691	0.0019	-0.0038	0.0073	-0.0504	0.0180	0.1568	0.0570
4	330.12	0.4002	-0.1049	0.0027	0.0034	0.0119	-0.0658	0.0302	0.3241	0.0454
4	330.12	0.4500	-0.1389	0.0030	0.0112	0.0129	-0.1591	0.0321	0.1197	0.0705
4	330.12	0.5001	-0.1696	0.0028	-0.0045	0.0162	-0.2066	0.0454	0.8887	0.0776
4	330.12	0.5560	-0.2154	0.0035	-0.0048	0.0193	-0.4629	0.0484	0.5545	0.0928
4	330.12	0.6001	-0.2310	0.0048	0.0171	0.0239	-0.7045	0.0605	0.8791	0.0853
4	330.12	0.6501	-0.3085	0.0031	-0.0242	0.0271	-0.9792	0.0659	0.9134	0.0859
4	330.12	0.6999	-0.3518	0.0037	-0.0442	0.0309	-1.4153	0.0746	0.7356	0.0848
4	330.12	0.7500	-0.4126	0.0034	-0.0679	0.0351	-1.9071	0.0836	0.4395	0.0598
4	330.12	0.8002	-0.4822	0.0028	-0.1044	0.0393	-2.4555	0.0934	0.2400	0.0452
4	330.12	0.8582	-0.5448	0.0036	-0.1197	0.0441	-3.1633	0.1046	0.0091	0.0498
4	330.12	0.9101	-0.6145	0.0035	-0.1498	0.0486	-3.8056	0.1163	0.1221	0.0473
4	330.12	0.9728	-0.6535	0.0043	-0.1209	0.0540	-4.5384	0.1304	0.5035	0.0515

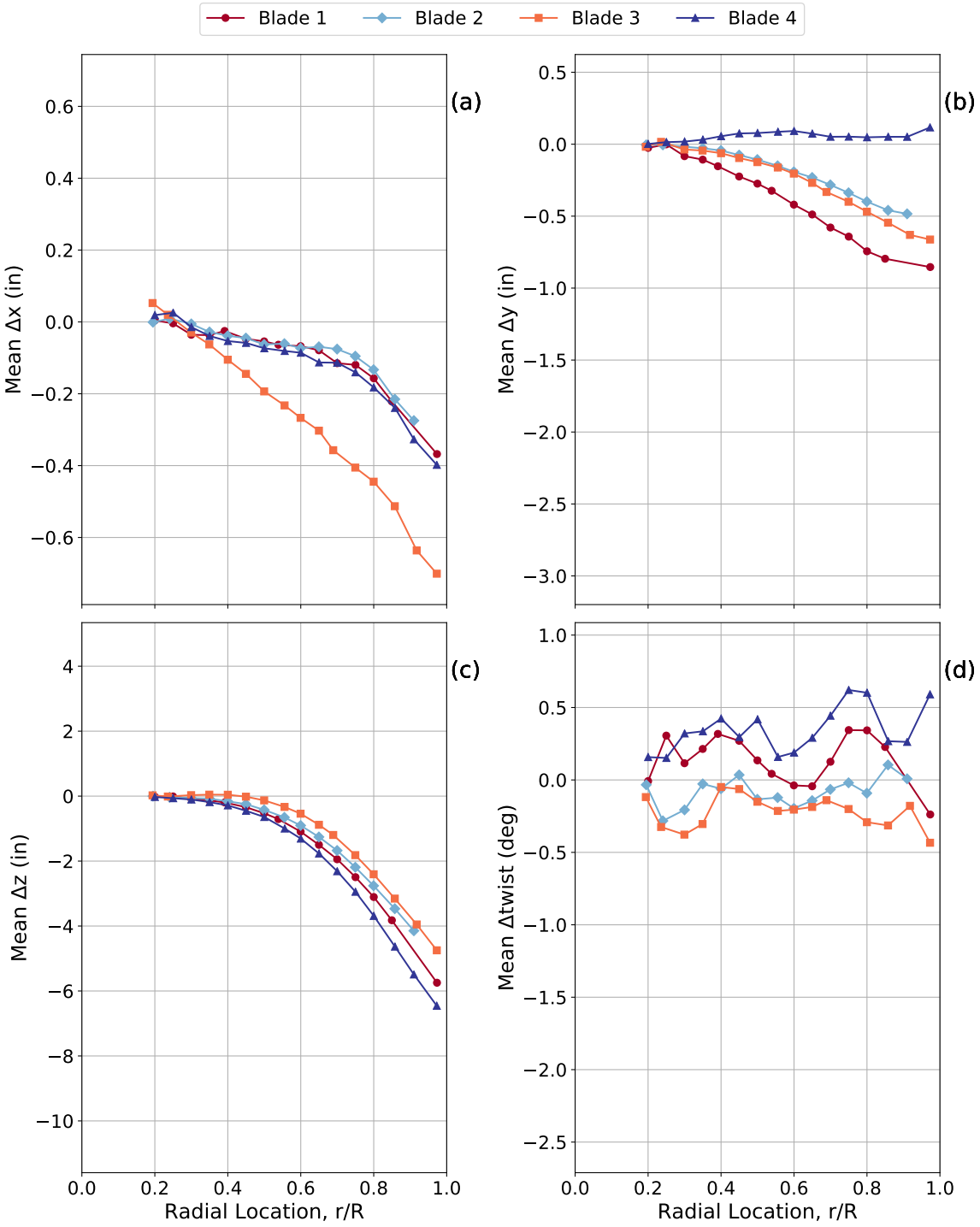


Figure 2.12-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-42. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0041	0.0051	-0.0254	0.0014	-0.0191	0.0036	-0.0079	0.0243
1	344.88	0.2499	-0.0040	0.0021	-0.0009	0.0025	-0.0100	0.0060	0.3060	0.0430
1	344.88	0.2998	-0.0358	0.0022	-0.0831	0.0054	-0.0856	0.0115	0.1154	0.0547
1	344.88	0.3498	-0.0368	0.0037	-0.1071	0.0095	-0.1332	0.0188	0.2140	0.0547
1	344.88	0.3913	-0.0252	0.0055	-0.1532	0.0134	-0.1945	0.0262	0.3178	0.0635
1	344.88	0.4496	-0.0471	0.0075	-0.2245	0.0173	-0.3408	0.0350	0.2703	0.0506
1	344.88	0.4997	-0.0542	0.0085	-0.2740	0.0209	-0.5282	0.0431	0.1350	0.0463
1	344.88	0.5387	-0.0635	0.0090	-0.3235	0.0246	-0.7073	0.0498	0.0423	0.0621
1	344.88	0.5996	-0.0676	0.0099	-0.4200	0.0297	-1.0938	0.0575	-0.0376	0.0563
1	344.88	0.6498	-0.0789	0.0110	-0.4884	0.0338	-1.4996	0.0647	-0.0436	0.0553
1	344.88	0.6998	-0.1149	0.0119	-0.5789	0.0383	-1.9444	0.0729	0.1254	0.0576
1	344.88	0.7500	-0.1196	0.0135	-0.6422	0.0426	-2.4953	0.0813	0.3442	0.0684
1	344.88	0.8001	-0.1570	0.0163	-0.7440	0.0474	-3.1068	0.0912	0.3424	0.0625
1	344.88	0.8497	-0.2214	0.0209	-0.7959	0.0519	-3.8222	0.1031	0.2275	0.1076
1	344.88	0.9734	-0.3678	0.0323	-0.8537	0.0648	-5.7459	0.1491	-0.2384	0.2224
2	344.88	0.1949	-0.0007	0.0039	-0.0044	0.0011	-0.0020	0.0029	-0.0333	0.0174
2	344.88	0.2405	0.0093	0.0017	-0.0045	0.0021	-0.0334	0.0054	-0.2825	0.0310
2	344.88	0.2999	-0.0056	0.0018	-0.0176	0.0043	-0.0615	0.0113	-0.2066	0.0415
2	344.88	0.3498	-0.0280	0.0033	-0.0280	0.0076	-0.0776	0.0181	-0.0275	0.0381
2	344.88	0.3998	-0.0387	0.0057	-0.0437	0.0117	-0.1598	0.0284	-0.0607	0.0510
2	344.88	0.4496	-0.0449	0.0070	-0.0755	0.0140	-0.2463	0.0331	0.0349	0.0415
2	344.88	0.4995	-0.0627	0.0085	-0.1068	0.0165	-0.4232	0.0407	-0.1337	0.0486
2	344.88	0.5551	-0.0606	0.0096	-0.1501	0.0211	-0.6539	0.0511	-0.1218	0.0469
2	344.88	0.5996	-0.0731	0.0115	-0.1918	0.0232	-0.9046	0.0566	-0.1960	0.0444
2	344.88	0.6497	-0.0692	0.0124	-0.2313	0.0270	-1.2576	0.0659	-0.1426	0.0508
2	344.88	0.6996	-0.0757	0.0142	-0.2828	0.0304	-1.6746	0.0762	-0.0652	0.0522
2	344.88	0.7495	-0.0954	0.0156	-0.3376	0.0341	-2.1893	0.0864	-0.0196	0.0631
2	344.88	0.7996	-0.1330	0.0180	-0.3988	0.0371	-2.7593	0.0961	-0.0915	0.0665
2	344.88	0.8578	-0.2152	0.0214	-0.4594	0.0409	-3.4666	0.1073	0.1039	0.0863
2	344.88	0.9100	-0.2747	0.0275	-0.4839	0.0456	-4.1460	0.1201	0.0080	0.2059
3	344.88	0.1938	0.0525	0.0025	-0.0178	0.0011	0.0234	0.0030	-0.1183	0.0207
3	344.88	0.2357	0.0199	0.0019	0.0163	0.0016	-0.0128	0.0058	-0.3247	0.0370
3	344.88	0.2995	-0.0297	0.0020	-0.0367	0.0047	0.0296	0.0141	-0.3774	0.0473
3	344.88	0.3493	-0.0627	0.0029	-0.0442	0.0067	0.0454	0.0199	-0.3044	0.0475
3	344.88	0.4000	-0.1052	0.0024	-0.0625	0.0112	0.0425	0.0345	-0.0489	0.0471
3	344.88	0.4497	-0.1446	0.0024	-0.0961	0.0126	-0.0170	0.0413	-0.0630	0.0403
3	344.88	0.4997	-0.1935	0.0041	-0.1244	0.0149	-0.1310	0.0507	-0.1505	0.0418
3	344.88	0.5556	-0.2324	0.0029	-0.1621	0.0180	-0.3324	0.0628	-0.2140	0.0594
3	344.88	0.5995	-0.2670	0.0034	-0.2043	0.0209	-0.5406	0.0720	-0.2048	0.0412
3	344.88	0.6498	-0.3027	0.0029	-0.2686	0.0235	-0.8826	0.0832	-0.1866	0.0439
3	344.88	0.6890	-0.3571	0.0024	-0.3319	0.0265	-1.1963	0.0903	-0.1398	0.0548
3	344.88	0.7495	-0.4055	0.0034	-0.4000	0.0300	-1.8168	0.1055	-0.2008	0.0519
3	344.88	0.7998	-0.4447	0.0030	-0.4690	0.0333	-2.4063	0.1133	-0.2916	0.0464
3	344.88	0.8577	-0.5130	0.0034	-0.5453	0.0369	-3.1553	0.1241	-0.3142	0.0462
3	344.88	0.9178	-0.6361	0.0040	-0.6302	0.0411	-3.9512	0.1360	-0.1789	0.0447
3	344.88	0.9729	-0.7008	0.0041	-0.6624	0.0452	-4.7476	0.1466	-0.4335	0.0462
4	344.88	0.2001	0.0189	0.0043	0.0018	0.0008	-0.0259	0.0026	0.1576	0.0190
4	344.88	0.2502	0.0256	0.0015	0.0144	0.0018	-0.0647	0.0057	0.1518	0.0339
4	344.88	0.3001	-0.0145	0.0019	0.0180	0.0034	-0.1051	0.0093	0.3210	0.0430
4	344.88	0.3502	-0.0392	0.0034	0.0317	0.0056	-0.1856	0.0165	0.3358	0.0406
4	344.88	0.4002	-0.0533	0.0051	0.0554	0.0088	-0.2866	0.0249	0.4236	0.0382
4	344.88	0.4500	-0.0585	0.0062	0.0748	0.0118	-0.4518	0.0294	0.2957	0.0462
4	344.88	0.5001	-0.0734	0.0070	0.0775	0.0153	-0.6434	0.0375	0.4184	0.0403
4	344.88	0.5560	-0.0809	0.0084	0.0862	0.0179	-0.9992	0.0433	0.1584	0.0476
4	344.88	0.6001	-0.0858	0.0092	0.0918	0.0205	-1.3088	0.0490	0.1888	0.0408
4	344.88	0.6501	-0.1129	0.0111	0.0732	0.0237	-1.7681	0.0558	0.2909	0.0553
4	344.88	0.6999	-0.1136	0.0131	0.0515	0.0263	-2.3132	0.0637	0.4433	0.0570
4	344.88	0.7500	-0.1404	0.0157	0.0523	0.0297	-2.9460	0.0712	0.6210	0.0558
4	344.88	0.8002	-0.1824	0.0197	0.0480	0.0331	-3.6889	0.0776	0.6021	0.0778
4	344.88	0.8582	-0.2395	0.0257	0.0514	0.0376	-4.6342	0.0898	0.2675	0.1006
4	344.88	0.9101	-0.3269	0.0293	0.0511	0.0414	-5.4916	0.0978	0.2625	0.1120
4	344.88	0.9728	-0.3979	0.0367	0.1165	0.0461	-6.4553	0.1219	0.5907	0.2061

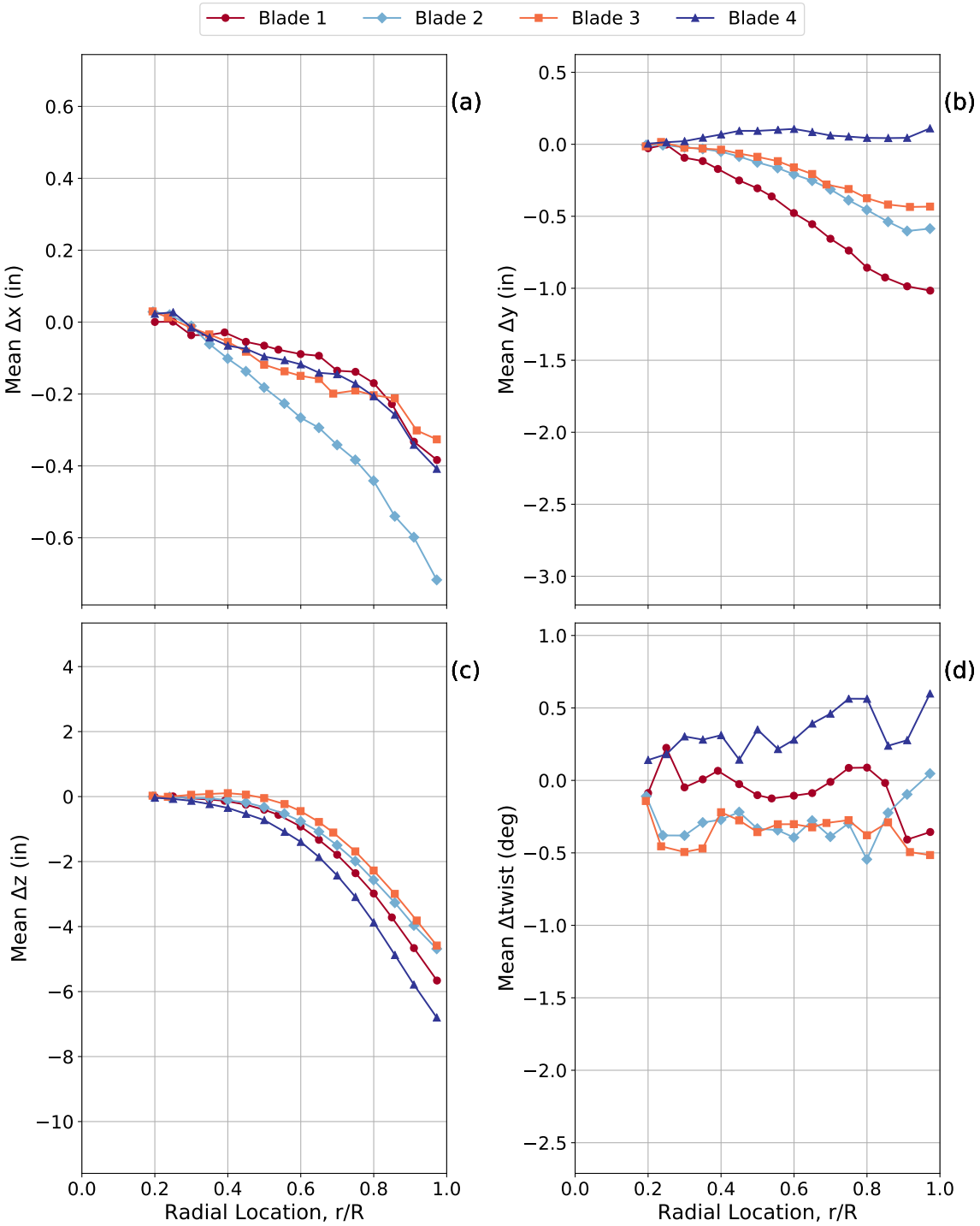


Figure 2.12-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-43. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0004	0.0056	-0.0275	0.0017	-0.0125	0.0045	-0.0871	0.0303
1	350.16	0.2499	0.0012	0.0019	-0.0018	0.0027	0.0053	0.0070	0.2246	0.0636
1	350.16	0.2998	-0.0364	0.0021	-0.0935	0.0060	-0.0577	0.0136	-0.0480	0.0723
1	350.16	0.3498	-0.0357	0.0043	-0.1165	0.0110	-0.0900	0.0226	0.0072	0.0652
1	350.16	0.3913	-0.0287	0.0068	-0.1714	0.0149	-0.1289	0.0307	0.0661	0.0638
1	350.16	0.4496	-0.0549	0.0086	-0.2511	0.0199	-0.2484	0.0401	-0.0259	0.0649
1	350.16	0.4997	-0.0655	0.0100	-0.3058	0.0256	-0.4043	0.0501	-0.1019	0.0639
1	350.16	0.5387	-0.0767	0.0108	-0.3621	0.0289	-0.5620	0.0549	-0.1245	0.0734
1	350.16	0.5996	-0.0890	0.0121	-0.4773	0.0345	-0.9214	0.0653	-0.1056	0.0661
1	350.16	0.6498	-0.0937	0.0139	-0.5548	0.0391	-1.3303	0.0730	-0.0876	0.0663
1	350.16	0.6998	-0.1352	0.0150	-0.6559	0.0451	-1.7897	0.0821	-0.0103	0.0698
1	350.16	0.7500	-0.1383	0.0162	-0.7383	0.0503	-2.3576	0.0894	0.0862	0.0768
1	350.16	0.8001	-0.1698	0.0183	-0.8573	0.0559	-2.9835	0.0978	0.0882	0.0828
1	350.16	0.8497	-0.2280	0.0197	-0.9249	0.0611	-3.7181	0.1073	-0.0177	0.0923
1	350.16	0.9102	-0.3327	0.0243	-0.9864	0.0684	-4.6617	0.1175	-0.4082	0.1423
1	350.16	0.9734	-0.3836	0.0267	-1.0163	0.0754	-5.6607	0.1313	-0.3561	0.1339
2	350.16	0.1949	0.0285	0.0024	-0.0047	0.0010	-0.0019	0.0035	-0.1094	0.0261
2	350.16	0.2405	0.0205	0.0025	-0.0057	0.0022	-0.0163	0.0044	-0.3797	0.0567
2	350.16	0.2999	-0.0109	0.0027	-0.0206	0.0034	-0.0439	0.0108	-0.3803	0.0667
2	350.16	0.3498	-0.0611	0.0028	-0.0320	0.0066	-0.0520	0.0202	-0.2906	0.0578
2	350.16	0.3998	-0.1015	0.0022	-0.0513	0.0096	-0.1095	0.0285	-0.2710	0.0629
2	350.16	0.4496	-0.1370	0.0025	-0.0853	0.0118	-0.1825	0.0383	-0.2186	0.0603
2	350.16	0.4995	-0.1819	0.0026	-0.1256	0.0151	-0.3254	0.0459	-0.3329	0.0645
2	350.16	0.5551	-0.2265	0.0030	-0.1646	0.0181	-0.5272	0.0572	-0.3432	0.0675
2	350.16	0.5996	-0.2660	0.0046	-0.2087	0.0208	-0.7626	0.0628	-0.3936	0.0624
2	350.16	0.6497	-0.2938	0.0031	-0.2527	0.0235	-1.0806	0.0703	-0.2774	0.0764
2	350.16	0.6996	-0.3416	0.0034	-0.3129	0.0265	-1.4975	0.0798	-0.3882	0.0658
2	350.16	0.7495	-0.3834	0.0039	-0.3881	0.0303	-1.9878	0.0860	-0.2961	0.0802
2	350.16	0.7996	-0.4414	0.0035	-0.4554	0.0335	-2.5659	0.0938	-0.5447	0.0703
2	350.16	0.8578	-0.5402	0.0041	-0.5380	0.0376	-3.2658	0.1014	-0.2235	0.0623
2	350.16	0.9100	-0.5984	0.0042	-0.6023	0.0415	-3.9641	0.1103	-0.0963	0.0700
2	350.16	0.9727	-0.7172	0.0048	-0.5858	0.0458	-4.6856	0.1185	0.0471	0.0636
3	350.16	0.1938	0.0298	0.0029	-0.0142	0.0020	0.0277	0.0051	-0.1420	0.0181
3	350.16	0.2357	0.0131	0.0020	0.0160	0.0032	-0.0070	0.0046	-0.4547	0.0564
3	350.16	0.2995	-0.0161	0.0018	-0.0241	0.0081	0.0557	0.0132	-0.4942	0.0566
3	350.16	0.3493	-0.0342	0.0023	-0.0298	0.0144	0.0800	0.0224	-0.4701	0.0526
3	350.16	0.4000	-0.0549	0.0034	-0.0374	0.0221	0.1053	0.0312	-0.2197	0.0550
3	350.16	0.4497	-0.0823	0.0043	-0.0646	0.0291	0.0590	0.0396	-0.2758	0.0530
3	350.16	0.4997	-0.1185	0.0045	-0.0871	0.0367	-0.0475	0.0483	-0.3568	0.0587
3	350.16	0.5556	-0.1369	0.0063	-0.1172	0.0450	-0.2304	0.0579	-0.3026	0.0691
3	350.16	0.5995	-0.1495	0.0079	-0.1604	0.0507	-0.4470	0.0670	-0.3020	0.0555
3	350.16	0.6498	-0.1581	0.0100	-0.2065	0.0580	-0.7818	0.0775	-0.3238	0.0537
3	350.16	0.6890	-0.1989	0.0113	-0.2794	0.0622	-1.1058	0.0830	-0.2938	0.0599
3	350.16	0.7495	-0.1903	0.0149	-0.3109	0.0692	-1.6866	0.0925	-0.2742	0.0720
3	350.16	0.7998	-0.2034	0.0181	-0.3746	0.0758	-2.2754	0.1020	-0.3783	0.0652
3	350.16	0.8577	-0.2119	0.0212	-0.4184	0.0824	-2.9940	0.1146	-0.2892	0.0670
3	350.16	0.9178	-0.3014	0.0272	-0.4351	0.0912	-3.8143	0.1227	-0.4947	0.1080
3	350.16	0.9729	-0.3262	0.0377	-0.4329	0.0953	-4.5829	0.1384	-0.5152	0.1575
4	350.16	0.2001	0.0230	0.0057	0.0046	0.0010	-0.0356	0.0027	0.1406	0.0181
4	350.16	0.2502	0.0273	0.0019	0.0143	0.0018	-0.0724	0.0048	0.1808	0.0356
4	350.16	0.3001	-0.0154	0.0021	0.0216	0.0039	-0.1303	0.0090	0.3032	0.0424
4	350.16	0.3502	-0.0430	0.0047	0.0456	0.0069	-0.2327	0.0154	0.2810	0.0408
4	350.16	0.4002	-0.0656	0.0065	0.0683	0.0104	-0.3490	0.0229	0.3118	0.0483
4	350.16	0.4500	-0.0744	0.0087	0.0934	0.0136	-0.5332	0.0282	0.1426	0.0466
4	350.16	0.5001	-0.0959	0.0099	0.0932	0.0171	-0.7248	0.0343	0.3504	0.0452
4	350.16	0.5560	-0.1060	0.0103	0.1005	0.0212	-1.0853	0.0434	0.2159	0.0380
4	350.16	0.6001	-0.1177	0.0112	0.1066	0.0238	-1.3946	0.0487	0.2807	0.0479
4	350.16	0.6501	-0.1410	0.0115	0.0848	0.0278	-1.8629	0.0552	0.3919	0.0441
4	350.16	0.6999	-0.1450	0.0130	0.0609	0.0309	-2.4299	0.0633	0.4603	0.0437
4	350.16	0.7500	-0.1714	0.0140	0.0535	0.0349	-3.0916	0.0715	0.5636	0.0472
4	350.16	0.8002	-0.2064	0.0171	0.0444	0.0393	-3.8766	0.0813	0.5630	0.0610
4	350.16	0.8582	-0.2578	0.0222	0.0430	0.0441	-4.8774	0.0912	0.2391	0.0668
4	350.16	0.9101	-0.3414	0.0267	0.0447	0.0487	-5.7872	0.1034	0.2772	0.0689
4	350.16	0.9728	-0.4083	0.0335	0.1103	0.0546	-6.8003	0.1175	0.5990	0.1258

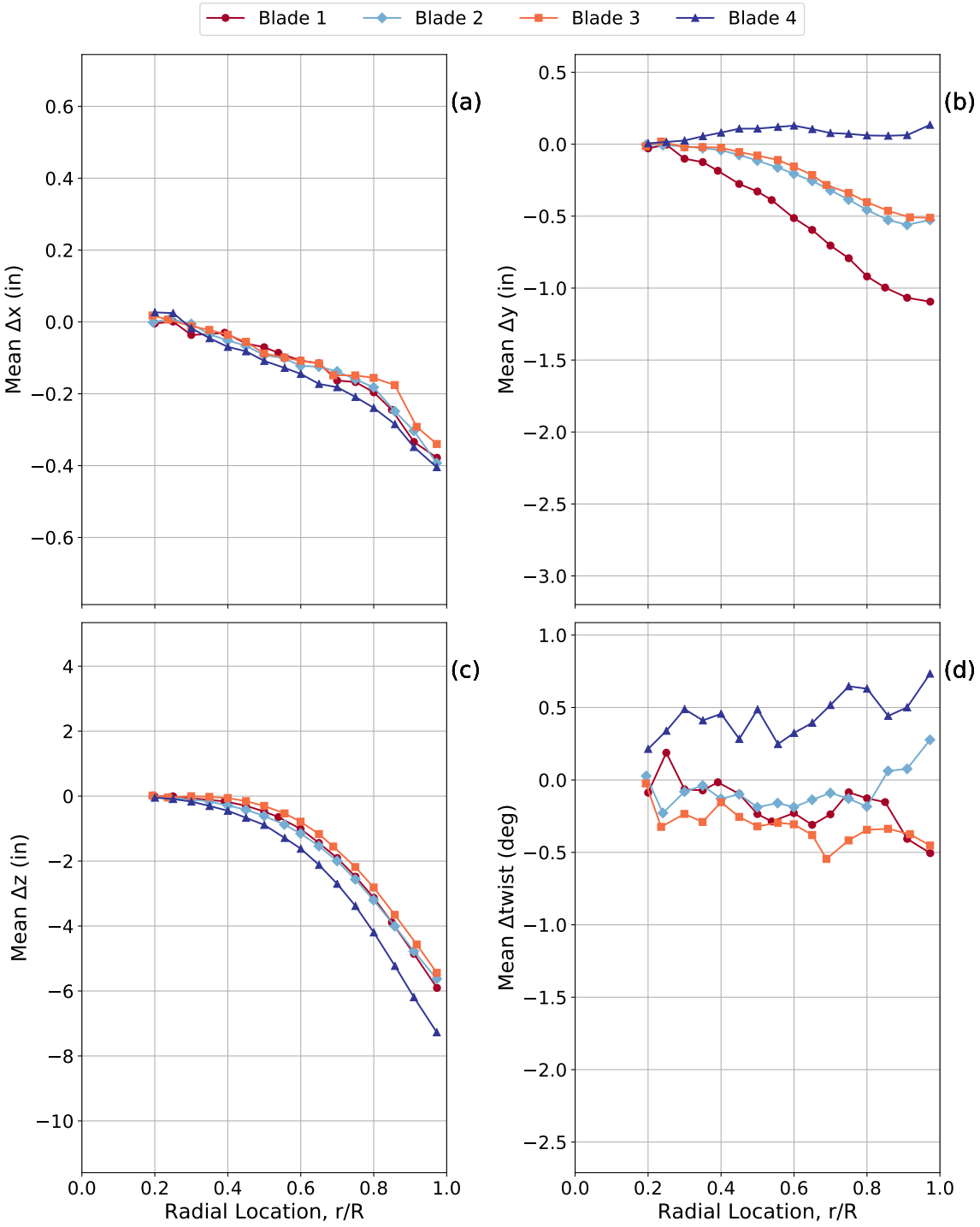


Figure 2.12-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$ NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Table 2.12-44. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.15$, $\alpha = 4°$
NFAC run 50, points 12 to 15. BD run 24, points 2495 to 2534.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	-0.0041	0.0055	-0.0293	0.0026	-0.0144	0.0078	-0.0877	0.0364
1	355.08	0.2499	0.0009	0.0019	-0.0026	0.0032	-0.0052	0.0096	0.1878	0.0980
1	355.08	0.2998	-0.0363	0.0024	-0.1009	0.0092	-0.0671	0.0235	-0.0650	0.0957
1	355.08	0.3498	-0.0338	0.0040	-0.1243	0.0155	-0.1156	0.0371	-0.0722	0.0983
1	355.08	0.3913	-0.0301	0.0063	-0.1847	0.0215	-0.1627	0.0506	-0.0159	0.0948
1	355.08	0.4496	-0.0600	0.0084	-0.2761	0.0294	-0.2947	0.0675	-0.0963	0.1002
1	355.08	0.4997	-0.0705	0.0100	-0.3287	0.0360	-0.4751	0.0814	-0.2352	0.1026
1	355.08	0.5387	-0.0861	0.0113	-0.3882	0.0412	-0.6449	0.0932	-0.2868	0.1002
1	355.08	0.5996	-0.1076	0.0138	-0.5133	0.0500	-1.0104	0.1101	-0.2287	0.1035
1	355.08	0.6498	-0.1152	0.0161	-0.5955	0.0577	-1.4420	0.1245	-0.3099	0.1004
1	355.08	0.6998	-0.1632	0.0179	-0.7041	0.0651	-1.9066	0.1385	-0.2375	0.0997
1	355.08	0.7500	-0.1674	0.0197	-0.7925	0.0733	-2.4788	0.1529	-0.0855	0.1063
1	355.08	0.8001	-0.1960	0.0231	-0.9191	0.0806	-3.1315	0.1693	-0.1271	0.1003
1	355.08	0.8497	-0.2448	0.0260	-0.9962	0.0884	-3.8872	0.1833	-0.1528	0.1151
1	355.08	0.9102	-0.3340	0.0292	-1.0671	0.0981	-4.8562	0.2022	-0.4066	0.1295
1	355.08	0.9734	-0.3782	0.0342	-1.0944	0.1090	-5.9052	0.2249	-0.5051	0.1267
2	355.08	0.1949	-0.0011	0.0036	-0.0035	0.0017	-0.0123	0.0042	0.0273	0.0219
2	355.08	0.2405	0.0086	0.0016	-0.0063	0.0022	-0.0571	0.0055	-0.2283	0.0553
2	355.08	0.2999	-0.0055	0.0019	-0.0152	0.0056	-0.1059	0.0127	-0.0812	0.0581
2	355.08	0.3498	-0.0346	0.0030	-0.0274	0.0099	-0.1652	0.0211	-0.0388	0.0546
2	355.08	0.3998	-0.0516	0.0043	-0.0417	0.0146	-0.2890	0.0310	-0.1300	0.0563
2	355.08	0.4496	-0.0665	0.0058	-0.0745	0.0186	-0.4184	0.0375	-0.0988	0.0654
2	355.08	0.4995	-0.0924	0.0064	-0.1140	0.0224	-0.6104	0.0469	-0.1882	0.0515
2	355.08	0.5551	-0.1009	0.0080	-0.1615	0.0274	-0.8770	0.0565	-0.1597	0.0530
2	355.08	0.5996	-0.1226	0.0090	-0.2061	0.0313	-1.1516	0.0630	-0.1874	0.0584
2	355.08	0.6497	-0.1245	0.0107	-0.2546	0.0361	-1.5379	0.0723	-0.1368	0.0565
2	355.08	0.6996	-0.1378	0.0126	-0.3203	0.0413	-1.9959	0.0800	-0.0903	0.0578
2	355.08	0.7495	-0.1597	0.0148	-0.3849	0.0465	-2.5621	0.0896	-0.1288	0.0548
2	355.08	0.7996	-0.1818	0.0180	-0.4565	0.0518	-3.2024	0.0980	-0.1837	0.0583
2	355.08	0.8578	-0.2488	0.0203	-0.5268	0.0580	-4.0056	0.1066	0.0621	0.0683
2	355.08	0.9100	-0.3031	0.0230	-0.5600	0.0636	-4.7761	0.1161	0.0764	0.0690
2	355.08	0.9727	-0.3928	0.0306	-0.5265	0.0711	-5.6274	0.1285	0.2772	0.1068
3	355.08	0.1938	0.0179	0.0043	-0.0137	0.0016	0.0172	0.0036	-0.0239	0.0229
3	355.08	0.2357	0.0065	0.0021	0.0186	0.0019	-0.0413	0.0045	-0.3240	0.0455
3	355.08	0.2995	-0.0118	0.0020	-0.0209	0.0050	-0.0028	0.0100	-0.2345	0.0557
3	355.08	0.3493	-0.0223	0.0038	-0.0198	0.0088	-0.0229	0.0173	-0.2899	0.0496
3	355.08	0.4000	-0.0356	0.0059	-0.0239	0.0131	-0.0581	0.0248	-0.1536	0.0515
3	355.08	0.4497	-0.0554	0.0072	-0.0546	0.0166	-0.1549	0.0312	-0.2550	0.0518
3	355.08	0.4997	-0.0879	0.0096	-0.0788	0.0204	-0.3017	0.0380	-0.3205	0.0540
3	355.08	0.5556	-0.0992	0.0111	-0.1097	0.0245	-0.5324	0.0453	-0.2955	0.0551
3	355.08	0.5995	-0.1082	0.0124	-0.1555	0.0276	-0.7866	0.0507	-0.3063	0.0578
3	355.08	0.6498	-0.1158	0.0141	-0.2143	0.0315	-1.1676	0.0574	-0.3802	0.0555
3	355.08	0.6890	-0.1487	0.0154	-0.2834	0.0345	-1.5522	0.0627	-0.5452	0.0578
3	355.08	0.7495	-0.1489	0.0177	-0.3386	0.0398	-2.1825	0.0699	-0.4175	0.0583
3	355.08	0.7998	-0.1558	0.0201	-0.4024	0.0440	-2.8125	0.0785	-0.3440	0.0669
3	355.08	0.8577	-0.1758	0.0229	-0.4629	0.0488	-3.6537	0.0867	-0.3372	0.0656
3	355.08	0.9178	-0.2921	0.0265	-0.5082	0.0541	-4.5672	0.0959	-0.3746	0.0811
3	355.08	0.9729	-0.3398	0.0308	-0.5113	0.0589	-5.4405	0.1084	-0.4527	0.1380
4	355.08	0.2001	0.0266	0.0059	0.0062	0.0011	-0.0478	0.0026	0.2141	0.0221
4	355.08	0.2502	0.0245	0.0020	0.0154	0.0019	-0.0900	0.0048	0.3393	0.0476
4	355.08	0.3001	-0.0175	0.0025	0.0256	0.0040	-0.1687	0.0082	0.4886	0.0534
4	355.08	0.3502	-0.0455	0.0050	0.0553	0.0072	-0.3047	0.0144	0.4108	0.0465
4	355.08	0.4002	-0.0696	0.0070	0.0805	0.0107	-0.4511	0.0214	0.4568	0.0461
4	355.08	0.4500	-0.0819	0.0088	0.1080	0.0139	-0.6679	0.0274	0.2831	0.0445
4	355.08	0.5001	-0.1087	0.0102	0.1082	0.0170	-0.8872	0.0333	0.4870	0.0452
4	355.08	0.5560	-0.1281	0.0111	0.1200	0.0205	-1.2882	0.0395	0.2476	0.0507
4	355.08	0.6001	-0.1447	0.0120	0.1290	0.0234	-1.6200	0.0465	0.3244	0.0488
4	355.08	0.6501	-0.1727	0.0122	0.1049	0.0269	-2.1188	0.0532	0.3943	0.0523
4	355.08	0.6999	-0.1818	0.0130	0.0777	0.0304	-2.7008	0.0604	0.5171	0.0549
4	355.08	0.7500	-0.2090	0.0138	0.0721	0.0336	-3.3836	0.0695	0.6465	0.0554
4	355.08	0.8002	-0.2395	0.0155	0.0609	0.0374	-4.1983	0.0771	0.6299	0.0621
4	355.08	0.8582	-0.2847	0.0181	0.0586	0.0423	-5.2286	0.0876	0.4421	0.0626
4	355.08	0.9101	-0.3483	0.0204	0.0630	0.0466	-6.1928	0.0967	0.5009	0.0742
4	355.08	0.9728	-0.4044	0.0262	0.1345	0.0525	-7.2730	0.1072	0.7336	0.0818

2.13 Run 53, Points 20 to 25

2.13.1 Pitch, Flap, and Lag

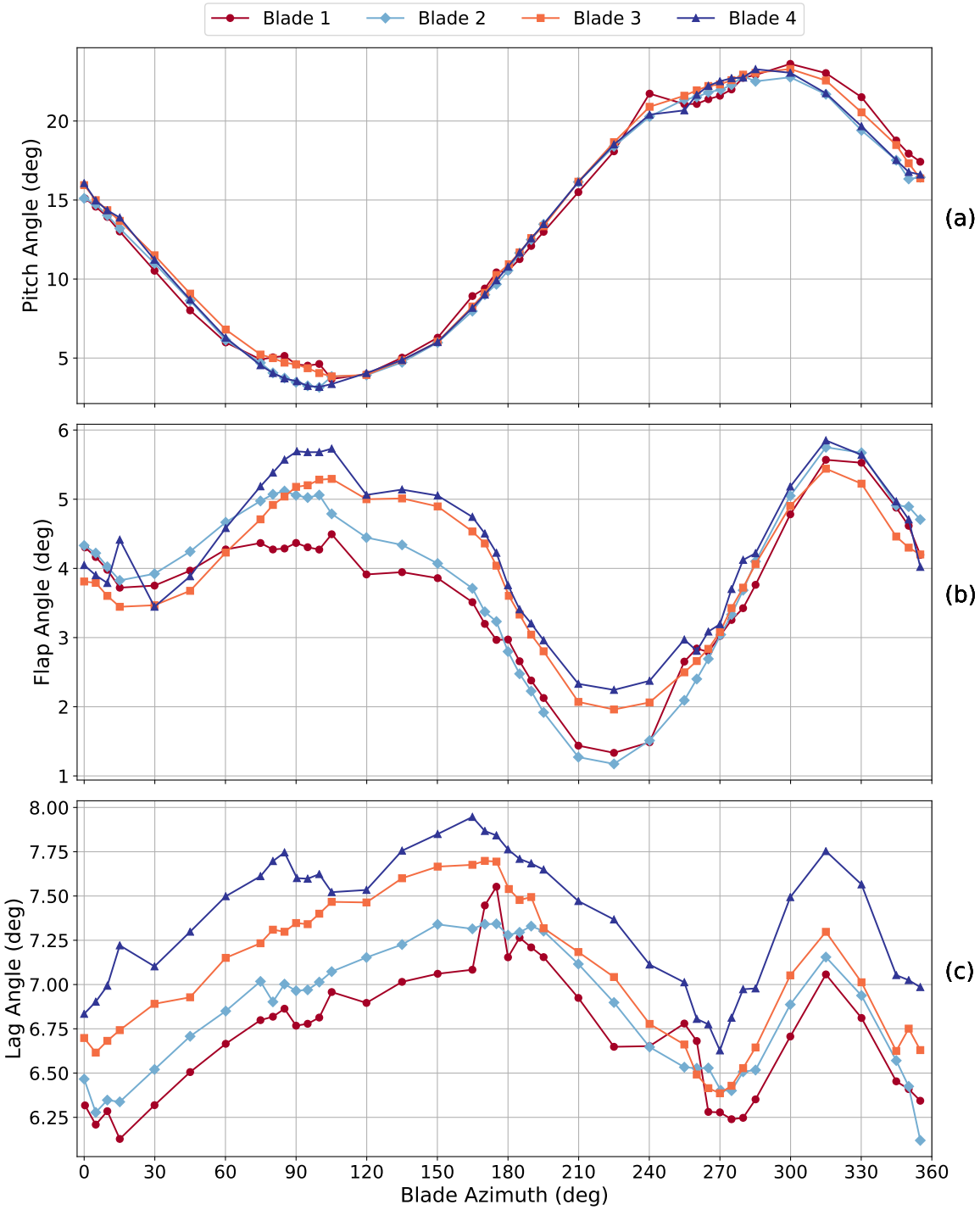


Figure 2.13-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	15.0970	4.3036	6.3175	0.1531	0.1392	0.1656
4.92	14.5814	4.1645	6.2088	0.1682	0.0975	0.1282
9.84	13.9315	3.9802	6.2848	0.1738	0.1043	0.1451
15.12	13.0097	3.7213	6.1280	0.1575	0.1068	0.1138
29.88	10.5268	3.7514	6.3187	0.2551	0.1036	0.1457
45	8.0175	3.9672	6.5056	0.1724	0.1009	0.1316
60.12	5.9915	4.2740	6.6653	0.1203	0.0725	0.1195
74.88	4.9115	4.3667	6.7990	0.1436	0.0838	0.1641
80.16	5.0450	4.2736	6.8183	0.1436	0.1732	0.1162
85.08	5.1344	4.2873	6.8635	0.1428	0.1926	0.1058
90	4.6074	4.3680	6.7676	0.1911	0.1166	0.1269
94.92	4.5201	4.3060	6.7784	0.1808	0.0847	0.1569
99.84	4.6269	4.2722	6.8135	0.2091	0.1263	0.1332
105.12	3.6749	4.4937	6.9576	0.1572	0.1261	0.1555
119.88	3.9791	3.9126	6.8962	0.1628	0.1246	0.0976
135	5.0246	3.9456	7.0151	0.1558	0.1851	0.1365
150.12	6.2875	3.8590	7.0608	0.1710	0.1706	0.1125
164.88	8.9220	3.5118	7.0837	0.2322	0.2356	0.1447
170.16	9.3996	3.1976	7.4467	0.2310	0.2163	0.1530
175.08	10.4217	2.9663	7.5525	0.3118	0.2329	0.1074
180	10.5286	2.9716	7.1539	0.2016	0.2253	0.1296
184.92	11.2620	2.6578	7.2646	0.1820	0.2390	0.1292
189.84	12.0946	2.3797	7.2099	0.1488	0.2396	0.1202
195.12	12.9882	2.1266	7.1548	0.1177	0.1974	0.1201
209.88	15.4982	1.4380	6.9244	0.1320	0.1761	0.1421
225	18.0826	1.3336	6.6484	0.1641	0.2123	0.1396
240.12	21.7322	1.4860	6.6522	0.2379	0.1637	0.1520
254.88	21.0722	2.6525	6.7797	0.1508	0.1723	0.1233
260.16	21.0821	2.8419	6.6809	0.2809	0.5934	0.4253
265.08	21.3811	2.7910	6.2807	0.2384	0.1331	0.1480
270	21.5990	3.0232	6.2781	0.1630	0.1029	0.0929
274.92	21.9989	3.2545	6.2394	0.1621	0.1153	0.0687
279.84	22.7325	3.4248	6.2472	0.2110	0.1002	0.1086
285.12	22.9146	3.7625	6.3515	0.2979	0.1463	0.1106
299.88	23.6144	4.7818	6.7066	0.1916	0.1394	0.1210
315	23.0327	5.5698	7.0572	0.1534	0.1228	0.1430
330.12	21.5102	5.5272	6.8112	0.2277	0.1204	0.1665
344.88	18.7669	4.8781	6.4534	0.2911	0.1443	0.1623
350.16	17.9362	4.6156	6.4096	0.4519	0.1958	0.1611
355.08	17.4219	4.1959	6.3436	0.5902	0.2158	0.1646

Table 2.13-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	15.1046	4.3315	6.4663	0.1454	0.1232	0.1454
4.92	14.7340	4.2211	6.2779	0.1923	0.0976	0.1349
9.84	14.0341	4.0241	6.3474	0.1443	0.1202	0.1364
15.12	13.2011	3.8264	6.3375	0.1358	0.0918	0.1489
29.88	10.9913	3.9224	6.5205	0.2109	0.0990	0.1035
45	8.6280	4.2434	6.7077	0.2115	0.1226	0.1434
60.12	6.1408	4.6662	6.8502	0.1942	0.1072	0.1235
74.88	4.7010	4.9746	7.0176	0.1147	0.1792	0.1111
80.16	4.0603	5.0713	6.9021	0.1641	0.0970	0.1535
85.08	3.7318	5.1180	7.0025	0.1605	0.0871	0.1106
90	3.4661	5.0564	6.9649	0.1685	0.1273	0.1527
94.92	3.2421	5.0236	6.9699	0.2119	0.1301	0.1335
99.84	3.1437	5.0605	7.0139	0.1682	0.1313	0.1276
105.12	3.8317	4.7885	7.0731	0.1959	0.1022	0.1232
119.88	3.9155	4.4452	7.1529	0.1321	0.1215	0.1253
135	4.7287	4.3396	7.2258	0.1711	0.1751	0.1307
150.12	5.9766	4.0707	7.3397	0.1275	0.1827	0.1347
164.88	7.9663	3.7117	7.3146	0.1211	0.1391	0.1130
170.16	9.0060	3.3727	7.3409	0.2153	0.2546	0.1579
175.08	9.6677	3.2320	7.3429	0.1265	0.2324	0.1259
180	10.5376	2.7977	7.2792	0.3148	0.2132	0.1079
184.92	11.6485	2.4760	7.2950	0.1260	0.1926	0.1067
189.84	12.4902	2.2260	7.3299	0.1106	0.1739	0.1201
195.12	13.4672	1.9174	7.3017	0.1996	0.2464	0.1396
209.88	16.1419	1.2718	7.1157	0.1369	0.1897	0.1168
225	18.3947	1.1738	6.8985	0.1786	0.2211	0.1822
240.12	20.2812	1.5115	6.6470	0.5735	0.2285	0.2738
254.88	21.3647	2.0924	6.5332	0.1418	0.1243	0.1589
260.16	21.5097	2.4011	6.5273	0.1838	0.1278	0.1445
265.08	21.8173	2.6922	6.5288	0.2662	0.1318	0.1334
270.35	21.9819	3.0426	6.4026	0.2173	0.1249	0.1454
274.92	22.2909	3.3334	6.4007	0.2878	0.1241	0.1445
279.84	22.8331	3.6841	6.5073	0.2269	0.1484	0.1493
285.12	22.5118	4.1002	6.5172	0.2194	0.1534	0.1084
299.88	22.7686	5.0489	6.8870	0.2287	0.1229	0.1419
315	21.6928	5.7510	7.1551	0.1626	0.1167	0.1446
330.12	19.4109	5.6715	6.9378	0.2052	0.1198	0.1309
344.88	17.5206	4.9104	6.5706	0.2286	0.1185	0.1800
350.16	16.3342	4.8923	6.4248	0.4723	0.1930	0.1655
355.08	16.4383	4.7061	6.1196	0.2818	0.2037	0.2146

Table 2.13-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	15.9423	3.8105	6.6981	0.2080	0.1327	0.1617
4.92	14.9928	3.7909	6.6156	0.1719	0.1324	0.1586
9.84	14.3565	3.6027	6.6820	0.1224	0.1078	0.1484
15.12	13.6815	3.4450	6.7425	0.1330	0.0997	0.1272
29.88	11.5040	3.4674	6.8911	0.1821	0.1200	0.1261
45	9.0765	3.6756	6.9280	0.1740	0.1138	0.1356
60.12	6.8022	4.2287	7.1507	0.1731	0.0875	0.1533
74.88	5.2218	4.7093	7.2331	0.1004	0.0798	0.1313
80.16	4.9934	4.9170	7.3098	0.1440	0.0931	0.1696
85.08	4.7097	5.0389	7.2981	0.1714	0.1166	0.1633
90	4.5954	5.1785	7.3473	0.1683	0.1235	0.1279
94.92	4.3576	5.2015	7.3409	0.1919	0.1018	0.1302
99.84	4.0489	5.2824	7.4001	0.1513	0.1299	0.1438
105.12	3.8381	5.2939	7.4670	0.1666	0.1383	0.1516
119.88	3.9316	5.0002	7.4636	0.1283	0.1531	0.1288
135	4.8580	5.0112	7.6003	0.1732	0.2364	0.1376
150.12	6.0339	4.8958	7.6659	0.1806	0.1706	0.1677
164.88	8.2631	4.5338	7.6761	0.2015	0.2219	0.1732
170.16	9.1209	4.3605	7.6984	0.1509	0.2406	0.1640
175.08	10.2590	4.0399	7.6944	0.2052	0.2286	0.1450
180.35	10.9365	3.6039	7.5393	0.1739	0.2574	0.1498
184.92	11.6818	3.3326	7.4775	0.1695	0.2141	0.1710
189.84	12.5904	3.0424	7.4940	0.1232	0.2696	0.1736
195.12	13.3436	2.8019	7.3179	0.1341	0.2259	0.1126
209.88	16.1591	2.0699	7.1836	0.1141	0.2342	0.1802
225	18.6609	1.9607	7.0424	0.1553	0.1984	0.1632
240.12	20.8985	2.0625	6.7775	0.2141	0.1229	0.1598
254.88	21.6003	2.4975	6.6613	0.1749	0.1578	0.1911
260.16	21.9429	2.6607	6.4918	0.1811	0.1100	0.1497
265.08	22.2144	2.8369	6.4146	0.2536	0.1531	0.1311
270	22.3177	3.0805	6.3859	0.4244	0.2521	0.1254
274.92	22.5858	3.4264	6.4283	0.2178	0.1486	0.1520
279.84	22.9336	3.7216	6.5277	0.2795	0.2084	0.1300
285.12	23.0467	4.0630	6.6446	0.2464	0.0995	0.1264
299.88	23.2909	4.9032	7.0517	0.1986	0.1181	0.1025
315	22.5643	5.4409	7.2976	0.1883	0.1397	0.1808
330.12	20.5503	5.2249	7.0126	0.2330	0.1005	0.1447
344.88	18.4814	4.4602	6.6248	0.2651	0.1278	0.1526
350.16	17.3234	4.3000	6.7510	0.3505	0.1529	0.1459
355.08	16.3689	4.2017	6.6297	0.2969	0.2101	0.2085

Table 2.13-4. Pitch, flap, and lag vs azimuth for Blade 4.
$C_T/\sigma = 0.081$, $\mu = 0.371$, $\alpha = -8.4°$
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	16.0661	4.0472	6.8345	0.2027	0.0998	0.1187
4.92	14.9645	3.9008	6.9026	0.1415	0.1170	0.1113
9.84	14.3507	3.7886	6.9930	0.1325	0.0865	0.1306
15.12	13.8860	4.4141	7.2211	0.6904	0.1081	0.1248
29.88	11.2156	3.4454	7.1024	0.1428	0.0981	0.1167
45	8.6946	3.8858	7.2982	0.2589	0.1186	0.1369
60.12	6.2896	4.5833	7.4985	0.1728	0.0930	0.1580
74.88	4.5434	5.1861	7.6117	0.1277	0.1070	0.1472
80.16	4.0492	5.3838	7.6970	0.1429	0.1169	0.1530
85.08	3.7109	5.5715	7.7459	0.1424	0.1162	0.1645
90.35	3.5317	5.6924	7.6010	0.1630	0.1434	0.1492
94.92	3.2312	5.6800	7.5976	0.1564	0.1305	0.1667
99.84	3.1732	5.6802	7.6235	0.2332	0.1741	0.1592
105.12	3.3543	5.7306	7.5217	0.2236	0.1815	0.0937
119.88	4.0463	5.0623	7.5341	0.1805	0.1825	0.1556
135	4.8753	5.1392	7.7559	0.1224	0.1662	0.1287
150.12	6.0080	5.0525	7.8498	0.1336	0.1774	0.1315
164.88	8.1738	4.7439	7.9465	0.1495	0.1964	0.1792
170.16	9.0130	4.5034	7.8671	0.1714	0.2198	0.1222
175.08	9.9201	4.2252	7.8421	0.1729	0.2173	0.1104
180	10.7776	3.7561	7.7630	0.1532	0.2063	0.1413
184.92	11.6752	3.4079	7.7095	0.1566	0.2517	0.1571
189.84	12.5762	3.2038	7.6840	0.1181	0.2810	0.1091
195.12	13.4773	2.9602	7.6489	0.1360	0.2035	0.1498
209.88	16.1371	2.3309	7.4713	0.1264	0.2376	0.1108
225	18.5148	2.2432	7.3672	0.2153	0.2167	0.1759
240.12	20.4052	2.3745	7.1127	0.1833	0.1752	0.1372
254.88	20.6734	2.9706	7.0124	0.2647	0.1194	0.1239
260.16	21.6602	2.8080	6.8058	0.2978	0.1838	0.1733
265.08	22.2225	3.0866	6.7752	0.1888	0.1302	0.1221
270	22.5176	3.1930	6.6278	0.2711	0.1297	0.1361
274.92	22.7079	3.7015	6.8123	0.2264	0.1444	0.1730
279.84	22.7459	4.1226	6.9734	0.2190	0.1208	0.1504
285.12	23.2783	4.2186	6.9780	0.1898	0.1045	0.1224
299.88	23.0522	5.1828	7.4935	0.2004	0.1202	0.1348
315	21.7573	5.8499	7.7534	0.1564	0.1097	0.1546
330.12	19.6681	5.6410	7.5654	0.2140	0.0929	0.1603
344.88	17.5300	4.9678	7.0531	0.1810	0.0918	0.1120
350.16	16.7721	4.7069	7.0247	0.2592	0.1360	0.1586
355.08	16.6099	4.0211	6.9855	0.2876	0.2424	0.2095

2.13.2 Spanwise Elastic Deformations

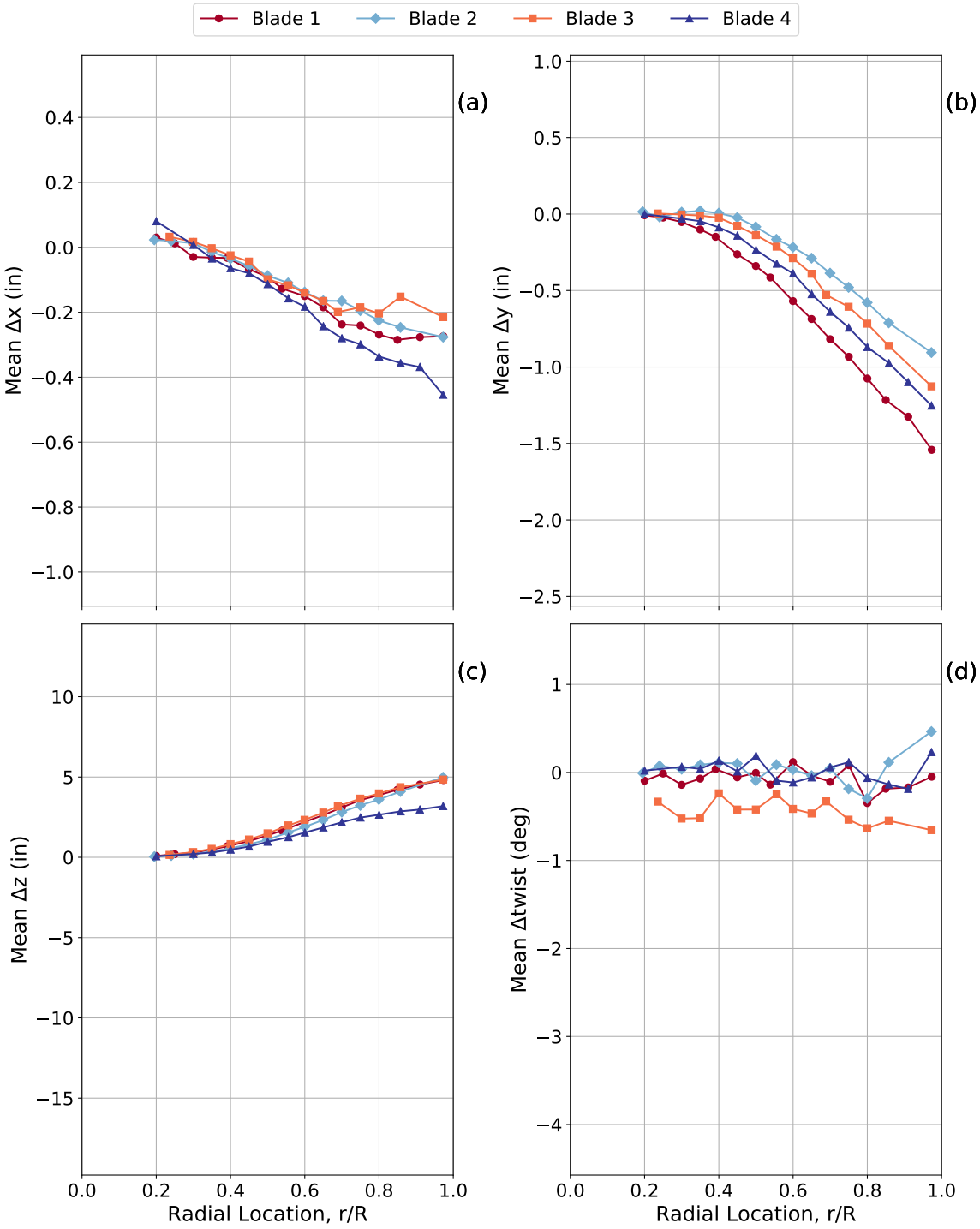


Figure 2.13-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0303	0.0036	-0.0074	0.0033	0.0847	0.0115	-0.0941	0.0768
1	0.35	0.2499	0.0123	0.0038	-0.0230	0.0054	0.1944	0.0214	-0.0122	0.1271
1	0.35	0.2998	-0.0296	0.0038	-0.0520	0.0145	0.2866	0.0318	-0.1411	0.1665
1	0.35	0.3498	-0.0320	0.0041	-0.1007	0.0256	0.4874	0.0510	-0.0705	0.1438
1	0.35	0.3913	-0.0325	0.0048	-0.1486	0.0361	0.6890	0.0705	0.0382	0.1431
1	0.35	0.4496	-0.0674	0.0050	-0.2626	0.0480	1.0045	0.0925	-0.0557	0.1408
1	0.35	0.4997	-0.0912	0.0062	-0.3399	0.0586	1.3635	0.1148	-0.0050	0.1585
1	0.35	0.5387	-0.1272	0.0059	-0.4147	0.0676	1.6600	0.1347	-0.1389	0.1493
1	0.35	0.5996	-0.1500	0.0065	-0.5691	0.0809	2.2009	0.1697	0.1175	0.1652
1	0.35	0.6498	-0.1848	0.0073	-0.6862	0.0921	2.6266	0.1997	-0.0358	0.1665
1	0.35	0.6998	-0.2374	0.0078	-0.8181	0.1045	3.1009	0.2294	-0.1056	0.1659
1	0.35	0.7500	-0.2408	0.0090	-0.9333	0.1172	3.5606	0.2623	0.0819	0.1776
1	0.35	0.8001	-0.2688	0.0094	-1.0752	0.1286	3.8761	0.3041	-0.3481	0.1860
1	0.35	0.8497	-0.2849	0.0109	-1.2159	0.1416	4.2052	0.3506	-0.1852	0.1928
1	0.35	0.9102	-0.2767	0.0128	-1.3249	0.1574	4.5292	0.4070	-0.1700	0.2015
1	0.35	0.9734	-0.2738	0.0164	-1.5417	0.1747	4.8101	0.4909	-0.0492	0.2400
2	0	0.1949	0.0231	0.0021	0.0153	0.0036	0.0402	0.0084	-0.0070	0.0544
2	0	0.2405	0.0199	0.0033	-0.0194	0.0045	0.1109	0.0171	0.0750	0.0753
2	0	0.2999	0.0123	0.0039	0.0123	0.0129	0.1981	0.0266	0.0373	0.1205
2	0	0.3498	-0.0142	0.0045	0.0206	0.0233	0.3609	0.0464	0.0869	0.1010
2	0	0.3998	-0.0352	0.0049	0.0059	0.0343	0.5581	0.0675	0.1105	0.0837
2	0	0.4496	-0.0572	0.0052	-0.0225	0.0432	0.8044	0.0840	0.1013	0.0830
2	0	0.4995	-0.0871	0.0056	-0.0832	0.0540	1.1008	0.1046	-0.0945	0.0894
2	0	0.5551	-0.1095	0.0057	-0.1652	0.0663	1.5449	0.1277	0.0889	0.1063
2	0	0.5996	-0.1376	0.0064	-0.2163	0.0754	1.8930	0.1456	0.0311	0.1058
2	0	0.6497	-0.1644	0.0073	-0.2885	0.0875	2.3259	0.1700	-0.0365	0.1022
2	0	0.6996	-0.1651	0.0072	-0.3867	0.0979	2.8128	0.1972	0.0453	0.1164
2	0	0.7495	-0.1949	0.0083	-0.4792	0.1095	3.2296	0.2293	-0.1853	0.1062
2	0	0.7996	-0.2252	0.0097	-0.5789	0.1230	3.5978	0.2683	-0.2947	0.1291
2	0	0.8578	-0.2466	0.0110	-0.7111	0.1368	4.0944	0.3208	0.1146	0.1703
2	0	0.9727	-0.2765	0.0168	-0.9055	0.1658	4.9838	0.4470	0.4645	0.1353
3	0	0.2357	0.0325	0.0039	0.0036	0.0036	0.1510	0.0214	-0.3321	0.1183
3	0	0.2995	0.0169	0.0041	-0.0032	0.0105	0.3277	0.0400	-0.5244	0.1897
3	0	0.3493	-0.0027	0.0039	-0.0097	0.0187	0.5277	0.0633	-0.5195	0.1433
3	0	0.4000	-0.0247	0.0047	-0.0239	0.0308	0.8213	0.0932	-0.2379	0.1465
3	0	0.4497	-0.0438	0.0052	-0.0768	0.0386	1.1105	0.1151	-0.4221	0.1602
3	0	0.4997	-0.0987	0.0060	-0.1373	0.0476	1.4908	0.1402	-0.4215	0.1572
3	0	0.5556	-0.1171	0.0063	-0.2129	0.0580	1.9848	0.1662	-0.2471	0.1729
3	0	0.5995	-0.1398	0.0076	-0.2888	0.0663	2.3322	0.1900	-0.4146	0.1636
3	0	0.6498	-0.1652	0.0089	-0.3904	0.0780	2.7830	0.2186	-0.4665	0.1591
3	0	0.6890	-0.1993	0.0098	-0.5286	0.0861	3.1696	0.2409	-0.3285	0.1646
3	0	0.7495	-0.1846	0.0106	-0.6062	0.1004	3.6536	0.2811	-0.5371	0.1591
3	0	0.7998	-0.2037	0.0108	-0.7168	0.1126	3.9758	0.3161	-0.6348	0.1575
3	0	0.8577	-0.1518	0.0140	-0.8618	0.1271	4.3674	0.3601	-0.5484	0.1765
3	0	0.9729	-0.2150	0.0194	-1.1264	0.1561	4.8402	0.4653	-0.6553	0.2144
4	0	0.2001	0.0803	0.0226	-0.0011	0.0018	0.0604	0.0132	0.0206	0.0841
4	0	0.3001	0.0074	0.0086	-0.0299	0.0124	0.2068	0.0372	0.0637	0.1944
4	0	0.3502	-0.0348	0.0096	-0.0467	0.0213	0.3001	0.0565	0.0402	0.1951
4	0	0.4002	-0.0643	0.0215	-0.0873	0.0353	0.4741	0.0839	0.1335	0.1791
4	0	0.4500	-0.0801	0.0364	-0.1413	0.0449	0.6712	0.1036	0.0112	0.1892
4	0	0.5001	-0.1135	0.0523	-0.2341	0.0547	0.9662	0.1265	0.1905	0.1824
4	0	0.5560	-0.1573	0.0742	-0.3247	0.0675	1.2536	0.1564	-0.0927	0.1875
4	0	0.6001	-0.1831	0.0927	-0.3886	0.0763	1.5398	0.1799	-0.1141	0.1886
4	0	0.6501	-0.2432	0.1161	-0.5237	0.0885	1.8585	0.2110	-0.0569	0.1955
4	0	0.6999	-0.2801	0.1439	-0.6389	0.0989	2.1807	0.2437	0.0583	0.2016
4	0	0.7500	-0.2990	0.1733	-0.7427	0.1116	2.4727	0.2789	0.1168	0.1973
4	0	0.8002	-0.3363	0.2060	-0.8695	0.1226	2.6509	0.3159	-0.0629	0.2008
4	0	0.8582	-0.3563	0.2472	-0.9747	0.1379	2.8584	0.3593	-0.1372	0.1995
4	0	0.9101	-0.3687	0.2853	-1.0989	0.1499	2.9727	0.4014	-0.1873	0.2139
4	0	0.9728	-0.4542	0.3321	-1.2524	0.1656	3.1854	0.4588	0.2299	0.2025

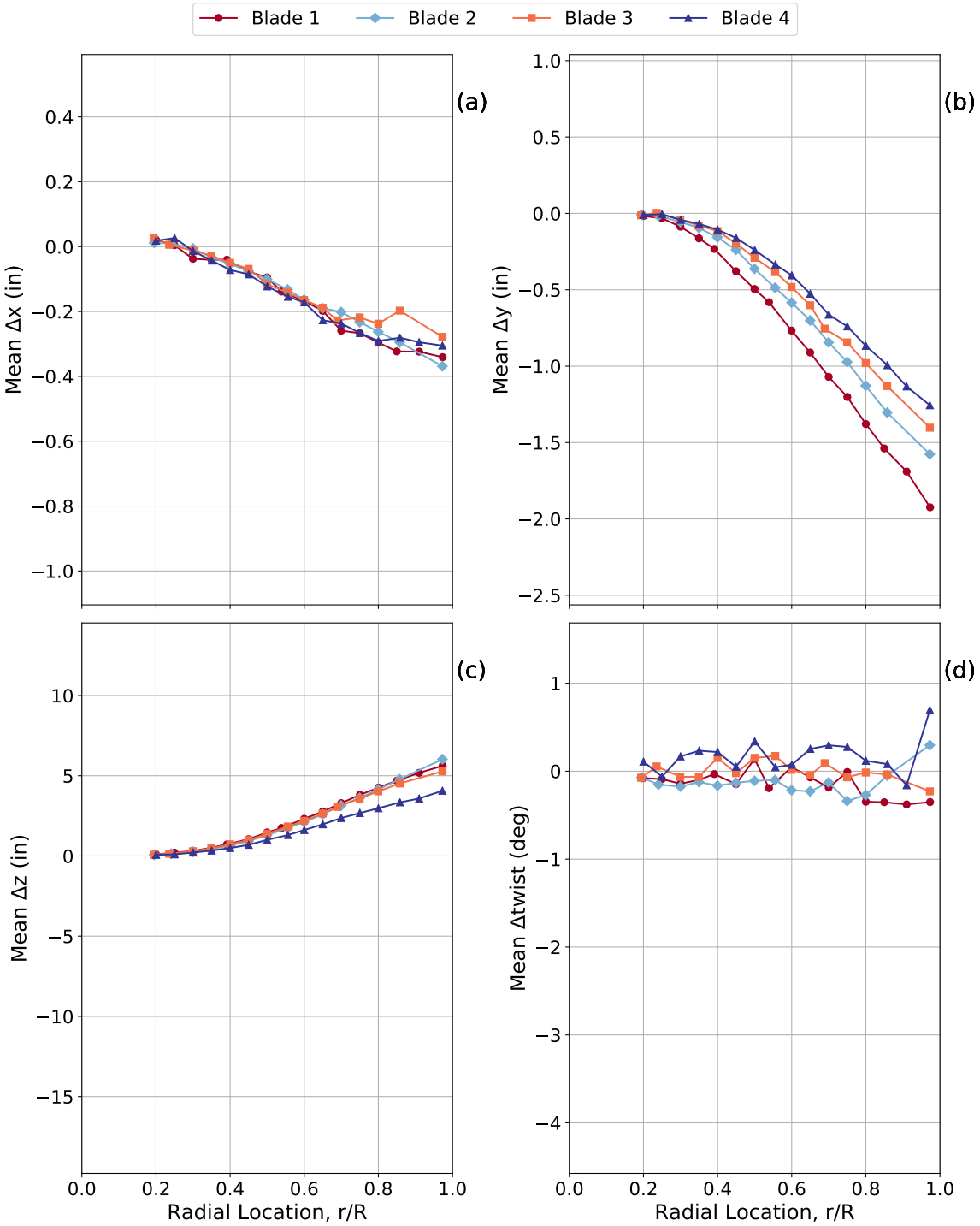


Figure 2.13-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.371$, $\alpha = -8.4°$ NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-6. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.371$, $\alpha = -8.4°$
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0210	0.0024	-0.0173	0.0020	0.1007	0.0093	-0.0787	0.0553
1	4.92	0.2499	0.0044	0.0029	-0.0319	0.0053	0.2067	0.0174	-0.0904	0.0886
1	4.92	0.2998	-0.0375	0.0024	-0.0871	0.0090	0.3126	0.0266	-0.1422	0.1196
1	4.92	0.3498	-0.0408	0.0032	-0.1634	0.0173	0.5153	0.0453	-0.0994	0.0880
1	4.92	0.3913	-0.0405	0.0038	-0.2325	0.0245	0.7188	0.0609	-0.0327	0.0927
1	4.92	0.4496	-0.0769	0.0045	-0.3786	0.0320	1.0476	0.0800	-0.1477	0.0883
1	4.92	0.4997	-0.0950	0.0052	-0.4951	0.0394	1.4644	0.0984	0.1388	0.0973
1	4.92	0.5387	-0.1385	0.0047	-0.5811	0.0460	1.7402	0.1151	-0.1923	0.0997
1	4.92	0.5996	-0.1673	0.0059	-0.7672	0.0557	2.3124	0.1440	0.0459	0.0946
1	4.92	0.6498	-0.1982	0.0059	-0.9108	0.0647	2.7719	0.1667	-0.0695	0.1048
1	4.92	0.6998	-0.2591	0.0069	-1.0700	0.0733	3.2933	0.1925	-0.1856	0.1043
1	4.92	0.7500	-0.2669	0.0073	-1.2013	0.0836	3.8095	0.2224	-0.0090	0.1080
1	4.92	0.8001	-0.2960	0.0077	-1.3787	0.0950	4.2617	0.2572	-0.3475	0.1340
1	4.92	0.8497	-0.3232	0.0088	-1.5386	0.1061	4.6899	0.2980	-0.3528	0.1003
1	4.92	0.9102	-0.3239	0.0098	-1.6899	0.1186	5.1832	0.3575	-0.3780	0.1527
1	4.92	0.9734	-0.3409	0.0131	-1.9241	0.1339	5.6216	0.4283	-0.3512	0.1544
2	4.92	0.1949	0.0116	0.0023	-0.0086	0.0012	0.0773	0.0088	-0.0700	0.0537
2	4.92	0.2405	0.0094	0.0022	-0.0155	0.0045	0.1387	0.0172	-0.1520	0.0689
2	4.92	0.2999	-0.0058	0.0022	-0.0565	0.0076	0.2617	0.0300	-0.1746	0.1149
2	4.92	0.3498	-0.0334	0.0025	-0.0951	0.0145	0.4385	0.0516	-0.1225	0.0845
2	4.92	0.3998	-0.0531	0.0036	-0.1568	0.0227	0.6481	0.0760	-0.1648	0.0854
2	4.92	0.4496	-0.0759	0.0038	-0.2380	0.0280	0.9306	0.0974	-0.1325	0.0946
2	4.92	0.4995	-0.1004	0.0047	-0.3625	0.0343	1.2927	0.1255	-0.1092	0.1199
2	4.92	0.5551	-0.1324	0.0049	-0.4870	0.0422	1.7358	0.1571	-0.1006	0.1088
2	4.92	0.5996	-0.1635	0.0058	-0.5840	0.0494	2.1190	0.1837	-0.2167	0.1068
2	4.92	0.6497	-0.1898	0.0070	-0.7004	0.0586	2.5938	0.2145	-0.2292	0.1109
2	4.92	0.6996	-0.2017	0.0076	-0.8443	0.0670	3.1435	0.2463	-0.1277	0.1246
2	4.92	0.7495	-0.2326	0.0082	-0.9728	0.0767	3.6215	0.2818	-0.3390	0.1222
2	4.92	0.7996	-0.2624	0.0088	-1.1281	0.0874	4.1486	0.3248	-0.2707	0.1253
2	4.92	0.8578	-0.2951	0.0106	-1.3039	0.0989	4.7812	0.3812	-0.0514	0.1535
2	4.92	0.9727	-0.3686	0.0177	-1.5763	0.1242	6.0275	0.5107	0.2961	0.1512
3	4.92	0.1938	0.0278	0.0019	-0.0126	0.0013	0.0770	0.0060	-0.0749	0.0591
3	4.92	0.2357	0.0058	0.0020	0.0031	0.0032	0.1398	0.0136	0.0539	0.0677
3	4.92	0.2995	-0.0121	0.0023	-0.0425	0.0069	0.2932	0.0236	-0.0642	0.1241
3	4.92	0.3493	-0.0278	0.0026	-0.0792	0.0125	0.4671	0.0357	-0.0636	0.0834
3	4.92	0.4000	-0.0498	0.0034	-0.1161	0.0198	0.7235	0.0562	0.1510	0.0875
3	4.92	0.4497	-0.0686	0.0040	-0.1963	0.0251	0.9922	0.0712	-0.0225	0.0870
3	4.92	0.4997	-0.1156	0.0042	-0.2907	0.0310	1.3829	0.0912	0.1510	0.0870
3	4.92	0.5556	-0.1422	0.0046	-0.3841	0.0405	1.8334	0.1172	0.1728	0.0842
3	4.92	0.5995	-0.1649	0.0058	-0.4819	0.0480	2.1915	0.1409	0.0155	0.0870
3	4.92	0.6498	-0.1885	0.0062	-0.6015	0.0580	2.6414	0.1717	-0.0445	0.0882
3	4.92	0.6890	-0.2275	0.0068	-0.7544	0.0659	3.0562	0.1983	0.0909	0.0986
3	4.92	0.7495	-0.2182	0.0092	-0.8442	0.0790	3.5794	0.2475	-0.0690	0.0980
3	4.92	0.7998	-0.2377	0.0103	-0.9799	0.0910	4.0276	0.2924	-0.0153	0.1052
3	4.92	0.8577	-0.1973	0.0109	-1.1301	0.1052	4.5209	0.3574	-0.0365	0.1370
3	4.92	0.9729	-0.2782	0.0182	-1.4028	0.1357	5.2687	0.5110	-0.2293	0.1365
4	4.92	0.2001	0.0182	0.0018	-0.0101	0.0016	0.0704	0.0077	0.1086	0.0573
4	4.92	0.2502	0.0265	0.0020	-0.0048	0.0040	0.1005	0.0148	-0.0624	0.0673
4	4.92	0.3001	-0.0137	0.0028	-0.0424	0.0075	0.2136	0.0230	0.1678	0.1161
4	4.92	0.3502	-0.0429	0.0025	-0.0693	0.0133	0.3355	0.0380	0.2327	0.0906
4	4.92	0.4002	-0.0720	0.0032	-0.1069	0.0210	0.4953	0.0557	0.2173	0.0933
4	4.92	0.4500	-0.0855	0.0031	-0.1607	0.0254	0.6926	0.0733	0.0500	0.0846
4	4.92	0.5001	-0.1227	0.0038	-0.2400	0.0304	1.0047	0.0933	0.3392	0.0923
4	4.92	0.5560	-0.1547	0.0043	-0.3350	0.0382	1.3031	0.1192	0.0451	0.0876
4	4.92	0.6001	-0.1717	0.0052	-0.4058	0.0442	1.6167	0.1379	0.0729	0.0831
4	4.92	0.6501	-0.2269	0.0052	-0.5264	0.0507	1.9738	0.1610	0.2530	0.0891
4	4.92	0.6999	-0.2370	0.0056	-0.6626	0.0574	2.3634	0.1838	0.2944	0.0901
4	4.92	0.7500	-0.2662	0.0061	-0.7395	0.0657	2.6748	0.2102	0.2757	0.0999
4	4.92	0.8002	-0.2908	0.0073	-0.8672	0.0741	2.9751	0.2378	0.1182	0.1025
4	4.92	0.8582	-0.2807	0.0079	-0.9938	0.0835	3.3413	0.2783	0.0804	0.1187
4	4.92	0.9101	-0.2948	0.0088	-1.1326	0.0941	3.5839	0.3134	-0.1598	0.1248
4	4.92	0.9728	-0.3053	0.0121	-1.2558	0.1048	4.0650	0.3627	0.6957	0.0986

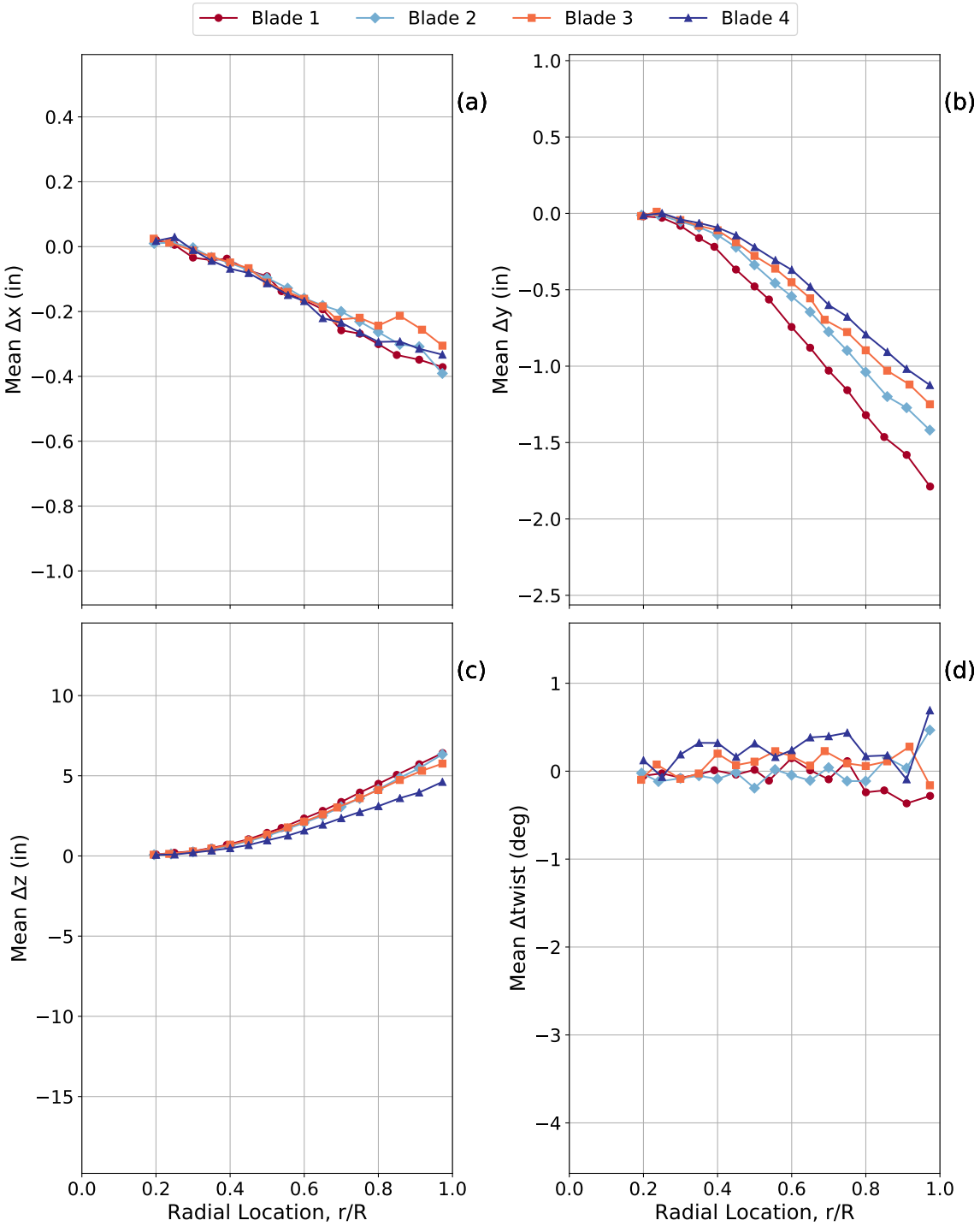


Figure 2.13-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0206	0.0022	-0.0188	0.0015	0.0962	0.0083	-0.0523	0.0537
1	9.84	0.2499	0.0055	0.0020	-0.0285	0.0043	0.1953	0.0166	-0.0252	0.0861
1	9.84	0.2998	-0.0338	0.0020	-0.0813	0.0067	0.2967	0.0244	-0.0743	0.1173
1	9.84	0.3498	-0.0420	0.0030	-0.1611	0.0130	0.5021	0.0436	-0.0359	0.0859
1	9.84	0.3913	-0.0371	0.0037	-0.2185	0.0184	0.6920	0.0581	0.0106	0.0904
1	9.84	0.4496	-0.0734	0.0039	-0.3675	0.0246	1.0434	0.0806	-0.0392	0.0934
1	9.84	0.4997	-0.0913	0.0045	-0.4781	0.0303	1.4383	0.1003	0.0155	0.0992
1	9.84	0.5387	-0.1373	0.0048	-0.5636	0.0361	1.7440	0.1188	-0.1075	0.1088
1	9.84	0.5996	-0.1652	0.0054	-0.7436	0.0462	2.3364	0.1491	0.1477	0.1012
1	9.84	0.6498	-0.1934	0.0064	-0.8793	0.0543	2.8102	0.1775	0.0104	0.1086
1	9.84	0.6998	-0.2580	0.0072	-1.0291	0.0631	3.3637	0.2094	-0.0925	0.1167
1	9.84	0.7500	-0.2684	0.0087	-1.1573	0.0730	3.9527	0.2464	0.1142	0.1141
1	9.84	0.8001	-0.3007	0.0096	-1.3205	0.0827	4.4968	0.2854	-0.2403	0.1243
1	9.84	0.8497	-0.3341	0.0113	-1.4637	0.0927	5.0546	0.3303	-0.2185	0.1253
1	9.84	0.9102	-0.3486	0.0136	-1.5809	0.1044	5.7162	0.3867	-0.3664	0.1362
1	9.84	0.9734	-0.3715	0.0192	-1.7880	0.1196	6.4150	0.4566	-0.2812	0.1227
2	9.84	0.1949	0.0098	0.0022	-0.0117	0.0013	0.0774	0.0055	-0.0218	0.0463
2	9.84	0.2405	0.0125	0.0021	-0.0079	0.0037	0.1249	0.0129	-0.1179	0.0557
2	9.84	0.2999	-0.0033	0.0020	-0.0538	0.0060	0.2552	0.0216	-0.0811	0.0950
2	9.84	0.3498	-0.0330	0.0027	-0.0898	0.0110	0.4328	0.0322	-0.0527	0.0754
2	9.84	0.3998	-0.0504	0.0033	-0.1411	0.0174	0.6330	0.0511	-0.0884	0.0740
2	9.84	0.4496	-0.0725	0.0033	-0.2216	0.0219	0.9208	0.0669	-0.0141	0.0738
2	9.84	0.4995	-0.0966	0.0035	-0.3370	0.0272	1.2441	0.0847	-0.1924	0.0788
2	9.84	0.5551	-0.1280	0.0042	-0.4566	0.0347	1.6920	0.1059	0.0180	0.0787
2	9.84	0.5996	-0.1588	0.0055	-0.5434	0.0404	2.0640	0.1242	-0.0456	0.0799
2	9.84	0.6497	-0.1814	0.0062	-0.6450	0.0476	2.5131	0.1433	-0.1053	0.0860
2	9.84	0.6996	-0.1999	0.0066	-0.7745	0.0558	3.0665	0.1651	0.0409	0.0959
2	9.84	0.7495	-0.2310	0.0070	-0.8974	0.0639	3.5802	0.1874	-0.1126	0.0958
2	9.84	0.7996	-0.2633	0.0079	-1.0388	0.0727	4.1509	0.2136	-0.1129	0.1096
2	9.84	0.8578	-0.3016	0.0094	-1.1991	0.0840	4.8767	0.2473	0.1518	0.1202
2	9.84	0.9100	-0.3084	0.0103	-1.2721	0.0928	5.4633	0.2822	0.0349	0.1811
2	9.84	0.9727	-0.3910	0.0138	-1.4186	0.1055	6.3340	0.3347	0.4673	0.1227
3	9.84	0.1938	0.0245	0.0016	-0.0174	0.0014	0.0777	0.0071	-0.0976	0.0353
3	9.84	0.2357	0.0123	0.0020	0.0108	0.0034	0.1287	0.0137	0.0757	0.0506
3	9.84	0.2995	-0.0120	0.0024	-0.0437	0.0062	0.2839	0.0257	-0.0872	0.0727
3	9.84	0.3493	-0.0310	0.0024	-0.0810	0.0118	0.4604	0.0405	-0.0260	0.0754
3	9.84	0.4000	-0.0489	0.0034	-0.1105	0.0186	0.7032	0.0628	0.1996	0.0711
3	9.84	0.4497	-0.0666	0.0039	-0.1884	0.0241	0.9729	0.0838	0.0680	0.0697
3	9.84	0.4997	-0.1106	0.0042	-0.2778	0.0300	1.3343	0.1070	0.1085	0.0645
3	9.84	0.5556	-0.1398	0.0050	-0.3614	0.0371	1.7792	0.1334	0.2275	0.0779
3	9.84	0.5995	-0.1608	0.0055	-0.4508	0.0435	2.1424	0.1561	0.1712	0.0770
3	9.84	0.6498	-0.1843	0.0067	-0.5557	0.0514	2.5915	0.1812	0.0637	0.0752
3	9.84	0.6890	-0.2252	0.0077	-0.6964	0.0575	3.0224	0.2009	0.2282	0.0838
3	9.84	0.7495	-0.2194	0.0087	-0.7767	0.0685	3.6059	0.2322	0.0889	0.0869
3	9.84	0.7998	-0.2436	0.0093	-0.8962	0.0775	4.1160	0.2617	0.0590	0.0851
3	9.84	0.8577	-0.2131	0.0107	-1.0293	0.0898	4.7376	0.2976	0.1118	0.1059
3	9.84	0.9178	-0.2561	0.0121	-1.1203	0.1091	5.3112	0.3528	0.2786	0.2538
3	9.84	0.9729	-0.3053	0.0161	-1.2496	0.1129	5.7573	0.3897	-0.1606	0.1242
4	9.84	0.2001	0.0175	0.0022	-0.0116	0.0013	0.0706	0.0074	0.1238	0.0365
4	9.84	0.2502	0.0294	0.0017	0.0010	0.0036	0.0888	0.0145	-0.0654	0.0545
4	9.84	0.3001	-0.0104	0.0020	-0.0397	0.0061	0.2074	0.0240	0.1905	0.0733
4	9.84	0.3502	-0.0437	0.0021	-0.0631	0.0101	0.3361	0.0377	0.3221	0.0721
4	9.84	0.4002	-0.0680	0.0035	-0.0928	0.0167	0.4854	0.0578	0.3209	0.0676
4	9.84	0.4500	-0.0814	0.0031	-0.1436	0.0200	0.6811	0.0727	0.1632	0.0670
4	9.84	0.5001	-0.1130	0.0039	-0.2205	0.0245	0.9710	0.0910	0.3159	0.0614
4	9.84	0.5560	-0.1492	0.0046	-0.3064	0.0309	1.2703	0.1119	0.1609	0.0671
4	9.84	0.6001	-0.1678	0.0049	-0.3697	0.0364	1.5860	0.1290	0.2395	0.0705
4	9.84	0.6501	-0.2205	0.0054	-0.4793	0.0429	1.9505	0.1506	0.3840	0.0627
4	9.84	0.6999	-0.2345	0.0058	-0.5998	0.0503	2.3551	0.1702	0.3972	0.0737
4	9.84	0.7500	-0.2650	0.0064	-0.6766	0.0567	2.7389	0.1911	0.4372	0.0811
4	9.84	0.8002	-0.2937	0.0073	-0.7921	0.0635	3.1061	0.2123	0.1697	0.0797
4	9.84	0.8582	-0.2925	0.0081	-0.9071	0.0718	3.6058	0.2421	0.1797	0.0962
4	9.84	0.9101	-0.3149	0.0087	-1.0178	0.0811	3.9546	0.2732	-0.0930	0.1033
4	9.84	0.9728	-0.3331	0.0118	-1.1238	0.0911	4.6158	0.3231	0.6920	0.1152

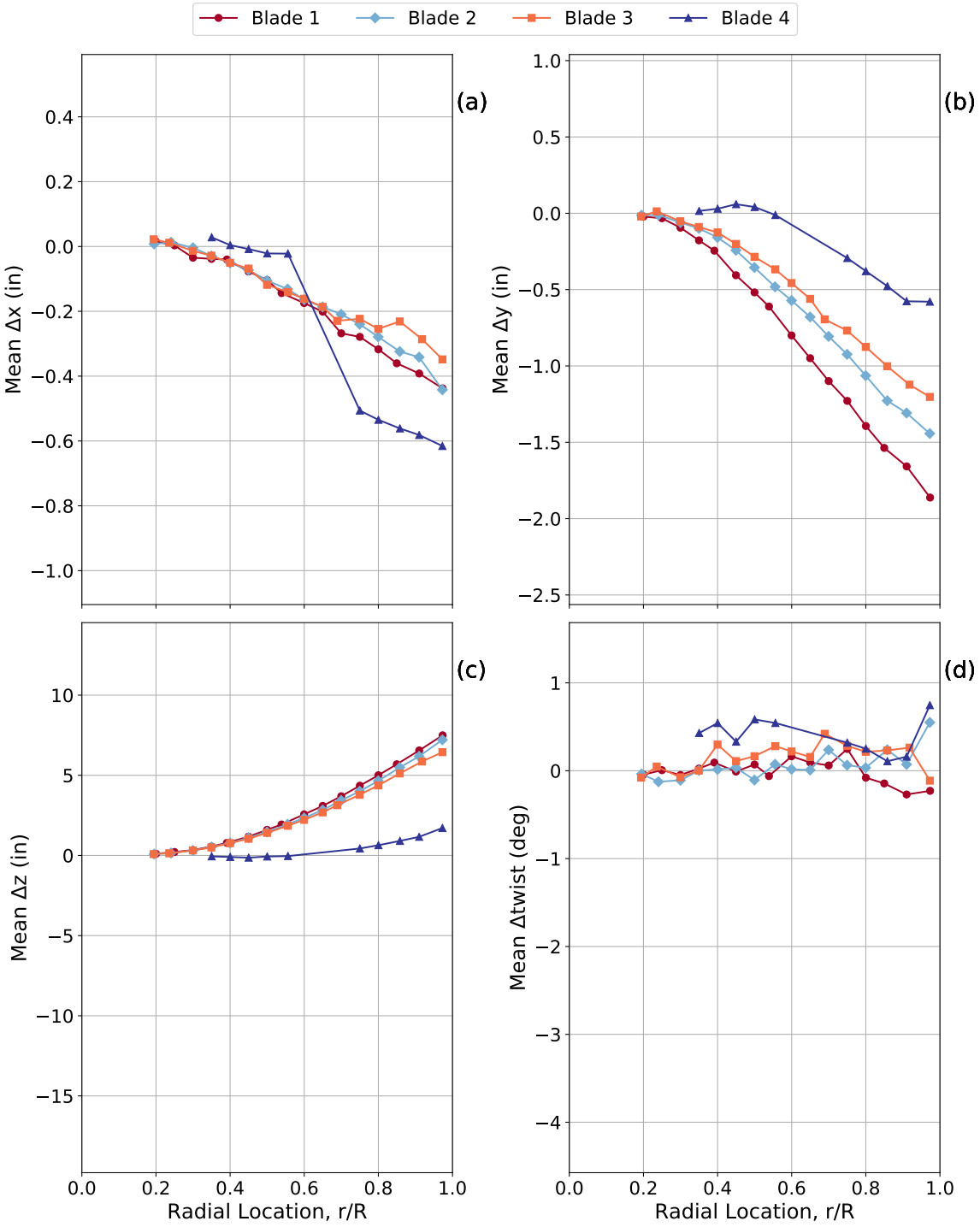


Figure 2.13-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0150	0.0026	-0.0220	0.0016	0.1038	0.0076	-0.0443	0.0453
1	15.12	0.2499	0.0033	0.0020	-0.0326	0.0037	0.2145	0.0134	0.0063	0.0585
1	15.12	0.2998	-0.0346	0.0022	-0.0944	0.0079	0.3364	0.0238	-0.0484	0.0916
1	15.12	0.3498	-0.0383	0.0027	-0.1774	0.0125	0.5589	0.0368	0.0250	0.0741
1	15.12	0.3913	-0.0401	0.0037	-0.2449	0.0187	0.7846	0.0517	0.0926	0.0799
1	15.12	0.4496	-0.0771	0.0039	-0.4059	0.0251	1.1743	0.0696	-0.0098	0.0771
1	15.12	0.4997	-0.1035	0.0044	-0.5182	0.0312	1.5982	0.0861	0.0711	0.0853
1	15.12	0.5387	-0.1437	0.0050	-0.6108	0.0366	1.9322	0.1010	-0.0610	0.0844
1	15.12	0.5996	-0.1745	0.0058	-0.8001	0.0452	2.5625	0.1226	0.1640	0.0884
1	15.12	0.6498	-0.2012	0.0065	-0.9491	0.0521	3.0909	0.1411	0.0940	0.0957
1	15.12	0.6998	-0.2679	0.0076	-1.0991	0.0601	3.6923	0.1616	0.0600	0.0971
1	15.12	0.7500	-0.2788	0.0084	-1.2289	0.0680	4.3519	0.1819	0.2480	0.1067
1	15.12	0.8001	-0.3172	0.0096	-1.3935	0.0768	5.0040	0.2039	-0.0790	0.1085
1	15.12	0.8497	-0.3604	0.0099	-1.5367	0.0844	5.6894	0.2302	-0.1447	0.0952
1	15.12	0.9102	-0.3919	0.0120	-1.6579	0.0967	6.5506	0.2666	-0.2702	0.1353
1	15.12	0.9734	-0.4378	0.0152	-1.8620	0.1086	7.4958	0.3127	-0.2289	0.1286
2	15.12	0.1949	0.0077	0.0021	-0.0127	0.0015	0.0877	0.0061	-0.0371	0.0465
2	15.12	0.2405	0.0128	0.0020	-0.0111	0.0034	0.1518	0.0107	-0.1252	0.0499
2	15.12	0.2999	-0.0039	0.0024	-0.0608	0.0064	0.3083	0.0201	-0.1084	0.0934
2	15.12	0.3498	-0.0292	0.0027	-0.0991	0.0124	0.5244	0.0338	0.0032	0.0790
2	15.12	0.3998	-0.0507	0.0029	-0.1583	0.0184	0.7783	0.0494	0.0143	0.0689
2	15.12	0.4496	-0.0727	0.0030	-0.2425	0.0229	1.1053	0.0651	0.0347	0.0706
2	15.12	0.4995	-0.1053	0.0036	-0.3550	0.0274	1.4619	0.0823	-0.1060	0.0837
2	15.12	0.5551	-0.1312	0.0041	-0.4818	0.0344	1.9456	0.1040	0.0730	0.0933
2	15.12	0.5996	-0.1639	0.0044	-0.5713	0.0389	2.3404	0.1243	0.0167	0.0907
2	15.12	0.6497	-0.1865	0.0048	-0.6791	0.0451	2.8344	0.1485	0.0081	0.1004
2	15.12	0.6996	-0.2092	0.0057	-0.8064	0.0515	3.4334	0.1741	0.2374	0.1037
2	15.12	0.7495	-0.2397	0.0064	-0.9240	0.0590	4.0009	0.2061	0.0635	0.1032
2	15.12	0.7996	-0.2788	0.0075	-1.0636	0.0665	4.6530	0.2399	0.0335	0.1102
2	15.12	0.8578	-0.3241	0.0095	-1.2276	0.0747	5.4902	0.2857	0.2381	0.1124
2	15.12	0.9100	-0.3414	0.0114	-1.3082	0.0828	6.1851	0.3349	0.0718	0.1370
2	15.12	0.9727	-0.4421	0.0161	-1.4427	0.0929	7.2126	0.4000	0.5501	0.1234
3	15.12	0.1938	0.0221	0.0020	-0.0208	0.0014	0.0841	0.0067	-0.0781	0.0302
3	15.12	0.2357	0.0116	0.0016	0.0126	0.0031	0.1358	0.0127	0.0476	0.0487
3	15.12	0.2995	-0.0135	0.0022	-0.0523	0.0062	0.3132	0.0250	-0.0740	0.0670
3	15.12	0.3493	-0.0284	0.0031	-0.0902	0.0106	0.4981	0.0416	0.0018	0.0624
3	15.12	0.4000	-0.0505	0.0031	-0.1253	0.0160	0.7694	0.0633	0.2978	0.0688
3	15.12	0.4497	-0.0682	0.0034	-0.2011	0.0214	1.0423	0.0845	0.1096	0.0740
3	15.12	0.4997	-0.1182	0.0039	-0.2853	0.0272	1.4073	0.1091	0.1654	0.0729
3	15.12	0.5556	-0.1407	0.0041	-0.3675	0.0344	1.8546	0.1390	0.2800	0.0726
3	15.12	0.5995	-0.1613	0.0044	-0.4569	0.0408	2.2199	0.1627	0.2195	0.0809
3	15.12	0.6498	-0.1862	0.0052	-0.5605	0.0484	2.6865	0.1893	0.1565	0.0811
3	15.12	0.6890	-0.2293	0.0058	-0.6947	0.0542	3.1379	0.2098	0.4201	0.0938
3	15.12	0.7495	-0.2231	0.0073	-0.7682	0.0643	3.7848	0.2417	0.2834	0.0898
3	15.12	0.7998	-0.2541	0.0086	-0.8753	0.0734	4.3706	0.2685	0.2154	0.0964
3	15.12	0.8577	-0.2312	0.0103	-1.0019	0.0825	5.1148	0.3022	0.2313	0.0989
3	15.12	0.9178	-0.2859	0.0125	-1.1226	0.0972	5.8609	0.3371	0.2628	0.1629
3	15.12	0.9729	-0.3483	0.0157	-1.2026	0.1056	6.4436	0.3725	-0.1129	0.1257
4	15.12	0.3502	0.0282	0.0237	0.0152	0.0137	-0.0566	0.0493	0.4289	0.5546
4	15.12	0.4002	0.0042	0.0090	0.0297	0.0254	-0.0956	0.0836	0.5427	0.7029
4	15.12	0.4500	-0.0080	0.0086	0.0594	0.0232	-0.1390	0.0832	0.3305	0.6548
4	15.12	0.5001	-0.0215	0.0232	0.0409	0.0232	-0.0652	0.0877	0.5838	0.6544
4	15.12	0.5560	-0.0221	0.0441	-0.0117	0.0269	-0.0399	0.0963	0.5431	0.6656
4	15.12	0.7500	-0.5062	0.0667	-0.2934	0.3960	0.4333	0.2805	0.3187	0.6458
4	15.12	0.8002	-0.5348	0.0674	-0.3792	0.4244	0.6396	0.3073	0.2509	0.6437
4	15.12	0.8582	-0.5614	0.0668	-0.4775	0.4585	0.9057	0.3484	0.1079	0.6556
4	15.12	0.9101	-0.5816	0.0669	-0.5763	0.4891	1.1626	0.3825	0.1601	0.6399
4	15.12	0.9728	-0.6155	0.0738	-0.5791	0.5254	1.7108	0.4263	0.7462	0.6497

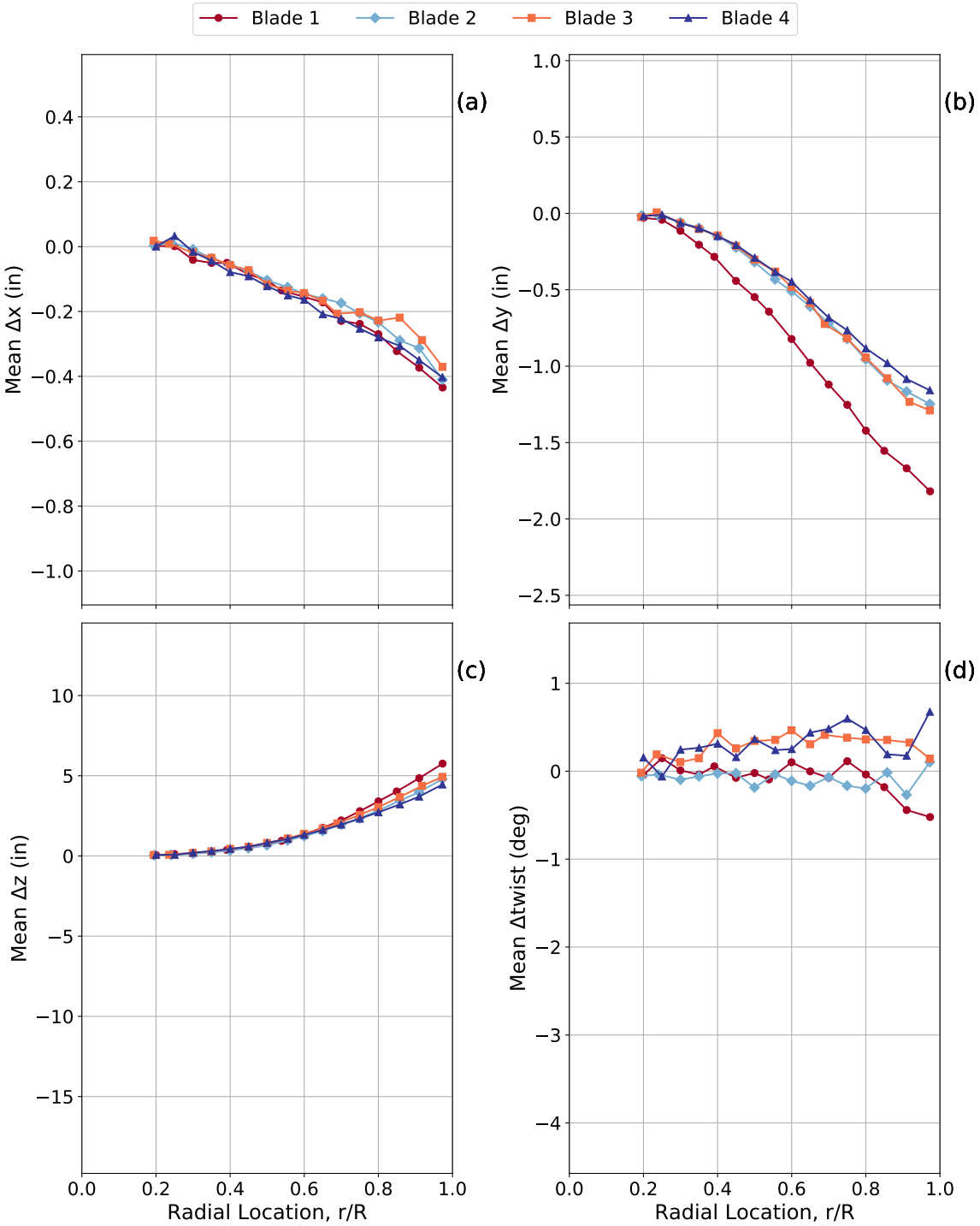


Figure 2.13-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-9. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.371$, $\alpha = -8.4°$
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0022	0.0025	-0.0287	0.0015	0.0576	0.0069	-0.0420	0.0469
1	29.88	0.2499	0.0014	0.0029	-0.0417	0.0034	0.1197	0.0134	0.1476	0.0636
1	29.88	0.2998	-0.0409	0.0019	-0.1138	0.0064	0.1687	0.0228	0.0088	0.0974
1	29.88	0.3498	-0.0503	0.0026	-0.2052	0.0115	0.2632	0.0397	-0.0379	0.0806
1	29.88	0.3913	-0.0499	0.0034	-0.2840	0.0163	0.3706	0.0546	0.0550	0.0845
1	29.88	0.4496	-0.0856	0.0039	-0.4418	0.0225	0.5232	0.0792	-0.0752	0.0758
1	29.88	0.4997	-0.1037	0.0041	-0.5477	0.0285	0.7450	0.1011	-0.0209	0.0781
1	29.88	0.5387	-0.1348	0.0044	-0.6430	0.0329	0.9405	0.1192	-0.0934	0.0765
1	29.88	0.5996	-0.1549	0.0048	-0.8222	0.0418	1.3670	0.1489	0.1013	0.0839
1	29.88	0.6498	-0.1718	0.0053	-0.9778	0.0494	1.7526	0.1747	-0.0019	0.0857
1	29.88	0.6998	-0.2290	0.0064	-1.1203	0.0577	2.2149	0.1989	-0.0753	0.0879
1	29.88	0.7500	-0.2381	0.0073	-1.2532	0.0666	2.7934	0.2233	0.1137	0.0992
1	29.88	0.8001	-0.2699	0.0078	-1.4216	0.0758	3.4013	0.2474	-0.0377	0.0971
1	29.88	0.8497	-0.3221	0.0093	-1.5540	0.0856	4.0220	0.2768	-0.1813	0.0936
1	29.88	0.9102	-0.3735	0.0110	-1.6689	0.0976	4.8491	0.3133	-0.4422	0.0983
1	29.88	0.9734	-0.4345	0.0151	-1.8192	0.1112	5.7561	0.3532	-0.5215	0.1107
2	29.88	0.1949	0.0024	0.0085	-0.0134	0.0014	0.0421	0.0069	-0.0545	0.0416
2	29.88	0.2405	0.0129	0.0037	-0.0137	0.0036	0.0700	0.0112	-0.0381	0.0563
2	29.88	0.2999	-0.0079	0.0042	-0.0582	0.0074	0.1354	0.0215	-0.0964	0.0892
2	29.88	0.3498	-0.0365	0.0106	-0.0944	0.0133	0.2268	0.0384	-0.0592	0.0744
2	29.88	0.3998	-0.0566	0.0176	-0.1484	0.0207	0.3310	0.0547	-0.0259	0.0797
2	29.88	0.4496	-0.0755	0.0248	-0.2233	0.0275	0.4843	0.0728	-0.0232	0.0835
2	29.88	0.4995	-0.1035	0.0318	-0.3183	0.0353	0.6646	0.0927	-0.1854	0.0852
2	29.88	0.5551	-0.1250	0.0402	-0.4320	0.0455	0.9707	0.1177	-0.0365	0.0981
2	29.88	0.5996	-0.1453	0.0464	-0.5096	0.0540	1.2326	0.1385	-0.1100	0.0977
2	29.88	0.6497	-0.1600	0.0534	-0.6094	0.0645	1.5616	0.1640	-0.1660	0.1107
2	29.88	0.6996	-0.1737	0.0611	-0.7195	0.0763	1.9540	0.1900	-0.0696	0.1162
2	29.88	0.7495	-0.2057	0.0682	-0.8212	0.0876	2.3527	0.2185	-0.1660	0.1289
2	29.88	0.7996	-0.2333	0.0754	-0.9554	0.0996	2.8301	0.2507	-0.1975	0.1329
2	29.88	0.8578	-0.2891	0.0845	-1.0937	0.1147	3.4447	0.2906	-0.0150	0.1322
2	29.88	0.9100	-0.3131	0.0947	-1.1656	0.1291	3.9774	0.3318	-0.2690	0.1442
2	29.88	0.9727	-0.4097	0.1109	-1.2472	0.1503	4.7947	0.3815	0.1026	0.1474
3	29.88	0.1938	0.0182	0.0017	-0.0238	0.0013	0.0560	0.0065	-0.0170	0.0408
3	29.88	0.2357	0.0088	0.0019	0.0071	0.0025	0.0732	0.0110	0.1908	0.0555
3	29.88	0.2995	-0.0186	0.0021	-0.0616	0.0052	0.1900	0.0243	0.1031	0.0913
3	29.88	0.3493	-0.0343	0.0022	-0.1025	0.0087	0.2882	0.0410	0.1480	0.0800
3	29.88	0.4000	-0.0566	0.0032	-0.1445	0.0136	0.4431	0.0624	0.4324	0.0830
3	29.88	0.4497	-0.0728	0.0034	-0.2127	0.0169	0.5718	0.0825	0.2588	0.0855
3	29.88	0.4997	-0.1158	0.0040	-0.3026	0.0226	0.8093	0.1076	0.3440	0.0871
3	29.88	0.5556	-0.1358	0.0041	-0.3805	0.0296	1.0924	0.1360	0.3553	0.0921
3	29.88	0.5995	-0.1432	0.0048	-0.4816	0.0363	1.3814	0.1594	0.4648	0.0973
3	29.88	0.6498	-0.1669	0.0053	-0.5868	0.0439	1.7080	0.1883	0.3060	0.0917
3	29.88	0.6890	-0.2070	0.0059	-0.7234	0.0505	2.0280	0.2101	0.4129	0.0981
3	29.88	0.7495	-0.2022	0.0063	-0.8178	0.0618	2.5552	0.2482	0.3815	0.0965
3	29.88	0.7998	-0.2280	0.0074	-0.9433	0.0717	3.0455	0.2818	0.3617	0.1066
3	29.88	0.8577	-0.2188	0.0086	-1.0789	0.0839	3.6737	0.3255	0.3549	0.1145
3	29.88	0.9178	-0.2882	0.0113	-1.2334	0.0966	4.3668	0.3732	0.3250	0.1302
3	29.88	0.9729	-0.3706	0.0145	-1.2899	0.1074	4.9309	0.4187	0.1428	0.1253
4	29.88	0.2001	0.0005	0.0023	-0.0178	0.0012	0.0709	0.0058	0.1550	0.0412
4	29.88	0.2502	0.0327	0.0019	-0.0087	0.0034	0.0695	0.0102	-0.0608	0.0575
4	29.88	0.3001	-0.0161	0.0020	-0.0641	0.0053	0.2006	0.0192	0.2449	0.0863
4	29.88	0.3502	-0.0440	0.0024	-0.0974	0.0091	0.3062	0.0295	0.2658	0.0679
4	29.88	0.4002	-0.0784	0.0030	-0.1488	0.0147	0.4415	0.0455	0.3127	0.0681
4	29.88	0.4500	-0.0914	0.0031	-0.2066	0.0186	0.5838	0.0600	0.1598	0.0718
4	29.88	0.5001	-0.1220	0.0037	-0.2902	0.0238	0.8232	0.0781	0.3649	0.0685
4	29.88	0.5560	-0.1503	0.0040	-0.3840	0.0301	1.0627	0.0989	0.2395	0.0735
4	29.88	0.6001	-0.1636	0.0044	-0.4472	0.0354	1.3158	0.1163	0.2512	0.0730
4	29.88	0.6501	-0.2084	0.0047	-0.5682	0.0425	1.6261	0.1386	0.4378	0.0826
4	29.88	0.6999	-0.2227	0.0054	-0.6826	0.0496	1.9520	0.1605	0.4820	0.0772
4	29.88	0.7500	-0.2530	0.0057	-0.7656	0.0569	2.3251	0.1855	0.5981	0.0728
4	29.88	0.8002	-0.2798	0.0061	-0.8835	0.0650	2.7231	0.2141	0.4692	0.0805
4	29.88	0.8582	-0.3064	0.0069	-0.9803	0.0747	3.2167	0.2506	0.1918	0.0843
4	29.88	0.9101	-0.3498	0.0081	-1.0841	0.0836	3.7001	0.2850	0.1759	0.0877
4	29.88	0.9728	-0.4028	0.0112	-1.1577	0.0947	4.4523	0.3306	0.6754	0.0904

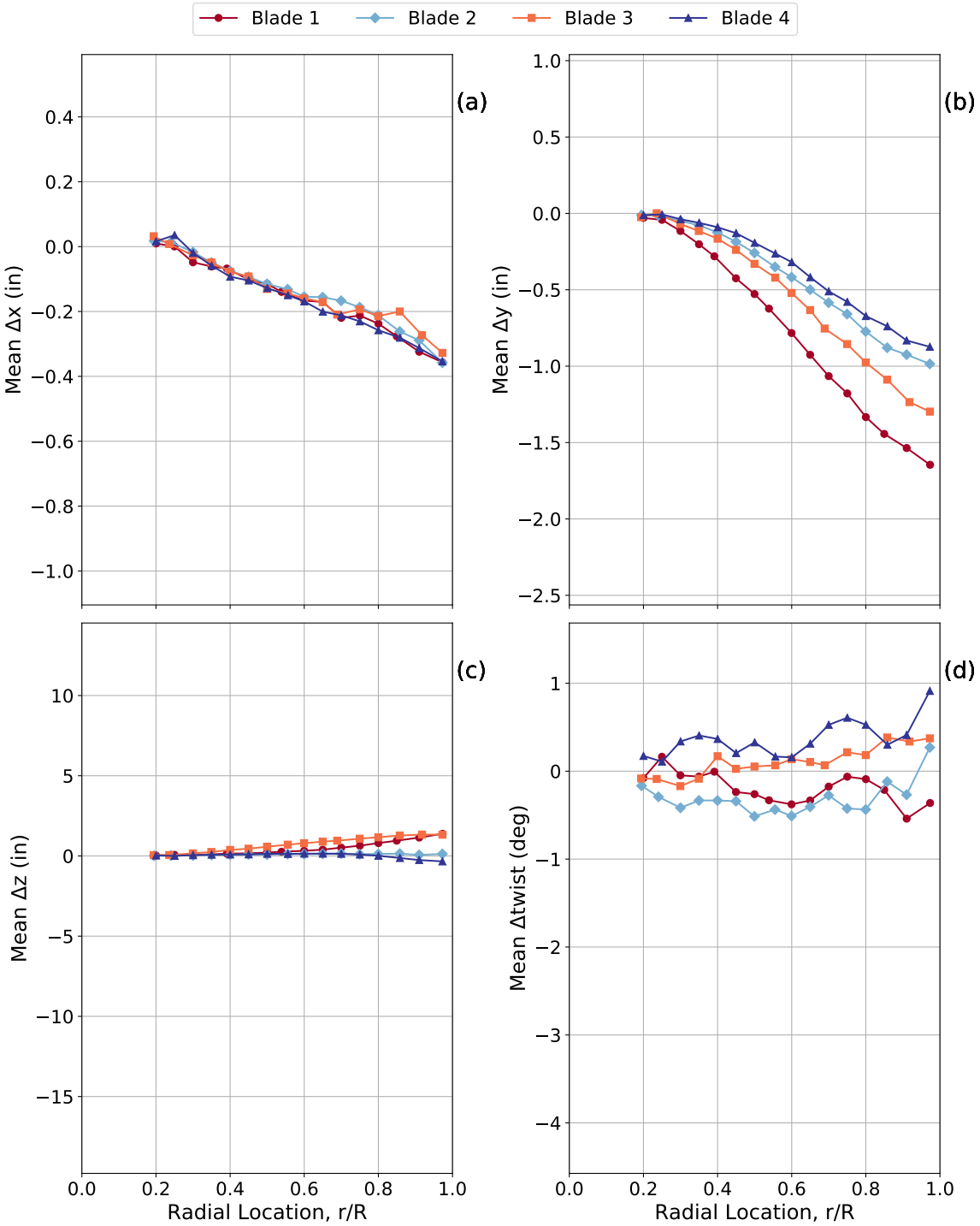


Figure 2.13-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-10. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.371$, $\alpha = -8.4°$
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0097	0.0024	-0.0297	0.0011	0.0252	0.0060	-0.0782	0.0398
1	45	0.2499	0.0005	0.0021	-0.0423	0.0036	0.0687	0.0123	0.1641	0.0609
1	45	0.2998	-0.0483	0.0025	-0.1150	0.0060	0.0664	0.0227	-0.0472	0.0869
1	45	0.3498	-0.0613	0.0020	-0.2019	0.0094	0.0991	0.0372	-0.0614	0.0766
1	45	0.3913	-0.0675	0.0030	-0.2809	0.0151	0.1429	0.0538	-0.0061	0.0821
1	45	0.4496	-0.1015	0.0031	-0.4248	0.0197	0.1628	0.0754	-0.2369	0.0792
1	45	0.4997	-0.1146	0.0032	-0.5279	0.0259	0.2114	0.0985	-0.2611	0.0791
1	45	0.5387	-0.1395	0.0037	-0.6234	0.0309	0.2630	0.1164	-0.3308	0.0772
1	45	0.5996	-0.1664	0.0042	-0.7830	0.0397	0.3204	0.1461	-0.3769	0.0857
1	45	0.6498	-0.1704	0.0047	-0.9257	0.0474	0.3923	0.1707	-0.3328	0.0871
1	45	0.6998	-0.2196	0.0051	-1.0651	0.0560	0.5178	0.1975	-0.1756	0.0907
1	45	0.7500	-0.2127	0.0053	-1.1784	0.0648	0.6386	0.2252	-0.0628	0.0860
1	45	0.8001	-0.2376	0.0057	-1.3334	0.0749	0.8029	0.2536	-0.0906	0.0857
1	45	0.8497	-0.2766	0.0058	-1.4435	0.0852	0.9515	0.2843	-0.2124	0.0923
1	45	0.9102	-0.3241	0.0063	-1.5359	0.0969	1.1460	0.3247	-0.5399	0.0960
1	45	0.9734	-0.3569	0.0104	-1.6456	0.1101	1.3824	0.3710	-0.3619	0.0969
2	45	0.1949	0.0174	0.0017	-0.0114	0.0010	0.0147	0.0049	-0.1660	0.0296
2	45	0.2405	0.0137	0.0017	-0.0130	0.0025	0.0266	0.0103	-0.2917	0.0402
2	45	0.2999	-0.0169	0.0018	-0.0492	0.0053	0.0326	0.0205	-0.4166	0.0647
2	45	0.3498	-0.0491	0.0020	-0.0784	0.0086	0.0633	0.0356	-0.3328	0.0588
2	45	0.3998	-0.0749	0.0034	-0.1241	0.0140	0.0794	0.0545	-0.3333	0.0538
2	45	0.4496	-0.0935	0.0039	-0.1858	0.0179	0.1032	0.0736	-0.3412	0.0641
2	45	0.4995	-0.1152	0.0036	-0.2586	0.0226	0.0856	0.0969	-0.5141	0.0585
2	45	0.5551	-0.1314	0.0035	-0.3503	0.0282	0.1193	0.1231	-0.4358	0.0651
2	45	0.5996	-0.1543	0.0039	-0.4176	0.0331	0.1192	0.1472	-0.5100	0.0706
2	45	0.6497	-0.1558	0.0041	-0.4994	0.0392	0.1351	0.1767	-0.4054	0.0733
2	45	0.6996	-0.1669	0.0047	-0.5844	0.0460	0.1523	0.2084	-0.2745	0.0794
2	45	0.7495	-0.1867	0.0053	-0.6589	0.0534	0.1103	0.2430	-0.4243	0.0831
2	45	0.7996	-0.2117	0.0060	-0.7729	0.0611	0.1232	0.2799	-0.4362	0.0845
2	45	0.8578	-0.2617	0.0059	-0.8795	0.0713	0.1417	0.3243	-0.1187	0.0935
2	45	0.9100	-0.2889	0.0065	-0.9246	0.0801	0.0656	0.3616	-0.2683	0.1122
2	45	0.9727	-0.3578	0.0092	-0.9853	0.0915	0.1274	0.4079	0.2699	0.1183
3	45	0.1938	0.0321	0.0023	-0.0249	0.0011	0.0502	0.0055	-0.0832	0.0349
3	45	0.2357	0.0078	0.0020	0.0013	0.0025	0.0569	0.0093	-0.0888	0.0484
3	45	0.2995	-0.0268	0.0016	-0.0693	0.0049	0.1622	0.0219	-0.1699	0.0773
3	45	0.3493	-0.0484	0.0024	-0.1151	0.0085	0.2479	0.0369	-0.0852	0.0727
3	45	0.4000	-0.0776	0.0027	-0.1655	0.0135	0.3761	0.0568	0.1704	0.0697
3	45	0.4497	-0.0920	0.0029	-0.2386	0.0177	0.4544	0.0784	0.0269	0.0801
3	45	0.4997	-0.1306	0.0032	-0.3302	0.0233	0.5753	0.1039	0.0529	0.0740
3	45	0.5556	-0.1439	0.0030	-0.4204	0.0301	0.7050	0.1313	0.0668	0.0840
3	45	0.5995	-0.1593	0.0042	-0.5209	0.0363	0.7953	0.1551	0.1367	0.0839
3	45	0.6498	-0.1710	0.0050	-0.6331	0.0431	0.8919	0.1815	0.1044	0.0892
3	45	0.6890	-0.2096	0.0052	-0.7536	0.0489	0.9530	0.2026	0.0677	0.1018
3	45	0.7495	-0.1935	0.0058	-0.8552	0.0587	1.0775	0.2358	0.2153	0.0916
3	45	0.7998	-0.2141	0.0065	-0.9760	0.0673	1.1673	0.2648	0.1833	0.1013
3	45	0.8577	-0.2000	0.0073	-1.0882	0.0774	1.2738	0.2940	0.3836	0.1027
3	45	0.9178	-0.2730	0.0074	-1.2354	0.0890	1.3323	0.3249	0.3373	0.1199
3	45	0.9729	-0.3277	0.0103	-1.2975	0.0993	1.3268	0.3527	0.3733	0.1203
4	45	0.2001	0.0163	0.0022	-0.0115	0.0010	0.0251	0.0059	0.1734	0.0456
4	45	0.2502	0.0354	0.0019	-0.0070	0.0034	0.0038	0.0138	0.1087	0.0589
4	45	0.3001	-0.0195	0.0022	-0.0382	0.0052	0.0482	0.0227	0.3382	0.0949
4	45	0.3502	-0.0588	0.0027	-0.0617	0.0095	0.0780	0.0387	0.4056	0.0863
4	45	0.4002	-0.0927	0.0035	-0.0908	0.0150	0.0910	0.0599	0.3666	0.0857
4	45	0.4500	-0.1045	0.0029	-0.1296	0.0175	0.0972	0.0836	0.2055	0.0918
4	45	0.5001	-0.1277	0.0032	-0.1928	0.0229	0.1347	0.1102	0.3279	0.0965
4	45	0.5560	-0.1499	0.0032	-0.2633	0.0285	0.1257	0.1413	0.1658	0.1039
4	45	0.6001	-0.1689	0.0036	-0.3192	0.0337	0.1422	0.1649	0.1572	0.1079
4	45	0.6501	-0.2005	0.0042	-0.4179	0.0395	0.1426	0.1919	0.3132	0.1121
4	45	0.6999	-0.2120	0.0045	-0.5104	0.0457	0.1328	0.2198	0.5272	0.1212
4	45	0.7500	-0.2304	0.0047	-0.5791	0.0528	0.0886	0.2514	0.6077	0.1223
4	45	0.8002	-0.2579	0.0051	-0.6721	0.0600	0.0107	0.2866	0.5280	0.1336
4	45	0.8582	-0.2809	0.0053	-0.7394	0.0684	-0.1293	0.3314	0.3008	0.1467
4	45	0.9101	-0.3128	0.0054	-0.8320	0.0769	-0.2542	0.3741	0.4111	0.1502
4	45	0.9728	-0.3538	0.0080	-0.8734	0.0869	-0.3401	0.4260	0.9128	0.1519

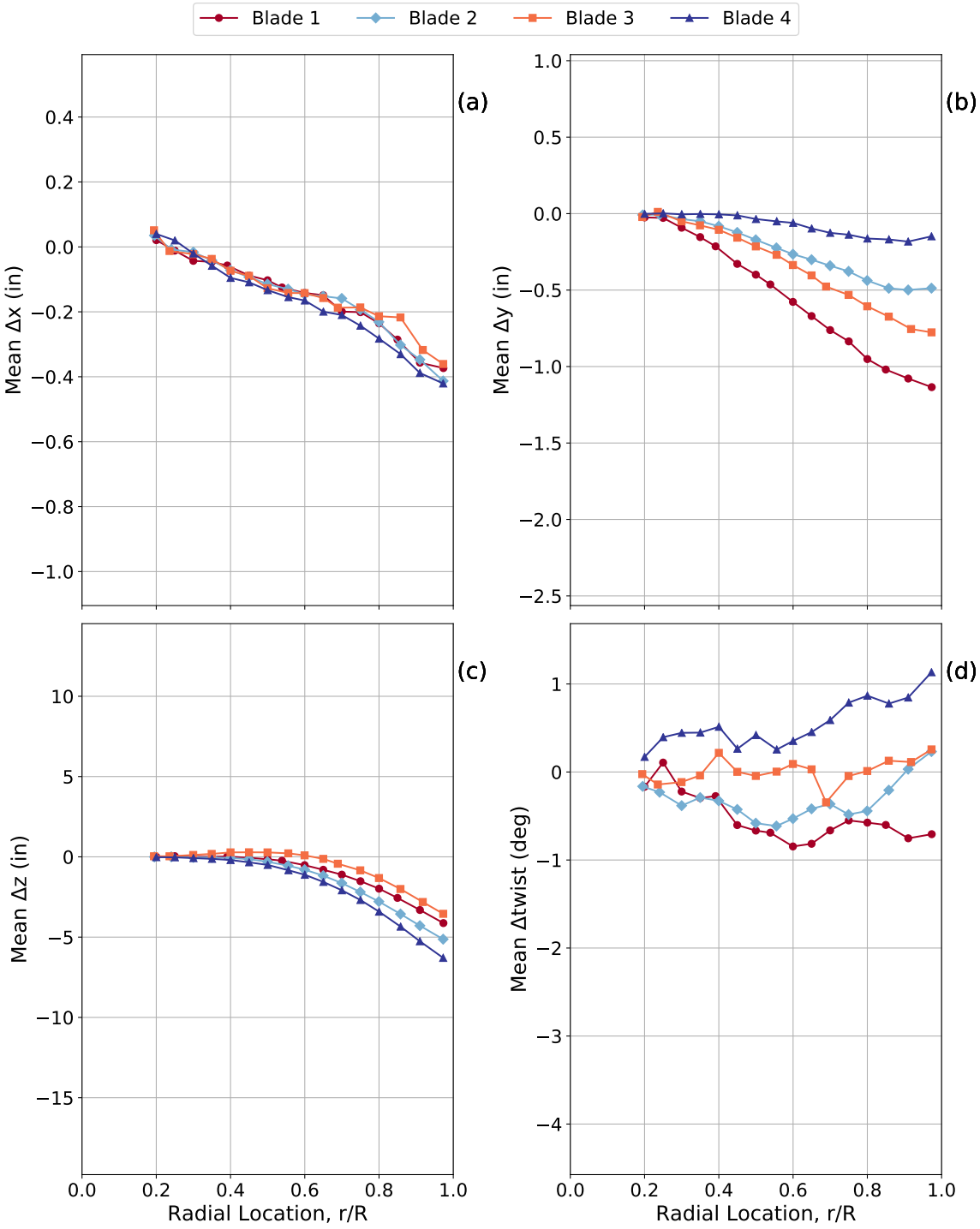


Figure 2.13-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0207	0.0022	-0.0249	0.0013	0.0017	0.0051	-0.1675	0.0356
1	60.12	0.2499	-0.0115	0.0016	-0.0280	0.0031	0.0426	0.0105	0.1067	0.0579
1	60.12	0.2998	-0.0430	0.0025	-0.0921	0.0058	0.0047	0.0191	-0.2221	0.0793
1	60.12	0.3498	-0.0462	0.0024	-0.1535	0.0101	0.0094	0.0326	-0.2957	0.0683
1	60.12	0.3913	-0.0574	0.0033	-0.2140	0.0148	0.0229	0.0465	-0.2741	0.0769
1	60.12	0.4496	-0.0881	0.0038	-0.3286	0.0204	-0.0615	0.0616	-0.6033	0.0827
1	60.12	0.4997	-0.1028	0.0040	-0.3992	0.0269	-0.1470	0.0772	-0.6658	0.0829
1	60.12	0.5387	-0.1249	0.0041	-0.4633	0.0317	-0.2411	0.0907	-0.6898	0.0944
1	60.12	0.5996	-0.1418	0.0041	-0.5772	0.0398	-0.5173	0.1115	-0.8461	0.0882
1	60.12	0.6498	-0.1489	0.0048	-0.6698	0.0466	-0.8054	0.1298	-0.8156	0.0972
1	60.12	0.6998	-0.1993	0.0050	-0.7615	0.0540	-1.1089	0.1502	-0.6638	0.0998
1	60.12	0.7500	-0.2011	0.0055	-0.8354	0.0613	-1.5175	0.1737	-0.5504	0.0984
1	60.12	0.8001	-0.2355	0.0062	-0.9511	0.0692	-1.9818	0.1999	-0.5752	0.0991
1	60.12	0.8497	-0.2856	0.0069	-1.0196	0.0766	-2.5570	0.2273	-0.6018	0.0991
1	60.12	0.9102	-0.3567	0.0082	-1.0785	0.0860	-3.3104	0.2631	-0.7533	0.0954
1	60.12	0.9734	-0.3733	0.0096	-1.1347	0.0953	-4.1256	0.3048	-0.7067	0.0935
2	60.12	0.1949	0.0352	0.0025	-0.0085	0.0013	-0.0051	0.0051	-0.1635	0.0311
2	60.12	0.2405	-0.0080	0.0018	-0.0067	0.0029	0.0051	0.0111	-0.2300	0.0427
2	60.12	0.2999	-0.0161	0.0023	-0.0354	0.0062	-0.0353	0.0228	-0.3824	0.0693
2	60.12	0.3498	-0.0417	0.0029	-0.0501	0.0108	-0.0316	0.0379	-0.2905	0.0819
2	60.12	0.3998	-0.0719	0.0035	-0.0823	0.0168	-0.0699	0.0600	-0.3279	0.0796
2	60.12	0.4496	-0.0929	0.0038	-0.1228	0.0224	-0.1418	0.0791	-0.4254	0.0801
2	60.12	0.4995	-0.1146	0.0042	-0.1711	0.0283	-0.3046	0.1024	-0.5815	0.0865
2	60.12	0.5551	-0.1301	0.0048	-0.2238	0.0354	-0.5501	0.1306	-0.6139	0.0915
2	60.12	0.5996	-0.1463	0.0054	-0.2653	0.0420	-0.7982	0.1580	-0.5304	0.0956
2	60.12	0.6497	-0.1520	0.0059	-0.3011	0.0502	-1.1708	0.1879	-0.4185	0.0973
2	60.12	0.6996	-0.1587	0.0060	-0.3406	0.0583	-1.6332	0.2196	-0.3636	0.1062
2	60.12	0.7495	-0.1934	0.0070	-0.3775	0.0672	-2.1876	0.2493	-0.4832	0.1122
2	60.12	0.7996	-0.2311	0.0078	-0.4374	0.0762	-2.7839	0.2785	-0.4426	0.1168
2	60.12	0.8578	-0.3022	0.0091	-0.4883	0.0872	-3.5586	0.3112	-0.2065	0.1193
2	60.12	0.9100	-0.3472	0.0095	-0.4991	0.0972	-4.2869	0.3403	0.0322	0.1191
2	60.12	0.9727	-0.4130	0.0130	-0.4875	0.1086	-5.1291	0.3745	0.2319	0.1120
3	60.12	0.1938	0.0511	0.0023	-0.0221	0.0014	0.0359	0.0044	-0.0242	0.0336
3	60.12	0.2357	-0.0126	0.0024	0.0112	0.0038	0.0341	0.0094	-0.1422	0.0412
3	60.12	0.2995	-0.0224	0.0027	-0.0503	0.0084	0.1180	0.0200	-0.1149	0.0717
3	60.12	0.3493	-0.0371	0.0033	-0.0767	0.0139	0.1827	0.0315	-0.0393	0.0828
3	60.12	0.4000	-0.0735	0.0042	-0.1059	0.0229	0.2778	0.0514	0.2174	0.0723
3	60.12	0.4497	-0.0892	0.0049	-0.1572	0.0315	0.2839	0.0690	0.0019	0.0748
3	60.12	0.4997	-0.1273	0.0050	-0.2145	0.0414	0.2774	0.0899	-0.0448	0.0899
3	60.12	0.5556	-0.1420	0.0054	-0.2692	0.0541	0.2175	0.1141	0.0041	0.0833
3	60.12	0.5995	-0.1424	0.0059	-0.3362	0.0652	0.0930	0.1364	0.0912	0.0885
3	60.12	0.6498	-0.1575	0.0057	-0.4039	0.0790	-0.1260	0.1621	0.0301	0.0899
3	60.12	0.6890	-0.1872	0.0062	-0.4769	0.0903	-0.4281	0.1842	-0.3451	0.0822
3	60.12	0.7495	-0.1865	0.0076	-0.5316	0.1078	-0.8405	0.2187	-0.0457	0.0843
3	60.12	0.7998	-0.2136	0.0080	-0.6061	0.1238	-1.3190	0.2507	0.0108	0.0940
3	60.12	0.8577	-0.2172	0.0095	-0.6737	0.1412	-2.0029	0.2893	0.1280	0.0897
3	60.12	0.9178	-0.3175	0.0098	-0.7547	0.1602	-2.8116	0.3285	0.1131	0.1052
3	60.12	0.9729	-0.3607	0.0142	-0.7764	0.1772	-3.5471	0.3616	0.2565	0.0886
4	60.12	0.2001	0.0398	0.0021	-0.0015	0.0012	-0.0203	0.0045	0.1714	0.0309
4	60.12	0.2502	0.0199	0.0023	0.0015	0.0039	-0.0300	0.0110	0.3954	0.0546
4	60.12	0.3001	-0.0205	0.0023	-0.0045	0.0059	-0.0802	0.0194	0.4447	0.0705
4	60.12	0.3502	-0.0583	0.0033	-0.0024	0.0106	-0.1254	0.0320	0.4473	0.0614
4	60.12	0.4002	-0.0955	0.0042	-0.0050	0.0168	-0.1974	0.0510	0.5135	0.0594
4	60.12	0.4500	-0.1092	0.0041	-0.0117	0.0219	-0.3412	0.0683	0.2640	0.0723
4	60.12	0.5001	-0.1334	0.0046	-0.0355	0.0277	-0.5037	0.0891	0.4194	0.0957
4	60.12	0.5560	-0.1549	0.0048	-0.0506	0.0347	-0.8350	0.1139	0.2551	0.0831
4	60.12	0.6001	-0.1652	0.0055	-0.0605	0.0417	-1.1167	0.1358	0.3526	0.0852
4	60.12	0.6501	-0.1995	0.0057	-0.0972	0.0489	-1.5614	0.1622	0.4537	0.0838
4	60.12	0.6999	-0.2099	0.0069	-0.1258	0.0570	-2.0841	0.1861	0.5896	0.0825
4	60.12	0.7500	-0.2428	0.0077	-0.1379	0.0660	-2.6879	0.2133	0.7879	0.0845
4	60.12	0.8002	-0.2827	0.0080	-0.1629	0.0743	-3.4133	0.2389	0.8667	0.0914
4	60.12	0.8582	-0.3305	0.0093	-0.1690	0.0856	-4.3484	0.2675	0.7769	0.0940
4	60.12	0.9101	-0.3884	0.0102	-0.1828	0.0950	-5.2582	0.2949	0.8460	0.0929
4	60.12	0.9728	-0.4207	0.0129	-0.1485	0.1065	-6.2926	0.3285	1.1330	0.0972

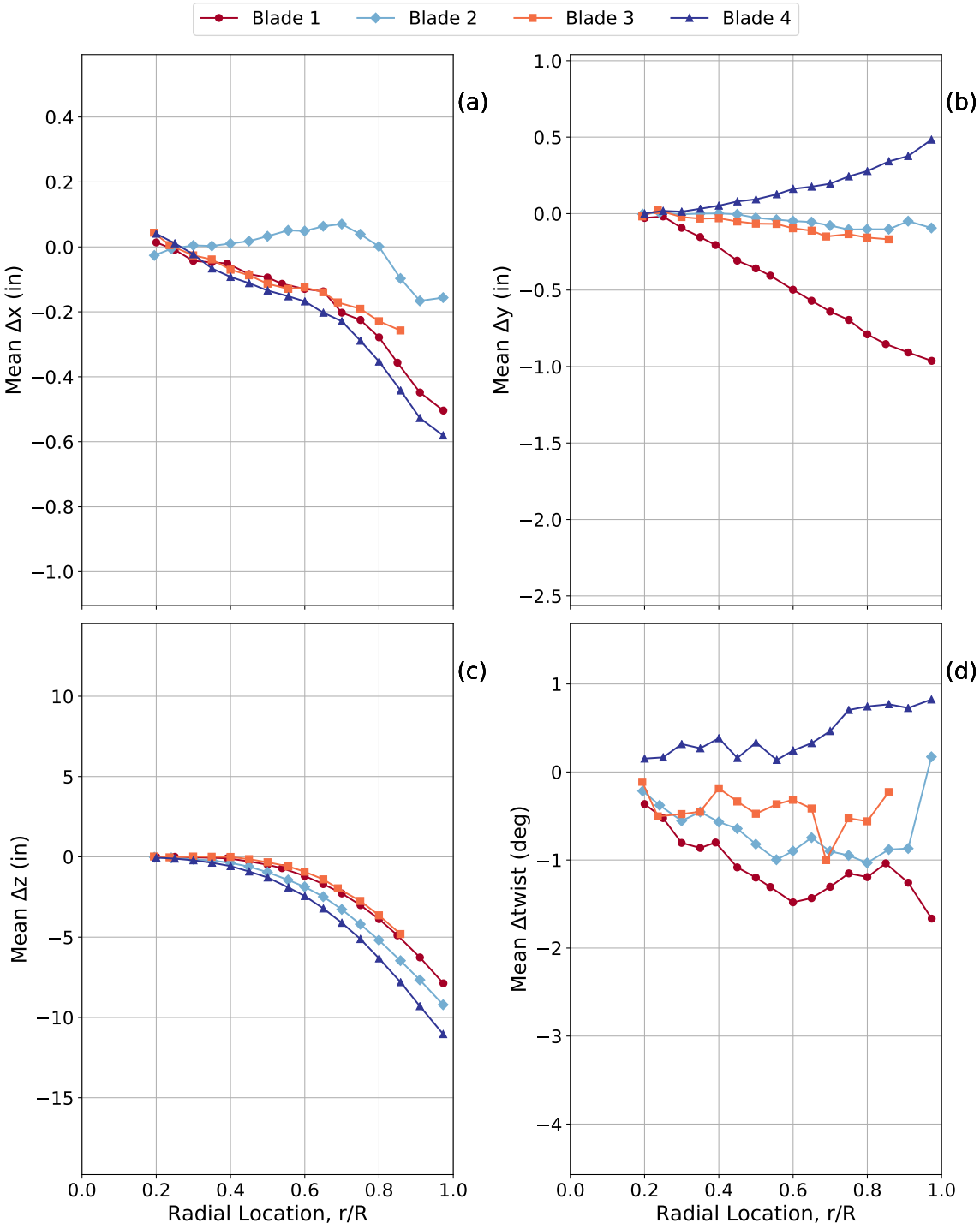


Figure 2.13-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-12. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.371$, $\alpha = -8.4°$
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0138	0.0023	-0.0283	0.0012	-0.0014	0.0060	-0.3645	0.0303
1	74.88	0.2499	-0.0088	0.0017	-0.0185	0.0030	-0.0008	0.0127	-0.5243	0.0452
1	74.88	0.2998	-0.0432	0.0025	-0.0930	0.0055	-0.0300	0.0241	-0.8054	0.0651
1	74.88	0.3498	-0.0476	0.0026	-0.1533	0.0095	-0.0603	0.0402	-0.8634	0.0679
1	74.88	0.3913	-0.0511	0.0037	-0.2053	0.0139	-0.0902	0.0588	-0.8014	0.0747
1	74.88	0.4496	-0.0838	0.0043	-0.3077	0.0195	-0.2824	0.0848	-1.0839	0.0693
1	74.88	0.4997	-0.0942	0.0048	-0.3583	0.0249	-0.4935	0.1105	-1.1997	0.0742
1	74.88	0.5387	-0.1137	0.0054	-0.4057	0.0302	-0.7066	0.1327	-1.3065	0.0725
1	74.88	0.5996	-0.1296	0.0062	-0.4974	0.0389	-1.1918	0.1678	-1.4808	0.0655
1	74.88	0.6498	-0.1370	0.0065	-0.5696	0.0473	-1.6978	0.1984	-1.4328	0.0804
1	74.88	0.6998	-0.2027	0.0077	-0.6405	0.0563	-2.2776	0.2296	-1.3043	0.0774
1	74.88	0.7500	-0.2252	0.0093	-0.6952	0.0658	-3.0095	0.2624	-1.1523	0.0833
1	74.88	0.8001	-0.2786	0.0113	-0.7894	0.0761	-3.8780	0.2973	-1.1945	0.0831
1	74.88	0.8497	-0.3566	0.0134	-0.8530	0.0867	-4.8878	0.3349	-1.0377	0.0890
1	74.88	0.9102	-0.4483	0.0165	-0.9079	0.1000	-6.2626	0.3810	-1.2580	0.0966
1	74.88	0.9734	-0.5040	0.0207	-0.9625	0.1148	-7.8800	0.4356	-1.6657	0.1122
2	74.88	0.1949	-0.0262	0.0324	-0.0032	0.0014	-0.0258	0.0071	-0.2169	0.0345
2	74.88	0.2405	-0.0057	0.0098	0.0068	0.0025	-0.0617	0.0131	-0.3782	0.0552
2	74.88	0.2999	0.0046	0.0141	-0.0040	0.0061	-0.1503	0.0314	-0.5558	0.0804
2	74.88	0.3498	0.0028	0.0295	0.0003	0.0102	-0.2208	0.0520	-0.4540	0.0808
2	74.88	0.3998	0.0104	0.0399	0.0014	0.0159	-0.3788	0.0818	-0.5680	0.0919
2	74.88	0.4496	0.0177	0.0456	-0.0042	0.0222	-0.6107	0.1119	-0.6434	0.0937
2	74.88	0.4995	0.0328	0.0472	-0.0272	0.0299	-0.9574	0.1493	-0.8202	0.0959
2	74.88	0.5551	0.0510	0.0438	-0.0394	0.0387	-1.4396	0.1927	-0.9970	0.1041
2	74.88	0.5996	0.0489	0.0382	-0.0484	0.0463	-1.8669	0.2293	-0.8983	0.1113
2	74.88	0.6497	0.0636	0.0328	-0.0553	0.0545	-2.4815	0.2713	-0.7462	0.1155
2	74.88	0.6996	0.0703	0.0333	-0.0779	0.0628	-3.2741	0.3152	-0.9022	0.1354
2	74.88	0.7495	0.0392	0.0445	-0.1038	0.0711	-4.1951	0.3605	-0.9472	0.1603
2	74.88	0.7996	0.0012	0.0646	-0.1021	0.0797	-5.1842	0.4110	-1.0327	0.1348
2	74.88	0.8578	-0.0974	0.0947	-0.1021	0.0905	-6.4653	0.4728	-0.8812	0.1469
2	74.88	0.9100	-0.1663	0.1272	-0.0492	0.1008	-7.6673	0.5318	-0.8694	0.1539
2	74.88	0.9727	-0.1563	0.1672	-0.0938	0.1170	-9.2113	0.6027	0.1725	0.1726
3	74.88	0.1938	0.0438	0.0021	-0.0183	0.0010	0.0196	0.0053	-0.1116	0.0295
3	74.88	0.2357	0.0056	0.0019	0.0233	0.0021	-0.0304	0.0083	-0.5046	0.0468
3	74.88	0.2995	-0.0260	0.0020	-0.0224	0.0044	0.0180	0.0207	-0.4783	0.0680
3	74.88	0.3493	-0.0386	0.0025	-0.0326	0.0075	0.0039	0.0364	-0.4517	0.0587
3	74.88	0.4000	-0.0703	0.0032	-0.0304	0.0117	-0.0074	0.0554	-0.1855	0.0660
3	74.88	0.4497	-0.0876	0.0040	-0.0514	0.0147	-0.1428	0.0761	-0.3355	0.0692
3	74.88	0.4997	-0.1134	0.0041	-0.0657	0.0186	-0.3360	0.0991	-0.4747	0.0758
3	74.88	0.5556	-0.1294	0.0043	-0.0674	0.0236	-0.5975	0.1288	-0.3667	0.0935
3	74.88	0.5995	-0.1250	0.0048	-0.0958	0.0281	-0.9266	0.1497	-0.3160	0.0879
3	74.88	0.6498	-0.1397	0.0055	-0.1112	0.0332	-1.4015	0.1766	-0.4152	0.0996
3	74.88	0.6890	-0.1711	0.0061	-0.1495	0.0377	-1.9608	0.1952	-1.0014	0.0876
3	74.88	0.7495	-0.1906	0.0074	-0.1343	0.0451	-2.7458	0.2261	-0.5260	0.0947
3	74.88	0.7998	-0.2289	0.0084	-0.1564	0.0511	-3.6419	0.2528	-0.5605	0.0926
3	74.88	0.8577	-0.2574	0.0110	-0.1679	0.0593	-4.8062	0.2807	-0.2286	0.1271
4	74.88	0.2001	0.0406	0.0017	0.0005	0.0009	-0.0498	0.0060	0.1521	0.0298
4	74.88	0.2502	0.0109	0.0021	0.0177	0.0026	-0.1119	0.0117	0.1658	0.0490
4	74.88	0.3001	-0.0228	0.0021	0.0127	0.0043	-0.2169	0.0237	0.3172	0.0667
4	74.88	0.3502	-0.0667	0.0031	0.0321	0.0074	-0.3674	0.0408	0.2691	0.0789
4	74.88	0.4002	-0.0926	0.0038	0.0521	0.0118	-0.5794	0.0626	0.3835	0.0796
4	74.88	0.4500	-0.1118	0.0038	0.0798	0.0159	-0.9144	0.0859	0.1591	0.0833
4	74.88	0.5001	-0.1346	0.0051	0.0932	0.0201	-1.2888	0.1102	0.3347	0.0958
4	74.88	0.5560	-0.1523	0.0053	0.1264	0.0253	-1.9105	0.1420	0.1367	0.0772
4	74.88	0.6001	-0.1679	0.0067	0.1618	0.0303	-2.4439	0.1675	0.2440	0.0779
4	74.88	0.6501	-0.2028	0.0081	0.1762	0.0364	-3.2163	0.1965	0.3279	0.0928
4	74.88	0.6999	-0.2293	0.0094	0.1957	0.0427	-4.1103	0.2264	0.4645	0.0883
4	74.88	0.7500	-0.2890	0.0115	0.2435	0.0494	-5.1190	0.2592	0.7045	0.0914
4	74.88	0.8002	-0.3532	0.0147	0.2783	0.0571	-6.3250	0.2929	0.7446	0.0979
4	74.88	0.8582	-0.4423	0.0186	0.3415	0.0660	-7.8109	0.3389	0.7692	0.1094
4	74.88	0.9101	-0.5271	0.0217	0.3762	0.0740	-9.3013	0.3846	0.7270	0.1089
4	74.88	0.9728	-0.5807	0.0277	0.4835	0.0847	-11.0414	0.4453	0.8233	0.1173

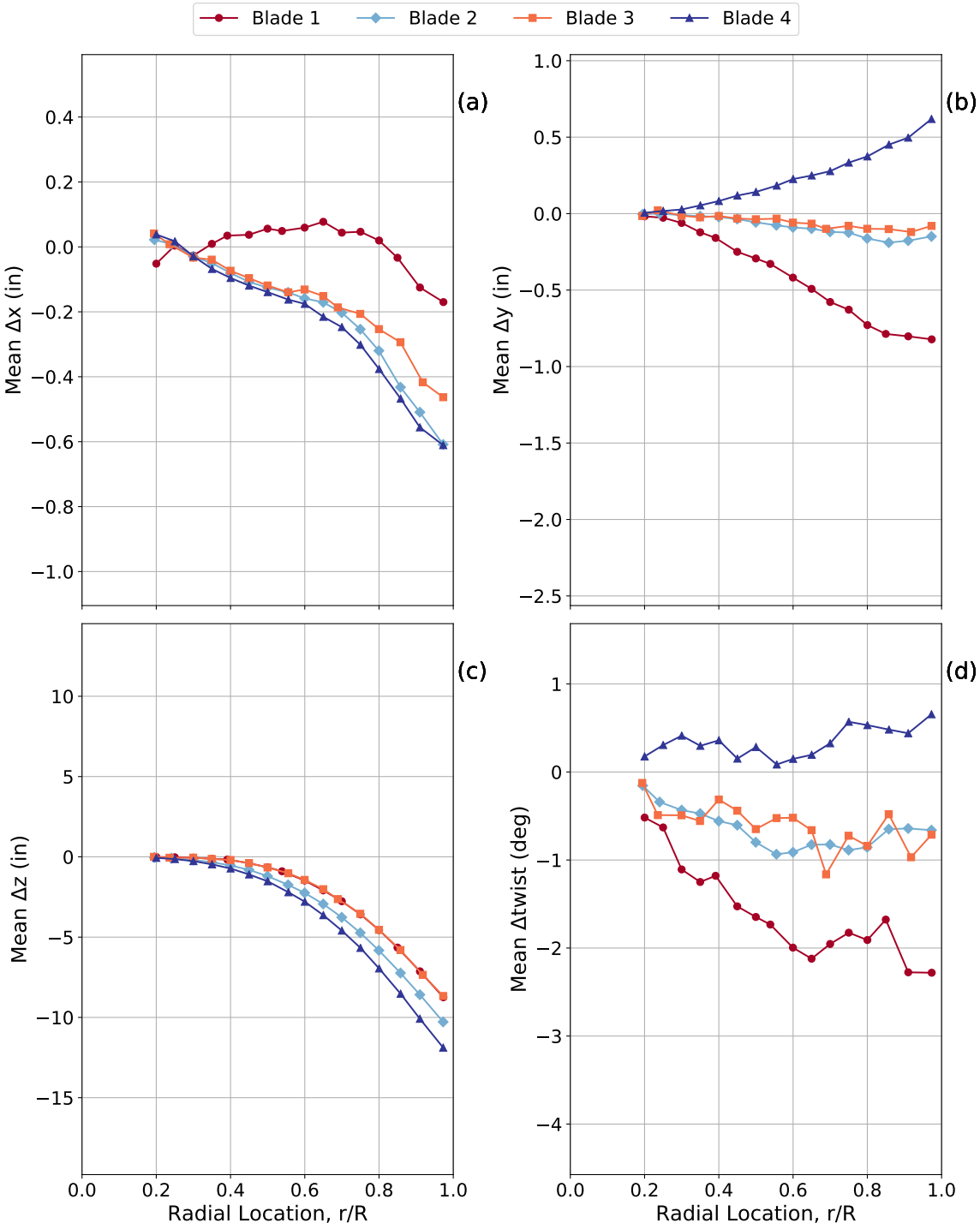


Figure 2.13-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0517	0.0287	-0.0178	0.0015	-0.0091	0.0067	-0.5176	0.0356
1	80.16	0.2499	0.0040	0.0059	-0.0270	0.0027	-0.0268	0.0119	-0.6297	0.0663
1	80.16	0.2998	-0.0266	0.0108	-0.0610	0.0058	-0.0512	0.0239	-1.1071	0.0815
1	80.16	0.3498	0.0093	0.0245	-0.1220	0.0099	-0.1244	0.0409	-1.2498	0.0778
1	80.16	0.3913	0.0347	0.0323	-0.1589	0.0142	-0.1654	0.0574	-1.1792	0.0940
1	80.16	0.4496	0.0373	0.0391	-0.2498	0.0213	-0.3939	0.0855	-1.5265	0.0965
1	80.16	0.4997	0.0561	0.0398	-0.2932	0.0281	-0.6510	0.1122	-1.6470	0.1057
1	80.16	0.5387	0.0490	0.0380	-0.3289	0.0340	-0.8988	0.1358	-1.7333	0.1086
1	80.16	0.5996	0.0593	0.0312	-0.4183	0.0435	-1.4725	0.1723	-1.9955	0.1185
1	80.16	0.6498	0.0773	0.0245	-0.4919	0.0525	-2.0866	0.2043	-2.1212	0.1204
1	80.16	0.6998	0.0439	0.0240	-0.5778	0.0614	-2.7661	0.2334	-1.9539	0.1398
1	80.16	0.7500	0.0466	0.0376	-0.6283	0.0708	-3.5843	0.2639	-1.8257	0.1426
1	80.16	0.8001	0.0196	0.0592	-0.7289	0.0821	-4.5586	0.2948	-1.9091	0.1490
1	80.16	0.8497	-0.0334	0.0863	-0.7866	0.0942	-5.6506	0.3267	-1.6768	0.1597
1	80.16	0.9102	-0.1251	0.1255	-0.8025	0.1110	-7.1296	0.3653	-2.2759	0.1603
1	80.16	0.9734	-0.1700	0.1697	-0.8221	0.1347	-8.7470	0.4109	-2.2806	0.1702
2	80.16	0.1949	0.0220	0.0021	-0.0041	0.0012	-0.0372	0.0048	-0.1546	0.0267
2	80.16	0.2405	0.0088	0.0019	0.0006	0.0024	-0.0879	0.0102	-0.3410	0.0414
2	80.16	0.2999	-0.0300	0.0023	-0.0100	0.0051	-0.1963	0.0229	-0.4333	0.0615
2	80.16	0.3498	-0.0499	0.0029	-0.0167	0.0091	-0.3340	0.0381	-0.4722	0.0615
2	80.16	0.3998	-0.0805	0.0044	-0.0223	0.0140	-0.5340	0.0606	-0.5582	0.0777
2	80.16	0.4496	-0.1077	0.0044	-0.0355	0.0184	-0.8105	0.0847	-0.6044	0.0798
2	80.16	0.4995	-0.1253	0.0053	-0.0569	0.0242	-1.1981	0.1112	-0.7984	0.0805
2	80.16	0.5551	-0.1401	0.0060	-0.0760	0.0315	-1.7448	0.1426	-0.9344	0.0847
2	80.16	0.5996	-0.1585	0.0067	-0.0905	0.0386	-2.2445	0.1685	-0.9121	0.0903
2	80.16	0.6497	-0.1707	0.0080	-0.0983	0.0461	-2.9369	0.1960	-0.8253	0.0965
2	80.16	0.6996	-0.2025	0.0095	-0.1191	0.0551	-3.7672	0.2258	-0.8242	0.0866
2	80.16	0.7495	-0.2537	0.0117	-0.1243	0.0640	-4.7304	0.2573	-0.8873	0.0922
2	80.16	0.7996	-0.3198	0.0139	-0.1625	0.0737	-5.8270	0.2918	-0.8554	0.1023
2	80.16	0.8578	-0.4322	0.0169	-0.1896	0.0847	-7.2342	0.3337	-0.6492	0.0970
2	80.16	0.9100	-0.5091	0.0195	-0.1769	0.0957	-8.5832	0.3730	-0.6418	0.0977
2	80.16	0.9727	-0.6086	0.0247	-0.1492	0.1081	-10.2789	0.4224	-0.6607	0.1101
3	80.16	0.1938	0.0413	0.0017	-0.0156	0.0011	0.0006	0.0062	-0.1243	0.0292
3	80.16	0.2357	0.0083	0.0016	0.0217	0.0024	-0.0556	0.0113	-0.4897	0.0382
3	80.16	0.2995	-0.0330	0.0027	-0.0137	0.0053	-0.0495	0.0266	-0.4918	0.0638
3	80.16	0.3493	-0.0393	0.0028	-0.0245	0.0094	-0.1276	0.0469	-0.5568	0.0680
3	80.16	0.4000	-0.0735	0.0036	-0.0151	0.0149	-0.1967	0.0723	-0.3131	0.0744
3	80.16	0.4497	-0.0962	0.0041	-0.0321	0.0198	-0.3870	0.0998	-0.4400	0.0823
3	80.16	0.4997	-0.1190	0.0042	-0.0367	0.0263	-0.6623	0.1312	-0.6487	0.0835
3	80.16	0.5556	-0.1398	0.0051	-0.0328	0.0338	-1.0204	0.1669	-0.5235	0.0959
3	80.16	0.5995	-0.1313	0.0061	-0.0588	0.0414	-1.4369	0.1973	-0.5201	0.0983
3	80.16	0.6498	-0.1515	0.0076	-0.0656	0.0499	-2.0142	0.2326	-0.6611	0.0970
3	80.16	0.6890	-0.1864	0.0092	-0.0995	0.0573	-2.6321	0.2631	-1.1631	0.1031
3	80.16	0.7495	-0.2064	0.0118	-0.0797	0.0690	-3.5442	0.3125	-0.7241	0.0971
3	80.16	0.7998	-0.2533	0.0145	-0.0990	0.0798	-4.5446	0.3562	-0.8395	0.0998
3	80.16	0.8577	-0.2937	0.0190	-0.1011	0.0926	-5.8039	0.4098	-0.4797	0.1038
3	80.16	0.9178	-0.4170	0.0231	-0.1204	0.1063	-7.3506	0.4691	-0.9685	0.1128
3	80.16	0.9729	-0.4630	0.0283	-0.0802	0.1186	-8.6664	0.5298	-0.7124	0.1223
4	80.16	0.2001	0.0383	0.0018	0.0057	0.0013	-0.0643	0.0061	0.1765	0.0257
4	80.16	0.2502	0.0171	0.0019	0.0171	0.0033	-0.1394	0.0129	0.3062	0.0405
4	80.16	0.3001	-0.0288	0.0022	0.0272	0.0059	-0.2684	0.0257	0.4127	0.0558
4	80.16	0.3502	-0.0680	0.0025	0.0539	0.0101	-0.4690	0.0428	0.2972	0.0594
4	80.16	0.4002	-0.0958	0.0032	0.0824	0.0162	-0.7261	0.0674	0.3596	0.0653
4	80.16	0.4500	-0.1194	0.0039	0.1181	0.0203	-1.0984	0.0950	0.1518	0.0682
4	80.16	0.5001	-0.1394	0.0041	0.1419	0.0258	-1.5231	0.1259	0.2833	0.0672
4	80.16	0.5560	-0.1625	0.0051	0.1832	0.0329	-2.2059	0.1635	0.0848	0.0784
4	80.16	0.6001	-0.1756	0.0065	0.2259	0.0391	-2.7956	0.1963	0.1488	0.0813
4	80.16	0.6501	-0.2155	0.0079	0.2492	0.0454	-3.6339	0.2336	0.1951	0.0947
4	80.16	0.6999	-0.2471	0.0098	0.2778	0.0533	-4.5964	0.2726	0.3264	0.1012
4	80.16	0.7500	-0.3017	0.0124	0.3335	0.0609	-5.6724	0.3158	0.5702	0.1001
4	80.16	0.8002	-0.3763	0.0158	0.3741	0.0688	-6.9514	0.3589	0.5323	0.1048
4	80.16	0.8582	-0.4676	0.0202	0.4510	0.0787	-8.5307	0.4102	0.4815	0.1053
4	80.16	0.9101	-0.5560	0.0236	0.4968	0.0875	-10.0854	0.4583	0.4399	0.1117
4	80.16	0.9728	-0.6107	0.0279	0.6187	0.0981	-11.8853	0.5145	0.6557	0.1155

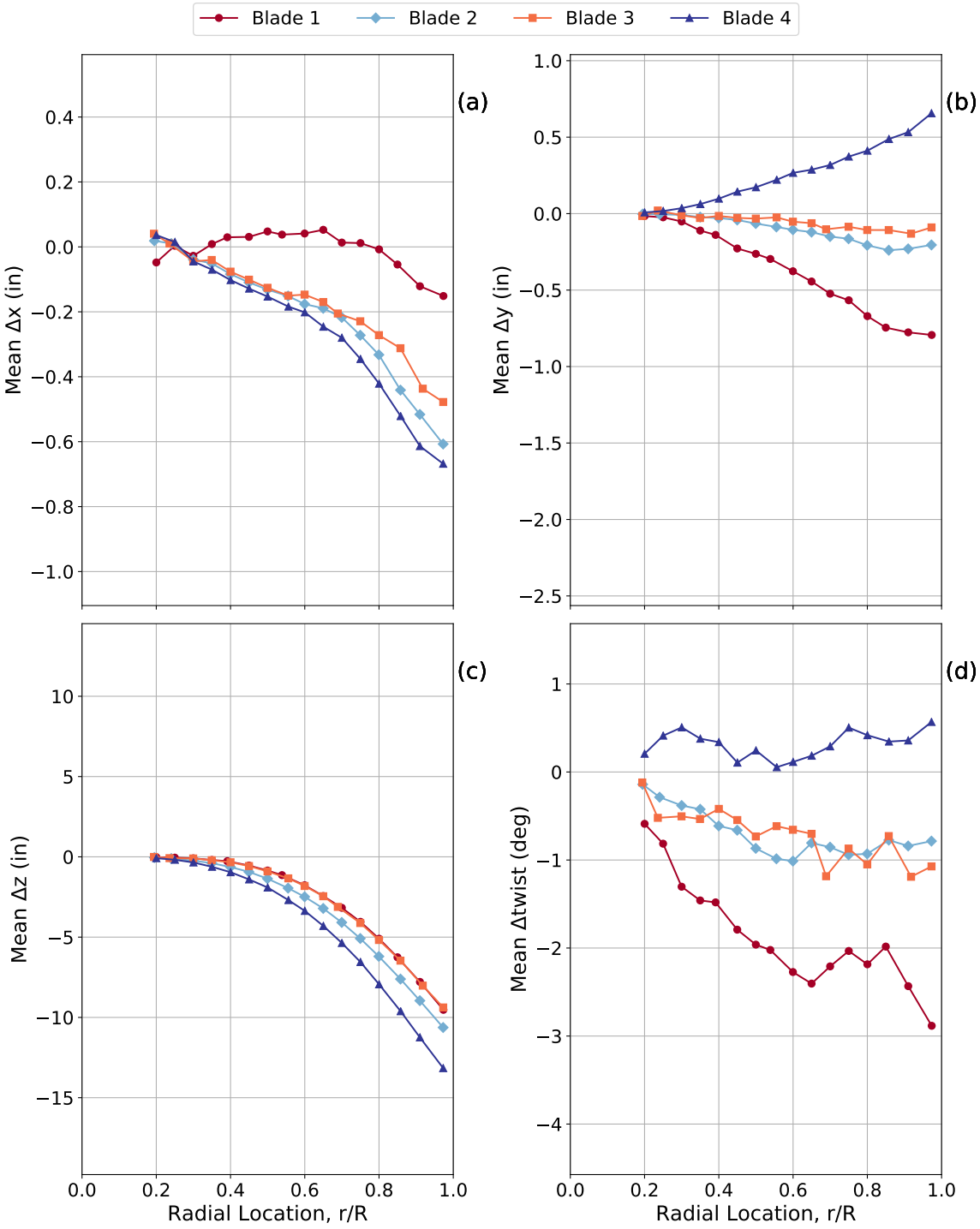


Figure 2.13-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-14. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.371$, $\alpha = -8.4°$
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0479	0.0327	-0.0160	0.0014	-0.0192	0.0080	-0.5888	0.0395
1	85.08	0.2499	0.0035	0.0079	-0.0242	0.0027	-0.0495	0.0146	-0.8145	0.0775
1	85.08	0.2998	-0.0276	0.0131	-0.0515	0.0057	-0.0935	0.0296	-1.3033	0.0931
1	85.08	0.3498	0.0086	0.0290	-0.1107	0.0099	-0.1949	0.0503	-1.4593	0.0955
1	85.08	0.3913	0.0296	0.0396	-0.1391	0.0142	-0.2693	0.0712	-1.4813	0.0994
1	85.08	0.4496	0.0308	0.0479	-0.2279	0.0208	-0.5412	0.1042	-1.7914	0.1037
1	85.08	0.4997	0.0476	0.0502	-0.2631	0.0272	-0.8533	0.1354	-1.9613	0.1141
1	85.08	0.5387	0.0378	0.0486	-0.2966	0.0327	-1.1376	0.1597	-2.0221	0.1302
1	85.08	0.5996	0.0412	0.0414	-0.3768	0.0420	-1.7700	0.1994	-2.2728	0.1288
1	85.08	0.6498	0.0526	0.0324	-0.4438	0.0507	-2.4429	0.2335	-2.4042	0.1364
1	85.08	0.6998	0.0133	0.0264	-0.5237	0.0607	-3.1743	0.2673	-2.2086	0.1551
1	85.08	0.7500	0.0117	0.0335	-0.5666	0.0718	-4.0486	0.3033	-2.0334	0.1644
1	85.08	0.8001	-0.0077	0.0548	-0.6703	0.0844	-5.0989	0.3409	-2.1850	0.1719
1	85.08	0.8497	-0.0543	0.0830	-0.7454	0.0975	-6.2544	0.3777	-1.9835	0.1827
1	85.08	0.9102	-0.1212	0.1252	-0.7764	0.1149	-7.7881	0.4233	-2.4332	0.1958
1	85.08	0.9734	-0.1513	0.1743	-0.7935	0.1430	-9.5272	0.4715	-2.8834	0.2092
2	85.08	0.1949	0.0187	0.0019	-0.0029	0.0009	-0.0445	0.0051	-0.1410	0.0273
2	85.08	0.2405	0.0104	0.0019	-0.0045	0.0022	-0.1031	0.0108	-0.2864	0.0536
2	85.08	0.2999	-0.0389	0.0022	-0.0083	0.0043	-0.2340	0.0232	-0.3809	0.0685
2	85.08	0.3498	-0.0511	0.0026	-0.0229	0.0073	-0.3962	0.0402	-0.4234	0.0737
2	85.08	0.3998	-0.0839	0.0040	-0.0287	0.0117	-0.6341	0.0629	-0.6131	0.0787
2	85.08	0.4496	-0.1095	0.0046	-0.0416	0.0151	-0.9367	0.0876	-0.6615	0.0828
2	85.08	0.4995	-0.1316	0.0047	-0.0648	0.0194	-1.3578	0.1191	-0.8676	0.0884
2	85.08	0.5551	-0.1514	0.0062	-0.0871	0.0247	-1.9482	0.1548	-0.9861	0.0906
2	85.08	0.5996	-0.1762	0.0069	-0.1056	0.0293	-2.4861	0.1862	-1.0123	0.0963
2	85.08	0.6497	-0.1891	0.0083	-0.1210	0.0351	-3.2125	0.2214	-0.8065	0.1047
2	85.08	0.6996	-0.2172	0.0105	-0.1501	0.0410	-4.0852	0.2580	-0.8539	0.1025
2	85.08	0.7495	-0.2722	0.0128	-0.1643	0.0476	-5.0850	0.2970	-0.9408	0.1092
2	85.08	0.7996	-0.3323	0.0161	-0.2072	0.0547	-6.2028	0.3385	-0.9301	0.1122
2	85.08	0.8578	-0.4411	0.0199	-0.2393	0.0630	-7.6108	0.3879	-0.7741	0.1146
2	85.08	0.9100	-0.5160	0.0232	-0.2303	0.0711	-8.9567	0.4359	-0.8403	0.1234
2	85.08	0.9727	-0.6072	0.0278	-0.2048	0.0807	-10.6289	0.4959	-0.7852	0.1276
3	85.08	0.1938	0.0406	0.0023	-0.0155	0.0012	-0.0067	0.0068	-0.1190	0.0273
3	85.08	0.2357	0.0102	0.0020	0.0203	0.0025	-0.0812	0.0126	-0.5209	0.0450
3	85.08	0.2995	-0.0444	0.0016	-0.0107	0.0057	-0.1017	0.0294	-0.5039	0.0636
3	85.08	0.3493	-0.0403	0.0022	-0.0286	0.0095	-0.2104	0.0515	-0.5340	0.0611
3	85.08	0.4000	-0.0762	0.0030	-0.0152	0.0153	-0.3379	0.0796	-0.4193	0.0681
3	85.08	0.4497	-0.1010	0.0031	-0.0280	0.0201	-0.5754	0.1093	-0.5460	0.0729
3	85.08	0.4997	-0.1260	0.0034	-0.0325	0.0256	-0.9061	0.1421	-0.7323	0.0783
3	85.08	0.5556	-0.1502	0.0038	-0.0245	0.0332	-1.3394	0.1789	-0.6155	0.0761
3	85.08	0.5995	-0.1470	0.0044	-0.0527	0.0396	-1.8142	0.2088	-0.6566	0.0861
3	85.08	0.6498	-0.1698	0.0055	-0.0627	0.0473	-2.4539	0.2421	-0.7026	0.0969
3	85.08	0.6890	-0.2052	0.0064	-0.1026	0.0534	-3.1173	0.2711	-1.1844	0.0973
3	85.08	0.7495	-0.2291	0.0085	-0.0859	0.0638	-4.1218	0.3178	-0.8700	0.0962
3	85.08	0.7998	-0.2719	0.0108	-0.1072	0.0732	-5.1779	0.3557	-1.0501	0.0954
3	85.08	0.8577	-0.3121	0.0137	-0.1074	0.0833	-6.4634	0.4016	-0.7281	0.1021
3	85.08	0.9178	-0.4367	0.0170	-0.1311	0.0946	-8.0194	0.4491	-1.1904	0.1012
3	85.08	0.9729	-0.4778	0.0192	-0.0901	0.1054	-9.3795	0.4959	-1.0725	0.1033
4	85.08	0.2001	0.0364	0.0020	0.0078	0.0017	-0.0839	0.0084	0.2071	0.0247
4	85.08	0.2502	0.0149	0.0022	0.0168	0.0042	-0.1828	0.0174	0.4130	0.0400
4	85.08	0.3001	-0.0449	0.0021	0.0357	0.0080	-0.3505	0.0341	0.5066	0.0539
4	85.08	0.3502	-0.0702	0.0027	0.0623	0.0140	-0.6212	0.0587	0.3782	0.0605
4	85.08	0.4002	-0.1024	0.0035	0.0978	0.0221	-0.9577	0.0909	0.3390	0.0575
4	85.08	0.4500	-0.1286	0.0041	0.1436	0.0307	-1.4069	0.1274	0.1062	0.0666
4	85.08	0.5001	-0.1532	0.0050	0.1724	0.0406	-1.9118	0.1694	0.2447	0.0733
4	85.08	0.5560	-0.1840	0.0068	0.2213	0.0531	-2.6953	0.2202	0.0543	0.0791
4	85.08	0.6001	-0.2016	0.0081	0.2665	0.0638	-3.3664	0.2635	0.1141	0.0844
4	85.08	0.6501	-0.2459	0.0105	0.2875	0.0763	-4.3043	0.3098	0.1848	0.0862
4	85.08	0.6999	-0.2800	0.0133	0.3179	0.0896	-5.3653	0.3603	0.2911	0.0910
4	85.08	0.7500	-0.3453	0.0169	0.3729	0.1037	-6.5515	0.4109	0.5041	0.0960
4	85.08	0.8002	-0.4214	0.0209	0.4115	0.1183	-7.9405	0.4638	0.4177	0.0937
4	85.08	0.8582	-0.5213	0.0269	0.4877	0.1356	-9.6158	0.5270	0.3454	0.1036
4	85.08	0.9101	-0.6137	0.0312	0.5323	0.1520	-11.2458	0.5840	0.3582	0.1015
4	85.08	0.9728	-0.6680	0.0339	0.6562	0.1720	-13.1590	0.6523	0.5684	0.0957

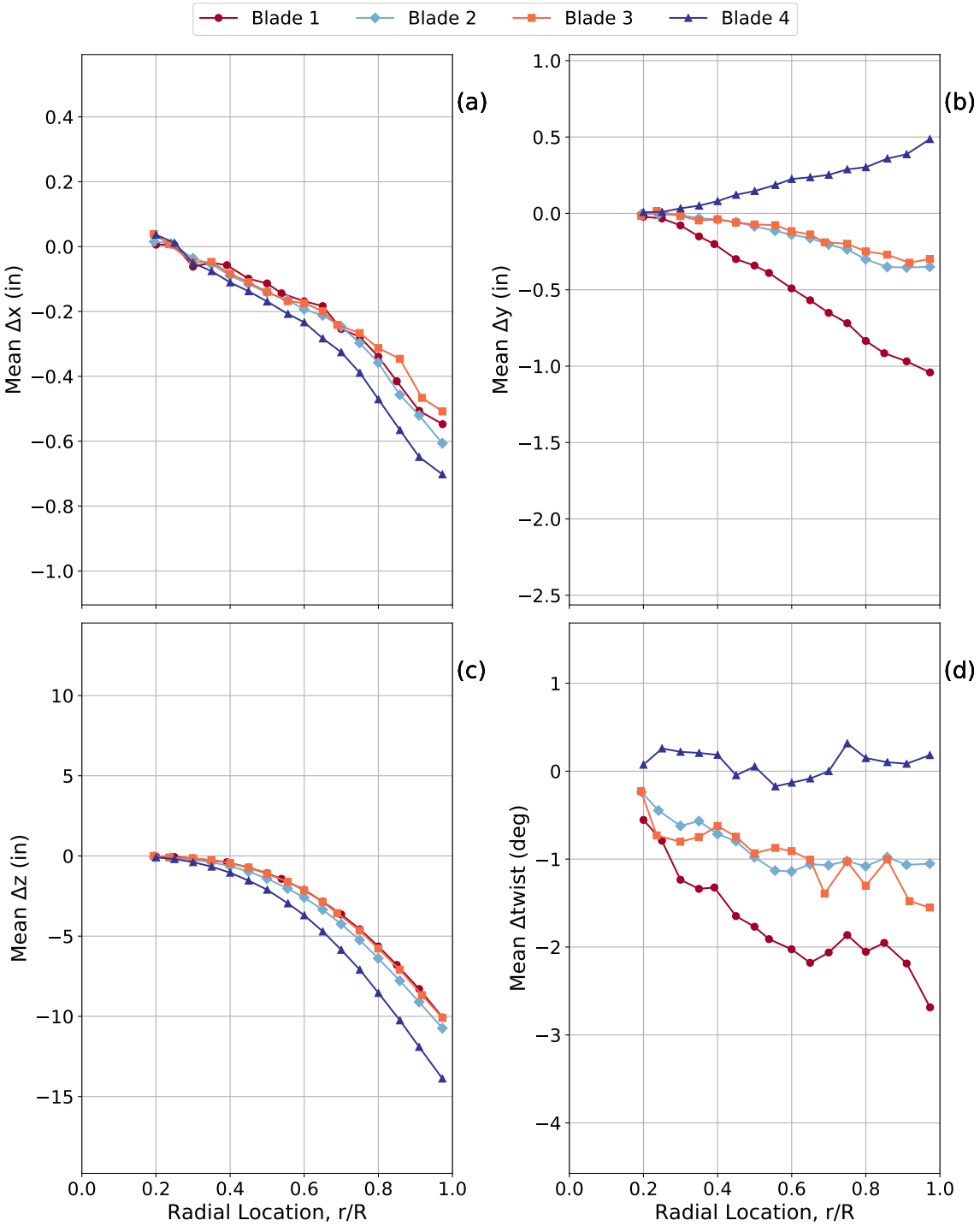


Figure 2.13-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-15. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.371$, $\alpha = -8.4°$
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0060	0.0027	-0.0219	0.0016	-0.0292	0.0090	-0.5544	0.0345
1	90	0.2499	0.0049	0.0021	-0.0334	0.0033	-0.0660	0.0178	-0.7912	0.0596
1	90	0.2998	-0.0618	0.0023	-0.0787	0.0068	-0.1446	0.0347	-1.2349	0.0762
1	90	0.3498	-0.0497	0.0026	-0.1505	0.0117	-0.2687	0.0590	-1.3383	0.0710
1	90	0.3913	-0.0571	0.0034	-0.2009	0.0170	-0.3865	0.0845	-1.3229	0.0736
1	90	0.4496	-0.0988	0.0037	-0.2992	0.0247	-0.7190	0.1234	-1.6480	0.0779
1	90	0.4997	-0.1135	0.0037	-0.3414	0.0317	-1.0798	0.1613	-1.7690	0.0865
1	90	0.5387	-0.1437	0.0046	-0.3895	0.0382	-1.4287	0.1907	-1.9101	0.0857
1	90	0.5996	-0.1685	0.0059	-0.4907	0.0488	-2.1120	0.2391	-2.0250	0.0906
1	90	0.6498	-0.1832	0.0078	-0.5686	0.0585	-2.8484	0.2783	-2.1791	0.0930
1	90	0.6998	-0.2538	0.0089	-0.6507	0.0686	-3.6441	0.3190	-2.0623	0.1019
1	90	0.7500	-0.2784	0.0118	-0.7184	0.0793	-4.5734	0.3607	-1.8641	0.1076
1	90	0.8001	-0.3392	0.0147	-0.8350	0.0903	-5.6389	0.4050	-2.0539	0.1062
1	90	0.8497	-0.4150	0.0180	-0.9152	0.1019	-6.7928	0.4493	-1.9524	0.1159
1	90	0.9102	-0.5062	0.0220	-0.9685	0.1163	-8.2957	0.5054	-2.1873	0.1109
1	90	0.9734	-0.5474	0.0257	-1.0410	0.1318	-10.0688	0.5643	-2.6860	0.1168
2	90	0.1949	0.0156	0.0023	-0.0037	0.0012	-0.0438	0.0066	-0.2370	0.0270
2	90	0.2405	0.0094	0.0020	-0.0068	0.0023	-0.1031	0.0120	-0.4474	0.0499
2	90	0.2999	-0.0358	0.0025	-0.0115	0.0050	-0.2420	0.0282	-0.6222	0.0650
2	90	0.3498	-0.0544	0.0028	-0.0312	0.0086	-0.3903	0.0486	-0.5673	0.0675
2	90	0.3998	-0.0889	0.0032	-0.0401	0.0134	-0.6407	0.0749	-0.7152	0.0678
2	90	0.4496	-0.1154	0.0039	-0.0572	0.0181	-0.9689	0.1009	-0.7959	0.0714
2	90	0.4995	-0.1412	0.0040	-0.0846	0.0228	-1.4136	0.1305	-0.9790	0.0702
2	90	0.5551	-0.1645	0.0051	-0.1142	0.0291	-2.0291	0.1654	-1.1310	0.0738
2	90	0.5996	-0.1933	0.0058	-0.1392	0.0343	-2.5915	0.1949	-1.1407	0.0803
2	90	0.6497	-0.2120	0.0078	-0.1621	0.0398	-3.3513	0.2266	-1.0586	0.0861
2	90	0.6996	-0.2463	0.0093	-0.2038	0.0464	-4.2460	0.2611	-1.0688	0.0866
2	90	0.7495	-0.2970	0.0111	-0.2355	0.0531	-5.2476	0.2965	-1.0225	0.0840
2	90	0.7996	-0.3576	0.0143	-0.3002	0.0604	-6.3817	0.3341	-1.0820	0.0838
2	90	0.8578	-0.4569	0.0176	-0.3511	0.0690	-7.7820	0.3790	-0.9780	0.0915
2	90	0.9100	-0.5202	0.0205	-0.3539	0.0770	-9.1028	0.4216	-1.0648	0.0930
2	90	0.9727	-0.6063	0.0239	-0.3496	0.0867	-10.7406	0.4717	-1.0523	0.0991
3	90	0.1938	0.0388	0.0019	-0.0168	0.0013	-0.0111	0.0071	-0.2283	0.0252
3	90	0.2357	0.0073	0.0017	0.0155	0.0026	-0.0970	0.0124	-0.7307	0.0481
3	90	0.2995	-0.0488	0.0024	-0.0169	0.0061	-0.1406	0.0297	-0.8014	0.0618
3	90	0.3493	-0.0471	0.0020	-0.0460	0.0108	-0.2654	0.0514	-0.7496	0.0613
3	90	0.4000	-0.0838	0.0029	-0.0387	0.0170	-0.4385	0.0794	-0.6233	0.0636
3	90	0.4497	-0.1097	0.0028	-0.0596	0.0232	-0.7205	0.1100	-0.7450	0.0737
3	90	0.4997	-0.1396	0.0033	-0.0725	0.0305	-1.1097	0.1442	-0.9338	0.0713
3	90	0.5556	-0.1681	0.0042	-0.0771	0.0397	-1.6135	0.1857	-0.8723	0.0780
3	90	0.5995	-0.1738	0.0050	-0.1162	0.0480	-2.1486	0.2189	-0.9091	0.0818
3	90	0.6498	-0.1993	0.0067	-0.1379	0.0581	-2.8638	0.2582	-1.0059	0.0856
3	90	0.6890	-0.2410	0.0082	-0.1896	0.0670	-3.5658	0.2913	-1.3910	0.0812
3	90	0.7495	-0.2665	0.0110	-0.1987	0.0818	-4.6523	0.3429	-1.0279	0.0877
3	90	0.7998	-0.3126	0.0136	-0.2486	0.0948	-5.7701	0.3883	-1.3033	0.0888
3	90	0.8577	-0.3459	0.0177	-0.2702	0.1109	-7.0951	0.4425	-1.0047	0.0947
3	90	0.9178	-0.4662	0.0216	-0.3226	0.1272	-8.6790	0.5020	-1.4785	0.0989
3	90	0.9729	-0.5080	0.0248	-0.2982	0.1427	-10.0969	0.5588	-1.5503	0.1001
4	90.35	0.2001	0.0365	0.0022	0.0081	0.0016	-0.0906	0.0070	0.0737	0.0259
4	90.35	0.2502	0.0116	0.0019	0.0093	0.0034	-0.1949	0.0161	0.2580	0.0433
4	90.35	0.3001	-0.0507	0.0025	0.0331	0.0068	-0.3892	0.0303	0.2203	0.0577
4	90.35	0.3502	-0.0757	0.0026	0.0506	0.0119	-0.6674	0.0506	0.2072	0.0614
4	90.35	0.4002	-0.1104	0.0036	0.0803	0.0186	-1.0442	0.0804	0.1854	0.0620
4	90.35	0.4500	-0.1377	0.0045	0.1217	0.0261	-1.5389	0.1162	-0.0464	0.0679
4	90.35	0.5001	-0.1693	0.0053	0.1464	0.0349	-2.1086	0.1616	0.0529	0.0716
4	90.35	0.5560	-0.2077	0.0076	0.1861	0.0463	-2.9582	0.2185	-0.1732	0.0785
4	90.35	0.6001	-0.2333	0.0100	0.2251	0.0562	-3.6998	0.2684	-0.1310	0.0830
4	90.35	0.6501	-0.2831	0.0132	0.2367	0.0680	-4.7108	0.3280	-0.0832	0.0851
4	90.35	0.6999	-0.3257	0.0165	0.2524	0.0805	-5.8566	0.3909	0.0000	0.0895
4	90.35	0.7500	-0.3891	0.0216	0.2883	0.0939	-7.0967	0.4564	0.3159	0.0857
4	90.35	0.8002	-0.4707	0.0269	0.3023	0.1077	-8.5428	0.5218	0.1488	0.0880
4	90.35	0.8582	-0.5657	0.0335	0.3590	0.1243	-10.2514	0.5973	0.1023	0.0941
4	90.35	0.9101	-0.6486	0.0389	0.3870	0.1394	-11.9076	0.6639	0.0844	0.0907
4	90.35	0.9728	-0.7023	0.0435	0.4865	0.1577	-13.8805	0.7440	0.1832	0.0953

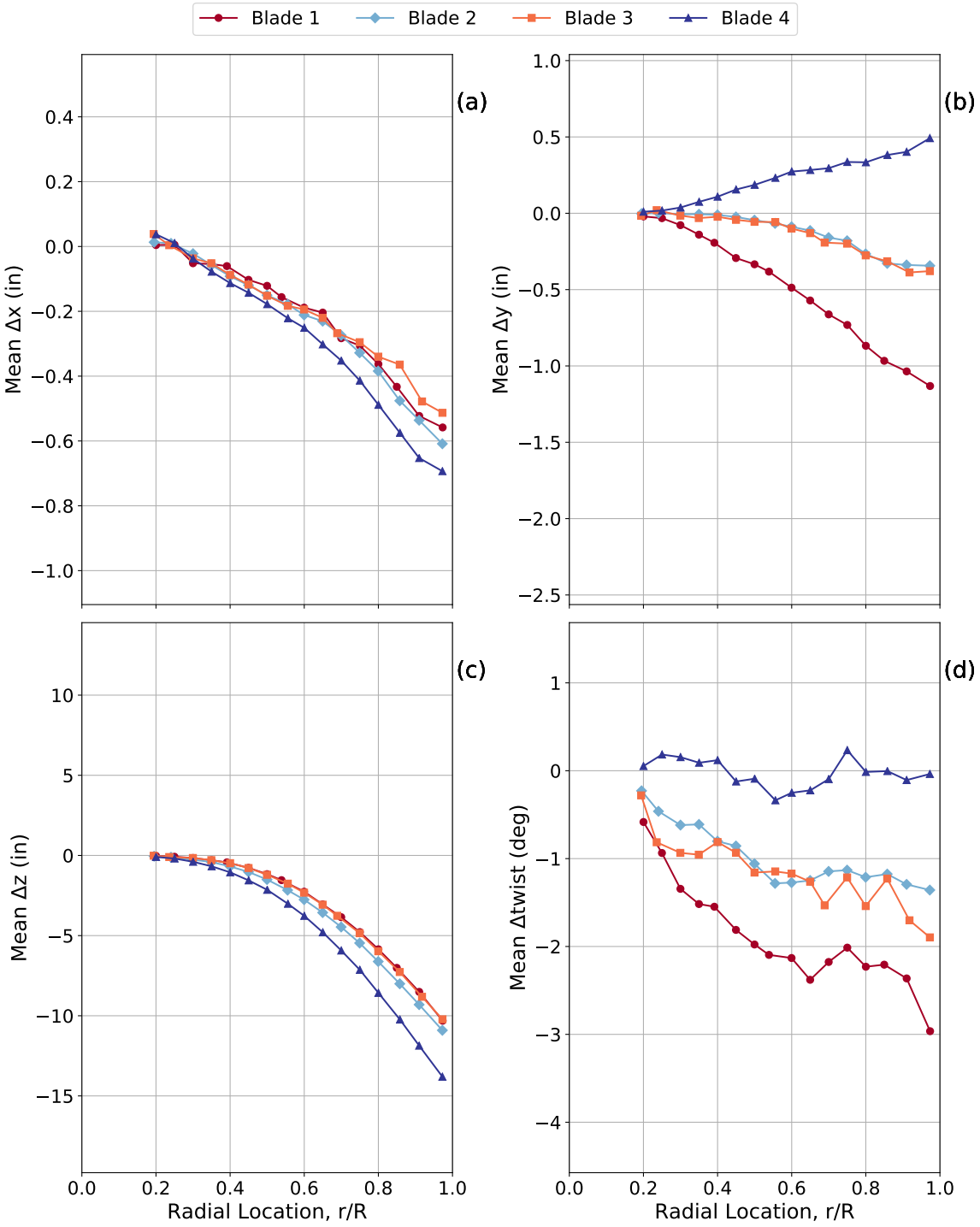


Figure 2.13-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-16. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.371$, $\alpha = -8.4°$
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	0.0044	0.0030	-0.0205	0.0014	-0.0314	0.0084	-0.5835	0.0437
1	94.92	0.2499	0.0053	0.0022	-0.0321	0.0029	-0.0816	0.0175	-0.9360	0.0871
1	94.92	0.2998	-0.0517	0.0021	-0.0777	0.0059	-0.1587	0.0332	-1.3440	0.1042
1	94.92	0.3498	-0.0543	0.0033	-0.1401	0.0101	-0.2977	0.0566	-1.5170	0.1096
1	94.92	0.3913	-0.0605	0.0038	-0.1931	0.0147	-0.4304	0.0816	-1.5476	0.1051
1	94.92	0.4496	-0.1029	0.0041	-0.2931	0.0208	-0.7708	0.1176	-1.8112	0.1143
1	94.92	0.4997	-0.1214	0.0053	-0.3342	0.0270	-1.1665	0.1504	-1.9773	0.1172
1	94.92	0.5387	-0.1562	0.0055	-0.3822	0.0323	-1.5403	0.1784	-2.0955	0.1239
1	94.92	0.5996	-0.1887	0.0072	-0.4872	0.0411	-2.2612	0.2257	-2.1312	0.1295
1	94.92	0.6498	-0.2039	0.0097	-0.5712	0.0499	-3.0524	0.2690	-2.3792	0.1368
1	94.92	0.6998	-0.2830	0.0118	-0.6622	0.0588	-3.8502	0.3169	-2.1763	0.1449
1	94.92	0.7500	-0.3060	0.0151	-0.7315	0.0688	-4.7806	0.3699	-2.0131	0.1456
1	94.92	0.8001	-0.3629	0.0192	-0.8679	0.0796	-5.8543	0.4244	-2.2303	0.1451
1	94.92	0.8497	-0.4329	0.0234	-0.9663	0.0908	-7.0123	0.4802	-2.2069	0.1517
1	94.92	0.9102	-0.5228	0.0282	-1.0356	0.1054	-8.5082	0.5508	-2.3635	0.1523
1	94.92	0.9734	-0.5583	0.0344	-1.1314	0.1205	-10.3099	0.6297	-2.9638	0.1491
2	94.92	0.1949	0.0132	0.0022	-0.0022	0.0013	-0.0469	0.0070	-0.2286	0.0295
2	94.92	0.2405	0.0096	0.0020	0.0014	0.0024	-0.1122	0.0137	-0.4616	0.0590
2	94.92	0.2999	-0.0221	0.0030	-0.0063	0.0057	-0.2603	0.0303	-0.6184	0.0722
2	94.92	0.3498	-0.0573	0.0024	-0.0062	0.0098	-0.4147	0.0536	-0.6108	0.0689
2	94.92	0.3998	-0.0918	0.0036	-0.0104	0.0152	-0.6843	0.0823	-0.8022	0.0727
2	94.92	0.4496	-0.1197	0.0041	-0.0241	0.0208	-1.0284	0.1159	-0.8561	0.0829
2	94.92	0.4995	-0.1502	0.0053	-0.0450	0.0272	-1.5022	0.1571	-1.0585	0.0817
2	94.92	0.5551	-0.1783	0.0066	-0.0663	0.0354	-2.1653	0.2091	-1.2817	0.0851
2	94.92	0.5996	-0.2113	0.0086	-0.0885	0.0423	-2.7580	0.2540	-1.2728	0.0918
2	94.92	0.6497	-0.2305	0.0109	-0.1131	0.0507	-3.5649	0.3076	-1.2487	0.0978
2	94.92	0.6996	-0.2741	0.0139	-0.1589	0.0592	-4.4636	0.3648	-1.1456	0.1021
2	94.92	0.7495	-0.3281	0.0181	-0.1800	0.0683	-5.4649	0.4241	-1.1310	0.1060
2	94.92	0.7996	-0.3843	0.0224	-0.2658	0.0780	-6.6169	0.4852	-1.2119	0.1101
2	94.92	0.8578	-0.4760	0.0275	-0.3282	0.0894	-8.0060	0.5570	-1.1759	0.1154
2	94.92	0.9100	-0.5361	0.0319	-0.3385	0.0993	-9.3049	0.6215	-1.2931	0.1105
2	94.92	0.9727	-0.6086	0.0363	-0.3436	0.1124	-10.9077	0.6979	-1.3578	0.1240
3	94.92	0.1938	0.0385	0.0021	-0.0162	0.0011	-0.0172	0.0047	-0.2804	0.0314
3	94.92	0.2357	0.0040	0.0018	0.0203	0.0025	-0.0999	0.0085	-0.8138	0.0544
3	94.92	0.2995	-0.0366	0.0018	-0.0152	0.0054	-0.1596	0.0194	-0.9344	0.0741
3	94.92	0.3493	-0.0517	0.0021	-0.0313	0.0094	-0.2934	0.0333	-0.9555	0.0691
3	94.92	0.4000	-0.0877	0.0029	-0.0227	0.0150	-0.4814	0.0516	-0.8117	0.0772
3	94.92	0.4497	-0.1176	0.0035	-0.0428	0.0199	-0.7839	0.0704	-0.9335	0.0741
3	94.92	0.4997	-0.1520	0.0040	-0.0560	0.0269	-1.2065	0.0926	-1.1587	0.0787
3	94.92	0.5556	-0.1830	0.0045	-0.0574	0.0353	-1.7589	0.1208	-1.1460	0.0812
3	94.92	0.5995	-0.1943	0.0052	-0.1001	0.0425	-2.3232	0.1435	-1.1707	0.0878
3	94.92	0.6498	-0.2202	0.0063	-0.1300	0.0521	-3.0720	0.1736	-1.2629	0.0897
3	94.92	0.6890	-0.2675	0.0077	-0.1920	0.0602	-3.7640	0.1977	-1.5318	0.0906
3	94.92	0.7495	-0.2953	0.0097	-0.1989	0.0733	-4.8499	0.2368	-1.2142	0.0989
3	94.92	0.7998	-0.3399	0.0122	-0.2758	0.0854	-5.9748	0.2713	-1.5400	0.0996
3	94.92	0.8577	-0.3644	0.0153	-0.3145	0.1000	-7.2710	0.3129	-1.2273	0.1022
3	94.92	0.9178	-0.4781	0.0186	-0.3875	0.1147	-8.8161	0.3572	-1.7021	0.1054
3	94.92	0.9729	-0.5131	0.0219	-0.3788	0.1284	-10.2194	0.4005	-1.8965	0.1029
4	94.92	0.2001	0.0376	0.0023	0.0102	0.0017	-0.0947	0.0072	0.0530	0.0279
4	94.92	0.2502	0.0103	0.0021	0.0177	0.0036	-0.1924	0.0140	0.1843	0.0503
4	94.92	0.3001	-0.0376	0.0023	0.0378	0.0075	-0.3953	0.0276	0.1545	0.0624
4	94.92	0.3502	-0.0778	0.0027	0.0751	0.0127	-0.6778	0.0484	0.0907	0.0587
4	94.92	0.4002	-0.1130	0.0031	0.1086	0.0200	-1.0538	0.0735	0.1203	0.0629
4	94.92	0.4500	-0.1429	0.0038	0.1556	0.0274	-1.5563	0.1020	-0.1228	0.0703
4	94.92	0.5001	-0.1780	0.0044	0.1862	0.0363	-2.1448	0.1322	-0.0907	0.0695
4	94.92	0.5560	-0.2215	0.0055	0.2320	0.0469	-3.0167	0.1668	-0.3368	0.0724
4	94.92	0.6001	-0.2509	0.0066	0.2733	0.0560	-3.7694	0.1962	-0.2508	0.0779
4	94.92	0.6501	-0.3021	0.0086	0.2833	0.0670	-4.7974	0.2290	-0.2231	0.0891
4	94.92	0.6999	-0.3521	0.0107	0.2954	0.0783	-5.9304	0.2619	-0.0956	0.0894
4	94.92	0.7500	-0.4139	0.0129	0.3359	0.0902	-7.1377	0.2965	0.2338	0.0951
4	94.92	0.8002	-0.4886	0.0156	0.3339	0.1027	-8.5749	0.3314	-0.0137	0.0980
4	94.92	0.8582	-0.5750	0.0189	0.3817	0.1176	-10.2373	0.3709	-0.0042	0.1044
4	94.92	0.9101	-0.6527	0.0221	0.4022	0.1313	-11.8669	0.4092	-0.1064	0.0986
4	94.92	0.9728	-0.6932	0.0255	0.4919	0.1479	-13.8037	0.4553	-0.0370	0.1034

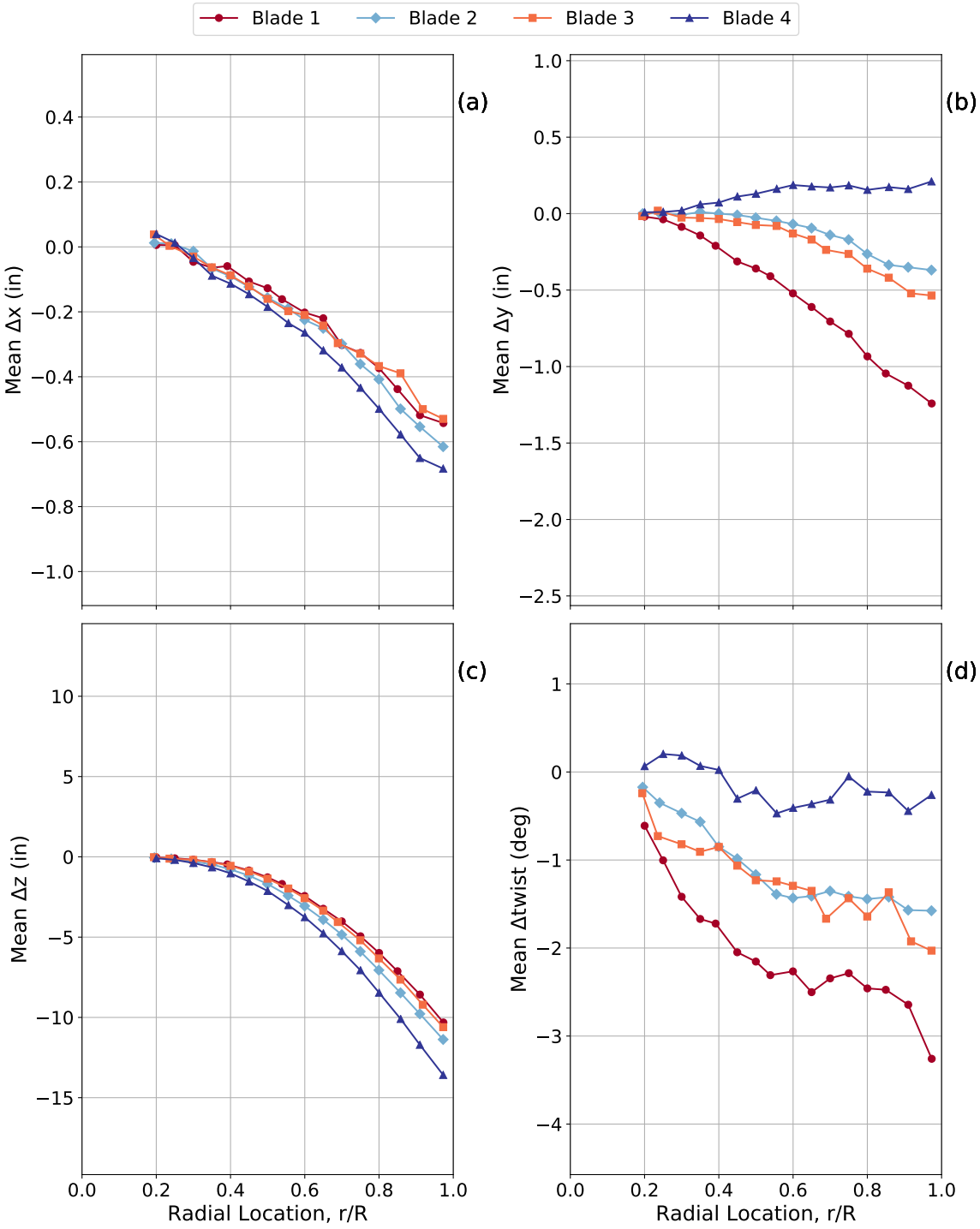


Figure 2.13-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	0.0058	0.0048	-0.0199	0.0016	-0.0336	0.0084	-0.6108	0.0478
1	99.84	0.2499	0.0051	0.0028	-0.0372	0.0031	-0.0920	0.0153	-1.0035	0.1050
1	99.84	0.2998	-0.0460	0.0024	-0.0865	0.0066	-0.1738	0.0310	-1.4175	0.1172
1	99.84	0.3498	-0.0641	0.0026	-0.1430	0.0113	-0.3239	0.0517	-1.6697	0.1139
1	99.84	0.3913	-0.0593	0.0028	-0.2102	0.0163	-0.4718	0.0737	-1.7220	0.1160
1	99.84	0.4496	-0.1064	0.0032	-0.3127	0.0233	-0.8492	0.1041	-2.0482	0.1219
1	99.84	0.4997	-0.1273	0.0038	-0.3591	0.0304	-1.2747	0.1341	-2.1539	0.1252
1	99.84	0.5387	-0.1611	0.0040	-0.4094	0.0362	-1.6889	0.1597	-2.3080	0.1248
1	99.84	0.5996	-0.2022	0.0054	-0.5217	0.0467	-2.4366	0.2040	-2.2649	0.1275
1	99.84	0.6498	-0.2198	0.0073	-0.6105	0.0565	-3.2321	0.2446	-2.5014	0.1255
1	99.84	0.6998	-0.3023	0.0096	-0.7052	0.0666	-4.0202	0.2894	-2.3449	0.1257
1	99.84	0.7500	-0.3265	0.0127	-0.7860	0.0778	-4.9451	0.3396	-2.2859	0.1332
1	99.84	0.8001	-0.3737	0.0163	-0.9337	0.0896	-5.9828	0.3950	-2.4586	0.1386
1	99.84	0.8497	-0.4381	0.0206	-1.0453	0.1018	-7.1219	0.4527	-2.4744	0.1417
1	99.84	0.9102	-0.5184	0.0252	-1.1251	0.1171	-8.5775	0.5232	-2.6441	0.1390
1	99.84	0.9734	-0.5427	0.0299	-1.2416	0.1337	-10.3153	0.6010	-3.2583	0.1427
2	99.84	0.1949	0.0122	0.0016	0.0001	0.0012	-0.0539	0.0058	-0.1725	0.0341
2	99.84	0.2405	0.0101	0.0021	0.0030	0.0025	-0.1289	0.0115	-0.3498	0.0698
2	99.84	0.2999	-0.0133	0.0025	-0.0074	0.0055	-0.2983	0.0255	-0.4685	0.0887
2	99.84	0.3498	-0.0666	0.0024	0.0104	0.0093	-0.4729	0.0436	-0.5661	0.0793
2	99.84	0.3998	-0.0906	0.0034	0.0002	0.0146	-0.7816	0.0679	-0.8490	0.0792
2	99.84	0.4496	-0.1233	0.0040	-0.0089	0.0199	-1.1692	0.0934	-0.9853	0.0862
2	99.84	0.4995	-0.1564	0.0048	-0.0269	0.0261	-1.6874	0.1240	-1.1656	0.0872
2	99.84	0.5551	-0.1901	0.0056	-0.0475	0.0338	-2.4146	0.1618	-1.3889	0.0944
2	99.84	0.5996	-0.2247	0.0069	-0.0682	0.0406	-3.0617	0.1944	-1.4320	0.0941
2	99.84	0.6497	-0.2509	0.0081	-0.0945	0.0488	-3.9081	0.2327	-1.4101	0.0958
2	99.84	0.6996	-0.2986	0.0103	-0.1397	0.0577	-4.8470	0.2716	-1.3523	0.1037
2	99.84	0.7495	-0.3608	0.0126	-0.1702	0.0671	-5.8931	0.3110	-1.4124	0.1087
2	99.84	0.7996	-0.4079	0.0153	-0.2636	0.0768	-7.0570	0.3507	-1.4434	0.1118
2	99.84	0.8578	-0.4989	0.0188	-0.3355	0.0889	-8.4689	0.3968	-1.4209	0.1153
2	99.84	0.9100	-0.5539	0.0218	-0.3506	0.0998	-9.7783	0.4374	-1.5691	0.1177
2	99.84	0.9727	-0.6154	0.0251	-0.3691	0.1136	-11.3739	0.4872	-1.5762	0.1210
3	99.84	0.1938	0.0382	0.0028	-0.0161	0.0013	-0.0220	0.0064	-0.2409	0.0286
3	99.84	0.2357	0.0033	0.0019	0.0194	0.0022	-0.1123	0.0101	-0.7281	0.0626
3	99.84	0.2995	-0.0298	0.0024	-0.0258	0.0054	-0.1917	0.0257	-0.8212	0.0753
3	99.84	0.3493	-0.0630	0.0024	-0.0286	0.0094	-0.3372	0.0432	-0.9065	0.0714
3	99.84	0.4000	-0.0876	0.0031	-0.0350	0.0147	-0.5605	0.0672	-0.8513	0.0770
3	99.84	0.4497	-0.1214	0.0036	-0.0554	0.0202	-0.9027	0.0925	-1.0639	0.0801
3	99.84	0.4997	-0.1602	0.0041	-0.0742	0.0269	-1.3596	0.1215	-1.2303	0.0823
3	99.84	0.5556	-0.1977	0.0051	-0.0805	0.0353	-1.9727	0.1578	-1.2426	0.0869
3	99.84	0.5995	-0.2099	0.0056	-0.1300	0.0429	-2.5728	0.1885	-1.2928	0.0885
3	99.84	0.6498	-0.2424	0.0072	-0.1697	0.0526	-3.3474	0.2269	-1.3504	0.0907
3	99.84	0.6890	-0.2965	0.0088	-0.2371	0.0604	-4.0570	0.2574	-1.6668	0.0967
3	99.84	0.7495	-0.3287	0.0112	-0.2636	0.0740	-5.1958	0.3063	-1.4346	0.1027
3	99.84	0.7998	-0.3671	0.0137	-0.3598	0.0857	-6.3244	0.3478	-1.6419	0.1058
3	99.84	0.8577	-0.3894	0.0167	-0.4188	0.1001	-7.6445	0.3973	-1.3668	0.1065
3	99.84	0.9178	-0.4998	0.0197	-0.5213	0.1158	-9.2068	0.4460	-1.9239	0.1079
3	99.84	0.9729	-0.5297	0.0218	-0.5354	0.1300	-10.6068	0.4925	-2.0298	0.1049
4	99.84	0.2001	0.0396	0.0026	0.0088	0.0019	-0.0891	0.0100	0.0662	0.0332
4	99.84	0.2502	0.0125	0.0028	0.0107	0.0042	-0.1902	0.0227	0.2041	0.0595
4	99.84	0.3001	-0.0344	0.0033	0.0206	0.0085	-0.3851	0.0417	0.1867	0.0740
4	99.84	0.3502	-0.0888	0.0031	0.0603	0.0147	-0.6554	0.0738	0.0686	0.0764
4	99.84	0.4002	-0.1134	0.0041	0.0725	0.0230	-1.0289	0.1143	0.0232	0.0793
4	99.84	0.4500	-0.1459	0.0051	0.1114	0.0325	-1.5383	0.1626	-0.3035	0.0822
4	99.84	0.5001	-0.1850	0.0073	0.1298	0.0435	-2.1265	0.2170	-0.2079	0.0880
4	99.84	0.5560	-0.2349	0.0088	0.1617	0.0571	-3.0108	0.2796	-0.4703	0.1039
4	99.84	0.6001	-0.2643	0.0105	0.1869	0.0687	-3.7593	0.3297	-0.4077	0.1171
4	99.84	0.6501	-0.3188	0.0131	0.1777	0.0824	-4.7651	0.3838	-0.3640	0.1190
4	99.84	0.6999	-0.3715	0.0163	0.1709	0.0972	-5.8742	0.4379	-0.3143	0.1155
4	99.84	0.7500	-0.4341	0.0199	0.1843	0.1125	-7.0641	0.4924	-0.0509	0.1240
4	99.84	0.8002	-0.4989	0.0247	0.1553	0.1284	-8.4623	0.5477	-0.2227	0.1323
4	99.84	0.8582	-0.5780	0.0302	0.1734	0.1467	-10.0973	0.6159	-0.2328	0.1267
4	99.84	0.9101	-0.6504	0.0351	0.1607	0.1639	-11.7074	0.6783	-0.4428	0.1306
4	99.84	0.9728	-0.6830	0.0389	0.2103	0.1840	-13.5848	0.7559	-0.2610	0.1304

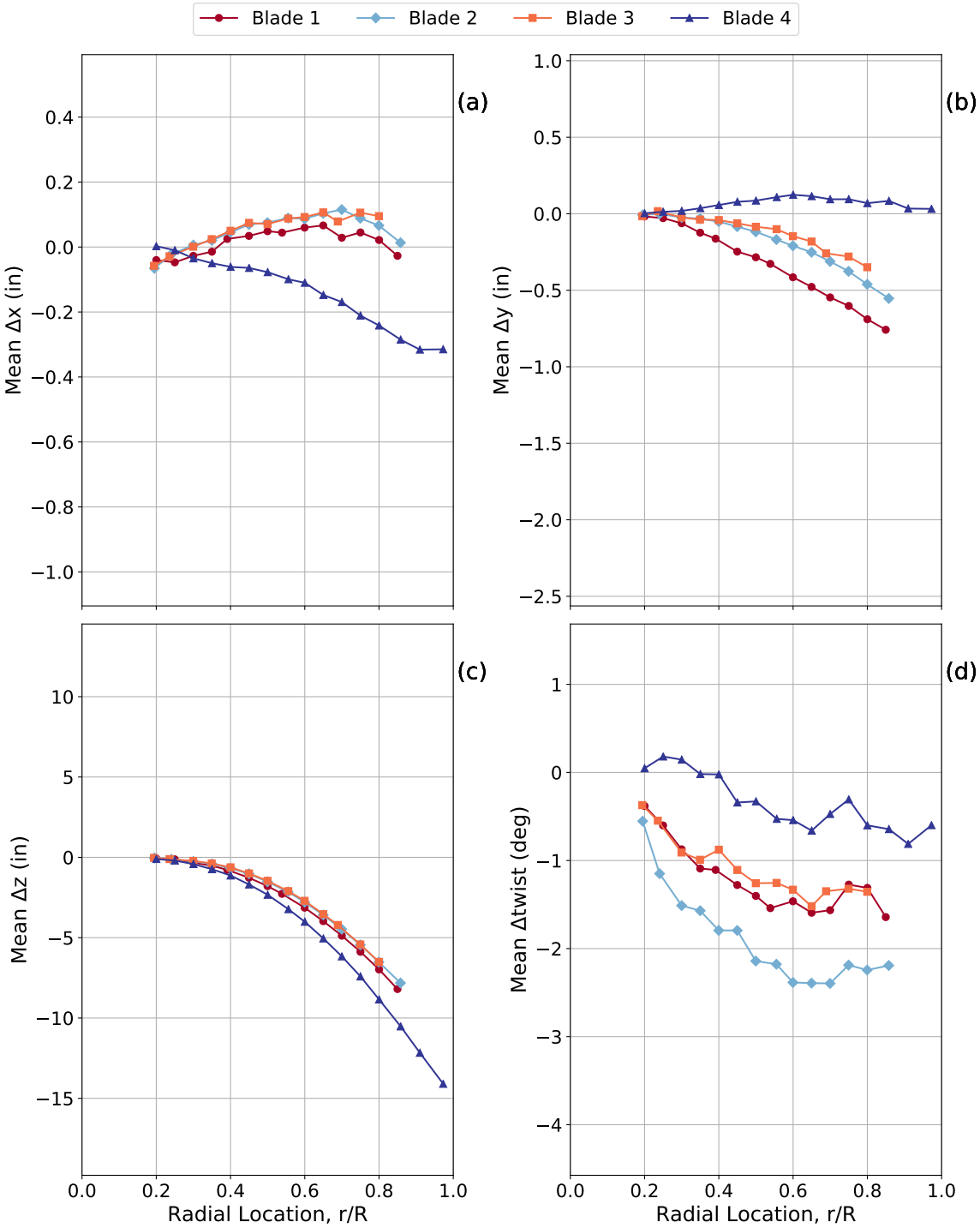


Figure 2.13-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-18. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.371$, $\alpha = -8.4°$
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0401	0.0026	-0.0177	0.0012	-0.0751	0.0057	-0.3813	0.0279
1	105.12	0.2499	-0.0472	0.0019	-0.0287	0.0026	-0.1254	0.0124	-0.6019	0.0451
1	105.12	0.2998	-0.0271	0.0018	-0.0623	0.0053	-0.3287	0.0238	-0.8728	0.0612
1	105.12	0.3498	-0.0144	0.0025	-0.1238	0.0084	-0.5239	0.0396	-1.0909	0.0585
1	105.12	0.3913	0.0250	0.0033	-0.1629	0.0127	-0.7786	0.0581	-1.1068	0.0671
1	105.12	0.4496	0.0343	0.0048	-0.2476	0.0181	-1.2690	0.0875	-1.2783	0.0626
1	105.12	0.4997	0.0487	0.0061	-0.2844	0.0239	-1.7914	0.1165	-1.4019	0.0637
1	105.12	0.5387	0.0443	0.0074	-0.3275	0.0286	-2.2702	0.1404	-1.5407	0.0730
1	105.12	0.5996	0.0598	0.0095	-0.4151	0.0372	-3.1323	0.1775	-1.4628	0.0778
1	105.12	0.6498	0.0665	0.0110	-0.4780	0.0452	-3.9707	0.2103	-1.5931	0.0778
1	105.12	0.6998	0.0287	0.0128	-0.5466	0.0536	-4.8780	0.2403	-1.5641	0.0985
1	105.12	0.7500	0.0448	0.0155	-0.6027	0.0631	-5.8781	0.2736	-1.2739	0.1092
1	105.12	0.8001	0.0216	0.0193	-0.6896	0.0728	-6.9766	0.3085	-1.3110	0.1303
1	105.12	0.8497	-0.0270	0.0220	-0.7583	0.0837	-8.1961	0.3441	-1.6424	0.1180
2	105.12	0.1949	-0.0655	0.0029	-0.0073	0.0011	-0.0395	0.0062	-0.5534	0.0324
2	105.12	0.2405	-0.0225	0.0022	-0.0008	0.0022	-0.1230	0.0117	-1.1491	0.0414
2	105.12	0.2999	0.0060	0.0020	-0.0244	0.0045	-0.2552	0.0269	-1.5120	0.0684
2	105.12	0.3498	0.0203	0.0033	-0.0323	0.0080	-0.4076	0.0458	-1.5703	0.0686
2	105.12	0.3998	0.0454	0.0049	-0.0515	0.0122	-0.6858	0.0711	-1.7939	0.0584
2	105.12	0.4496	0.0692	0.0065	-0.0840	0.0163	-1.0244	0.1002	-1.7942	0.0614
2	105.12	0.4995	0.0750	0.0081	-0.1179	0.0213	-1.5206	0.1315	-2.1414	0.0617
2	105.12	0.5551	0.0892	0.0100	-0.1686	0.0279	-2.1525	0.1695	-2.1776	0.0674
2	105.12	0.5996	0.0869	0.0125	-0.2096	0.0335	-2.7866	0.2004	-2.3849	0.0739
2	105.12	0.6497	0.1036	0.0141	-0.2515	0.0411	-3.5873	0.2373	-2.3924	0.0926
2	105.12	0.6996	0.1153	0.0176	-0.3117	0.0482	-4.4711	0.2723	-2.3955	0.1214
2	105.12	0.7495	0.0885	0.0201	-0.3763	0.0567	-5.4500	0.3098	-2.1876	0.0936
2	105.12	0.7996	0.0663	0.0222	-0.4611	0.0658	-6.5199	0.3453	-2.2437	0.1363
2	105.12	0.8578	0.0133	0.0313	-0.5536	0.0765	-7.8207	0.3896	-2.1920	0.2619
3	105.12	0.1938	-0.0579	0.0031	-0.0166	0.0014	-0.0326	0.0079	-0.3712	0.0256
3	105.12	0.2357	-0.0286	0.0019	0.0168	0.0025	-0.1104	0.0135	-0.5476	0.0469
3	105.12	0.2995	0.0010	0.0027	-0.0245	0.0063	-0.2214	0.0336	-0.9093	0.0632
3	105.12	0.3493	0.0242	0.0037	-0.0379	0.0109	-0.3766	0.0583	-0.9917	0.0506
3	105.12	0.4000	0.0500	0.0054	-0.0415	0.0171	-0.6214	0.0899	-0.8773	0.0615
3	105.12	0.4497	0.0745	0.0071	-0.0623	0.0235	-0.9997	0.1257	-1.1074	0.0720
3	105.12	0.4997	0.0707	0.0083	-0.0850	0.0313	-1.4623	0.1670	-1.2578	0.0726
3	105.12	0.5556	0.0877	0.0107	-0.1008	0.0409	-2.1030	0.2158	-1.2545	0.0764
3	105.12	0.5995	0.0924	0.0130	-0.1467	0.0493	-2.7060	0.2565	-1.3313	0.0761
3	105.12	0.6498	0.1066	0.0152	-0.1816	0.0594	-3.5351	0.3023	-1.5192	0.0889
3	105.12	0.6890	0.0786	0.0171	-0.2586	0.0689	-4.2106	0.3371	-1.3490	0.1016
3	105.12	0.7495	0.1060	0.0211	-0.2799	0.0841	-5.4183	0.3927	-1.3199	0.0938
3	105.12	0.7998	0.0950	0.0248	-0.3498	0.0968	-6.5083	0.4425	-1.3551	0.0928
4	105.12	0.2001	0.0026	0.0247	0.0033	0.0018	-0.1039	0.0072	0.0473	0.0381
4	105.12	0.2502	-0.0099	0.0072	0.0127	0.0042	-0.2023	0.0153	0.1808	0.0683
4	105.12	0.3001	-0.0349	0.0086	0.0187	0.0075	-0.4202	0.0288	0.1452	0.0844
4	105.12	0.3502	-0.0498	0.0200	0.0361	0.0128	-0.7385	0.0492	-0.0185	0.0748
4	105.12	0.4002	-0.0611	0.0287	0.0571	0.0202	-1.1315	0.0761	-0.0227	0.0834
4	105.12	0.4500	-0.0644	0.0344	0.0779	0.0282	-1.6907	0.1065	-0.3415	0.0847
4	105.12	0.5001	-0.0774	0.0371	0.0858	0.0382	-2.3306	0.1421	-0.3287	0.0877
4	105.12	0.5560	-0.0993	0.0375	0.1084	0.0511	-3.2288	0.1885	-0.5271	0.0836
4	105.12	0.6001	-0.1101	0.0360	0.1238	0.0623	-4.0107	0.2291	-0.5417	0.1100
4	105.12	0.6501	-0.1477	0.0355	0.1148	0.0774	-5.0501	0.2752	-0.6609	0.1123
4	105.12	0.6999	-0.1694	0.0426	0.0946	0.0909	-6.1666	0.3245	-0.4721	0.1299
4	105.12	0.7500	-0.2111	0.0604	0.0949	0.1064	-7.4143	0.3768	-0.3062	0.1428
4	105.12	0.8002	-0.2416	0.0869	0.0691	0.1229	-8.8474	0.4305	-0.6012	0.1688
4	105.12	0.8582	-0.2852	0.1293	0.0839	0.1422	-10.5225	0.4919	-0.6439	0.1791
4	105.12	0.9101	-0.3158	0.1757	0.0339	0.1592	-12.1671	0.5486	-0.8116	0.1978
4	105.12	0.9728	-0.3148	0.2349	0.0318	0.1699	-14.0973	0.6170	-0.5989	0.2198

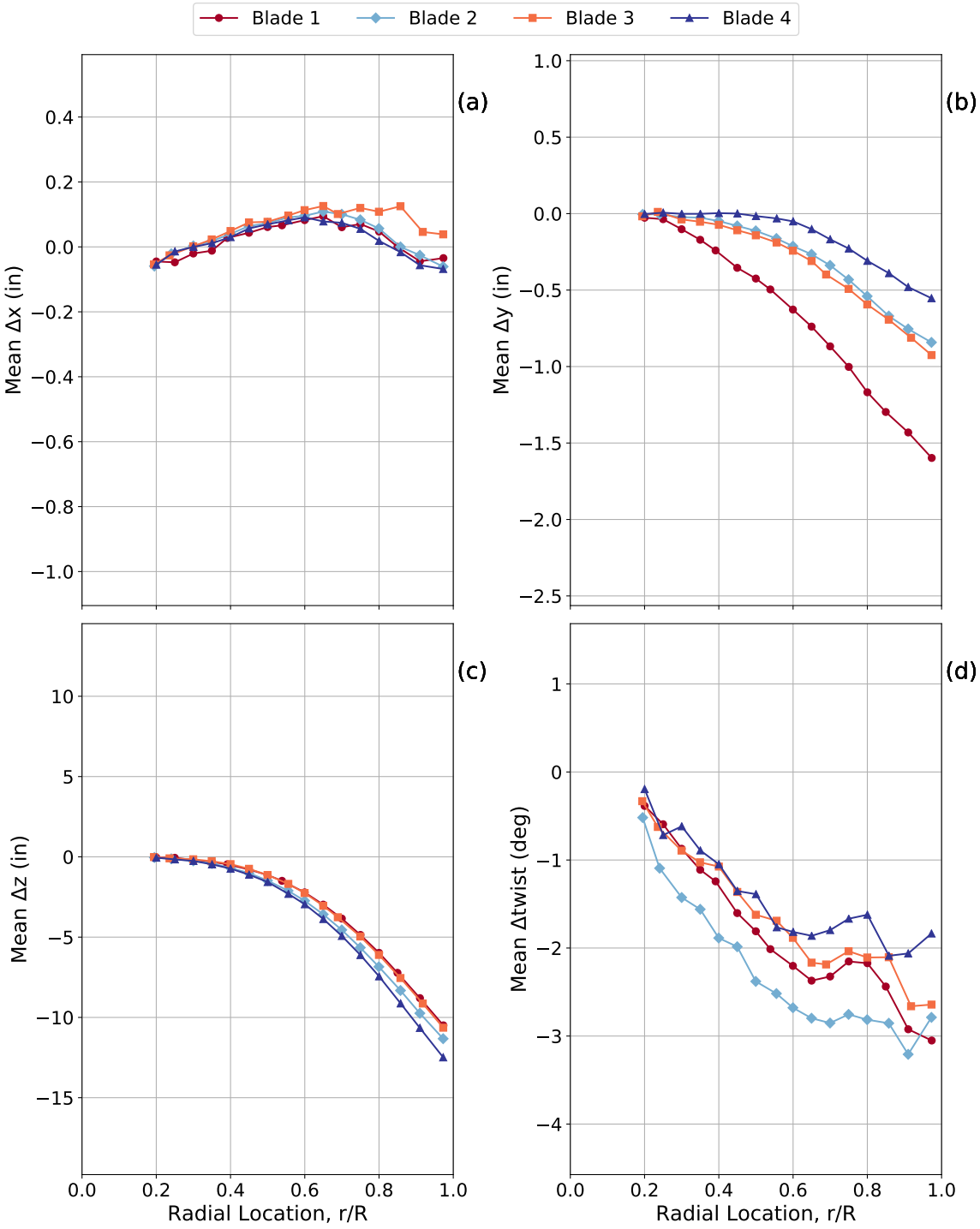


Figure 2.13-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.371$, $\alpha = -8.4°$ NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0449	0.0029	-0.0268	0.0008	-0.0438	0.0049	-0.3855	0.0259
1	119.88	0.2499	-0.0475	0.0018	-0.0364	0.0021	-0.0591	0.0111	-0.5938	0.0434
1	119.88	0.2998	-0.0204	0.0020	-0.1019	0.0038	-0.1997	0.0211	-0.8721	0.0582
1	119.88	0.3498	-0.0117	0.0033	-0.1711	0.0060	-0.3112	0.0353	-1.1109	0.0537
1	119.88	0.3913	0.0275	0.0045	-0.2408	0.0090	-0.4660	0.0522	-1.2424	0.0587
1	119.88	0.4496	0.0434	0.0062	-0.3544	0.0128	-0.7837	0.0802	-1.6029	0.0662
1	119.88	0.4997	0.0611	0.0075	-0.4246	0.0164	-1.1319	0.1116	-1.8097	0.0633
1	119.88	0.5387	0.0664	0.0090	-0.4958	0.0189	-1.4940	0.1412	-2.0126	0.0689
1	119.88	0.5996	0.0824	0.0115	-0.6274	0.0246	-2.2137	0.1952	-2.2028	0.0676
1	119.88	0.6498	0.0945	0.0141	-0.7388	0.0294	-2.9771	0.2482	-2.3706	0.0737
1	119.88	0.6998	0.0606	0.0169	-0.8680	0.0345	-3.8437	0.3054	-2.3234	0.0755
1	119.88	0.7500	0.0703	0.0214	-1.0023	0.0399	-4.8634	0.3707	-2.1527	0.0842
1	119.88	0.8001	0.0473	0.0266	-1.1683	0.0460	-5.9788	0.4431	-2.1725	0.0905
1	119.88	0.8497	0.0001	0.0333	-1.2971	0.0525	-7.2224	0.5204	-2.4377	0.0958
1	119.88	0.9102	-0.0444	0.0415	-1.4310	0.0608	-8.7992	0.6241	-2.9230	0.1021
1	119.88	0.9734	-0.0346	0.0500	-1.5976	0.0710	-10.4947	0.7410	-3.0508	0.1019
2	119.88	0.1949	-0.0592	0.0030	-0.0048	0.0008	-0.0423	0.0057	-0.5179	0.0266
2	119.88	0.2405	-0.0212	0.0019	-0.0038	0.0017	-0.1218	0.0104	-1.0930	0.0439
2	119.88	0.2999	0.0031	0.0020	-0.0233	0.0033	-0.2522	0.0238	-1.4260	0.0594
2	119.88	0.3498	0.0180	0.0031	-0.0261	0.0063	-0.4192	0.0410	-1.5600	0.0537
2	119.88	0.3998	0.0399	0.0047	-0.0488	0.0092	-0.6876	0.0631	-1.8864	0.0549
2	119.88	0.4496	0.0641	0.0064	-0.0801	0.0125	-1.0106	0.0867	-1.9852	0.0541
2	119.88	0.4995	0.0728	0.0078	-0.1125	0.0159	-1.4763	0.1130	-2.3792	0.0570
2	119.88	0.5551	0.0908	0.0095	-0.1626	0.0202	-2.1110	0.1468	-2.5173	0.0587
2	119.88	0.5996	0.0958	0.0109	-0.2129	0.0238	-2.7361	0.1757	-2.6786	0.0648
2	119.88	0.6497	0.1087	0.0129	-0.2658	0.0280	-3.5814	0.2103	-2.7976	0.0732
2	119.88	0.6996	0.1006	0.0154	-0.3381	0.0326	-4.5488	0.2479	-2.8520	0.0716
2	119.88	0.7495	0.0835	0.0178	-0.4317	0.0381	-5.6530	0.2877	-2.7538	0.0702
2	119.88	0.7996	0.0567	0.0213	-0.5402	0.0435	-6.8483	0.3328	-2.8141	0.0779
2	119.88	0.8578	-0.0000	0.0257	-0.6697	0.0509	-8.3225	0.3870	-2.8545	0.0879
2	119.88	0.9100	-0.0258	0.0302	-0.7544	0.0585	-9.7421	0.4409	-3.2078	0.0902
2	119.88	0.9727	-0.0607	0.0348	-0.8420	0.0674	-11.3254	0.5087	-2.7879	0.1046
3	119.88	0.1938	-0.0540	0.0030	-0.0177	0.0009	-0.0143	0.0035	-0.3317	0.0319
3	119.88	0.2357	-0.0261	0.0023	0.0113	0.0017	-0.0933	0.0075	-0.6245	0.0436
3	119.88	0.2995	0.0017	0.0021	-0.0379	0.0038	-0.1519	0.0158	-0.8927	0.0707
3	119.88	0.3493	0.0230	0.0033	-0.0529	0.0065	-0.2707	0.0269	-1.0263	0.0608
3	119.88	0.4000	0.0488	0.0049	-0.0731	0.0102	-0.4538	0.0425	-1.0743	0.0622
3	119.88	0.4497	0.0754	0.0065	-0.1088	0.0134	-0.7450	0.0603	-1.3630	0.0635
3	119.88	0.4997	0.0773	0.0083	-0.1419	0.0176	-1.1299	0.0826	-1.6220	0.0745
3	119.88	0.5556	0.0966	0.0104	-0.1888	0.0229	-1.6837	0.1121	-1.6900	0.0744
3	119.88	0.5995	0.1131	0.0115	-0.2423	0.0274	-2.2530	0.1399	-1.8840	0.0772
3	119.88	0.6498	0.1259	0.0131	-0.3101	0.0330	-3.0478	0.1768	-2.1660	0.0810
3	119.88	0.6890	0.1012	0.0150	-0.3981	0.0378	-3.7611	0.2070	-2.1866	0.0825
3	119.88	0.7495	0.1200	0.0177	-0.4922	0.0454	-4.9602	0.2589	-2.0362	0.0858
3	119.88	0.7998	0.1083	0.0209	-0.5940	0.0523	-6.1080	0.3056	-2.1074	0.0857
3	119.88	0.8577	0.1252	0.0256	-0.6934	0.0613	-7.5464	0.3646	-2.1046	0.0912
3	119.88	0.9178	0.0461	0.0294	-0.8116	0.0707	-9.1354	0.4281	-2.6614	0.1059
3	119.88	0.9729	0.0386	0.0353	-0.9249	0.0800	-10.6403	0.4923	-2.6425	0.1110
4	119.88	0.2001	-0.0548	0.0035	-0.0025	0.0008	-0.0545	0.0060	-0.1946	0.0330
4	119.88	0.2502	-0.0140	0.0020	0.0060	0.0022	-0.1591	0.0125	-0.7168	0.0501
4	119.88	0.3001	-0.0001	0.0019	-0.0014	0.0034	-0.2574	0.0245	-0.6172	0.0716
4	119.88	0.3502	0.0114	0.0038	-0.0014	0.0064	-0.4697	0.0420	-0.8914	0.0642
4	119.88	0.4002	0.0300	0.0056	0.0032	0.0097	-0.7368	0.0649	-1.0485	0.0662
4	119.88	0.4500	0.0568	0.0074	0.0004	0.0128	-1.1127	0.0924	-1.3525	0.0747
4	119.88	0.5001	0.0695	0.0093	-0.0160	0.0164	-1.5703	0.1278	-1.3881	0.0727
4	119.88	0.5560	0.0819	0.0115	-0.0315	0.0212	-2.3071	0.1738	-1.7647	0.0798
4	119.88	0.6001	0.0910	0.0141	-0.0508	0.0256	-2.9550	0.2173	-1.8172	0.0773
4	119.88	0.6501	0.0783	0.0172	-0.1019	0.0307	-3.8742	0.2759	-1.8613	0.0841
4	119.88	0.6999	0.0742	0.0216	-0.1683	0.0361	-4.9270	0.3435	-1.7964	0.0867
4	119.88	0.7500	0.0554	0.0269	-0.2285	0.0421	-6.1178	0.4207	-1.6668	0.0933
4	119.88	0.8002	0.0183	0.0341	-0.3090	0.0486	-7.4446	0.5089	-1.6218	0.0962
4	119.88	0.8582	-0.0164	0.0436	-0.3897	0.0572	-9.1310	0.6220	-2.0880	0.1060
4	119.88	0.9101	-0.0565	0.0521	-0.4803	0.0654	-10.6566	0.7310	-2.0617	0.1150
4	119.88	0.9728	-0.0681	0.0635	-0.5533	0.0756	-12.4882	0.8726	-1.8353	0.1204

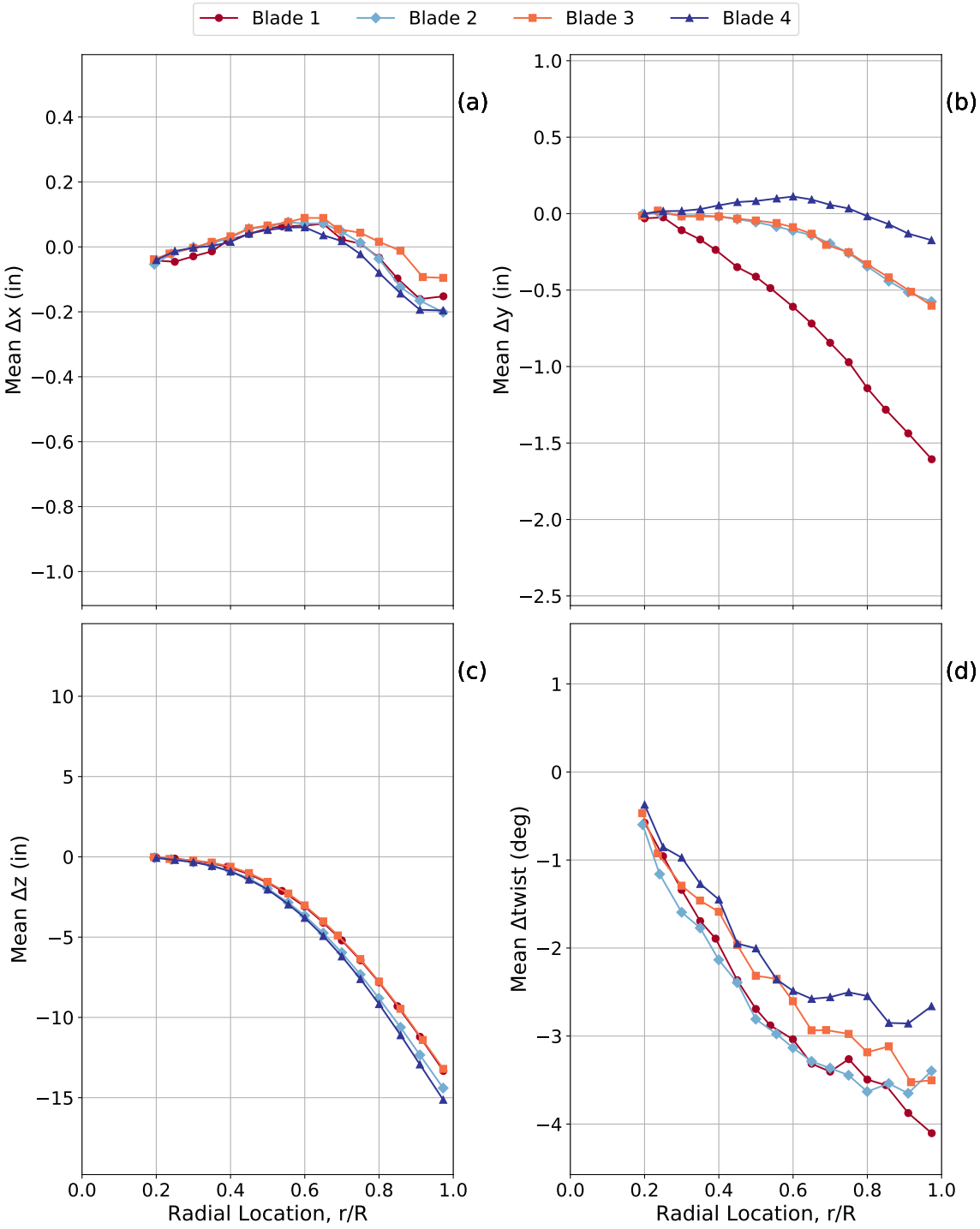


Figure 2.13-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0421	0.0023	-0.0308	0.0011	-0.0449	0.0042	-0.5765	0.0305
1	135	0.2499	-0.0459	0.0016	-0.0245	0.0025	-0.1066	0.0088	-0.9567	0.0456
1	135	0.2998	-0.0290	0.0018	-0.1086	0.0047	-0.2477	0.0168	-1.3390	0.0669
1	135	0.3498	-0.0138	0.0025	-0.1697	0.0081	-0.3976	0.0282	-1.6940	0.0644
1	135	0.3913	0.0184	0.0033	-0.2371	0.0118	-0.6168	0.0410	-1.8931	0.0701
1	135	0.4496	0.0398	0.0051	-0.3500	0.0166	-1.0762	0.0638	-2.3655	0.0736
1	135	0.4997	0.0570	0.0064	-0.4122	0.0219	-1.6109	0.0886	-2.6924	0.0785
1	135	0.5387	0.0631	0.0077	-0.4869	0.0266	-2.1229	0.1133	-2.8788	0.0766
1	135	0.5996	0.0656	0.0105	-0.6088	0.0354	-3.0943	0.1601	-3.0372	0.0837
1	135	0.6498	0.0711	0.0129	-0.7190	0.0432	-4.1003	0.2072	-3.3145	0.0878
1	135	0.6998	0.0229	0.0171	-0.8447	0.0514	-5.2050	0.2628	-3.4039	0.0886
1	135	0.7500	0.0098	0.0218	-0.9713	0.0608	-6.4440	0.3258	-3.2625	0.0916
1	135	0.8001	-0.0332	0.0275	-1.1418	0.0700	-7.8180	0.3940	-3.4946	0.0942
1	135	0.8497	-0.0973	0.0345	-1.2822	0.0799	-9.3001	0.4671	-3.5577	0.1033
1	135	0.9102	-0.1607	0.0424	-1.4371	0.0924	-11.2052	0.5602	-3.8746	0.1074
1	135	0.9734	-0.1522	0.0501	-1.6062	0.1063	-13.3338	0.6611	-4.1037	0.1098
2	135	0.1949	-0.0534	0.0024	-0.0034	0.0008	-0.0535	0.0047	-0.5983	0.0269
2	135	0.2405	-0.0215	0.0019	0.0017	0.0020	-0.1588	0.0103	-1.1604	0.0395
2	135	0.2999	-0.0011	0.0020	-0.0121	0.0043	-0.3291	0.0214	-1.5941	0.0594
2	135	0.3498	0.0113	0.0031	-0.0104	0.0068	-0.5298	0.0365	-1.7718	0.0587
2	135	0.3998	0.0275	0.0039	-0.0200	0.0110	-0.8831	0.0571	-2.1342	0.0531
2	135	0.4496	0.0561	0.0050	-0.0365	0.0142	-1.3429	0.0806	-2.3930	0.0582
2	135	0.4995	0.0623	0.0062	-0.0553	0.0180	-1.9800	0.1085	-2.8080	0.0627
2	135	0.5551	0.0761	0.0080	-0.0846	0.0227	-2.8405	0.1470	-2.9761	0.0688
2	135	0.5996	0.0717	0.0102	-0.1113	0.0270	-3.6580	0.1826	-3.1338	0.0706
2	135	0.6497	0.0727	0.0128	-0.1407	0.0324	-4.7453	0.2269	-3.2874	0.0744
2	135	0.6996	0.0463	0.0163	-0.1961	0.0379	-5.9622	0.2751	-3.3639	0.0754
2	135	0.7495	0.0128	0.0204	-0.2571	0.0438	-7.3270	0.3265	-3.4455	0.0756
2	135	0.7996	-0.0365	0.0254	-0.3450	0.0500	-8.8068	0.3806	-3.6312	0.0783
2	135	0.8578	-0.1239	0.0318	-0.4416	0.0578	-10.6160	0.4478	-3.5390	0.0794
2	135	0.9100	-0.1654	0.0380	-0.5132	0.0652	-12.3364	0.5127	-3.6507	0.0860
2	135	0.9727	-0.2013	0.0450	-0.5753	0.0741	-14.3996	0.5930	-3.3968	0.0921
3	135	0.1938	-0.0382	0.0029	-0.0139	0.0010	-0.0185	0.0055	-0.4676	0.0305
3	135	0.2357	-0.0206	0.0020	0.0198	0.0024	-0.1316	0.0115	-0.9238	0.0374
3	135	0.2995	-0.0033	0.0019	-0.0178	0.0054	-0.2143	0.0261	-1.2917	0.0660
3	135	0.3493	0.0154	0.0028	-0.0188	0.0084	-0.3571	0.0437	-1.4606	0.0665
3	135	0.4000	0.0324	0.0046	-0.0181	0.0141	-0.6177	0.0694	-1.5880	0.0794
3	135	0.4497	0.0569	0.0056	-0.0330	0.0193	-1.0101	0.1012	-1.9653	0.0770
3	135	0.4997	0.0657	0.0071	-0.0451	0.0262	-1.5565	0.1435	-2.3151	0.0901
3	135	0.5556	0.0764	0.0095	-0.0616	0.0354	-2.2850	0.2054	-2.3495	0.1032
3	135	0.5995	0.0892	0.0120	-0.0887	0.0431	-3.0233	0.2674	-2.6041	0.0948
3	135	0.6498	0.0891	0.0165	-0.1317	0.0527	-4.0227	0.3521	-2.9350	0.1129
3	135	0.6890	0.0552	0.0215	-0.2041	0.0607	-4.8948	0.4282	-2.9323	0.1186
3	135	0.7495	0.0436	0.0311	-0.2532	0.0735	-6.3670	0.5621	-2.9754	0.1237
3	135	0.7998	0.0158	0.0411	-0.3308	0.0849	-7.7635	0.6828	-3.1845	0.1340
3	135	0.8577	-0.0118	0.0551	-0.4170	0.0981	-9.4657	0.8323	-3.1175	0.1396
3	135	0.9178	-0.0929	0.0687	-0.5114	0.1125	-11.4057	0.9935	-3.5246	0.1480
3	135	0.9729	-0.0955	0.0793	-0.6022	0.1262	-13.2040	1.1484	-3.5027	0.1532
4	135	0.2001	-0.0406	0.0026	0.0010	0.0010	-0.0691	0.0049	-0.3718	0.0276
4	135	0.2502	-0.0129	0.0016	0.0160	0.0023	-0.1936	0.0110	-0.8543	0.0400
4	135	0.3001	-0.0024	0.0018	0.0176	0.0041	-0.3306	0.0205	-0.9730	0.0600
4	135	0.3502	0.0026	0.0030	0.0291	0.0072	-0.5694	0.0344	-1.2720	0.0539
4	135	0.4002	0.0156	0.0046	0.0540	0.0111	-0.9114	0.0543	-1.4488	0.0620
4	135	0.4500	0.0408	0.0059	0.0755	0.0148	-1.4171	0.0791	-1.9496	0.0635
4	135	0.5001	0.0521	0.0076	0.0824	0.0195	-2.0341	0.1098	-2.0040	0.0703
4	135	0.5560	0.0597	0.0099	0.0991	0.0255	-2.9668	0.1522	-2.3582	0.0759
4	135	0.6001	0.0603	0.0118	0.1119	0.0311	-3.8013	0.1908	-2.4870	0.0763
4	135	0.6501	0.0357	0.0149	0.0920	0.0374	-4.9310	0.2404	-2.5774	0.0794
4	135	0.6999	0.0177	0.0188	0.0572	0.0440	-6.2005	0.2975	-2.5579	0.0880
4	135	0.7500	-0.0225	0.0238	0.0338	0.0511	-7.6106	0.3594	-2.5027	0.0865
4	135	0.8002	-0.0800	0.0297	-0.0174	0.0584	-9.1711	0.4277	-2.5466	0.0852
4	135	0.8582	-0.1437	0.0379	-0.0698	0.0673	-11.1087	0.5141	-2.8513	0.0903
4	135	0.9101	-0.1937	0.0452	-0.1306	0.0750	-12.9309	0.5969	-2.8572	0.0945
4	135	0.9728	-0.1959	0.0531	-0.1739	0.0850	-15.1280	0.7025	-2.6613	0.0974

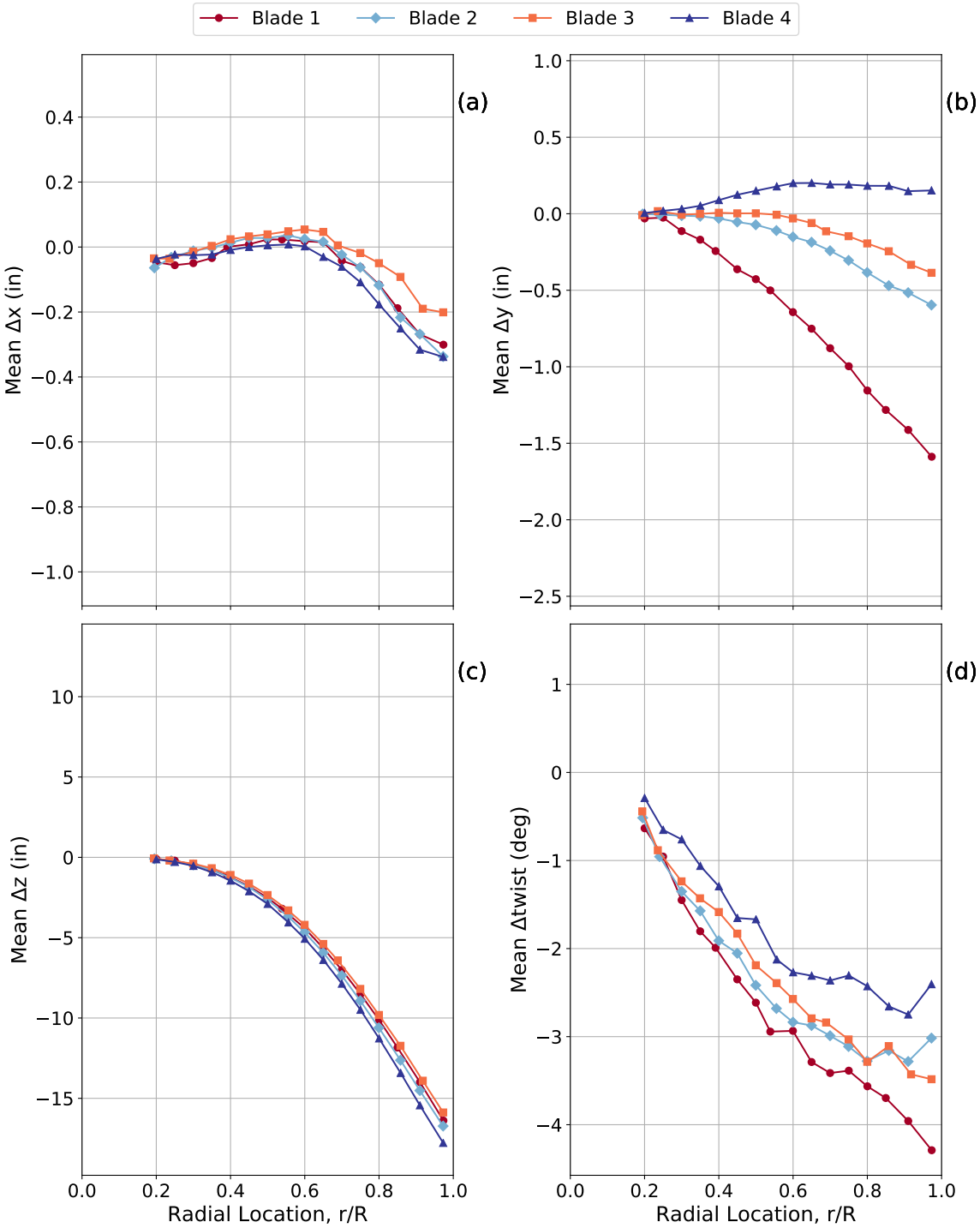


Figure 2.13-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0468	0.0025	-0.0309	0.0011	-0.1000	0.0058	-0.6339	0.0233
1	150.12	0.2499	-0.0558	0.0018	-0.0254	0.0026	-0.2048	0.0131	-0.9556	0.0433
1	150.12	0.2998	-0.0496	0.0025	-0.1134	0.0046	-0.4573	0.0240	-1.4490	0.0538
1	150.12	0.3498	-0.0339	0.0032	-0.1696	0.0083	-0.7810	0.0396	-1.8037	0.0497
1	150.12	0.3913	0.0004	0.0043	-0.2437	0.0118	-1.1458	0.0588	-1.9903	0.0591
1	150.12	0.4496	0.0085	0.0058	-0.3627	0.0160	-1.7994	0.0868	-2.3496	0.0626
1	150.12	0.4997	0.0231	0.0071	-0.4276	0.0210	-2.5171	0.1162	-2.6140	0.0738
1	150.12	0.5387	0.0233	0.0085	-0.5009	0.0248	-3.1962	0.1429	-2.9429	0.0750
1	150.12	0.5996	0.0179	0.0113	-0.6429	0.0317	-4.4106	0.1873	-2.9341	0.0863
1	150.12	0.6498	0.0148	0.0142	-0.7512	0.0380	-5.6535	0.2277	-3.2881	0.0932
1	150.12	0.6998	-0.0420	0.0182	-0.8787	0.0447	-7.0067	0.2748	-3.4130	0.0954
1	150.12	0.7500	-0.0619	0.0233	-0.9967	0.0524	-8.5093	0.3286	-3.3865	0.0970
1	150.12	0.8001	-0.1157	0.0305	-1.1553	0.0610	-10.1238	0.3897	-3.5639	0.1142
1	150.12	0.8497	-0.1882	0.0387	-1.2822	0.0701	-11.8389	0.4614	-3.6966	0.1172
1	150.12	0.9102	-0.2688	0.0499	-1.4129	0.0822	-13.9943	0.5612	-3.9576	0.1357
1	150.12	0.9734	-0.3007	0.0631	-1.5881	0.0957	-16.3824	0.6793	-4.2897	0.1469
2	150.12	0.1949	-0.0641	0.0028	-0.0016	0.0008	-0.0906	0.0044	-0.5154	0.0221
2	150.12	0.2405	-0.0318	0.0018	-0.0058	0.0020	-0.2119	0.0104	-0.9561	0.0346
2	150.12	0.2999	-0.0119	0.0020	-0.0123	0.0037	-0.4703	0.0215	-1.3519	0.0509
2	150.12	0.3498	-0.0019	0.0029	-0.0166	0.0063	-0.7907	0.0367	-1.5716	0.0549
2	150.12	0.3998	0.0133	0.0040	-0.0305	0.0099	-1.2669	0.0579	-1.9108	0.0571
2	150.12	0.4496	0.0280	0.0052	-0.0538	0.0136	-1.8520	0.0790	-2.0527	0.0568
2	150.12	0.4995	0.0278	0.0066	-0.0721	0.0175	-2.6279	0.1070	-2.4167	0.0668
2	150.12	0.5551	0.0359	0.0081	-0.1098	0.0227	-3.6828	0.1426	-2.6804	0.0682
2	150.12	0.5996	0.0246	0.0102	-0.1512	0.0273	-4.6704	0.1746	-2.8356	0.0794
2	150.12	0.6497	0.0160	0.0128	-0.1861	0.0326	-5.9326	0.2141	-2.8735	0.0816
2	150.12	0.6996	-0.0235	0.0164	-0.2417	0.0389	-7.3541	0.2573	-2.9898	0.0866
2	150.12	0.7495	-0.0626	0.0211	-0.3048	0.0453	-8.9266	0.3042	-3.1120	0.0918
2	150.12	0.7996	-0.1176	0.0266	-0.3838	0.0527	-10.6064	0.3538	-3.2773	0.1000
2	150.12	0.8578	-0.2169	0.0342	-0.4697	0.0617	-12.6261	0.4167	-3.1574	0.1068
2	150.12	0.9100	-0.2678	0.0412	-0.5159	0.0708	-14.5151	0.4772	-3.2822	0.1131
2	150.12	0.9727	-0.3371	0.0501	-0.5963	0.0821	-16.7259	0.5573	-3.0162	0.1265
3	150.12	0.1938	-0.0349	0.0033	-0.0089	0.0007	-0.0642	0.0046	-0.4423	0.0226
3	150.12	0.2357	-0.0361	0.0019	0.0170	0.0018	-0.1971	0.0084	-0.8834	0.0431
3	150.12	0.2995	-0.0141	0.0019	-0.0061	0.0039	-0.3920	0.0198	-1.2366	0.0573
3	150.12	0.3493	0.0034	0.0031	-0.0011	0.0064	-0.6779	0.0343	-1.4291	0.0612
3	150.12	0.4000	0.0239	0.0043	0.0066	0.0105	-1.0987	0.0532	-1.5852	0.0597
3	150.12	0.4497	0.0327	0.0059	0.0026	0.0136	-1.6342	0.0766	-1.8303	0.0708
3	150.12	0.4997	0.0390	0.0071	0.0028	0.0180	-2.3474	0.1018	-2.1895	0.0761
3	150.12	0.5556	0.0485	0.0092	-0.0065	0.0228	-3.3024	0.1368	-2.3920	0.0736
3	150.12	0.5995	0.0540	0.0106	-0.0307	0.0275	-4.2013	0.1675	-2.5726	0.0836
3	150.12	0.6498	0.0466	0.0133	-0.0606	0.0335	-5.3910	0.2078	-2.7926	0.0932
3	150.12	0.6890	0.0051	0.0161	-0.1146	0.0380	-6.4147	0.2432	-2.8393	0.1014
3	150.12	0.7495	-0.0185	0.0219	-0.1468	0.0462	-8.1888	0.3085	-3.0317	0.1128
3	150.12	0.7998	-0.0497	0.0287	-0.1939	0.0538	-9.8119	0.3733	-3.2855	0.1167
3	150.12	0.8577	-0.0920	0.0381	-0.2451	0.0645	-11.7304	0.4614	-3.1073	0.1260
3	150.12	0.9178	-0.1899	0.0490	-0.3335	0.0763	-13.9028	0.5649	-3.4282	0.1427
3	150.12	0.9729	-0.2010	0.0605	-0.3860	0.0881	-15.8802	0.6683	-3.4835	0.1479
4	150.12	0.2001	-0.0365	0.0024	0.0048	0.0009	-0.1251	0.0039	-0.2905	0.0238
4	150.12	0.2502	-0.0231	0.0018	0.0189	0.0021	-0.2871	0.0088	-0.6530	0.0378
4	150.12	0.3001	-0.0250	0.0021	0.0317	0.0036	-0.5337	0.0169	-0.7605	0.0525
4	150.12	0.3502	-0.0232	0.0029	0.0523	0.0060	-0.9301	0.0277	-1.0619	0.0559
4	150.12	0.4002	-0.0090	0.0046	0.0891	0.0096	-1.4491	0.0444	-1.2939	0.0566
4	150.12	0.4500	0.0001	0.0057	0.1240	0.0125	-2.1142	0.0622	-1.6531	0.0587
4	150.12	0.5001	0.0053	0.0074	0.1502	0.0165	-2.9019	0.0839	-1.6679	0.0603
4	150.12	0.5560	0.0079	0.0090	0.1785	0.0208	-4.0549	0.1132	-2.1241	0.0599
4	150.12	0.6001	0.0021	0.0109	0.2001	0.0251	-5.0694	0.1390	-2.2695	0.0615
4	150.12	0.6501	-0.0304	0.0137	0.2011	0.0300	-6.3861	0.1734	-2.3086	0.0721
4	150.12	0.6999	-0.0608	0.0170	0.1913	0.0359	-7.8667	0.2097	-2.3625	0.0742
4	150.12	0.7500	-0.1086	0.0210	0.1905	0.0415	-9.4919	0.2515	-2.3056	0.0744
4	150.12	0.8002	-0.1767	0.0256	0.1827	0.0477	-11.2721	0.2961	-2.4282	0.0830
4	150.12	0.8582	-0.2508	0.0324	0.1823	0.0556	-13.4239	0.3525	-2.6574	0.0826
4	150.12	0.9101	-0.3160	0.0382	0.1475	0.0628	-15.4371	0.4075	-2.7491	0.0861
4	150.12	0.9728	-0.3384	0.0462	0.1522	0.0720	-17.7751	0.4794	-2.4048	0.0888

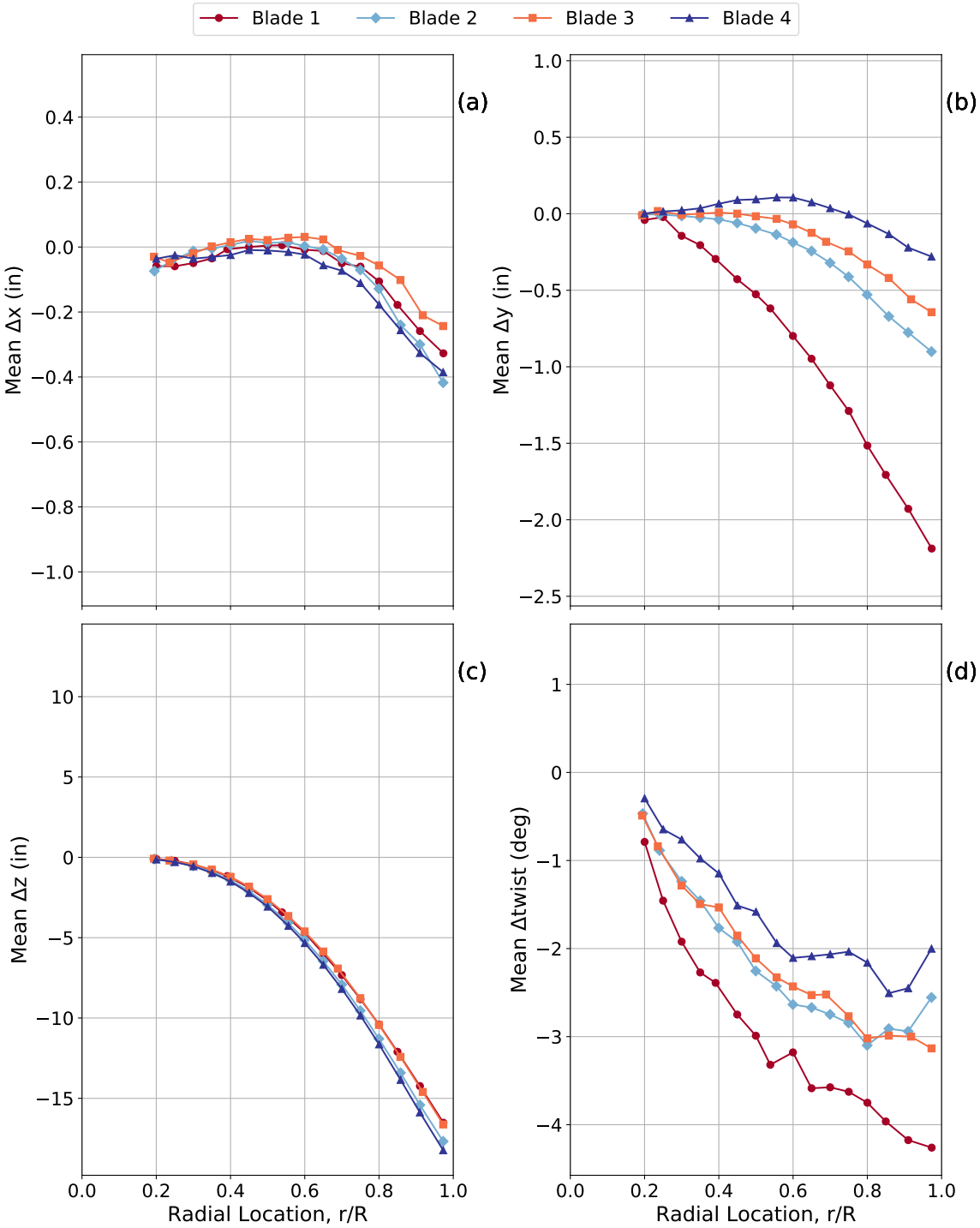


Figure 2.13-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0588	0.0164	-0.0406	0.0025	-0.0921	0.0127	-0.7888	0.0750
1	164.88	0.2499	-0.0592	0.0094	-0.0217	0.0035	-0.2149	0.0155	-1.4560	0.2018
1	164.88	0.2998	-0.0494	0.0100	-0.1444	0.0096	-0.4485	0.0395	-1.9218	0.2038
1	164.88	0.3498	-0.0351	0.0104	-0.2052	0.0169	-0.7940	0.0653	-2.2710	0.2007
1	164.88	0.3913	-0.0069	0.0110	-0.2955	0.0235	-1.1642	0.0882	-2.3894	0.1954
1	164.88	0.4496	0.0001	0.0122	-0.4280	0.0326	-1.8843	0.1205	-2.7491	0.2029
1	164.88	0.4997	0.0045	0.0136	-0.5265	0.0416	-2.6844	0.1521	-2.9895	0.1953
1	164.88	0.5387	0.0055	0.0151	-0.6186	0.0489	-3.4245	0.1773	-3.3193	0.1982
1	164.88	0.5996	-0.0082	0.0177	-0.7986	0.0616	-4.6964	0.2211	-3.1786	0.2007
1	164.88	0.6498	-0.0122	0.0205	-0.9477	0.0731	-5.9866	0.2605	-3.5860	0.2071
1	164.88	0.6998	-0.0500	0.0248	-1.1217	0.0858	-7.3308	0.3052	-3.5749	0.2050
1	164.88	0.7500	-0.0603	0.0295	-1.2888	0.0996	-8.8296	0.3580	-3.6261	0.2034
1	164.88	0.8001	-0.1059	0.0365	-1.5152	0.1149	-10.4073	0.4200	-3.7504	0.2018
1	164.88	0.8497	-0.1782	0.0447	-1.7063	0.1312	-12.0992	0.4901	-3.9629	0.1973
1	164.88	0.9102	-0.2587	0.0555	-1.9284	0.1523	-14.2362	0.5878	-4.1749	0.1974
1	164.88	0.9734	-0.3272	0.0686	-2.1882	0.1753	-16.5180	0.6993	-4.2602	0.2012
2	164.88	0.1949	-0.0740	0.0031	-0.0040	0.0015	-0.1056	0.0046	-0.4674	0.0304
2	164.88	0.2405	-0.0432	0.0023	-0.0051	0.0022	-0.2366	0.0077	-0.8861	0.0577
2	164.88	0.2999	-0.0122	0.0023	-0.0141	0.0060	-0.5317	0.0182	-1.2364	0.0750
2	164.88	0.3498	-0.0048	0.0033	-0.0250	0.0096	-0.8986	0.0288	-1.4573	0.0752
2	164.88	0.3998	0.0059	0.0044	-0.0368	0.0151	-1.4304	0.0454	-1.7665	0.0786
2	164.88	0.4496	0.0187	0.0054	-0.0602	0.0193	-2.0855	0.0624	-1.9228	0.0795
2	164.88	0.4995	0.0128	0.0068	-0.0952	0.0258	-2.9437	0.0835	-2.2541	0.0763
2	164.88	0.5551	0.0144	0.0084	-0.1361	0.0329	-4.0714	0.1100	-2.4266	0.0744
2	164.88	0.5996	0.0028	0.0099	-0.1877	0.0389	-5.1295	0.1327	-2.6352	0.0758
2	164.88	0.6497	-0.0073	0.0118	-0.2435	0.0469	-6.4524	0.1608	-2.6694	0.0721
2	164.88	0.6996	-0.0363	0.0141	-0.3208	0.0548	-7.9194	0.1894	-2.7476	0.0685
2	164.88	0.7495	-0.0705	0.0172	-0.4123	0.0635	-9.5416	0.2193	-2.8454	0.0722
2	164.88	0.7996	-0.1286	0.0205	-0.5292	0.0729	-11.2952	0.2505	-3.0987	0.0758
2	164.88	0.8578	-0.2400	0.0254	-0.6707	0.0842	-13.4099	0.2902	-2.9096	0.0721
2	164.88	0.9100	-0.2996	0.0300	-0.7759	0.0948	-15.4106	0.3284	-2.9397	0.0691
2	164.88	0.9727	-0.4175	0.0363	-0.9010	0.1078	-17.6781	0.3777	-2.5548	0.0692
3	164.88	0.1938	-0.0299	0.0050	-0.0094	0.0012	-0.0832	0.0045	-0.4894	0.0290
3	164.88	0.2357	-0.0476	0.0026	0.0175	0.0019	-0.2007	0.0068	-0.8383	0.0514
3	164.88	0.2995	-0.0194	0.0027	-0.0066	0.0051	-0.4391	0.0161	-1.2837	0.0682
3	164.88	0.3493	0.0020	0.0038	0.0001	0.0080	-0.7606	0.0263	-1.4942	0.0646
3	164.88	0.4000	0.0148	0.0054	0.0081	0.0129	-1.2114	0.0408	-1.5332	0.0652
3	164.88	0.4497	0.0251	0.0064	0.0005	0.0171	-1.8227	0.0569	-1.8531	0.0727
3	164.88	0.4997	0.0214	0.0082	-0.0167	0.0223	-2.6017	0.0759	-2.1106	0.0719
3	164.88	0.5556	0.0285	0.0097	-0.0336	0.0282	-3.6518	0.1022	-2.3268	0.0677
3	164.88	0.5995	0.0312	0.0119	-0.0698	0.0343	-4.6119	0.1264	-2.4298	0.0672
3	164.88	0.6498	0.0233	0.0141	-0.1247	0.0412	-5.8621	0.1596	-2.5279	0.0723
3	164.88	0.6890	-0.0090	0.0167	-0.1832	0.0477	-6.9209	0.1893	-2.5216	0.0751
3	164.88	0.7495	-0.0274	0.0215	-0.2456	0.0585	-8.7664	0.2409	-2.7687	0.0744
3	164.88	0.7998	-0.0568	0.0265	-0.3315	0.0686	-10.4320	0.2897	-3.0195	0.0765
3	164.88	0.8577	-0.1015	0.0339	-0.4198	0.0806	-12.4182	0.3525	-2.9884	0.0698
3	164.88	0.9178	-0.2101	0.0410	-0.5590	0.0941	-14.6014	0.4247	-2.9997	0.0874
3	164.88	0.9729	-0.2433	0.0487	-0.6436	0.1070	-16.6257	0.4953	-3.1330	0.0810
4	164.88	0.2001	-0.0361	0.0032	0.0017	0.0011	-0.1340	0.0041	-0.2943	0.0282
4	164.88	0.2502	-0.0253	0.0027	0.0148	0.0032	-0.2961	0.0074	-0.6464	0.0418
4	164.88	0.3001	-0.0357	0.0024	0.0224	0.0048	-0.5574	0.0142	-0.7623	0.0588
4	164.88	0.3502	-0.0306	0.0038	0.0358	0.0086	-0.9729	0.0239	-0.9769	0.0536
4	164.88	0.4002	-0.0246	0.0048	0.0655	0.0136	-1.5069	0.0364	-1.1470	0.0566
4	164.88	0.4500	-0.0093	0.0062	0.0899	0.0168	-2.2184	0.0505	-1.5112	0.0571
4	164.88	0.5001	-0.0106	0.0078	0.0940	0.0217	-3.0685	0.0666	-1.5817	0.0601
4	164.88	0.5560	-0.0152	0.0088	0.1063	0.0279	-4.2647	0.0863	-1.9373	0.0612
4	164.88	0.6001	-0.0233	0.0106	0.1059	0.0329	-5.3360	0.1050	-2.1058	0.0656
4	164.88	0.6501	-0.0561	0.0122	0.0748	0.0394	-6.6861	0.1265	-2.0865	0.0639
4	164.88	0.6999	-0.0729	0.0144	0.0362	0.0463	-8.1904	0.1515	-2.0649	0.0664
4	164.88	0.7500	-0.1109	0.0171	-0.0043	0.0545	-9.8434	0.1791	-2.0356	0.0669
4	164.88	0.8002	-0.1774	0.0209	-0.0638	0.0630	-11.6421	0.2115	-2.1606	0.0685
4	164.88	0.8582	-0.2560	0.0263	-0.1333	0.0734	-13.8511	0.2546	-2.5060	0.0654
4	164.88	0.9101	-0.3263	0.0312	-0.2213	0.0834	-15.8776	0.2960	-2.4501	0.0735
4	164.88	0.9728	-0.3854	0.0381	-0.2801	0.0959	-18.2299	0.3529	-2.0014	0.0659

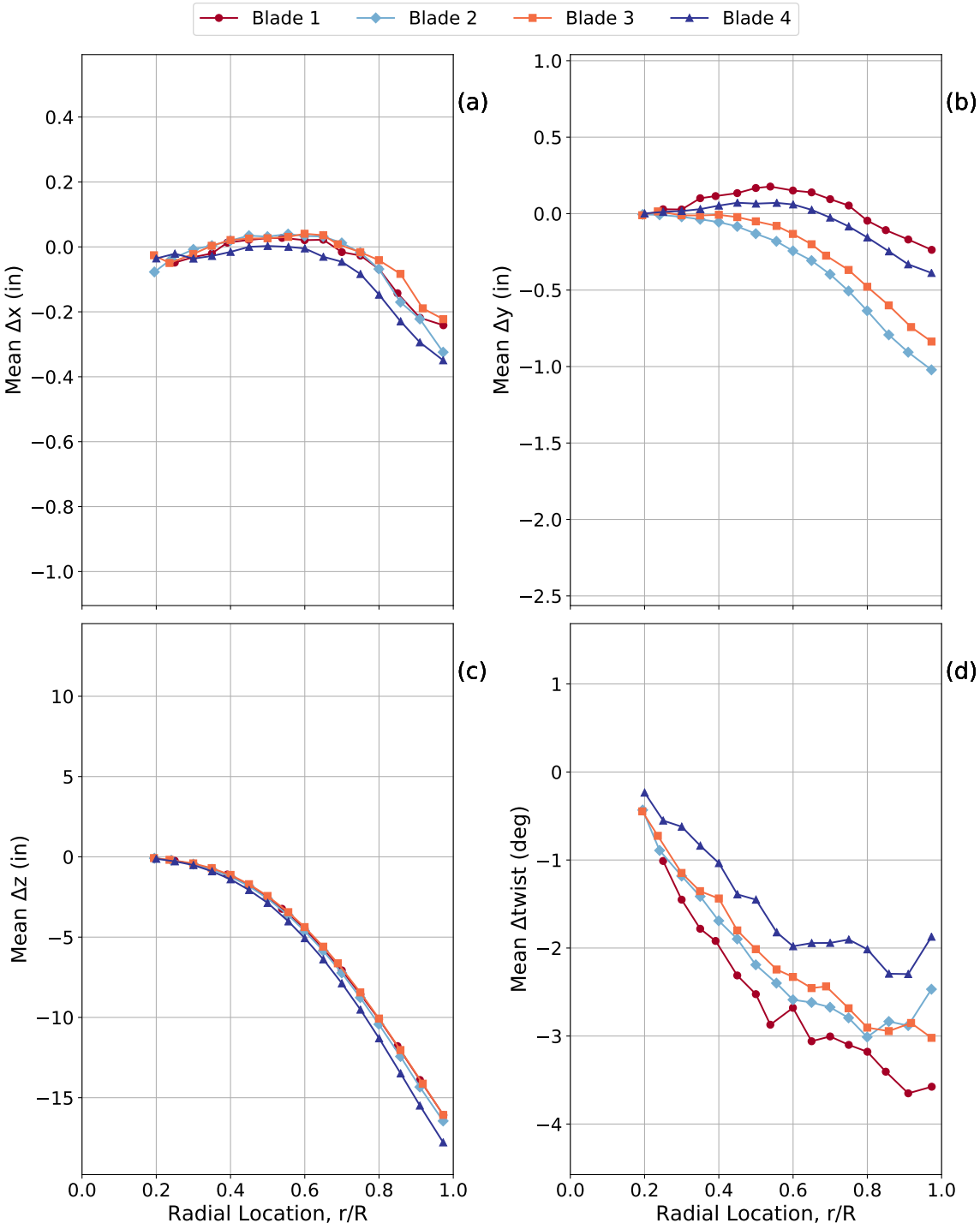


Figure 2.13-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2499	-0.0484	0.0040	0.0285	0.0035	-0.2463	0.0160	-1.0107	0.1277
1	170.16	0.2998	-0.0316	0.0061	0.0271	0.0066	-0.4517	0.0286	-1.4506	0.1835
1	170.16	0.3498	-0.0203	0.0050	0.1007	0.0120	-0.7612	0.0521	-1.7813	0.1654
1	170.16	0.3913	0.0130	0.0058	0.1147	0.0173	-1.1000	0.0739	-1.9195	0.1664
1	170.16	0.4496	0.0216	0.0071	0.1340	0.0246	-1.7691	0.1029	-2.3115	0.1633
1	170.16	0.4997	0.0265	0.0086	0.1676	0.0320	-2.5222	0.1312	-2.5241	0.1692
1	170.16	0.5387	0.0278	0.0099	0.1769	0.0379	-3.2357	0.1541	-2.8713	0.1711
1	170.16	0.5996	0.0208	0.0128	0.1511	0.0489	-4.4704	0.1919	-2.6792	0.1673
1	170.16	0.6498	0.0220	0.0154	0.1390	0.0578	-5.7460	0.2276	-3.0591	0.1641
1	170.16	0.6998	-0.0160	0.0181	0.0946	0.0682	-7.0707	0.2632	-3.0045	0.1705
1	170.16	0.7500	-0.0268	0.0213	0.0528	0.0790	-8.5669	0.3015	-3.1004	0.1647
1	170.16	0.8001	-0.0684	0.0258	-0.0463	0.0907	-10.1197	0.3429	-3.1786	0.1694
1	170.16	0.8497	-0.1427	0.0310	-0.1081	0.1025	-11.7876	0.3877	-3.4051	0.1676
1	170.16	0.9102	-0.2183	0.0372	-0.1693	0.1175	-13.8971	0.4466	-3.6507	0.1733
1	170.16	0.9734	-0.2414	0.0442	-0.2369	0.1338	-16.0838	0.5132	-3.5758	0.1757
2	170.16	0.1949	-0.0772	0.0063	-0.0055	0.0017	-0.0868	0.0072	-0.4321	0.0360
2	170.16	0.2405	-0.0380	0.0040	-0.0079	0.0029	-0.2088	0.0107	-0.8915	0.0858
2	170.16	0.2999	-0.0077	0.0040	-0.0209	0.0070	-0.4540	0.0249	-1.1821	0.0989
2	170.16	0.3498	0.0040	0.0043	-0.0372	0.0115	-0.7731	0.0413	-1.4135	0.1095
2	170.16	0.3998	0.0194	0.0058	-0.0554	0.0181	-1.2342	0.0620	-1.6906	0.1074
2	170.16	0.4496	0.0346	0.0067	-0.0839	0.0237	-1.8240	0.0838	-1.8975	0.1128
2	170.16	0.4995	0.0317	0.0082	-0.1314	0.0305	-2.5937	0.1061	-2.1908	0.1130
2	170.16	0.5551	0.0396	0.0097	-0.1811	0.0387	-3.6281	0.1338	-2.3990	0.1120
2	170.16	0.5996	0.0335	0.0110	-0.2436	0.0455	-4.6133	0.1590	-2.5875	0.1058
2	170.16	0.6497	0.0319	0.0128	-0.3072	0.0542	-5.8515	0.1879	-2.6186	0.1145
2	170.16	0.6996	0.0122	0.0154	-0.3967	0.0631	-7.2317	0.2213	-2.6727	0.1105
2	170.16	0.7495	-0.0176	0.0190	-0.5060	0.0723	-8.7706	0.2586	-2.7936	0.1084
2	170.16	0.7996	-0.0681	0.0233	-0.6352	0.0819	-10.4279	0.3030	-3.0112	0.1157
2	170.16	0.8578	-0.1703	0.0301	-0.7927	0.0934	-12.4338	0.3630	-2.8347	0.1129
2	170.16	0.9100	-0.2221	0.0365	-0.9064	0.1047	-14.3346	0.4225	-2.8815	0.1118
2	170.16	0.9727	-0.3243	0.0447	-1.0215	0.1172	-16.4500	0.5013	-2.4682	0.1143
3	170.16	0.1938	-0.0258	0.0052	-0.0106	0.0016	-0.0767	0.0054	-0.4474	0.0339
3	170.16	0.2357	-0.0496	0.0042	0.0145	0.0025	-0.1842	0.0075	-0.7253	0.0593
3	170.16	0.2995	-0.0219	0.0036	-0.0109	0.0060	-0.4078	0.0171	-1.1470	0.0790
3	170.16	0.3493	0.0034	0.0040	-0.0120	0.0104	-0.7055	0.0291	-1.3538	0.0786
3	170.16	0.4000	0.0211	0.0052	-0.0077	0.0161	-1.1254	0.0433	-1.4375	0.0834
3	170.16	0.4497	0.0256	0.0066	-0.0228	0.0209	-1.7042	0.0579	-1.8001	0.0893
3	170.16	0.4997	0.0266	0.0080	-0.0505	0.0262	-2.4355	0.0763	-2.0129	0.0919
3	170.16	0.5556	0.0308	0.0094	-0.0803	0.0326	-3.4436	0.0972	-2.2439	0.0904
3	170.16	0.5995	0.0405	0.0110	-0.1326	0.0384	-4.3750	0.1170	-2.3283	0.0908
3	170.16	0.6498	0.0359	0.0128	-0.2003	0.0450	-5.5942	0.1410	-2.4551	0.0967
3	170.16	0.6890	0.0079	0.0150	-0.2748	0.0507	-6.6300	0.1637	-2.4362	0.0937
3	170.16	0.7495	-0.0163	0.0189	-0.3684	0.0599	-8.4421	0.2049	-2.6844	0.0964
3	170.16	0.7998	-0.0410	0.0227	-0.4783	0.0680	-10.0704	0.2464	-2.9042	0.0933
3	170.16	0.8577	-0.0832	0.0286	-0.5998	0.0773	-12.0323	0.3015	-2.9439	0.0945
3	170.16	0.9178	-0.1893	0.0345	-0.7419	0.0876	-14.1251	0.3626	-2.8516	0.0893
3	170.16	0.9729	-0.2225	0.0401	-0.8366	0.0977	-16.0730	0.4219	-3.0205	0.0950
4	170.16	0.2001	-0.0356	0.0044	0.0011	0.0012	-0.1222	0.0064	-0.2344	0.0333
4	170.16	0.2502	-0.0210	0.0050	0.0113	0.0026	-0.2812	0.0097	-0.5522	0.0779
4	170.16	0.3001	-0.0361	0.0032	0.0170	0.0041	-0.5150	0.0184	-0.6217	0.0676
4	170.16	0.3502	-0.0280	0.0044	0.0294	0.0079	-0.9018	0.0296	-0.8378	0.0675
4	170.16	0.4002	-0.0154	0.0061	0.0525	0.0116	-1.4001	0.0438	-1.0355	0.0734
4	170.16	0.4500	0.0001	0.0075	0.0711	0.0157	-2.0680	0.0606	-1.3907	0.0758
4	170.16	0.5001	0.0028	0.0091	0.0653	0.0200	-2.8710	0.0815	-1.4508	0.0884
4	170.16	0.5560	0.0001	0.0115	0.0703	0.0261	-4.0226	0.1079	-1.8219	0.0858
4	170.16	0.6001	-0.0048	0.0133	0.0600	0.0307	-5.0660	0.1319	-1.9799	0.0846
4	170.16	0.6501	-0.0305	0.0157	0.0246	0.0365	-6.3886	0.1638	-1.9436	0.0908
4	170.16	0.6999	-0.0459	0.0188	-0.0259	0.0435	-7.8799	0.2009	-1.9419	0.0906
4	170.16	0.7500	-0.0837	0.0223	-0.0841	0.0503	-9.5182	0.2442	-1.9035	0.0930
4	170.16	0.8002	-0.1473	0.0278	-0.1562	0.0577	-11.3034	0.2915	-2.0152	0.0911
4	170.16	0.8582	-0.2296	0.0344	-0.2469	0.0665	-13.4913	0.3558	-2.2923	0.0935
4	170.16	0.9101	-0.2941	0.0411	-0.3317	0.0744	-15.4918	0.4174	-2.2959	0.0949
4	170.16	0.9728	-0.3494	0.0489	-0.3879	0.0846	-17.7850	0.4960	-1.8717	0.0914

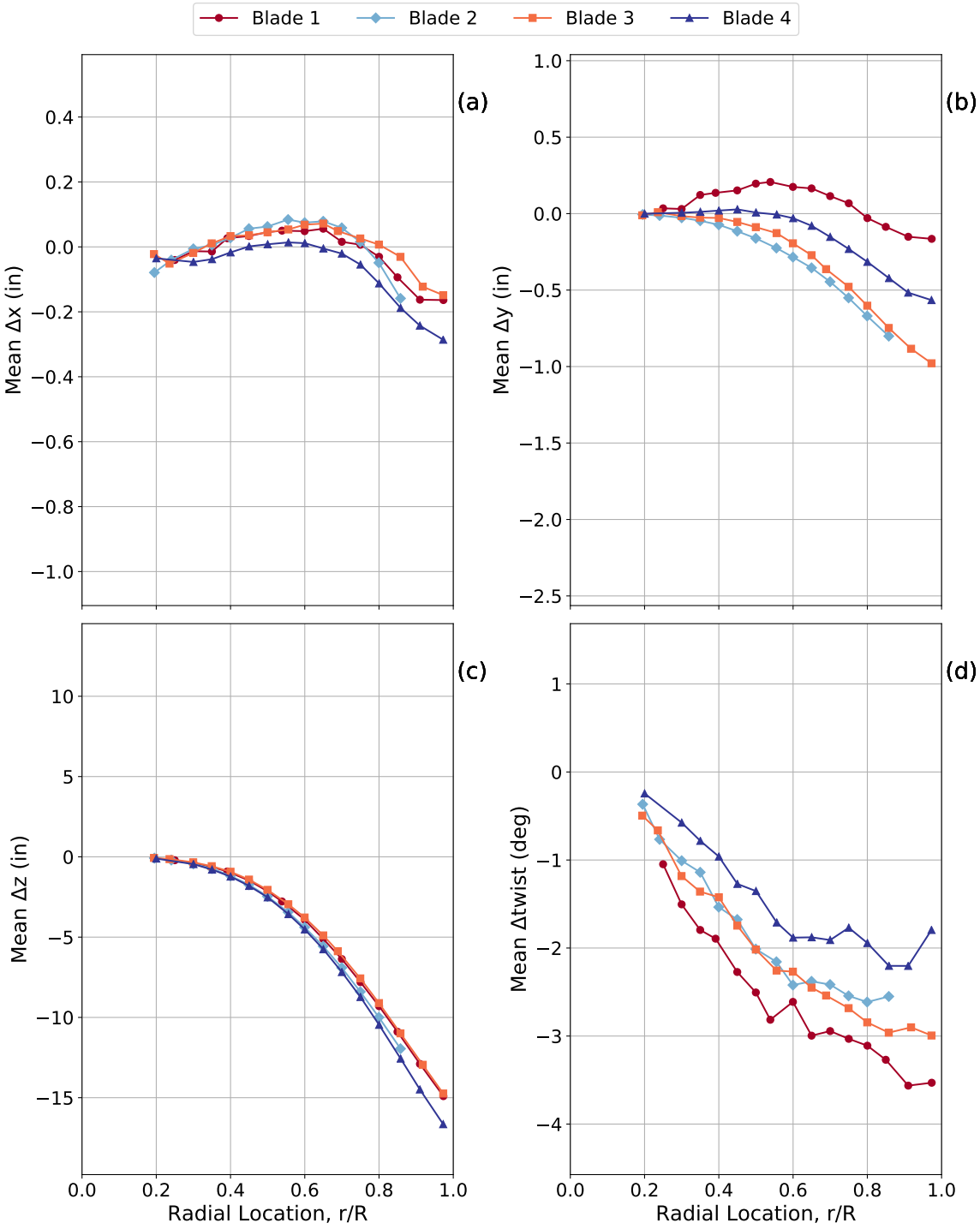


Figure 2.13-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2499	-0.0404	0.0055	0.0346	0.0075	-0.2106	0.0232	-1.0480	0.2354
1	175.08	0.2998	-0.0132	0.0113	0.0303	0.0127	-0.3835	0.0403	-1.5039	0.3387
1	175.08	0.3498	-0.0143	0.0095	0.1220	0.0255	-0.6295	0.0762	-1.7949	0.3123
1	175.08	0.3913	0.0266	0.0090	0.1359	0.0352	-0.9097	0.1073	-1.8938	0.3073
1	175.08	0.4496	0.0335	0.0102	0.1519	0.0487	-1.4718	0.1471	-2.2724	0.3116
1	175.08	0.4997	0.0453	0.0120	0.1961	0.0617	-2.1427	0.1823	-2.5050	0.3125
1	175.08	0.5387	0.0500	0.0132	0.2069	0.0715	-2.7804	0.2098	-2.8149	0.3207
1	175.08	0.5996	0.0484	0.0158	0.1747	0.0884	-3.9132	0.2554	-2.6118	0.3141
1	175.08	0.6498	0.0559	0.0183	0.1650	0.1026	-5.1113	0.2951	-2.9955	0.3210
1	175.08	0.6998	0.0156	0.0220	0.1146	0.1174	-6.3645	0.3365	-2.9435	0.3151
1	175.08	0.7500	0.0066	0.0258	0.0676	0.1324	-7.8029	0.3833	-3.0317	0.3107
1	175.08	0.8001	-0.0305	0.0308	-0.0293	0.1481	-9.2972	0.4321	-3.1096	0.3133
1	175.08	0.8497	-0.0938	0.0361	-0.0865	0.1638	-10.8930	0.4831	-3.2696	0.3182
1	175.08	0.9102	-0.1627	0.0427	-0.1514	0.1832	-12.8984	0.5492	-3.5633	0.3213
1	175.08	0.9734	-0.1638	0.0500	-0.1650	0.2042	-14.9035	0.6204	-3.5305	0.3215
2	175.08	0.1949	-0.0790	0.0266	-0.0058	0.0021	-0.0804	0.0055	-0.3665	0.0390
2	175.08	0.2405	-0.0406	0.0112	-0.0125	0.0027	-0.2006	0.0084	-0.7656	0.0685
2	175.08	0.2999	-0.0060	0.0093	-0.0271	0.0081	-0.4406	0.0183	-1.0081	0.0960
2	175.08	0.3498	0.0056	0.0247	-0.0466	0.0137	-0.7285	0.0304	-1.1392	0.0890
2	175.08	0.3998	0.0279	0.0408	-0.0729	0.0210	-1.1834	0.0455	-1.5354	0.0973
2	175.08	0.4496	0.0561	0.0567	-0.1150	0.0281	-1.7326	0.0610	-1.6762	0.1048
2	175.08	0.4995	0.0626	0.0723	-0.1614	0.0364	-2.4640	0.0808	-2.0121	0.1118
2	175.08	0.5551	0.0842	0.0899	-0.2250	0.0459	-3.4443	0.1075	-2.1564	0.1219
2	175.08	0.5996	0.0746	0.1037	-0.2843	0.0546	-4.3870	0.1316	-2.4205	0.1178
2	175.08	0.6497	0.0789	0.1201	-0.3545	0.0645	-5.5673	0.1608	-2.3786	0.1431
2	175.08	0.6996	0.0586	0.1345	-0.4456	0.0749	-6.9061	0.1933	-2.4150	0.1352
2	175.08	0.7495	0.0153	0.1502	-0.5509	0.0866	-8.4014	0.2284	-2.5436	0.1520
2	175.08	0.7996	-0.0490	0.1650	-0.6696	0.0986	-9.9935	0.2677	-2.6136	0.1488
2	175.08	0.8578	-0.1587	0.1785	-0.8011	0.1137	-11.9475	0.3182	-2.5503	0.1758
3	175.08	0.1938	-0.0222	0.0124	-0.0110	0.0031	-0.0654	0.0100	-0.4959	0.0593
3	175.08	0.2357	-0.0515	0.0095	0.0093	0.0030	-0.1424	0.0095	-0.6633	0.1155
3	175.08	0.2995	-0.0187	0.0083	-0.0162	0.0090	-0.3384	0.0252	-1.1824	0.1400
3	175.08	0.3493	0.0108	0.0083	-0.0261	0.0154	-0.5816	0.0407	-1.3588	0.1450
3	175.08	0.4000	0.0332	0.0100	-0.0284	0.0227	-0.9275	0.0582	-1.4232	0.1515
3	175.08	0.4497	0.0358	0.0100	-0.0544	0.0295	-1.4158	0.0769	-1.7454	0.1498
3	175.08	0.4997	0.0450	0.0111	-0.0885	0.0370	-2.0566	0.0978	-2.0171	0.1526
3	175.08	0.5556	0.0536	0.0120	-0.1273	0.0459	-2.9522	0.1208	-2.2559	0.1625
3	175.08	0.5995	0.0683	0.0129	-0.1940	0.0528	-3.7776	0.1414	-2.2685	0.1608
3	175.08	0.6498	0.0719	0.0148	-0.2719	0.0612	-4.8940	0.1649	-2.4495	0.1712
3	175.08	0.6890	0.0487	0.0159	-0.3631	0.0679	-5.8755	0.1864	-2.5394	0.1585
3	175.08	0.7495	0.0259	0.0180	-0.4786	0.0787	-7.5703	0.2202	-2.6830	0.1672
3	175.08	0.7998	0.0071	0.0211	-0.6020	0.0882	-9.1077	0.2531	-2.8448	0.1728
3	175.08	0.8577	-0.0307	0.0254	-0.7476	0.0994	-10.9913	0.2954	-2.9614	0.1774
3	175.08	0.9178	-0.1225	0.0296	-0.8835	0.1113	-12.9505	0.3460	-2.9009	0.1736
3	175.08	0.9729	-0.1487	0.0349	-0.9786	0.1218	-14.7383	0.3929	-2.9939	0.1786
4	175.08	0.2001	-0.0352	0.0059	-0.0004	0.0011	-0.1099	0.0049	-0.2440	0.0527
4	175.08	0.3001	-0.0465	0.0045	0.0053	0.0053	-0.4542	0.0180	-0.5761	0.1247
4	175.08	0.3502	-0.0379	0.0048	0.0114	0.0097	-0.7960	0.0329	-0.7826	0.1277
4	175.08	0.4002	-0.0170	0.0049	0.0199	0.0150	-1.2301	0.0492	-0.9613	0.1260
4	175.08	0.4500	0.0015	0.0068	0.0277	0.0194	-1.8108	0.0655	-1.2718	0.1276
4	175.08	0.5001	0.0080	0.0081	0.0072	0.0248	-2.5235	0.0838	-1.3529	0.1295
4	175.08	0.5560	0.0138	0.0096	-0.0062	0.0308	-3.5694	0.1057	-1.7103	0.1340
4	175.08	0.6001	0.0114	0.0110	-0.0299	0.0365	-4.5246	0.1247	-1.8820	0.1362
4	175.08	0.6501	-0.0050	0.0127	-0.0797	0.0435	-5.7576	0.1474	-1.8781	0.1332
4	175.08	0.6999	-0.0207	0.0149	-0.1524	0.0502	-7.1767	0.1723	-1.9093	0.1273
4	175.08	0.7500	-0.0546	0.0178	-0.2313	0.0578	-8.7313	0.2007	-1.7693	0.1359
4	175.08	0.8002	-0.1126	0.0211	-0.3156	0.0662	-10.4627	0.2321	-1.9436	0.1284
4	175.08	0.8582	-0.1881	0.0267	-0.4219	0.0757	-12.5678	0.2781	-2.2026	0.1281
4	175.08	0.9101	-0.2426	0.0322	-0.5168	0.0847	-14.4885	0.3258	-2.2032	0.1343
4	175.08	0.9728	-0.2860	0.0388	-0.5656	0.0962	-16.6514	0.3884	-1.7948	0.1329

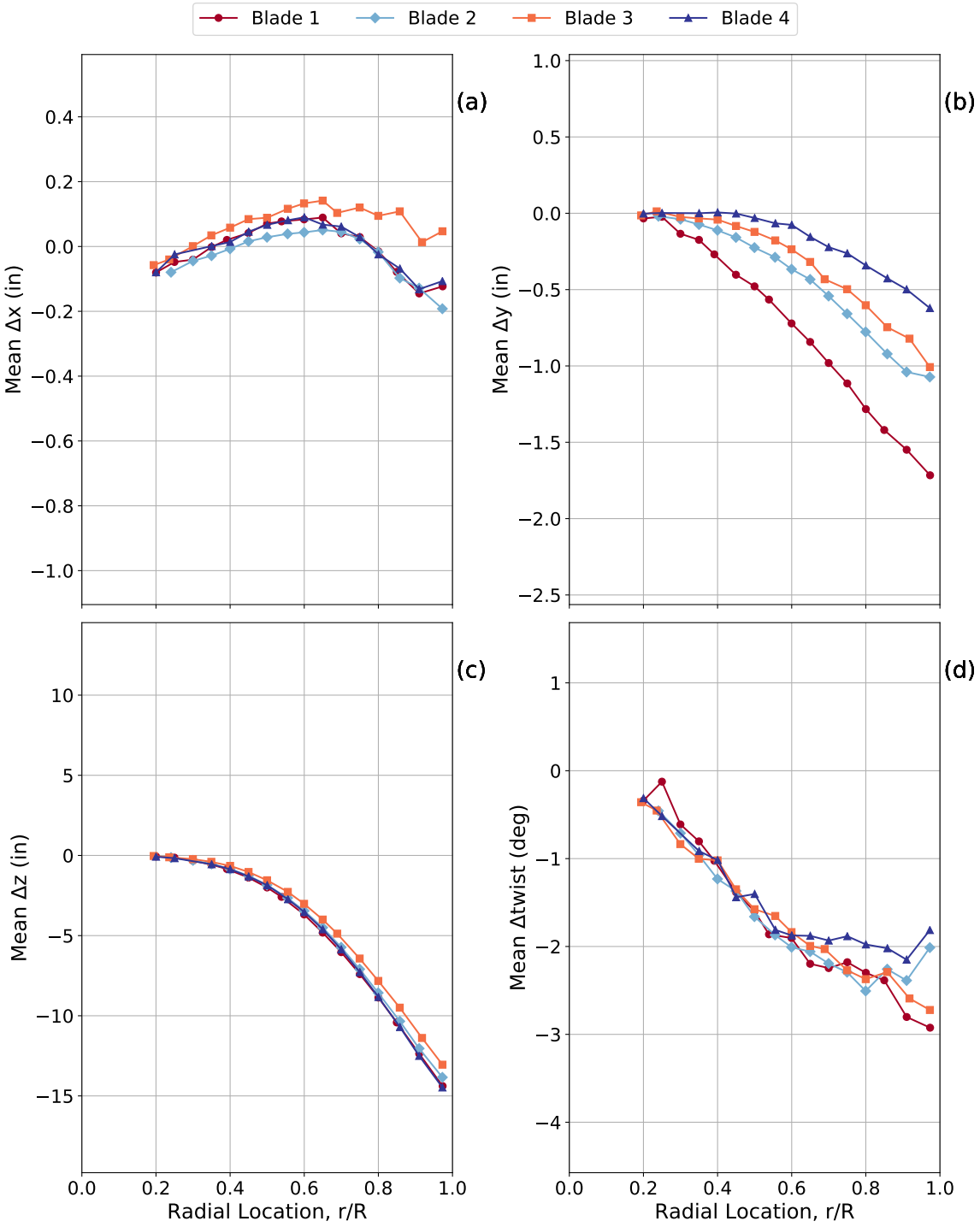


Figure 2.13-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.0803	0.0054	-0.0339	0.0023	-0.0648	0.0107	-0.3393	0.0676
1	180	0.2499	-0.0478	0.0019	-0.0229	0.0041	-0.1369	0.0122	-0.1244	0.1646
1	180	0.2998	-0.0405	0.0018	-0.1342	0.0088	-0.3277	0.0304	-0.6113	0.1745
1	180	0.3498	-0.0018	0.0020	-0.1741	0.0156	-0.5744	0.0484	-0.8036	0.1810
1	180	0.3913	0.0203	0.0027	-0.2691	0.0218	-0.8453	0.0644	-1.0249	0.1836
1	180	0.4496	0.0416	0.0029	-0.4025	0.0297	-1.3835	0.0876	-1.3815	0.1848
1	180	0.4997	0.0705	0.0036	-0.4788	0.0370	-1.9984	0.1097	-1.5996	0.1853
1	180	0.5387	0.0774	0.0041	-0.5652	0.0435	-2.5846	0.1273	-1.8617	0.1898
1	180	0.5996	0.0836	0.0050	-0.7214	0.0540	-3.6821	0.1579	-1.9042	0.1926
1	180	0.6498	0.0892	0.0067	-0.8428	0.0633	-4.8153	0.1860	-2.1972	0.1940
1	180	0.6998	0.0405	0.0087	-0.9807	0.0732	-6.0332	0.2159	-2.2457	0.1930
1	180	0.7500	0.0289	0.0112	-1.1146	0.0832	-7.4041	0.2480	-2.1789	0.1947
1	180	0.8001	-0.0150	0.0142	-1.2826	0.0936	-8.8645	0.2823	-2.2994	0.2091
1	180	0.8497	-0.0783	0.0180	-1.4196	0.1046	-10.4173	0.3193	-2.3849	0.1939
1	180	0.9102	-0.1449	0.0211	-1.5490	0.1188	-12.3681	0.3662	-2.8022	0.2037
1	180	0.9734	-0.1231	0.0279	-1.7160	0.1327	-14.3855	0.4210	-2.9242	0.2048
2	180	0.2405	-0.0795	0.0058	-0.0193	0.0061	-0.1321	0.0216	-0.4565	0.2071
2	180	0.2999	-0.0444	0.0091	-0.0389	0.0117	-0.3064	0.0402	-0.7109	0.3222
2	180	0.3498	-0.0284	0.0086	-0.0736	0.0245	-0.5316	0.0729	-0.9616	0.3024
2	180	0.3998	-0.0073	0.0083	-0.1115	0.0362	-0.8488	0.1080	-1.2315	0.2987
2	180	0.4496	0.0158	0.0097	-0.1583	0.0471	-1.2618	0.1378	-1.3681	0.3077
2	180	0.4995	0.0285	0.0107	-0.2249	0.0583	-1.8411	0.1716	-1.6606	0.3093
2	180	0.5551	0.0389	0.0118	-0.2882	0.0718	-2.6508	0.2111	-1.8691	0.3073
2	180	0.5996	0.0436	0.0138	-0.3664	0.0823	-3.4548	0.2438	-2.0087	0.3103
2	180	0.6497	0.0509	0.0161	-0.4333	0.0949	-4.4968	0.2818	-2.0584	0.3185
2	180	0.6996	0.0454	0.0189	-0.5421	0.1076	-5.7266	0.3220	-2.1934	0.3151
2	180	0.7495	0.0230	0.0224	-0.6582	0.1206	-7.0936	0.3634	-2.2926	0.3163
2	180	0.7996	-0.0171	0.0261	-0.7772	0.1348	-8.5717	0.4068	-2.5066	0.3187
2	180	0.8578	-0.0974	0.0313	-0.9212	0.1507	-10.3432	0.4609	-2.2582	0.3211
2	180	0.9100	-0.1285	0.0364	-1.0393	0.1656	-12.0413	0.5129	-2.3870	0.3218
2	180	0.9727	-0.1921	0.0423	-1.0723	0.1828	-13.8417	0.5755	-2.0128	0.3308
3	180.35	0.1938	-0.0575	0.0045	-0.0140	0.0024	-0.0342	0.0073	-0.3581	0.0713
3	180.35	0.2357	-0.0401	0.0045	0.0125	0.0105	-0.1139	0.0086	-0.4532	0.0869
3	180.35	0.2995	0.0010	0.0027	-0.0240	0.0123	-0.2287	0.0200	-0.8349	0.1628
3	180.35	0.3493	0.0343	0.0053	-0.0336	0.0353	-0.3981	0.0281	-1.0016	0.1137
3	180.35	0.4000	0.0581	0.0055	-0.0413	0.0478	-0.6505	0.0426	-1.0199	0.1264
3	180.35	0.4497	0.0844	0.0054	-0.0833	0.0599	-1.0318	0.0547	-1.3496	0.1316
3	180.35	0.4997	0.0886	0.0056	-0.1220	0.0724	-1.5481	0.0688	-1.5761	0.1421
3	180.35	0.5556	0.1163	0.0061	-0.1778	0.0857	-2.2730	0.0851	-1.6527	0.1468
3	180.35	0.5995	0.1329	0.0071	-0.2359	0.0968	-3.0171	0.0987	-1.8365	0.1617
3	180.35	0.6498	0.1415	0.0079	-0.3188	0.1099	-3.9991	0.1157	-1.9940	0.1715
3	180.35	0.6890	0.1036	0.0090	-0.4319	0.1200	-4.8780	0.1310	-2.0294	0.1602
3	180.35	0.7495	0.1203	0.0106	-0.4974	0.1366	-6.4298	0.1556	-2.2711	0.1777
3	180.35	0.7998	0.0945	0.0128	-0.6024	0.1488	-7.8263	0.1791	-2.3715	0.1753
3	180.35	0.8577	0.1084	0.0189	-0.7462	0.1657	-9.4942	0.2082	-2.2907	0.2075
3	180.35	0.9178	0.0133	0.0277	-0.8211	0.1785	-11.3847	0.2442	-2.5915	0.2978
3	180.35	0.9729	0.0469	0.0352	-1.0075	0.1937	-13.0515	0.2874	-2.7226	0.2584
4	180	0.2001	-0.0796	0.0059	-0.0019	0.0041	-0.0782	0.0086	-0.3123	0.0683
4	180	0.2502	-0.0245	0.0049	0.0018	0.0093	-0.1707	0.0132	-0.5163	0.1121
4	180	0.3502	0.0012	0.0047	0.0003	0.0332	-0.5498	0.0314	-0.9147	0.1346
4	180	0.4002	0.0139	0.0058	0.0055	0.0523	-0.8590	0.0459	-1.0169	0.1116
4	180	0.4500	0.0456	0.0061	-0.0018	0.0643	-1.3111	0.0582	-1.4398	0.1140
4	180	0.5001	0.0668	0.0060	-0.0307	0.0770	-1.8601	0.0758	-1.4028	0.1195
4	180	0.5560	0.0810	0.0069	-0.0659	0.0910	-2.7325	0.0944	-1.8115	0.1196
4	180	0.6001	0.0900	0.0074	-0.0761	0.1016	-3.5348	0.1105	-1.8743	0.1251
4	180	0.6501	0.0674	0.0083	-0.1547	0.1145	-4.6092	0.1310	-1.8790	0.1284
4	180	0.6999	0.0614	0.0103	-0.2219	0.1273	-5.8650	0.1535	-1.9328	0.1409
4	180	0.7500	0.0287	0.0121	-0.2626	0.1412	-7.2807	0.1823	-1.8832	0.1435
4	180	0.8002	-0.0244	0.0169	-0.3419	0.1553	-8.8313	0.2135	-1.9771	0.1450
4	180	0.8582	-0.0683	0.0236	-0.4265	0.1704	-10.7069	0.2560	-2.0204	0.1527
4	180	0.9101	-0.1317	0.0269	-0.4987	0.1867	-12.5048	0.2988	-2.1502	0.1583
4	180	0.9728	-0.1069	0.0327	-0.6212	0.2067	-14.4723	0.3572	-1.8131	0.1747

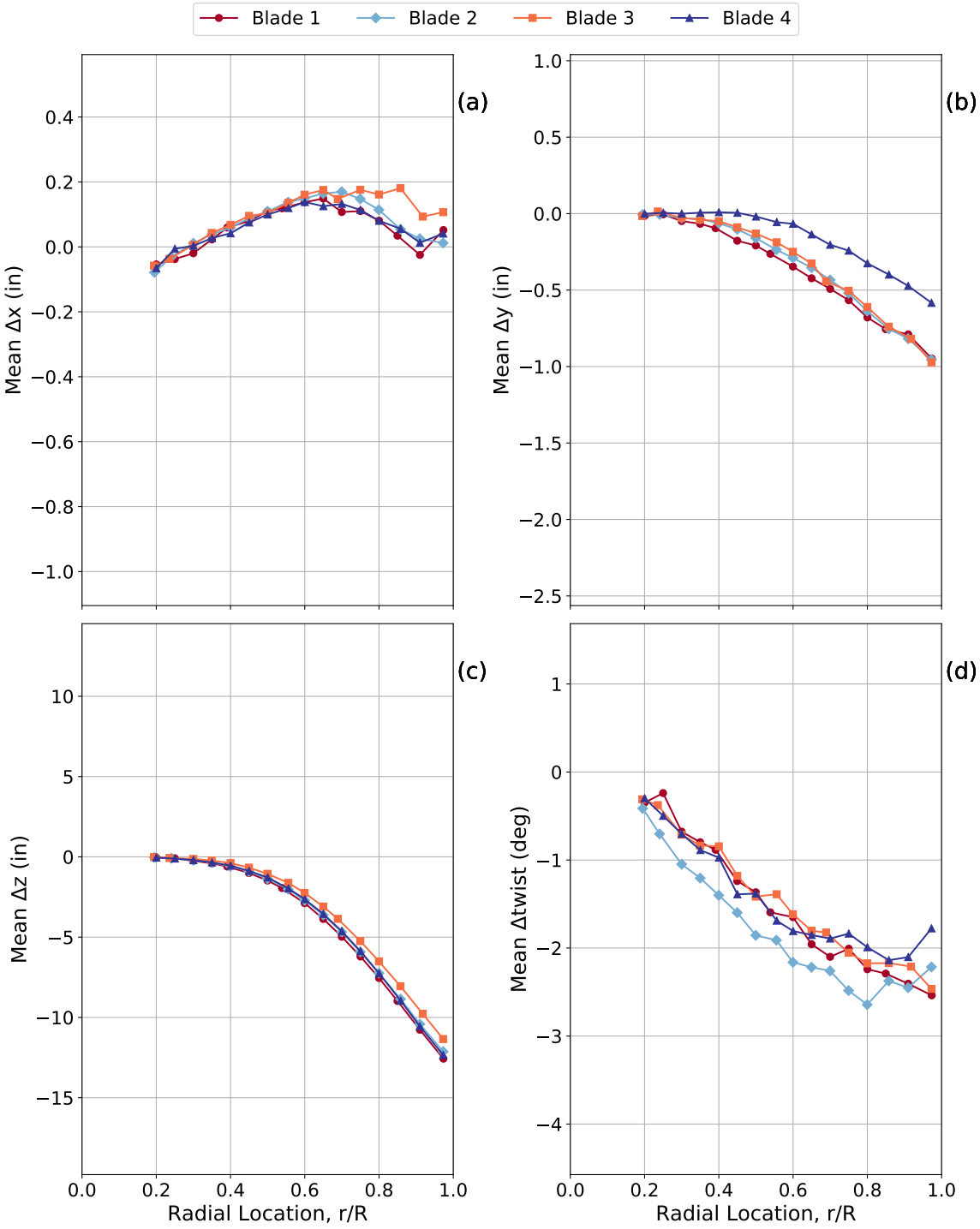


Figure 2.13-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0538	0.0016	-0.0142	0.0013	-0.0563	0.0056	-0.3487	0.0290
1	184.92	0.2499	-0.0376	0.0014	-0.0050	0.0033	-0.0928	0.0111	-0.2395	0.0602
1	184.92	0.2998	-0.0197	0.0016	-0.0486	0.0053	-0.2521	0.0191	-0.6777	0.0701
1	184.92	0.3498	0.0230	0.0019	-0.0666	0.0099	-0.4070	0.0322	-0.7978	0.0732
1	184.92	0.3913	0.0596	0.0021	-0.0955	0.0142	-0.6034	0.0455	-0.8837	0.0794
1	184.92	0.4496	0.0796	0.0023	-0.1773	0.0186	-1.0083	0.0638	-1.2390	0.0822
1	184.92	0.4997	0.1099	0.0030	-0.2086	0.0245	-1.4747	0.0829	-1.3663	0.0944
1	184.92	0.5387	0.1188	0.0034	-0.2628	0.0278	-1.9420	0.0960	-1.5944	0.1022
1	184.92	0.5996	0.1375	0.0043	-0.3463	0.0348	-2.8809	0.1154	-1.6489	0.0959
1	184.92	0.6498	0.1489	0.0051	-0.4228	0.0415	-3.8669	0.1318	-1.9563	0.1102
1	184.92	0.6998	0.1074	0.0068	-0.4922	0.0486	-4.9760	0.1486	-2.1000	0.1296
1	184.92	0.7500	0.1103	0.0091	-0.5663	0.0548	-6.2068	0.1634	-2.0080	0.1123
1	184.92	0.8001	0.0807	0.0120	-0.6789	0.0638	-7.5500	0.1855	-2.2408	0.1332
1	184.92	0.8497	0.0345	0.0154	-0.7555	0.0706	-8.9741	0.2078	-2.2905	0.1244
1	184.92	0.9102	-0.0247	0.0210	-0.7895	0.0826	-10.7717	0.2485	-2.4058	0.1623
1	184.92	0.9734	0.0518	0.0273	-0.9472	0.0920	-12.5691	0.2957	-2.5376	0.1888
2	184.92	0.1949	-0.0786	0.0013	-0.0062	0.0010	-0.0366	0.0045	-0.4141	0.0250
2	184.92	0.2405	-0.0311	0.0014	-0.0053	0.0023	-0.0929	0.0096	-0.7036	0.0392
2	184.92	0.2999	0.0112	0.0013	-0.0287	0.0049	-0.2179	0.0172	-1.0477	0.0562
2	184.92	0.3498	0.0382	0.0017	-0.0354	0.0084	-0.3563	0.0294	-1.2053	0.0570
2	184.92	0.3998	0.0598	0.0022	-0.0627	0.0132	-0.5876	0.0449	-1.4009	0.0555
2	184.92	0.4496	0.0880	0.0024	-0.1031	0.0168	-0.9010	0.0604	-1.5982	0.0603
2	184.92	0.4995	0.1094	0.0029	-0.1599	0.0220	-1.3584	0.0808	-1.8559	0.0732
2	184.92	0.5551	0.1377	0.0040	-0.2359	0.0276	-2.0110	0.1063	-1.9112	0.0726
2	184.92	0.5996	0.1494	0.0049	-0.2896	0.0330	-2.7102	0.1284	-2.1620	0.0797
2	184.92	0.6497	0.1644	0.0066	-0.3537	0.0390	-3.6189	0.1574	-2.2182	0.0843
2	184.92	0.6996	0.1698	0.0091	-0.4336	0.0462	-4.6769	0.1867	-2.2596	0.0822
2	184.92	0.7495	0.1477	0.0116	-0.5197	0.0524	-5.9206	0.2209	-2.4832	0.0826
2	184.92	0.7996	0.1142	0.0155	-0.6373	0.0607	-7.2426	0.2574	-2.6433	0.0954
2	184.92	0.8578	0.0543	0.0217	-0.7533	0.0696	-8.8588	0.3075	-2.3736	0.0898
2	184.92	0.9100	0.0251	0.0259	-0.8177	0.0805	-10.4193	0.3566	-2.4506	0.0892
2	184.92	0.9727	0.0120	0.0315	-0.9554	0.0894	-12.1296	0.4115	-2.2154	0.1282
3	184.92	0.1938	-0.0578	0.0018	-0.0155	0.0018	-0.0119	0.0052	-0.3111	0.0266
3	184.92	0.2357	-0.0371	0.0013	0.0139	0.0027	-0.0719	0.0087	-0.3767	0.0435
3	184.92	0.2995	0.0062	0.0015	-0.0277	0.0071	-0.1309	0.0179	-0.7122	0.0612
3	184.92	0.3493	0.0430	0.0020	-0.0395	0.0114	-0.2309	0.0287	-0.8359	0.0668
3	184.92	0.4000	0.0678	0.0025	-0.0496	0.0184	-0.3902	0.0441	-0.8446	0.0709
3	184.92	0.4497	0.0955	0.0026	-0.0896	0.0232	-0.6696	0.0589	-1.1795	0.0884
3	184.92	0.4997	0.1036	0.0034	-0.1302	0.0295	-1.0584	0.0774	-1.4157	0.0934
3	184.92	0.5556	0.1357	0.0041	-0.1875	0.0367	-1.6186	0.1000	-1.3888	0.1040
3	184.92	0.5995	0.1608	0.0048	-0.2495	0.0426	-2.2464	0.1156	-1.6166	0.1051
3	184.92	0.6498	0.1752	0.0058	-0.3262	0.0495	-3.0948	0.1361	-1.8040	0.1141
3	184.92	0.6890	0.1475	0.0072	-0.4432	0.0552	-3.8599	0.1520	-1.8240	0.1173
3	184.92	0.7495	0.1759	0.0091	-0.5044	0.0649	-5.2433	0.1725	-2.0529	0.1258
3	184.92	0.7998	0.1613	0.0116	-0.6108	0.0744	-6.5095	0.1931	-2.1741	0.1334
3	184.92	0.8577	0.1808	0.0159	-0.7396	0.0836	-8.0576	0.2183	-2.1709	0.1469
3	184.92	0.9178	0.0933	0.0184	-0.8190	0.0976	-9.7741	0.2501	-2.2109	0.1756
3	184.92	0.9729	0.1069	0.0258	-0.9724	0.1096	-11.3468	0.2863	-2.4639	0.1764
4	184.92	0.2001	-0.0655	0.0012	-0.0011	0.0012	-0.0476	0.0055	-0.2990	0.0334
4	184.92	0.2502	-0.0059	0.0014	0.0049	0.0034	-0.1073	0.0125	-0.4986	0.0521
4	184.92	0.3001	0.0032	0.0018	-0.0005	0.0049	-0.2041	0.0204	-0.7034	0.0734
4	184.92	0.3502	0.0272	0.0023	0.0062	0.0097	-0.3519	0.0345	-0.8876	0.0650
4	184.92	0.4002	0.0419	0.0028	0.0091	0.0147	-0.5502	0.0531	-0.9734	0.0767
4	184.92	0.4500	0.0752	0.0034	0.0054	0.0188	-0.8787	0.0739	-1.3897	0.0813
4	184.92	0.5001	0.0997	0.0044	-0.0193	0.0238	-1.2860	0.0990	-1.3814	0.0760
4	184.92	0.5560	0.1195	0.0060	-0.0559	0.0305	-1.9721	0.1324	-1.6895	0.0837
4	184.92	0.6001	0.1382	0.0070	-0.0666	0.0365	-2.6416	0.1637	-1.8074	0.0850
4	184.92	0.6501	0.1252	0.0090	-0.1360	0.0442	-3.5578	0.2032	-1.8521	0.0894
4	184.92	0.6999	0.1323	0.0123	-0.2038	0.0522	-4.6382	0.2465	-1.8927	0.0897
4	184.92	0.7500	0.1137	0.0149	-0.2423	0.0620	-5.8763	0.2931	-1.8361	0.0922
4	184.92	0.8002	0.0805	0.0198	-0.3252	0.0710	-7.2597	0.3445	-1.9914	0.0937
4	184.92	0.8582	0.0556	0.0253	-0.3989	0.0816	-8.9602	0.4055	-2.1384	0.0986
4	184.92	0.9101	0.0128	0.0303	-0.4726	0.0920	-10.5617	0.4637	-2.1031	0.1111
4	184.92	0.9728	0.0410	0.0384	-0.5835	0.1067	-12.3409	0.5406	-1.7770	0.1165

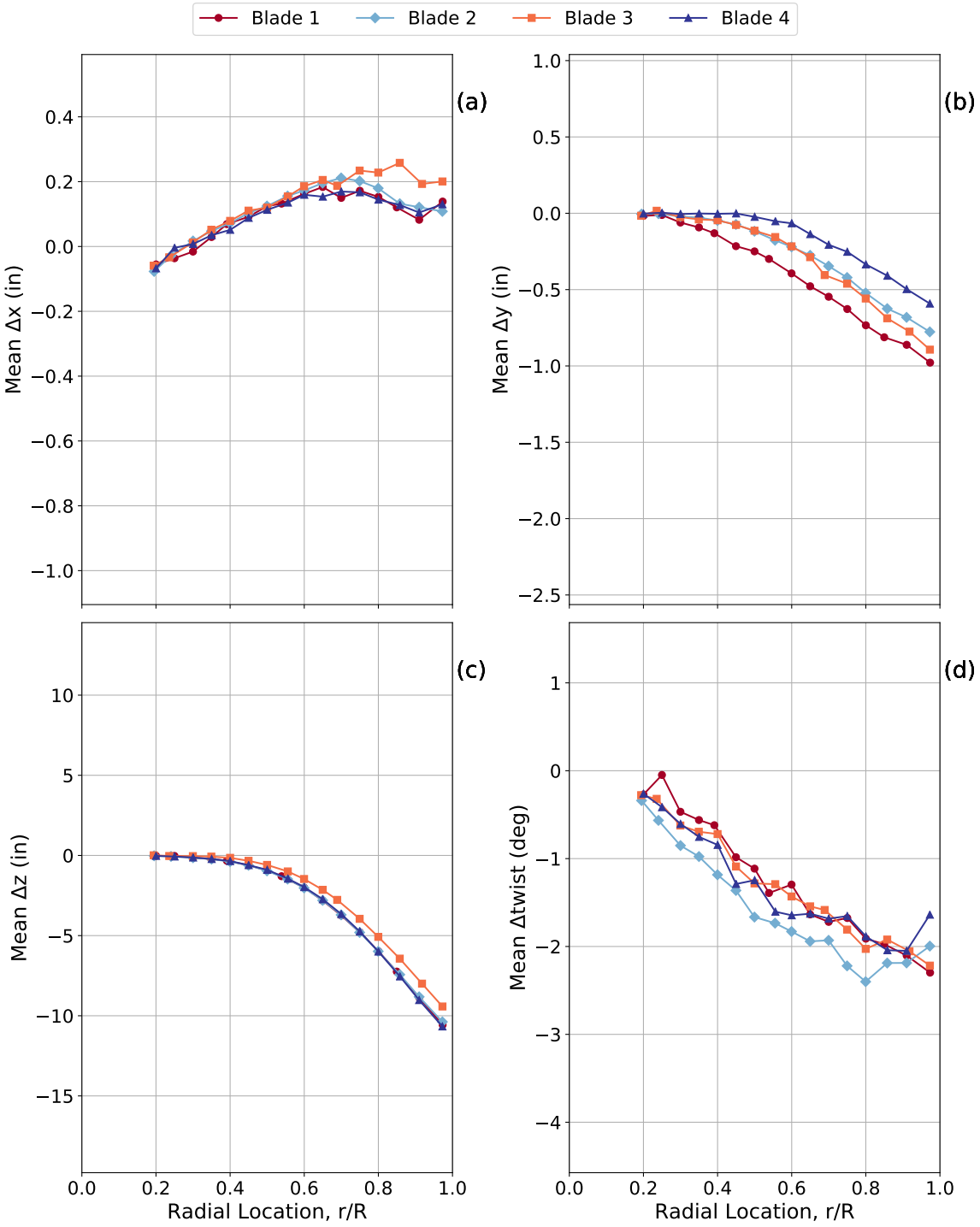


Figure 2.13-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0554	0.0013	-0.0170	0.0011	-0.0265	0.0055	-0.2705	0.0273
1	189.84	0.2499	-0.0363	0.0012	-0.0112	0.0026	-0.0291	0.0104	-0.0483	0.0518
1	189.84	0.2998	-0.0158	0.0016	-0.0607	0.0051	-0.1378	0.0197	-0.4671	0.0639
1	189.84	0.3498	0.0292	0.0018	-0.0928	0.0083	-0.2198	0.0310	-0.5611	0.0654
1	189.84	0.3913	0.0690	0.0023	-0.1307	0.0125	-0.3304	0.0454	-0.6198	0.0693
1	189.84	0.4496	0.0917	0.0029	-0.2154	0.0169	-0.6121	0.0644	-0.9840	0.0799
1	189.84	0.4997	0.1243	0.0034	-0.2496	0.0214	-0.9387	0.0842	-1.1140	0.0855
1	189.84	0.5387	0.1322	0.0038	-0.2990	0.0259	-1.2950	0.1018	-1.3913	0.0861
1	189.84	0.5996	0.1622	0.0050	-0.3936	0.0323	-2.0043	0.1307	-1.2957	0.0941
1	189.84	0.6498	0.1835	0.0064	-0.4780	0.0382	-2.8155	0.1561	-1.6350	0.0969
1	189.84	0.6998	0.1499	0.0077	-0.5468	0.0442	-3.7435	0.1839	-1.7197	0.1011
1	189.84	0.7500	0.1719	0.0104	-0.6273	0.0509	-4.7959	0.2142	-1.6759	0.1028
1	189.84	0.8001	0.1530	0.0124	-0.7337	0.0587	-5.9761	0.2426	-1.9111	0.1082
1	189.84	0.8497	0.1207	0.0157	-0.8122	0.0653	-7.2460	0.2753	-1.9739	0.1117
1	189.84	0.9102	0.0824	0.0192	-0.8616	0.0752	-8.8704	0.3152	-2.1031	0.1453
1	189.84	0.9734	0.1386	0.0245	-0.9782	0.0848	-10.5684	0.3663	-2.2975	0.1180
2	189.84	0.1949	-0.0769	0.0015	-0.0053	0.0011	-0.0209	0.0046	-0.3393	0.0342
2	189.84	0.2405	-0.0283	0.0011	-0.0027	0.0024	-0.0602	0.0075	-0.5651	0.0405
2	189.84	0.2999	0.0170	0.0018	-0.0217	0.0049	-0.1440	0.0161	-0.8517	0.0710
2	189.84	0.3498	0.0474	0.0020	-0.0281	0.0089	-0.2266	0.0255	-0.9766	0.0583
2	189.84	0.3998	0.0720	0.0024	-0.0475	0.0136	-0.3863	0.0386	-1.1840	0.0633
2	189.84	0.4496	0.1028	0.0028	-0.0731	0.0178	-0.6116	0.0526	-1.3624	0.0553
2	189.84	0.4995	0.1247	0.0032	-0.1175	0.0226	-0.9627	0.0693	-1.6654	0.0615
2	189.84	0.5551	0.1556	0.0039	-0.1768	0.0289	-1.4731	0.0920	-1.7346	0.0632
2	189.84	0.5996	0.1726	0.0049	-0.2201	0.0340	-2.0293	0.1136	-1.8299	0.0684
2	189.84	0.6497	0.1956	0.0061	-0.2754	0.0404	-2.8011	0.1390	-1.9415	0.0780
2	189.84	0.6996	0.2114	0.0080	-0.3462	0.0465	-3.7053	0.1677	-1.9298	0.0790
2	189.84	0.7495	0.2019	0.0104	-0.4207	0.0537	-4.8050	0.2012	-2.2210	0.0804
2	189.84	0.7996	0.1796	0.0135	-0.5220	0.0615	-5.9821	0.2363	-2.4004	0.0869
2	189.84	0.8578	0.1319	0.0179	-0.6247	0.0697	-7.4341	0.2817	-2.1883	0.0854
2	189.84	0.9100	0.1213	0.0210	-0.6817	0.0796	-8.8176	0.3244	-2.1871	0.1061
2	189.84	0.9727	0.1083	0.0264	-0.7767	0.0894	-10.3803	0.3784	-1.9954	0.1077
3	189.84	0.1938	-0.0592	0.0016	-0.0160	0.0011	0.0100	0.0054	-0.2777	0.0341
3	189.84	0.2357	-0.0334	0.0015	0.0165	0.0023	-0.0347	0.0093	-0.3199	0.0511
3	189.84	0.2995	0.0124	0.0014	-0.0250	0.0054	-0.0418	0.0199	-0.6236	0.0798
3	189.84	0.3493	0.0517	0.0018	-0.0401	0.0088	-0.0718	0.0325	-0.6942	0.0704
3	189.84	0.4000	0.0790	0.0023	-0.0456	0.0143	-0.1493	0.0500	-0.7206	0.0821
3	189.84	0.4497	0.1106	0.0026	-0.0763	0.0189	-0.3344	0.0662	-1.0900	0.0926
3	189.84	0.4997	0.1200	0.0030	-0.1140	0.0242	-0.5908	0.0876	-1.2823	0.0968
3	189.84	0.5556	0.1544	0.0035	-0.1557	0.0320	-0.9965	0.1131	-1.2909	0.1016
3	189.84	0.5995	0.1858	0.0045	-0.2165	0.0381	-1.4683	0.1347	-1.4308	0.1139
3	189.84	0.6498	0.2052	0.0058	-0.2876	0.0465	-2.1435	0.1606	-1.5434	0.1216
3	189.84	0.6890	0.1871	0.0071	-0.4046	0.0540	-2.7720	0.1828	-1.5845	0.1247
3	189.84	0.7495	0.2342	0.0100	-0.4612	0.0652	-3.9527	0.2202	-1.8078	0.1287
3	189.84	0.7998	0.2280	0.0135	-0.5583	0.0763	-5.0784	0.2572	-2.0274	0.1418
3	189.84	0.8577	0.2580	0.0185	-0.6877	0.0902	-6.4362	0.3136	-1.9212	0.2781
3	189.84	0.9178	0.1930	0.0239	-0.7752	0.1046	-7.9964	0.3766	-2.0545	0.1672
3	189.84	0.9729	0.2006	0.0315	-0.8932	0.1171	-9.4211	0.4372	-2.2178	0.2033
4	189.84	0.2001	-0.0674	0.0014	-0.0019	0.0012	-0.0281	0.0042	-0.2618	0.0300
4	189.84	0.2502	-0.0041	0.0011	0.0031	0.0022	-0.0666	0.0070	-0.4152	0.0618
4	189.84	0.3001	0.0076	0.0016	-0.0049	0.0042	-0.1295	0.0133	-0.6057	0.0720
4	189.84	0.3502	0.0348	0.0019	-0.0016	0.0080	-0.2217	0.0211	-0.7531	0.0603
4	189.84	0.4002	0.0514	0.0022	-0.0035	0.0116	-0.3518	0.0322	-0.8441	0.0684
4	189.84	0.4500	0.0883	0.0025	-0.0012	0.0153	-0.6041	0.0446	-1.2889	0.0729
4	189.84	0.5001	0.1130	0.0033	-0.0235	0.0194	-0.8979	0.0608	-1.2457	0.0818
4	189.84	0.5560	0.1354	0.0042	-0.0522	0.0238	-1.4489	0.0802	-1.6040	0.0825
4	189.84	0.6001	0.1595	0.0047	-0.0657	0.0283	-1.9745	0.0995	-1.6453	0.0854
4	189.84	0.6501	0.1537	0.0060	-0.1368	0.0332	-2.7319	0.1258	-1.6270	0.0839
4	189.84	0.6999	0.1695	0.0079	-0.2064	0.0389	-3.6558	0.1543	-1.6834	0.0867
4	189.84	0.7500	0.1671	0.0098	-0.2524	0.0454	-4.7450	0.1875	-1.6540	0.0776
4	189.84	0.8002	0.1445	0.0137	-0.3349	0.0514	-5.9962	0.2282	-1.8852	0.1043
4	189.84	0.8582	0.1278	0.0179	-0.4092	0.0587	-7.5487	0.2850	-2.0425	0.1968
4	189.84	0.9101	0.1047	0.0213	-0.4968	0.0675	-9.0224	0.3216	-2.0499	0.1011
4	189.84	0.9728	0.1301	0.0258	-0.5916	0.0766	-10.6669	0.3798	-1.6382	0.1063

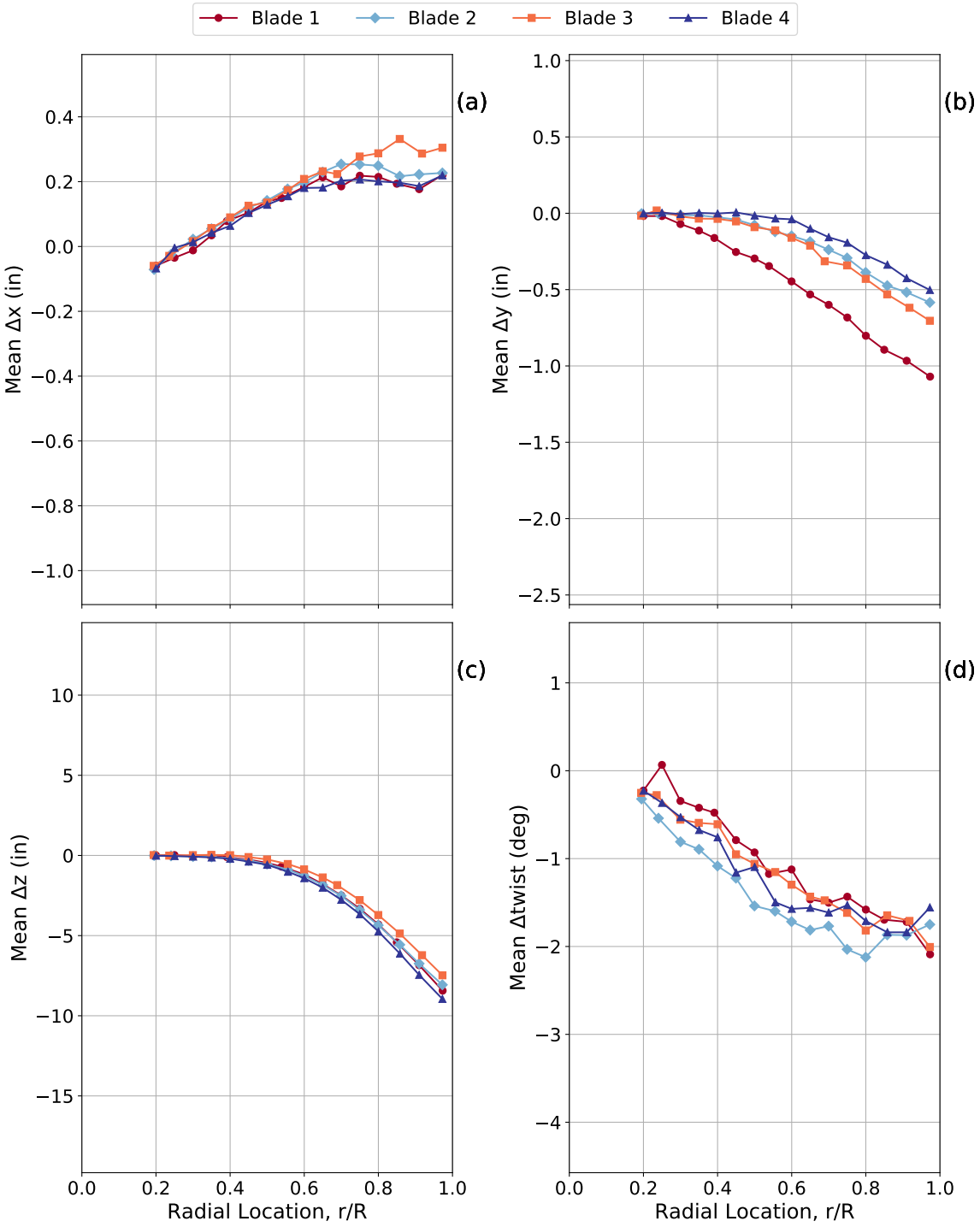


Figure 2.13-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0593	0.0015	-0.0180	0.0012	0.0008	0.0054	-0.2256	0.0282
1	195.12	0.2499	-0.0348	0.0012	-0.0183	0.0028	0.0239	0.0092	0.0664	0.0524
1	195.12	0.2998	-0.0120	0.0016	-0.0705	0.0047	-0.0398	0.0171	-0.3439	0.0647
1	195.12	0.3498	0.0344	0.0021	-0.1136	0.0092	-0.0604	0.0286	-0.4220	0.0646
1	195.12	0.3913	0.0784	0.0025	-0.1617	0.0127	-0.1013	0.0398	-0.4771	0.0679
1	195.12	0.4496	0.1045	0.0031	-0.2536	0.0174	-0.2611	0.0563	-0.7897	0.0690
1	195.12	0.4997	0.1384	0.0034	-0.2961	0.0228	-0.4612	0.0736	-0.9295	0.0670
1	195.12	0.5387	0.1496	0.0040	-0.3457	0.0273	-0.6979	0.0890	-1.1742	0.0741
1	195.12	0.5996	0.1834	0.0046	-0.4461	0.0347	-1.1823	0.1165	-1.1237	0.0777
1	195.12	0.6498	0.2135	0.0055	-0.5316	0.0413	-1.7845	0.1421	-1.4641	0.0833
1	195.12	0.6998	0.1854	0.0068	-0.5997	0.0479	-2.4908	0.1698	-1.5018	0.0855
1	195.12	0.7500	0.2184	0.0083	-0.6828	0.0552	-3.3242	0.2007	-1.4335	0.0901
1	195.12	0.8001	0.2146	0.0107	-0.8023	0.0624	-4.3049	0.2320	-1.5803	0.1051
1	195.12	0.8497	0.1935	0.0138	-0.8939	0.0694	-5.4182	0.2658	-1.6952	0.0962
1	195.12	0.9102	0.1769	0.0174	-0.9659	0.0796	-6.8461	0.3078	-1.7198	0.1008
1	195.12	0.9734	0.2210	0.0225	-1.0699	0.0888	-8.4347	0.3557	-2.0894	0.1320
2	195.12	0.1949	-0.0710	0.0018	-0.0023	0.0013	-0.0052	0.0057	-0.3213	0.0261
2	195.12	0.2405	-0.0243	0.0014	-0.0012	0.0025	-0.0232	0.0096	-0.5407	0.0535
2	195.12	0.2999	0.0226	0.0018	-0.0122	0.0056	-0.0670	0.0199	-0.8087	0.0653
2	195.12	0.3498	0.0547	0.0023	-0.0136	0.0086	-0.0893	0.0326	-0.8941	0.0699
2	195.12	0.3998	0.0851	0.0027	-0.0260	0.0142	-0.1725	0.0497	-1.0842	0.0563
2	195.12	0.4496	0.1197	0.0033	-0.0410	0.0182	-0.3027	0.0689	-1.2221	0.0634
2	195.12	0.4995	0.1419	0.0038	-0.0775	0.0229	-0.5346	0.0915	-1.5386	0.0605
2	195.12	0.5551	0.1774	0.0048	-0.1210	0.0292	-0.8772	0.1210	-1.5978	0.0645
2	195.12	0.5996	0.1973	0.0059	-0.1480	0.0344	-1.2712	0.1496	-1.7173	0.0733
2	195.12	0.6497	0.2296	0.0073	-0.1860	0.0411	-1.8386	0.1861	-1.8131	0.0772
2	195.12	0.6996	0.2542	0.0096	-0.2384	0.0482	-2.5199	0.2282	-1.7685	0.0823
2	195.12	0.7495	0.2532	0.0125	-0.2928	0.0555	-3.4014	0.2751	-2.0322	0.0797
2	195.12	0.7996	0.2492	0.0160	-0.3871	0.0637	-4.3562	0.3278	-2.1223	0.0997
2	195.12	0.8578	0.2167	0.0207	-0.4741	0.0745	-5.5697	0.3939	-1.8676	0.0913
2	195.12	0.9100	0.2224	0.0250	-0.5175	0.0839	-6.7459	0.4561	-1.8712	0.0994
2	195.12	0.9727	0.2269	0.0318	-0.5842	0.0948	-8.0690	0.5345	-1.7498	0.1200
3	195.12	0.1938	-0.0598	0.0024	-0.0152	0.0018	0.0247	0.0066	-0.2520	0.0313
3	195.12	0.2357	-0.0290	0.0021	0.0184	0.0034	-0.0095	0.0093	-0.2779	0.0655
3	195.12	0.2995	0.0165	0.0018	-0.0210	0.0073	0.0204	0.0218	-0.5570	0.0827
3	195.12	0.3493	0.0570	0.0024	-0.0349	0.0125	0.0368	0.0339	-0.5935	0.0869
3	195.12	0.4000	0.0898	0.0034	-0.0365	0.0200	0.0177	0.0524	-0.6091	0.0744
3	195.12	0.4497	0.1258	0.0040	-0.0531	0.0265	-0.1009	0.0709	-0.9510	0.0913
3	195.12	0.4997	0.1356	0.0048	-0.0909	0.0343	-0.2478	0.0964	-1.0596	0.0780
3	195.12	0.5556	0.1741	0.0058	-0.1119	0.0439	-0.5351	0.1282	-1.1530	0.0836
3	195.12	0.5995	0.2084	0.0067	-0.1601	0.0521	-0.8701	0.1572	-1.2968	0.0938
3	195.12	0.6498	0.2320	0.0083	-0.2118	0.0619	-1.3713	0.1945	-1.4332	0.0960
3	195.12	0.6890	0.2234	0.0101	-0.3144	0.0706	-1.8502	0.2289	-1.4750	0.0916
3	195.12	0.7495	0.2776	0.0135	-0.3415	0.0847	-2.7836	0.2909	-1.6169	0.1046
3	195.12	0.7998	0.2875	0.0172	-0.4297	0.0978	-3.7170	0.3505	-1.8179	0.1151
3	195.12	0.8577	0.3317	0.0232	-0.5310	0.1135	-4.8712	0.4312	-1.6453	0.1346
3	195.12	0.9178	0.2867	0.0288	-0.6188	0.1308	-6.2208	0.5199	-1.7089	0.1405
3	195.12	0.9729	0.3047	0.0369	-0.7041	0.1460	-7.4771	0.6131	-2.0059	0.1379
4	195.12	0.2001	-0.0677	0.0017	-0.0010	0.0010	-0.0147	0.0073	-0.2279	0.0325
4	195.12	0.2502	-0.0041	0.0014	0.0035	0.0030	-0.0380	0.0136	-0.3663	0.0463
4	195.12	0.3001	0.0133	0.0015	-0.0051	0.0044	-0.0725	0.0235	-0.5286	0.0687
4	195.12	0.3502	0.0422	0.0017	0.0023	0.0090	-0.1277	0.0403	-0.6749	0.0571
4	195.12	0.4002	0.0637	0.0024	-0.0015	0.0135	-0.2030	0.0597	-0.7577	0.0602
4	195.12	0.4500	0.1034	0.0025	0.0054	0.0177	-0.3846	0.0802	-1.1598	0.0647
4	195.12	0.5001	0.1286	0.0033	-0.0151	0.0226	-0.5845	0.1056	-1.0956	0.0647
4	195.12	0.5560	0.1550	0.0038	-0.0344	0.0296	-1.0178	0.1368	-1.4978	0.0659
4	195.12	0.6001	0.1805	0.0046	-0.0394	0.0350	-1.4197	0.1648	-1.5718	0.0710
4	195.12	0.6501	0.1815	0.0059	-0.1011	0.0422	-2.0111	0.1985	-1.5603	0.0683
4	195.12	0.6999	0.2032	0.0080	-0.1571	0.0497	-2.7664	0.2356	-1.6145	0.0785
4	195.12	0.7500	0.2066	0.0107	-0.1930	0.0584	-3.6676	0.2789	-1.5297	0.0832
4	195.12	0.8002	0.2010	0.0137	-0.2744	0.0674	-4.7456	0.3251	-1.7103	0.0837
4	195.12	0.8582	0.1967	0.0187	-0.3372	0.0783	-6.1252	0.3863	-1.8389	0.0994
4	195.12	0.9101	0.1862	0.0230	-0.4253	0.0886	-7.4504	0.4464	-1.8383	0.0898
4	195.12	0.9728	0.2194	0.0289	-0.5024	0.1022	-8.9505	0.5266	-1.5558	0.0904

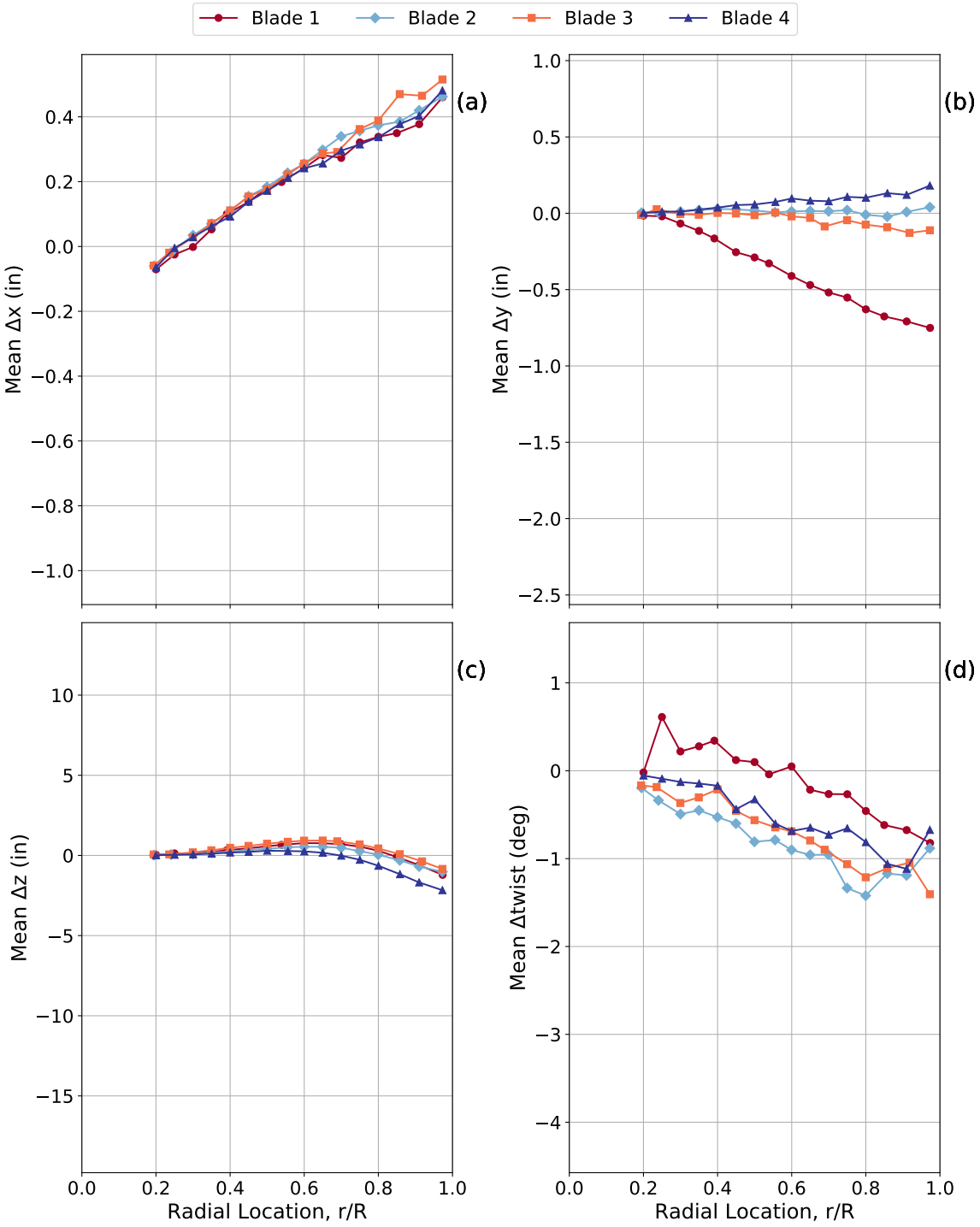


Figure 2.13-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0705	0.0018	-0.0153	0.0011	0.0404	0.0072	-0.0194	0.0352
1	209.88	0.2499	-0.0249	0.0017	-0.0200	0.0027	0.1289	0.0130	0.6114	0.0519
1	209.88	0.2998	-0.0016	0.0016	-0.0673	0.0053	0.1354	0.0232	0.2194	0.0763
1	209.88	0.3498	0.0529	0.0025	-0.1155	0.0099	0.2219	0.0365	0.2780	0.0817
1	209.88	0.3913	0.1005	0.0029	-0.1650	0.0143	0.3279	0.0522	0.3422	0.0914
1	209.88	0.4496	0.1374	0.0033	-0.2548	0.0194	0.4460	0.0699	0.1211	0.0843
1	209.88	0.4997	0.1806	0.0035	-0.2894	0.0252	0.5726	0.0904	0.0984	0.0840
1	209.88	0.5387	0.1989	0.0041	-0.3283	0.0300	0.6620	0.1074	-0.0404	0.0809
1	209.88	0.5996	0.2419	0.0041	-0.4108	0.0374	0.7697	0.1379	0.0489	0.0958
1	209.88	0.6498	0.2820	0.0048	-0.4698	0.0448	0.7606	0.1670	-0.2164	0.1060
1	209.88	0.6998	0.2732	0.0052	-0.5186	0.0525	0.7013	0.1990	-0.2654	0.1043
1	209.88	0.7500	0.3211	0.0056	-0.5523	0.0611	0.5493	0.2339	-0.2674	0.1028
1	209.88	0.8001	0.3384	0.0065	-0.6292	0.0694	0.2948	0.2723	-0.4580	0.1076
1	209.88	0.8497	0.3497	0.0074	-0.6756	0.0791	-0.0938	0.3135	-0.6180	0.1135
1	209.88	0.9102	0.3774	0.0086	-0.7084	0.0916	-0.6062	0.3671	-0.6756	0.1105
1	209.88	0.9734	0.4606	0.0124	-0.7507	0.1043	-1.2117	0.4288	-0.8221	0.1157
2	209.88	0.1949	-0.0601	0.0023	0.0038	0.0008	0.0188	0.0048	-0.1946	0.0432
2	209.88	0.2405	-0.0190	0.0013	0.0053	0.0025	0.0543	0.0097	-0.3367	0.0371
2	209.88	0.2999	0.0347	0.0019	0.0115	0.0040	0.0835	0.0150	-0.4933	0.0821
2	209.88	0.3498	0.0697	0.0020	0.0203	0.0080	0.1686	0.0255	-0.4504	0.0710
2	209.88	0.3998	0.1090	0.0025	0.0287	0.0125	0.2482	0.0372	-0.5286	0.0606
2	209.88	0.4496	0.1548	0.0029	0.0254	0.0163	0.3417	0.0478	-0.6007	0.0622
2	209.88	0.4995	0.1839	0.0032	0.0182	0.0206	0.4134	0.0604	-0.8083	0.0682
2	209.88	0.5551	0.2270	0.0035	0.0060	0.0260	0.5115	0.0761	-0.7879	0.0709
2	209.88	0.5996	0.2549	0.0035	0.0121	0.0309	0.5427	0.0924	-0.9012	0.0770
2	209.88	0.6497	0.2980	0.0042	0.0152	0.0364	0.5382	0.1135	-0.9576	0.0756
2	209.88	0.6996	0.3396	0.0046	0.0130	0.0423	0.4796	0.1412	-0.9560	0.0786
2	209.88	0.7495	0.3567	0.0051	0.0207	0.0484	0.2705	0.1720	-1.3354	0.0816
2	209.88	0.7996	0.3737	0.0054	-0.0095	0.0547	0.0475	0.2068	-1.4218	0.0812
2	209.88	0.8578	0.3850	0.0066	-0.0220	0.0634	-0.3030	0.2505	-1.1701	0.0830
2	209.88	0.9100	0.4199	0.0074	0.0088	0.0707	-0.6890	0.2927	-1.1909	0.0777
2	209.88	0.9727	0.4626	0.0098	0.0400	0.0792	-1.0179	0.3421	-0.8822	0.0846
3	209.88	0.1938	-0.0590	0.0025	-0.0111	0.0011	0.0596	0.0076	-0.1671	0.0336
3	209.88	0.2357	-0.0191	0.0016	0.0268	0.0015	0.0667	0.0134	-0.1860	0.0574
3	209.88	0.2995	0.0279	0.0018	-0.0054	0.0044	0.1930	0.0282	-0.3671	0.0776
3	209.88	0.3493	0.0716	0.0019	-0.0097	0.0073	0.3222	0.0464	-0.3034	0.0765
3	209.88	0.4000	0.1112	0.0027	0.0023	0.0117	0.4758	0.0714	-0.2123	0.0772
3	209.88	0.4497	0.1540	0.0032	-0.0013	0.0155	0.5941	0.0996	-0.4571	0.0829
3	209.88	0.4997	0.1771	0.0039	-0.0122	0.0201	0.7321	0.1353	-0.5625	0.0928
3	209.88	0.5556	0.2221	0.0040	0.0045	0.0256	0.8529	0.1818	-0.6446	0.0959
3	209.88	0.5995	0.2557	0.0046	-0.0204	0.0303	0.9238	0.2250	-0.6895	0.1068
3	209.88	0.6498	0.2869	0.0050	-0.0302	0.0367	0.9308	0.2828	-0.7939	0.1081
3	209.88	0.6890	0.2913	0.0054	-0.0864	0.0421	0.8841	0.3344	-0.8992	0.1134
3	209.88	0.7495	0.3621	0.0064	-0.0451	0.0514	0.6892	0.4214	-1.0634	0.1096
3	209.88	0.7998	0.3887	0.0077	-0.0741	0.0605	0.4371	0.5023	-1.2126	0.1114
3	209.88	0.8577	0.4701	0.0100	-0.0918	0.0715	0.0805	0.6037	-1.1095	0.1114
3	209.88	0.9178	0.4650	0.0117	-0.1285	0.0833	-0.3701	0.7142	-1.0457	0.1069
3	209.88	0.9729	0.5151	0.0144	-0.1113	0.0952	-0.8410	0.8203	-1.4056	0.1142
4	209.88	0.2001	-0.0644	0.0016	0.0027	0.0008	0.0127	0.0066	-0.0551	0.0418
4	209.88	0.2502	-0.0046	0.0019	0.0100	0.0025	0.0407	0.0140	-0.0912	0.0567
4	209.88	0.3001	0.0288	0.0015	0.0116	0.0041	0.0638	0.0215	-0.1281	0.0877
4	209.88	0.3502	0.0627	0.0018	0.0247	0.0076	0.1138	0.0365	-0.1457	0.0624
4	209.88	0.4002	0.0921	0.0023	0.0370	0.0121	0.1819	0.0545	-0.1708	0.0609
4	209.88	0.4500	0.1383	0.0026	0.0538	0.0165	0.2199	0.0743	-0.4377	0.0676
4	209.88	0.5001	0.1717	0.0033	0.0575	0.0215	0.2968	0.0996	-0.3255	0.0725
4	209.88	0.5560	0.2114	0.0036	0.0741	0.0275	0.2755	0.1317	-0.6038	0.0784
4	209.88	0.6001	0.2413	0.0036	0.0969	0.0324	0.2560	0.1605	-0.6856	0.0757
4	209.88	0.6501	0.2561	0.0044	0.0826	0.0386	0.1693	0.1980	-0.6477	0.0828
4	209.88	0.6999	0.2958	0.0047	0.0787	0.0448	-0.0133	0.2402	-0.7280	0.0845
4	209.88	0.7500	0.3147	0.0053	0.1075	0.0514	-0.2713	0.2875	-0.6551	0.0883
4	209.88	0.8002	0.3372	0.0061	0.1020	0.0586	-0.6442	0.3388	-0.8131	0.0855
4	209.88	0.8582	0.3776	0.0076	0.1317	0.0677	-1.1713	0.4020	-1.0599	0.0875
4	209.88	0.9101	0.4029	0.0088	0.1206	0.0755	-1.6837	0.4640	-1.1164	0.0837
4	209.88	0.9728	0.4813	0.0110	0.1812	0.0851	-2.1674	0.5408	-0.6733	0.0901

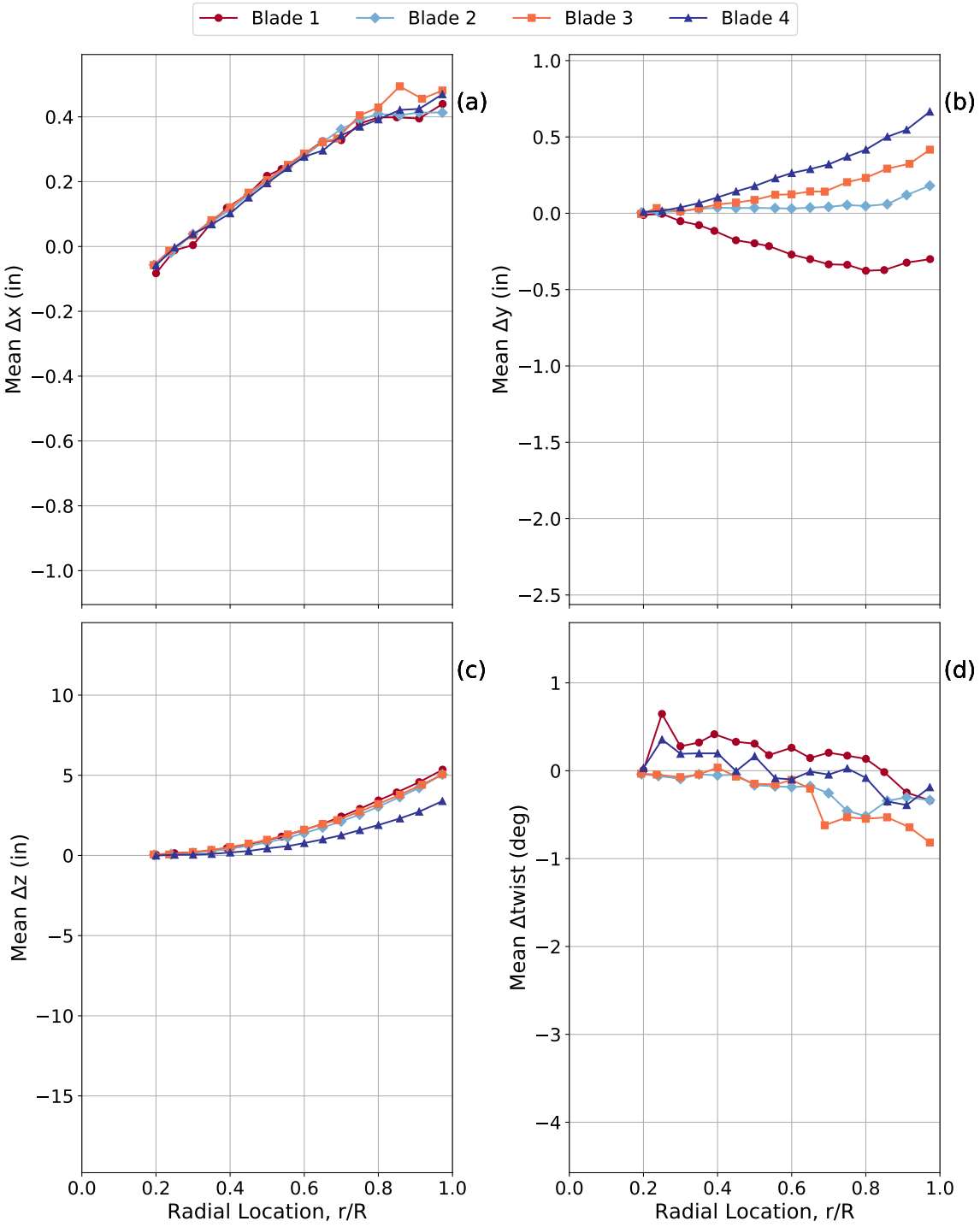


Figure 2.13-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-30. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.371$, $\alpha = -8.4°$
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0826	0.0019	-0.0112	0.0009	0.0552	0.0092	0.0078	0.0338
1	225	0.2499	-0.0118	0.0018	-0.0035	0.0023	0.1424	0.0159	0.6468	0.0658
1	225	0.2998	0.0041	0.0018	-0.0517	0.0050	0.1996	0.0276	0.2783	0.0795
1	225	0.3498	0.0734	0.0024	-0.0777	0.0088	0.2994	0.0439	0.3213	0.0735
1	225	0.3913	0.1190	0.0020	-0.1152	0.0135	0.4553	0.0610	0.4155	0.0690
1	225	0.4496	0.1627	0.0025	-0.1767	0.0195	0.6947	0.0832	0.3293	0.0649
1	225	0.4997	0.2179	0.0026	-0.1967	0.0252	0.9454	0.1052	0.3077	0.0707
1	225	0.5387	0.2387	0.0032	-0.2151	0.0301	1.1745	0.1219	0.1778	0.0755
1	225	0.5996	0.2852	0.0040	-0.2706	0.0381	1.5957	0.1523	0.2614	0.0799
1	225	0.6498	0.3249	0.0043	-0.3005	0.0457	1.9700	0.1791	0.1449	0.0797
1	225	0.6998	0.3279	0.0053	-0.3346	0.0523	2.4281	0.2054	0.2051	0.0736
1	225	0.7500	0.3794	0.0061	-0.3374	0.0598	2.9062	0.2345	0.1714	0.0810
1	225	0.8001	0.3981	0.0071	-0.3762	0.0676	3.4328	0.2667	0.1354	0.0714
1	225	0.8497	0.3984	0.0084	-0.3720	0.0754	3.9314	0.3028	-0.0157	0.0736
1	225	0.9102	0.3948	0.0102	-0.3232	0.0848	4.5720	0.3497	-0.2483	0.0738
1	225	0.9734	0.4397	0.0148	-0.3003	0.0948	5.3525	0.4081	-0.3387	0.0833
2	225	0.1949	-0.0569	0.0029	0.0053	0.0008	0.0322	0.0112	-0.0389	0.0261
2	225	0.2405	-0.0188	0.0019	0.0084	0.0015	0.0792	0.0174	-0.0595	0.0604
2	225	0.2999	0.0382	0.0023	0.0131	0.0038	0.1496	0.0368	-0.0926	0.0670
2	225	0.3498	0.0752	0.0025	0.0288	0.0072	0.2675	0.0613	-0.0407	0.0702
2	225	0.3998	0.1137	0.0024	0.0365	0.0112	0.4124	0.0903	-0.0523	0.0700
2	225	0.4496	0.1596	0.0026	0.0341	0.0152	0.6108	0.1251	-0.0446	0.0750
2	225	0.4995	0.2012	0.0026	0.0352	0.0204	0.8120	0.1620	-0.1649	0.0731
2	225	0.5551	0.2463	0.0029	0.0334	0.0263	1.1081	0.2073	-0.1772	0.0766
2	225	0.5996	0.2779	0.0037	0.0304	0.0314	1.3904	0.2480	-0.1859	0.0877
2	225	0.6497	0.3223	0.0045	0.0371	0.0375	1.7409	0.2961	-0.1758	0.0808
2	225	0.6996	0.3615	0.0057	0.0417	0.0443	2.1236	0.3494	-0.2549	0.0881
2	225	0.7495	0.3913	0.0074	0.0543	0.0511	2.5476	0.4085	-0.4559	0.0935
2	225	0.7996	0.4087	0.0094	0.0474	0.0587	3.0375	0.4760	-0.5161	0.0905
2	225	0.8578	0.4051	0.0119	0.0596	0.0678	3.6440	0.5615	-0.3420	0.0931
2	225	0.9100	0.4134	0.0155	0.1196	0.0760	4.2195	0.6443	-0.3030	0.0969
2	225	0.9727	0.4132	0.0233	0.1807	0.0859	5.0533	0.7494	-0.3344	0.0977
3	225	0.1938	-0.0574	0.0026	-0.0053	0.0008	0.0602	0.0090	-0.0330	0.0303
3	225	0.2357	-0.0133	0.0025	0.0340	0.0017	0.0602	0.0143	-0.0436	0.0541
3	225	0.2995	0.0344	0.0021	0.0128	0.0040	0.2147	0.0292	-0.0731	0.0637
3	225	0.3493	0.0812	0.0027	0.0316	0.0074	0.3435	0.0474	-0.0419	0.0610
3	225	0.4000	0.1210	0.0030	0.0580	0.0122	0.5274	0.0711	0.0347	0.0652
3	225	0.4497	0.1662	0.0032	0.0702	0.0167	0.7354	0.0955	-0.0661	0.0665
3	225	0.4997	0.2047	0.0033	0.0874	0.0229	0.9782	0.1251	-0.1476	0.0749
3	225	0.5556	0.2518	0.0041	0.1210	0.0301	1.3067	0.1587	-0.1574	0.0779
3	225	0.5995	0.2868	0.0046	0.1242	0.0360	1.6054	0.1879	-0.1053	0.0781
3	225	0.6498	0.3215	0.0058	0.1430	0.0432	1.9576	0.2242	-0.2034	0.0757
3	225	0.6890	0.3330	0.0066	0.1419	0.0491	2.2046	0.2561	-0.6206	0.0818
3	225	0.7495	0.4046	0.0079	0.2038	0.0588	2.7356	0.3103	-0.5294	0.0825
3	225	0.7998	0.4287	0.0096	0.2317	0.0667	3.2087	0.3595	-0.5464	0.0912
3	225	0.8577	0.4941	0.0114	0.2925	0.0758	3.7839	0.4222	-0.5303	0.0970
3	225	0.9178	0.4558	0.0147	0.3242	0.0854	4.4124	0.4915	-0.6439	0.0916
3	225	0.9729	0.4811	0.0201	0.4167	0.0943	5.0590	0.5603	-0.8166	0.1015
4	225	0.2001	-0.0584	0.0022	0.0087	0.0008	-0.0076	0.0108	0.0306	0.0355
4	225	0.2502	-0.0029	0.0018	0.0155	0.0020	0.0431	0.0193	0.3550	0.0542
4	225	0.3001	0.0385	0.0024	0.0388	0.0041	0.0453	0.0350	0.1926	0.0754
4	225	0.3502	0.0683	0.0025	0.0668	0.0077	0.0965	0.0554	0.1980	0.0606
4	225	0.4002	0.1022	0.0024	0.1043	0.0124	0.1839	0.0839	0.1978	0.0758
4	225	0.4500	0.1509	0.0031	0.1432	0.0178	0.2797	0.1169	-0.0042	0.0731
4	225	0.5001	0.1951	0.0028	0.1782	0.0236	0.4411	0.1520	0.1648	0.0767
4	225	0.5560	0.2424	0.0031	0.2292	0.0311	0.5836	0.1977	-0.0852	0.0833
4	225	0.6001	0.2771	0.0041	0.2635	0.0374	0.7721	0.2347	-0.0984	0.0836
4	225	0.6501	0.2960	0.0044	0.2895	0.0446	1.0016	0.2783	-0.0099	0.0864
4	225	0.6999	0.3425	0.0057	0.3205	0.0528	1.2590	0.3237	-0.0439	0.0856
4	225	0.7500	0.3698	0.0064	0.3713	0.0611	1.5806	0.3712	0.0262	0.0911
4	225	0.8002	0.3921	0.0080	0.4171	0.0698	1.8978	0.4224	-0.0812	0.0896
4	225	0.8582	0.4212	0.0094	0.5013	0.0805	2.3094	0.4857	-0.3499	0.0994
4	225	0.9101	0.4245	0.0119	0.5472	0.0902	2.7297	0.5452	-0.3906	0.0964
4	225	0.9728	0.4697	0.0179	0.6655	0.1023	3.3927	0.6207	-0.1877	0.0978

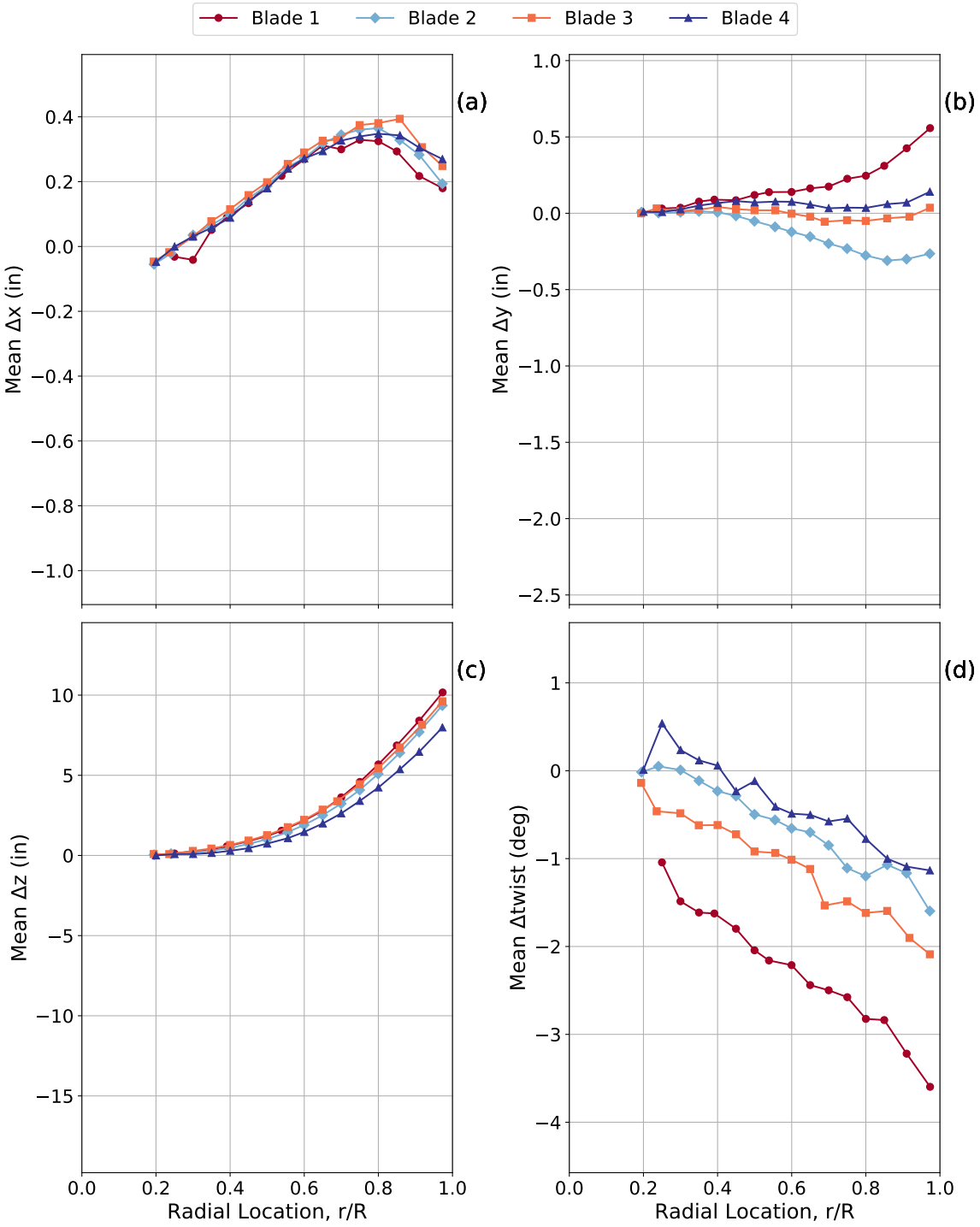


Figure 2.13-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2499	-0.0317	0.0036	0.0311	0.0026	0.1231	0.0329	-1.0430	0.1285
1	240.12	0.2998	-0.0413	0.0027	0.0363	0.0055	0.2528	0.0508	-1.4859	0.1824
1	240.12	0.3498	0.0512	0.0036	0.0764	0.0124	0.3732	0.0796	-1.6136	0.1819
1	240.12	0.3913	0.0894	0.0034	0.0893	0.0192	0.5716	0.1073	-1.6245	0.1779
1	240.12	0.4496	0.1336	0.0045	0.0854	0.0286	0.8925	0.1478	-1.7980	0.1785
1	240.12	0.4997	0.1919	0.0057	0.1195	0.0380	1.2094	0.1863	-2.0436	0.1792
1	240.12	0.5387	0.2179	0.0068	0.1386	0.0457	1.5426	0.2166	-2.1592	0.1768
1	240.12	0.5996	0.2685	0.0089	0.1396	0.0591	2.1716	0.2661	-2.2122	0.1850
1	240.12	0.6498	0.3117	0.0108	0.1632	0.0709	2.8030	0.3083	-2.4393	0.1885
1	240.12	0.6998	0.2998	0.0131	0.1749	0.0837	3.6246	0.3493	-2.4985	0.1842
1	240.12	0.7500	0.3291	0.0157	0.2261	0.0972	4.5841	0.3893	-2.5768	0.1896
1	240.12	0.8001	0.3247	0.0186	0.2460	0.1110	5.6812	0.4280	-2.8239	0.1906
1	240.12	0.8497	0.2934	0.0215	0.3109	0.1253	6.8612	0.4665	-2.8372	0.1895
1	240.12	0.9102	0.2174	0.0258	0.4258	0.1428	8.4063	0.5134	-3.2198	0.1943
1	240.12	0.9734	0.1797	0.0347	0.5578	0.1615	10.1675	0.5681	-3.5969	0.2011
2	240.12	0.1949	-0.0549	0.0326	0.0075	0.0110	0.0422	0.0744	-0.0151	0.1719
2	240.12	0.2405	-0.0212	0.0030	0.0024	0.0068	0.1057	0.0753	0.0502	0.5447
2	240.12	0.2999	0.0351	0.0055	0.0070	0.0438	0.1792	0.1629	0.0083	0.5537
2	240.12	0.3498	0.0665	0.0079	0.0122	0.0827	0.3032	0.2391	-0.1136	0.5520
2	240.12	0.3998	0.0997	0.0092	0.0067	0.1223	0.4691	0.3153	-0.2315	0.5487
2	240.12	0.4496	0.1485	0.0116	-0.0166	0.1606	0.7181	0.3922	-0.2871	0.5520
2	240.12	0.4995	0.1868	0.0144	-0.0519	0.1986	1.0096	0.4703	-0.4963	0.5562
2	240.12	0.5551	0.2452	0.0187	-0.0889	0.2404	1.4522	0.5598	-0.5597	0.5549
2	240.12	0.5996	0.2722	0.0225	-0.1216	0.2733	1.8973	0.6323	-0.6560	0.5573
2	240.12	0.6497	0.3180	0.0270	-0.1529	0.3092	2.5062	0.7140	-0.7006	0.5617
2	240.12	0.6996	0.3447	0.0319	-0.1986	0.3443	3.2313	0.7974	-0.8481	0.5580
2	240.12	0.7495	0.3603	0.0379	-0.2314	0.3786	4.0803	0.8819	-1.1076	0.5569
2	240.12	0.7996	0.3650	0.0442	-0.2763	0.4117	5.0869	0.9679	-1.1997	0.5624
2	240.12	0.8578	0.3285	0.0527	-0.3098	0.4493	6.4047	1.0683	-1.0698	0.5664
2	240.12	0.9100	0.2828	0.0619	-0.3001	0.4819	7.7014	1.1591	-1.1661	0.5682
2	240.12	0.9727	0.1938	0.0869	-0.2646	0.5203	9.3527	1.2691	-1.5969	0.5737
3	240.12	0.1938	-0.0465	0.0044	-0.0003	0.0019	0.0881	0.0145	-0.1383	0.0455
3	240.12	0.2357	-0.0176	0.0015	0.0318	0.0027	0.0825	0.0172	-0.4617	0.1139
3	240.12	0.2995	0.0293	0.0021	0.0139	0.0063	0.2819	0.0385	-0.4841	0.1268
3	240.12	0.3493	0.0779	0.0026	0.0236	0.0120	0.4306	0.0599	-0.6205	0.1258
3	240.12	0.4000	0.1148	0.0025	0.0414	0.0188	0.6530	0.0856	-0.6185	0.1266
3	240.12	0.4497	0.1585	0.0036	0.0275	0.0261	0.9308	0.1125	-0.7235	0.1257
3	240.12	0.4997	0.1982	0.0043	0.0197	0.0343	1.2628	0.1431	-0.9192	0.1273
3	240.12	0.5556	0.2546	0.0053	0.0194	0.0439	1.7633	0.1778	-0.9357	0.1323
3	240.12	0.5995	0.2900	0.0066	-0.0025	0.0528	2.2220	0.2078	-1.0125	0.1300
3	240.12	0.6498	0.3264	0.0080	-0.0222	0.0628	2.8588	0.2405	-1.1181	0.1334
3	240.12	0.6890	0.3293	0.0096	-0.0552	0.0714	3.3775	0.2666	-1.5335	0.1383
3	240.12	0.7495	0.3745	0.0118	-0.0455	0.0848	4.4430	0.3064	-1.4859	0.1395
3	240.12	0.7998	0.3805	0.0142	-0.0501	0.0967	5.4507	0.3402	-1.6180	0.1414
3	240.12	0.8577	0.3938	0.0169	-0.0330	0.1102	6.7351	0.3803	-1.5953	0.1424
3	240.12	0.9178	0.3064	0.0212	-0.0223	0.1239	8.1512	0.4248	-1.9026	0.1423
3	240.12	0.9729	0.2483	0.0281	0.0362	0.1366	9.6181	0.4678	-2.0888	0.1428
4	240.12	0.2001	-0.0476	0.0038	0.0095	0.0015	0.0018	0.0128	0.0111	0.0443
4	240.12	0.2502	-0.0004	0.0018	0.0080	0.0033	0.0832	0.0188	0.5381	0.1300
4	240.12	0.3001	0.0313	0.0027	0.0254	0.0066	0.0890	0.0344	0.2352	0.1219
4	240.12	0.3502	0.0579	0.0020	0.0507	0.0128	0.1559	0.0537	0.1176	0.1223
4	240.12	0.4002	0.0886	0.0025	0.0670	0.0199	0.2898	0.0775	0.0581	0.1207
4	240.12	0.4500	0.1398	0.0032	0.0799	0.0278	0.4541	0.1044	-0.2336	0.1232
4	240.12	0.5001	0.1794	0.0036	0.0709	0.0379	0.7389	0.1353	-0.1172	0.1214
4	240.12	0.5560	0.2398	0.0046	0.0765	0.0509	1.0792	0.1741	-0.4094	0.1220
4	240.12	0.6001	0.2716	0.0055	0.0753	0.0619	1.4666	0.2062	-0.4885	0.1288
4	240.12	0.6501	0.2939	0.0070	0.0569	0.0764	1.9925	0.2459	-0.5021	0.1227
4	240.12	0.6999	0.3265	0.0090	0.0329	0.0915	2.6262	0.2855	-0.5770	0.1377
4	240.12	0.7500	0.3395	0.0111	0.0369	0.1074	3.4033	0.3272	-0.5452	0.1338
4	240.12	0.8002	0.3478	0.0135	0.0354	0.1238	4.2391	0.3695	-0.7753	0.1321
4	240.12	0.8582	0.3427	0.0165	0.0600	0.1437	5.3764	0.4184	-1.0021	0.1391
4	240.12	0.9101	0.3050	0.0203	0.0698	0.1617	6.4621	0.4636	-1.0909	0.1419
4	240.12	0.9728	0.2696	0.0288	0.1408	0.1838	7.9855	0.5198	-1.1344	0.1362

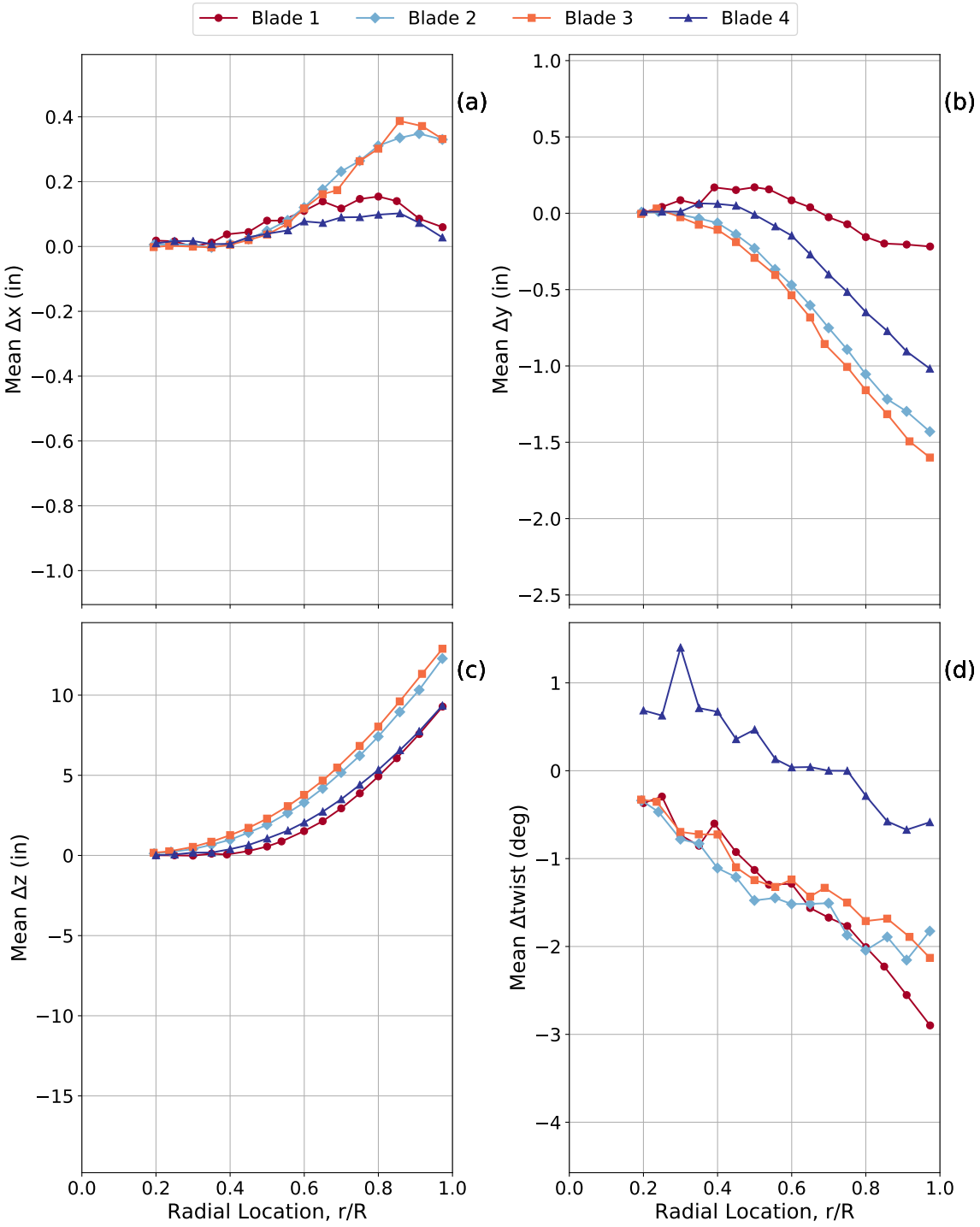


Figure 2.13-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	0.0182	0.0029	0.0041	0.0014	0.0108	0.0183	-0.3683	0.0739
1	254.88	0.2499	0.0159	0.0025	0.0413	0.0064	0.0057	0.0433	-0.2939	0.0945
1	254.88	0.2998	-0.0004	0.0036	0.0857	0.0126	-0.0123	0.0624	-0.7318	0.1505
1	254.88	0.3498	0.0121	0.0035	0.0576	0.0211	0.1106	0.0888	-0.8538	0.1385
1	254.88	0.3913	0.0375	0.0048	0.1695	0.0364	0.0575	0.1346	-0.6016	0.1384
1	254.88	0.4496	0.0445	0.0050	0.1524	0.0451	0.2753	0.1576	-0.9250	0.1218
1	254.88	0.4997	0.0797	0.0060	0.1704	0.0546	0.5553	0.1884	-1.1295	0.1205
1	254.88	0.5387	0.0799	0.0071	0.1566	0.0618	0.8756	0.2123	-1.2967	0.1206
1	254.88	0.5996	0.1097	0.0084	0.0849	0.0745	1.5198	0.2520	-1.2861	0.1235
1	254.88	0.6498	0.1391	0.0101	0.0391	0.0855	2.1383	0.2878	-1.5623	0.1276
1	254.88	0.6998	0.1172	0.0124	-0.0260	0.0969	2.9378	0.3237	-1.6716	0.1242
1	254.88	0.7500	0.1466	0.0150	-0.0717	0.1091	3.8736	0.3617	-1.7671	0.1242
1	254.88	0.8001	0.1540	0.0182	-0.1560	0.1213	4.9363	0.4013	-2.0080	0.1307
1	254.88	0.8497	0.1400	0.0205	-0.1982	0.1345	6.0644	0.4389	-2.2285	0.1368
1	254.88	0.9102	0.0857	0.0254	-0.2049	0.1507	7.5733	0.4876	-2.5528	0.1405
1	254.88	0.9734	0.0596	0.0343	-0.2177	0.1684	9.2876	0.5391	-2.8980	0.1321
2	254.88	0.1949	0.0054	0.0026	0.0074	0.0015	0.1219	0.0102	-0.3391	0.0597
2	254.88	0.2405	0.0069	0.0019	0.0110	0.0025	0.2186	0.0198	-0.4682	0.0813
2	254.88	0.2999	0.0057	0.0028	-0.0099	0.0046	0.3971	0.0390	-0.7788	0.1254
2	254.88	0.3498	-0.0029	0.0023	-0.0340	0.0075	0.6696	0.0480	-0.8301	0.1409
2	254.88	0.3998	0.0081	0.0040	-0.0632	0.0133	0.9784	0.0813	-1.1080	0.1000
2	254.88	0.4496	0.0225	0.0047	-0.1383	0.0178	1.4278	0.1049	-1.2103	0.1058
2	254.88	0.4995	0.0483	0.0059	-0.2297	0.0238	1.9125	0.1330	-1.4760	0.1025
2	254.88	0.5551	0.0806	0.0078	-0.3675	0.0316	2.6469	0.1684	-1.4477	0.1165
2	254.88	0.5996	0.1205	0.0092	-0.4697	0.0380	3.3018	0.1974	-1.5168	0.1211
2	254.88	0.6497	0.1760	0.0117	-0.6029	0.0468	4.1798	0.2318	-1.5152	0.1320
2	254.88	0.6996	0.2313	0.0144	-0.7506	0.0562	5.1738	0.2674	-1.5073	0.1212
2	254.88	0.7495	0.2643	0.0171	-0.8920	0.0661	6.2198	0.3065	-1.8703	0.1198
2	254.88	0.7996	0.3107	0.0202	-1.0542	0.0763	7.4151	0.3397	-2.0438	0.1289
2	254.88	0.8578	0.3352	0.0244	-1.2178	0.0898	8.9513	0.3774	-1.8919	0.1428
2	254.88	0.9100	0.3481	0.0285	-1.2976	0.1017	10.3228	0.4164	-2.1545	0.1795
2	254.88	0.9727	0.3300	0.0363	-1.4300	0.1177	12.2823	0.4614	-1.8254	0.1676
3	254.88	0.1938	-0.0019	0.0024	-0.0039	0.0014	0.1673	0.0099	-0.3285	0.0589
3	254.88	0.2357	0.0020	0.0022	0.0311	0.0029	0.2558	0.0155	-0.3530	0.0885
3	254.88	0.2995	-0.0004	0.0021	-0.0257	0.0056	0.5315	0.0313	-0.6965	0.1327
3	254.88	0.3493	-0.0030	0.0028	-0.0747	0.0087	0.8539	0.0466	-0.7237	0.1271
3	254.88	0.4000	0.0054	0.0034	-0.1076	0.0152	1.2632	0.0694	-0.7250	0.1030
3	254.88	0.4497	0.0198	0.0039	-0.1885	0.0194	1.7207	0.0884	-1.0987	0.1012
3	254.88	0.4997	0.0367	0.0049	-0.2919	0.0258	2.2980	0.1134	-1.2445	0.0955
3	254.88	0.5556	0.0706	0.0064	-0.4043	0.0342	3.0739	0.1454	-1.3230	0.1037
3	254.88	0.5995	0.1173	0.0080	-0.5367	0.0414	3.7785	0.1740	-1.2376	0.1003
3	254.88	0.6498	0.1612	0.0100	-0.6822	0.0506	4.6698	0.2062	-1.4322	0.0986
3	254.88	0.6890	0.1738	0.0116	-0.8565	0.0580	5.4793	0.2333	-1.3327	0.1087
3	254.88	0.7495	0.2631	0.0149	-1.0062	0.0715	6.8316	0.2823	-1.5002	0.0962
3	254.88	0.7998	0.3017	0.0181	-1.1588	0.0825	8.0353	0.3189	-1.7105	0.1113
3	254.88	0.8577	0.3871	0.0221	-1.3160	0.0965	9.6116	0.3710	-1.6831	0.1066
3	254.88	0.9178	0.3715	0.0275	-1.4938	0.1118	11.3284	0.4196	-1.8909	0.1965
3	254.88	0.9729	0.3316	0.0345	-1.5999	0.1256	12.8931	0.4764	-2.1298	0.1999
4	254.88	0.2001	0.0099	0.0032	0.0099	0.0012	0.0170	0.0100	0.6862	0.1098
4	254.88	0.2502	0.0167	0.0029	0.0109	0.0046	0.0586	0.0191	0.6276	0.1404
4	254.88	0.3001	0.0169	0.0031	0.0104	0.0052	0.1747	0.0257	1.4008	0.2248
4	254.88	0.3502	0.0073	0.0028	0.0649	0.0106	0.1809	0.0457	0.7128	0.1367
4	254.88	0.4002	0.0082	0.0035	0.0614	0.0166	0.3923	0.0627	0.6708	0.1372
4	254.88	0.4500	0.0287	0.0038	0.0496	0.0211	0.6531	0.0779	0.3594	0.1331
4	254.88	0.5001	0.0393	0.0044	-0.0095	0.0271	1.0579	0.0953	0.4680	0.1380
4	254.88	0.5560	0.0498	0.0052	-0.0856	0.0356	1.5502	0.1187	0.1323	0.1385
4	254.88	0.6001	0.0774	0.0062	-0.1466	0.0426	2.0578	0.1406	0.0382	0.1357
4	254.88	0.6501	0.0728	0.0077	-0.2697	0.0524	2.7330	0.1675	0.0422	0.1430
4	254.88	0.6999	0.0899	0.0095	-0.4003	0.0632	3.5083	0.1972	-0.0000	0.1437
4	254.88	0.7500	0.0906	0.0117	-0.5153	0.0750	4.4079	0.2286	-0.0012	0.1458
4	254.88	0.8002	0.0982	0.0144	-0.6480	0.0871	5.3453	0.2621	-0.2859	0.1508
4	254.88	0.8582	0.1023	0.0174	-0.7716	0.1021	6.5699	0.3026	-0.5770	0.1536
4	254.88	0.9101	0.0728	0.0214	-0.9048	0.1165	7.7440	0.3409	-0.6722	0.1577
4	254.88	0.9728	0.0279	0.0293	-1.0175	0.1334	9.3479	0.3878	-0.5857	0.1644

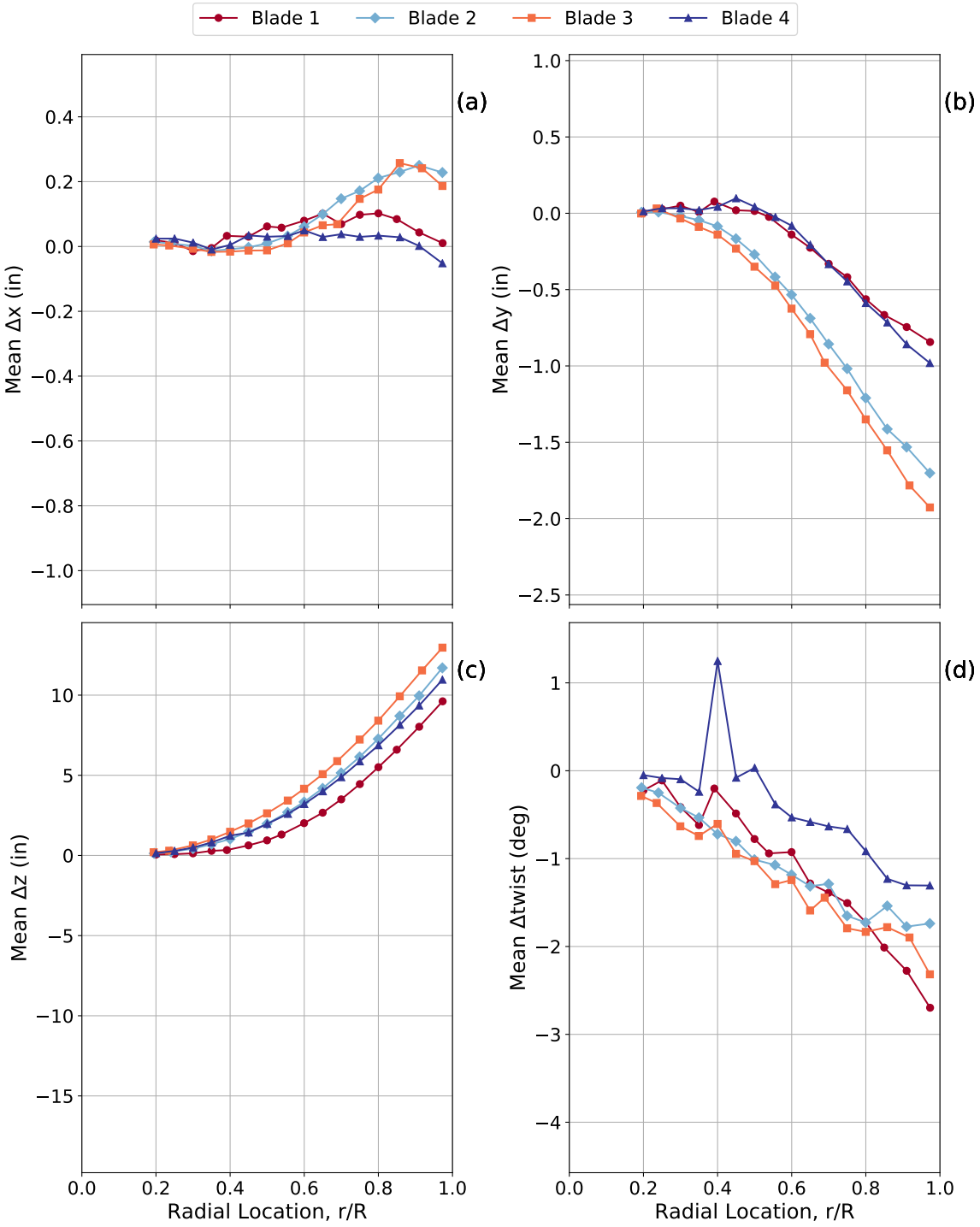


Figure 2.13-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	0.0185	0.0190	0.0029	0.0057	0.0552	0.1146	-0.2234	0.0640
1	260.16	0.2499	0.0115	0.0105	0.0272	0.0313	0.0801	0.2707	-0.1100	0.1027
1	260.16	0.2998	-0.0144	0.0078	0.0500	0.0658	0.1309	0.4252	-0.4134	0.1326
1	260.16	0.3498	-0.0048	0.0109	0.0079	0.0985	0.2884	0.5741	-0.6181	0.1243
1	260.16	0.3913	0.0328	0.0285	0.0766	0.1936	0.3347	0.9124	-0.2020	0.1301
1	260.16	0.4496	0.0303	0.0331	0.0198	0.2491	0.6286	1.1325	-0.4866	0.1521
1	260.16	0.4997	0.0619	0.0348	0.0151	0.2980	0.9417	1.3196	-0.7772	0.1382
1	260.16	0.5387	0.0580	0.0359	-0.0236	0.3357	1.3044	1.4628	-0.9407	0.1391
1	260.16	0.5996	0.0796	0.0367	-0.1395	0.3945	2.0149	1.6865	-0.9256	0.1393
1	260.16	0.6498	0.1013	0.0393	-0.2257	0.4437	2.6677	1.8726	-1.2832	0.1470
1	260.16	0.6998	0.0692	0.0458	-0.3308	0.4925	3.4994	2.0545	-1.3882	0.1471
1	260.16	0.7500	0.0978	0.0583	-0.4186	0.5414	4.4508	2.2382	-1.5059	0.1505
1	260.16	0.8001	0.1022	0.0759	-0.5628	0.5905	5.5052	2.4194	-1.7253	0.1515
1	260.16	0.8497	0.0844	0.0981	-0.6660	0.6386	6.5959	2.5980	-2.0122	0.1553
1	260.16	0.9102	0.0433	0.1343	-0.7452	0.6971	8.0278	2.8148	-2.2768	0.1612
1	260.16	0.9734	0.0104	0.1918	-0.8433	0.7544	9.6152	3.0416	-2.6970	0.1624
2	260.16	0.1949	0.0141	0.0030	0.0071	0.0020	0.1301	0.0096	-0.1928	0.0707
2	260.16	0.2405	0.0091	0.0024	0.0081	0.0033	0.2257	0.0178	-0.2515	0.0774
2	260.16	0.2999	0.0021	0.0020	-0.0182	0.0046	0.4216	0.0305	-0.4244	0.1418
2	260.16	0.3498	-0.0139	0.0028	-0.0451	0.0093	0.6991	0.0451	-0.5338	0.1100
2	260.16	0.3998	-0.0083	0.0031	-0.0855	0.0144	1.0253	0.0684	-0.7220	0.0981
2	260.16	0.4496	-0.0026	0.0039	-0.1665	0.0188	1.4774	0.0874	-0.8025	0.1127
2	260.16	0.4995	0.0093	0.0049	-0.2695	0.0242	1.9752	0.1106	-1.0116	0.1049
2	260.16	0.5551	0.0323	0.0061	-0.4173	0.0303	2.6914	0.1390	-1.0730	0.1032
2	260.16	0.5996	0.0613	0.0074	-0.5334	0.0363	3.3377	0.1619	-1.1834	0.1172
2	260.16	0.6497	0.0994	0.0094	-0.6879	0.0429	4.1862	0.1887	-1.3138	0.1098
2	260.16	0.6996	0.1474	0.0119	-0.8566	0.0503	5.1505	0.2147	-1.2877	0.1204
2	260.16	0.7495	0.1715	0.0146	-1.0176	0.0580	6.1491	0.2463	-1.6514	0.1064
2	260.16	0.7996	0.2111	0.0175	-1.2097	0.0659	7.2692	0.2737	-1.7266	0.1099
2	260.16	0.8578	0.2299	0.0209	-1.4135	0.0756	8.7011	0.3102	-1.5386	0.1392
2	260.16	0.9100	0.2501	0.0253	-1.5313	0.0849	9.9592	0.3388	-1.7739	0.1415
2	260.16	0.9727	0.2282	0.0327	-1.7015	0.0954	11.7019	0.3792	-1.7386	0.1341
3	260.16	0.1938	0.0063	0.0030	-0.0013	0.0021	0.2005	0.0110	-0.2868	0.0642
3	260.16	0.2357	0.0031	0.0017	0.0315	0.0020	0.2966	0.0184	-0.3670	0.0946
3	260.16	0.2995	-0.0070	0.0022	-0.0340	0.0054	0.6301	0.0353	-0.6326	0.1483
3	260.16	0.3493	-0.0167	0.0036	-0.0890	0.0084	0.9949	0.0518	-0.7421	0.1537
3	260.16	0.4000	-0.0158	0.0048	-0.1394	0.0143	1.4761	0.0788	-0.6052	0.1356
3	260.16	0.4497	-0.0126	0.0055	-0.2318	0.0186	1.9942	0.1000	-0.9454	0.1383
3	260.16	0.4997	-0.0120	0.0063	-0.3499	0.0241	2.6273	0.1238	-1.0285	0.1438
3	260.16	0.5556	0.0098	0.0080	-0.4733	0.0315	3.4251	0.1541	-1.2907	0.1474
3	260.16	0.5995	0.0433	0.0100	-0.6245	0.0379	4.1613	0.1781	-1.2435	0.1518
3	260.16	0.6498	0.0654	0.0124	-0.7920	0.0461	5.0692	0.2113	-1.5904	0.1565
3	260.16	0.6890	0.0687	0.0145	-0.9787	0.0527	5.8838	0.2355	-1.4447	0.1596
3	260.16	0.7495	0.1470	0.0180	-1.1598	0.0640	7.2292	0.2753	-1.7927	0.1702
3	260.16	0.7998	0.1756	0.0210	-1.3502	0.0735	8.4086	0.3051	-1.8338	0.1697
3	260.16	0.8577	0.2572	0.0250	-1.5527	0.0860	9.9270	0.3477	-1.7805	0.1736
3	260.16	0.9178	0.2413	0.0296	-1.7826	0.0986	11.5426	0.3902	-1.8977	0.1899
3	260.16	0.9729	0.1867	0.0374	-1.9268	0.1103	12.9633	0.4277	-2.3168	0.1838
4	260.16	0.2001	0.0242	0.0152	0.0130	0.0023	0.1437	0.0117	-0.0499	0.0746
4	260.16	0.2502	0.0244	0.0065	0.0329	0.0092	0.2804	0.0215	-0.0833	0.1139
4	260.16	0.3001	0.0119	0.0032	0.0326	0.0167	0.4930	0.0345	-0.0964	0.1649
4	260.16	0.3502	-0.0093	0.0103	0.0208	0.0229	0.8131	0.0567	-0.2395	0.1263
4	260.16	0.4002	0.0049	0.0197	0.0424	0.0436	1.2326	0.0878	1.2481	1.0758
4	260.16	0.4500	0.0342	0.0309	0.0982	0.1035	1.4315	0.2326	-0.0790	0.1573
4	260.16	0.5001	0.0301	0.0356	0.0426	0.1225	1.9689	0.2676	0.0325	0.1559
4	260.16	0.5560	0.0322	0.0401	-0.0252	0.1456	2.5940	0.3061	-0.3830	0.1551
4	260.16	0.6001	0.0496	0.0432	-0.0817	0.1640	3.2078	0.3388	-0.5309	0.1579
4	260.16	0.6501	0.0293	0.0469	-0.2063	0.1861	4.0021	0.3755	-0.5832	0.1615
4	260.16	0.6999	0.0379	0.0508	-0.3334	0.2085	4.8792	0.4129	-0.6338	0.1645
4	260.16	0.7500	0.0297	0.0556	-0.4463	0.2315	5.8692	0.4497	-0.6640	0.1659
4	260.16	0.8002	0.0335	0.0611	-0.5878	0.2553	6.8733	0.4863	-0.9160	0.1695
4	260.16	0.8582	0.0284	0.0707	-0.7152	0.2827	8.1487	0.5285	-1.2303	0.1715
4	260.16	0.9101	0.0017	0.0831	-0.8580	0.3072	9.3529	0.5665	-1.3044	0.1788
4	260.16	0.9728	-0.0519	0.1046	-0.9811	0.3333	10.9634	0.6145	-1.3064	0.1852

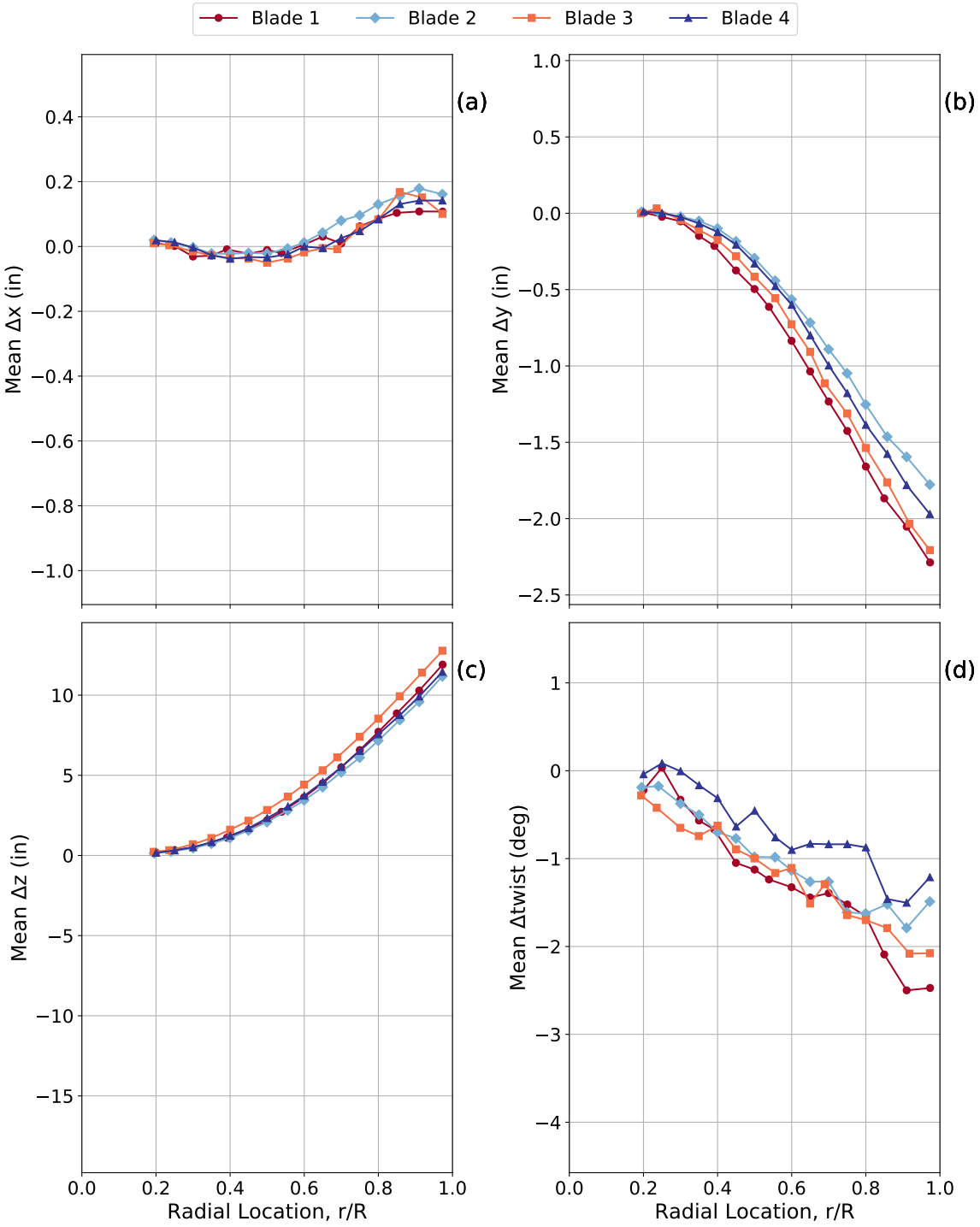


Figure 2.13-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	0.0102	0.0023	0.0038	0.0017	0.1762	0.0147	-0.2207	0.0583
1	265.08	0.2499	0.0016	0.0017	-0.0229	0.0025	0.3321	0.0283	0.0342	0.0906
1	265.08	0.2998	-0.0310	0.0019	-0.0527	0.0046	0.5083	0.0440	-0.3300	0.1271
1	265.08	0.3498	-0.0281	0.0033	-0.1483	0.0089	0.7970	0.0676	-0.5664	0.1190
1	265.08	0.3913	-0.0088	0.0036	-0.2138	0.0141	1.1068	0.0959	-0.6689	0.1184
1	265.08	0.4496	-0.0228	0.0045	-0.3743	0.0187	1.6216	0.1198	-1.0489	0.1240
1	265.08	0.4997	-0.0109	0.0064	-0.4961	0.0243	2.1920	0.1497	-1.1252	0.1263
1	265.08	0.5387	-0.0202	0.0077	-0.6129	0.0285	2.7221	0.1728	-1.2372	0.1324
1	265.08	0.5996	0.0058	0.0109	-0.8356	0.0359	3.6311	0.2145	-1.3256	0.1375
1	265.08	0.6498	0.0305	0.0141	-1.0357	0.0427	4.5057	0.2490	-1.4423	0.1313
1	265.08	0.6998	0.0095	0.0177	-1.2333	0.0499	5.4951	0.2853	-1.3930	0.1410
1	265.08	0.7500	0.0623	0.0210	-1.4258	0.0574	6.5748	0.3192	-1.5219	0.1366
1	265.08	0.8001	0.0848	0.0246	-1.6592	0.0650	7.7146	0.3547	-1.6576	0.1465
1	265.08	0.8497	0.1037	0.0284	-1.8674	0.0730	8.8627	0.3902	-2.0910	0.1518
1	265.08	0.9102	0.1081	0.0338	-2.0526	0.0833	10.2849	0.4363	-2.4992	0.1408
1	265.08	0.9734	0.1077	0.0432	-2.2870	0.0929	11.9060	0.4840	-2.4722	0.1802
2	265.08	0.1949	0.0197	0.0021	0.0087	0.0012	0.1389	0.0101	-0.1896	0.0563
2	265.08	0.2405	0.0121	0.0018	0.0070	0.0022	0.2434	0.0204	-0.1751	0.0967
2	265.08	0.2999	-0.0026	0.0019	-0.0220	0.0038	0.4527	0.0296	-0.3747	0.1296
2	265.08	0.3498	-0.0217	0.0035	-0.0504	0.0078	0.7388	0.0563	-0.5021	0.0919
2	265.08	0.3998	-0.0225	0.0040	-0.0994	0.0124	1.0906	0.0776	-0.6985	0.0896
2	265.08	0.4496	-0.0201	0.0049	-0.1844	0.0171	1.5623	0.0960	-0.7705	0.0935
2	265.08	0.4995	-0.0216	0.0063	-0.2940	0.0224	2.0862	0.1202	-0.9805	0.1023
2	265.08	0.5551	-0.0064	0.0077	-0.4414	0.0294	2.8087	0.1538	-0.9839	0.0928
2	265.08	0.5996	0.0121	0.0099	-0.5643	0.0359	3.4405	0.1830	-1.1340	0.0935
2	265.08	0.6497	0.0426	0.0123	-0.7164	0.0435	4.2599	0.2186	-1.2626	0.1038
2	265.08	0.6996	0.0797	0.0151	-0.8907	0.0518	5.1868	0.2568	-1.2622	0.1084
2	265.08	0.7495	0.0963	0.0183	-1.0481	0.0605	6.1073	0.2979	-1.6118	0.1181
2	265.08	0.7996	0.1302	0.0217	-1.2525	0.0694	7.1598	0.3445	-1.6250	0.1141
2	265.08	0.8578	0.1557	0.0265	-1.4637	0.0799	8.4498	0.4021	-1.5191	0.1241
2	265.08	0.9100	0.1790	0.0320	-1.5957	0.0895	9.5817	0.4559	-1.7893	0.1297
2	265.08	0.9727	0.1612	0.0425	-1.7772	0.1005	11.1758	0.5295	-1.4888	0.1508
3	265.08	0.1938	0.0099	0.0036	-0.0009	0.0027	0.2258	0.0197	-0.2805	0.0680
3	265.08	0.2357	0.0039	0.0027	0.0319	0.0040	0.3234	0.0275	-0.4216	0.2063
3	265.08	0.2995	-0.0153	0.0031	-0.0445	0.0064	0.6945	0.0584	-0.6495	0.2092
3	265.08	0.3493	-0.0272	0.0032	-0.1085	0.0101	1.0848	0.0859	-0.7436	0.2168
3	265.08	0.4000	-0.0358	0.0059	-0.1747	0.0168	1.6054	0.1308	-0.6251	0.2236
3	265.08	0.4497	-0.0372	0.0070	-0.2817	0.0219	2.1640	0.1593	-0.8946	0.2057
3	265.08	0.4997	-0.0500	0.0088	-0.4159	0.0290	2.8301	0.1970	-0.9977	0.2117
3	265.08	0.5556	-0.0372	0.0116	-0.5561	0.0377	3.6660	0.2414	-1.1642	0.2068
3	265.08	0.5995	-0.0181	0.0139	-0.7271	0.0458	4.4156	0.2774	-1.1065	0.2089
3	265.08	0.6498	-0.0052	0.0175	-0.9080	0.0561	5.3092	0.3223	-1.5110	0.2176
3	265.08	0.6890	-0.0084	0.0203	-1.1135	0.0645	6.1218	0.3597	-1.2915	0.2111
3	265.08	0.7495	0.0590	0.0256	-1.3120	0.0777	7.4029	0.4163	-1.6421	0.2035
3	265.08	0.7998	0.0826	0.0298	-1.5372	0.0896	8.5376	0.4645	-1.6991	0.2142
3	265.08	0.8577	0.1680	0.0346	-1.7626	0.1038	9.9301	0.5238	-1.7906	0.2173
3	265.08	0.9178	0.1513	0.0414	-2.0325	0.1179	11.4067	0.5809	-2.0812	0.2328
3	265.08	0.9729	0.1008	0.0516	-2.2065	0.1305	12.7708	0.6404	-2.0771	0.2520
4	265.08	0.2001	0.0190	0.0018	0.0103	0.0014	0.1688	0.0096	-0.0404	0.0602
4	265.08	0.2502	0.0130	0.0022	0.0004	0.0024	0.3148	0.0166	0.0852	0.0786
4	265.08	0.3001	-0.0035	0.0022	-0.0241	0.0041	0.5117	0.0294	-0.0059	0.1265
4	265.08	0.3502	-0.0271	0.0037	-0.0671	0.0070	0.8313	0.0443	-0.1652	0.1066
4	265.08	0.4002	-0.0378	0.0032	-0.1235	0.0111	1.2279	0.0659	-0.3123	0.1111
4	265.08	0.4500	-0.0326	0.0038	-0.2055	0.0152	1.7019	0.0871	-0.6354	0.1089
4	265.08	0.5001	-0.0339	0.0048	-0.3293	0.0200	2.3336	0.1084	-0.4546	0.1134
4	265.08	0.5560	-0.0242	0.0060	-0.4771	0.0270	3.0552	0.1411	-0.7584	0.1081
4	265.08	0.6001	-0.0002	0.0076	-0.5994	0.0333	3.7255	0.1664	-0.9007	0.1154
4	265.08	0.6501	-0.0049	0.0098	-0.7994	0.0409	4.5882	0.1992	-0.8314	0.1180
4	265.08	0.6999	0.0260	0.0120	-0.9973	0.0492	5.5142	0.2345	-0.8369	0.1257
4	265.08	0.7500	0.0473	0.0149	-1.1783	0.0579	6.5221	0.2694	-0.8366	0.1336
4	265.08	0.8002	0.0844	0.0178	-1.3858	0.0671	7.5580	0.3147	-0.8724	0.1347
4	265.08	0.8582	0.1307	0.0217	-1.5764	0.0783	8.7572	0.3671	-1.4604	0.1384
4	265.08	0.9101	0.1417	0.0266	-1.7808	0.0891	9.9138	0.4174	-1.5021	0.1485
4	265.08	0.9728	0.1418	0.0359	-1.9701	0.1018	11.4540	0.4884	-1.2118	0.1530

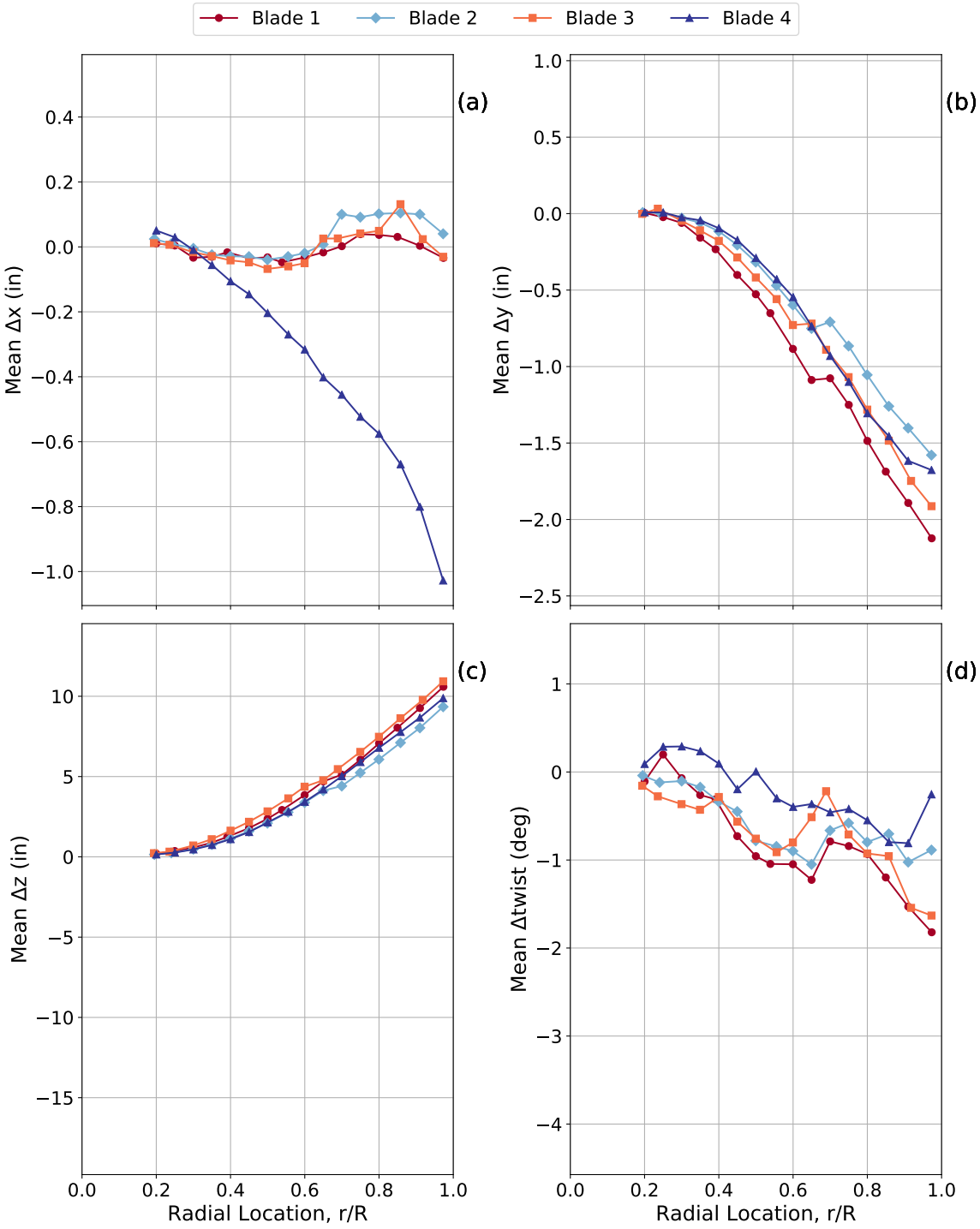


Figure 2.13-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	0.0106	0.0023	0.0040	0.0013	0.1955	0.0112	-0.1074	0.0549
1	270	0.2499	0.0042	0.0022	-0.0230	0.0019	0.3625	0.0216	0.1984	0.0883
1	270	0.2998	-0.0333	0.0023	-0.0606	0.0032	0.5731	0.0328	-0.0704	0.1215
1	270	0.3498	-0.0307	0.0026	-0.1575	0.0054	0.8880	0.0572	-0.2612	0.0962
1	270	0.3913	-0.0166	0.0040	-0.2329	0.0085	1.2419	0.0765	-0.3098	0.0826
1	270	0.4496	-0.0350	0.0042	-0.4010	0.0125	1.7884	0.0929	-0.7292	0.1051
1	270	0.4997	-0.0322	0.0060	-0.5276	0.0178	2.3699	0.1178	-0.9563	0.0987
1	270	0.5387	-0.0475	0.0067	-0.6511	0.0223	2.9191	0.1369	-1.0446	0.0985
1	270	0.5996	-0.0323	0.0090	-0.8846	0.0302	3.8485	0.1713	-1.0484	0.1094
1	270	0.6498	-0.0170	0.0111	-1.0880	0.0376	4.6973	0.2035	-1.2253	0.1266
1	270	0.6998	0.0021	0.0125	-1.0767	0.0457	5.1171	0.2394	-0.7888	0.1405
1	270	0.7500	0.0392	0.0152	-1.2506	0.0538	6.0534	0.2732	-0.8418	0.1555
1	270	0.8001	0.0369	0.0180	-1.4862	0.0627	7.0685	0.3116	-0.9324	0.1598
1	270	0.8497	0.0308	0.0202	-1.6871	0.0720	8.0417	0.3489	-1.1983	0.1662
1	270	0.9102	0.0034	0.0250	-1.8920	0.0838	9.2658	0.3981	-1.5299	0.1517
1	270	0.9734	-0.0340	0.0320	-2.1233	0.0965	10.5907	0.4484	-1.8210	0.1574
2	270.35	0.1949	0.0243	0.0029	0.0074	0.0014	0.1479	0.0109	-0.0401	0.0689
2	270.35	0.2405	0.0098	0.0018	0.0074	0.0024	0.2466	0.0216	-0.1187	0.0990
2	270.35	0.2999	-0.0046	0.0030	-0.0292	0.0043	0.4774	0.0335	-0.1029	0.1550
2	270.35	0.3498	-0.0242	0.0030	-0.0586	0.0097	0.7699	0.0587	-0.1727	0.1068
2	270.35	0.3998	-0.0287	0.0039	-0.1150	0.0143	1.1376	0.0840	-0.3374	0.0968
2	270.35	0.4496	-0.0300	0.0051	-0.2052	0.0197	1.5963	0.1082	-0.4493	0.1121
2	270.35	0.4995	-0.0396	0.0062	-0.3168	0.0260	2.0973	0.1406	-0.7812	0.1221
2	270.35	0.5551	-0.0298	0.0085	-0.4700	0.0345	2.7793	0.1822	-0.8458	0.1228
2	270.35	0.5996	-0.0193	0.0101	-0.5976	0.0420	3.3811	0.2196	-0.8985	0.1268
2	270.35	0.6497	0.0076	0.0127	-0.7509	0.0509	4.1212	0.2627	-1.0495	0.1328
2	270.35	0.6996	0.1002	0.0147	-0.7082	0.0601	4.4097	0.3071	-0.6643	0.1401
2	270.35	0.7495	0.0915	0.0183	-0.8656	0.0710	5.2380	0.3545	-0.5798	0.1684
2	270.35	0.7996	0.1019	0.0205	-1.0548	0.0817	6.0676	0.4080	-0.7964	0.1504
2	270.35	0.8578	0.1043	0.0240	-1.2596	0.0943	7.1092	0.4696	-0.7028	0.1566
2	270.35	0.9100	0.1003	0.0281	-1.4022	0.1063	8.0322	0.5271	-1.0240	0.1495
2	270.35	0.9727	0.0403	0.0371	-1.5791	0.1200	9.3462	0.5989	-0.8865	0.1652
3	270	0.1938	0.0116	0.0070	-0.0013	0.0042	0.2291	0.0397	-0.1562	0.1186
3	270	0.2357	0.0065	0.0039	0.0323	0.0073	0.3228	0.0344	-0.2767	0.3827
3	270	0.2995	-0.0164	0.0032	-0.0469	0.0084	0.7075	0.0962	-0.3654	0.3884
3	270	0.3493	-0.0284	0.0061	-0.1096	0.0131	1.0979	0.1535	-0.4292	0.3541
3	270	0.4000	-0.0415	0.0055	-0.1785	0.0201	1.6304	0.2102	-0.2840	0.3178
3	270	0.4497	-0.0475	0.0079	-0.2867	0.0254	2.1835	0.2655	-0.5644	0.3297
3	270	0.4997	-0.0678	0.0105	-0.4176	0.0328	2.8315	0.3249	-0.7572	0.3333
3	270	0.5556	-0.0600	0.0146	-0.5589	0.0429	3.6420	0.3931	-0.9110	0.3377
3	270	0.5995	-0.0503	0.0178	-0.7286	0.0510	4.3695	0.4503	-0.8006	0.3242
3	270	0.6498	0.0256	0.0215	-0.7191	0.0618	4.7687	0.5169	-0.5131	0.3658
3	270	0.6890	0.0260	0.0253	-0.8903	0.0710	5.4625	0.5743	-0.2185	0.3383
3	270	0.7495	0.0414	0.0327	-1.0692	0.0832	6.5357	0.6508	-0.7100	0.4178
3	270	0.7998	0.0493	0.0349	-1.2816	0.0977	7.4778	0.7297	-0.9257	0.3390
3	270	0.8577	0.1315	0.0412	-1.4849	0.1132	8.6311	0.8220	-0.9564	0.3490
3	270	0.9178	0.0237	0.0471	-1.7479	0.1292	9.7778	0.9031	-1.5435	0.3470
3	270	0.9729	-0.0305	0.0588	-1.9132	0.1434	10.9326	0.9908	-1.6311	0.3769
4	270	0.2001	0.0504	0.0030	0.0087	0.0019	0.1483	0.0191	0.0908	0.1165
4	270	0.2502	0.0294	0.0028	0.0072	0.0037	0.2671	0.0288	0.2865	0.1996
4	270	0.3001	-0.0096	0.0034	-0.0246	0.0048	0.4612	0.0503	0.2900	0.2651
4	270	0.3502	-0.0559	0.0036	-0.0439	0.0099	0.7381	0.0768	0.2354	0.1897
4	270	0.4002	-0.1061	0.0035	-0.0957	0.0169	1.1006	0.1098	0.0945	0.2185
4	270	0.4500	-0.1461	0.0044	-0.1735	0.0220	1.5453	0.1402	-0.1958	0.2031
4	270	0.5001	-0.2040	0.0062	-0.2899	0.0277	2.1476	0.1712	0.0050	0.2007
4	270	0.5560	-0.2700	0.0086	-0.4289	0.0366	2.8091	0.2114	-0.2993	0.2025
4	270	0.6001	-0.3162	0.0104	-0.5462	0.0437	3.4254	0.2436	-0.3967	0.2200
4	270	0.6501	-0.4020	0.0131	-0.7368	0.0527	4.2000	0.2844	-0.3640	0.2099
4	270	0.6999	-0.4554	0.0160	-0.9309	0.0627	5.0233	0.3257	-0.4585	0.2067
4	270	0.7500	-0.5232	0.0195	-1.1004	0.0734	5.9001	0.3691	-0.4206	0.2241
4	270	0.8002	-0.5758	0.0227	-1.3057	0.0845	6.7926	0.4105	-0.5491	0.2151
4	270	0.8582	-0.6697	0.0266	-1.4562	0.0973	7.7757	0.4615	-0.7965	0.2256
4	270	0.9101	-0.8004	0.0307	-1.6166	0.1087	8.6711	0.5036	-0.8090	0.2298
4	270	0.9728	-1.0276	0.0397	-1.6767	0.1246	9.8828	0.5613	-0.2546	0.3062

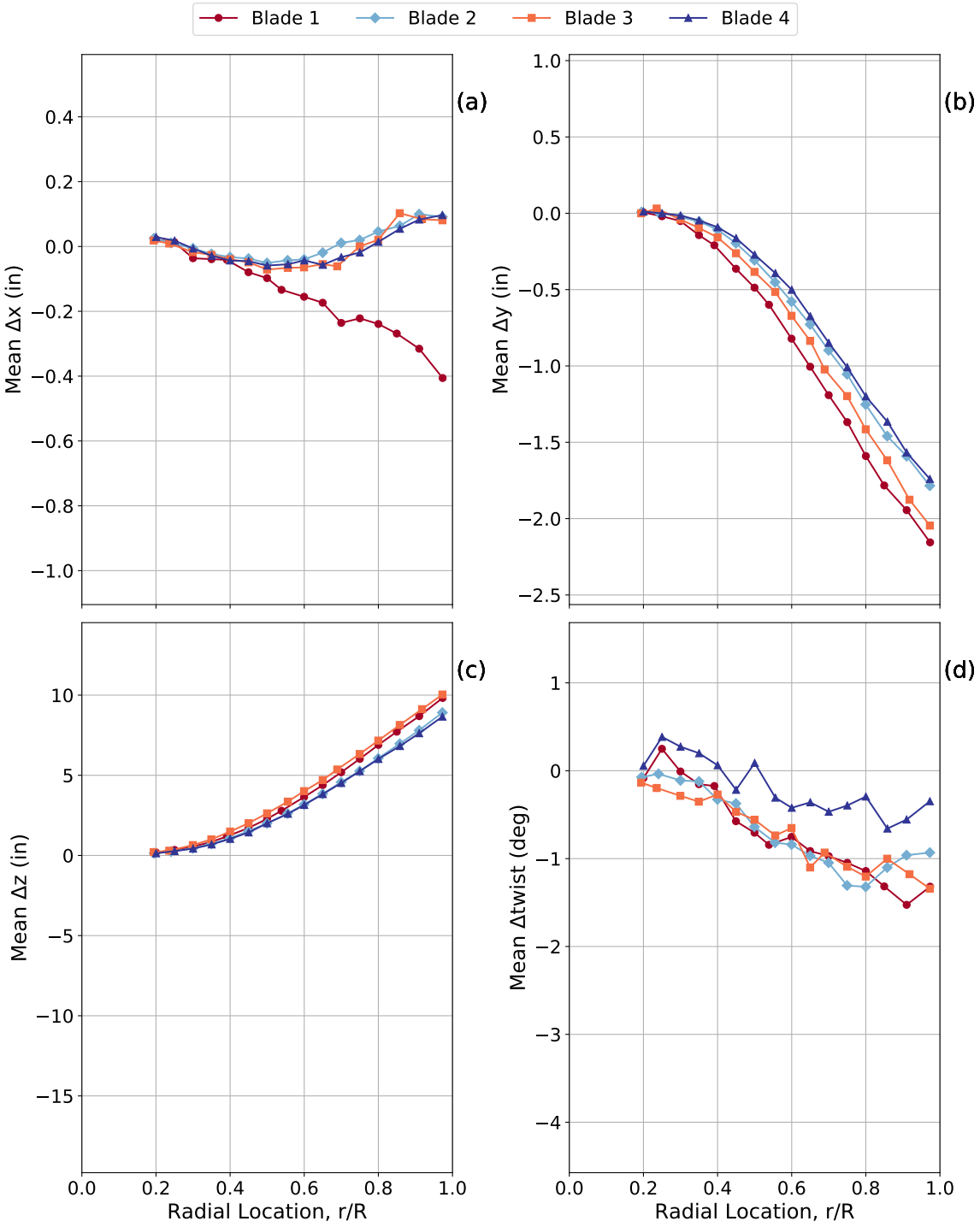


Figure 2.13-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0223	0.0115	0.0055	0.0015	0.1867	0.0111	-0.0837	0.0665
1	274.92	0.2499	0.0130	0.0052	-0.0196	0.0024	0.3455	0.0191	0.2495	0.1013
1	274.92	0.2998	-0.0363	0.0049	-0.0509	0.0038	0.5486	0.0310	-0.0085	0.1449
1	274.92	0.3498	-0.0391	0.0107	-0.1431	0.0059	0.8481	0.0540	-0.1533	0.0994
1	274.92	0.3913	-0.0412	0.0145	-0.2096	0.0096	1.1876	0.0693	-0.1737	0.1025
1	274.92	0.4496	-0.0794	0.0187	-0.3634	0.0149	1.7131	0.0969	-0.5749	0.1138
1	274.92	0.4997	-0.0976	0.0213	-0.4871	0.0210	2.2805	0.1261	-0.7054	0.1153
1	274.92	0.5387	-0.1337	0.0225	-0.5992	0.0266	2.7887	0.1511	-0.8433	0.1252
1	274.92	0.5996	-0.1551	0.0228	-0.8214	0.0361	3.6429	0.1958	-0.7530	0.1247
1	274.92	0.6498	-0.1735	0.0228	-1.0051	0.0452	4.3856	0.2366	-0.9140	0.1441
1	274.92	0.6998	-0.2357	0.0251	-1.1912	0.0548	5.1885	0.2782	-0.9716	0.1533
1	274.92	0.7500	-0.2217	0.0326	-1.3681	0.0654	6.0248	0.3257	-1.0481	0.1638
1	274.92	0.8001	-0.2391	0.0453	-1.5902	0.0764	6.8967	0.3744	-1.1412	0.1681
1	274.92	0.8497	-0.2686	0.0633	-1.7828	0.0873	7.7191	0.4227	-1.3161	0.1813
1	274.92	0.9102	-0.3154	0.0928	-1.9445	0.1010	8.6895	0.4821	-1.5261	0.2237
1	274.92	0.9734	-0.4058	0.1328	-2.1555	0.1143	9.8246	0.5546	-1.3191	0.2567
2	274.92	0.1949	0.0252	0.0026	0.0080	0.0012	0.1370	0.0086	-0.0736	0.0852
2	274.92	0.2405	0.0112	0.0021	0.0073	0.0020	0.2413	0.0141	-0.0358	0.1168
2	274.92	0.2999	-0.0058	0.0024	-0.0262	0.0046	0.4484	0.0246	-0.1102	0.1887
2	274.92	0.3498	-0.0231	0.0045	-0.0535	0.0067	0.7292	0.0418	-0.1217	0.1170
2	274.92	0.3998	-0.0326	0.0046	-0.1068	0.0116	1.0787	0.0575	-0.3268	0.1492
2	274.92	0.4496	-0.0373	0.0045	-0.1958	0.0165	1.5169	0.0728	-0.3733	0.1558
2	274.92	0.4995	-0.0508	0.0049	-0.3071	0.0230	2.0002	0.0982	-0.6377	0.1512
2	274.92	0.5551	-0.0428	0.0067	-0.4517	0.0318	2.6190	0.1287	-0.8187	0.1545
2	274.92	0.5996	-0.0397	0.0080	-0.5786	0.0396	3.1825	0.1568	-0.8397	0.1463
2	274.92	0.6497	-0.0190	0.0100	-0.7281	0.0493	3.8430	0.1910	-0.9681	0.1521
2	274.92	0.6996	0.0110	0.0118	-0.8977	0.0598	4.5742	0.2285	-1.0472	0.1577
2	274.92	0.7495	0.0199	0.0145	-1.0543	0.0707	5.2659	0.2677	-1.3059	0.1455
2	274.92	0.7996	0.0460	0.0172	-1.2524	0.0820	6.0577	0.3090	-1.3211	0.1626
2	274.92	0.8578	0.0636	0.0203	-1.4597	0.0955	6.9715	0.3617	-1.1010	0.1645
2	274.92	0.9100	0.0997	0.0243	-1.5909	0.1078	7.8060	0.4043	-0.9610	0.1668
2	274.92	0.9727	0.0913	0.0322	-1.7848	0.1223	8.9118	0.4646	-0.9318	0.1590
3	274.92	0.1938	0.0185	0.0051	0.0000	0.0023	0.2086	0.0151	-0.1356	0.0742
3	274.92	0.2357	0.0092	0.0025	0.0310	0.0034	0.2958	0.0194	-0.1966	0.1378
3	274.92	0.2995	-0.0174	0.0036	-0.0409	0.0059	0.6473	0.0424	-0.2855	0.1472
3	274.92	0.3493	-0.0260	0.0035	-0.0952	0.0100	1.0029	0.0595	-0.3519	0.1322
3	274.92	0.4000	-0.0393	0.0048	-0.1579	0.0165	1.4920	0.0902	-0.2707	0.1364
3	274.92	0.4497	-0.0489	0.0057	-0.2616	0.0247	2.0146	0.1229	-0.4681	0.1432
3	274.92	0.4997	-0.0711	0.0068	-0.3839	0.0344	2.6247	0.1577	-0.5574	0.1428
3	274.92	0.5556	-0.0660	0.0095	-0.5153	0.0467	3.3588	0.2025	-0.7368	0.1328
3	274.92	0.5995	-0.0644	0.0117	-0.6715	0.0579	4.0133	0.2422	-0.6521	0.1471
3	274.92	0.6498	-0.0545	0.0147	-0.8356	0.0718	4.7040	0.2915	-1.1006	0.1476
3	274.92	0.6890	-0.0612	0.0171	-1.0230	0.0839	5.3616	0.3328	-0.9315	0.1472
3	274.92	0.7495	0.0001	0.0212	-1.1974	0.1041	6.3282	0.4035	-1.0922	0.1580
3	274.92	0.7998	0.0207	0.0256	-1.4150	0.1221	7.1654	0.4689	-1.2041	0.1653
3	274.92	0.8577	0.1027	0.0301	-1.6178	0.1432	8.1403	0.5530	-1.0008	0.1595
3	274.92	0.9178	0.0843	0.0360	-1.8761	0.1650	9.1254	0.6440	-1.1775	0.1817
3	274.92	0.9729	0.0808	0.0492	-2.0456	0.1863	10.0402	0.7345	-1.3422	0.1887
4	274.92	0.2001	0.0292	0.0026	0.0110	0.0015	0.1323	0.0133	0.0561	0.0500
4	274.92	0.2502	0.0180	0.0026	-0.0006	0.0036	0.2713	0.0228	0.3847	0.0790
4	274.92	0.3001	-0.0063	0.0027	-0.0144	0.0040	0.4244	0.0383	0.2735	0.1062
4	274.92	0.3502	-0.0287	0.0024	-0.0470	0.0098	0.6871	0.0604	0.1990	0.0973
4	274.92	0.4002	-0.0432	0.0041	-0.0915	0.0156	1.0343	0.0886	0.0618	0.1023
4	274.92	0.4500	-0.0453	0.0052	-0.1630	0.0220	1.4383	0.1131	-0.2176	0.1159
4	274.92	0.5001	-0.0588	0.0057	-0.2714	0.0291	2.0087	0.1450	0.0880	0.1065
4	274.92	0.5560	-0.0548	0.0076	-0.3927	0.0388	2.5981	0.1839	-0.3068	0.1222
4	274.92	0.6001	-0.0430	0.0097	-0.5013	0.0475	3.1500	0.2184	-0.4220	0.1250
4	274.92	0.6501	-0.0567	0.0123	-0.6740	0.0584	3.8269	0.2588	-0.3597	0.1279
4	274.92	0.6999	-0.0328	0.0150	-0.8483	0.0699	4.5206	0.2998	-0.4669	0.1232
4	274.92	0.7500	-0.0187	0.0183	-1.0087	0.0820	5.2562	0.3427	-0.3957	0.1254
4	274.92	0.8002	0.0143	0.0207	-1.1993	0.0953	6.0180	0.3862	-0.2941	0.1468
4	274.92	0.8582	0.0545	0.0244	-1.3653	0.1112	6.8239	0.4381	-0.6585	0.1366
4	274.92	0.9101	0.0830	0.0272	-1.5669	0.1257	7.6221	0.4857	-0.5558	0.1553
4	274.92	0.9728	0.0969	0.0360	-1.7403	0.1434	8.6587	0.5465	-0.3475	0.1592

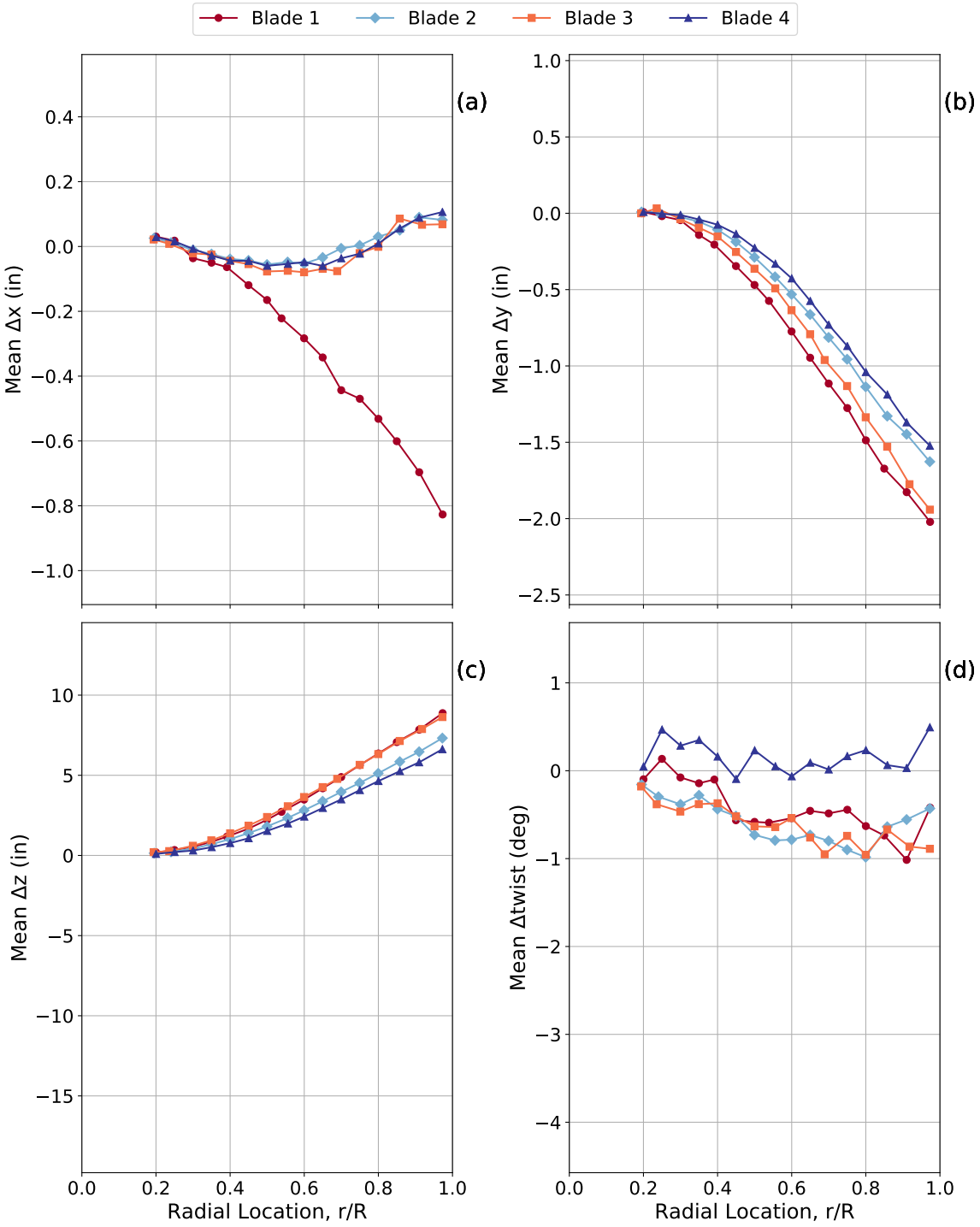


Figure 2.13-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0304	0.0040	0.0079	0.0018	0.1911	0.0147	-0.0974	0.0921
1	279.84	0.2499	0.0180	0.0026	-0.0188	0.0031	0.3391	0.0273	0.1351	0.1099
1	279.84	0.2998	-0.0363	0.0032	-0.0450	0.0064	0.5449	0.0436	-0.0763	0.1878
1	279.84	0.3498	-0.0500	0.0031	-0.1417	0.0111	0.8483	0.0656	-0.1423	0.1399
1	279.84	0.3913	-0.0637	0.0043	-0.2050	0.0180	1.1719	0.0921	-0.1001	0.1861
1	279.84	0.4496	-0.1193	0.0047	-0.3458	0.0250	1.6715	0.1156	-0.5636	0.1805
1	279.84	0.4997	-0.1652	0.0057	-0.4695	0.0335	2.2280	0.1449	-0.5819	0.1596
1	279.84	0.5387	-0.2217	0.0063	-0.5739	0.0402	2.7204	0.1671	-0.5915	0.1568
1	279.84	0.5996	-0.2833	0.0088	-0.7742	0.0528	3.4845	0.2088	-0.5395	0.1696
1	279.84	0.6498	-0.3423	0.0108	-0.9462	0.0643	4.1883	0.2470	-0.4565	0.1636
1	279.84	0.6998	-0.4434	0.0130	-1.1153	0.0762	4.8904	0.2832	-0.4856	0.1817
1	279.84	0.7500	-0.4698	0.0150	-1.2757	0.0898	5.6371	0.3247	-0.4439	0.1756
1	279.84	0.8001	-0.5317	0.0175	-1.4871	0.1036	6.3624	0.3704	-0.6299	0.1658
1	279.84	0.8497	-0.6008	0.0200	-1.6725	0.1176	7.0695	0.4139	-0.7368	0.1917
1	279.84	0.9102	-0.6964	0.0241	-1.8268	0.1354	7.8450	0.4702	-1.0145	0.1917
1	279.84	0.9734	-0.8268	0.0320	-2.0214	0.1545	8.8775	0.5343	-0.4196	0.3049
2	279.84	0.1949	0.0257	0.0039	0.0082	0.0020	0.1410	0.0113	-0.1569	0.0415
2	279.84	0.2405	0.0117	0.0024	0.0093	0.0025	0.2238	0.0174	-0.2961	0.0964
2	279.84	0.2999	-0.0108	0.0031	-0.0247	0.0054	0.4300	0.0334	-0.3824	0.1078
2	279.84	0.3498	-0.0235	0.0034	-0.0551	0.0101	0.7006	0.0521	-0.2793	0.1084
2	279.84	0.3998	-0.0386	0.0036	-0.1067	0.0158	1.0158	0.0763	-0.4368	0.0888
2	279.84	0.4496	-0.0430	0.0047	-0.1867	0.0232	1.3934	0.0997	-0.5170	0.1005
2	279.84	0.4995	-0.0558	0.0050	-0.2879	0.0320	1.8083	0.1293	-0.7299	0.0932
2	279.84	0.5551	-0.0480	0.0066	-0.4164	0.0436	2.3383	0.1650	-0.7928	0.0992
2	279.84	0.5996	-0.0528	0.0077	-0.5309	0.0540	2.8159	0.2000	-0.7844	0.1002
2	279.84	0.6497	-0.0340	0.0094	-0.6630	0.0671	3.3800	0.2382	-0.7319	0.1139
2	279.84	0.6996	-0.0058	0.0111	-0.8132	0.0809	3.9634	0.2828	-0.7981	0.1059
2	279.84	0.7495	0.0033	0.0134	-0.9561	0.0954	4.5241	0.3294	-0.8994	0.1122
2	279.84	0.7996	0.0301	0.0155	-1.1365	0.1109	5.1223	0.3784	-0.9837	0.1328
2	279.84	0.8578	0.0504	0.0180	-1.3286	0.1297	5.8492	0.4385	-0.6377	0.1370
2	279.84	0.9100	0.0901	0.0208	-1.4470	0.1465	6.4667	0.4943	-0.5557	0.1326
2	279.84	0.9727	0.0819	0.0287	-1.6271	0.1661	7.3205	0.5676	-0.4298	0.1264
3	279.84	0.1938	0.0216	0.0045	-0.0003	0.0038	0.2038	0.0218	-0.1791	0.0930
3	279.84	0.2357	0.0082	0.0031	0.0320	0.0045	0.2706	0.0256	-0.3817	0.2288
3	279.84	0.2995	-0.0211	0.0043	-0.0381	0.0076	0.6041	0.0625	-0.4646	0.2618
3	279.84	0.3493	-0.0251	0.0041	-0.0936	0.0114	0.9427	0.0970	-0.3802	0.2769
3	279.84	0.4000	-0.0444	0.0041	-0.1517	0.0170	1.3818	0.1421	-0.3704	0.2516
3	279.84	0.4497	-0.0544	0.0054	-0.2532	0.0236	1.8589	0.1804	-0.5190	0.2593
3	279.84	0.4997	-0.0771	0.0068	-0.3632	0.0310	2.3977	0.2247	-0.6328	0.2537
3	279.84	0.5556	-0.0749	0.0096	-0.4915	0.0411	3.0688	0.2761	-0.6411	0.2517
3	279.84	0.5995	-0.0795	0.0110	-0.6350	0.0502	3.6453	0.3185	-0.5385	0.2486
3	279.84	0.6498	-0.0689	0.0132	-0.7923	0.0615	4.2623	0.3666	-0.7603	0.2553
3	279.84	0.6890	-0.0760	0.0155	-0.9612	0.0711	4.7761	0.4055	-0.9507	0.2709
3	279.84	0.7495	-0.0205	0.0183	-1.1316	0.0869	5.6513	0.4727	-0.7412	0.2498
3	279.84	0.7998	-0.0010	0.0211	-1.3362	0.1008	6.3227	0.5275	-0.9563	0.2614
3	279.84	0.8577	0.0860	0.0242	-1.5288	0.1170	7.1403	0.5972	-0.6687	0.2644
3	279.84	0.9178	0.0671	0.0284	-1.7747	0.1343	7.8877	0.6780	-0.8635	0.2580
3	279.84	0.9729	0.0686	0.0358	-1.9411	0.1497	8.6336	0.7529	-0.8882	0.2759
4	279.84	0.2001	0.0290	0.0028	0.0080	0.0012	0.0960	0.0148	0.0468	0.0497
4	279.84	0.2502	0.0158	0.0029	-0.0033	0.0029	0.2110	0.0221	0.4678	0.1180
4	279.84	0.3001	-0.0073	0.0029	-0.0115	0.0041	0.3075	0.0428	0.2849	0.1185
4	279.84	0.3502	-0.0283	0.0023	-0.0407	0.0088	0.5161	0.0605	0.3498	0.1253
4	279.84	0.4002	-0.0435	0.0035	-0.0751	0.0153	0.7705	0.0911	0.1608	0.1015
4	279.84	0.4500	-0.0446	0.0033	-0.1356	0.0216	1.0743	0.1174	-0.0939	0.0905
4	279.84	0.5001	-0.0596	0.0046	-0.2266	0.0294	1.5302	0.1476	0.2316	0.1145
4	279.84	0.5560	-0.0537	0.0060	-0.3309	0.0395	1.9932	0.1836	0.0506	0.1122
4	279.84	0.6001	-0.0481	0.0075	-0.4268	0.0486	2.4224	0.2166	-0.0638	0.1132
4	279.84	0.6501	-0.0600	0.0095	-0.5745	0.0597	2.9611	0.2543	0.0912	0.1079
4	279.84	0.6999	-0.0365	0.0118	-0.7302	0.0715	3.4969	0.2926	0.0138	0.1159
4	279.84	0.7500	-0.0222	0.0136	-0.8697	0.0843	4.0755	0.3326	0.1657	0.1297
4	279.84	0.8002	0.0093	0.0158	-1.0402	0.0979	4.6417	0.3758	0.2343	0.1284
4	279.84	0.8582	0.0559	0.0176	-1.1878	0.1136	5.2594	0.4256	0.0636	0.1395
4	279.84	0.9101	0.0886	0.0206	-1.3698	0.1286	5.8105	0.4746	0.0305	0.1357
4	279.84	0.9728	0.1064	0.0273	-1.5226	0.1468	6.6263	0.5336	0.4937	0.1579

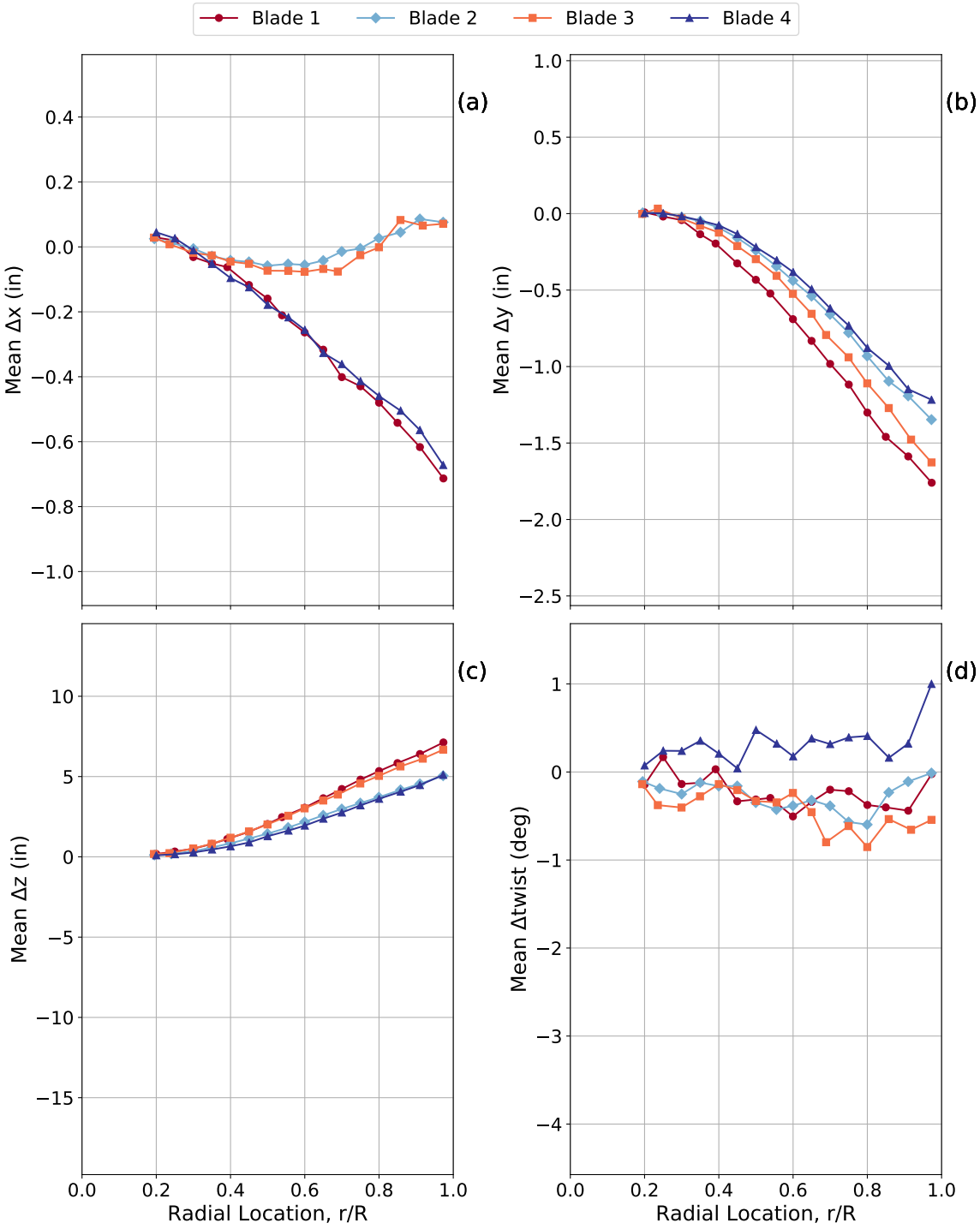


Figure 2.13-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0288	0.0029	0.0082	0.0029	0.1773	0.0144	-0.1433	0.0803
1	285.12	0.2499	0.0198	0.0029	-0.0191	0.0034	0.3323	0.0251	0.1687	0.1192
1	285.12	0.2998	-0.0314	0.0039	-0.0421	0.0082	0.5090	0.0427	-0.1368	0.1717
1	285.12	0.3498	-0.0508	0.0031	-0.1347	0.0135	0.8037	0.0612	-0.1219	0.1911
1	285.12	0.3913	-0.0624	0.0046	-0.1957	0.0204	1.1111	0.0878	0.0311	0.1814
1	285.12	0.4496	-0.1174	0.0056	-0.3255	0.0277	1.5605	0.1141	-0.3332	0.1559
1	285.12	0.4997	-0.1592	0.0068	-0.4327	0.0371	2.0458	0.1452	-0.3121	0.1574
1	285.12	0.5387	-0.2107	0.0081	-0.5227	0.0458	2.4744	0.1691	-0.2954	0.1691
1	285.12	0.5996	-0.2635	0.0105	-0.6901	0.0603	3.0579	0.2140	-0.5048	0.1739
1	285.12	0.6498	-0.3166	0.0119	-0.8321	0.0731	3.6500	0.2533	-0.3396	0.1683
1	285.12	0.6998	-0.4012	0.0144	-0.9829	0.0874	4.2254	0.2955	-0.2013	0.1679
1	285.12	0.7500	-0.4294	0.0167	-1.1178	0.1028	4.8090	0.3421	-0.2184	0.1643
1	285.12	0.8001	-0.4799	0.0190	-1.3012	0.1188	5.3400	0.3886	-0.3748	0.1779
1	285.12	0.8497	-0.5418	0.0216	-1.4597	0.1347	5.8394	0.4434	-0.4019	0.1846
1	285.12	0.9102	-0.6166	0.0253	-1.5878	0.1546	6.4031	0.5096	-0.4396	0.1978
1	285.12	0.9734	-0.7132	0.0335	-1.7598	0.1747	7.1246	0.5909	-0.0229	0.1988
2	285.12	0.1949	0.0250	0.0160	0.0053	0.0015	0.1151	0.0101	-0.1088	0.0390
2	285.12	0.2405	0.0126	0.0057	0.0078	0.0025	0.1892	0.0158	-0.1869	0.0643
2	285.12	0.2999	-0.0054	0.0067	-0.0228	0.0062	0.3494	0.0285	-0.2511	0.0917
2	285.12	0.3498	-0.0285	0.0136	-0.0491	0.0123	0.5852	0.0483	-0.1202	0.0838
2	285.12	0.3998	-0.0413	0.0185	-0.0921	0.0192	0.8408	0.0682	-0.1602	0.0767
2	285.12	0.4496	-0.0461	0.0212	-0.1580	0.0268	1.1354	0.0927	-0.1593	0.0873
2	285.12	0.4995	-0.0581	0.0238	-0.2401	0.0358	1.4430	0.1230	-0.3477	0.0920
2	285.12	0.5551	-0.0526	0.0267	-0.3440	0.0484	1.8249	0.1600	-0.4266	0.1009
2	285.12	0.5996	-0.0555	0.0304	-0.4382	0.0598	2.1730	0.1942	-0.3833	0.1138
2	285.12	0.6497	-0.0421	0.0385	-0.5394	0.0744	2.5854	0.2372	-0.3206	0.1149
2	285.12	0.6996	-0.0142	0.0516	-0.6585	0.0901	2.9783	0.2835	-0.3852	0.1162
2	285.12	0.7495	-0.0050	0.0699	-0.7788	0.1069	3.3461	0.3344	-0.5682	0.1362
2	285.12	0.7996	0.0269	0.0939	-0.9313	0.1252	3.7150	0.3893	-0.5977	0.1429
2	285.12	0.8578	0.0451	0.1278	-1.0958	0.1473	4.1706	0.4555	-0.2323	0.1483
2	285.12	0.9100	0.0859	0.1662	-1.1919	0.1673	4.5444	0.5176	-0.1089	0.1554
2	285.12	0.9727	0.0760	0.2232	-1.3470	0.1923	5.0522	0.5969	-0.0118	0.1836
3	285.12	0.1938	0.0286	0.0039	-0.0018	0.0015	0.1781	0.0107	-0.1382	0.0383
3	285.12	0.2357	0.0081	0.0029	0.0326	0.0021	0.2292	0.0163	-0.3765	0.0688
3	285.12	0.2995	-0.0184	0.0024	-0.0315	0.0052	0.5225	0.0330	-0.4039	0.0868
3	285.12	0.3493	-0.0263	0.0023	-0.0784	0.0097	0.8151	0.0488	-0.2769	0.0781
3	285.12	0.4000	-0.0454	0.0040	-0.1240	0.0160	1.1917	0.0740	-0.1380	0.1036
3	285.12	0.4497	-0.0522	0.0040	-0.2119	0.0230	1.5829	0.0948	-0.2054	0.0842
3	285.12	0.4997	-0.0733	0.0047	-0.2978	0.0307	2.0163	0.1219	-0.3296	0.0829
3	285.12	0.5556	-0.0738	0.0057	-0.4066	0.0419	2.5586	0.1561	-0.3456	0.0923
3	285.12	0.5995	-0.0768	0.0068	-0.5245	0.0515	3.0185	0.1857	-0.2381	0.1023
3	285.12	0.6498	-0.0679	0.0084	-0.6550	0.0632	3.5085	0.2225	-0.4561	0.1030
3	285.12	0.6890	-0.0760	0.0098	-0.7936	0.0733	3.8811	0.2538	-0.7979	0.1122
3	285.12	0.7495	-0.0255	0.0119	-0.9395	0.0892	4.5685	0.3051	-0.6142	0.1034
3	285.12	0.7998	-0.0012	0.0137	-1.1101	0.1037	5.0418	0.3512	-0.8527	0.1149
3	285.12	0.8577	0.0828	0.0161	-1.2715	0.1203	5.6307	0.4090	-0.5352	0.1190
3	285.12	0.9178	0.0657	0.0187	-1.4778	0.1384	6.1145	0.4691	-0.6565	0.1148
3	285.12	0.9729	0.0711	0.0245	-1.6270	0.1541	6.6722	0.5271	-0.5437	0.1317
4	285.12	0.2001	0.0448	0.0028	0.0036	0.0013	0.0952	0.0136	0.0740	0.0633
4	285.12	0.2502	0.0264	0.0034	0.0022	0.0035	0.1610	0.0226	0.2411	0.1196
4	285.12	0.3001	-0.0107	0.0021	-0.0173	0.0055	0.2722	0.0362	0.2393	0.1440
4	285.12	0.3502	-0.0526	0.0027	-0.0449	0.0102	0.4554	0.0590	0.3553	0.0979
4	285.12	0.4002	-0.0960	0.0037	-0.0768	0.0176	0.6541	0.0837	0.2081	0.1102
4	285.12	0.4500	-0.1246	0.0038	-0.1339	0.0221	0.8959	0.0992	0.0407	0.1311
4	285.12	0.5001	-0.1787	0.0053	-0.2191	0.0282	1.2836	0.1224	0.4769	0.1229
4	285.12	0.5560	-0.2171	0.0066	-0.3047	0.0375	1.6339	0.1525	0.3215	0.1369
4	285.12	0.6001	-0.2558	0.0075	-0.3822	0.0456	1.9451	0.1783	0.1777	0.1218
4	285.12	0.6501	-0.3269	0.0090	-0.4941	0.0553	2.3754	0.2058	0.3803	0.1174
4	285.12	0.6999	-0.3611	0.0105	-0.6194	0.0665	2.7584	0.2373	0.3168	0.1172
4	285.12	0.7500	-0.4135	0.0123	-0.7323	0.0783	3.2056	0.2718	0.3932	0.1137
4	285.12	0.8002	-0.4594	0.0139	-0.8784	0.0907	3.6146	0.3110	0.4090	0.1224
4	285.12	0.8582	-0.5047	0.0160	-0.9953	0.1057	4.0566	0.3588	0.1621	0.1267
4	285.12	0.9101	-0.5643	0.0181	-1.1482	0.1193	4.4687	0.4084	0.3222	0.1184
4	285.12	0.9728	-0.6720	0.0252	-1.2173	0.1363	5.1052	0.4747	1.0000	0.1583

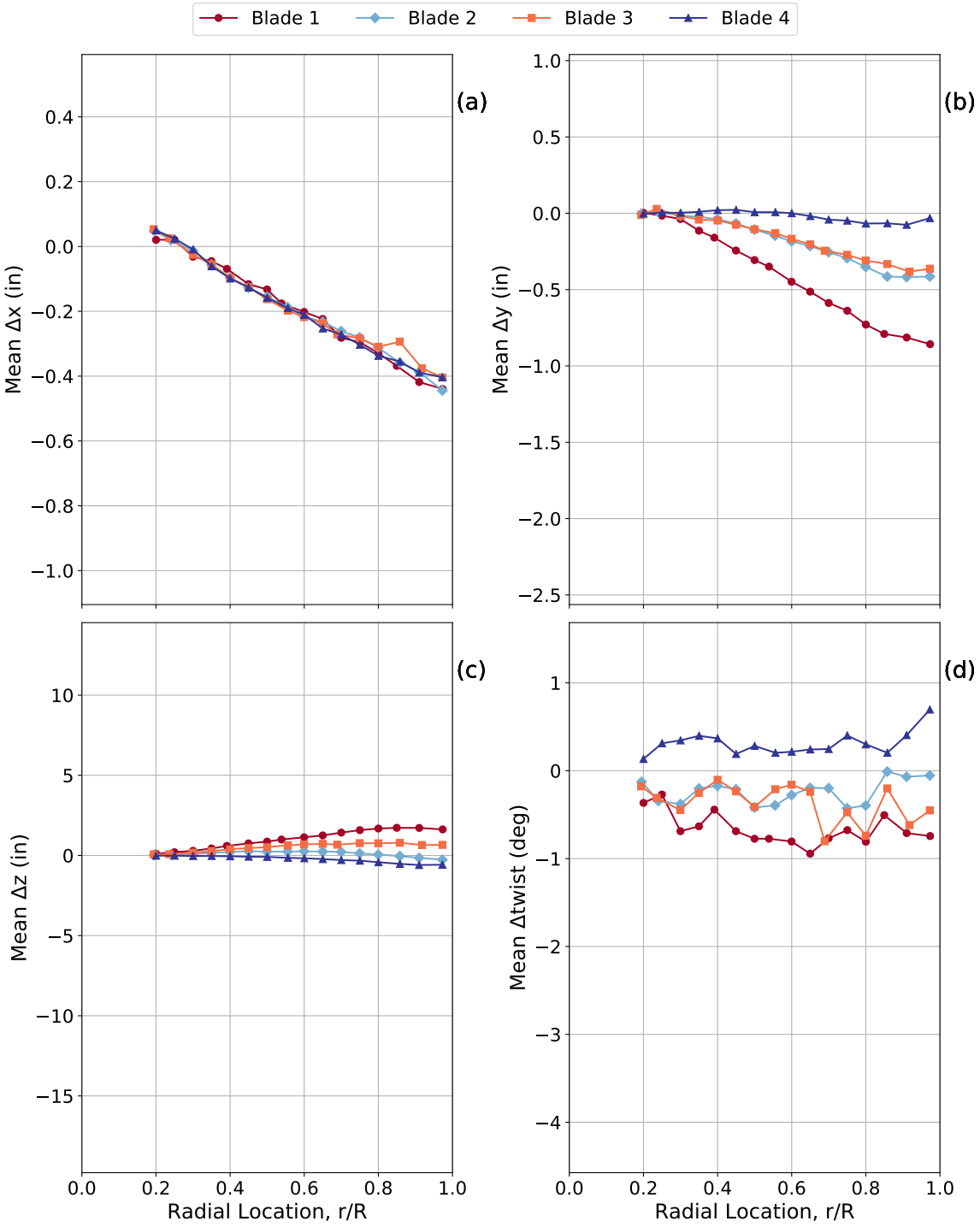


Figure 2.13-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0206	0.0032	0.0028	0.0016	0.1115	0.0126	-0.3662	0.0443
1	299.88	0.2499	0.0210	0.0033	-0.0157	0.0022	0.2020	0.0212	-0.2706	0.0825
1	299.88	0.2998	-0.0315	0.0031	-0.0377	0.0042	0.2905	0.0365	-0.6877	0.0996
1	299.88	0.3498	-0.0452	0.0030	-0.1141	0.0100	0.4360	0.0586	-0.6327	0.1024
1	299.88	0.3913	-0.0690	0.0038	-0.1597	0.0132	0.5968	0.0795	-0.4429	0.0778
1	299.88	0.4496	-0.1162	0.0041	-0.2441	0.0190	0.7506	0.1032	-0.6879	0.0917
1	299.88	0.4997	-0.1324	0.0048	-0.3066	0.0240	0.8642	0.1281	-0.7738	0.1073
1	299.88	0.5387	-0.1757	0.0056	-0.3494	0.0287	0.9929	0.1483	-0.7739	0.1046
1	299.88	0.5996	-0.2020	0.0061	-0.4481	0.0354	1.1329	0.1830	-0.8054	0.1105
1	299.88	0.6498	-0.2235	0.0067	-0.5133	0.0426	1.2493	0.2148	-0.9435	0.1054
1	299.88	0.6998	-0.2817	0.0077	-0.5876	0.0494	1.4250	0.2499	-0.7685	0.1085
1	299.88	0.7500	-0.2951	0.0084	-0.6386	0.0571	1.5789	0.2875	-0.6761	0.1156
1	299.88	0.8001	-0.3294	0.0093	-0.7291	0.0647	1.6787	0.3256	-0.8079	0.1154
1	299.88	0.8497	-0.3683	0.0105	-0.7904	0.0723	1.7237	0.3676	-0.5052	0.1180
1	299.88	0.9102	-0.4182	0.0110	-0.8137	0.0823	1.7170	0.4192	-0.7097	0.1229
1	299.88	0.9734	-0.4396	0.0138	-0.8575	0.0930	1.6250	0.4766	-0.7433	0.1258
2	299.88	0.1949	0.0491	0.0038	-0.0022	0.0017	0.0348	0.0132	-0.1258	0.0636
2	299.88	0.2405	0.0200	0.0043	0.0078	0.0022	0.0539	0.0205	-0.3431	0.0859
2	299.88	0.2999	-0.0135	0.0040	-0.0160	0.0077	0.0872	0.0392	-0.3788	0.1174
2	299.88	0.3498	-0.0556	0.0037	-0.0221	0.0127	0.1650	0.0533	-0.2016	0.1063
2	299.88	0.3998	-0.0964	0.0051	-0.0398	0.0220	0.2167	0.0821	-0.1727	0.0780
2	299.88	0.4496	-0.1273	0.0045	-0.0669	0.0304	0.2628	0.1063	-0.2120	0.1034
2	299.88	0.4995	-0.1552	0.0056	-0.1067	0.0398	0.2356	0.1335	-0.4174	0.1007
2	299.88	0.5551	-0.1871	0.0057	-0.1468	0.0510	0.2408	0.1663	-0.3947	0.1116
2	299.88	0.5996	-0.2166	0.0060	-0.1834	0.0610	0.2594	0.1964	-0.2769	0.1103
2	299.88	0.6497	-0.2323	0.0064	-0.2148	0.0734	0.2438	0.2317	-0.1945	0.1135
2	299.88	0.6996	-0.2613	0.0072	-0.2550	0.0859	0.2191	0.2694	-0.1990	0.1134
2	299.88	0.7495	-0.2808	0.0078	-0.2937	0.0989	0.1279	0.3100	-0.4264	0.1206
2	299.88	0.7996	-0.3122	0.0082	-0.3515	0.1122	0.0556	0.3514	-0.3962	0.1253
2	299.88	0.8578	-0.3585	0.0091	-0.4147	0.1280	-0.0395	0.4014	-0.0091	0.1244
2	299.88	0.9100	-0.3867	0.0099	-0.4176	0.1425	-0.1488	0.4470	-0.0683	0.1290
2	299.88	0.9727	-0.4444	0.0135	-0.4145	0.1594	-0.2663	0.5012	-0.0540	0.1205
3	299.88	0.1938	0.0534	0.0028	-0.0106	0.0017	0.0638	0.0109	-0.1779	0.0898
3	299.88	0.2357	0.0256	0.0032	0.0283	0.0021	0.0767	0.0171	-0.3090	0.1125
3	299.88	0.2995	-0.0252	0.0043	-0.0166	0.0048	0.1722	0.0322	-0.4476	0.1964
3	299.88	0.3493	-0.0555	0.0035	-0.0414	0.0068	0.2707	0.0537	-0.2527	0.1290
3	299.88	0.4000	-0.0966	0.0037	-0.0471	0.0110	0.3846	0.0758	-0.1034	0.1487
3	299.88	0.4497	-0.1257	0.0045	-0.0749	0.0152	0.4625	0.0993	-0.2348	0.1365
3	299.88	0.4997	-0.1624	0.0049	-0.1048	0.0207	0.5144	0.1246	-0.4118	0.1353
3	299.88	0.5556	-0.1980	0.0052	-0.1304	0.0280	0.6312	0.1549	-0.2103	0.1365
3	299.88	0.5995	-0.2177	0.0060	-0.1669	0.0342	0.6862	0.1823	-0.1589	0.1221
3	299.88	0.6498	-0.2372	0.0063	-0.2038	0.0421	0.7260	0.2151	-0.2393	0.1272
3	299.88	0.6890	-0.2711	0.0072	-0.2448	0.0486	0.6710	0.2425	-0.8029	0.1242
3	299.88	0.7495	-0.2829	0.0080	-0.2719	0.0591	0.7691	0.2848	-0.4735	0.1298
3	299.88	0.7998	-0.3094	0.0091	-0.3095	0.0683	0.7583	0.3199	-0.7399	0.1295
3	299.88	0.8577	-0.2937	0.0104	-0.3328	0.0792	0.7893	0.3600	-0.2012	0.1288
3	299.88	0.9178	-0.3759	0.0113	-0.3824	0.0906	0.6512	0.4013	-0.6184	0.1367
3	299.88	0.9729	-0.4040	0.0146	-0.3633	0.1013	0.6612	0.4418	-0.4507	0.1551
4	299.88	0.2001	0.0496	0.0023	-0.0025	0.0015	-0.0142	0.0152	0.1337	0.0901
4	299.88	0.2502	0.0240	0.0036	0.0042	0.0034	-0.0156	0.0241	0.3125	0.1184
4	299.88	0.3001	-0.0092	0.0045	0.0031	0.0051	-0.0347	0.0418	0.3452	0.1872
4	299.88	0.3502	-0.0611	0.0032	0.0096	0.0114	-0.0322	0.0637	0.3977	0.1353
4	299.88	0.4002	-0.0988	0.0040	0.0203	0.0183	-0.0513	0.0931	0.3678	0.1589
4	299.88	0.4500	-0.1266	0.0046	0.0222	0.0244	-0.0804	0.1184	0.1907	0.1611
4	299.88	0.5001	-0.1582	0.0043	0.0073	0.0325	-0.0909	0.1496	0.2827	0.1324
4	299.88	0.5560	-0.1902	0.0061	0.0072	0.0410	-0.1467	0.1816	0.2036	0.1400
4	299.88	0.6001	-0.2109	0.0060	0.0003	0.0481	-0.1752	0.2093	0.2158	0.1527
4	299.88	0.6501	-0.2529	0.0074	-0.0186	0.0567	-0.2268	0.2419	0.2421	0.1468
4	299.88	0.6999	-0.2717	0.0081	-0.0416	0.0659	-0.2873	0.2757	0.2469	0.1438
4	299.88	0.7500	-0.3031	0.0089	-0.0484	0.0753	-0.3270	0.3110	0.4009	0.1430
4	299.88	0.8002	-0.3373	0.0097	-0.0672	0.0851	-0.4228	0.3480	0.3001	0.1474
4	299.88	0.8582	-0.3550	0.0108	-0.0657	0.0968	-0.5265	0.3892	0.2039	0.1504
4	299.88	0.9101	-0.3892	0.0117	-0.0758	0.1073	-0.5952	0.4276	0.4053	0.1469
4	299.88	0.9728	-0.4034	0.0153	-0.0319	0.1202	-0.5787	0.4758	0.6956	0.1537

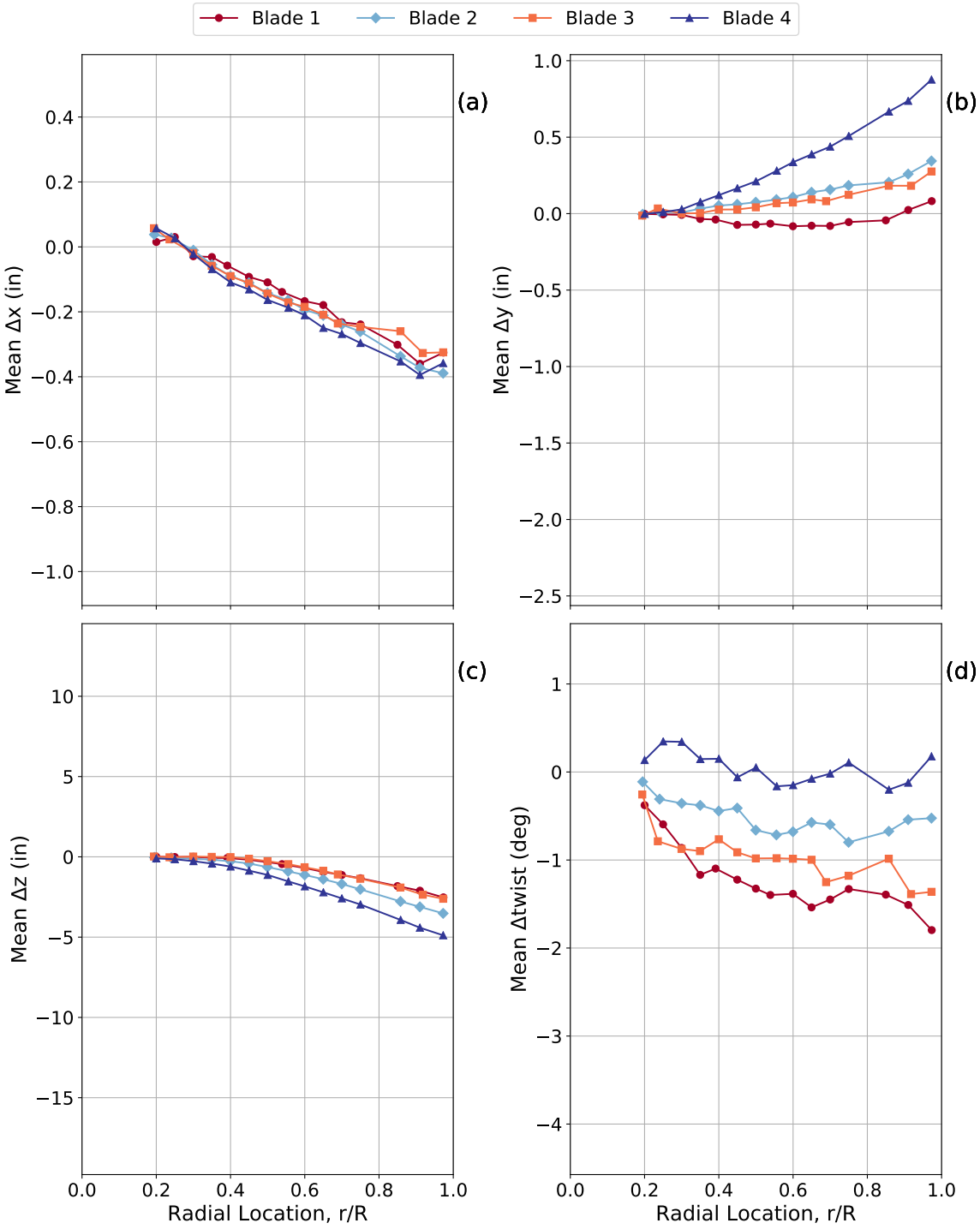


Figure 2.13-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-40. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.371$, $\alpha = -8.4°$
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0151	0.0023	-0.0018	0.0019	0.0067	0.0092	-0.3772	0.0731
1	315	0.2499	0.0303	0.0037	-0.0051	0.0035	-0.0106	0.0179	-0.5949	0.0896
1	315	0.2998	-0.0288	0.0045	-0.0080	0.0069	0.0017	0.0260	-0.8625	0.1510
1	315	0.3498	-0.0312	0.0026	-0.0350	0.0144	-0.0657	0.0441	-1.1688	0.1023
1	315	0.3913	-0.0575	0.0039	-0.0388	0.0192	-0.0711	0.0604	-1.0972	0.1126
1	315	0.4496	-0.0923	0.0040	-0.0737	0.0254	-0.1835	0.0763	-1.2233	0.1096
1	315	0.4997	-0.1092	0.0054	-0.0715	0.0323	-0.3328	0.0936	-1.3251	0.1094
1	315	0.5387	-0.1389	0.0060	-0.0655	0.0373	-0.4524	0.1090	-1.3973	0.1030
1	315	0.5996	-0.1670	0.0074	-0.0826	0.0485	-0.6934	0.1356	-1.3844	0.1076
1	315	0.6498	-0.1791	0.0074	-0.0790	0.0570	-0.9364	0.1561	-1.5381	0.1152
1	315	0.6998	-0.2321	0.0085	-0.0805	0.0667	-1.1288	0.1796	-1.4488	0.1052
1	315	0.7500	-0.2387	0.0093	-0.0552	0.0768	-1.3347	0.2052	-1.3296	0.1106
1	315	0.8497	-0.3015	0.0114	-0.0439	0.0990	-1.8224	0.2664	-1.3934	0.1093
1	315	0.9102	-0.3601	0.0124	0.0239	0.1130	-2.1086	0.3095	-1.5108	0.1104
1	315	0.9734	-0.3255	0.0152	0.0818	0.1285	-2.5241	0.3585	-1.7963	0.1158
2	315	0.1949	0.0380	0.0031	-0.0043	0.0033	-0.0335	0.0083	-0.1113	0.0652
2	315	0.2405	0.0272	0.0064	0.0135	0.0032	-0.0613	0.0155	-0.3082	0.0796
2	315	0.2999	-0.0103	0.0036	0.0074	0.0088	-0.1196	0.0271	-0.3561	0.1398
2	315	0.3498	-0.0546	0.0047	0.0327	0.0138	-0.1773	0.0451	-0.3791	0.1042
2	315	0.3998	-0.0903	0.0047	0.0526	0.0204	-0.2766	0.0664	-0.4431	0.1011
2	315	0.4496	-0.1106	0.0058	0.0610	0.0258	-0.4158	0.0765	-0.4101	0.1074
2	315	0.4995	-0.1422	0.0055	0.0745	0.0320	-0.6369	0.0937	-0.6604	0.0935
2	315	0.5551	-0.1643	0.0058	0.0917	0.0397	-0.9029	0.1117	-0.7147	0.0946
2	315	0.5996	-0.1941	0.0065	0.1080	0.0459	-1.1249	0.1258	-0.6790	0.1062
2	315	0.6497	-0.2110	0.0075	0.1399	0.0532	-1.3935	0.1449	-0.5733	0.0970
2	315	0.6996	-0.2392	0.0081	0.1569	0.0612	-1.6868	0.1635	-0.5976	0.1059
2	315	0.7495	-0.2609	0.0090	0.1845	0.0694	-2.0216	0.1841	-0.7987	0.1066
2	315	0.8578	-0.3370	0.0110	0.2050	0.0882	-2.7776	0.2376	-0.6738	0.1065
2	315	0.9100	-0.3723	0.0116	0.2588	0.0975	-3.1130	0.2683	-0.5421	0.1103
2	315	0.9727	-0.3891	0.0144	0.3443	0.1090	-3.5203	0.3105	-0.5244	0.1140
3	315	0.1938	0.0575	0.0035	-0.0125	0.0024	0.0213	0.0109	-0.2556	0.0792
3	315	0.2357	0.0232	0.0044	0.0336	0.0037	-0.0274	0.0225	-0.7870	0.0957
3	315	0.2995	-0.0192	0.0039	0.0012	0.0055	0.0184	0.0377	-0.8740	0.1735
3	315	0.3493	-0.0582	0.0030	0.0030	0.0111	-0.0024	0.0601	-0.8986	0.1362
3	315	0.4000	-0.0900	0.0043	0.0267	0.0165	-0.0170	0.0915	-0.7646	0.1176
3	315	0.4497	-0.1123	0.0062	0.0272	0.0227	-0.1201	0.1079	-0.9124	0.1216
3	315	0.4997	-0.1437	0.0065	0.0413	0.0279	-0.2713	0.1306	-0.9820	0.1330
3	315	0.5556	-0.1709	0.0061	0.0682	0.0368	-0.4544	0.1561	-0.9798	0.1318
3	315	0.5995	-0.1846	0.0070	0.0728	0.0443	-0.6480	0.1730	-0.9855	0.1309
3	315	0.6498	-0.2090	0.0077	0.0931	0.0537	-0.8663	0.1941	-0.9972	0.1273
3	315	0.6890	-0.2359	0.0079	0.0814	0.0609	-1.0967	0.2104	-1.2513	0.1316
3	315	0.7495	-0.2463	0.0089	0.1231	0.0742	-1.3645	0.2346	-1.1788	0.1235
3	315	0.8577	-0.2598	0.0108	0.1825	0.0986	-1.9120	0.2862	-0.9852	0.1273
3	315	0.9178	-0.3269	0.0121	0.1822	0.1131	-2.3559	0.3195	-1.3874	0.1291
3	315	0.9729	-0.3248	0.0142	0.2754	0.1261	-2.6107	0.3545	-1.3617	0.1274
4	315	0.2001	0.0572	0.0023	-0.0018	0.0021	-0.0990	0.0100	0.1355	0.0692
4	315	0.2502	0.0264	0.0052	0.0100	0.0038	-0.1496	0.0181	0.3473	0.0981
4	315	0.3001	-0.0220	0.0039	0.0281	0.0056	-0.2684	0.0279	0.3424	0.1426
4	315	0.3502	-0.0684	0.0032	0.0756	0.0095	-0.4225	0.0456	0.1469	0.1047
4	315	0.4002	-0.1095	0.0043	0.1210	0.0146	-0.6049	0.0663	0.1501	0.1186
4	315	0.4500	-0.1312	0.0044	0.1660	0.0194	-0.8600	0.0811	-0.0602	0.1265
4	315	0.5001	-0.1634	0.0056	0.2113	0.0251	-1.1275	0.1003	0.0507	0.1064
4	315	0.5560	-0.1875	0.0053	0.2805	0.0320	-1.5330	0.1212	-0.1625	0.1154
4	315	0.6001	-0.2106	0.0063	0.3365	0.0375	-1.8393	0.1396	-0.1497	0.1257
4	315	0.6501	-0.2495	0.0067	0.3877	0.0440	-2.2107	0.1581	-0.0775	0.1104
4	315	0.6999	-0.2684	0.0075	0.4380	0.0508	-2.5884	0.1802	-0.0185	0.1032
4	315	0.7500	-0.2961	0.0084	0.5075	0.0586	-2.9695	0.2014	0.1060	0.1194
4	315	0.8582	-0.3529	0.0101	0.6670	0.0763	-3.9298	0.2534	-0.2014	0.1118
4	315	0.9101	-0.3944	0.0113	0.7373	0.0849	-4.4116	0.2796	-0.1220	0.1171
4	315	0.9728	-0.3581	0.0123	0.8761	0.0964	-4.8880	0.3109	0.1773	0.1199

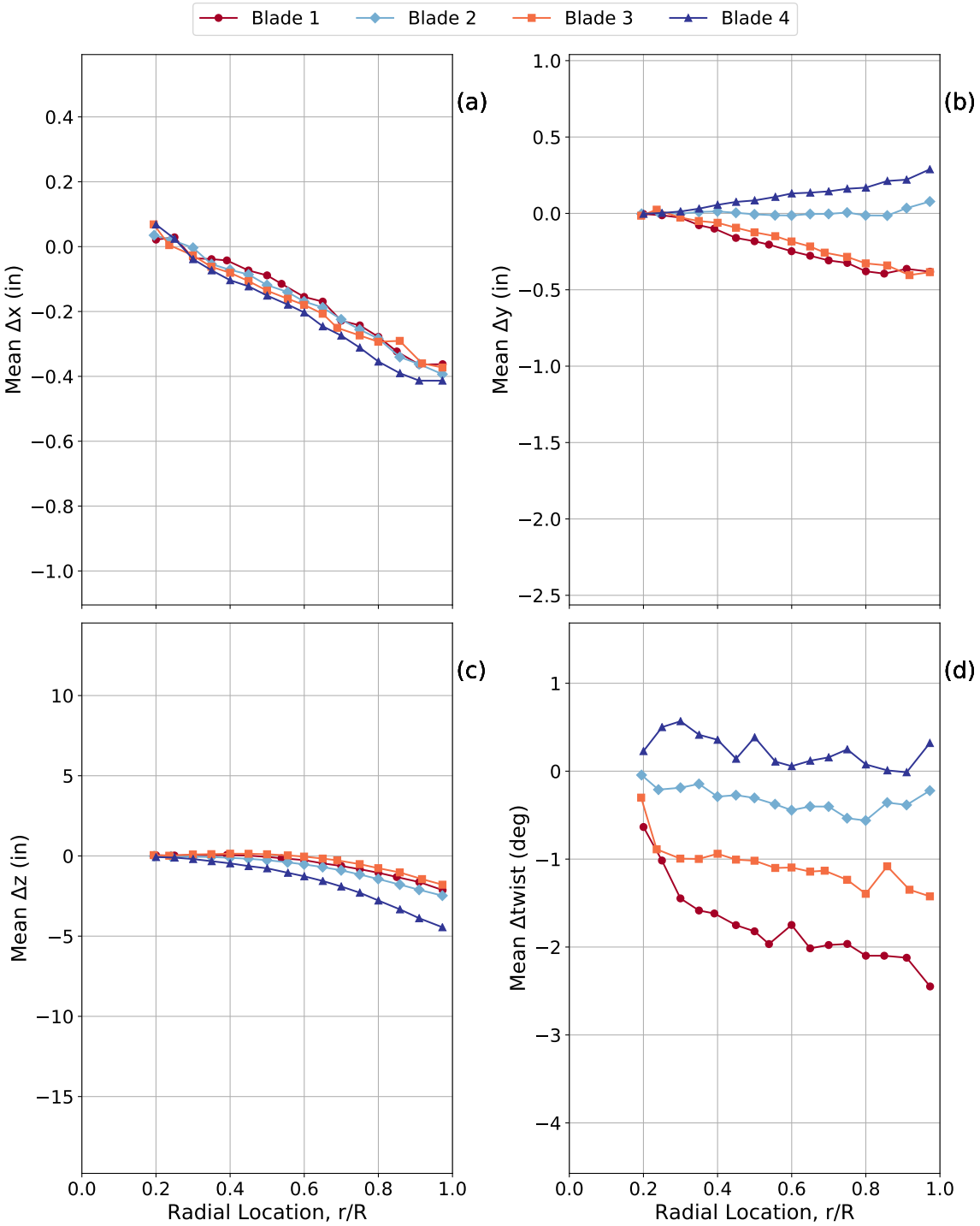


Figure 2.13-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0216	0.0043	-0.0039	0.0016	0.0409	0.0125	-0.6347	0.0810
1	330.12	0.2499	0.0287	0.0032	-0.0123	0.0065	0.0273	0.0200	-1.0161	0.1435
1	330.12	0.2998	-0.0356	0.0042	-0.0277	0.0061	0.0676	0.0344	-1.4468	0.1828
1	330.12	0.3498	-0.0386	0.0037	-0.0773	0.0121	0.0557	0.0560	-1.5844	0.1579
1	330.12	0.3913	-0.0425	0.0042	-0.0996	0.0183	0.0630	0.0753	-1.6184	0.1590
1	330.12	0.4496	-0.0735	0.0053	-0.1604	0.0240	0.0215	0.1006	-1.7510	0.1632
1	330.12	0.4997	-0.0886	0.0062	-0.1824	0.0286	-0.0593	0.1221	-1.8212	0.1556
1	330.12	0.5387	-0.1147	0.0058	-0.2043	0.0339	-0.1404	0.1395	-1.9661	0.1615
1	330.12	0.5996	-0.1550	0.0064	-0.2476	0.0424	-0.2591	0.1706	-1.7492	0.1598
1	330.12	0.6498	-0.1695	0.0067	-0.2772	0.0502	-0.4616	0.1957	-2.0147	0.1692
1	330.12	0.6998	-0.2283	0.0075	-0.3079	0.0584	-0.6247	0.2223	-1.9770	0.1678
1	330.12	0.7500	-0.2428	0.0078	-0.3242	0.0665	-0.8272	0.2494	-1.9648	0.1675
1	330.12	0.8001	-0.2782	0.0086	-0.3791	0.0749	-1.0473	0.2774	-2.0989	0.1615
1	330.12	0.8497	-0.3232	0.0091	-0.3942	0.0837	-1.3146	0.3048	-2.0990	0.1623
1	330.12	0.9102	-0.3637	0.0100	-0.3631	0.0945	-1.6276	0.3403	-2.1218	0.1663
1	330.12	0.9734	-0.3625	0.0115	-0.3816	0.1061	-2.1272	0.3794	-2.4483	0.1695
2	330.12	0.1949	0.0350	0.0031	-0.0030	0.0018	-0.0082	0.0069	-0.0440	0.0703
2	330.12	0.2405	0.0212	0.0031	0.0075	0.0048	-0.0304	0.0143	-0.2098	0.0710
2	330.12	0.2999	-0.0035	0.0038	-0.0023	0.0072	-0.0488	0.0205	-0.1883	0.1316
2	330.12	0.3498	-0.0541	0.0036	0.0095	0.0143	-0.0663	0.0363	-0.1450	0.0876
2	330.12	0.3998	-0.0715	0.0035	0.0129	0.0220	-0.1180	0.0531	-0.2897	0.0911
2	330.12	0.4496	-0.0860	0.0038	0.0040	0.0251	-0.1763	0.0706	-0.2725	0.0879
2	330.12	0.4995	-0.1185	0.0048	-0.0060	0.0311	-0.2627	0.0885	-0.3044	0.0883
2	330.12	0.5551	-0.1401	0.0055	-0.0122	0.0373	-0.3978	0.1145	-0.3760	0.0937
2	330.12	0.5996	-0.1691	0.0061	-0.0135	0.0436	-0.5263	0.1339	-0.4438	0.0956
2	330.12	0.6497	-0.1875	0.0067	-0.0040	0.0511	-0.6956	0.1581	-0.4015	0.0899
2	330.12	0.6996	-0.2244	0.0074	-0.0034	0.0592	-0.8949	0.1834	-0.4024	0.0899
2	330.12	0.7495	-0.2557	0.0081	0.0056	0.0675	-1.1552	0.2113	-0.5348	0.0891
2	330.12	0.7996	-0.2835	0.0086	-0.0130	0.0765	-1.4371	0.2413	-0.5610	0.0840
2	330.12	0.8578	-0.3404	0.0096	-0.0143	0.0873	-1.7866	0.2786	-0.3572	0.0858
2	330.12	0.9100	-0.3622	0.0102	0.0345	0.0972	-2.1104	0.3136	-0.3840	0.0886
2	330.12	0.9727	-0.3934	0.0121	0.0778	0.1094	-2.4743	0.3572	-0.2213	0.0966
3	330.12	0.1938	0.0686	0.0034	-0.0149	0.0027	0.0510	0.0089	-0.3007	0.0454
3	330.12	0.2357	0.0047	0.0042	0.0244	0.0043	0.0146	0.0130	-0.8886	0.0909
3	330.12	0.2995	-0.0271	0.0037	-0.0271	0.0075	0.0931	0.0250	-0.9944	0.1140
3	330.12	0.3493	-0.0621	0.0032	-0.0498	0.0133	0.1111	0.0400	-0.9981	0.0986
3	330.12	0.4000	-0.0808	0.0040	-0.0614	0.0203	0.1410	0.0589	-0.9393	0.0991
3	330.12	0.4497	-0.1063	0.0039	-0.0939	0.0259	0.1355	0.0751	-1.0058	0.1142
3	330.12	0.4997	-0.1359	0.0046	-0.1239	0.0332	0.1048	0.0954	-1.0184	0.0984
3	330.12	0.5556	-0.1608	0.0053	-0.1491	0.0416	0.0346	0.1210	-1.1006	0.1063
3	330.12	0.5995	-0.1797	0.0060	-0.1837	0.0487	-0.0402	0.1424	-1.0955	0.1019
3	330.12	0.6498	-0.2069	0.0065	-0.2165	0.0572	-0.1639	0.1659	-1.1423	0.1175
3	330.12	0.6890	-0.2504	0.0071	-0.2568	0.0645	-0.2740	0.1859	-1.1320	0.1097
3	330.12	0.7495	-0.2738	0.0078	-0.2845	0.0764	-0.5096	0.2182	-1.2355	0.1046
3	330.12	0.7998	-0.2932	0.0083	-0.3273	0.0870	-0.7630	0.2488	-1.3945	0.1095
3	330.12	0.8577	-0.2906	0.0091	-0.3407	0.0996	-1.0268	0.2875	-1.0816	0.1001
3	330.12	0.9178	-0.3600	0.0098	-0.4039	0.1135	-1.4433	0.3284	-1.3482	0.1002
3	330.12	0.9729	-0.3727	0.0112	-0.3846	0.1253	-1.7919	0.3674	-1.4237	0.1026
4	330.12	0.2001	0.0681	0.0028	-0.0030	0.0021	-0.0698	0.0090	0.2282	0.0519
4	330.12	0.2502	0.0241	0.0041	0.0029	0.0042	-0.1032	0.0194	0.5008	0.0711
4	330.12	0.3001	-0.0387	0.0033	0.0126	0.0058	-0.1937	0.0294	0.5682	0.1079
4	330.12	0.3502	-0.0732	0.0032	0.0313	0.0090	-0.3270	0.0474	0.4138	0.0886
4	330.12	0.4002	-0.1036	0.0035	0.0561	0.0139	-0.4620	0.0724	0.3567	0.0738
4	330.12	0.4500	-0.1226	0.0045	0.0753	0.0174	-0.6346	0.0930	0.1409	0.0791
4	330.12	0.5001	-0.1511	0.0055	0.0849	0.0220	-0.7727	0.1181	0.3848	0.0961
4	330.12	0.5560	-0.1790	0.0060	0.1081	0.0280	-1.0509	0.1469	0.1090	0.1024
4	330.12	0.6001	-0.2030	0.0066	0.1306	0.0338	-1.2697	0.1729	0.0568	0.0987
4	330.12	0.6501	-0.2458	0.0072	0.1359	0.0408	-1.5606	0.2019	0.1190	0.0983
4	330.12	0.6999	-0.2743	0.0086	0.1443	0.0477	-1.9051	0.2311	0.1573	0.1026
4	330.12	0.7500	-0.3116	0.0092	0.1613	0.0556	-2.2946	0.2622	0.2480	0.1061
4	330.12	0.8002	-0.3545	0.0106	0.1686	0.0638	-2.7806	0.2913	0.0763	0.1094
4	330.12	0.8582	-0.3904	0.0122	0.2123	0.0731	-3.3309	0.3303	0.0088	0.1026
4	330.12	0.9101	-0.4132	0.0134	0.2206	0.0822	-3.8833	0.3664	-0.0123	0.1053
4	330.12	0.9728	-0.4133	0.0149	0.2887	0.0926	-4.4443	0.4138	0.3202	0.1183

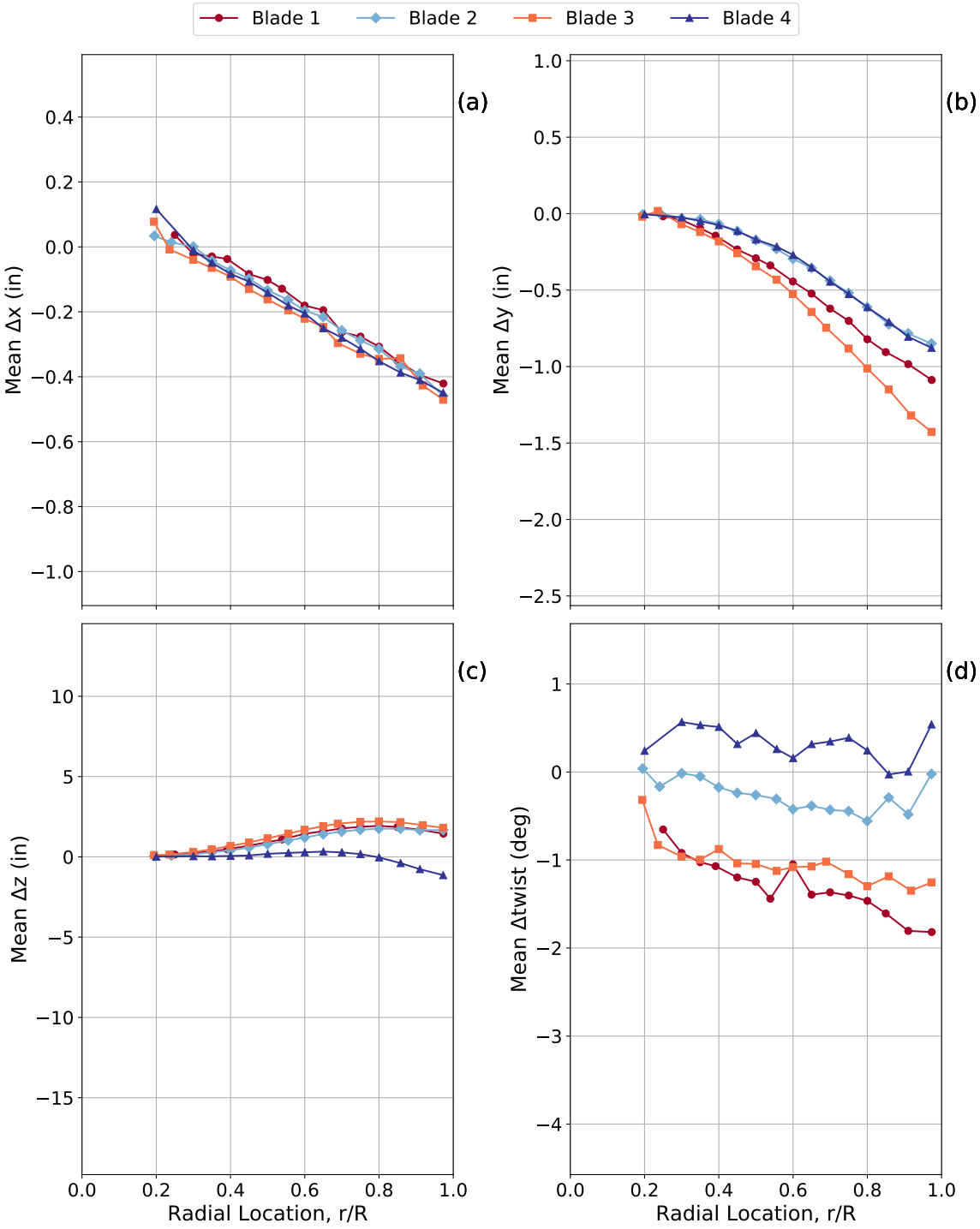


Figure 2.13-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2499	0.0368	0.0051	-0.0174	0.0056	0.1479	0.0304	-0.6529	0.1881
1	344.88	0.2998	-0.0218	0.0067	-0.0412	0.0110	0.2413	0.0510	-0.9198	0.2665
1	344.88	0.3498	-0.0295	0.0060	-0.0963	0.0221	0.3391	0.0798	-1.0246	0.2488
1	344.88	0.3913	-0.0375	0.0053	-0.1441	0.0317	0.4716	0.1127	-1.0702	0.2382
1	344.88	0.4496	-0.0836	0.0062	-0.2342	0.0428	0.6998	0.1509	-1.1976	0.2343
1	344.88	0.4997	-0.1019	0.0071	-0.2916	0.0530	0.9108	0.1858	-1.2473	0.2441
1	344.88	0.5387	-0.1288	0.0074	-0.3388	0.0611	1.0848	0.2144	-1.4397	0.2418
1	344.88	0.5996	-0.1808	0.0085	-0.4438	0.0750	1.4373	0.2614	-1.0489	0.2426
1	344.88	0.6498	-0.1949	0.0097	-0.5231	0.0852	1.5944	0.3005	-1.3939	0.2528
1	344.88	0.6998	-0.2624	0.0108	-0.6210	0.0971	1.7714	0.3395	-1.3670	0.2463
1	344.88	0.7500	-0.2762	0.0114	-0.7015	0.1082	1.8692	0.3804	-1.4030	0.2480
1	344.88	0.8001	-0.3074	0.0122	-0.8218	0.1214	1.9307	0.4233	-1.4644	0.2360
1	344.88	0.8497	-0.3510	0.0128	-0.9056	0.1342	1.8545	0.4650	-1.6070	0.2454
1	344.88	0.9102	-0.3947	0.0137	-0.9841	0.1502	1.6871	0.5183	-1.8050	0.2463
1	344.88	0.9734	-0.4210	0.0175	-1.0879	0.1668	1.4448	0.5772	-1.8187	0.2468
2	344.88	0.1949	0.0340	0.0063	-0.0052	0.0017	0.0519	0.0118	0.0395	0.0581
2	344.88	0.2405	0.0140	0.0046	0.0036	0.0044	0.0797	0.0135	-0.1662	0.1364
2	344.88	0.2999	0.0007	0.0052	-0.0307	0.0061	0.1618	0.0330	-0.0149	0.1463
2	344.88	0.3498	-0.0424	0.0045	-0.0366	0.0144	0.2870	0.0506	-0.0500	0.1464
2	344.88	0.3998	-0.0722	0.0048	-0.0686	0.0199	0.4083	0.0736	-0.1751	0.1500
2	344.88	0.4496	-0.0979	0.0051	-0.1143	0.0247	0.5786	0.0948	-0.2381	0.1346
2	344.88	0.4995	-0.1336	0.0055	-0.1717	0.0302	0.7829	0.1179	-0.2609	0.1429
2	344.88	0.5551	-0.1630	0.0056	-0.2303	0.0373	1.0257	0.1464	-0.3070	0.1468
2	344.88	0.5996	-0.1966	0.0063	-0.2953	0.0428	1.2041	0.1702	-0.4232	0.1493
2	344.88	0.6497	-0.2157	0.0069	-0.3558	0.0494	1.4113	0.2003	-0.3843	0.1480
2	344.88	0.6996	-0.2574	0.0075	-0.4382	0.0560	1.5758	0.2315	-0.4305	0.1428
2	344.88	0.7495	-0.2878	0.0079	-0.5190	0.0632	1.6886	0.2643	-0.4452	0.1521
2	344.88	0.7996	-0.3143	0.0087	-0.6112	0.0705	1.7532	0.2994	-0.5575	0.1524
2	344.88	0.8578	-0.3686	0.0092	-0.7241	0.0793	1.7535	0.3395	-0.2908	0.1556
2	344.88	0.9100	-0.3906	0.0101	-0.7837	0.0876	1.6568	0.3774	-0.4818	0.1556
2	344.88	0.9727	-0.4589	0.0124	-0.8497	0.0974	1.6672	0.4236	-0.0223	0.1596
3	344.88	0.1938	0.0775	0.0075	-0.0200	0.0022	0.1087	0.0137	-0.3171	0.0545
3	344.88	0.2357	-0.0081	0.0045	0.0177	0.0056	0.1405	0.0165	-0.8291	0.1252
3	344.88	0.2995	-0.0397	0.0047	-0.0692	0.0074	0.3035	0.0392	-0.9604	0.1449
3	344.88	0.3493	-0.0648	0.0042	-0.1202	0.0164	0.4704	0.0592	-0.9970	0.1507
3	344.88	0.4000	-0.0917	0.0048	-0.1819	0.0247	0.6779	0.0880	-0.8759	0.1370
3	344.88	0.4497	-0.1299	0.0050	-0.2587	0.0298	0.8929	0.1125	-1.0374	0.1530
3	344.88	0.4997	-0.1618	0.0055	-0.3444	0.0363	1.1551	0.1434	-1.0452	0.1411
3	344.88	0.5556	-0.1951	0.0066	-0.4321	0.0423	1.4478	0.1778	-1.1234	0.1567
3	344.88	0.5995	-0.2212	0.0072	-0.5259	0.0511	1.6845	0.2088	-1.0805	0.1514
3	344.88	0.6498	-0.2463	0.0076	-0.6428	0.0573	1.9122	0.2483	-1.0732	0.1539
3	344.88	0.6890	-0.2962	0.0085	-0.7462	0.0637	2.0648	0.2791	-1.0187	0.1555
3	344.88	0.7495	-0.3291	0.0092	-0.8823	0.0734	2.1802	0.3321	-1.1600	0.1553
3	344.88	0.7998	-0.3449	0.0098	-1.0123	0.0811	2.2064	0.3786	-1.2976	0.1638
3	344.88	0.8577	-0.3429	0.0100	-1.1501	0.0915	2.1585	0.4344	-1.1852	0.1625
3	344.88	0.9178	-0.4267	0.0112	-1.3198	0.1022	1.9698	0.4925	-1.3483	0.1680
3	344.88	0.9729	-0.4708	0.0131	-1.4271	0.1122	1.8068	0.5440	-1.2544	0.1812
4	344.88	0.2001	0.1165	0.0056	-0.0045	0.0018	0.0142	0.0102	0.2410	0.0624
4	344.88	0.3001	-0.0108	0.0056	-0.0245	0.0090	0.0385	0.0282	0.5675	0.1433
4	344.88	0.3502	-0.0489	0.0040	-0.0489	0.0210	0.0321	0.0428	0.5328	0.1494
4	344.88	0.4002	-0.0833	0.0034	-0.0754	0.0305	0.0574	0.0633	0.5114	0.1431
4	344.88	0.4500	-0.1071	0.0043	-0.1135	0.0380	0.0861	0.0833	0.3169	0.1405
4	344.88	0.5001	-0.1412	0.0041	-0.1694	0.0459	0.1871	0.1054	0.4427	0.1504
4	344.88	0.5560	-0.1808	0.0049	-0.2162	0.0555	0.2459	0.1331	0.2604	0.1676
4	344.88	0.6001	-0.2051	0.0057	-0.2702	0.0625	0.2824	0.1575	0.1578	0.1451
4	344.88	0.6501	-0.2506	0.0062	-0.3519	0.0723	0.3254	0.1856	0.3163	0.1644
4	344.88	0.6999	-0.2796	0.0068	-0.4451	0.0813	0.2780	0.2133	0.3463	0.1680
4	344.88	0.7500	-0.3143	0.0072	-0.5263	0.0905	0.1683	0.2423	0.3887	0.1625
4	344.88	0.8002	-0.3522	0.0082	-0.6120	0.1007	-0.0367	0.2728	0.2441	0.1655
4	344.88	0.8582	-0.3872	0.0086	-0.7087	0.1124	-0.3919	0.3099	-0.0277	0.1709
4	344.88	0.9101	-0.4103	0.0090	-0.8053	0.1232	-0.7682	0.3461	0.0044	0.1697
4	344.88	0.9728	-0.4491	0.0113	-0.8776	0.1362	-1.1420	0.3904	0.5398	0.1801

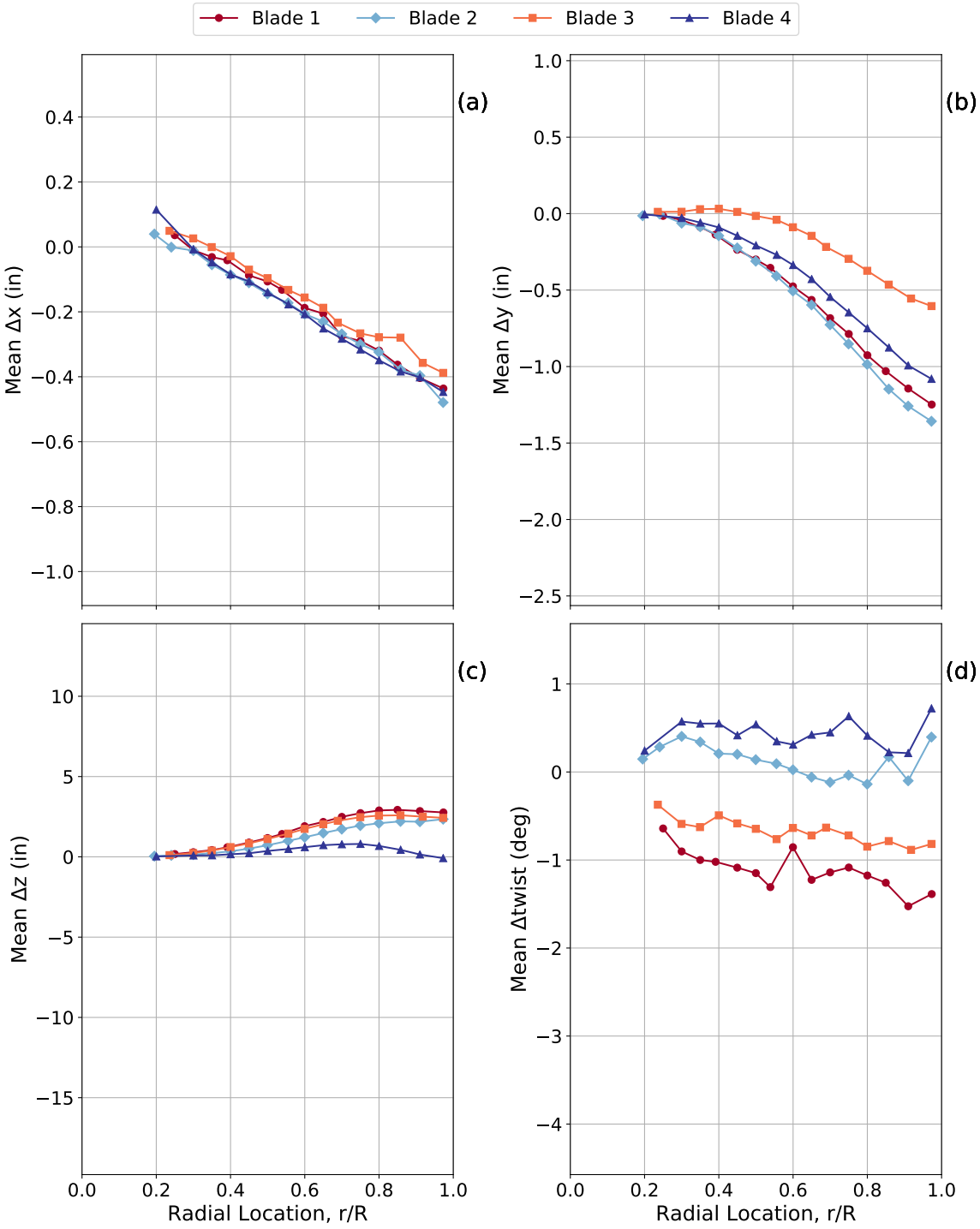


Figure 2.13-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2499	0.0360	0.0067	-0.0148	0.0072	0.1730	0.0409	-0.6417	0.3090
1	350.16	0.2998	-0.0103	0.0093	-0.0416	0.0162	0.2907	0.0635	-0.9026	0.4378
1	350.16	0.3498	-0.0313	0.0078	-0.0872	0.0269	0.4213	0.1107	-0.9996	0.3994
1	350.16	0.3913	-0.0412	0.0064	-0.1371	0.0419	0.5938	0.1493	-1.0205	0.3907
1	350.16	0.4496	-0.0878	0.0070	-0.2363	0.0547	0.8894	0.1980	-1.0869	0.3943
1	350.16	0.4997	-0.1065	0.0079	-0.2998	0.0669	1.1704	0.2433	-1.1489	0.3855
1	350.16	0.5387	-0.1322	0.0081	-0.3546	0.0761	1.4230	0.2771	-1.3080	0.3873
1	350.16	0.5996	-0.1878	0.0089	-0.4760	0.0925	1.9088	0.3305	-0.8546	0.3838
1	350.16	0.6498	-0.2056	0.0100	-0.5643	0.1051	2.1744	0.3735	-1.2252	0.3902
1	350.16	0.6998	-0.2750	0.0109	-0.6836	0.1190	2.4894	0.4197	-1.1407	0.3874
1	350.16	0.7500	-0.2899	0.0120	-0.7870	0.1324	2.7224	0.4662	-1.0853	0.3839
1	350.16	0.8001	-0.3195	0.0126	-0.9261	0.1457	2.8900	0.5141	-1.1760	0.3847
1	350.16	0.8497	-0.3627	0.0132	-1.0302	0.1588	2.9265	0.5625	-1.2588	0.3866
1	350.16	0.9102	-0.4039	0.0137	-1.1439	0.1755	2.8518	0.6247	-1.5254	0.3880
1	350.16	0.9734	-0.4362	0.0174	-1.2484	0.1930	2.7655	0.6919	-1.3869	0.3858
2	350.16	0.1949	0.0396	0.0146	-0.0138	0.0065	0.0410	0.0288	0.1470	0.1589
2	350.16	0.2405	-0.0009	0.0142	-0.0028	0.0050	0.0936	0.0261	0.2844	0.4225
2	350.16	0.2999	-0.0113	0.0147	-0.0623	0.0194	0.1392	0.0747	0.4043	0.4447
2	350.16	0.3498	-0.0549	0.0135	-0.0859	0.0347	0.2314	0.1233	0.3410	0.4349
2	350.16	0.3998	-0.0859	0.0134	-0.1446	0.0489	0.3436	0.1718	0.2090	0.4418
2	350.16	0.4496	-0.1106	0.0131	-0.2242	0.0638	0.5114	0.2202	0.2014	0.4415
2	350.16	0.4995	-0.1447	0.0127	-0.3109	0.0799	0.7206	0.2670	0.1398	0.4461
2	350.16	0.5551	-0.1726	0.0122	-0.4081	0.0963	0.9938	0.3207	0.0936	0.4425
2	350.16	0.5996	-0.2067	0.0118	-0.5060	0.1101	1.2193	0.3648	0.0247	0.4401
2	350.16	0.6497	-0.2301	0.0119	-0.5970	0.1251	1.4830	0.4120	-0.0584	0.4443
2	350.16	0.6996	-0.2682	0.0118	-0.7268	0.1410	1.7265	0.4619	-0.1171	0.4410
2	350.16	0.7495	-0.2998	0.0119	-0.8523	0.1560	1.9473	0.5121	-0.0363	0.4409
2	350.16	0.7996	-0.3240	0.0124	-0.9859	0.1719	2.0927	0.5657	-0.1384	0.4373
2	350.16	0.8578	-0.3779	0.0131	-1.1473	0.1898	2.2086	0.6290	0.1721	0.4436
2	350.16	0.9100	-0.3964	0.0135	-1.2588	0.2060	2.1875	0.6893	-0.1000	0.4400
2	350.16	0.9727	-0.4792	0.0179	-1.3578	0.2256	2.3456	0.7608	0.3967	0.4424
3	350.16	0.2357	0.0495	0.0063	0.0117	0.0042	0.1064	0.0270	-0.3717	0.2119
3	350.16	0.2995	0.0261	0.0052	0.0122	0.0099	0.2352	0.0515	-0.5897	0.3372
3	350.16	0.3493	-0.0007	0.0043	0.0291	0.0181	0.3890	0.0868	-0.6262	0.3294
3	350.16	0.4000	-0.0287	0.0041	0.0317	0.0284	0.6071	0.1287	-0.4924	0.3198
3	350.16	0.4497	-0.0701	0.0055	0.0112	0.0353	0.8375	0.1647	-0.5841	0.3113
3	350.16	0.4997	-0.0963	0.0056	-0.0150	0.0430	1.1111	0.2027	-0.6458	0.3085
3	350.16	0.5556	-0.1326	0.0069	-0.0402	0.0521	1.4477	0.2441	-0.7629	0.3200
3	350.16	0.5995	-0.1559	0.0078	-0.0892	0.0598	1.7401	0.2800	-0.6358	0.3044
3	350.16	0.6498	-0.1875	0.0087	-0.1454	0.0693	2.0302	0.3151	-0.7209	0.3184
3	350.16	0.6890	-0.2335	0.0095	-0.2177	0.0768	2.2443	0.3447	-0.6321	0.3166
3	350.16	0.7495	-0.2664	0.0108	-0.2956	0.0889	2.4718	0.3908	-0.7205	0.3156
3	350.16	0.7998	-0.2783	0.0121	-0.3737	0.0996	2.5701	0.4293	-0.8480	0.3174
3	350.16	0.8577	-0.2795	0.0126	-0.4644	0.1128	2.5888	0.4752	-0.7848	0.3162
3	350.16	0.9178	-0.3573	0.0132	-0.5552	0.1268	2.5016	0.5249	-0.8849	0.3143
3	350.16	0.9729	-0.3881	0.0167	-0.6047	0.1395	2.4291	0.5699	-0.8176	0.3224
4	350.16	0.2001	0.1146	0.0054	-0.0049	0.0016	0.0255	0.0100	0.2419	0.0742
4	350.16	0.3001	-0.0077	0.0057	-0.0286	0.0096	0.0847	0.0316	0.5730	0.1706
4	350.16	0.3502	-0.0474	0.0049	-0.0587	0.0148	0.0930	0.0527	0.5495	0.1692
4	350.16	0.4002	-0.0847	0.0045	-0.0905	0.0252	0.1613	0.0786	0.5510	0.1774
4	350.16	0.4500	-0.1063	0.0055	-0.1452	0.0294	0.2229	0.1049	0.4164	0.1759
4	350.16	0.5001	-0.1402	0.0056	-0.2081	0.0371	0.3665	0.1336	0.5401	0.1756
4	350.16	0.5560	-0.1772	0.0060	-0.2700	0.0449	0.4900	0.1678	0.3479	0.1755
4	350.16	0.6001	-0.2074	0.0062	-0.3363	0.0517	0.6016	0.1956	0.3104	0.1821
4	350.16	0.6501	-0.2514	0.0063	-0.4281	0.0607	0.7267	0.2325	0.4231	0.1892
4	350.16	0.6999	-0.2829	0.0071	-0.5447	0.0685	0.7823	0.2719	0.4496	0.1901
4	350.16	0.7500	-0.3161	0.0075	-0.6464	0.0778	0.8030	0.3171	0.6328	0.1947
4	350.16	0.8002	-0.3493	0.0080	-0.7502	0.0871	0.6769	0.3639	0.4123	0.2021
4	350.16	0.8582	-0.3839	0.0087	-0.8762	0.0972	0.4356	0.4240	0.2241	0.1984
4	350.16	0.9101	-0.4019	0.0093	-0.9928	0.1071	0.1460	0.4804	0.2144	0.2001
4	350.16	0.9728	-0.4469	0.0119	-1.0808	0.1193	-0.0833	0.5489	0.7222	0.2061

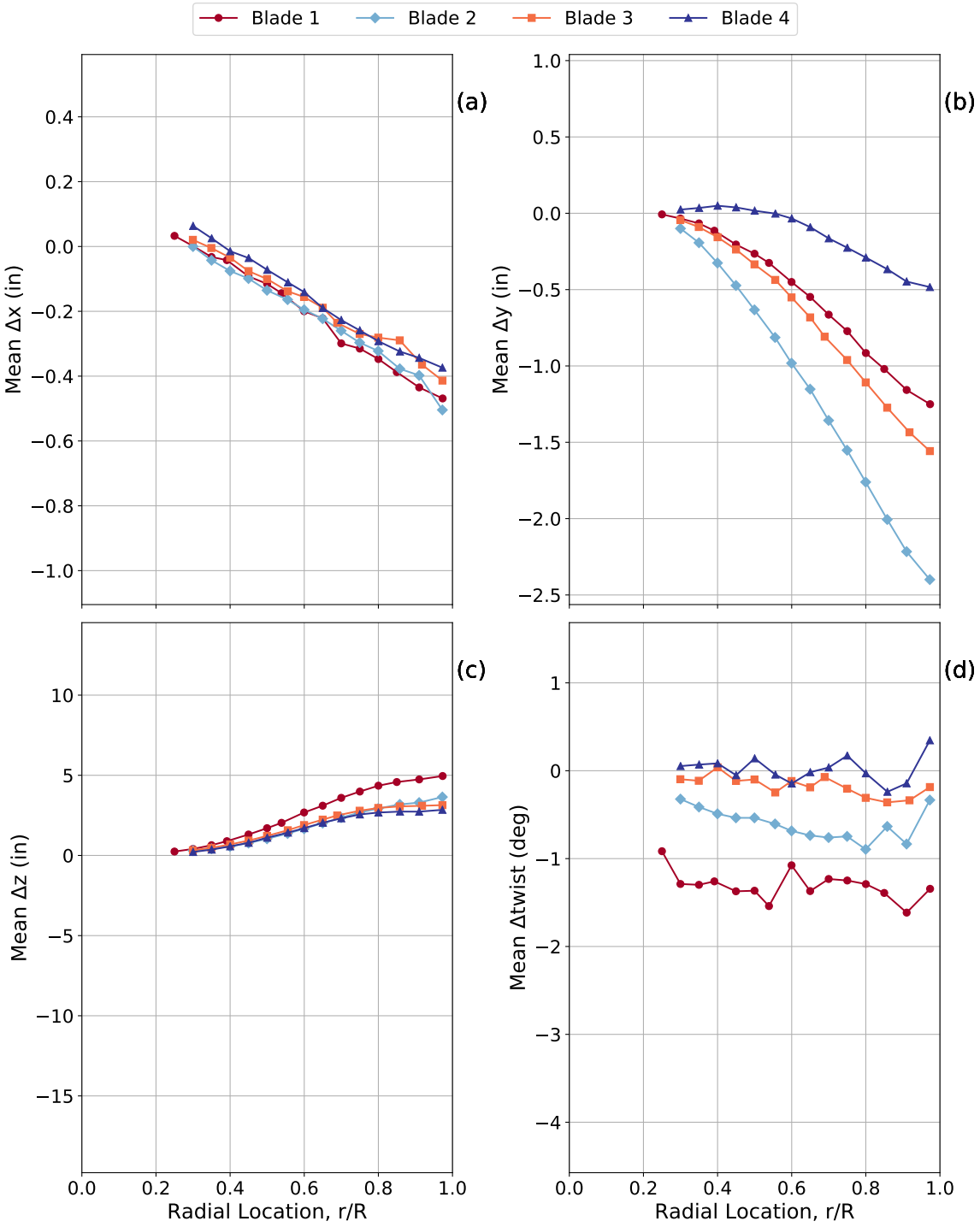


Figure 2.13-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.371, α = -8.4° NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Table 2.13-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.371, α = -8.4°
NFAC run 53, points 20 to 25. BD run 26, points 3222 to 3261.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2499	0.0328	0.0091	-0.0072	0.0102	0.2444	0.0517	-0.9159	0.3970
1	355.08	0.2998	0.0014	0.0128	-0.0343	0.0178	0.4050	0.0821	-1.2886	0.5602
1	355.08	0.3498	-0.0324	0.0096	-0.0663	0.0358	0.6401	0.1400	-1.2983	0.5491
1	355.08	0.3913	-0.0421	0.0102	-0.1141	0.0504	0.8911	0.1907	-1.2590	0.5442
1	355.08	0.4496	-0.0922	0.0111	-0.2047	0.0668	1.3075	0.2535	-1.3720	0.5468
1	355.08	0.4997	-0.1153	0.0118	-0.2650	0.0833	1.7016	0.3091	-1.3654	0.5475
1	355.08	0.5387	-0.1441	0.0131	-0.3251	0.0953	2.0346	0.3531	-1.5401	0.5461
1	355.08	0.5996	-0.1997	0.0153	-0.4500	0.1163	2.6813	0.4206	-1.0761	0.5477
1	355.08	0.6498	-0.2218	0.0170	-0.5480	0.1325	3.1035	0.4777	-1.3694	0.5397
1	355.08	0.6998	-0.2990	0.0183	-0.6640	0.1494	3.5935	0.5341	-1.2319	0.5450
1	355.08	0.7500	-0.3150	0.0202	-0.7720	0.1660	3.9864	0.5923	-1.2490	0.5471
1	355.08	0.8001	-0.3472	0.0219	-0.9154	0.1823	4.3515	0.6508	-1.2900	0.5539
1	355.08	0.8497	-0.3875	0.0229	-1.0199	0.1989	4.5805	0.7112	-1.3908	0.5506
1	355.08	0.9102	-0.4348	0.0247	-1.1573	0.2183	4.7424	0.7874	-1.6146	0.5446
1	355.08	0.9734	-0.4688	0.0299	-1.2504	0.2393	4.9544	0.8704	-1.3437	0.5495
2	355.08	0.2999	-0.0002	0.0257	-0.0998	0.0493	0.3035	0.0854	-0.3228	0.2109
2	355.08	0.3498	-0.0425	0.0268	-0.1930	0.0910	0.4178	0.1225	-0.4129	0.2772
2	355.08	0.3998	-0.0755	0.0273	-0.3256	0.1498	0.5614	0.1768	-0.4901	0.2675
2	355.08	0.4496	-0.0989	0.0266	-0.4730	0.2011	0.7724	0.2273	-0.5360	0.2628
2	355.08	0.4995	-0.1352	0.0274	-0.6325	0.2527	1.0387	0.2800	-0.5363	0.2727
2	355.08	0.5551	-0.1640	0.0279	-0.8134	0.3091	1.3697	0.3428	-0.6056	0.2634
2	355.08	0.5996	-0.1951	0.0285	-0.9820	0.3548	1.6619	0.3916	-0.6846	0.2671
2	355.08	0.6497	-0.2228	0.0294	-1.1519	0.4061	2.0172	0.4489	-0.7365	0.2670
2	355.08	0.6996	-0.2598	0.0304	-1.3568	0.4579	2.3570	0.5072	-0.7605	0.2675
2	355.08	0.7495	-0.2965	0.0316	-1.5521	0.5092	2.6750	0.5681	-0.7470	0.2690
2	355.08	0.7996	-0.3224	0.0323	-1.7606	0.5614	2.9294	0.6310	-0.8944	0.2725
2	355.08	0.8578	-0.3773	0.0335	-2.0057	0.6213	3.1837	0.7082	-0.6341	0.2751
2	355.08	0.9100	-0.3977	0.0347	-2.2161	0.6753	3.2969	0.7790	-0.8342	0.2813
2	355.08	0.9727	-0.5043	0.0518	-2.3992	0.7405	3.6451	0.8675	-0.3334	0.2819
3	355.08	0.2995	0.0205	0.0224	-0.0444	0.0457	0.3197	0.0915	-0.0968	0.2175
3	355.08	0.3493	-0.0047	0.0239	-0.0899	0.0840	0.4761	0.1296	-0.1142	0.2836
3	355.08	0.4000	-0.0346	0.0226	-0.1568	0.1394	0.6876	0.1842	0.0386	0.2661
3	355.08	0.4497	-0.0760	0.0236	-0.2373	0.1860	0.9268	0.2345	-0.1160	0.2717
3	355.08	0.4997	-0.1003	0.0244	-0.3347	0.2338	1.2201	0.2896	-0.0994	0.2629
3	355.08	0.5556	-0.1383	0.0252	-0.4366	0.2856	1.5725	0.3525	-0.2473	0.2688
3	355.08	0.5995	-0.1558	0.0262	-0.5510	0.3271	1.8946	0.4017	-0.1173	0.2687
3	355.08	0.6498	-0.1889	0.0268	-0.6820	0.3742	2.2353	0.4604	-0.1890	0.2667
3	355.08	0.6890	-0.2356	0.0276	-0.8083	0.4111	2.4947	0.5065	-0.0718	0.2688
3	355.08	0.7495	-0.2698	0.0287	-0.9612	0.4679	2.7901	0.5802	-0.2042	0.2705
3	355.08	0.7998	-0.2812	0.0298	-1.1078	0.5158	2.9629	0.6460	-0.3085	0.2662
3	355.08	0.8577	-0.2896	0.0304	-1.2734	0.5719	3.0605	0.7226	-0.3599	0.2737
3	355.08	0.9178	-0.3646	0.0314	-1.4345	0.6291	3.0969	0.8056	-0.3365	0.2695
3	355.08	0.9729	-0.4137	0.0462	-1.5576	0.6819	3.1401	0.8834	-0.1860	0.2702
4	355.08	0.3001	0.0633	0.0164	0.0241	0.0387	0.2165	0.0716	0.0528	0.2204
4	355.08	0.3502	0.0252	0.0190	0.0350	0.0706	0.3637	0.1128	0.0700	0.2910
4	355.08	0.4002	-0.0147	0.0174	0.0493	0.1156	0.5671	0.1737	0.0839	0.2658
4	355.08	0.4500	-0.0357	0.0175	0.0384	0.1545	0.7900	0.2253	-0.0512	0.2800
4	355.08	0.5001	-0.0721	0.0178	0.0167	0.1957	1.1073	0.2825	0.1406	0.2680
4	355.08	0.5560	-0.1110	0.0182	-0.0023	0.2407	1.4252	0.3486	-0.0443	0.2613
4	355.08	0.6001	-0.1409	0.0185	-0.0341	0.2757	1.7048	0.3987	-0.1457	0.2625
4	355.08	0.6501	-0.1898	0.0191	-0.0910	0.3152	2.0393	0.4555	-0.0171	0.2605
4	355.08	0.6999	-0.2271	0.0205	-0.1643	0.3564	2.3160	0.5113	0.0367	0.2591
4	355.08	0.7500	-0.2590	0.0212	-0.2259	0.3970	2.5578	0.5675	0.1724	0.2588
4	355.08	0.8002	-0.2923	0.0221	-0.2901	0.4383	2.6775	0.6232	-0.0297	0.2587
4	355.08	0.8582	-0.3241	0.0224	-0.3667	0.4857	2.7363	0.6843	-0.2401	0.2662
4	355.08	0.9101	-0.3437	0.0238	-0.4473	0.5279	2.7324	0.7436	-0.1438	0.2550
4	355.08	0.9728	-0.3739	0.0350	-0.4834	0.5783	2.8452	0.8139	0.3460	0.2550

2.14 Run 53, Points 34 to 39

2.14.1 Pitch, Flap, and Lag

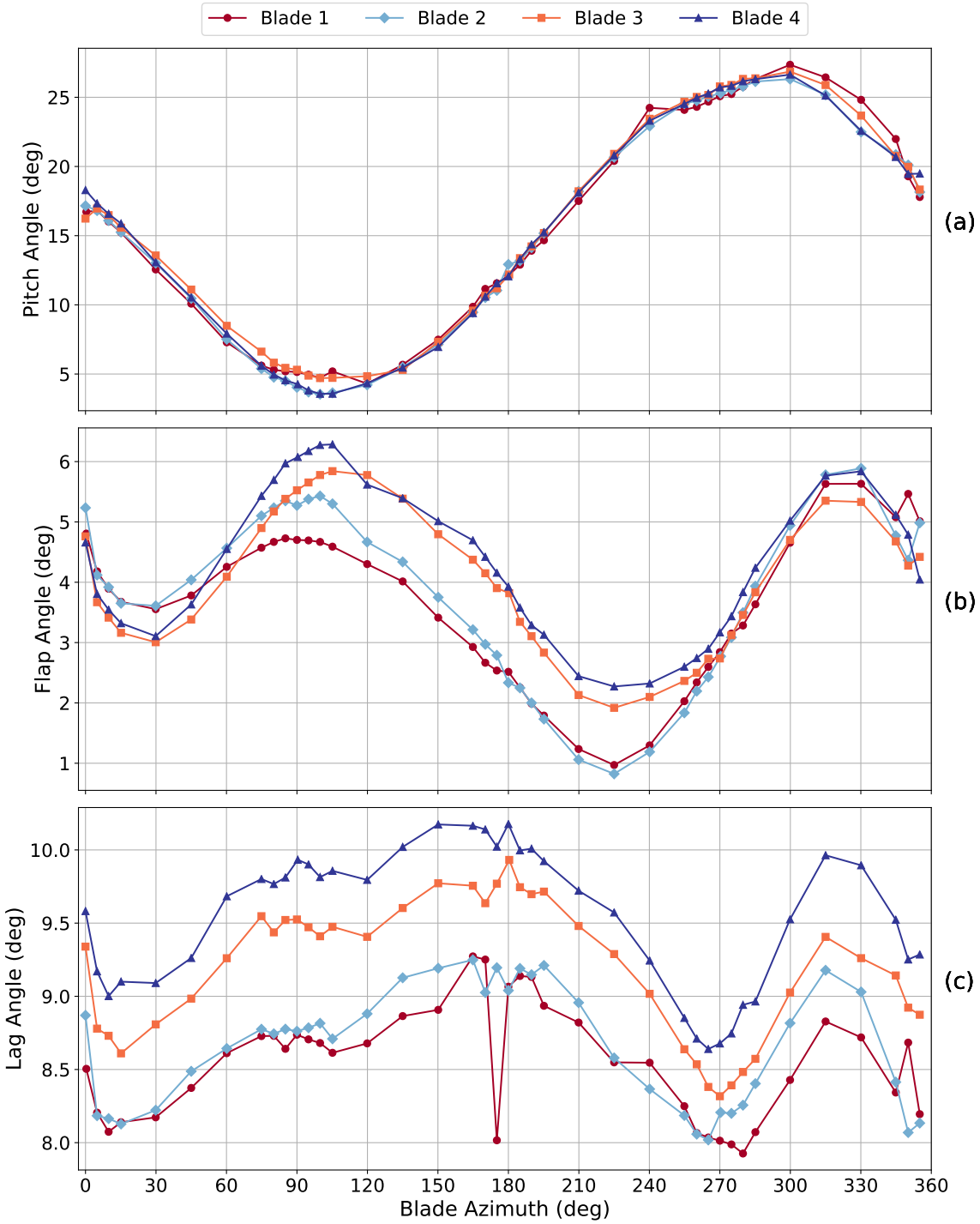


Figure 2.14-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	16.7234	4.8069	8.5044	0.3855	0.2845	0.3205
4.92	16.8187	4.1799	8.2050	0.2185	0.1309	0.1529
9.84	16.0156	3.8928	8.0743	0.2508	0.1392	0.2476
15.12	15.2280	3.6764	8.1397	0.1848	0.1351	0.2043
29.88	12.5576	3.5541	8.1730	0.1732	0.1392	0.2074
45	10.0857	3.7809	8.3739	0.2498	0.1082	0.1952
60.12	7.2916	4.2552	8.6114	0.1880	0.1192	0.1953
74.88	5.6094	4.5726	8.7281	0.1696	0.1107	0.2015
80.16	5.3096	4.6686	8.7299	0.1465	0.1025	0.1781
85.08	5.1905	4.7277	8.6411	0.1653	0.1160	0.2251
90	5.1462	4.7018	8.7377	0.1850	0.1086	0.1997
94.92	4.9550	4.6933	8.7057	0.2023	0.1502	0.2314
99.84	4.7257	4.6687	8.6808	0.1718	0.1227	0.1700
105.12	5.1926	4.5901	8.6141	0.2619	0.1256	0.1778
119.88	4.3030	4.3010	8.6783	0.1095	0.1622	0.1739
135	5.6716	4.0135	8.8649	0.1380	0.2279	0.1908
150.12	7.4860	3.4132	8.9074	0.2965	0.2622	0.2227
164.88	9.8579	2.9267	9.2727	0.1877	0.2490	0.2134
170.16	11.1532	2.6657	9.2511	0.3270	0.3284	0.1952
175.08	11.5612	2.5366	8.0163	0.4868	0.4187	0.2110
180	12.1137	2.5156	9.0655	1.4817	0.6323	0.4349
184.92	12.9001	2.2551	9.1388	0.1624	0.2471	0.2472
189.84	13.9114	1.9885	9.1321	0.1436	0.1966	0.2100
195.12	14.6685	1.7899	8.9352	0.1315	0.2429	0.1977
209.88	17.5092	1.2354	8.8208	0.1278	0.2263	0.1969
225	20.4018	0.9706	8.5486	0.1415	0.2082	0.2060
240.12	24.2380	1.2963	8.5463	0.3263	0.1581	0.2322
254.88	24.0896	2.0283	8.2493	0.2082	0.1772	0.1790
260.16	24.3104	2.3398	8.0663	0.3572	0.1569	0.2156
265.08	24.6880	2.5964	8.0354	0.1263	0.1569	0.1940
270	25.0748	2.8413	8.0136	0.2685	0.1314	0.2532
274.92	25.2353	3.1498	7.9881	0.1804	0.1308	0.1678
279.84	25.7633	3.2831	7.9260	0.1637	0.1262	0.1754
285.12	26.3168	3.6344	8.0721	0.2452	0.1629	0.2568
299.88	27.3514	4.6552	8.4285	0.1669	0.1343	0.2236
315	26.4390	5.6307	8.8280	0.1476	0.1229	0.1543
330.12	24.8173	5.6320	8.7193	0.3369	0.1583	0.2665
344.88	21.9858	5.0779	8.3427	0.5809	0.2155	0.2151
350.16	19.2891	5.4646	8.6837	0.4735	0.1281	0.2195
355.08	17.7928	5.0117	8.1949	0.9820	0.7426	0.3410

Table 2.14-2. Pitch, flap, and lag vs azimuth for Blade 2.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	17.1587	5.2340	8.8698	0.3599	0.1142	0.1825
4.92	16.8120	4.1195	8.1841	0.1847	0.1181	0.2143
9.84	16.0900	3.9187	8.1645	0.1602	0.0978	0.1398
15.12	15.2556	3.6516	8.1275	0.2014	0.1192	0.1816
29.88	13.0171	3.6091	8.2221	0.1499	0.1315	0.1669
45	10.4631	4.0399	8.4877	0.1688	0.0989	0.1545
60.12	7.5106	4.5655	8.6435	0.1707	0.1245	0.1751
74.88	5.3876	5.1015	8.7751	0.1319	0.1179	0.1826
80.16	4.7677	5.2334	8.7440	0.2359	0.1165	0.1972
85.08	4.5062	5.3499	8.7756	0.1479	0.1198	0.1715
90	4.0317	5.2722	8.7617	0.1761	0.1245	0.2217
94.92	3.6991	5.3776	8.7849	0.1617	0.1264	0.2291
99.84	3.5392	5.4298	8.8157	0.1485	0.1379	0.1978
105.12	3.6423	5.3004	8.7094	0.1945	0.1226	0.1661
119.88	4.2113	4.6672	8.8807	0.1497	0.1867	0.1551
135	5.4918	4.3375	9.1264	0.1656	0.1785	0.1907
150.12	7.1432	3.7508	9.1918	0.1682	0.2268	0.2024
164.88	9.4607	3.2141	9.2489	0.1493	0.2171	0.1645
170.16	10.5276	2.9711	9.0255	0.1876	0.2235	0.2453
175.08	11.0408	2.7897	9.1957	0.2556	0.2680	0.2000
180	12.9226	2.3342	9.0398	0.3049	0.2787	0.2415
184.92	13.1843	2.2487	9.1903	0.1350	0.2728	0.1936
189.84	14.1274	2.0002	9.1477	0.1355	0.2353	0.2307
195.12	15.1722	1.7318	9.2108	0.1672	0.2830	0.2168
209.88	18.2013	1.0598	8.9566	0.1503	0.2474	0.2434
225	20.6661	0.8237	8.5792	0.1687	0.2620	0.1707
240.12	22.9207	1.1882	8.3663	0.4158	0.2549	0.2607
254.88	24.5326	1.8356	8.1858	0.1827	0.1663	0.1753
260.16	24.7563	2.1951	8.0583	0.1797	0.1567	0.1933
265.08	25.0504	2.4293	8.0187	0.2017	0.1494	0.2068
270.35	25.2926	2.7724	8.2068	0.2182	0.1713	0.1567
274.92	25.5558	3.0856	8.2003	0.1508	0.1508	0.1280
279.84	25.7880	3.4964	8.2562	0.1619	0.1337	0.2149
285.12	26.1366	3.9353	8.4034	0.1509	0.1188	0.1876
299.88	26.3166	4.9419	8.8165	0.2095	0.1204	0.1420
315	25.1791	5.7810	9.1778	0.2058	0.1058	0.1665
330.12	22.4923	5.8885	9.0298	0.1562	0.1141	0.1888
344.88	20.8580	4.7719	8.4141	1.3940	0.5750	0.2898
350.16	20.1046	4.3653	8.0692	0.9837	0.4493	0.2426
355.08	18.1491	4.9836	8.1338	0.3938	0.3279	0.2765

Table 2.14-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	16.2334	4.7611	9.3395	0.3161	0.1368	0.2168
4.92	16.9629	3.6691	8.7793	0.1552	0.1465	0.2892
9.84	16.4837	3.4136	8.7304	0.2276	0.1192	0.2010
15.12	15.5765	3.1620	8.6102	0.2048	0.1251	0.1653
29.88	13.5678	3.0061	8.8082	0.1588	0.1287	0.1646
45	11.1041	3.3825	8.9842	0.2213	0.1353	0.1962
60.12	8.4834	4.0912	9.2601	0.1931	0.1005	0.2264
74.88	6.6189	4.8989	9.5474	0.1424	0.2543	0.1327
80.16	5.8198	5.1732	9.4368	0.1816	0.1025	0.2197
85.08	5.4454	5.3826	9.5214	0.1441	0.1060	0.2065
90	5.3104	5.5242	9.5250	0.1775	0.1259	0.2396
94.92	4.8845	5.6539	9.4718	0.1602	0.1441	0.2167
99.84	4.7074	5.7773	9.4102	0.1752	0.1681	0.2257
105.12	4.7220	5.8419	9.4749	0.2395	0.2196	0.2340
119.88	4.8425	5.7764	9.4062	0.2318	0.2698	0.2166
135	5.2995	5.3856	9.6032	0.1728	0.1982	0.1469
150.12	7.3279	4.7957	9.7722	0.3179	0.3535	0.2456
164.88	9.5864	4.3737	9.7554	0.1974	0.2695	0.1868
170.16	10.6631	4.1493	9.6361	0.2331	0.3034	0.1759
175.08	11.1993	3.9032	9.7696	0.2325	0.3266	0.2028
180.35	12.1905	3.8187	9.9318	0.3409	0.3013	0.1970
184.92	13.3764	3.3440	9.7453	0.1529	0.2388	0.1406
189.84	14.2229	3.1061	9.6977	0.1511	0.2499	0.2065
195.12	15.1940	2.8338	9.7153	0.1475	0.2570	0.1678
209.88	18.2061	2.1301	9.4804	0.1117	0.2132	0.1610
225	20.9123	1.9186	9.2885	0.1694	0.2184	0.1881
240.12	23.4490	2.0990	9.0172	0.1401	0.1938	0.1678
254.88	24.6771	2.3643	8.6382	0.3027	0.1792	0.2158
260.16	25.0274	2.4994	8.5353	0.2928	0.1521	0.1758
265.08	25.1653	2.7314	8.3807	0.3399	0.2184	0.2204
270	25.7873	2.7371	8.3173	0.3299	0.1809	0.1777
274.92	25.8951	3.1217	8.3918	0.2113	0.1564	0.1652
279.84	26.3306	3.4571	8.4830	0.1585	0.1188	0.1362
285.12	26.3705	3.8338	8.5728	0.3489	0.1712	0.1392
299.88	26.8590	4.7019	9.0255	0.1792	0.1085	0.1910
315	25.8889	5.3518	9.4059	0.1964	0.1213	0.1759
330.12	23.6769	5.3310	9.2607	0.2450	0.1693	0.2266
344.88	20.7571	4.6772	9.1424	0.2988	0.1727	0.1950
350.16	19.9753	4.2756	8.9225	0.4372	0.2248	0.1918
355.08	18.3333	4.4206	8.8740	0.3864	0.2742	0.2343

Table 2.14-4. Pitch, flap, and lag vs azimuth for Blade 4.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	18.2910	4.6587	9.5820	0.3839	0.1578	0.1692
4.92	17.3343	3.8054	9.1702	0.1790	0.1546	0.2574
9.84	16.5760	3.5448	9.0011	0.1799	0.1063	0.1946
15.12	15.8761	3.3203	9.1000	0.2405	0.1628	0.2716
29.88	13.0750	3.1068	9.0905	0.2240	0.1283	0.2377
45	10.5299	3.6321	9.2616	0.2006	0.1266	0.1836
60.12	7.9185	4.5517	9.6832	0.2198	0.0978	0.2914
74.88	5.5993	5.4313	9.8012	0.1660	0.1248	0.2084
80.16	4.9540	5.6954	9.7668	0.1824	0.1203	0.2191
85.08	4.5459	5.9706	9.8116	0.1621	0.1262	0.2417
90.35	4.2575	6.0751	9.9328	0.1798	0.1434	0.1868
94.92	3.8130	6.1744	9.9008	0.1787	0.1405	0.1777
99.84	3.5709	6.2752	9.8142	0.2294	0.2201	0.2486
105.12	3.5742	6.2852	9.8569	0.2107	0.1789	0.2018
119.88	4.3311	5.6185	9.7952	0.1566	0.2170	0.2394
135	5.4568	5.3928	10.0202	0.1856	0.2792	0.2070
150.12	6.9518	5.0121	10.1740	0.1642	0.2644	0.1992
164.88	9.4000	4.6959	10.1652	0.1494	0.2269	0.2326
170.16	10.5928	4.4205	10.1398	0.1440	0.2296	0.1961
175.08	11.5591	4.1580	10.0221	0.2606	0.2784	0.2502
180	12.0602	3.9262	10.1770	0.3031	0.2448	0.2289
184.92	13.3055	3.5786	9.9968	0.1724	0.2434	0.2193
189.84	14.3708	3.2891	10.0081	0.1292	0.2169	0.1889
195.12	15.2303	3.1296	9.9234	0.1447	0.2465	0.1969
209.88	18.1018	2.4436	9.7213	0.1218	0.2461	0.2253
225	20.7993	2.2722	9.5726	0.1549	0.1950	0.2238
240.12	23.3046	2.3218	9.2440	0.1936	0.1780	0.2395
254.88	24.5183	2.5986	8.8521	0.1385	0.1644	0.2021
260.16	24.9631	2.7432	8.7110	0.2892	0.1967	0.1994
265.08	25.2679	2.8965	8.6398	0.1457	0.1156	0.1566
270	25.7126	3.1686	8.6777	0.3468	0.1984	0.2293
274.92	25.8275	3.4358	8.7461	0.1714	0.1573	0.2745
279.84	26.1564	3.8356	8.9414	0.3202	0.1947	0.2099
285.12	26.3089	4.2393	8.9646	0.1585	0.1161	0.1836
299.88	26.6389	5.0210	9.5260	0.1298	0.1444	0.1931
315	25.1206	5.7665	9.9634	0.1785	0.1182	0.2094
330.12	22.5766	5.8390	9.8951	0.2222	0.1533	0.2156
344.88	20.6851	5.1170	9.5224	0.2805	0.1262	0.1905
350.16	19.4597	4.7879	9.2514	0.4158	0.1441	0.2653
355.08	19.4833	4.0441	9.2854	0.5271	0.3390	0.2327

2.14.2 Spanwise Elastic Deformations

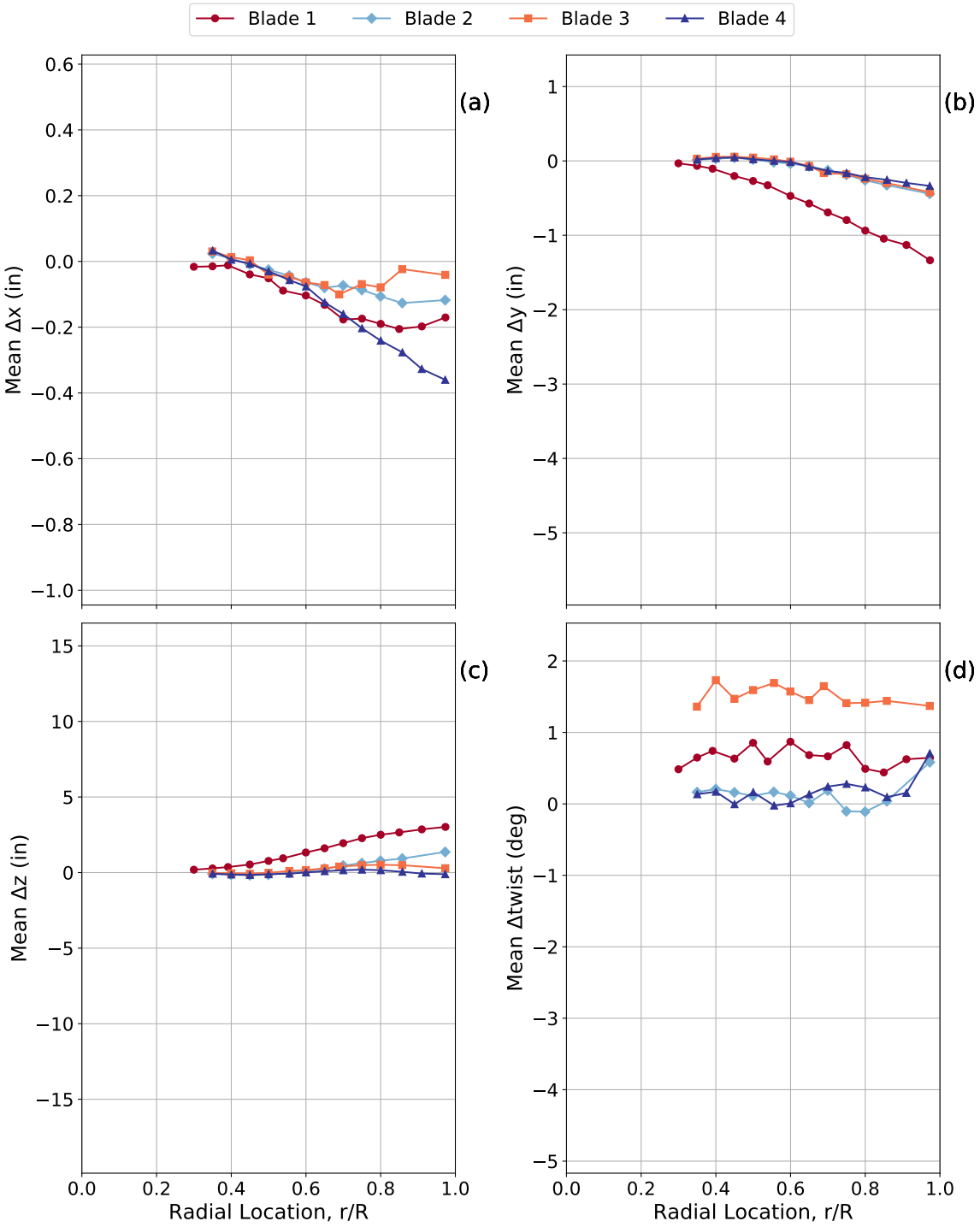


Figure 2.14-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2998	-0.0163	0.0142	-0.0323	0.0356	0.1909	0.1482	0.4847	0.2862
1	0.35	0.3498	-0.0150	0.0147	-0.0659	0.0675	0.2761	0.2226	0.6479	0.3768
1	0.35	0.3913	-0.0117	0.0157	-0.1050	0.1044	0.3664	0.3035	0.7421	0.3399
1	0.35	0.4496	-0.0395	0.0168	-0.2027	0.1486	0.5330	0.4005	0.6335	0.3492
1	0.35	0.4997	-0.0514	0.0180	-0.2694	0.1870	0.7719	0.4862	0.8543	0.3526
1	0.35	0.5387	-0.0888	0.0192	-0.3272	0.2166	0.9465	0.5534	0.5934	0.3471
1	0.35	0.5996	-0.1036	0.0218	-0.4711	0.2646	1.3282	0.6597	0.8702	0.3562
1	0.35	0.6498	-0.1321	0.0238	-0.5727	0.3033	1.6097	0.7473	0.6834	0.3418
1	0.35	0.6998	-0.1766	0.0264	-0.6921	0.3430	1.9452	0.8371	0.6655	0.3537
1	0.35	0.7500	-0.1740	0.0280	-0.7955	0.3819	2.2774	0.9276	0.8227	0.3456
1	0.35	0.8001	-0.1900	0.0302	-0.9368	0.4261	2.5049	1.0187	0.4908	0.3557
1	0.35	0.8497	-0.2056	0.0316	-1.0452	0.4643	2.6577	1.1075	0.4404	0.3625
1	0.35	0.9102	-0.1978	0.0344	-1.1305	0.5138	2.8588	1.2197	0.6251	0.3867
1	0.35	0.9734	-0.1705	0.0492	-1.3357	0.5648	3.0224	1.3459	0.6452	0.3586
2	0	0.3498	0.0237	0.0021	0.0144	0.0074	-0.0879	0.0192	0.1644	0.2875
2	0	0.3998	0.0092	0.0016	0.0293	0.0131	-0.1495	0.0327	0.2073	0.3645
2	0	0.4496	-0.0090	0.0015	0.0423	0.0124	-0.1730	0.0316	0.1604	0.3283
2	0	0.4995	-0.0251	0.0019	0.0195	0.0122	-0.1385	0.0343	0.1114	0.3315
2	0	0.5551	-0.0434	0.0029	-0.0171	0.0149	-0.0140	0.0403	0.1665	0.3482
2	0	0.5996	-0.0635	0.0037	-0.0371	0.0173	0.0954	0.0427	0.1171	0.3219
2	0	0.6497	-0.0801	0.0036	-0.0716	0.0209	0.2489	0.0540	0.0131	0.3466
2	0	0.6996	-0.0732	0.0051	-0.1258	0.0245	0.4651	0.0648	0.1870	0.3518
2	0	0.7495	-0.0867	0.0055	-0.1861	0.0315	0.6244	0.0805	-0.1035	0.3398
2	0	0.7996	-0.1064	0.0063	-0.2605	0.0363	0.7844	0.0970	-0.1099	0.3473
2	0	0.8578	-0.1266	0.0081	-0.3257	0.0431	0.9299	0.1196	0.0377	0.3525
2	0	0.9727	-0.1176	0.0109	-0.4411	0.0594	1.3649	0.1888	0.5825	0.3523
3	0	0.3493	0.0303	0.0028	0.0302	0.0145	-0.0280	0.0223	1.3610	0.2911
3	0	0.4000	0.0130	0.0018	0.0541	0.0260	-0.0453	0.0376	1.7308	0.3705
3	0	0.4497	0.0034	0.0016	0.0559	0.0245	-0.0768	0.0388	1.4701	0.3556
3	0	0.4997	-0.0401	0.0028	0.0446	0.0236	-0.0152	0.0393	1.5927	0.3485
3	0	0.5556	-0.0468	0.0031	0.0211	0.0260	0.1067	0.0458	1.6922	0.3644
3	0	0.5995	-0.0636	0.0035	-0.0100	0.0259	0.1646	0.0469	1.5733	0.3589
3	0	0.6498	-0.0718	0.0040	-0.0676	0.0290	0.2797	0.0529	1.4535	0.3554
3	0	0.6890	-0.1003	0.0052	-0.1635	0.0310	0.3982	0.0604	1.6480	0.3557
3	0	0.7495	-0.0690	0.0055	-0.1784	0.0361	0.4864	0.0752	1.4100	0.3575
3	0	0.7998	-0.0789	0.0054	-0.2398	0.0406	0.5171	0.0919	1.4156	0.3827
3	0	0.8577	-0.0236	0.0068	-0.2972	0.0477	0.4886	0.1222	1.4418	0.3919
3	0	0.9729	-0.0410	0.0123	-0.4214	0.0664	0.2876	0.1914	1.3711	0.3933
4	0	0.3502	0.0331	0.0267	0.0197	0.0101	-0.0736	0.0171	0.1349	0.2223
4	0	0.4002	0.0051	0.0081	0.0378	0.0179	-0.1241	0.0289	0.1702	0.2817
4	0	0.4500	-0.0071	0.0091	0.0473	0.0185	-0.1577	0.0319	-0.0049	0.2771
4	0	0.5001	-0.0301	0.0249	0.0227	0.0195	-0.1084	0.0319	0.1635	0.2670
4	0	0.5560	-0.0569	0.0425	0.0013	0.0217	-0.0702	0.0376	-0.0237	0.2795
4	0	0.6001	-0.0762	0.0541	-0.0145	0.0247	0.0078	0.0420	0.0082	0.2796
4	0	0.6501	-0.1248	0.0672	-0.0785	0.0300	0.0930	0.0509	0.1342	0.2818
4	0	0.6999	-0.1600	0.0793	-0.1345	0.0395	0.1565	0.0647	0.2421	0.2853
4	0	0.7500	-0.2033	0.0893	-0.1622	0.0517	0.1934	0.0832	0.2799	0.2860
4	0	0.8002	-0.2411	0.1014	-0.2187	0.0643	0.1577	0.1087	0.2306	0.3024
4	0	0.8582	-0.2767	0.1125	-0.2544	0.0848	0.0516	0.1485	0.0949	0.2964
4	0	0.9101	-0.3272	0.1220	-0.2957	0.1051	-0.0642	0.1953	0.1537	0.3351
4	0	0.9728	-0.3600	0.1350	-0.3364	0.1218	-0.1085	0.2574	0.7073	0.3240

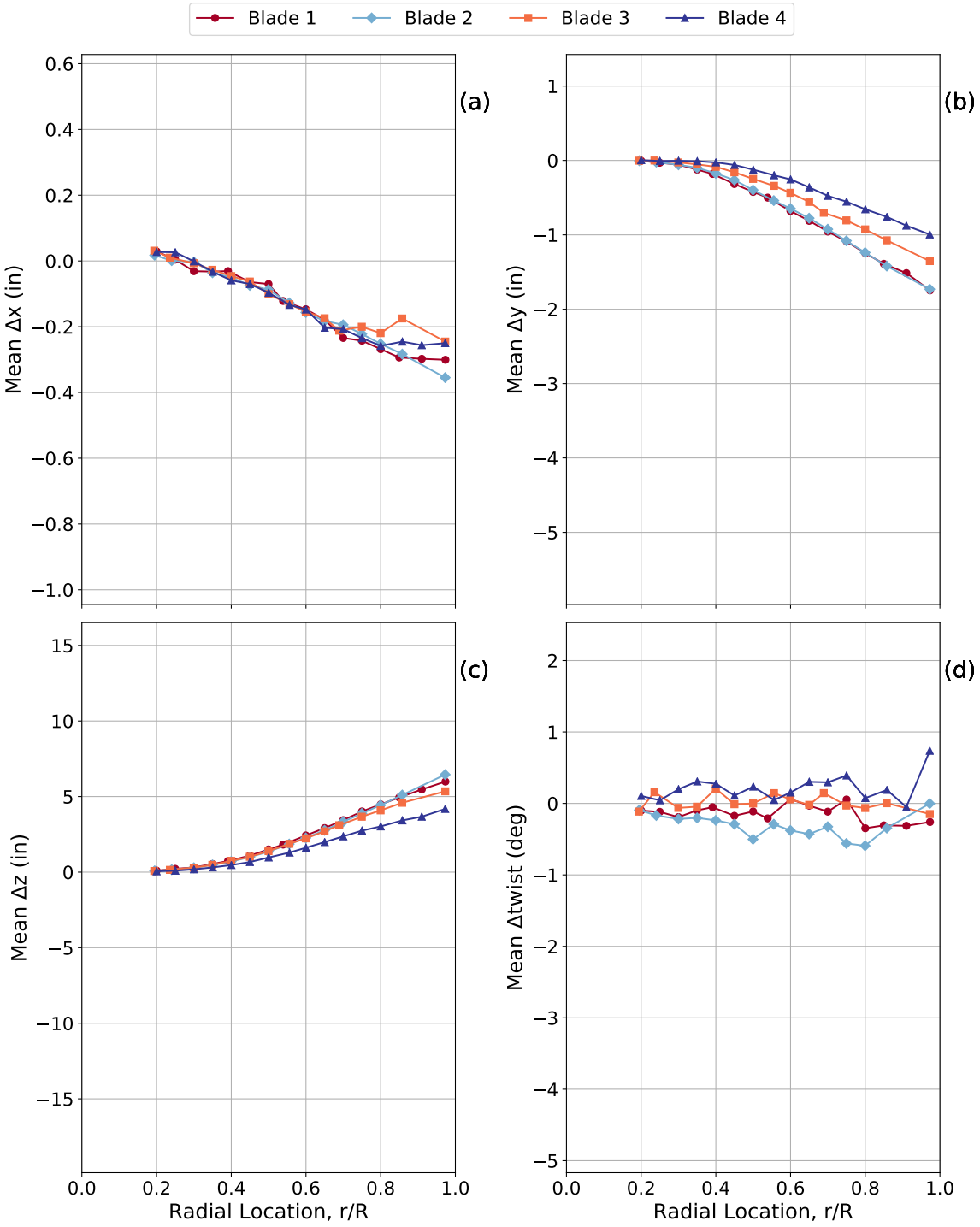


Figure 2.14-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0291	0.0024	-0.0057	0.0014	0.1005	0.0100	-0.1001	0.0548
1	4.92	0.2499	0.0040	0.0022	-0.0313	0.0047	0.2179	0.0210	-0.1178	0.0672
1	4.92	0.2998	-0.0312	0.0018	-0.0574	0.0075	0.3121	0.0294	-0.1917	0.1089
1	4.92	0.3498	-0.0324	0.0030	-0.1228	0.0144	0.5349	0.0502	-0.0963	0.0734
1	4.92	0.3913	-0.0309	0.0034	-0.1808	0.0212	0.7386	0.0685	-0.0529	0.0783
1	4.92	0.4496	-0.0642	0.0036	-0.3169	0.0266	1.0909	0.0899	-0.1734	0.0774
1	4.92	0.4997	-0.0703	0.0043	-0.4231	0.0319	1.5019	0.1090	-0.1123	0.0912
1	4.92	0.5387	-0.1217	0.0047	-0.4998	0.0376	1.8224	0.1290	-0.2094	0.0782
1	4.92	0.5996	-0.1469	0.0063	-0.6790	0.0447	2.4280	0.1597	0.0599	0.0871
1	4.92	0.6498	-0.1786	0.0075	-0.8121	0.0523	2.9142	0.1874	-0.0309	0.0817
1	4.92	0.6998	-0.2342	0.0085	-0.9559	0.0605	3.4401	0.2153	-0.1150	0.0946
1	4.92	0.7500	-0.2426	0.0099	-1.0890	0.0707	4.0166	0.2461	0.0549	0.1027
1	4.92	0.8001	-0.2682	0.0108	-1.2466	0.0787	4.4796	0.2794	-0.3472	0.1088
1	4.92	0.8497	-0.2936	0.0120	-1.3895	0.0884	4.9370	0.3126	-0.3069	0.0990
1	4.92	0.9102	-0.2976	0.0161	-1.5149	0.1015	5.4726	0.3619	-0.3130	0.1477
1	4.92	0.9734	-0.3005	0.0190	-1.7470	0.1136	5.9906	0.4182	-0.2597	0.1410
2	4.92	0.1949	0.0175	0.0024	-0.0035	0.0015	0.0864	0.0071	-0.0927	0.0611
2	4.92	0.2405	0.0010	0.0022	-0.0219	0.0044	0.1625	0.0180	-0.1684	0.0667
2	4.92	0.2999	-0.0030	0.0027	-0.0586	0.0068	0.2886	0.0233	-0.2173	0.1257
2	4.92	0.3498	-0.0359	0.0024	-0.0986	0.0130	0.4759	0.0409	-0.2022	0.1118
2	4.92	0.3998	-0.0503	0.0034	-0.1739	0.0207	0.7048	0.0600	-0.2368	0.0812
2	4.92	0.4496	-0.0743	0.0034	-0.2632	0.0254	0.9959	0.0743	-0.2902	0.0954
2	4.92	0.4995	-0.0872	0.0041	-0.3970	0.0314	1.3534	0.0923	-0.5013	0.0974
2	4.92	0.5551	-0.1275	0.0051	-0.5397	0.0368	1.8583	0.1138	-0.2910	0.1003
2	4.92	0.5996	-0.1567	0.0060	-0.6460	0.0426	2.2642	0.1318	-0.3779	0.0989
2	4.92	0.6497	-0.1828	0.0063	-0.7765	0.0493	2.7690	0.1541	-0.4281	0.1013
2	4.92	0.6996	-0.1941	0.0070	-0.9250	0.0562	3.3317	0.1773	-0.3259	0.0995
2	4.92	0.7495	-0.2220	0.0085	-1.0804	0.0631	3.8821	0.1994	-0.5597	0.0941
2	4.92	0.7996	-0.2521	0.0090	-1.2383	0.0704	4.4275	0.2224	-0.5921	0.1124
2	4.92	0.8578	-0.2833	0.0108	-1.4201	0.0798	5.1031	0.2514	-0.3451	0.1307
2	4.92	0.9727	-0.3548	0.0149	-1.7307	0.0960	6.4531	0.3163	-0.0020	0.1383
3	4.92	0.1938	0.0313	0.0020	-0.0031	0.0041	0.0745	0.0091	-0.1141	0.0471
3	4.92	0.2357	0.0101	0.0041	-0.0013	0.0031	0.1494	0.0160	0.1572	0.0726
3	4.92	0.2995	-0.0069	0.0037	-0.0269	0.0138	0.2965	0.0259	-0.0626	0.1036
3	4.92	0.3493	-0.0270	0.0045	-0.0530	0.0245	0.4783	0.0406	-0.0456	0.1052
3	4.92	0.4000	-0.0462	0.0044	-0.0858	0.0366	0.7439	0.0600	0.2067	0.0925
3	4.92	0.4497	-0.0626	0.0048	-0.1589	0.0468	1.0160	0.0753	-0.0110	0.0952
3	4.92	0.4997	-0.1009	0.0052	-0.2481	0.0571	1.3918	0.0922	-0.0009	0.1026
3	4.92	0.5556	-0.1316	0.0055	-0.3417	0.0690	1.8735	0.1143	0.1442	0.0997
3	4.92	0.5995	-0.1538	0.0065	-0.4347	0.0784	2.2352	0.1311	0.0566	0.1116
3	4.92	0.6498	-0.1742	0.0061	-0.5574	0.0900	2.6995	0.1536	-0.0203	0.0988
3	4.92	0.6890	-0.2120	0.0074	-0.7035	0.0983	3.1019	0.1665	0.1451	0.1025
3	4.92	0.7495	-0.2002	0.0087	-0.8061	0.1126	3.6665	0.1895	-0.0297	0.1167
3	4.92	0.7998	-0.2195	0.0100	-0.9269	0.1237	4.0871	0.2120	-0.0642	0.1029
3	4.92	0.8577	-0.1749	0.0104	-1.0736	0.1373	4.5881	0.2322	0.0029	0.1307
3	4.92	0.9729	-0.2451	0.0154	-1.3529	0.1643	5.3458	0.2790	-0.1486	0.1799
4	4.92	0.2001	0.0274	0.0026	0.0040	0.0040	0.0543	0.0120	0.1046	0.0529
4	4.92	0.2502	0.0264	0.0031	-0.0073	0.0045	0.0949	0.0207	0.0433	0.0850
4	4.92	0.3001	-0.0013	0.0028	-0.0043	0.0127	0.1852	0.0335	0.1992	0.1135
4	4.92	0.3502	-0.0332	0.0043	-0.0108	0.0229	0.3124	0.0512	0.3075	0.0951
4	4.92	0.4002	-0.0591	0.0037	-0.0267	0.0327	0.4678	0.0772	0.2748	0.0868
4	4.92	0.4500	-0.0702	0.0044	-0.0608	0.0416	0.6679	0.0934	0.1100	0.0951
4	4.92	0.5001	-0.0967	0.0047	-0.1244	0.0503	0.9696	0.1156	0.2352	0.1011
4	4.92	0.5560	-0.1337	0.0053	-0.1994	0.0612	1.2944	0.1443	0.0480	0.0904
4	4.92	0.6001	-0.1477	0.0055	-0.2550	0.0694	1.6165	0.1677	0.1527	0.1088
4	4.92	0.6501	-0.2032	0.0067	-0.3620	0.0778	1.9903	0.1949	0.3025	0.1035
4	4.92	0.6999	-0.2073	0.0074	-0.4762	0.0869	2.3692	0.2257	0.2960	0.1083
4	4.92	0.7500	-0.2349	0.0086	-0.5542	0.0974	2.7461	0.2569	0.3913	0.1130
4	4.92	0.8002	-0.2581	0.0100	-0.6566	0.1070	3.0264	0.2921	0.0751	0.1283
4	4.92	0.8582	-0.2454	0.0113	-0.7595	0.1189	3.4235	0.3362	0.1892	0.1425
4	4.92	0.9101	-0.2562	0.0117	-0.8766	0.1322	3.6695	0.3813	-0.0510	0.1559
4	4.92	0.9728	-0.2500	0.0170	-0.9948	0.1457	4.1811	0.4401	0.7368	0.1681

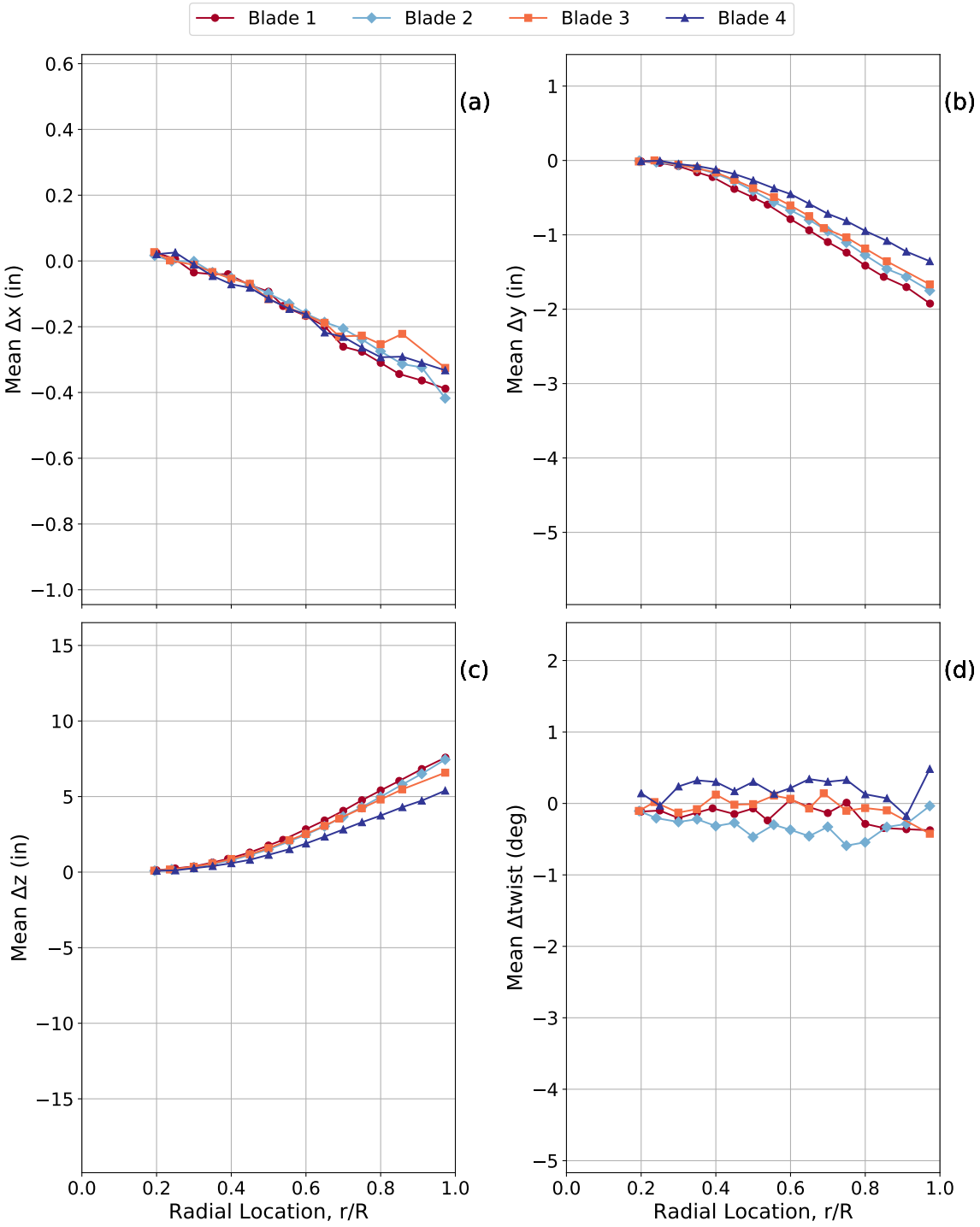


Figure 2.14-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0246	0.0025	-0.0127	0.0015	0.1237	0.0108	-0.1141	0.0527
1	9.84	0.2499	0.0057	0.0026	-0.0318	0.0048	0.2459	0.0198	-0.0994	0.0663
1	9.84	0.2998	-0.0351	0.0017	-0.0760	0.0080	0.3806	0.0324	-0.2044	0.1073
1	9.84	0.3498	-0.0404	0.0029	-0.1590	0.0149	0.6360	0.0522	-0.1286	0.0874
1	9.84	0.3913	-0.0402	0.0042	-0.2230	0.0221	0.8787	0.0721	-0.0681	0.0821
1	9.84	0.4496	-0.0734	0.0047	-0.3824	0.0281	1.2992	0.0948	-0.1489	0.0909
1	9.84	0.4997	-0.0932	0.0054	-0.4974	0.0348	1.7629	0.1200	-0.0706	0.0867
1	9.84	0.5387	-0.1371	0.0059	-0.5936	0.0399	2.1374	0.1389	-0.2379	0.0872
1	9.84	0.5996	-0.1672	0.0073	-0.7879	0.0483	2.8370	0.1683	0.0550	0.0932
1	9.84	0.6498	-0.1982	0.0078	-0.9386	0.0560	3.4204	0.1932	-0.0514	0.0902
1	9.84	0.6998	-0.2608	0.0084	-1.0964	0.0635	4.0591	0.2195	-0.1340	0.1003
1	9.84	0.7500	-0.2760	0.0097	-1.2390	0.0715	4.7592	0.2472	0.0105	0.0980
1	9.84	0.8001	-0.3098	0.0110	-1.4144	0.0803	5.4088	0.2762	-0.2863	0.1029
1	9.84	0.8497	-0.3438	0.0120	-1.5649	0.0888	6.0358	0.3081	-0.3442	0.1109
1	9.84	0.9102	-0.3636	0.0135	-1.7024	0.0995	6.8214	0.3498	-0.3611	0.1394
1	9.84	0.9734	-0.3883	0.0172	-1.9243	0.1118	7.5808	0.3948	-0.3752	0.1384
2	9.84	0.1949	0.0165	0.0025	-0.0045	0.0015	0.0924	0.0081	-0.1065	0.0461
2	9.84	0.2405	-0.0003	0.0025	-0.0229	0.0041	0.1780	0.0136	-0.2055	0.0603
2	9.84	0.2999	-0.0011	0.0019	-0.0604	0.0072	0.3164	0.0231	-0.2590	0.0993
2	9.84	0.3498	-0.0346	0.0027	-0.1036	0.0149	0.5315	0.0383	-0.2212	0.0719
2	9.84	0.3998	-0.0512	0.0027	-0.1795	0.0223	0.7873	0.0546	-0.3165	0.0746
2	9.84	0.4496	-0.0725	0.0032	-0.2766	0.0280	1.1214	0.0670	-0.2719	0.0776
2	9.84	0.4995	-0.0985	0.0039	-0.4077	0.0335	1.4959	0.0800	-0.4703	0.0798
2	9.84	0.5551	-0.1301	0.0043	-0.5594	0.0414	2.0313	0.0994	-0.2981	0.0856
2	9.84	0.5996	-0.1602	0.0050	-0.6670	0.0477	2.4727	0.1171	-0.3693	0.0784
2	9.84	0.6497	-0.1863	0.0056	-0.7988	0.0548	3.0288	0.1369	-0.4574	0.0833
2	9.84	0.6996	-0.2058	0.0066	-0.9491	0.0621	3.6723	0.1580	-0.3284	0.0855
2	9.84	0.7495	-0.2382	0.0069	-1.1035	0.0694	4.2986	0.1800	-0.5904	0.0998
2	9.84	0.7996	-0.2747	0.0082	-1.2716	0.0782	4.9781	0.2045	-0.5436	0.0890
2	9.84	0.8578	-0.3137	0.0094	-1.4588	0.0865	5.7957	0.2297	-0.3304	0.0986
2	9.84	0.9100	-0.3235	0.0107	-1.5650	0.0997	6.5048	0.2642	-0.2868	0.1538
2	9.84	0.9727	-0.4175	0.0139	-1.7503	0.1080	7.4489	0.3010	-0.0349	0.0990
3	9.84	0.1938	0.0268	0.0021	-0.0139	0.0011	0.1003	0.0079	-0.1047	0.0483
3	9.84	0.2357	0.0016	0.0019	0.0007	0.0031	0.1746	0.0160	0.0191	0.0591
3	9.84	0.2995	-0.0118	0.0027	-0.0572	0.0055	0.3569	0.0254	-0.1279	0.1035
3	9.84	0.3493	-0.0338	0.0027	-0.1068	0.0119	0.5690	0.0451	-0.0800	0.0758
3	9.84	0.4000	-0.0540	0.0029	-0.1622	0.0178	0.8677	0.0649	0.1236	0.0875
3	9.84	0.4497	-0.0695	0.0034	-0.2608	0.0216	1.1786	0.0849	-0.0172	0.0744
3	9.84	0.4997	-0.1163	0.0035	-0.3703	0.0269	1.5874	0.1085	-0.0102	0.0794
3	9.84	0.5556	-0.1427	0.0041	-0.4912	0.0324	2.1126	0.1368	0.1097	0.0836
3	9.84	0.5995	-0.1649	0.0047	-0.6044	0.0362	2.5280	0.1595	0.0652	0.0865
3	9.84	0.6498	-0.1880	0.0052	-0.7487	0.0418	3.0625	0.1893	-0.0709	0.0899
3	9.84	0.6890	-0.2299	0.0063	-0.9098	0.0456	3.5446	0.2143	0.1416	0.0907
3	9.84	0.7495	-0.2270	0.0074	-1.0337	0.0532	4.2253	0.2556	-0.1023	0.0899
3	9.84	0.7998	-0.2531	0.0087	-1.1843	0.0597	4.8056	0.2934	-0.0644	0.0938
3	9.84	0.8577	-0.2217	0.0104	-1.3554	0.0659	5.4753	0.3404	-0.0975	0.1074
3	9.84	0.9729	-0.3253	0.0163	-1.6661	0.0838	6.5813	0.4581	-0.4240	0.1490
4	9.84	0.2001	0.0206	0.0019	-0.0099	0.0015	0.0880	0.0097	0.1420	0.0450
4	9.84	0.2502	0.0257	0.0020	-0.0043	0.0047	0.1160	0.0170	-0.0296	0.0693
4	9.84	0.3001	-0.0110	0.0030	-0.0493	0.0077	0.2605	0.0266	0.2379	0.0973
4	9.84	0.3502	-0.0458	0.0024	-0.0749	0.0153	0.4015	0.0441	0.3230	0.0879
4	9.84	0.4002	-0.0710	0.0037	-0.1222	0.0237	0.5906	0.0632	0.3007	0.0894
4	9.84	0.4500	-0.0814	0.0040	-0.1829	0.0298	0.8171	0.0798	0.1721	0.0799
4	9.84	0.5001	-0.1151	0.0045	-0.2673	0.0371	1.1453	0.0984	0.3028	0.0801
4	9.84	0.5560	-0.1460	0.0053	-0.3754	0.0459	1.5217	0.1191	0.1338	0.0920
4	9.84	0.6001	-0.1625	0.0062	-0.4523	0.0531	1.8927	0.1374	0.2159	0.0927
4	9.84	0.6501	-0.2175	0.0072	-0.5831	0.0617	2.3501	0.1590	0.3407	0.1024
4	9.84	0.6999	-0.2310	0.0078	-0.7174	0.0716	2.8236	0.1842	0.3032	0.0933
4	9.84	0.7500	-0.2636	0.0087	-0.8150	0.0817	3.3023	0.2098	0.3294	0.1074
4	9.84	0.8002	-0.2928	0.0092	-0.9475	0.0925	3.7437	0.2381	0.1282	0.1104
4	9.84	0.8582	-0.2910	0.0106	-1.0808	0.1041	4.2983	0.2754	0.0715	0.1097
4	9.84	0.9101	-0.3097	0.0119	-1.2252	0.1173	4.7290	0.3101	-0.1745	0.1370
4	9.84	0.9728	-0.3326	0.0167	-1.3547	0.1313	5.3928	0.3660	0.4822	0.1662

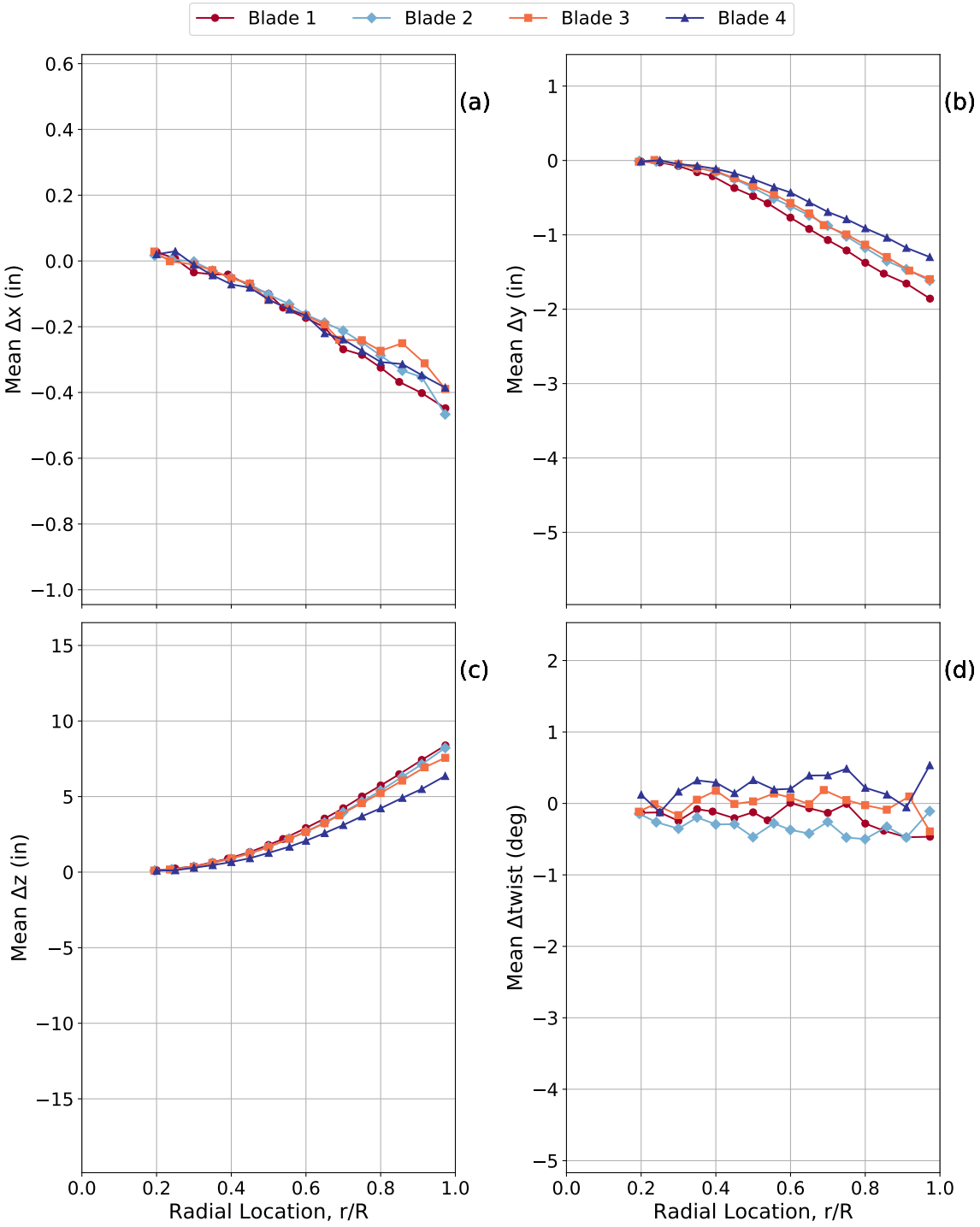


Figure 2.14-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0272	0.0024	-0.0156	0.0013	0.1238	0.0084	-0.1306	0.0538
1	15.12	0.2499	0.0068	0.0023	-0.0263	0.0038	0.2414	0.0165	-0.1255	0.0778
1	15.12	0.2998	-0.0348	0.0025	-0.0740	0.0061	0.3819	0.0263	-0.2441	0.1152
1	15.12	0.3498	-0.0407	0.0023	-0.1575	0.0109	0.6528	0.0433	-0.0802	0.0931
1	15.12	0.3913	-0.0413	0.0028	-0.2115	0.0163	0.8936	0.0603	-0.1131	0.0900
1	15.12	0.4496	-0.0755	0.0033	-0.3702	0.0209	1.3262	0.0815	-0.2072	0.0891
1	15.12	0.4997	-0.1000	0.0043	-0.4794	0.0268	1.7983	0.1029	-0.1240	0.0913
1	15.12	0.5387	-0.1419	0.0047	-0.5760	0.0313	2.1927	0.1209	-0.2359	0.0959
1	15.12	0.5996	-0.1732	0.0057	-0.7680	0.0388	2.9162	0.1494	0.0074	0.0878
1	15.12	0.6498	-0.2016	0.0068	-0.9209	0.0455	3.5426	0.1731	-0.0672	0.0949
1	15.12	0.6998	-0.2687	0.0080	-1.0705	0.0532	4.2280	0.1990	-0.1320	0.0971
1	15.12	0.7500	-0.2856	0.0095	-1.2105	0.0612	5.0041	0.2274	-0.0062	0.1153
1	15.12	0.8001	-0.3246	0.0110	-1.3754	0.0691	5.7351	0.2584	-0.2817	0.1182
1	15.12	0.8497	-0.3679	0.0125	-1.5216	0.0785	6.4751	0.2927	-0.3813	0.1047
1	15.12	0.9102	-0.4018	0.0155	-1.6555	0.0892	7.4249	0.3364	-0.4734	0.1241
1	15.12	0.9734	-0.4479	0.0203	-1.8577	0.1013	8.3859	0.3897	-0.4661	0.1045
2	15.12	0.1949	0.0165	0.0022	-0.0076	0.0012	0.1031	0.0070	-0.1447	0.0463
2	15.12	0.2405	0.0049	0.0018	-0.0137	0.0028	0.1832	0.0141	-0.2624	0.0552
2	15.12	0.2999	-0.0020	0.0023	-0.0536	0.0050	0.3477	0.0252	-0.3524	0.0956
2	15.12	0.3498	-0.0298	0.0022	-0.0970	0.0099	0.6082	0.0398	-0.1955	0.0933
2	15.12	0.3998	-0.0513	0.0031	-0.1568	0.0149	0.8865	0.0617	-0.2935	0.0746
2	15.12	0.4496	-0.0711	0.0037	-0.2476	0.0184	1.2503	0.0796	-0.2902	0.0771
2	15.12	0.4995	-0.1020	0.0039	-0.3679	0.0221	1.6494	0.0983	-0.4719	0.0861
2	15.12	0.5551	-0.1315	0.0045	-0.5109	0.0277	2.2188	0.1227	-0.2779	0.0915
2	15.12	0.5996	-0.1634	0.0050	-0.6135	0.0325	2.6819	0.1451	-0.3707	0.0830
2	15.12	0.6497	-0.1876	0.0060	-0.7393	0.0384	3.2750	0.1701	-0.4206	0.0880
2	15.12	0.6996	-0.2125	0.0073	-0.8763	0.0451	3.9597	0.1976	-0.2580	0.0896
2	15.12	0.7495	-0.2474	0.0086	-1.0201	0.0526	4.6532	0.2283	-0.4765	0.0975
2	15.12	0.7996	-0.2876	0.0103	-1.1740	0.0597	5.3912	0.2575	-0.4991	0.0873
2	15.12	0.8578	-0.3334	0.0115	-1.3522	0.0688	6.3113	0.2976	-0.3269	0.1097
2	15.12	0.9100	-0.3532	0.0131	-1.4641	0.0762	7.1311	0.3325	-0.4755	0.1466
2	15.12	0.9727	-0.4665	0.0177	-1.6153	0.0877	8.2206	0.3813	-0.1088	0.1159
3	15.12	0.1938	0.0287	0.0019	-0.0172	0.0013	0.1027	0.0083	-0.1151	0.0461
3	15.12	0.2357	-0.0008	0.0019	0.0063	0.0031	0.1741	0.0154	-0.0101	0.0607
3	15.12	0.2995	-0.0110	0.0018	-0.0494	0.0066	0.3577	0.0282	-0.1641	0.1008
3	15.12	0.3493	-0.0280	0.0025	-0.1050	0.0121	0.6084	0.0477	0.0518	0.0811
3	15.12	0.4000	-0.0528	0.0032	-0.1432	0.0195	0.9047	0.0708	0.1780	0.0885
3	15.12	0.4497	-0.0689	0.0035	-0.2381	0.0251	1.2345	0.0928	-0.0069	0.0926
3	15.12	0.4997	-0.1187	0.0040	-0.3411	0.0318	1.6624	0.1182	0.0286	0.0937
3	15.12	0.5556	-0.1449	0.0050	-0.4559	0.0396	2.2089	0.1478	0.1396	0.1009
3	15.12	0.5995	-0.1658	0.0062	-0.5706	0.0465	2.6556	0.1719	0.0828	0.1024
3	15.12	0.6498	-0.1930	0.0077	-0.7118	0.0542	3.2387	0.1995	-0.0098	0.1117
3	15.12	0.6890	-0.2398	0.0094	-0.8690	0.0613	3.7602	0.2222	0.1876	0.1110
3	15.12	0.7495	-0.2412	0.0107	-0.9941	0.0731	4.5649	0.2571	0.0469	0.1131
3	15.12	0.7998	-0.2732	0.0122	-1.1318	0.0829	5.2324	0.2881	-0.0248	0.1188
3	15.12	0.8577	-0.2502	0.0139	-1.2977	0.0954	6.0559	0.3275	-0.0878	0.1493
3	15.12	0.9178	-0.3114	0.0167	-1.4810	0.1089	6.9358	0.3672	0.0972	0.2372
3	15.12	0.9729	-0.3890	0.0208	-1.5958	0.1192	7.5652	0.4050	-0.3913	0.1422
4	15.12	0.2001	0.0204	0.0018	-0.0119	0.0011	0.0980	0.0091	0.1216	0.0530
4	15.12	0.2502	0.0294	0.0019	0.0015	0.0035	0.1238	0.0176	-0.1238	0.0753
4	15.12	0.3001	-0.0113	0.0025	-0.0478	0.0053	0.2878	0.0281	0.1656	0.1115
4	15.12	0.3502	-0.0436	0.0027	-0.0736	0.0104	0.4606	0.0472	0.3224	0.0948
4	15.12	0.4002	-0.0713	0.0030	-0.1136	0.0164	0.6676	0.0697	0.2922	0.0880
4	15.12	0.4500	-0.0811	0.0034	-0.1732	0.0202	0.9209	0.0886	0.1442	0.1001
4	15.12	0.5001	-0.1176	0.0038	-0.2517	0.0262	1.2730	0.1130	0.3274	0.1024
4	15.12	0.5560	-0.1476	0.0046	-0.3578	0.0331	1.6836	0.1436	0.1943	0.1007
4	15.12	0.6001	-0.1663	0.0047	-0.4311	0.0387	2.0768	0.1673	0.2040	0.1045
4	15.12	0.6501	-0.2198	0.0062	-0.5625	0.0463	2.5836	0.1973	0.3906	0.1099
4	15.12	0.6999	-0.2386	0.0071	-0.6924	0.0542	3.1151	0.2333	0.3932	0.0999
4	15.12	0.7500	-0.2732	0.0084	-0.7903	0.0632	3.6922	0.2691	0.4859	0.1177
4	15.12	0.8002	-0.3074	0.0102	-0.9114	0.0719	4.2237	0.3083	0.2188	0.1175
4	15.12	0.8582	-0.3137	0.0109	-1.0382	0.0845	4.9151	0.3511	0.1245	0.1317
4	15.12	0.9101	-0.3472	0.0133	-1.1753	0.0949	5.5004	0.3965	-0.0541	0.1477
4	15.12	0.9728	-0.3853	0.0172	-1.2986	0.1083	6.3616	0.4532	0.5346	0.1234

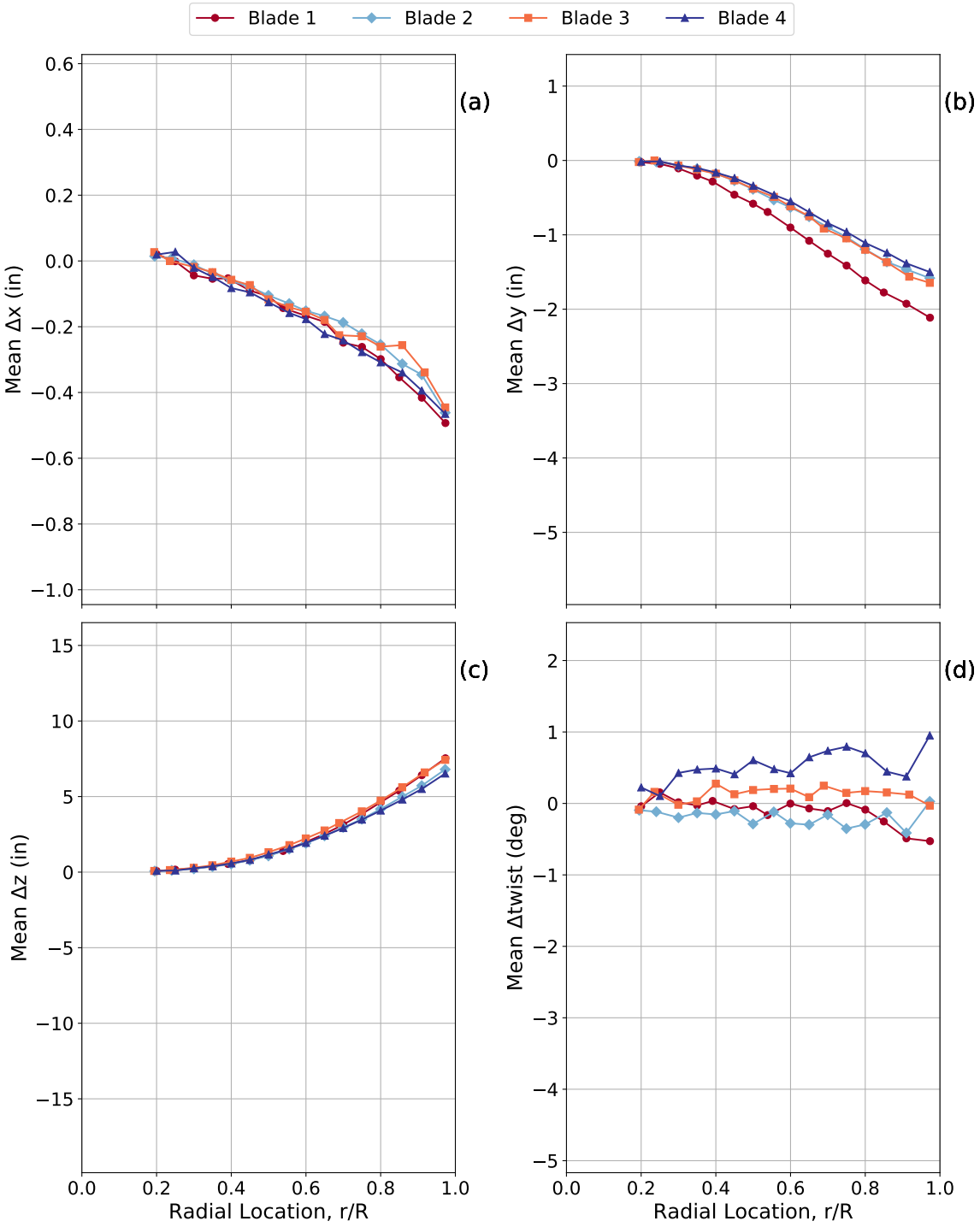


Figure 2.14-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0205	0.0023	-0.0240	0.0011	0.0787	0.0061	-0.0399	0.0435
1	29.88	0.2499	-0.0008	0.0021	-0.0456	0.0038	0.1650	0.0130	0.1548	0.0670
1	29.88	0.2998	-0.0439	0.0022	-0.1065	0.0058	0.2402	0.0221	0.0162	0.0933
1	29.88	0.3498	-0.0542	0.0028	-0.2030	0.0106	0.3802	0.0339	-0.0278	0.0655
1	29.88	0.3913	-0.0527	0.0031	-0.2831	0.0155	0.5378	0.0503	0.0348	0.0816
1	29.88	0.4496	-0.0899	0.0035	-0.4604	0.0216	0.7908	0.0694	-0.0792	0.0818
1	29.88	0.4997	-0.1076	0.0042	-0.5814	0.0284	1.1134	0.0877	-0.0384	0.0858
1	29.88	0.5387	-0.1432	0.0044	-0.6926	0.0343	1.3993	0.1020	-0.1630	0.0847
1	29.88	0.5996	-0.1667	0.0052	-0.9014	0.0446	1.9904	0.1273	-0.0025	0.0896
1	29.88	0.6498	-0.1852	0.0061	-1.0797	0.0541	2.5263	0.1472	-0.0703	0.0967
1	29.88	0.6998	-0.2486	0.0070	-1.2535	0.0650	3.1425	0.1685	-0.1076	0.1003
1	29.88	0.7500	-0.2614	0.0088	-1.4132	0.0767	3.8533	0.1899	0.0048	0.1020
1	29.88	0.8001	-0.2985	0.0102	-1.6130	0.0888	4.6231	0.2131	-0.0871	0.1054
1	29.88	0.8497	-0.3538	0.0114	-1.7748	0.1011	5.3920	0.2367	-0.2524	0.1099
1	29.88	0.9102	-0.4159	0.0136	-1.9263	0.1175	6.4146	0.2676	-0.4887	0.1293
1	29.88	0.9734	-0.4930	0.0187	-2.1136	0.1338	7.5340	0.2985	-0.5277	0.1262
2	29.88	0.1949	0.0143	0.0021	-0.0129	0.0013	0.0657	0.0063	-0.0949	0.0436
2	29.88	0.2405	0.0080	0.0018	-0.0181	0.0043	0.1148	0.0122	-0.1157	0.0552
2	29.88	0.2999	-0.0115	0.0026	-0.0660	0.0061	0.2173	0.0203	-0.1986	0.0937
2	29.88	0.3498	-0.0386	0.0027	-0.1108	0.0139	0.3662	0.0373	-0.1327	0.0750
2	29.88	0.3998	-0.0605	0.0029	-0.1771	0.0198	0.5372	0.0532	-0.1542	0.0784
2	29.88	0.4496	-0.0785	0.0032	-0.2714	0.0258	0.7874	0.0696	-0.1071	0.0767
2	29.88	0.4995	-0.1047	0.0037	-0.3876	0.0327	1.0742	0.0883	-0.2872	0.0922
2	29.88	0.5551	-0.1297	0.0043	-0.5300	0.0413	1.5281	0.1121	-0.1187	0.0820
2	29.88	0.5996	-0.1515	0.0046	-0.6313	0.0488	1.9082	0.1289	-0.2785	0.0779
2	29.88	0.6497	-0.1678	0.0055	-0.7562	0.0583	2.3970	0.1494	-0.2977	0.0816
2	29.88	0.6996	-0.1872	0.0059	-0.8983	0.0681	2.9605	0.1694	-0.1578	0.0850
2	29.88	0.7495	-0.2213	0.0067	-1.0280	0.0786	3.5066	0.1900	-0.3524	0.0799
2	29.88	0.7996	-0.2539	0.0071	-1.1932	0.0898	4.1724	0.2121	-0.2935	0.0929
2	29.88	0.8578	-0.3130	0.0086	-1.3635	0.1029	4.9899	0.2430	-0.1286	0.1019
2	29.88	0.9100	-0.3459	0.0098	-1.4649	0.1160	5.7176	0.2730	-0.4127	0.1040
2	29.88	0.9727	-0.4615	0.0131	-1.5815	0.1310	6.7950	0.3137	0.0278	0.1045
3	29.88	0.1938	0.0268	0.0021	-0.0214	0.0013	0.0787	0.0060	-0.0869	0.0413
3	29.88	0.2357	-0.0003	0.0019	-0.0004	0.0037	0.1352	0.0105	0.1617	0.0608
3	29.88	0.2995	-0.0181	0.0025	-0.0684	0.0070	0.2877	0.0205	-0.0182	0.0955
3	29.88	0.3493	-0.0341	0.0025	-0.1217	0.0128	0.4535	0.0333	0.0291	0.0883
3	29.88	0.4000	-0.0572	0.0030	-0.1779	0.0201	0.6987	0.0502	0.2765	0.0955
3	29.88	0.4497	-0.0734	0.0039	-0.2679	0.0270	0.9447	0.0673	0.1285	0.1025
3	29.88	0.4997	-0.1166	0.0040	-0.3801	0.0347	1.3176	0.0867	0.1876	0.1105
3	29.88	0.5556	-0.1410	0.0051	-0.4905	0.0448	1.7868	0.1091	0.2030	0.1099
3	29.88	0.5995	-0.1543	0.0061	-0.6165	0.0538	2.2279	0.1252	0.2077	0.1154
3	29.88	0.6498	-0.1794	0.0063	-0.7504	0.0647	2.7571	0.1426	0.0873	0.1258
3	29.88	0.6890	-0.2259	0.0071	-0.9150	0.0740	3.2491	0.1566	0.2486	0.1165
3	29.88	0.7495	-0.2290	0.0081	-1.0475	0.0894	4.0207	0.1820	0.1478	0.1306
3	29.88	0.7998	-0.2606	0.0090	-1.2006	0.1028	4.7325	0.2090	0.1729	0.1280
3	29.88	0.8577	-0.2560	0.0105	-1.3685	0.1190	5.6168	0.2431	0.1535	0.1346
3	29.88	0.9178	-0.3388	0.0125	-1.5624	0.1368	6.5979	0.2837	0.1238	0.1429
3	29.88	0.9729	-0.4455	0.0164	-1.6452	0.1529	7.4295	0.3271	-0.0308	0.1365
4	29.88	0.2001	0.0194	0.0020	-0.0161	0.0015	0.0837	0.0068	0.2239	0.0441
4	29.88	0.2502	0.0275	0.0023	-0.0123	0.0046	0.1053	0.0143	0.1037	0.0525
4	29.88	0.3001	-0.0209	0.0025	-0.0679	0.0063	0.2539	0.0228	0.4270	0.0863
4	29.88	0.3502	-0.0487	0.0026	-0.1022	0.0125	0.3884	0.0368	0.4747	0.0671
4	29.88	0.4002	-0.0825	0.0036	-0.1629	0.0190	0.5757	0.0564	0.4889	0.0752
4	29.88	0.4500	-0.0955	0.0031	-0.2378	0.0252	0.8093	0.0776	0.4081	0.0782
4	29.88	0.5001	-0.1258	0.0037	-0.3407	0.0321	1.1597	0.1030	0.6054	0.0763
4	29.88	0.5560	-0.1584	0.0046	-0.4642	0.0414	1.5543	0.1313	0.4796	0.0879
4	29.88	0.6001	-0.1768	0.0056	-0.5497	0.0492	1.9355	0.1546	0.4231	0.0931
4	29.88	0.6501	-0.2222	0.0062	-0.6963	0.0584	2.4115	0.1794	0.6464	0.0992
4	29.88	0.6999	-0.2415	0.0069	-0.8431	0.0684	2.9167	0.2056	0.7372	0.0912
4	29.88	0.7500	-0.2773	0.0077	-0.9605	0.0793	3.4733	0.2336	0.7943	0.0972
4	29.88	0.8002	-0.3084	0.0086	-1.1099	0.0907	4.0718	0.2628	0.7025	0.1059
4	29.88	0.8582	-0.3395	0.0102	-1.2416	0.1042	4.8007	0.3012	0.4446	0.1028
4	29.88	0.9101	-0.3941	0.0119	-1.3835	0.1169	5.5021	0.3346	0.3770	0.1078
4	29.88	0.9728	-0.4651	0.0153	-1.5004	0.1328	6.5227	0.3796	0.9508	0.1126

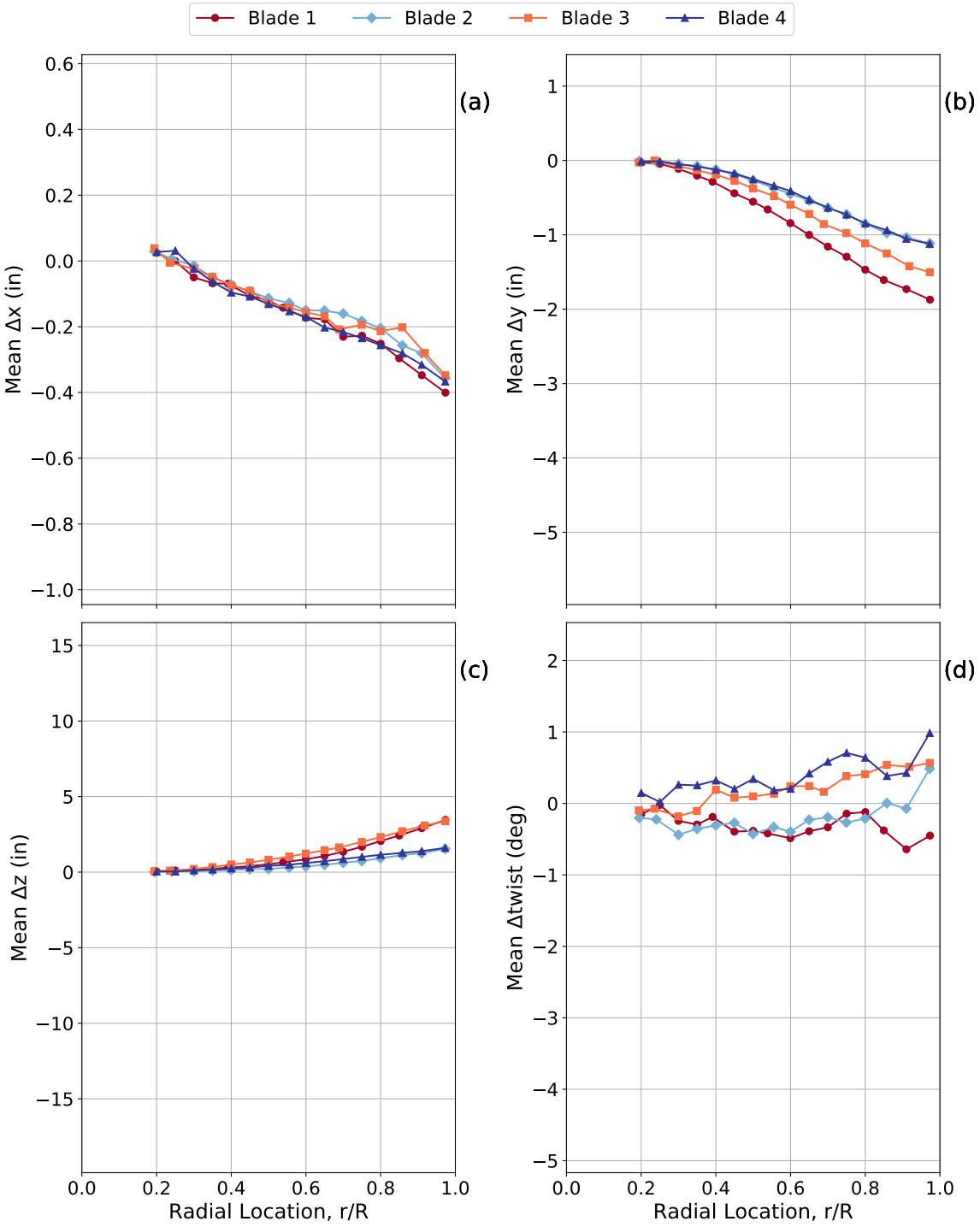


Figure 2.14-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0253	0.0027	-0.0272	0.0011	0.0467	0.0055	-0.1522	0.0353
1	45	0.2499	0.0000	0.0019	-0.0453	0.0032	0.1094	0.0107	-0.0212	0.0595
1	45	0.2998	-0.0499	0.0024	-0.1129	0.0059	0.1354	0.0192	-0.2434	0.0780
1	45	0.3498	-0.0678	0.0023	-0.2042	0.0094	0.2101	0.0331	-0.2950	0.0815
1	45	0.3913	-0.0693	0.0030	-0.2859	0.0148	0.2994	0.0464	-0.1887	0.0810
1	45	0.4496	-0.1060	0.0040	-0.4411	0.0192	0.3929	0.0648	-0.3945	0.0957
1	45	0.4997	-0.1205	0.0037	-0.5550	0.0241	0.5240	0.0846	-0.3845	0.0954
1	45	0.5387	-0.1423	0.0039	-0.6589	0.0285	0.6464	0.1017	-0.4190	0.0969
1	45	0.5996	-0.1729	0.0046	-0.8428	0.0359	0.8484	0.1305	-0.4870	0.0978
1	45	0.6498	-0.1775	0.0047	-1.0012	0.0422	1.0677	0.1565	-0.3889	0.1066
1	45	0.6998	-0.2305	0.0049	-1.1585	0.0490	1.3471	0.1813	-0.3339	0.1201
1	45	0.7500	-0.2272	0.0055	-1.2942	0.0566	1.6771	0.2059	-0.1427	0.1092
1	45	0.8001	-0.2518	0.0057	-1.4691	0.0642	2.0590	0.2281	-0.1207	0.1223
1	45	0.8497	-0.2960	0.0065	-1.6070	0.0723	2.4214	0.2489	-0.3776	0.1259
1	45	0.9102	-0.3475	0.0074	-1.7297	0.0824	2.9096	0.2726	-0.6418	0.1214
1	45	0.9734	-0.4005	0.0104	-1.8716	0.0929	3.4559	0.2994	-0.4504	0.1291
2	45	0.1949	0.0284	0.0022	-0.0088	0.0011	0.0139	0.0046	-0.2032	0.0348
2	45	0.2405	0.0060	0.0019	-0.0160	0.0037	0.0521	0.0093	-0.2227	0.0588
2	45	0.2999	-0.0145	0.0024	-0.0467	0.0062	0.0473	0.0179	-0.4380	0.0828
2	45	0.3498	-0.0503	0.0023	-0.0756	0.0115	0.0969	0.0292	-0.3551	0.0794
2	45	0.3998	-0.0717	0.0033	-0.1232	0.0181	0.1358	0.0455	-0.3072	0.0877
2	45	0.4496	-0.0928	0.0035	-0.1891	0.0227	0.1941	0.0622	-0.2715	0.0907
2	45	0.4995	-0.1135	0.0034	-0.2681	0.0276	0.2127	0.0829	-0.4279	0.0851
2	45	0.5551	-0.1282	0.0037	-0.3691	0.0339	0.3028	0.1072	-0.3305	0.0846
2	45	0.5996	-0.1498	0.0038	-0.4487	0.0392	0.3684	0.1273	-0.3969	0.0936
2	45	0.6497	-0.1511	0.0044	-0.5394	0.0460	0.4878	0.1518	-0.2295	0.0980
2	45	0.6996	-0.1602	0.0047	-0.6359	0.0535	0.6168	0.1773	-0.1932	0.1006
2	45	0.7495	-0.1827	0.0049	-0.7243	0.0614	0.7352	0.2027	-0.2665	0.1106
2	45	0.7996	-0.2043	0.0048	-0.8518	0.0697	0.9199	0.2299	-0.2112	0.1301
2	45	0.8578	-0.2568	0.0057	-0.9740	0.0802	1.1279	0.2645	0.0046	0.1307
2	45	0.9100	-0.2808	0.0066	-1.0359	0.0893	1.2475	0.2942	-0.0724	0.1336
2	45	0.9727	-0.3569	0.0093	-1.1149	0.1008	1.5387	0.3343	0.4860	0.1495
3	45	0.1938	0.0387	0.0017	-0.0256	0.0010	0.0611	0.0053	-0.0982	0.0350
3	45	0.2357	-0.0052	0.0021	-0.0013	0.0025	0.0949	0.0094	-0.0743	0.0531
3	45	0.2995	-0.0240	0.0018	-0.0762	0.0054	0.2104	0.0208	-0.1816	0.0798
3	45	0.3493	-0.0483	0.0024	-0.1316	0.0093	0.3322	0.0336	-0.1045	0.0791
3	45	0.4000	-0.0752	0.0031	-0.1906	0.0149	0.5048	0.0527	0.1914	0.0802
3	45	0.4497	-0.0906	0.0037	-0.2728	0.0198	0.6351	0.0694	0.0805	0.0791
3	45	0.4997	-0.1287	0.0037	-0.3762	0.0252	0.8168	0.0890	0.0993	0.0799
3	45	0.5556	-0.1418	0.0046	-0.4794	0.0326	1.0341	0.1139	0.1356	0.0830
3	45	0.5995	-0.1558	0.0048	-0.5938	0.0392	1.2229	0.1359	0.2404	0.0944
3	45	0.6498	-0.1679	0.0050	-0.7193	0.0470	1.4495	0.1641	0.2424	0.0951
3	45	0.6890	-0.2079	0.0052	-0.8553	0.0534	1.6328	0.1893	0.1628	0.1027
3	45	0.7495	-0.1941	0.0059	-0.9759	0.0647	1.9993	0.2293	0.3816	0.0978
3	45	0.7998	-0.2135	0.0060	-1.1144	0.0747	2.3159	0.2658	0.4087	0.1031
3	45	0.8577	-0.2020	0.0069	-1.2508	0.0865	2.7047	0.3085	0.5399	0.1205
3	45	0.9178	-0.2799	0.0081	-1.4219	0.0990	3.0818	0.3542	0.5115	0.1234
3	45	0.9729	-0.3476	0.0105	-1.5027	0.1110	3.3682	0.3956	0.5670	0.1395
4	45	0.2001	0.0270	0.0022	-0.0134	0.0013	0.0420	0.0062	0.1476	0.0461
4	45	0.2502	0.0312	0.0017	-0.0116	0.0034	0.0393	0.0117	0.0195	0.0619
4	45	0.3001	-0.0235	0.0023	-0.0508	0.0057	0.1127	0.0213	0.2621	0.0967
4	45	0.3502	-0.0633	0.0022	-0.0810	0.0111	0.1697	0.0345	0.2538	0.0751
4	45	0.4002	-0.0961	0.0027	-0.1240	0.0163	0.2411	0.0526	0.3216	0.0745
4	45	0.4500	-0.1083	0.0028	-0.1749	0.0200	0.3053	0.0685	0.2030	0.0796
4	45	0.5001	-0.1313	0.0030	-0.2536	0.0255	0.4126	0.0870	0.3435	0.0755
4	45	0.5560	-0.1531	0.0036	-0.3412	0.0316	0.4908	0.1068	0.1842	0.0785
4	45	0.6001	-0.1703	0.0033	-0.4110	0.0365	0.6019	0.1233	0.2045	0.0851
4	45	0.6501	-0.2025	0.0043	-0.5280	0.0431	0.7268	0.1436	0.4191	0.0796
4	45	0.6999	-0.2161	0.0043	-0.6362	0.0496	0.8643	0.1643	0.5831	0.0885
4	45	0.7500	-0.2349	0.0045	-0.7278	0.0565	1.0105	0.1878	0.7079	0.0879
4	45	0.8002	-0.2562	0.0051	-0.8460	0.0636	1.1474	0.2150	0.6406	0.0948
4	45	0.8582	-0.2808	0.0054	-0.9388	0.0727	1.2751	0.2500	0.3836	0.1010
4	45	0.9101	-0.3158	0.0063	-1.0530	0.0807	1.3875	0.2855	0.4271	0.1086
4	45	0.9728	-0.3667	0.0090	-1.1212	0.0902	1.6007	0.3317	0.9852	0.1110

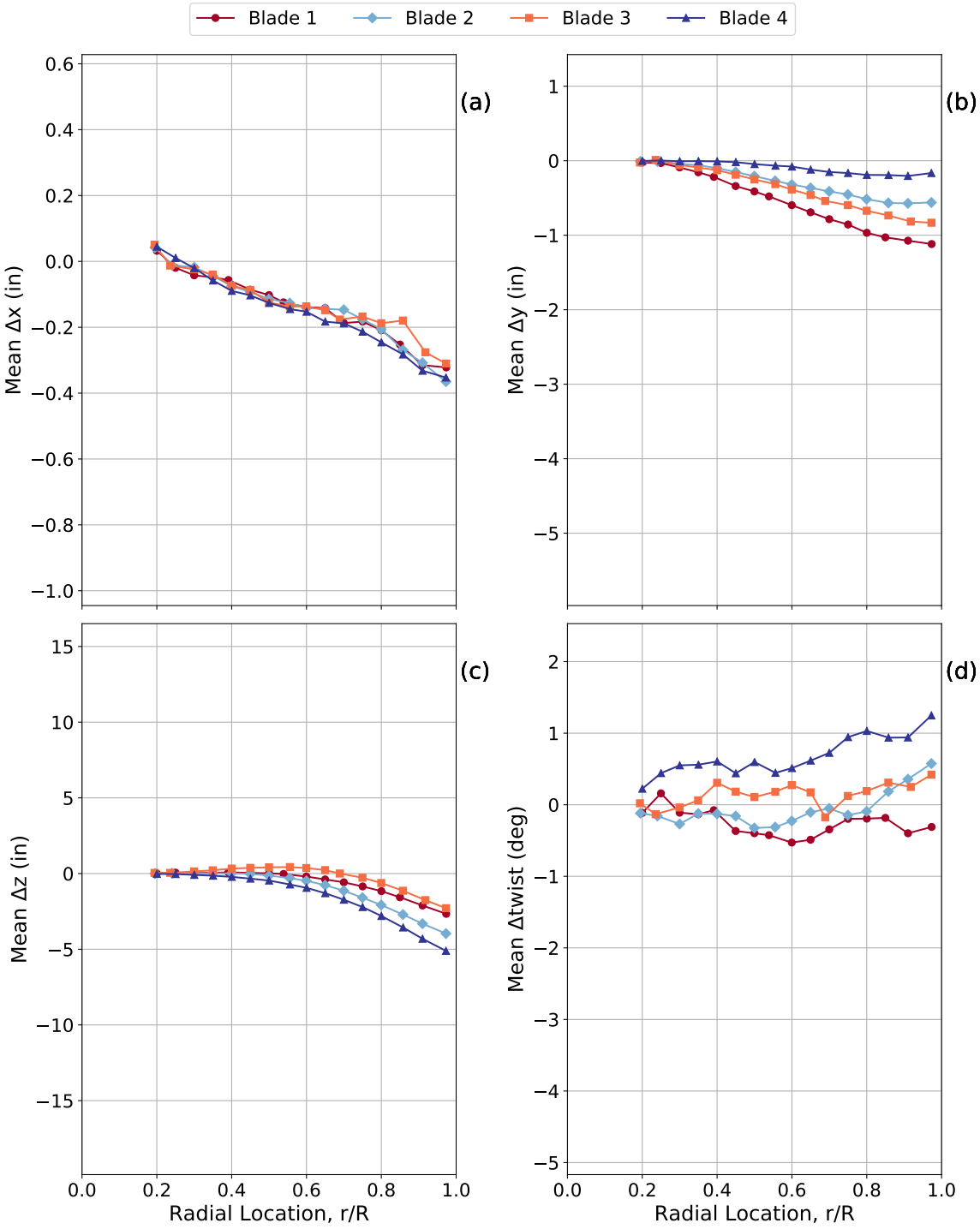


Figure 2.14-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0322	0.0020	-0.0234	0.0012	0.0082	0.0054	-0.1133	0.0341
1	60.12	0.2499	-0.0194	0.0021	-0.0314	0.0026	0.0602	0.0122	0.1591	0.0497
1	60.12	0.2998	-0.0424	0.0025	-0.0903	0.0048	0.0290	0.0216	-0.1104	0.0731
1	60.12	0.3498	-0.0484	0.0026	-0.1554	0.0089	0.0492	0.0363	-0.1327	0.0705
1	60.12	0.3913	-0.0566	0.0038	-0.2171	0.0124	0.0816	0.0529	-0.0760	0.0745
1	60.12	0.4496	-0.0859	0.0039	-0.3403	0.0180	0.0445	0.0763	-0.3668	0.0806
1	60.12	0.4997	-0.1023	0.0037	-0.4126	0.0230	0.0155	0.0976	-0.3981	0.0784
1	60.12	0.5387	-0.1242	0.0041	-0.4793	0.0284	-0.0262	0.1167	-0.4256	0.0819
1	60.12	0.5996	-0.1386	0.0046	-0.5969	0.0366	-0.1991	0.1479	-0.5282	0.0868
1	60.12	0.6498	-0.1417	0.0049	-0.6919	0.0442	-0.3879	0.1768	-0.4891	0.0888
1	60.12	0.6998	-0.1873	0.0054	-0.7847	0.0524	-0.5794	0.2060	-0.3443	0.0949
1	60.12	0.7500	-0.1828	0.0057	-0.8563	0.0616	-0.8510	0.2359	-0.1971	0.1062
1	60.12	0.8001	-0.2092	0.0062	-0.9678	0.0707	-1.1621	0.2639	-0.1939	0.1040
1	60.12	0.8497	-0.2525	0.0069	-1.0290	0.0803	-1.5669	0.2936	-0.1836	0.0944
1	60.12	0.9102	-0.3151	0.0068	-1.0732	0.0921	-2.1102	0.3311	-0.3986	0.1099
1	60.12	0.9734	-0.3220	0.0094	-1.1186	0.1042	-2.6606	0.3698	-0.3102	0.1225
2	60.12	0.1949	0.0422	0.0021	-0.0098	0.0012	0.0007	0.0058	-0.1184	0.0296
2	60.12	0.2405	-0.0114	0.0016	-0.0088	0.0033	0.0231	0.0137	-0.1571	0.0458
2	60.12	0.2999	-0.0179	0.0025	-0.0413	0.0072	-0.0059	0.0271	-0.2693	0.0673
2	60.12	0.3498	-0.0442	0.0021	-0.0612	0.0106	0.0179	0.0444	-0.1231	0.0693
2	60.12	0.3998	-0.0750	0.0035	-0.0990	0.0183	0.0090	0.0711	-0.1266	0.0819
2	60.12	0.4496	-0.0929	0.0041	-0.1513	0.0243	-0.0207	0.0936	-0.1581	0.0955
2	60.12	0.4995	-0.1142	0.0039	-0.2072	0.0311	-0.1327	0.1220	-0.3248	0.0931
2	60.12	0.5551	-0.1264	0.0043	-0.2704	0.0386	-0.2978	0.1529	-0.3123	0.1036
2	60.12	0.5996	-0.1417	0.0048	-0.3200	0.0463	-0.4771	0.1794	-0.2267	0.1000
2	60.12	0.6497	-0.1440	0.0051	-0.3646	0.0554	-0.7633	0.2063	-0.1054	0.1092
2	60.12	0.6996	-0.1469	0.0061	-0.4117	0.0648	-1.1362	0.2324	-0.0516	0.1074
2	60.12	0.7495	-0.1757	0.0060	-0.4535	0.0745	-1.5905	0.2605	-0.1457	0.1058
2	60.12	0.7996	-0.2059	0.0068	-0.5161	0.0853	-2.0776	0.2887	-0.0931	0.1241
2	60.12	0.8578	-0.2690	0.0079	-0.5668	0.0975	-2.7086	0.3213	0.1855	0.1213
2	60.12	0.9100	-0.3079	0.0087	-0.5723	0.1095	-3.3115	0.3532	0.3570	0.1229
2	60.12	0.9727	-0.3651	0.0115	-0.5603	0.1232	-3.9638	0.3970	0.5750	0.1296
3	60.12	0.1938	0.0507	0.0020	-0.0243	0.0013	0.0438	0.0058	0.0205	0.0369
3	60.12	0.2357	-0.0126	0.0021	0.0102	0.0029	0.0440	0.0113	-0.1323	0.0506
3	60.12	0.2995	-0.0243	0.0025	-0.0582	0.0068	0.1412	0.0261	-0.0379	0.0836
3	60.12	0.3493	-0.0400	0.0024	-0.0913	0.0102	0.2161	0.0429	0.0615	0.0752
3	60.12	0.4000	-0.0740	0.0041	-0.1274	0.0175	0.3279	0.0683	0.3071	0.0762
3	60.12	0.4497	-0.0871	0.0042	-0.1878	0.0239	0.3766	0.0924	0.1830	0.0868
3	60.12	0.4997	-0.1251	0.0041	-0.2515	0.0318	0.4139	0.1221	0.1073	0.0883
3	60.12	0.5556	-0.1370	0.0044	-0.3147	0.0414	0.4274	0.1538	0.1813	0.0900
3	60.12	0.5995	-0.1365	0.0044	-0.3878	0.0504	0.3649	0.1810	0.2743	0.0910
3	60.12	0.6498	-0.1482	0.0045	-0.4606	0.0619	0.2263	0.2104	0.1735	0.0896
3	60.12	0.6890	-0.1765	0.0052	-0.5401	0.0717	0.0024	0.2336	-0.1745	0.0871
3	60.12	0.7495	-0.1674	0.0056	-0.5957	0.0868	-0.2760	0.2716	0.1225	0.0896
3	60.12	0.7998	-0.1878	0.0064	-0.6715	0.1010	-0.6234	0.3038	0.1910	0.1012
3	60.12	0.8577	-0.1796	0.0077	-0.7347	0.1178	-1.1366	0.3451	0.3091	0.1028
3	60.12	0.9178	-0.2760	0.0090	-0.8168	0.1355	-1.7559	0.3921	0.2484	0.1085
3	60.12	0.9729	-0.3102	0.0124	-0.8322	0.1516	-2.2888	0.4369	0.4212	0.1005
4	60.12	0.2001	0.0446	0.0022	-0.0026	0.0013	-0.0233	0.0055	0.2235	0.0341
4	60.12	0.2502	0.0102	0.0022	0.0020	0.0041	-0.0337	0.0127	0.4420	0.0470
4	60.12	0.3001	-0.0205	0.0026	-0.0071	0.0070	-0.0887	0.0221	0.5502	0.0720
4	60.12	0.3502	-0.0581	0.0033	-0.0055	0.0109	-0.1421	0.0372	0.5595	0.0700
4	60.12	0.4002	-0.0896	0.0041	-0.0091	0.0184	-0.2201	0.0581	0.6046	0.0705
4	60.12	0.4500	-0.1033	0.0042	-0.0192	0.0247	-0.3370	0.0813	0.4395	0.0800
4	60.12	0.5001	-0.1263	0.0050	-0.0457	0.0330	-0.4624	0.1057	0.5967	0.0774
4	60.12	0.5560	-0.1449	0.0050	-0.0668	0.0427	-0.7239	0.1343	0.4455	0.0805
4	60.12	0.6001	-0.1529	0.0057	-0.0787	0.0524	-0.9444	0.1581	0.5121	0.0808
4	60.12	0.6501	-0.1829	0.0061	-0.1195	0.0634	-1.2998	0.1826	0.6167	0.0825
4	60.12	0.6999	-0.1883	0.0067	-0.1517	0.0761	-1.7297	0.2078	0.7250	0.0779
4	60.12	0.7500	-0.2135	0.0071	-0.1655	0.0893	-2.2146	0.2326	0.9448	0.0856
4	60.12	0.8002	-0.2459	0.0080	-0.1907	0.1031	-2.8036	0.2570	1.0312	0.0842
4	60.12	0.8582	-0.2827	0.0089	-0.1925	0.1196	-3.5638	0.2876	0.9377	0.0793
4	60.12	0.9101	-0.3321	0.0098	-0.2046	0.1349	-4.3075	0.3159	0.9398	0.0888
4	60.12	0.9728	-0.3526	0.0125	-0.1656	0.1532	-5.1080	0.3565	1.2479	0.0827

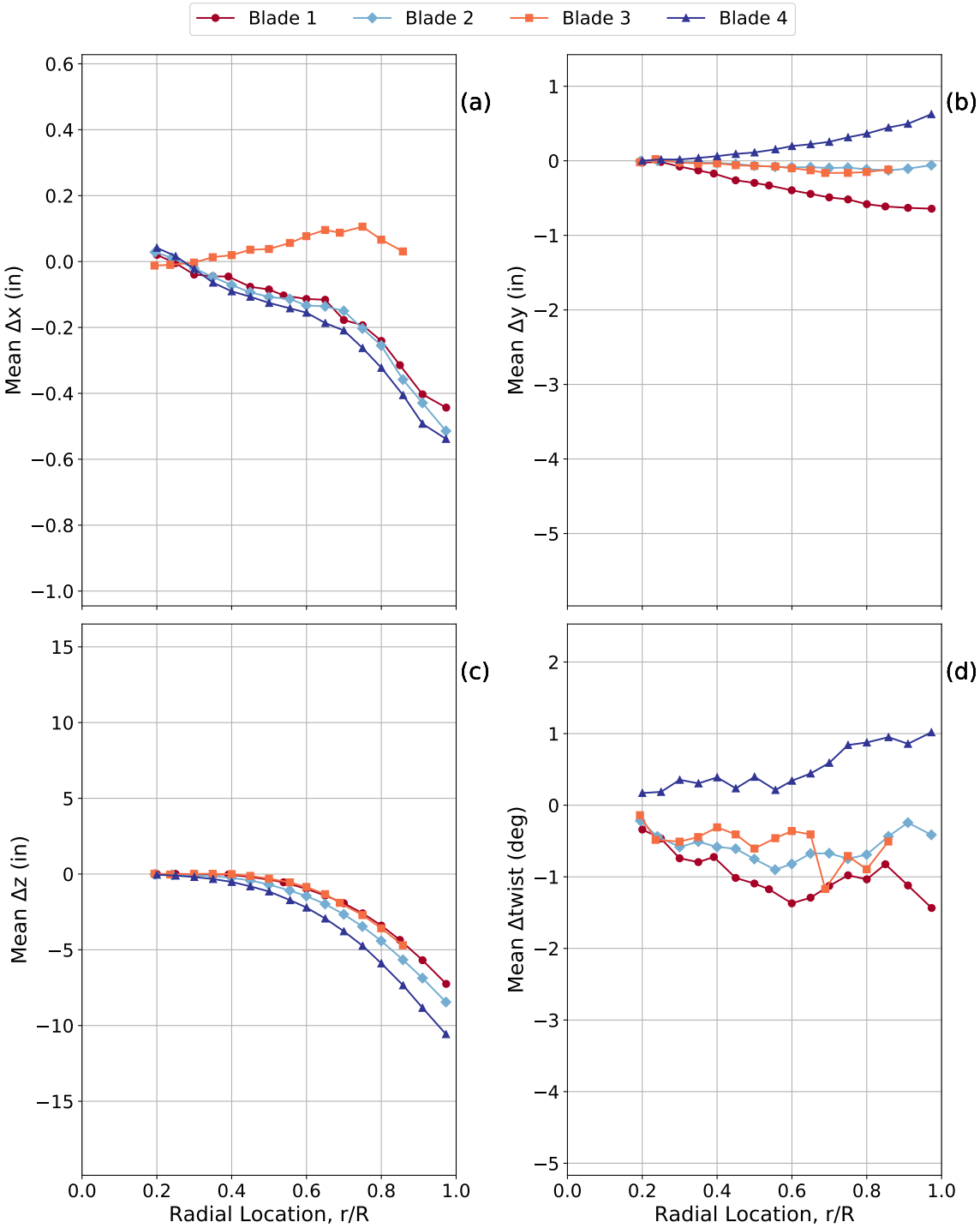


Figure 2.14-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0201	0.0020	-0.0235	0.0015	0.0035	0.0064	-0.3398	0.0327
1	74.88	0.2499	-0.0048	0.0022	-0.0155	0.0035	0.0118	0.0139	-0.4650	0.0560
1	74.88	0.2998	-0.0397	0.0026	-0.0766	0.0068	-0.0080	0.0254	-0.7410	0.0734
1	74.88	0.3498	-0.0448	0.0025	-0.1292	0.0111	-0.0196	0.0428	-0.7948	0.0722
1	74.88	0.3913	-0.0455	0.0040	-0.1713	0.0169	-0.0318	0.0623	-0.7232	0.0840
1	74.88	0.4496	-0.0767	0.0044	-0.2612	0.0207	-0.1955	0.0873	-1.0151	0.0768
1	74.88	0.4997	-0.0847	0.0044	-0.2961	0.0264	-0.3653	0.1109	-1.0935	0.0836
1	74.88	0.5387	-0.1028	0.0050	-0.3308	0.0312	-0.5442	0.1322	-1.1736	0.0921
1	74.88	0.5996	-0.1136	0.0048	-0.3954	0.0401	-0.9750	0.1648	-1.3704	0.0935
1	74.88	0.6498	-0.1160	0.0059	-0.4438	0.0482	-1.4188	0.1927	-1.2912	0.1021
1	74.88	0.6998	-0.1774	0.0072	-0.4910	0.0569	-1.9271	0.2214	-1.1266	0.1103
1	74.88	0.7500	-0.1934	0.0078	-0.5178	0.0661	-2.5915	0.2525	-0.9784	0.1124
1	74.88	0.8001	-0.2409	0.0100	-0.5814	0.0764	-3.4009	0.2848	-1.0353	0.1167
1	74.88	0.8497	-0.3145	0.0121	-0.6125	0.0870	-4.3506	0.3204	-0.8242	0.1182
1	74.88	0.9102	-0.4031	0.0137	-0.6310	0.1006	-5.6872	0.3627	-1.1209	0.1387
1	74.88	0.9734	-0.4433	0.0172	-0.6428	0.1152	-7.2502	0.4089	-1.4350	0.1416
2	74.88	0.1949	0.0286	0.0018	-0.0052	0.0010	-0.0116	0.0063	-0.2170	0.0277
2	74.88	0.2405	0.0111	0.0018	0.0016	0.0029	-0.0449	0.0135	-0.4359	0.0510
2	74.88	0.2999	-0.0208	0.0021	-0.0149	0.0059	-0.0962	0.0293	-0.5836	0.0672
2	74.88	0.3498	-0.0466	0.0029	-0.0194	0.0091	-0.1413	0.0492	-0.5086	0.0698
2	74.88	0.3998	-0.0715	0.0047	-0.0295	0.0154	-0.2525	0.0778	-0.5823	0.0760
2	74.88	0.4496	-0.0932	0.0047	-0.0430	0.0195	-0.4233	0.1037	-0.6082	0.0744
2	74.88	0.4995	-0.1076	0.0050	-0.0648	0.0251	-0.6930	0.1336	-0.7514	0.0881
2	74.88	0.5551	-0.1136	0.0062	-0.0795	0.0319	-1.0889	0.1691	-0.9007	0.0891
2	74.88	0.5996	-0.1334	0.0064	-0.0863	0.0378	-1.4514	0.1997	-0.8200	0.0930
2	74.88	0.6497	-0.1360	0.0076	-0.0860	0.0450	-1.9800	0.2366	-0.6749	0.1021
2	74.88	0.6996	-0.1499	0.0091	-0.0962	0.0528	-2.6573	0.2732	-0.6712	0.1001
2	74.88	0.7495	-0.2031	0.0113	-0.0915	0.0612	-3.4627	0.3131	-0.7472	0.0989
2	74.88	0.7996	-0.2548	0.0138	-0.1137	0.0706	-4.4118	0.3560	-0.6901	0.1105
2	74.88	0.8578	-0.3582	0.0171	-0.1278	0.0812	-5.6596	0.4074	-0.4352	0.1222
2	74.88	0.9100	-0.4291	0.0205	-0.1057	0.0922	-6.8712	0.4569	-0.2435	0.0967
2	74.88	0.9727	-0.5141	0.0262	-0.0589	0.1043	-8.4512	0.5168	-0.4135	0.1360
3	74.88	0.1938	-0.0123	0.0474	-0.0186	0.0014	0.0218	0.0051	-0.1397	0.0354
3	74.88	0.2357	-0.0101	0.0167	0.0222	0.0027	-0.0300	0.0106	-0.4836	0.0614
3	74.88	0.2995	-0.0032	0.0217	-0.0226	0.0067	0.0166	0.0208	-0.5086	0.0835
3	74.88	0.3493	0.0131	0.0421	-0.0370	0.0113	0.0133	0.0360	-0.4451	0.0707
3	74.88	0.4000	0.0194	0.0561	-0.0344	0.0181	-0.0040	0.0558	-0.3088	0.0732
3	74.88	0.4497	0.0358	0.0626	-0.0584	0.0245	-0.1207	0.0760	-0.4078	0.0853
3	74.88	0.4997	0.0381	0.0633	-0.0688	0.0324	-0.3022	0.1009	-0.6053	0.0918
3	74.88	0.5556	0.0564	0.0554	-0.0765	0.0420	-0.5512	0.1311	-0.4600	0.1013
3	74.88	0.5995	0.0770	0.0453	-0.0994	0.0499	-0.8523	0.1574	-0.3608	0.1161
3	74.88	0.6498	0.0958	0.0340	-0.1269	0.0592	-1.3269	0.1922	-0.4079	0.1235
3	74.88	0.6890	0.0875	0.0332	-0.1624	0.0675	-1.8998	0.2197	-1.1702	0.1391
3	74.88	0.7495	0.1058	0.0570	-0.1619	0.0794	-2.7081	0.2672	-0.7094	0.1245
3	74.88	0.7998	0.0664	0.0918	-0.1500	0.0889	-3.5806	0.3057	-0.8947	0.1465
3	74.88	0.8577	0.0306	0.1386	-0.1170	0.1023	-4.7026	0.3584	-0.5070	0.1632
4	74.88	0.2001	0.0416	0.0023	0.0017	0.0013	-0.0445	0.0080	0.1704	0.0245
4	74.88	0.2502	0.0163	0.0019	0.0180	0.0031	-0.1050	0.0172	0.1859	0.0397
4	74.88	0.3001	-0.0224	0.0024	0.0173	0.0059	-0.1941	0.0333	0.3545	0.0539
4	74.88	0.3502	-0.0641	0.0033	0.0386	0.0100	-0.3283	0.0560	0.3047	0.0621
4	74.88	0.4002	-0.0904	0.0038	0.0623	0.0160	-0.5189	0.0876	0.3889	0.0695
4	74.88	0.4500	-0.1069	0.0044	0.0920	0.0216	-0.8131	0.1197	0.2352	0.0706
4	74.88	0.5001	-0.1256	0.0049	0.1120	0.0283	-1.1526	0.1563	0.3963	0.0730
4	74.88	0.5560	-0.1421	0.0058	0.1539	0.0360	-1.7238	0.1954	0.2124	0.0684
4	74.88	0.6001	-0.1552	0.0063	0.1978	0.0430	-2.2146	0.2278	0.3419	0.0801
4	74.88	0.6501	-0.1867	0.0081	0.2226	0.0504	-2.9361	0.2640	0.4431	0.0762
4	74.88	0.6999	-0.2092	0.0103	0.2542	0.0597	-3.7795	0.3003	0.5918	0.0889
4	74.88	0.7500	-0.2626	0.0120	0.3153	0.0690	-4.7383	0.3388	0.8404	0.0834
4	74.88	0.8002	-0.3226	0.0151	0.3646	0.0789	-5.9008	0.3779	0.8759	0.1029
4	74.88	0.8582	-0.4055	0.0185	0.4465	0.0903	-7.3475	0.4250	0.9504	0.0966
4	74.88	0.9101	-0.4924	0.0223	0.4969	0.1012	-8.8339	0.4683	0.8571	0.1023
4	74.88	0.9728	-0.5382	0.0265	0.6252	0.1135	-10.5698	0.5208	1.0182	0.1213

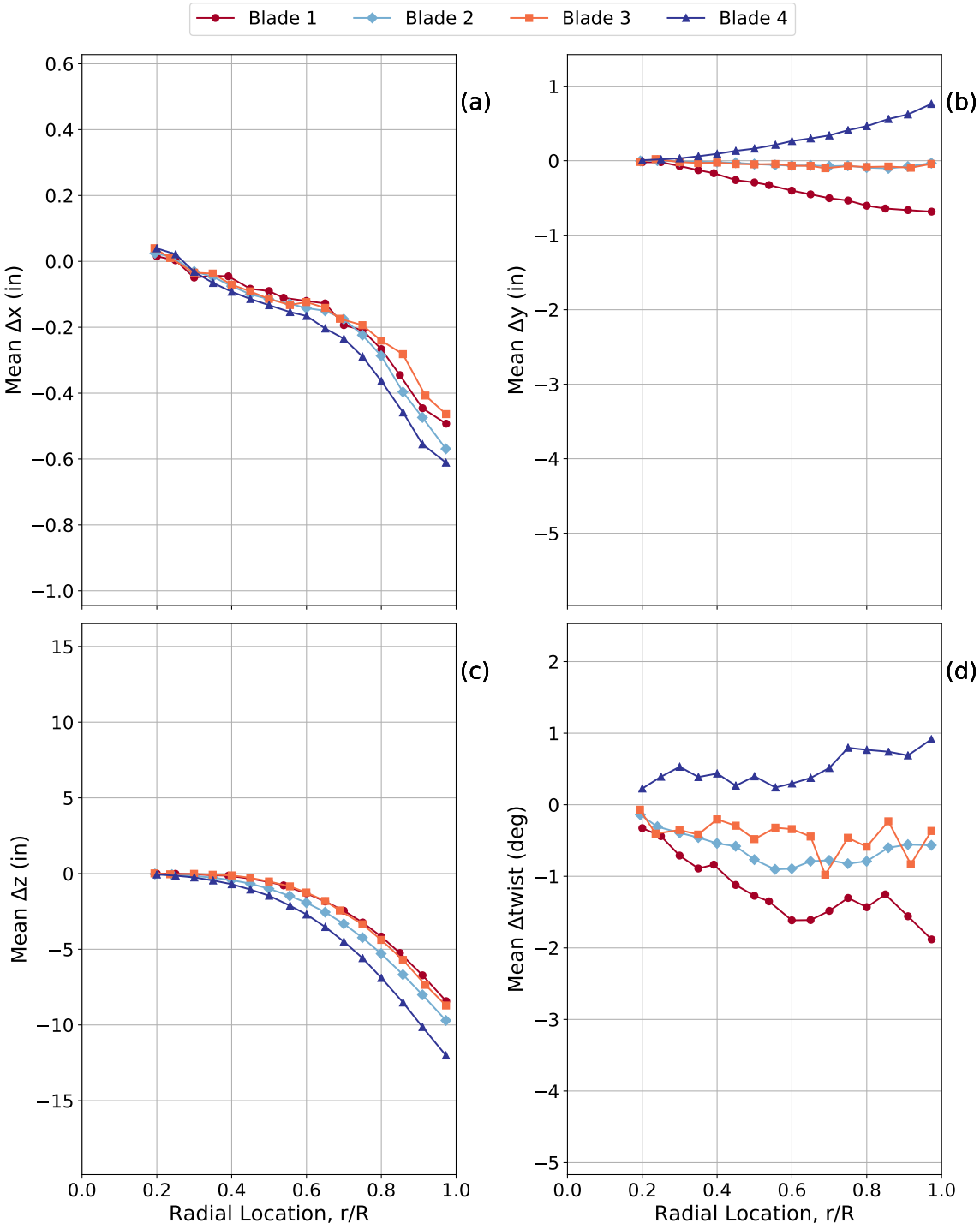


Figure 2.14-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0152	0.0021	-0.0216	0.0013	-0.0079	0.0077	-0.3269	0.0302
1	80.16	0.2499	0.0032	0.0021	-0.0193	0.0029	-0.0168	0.0157	-0.4383	0.0516
1	80.16	0.2998	-0.0492	0.0021	-0.0718	0.0055	-0.0459	0.0312	-0.7103	0.0672
1	80.16	0.3498	-0.0433	0.0027	-0.1271	0.0095	-0.1095	0.0521	-0.8907	0.0634
1	80.16	0.3913	-0.0455	0.0030	-0.1679	0.0138	-0.1452	0.0760	-0.8370	0.0736
1	80.16	0.4496	-0.0833	0.0044	-0.2601	0.0183	-0.3390	0.1096	-1.1211	0.0786
1	80.16	0.4997	-0.0902	0.0040	-0.2917	0.0229	-0.5598	0.1408	-1.2720	0.0826
1	80.16	0.5387	-0.1106	0.0047	-0.3270	0.0277	-0.7828	0.1671	-1.3501	0.0736
1	80.16	0.5996	-0.1202	0.0055	-0.4015	0.0350	-1.3088	0.2060	-1.6147	0.0905
1	80.16	0.6498	-0.1277	0.0068	-0.4517	0.0421	-1.8445	0.2406	-1.6112	0.0902
1	80.16	0.6998	-0.1935	0.0083	-0.5033	0.0493	-2.4577	0.2735	-1.4827	0.0907
1	80.16	0.7500	-0.2091	0.0101	-0.5340	0.0576	-3.2304	0.3090	-1.3022	0.0854
1	80.16	0.8001	-0.2666	0.0124	-0.6043	0.0659	-4.1668	0.3441	-1.4311	0.0923
1	80.16	0.8497	-0.3452	0.0150	-0.6420	0.0753	-5.2482	0.3818	-1.2529	0.0924
1	80.16	0.9102	-0.4459	0.0183	-0.6634	0.0871	-6.7237	0.4287	-1.5580	0.1093
1	80.16	0.9734	-0.4927	0.0232	-0.6837	0.0997	-8.4299	0.4808	-1.8817	0.1140
2	80.16	0.1949	0.0247	0.0021	-0.0034	0.0010	-0.0294	0.0068	-0.1411	0.0308
2	80.16	0.2405	0.0130	0.0018	0.0004	0.0023	-0.0728	0.0129	-0.3069	0.0435
2	80.16	0.2999	-0.0306	0.0022	-0.0092	0.0047	-0.1584	0.0294	-0.3928	0.0684
2	80.16	0.3498	-0.0466	0.0030	-0.0138	0.0079	-0.2722	0.0510	-0.4582	0.0643
2	80.16	0.3998	-0.0754	0.0039	-0.0197	0.0127	-0.4350	0.0787	-0.5399	0.0730
2	80.16	0.4496	-0.0999	0.0042	-0.0285	0.0164	-0.6652	0.1101	-0.5799	0.0888
2	80.16	0.4995	-0.1148	0.0049	-0.0457	0.0215	-1.0009	0.1452	-0.7669	0.0733
2	80.16	0.5551	-0.1284	0.0065	-0.0575	0.0275	-1.4779	0.1888	-0.9030	0.0882
2	80.16	0.5996	-0.1419	0.0070	-0.0666	0.0328	-1.9257	0.2268	-0.8934	0.1021
2	80.16	0.6497	-0.1500	0.0081	-0.0639	0.0399	-2.5497	0.2707	-0.7897	0.1047
2	80.16	0.6996	-0.1753	0.0105	-0.0739	0.0471	-3.3204	0.3163	-0.7765	0.1087
2	80.16	0.7495	-0.2238	0.0136	-0.0679	0.0544	-4.2333	0.3657	-0.8231	0.1216
2	80.16	0.7996	-0.2868	0.0167	-0.0927	0.0625	-5.2937	0.4162	-0.7900	0.1148
2	80.16	0.8578	-0.3964	0.0219	-0.1033	0.0724	-6.6771	0.4774	-0.6009	0.1292
2	80.16	0.9100	-0.4739	0.0262	-0.0776	0.0815	-8.0121	0.5361	-0.5568	0.1312
2	80.16	0.9727	-0.5692	0.0323	-0.0325	0.0927	-9.7043	0.6087	-0.5666	0.1386
3	80.16	0.1938	0.0399	0.0022	-0.0167	0.0011	0.0092	0.0048	-0.0696	0.0293
3	80.16	0.2357	0.0103	0.0019	0.0210	0.0027	-0.0478	0.0097	-0.4036	0.0518
3	80.16	0.2995	-0.0344	0.0022	-0.0177	0.0060	-0.0198	0.0207	-0.3528	0.0707
3	80.16	0.3493	-0.0370	0.0026	-0.0314	0.0096	-0.0784	0.0357	-0.4166	0.0717
3	80.16	0.4000	-0.0708	0.0043	-0.0255	0.0161	-0.1226	0.0558	-0.2042	0.0697
3	80.16	0.4497	-0.0912	0.0042	-0.0442	0.0206	-0.2813	0.0786	-0.2934	0.0767
3	80.16	0.4997	-0.1140	0.0042	-0.0487	0.0271	-0.5239	0.1056	-0.4804	0.0833
3	80.16	0.5556	-0.1326	0.0051	-0.0443	0.0355	-0.8485	0.1398	-0.3211	0.0967
3	80.16	0.5995	-0.1235	0.0058	-0.0675	0.0431	-1.2534	0.1680	-0.3404	0.0960
3	80.16	0.6498	-0.1411	0.0071	-0.0697	0.0522	-1.8126	0.2028	-0.4444	0.0947
3	80.16	0.6890	-0.1742	0.0083	-0.1008	0.0597	-2.4370	0.2294	-0.9775	0.1040
3	80.16	0.7495	-0.1938	0.0108	-0.0723	0.0728	-3.3518	0.2732	-0.4621	0.0998
3	80.16	0.7998	-0.2405	0.0129	-0.0846	0.0843	-4.3834	0.3129	-0.5864	0.1103
3	80.16	0.8577	-0.2817	0.0166	-0.0786	0.0979	-5.7027	0.3581	-0.2319	0.1054
3	80.16	0.9178	-0.4073	0.0205	-0.0944	0.1126	-7.3542	0.4053	-0.8311	0.1261
3	80.16	0.9729	-0.4636	0.0247	-0.0427	0.1257	-8.7160	0.4517	-0.3664	0.1151
4	80.16	0.2001	0.0395	0.0022	0.0066	0.0014	-0.0630	0.0085	0.2271	0.0304
4	80.16	0.2502	0.0215	0.0019	0.0176	0.0038	-0.1397	0.0181	0.3915	0.0479
4	80.16	0.3001	-0.0319	0.0020	0.0315	0.0071	-0.2593	0.0342	0.5301	0.0667
4	80.16	0.3502	-0.0656	0.0025	0.0596	0.0120	-0.4578	0.0590	0.3870	0.0677
4	80.16	0.4002	-0.0923	0.0033	0.0921	0.0193	-0.7053	0.0912	0.4363	0.0785
4	80.16	0.4500	-0.1142	0.0041	0.1321	0.0258	-1.0576	0.1248	0.2665	0.0674
4	80.16	0.5001	-0.1331	0.0049	0.1627	0.0337	-1.4649	0.1620	0.3972	0.0810
4	80.16	0.5560	-0.1539	0.0059	0.2133	0.0436	-2.1240	0.2065	0.2417	0.0853
4	80.16	0.6001	-0.1658	0.0067	0.2642	0.0517	-2.7044	0.2444	0.2973	0.0876
4	80.16	0.6501	-0.2039	0.0090	0.2989	0.0617	-3.5310	0.2910	0.3747	0.0841
4	80.16	0.6999	-0.2348	0.0120	0.3392	0.0725	-4.4974	0.3408	0.5142	0.1025
4	80.16	0.7500	-0.2894	0.0149	0.4095	0.0832	-5.5866	0.3931	0.7962	0.1007
4	80.16	0.8002	-0.3635	0.0188	0.4642	0.0944	-6.8970	0.4471	0.7670	0.1051
4	80.16	0.8582	-0.4585	0.0244	0.5595	0.1076	-8.5214	0.5111	0.7411	0.1102
4	80.16	0.9101	-0.5551	0.0293	0.6206	0.1197	-10.1376	0.5696	0.6890	0.1166
4	80.16	0.9728	-0.6110	0.0341	0.7611	0.1345	-12.0162	0.6402	0.9149	0.1193

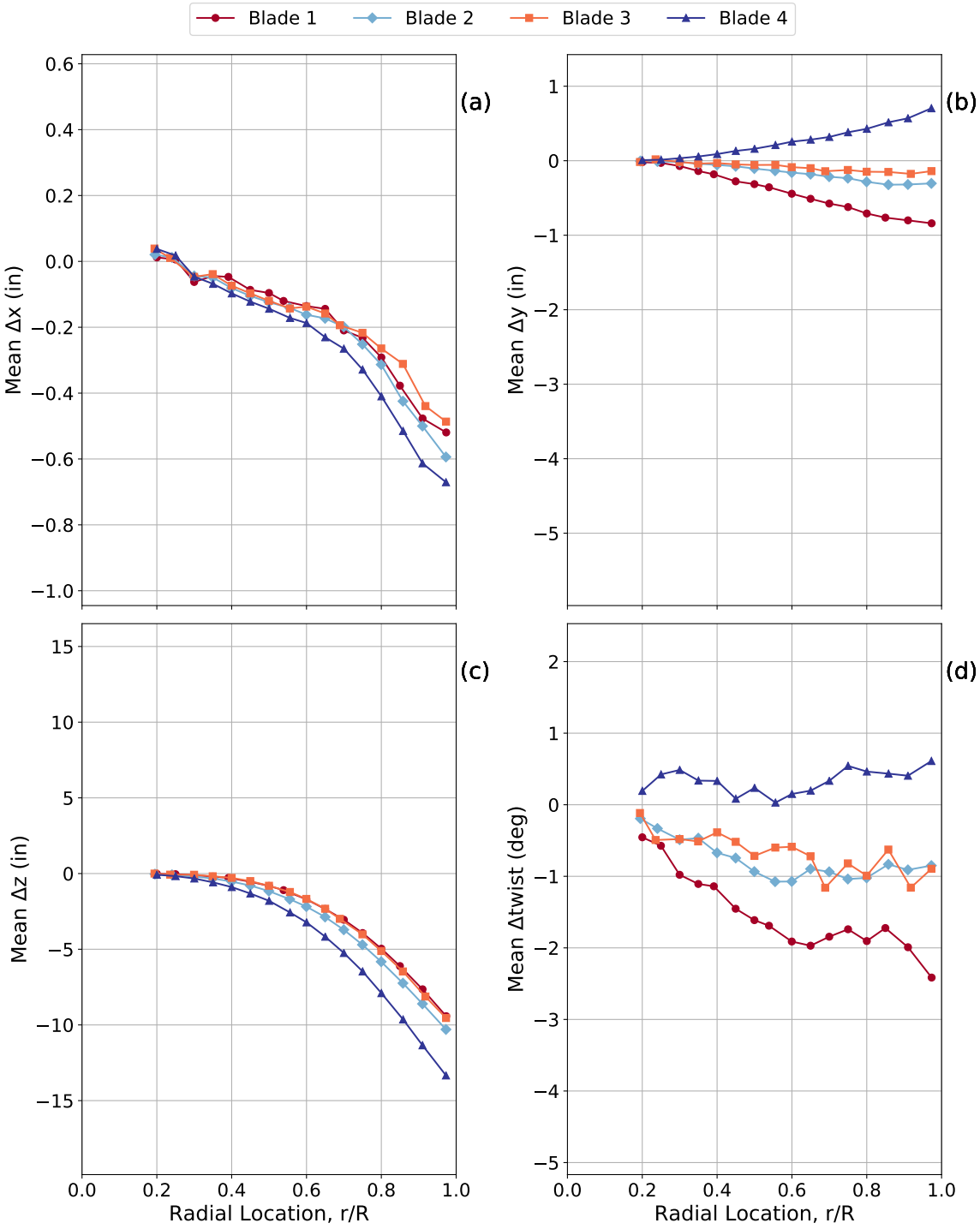


Figure 2.14-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0120	0.0023	-0.0203	0.0015	-0.0204	0.0077	-0.4548	0.0291
1	85.08	0.2499	0.0058	0.0025	-0.0291	0.0026	-0.0427	0.0163	-0.5732	0.0519
1	85.08	0.2998	-0.0625	0.0020	-0.0712	0.0057	-0.1043	0.0309	-0.9785	0.0654
1	85.08	0.3498	-0.0444	0.0025	-0.1384	0.0097	-0.2011	0.0528	-1.1069	0.0702
1	85.08	0.3913	-0.0471	0.0030	-0.1823	0.0137	-0.2850	0.0763	-1.1396	0.0746
1	85.08	0.4496	-0.0865	0.0034	-0.2769	0.0188	-0.5373	0.1102	-1.4530	0.0823
1	85.08	0.4997	-0.0959	0.0043	-0.3145	0.0240	-0.8179	0.1426	-1.6125	0.0833
1	85.08	0.5387	-0.1201	0.0049	-0.3565	0.0287	-1.0964	0.1694	-1.6904	0.0807
1	85.08	0.5996	-0.1357	0.0058	-0.4430	0.0359	-1.7010	0.2120	-1.9112	0.0879
1	85.08	0.6498	-0.1441	0.0072	-0.5111	0.0426	-2.3420	0.2492	-1.9696	0.0915
1	85.08	0.6998	-0.2097	0.0087	-0.5751	0.0491	-3.0519	0.2869	-1.8437	0.0975
1	85.08	0.7500	-0.2322	0.0112	-0.6220	0.0567	-3.9304	0.3270	-1.7400	0.1046
1	85.08	0.8001	-0.2917	0.0137	-0.7084	0.0649	-4.9636	0.3700	-1.9048	0.1001
1	85.08	0.8497	-0.3773	0.0169	-0.7641	0.0731	-6.1113	0.4119	-1.7228	0.1024
1	85.08	0.9102	-0.4770	0.0207	-0.8005	0.0839	-7.6459	0.4649	-1.9911	0.1054
1	85.08	0.9734	-0.5194	0.0246	-0.8402	0.0949	-9.4230	0.5255	-2.4149	0.1054
2	85.08	0.1949	0.0206	0.0020	-0.0043	0.0010	-0.0361	0.0074	-0.1936	0.0293
2	85.08	0.2405	0.0119	0.0019	-0.0102	0.0028	-0.0832	0.0152	-0.3316	0.0397
2	85.08	0.2999	-0.0443	0.0025	-0.0171	0.0049	-0.1960	0.0330	-0.4882	0.0613
2	85.08	0.3498	-0.0491	0.0023	-0.0405	0.0090	-0.3274	0.0574	-0.4669	0.0679
2	85.08	0.3998	-0.0811	0.0030	-0.0561	0.0141	-0.5290	0.0891	-0.6716	0.0803
2	85.08	0.4496	-0.1049	0.0041	-0.0750	0.0182	-0.7912	0.1250	-0.7444	0.0873
2	85.08	0.4995	-0.1240	0.0045	-0.1054	0.0233	-1.1597	0.1669	-0.9344	0.0861
2	85.08	0.5551	-0.1412	0.0060	-0.1350	0.0299	-1.6929	0.2194	-1.0746	0.0955
2	85.08	0.5996	-0.1620	0.0074	-0.1594	0.0346	-2.1828	0.2650	-1.0721	0.1058
2	85.08	0.6497	-0.1730	0.0094	-0.1808	0.0415	-2.8701	0.3187	-0.8970	0.1055
2	85.08	0.6996	-0.1988	0.0129	-0.2149	0.0485	-3.7145	0.3763	-0.9370	0.1123
2	85.08	0.7495	-0.2516	0.0160	-0.2345	0.0565	-4.7027	0.4369	-1.0383	0.1153
2	85.08	0.7996	-0.3133	0.0205	-0.2832	0.0644	-5.8234	0.4995	-1.0220	0.1187
2	85.08	0.8578	-0.4246	0.0264	-0.3220	0.0740	-7.2428	0.5753	-0.8328	0.1214
2	85.08	0.9100	-0.5000	0.0312	-0.3192	0.0831	-8.6065	0.6427	-0.9099	0.1317
2	85.08	0.9727	-0.5939	0.0363	-0.3045	0.0934	-10.2973	0.7276	-0.8502	0.1450
3	85.08	0.1938	0.0389	0.0020	-0.0167	0.0013	-0.0019	0.0089	-0.1157	0.0276
3	85.08	0.2357	0.0105	0.0018	0.0182	0.0026	-0.0726	0.0148	-0.4927	0.0439
3	85.08	0.2995	-0.0469	0.0020	-0.0166	0.0063	-0.0794	0.0368	-0.4797	0.0650
3	85.08	0.3493	-0.0387	0.0024	-0.0389	0.0111	-0.1784	0.0638	-0.5125	0.0579
3	85.08	0.4000	-0.0738	0.0027	-0.0314	0.0175	-0.2844	0.0981	-0.3857	0.0765
3	85.08	0.4497	-0.0970	0.0037	-0.0494	0.0239	-0.4981	0.1365	-0.5182	0.0687
3	85.08	0.4997	-0.1198	0.0038	-0.0573	0.0318	-0.8073	0.1777	-0.7151	0.0686
3	85.08	0.5556	-0.1429	0.0052	-0.0554	0.0413	-1.2180	0.2266	-0.5984	0.0741
3	85.08	0.5995	-0.1374	0.0058	-0.0864	0.0496	-1.6756	0.2667	-0.5873	0.0760
3	85.08	0.6498	-0.1582	0.0078	-0.1002	0.0586	-2.3232	0.3110	-0.7199	0.0806
3	85.08	0.6890	-0.1938	0.0096	-0.1411	0.0670	-2.9908	0.3455	-1.1593	0.0889
3	85.08	0.7495	-0.2169	0.0125	-0.1244	0.0803	-4.0166	0.4015	-0.8195	0.0894
3	85.08	0.7998	-0.2644	0.0154	-0.1479	0.0918	-5.1164	0.4477	-0.9909	0.0884
3	85.08	0.8577	-0.3113	0.0199	-0.1507	0.1057	-6.4686	0.5045	-0.6264	0.0888
3	85.08	0.9178	-0.4393	0.0240	-0.1766	0.1219	-8.1238	0.5624	-1.1585	0.1032
3	85.08	0.9729	-0.4865	0.0278	-0.1396	0.1359	-9.5415	0.6179	-0.8949	0.1103
4	85.08	0.2001	0.0378	0.0021	0.0077	0.0012	-0.0796	0.0062	0.1932	0.0258
4	85.08	0.2502	0.0177	0.0021	0.0131	0.0028	-0.1717	0.0151	0.4236	0.0470
4	85.08	0.3001	-0.0463	0.0028	0.0337	0.0053	-0.3272	0.0274	0.4864	0.0583
4	85.08	0.3502	-0.0683	0.0031	0.0567	0.0090	-0.5824	0.0466	0.3369	0.0634
4	85.08	0.4002	-0.0972	0.0035	0.0889	0.0143	-0.8939	0.0738	0.3327	0.0672
4	85.08	0.4500	-0.1223	0.0042	0.1314	0.0196	-1.3209	0.1016	0.0837	0.0667
4	85.08	0.5001	-0.1438	0.0047	0.1600	0.0262	-1.8035	0.1353	0.2353	0.0694
4	85.08	0.5560	-0.1718	0.0060	0.2101	0.0343	-2.5722	0.1753	0.0297	0.0694
4	85.08	0.6001	-0.1873	0.0074	0.2558	0.0417	-3.2269	0.2066	0.1505	0.0791
4	85.08	0.6501	-0.2305	0.0094	0.2826	0.0498	-4.1728	0.2427	0.1970	0.0812
4	85.08	0.6999	-0.2651	0.0115	0.3188	0.0596	-5.2491	0.2791	0.3345	0.0813
4	85.08	0.7500	-0.3287	0.0140	0.3817	0.0692	-6.4667	0.3152	0.5428	0.0888
4	85.08	0.8002	-0.4099	0.0171	0.4281	0.0799	-7.9016	0.3518	0.4635	0.0905
4	85.08	0.8582	-0.5150	0.0212	0.5157	0.0928	-9.6410	0.3943	0.4344	0.1008
4	85.08	0.9101	-0.6132	0.0250	0.5695	0.1045	-11.3470	0.4351	0.4054	0.0952
4	85.08	0.9728	-0.6706	0.0280	0.7039	0.1188	-13.3375	0.4829	0.6111	0.1037

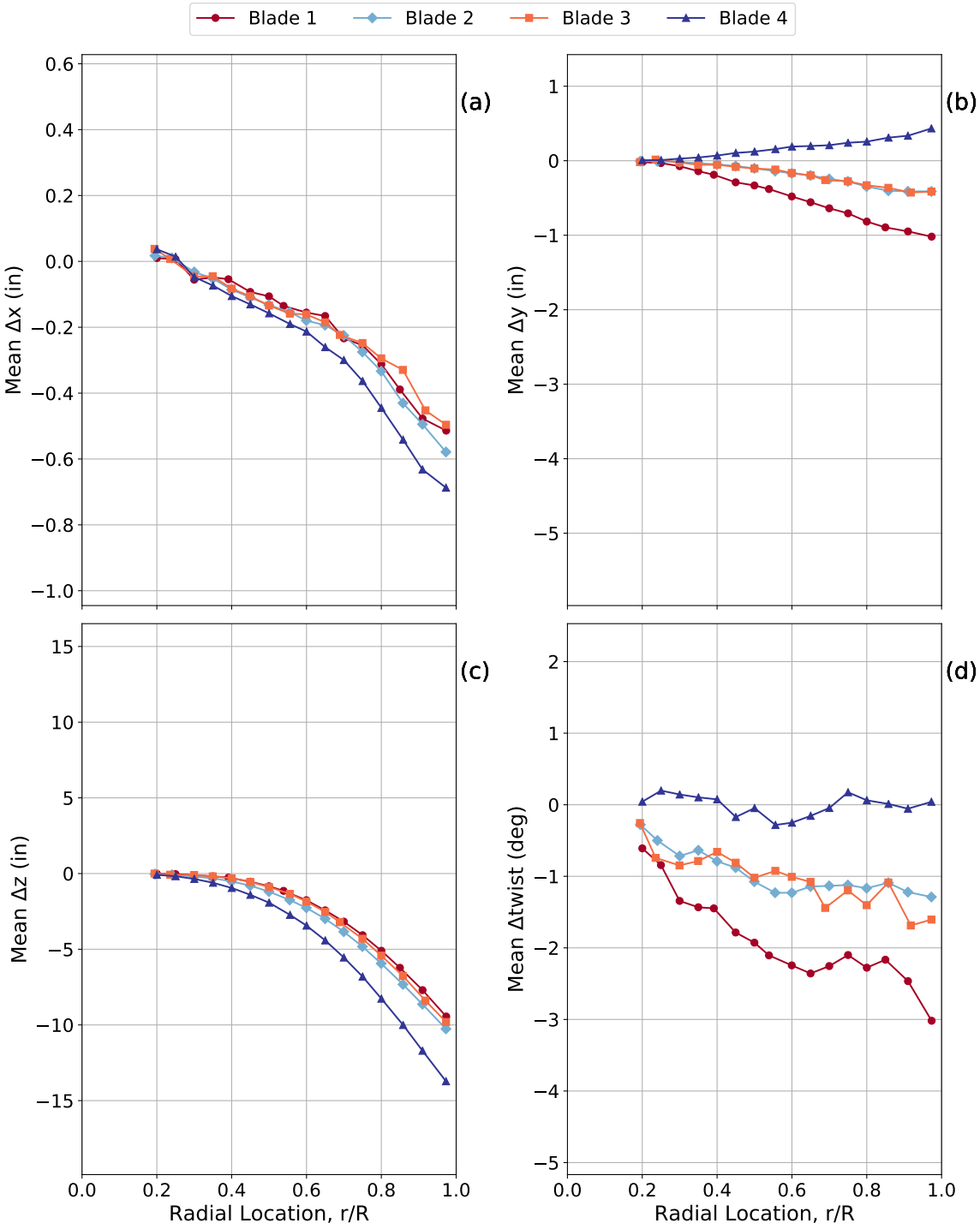


Figure 2.14-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0101	0.0024	-0.0202	0.0013	-0.0179	0.0066	-0.6092	0.0312
1	90	0.2499	0.0065	0.0019	-0.0315	0.0028	-0.0374	0.0139	-0.8427	0.0578
1	90	0.2998	-0.0556	0.0018	-0.0735	0.0054	-0.1011	0.0255	-1.3436	0.0712
1	90	0.3498	-0.0485	0.0021	-0.1410	0.0094	-0.1823	0.0431	-1.4327	0.0725
1	90	0.3913	-0.0542	0.0026	-0.1886	0.0136	-0.2681	0.0623	-1.4476	0.0700
1	90	0.4496	-0.0928	0.0030	-0.2901	0.0197	-0.5361	0.0929	-1.7850	0.0751
1	90	0.4997	-0.1061	0.0029	-0.3321	0.0266	-0.8383	0.1214	-1.9271	0.0754
1	90	0.5387	-0.1351	0.0028	-0.3804	0.0319	-1.1436	0.1447	-2.1045	0.0831
1	90	0.5996	-0.1553	0.0036	-0.4798	0.0413	-1.7623	0.1814	-2.2444	0.0876
1	90	0.6498	-0.1658	0.0043	-0.5572	0.0495	-2.4314	0.2125	-2.3575	0.0867
1	90	0.6998	-0.2337	0.0054	-0.6386	0.0588	-3.1752	0.2414	-2.2541	0.0876
1	90	0.7500	-0.2549	0.0068	-0.7063	0.0687	-4.0722	0.2723	-2.1000	0.0949
1	90	0.8001	-0.3125	0.0089	-0.8170	0.0784	-5.1024	0.3055	-2.2769	0.0944
1	90	0.8497	-0.3890	0.0113	-0.8947	0.0886	-6.2263	0.3396	-2.1651	0.0997
1	90	0.9102	-0.4773	0.0144	-0.9492	0.1015	-7.7006	0.3868	-2.4646	0.1011
1	90	0.9734	-0.5139	0.0176	-1.0192	0.1151	-9.4440	0.4431	-3.0184	0.1031
2	90	0.1949	0.0173	0.0021	-0.0045	0.0015	-0.0351	0.0072	-0.2786	0.0229
2	90	0.2405	0.0105	0.0018	-0.0068	0.0027	-0.0811	0.0119	-0.4994	0.0535
2	90	0.2999	-0.0321	0.0020	-0.0171	0.0064	-0.2002	0.0290	-0.7164	0.0587
2	90	0.3498	-0.0523	0.0022	-0.0340	0.0111	-0.3122	0.0496	-0.6358	0.0581
2	90	0.3998	-0.0857	0.0028	-0.0489	0.0172	-0.5214	0.0758	-0.7901	0.0691
2	90	0.4496	-0.1094	0.0033	-0.0711	0.0234	-0.8000	0.1043	-0.8786	0.0734
2	90	0.4995	-0.1327	0.0034	-0.1025	0.0305	-1.1920	0.1359	-1.0752	0.0763
2	90	0.5551	-0.1539	0.0036	-0.1391	0.0405	-1.7460	0.1737	-1.2296	0.0810
2	90	0.5996	-0.1799	0.0046	-0.1699	0.0484	-2.2636	0.2039	-1.2307	0.0843
2	90	0.6497	-0.1938	0.0060	-0.1980	0.0586	-2.9839	0.2376	-1.1431	0.0940
2	90	0.6996	-0.2250	0.0070	-0.2451	0.0698	-3.8433	0.2737	-1.1335	0.0991
2	90	0.7495	-0.2750	0.0096	-0.2778	0.0814	-4.8242	0.3113	-1.1216	0.1029
2	90	0.7996	-0.3333	0.0122	-0.3468	0.0941	-5.9410	0.3485	-1.1664	0.1078
2	90	0.8578	-0.4303	0.0154	-0.4029	0.1092	-7.3234	0.3952	-1.0908	0.1126
2	90	0.9100	-0.4946	0.0186	-0.4107	0.1227	-8.6330	0.4404	-1.2207	0.1119
2	90	0.9727	-0.5787	0.0211	-0.4121	0.1394	-10.2612	0.4948	-1.2886	0.1243
3	90	0.1938	0.0379	0.0025	-0.0186	0.0013	-0.0015	0.0083	-0.2558	0.0297
3	90	0.2357	0.0074	0.0020	0.0150	0.0028	-0.0749	0.0142	-0.7421	0.0601
3	90	0.2995	-0.0461	0.0022	-0.0239	0.0060	-0.0950	0.0342	-0.8478	0.0730
3	90	0.3493	-0.0451	0.0023	-0.0553	0.0108	-0.1857	0.0583	-0.7864	0.0745
3	90	0.4000	-0.0827	0.0036	-0.0544	0.0169	-0.3140	0.0905	-0.6589	0.0809
3	90	0.4497	-0.1060	0.0040	-0.0826	0.0233	-0.5523	0.1255	-0.8098	0.0787
3	90	0.4997	-0.1342	0.0045	-0.1047	0.0315	-0.8916	0.1639	-1.0201	0.0827
3	90	0.5556	-0.1586	0.0050	-0.1189	0.0412	-1.3400	0.2103	-0.9241	0.0803
3	90	0.5995	-0.1609	0.0058	-0.1645	0.0506	-1.8477	0.2501	-1.0074	0.0896
3	90	0.6498	-0.1851	0.0076	-0.1966	0.0613	-2.5261	0.2913	-1.0785	0.0962
3	90	0.6890	-0.2232	0.0089	-0.2592	0.0707	-3.2135	0.3266	-1.4414	0.0925
3	90	0.7495	-0.2479	0.0111	-0.2767	0.0862	-4.3060	0.3794	-1.1966	0.0906
3	90	0.7998	-0.2945	0.0141	-0.3295	0.0996	-5.4215	0.4252	-1.4032	0.0963
3	90	0.8577	-0.3295	0.0178	-0.3638	0.1158	-6.7629	0.4800	-1.0860	0.1006
3	90	0.9178	-0.4524	0.0217	-0.4268	0.1329	-8.3921	0.5365	-1.6869	0.0986
3	90	0.9729	-0.4961	0.0241	-0.4141	0.1491	-9.8057	0.5936	-1.6044	0.1058
4	90.35	0.2001	0.0368	0.0021	0.0068	0.0016	-0.0837	0.0079	0.0426	0.0301
4	90.35	0.2502	0.0143	0.0024	0.0079	0.0035	-0.1778	0.0162	0.1975	0.0521
4	90.35	0.3001	-0.0475	0.0026	0.0283	0.0071	-0.3563	0.0313	0.1431	0.0683
4	90.35	0.3502	-0.0736	0.0029	0.0434	0.0122	-0.6094	0.0550	0.1029	0.0675
4	90.35	0.4002	-0.1053	0.0034	0.0692	0.0192	-0.9527	0.0842	0.0752	0.0861
4	90.35	0.4500	-0.1306	0.0041	0.1045	0.0257	-1.4064	0.1194	-0.1714	0.0739
4	90.35	0.5001	-0.1578	0.0050	0.1224	0.0339	-1.9259	0.1567	-0.0468	0.0841
4	90.35	0.5560	-0.1903	0.0066	0.1556	0.0437	-2.7318	0.2039	-0.2826	0.0892
4	90.35	0.6001	-0.2132	0.0081	0.1899	0.0524	-3.4403	0.2440	-0.2507	0.0992
4	90.35	0.6501	-0.2605	0.0111	0.1973	0.0624	-4.4197	0.2916	-0.1552	0.0988
4	90.35	0.6999	-0.2997	0.0140	0.2081	0.0735	-5.5490	0.3415	-0.0456	0.1058
4	90.35	0.7500	-0.3634	0.0179	0.2411	0.0858	-6.8113	0.3950	0.1742	0.1009
4	90.35	0.8002	-0.4450	0.0227	0.2562	0.0989	-8.2672	0.4490	0.0619	0.1065
4	90.35	0.8582	-0.5416	0.0286	0.3100	0.1147	-10.0059	0.5156	0.0110	0.1072
4	90.35	0.9101	-0.6320	0.0333	0.3351	0.1290	-11.7061	0.5761	-0.0557	0.1130
4	90.35	0.9728	-0.6872	0.0391	0.4334	0.1471	-13.7226	0.6522	0.0413	0.1167

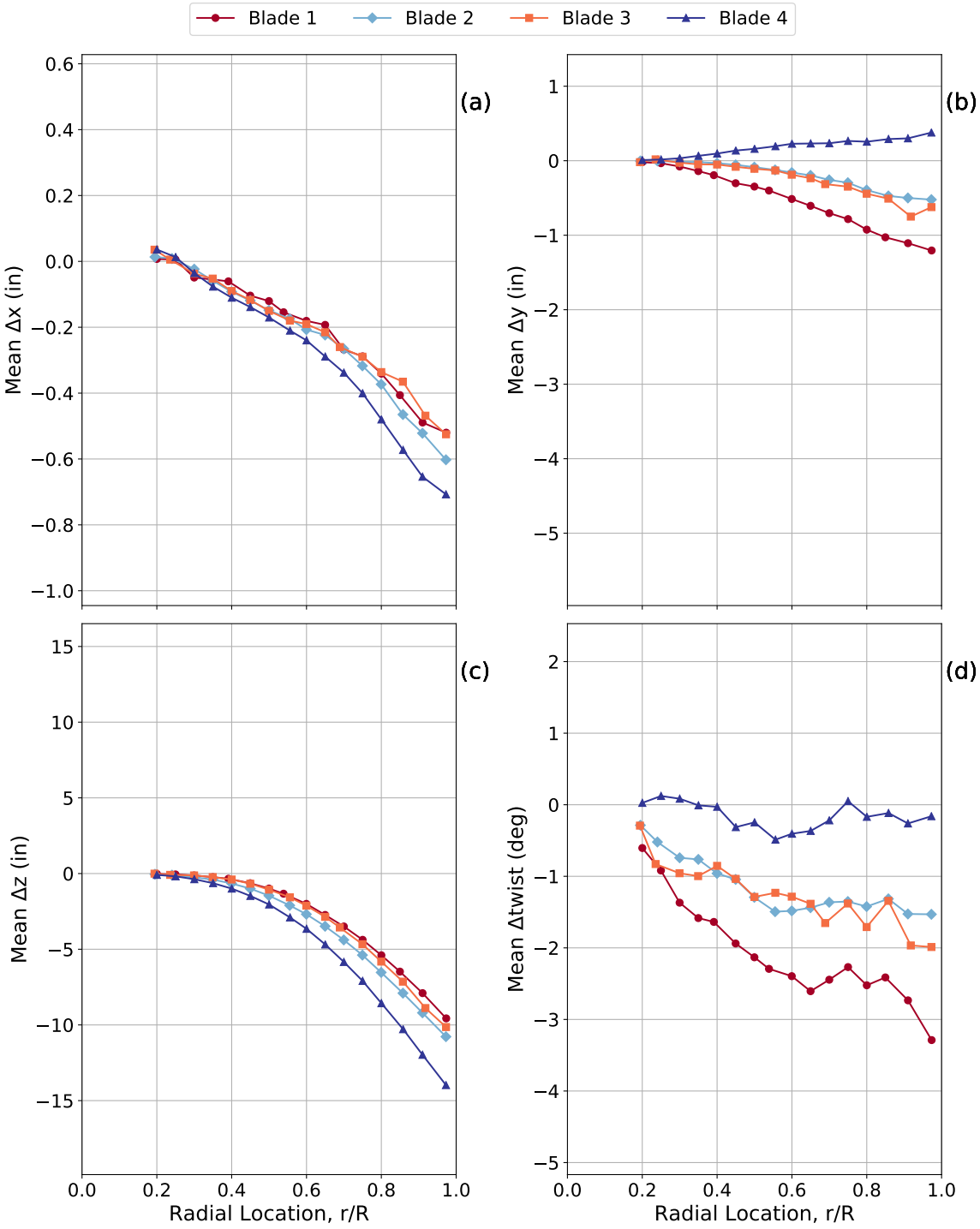


Figure 2.14-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	0.0074	0.0027	-0.0197	0.0016	-0.0232	0.0098	-0.6048	0.0363
1	94.92	0.2499	0.0055	0.0020	-0.0333	0.0033	-0.0591	0.0195	-0.9187	0.0754
1	94.92	0.2998	-0.0491	0.0023	-0.0774	0.0067	-0.1252	0.0370	-1.3683	0.0862
1	94.92	0.3498	-0.0551	0.0026	-0.1395	0.0118	-0.2365	0.0645	-1.5834	0.0839
1	94.92	0.3913	-0.0606	0.0034	-0.1940	0.0169	-0.3427	0.0911	-1.6374	0.0854
1	94.92	0.4496	-0.1040	0.0041	-0.3021	0.0246	-0.6400	0.1343	-1.9386	0.0944
1	94.92	0.4997	-0.1205	0.0038	-0.3472	0.0329	-0.9909	0.1739	-2.1317	0.0981
1	94.92	0.5387	-0.1544	0.0044	-0.4005	0.0393	-1.3313	0.2060	-2.2930	0.0963
1	94.92	0.5996	-0.1806	0.0060	-0.5138	0.0508	-2.0042	0.2556	-2.3952	0.1027
1	94.92	0.6498	-0.1928	0.0068	-0.6054	0.0612	-2.7354	0.2975	-2.6052	0.1022
1	94.92	0.6998	-0.2678	0.0087	-0.7039	0.0727	-3.4969	0.3377	-2.4448	0.1065
1	94.92	0.7500	-0.2883	0.0107	-0.7835	0.0844	-4.3785	0.3799	-2.2684	0.1113
1	94.92	0.8001	-0.3408	0.0134	-0.9253	0.0972	-5.3991	0.4239	-2.5229	0.1164
1	94.92	0.8497	-0.4061	0.0168	-1.0281	0.1099	-6.4784	0.4710	-2.4130	0.1198
1	94.92	0.9102	-0.4892	0.0202	-1.1071	0.1259	-7.8992	0.5323	-2.7331	0.1241
1	94.92	0.9734	-0.5201	0.0233	-1.2049	0.1427	-9.5674	0.6012	-3.2884	0.1251
2	94.92	0.1949	0.0134	0.0025	-0.0035	0.0014	-0.0455	0.0067	-0.2863	0.0286
2	94.92	0.2405	0.0087	0.0020	-0.0024	0.0026	-0.1046	0.0122	-0.5205	0.0494
2	94.92	0.2999	-0.0235	0.0022	-0.0150	0.0060	-0.2507	0.0287	-0.7413	0.0660
2	94.92	0.3498	-0.0589	0.0022	-0.0189	0.0101	-0.3980	0.0492	-0.7637	0.0679
2	94.92	0.3998	-0.0922	0.0031	-0.0327	0.0159	-0.6570	0.0760	-0.9593	0.0693
2	94.92	0.4496	-0.1190	0.0035	-0.0554	0.0210	-0.9934	0.1067	-1.0433	0.0814
2	94.92	0.4995	-0.1484	0.0041	-0.0861	0.0285	-1.4598	0.1398	-1.2936	0.0832
2	94.92	0.5551	-0.1743	0.0045	-0.1238	0.0369	-2.1045	0.1788	-1.4943	0.0890
2	94.92	0.5996	-0.2072	0.0055	-0.1587	0.0446	-2.6874	0.2091	-1.4828	0.0885
2	94.92	0.6497	-0.2236	0.0068	-0.1971	0.0540	-3.4819	0.2426	-1.4385	0.0862
2	94.92	0.6996	-0.2656	0.0083	-0.2570	0.0637	-4.3852	0.2748	-1.3629	0.0942
2	94.92	0.7495	-0.3172	0.0107	-0.2950	0.0744	-5.3870	0.3058	-1.3523	0.0999
2	94.92	0.7996	-0.3732	0.0128	-0.3939	0.0857	-6.5322	0.3374	-1.4226	0.0998
2	94.92	0.8578	-0.4650	0.0155	-0.4727	0.0998	-7.9016	0.3744	-1.3148	0.1012
2	94.92	0.9100	-0.5217	0.0181	-0.4999	0.1125	-9.1999	0.4075	-1.5263	0.1140
2	94.92	0.9727	-0.6024	0.0218	-0.5222	0.1283	-10.7760	0.4502	-1.5310	0.1069
3	94.92	0.1938	0.0355	0.0033	-0.0190	0.0020	-0.0074	0.0083	-0.2917	0.0383
3	94.92	0.2357	0.0054	0.0027	0.0180	0.0033	-0.0881	0.0140	-0.8285	0.0917
3	94.92	0.2995	-0.0374	0.0027	-0.0267	0.0085	-0.1239	0.0330	-0.9568	0.1080
3	94.92	0.3493	-0.0523	0.0027	-0.0485	0.0145	-0.2361	0.0565	-0.9973	0.1034
3	94.92	0.4000	-0.0899	0.0035	-0.0509	0.0229	-0.3932	0.0870	-0.8540	0.1024
3	94.92	0.4497	-0.1172	0.0037	-0.0815	0.0319	-0.6714	0.1208	-1.0355	0.1079
3	94.92	0.4997	-0.1504	0.0046	-0.1083	0.0425	-1.0630	0.1592	-1.2878	0.1155
3	94.92	0.5556	-0.1797	0.0044	-0.1307	0.0559	-1.5710	0.2054	-1.2305	0.1152
3	94.92	0.5995	-0.1903	0.0053	-0.1879	0.0680	-2.1225	0.2428	-1.2845	0.1212
3	94.92	0.6498	-0.2152	0.0071	-0.2351	0.0826	-2.8587	0.2874	-1.3841	0.1292
3	94.92	0.6890	-0.2601	0.0081	-0.3143	0.0953	-3.5615	0.3240	-1.6531	0.1220
3	94.92	0.7495	-0.2895	0.0113	-0.3480	0.1155	-4.6687	0.3799	-1.3800	0.1224
3	94.92	0.7998	-0.3362	0.0139	-0.4429	0.1330	-5.8151	0.4278	-1.7090	0.1262
3	94.92	0.8577	-0.3653	0.0176	-0.5090	0.1543	-7.1408	0.4847	-1.3428	0.1259
3	94.92	0.9178	-0.4685	0.0231	-0.7501	0.1778	-8.8848	0.5459	-1.9661	0.1323
3	94.92	0.9729	-0.5250	0.0236	-0.6229	0.1975	-10.1397	0.6052	-1.9878	0.1375
4	94.92	0.2001	0.0359	0.0018	0.0086	0.0017	-0.0880	0.0068	0.0260	0.0290
4	94.92	0.2502	0.0130	0.0022	0.0160	0.0036	-0.1852	0.0139	0.1225	0.0525
4	94.92	0.3001	-0.0356	0.0027	0.0331	0.0072	-0.3738	0.0281	0.0840	0.0668
4	94.92	0.3502	-0.0767	0.0028	0.0657	0.0126	-0.6356	0.0476	-0.0088	0.0702
4	94.92	0.4002	-0.1103	0.0032	0.0959	0.0195	-0.9950	0.0741	-0.0289	0.0762
4	94.92	0.4500	-0.1388	0.0038	0.1364	0.0269	-1.4796	0.1037	-0.3129	0.0795
4	94.92	0.5001	-0.1705	0.0049	0.1594	0.0358	-2.0455	0.1389	-0.2464	0.0842
4	94.92	0.5560	-0.2103	0.0061	0.1944	0.0475	-2.9010	0.1819	-0.4882	0.0879
4	94.92	0.6001	-0.2399	0.0076	0.2277	0.0578	-3.6520	0.2197	-0.4052	0.0882
4	94.92	0.6501	-0.2892	0.0103	0.2310	0.0706	-4.6861	0.2654	-0.3658	0.0892
4	94.92	0.6999	-0.3379	0.0138	0.2346	0.0846	-5.8416	0.3159	-0.2179	0.0918
4	94.92	0.7500	-0.4006	0.0177	0.2652	0.0991	-7.0940	0.3691	0.0497	0.1001
4	94.92	0.8002	-0.4800	0.0223	0.2551	0.1148	-8.5677	0.4260	-0.1691	0.0956
4	94.92	0.8582	-0.5727	0.0284	0.2906	0.1326	-10.2822	0.4916	-0.1160	0.0921
4	94.92	0.9101	-0.6539	0.0332	0.3003	0.1495	-11.9744	0.5505	-0.2616	0.0985
4	94.92	0.9728	-0.7074	0.0381	0.3778	0.1697	-13.9755	0.6219	-0.1605	0.1005

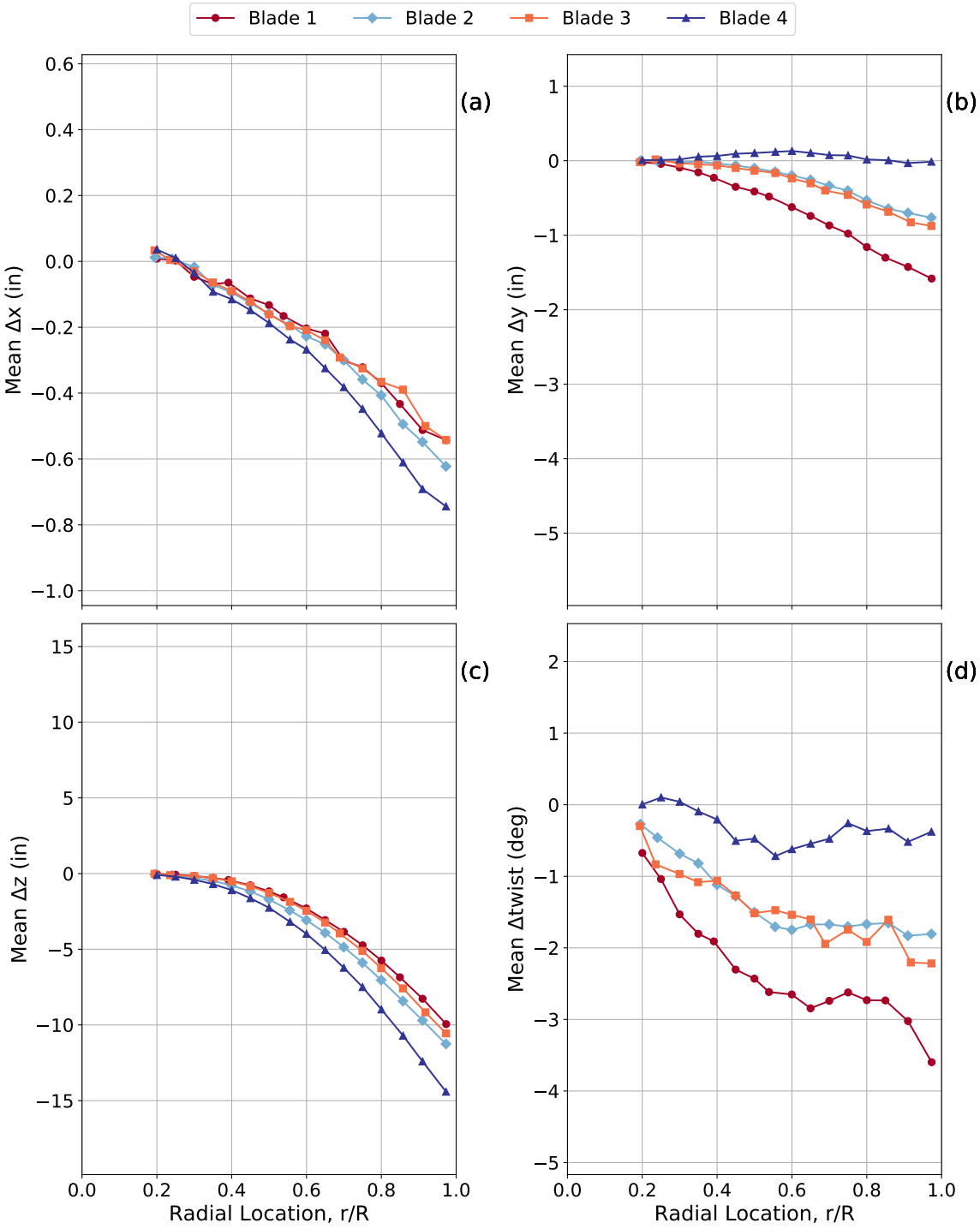


Figure 2.14-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	0.0083	0.0030	-0.0207	0.0013	-0.0301	0.0071	-0.6741	0.0383
1	99.84	0.2499	0.0027	0.0024	-0.0422	0.0026	-0.0755	0.0148	-1.0381	0.0741
1	99.84	0.2998	-0.0469	0.0020	-0.0922	0.0052	-0.1593	0.0273	-1.5319	0.0879
1	99.84	0.3498	-0.0686	0.0023	-0.1555	0.0090	-0.2921	0.0465	-1.8030	0.0816
1	99.84	0.3913	-0.0645	0.0024	-0.2285	0.0130	-0.4273	0.0667	-1.9091	0.0830
1	99.84	0.4496	-0.1124	0.0029	-0.3505	0.0188	-0.7765	0.0975	-2.3034	0.0883
1	99.84	0.4997	-0.1328	0.0039	-0.4133	0.0244	-1.1751	0.1306	-2.4298	0.0888
1	99.84	0.5387	-0.1659	0.0043	-0.4810	0.0296	-1.5704	0.1583	-2.6168	0.0880
1	99.84	0.5996	-0.2036	0.0055	-0.6228	0.0383	-2.3038	0.2038	-2.6511	0.1016
1	99.84	0.6498	-0.2193	0.0072	-0.7414	0.0469	-3.0716	0.2454	-2.8446	0.0956
1	99.84	0.6998	-0.3012	0.0092	-0.8689	0.0554	-3.8483	0.2878	-2.7399	0.0985
1	99.84	0.7500	-0.3214	0.0112	-0.9784	0.0653	-4.7397	0.3314	-2.6224	0.1094
1	99.84	0.8001	-0.3697	0.0135	-1.1595	0.0758	-5.7468	0.3770	-2.7309	0.1078
1	99.84	0.8497	-0.4330	0.0165	-1.3012	0.0862	-6.8527	0.4222	-2.7347	0.1084
1	99.84	0.9102	-0.5121	0.0201	-1.4258	0.1000	-8.2697	0.4775	-3.0228	0.1187
1	99.84	0.9734	-0.5428	0.0228	-1.5821	0.1150	-9.9451	0.5379	-3.5974	0.1183
2	99.84	0.1949	0.0119	0.0026	-0.0017	0.0012	-0.0551	0.0060	-0.2712	0.0302
2	99.84	0.2405	0.0077	0.0021	-0.0046	0.0021	-0.1247	0.0113	-0.4595	0.0530
2	99.84	0.2999	-0.0170	0.0018	-0.0205	0.0048	-0.3005	0.0254	-0.6839	0.0700
2	99.84	0.3498	-0.0712	0.0022	-0.0125	0.0083	-0.4769	0.0442	-0.8189	0.0746
2	99.84	0.3998	-0.0949	0.0027	-0.0375	0.0128	-0.7861	0.0679	-1.1179	0.0755
2	99.84	0.4496	-0.1266	0.0034	-0.0631	0.0172	-1.1778	0.0944	-1.2786	0.0806
2	99.84	0.4995	-0.1595	0.0043	-0.1009	0.0237	-1.7046	0.1263	-1.5012	0.0887
2	99.84	0.5551	-0.1929	0.0051	-0.1493	0.0313	-2.4307	0.1663	-1.7051	0.0920
2	99.84	0.5996	-0.2275	0.0065	-0.1975	0.0390	-3.0764	0.1991	-1.7488	0.0944
2	99.84	0.6497	-0.2518	0.0082	-0.2560	0.0479	-3.9151	0.2392	-1.6730	0.1003
2	99.84	0.6996	-0.3001	0.0107	-0.3372	0.0581	-4.8594	0.2800	-1.6722	0.1022
2	99.84	0.7495	-0.3584	0.0135	-0.4017	0.0691	-5.8915	0.3232	-1.7021	0.1109
2	99.84	0.7996	-0.4066	0.0165	-0.5310	0.0810	-7.0379	0.3680	-1.6688	0.1160
2	99.84	0.8578	-0.4943	0.0203	-0.6447	0.0952	-8.4225	0.4222	-1.6530	0.1141
2	99.84	0.9100	-0.5481	0.0234	-0.7008	0.1085	-9.6992	0.4728	-1.8304	0.1199
2	99.84	0.9727	-0.6224	0.0268	-0.7647	0.1248	-11.2545	0.5350	-1.8057	0.1204
3	99.84	0.1938	0.0335	0.0029	-0.0184	0.0018	-0.0153	0.0081	-0.2964	0.0356
3	99.84	0.2357	0.0044	0.0022	0.0164	0.0029	-0.1064	0.0118	-0.8327	0.0977
3	99.84	0.2995	-0.0300	0.0027	-0.0357	0.0074	-0.1705	0.0291	-0.9677	0.1076
3	99.84	0.3493	-0.0640	0.0027	-0.0463	0.0134	-0.3052	0.0506	-1.0816	0.0998
3	99.84	0.4000	-0.0902	0.0034	-0.0620	0.0205	-0.5119	0.0765	-1.0616	0.1045
3	99.84	0.4497	-0.1218	0.0040	-0.0969	0.0285	-0.8345	0.1048	-1.2687	0.1065
3	99.84	0.4997	-0.1607	0.0045	-0.1324	0.0384	-1.2837	0.1382	-1.5152	0.1004
3	99.84	0.5556	-0.1966	0.0055	-0.1649	0.0510	-1.8676	0.1779	-1.4743	0.1045
3	99.84	0.5995	-0.2087	0.0063	-0.2368	0.0618	-2.4618	0.2091	-1.5375	0.1121
3	99.84	0.6498	-0.2397	0.0083	-0.3031	0.0758	-3.2347	0.2446	-1.6034	0.1194
3	99.84	0.6890	-0.2919	0.0095	-0.3997	0.0880	-3.9555	0.2721	-1.9440	0.1287
3	99.84	0.7495	-0.3249	0.0127	-0.4597	0.1080	-5.1082	0.3145	-1.7457	0.1192
3	99.84	0.7998	-0.3657	0.0157	-0.5880	0.1258	-6.2531	0.3512	-1.9177	0.1218
3	99.84	0.8577	-0.3894	0.0194	-0.6850	0.1476	-7.5870	0.3980	-1.6066	0.1160
3	99.84	0.9178	-0.5000	0.0230	-0.8273	0.1708	-9.1683	0.4524	-2.2037	0.1219
3	99.84	0.9729	-0.5422	0.0285	-0.8765	0.1926	-10.5557	0.5045	-2.2174	0.1263
4	99.84	0.2001	0.0362	0.0023	0.0078	0.0021	-0.0940	0.0094	0.0040	0.0656
4	99.84	0.2502	0.0100	0.0053	0.0090	0.0038	-0.2036	0.0158	0.1018	0.1718
4	99.84	0.3001	-0.0347	0.0053	0.0176	0.0082	-0.4126	0.0358	0.0411	0.1788
4	99.84	0.3502	-0.0921	0.0057	0.0538	0.0142	-0.6952	0.0628	-0.0941	0.1741
4	99.84	0.4002	-0.1151	0.0062	0.0635	0.0217	-1.0983	0.0952	-0.2071	0.1839
4	99.84	0.4500	-0.1480	0.0072	0.0930	0.0292	-1.6289	0.1319	-0.5050	0.1857
4	99.84	0.5001	-0.1873	0.0085	0.1035	0.0381	-2.2608	0.1744	-0.4731	0.1829
4	99.84	0.5560	-0.2373	0.0107	0.1188	0.0497	-3.1914	0.2251	-0.7169	0.1880
4	99.84	0.6001	-0.2678	0.0128	0.1305	0.0602	-3.9850	0.2687	-0.6206	0.1976
4	99.84	0.6501	-0.3246	0.0159	0.1047	0.0731	-5.0510	0.3222	-0.5440	0.2038
4	99.84	0.6999	-0.3819	0.0198	0.0749	0.0872	-6.2269	0.3799	-0.4749	0.2030
4	99.84	0.7500	-0.4480	0.0242	0.0704	0.1024	-7.5005	0.4383	-0.2578	0.2047
4	99.84	0.8002	-0.5222	0.0293	0.0163	0.1188	-8.9783	0.4989	-0.3675	0.2080
4	99.84	0.8582	-0.6104	0.0358	0.0062	0.1385	-10.7106	0.5697	-0.3344	0.2119
4	99.84	0.9101	-0.6914	0.0412	-0.0319	0.1569	-12.4098	0.6340	-0.5185	0.2113
4	99.84	0.9728	-0.7439	0.0481	-0.0137	0.1789	-14.4123	0.7107	-0.3769	0.2138

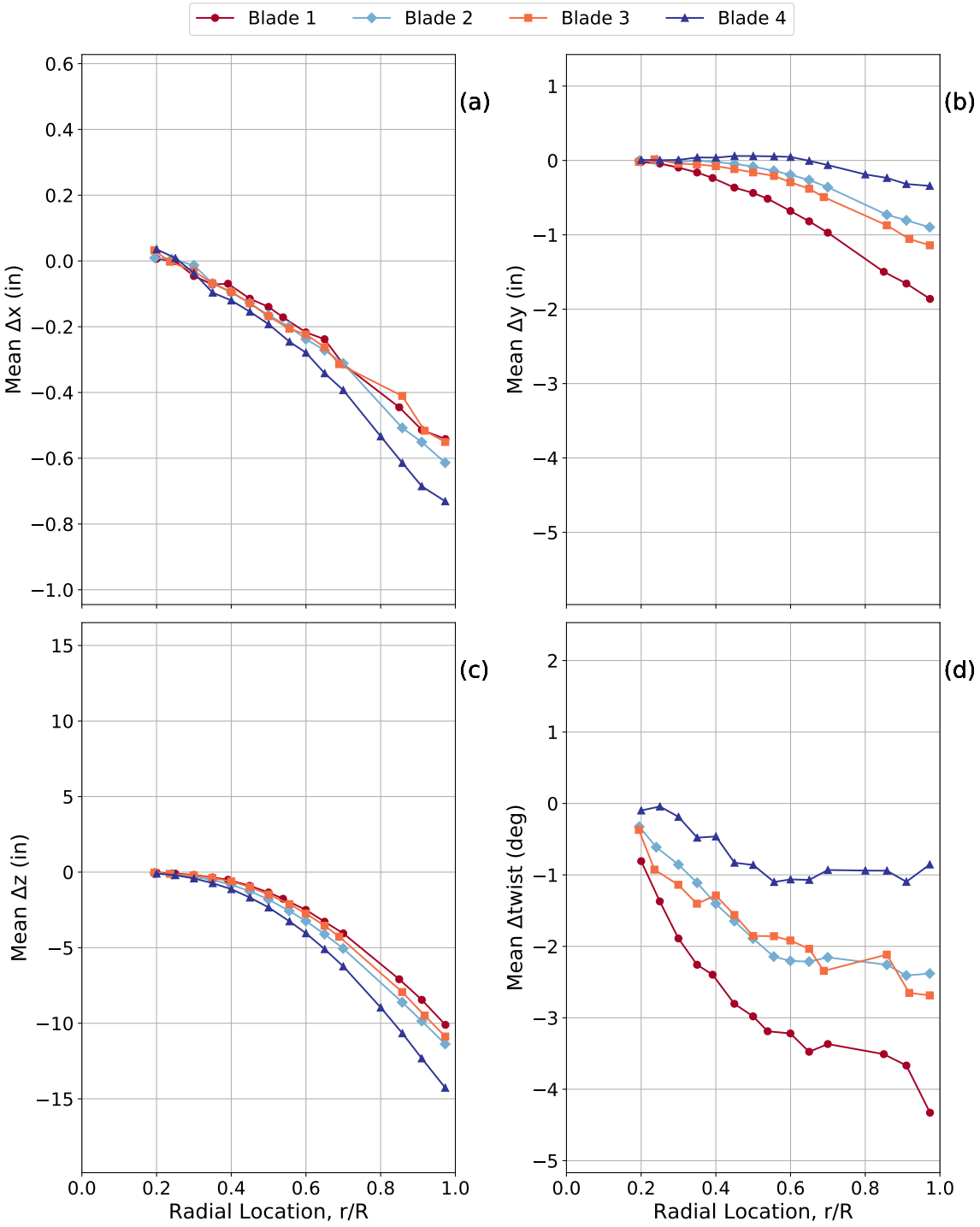


Figure 2.14-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	0.0066	0.0037	-0.0220	0.0015	-0.0344	0.0101	-0.8077	0.0497
1	105.12	0.2499	-0.0005	0.0027	-0.0423	0.0027	-0.0956	0.0173	-1.3702	0.1064
1	105.12	0.2998	-0.0458	0.0022	-0.0954	0.0058	-0.1827	0.0364	-1.8897	0.1189
1	105.12	0.3498	-0.0716	0.0030	-0.1618	0.0102	-0.3500	0.0608	-2.2582	0.1165
1	105.12	0.3913	-0.0693	0.0031	-0.2357	0.0143	-0.5057	0.0860	-2.3974	0.1264
1	105.12	0.4496	-0.1147	0.0042	-0.3650	0.0205	-0.9070	0.1236	-2.8048	0.1237
1	105.12	0.4997	-0.1397	0.0043	-0.4369	0.0264	-1.3454	0.1615	-2.9801	0.1330
1	105.12	0.5387	-0.1714	0.0051	-0.5145	0.0324	-1.7632	0.1947	-3.1886	0.1344
1	105.12	0.5996	-0.2171	0.0067	-0.6793	0.0422	-2.4971	0.2483	-3.2193	0.1452
1	105.12	0.6498	-0.2380	0.0090	-0.8183	0.0514	-3.2805	0.2938	-3.4760	0.1472
1	105.12	0.6998	-0.3141	0.0113	-0.9709	0.0622	-4.0531	0.3423	-3.3676	0.1549
1	105.12	0.8497	-0.4450	0.0219	-1.4971	0.1007	-7.0888	0.4955	-3.5091	0.1728
1	105.12	0.9102	-0.5138	0.0255	-1.6555	0.1180	-8.4515	0.5656	-3.6681	0.1712
1	105.12	0.9734	-0.5417	0.0309	-1.8612	0.1369	-10.1058	0.6418	-4.3282	0.1716
2	105.12	0.1949	0.0093	0.0024	-0.0017	0.0011	-0.0599	0.0063	-0.3254	0.0329
2	105.12	0.2405	0.0056	0.0017	0.0004	0.0024	-0.1352	0.0129	-0.6126	0.0538
2	105.12	0.2999	-0.0131	0.0031	-0.0163	0.0048	-0.3116	0.0277	-0.8558	0.0725
2	105.12	0.3498	-0.0681	0.0027	-0.0026	0.0086	-0.5176	0.0474	-1.1111	0.0700
2	105.12	0.3998	-0.0955	0.0032	-0.0216	0.0133	-0.8332	0.0739	-1.4035	0.0778
2	105.12	0.4496	-0.1282	0.0037	-0.0449	0.0183	-1.2590	0.1056	-1.6476	0.0735
2	105.12	0.4995	-0.1651	0.0054	-0.0832	0.0236	-1.8068	0.1402	-1.8906	0.0855
2	105.12	0.5551	-0.1996	0.0068	-0.1385	0.0311	-2.5670	0.1863	-2.1436	0.0893
2	105.12	0.5996	-0.2376	0.0084	-0.1927	0.0373	-3.2353	0.2277	-2.2040	0.0890
2	105.12	0.6497	-0.2715	0.0107	-0.2626	0.0455	-4.1054	0.2761	-2.2141	0.0971
2	105.12	0.6996	-0.3114	0.0133	-0.3599	0.0538	-5.0513	0.3284	-2.1549	0.0986
2	105.12	0.8578	-0.5077	0.0253	-0.7296	0.0859	-8.6111	0.5013	-2.2580	0.1117
2	105.12	0.9100	-0.5506	0.0287	-0.8054	0.0978	-9.8521	0.5634	-2.4083	0.1212
2	105.12	0.9727	-0.6136	0.0328	-0.8974	0.1123	-11.3734	0.6417	-2.3809	0.1248
3	105.12	0.1938	0.0324	0.0041	-0.0196	0.0021	-0.0279	0.0113	-0.3698	0.0517
3	105.12	0.2357	-0.0023	0.0038	0.0153	0.0029	-0.1147	0.0175	-0.9266	0.1422
3	105.12	0.2995	-0.0307	0.0036	-0.0434	0.0073	-0.2030	0.0432	-1.1387	0.1553
3	105.12	0.3493	-0.0678	0.0039	-0.0531	0.0130	-0.3844	0.0749	-1.4032	0.1526
3	105.12	0.4000	-0.0938	0.0046	-0.0772	0.0196	-0.6130	0.1144	-1.2880	0.1548
3	105.12	0.4497	-0.1287	0.0055	-0.1162	0.0271	-0.9834	0.1623	-1.5607	0.1632
3	105.12	0.4997	-0.1681	0.0062	-0.1604	0.0364	-1.4795	0.2202	-1.8546	0.1540
3	105.12	0.5556	-0.2061	0.0083	-0.2071	0.0480	-2.1156	0.2880	-1.8579	0.1599
3	105.12	0.5995	-0.2232	0.0098	-0.2926	0.0577	-2.7376	0.3458	-1.9184	0.1647
3	105.12	0.6498	-0.2622	0.0130	-0.3806	0.0700	-3.5454	0.4138	-2.0348	0.1723
3	105.12	0.6890	-0.3138	0.0160	-0.4924	0.0805	-4.2726	0.4691	-2.3440	0.1826
3	105.12	0.8577	-0.4106	0.0322	-0.8716	0.1337	-7.9338	0.7177	-2.1161	0.1966
3	105.12	0.9178	-0.5164	0.0379	-1.0556	0.1544	-9.4912	0.8112	-2.6525	0.2014
3	105.12	0.9729	-0.5505	0.0432	-1.1407	0.1733	-10.8768	0.9007	-2.6867	0.2008
4	105.12	0.2001	0.0354	0.0025	0.0068	0.0013	-0.1011	0.0059	-0.0988	0.0333
4	105.12	0.2502	0.0087	0.0022	0.0033	0.0036	-0.2036	0.0155	-0.0427	0.0652
4	105.12	0.3001	-0.0367	0.0024	0.0073	0.0059	-0.4173	0.0259	-0.1882	0.0770
4	105.12	0.3502	-0.0964	0.0028	0.0407	0.0111	-0.7320	0.0452	-0.4792	0.0779
4	105.12	0.4002	-0.1202	0.0035	0.0376	0.0170	-1.1272	0.0712	-0.4624	0.0887
4	105.12	0.4500	-0.1545	0.0044	0.0602	0.0235	-1.6846	0.1005	-0.8299	0.0990
4	105.12	0.5001	-0.1925	0.0055	0.0588	0.0313	-2.3369	0.1360	-0.8615	0.1077
4	105.12	0.5560	-0.2456	0.0068	0.0546	0.0406	-3.2597	0.1803	-1.0993	0.1122
4	105.12	0.6001	-0.2791	0.0089	0.0471	0.0496	-4.0453	0.2160	-1.0635	0.1251
4	105.12	0.6501	-0.3416	0.0112	-0.0049	0.0601	-5.0970	0.2613	-1.0702	0.1281
4	105.12	0.6999	-0.3929	0.0140	-0.0623	0.0715	-6.2364	0.3075	-0.9316	0.1441
4	105.12	0.8002	-0.5336	0.0234	-0.1878	0.0978	-8.9603	0.4110	-0.9396	0.1490
4	105.12	0.8582	-0.6143	0.0295	-0.2350	0.1145	-10.6644	0.4767	-0.9416	0.1620
4	105.12	0.9101	-0.6854	0.0352	-0.3170	0.1297	-12.3251	0.5385	-1.0965	0.1641
4	105.12	0.9728	-0.7308	0.0407	-0.3417	0.1487	-14.2676	0.6165	-0.8543	0.1697

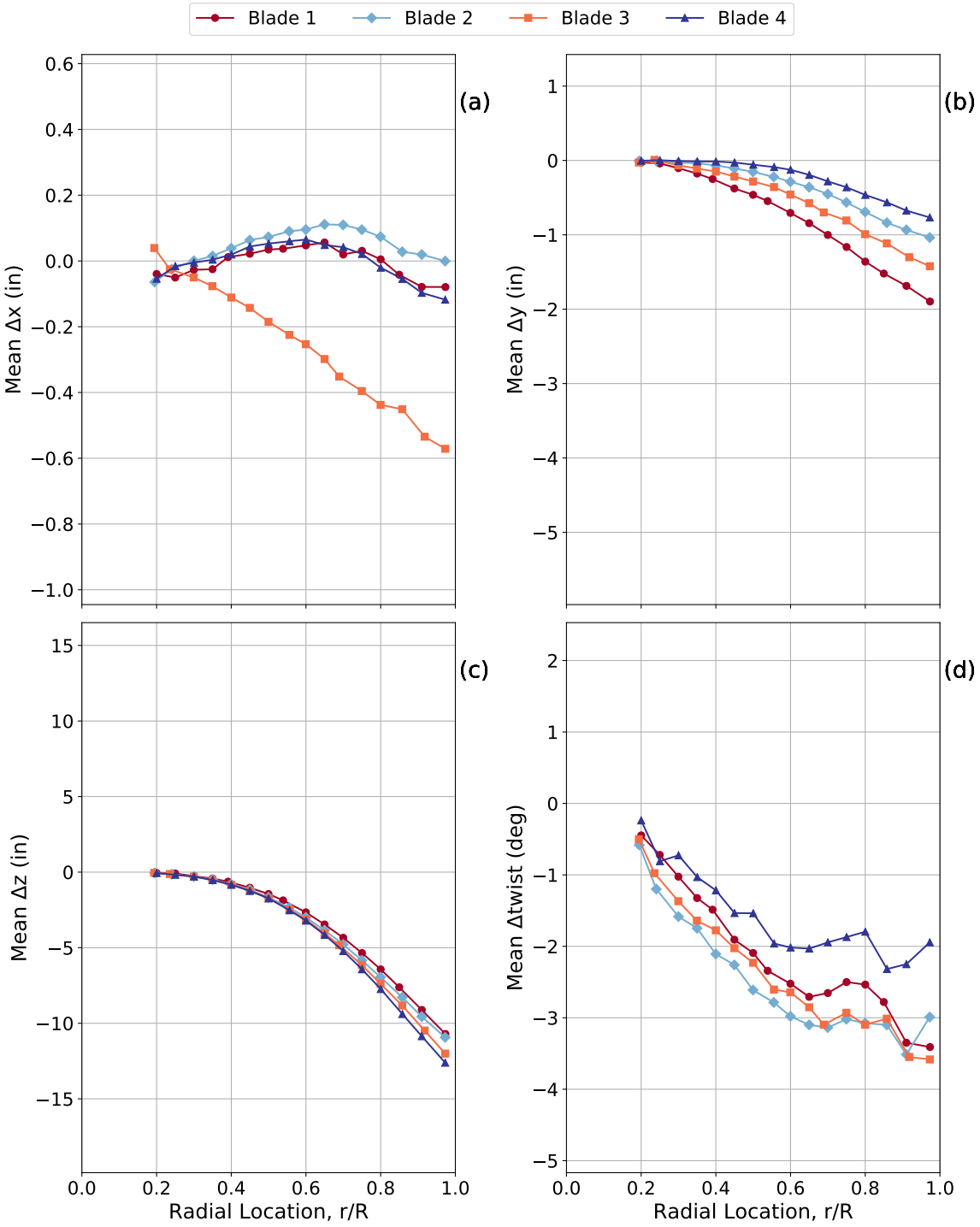


Figure 2.14-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0395	0.0058	-0.0262	0.0010	-0.0584	0.0051	-0.4472	0.0310
1	119.88	0.2499	-0.0505	0.0024	-0.0407	0.0021	-0.0898	0.0109	-0.7200	0.0487
1	119.88	0.2998	-0.0270	0.0025	-0.1039	0.0038	-0.2641	0.0208	-1.0250	0.0683
1	119.88	0.3498	-0.0251	0.0060	-0.1760	0.0063	-0.4247	0.0360	-1.3242	0.0591
1	119.88	0.3913	0.0116	0.0090	-0.2502	0.0092	-0.6299	0.0518	-1.4868	0.0628
1	119.88	0.4496	0.0219	0.0125	-0.3767	0.0125	-1.0329	0.0784	-1.9068	0.0660
1	119.88	0.4997	0.0347	0.0155	-0.4620	0.0157	-1.4481	0.1063	-2.0925	0.0732
1	119.88	0.5387	0.0371	0.0184	-0.5463	0.0189	-1.8706	0.1311	-2.3423	0.0751
1	119.88	0.5996	0.0473	0.0224	-0.7053	0.0245	-2.6607	0.1773	-2.5228	0.0757
1	119.88	0.6498	0.0562	0.0256	-0.8435	0.0297	-3.4617	0.2203	-2.7070	0.0816
1	119.88	0.6998	0.0197	0.0283	-1.0016	0.0354	-4.3436	0.2649	-2.6536	0.0856
1	119.88	0.7500	0.0308	0.0314	-1.1638	0.0417	-5.3515	0.3134	-2.5000	0.0850
1	119.88	0.8001	0.0049	0.0345	-1.3603	0.0485	-6.4346	0.3628	-2.5354	0.0939
1	119.88	0.8497	-0.0419	0.0393	-1.5203	0.0563	-7.6191	0.4119	-2.7794	0.1010
1	119.88	0.9102	-0.0789	0.0474	-1.6863	0.0659	-9.1190	0.4754	-3.3495	0.1713
1	119.88	0.9734	-0.0793	0.0483	-1.8963	0.0769	-10.7107	0.5494	-3.4093	0.1176
2	119.88	0.1949	-0.0641	0.0049	-0.0062	0.0011	-0.0504	0.0052	-0.5812	0.0345
2	119.88	0.2405	-0.0250	0.0027	-0.0065	0.0020	-0.1380	0.0097	-1.1983	0.0423
2	119.88	0.2999	0.0003	0.0027	-0.0303	0.0041	-0.2924	0.0219	-1.5840	0.0734
2	119.88	0.3498	0.0151	0.0053	-0.0373	0.0077	-0.4893	0.0373	-1.7470	0.0639
2	119.88	0.3998	0.0387	0.0087	-0.0670	0.0114	-0.7974	0.0577	-2.1074	0.0676
2	119.88	0.4496	0.0637	0.0111	-0.1071	0.0157	-1.1654	0.0840	-2.2600	0.0712
2	119.88	0.4995	0.0730	0.0142	-0.1533	0.0200	-1.6653	0.1140	-2.6112	0.0748
2	119.88	0.5551	0.0902	0.0178	-0.2206	0.0256	-2.3419	0.1549	-2.7849	0.0753
2	119.88	0.5996	0.0954	0.0206	-0.2864	0.0305	-2.9927	0.1920	-2.9791	0.0756
2	119.88	0.6497	0.1113	0.0241	-0.3591	0.0368	-3.8418	0.2356	-3.0990	0.0800
2	119.88	0.6996	0.1096	0.0275	-0.4509	0.0432	-4.7851	0.2832	-3.1371	0.0819
2	119.88	0.7495	0.0952	0.0321	-0.5638	0.0502	-5.8355	0.3322	-3.0194	0.0850
2	119.88	0.7996	0.0739	0.0364	-0.6918	0.0579	-6.9472	0.3869	-3.0759	0.0798
2	119.88	0.8578	0.0279	0.0422	-0.8376	0.0674	-8.2789	0.4506	-3.0991	0.0918
2	119.88	0.9100	0.0195	0.0473	-0.9331	0.0760	-9.5598	0.5113	-3.5141	0.1192
2	119.88	0.9727	-0.0004	0.0529	-1.0363	0.0877	-10.9317	0.5901	-2.9896	0.1476
3	119.88	0.1938	0.0393	0.0088	-0.0273	0.0018	-0.0496	0.0142	-0.5011	0.0656
3	119.88	0.2357	-0.0253	0.0064	0.0073	0.0026	-0.1278	0.0134	-0.9759	0.1787
3	119.88	0.2995	-0.0501	0.0055	-0.0662	0.0060	-0.2979	0.0412	-1.3681	0.1713
3	119.88	0.3493	-0.0767	0.0059	-0.1080	0.0104	-0.5215	0.0664	-1.6406	0.1556
3	119.88	0.4000	-0.1112	0.0052	-0.1496	0.0160	-0.8420	0.0990	-1.7760	0.1568
3	119.88	0.4497	-0.1427	0.0065	-0.2160	0.0193	-1.2249	0.1231	-2.0263	0.1764
3	119.88	0.4997	-0.1850	0.0066	-0.2827	0.0233	-1.7311	0.1590	-2.2300	0.1658
3	119.88	0.5556	-0.2249	0.0079	-0.3582	0.0288	-2.4732	0.1979	-2.6047	0.1545
3	119.88	0.5995	-0.2531	0.0090	-0.4582	0.0336	-3.1323	0.2343	-2.6431	0.1717
3	119.88	0.6498	-0.2983	0.0116	-0.5740	0.0393	-4.0480	0.2810	-2.8526	0.1843
3	119.88	0.6890	-0.3516	0.0135	-0.6992	0.0443	-4.8342	0.3234	-3.0958	0.1692
3	119.88	0.7495	-0.3956	0.0186	-0.8071	0.0524	-6.1454	0.3918	-2.9300	0.1798
3	119.88	0.7998	-0.4378	0.0231	-0.9917	0.0594	-7.3968	0.4549	-3.0967	0.1740
3	119.88	0.8577	-0.4509	0.0290	-1.1152	0.0677	-8.8278	0.5303	-3.0124	0.1878
3	119.88	0.9178	-0.5345	0.0351	-1.3010	0.0772	-10.4853	0.6139	-3.5487	0.1818
3	119.88	0.9729	-0.5712	0.0391	-1.4215	0.0857	-12.0063	0.6960	-3.5828	0.1912
4	119.88	0.2001	-0.0541	0.0046	-0.0042	0.0012	-0.0615	0.0047	-0.2379	0.0293
4	119.88	0.2502	-0.0160	0.0024	0.0031	0.0023	-0.1770	0.0101	-0.8087	0.0478
4	119.88	0.3001	-0.0050	0.0023	-0.0082	0.0043	-0.2909	0.0194	-0.7263	0.0644
4	119.88	0.3502	0.0038	0.0041	-0.0129	0.0076	-0.5289	0.0325	-1.0314	0.0633
4	119.88	0.4002	0.0196	0.0067	-0.0146	0.0114	-0.8305	0.0510	-1.2168	0.0671
4	119.88	0.4500	0.0440	0.0096	-0.0281	0.0150	-1.2457	0.0695	-1.5341	0.0649
4	119.88	0.5001	0.0528	0.0126	-0.0572	0.0196	-1.7392	0.0945	-1.5373	0.0714
4	119.88	0.5560	0.0599	0.0156	-0.0891	0.0252	-2.5269	0.1266	-1.9610	0.0646
4	119.88	0.6001	0.0651	0.0181	-0.1253	0.0301	-3.2109	0.1546	-2.0168	0.0695
4	119.88	0.6501	0.0485	0.0212	-0.1942	0.0357	-4.1548	0.1896	-2.0316	0.0715
4	119.88	0.6999	0.0418	0.0246	-0.2814	0.0423	-5.2269	0.2281	-1.9448	0.0794
4	119.88	0.7500	0.0212	0.0283	-0.3609	0.0495	-6.4290	0.2686	-1.8703	0.0733
4	119.88	0.8002	-0.0206	0.0320	-0.4635	0.0569	-7.7371	0.3101	-1.7955	0.0769
4	119.88	0.8582	-0.0547	0.0374	-0.5636	0.0663	-9.3920	0.3591	-2.3179	0.0875
4	119.88	0.9101	-0.0970	0.0426	-0.6739	0.0750	-10.8580	0.4026	-2.2498	0.0839
4	119.88	0.9728	-0.1178	0.0484	-0.7666	0.0863	-12.6105	0.4569	-1.9444	0.0809

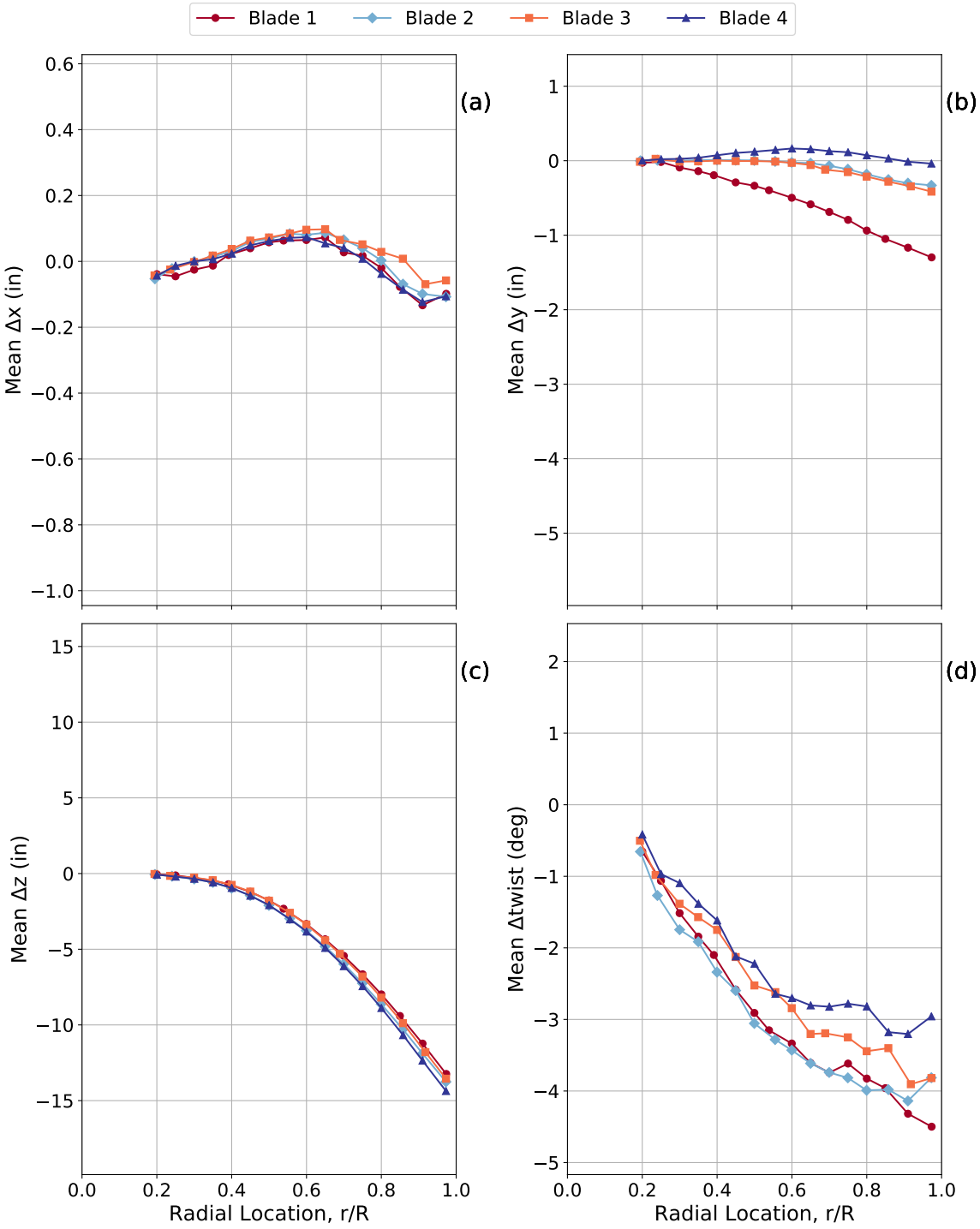


Figure 2.14-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0388	0.0049	-0.0266	0.0012	-0.0548	0.0058	-0.6543	0.0244
1	135	0.2499	-0.0454	0.0024	-0.0169	0.0027	-0.1219	0.0127	-1.0634	0.0449
1	135	0.2998	-0.0252	0.0025	-0.0910	0.0050	-0.2880	0.0234	-1.5145	0.0560
1	135	0.3498	-0.0129	0.0049	-0.1399	0.0088	-0.4571	0.0402	-1.8427	0.0547
1	135	0.3913	0.0194	0.0069	-0.1942	0.0128	-0.7066	0.0580	-2.0993	0.0656
1	135	0.4496	0.0398	0.0100	-0.2909	0.0191	-1.2083	0.0872	-2.5833	0.0629
1	135	0.4997	0.0578	0.0127	-0.3359	0.0258	-1.7758	0.1178	-2.9087	0.0738
1	135	0.5387	0.0632	0.0146	-0.3962	0.0315	-2.3230	0.1474	-3.1513	0.0815
1	135	0.5996	0.0648	0.0182	-0.4974	0.0421	-3.3320	0.2032	-3.3362	0.0834
1	135	0.6498	0.0726	0.0214	-0.5855	0.0511	-4.3406	0.2588	-3.6074	0.0877
1	135	0.6998	0.0274	0.0250	-0.6878	0.0606	-5.4385	0.3213	-3.7432	0.0887
1	135	0.7500	0.0172	0.0302	-0.7937	0.0703	-6.6542	0.3910	-3.6164	0.0990
1	135	0.8001	-0.0200	0.0361	-0.9376	0.0807	-7.9803	0.4667	-3.8262	0.1001
1	135	0.8497	-0.0773	0.0430	-1.0492	0.0913	-9.4078	0.5465	-3.9601	0.1047
1	135	0.9102	-0.1333	0.0515	-1.1676	0.1050	-11.2326	0.6482	-4.3172	0.1079
1	135	0.9734	-0.0985	0.0590	-1.2975	0.1201	-13.2382	0.7609	-4.4985	0.1068
2	135	0.1949	-0.0530	0.0048	-0.0015	0.0008	-0.0610	0.0054	-0.6552	0.0284
2	135	0.2405	-0.0220	0.0024	0.0069	0.0019	-0.1738	0.0106	-1.2679	0.0384
2	135	0.2999	-0.0004	0.0031	-0.0009	0.0037	-0.3618	0.0241	-1.7463	0.0639
2	135	0.3498	0.0140	0.0053	0.0080	0.0064	-0.5834	0.0408	-1.9150	0.0572
2	135	0.3998	0.0305	0.0076	0.0102	0.0100	-0.9673	0.0636	-2.3390	0.0704
2	135	0.4496	0.0593	0.0101	0.0073	0.0139	-1.4493	0.0894	-2.5965	0.0725
2	135	0.4995	0.0686	0.0126	0.0038	0.0185	-2.1022	0.1206	-3.0554	0.0794
2	135	0.5551	0.0839	0.0155	-0.0088	0.0249	-2.9723	0.1621	-3.2816	0.0863
2	135	0.5996	0.0807	0.0181	-0.0234	0.0303	-3.7733	0.2012	-3.4296	0.0906
2	135	0.6497	0.0868	0.0210	-0.0330	0.0373	-4.8174	0.2502	-3.6140	0.0955
2	135	0.6996	0.0656	0.0249	-0.0687	0.0446	-5.9730	0.3070	-3.7410	0.0972
2	135	0.7495	0.0404	0.0297	-0.1141	0.0520	-7.2501	0.3719	-3.8160	0.1045
2	135	0.7996	0.0030	0.0359	-0.1803	0.0598	-8.6196	0.4450	-3.9905	0.1062
2	135	0.8578	-0.0691	0.0445	-0.2534	0.0691	-10.2937	0.5378	-3.9805	0.1157
2	135	0.9100	-0.0987	0.0522	-0.3012	0.0781	-11.8863	0.6288	-4.1384	0.1189
2	135	0.9727	-0.1076	0.0617	-0.3309	0.0896	-13.7577	0.7448	-3.8140	0.1293
3	135	0.1938	-0.0425	0.0045	-0.0142	0.0008	-0.0292	0.0060	-0.5027	0.0253
3	135	0.2357	-0.0248	0.0026	0.0253	0.0018	-0.1522	0.0112	-0.9818	0.0389
3	135	0.2995	-0.0020	0.0028	-0.0121	0.0039	-0.2637	0.0271	-1.3836	0.0584
3	135	0.3493	0.0177	0.0046	-0.0084	0.0066	-0.4415	0.0453	-1.5704	0.0625
3	135	0.4000	0.0377	0.0073	0.0007	0.0105	-0.7504	0.0715	-1.7490	0.0642
3	135	0.4497	0.0631	0.0098	-0.0048	0.0143	-1.1902	0.1016	-2.1277	0.0774
3	135	0.4997	0.0726	0.0120	-0.0046	0.0194	-1.7910	0.1409	-2.5252	0.0876
3	135	0.5556	0.0848	0.0151	-0.0114	0.0258	-2.5914	0.1935	-2.6182	0.0934
3	135	0.5995	0.0960	0.0179	-0.0283	0.0314	-3.3679	0.2410	-2.8422	0.0987
3	135	0.6498	0.0976	0.0214	-0.0577	0.0388	-4.4083	0.3048	-3.2037	0.1047
3	135	0.6890	0.0652	0.0247	-0.1201	0.0445	-5.3060	0.3596	-3.1933	0.1143
3	135	0.7495	0.0517	0.0320	-0.1527	0.0531	-6.8020	0.4576	-3.2503	0.1156
3	135	0.7998	0.0288	0.0395	-0.2136	0.0611	-8.1957	0.5496	-3.4441	0.1299
3	135	0.8577	0.0081	0.0503	-0.2808	0.0701	-9.8821	0.6744	-3.4011	0.1325
3	135	0.9178	-0.0693	0.0625	-0.3443	0.0796	-11.7969	0.8160	-3.9050	0.1442
3	135	0.9729	-0.0578	0.0732	-0.4151	0.0891	-13.5500	0.9566	-3.8190	0.1580
4	135	0.2001	-0.0432	0.0042	0.0020	0.0010	-0.0722	0.0057	-0.4161	0.0264
4	135	0.2502	-0.0133	0.0023	0.0202	0.0025	-0.2041	0.0125	-0.9687	0.0414
4	135	0.3001	0.0002	0.0030	0.0247	0.0045	-0.3459	0.0236	-1.0952	0.0580
4	135	0.3502	0.0066	0.0049	0.0400	0.0080	-0.5921	0.0407	-1.3833	0.0655
4	135	0.4002	0.0235	0.0071	0.0733	0.0124	-0.9502	0.0631	-1.6167	0.0662
4	135	0.4500	0.0485	0.0093	0.1043	0.0176	-1.4644	0.0905	-2.1192	0.0770
4	135	0.5001	0.0620	0.0123	0.1213	0.0234	-2.0880	0.1254	-2.2216	0.0812
4	135	0.5560	0.0715	0.0149	0.1447	0.0316	-3.0260	0.1711	-2.6423	0.0877
4	135	0.6001	0.0734	0.0174	0.1639	0.0389	-3.8304	0.2160	-2.7010	0.0905
4	135	0.6501	0.0546	0.0213	0.1543	0.0475	-4.9130	0.2748	-2.8038	0.0961
4	135	0.6999	0.0409	0.0259	0.1284	0.0572	-6.1194	0.3410	-2.8226	0.1026
4	135	0.7500	0.0080	0.0306	0.1139	0.0675	-7.4380	0.4142	-2.7801	0.1076
4	135	0.8002	-0.0379	0.0369	0.0727	0.0782	-8.8831	0.4941	-2.8187	0.1107
4	135	0.8582	-0.0861	0.0455	0.0302	0.0914	-10.6759	0.5931	-3.1776	0.1145
4	135	0.9101	-0.1234	0.0529	-0.0133	0.1037	-12.3582	0.6877	-3.2037	0.1191
4	135	0.9728	-0.1060	0.0627	-0.0387	0.1187	-14.3657	0.8100	-2.9570	0.1158

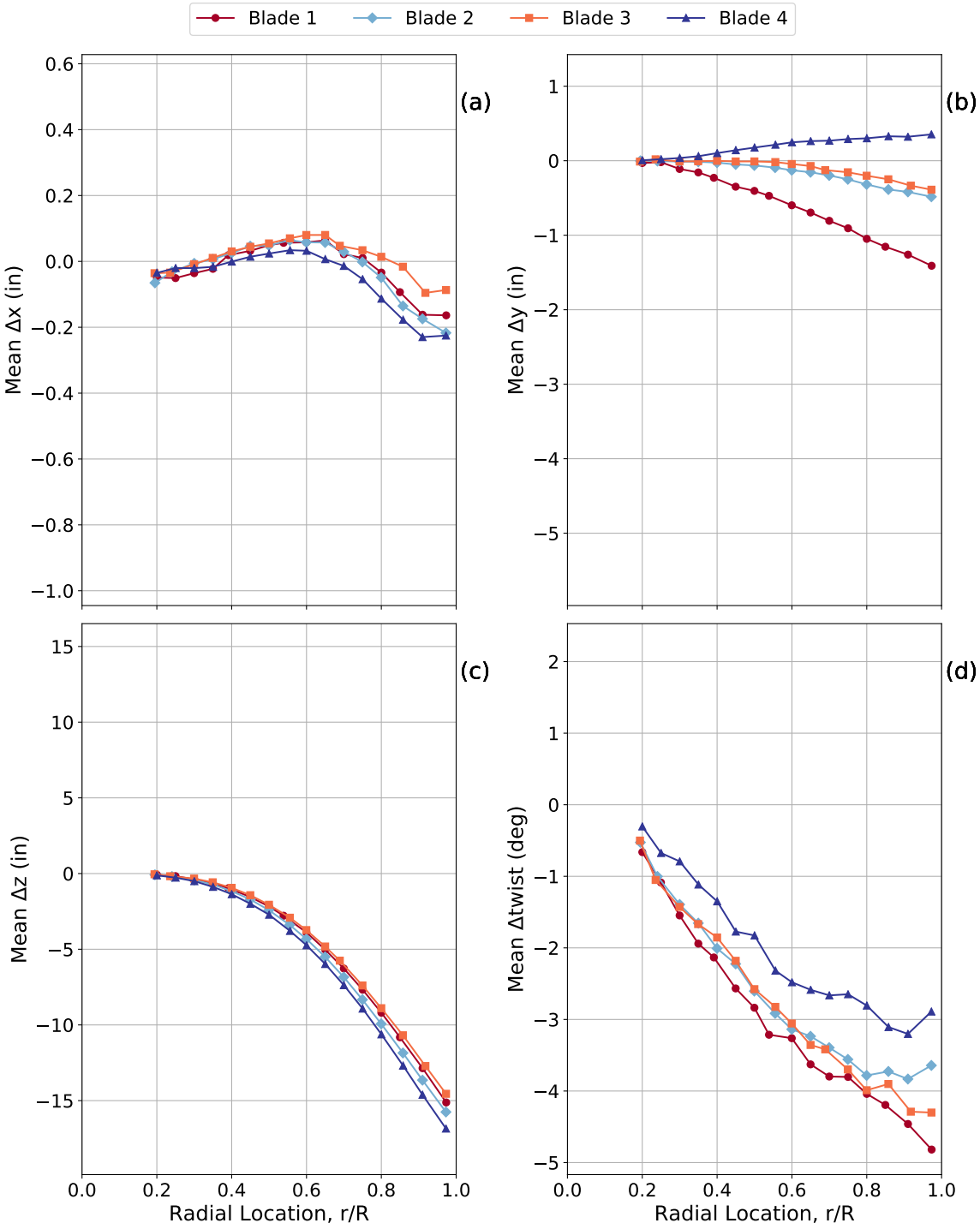


Figure 2.14-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0490	0.0196	-0.0303	0.0045	-0.0798	0.0208	-0.6620	0.1062
1	150.12	0.2499	-0.0507	0.0067	-0.0196	0.0060	-0.1703	0.0258	-1.0870	0.2774
1	150.12	0.2998	-0.0358	0.0062	-0.1108	0.0161	-0.3818	0.0618	-1.5469	0.2816
1	150.12	0.3498	-0.0226	0.0076	-0.1571	0.0285	-0.6548	0.1005	-1.9408	0.2826
1	150.12	0.3913	0.0189	0.0090	-0.2292	0.0387	-0.9664	0.1353	-2.1337	0.2848
1	150.12	0.4496	0.0320	0.0110	-0.3486	0.0535	-1.5470	0.1880	-2.5666	0.2868
1	150.12	0.4997	0.0491	0.0134	-0.4047	0.0675	-2.1746	0.2349	-2.8363	0.2888
1	150.12	0.5387	0.0564	0.0146	-0.4711	0.0791	-2.7860	0.2745	-3.2139	0.2890
1	150.12	0.5996	0.0580	0.0188	-0.5982	0.0977	-3.8860	0.3392	-3.2621	0.2872
1	150.12	0.6498	0.0635	0.0223	-0.6954	0.1138	-5.0237	0.3943	-3.6278	0.2908
1	150.12	0.6998	0.0219	0.0270	-0.8065	0.1308	-6.2736	0.4512	-3.7977	0.2938
1	150.12	0.7500	0.0104	0.0322	-0.9068	0.1483	-7.6739	0.5107	-3.8035	0.2928
1	150.12	0.8001	-0.0340	0.0381	-1.0488	0.1661	-9.1939	0.5726	-4.0399	0.2964
1	150.12	0.8497	-0.0934	0.0446	-1.1545	0.1843	-10.8151	0.6357	-4.1949	0.2991
1	150.12	0.9102	-0.1620	0.0527	-1.2606	0.2073	-12.8576	0.7179	-4.4608	0.3001
1	150.12	0.9734	-0.1638	0.0599	-1.4101	0.2316	-15.1207	0.8096	-4.8182	0.3037
2	150.12	0.1949	-0.0652	0.0066	-0.0017	0.0011	-0.0824	0.0045	-0.5260	0.0237
2	150.12	0.2405	-0.0313	0.0029	-0.0044	0.0021	-0.1961	0.0086	-1.0018	0.0469
2	150.12	0.2999	-0.0060	0.0030	-0.0112	0.0049	-0.4301	0.0194	-1.3935	0.0604
2	150.12	0.3498	0.0064	0.0070	-0.0139	0.0079	-0.7251	0.0312	-1.6546	0.0667
2	150.12	0.3998	0.0255	0.0103	-0.0261	0.0125	-1.1614	0.0495	-2.0070	0.0713
2	150.12	0.4496	0.0462	0.0139	-0.0497	0.0161	-1.7086	0.0684	-2.2242	0.0781
2	150.12	0.4995	0.0484	0.0175	-0.0635	0.0210	-2.4181	0.0949	-2.6037	0.0783
2	150.12	0.5551	0.0642	0.0208	-0.0930	0.0261	-3.3937	0.1291	-2.9155	0.0872
2	150.12	0.5996	0.0579	0.0234	-0.1281	0.0317	-4.3187	0.1628	-3.1380	0.1026
2	150.12	0.6497	0.0573	0.0271	-0.1546	0.0381	-5.5021	0.2079	-3.2353	0.1030
2	150.12	0.6996	0.0291	0.0312	-0.1979	0.0447	-6.8398	0.2613	-3.3939	0.1079
2	150.12	0.7495	-0.0018	0.0365	-0.2495	0.0528	-8.3304	0.3243	-3.5586	0.1205
2	150.12	0.7996	-0.0491	0.0431	-0.3178	0.0609	-9.9283	0.3973	-3.7827	0.1246
2	150.12	0.8578	-0.1354	0.0522	-0.3866	0.0716	-11.8525	0.4915	-3.7267	0.1338
2	150.12	0.9100	-0.1745	0.0603	-0.4184	0.0819	-13.6476	0.5841	-3.8327	0.1418
2	150.12	0.9727	-0.2171	0.0716	-0.4836	0.0952	-15.7516	0.7013	-3.6425	0.1525
3	150.12	0.1938	-0.0359	0.0078	-0.0110	0.0032	-0.0488	0.0145	-0.5008	0.0550
3	150.12	0.2357	-0.0341	0.0032	0.0187	0.0023	-0.1777	0.0104	-1.0512	0.2081
3	150.12	0.2995	-0.0086	0.0041	-0.0106	0.0099	-0.3321	0.0418	-1.4281	0.2069
3	150.12	0.3493	0.0106	0.0066	-0.0069	0.0167	-0.5771	0.0687	-1.6678	0.2119
3	150.12	0.4000	0.0303	0.0096	-0.0015	0.0248	-0.9441	0.1001	-1.8546	0.2160
3	150.12	0.4497	0.0444	0.0128	-0.0098	0.0333	-1.4294	0.1350	-2.1808	0.2197
3	150.12	0.4997	0.0546	0.0153	-0.0095	0.0420	-2.0616	0.1791	-2.5767	0.2174
3	150.12	0.5556	0.0700	0.0189	-0.0181	0.0522	-2.9171	0.2335	-2.8244	0.2257
3	150.12	0.5995	0.0801	0.0220	-0.0439	0.0615	-3.7344	0.2832	-3.0561	0.2385
3	150.12	0.6498	0.0802	0.0262	-0.0716	0.0718	-4.8196	0.3510	-3.3562	0.2343
3	150.12	0.6890	0.0474	0.0300	-0.1261	0.0801	-5.7528	0.4099	-3.4177	0.2344
3	150.12	0.7495	0.0339	0.0378	-0.1550	0.0938	-7.3924	0.5098	-3.6982	0.2528
3	150.12	0.7998	0.0139	0.0456	-0.2014	0.1045	-8.8940	0.6047	-3.9893	0.2515
3	150.12	0.8577	-0.0162	0.0567	-0.2495	0.1172	-10.6838	0.7260	-3.9020	0.2576
3	150.12	0.9178	-0.0956	0.0688	-0.3347	0.1306	-12.7152	0.8618	-4.2889	0.2662
3	150.12	0.9729	-0.0869	0.0788	-0.3891	0.1437	-14.5487	0.9939	-4.3011	0.2710
4	150.12	0.2001	-0.0348	0.0049	0.0058	0.0010	-0.1212	0.0048	-0.3035	0.0258
4	150.12	0.2502	-0.0203	0.0020	0.0207	0.0030	-0.2713	0.0107	-0.6746	0.0406
4	150.12	0.3001	-0.0205	0.0025	0.0366	0.0049	-0.5044	0.0205	-0.7916	0.0575
4	150.12	0.3502	-0.0165	0.0053	0.0606	0.0087	-0.8812	0.0341	-1.1152	0.0495
4	150.12	0.4002	-0.0007	0.0081	0.1022	0.0136	-1.3653	0.0541	-1.3499	0.0539
4	150.12	0.4500	0.0141	0.0110	0.1410	0.0173	-1.9976	0.0774	-1.7724	0.0618
4	150.12	0.5001	0.0238	0.0135	0.1764	0.0223	-2.7211	0.1077	-1.8265	0.0621
4	150.12	0.5560	0.0340	0.0169	0.2147	0.0273	-3.7921	0.1481	-2.3184	0.0665
4	150.12	0.6001	0.0322	0.0195	0.2471	0.0319	-4.7396	0.1831	-2.4806	0.0686
4	150.12	0.6501	0.0067	0.0233	0.2632	0.0374	-5.9770	0.2306	-2.5861	0.0671
4	150.12	0.6999	-0.0138	0.0284	0.2689	0.0431	-7.3757	0.2825	-2.6638	0.0704
4	150.12	0.7500	-0.0541	0.0334	0.2905	0.0495	-8.9229	0.3419	-2.6479	0.0742
4	150.12	0.8002	-0.1133	0.0399	0.3010	0.0566	-10.6240	0.4077	-2.8063	0.0821
4	150.12	0.8582	-0.1773	0.0485	0.3281	0.0654	-12.6893	0.4911	-3.1067	0.0842
4	150.12	0.9101	-0.2299	0.0563	0.3218	0.0737	-14.6141	0.5703	-3.2026	0.0937
4	150.12	0.9728	-0.2252	0.0665	0.3535	0.0840	-16.8476	0.6729	-2.8901	0.1023

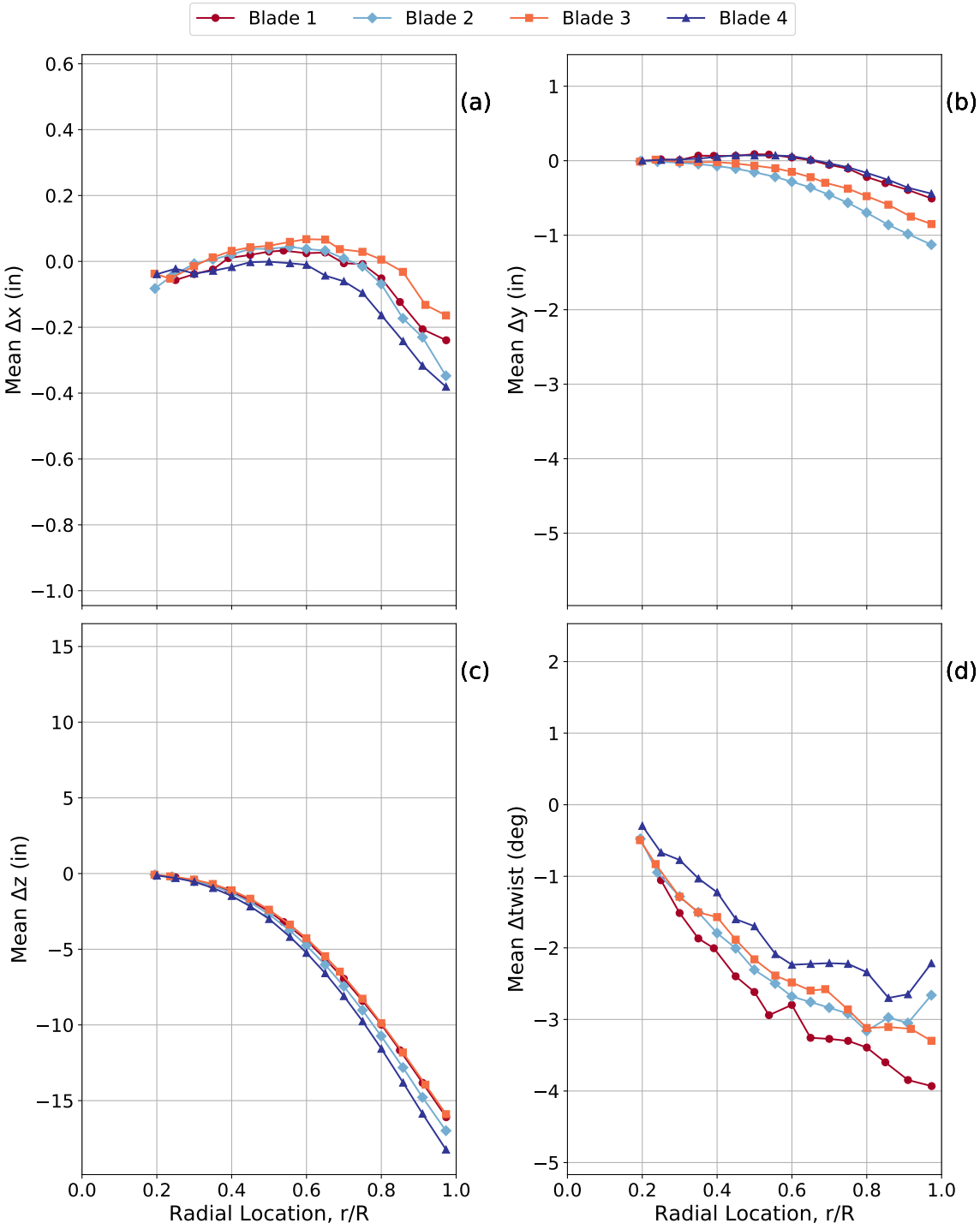


Figure 2.14-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2499	-0.0568	0.0045	0.0188	0.0034	-0.2450	0.0135	-1.0542	0.0927
1	164.88	0.2998	-0.0387	0.0039	0.0075	0.0064	-0.4538	0.0245	-1.5129	0.1330
1	164.88	0.3498	-0.0246	0.0039	0.0679	0.0118	-0.7666	0.0413	-1.8686	0.1239
1	164.88	0.3913	0.0099	0.0041	0.0656	0.0170	-1.1118	0.0595	-2.0046	0.1257
1	164.88	0.4496	0.0196	0.0057	0.0655	0.0242	-1.7731	0.0861	-2.3976	0.1255
1	164.88	0.4997	0.0297	0.0070	0.0878	0.0318	-2.5070	0.1121	-2.6166	0.1258
1	164.88	0.5387	0.0327	0.0078	0.0826	0.0380	-3.2003	0.1342	-2.9404	0.1288
1	164.88	0.5996	0.0249	0.0100	0.0433	0.0491	-4.3956	0.1713	-2.7965	0.1402
1	164.88	0.6498	0.0268	0.0118	0.0068	0.0590	-5.6410	0.2051	-3.2567	0.1425
1	164.88	0.6998	-0.0057	0.0142	-0.0564	0.0701	-6.9509	0.2411	-3.2718	0.1332
1	164.88	0.7500	-0.0082	0.0176	-0.1063	0.0817	-8.4195	0.2769	-3.2990	0.1409
1	164.88	0.8001	-0.0515	0.0217	-0.2187	0.0944	-9.9810	0.3167	-3.3927	0.1387
1	164.88	0.8497	-0.1233	0.0265	-0.3006	0.1078	-11.6759	0.3598	-3.5992	0.1406
1	164.88	0.9102	-0.2061	0.0335	-0.3925	0.1247	-13.8249	0.4186	-3.8467	0.1437
1	164.88	0.9734	-0.2395	0.0416	-0.5074	0.1431	-16.0950	0.4891	-3.9313	0.1500
2	164.88	0.1949	-0.0823	0.0065	-0.0056	0.0021	-0.0901	0.0054	-0.4766	0.0299
2	164.88	0.2405	-0.0436	0.0032	-0.0122	0.0023	-0.2177	0.0085	-0.9453	0.0685
2	164.88	0.2999	-0.0070	0.0041	-0.0267	0.0077	-0.4757	0.0190	-1.2828	0.0795
2	164.88	0.3498	0.0059	0.0058	-0.0453	0.0127	-0.8053	0.0331	-1.5033	0.0818
2	164.88	0.3998	0.0207	0.0084	-0.0714	0.0193	-1.2901	0.0491	-1.7934	0.0818
2	164.88	0.4496	0.0381	0.0103	-0.1056	0.0254	-1.8974	0.0669	-2.0056	0.0878
2	164.88	0.4995	0.0380	0.0126	-0.1544	0.0326	-2.6910	0.0883	-2.3066	0.0893
2	164.88	0.5551	0.0441	0.0149	-0.2164	0.0412	-3.7534	0.1153	-2.4984	0.0916
2	164.88	0.5996	0.0377	0.0167	-0.2825	0.0483	-4.7513	0.1389	-2.6789	0.0902
2	164.88	0.6497	0.0326	0.0197	-0.3585	0.0568	-6.0245	0.1696	-2.7568	0.0926
2	164.88	0.6996	0.0088	0.0221	-0.4573	0.0658	-7.4456	0.2027	-2.8354	0.0941
2	164.88	0.7495	-0.0152	0.0259	-0.5641	0.0753	-9.0240	0.2386	-2.9185	0.0987
2	164.88	0.7996	-0.0687	0.0299	-0.6972	0.0853	-10.7357	0.2787	-3.1612	0.0988
2	164.88	0.8578	-0.1732	0.0358	-0.8612	0.0975	-12.8116	0.3302	-2.9737	0.0989
2	164.88	0.9100	-0.2302	0.0411	-0.9838	0.1087	-14.7824	0.3823	-3.0501	0.1079
2	164.88	0.9727	-0.3475	0.0501	-1.1269	0.1225	-16.9865	0.4496	-2.6608	0.1089
3	164.88	0.1938	-0.0374	0.0049	-0.0117	0.0015	-0.0728	0.0057	-0.4948	0.0325
3	164.88	0.2357	-0.0524	0.0040	0.0138	0.0022	-0.1856	0.0099	-0.8293	0.0554
3	164.88	0.2995	-0.0145	0.0028	-0.0165	0.0059	-0.3998	0.0206	-1.2855	0.0735
3	164.88	0.3493	0.0122	0.0048	-0.0178	0.0102	-0.6921	0.0352	-1.5030	0.0670
3	164.88	0.4000	0.0319	0.0066	-0.0192	0.0158	-1.1082	0.0538	-1.5702	0.0782
3	164.88	0.4497	0.0428	0.0088	-0.0370	0.0212	-1.6646	0.0758	-1.8849	0.0840
3	164.88	0.4997	0.0473	0.0112	-0.0664	0.0285	-2.3881	0.0985	-2.1598	0.0825
3	164.88	0.5556	0.0592	0.0129	-0.1012	0.0367	-3.3721	0.1300	-2.3869	0.0834
3	164.88	0.5995	0.0674	0.0149	-0.1497	0.0446	-4.2721	0.1557	-2.4830	0.0893
3	164.88	0.6498	0.0661	0.0170	-0.2213	0.0543	-5.4630	0.1856	-2.5962	0.0861
3	164.88	0.6890	0.0371	0.0191	-0.2959	0.0627	-6.4796	0.2087	-2.5768	0.0884
3	164.88	0.7495	0.0290	0.0225	-0.3745	0.0764	-8.2682	0.2473	-2.8610	0.0949
3	164.88	0.7998	0.0054	0.0260	-0.4761	0.0892	-9.8863	0.2830	-3.1196	0.0969
3	164.88	0.8577	-0.0318	0.0315	-0.5908	0.1050	-11.8223	0.3295	-3.1051	0.0941
3	164.88	0.9178	-0.1321	0.0375	-0.7507	0.1220	-13.9464	0.3876	-3.1317	0.0964
3	164.88	0.9729	-0.1640	0.0449	-0.8500	0.1380	-15.8958	0.4488	-3.2985	0.0985
4	164.88	0.2001	-0.0389	0.0040	0.0007	0.0014	-0.1305	0.0054	-0.2952	0.0384
4	164.88	0.2502	-0.0222	0.0047	0.0108	0.0030	-0.2964	0.0092	-0.6682	0.0629
4	164.88	0.3001	-0.0368	0.0025	0.0170	0.0051	-0.5458	0.0175	-0.7723	0.0801
4	164.88	0.3502	-0.0286	0.0037	0.0280	0.0094	-0.9542	0.0282	-1.0306	0.0728
4	164.88	0.4002	-0.0172	0.0057	0.0518	0.0143	-1.4799	0.0426	-1.2240	0.0836
4	164.88	0.4500	-0.0024	0.0071	0.0728	0.0193	-2.1713	0.0575	-1.5993	0.0861
4	164.88	0.5001	-0.0010	0.0084	0.0701	0.0249	-3.0038	0.0769	-1.6983	0.0928
4	164.88	0.5560	-0.0056	0.0105	0.0701	0.0322	-4.1860	0.0998	-2.0871	0.0851
4	164.88	0.6001	-0.0105	0.0112	0.0614	0.0391	-5.2405	0.1215	-2.2361	0.0897
4	164.88	0.6501	-0.0432	0.0135	0.0174	0.0472	-6.5843	0.1479	-2.2240	0.0964
4	164.88	0.6999	-0.0606	0.0155	-0.0354	0.0561	-8.0954	0.1781	-2.2131	0.0981
4	164.88	0.7500	-0.0958	0.0193	-0.0882	0.0660	-9.7612	0.2132	-2.2237	0.0933
4	164.88	0.8002	-0.1635	0.0236	-0.1637	0.0770	-11.5746	0.2558	-2.3404	0.1016
4	164.88	0.8582	-0.2424	0.0296	-0.2579	0.0896	-13.8131	0.3120	-2.6996	0.1079
4	164.88	0.9101	-0.3169	0.0359	-0.3624	0.1013	-15.8661	0.3688	-2.6481	0.1044
4	164.88	0.9728	-0.3808	0.0443	-0.4416	0.1159	-18.2334	0.4416	-2.2147	0.1151

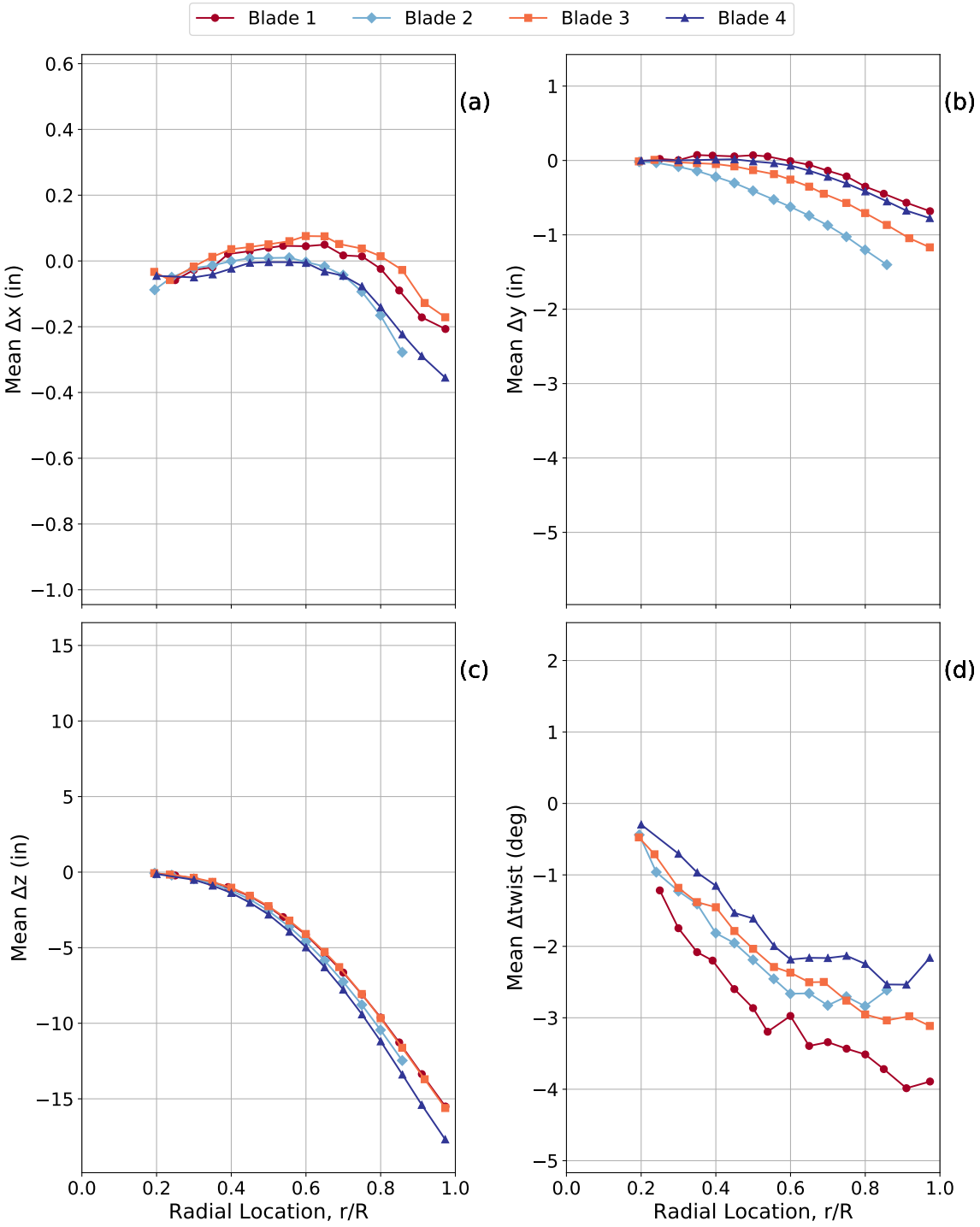


Figure 2.14-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2499	-0.0583	0.0061	0.0200	0.0047	-0.2217	0.0165	-1.2171	0.1430
1	170.16	0.2998	-0.0273	0.0072	0.0038	0.0080	-0.4109	0.0281	-1.7466	0.2051
1	170.16	0.3498	-0.0194	0.0064	0.0726	0.0162	-0.6809	0.0516	-2.0816	0.1945
1	170.16	0.3913	0.0211	0.0076	0.0655	0.0224	-0.9895	0.0720	-2.1994	0.2027
1	170.16	0.4496	0.0298	0.0093	0.0549	0.0311	-1.5982	0.1059	-2.5985	0.1985
1	170.16	0.4997	0.0400	0.0121	0.0701	0.0396	-2.3034	0.1360	-2.8645	0.2044
1	170.16	0.5387	0.0460	0.0137	0.0541	0.0465	-2.9745	0.1634	-3.1950	0.2051
1	170.16	0.5996	0.0449	0.0175	-0.0092	0.0573	-4.1364	0.2113	-2.9745	0.2029
1	170.16	0.6498	0.0496	0.0208	-0.0582	0.0672	-5.3678	0.2543	-3.3941	0.2083
1	170.16	0.6998	0.0169	0.0239	-0.1386	0.0767	-6.6451	0.3022	-3.3412	0.2049
1	170.16	0.7500	0.0140	0.0283	-0.2145	0.0873	-8.1000	0.3518	-3.4327	0.2098
1	170.16	0.8001	-0.0240	0.0334	-0.3519	0.0978	-9.6219	0.4049	-3.5133	0.2113
1	170.16	0.8497	-0.0898	0.0397	-0.4471	0.1072	-11.2673	0.4636	-3.7184	0.2097
1	170.16	0.9102	-0.1715	0.0464	-0.5684	0.1223	-13.3641	0.5347	-3.9855	0.2237
1	170.16	0.9734	-0.2069	0.0556	-0.6820	0.1372	-15.5088	0.6209	-3.8921	0.2211
2	170.16	0.1949	-0.0877	0.0083	-0.0185	0.0040	-0.0685	0.0101	-0.4397	0.0455
2	170.16	0.2405	-0.0495	0.0056	-0.0306	0.0067	-0.1983	0.0124	-0.9617	0.0988
2	170.16	0.2999	-0.0222	0.0029	-0.0837	0.0156	-0.4395	0.0271	-1.2277	0.1198
2	170.16	0.3498	-0.0135	0.0054	-0.1408	0.0270	-0.7435	0.0437	-1.4083	0.1177
2	170.16	0.3998	-0.0008	0.0119	-0.2206	0.0416	-1.2219	0.0622	-1.8150	0.1217
2	170.16	0.4496	0.0083	0.0205	-0.3032	0.0570	-1.7986	0.0816	-1.9538	0.1294
2	170.16	0.4995	0.0090	0.0316	-0.4083	0.0756	-2.5520	0.1050	-2.1891	0.1360
2	170.16	0.5551	0.0099	0.0464	-0.5259	0.0995	-3.6134	0.1337	-2.4553	0.1374
2	170.16	0.5996	-0.0030	0.0607	-0.6236	0.1206	-4.6015	0.1595	-2.6637	0.1445
2	170.16	0.6497	-0.0168	0.0793	-0.7417	0.1471	-5.8519	0.1898	-2.6576	0.1550
2	170.16	0.6996	-0.0430	0.1014	-0.8725	0.1775	-7.2571	0.2239	-2.8261	0.1501
2	170.16	0.7495	-0.0935	0.1231	-1.0254	0.2116	-8.7775	0.2625	-2.7037	0.1587
2	170.16	0.7996	-0.1656	0.1490	-1.2023	0.2503	-10.4436	0.3070	-2.8376	0.1603
2	170.16	0.8578	-0.2777	0.1831	-1.4015	0.3031	-12.4648	0.3688	-2.6129	0.2040
3	170.16	0.1938	-0.0332	0.0079	-0.0132	0.0018	-0.0693	0.0083	-0.4749	0.0439
3	170.16	0.2357	-0.0580	0.0066	0.0081	0.0028	-0.1643	0.0113	-0.7115	0.0907
3	170.16	0.2995	-0.0170	0.0040	-0.0256	0.0065	-0.3742	0.0263	-1.1814	0.1092
3	170.16	0.3493	0.0126	0.0050	-0.0369	0.0113	-0.6436	0.0450	-1.3809	0.1028
3	170.16	0.4000	0.0359	0.0064	-0.0481	0.0175	-1.0314	0.0667	-1.4529	0.1182
3	170.16	0.4497	0.0423	0.0077	-0.0793	0.0230	-1.5613	0.0911	-1.7855	0.1211
3	170.16	0.4997	0.0505	0.0098	-0.1298	0.0293	-2.2500	0.1182	-2.0351	0.1273
3	170.16	0.5556	0.0602	0.0116	-0.1841	0.0369	-3.2067	0.1518	-2.2893	0.1356
3	170.16	0.5995	0.0757	0.0136	-0.2570	0.0437	-4.0946	0.1795	-2.3678	0.1323
3	170.16	0.6498	0.0750	0.0159	-0.3524	0.0518	-5.2770	0.2133	-2.5029	0.1387
3	170.16	0.6890	0.0515	0.0187	-0.4478	0.0582	-6.2860	0.2421	-2.4988	0.1327
3	170.16	0.7495	0.0377	0.0230	-0.5714	0.0697	-8.0638	0.2930	-2.7589	0.1439
3	170.16	0.7998	0.0144	0.0277	-0.7075	0.0797	-9.6650	0.3428	-2.9538	0.1454
3	170.16	0.8577	-0.0274	0.0352	-0.8670	0.0926	-11.6216	0.4057	-3.0364	0.1493
3	170.16	0.9178	-0.1279	0.0424	-1.0451	0.1061	-13.7033	0.4801	-2.9783	0.1388
3	170.16	0.9729	-0.1712	0.0497	-1.1680	0.1195	-15.6088	0.5559	-3.1142	0.1458
4	170.16	0.2001	-0.0453	0.0077	-0.0017	0.0011	-0.1243	0.0051	-0.2963	0.0409
4	170.16	0.3001	-0.0500	0.0035	0.0021	0.0055	-0.5101	0.0174	-0.7046	0.0958
4	170.16	0.3502	-0.0409	0.0039	0.0053	0.0098	-0.8917	0.0297	-0.9682	0.0955
4	170.16	0.4002	-0.0233	0.0054	0.0118	0.0155	-1.3775	0.0445	-1.1524	0.0965
4	170.16	0.4500	-0.0057	0.0078	0.0162	0.0210	-2.0259	0.0599	-1.5324	0.1028
4	170.16	0.5001	-0.0036	0.0097	-0.0126	0.0268	-2.8092	0.0774	-1.6115	0.1017
4	170.16	0.5560	-0.0037	0.0118	-0.0369	0.0348	-3.9436	0.0971	-1.9958	0.1073
4	170.16	0.6001	-0.0059	0.0134	-0.0691	0.0413	-4.9762	0.1132	-2.1835	0.1075
4	170.16	0.6501	-0.0325	0.0150	-0.1374	0.0500	-6.2933	0.1328	-2.1607	0.1122
4	170.16	0.6999	-0.0451	0.0166	-0.2190	0.0583	-7.7767	0.1532	-2.1640	0.1113
4	170.16	0.7500	-0.0770	0.0185	-0.3101	0.0678	-9.4132	0.1743	-2.1322	0.1048
4	170.16	0.8002	-0.1412	0.0209	-0.4164	0.0773	-11.1983	0.1948	-2.2461	0.1112
4	170.16	0.8582	-0.2232	0.0239	-0.5504	0.0891	-13.3950	0.2217	-2.5337	0.1086
4	170.16	0.9101	-0.2893	0.0273	-0.6746	0.1001	-15.4016	0.2494	-2.5365	0.1025
4	170.16	0.9728	-0.3549	0.0321	-0.7751	0.1137	-17.6868	0.2852	-2.1606	0.1146

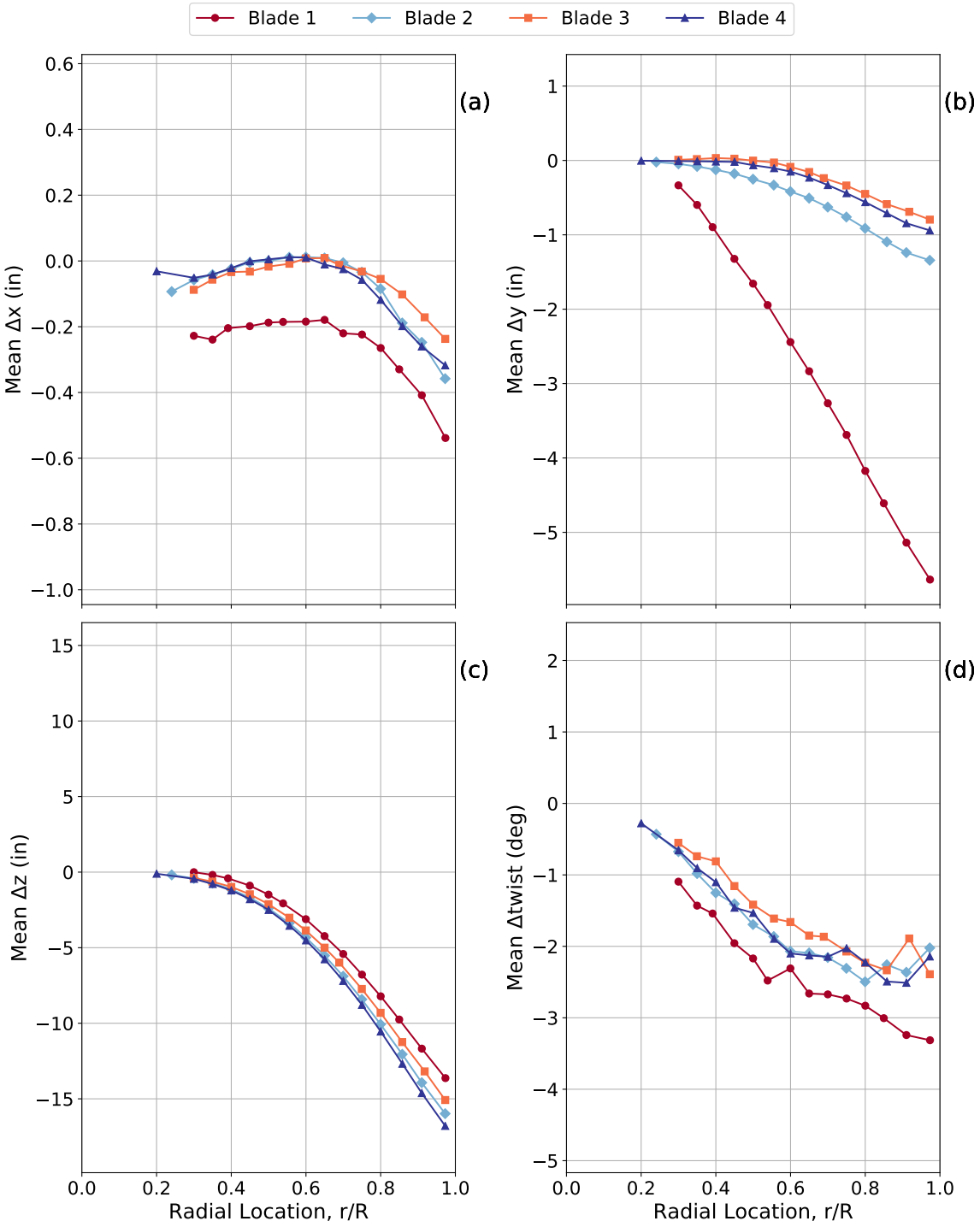


Figure 2.14-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.4, α = -10° NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2998	-0.2276	0.0168	-0.3345	0.0208	-0.0033	0.1174	-1.0948	0.3567
1	175.08	0.3498	-0.2392	0.0283	-0.5975	0.0390	-0.1859	0.1987	-1.4304	0.4796
1	175.08	0.3913	-0.2043	0.0272	-0.8966	0.0599	-0.4119	0.2909	-1.5407	0.4587
1	175.08	0.4496	-0.1984	0.0305	-1.3228	0.0871	-0.8932	0.4146	-1.9565	0.4567
1	175.08	0.4997	-0.1874	0.0337	-1.6566	0.1109	-1.4881	0.5203	-2.1697	0.4667
1	175.08	0.5387	-0.1854	0.0367	-1.9442	0.1293	-2.0676	0.6056	-2.4789	0.4649
1	175.08	0.5996	-0.1845	0.0425	-2.4416	0.1593	-3.1127	0.7407	-2.3091	0.4645
1	175.08	0.6498	-0.1792	0.0493	-2.8338	0.1839	-4.2336	0.8542	-2.6605	0.4661
1	175.08	0.6998	-0.2201	0.0564	-3.2646	0.2086	-5.4157	0.9681	-2.6723	0.4649
1	175.08	0.7500	-0.2237	0.0650	-3.6903	0.2340	-6.7807	1.0838	-2.7310	0.4661
1	175.08	0.8001	-0.2647	0.0754	-4.1744	0.2602	-8.2167	1.1985	-2.8311	0.4677
1	175.08	0.8497	-0.3296	0.0853	-4.6097	0.2865	-9.7529	1.3117	-3.0054	0.4724
1	175.08	0.9102	-0.4084	0.0971	-5.1388	0.3188	-11.6790	1.4486	-3.2416	0.4660
1	175.08	0.9734	-0.5384	0.1086	-5.6350	0.3529	-13.6291	1.5910	-3.3141	0.4604
2	175.08	0.2405	-0.0931	0.0070	-0.0216	0.0041	-0.1842	0.0175	-0.4315	0.1504
2	175.08	0.2999	-0.0576	0.0088	-0.0462	0.0082	-0.4142	0.0311	-0.6747	0.2343
2	175.08	0.3498	-0.0416	0.0062	-0.0807	0.0167	-0.7226	0.0593	-0.9817	0.2083
2	175.08	0.3998	-0.0243	0.0074	-0.1255	0.0249	-1.1424	0.0858	-1.2512	0.2115
2	175.08	0.4496	-0.0043	0.0089	-0.1781	0.0334	-1.6754	0.1112	-1.4063	0.2122
2	175.08	0.4995	0.0001	0.0111	-0.2519	0.0420	-2.3988	0.1386	-1.6945	0.2198
2	175.08	0.5551	0.0112	0.0134	-0.3313	0.0526	-3.3776	0.1697	-1.8632	0.2201
2	175.08	0.5996	0.0119	0.0153	-0.4181	0.0618	-4.3277	0.1947	-2.0699	0.2212
2	175.08	0.6497	0.0089	0.0181	-0.5070	0.0729	-5.5257	0.2231	-2.0923	0.2281
2	175.08	0.6996	-0.0055	0.0209	-0.6271	0.0840	-6.8867	0.2542	-2.1565	0.2275
2	175.08	0.7495	-0.0340	0.0240	-0.7603	0.0964	-8.4191	0.2862	-2.3078	0.2241
2	175.08	0.7996	-0.0845	0.0277	-0.9125	0.1092	-10.0698	0.3202	-2.4960	0.2190
2	175.08	0.8578	-0.1886	0.0328	-1.0940	0.1247	-12.0534	0.3630	-2.2578	0.2188
2	175.08	0.9100	-0.2475	0.0377	-1.2388	0.1387	-13.9297	0.4039	-2.3633	0.2219
2	175.08	0.9727	-0.3580	0.0436	-1.3422	0.1556	-15.9803	0.4587	-2.0221	0.2276
3	175.08	0.2995	-0.0878	0.0094	0.0089	0.0135	-0.3823	0.0496	-0.5513	0.1266
3	175.08	0.3493	-0.0568	0.0128	0.0183	0.0236	-0.6296	0.0822	-0.7395	0.1672
3	175.08	0.4000	-0.0338	0.0114	0.0322	0.0380	-0.9776	0.1287	-0.8110	0.1610
3	175.08	0.4497	-0.0323	0.0122	0.0234	0.0506	-1.4679	0.1722	-1.1569	0.1630
3	175.08	0.4997	-0.0171	0.0149	-0.0024	0.0637	-2.1200	0.2171	-1.4164	0.1593
3	175.08	0.5556	-0.0085	0.0170	-0.0279	0.0785	-3.0187	0.2705	-1.6112	0.1681
3	175.08	0.5995	0.0077	0.0198	-0.0863	0.0905	-3.8601	0.3128	-1.6603	0.1719
3	175.08	0.6498	0.0089	0.0227	-0.1554	0.1053	-4.9976	0.3658	-1.8492	0.1673
3	175.08	0.6890	-0.0120	0.0262	-0.2384	0.1164	-5.9839	0.4069	-1.8657	0.1696
3	175.08	0.7495	-0.0322	0.0319	-0.3369	0.1344	-7.7293	0.4736	-2.0722	0.1736
3	175.08	0.7998	-0.0546	0.0377	-0.4502	0.1496	-9.3100	0.5352	-2.2306	0.1705
3	175.08	0.8577	-0.1018	0.0457	-0.5872	0.1678	-11.2447	0.6098	-2.3352	0.1741
3	175.08	0.9178	-0.1714	0.0608	-0.6901	0.1875	-13.1860	0.6756	-1.8902	0.6819
3	175.08	0.9729	-0.2371	0.0622	-0.7956	0.2049	-15.0805	0.7780	-2.3907	0.1795
4	175.08	0.2001	-0.0314	0.0085	-0.0037	0.0016	-0.1075	0.0067	-0.2781	0.0934
4	175.08	0.3001	-0.0514	0.0085	-0.0081	0.0073	-0.4454	0.0228	-0.6562	0.2225
4	175.08	0.3502	-0.0412	0.0061	-0.0111	0.0145	-0.7862	0.0437	-0.9067	0.2001
4	175.08	0.4002	-0.0215	0.0070	-0.0152	0.0217	-1.2128	0.0635	-1.1023	0.2109
4	175.08	0.4500	-0.0009	0.0087	-0.0191	0.0278	-1.7898	0.0838	-1.4598	0.2126
4	175.08	0.5001	0.0050	0.0097	-0.0643	0.0343	-2.5027	0.1066	-1.5325	0.2185
4	175.08	0.5560	0.0116	0.0119	-0.1041	0.0426	-3.5507	0.1332	-1.8946	0.2268
4	175.08	0.6001	0.0102	0.0134	-0.1499	0.0497	-4.5174	0.1567	-2.1000	0.2221
4	175.08	0.6501	-0.0108	0.0154	-0.2311	0.0578	-5.7695	0.1859	-2.1273	0.2190
4	175.08	0.6999	-0.0250	0.0176	-0.3309	0.0665	-7.2008	0.2170	-2.1460	0.2290
4	175.08	0.7500	-0.0574	0.0209	-0.4403	0.0757	-8.7836	0.2518	-2.0265	0.2202
4	175.08	0.8002	-0.1183	0.0247	-0.5608	0.0859	-10.5479	0.2882	-2.2258	0.2359
4	175.08	0.8582	-0.1983	0.0301	-0.7109	0.0977	-12.6814	0.3346	-2.4925	0.2331
4	175.08	0.9101	-0.2602	0.0343	-0.8440	0.1087	-14.6239	0.3805	-2.5104	0.2333
4	175.08	0.9728	-0.3175	0.0407	-0.9405	0.1224	-16.7921	0.4371	-2.1423	0.2401

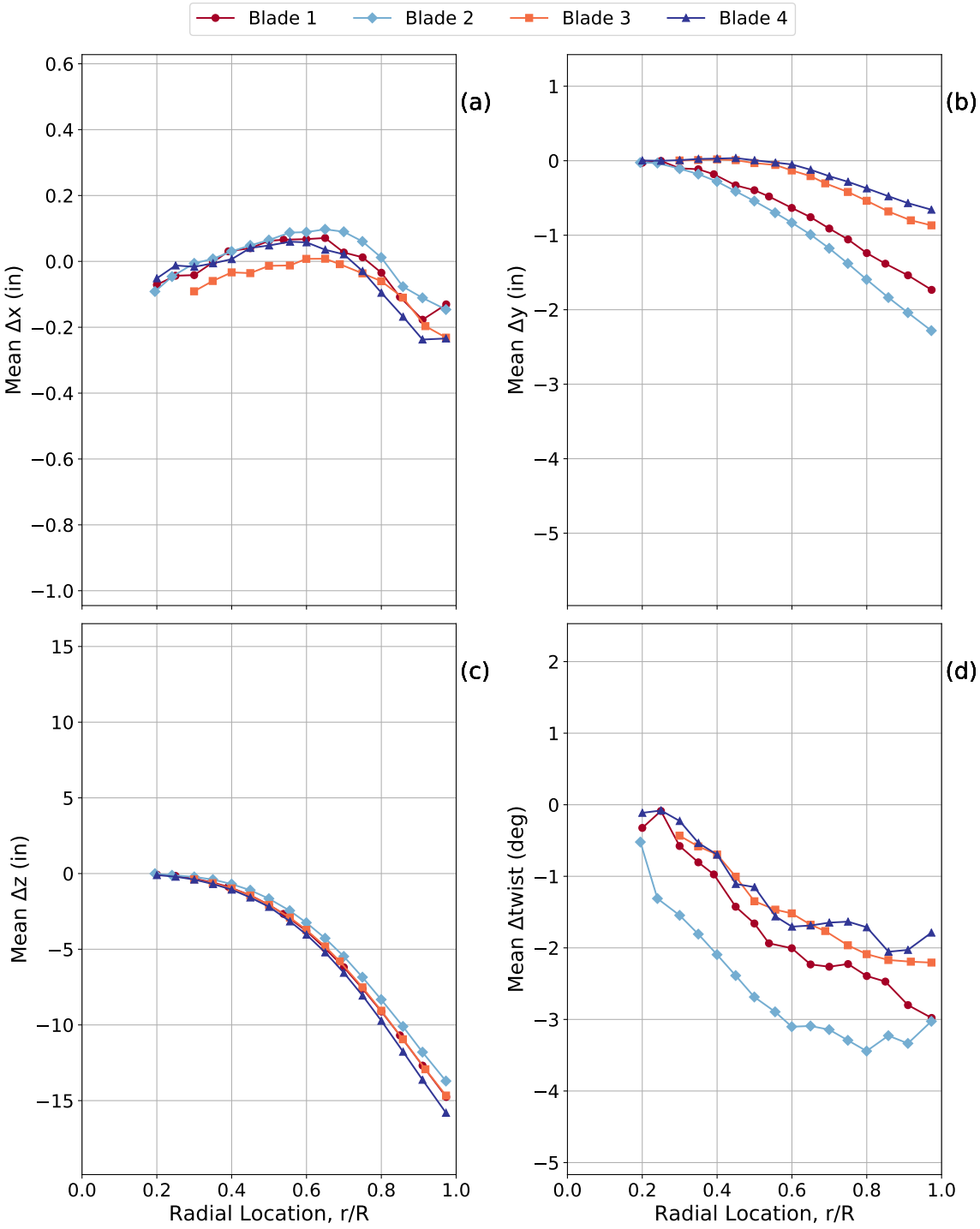


Figure 2.14-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.4, α = -10° NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.0709	0.0390	-0.0269	0.0270	-0.0683	0.1055	-0.3236	0.3621
1	180	0.2499	-0.0436	0.0120	-0.0024	0.0249	-0.1541	0.1142	-0.0872	1.1304
1	180	0.2998	-0.0417	0.0083	-0.1014	0.0991	-0.3369	0.2847	-0.5767	1.0471
1	180	0.3498	-0.0030	0.0248	-0.1143	0.1721	-0.5960	0.4492	-0.8048	0.9826
1	180	0.3913	0.0305	0.0407	-0.1816	0.2343	-0.8739	0.5883	-0.9737	0.9435
1	180	0.4496	0.0401	0.1004	-0.3305	0.3627	-1.4336	0.7359	-1.4248	1.5941
1	180	0.4997	0.0623	0.1210	-0.3960	0.4524	-2.0658	0.8987	-1.6593	1.5994
1	180	0.5387	0.0658	0.1366	-0.4803	0.5248	-2.6667	1.0265	-1.9365	1.6112
1	180	0.5996	0.0676	0.1597	-0.6337	0.6439	-3.7903	1.2274	-2.0049	1.6216
1	180	0.6498	0.0710	0.1778	-0.7578	0.7490	-4.9433	1.3940	-2.2316	1.6257
1	180	0.6998	0.0270	0.1936	-0.9105	0.8564	-6.1949	1.5585	-2.2632	1.6493
1	180	0.7500	0.0123	0.2072	-1.0569	0.9694	-7.6088	1.7276	-2.2257	1.6559
1	180	0.8001	-0.0345	0.2200	-1.2399	1.0836	-9.1134	1.8996	-2.3932	1.6619
1	180	0.8497	-0.1079	0.2287	-1.3823	1.2009	-10.6892	2.0697	-2.4709	1.6816
1	180	0.9102	-0.1771	0.2331	-1.5382	1.3500	-12.6867	2.2826	-2.7995	1.6991
1	180	0.9734	-0.1305	0.2646	-1.7336	1.4987	-14.7554	2.5129	-2.9790	1.7251
2	180	0.1949	-0.0915	0.0065	-0.0247	0.0023	-0.0076	0.0183	-0.5206	0.0682
2	180	0.2405	-0.0462	0.0018	-0.0318	0.0033	-0.1129	0.0163	-1.3105	0.2142
2	180	0.2999	-0.0059	0.0019	-0.1070	0.0075	-0.2221	0.0490	-1.5455	0.2156
2	180	0.3498	0.0077	0.0021	-0.1796	0.0134	-0.3972	0.0796	-1.8080	0.2195
2	180	0.3998	0.0304	0.0027	-0.2794	0.0199	-0.6952	0.1112	-2.0944	0.2204
2	180	0.4496	0.0486	0.0037	-0.4100	0.0259	-1.0980	0.1428	-2.3869	0.2315
2	180	0.4995	0.0648	0.0036	-0.5415	0.0333	-1.6595	0.1750	-2.6862	0.2338
2	180	0.5551	0.0874	0.0044	-0.6985	0.0424	-2.4505	0.2112	-2.8936	0.2327
2	180	0.5996	0.0888	0.0051	-0.8320	0.0508	-3.2457	0.2400	-3.1018	0.2342
2	180	0.6497	0.0974	0.0064	-0.9918	0.0605	-4.2753	0.2732	-3.0915	0.2328
2	180	0.6996	0.0900	0.0086	-1.1757	0.0711	-5.4734	0.3075	-3.1425	0.2379
2	180	0.7495	0.0605	0.0116	-1.3796	0.0822	-6.8468	0.3436	-3.2917	0.2353
2	180	0.7996	0.0119	0.0159	-1.5946	0.0943	-8.3239	0.3821	-3.4420	0.2413
2	180	0.8578	-0.0768	0.0207	-1.8369	0.1088	-10.1011	0.4332	-3.2270	0.2335
2	180	0.9100	-0.1107	0.0271	-2.0399	0.1234	-11.7981	0.4831	-3.3351	0.2310
2	180	0.9727	-0.1462	0.0330	-2.2809	0.1393	-13.7056	0.5464	-3.0262	0.2651
3	180.35	0.2995	-0.0909	0.0189	0.0031	0.0314	-0.3846	0.0952	-0.4321	0.2805
3	180.35	0.3493	-0.0595	0.0266	0.0088	0.0550	-0.6333	0.1548	-0.5821	0.3702
3	180.35	0.4000	-0.0334	0.0221	0.0174	0.0887	-0.9830	0.2401	-0.6956	0.3418
3	180.35	0.4497	-0.0357	0.0239	0.0074	0.1190	-1.4514	0.3116	-1.0048	0.3418
3	180.35	0.4997	-0.0134	0.0268	-0.0318	0.1492	-2.0747	0.3868	-1.3487	0.3421
3	180.35	0.5556	-0.0124	0.0301	-0.0569	0.1837	-2.9074	0.4692	-1.4658	0.3442
3	180.35	0.5995	0.0077	0.0335	-0.1307	0.2114	-3.7195	0.5342	-1.5178	0.3537
3	180.35	0.6498	0.0081	0.0379	-0.2067	0.2432	-4.8174	0.6108	-1.6760	0.3509
3	180.35	0.6890	-0.0085	0.0424	-0.3036	0.2686	-5.8033	0.6702	-1.7643	0.3521
3	180.35	0.7495	-0.0363	0.0499	-0.4193	0.3080	-7.5178	0.7673	-1.9639	0.3572
3	180.35	0.7998	-0.0601	0.0577	-0.5379	0.3408	-9.0598	0.8519	-2.0876	0.3519
3	180.35	0.8577	-0.1101	0.0679	-0.6811	0.3786	-10.9482	0.9570	-2.1693	0.3603
3	180.35	0.9178	-0.1966	0.0783	-0.8003	0.4187	-12.9280	1.0697	-2.1929	0.3584
3	180.35	0.9729	-0.2315	0.0892	-0.8675	0.4549	-14.6634	1.1766	-2.2055	0.3563
4	180	0.2001	-0.0514	0.0315	0.0026	0.0089	-0.1031	0.0240	-0.1133	0.1123
4	180	0.2502	-0.0124	0.0090	-0.0006	0.0078	-0.2088	0.0252	-0.0803	0.3187
4	180	0.3001	-0.0165	0.0092	0.0074	0.0310	-0.3992	0.0607	-0.2273	0.3144
4	180	0.3502	-0.0059	0.0234	0.0237	0.0560	-0.6956	0.0957	-0.5345	0.3208
4	180	0.4002	0.0068	0.0374	0.0286	0.0812	-1.0622	0.1322	-0.6979	0.3172
4	180	0.4500	0.0408	0.0513	0.0354	0.1073	-1.5840	0.1679	-1.1069	0.3263
4	180	0.5001	0.0483	0.0669	0.0060	0.1349	-2.2028	0.2048	-1.1509	0.3292
4	180	0.5560	0.0597	0.0842	-0.0251	0.1668	-3.1632	0.2482	-1.5606	0.3353
4	180	0.6001	0.0578	0.0990	-0.0501	0.1929	-4.0387	0.2840	-1.7035	0.3368
4	180	0.6501	0.0353	0.1170	-0.1215	0.2240	-5.2094	0.3251	-1.6872	0.3448
4	180	0.6999	0.0213	0.1370	-0.2077	0.2569	-6.5579	0.3684	-1.6469	0.3554
4	180	0.7500	-0.0296	0.1568	-0.2831	0.2913	-8.0655	0.4139	-1.6336	0.3542
4	180	0.8002	-0.0954	0.1779	-0.3716	0.3275	-9.7313	0.4603	-1.7124	0.3674
4	180	0.8582	-0.1681	0.2012	-0.4773	0.3722	-11.7707	0.5181	-2.0541	0.3787
4	180	0.9101	-0.2373	0.2196	-0.5693	0.4145	-13.6249	0.5724	-2.0282	0.3796
4	180	0.9728	-0.2341	0.2507	-0.6574	0.4605	-15.8062	0.6352	-1.7872	0.4148

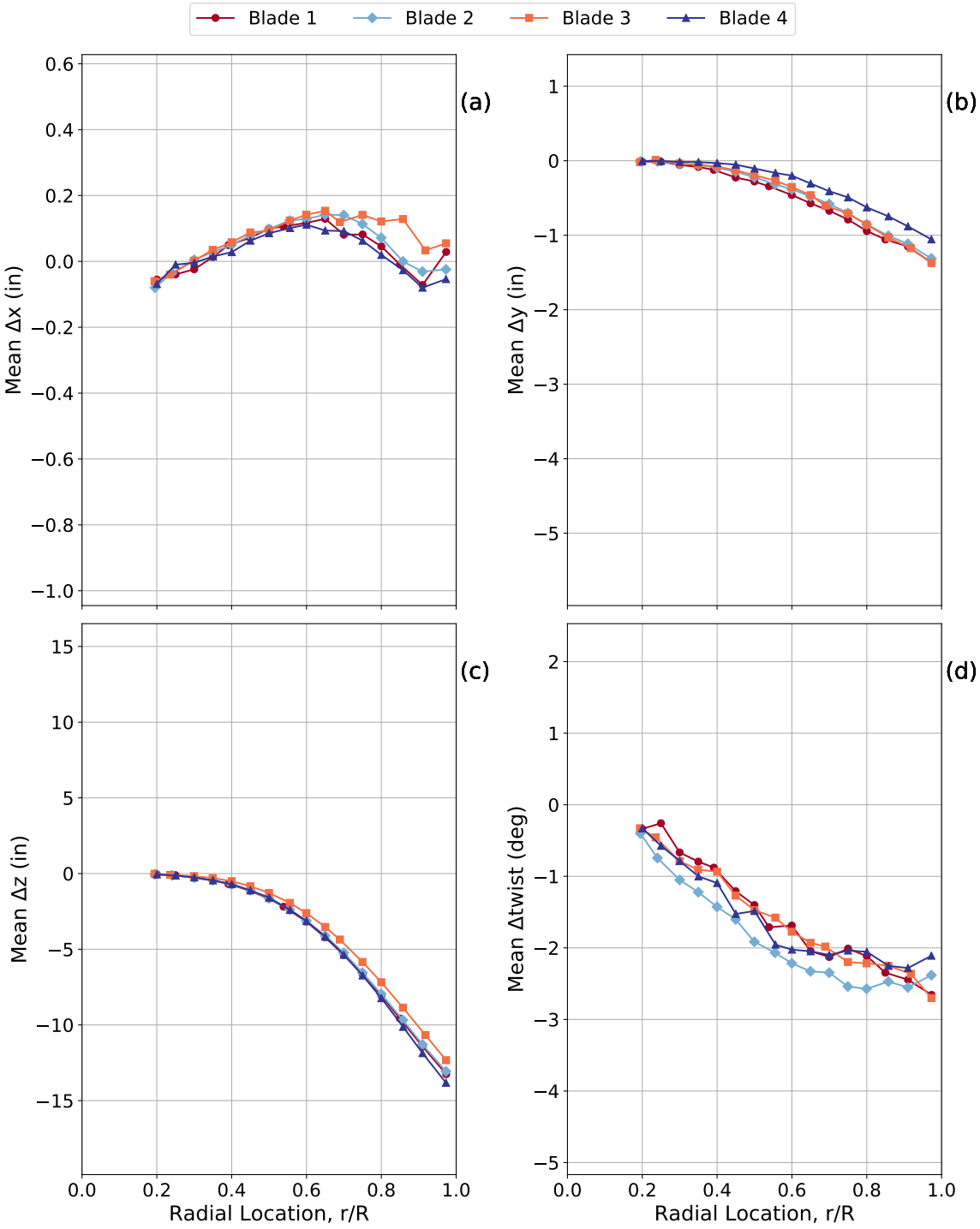


Figure 2.14-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0553	0.0011	-0.0150	0.0012	-0.0607	0.0059	-0.3373	0.0311
1	184.92	0.2499	-0.0395	0.0014	-0.0141	0.0024	-0.1089	0.0101	-0.2583	0.0528
1	184.92	0.2998	-0.0241	0.0016	-0.0573	0.0047	-0.2803	0.0189	-0.6664	0.0700
1	184.92	0.3498	0.0134	0.0020	-0.0835	0.0088	-0.4606	0.0320	-0.7947	0.0596
1	184.92	0.3913	0.0495	0.0025	-0.1228	0.0120	-0.6833	0.0441	-0.8789	0.0618
1	184.92	0.4496	0.0714	0.0031	-0.2257	0.0162	-1.1457	0.0639	-1.2082	0.0717
1	184.92	0.4997	0.0996	0.0037	-0.2791	0.0213	-1.6670	0.0850	-1.4018	0.0749
1	184.92	0.5387	0.1058	0.0048	-0.3434	0.0248	-2.1901	0.1010	-1.7116	0.0841
1	184.92	0.5996	0.1170	0.0061	-0.4602	0.0310	-3.1719	0.1309	-1.6881	0.0819
1	184.92	0.6498	0.1292	0.0085	-0.5719	0.0376	-4.2199	0.1583	-2.0456	0.0906
1	184.92	0.6998	0.0811	0.0107	-0.6719	0.0443	-5.3778	0.1883	-2.1275	0.0871
1	184.92	0.7500	0.0817	0.0137	-0.7899	0.0514	-6.6647	0.2228	-2.0103	0.1094
1	184.92	0.8001	0.0455	0.0182	-0.9437	0.0589	-8.0662	0.2625	-2.1152	0.0967
1	184.92	0.8497	-0.0095	0.0233	-1.0571	0.0669	-9.5789	0.3052	-2.3467	0.0902
1	184.92	0.9102	-0.0717	0.0300	-1.1524	0.0786	-11.4184	0.3667	-2.4450	0.1292
1	184.92	0.9734	0.0288	0.0324	-1.3706	0.0922	-13.2530	0.4219	-2.6571	0.1623
2	184.92	0.1949	-0.0797	0.0012	-0.0082	0.0007	-0.0455	0.0049	-0.4015	0.0264
2	184.92	0.2405	-0.0354	0.0012	-0.0111	0.0025	-0.1155	0.0116	-0.7437	0.0472
2	184.92	0.2999	0.0046	0.0013	-0.0416	0.0043	-0.2663	0.0209	-1.0503	0.0630
2	184.92	0.3498	0.0282	0.0016	-0.0536	0.0070	-0.4463	0.0332	-1.2215	0.0676
2	184.92	0.3998	0.0500	0.0022	-0.0949	0.0119	-0.7276	0.0526	-1.4264	0.0662
2	184.92	0.4496	0.0786	0.0030	-0.1467	0.0150	-1.1070	0.0708	-1.6018	0.0662
2	184.92	0.4995	0.0981	0.0042	-0.2230	0.0186	-1.6328	0.0952	-1.9150	0.0765
2	184.92	0.5551	0.1238	0.0049	-0.3146	0.0223	-2.3745	0.1251	-2.0683	0.0784
2	184.92	0.5996	0.1287	0.0064	-0.3855	0.0267	-3.1173	0.1529	-2.2160	0.0924
2	184.92	0.6497	0.1417	0.0079	-0.4770	0.0299	-4.1061	0.1865	-2.3281	0.0873
2	184.92	0.6996	0.1406	0.0106	-0.5805	0.0350	-5.2352	0.2253	-2.3463	0.0954
2	184.92	0.7495	0.1135	0.0145	-0.7025	0.0403	-6.5497	0.2682	-2.5403	0.1094
2	184.92	0.7996	0.0717	0.0191	-0.8532	0.0456	-7.9502	0.3131	-2.5713	0.1063
2	184.92	0.8578	-0.0002	0.0248	-1.0078	0.0512	-9.6821	0.3735	-2.4712	0.1120
2	184.92	0.9100	-0.0311	0.0289	-1.1155	0.0555	-11.2960	0.4283	-2.5522	0.1413
2	184.92	0.9727	-0.0244	0.0356	-1.3126	0.0657	-13.0659	0.5056	-2.3815	0.1439
3	184.92	0.1938	-0.0600	0.0015	-0.0183	0.0013	-0.0160	0.0044	-0.3286	0.0232
3	184.92	0.2357	-0.0399	0.0014	0.0117	0.0019	-0.0905	0.0086	-0.4562	0.0415
3	184.92	0.2995	0.0021	0.0015	-0.0385	0.0044	-0.1699	0.0163	-0.7886	0.0540
3	184.92	0.3493	0.0349	0.0017	-0.0565	0.0082	-0.2990	0.0268	-0.9061	0.0522
3	184.92	0.4000	0.0580	0.0021	-0.0763	0.0121	-0.5049	0.0416	-0.9360	0.0633
3	184.92	0.4497	0.0878	0.0023	-0.1298	0.0156	-0.8384	0.0563	-1.2696	0.0738
3	184.92	0.4997	0.0934	0.0029	-0.1938	0.0200	-1.2810	0.0740	-1.4727	0.0716
3	184.92	0.5556	0.1240	0.0033	-0.2686	0.0254	-1.9380	0.0976	-1.5779	0.0850
3	184.92	0.5995	0.1418	0.0044	-0.3523	0.0293	-2.6137	0.1175	-1.7743	0.0794
3	184.92	0.6498	0.1536	0.0058	-0.4629	0.0349	-3.5292	0.1419	-1.9296	0.0956
3	184.92	0.6890	0.1193	0.0080	-0.6020	0.0383	-4.3598	0.1639	-1.9817	0.0964
3	184.92	0.7495	0.1412	0.0108	-0.7082	0.0460	-5.8402	0.2019	-2.1975	0.0846
3	184.92	0.7998	0.1212	0.0144	-0.8579	0.0530	-7.1790	0.2383	-2.2162	0.1180
3	184.92	0.8577	0.1286	0.0204	-1.0295	0.0621	-8.8593	0.2882	-2.2494	0.1063
3	184.92	0.9178	0.0337	0.0285	-1.1740	0.0698	-10.6711	0.3494	-2.3628	0.1252
3	184.92	0.9729	0.0549	0.0295	-1.3728	0.0786	-12.3302	0.4037	-2.7008	0.1585
4	184.92	0.2001	-0.0686	0.0012	-0.0043	0.0010	-0.0587	0.0054	-0.3303	0.0258
4	184.92	0.2502	-0.0099	0.0012	-0.0036	0.0023	-0.1356	0.0102	-0.5735	0.0453
4	184.92	0.3001	-0.0043	0.0015	-0.0158	0.0041	-0.2586	0.0177	-0.7861	0.0574
4	184.92	0.3502	0.0149	0.0016	-0.0189	0.0072	-0.4511	0.0293	-1.0019	0.0598
4	184.92	0.4002	0.0281	0.0020	-0.0319	0.0112	-0.7062	0.0441	-1.0938	0.0600
4	184.92	0.4500	0.0629	0.0025	-0.0530	0.0137	-1.1090	0.0587	-1.5259	0.0668
4	184.92	0.5001	0.0855	0.0029	-0.1049	0.0167	-1.5902	0.0771	-1.4847	0.0738
4	184.92	0.5560	0.1013	0.0044	-0.1641	0.0213	-2.4046	0.1022	-1.9551	0.0790
4	184.92	0.6001	0.1114	0.0050	-0.2007	0.0253	-3.1450	0.1235	-2.0250	0.0850
4	184.92	0.6501	0.0936	0.0065	-0.3066	0.0295	-4.1661	0.1476	-2.0480	0.0812
4	184.92	0.6999	0.0920	0.0087	-0.4098	0.0349	-5.3682	0.1732	-2.0992	0.0853
4	184.92	0.7500	0.0628	0.0117	-0.4928	0.0408	-6.7336	0.2007	-2.0374	0.0895
4	184.92	0.8002	0.0196	0.0143	-0.6266	0.0467	-8.2334	0.2291	-2.0546	0.0971
4	184.92	0.8582	-0.0269	0.0181	-0.7475	0.0557	-10.1295	0.2637	-2.2509	0.0974
4	184.92	0.9101	-0.0799	0.0228	-0.8815	0.0622	-11.8614	0.2976	-2.2817	0.1014
4	184.92	0.9728	-0.0538	0.0286	-1.0558	0.0714	-13.8219	0.3408	-2.1097	0.1184

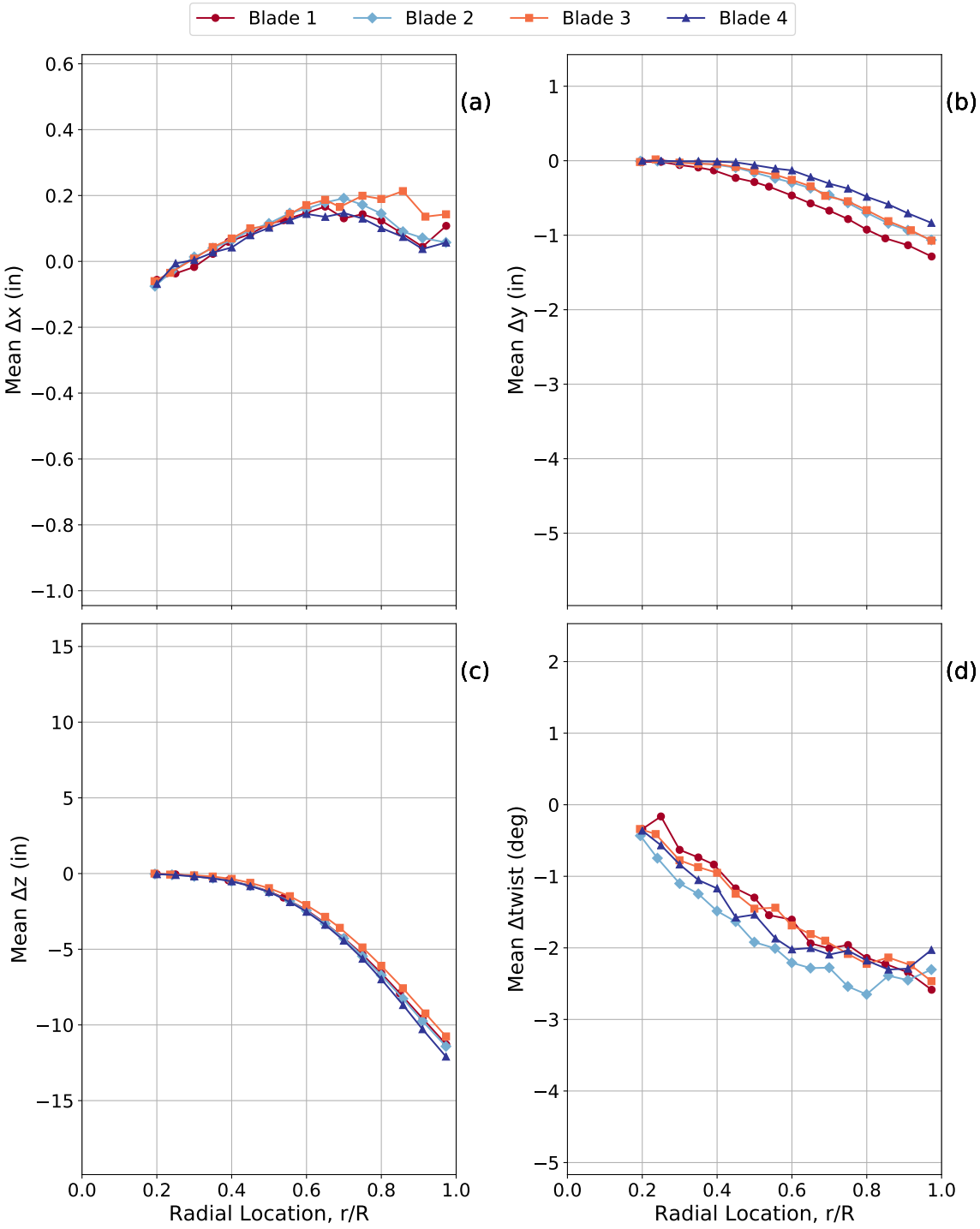


Figure 2.14-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0559	0.0017	-0.0150	0.0010	-0.0363	0.0049	-0.3398	0.0301
1	189.84	0.2499	-0.0367	0.0013	-0.0154	0.0028	-0.0536	0.0084	-0.1635	0.0595
1	189.84	0.2998	-0.0171	0.0014	-0.0575	0.0044	-0.1854	0.0157	-0.6302	0.0714
1	189.84	0.3498	0.0228	0.0019	-0.0906	0.0077	-0.2980	0.0258	-0.7360	0.0705
1	189.84	0.3913	0.0595	0.0023	-0.1297	0.0114	-0.4492	0.0360	-0.8357	0.0725
1	189.84	0.4496	0.0831	0.0029	-0.2307	0.0151	-0.7869	0.0512	-1.1686	0.0785
1	189.84	0.4997	0.1135	0.0032	-0.2862	0.0193	-1.1746	0.0650	-1.2973	0.0880
1	189.84	0.5387	0.1250	0.0039	-0.3486	0.0232	-1.5885	0.0797	-1.5431	0.0861
1	189.84	0.5996	0.1473	0.0051	-0.4667	0.0293	-2.3980	0.1019	-1.6052	0.0935
1	189.84	0.6498	0.1663	0.0063	-0.5732	0.0347	-3.2747	0.1238	-1.9372	0.0966
1	189.84	0.6998	0.1307	0.0081	-0.6705	0.0416	-4.2616	0.1473	-2.0061	0.1069
1	189.84	0.7500	0.1433	0.0105	-0.7832	0.0473	-5.3624	0.1738	-1.9601	0.1083
1	189.84	0.8001	0.1235	0.0135	-0.9253	0.0545	-6.5897	0.2054	-2.1416	0.1058
1	189.84	0.8497	0.0890	0.0170	-1.0420	0.0625	-7.9129	0.2403	-2.2243	0.1125
1	189.84	0.9102	0.0445	0.0212	-1.1344	0.0723	-9.5707	0.2876	-2.3423	0.1324
1	189.84	0.9734	0.1079	0.0259	-1.2856	0.0818	-11.2842	0.3473	-2.5854	0.1356
2	189.84	0.1949	-0.0753	0.0017	-0.0054	0.0012	-0.0279	0.0061	-0.4327	0.0359
2	189.84	0.2405	-0.0299	0.0014	-0.0049	0.0025	-0.0811	0.0108	-0.7465	0.0607
2	189.84	0.2999	0.0135	0.0014	-0.0262	0.0051	-0.1879	0.0212	-1.1010	0.0860
2	189.84	0.3498	0.0403	0.0023	-0.0318	0.0094	-0.3002	0.0351	-1.2458	0.0727
2	189.84	0.3998	0.0638	0.0024	-0.0572	0.0145	-0.5072	0.0529	-1.4851	0.0764
2	189.84	0.4496	0.0948	0.0032	-0.0924	0.0186	-0.7902	0.0708	-1.6329	0.0780
2	189.84	0.4995	0.1152	0.0039	-0.1584	0.0242	-1.2060	0.0953	-1.9200	0.0837
2	189.84	0.5551	0.1465	0.0050	-0.2362	0.0306	-1.8153	0.1273	-2.0070	0.0834
2	189.84	0.5996	0.1598	0.0063	-0.2931	0.0366	-2.4563	0.1571	-2.2083	0.0941
2	189.84	0.6497	0.1787	0.0083	-0.3681	0.0438	-3.3052	0.1945	-2.2825	0.0879
2	189.84	0.6996	0.1916	0.0115	-0.4614	0.0515	-4.2910	0.2381	-2.2765	0.0905
2	189.84	0.7495	0.1718	0.0156	-0.5664	0.0600	-5.4594	0.2881	-2.5394	0.0915
2	189.84	0.7996	0.1451	0.0204	-0.6984	0.0686	-6.7154	0.3439	-2.6497	0.1007
2	189.84	0.8578	0.0902	0.0271	-0.8415	0.0793	-8.2645	0.4149	-2.3893	0.1136
2	189.84	0.9100	0.0713	0.0330	-0.9336	0.0905	-9.7454	0.4837	-2.4501	0.1202
2	189.84	0.9727	0.0575	0.0398	-1.0636	0.1038	-11.4174	0.5721	-2.3033	0.1337
3	189.84	0.1938	-0.0599	0.0024	-0.0170	0.0018	-0.0042	0.0077	-0.3391	0.0319
3	189.84	0.2357	-0.0348	0.0014	0.0173	0.0028	-0.0678	0.0126	-0.4099	0.0549
3	189.84	0.2995	0.0085	0.0017	-0.0258	0.0075	-0.1177	0.0243	-0.7758	0.0741
3	189.84	0.3493	0.0435	0.0019	-0.0415	0.0140	-0.1963	0.0411	-0.8712	0.0781
3	189.84	0.4000	0.0695	0.0022	-0.0462	0.0213	-0.3520	0.0605	-0.9507	0.0743
3	189.84	0.4497	0.1005	0.0025	-0.0840	0.0275	-0.6126	0.0798	-1.2435	0.0839
3	189.84	0.4997	0.1078	0.0031	-0.1343	0.0346	-0.9646	0.1028	-1.4520	0.0854
3	189.84	0.5556	0.1441	0.0037	-0.1883	0.0431	-1.4963	0.1320	-1.4392	0.0889
3	189.84	0.5995	0.1709	0.0050	-0.2570	0.0502	-2.0807	0.1554	-1.6865	0.0916
3	189.84	0.6498	0.1869	0.0060	-0.3434	0.0592	-2.8593	0.1845	-1.8076	0.0993
3	189.84	0.6890	0.1653	0.0082	-0.4704	0.0671	-3.5848	0.2103	-1.8995	0.1082
3	189.84	0.7495	0.1993	0.0115	-0.5447	0.0784	-4.8808	0.2521	-2.0848	0.1033
3	189.84	0.7998	0.1895	0.0155	-0.6638	0.0903	-6.0930	0.2939	-2.2234	0.1142
3	189.84	0.8577	0.2134	0.0210	-0.8114	0.1046	-7.5780	0.3505	-2.1348	0.1270
3	189.84	0.9178	0.1358	0.0283	-0.9332	0.1200	-9.2428	0.4275	-2.2418	0.1349
3	189.84	0.9729	0.1430	0.0352	-1.0725	0.1361	-10.7600	0.5031	-2.4649	0.1723
4	189.84	0.2001	-0.0685	0.0012	-0.0024	0.0011	-0.0424	0.0050	-0.3616	0.0284
4	189.84	0.2502	-0.0062	0.0014	-0.0001	0.0026	-0.0962	0.0102	-0.5673	0.0458
4	189.84	0.3001	0.0041	0.0019	-0.0075	0.0041	-0.1914	0.0166	-0.8349	0.0619
4	189.84	0.3502	0.0270	0.0019	-0.0070	0.0080	-0.3243	0.0278	-1.0530	0.0611
4	189.84	0.4002	0.0422	0.0024	-0.0120	0.0121	-0.5141	0.0421	-1.1694	0.0633
4	189.84	0.4500	0.0794	0.0027	-0.0212	0.0153	-0.8335	0.0570	-1.5756	0.0668
4	189.84	0.5001	0.1023	0.0032	-0.0594	0.0198	-1.2139	0.0742	-1.5353	0.0711
4	189.84	0.5560	0.1250	0.0039	-0.1050	0.0243	-1.8867	0.0952	-1.8696	0.0739
4	189.84	0.6001	0.1440	0.0044	-0.1299	0.0292	-2.5234	0.1152	-2.0211	0.0789
4	189.84	0.6501	0.1352	0.0058	-0.2194	0.0342	-3.3857	0.1399	-2.0022	0.0903
4	189.84	0.6999	0.1470	0.0079	-0.3078	0.0397	-4.4314	0.1667	-2.0936	0.0919
4	189.84	0.7500	0.1300	0.0106	-0.3741	0.0461	-5.6285	0.1989	-2.0384	0.0872
4	189.84	0.8002	0.1011	0.0135	-0.4838	0.0526	-6.9862	0.2339	-2.1772	0.0920
4	189.84	0.8582	0.0742	0.0181	-0.5870	0.0611	-8.6865	0.2792	-2.3030	0.1120
4	189.84	0.9101	0.0375	0.0213	-0.7062	0.0689	-10.2844	0.3223	-2.2899	0.1090
4	189.84	0.9728	0.0571	0.0259	-0.8345	0.0778	-12.0935	0.3748	-2.0288	0.1281

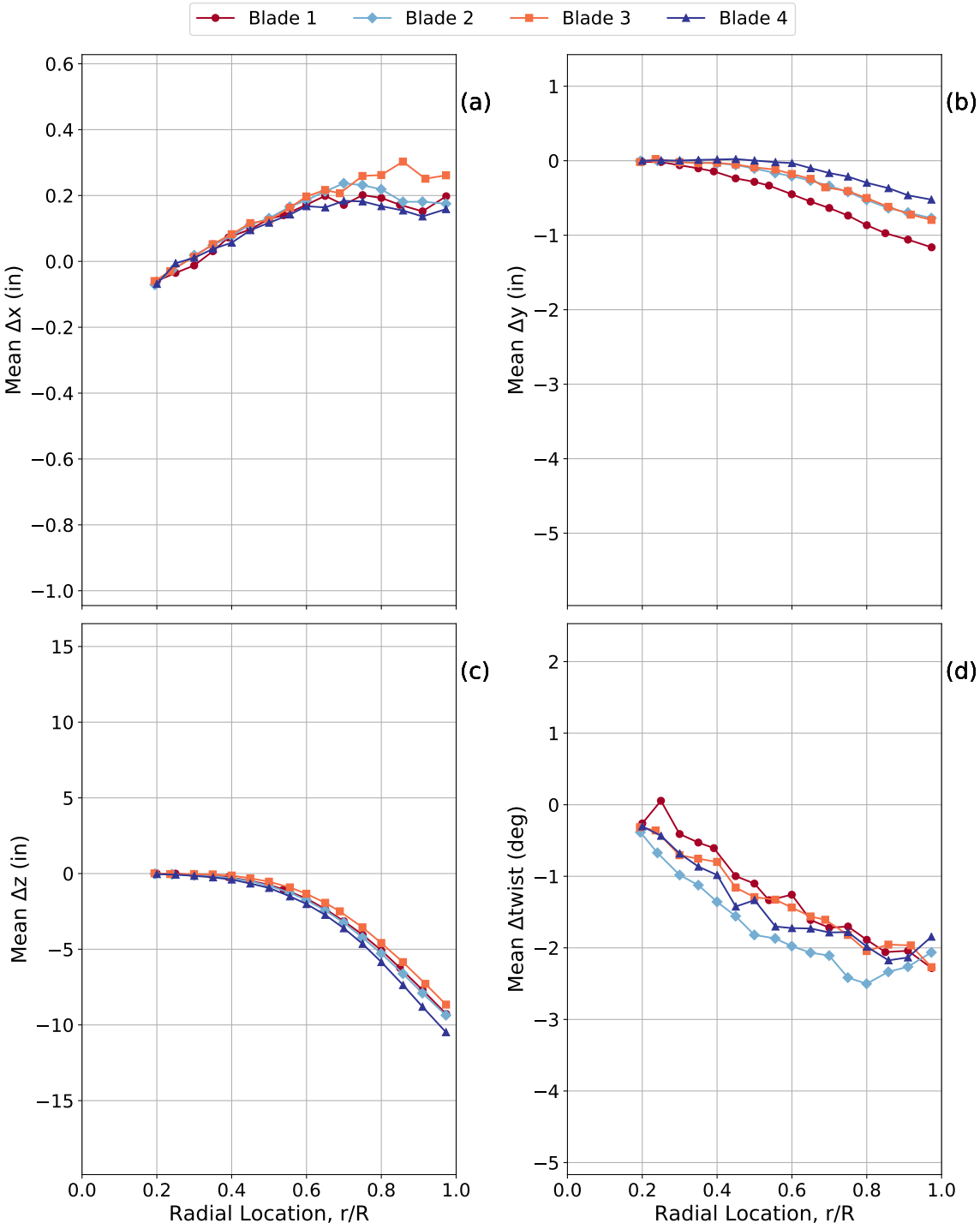


Figure 2.14-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0598	0.0014	-0.0157	0.0011	-0.0139	0.0067	-0.2613	0.0312
1	195.12	0.2499	-0.0350	0.0013	-0.0174	0.0027	-0.0043	0.0130	0.0555	0.0544
1	195.12	0.2998	-0.0124	0.0016	-0.0610	0.0053	-0.0971	0.0218	-0.4094	0.0703
1	195.12	0.3498	0.0308	0.0018	-0.1022	0.0096	-0.1573	0.0360	-0.5280	0.0760
1	195.12	0.3913	0.0725	0.0026	-0.1435	0.0139	-0.2403	0.0505	-0.6060	0.0718
1	195.12	0.4496	0.0973	0.0028	-0.2372	0.0191	-0.4779	0.0712	-0.9972	0.0822
1	195.12	0.4997	0.1288	0.0028	-0.2835	0.0237	-0.7421	0.0924	-1.1017	0.0867
1	195.12	0.5387	0.1402	0.0035	-0.3338	0.0276	-1.0459	0.1091	-1.3335	0.0963
1	195.12	0.5996	0.1719	0.0047	-0.4501	0.0338	-1.6438	0.1385	-1.2570	0.1051
1	195.12	0.6498	0.1989	0.0055	-0.5486	0.0403	-2.3405	0.1623	-1.6107	0.1090
1	195.12	0.6998	0.1715	0.0066	-0.6347	0.0468	-3.1433	0.1845	-1.7182	0.1076
1	195.12	0.7500	0.2013	0.0079	-0.7366	0.0527	-4.0468	0.2080	-1.7018	0.1067
1	195.12	0.8001	0.1926	0.0098	-0.8654	0.0599	-5.0801	0.2292	-1.8878	0.1276
1	195.12	0.8497	0.1717	0.0121	-0.9732	0.0664	-6.2317	0.2561	-2.0588	0.1193
1	195.12	0.9102	0.1519	0.0147	-1.0591	0.0757	-7.6914	0.2887	-2.0407	0.1431
1	195.12	0.9734	0.1978	0.0193	-1.1625	0.0830	-9.2780	0.3247	-2.2823	0.1452
2	195.12	0.1949	-0.0710	0.0015	-0.0039	0.0010	-0.0131	0.0067	-0.3842	0.0311
2	195.12	0.2405	-0.0270	0.0017	-0.0009	0.0024	-0.0484	0.0127	-0.6723	0.0571
2	195.12	0.2999	0.0186	0.0020	-0.0160	0.0047	-0.1153	0.0233	-0.9819	0.0723
2	195.12	0.3498	0.0491	0.0021	-0.0201	0.0088	-0.1759	0.0391	-1.1237	0.0661
2	195.12	0.3998	0.0771	0.0025	-0.0344	0.0136	-0.3110	0.0589	-1.3565	0.0663
2	195.12	0.4496	0.1114	0.0027	-0.0557	0.0182	-0.5101	0.0812	-1.5570	0.0698
2	195.12	0.4995	0.1309	0.0035	-0.1055	0.0237	-0.8065	0.1084	-1.8197	0.0762
2	195.12	0.5551	0.1657	0.0043	-0.1647	0.0297	-1.2574	0.1437	-1.8678	0.0755
2	195.12	0.5996	0.1857	0.0054	-0.2079	0.0356	-1.7526	0.1743	-1.9762	0.0729
2	195.12	0.6497	0.2124	0.0069	-0.2658	0.0428	-2.4322	0.2118	-2.0673	0.0846
2	195.12	0.6996	0.2371	0.0097	-0.3386	0.0498	-3.2428	0.2532	-2.1080	0.0887
2	195.12	0.7495	0.2316	0.0122	-0.4183	0.0583	-4.2271	0.2974	-2.4156	0.0937
2	195.12	0.7996	0.2188	0.0162	-0.5259	0.0673	-5.2805	0.3418	-2.5015	0.1144
2	195.12	0.8578	0.1807	0.0212	-0.6370	0.0773	-6.6165	0.4076	-2.3346	0.1045
2	195.12	0.9100	0.1812	0.0258	-0.6961	0.0890	-7.9010	0.4680	-2.2640	0.1111
2	195.12	0.9727	0.1750	0.0330	-0.7707	0.1012	-9.3596	0.5451	-2.0626	0.1281
3	195.12	0.1938	-0.0597	0.0013	-0.0166	0.0011	0.0138	0.0059	-0.3137	0.0256
3	195.12	0.2357	-0.0298	0.0016	0.0224	0.0023	-0.0343	0.0100	-0.3595	0.0452
3	195.12	0.2995	0.0141	0.0016	-0.0188	0.0047	-0.0352	0.0221	-0.7041	0.0609
3	195.12	0.3493	0.0523	0.0023	-0.0326	0.0081	-0.0578	0.0352	-0.7539	0.0622
3	195.12	0.4000	0.0825	0.0028	-0.0287	0.0128	-0.1332	0.0550	-0.7989	0.0649
3	195.12	0.4497	0.1162	0.0033	-0.0508	0.0166	-0.3121	0.0760	-1.1572	0.0669
3	195.12	0.4997	0.1249	0.0038	-0.0897	0.0219	-0.5384	0.1015	-1.2908	0.0703
3	195.12	0.5556	0.1628	0.0045	-0.1184	0.0279	-0.9155	0.1349	-1.3265	0.0734
3	195.12	0.5995	0.1970	0.0056	-0.1779	0.0333	-1.3355	0.1644	-1.4358	0.0856
3	195.12	0.6498	0.2168	0.0070	-0.2433	0.0408	-1.9325	0.2018	-1.5610	0.0823
3	195.12	0.6890	0.2069	0.0089	-0.3572	0.0463	-2.4959	0.2352	-1.6071	0.0837
3	195.12	0.7495	0.2593	0.0122	-0.4075	0.0558	-3.5536	0.2895	-1.8191	0.0911
3	195.12	0.7998	0.2622	0.0157	-0.5011	0.0646	-4.5874	0.3433	-2.0442	0.0899
3	195.12	0.8577	0.3029	0.0203	-0.6191	0.0764	-5.8509	0.4098	-1.9545	0.1168
3	195.12	0.9178	0.2509	0.0274	-0.7239	0.0874	-7.2874	0.4885	-1.9651	0.1299
3	195.12	0.9729	0.2614	0.0342	-0.7947	0.0978	-8.6572	0.5612	-2.2694	0.1677
4	195.12	0.2001	-0.0684	0.0015	-0.0003	0.0012	-0.0367	0.0063	-0.3023	0.0309
4	195.12	0.2502	-0.0057	0.0014	0.0046	0.0026	-0.0746	0.0117	-0.4344	0.0506
4	195.12	0.3001	0.0110	0.0018	0.0023	0.0053	-0.1517	0.0196	-0.6825	0.0671
4	195.12	0.3502	0.0379	0.0020	0.0107	0.0092	-0.2531	0.0315	-0.8651	0.0625
4	195.12	0.4002	0.0568	0.0025	0.0156	0.0143	-0.3965	0.0477	-0.9825	0.0737
4	195.12	0.4500	0.0947	0.0030	0.0222	0.0196	-0.6608	0.0657	-1.4228	0.0707
4	195.12	0.5001	0.1173	0.0040	0.0023	0.0254	-0.9522	0.0858	-1.3328	0.0771
4	195.12	0.5560	0.1423	0.0050	-0.0195	0.0328	-1.5089	0.1132	-1.7021	0.0821
4	195.12	0.6001	0.1675	0.0064	-0.0316	0.0393	-2.0164	0.1375	-1.7238	0.0878
4	195.12	0.6501	0.1638	0.0078	-0.1002	0.0476	-2.7335	0.1683	-1.7296	0.0810
4	195.12	0.6999	0.1837	0.0107	-0.1655	0.0573	-3.6174	0.2051	-1.7844	0.0835
4	195.12	0.7500	0.1820	0.0141	-0.2133	0.0672	-4.6476	0.2487	-1.7799	0.0792
4	195.12	0.8002	0.1676	0.0184	-0.2964	0.0785	-5.8496	0.2992	-1.9833	0.0808
4	195.12	0.8582	0.1544	0.0244	-0.3686	0.0927	-7.3687	0.3683	-2.1742	0.0876
4	195.12	0.9101	0.1364	0.0300	-0.4642	0.1055	-8.8019	0.4367	-2.1340	0.0893
4	195.12	0.9728	0.1586	0.0389	-0.5223	0.1213	-10.4809	0.5248	-1.8444	0.1178

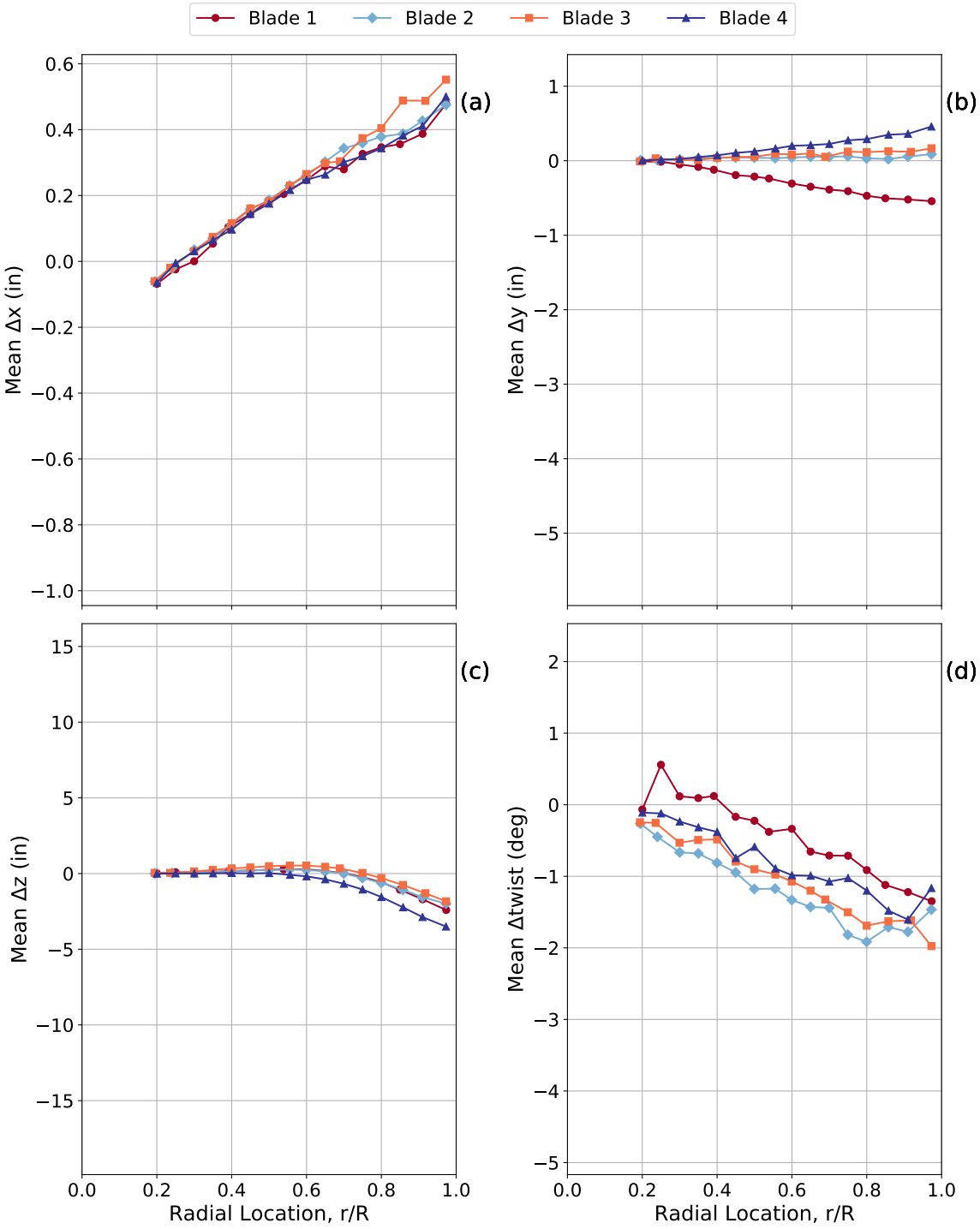


Figure 2.14-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0684	0.0012	-0.0104	0.0007	0.0200	0.0073	-0.0667	0.0435
1	209.88	0.2499	-0.0244	0.0020	-0.0141	0.0025	0.0909	0.0123	0.5587	0.0563
1	209.88	0.2998	0.0005	0.0016	-0.0495	0.0045	0.0662	0.0219	0.1178	0.0926
1	209.88	0.3498	0.0538	0.0020	-0.0832	0.0083	0.1050	0.0355	0.0935	0.0689
1	209.88	0.3913	0.1046	0.0029	-0.1214	0.0125	0.1645	0.0487	0.1217	0.0786
1	209.88	0.4496	0.1434	0.0030	-0.1929	0.0182	0.2029	0.0674	-0.1684	0.0784
1	209.88	0.4997	0.1850	0.0035	-0.2128	0.0234	0.2542	0.0859	-0.2239	0.0827
1	209.88	0.5387	0.2045	0.0038	-0.2390	0.0283	0.2766	0.1009	-0.3787	0.0815
1	209.88	0.5996	0.2468	0.0044	-0.3063	0.0365	0.2787	0.1261	-0.3365	0.0895
1	209.88	0.6498	0.2886	0.0047	-0.3489	0.0437	0.1690	0.1509	-0.6548	0.0905
1	209.88	0.6998	0.2793	0.0054	-0.3872	0.0514	0.0165	0.1788	-0.7098	0.0977
1	209.88	0.7500	0.3265	0.0063	-0.4088	0.0599	-0.2281	0.2125	-0.7127	0.1049
1	209.88	0.8001	0.3465	0.0074	-0.4708	0.0686	-0.5831	0.2486	-0.9131	0.0993
1	209.88	0.8497	0.3560	0.0087	-0.5044	0.0780	-1.0655	0.2884	-1.1211	0.1067
1	209.88	0.9102	0.3873	0.0100	-0.5206	0.0893	-1.7014	0.3428	-1.2204	0.1024
1	209.88	0.9734	0.4787	0.0140	-0.5431	0.1021	-2.4092	0.4025	-1.3487	0.1258
2	209.88	0.1949	-0.0613	0.0029	0.0049	0.0012	0.0115	0.0073	-0.2641	0.0364
2	209.88	0.2405	-0.0205	0.0024	0.0078	0.0020	0.0373	0.0115	-0.4477	0.0509
2	209.88	0.2999	0.0353	0.0022	0.0155	0.0041	0.0489	0.0240	-0.6655	0.0772
2	209.88	0.3498	0.0703	0.0026	0.0295	0.0073	0.1097	0.0386	-0.6803	0.0660
2	209.88	0.3998	0.1119	0.0025	0.0414	0.0111	0.1557	0.0576	-0.8120	0.0669
2	209.88	0.4496	0.1579	0.0028	0.0432	0.0146	0.2085	0.0775	-0.9462	0.0721
2	209.88	0.4995	0.1861	0.0028	0.0411	0.0184	0.2370	0.1032	-1.1771	0.0717
2	209.88	0.5551	0.2302	0.0033	0.0346	0.0234	0.2705	0.1327	-1.1730	0.0749
2	209.88	0.5996	0.2590	0.0035	0.0430	0.0274	0.2361	0.1601	-1.3314	0.0798
2	209.88	0.6497	0.3022	0.0041	0.0527	0.0324	0.1475	0.1947	-1.4280	0.0791
2	209.88	0.6996	0.3432	0.0044	0.0517	0.0377	0.0058	0.2333	-1.4402	0.0804
2	209.88	0.7495	0.3595	0.0054	0.0601	0.0428	-0.2928	0.2772	-1.8171	0.0829
2	209.88	0.7996	0.3785	0.0068	0.0317	0.0487	-0.6149	0.3277	-1.9148	0.0856
2	209.88	0.8578	0.3875	0.0085	0.0228	0.0560	-1.0751	0.3913	-1.7101	0.0941
2	209.88	0.9100	0.4266	0.0099	0.0557	0.0629	-1.5597	0.4538	-1.7756	0.0888
2	209.88	0.9727	0.4753	0.0118	0.0876	0.0708	-1.9839	0.5312	-1.4649	0.0930
3	209.88	0.1938	-0.0601	0.0030	-0.0086	0.0010	0.0456	0.0065	-0.2453	0.0322
3	209.88	0.2357	-0.0195	0.0020	0.0320	0.0022	0.0443	0.0092	-0.2534	0.0536
3	209.88	0.2995	0.0308	0.0019	0.0075	0.0051	0.1379	0.0195	-0.5309	0.0732
3	209.88	0.3493	0.0744	0.0022	0.0121	0.0087	0.2366	0.0308	-0.4919	0.0668
3	209.88	0.4000	0.1160	0.0027	0.0374	0.0144	0.3409	0.0460	-0.4837	0.0683
3	209.88	0.4497	0.1609	0.0025	0.0488	0.0186	0.4034	0.0605	-0.7935	0.0735
3	209.88	0.4997	0.1825	0.0030	0.0544	0.0237	0.4855	0.0772	-0.9012	0.0783
3	209.88	0.5556	0.2298	0.0029	0.0922	0.0300	0.5288	0.0972	-0.9748	0.0846
3	209.88	0.5995	0.2652	0.0032	0.0830	0.0347	0.5274	0.1141	-1.0719	0.0852
3	209.88	0.6498	0.2984	0.0033	0.0962	0.0407	0.4489	0.1367	-1.2003	0.0855
3	209.88	0.6890	0.3040	0.0036	0.0527	0.0459	0.3395	0.1554	-1.3244	0.0921
3	209.88	0.7495	0.3742	0.0040	0.1217	0.0534	0.0384	0.1871	-1.5015	0.0982
3	209.88	0.7998	0.4045	0.0045	0.1146	0.0595	-0.2993	0.2160	-1.6898	0.1000
3	209.88	0.8577	0.4885	0.0058	0.1282	0.0680	-0.7557	0.2533	-1.6280	0.1016
3	209.88	0.9178	0.4875	0.0069	0.1191	0.0762	-1.3003	0.2968	-1.6163	0.1150
3	209.88	0.9729	0.5518	0.0088	0.1672	0.0850	-1.8363	0.3396	-1.9750	0.1152
4	209.88	0.2001	-0.0647	0.0021	0.0052	0.0009	-0.0085	0.0099	-0.1103	0.0342
4	209.88	0.2502	-0.0052	0.0015	0.0141	0.0024	0.0087	0.0193	-0.1213	0.0575
4	209.88	0.3001	0.0306	0.0023	0.0239	0.0045	0.0023	0.0306	-0.2343	0.0738
4	209.88	0.3502	0.0646	0.0019	0.0480	0.0093	0.0121	0.0512	-0.3157	0.0697
4	209.88	0.4002	0.0964	0.0021	0.0724	0.0145	0.0355	0.0757	-0.3798	0.0645
4	209.88	0.4500	0.1439	0.0026	0.1052	0.0200	0.0087	0.1034	-0.7449	0.0684
4	209.88	0.5001	0.1753	0.0030	0.1251	0.0265	0.0298	0.1359	-0.5879	0.0730
4	209.88	0.5560	0.2165	0.0035	0.1634	0.0343	-0.0862	0.1754	-0.8912	0.0839
4	209.88	0.6001	0.2479	0.0041	0.1997	0.0407	-0.1862	0.2099	-0.9853	0.0864
4	209.88	0.6501	0.2633	0.0047	0.2092	0.0482	-0.3823	0.2534	-0.9919	0.0878
4	209.88	0.6999	0.3015	0.0056	0.2250	0.0566	-0.6745	0.3027	-1.0736	0.0928
4	209.88	0.7500	0.3195	0.0066	0.2740	0.0650	-1.0558	0.3576	-1.0250	0.0962
4	209.88	0.8002	0.3434	0.0083	0.2897	0.0739	-1.5537	0.4187	-1.2003	0.0918
4	209.88	0.8582	0.3819	0.0113	0.3492	0.0854	-2.2315	0.4979	-1.4810	0.0922
4	209.88	0.9101	0.4113	0.0131	0.3609	0.0959	-2.8735	0.5740	-1.6047	0.0908
4	209.88	0.9728	0.5003	0.0167	0.4582	0.1082	-3.5038	0.6742	-1.1641	0.0911

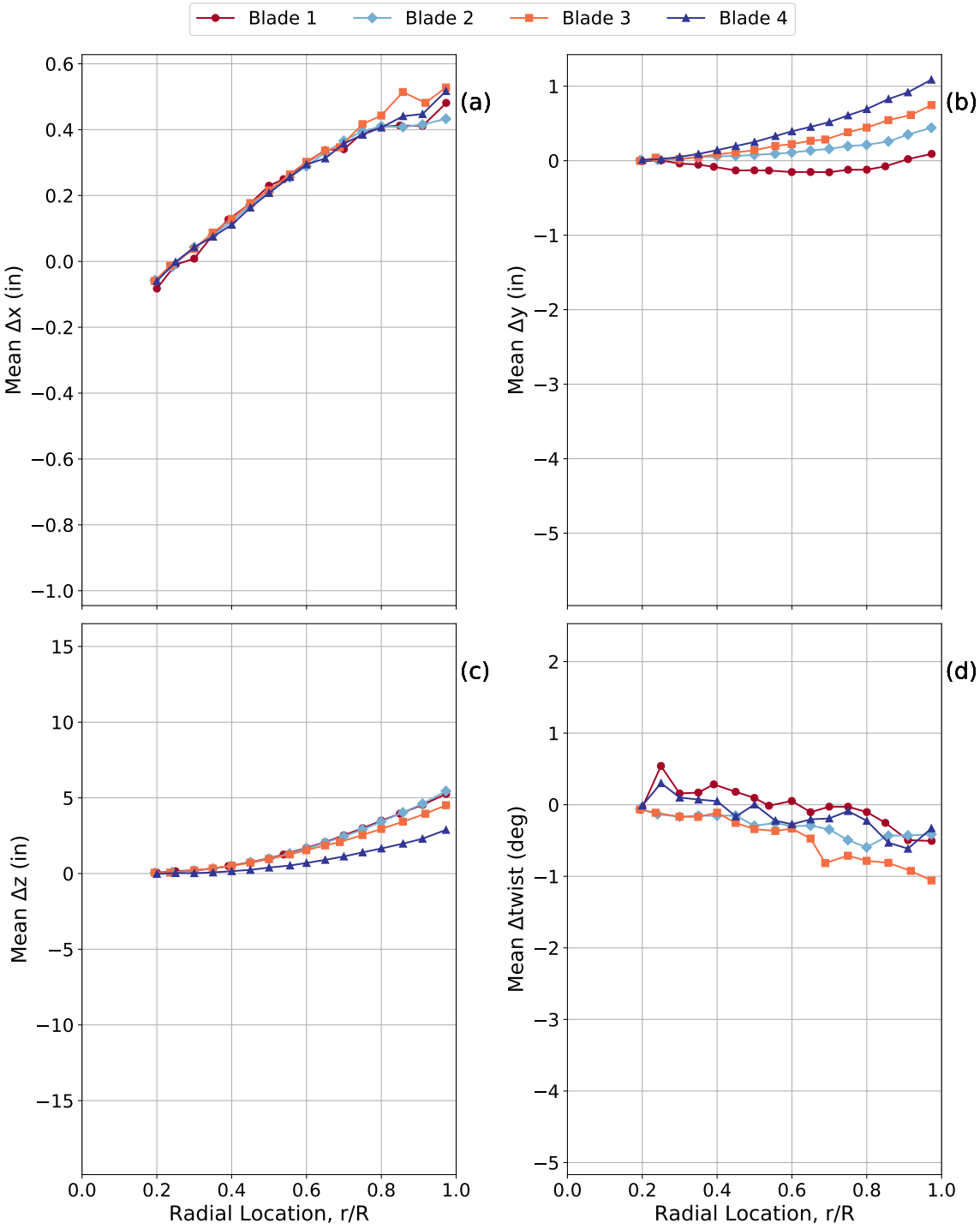


Figure 2.14-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0824	0.0018	-0.0061	0.0009	0.0594	0.0099	-0.0382	0.0337
1	225	0.2499	-0.0099	0.0022	0.0041	0.0021	0.1526	0.0171	0.5419	0.0614
1	225	0.2998	0.0083	0.0023	-0.0369	0.0041	0.2192	0.0305	0.1578	0.0763
1	225	0.3498	0.0804	0.0025	-0.0527	0.0076	0.3235	0.0483	0.1697	0.0707
1	225	0.3913	0.1271	0.0021	-0.0819	0.0114	0.4969	0.0676	0.2845	0.0745
1	225	0.4496	0.1759	0.0025	-0.1299	0.0170	0.7516	0.0975	0.1806	0.0740
1	225	0.4997	0.2296	0.0033	-0.1296	0.0222	1.0114	0.1263	0.0952	0.0796
1	225	0.5387	0.2496	0.0035	-0.1316	0.0269	1.2605	0.1514	-0.0138	0.0784
1	225	0.5996	0.2995	0.0043	-0.1525	0.0342	1.6966	0.1949	0.0532	0.0808
1	225	0.6498	0.3377	0.0053	-0.1513	0.0405	2.0731	0.2337	-0.1040	0.0946
1	225	0.6998	0.3407	0.0068	-0.1546	0.0474	2.5277	0.2747	-0.0268	0.0943
1	225	0.7500	0.3898	0.0078	-0.1209	0.0547	2.9957	0.3204	-0.0278	0.0968
1	225	0.8001	0.4091	0.0092	-0.1205	0.0620	3.4917	0.3690	-0.1025	0.1032
1	225	0.8497	0.4123	0.0110	-0.0754	0.0696	3.9553	0.4225	-0.2526	0.1035
1	225	0.9102	0.4111	0.0139	0.0216	0.0789	4.5347	0.4940	-0.4943	0.1092
1	225	0.9734	0.4811	0.0192	0.0919	0.0889	5.2613	0.5798	-0.5057	0.1138
2	225	0.1949	-0.0571	0.0019	0.0086	0.0008	0.0424	0.0078	-0.0610	0.0354
2	225	0.2405	-0.0173	0.0019	0.0139	0.0016	0.0960	0.0131	-0.1329	0.0536
2	225	0.2999	0.0432	0.0018	0.0223	0.0037	0.1890	0.0249	-0.1677	0.0813
2	225	0.3498	0.0805	0.0025	0.0448	0.0072	0.3305	0.0383	-0.1534	0.0714
2	225	0.3998	0.1213	0.0024	0.0587	0.0115	0.5099	0.0578	-0.1534	0.0748
2	225	0.4496	0.1705	0.0022	0.0648	0.0154	0.7408	0.0753	-0.1511	0.0801
2	225	0.4995	0.2107	0.0026	0.0780	0.0204	0.9756	0.0954	-0.2937	0.0846
2	225	0.5551	0.2550	0.0031	0.0933	0.0263	1.3288	0.1233	-0.2547	0.0914
2	225	0.5996	0.2886	0.0037	0.1097	0.0312	1.6416	0.1477	-0.2993	0.0927
2	225	0.6497	0.3300	0.0043	0.1368	0.0370	2.0344	0.1817	-0.2917	0.0993
2	225	0.6996	0.3660	0.0055	0.1594	0.0432	2.4543	0.2188	-0.3449	0.1118
2	225	0.7495	0.3948	0.0068	0.1952	0.0493	2.9102	0.2631	-0.4935	0.1134
2	225	0.7996	0.4105	0.0082	0.2132	0.0558	3.4174	0.3139	-0.5947	0.1100
2	225	0.8578	0.4079	0.0106	0.2584	0.0631	4.0368	0.3765	-0.4317	0.1133
2	225	0.9100	0.4153	0.0131	0.3506	0.0703	4.6105	0.4374	-0.4297	0.1205
2	225	0.9727	0.4328	0.0191	0.4426	0.0790	5.4495	0.5091	-0.4137	0.1282
3	225	0.1938	-0.0595	0.0033	-0.0035	0.0010	0.0598	0.0086	-0.0666	0.0243
3	225	0.2357	-0.0131	0.0020	0.0411	0.0016	0.0569	0.0141	-0.1121	0.0451
3	225	0.2995	0.0375	0.0023	0.0235	0.0042	0.2126	0.0294	-0.1669	0.0582
3	225	0.3493	0.0873	0.0025	0.0489	0.0070	0.3385	0.0475	-0.1697	0.0522
3	225	0.4000	0.1292	0.0029	0.0864	0.0118	0.5204	0.0721	-0.1109	0.0668
3	225	0.4497	0.1768	0.0027	0.1105	0.0162	0.7178	0.1000	-0.2542	0.0715
3	225	0.4997	0.2159	0.0033	0.1414	0.0212	0.9512	0.1309	-0.3397	0.0667
3	225	0.5556	0.2640	0.0035	0.1981	0.0278	1.2639	0.1723	-0.3672	0.0808
3	225	0.5995	0.3022	0.0044	0.2229	0.0331	1.5430	0.2059	-0.3334	0.0878
3	225	0.6498	0.3364	0.0052	0.2676	0.0389	1.8591	0.2479	-0.4718	0.0900
3	225	0.6890	0.3462	0.0058	0.2843	0.0441	2.0818	0.2828	-0.8153	0.0952
3	225	0.7495	0.4167	0.0073	0.3828	0.0522	2.5443	0.3399	-0.7122	0.1017
3	225	0.7998	0.4427	0.0086	0.4443	0.0589	2.9469	0.3920	-0.7834	0.1059
3	225	0.8577	0.5142	0.0103	0.5447	0.0665	3.4254	0.4582	-0.8116	0.1083
3	225	0.9178	0.4814	0.0133	0.6138	0.0741	3.9510	0.5331	-0.9248	0.1081
3	225	0.9729	0.5280	0.0183	0.7466	0.0816	4.5161	0.6079	-1.0573	0.1000
4	225	0.2001	-0.0597	0.0018	0.0112	0.0009	-0.0187	0.0112	-0.0112	0.0305
4	225	0.2502	-0.0015	0.0019	0.0206	0.0017	0.0343	0.0195	0.3021	0.0495
4	225	0.3001	0.0430	0.0020	0.0519	0.0046	0.0273	0.0347	0.1007	0.0688
4	225	0.3502	0.0751	0.0016	0.0908	0.0083	0.0733	0.0541	0.0723	0.0662
4	225	0.4002	0.1113	0.0025	0.1421	0.0138	0.1585	0.0814	0.0500	0.0687
4	225	0.4500	0.1633	0.0029	0.1969	0.0197	0.2438	0.1121	-0.1647	0.0750
4	225	0.5001	0.2078	0.0029	0.2515	0.0263	0.3949	0.1471	0.0042	0.0833
4	225	0.5560	0.2564	0.0035	0.3314	0.0354	0.5320	0.1910	-0.2223	0.0973
4	225	0.6001	0.2945	0.0040	0.3951	0.0425	0.6989	0.2271	-0.2722	0.0928
4	225	0.6501	0.3127	0.0051	0.4545	0.0520	0.9033	0.2718	-0.2044	0.0925
4	225	0.6999	0.3580	0.0057	0.5180	0.0610	1.1293	0.3173	-0.1910	0.0960
4	225	0.7500	0.3846	0.0063	0.6086	0.0708	1.4001	0.3670	-0.0880	0.1070
4	225	0.8002	0.4064	0.0074	0.6933	0.0810	1.6567	0.4207	-0.2243	0.1036
4	225	0.8582	0.4410	0.0087	0.8281	0.0926	1.9758	0.4893	-0.5306	0.1012
4	225	0.9101	0.4473	0.0108	0.9185	0.1031	2.3017	0.5559	-0.6139	0.1054
4	225	0.9728	0.5171	0.0164	1.0882	0.1161	2.8867	0.6405	-0.3292	0.1072

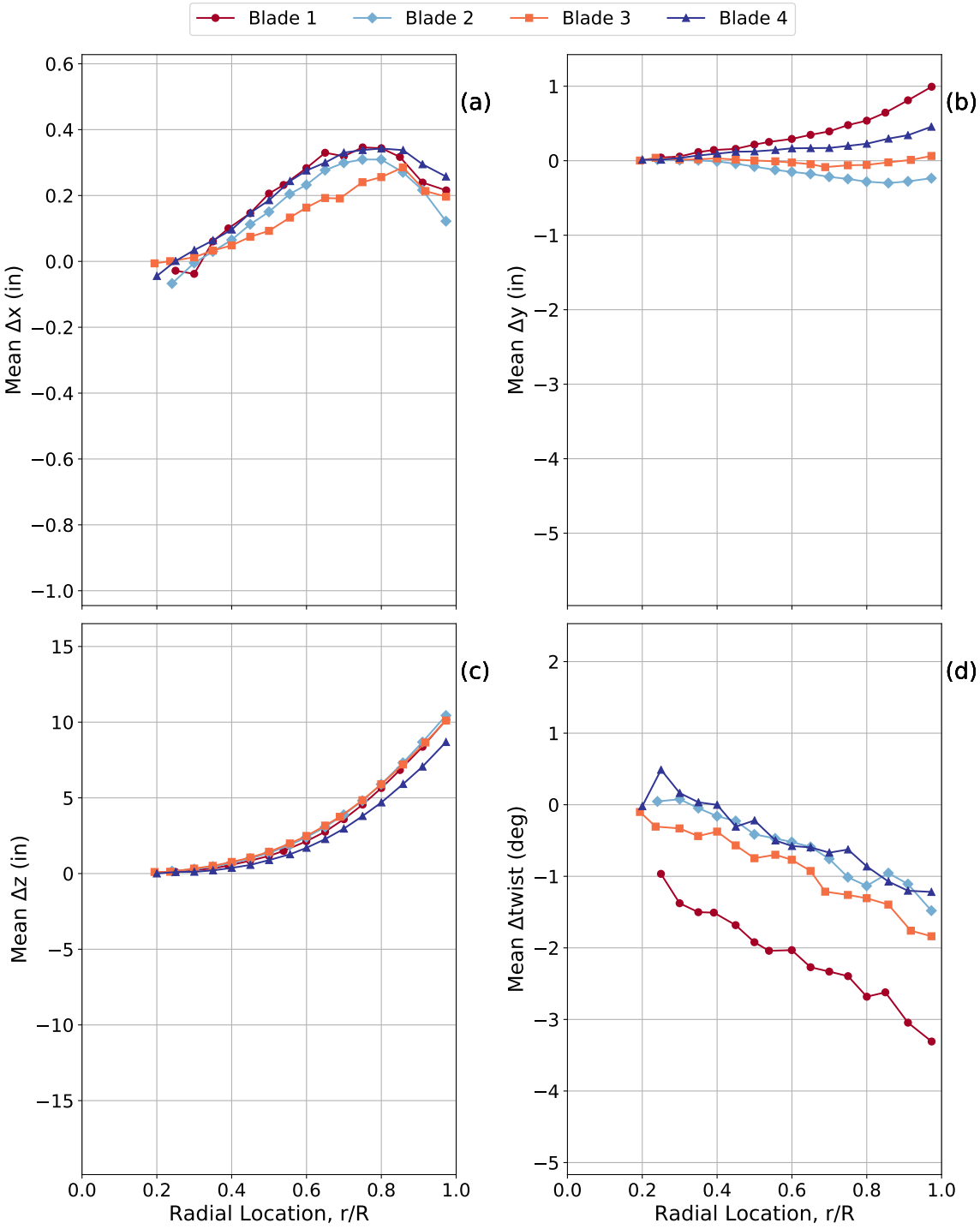


Figure 2.14-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.4, α = -10° NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2499	-0.0283	0.0058	0.0428	0.0041	0.1009	0.0527	-0.9656	0.2146
1	240.12	0.2998	-0.0379	0.0032	0.0557	0.0077	0.2267	0.0792	-1.3762	0.3050
1	240.12	0.3498	0.0605	0.0043	0.1161	0.0180	0.3364	0.1219	-1.5013	0.3042
1	240.12	0.3913	0.1002	0.0045	0.1437	0.0281	0.5308	0.1619	-1.5073	0.2889
1	240.12	0.4496	0.1464	0.0058	0.1589	0.0408	0.8483	0.2142	-1.6823	0.2954
1	240.12	0.4997	0.2059	0.0068	0.2165	0.0527	1.1651	0.2612	-1.9209	0.2921
1	240.12	0.5387	0.2320	0.0083	0.2519	0.0619	1.4955	0.2983	-2.0405	0.2953
1	240.12	0.5996	0.2831	0.0107	0.2923	0.0774	2.1316	0.3576	-2.0315	0.2993
1	240.12	0.6498	0.3298	0.0130	0.3476	0.0906	2.7626	0.4089	-2.2702	0.2955
1	240.12	0.6998	0.3194	0.0158	0.3938	0.1042	3.5908	0.4610	-2.3315	0.2902
1	240.12	0.7500	0.3461	0.0196	0.4786	0.1179	4.5540	0.5133	-2.3950	0.2902
1	240.12	0.8001	0.3436	0.0234	0.5377	0.1325	5.6497	0.5658	-2.6823	0.2949
1	240.12	0.8497	0.3171	0.0274	0.6452	0.1473	6.8370	0.6179	-2.6211	0.2952
1	240.12	0.9102	0.2394	0.0335	0.8112	0.1660	8.3724	0.6831	-3.0451	0.2948
1	240.12	0.9734	0.2156	0.0458	0.9931	0.1856	10.1579	0.7548	-3.3082	0.2918
2	240.12	0.2405	-0.0672	0.0084	0.0145	0.0029	0.1603	0.0543	0.0461	0.2179
2	240.12	0.2999	-0.0048	0.0042	0.0085	0.0072	0.2927	0.0866	0.0770	0.3345
2	240.12	0.3498	0.0299	0.0058	0.0055	0.0185	0.4625	0.1310	-0.0477	0.3425
2	240.12	0.3998	0.0652	0.0062	-0.0098	0.0329	0.6838	0.1816	-0.1596	0.3311
2	240.12	0.4496	0.1126	0.0079	-0.0400	0.0465	0.9949	0.2309	-0.2266	0.3420
2	240.12	0.4995	0.1504	0.0096	-0.0792	0.0610	1.3545	0.2837	-0.4135	0.3430
2	240.12	0.5551	0.2045	0.0122	-0.1230	0.0774	1.8746	0.3441	-0.4707	0.3427
2	240.12	0.5996	0.2322	0.0144	-0.1499	0.0907	2.3908	0.3930	-0.5203	0.3451
2	240.12	0.6497	0.2769	0.0175	-0.1772	0.1062	3.0757	0.4481	-0.5898	0.3485
2	240.12	0.6996	0.2992	0.0205	-0.2163	0.1214	3.8830	0.5043	-0.7558	0.3497
2	240.12	0.7495	0.3094	0.0249	-0.2449	0.1373	4.8134	0.5605	-1.0126	0.3550
2	240.12	0.7996	0.3093	0.0290	-0.2814	0.1531	5.8991	0.6192	-1.1338	0.3524
2	240.12	0.8578	0.2703	0.0342	-0.2998	0.1714	7.3155	0.6861	-0.9546	0.3617
2	240.12	0.9100	0.2166	0.0403	-0.2773	0.1876	8.6867	0.7483	-1.1080	0.3603
2	240.12	0.9727	0.1220	0.0541	-0.2351	0.2078	10.4419	0.8233	-1.4802	0.3637
3	240.12	0.1938	-0.0060	0.0031	0.0022	0.0016	0.1043	0.0121	-0.1008	0.0338
3	240.12	0.2357	0.0006	0.0024	0.0390	0.0026	0.1166	0.0145	-0.3055	0.1007
3	240.12	0.2995	0.0124	0.0024	0.0136	0.0058	0.3300	0.0311	-0.3306	0.0996
3	240.12	0.3493	0.0328	0.0027	0.0196	0.0107	0.5086	0.0489	-0.4379	0.0979
3	240.12	0.4000	0.0486	0.0028	0.0314	0.0169	0.7650	0.0693	-0.3753	0.0992
3	240.12	0.4497	0.0747	0.0033	0.0149	0.0230	1.0597	0.0903	-0.5678	0.0986
3	240.12	0.4997	0.0927	0.0041	0.0028	0.0297	1.4385	0.1144	-0.7472	0.1023
3	240.12	0.5556	0.1330	0.0053	-0.0078	0.0386	1.9869	0.1433	-0.6989	0.1042
3	240.12	0.5995	0.1633	0.0066	-0.0241	0.0460	2.4836	0.1664	-0.7686	0.0971
3	240.12	0.6498	0.1924	0.0080	-0.0464	0.0551	3.1680	0.1925	-0.9256	0.1163
3	240.12	0.6890	0.1909	0.0087	-0.0859	0.0629	3.7445	0.2141	-1.2145	0.1124
3	240.12	0.7495	0.2404	0.0109	-0.0613	0.0756	4.8436	0.2463	-1.2601	0.1217
3	240.12	0.7998	0.2559	0.0129	-0.0565	0.0863	5.8969	0.2729	-1.3061	0.1236
3	240.12	0.8577	0.2853	0.0159	-0.0220	0.0994	7.2041	0.3028	-1.3950	0.1379
3	240.12	0.9178	0.2136	0.0193	0.0108	0.1134	8.6606	0.3371	-1.7598	0.1477
3	240.12	0.9729	0.1965	0.0246	0.0639	0.1266	10.1070	0.3656	-1.8374	0.1418
4	240.12	0.2001	-0.0443	0.0029	0.0134	0.0012	0.0065	0.0149	-0.0198	0.0583
4	240.12	0.2502	0.0013	0.0020	0.0137	0.0025	0.1008	0.0200	0.4886	0.1302
4	240.12	0.3001	0.0343	0.0022	0.0368	0.0048	0.1172	0.0372	0.1637	0.1430
4	240.12	0.3502	0.0638	0.0020	0.0702	0.0100	0.2071	0.0580	0.0341	0.1355
4	240.12	0.4002	0.0966	0.0023	0.0948	0.0160	0.3729	0.0811	-0.0016	0.1343
4	240.12	0.4500	0.1475	0.0030	0.1204	0.0223	0.5704	0.1054	-0.3064	0.1338
4	240.12	0.5001	0.1858	0.0036	0.1247	0.0297	0.8906	0.1320	-0.2192	0.1392
4	240.12	0.5560	0.2437	0.0042	0.1443	0.0391	1.2720	0.1640	-0.4993	0.1402
4	240.12	0.6001	0.2759	0.0049	0.1666	0.0469	1.7022	0.1907	-0.5767	0.1431
4	240.12	0.6501	0.3000	0.0068	0.1690	0.0568	2.2777	0.2229	-0.5959	0.1406
4	240.12	0.6999	0.3302	0.0087	0.1711	0.0671	2.9665	0.2538	-0.6695	0.1431
4	240.12	0.7500	0.3381	0.0106	0.1994	0.0787	3.8007	0.2857	-0.6254	0.1494
4	240.12	0.8002	0.3426	0.0127	0.2281	0.0908	4.6979	0.3196	-0.8623	0.1415
4	240.12	0.8582	0.3378	0.0151	0.2965	0.1047	5.9153	0.3570	-1.0740	0.1442
4	240.12	0.9101	0.2949	0.0180	0.3424	0.1181	7.0651	0.3931	-1.2013	0.1453
4	240.12	0.9728	0.2576	0.0249	0.4560	0.1340	8.6890	0.4368	-1.2185	0.1515

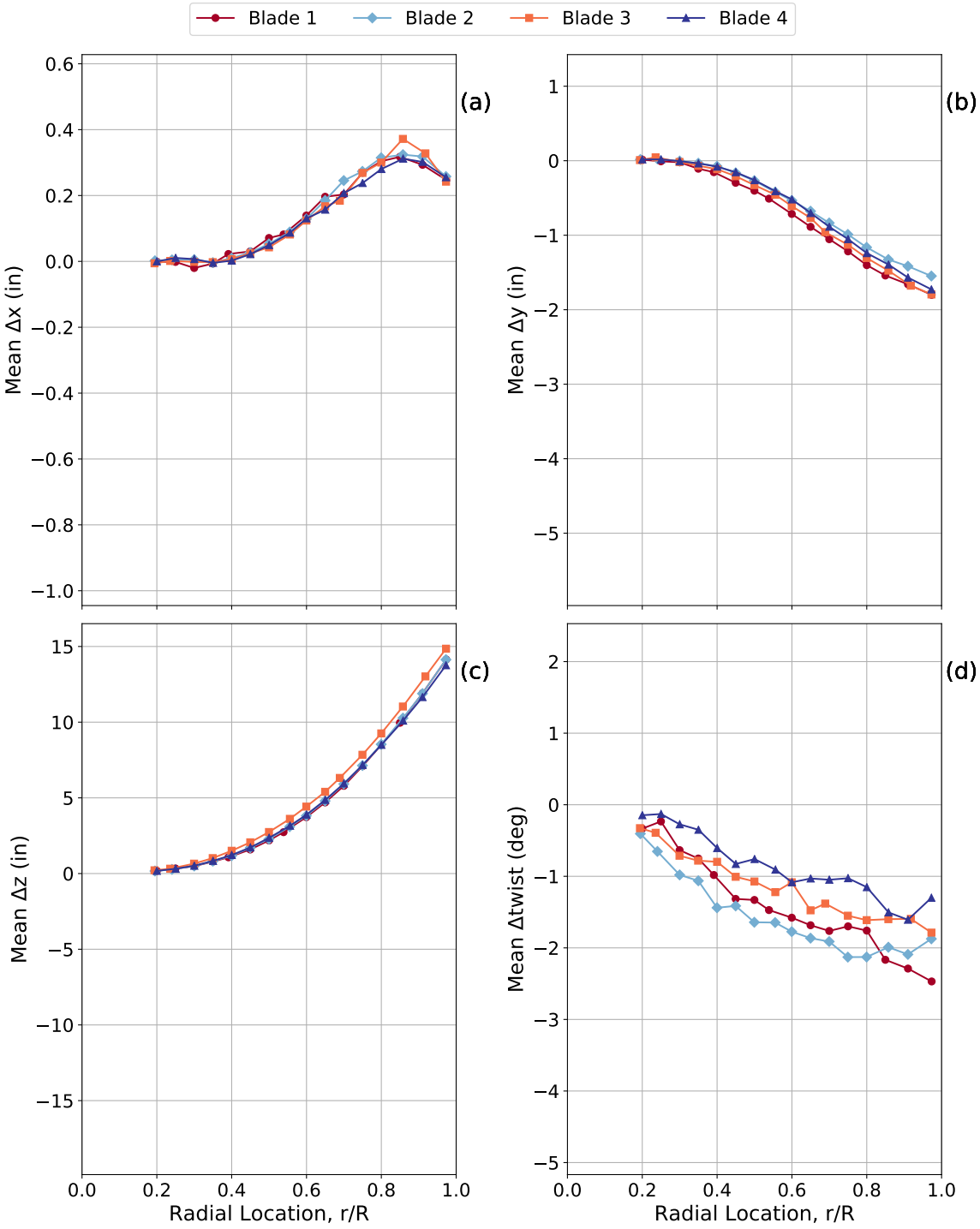


Figure 2.14-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.4, α = -10° NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0010	0.0022	0.0147	0.0023	0.1774	0.0126	-0.3336	0.0501
1	254.88	0.2499	-0.0016	0.0036	-0.0077	0.0028	0.3337	0.0302	-0.2332	0.0749
1	254.88	0.2998	-0.0201	0.0033	-0.0209	0.0048	0.4913	0.0413	-0.6345	0.1063
1	254.88	0.3498	-0.0066	0.0028	-0.1073	0.0087	0.7859	0.0600	-0.7515	0.1499
1	254.88	0.3913	0.0224	0.0043	-0.1536	0.0137	1.0719	0.0897	-0.9818	0.1075
1	254.88	0.4496	0.0302	0.0055	-0.2963	0.0194	1.5882	0.1197	-1.3157	0.1144
1	254.88	0.4997	0.0710	0.0071	-0.4020	0.0255	2.1880	0.1463	-1.3306	0.1060
1	254.88	0.5387	0.0818	0.0087	-0.5093	0.0307	2.7343	0.1699	-1.4717	0.1095
1	254.88	0.5996	0.1392	0.0115	-0.7142	0.0400	3.7262	0.2070	-1.5782	0.1143
1	254.88	0.6498	0.1962	0.0145	-0.8875	0.0487	4.6972	0.2369	-1.6838	0.1174
1	254.88	0.6998	0.2032	0.0177	-1.0535	0.0571	5.7945	0.2670	-1.7634	0.1316
1	254.88	0.7500	0.2692	0.0211	-1.2167	0.0670	7.0978	0.2970	-1.6991	0.1468
1	254.88	0.8001	0.3043	0.0249	-1.4016	0.0767	8.5174	0.3235	-1.7589	0.1524
1	254.88	0.8497	0.3174	0.0286	-1.5407	0.0881	9.9589	0.3527	-2.1666	0.1465
1	254.88	0.9102	0.2932	0.0345	-1.6587	0.1015	11.9101	0.3870	-2.2892	0.1835
1	254.88	0.9734	0.2473	0.0440	-1.8002	0.1164	14.1395	0.4267	-2.4691	0.1991
2	254.88	0.1949	0.0018	0.0029	0.0168	0.0022	0.1660	0.0127	-0.4049	0.0807
2	254.88	0.2405	0.0046	0.0027	0.0240	0.0031	0.2742	0.0242	-0.6523	0.1072
2	254.88	0.2999	0.0054	0.0024	-0.0042	0.0063	0.4957	0.0440	-0.9804	0.1787
2	254.88	0.3498	-0.0036	0.0030	-0.0333	0.0099	0.8156	0.0580	-1.0626	0.0885
2	254.88	0.3998	0.0102	0.0048	-0.0741	0.0183	1.1723	0.0931	-1.4393	0.1233
2	254.88	0.4496	0.0268	0.0056	-0.1624	0.0246	1.7032	0.1178	-1.4135	0.1326
2	254.88	0.4995	0.0531	0.0068	-0.2675	0.0318	2.2761	0.1466	-1.6422	0.1383
2	254.88	0.5551	0.0892	0.0096	-0.4209	0.0417	3.0964	0.1843	-1.6462	0.1375
2	254.88	0.5996	0.1288	0.0114	-0.5327	0.0494	3.8212	0.2124	-1.7737	0.1264
2	254.88	0.6497	0.1850	0.0141	-0.6772	0.0598	4.7987	0.2479	-1.8642	0.1286
2	254.88	0.6996	0.2454	0.0172	-0.8353	0.0704	5.9171	0.2879	-1.9118	0.1474
2	254.88	0.7495	0.2733	0.0204	-0.9892	0.0818	7.1356	0.3261	-2.1291	0.1530
2	254.88	0.7996	0.3146	0.0242	-1.1628	0.0933	8.5374	0.3678	-2.1278	0.1411
2	254.88	0.8578	0.3241	0.0293	-1.3262	0.1071	10.2699	0.4066	-1.9909	0.1622
2	254.88	0.9100	0.3183	0.0350	-1.4160	0.1194	11.8887	0.4543	-2.0913	0.1909
2	254.88	0.9727	0.2577	0.0439	-1.5478	0.1351	14.1314	0.5038	-1.8738	0.1502
3	254.88	0.1938	-0.0058	0.0029	0.0082	0.0027	0.2142	0.0142	-0.3274	0.0599
3	254.88	0.2357	0.0013	0.0021	0.0457	0.0032	0.3201	0.0242	-0.3919	0.0812
3	254.88	0.2995	-0.0015	0.0030	-0.0169	0.0058	0.6539	0.0429	-0.7123	0.1307
3	254.88	0.3493	-0.0023	0.0035	-0.0680	0.0111	1.0194	0.0647	-0.7811	0.1492
3	254.88	0.4000	0.0068	0.0049	-0.1139	0.0182	1.5050	0.0955	-0.7976	0.1042
3	254.88	0.4497	0.0243	0.0062	-0.2083	0.0253	2.0638	0.1224	-1.0069	0.1048
3	254.88	0.4997	0.0426	0.0076	-0.3272	0.0342	2.7426	0.1505	-1.0722	0.1121
3	254.88	0.5556	0.0816	0.0104	-0.4571	0.0453	3.6140	0.1852	-1.2208	0.1130
3	254.88	0.5995	0.1240	0.0128	-0.6090	0.0553	4.4219	0.2152	-1.0833	0.1097
3	254.88	0.6498	0.1673	0.0158	-0.7682	0.0673	5.3991	0.2491	-1.4753	0.1110
3	254.88	0.6890	0.1841	0.0184	-0.9582	0.0775	6.3159	0.2745	-1.3810	0.1164
3	254.88	0.7495	0.2686	0.0230	-1.1279	0.0945	7.8459	0.3236	-1.5503	0.1173
3	254.88	0.7998	0.3000	0.0273	-1.3052	0.1087	9.2572	0.3597	-1.6126	0.1232
3	254.88	0.8577	0.3719	0.0326	-1.4747	0.1267	11.0334	0.4106	-1.5987	0.1410
3	254.88	0.9178	0.3280	0.0403	-1.6774	0.1450	13.0224	0.4527	-1.5946	0.1743
3	254.88	0.9729	0.2421	0.0495	-1.7951	0.1625	14.8537	0.4974	-1.7868	0.1951
4	254.88	0.2001	-0.0000	0.0026	0.0171	0.0019	0.1761	0.0130	-0.1465	0.0700
4	254.88	0.2502	0.0105	0.0022	0.0174	0.0032	0.3158	0.0213	-0.1295	0.0913
4	254.88	0.3001	0.0069	0.0028	-0.0058	0.0055	0.5152	0.0342	-0.2737	0.1455
4	254.88	0.3502	-0.0044	0.0027	-0.0364	0.0095	0.8371	0.0546	-0.3498	0.1040
4	254.88	0.4002	0.0022	0.0038	-0.0794	0.0152	1.2230	0.0772	-0.6057	0.1213
4	254.88	0.4500	0.0219	0.0052	-0.1545	0.0210	1.7234	0.0984	-0.8278	0.1157
4	254.88	0.5001	0.0495	0.0063	-0.2614	0.0277	2.3602	0.1261	-0.7592	0.1120
4	254.88	0.5560	0.0871	0.0087	-0.4089	0.0368	3.1588	0.1600	-0.9071	0.1281
4	254.88	0.6001	0.1305	0.0105	-0.5199	0.0452	3.8890	0.1917	-1.0835	0.1209
4	254.88	0.6501	0.1570	0.0133	-0.7025	0.0553	4.8618	0.2280	-1.0306	0.1378
4	254.88	0.6999	0.2072	0.0163	-0.8866	0.0662	5.9453	0.2705	-1.0478	0.1394
4	254.88	0.7500	0.2380	0.0203	-1.0531	0.0777	7.1713	0.3088	-1.0268	0.1317
4	254.88	0.8002	0.2804	0.0246	-1.2405	0.0895	8.5009	0.3516	-1.1520	0.1533
4	254.88	0.8582	0.3119	0.0293	-1.3945	0.1043	10.1002	0.4013	-1.5045	0.1670
4	254.88	0.9101	0.3020	0.0349	-1.5683	0.1180	11.6545	0.4419	-1.6072	0.1454
4	254.88	0.9728	0.2554	0.0455	-1.7276	0.1347	13.7600	0.4974	-1.3004	0.1897

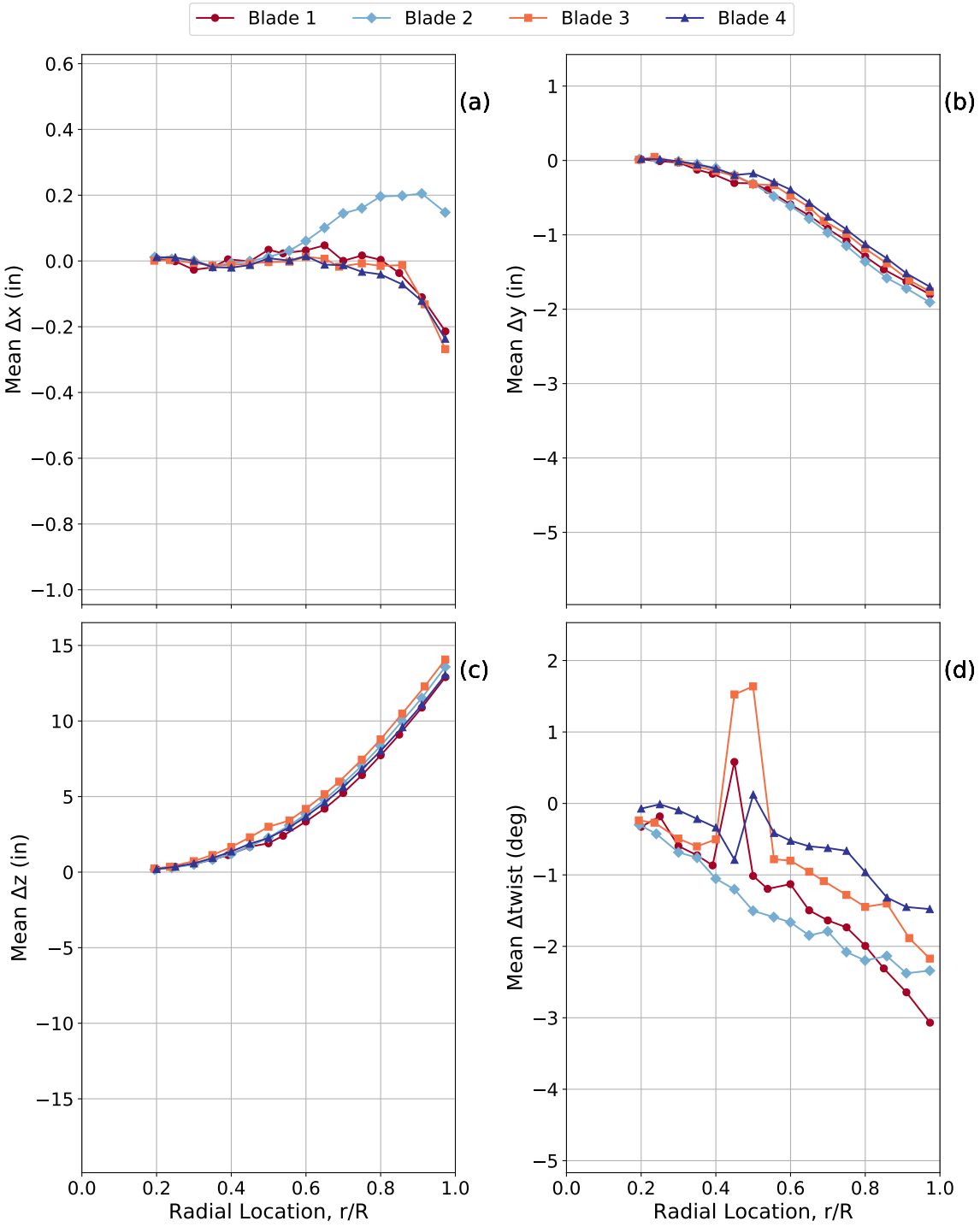


Figure 2.14-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.4, α = -10° NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	0.0077	0.0124	0.0152	0.0030	0.1916	0.0179	-0.3271	0.0608
1	260.16	0.2499	-0.0010	0.0051	-0.0096	0.0028	0.3531	0.0351	-0.1813	0.0863
1	260.16	0.2998	-0.0268	0.0063	-0.0284	0.0049	0.5221	0.0543	-0.5968	0.1258
1	260.16	0.3498	-0.0193	0.0172	-0.1239	0.0095	0.8274	0.0813	-0.7256	0.1340
1	260.16	0.3913	0.0050	0.0283	-0.1794	0.0152	1.1255	0.1167	-0.8676	0.1173
1	260.16	0.4496	-0.0012	0.0317	-0.3037	0.0208	1.6778	0.1650	0.5809	1.1051
1	260.16	0.4997	0.0341	0.0428	-0.3074	0.0494	1.9071	0.2225	-1.0146	0.2457
1	260.16	0.5387	0.0230	0.0481	-0.3954	0.0576	2.4037	0.2452	-1.1958	0.2378
1	260.16	0.5996	0.0321	0.0576	-0.5909	0.0720	3.3456	0.2861	-1.1294	0.2390
1	260.16	0.6498	0.0475	0.0669	-0.7408	0.0855	4.1971	0.3214	-1.4964	0.2271
1	260.16	0.6998	0.0004	0.0781	-0.9189	0.1007	5.2334	0.3582	-1.6372	0.2315
1	260.16	0.7500	0.0167	0.0895	-1.0795	0.1174	6.4192	0.3959	-1.7349	0.2269
1	260.16	0.8001	0.0034	0.1022	-1.2918	0.1351	7.7312	0.4339	-1.9940	0.2293
1	260.16	0.8497	-0.0368	0.1159	-1.4653	0.1534	9.0975	0.4716	-2.3096	0.2293
1	260.16	0.9102	-0.1103	0.1345	-1.6290	0.1772	10.8839	0.5184	-2.6436	0.2295
1	260.16	0.9734	-0.2141	0.1595	-1.8017	0.2011	12.9005	0.5694	-3.0683	0.2437
2	260.16	0.1949	0.0117	0.0032	0.0167	0.0021	0.1722	0.0125	-0.2997	0.0742
2	260.16	0.2405	0.0059	0.0021	0.0201	0.0022	0.2836	0.0192	-0.4259	0.1107
2	260.16	0.2999	0.0010	0.0021	-0.0119	0.0046	0.5088	0.0334	-0.6842	0.1673
2	260.16	0.3498	-0.0156	0.0030	-0.0493	0.0079	0.8375	0.0539	-0.7599	0.1056
2	260.16	0.3998	-0.0063	0.0037	-0.1006	0.0138	1.1998	0.0753	-1.0528	0.1182
2	260.16	0.4496	-0.0007	0.0053	-0.1956	0.0191	1.7116	0.0954	-1.2022	0.1191
2	260.16	0.4995	0.0120	0.0065	-0.3138	0.0248	2.2752	0.1192	-1.5029	0.1188
2	260.16	0.5551	0.0310	0.0086	-0.4831	0.0330	3.0888	0.1486	-1.5905	0.1286
2	260.16	0.5996	0.0606	0.0106	-0.6124	0.0394	3.8219	0.1704	-1.6632	0.1214
2	260.16	0.6497	0.1010	0.0133	-0.7823	0.0478	4.7832	0.1974	-1.8468	0.1236
2	260.16	0.6996	0.1444	0.0159	-0.9708	0.0570	5.8832	0.2277	-1.7901	0.1267
2	260.16	0.7495	0.1604	0.0187	-1.1473	0.0664	7.0348	0.2575	-2.0792	0.1097
2	260.16	0.7996	0.1962	0.0222	-1.3596	0.0777	8.3484	0.2876	-2.1979	0.1067
2	260.16	0.8578	0.1983	0.0268	-1.5806	0.0907	10.0018	0.3246	-2.1355	0.1204
2	260.16	0.9100	0.2050	0.0315	-1.7200	0.1025	11.5146	0.3546	-2.3768	0.1279
2	260.16	0.9727	0.1477	0.0393	-1.9063	0.1174	13.5782	0.4014	-2.3404	0.1408
3	260.16	0.1938	0.0007	0.0122	0.0100	0.0027	0.2415	0.0154	-0.2382	0.0684
3	260.16	0.2357	0.0029	0.0059	0.0479	0.0031	0.3528	0.0249	-0.2690	0.0744
3	260.16	0.2995	-0.0061	0.0070	-0.0229	0.0063	0.7273	0.0467	-0.4919	0.1377
3	260.16	0.3493	-0.0144	0.0170	-0.0835	0.0104	1.1294	0.0713	-0.6019	0.1241
3	260.16	0.4000	-0.0121	0.0292	-0.1422	0.0190	1.6630	0.1055	-0.5034	0.1194
3	260.16	0.4497	-0.0078	0.0330	-0.2085	0.0206	2.3032	0.1439	1.5258	1.1254
3	260.16	0.4997	-0.0034	0.0399	-0.3206	0.0251	2.9993	0.1893	1.6382	1.4033
3	260.16	0.5556	-0.0023	0.0541	-0.3313	0.0703	3.4163	0.2088	-0.7811	0.2061
3	260.16	0.5995	0.0125	0.0607	-0.4744	0.0827	4.1832	0.2308	-0.8008	0.2122
3	260.16	0.6498	0.0068	0.0681	-0.6281	0.0978	5.1541	0.2555	-0.9558	0.2072
3	260.16	0.6890	-0.0175	0.0736	-0.8123	0.1104	5.9886	0.2747	-1.0868	0.2114
3	260.16	0.7495	-0.0073	0.0819	-0.9864	0.1305	7.4442	0.3039	-1.2801	0.2055
3	260.16	0.7998	-0.0151	0.0891	-1.1851	0.1481	8.7859	0.3292	-1.4475	0.2051
3	260.16	0.8577	-0.0126	0.0976	-1.3830	0.1688	10.4906	0.3571	-1.4003	0.2033
3	260.16	0.9178	-0.1319	0.1092	-1.6102	0.1913	12.2838	0.3869	-1.8849	0.2007
3	260.16	0.9729	-0.2681	0.1221	-1.7610	0.2085	14.0643	0.4155	-2.1718	0.2150
4	260.16	0.2001	0.0115	0.0029	0.0199	0.0026	0.2021	0.0188	-0.0724	0.0761
4	260.16	0.2502	0.0106	0.0022	0.0156	0.0036	0.3562	0.0281	-0.0119	0.1532
4	260.16	0.3001	0.0005	0.0024	-0.0104	0.0044	0.5810	0.0467	-0.0966	0.1825
4	260.16	0.3502	-0.0189	0.0030	-0.0545	0.0086	0.9359	0.0738	-0.2171	0.1522
4	260.16	0.4002	-0.0202	0.0047	-0.1104	0.0137	1.3631	0.1032	-0.3371	0.1454
4	260.16	0.4500	-0.0124	0.0066	-0.1960	0.0195	1.8762	0.1311	-0.7895	0.1622
4	260.16	0.5001	0.0082	0.0095	-0.1741	0.0283	2.2601	0.1670	0.1216	0.2171
4	260.16	0.5560	0.0012	0.0096	-0.2917	0.0356	2.9648	0.1988	-0.4135	0.1580
4	260.16	0.6001	0.0149	0.0114	-0.3926	0.0431	3.6755	0.2273	-0.5229	0.1555
4	260.16	0.6501	-0.0113	0.0136	-0.5698	0.0512	4.5956	0.2607	-0.6003	0.1528
4	260.16	0.6999	-0.0127	0.0165	-0.7560	0.0603	5.6289	0.2958	-0.6241	0.1564
4	260.16	0.7500	-0.0330	0.0197	-0.9290	0.0706	6.8051	0.3351	-0.6637	0.1553
4	260.16	0.8002	-0.0410	0.0233	-1.1257	0.0809	8.0277	0.3769	-0.9624	0.1597
4	260.16	0.8582	-0.0715	0.0282	-1.3181	0.0929	9.5843	0.4303	-1.3177	0.1583
4	260.16	0.9101	-0.1217	0.0343	-1.5175	0.1042	11.0643	0.4818	-1.4492	0.1586
4	260.16	0.9728	-0.2366	0.0448	-1.6975	0.1173	13.0453	0.5472	-1.4787	0.1577

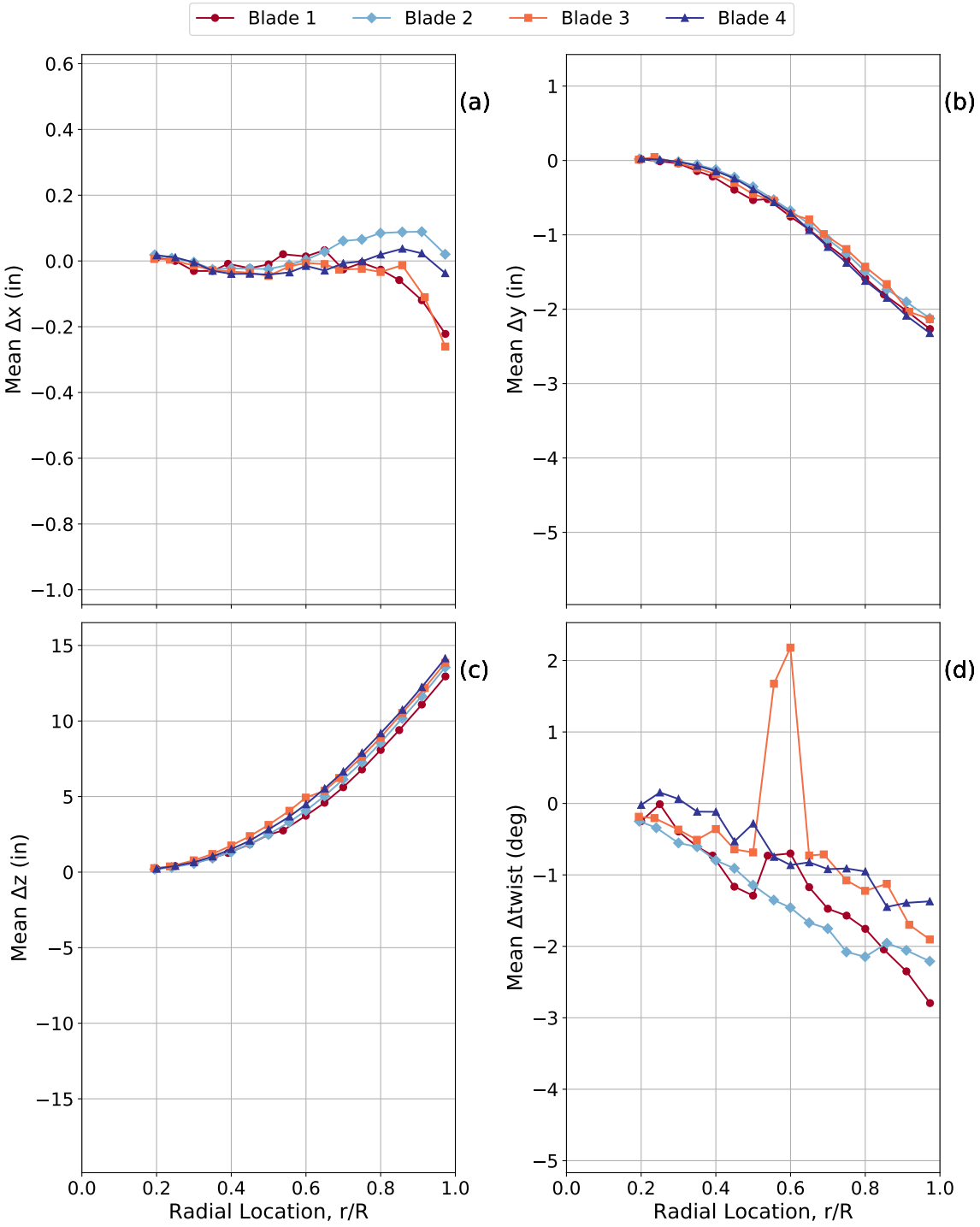


Figure 2.14-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.4, α = -10° NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	0.0098	0.0027	0.0177	0.0016	0.2191	0.0111	-0.2485	0.0488
1	265.08	0.2499	0.0002	0.0025	-0.0116	0.0021	0.3972	0.0198	-0.0106	0.0692
1	265.08	0.2998	-0.0304	0.0027	-0.0394	0.0041	0.5967	0.0303	-0.3914	0.1011
1	265.08	0.3498	-0.0304	0.0027	-0.1422	0.0092	0.9279	0.0483	-0.6043	0.1095
1	265.08	0.3913	-0.0087	0.0044	-0.2160	0.0130	1.2691	0.0656	-0.7296	0.1293
1	265.08	0.4496	-0.0220	0.0051	-0.3940	0.0178	1.8418	0.0822	-1.1653	0.1209
1	265.08	0.4997	-0.0103	0.0061	-0.5329	0.0234	2.4784	0.1007	-1.2902	0.1368
1	265.08	0.5387	0.0205	0.0109	-0.5200	0.0297	2.7555	0.1162	-0.7310	0.2260
1	265.08	0.5996	0.0138	0.0109	-0.7546	0.0377	3.7310	0.1470	-0.7001	0.1969
1	265.08	0.6498	0.0329	0.0112	-0.9287	0.0439	4.5905	0.1752	-1.1721	0.1908
1	265.08	0.6998	-0.0257	0.0129	-1.1356	0.0516	5.6171	0.2057	-1.4740	0.1651
1	265.08	0.7500	-0.0056	0.0151	-1.3280	0.0593	6.7924	0.2344	-1.5701	0.1648
1	265.08	0.8001	-0.0265	0.0175	-1.5849	0.0679	8.0844	0.2637	-1.7551	0.1706
1	265.08	0.8497	-0.0582	0.0207	-1.8005	0.0764	9.3958	0.2954	-2.0432	0.1666
1	265.08	0.9102	-0.1194	0.0246	-2.0200	0.0877	11.0880	0.3344	-2.3503	0.1642
1	265.08	0.9734	-0.2218	0.0319	-2.2664	0.0988	12.9512	0.3789	-2.7943	0.1634
2	265.08	0.1949	0.0187	0.0035	0.0196	0.0027	0.1912	0.0152	-0.2500	0.0711
2	265.08	0.2405	0.0085	0.0022	0.0194	0.0030	0.3139	0.0217	-0.3406	0.1470
2	265.08	0.2999	-0.0035	0.0034	-0.0172	0.0059	0.5696	0.0385	-0.5534	0.1810
2	265.08	0.3498	-0.0257	0.0035	-0.0577	0.0068	0.9223	0.0675	-0.6074	0.1376
2	265.08	0.3998	-0.0224	0.0040	-0.1224	0.0118	1.3308	0.0905	-0.7971	0.1543
2	265.08	0.4496	-0.0232	0.0052	-0.2251	0.0165	1.8798	0.1185	-0.9090	0.1394
2	265.08	0.4995	-0.0246	0.0068	-0.3544	0.0218	2.4883	0.1470	-1.1427	0.1442
2	265.08	0.5551	-0.0116	0.0087	-0.5277	0.0290	3.3087	0.1850	-1.3527	0.1448
2	265.08	0.5996	0.0033	0.0101	-0.6739	0.0351	4.0670	0.2122	-1.4584	0.1566
2	265.08	0.6497	0.0280	0.0125	-0.8561	0.0433	5.0349	0.2461	-1.6701	0.1584
2	265.08	0.6996	0.0609	0.0155	-1.0605	0.0521	6.1376	0.2811	-1.7521	0.1691
2	265.08	0.7495	0.0655	0.0183	-1.2490	0.0611	7.2659	0.3156	-2.0783	0.1633
2	265.08	0.7996	0.0848	0.0216	-1.4870	0.0710	8.5608	0.3516	-2.1458	0.1772
2	265.08	0.8578	0.0880	0.0262	-1.7336	0.0828	10.1752	0.3978	-1.9558	0.1756
2	265.08	0.9100	0.0890	0.0303	-1.9013	0.0936	11.6389	0.4315	-2.0559	0.1827
2	265.08	0.9727	0.0204	0.0389	-2.1223	0.1069	13.5537	0.4814	-2.2089	0.1895
3	265.08	0.1938	0.0061	0.0055	0.0110	0.0059	0.2630	0.0336	-0.1867	0.1170
3	265.08	0.2357	0.0040	0.0041	0.0463	0.0078	0.3766	0.0297	-0.2051	0.3449
3	265.08	0.2995	-0.0138	0.0028	-0.0348	0.0119	0.7783	0.0844	-0.3665	0.3764
3	265.08	0.3493	-0.0280	0.0033	-0.1050	0.0143	1.1975	0.1321	-0.5093	0.3501
3	265.08	0.4000	-0.0320	0.0046	-0.1828	0.0212	1.7594	0.1843	-0.3590	0.3469
3	265.08	0.4497	-0.0361	0.0061	-0.3019	0.0263	2.3807	0.2355	-0.6426	0.3434
3	265.08	0.4997	-0.0453	0.0077	-0.4524	0.0338	3.1215	0.2887	-0.6856	0.3473
3	265.08	0.5556	-0.0165	0.0104	-0.5430	0.0433	4.0580	0.3506	1.6760	0.3346
3	265.08	0.5995	-0.0060	0.0137	-0.7200	0.0522	4.9306	0.4033	2.1805	0.3358
3	265.08	0.6498	-0.0096	0.0169	-0.7928	0.0613	5.3847	0.4562	-0.7287	0.3518
3	265.08	0.6890	-0.0266	0.0213	-0.9903	0.0700	6.2285	0.5027	-0.7132	0.3707
3	265.08	0.7495	-0.0236	0.0268	-1.1919	0.0832	7.6312	0.5791	-1.0766	0.3683
3	265.08	0.7998	-0.0334	0.0320	-1.4288	0.0944	8.9154	0.6435	-1.2232	0.3718
3	265.08	0.8577	-0.0129	0.0400	-1.6624	0.1078	10.5359	0.7207	-1.1251	0.3711
3	265.08	0.9178	-0.1102	0.0491	-2.0338	0.1228	12.1876	0.8028	-1.6983	0.3684
3	265.08	0.9729	-0.2603	0.0592	-2.1336	0.1358	13.8440	0.8752	-1.9036	0.3854
4	265.08	0.2001	0.0172	0.0029	0.0235	0.0020	0.2255	0.0126	-0.0204	0.0676
4	265.08	0.2502	0.0108	0.0026	0.0118	0.0025	0.4079	0.0229	0.1532	0.0921
4	265.08	0.3001	-0.0044	0.0036	-0.0171	0.0039	0.6540	0.0352	0.0626	0.1369
4	265.08	0.3502	-0.0299	0.0038	-0.0708	0.0069	1.0363	0.0529	-0.1151	0.1118
4	265.08	0.4002	-0.0394	0.0039	-0.1446	0.0120	1.5223	0.0785	-0.1176	0.1054
4	265.08	0.4500	-0.0388	0.0046	-0.2423	0.0165	2.0823	0.1003	-0.5308	0.1155
4	265.08	0.5001	-0.0416	0.0063	-0.3878	0.0222	2.8289	0.1254	-0.2816	0.1249
4	265.08	0.5560	-0.0348	0.0082	-0.5605	0.0297	3.6785	0.1594	-0.7473	0.1294
4	265.08	0.6001	-0.0151	0.0100	-0.7060	0.0356	4.4896	0.1880	-0.8625	0.1325
4	265.08	0.6501	-0.0293	0.0127	-0.9353	0.0426	5.5365	0.2207	-0.8237	0.1463
4	265.08	0.6999	-0.0069	0.0159	-1.1631	0.0506	6.6530	0.2574	-0.9194	0.1373
4	265.08	0.7500	-0.0011	0.0197	-1.3759	0.0581	7.8948	0.2932	-0.9104	0.1447
4	265.08	0.8002	0.0196	0.0236	-1.6188	0.0661	9.1918	0.3287	-0.9528	0.1521
4	265.08	0.8582	0.0373	0.0288	-1.8465	0.0756	10.7438	0.3762	-1.4485	0.1613
4	265.08	0.9101	0.0231	0.0345	-2.0869	0.0841	12.2414	0.4184	-1.3914	0.1535
4	265.08	0.9728	-0.0371	0.0452	-2.3206	0.0953	14.1472	0.4736	-1.3706	0.1849

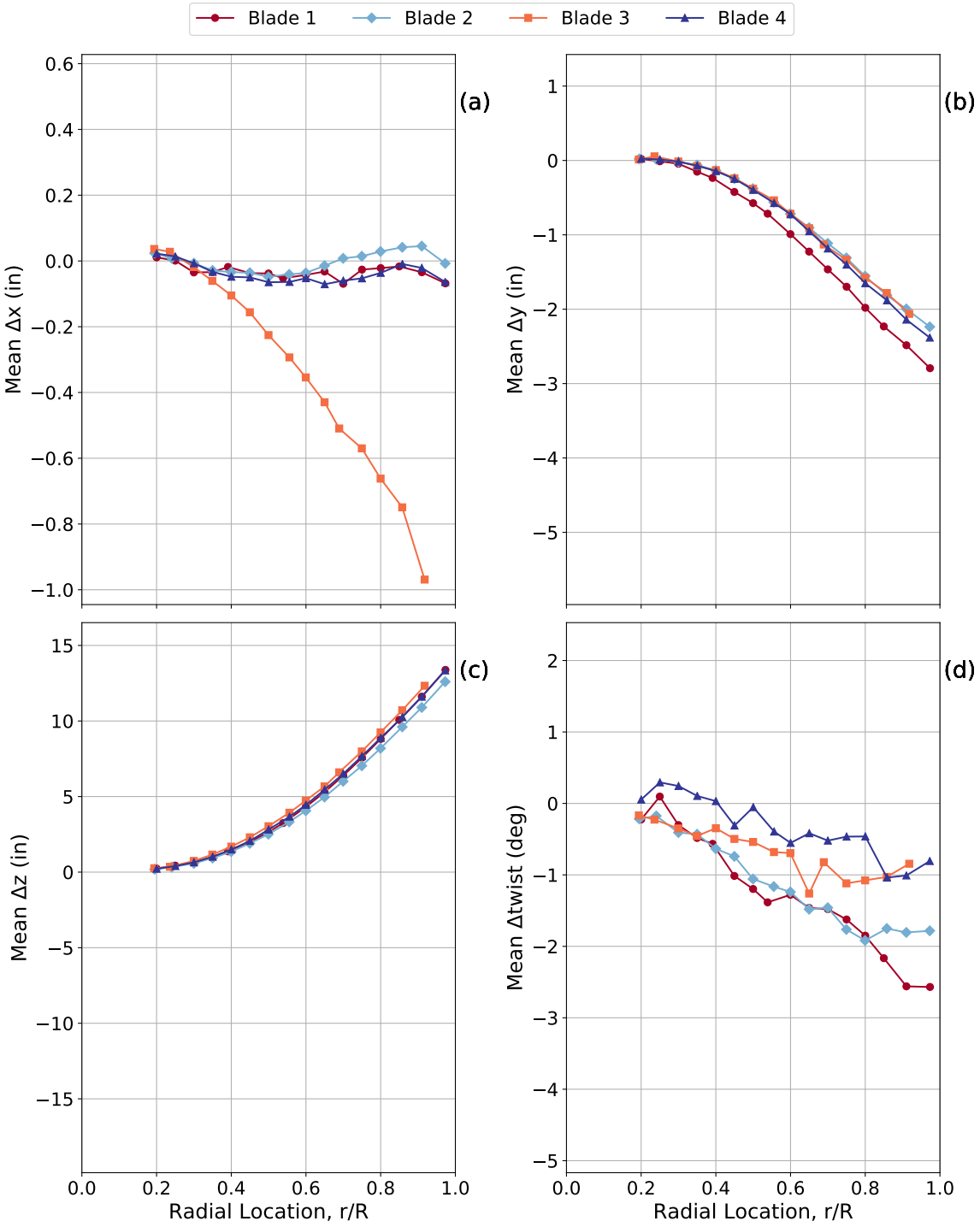


Figure 2.14-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	0.0109	0.0030	0.0201	0.0027	0.2375	0.0153	-0.2241	0.0801
1	270	0.2499	0.0010	0.0026	-0.0111	0.0027	0.4311	0.0283	0.0964	0.1161
1	270	0.2998	-0.0349	0.0028	-0.0444	0.0041	0.6510	0.0427	-0.3024	0.1729
1	270	0.3498	-0.0339	0.0031	-0.1508	0.0072	1.0015	0.0676	-0.4834	0.1635
1	270	0.3913	-0.0182	0.0041	-0.2352	0.0116	1.3779	0.0923	-0.5654	0.1680
1	270	0.4496	-0.0370	0.0060	-0.4234	0.0172	1.9864	0.1292	-1.0148	0.1600
1	270	0.4997	-0.0381	0.0078	-0.5735	0.0234	2.6500	0.1624	-1.1969	0.1856
1	270	0.5387	-0.0526	0.0098	-0.7159	0.0288	3.2471	0.1936	-1.3841	0.1884
1	270	0.5996	-0.0425	0.0133	-0.9903	0.0384	4.3120	0.2440	-1.2787	0.2090
1	270	0.6498	-0.0321	0.0171	-1.2256	0.0467	5.2946	0.2867	-1.4620	0.2262
1	270	0.6998	-0.0694	0.0211	-1.4646	0.0557	6.3847	0.3339	-1.4796	0.2396
1	270	0.7500	-0.0263	0.0260	-1.6979	0.0655	7.5677	0.3846	-1.6245	0.2458
1	270	0.8001	-0.0217	0.0313	-1.9806	0.0756	8.8124	0.4327	-1.8508	0.2630
1	270	0.8497	-0.0167	0.0365	-2.2318	0.0857	10.0700	0.4792	-2.1657	0.2806
1	270	0.9102	-0.0343	0.0439	-2.4843	0.0986	11.6104	0.5427	-2.5601	0.2753
1	270	0.9734	-0.0681	0.0568	-2.7934	0.1120	13.3811	0.6053	-2.5687	0.3023
2	270.35	0.1949	0.0234	0.0025	0.0210	0.0029	0.1891	0.0166	-0.2162	0.1017
2	270.35	0.2405	0.0084	0.0027	0.0167	0.0033	0.3293	0.0246	-0.1747	0.1623
2	270.35	0.2999	-0.0069	0.0034	-0.0202	0.0054	0.5770	0.0437	-0.4074	0.2411
2	270.35	0.3498	-0.0288	0.0036	-0.0618	0.0070	0.9301	0.0694	-0.4313	0.1859
2	270.35	0.3998	-0.0338	0.0058	-0.1338	0.0121	1.3535	0.0978	-0.6342	0.2018
2	270.35	0.4496	-0.0359	0.0068	-0.2442	0.0171	1.9025	0.1300	-0.7412	0.1629
2	270.35	0.4995	-0.0481	0.0088	-0.3793	0.0228	2.5088	0.1600	-1.0577	0.1831
2	270.35	0.5551	-0.0409	0.0115	-0.5609	0.0307	3.3237	0.1995	-1.1633	0.1839
2	270.35	0.5996	-0.0364	0.0140	-0.7176	0.0377	4.0593	0.2314	-1.2387	0.1796
2	270.35	0.6497	-0.0146	0.0167	-0.9042	0.0460	4.9661	0.2660	-1.4808	0.1977
2	270.35	0.6996	0.0080	0.0206	-1.1147	0.0549	6.0081	0.3023	-1.4590	0.1940
2	270.35	0.7495	0.0143	0.0242	-1.3102	0.0646	7.0360	0.3392	-1.7636	0.2008
2	270.35	0.7996	0.0288	0.0272	-1.5551	0.0744	8.1888	0.3785	-1.9183	0.2135
2	270.35	0.8578	0.0416	0.0322	-1.8124	0.0860	9.6094	0.4220	-1.7511	0.2180
2	270.35	0.9100	0.0452	0.0368	-1.9963	0.0963	10.8967	0.4643	-1.8055	0.2436
2	270.35	0.9727	-0.0075	0.0461	-2.2368	0.1091	12.6007	0.5188	-1.7826	0.2174
3	270	0.1938	0.0365	0.0063	0.0130	0.0041	0.2552	0.0292	-0.1677	0.0912
3	270	0.2357	0.0279	0.0031	0.0552	0.0074	0.3531	0.0291	-0.2264	0.2359
3	270	0.2995	-0.0186	0.0044	-0.0141	0.0057	0.7415	0.0698	-0.3501	0.2524
3	270	0.3493	-0.0605	0.0057	-0.0771	0.0100	1.1599	0.1075	-0.4558	0.2551
3	270	0.4000	-0.1049	0.0048	-0.1300	0.0148	1.6870	0.1481	-0.3471	0.2487
3	270	0.4497	-0.1560	0.0069	-0.2398	0.0199	2.3032	0.1848	-0.4967	0.2427
3	270	0.4997	-0.2255	0.0098	-0.3794	0.0264	3.0376	0.2271	-0.5392	0.2439
3	270	0.5556	-0.2933	0.0127	-0.5355	0.0350	3.9315	0.2789	-0.6808	0.2304
3	270	0.5995	-0.3542	0.0159	-0.7160	0.0424	4.7338	0.3194	-0.6953	0.2350
3	270	0.6498	-0.4297	0.0196	-0.9115	0.0514	5.6733	0.3646	-1.2609	0.2468
3	270	0.6890	-0.5095	0.0230	-1.1302	0.0589	6.6041	0.4029	-0.8225	0.2444
3	270	0.7495	-0.5699	0.0280	-1.3361	0.0719	7.9853	0.4588	-1.1184	0.2551
3	270	0.7998	-0.6619	0.0333	-1.5784	0.0829	9.2500	0.4996	-1.0767	0.3040
3	270	0.8577	-0.7493	0.0383	-1.7823	0.0964	10.7084	0.5557	-1.0282	0.2855
3	270	0.9178	-0.9690	0.0445	-2.0626	0.1117	12.3312	0.6114	-0.8440	0.3495
4	270	0.2001	0.0225	0.0134	0.0240	0.0028	0.2218	0.0192	0.0538	0.0775
4	270	0.2502	0.0136	0.0038	0.0126	0.0034	0.4016	0.0338	0.2945	0.1330
4	270	0.3001	-0.0072	0.0070	-0.0158	0.0049	0.6451	0.0506	0.2437	0.1735
4	270	0.3502	-0.0332	0.0141	-0.0703	0.0111	1.0167	0.0796	0.1047	0.1182
4	270	0.4002	-0.0480	0.0252	-0.1434	0.0187	1.4968	0.1141	0.0322	0.1395
4	270	0.4500	-0.0501	0.0400	-0.2478	0.0255	2.0643	0.1469	-0.3095	0.1615
4	270	0.5001	-0.0647	0.0607	-0.3962	0.0348	2.8199	0.1928	-0.0527	0.1537
4	270	0.5560	-0.0638	0.0899	-0.5727	0.0467	3.6700	0.2487	-0.3938	0.1482
4	270	0.6001	-0.0524	0.1187	-0.7244	0.0578	4.4493	0.2979	-0.5521	0.1727
4	270	0.6501	-0.0708	0.1575	-0.9526	0.0713	5.4562	0.3624	-0.4174	0.1868
4	270	0.6999	-0.0598	0.2041	-1.1839	0.0859	6.5120	0.4286	-0.5204	0.1894
4	270	0.7500	-0.0529	0.2601	-1.4006	0.1026	7.6721	0.5061	-0.4645	0.1973
4	270	0.8002	-0.0362	0.3253	-1.6510	0.1202	8.8812	0.5853	-0.4620	0.2111
4	270	0.8582	-0.0093	0.4141	-1.8814	0.1424	10.2565	0.6866	-1.0379	0.2363
4	270	0.9101	-0.0212	0.5070	-2.1405	0.1632	11.6056	0.7841	-1.0083	0.2420
4	270	0.9728	-0.0639	0.6326	-2.3822	0.2005	13.3459	0.9140	-0.8064	0.2896

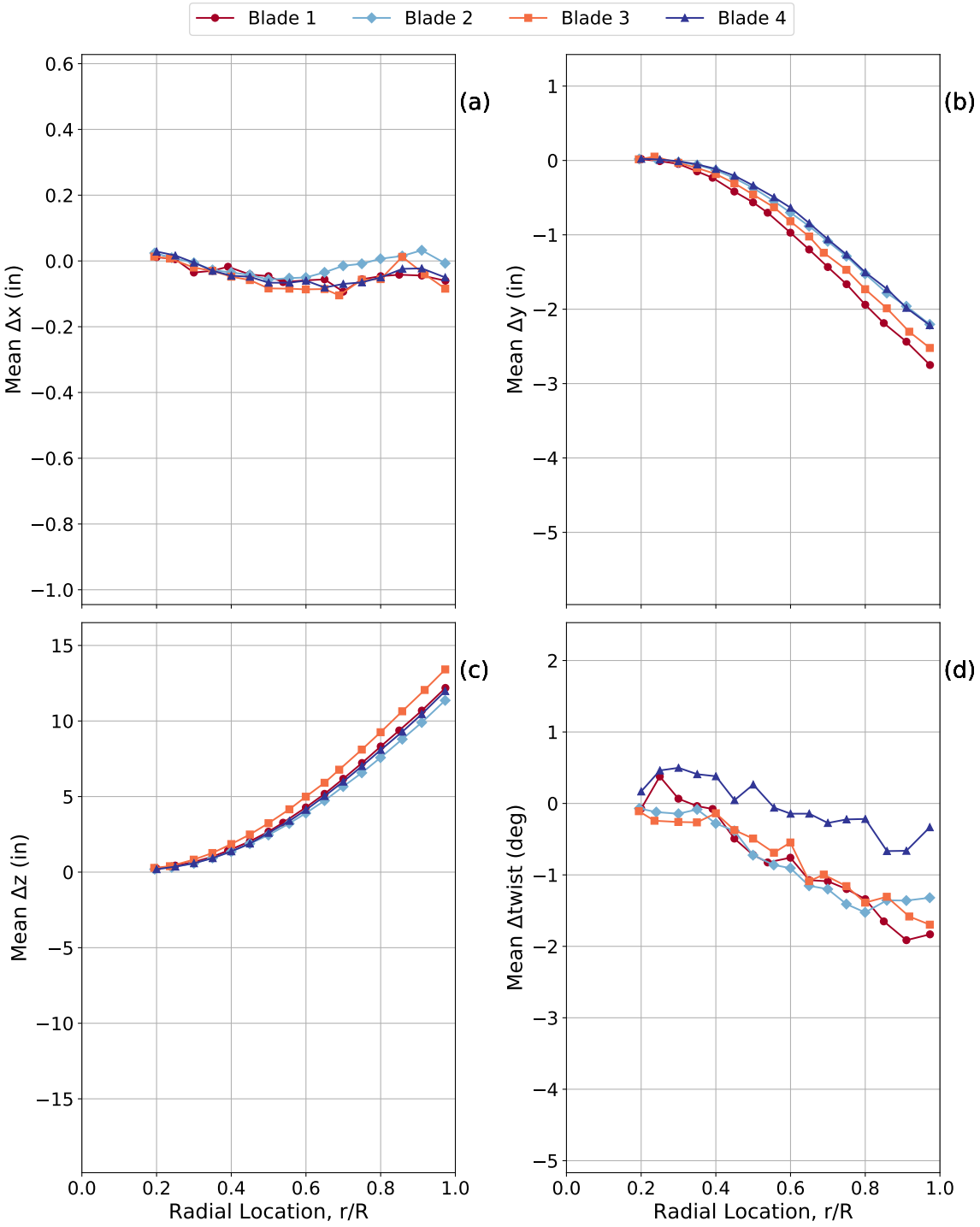


Figure 2.14-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0116	0.0024	0.0195	0.0022	0.2386	0.0139	-0.0731	0.0689
1	274.92	0.2499	0.0053	0.0023	-0.0092	0.0025	0.4337	0.0255	0.3771	0.0994
1	274.92	0.2998	-0.0353	0.0027	-0.0464	0.0044	0.6684	0.0389	0.0662	0.1481
1	274.92	0.3498	-0.0298	0.0037	-0.1471	0.0067	1.0241	0.0614	-0.0372	0.0994
1	274.92	0.3913	-0.0176	0.0042	-0.2328	0.0112	1.4195	0.0843	-0.0774	0.1025
1	274.92	0.4496	-0.0413	0.0049	-0.4184	0.0176	2.0330	0.1115	-0.4919	0.0994
1	274.92	0.4997	-0.0463	0.0064	-0.5635	0.0244	2.6805	0.1388	-0.7201	0.1007
1	274.92	0.5387	-0.0643	0.0078	-0.7027	0.0306	3.2711	0.1635	-0.8258	0.1067
1	274.92	0.5996	-0.0589	0.0105	-0.9710	0.0414	4.2805	0.2057	-0.7594	0.1101
1	274.92	0.6498	-0.0560	0.0133	-1.1977	0.0515	5.1792	0.2418	-1.0735	0.1169
1	274.92	0.6998	-0.0934	0.0158	-1.4330	0.0626	6.1748	0.2795	-1.0894	0.1244
1	274.92	0.7500	-0.0556	0.0189	-1.6641	0.0739	7.2207	0.3176	-1.1980	0.1439
1	274.92	0.8001	-0.0463	0.0223	-1.9401	0.0864	8.3171	0.3590	-1.3398	0.1368
1	274.92	0.8497	-0.0419	0.0255	-2.1868	0.0990	9.3744	0.3986	-1.6508	0.1478
1	274.92	0.9102	-0.0444	0.0299	-2.4365	0.1148	10.6874	0.4463	-1.9140	0.1524
1	274.92	0.9734	-0.0601	0.0384	-2.7503	0.1315	12.1888	0.5021	-1.8322	0.1798
2	274.92	0.1949	0.0240	0.0041	0.0191	0.0027	0.1930	0.0151	-0.0705	0.0773
2	274.92	0.2405	0.0097	0.0030	0.0207	0.0036	0.3148	0.0253	-0.1209	0.1084
2	274.92	0.2999	-0.0055	0.0032	-0.0219	0.0044	0.5784	0.0457	-0.1444	0.1726
2	274.92	0.3498	-0.0272	0.0034	-0.0599	0.0077	0.9349	0.0672	-0.0838	0.1638
2	274.92	0.3998	-0.0352	0.0042	-0.1301	0.0124	1.3521	0.1007	-0.2811	0.1142
2	274.92	0.4496	-0.0422	0.0060	-0.2374	0.0173	1.8796	0.1243	-0.3835	0.1348
2	274.92	0.4995	-0.0567	0.0079	-0.3682	0.0238	2.4516	0.1519	-0.7239	0.1354
2	274.92	0.5551	-0.0523	0.0099	-0.5448	0.0317	3.2163	0.1857	-0.8612	0.1392
2	274.92	0.5996	-0.0502	0.0118	-0.7007	0.0385	3.9025	0.2161	-0.9054	0.1434
2	274.92	0.6497	-0.0347	0.0140	-0.8832	0.0471	4.7305	0.2520	-1.1529	0.1500
2	274.92	0.6996	-0.0147	0.0173	-1.0878	0.0562	5.6620	0.2895	-1.1989	0.1561
2	274.92	0.7495	-0.0086	0.0199	-1.2877	0.0658	6.5693	0.3286	-1.4089	0.1546
2	274.92	0.7996	0.0067	0.0230	-1.5249	0.0755	7.5764	0.3663	-1.5252	0.1568
2	274.92	0.8578	0.0151	0.0266	-1.7824	0.0873	8.7951	0.4135	-1.3556	0.1632
2	274.92	0.9100	0.0325	0.0310	-1.9601	0.0980	9.9015	0.4572	-1.3596	0.1717
2	274.92	0.9727	-0.0071	0.0387	-2.2035	0.1109	11.3632	0.5112	-1.3199	0.1848
3	274.92	0.1938	0.0133	0.0045	0.0152	0.0031	0.2815	0.0179	-0.1084	0.1077
3	274.92	0.2357	0.0073	0.0027	0.0513	0.0043	0.3914	0.0279	-0.2423	0.1474
3	274.92	0.2995	-0.0199	0.0045	-0.0321	0.0062	0.8262	0.0509	-0.2597	0.2379
3	274.92	0.3493	-0.0300	0.0050	-0.1005	0.0105	1.2641	0.0790	-0.2651	0.1638
3	274.92	0.4000	-0.0478	0.0049	-0.1832	0.0165	1.8562	0.1148	-0.1376	0.1507
3	274.92	0.4497	-0.0581	0.0056	-0.3075	0.0219	2.4890	0.1327	-0.3733	0.1740
3	274.92	0.4997	-0.0835	0.0072	-0.4581	0.0293	3.2372	0.1623	-0.4916	0.1761
3	274.92	0.5556	-0.0843	0.0084	-0.6299	0.0393	4.1570	0.1963	-0.6895	0.1762
3	274.92	0.5995	-0.0864	0.0103	-0.8181	0.0475	4.9907	0.2225	-0.5467	0.1789
3	274.92	0.6498	-0.0854	0.0128	-1.0224	0.0581	5.9123	0.2577	-1.0876	0.1695
3	274.92	0.6890	-0.1046	0.0149	-1.2410	0.0671	6.7782	0.2837	-0.9959	0.1772
3	274.92	0.7495	-0.0570	0.0182	-1.4702	0.0820	8.1077	0.3234	-1.1578	0.1881
3	274.92	0.7998	-0.0552	0.0212	-1.7313	0.0952	9.2557	0.3578	-1.3880	0.1944
3	274.92	0.8577	0.0124	0.0248	-1.9878	0.1110	10.6413	0.3990	-1.3064	0.1997
3	274.92	0.9178	-0.0405	0.0294	-2.3026	0.1278	12.0524	0.4448	-1.5826	0.1858
3	274.92	0.9729	-0.0843	0.0369	-2.5208	0.1437	13.4118	0.4906	-1.6966	0.1954
4	274.92	0.2001	0.0285	0.0025	0.0224	0.0024	0.1955	0.0158	0.1677	0.0903
4	274.92	0.2502	0.0167	0.0029	0.0127	0.0032	0.3636	0.0263	0.4617	0.1256
4	274.92	0.3001	-0.0050	0.0036	-0.0098	0.0055	0.5879	0.0403	0.4986	0.1900
4	274.92	0.3502	-0.0299	0.0035	-0.0530	0.0101	0.9267	0.0659	0.4090	0.1327
4	274.92	0.4002	-0.0449	0.0044	-0.1139	0.0166	1.3784	0.0917	0.3802	0.1340
4	274.92	0.4500	-0.0481	0.0049	-0.2056	0.0227	1.8928	0.1164	0.0461	0.1488
4	274.92	0.5001	-0.0662	0.0062	-0.3366	0.0310	2.5970	0.1472	0.2637	0.1462
4	274.92	0.5560	-0.0662	0.0080	-0.4949	0.0408	3.3924	0.1840	-0.0592	0.1368
4	274.92	0.6001	-0.0599	0.0097	-0.6357	0.0494	4.1238	0.2159	-0.1436	0.1449
4	274.92	0.6501	-0.0808	0.0125	-0.8439	0.0596	5.0328	0.2535	-0.1434	0.1474
4	274.92	0.6999	-0.0699	0.0155	-1.0601	0.0707	5.9882	0.2930	-0.2734	0.1629
4	274.92	0.7500	-0.0651	0.0186	-1.2660	0.0820	7.0152	0.3299	-0.2235	0.1631
4	274.92	0.8002	-0.0500	0.0214	-1.5041	0.0940	8.0870	0.3699	-0.2173	0.1757
4	274.92	0.8582	-0.0240	0.0252	-1.7285	0.1079	9.2931	0.4188	-0.6668	0.1623
4	274.92	0.9101	-0.0226	0.0297	-1.9814	0.1209	10.4554	0.4645	-0.6631	0.1592
4	274.92	0.9728	-0.0501	0.0385	-2.2150	0.1363	11.9801	0.5236	-0.3331	0.1743

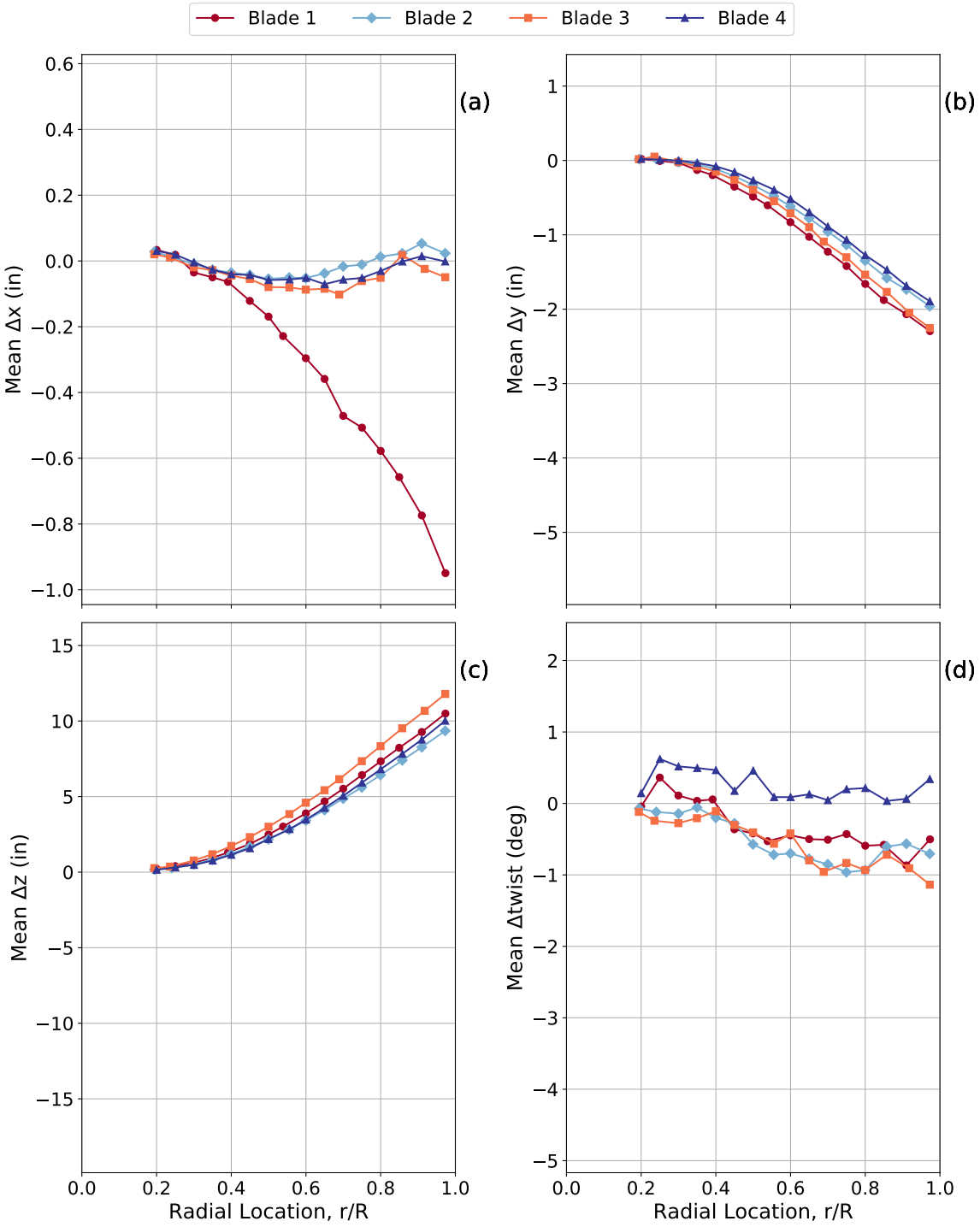


Figure 2.14-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0336	0.0031	0.0209	0.0023	0.2182	0.0135	-0.0421	0.1104
1	279.84	0.2499	0.0186	0.0035	-0.0075	0.0037	0.3975	0.0261	0.3620	0.1271
1	279.84	0.2998	-0.0351	0.0034	-0.0305	0.0071	0.6107	0.0371	0.1106	0.2235
1	279.84	0.3498	-0.0498	0.0040	-0.1282	0.0101	0.9433	0.0619	0.0362	0.1141
1	279.84	0.3913	-0.0635	0.0049	-0.1973	0.0164	1.3034	0.0821	0.0561	0.1584
1	279.84	0.4496	-0.1214	0.0057	-0.3521	0.0232	1.8641	0.1072	-0.3621	0.1392
1	279.84	0.4997	-0.1693	0.0068	-0.4873	0.0317	2.4823	0.1352	-0.4197	0.1513
1	279.84	0.5387	-0.2285	0.0077	-0.6032	0.0392	3.0152	0.1562	-0.5279	0.1486
1	279.84	0.5996	-0.2958	0.0101	-0.8303	0.0529	3.8890	0.1946	-0.4465	0.1530
1	279.84	0.6498	-0.3588	0.0121	-1.0265	0.0650	4.6819	0.2276	-0.4994	0.1508
1	279.84	0.6998	-0.4713	0.0146	-1.2267	0.0785	5.5193	0.2609	-0.5081	0.1540
1	279.84	0.7500	-0.5069	0.0171	-1.4195	0.0932	6.4253	0.2942	-0.4286	0.1594
1	279.84	0.8001	-0.5778	0.0200	-1.6603	0.1081	7.3336	0.3324	-0.5919	0.1646
1	279.84	0.8497	-0.6574	0.0224	-1.8772	0.1236	8.2282	0.3678	-0.5790	0.1801
1	279.84	0.9102	-0.7741	0.0264	-2.0676	0.1435	9.2723	0.4158	-0.8668	0.1570
1	279.84	0.9734	-0.9495	0.0343	-2.2947	0.1645	10.4927	0.4785	-0.5018	0.2887
2	279.84	0.1949	0.0285	0.0032	0.0179	0.0020	0.1737	0.0133	-0.0703	0.0579
2	279.84	0.2405	0.0114	0.0039	0.0198	0.0025	0.2834	0.0223	-0.1200	0.1031
2	279.84	0.2999	-0.0088	0.0034	-0.0190	0.0049	0.5198	0.0359	-0.1434	0.1342
2	279.84	0.3498	-0.0267	0.0035	-0.0521	0.0107	0.8379	0.0595	-0.0571	0.1042
2	279.84	0.3998	-0.0355	0.0034	-0.1158	0.0162	1.2122	0.0829	-0.2010	0.1015
2	279.84	0.4496	-0.0426	0.0046	-0.2103	0.0231	1.6737	0.1090	-0.2795	0.1151
2	279.84	0.4995	-0.0543	0.0054	-0.3278	0.0320	2.1709	0.1379	-0.5717	0.1275
2	279.84	0.5551	-0.0505	0.0072	-0.4788	0.0434	2.8208	0.1764	-0.7176	0.1164
2	279.84	0.5996	-0.0519	0.0089	-0.6166	0.0530	3.4123	0.2092	-0.7000	0.1319
2	279.84	0.6497	-0.0377	0.0109	-0.7764	0.0654	4.1115	0.2484	-0.7770	0.1325
2	279.84	0.6996	-0.0168	0.0134	-0.9560	0.0790	4.8659	0.2898	-0.8524	0.1331
2	279.84	0.7495	-0.0111	0.0161	-1.1342	0.0934	5.6104	0.3343	-0.9625	0.1327
2	279.84	0.7996	0.0128	0.0188	-1.3468	0.1085	6.4250	0.3828	-0.9354	0.1395
2	279.84	0.8578	0.0231	0.0223	-1.5817	0.1268	7.3980	0.4392	-0.6033	0.1506
2	279.84	0.9100	0.0533	0.0262	-1.7349	0.1435	8.2665	0.4952	-0.5643	0.1465
2	279.84	0.9727	0.0233	0.0358	-1.9604	0.1634	9.3497	0.5627	-0.7049	0.1545
3	279.84	0.1938	0.0202	0.0033	0.0172	0.0030	0.2632	0.0113	-0.1183	0.0687
3	279.84	0.2357	0.0103	0.0030	0.0514	0.0030	0.3632	0.0149	-0.2426	0.1255
3	279.84	0.2995	-0.0193	0.0044	-0.0207	0.0072	0.7685	0.0302	-0.2762	0.1655
3	279.84	0.3493	-0.0280	0.0051	-0.0814	0.0112	1.1833	0.0482	-0.2067	0.1354
3	279.84	0.4000	-0.0448	0.0036	-0.1517	0.0167	1.7318	0.0683	-0.1099	0.1383
3	279.84	0.4497	-0.0550	0.0046	-0.2626	0.0227	2.3164	0.0883	-0.3025	0.1383
3	279.84	0.4997	-0.0795	0.0058	-0.3948	0.0304	3.0020	0.1113	-0.4050	0.1442
3	279.84	0.5556	-0.0804	0.0071	-0.5473	0.0393	3.8407	0.1386	-0.5640	0.1404
3	279.84	0.5995	-0.0873	0.0084	-0.7105	0.0475	4.5966	0.1608	-0.4194	0.1526
3	279.84	0.6498	-0.0846	0.0101	-0.8975	0.0573	5.4193	0.1906	-0.7959	0.1547
3	279.84	0.6890	-0.1021	0.0114	-1.0913	0.0656	6.1457	0.2150	-0.9574	0.1485
3	279.84	0.7495	-0.0611	0.0144	-1.3021	0.0791	7.3403	0.2552	-0.8334	0.1729
3	279.84	0.7998	-0.0513	0.0167	-1.5351	0.0906	8.3372	0.2936	-0.9329	0.1575
3	279.84	0.8577	0.0183	0.0201	-1.7673	0.1039	9.5179	0.3450	-0.7184	0.1657
3	279.84	0.9178	-0.0242	0.0248	-2.0455	0.1182	10.6716	0.3984	-0.9073	0.1667
3	279.84	0.9729	-0.0494	0.0317	-2.2534	0.1319	11.7873	0.4567	-1.1368	0.1603
4	279.84	0.2001	0.0308	0.0220	0.0214	0.0024	0.1530	0.0125	0.1437	0.0476
4	279.84	0.2502	0.0192	0.0063	0.0092	0.0050	0.3126	0.0210	0.6219	0.0658
4	279.84	0.3001	-0.0044	0.0073	-0.0003	0.0058	0.4789	0.0367	0.5178	0.1013
4	279.84	0.3502	-0.0268	0.0159	-0.0331	0.0114	0.7643	0.0572	0.4957	0.1064
4	279.84	0.4002	-0.0404	0.0211	-0.0794	0.0176	1.1488	0.0856	0.4658	0.0988
4	279.84	0.4500	-0.0427	0.0255	-0.1555	0.0242	1.5803	0.1174	0.1758	0.0989
4	279.84	0.5001	-0.0580	0.0310	-0.2668	0.0325	2.1908	0.1549	0.4588	0.1110
4	279.84	0.5560	-0.0564	0.0435	-0.3950	0.0434	2.8497	0.2077	0.0886	0.1255
4	279.84	0.6001	-0.0515	0.0607	-0.5177	0.0525	3.4785	0.2522	0.0884	0.1240
4	279.84	0.6501	-0.0706	0.0888	-0.6959	0.0642	4.2456	0.3070	0.1280	0.1405
4	279.84	0.6999	-0.0567	0.1262	-0.8875	0.0766	5.0499	0.3665	0.0451	0.1573
4	279.84	0.7500	-0.0517	0.1734	-1.0667	0.0901	5.9223	0.4337	0.1989	0.1736
4	279.84	0.8002	-0.0304	0.2312	-1.2729	0.1046	6.8100	0.5036	0.2151	0.1913
4	279.84	0.8582	-0.0017	0.3101	-1.4698	0.1222	7.8280	0.5935	0.0349	0.2074
4	279.84	0.9101	0.0146	0.3934	-1.6848	0.1384	8.7699	0.6790	0.0645	0.2445
4	279.84	0.9728	-0.0016	0.5126	-1.8929	0.1598	10.0173	0.8001	0.3408	0.2581

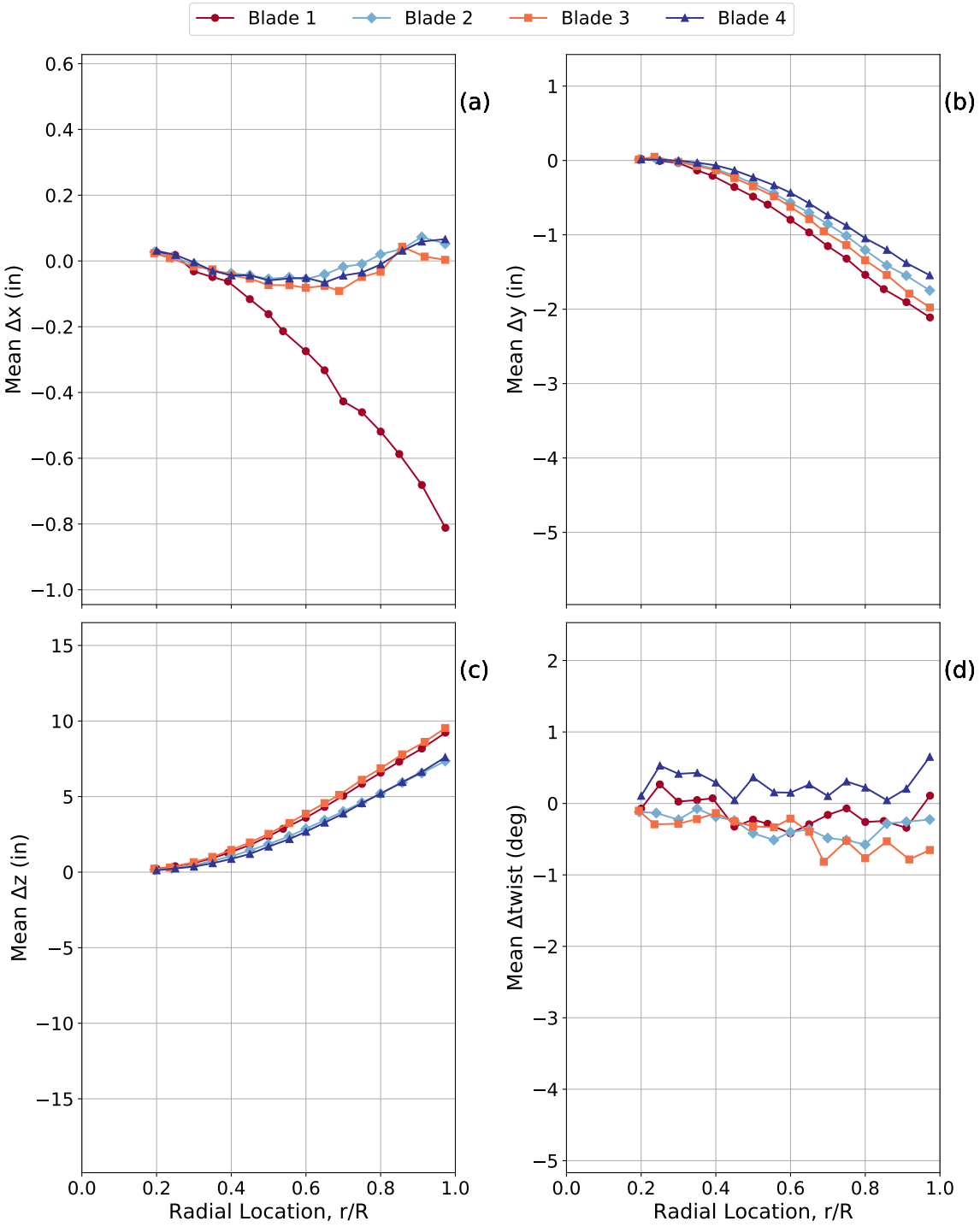


Figure 2.14-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0264	0.0040	0.0210	0.0036	0.2205	0.0208	-0.0723	0.0787
1	285.12	0.2499	0.0180	0.0039	-0.0072	0.0034	0.3898	0.0389	0.2665	0.1423
1	285.12	0.2998	-0.0316	0.0029	-0.0333	0.0058	0.5974	0.0583	0.0256	0.1789
1	285.12	0.3498	-0.0490	0.0044	-0.1340	0.0105	0.9270	0.0912	0.0476	0.1608
1	285.12	0.3913	-0.0622	0.0050	-0.2063	0.0175	1.2643	0.1258	0.0717	0.1304
1	285.12	0.4496	-0.1161	0.0066	-0.3573	0.0255	1.7874	0.1646	-0.3246	0.1274
1	285.12	0.4997	-0.1616	0.0088	-0.4860	0.0341	2.3737	0.2009	-0.2271	0.1409
1	285.12	0.5387	-0.2138	0.0105	-0.5930	0.0428	2.8641	0.2342	-0.2850	0.1295
1	285.12	0.5996	-0.2744	0.0135	-0.7971	0.0572	3.5972	0.2878	-0.4193	0.1430
1	285.12	0.6498	-0.3324	0.0164	-0.9674	0.0705	4.3131	0.3339	-0.2914	0.1534
1	285.12	0.6998	-0.4271	0.0193	-1.1515	0.0849	5.0528	0.3833	-0.1603	0.1460
1	285.12	0.7500	-0.4600	0.0229	-1.3202	0.1001	5.8414	0.4354	-0.0698	0.1517
1	285.12	0.8001	-0.5190	0.0261	-1.5381	0.1159	6.5782	0.4877	-0.2598	0.1686
1	285.12	0.8497	-0.5871	0.0290	-1.7303	0.1323	7.3061	0.5425	-0.2456	0.1847
1	285.12	0.9102	-0.6813	0.0338	-1.9048	0.1520	8.1771	0.6146	-0.3408	0.1766
1	285.12	0.9734	-0.8116	0.0435	-2.1107	0.1727	9.2271	0.6951	0.1090	0.2119
2	285.12	0.1949	0.0275	0.0046	0.0162	0.0027	0.1572	0.0107	-0.1181	0.0569
2	285.12	0.2405	0.0114	0.0025	0.0165	0.0024	0.2547	0.0187	-0.1341	0.0686
2	285.12	0.2999	-0.0087	0.0029	-0.0198	0.0053	0.4504	0.0335	-0.2283	0.1222
2	285.12	0.3498	-0.0303	0.0029	-0.0559	0.0089	0.7403	0.0514	-0.0726	0.1177
2	285.12	0.3998	-0.0373	0.0036	-0.1172	0.0137	1.0511	0.0769	-0.1865	0.1071
2	285.12	0.4496	-0.0432	0.0037	-0.2035	0.0199	1.4341	0.1016	-0.2398	0.1003
2	285.12	0.4995	-0.0546	0.0046	-0.3096	0.0274	1.8497	0.1306	-0.4168	0.1162
2	285.12	0.5551	-0.0493	0.0062	-0.4436	0.0376	2.3766	0.1683	-0.5116	0.1092
2	285.12	0.5996	-0.0550	0.0072	-0.5668	0.0471	2.8655	0.2017	-0.4018	0.1323
2	285.12	0.6497	-0.0408	0.0088	-0.7024	0.0593	3.4370	0.2406	-0.3632	0.1317
2	285.12	0.6996	-0.0180	0.0105	-0.8562	0.0727	4.0135	0.2823	-0.4848	0.1343
2	285.12	0.7495	-0.0094	0.0129	-1.0139	0.0866	4.6087	0.3280	-0.5132	0.1466
2	285.12	0.7996	0.0204	0.0149	-1.2046	0.1019	5.1967	0.3756	-0.5764	0.1542
2	285.12	0.8578	0.0367	0.0175	-1.4115	0.1202	5.9258	0.4363	-0.2824	0.1594
2	285.12	0.9100	0.0729	0.0204	-1.5483	0.1372	6.5501	0.4953	-0.2559	0.1600
2	285.12	0.9727	0.0522	0.0286	-1.7474	0.1578	7.3501	0.5709	-0.2250	0.1728
3	285.12	0.1938	0.0237	0.0051	0.0121	0.0054	0.2291	0.0238	-0.1019	0.0885
3	285.12	0.2357	0.0086	0.0043	0.0492	0.0059	0.3047	0.0269	-0.2917	0.2205
3	285.12	0.2995	-0.0171	0.0040	-0.0199	0.0113	0.6562	0.0646	-0.2847	0.2595
3	285.12	0.3493	-0.0256	0.0039	-0.0738	0.0164	1.0055	0.1014	-0.2191	0.2486
3	285.12	0.4000	-0.0444	0.0046	-0.1324	0.0237	1.4653	0.1449	-0.1359	0.2414
3	285.12	0.4497	-0.0537	0.0047	-0.2353	0.0319	1.9642	0.1890	-0.2515	0.2413
3	285.12	0.4997	-0.0733	0.0068	-0.3475	0.0419	2.5331	0.2351	-0.3202	0.2545
3	285.12	0.5556	-0.0738	0.0089	-0.4827	0.0555	3.2467	0.2914	-0.3341	0.2527
3	285.12	0.5995	-0.0817	0.0116	-0.6235	0.0671	3.8684	0.3393	-0.2132	0.2593
3	285.12	0.6498	-0.0757	0.0146	-0.7877	0.0823	4.5635	0.3962	-0.3971	0.2590
3	285.12	0.6890	-0.0911	0.0171	-0.9526	0.0947	5.1078	0.4417	-0.8170	0.2525
3	285.12	0.7495	-0.0488	0.0209	-1.1377	0.1153	6.1093	0.5155	-0.5233	0.2537
3	285.12	0.7998	-0.0329	0.0246	-1.3404	0.1334	6.8628	0.5822	-0.7663	0.2540
3	285.12	0.8577	0.0432	0.0285	-1.5401	0.1549	7.7908	0.6617	-0.5305	0.2569
3	285.12	0.9178	0.0133	0.0338	-1.7911	0.1777	8.6155	0.7458	-0.7838	0.2622
3	285.12	0.9729	0.0033	0.0436	-1.9769	0.1986	9.5327	0.8294	-0.6520	0.2600
4	285.12	0.2001	0.0311	0.0026	0.0159	0.0017	0.1193	0.0100	0.1071	0.0408
4	285.12	0.2502	0.0184	0.0027	0.0080	0.0028	0.2413	0.0172	0.5291	0.0769
4	285.12	0.3001	-0.0040	0.0031	-0.0019	0.0043	0.3640	0.0295	0.4148	0.0917
4	285.12	0.3502	-0.0302	0.0035	-0.0296	0.0067	0.5892	0.0462	0.4278	0.1002
4	285.12	0.4002	-0.0439	0.0029	-0.0660	0.0108	0.8758	0.0686	0.2932	0.0956
4	285.12	0.4500	-0.0438	0.0041	-0.1327	0.0148	1.2032	0.0911	0.0456	0.1011
4	285.12	0.5001	-0.0591	0.0049	-0.2258	0.0198	1.6894	0.1191	0.3652	0.0953
4	285.12	0.5560	-0.0532	0.0059	-0.3336	0.0264	2.1899	0.1523	0.1552	0.1012
4	285.12	0.6001	-0.0516	0.0072	-0.4341	0.0327	2.6752	0.1828	0.1508	0.1085
4	285.12	0.6501	-0.0656	0.0095	-0.5778	0.0403	3.2758	0.2182	0.2653	0.1082
4	285.12	0.6999	-0.0444	0.0120	-0.7357	0.0487	3.8721	0.2536	0.1035	0.1166
4	285.12	0.7500	-0.0352	0.0139	-0.8775	0.0583	4.5601	0.2904	0.3073	0.1308
4	285.12	0.8002	-0.0105	0.0159	-1.0470	0.0678	5.1992	0.3278	0.2221	0.1315
4	285.12	0.8582	0.0313	0.0184	-1.2014	0.0795	5.9626	0.3716	0.0451	0.1485
4	285.12	0.9101	0.0591	0.0211	-1.3783	0.0904	6.6296	0.4141	0.2058	0.1356
4	285.12	0.9728	0.0663	0.0266	-1.5436	0.1039	7.6014	0.4670	0.6520	0.1392

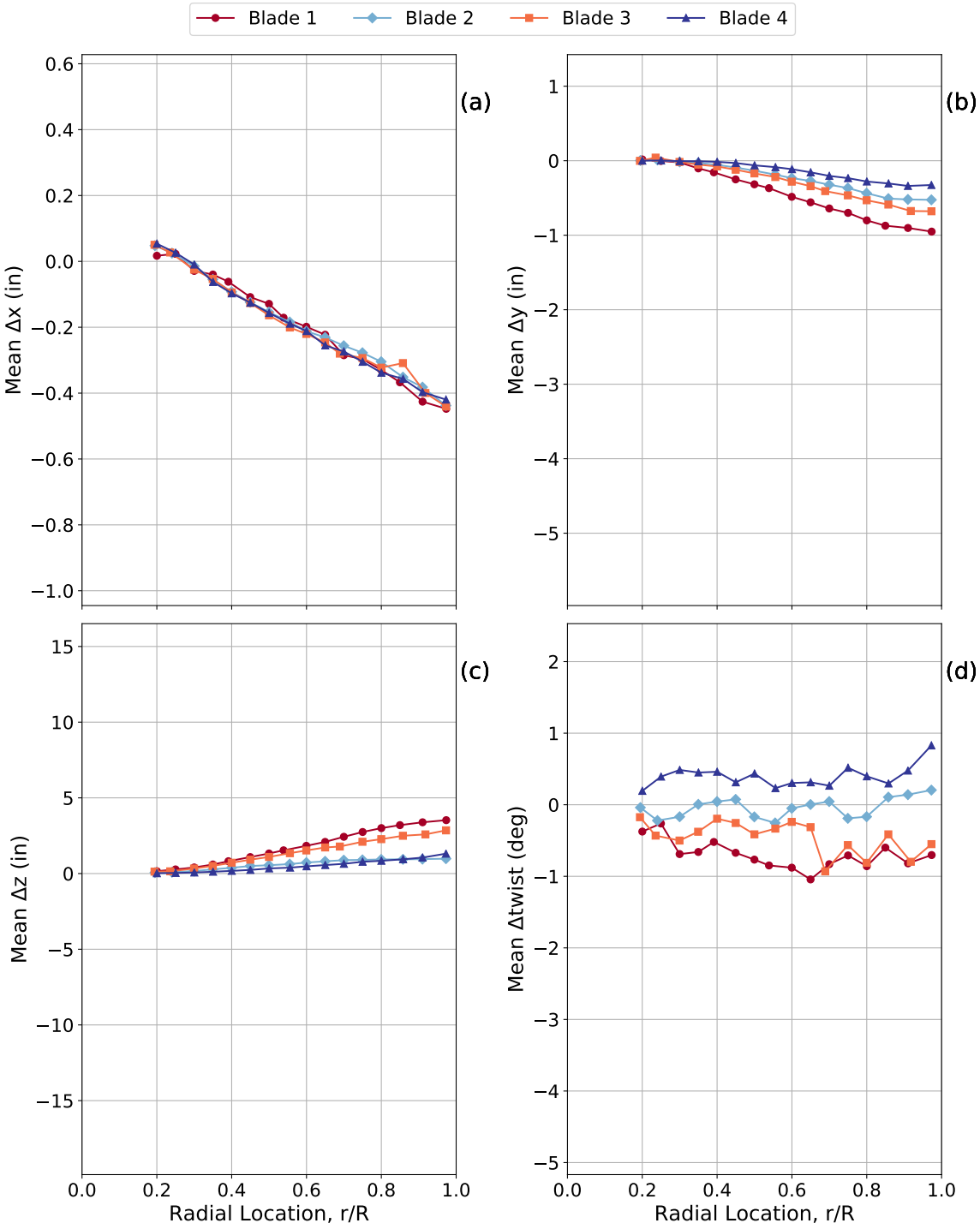


Figure 2.14-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0171	0.0033	0.0170	0.0029	0.1570	0.0150	-0.3748	0.0625
1	299.88	0.2499	0.0229	0.0043	-0.0033	0.0041	0.2729	0.0220	-0.2621	0.1214
1	299.88	0.2998	-0.0289	0.0033	-0.0229	0.0067	0.4026	0.0415	-0.6893	0.1424
1	299.88	0.3498	-0.0399	0.0045	-0.1029	0.0098	0.5980	0.0639	-0.6599	0.1258
1	299.88	0.3913	-0.0618	0.0046	-0.1561	0.0145	0.8145	0.0870	-0.5200	0.1383
1	299.88	0.4496	-0.1084	0.0041	-0.2505	0.0219	1.0873	0.1116	-0.6713	0.1460
1	299.88	0.4997	-0.1290	0.0047	-0.3167	0.0289	1.3248	0.1402	-0.7666	0.1465
1	299.88	0.5387	-0.1710	0.0056	-0.3681	0.0346	1.5349	0.1643	-0.8482	0.1456
1	299.88	0.5996	-0.1985	0.0060	-0.4845	0.0455	1.8314	0.2036	-0.8791	0.1541
1	299.88	0.6498	-0.2227	0.0067	-0.5582	0.0549	2.0907	0.2395	-1.0435	0.1612
1	299.88	0.6998	-0.2849	0.0084	-0.6408	0.0653	2.4279	0.2760	-0.8304	0.1787
1	299.88	0.7500	-0.2967	0.0094	-0.6999	0.0767	2.7446	0.3144	-0.7080	0.1713
1	299.88	0.8001	-0.3299	0.0110	-0.8010	0.0887	3.0018	0.3544	-0.8586	0.1799
1	299.88	0.8497	-0.3672	0.0118	-0.8723	0.1007	3.1983	0.3938	-0.5991	0.1805
1	299.88	0.9102	-0.4259	0.0136	-0.9026	0.1160	3.3865	0.4440	-0.8188	0.1840
1	299.88	0.9734	-0.4476	0.0177	-0.9515	0.1321	3.5265	0.4956	-0.7029	0.1991
2	299.88	0.1949	0.0478	0.0034	0.0024	0.0020	0.0629	0.0101	-0.0394	0.0613
2	299.88	0.2405	0.0252	0.0040	0.0104	0.0037	0.0866	0.0200	-0.2207	0.0869
2	299.88	0.2999	-0.0143	0.0055	-0.0158	0.0050	0.1641	0.0287	-0.1679	0.1271
2	299.88	0.3498	-0.0550	0.0037	-0.0289	0.0106	0.2780	0.0503	0.0055	0.1046
2	299.88	0.3998	-0.0924	0.0042	-0.0558	0.0151	0.3798	0.0708	0.0445	0.0921
2	299.88	0.4496	-0.1242	0.0061	-0.0909	0.0179	0.4989	0.0828	0.0749	0.1053
2	299.88	0.4995	-0.1540	0.0055	-0.1338	0.0232	0.5503	0.1002	-0.1695	0.1100
2	299.88	0.5551	-0.1841	0.0060	-0.1863	0.0307	0.6244	0.1200	-0.2540	0.1127
2	299.88	0.5996	-0.2119	0.0063	-0.2335	0.0363	0.7264	0.1351	-0.0503	0.1171
2	299.88	0.6497	-0.2308	0.0076	-0.2713	0.0434	0.8073	0.1520	0.0036	0.1179
2	299.88	0.6996	-0.2561	0.0085	-0.3217	0.0505	0.8849	0.1719	0.0448	0.1055
2	299.88	0.7495	-0.2774	0.0095	-0.3668	0.0582	0.9024	0.1924	-0.1902	0.1133
2	299.88	0.7996	-0.3046	0.0105	-0.4362	0.0662	0.9325	0.2143	-0.1672	0.1161
2	299.88	0.8578	-0.3514	0.0116	-0.5086	0.0757	0.9389	0.2433	0.1065	0.1167
2	299.88	0.9100	-0.3819	0.0128	-0.5197	0.0846	0.9529	0.2718	0.1410	0.1107
2	299.88	0.9727	-0.4377	0.0160	-0.5249	0.0948	0.9810	0.3111	0.2046	0.1267
3	299.88	0.1938	0.0504	0.0030	-0.0017	0.0026	0.1265	0.0127	-0.1739	0.0633
3	299.88	0.2357	0.0270	0.0027	0.0417	0.0033	0.1464	0.0212	-0.4311	0.0882
3	299.88	0.2995	-0.0250	0.0055	-0.0165	0.0053	0.3319	0.0386	-0.5003	0.1350
3	299.88	0.3493	-0.0534	0.0043	-0.0519	0.0097	0.5024	0.0599	-0.3773	0.1010
3	299.88	0.4000	-0.0943	0.0048	-0.0768	0.0149	0.7143	0.0882	-0.1952	0.1185
3	299.88	0.4497	-0.1266	0.0052	-0.1208	0.0198	0.9141	0.1095	-0.2548	0.1069
3	299.88	0.4997	-0.1636	0.0061	-0.1701	0.0267	1.0963	0.1332	-0.4134	0.1288
3	299.88	0.5556	-0.2008	0.0073	-0.2189	0.0365	1.3458	0.1657	-0.3336	0.1244
3	299.88	0.5995	-0.2203	0.0079	-0.2811	0.0454	1.5255	0.1942	-0.2393	0.1352
3	299.88	0.6498	-0.2461	0.0090	-0.3421	0.0556	1.7245	0.2291	-0.3135	0.1256
3	299.88	0.6890	-0.2801	0.0102	-0.4078	0.0643	1.7842	0.2601	-0.9312	0.1398
3	299.88	0.7495	-0.2934	0.0117	-0.4650	0.0783	2.0988	0.3103	-0.5636	0.1295
3	299.88	0.7998	-0.3227	0.0132	-0.5309	0.0899	2.2720	0.3581	-0.8122	0.1289
3	299.88	0.8577	-0.3088	0.0150	-0.5884	0.1042	2.4954	0.4150	-0.4137	0.1394
3	299.88	0.9178	-0.3996	0.0169	-0.6754	0.1191	2.5868	0.4765	-0.7970	0.1428
3	299.88	0.9729	-0.4406	0.0218	-0.6784	0.1328	2.8531	0.5369	-0.5504	0.1516
4	299.88	0.2001	0.0536	0.0033	0.0006	0.0021	0.0217	0.0138	0.1938	0.0624
4	299.88	0.2502	0.0261	0.0038	0.0030	0.0037	0.0395	0.0226	0.3931	0.0953
4	299.88	0.3001	-0.0097	0.0047	-0.0056	0.0044	0.0697	0.0386	0.4863	0.1330
4	299.88	0.3502	-0.0626	0.0035	-0.0070	0.0083	0.1199	0.0598	0.4502	0.1276
4	299.88	0.4002	-0.0971	0.0044	-0.0154	0.0138	0.1762	0.0871	0.4608	0.1265
4	299.88	0.4500	-0.1254	0.0055	-0.0310	0.0197	0.2402	0.1100	0.3134	0.1080
4	299.88	0.5001	-0.1566	0.0056	-0.0624	0.0249	0.3383	0.1373	0.4353	0.1379
4	299.88	0.5560	-0.1894	0.0066	-0.0865	0.0331	0.3905	0.1703	0.2320	0.1374
4	299.88	0.6001	-0.2116	0.0074	-0.1138	0.0394	0.4786	0.1980	0.3037	0.1375
4	299.88	0.6501	-0.2552	0.0080	-0.1560	0.0476	0.5606	0.2316	0.3134	0.1358
4	299.88	0.6999	-0.2737	0.0093	-0.2038	0.0560	0.6430	0.2659	0.2660	0.1383
4	299.88	0.7500	-0.3049	0.0107	-0.2341	0.0647	0.7777	0.3035	0.5165	0.1449
4	299.88	0.8002	-0.3381	0.0114	-0.2792	0.0737	0.8432	0.3416	0.3970	0.1483
4	299.88	0.8582	-0.3568	0.0131	-0.3055	0.0844	0.9423	0.3859	0.2971	0.1535
4	299.88	0.9101	-0.3970	0.0146	-0.3386	0.0942	1.0546	0.4281	0.4772	0.1494
4	299.88	0.9728	-0.4197	0.0185	-0.3261	0.1060	1.3139	0.4794	0.8287	0.1467

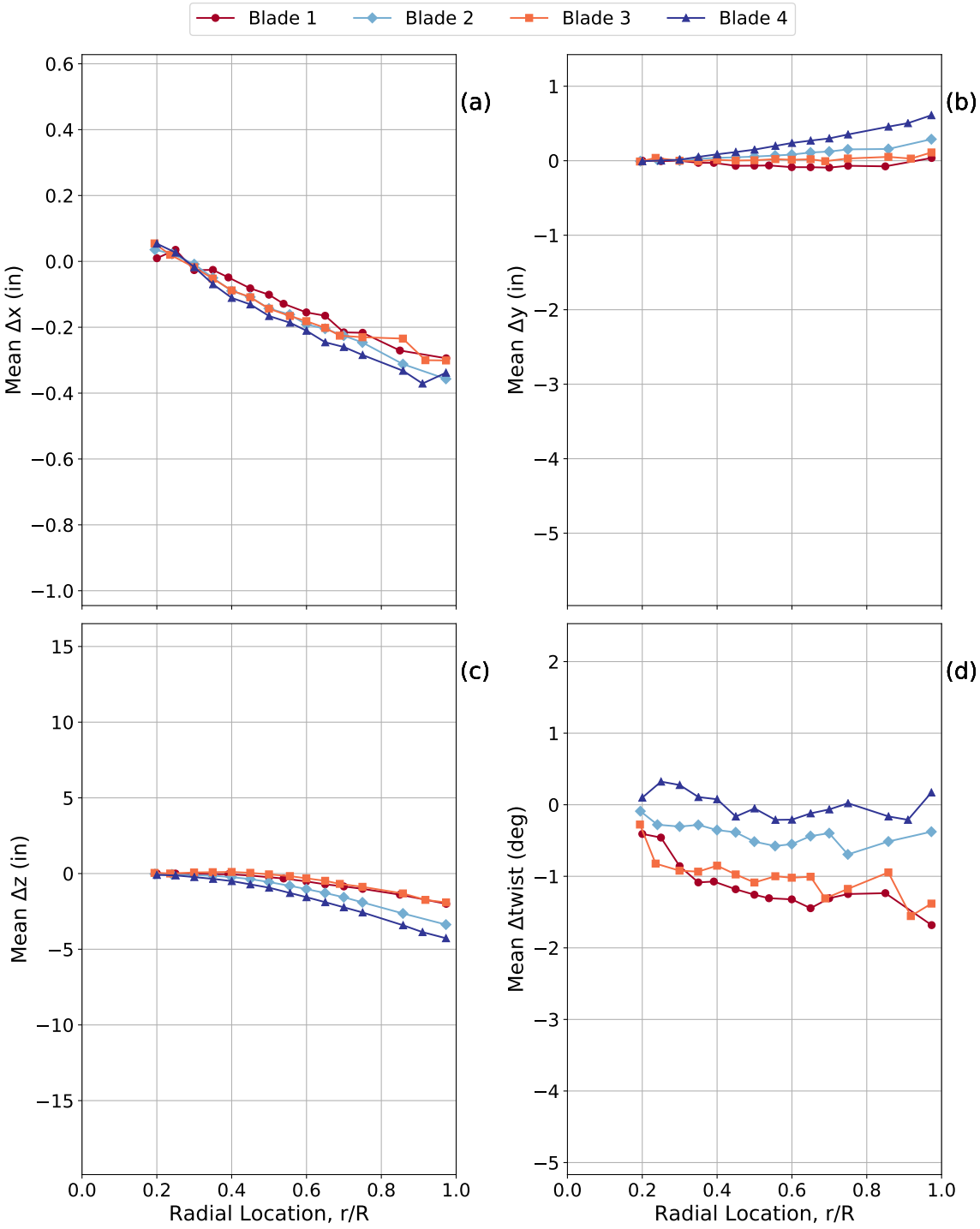


Figure 2.14-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0096	0.0031	0.0009	0.0026	0.0078	0.0107	-0.4078	0.0512
1	315	0.2499	0.0351	0.0037	-0.0053	0.0065	-0.0016	0.0188	-0.4587	0.0876
1	315	0.2998	-0.0265	0.0061	-0.0010	0.0091	0.0056	0.0326	-0.8581	0.1135
1	315	0.3498	-0.0259	0.0047	-0.0281	0.0192	-0.0425	0.0483	-1.0853	0.1161
1	315	0.3913	-0.0488	0.0045	-0.0288	0.0263	-0.0456	0.0712	-1.0728	0.1069
1	315	0.4496	-0.0819	0.0054	-0.0683	0.0333	-0.1310	0.0918	-1.1807	0.1124
1	315	0.4997	-0.1012	0.0062	-0.0667	0.0404	-0.2429	0.1127	-1.2574	0.1170
1	315	0.5387	-0.1287	0.0070	-0.0633	0.0462	-0.3274	0.1291	-1.3063	0.1100
1	315	0.5996	-0.1549	0.0079	-0.0865	0.0564	-0.5195	0.1539	-1.3218	0.1306
1	315	0.6498	-0.1650	0.0087	-0.0871	0.0638	-0.7115	0.1750	-1.4458	0.1150
1	315	0.6998	-0.2155	0.0105	-0.0924	0.0724	-0.8521	0.1966	-1.3061	0.1235
1	315	0.7500	-0.2168	0.0113	-0.0680	0.0806	-1.0120	0.2177	-1.2477	0.1289
1	315	0.8497	-0.2706	0.0132	-0.0756	0.0982	-1.3946	0.2650	-1.2354	0.1337
1	315	0.9734	-0.2942	0.0169	0.0369	0.1204	-2.0015	0.3324	-1.6821	0.1471
2	315	0.1949	0.0355	0.0026	-0.0064	0.0021	-0.0288	0.0108	-0.0899	0.0530
2	315	0.2405	0.0228	0.0032	0.0114	0.0041	-0.0563	0.0178	-0.2788	0.0852
2	315	0.2999	-0.0084	0.0057	0.0011	0.0048	-0.1082	0.0339	-0.3047	0.1130
2	315	0.3498	-0.0500	0.0035	0.0240	0.0133	-0.1436	0.0457	-0.2819	0.1174
2	315	0.3998	-0.0897	0.0042	0.0393	0.0190	-0.2361	0.0711	-0.3535	0.1042
2	315	0.4496	-0.1081	0.0048	0.0455	0.0226	-0.3662	0.0825	-0.3849	0.1141
2	315	0.4995	-0.1432	0.0060	0.0555	0.0272	-0.5602	0.0998	-0.5158	0.1126
2	315	0.5551	-0.1613	0.0071	0.0697	0.0338	-0.8103	0.1173	-0.5764	0.1083
2	315	0.5996	-0.1916	0.0069	0.0821	0.0397	-1.0252	0.1344	-0.5505	0.1129
2	315	0.6497	-0.2047	0.0076	0.1105	0.0461	-1.2846	0.1516	-0.4380	0.1116
2	315	0.6996	-0.2256	0.0086	0.1229	0.0532	-1.5652	0.1699	-0.3975	0.1130
2	315	0.7495	-0.2462	0.0096	0.1523	0.0598	-1.9034	0.1894	-0.6943	0.1225
2	315	0.8578	-0.3120	0.0114	0.1576	0.0744	-2.6373	0.2416	-0.5135	0.1286
2	315	0.9727	-0.3568	0.0139	0.2886	0.0898	-3.3720	0.3135	-0.3768	0.1364
3	315	0.1938	0.0546	0.0038	-0.0105	0.0023	0.0429	0.0142	-0.2766	0.0501
3	315	0.2357	0.0201	0.0032	0.0377	0.0045	0.0016	0.0173	-0.8221	0.1235
3	315	0.2995	-0.0177	0.0064	-0.0004	0.0058	0.0706	0.0357	-0.9210	0.1384
3	315	0.3493	-0.0522	0.0044	-0.0052	0.0132	0.0899	0.0570	-0.9349	0.1389
3	315	0.4000	-0.0882	0.0046	0.0118	0.0193	0.1052	0.0793	-0.8514	0.1412
3	315	0.4497	-0.1090	0.0058	0.0027	0.0250	0.0477	0.0990	-0.9737	0.1223
3	315	0.4997	-0.1437	0.0059	0.0063	0.0315	-0.0550	0.1219	-1.0865	0.1464
3	315	0.5556	-0.1658	0.0070	0.0216	0.0404	-0.1679	0.1476	-0.9990	0.1393
3	315	0.5995	-0.1815	0.0080	0.0131	0.0480	-0.3172	0.1682	-1.0196	0.1479
3	315	0.6498	-0.2018	0.0086	0.0200	0.0574	-0.4795	0.1939	-1.0061	0.1470
3	315	0.6890	-0.2255	0.0093	-0.0061	0.0655	-0.6825	0.2158	-1.3087	0.1450
3	315	0.7495	-0.2302	0.0110	0.0297	0.0786	-0.8779	0.2525	-1.1759	0.1536
3	315	0.8577	-0.2345	0.0131	0.0518	0.1030	-1.3142	0.3258	-0.9455	0.1679
3	315	0.9178	-0.3000	0.0140	0.0284	0.1171	-1.7394	0.3730	-1.5552	0.1634
3	315	0.9729	-0.3008	0.0165	0.1111	0.1308	-1.9071	0.4193	-1.3811	0.1569
4	315	0.2001	0.0538	0.0029	-0.0065	0.0018	-0.0898	0.0116	0.0993	0.0532
4	315	0.2502	0.0266	0.0037	0.0026	0.0052	-0.1238	0.0181	0.3230	0.0800
4	315	0.3001	-0.0177	0.0052	0.0137	0.0075	-0.2330	0.0296	0.2756	0.1065
4	315	0.3502	-0.0695	0.0045	0.0517	0.0144	-0.3511	0.0456	0.1073	0.0946
4	315	0.4002	-0.1109	0.0047	0.0861	0.0243	-0.4994	0.0656	0.0765	0.0918
4	315	0.4500	-0.1307	0.0060	0.1165	0.0314	-0.7155	0.0815	-0.1646	0.0917
4	315	0.5001	-0.1660	0.0059	0.1488	0.0392	-0.9347	0.1035	-0.0517	0.0958
4	315	0.5560	-0.1863	0.0069	0.1989	0.0494	-1.2851	0.1313	-0.2114	0.1104
4	315	0.6001	-0.2106	0.0071	0.2382	0.0582	-1.5613	0.1518	-0.2084	0.1033
4	315	0.6501	-0.2457	0.0084	0.2701	0.0687	-1.8923	0.1794	-0.1203	0.1105
4	315	0.6999	-0.2600	0.0094	0.2995	0.0794	-2.2311	0.2103	-0.0652	0.1042
4	315	0.7500	-0.2843	0.0108	0.3524	0.0907	-2.5709	0.2457	0.0211	0.1124
4	315	0.8582	-0.3322	0.0136	0.4572	0.1140	-3.4172	0.3422	-0.1635	0.1175
4	315	0.9101	-0.3710	0.0152	0.5043	0.1257	-3.8698	0.3968	-0.2107	0.1246
4	315	0.9728	-0.3380	0.0170	0.6105	0.1394	-4.2728	0.4735	0.1710	0.1273

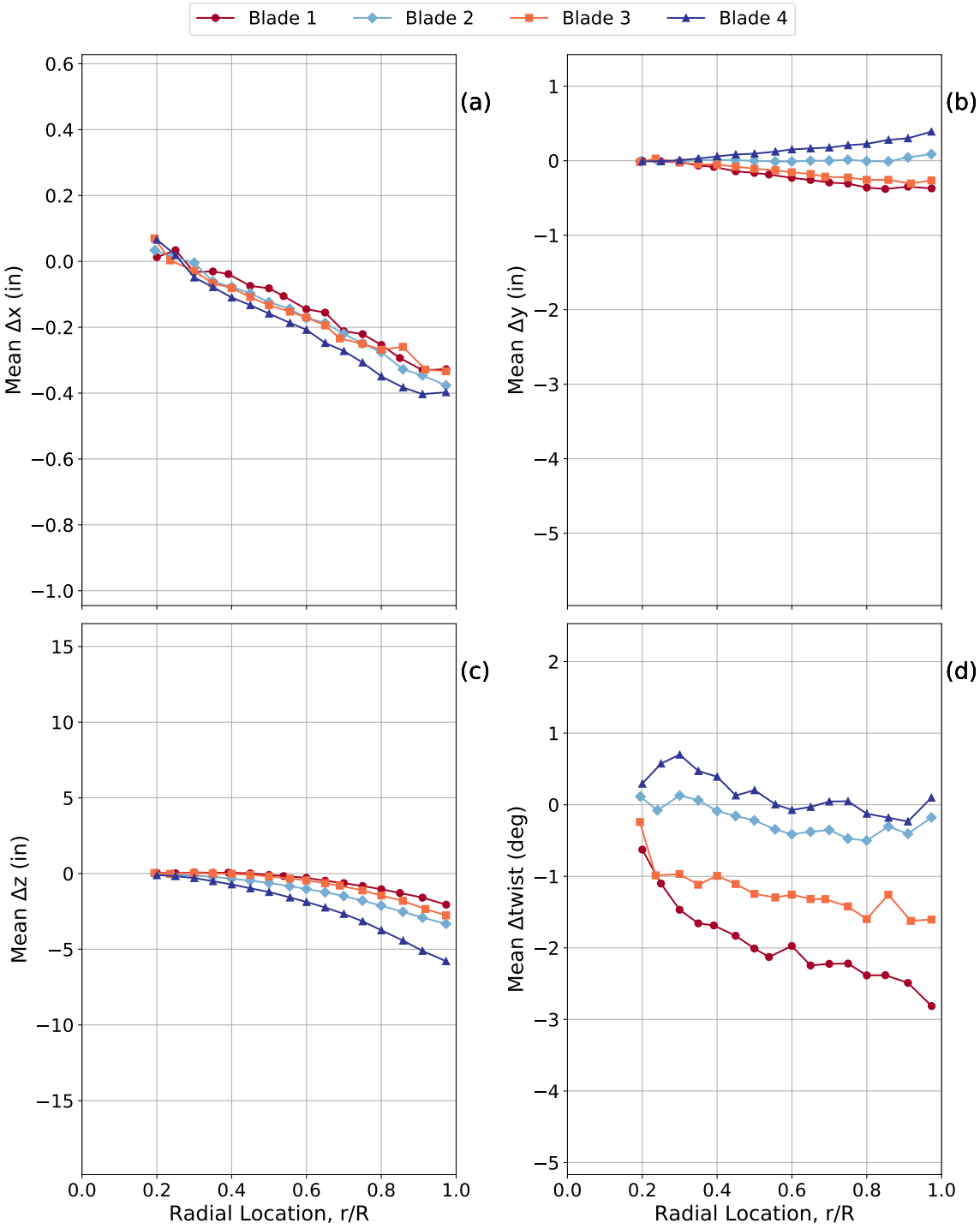


Figure 2.14-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0128	0.0070	0.0003	0.0028	0.0447	0.0240	-0.6276	0.0916
1	330.12	0.2499	0.0339	0.0053	-0.0100	0.0063	0.0202	0.0314	-1.1005	0.2161
1	330.12	0.2998	-0.0323	0.0055	-0.0165	0.0077	0.0763	0.0588	-1.4680	0.2264
1	330.12	0.3498	-0.0306	0.0039	-0.0659	0.0198	0.0490	0.0874	-1.6572	0.2255
1	330.12	0.3913	-0.0385	0.0045	-0.0827	0.0267	0.0592	0.1146	-1.6866	0.2250
1	330.12	0.4496	-0.0745	0.0061	-0.1418	0.0380	0.0105	0.1525	-1.8309	0.2203
1	330.12	0.4997	-0.0817	0.0056	-0.1634	0.0487	-0.0893	0.1851	-2.0087	0.2175
1	330.12	0.5387	-0.1055	0.0065	-0.1860	0.0570	-0.1635	0.2114	-2.1275	0.2210
1	330.12	0.5996	-0.1451	0.0073	-0.2298	0.0727	-0.2819	0.2519	-1.9734	0.2277
1	330.12	0.6498	-0.1554	0.0080	-0.2590	0.0868	-0.4752	0.2904	-2.2457	0.2220
1	330.12	0.6998	-0.2121	0.0086	-0.2927	0.1018	-0.6325	0.3283	-2.2230	0.2230
1	330.12	0.7500	-0.2209	0.0094	-0.3074	0.1171	-0.8259	0.3680	-2.2189	0.2225
1	330.12	0.8001	-0.2537	0.0103	-0.3611	0.1338	-1.0371	0.4106	-2.3841	0.2201
1	330.12	0.8497	-0.2935	0.0109	-0.3792	0.1506	-1.2834	0.4540	-2.3818	0.2220
1	330.12	0.9102	-0.3305	0.0117	-0.3489	0.1715	-1.5910	0.5091	-2.4892	0.2259
1	330.12	0.9734	-0.3274	0.0151	-0.3716	0.1937	-2.0572	0.5694	-2.8124	0.2319
2	330.12	0.1949	0.0336	0.0037	-0.0077	0.0018	-0.0335	0.0120	0.1138	0.0429
2	330.12	0.2405	0.0145	0.0029	0.0035	0.0052	-0.0799	0.0175	-0.0777	0.0815
2	330.12	0.2999	-0.0040	0.0047	-0.0071	0.0058	-0.1355	0.0342	0.1287	0.0994
2	330.12	0.3498	-0.0611	0.0038	0.0052	0.0161	-0.2119	0.0520	0.0631	0.0807
2	330.12	0.3998	-0.0773	0.0044	0.0115	0.0229	-0.3338	0.0763	-0.0878	0.0891
2	330.12	0.4496	-0.0970	0.0052	0.0090	0.0304	-0.4651	0.0968	-0.1571	0.0819
2	330.12	0.4995	-0.1239	0.0060	-0.0023	0.0385	-0.6191	0.1239	-0.2184	0.0982
2	330.12	0.5551	-0.1440	0.0068	-0.0101	0.0480	-0.8344	0.1583	-0.3443	0.0827
2	330.12	0.5996	-0.1719	0.0078	-0.0108	0.0572	-1.0150	0.1888	-0.4113	0.0838
2	330.12	0.6497	-0.1868	0.0086	-0.0004	0.0686	-1.2372	0.2252	-0.3773	0.0898
2	330.12	0.6996	-0.2198	0.0100	0.0009	0.0807	-1.4830	0.2613	-0.3531	0.0911
2	330.12	0.7495	-0.2494	0.0103	0.0131	0.0945	-1.7884	0.3019	-0.4738	0.0820
2	330.12	0.7996	-0.2756	0.0112	-0.0052	0.1091	-2.1232	0.3418	-0.4996	0.0857
2	330.12	0.8578	-0.3277	0.0125	-0.0096	0.1266	-2.5265	0.3910	-0.3036	0.0878
2	330.12	0.9100	-0.3461	0.0132	0.0443	0.1430	-2.9102	0.4350	-0.4070	0.0817
2	330.12	0.9727	-0.3766	0.0154	0.0885	0.1633	-3.3158	0.4886	-0.1780	0.0885
3	330.12	0.1938	0.0701	0.0088	-0.0161	0.0024	0.0408	0.0226	-0.2419	0.0668
3	330.12	0.2357	0.0030	0.0050	0.0282	0.0062	-0.0172	0.0193	-0.9865	0.2170
3	330.12	0.2995	-0.0289	0.0060	-0.0251	0.0084	0.0428	0.0542	-0.9681	0.2244
3	330.12	0.3493	-0.0664	0.0053	-0.0464	0.0180	0.0046	0.0876	-1.1174	0.2076
3	330.12	0.4000	-0.0807	0.0062	-0.0531	0.0267	-0.0157	0.1205	-0.9931	0.2256
3	330.12	0.4497	-0.1082	0.0067	-0.0796	0.0330	-0.0858	0.1520	-1.1073	0.2204
3	330.12	0.4997	-0.1331	0.0070	-0.1074	0.0408	-0.1889	0.1877	-1.2453	0.2128
3	330.12	0.5556	-0.1528	0.0076	-0.1287	0.0492	-0.3287	0.2277	-1.2957	0.2110
3	330.12	0.5995	-0.1701	0.0083	-0.1561	0.0562	-0.4522	0.2588	-1.2563	0.2191
3	330.12	0.6498	-0.1942	0.0096	-0.1787	0.0652	-0.6345	0.2966	-1.3171	0.2219
3	330.12	0.6890	-0.2340	0.0099	-0.2145	0.0725	-0.7980	0.3273	-1.3190	0.2148
3	330.12	0.7495	-0.2499	0.0114	-0.2260	0.0853	-1.1157	0.3767	-1.4210	0.2187
3	330.12	0.7998	-0.2682	0.0125	-0.2560	0.0964	-1.4502	0.4186	-1.5979	0.2173
3	330.12	0.8577	-0.2594	0.0136	-0.2568	0.1097	-1.8068	0.4679	-1.2568	0.2129
3	330.12	0.9178	-0.3283	0.0144	-0.3053	0.1237	-2.3414	0.5194	-1.6220	0.2095
3	330.12	0.9729	-0.3337	0.0164	-0.2646	0.1372	-2.7595	0.5671	-1.6045	0.2131
4	330.12	0.2001	0.0656	0.0032	-0.0093	0.0016	-0.1071	0.0105	0.2942	0.0369
4	330.12	0.2502	0.0190	0.0028	-0.0059	0.0057	-0.1716	0.0148	0.5753	0.0859
4	330.12	0.3001	-0.0489	0.0056	0.0066	0.0070	-0.2991	0.0275	0.7000	0.0828
4	330.12	0.3502	-0.0782	0.0035	0.0293	0.0181	-0.5059	0.0421	0.4704	0.0845
4	330.12	0.4002	-0.1099	0.0046	0.0582	0.0258	-0.7180	0.0611	0.3910	0.0880
4	330.12	0.4500	-0.1330	0.0052	0.0834	0.0345	-0.9769	0.0786	0.1294	0.0885
4	330.12	0.5001	-0.1586	0.0057	0.0947	0.0440	-1.2177	0.1022	0.2033	0.0976
4	330.12	0.5560	-0.1869	0.0062	0.1227	0.0567	-1.5826	0.1333	0.0045	0.0984
4	330.12	0.6001	-0.2079	0.0075	0.1519	0.0674	-1.8785	0.1601	-0.0732	0.0975
4	330.12	0.6501	-0.2479	0.0078	0.1652	0.0808	-2.2449	0.1920	-0.0307	0.1065
4	330.12	0.6999	-0.2723	0.0093	0.1769	0.0953	-2.6671	0.2265	0.0455	0.1068
4	330.12	0.7500	-0.3072	0.0100	0.2077	0.1108	-3.1558	0.2644	0.0483	0.1303
4	330.12	0.8002	-0.3494	0.0110	0.2252	0.1276	-3.7484	0.3031	-0.1251	0.1147
4	330.12	0.8582	-0.3828	0.0119	0.2808	0.1474	-4.4313	0.3507	-0.1817	0.1166
4	330.12	0.9101	-0.4032	0.0126	0.3008	0.1664	-5.1080	0.3910	-0.2336	0.1159
4	330.12	0.9728	-0.3974	0.0146	0.3903	0.1888	-5.7902	0.4405	0.0989	0.1338

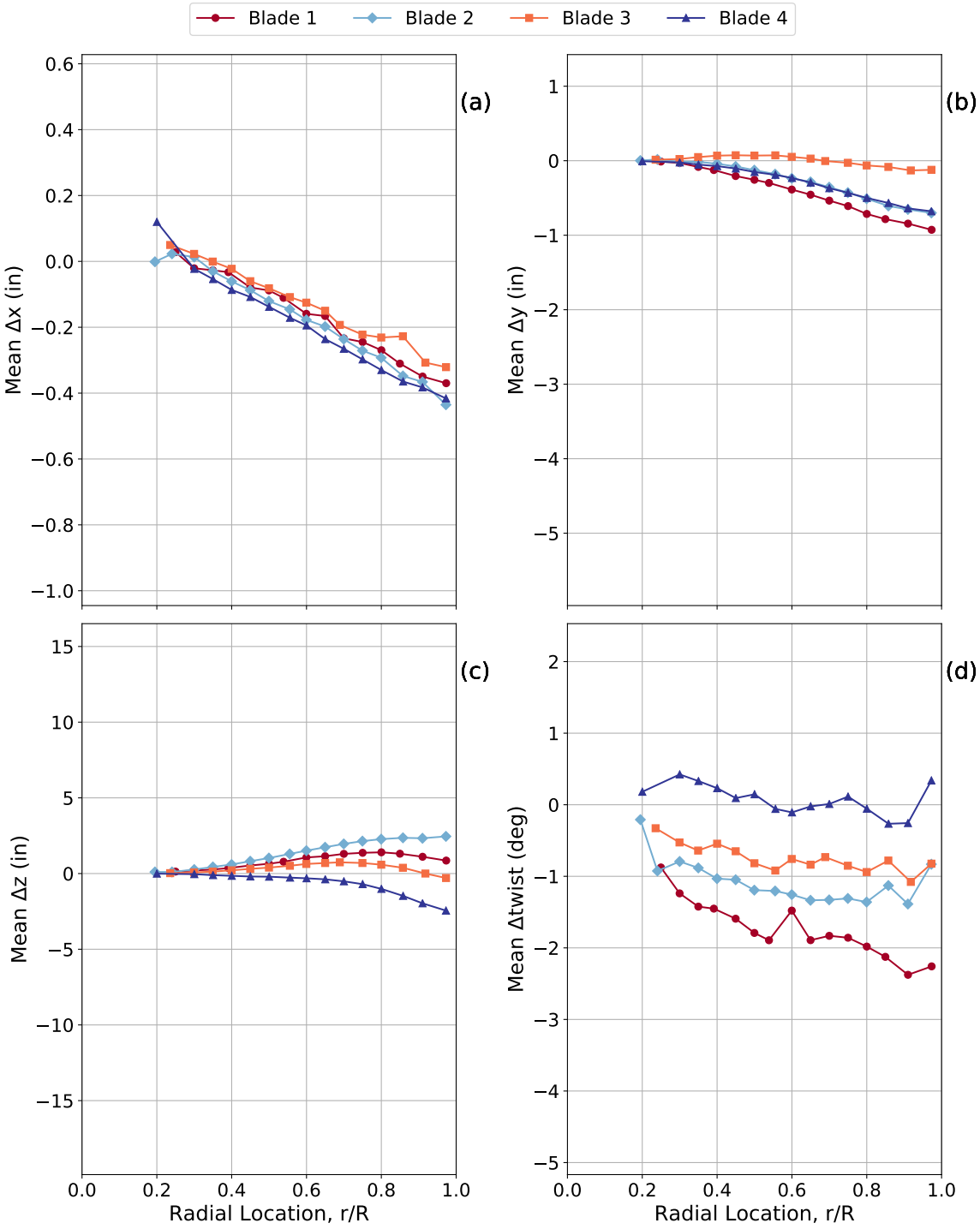


Figure 2.14-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2499	0.0281	0.0097	-0.0111	0.0102	0.1305	0.0580	-0.8762	0.4083
1	344.88	0.2998	-0.0210	0.0134	-0.0303	0.0204	0.2065	0.0859	-1.2384	0.5784
1	344.88	0.3498	-0.0270	0.0114	-0.0834	0.0354	0.2639	0.1498	-1.4234	0.5422
1	344.88	0.3913	-0.0328	0.0093	-0.1252	0.0540	0.3626	0.1990	-1.4517	0.5462
1	344.88	0.4496	-0.0792	0.0092	-0.2056	0.0721	0.5322	0.2672	-1.5923	0.5437
1	344.88	0.4997	-0.0882	0.0096	-0.2560	0.0885	0.6463	0.3272	-1.7913	0.5368
1	344.88	0.5387	-0.1107	0.0092	-0.2983	0.1012	0.7792	0.3721	-1.8936	0.5423
1	344.88	0.5996	-0.1592	0.0093	-0.3869	0.1207	1.0637	0.4457	-1.4790	0.5345
1	344.88	0.6498	-0.1659	0.0100	-0.4560	0.1365	1.1443	0.5060	-1.8924	0.5399
1	344.88	0.6998	-0.2336	0.0109	-0.5357	0.1526	1.3003	0.5674	-1.8313	0.5418
1	344.88	0.7500	-0.2448	0.0117	-0.6091	0.1691	1.3705	0.6300	-1.8582	0.5470
1	344.88	0.8001	-0.2697	0.0121	-0.7145	0.1857	1.4032	0.6957	-1.9818	0.5392
1	344.88	0.8497	-0.3104	0.0122	-0.7839	0.2019	1.3109	0.7615	-2.1254	0.5396
1	344.88	0.9102	-0.3496	0.0130	-0.8443	0.2218	1.1087	0.8426	-2.3763	0.5359
1	344.88	0.9734	-0.3699	0.0172	-0.9274	0.2426	0.8580	0.9308	-2.2584	0.5380
2	344.88	0.1949	-0.0012	0.0470	0.0019	0.0113	0.1029	0.1097	-0.2081	0.4037
2	344.88	0.2405	0.0230	0.0235	0.0165	0.0165	0.1033	0.0880	-0.9252	1.2930
2	344.88	0.2999	0.0132	0.0229	-0.0160	0.0199	0.2657	0.2780	-0.7926	1.3009
2	344.88	0.3498	-0.0301	0.0210	-0.0151	0.0286	0.4366	0.4391	-0.8827	1.3030
2	344.88	0.3998	-0.0606	0.0191	-0.0409	0.0371	0.5983	0.6038	-1.0326	1.2984
2	344.88	0.4496	-0.0874	0.0180	-0.0769	0.0468	0.8139	0.7676	-1.0479	1.3033
2	344.88	0.4995	-0.1205	0.0171	-0.1265	0.0559	1.0244	0.9333	-1.1931	1.3030
2	344.88	0.5551	-0.1456	0.0167	-0.1799	0.0683	1.2963	1.1189	-1.2051	1.3016
2	344.88	0.5996	-0.1775	0.0181	-0.2365	0.0776	1.5115	1.2677	-1.2559	1.3008
2	344.88	0.6497	-0.1979	0.0205	-0.2843	0.0890	1.7373	1.4349	-1.3351	1.3014
2	344.88	0.6996	-0.2361	0.0230	-0.3555	0.1011	1.9579	1.6005	-1.3291	1.3092
2	344.88	0.7495	-0.2710	0.0253	-0.4283	0.1129	2.1412	1.7687	-1.3093	1.3003
2	344.88	0.7996	-0.2925	0.0277	-0.5104	0.1253	2.2732	1.9379	-1.3594	1.2982
2	344.88	0.8578	-0.3479	0.0297	-0.6072	0.1396	2.3609	2.1344	-1.1292	1.2989
2	344.88	0.9100	-0.3660	0.0324	-0.6541	0.1523	2.3305	2.3098	-1.3874	1.3068
2	344.88	0.9727	-0.4353	0.0388	-0.7009	0.1680	2.4546	2.5211	-0.8311	1.3194
3	344.88	0.2357	0.0498	0.0064	0.0131	0.0043	0.0268	0.0288	-0.3281	0.1693
3	344.88	0.2995	0.0227	0.0062	0.0226	0.0115	0.0749	0.0523	-0.5268	0.2698
3	344.88	0.3493	-0.0006	0.0059	0.0486	0.0220	0.1291	0.0834	-0.6401	0.2573
3	344.88	0.4000	-0.0225	0.0050	0.0680	0.0356	0.2140	0.1221	-0.5441	0.2481
3	344.88	0.4497	-0.0601	0.0054	0.0733	0.0437	0.3101	0.1562	-0.6499	0.2464
3	344.88	0.4997	-0.0816	0.0061	0.0689	0.0542	0.3945	0.1933	-0.8174	0.2516
3	344.88	0.5556	-0.1085	0.0063	0.0721	0.0647	0.5151	0.2384	-0.9192	0.2506
3	344.88	0.5995	-0.1253	0.0062	0.0518	0.0740	0.6333	0.2756	-0.7576	0.2488
3	344.88	0.6498	-0.1499	0.0071	0.0283	0.0845	0.6956	0.3183	-0.8375	0.2593
3	344.88	0.6890	-0.1929	0.0072	-0.0043	0.0930	0.7427	0.3546	-0.7316	0.2525
3	344.88	0.7495	-0.2224	0.0073	-0.0278	0.1065	0.6970	0.4139	-0.8521	0.2474
3	344.88	0.7998	-0.2311	0.0078	-0.0636	0.1170	0.5856	0.4651	-0.9403	0.2492
3	344.88	0.8577	-0.2274	0.0084	-0.0836	0.1297	0.3812	0.5240	-0.7797	0.2543
3	344.88	0.9178	-0.3073	0.0089	-0.1304	0.1431	0.0003	0.5856	-1.0781	0.2553
3	344.88	0.9729	-0.3211	0.0111	-0.1223	0.1548	-0.2949	0.6440	-0.8232	0.2554
4	344.88	0.2001	0.1198	0.0065	-0.0068	0.0023	-0.0065	0.0128	0.1811	0.0974
4	344.88	0.3001	-0.0228	0.0077	-0.0232	0.0105	-0.0393	0.0365	0.4236	0.2251
4	344.88	0.3502	-0.0539	0.0059	-0.0525	0.0222	-0.1059	0.0588	0.3307	0.2104
4	344.88	0.4002	-0.0867	0.0061	-0.0728	0.0334	-0.1512	0.0870	0.2312	0.2090
4	344.88	0.4500	-0.1082	0.0062	-0.1048	0.0424	-0.1943	0.1104	0.0929	0.2033
4	344.88	0.5001	-0.1381	0.0064	-0.1518	0.0519	-0.2082	0.1353	0.1460	0.2190
4	344.88	0.5560	-0.1714	0.0066	-0.1896	0.0631	-0.2695	0.1693	-0.0583	0.2035
4	344.88	0.6001	-0.1946	0.0073	-0.2317	0.0702	-0.3131	0.1944	-0.1070	0.2106
4	344.88	0.6501	-0.2362	0.0082	-0.2938	0.0818	-0.3816	0.2236	-0.0229	0.2192
4	344.88	0.6999	-0.2655	0.0088	-0.3690	0.0930	-0.5144	0.2555	0.0105	0.2172
4	344.88	0.7500	-0.2977	0.0098	-0.4308	0.1048	-0.7008	0.2887	0.1140	0.2173
4	344.88	0.8002	-0.3300	0.0107	-0.4996	0.1155	-1.0139	0.3217	-0.0557	0.2097
4	344.88	0.8582	-0.3649	0.0116	-0.5677	0.1285	-1.4768	0.3610	-0.2658	0.2128
4	344.88	0.9101	-0.3827	0.0121	-0.6396	0.1407	-1.9663	0.3986	-0.2565	0.2167
4	344.88	0.9728	-0.4161	0.0148	-0.6788	0.1553	-2.4489	0.4453	0.3390	0.2116

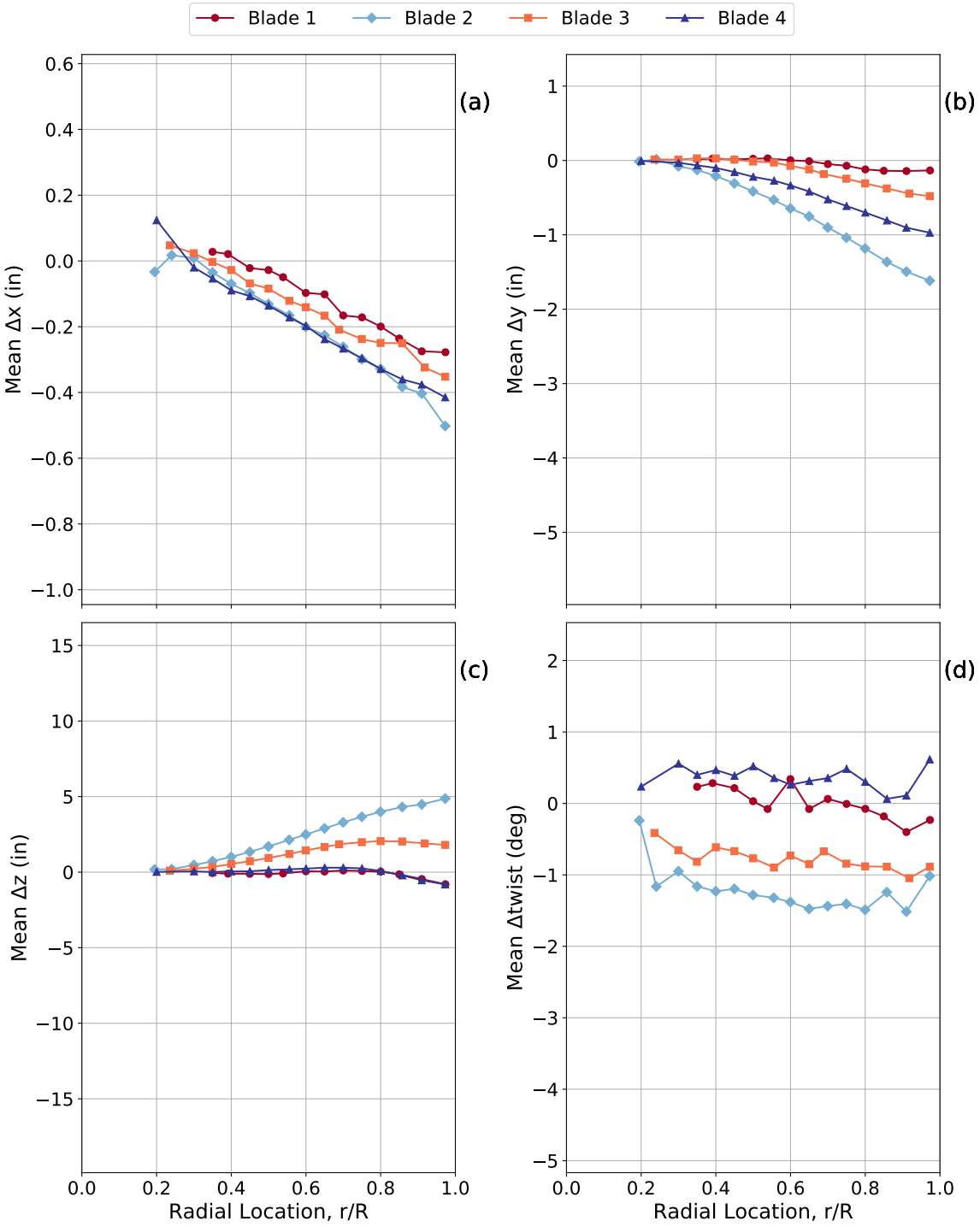


Figure 2.14-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.3498	0.0277	0.0046	0.0146	0.0160	-0.0630	0.0262	0.2329	0.3428
1	350.16	0.3913	0.0210	0.0019	0.0257	0.0254	-0.0985	0.0413	0.2836	0.4182
1	350.16	0.4496	-0.0217	0.0028	0.0138	0.0236	-0.1111	0.0436	0.2143	0.4018
1	350.16	0.4997	-0.0278	0.0022	0.0231	0.0256	-0.1260	0.0470	0.0316	0.4101
1	350.16	0.5387	-0.0493	0.0029	0.0281	0.0270	-0.0859	0.0479	-0.0779	0.4017
1	350.16	0.5996	-0.0971	0.0040	0.0023	0.0299	0.0553	0.0540	0.3403	0.4048
1	350.16	0.6498	-0.1014	0.0049	-0.0097	0.0324	0.0390	0.0595	-0.0775	0.4089
1	350.16	0.6998	-0.1658	0.0055	-0.0495	0.0360	0.1089	0.0675	0.0631	0.4062
1	350.16	0.7500	-0.1715	0.0054	-0.0713	0.0407	0.0745	0.0790	-0.0069	0.4033
1	350.16	0.8001	-0.1995	0.0061	-0.1206	0.0436	0.0318	0.0953	-0.0754	0.4031
1	350.16	0.8497	-0.2358	0.0062	-0.1388	0.0474	-0.1468	0.1171	-0.1813	0.4071
1	350.16	0.9102	-0.2748	0.0073	-0.1423	0.0524	-0.4593	0.1487	-0.4006	0.4059
1	350.16	0.9734	-0.2777	0.0088	-0.1341	0.0583	-0.8034	0.1877	-0.2316	0.4109
2	350.16	0.1949	-0.0332	0.0696	-0.0136	0.0140	0.1808	0.0763	-0.2385	0.2918
2	350.16	0.2405	0.0173	0.0375	0.0144	0.0121	0.1964	0.0583	-1.1631	0.9226
2	350.16	0.2999	0.0087	0.0361	-0.0789	0.0401	0.4705	0.1966	-0.9497	0.9286
2	350.16	0.3498	-0.0350	0.0339	-0.1271	0.0700	0.7199	0.3171	-1.1614	0.9248
2	350.16	0.3998	-0.0696	0.0326	-0.2095	0.0992	1.0084	0.4374	-1.2300	0.9292
2	350.16	0.4496	-0.0975	0.0309	-0.3081	0.1291	1.3400	0.5598	-1.1960	0.9250
2	350.16	0.4995	-0.1309	0.0288	-0.4158	0.1603	1.6996	0.6814	-1.2816	0.9311
2	350.16	0.5551	-0.1654	0.0273	-0.5300	0.1948	2.1329	0.8189	-1.3212	0.9247
2	350.16	0.5996	-0.2005	0.0269	-0.6456	0.2211	2.4866	0.9287	-1.3804	0.9304
2	350.16	0.6497	-0.2259	0.0266	-0.7524	0.2527	2.8938	1.0537	-1.4762	0.9249
2	350.16	0.6996	-0.2610	0.0268	-0.9010	0.2843	3.2929	1.1759	-1.4364	0.9431
2	350.16	0.7495	-0.2986	0.0277	-1.0384	0.3147	3.6623	1.3014	-1.4066	0.9381
2	350.16	0.7996	-0.3282	0.0283	-1.1847	0.3453	3.9900	1.4260	-1.4892	0.9350
2	350.16	0.8578	-0.3834	0.0298	-1.3642	0.3807	4.3094	1.5710	-1.2416	0.9327
2	350.16	0.9100	-0.4030	0.0313	-1.4942	0.4112	4.4811	1.7005	-1.5141	0.9335
2	350.16	0.9727	-0.5018	0.0393	-1.6167	0.4494	4.8658	1.8546	-1.0155	0.9438
3	350.16	0.2357	0.0475	0.0099	0.0135	0.0047	0.0988	0.0322	-0.4135	0.2618
3	350.16	0.2995	0.0234	0.0073	0.0121	0.0113	0.2164	0.0570	-0.6554	0.4165
3	350.16	0.3493	-0.0029	0.0063	0.0286	0.0198	0.3409	0.0965	-0.8164	0.3997
3	350.16	0.4000	-0.0277	0.0060	0.0275	0.0323	0.5338	0.1386	-0.6137	0.4059
3	350.16	0.4497	-0.0683	0.0068	0.0109	0.0402	0.7255	0.1801	-0.6687	0.4037
3	350.16	0.4997	-0.0843	0.0065	-0.0146	0.0499	0.9376	0.2231	-0.7688	0.4100
3	350.16	0.5556	-0.1212	0.0070	-0.0275	0.0609	1.1997	0.2744	-0.8969	0.4123
3	350.16	0.5995	-0.1406	0.0070	-0.0729	0.0697	1.4367	0.3183	-0.7294	0.4045
3	350.16	0.6498	-0.1663	0.0076	-0.1196	0.0797	1.6618	0.3687	-0.8496	0.4061
3	350.16	0.6890	-0.2091	0.0090	-0.1832	0.0878	1.8420	0.4101	-0.6706	0.4021
3	350.16	0.7495	-0.2376	0.0095	-0.2454	0.0991	1.9814	0.4772	-0.8422	0.4040
3	350.16	0.7998	-0.2494	0.0100	-0.3077	0.1102	2.0514	0.5343	-0.8813	0.4137
3	350.16	0.8577	-0.2502	0.0106	-0.3761	0.1215	2.0261	0.6059	-0.8861	0.4040
3	350.16	0.9178	-0.3241	0.0116	-0.4452	0.1340	1.8982	0.6814	-1.0463	0.4068
3	350.16	0.9729	-0.3520	0.0148	-0.4802	0.1459	1.8012	0.7534	-0.8870	0.4111
4	350.16	0.2001	0.1239	0.0084	-0.0057	0.0019	0.0169	0.0154	0.2355	0.1317
4	350.16	0.3001	-0.0201	0.0073	-0.0314	0.0101	0.0491	0.0427	0.5569	0.3025
4	350.16	0.3502	-0.0536	0.0067	-0.0661	0.0174	0.0109	0.0719	0.3994	0.2988
4	350.16	0.4002	-0.0897	0.0059	-0.1005	0.0292	0.0445	0.1036	0.4676	0.3036
4	350.16	0.4500	-0.1073	0.0061	-0.1559	0.0349	0.0555	0.1343	0.3866	0.2951
4	350.16	0.5001	-0.1360	0.0060	-0.2194	0.0417	0.1364	0.1700	0.5206	0.2903
4	350.16	0.5560	-0.1717	0.0066	-0.2716	0.0525	0.1881	0.2087	0.3554	0.2885
4	350.16	0.6001	-0.1976	0.0067	-0.3353	0.0584	0.2335	0.2411	0.2621	0.2990
4	350.16	0.6501	-0.2379	0.0072	-0.4180	0.0673	0.2935	0.2788	0.3132	0.2975
4	350.16	0.6999	-0.2665	0.0076	-0.5229	0.0777	0.2927	0.3199	0.3553	0.2947
4	350.16	0.7500	-0.2960	0.0087	-0.6128	0.0864	0.2482	0.3633	0.4834	0.2937
4	350.16	0.8002	-0.3284	0.0084	-0.7007	0.0974	0.0805	0.4099	0.3025	0.2991
4	350.16	0.8582	-0.3603	0.0093	-0.8067	0.1099	-0.2161	0.4677	0.0643	0.3025
4	350.16	0.9101	-0.3762	0.0098	-0.9036	0.1213	-0.5382	0.5228	0.1094	0.2983
4	350.16	0.9728	-0.4147	0.0119	-0.9716	0.1352	-0.8158	0.5896	0.6157	0.2942

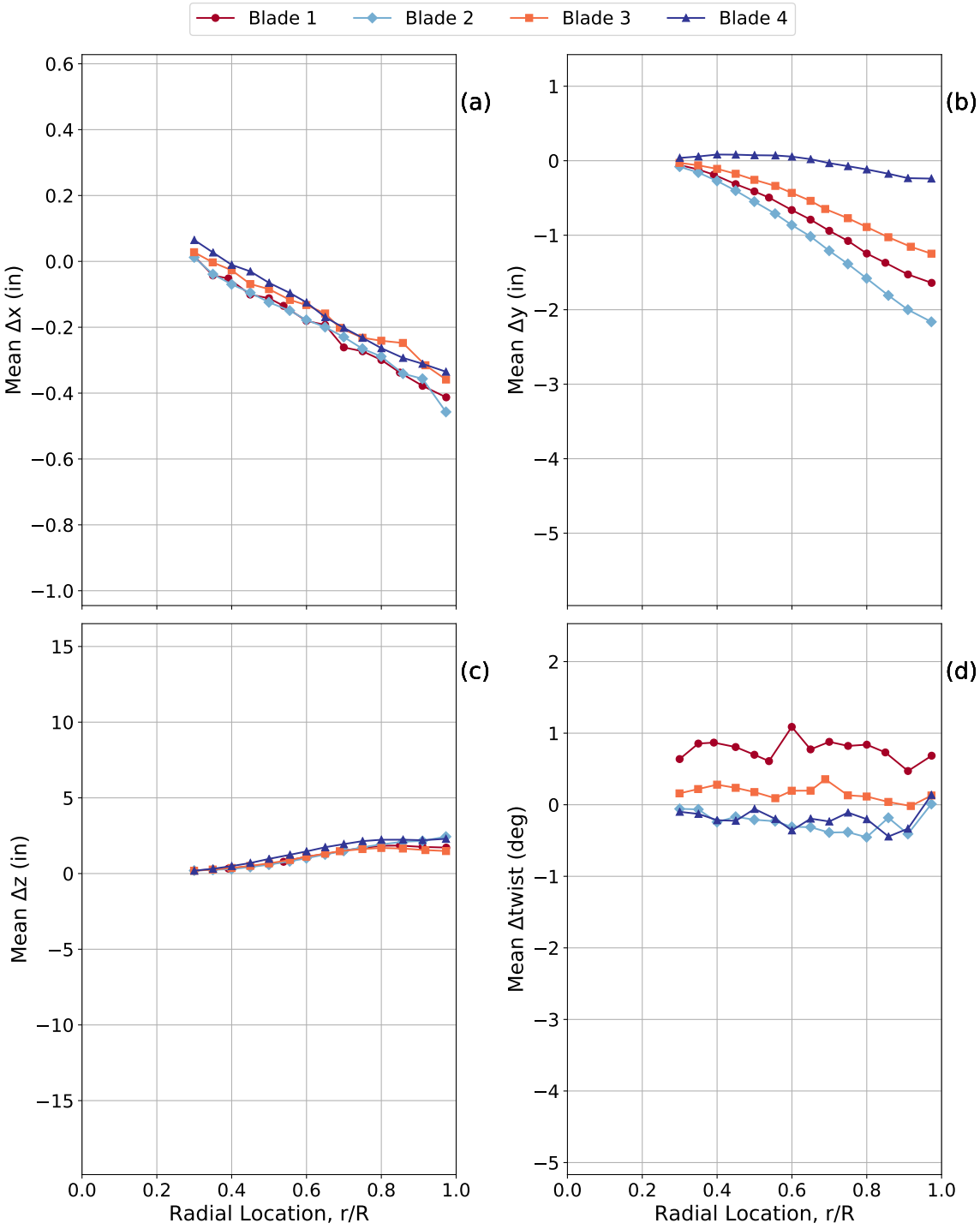


Figure 2.14-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Table 2.14-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, points 34 to 39. BD run 26, points 3350 to 3389.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2998	0.0156	0.0283	-0.0575	0.0390	0.2010	0.2506	0.6382	0.7810
1	355.08	0.3498	-0.0426	0.0383	-0.1177	0.0682	0.2655	0.4168	0.8550	1.0376
1	355.08	0.3913	-0.0518	0.0352	-0.1876	0.1025	0.3293	0.6040	0.8683	1.0081
1	355.08	0.4496	-0.1008	0.0351	-0.3140	0.1454	0.4881	0.8517	0.8064	0.9931
1	355.08	0.4997	-0.1119	0.0363	-0.4119	0.1812	0.6181	1.0654	0.6984	0.9946
1	355.08	0.5387	-0.1349	0.0361	-0.4949	0.2097	0.7768	1.2303	0.6095	0.9957
1	355.08	0.5996	-0.1806	0.0374	-0.6620	0.2558	1.1206	1.4891	1.0880	0.9992
1	355.08	0.6498	-0.1928	0.0386	-0.7910	0.2935	1.2822	1.7042	0.7735	0.9959
1	355.08	0.6998	-0.2612	0.0407	-0.9404	0.3314	1.5251	1.9157	0.8789	0.9893
1	355.08	0.7500	-0.2730	0.0430	-1.0767	0.3695	1.6827	2.1269	0.8220	1.0008
1	355.08	0.8001	-0.2993	0.0447	-1.2459	0.4074	1.8353	2.3384	0.8395	0.9889
1	355.08	0.8497	-0.3377	0.0472	-1.3699	0.4437	1.8484	2.5415	0.7312	0.9958
1	355.08	0.9102	-0.3779	0.0497	-1.5268	0.4891	1.7589	2.7886	0.4713	0.9970
1	355.08	0.9734	-0.4128	0.0600	-1.6395	0.5378	1.7160	3.0474	0.6853	0.9882
2	355.08	0.2999	0.0121	0.0188	-0.0806	0.0345	0.1966	0.1152	-0.0573	0.3080
2	355.08	0.3498	-0.0388	0.0203	-0.1590	0.0645	0.2437	0.1802	-0.0646	0.4064
2	355.08	0.3998	-0.0697	0.0198	-0.2710	0.1072	0.2952	0.2710	-0.2424	0.3841
2	355.08	0.4496	-0.0950	0.0196	-0.4014	0.1438	0.4286	0.3547	-0.1676	0.3862
2	355.08	0.4995	-0.1242	0.0201	-0.5491	0.1806	0.5864	0.4415	-0.2096	0.3825
2	355.08	0.5551	-0.1494	0.0207	-0.7111	0.2209	0.8101	0.5388	-0.2305	0.3872
2	355.08	0.5996	-0.1777	0.0215	-0.8639	0.2534	1.0088	0.6183	-0.3085	0.3832
2	355.08	0.6497	-0.1995	0.0222	-1.0168	0.2900	1.2600	0.7070	-0.3130	0.3852
2	355.08	0.6996	-0.2297	0.0237	-1.2083	0.3275	1.4957	0.7973	-0.3882	0.3829
2	355.08	0.7495	-0.2651	0.0248	-1.3853	0.3639	1.7339	0.8870	-0.3835	0.3878
2	355.08	0.7996	-0.2888	0.0257	-1.5792	0.4007	1.9257	0.9784	-0.4535	0.3860
2	355.08	0.8578	-0.3409	0.0271	-1.8083	0.4439	2.1001	1.0841	-0.1819	0.3902
2	355.08	0.9100	-0.3564	0.0289	-1.9997	0.4824	2.1554	1.1801	-0.4083	0.3844
2	355.08	0.9727	-0.4571	0.0409	-2.1625	0.5289	2.4377	1.2951	0.0105	0.3907
3	355.08	0.2995	0.0279	0.0229	-0.0290	0.0457	0.1859	0.1219	0.1589	0.3017
3	355.08	0.3493	-0.0030	0.0255	-0.0614	0.0851	0.2644	0.1796	0.2191	0.3946
3	355.08	0.4000	-0.0269	0.0247	-0.1093	0.1425	0.3676	0.2623	0.2806	0.3596
3	355.08	0.4497	-0.0688	0.0247	-0.1754	0.1901	0.5088	0.3357	0.2361	0.3541
3	355.08	0.4997	-0.0842	0.0244	-0.2567	0.2397	0.6744	0.4128	0.1771	0.3535
3	355.08	0.5556	-0.1170	0.0248	-0.3381	0.2952	0.8985	0.4968	0.0914	0.3479
3	355.08	0.5995	-0.1325	0.0255	-0.4318	0.3392	1.1084	0.5662	0.1958	0.3491
3	355.08	0.6498	-0.1582	0.0263	-0.5387	0.3887	1.3170	0.6455	0.1967	0.3550
3	355.08	0.6890	-0.2018	0.0275	-0.6480	0.4278	1.4767	0.7076	0.3565	0.3480
3	355.08	0.7495	-0.2319	0.0283	-0.7716	0.4901	1.6175	0.8041	0.1320	0.3473
3	355.08	0.7998	-0.2410	0.0288	-0.8900	0.5413	1.6902	0.8872	0.1150	0.3483
3	355.08	0.8577	-0.2477	0.0297	-1.0270	0.6014	1.6510	0.9838	0.0391	0.3507
3	355.08	0.9178	-0.3154	0.0303	-1.1549	0.6640	1.5508	1.0840	-0.0176	0.3487
3	355.08	0.9729	-0.3587	0.0459	-1.2479	0.7215	1.4873	1.1764	0.1292	0.3453
4	355.08	0.3001	0.0648	0.0133	0.0376	0.0255	0.1877	0.1297	-0.0984	0.4034
4	355.08	0.3502	0.0269	0.0159	0.0571	0.0462	0.3165	0.2064	-0.1284	0.5310
4	355.08	0.4002	-0.0106	0.0134	0.0831	0.0760	0.4946	0.3122	-0.2159	0.4981
4	355.08	0.4500	-0.0305	0.0136	0.0811	0.1030	0.6983	0.4017	-0.2245	0.5040
4	355.08	0.5001	-0.0653	0.0157	0.0737	0.1301	0.9715	0.5008	-0.0588	0.4843
4	355.08	0.5560	-0.0962	0.0166	0.0708	0.1607	1.2417	0.6088	-0.1987	0.4950
4	355.08	0.6001	-0.1248	0.0185	0.0551	0.1861	1.4633	0.6940	-0.3584	0.5004
4	355.08	0.6501	-0.1694	0.0202	0.0205	0.2126	1.7399	0.7903	-0.1940	0.5031
4	355.08	0.6999	-0.2019	0.0230	-0.0328	0.2424	1.9457	0.8885	-0.2339	0.4943
4	355.08	0.7500	-0.2322	0.0241	-0.0734	0.2710	2.1433	0.9856	-0.1097	0.5072
4	355.08	0.8002	-0.2636	0.0253	-0.1172	0.3010	2.2320	1.0867	-0.2023	0.4953
4	355.08	0.8582	-0.2931	0.0265	-0.1750	0.3353	2.2355	1.2020	-0.4439	0.5028
4	355.08	0.9101	-0.3109	0.0282	-0.2341	0.3669	2.2028	1.3099	-0.3341	0.4974
4	355.08	0.9728	-0.3350	0.0359	-0.2399	0.4046	2.2933	1.4367	0.1374	0.5056

2.15 Run 60, Points 28 to 29

2.15.1 Pitch, Flap, and Lag

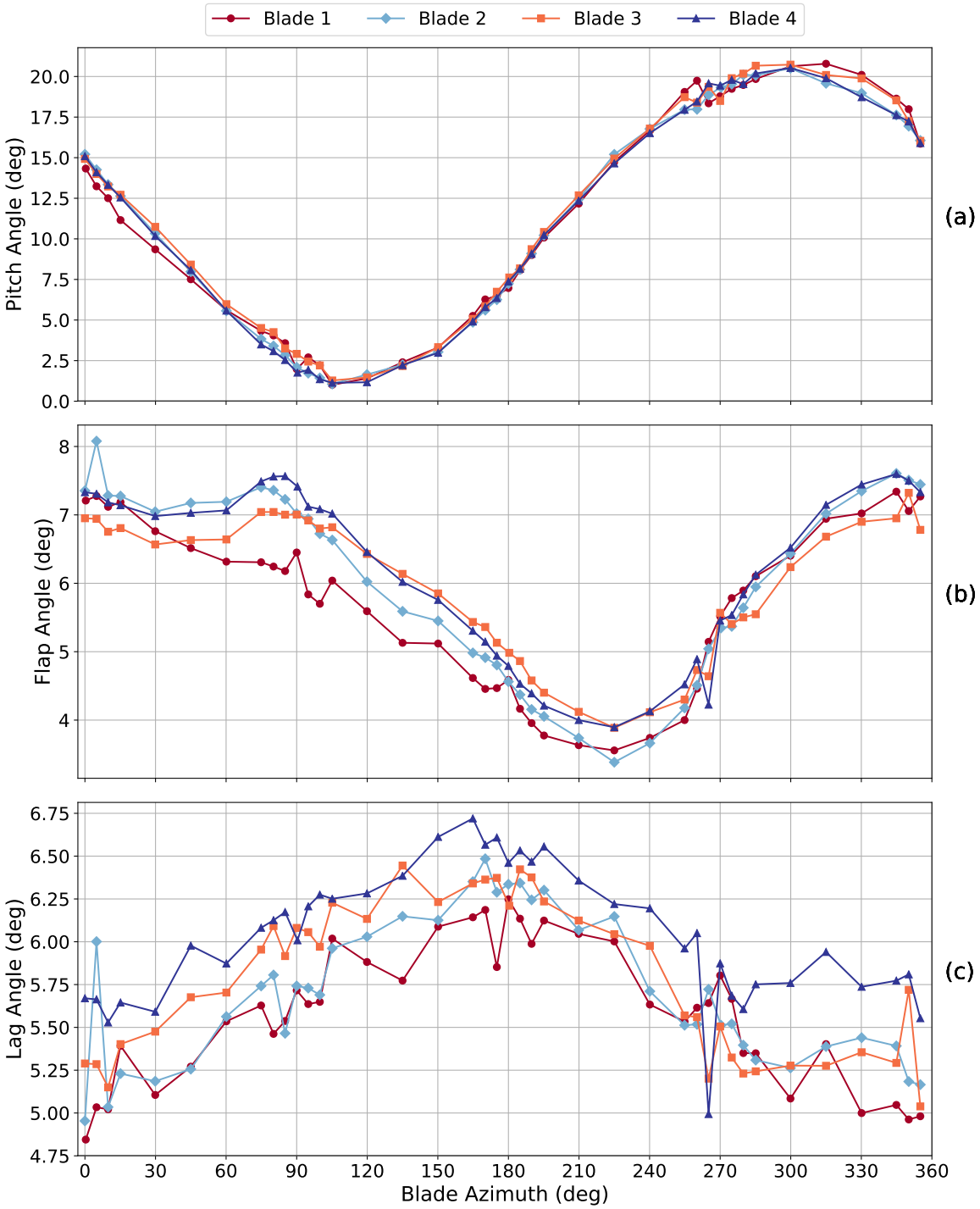


Figure 2.15-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	14.3304	7.2094	4.8448	0.2738	0.1061	0.2673
4.92	13.2359	7.2758	5.0337	0.1890	0.1178	0.1564
9.84	12.5054	7.1186	5.0215	0.1986	0.1254	0.1482
15.12	11.1566	7.1871	5.3928	0.3021	0.0936	0.1464
29.88	9.3551	6.7616	5.1054	0.2344	0.1079	0.1721
45	7.5108	6.5144	5.2707	0.1762	0.1013	0.1858
60.12	5.6101	6.3165	5.5354	0.1651	0.1128	0.1533
74.88	4.3285	6.3077	5.6278	0.1151	0.1076	0.1363
80.16	4.0490	6.2447	5.4621	0.1549	0.1423	0.1831
85.08	3.5769	6.1790	5.5374	0.1955	0.1087	0.1179
90	1.9819	6.4505	5.7161	0.2099	0.1162	0.1664
94.92	2.7011	5.8370	5.6362	0.1795	0.1331	0.1434
99.84	2.2142	5.7007	5.6490	0.1522	0.0915	0.1495
105.12	1.0069	6.0394	6.0187	0.1668	0.1467	0.1328
119.88	1.4063	5.5919	5.8818	0.1284	0.1562	0.1811
135	2.3991	5.1302	5.7733	0.1235	0.1560	0.1968
150.12	3.3082	5.1189	6.0881	0.1282	0.1425	0.1323
164.88	5.2547	4.6154	6.1428	0.1668	0.1487	0.2038
170.16	6.2709	4.4558	6.1859	0.0915	0.1111	0.1246
175.08	6.4934	4.4679	5.8523	0.1389	0.1336	0.1434
180	6.9710	4.5873	6.2481	0.1309	0.1283	0.1055
184.92	8.0670	4.1658	6.1349	0.1110	0.1685	0.1377
189.84	8.9992	3.9561	5.9878	0.1729	0.1405	0.1319
195.12	10.0791	3.7750	6.1239	0.1422	0.0826	0.1344
209.88	12.1704	3.6332	6.0460	0.1015	0.1256	0.1103
225	14.7430	3.5569	6.0019	0.1569	0.0933	0.1682
240.12	16.6669	3.7397	5.6333	0.1890	0.1047	0.1912
254.88	19.0513	4.0002	5.5339	0.2663	0.1186	0.1552
260.16	19.7412	4.4590	5.6149	1.5869	0.5641	0.4335
265.08	18.3479	5.1443	5.6419	0.2652	0.0702	0.1471
270	18.7890	5.5173	5.8031	0.2152	0.0887	0.1460
274.92	19.2401	5.7839	5.6663	0.2465	0.0903	0.1321
279.84	19.4773	5.8941	5.3500	0.2145	0.1105	0.1001
285.12	19.8450	6.1037	5.3489	0.1545	0.1113	0.0763
299.88	20.6295	6.4038	5.0845	0.2009	0.1127	0.1387
315	20.7854	6.9435	5.4024	0.1502	0.1136	0.1306
330.12	20.1023	7.0216	4.9997	0.2317	0.1356	0.1246
344.88	18.6369	7.3396	5.0472	0.4180	0.1803	0.1907
350.16	17.9879	7.0568	4.9623	0.4762	0.2307	0.1832
355.08	15.8601	7.2693	4.9810	0.2565	0.1251	0.2090

Table 2.15-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	15.2093	7.3534	4.9538	0.4642	0.1967	0.1961
4.92	14.2568	8.0787	6.0010	0.2318	0.1158	0.1860
9.84	13.3465	7.2830	5.0346	0.1351	0.0953	0.1354
15.12	12.6359	7.2754	5.2302	0.1538	0.0883	0.1428
29.88	10.3312	7.0463	5.1856	0.1679	0.0994	0.1603
45	7.9775	7.1746	5.2564	0.1663	0.1239	0.1985
60.12	5.5653	7.1918	5.5630	0.1214	0.0869	0.1208
74.88	3.8331	7.4044	5.7419	0.1815	0.0985	0.1999
80.16	3.4044	7.3597	5.8060	0.1199	0.1834	0.1133
85.08	2.8393	7.2273	5.4653	0.1654	0.1691	0.1223
90	2.0913	7.0193	5.7421	0.1755	0.1059	0.1082
94.92	1.7284	6.9424	5.7295	0.1773	0.1952	0.1248
99.84	1.4347	6.7251	5.6898	0.1815	0.0998	0.1427
105.12	1.0563	6.6326	5.9617	0.1556	0.0941	0.1451
119.88	1.6421	6.0234	6.0293	0.1360	0.1254	0.1017
135	2.2466	5.5901	6.1485	0.0742	0.1213	0.1569
150.12	3.0345	5.4498	6.1257	0.1065	0.1371	0.1747
164.88	4.8625	4.9823	6.3511	0.1630	0.1377	0.1610
170.16	5.6100	4.9133	6.4847	0.1425	0.1171	0.2317
175.08	6.2512	4.8055	6.2891	0.1298	0.1467	0.1380
180	7.2387	4.5618	6.3357	0.1463	0.1190	0.1310
184.92	8.1127	4.3718	6.3430	0.1941	0.1403	0.1275
189.84	9.0976	4.1560	6.2446	0.0922	0.0903	0.0967
195.12	10.2162	4.0540	6.3014	0.1081	0.0977	0.0875
209.88	12.4489	3.7374	6.0680	0.1054	0.0979	0.1360
225	15.2048	3.3841	6.1476	0.1106	0.0964	0.1043
240.12	16.7719	3.6632	5.7108	0.1750	0.1116	0.0982
254.88	17.9617	4.1772	5.5126	0.2529	0.1087	0.2015
260.16	17.9794	4.5085	5.5178	0.6021	0.1716	0.1469
265.08	18.8677	5.0422	5.7222	0.2402	0.1232	0.2023
270.35	19.3273	5.3474	5.5125	0.3437	0.0806	0.2215
274.92	19.5261	5.3702	5.5207	0.2154	0.0961	0.1336
279.84	20.0989	5.6420	5.3962	0.2180	0.0790	0.1349
285.12	20.0695	5.9476	5.3090	0.2518	0.0942	0.0908
299.88	20.5064	6.4335	5.2630	0.2251	0.1196	0.1226
315	19.5802	7.0176	5.3881	0.2549	0.1346	0.1367
330.12	18.9739	7.3480	5.4399	0.1838	0.1143	0.1327
344.88	17.6279	7.6058	5.3918	0.2042	0.1414	0.2014
350.16	16.9423	7.5079	5.1838	0.2845	0.1289	0.1401
355.08	16.0597	7.4450	5.1658	0.1570	0.1650	0.1119

Table 2.15-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	14.9261	6.9512	5.2892	0.1729	0.1045	0.1199
4.92	13.9948	6.9420	5.2854	0.1752	0.1044	0.1380
9.84	13.2272	6.7539	5.1497	0.1580	0.0969	0.1460
15.12	12.7154	6.8067	5.4022	0.1654	0.0820	0.1490
29.88	10.7388	6.5675	5.4752	0.1688	0.0941	0.1212
45	8.4154	6.6315	5.6760	0.1037	0.0796	0.1861
60.12	5.9784	6.6411	5.7034	0.1555	0.1297	0.2203
74.88	4.5094	7.0416	5.9542	0.1273	0.1149	0.1943
80.16	4.2556	7.0421	6.0916	0.1407	0.2094	0.2365
85.08	3.2506	7.0029	5.9164	0.2055	0.0969	0.1545
90	2.9172	7.0048	6.0808	0.1627	0.0878	0.1527
94.92	2.4405	6.9186	6.0562	0.1794	0.0915	0.1227
99.84	2.2027	6.8005	5.9710	0.1874	0.0981	0.1354
105.12	1.2779	6.8193	6.2280	0.1169	0.0819	0.0871
119.88	1.4666	6.4290	6.1334	0.1059	0.1014	0.1565
135	2.1660	6.1377	6.4452	0.1210	0.1094	0.1179
150.12	3.3274	5.8520	6.2321	0.1428	0.1716	0.1289
164.88	5.0694	5.4342	6.3406	0.1247	0.1288	0.1963
170.16	5.8528	5.3611	6.3633	0.1087	0.1627	0.1590
175.08	6.7424	5.1312	6.3731	0.1749	0.1311	0.2081
180.35	7.6209	4.9838	6.2106	0.2143	0.1137	0.2559
184.92	8.1800	4.8634	6.4229	0.1411	0.1202	0.1338
189.84	9.3664	4.5796	6.3758	0.1428	0.0942	0.1432
195.12	10.4228	4.4011	6.2352	0.1338	0.1218	0.1084
209.88	12.6807	4.1207	6.1240	0.1593	0.1111	0.1627
225	14.9460	3.8872	6.0442	0.1592	0.1093	0.1470
240.12	16.7920	4.1148	5.9762	0.1311	0.1038	0.1603
254.88	18.7285	4.3004	5.5698	0.2480	0.0997	0.1395
260.16	18.3911	4.7319	5.5600	0.3445	0.1179	0.1241
265.08	19.3591	4.6415	5.2007	0.4122	0.2514	0.1740
270	18.4953	5.5684	5.5052	0.4997	0.2232	0.1255
274.92	19.8960	5.4040	5.3241	0.3880	0.1797	0.1571
279.84	20.1744	5.5018	5.2305	0.4298	0.1650	0.1121
285.12	20.6637	5.5475	5.2434	0.1620	0.0877	0.1515
299.88	20.7298	6.2363	5.2768	0.3105	0.1146	0.1671
315	20.0935	6.6816	5.2757	0.2822	0.1148	0.1842
330.12	19.8821	6.8995	5.3548	0.2621	0.1037	0.1390
344.88	18.5299	6.9504	5.2926	0.3008	0.1559	0.2217
350.16	17.2497	7.3224	5.7192	0.1953	0.0998	0.1247
355.08	16.0348	6.7811	5.0386	0.1628	0.1534	0.1226

Table 2.15-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	15.0892	7.3311	5.6699	0.1412	0.1147	0.1216
4.92	14.0975	7.3081	5.6634	0.1717	0.1009	0.1143
9.84	13.3264	7.1826	5.5285	0.1505	0.0798	0.1071
15.12	12.5496	7.1411	5.6449	0.1621	0.0755	0.0791
29.88	10.1756	6.9828	5.5911	0.1196	0.0785	0.1364
45	8.0741	7.0292	5.9772	0.1356	0.0844	0.1069
60.12	5.5791	7.0661	5.8729	0.1617	0.0824	0.1192
74.88	3.4955	7.4885	6.0815	0.1773	0.0846	0.1878
80.16	3.0806	7.5606	6.1256	0.2047	0.1365	0.1551
85.08	2.5350	7.5667	6.1731	0.1160	0.1430	0.1889
90.35	1.7585	7.4131	6.0082	0.1527	0.0925	0.2489
94.92	1.9303	7.1207	6.2067	0.1368	0.0810	0.1294
99.84	1.3555	7.0835	6.2750	0.1718	0.0836	0.1325
105.12	1.1325	7.0181	6.2511	0.1463	0.1020	0.1050
119.88	1.1671	6.4568	6.2823	0.1163	0.0841	0.1341
135	2.2201	6.0207	6.3851	0.0864	0.1197	0.1414
150.12	2.9831	5.7567	6.6120	0.1329	0.1168	0.1218
164.88	4.9062	5.3059	6.7199	0.1058	0.1078	0.1124
170.16	5.7926	5.1453	6.5664	0.1070	0.1371	0.1390
175.08	6.3535	4.9413	6.6083	0.0807	0.1283	0.1099
180	7.3653	4.7915	6.4604	0.1103	0.1372	0.1291
184.92	8.1579	4.5309	6.5330	0.0986	0.0900	0.1330
189.84	9.0792	4.3899	6.4675	0.1159	0.1060	0.1154
195.12	10.2338	4.2111	6.5558	0.1101	0.1118	0.1087
209.88	12.3518	4.0003	6.3571	0.1904	0.1369	0.1408
225	14.6440	3.8952	6.2201	0.1906	0.1154	0.1759
240.12	16.5108	4.1284	6.1950	0.1567	0.0852	0.1059
254.88	17.9478	4.5217	5.9607	0.2622	0.1039	0.1996
260.16	18.4569	4.8900	6.0501	0.4146	0.1565	0.1482
265.08	19.5732	4.2254	4.9936	0.5324	0.2904	0.1849
270	19.4372	5.4546	5.8736	0.2006	0.0861	0.1122
274.92	19.7908	5.5351	5.6853	0.2164	0.1016	0.1346
279.84	19.5343	5.8374	5.6066	0.2915	0.0757	0.1084
285.12	20.1857	6.1244	5.7513	0.1449	0.0719	0.1273
299.88	20.5257	6.5203	5.7591	0.1426	0.1067	0.1034
315	19.8953	7.1467	5.9403	0.2036	0.0912	0.1501
330.12	18.7232	7.4437	5.7369	0.3194	0.1659	0.1823
344.88	17.6176	7.5982	5.7726	0.2252	0.1059	0.1683
350.16	17.2275	7.5004	5.8093	0.3281	0.1266	0.2299
355.08	15.8986	7.3318	5.5534	0.1764	0.1041	0.1246

2.15.2 Spanwise Elastic Deformations

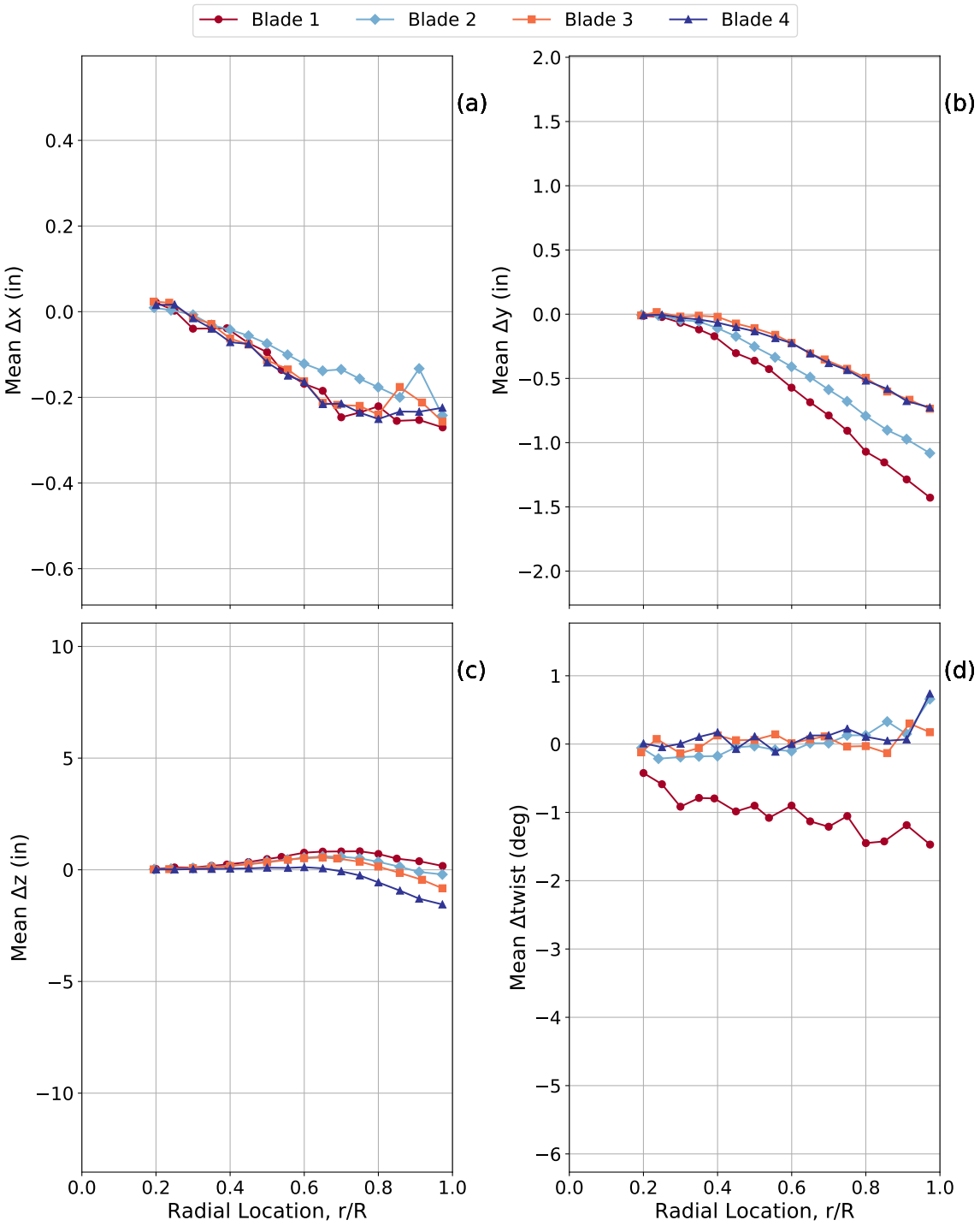


Figure 2.15-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0213	0.0034	-0.0133	0.0024	0.0404	0.0111	-0.4239	0.0749
1	0.35	0.2499	0.0024	0.0019	-0.0218	0.0040	0.1051	0.0167	-0.5878	0.1283
1	0.35	0.2998	-0.0397	0.0023	-0.0666	0.0101	0.1004	0.0303	-0.9168	0.1644
1	0.35	0.3498	-0.0391	0.0026	-0.1187	0.0169	0.1785	0.0484	-0.7886	0.1686
1	0.35	0.3913	-0.0387	0.0030	-0.1714	0.0243	0.2360	0.0650	-0.7960	0.1905
1	0.35	0.4496	-0.0734	0.0040	-0.3033	0.0321	0.3456	0.0882	-0.9859	0.1896
1	0.35	0.4997	-0.0945	0.0040	-0.3618	0.0400	0.4794	0.1071	-0.9023	0.2011
1	0.35	0.5387	-0.1359	0.0045	-0.4271	0.0459	0.5763	0.1224	-1.0799	0.2073
1	0.35	0.5996	-0.1684	0.0046	-0.5719	0.0563	0.7661	0.1458	-0.9008	0.2181
1	0.35	0.6498	-0.1848	0.0054	-0.6854	0.0639	0.8145	0.1665	-1.1311	0.2293
1	0.35	0.6998	-0.2466	0.0062	-0.7883	0.0735	0.8216	0.1859	-1.2100	0.2802
1	0.35	0.7500	-0.2353	0.0064	-0.9074	0.0828	0.8283	0.2098	-1.0544	0.2700
1	0.35	0.8001	-0.2209	0.0066	-1.0704	0.0933	0.7090	0.2300	-1.4495	0.2623
1	0.35	0.8497	-0.2549	0.0068	-1.1537	0.1026	0.5010	0.2520	-1.4248	0.2551
1	0.35	0.9102	-0.2529	0.0079	-1.2863	0.1184	0.3835	0.2839	-1.1868	0.2981
1	0.35	0.9734	-0.2702	0.0116	-1.4282	0.1297	0.1713	0.3315	-1.4713	0.3064
2	0	0.1949	0.0093	0.0141	-0.0055	0.0067	0.0294	0.0447	-0.0564	0.1450
2	0	0.2405	0.0035	0.0051	-0.0100	0.0054	0.0497	0.0395	-0.2135	0.4591
2	0	0.2999	-0.0072	0.0049	-0.0453	0.0263	0.0787	0.1122	-0.1908	0.4571
2	0	0.3498	-0.0310	0.0055	-0.0569	0.0479	0.1292	0.1723	-0.1801	0.4708
2	0	0.3998	-0.0421	0.0097	-0.1089	0.0715	0.1796	0.2380	-0.1756	0.4679
2	0	0.4496	-0.0561	0.0150	-0.1725	0.0945	0.2733	0.3007	-0.0469	0.4754
2	0	0.4995	-0.0746	0.0221	-0.2521	0.1180	0.3651	0.3639	-0.0292	0.4858
2	0	0.5551	-0.1006	0.0318	-0.3358	0.1461	0.4595	0.4373	-0.0840	0.4781
2	0	0.5996	-0.1215	0.0406	-0.4090	0.1692	0.5423	0.4962	-0.1030	0.4726
2	0	0.6497	-0.1380	0.0515	-0.4902	0.1949	0.5991	0.5624	0.0127	0.4763
2	0	0.6996	-0.1348	0.0633	-0.5873	0.2207	0.5836	0.6294	0.0134	0.4766
2	0	0.7495	-0.1567	0.0763	-0.6782	0.2467	0.5140	0.6968	0.1278	0.4749
2	0	0.7996	-0.1763	0.0895	-0.7923	0.2733	0.3572	0.7652	0.1290	0.4778
2	0	0.8578	-0.1999	0.1068	-0.9028	0.3035	0.1357	0.8451	0.3288	0.4749
2	0	0.9100	-0.1328	0.1236	-0.9729	0.3323	-0.0962	0.9172	0.1475	0.4754
2	0	0.9727	-0.2422	0.1444	-1.0818	0.3668	-0.2079	1.0018	0.6581	0.4820
3	0	0.1938	0.0235	0.0023	-0.0093	0.0017	0.0190	0.0068	-0.1209	0.0606
3	0	0.2357	0.0209	0.0016	0.0161	0.0032	0.0286	0.0129	0.0737	0.0869
3	0	0.2995	-0.0138	0.0017	-0.0185	0.0069	0.0727	0.0238	-0.1348	0.1319
3	0	0.3493	-0.0287	0.0020	-0.0115	0.0110	0.1059	0.0378	-0.0577	0.1243
3	0	0.4000	-0.0627	0.0026	-0.0205	0.0184	0.1700	0.0582	0.1272	0.1335
3	0	0.4497	-0.0767	0.0031	-0.0729	0.0225	0.2446	0.0754	0.0559	0.1279
3	0	0.4997	-0.1133	0.0030	-0.1091	0.0294	0.3327	0.0941	0.0611	0.1449
3	0	0.5556	-0.1349	0.0033	-0.1609	0.0379	0.4479	0.1174	0.1420	0.1448
3	0	0.5995	-0.1625	0.0037	-0.2235	0.0452	0.5191	0.1343	0.0121	0.1510
3	0	0.6498	-0.2127	0.0045	-0.3062	0.0547	0.5499	0.1547	0.0707	0.1539
3	0	0.6890	-0.2176	0.0047	-0.3523	0.0631	0.5064	0.1714	0.1115	0.1549
3	0	0.7495	-0.2200	0.0054	-0.4251	0.0753	0.3623	0.2001	-0.0364	0.1646
3	0	0.7998	-0.2404	0.0059	-0.4952	0.0869	0.1445	0.2271	-0.0293	0.1731
3	0	0.8577	-0.1759	0.0061	-0.6019	0.1017	-0.1404	0.2617	-0.1317	0.1793
3	0	0.9178	-0.2120	0.0080	-0.6661	0.1169	-0.4491	0.3012	0.3008	0.2226
3	0	0.9729	-0.2566	0.0111	-0.7357	0.1302	-0.8289	0.3415	0.1735	0.1835
4	0	0.2001	0.0156	0.0021	-0.0067	0.0015	0.0156	0.0080	0.0096	0.0521
4	0	0.2502	0.0166	0.0017	-0.0039	0.0037	0.0152	0.0139	-0.0450	0.0914
4	0	0.3001	-0.0154	0.0017	-0.0280	0.0068	0.0323	0.0243	0.0049	0.1168
4	0	0.3502	-0.0396	0.0020	-0.0410	0.0119	0.0392	0.0396	0.1048	0.1162
4	0	0.4002	-0.0712	0.0027	-0.0657	0.0190	0.0523	0.0585	0.1717	0.1215
4	0	0.4500	-0.0755	0.0032	-0.1004	0.0243	0.0614	0.0753	-0.0719	0.1397
4	0	0.5001	-0.1187	0.0031	-0.1331	0.0307	0.0940	0.0952	0.1131	0.1512
4	0	0.5560	-0.1493	0.0030	-0.1863	0.0390	0.0850	0.1182	-0.1120	0.1606
4	0	0.6001	-0.1639	0.0029	-0.2252	0.0459	0.1163	0.1373	-0.0008	0.1648
4	0	0.6501	-0.2158	0.0036	-0.3054	0.0538	0.0642	0.1574	0.1255	0.1850
4	0	0.6999	-0.2147	0.0040	-0.3808	0.0622	-0.0682	0.1792	0.1268	0.1851
4	0	0.7500	-0.2359	0.0045	-0.4353	0.0716	-0.2548	0.2060	0.2255	0.1920
4	0	0.8002	-0.2506	0.0053	-0.5167	0.0810	-0.5651	0.2313	0.1068	0.1906
4	0	0.8582	-0.2332	0.0059	-0.5821	0.0911	-0.9333	0.2648	0.0491	0.1974
4	0	0.9101	-0.2337	0.0066	-0.6763	0.1025	-1.2940	0.2987	0.0682	0.2050
4	0	0.9728	-0.2243	0.0121	-0.7261	0.1149	-1.5520	0.3406	0.7383	0.2157

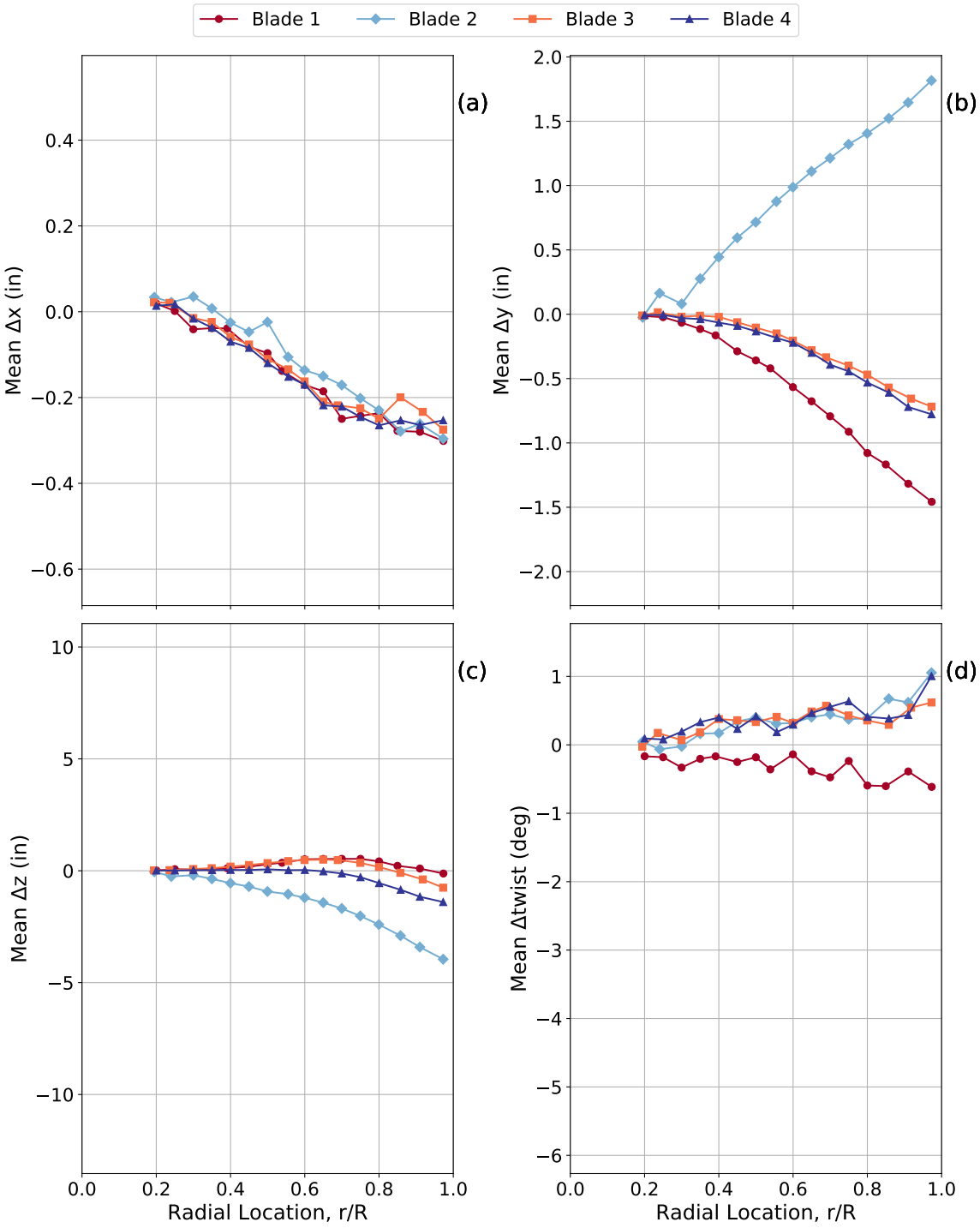


Figure 2.15-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.118$, $\mu = 0.245$, $\alpha = -1.89°$ NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0192	0.0033	-0.0146	0.0023	0.0204	0.0107	-0.1669	0.0612
1	4.92	0.2499	0.0017	0.0022	-0.0224	0.0050	0.0704	0.0182	-0.1814	0.1081
1	4.92	0.2998	-0.0409	0.0023	-0.0655	0.0098	0.0473	0.0314	-0.3320	0.1371
1	4.92	0.3498	-0.0383	0.0027	-0.1146	0.0179	0.0804	0.0535	-0.2044	0.1352
1	4.92	0.3913	-0.0387	0.0035	-0.1639	0.0255	0.1111	0.0720	-0.1683	0.1314
1	4.92	0.4496	-0.0817	0.0035	-0.2878	0.0351	0.1809	0.0990	-0.2513	0.1419
1	4.92	0.4997	-0.0965	0.0041	-0.3585	0.0440	0.2922	0.1261	-0.1820	0.1584
1	4.92	0.5387	-0.1379	0.0044	-0.4203	0.0512	0.3569	0.1469	-0.3589	0.1795
1	4.92	0.5996	-0.1704	0.0047	-0.5662	0.0644	0.5137	0.1792	-0.1396	0.1859
1	4.92	0.6498	-0.1855	0.0055	-0.6764	0.0755	0.5267	0.2051	-0.3875	0.1985
1	4.92	0.6998	-0.2497	0.0062	-0.7928	0.0877	0.5318	0.2316	-0.4754	0.2072
1	4.92	0.7500	-0.2427	0.0068	-0.9130	0.0996	0.5319	0.2580	-0.2362	0.2259
1	4.92	0.8001	-0.2364	0.0072	-1.0787	0.1122	0.4181	0.2865	-0.5944	0.2380
1	4.92	0.8497	-0.2777	0.0065	-1.1676	0.1244	0.2196	0.3138	-0.6032	0.2282
1	4.92	0.9102	-0.2799	0.0072	-1.3171	0.1403	0.0996	0.3499	-0.3894	0.2493
1	4.92	0.9734	-0.3012	0.0135	-1.4577	0.1556	-0.1246	0.3948	-0.6147	0.2702
2	4.92	0.1949	0.0338	0.0108	-0.0241	0.0070	-0.0448	0.0072	0.0460	0.0897
2	4.92	0.2405	0.0221	0.0097	0.1636	0.0299	-0.2537	0.0445	-0.0646	0.0957
2	4.92	0.2999	0.0351	0.0090	0.0808	0.0116	-0.1984	0.0311	-0.0231	0.1908
2	4.92	0.3498	0.0076	0.0123	0.2763	0.0388	-0.3628	0.0623	0.1625	0.1786
2	4.92	0.3998	-0.0253	0.0161	0.4446	0.0677	-0.5532	0.0948	0.1709	0.1778
2	4.92	0.4496	-0.0472	0.0207	0.5943	0.0961	-0.7070	0.1264	0.3406	0.1784
2	4.92	0.4995	-0.0240	0.0260	0.7159	0.1246	-0.9272	0.1604	0.3983	0.1799
2	4.92	0.5551	-0.1056	0.0440	0.8766	0.1774	-1.0457	0.1982	0.3090	0.2092
2	4.92	0.5996	-0.1363	0.0464	0.9875	0.2039	-1.2053	0.2285	0.3186	0.2065
2	4.92	0.6497	-0.1503	0.0493	1.1103	0.2341	-1.4245	0.2646	0.4044	0.2059
2	4.92	0.6996	-0.1709	0.0521	1.2132	0.2649	-1.6865	0.3023	0.4468	0.2052
2	4.92	0.7495	-0.2016	0.0550	1.3209	0.2969	-2.0210	0.3440	0.3737	0.2101
2	4.92	0.7996	-0.2296	0.0577	1.4055	0.3300	-2.4057	0.3905	0.3876	0.2036
2	4.92	0.8578	-0.2788	0.0613	1.5225	0.3681	-2.9018	0.4467	0.6730	0.2041
2	4.92	0.9100	-0.2615	0.0647	1.6456	0.4016	-3.4118	0.5004	0.6197	0.2049
2	4.92	0.9727	-0.2959	0.0780	1.8167	0.4370	-3.9549	0.5705	1.0538	0.2073
3	4.92	0.1938	0.0219	0.0027	-0.0093	0.0017	0.0194	0.0090	-0.0284	0.0448
3	4.92	0.2357	0.0206	0.0014	0.0151	0.0027	0.0267	0.0151	0.1742	0.0747
3	4.92	0.2995	-0.0147	0.0017	-0.0189	0.0070	0.0772	0.0304	0.0685	0.1024
3	4.92	0.3493	-0.0238	0.0021	-0.0112	0.0127	0.1143	0.0501	0.1838	0.1082
3	4.92	0.4000	-0.0587	0.0022	-0.0206	0.0198	0.1842	0.0753	0.3768	0.1068
3	4.92	0.4497	-0.0764	0.0023	-0.0622	0.0255	0.2545	0.0978	0.3588	0.1089
3	4.92	0.4997	-0.1101	0.0029	-0.1039	0.0326	0.3425	0.1222	0.3333	0.1226
3	4.92	0.5556	-0.1343	0.0032	-0.1495	0.0403	0.4312	0.1470	0.4089	0.1240
3	4.92	0.5995	-0.1625	0.0038	-0.2050	0.0473	0.4796	0.1666	0.3204	0.1366
3	4.92	0.6498	-0.2097	0.0040	-0.2797	0.0556	0.4976	0.1878	0.4866	0.1517
3	4.92	0.6890	-0.2183	0.0044	-0.3348	0.0623	0.4777	0.2034	0.5711	0.1503
3	4.92	0.7495	-0.2250	0.0044	-0.3992	0.0740	0.3531	0.2321	0.4297	0.1489
3	4.92	0.7998	-0.2494	0.0049	-0.4691	0.0836	0.1669	0.2589	0.3565	0.1561
3	4.92	0.8577	-0.1994	0.0051	-0.5697	0.0959	-0.0919	0.2955	0.2924	0.1544
3	4.92	0.9178	-0.2334	0.0058	-0.6557	0.1098	-0.3875	0.3409	0.5429	0.1762
3	4.92	0.9729	-0.2747	0.0084	-0.7180	0.1223	-0.7565	0.3748	0.6187	0.1767
4	4.92	0.2001	0.0138	0.0019	-0.0066	0.0013	0.0116	0.0079	0.0933	0.0462
4	4.92	0.2502	0.0173	0.0016	-0.0049	0.0028	0.0095	0.0128	0.0784	0.0877
4	4.92	0.3001	-0.0160	0.0016	-0.0295	0.0049	0.0250	0.0235	0.1926	0.1053
4	4.92	0.3502	-0.0373	0.0018	-0.0381	0.0093	0.0273	0.0390	0.3320	0.1038
4	4.92	0.4002	-0.0697	0.0021	-0.0652	0.0138	0.0379	0.0569	0.3995	0.1033
4	4.92	0.4500	-0.0842	0.0023	-0.0900	0.0182	0.0339	0.0767	0.2331	0.1014
4	4.92	0.5001	-0.1198	0.0025	-0.1331	0.0225	0.0646	0.0957	0.4160	0.1027
4	4.92	0.5560	-0.1517	0.0026	-0.1847	0.0283	0.0255	0.1193	0.1851	0.1013
4	4.92	0.6001	-0.1700	0.0031	-0.2218	0.0322	0.0356	0.1364	0.2951	0.1138
4	4.92	0.6501	-0.2181	0.0032	-0.2998	0.0378	-0.0272	0.1575	0.4646	0.1256
4	4.92	0.6999	-0.2212	0.0038	-0.3920	0.0437	-0.1226	0.1794	0.5543	0.1290
4	4.92	0.7500	-0.2454	0.0040	-0.4440	0.0503	-0.2887	0.2011	0.6360	0.1278
4	4.92	0.8002	-0.2648	0.0050	-0.5310	0.0569	-0.5520	0.2237	0.4095	0.1359
4	4.92	0.8582	-0.2532	0.0056	-0.6095	0.0651	-0.8518	0.2483	0.3833	0.1335
4	4.92	0.9101	-0.2643	0.0061	-0.7207	0.0740	-1.1613	0.2707	0.4358	0.1359
4	4.92	0.9728	-0.2530	0.0102	-0.7775	0.0823	-1.3988	0.3024	1.0041	0.1426

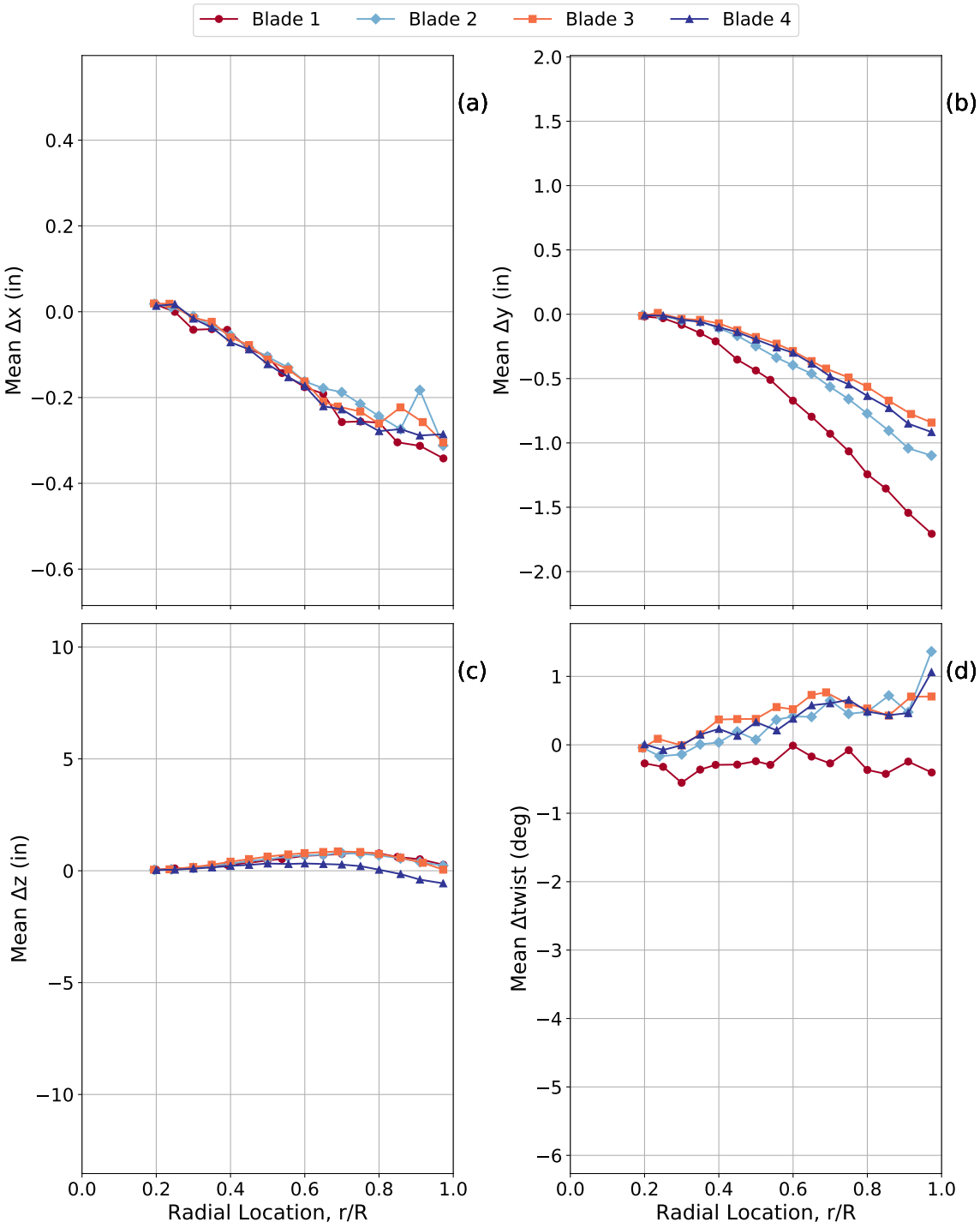


Figure 2.15-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0164	0.0027	-0.0178	0.0016	0.0425	0.0080	-0.2715	0.0508
1	9.84	0.2499	-0.0002	0.0021	-0.0306	0.0035	0.1046	0.0158	-0.3216	0.0857
1	9.84	0.2998	-0.0420	0.0019	-0.0823	0.0061	0.1110	0.0272	-0.5541	0.1106
1	9.84	0.3498	-0.0405	0.0020	-0.1465	0.0106	0.1946	0.0452	-0.3624	0.1156
1	9.84	0.3913	-0.0422	0.0022	-0.2101	0.0150	0.2600	0.0640	-0.2929	0.1171
1	9.84	0.4496	-0.0873	0.0024	-0.3525	0.0198	0.3572	0.0911	-0.2889	0.1259
1	9.84	0.4997	-0.1038	0.0027	-0.4371	0.0246	0.4623	0.1140	-0.2392	0.1352
1	9.84	0.5387	-0.1429	0.0028	-0.5098	0.0285	0.5253	0.1305	-0.2927	0.1328
1	9.84	0.5996	-0.1758	0.0037	-0.6714	0.0351	0.6696	0.1536	-0.0119	0.1408
1	9.84	0.6498	-0.1912	0.0040	-0.7963	0.0400	0.7009	0.1693	-0.1716	0.1418
1	9.84	0.6998	-0.2572	0.0043	-0.9290	0.0464	0.7520	0.1861	-0.2709	0.1417
1	9.84	0.7500	-0.2559	0.0045	-1.0653	0.0529	0.8137	0.2027	-0.0785	0.1512
1	9.84	0.8001	-0.2584	0.0048	-1.2441	0.0592	0.7759	0.2209	-0.3671	0.1458
1	9.84	0.8497	-0.3044	0.0046	-1.3546	0.0666	0.6184	0.2388	-0.4248	0.1554
1	9.84	0.9102	-0.3126	0.0057	-1.5433	0.0754	0.5135	0.2652	-0.2449	0.1541
1	9.84	0.9734	-0.3419	0.0081	-1.7067	0.0849	0.2691	0.2948	-0.4043	0.1904
2	9.84	0.1949	0.0182	0.0024	-0.0074	0.0012	0.0418	0.0057	-0.0411	0.0441
2	9.84	0.2405	0.0110	0.0018	-0.0067	0.0027	0.0621	0.0125	-0.1662	0.0643
2	9.84	0.2999	-0.0103	0.0016	-0.0480	0.0056	0.1282	0.0216	-0.1397	0.0982
2	9.84	0.3498	-0.0322	0.0016	-0.0554	0.0097	0.2215	0.0349	0.0070	0.0935
2	9.84	0.3998	-0.0547	0.0022	-0.1072	0.0155	0.3160	0.0542	0.0348	0.0861
2	9.84	0.4496	-0.0830	0.0022	-0.1672	0.0194	0.4369	0.0698	0.1931	0.0894
2	9.84	0.4995	-0.1046	0.0025	-0.2470	0.0241	0.5137	0.0878	0.0743	0.0914
2	9.84	0.5551	-0.1301	0.0025	-0.3369	0.0298	0.6289	0.1091	0.3664	0.0921
2	9.84	0.5996	-0.1624	0.0030	-0.3955	0.0345	0.6908	0.1242	0.4152	0.0929
2	9.84	0.6497	-0.1784	0.0031	-0.4615	0.0399	0.7152	0.1424	0.4087	0.1045
2	9.84	0.6996	-0.1876	0.0035	-0.5640	0.0457	0.7933	0.1615	0.6458	0.1048
2	9.84	0.7495	-0.2150	0.0044	-0.6590	0.0516	0.7558	0.1836	0.4535	0.1094
2	9.84	0.7996	-0.2433	0.0041	-0.7720	0.0593	0.6871	0.2073	0.4818	0.1147
2	9.84	0.8578	-0.2737	0.0046	-0.9048	0.0670	0.5520	0.2391	0.7192	0.1215
2	9.84	0.9100	-0.1826	0.0048	-1.0412	0.0734	0.3907	0.2736	0.4764	0.1217
2	9.84	0.9727	-0.3119	0.0085	-1.0981	0.0826	0.2282	0.3160	1.3645	0.1406
3	9.84	0.1938	0.0193	0.0022	-0.0125	0.0016	0.0474	0.0069	-0.0497	0.0399
3	9.84	0.2357	0.0185	0.0014	0.0103	0.0022	0.0634	0.0118	0.0881	0.0666
3	9.84	0.2995	-0.0142	0.0020	-0.0358	0.0063	0.1653	0.0232	-0.0072	0.0890
3	9.84	0.3493	-0.0235	0.0022	-0.0438	0.0110	0.2671	0.0395	0.1526	0.0871
3	9.84	0.4000	-0.0600	0.0029	-0.0708	0.0170	0.4052	0.0590	0.3696	0.0923
3	9.84	0.4497	-0.0778	0.0034	-0.1237	0.0237	0.5204	0.0784	0.3768	0.0981
3	9.84	0.4997	-0.1115	0.0040	-0.1770	0.0309	0.6338	0.0980	0.3786	0.1003
3	9.84	0.5556	-0.1349	0.0046	-0.2291	0.0401	0.7286	0.1192	0.5521	0.1014
3	9.84	0.5995	-0.1626	0.0048	-0.2857	0.0473	0.7867	0.1356	0.5196	0.1059
3	9.84	0.6498	-0.2097	0.0053	-0.3642	0.0565	0.8373	0.1536	0.7291	0.1068
3	9.84	0.6890	-0.2210	0.0055	-0.4225	0.0640	0.8626	0.1685	0.7664	0.1163
3	9.84	0.7495	-0.2325	0.0057	-0.4915	0.0764	0.8380	0.1912	0.5932	0.1159
3	9.84	0.7998	-0.2610	0.0058	-0.5636	0.0869	0.7485	0.2128	0.5302	0.1182
3	9.84	0.8577	-0.2229	0.0062	-0.6716	0.0996	0.5834	0.2380	0.4277	0.1298
3	9.84	0.9178	-0.2573	0.0066	-0.7753	0.1145	0.3572	0.2723	0.7044	0.1512
3	9.84	0.9729	-0.3045	0.0104	-0.8417	0.1261	0.0497	0.3025	0.7058	0.1440
4	9.84	0.2001	0.0137	0.0018	-0.0078	0.0012	0.0343	0.0077	0.0075	0.0517
4	9.84	0.2502	0.0174	0.0018	-0.0109	0.0030	0.0484	0.0148	-0.0757	0.0894
4	9.84	0.3001	-0.0161	0.0014	-0.0413	0.0057	0.0973	0.0260	-0.0051	0.1175
4	9.84	0.3502	-0.0370	0.0018	-0.0588	0.0097	0.1478	0.0426	0.1497	0.1122
4	9.84	0.4002	-0.0712	0.0024	-0.1007	0.0155	0.2163	0.0646	0.2324	0.1139
4	9.84	0.4500	-0.0877	0.0023	-0.1393	0.0207	0.2620	0.0863	0.1316	0.1198
4	9.84	0.5001	-0.1223	0.0026	-0.1962	0.0261	0.3236	0.1087	0.3318	0.1112
4	9.84	0.5560	-0.1526	0.0031	-0.2581	0.0338	0.3018	0.1363	0.2104	0.1141
4	9.84	0.6001	-0.1733	0.0032	-0.2993	0.0398	0.3259	0.1602	0.3821	0.1135
4	9.84	0.6501	-0.2203	0.0036	-0.3844	0.0473	0.3011	0.1876	0.5780	0.1128
4	9.84	0.6999	-0.2276	0.0042	-0.4831	0.0554	0.2764	0.2196	0.6071	0.1221
4	9.84	0.7500	-0.2543	0.0043	-0.5455	0.0639	0.2057	0.2525	0.6575	0.1196
4	9.84	0.8002	-0.2783	0.0045	-0.6353	0.0719	0.0463	0.2867	0.4863	0.1075
4	9.84	0.8582	-0.2737	0.0048	-0.7294	0.0820	-0.1489	0.3260	0.4339	0.1206
4	9.84	0.9101	-0.2885	0.0052	-0.8502	0.0915	-0.3961	0.3666	0.4638	0.1287
4	9.84	0.9728	-0.2856	0.0087	-0.9157	0.1040	-0.5637	0.4098	1.0619	0.1315

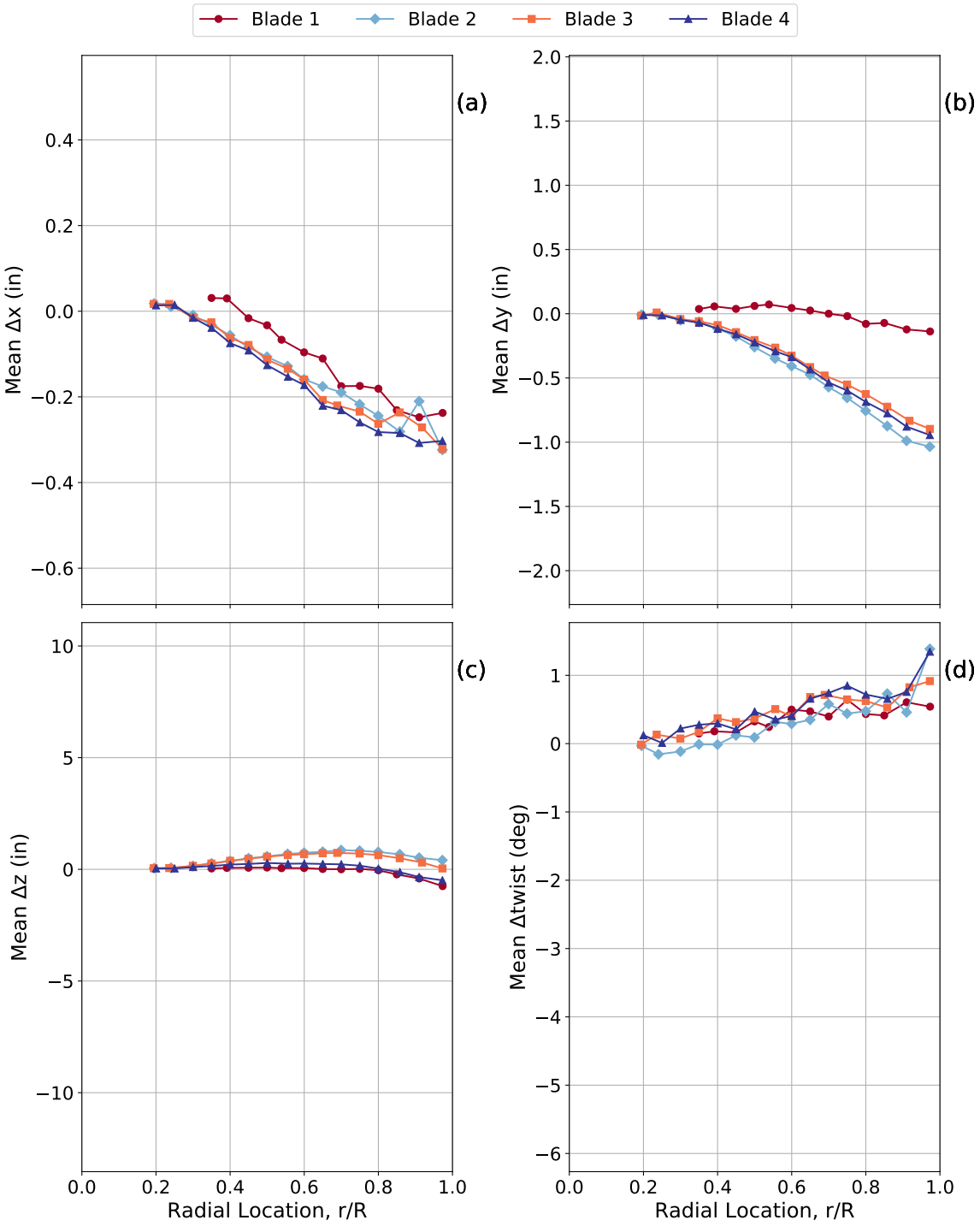


Figure 2.15-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.3498	0.0309	0.0021	0.0370	0.0043	0.0381	0.0143	0.1481	0.1571
1	15.12	0.3913	0.0299	0.0013	0.0575	0.0069	0.0625	0.0225	0.1803	0.1917
1	15.12	0.4496	-0.0163	0.0012	0.0378	0.0074	0.0716	0.0245	0.1646	0.1818
1	15.12	0.4997	-0.0328	0.0021	0.0609	0.0069	0.0793	0.0239	0.3247	0.1857
1	15.12	0.5387	-0.0666	0.0022	0.0722	0.0079	0.0516	0.0248	0.2430	0.1816
1	15.12	0.5996	-0.0960	0.0024	0.0449	0.0096	0.0572	0.0343	0.4978	0.1881
1	15.12	0.6498	-0.1104	0.0022	0.0252	0.0122	0.0155	0.0494	0.4715	0.1920
1	15.12	0.6998	-0.1750	0.0028	0.0002	0.0159	0.0024	0.0688	0.3964	0.1879
1	15.12	0.7500	-0.1744	0.0043	-0.0184	0.0207	0.0195	0.0945	0.6427	0.1896
1	15.12	0.8001	-0.1809	0.0062	-0.0790	0.0256	-0.0409	0.1221	0.4331	0.1939
1	15.12	0.8497	-0.2311	0.0090	-0.0717	0.0315	-0.2267	0.1532	0.4125	0.1885
1	15.12	0.9102	-0.2476	0.0127	-0.1222	0.0386	-0.4106	0.1970	0.6055	0.1903
1	15.12	0.9734	-0.2374	0.0173	-0.1379	0.0468	-0.7528	0.2423	0.5408	0.1984
2	15.12	0.1949	0.0179	0.0022	-0.0085	0.0012	0.0492	0.0068	-0.0305	0.0337
2	15.12	0.2405	0.0106	0.0014	-0.0076	0.0027	0.0680	0.0116	-0.1563	0.0598
2	15.12	0.2999	-0.0091	0.0022	-0.0492	0.0052	0.1476	0.0212	-0.1153	0.0781
2	15.12	0.3498	-0.0321	0.0018	-0.0636	0.0109	0.2629	0.0376	-0.0095	0.0759
2	15.12	0.3998	-0.0562	0.0025	-0.1149	0.0159	0.3696	0.0541	-0.0148	0.0792
2	15.12	0.4496	-0.0843	0.0025	-0.1763	0.0210	0.4960	0.0712	0.1210	0.0851
2	15.12	0.4995	-0.1065	0.0031	-0.2594	0.0263	0.5776	0.0882	0.0913	0.0952
2	15.12	0.5551	-0.1285	0.0033	-0.3484	0.0333	0.6879	0.1083	0.3156	0.0880
2	15.12	0.5996	-0.1589	0.0038	-0.4073	0.0387	0.7438	0.1262	0.2900	0.0938
2	15.12	0.6497	-0.1757	0.0042	-0.4747	0.0462	0.7833	0.1468	0.3488	0.0964
2	15.12	0.6996	-0.1893	0.0046	-0.5710	0.0540	0.8600	0.1676	0.5799	0.0975
2	15.12	0.7495	-0.2173	0.0047	-0.6546	0.0624	0.8322	0.1920	0.4394	0.1000
2	15.12	0.7996	-0.2443	0.0051	-0.7556	0.0721	0.7771	0.2166	0.4740	0.1004
2	15.12	0.8578	-0.2812	0.0060	-0.8745	0.0834	0.6726	0.2515	0.7305	0.1109
2	15.12	0.9100	-0.2102	0.0061	-0.9890	0.0945	0.5209	0.2881	0.4585	0.1112
2	15.12	0.9727	-0.3237	0.0107	-1.0349	0.1070	0.4092	0.3333	1.3857	0.1232
3	15.12	0.1938	0.0171	0.0025	-0.0154	0.0013	0.0513	0.0065	-0.0152	0.0386
3	15.12	0.2357	0.0170	0.0016	0.0096	0.0027	0.0546	0.0103	0.1314	0.0706
3	15.12	0.2995	-0.0148	0.0018	-0.0417	0.0062	0.1596	0.0216	0.0741	0.0917
3	15.12	0.3493	-0.0259	0.0023	-0.0586	0.0102	0.2605	0.0350	0.1721	0.0964
3	15.12	0.4000	-0.0626	0.0029	-0.0886	0.0168	0.3835	0.0533	0.3701	0.0971
3	15.12	0.4497	-0.0788	0.0032	-0.1432	0.0220	0.4704	0.0702	0.3144	0.1001
3	15.12	0.4997	-0.1130	0.0039	-0.2051	0.0289	0.5661	0.0901	0.3667	0.0959
3	15.12	0.5556	-0.1343	0.0046	-0.2639	0.0370	0.6396	0.1118	0.5049	0.0977
3	15.12	0.5995	-0.1595	0.0048	-0.3259	0.0448	0.6773	0.1281	0.3990	0.0984
3	15.12	0.6498	-0.2073	0.0054	-0.4152	0.0543	0.7196	0.1469	0.6819	0.1001
3	15.12	0.6890	-0.2201	0.0061	-0.4811	0.0620	0.7356	0.1615	0.7134	0.1058
3	15.12	0.7495	-0.2343	0.0066	-0.5512	0.0754	0.7055	0.1854	0.6470	0.1030
3	15.12	0.7998	-0.2628	0.0071	-0.6255	0.0875	0.6380	0.2062	0.6236	0.0933
3	15.12	0.8577	-0.2363	0.0076	-0.7238	0.1010	0.4970	0.2324	0.5280	0.1062
3	15.12	0.9178	-0.2712	0.0083	-0.8334	0.1153	0.3054	0.2675	0.8248	0.1136
3	15.12	0.9729	-0.3216	0.0113	-0.8967	0.1291	0.0394	0.2978	0.9157	0.1228
4	15.12	0.2001	0.0136	0.0019	-0.0097	0.0011	0.0391	0.0068	0.1217	0.0364
4	15.12	0.2502	0.0145	0.0017	-0.0131	0.0031	0.0375	0.0129	0.0102	0.0655
4	15.12	0.3001	-0.0154	0.0021	-0.0480	0.0051	0.1008	0.0233	0.2210	0.0826
4	15.12	0.3502	-0.0388	0.0021	-0.0700	0.0094	0.1509	0.0375	0.2765	0.0920
4	15.12	0.4002	-0.0746	0.0027	-0.1173	0.0147	0.2116	0.0574	0.2951	0.0904
4	15.12	0.4500	-0.0917	0.0028	-0.1599	0.0197	0.2426	0.0766	0.2085	0.0877
4	15.12	0.5001	-0.1260	0.0036	-0.2232	0.0264	0.2849	0.0990	0.4695	0.0866
4	15.12	0.5560	-0.1530	0.0037	-0.2925	0.0344	0.2511	0.1225	0.3526	0.0919
4	15.12	0.6001	-0.1724	0.0040	-0.3379	0.0405	0.2588	0.1408	0.4043	0.1004
4	15.12	0.6501	-0.2206	0.0043	-0.4339	0.0478	0.2410	0.1633	0.6572	0.0999
4	15.12	0.6999	-0.2310	0.0043	-0.5353	0.0558	0.2234	0.1905	0.7415	0.0954
4	15.12	0.7500	-0.2596	0.0046	-0.5985	0.0640	0.1629	0.2218	0.8466	0.1006
4	15.12	0.8002	-0.2821	0.0052	-0.6868	0.0726	0.0322	0.2560	0.7179	0.0955
4	15.12	0.8582	-0.2845	0.0055	-0.7751	0.0829	-0.1286	0.2972	0.6550	0.1058
4	15.12	0.9101	-0.3076	0.0057	-0.8791	0.0913	-0.3457	0.3385	0.7569	0.1031
4	15.12	0.9728	-0.3028	0.0091	-0.9448	0.1030	-0.4889	0.3883	1.3456	0.1064

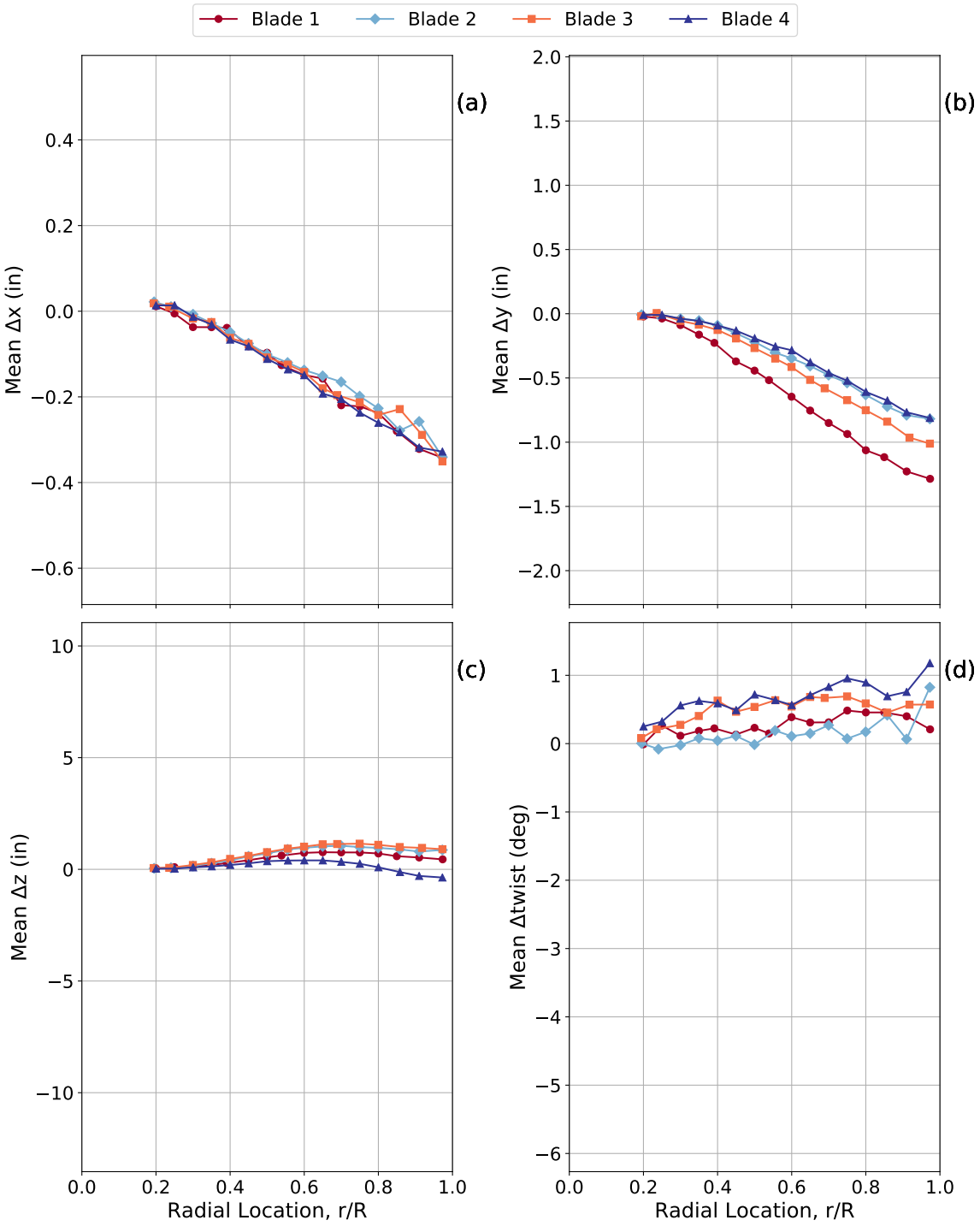


Figure 2.15-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0116	0.0027	-0.0213	0.0013	0.0374	0.0069	-0.0104	0.0398
1	29.88	0.2499	-0.0053	0.0019	-0.0369	0.0031	0.0964	0.0142	0.2646	0.0702
1	29.88	0.2998	-0.0371	0.0020	-0.0882	0.0056	0.1170	0.0247	0.1150	0.0894
1	29.88	0.3498	-0.0373	0.0026	-0.1629	0.0102	0.1985	0.0419	0.1861	0.0862
1	29.88	0.3913	-0.0388	0.0032	-0.2267	0.0146	0.2799	0.0596	0.2235	0.0906
1	29.88	0.4496	-0.0817	0.0035	-0.3710	0.0202	0.4090	0.0845	0.1325	0.0915
1	29.88	0.4997	-0.0969	0.0037	-0.4427	0.0263	0.5370	0.1092	0.2314	0.1009
1	29.88	0.5387	-0.1259	0.0041	-0.5170	0.0314	0.6177	0.1285	0.1486	0.1011
1	29.88	0.5996	-0.1488	0.0052	-0.6459	0.0390	0.7368	0.1575	0.3873	0.1057
1	29.88	0.6498	-0.1573	0.0056	-0.7536	0.0470	0.7664	0.1836	0.3094	0.1137
1	29.88	0.6998	-0.2196	0.0059	-0.8504	0.0558	0.7577	0.2080	0.3115	0.1123
1	29.88	0.7500	-0.2220	0.0063	-0.9362	0.0648	0.7560	0.2346	0.4839	0.1110
1	29.88	0.8001	-0.2378	0.0065	-1.0627	0.0743	0.7105	0.2650	0.4563	0.1191
1	29.88	0.8497	-0.2798	0.0070	-1.1166	0.0843	0.5879	0.2977	0.4564	0.1217
1	29.88	0.9102	-0.3215	0.0073	-1.2277	0.0974	0.5297	0.3420	0.4000	0.1267
1	29.88	0.9734	-0.3424	0.0105	-1.2850	0.1114	0.4473	0.3876	0.2090	0.1303
2	29.88	0.1949	0.0218	0.0022	-0.0081	0.0011	0.0443	0.0041	0.0041	0.0335
2	29.88	0.2405	0.0105	0.0021	-0.0055	0.0028	0.0675	0.0083	-0.0805	0.0447
2	29.88	0.2999	-0.0071	0.0018	-0.0388	0.0058	0.1510	0.0146	-0.0222	0.0688
2	29.88	0.3498	-0.0278	0.0022	-0.0527	0.0096	0.2713	0.0263	0.0785	0.0513
2	29.88	0.3998	-0.0487	0.0032	-0.0902	0.0156	0.3931	0.0386	0.0446	0.0597
2	29.88	0.4496	-0.0752	0.0036	-0.1521	0.0213	0.5784	0.0525	0.1118	0.0566
2	29.88	0.4995	-0.1005	0.0036	-0.2181	0.0279	0.7104	0.0694	-0.0148	0.0596
2	29.88	0.5551	-0.1199	0.0043	-0.3032	0.0366	0.8908	0.0876	0.1915	0.0650
2	29.88	0.5996	-0.1373	0.0049	-0.3469	0.0436	0.9617	0.1028	0.1082	0.0706
2	29.88	0.6497	-0.1510	0.0049	-0.4067	0.0528	1.0276	0.1220	0.1481	0.0766
2	29.88	0.6996	-0.1650	0.0055	-0.4778	0.0629	1.0545	0.1410	0.2697	0.0778
2	29.88	0.7495	-0.1984	0.0064	-0.5386	0.0741	0.9965	0.1615	0.0723	0.0863
2	29.88	0.7996	-0.2267	0.0060	-0.6319	0.0843	0.9605	0.1839	0.1722	0.0815
2	29.88	0.8578	-0.2786	0.0066	-0.7227	0.0978	0.8911	0.2124	0.4170	0.0893
2	29.88	0.9100	-0.2575	0.0067	-0.7897	0.1104	0.7975	0.2401	0.0658	0.0963
2	29.88	0.9727	-0.3404	0.0106	-0.8182	0.1260	0.8677	0.2756	0.8244	0.1058
3	29.88	0.1938	0.0185	0.0022	-0.0197	0.0010	0.0583	0.0055	0.0813	0.0325
3	29.88	0.2357	0.0107	0.0016	0.0054	0.0022	0.0656	0.0108	0.2112	0.0524
3	29.88	0.2995	-0.0171	0.0017	-0.0558	0.0053	0.1939	0.0226	0.2751	0.0760
3	29.88	0.3493	-0.0253	0.0021	-0.0851	0.0082	0.3099	0.0377	0.4044	0.0671
3	29.88	0.4000	-0.0622	0.0024	-0.1264	0.0136	0.4672	0.0590	0.6294	0.0742
3	29.88	0.4497	-0.0761	0.0027	-0.1923	0.0182	0.5998	0.0802	0.4665	0.0826
3	29.88	0.4997	-0.1079	0.0032	-0.2670	0.0222	0.7693	0.1015	0.5366	0.0806
3	29.88	0.5556	-0.1247	0.0033	-0.3489	0.0298	0.9278	0.1251	0.6349	0.0813
3	29.88	0.5995	-0.1419	0.0037	-0.4142	0.0350	1.0153	0.1422	0.5434	0.0808
3	29.88	0.6498	-0.1799	0.0039	-0.5149	0.0424	1.1215	0.1616	0.6828	0.0806
3	29.88	0.6890	-0.1959	0.0044	-0.5805	0.0485	1.1334	0.1767	0.6687	0.0880
3	29.88	0.7495	-0.2127	0.0049	-0.6727	0.0592	1.1490	0.2021	0.6910	0.0876
3	29.88	0.7998	-0.2423	0.0052	-0.7510	0.0686	1.0970	0.2238	0.5886	0.0902
3	29.88	0.8577	-0.2285	0.0056	-0.8399	0.0799	0.9990	0.2505	0.4536	0.0943
3	29.88	0.9178	-0.2887	0.0058	-0.9644	0.0920	0.9599	0.2761	0.5706	0.0992
3	29.88	0.9729	-0.3506	0.0085	-1.0111	0.1028	0.9017	0.3051	0.5723	0.1039
4	29.88	0.2001	0.0135	0.0017	-0.0092	0.0010	0.0295	0.0060	0.2512	0.0345
4	29.88	0.2502	0.0137	0.0017	-0.0094	0.0028	0.0303	0.0122	0.3225	0.0652
4	29.88	0.3001	-0.0131	0.0018	-0.0385	0.0044	0.0871	0.0207	0.5585	0.0804
4	29.88	0.3502	-0.0311	0.0021	-0.0565	0.0079	0.1327	0.0374	0.6255	0.0692
4	29.88	0.4002	-0.0664	0.0030	-0.0913	0.0125	0.1942	0.0554	0.5895	0.0686
4	29.88	0.4500	-0.0822	0.0026	-0.1316	0.0170	0.2680	0.0734	0.4898	0.0686
4	29.88	0.5001	-0.1114	0.0029	-0.1913	0.0222	0.3653	0.0919	0.7182	0.0742
4	29.88	0.5560	-0.1359	0.0035	-0.2548	0.0294	0.3938	0.1129	0.6368	0.0846
4	29.88	0.6001	-0.1494	0.0038	-0.2844	0.0350	0.4002	0.1290	0.5640	0.0868
4	29.88	0.6501	-0.1924	0.0043	-0.3781	0.0422	0.4001	0.1456	0.7094	0.1070
4	29.88	0.6999	-0.2050	0.0047	-0.4610	0.0500	0.3357	0.1657	0.8307	0.0993
4	29.88	0.7500	-0.2368	0.0051	-0.5217	0.0583	0.2478	0.1879	0.9549	0.0984
4	29.88	0.8002	-0.2606	0.0052	-0.6083	0.0669	0.0905	0.2149	0.8936	0.1058
4	29.88	0.8582	-0.2828	0.0054	-0.6759	0.0774	-0.1225	0.2510	0.6930	0.1083
4	29.88	0.9101	-0.3183	0.0058	-0.7670	0.0877	-0.2961	0.2860	0.7569	0.1168
4	29.88	0.9728	-0.3278	0.0090	-0.8113	0.0999	-0.3661	0.3343	1.1772	0.1216

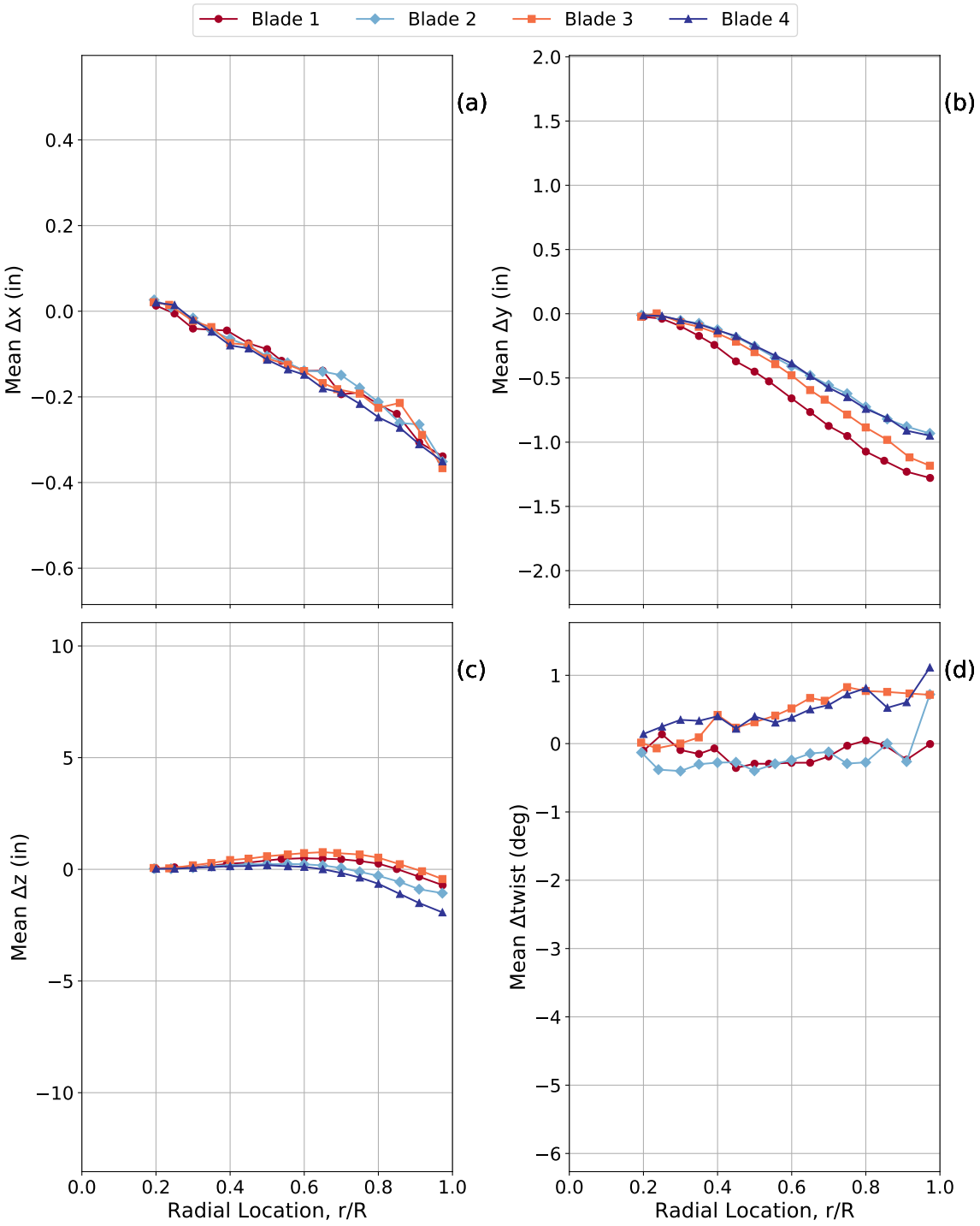


Figure 2.15-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0131	0.0027	-0.0238	0.0013	0.0288	0.0068	-0.1047	0.0308
1	45	0.2499	-0.0053	0.0026	-0.0389	0.0030	0.0888	0.0127	0.1359	0.0573
1	45	0.2998	-0.0405	0.0021	-0.0970	0.0056	0.1018	0.0246	-0.0936	0.0704
1	45	0.3498	-0.0433	0.0024	-0.1730	0.0099	0.1635	0.0413	-0.1513	0.0692
1	45	0.3913	-0.0450	0.0031	-0.2428	0.0144	0.2446	0.0587	-0.0704	0.0802
1	45	0.4496	-0.0750	0.0034	-0.3707	0.0194	0.3015	0.0822	-0.3561	0.0801
1	45	0.4997	-0.0886	0.0036	-0.4506	0.0246	0.3960	0.1017	-0.2944	0.0929
1	45	0.5387	-0.1157	0.0035	-0.5264	0.0298	0.4622	0.1196	-0.2952	0.0958
1	45	0.5996	-0.1392	0.0040	-0.6587	0.0371	0.4978	0.1453	-0.2808	0.1053
1	45	0.6498	-0.1388	0.0043	-0.7652	0.0440	0.4777	0.1662	-0.2796	0.1139
1	45	0.6998	-0.1938	0.0047	-0.8736	0.0513	0.4500	0.1872	-0.1877	0.1227
1	45	0.7500	-0.1901	0.0048	-0.9518	0.0588	0.3724	0.2062	-0.0307	0.1220
1	45	0.8001	-0.2176	0.0050	-1.0730	0.0662	0.2558	0.2258	0.0465	0.1346
1	45	0.8497	-0.2396	0.0051	-1.1443	0.0752	0.0148	0.2429	-0.0207	0.1352
1	45	0.9102	-0.3059	0.0052	-1.2298	0.0852	-0.3308	0.2630	-0.2348	0.1444
1	45	0.9734	-0.3388	0.0080	-1.2782	0.0963	-0.7093	0.2874	-0.0058	0.1534
2	45	0.1949	0.0264	0.0021	-0.0114	0.0011	0.0316	0.0060	-0.1305	0.0327
2	45	0.2405	0.0094	0.0017	-0.0107	0.0029	0.0279	0.0107	-0.3810	0.0531
2	45	0.2999	-0.0159	0.0019	-0.0517	0.0061	0.0734	0.0241	-0.4015	0.0768
2	45	0.3498	-0.0449	0.0027	-0.0746	0.0100	0.1464	0.0406	-0.3018	0.0743
2	45	0.3998	-0.0645	0.0030	-0.1236	0.0165	0.1849	0.0624	-0.2778	0.0788
2	45	0.4496	-0.0809	0.0037	-0.1827	0.0213	0.2284	0.0845	-0.2730	0.0883
2	45	0.4995	-0.1048	0.0040	-0.2527	0.0280	0.2278	0.1082	-0.3978	0.0931
2	45	0.5551	-0.1205	0.0046	-0.3419	0.0361	0.2382	0.1354	-0.2954	0.1082
2	45	0.5996	-0.1387	0.0050	-0.4087	0.0428	0.2269	0.1586	-0.2411	0.1134
2	45	0.6497	-0.1408	0.0053	-0.4802	0.0513	0.1728	0.1861	-0.1450	0.1199
2	45	0.6996	-0.1493	0.0058	-0.5563	0.0603	0.0631	0.2147	-0.1221	0.1264
2	45	0.7495	-0.1791	0.0061	-0.6220	0.0707	-0.1117	0.2438	-0.2925	0.1300
2	45	0.7996	-0.2119	0.0070	-0.7247	0.0807	-0.2880	0.2732	-0.2746	0.1508
2	45	0.8578	-0.2608	0.0075	-0.8196	0.0937	-0.5652	0.3065	0.0011	0.1495
2	45	0.9100	-0.2645	0.0075	-0.8784	0.1051	-0.8899	0.3377	-0.2634	0.1475
2	45	0.9727	-0.3512	0.0109	-0.9316	0.1191	-1.0658	0.3752	0.7200	0.1490
3	45	0.1938	0.0210	0.0019	-0.0231	0.0010	0.0605	0.0045	0.0144	0.0364
3	45	0.2357	0.0149	0.0021	0.0029	0.0019	0.0436	0.0082	-0.0696	0.0539
3	45	0.2995	-0.0228	0.0016	-0.0677	0.0042	0.1798	0.0184	0.0012	0.0844
3	45	0.3493	-0.0370	0.0025	-0.1017	0.0076	0.2810	0.0295	0.0907	0.0782
3	45	0.4000	-0.0745	0.0027	-0.1532	0.0117	0.4151	0.0470	0.4201	0.0929
3	45	0.4497	-0.0788	0.0025	-0.2173	0.0159	0.4781	0.0637	0.2334	0.0965
3	45	0.4997	-0.1101	0.0029	-0.2989	0.0203	0.5844	0.0828	0.3133	0.1095
3	45	0.5556	-0.1248	0.0029	-0.3925	0.0270	0.6655	0.1056	0.4100	0.1230
3	45	0.5995	-0.1397	0.0033	-0.4789	0.0323	0.7261	0.1242	0.5148	0.1336
3	45	0.6498	-0.1677	0.0033	-0.5943	0.0386	0.7683	0.1455	0.6681	0.1431
3	45	0.6890	-0.1820	0.0036	-0.6687	0.0436	0.7265	0.1605	0.6272	0.1480
3	45	0.7495	-0.1925	0.0041	-0.7850	0.0521	0.6641	0.1843	0.8264	0.1544
3	45	0.7998	-0.2256	0.0044	-0.8851	0.0595	0.5224	0.2047	0.7708	0.1658
3	45	0.8577	-0.2141	0.0047	-0.9818	0.0688	0.2288	0.2274	0.7567	0.1790
3	45	0.9178	-0.2888	0.0053	-1.1182	0.0787	-0.0872	0.2534	0.7335	0.1778
3	45	0.9729	-0.3664	0.0075	-1.1831	0.0876	-0.4353	0.2810	0.7148	0.1774
4	45	0.2001	0.0203	0.0015	-0.0122	0.0010	0.0241	0.0049	0.1408	0.0323
4	45	0.2502	0.0143	0.0016	-0.0175	0.0024	0.0274	0.0095	0.2490	0.0522
4	45	0.3001	-0.0200	0.0015	-0.0505	0.0041	0.0641	0.0186	0.3477	0.0727
4	45	0.3502	-0.0477	0.0022	-0.0828	0.0078	0.0997	0.0298	0.3335	0.0784
4	45	0.4002	-0.0799	0.0027	-0.1293	0.0118	0.1406	0.0467	0.4009	0.0860
4	45	0.4500	-0.0868	0.0028	-0.1740	0.0160	0.1488	0.0639	0.2183	0.0809
4	45	0.5001	-0.1133	0.0033	-0.2483	0.0217	0.1870	0.0851	0.3968	0.0972
4	45	0.5560	-0.1359	0.0034	-0.3266	0.0283	0.1375	0.1081	0.3080	0.1007
4	45	0.6001	-0.1483	0.0037	-0.3862	0.0343	0.1101	0.1290	0.3794	0.1116
4	45	0.6501	-0.1801	0.0039	-0.4839	0.0414	0.0055	0.1517	0.5017	0.1217
4	45	0.6999	-0.1902	0.0046	-0.5751	0.0492	-0.1622	0.1754	0.5657	0.1204
4	45	0.7500	-0.2164	0.0047	-0.6491	0.0575	-0.3671	0.1995	0.7203	0.1217
4	45	0.8002	-0.2476	0.0054	-0.7404	0.0664	-0.6488	0.2239	0.8127	0.1370
4	45	0.8582	-0.2722	0.0052	-0.8113	0.0773	-1.1023	0.2529	0.5242	0.1409
4	45	0.9101	-0.3106	0.0057	-0.9102	0.0870	-1.5093	0.2804	0.6056	0.1409
4	45	0.9728	-0.3504	0.0084	-0.9489	0.0995	-1.9275	0.3166	1.1138	0.1488

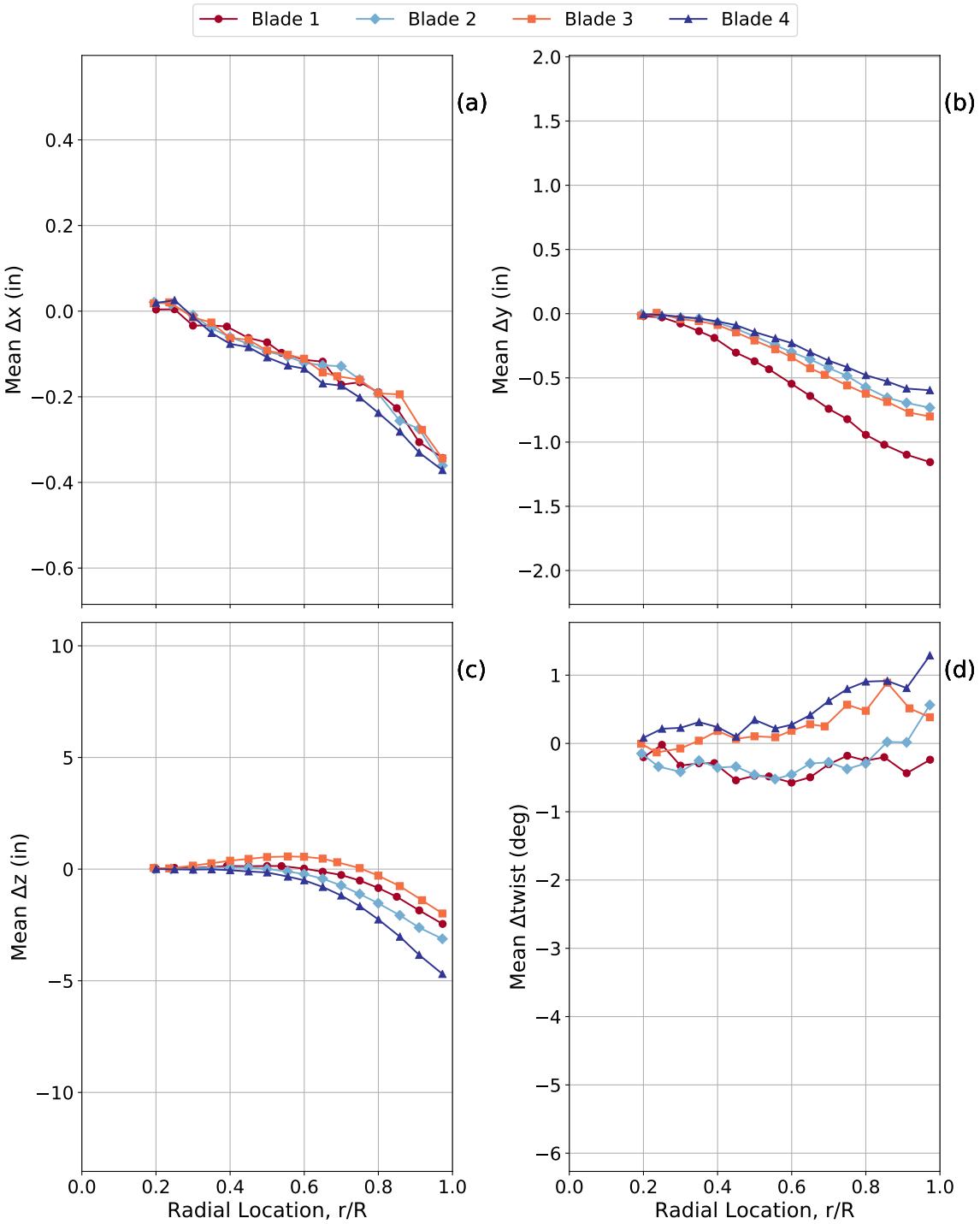


Figure 2.15-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.118$, $\mu = 0.245$, $\alpha = -1.89°$ NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0038	0.0017	-0.0201	0.0014	0.0147	0.0054	-0.2018	0.0310
1	60.12	0.2499	0.0044	0.0021	-0.0290	0.0031	0.0560	0.0123	-0.0199	0.0557
1	60.12	0.2998	-0.0338	0.0019	-0.0768	0.0064	0.0516	0.0217	-0.3249	0.0697
1	60.12	0.3498	-0.0332	0.0025	-0.1361	0.0107	0.0964	0.0361	-0.2907	0.0743
1	60.12	0.3913	-0.0360	0.0030	-0.1884	0.0159	0.1385	0.0529	-0.2877	0.0802
1	60.12	0.4496	-0.0627	0.0036	-0.3035	0.0240	0.1288	0.0808	-0.5398	0.0901
1	60.12	0.4997	-0.0729	0.0035	-0.3707	0.0316	0.1411	0.1086	-0.4746	0.0940
1	60.12	0.5387	-0.0973	0.0040	-0.4327	0.0392	0.1380	0.1314	-0.4832	0.0996
1	60.12	0.5996	-0.1137	0.0044	-0.5463	0.0496	0.0225	0.1705	-0.5733	0.1040
1	60.12	0.6498	-0.1179	0.0043	-0.6408	0.0598	-0.1162	0.2035	-0.4959	0.1060
1	60.12	0.6998	-0.1716	0.0044	-0.7408	0.0694	-0.2625	0.2323	-0.3051	0.1156
1	60.12	0.7500	-0.1661	0.0049	-0.8216	0.0798	-0.5130	0.2595	-0.1805	0.1189
1	60.12	0.8001	-0.1892	0.0052	-0.9433	0.0911	-0.8453	0.2862	-0.2518	0.1275
1	60.12	0.8497	-0.2265	0.0056	-1.0202	0.1016	-1.2378	0.3123	-0.2016	0.1329
1	60.12	0.9102	-0.3060	0.0056	-1.0983	0.1149	-1.8479	0.3464	-0.4363	0.1344
1	60.12	0.9734	-0.3429	0.0089	-1.1560	0.1287	-2.4545	0.3868	-0.2384	0.1456
2	60.12	0.1949	0.0208	0.0019	-0.0053	0.0011	0.0158	0.0050	-0.1482	0.0226
2	60.12	0.2405	0.0162	0.0018	-0.0080	0.0027	0.0078	0.0101	-0.3389	0.0388
2	60.12	0.2999	-0.0095	0.0024	-0.0314	0.0057	0.0189	0.0217	-0.4150	0.0515
2	60.12	0.3498	-0.0399	0.0025	-0.0381	0.0093	0.0746	0.0362	-0.2515	0.0471
2	60.12	0.3998	-0.0607	0.0030	-0.0710	0.0152	0.0692	0.0568	-0.3541	0.0613
2	60.12	0.4496	-0.0765	0.0040	-0.1175	0.0193	0.0732	0.0765	-0.3392	0.0686
2	60.12	0.4995	-0.0945	0.0043	-0.1763	0.0250	0.0077	0.0982	-0.4586	0.0711
2	60.12	0.5551	-0.1058	0.0046	-0.2446	0.0310	-0.1059	0.1257	-0.5217	0.0708
2	60.12	0.5996	-0.1205	0.0044	-0.2993	0.0364	-0.2208	0.1451	-0.4555	0.0764
2	60.12	0.6497	-0.1265	0.0046	-0.3561	0.0423	-0.4275	0.1684	-0.2942	0.0823
2	60.12	0.6996	-0.1286	0.0046	-0.4225	0.0494	-0.7329	0.1898	-0.2763	0.0884
2	60.12	0.7495	-0.1595	0.0051	-0.4850	0.0566	-1.1133	0.2098	-0.3736	0.0926
2	60.12	0.7996	-0.1926	0.0055	-0.5725	0.0642	-1.5281	0.2296	-0.2926	0.1020
2	60.12	0.8578	-0.2561	0.0064	-0.6545	0.0731	-2.0674	0.2531	0.0220	0.1023
2	60.12	0.9100	-0.2749	0.0066	-0.6952	0.0813	-2.6170	0.2756	0.0156	0.1113
2	60.12	0.9727	-0.3605	0.0097	-0.7321	0.0915	-3.1219	0.3050	0.5633	0.1175
3	60.12	0.1938	0.0181	0.0017	-0.0159	0.0011	0.0525	0.0041	-0.0046	0.0318
3	60.12	0.2357	0.0206	0.0017	0.0060	0.0021	0.0293	0.0076	-0.1309	0.0443
3	60.12	0.2995	-0.0145	0.0022	-0.0423	0.0051	0.1567	0.0181	-0.0736	0.0717
3	60.12	0.3493	-0.0265	0.0021	-0.0582	0.0081	0.2600	0.0299	0.0404	0.0660
3	60.12	0.4000	-0.0630	0.0026	-0.0878	0.0132	0.3787	0.0474	0.1830	0.0694
3	60.12	0.4497	-0.0666	0.0032	-0.1454	0.0174	0.4580	0.0655	0.0673	0.0889
3	60.12	0.4997	-0.0923	0.0036	-0.2087	0.0231	0.5417	0.0856	0.1043	0.0784
3	60.12	0.5556	-0.1020	0.0033	-0.2766	0.0304	0.5653	0.1088	0.0904	0.0798
3	60.12	0.5995	-0.1111	0.0041	-0.3394	0.0365	0.5542	0.1289	0.1870	0.0859
3	60.12	0.6498	-0.1431	0.0043	-0.4247	0.0440	0.4700	0.1517	0.2798	0.0991
3	60.12	0.6890	-0.1520	0.0043	-0.4759	0.0503	0.3094	0.1699	0.2499	0.0929
3	60.12	0.7495	-0.1602	0.0047	-0.5586	0.0614	0.0458	0.1992	0.5668	0.0993
3	60.12	0.7998	-0.1922	0.0052	-0.6228	0.0709	-0.2924	0.2237	0.4783	0.0960
3	60.12	0.8577	-0.1943	0.0061	-0.6869	0.0822	-0.7604	0.2526	0.8888	0.1119
3	60.12	0.9178	-0.2773	0.0068	-0.7703	0.0948	-1.3923	0.2850	0.5134	0.1129
3	60.12	0.9729	-0.3440	0.0098	-0.8006	0.1055	-1.9872	0.3190	0.3836	0.1116
4	60.12	0.2001	0.0193	0.0021	-0.0051	0.0010	0.0029	0.0039	0.0832	0.0245
4	60.12	0.2502	0.0255	0.0016	-0.0098	0.0024	-0.0125	0.0089	0.2151	0.0417
4	60.12	0.3001	-0.0133	0.0022	-0.0244	0.0044	-0.0214	0.0169	0.2287	0.0549
4	60.12	0.3502	-0.0511	0.0030	-0.0366	0.0079	-0.0113	0.0271	0.3125	0.0543
4	60.12	0.4002	-0.0764	0.0034	-0.0608	0.0122	-0.0486	0.0436	0.2384	0.0639
4	60.12	0.4500	-0.0842	0.0033	-0.0897	0.0164	-0.1037	0.0569	0.0983	0.0761
4	60.12	0.5001	-0.1080	0.0035	-0.1432	0.0218	-0.1500	0.0752	0.3453	0.0796
4	60.12	0.5560	-0.1271	0.0041	-0.1917	0.0287	-0.3360	0.0939	0.2190	0.0859
4	60.12	0.6001	-0.1343	0.0038	-0.2292	0.0345	-0.5004	0.1098	0.2749	0.0792
4	60.12	0.6501	-0.1690	0.0045	-0.3000	0.0421	-0.7998	0.1285	0.4149	0.0837
4	60.12	0.6999	-0.1739	0.0047	-0.3659	0.0505	-1.1816	0.1460	0.6224	0.0856
4	60.12	0.7500	-0.2017	0.0053	-0.4173	0.0590	-1.6613	0.1629	0.7975	0.0920
4	60.12	0.8002	-0.2376	0.0062	-0.4789	0.0691	-2.2564	0.1807	0.9055	0.1016
4	60.12	0.8582	-0.2814	0.0076	-0.5283	0.0800	-3.0279	0.2036	0.9153	0.1102
4	60.12	0.9101	-0.3303	0.0077	-0.5833	0.0908	-3.8421	0.2286	0.8109	0.1027
4	60.12	0.9728	-0.3712	0.0115	-0.5962	0.1035	-4.6940	0.2555	1.2875	0.1049

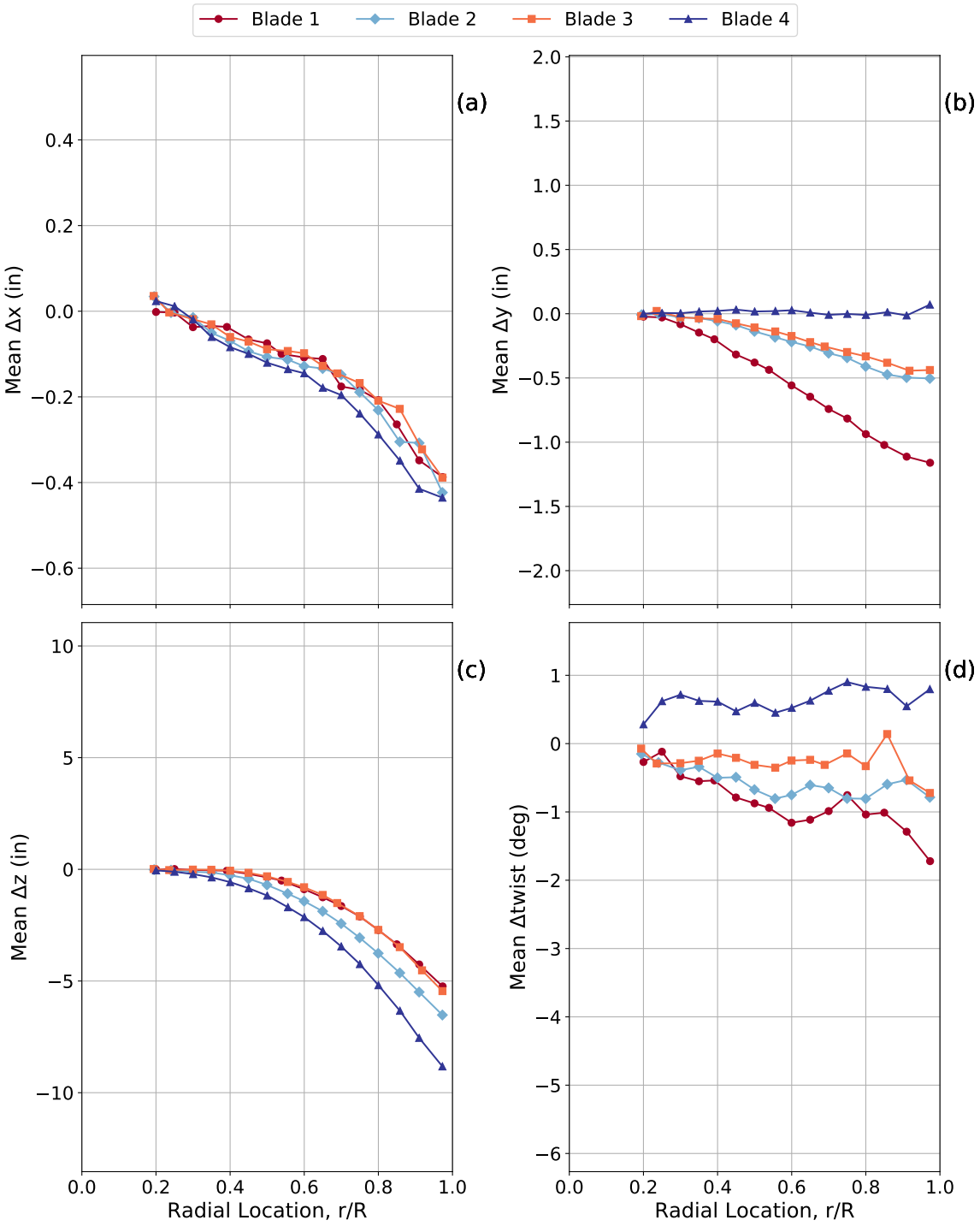


Figure 2.15-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0017	0.0022	-0.0226	0.0015	-0.0057	0.0051	-0.2688	0.0386
1	74.88	0.2499	-0.0031	0.0021	-0.0290	0.0033	0.0125	0.0098	-0.1187	0.0725
1	74.88	0.2998	-0.0373	0.0021	-0.0817	0.0061	-0.0267	0.0196	-0.4778	0.0897
1	74.88	0.3498	-0.0343	0.0022	-0.1467	0.0112	-0.0461	0.0320	-0.5509	0.0880
1	74.88	0.3913	-0.0367	0.0032	-0.1988	0.0158	-0.0609	0.0464	-0.5390	0.0984
1	74.88	0.4496	-0.0659	0.0052	-0.3173	0.0220	-0.2047	0.0632	-0.7884	0.0946
1	74.88	0.4997	-0.0749	0.0040	-0.3799	0.0291	-0.3584	0.0835	-0.8746	0.1114
1	74.88	0.5387	-0.0997	0.0039	-0.4367	0.0344	-0.5030	0.0980	-0.9402	0.1107
1	74.88	0.5996	-0.1079	0.0046	-0.5578	0.0450	-0.8900	0.1223	-1.1581	0.1179
1	74.88	0.6498	-0.1115	0.0046	-0.6462	0.0542	-1.2516	0.1423	-1.1142	0.1234
1	74.88	0.6998	-0.1758	0.0051	-0.7414	0.0647	-1.6432	0.1642	-0.9879	0.1237
1	74.88	0.7500	-0.1834	0.0051	-0.8160	0.0761	-2.1137	0.1867	-0.7544	0.1269
1	74.88	0.8001	-0.2075	0.0060	-0.9370	0.0883	-2.7184	0.2119	-1.0381	0.1388
1	74.88	0.8497	-0.2642	0.0068	-1.0217	0.1009	-3.3553	0.2371	-1.0109	0.1390
1	74.88	0.9102	-0.3482	0.0079	-1.1126	0.1173	-4.2579	0.2713	-1.2894	0.1422
1	74.88	0.9734	-0.3872	0.0116	-1.1602	0.1342	-5.2403	0.3092	-1.7207	0.1587
2	74.88	0.1949	0.0343	0.0020	-0.0080	0.0011	-0.0147	0.0042	-0.1507	0.0277
2	74.88	0.2405	-0.0032	0.0019	-0.0001	0.0024	-0.0391	0.0090	-0.2779	0.0456
2	74.88	0.2999	-0.0147	0.0022	-0.0289	0.0054	-0.1127	0.0196	-0.3887	0.0653
2	74.88	0.3498	-0.0506	0.0019	-0.0340	0.0090	-0.1395	0.0327	-0.3391	0.0682
2	74.88	0.3998	-0.0693	0.0035	-0.0578	0.0144	-0.2668	0.0520	-0.5005	0.0808
2	74.88	0.4496	-0.0934	0.0046	-0.0884	0.0180	-0.4207	0.0695	-0.4919	0.0833
2	74.88	0.4995	-0.1068	0.0039	-0.1373	0.0232	-0.6990	0.0882	-0.6738	0.0927
2	74.88	0.5551	-0.1128	0.0034	-0.1828	0.0299	-1.0869	0.1116	-0.8049	0.0909
2	74.88	0.5996	-0.1284	0.0044	-0.2193	0.0358	-1.4251	0.1284	-0.7508	0.0929
2	74.88	0.6497	-0.1338	0.0040	-0.2550	0.0429	-1.8781	0.1491	-0.6070	0.1100
2	74.88	0.6996	-0.1483	0.0048	-0.3070	0.0495	-2.4289	0.1725	-0.6488	0.1061
2	74.88	0.7495	-0.1890	0.0055	-0.3427	0.0578	-3.0626	0.1956	-0.8028	0.1096
2	74.88	0.7996	-0.2309	0.0063	-0.4107	0.0657	-3.7599	0.2198	-0.8068	0.1091
2	74.88	0.8578	-0.3049	0.0086	-0.4734	0.0749	-4.6363	0.2490	-0.5954	0.1207
2	74.88	0.9100	-0.3076	0.0098	-0.4969	0.0840	-5.4940	0.2782	-0.5311	0.1258
2	74.88	0.9727	-0.4233	0.0141	-0.5037	0.0963	-6.5215	0.3205	-0.7861	0.1655
3	74.88	0.1938	0.0356	0.0020	-0.0185	0.0011	0.0138	0.0046	-0.0728	0.0261
3	74.88	0.2357	-0.0028	0.0015	0.0216	0.0021	-0.0338	0.0085	-0.2909	0.0390
3	74.88	0.2995	-0.0186	0.0023	-0.0277	0.0048	-0.0125	0.0203	-0.2868	0.0605
3	74.88	0.3493	-0.0306	0.0024	-0.0359	0.0082	-0.0185	0.0348	-0.2505	0.0563
3	74.88	0.4000	-0.0602	0.0032	-0.0406	0.0130	-0.0611	0.0545	-0.1455	0.0686
3	74.88	0.4497	-0.0708	0.0040	-0.0745	0.0163	-0.1552	0.0740	-0.2083	0.0622
3	74.88	0.4997	-0.0887	0.0038	-0.1070	0.0216	-0.3130	0.0971	-0.3107	0.0781
3	74.88	0.5556	-0.0928	0.0038	-0.1379	0.0274	-0.5647	0.1234	-0.3523	0.0728
3	74.88	0.5995	-0.0981	0.0042	-0.1734	0.0332	-0.8021	0.1458	-0.2477	0.0776
3	74.88	0.6498	-0.1276	0.0045	-0.2210	0.0407	-1.1453	0.1726	-0.2373	0.0873
3	74.88	0.6890	-0.1452	0.0050	-0.2552	0.0463	-1.5094	0.1943	-0.3113	0.0931
3	74.88	0.7495	-0.1677	0.0060	-0.2981	0.0559	-2.0951	0.2287	-0.1444	0.0927
3	74.88	0.7998	-0.2088	0.0072	-0.3319	0.0642	-2.7116	0.2589	-0.3298	0.0997
3	74.88	0.8577	-0.2280	0.0086	-0.3814	0.0747	-3.4840	0.2948	0.1401	0.1072
3	74.88	0.9178	-0.3224	0.0103	-0.4435	0.0865	-4.5213	0.3318	-0.5390	0.1037
3	74.88	0.9729	-0.3885	0.0127	-0.4382	0.0970	-5.4519	0.3703	-0.7225	0.1277
4	74.88	0.2001	0.0236	0.0016	0.0009	0.0011	-0.0482	0.0040	0.2818	0.0315
4	74.88	0.2502	0.0117	0.0019	0.0062	0.0029	-0.1087	0.0084	0.6210	0.0443
4	74.88	0.3001	-0.0193	0.0022	0.0040	0.0053	-0.2145	0.0162	0.7163	0.0681
4	74.88	0.3502	-0.0601	0.0028	0.0170	0.0088	-0.3617	0.0279	0.6255	0.0747
4	74.88	0.4002	-0.0840	0.0036	0.0219	0.0143	-0.5731	0.0432	0.6146	0.0773
4	74.88	0.4500	-0.0997	0.0051	0.0321	0.0184	-0.8484	0.0574	0.4726	0.0856
4	74.88	0.5001	-0.1203	0.0040	0.0175	0.0235	-1.1752	0.0793	0.5971	0.0963
4	74.88	0.5560	-0.1353	0.0040	0.0207	0.0300	-1.6986	0.1048	0.4521	0.1033
4	74.88	0.6001	-0.1449	0.0048	0.0274	0.0359	-2.1410	0.1210	0.5232	0.1086
4	74.88	0.6501	-0.1786	0.0051	0.0086	0.0421	-2.7584	0.1431	0.6292	0.1044
4	74.88	0.6999	-0.1958	0.0054	-0.0086	0.0487	-3.4543	0.1618	0.7738	0.1126
4	74.88	0.7500	-0.2391	0.0065	-0.0018	0.0558	-4.2448	0.1825	0.9008	0.1177
4	74.88	0.8002	-0.2878	0.0082	-0.0094	0.0637	-5.1887	0.2041	0.8318	0.1223
4	74.88	0.8582	-0.3490	0.0101	0.0124	0.0728	-6.3339	0.2308	0.7997	0.1363
4	74.88	0.9101	-0.4145	0.0122	-0.0134	0.0821	-7.5471	0.2575	0.5472	0.1332
4	74.88	0.9728	-0.4353	0.0168	0.0709	0.0925	-8.8240	0.3000	0.7968	0.1596

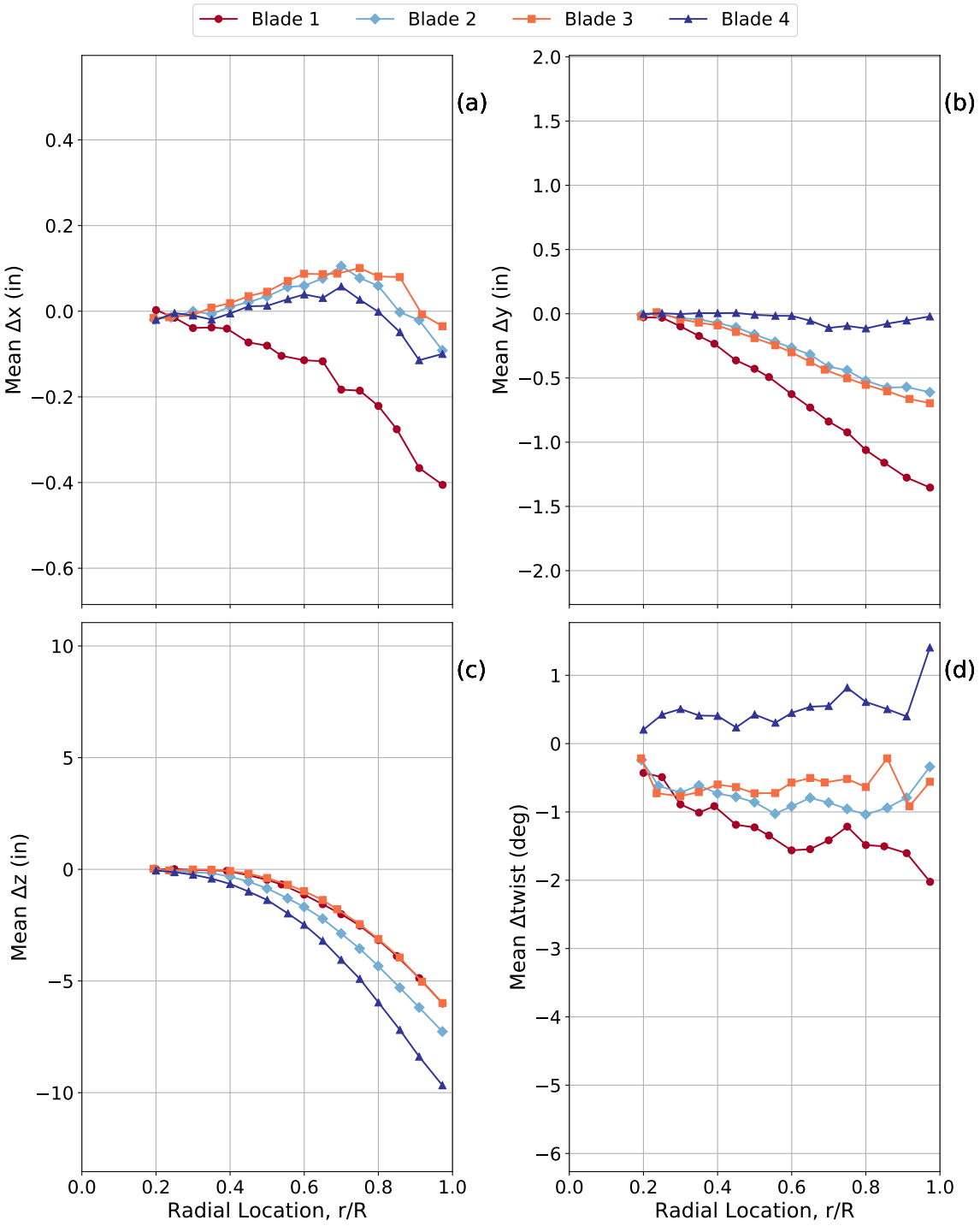


Figure 2.15-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0027	0.0027	-0.0280	0.0015	-0.0031	0.0055	-0.4285	0.0332
1	80.16	0.2499	-0.0152	0.0018	-0.0307	0.0030	0.0083	0.0116	-0.4907	0.0666
1	80.16	0.2998	-0.0392	0.0022	-0.0982	0.0062	-0.0254	0.0215	-0.8897	0.0779
1	80.16	0.3498	-0.0379	0.0024	-0.1731	0.0105	-0.0485	0.0366	-1.0103	0.0762
1	80.16	0.3913	-0.0406	0.0025	-0.2335	0.0152	-0.0676	0.0529	-0.9153	0.0895
1	80.16	0.4496	-0.0728	0.0036	-0.3631	0.0202	-0.2632	0.0771	-1.1881	0.0956
1	80.16	0.4997	-0.0804	0.0041	-0.4286	0.0259	-0.4718	0.1018	-1.2260	0.1176
1	80.16	0.5387	-0.1042	0.0041	-0.4932	0.0299	-0.6777	0.1237	-1.3458	0.1181
1	80.16	0.5996	-0.1144	0.0045	-0.6258	0.0377	-1.1325	0.1618	-1.5622	0.1336
1	80.16	0.6498	-0.1168	0.0051	-0.7298	0.0452	-1.5635	0.1948	-1.5458	0.1467
1	80.16	0.6998	-0.1830	0.0062	-0.8392	0.0526	-2.0094	0.2307	-1.4152	0.1565
1	80.16	0.7500	-0.1855	0.0070	-0.9232	0.0608	-2.5207	0.2678	-1.2154	0.1604
1	80.16	0.8001	-0.2212	0.0084	-1.0614	0.0686	-3.1678	0.3065	-1.4856	0.1667
1	80.16	0.8497	-0.2756	0.0096	-1.1597	0.0771	-3.8795	0.3459	-1.5035	0.1672
1	80.16	0.9102	-0.3662	0.0115	-1.2757	0.0877	-4.8700	0.3935	-1.6038	0.1758
1	80.16	0.9734	-0.4054	0.0137	-1.3533	0.0987	-6.0048	0.4430	-2.0237	0.1746
2	80.16	0.1949	-0.0192	0.0315	-0.0097	0.0009	-0.0103	0.0036	-0.2393	0.0321
2	80.16	0.2405	-0.0141	0.0085	-0.0013	0.0018	-0.0653	0.0056	-0.6193	0.0545
2	80.16	0.2999	-0.0002	0.0141	-0.0341	0.0039	-0.1306	0.0128	-0.7164	0.0764
2	80.16	0.3498	-0.0069	0.0279	-0.0443	0.0069	-0.1690	0.0222	-0.6110	0.0784
2	80.16	0.3998	0.0101	0.0358	-0.0720	0.0107	-0.3311	0.0334	-0.7310	0.0916
2	80.16	0.4496	0.0213	0.0389	-0.1061	0.0150	-0.5451	0.0459	-0.7791	0.0969
2	80.16	0.4995	0.0344	0.0377	-0.1611	0.0203	-0.8539	0.0601	-0.8576	0.0976
2	80.16	0.5551	0.0565	0.0310	-0.2191	0.0273	-1.2987	0.0773	-1.0260	0.1128
2	80.16	0.5996	0.0595	0.0227	-0.2644	0.0330	-1.6836	0.0920	-0.9190	0.1213
2	80.16	0.6497	0.0766	0.0150	-0.3175	0.0411	-2.2119	0.1113	-0.7948	0.1246
2	80.16	0.6996	0.1054	0.0227	-0.4123	0.0492	-2.8755	0.1321	-0.8639	0.1353
2	80.16	0.7495	0.0776	0.0429	-0.4402	0.0590	-3.5489	0.1552	-0.9559	0.1488
2	80.16	0.7996	0.0595	0.0691	-0.5213	0.0690	-4.3311	0.1819	-1.0378	0.1588
2	80.16	0.8578	-0.0023	0.1046	-0.5751	0.0814	-5.2987	0.2143	-0.9404	0.1672
2	80.16	0.9100	-0.0207	0.1409	-0.5706	0.0927	-6.1839	0.2455	-0.7925	0.1824
2	80.16	0.9727	-0.0915	0.1854	-0.6107	0.1125	-7.2627	0.2882	-0.3383	0.1924
3	80.16	0.1938	-0.0157	0.0360	-0.0208	0.0011	0.0240	0.0048	-0.2163	0.0325
3	80.16	0.2357	-0.0140	0.0120	0.0115	0.0020	-0.0496	0.0062	-0.7261	0.0526
3	80.16	0.2995	-0.0094	0.0172	-0.0431	0.0049	-0.0099	0.0166	-0.7699	0.0750
3	80.16	0.3493	0.0084	0.0327	-0.0692	0.0089	-0.0181	0.0287	-0.7091	0.0734
3	80.16	0.4000	0.0190	0.0425	-0.0908	0.0137	-0.0760	0.0429	-0.5986	0.0849
3	80.16	0.4497	0.0351	0.0475	-0.1412	0.0188	-0.1934	0.0584	-0.6368	0.0923
3	80.16	0.4997	0.0455	0.0473	-0.1894	0.0246	-0.3889	0.0744	-0.7273	0.1025
3	80.16	0.5556	0.0708	0.0411	-0.2453	0.0319	-0.6915	0.0917	-0.7238	0.1057
3	80.16	0.5995	0.0875	0.0329	-0.3003	0.0382	-0.9753	0.1070	-0.5708	0.1195
3	80.16	0.6498	0.0866	0.0238	-0.3748	0.0461	-1.3744	0.1258	-0.5034	0.1171
3	80.16	0.6890	0.0877	0.0239	-0.4349	0.0530	-1.7877	0.1411	-0.5686	0.1368
3	80.16	0.7495	0.1009	0.0444	-0.5017	0.0638	-2.4539	0.1667	-0.5171	0.1345
3	80.16	0.7998	0.0811	0.0717	-0.5533	0.0731	-3.1204	0.1920	-0.6356	0.1451
3	80.16	0.8577	0.0797	0.1096	-0.6032	0.0844	-3.9473	0.2229	-0.2163	0.1600
3	80.16	0.9178	-0.0072	0.1549	-0.6633	0.0963	-5.0356	0.2594	-0.9163	0.1699
3	80.16	0.9729	-0.0351	0.1959	-0.6958	0.1156	-5.9851	0.2938	-0.5590	0.2127
4	80.16	0.2001	-0.0201	0.0206	-0.0009	0.0010	-0.0537	0.0040	0.2044	0.0284
4	80.16	0.2502	-0.0043	0.0044	0.0038	0.0020	-0.1279	0.0079	0.4247	0.0460
4	80.16	0.3001	-0.0098	0.0088	-0.0024	0.0040	-0.2426	0.0160	0.5069	0.0619
4	80.16	0.3502	-0.0195	0.0178	0.0051	0.0069	-0.4138	0.0276	0.4109	0.0581
4	80.16	0.4002	-0.0052	0.0237	0.0046	0.0106	-0.6558	0.0427	0.4060	0.0651
4	80.16	0.4500	0.0115	0.0262	0.0066	0.0150	-0.9950	0.0582	0.2368	0.0688
4	80.16	0.5001	0.0127	0.0260	-0.0082	0.0208	-1.3735	0.0777	0.4258	0.0732
4	80.16	0.5560	0.0282	0.0225	-0.0158	0.0280	-1.9756	0.1009	0.3065	0.0785
4	80.16	0.6001	0.0392	0.0188	-0.0167	0.0343	-2.4824	0.1212	0.4502	0.0872
4	80.16	0.6501	0.0310	0.0167	-0.0542	0.0420	-3.1996	0.1462	0.5403	0.0859
4	80.16	0.6999	0.0579	0.0225	-0.1102	0.0507	-4.0512	0.1714	0.5512	0.1130
4	80.16	0.7500	0.0269	0.0342	-0.0949	0.0589	-4.9040	0.2011	0.8188	0.1068
4	80.16	0.8002	-0.0013	0.0507	-0.1142	0.0687	-5.9597	0.2324	0.6099	0.1149
4	80.16	0.8582	-0.0488	0.0737	-0.0773	0.0806	-7.1912	0.2692	0.5042	0.1333
4	80.16	0.9101	-0.1144	0.0975	-0.0522	0.0929	-8.3864	0.3056	0.3978	0.1267
4	80.16	0.9728	-0.0997	0.1271	-0.0209	0.1093	-9.6695	0.3549	1.4065	0.1857

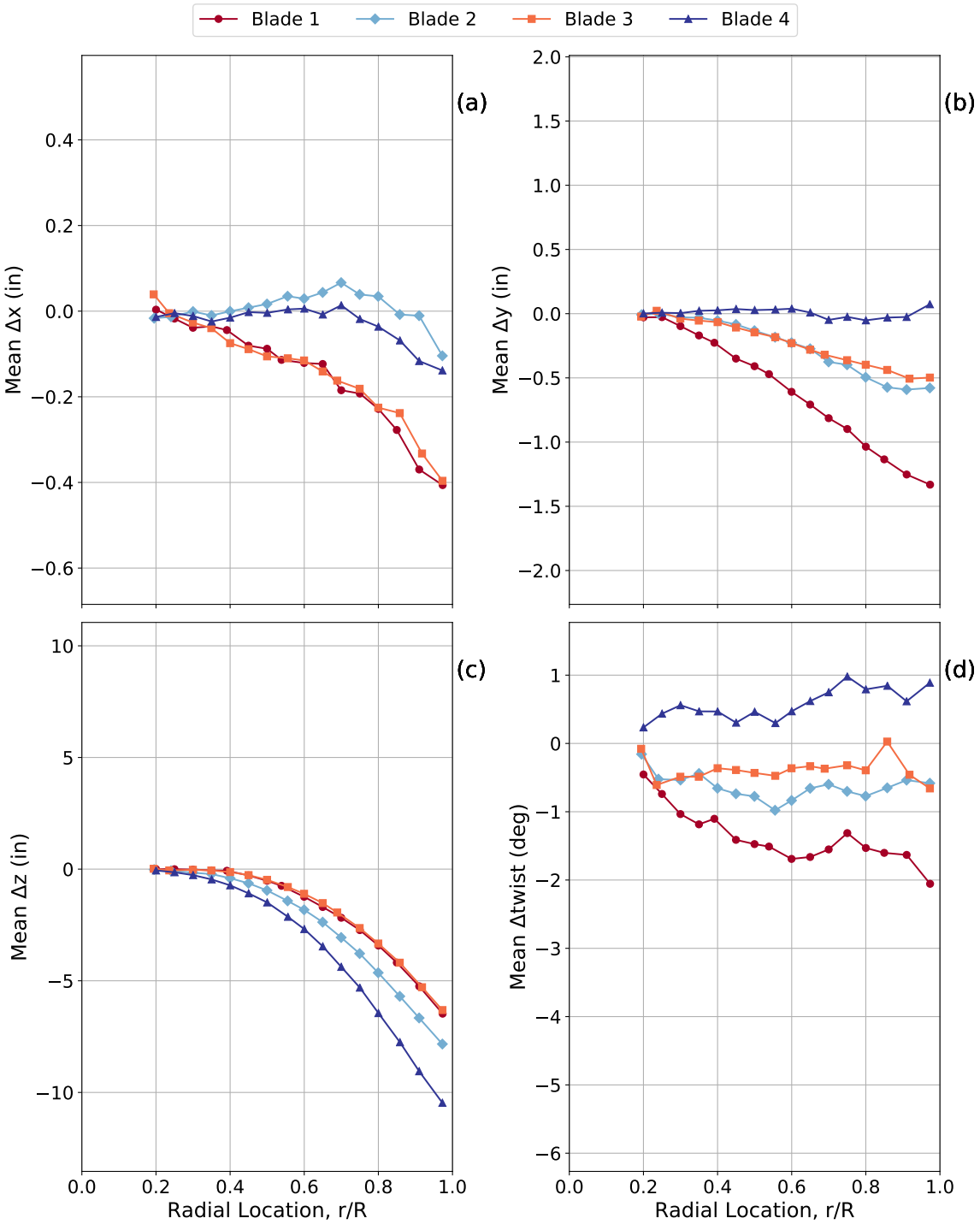


Figure 2.15-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0035	0.0030	-0.0286	0.0016	-0.0009	0.0067	-0.4545	0.0373
1	85.08	0.2499	-0.0174	0.0017	-0.0271	0.0035	-0.0038	0.0127	-0.7402	0.0743
1	85.08	0.2998	-0.0388	0.0023	-0.0970	0.0070	-0.0195	0.0247	-1.0341	0.0879
1	85.08	0.3498	-0.0356	0.0026	-0.1696	0.0120	-0.0551	0.0422	-1.1848	0.0781
1	85.08	0.3913	-0.0442	0.0028	-0.2265	0.0174	-0.0732	0.0597	-1.1032	0.0816
1	85.08	0.4496	-0.0806	0.0043	-0.3499	0.0243	-0.2814	0.0840	-1.4116	0.0902
1	85.08	0.4997	-0.0878	0.0039	-0.4092	0.0307	-0.5193	0.1083	-1.4739	0.0971
1	85.08	0.5387	-0.1138	0.0040	-0.4708	0.0366	-0.7474	0.1275	-1.5099	0.0997
1	85.08	0.5996	-0.1210	0.0050	-0.6086	0.0467	-1.2372	0.1593	-1.6908	0.1110
1	85.08	0.6498	-0.1234	0.0052	-0.7078	0.0556	-1.6964	0.1851	-1.6629	0.1150
1	85.08	0.6998	-0.1847	0.0055	-0.8137	0.0648	-2.1777	0.2120	-1.5517	0.1222
1	85.08	0.7500	-0.1924	0.0065	-0.8982	0.0746	-2.7301	0.2400	-1.3129	0.1273
1	85.08	0.8001	-0.2283	0.0078	-1.0359	0.0854	-3.4215	0.2674	-1.5308	0.1356
1	85.08	0.8497	-0.2775	0.0092	-1.1345	0.0963	-4.1860	0.2954	-1.6022	0.1401
1	85.08	0.9102	-0.3698	0.0109	-1.2524	0.1101	-5.2468	0.3315	-1.6320	0.1467
1	85.08	0.9734	-0.4062	0.0139	-1.3314	0.1253	-6.4727	0.3721	-2.0552	0.1529
2	85.08	0.1949	-0.0165	0.0264	-0.0081	0.0009	-0.0194	0.0037	-0.1575	0.0287
2	85.08	0.2405	-0.0132	0.0083	0.0010	0.0016	-0.0746	0.0061	-0.5229	0.0517
2	85.08	0.2999	-0.0009	0.0122	-0.0277	0.0036	-0.1597	0.0145	-0.5357	0.0684
2	85.08	0.3498	-0.0101	0.0242	-0.0319	0.0063	-0.2216	0.0248	-0.4399	0.0685
2	85.08	0.3998	-0.0004	0.0323	-0.0537	0.0096	-0.4061	0.0380	-0.6560	0.0709
2	85.08	0.4496	0.0081	0.0367	-0.0836	0.0130	-0.6333	0.0529	-0.7370	0.0833
2	85.08	0.4995	0.0167	0.0369	-0.1326	0.0172	-0.9518	0.0704	-0.7751	0.0824
2	85.08	0.5551	0.0349	0.0319	-0.1832	0.0224	-1.4219	0.0933	-0.9784	0.0912
2	85.08	0.5996	0.0292	0.0247	-0.2264	0.0273	-1.8219	0.1129	-0.8351	0.1013
2	85.08	0.6497	0.0437	0.0149	-0.2734	0.0329	-2.3739	0.1369	-0.6571	0.1184
2	85.08	0.6996	0.0666	0.0144	-0.3756	0.0391	-3.0619	0.1610	-0.5986	0.1136
2	85.08	0.7495	0.0390	0.0306	-0.3980	0.0459	-3.7811	0.1841	-0.7018	0.1380
2	85.08	0.7996	0.0345	0.0540	-0.4953	0.0530	-4.6397	0.2064	-0.7715	0.1420
2	85.08	0.8578	-0.0079	0.0864	-0.5735	0.0625	-5.6950	0.2318	-0.6503	0.1525
2	85.08	0.9100	-0.0106	0.1199	-0.5911	0.0717	-6.6645	0.2586	-0.5372	0.1656
2	85.08	0.9727	-0.1043	0.1602	-0.5786	0.0907	-7.8327	0.2955	-0.5823	0.2229
3	85.08	0.1938	0.0392	0.0021	-0.0228	0.0011	0.0164	0.0048	-0.0786	0.0377
3	85.08	0.2357	-0.0048	0.0016	0.0224	0.0024	-0.0571	0.0083	-0.6086	0.0589
3	85.08	0.2995	-0.0266	0.0019	-0.0386	0.0054	-0.0304	0.0200	-0.4875	0.0886
3	85.08	0.3493	-0.0397	0.0025	-0.0539	0.0093	-0.0596	0.0345	-0.4878	0.0862
3	85.08	0.4000	-0.0747	0.0026	-0.0659	0.0148	-0.1315	0.0534	-0.3628	0.0840
3	85.08	0.4497	-0.0887	0.0025	-0.1079	0.0197	-0.2675	0.0724	-0.3891	0.1031
3	85.08	0.4997	-0.1056	0.0032	-0.1456	0.0256	-0.4790	0.0945	-0.4317	0.1101
3	85.08	0.5556	-0.1101	0.0031	-0.1833	0.0331	-0.8014	0.1192	-0.4740	0.1198
3	85.08	0.5995	-0.1152	0.0033	-0.2294	0.0392	-1.1035	0.1394	-0.3635	0.1220
3	85.08	0.6498	-0.1408	0.0042	-0.2804	0.0468	-1.5216	0.1631	-0.3333	0.1326
3	85.08	0.6890	-0.1622	0.0044	-0.3198	0.0533	-1.9419	0.1839	-0.3698	0.1367
3	85.08	0.7495	-0.1813	0.0050	-0.3623	0.0638	-2.6383	0.2192	-0.3197	0.1403
3	85.08	0.7998	-0.2253	0.0064	-0.3977	0.0730	-3.3315	0.2503	-0.3935	0.1577
3	85.08	0.8577	-0.2381	0.0081	-0.4382	0.0839	-4.1894	0.2893	0.0273	0.1711
3	85.08	0.9178	-0.3324	0.0098	-0.5062	0.0953	-5.2889	0.3317	-0.4583	0.1713
3	85.08	0.9729	-0.3962	0.0122	-0.4977	0.1058	-6.3119	0.3718	-0.6586	0.1674
4	85.08	0.2001	-0.0136	0.0202	0.0017	0.0010	-0.0604	0.0042	0.2344	0.0259
4	85.08	0.2502	-0.0047	0.0050	0.0071	0.0021	-0.1411	0.0078	0.4358	0.0517
4	85.08	0.3001	-0.0114	0.0085	0.0042	0.0039	-0.2687	0.0153	0.5594	0.0598
4	85.08	0.3502	-0.0242	0.0174	0.0222	0.0072	-0.4614	0.0267	0.4695	0.0582
4	85.08	0.4002	-0.0152	0.0235	0.0261	0.0108	-0.7274	0.0405	0.4680	0.0616
4	85.08	0.4500	-0.0023	0.0262	0.0360	0.0148	-1.0857	0.0560	0.3039	0.0660
4	85.08	0.5001	-0.0040	0.0260	0.0278	0.0196	-1.4927	0.0722	0.4631	0.0771
4	85.08	0.5560	0.0041	0.0228	0.0320	0.0253	-2.1362	0.0919	0.2978	0.0766
4	85.08	0.6001	0.0059	0.0189	0.0387	0.0302	-2.6861	0.1066	0.4706	0.0762
4	85.08	0.6501	-0.0079	0.0159	0.0085	0.0364	-3.4627	0.1243	0.6205	0.0907
4	85.08	0.6999	0.0137	0.0206	-0.0485	0.0423	-4.3780	0.1434	0.7489	0.0966
4	85.08	0.7500	-0.0184	0.0331	-0.0250	0.0493	-5.3074	0.1619	0.9795	0.0954
4	85.08	0.8002	-0.0363	0.0497	-0.0521	0.0572	-6.4484	0.1827	0.7919	0.0983
4	85.08	0.8582	-0.0685	0.0730	-0.0304	0.0674	-7.7534	0.2109	0.8441	0.1124
4	85.08	0.9101	-0.1166	0.0970	-0.0258	0.0775	-9.0530	0.2388	0.6170	0.1227
4	85.08	0.9728	-0.1385	0.1281	0.0734	0.0964	-10.4665	0.2818	0.8889	0.2643

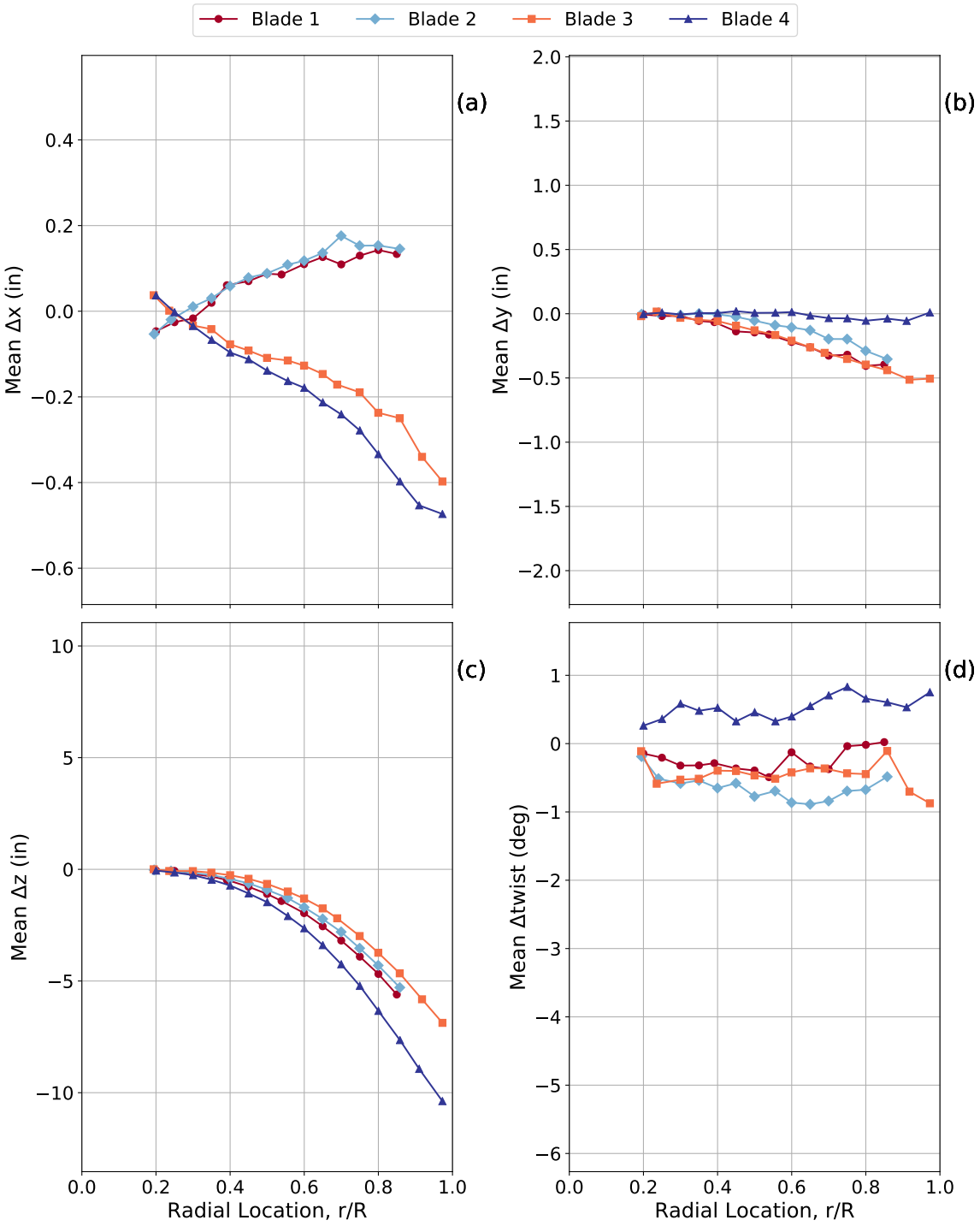


Figure 2.15-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0467	0.0014	-0.0056	0.0013	-0.0505	0.0052	-0.1461	0.0330
1	90	0.2499	-0.0257	0.0014	-0.0177	0.0026	-0.0713	0.0103	-0.2058	0.0528
1	90	0.2998	-0.0167	0.0015	-0.0172	0.0053	-0.2099	0.0200	-0.3213	0.0733
1	90	0.3498	0.0197	0.0018	-0.0563	0.0092	-0.3181	0.0353	-0.3187	0.0661
1	90	0.3913	0.0607	0.0024	-0.0653	0.0132	-0.4754	0.0497	-0.2867	0.0629
1	90	0.4496	0.0702	0.0031	-0.1375	0.0198	-0.7787	0.0764	-0.3636	0.0772
1	90	0.4997	0.0875	0.0029	-0.1458	0.0267	-1.1021	0.1049	-0.3933	0.0723
1	90	0.5387	0.0857	0.0040	-0.1618	0.0327	-1.4169	0.1288	-0.4914	0.0843
1	90	0.5996	0.1098	0.0045	-0.2196	0.0424	-1.9597	0.1713	-0.1271	0.0796
1	90	0.6498	0.1265	0.0055	-0.2611	0.0508	-2.5493	0.2052	-0.3348	0.1054
1	90	0.6998	0.1093	0.0077	-0.3263	0.0601	-3.1882	0.2434	-0.3732	0.1119
1	90	0.7500	0.1298	0.0091	-0.3189	0.0699	-3.9088	0.2780	-0.0372	0.1191
1	90	0.8001	0.1430	0.0114	-0.4062	0.0817	-4.6829	0.3185	-0.0176	0.1594
1	90	0.8497	0.1336	0.0112	-0.3952	0.0915	-5.6050	0.3564	0.0219	0.1634
2	90	0.1949	-0.0533	0.0012	-0.0038	0.0011	-0.0261	0.0041	-0.1890	0.0289
2	90	0.2405	-0.0196	0.0011	0.0082	0.0023	-0.0773	0.0090	-0.5135	0.0424
2	90	0.2999	0.0106	0.0013	-0.0109	0.0052	-0.1613	0.0191	-0.5832	0.0653
2	90	0.3498	0.0305	0.0016	0.0018	0.0090	-0.2551	0.0326	-0.5388	0.0586
2	90	0.3998	0.0587	0.0019	-0.0051	0.0141	-0.4285	0.0512	-0.6513	0.0642
2	90	0.4496	0.0784	0.0022	-0.0236	0.0200	-0.6263	0.0732	-0.5797	0.0715
2	90	0.4995	0.0883	0.0027	-0.0536	0.0262	-0.9153	0.0978	-0.7738	0.0810
2	90	0.5551	0.1086	0.0035	-0.0894	0.0351	-1.2854	0.1319	-0.6943	0.0829
2	90	0.5996	0.1179	0.0038	-0.1059	0.0422	-1.6981	0.1603	-0.8635	0.1036
2	90	0.6497	0.1361	0.0046	-0.1287	0.0515	-2.2211	0.1924	-0.8881	0.1070
2	90	0.6996	0.1761	0.0053	-0.1966	0.0603	-2.8030	0.2260	-0.8404	0.1284
2	90	0.7495	0.1530	0.0064	-0.1972	0.0717	-3.5322	0.2601	-0.6945	0.1148
2	90	0.7996	0.1535	0.0089	-0.2887	0.0828	-4.3014	0.2978	-0.6741	0.1512
2	90	0.8578	0.1455	0.0127	-0.3533	0.0942	-5.2904	0.3467	-0.4845	0.2721
3	90	0.1938	0.0374	0.0028	-0.0187	0.0013	0.0033	0.0050	-0.1108	0.0284
3	90	0.2357	0.0013	0.0021	0.0170	0.0025	-0.0742	0.0077	-0.5872	0.0495
3	90	0.2995	-0.0334	0.0024	-0.0317	0.0058	-0.0789	0.0193	-0.5278	0.0641
3	90	0.3493	-0.0418	0.0027	-0.0472	0.0100	-0.1491	0.0334	-0.5143	0.0657
3	90	0.4000	-0.0773	0.0026	-0.0570	0.0158	-0.2636	0.0512	-0.3955	0.0634
3	90	0.4497	-0.0918	0.0032	-0.0931	0.0216	-0.4233	0.0692	-0.4007	0.0678
3	90	0.4997	-0.1090	0.0040	-0.1291	0.0276	-0.6528	0.0906	-0.4662	0.0711
3	90	0.5556	-0.1150	0.0044	-0.1658	0.0359	-0.9935	0.1158	-0.5135	0.0796
3	90	0.5995	-0.1270	0.0047	-0.2095	0.0434	-1.3067	0.1366	-0.4217	0.0828
3	90	0.6498	-0.1466	0.0053	-0.2614	0.0528	-1.7493	0.1601	-0.3618	0.0821
3	90	0.6890	-0.1713	0.0058	-0.3044	0.0609	-2.1922	0.1790	-0.3634	0.0892
3	90	0.7495	-0.1893	0.0065	-0.3519	0.0743	-2.9863	0.2078	-0.4344	0.0887
3	90	0.7998	-0.2371	0.0075	-0.3956	0.0861	-3.7338	0.2326	-0.4462	0.0924
3	90	0.8577	-0.2498	0.0091	-0.4396	0.1005	-4.6556	0.2616	-0.1073	0.0940
3	90	0.9178	-0.3400	0.0103	-0.5135	0.1158	-5.8178	0.2926	-0.7024	0.0968
3	90	0.9729	-0.3976	0.0139	-0.5054	0.1303	-6.8732	0.3222	-0.8739	0.0951
4	90.35	0.2001	0.0368	0.0018	-0.0026	0.0012	-0.0580	0.0040	0.2630	0.0312
4	90.35	0.2502	-0.0025	0.0019	0.0084	0.0027	-0.1426	0.0079	0.3601	0.0610
4	90.35	0.3001	-0.0346	0.0020	-0.0052	0.0051	-0.2609	0.0157	0.5831	0.0723
4	90.35	0.3502	-0.0668	0.0023	0.0051	0.0089	-0.4658	0.0268	0.4805	0.0677
4	90.35	0.4002	-0.0964	0.0025	0.0054	0.0138	-0.7271	0.0413	0.5238	0.0761
4	90.35	0.4500	-0.1123	0.0033	0.0200	0.0188	-1.0806	0.0566	0.3256	0.0848
4	90.35	0.5001	-0.1389	0.0035	0.0067	0.0245	-1.4723	0.0748	0.4578	0.0841
4	90.35	0.5560	-0.1632	0.0037	0.0078	0.0318	-2.0941	0.0967	0.3260	0.1011
4	90.35	0.6001	-0.1788	0.0038	0.0131	0.0379	-2.6403	0.1167	0.3974	0.1029
4	90.35	0.6501	-0.2130	0.0049	-0.0143	0.0453	-3.3950	0.1398	0.5497	0.1089
4	90.35	0.6999	-0.2410	0.0059	-0.0343	0.0536	-4.2519	0.1653	0.7056	0.1119
4	90.35	0.7500	-0.2785	0.0073	-0.0359	0.0623	-5.2197	0.1901	0.8302	0.1188
4	90.35	0.8002	-0.3338	0.0093	-0.0544	0.0711	-6.3388	0.2166	0.6587	0.1275
4	90.35	0.8582	-0.3975	0.0119	-0.0381	0.0820	-7.6469	0.2496	0.6048	0.1325
4	90.35	0.9101	-0.4533	0.0138	-0.0558	0.0921	-8.9355	0.2805	0.5317	0.1305
4	90.35	0.9728	-0.4735	0.0170	0.0097	0.1044	-10.3796	0.3193	0.7512	0.1672

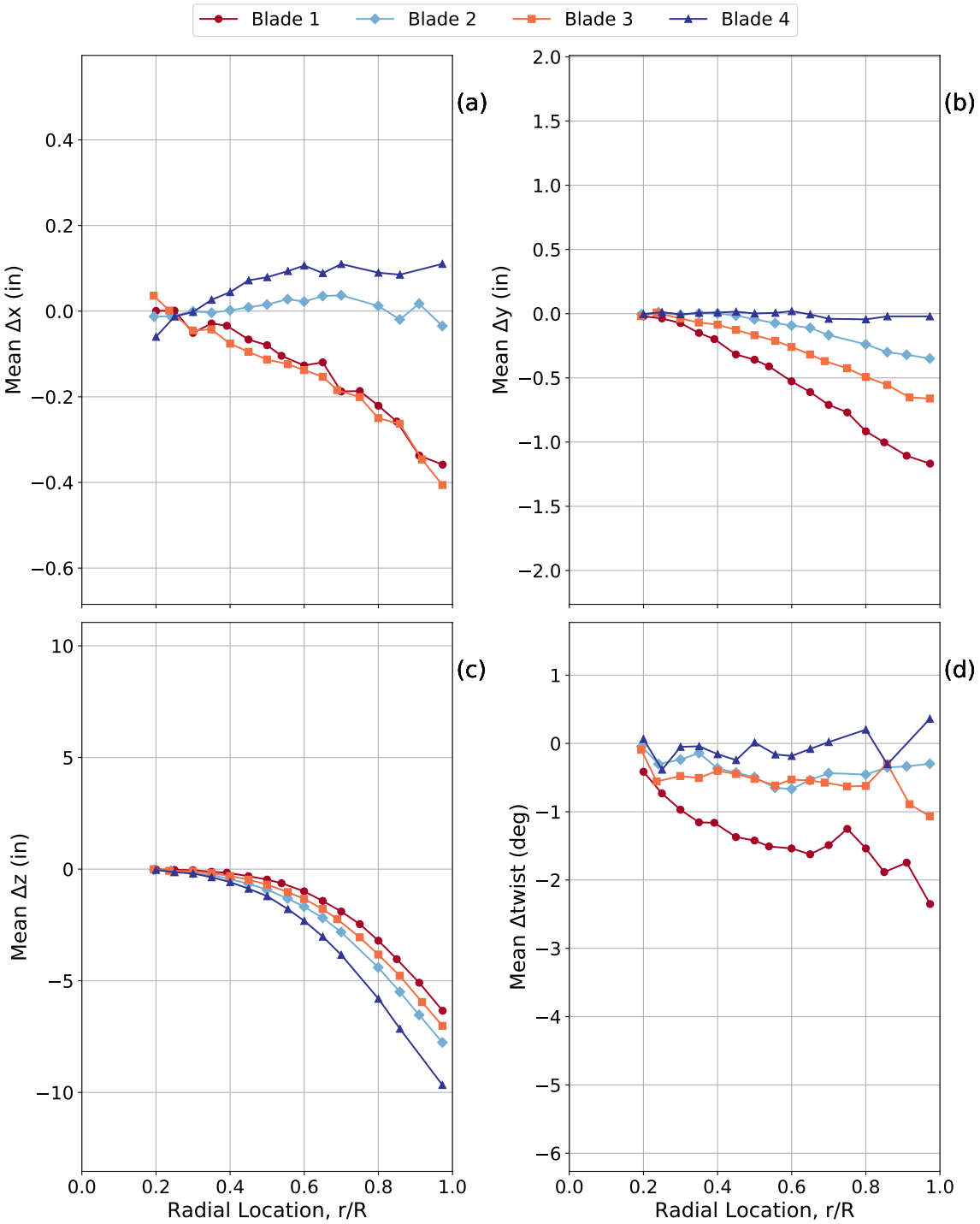


Figure 2.15-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.118$, $\mu = 0.245$, $\alpha = -1.89°$ NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	0.0006	0.0044	-0.0202	0.0020	-0.0084	0.0087	-0.4145	0.0502
1	94.92	0.2499	0.0011	0.0026	-0.0370	0.0041	-0.0346	0.0146	-0.7315	0.1202
1	94.92	0.2998	-0.0508	0.0023	-0.0736	0.0086	-0.0469	0.0313	-0.9703	0.1260
1	94.92	0.3498	-0.0287	0.0021	-0.1501	0.0143	-0.1198	0.0528	-1.1551	0.1246
1	94.92	0.3913	-0.0341	0.0021	-0.1981	0.0209	-0.1592	0.0742	-1.1618	0.1183
1	94.92	0.4496	-0.0662	0.0051	-0.3177	0.0377	-0.3169	0.1050	-1.3711	0.1159
1	94.92	0.4997	-0.0795	0.0026	-0.3583	0.0374	-0.4677	0.1308	-1.4214	0.1216
1	94.92	0.5387	-0.1043	0.0027	-0.4105	0.0435	-0.6314	0.1530	-1.5081	0.1278
1	94.92	0.5996	-0.1268	0.0032	-0.5269	0.0543	-0.9929	0.1884	-1.5376	0.1321
1	94.92	0.6498	-0.1196	0.0034	-0.6107	0.0643	-1.4229	0.2167	-1.6229	0.1310
1	94.92	0.6998	-0.1875	0.0041	-0.7102	0.0741	-1.8988	0.2446	-1.4889	0.1275
1	94.92	0.7500	-0.1866	0.0048	-0.7690	0.0845	-2.4645	0.2716	-1.2514	0.1336
1	94.92	0.8001	-0.2209	0.0059	-0.9160	0.0946	-3.2044	0.2996	-1.5378	0.1388
1	94.92	0.8497	-0.2577	0.0071	-1.0019	0.1055	-4.0313	0.3249	-1.8839	0.1441
1	94.92	0.9102	-0.3371	0.0085	-1.1063	0.1193	-5.0859	0.3534	-1.7455	0.1440
1	94.92	0.9734	-0.3585	0.0105	-1.1678	0.1340	-6.3415	0.3844	-2.3515	0.1491
2	94.92	0.1949	-0.0126	0.0285	-0.0046	0.0010	-0.0300	0.0044	-0.0426	0.0402
2	94.92	0.2405	-0.0121	0.0087	0.0106	0.0017	-0.0738	0.0078	-0.3011	0.0709
2	94.92	0.2999	-0.0003	0.0132	-0.0082	0.0036	-0.1766	0.0157	-0.2364	0.0925
2	94.92	0.3498	-0.0037	0.0250	0.0030	0.0063	-0.2620	0.0274	-0.1418	0.0879
2	94.92	0.3998	0.0021	0.0323	0.0014	0.0096	-0.4485	0.0414	-0.3644	0.0926
2	94.92	0.4496	0.0090	0.0356	-0.0146	0.0129	-0.6553	0.0553	-0.4288	0.1020
2	94.92	0.4995	0.0154	0.0336	-0.0437	0.0170	-0.9200	0.0738	-0.4929	0.1068
2	94.92	0.5551	0.0279	0.0267	-0.0736	0.0223	-1.3158	0.0953	-0.6492	0.1215
2	94.92	0.5996	0.0224	0.0185	-0.0923	0.0271	-1.6811	0.1145	-0.6680	0.1247
2	94.92	0.6497	0.0352	0.0171	-0.1106	0.0326	-2.1840	0.1387	-0.5350	0.1326
2	94.92	0.6996	0.0370	0.0340	-0.1666	0.0388	-2.8181	0.1617	-0.4354	0.1297
2	94.92	0.7996	0.0123	0.0916	-0.2385	0.0523	-4.4040	0.2179	-0.4550	0.1544
2	94.92	0.8578	-0.0195	0.1343	-0.3002	0.0608	-5.4962	0.2536	-0.3517	0.1679
2	94.92	0.9100	0.0174	0.1800	-0.3199	0.0691	-6.5294	0.2874	-0.3359	0.1783
2	94.92	0.9727	-0.0347	0.2349	-0.3492	0.0809	-7.7600	0.3283	-0.2980	0.1944
3	94.92	0.1938	0.0362	0.0034	-0.0193	0.0011	-0.0023	0.0042	-0.0913	0.0287
3	94.92	0.2357	0.0014	0.0015	0.0092	0.0022	-0.0769	0.0077	-0.5576	0.0575
3	94.92	0.2995	-0.0451	0.0019	-0.0380	0.0051	-0.0923	0.0176	-0.4773	0.0712
3	94.92	0.3493	-0.0425	0.0023	-0.0687	0.0088	-0.1829	0.0292	-0.5056	0.0716
3	94.92	0.4000	-0.0758	0.0026	-0.0859	0.0138	-0.3057	0.0464	-0.4008	0.0667
3	94.92	0.4497	-0.0951	0.0024	-0.1260	0.0182	-0.4706	0.0643	-0.4475	0.0787
3	94.92	0.4997	-0.1129	0.0026	-0.1679	0.0230	-0.6940	0.0841	-0.5189	0.0842
3	94.92	0.5556	-0.1238	0.0029	-0.2114	0.0292	-1.0280	0.1103	-0.6161	0.0864
3	94.92	0.5995	-0.1376	0.0030	-0.2593	0.0349	-1.3347	0.1321	-0.5289	0.0890
3	94.92	0.6498	-0.1531	0.0035	-0.3176	0.0416	-1.7854	0.1572	-0.5433	0.0928
3	94.92	0.6890	-0.1844	0.0040	-0.3693	0.0471	-2.2385	0.1770	-0.5740	0.0954
3	94.92	0.7495	-0.2006	0.0049	-0.4252	0.0565	-3.0526	0.2095	-0.6296	0.0993
3	94.92	0.7998	-0.2498	0.0057	-0.4931	0.0644	-3.8252	0.2364	-0.6227	0.0999
3	94.92	0.8577	-0.2631	0.0073	-0.5548	0.0745	-4.7735	0.2680	-0.2957	0.1019
3	94.92	0.9178	-0.3464	0.0085	-0.6519	0.0849	-5.9539	0.3029	-0.8897	0.1002
3	94.92	0.9729	-0.4060	0.0100	-0.6608	0.0949	-7.0190	0.3376	-1.0661	0.1031
4	94.92	0.2001	-0.0599	0.0013	-0.0033	0.0010	-0.0370	0.0041	0.0646	0.0257
4	94.92	0.2502	-0.0126	0.0011	0.0116	0.0017	-0.1393	0.0079	-0.3844	0.0380
4	94.92	0.3001	-0.0019	0.0015	-0.0053	0.0036	-0.1983	0.0164	-0.0500	0.0551
4	94.92	0.3502	0.0266	0.0018	0.0062	0.0063	-0.3636	0.0278	-0.0419	0.0523
4	94.92	0.4002	0.0445	0.0022	0.0085	0.0094	-0.5831	0.0430	-0.1578	0.0628
4	94.92	0.4500	0.0720	0.0025	0.0152	0.0131	-0.8780	0.0614	-0.2440	0.0669
4	94.92	0.5001	0.0793	0.0033	0.0018	0.0169	-1.2121	0.0798	0.0142	0.0731
4	94.92	0.5560	0.0936	0.0041	0.0062	0.0218	-1.7919	0.1045	-0.1618	0.0792
4	94.92	0.6001	0.1065	0.0046	0.0195	0.0260	-2.3186	0.1251	-0.1832	0.0782
4	94.92	0.6501	0.0888	0.0057	-0.0059	0.0309	-3.0245	0.1505	-0.0801	0.0906
4	94.92	0.6999	0.1100	0.0076	-0.0399	0.0365	-3.8414	0.1792	0.0201	0.1009
4	94.92	0.8002	0.0898	0.0127	-0.0443	0.0480	-5.8036	0.2407	0.2023	0.1177
4	94.92	0.8582	0.0852	0.0145	-0.0210	0.0555	-7.1488	0.2779	-0.3057	0.1747
4	94.92	0.9728	0.1104	0.0228	-0.0212	0.0708	-9.6657	0.3619	0.3608	0.2261

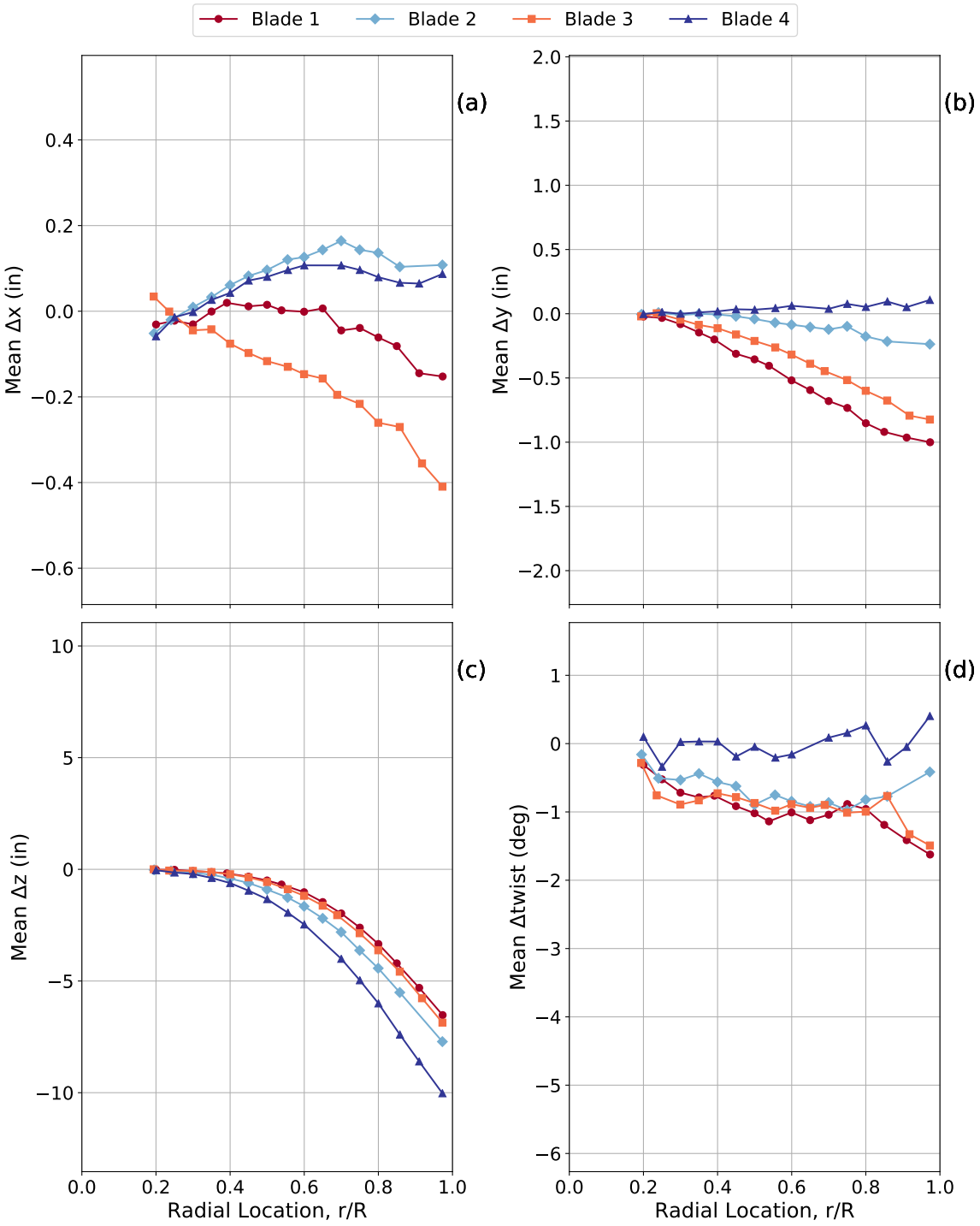


Figure 2.15-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0310	0.0090	-0.0218	0.0027	-0.0174	0.0080	-0.3127	0.0438
1	99.84	0.2499	-0.0221	0.0027	-0.0325	0.0044	-0.0208	0.0119	-0.5227	0.1095
1	99.84	0.2998	-0.0307	0.0042	-0.0811	0.0105	-0.0770	0.0274	-0.7176	0.1130
1	99.84	0.3498	-0.0007	0.0079	-0.1460	0.0179	-0.1234	0.0462	-0.7876	0.1129
1	99.84	0.3913	0.0197	0.0112	-0.2003	0.0253	-0.1811	0.0641	-0.7624	0.1134
1	99.84	0.4496	0.0114	0.0157	-0.3117	0.0362	-0.3279	0.0915	-0.9151	0.1207
1	99.84	0.4997	0.0150	0.0193	-0.3551	0.0465	-0.4987	0.1172	-1.0189	0.1242
1	99.84	0.5387	0.0021	0.0228	-0.4050	0.0550	-0.6794	0.1375	-1.1384	0.1270
1	99.84	0.5996	-0.0011	0.0288	-0.5184	0.0684	-1.0240	0.1683	-1.0074	0.1246
1	99.84	0.6498	0.0065	0.0347	-0.5943	0.0799	-1.4655	0.1947	-1.1202	0.1273
1	99.84	0.6998	-0.0448	0.0413	-0.6799	0.0917	-1.9747	0.2189	-1.0405	0.1271
1	99.84	0.7500	-0.0391	0.0495	-0.7332	0.1044	-2.6102	0.2442	-0.8851	0.1324
1	99.84	0.8001	-0.0613	0.0578	-0.8523	0.1180	-3.3431	0.2700	-0.9575	0.1327
1	99.84	0.8497	-0.0814	0.0680	-0.9196	0.1310	-4.2088	0.2945	-1.1896	0.1304
1	99.84	0.9102	-0.1447	0.0844	-0.9639	0.1489	-5.3050	0.3265	-1.4133	0.2454
1	99.84	0.9734	-0.1524	0.1008	-1.0004	0.1691	-6.5254	0.3683	-1.6238	0.1500
2	99.84	0.1949	-0.0517	0.0013	-0.0045	0.0009	-0.0243	0.0035	-0.1594	0.0238
2	99.84	0.2405	-0.0201	0.0012	0.0087	0.0016	-0.0734	0.0078	-0.5068	0.0417
2	99.84	0.2999	0.0095	0.0016	-0.0099	0.0040	-0.1572	0.0166	-0.5328	0.0582
2	99.84	0.3498	0.0330	0.0017	-0.0010	0.0061	-0.2376	0.0284	-0.4388	0.0623
2	99.84	0.3998	0.0609	0.0024	-0.0052	0.0099	-0.4087	0.0447	-0.5619	0.0633
2	99.84	0.4496	0.0823	0.0026	-0.0199	0.0138	-0.6111	0.0642	-0.6237	0.0735
2	99.84	0.4995	0.0961	0.0034	-0.0405	0.0185	-0.9009	0.0859	-0.8951	0.0799
2	99.84	0.5551	0.1205	0.0036	-0.0695	0.0242	-1.2612	0.1119	-0.7514	0.0907
2	99.84	0.5996	0.1263	0.0042	-0.0854	0.0295	-1.6561	0.1341	-0.8446	0.0948
2	99.84	0.6497	0.1434	0.0055	-0.1038	0.0365	-2.1937	0.1606	-0.9204	0.1030
2	99.84	0.6996	0.1644	0.0064	-0.1218	0.0426	-2.8088	0.1892	-0.8632	0.1089
2	99.84	0.7495	0.1435	0.0094	-0.0981	0.0526	-3.6288	0.2277	-0.9756	0.1787
2	99.84	0.7996	0.1363	0.0095	-0.1766	0.0588	-4.4287	0.2445	-0.8209	0.1203
2	99.84	0.8578	0.1036	0.0114	-0.2156	0.0685	-5.5126	0.2810	-0.7719	0.1259
2	99.84	0.9727	0.1080	0.0178	-0.2369	0.0888	-7.7138	0.3523	-0.4144	0.1585
3	99.84	0.1938	0.0343	0.0035	-0.0205	0.0011	0.0012	0.0049	-0.2831	0.0325
3	99.84	0.2357	-0.0008	0.0021	0.0037	0.0017	-0.0553	0.0073	-0.7578	0.0765
3	99.84	0.2995	-0.0446	0.0021	-0.0458	0.0044	-0.0706	0.0179	-0.8923	0.0861
3	99.84	0.3493	-0.0423	0.0018	-0.0868	0.0072	-0.1222	0.0299	-0.8307	0.0893
3	99.84	0.4000	-0.0758	0.0023	-0.1126	0.0114	-0.2218	0.0464	-0.7274	0.0937
3	99.84	0.4497	-0.0974	0.0025	-0.1614	0.0149	-0.3597	0.0605	-0.7835	0.0988
3	99.84	0.4997	-0.1165	0.0024	-0.2118	0.0192	-0.5671	0.0782	-0.8697	0.1006
3	99.84	0.5556	-0.1298	0.0030	-0.2624	0.0248	-0.8880	0.0975	-0.9818	0.0998
3	99.84	0.5995	-0.1470	0.0038	-0.3180	0.0296	-1.1825	0.1141	-0.8868	0.1034
3	99.84	0.6498	-0.1571	0.0038	-0.3891	0.0352	-1.6257	0.1326	-0.9401	0.1142
3	99.84	0.6890	-0.1952	0.0045	-0.4465	0.0403	-2.0517	0.1463	-0.8979	0.1171
3	99.84	0.7495	-0.2163	0.0053	-0.5166	0.0486	-2.8603	0.1683	-1.0107	0.1184
3	99.84	0.7998	-0.2603	0.0061	-0.5997	0.0559	-3.6244	0.1873	-0.9959	0.1226
3	99.84	0.8577	-0.2703	0.0068	-0.6756	0.0646	-4.5826	0.2086	-0.7668	0.1270
3	99.84	0.9178	-0.3554	0.0080	-0.7932	0.0738	-5.7705	0.2277	-1.3268	0.1280
3	99.84	0.9729	-0.4096	0.0094	-0.8236	0.0823	-6.8628	0.2457	-1.4915	0.1259
4	99.84	0.2001	-0.0586	0.0012	-0.0027	0.0009	-0.0404	0.0040	0.0983	0.0256
4	99.84	0.2502	-0.0140	0.0012	0.0132	0.0018	-0.1448	0.0086	-0.3392	0.0405
4	99.84	0.3001	-0.0020	0.0012	-0.0002	0.0037	-0.2103	0.0166	0.0235	0.0560
4	99.84	0.3502	0.0265	0.0017	0.0106	0.0059	-0.3858	0.0281	0.0312	0.0593
4	99.84	0.4002	0.0429	0.0020	0.0187	0.0093	-0.6154	0.0439	0.0301	0.0676
4	99.84	0.4500	0.0716	0.0026	0.0347	0.0131	-0.9564	0.0628	-0.1891	0.0778
4	99.84	0.5001	0.0803	0.0032	0.0315	0.0174	-1.3357	0.0821	-0.0466	0.0749
4	99.84	0.5560	0.0962	0.0041	0.0438	0.0228	-1.9429	0.1065	-0.2055	0.0796
4	99.84	0.6001	0.1071	0.0045	0.0619	0.0274	-2.4705	0.1276	-0.1586	0.0893
4	99.84	0.6999	0.1070	0.0067	0.0383	0.0392	-4.0060	0.1754	0.0872	0.0963
4	99.84	0.7500	0.0963	0.0083	0.0764	0.0464	-4.9687	0.1993	0.1573	0.1087
4	99.84	0.8002	0.0794	0.0097	0.0527	0.0524	-6.0026	0.2199	0.2658	0.1210
4	99.84	0.8582	0.0664	0.0114	0.0947	0.0604	-7.4032	0.2450	-0.2631	0.1192
4	99.84	0.9101	0.0646	0.0165	0.0513	0.0683	-8.6025	0.2666	-0.0484	0.1285
4	99.84	0.9728	0.0870	0.0150	0.1073	0.0760	-10.0267	0.2936	0.4033	0.1434

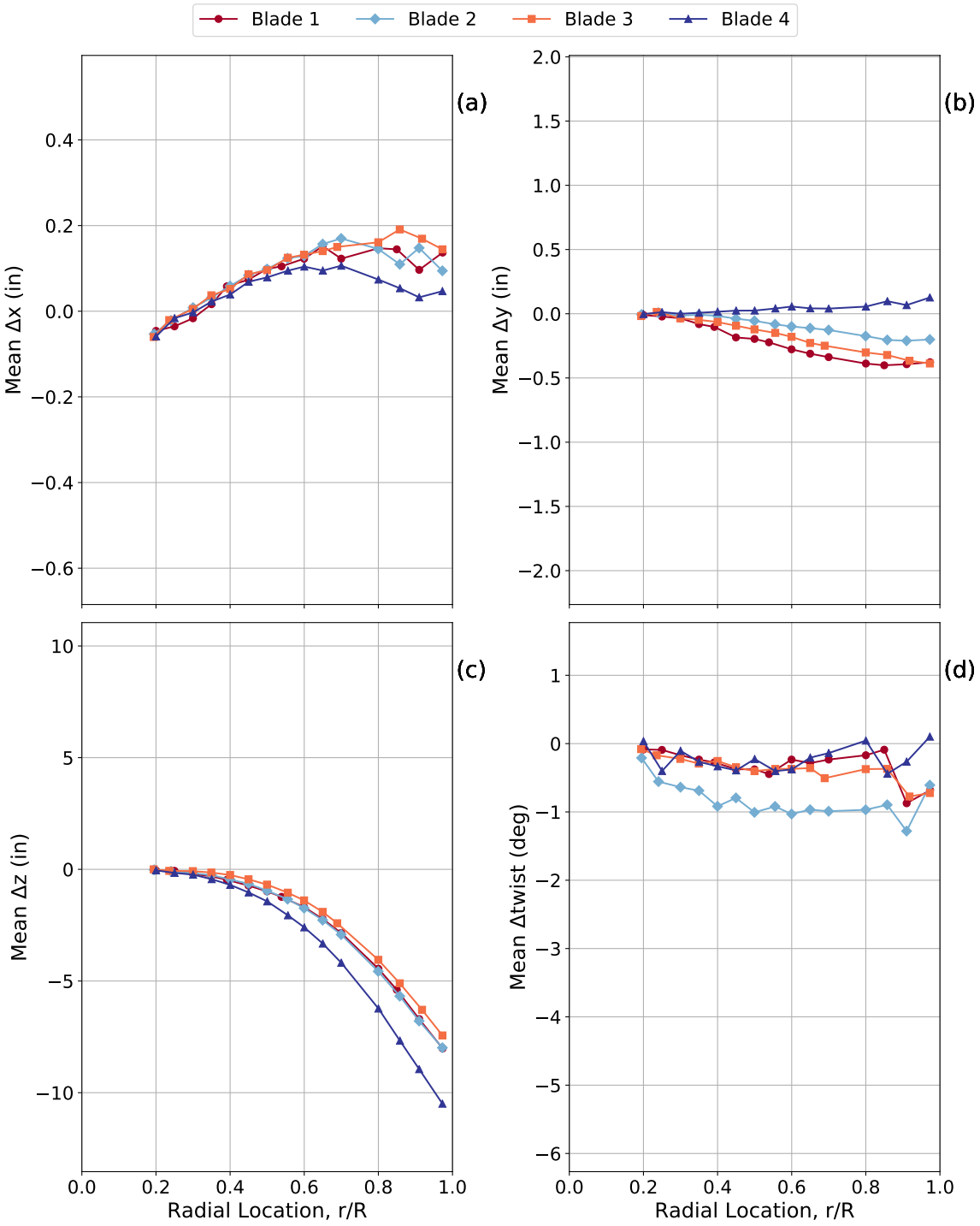


Figure 2.15-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0459	0.0013	-0.0101	0.0011	-0.0517	0.0036	-0.0846	0.0327
1	105.12	0.2499	-0.0353	0.0013	-0.0216	0.0025	-0.0674	0.0081	-0.0921	0.0542
1	105.12	0.2998	-0.0165	0.0015	-0.0351	0.0049	-0.2084	0.0150	-0.1702	0.0739
1	105.12	0.3498	0.0164	0.0018	-0.0809	0.0080	-0.3165	0.0260	-0.2338	0.0883
1	105.12	0.3913	0.0581	0.0021	-0.1026	0.0120	-0.4682	0.0377	-0.2750	0.0953
1	105.12	0.4496	0.0737	0.0026	-0.1846	0.0172	-0.7280	0.0539	-0.3743	0.0963
1	105.12	0.4997	0.0989	0.0030	-0.1960	0.0228	-0.9869	0.0692	-0.3770	0.1195
1	105.12	0.5387	0.1048	0.0032	-0.2226	0.0278	-1.2320	0.0818	-0.4454	0.1274
1	105.12	0.5996	0.1226	0.0042	-0.2769	0.0364	-1.6908	0.1016	-0.2336	0.1334
1	105.12	0.6498	0.1519	0.0044	-0.3109	0.0450	-2.2231	0.1192	-0.2855	0.1519
1	105.12	0.6998	0.1227	0.0052	-0.3378	0.0526	-2.8489	0.1335	-0.2335	0.1590
1	105.12	0.8001	0.1471	0.0071	-0.3879	0.0712	-4.4493	0.1671	-0.1702	0.1644
1	105.12	0.8497	0.1445	0.0083	-0.4013	0.0812	-5.3928	0.1834	-0.0891	0.1694
1	105.12	0.9102	0.0966	0.0095	-0.3929	0.0935	-6.7018	0.2068	-0.8731	0.2093
1	105.12	0.9734	0.1369	0.0126	-0.3776	0.1067	-8.0213	0.2298	-0.6812	0.2090
2	105.12	0.1949	-0.0532	0.0012	-0.0056	0.0008	-0.0230	0.0026	-0.2093	0.0227
2	105.12	0.2405	-0.0215	0.0013	0.0075	0.0024	-0.0886	0.0054	-0.5560	0.0293
2	105.12	0.2999	0.0084	0.0013	-0.0147	0.0037	-0.1698	0.0112	-0.6378	0.0477
2	105.12	0.3498	0.0315	0.0015	-0.0078	0.0078	-0.2616	0.0190	-0.6885	0.0440
2	105.12	0.3998	0.0589	0.0019	-0.0165	0.0113	-0.4533	0.0297	-0.9183	0.0468
2	105.12	0.4496	0.0840	0.0023	-0.0384	0.0151	-0.6476	0.0397	-0.7947	0.0489
2	105.12	0.4995	0.0984	0.0029	-0.0551	0.0194	-0.9550	0.0506	-1.0064	0.0548
2	105.12	0.5551	0.1236	0.0032	-0.0822	0.0244	-1.3359	0.0638	-0.9202	0.0591
2	105.12	0.5996	0.1294	0.0035	-0.0994	0.0292	-1.7391	0.0748	-1.0305	0.0660
2	105.12	0.6497	0.1568	0.0044	-0.1122	0.0354	-2.2744	0.0888	-0.9671	0.0702
2	105.12	0.6996	0.1699	0.0053	-0.1266	0.0414	-2.9206	0.1011	-0.9900	0.0729
2	105.12	0.7996	0.1454	0.0074	-0.1739	0.0559	-4.5682	0.1318	-0.9689	0.0796
2	105.12	0.8578	0.1096	0.0088	-0.2040	0.0649	-5.6761	0.1528	-0.8960	0.0879
2	105.12	0.9100	0.1478	0.0102	-0.2100	0.0740	-6.7907	0.1721	-1.2804	0.1169
2	105.12	0.9727	0.0944	0.0132	-0.2005	0.0846	-7.9872	0.1970	-0.6079	0.1124
3	105.12	0.1938	-0.0602	0.0014	-0.0179	0.0010	0.0006	0.0028	-0.0804	0.0284
3	105.12	0.2357	-0.0207	0.0013	0.0142	0.0021	-0.0693	0.0053	-0.1708	0.0390
3	105.12	0.2995	0.0053	0.0013	-0.0360	0.0047	-0.0805	0.0117	-0.2236	0.0652
3	105.12	0.3493	0.0372	0.0020	-0.0474	0.0087	-0.1427	0.0212	-0.2924	0.0612
3	105.12	0.4000	0.0520	0.0021	-0.0645	0.0132	-0.2543	0.0322	-0.2544	0.0633
3	105.12	0.4497	0.0863	0.0024	-0.0934	0.0170	-0.4459	0.0436	-0.3458	0.0654
3	105.12	0.4997	0.0957	0.0029	-0.1219	0.0223	-0.6838	0.0546	-0.4030	0.0782
3	105.12	0.5556	0.1249	0.0033	-0.1490	0.0290	-1.0451	0.0677	-0.3704	0.0769
3	105.12	0.5995	0.1319	0.0037	-0.1798	0.0348	-1.3914	0.0804	-0.3699	0.1154
3	105.12	0.6498	0.1404	0.0041	-0.2275	0.0421	-1.9053	0.0925	-0.3579	0.0898
3	105.12	0.6890	0.1501	0.0049	-0.2488	0.0482	-2.4131	0.1029	-0.5061	0.0921
3	105.12	0.7998	0.1610	0.0063	-0.3014	0.0664	-4.0507	0.1409	-0.3733	0.0921
3	105.12	0.8577	0.1910	0.0080	-0.3212	0.0769	-5.1031	0.1664	-0.3692	0.1204
3	105.12	0.9178	0.1693	0.0151	-0.3659	0.0883	-6.2875	0.1955	-0.7741	0.1519
3	105.12	0.9729	0.1445	0.0125	-0.3872	0.0967	-7.4367	0.2290	-0.7232	0.1369
4	105.12	0.2001	-0.0588	0.0013	-0.0029	0.0010	-0.0473	0.0042	0.0356	0.0293
4	105.12	0.2502	-0.0162	0.0016	0.0123	0.0022	-0.1606	0.0086	-0.4014	0.0422
4	105.12	0.3001	-0.0028	0.0014	-0.0004	0.0039	-0.2392	0.0168	-0.1054	0.0615
4	105.12	0.3502	0.0227	0.0017	0.0074	0.0073	-0.4399	0.0293	-0.2674	0.0571
4	105.12	0.4002	0.0391	0.0026	0.0156	0.0109	-0.6976	0.0449	-0.3326	0.0608
4	105.12	0.4500	0.0687	0.0030	0.0242	0.0147	-1.0367	0.0635	-0.3920	0.0663
4	105.12	0.5001	0.0791	0.0038	0.0246	0.0193	-1.4354	0.0867	-0.2261	0.0723
4	105.12	0.5560	0.0947	0.0045	0.0409	0.0248	-2.0599	0.1152	-0.4022	0.0740
4	105.12	0.6001	0.1042	0.0055	0.0561	0.0298	-2.5985	0.1402	-0.3780	0.0826
4	105.12	0.6501	0.0949	0.0068	0.0419	0.0357	-3.3252	0.1695	-0.2055	0.0821
4	105.12	0.6999	0.1063	0.0083	0.0401	0.0421	-4.1835	0.1988	-0.1384	0.0915
4	105.12	0.8002	0.0739	0.0121	0.0555	0.0565	-6.2329	0.2575	0.0440	0.1062
4	105.12	0.8582	0.0536	0.0145	0.0976	0.0655	-7.6736	0.2899	-0.4418	0.1091
4	105.12	0.9101	0.0324	0.0165	0.0671	0.0739	-8.9468	0.3201	-0.2646	0.1047
4	105.12	0.9728	0.0468	0.0198	0.1265	0.0838	-10.4930	0.3578	0.1016	0.1139

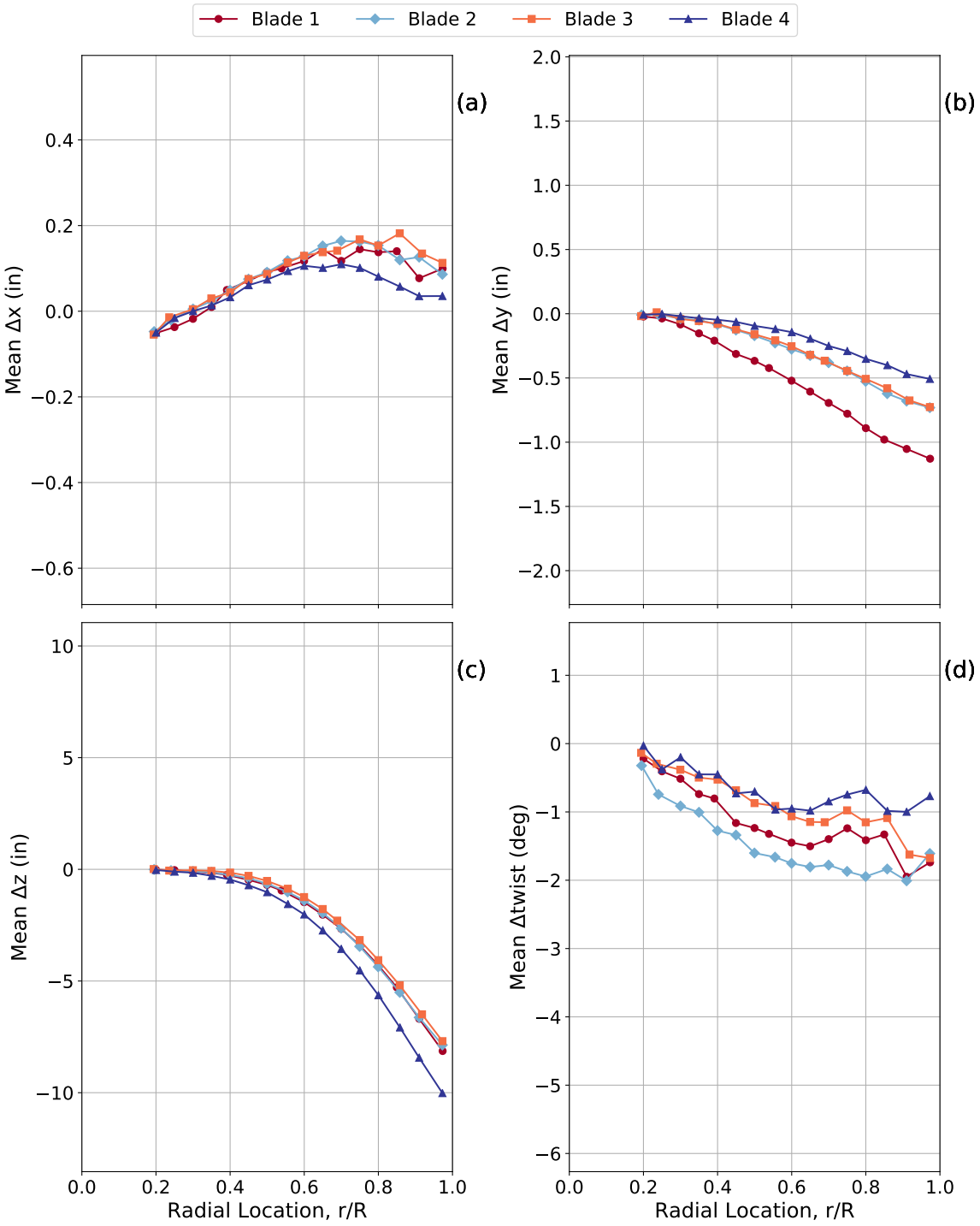


Figure 2.15-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0511	0.0017	-0.0219	0.0011	-0.0229	0.0038	-0.2204	0.0212
1	119.88	0.2499	-0.0371	0.0013	-0.0366	0.0024	-0.0346	0.0077	-0.4053	0.0364
1	119.88	0.2998	-0.0178	0.0014	-0.0831	0.0047	-0.1063	0.0152	-0.5146	0.0470
1	119.88	0.3498	0.0099	0.0015	-0.1527	0.0081	-0.1583	0.0260	-0.7386	0.0508
1	119.88	0.3913	0.0496	0.0024	-0.2095	0.0118	-0.2433	0.0376	-0.8035	0.0619
1	119.88	0.4496	0.0705	0.0028	-0.3130	0.0169	-0.4704	0.0524	-1.1620	0.0657
1	119.88	0.4997	0.0917	0.0033	-0.3666	0.0225	-0.6989	0.0664	-1.2358	0.0774
1	119.88	0.5387	0.1000	0.0035	-0.4226	0.0273	-0.9478	0.0768	-1.3214	0.0782
1	119.88	0.5996	0.1173	0.0042	-0.5211	0.0357	-1.4701	0.0930	-1.4494	0.0829
1	119.88	0.6498	0.1446	0.0048	-0.6062	0.0434	-2.0316	0.1070	-1.5025	0.0918
1	119.88	0.6998	0.1175	0.0055	-0.6942	0.0513	-2.6612	0.1212	-1.3982	0.0961
1	119.88	0.7500	0.1449	0.0066	-0.7783	0.0606	-3.4132	0.1375	-1.2395	0.0973
1	119.88	0.8001	0.1377	0.0077	-0.8907	0.0699	-4.3054	0.1551	-1.4138	0.1007
1	119.88	0.8497	0.1402	0.0090	-0.9795	0.0798	-5.2854	0.1758	-1.3301	0.1048
1	119.88	0.9102	0.0771	0.0108	-1.0526	0.0922	-6.6913	0.2053	-1.9497	0.1114
1	119.88	0.9734	0.0996	0.0144	-1.1285	0.1055	-8.1337	0.2414	-1.7380	0.1133
2	119.88	0.1949	-0.0475	0.0012	-0.0093	0.0008	-0.0057	0.0036	-0.3217	0.0301
2	119.88	0.2405	-0.0203	0.0012	-0.0054	0.0017	-0.0562	0.0088	-0.7433	0.0363
2	119.88	0.2999	0.0052	0.0015	-0.0387	0.0036	-0.0949	0.0166	-0.9135	0.0633
2	119.88	0.3498	0.0234	0.0016	-0.0491	0.0061	-0.1317	0.0306	-1.0054	0.0578
2	119.88	0.3998	0.0491	0.0026	-0.0840	0.0095	-0.2536	0.0467	-1.2735	0.0638
2	119.88	0.4496	0.0750	0.0027	-0.1271	0.0123	-0.3953	0.0627	-1.3391	0.0645
2	119.88	0.4995	0.0910	0.0032	-0.1707	0.0165	-0.6446	0.0824	-1.6019	0.0740
2	119.88	0.5551	0.1181	0.0040	-0.2277	0.0215	-1.0105	0.1021	-1.6621	0.0750
2	119.88	0.5996	0.1282	0.0046	-0.2759	0.0259	-1.3956	0.1194	-1.7525	0.0791
2	119.88	0.6497	0.1525	0.0055	-0.3252	0.0315	-1.9579	0.1407	-1.8058	0.0912
2	119.88	0.6996	0.1643	0.0072	-0.3811	0.0375	-2.6344	0.1641	-1.7777	0.0953
2	119.88	0.7495	0.1626	0.0091	-0.4455	0.0444	-3.4519	0.1936	-1.8706	0.0967
2	119.88	0.7996	0.1538	0.0117	-0.5266	0.0515	-4.3652	0.2281	-1.9455	0.1009
2	119.88	0.8578	0.1198	0.0153	-0.6219	0.0605	-5.5087	0.2762	-1.8357	0.1060
2	119.88	0.9100	0.1263	0.0184	-0.6800	0.0691	-6.6310	0.3240	-2.0085	0.1115
2	119.88	0.9727	0.0862	0.0238	-0.7312	0.0798	-7.8658	0.3895	-1.6091	0.1196
3	119.88	0.1938	-0.0546	0.0014	-0.0186	0.0009	0.0116	0.0032	-0.1351	0.0282
3	119.88	0.2357	-0.0142	0.0013	0.0113	0.0020	-0.0560	0.0069	-0.2946	0.0438
3	119.88	0.2995	0.0047	0.0016	-0.0409	0.0038	-0.0402	0.0141	-0.3823	0.0667
3	119.88	0.3493	0.0299	0.0015	-0.0567	0.0067	-0.0701	0.0256	-0.4973	0.0713
3	119.88	0.4000	0.0439	0.0020	-0.0793	0.0105	-0.1465	0.0393	-0.5262	0.0665
3	119.88	0.4497	0.0753	0.0022	-0.1218	0.0138	-0.2929	0.0506	-0.6836	0.0692
3	119.88	0.4997	0.0872	0.0026	-0.1604	0.0179	-0.5199	0.0645	-0.8710	0.0793
3	119.88	0.5556	0.1140	0.0028	-0.2069	0.0232	-0.8682	0.0789	-0.9135	0.0842
3	119.88	0.5995	0.1295	0.0031	-0.2529	0.0279	-1.2425	0.0894	-1.0631	0.0931
3	119.88	0.6498	0.1378	0.0038	-0.3199	0.0339	-1.7778	0.1001	-1.1467	0.0961
3	119.88	0.6890	0.1414	0.0041	-0.3655	0.0388	-2.2962	0.1078	-1.1507	0.0968
3	119.88	0.7495	0.1677	0.0051	-0.4449	0.0471	-3.1668	0.1193	-0.9770	0.1018
3	119.88	0.7998	0.1533	0.0062	-0.5070	0.0543	-4.0658	0.1316	-1.1516	0.1016
3	119.88	0.8577	0.1819	0.0079	-0.5802	0.0630	-5.1905	0.1521	-1.0888	0.1123
3	119.88	0.9178	0.1347	0.0099	-0.6750	0.0724	-6.4910	0.1787	-1.6244	0.1086
3	119.88	0.9729	0.1129	0.0126	-0.7266	0.0811	-7.6922	0.2110	-1.6756	0.1161
4	119.88	0.2001	-0.0500	0.0013	-0.0073	0.0011	-0.0308	0.0037	-0.0309	0.0245
4	119.88	0.2502	-0.0159	0.0013	-0.0021	0.0028	-0.1043	0.0079	-0.3768	0.0379
4	119.88	0.3001	0.0001	0.0012	-0.0196	0.0049	-0.1539	0.0154	-0.2003	0.0519
4	119.88	0.3502	0.0136	0.0013	-0.0350	0.0086	-0.2912	0.0262	-0.4501	0.0455
4	119.88	0.4002	0.0327	0.0019	-0.0467	0.0135	-0.4566	0.0408	-0.4513	0.0502
4	119.88	0.4500	0.0607	0.0023	-0.0634	0.0182	-0.7146	0.0551	-0.7286	0.0572
4	119.88	0.5001	0.0739	0.0024	-0.0946	0.0242	-1.0256	0.0720	-0.7027	0.0595
4	119.88	0.5560	0.0937	0.0031	-0.1195	0.0313	-1.5564	0.0898	-0.9660	0.0688
4	119.88	0.6001	0.1061	0.0035	-0.1436	0.0373	-2.0225	0.1039	-0.9507	0.0747
4	119.88	0.6501	0.1012	0.0045	-0.1943	0.0446	-2.7389	0.1185	-0.9816	0.0824
4	119.88	0.6999	0.1097	0.0055	-0.2510	0.0521	-3.5645	0.1347	-0.8457	0.0908
4	119.88	0.7500	0.1012	0.0074	-0.2910	0.0603	-4.5291	0.1537	-0.7459	0.0895
4	119.88	0.8002	0.0807	0.0093	-0.3513	0.0689	-5.6379	0.1761	-0.6770	0.0981
4	119.88	0.8582	0.0574	0.0126	-0.4008	0.0792	-7.0817	0.2081	-0.9856	0.1044
4	119.88	0.9101	0.0352	0.0151	-0.4697	0.0889	-8.4348	0.2414	-0.9984	0.1080
4	119.88	0.9728	0.0354	0.0201	-0.5075	0.1009	-10.0190	0.2871	-0.7689	0.1176

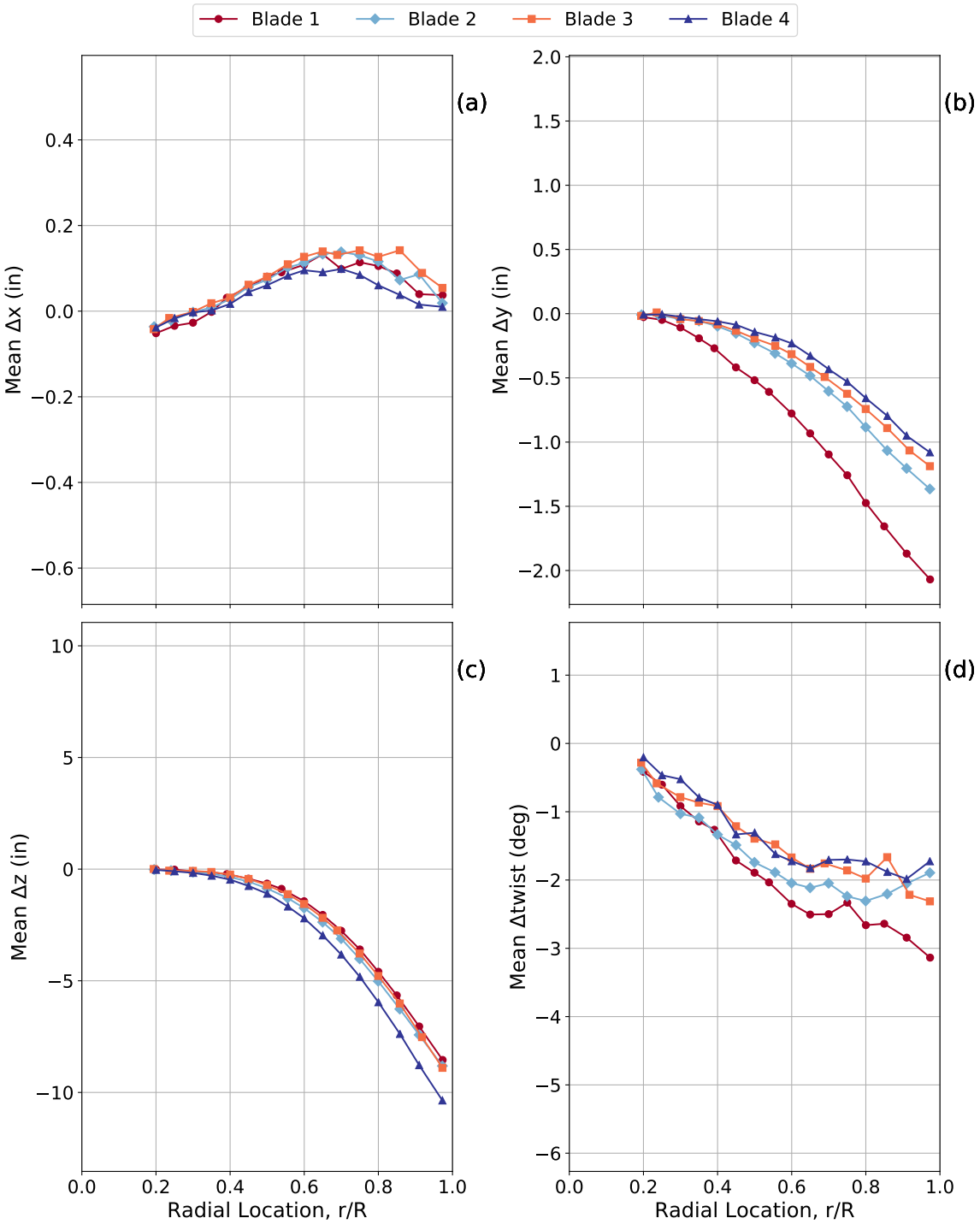


Figure 2.15-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0515	0.0012	-0.0269	0.0007	-0.0197	0.0033	-0.4151	0.0327
1	135	0.2499	-0.0342	0.0011	-0.0486	0.0016	-0.0235	0.0070	-0.6043	0.0481
1	135	0.2998	-0.0270	0.0012	-0.1074	0.0031	-0.0967	0.0131	-0.9163	0.0724
1	135	0.3498	-0.0017	0.0016	-0.1919	0.0051	-0.1459	0.0223	-1.1423	0.0722
1	135	0.3913	0.0313	0.0022	-0.2695	0.0075	-0.2233	0.0322	-1.2638	0.0781
1	135	0.4496	0.0563	0.0027	-0.4183	0.0104	-0.4257	0.0476	-1.7139	0.0970
1	135	0.4997	0.0807	0.0032	-0.5180	0.0139	-0.6482	0.0641	-1.8927	0.1086
1	135	0.5387	0.0907	0.0036	-0.6088	0.0167	-0.8831	0.0788	-2.0339	0.1204
1	135	0.5996	0.1083	0.0047	-0.7774	0.0224	-1.4372	0.1043	-2.3489	0.1245
1	135	0.6498	0.1330	0.0054	-0.9323	0.0277	-2.0499	0.1290	-2.5055	0.1296
1	135	0.6998	0.0984	0.0067	-1.0962	0.0340	-2.7614	0.1587	-2.4992	0.1413
1	135	0.7500	0.1141	0.0090	-1.2581	0.0410	-3.5960	0.1960	-2.3320	0.1519
1	135	0.8001	0.1054	0.0119	-1.4742	0.0487	-4.5964	0.2406	-2.6609	0.1579
1	135	0.8497	0.0881	0.0153	-1.6561	0.0568	-5.6534	0.2922	-2.6402	0.1630
1	135	0.9102	0.0397	0.0194	-1.8685	0.0672	-7.0455	0.3616	-2.8438	0.1751
1	135	0.9734	0.0374	0.0242	-2.0693	0.0787	-8.5455	0.4388	-3.1362	0.1632
2	135	0.1949	-0.0363	0.0013	-0.0091	0.0007	-0.0167	0.0026	-0.3791	0.0234
2	135	0.2405	-0.0212	0.0015	-0.0098	0.0018	-0.0654	0.0057	-0.7872	0.0332
2	135	0.2999	-0.0023	0.0014	-0.0428	0.0033	-0.1364	0.0109	-1.0298	0.0516
2	135	0.3498	0.0085	0.0015	-0.0568	0.0056	-0.2008	0.0194	-1.0882	0.0512
2	135	0.3998	0.0280	0.0022	-0.0979	0.0089	-0.3582	0.0297	-1.3346	0.0522
2	135	0.4496	0.0564	0.0024	-0.1535	0.0114	-0.5551	0.0424	-1.4886	0.0570
2	135	0.4995	0.0731	0.0027	-0.2274	0.0145	-0.8616	0.0584	-1.7417	0.0633
2	135	0.5551	0.1021	0.0031	-0.3090	0.0191	-1.2947	0.0776	-1.8884	0.0697
2	135	0.5996	0.1123	0.0038	-0.3876	0.0228	-1.7425	0.0975	-2.0447	0.0775
2	135	0.6497	0.1332	0.0047	-0.4834	0.0281	-2.3720	0.1235	-2.1134	0.0877
2	135	0.6996	0.1384	0.0060	-0.6039	0.0332	-3.1110	0.1518	-2.0470	0.0942
2	135	0.7495	0.1306	0.0076	-0.7236	0.0388	-4.0144	0.1856	-2.2387	0.1009
2	135	0.7996	0.1159	0.0100	-0.8840	0.0445	-5.0177	0.2233	-2.3072	0.1078
2	135	0.8578	0.0728	0.0135	-1.0658	0.0514	-6.2654	0.2726	-2.2036	0.1170
2	135	0.9100	0.0862	0.0164	-1.2049	0.0577	-7.4229	0.3213	-2.0524	0.1183
2	135	0.9727	0.0189	0.0202	-1.3651	0.0651	-8.8136	0.3831	-1.8939	0.1224
3	135	0.1938	-0.0420	0.0013	-0.0179	0.0008	0.0048	0.0033	-0.2815	0.0245
3	135	0.2357	-0.0160	0.0010	0.0094	0.0020	-0.0687	0.0055	-0.5848	0.0388
3	135	0.2995	-0.0018	0.0016	-0.0425	0.0033	-0.0788	0.0136	-0.7872	0.0547
3	135	0.3493	0.0185	0.0017	-0.0575	0.0054	-0.1284	0.0232	-0.8665	0.0526
3	135	0.4000	0.0315	0.0024	-0.0836	0.0089	-0.2456	0.0360	-0.9181	0.0556
3	135	0.4497	0.0617	0.0022	-0.1332	0.0117	-0.4403	0.0469	-1.2129	0.0734
3	135	0.4997	0.0803	0.0031	-0.1926	0.0160	-0.7165	0.0604	-1.3942	0.0746
3	135	0.5556	0.1095	0.0034	-0.2501	0.0210	-1.1223	0.0785	-1.4784	0.0874
3	135	0.5995	0.1270	0.0034	-0.3155	0.0261	-1.5613	0.0941	-1.6696	0.0840
3	135	0.6498	0.1395	0.0044	-0.4149	0.0329	-2.1785	0.1163	-1.8354	0.0961
3	135	0.6890	0.1314	0.0051	-0.4928	0.0387	-2.7460	0.1378	-1.7568	0.0975
3	135	0.7495	0.1420	0.0069	-0.6237	0.0486	-3.7790	0.1763	-1.8591	0.1027
3	135	0.7998	0.1267	0.0095	-0.7423	0.0573	-4.7837	0.2163	-1.9787	0.1098
3	135	0.8577	0.1422	0.0131	-0.8909	0.0682	-6.0168	0.2705	-1.6653	0.1142
3	135	0.9178	0.0893	0.0170	-1.0650	0.0795	-7.5238	0.3336	-2.2160	0.1226
3	135	0.9729	0.0543	0.0204	-1.1877	0.0902	-8.8987	0.3945	-2.3123	0.1315
4	135	0.2001	-0.0383	0.0014	-0.0076	0.0010	-0.0338	0.0029	-0.2037	0.0234
4	135	0.2502	-0.0164	0.0017	-0.0059	0.0017	-0.0969	0.0062	-0.4661	0.0453
4	135	0.3001	-0.0027	0.0017	-0.0238	0.0035	-0.1680	0.0111	-0.5241	0.0537
4	135	0.3502	0.0017	0.0014	-0.0423	0.0064	-0.2948	0.0197	-0.7928	0.0540
4	135	0.4002	0.0170	0.0019	-0.0598	0.0094	-0.4714	0.0300	-0.9001	0.0605
4	135	0.4500	0.0445	0.0022	-0.0866	0.0124	-0.7552	0.0393	-1.3324	0.0691
4	135	0.5001	0.0607	0.0028	-0.1419	0.0161	-1.0999	0.0524	-1.3078	0.0788
4	135	0.5560	0.0829	0.0028	-0.1854	0.0209	-1.6763	0.0681	-1.6203	0.0858
4	135	0.6001	0.0955	0.0036	-0.2315	0.0249	-2.2034	0.0829	-1.7244	0.0909
4	135	0.6501	0.0909	0.0042	-0.3276	0.0301	-2.9679	0.1013	-1.8264	0.0945
4	135	0.6999	0.0986	0.0057	-0.4326	0.0354	-3.8261	0.1265	-1.7054	0.1037
4	135	0.7500	0.0846	0.0074	-0.5309	0.0419	-4.8240	0.1576	-1.6996	0.1072
4	135	0.8002	0.0603	0.0104	-0.6581	0.0488	-5.9617	0.1952	-1.7275	0.1071
4	135	0.8582	0.0378	0.0139	-0.7965	0.0572	-7.3809	0.2454	-1.8821	0.1145
4	135	0.9101	0.0154	0.0171	-0.9504	0.0650	-8.7798	0.2933	-1.9846	0.1159
4	135	0.9728	0.0100	0.0215	-1.0800	0.0750	-10.3594	0.3544	-1.7254	0.1181

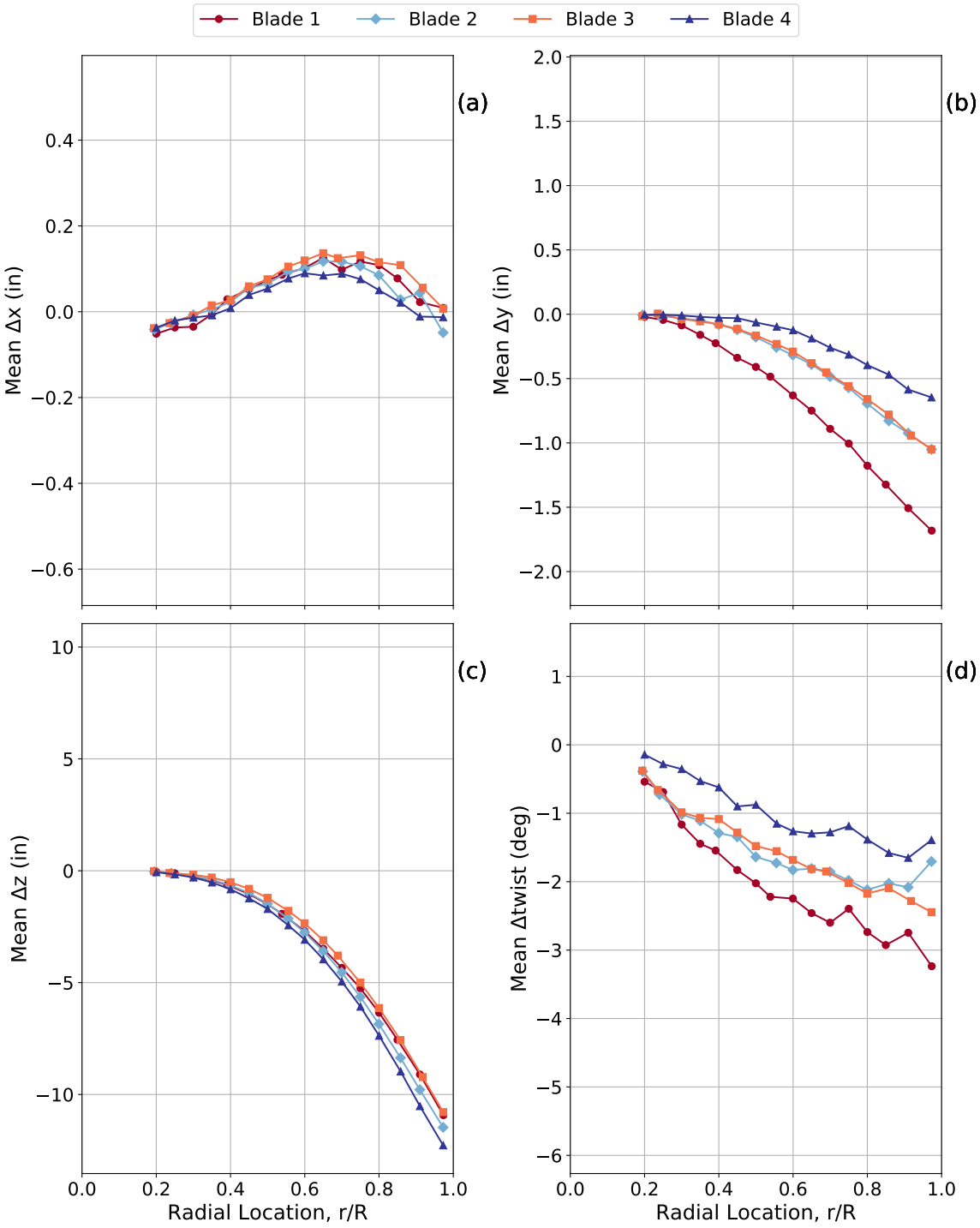


Figure 2.15-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0513	0.0013	-0.0209	0.0014	-0.0547	0.0044	-0.5389	0.0214
1	150.12	0.2499	-0.0368	0.0015	-0.0441	0.0029	-0.1120	0.0089	-0.6899	0.0341
1	150.12	0.2998	-0.0350	0.0019	-0.0864	0.0053	-0.2523	0.0174	-1.1658	0.0464
1	150.12	0.3498	-0.0060	0.0019	-0.1604	0.0097	-0.4298	0.0293	-1.4462	0.0456
1	150.12	0.3913	0.0290	0.0023	-0.2249	0.0135	-0.6320	0.0423	-1.5447	0.0476
1	150.12	0.4496	0.0523	0.0027	-0.3383	0.0186	-1.0401	0.0611	-1.8297	0.0519
1	150.12	0.4997	0.0730	0.0034	-0.4092	0.0235	-1.4926	0.0807	-2.0233	0.0626
1	150.12	0.5387	0.0863	0.0038	-0.4850	0.0280	-1.9250	0.0970	-2.2208	0.0633
1	150.12	0.5996	0.1020	0.0050	-0.6310	0.0352	-2.6981	0.1266	-2.2472	0.0676
1	150.12	0.6498	0.1257	0.0062	-0.7490	0.0420	-3.4833	0.1536	-2.4590	0.0720
1	150.12	0.6998	0.0981	0.0077	-0.8906	0.0491	-4.3407	0.1825	-2.5992	0.0791
1	150.12	0.7500	0.1171	0.0096	-1.0052	0.0568	-5.2577	0.2159	-2.3964	0.0821
1	150.12	0.8001	0.1085	0.0120	-1.1773	0.0648	-6.3434	0.2526	-2.7365	0.0865
1	150.12	0.8497	0.0777	0.0150	-1.3239	0.0735	-7.5575	0.2919	-2.9267	0.0882
1	150.12	0.9102	0.0224	0.0188	-1.5072	0.0841	-9.1063	0.3446	-2.7461	0.0987
1	150.12	0.9734	0.0089	0.0241	-1.6820	0.0955	-10.9245	0.4046	-3.2358	0.0998
2	150.12	0.1949	-0.0409	0.0013	-0.0061	0.0009	-0.0407	0.0033	-0.3899	0.0304
2	150.12	0.2405	-0.0269	0.0012	-0.0112	0.0022	-0.1121	0.0067	-0.7261	0.0418
2	150.12	0.2999	-0.0072	0.0017	-0.0329	0.0050	-0.2454	0.0143	-1.0170	0.0694
2	150.12	0.3498	0.0050	0.0021	-0.0469	0.0074	-0.3953	0.0252	-1.1099	0.0700
2	150.12	0.3998	0.0227	0.0023	-0.0806	0.0125	-0.6569	0.0384	-1.2907	0.0605
2	150.12	0.4496	0.0552	0.0027	-0.1198	0.0158	-0.9930	0.0533	-1.3453	0.0688
2	150.12	0.4995	0.0654	0.0033	-0.1777	0.0199	-1.4732	0.0711	-1.6380	0.0740
2	150.12	0.5551	0.0931	0.0045	-0.2569	0.0248	-2.1348	0.0953	-1.7269	0.0757
2	150.12	0.5996	0.1000	0.0051	-0.3175	0.0293	-2.7591	0.1176	-1.8292	0.0790
2	150.12	0.6497	0.1173	0.0069	-0.3903	0.0344	-3.5909	0.1449	-1.8084	0.0834
2	150.12	0.6996	0.1167	0.0084	-0.4840	0.0399	-4.5414	0.1771	-1.8545	0.0849
2	150.12	0.7495	0.1063	0.0109	-0.5706	0.0459	-5.6366	0.2148	-1.9821	0.0881
2	150.12	0.7996	0.0851	0.0142	-0.6943	0.0519	-6.8495	0.2573	-2.1187	0.0879
2	150.12	0.8578	0.0284	0.0188	-0.8281	0.0595	-8.3625	0.3119	-2.0248	0.0910
2	150.12	0.9100	0.0438	0.0228	-0.9243	0.0665	-9.7864	0.3650	-2.0820	0.0964
2	150.12	0.9727	-0.0488	0.0279	-1.0502	0.0751	-11.4709	0.4317	-1.7053	0.1052
3	150.12	0.1938	-0.0385	0.0014	-0.0150	0.0011	-0.0189	0.0045	-0.3781	0.0260
3	150.12	0.2357	-0.0265	0.0012	0.0050	0.0021	-0.1013	0.0065	-0.6600	0.0445
3	150.12	0.2995	-0.0090	0.0019	-0.0369	0.0052	-0.1779	0.0172	-0.9866	0.0610
3	150.12	0.3493	0.0148	0.0016	-0.0551	0.0077	-0.3023	0.0295	-1.0665	0.0637
3	150.12	0.4000	0.0270	0.0024	-0.0787	0.0130	-0.5126	0.0452	-1.0856	0.0629
3	150.12	0.4497	0.0590	0.0026	-0.1144	0.0163	-0.8098	0.0616	-1.2825	0.0601
3	150.12	0.4997	0.0756	0.0030	-0.1653	0.0208	-1.2116	0.0797	-1.4803	0.0677
3	150.12	0.5556	0.1052	0.0035	-0.2308	0.0261	-1.7947	0.1010	-1.5546	0.0649
3	150.12	0.5995	0.1195	0.0043	-0.2904	0.0309	-2.3476	0.1195	-1.6829	0.0724
3	150.12	0.6498	0.1364	0.0049	-0.3800	0.0358	-3.1093	0.1424	-1.8148	0.0755
3	150.12	0.6890	0.1249	0.0065	-0.4515	0.0401	-3.7935	0.1622	-1.8517	0.0733
3	150.12	0.7495	0.1317	0.0083	-0.5587	0.0473	-5.0009	0.1951	-2.0185	0.0703
3	150.12	0.7998	0.1154	0.0109	-0.6590	0.0535	-6.1368	0.2255	-2.1743	0.0742
3	150.12	0.8577	0.1086	0.0141	-0.7799	0.0608	-7.5667	0.2650	-2.0933	0.0722
3	150.12	0.9178	0.0559	0.0179	-0.9428	0.0689	-9.2230	0.3096	-2.2833	0.0741
3	150.12	0.9729	0.0070	0.0211	-1.0495	0.0765	-10.7899	0.3536	-2.4454	0.0732
4	150.12	0.2001	-0.0374	0.0013	-0.0033	0.0011	-0.0654	0.0030	-0.1436	0.0331
4	150.12	0.2502	-0.0205	0.0018	-0.0037	0.0030	-0.1634	0.0071	-0.2827	0.0595
4	150.12	0.3001	-0.0139	0.0017	-0.0096	0.0047	-0.3020	0.0126	-0.3547	0.0750
4	150.12	0.3502	-0.0084	0.0021	-0.0203	0.0091	-0.5237	0.0215	-0.5307	0.0633
4	150.12	0.4002	0.0084	0.0024	-0.0273	0.0137	-0.8290	0.0340	-0.6225	0.0720
4	150.12	0.4500	0.0393	0.0031	-0.0302	0.0174	-1.2351	0.0467	-0.9000	0.0736
4	150.12	0.5001	0.0541	0.0029	-0.0636	0.0219	-1.7081	0.0643	-0.8759	0.0697
4	150.12	0.5560	0.0775	0.0043	-0.0968	0.0276	-2.4412	0.0872	-1.1520	0.0734
4	150.12	0.6001	0.0897	0.0049	-0.1241	0.0325	-3.0834	0.1082	-1.2633	0.0831
4	150.12	0.6501	0.0844	0.0062	-0.1880	0.0390	-3.9589	0.1343	-1.2963	0.0876
4	150.12	0.6999	0.0887	0.0078	-0.2599	0.0457	-4.9543	0.1619	-1.2787	0.0945
4	150.12	0.7500	0.0758	0.0095	-0.3138	0.0532	-6.0759	0.1916	-1.1880	0.0991
4	150.12	0.8002	0.0501	0.0116	-0.3953	0.0611	-7.3752	0.2199	-1.3846	0.1020
4	150.12	0.8582	0.0212	0.0145	-0.4699	0.0708	-8.9744	0.2542	-1.5808	0.1144
4	150.12	0.9101	-0.0113	0.0169	-0.5855	0.0795	-10.5218	0.2849	-1.6517	0.1204
4	150.12	0.9728	-0.0127	0.0200	-0.6463	0.0902	-12.2740	0.3250	-1.3914	0.1304

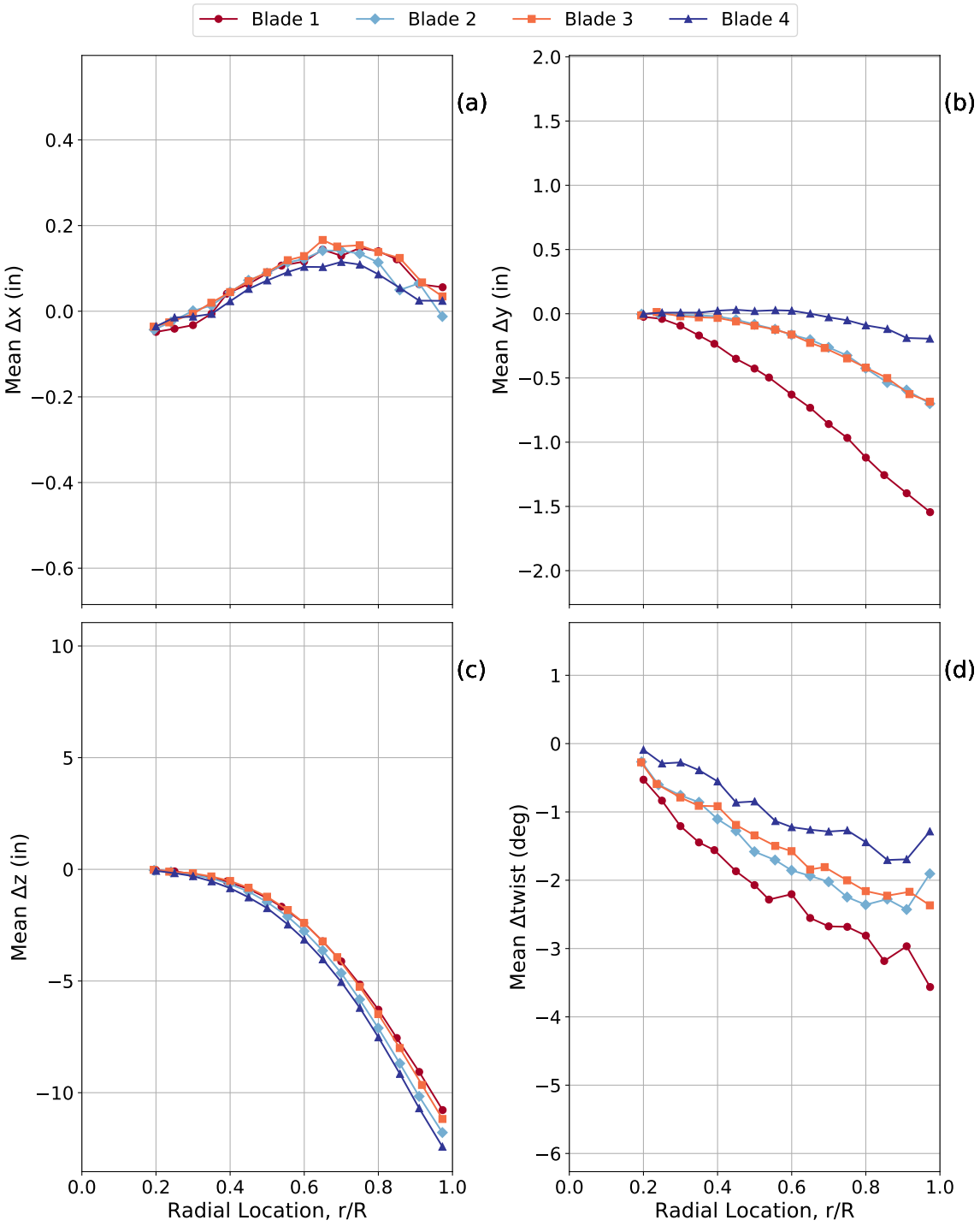


Figure 2.15-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0483	0.0021	-0.0241	0.0013	-0.0418	0.0049	-0.5279	0.0262
1	164.88	0.2499	-0.0408	0.0020	-0.0402	0.0026	-0.0916	0.0091	-0.8346	0.0471
1	164.88	0.2998	-0.0325	0.0018	-0.0931	0.0049	-0.2068	0.0183	-1.2081	0.0588
1	164.88	0.3498	-0.0056	0.0018	-0.1692	0.0085	-0.3711	0.0305	-1.4463	0.0580
1	164.88	0.3913	0.0410	0.0025	-0.2340	0.0119	-0.5404	0.0437	-1.5594	0.0672
1	164.88	0.4496	0.0636	0.0030	-0.3505	0.0169	-0.8804	0.0639	-1.8685	0.0563
1	164.88	0.4997	0.0884	0.0036	-0.4268	0.0221	-1.2851	0.0859	-2.0713	0.0640
1	164.88	0.5387	0.1065	0.0041	-0.4965	0.0264	-1.6745	0.1045	-2.2832	0.0679
1	164.88	0.5996	0.1160	0.0050	-0.6292	0.0340	-2.4047	0.1404	-2.2043	0.0777
1	164.88	0.6498	0.1440	0.0064	-0.7319	0.0408	-3.2210	0.1745	-2.5527	0.0881
1	164.88	0.6998	0.1294	0.0083	-0.8586	0.0478	-4.1219	0.2148	-2.6752	0.0830
1	164.88	0.7500	0.1476	0.0109	-0.9666	0.0551	-5.1583	0.2573	-2.6825	0.0952
1	164.88	0.8001	0.1401	0.0139	-1.1201	0.0630	-6.2856	0.3011	-2.8109	0.1029
1	164.88	0.8497	0.1212	0.0179	-1.2563	0.0712	-7.5524	0.3469	-3.1823	0.1000
1	164.88	0.9102	0.0631	0.0216	-1.3975	0.0811	-9.0694	0.4055	-2.9667	0.0943
1	164.88	0.9734	0.0560	0.0250	-1.5447	0.0921	-10.7776	0.4664	-3.5631	0.1106
2	164.88	0.1949	-0.0430	0.0015	-0.0031	0.0009	-0.0424	0.0038	-0.2664	0.0232
2	164.88	0.2405	-0.0252	0.0017	0.0003	0.0029	-0.1158	0.0077	-0.6026	0.0385
2	164.88	0.2999	0.0011	0.0020	-0.0108	0.0056	-0.2468	0.0169	-0.7569	0.0550
2	164.88	0.3498	0.0132	0.0018	-0.0117	0.0082	-0.4033	0.0278	-0.8585	0.0605
2	164.88	0.3998	0.0446	0.0023	-0.0204	0.0143	-0.6637	0.0441	-1.1050	0.0524
2	164.88	0.4496	0.0723	0.0029	-0.0462	0.0187	-0.9931	0.0608	-1.2774	0.0562
2	164.88	0.4995	0.0891	0.0034	-0.0825	0.0244	-1.4640	0.0826	-1.5818	0.0549
2	164.88	0.5551	0.1140	0.0048	-0.1209	0.0311	-2.1089	0.1123	-1.7039	0.0594
2	164.88	0.5996	0.1219	0.0061	-0.1634	0.0368	-2.7680	0.1409	-1.8552	0.0611
2	164.88	0.6497	0.1416	0.0082	-0.2019	0.0436	-3.6375	0.1782	-1.9363	0.0671
2	164.88	0.6996	0.1415	0.0110	-0.2617	0.0507	-4.6433	0.2223	-2.0225	0.0646
2	164.88	0.7495	0.1343	0.0146	-0.3248	0.0588	-5.8255	0.2720	-2.2466	0.0677
2	164.88	0.7996	0.1140	0.0192	-0.4246	0.0667	-7.1070	0.3267	-2.3592	0.0747
2	164.88	0.8578	0.0497	0.0248	-0.5356	0.0763	-8.6897	0.3966	-2.2766	0.0796
2	164.88	0.9100	0.0652	0.0302	-0.5942	0.0849	-10.1637	0.4616	-2.4285	0.0789
2	164.88	0.9727	-0.0123	0.0352	-0.7000	0.0956	-11.7832	0.5404	-1.9049	0.0827
3	164.88	0.1938	-0.0360	0.0019	-0.0128	0.0011	-0.0217	0.0052	-0.2744	0.0342
3	164.88	0.2357	-0.0261	0.0018	0.0134	0.0032	-0.1036	0.0080	-0.5914	0.0628
3	164.88	0.2995	-0.0061	0.0016	-0.0199	0.0065	-0.1763	0.0194	-0.7883	0.0852
3	164.88	0.3493	0.0198	0.0022	-0.0280	0.0101	-0.3189	0.0329	-0.9106	0.0741
3	164.88	0.4000	0.0447	0.0019	-0.0322	0.0168	-0.5218	0.0505	-0.9165	0.0760
3	164.88	0.4497	0.0703	0.0023	-0.0598	0.0216	-0.8240	0.0711	-1.1900	0.0795
3	164.88	0.4997	0.0910	0.0027	-0.0921	0.0282	-1.2270	0.0922	-1.3431	0.0752
3	164.88	0.5556	0.1191	0.0031	-0.1236	0.0361	-1.8220	0.1202	-1.4975	0.0746
3	164.88	0.5995	0.1287	0.0037	-0.1618	0.0432	-2.3994	0.1429	-1.5747	0.0794
3	164.88	0.6498	0.1663	0.0050	-0.2267	0.0512	-3.2263	0.1724	-1.8421	0.0829
3	164.88	0.6890	0.1510	0.0063	-0.2665	0.0586	-3.9334	0.1954	-1.8082	0.0763
3	164.88	0.7495	0.1540	0.0084	-0.3477	0.0697	-5.2572	0.2354	-2.0016	0.0809
3	164.88	0.7998	0.1383	0.0105	-0.4194	0.0797	-6.4799	0.2697	-2.1591	0.0864
3	164.88	0.8577	0.1243	0.0137	-0.5009	0.0911	-8.0000	0.3119	-2.2266	0.0813
3	164.88	0.9178	0.0673	0.0169	-0.6260	0.1034	-9.6521	0.3573	-2.1694	0.0808
3	164.88	0.9729	0.0345	0.0190	-0.6848	0.1150	-11.1757	0.4014	-2.3674	0.0842
4	164.88	0.2001	-0.0353	0.0018	-0.0010	0.0009	-0.0676	0.0034	-0.0912	0.0275
4	164.88	0.2502	-0.0145	0.0018	0.0083	0.0027	-0.1716	0.0071	-0.2908	0.0406
4	164.88	0.3001	-0.0126	0.0020	0.0087	0.0044	-0.3056	0.0136	-0.2754	0.0585
4	164.88	0.3502	-0.0062	0.0022	0.0084	0.0072	-0.5368	0.0227	-0.3896	0.0488
4	164.88	0.4002	0.0234	0.0023	0.0238	0.0113	-0.8440	0.0357	-0.5536	0.0482
4	164.88	0.4500	0.0522	0.0024	0.0309	0.0137	-1.2554	0.0488	-0.8624	0.0513
4	164.88	0.5001	0.0719	0.0030	0.0208	0.0170	-1.7379	0.0634	-0.8463	0.0651
4	164.88	0.5560	0.0916	0.0035	0.0274	0.0202	-2.4716	0.0836	-1.1335	0.0540
4	164.88	0.6001	0.1036	0.0039	0.0238	0.0233	-3.1421	0.1016	-1.2229	0.0615
4	164.88	0.6501	0.1032	0.0047	0.0008	0.0274	-4.0282	0.1228	-1.2604	0.0609
4	164.88	0.6999	0.1151	0.0060	-0.0276	0.0312	-5.0436	0.1450	-1.2873	0.0672
4	164.88	0.7500	0.1089	0.0073	-0.0512	0.0357	-6.2022	0.1701	-1.2704	0.0664
4	164.88	0.8002	0.0860	0.0092	-0.0902	0.0400	-7.5208	0.1951	-1.4431	0.0675
4	164.88	0.8582	0.0543	0.0121	-0.1185	0.0454	-9.1579	0.2270	-1.7038	0.0743
4	164.88	0.9101	0.0247	0.0142	-0.1885	0.0506	-10.6975	0.2559	-1.6937	0.0693
4	164.88	0.9728	0.0243	0.0159	-0.1942	0.0575	-12.4180	0.2920	-1.2848	0.0749

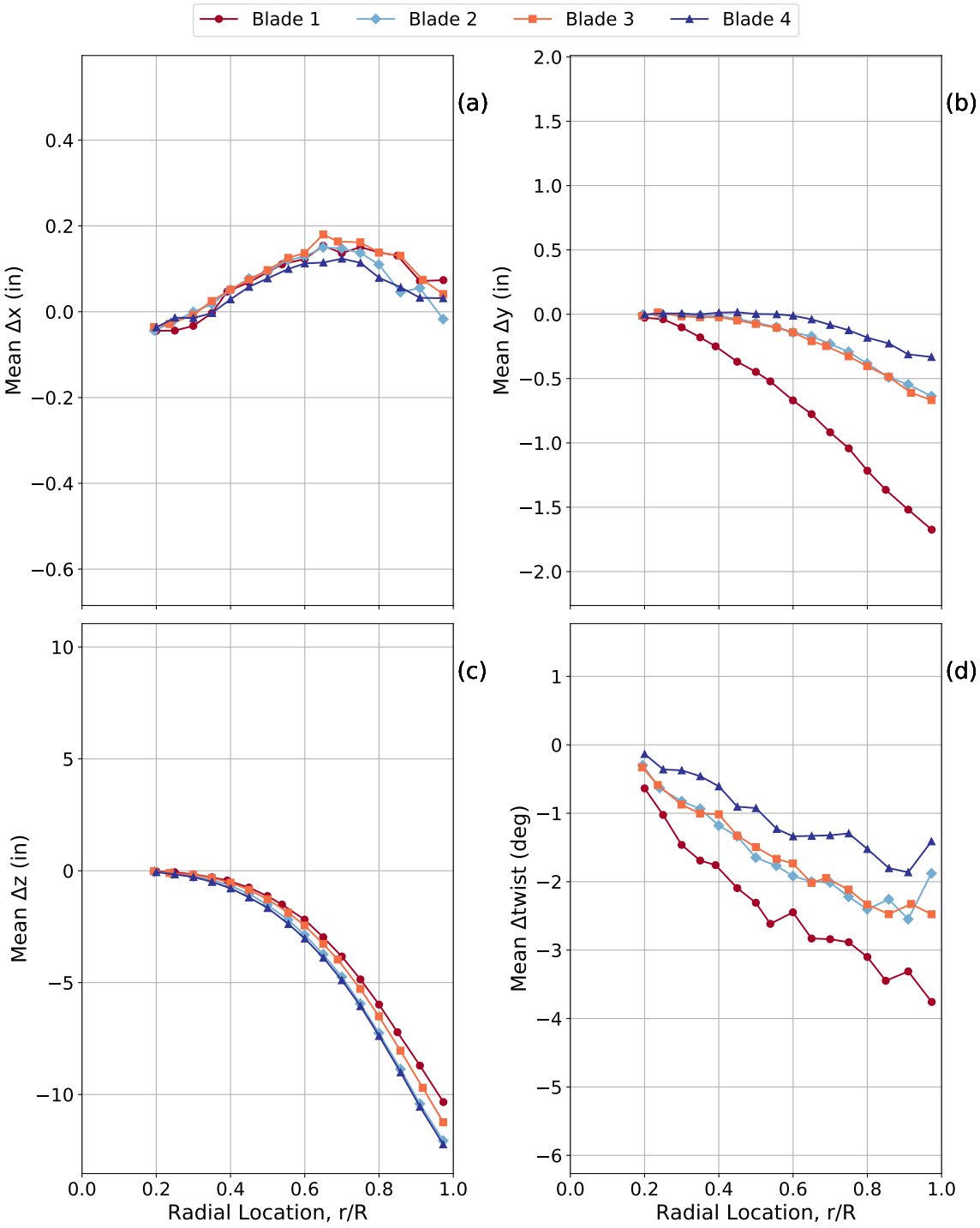


Figure 2.15-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0443	0.0024	-0.0267	0.0013	-0.0274	0.0048	-0.6364	0.0328
1	170.16	0.2499	-0.0440	0.0027	-0.0389	0.0028	-0.0674	0.0089	-1.0247	0.0674
1	170.16	0.2998	-0.0329	0.0027	-0.1020	0.0055	-0.1610	0.0175	-1.4628	0.0792
1	170.16	0.3498	-0.0032	0.0029	-0.1799	0.0094	-0.2943	0.0284	-1.6911	0.0798
1	170.16	0.3913	0.0471	0.0028	-0.2495	0.0136	-0.4349	0.0413	-1.7578	0.0745
1	170.16	0.4496	0.0685	0.0030	-0.3690	0.0185	-0.7516	0.0552	-2.0944	0.0847
1	170.16	0.4997	0.0923	0.0034	-0.4480	0.0234	-1.1317	0.0700	-2.3081	0.0917
1	170.16	0.5387	0.1105	0.0034	-0.5215	0.0281	-1.5108	0.0830	-2.6165	0.0873
1	170.16	0.5996	0.1230	0.0040	-0.6695	0.0350	-2.1839	0.1038	-2.4483	0.0865
1	170.16	0.6498	0.1538	0.0051	-0.7764	0.0416	-2.9721	0.1227	-2.8309	0.0873
1	170.16	0.6998	0.1368	0.0053	-0.9175	0.0483	-3.8325	0.1447	-2.8402	0.0882
1	170.16	0.7500	0.1506	0.0071	-1.0423	0.0547	-4.8574	0.1696	-2.8854	0.0971
1	170.16	0.8001	0.1382	0.0084	-1.2159	0.0617	-5.9823	0.1974	-3.1007	0.0875
1	170.16	0.8497	0.1308	0.0113	-1.3648	0.0686	-7.2167	0.2289	-3.4484	0.0916
1	170.16	0.9102	0.0714	0.0139	-1.5187	0.0769	-8.7097	0.2710	-3.3119	0.0871
1	170.16	0.9734	0.0736	0.0164	-1.6743	0.0860	-10.3393	0.3167	-3.7580	0.0946
2	170.16	0.1949	-0.0440	0.0021	-0.0032	0.0009	-0.0419	0.0027	-0.2993	0.0302
2	170.16	0.2405	-0.0262	0.0018	0.0023	0.0028	-0.1202	0.0056	-0.6305	0.0526
2	170.16	0.2999	-0.0006	0.0016	-0.0083	0.0064	-0.2514	0.0098	-0.8252	0.0726
2	170.16	0.3498	0.0176	0.0018	-0.0086	0.0077	-0.4088	0.0180	-0.9349	0.0734
2	170.16	0.3998	0.0511	0.0024	-0.0135	0.0149	-0.6766	0.0269	-1.1803	0.0704
2	170.16	0.4496	0.0773	0.0027	-0.0346	0.0189	-1.0280	0.0374	-1.3371	0.0741
2	170.16	0.4995	0.0935	0.0031	-0.0662	0.0236	-1.5241	0.0507	-1.6479	0.0764
2	170.16	0.5551	0.1206	0.0038	-0.0995	0.0296	-2.1939	0.0690	-1.7683	0.0757
2	170.16	0.5996	0.1284	0.0040	-0.1411	0.0347	-2.8626	0.0854	-1.9179	0.0753
2	170.16	0.6497	0.1500	0.0049	-0.1719	0.0410	-3.7352	0.1048	-1.9989	0.0748
2	170.16	0.6996	0.1475	0.0059	-0.2306	0.0472	-4.7447	0.1249	-2.0121	0.0744
2	170.16	0.7495	0.1373	0.0073	-0.2924	0.0541	-5.9395	0.1441	-2.2205	0.0718
2	170.16	0.7996	0.1101	0.0092	-0.3833	0.0621	-7.2527	0.1651	-2.4038	0.0815
2	170.16	0.8578	0.0457	0.0112	-0.4908	0.0699	-8.8694	0.1890	-2.2582	0.0770
2	170.16	0.9100	0.0554	0.0134	-0.5460	0.0775	-10.4161	0.2135	-2.5486	0.0877
2	170.16	0.9727	-0.0172	0.0151	-0.6362	0.0871	-12.0652	0.2442	-1.8789	0.0772
3	170.16	0.1938	-0.0357	0.0023	-0.0124	0.0013	-0.0233	0.0040	-0.3307	0.0295
3	170.16	0.2357	-0.0285	0.0024	0.0150	0.0028	-0.1025	0.0068	-0.5873	0.0476
3	170.16	0.2995	-0.0077	0.0022	-0.0160	0.0058	-0.1829	0.0157	-0.8733	0.0679
3	170.16	0.3493	0.0249	0.0021	-0.0234	0.0094	-0.3233	0.0267	-1.0040	0.0639
3	170.16	0.4000	0.0515	0.0022	-0.0229	0.0150	-0.5324	0.0413	-1.0151	0.0650
3	170.16	0.4497	0.0748	0.0027	-0.0475	0.0184	-0.8531	0.0536	-1.3282	0.0681
3	170.16	0.4997	0.0969	0.0028	-0.0749	0.0227	-1.2712	0.0670	-1.4945	0.0665
3	170.16	0.5556	0.1255	0.0031	-0.1046	0.0284	-1.8736	0.0833	-1.6673	0.0720
3	170.16	0.5995	0.1366	0.0037	-0.1404	0.0332	-2.4464	0.0940	-1.7340	0.0759
3	170.16	0.6498	0.1801	0.0042	-0.2088	0.0388	-3.2707	0.1087	-2.0180	0.0752
3	170.16	0.6890	0.1637	0.0047	-0.2470	0.0440	-3.9695	0.1209	-1.9468	0.0715
3	170.16	0.7495	0.1619	0.0059	-0.3268	0.0512	-5.2787	0.1404	-2.1156	0.0738
3	170.16	0.7998	0.1380	0.0076	-0.4038	0.0589	-6.5069	0.1586	-2.3333	0.0804
3	170.16	0.8577	0.1305	0.0099	-0.4861	0.0665	-8.0415	0.1835	-2.4748	0.0766
3	170.16	0.9178	0.0743	0.0121	-0.6105	0.0748	-9.7009	0.2113	-2.3262	0.0787
3	170.16	0.9729	0.0412	0.0140	-0.6671	0.0827	-11.2419	0.2386	-2.4762	0.0809
4	170.16	0.2001	-0.0364	0.0019	-0.0026	0.0010	-0.0602	0.0045	-0.1336	0.0327
4	170.16	0.2502	-0.0138	0.0026	0.0068	0.0027	-0.1642	0.0093	-0.3600	0.0465
4	170.16	0.3001	-0.0147	0.0019	0.0055	0.0041	-0.2829	0.0165	-0.3729	0.0681
4	170.16	0.3502	-0.0030	0.0020	-0.0012	0.0074	-0.4973	0.0283	-0.4586	0.0662
4	170.16	0.4002	0.0290	0.0022	0.0128	0.0114	-0.7878	0.0438	-0.6073	0.0685
4	170.16	0.4500	0.0581	0.0030	0.0158	0.0148	-1.1926	0.0586	-0.9047	0.0782
4	170.16	0.5001	0.0778	0.0033	0.0022	0.0189	-1.6657	0.0772	-0.9247	0.0780
4	170.16	0.5560	0.0998	0.0037	0.0003	0.0245	-2.3802	0.0997	-1.2291	0.0805
4	170.16	0.6001	0.1126	0.0048	-0.0114	0.0292	-3.0298	0.1199	-1.3377	0.0835
4	170.16	0.6501	0.1147	0.0057	-0.0395	0.0349	-3.8877	0.1467	-1.3310	0.0921
4	170.16	0.6999	0.1237	0.0072	-0.0827	0.0409	-4.8936	0.1754	-1.3223	0.0923
4	170.16	0.7500	0.1140	0.0095	-0.1242	0.0474	-6.0509	0.2071	-1.2948	0.0969
4	170.16	0.8002	0.0791	0.0117	-0.1821	0.0528	-7.3848	0.2419	-1.5229	0.0950
4	170.16	0.8582	0.0569	0.0158	-0.2273	0.0616	-9.0153	0.2865	-1.8025	0.1023
4	170.16	0.9101	0.0325	0.0191	-0.3116	0.0689	-10.5471	0.3286	-1.8630	0.1005
4	170.16	0.9728	0.0315	0.0225	-0.3321	0.0773	-12.2290	0.3810	-1.4101	0.1061

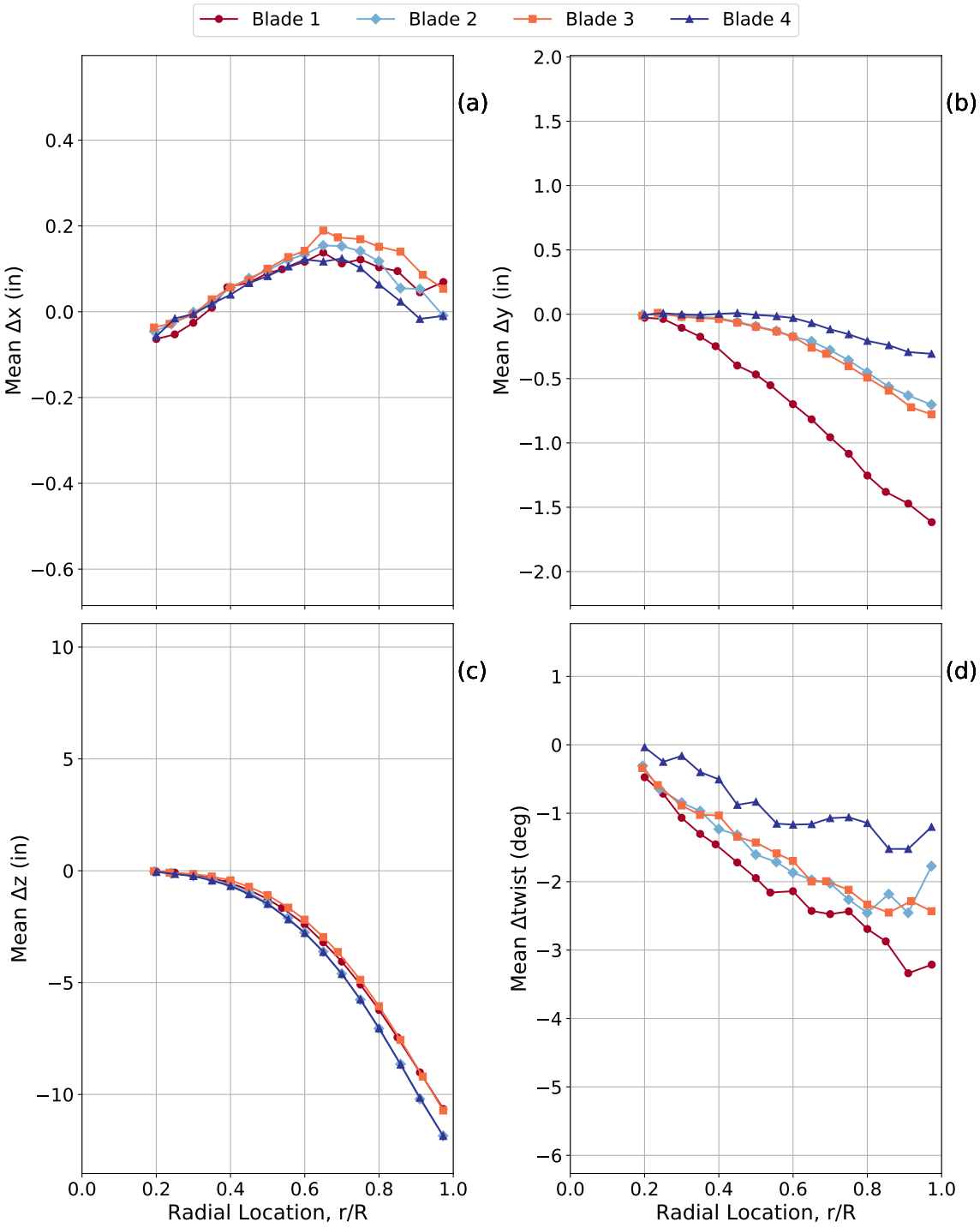


Figure 2.15-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	-0.0636	0.0028	-0.0270	0.0033	-0.0335	0.0056	-0.4738	0.0343
1	175.08	0.2499	-0.0528	0.0018	-0.0366	0.0035	-0.0807	0.0092	-0.7147	0.0645
1	175.08	0.2998	-0.0258	0.0025	-0.1053	0.0088	-0.1919	0.0187	-1.0663	0.0733
1	175.08	0.3498	0.0095	0.0027	-0.1749	0.0126	-0.3374	0.0307	-1.3028	0.0751
1	175.08	0.3913	0.0571	0.0031	-0.2483	0.0164	-0.5053	0.0434	-1.4542	0.0745
1	175.08	0.4496	0.0678	0.0032	-0.3984	0.0219	-0.8556	0.0611	-1.7200	0.0822
1	175.08	0.4997	0.0900	0.0033	-0.4676	0.0274	-1.2661	0.0783	-1.9473	0.0828
1	175.08	0.5387	0.0990	0.0037	-0.5515	0.0329	-1.6604	0.0925	-2.1592	0.0797
1	175.08	0.5996	0.1166	0.0042	-0.6990	0.0411	-2.3972	0.1142	-2.1394	0.0871
1	175.08	0.6498	0.1378	0.0046	-0.8166	0.0481	-3.1985	0.1328	-2.4274	0.0896
1	175.08	0.6998	0.1125	0.0052	-0.9562	0.0561	-4.0616	0.1512	-2.4747	0.1044
1	175.08	0.7500	0.1217	0.0064	-1.0841	0.0651	-5.0889	0.1704	-2.4345	0.0916
1	175.08	0.8001	0.1036	0.0077	-1.2537	0.0738	-6.2228	0.1912	-2.6922	0.0917
1	175.08	0.8497	0.0947	0.0090	-1.3806	0.0837	-7.4491	0.2107	-2.8726	0.0926
1	175.08	0.9102	0.0453	0.0111	-1.4716	0.0942	-9.0122	0.2389	-3.3381	0.1025
1	175.08	0.9734	0.0693	0.0156	-1.6164	0.1068	-10.6513	0.2651	-3.2126	0.1437
2	175.08	0.1949	-0.0462	0.0022	-0.0039	0.0011	-0.0372	0.0040	-0.3079	0.0363
2	175.08	0.2405	-0.0284	0.0026	-0.0013	0.0027	-0.1127	0.0068	-0.6464	0.0609
2	175.08	0.2999	-0.0010	0.0023	-0.0143	0.0056	-0.2344	0.0153	-0.8463	0.0886
2	175.08	0.3498	0.0205	0.0022	-0.0190	0.0092	-0.3800	0.0264	-0.9687	0.0815
2	175.08	0.3998	0.0566	0.0029	-0.0308	0.0147	-0.6335	0.0401	-1.2313	0.0803
2	175.08	0.4496	0.0779	0.0028	-0.0577	0.0195	-0.9635	0.0520	-1.3158	0.0865
2	175.08	0.4995	0.0959	0.0035	-0.0921	0.0247	-1.4465	0.0679	-1.6042	0.0839
2	175.08	0.5551	0.1210	0.0036	-0.1287	0.0311	-2.1043	0.0863	-1.7127	0.0828
2	175.08	0.5996	0.1336	0.0040	-0.1739	0.0372	-2.7616	0.1037	-1.8681	0.0919
2	175.08	0.6497	0.1546	0.0050	-0.2096	0.0446	-3.6125	0.1255	-1.9738	0.1014
2	175.08	0.6996	0.1529	0.0060	-0.2787	0.0523	-4.5991	0.1475	-2.0250	0.0936
2	175.08	0.7495	0.1413	0.0076	-0.3573	0.0609	-5.7658	0.1738	-2.2601	0.0987
2	175.08	0.7996	0.1177	0.0098	-0.4514	0.0695	-7.0514	0.2025	-2.4555	0.1026
2	175.08	0.8578	0.0548	0.0132	-0.5634	0.0798	-8.6385	0.2406	-2.1813	0.1020
2	175.08	0.9100	0.0530	0.0169	-0.6314	0.0894	-10.2018	0.2781	-2.4554	0.1104
2	175.08	0.9727	-0.0091	0.0201	-0.7027	0.1004	-11.8492	0.3269	-1.7730	0.1052
3	175.08	0.1938	-0.0367	0.0035	-0.0119	0.0013	-0.0153	0.0059	-0.3396	0.0334
3	175.08	0.2357	-0.0283	0.0029	0.0108	0.0025	-0.0839	0.0076	-0.5883	0.0670
3	175.08	0.2995	-0.0066	0.0033	-0.0201	0.0058	-0.1457	0.0191	-0.8860	0.0785
3	175.08	0.3493	0.0288	0.0030	-0.0301	0.0089	-0.2569	0.0324	-1.0231	0.0790
3	175.08	0.4000	0.0565	0.0030	-0.0362	0.0148	-0.4296	0.0489	-1.0322	0.0814
3	175.08	0.4497	0.0745	0.0037	-0.0652	0.0188	-0.7188	0.0643	-1.3434	0.0875
3	175.08	0.4997	0.1003	0.0035	-0.0974	0.0235	-1.0858	0.0844	-1.4273	0.0861
3	175.08	0.5556	0.1274	0.0041	-0.1339	0.0299	-1.6475	0.1046	-1.5869	0.0911
3	175.08	0.5995	0.1420	0.0044	-0.1746	0.0349	-2.1861	0.1237	-1.6966	0.0947
3	175.08	0.6498	0.1893	0.0051	-0.2597	0.0410	-2.9657	0.1426	-1.9973	0.1024
3	175.08	0.6890	0.1734	0.0055	-0.3073	0.0463	-3.6308	0.1580	-1.9929	0.0992
3	175.08	0.7495	0.1691	0.0071	-0.4043	0.0544	-4.8740	0.1836	-2.1192	0.0988
3	175.08	0.7998	0.1514	0.0087	-0.4921	0.0614	-6.0524	0.2061	-2.3341	0.1024
3	175.08	0.8577	0.1401	0.0108	-0.5938	0.0694	-7.5602	0.2318	-2.4520	0.1071
3	175.08	0.9178	0.0861	0.0128	-0.7232	0.0780	-9.1972	0.2623	-2.2853	0.1139
3	175.08	0.9729	0.0535	0.0145	-0.7781	0.0861	-10.7155	0.2928	-2.4315	0.1080
4	175.08	0.2001	-0.0574	0.0011	-0.0042	0.0008	-0.0527	0.0033	-0.0346	0.0270
4	175.08	0.2502	-0.0157	0.0011	0.0081	0.0020	-0.1463	0.0071	-0.2490	0.0447
4	175.08	0.3001	-0.0053	0.0014	-0.0017	0.0033	-0.2383	0.0126	-0.1616	0.0610
4	175.08	0.3502	0.0188	0.0016	-0.0054	0.0061	-0.4410	0.0216	-0.3995	0.0566
4	175.08	0.4002	0.0398	0.0020	0.0028	0.0093	-0.6835	0.0333	-0.5054	0.0661
4	175.08	0.4500	0.0669	0.0024	0.0094	0.0122	-1.0521	0.0457	-0.8774	0.0652
4	175.08	0.5001	0.0831	0.0030	-0.0049	0.0159	-1.4813	0.0611	-0.8324	0.0696
4	175.08	0.5560	0.1056	0.0029	-0.0150	0.0206	-2.1720	0.0821	-1.1523	0.0766
4	175.08	0.6001	0.1218	0.0041	-0.0287	0.0251	-2.7818	0.0988	-1.1667	0.0803
4	175.08	0.6501	0.1170	0.0049	-0.0682	0.0305	-3.6314	0.1203	-1.1591	0.0870
4	175.08	0.6999	0.1242	0.0058	-0.1171	0.0362	-4.6140	0.1439	-1.0718	0.0843
4	175.08	0.7500	0.1019	0.0076	-0.1555	0.0426	-5.7548	0.1710	-1.0591	0.0805
4	175.08	0.8002	0.0636	0.0101	-0.2068	0.0494	-7.0432	0.1994	-1.1431	0.0953
4	175.08	0.8582	0.0236	0.0134	-0.2411	0.0575	-8.6635	0.2364	-1.5217	0.0973
4	175.08	0.9101	-0.0167	0.0169	-0.2937	0.0647	-10.1471	0.2701	-1.5216	0.1090
4	175.08	0.9728	-0.0098	0.0191	-0.3074	0.0734	-11.8542	0.3228	-1.1994	0.1050

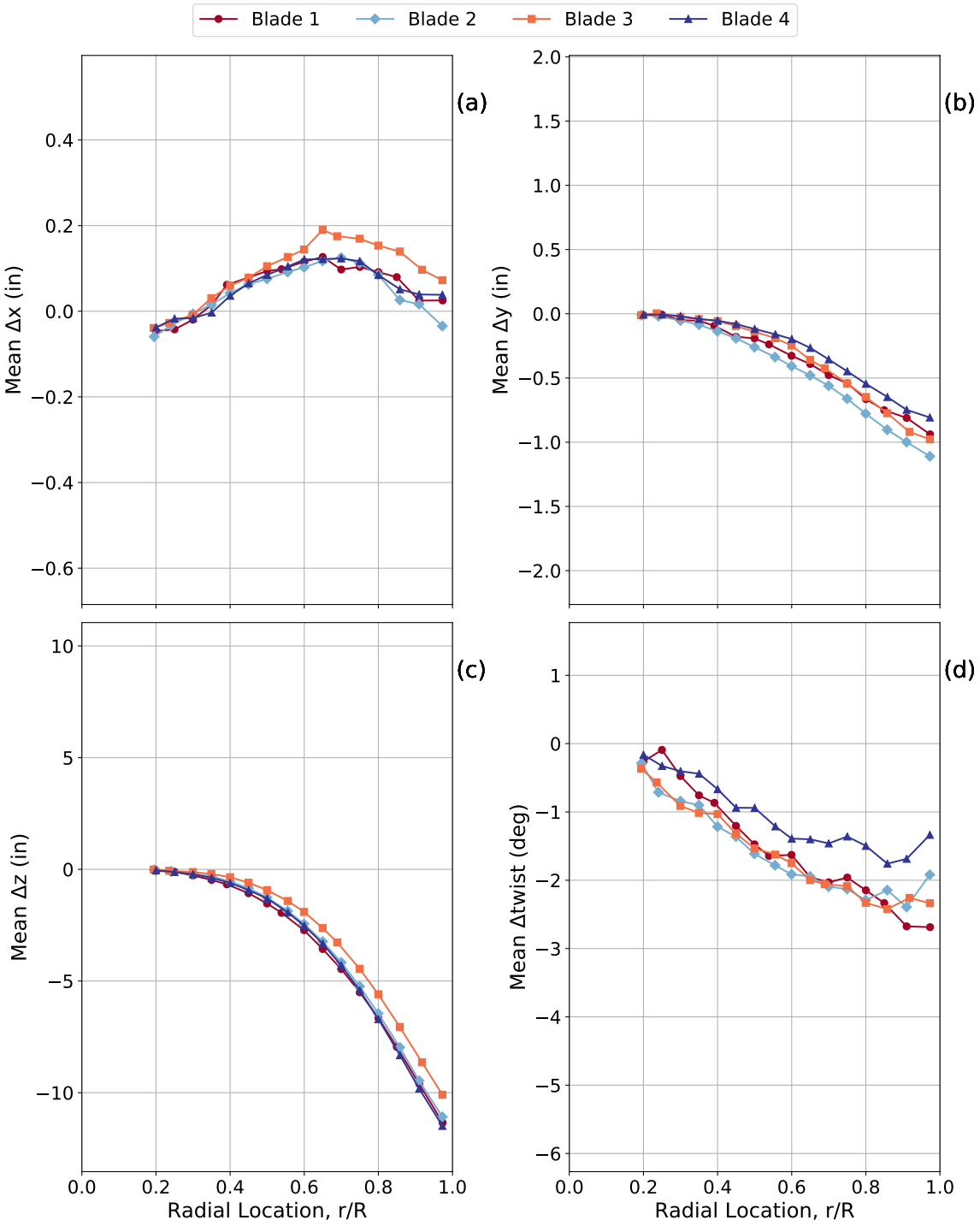


Figure 2.15-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.0460	0.0030	-0.0114	0.0024	-0.0684	0.0067	-0.2601	0.0448
1	180	0.2499	-0.0424	0.0023	-0.0072	0.0038	-0.1107	0.0106	-0.0921	0.0847
1	180	0.2998	-0.0196	0.0025	-0.0498	0.0085	-0.2763	0.0205	-0.4741	0.1026
1	180	0.3498	0.0147	0.0023	-0.0547	0.0146	-0.4728	0.0341	-0.7571	0.1041
1	180	0.3913	0.0617	0.0024	-0.0935	0.0202	-0.6729	0.0466	-0.8667	0.1077
1	180	0.4496	0.0787	0.0030	-0.1792	0.0277	-1.0679	0.0636	-1.2037	0.1137
1	180	0.4997	0.0939	0.0031	-0.1918	0.0350	-1.5291	0.0796	-1.4745	0.1179
1	180	0.5387	0.0981	0.0034	-0.2383	0.0402	-1.9472	0.0938	-1.6430	0.1248
1	180	0.5996	0.1156	0.0037	-0.3273	0.0506	-2.7253	0.1164	-1.6290	0.1314
1	180	0.6498	0.1267	0.0044	-0.3912	0.0594	-3.5679	0.1364	-1.9555	0.1431
1	180	0.6998	0.0974	0.0051	-0.4778	0.0698	-4.4632	0.1593	-2.0303	0.1387
1	180	0.7500	0.1035	0.0061	-0.5415	0.0791	-5.5067	0.1815	-1.9609	0.1455
1	180	0.8001	0.0914	0.0085	-0.6638	0.0893	-6.6635	0.2061	-2.1474	0.1510
1	180	0.8497	0.0796	0.0104	-0.7506	0.1002	-7.9475	0.2337	-2.3337	0.1496
1	180	0.9102	0.0248	0.0143	-0.8108	0.1123	-9.6069	0.2687	-2.6754	0.1644
1	180	0.9734	0.0252	0.0165	-0.9388	0.1279	-11.3436	0.3057	-2.6869	0.1779
2	180	0.1949	-0.0595	0.0035	-0.0109	0.0020	-0.0218	0.0057	-0.2864	0.0384
2	180	0.2405	-0.0328	0.0020	-0.0191	0.0029	-0.0953	0.0083	-0.7129	0.0703
2	180	0.2999	-0.0062	0.0019	-0.0525	0.0071	-0.2012	0.0183	-0.8421	0.0917
2	180	0.3498	0.0158	0.0019	-0.0852	0.0124	-0.3109	0.0299	-0.9002	0.0944
2	180	0.3998	0.0424	0.0020	-0.1367	0.0185	-0.5494	0.0446	-1.2161	0.0940
2	180	0.4496	0.0629	0.0022	-0.1911	0.0238	-0.8430	0.0591	-1.3623	0.0939
2	180	0.4995	0.0755	0.0025	-0.2600	0.0301	-1.2612	0.0763	-1.6140	0.1026
2	180	0.5551	0.0917	0.0028	-0.3372	0.0370	-1.8615	0.0957	-1.7815	0.1035
2	180	0.5996	0.1026	0.0032	-0.4074	0.0435	-2.4464	0.1127	-1.9131	0.1107
2	180	0.6497	0.1176	0.0037	-0.4798	0.0507	-3.2336	0.1318	-1.9446	0.1189
2	180	0.6996	0.1251	0.0051	-0.5607	0.0591	-4.1658	0.1522	-2.0958	0.1243
2	180	0.7495	0.1123	0.0067	-0.6613	0.0673	-5.2382	0.1754	-2.1286	0.1217
2	180	0.7996	0.0852	0.0088	-0.7777	0.0755	-6.4535	0.2014	-2.2915	0.1271
2	180	0.8578	0.0262	0.0121	-0.9032	0.0864	-7.9716	0.2367	-2.1458	0.1309
2	180	0.9100	0.0165	0.0149	-0.9992	0.0960	-9.4679	0.2716	-2.3916	0.1388
2	180	0.9727	-0.0347	0.0179	-1.1094	0.1072	-11.0820	0.3165	-1.9189	0.1468
3	180.35	0.1938	-0.0391	0.0052	-0.0108	0.0024	-0.0106	0.0063	-0.3661	0.0498
3	180.35	0.2357	-0.0273	0.0065	0.0034	0.0035	-0.0646	0.0083	-0.5673	0.0960
3	180.35	0.2995	-0.0081	0.0049	-0.0253	0.0084	-0.1198	0.0182	-0.9118	0.1194
3	180.35	0.3493	0.0306	0.0049	-0.0422	0.0141	-0.2061	0.0298	-1.0138	0.1216
3	180.35	0.4000	0.0598	0.0049	-0.0574	0.0219	-0.3523	0.0445	-1.0306	0.1225
3	180.35	0.4497	0.0779	0.0049	-0.0961	0.0269	-0.5970	0.0579	-1.3171	0.1293
3	180.35	0.4997	0.1052	0.0051	-0.1391	0.0333	-0.9308	0.0720	-1.5339	0.1390
3	180.35	0.5556	0.1266	0.0059	-0.1907	0.0414	-1.4179	0.0901	-1.6251	0.1537
3	180.35	0.5995	0.1442	0.0060	-0.2476	0.0481	-1.9049	0.1029	-1.7497	0.1640
3	180.35	0.6498	0.1901	0.0064	-0.3593	0.0562	-2.6291	0.1210	-1.9982	0.1690
3	180.35	0.6890	0.1751	0.0070	-0.4242	0.0622	-3.2726	0.1335	-2.0582	0.1769
3	180.35	0.7495	0.1693	0.0081	-0.5422	0.0720	-4.4508	0.1557	-2.0872	0.1822
3	180.35	0.7998	0.1532	0.0099	-0.6481	0.0807	-5.5930	0.1769	-2.3308	0.1930
3	180.35	0.8577	0.1394	0.0122	-0.7745	0.0910	-7.0564	0.2046	-2.4223	0.1972
3	180.35	0.9178	0.0967	0.0143	-0.9201	0.1013	-8.6428	0.2379	-2.2591	0.1984
3	180.35	0.9729	0.0724	0.0179	-0.9775	0.1113	-10.0909	0.2663	-2.3359	0.2175
4	180	0.2001	-0.0378	0.0030	-0.0069	0.0020	-0.0435	0.0092	-0.1635	0.0576
4	180	0.2502	-0.0172	0.0079	-0.0066	0.0039	-0.1193	0.0142	-0.3277	0.1029
4	180	0.3001	-0.0162	0.0044	-0.0190	0.0058	-0.2198	0.0246	-0.4048	0.1069
4	180	0.3502	-0.0032	0.0036	-0.0408	0.0097	-0.3789	0.0394	-0.4411	0.1006
4	180	0.4002	0.0361	0.0039	-0.0538	0.0143	-0.6098	0.0567	-0.6677	0.1050
4	180	0.4500	0.0652	0.0041	-0.0807	0.0168	-0.9331	0.0750	-0.9392	0.1104
4	180	0.5001	0.0848	0.0050	-0.1188	0.0214	-1.3073	0.0942	-0.9411	0.1179
4	180	0.5560	0.1046	0.0054	-0.1600	0.0264	-1.9332	0.1177	-1.2120	0.1153
4	180	0.6001	0.1209	0.0061	-0.1974	0.0309	-2.5273	0.1373	-1.3911	0.1245
4	180	0.6501	0.1217	0.0070	-0.2660	0.0365	-3.3305	0.1601	-1.4006	0.1264
4	180	0.6999	0.1233	0.0080	-0.3553	0.0423	-4.3067	0.1846	-1.4613	0.1310
4	180	0.7500	0.1167	0.0096	-0.4482	0.0486	-5.4225	0.2115	-1.3598	0.1265
4	180	0.8002	0.0846	0.0116	-0.5452	0.0553	-6.7102	0.2421	-1.4976	0.1340
4	180	0.8582	0.0512	0.0150	-0.6484	0.0635	-8.3228	0.2807	-1.7578	0.1372
4	180	0.9101	0.0391	0.0178	-0.7481	0.0713	-9.8199	0.3191	-1.6866	0.1415
4	180	0.9728	0.0384	0.0212	-0.8079	0.0810	-11.4873	0.3684	-1.3352	0.1439

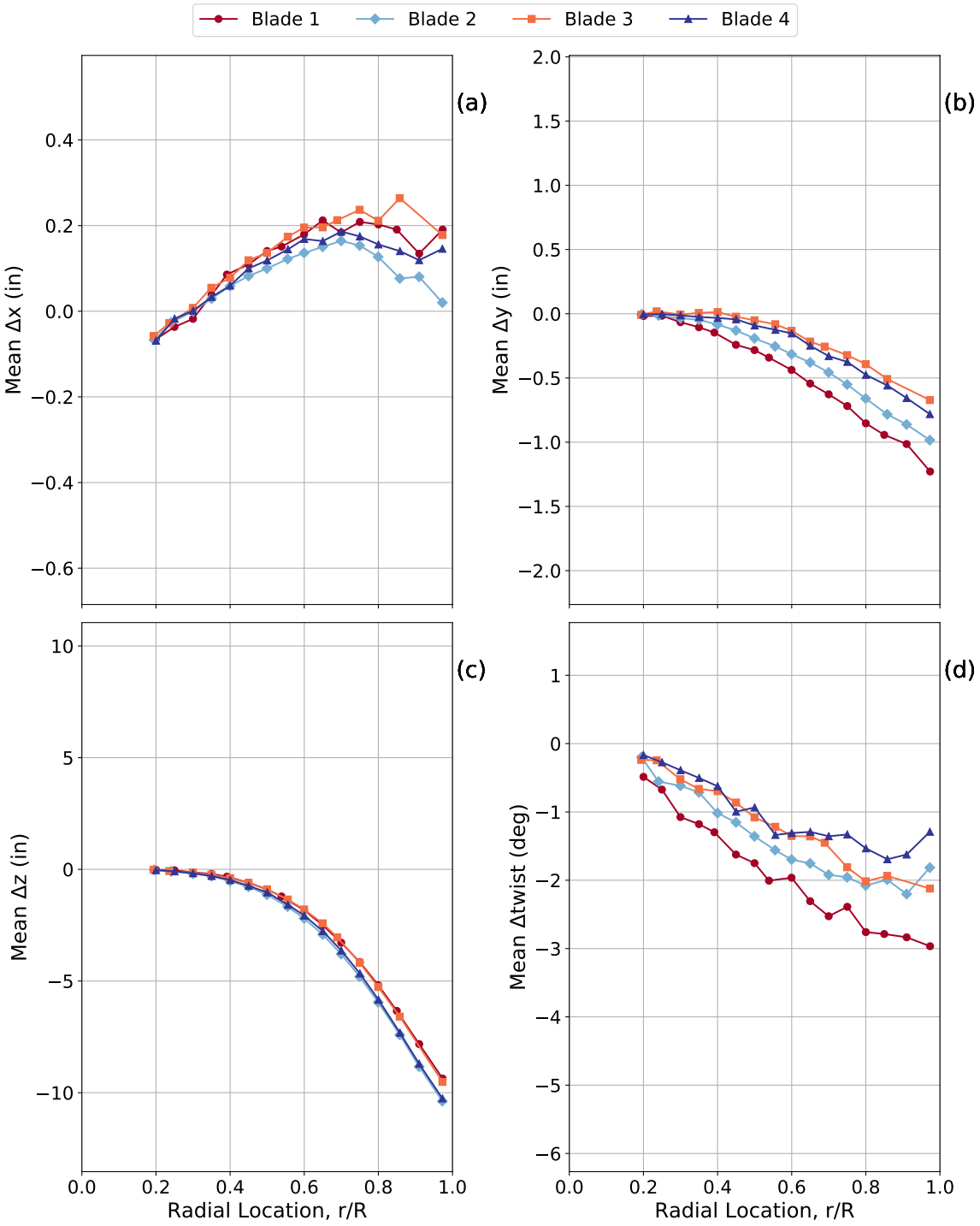


Figure 2.15-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0651	0.0012	-0.0183	0.0009	-0.0200	0.0032	-0.4870	0.0287
1	184.92	0.2499	-0.0366	0.0011	-0.0157	0.0025	-0.0421	0.0069	-0.6733	0.0471
1	184.92	0.2998	-0.0178	0.0012	-0.0656	0.0041	-0.1328	0.0126	-1.0754	0.0647
1	184.92	0.3498	0.0380	0.0015	-0.1053	0.0066	-0.2045	0.0209	-1.1788	0.0608
1	184.92	0.3913	0.0856	0.0020	-0.1466	0.0100	-0.3275	0.0304	-1.2971	0.0618
1	184.92	0.4496	0.1093	0.0025	-0.2421	0.0129	-0.5979	0.0446	-1.6243	0.0653
1	184.92	0.4997	0.1406	0.0030	-0.2831	0.0168	-0.8966	0.0606	-1.7498	0.0683
1	184.92	0.5387	0.1509	0.0030	-0.3417	0.0200	-1.2132	0.0736	-2.0061	0.0777
1	184.92	0.5996	0.1793	0.0044	-0.4377	0.0256	-1.8253	0.0965	-1.9633	0.0848
1	184.92	0.6498	0.2122	0.0054	-0.5433	0.0316	-2.4957	0.1163	-2.3063	0.0928
1	184.92	0.6998	0.1838	0.0067	-0.6274	0.0375	-3.2838	0.1390	-2.5267	0.1043
1	184.92	0.7500	0.2086	0.0081	-0.7186	0.0446	-4.1568	0.1617	-2.3894	0.1108
1	184.92	0.8001	0.2025	0.0105	-0.8534	0.0514	-5.1916	0.1884	-2.7597	0.1282
1	184.92	0.8497	0.1906	0.0125	-0.9431	0.0596	-6.3354	0.2176	-2.7873	0.1208
1	184.92	0.9102	0.1345	0.0150	-1.0145	0.0701	-7.8231	0.2574	-2.8354	0.2024
1	184.92	0.9734	0.1906	0.0228	-1.2282	0.0808	-9.3691	0.3059	-2.9661	0.2104
2	184.92	0.1949	-0.0670	0.0100	-0.0053	0.0053	-0.0268	0.0147	-0.1970	0.0656
2	184.92	0.2405	-0.0263	0.0057	-0.0130	0.0043	-0.0904	0.0136	-0.5554	0.1792
2	184.92	0.2999	-0.0004	0.0061	-0.0346	0.0173	-0.1950	0.0398	-0.6173	0.1902
2	184.92	0.3498	0.0295	0.0060	-0.0467	0.0302	-0.3072	0.0642	-0.7136	0.1881
2	184.92	0.3998	0.0586	0.0062	-0.0843	0.0439	-0.5264	0.0902	-1.0173	0.1961
2	184.92	0.4496	0.0822	0.0066	-0.1302	0.0570	-0.7812	0.1159	-1.1527	0.1965
2	184.92	0.4995	0.0998	0.0068	-0.1915	0.0711	-1.1346	0.1421	-1.3573	0.1997
2	184.92	0.5551	0.1219	0.0068	-0.2537	0.0871	-1.6680	0.1725	-1.5594	0.2003
2	184.92	0.5996	0.1361	0.0071	-0.3148	0.1006	-2.1957	0.1975	-1.6978	0.2051
2	184.92	0.6497	0.1503	0.0077	-0.3791	0.1157	-2.9157	0.2252	-1.7533	0.2132
2	184.92	0.6996	0.1643	0.0083	-0.4561	0.1317	-3.7914	0.2560	-1.9196	0.2083
2	184.92	0.7495	0.1534	0.0094	-0.5507	0.1485	-4.8017	0.2870	-1.9566	0.2094
2	184.92	0.7996	0.1270	0.0114	-0.6604	0.1654	-5.9519	0.3221	-2.0775	0.2114
2	184.92	0.8578	0.0766	0.0154	-0.7832	0.1853	-7.4077	0.3663	-1.9924	0.2120
2	184.92	0.9100	0.0804	0.0186	-0.8620	0.2042	-8.8328	0.4095	-2.2028	0.2207
2	184.92	0.9727	0.0201	0.0218	-0.9840	0.2261	-10.3777	0.4626	-1.8153	0.2298
3	184.92	0.1938	-0.0578	0.0014	-0.0081	0.0016	-0.0193	0.0037	-0.2379	0.0275
3	184.92	0.2357	-0.0279	0.0012	0.0187	0.0020	-0.0782	0.0062	-0.2446	0.0418
3	184.92	0.2995	0.0078	0.0014	-0.0056	0.0057	-0.1387	0.0140	-0.5217	0.0626
3	184.92	0.3493	0.0548	0.0015	0.0062	0.0096	-0.2395	0.0227	-0.6633	0.0662
3	184.92	0.4000	0.0782	0.0018	0.0132	0.0148	-0.3945	0.0355	-0.6958	0.0653
3	184.92	0.4497	0.1190	0.0020	-0.0231	0.0183	-0.6026	0.0480	-0.8630	0.0770
3	184.92	0.4997	0.1362	0.0027	-0.0512	0.0236	-0.8970	0.0631	-1.0798	0.0830
3	184.92	0.5556	0.1740	0.0030	-0.0816	0.0288	-1.3512	0.0824	-1.2176	0.0888
3	184.92	0.5995	0.1954	0.0037	-0.1329	0.0338	-1.7970	0.0992	-1.3514	0.1005
3	184.92	0.6498	0.1958	0.0043	-0.2168	0.0397	-2.4173	0.1192	-1.3584	0.1151
3	184.92	0.6890	0.2125	0.0051	-0.2561	0.0451	-3.0443	0.1346	-1.4502	0.1223
3	184.92	0.7495	0.2369	0.0069	-0.3220	0.0519	-4.1813	0.1633	-1.8096	0.1247
3	184.92	0.7998	0.2113	0.0083	-0.3919	0.0597	-5.2665	0.1893	-2.0158	0.1270
3	184.92	0.8577	0.2640	0.0125	-0.5081	0.0699	-6.5926	0.2302	-1.9367	0.1716
3	184.92	0.9729	0.1778	0.0204	-0.6718	0.0885	-9.5153	0.3160	-2.1217	0.2184
4	184.92	0.2001	-0.0687	0.0012	-0.0050	0.0011	-0.0368	0.0041	-0.1673	0.0257
4	184.92	0.2502	-0.0174	0.0012	-0.0023	0.0029	-0.0901	0.0090	-0.2735	0.0399
4	184.92	0.3001	0.0010	0.0013	-0.0129	0.0050	-0.1748	0.0161	-0.3901	0.0568
4	184.92	0.3502	0.0334	0.0017	-0.0252	0.0081	-0.2993	0.0270	-0.5033	0.0584
4	184.92	0.4002	0.0598	0.0020	-0.0328	0.0132	-0.4774	0.0420	-0.6246	0.0551
4	184.92	0.4500	0.1000	0.0024	-0.0438	0.0167	-0.7403	0.0576	-0.9964	0.0683
4	184.92	0.5001	0.1187	0.0024	-0.0915	0.0216	-1.0339	0.0743	-0.9348	0.0691
4	184.92	0.5560	0.1445	0.0033	-0.1253	0.0284	-1.5878	0.0983	-1.3370	0.1005
4	184.92	0.6001	0.1687	0.0038	-0.1531	0.0325	-2.0700	0.1128	-1.3099	0.0848
4	184.92	0.6501	0.1637	0.0044	-0.2487	0.0382	-2.7665	0.1344	-1.2919	0.0822
4	184.92	0.6999	0.1860	0.0052	-0.3298	0.0456	-3.6347	0.1558	-1.3559	0.0894
4	184.92	0.7500	0.1747	0.0068	-0.3749	0.0543	-4.6611	0.1792	-1.3309	0.0992
4	184.92	0.8002	0.1559	0.0082	-0.4757	0.0615	-5.8369	0.2032	-1.5336	0.0976
4	184.92	0.8582	0.1403	0.0111	-0.5588	0.0702	-7.3175	0.2326	-1.6930	0.1055
4	184.92	0.9101	0.1192	0.0143	-0.6563	0.0811	-8.7078	0.2636	-1.6242	0.1304
4	184.92	0.9728	0.1458	0.0158	-0.7816	0.0899	-10.2580	0.2974	-1.2909	0.1235

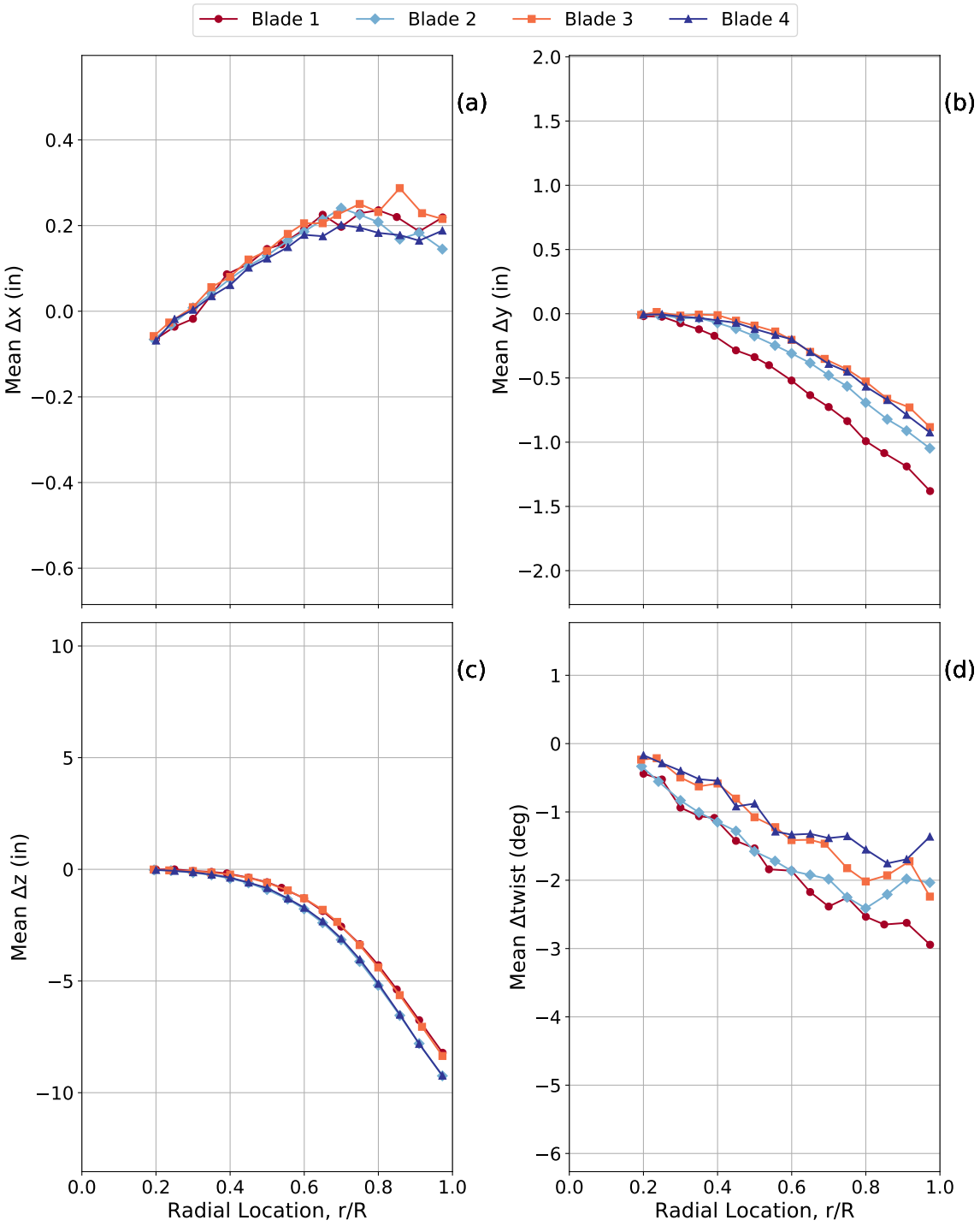


Figure 2.15-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0647	0.0012	-0.0189	0.0011	-0.0077	0.0048	-0.4409	0.0289
1	189.84	0.2499	-0.0362	0.0010	-0.0231	0.0021	-0.0015	0.0097	-0.5248	0.0450
1	189.84	0.2998	-0.0178	0.0011	-0.0734	0.0043	-0.0720	0.0175	-0.9365	0.0631
1	189.84	0.3498	0.0381	0.0014	-0.1214	0.0072	-0.1146	0.0287	-1.0623	0.0625
1	189.84	0.3913	0.0864	0.0017	-0.1719	0.0103	-0.1814	0.0414	-1.0876	0.0614
1	189.84	0.4496	0.1104	0.0020	-0.2850	0.0135	-0.3695	0.0617	-1.4234	0.0743
1	189.84	0.4997	0.1454	0.0021	-0.3376	0.0172	-0.5757	0.0837	-1.5333	0.0729
1	189.84	0.5387	0.1562	0.0026	-0.4005	0.0199	-0.8244	0.1017	-1.8400	0.0736
1	189.84	0.5996	0.1908	0.0031	-0.5198	0.0239	-1.2994	0.1334	-1.8608	0.0834
1	189.84	0.6498	0.2253	0.0037	-0.6339	0.0283	-1.8665	0.1604	-2.1726	0.0983
1	189.84	0.6998	0.1971	0.0049	-0.7263	0.0335	-2.5637	0.1885	-2.3851	0.0983
1	189.84	0.7500	0.2288	0.0061	-0.8358	0.0386	-3.3503	0.2164	-2.2540	0.1060
1	189.84	0.8001	0.2357	0.0083	-0.9923	0.0440	-4.2914	0.2462	-2.5345	0.1101
1	189.84	0.8497	0.2200	0.0098	-1.0847	0.0503	-5.3771	0.2763	-2.6483	0.1122
1	189.84	0.9102	0.1863	0.0130	-1.1889	0.0574	-6.7528	0.3155	-2.6241	0.1313
1	189.84	0.9734	0.2191	0.0147	-1.3805	0.0689	-8.2123	0.3506	-2.9443	0.1528
2	189.84	0.1949	-0.0658	0.0010	-0.0049	0.0009	-0.0265	0.0031	-0.3325	0.0243
2	189.84	0.2405	-0.0322	0.0010	-0.0077	0.0021	-0.0585	0.0059	-0.5544	0.0395
2	189.84	0.2999	0.0082	0.0010	-0.0351	0.0038	-0.1507	0.0112	-0.8328	0.0555
2	189.84	0.3498	0.0416	0.0010	-0.0330	0.0071	-0.2514	0.0187	-1.0070	0.0598
2	189.84	0.3998	0.0756	0.0015	-0.0718	0.0107	-0.4091	0.0283	-1.1489	0.0595
2	189.84	0.4496	0.1058	0.0017	-0.1162	0.0135	-0.6089	0.0380	-1.2800	0.0645
2	189.84	0.4995	0.1299	0.0020	-0.1735	0.0179	-0.9079	0.0502	-1.5777	0.0685
2	189.84	0.5551	0.1644	0.0022	-0.2469	0.0226	-1.3325	0.0638	-1.7195	0.0800
2	189.84	0.5996	0.1858	0.0027	-0.3089	0.0266	-1.7735	0.0772	-1.8627	0.0818
2	189.84	0.6497	0.2136	0.0026	-0.3832	0.0321	-2.3938	0.0903	-1.9223	0.1049
2	189.84	0.6996	0.2408	0.0032	-0.4789	0.0373	-3.1554	0.1020	-1.9839	0.1038
2	189.84	0.7495	0.2253	0.0036	-0.5648	0.0433	-4.1283	0.1146	-2.2499	0.1084
2	189.84	0.7996	0.2082	0.0048	-0.6922	0.0495	-5.1988	0.1262	-2.4107	0.1154
2	189.84	0.8578	0.1683	0.0067	-0.8216	0.0581	-6.5417	0.1423	-2.2080	0.1213
2	189.84	0.9100	0.1832	0.0074	-0.9108	0.0668	-7.7990	0.1554	-1.9807	0.1566
2	189.84	0.9727	0.1450	0.0093	-1.0474	0.0755	-9.2470	0.1770	-2.0346	0.1278
3	189.84	0.1938	-0.0581	0.0012	-0.0085	0.0011	-0.0088	0.0039	-0.2349	0.0237
3	189.84	0.2357	-0.0264	0.0009	0.0135	0.0021	-0.0467	0.0062	-0.2138	0.0372
3	189.84	0.2995	0.0095	0.0010	-0.0144	0.0047	-0.0783	0.0133	-0.4951	0.0543
3	189.84	0.3493	0.0561	0.0013	-0.0066	0.0082	-0.1431	0.0231	-0.6263	0.0616
3	189.84	0.4000	0.0801	0.0014	-0.0111	0.0128	-0.2348	0.0345	-0.5843	0.0683
3	189.84	0.4497	0.1207	0.0018	-0.0540	0.0162	-0.3838	0.0472	-0.8053	0.0718
3	189.84	0.4997	0.1408	0.0020	-0.0922	0.0211	-0.6019	0.0603	-1.0775	0.0805
3	189.84	0.5556	0.1806	0.0024	-0.1384	0.0259	-0.9442	0.0760	-1.2235	0.0880
3	189.84	0.5995	0.2053	0.0026	-0.2033	0.0308	-1.2954	0.0891	-1.4129	0.0986
3	189.84	0.6498	0.2055	0.0034	-0.2968	0.0365	-1.8113	0.1028	-1.4082	0.1122
3	189.84	0.6890	0.2250	0.0036	-0.3515	0.0413	-2.3539	0.1157	-1.4645	0.1084
3	189.84	0.7495	0.2504	0.0045	-0.4332	0.0491	-3.3912	0.1358	-1.8236	0.1107
3	189.84	0.7998	0.2317	0.0050	-0.5277	0.0561	-4.3940	0.1535	-2.0180	0.1201
3	189.84	0.8577	0.2874	0.0070	-0.6621	0.0659	-5.6319	0.1741	-1.9282	0.1529
3	189.84	0.9178	0.2289	0.0094	-0.7294	0.0751	-7.0487	0.1994	-1.7225	0.2281
3	189.84	0.9729	0.2154	0.0118	-0.8825	0.0803	-8.3552	0.2242	-2.2396	0.1530
4	189.84	0.2001	-0.0684	0.0011	-0.0061	0.0009	-0.0272	0.0037	-0.1696	0.0281
4	189.84	0.2502	-0.0183	0.0009	-0.0047	0.0021	-0.0681	0.0073	-0.2872	0.0457
4	189.84	0.3001	0.0034	0.0010	-0.0229	0.0039	-0.1296	0.0131	-0.3981	0.0638
4	189.84	0.3502	0.0352	0.0012	-0.0325	0.0067	-0.2372	0.0218	-0.5202	0.0575
4	189.84	0.4002	0.0612	0.0015	-0.0517	0.0104	-0.3702	0.0333	-0.5449	0.0559
4	189.84	0.4500	0.1018	0.0018	-0.0704	0.0138	-0.5927	0.0438	-0.9196	0.0671
4	189.84	0.5001	0.1232	0.0021	-0.1188	0.0174	-0.8369	0.0570	-0.8784	0.0661
4	189.84	0.5560	0.1497	0.0022	-0.1650	0.0226	-1.3056	0.0718	-1.2876	0.0775
4	189.84	0.6001	0.1784	0.0027	-0.1992	0.0267	-1.7191	0.0845	-1.3333	0.0816
4	189.84	0.6501	0.1751	0.0033	-0.2983	0.0320	-2.3259	0.1011	-1.3210	0.0868
4	189.84	0.6999	0.2013	0.0043	-0.3904	0.0374	-3.0980	0.1196	-1.3833	0.0807
4	189.84	0.7500	0.1951	0.0053	-0.4512	0.0433	-4.0345	0.1381	-1.3553	0.0854
4	189.84	0.8002	0.1829	0.0068	-0.5674	0.0497	-5.1230	0.1581	-1.5509	0.1009
4	189.84	0.8582	0.1777	0.0092	-0.6719	0.0583	-6.5070	0.1864	-1.7529	0.0920
4	189.84	0.9101	0.1648	0.0114	-0.7870	0.0670	-7.8135	0.2122	-1.6932	0.1026
4	189.84	0.9728	0.1882	0.0144	-0.9244	0.0778	-9.2355	0.2408	-1.3623	0.1223

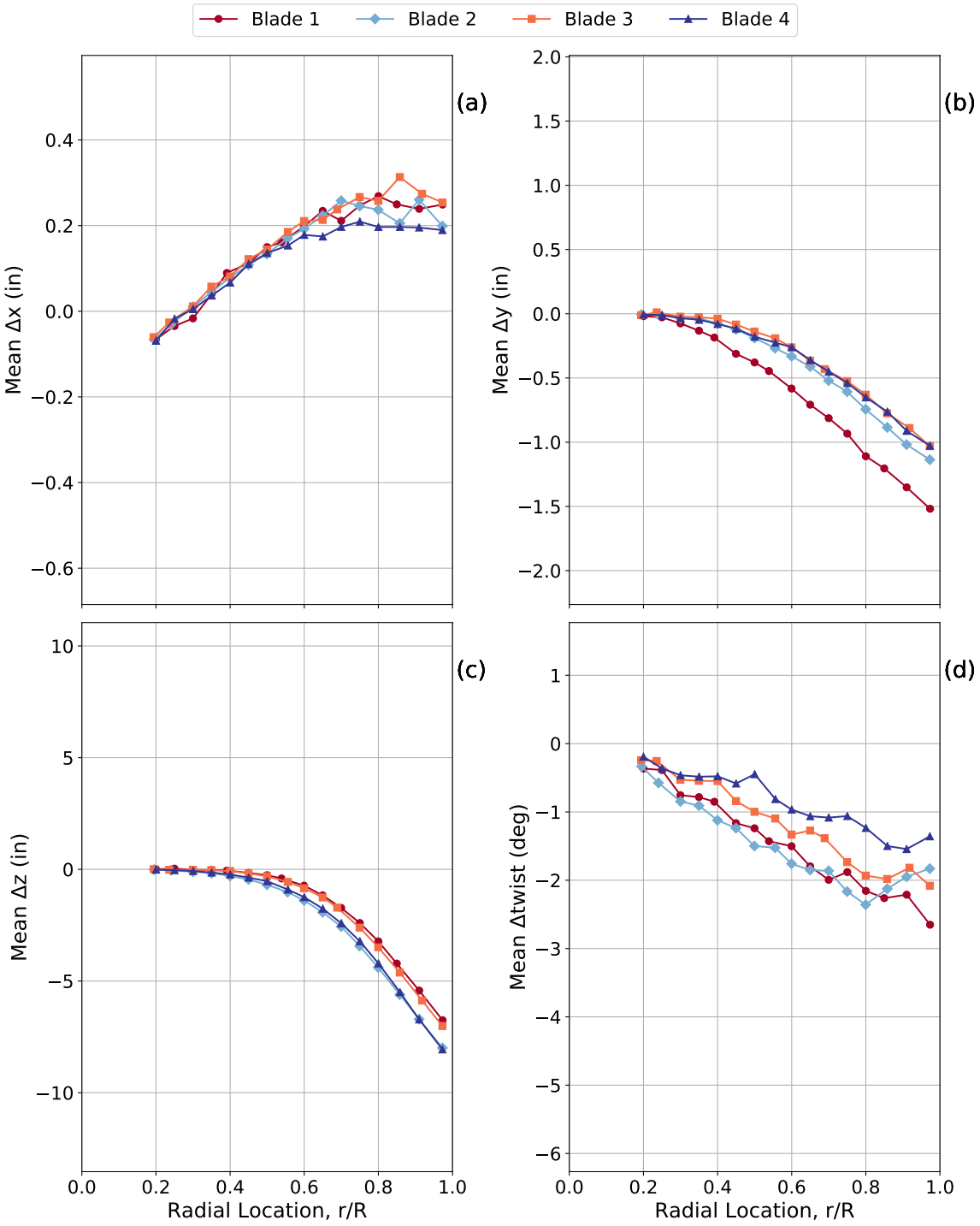


Figure 2.15-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0655	0.0012	-0.0189	0.0009	0.0055	0.0043	-0.3662	0.0262
1	195.12	0.2499	-0.0346	0.0010	-0.0279	0.0024	0.0311	0.0086	-0.3863	0.0431
1	195.12	0.2998	-0.0167	0.0012	-0.0754	0.0041	-0.0211	0.0151	-0.7551	0.0589
1	195.12	0.3498	0.0395	0.0014	-0.1321	0.0074	-0.0263	0.0253	-0.7831	0.0573
1	195.12	0.3913	0.0894	0.0017	-0.1853	0.0108	-0.0543	0.0360	-0.8506	0.0606
1	195.12	0.4496	0.1120	0.0019	-0.3117	0.0142	-0.1574	0.0541	-1.1643	0.0626
1	195.12	0.4997	0.1497	0.0021	-0.3790	0.0187	-0.2624	0.0728	-1.2394	0.0667
1	195.12	0.5387	0.1609	0.0027	-0.4459	0.0214	-0.4077	0.0890	-1.4285	0.0757
1	195.12	0.5996	0.1982	0.0030	-0.5823	0.0277	-0.7301	0.1166	-1.5023	0.0786
1	195.12	0.6498	0.2343	0.0036	-0.7081	0.0331	-1.1640	0.1389	-1.7964	0.0896
1	195.12	0.6998	0.2110	0.0043	-0.8129	0.0385	-1.7307	0.1639	-1.9942	0.0941
1	195.12	0.7500	0.2469	0.0054	-0.9337	0.0448	-2.4024	0.1890	-1.8805	0.0939
1	195.12	0.8001	0.2687	0.0067	-1.1099	0.0517	-3.2255	0.2150	-2.1561	0.1021
1	195.12	0.8497	0.2495	0.0084	-1.2043	0.0584	-4.2185	0.2429	-2.2618	0.1088
1	195.12	0.9102	0.2390	0.0105	-1.3515	0.0687	-5.4280	0.2801	-2.2117	0.1260
1	195.12	0.9734	0.2490	0.0125	-1.5181	0.0754	-6.7551	0.3186	-2.6513	0.1348
2	195.12	0.1949	-0.0660	0.0010	-0.0064	0.0009	-0.0139	0.0040	-0.3345	0.0280
2	195.12	0.2405	-0.0307	0.0011	-0.0056	0.0022	-0.0424	0.0078	-0.5752	0.0394
2	195.12	0.2999	0.0101	0.0009	-0.0355	0.0040	-0.1109	0.0139	-0.8466	0.0618
2	195.12	0.3498	0.0453	0.0012	-0.0371	0.0072	-0.1718	0.0250	-0.9085	0.0625
2	195.12	0.3998	0.0782	0.0017	-0.0733	0.0111	-0.2989	0.0367	-1.1221	0.0594
2	195.12	0.4496	0.1082	0.0018	-0.1222	0.0144	-0.4523	0.0492	-1.2366	0.0602
2	195.12	0.4995	0.1338	0.0017	-0.1882	0.0189	-0.6895	0.0633	-1.4993	0.0657
2	195.12	0.5551	0.1702	0.0022	-0.2681	0.0237	-1.0184	0.0804	-1.5244	0.0662
2	195.12	0.5996	0.1924	0.0024	-0.3311	0.0282	-1.3940	0.0953	-1.7581	0.0705
2	195.12	0.6497	0.2230	0.0028	-0.4111	0.0334	-1.9215	0.1127	-1.8505	0.0818
2	195.12	0.6996	0.2581	0.0035	-0.5200	0.0386	-2.5619	0.1316	-1.8625	0.0834
2	195.12	0.7495	0.2455	0.0045	-0.6067	0.0441	-3.4356	0.1514	-2.1653	0.0862
2	195.12	0.7996	0.2369	0.0067	-0.7439	0.0508	-4.3964	0.1718	-2.3582	0.0898
2	195.12	0.8578	0.2053	0.0086	-0.8849	0.0581	-5.6055	0.1966	-2.1255	0.0967
2	195.12	0.9100	0.2604	0.0099	-1.0187	0.0658	-6.7087	0.2182	-1.9490	0.1273
2	195.12	0.9727	0.1989	0.0117	-1.1361	0.0742	-7.9944	0.2497	-1.8302	0.1273
3	195.12	0.1938	-0.0606	0.0014	-0.0109	0.0010	0.0079	0.0041	-0.2430	0.0233
3	195.12	0.2357	-0.0263	0.0008	0.0105	0.0020	-0.0197	0.0073	-0.2551	0.0400
3	195.12	0.2995	0.0113	0.0013	-0.0229	0.0043	-0.0192	0.0162	-0.5294	0.0552
3	195.12	0.3493	0.0575	0.0016	-0.0268	0.0076	-0.0343	0.0259	-0.5441	0.0604
3	195.12	0.4000	0.0811	0.0018	-0.0386	0.0120	-0.0760	0.0407	-0.5483	0.0619
3	195.12	0.4497	0.1217	0.0024	-0.0840	0.0151	-0.1812	0.0520	-0.8412	0.0695
3	195.12	0.4997	0.1441	0.0026	-0.1386	0.0192	-0.3120	0.0680	-0.9986	0.0791
3	195.12	0.5556	0.1851	0.0033	-0.1911	0.0247	-0.5628	0.0882	-1.0962	0.0870
3	195.12	0.5995	0.2105	0.0036	-0.2619	0.0293	-0.8449	0.1039	-1.3317	0.0973
3	195.12	0.6498	0.2132	0.0043	-0.3653	0.0346	-1.2567	0.1240	-1.2730	0.1073
3	195.12	0.6890	0.2378	0.0049	-0.4311	0.0397	-1.7138	0.1417	-1.3842	0.1147
3	195.12	0.7495	0.2666	0.0061	-0.5245	0.0476	-2.6089	0.1664	-1.7347	0.1167
3	195.12	0.7998	0.2577	0.0075	-0.6303	0.0540	-3.4936	0.1906	-1.9322	0.1251
3	195.12	0.8577	0.3133	0.0092	-0.7751	0.0629	-4.6176	0.2163	-1.9819	0.1359
3	195.12	0.9178	0.2742	0.0112	-0.8900	0.0730	-5.8730	0.2489	-1.8174	0.1736
3	195.12	0.9729	0.2540	0.0143	-1.0313	0.0806	-7.0149	0.2756	-2.0817	0.1479
4	195.12	0.2001	-0.0690	0.0014	-0.0074	0.0011	-0.0118	0.0034	-0.1912	0.0300
4	195.12	0.2502	-0.0176	0.0015	-0.0099	0.0036	-0.0394	0.0074	-0.3635	0.0408
4	195.12	0.3001	0.0049	0.0015	-0.0347	0.0062	-0.0742	0.0119	-0.4630	0.0639
4	195.12	0.3502	0.0366	0.0018	-0.0468	0.0100	-0.1451	0.0198	-0.4847	0.0567
4	195.12	0.4002	0.0669	0.0037	-0.0800	0.0167	-0.2298	0.0306	-0.4784	0.0795
4	195.12	0.4500	0.1103	0.0041	-0.1159	0.0189	-0.3705	0.0411	-0.5843	0.0814
4	195.12	0.5001	0.1359	0.0065	-0.1790	0.0220	-0.5324	0.0564	-0.4477	0.1202
4	195.12	0.5560	0.1534	0.0042	-0.2253	0.0279	-0.9057	0.0736	-0.8125	0.0891
4	195.12	0.6001	0.1783	0.0039	-0.2603	0.0309	-1.2472	0.0864	-0.9662	0.0832
4	195.12	0.6501	0.1744	0.0041	-0.3610	0.0366	-1.7627	0.1062	-1.0627	0.0855
4	195.12	0.6999	0.1968	0.0042	-0.4505	0.0434	-2.4155	0.1286	-1.0831	0.0795
4	195.12	0.7500	0.2091	0.0048	-0.5396	0.0497	-3.2202	0.1492	-1.0608	0.0955
4	195.12	0.8002	0.1967	0.0061	-0.6509	0.0565	-4.2115	0.1747	-1.2341	0.0913
4	195.12	0.8582	0.1967	0.0077	-0.7629	0.0652	-5.5009	0.2013	-1.4994	0.0962
4	195.12	0.9101	0.1954	0.0095	-0.9116	0.0732	-6.7185	0.2257	-1.5440	0.1116
4	195.12	0.9728	0.1894	0.0128	-1.0279	0.0835	-8.0623	0.2619	-1.3576	0.1021

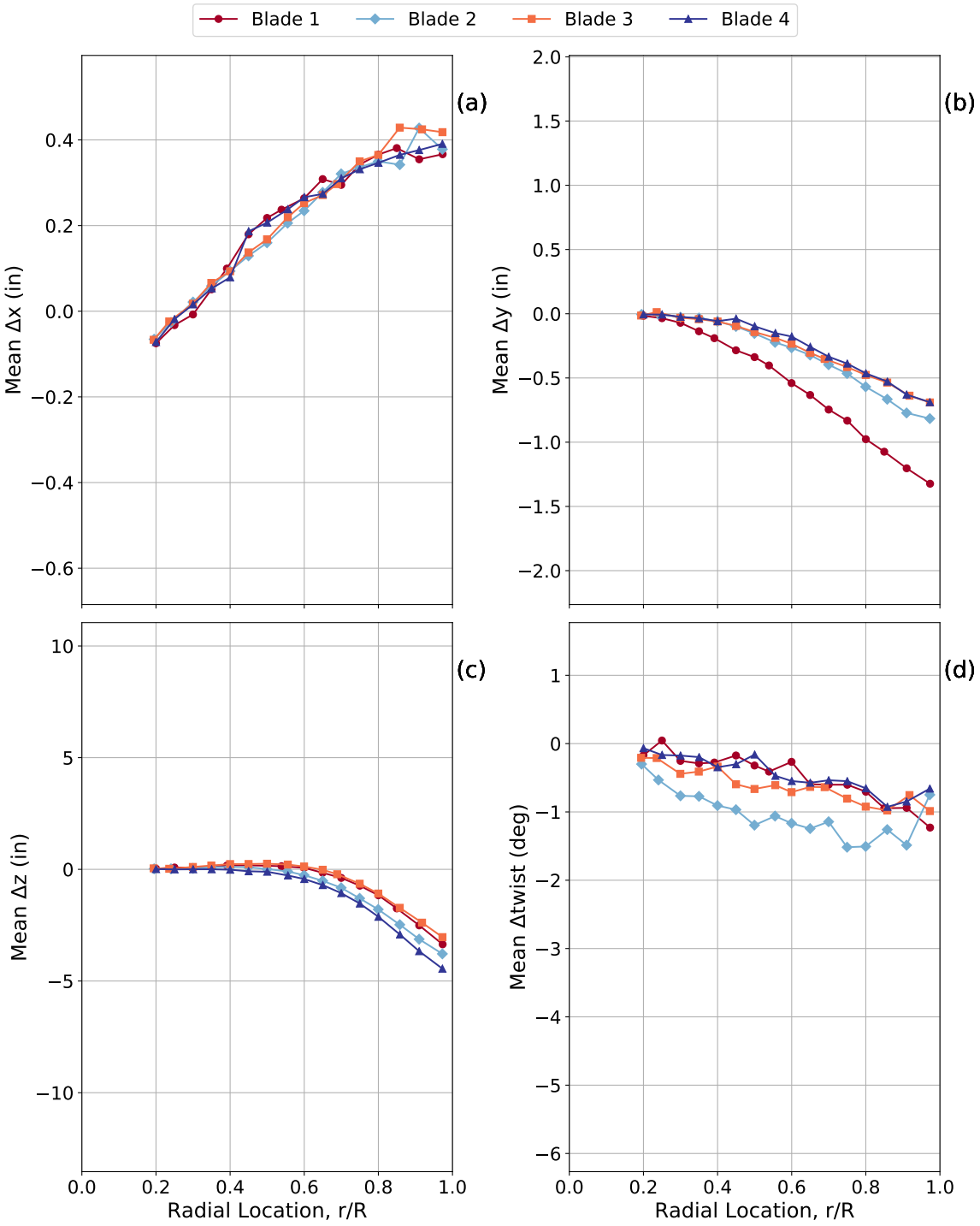


Figure 2.15-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0748	0.0010	-0.0159	0.0008	0.0305	0.0032	-0.1700	0.0215
1	209.88	0.2499	-0.0325	0.0009	-0.0347	0.0017	0.0810	0.0063	0.0451	0.0374
1	209.88	0.2998	-0.0076	0.0012	-0.0705	0.0032	0.0760	0.0111	-0.2527	0.0454
1	209.88	0.3498	0.0511	0.0014	-0.1365	0.0055	0.1245	0.0179	-0.2897	0.0452
1	209.88	0.3913	0.0996	0.0015	-0.1903	0.0081	0.1702	0.0259	-0.2770	0.0449
1	209.88	0.4496	0.1796	0.0038	-0.2845	0.0115	0.1807	0.0392	-0.1737	0.0670
1	209.88	0.4997	0.2178	0.0042	-0.3378	0.0147	0.1591	0.0508	-0.3205	0.0546
1	209.88	0.5387	0.2371	0.0046	-0.4027	0.0172	0.1394	0.0623	-0.4098	0.0521
1	209.88	0.5996	0.2636	0.0048	-0.5398	0.0228	0.0674	0.0862	-0.2668	0.0700
1	209.88	0.6498	0.3085	0.0051	-0.6326	0.0269	-0.1533	0.1098	-0.5950	0.0631
1	209.88	0.6998	0.2950	0.0055	-0.7460	0.0319	-0.3837	0.1368	-0.6013	0.0611
1	209.88	0.7500	0.3427	0.0062	-0.8325	0.0374	-0.7322	0.1669	-0.6019	0.0568
1	209.88	0.8001	0.3657	0.0068	-0.9766	0.0433	-1.1623	0.1991	-0.7043	0.0604
1	209.88	0.8497	0.3809	0.0076	-1.0741	0.0498	-1.7494	0.2315	-0.9459	0.0617
1	209.88	0.9102	0.3547	0.0087	-1.2032	0.0581	-2.5089	0.2724	-0.9408	0.0660
1	209.88	0.9734	0.3666	0.0109	-1.3232	0.0666	-3.3565	0.3167	-1.2294	0.0736
2	209.88	0.1949	-0.0654	0.0010	-0.0055	0.0007	0.0245	0.0033	-0.3001	0.0279
2	209.88	0.2405	-0.0261	0.0013	-0.0021	0.0022	0.0225	0.0073	-0.5323	0.0438
2	209.88	0.2999	0.0214	0.0011	-0.0267	0.0040	0.0432	0.0128	-0.7643	0.0652
2	209.88	0.3498	0.0590	0.0015	-0.0330	0.0059	0.0958	0.0212	-0.7717	0.0594
2	209.88	0.3998	0.0936	0.0012	-0.0590	0.0106	0.1065	0.0324	-0.9072	0.0581
2	209.88	0.4496	0.1294	0.0014	-0.0990	0.0135	0.0963	0.0447	-0.9672	0.0611
2	209.88	0.4995	0.1598	0.0017	-0.1535	0.0166	0.0130	0.0576	-1.1938	0.0596
2	209.88	0.5551	0.2057	0.0019	-0.2227	0.0207	-0.0925	0.0751	-1.0608	0.0584
2	209.88	0.5996	0.2345	0.0023	-0.2648	0.0241	-0.2612	0.0912	-1.1662	0.0630
2	209.88	0.6497	0.2775	0.0026	-0.3215	0.0281	-0.5145	0.1123	-1.2437	0.0702
2	209.88	0.6996	0.3207	0.0031	-0.3968	0.0327	-0.8249	0.1343	-1.1435	0.0725
2	209.88	0.7495	0.3361	0.0038	-0.4652	0.0376	-1.2993	0.1585	-1.5166	0.0740
2	209.88	0.7996	0.3498	0.0048	-0.5685	0.0428	-1.7942	0.1846	-1.5057	0.0773
2	209.88	0.8578	0.3421	0.0060	-0.6658	0.0487	-2.4790	0.2144	-1.2588	0.0826
2	209.88	0.9100	0.4277	0.0065	-0.7723	0.0552	-3.1268	0.2414	-1.4866	0.0815
2	209.88	0.9727	0.3782	0.0087	-0.8162	0.0617	-3.7841	0.2735	-0.7490	0.0934
3	209.88	0.1938	-0.0667	0.0011	-0.0139	0.0008	0.0432	0.0043	-0.2079	0.0335
3	209.88	0.2357	-0.0239	0.0009	0.0124	0.0017	0.0247	0.0097	-0.2108	0.0465
3	209.88	0.2995	0.0176	0.0016	-0.0313	0.0037	0.1057	0.0178	-0.4425	0.0755
3	209.88	0.3493	0.0661	0.0017	-0.0422	0.0066	0.1716	0.0292	-0.4100	0.0750
3	209.88	0.4000	0.0933	0.0018	-0.0604	0.0102	0.2355	0.0452	-0.3352	0.0725
3	209.88	0.4497	0.1373	0.0023	-0.0947	0.0128	0.2380	0.0527	-0.5953	0.0787
3	209.88	0.4997	0.1678	0.0028	-0.1422	0.0162	0.2507	0.0675	-0.6640	0.1004
3	209.88	0.5556	0.2195	0.0022	-0.1879	0.0206	0.2134	0.0855	-0.6082	0.0898
3	209.88	0.5995	0.2523	0.0026	-0.2336	0.0238	0.1274	0.0991	-0.7106	0.0918
3	209.88	0.6498	0.2713	0.0029	-0.3045	0.0283	-0.0191	0.1176	-0.6339	0.0965
3	209.88	0.6890	0.2969	0.0028	-0.3518	0.0315	-0.2203	0.1316	-0.6372	0.1009
3	209.88	0.7495	0.3500	0.0030	-0.4153	0.0376	-0.6434	0.1567	-0.8051	0.0989
3	209.88	0.7998	0.3649	0.0038	-0.4764	0.0432	-1.0844	0.1777	-0.9226	0.1011
3	209.88	0.8577	0.4287	0.0048	-0.5358	0.0498	-1.7229	0.2060	-0.9784	0.1057
3	209.88	0.9178	0.4247	0.0053	-0.6380	0.0568	-2.3880	0.2352	-0.7537	0.1055
3	209.88	0.9729	0.4181	0.0071	-0.6907	0.0636	-3.0356	0.2644	-0.9873	0.1091
4	209.88	0.2001	-0.0719	0.0013	-0.0055	0.0011	0.0101	0.0041	-0.0667	0.0443
4	209.88	0.2502	-0.0183	0.0012	-0.0062	0.0019	-0.0033	0.0084	-0.1665	0.0717
4	209.88	0.3001	0.0159	0.0015	-0.0241	0.0036	0.0023	0.0135	-0.1751	0.0999
4	209.88	0.3502	0.0533	0.0014	-0.0352	0.0072	0.0027	0.0235	-0.1980	0.0776
4	209.88	0.4002	0.0791	0.0018	-0.0576	0.0101	-0.0166	0.0351	-0.3461	0.0795
4	209.88	0.4500	0.1866	0.0034	-0.0384	0.0139	-0.0864	0.0475	-0.3017	0.0841
4	209.88	0.5001	0.2069	0.0032	-0.0979	0.0166	-0.1078	0.0612	-0.1607	0.0876
4	209.88	0.5560	0.2381	0.0031	-0.1509	0.0206	-0.2762	0.0795	-0.4722	0.0969
4	209.88	0.6001	0.2662	0.0033	-0.1777	0.0239	-0.4340	0.0957	-0.5480	0.1030
4	209.88	0.6501	0.2739	0.0038	-0.2580	0.0280	-0.7060	0.1166	-0.5732	0.1074
4	209.88	0.6999	0.3102	0.0038	-0.3347	0.0328	-1.0658	0.1407	-0.5363	0.0956
4	209.88	0.7500	0.3315	0.0044	-0.3884	0.0376	-1.5319	0.1653	-0.5500	0.0964
4	209.88	0.8002	0.3466	0.0054	-0.4643	0.0432	-2.1250	0.1912	-0.6546	0.0978
4	209.88	0.8582	0.3651	0.0059	-0.5281	0.0495	-2.9194	0.2209	-0.9256	0.1001
4	209.88	0.9101	0.3763	0.0068	-0.6295	0.0553	-3.6651	0.2480	-0.8478	0.1000
4	209.88	0.9728	0.3908	0.0084	-0.6887	0.0630	-4.4474	0.2829	-0.6586	0.0974

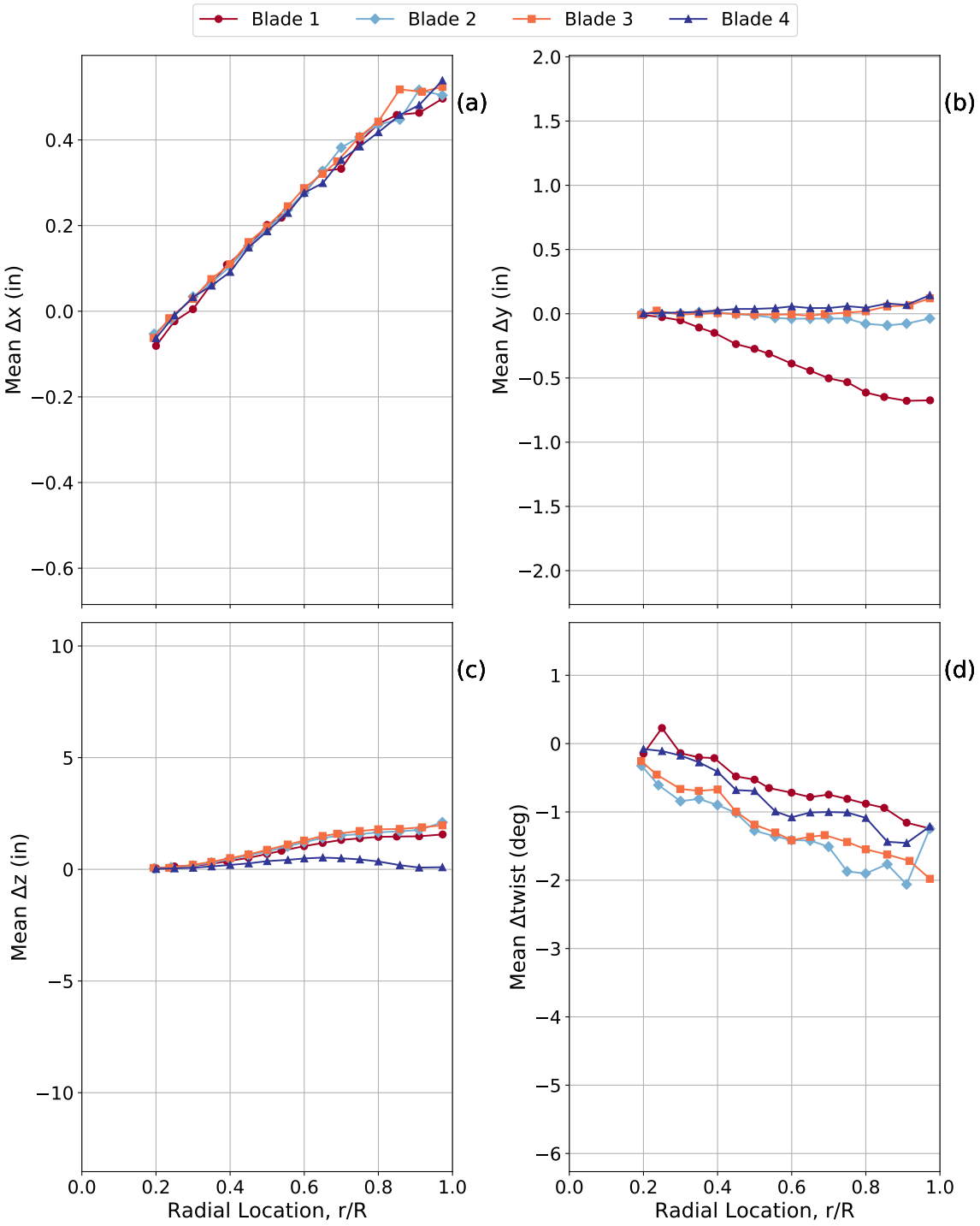


Figure 2.15-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.118$, $\mu = 0.245$, $\alpha = -1.89°$ NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0809	0.0011	-0.0104	0.0009	0.0460	0.0064	-0.1466	0.0319
1	225	0.2499	-0.0233	0.0010	-0.0265	0.0032	0.1284	0.0135	0.2281	0.0547
1	225	0.2998	0.0047	0.0018	-0.0515	0.0057	0.1522	0.0215	-0.1401	0.0732
1	225	0.3498	0.0635	0.0014	-0.1075	0.0095	0.2462	0.0340	-0.2014	0.0859
1	225	0.3913	0.1086	0.0020	-0.1486	0.0151	0.3601	0.0491	-0.2122	0.0965
1	225	0.4496	0.1501	0.0021	-0.2362	0.0184	0.5130	0.0631	-0.4798	0.1063
1	225	0.4997	0.2015	0.0023	-0.2734	0.0234	0.6888	0.0791	-0.5270	0.1247
1	225	0.5387	0.2185	0.0025	-0.3114	0.0274	0.8291	0.0937	-0.6502	0.1275
1	225	0.5996	0.2753	0.0032	-0.3876	0.0335	1.0367	0.1136	-0.7181	0.1500
1	225	0.6498	0.3279	0.0034	-0.4434	0.0396	1.1824	0.1326	-0.7828	0.1419
1	225	0.6998	0.3324	0.0038	-0.5025	0.0458	1.3163	0.1525	-0.7465	0.1335
1	225	0.7500	0.3961	0.0043	-0.5327	0.0524	1.3871	0.1726	-0.8096	0.1273
1	225	0.8001	0.4372	0.0048	-0.6135	0.0596	1.4534	0.1951	-0.8802	0.1274
1	225	0.8497	0.4583	0.0047	-0.6480	0.0668	1.4684	0.2179	-0.9403	0.1278
1	225	0.9102	0.4633	0.0049	-0.6780	0.0758	1.4793	0.2483	-1.1580	0.1253
1	225	0.9734	0.4964	0.0077	-0.6740	0.0852	1.5623	0.2793	-1.2432	0.1239
2	225	0.1949	-0.0530	0.0013	0.0025	0.0008	0.0425	0.0050	-0.3244	0.0364
2	225	0.2405	-0.0193	0.0019	0.0070	0.0025	0.0904	0.0098	-0.6068	0.0533
2	225	0.2999	0.0340	0.0016	0.0012	0.0051	0.1647	0.0165	-0.8422	0.0841
2	225	0.3498	0.0668	0.0016	0.0125	0.0091	0.3024	0.0268	-0.8094	0.1073
2	225	0.3998	0.1042	0.0019	0.0094	0.0148	0.4477	0.0399	-0.8992	0.1233
2	225	0.4496	0.1528	0.0019	-0.0028	0.0176	0.6287	0.0518	-1.0130	0.1386
2	225	0.4995	0.1913	0.0024	-0.0128	0.0224	0.7966	0.0664	-1.2734	0.1545
2	225	0.5551	0.2368	0.0028	-0.0322	0.0284	1.0278	0.0823	-1.3581	0.1841
2	225	0.5996	0.2763	0.0029	-0.0389	0.0336	1.2120	0.0973	-1.4124	0.1927
2	225	0.6497	0.3274	0.0036	-0.0381	0.0400	1.4030	0.1132	-1.4189	0.1737
2	225	0.6996	0.3820	0.0038	-0.0373	0.0465	1.5196	0.1305	-1.5092	0.1609
2	225	0.7495	0.4068	0.0040	-0.0384	0.0535	1.5724	0.1493	-1.8712	0.1527
2	225	0.7996	0.4357	0.0040	-0.0784	0.0605	1.6564	0.1683	-1.9015	0.1467
2	225	0.8578	0.4476	0.0042	-0.0904	0.0693	1.7046	0.1926	-1.7660	0.1421
2	225	0.9100	0.5166	0.0048	-0.0770	0.0772	1.7609	0.2160	-2.0612	0.1367
2	225	0.9727	0.5041	0.0075	-0.0366	0.0865	2.1051	0.2460	-1.2440	0.1280
3	225	0.1938	-0.0623	0.0012	-0.0087	0.0007	0.0627	0.0037	-0.2568	0.0445
3	225	0.2357	-0.0163	0.0011	0.0244	0.0021	0.0661	0.0080	-0.4534	0.0588
3	225	0.2995	0.0288	0.0012	-0.0066	0.0045	0.2053	0.0144	-0.6641	0.1012
3	225	0.3493	0.0751	0.0015	-0.0008	0.0068	0.3356	0.0229	-0.6913	0.0985
3	225	0.4000	0.1097	0.0027	0.0051	0.0118	0.5007	0.0359	-0.6718	0.1265
3	225	0.4497	0.1614	0.0024	-0.0020	0.0139	0.6665	0.0447	-0.9963	0.1477
3	225	0.4997	0.1974	0.0028	-0.0064	0.0179	0.8719	0.0580	-1.1867	0.1503
3	225	0.5556	0.2449	0.0030	-0.0068	0.0225	1.1113	0.0744	-1.3008	0.1818
3	225	0.5995	0.2873	0.0035	-0.0055	0.0260	1.2858	0.0866	-1.4148	0.1679
3	225	0.6498	0.3208	0.0037	-0.0151	0.0309	1.4930	0.1016	-1.3645	0.1847
3	225	0.6890	0.3500	0.0037	-0.0024	0.0350	1.5919	0.1139	-1.3393	0.1892
3	225	0.7495	0.4076	0.0040	0.0088	0.0416	1.7146	0.1351	-1.4396	0.1993
3	225	0.7998	0.4427	0.0039	0.0190	0.0473	1.7908	0.1524	-1.5473	0.1980
3	225	0.8577	0.5179	0.0039	0.0569	0.0543	1.8084	0.1785	-1.6237	0.2185
3	225	0.9178	0.5125	0.0043	0.0653	0.0617	1.8802	0.2082	-1.7171	0.2184
3	225	0.9729	0.5237	0.0061	0.1204	0.0690	1.9697	0.2415	-1.9790	0.2141
4	225	0.2001	-0.0631	0.0015	0.0021	0.0010	0.0185	0.0057	-0.0797	0.0843
4	225	0.2502	-0.0094	0.0015	0.0067	0.0032	0.0429	0.0129	-0.1093	0.1098
4	225	0.3001	0.0328	0.0016	0.0098	0.0052	0.0702	0.0175	-0.1749	0.1801
4	225	0.3502	0.0599	0.0015	0.0153	0.0087	0.1321	0.0299	-0.2745	0.1819
4	225	0.4002	0.0918	0.0022	0.0253	0.0142	0.1970	0.0437	-0.4116	0.2096
4	225	0.4500	0.1489	0.0021	0.0371	0.0175	0.2667	0.0572	-0.6801	0.2356
4	225	0.5001	0.1868	0.0023	0.0375	0.0234	0.3679	0.0750	-0.6933	0.2625
4	225	0.5560	0.2295	0.0030	0.0437	0.0297	0.4236	0.0946	-0.9935	0.3060
4	225	0.6001	0.2765	0.0030	0.0571	0.0357	0.4875	0.1129	-1.0782	0.3125
4	225	0.6501	0.2993	0.0036	0.0440	0.0428	0.5249	0.1336	-1.0079	0.2989
4	225	0.6999	0.3533	0.0035	0.0445	0.0506	0.4966	0.1569	-1.0013	0.2819
4	225	0.7500	0.3847	0.0042	0.0588	0.0591	0.4443	0.1832	-1.0084	0.2792
4	225	0.8002	0.4180	0.0043	0.0466	0.0678	0.3516	0.2102	-1.0875	0.2715
4	225	0.8582	0.4582	0.0044	0.0795	0.0783	0.1861	0.2463	-1.4370	0.2679
4	225	0.9101	0.4814	0.0048	0.0685	0.0878	0.0789	0.2794	-1.4553	0.2619
4	225	0.9728	0.5390	0.0078	0.1445	0.0995	0.0943	0.3222	-1.2122	0.2402

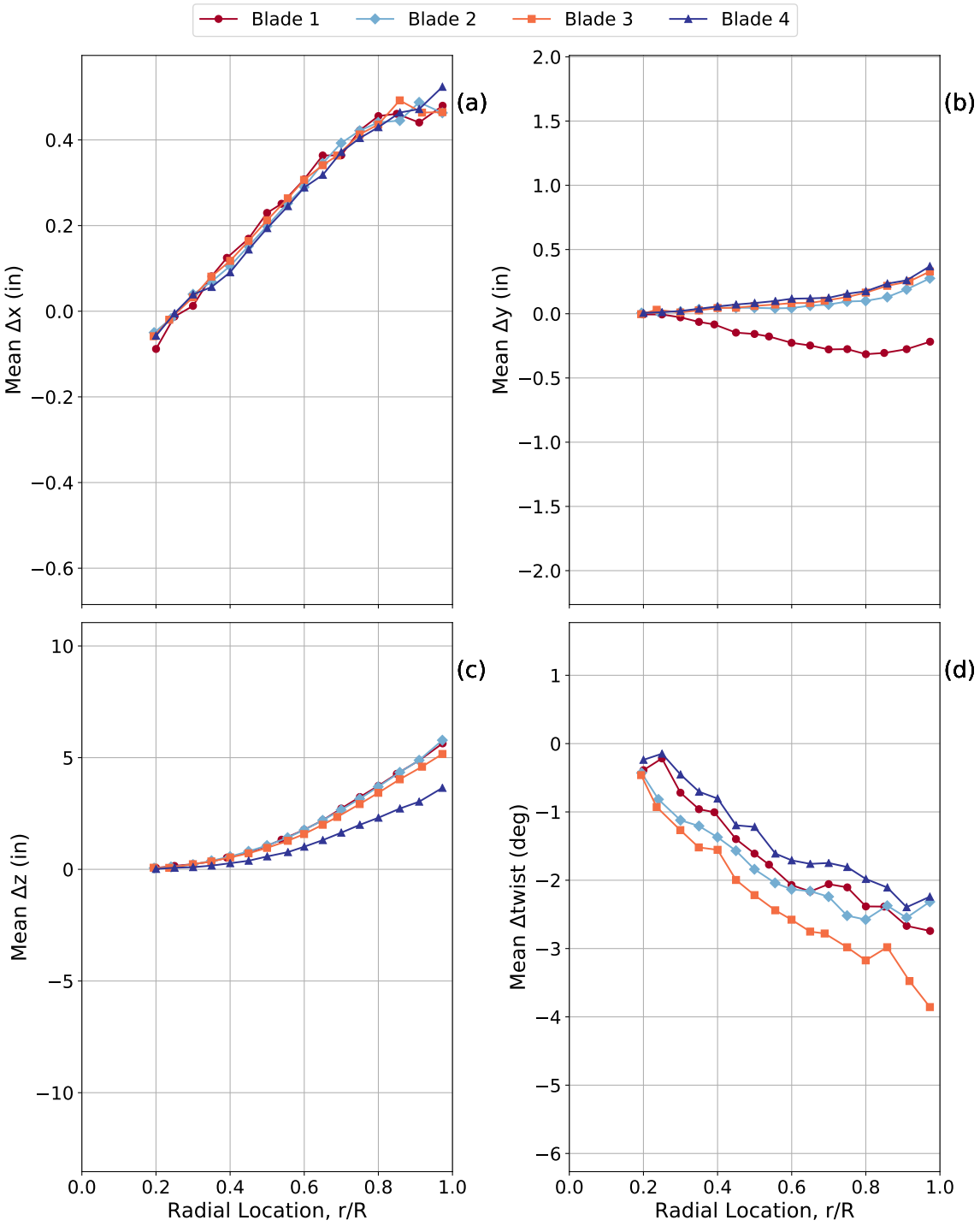


Figure 2.15-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0881	0.0016	-0.0054	0.0009	0.0663	0.0069	-0.3884	0.0504
1	240.12	0.2499	-0.0125	0.0009	-0.0057	0.0020	0.1530	0.0119	-0.2169	0.0893
1	240.12	0.2998	0.0124	0.0011	-0.0281	0.0046	0.2318	0.0207	-0.7186	0.1182
1	240.12	0.3498	0.0815	0.0013	-0.0636	0.0079	0.3469	0.0331	-0.9598	0.1390
1	240.12	0.3913	0.1247	0.0019	-0.0835	0.0118	0.5201	0.0458	-1.0050	0.1668
1	240.12	0.4496	0.1693	0.0023	-0.1471	0.0173	0.7667	0.0635	-1.3975	0.1866
1	240.12	0.4997	0.2296	0.0028	-0.1575	0.0226	1.0539	0.0816	-1.6106	0.2078
1	240.12	0.5387	0.2509	0.0034	-0.1770	0.0275	1.3270	0.0979	-1.7720	0.2398
1	240.12	0.5996	0.3078	0.0041	-0.2264	0.0355	1.7698	0.1216	-2.0706	0.2443
1	240.12	0.6498	0.3637	0.0049	-0.2471	0.0434	2.1977	0.1412	-2.1646	0.2587
1	240.12	0.6998	0.3641	0.0055	-0.2777	0.0515	2.7236	0.1602	-2.0572	0.2616
1	240.12	0.7500	0.4224	0.0065	-0.2755	0.0606	3.2381	0.1797	-2.1046	0.2722
1	240.12	0.8001	0.4557	0.0072	-0.3149	0.0704	3.7399	0.1992	-2.3835	0.2821
1	240.12	0.8497	0.4610	0.0080	-0.3052	0.0805	4.2751	0.2185	-2.3857	0.2817
1	240.12	0.9102	0.4406	0.0090	-0.2757	0.0932	4.8784	0.2417	-2.6683	0.2841
1	240.12	0.9734	0.4798	0.0128	-0.2177	0.1069	5.6380	0.2661	-2.7423	0.2823
2	240.12	0.1949	-0.0498	0.0014	0.0058	0.0008	0.0582	0.0055	-0.4292	0.0489
2	240.12	0.2405	-0.0173	0.0015	0.0158	0.0018	0.1071	0.0093	-0.8162	0.0727
2	240.12	0.2999	0.0397	0.0013	0.0168	0.0038	0.2166	0.0191	-1.1213	0.1145
2	240.12	0.3498	0.0690	0.0017	0.0351	0.0061	0.3858	0.0301	-1.2064	0.1349
2	240.12	0.3998	0.1054	0.0019	0.0470	0.0102	0.5714	0.0460	-1.3699	0.1614
2	240.12	0.4496	0.1520	0.0021	0.0461	0.0132	0.8065	0.0624	-1.5680	0.1755
2	240.12	0.4995	0.1989	0.0025	0.0461	0.0169	1.0670	0.0815	-1.8395	0.1993
2	240.12	0.5551	0.2520	0.0028	0.0422	0.0219	1.4187	0.1052	-2.0397	0.2199
2	240.12	0.5996	0.2900	0.0032	0.0442	0.0263	1.7617	0.1234	-2.1331	0.2167
2	240.12	0.6497	0.3452	0.0037	0.0627	0.0323	2.1960	0.1453	-2.1604	0.2363
2	240.12	0.6996	0.3926	0.0045	0.0717	0.0384	2.6639	0.1683	-2.2408	0.2607
2	240.12	0.7495	0.4215	0.0052	0.0952	0.0452	3.1562	0.1925	-2.5186	0.2691
2	240.12	0.7996	0.4409	0.0062	0.0997	0.0528	3.6964	0.2182	-2.5763	0.2801
2	240.12	0.8578	0.4451	0.0071	0.1297	0.0619	4.3430	0.2501	-2.3728	0.2936
2	240.12	0.9100	0.4878	0.0084	0.1896	0.0699	4.8849	0.2785	-2.5482	0.3044
2	240.12	0.9727	0.4632	0.0122	0.2754	0.0802	5.7816	0.3121	-2.3157	0.2910
3	240.12	0.1938	-0.0584	0.0012	-0.0034	0.0008	0.0722	0.0061	-0.4609	0.0335
3	240.12	0.2357	-0.0199	0.0014	0.0309	0.0019	0.0662	0.0107	-0.9285	0.0562
3	240.12	0.2995	0.0324	0.0015	0.0098	0.0045	0.2294	0.0233	-1.2667	0.0815
3	240.12	0.3493	0.0807	0.0019	0.0262	0.0072	0.3531	0.0372	-1.5194	0.0980
3	240.12	0.4000	0.1176	0.0026	0.0447	0.0125	0.5334	0.0581	-1.5549	0.1212
3	240.12	0.4497	0.1639	0.0026	0.0468	0.0159	0.7156	0.0767	-1.9960	0.1383
3	240.12	0.4997	0.2123	0.0030	0.0607	0.0209	0.9605	0.0989	-2.2177	0.1492
3	240.12	0.5556	0.2636	0.0033	0.0720	0.0273	1.2772	0.1232	-2.4401	0.1712
3	240.12	0.5995	0.3066	0.0039	0.0828	0.0325	1.5795	0.1413	-2.5776	0.1992
3	240.12	0.6498	0.3410	0.0044	0.0838	0.0388	1.9959	0.1628	-2.7520	0.2081
3	240.12	0.6890	0.3635	0.0043	0.1018	0.0437	2.3445	0.1821	-2.7797	0.2272
3	240.12	0.7495	0.4128	0.0049	0.1297	0.0523	2.9215	0.2100	-2.9812	0.2445
3	240.12	0.7998	0.4360	0.0052	0.1645	0.0595	3.4268	0.2365	-3.1733	0.2644
3	240.12	0.8577	0.4923	0.0058	0.2172	0.0677	4.0303	0.2643	-2.9806	0.2759
3	240.12	0.9178	0.4638	0.0071	0.2524	0.0765	4.5961	0.2925	-3.4757	0.2862
3	240.12	0.9729	0.4649	0.0093	0.3290	0.0842	5.1652	0.3197	-3.8568	0.2966
4	240.12	0.2001	-0.0572	0.0011	0.0065	0.0007	0.0182	0.0056	-0.2373	0.0380
4	240.12	0.2502	-0.0048	0.0013	0.0121	0.0016	0.0699	0.0110	-0.1475	0.0656
4	240.12	0.3001	0.0392	0.0014	0.0215	0.0032	0.0975	0.0195	-0.4529	0.0868
4	240.12	0.3502	0.0566	0.0015	0.0390	0.0054	0.1664	0.0316	-0.7047	0.0998
4	240.12	0.4002	0.0910	0.0018	0.0570	0.0089	0.2740	0.0487	-0.8047	0.1087
4	240.12	0.4500	0.1440	0.0022	0.0720	0.0121	0.3845	0.0677	-1.1958	0.1182
4	240.12	0.5001	0.1940	0.0023	0.0835	0.0170	0.5782	0.0900	-1.2197	0.1276
4	240.12	0.5560	0.2453	0.0026	0.0991	0.0225	0.7702	0.1156	-1.6099	0.1292
4	240.12	0.6001	0.2890	0.0029	0.1169	0.0273	1.0135	0.1344	-1.7092	0.1364
4	240.12	0.6501	0.3184	0.0033	0.1198	0.0332	1.3082	0.1564	-1.7606	0.1432
4	240.12	0.6999	0.3716	0.0034	0.1244	0.0393	1.6410	0.1769	-1.7475	0.1605
4	240.12	0.7500	0.4043	0.0039	0.1558	0.0459	1.9929	0.2006	-1.8070	0.1712
4	240.12	0.8002	0.4297	0.0045	0.1754	0.0526	2.3109	0.2264	-1.9818	0.1850
4	240.12	0.8582	0.4640	0.0053	0.2345	0.0608	2.7223	0.2593	-2.1073	0.1930
4	240.12	0.9101	0.4719	0.0061	0.2603	0.0682	3.0291	0.2897	-2.3947	0.1977
4	240.12	0.9728	0.5239	0.0094	0.3696	0.0777	3.6473	0.3270	-2.2411	0.2041

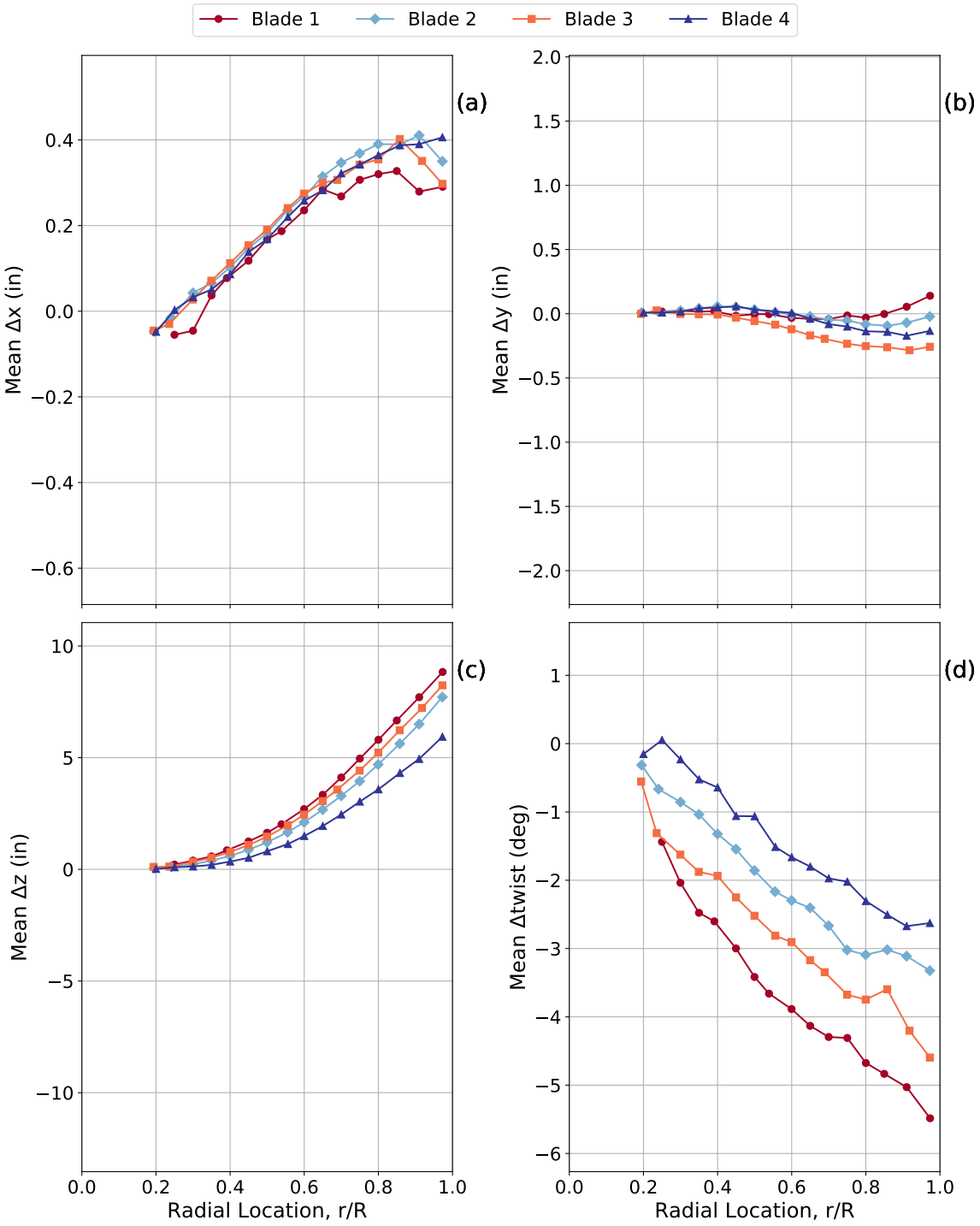


Figure 2.15-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.118$, $\mu = 0.245$, $\alpha = -1.89°$ NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2499	-0.0550	0.0036	0.0168	0.0025	0.2117	0.0259	-1.4381	0.1549
1	254.88	0.2998	-0.0456	0.0018	0.0237	0.0042	0.3921	0.0400	-2.0380	0.2195
1	254.88	0.3498	0.0370	0.0027	0.0162	0.0086	0.5791	0.0687	-2.4770	0.2149
1	254.88	0.3913	0.0775	0.0031	0.0201	0.0122	0.8516	0.0926	-2.6020	0.2193
1	254.88	0.4496	0.1179	0.0036	-0.0158	0.0173	1.2470	0.1276	-2.9979	0.2355
1	254.88	0.4997	0.1675	0.0046	-0.0037	0.0216	1.6358	0.1589	-3.4162	0.2463
1	254.88	0.5387	0.1870	0.0053	-0.0030	0.0252	2.0176	0.1834	-3.6596	0.2507
1	254.88	0.5996	0.2355	0.0068	-0.0325	0.0308	2.6976	0.2204	-3.8856	0.2698
1	254.88	0.6498	0.2844	0.0081	-0.0399	0.0357	3.3379	0.2507	-4.1319	0.2752
1	254.88	0.6998	0.2682	0.0096	-0.0419	0.0406	4.1121	0.2806	-4.2948	0.2922
1	254.88	0.7500	0.3068	0.0115	-0.0135	0.0458	4.9588	0.3109	-4.3088	0.3051
1	254.88	0.8001	0.3201	0.0133	-0.0308	0.0512	5.8002	0.3430	-4.6752	0.3151
1	254.88	0.8497	0.3274	0.0151	-0.0020	0.0567	6.6662	0.3746	-4.8341	0.3181
1	254.88	0.9102	0.2794	0.0179	0.0545	0.0639	7.7053	0.4149	-5.0294	0.3288
1	254.88	0.9734	0.2905	0.0231	0.1398	0.0719	8.8363	0.4597	-5.4843	0.3322
2	254.88	0.1949	-0.0472	0.0068	0.0082	0.0020	0.0560	0.0179	-0.3137	0.0786
2	254.88	0.2405	-0.0151	0.0026	0.0161	0.0021	0.1157	0.0209	-0.6657	0.1994
2	254.88	0.2999	0.0429	0.0025	0.0225	0.0069	0.2258	0.0490	-0.8550	0.2248
2	254.88	0.3498	0.0658	0.0024	0.0420	0.0130	0.3935	0.0798	-1.0373	0.2249
2	254.88	0.3998	0.1025	0.0029	0.0569	0.0192	0.5967	0.1134	-1.3227	0.2362
2	254.88	0.4496	0.1473	0.0031	0.0520	0.0252	0.8766	0.1482	-1.5450	0.2453
2	254.88	0.4995	0.1823	0.0034	0.0326	0.0312	1.2081	0.1849	-1.8590	0.2591
2	254.88	0.5551	0.2357	0.0043	0.0121	0.0379	1.6607	0.2274	-2.1675	0.2646
2	254.88	0.5996	0.2674	0.0054	-0.0070	0.0432	2.1054	0.2627	-2.2963	0.2751
2	254.88	0.6497	0.3146	0.0066	-0.0204	0.0489	2.6705	0.3023	-2.4037	0.2847
2	254.88	0.6996	0.3468	0.0083	-0.0461	0.0545	3.2898	0.3437	-2.6666	0.3027
2	254.88	0.7495	0.3686	0.0102	-0.0533	0.0605	3.9464	0.3861	-3.0207	0.3088
2	254.88	0.7996	0.3902	0.0122	-0.0819	0.0667	4.6934	0.4289	-3.0916	0.3182
2	254.88	0.8578	0.3895	0.0144	-0.0939	0.0741	5.6234	0.4800	-3.0173	0.3267
2	254.88	0.9100	0.4106	0.0175	-0.0701	0.0812	6.5000	0.5269	-3.1114	0.3296
2	254.88	0.9727	0.3500	0.0238	-0.0217	0.0899	7.7115	0.5848	-3.3229	0.3368
3	254.88	0.1938	-0.0454	0.0072	-0.0009	0.0020	0.1092	0.0158	-0.5550	0.0580
3	254.88	0.2357	-0.0297	0.0025	0.0256	0.0022	0.1217	0.0141	-1.3108	0.1508
3	254.88	0.2995	0.0274	0.0020	-0.0012	0.0074	0.3370	0.0381	-1.6252	0.1695
3	254.88	0.3493	0.0713	0.0024	-0.0036	0.0128	0.5195	0.0611	-1.8771	0.1652
3	254.88	0.4000	0.1125	0.0024	-0.0058	0.0198	0.7758	0.0845	-1.9361	0.1750
3	254.88	0.4497	0.1539	0.0033	-0.0299	0.0262	1.0854	0.1097	-2.2513	0.1740
3	254.88	0.4997	0.1901	0.0037	-0.0568	0.0341	1.4622	0.1350	-2.5203	0.1816
3	254.88	0.5556	0.2408	0.0053	-0.0850	0.0427	1.9709	0.1660	-2.8124	0.1868
3	254.88	0.5995	0.2747	0.0057	-0.1213	0.0503	2.4488	0.1929	-2.9046	0.1897
3	254.88	0.6498	0.2994	0.0070	-0.1689	0.0594	3.0578	0.2247	-3.1709	0.1931
3	254.88	0.6890	0.3067	0.0082	-0.1951	0.0667	3.5684	0.2506	-3.3470	0.2018
3	254.88	0.7495	0.3422	0.0100	-0.2340	0.0794	4.4227	0.2913	-3.6757	0.2010
3	254.88	0.7998	0.3547	0.0119	-0.2519	0.0898	5.2263	0.3242	-3.7470	0.2035
3	254.88	0.8577	0.4021	0.0137	-0.2608	0.1024	6.2248	0.3611	-3.5960	0.2036
3	254.88	0.9178	0.3509	0.0159	-0.2841	0.1158	7.2246	0.3975	-4.2028	0.2108
3	254.88	0.9729	0.2974	0.0211	-0.2574	0.1281	8.2389	0.4322	-4.5956	0.2106
4	254.88	0.2001	-0.0481	0.0032	0.0084	0.0012	0.0188	0.0117	-0.1531	0.0515
4	254.88	0.2502	0.0029	0.0018	0.0094	0.0018	0.0928	0.0168	0.0526	0.1156
4	254.88	0.3001	0.0327	0.0017	0.0165	0.0046	0.1258	0.0326	-0.2310	0.1265
4	254.88	0.3502	0.0509	0.0018	0.0422	0.0089	0.1993	0.0527	-0.5235	0.1364
4	254.88	0.4002	0.0863	0.0019	0.0489	0.0133	0.3484	0.0760	-0.6430	0.1459
4	254.88	0.4500	0.1383	0.0020	0.0578	0.0181	0.5162	0.1001	-1.0602	0.1620
4	254.88	0.5001	0.1683	0.0025	0.0329	0.0232	0.8096	0.1249	-1.0641	0.1752
4	254.88	0.5560	0.2201	0.0032	0.0176	0.0296	1.1326	0.1535	-1.5132	0.1828
4	254.88	0.6001	0.2581	0.0041	0.0067	0.0346	1.4914	0.1754	-1.6635	0.1929
4	254.88	0.6501	0.2826	0.0049	-0.0387	0.0407	1.9413	0.2014	-1.8009	0.1979
4	254.88	0.6999	0.3219	0.0060	-0.0810	0.0470	2.4546	0.2302	-1.9724	0.2129
4	254.88	0.7500	0.3427	0.0073	-0.1000	0.0538	3.0321	0.2598	-2.0224	0.2263
4	254.88	0.8002	0.3644	0.0087	-0.1365	0.0605	3.5814	0.2917	-2.3046	0.2322
4	254.88	0.8582	0.3873	0.0108	-0.1412	0.0689	4.3131	0.3275	-2.5073	0.2480
4	254.88	0.9101	0.3900	0.0128	-0.1714	0.0769	4.9429	0.3601	-2.6726	0.2527
4	254.88	0.9728	0.4060	0.0178	-0.1335	0.0865	5.9358	0.4011	-2.6269	0.2710

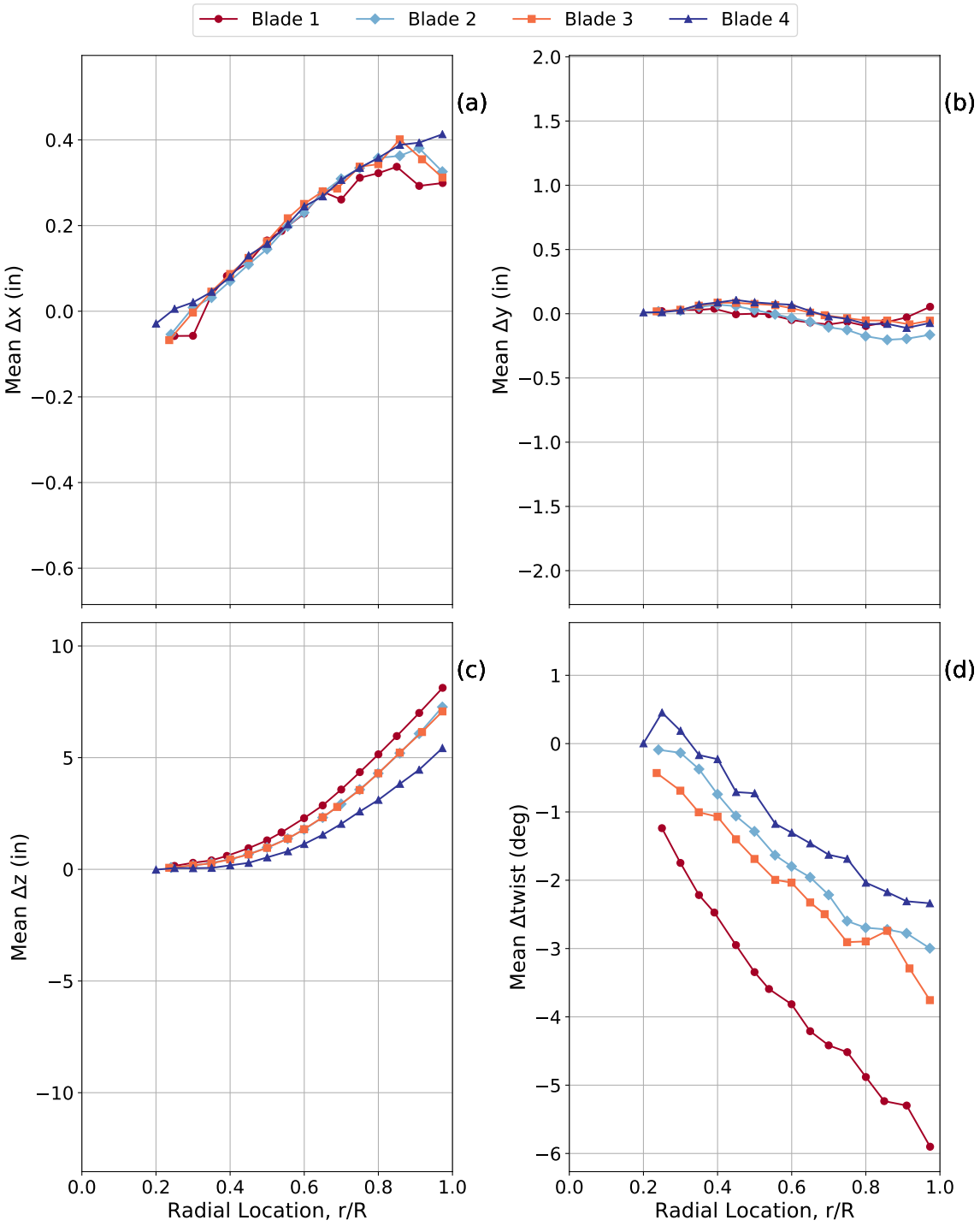


Figure 2.15-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2499	-0.0578	0.0218	0.0199	0.0126	0.1535	0.1768	-1.2376	1.1432
1	260.16	0.2998	-0.0574	0.0133	0.0294	0.0230	0.2921	0.2663	-1.7464	1.6151
1	260.16	0.3498	0.0374	0.0160	0.0296	0.0568	0.4007	0.4463	-2.2169	1.5973
1	260.16	0.3913	0.0823	0.0184	0.0389	0.0838	0.6015	0.5922	-2.4729	1.6011
1	260.16	0.4496	0.1138	0.0224	-0.0045	0.1201	0.9445	0.7999	-2.9494	1.5992
1	260.16	0.4997	0.1652	0.0266	0.0005	0.1503	1.2971	0.9767	-3.3450	1.5935
1	260.16	0.5387	0.1874	0.0305	-0.0038	0.1713	1.6553	1.1135	-3.5922	1.5953
1	260.16	0.5996	0.2279	0.0376	-0.0487	0.2025	2.2907	1.3288	-3.8156	1.5961
1	260.16	0.6498	0.2791	0.0444	-0.0689	0.2270	2.8613	1.5067	-4.2100	1.5956
1	260.16	0.6998	0.2608	0.0521	-0.0833	0.2476	3.5727	1.6835	-4.4174	1.5936
1	260.16	0.7500	0.3116	0.0600	-0.0629	0.2666	4.3521	1.8619	-4.5169	1.5951
1	260.16	0.8001	0.3224	0.0692	-0.0956	0.2858	5.1493	2.0411	-4.8811	1.5937
1	260.16	0.8497	0.3373	0.0782	-0.0694	0.3038	5.9663	2.2167	-5.2337	1.5967
1	260.16	0.9102	0.2927	0.0910	-0.0284	0.3247	7.0012	2.4309	-5.2981	1.5991
1	260.16	0.9734	0.2993	0.1200	0.0542	0.3458	8.1253	2.6571	-5.9010	1.6013
2	260.16	0.2405	-0.0538	0.0103	0.0175	0.0034	0.0817	0.0492	-0.0904	0.3368
2	260.16	0.2999	0.0087	0.0022	0.0255	0.0086	0.1675	0.0813	-0.1348	0.5165
2	260.16	0.3498	0.0318	0.0030	0.0530	0.0215	0.2901	0.1358	-0.3728	0.5201
2	260.16	0.3998	0.0702	0.0036	0.0706	0.0342	0.4456	0.1916	-0.7414	0.5187
2	260.16	0.4496	0.1092	0.0047	0.0594	0.0461	0.6761	0.2473	-1.0595	0.5235
2	260.16	0.4995	0.1450	0.0059	0.0293	0.0582	0.9767	0.3043	-1.2851	0.5304
2	260.16	0.5551	0.1982	0.0079	-0.0041	0.0716	1.3727	0.3699	-1.6331	0.5311
2	260.16	0.5996	0.2304	0.0098	-0.0331	0.0821	1.7852	0.4240	-1.7977	0.5335
2	260.16	0.6497	0.2769	0.0124	-0.0627	0.0934	2.3182	0.4851	-1.9571	0.5408
2	260.16	0.6996	0.3092	0.0151	-0.1055	0.1048	2.9258	0.5467	-2.2140	0.5496
2	260.16	0.7495	0.3345	0.0182	-0.1258	0.1160	3.5702	0.6088	-2.5978	0.5542
2	260.16	0.7996	0.3579	0.0211	-0.1749	0.1269	4.2973	0.6727	-2.6952	0.5545
2	260.16	0.8578	0.3628	0.0251	-0.2028	0.1391	5.2028	0.7455	-2.7208	0.5566
2	260.16	0.9100	0.3806	0.0294	-0.1947	0.1506	6.0753	0.8096	-2.7770	0.5564
2	260.16	0.9727	0.3259	0.0404	-0.1640	0.1635	7.2694	0.8848	-2.9961	0.5617
3	260.16	0.2357	-0.0674	0.0049	0.0185	0.0019	0.0692	0.0230	-0.4306	0.1447
3	260.16	0.2995	-0.0030	0.0021	0.0308	0.0060	0.1773	0.0403	-0.6886	0.2310
3	260.16	0.3493	0.0457	0.0025	0.0625	0.0117	0.2686	0.0674	-1.0053	0.2204
3	260.16	0.4000	0.0870	0.0027	0.0864	0.0195	0.4451	0.0961	-1.0704	0.2290
3	260.16	0.4497	0.1244	0.0032	0.0845	0.0255	0.6689	0.1271	-1.4005	0.2357
3	260.16	0.4997	0.1629	0.0036	0.0763	0.0324	0.9619	0.1609	-1.6886	0.2417
3	260.16	0.5556	0.2170	0.0048	0.0668	0.0405	1.3726	0.2017	-1.9947	0.2488
3	260.16	0.5995	0.2505	0.0056	0.0434	0.0471	1.7964	0.2346	-2.0351	0.2477
3	260.16	0.6498	0.2798	0.0071	0.0085	0.0544	2.3293	0.2717	-2.3255	0.2514
3	260.16	0.6890	0.2864	0.0082	-0.0114	0.0605	2.7930	0.3003	-2.4969	0.2632
3	260.16	0.7495	0.3376	0.0106	-0.0348	0.0699	3.5493	0.3444	-2.9064	0.2657
3	260.16	0.7998	0.3433	0.0122	-0.0522	0.0778	4.2990	0.3818	-2.8956	0.2670
3	260.16	0.8577	0.4013	0.0144	-0.0533	0.0867	5.2244	0.4257	-2.7403	0.2674
3	260.16	0.9178	0.3548	0.0174	-0.0825	0.0958	6.1477	0.4723	-3.2911	0.2667
3	260.16	0.9729	0.3121	0.0232	-0.0538	0.1044	7.0698	0.5165	-3.7555	0.2700
4	260.16	0.2001	-0.0288	0.0131	0.0107	0.0028	-0.0157	0.0314	0.0041	0.1533
4	260.16	0.2502	0.0056	0.0058	0.0117	0.0039	0.0564	0.0365	0.4543	0.3773
4	260.16	0.3001	0.0208	0.0048	0.0266	0.0113	0.0515	0.0792	0.1872	0.3904
4	260.16	0.3502	0.0453	0.0040	0.0713	0.0223	0.0644	0.1259	-0.1679	0.3897
4	260.16	0.4002	0.0801	0.0034	0.0878	0.0331	0.1786	0.1741	-0.2280	0.3884
4	260.16	0.4500	0.1301	0.0034	0.1069	0.0438	0.2890	0.2222	-0.7094	0.3903
4	260.16	0.5001	0.1572	0.0031	0.0886	0.0545	0.5357	0.2733	-0.7269	0.3903
4	260.16	0.5560	0.2031	0.0036	0.0771	0.0665	0.8083	0.3304	-1.1747	0.3898
4	260.16	0.6001	0.2447	0.0047	0.0701	0.0754	1.1348	0.3760	-1.3043	0.3915
4	260.16	0.6501	0.2682	0.0066	0.0208	0.0858	1.5494	0.4270	-1.4606	0.3939
4	260.16	0.6999	0.3066	0.0087	-0.0214	0.0961	2.0361	0.4774	-1.6271	0.3966
4	260.16	0.7500	0.3348	0.0106	-0.0403	0.1063	2.5913	0.5267	-1.6867	0.4012
4	260.16	0.8002	0.3581	0.0128	-0.0802	0.1173	3.1098	0.5755	-2.0361	0.4063
4	260.16	0.8582	0.3884	0.0153	-0.0790	0.1294	3.8284	0.6310	-2.1749	0.4041
4	260.16	0.9101	0.3936	0.0184	-0.1105	0.1405	4.4593	0.6805	-2.3081	0.4038
4	260.16	0.9728	0.4132	0.0265	-0.0722	0.1535	5.4267	0.7384	-2.3374	0.4046

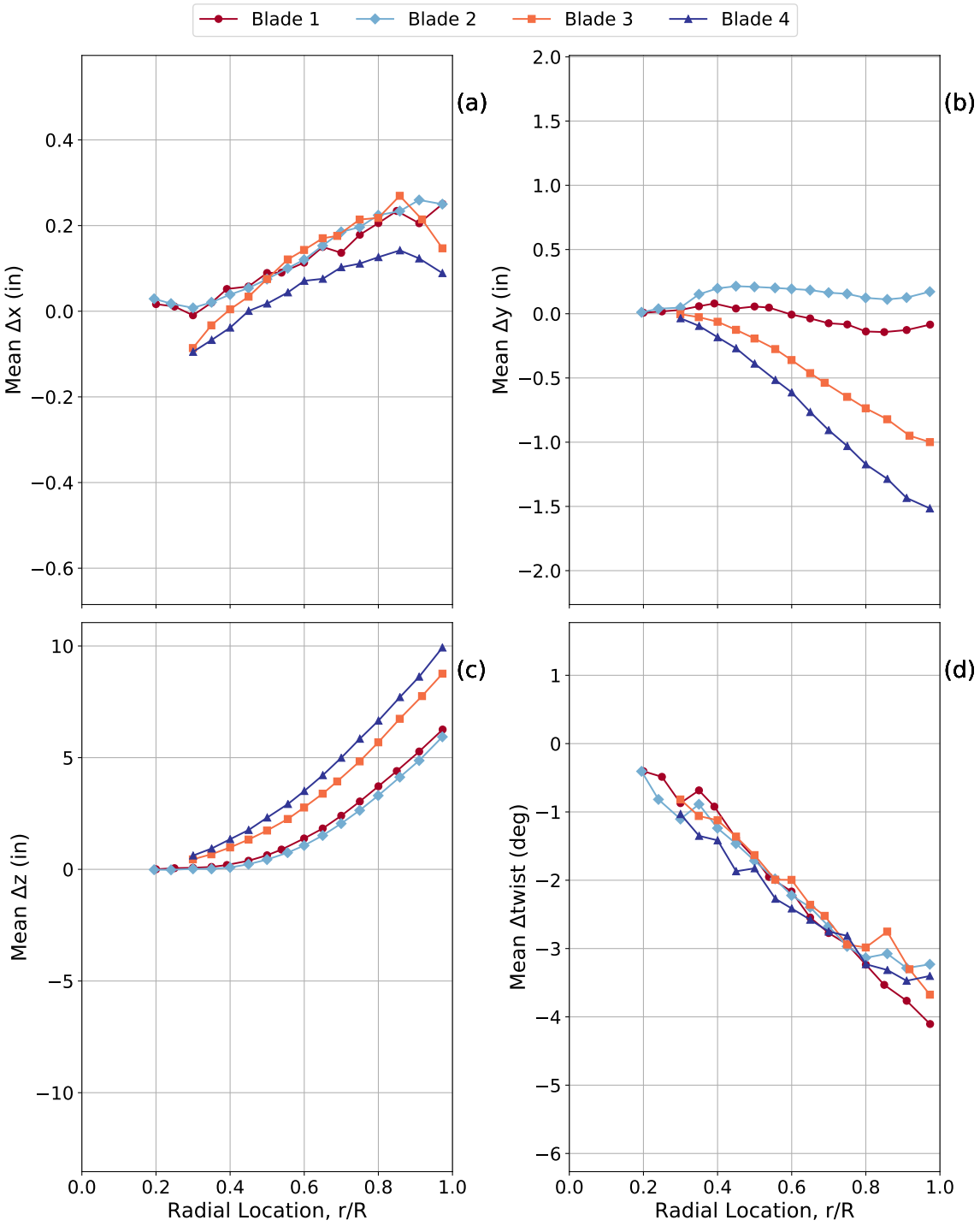


Figure 2.15-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	0.0166	0.0019	0.0078	0.0009	0.0034	0.0102	-0.4051	0.0445
1	265.08	0.2499	0.0110	0.0023	0.0179	0.0028	0.0514	0.0197	-0.4862	0.1100
1	265.08	0.2998	-0.0095	0.0030	0.0297	0.0052	0.0696	0.0308	-0.8709	0.1107
1	265.08	0.3498	0.0200	0.0040	0.0585	0.0104	0.1066	0.0501	-0.6846	0.1168
1	265.08	0.3913	0.0519	0.0031	0.0797	0.0152	0.1941	0.0689	-0.9222	0.0940
1	265.08	0.4496	0.0578	0.0034	0.0406	0.0201	0.3842	0.0881	-1.3823	0.1048
1	265.08	0.4997	0.0893	0.0038	0.0564	0.0246	0.6295	0.1063	-1.6759	0.1120
1	265.08	0.5387	0.0901	0.0040	0.0479	0.0287	0.8855	0.1218	-1.9516	0.1143
1	265.08	0.5996	0.1135	0.0047	-0.0069	0.0350	1.3821	0.1462	-2.1653	0.1241
1	265.08	0.6498	0.1501	0.0057	-0.0365	0.0405	1.8286	0.1676	-2.5457	0.1274
1	265.08	0.6998	0.1364	0.0061	-0.0740	0.0468	2.3987	0.1887	-2.7726	0.1350
1	265.08	0.7500	0.1786	0.0070	-0.0835	0.0530	3.0382	0.2121	-2.9399	0.1428
1	265.08	0.8001	0.2058	0.0083	-0.1381	0.0595	3.7184	0.2363	-3.2353	0.1423
1	265.08	0.8497	0.2342	0.0095	-0.1426	0.0660	4.4004	0.2625	-3.5320	0.1381
1	265.08	0.9102	0.2054	0.0120	-0.1268	0.0740	5.2753	0.2960	-3.7650	0.1431
1	265.08	0.9734	0.2507	0.0157	-0.0846	0.0832	6.2585	0.3337	-4.1049	0.1474
2	265.08	0.1949	0.0291	0.0063	0.0112	0.0017	-0.0174	0.0275	-0.4061	0.0532
2	265.08	0.2405	0.0178	0.0039	0.0387	0.0054	-0.0221	0.0443	-0.8172	0.0828
2	265.08	0.2999	0.0078	0.0032	0.0479	0.0089	0.0215	0.0622	-1.1047	0.1186
2	265.08	0.3498	0.0209	0.0045	0.1515	0.0364	0.0174	0.1383	-0.8876	0.1097
2	265.08	0.3998	0.0389	0.0052	0.1975	0.0457	0.0828	0.1701	-1.2379	0.1212
2	265.08	0.4496	0.0541	0.0071	0.2145	0.0548	0.2293	0.2002	-1.4640	0.1322
2	265.08	0.4995	0.0750	0.0098	0.2092	0.0645	0.4362	0.2312	-1.7141	0.1472
2	265.08	0.5551	0.1003	0.0128	0.2011	0.0756	0.7455	0.2652	-1.9804	0.1556
2	265.08	0.5996	0.1203	0.0157	0.1932	0.0847	1.0666	0.2934	-2.2227	0.1588
2	265.08	0.6497	0.1531	0.0196	0.1844	0.0945	1.5148	0.3243	-2.3950	0.1669
2	265.08	0.6996	0.1852	0.0240	0.1639	0.1047	2.0492	0.3565	-2.6736	0.1774
2	265.08	0.7495	0.1963	0.0288	0.1550	0.1142	2.6407	0.3888	-2.9689	0.1790
2	265.08	0.7996	0.2242	0.0348	0.1236	0.1237	3.3018	0.4214	-3.1358	0.1783
2	265.08	0.8578	0.2337	0.0424	0.1115	0.1351	4.1270	0.4599	-3.0759	0.1904
2	265.08	0.9100	0.2597	0.0508	0.1259	0.1458	4.8709	0.4945	-3.2854	0.1890
2	265.08	0.9727	0.2500	0.0644	0.1718	0.1575	5.9325	0.5373	-3.2307	0.1961
3	265.08	0.2995	-0.0860	0.0128	-0.0035	0.0104	0.4472	0.1253	-0.8178	0.3187
3	265.08	0.3493	-0.0330	0.0109	-0.0265	0.0211	0.6735	0.1872	-1.0595	0.4155
3	265.08	0.4000	0.0045	0.0126	-0.0623	0.0375	0.9814	0.2712	-1.1221	0.4033
3	265.08	0.4497	0.0340	0.0155	-0.1251	0.0522	1.3327	0.3482	-1.3610	0.4141
3	265.08	0.4997	0.0752	0.0180	-0.1928	0.0679	1.7372	0.4272	-1.6322	0.4103
3	265.08	0.5556	0.1209	0.0218	-0.2751	0.0851	2.2531	0.5165	-1.9918	0.4130
3	265.08	0.5995	0.1431	0.0251	-0.3605	0.0987	2.7680	0.5864	-1.9947	0.4185
3	265.08	0.6498	0.1704	0.0288	-0.4623	0.1143	3.3879	0.6662	-2.3594	0.4193
3	265.08	0.6890	0.1759	0.0323	-0.5374	0.1264	3.9354	0.7294	-2.5215	0.4210
3	265.08	0.7495	0.2141	0.0378	-0.6472	0.1452	4.8334	0.8261	-2.9419	0.4257
3	265.08	0.7998	0.2179	0.0426	-0.7362	0.1608	5.6874	0.9076	-2.9843	0.4321
3	265.08	0.8577	0.2695	0.0487	-0.8215	0.1785	6.7397	1.0033	-2.7517	0.4274
3	265.08	0.9178	0.2143	0.0562	-0.9492	0.1977	7.7564	1.1054	-3.3033	0.4315
3	265.08	0.9729	0.1469	0.0697	-0.9993	0.2145	8.7597	1.2016	-3.6751	0.4288
4	265.08	0.3001	-0.0949	0.0144	-0.0355	0.0087	0.6173	0.1336	-1.0321	0.3303
4	265.08	0.3502	-0.0671	0.0132	-0.0951	0.0154	0.9321	0.2039	-1.3507	0.4335
4	265.08	0.4002	-0.0383	0.0174	-0.1829	0.0270	1.3503	0.2979	-1.4164	0.4252
4	265.08	0.4500	0.0007	0.0197	-0.2690	0.0371	1.7618	0.3825	-1.8690	0.4357
4	265.08	0.5001	0.0179	0.0237	-0.3887	0.0481	2.3180	0.4720	-1.8259	0.4429
4	265.08	0.5560	0.0440	0.0287	-0.5157	0.0604	2.9254	0.5741	-2.2714	0.4451
4	265.08	0.6001	0.0710	0.0329	-0.6125	0.0697	3.5076	0.6548	-2.4138	0.4479
4	265.08	0.6501	0.0757	0.0380	-0.7655	0.0804	4.2154	0.7475	-2.5785	0.4481
4	265.08	0.6999	0.1028	0.0437	-0.9064	0.0908	4.9949	0.8419	-2.7508	0.4608
4	265.08	0.7500	0.1112	0.0499	-1.0303	0.1014	5.8453	0.9384	-2.8149	0.4746
4	265.08	0.8002	0.1263	0.0556	-1.1727	0.1120	6.6560	1.0363	-3.2294	0.4716
4	265.08	0.8582	0.1421	0.0629	-1.2859	0.1235	7.7090	1.1502	-3.3148	0.4682
4	265.08	0.9101	0.1232	0.0705	-1.4343	0.1347	8.6233	1.2521	-3.4721	0.4676
4	265.08	0.9728	0.0890	0.0862	-1.5153	0.1475	9.9300	1.3738	-3.4012	0.4693

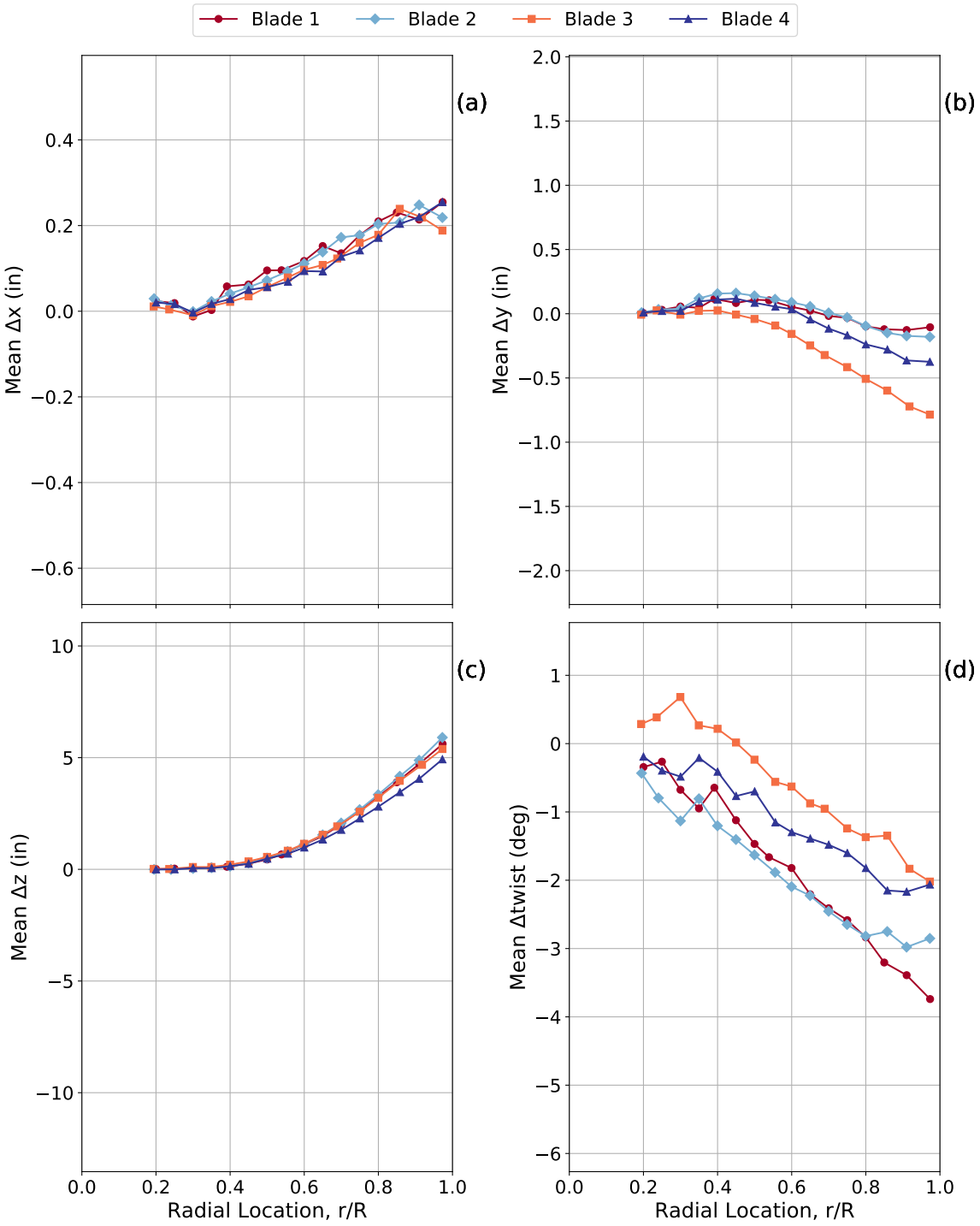


Figure 2.15-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.118$, $\mu = 0.245$, $\alpha = -1.89°$ NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	0.0235	0.0025	0.0045	0.0010	0.0105	0.0137	-0.3434	0.0721
1	270	0.2499	0.0190	0.0019	0.0302	0.0037	0.0318	0.0279	-0.2642	0.0800
1	270	0.2998	-0.0123	0.0040	0.0562	0.0061	0.0307	0.0453	-0.6757	0.1440
1	270	0.3498	0.0028	0.0029	0.0461	0.0107	0.0997	0.0685	-0.9485	0.1439
1	270	0.3913	0.0580	0.0046	0.1154	0.0184	0.1147	0.1001	-0.6454	0.1210
1	270	0.4496	0.0625	0.0044	0.0836	0.0245	0.2571	0.1349	-1.1221	0.1317
1	270	0.4997	0.0953	0.0044	0.1094	0.0304	0.4403	0.1683	-1.4686	0.1471
1	270	0.5387	0.0957	0.0048	0.1046	0.0353	0.6659	0.1946	-1.6628	0.1613
1	270	0.5996	0.1173	0.0054	0.0542	0.0435	1.1063	0.2376	-1.8213	0.1761
1	270	0.6498	0.1522	0.0065	0.0244	0.0508	1.4928	0.2755	-2.2059	0.1828
1	270	0.6998	0.1353	0.0072	-0.0172	0.0581	2.0173	0.3126	-2.4107	0.2023
1	270	0.7500	0.1778	0.0088	-0.0319	0.0657	2.6077	0.3497	-2.5851	0.2088
1	270	0.8001	0.2097	0.0106	-0.0983	0.0739	3.2613	0.3847	-2.8363	0.2064
1	270	0.8497	0.2305	0.0120	-0.1206	0.0823	3.8971	0.4165	-3.2047	0.2062
1	270	0.9102	0.2140	0.0143	-0.1270	0.0927	4.7134	0.4528	-3.3901	0.2186
1	270	0.9734	0.2548	0.0197	-0.1049	0.1037	5.6123	0.4910	-3.7396	0.2163
2	270.35	0.1949	0.0294	0.0041	0.0086	0.0017	-0.0031	0.0102	-0.4328	0.0856
2	270.35	0.2405	0.0135	0.0032	0.0335	0.0029	-0.0058	0.0281	-0.7957	0.0705
2	270.35	0.2999	-0.0008	0.0024	0.0380	0.0055	0.0399	0.0407	-1.1315	0.1576
2	270.35	0.3498	0.0228	0.0054	0.1198	0.0096	0.0743	0.0621	-0.8072	0.1741
2	270.35	0.3998	0.0410	0.0054	0.1568	0.0171	0.1366	0.0985	-1.2036	0.1508
2	270.35	0.4496	0.0558	0.0049	0.1607	0.0216	0.2869	0.1262	-1.4038	0.1661
2	270.35	0.4995	0.0722	0.0050	0.1397	0.0273	0.5019	0.1614	-1.6301	0.1755
2	270.35	0.5551	0.0931	0.0057	0.1127	0.0341	0.7972	0.2024	-1.8848	0.1974
2	270.35	0.5996	0.1112	0.0059	0.0895	0.0396	1.1114	0.2389	-2.0943	0.2035
2	270.35	0.6497	0.1383	0.0062	0.0570	0.0456	1.5434	0.2790	-2.2250	0.2119
2	270.35	0.6996	0.1724	0.0072	0.0069	0.0516	2.0724	0.3215	-2.4543	0.2216
2	270.35	0.7495	0.1776	0.0081	-0.0283	0.0576	2.6742	0.3595	-2.6478	0.2407
2	270.35	0.7996	0.2037	0.0098	-0.0949	0.0641	3.3432	0.3968	-2.8183	0.2419
2	270.35	0.8578	0.2072	0.0115	-0.1487	0.0718	4.1664	0.4336	-2.7516	0.2414
2	270.35	0.9100	0.2482	0.0133	-0.1724	0.0794	4.8829	0.4650	-2.9788	0.2408
2	270.35	0.9727	0.2187	0.0179	-0.1801	0.0883	5.9032	0.5020	-2.8519	0.2433
3	270	0.1938	0.0112	0.0075	-0.0074	0.0017	0.0201	0.0367	0.2864	0.1166
3	270	0.2357	0.0042	0.0067	0.0261	0.0056	0.0148	0.0212	0.3842	0.4327
3	270	0.2995	-0.0093	0.0044	-0.0071	0.0075	0.1033	0.0900	0.6823	0.4132
3	270	0.3493	0.0119	0.0056	0.0222	0.0129	0.1036	0.1361	0.2668	0.4130
3	270	0.4000	0.0219	0.0047	0.0255	0.0213	0.2091	0.1911	0.2169	0.4120
3	270	0.4497	0.0348	0.0047	-0.0064	0.0268	0.3551	0.2378	0.0163	0.4195
3	270	0.4997	0.0563	0.0051	-0.0406	0.0326	0.5565	0.2892	-0.2354	0.4294
3	270	0.5556	0.0788	0.0049	-0.0916	0.0405	0.8323	0.3482	-0.5601	0.4183
3	270	0.5995	0.0967	0.0056	-0.1568	0.0462	1.1451	0.3950	-0.6284	0.4197
3	270	0.6498	0.1080	0.0065	-0.2468	0.0524	1.5452	0.4491	-0.8750	0.4301
3	270	0.6890	0.1231	0.0077	-0.3216	0.0581	1.9211	0.4942	-0.9535	0.4305
3	270	0.7495	0.1596	0.0099	-0.4157	0.0663	2.5783	0.5647	-1.2412	0.4352
3	270	0.7998	0.1784	0.0123	-0.5069	0.0732	3.2038	0.6254	-1.3692	0.4370
3	270	0.8577	0.2391	0.0150	-0.5982	0.0820	3.9629	0.6965	-1.3471	0.4360
3	270	0.9178	0.2188	0.0191	-0.7217	0.0909	4.6815	0.7733	-1.8325	0.4342
3	270	0.9729	0.1884	0.0257	-0.7852	0.0998	5.3874	0.8432	-2.0199	0.4411
4	270	0.2001	0.0204	0.0025	0.0101	0.0010	-0.0053	0.0135	-0.1909	0.0411
4	270	0.2502	0.0166	0.0031	0.0215	0.0038	-0.0003	0.0289	-0.3951	0.0759
4	270	0.3001	-0.0032	0.0028	0.0227	0.0078	0.0567	0.0474	-0.4836	0.0916
4	270	0.3502	0.0172	0.0053	0.0951	0.0122	0.0535	0.0656	-0.2086	0.1285
4	270	0.4002	0.0285	0.0068	0.1102	0.0230	0.1419	0.1063	-0.4117	0.1284
4	270	0.4500	0.0497	0.0049	0.1173	0.0253	0.2500	0.1132	-0.7678	0.1248
4	270	0.5001	0.0563	0.0048	0.0852	0.0325	0.4789	0.1390	-0.6996	0.1259
4	270	0.5560	0.0687	0.0055	0.0553	0.0406	0.7024	0.1661	-1.1536	0.1332
4	270	0.6001	0.0938	0.0056	0.0355	0.0482	0.9771	0.1891	-1.2964	0.1428
4	270	0.6501	0.0928	0.0064	-0.0444	0.0565	1.3344	0.2154	-1.3901	0.1466
4	270	0.6999	0.1275	0.0071	-0.1157	0.0653	1.7681	0.2411	-1.4814	0.1663
4	270	0.7500	0.1421	0.0084	-0.1681	0.0749	2.2795	0.2685	-1.6017	0.1692
4	270	0.8002	0.1713	0.0092	-0.2387	0.0847	2.8077	0.2949	-1.8217	0.1751
4	270	0.8582	0.2041	0.0105	-0.2793	0.0964	3.4551	0.3276	-2.1503	0.1684
4	270	0.9101	0.2198	0.0118	-0.3633	0.1074	4.0532	0.3569	-2.1689	0.1720
4	270	0.9728	0.2548	0.0171	-0.3742	0.1210	4.9255	0.3933	-2.0637	0.1793

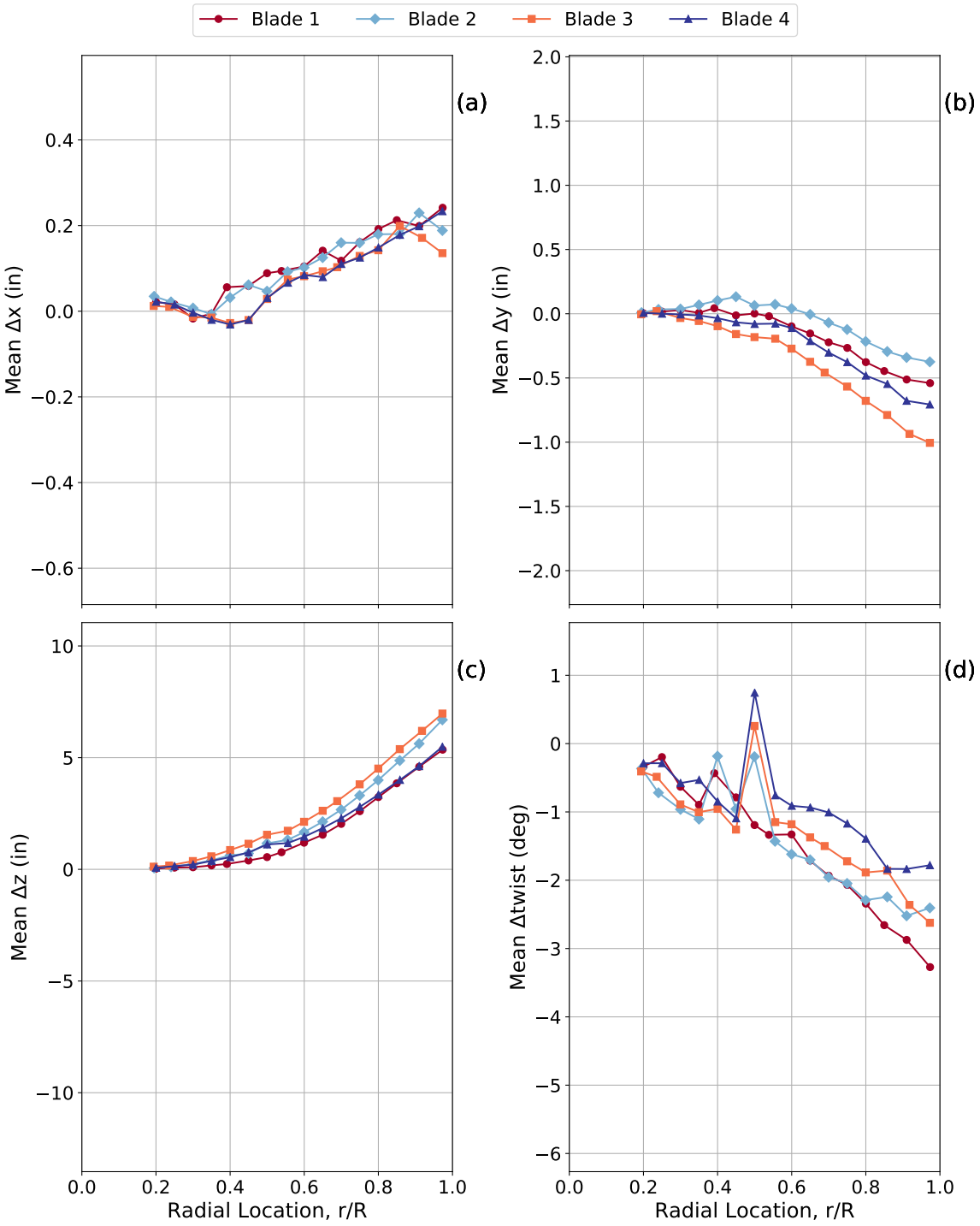


Figure 2.15-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0215	0.0022	0.0033	0.0008	0.0297	0.0178	-0.3371	0.0459
1	274.92	0.2499	0.0160	0.0020	0.0167	0.0050	0.0768	0.0361	-0.1971	0.0990
1	274.92	0.2998	-0.0171	0.0026	0.0288	0.0101	0.0929	0.0595	-0.6309	0.1080
1	274.92	0.3498	-0.0056	0.0028	0.0074	0.0165	0.1759	0.0849	-0.8956	0.1203
1	274.92	0.3913	0.0561	0.0098	0.0435	0.0297	0.2381	0.1276	-0.4333	0.1476
1	274.92	0.4496	0.0590	0.0062	-0.0126	0.0323	0.3956	0.1382	-0.7870	0.1566
1	274.92	0.4997	0.0888	0.0059	0.0017	0.0403	0.5474	0.1644	-1.1926	0.1196
1	274.92	0.5387	0.0940	0.0066	-0.0192	0.0458	0.7652	0.1835	-1.3355	0.1379
1	274.92	0.5996	0.1046	0.0073	-0.0982	0.0557	1.1920	0.2143	-1.3296	0.1557
1	274.92	0.6498	0.1414	0.0077	-0.1538	0.0646	1.5481	0.2401	-1.7137	0.1548
1	274.92	0.6998	0.1179	0.0095	-0.2222	0.0743	2.0349	0.2694	-1.9336	0.1741
1	274.92	0.7500	0.1614	0.0101	-0.2659	0.0843	2.6034	0.2982	-2.0693	0.1857
1	274.92	0.8001	0.1918	0.0116	-0.3767	0.0945	3.2339	0.3295	-2.3425	0.1898
1	274.92	0.8497	0.2126	0.0132	-0.4460	0.1053	3.8509	0.3641	-2.6577	0.1854
1	274.92	0.9102	0.1990	0.0157	-0.5120	0.1183	4.5935	0.4088	-2.8734	0.1911
1	274.92	0.9734	0.2416	0.0212	-0.5400	0.1324	5.3568	0.4572	-3.2718	0.1951
2	274.92	0.1949	0.0348	0.0027	0.0087	0.0014	0.0580	0.0078	-0.3658	0.0992
2	274.92	0.2405	0.0217	0.0026	0.0335	0.0026	0.1125	0.0208	-0.7200	0.1042
2	274.92	0.2999	0.0074	0.0023	0.0366	0.0043	0.2402	0.0308	-0.9623	0.2081
2	274.92	0.3498	-0.0070	0.0018	0.0690	0.0071	0.4034	0.0461	-1.1053	0.2180
2	274.92	0.3998	0.0318	0.0052	0.1030	0.0130	0.6224	0.0738	-0.1841	0.1907
2	274.92	0.4496	0.0616	0.0066	0.1324	0.0173	0.7110	0.0984	-0.9572	0.2305
2	274.92	0.4995	0.0468	0.0052	0.0637	0.0206	1.1641	0.1234	-0.1907	0.2342
2	274.92	0.5551	0.0923	0.0068	0.0728	0.0275	1.3185	0.1564	-1.4298	0.2642
2	274.92	0.5996	0.1020	0.0063	0.0403	0.0334	1.6644	0.1868	-1.6191	0.2779
2	274.92	0.6497	0.1252	0.0073	-0.0049	0.0399	2.1332	0.2205	-1.7011	0.3038
2	274.92	0.6996	0.1600	0.0077	-0.0698	0.0471	2.6701	0.2567	-1.9559	0.3209
2	274.92	0.7495	0.1596	0.0086	-0.1225	0.0551	3.3080	0.2918	-2.0472	0.3404
2	274.92	0.7996	0.1797	0.0095	-0.2158	0.0640	3.9937	0.3265	-2.2906	0.3490
2	274.92	0.8578	0.1803	0.0112	-0.2941	0.0740	4.8699	0.3650	-2.2440	0.3478
2	274.92	0.9100	0.2296	0.0132	-0.3405	0.0834	5.6252	0.3997	-2.5209	0.3466
2	274.92	0.9727	0.1885	0.0184	-0.3745	0.0949	6.6932	0.4399	-2.4053	0.3484
3	274.92	0.1938	0.0123	0.0047	-0.0045	0.0020	0.1191	0.0280	-0.4071	0.1293
3	274.92	0.2357	0.0101	0.0023	0.0203	0.0057	0.1704	0.0220	-0.4860	0.3667
3	274.92	0.2995	-0.0132	0.0030	-0.0331	0.0066	0.3703	0.0677	-0.8896	0.3937
3	274.92	0.3493	-0.0149	0.0029	-0.0562	0.0081	0.5818	0.1141	-1.0038	0.3554
3	274.92	0.4000	-0.0276	0.0051	-0.0968	0.0143	0.8622	0.1546	-0.9547	0.4027
3	274.92	0.4497	-0.0206	0.0043	-0.1582	0.0183	1.1453	0.2028	-1.2583	0.3881
3	274.92	0.4997	0.0286	0.0058	-0.1820	0.0246	1.5469	0.2517	0.2580	0.3755
3	274.92	0.5556	0.0739	0.0062	-0.1945	0.0317	1.7275	0.2996	-1.1492	0.4000
3	274.92	0.5995	0.0818	0.0074	-0.2717	0.0386	2.1290	0.3429	-1.1805	0.3996
3	274.92	0.6498	0.0933	0.0095	-0.3742	0.0472	2.6218	0.3924	-1.3727	0.4010
3	274.92	0.6890	0.1028	0.0113	-0.4577	0.0545	3.0528	0.4303	-1.4997	0.4109
3	274.92	0.7495	0.1291	0.0141	-0.5671	0.0667	3.8059	0.4900	-1.7229	0.4293
3	274.92	0.7998	0.1424	0.0164	-0.6779	0.0777	4.5107	0.5413	-1.8858	0.4322
3	274.92	0.8577	0.1992	0.0197	-0.7884	0.0916	5.3815	0.6023	-1.8591	0.4237
3	274.92	0.9178	0.1713	0.0229	-0.9356	0.1063	6.1994	0.6664	-2.3611	0.4269
3	274.92	0.9729	0.1356	0.0290	-1.0050	0.1201	6.9748	0.7276	-2.6228	0.4177
4	274.92	0.2001	0.0221	0.0022	0.0061	0.0009	0.0696	0.0113	-0.2880	0.0753
4	274.92	0.2502	0.0155	0.0021	0.0004	0.0019	0.1413	0.0141	-0.2868	0.1010
4	274.92	0.3001	-0.0034	0.0028	-0.0056	0.0037	0.2114	0.0290	-0.5775	0.1536
4	274.92	0.3502	-0.0201	0.0033	-0.0135	0.0070	0.3786	0.0465	-0.5310	0.1350
4	274.92	0.4002	-0.0310	0.0029	-0.0346	0.0112	0.5459	0.0641	-0.8478	0.1464
4	274.92	0.4500	-0.0203	0.0028	-0.0667	0.0152	0.7594	0.0775	-1.0938	0.1466
4	274.92	0.5001	0.0311	0.0070	-0.0796	0.0201	1.1143	0.0944	0.7448	0.1786
4	274.92	0.5560	0.0665	0.0072	-0.0770	0.0275	1.1750	0.1186	-0.7575	0.1952
4	274.92	0.6001	0.0847	0.0056	-0.1111	0.0322	1.4597	0.1306	-0.9108	0.1797
4	274.92	0.6501	0.0796	0.0058	-0.2128	0.0401	1.8481	0.1501	-0.9350	0.1825
4	274.92	0.6999	0.1103	0.0062	-0.3027	0.0492	2.2847	0.1702	-1.0080	0.1954
4	274.92	0.7500	0.1252	0.0073	-0.3770	0.0588	2.7975	0.1956	-1.1709	0.1963
4	274.92	0.8002	0.1487	0.0085	-0.4815	0.0695	3.3435	0.2251	-1.3916	0.1971
4	274.92	0.8582	0.1783	0.0098	-0.5469	0.0820	4.0032	0.2611	-1.8341	0.2138
4	274.92	0.9101	0.1984	0.0118	-0.6778	0.0930	4.6194	0.3011	-1.8357	0.2137
4	274.92	0.9728	0.2335	0.0179	-0.7066	0.1063	5.4890	0.3528	-1.7803	0.2284

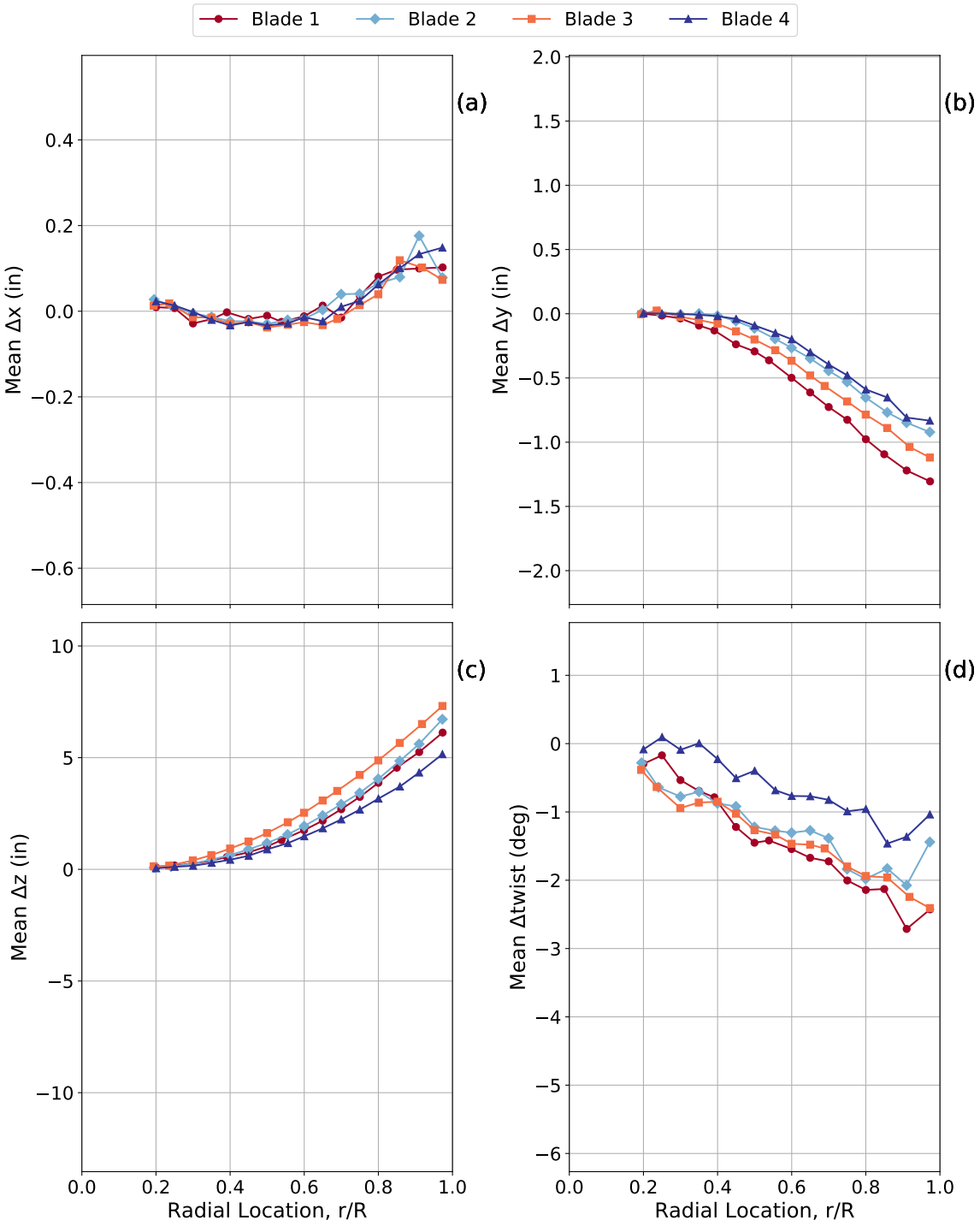


Figure 2.15-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0095	0.0021	-0.0013	0.0009	0.0874	0.0134	-0.2960	0.0604
1	279.84	0.2499	0.0074	0.0033	-0.0143	0.0024	0.1757	0.0186	-0.1716	0.1264
1	279.84	0.2998	-0.0286	0.0021	-0.0365	0.0044	0.2532	0.0350	-0.5344	0.1410
1	279.84	0.3498	-0.0184	0.0021	-0.0920	0.0073	0.3915	0.0631	-0.6936	0.1034
1	279.84	0.3913	-0.0025	0.0021	-0.1303	0.0113	0.5501	0.0792	-0.7857	0.1239
1	279.84	0.4496	-0.0181	0.0027	-0.2382	0.0160	0.7618	0.1072	-1.2203	0.1384
1	279.84	0.4997	-0.0105	0.0035	-0.2932	0.0217	1.0248	0.1331	-1.4511	0.1611
1	279.84	0.5387	-0.0248	0.0042	-0.3624	0.0263	1.3080	0.1543	-1.4181	0.1666
1	279.84	0.5996	-0.0118	0.0055	-0.4987	0.0343	1.7523	0.1899	-1.5434	0.1905
1	279.84	0.6498	0.0132	0.0067	-0.6126	0.0419	2.1793	0.2221	-1.6718	0.1948
1	279.84	0.6998	-0.0148	0.0081	-0.7262	0.0500	2.6897	0.2510	-1.7237	0.2183
1	279.84	0.7500	0.0358	0.0097	-0.8260	0.0585	3.2423	0.2815	-2.0038	0.2268
1	279.84	0.8001	0.0808	0.0112	-0.9769	0.0672	3.8743	0.3094	-2.1419	0.2269
1	279.84	0.8497	0.0971	0.0132	-1.0939	0.0770	4.5487	0.3395	-2.1283	0.2344
1	279.84	0.9102	0.0998	0.0149	-1.2202	0.0884	5.2509	0.3737	-2.7129	0.2512
1	279.84	0.9734	0.1024	0.0197	-1.3051	0.1007	6.1217	0.4123	-2.4263	0.2458
2	279.84	0.1949	0.0275	0.0023	0.0048	0.0014	0.0803	0.0076	-0.2810	0.0385
2	279.84	0.2405	0.0137	0.0027	0.0146	0.0020	0.1242	0.0142	-0.6397	0.1083
2	279.84	0.2999	-0.0048	0.0043	-0.0051	0.0044	0.2584	0.0195	-0.7755	0.0942
2	279.84	0.3498	-0.0132	0.0028	0.0016	0.0081	0.4379	0.0316	-0.7045	0.1177
2	279.84	0.3998	-0.0234	0.0028	-0.0152	0.0131	0.6366	0.0461	-0.8755	0.1227
2	279.84	0.4496	-0.0236	0.0026	-0.0568	0.0179	0.8944	0.0615	-0.9186	0.1334
2	279.84	0.4995	-0.0297	0.0029	-0.1131	0.0232	1.1754	0.0789	-1.2204	0.1361
2	279.84	0.5551	-0.0204	0.0042	-0.1956	0.0303	1.5609	0.0994	-1.2750	0.1514
2	279.84	0.5996	-0.0175	0.0047	-0.2652	0.0366	1.9346	0.1162	-1.3039	0.1573
2	279.84	0.6497	0.0032	0.0057	-0.3477	0.0439	2.4077	0.1358	-1.2718	0.1660
2	279.84	0.6996	0.0397	0.0071	-0.4439	0.0518	2.9129	0.1563	-1.3857	0.1871
2	279.84	0.7495	0.0408	0.0081	-0.5306	0.0606	3.4218	0.1734	-1.8371	0.1946
2	279.84	0.7996	0.0649	0.0091	-0.6525	0.0698	4.0466	0.1920	-1.9814	0.2009
2	279.84	0.8578	0.0797	0.0103	-0.7679	0.0799	4.8521	0.2141	-1.8288	0.1967
2	279.84	0.9100	0.1762	0.0112	-0.8480	0.0904	5.6105	0.2358	-2.0751	0.2090
2	279.84	0.9727	0.0784	0.0143	-0.9212	0.1025	6.7189	0.2623	-1.4403	0.2379
3	279.84	0.1938	0.0128	0.0075	-0.0040	0.0029	0.1337	0.0270	-0.3848	0.0994
3	279.84	0.2357	0.0183	0.0059	0.0248	0.0036	0.1652	0.0219	-0.6353	0.2904
3	279.84	0.2995	-0.0141	0.0045	-0.0243	0.0067	0.3979	0.0699	-0.9434	0.3156
3	279.84	0.3493	-0.0149	0.0028	-0.0485	0.0084	0.6375	0.1119	-0.8629	0.3055
3	279.84	0.4000	-0.0297	0.0037	-0.0780	0.0132	0.9295	0.1580	-0.8505	0.3063
3	279.84	0.4497	-0.0254	0.0030	-0.1368	0.0175	1.2458	0.1997	-1.0257	0.2964
3	279.84	0.4997	-0.0378	0.0034	-0.2008	0.0233	1.6249	0.2384	-1.2672	0.3230
3	279.84	0.5556	-0.0315	0.0063	-0.2837	0.0307	2.1070	0.2840	-1.3320	0.3413
3	279.84	0.5995	-0.0254	0.0061	-0.3659	0.0373	2.5324	0.3227	-1.4663	0.3249
3	279.84	0.6498	-0.0324	0.0079	-0.4803	0.0457	3.0813	0.3684	-1.4793	0.3315
3	279.84	0.6890	-0.0181	0.0098	-0.5622	0.0532	3.5110	0.4010	-1.5350	0.3424
3	279.84	0.7495	0.0140	0.0120	-0.6826	0.0652	4.2259	0.4517	-1.7992	0.3439
3	279.84	0.7998	0.0395	0.0141	-0.7853	0.0757	4.8751	0.4954	-1.9383	0.3516
3	279.84	0.8577	0.1190	0.0163	-0.8895	0.0887	5.6596	0.5430	-1.9599	0.3625
3	279.84	0.9178	0.1021	0.0192	-1.0368	0.1031	6.5065	0.5939	-2.2441	0.3631
3	279.84	0.9729	0.0734	0.0245	-1.1192	0.1161	7.3139	0.6425	-2.4079	0.3628
4	279.84	0.2001	0.0233	0.0033	0.0040	0.0007	0.0472	0.0091	-0.0840	0.0491
4	279.84	0.2502	0.0133	0.0018	0.0005	0.0021	0.1126	0.0115	0.0946	0.1113
4	279.84	0.3001	-0.0019	0.0028	-0.0011	0.0030	0.1593	0.0236	-0.0903	0.1126
4	279.84	0.3502	-0.0202	0.0024	-0.0085	0.0056	0.2904	0.0369	0.0055	0.1287
4	279.84	0.4002	-0.0331	0.0025	-0.0188	0.0089	0.4290	0.0522	-0.2266	0.1429
4	279.84	0.4500	-0.0250	0.0025	-0.0402	0.0125	0.6063	0.0664	-0.5057	0.1609
4	279.84	0.5001	-0.0333	0.0030	-0.0917	0.0173	0.8941	0.0864	-0.3971	0.1835
4	279.84	0.5560	-0.0283	0.0037	-0.1496	0.0230	1.1749	0.1059	-0.6830	0.2052
4	279.84	0.6001	-0.0140	0.0042	-0.1989	0.0282	1.4807	0.1238	-0.7666	0.2051
4	279.84	0.6501	-0.0233	0.0049	-0.2995	0.0344	1.8396	0.1430	-0.7707	0.2246
4	279.84	0.6999	0.0105	0.0058	-0.3953	0.0415	2.2342	0.1622	-0.8236	0.2343
4	279.84	0.7500	0.0242	0.0068	-0.4797	0.0490	2.6742	0.1841	-0.9910	0.2611
4	279.84	0.8002	0.0627	0.0077	-0.5895	0.0571	3.1657	0.2048	-0.9574	0.2619
4	279.84	0.8582	0.1008	0.0091	-0.6523	0.0673	3.7097	0.2324	-1.4631	0.2750
4	279.84	0.9101	0.1333	0.0103	-0.8083	0.0757	4.3337	0.2557	-1.3636	0.2714
4	279.84	0.9728	0.1485	0.0131	-0.8324	0.0879	5.1550	0.2904	-1.0376	0.2956

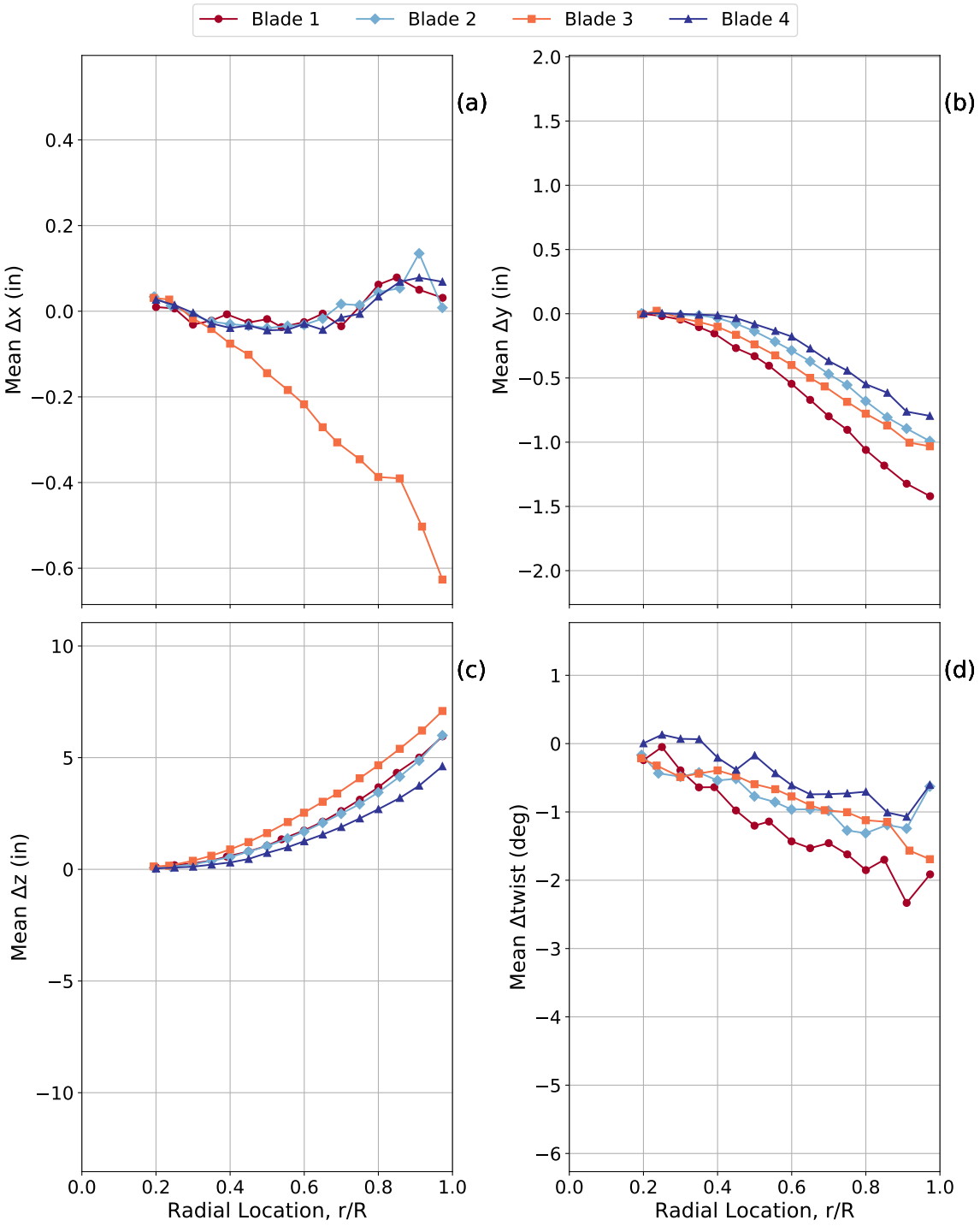


Figure 2.15-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0098	0.0065	-0.0016	0.0011	0.0907	0.0137	-0.2416	0.0524
1	285.12	0.2499	0.0064	0.0025	-0.0180	0.0025	0.1868	0.0160	-0.0503	0.1209
1	285.12	0.2998	-0.0313	0.0045	-0.0453	0.0050	0.2690	0.0370	-0.3914	0.1084
1	285.12	0.3498	-0.0219	0.0047	-0.1043	0.0082	0.3938	0.0569	-0.6404	0.1125
1	285.12	0.3913	-0.0072	0.0063	-0.1534	0.0127	0.5700	0.0756	-0.6377	0.1238
1	285.12	0.4496	-0.0265	0.0080	-0.2671	0.0187	0.8014	0.1023	-0.9788	0.1269
1	285.12	0.4997	-0.0184	0.0097	-0.3303	0.0250	1.0556	0.1254	-1.2013	0.1333
1	285.12	0.5387	-0.0371	0.0111	-0.4044	0.0303	1.3448	0.1441	-1.1409	0.1361
1	285.12	0.5996	-0.0254	0.0134	-0.5456	0.0394	1.7401	0.1743	-1.4308	0.1471
1	285.12	0.6498	-0.0056	0.0161	-0.6705	0.0475	2.1346	0.1974	-1.5306	0.1498
1	285.12	0.6998	-0.0350	0.0195	-0.7986	0.0565	2.6094	0.2207	-1.4567	0.1620
1	285.12	0.7500	0.0113	0.0248	-0.9038	0.0656	3.1190	0.2451	-1.6216	0.1733
1	285.12	0.8001	0.0620	0.0314	-1.0602	0.0753	3.6741	0.2734	-1.8521	0.1661
1	285.12	0.8497	0.0788	0.0404	-1.1818	0.0852	4.3210	0.2991	-1.6998	0.1796
1	285.12	0.9102	0.0501	0.0532	-1.3232	0.0965	5.0041	0.3348	-2.3320	0.2037
1	285.12	0.9734	0.0313	0.0713	-1.4206	0.1109	5.9555	0.3763	-1.9142	0.2129
2	285.12	0.1949	0.0339	0.0044	0.0024	0.0009	0.0699	0.0077	-0.1672	0.0501
2	285.12	0.2405	0.0130	0.0026	0.0107	0.0013	0.1125	0.0129	-0.4345	0.0708
2	285.12	0.2999	-0.0088	0.0022	-0.0114	0.0037	0.2231	0.0248	-0.4842	0.1135
2	285.12	0.3498	-0.0243	0.0031	-0.0124	0.0067	0.3782	0.0401	-0.4244	0.1252
2	285.12	0.3998	-0.0301	0.0024	-0.0332	0.0112	0.5486	0.0595	-0.5393	0.1393
2	285.12	0.4496	-0.0337	0.0042	-0.0767	0.0162	0.7898	0.0818	-0.5152	0.1508
2	285.12	0.4995	-0.0393	0.0034	-0.1362	0.0220	1.0372	0.1071	-0.7717	0.1717
2	285.12	0.5551	-0.0344	0.0044	-0.2170	0.0294	1.3802	0.1378	-0.8559	0.1876
2	285.12	0.5996	-0.0318	0.0054	-0.2856	0.0363	1.6906	0.1627	-0.9647	0.2029
2	285.12	0.6497	-0.0171	0.0067	-0.3706	0.0447	2.0832	0.1931	-0.9613	0.2154
2	285.12	0.6996	0.0167	0.0081	-0.4693	0.0542	2.4907	0.2220	-0.9829	0.2210
2	285.12	0.7495	0.0141	0.0093	-0.5550	0.0641	2.9200	0.2524	-1.2709	0.2296
2	285.12	0.7996	0.0445	0.0109	-0.6803	0.0744	3.4451	0.2814	-1.3116	0.2538
2	285.12	0.8578	0.0538	0.0132	-0.8068	0.0869	4.1509	0.3156	-1.1899	0.2788
2	285.12	0.9100	0.1349	0.0153	-0.8937	0.0975	4.8679	0.3474	-1.2429	0.2743
2	285.12	0.9727	0.0082	0.0213	-0.9917	0.1095	5.9980	0.3879	-0.6269	0.2613
3	285.12	0.1938	0.0311	0.0038	-0.0066	0.0013	0.1281	0.0115	-0.2142	0.0663
3	285.12	0.2357	0.0272	0.0028	0.0230	0.0037	0.1618	0.0141	-0.3212	0.1262
3	285.12	0.2995	-0.0169	0.0039	-0.0340	0.0044	0.3827	0.0307	-0.4892	0.1678
3	285.12	0.3493	-0.0414	0.0041	-0.0634	0.0090	0.6084	0.0463	-0.4379	0.1874
3	285.12	0.4000	-0.0757	0.0057	-0.1015	0.0147	0.8898	0.0670	-0.3924	0.2235
3	285.12	0.4497	-0.1016	0.0061	-0.1639	0.0183	1.2194	0.0876	-0.4720	0.2187
3	285.12	0.4997	-0.1446	0.0047	-0.2387	0.0241	1.6220	0.1111	-0.5939	0.2662
3	285.12	0.5556	-0.1840	0.0067	-0.3239	0.0320	2.1168	0.1402	-0.6676	0.2861
3	285.12	0.5995	-0.2174	0.0083	-0.3992	0.0384	2.5348	0.1683	-0.7733	0.3032
3	285.12	0.6498	-0.2709	0.0089	-0.4991	0.0465	3.0256	0.1972	-0.9016	0.3008
3	285.12	0.6890	-0.3062	0.0108	-0.5659	0.0532	3.3934	0.2288	-0.9748	0.3132
3	285.12	0.7495	-0.3457	0.0124	-0.6857	0.0641	4.0769	0.2672	-1.0044	0.3515
3	285.12	0.7998	-0.3870	0.0149	-0.7781	0.0739	4.6597	0.3110	-1.1214	0.3499
3	285.12	0.8577	-0.3904	0.0171	-0.8700	0.0851	5.3966	0.3595	-1.1461	0.3586
3	285.12	0.9178	-0.5029	0.0207	-1.0034	0.0977	6.2130	0.4196	-1.5661	0.3581
3	285.12	0.9729	-0.6265	0.0278	-1.0319	0.1086	7.0889	0.4726	-1.6921	0.3736
4	285.12	0.2001	0.0269	0.0015	0.0023	0.0009	0.0374	0.0073	0.0046	0.0596
4	285.12	0.2502	0.0143	0.0020	0.0034	0.0022	0.0786	0.0120	0.1307	0.0842
4	285.12	0.3001	-0.0037	0.0017	-0.0005	0.0030	0.1177	0.0206	0.0699	0.1282
4	285.12	0.3502	-0.0287	0.0018	-0.0070	0.0063	0.2111	0.0337	0.0646	0.0987
4	285.12	0.4002	-0.0391	0.0026	-0.0123	0.0094	0.3071	0.0485	-0.2063	0.1099
4	285.12	0.4500	-0.0335	0.0027	-0.0337	0.0135	0.4647	0.0660	-0.3828	0.1164
4	285.12	0.5001	-0.0446	0.0035	-0.0811	0.0183	0.7354	0.0877	-0.1725	0.1171
4	285.12	0.5560	-0.0430	0.0038	-0.1334	0.0241	0.9940	0.1117	-0.4332	0.1401
4	285.12	0.6001	-0.0296	0.0044	-0.1779	0.0289	1.2588	0.1305	-0.6101	0.1363
4	285.12	0.6501	-0.0434	0.0053	-0.2705	0.0346	1.5583	0.1496	-0.7426	0.1410
4	285.12	0.6999	-0.0147	0.0060	-0.3681	0.0407	1.8949	0.1667	-0.7397	0.1502
4	285.12	0.7500	-0.0061	0.0069	-0.4429	0.0472	2.2803	0.1842	-0.7288	0.1515
4	285.12	0.8002	0.0342	0.0080	-0.5486	0.0541	2.6947	0.2024	-0.7041	0.1646
4	285.12	0.8582	0.0688	0.0088	-0.6153	0.0616	3.1965	0.2230	-1.0088	0.1819
4	285.12	0.9101	0.0784	0.0102	-0.7621	0.0695	3.7447	0.2440	-1.0705	0.1691
4	285.12	0.9728	0.0687	0.0149	-0.7951	0.0783	4.6146	0.2683	-0.6042	0.1836

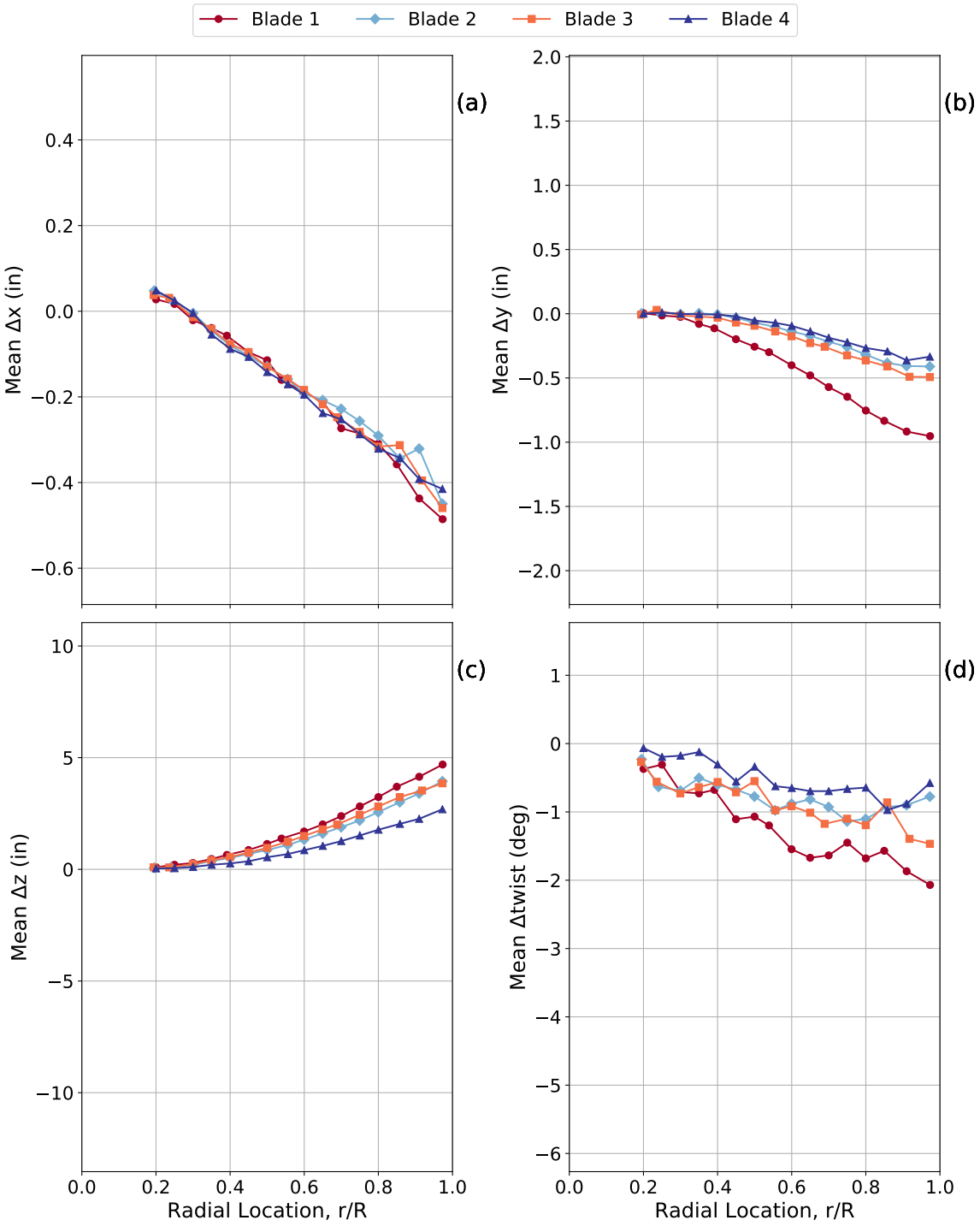


Figure 2.15-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0277	0.0026	0.0038	0.0011	0.0953	0.0135	-0.3709	0.0603
1	299.88	0.2499	0.0170	0.0026	-0.0135	0.0022	0.2045	0.0242	-0.3081	0.1210
1	299.88	0.2998	-0.0209	0.0026	-0.0246	0.0045	0.2838	0.0427	-0.7076	0.1402
1	299.88	0.3498	-0.0392	0.0026	-0.0793	0.0073	0.4625	0.0621	-0.7282	0.1450
1	299.88	0.3913	-0.0571	0.0037	-0.1134	0.0126	0.6447	0.0906	-0.6768	0.1388
1	299.88	0.4496	-0.0953	0.0036	-0.1981	0.0170	0.8637	0.1134	-1.1069	0.1555
1	299.88	0.4997	-0.1145	0.0043	-0.2565	0.0214	1.1348	0.1392	-1.0693	0.1556
1	299.88	0.5387	-0.1603	0.0052	-0.2991	0.0263	1.3781	0.1628	-1.1978	0.1669
1	299.88	0.5996	-0.1896	0.0056	-0.4012	0.0343	1.6931	0.1968	-1.5459	0.1736
1	299.88	0.6498	-0.2103	0.0067	-0.4800	0.0410	2.0105	0.2236	-1.6711	0.1748
1	299.88	0.6998	-0.2733	0.0075	-0.5708	0.0479	2.3817	0.2478	-1.6362	0.1931
1	299.88	0.7500	-0.2857	0.0083	-0.6464	0.0558	2.8194	0.2715	-1.4498	0.2022
1	299.88	0.8001	-0.3093	0.0091	-0.7534	0.0641	3.2350	0.2956	-1.6801	0.2133
1	299.88	0.8497	-0.3575	0.0097	-0.8335	0.0730	3.6969	0.3198	-1.5690	0.2050
1	299.88	0.9102	-0.4371	0.0111	-0.9171	0.0838	4.1453	0.3517	-1.8683	0.2238
1	299.88	0.9734	-0.4856	0.0150	-0.9527	0.0952	4.6926	0.3871	-2.0688	0.2317
2	299.88	0.1949	0.0476	0.0038	0.0022	0.0013	0.0690	0.0101	-0.2292	0.0513
2	299.88	0.2405	0.0277	0.0029	0.0174	0.0031	0.0942	0.0178	-0.6315	0.0930
2	299.88	0.2999	-0.0046	0.0031	-0.0037	0.0054	0.1986	0.0323	-0.6898	0.1217
2	299.88	0.3498	-0.0453	0.0031	0.0034	0.0098	0.3730	0.0489	-0.5037	0.1249
2	299.88	0.3998	-0.0798	0.0034	-0.0059	0.0159	0.5112	0.0743	-0.6017	0.1316
2	299.88	0.4496	-0.1036	0.0041	-0.0320	0.0200	0.6909	0.0978	-0.6728	0.1401
2	299.88	0.4995	-0.1290	0.0044	-0.0684	0.0266	0.8646	0.1242	-0.7746	0.1571
2	299.88	0.5551	-0.1585	0.0046	-0.1027	0.0338	1.0872	0.1574	-0.9765	0.1692
2	299.88	0.5996	-0.1920	0.0055	-0.1378	0.0402	1.3320	0.1871	-0.8799	0.1822
2	299.88	0.6497	-0.2078	0.0062	-0.1713	0.0479	1.6062	0.2198	-0.8154	0.1943
2	299.88	0.6996	-0.2281	0.0069	-0.2170	0.0556	1.8876	0.2528	-0.9282	0.2015
2	299.88	0.7495	-0.2565	0.0082	-0.2584	0.0638	2.1858	0.2833	-1.1386	0.2184
2	299.88	0.7996	-0.2904	0.0090	-0.3188	0.0726	2.5602	0.3123	-1.1034	0.2216
2	299.88	0.8578	-0.3435	0.0099	-0.3833	0.0831	3.0074	0.3397	-0.9275	0.2406
2	299.88	0.9100	-0.3209	0.0107	-0.4065	0.0930	3.3974	0.3647	-0.9000	0.2393
2	299.88	0.9727	-0.4496	0.0142	-0.4109	0.1058	3.9411	0.3991	-0.7758	0.2558
3	299.88	0.1938	0.0375	0.0033	-0.0069	0.0013	0.0897	0.0095	-0.2682	0.0717
3	299.88	0.2357	0.0312	0.0042	0.0297	0.0028	0.0854	0.0195	-0.5584	0.0845
3	299.88	0.2995	-0.0143	0.0027	-0.0137	0.0045	0.2377	0.0332	-0.7292	0.1496
3	299.88	0.3493	-0.0413	0.0032	-0.0220	0.0079	0.3993	0.0547	-0.6383	0.1267
3	299.88	0.4000	-0.0766	0.0036	-0.0306	0.0127	0.5557	0.0831	-0.5627	0.1360
3	299.88	0.4497	-0.0954	0.0044	-0.0685	0.0174	0.7472	0.1086	-0.7130	0.1490
3	299.88	0.4997	-0.1299	0.0040	-0.0933	0.0227	0.9620	0.1424	-0.5495	0.1656
3	299.88	0.5556	-0.1581	0.0047	-0.1379	0.0289	1.2360	0.1793	-0.9767	0.1826
3	299.88	0.5995	-0.1838	0.0055	-0.1755	0.0352	1.4951	0.2122	-0.9160	0.1867
3	299.88	0.6498	-0.2173	0.0057	-0.2279	0.0424	1.7891	0.2480	-1.0106	0.1978
3	299.88	0.6890	-0.2475	0.0069	-0.2574	0.0483	2.0072	0.2752	-1.1746	0.2105
3	299.88	0.7495	-0.2818	0.0079	-0.3240	0.0585	2.4420	0.3183	-1.0995	0.2202
3	299.88	0.7998	-0.3160	0.0084	-0.3636	0.0675	2.8125	0.3509	-1.1938	0.2312
3	299.88	0.8577	-0.3127	0.0093	-0.4104	0.0779	3.2362	0.3945	-0.8603	0.2535
3	299.88	0.9178	-0.3950	0.0109	-0.4906	0.0894	3.5292	0.4466	-1.3939	0.2748
3	299.88	0.9729	-0.4596	0.0145	-0.4928	0.1001	3.8517	0.5032	-1.4669	0.2965
4	299.88	0.2001	0.0485	0.0023	0.0008	0.0012	0.0429	0.0088	-0.0651	0.0690
4	299.88	0.2502	0.0244	0.0027	0.0085	0.0024	0.0510	0.0156	-0.1945	0.1130
4	299.88	0.3001	-0.0043	0.0031	-0.0003	0.0041	0.1042	0.0246	-0.1767	0.1524
4	299.88	0.3502	-0.0545	0.0029	-0.0043	0.0086	0.2050	0.0385	-0.1229	0.1134
4	299.88	0.4002	-0.0879	0.0032	-0.0052	0.0131	0.2663	0.0566	-0.3059	0.1319
4	299.88	0.4500	-0.1065	0.0028	-0.0216	0.0178	0.3614	0.0751	-0.5549	0.1294
4	299.88	0.5001	-0.1421	0.0032	-0.0531	0.0235	0.5414	0.0943	-0.3375	0.1471
4	299.88	0.5560	-0.1706	0.0043	-0.0711	0.0315	0.6839	0.1166	-0.6243	0.1349
4	299.88	0.6001	-0.1948	0.0045	-0.0942	0.0377	0.8580	0.1376	-0.6498	0.1392
4	299.88	0.6501	-0.2378	0.0046	-0.1374	0.0461	1.0506	0.1606	-0.6960	0.1528
4	299.88	0.6999	-0.2523	0.0051	-0.1870	0.0548	1.2644	0.1848	-0.6955	0.1545
4	299.88	0.7500	-0.2873	0.0062	-0.2224	0.0636	1.5140	0.2086	-0.6628	0.1685
4	299.88	0.8002	-0.3209	0.0069	-0.2666	0.0732	1.7748	0.2320	-0.6440	0.1684
4	299.88	0.8582	-0.3429	0.0074	-0.2930	0.0844	2.0350	0.2592	-0.9720	0.1657
4	299.88	0.9101	-0.3917	0.0085	-0.3628	0.0954	2.2607	0.2830	-0.8825	0.1808
4	299.88	0.9728	-0.4150	0.0119	-0.3344	0.1082	2.6903	0.3133	-0.5761	0.1963

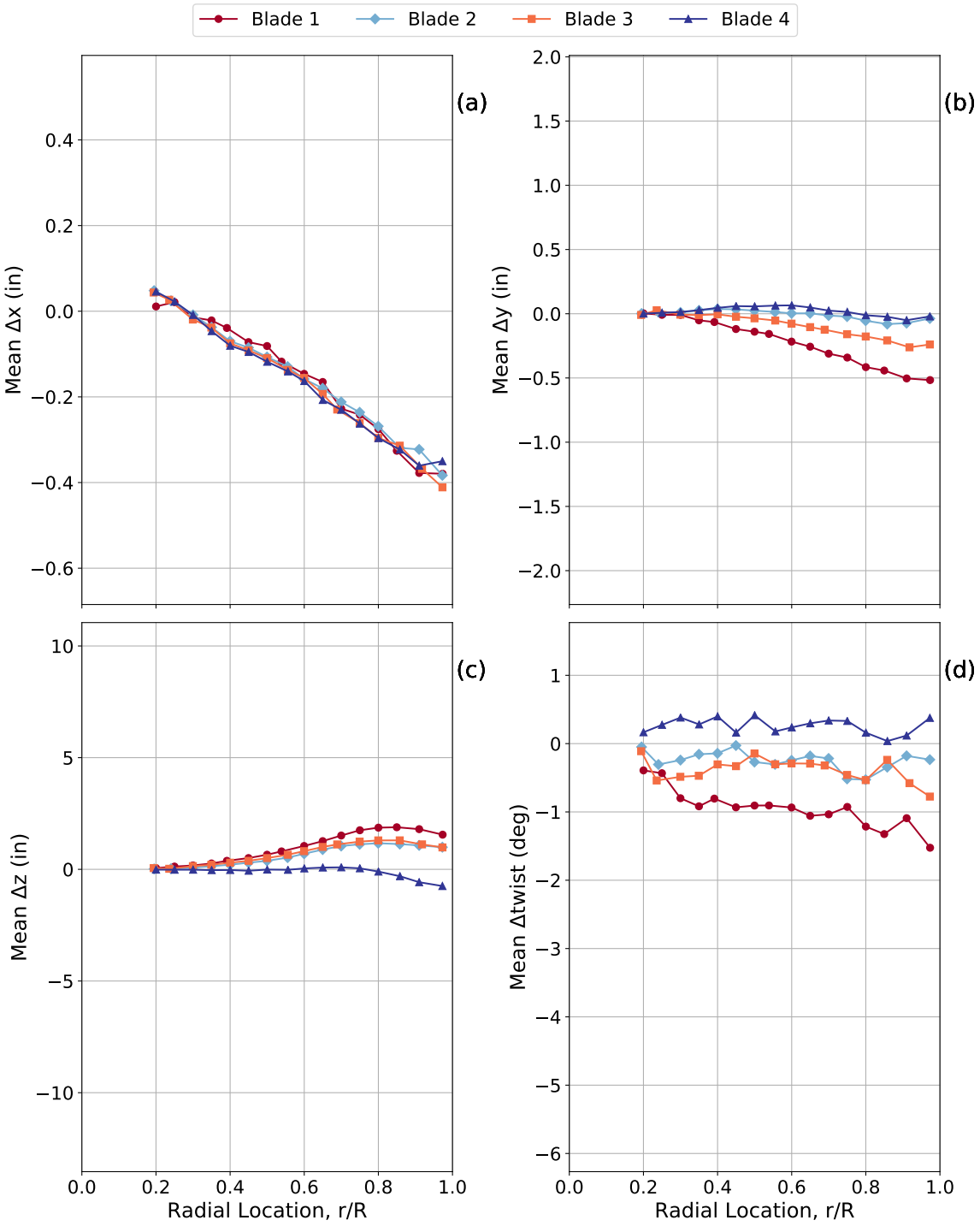


Figure 2.15-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0111	0.0029	0.0029	0.0016	0.0570	0.0103	-0.3920	0.0866
1	315	0.2499	0.0212	0.0035	-0.0085	0.0034	0.1241	0.0219	-0.4333	0.1097
1	315	0.2998	-0.0144	0.0034	-0.0089	0.0059	0.1748	0.0304	-0.7995	0.1789
1	315	0.3498	-0.0214	0.0047	-0.0513	0.0109	0.2624	0.0546	-0.9180	0.1369
1	315	0.3913	-0.0391	0.0051	-0.0646	0.0166	0.3807	0.0733	-0.8051	0.1589
1	315	0.4496	-0.0721	0.0052	-0.1190	0.0218	0.5047	0.0960	-0.9328	0.1568
1	315	0.4997	-0.0813	0.0055	-0.1399	0.0284	0.6544	0.1192	-0.9065	0.1579
1	315	0.5387	-0.1177	0.0054	-0.1573	0.0332	0.8033	0.1385	-0.9052	0.1671
1	315	0.5996	-0.1462	0.0062	-0.2168	0.0410	1.0458	0.1677	-0.9353	0.1762
1	315	0.6498	-0.1652	0.0068	-0.2565	0.0482	1.2631	0.1917	-1.0566	0.1783
1	315	0.6998	-0.2274	0.0069	-0.3107	0.0561	1.5133	0.2141	-1.0353	0.1891
1	315	0.7500	-0.2418	0.0074	-0.3412	0.0642	1.7494	0.2341	-0.9270	0.1938
1	315	0.8001	-0.2753	0.0081	-0.4156	0.0729	1.8662	0.2550	-1.2145	0.1905
1	315	0.8497	-0.3258	0.0084	-0.4421	0.0816	1.8843	0.2764	-1.3242	0.1875
1	315	0.9102	-0.3776	0.0089	-0.5036	0.0926	1.7991	0.3028	-1.0917	0.2031
1	315	0.9734	-0.3795	0.0115	-0.5164	0.1044	1.5519	0.3345	-1.5245	0.2030
2	315	0.1949	0.0481	0.0027	0.0017	0.0012	0.0196	0.0101	-0.0493	0.0663
2	315	0.2405	0.0244	0.0025	0.0131	0.0026	0.0293	0.0191	-0.3055	0.0898
2	315	0.2999	-0.0085	0.0024	0.0103	0.0046	0.0764	0.0312	-0.2412	0.1447
2	315	0.3498	-0.0374	0.0035	0.0261	0.0086	0.1407	0.0529	-0.1558	0.1202
2	315	0.3998	-0.0699	0.0048	0.0373	0.0152	0.2081	0.0762	-0.1423	0.1295
2	315	0.4496	-0.0850	0.0043	0.0338	0.0200	0.2963	0.0996	-0.0278	0.1383
2	315	0.4995	-0.1068	0.0047	0.0244	0.0258	0.3798	0.1264	-0.2697	0.1331
2	315	0.5551	-0.1292	0.0051	0.0139	0.0334	0.5249	0.1594	-0.3040	0.1243
2	315	0.5996	-0.1583	0.0054	0.0031	0.0399	0.6965	0.1853	-0.2454	0.1393
2	315	0.6497	-0.1799	0.0065	0.0034	0.0481	0.8847	0.2158	-0.1808	0.1432
2	315	0.6996	-0.2118	0.0076	-0.0138	0.0565	1.0441	0.2465	-0.2173	0.1555
2	315	0.7495	-0.2360	0.0084	-0.0222	0.0665	1.1213	0.2814	-0.5168	0.1580
2	315	0.7996	-0.2686	0.0089	-0.0542	0.0766	1.1682	0.3149	-0.5276	0.1692
2	315	0.8578	-0.3190	0.0091	-0.0806	0.0888	1.1303	0.3560	-0.3447	0.1711
2	315	0.9100	-0.3226	0.0095	-0.0731	0.0999	1.0720	0.3957	-0.1790	0.1742
2	315	0.9727	-0.3833	0.0135	-0.0369	0.1133	0.9909	0.4447	-0.2347	0.1912
3	315	0.1938	0.0437	0.0020	-0.0092	0.0010	0.0554	0.0091	-0.1110	0.0633
3	315	0.2357	0.0267	0.0028	0.0272	0.0025	0.0247	0.0169	-0.5396	0.0756
3	315	0.2995	-0.0194	0.0031	-0.0071	0.0060	0.1423	0.0310	-0.4858	0.1365
3	315	0.3493	-0.0381	0.0036	-0.0103	0.0101	0.2057	0.0450	-0.4707	0.1264
3	315	0.4000	-0.0750	0.0040	-0.0045	0.0182	0.2973	0.0694	-0.3043	0.1202
3	315	0.4497	-0.0914	0.0035	-0.0233	0.0226	0.3815	0.0850	-0.3301	0.1473
3	315	0.4997	-0.1094	0.0053	-0.0357	0.0294	0.5043	0.1110	-0.1445	0.1510
3	315	0.5556	-0.1370	0.0049	-0.0528	0.0378	0.6537	0.1364	-0.3024	0.1470
3	315	0.5995	-0.1559	0.0056	-0.0771	0.0446	0.8140	0.1576	-0.2899	0.1568
3	315	0.6498	-0.1932	0.0070	-0.1043	0.0523	1.0031	0.1809	-0.2925	0.1540
3	315	0.6890	-0.2295	0.0062	-0.1244	0.0588	1.1152	0.2003	-0.3196	0.1671
3	315	0.7495	-0.2611	0.0071	-0.1594	0.0685	1.2416	0.2266	-0.4588	0.1674
3	315	0.7998	-0.2958	0.0074	-0.1771	0.0783	1.2948	0.2508	-0.5345	0.1642
3	315	0.8577	-0.3139	0.0073	-0.2078	0.0875	1.2971	0.2846	-0.2379	0.1733
3	315	0.9178	-0.3679	0.0078	-0.2614	0.0979	1.1172	0.3264	-0.5788	0.1855
3	315	0.9729	-0.4112	0.0108	-0.2392	0.1078	0.9812	0.3722	-0.7754	0.1763
4	315	0.2001	0.0458	0.0025	0.0011	0.0012	-0.0145	0.0096	0.1658	0.0776
4	315	0.2502	0.0225	0.0040	0.0073	0.0041	-0.0174	0.0196	0.2744	0.0968
4	315	0.3001	-0.0087	0.0026	0.0134	0.0089	-0.0168	0.0260	0.3812	0.1633
4	315	0.3502	-0.0465	0.0058	0.0284	0.0128	-0.0353	0.0456	0.2808	0.1320
4	315	0.4002	-0.0806	0.0038	0.0460	0.0239	-0.0305	0.0652	0.3985	0.1281
4	315	0.4500	-0.0951	0.0043	0.0595	0.0251	-0.0627	0.0752	0.1609	0.1365
4	315	0.5001	-0.1180	0.0052	0.0571	0.0320	-0.0117	0.0959	0.4155	0.1246
4	315	0.5560	-0.1406	0.0055	0.0636	0.0393	-0.0213	0.1117	0.1784	0.1320
4	315	0.6001	-0.1630	0.0057	0.0653	0.0457	0.0402	0.1280	0.2373	0.1216
4	315	0.6501	-0.2072	0.0065	0.0485	0.0520	0.0800	0.1448	0.2972	0.1238
4	315	0.6999	-0.2301	0.0074	0.0244	0.0595	0.0898	0.1622	0.3381	0.1337
4	315	0.7500	-0.2625	0.0078	0.0139	0.0671	0.0453	0.1822	0.3318	0.1356
4	315	0.8002	-0.2963	0.0077	-0.0116	0.0750	-0.1006	0.2036	0.1597	0.1386
4	315	0.8582	-0.3230	0.0083	-0.0239	0.0844	-0.3089	0.2294	0.0369	0.1420
4	315	0.9101	-0.3606	0.0085	-0.0505	0.0932	-0.5764	0.2546	0.1179	0.1439
4	315	0.9728	-0.3502	0.0108	-0.0208	0.1040	-0.7480	0.2886	0.3763	0.1523

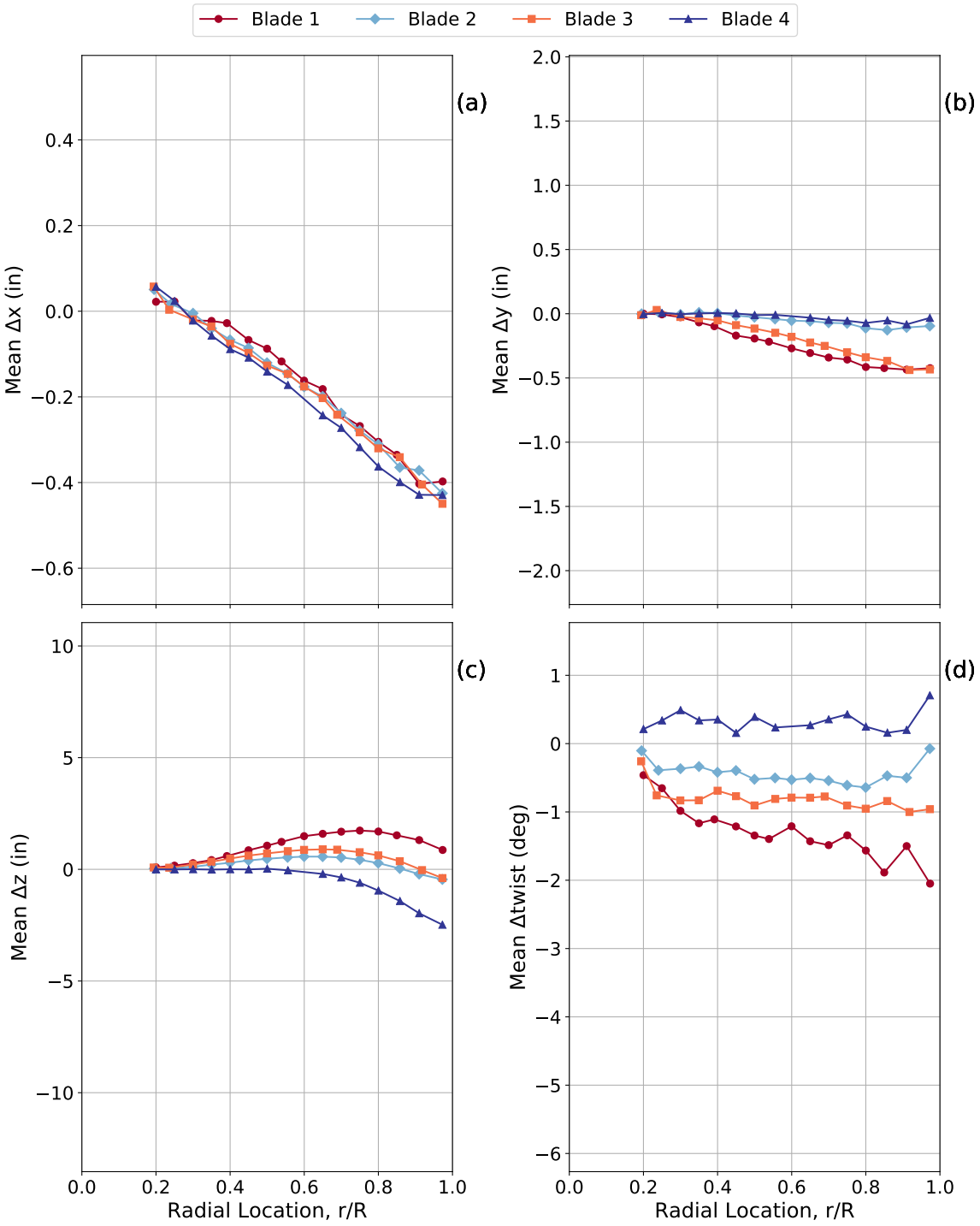


Figure 2.15-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0221	0.0029	0.0006	0.0013	0.0901	0.0094	-0.4618	0.0633
1	330.12	0.2499	0.0226	0.0022	-0.0050	0.0034	0.1663	0.0178	-0.6527	0.0791
1	330.12	0.2998	-0.0213	0.0026	-0.0268	0.0063	0.2772	0.0260	-0.9839	0.1261
1	330.12	0.3498	-0.0226	0.0031	-0.0673	0.0110	0.4155	0.0444	-1.1658	0.0993
1	330.12	0.3913	-0.0278	0.0031	-0.0972	0.0165	0.5953	0.0603	-1.1090	0.0999
1	330.12	0.4496	-0.0672	0.0045	-0.1697	0.0226	0.8539	0.0824	-1.2125	0.1144
1	330.12	0.4997	-0.0875	0.0040	-0.1930	0.0283	1.0606	0.1013	-1.3450	0.1118
1	330.12	0.5387	-0.1172	0.0042	-0.2176	0.0336	1.2294	0.1165	-1.3965	0.1154
1	330.12	0.5996	-0.1620	0.0053	-0.2691	0.0419	1.4852	0.1421	-1.2104	0.1274
1	330.12	0.6498	-0.1818	0.0057	-0.3058	0.0492	1.5909	0.1617	-1.4290	0.1330
1	330.12	0.6998	-0.2419	0.0062	-0.3412	0.0576	1.6853	0.1827	-1.4861	0.1458
1	330.12	0.7500	-0.2681	0.0065	-0.3567	0.0662	1.7355	0.2030	-1.3429	0.1532
1	330.12	0.8001	-0.3050	0.0068	-0.4147	0.0748	1.6937	0.2234	-1.5654	0.1549
1	330.12	0.8497	-0.3353	0.0073	-0.4230	0.0840	1.5229	0.2457	-1.8867	0.1602
1	330.12	0.9102	-0.4030	0.0075	-0.4351	0.0952	1.3093	0.2793	-1.5000	0.1784
1	330.12	0.9734	-0.3975	0.0097	-0.4238	0.1074	0.8666	0.3221	-2.0496	0.1842
2	330.12	0.1949	0.0507	0.0024	-0.0006	0.0011	0.0361	0.0067	-0.1035	0.0622
2	330.12	0.2405	0.0167	0.0021	0.0148	0.0022	0.0496	0.0134	-0.3905	0.0871
2	330.12	0.2999	-0.0047	0.0026	-0.0052	0.0041	0.1099	0.0206	-0.3670	0.1382
2	330.12	0.3498	-0.0401	0.0027	0.0101	0.0090	0.2119	0.0358	-0.3358	0.1049
2	330.12	0.3998	-0.0668	0.0032	0.0046	0.0133	0.2928	0.0517	-0.4194	0.1030
2	330.12	0.4496	-0.0859	0.0046	-0.0138	0.0184	0.3997	0.0676	-0.3943	0.1079
2	330.12	0.4995	-0.1204	0.0038	-0.0273	0.0228	0.4722	0.0843	-0.5220	0.1096
2	330.12	0.5551	-0.1457	0.0042	-0.0409	0.0313	0.5360	0.1081	-0.5023	0.1088
2	330.12	0.5996	-0.1765	0.0043	-0.0535	0.0374	0.5701	0.1268	-0.5291	0.1169
2	330.12	0.6497	-0.1989	0.0048	-0.0580	0.0454	0.5682	0.1510	-0.5040	0.1251
2	330.12	0.6996	-0.2380	0.0049	-0.0705	0.0550	0.5315	0.1774	-0.5420	0.1208
2	330.12	0.7495	-0.2785	0.0054	-0.0749	0.0643	0.4292	0.2039	-0.6100	0.1336
2	330.12	0.7996	-0.3109	0.0056	-0.1123	0.0742	0.2796	0.2352	-0.6422	0.1367
2	330.12	0.8578	-0.3647	0.0065	-0.1274	0.0860	0.0372	0.2786	-0.4711	0.1524
2	330.12	0.9100	-0.3717	0.0068	-0.1071	0.0969	-0.2129	0.3245	-0.5001	0.1549
2	330.12	0.9727	-0.4251	0.0091	-0.0954	0.1094	-0.4525	0.3851	-0.0735	0.1556
3	330.12	0.1938	0.0576	0.0045	-0.0112	0.0013	0.0815	0.0120	-0.2592	0.0639
3	330.12	0.2357	0.0034	0.0033	0.0294	0.0030	0.0728	0.0145	-0.7577	0.1249
3	330.12	0.2995	-0.0191	0.0030	-0.0251	0.0051	0.2163	0.0329	-0.8317	0.1613
3	330.12	0.3493	-0.0356	0.0025	-0.0352	0.0106	0.3403	0.0523	-0.8297	0.1418
3	330.12	0.4000	-0.0761	0.0029	-0.0515	0.0161	0.4826	0.0755	-0.6895	0.1498
3	330.12	0.4497	-0.0974	0.0045	-0.0886	0.0224	0.6159	0.0998	-0.7694	0.1590
3	330.12	0.4997	-0.1268	0.0048	-0.1152	0.0268	0.7139	0.1277	-0.9052	0.1705
3	330.12	0.5556	-0.1463	0.0058	-0.1481	0.0341	0.8136	0.1599	-0.8097	0.1670
3	330.12	0.5995	-0.1757	0.0051	-0.1798	0.0408	0.8714	0.1883	-0.7905	0.1619
3	330.12	0.6498	-0.2028	0.0058	-0.2238	0.0490	0.8956	0.2180	-0.7921	0.1626
3	330.12	0.6890	-0.2416	0.0065	-0.2504	0.0554	0.8797	0.2400	-0.7741	0.1721
3	330.12	0.7495	-0.2827	0.0064	-0.3000	0.0654	0.7668	0.2718	-0.9061	0.1777
3	330.12	0.7998	-0.3201	0.0067	-0.3385	0.0749	0.6236	0.2967	-0.9526	0.1782
3	330.12	0.8577	-0.3408	0.0072	-0.3672	0.0859	0.3647	0.3226	-0.8408	0.1804
3	330.12	0.9178	-0.4046	0.0075	-0.4381	0.0980	-0.0346	0.3506	-1.0009	0.1798
3	330.12	0.9729	-0.4496	0.0098	-0.4339	0.1092	-0.3920	0.3776	-0.9597	0.1835
4	330.12	0.2001	0.0571	0.0022	-0.0030	0.0010	-0.0047	0.0081	0.2126	0.0462
4	330.12	0.2502	0.0240	0.0025	0.0061	0.0031	-0.0048	0.0173	0.3388	0.0655
4	330.12	0.3001	-0.0218	0.0030	-0.0030	0.0058	0.0034	0.0264	0.4892	0.0990
4	330.12	0.3502	-0.0570	0.0031	0.0023	0.0083	-0.0115	0.0458	0.3396	0.0866
4	330.12	0.4002	-0.0885	0.0031	0.0058	0.0149	0.0021	0.0678	0.3524	0.0974
4	330.12	0.4500	-0.1084	0.0033	0.0021	0.0191	-0.0044	0.0924	0.1564	0.0922
4	330.12	0.5001	-0.1411	0.0035	-0.0105	0.0246	0.0280	0.1186	0.3915	0.1081
4	330.12	0.5560	-0.1723	0.0045	-0.0088	0.0320	-0.0455	0.1531	0.2363	0.1042
4	330.12	0.6501	-0.2431	0.0045	-0.0309	0.0456	-0.2057	0.2116	0.2699	0.1174
4	330.12	0.6999	-0.2724	0.0053	-0.0479	0.0538	-0.3633	0.2445	0.3555	0.1195
4	330.12	0.7500	-0.3175	0.0057	-0.0546	0.0626	-0.6008	0.2747	0.4286	0.1238
4	330.12	0.8002	-0.3628	0.0059	-0.0716	0.0720	-0.9522	0.3079	0.2482	0.1311
4	330.12	0.8582	-0.3991	0.0067	-0.0523	0.0831	-1.4205	0.3495	0.1588	0.1266
4	330.12	0.9101	-0.4286	0.0073	-0.0830	0.0935	-1.9676	0.3877	0.2004	0.1259
4	330.12	0.9728	-0.4293	0.0094	-0.0323	0.1064	-2.4813	0.4366	0.7068	0.1249

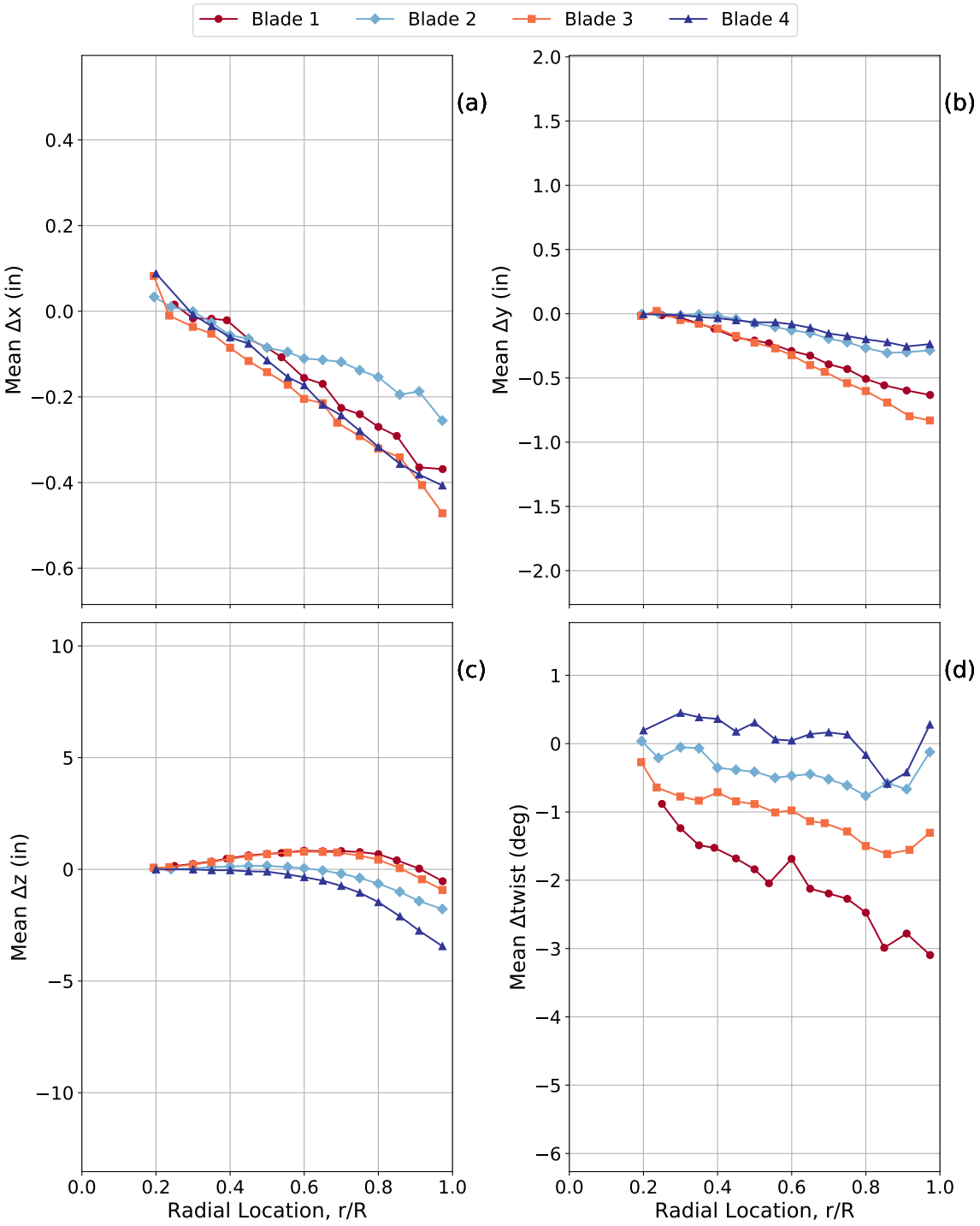


Figure 2.15-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2499	0.0155	0.0057	-0.0116	0.0049	0.1501	0.0313	-0.8824	0.2017
1	344.88	0.2998	-0.0168	0.0067	-0.0304	0.0097	0.2412	0.0498	-1.2379	0.2845
1	344.88	0.3498	-0.0175	0.0058	-0.0767	0.0173	0.3485	0.0849	-1.4881	0.2699
1	344.88	0.3913	-0.0211	0.0052	-0.1159	0.0259	0.4802	0.1158	-1.5251	0.2745
1	344.88	0.4496	-0.0647	0.0055	-0.1859	0.0350	0.6248	0.1568	-1.6815	0.2818
1	344.88	0.4997	-0.0850	0.0060	-0.2083	0.0454	0.6910	0.1916	-1.8399	0.2844
1	344.88	0.5387	-0.1074	0.0063	-0.2292	0.0521	0.7328	0.2188	-2.0452	0.2987
1	344.88	0.5996	-0.1557	0.0067	-0.2901	0.0644	0.8393	0.2651	-1.6869	0.3169
1	344.88	0.6498	-0.1697	0.0077	-0.3259	0.0743	0.8109	0.3033	-2.1243	0.3170
1	344.88	0.6998	-0.2259	0.0082	-0.3937	0.0858	0.8188	0.3440	-2.1943	0.3279
1	344.88	0.7500	-0.2405	0.0085	-0.4306	0.0977	0.7746	0.3866	-2.2723	0.3382
1	344.88	0.8001	-0.2701	0.0094	-0.5069	0.1098	0.6807	0.4310	-2.4748	0.3479
1	344.88	0.8497	-0.2912	0.0099	-0.5571	0.1225	0.4022	0.4782	-2.9891	0.3637
1	344.88	0.9102	-0.3646	0.0104	-0.5975	0.1384	0.0316	0.5401	-2.7802	0.3651
1	344.88	0.9734	-0.3686	0.0143	-0.6323	0.1558	-0.5333	0.6077	-3.0957	0.3866
2	344.88	0.1949	0.0333	0.0158	-0.0036	0.0020	0.0182	0.0375	0.0364	0.1407
2	344.88	0.2405	0.0103	0.0107	0.0059	0.0243	0.0086	0.0648	-0.2089	0.2255
2	344.88	0.2999	-0.0008	0.0081	-0.0125	0.0546	0.0406	0.1016	-0.0525	0.3210
2	344.88	0.3498	-0.0264	0.0066	-0.0048	0.0806	0.1033	0.1320	-0.0677	0.4056
2	344.88	0.3998	-0.0564	0.0062	-0.0145	0.1541	0.1233	0.1976	-0.3536	0.1310
2	344.88	0.4496	-0.0640	0.0083	-0.0418	0.1885	0.1561	0.2362	-0.3844	0.1467
2	344.88	0.4995	-0.0851	0.0097	-0.0732	0.2218	0.1564	0.2728	-0.4125	0.1533
2	344.88	0.5551	-0.0951	0.0122	-0.1029	0.2580	0.1021	0.3143	-0.5004	0.1587
2	344.88	0.5996	-0.1105	0.0146	-0.1286	0.2868	0.0471	0.3474	-0.4718	0.1662
2	344.88	0.6497	-0.1135	0.0185	-0.1490	0.3190	-0.0491	0.3831	-0.4467	0.1652
2	344.88	0.6996	-0.1184	0.0238	-0.1938	0.3514	-0.1942	0.4181	-0.5204	0.1674
2	344.88	0.7495	-0.1379	0.0302	-0.2216	0.3832	-0.3875	0.4530	-0.6123	0.1727
2	344.88	0.7996	-0.1536	0.0375	-0.2663	0.4146	-0.6386	0.4920	-0.7647	0.1882
2	344.88	0.8578	-0.1945	0.0470	-0.3047	0.4502	-1.0050	0.5315	-0.5799	0.1775
2	344.88	0.9100	-0.1873	0.0568	-0.2994	0.4833	-1.4230	0.5735	-0.6671	0.1937
2	344.88	0.9727	-0.2554	0.0778	-0.2849	0.5188	-1.7771	0.6210	-0.1226	0.1842
3	344.88	0.1938	0.0825	0.0118	-0.0166	0.0019	0.0745	0.0153	-0.2717	0.0706
3	344.88	0.2357	-0.0102	0.0072	0.0217	0.0033	0.0975	0.0192	-0.6428	0.1596
3	344.88	0.2995	-0.0365	0.0064	-0.0485	0.0068	0.2104	0.0448	-0.7750	0.1850
3	344.88	0.3493	-0.0523	0.0062	-0.0784	0.0122	0.3265	0.0714	-0.8352	0.1901
3	344.88	0.4000	-0.0855	0.0059	-0.1169	0.0199	0.4720	0.1046	-0.7120	0.1845
3	344.88	0.4497	-0.1162	0.0066	-0.1729	0.0264	0.5813	0.1336	-0.8455	0.1987
3	344.88	0.4997	-0.1422	0.0067	-0.2248	0.0330	0.6803	0.1686	-0.8847	0.2004
3	344.88	0.5556	-0.1715	0.0067	-0.2696	0.0442	0.7501	0.2073	-1.0079	0.2173
3	344.88	0.5995	-0.2046	0.0070	-0.3223	0.0523	0.7949	0.2366	-0.9772	0.2217
3	344.88	0.6498	-0.2148	0.0071	-0.4000	0.0623	0.7802	0.2699	-1.1359	0.2227
3	344.88	0.6890	-0.2604	0.0077	-0.4522	0.0713	0.7547	0.2951	-1.1637	0.2238
3	344.88	0.7495	-0.2916	0.0082	-0.5402	0.0855	0.6168	0.3356	-1.2863	0.2398
3	344.88	0.7998	-0.3208	0.0083	-0.6014	0.0983	0.4323	0.3706	-1.4985	0.2429
3	344.88	0.8577	-0.3411	0.0088	-0.6914	0.1141	0.0539	0.4134	-1.6163	0.2571
3	344.88	0.9178	-0.4059	0.0091	-0.7979	0.1308	-0.4471	0.4593	-1.5548	0.2555
3	344.88	0.9729	-0.4718	0.0128	-0.8308	0.1467	-0.9238	0.5001	-1.3052	0.2475
4	344.88	0.2001	0.0881	0.0048	-0.0034	0.0011	-0.0031	0.0090	0.1928	0.0649
4	344.88	0.3001	-0.0082	0.0043	-0.0105	0.0087	-0.0052	0.0278	0.4490	0.1489
4	344.88	0.3502	-0.0347	0.0039	-0.0258	0.0130	-0.0382	0.0440	0.3853	0.1351
4	344.88	0.4002	-0.0611	0.0031	-0.0345	0.0230	-0.0407	0.0666	0.3612	0.1454
4	344.88	0.4500	-0.0759	0.0037	-0.0506	0.0278	-0.0899	0.0890	0.1757	0.1514
4	344.88	0.5001	-0.1149	0.0043	-0.0669	0.0361	-0.1034	0.1149	0.3072	0.1553
4	344.88	0.5560	-0.1541	0.0049	-0.0666	0.0432	-0.2309	0.1426	0.0601	0.1656
4	344.88	0.6001	-0.1729	0.0052	-0.0820	0.0496	-0.3515	0.1658	0.0442	0.1657
4	344.88	0.6501	-0.2184	0.0054	-0.1091	0.0581	-0.5064	0.1926	0.1395	0.1832
4	344.88	0.6999	-0.2432	0.0058	-0.1538	0.0672	-0.7418	0.2204	0.1644	0.1928
4	344.88	0.7500	-0.2796	0.0065	-0.1744	0.0762	-1.0487	0.2540	0.1318	0.2037
4	344.88	0.8002	-0.3169	0.0074	-0.1986	0.0859	-1.4711	0.2928	-0.1655	0.2187
4	344.88	0.8582	-0.3565	0.0085	-0.2219	0.0975	-2.1056	0.3447	-0.5879	0.2398
4	344.88	0.9101	-0.3813	0.0098	-0.2549	0.1085	-2.7480	0.3962	-0.4205	0.2319
4	344.88	0.9728	-0.4069	0.0130	-0.2363	0.1215	-3.4411	0.4600	0.2779	0.1897

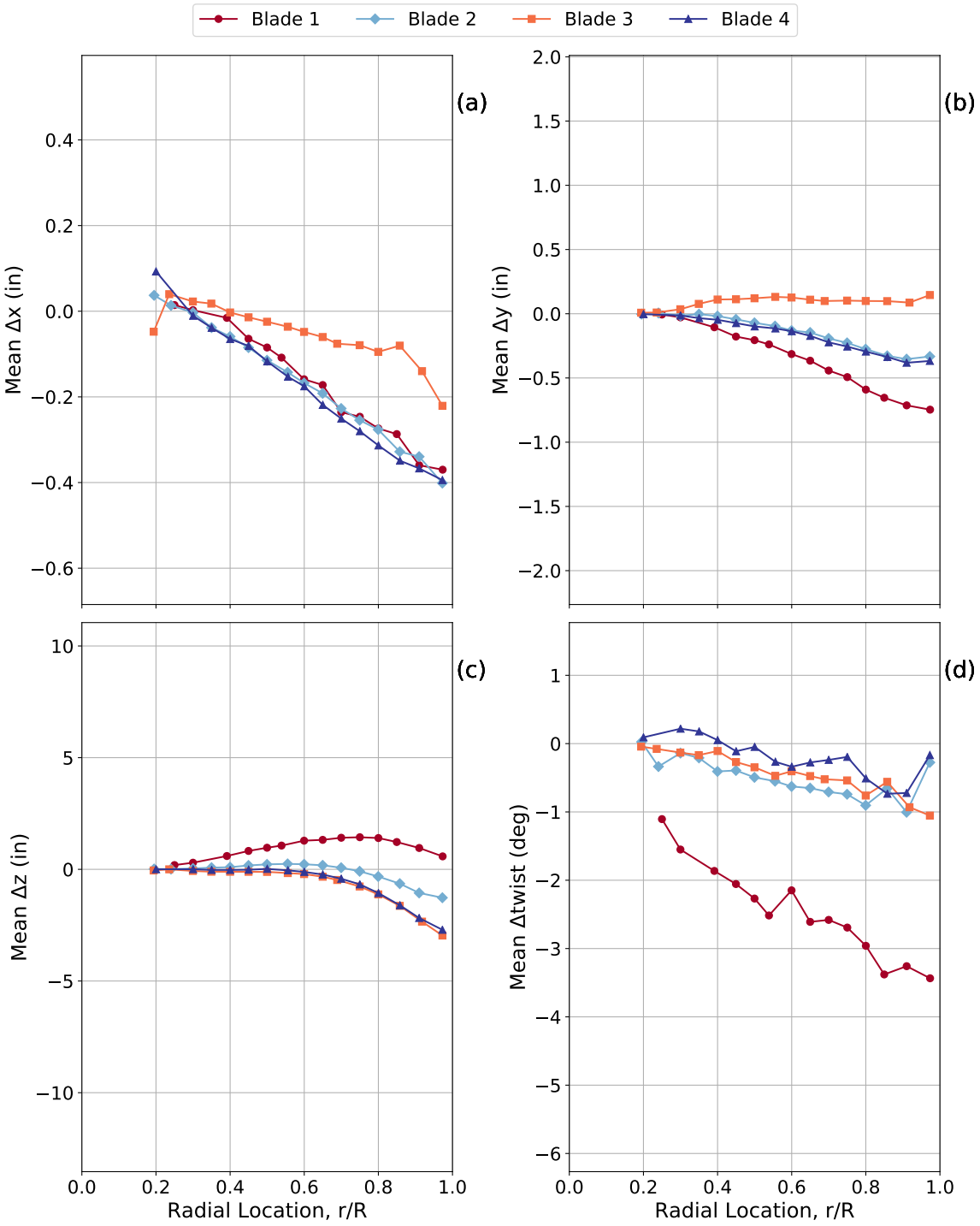


Figure 2.15-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2499	0.0144	0.0085	-0.0062	0.0089	0.1907	0.0577	-1.1053	0.3213
1	350.16	0.2998	0.0026	0.0122	-0.0282	0.0183	0.2965	0.0967	-1.5504	0.4509
1	350.16	0.3913	-0.0155	0.0085	-0.1054	0.0498	0.5963	0.2151	-1.8637	0.4544
1	350.16	0.4496	-0.0643	0.0094	-0.1777	0.0668	0.8236	0.2894	-2.0556	0.4615
1	350.16	0.4997	-0.0847	0.0100	-0.2056	0.0841	0.9671	0.3528	-2.2681	0.4654
1	350.16	0.5387	-0.1083	0.0104	-0.2387	0.0964	1.0635	0.4035	-2.5159	0.4650
1	350.16	0.5996	-0.1589	0.0114	-0.3138	0.1175	1.2836	0.4781	-2.1481	0.4771
1	350.16	0.6498	-0.1723	0.0123	-0.3654	0.1348	1.3197	0.5406	-2.6094	0.4830
1	350.16	0.6998	-0.2356	0.0131	-0.4422	0.1528	1.4141	0.6013	-2.5807	0.4896
1	350.16	0.7500	-0.2464	0.0142	-0.4933	0.1708	1.4372	0.6618	-2.6930	0.4946
1	350.16	0.8001	-0.2737	0.0141	-0.5906	0.1900	1.4014	0.7222	-2.9598	0.5051
1	350.16	0.8497	-0.2869	0.0147	-0.6540	0.2086	1.2228	0.7842	-3.3792	0.5094
1	350.16	0.9102	-0.3596	0.0148	-0.7133	0.2318	0.9560	0.8586	-3.2583	0.5228
1	350.16	0.9734	-0.3700	0.0206	-0.7467	0.2567	0.5802	0.9380	-3.4353	0.5287
2	350.16	0.1949	0.0371	0.0089	-0.0030	0.0021	0.0155	0.0135	0.0250	0.0834
2	350.16	0.2405	0.0136	0.0074	0.0060	0.0039	0.0105	0.0160	-0.3358	0.1749
2	350.16	0.2999	-0.0031	0.0067	-0.0155	0.0089	0.0369	0.0377	-0.1387	0.2054
2	350.16	0.3498	-0.0382	0.0057	-0.0030	0.0149	0.0756	0.0609	-0.2092	0.2024
2	350.16	0.3998	-0.0591	0.0062	-0.0182	0.0235	0.0958	0.0876	-0.4072	0.2049
2	350.16	0.4496	-0.0849	0.0063	-0.0436	0.0305	0.1733	0.1126	-0.3935	0.2063
2	350.16	0.4995	-0.1145	0.0065	-0.0706	0.0385	0.2229	0.1401	-0.4940	0.2243
2	350.16	0.5551	-0.1425	0.0068	-0.0960	0.0473	0.2448	0.1704	-0.5503	0.2253
2	350.16	0.5996	-0.1676	0.0071	-0.1307	0.0558	0.2274	0.1968	-0.6274	0.2249
2	350.16	0.6497	-0.1917	0.0073	-0.1458	0.0649	0.1807	0.2262	-0.6510	0.2208
2	350.16	0.6996	-0.2271	0.0077	-0.1919	0.0753	0.0720	0.2551	-0.7079	0.2215
2	350.16	0.7495	-0.2544	0.0085	-0.2268	0.0855	-0.0873	0.2868	-0.7411	0.2257
2	350.16	0.7996	-0.2764	0.0089	-0.2754	0.0961	-0.3217	0.3204	-0.9038	0.2178
2	350.16	0.8578	-0.3280	0.0090	-0.3276	0.1092	-0.6412	0.3643	-0.6547	0.2267
2	350.16	0.9100	-0.3395	0.0096	-0.3534	0.1209	-1.0565	0.4039	-1.0051	0.2234
2	350.16	0.9727	-0.4013	0.0123	-0.3326	0.1346	-1.2708	0.4541	-0.2754	0.2268
3	350.16	0.1938	-0.0478	0.0079	0.0081	0.0046	-0.0507	0.0296	-0.0436	0.0569
3	350.16	0.2357	0.0398	0.0076	0.0095	0.0034	0.0005	0.0232	-0.0776	0.0869
3	350.16	0.2995	0.0227	0.0023	0.0349	0.0164	-0.0723	0.0712	-0.1310	0.1243
3	350.16	0.3493	0.0178	0.0054	0.0768	0.0311	-0.1067	0.1133	-0.1686	0.1234
3	350.16	0.4000	-0.0029	0.0079	0.1108	0.0459	-0.1093	0.1551	-0.1082	0.1384
3	350.16	0.4497	-0.0142	0.0096	0.1128	0.0607	-0.1106	0.1967	-0.2695	0.1466
3	350.16	0.4997	-0.0245	0.0112	0.1203	0.0756	-0.1143	0.2375	-0.3467	0.1502
3	350.16	0.5556	-0.0362	0.0146	0.1312	0.0919	-0.1669	0.2813	-0.4715	0.1481
3	350.16	0.5995	-0.0483	0.0199	0.1263	0.1058	-0.2120	0.3168	-0.4050	0.1518
3	350.16	0.6498	-0.0602	0.0279	0.1095	0.1225	-0.3300	0.3566	-0.4750	0.1576
3	350.16	0.6890	-0.0759	0.0367	0.0991	0.1370	-0.4767	0.3888	-0.5219	0.1591
3	350.16	0.7495	-0.0793	0.0520	0.1023	0.1598	-0.7675	0.4374	-0.5388	0.1610
3	350.16	0.7998	-0.0949	0.0668	0.0993	0.1791	-1.1226	0.4783	-0.7601	0.1560
3	350.16	0.8577	-0.0803	0.0864	0.0983	0.2004	-1.6346	0.5246	-0.5594	0.1631
3	350.16	0.9178	-0.1399	0.1083	0.0869	0.2203	-2.3404	0.5700	-0.9309	0.1700
3	350.16	0.9729	-0.2209	0.1271	0.1457	0.2401	-2.9634	0.6089	-1.0535	0.1911
4	350.16	0.2001	0.0928	0.0052	-0.0036	0.0015	0.0024	0.0123	0.0918	0.0865
4	350.16	0.3001	-0.0107	0.0057	-0.0135	0.0080	0.0044	0.0347	0.2184	0.1972
4	350.16	0.3502	-0.0388	0.0055	-0.0344	0.0182	-0.0274	0.0580	0.1781	0.1721
4	350.16	0.4002	-0.0649	0.0035	-0.0472	0.0268	-0.0273	0.0834	0.0507	0.2028
4	350.16	0.4500	-0.0811	0.0039	-0.0730	0.0319	-0.0178	0.1072	-0.1124	0.2150
4	350.16	0.5001	-0.1172	0.0043	-0.0988	0.0396	0.0186	0.1347	-0.0484	0.2232
4	350.16	0.5560	-0.1530	0.0048	-0.1148	0.0488	-0.0465	0.1655	-0.2665	0.2316
4	350.16	0.6001	-0.1753	0.0054	-0.1361	0.0559	-0.1160	0.1882	-0.3386	0.2417
4	350.16	0.6501	-0.2188	0.0057	-0.1725	0.0650	-0.2324	0.2141	-0.2757	0.2530
4	350.16	0.6999	-0.2507	0.0061	-0.2228	0.0740	-0.4215	0.2413	-0.2385	0.2562
4	350.16	0.7500	-0.2802	0.0068	-0.2557	0.0836	-0.6731	0.2656	-0.1946	0.2681
4	350.16	0.8002	-0.3134	0.0072	-0.2948	0.0940	-1.0637	0.2920	-0.5095	0.2677
4	350.16	0.8582	-0.3490	0.0079	-0.3369	0.1058	-1.6106	0.3230	-0.7342	0.2766
4	350.16	0.9101	-0.3670	0.0086	-0.3816	0.1174	-2.1790	0.3516	-0.7226	0.2871
4	350.16	0.9728	-0.3943	0.0110	-0.3674	0.1306	-2.7073	0.3909	-0.1683	0.2905

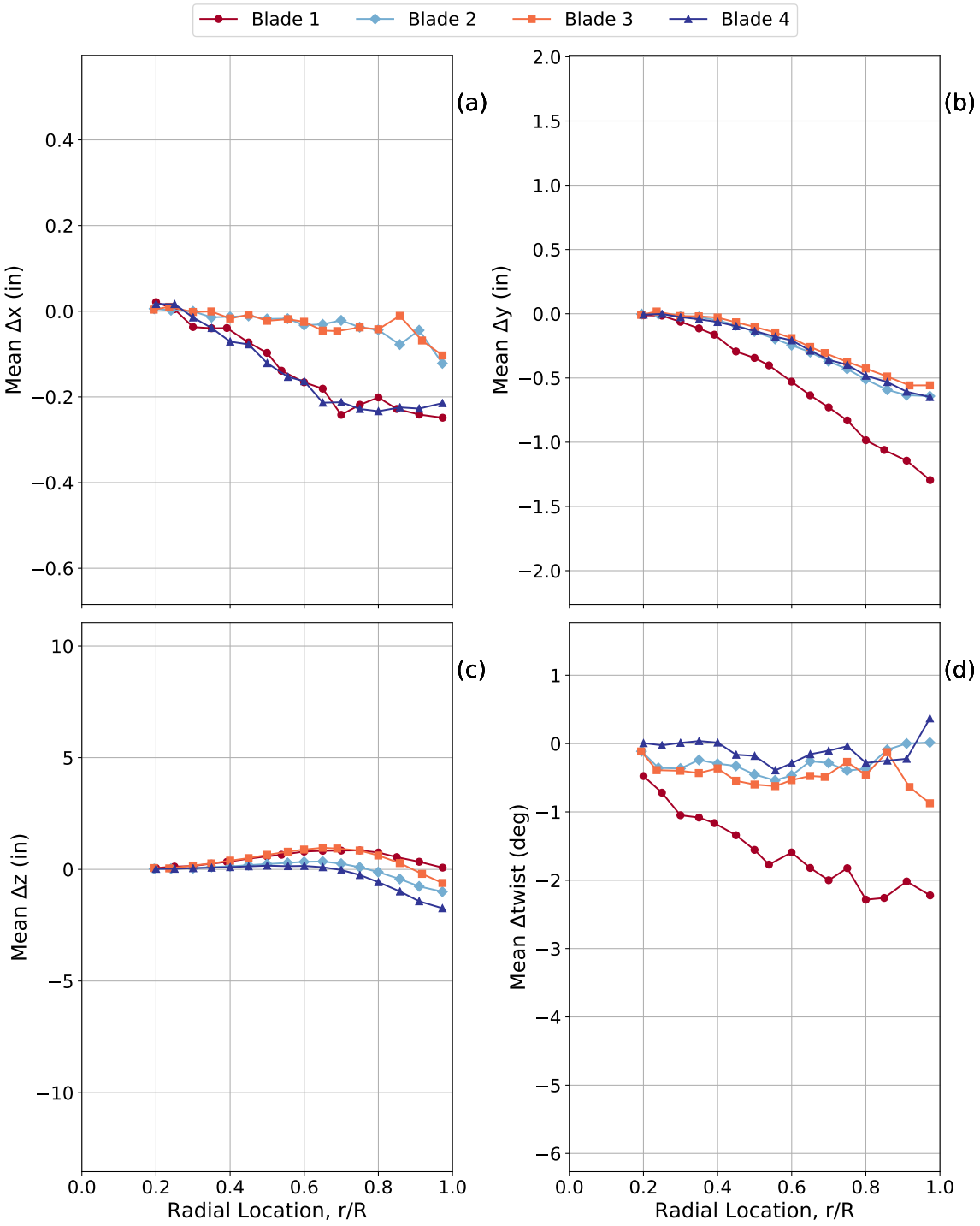


Figure 2.15-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.118, μ = 0.245, α = -1.89° NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Table 2.15-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.118, μ = 0.245, α = -1.89°
NFAC run 60, points 28 to 29. BD run 28, points 4024 to 4063.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0213	0.0026	-0.0120	0.0022	0.0616	0.0121	-0.4750	0.0760
1	355.08	0.2499	0.0047	0.0021	-0.0146	0.0048	0.1241	0.0192	-0.7182	0.1260
1	355.08	0.2998	-0.0369	0.0020	-0.0628	0.0086	0.1524	0.0343	-1.0490	0.1663
1	355.08	0.3498	-0.0397	0.0021	-0.1142	0.0145	0.2574	0.0547	-1.0824	0.1720
1	355.08	0.3913	-0.0392	0.0027	-0.1632	0.0210	0.3364	0.0744	-1.1638	0.1913
1	355.08	0.4496	-0.0729	0.0035	-0.2941	0.0279	0.4784	0.1017	-1.3412	0.2101
1	355.08	0.4997	-0.0973	0.0038	-0.3442	0.0359	0.5827	0.1259	-1.5550	0.2415
1	355.08	0.5387	-0.1389	0.0040	-0.4022	0.0426	0.6532	0.1480	-1.7706	0.2302
1	355.08	0.5996	-0.1659	0.0055	-0.5285	0.0531	0.7967	0.1771	-1.5929	0.2310
1	355.08	0.6498	-0.1808	0.0058	-0.6348	0.0618	0.8293	0.2056	-1.8195	0.2443
1	355.08	0.6998	-0.2418	0.0067	-0.7288	0.0730	0.8401	0.2353	-2.0004	0.2600
1	355.08	0.7500	-0.2184	0.0066	-0.8307	0.0836	0.8491	0.2683	-1.8227	0.2798
1	355.08	0.8001	-0.2012	0.0071	-0.9848	0.0958	0.7539	0.3057	-2.2846	0.2763
1	355.08	0.8497	-0.2281	0.0070	-1.0602	0.1068	0.5481	0.3387	-2.2596	0.2856
1	355.08	0.9102	-0.2412	0.0106	-1.1434	0.1233	0.3403	0.3816	-2.0176	0.2890
1	355.08	0.9734	-0.2486	0.0174	-1.2948	0.1359	0.0770	0.4254	-2.2222	0.3558
2	355.08	0.1949	0.0058	0.0211	-0.0024	0.0009	0.0225	0.0071	-0.1126	0.0331
2	355.08	0.2405	0.0023	0.0071	-0.0029	0.0026	0.0316	0.0120	-0.3556	0.0456
2	355.08	0.2999	-0.0003	0.0089	-0.0220	0.0065	0.0490	0.0232	-0.3646	0.0715
2	355.08	0.3498	-0.0141	0.0188	-0.0253	0.0117	0.1086	0.0344	-0.2388	0.0786
2	355.08	0.3998	-0.0130	0.0264	-0.0512	0.0190	0.1319	0.0527	-0.2942	0.0899
2	355.08	0.4496	-0.0111	0.0314	-0.0892	0.0255	0.1896	0.0667	-0.3269	0.0971
2	355.08	0.4995	-0.0179	0.0352	-0.1385	0.0330	0.2394	0.0845	-0.4517	0.1021
2	355.08	0.5551	-0.0173	0.0374	-0.1967	0.0428	0.2911	0.1029	-0.5381	0.1088
2	355.08	0.5996	-0.0326	0.0385	-0.2456	0.0518	0.3382	0.1212	-0.4661	0.1082
2	355.08	0.6497	-0.0305	0.0411	-0.2990	0.0623	0.3540	0.1421	-0.2586	0.1163
2	355.08	0.6996	-0.0213	0.0438	-0.3708	0.0750	0.2576	0.1608	-0.2836	0.1129
2	355.08	0.7495	-0.0373	0.0504	-0.4299	0.0885	0.0959	0.1797	-0.3950	0.1150
2	355.08	0.7996	-0.0434	0.0581	-0.5111	0.1022	-0.1216	0.2001	-0.3684	0.1256
2	355.08	0.8578	-0.0778	0.0711	-0.5915	0.1200	-0.4325	0.2194	-0.0897	0.1443
2	355.08	0.9100	-0.0443	0.0850	-0.6339	0.1357	-0.7635	0.2391	0.0010	0.1566
2	355.08	0.9727	-0.1218	0.1080	-0.6412	0.1553	-1.0026	0.2575	0.0155	0.1813
3	355.08	0.1938	0.0037	0.0239	-0.0087	0.0013	0.0591	0.0071	-0.1150	0.0367
3	355.08	0.2357	0.0103	0.0098	0.0173	0.0023	0.0446	0.0110	-0.3885	0.0501
3	355.08	0.2995	-0.0017	0.0097	-0.0177	0.0062	0.1708	0.0218	-0.3977	0.0828
3	355.08	0.3493	-0.0005	0.0216	-0.0200	0.0117	0.2662	0.0371	-0.4312	0.0817
3	355.08	0.4000	-0.0169	0.0321	-0.0294	0.0182	0.3902	0.0543	-0.3633	0.0992
3	355.08	0.4497	-0.0081	0.0404	-0.0666	0.0258	0.5035	0.0747	-0.5439	0.0996
3	355.08	0.4997	-0.0223	0.0470	-0.1020	0.0342	0.6505	0.0912	-0.5991	0.1179
3	355.08	0.5556	-0.0185	0.0536	-0.1460	0.0449	0.7897	0.1112	-0.6225	0.1308
3	355.08	0.5995	-0.0246	0.0582	-0.1897	0.0544	0.8878	0.1286	-0.5342	0.1328
3	355.08	0.6498	-0.0452	0.0635	-0.2584	0.0662	0.9659	0.1472	-0.4736	0.1407
3	355.08	0.6890	-0.0463	0.0680	-0.3063	0.0757	0.9313	0.1647	-0.4869	0.1454
3	355.08	0.7495	-0.0378	0.0755	-0.3740	0.0911	0.8451	0.1915	-0.2678	0.1624
3	355.08	0.7998	-0.0421	0.0836	-0.4264	0.1046	0.6212	0.2167	-0.4588	0.1684
3	355.08	0.8577	-0.0107	0.0943	-0.4885	0.1220	0.2821	0.2473	-0.1250	0.1862
3	355.08	0.9178	-0.0683	0.1078	-0.5578	0.1418	-0.2019	0.2816	-0.6356	0.1938
3	355.08	0.9729	-0.1033	0.1241	-0.5572	0.1553	-0.6096	0.3131	-0.8735	0.2185
4	355.08	0.2001	0.0168	0.0020	-0.0072	0.0013	0.0232	0.0089	0.0069	0.0622
4	355.08	0.2502	0.0166	0.0015	-0.0012	0.0044	0.0255	0.0156	-0.0248	0.0948
4	355.08	0.3001	-0.0146	0.0019	-0.0265	0.0069	0.0518	0.0287	0.0108	0.1322
4	355.08	0.3502	-0.0392	0.0021	-0.0429	0.0114	0.0749	0.0443	0.0373	0.1167
4	355.08	0.4002	-0.0709	0.0029	-0.0642	0.0191	0.1003	0.0670	0.0151	0.1232
4	355.08	0.4500	-0.0775	0.0025	-0.0970	0.0240	0.1353	0.0873	-0.1628	0.1246
4	355.08	0.5001	-0.1213	0.0030	-0.1342	0.0311	0.1653	0.1118	-0.1799	0.1321
4	355.08	0.5560	-0.1533	0.0033	-0.1792	0.0401	0.1437	0.1390	-0.3913	0.1442
4	355.08	0.6001	-0.1634	0.0035	-0.2071	0.0468	0.1542	0.1622	-0.2867	0.1451
4	355.08	0.6501	-0.2135	0.0040	-0.2876	0.0549	0.0958	0.1907	-0.1553	0.1424
4	355.08	0.6999	-0.2124	0.0044	-0.3591	0.0640	-0.0279	0.2200	-0.1037	0.1395
4	355.08	0.7500	-0.2281	0.0048	-0.3972	0.0735	-0.2535	0.2474	-0.0384	0.1483
4	355.08	0.8002	-0.2334	0.0055	-0.4824	0.0835	-0.5740	0.2835	-0.2824	0.1781
4	355.08	0.8582	-0.2244	0.0070	-0.5318	0.0946	-0.9915	0.3199	-0.2489	0.1771
4	355.08	0.9101	-0.2272	0.0074	-0.6067	0.1041	-1.4312	0.3578	-0.2225	0.1713
4	355.08	0.9728	-0.2145	0.0146	-0.6480	0.1161	-1.7423	0.4043	0.3693	0.2320

2.16 Run 67, Points 14 to 18

2.16.1 Pitch, Flap, and Lag

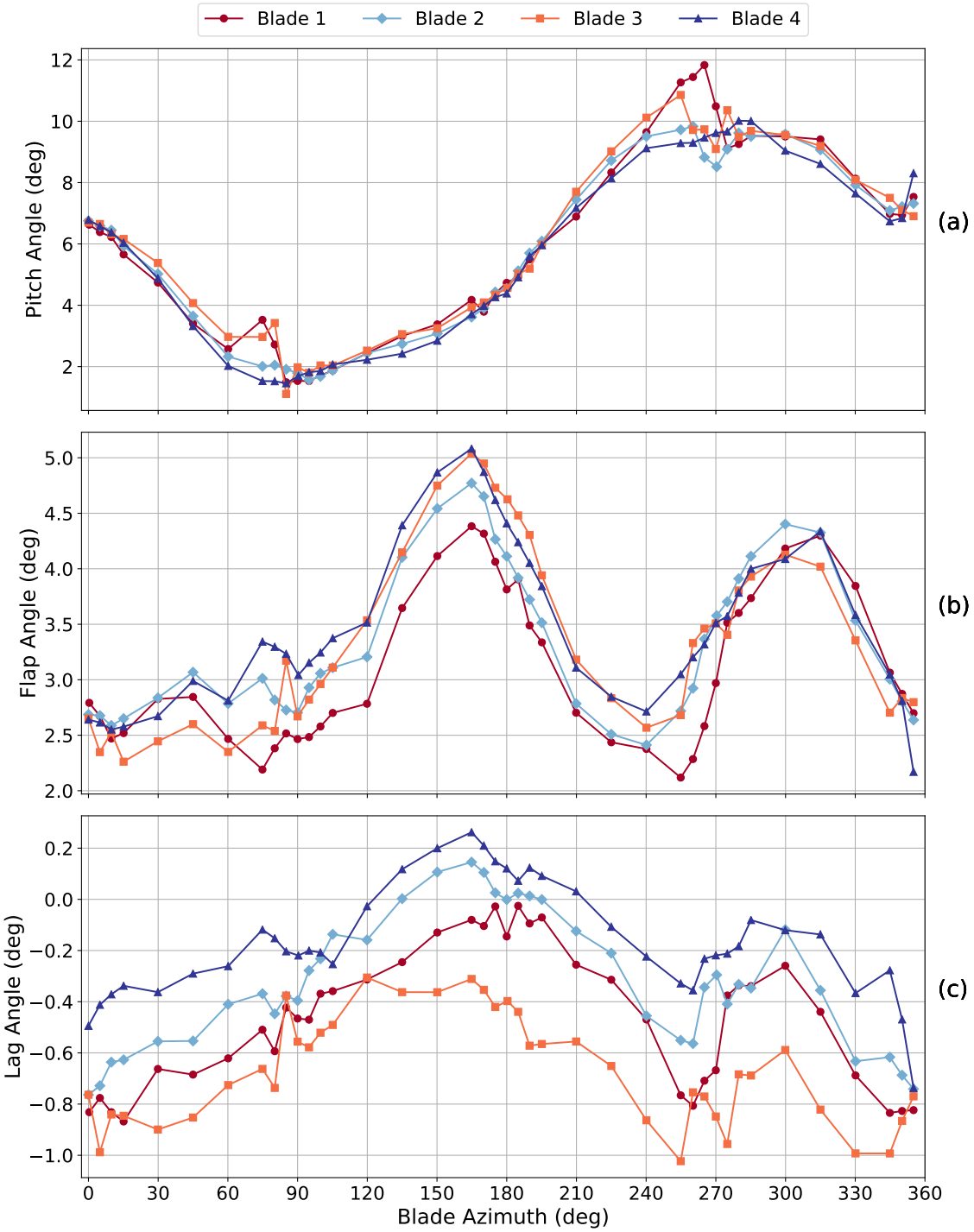


Figure 2.16-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.07$, $\mu = 0.3$, $\alpha = -0.6°$
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	6.6266	2.7919	-0.8316	0.1868	0.0880	0.0637
4.92	6.3858	2.6734	-0.7761	0.1558	0.1236	0.0616
9.84	6.2253	2.4706	-0.8316	0.1361	0.0906	0.0979
15.12	5.6565	2.5190	-0.8680	0.1262	0.0822	0.0678
29.88	4.7400	2.8268	-0.6628	0.1487	0.1005	0.0704
45	3.4029	2.8451	-0.6848	0.1700	0.0953	0.0572
60.12	2.5718	2.4669	-0.6212	0.1449	0.0705	0.0591
74.88	3.5237	2.1907	-0.5095	0.2111	0.0935	0.0815
80.16	2.7198	2.3821	-0.5934	0.2546	0.1103	0.0903
85.08	1.4903	2.5164	-0.4230	0.1396	0.0527	0.0532
90	1.5324	2.4653	-0.4657	0.1106	0.0598	0.0259
94.92	1.5301	2.4835	-0.4702	0.1250	0.0562	0.0642
99.84	1.7117	2.5787	-0.3688	0.1042	0.0493	0.0559
105.12	1.8739	2.7011	-0.3587	0.0842	0.0558	0.0921
119.88	2.4383	2.7836	-0.3132	0.1530	0.0680	0.0567
135	2.9981	3.6459	-0.2454	0.1880	0.1271	0.0732
150.12	3.3772	4.1145	-0.1296	0.0825	0.0771	0.0749
164.88	4.1737	4.3833	-0.0803	0.0918	0.0913	0.0560
170.16	3.7889	4.3164	-0.1042	0.0827	0.0838	0.0540
175.08	4.3833	4.0630	-0.0278	0.1407	0.0651	0.1180
180	4.7309	3.8138	-0.1450	0.0802	0.1022	0.0486
184.92	4.9275	3.9036	-0.0254	0.5133	0.2214	0.1843
189.84	5.4964	3.4891	-0.0942	0.1226	0.1245	0.0430
195.12	5.9783	3.3368	-0.0708	0.1719	0.1160	0.0836
209.88	6.8910	2.7028	-0.2554	0.1310	0.1689	0.0637
225	8.3303	2.4366	-0.3142	0.1394	0.0880	0.0561
240.12	9.6420	2.3764	-0.4694	0.2590	0.1072	0.0975
254.88	11.2662	2.1185	-0.7657	0.2023	0.1066	0.0651
260.16	11.4409	2.2853	-0.8066	0.2622	0.1605	0.0736
265.08	11.8324	2.5821	-0.7087	0.4427	0.1804	0.0853
270	10.4860	2.9698	-0.6677	0.4389	0.2924	0.1282
274.92	9.1155	3.5139	-0.3757	0.1193	0.1071	0.0572
279.84	9.2573	3.6017	-0.3365	0.2093	0.0943	0.0698
285.12	9.5246	3.7353	-0.3391	0.2075	0.1169	0.0465
299.88	9.5029	4.1823	-0.2597	0.1548	0.0821	0.0567
315	9.4086	4.2985	-0.4395	0.1883	0.0949	0.0585
330.12	8.1278	3.8451	-0.6880	0.1344	0.0890	0.0440
344.88	6.9795	3.0640	-0.8344	0.0983	0.0531	0.0650
350.16	6.9422	2.8729	-0.8270	0.1167	0.0859	0.0593
355.08	7.5337	2.6987	-0.8236	0.1697	0.0930	0.0720

Table 2.16-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	6.7534	2.6863	-0.7637	0.1369	0.0893	0.0449
4.92	6.5899	2.6765	-0.7283	0.1432	0.0732	0.0792
9.84	6.4498	2.5883	-0.6361	0.1101	0.0655	0.0558
15.12	5.9299	2.6500	-0.6270	0.1188	0.0851	0.0977
29.88	5.0211	2.8367	-0.5549	0.1794	0.1112	0.0601
45	3.6476	3.0679	-0.5534	0.1647	0.1097	0.0696
60.12	2.3262	2.7859	-0.4101	0.1009	0.0974	0.0732
74.88	2.0074	3.0125	-0.3687	0.1202	0.1071	0.0568
80.16	2.0493	2.8179	-0.4472	0.1641	0.0797	0.0502
85.08	1.9110	2.7273	-0.3779	0.2236	0.0768	0.1191
90	1.7873	2.7039	-0.3955	0.1502	0.0636	0.0320
94.92	1.5675	2.9290	-0.2780	0.1122	0.0702	0.0423
99.84	1.6810	3.0575	-0.2322	0.1095	0.0759	0.0496
105.12	1.8786	3.1085	-0.1366	0.0781	0.0658	0.0880
119.88	2.4416	3.2054	-0.1587	0.2172	0.1247	0.0553
135	2.7389	4.1029	0.0025	0.0904	0.1000	0.0595
150.12	3.0769	4.5424	0.1065	0.0913	0.1181	0.0778
164.88	3.6157	4.7716	0.1454	0.0995	0.1300	0.0716
170.16	3.9040	4.6521	0.1051	0.0778	0.0905	0.0693
175.08	4.4314	4.2657	0.0256	0.1189	0.1061	0.0392
180	4.5418	4.1122	-0.0010	0.0981	0.1491	0.0454
184.92	5.1211	3.9183	0.0242	0.1083	0.1452	0.0633
189.84	5.7007	3.7223	0.0133	0.1032	0.1054	0.0719
195.12	6.0893	3.5140	-0.0008	0.1329	0.1609	0.0419
209.88	7.4439	2.7846	-0.1240	0.1367	0.1278	0.0533
225	8.7210	2.5087	-0.2102	0.2225	0.0826	0.0603
240.12	9.5062	2.4118	-0.4553	0.1639	0.1035	0.0371
254.88	9.7228	2.7186	-0.5507	0.1739	0.0892	0.0686
260.16	9.8343	2.9234	-0.5637	0.2341	0.1175	0.0656
265.08	8.8239	3.3664	-0.3434	0.3474	0.1017	0.0545
270.35	8.5155	3.5774	-0.2953	0.9363	0.3334	0.1485
274.92	9.0884	3.7027	-0.4093	0.2550	0.0884	0.0700
279.84	9.6181	3.9111	-0.3322	0.2256	0.0863	0.0803
285.12	9.5065	4.1130	-0.3469	0.1761	0.0955	0.0606
299.88	9.5797	4.4022	-0.1183	0.1660	0.0974	0.0873
315	9.0683	4.3262	-0.3556	0.1259	0.0870	0.0884
330.12	7.9226	3.5336	-0.6326	0.1213	0.0884	0.0624
344.88	7.0885	3.0054	-0.6165	0.1003	0.0905	0.1024
350.16	7.2174	2.8070	-0.6871	0.1515	0.0801	0.0763
355.08	7.3183	2.6375	-0.7411	0.0965	0.0736	0.0751

Table 2.16-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	6.6968	2.6516	-0.7635	0.1530	0.0735	0.0750
4.92	6.6501	2.3481	-0.9880	0.1214	0.0789	0.0536
9.84	6.3132	2.5247	-0.8407	0.2858	0.1909	0.1030
15.12	6.1618	2.2618	-0.8458	0.1435	0.0824	0.0797
29.88	5.3803	2.4453	-0.8994	0.1787	0.1044	0.0729
45	4.0715	2.5995	-0.8525	0.1173	0.0924	0.0667
60.12	2.9692	2.3496	-0.7258	0.1375	0.0903	0.0787
74.88	2.9672	2.5891	-0.6625	0.2012	0.0925	0.0782
80.16	3.4219	2.5385	-0.7368	0.2540	0.1115	0.0779
85.08	1.1076	3.1718	-0.3760	0.2452	0.1267	0.0738
90	1.9766	2.6699	-0.5559	0.2610	0.1024	0.0434
94.92	1.7983	2.8212	-0.5783	0.0817	0.0875	0.0670
99.84	2.0370	2.9609	-0.5211	0.1117	0.0728	0.0707
105.12	2.0347	3.1093	-0.4906	0.1836	0.1019	0.0618
119.88	2.5208	3.5356	-0.3055	0.6403	0.5369	0.3178
135	3.0587	4.1477	-0.3626	0.1813	0.1097	0.0430
150.12	3.2519	4.7495	-0.3628	0.0943	0.1112	0.0331
164.88	3.9320	5.0386	-0.3111	0.1105	0.1294	0.0594
170.16	4.0917	4.9485	-0.3536	0.1299	0.1353	0.0555
175.08	4.3414	4.7297	-0.4206	0.1056	0.1301	0.0514
180.35	4.5660	4.6257	-0.3975	0.1950	0.1517	0.0578
184.92	5.0268	4.4807	-0.4396	0.2847	0.2230	0.0771
189.84	5.1946	4.3046	-0.5717	0.3679	0.1591	0.0800
195.12	5.9754	3.9408	-0.5652	0.1211	0.1211	0.0650
209.88	7.7007	3.1813	-0.5554	0.1611	0.1449	0.0722
225	9.0170	2.8343	-0.6511	0.1490	0.1227	0.0758
240.12	10.1166	2.5679	-0.8633	0.1350	0.1007	0.0584
254.88	10.8571	2.6812	-1.0231	0.2373	0.1050	0.0778
260.16	9.7154	3.3305	-0.7540	0.3181	0.1260	0.0756
265.08	9.7354	3.4617	-0.7703	0.2018	0.1161	0.0862
270	9.0947	3.5073	-0.8486	0.1171	0.1004	0.0676
274.92	10.3587	3.4047	-0.9559	0.3614	0.2264	0.0984
279.84	9.4928	3.8043	-0.6838	0.1953	0.1253	0.0493
285.12	9.6870	3.9293	-0.6883	0.2061	0.0934	0.0859
299.88	9.5541	4.1270	-0.5886	0.1717	0.0851	0.0683
315	9.1939	4.0192	-0.8216	0.2028	0.0913	0.0658
330.12	8.0878	3.3546	-0.9927	0.0933	0.0756	0.0669
344.88	7.5015	2.7034	-0.9928	0.0844	0.0682	0.0453
350.16	7.1058	2.8352	-0.8660	0.1550	0.0909	0.0745
355.08	6.9040	2.7981	-0.7698	0.1761	0.0500	0.1151

Table 2.16-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	6.7829	2.6408	-0.4944	0.1297	0.0723	0.0583
4.92	6.5796	2.6145	-0.4121	0.1147	0.0585	0.0729
9.84	6.3766	2.5514	-0.3712	0.1272	0.0925	0.0727
15.12	6.0377	2.5771	-0.3379	0.1054	0.0927	0.0376
29.88	4.8776	2.6716	-0.3627	0.1507	0.0769	0.0537
45	3.3214	2.9893	-0.2903	0.1503	0.1065	0.0505
60.12	2.0235	2.8117	-0.2612	0.1582	0.0611	0.0397
74.88	1.5288	3.3431	-0.1183	0.1358	0.1186	0.0965
80.16	1.5231	3.2965	-0.1521	0.1168	0.0981	0.0587
85.08	1.4549	3.2332	-0.2033	0.2211	0.1116	0.0558
90.35	1.6929	3.0421	-0.2195	0.1135	0.0646	0.0400
94.92	1.8177	3.1532	-0.2004	0.1567	0.0586	0.0625
99.84	1.8569	3.2451	-0.2077	0.0816	0.0686	0.0958
105.12	2.0682	3.3742	-0.2534	0.1019	0.0711	0.0612
119.88	2.2223	3.5152	-0.0271	0.1404	0.0980	0.0719
135	2.4208	4.3912	0.1177	0.1733	0.1497	0.0661
150.12	2.8438	4.8677	0.1996	0.1179	0.0907	0.0769
164.88	3.7075	5.0823	0.2621	0.1252	0.1316	0.0795
170.16	3.9813	4.8723	0.2097	0.0955	0.1542	0.0827
175.08	4.2645	4.6193	0.1485	0.1073	0.1502	0.0706
180	4.3840	4.4086	0.1206	0.0700	0.1155	0.0350
184.92	4.9108	4.2391	0.0724	0.1033	0.1479	0.0815
189.84	5.5968	4.0520	0.1234	0.0940	0.0949	0.0572
195.12	5.9569	3.8432	0.0916	0.1780	0.1119	0.1014
209.88	7.1724	3.1091	0.0311	0.0981	0.1332	0.0727
225	8.1395	2.8467	-0.1075	0.1949	0.1123	0.0750
240.12	9.1202	2.7139	-0.2237	0.1187	0.1057	0.0743
254.88	9.2878	3.0491	-0.3287	0.1190	0.0803	0.0552
260.16	9.2963	3.2017	-0.3557	0.1801	0.0758	0.0573
265.08	9.4648	3.3180	-0.2323	0.2113	0.0974	0.1151
270	9.6171	3.5115	-0.2189	0.2732	0.1283	0.0557
274.92	9.6639	3.5728	-0.2123	0.1488	0.0694	0.0518
279.84	10.0159	3.7840	-0.1833	0.2460	0.0965	0.0593
285.12	10.0071	3.9996	-0.0809	0.2739	0.1048	0.0795
299.88	9.0424	4.0880	-0.1204	0.2232	0.1203	0.0723
315	8.6080	4.3373	-0.1373	0.1452	0.0958	0.0684
330.12	7.6473	3.5834	-0.3664	0.1675	0.1034	0.0723
344.88	6.7357	3.0474	-0.2773	0.0934	0.0638	0.1182
350.16	6.8420	2.8086	-0.4693	0.1424	0.0745	0.0731
355.08	8.3045	2.1698	-0.7372	0.2401	0.1213	0.0901

2.16.2 Spanwise Elastic Deformations

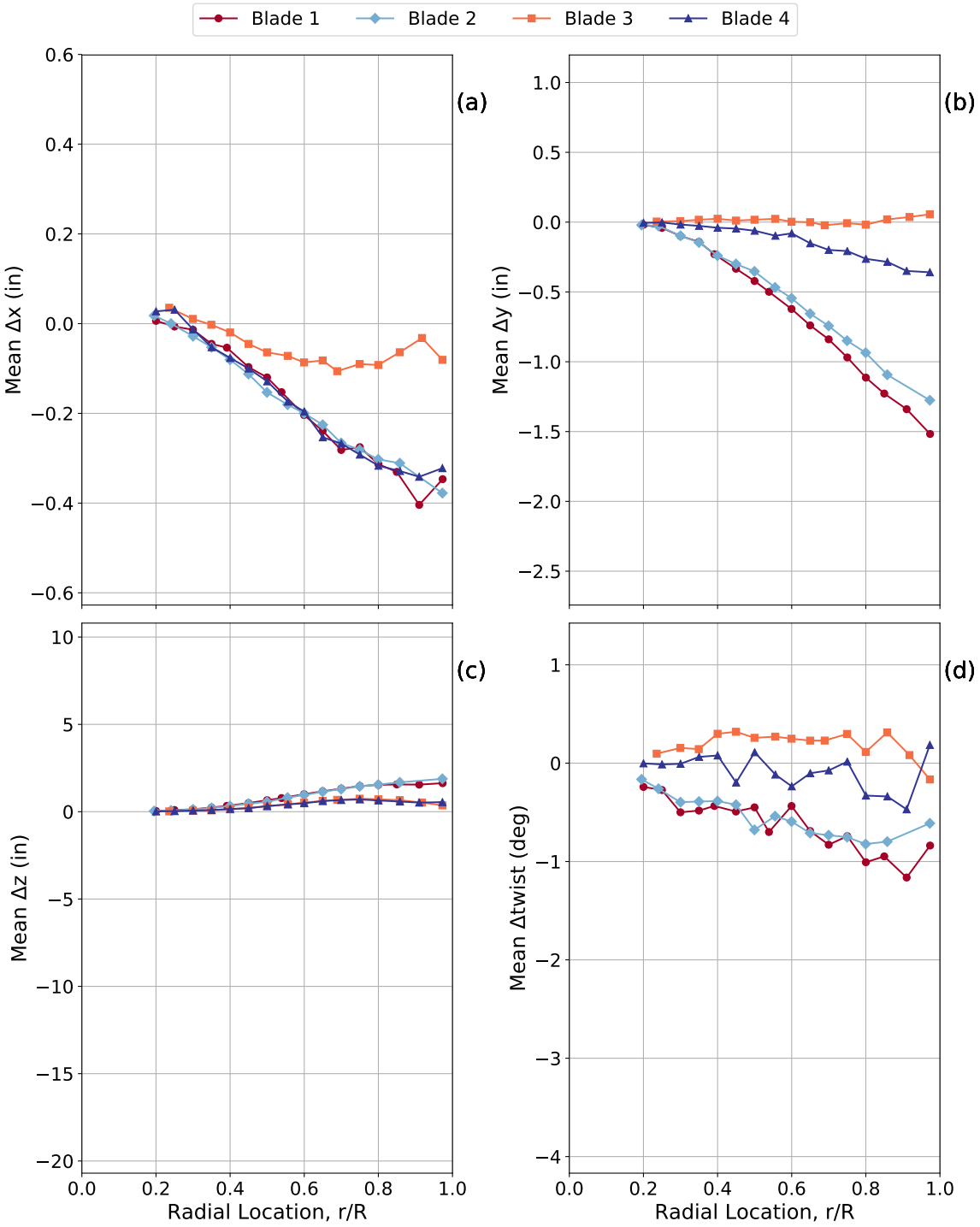


Figure 2.16-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-5. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.07$, $\mu = 0.3$, $\alpha = -0.6°$
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0062	0.0046	-0.0189	0.0029	0.0406	0.0095	-0.2415	0.0581
1	0.35	0.2499	-0.0065	0.0028	-0.0411	0.0045	0.0956	0.0135	-0.2728	0.1364
1	0.35	0.2998	-0.0136	0.0024	-0.0994	0.0095	0.1369	0.0296	-0.4994	0.1404
1	0.35	0.3498	-0.0451	0.0024	-0.1414	0.0153	0.2395	0.0492	-0.4824	0.1320
1	0.35	0.3913	-0.0536	0.0029	-0.2296	0.0212	0.3353	0.0669	-0.4352	0.1297
1	0.35	0.4496	-0.0968	0.0035	-0.3337	0.0290	0.4937	0.0920	-0.4918	0.1343
1	0.35	0.4997	-0.1199	0.0036	-0.4218	0.0358	0.6591	0.1161	-0.4494	0.1285
1	0.35	0.5387	-0.1527	0.0044	-0.4990	0.0423	0.7799	0.1354	-0.6997	0.1347
1	0.35	0.5996	-0.2037	0.0043	-0.6220	0.0506	1.0018	0.1674	-0.4358	0.1352
1	0.35	0.6498	-0.2391	0.0045	-0.7397	0.0591	1.1686	0.1975	-0.6900	0.1394
1	0.35	0.6998	-0.2816	0.0051	-0.8396	0.0673	1.3192	0.2275	-0.8295	0.1467
1	0.35	0.7500	-0.2754	0.0052	-0.9692	0.0766	1.4686	0.2621	-0.7420	0.1565
1	0.35	0.8001	-0.3133	0.0058	-1.1136	0.0858	1.5361	0.2952	-1.0074	0.1619
1	0.35	0.8497	-0.3305	0.0060	-1.2279	0.0960	1.5615	0.3363	-0.9478	0.1487
1	0.35	0.9102	-0.4040	0.0078	-1.3398	0.1118	1.5507	0.3853	-1.1629	0.2188
1	0.35	0.9734	-0.3467	0.0101	-1.5173	0.1207	1.6330	0.4478	-0.8378	0.1943
2	0	0.1949	0.0179	0.0035	-0.0208	0.0023	0.0367	0.0063	-0.1647	0.0403
2	0	0.2405	0.0001	0.0022	-0.0276	0.0037	0.0727	0.0097	-0.2605	0.1037
2	0	0.2999	-0.0280	0.0018	-0.0977	0.0076	0.1318	0.0201	-0.3968	0.1107
2	0	0.3498	-0.0527	0.0019	-0.1460	0.0132	0.2164	0.0345	-0.3901	0.1041
2	0	0.3998	-0.0804	0.0025	-0.2402	0.0196	0.3266	0.0512	-0.3855	0.1066
2	0	0.4496	-0.1123	0.0028	-0.2998	0.0243	0.4528	0.0672	-0.4227	0.1069
2	0	0.4995	-0.1532	0.0029	-0.3532	0.0295	0.5668	0.0842	-0.6782	0.1002
2	0	0.5551	-0.1806	0.0032	-0.4678	0.0363	0.8070	0.1042	-0.5389	0.1099
2	0	0.5996	-0.1997	0.0040	-0.5452	0.0425	0.9534	0.1205	-0.5941	0.1084
2	0	0.6497	-0.2254	0.0046	-0.6558	0.0496	1.1418	0.1404	-0.7107	0.1035
2	0	0.6996	-0.2660	0.0050	-0.7431	0.0564	1.2945	0.1602	-0.7322	0.1071
2	0	0.7495	-0.2811	0.0055	-0.8493	0.0637	1.4517	0.1832	-0.7522	0.1034
2	0	0.7996	-0.3025	0.0063	-0.9353	0.0726	1.5522	0.2080	-0.8224	0.1171
2	0	0.8578	-0.3111	0.0065	-1.0932	0.0831	1.6806	0.2402	-0.7977	0.1206
2	0	0.9727	-0.3777	0.0091	-1.2758	0.1026	1.8820	0.3100	-0.6116	0.1225
3	0	0.2357	0.0354	0.0103	0.0041	0.0053	0.0169	0.0108	0.0964	0.0894
3	0	0.2995	0.0105	0.0038	0.0073	0.0124	0.0513	0.0207	0.1549	0.1436
3	0	0.3493	-0.0025	0.0047	0.0169	0.0227	0.0773	0.0359	0.1427	0.1322
3	0	0.4000	-0.0197	0.0105	0.0239	0.0354	0.1342	0.0529	0.2988	0.1344
3	0	0.4497	-0.0452	0.0168	0.0110	0.0500	0.2162	0.0730	0.3190	0.1466
3	0	0.4997	-0.0640	0.0234	0.0171	0.0648	0.3012	0.0918	0.2574	0.1317
3	0	0.5556	-0.0719	0.0311	0.0234	0.0827	0.4193	0.1152	0.2698	0.1313
3	0	0.5995	-0.0865	0.0370	0.0026	0.0965	0.5229	0.1333	0.2486	0.1424
3	0	0.6498	-0.0821	0.0440	-0.0006	0.1113	0.6164	0.1534	0.2295	0.1427
3	0	0.6890	-0.1060	0.0483	-0.0226	0.1224	0.6775	0.1702	0.2298	0.1445
3	0	0.7495	-0.0900	0.0551	-0.0077	0.1387	0.7448	0.1998	0.2969	0.1503
3	0	0.7998	-0.0922	0.0599	-0.0184	0.1520	0.7120	0.2279	0.1137	0.1507
3	0	0.8577	-0.0638	0.0637	0.0194	0.1681	0.6625	0.2666	0.3128	0.1525
3	0	0.9178	-0.0321	0.0655	0.0367	0.1852	0.5242	0.3108	0.0821	0.1574
3	0	0.9729	-0.0807	0.0638	0.0561	0.2020	0.3614	0.3525	-0.1654	0.1573
4	0	0.2001	0.0274	0.0036	-0.0052	0.0022	0.0141	0.0058	-0.0022	0.0403
4	0	0.2502	0.0310	0.0021	-0.0027	0.0032	0.0344	0.0112	-0.0130	0.0896
4	0	0.3001	-0.0130	0.0019	-0.0176	0.0076	0.0638	0.0209	-0.0068	0.0979
4	0	0.3502	-0.0526	0.0020	-0.0269	0.0122	0.0935	0.0346	0.0637	0.0916
4	0	0.4002	-0.0765	0.0026	-0.0404	0.0185	0.1567	0.0535	0.0781	0.0929
4	0	0.4500	-0.1001	0.0025	-0.0462	0.0235	0.1992	0.0715	-0.1971	0.0919
4	0	0.5001	-0.1287	0.0029	-0.0617	0.0301	0.3251	0.0924	0.1110	0.0917
4	0	0.5560	-0.1739	0.0033	-0.0977	0.0373	0.4192	0.1133	-0.1162	0.0884
4	0	0.6001	-0.1961	0.0039	-0.0804	0.0436	0.4827	0.1305	-0.2357	0.0920
4	0	0.6501	-0.2534	0.0042	-0.1517	0.0510	0.6092	0.1507	-0.1022	0.0975
4	0	0.6999	-0.2673	0.0050	-0.1991	0.0597	0.6679	0.1753	-0.0739	0.1065
4	0	0.7500	-0.2920	0.0055	-0.2076	0.0689	0.7020	0.2030	0.0153	0.1102
4	0	0.8002	-0.3167	0.0058	-0.2630	0.0775	0.6429	0.2315	-0.3297	0.1201
4	0	0.8582	-0.3286	0.0070	-0.2848	0.0892	0.5810	0.2697	-0.3385	0.1148
4	0	0.9101	-0.3414	0.0084	-0.3496	0.1013	0.5224	0.3006	-0.4695	0.1333
4	0	0.9728	-0.3222	0.0101	-0.3593	0.1130	0.5468	0.3387	0.1847	0.1372

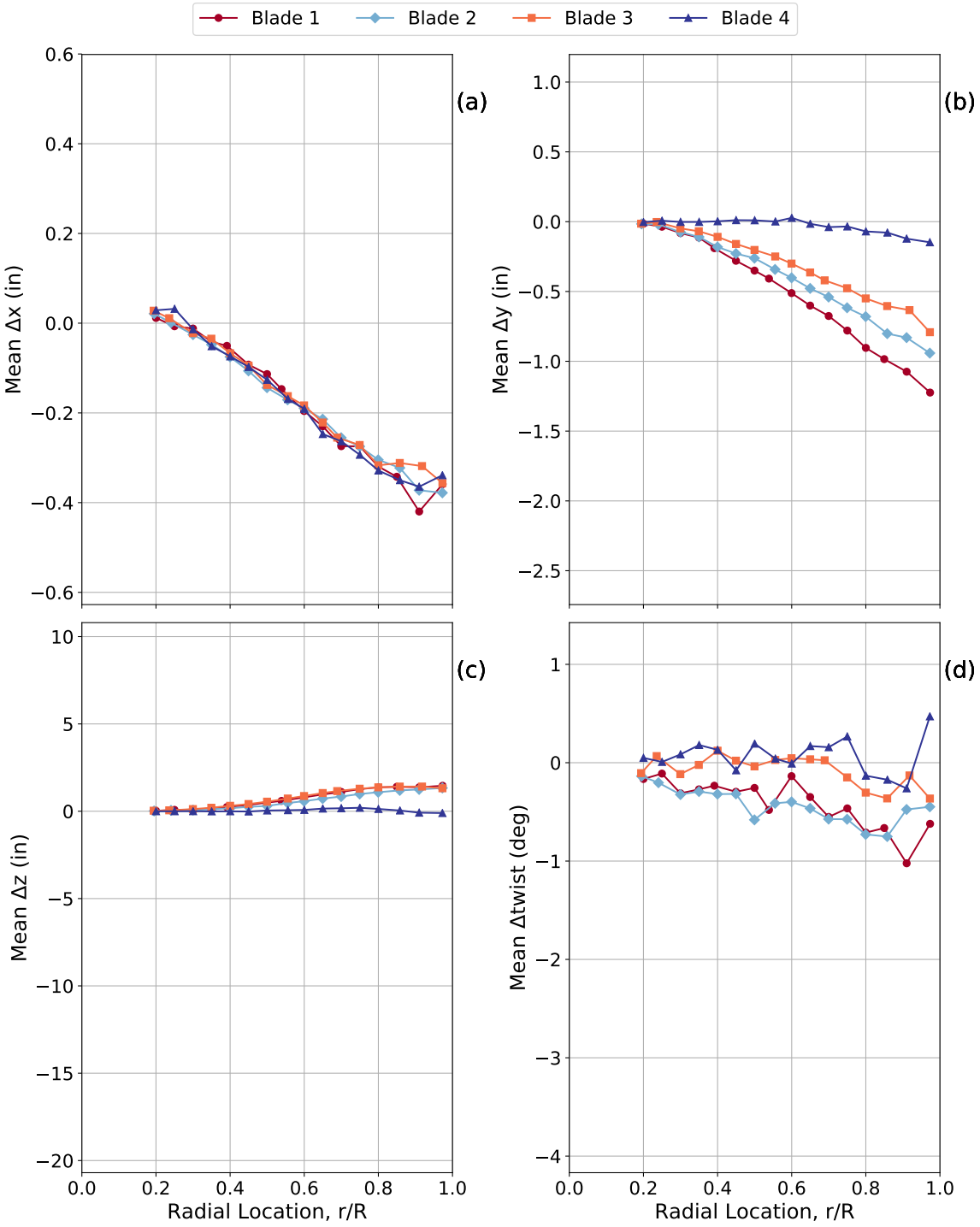


Figure 2.16-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0117	0.0048	-0.0144	0.0029	0.0246	0.0089	-0.1655	0.0579
1	4.92	0.2499	-0.0069	0.0028	-0.0362	0.0045	0.0793	0.0143	-0.1105	0.1143
1	4.92	0.2998	-0.0119	0.0020	-0.0818	0.0099	0.0919	0.0293	-0.3108	0.1318
1	4.92	0.3498	-0.0413	0.0024	-0.1139	0.0168	0.1673	0.0482	-0.2710	0.1319
1	4.92	0.3913	-0.0505	0.0028	-0.1899	0.0230	0.2403	0.0670	-0.2338	0.1288
1	4.92	0.4496	-0.0924	0.0032	-0.2803	0.0326	0.3618	0.0959	-0.2958	0.1272
1	4.92	0.4997	-0.1135	0.0037	-0.3504	0.0416	0.4961	0.1211	-0.2562	0.1274
1	4.92	0.5387	-0.1469	0.0042	-0.4078	0.0488	0.5919	0.1412	-0.4805	0.1301
1	4.92	0.5996	-0.1958	0.0049	-0.5116	0.0606	0.7979	0.1721	-0.1365	0.1316
1	4.92	0.6498	-0.2298	0.0054	-0.6011	0.0708	0.9623	0.1977	-0.3488	0.1334
1	4.92	0.6998	-0.2742	0.0060	-0.6757	0.0815	1.1066	0.2225	-0.5513	0.1325
1	4.92	0.7500	-0.2745	0.0065	-0.7801	0.0934	1.2685	0.2499	-0.4643	0.1372
1	4.92	0.8001	-0.3196	0.0071	-0.9040	0.1055	1.3676	0.2794	-0.7108	0.1472
1	4.92	0.8497	-0.3423	0.0075	-0.9846	0.1177	1.3993	0.3125	-0.6641	0.1378
1	4.92	0.9102	-0.4198	0.0077	-1.0746	0.1320	1.3730	0.3571	-1.0227	0.1587
1	4.92	0.9734	-0.3588	0.0122	-1.2241	0.1516	1.4588	0.4130	-0.6214	0.1656
2	4.92	0.1949	0.0212	0.0038	-0.0161	0.0021	0.0175	0.0061	-0.1371	0.0360
2	4.92	0.2405	0.0011	0.0015	-0.0198	0.0030	0.0504	0.0113	-0.2034	0.0850
2	4.92	0.2999	-0.0256	0.0016	-0.0750	0.0075	0.0670	0.0229	-0.3238	0.0940
2	4.92	0.3498	-0.0478	0.0022	-0.1092	0.0132	0.1134	0.0396	-0.2932	0.0881
2	4.92	0.3998	-0.0751	0.0024	-0.1812	0.0198	0.1722	0.0601	-0.3192	0.0933
2	4.92	0.4496	-0.1064	0.0025	-0.2285	0.0261	0.2503	0.0823	-0.3172	0.0916
2	4.92	0.4995	-0.1438	0.0031	-0.2613	0.0326	0.3047	0.1064	-0.5809	0.0952
2	4.92	0.5551	-0.1709	0.0035	-0.3422	0.0408	0.4725	0.1364	-0.4127	0.0970
2	4.92	0.5996	-0.1896	0.0038	-0.4021	0.0478	0.5760	0.1595	-0.3981	0.1020
2	4.92	0.6497	-0.2139	0.0041	-0.4780	0.0558	0.7239	0.1887	-0.4646	0.1007
2	4.92	0.6996	-0.2553	0.0047	-0.5399	0.0650	0.8414	0.2162	-0.5731	0.1150
2	4.92	0.7495	-0.2748	0.0051	-0.6168	0.0746	0.9865	0.2454	-0.5748	0.1139
2	4.92	0.7996	-0.3045	0.0057	-0.6800	0.0842	1.0888	0.2766	-0.7292	0.1164
2	4.92	0.8578	-0.3225	0.0060	-0.8020	0.0948	1.1929	0.3141	-0.7508	0.1226
2	4.92	0.9100	-0.3724	0.0061	-0.8306	0.1074	1.2495	0.3542	-0.4756	0.1593
2	4.92	0.9727	-0.3781	0.0097	-0.9415	0.1186	1.3307	0.3995	-0.4484	0.1472
3	4.92	0.1938	0.0278	0.0046	-0.0144	0.0027	0.0313	0.0065	-0.1061	0.0369
3	4.92	0.2357	0.0111	0.0025	-0.0024	0.0032	0.0517	0.0096	0.0674	0.0875
3	4.92	0.2995	-0.0222	0.0018	-0.0481	0.0076	0.1238	0.0215	-0.1164	0.0985
3	4.92	0.3493	-0.0346	0.0022	-0.0688	0.0134	0.2004	0.0376	-0.0223	0.0960
3	4.92	0.4000	-0.0670	0.0029	-0.1089	0.0196	0.3119	0.0563	0.1223	0.0946
3	4.92	0.4497	-0.0946	0.0031	-0.1596	0.0261	0.4133	0.0768	0.0207	0.0943
3	4.92	0.4997	-0.1376	0.0035	-0.2026	0.0331	0.5486	0.0988	-0.0375	0.0971
3	4.92	0.5556	-0.1626	0.0042	-0.2494	0.0418	0.7280	0.1218	0.0278	0.0960
3	4.92	0.5995	-0.1833	0.0047	-0.3002	0.0497	0.8713	0.1404	0.0455	0.1009
3	4.92	0.6498	-0.2214	0.0049	-0.3638	0.0591	1.0430	0.1608	0.0346	0.1022
3	4.92	0.6890	-0.2551	0.0054	-0.4204	0.0669	1.1557	0.1783	0.0249	0.1006
3	4.92	0.7495	-0.2716	0.0058	-0.4766	0.0799	1.2908	0.2043	-0.1494	0.1135
3	4.92	0.7998	-0.3168	0.0065	-0.5497	0.0906	1.3678	0.2300	-0.3041	0.1164
3	4.92	0.8577	-0.3116	0.0070	-0.6046	0.1046	1.4119	0.2658	-0.3632	0.1268
3	4.92	0.9178	-0.3185	0.0090	-0.6335	0.1202	1.4137	0.3116	-0.1294	0.1744
3	4.92	0.9729	-0.3564	0.0108	-0.7917	0.1343	1.3164	0.3523	-0.3643	0.1258
4	4.92	0.2001	0.0288	0.0032	-0.0030	0.0018	-0.0011	0.0058	0.0489	0.0410
4	4.92	0.2502	0.0319	0.0020	0.0067	0.0034	-0.0008	0.0112	0.0079	0.0844
4	4.92	0.3001	-0.0137	0.0016	-0.0021	0.0065	0.0014	0.0203	0.0848	0.0952
4	4.92	0.3502	-0.0514	0.0022	-0.0021	0.0112	-0.0080	0.0354	0.1796	0.0880
4	4.92	0.4002	-0.0740	0.0026	0.0026	0.0169	-0.0042	0.0534	0.1309	0.0854
4	4.92	0.4500	-0.0976	0.0028	0.0106	0.0218	-0.0156	0.0749	-0.0777	0.0873
4	4.92	0.5001	-0.1263	0.0027	0.0097	0.0286	0.0420	0.0968	0.1938	0.0870
4	4.92	0.5560	-0.1690	0.0031	0.0010	0.0360	0.0590	0.1242	0.0410	0.0842
4	4.92	0.6001	-0.1910	0.0034	0.0271	0.0420	0.0755	0.1443	-0.0091	0.0864
4	4.92	0.6501	-0.2472	0.0033	-0.0154	0.0490	0.1518	0.1669	0.1692	0.0902
4	4.92	0.6999	-0.2632	0.0038	-0.0390	0.0573	0.1702	0.1888	0.1574	0.0974
4	4.92	0.7500	-0.2934	0.0040	-0.0346	0.0652	0.1980	0.2114	0.2662	0.0996
4	4.92	0.8002	-0.3285	0.0046	-0.0699	0.0733	0.1297	0.2343	-0.1322	0.1016
4	4.92	0.8582	-0.3500	0.0045	-0.0786	0.0842	0.0426	0.2621	-0.1733	0.0952
4	4.92	0.9101	-0.3645	0.0054	-0.1218	0.0941	-0.0827	0.2880	-0.2610	0.1121
4	4.92	0.9728	-0.3389	0.0076	-0.1478	0.1052	-0.1032	0.3220	0.4709	0.1120

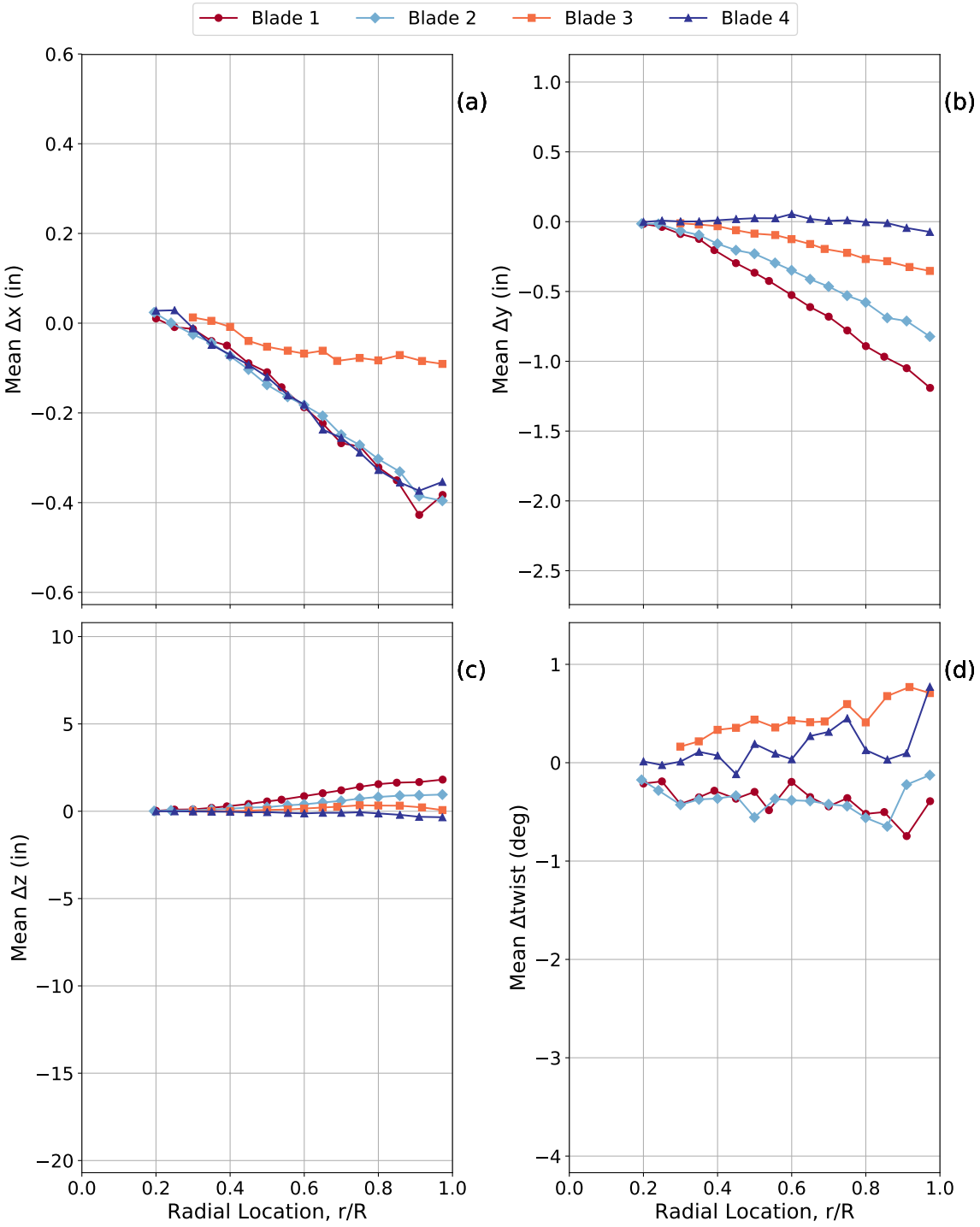


Figure 2.16-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0105	0.0048	-0.0162	0.0028	0.0267	0.0106	-0.2119	0.0472
1	9.84	0.2499	-0.0087	0.0027	-0.0376	0.0044	0.0937	0.0166	-0.1901	0.1133
1	9.84	0.2998	-0.0130	0.0022	-0.0883	0.0096	0.1060	0.0356	-0.4199	0.1146
1	9.84	0.3498	-0.0397	0.0025	-0.1236	0.0169	0.1947	0.0599	-0.3518	0.1145
1	9.84	0.3913	-0.0498	0.0029	-0.2037	0.0231	0.2829	0.0828	-0.2848	0.1114
1	9.84	0.4496	-0.0894	0.0029	-0.2970	0.0316	0.4156	0.1167	-0.3660	0.1152
1	9.84	0.4997	-0.1093	0.0034	-0.3658	0.0393	0.5612	0.1449	-0.2965	0.1166
1	9.84	0.5387	-0.1428	0.0036	-0.4246	0.0453	0.6620	0.1670	-0.4828	0.1214
1	9.84	0.5996	-0.1874	0.0043	-0.5260	0.0551	0.8629	0.2012	-0.1951	0.1188
1	9.84	0.6498	-0.2237	0.0049	-0.6116	0.0635	1.0314	0.2274	-0.3494	0.1296
1	9.84	0.6998	-0.2676	0.0054	-0.6805	0.0722	1.1996	0.2575	-0.4440	0.1286
1	9.84	0.7500	-0.2746	0.0055	-0.7794	0.0806	1.3994	0.2902	-0.3599	0.1240
1	9.84	0.8001	-0.3212	0.0061	-0.8914	0.0906	1.5522	0.3255	-0.5201	0.1381
1	9.84	0.8497	-0.3502	0.0067	-0.9673	0.0995	1.6360	0.3629	-0.5018	0.1311
1	9.84	0.9102	-0.4273	0.0070	-1.0496	0.1112	1.6713	0.4098	-0.7459	0.1460
1	9.84	0.9734	-0.3829	0.0105	-1.1904	0.1243	1.8109	0.4636	-0.3913	0.1526
2	9.84	0.1949	0.0240	0.0041	-0.0146	0.0019	0.0127	0.0054	-0.1745	0.0301
2	9.84	0.2405	0.0006	0.0020	-0.0161	0.0030	0.0488	0.0085	-0.2818	0.0730
2	9.84	0.2999	-0.0252	0.0016	-0.0664	0.0069	0.0528	0.0187	-0.4277	0.0786
2	9.84	0.3498	-0.0439	0.0023	-0.0953	0.0116	0.0989	0.0329	-0.3731	0.0797
2	9.84	0.3998	-0.0731	0.0024	-0.1583	0.0177	0.1478	0.0489	-0.3644	0.0803
2	9.84	0.4496	-0.1033	0.0027	-0.2046	0.0223	0.2127	0.0641	-0.3353	0.0796
2	9.84	0.4995	-0.1373	0.0031	-0.2298	0.0275	0.2347	0.0796	-0.5555	0.0811
2	9.84	0.5551	-0.1642	0.0036	-0.2957	0.0349	0.3396	0.0976	-0.3679	0.0817
2	9.84	0.5996	-0.1825	0.0038	-0.3485	0.0403	0.3961	0.1126	-0.3821	0.0806
2	9.84	0.6497	-0.2067	0.0042	-0.4127	0.0471	0.4981	0.1287	-0.3891	0.0798
2	9.84	0.6996	-0.2487	0.0043	-0.4646	0.0538	0.5946	0.1471	-0.4224	0.0847
2	9.84	0.7495	-0.2716	0.0044	-0.5302	0.0616	0.7248	0.1683	-0.4413	0.0873
2	9.84	0.7996	-0.3027	0.0048	-0.5787	0.0695	0.8180	0.1963	-0.5600	0.0897
2	9.84	0.8578	-0.3311	0.0051	-0.6890	0.0783	0.8919	0.2349	-0.6475	0.0925
2	9.84	0.9100	-0.3853	0.0054	-0.7116	0.0888	0.9135	0.2780	-0.2230	0.1044
2	9.84	0.9727	-0.3959	0.0075	-0.8228	0.0999	0.9561	0.3359	-0.1262	0.1053
3	9.84	0.2995	0.0128	0.0132	-0.0117	0.0177	0.0071	0.0618	0.1635	0.2157
3	9.84	0.3493	0.0052	0.0070	-0.0202	0.0307	0.0076	0.1008	0.2172	0.2841
3	9.84	0.4000	-0.0083	0.0067	-0.0324	0.0491	0.0077	0.1555	0.3343	0.2541
3	9.84	0.4497	-0.0396	0.0128	-0.0612	0.0664	0.0299	0.2046	0.3548	0.2522
3	9.84	0.4997	-0.0525	0.0211	-0.0856	0.0837	0.0770	0.2543	0.4380	0.2527
3	9.84	0.5556	-0.0613	0.0299	-0.0959	0.1055	0.0988	0.3111	0.3582	0.2643
3	9.84	0.5995	-0.0678	0.0371	-0.1252	0.1228	0.1532	0.3579	0.4296	0.2673
3	9.84	0.6498	-0.0614	0.0437	-0.1602	0.1419	0.2134	0.4117	0.4115	0.2509
3	9.84	0.6890	-0.0841	0.0489	-0.1954	0.1567	0.2564	0.4522	0.4190	0.2527
3	9.84	0.7495	-0.0775	0.0570	-0.2232	0.1818	0.3409	0.5157	0.5958	0.2675
3	9.84	0.7998	-0.0829	0.0627	-0.2677	0.2030	0.3261	0.5702	0.4097	0.2607
3	9.84	0.8577	-0.0711	0.0682	-0.2832	0.2274	0.3186	0.6305	0.6774	0.2725
3	9.84	0.9178	-0.0843	0.0721	-0.3250	0.2539	0.2206	0.6948	0.7693	0.2755
3	9.84	0.9729	-0.0908	0.0746	-0.3528	0.2789	0.0660	0.7559	0.7079	0.2729
4	9.84	0.2001	0.0277	0.0030	-0.0022	0.0016	-0.0045	0.0056	0.0129	0.0338
4	9.84	0.2502	0.0288	0.0017	0.0074	0.0033	-0.0029	0.0092	-0.0240	0.0602
4	9.84	0.3001	-0.0114	0.0016	0.0015	0.0060	-0.0124	0.0197	0.0115	0.0740
4	9.84	0.3502	-0.0484	0.0019	0.0016	0.0105	-0.0224	0.0320	0.1106	0.0676
4	9.84	0.4002	-0.0704	0.0027	0.0098	0.0160	-0.0303	0.0488	0.0722	0.0694
4	9.84	0.4500	-0.0927	0.0031	0.0183	0.0198	-0.0650	0.0675	-0.1166	0.0720
4	9.84	0.5001	-0.1200	0.0030	0.0249	0.0250	-0.0507	0.0877	0.1910	0.0728
4	9.84	0.5560	-0.1607	0.0034	0.0243	0.0303	-0.0957	0.1103	0.0917	0.0743
4	9.84	0.6001	-0.1813	0.0034	0.0547	0.0351	-0.1240	0.1287	0.0349	0.0726
4	9.84	0.6501	-0.2372	0.0035	0.0193	0.0412	-0.0872	0.1511	0.2711	0.0793
4	9.84	0.6999	-0.2556	0.0035	0.0055	0.0476	-0.0899	0.1739	0.3139	0.0853
4	9.84	0.7500	-0.2884	0.0040	0.0100	0.0555	-0.0575	0.2019	0.4511	0.0885
4	9.84	0.8002	-0.3272	0.0038	-0.0033	0.0631	-0.1247	0.2345	0.1282	0.0868
4	9.84	0.8582	-0.3552	0.0043	-0.0103	0.0725	-0.2056	0.2772	0.0309	0.1042
4	9.84	0.9101	-0.3735	0.0041	-0.0449	0.0817	-0.3187	0.3233	0.0981	0.0999
4	9.84	0.9728	-0.3538	0.0069	-0.0736	0.0919	-0.3437	0.3814	0.7713	0.0989

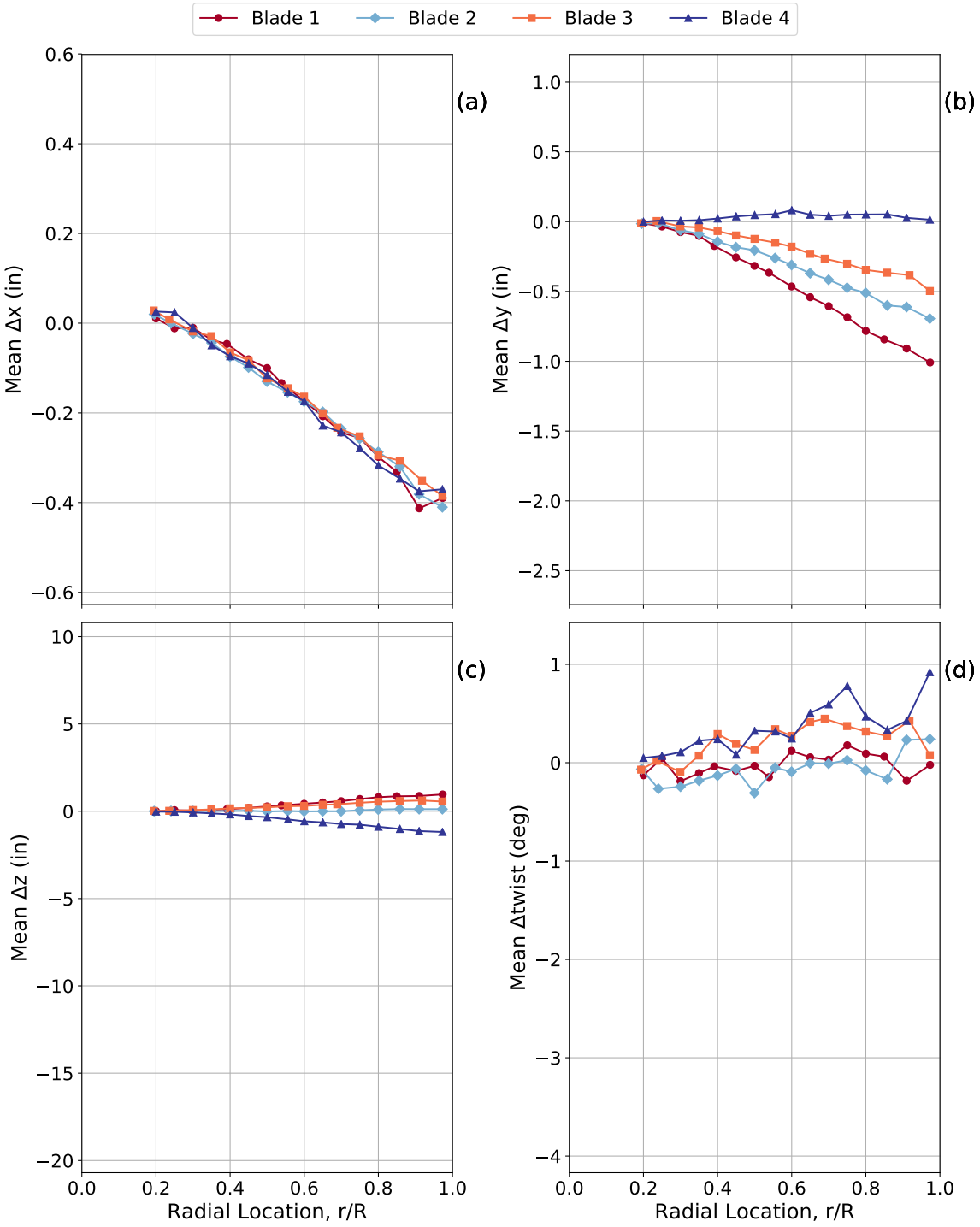


Figure 2.16-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-8. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.07$, $\mu = 0.3$, $\alpha = -0.6°$
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0105	0.0044	-0.0123	0.0022	0.0040	0.0069	-0.1278	0.0463
1	15.12	0.2499	-0.0116	0.0032	-0.0352	0.0035	0.0624	0.0114	0.0456	0.0985
1	15.12	0.2998	-0.0105	0.0021	-0.0749	0.0079	0.0345	0.0237	-0.1880	0.1103
1	15.12	0.3498	-0.0373	0.0022	-0.1017	0.0130	0.0701	0.0386	-0.1058	0.1086
1	15.12	0.3913	-0.0463	0.0026	-0.1741	0.0184	0.1165	0.0546	-0.0373	0.1062
1	15.12	0.4496	-0.0805	0.0026	-0.2560	0.0244	0.1928	0.0755	-0.0834	0.1046
1	15.12	0.4997	-0.1000	0.0027	-0.3168	0.0304	0.2775	0.0952	-0.0317	0.1112
1	15.12	0.5387	-0.1336	0.0029	-0.3658	0.0341	0.3331	0.1104	-0.1463	0.1114
1	15.12	0.5996	-0.1730	0.0033	-0.4643	0.0411	0.4270	0.1341	0.1199	0.1133
1	15.12	0.6498	-0.2075	0.0033	-0.5411	0.0469	0.5010	0.1541	0.0549	0.1139
1	15.12	0.6998	-0.2436	0.0037	-0.6050	0.0529	0.5775	0.1758	0.0306	0.1173
1	15.12	0.7500	-0.2559	0.0035	-0.6845	0.0591	0.6995	0.1992	0.1774	0.1191
1	15.12	0.8001	-0.2982	0.0038	-0.7831	0.0645	0.8052	0.2265	0.0917	0.1272
1	15.12	0.8497	-0.3314	0.0038	-0.8434	0.0712	0.8562	0.2597	0.0614	0.1282
1	15.12	0.9102	-0.4128	0.0040	-0.9085	0.0792	0.8724	0.3056	-0.1836	0.1327
1	15.12	0.9734	-0.3897	0.0075	-1.0087	0.0880	0.9615	0.3565	-0.0221	0.1395
2	15.12	0.1949	0.0198	0.0036	-0.0146	0.0017	0.0059	0.0052	-0.0647	0.0402
2	15.12	0.2405	0.0000	0.0024	-0.0125	0.0027	0.0148	0.0100	-0.2650	0.0820
2	15.12	0.2999	-0.0237	0.0019	-0.0614	0.0060	0.0101	0.0210	-0.2435	0.1015
2	15.12	0.3498	-0.0438	0.0022	-0.0871	0.0105	0.0136	0.0361	-0.1818	0.0973
2	15.12	0.3998	-0.0745	0.0024	-0.1430	0.0158	0.0157	0.0558	-0.1308	0.0985
2	15.12	0.4496	-0.0986	0.0028	-0.1832	0.0198	0.0302	0.0770	-0.0622	0.0960
2	15.12	0.4995	-0.1302	0.0032	-0.2050	0.0248	-0.0149	0.1001	-0.3081	0.0975
2	15.12	0.5551	-0.1538	0.0031	-0.2612	0.0301	0.0148	0.1286	-0.0506	0.0992
2	15.12	0.5996	-0.1748	0.0035	-0.3104	0.0346	-0.0107	0.1515	-0.0921	0.1055
2	15.12	0.6497	-0.1977	0.0035	-0.3694	0.0402	-0.0011	0.1787	-0.0061	0.1062
2	15.12	0.6996	-0.2359	0.0037	-0.4164	0.0455	0.0002	0.2086	-0.0098	0.1094
2	15.12	0.7495	-0.2574	0.0041	-0.4734	0.0516	0.0552	0.2426	0.0256	0.1120
2	15.12	0.7996	-0.2871	0.0044	-0.5101	0.0580	0.0963	0.2798	-0.0780	0.1159
2	15.12	0.8578	-0.3195	0.0047	-0.6000	0.0654	0.1253	0.3288	-0.1679	0.1250
2	15.12	0.9100	-0.3813	0.0049	-0.6113	0.0726	0.1205	0.3799	0.2320	0.1294
2	15.12	0.9727	-0.4102	0.0080	-0.6943	0.0814	0.1202	0.4413	0.2393	0.1345
3	15.12	0.1938	0.0282	0.0041	-0.0118	0.0019	0.0183	0.0064	-0.0706	0.0345
3	15.12	0.2357	0.0083	0.0021	0.0041	0.0023	0.0227	0.0090	0.0192	0.0900
3	15.12	0.2995	-0.0184	0.0018	-0.0342	0.0064	0.0683	0.0218	-0.0942	0.0967
3	15.12	0.3493	-0.0290	0.0026	-0.0416	0.0113	0.1038	0.0365	0.0729	0.1014
3	15.12	0.4000	-0.0653	0.0030	-0.0672	0.0168	0.1636	0.0558	0.2915	0.1024
3	15.12	0.4497	-0.0828	0.0031	-0.0989	0.0216	0.1901	0.0749	0.1916	0.1083
3	15.12	0.4997	-0.1230	0.0034	-0.1235	0.0264	0.2259	0.0988	0.1299	0.1042
3	15.12	0.5556	-0.1450	0.0036	-0.1501	0.0326	0.2870	0.1254	0.3405	0.1067
3	15.12	0.5995	-0.1639	0.0036	-0.1791	0.0380	0.3032	0.1469	0.2727	0.1089
3	15.12	0.6498	-0.2009	0.0041	-0.2303	0.0440	0.3675	0.1760	0.4138	0.1128
3	15.12	0.6890	-0.2332	0.0041	-0.2650	0.0490	0.3984	0.1980	0.4474	0.1135
3	15.12	0.7495	-0.2523	0.0044	-0.3022	0.0569	0.4840	0.2362	0.3727	0.1133
3	15.12	0.7998	-0.2946	0.0047	-0.3456	0.0641	0.5456	0.2721	0.3171	0.1127
3	15.12	0.8577	-0.3063	0.0051	-0.3657	0.0720	0.5838	0.3166	0.2719	0.1139
3	15.12	0.9178	-0.3512	0.0053	-0.3830	0.0815	0.6141	0.3685	0.4270	0.1132
3	15.12	0.9729	-0.3851	0.0070	-0.4967	0.0906	0.5551	0.4187	0.0763	0.1267
4	15.12	0.2001	0.0259	0.0028	-0.0007	0.0017	-0.0204	0.0048	0.0485	0.0345
4	15.12	0.2502	0.0241	0.0018	0.0085	0.0030	-0.0301	0.0101	0.0691	0.0721
4	15.12	0.3001	-0.0108	0.0020	0.0064	0.0062	-0.0689	0.0173	0.1071	0.0798
4	15.12	0.3502	-0.0494	0.0023	0.0104	0.0104	-0.1241	0.0305	0.2238	0.0697
4	15.12	0.4002	-0.0737	0.0031	0.0223	0.0159	-0.1808	0.0463	0.2398	0.0684
4	15.12	0.4500	-0.0900	0.0035	0.0374	0.0197	-0.2753	0.0620	0.0817	0.0689
4	15.12	0.5001	-0.1155	0.0034	0.0469	0.0255	-0.3396	0.0810	0.3244	0.0705
4	15.12	0.5560	-0.1531	0.0036	0.0537	0.0312	-0.4675	0.1041	0.3174	0.0762
4	15.12	0.6001	-0.1740	0.0039	0.0815	0.0363	-0.5748	0.1230	0.2458	0.0776
4	15.12	0.6501	-0.2283	0.0039	0.0495	0.0432	-0.6381	0.1466	0.5064	0.0773
4	15.12	0.6999	-0.2432	0.0043	0.0415	0.0493	-0.7328	0.1707	0.5928	0.0774
4	15.12	0.7500	-0.2788	0.0043	0.0503	0.0567	-0.7685	0.1978	0.7796	0.0873
4	15.12	0.8002	-0.3171	0.0045	0.0512	0.0637	-0.8885	0.2307	0.4694	0.0898
4	15.12	0.8582	-0.3465	0.0050	0.0523	0.0723	-1.0145	0.2787	0.3334	0.0877
4	15.12	0.9101	-0.3747	0.0050	0.0271	0.0808	-1.1341	0.3301	0.4254	0.0887
4	15.12	0.9728	-0.3702	0.0070	0.0138	0.0905	-1.1859	0.3987	0.9198	0.0937

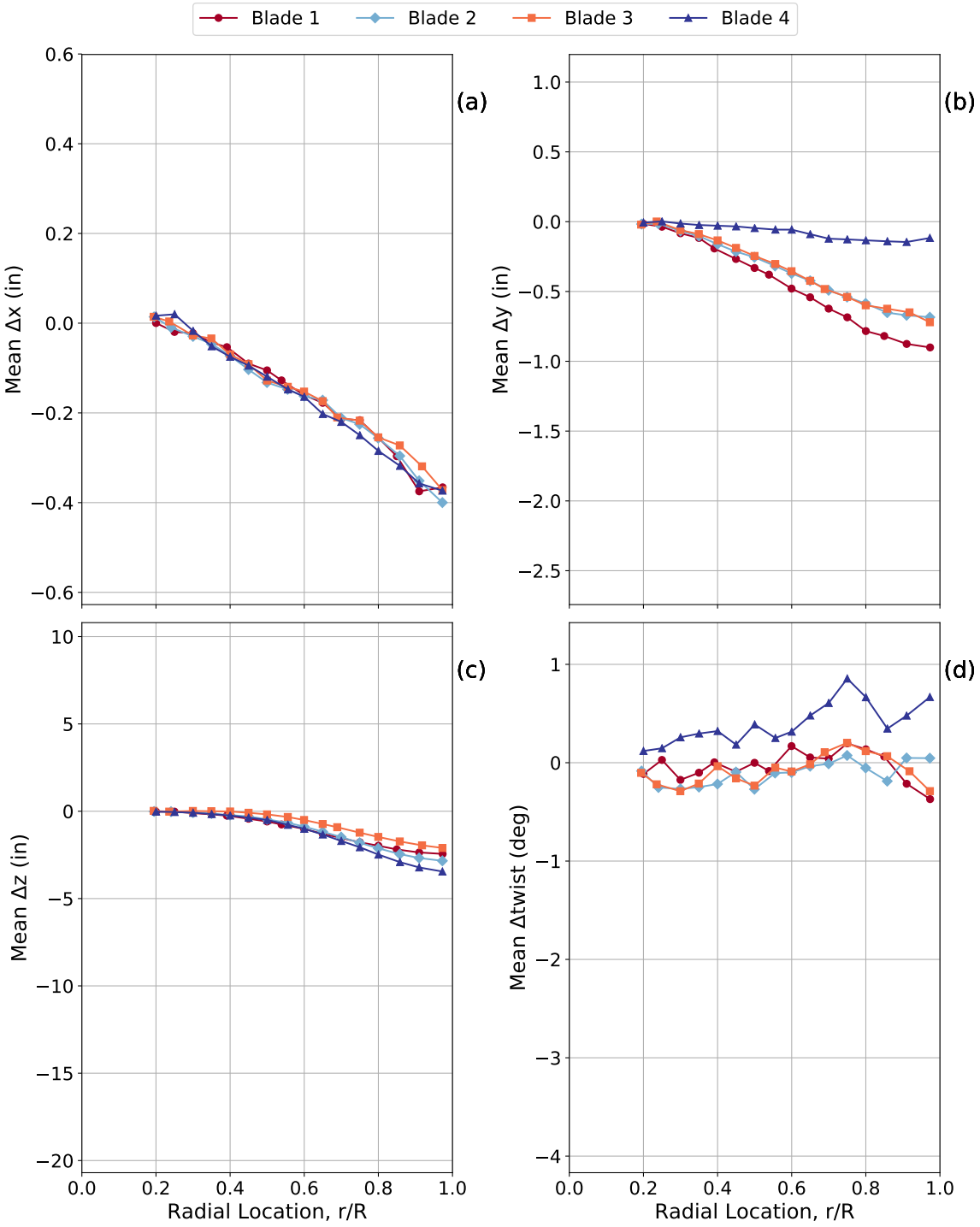


Figure 2.16-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0003	0.0041	-0.0155	0.0019	-0.0262	0.0070	-0.1141	0.0436
1	29.88	0.2499	-0.0195	0.0027	-0.0363	0.0027	-0.0227	0.0110	0.0280	0.1053
1	29.88	0.2998	-0.0223	0.0018	-0.0832	0.0066	-0.1072	0.0234	-0.1746	0.1087
1	29.88	0.3498	-0.0431	0.0027	-0.1169	0.0113	-0.1779	0.0403	-0.1017	0.1066
1	29.88	0.3913	-0.0534	0.0031	-0.1920	0.0156	-0.2513	0.0554	0.0038	0.1103
1	29.88	0.4496	-0.0900	0.0031	-0.2673	0.0210	-0.4281	0.0791	-0.0922	0.1083
1	29.88	0.4997	-0.1052	0.0032	-0.3318	0.0265	-0.5870	0.1007	-0.0009	0.1161
1	29.88	0.5387	-0.1275	0.0034	-0.3797	0.0306	-0.7571	0.1173	-0.0847	0.1191
1	29.88	0.5996	-0.1602	0.0039	-0.4793	0.0377	-1.0115	0.1439	0.1690	0.1171
1	29.88	0.6498	-0.1775	0.0037	-0.5416	0.0440	-1.2917	0.1675	0.0534	0.1174
1	29.88	0.6998	-0.2131	0.0040	-0.6229	0.0500	-1.5356	0.1915	0.0413	0.1287
1	29.88	0.7500	-0.2163	0.0043	-0.6852	0.0577	-1.7759	0.2192	0.1967	0.1294
1	29.88	0.8001	-0.2555	0.0048	-0.7835	0.0654	-1.9758	0.2486	0.1362	0.1333
1	29.88	0.8497	-0.2965	0.0052	-0.8190	0.0731	-2.1867	0.2794	0.0622	0.1391
1	29.88	0.9102	-0.3748	0.0053	-0.8757	0.0832	-2.3599	0.3232	-0.2140	0.1475
1	29.88	0.9734	-0.3659	0.0069	-0.9009	0.0938	-2.4427	0.3739	-0.3702	0.1550
2	29.88	0.1949	0.0140	0.0030	-0.0172	0.0014	-0.0116	0.0054	-0.0844	0.0301
2	29.88	0.2405	-0.0094	0.0019	-0.0147	0.0023	-0.0238	0.0097	-0.2517	0.0586
2	29.88	0.2999	-0.0295	0.0019	-0.0665	0.0054	-0.0786	0.0213	-0.2665	0.0726
2	29.88	0.3498	-0.0462	0.0024	-0.1034	0.0090	-0.1332	0.0382	-0.2481	0.0834
2	29.88	0.3998	-0.0726	0.0034	-0.1612	0.0139	-0.2199	0.0579	-0.2169	0.0818
2	29.88	0.4496	-0.1033	0.0033	-0.2145	0.0175	-0.2969	0.0795	-0.0948	0.0911
2	29.88	0.4995	-0.1323	0.0037	-0.2546	0.0220	-0.4641	0.1028	-0.2696	0.0923
2	29.88	0.5551	-0.1476	0.0037	-0.3174	0.0276	-0.6590	0.1309	-0.1049	0.0954
2	29.88	0.5996	-0.1625	0.0041	-0.3708	0.0329	-0.8784	0.1548	-0.0996	0.0945
2	29.88	0.6497	-0.1716	0.0044	-0.4233	0.0391	-1.1719	0.1820	-0.0354	0.0955
2	29.88	0.6996	-0.2113	0.0043	-0.4914	0.0457	-1.4805	0.2104	-0.0111	0.0968
2	29.88	0.7495	-0.2253	0.0048	-0.5401	0.0526	-1.8046	0.2372	0.0736	0.0956
2	29.88	0.7996	-0.2562	0.0052	-0.5856	0.0600	-2.1206	0.2645	-0.0533	0.0995
2	29.88	0.8578	-0.2958	0.0056	-0.6518	0.0697	-2.4539	0.2971	-0.1876	0.1083
2	29.88	0.9100	-0.3513	0.0054	-0.6707	0.0780	-2.6767	0.3298	0.0484	0.1042
2	29.88	0.9727	-0.3998	0.0066	-0.6844	0.0881	-2.8387	0.3742	0.0462	0.1107
3	29.88	0.1938	0.0142	0.0038	-0.0210	0.0015	0.0197	0.0057	-0.1031	0.0360
3	29.88	0.2357	0.0038	0.0025	0.0011	0.0023	-0.0220	0.0085	-0.2196	0.0642
3	29.88	0.2995	-0.0274	0.0016	-0.0605	0.0051	0.0150	0.0199	-0.2897	0.0826
3	29.88	0.3493	-0.0341	0.0019	-0.0892	0.0084	0.0028	0.0340	-0.2122	0.0827
3	29.88	0.4000	-0.0698	0.0020	-0.1342	0.0131	-0.0136	0.0516	-0.0355	0.0832
3	29.88	0.4497	-0.0914	0.0022	-0.1880	0.0170	-0.0873	0.0692	-0.1591	0.0835
3	29.88	0.4997	-0.1279	0.0025	-0.2457	0.0225	-0.1794	0.0889	-0.2330	0.0908
3	29.88	0.5556	-0.1419	0.0031	-0.3031	0.0283	-0.3290	0.1133	-0.0496	0.0862
3	29.88	0.5995	-0.1525	0.0036	-0.3548	0.0338	-0.5003	0.1354	-0.0894	0.0878
3	29.88	0.6498	-0.1739	0.0039	-0.4236	0.0400	-0.7304	0.1632	-0.0160	0.0936
3	29.88	0.6890	-0.2101	0.0038	-0.4824	0.0452	-0.9142	0.1886	0.1067	0.0951
3	29.88	0.7495	-0.2173	0.0048	-0.5391	0.0539	-1.2263	0.2343	0.2023	0.0955
3	29.88	0.7998	-0.2545	0.0051	-0.5992	0.0614	-1.4710	0.2773	0.1180	0.1036
3	29.88	0.8577	-0.2725	0.0054	-0.6236	0.0705	-1.7294	0.3294	0.0662	0.1043
3	29.88	0.9178	-0.3191	0.0055	-0.6496	0.0805	-1.9524	0.3850	-0.0869	0.1128
3	29.88	0.9729	-0.3722	0.0071	-0.7205	0.0891	-2.1003	0.4347	-0.2888	0.1067
4	29.88	0.2001	0.0167	0.0026	-0.0062	0.0012	-0.0214	0.0041	0.1192	0.0308
4	29.88	0.2502	0.0198	0.0018	0.0016	0.0024	-0.0443	0.0085	0.1470	0.0576
4	29.88	0.3001	-0.0172	0.0015	-0.0135	0.0045	-0.0863	0.0158	0.2580	0.0701
4	29.88	0.3502	-0.0516	0.0020	-0.0241	0.0080	-0.1620	0.0263	0.2965	0.0656
4	29.88	0.4002	-0.0749	0.0022	-0.0291	0.0121	-0.2434	0.0410	0.3217	0.0690
4	29.88	0.4500	-0.0947	0.0021	-0.0341	0.0156	-0.3695	0.0555	0.1836	0.0679
4	29.88	0.5001	-0.1193	0.0026	-0.0460	0.0196	-0.4990	0.0720	0.3887	0.0737
4	29.88	0.5560	-0.1477	0.0029	-0.0570	0.0255	-0.7770	0.0922	0.2511	0.0733
4	29.88	0.6001	-0.1641	0.0034	-0.0572	0.0303	-1.0064	0.1104	0.3156	0.0830
4	29.88	0.6501	-0.2025	0.0033	-0.0898	0.0361	-1.3331	0.1328	0.4797	0.0806
4	29.88	0.6999	-0.2201	0.0035	-0.1219	0.0426	-1.7015	0.1564	0.6071	0.0829
4	29.88	0.7500	-0.2498	0.0041	-0.1272	0.0496	-2.0633	0.1812	0.8553	0.0804
4	29.88	0.8002	-0.2848	0.0047	-0.1336	0.0565	-2.4820	0.2059	0.6656	0.0906
4	29.88	0.8582	-0.3181	0.0051	-0.1408	0.0658	-2.9137	0.2359	0.3465	0.0962
4	29.88	0.9101	-0.3572	0.0050	-0.1458	0.0741	-3.2181	0.2648	0.4783	0.1046
4	29.88	0.9728	-0.3733	0.0067	-0.1168	0.0845	-3.4512	0.3028	0.6675	0.1253

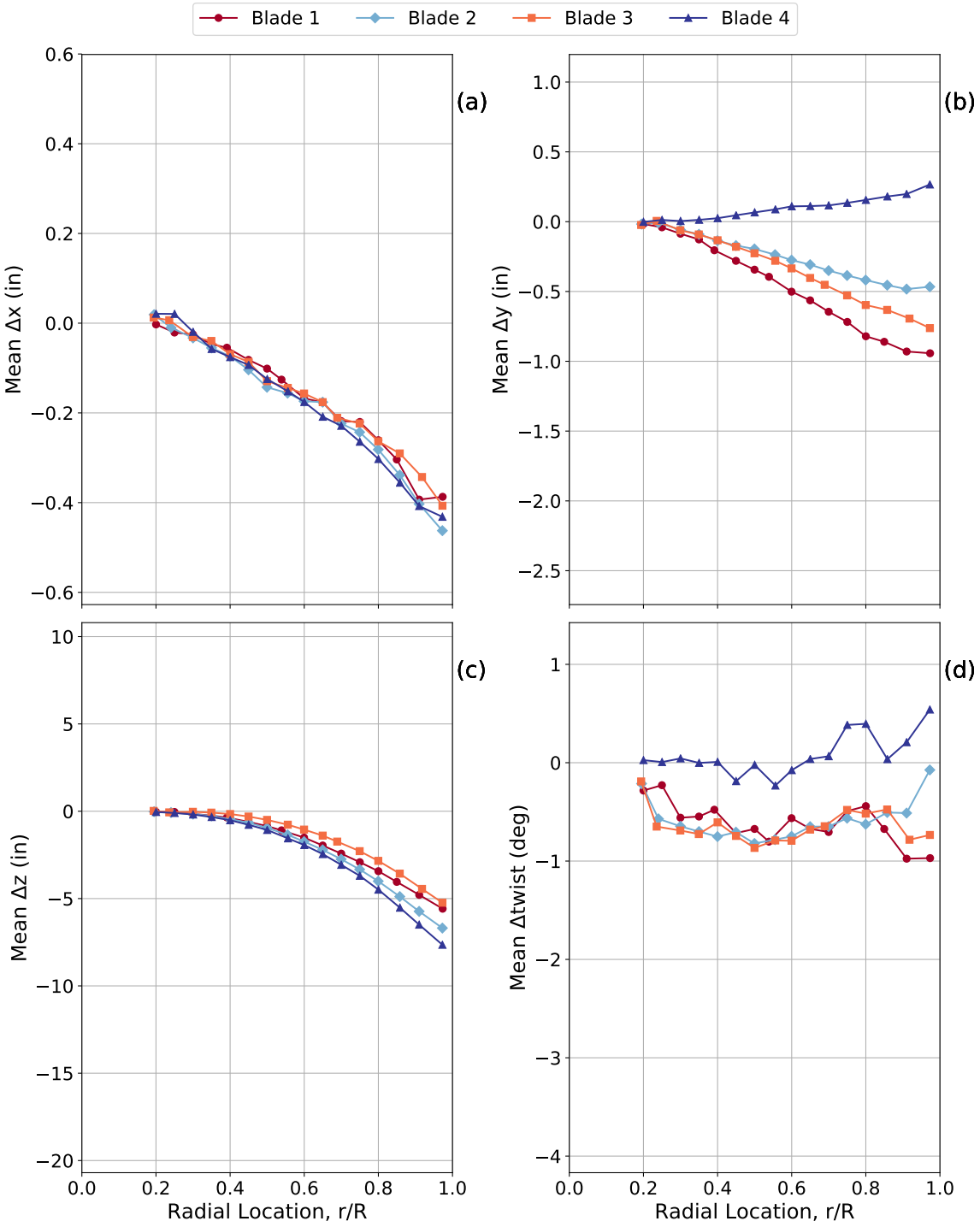


Figure 2.16-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-10. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.07$, $\mu = 0.3$, $\alpha = -0.6°$
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0028	0.0046	-0.0164	0.0015	-0.0381	0.0067	-0.2829	0.0363
1	45	0.2499	-0.0209	0.0028	-0.0406	0.0026	-0.0419	0.0126	-0.2285	0.0824
1	45	0.2998	-0.0252	0.0033	-0.0864	0.0054	-0.1537	0.0247	-0.5590	0.0863
1	45	0.3498	-0.0469	0.0047	-0.1273	0.0096	-0.2494	0.0441	-0.5473	0.0853
1	45	0.3913	-0.0546	0.0063	-0.2048	0.0132	-0.3570	0.0616	-0.4779	0.0891
1	45	0.4496	-0.0818	0.0095	-0.2806	0.0179	-0.6092	0.0891	-0.7161	0.0881
1	45	0.4997	-0.1013	0.0121	-0.3438	0.0225	-0.8509	0.1131	-0.6734	0.0955
1	45	0.5387	-0.1258	0.0143	-0.3950	0.0263	-1.0927	0.1320	-0.8025	0.0948
1	45	0.5996	-0.1674	0.0181	-0.5014	0.0329	-1.5076	0.1599	-0.5639	0.0923
1	45	0.6498	-0.1769	0.0214	-0.5635	0.0384	-1.9608	0.1812	-0.6724	0.0964
1	45	0.6998	-0.2183	0.0248	-0.6452	0.0444	-2.4248	0.2009	-0.7046	0.0993
1	45	0.7500	-0.2202	0.0275	-0.7181	0.0517	-2.9165	0.2210	-0.4919	0.1027
1	45	0.8001	-0.2609	0.0304	-0.8209	0.0590	-3.4319	0.2374	-0.4415	0.1011
1	45	0.8497	-0.3038	0.0324	-0.8603	0.0671	-4.0451	0.2547	-0.6739	0.1017
1	45	0.9102	-0.3932	0.0348	-0.9300	0.0771	-4.7884	0.2768	-0.9758	0.1021
1	45	0.9734	-0.3870	0.0375	-0.9425	0.0880	-5.5804	0.3029	-0.9699	0.1083
2	45	0.1949	0.0190	0.0024	-0.0174	0.0012	-0.0239	0.0049	-0.2131	0.0275
2	45	0.2405	-0.0100	0.0023	-0.0075	0.0023	-0.0733	0.0108	-0.5708	0.0557
2	45	0.2999	-0.0329	0.0019	-0.0584	0.0050	-0.1658	0.0224	-0.6467	0.0678
2	45	0.3498	-0.0551	0.0022	-0.0905	0.0084	-0.2670	0.0393	-0.7001	0.0706
2	45	0.3998	-0.0736	0.0030	-0.1364	0.0132	-0.4513	0.0611	-0.7513	0.0763
2	45	0.4496	-0.1039	0.0028	-0.1711	0.0169	-0.6530	0.0846	-0.7060	0.0790
2	45	0.4995	-0.1428	0.0033	-0.1954	0.0225	-0.9551	0.1089	-0.8212	0.0849
2	45	0.5551	-0.1559	0.0034	-0.2365	0.0283	-1.3491	0.1363	-0.7821	0.0826
2	45	0.5996	-0.1740	0.0038	-0.2754	0.0337	-1.7364	0.1565	-0.7491	0.0878
2	45	0.6497	-0.1760	0.0041	-0.3078	0.0403	-2.2096	0.1791	-0.6500	0.0878
2	45	0.6996	-0.2238	0.0049	-0.3505	0.0459	-2.7440	0.1987	-0.6491	0.0878
2	45	0.7495	-0.2430	0.0057	-0.3855	0.0527	-3.3320	0.2185	-0.5641	0.0898
2	45	0.7996	-0.2817	0.0063	-0.4184	0.0598	-4.0048	0.2378	-0.6259	0.0900
2	45	0.8578	-0.3386	0.0071	-0.4549	0.0680	-4.8857	0.2589	-0.5061	0.0962
2	45	0.9100	-0.4030	0.0084	-0.4830	0.0760	-5.7331	0.2783	-0.5122	0.0956
2	45	0.9727	-0.4625	0.0099	-0.4662	0.0852	-6.6886	0.3064	-0.0736	0.0961
3	45	0.1938	0.0124	0.0037	-0.0237	0.0015	0.0191	0.0054	-0.1906	0.0330
3	45	0.2357	0.0066	0.0024	0.0055	0.0024	-0.0637	0.0092	-0.6495	0.0621
3	45	0.2995	-0.0309	0.0020	-0.0616	0.0056	-0.0323	0.0212	-0.6892	0.0809
3	45	0.3493	-0.0396	0.0024	-0.0916	0.0098	-0.0787	0.0371	-0.7255	0.0786
3	45	0.4000	-0.0690	0.0029	-0.1333	0.0149	-0.1586	0.0567	-0.6065	0.0843
3	45	0.4497	-0.0864	0.0031	-0.1798	0.0205	-0.3031	0.0776	-0.7443	0.0892
3	45	0.4997	-0.1293	0.0034	-0.2264	0.0273	-0.4958	0.0990	-0.8662	0.0948
3	45	0.5556	-0.1442	0.0037	-0.2802	0.0348	-0.7693	0.1208	-0.7907	0.0973
3	45	0.5995	-0.1568	0.0046	-0.3347	0.0416	-1.0506	0.1354	-0.7937	0.0990
3	45	0.6498	-0.1760	0.0047	-0.4031	0.0494	-1.3950	0.1508	-0.6800	0.1024
3	45	0.6890	-0.2109	0.0045	-0.4522	0.0563	-1.7373	0.1627	-0.6459	0.1045
3	45	0.7495	-0.2235	0.0053	-0.5281	0.0669	-2.2845	0.1792	-0.4801	0.1108
3	45	0.7998	-0.2633	0.0059	-0.5969	0.0764	-2.8400	0.1942	-0.5174	0.1136
3	45	0.8577	-0.2903	0.0070	-0.6321	0.0879	-3.5719	0.2133	-0.4755	0.1225
3	45	0.9178	-0.3429	0.0075	-0.6940	0.1004	-4.4460	0.2351	-0.7832	0.1293
3	45	0.9729	-0.4069	0.0102	-0.7623	0.1114	-5.2369	0.2586	-0.7347	0.1294
4	45	0.2001	0.0209	0.0025	-0.0015	0.0011	-0.0432	0.0052	0.0260	0.0277
4	45	0.2502	0.0206	0.0023	0.0122	0.0026	-0.1006	0.0110	0.0065	0.0537
4	45	0.3001	-0.0194	0.0018	0.0044	0.0044	-0.1880	0.0205	0.0435	0.0635
4	45	0.3502	-0.0575	0.0024	0.0131	0.0082	-0.3315	0.0353	-0.0022	0.0652
4	45	0.4002	-0.0757	0.0027	0.0248	0.0125	-0.5162	0.0545	0.0082	0.0678
4	45	0.4500	-0.0932	0.0032	0.0457	0.0165	-0.7769	0.0753	-0.1876	0.0789
4	45	0.5001	-0.1246	0.0037	0.0662	0.0210	-1.0728	0.0979	-0.0223	0.0884
4	45	0.5560	-0.1520	0.0039	0.0881	0.0270	-1.5536	0.1247	-0.2326	0.0966
4	45	0.6001	-0.1757	0.0044	0.1098	0.0319	-1.9344	0.1459	-0.0759	0.0982
4	45	0.6501	-0.2086	0.0048	0.1116	0.0388	-2.4554	0.1733	0.0376	0.0893
4	45	0.6999	-0.2288	0.0054	0.1163	0.0454	-3.0690	0.1990	0.0657	0.0999
4	45	0.7500	-0.2643	0.0066	0.1346	0.0527	-3.6991	0.2296	0.3840	0.0936
4	45	0.8002	-0.3029	0.0082	0.1555	0.0603	-4.4907	0.2603	0.3952	0.1012
4	45	0.8582	-0.3556	0.0103	0.1804	0.0698	-5.5236	0.3011	0.0360	0.1036
4	45	0.9101	-0.4077	0.0124	0.1979	0.0784	-6.4944	0.3420	0.2081	0.1057
4	45	0.9728	-0.4316	0.0146	0.2662	0.0888	-7.6468	0.3976	0.5403	0.1064

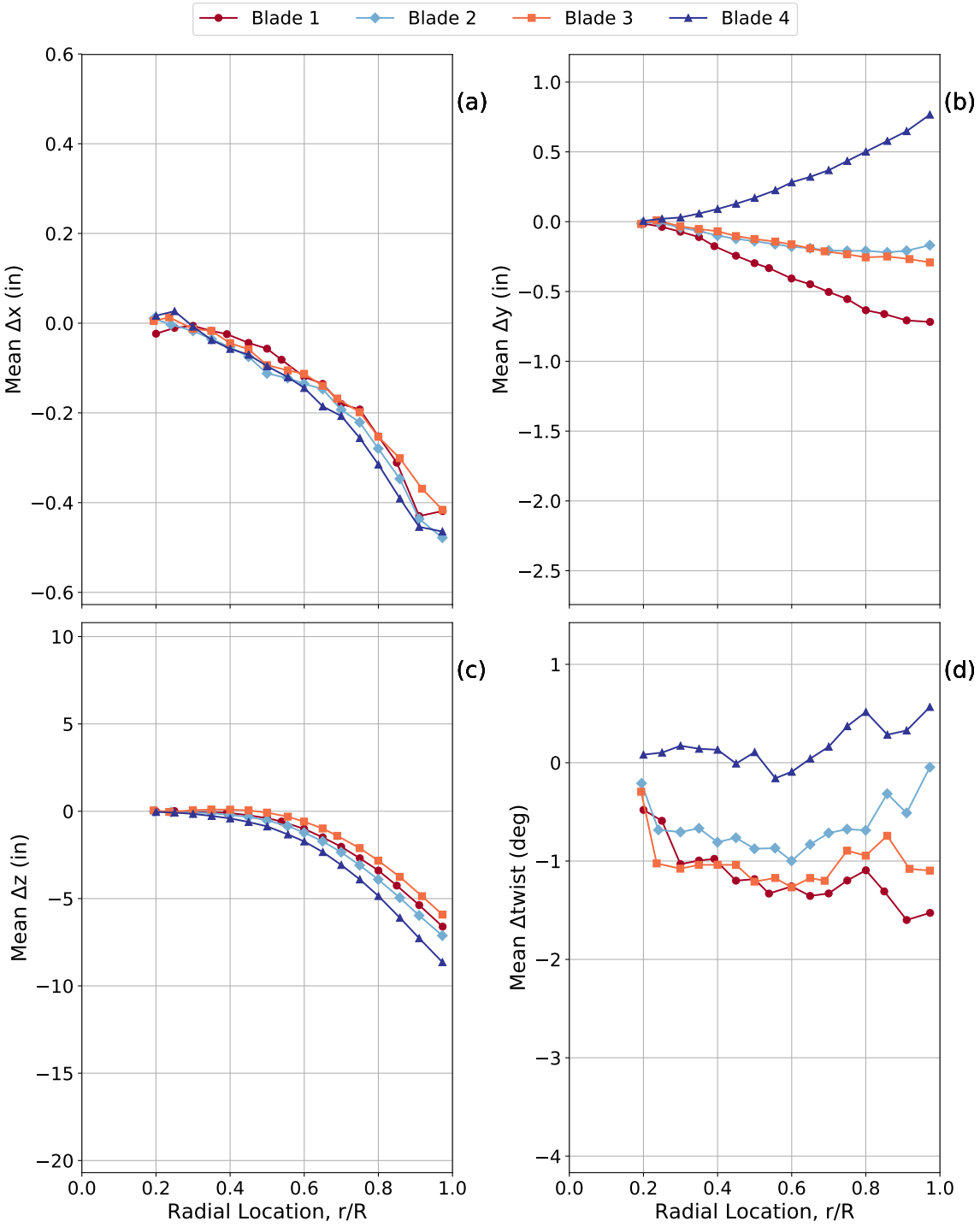


Figure 2.16-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0235	0.0031	-0.0135	0.0017	-0.0129	0.0057	-0.4794	0.0349
1	60.12	0.2499	-0.0104	0.0026	-0.0373	0.0024	0.0098	0.0081	-0.5908	0.0916
1	60.12	0.2998	-0.0059	0.0018	-0.0721	0.0059	-0.0486	0.0189	-1.0313	0.0898
1	60.12	0.3498	-0.0172	0.0023	-0.1103	0.0098	-0.0554	0.0316	-0.9947	0.0915
1	60.12	0.3913	-0.0244	0.0026	-0.1756	0.0136	-0.0845	0.0435	-0.9778	0.0942
1	60.12	0.4496	-0.0439	0.0029	-0.2442	0.0186	-0.2293	0.0620	-1.1996	0.0949
1	60.12	0.4997	-0.0569	0.0033	-0.2972	0.0234	-0.3949	0.0793	-1.1839	0.0968
1	60.12	0.5387	-0.0815	0.0030	-0.3328	0.0274	-0.5869	0.0919	-1.3305	0.1075
1	60.12	0.5996	-0.1195	0.0039	-0.4071	0.0344	-1.0071	0.1136	-1.2577	0.0987
1	60.12	0.6498	-0.1353	0.0039	-0.4481	0.0398	-1.4935	0.1320	-1.3543	0.0990
1	60.12	0.6998	-0.1801	0.0043	-0.5035	0.0457	-2.0346	0.1506	-1.3296	0.1035
1	60.12	0.7500	-0.1923	0.0050	-0.5546	0.0520	-2.6922	0.1711	-1.1976	0.0995
1	60.12	0.8001	-0.2523	0.0056	-0.6341	0.0592	-3.3959	0.1922	-1.0936	0.1033
1	60.12	0.8497	-0.3109	0.0068	-0.6615	0.0662	-4.2558	0.2168	-1.3084	0.1046
1	60.12	0.9102	-0.4299	0.0081	-0.7074	0.0750	-5.3739	0.2485	-1.5994	0.0984
1	60.12	0.9734	-0.4188	0.0103	-0.7181	0.0844	-6.6067	0.2839	-1.5267	0.0995
2	60.12	0.1949	0.0102	0.0020	-0.0136	0.0013	-0.0032	0.0044	-0.2093	0.0249
2	60.12	0.2405	-0.0032	0.0020	-0.0044	0.0024	-0.0454	0.0086	-0.6836	0.0505
2	60.12	0.2999	-0.0171	0.0017	-0.0433	0.0052	-0.0822	0.0197	-0.7047	0.0614
2	60.12	0.3498	-0.0357	0.0020	-0.0674	0.0085	-0.1056	0.0335	-0.6672	0.0631
2	60.12	0.3998	-0.0532	0.0032	-0.1000	0.0134	-0.2144	0.0524	-0.8082	0.0560
2	60.12	0.4496	-0.0747	0.0023	-0.1228	0.0163	-0.3249	0.0690	-0.7631	0.0680
2	60.12	0.4995	-0.1120	0.0019	-0.1399	0.0198	-0.5227	0.0894	-0.8752	0.0626
2	60.12	0.5551	-0.1225	0.0025	-0.1617	0.0248	-0.8430	0.1132	-0.8684	0.0618
2	60.12	0.5996	-0.1350	0.0034	-0.1794	0.0287	-1.2238	0.1339	-0.9984	0.0663
2	60.12	0.6497	-0.1469	0.0034	-0.1904	0.0332	-1.7232	0.1592	-0.8311	0.0661
2	60.12	0.6996	-0.1929	0.0041	-0.2063	0.0380	-2.3453	0.1848	-0.7149	0.0735
2	60.12	0.7495	-0.2210	0.0050	-0.2090	0.0427	-3.0925	0.2123	-0.6761	0.0647
2	60.12	0.7996	-0.2795	0.0065	-0.2090	0.0478	-3.9089	0.2426	-0.6873	0.0635
2	60.12	0.8578	-0.3470	0.0087	-0.2196	0.0537	-4.9518	0.2810	-0.3157	0.0692
2	60.12	0.9100	-0.4362	0.0111	-0.2083	0.0592	-5.9692	0.3206	-0.5108	0.0703
2	60.12	0.9727	-0.4782	0.0127	-0.1686	0.0656	-7.1216	0.3694	-0.0460	0.0775
3	60.12	0.1938	0.0049	0.0032	-0.0166	0.0017	0.0457	0.0052	-0.2952	0.0313
3	60.12	0.2357	0.0130	0.0024	0.0096	0.0019	-0.0414	0.0059	-1.0238	0.0657
3	60.12	0.2995	-0.0126	0.0021	-0.0339	0.0057	0.0565	0.0169	-1.0772	0.0817
3	60.12	0.3493	-0.0171	0.0018	-0.0524	0.0097	0.0974	0.0298	-1.0389	0.0730
3	60.12	0.4000	-0.0445	0.0029	-0.0688	0.0147	0.0915	0.0438	-1.0378	0.0754
3	60.12	0.4497	-0.0582	0.0032	-0.1031	0.0186	0.0499	0.0576	-1.0391	0.0726
3	60.12	0.4997	-0.0935	0.0034	-0.1240	0.0234	-0.0790	0.0726	-1.2090	0.0797
3	60.12	0.5556	-0.1052	0.0038	-0.1429	0.0288	-0.3105	0.0919	-1.1718	0.0743
3	60.12	0.5995	-0.1129	0.0040	-0.1625	0.0338	-0.5938	0.1086	-1.2670	0.0808
3	60.12	0.6498	-0.1393	0.0047	-0.1912	0.0388	-0.9860	0.1289	-1.1723	0.0765
3	60.12	0.6890	-0.1680	0.0051	-0.2123	0.0435	-1.4095	0.1461	-1.2005	0.0852
3	60.12	0.7495	-0.1984	0.0062	-0.2335	0.0502	-2.1099	0.1758	-0.8941	0.0859
3	60.12	0.7998	-0.2532	0.0073	-0.2558	0.0561	-2.8277	0.2005	-0.9450	0.0822
3	60.12	0.8577	-0.3009	0.0086	-0.2495	0.0632	-3.7559	0.2334	-0.7430	0.0799
3	60.12	0.9178	-0.3690	0.0100	-0.2679	0.0704	-4.8634	0.2676	-1.0791	0.0840
3	60.12	0.9729	-0.4160	0.0116	-0.2919	0.0774	-5.9174	0.3019	-1.0971	0.0951
4	60.12	0.2001	0.0167	0.0022	0.0060	0.0011	-0.0379	0.0041	0.0817	0.0250
4	60.12	0.2502	0.0267	0.0022	0.0208	0.0020	-0.0776	0.0067	0.1027	0.0548
4	60.12	0.3001	-0.0077	0.0023	0.0300	0.0040	-0.1517	0.0148	0.1724	0.0591
4	60.12	0.3502	-0.0375	0.0018	0.0582	0.0067	-0.2686	0.0256	0.1417	0.0586
4	60.12	0.4002	-0.0573	0.0020	0.0906	0.0103	-0.4105	0.0385	0.1317	0.0643
4	60.12	0.4500	-0.0703	0.0024	0.1283	0.0139	-0.6160	0.0499	-0.0089	0.0675
4	60.12	0.5001	-0.0959	0.0031	0.1701	0.0178	-0.8695	0.0625	0.1073	0.0713
4	60.12	0.5560	-0.1204	0.0033	0.2251	0.0230	-1.3288	0.0756	-0.1579	0.0712
4	60.12	0.6001	-0.1444	0.0036	0.2820	0.0281	-1.7293	0.0870	-0.0922	0.0784
4	60.12	0.6501	-0.1856	0.0038	0.3213	0.0334	-2.3367	0.1004	0.0414	0.0730
4	60.12	0.6999	-0.2069	0.0045	0.3686	0.0393	-3.0750	0.1156	0.1627	0.0740
4	60.12	0.7500	-0.2561	0.0055	0.4349	0.0457	-3.9042	0.1333	0.3712	0.0681
4	60.12	0.8002	-0.3152	0.0064	0.5016	0.0522	-4.8560	0.1525	0.5164	0.0730
4	60.12	0.8582	-0.3909	0.0081	0.5783	0.0607	-6.1002	0.1783	0.2846	0.0728
4	60.12	0.9101	-0.4541	0.0094	0.6482	0.0679	-7.2711	0.2039	0.3273	0.0792
4	60.12	0.9728	-0.4644	0.0117	0.7667	0.0771	-8.6411	0.2376	0.5668	0.0836

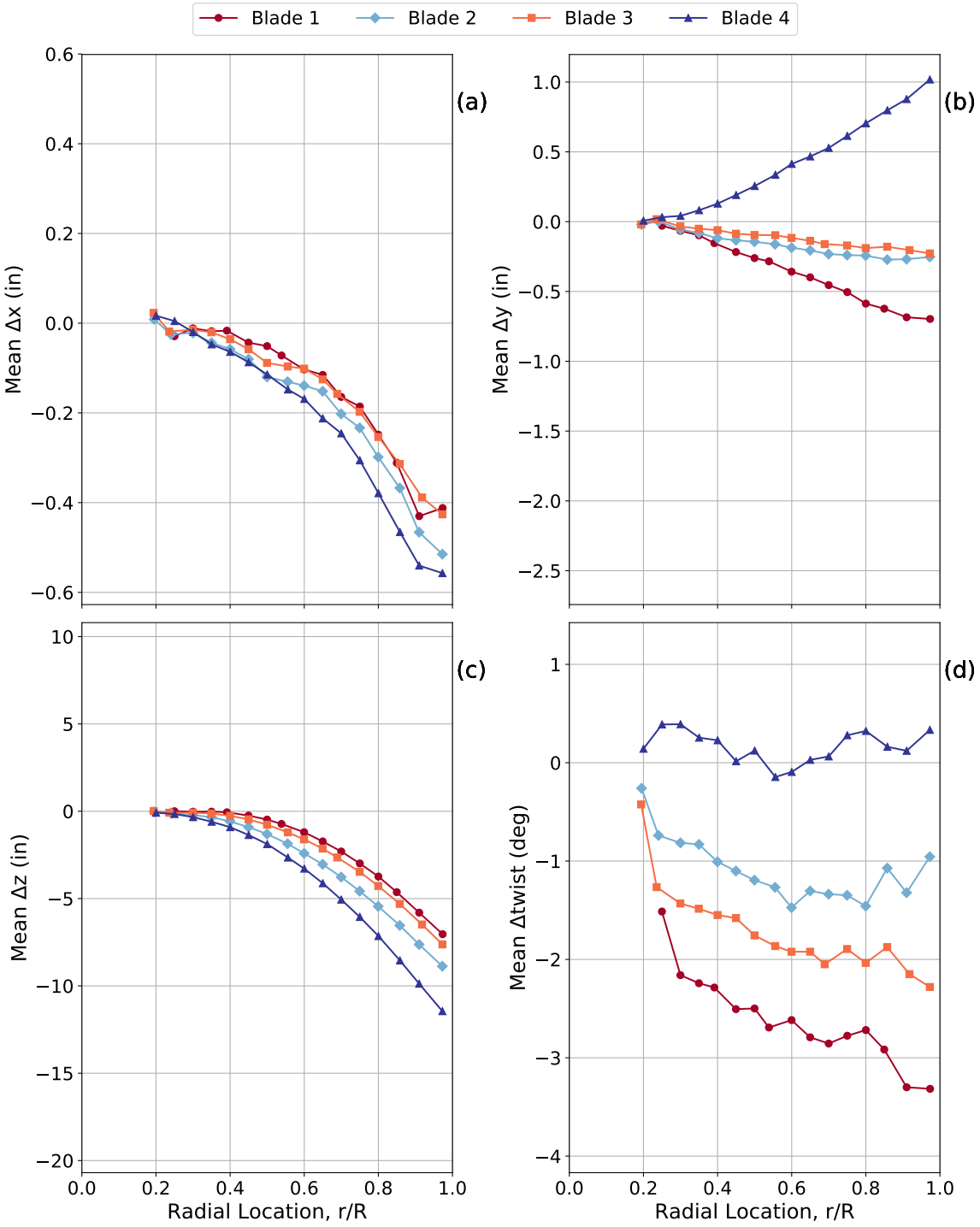


Figure 2.16-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2499	-0.0291	0.0033	-0.0293	0.0039	-0.0002	0.0165	-1.5134	0.1128
1	74.88	0.2998	-0.0115	0.0028	-0.0655	0.0072	-0.0257	0.0290	-2.1601	0.1602
1	74.88	0.3498	-0.0180	0.0027	-0.0978	0.0128	-0.0230	0.0507	-2.2422	0.1462
1	74.88	0.3913	-0.0167	0.0022	-0.1540	0.0184	-0.0594	0.0719	-2.2859	0.1443
1	74.88	0.4496	-0.0434	0.0028	-0.2175	0.0266	-0.2481	0.1021	-2.5057	0.1498
1	74.88	0.4997	-0.0511	0.0029	-0.2608	0.0341	-0.4779	0.1317	-2.4987	0.1489
1	74.88	0.5387	-0.0720	0.0033	-0.2841	0.0405	-0.7269	0.1557	-2.6924	0.1521
1	74.88	0.5996	-0.1031	0.0036	-0.3583	0.0513	-1.1994	0.1954	-2.6169	0.1544
1	74.88	0.6498	-0.1153	0.0041	-0.3986	0.0613	-1.7278	0.2284	-2.7921	0.1525
1	74.88	0.6998	-0.1644	0.0048	-0.4543	0.0716	-2.3049	0.2634	-2.8552	0.1475
1	74.88	0.7500	-0.1858	0.0056	-0.5046	0.0824	-2.9895	0.2984	-2.7760	0.1527
1	74.88	0.8001	-0.2486	0.0068	-0.5869	0.0935	-3.7387	0.3356	-2.7185	0.1546
1	74.88	0.8497	-0.3114	0.0086	-0.6233	0.1052	-4.6340	0.3727	-2.9163	0.1619
1	74.88	0.9102	-0.4301	0.0106	-0.6849	0.1194	-5.8055	0.4196	-3.2998	0.1647
1	74.88	0.9734	-0.4120	0.0122	-0.6969	0.1346	-7.0391	0.4718	-3.3158	0.1691
2	74.88	0.1949	0.0085	0.0036	-0.0195	0.0019	-0.0324	0.0074	-0.2598	0.0399
2	74.88	0.2405	-0.0250	0.0022	0.0016	0.0024	-0.1010	0.0101	-0.7398	0.0921
2	74.88	0.2999	-0.0216	0.0022	-0.0559	0.0064	-0.2183	0.0269	-0.8149	0.1087
2	74.88	0.3498	-0.0436	0.0025	-0.0811	0.0115	-0.3413	0.0480	-0.8303	0.0978
2	74.88	0.3998	-0.0579	0.0025	-0.1190	0.0169	-0.5818	0.0712	-1.0077	0.1109
2	74.88	0.4496	-0.0803	0.0031	-0.1331	0.0230	-0.9079	0.0971	-1.1013	0.1146
2	74.88	0.4995	-0.1198	0.0033	-0.1440	0.0294	-1.3058	0.1244	-1.1939	0.1163
2	74.88	0.5551	-0.1305	0.0034	-0.1618	0.0378	-1.8605	0.1578	-1.2671	0.1214
2	74.88	0.5996	-0.1392	0.0045	-0.1862	0.0442	-2.4094	0.1842	-1.4732	0.1217
2	74.88	0.6497	-0.1518	0.0054	-0.2057	0.0523	-3.0396	0.2145	-1.3038	0.1250
2	74.88	0.6996	-0.2022	0.0067	-0.2318	0.0608	-3.7681	0.2461	-1.3367	0.1276
2	74.88	0.7495	-0.2333	0.0084	-0.2393	0.0694	-4.5755	0.2802	-1.3476	0.1344
2	74.88	0.7996	-0.2984	0.0105	-0.2434	0.0786	-5.4478	0.3172	-1.4580	0.1388
2	74.88	0.8578	-0.3674	0.0132	-0.2719	0.0898	-6.5381	0.3630	-1.0718	0.1429
2	74.88	0.9100	-0.4660	0.0153	-0.2687	0.0995	-7.6280	0.4077	-1.3220	0.1438
2	74.88	0.9727	-0.5149	0.0176	-0.2530	0.1116	-8.8731	0.4628	-0.9559	0.1506
3	74.88	0.1938	0.0229	0.0064	-0.0199	0.0025	0.0115	0.0078	-0.4244	0.0479
3	74.88	0.2357	-0.0185	0.0022	0.0176	0.0021	-0.0830	0.0085	-1.2647	0.1232
3	74.88	0.2995	-0.0144	0.0019	-0.0339	0.0079	-0.0803	0.0252	-1.4310	0.1397
3	74.88	0.3493	-0.0204	0.0019	-0.0504	0.0128	-0.1309	0.0420	-1.4846	0.1362
3	74.88	0.4000	-0.0357	0.0023	-0.0609	0.0194	-0.2624	0.0631	-1.5490	0.1400
3	74.88	0.4497	-0.0581	0.0026	-0.0863	0.0260	-0.4641	0.0847	-1.5798	0.1504
3	74.88	0.4997	-0.0886	0.0028	-0.0951	0.0331	-0.7695	0.1091	-1.7560	0.1493
3	74.88	0.5556	-0.0966	0.0029	-0.0968	0.0421	-1.2078	0.1372	-1.8644	0.1510
3	74.88	0.5995	-0.1012	0.0033	-0.1163	0.0495	-1.6132	0.1590	-1.9220	0.1567
3	74.88	0.6498	-0.1253	0.0035	-0.1371	0.0589	-2.1381	0.1817	-1.9218	0.1568
3	74.88	0.6890	-0.1576	0.0041	-0.1607	0.0670	-2.6469	0.1999	-2.0493	0.1583
3	74.88	0.7495	-0.1975	0.0048	-0.1704	0.0794	-3.4667	0.2273	-1.8943	0.1595
3	74.88	0.7998	-0.2537	0.0059	-0.1891	0.0900	-4.2811	0.2504	-2.0356	0.1648
3	74.88	0.8577	-0.3138	0.0075	-0.1795	0.1034	-5.3044	0.2791	-1.8746	0.1673
3	74.88	0.9178	-0.3885	0.0088	-0.2039	0.1175	-6.4839	0.3101	-2.1496	0.1662
3	74.88	0.9729	-0.4261	0.0106	-0.2275	0.1311	-7.6239	0.3384	-2.2804	0.1685
4	74.88	0.2001	0.0166	0.0022	0.0073	0.0014	-0.0851	0.0057	0.1419	0.0309
4	74.88	0.2502	0.0047	0.0015	0.0321	0.0037	-0.1600	0.0131	0.3891	0.0647
4	74.88	0.3001	-0.0198	0.0016	0.0414	0.0063	-0.3374	0.0239	0.3910	0.0737
4	74.88	0.3502	-0.0473	0.0022	0.0820	0.0109	-0.6019	0.0417	0.2543	0.0667
4	74.88	0.4002	-0.0640	0.0028	0.1294	0.0173	-0.9137	0.0649	0.2280	0.0788
4	74.88	0.4500	-0.0872	0.0033	0.1906	0.0248	-1.3629	0.0953	0.0145	0.0746
4	74.88	0.5001	-0.1145	0.0036	0.2552	0.0337	-1.8821	0.1310	0.1229	0.0780
4	74.88	0.5560	-0.1479	0.0046	0.3355	0.0449	-2.6530	0.1754	-0.1457	0.0819
4	74.88	0.6001	-0.1689	0.0055	0.4137	0.0536	-3.2882	0.2094	-0.0938	0.0838
4	74.88	0.6501	-0.2123	0.0068	0.4670	0.0650	-4.1239	0.2495	0.0289	0.0916
4	74.88	0.6999	-0.2457	0.0082	0.5281	0.0766	-5.0604	0.2895	0.0636	0.0951
4	74.88	0.7500	-0.3058	0.0104	0.6141	0.0888	-6.0539	0.3286	0.2789	0.0980
4	74.88	0.8002	-0.3790	0.0128	0.7046	0.1023	-7.1478	0.3680	0.3228	0.1015
4	74.88	0.8582	-0.4656	0.0159	0.7976	0.1175	-8.5456	0.4136	0.1619	0.1045
4	74.88	0.9101	-0.5403	0.0189	0.8777	0.1311	-9.8754	0.4569	0.1207	0.1065
4	74.88	0.9728	-0.5572	0.0200	1.0181	0.1479	-11.4491	0.5116	0.3338	0.1183

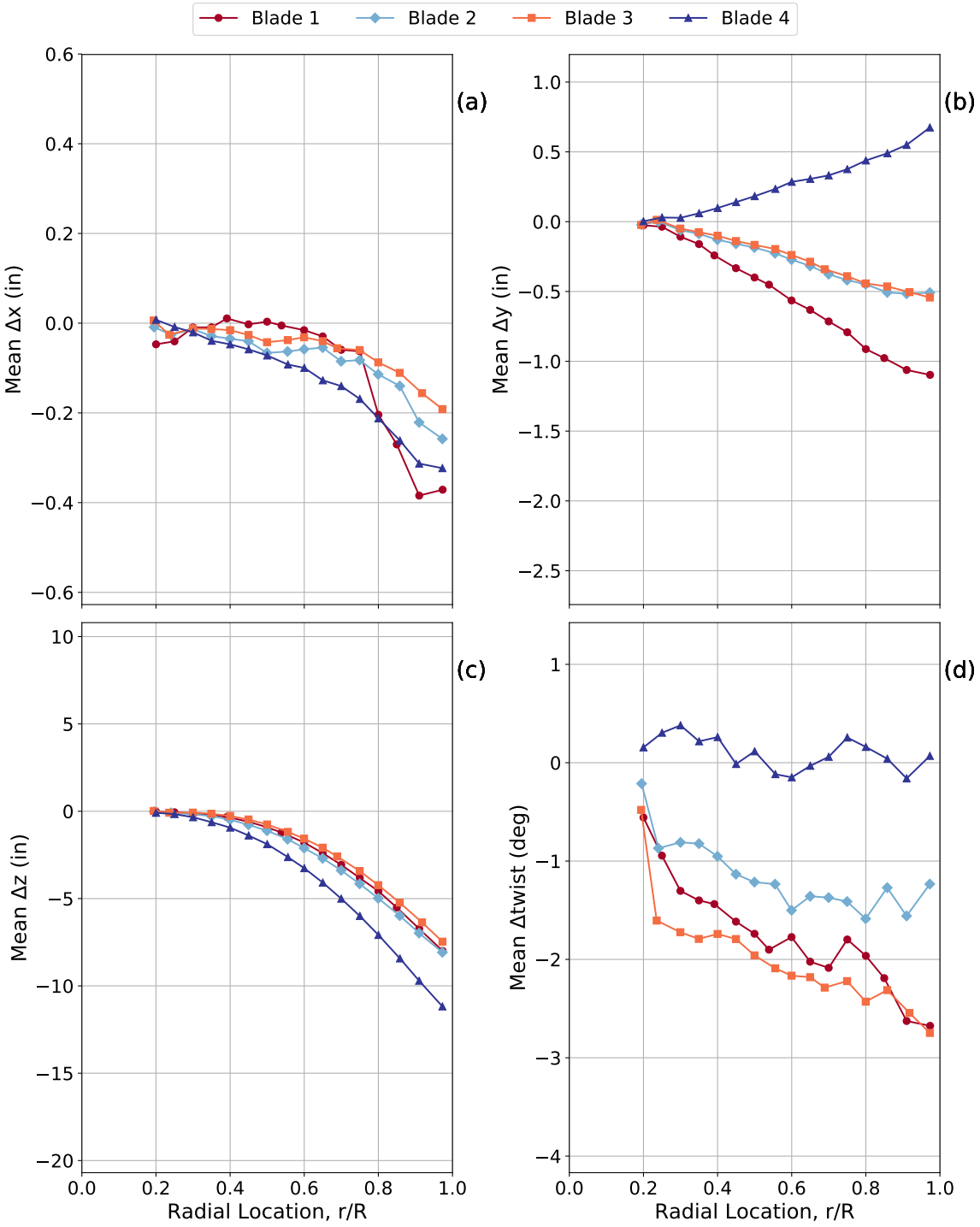


Figure 2.16-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0471	0.0046	-0.0259	0.0049	-0.0216	0.0136	-0.5569	0.0900
1	80.16	0.2499	-0.0405	0.0023	-0.0363	0.0063	-0.0591	0.0166	-0.9447	0.2326
1	80.16	0.2998	-0.0094	0.0038	-0.1078	0.0172	-0.1295	0.0431	-1.3032	0.2402
1	80.16	0.3498	-0.0093	0.0070	-0.1606	0.0297	-0.2069	0.0721	-1.4001	0.2346
1	80.16	0.3913	0.0106	0.0094	-0.2417	0.0407	-0.3264	0.0973	-1.4374	0.2338
1	80.16	0.4496	-0.0026	0.0127	-0.3332	0.0570	-0.5997	0.1340	-1.6160	0.2349
1	80.16	0.4997	0.0033	0.0159	-0.4000	0.0723	-0.9149	0.1676	-1.7395	0.2341
1	80.16	0.5387	-0.0052	0.0180	-0.4513	0.0847	-1.2189	0.1931	-1.9010	0.2459
1	80.16	0.5996	-0.0155	0.0214	-0.5642	0.1054	-1.7888	0.2355	-1.7731	0.2446
1	80.16	0.6498	-0.0295	0.0233	-0.6319	0.1227	-2.3966	0.2713	-2.0230	0.2468
1	80.16	0.6998	-0.0594	0.0251	-0.7145	0.1418	-3.0682	0.3070	-2.0861	0.2533
1	80.16	0.7500	-0.0627	0.0297	-0.7920	0.1596	-3.8198	0.3450	-1.7975	0.2630
1	80.16	0.8001	-0.2042	0.0208	-0.9126	0.2127	-4.5780	0.3144	-1.9638	0.2470
1	80.16	0.8497	-0.2703	0.0224	-0.9771	0.2324	-5.5134	0.3546	-2.1903	0.2494
1	80.16	0.9102	-0.3843	0.0244	-1.0623	0.2563	-6.7301	0.4068	-2.6262	0.2518
1	80.16	0.9734	-0.3712	0.0224	-1.0974	0.2816	-7.9957	0.4640	-2.6755	0.2528
2	80.16	0.1949	-0.0088	0.0062	-0.0208	0.0017	-0.0233	0.0061	-0.2123	0.0411
2	80.16	0.2405	-0.0258	0.0025	0.0009	0.0019	-0.0896	0.0081	-0.8694	0.1028
2	80.16	0.2999	-0.0136	0.0026	-0.0609	0.0056	-0.1750	0.0201	-0.8100	0.1104
2	80.16	0.3498	-0.0287	0.0042	-0.0872	0.0096	-0.2812	0.0334	-0.8231	0.1104
2	80.16	0.3998	-0.0347	0.0059	-0.1294	0.0141	-0.4798	0.0505	-0.9521	0.1086
2	80.16	0.4496	-0.0402	0.0071	-0.1581	0.0186	-0.7749	0.0689	-1.1337	0.1128
2	80.16	0.4995	-0.0663	0.0082	-0.1855	0.0235	-1.1118	0.0911	-1.2143	0.1109
2	80.16	0.5551	-0.0631	0.0087	-0.2262	0.0293	-1.6019	0.1191	-1.2347	0.1171
2	80.16	0.5996	-0.0582	0.0088	-0.2722	0.0341	-2.1098	0.1432	-1.5006	0.1143
2	80.16	0.6497	-0.0545	0.0092	-0.3168	0.0399	-2.6977	0.1711	-1.3581	0.1171
2	80.16	0.6996	-0.0850	0.0100	-0.3763	0.0459	-3.3840	0.1994	-1.3716	0.1207
2	80.16	0.7495	-0.0823	0.0108	-0.4190	0.0522	-4.1569	0.2278	-1.4117	0.1230
2	80.16	0.7996	-0.1141	0.0124	-0.4484	0.0586	-4.9831	0.2574	-1.5869	0.1192
2	80.16	0.8578	-0.1400	0.0152	-0.5067	0.0661	-5.9816	0.2950	-1.2706	0.1248
2	80.16	0.9100	-0.2211	0.0183	-0.5165	0.0731	-6.9779	0.3305	-1.5583	0.1209
2	80.16	0.9727	-0.2579	0.0232	-0.5081	0.0814	-8.0772	0.3729	-1.2340	0.1272
3	80.16	0.1938	0.0060	0.0137	-0.0235	0.0034	0.0131	0.0137	-0.4798	0.0563
3	80.16	0.2357	-0.0257	0.0041	0.0132	0.0026	-0.0847	0.0094	-1.6050	0.1944
3	80.16	0.2995	-0.0118	0.0040	-0.0495	0.0108	-0.0768	0.0385	-1.7235	0.1969
3	80.16	0.3493	-0.0129	0.0055	-0.0750	0.0188	-0.1403	0.0646	-1.7916	0.1976
3	80.16	0.4000	-0.0156	0.0071	-0.1005	0.0275	-0.2702	0.0927	-1.7412	0.1962
3	80.16	0.4497	-0.0263	0.0086	-0.1388	0.0364	-0.4728	0.1206	-1.7930	0.1988
3	80.16	0.4997	-0.0424	0.0098	-0.1664	0.0462	-0.7550	0.1507	-1.9592	0.1979
3	80.16	0.5556	-0.0377	0.0108	-0.1961	0.0578	-1.1810	0.1833	-2.0904	0.1992
3	80.16	0.5995	-0.0314	0.0109	-0.2385	0.0679	-1.5674	0.2084	-2.1651	0.1992
3	80.16	0.6498	-0.0400	0.0110	-0.2870	0.0796	-2.0873	0.2357	-2.1809	0.2043
3	80.16	0.6890	-0.0559	0.0113	-0.3408	0.0894	-2.5896	0.2567	-2.2867	0.2059
3	80.16	0.7495	-0.0600	0.0118	-0.3904	0.1049	-3.4216	0.2895	-2.2205	0.2081
3	80.16	0.7998	-0.0874	0.0126	-0.4424	0.1185	-4.2314	0.3175	-2.4292	0.2070
3	80.16	0.8577	-0.1107	0.0150	-0.4638	0.1349	-5.2334	0.3512	-2.3122	0.2121
3	80.16	0.9178	-0.1560	0.0195	-0.5047	0.1521	-6.3626	0.3877	-2.5441	0.2120
3	80.16	0.9729	-0.1916	0.0267	-0.5433	0.1683	-7.4664	0.4233	-2.7475	0.2151
4	80.16	0.2001	0.0075	0.0072	0.0030	0.0011	-0.0891	0.0053	0.1555	0.0264
4	80.16	0.2502	-0.0085	0.0027	0.0298	0.0029	-0.1640	0.0111	0.3043	0.0738
4	80.16	0.3001	-0.0205	0.0031	0.0276	0.0046	-0.3440	0.0207	0.3799	0.0681
4	80.16	0.3502	-0.0393	0.0061	0.0602	0.0079	-0.6275	0.0366	0.2172	0.0679
4	80.16	0.4002	-0.0472	0.0084	0.0976	0.0126	-0.9411	0.0560	0.2603	0.0739
4	80.16	0.4500	-0.0584	0.0097	0.1401	0.0172	-1.3922	0.0772	-0.0133	0.0787
4	80.16	0.5001	-0.0721	0.0102	0.1825	0.0229	-1.8862	0.1017	0.1158	0.0813
4	80.16	0.5560	-0.0922	0.0106	0.2345	0.0300	-2.6275	0.1317	-0.1168	0.0818
4	80.16	0.6001	-0.0997	0.0109	0.2853	0.0363	-3.2620	0.1565	-0.1489	0.0865
4	80.16	0.6501	-0.1274	0.0111	0.3062	0.0438	-4.0878	0.1846	-0.0317	0.0856
4	80.16	0.6999	-0.1403	0.0118	0.3314	0.0521	-5.0071	0.2131	0.0598	0.0883
4	80.16	0.7500	-0.1689	0.0129	0.3759	0.0610	-5.9974	0.2431	0.2558	0.0870
4	80.16	0.8002	-0.2123	0.0148	0.4382	0.0705	-7.0852	0.2737	0.1601	0.0865
4	80.16	0.8582	-0.2617	0.0186	0.4897	0.0822	-8.4294	0.3127	0.0397	0.0907
4	80.16	0.9101	-0.3130	0.0236	0.5496	0.0935	-9.7080	0.3494	-0.1599	0.0923
4	80.16	0.9728	-0.3232	0.0314	0.6742	0.1092	-11.1774	0.3965	0.0690	0.1009

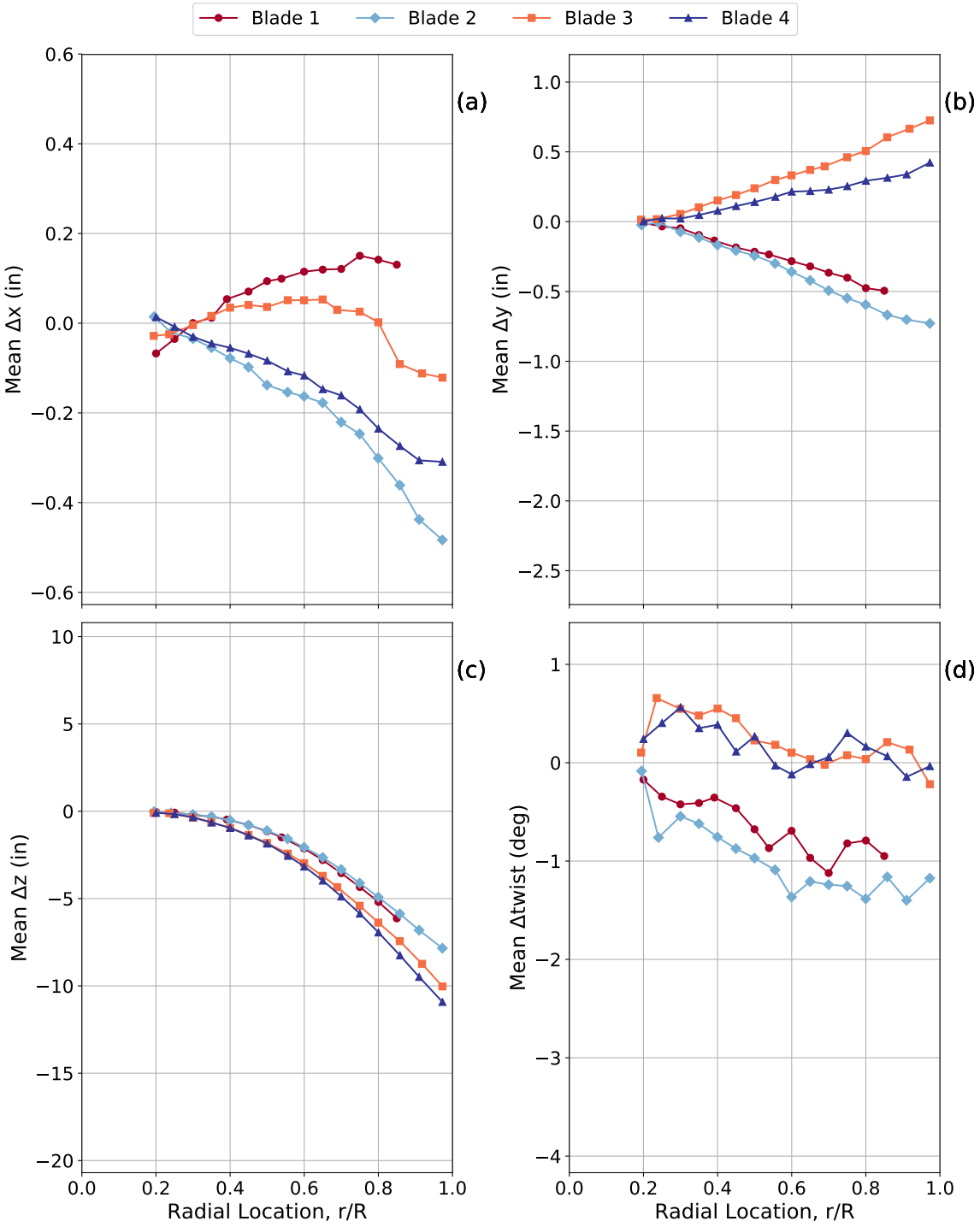


Figure 2.16-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-14. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.07$, $\mu = 0.3$, $\alpha = -0.6°$
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0675	0.0016	-0.0101	0.0009	-0.0474	0.0039	-0.1724	0.0226
1	85.08	0.2499	-0.0352	0.0014	-0.0338	0.0022	-0.0771	0.0084	-0.3450	0.0418
1	85.08	0.2998	0.0003	0.0015	-0.0473	0.0041	-0.2079	0.0159	-0.4235	0.0507
1	85.08	0.3498	0.0120	0.0018	-0.0955	0.0070	-0.3138	0.0272	-0.4098	0.0546
1	85.08	0.3913	0.0536	0.0020	-0.1352	0.0102	-0.4768	0.0394	-0.3547	0.0541
1	85.08	0.4496	0.0705	0.0023	-0.1847	0.0144	-0.7848	0.0564	-0.4626	0.0620
1	85.08	0.4997	0.0937	0.0027	-0.2154	0.0185	-1.1523	0.0712	-0.6771	0.0675
1	85.08	0.5387	0.0991	0.0031	-0.2348	0.0228	-1.4962	0.0830	-0.8680	0.0692
1	85.08	0.5996	0.1148	0.0037	-0.2830	0.0297	-2.1376	0.1028	-0.6925	0.0728
1	85.08	0.6498	0.1194	0.0046	-0.3199	0.0361	-2.7981	0.1195	-0.9674	0.1042
1	85.08	0.6998	0.1209	0.0051	-0.3657	0.0426	-3.5465	0.1335	-1.1215	0.1021
1	85.08	0.7500	0.1503	0.0066	-0.4017	0.0499	-4.3406	0.1533	-0.8206	0.1171
1	85.08	0.8001	0.1414	0.0095	-0.4759	0.0572	-5.1912	0.1728	-0.7912	0.1893
1	85.08	0.8497	0.1304	0.0103	-0.4947	0.0656	-6.1350	0.1958	-0.9492	0.1926
2	85.08	0.1949	0.0145	0.0059	-0.0236	0.0023	-0.0236	0.0080	-0.0849	0.0539
2	85.08	0.2405	-0.0204	0.0034	-0.0057	0.0028	-0.0996	0.0088	-0.7608	0.1555
2	85.08	0.2999	-0.0345	0.0029	-0.0732	0.0070	-0.1817	0.0233	-0.5451	0.1588
2	85.08	0.3498	-0.0547	0.0031	-0.1137	0.0117	-0.3086	0.0390	-0.6204	0.1616
2	85.08	0.3998	-0.0780	0.0031	-0.1675	0.0173	-0.5164	0.0570	-0.7561	0.1676
2	85.08	0.4496	-0.0979	0.0036	-0.2074	0.0228	-0.7968	0.0753	-0.8733	0.1622
2	85.08	0.4995	-0.1379	0.0039	-0.2434	0.0287	-1.1094	0.0947	-0.9696	0.1621
2	85.08	0.5551	-0.1539	0.0042	-0.2993	0.0355	-1.5791	0.1179	-1.0894	0.1674
2	85.08	0.5996	-0.1632	0.0045	-0.3586	0.0415	-2.0659	0.1357	-1.3660	0.1653
2	85.08	0.6497	-0.1775	0.0047	-0.4209	0.0483	-2.6462	0.1540	-1.2083	0.1662
2	85.08	0.6996	-0.2206	0.0054	-0.4932	0.0558	-3.3365	0.1719	-1.2397	0.1730
2	85.08	0.7495	-0.2469	0.0059	-0.5482	0.0633	-4.1106	0.1902	-1.2548	0.1738
2	85.08	0.7996	-0.3010	0.0067	-0.5945	0.0714	-4.9173	0.2092	-1.3839	0.1714
2	85.08	0.8578	-0.3610	0.0081	-0.6680	0.0808	-5.8751	0.2343	-1.1608	0.1743
2	85.08	0.9100	-0.4376	0.0093	-0.7017	0.0895	-6.8091	0.2601	-1.3989	0.1759
2	85.08	0.9727	-0.4831	0.0102	-0.7288	0.0999	-7.8427	0.2945	-1.1740	0.1764
3	85.08	0.1938	-0.0283	0.0076	0.0146	0.0074	-0.0954	0.0153	0.1034	0.0613
3	85.08	0.2357	-0.0248	0.0020	0.0180	0.0035	-0.1141	0.0069	0.6575	0.2248
3	85.08	0.2995	-0.0042	0.0026	0.0553	0.0218	-0.3646	0.0428	0.5474	0.2260
3	85.08	0.3493	0.0162	0.0038	0.1027	0.0376	-0.6341	0.0734	0.4802	0.2261
3	85.08	0.4000	0.0345	0.0046	0.1520	0.0543	-0.9606	0.1047	0.5506	0.2303
3	85.08	0.4497	0.0407	0.0052	0.1907	0.0716	-1.3561	0.1362	0.4530	0.2311
3	85.08	0.4997	0.0361	0.0058	0.2392	0.0899	-1.8183	0.1698	0.2269	0.2253
3	85.08	0.5556	0.0513	0.0064	0.2984	0.1112	-2.4259	0.2068	0.1820	0.2298
3	85.08	0.5995	0.0511	0.0070	0.3317	0.1285	-2.9751	0.2374	0.1029	0.2339
3	85.08	0.6498	0.0528	0.0070	0.3705	0.1490	-3.7051	0.2728	0.0356	0.2363
3	85.08	0.6890	0.0297	0.0081	0.3961	0.1655	-4.3453	0.3015	-0.0205	0.2428
3	85.08	0.7495	0.0256	0.0091	0.4612	0.1924	-5.4129	0.3478	0.0762	0.2296
3	85.08	0.7998	0.0019	0.0118	0.5060	0.2161	-6.3753	0.3865	0.0368	0.2369
3	85.08	0.8577	-0.0912	0.0200	0.6043	0.2673	-7.4356	0.3673	0.2090	0.2666
3	85.08	0.9178	-0.1120	0.0162	0.6658	0.2944	-8.7359	0.4242	0.1329	0.2695
3	85.08	0.9729	-0.1214	0.0201	0.7252	0.3172	-10.0301	0.4794	-0.2184	0.2686
4	85.08	0.2001	0.0135	0.0076	0.0022	0.0013	-0.0908	0.0058	0.2412	0.0536
4	85.08	0.2502	-0.0081	0.0038	0.0242	0.0027	-0.1664	0.0109	0.4036	0.0816
4	85.08	0.3001	-0.0306	0.0034	0.0219	0.0047	-0.3443	0.0211	0.5639	0.1169
4	85.08	0.3502	-0.0453	0.0066	0.0481	0.0085	-0.6437	0.0368	0.3514	0.1150
4	85.08	0.4002	-0.0549	0.0097	0.0783	0.0129	-0.9548	0.0558	0.3856	0.1101
4	85.08	0.4500	-0.0681	0.0119	0.1116	0.0175	-1.3888	0.0758	0.1132	0.1159
4	85.08	0.5001	-0.0836	0.0127	0.1407	0.0228	-1.8533	0.0983	0.2674	0.1245
4	85.08	0.5560	-0.1074	0.0127	0.1782	0.0299	-2.5541	0.1263	-0.0291	0.1298
4	85.08	0.6001	-0.1167	0.0121	0.2151	0.0358	-3.1650	0.1476	-0.1191	0.1348
4	85.08	0.6501	-0.1471	0.0109	0.2193	0.0430	-3.9701	0.1721	-0.0145	0.1359
4	85.08	0.6999	-0.1611	0.0100	0.2291	0.0510	-4.8816	0.1976	0.0577	0.1367
4	85.08	0.7500	-0.1922	0.0101	0.2541	0.0595	-5.8620	0.2235	0.3019	0.1397
4	85.08	0.8002	-0.2351	0.0124	0.2927	0.0686	-6.9395	0.2508	0.1645	0.1453
4	85.08	0.8582	-0.2738	0.0170	0.3143	0.0799	-8.2493	0.2839	0.0650	0.1432
4	85.08	0.9101	-0.3057	0.0232	0.3383	0.0904	-9.4879	0.3138	-0.1439	0.1430
4	85.08	0.9728	-0.3091	0.0323	0.4230	0.1038	-10.9179	0.3512	-0.0352	0.1464

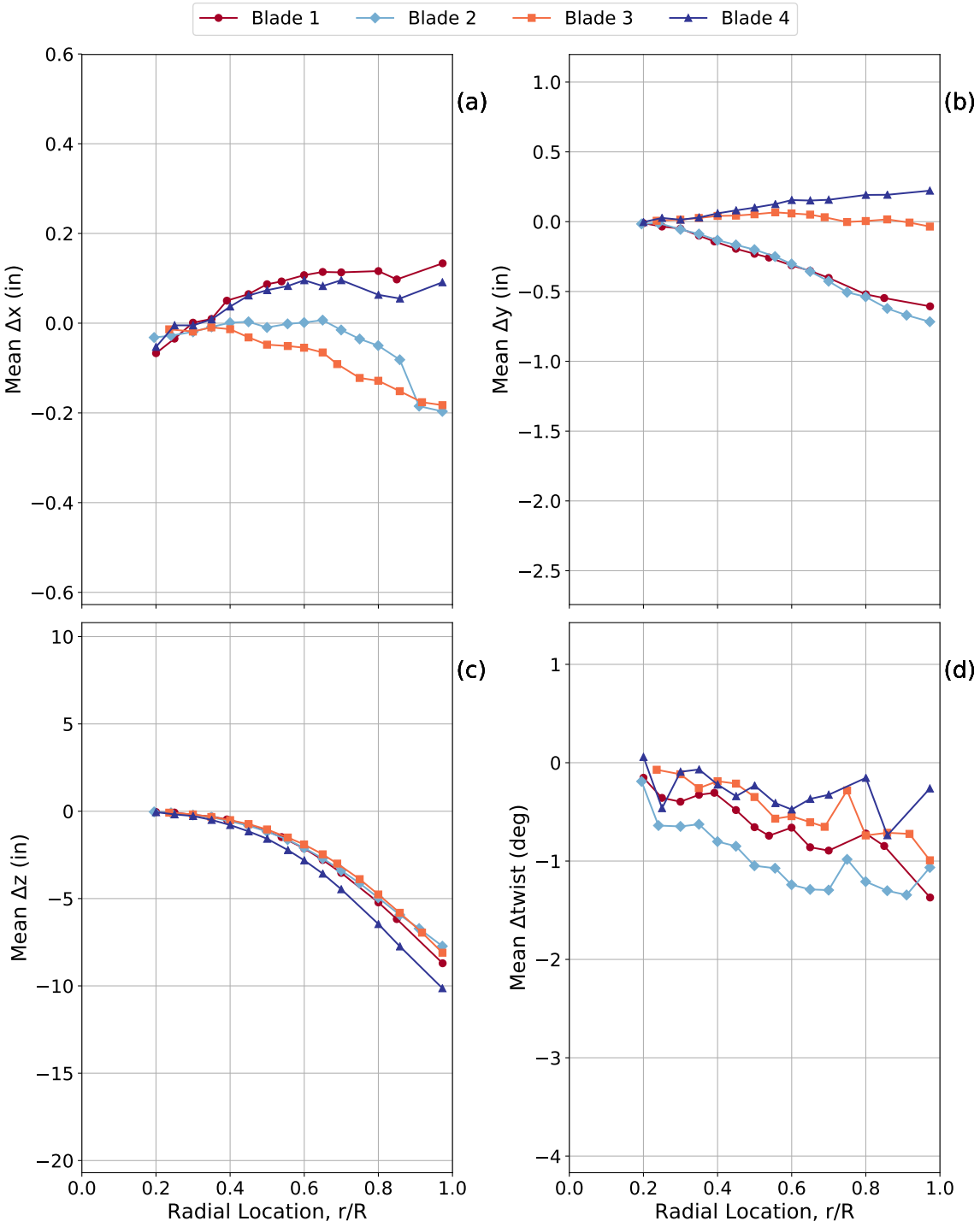


Figure 2.16-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0669	0.0015	-0.0108	0.0009	-0.0463	0.0040	-0.1529	0.0271
1	90	0.2499	-0.0345	0.0014	-0.0350	0.0020	-0.0751	0.0091	-0.3577	0.0404
1	90	0.2998	0.0011	0.0016	-0.0497	0.0037	-0.2061	0.0165	-0.3966	0.0590
1	90	0.3498	0.0094	0.0014	-0.1003	0.0064	-0.3049	0.0293	-0.3263	0.0495
1	90	0.3913	0.0502	0.0021	-0.1415	0.0093	-0.4686	0.0418	-0.3059	0.0491
1	90	0.4496	0.0647	0.0023	-0.1943	0.0127	-0.7864	0.0601	-0.4816	0.0544
1	90	0.4997	0.0868	0.0029	-0.2302	0.0164	-1.1482	0.0771	-0.6557	0.0555
1	90	0.5387	0.0930	0.0031	-0.2572	0.0194	-1.4790	0.0907	-0.7423	0.0622
1	90	0.5996	0.1070	0.0038	-0.3133	0.0245	-2.1265	0.1126	-0.6601	0.0607
1	90	0.6498	0.1142	0.0048	-0.3523	0.0285	-2.7873	0.1304	-0.8596	0.0628
1	90	0.6998	0.1133	0.0054	-0.4028	0.0332	-3.5291	0.1492	-0.8934	0.0672
1	90	0.8001	0.1161	0.0086	-0.5207	0.0425	-5.2211	0.1946	-0.7205	0.0916
1	90	0.8497	0.0975	0.0097	-0.5470	0.0480	-6.1742	0.2256	-0.8466	0.1163
1	90	0.9734	0.1334	0.0207	-0.6065	0.0612	-8.7040	0.2931	-1.3705	0.2794
2	90	0.1949	-0.0319	0.0080	-0.0161	0.0032	-0.0375	0.0082	-0.1899	0.0452
2	90	0.2405	-0.0277	0.0028	-0.0098	0.0022	-0.0926	0.0062	-0.6388	0.1418
2	90	0.2999	-0.0194	0.0024	-0.0554	0.0098	-0.2141	0.0242	-0.6478	0.1429
2	90	0.3498	-0.0084	0.0029	-0.0883	0.0167	-0.3480	0.0408	-0.6260	0.1437
2	90	0.3998	0.0011	0.0036	-0.1328	0.0239	-0.5723	0.0584	-0.8019	0.1433
2	90	0.4496	0.0031	0.0041	-0.1664	0.0308	-0.8277	0.0759	-0.8493	0.1447
2	90	0.4995	-0.0096	0.0051	-0.2003	0.0383	-1.1676	0.0934	-1.0479	0.1432
2	90	0.5551	-0.0015	0.0062	-0.2500	0.0464	-1.6274	0.1120	-1.0728	0.1469
2	90	0.5996	0.0014	0.0070	-0.3027	0.0539	-2.0957	0.1265	-1.2410	0.1451
2	90	0.6497	0.0068	0.0080	-0.3567	0.0623	-2.7011	0.1418	-1.2886	0.1486
2	90	0.6996	-0.0151	0.0086	-0.4266	0.0708	-3.3881	0.1563	-1.2953	0.1490
2	90	0.7495	-0.0352	0.0162	-0.5059	0.0792	-4.1231	0.1721	-0.9828	0.1445
2	90	0.7996	-0.0500	0.0112	-0.5382	0.0891	-4.9524	0.1885	-1.2094	0.1432
2	90	0.8578	-0.0815	0.0140	-0.6216	0.0998	-5.9348	0.2073	-1.3017	0.1608
2	90	0.9100	-0.1850	0.0085	-0.6700	0.1223	-6.7167	0.2539	-1.3449	0.1512
2	90	0.9727	-0.1966	0.0130	-0.7167	0.1313	-7.7264	0.2784	-1.0656	0.1567
3	90	0.2357	-0.0137	0.0075	0.0065	0.0023	-0.0816	0.0098	-0.0715	0.1139
3	90	0.2995	-0.0186	0.0030	0.0144	0.0049	-0.1805	0.0212	-0.1174	0.1839
3	90	0.3493	-0.0094	0.0039	0.0266	0.0094	-0.3294	0.0397	-0.2588	0.1718
3	90	0.4000	-0.0134	0.0070	0.0411	0.0143	-0.5079	0.0604	-0.1882	0.1727
3	90	0.4497	-0.0317	0.0095	0.0433	0.0193	-0.7339	0.0808	-0.2125	0.1700
3	90	0.4997	-0.0479	0.0123	0.0529	0.0246	-1.0431	0.1028	-0.3487	0.1751
3	90	0.5556	-0.0509	0.0138	0.0668	0.0314	-1.5053	0.1288	-0.5691	0.1748
3	90	0.5995	-0.0547	0.0140	0.0591	0.0371	-1.9011	0.1503	-0.5435	0.1746
3	90	0.6498	-0.0653	0.0138	0.0505	0.0440	-2.4665	0.1741	-0.6050	0.1855
3	90	0.6890	-0.0912	0.0134	0.0317	0.0494	-2.9977	0.1938	-0.6518	0.1826
3	90	0.7495	-0.1221	0.0126	-0.0023	0.0663	-3.8879	0.2262	-0.2818	0.2226
3	90	0.7998	-0.1283	0.0139	0.0045	0.0660	-4.7660	0.2533	-0.7396	0.1884
3	90	0.8577	-0.1516	0.0169	0.0162	0.0744	-5.8156	0.2884	-0.7123	0.1877
3	90	0.9178	-0.1762	0.0225	-0.0064	0.0833	-6.9511	0.3279	-0.7236	0.1919
3	90	0.9729	-0.1827	0.0309	-0.0352	0.0900	-8.1001	0.3678	-0.9923	0.1936
4	90.35	0.2001	-0.0529	0.0016	-0.0027	0.0010	-0.0544	0.0033	0.0584	0.0237
4	90.35	0.2502	-0.0048	0.0013	0.0267	0.0029	-0.1798	0.0085	-0.4623	0.0387
4	90.35	0.3001	-0.0049	0.0013	0.0141	0.0046	-0.2740	0.0145	-0.0925	0.0529
4	90.35	0.3502	0.0084	0.0014	0.0295	0.0086	-0.4966	0.0248	-0.0685	0.0482
4	90.35	0.4002	0.0371	0.0024	0.0596	0.0132	-0.7904	0.0394	-0.2224	0.0496
4	90.35	0.4500	0.0617	0.0022	0.0808	0.0168	-1.1534	0.0546	-0.3407	0.0509
4	90.35	0.5001	0.0736	0.0028	0.1008	0.0216	-1.5777	0.0731	-0.2321	0.0485
4	90.35	0.5560	0.0829	0.0036	0.1260	0.0272	-2.2259	0.0950	-0.4108	0.0545
4	90.35	0.6001	0.0957	0.0039	0.1547	0.0319	-2.8150	0.1125	-0.4756	0.0605
4	90.35	0.6501	0.0828	0.0048	0.1514	0.0377	-3.5736	0.1332	-0.3678	0.0650
4	90.35	0.6999	0.0958	0.0056	0.1567	0.0439	-4.4676	0.1537	-0.3259	0.0625
4	90.35	0.8002	0.0632	0.0087	0.1916	0.0580	-6.4598	0.1992	-0.1540	0.1009
4	90.35	0.8582	0.0549	0.0126	0.1926	0.0663	-7.7418	0.2297	-0.7378	0.1336
4	90.35	0.9728	0.0911	0.0148	0.2220	0.0824	-10.1345	0.2929	-0.2620	0.1785

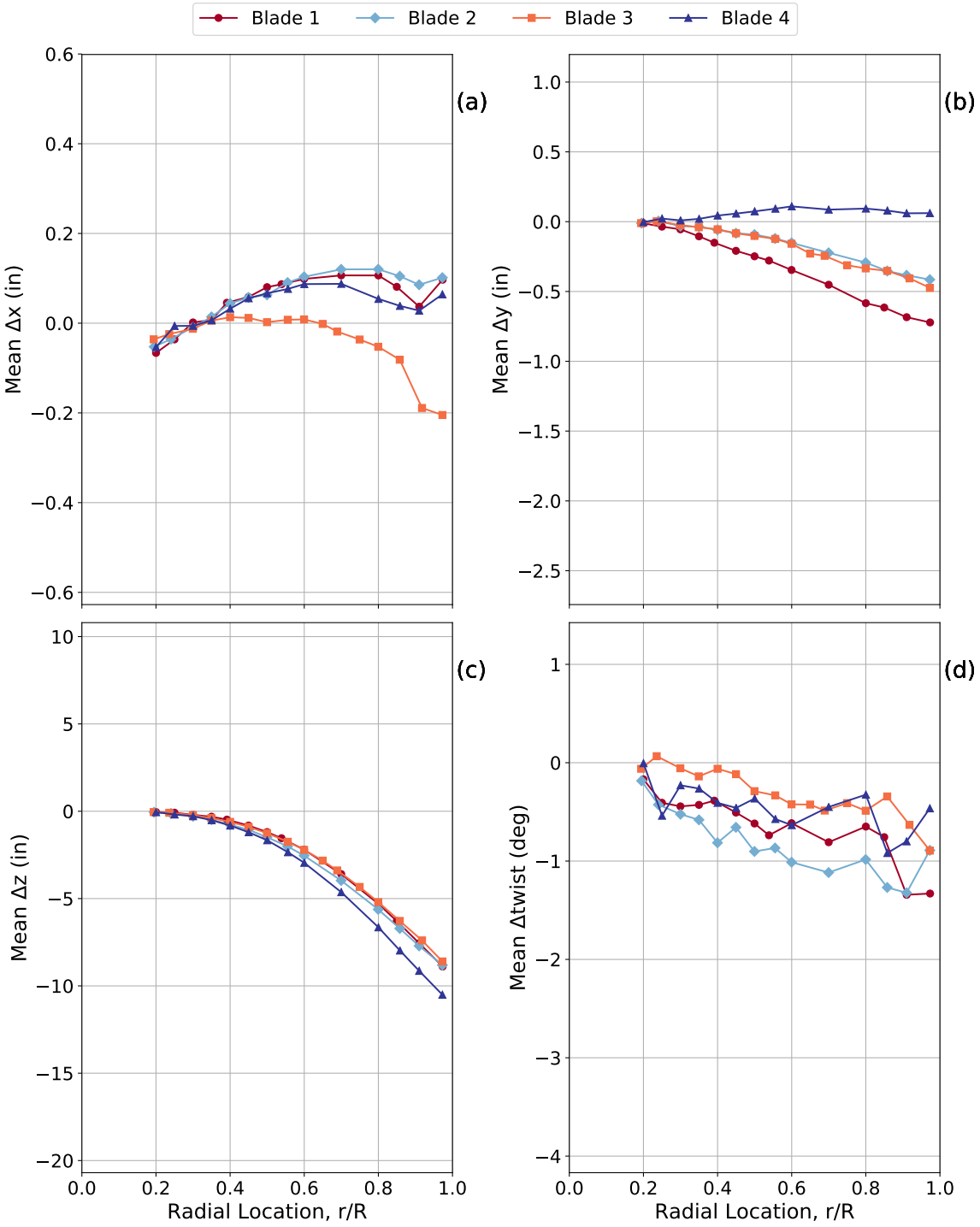


Figure 2.16-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0663	0.0014	-0.0119	0.0010	-0.0453	0.0037	-0.1693	0.0212
1	94.92	0.2499	-0.0362	0.0015	-0.0356	0.0022	-0.0817	0.0072	-0.4073	0.0380
1	94.92	0.2998	0.0017	0.0011	-0.0550	0.0040	-0.2067	0.0142	-0.4439	0.0471
1	94.92	0.3498	0.0070	0.0016	-0.1051	0.0071	-0.3118	0.0247	-0.4287	0.0474
1	94.92	0.3913	0.0455	0.0024	-0.1508	0.0101	-0.4793	0.0351	-0.3859	0.0508
1	94.92	0.4496	0.0584	0.0026	-0.2088	0.0142	-0.8177	0.0496	-0.5069	0.0524
1	94.92	0.4997	0.0803	0.0032	-0.2482	0.0181	-1.1925	0.0628	-0.6182	0.0581
1	94.92	0.5387	0.0868	0.0037	-0.2788	0.0219	-1.5437	0.0742	-0.7378	0.0566
1	94.92	0.5996	0.0986	0.0043	-0.3460	0.0278	-2.1984	0.0908	-0.6149	0.0630
1	94.92	0.6998	0.1065	0.0056	-0.4518	0.0386	-3.5979	0.1189	-0.8085	0.0695
1	94.92	0.8001	0.1064	0.0074	-0.5839	0.0513	-5.3028	0.1454	-0.6494	0.0859
1	94.92	0.8497	0.0810	0.0084	-0.6151	0.0578	-6.2898	0.1618	-0.7568	0.0803
1	94.92	0.9102	0.0368	0.0207	-0.6842	0.0666	-7.5560	0.1793	-1.3430	0.3039
1	94.92	0.9734	0.0969	0.0121	-0.7217	0.0749	-8.8905	0.2010	-1.3302	0.1356
2	94.92	0.1949	-0.0526	0.0015	-0.0107	0.0008	-0.0553	0.0030	-0.1840	0.0219
2	94.92	0.2405	-0.0356	0.0013	0.0041	0.0015	-0.1247	0.0066	-0.4269	0.0372
2	94.92	0.2999	-0.0090	0.0012	-0.0320	0.0030	-0.2888	0.0140	-0.5234	0.0512
2	94.92	0.3498	0.0141	0.0015	-0.0365	0.0058	-0.4813	0.0236	-0.5811	0.0457
2	94.92	0.3998	0.0439	0.0023	-0.0589	0.0085	-0.7742	0.0374	-0.8140	0.0468
2	94.92	0.4496	0.0573	0.0026	-0.0829	0.0113	-1.0587	0.0543	-0.6571	0.0523
2	94.92	0.4995	0.0631	0.0035	-0.0926	0.0144	-1.4863	0.0753	-0.9022	0.0581
2	94.92	0.5551	0.0906	0.0041	-0.1205	0.0186	-2.0109	0.1010	-0.8674	0.0661
2	94.92	0.5996	0.1034	0.0050	-0.1519	0.0219	-2.5408	0.1238	-1.0117	0.0683
2	94.92	0.6996	0.1199	0.0072	-0.2230	0.0301	-3.9662	0.1735	-1.1168	0.0773
2	94.92	0.7996	0.1202	0.0095	-0.2930	0.0389	-5.6222	0.2203	-0.9842	0.0813
2	94.92	0.8578	0.1047	0.0122	-0.3533	0.0440	-6.7136	0.2497	-1.2686	0.0879
2	94.92	0.9100	0.0856	0.0169	-0.3839	0.0482	-7.7122	0.2809	-1.3231	0.1589
2	94.92	0.9727	0.1015	0.0174	-0.4149	0.0544	-8.8079	0.3214	-0.8907	0.1605
3	94.92	0.1938	-0.0360	0.0069	-0.0105	0.0038	-0.0477	0.0093	-0.0616	0.0386
3	94.92	0.2357	-0.0244	0.0030	0.0026	0.0028	-0.0875	0.0079	0.0661	0.0483
3	94.92	0.2995	-0.0124	0.0023	-0.0246	0.0111	-0.2237	0.0266	-0.0562	0.0764
3	94.92	0.3493	0.0056	0.0025	-0.0401	0.0195	-0.3887	0.0459	-0.1389	0.0643
3	94.92	0.4000	0.0133	0.0029	-0.0548	0.0282	-0.6091	0.0664	-0.0615	0.0654
3	94.92	0.4497	0.0117	0.0034	-0.0833	0.0368	-0.8950	0.0871	-0.1167	0.0657
3	94.92	0.4997	0.0022	0.0037	-0.1019	0.0461	-1.2522	0.1093	-0.2894	0.0661
3	94.92	0.5556	0.0076	0.0044	-0.1236	0.0564	-1.7469	0.1335	-0.3322	0.0676
3	94.92	0.5995	0.0084	0.0051	-0.1581	0.0650	-2.2098	0.1547	-0.4232	0.0647
3	94.92	0.6498	-0.0017	0.0089	-0.2285	0.0704	-2.8280	0.1816	-0.4257	0.0892
3	94.92	0.6890	-0.0187	0.0071	-0.2444	0.0829	-3.3898	0.1980	-0.4866	0.0724
3	94.92	0.7495	-0.0364	0.0115	-0.3122	0.0898	-4.3345	0.2211	-0.4113	0.0983
3	94.92	0.7998	-0.0526	0.0107	-0.3348	0.1066	-5.2046	0.2529	-0.4881	0.0749
3	94.92	0.8577	-0.0814	0.0139	-0.3526	0.1202	-6.2813	0.2826	-0.3432	0.0898
3	94.92	0.9178	-0.1890	0.0137	-0.4060	0.1680	-7.3957	0.2538	-0.6315	0.1093
3	94.92	0.9729	-0.2047	0.0138	-0.4739	0.1770	-8.6021	0.2842	-0.8936	0.1129
4	94.92	0.2001	-0.0535	0.0013	-0.0032	0.0009	-0.0557	0.0036	-0.0052	0.0235
4	94.92	0.2502	-0.0062	0.0013	0.0221	0.0022	-0.1866	0.0072	-0.5391	0.0326
4	94.92	0.3001	-0.0060	0.0015	0.0091	0.0039	-0.2855	0.0140	-0.2299	0.0498
4	94.92	0.3502	0.0065	0.0015	0.0201	0.0069	-0.5120	0.0245	-0.2630	0.0447
4	94.92	0.4002	0.0323	0.0022	0.0437	0.0106	-0.8200	0.0374	-0.4082	0.0487
4	94.92	0.4500	0.0555	0.0022	0.0578	0.0142	-1.2022	0.0492	-0.4596	0.0470
4	94.92	0.5001	0.0666	0.0029	0.0738	0.0186	-1.6615	0.0606	-0.3641	0.0498
4	94.92	0.5560	0.0764	0.0040	0.0929	0.0241	-2.3481	0.0746	-0.5728	0.0496
4	94.92	0.6001	0.0871	0.0044	0.1095	0.0287	-2.9530	0.0876	-0.6350	0.0532
4	94.92	0.6999	0.0876	0.0063	0.0863	0.0406	-4.6346	0.1225	-0.4499	0.0509
4	94.92	0.8002	0.0541	0.0091	0.0937	0.0546	-6.6476	0.1655	-0.3247	0.0816
4	94.92	0.8582	0.0385	0.0115	0.0794	0.0635	-7.9762	0.1928	-0.9184	0.0898
4	94.92	0.9101	0.0279	0.0140	0.0600	0.0708	-9.1401	0.2186	-0.7999	0.0854
4	94.92	0.9728	0.0642	0.0166	0.0611	0.0817	-10.5074	0.2585	-0.4641	0.1059

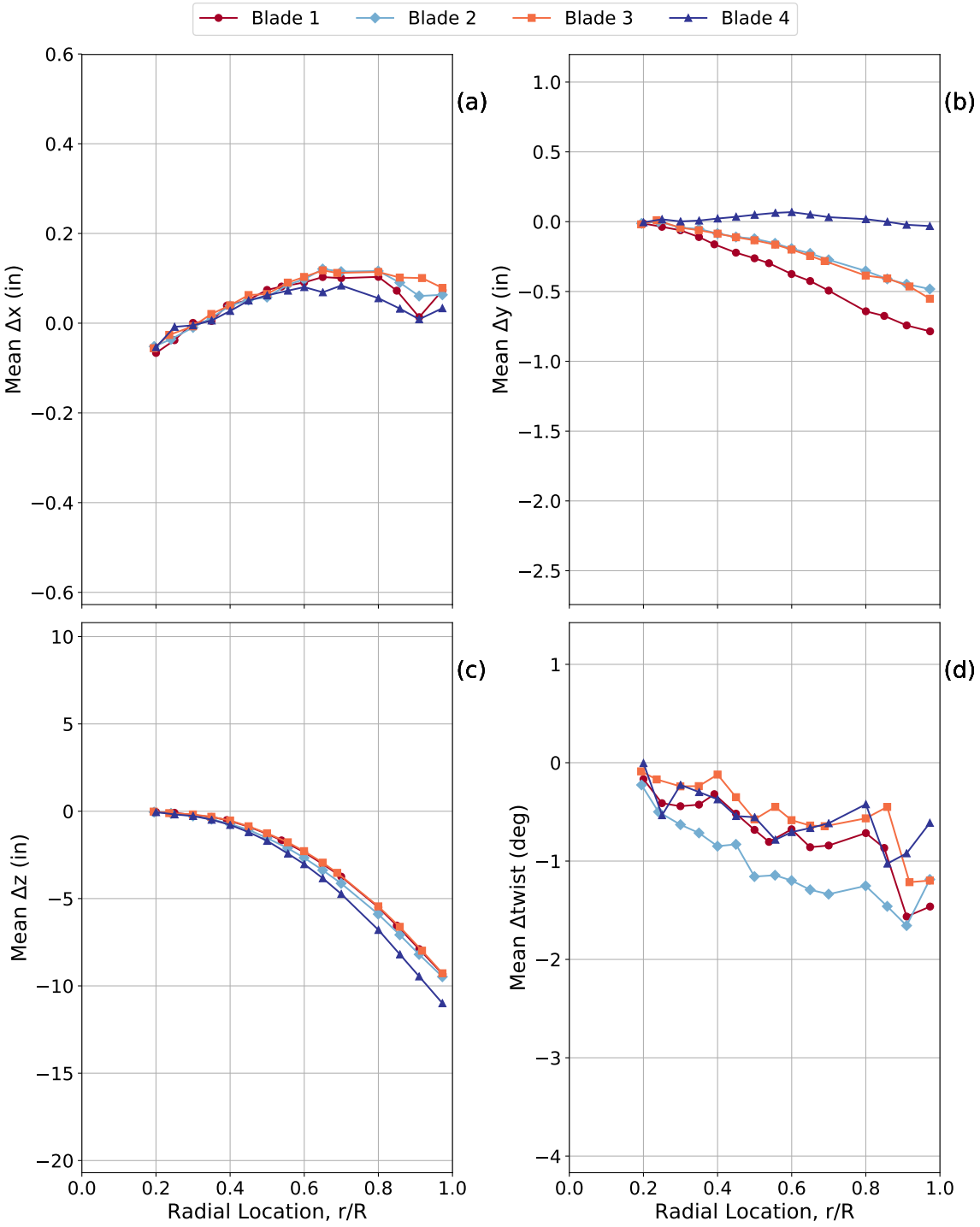


Figure 2.16-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0663	0.0014	-0.0129	0.0009	-0.0465	0.0031	-0.1673	0.0206
1	99.84	0.2499	-0.0379	0.0011	-0.0369	0.0021	-0.0883	0.0060	-0.4116	0.0363
1	99.84	0.2998	0.0007	0.0013	-0.0618	0.0040	-0.2145	0.0119	-0.4423	0.0464
1	99.84	0.3498	0.0050	0.0014	-0.1101	0.0066	-0.3286	0.0203	-0.4266	0.0427
1	99.84	0.3913	0.0390	0.0020	-0.1625	0.0097	-0.5036	0.0290	-0.3200	0.0440
1	99.84	0.4496	0.0519	0.0022	-0.2220	0.0136	-0.8823	0.0431	-0.5178	0.0444
1	99.84	0.4997	0.0741	0.0027	-0.2624	0.0178	-1.2947	0.0572	-0.6827	0.0522
1	99.84	0.5387	0.0816	0.0035	-0.2976	0.0210	-1.6687	0.0693	-0.8048	0.0568
1	99.84	0.5996	0.0907	0.0041	-0.3751	0.0266	-2.3432	0.0883	-0.6771	0.0556
1	99.84	0.6498	0.1028	0.0049	-0.4251	0.0317	-3.0227	0.1056	-0.8592	0.0577
1	99.84	0.6998	0.1004	0.0060	-0.4939	0.0368	-3.7461	0.1227	-0.8417	0.0554
1	99.84	0.8001	0.1032	0.0088	-0.6419	0.0482	-5.5030	0.1640	-0.7157	0.0658
1	99.84	0.8497	0.0724	0.0101	-0.6751	0.0542	-6.5463	0.1888	-0.8667	0.0692
1	99.84	0.9102	0.0134	0.0125	-0.7431	0.0617	-7.8960	0.2204	-1.5645	0.1230
1	99.84	0.9734	0.0735	0.0155	-0.7855	0.0697	-9.3271	0.2598	-1.4627	0.0888
2	99.84	0.1949	-0.0519	0.0013	-0.0126	0.0009	-0.0492	0.0031	-0.2261	0.0242
2	99.84	0.2405	-0.0358	0.0013	0.0002	0.0019	-0.1226	0.0071	-0.4995	0.0332
2	99.84	0.2999	-0.0095	0.0012	-0.0426	0.0042	-0.2725	0.0151	-0.6301	0.0537
2	99.84	0.3498	0.0122	0.0015	-0.0517	0.0073	-0.4517	0.0255	-0.7143	0.0525
2	99.84	0.3998	0.0388	0.0020	-0.0850	0.0114	-0.7343	0.0404	-0.8489	0.0448
2	99.84	0.4496	0.0517	0.0023	-0.1096	0.0153	-1.0592	0.0557	-0.8299	0.0489
2	99.84	0.4995	0.0580	0.0032	-0.1221	0.0200	-1.5320	0.0744	-1.1579	0.0554
2	99.84	0.5551	0.0855	0.0037	-0.1552	0.0260	-2.1113	0.0973	-1.1441	0.0515
2	99.84	0.5996	0.0976	0.0046	-0.1928	0.0311	-2.6643	0.1166	-1.1984	0.0572
2	99.84	0.6497	0.1208	0.0058	-0.2270	0.0375	-3.3731	0.1394	-1.2918	0.0640
2	99.84	0.6996	0.1149	0.0071	-0.2732	0.0439	-4.1320	0.1620	-1.3366	0.0592
2	99.84	0.7996	0.1163	0.0096	-0.3529	0.0582	-5.8910	0.2095	-1.2525	0.0661
2	99.84	0.8578	0.0904	0.0118	-0.4100	0.0667	-7.0776	0.2396	-1.4604	0.0696
2	99.84	0.9100	0.0605	0.0139	-0.4476	0.0749	-8.1974	0.2676	-1.6563	0.0969
2	99.84	0.9727	0.0633	0.0163	-0.4825	0.0843	-9.4757	0.3052	-1.1869	0.0994
3	99.84	0.1938	-0.0559	0.0014	-0.0193	0.0007	-0.0211	0.0033	-0.0882	0.0221
3	99.84	0.2357	-0.0261	0.0015	0.0102	0.0016	-0.1080	0.0059	-0.1698	0.0361
3	99.84	0.2995	-0.0070	0.0015	-0.0434	0.0032	-0.1824	0.0132	-0.2404	0.0524
3	99.84	0.3493	0.0205	0.0016	-0.0611	0.0057	-0.3182	0.0243	-0.2382	0.0452
3	99.84	0.4000	0.0399	0.0021	-0.0858	0.0089	-0.5302	0.0366	-0.1205	0.0445
3	99.84	0.4497	0.0627	0.0024	-0.1118	0.0119	-0.8605	0.0481	-0.3508	0.0491
3	99.84	0.4997	0.0649	0.0028	-0.1334	0.0152	-1.2617	0.0623	-0.5763	0.0535
3	99.84	0.5556	0.0904	0.0032	-0.1644	0.0197	-1.7774	0.0798	-0.4489	0.0588
3	99.84	0.5995	0.1030	0.0038	-0.1998	0.0237	-2.2856	0.0960	-0.5842	0.0578
3	99.84	0.6498	0.1177	0.0044	-0.2456	0.0283	-2.9441	0.1164	-0.6389	0.0652
3	99.84	0.6890	0.1120	0.0048	-0.2821	0.0325	-3.5287	0.1340	-0.6458	0.0581
3	99.84	0.7998	0.1142	0.0073	-0.3862	0.0456	-5.4464	0.1835	-0.5657	0.0641
3	99.84	0.8577	0.1017	0.0091	-0.4064	0.0532	-6.6183	0.2100	-0.4495	0.0915
3	99.84	0.9178	0.1006	0.0118	-0.4641	0.0613	-7.9829	0.2355	-1.2147	0.0956
3	99.84	0.9729	0.0786	0.0109	-0.5523	0.0683	-9.2782	0.2605	-1.1982	0.0863
4	99.84	0.2001	-0.0535	0.0015	-0.0043	0.0009	-0.0509	0.0029	-0.0042	0.0238
4	99.84	0.2502	-0.0082	0.0012	0.0168	0.0018	-0.1816	0.0064	-0.5338	0.0365
4	99.84	0.3001	-0.0048	0.0014	0.0017	0.0038	-0.2708	0.0119	-0.2255	0.0522
4	99.84	0.3502	0.0060	0.0015	0.0078	0.0057	-0.4853	0.0205	-0.2989	0.0421
4	99.84	0.4002	0.0273	0.0023	0.0225	0.0093	-0.7823	0.0318	-0.3723	0.0561
4	99.84	0.4500	0.0504	0.0026	0.0347	0.0117	-1.1965	0.0437	-0.5423	0.0478
4	99.84	0.5001	0.0619	0.0031	0.0492	0.0151	-1.6975	0.0566	-0.5542	0.0552
4	99.84	0.5560	0.0725	0.0038	0.0630	0.0192	-2.4270	0.0727	-0.7830	0.0508
4	99.84	0.6001	0.0804	0.0047	0.0684	0.0225	-3.0312	0.0866	-0.7054	0.0529
4	99.84	0.6501	0.0689	0.0058	0.0509	0.0272	-3.8361	0.1040	-0.6643	0.0505
4	99.84	0.6999	0.0839	0.0067	0.0322	0.0320	-4.7373	0.1215	-0.6155	0.0553
4	99.84	0.8002	0.0556	0.0090	0.0181	0.0431	-6.7968	0.1589	-0.4225	0.0611
4	99.84	0.8582	0.0323	0.0114	-0.0011	0.0502	-8.1994	0.1851	-1.0259	0.0702
4	99.84	0.9101	0.0087	0.0134	-0.0223	0.0568	-9.4582	0.2111	-0.9210	0.0784
4	99.84	0.9728	0.0333	0.0161	-0.0314	0.0648	-10.9923	0.2439	-0.6117	0.0804

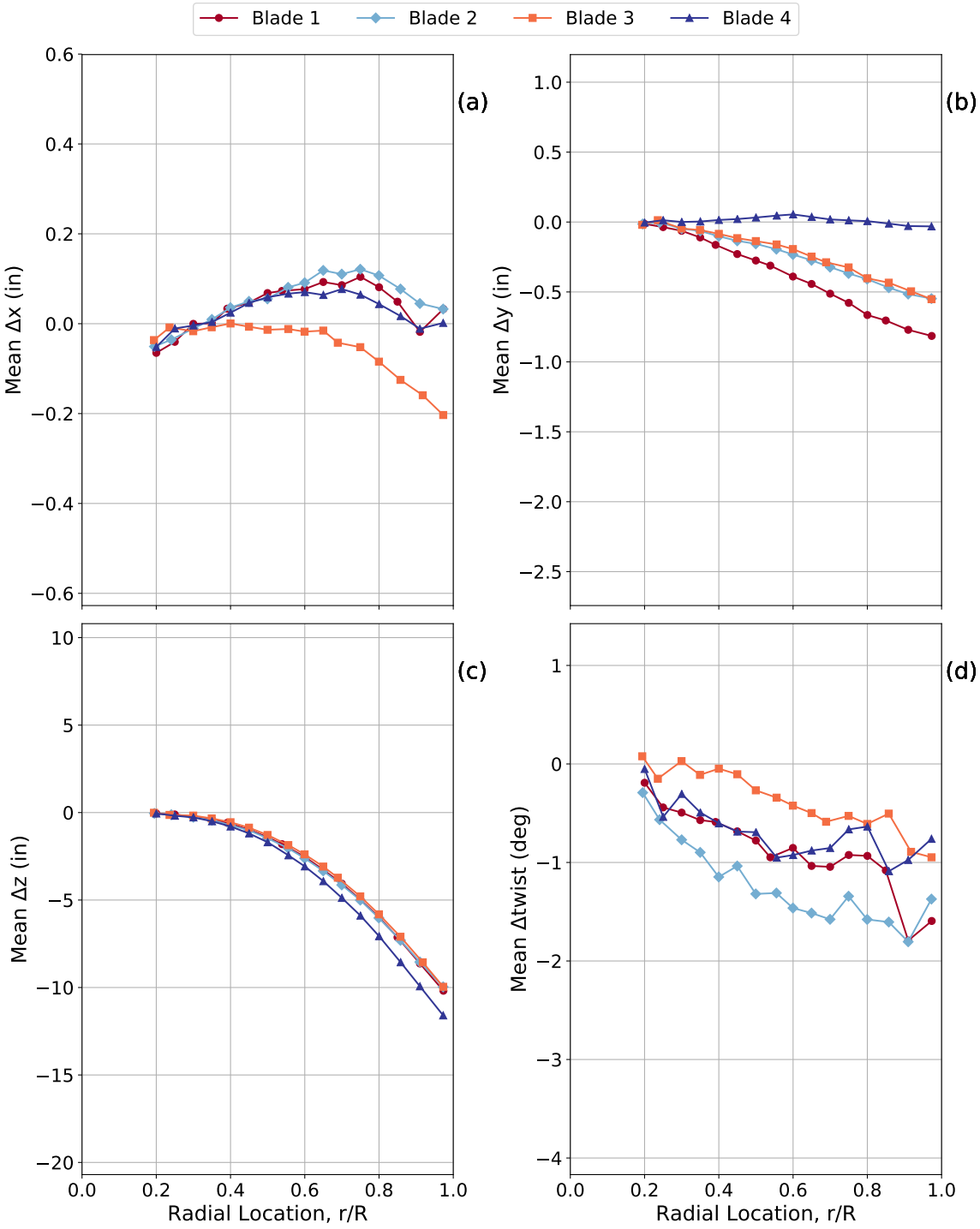


Figure 2.16-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0649	0.0015	-0.0132	0.0008	-0.0515	0.0028	-0.1908	0.0226
1	105.12	0.2499	-0.0404	0.0013	-0.0364	0.0021	-0.1089	0.0066	-0.4414	0.0369
1	105.12	0.2998	-0.0003	0.0016	-0.0628	0.0035	-0.2446	0.0125	-0.4939	0.0506
1	105.12	0.3498	0.0010	0.0015	-0.1103	0.0062	-0.3810	0.0202	-0.5703	0.0423
1	105.12	0.3913	0.0334	0.0020	-0.1634	0.0090	-0.5851	0.0305	-0.5889	0.0452
1	105.12	0.4496	0.0468	0.0028	-0.2290	0.0124	-0.9777	0.0460	-0.6839	0.0524
1	105.12	0.4997	0.0682	0.0030	-0.2753	0.0166	-1.4048	0.0636	-0.7773	0.0509
1	105.12	0.5387	0.0730	0.0035	-0.3117	0.0200	-1.8076	0.0794	-0.9476	0.0565
1	105.12	0.5996	0.0770	0.0042	-0.3899	0.0259	-2.5284	0.1057	-0.8524	0.0580
1	105.12	0.6498	0.0928	0.0054	-0.4429	0.0309	-3.2689	0.1324	-1.0352	0.0590
1	105.12	0.6998	0.0858	0.0071	-0.5124	0.0365	-4.0619	0.1607	-1.0444	0.0605
1	105.12	0.7500	0.1043	0.0084	-0.5781	0.0423	-4.9825	0.1916	-0.9239	0.0604
1	105.12	0.8001	0.0811	0.0104	-0.6651	0.0482	-5.9863	0.2251	-0.9332	0.0624
1	105.12	0.8497	0.0490	0.0130	-0.7041	0.0541	-7.1306	0.2586	-1.0804	0.0633
1	105.12	0.9102	-0.0182	0.0156	-0.7708	0.0622	-8.6268	0.3027	-1.7923	0.0683
1	105.12	0.9734	0.0327	0.0185	-0.8146	0.0705	-10.1851	0.3509	-1.5940	0.0714
2	105.12	0.1949	-0.0507	0.0014	-0.0140	0.0007	-0.0461	0.0020	-0.2911	0.0234
2	105.12	0.2405	-0.0356	0.0013	-0.0028	0.0016	-0.1213	0.0052	-0.5660	0.0324
2	105.12	0.2999	-0.0107	0.0015	-0.0478	0.0031	-0.2672	0.0104	-0.7699	0.0521
2	105.12	0.3498	0.0095	0.0017	-0.0640	0.0051	-0.4372	0.0168	-0.8977	0.0474
2	105.12	0.3998	0.0357	0.0023	-0.1018	0.0081	-0.7185	0.0274	-1.1471	0.0510
2	105.12	0.4496	0.0497	0.0023	-0.1346	0.0108	-1.0157	0.0373	-1.0361	0.0502
2	105.12	0.4995	0.0552	0.0028	-0.1560	0.0137	-1.4647	0.0498	-1.3192	0.0510
2	105.12	0.5551	0.0809	0.0034	-0.1942	0.0176	-2.0385	0.0664	-1.3101	0.0533
2	105.12	0.5996	0.0912	0.0038	-0.2324	0.0208	-2.6103	0.0807	-1.4626	0.0512
2	105.12	0.6497	0.1186	0.0045	-0.2737	0.0248	-3.3355	0.0996	-1.5136	0.0538
2	105.12	0.6996	0.1103	0.0054	-0.3225	0.0293	-4.1384	0.1210	-1.5773	0.0535
2	105.12	0.7495	0.1212	0.0069	-0.3677	0.0343	-5.0046	0.1446	-1.3428	0.0553
2	105.12	0.7996	0.1072	0.0083	-0.4084	0.0397	-6.0261	0.1712	-1.5786	0.0638
2	105.12	0.8578	0.0772	0.0112	-0.4696	0.0462	-7.3045	0.2041	-1.6048	0.0652
2	105.12	0.9100	0.0449	0.0134	-0.5151	0.0526	-8.5430	0.2364	-1.8051	0.0712
2	105.12	0.9727	0.0326	0.0164	-0.5477	0.0605	-9.9638	0.2806	-1.3716	0.0628
3	105.12	0.1938	-0.0365	0.0063	-0.0201	0.0017	-0.0106	0.0084	0.0779	0.1082
3	105.12	0.2357	-0.0084	0.0052	0.0131	0.0076	-0.1354	0.0275	-0.1501	0.1030
3	105.12	0.2995	-0.0167	0.0054	-0.0465	0.0043	-0.1733	0.0134	0.0288	0.1467
3	105.12	0.3493	-0.0079	0.0052	-0.0571	0.0112	-0.3335	0.0320	-0.1110	0.1338
3	105.12	0.4000	0.0005	0.0051	-0.0846	0.0184	-0.5520	0.0538	-0.0477	0.1362
3	105.12	0.4497	-0.0067	0.0053	-0.1154	0.0252	-0.8632	0.0728	-0.1047	0.1424
3	105.12	0.4997	-0.0135	0.0059	-0.1363	0.0331	-1.2819	0.0975	-0.2678	0.1356
3	105.12	0.5556	-0.0118	0.0056	-0.1604	0.0425	-1.8590	0.1286	-0.3423	0.1388
3	105.12	0.5995	-0.0177	0.0058	-0.1934	0.0503	-2.3880	0.1567	-0.4230	0.1351
3	105.12	0.6498	-0.0153	0.0073	-0.2472	0.0594	-3.0869	0.1896	-0.4987	0.1430
3	105.12	0.6890	-0.0423	0.0085	-0.2878	0.0673	-3.7237	0.2191	-0.5869	0.1440
3	105.12	0.7495	-0.0522	0.0150	-0.3245	0.0734	-4.7923	0.2628	-0.5271	0.2105
3	105.12	0.7998	-0.0844	0.0137	-0.4023	0.0898	-5.8169	0.3083	-0.6088	0.1358
3	105.12	0.8577	-0.1250	0.0179	-0.4337	0.1023	-7.0980	0.3600	-0.5040	0.1437
3	105.12	0.9178	-0.1592	0.0227	-0.4955	0.1159	-8.5613	0.4162	-0.8921	0.1312
3	105.12	0.9729	-0.2032	0.0254	-0.5518	0.1295	-9.9587	0.4710	-0.9475	0.1418
4	105.12	0.2001	-0.0517	0.0013	-0.0038	0.0008	-0.0542	0.0027	-0.0507	0.0209
4	105.12	0.2502	-0.0106	0.0011	0.0129	0.0021	-0.1810	0.0064	-0.5370	0.0376
4	105.12	0.3001	-0.0040	0.0010	0.0003	0.0035	-0.2766	0.0109	-0.3045	0.0480
4	105.12	0.3502	0.0039	0.0015	0.0037	0.0061	-0.4991	0.0192	-0.4927	0.0464
4	105.12	0.4002	0.0246	0.0016	0.0147	0.0096	-0.7972	0.0297	-0.6031	0.0513
4	105.12	0.4500	0.0463	0.0025	0.0213	0.0125	-1.1936	0.0394	-0.6864	0.0494
4	105.12	0.5001	0.0589	0.0029	0.0321	0.0170	-1.6973	0.0538	-0.6931	0.0547
4	105.12	0.5560	0.0669	0.0038	0.0459	0.0218	-2.4451	0.0712	-0.9512	0.0587
4	105.12	0.6001	0.0703	0.0046	0.0545	0.0261	-3.0770	0.0864	-0.9248	0.0595
4	105.12	0.6501	0.0639	0.0059	0.0365	0.0315	-3.9232	0.1078	-0.8790	0.0633
4	105.12	0.6999	0.0771	0.0075	0.0186	0.0373	-4.8793	0.1333	-0.8533	0.0661
4	105.12	0.7500	0.0646	0.0091	0.0120	0.0437	-5.8923	0.1632	-0.6642	0.0735
4	105.12	0.8002	0.0436	0.0117	0.0064	0.0505	-7.0685	0.1983	-0.6357	0.0693
4	105.12	0.8582	0.0169	0.0153	-0.0113	0.0586	-8.5581	0.2445	-1.0885	0.0777
4	105.12	0.9101	-0.0112	0.0191	-0.0288	0.0660	-9.9325	0.2898	-0.9748	0.0786
4	105.12	0.9728	0.0017	0.0226	-0.0312	0.0748	-11.5954	0.3519	-0.7604	0.0816

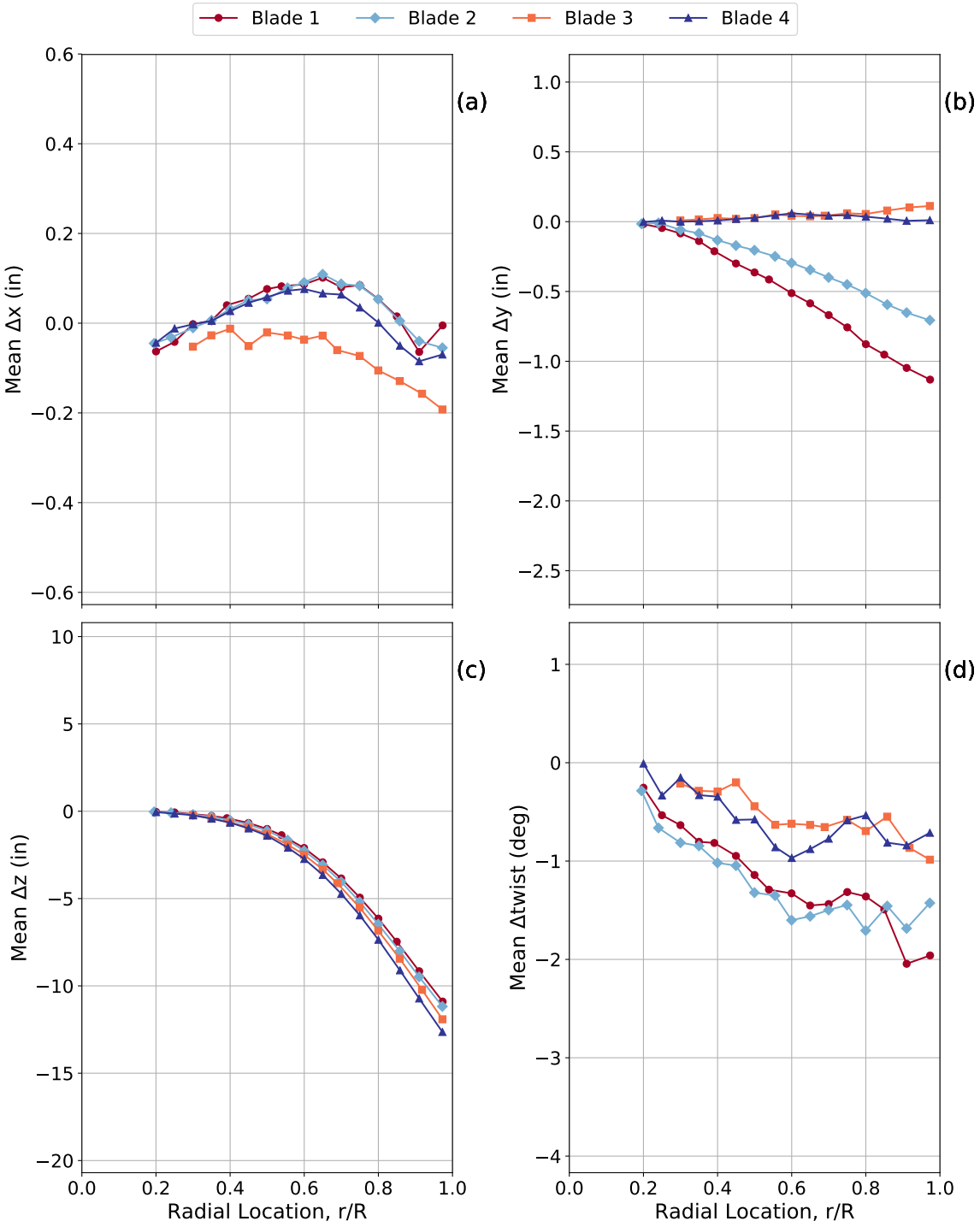


Figure 2.16-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0630	0.0014	-0.0171	0.0009	-0.0359	0.0041	-0.2544	0.0210
1	119.88	0.2499	-0.0417	0.0013	-0.0454	0.0019	-0.0656	0.0078	-0.5339	0.0372
1	119.88	0.2998	-0.0022	0.0017	-0.0844	0.0037	-0.1639	0.0160	-0.6349	0.0475
1	119.88	0.3498	0.0056	0.0022	-0.1389	0.0063	-0.2665	0.0269	-0.8038	0.0557
1	119.88	0.3913	0.0400	0.0026	-0.2119	0.0091	-0.3969	0.0386	-0.8157	0.0533
1	119.88	0.4496	0.0544	0.0028	-0.2997	0.0133	-0.6706	0.0574	-0.9476	0.0545
1	119.88	0.4997	0.0761	0.0034	-0.3635	0.0175	-1.0141	0.0763	-1.1415	0.0614
1	119.88	0.5387	0.0822	0.0040	-0.4143	0.0215	-1.3692	0.0936	-1.2909	0.0620
1	119.88	0.5996	0.0866	0.0050	-0.5120	0.0288	-2.1034	0.1263	-1.3283	0.0705
1	119.88	0.6498	0.1014	0.0068	-0.5852	0.0355	-2.9232	0.1604	-1.4518	0.0712
1	119.88	0.6998	0.0800	0.0094	-0.6691	0.0428	-3.8462	0.2008	-1.4369	0.0755
1	119.88	0.7500	0.0846	0.0126	-0.7574	0.0513	-4.9445	0.2485	-1.3150	0.0752
1	119.88	0.8001	0.0538	0.0167	-0.8775	0.0601	-6.1472	0.3020	-1.3601	0.0781
1	119.88	0.8497	0.0152	0.0215	-0.9523	0.0692	-7.4701	0.3593	-1.4922	0.0802
1	119.88	0.9102	-0.0641	0.0272	-1.0475	0.0809	-9.1595	0.4319	-2.0446	0.0867
1	119.88	0.9734	-0.0050	0.0338	-1.1313	0.0939	-10.8962	0.5150	-1.9598	0.0896
2	119.88	0.1949	-0.0450	0.0012	-0.0156	0.0008	-0.0321	0.0046	-0.2855	0.0214
2	119.88	0.2405	-0.0319	0.0013	-0.0091	0.0019	-0.0841	0.0103	-0.6632	0.0316
2	119.88	0.2999	-0.0104	0.0025	-0.0583	0.0038	-0.1903	0.0222	-0.8136	0.0494
2	119.88	0.3498	0.0065	0.0025	-0.0835	0.0068	-0.3125	0.0379	-0.8453	0.0620
2	119.88	0.3998	0.0313	0.0031	-0.1328	0.0101	-0.5144	0.0596	-1.0184	0.0593
2	119.88	0.4496	0.0509	0.0033	-0.1711	0.0134	-0.7558	0.0842	-1.0465	0.0609
2	119.88	0.4995	0.0539	0.0041	-0.2047	0.0175	-1.1213	0.1142	-1.3211	0.0732
2	119.88	0.5551	0.0787	0.0052	-0.2487	0.0229	-1.6530	0.1546	-1.3507	0.0785
2	119.88	0.5996	0.0908	0.0071	-0.2959	0.0275	-2.2609	0.1938	-1.6010	0.0835
2	119.88	0.6497	0.1090	0.0097	-0.3449	0.0329	-3.0757	0.2468	-1.5616	0.0953
2	119.88	0.6996	0.0875	0.0140	-0.3996	0.0388	-4.0405	0.3098	-1.4974	0.0988
2	119.88	0.7495	0.0834	0.0193	-0.4501	0.0449	-5.1849	0.3827	-1.4470	0.1020
2	119.88	0.7996	0.0533	0.0262	-0.5116	0.0512	-6.4651	0.4659	-1.7064	0.1039
2	119.88	0.8578	0.0050	0.0351	-0.5940	0.0592	-8.0122	0.5706	-1.4573	0.1093
2	119.88	0.9100	-0.0402	0.0424	-0.6518	0.0664	-9.4802	0.6687	-1.6849	0.1176
2	119.88	0.9727	-0.0549	0.0517	-0.7061	0.0751	-11.1763	0.7903	-1.4265	0.1261
3	119.88	0.2995	-0.0523	0.0250	0.0089	0.0894	-0.2419	0.1898	-0.2117	0.5202
3	119.88	0.3493	-0.0271	0.0183	0.0160	0.1535	-0.4080	0.3118	-0.2860	0.6823
3	119.88	0.4000	-0.0124	0.0204	0.0261	0.2447	-0.6434	0.4835	-0.2933	0.6158
3	119.88	0.4497	-0.0510	0.0228	0.0202	0.3212	-0.9078	0.6304	-0.2003	0.6158
3	119.88	0.4997	-0.0206	0.0252	0.0254	0.4012	-1.3057	0.7768	-0.4429	0.6270
3	119.88	0.5556	-0.0275	0.0290	0.0521	0.4915	-1.9139	0.9420	-0.6313	0.6307
3	119.88	0.5995	-0.0367	0.0338	0.0418	0.5618	-2.4896	1.0728	-0.6204	0.6222
3	119.88	0.6498	-0.0278	0.0406	0.0382	0.6437	-3.3312	1.2184	-0.6329	0.6245
3	119.88	0.6890	-0.0600	0.0457	0.0425	0.7069	-4.1185	1.3321	-0.6549	0.6278
3	119.88	0.7495	-0.0731	0.0564	0.0601	0.8048	-5.5140	1.5080	-0.5806	0.6240
3	119.88	0.7998	-0.1054	0.0660	0.0550	0.8879	-6.8409	1.6581	-0.6949	0.6160
3	119.88	0.8577	-0.1290	0.0797	0.0796	0.9829	-8.4428	1.8290	-0.5485	0.6327
3	119.88	0.9178	-0.1573	0.0915	0.1019	1.0841	-10.2238	2.0114	-0.8660	0.6339
3	119.88	0.9729	-0.1924	0.0862	0.1122	1.1779	-11.9122	2.1821	-0.9860	0.6467
4	119.88	0.2001	-0.0437	0.0015	-0.0022	0.0010	-0.0525	0.0026	-0.0090	0.0290
4	119.88	0.2502	-0.0120	0.0016	0.0076	0.0030	-0.1362	0.0076	-0.3337	0.0407
4	119.88	0.3001	-0.0024	0.0019	-0.0003	0.0047	-0.2285	0.0123	-0.1520	0.0627
4	119.88	0.3502	0.0051	0.0023	0.0028	0.0082	-0.4278	0.0209	-0.3299	0.0625
4	119.88	0.4002	0.0269	0.0026	0.0085	0.0132	-0.6555	0.0335	-0.3450	0.0567
4	119.88	0.4500	0.0454	0.0028	0.0193	0.0173	-0.9878	0.0476	-0.5812	0.0617
4	119.88	0.5001	0.0582	0.0031	0.0276	0.0218	-1.4043	0.0639	-0.5771	0.0697
4	119.88	0.5560	0.0724	0.0037	0.0452	0.0273	-2.0887	0.0863	-0.8596	0.0667
4	119.88	0.6001	0.0761	0.0048	0.0600	0.0317	-2.7327	0.1071	-0.9687	0.0713
4	119.88	0.6501	0.0662	0.0062	0.0506	0.0372	-3.6477	0.1342	-0.8781	0.0809
4	119.88	0.6999	0.0637	0.0081	0.0425	0.0433	-4.7281	0.1650	-0.7726	0.0889
4	119.88	0.7500	0.0349	0.0114	0.0467	0.0495	-5.9626	0.2021	-0.5865	0.0923
4	119.88	0.8002	0.0010	0.0147	0.0358	0.0561	-7.3604	0.2435	-0.5344	0.1011
4	119.88	0.8582	-0.0503	0.0208	0.0212	0.0639	-9.1104	0.2998	-0.8132	0.1038
4	119.88	0.9101	-0.0849	0.0254	0.0062	0.0716	-10.7218	0.3571	-0.8403	0.1093
4	119.88	0.9728	-0.0699	0.0324	0.0104	0.0811	-12.6392	0.4336	-0.7128	0.1166

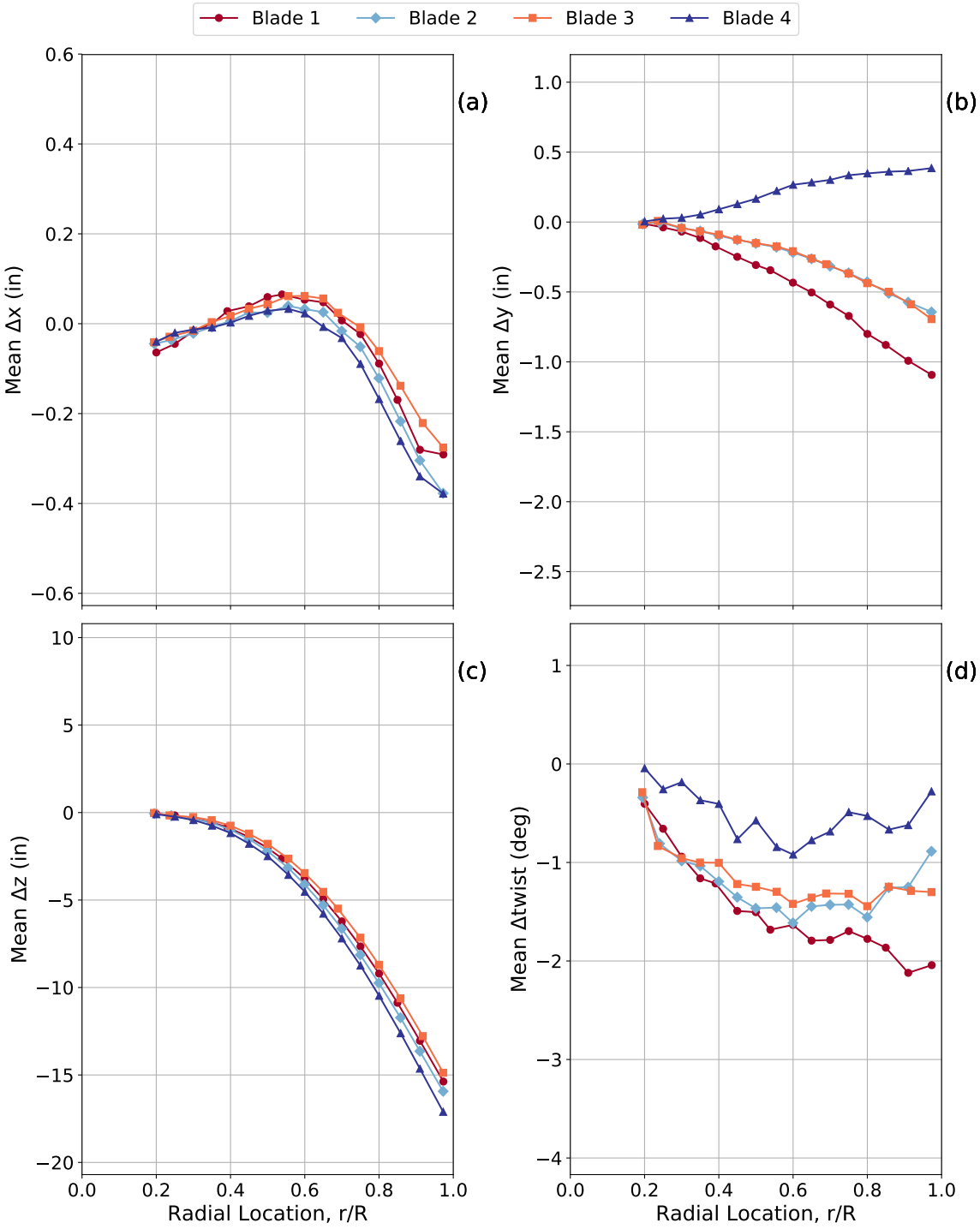


Figure 2.16-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0640	0.0013	-0.0135	0.0008	-0.0741	0.0049	-0.4046	0.0260
1	135	0.2499	-0.0449	0.0015	-0.0383	0.0020	-0.1604	0.0124	-0.6578	0.0380
1	135	0.2998	-0.0168	0.0020	-0.0683	0.0034	-0.3391	0.0216	-0.9414	0.0572
1	135	0.3498	-0.0007	0.0024	-0.1144	0.0059	-0.5634	0.0372	-1.1611	0.0519
1	135	0.3913	0.0279	0.0028	-0.1744	0.0086	-0.8385	0.0546	-1.2129	0.0566
1	135	0.4496	0.0387	0.0041	-0.2489	0.0114	-1.3972	0.0859	-1.4923	0.0693
1	135	0.4997	0.0593	0.0058	-0.3074	0.0149	-2.0210	0.1226	-1.5046	0.0787
1	135	0.5387	0.0651	0.0074	-0.3445	0.0174	-2.6235	0.1563	-1.6827	0.0747
1	135	0.5996	0.0533	0.0116	-0.4335	0.0225	-3.7754	0.2217	-1.6337	0.0832
1	135	0.6498	0.0476	0.0159	-0.5037	0.0273	-4.9470	0.2858	-1.7936	0.0841
1	135	0.6998	0.0074	0.0213	-0.5902	0.0319	-6.2210	0.3572	-1.7863	0.0893
1	135	0.7500	-0.0232	0.0285	-0.6718	0.0372	-7.6521	0.4362	-1.6967	0.0943
1	135	0.8001	-0.0888	0.0365	-0.8002	0.0422	-9.2012	0.5212	-1.7758	0.0931
1	135	0.8497	-0.1696	0.0467	-0.8789	0.0475	-10.8756	0.6150	-1.8648	0.0967
1	135	0.9102	-0.2805	0.0594	-0.9919	0.0539	-13.0467	0.7390	-2.1204	0.0982
1	135	0.9734	-0.2911	0.0724	-1.0932	0.0605	-15.3780	0.8792	-2.0424	0.0982
2	135	0.1949	-0.0446	0.0015	-0.0141	0.0008	-0.0585	0.0030	-0.3412	0.0223
2	135	0.2405	-0.0363	0.0016	-0.0022	0.0023	-0.1737	0.0072	-0.8090	0.0352
2	135	0.2999	-0.0215	0.0019	-0.0445	0.0040	-0.3630	0.0146	-0.9839	0.0531
2	135	0.3498	-0.0073	0.0022	-0.0646	0.0074	-0.5907	0.0243	-1.0351	0.0509
2	135	0.3998	0.0059	0.0026	-0.0978	0.0113	-0.9816	0.0389	-1.1941	0.0583
2	135	0.4496	0.0249	0.0032	-0.1273	0.0132	-1.5125	0.0567	-1.3531	0.0611
2	135	0.4995	0.0247	0.0039	-0.1526	0.0163	-2.2001	0.0768	-1.4655	0.0576
2	135	0.5551	0.0395	0.0053	-0.1802	0.0201	-3.1523	0.1080	-1.4582	0.0598
2	135	0.5996	0.0326	0.0067	-0.2184	0.0238	-4.1046	0.1372	-1.6138	0.0606
2	135	0.6497	0.0256	0.0093	-0.2629	0.0280	-5.2915	0.1729	-1.4461	0.0658
2	135	0.6996	-0.0163	0.0128	-0.3159	0.0327	-6.6365	0.2133	-1.4300	0.0691
2	135	0.7495	-0.0512	0.0171	-0.3637	0.0373	-8.1351	0.2591	-1.4268	0.0745
2	135	0.7996	-0.1213	0.0222	-0.4277	0.0422	-9.7449	0.3110	-1.5556	0.0728
2	135	0.8578	-0.2172	0.0298	-0.5105	0.0481	-11.7249	0.3784	-1.2555	0.0766
2	135	0.9100	-0.3042	0.0368	-0.5730	0.0533	-13.6412	0.4445	-1.2515	0.0828
2	135	0.9727	-0.3774	0.0455	-0.6432	0.0601	-15.9337	0.5294	-0.8867	0.0895
3	135	0.1938	-0.0412	0.0036	-0.0187	0.0013	-0.0223	0.0044	-0.2867	0.0313
3	135	0.2357	-0.0290	0.0013	0.0075	0.0019	-0.1618	0.0078	-0.8329	0.0643
3	135	0.2995	-0.0156	0.0019	-0.0423	0.0045	-0.2593	0.0179	-0.9571	0.0835
3	135	0.3493	0.0035	0.0021	-0.0661	0.0088	-0.4354	0.0303	-1.0008	0.0744
3	135	0.4000	0.0173	0.0031	-0.0902	0.0126	-0.7509	0.0475	-1.0037	0.0822
3	135	0.4497	0.0331	0.0039	-0.1269	0.0159	-1.2036	0.0700	-1.2187	0.0913
3	135	0.4997	0.0431	0.0050	-0.1508	0.0197	-1.7876	0.1010	-1.2472	0.0990
3	135	0.5556	0.0614	0.0078	-0.1746	0.0245	-2.6349	0.1445	-1.2973	0.0958
3	135	0.5995	0.0617	0.0098	-0.2088	0.0293	-3.4600	0.1840	-1.4199	0.0963
3	135	0.6498	0.0561	0.0136	-0.2612	0.0346	-4.5340	0.2375	-1.3567	0.1027
3	135	0.6890	0.0243	0.0173	-0.3015	0.0389	-5.4923	0.2836	-1.3149	0.1046
3	135	0.7495	-0.0080	0.0236	-0.3675	0.0465	-7.1514	0.3619	-1.3182	0.1003
3	135	0.7998	-0.0610	0.0306	-0.4371	0.0530	-8.7037	0.4340	-1.4437	0.1047
3	135	0.8577	-0.1381	0.0397	-0.4985	0.0609	-10.6187	0.5233	-1.2468	0.1087
3	135	0.9178	-0.2211	0.0496	-0.5886	0.0695	-12.7817	0.6207	-1.2884	0.1115
3	135	0.9729	-0.2755	0.0586	-0.6939	0.0774	-14.8730	0.7143	-1.3008	0.1139
4	135	0.2001	-0.0400	0.0018	0.0041	0.0008	-0.0963	0.0051	-0.0435	0.0358
4	135	0.2502	-0.0204	0.0016	0.0234	0.0027	-0.2351	0.0132	-0.2572	0.0467
4	135	0.3001	-0.0128	0.0021	0.0305	0.0042	-0.4283	0.0241	-0.1852	0.0778
4	135	0.3502	-0.0085	0.0027	0.0534	0.0068	-0.7476	0.0405	-0.3680	0.0649
4	135	0.4002	0.0026	0.0039	0.0909	0.0114	-1.1737	0.0650	-0.4058	0.0769
4	135	0.4500	0.0175	0.0053	0.1281	0.0138	-1.7832	0.0994	-0.7635	0.0829
4	135	0.5001	0.0288	0.0080	0.1662	0.0176	-2.4941	0.1433	-0.5736	0.0868
4	135	0.5560	0.0330	0.0115	0.2228	0.0221	-3.5624	0.2089	-0.8435	0.0920
4	135	0.6001	0.0229	0.0153	0.2664	0.0263	-4.5257	0.2682	-0.9200	0.0903
4	135	0.6501	-0.0072	0.0214	0.2832	0.0308	-5.7804	0.3471	-0.7740	0.0940
4	135	0.6999	-0.0320	0.0290	0.3015	0.0358	-7.1945	0.4369	-0.6855	0.1046
4	135	0.7500	-0.0895	0.0387	0.3344	0.0411	-8.7479	0.5389	-0.4895	0.1019
4	135	0.8002	-0.1677	0.0508	0.3475	0.0460	-10.4725	0.6531	-0.5284	0.1060
4	135	0.8582	-0.2611	0.0668	0.3601	0.0517	-12.6160	0.7985	-0.6662	0.1116
4	135	0.9101	-0.3397	0.0807	0.3648	0.0571	-14.6413	0.9355	-0.6212	0.1160
4	135	0.9728	-0.3782	0.0983	0.3852	0.0640	-17.1073	1.1082	-0.2786	0.1238

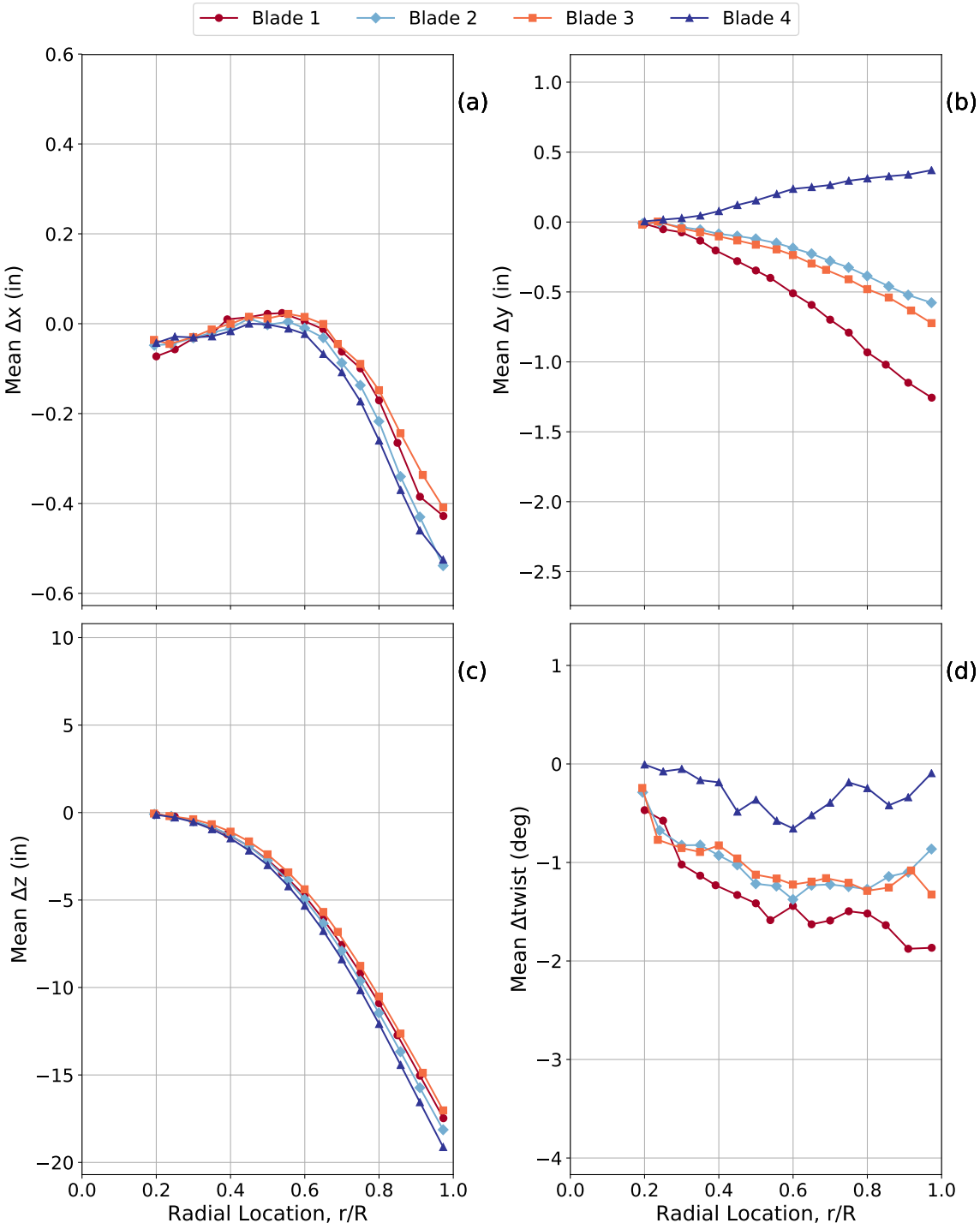


Figure 2.16-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-21. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.07$, $\mu = 0.3$, $\alpha = -0.6°$
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0727	0.0017	-0.0130	0.0010	-0.1163	0.0035	-0.4690	0.0218
1	150.12	0.2499	-0.0570	0.0015	-0.0512	0.0025	-0.2272	0.0075	-0.5752	0.0403
1	150.12	0.2998	-0.0327	0.0014	-0.0743	0.0047	-0.5026	0.0140	-1.0208	0.0501
1	150.12	0.3498	-0.0225	0.0019	-0.1330	0.0076	-0.8426	0.0236	-1.1338	0.0546
1	150.12	0.3913	0.0097	0.0023	-0.2032	0.0115	-1.2330	0.0343	-1.2314	0.0527
1	150.12	0.4496	0.0145	0.0028	-0.2796	0.0147	-1.9207	0.0503	-1.3302	0.0482
1	150.12	0.4997	0.0219	0.0037	-0.3466	0.0187	-2.6970	0.0670	-1.4148	0.0496
1	150.12	0.5387	0.0238	0.0043	-0.3996	0.0217	-3.4326	0.0800	-1.5855	0.0530
1	150.12	0.5996	0.0054	0.0054	-0.5097	0.0274	-4.7549	0.1034	-1.4414	0.0573
1	150.12	0.6498	-0.0123	0.0073	-0.5928	0.0329	-6.1023	0.1241	-1.6279	0.0597
1	150.12	0.6998	-0.0621	0.0092	-0.6983	0.0386	-7.5639	0.1470	-1.5894	0.0626
1	150.12	0.7500	-0.0994	0.0116	-0.7906	0.0451	-9.1771	0.1696	-1.4952	0.0633
1	150.12	0.8001	-0.1706	0.0143	-0.9318	0.0522	-10.8964	0.1941	-1.5185	0.0617
1	150.12	0.8497	-0.2652	0.0174	-1.0200	0.0598	-12.7290	0.2190	-1.6367	0.0662
1	150.12	0.9102	-0.3851	0.0218	-1.1492	0.0696	-15.0410	0.2525	-1.8762	0.0681
1	150.12	0.9734	-0.4280	0.0269	-1.2560	0.0805	-17.4713	0.2917	-1.8660	0.0708
2	150.12	0.1949	-0.0480	0.0016	-0.0105	0.0008	-0.0908	0.0029	-0.2879	0.0193
2	150.12	0.2405	-0.0453	0.0012	-0.0053	0.0017	-0.2130	0.0065	-0.6755	0.0292
2	150.12	0.2999	-0.0316	0.0017	-0.0368	0.0044	-0.4814	0.0131	-0.8253	0.0427
2	150.12	0.3498	-0.0200	0.0019	-0.0551	0.0060	-0.8097	0.0233	-0.8235	0.0401
2	150.12	0.3998	-0.0104	0.0020	-0.0850	0.0102	-1.3010	0.0358	-0.9283	0.0491
2	150.12	0.4496	0.0116	0.0031	-0.1001	0.0139	-1.9371	0.0498	-1.0251	0.0455
2	150.12	0.4995	-0.0024	0.0040	-0.1202	0.0183	-2.7526	0.0685	-1.2163	0.0571
2	150.12	0.5551	0.0042	0.0057	-0.1504	0.0236	-3.8721	0.0939	-1.2398	0.0536
2	150.12	0.5996	-0.0099	0.0073	-0.1860	0.0291	-4.9580	0.1178	-1.3754	0.0525
2	150.12	0.6497	-0.0312	0.0099	-0.2267	0.0350	-6.3372	0.1481	-1.2310	0.0647
2	150.12	0.6996	-0.0871	0.0133	-0.2794	0.0419	-7.9077	0.1829	-1.2232	0.0642
2	150.12	0.7495	-0.1370	0.0174	-0.3249	0.0492	-9.6313	0.2224	-1.2452	0.0638
2	150.12	0.7996	-0.2174	0.0222	-0.3857	0.0567	-11.4560	0.2631	-1.2720	0.0635
2	150.12	0.8578	-0.3402	0.0282	-0.4600	0.0662	-13.6699	0.3116	-1.1430	0.0674
2	150.12	0.9100	-0.4301	0.0334	-0.5225	0.0749	-15.7277	0.3576	-1.0993	0.0677
2	150.12	0.9727	-0.5385	0.0396	-0.5770	0.0855	-18.1307	0.4132	-0.8637	0.0706
3	150.12	0.1938	-0.0361	0.0018	-0.0183	0.0013	-0.0560	0.0045	-0.2439	0.0206
3	150.12	0.2357	-0.0450	0.0014	0.0033	0.0020	-0.2020	0.0066	-0.7698	0.0488
3	150.12	0.2995	-0.0298	0.0019	-0.0456	0.0049	-0.3827	0.0172	-0.8537	0.0558
3	150.12	0.3493	-0.0127	0.0019	-0.0732	0.0079	-0.6690	0.0291	-0.8933	0.0569
3	150.12	0.4000	-0.0004	0.0025	-0.1027	0.0125	-1.0925	0.0449	-0.8272	0.0646
3	150.12	0.4497	0.0153	0.0033	-0.1316	0.0163	-1.6500	0.0619	-0.9597	0.0619
3	150.12	0.4997	0.0115	0.0043	-0.1622	0.0222	-2.3876	0.0807	-1.1242	0.0617
3	150.12	0.5556	0.0217	0.0055	-0.1956	0.0268	-3.4178	0.1053	-1.1632	0.0675
3	150.12	0.5995	0.0151	0.0070	-0.2363	0.0317	-4.3874	0.1271	-1.2240	0.0618
3	150.12	0.6498	-0.0007	0.0093	-0.2970	0.0378	-5.6833	0.1543	-1.1948	0.0727
3	150.12	0.6890	-0.0451	0.0110	-0.3420	0.0435	-6.8213	0.1778	-1.1597	0.0745
3	150.12	0.7495	-0.0895	0.0153	-0.4094	0.0518	-8.7651	0.2196	-1.2065	0.0724
3	150.12	0.7998	-0.1480	0.0196	-0.4798	0.0593	-10.5172	0.2588	-1.2879	0.0788
3	150.12	0.8577	-0.2438	0.0258	-0.5398	0.0678	-12.6331	0.3114	-1.2544	0.0740
3	150.12	0.9178	-0.3366	0.0323	-0.6329	0.0773	-14.8767	0.3696	-1.0817	0.0804
3	150.12	0.9729	-0.4089	0.0386	-0.7231	0.0863	-17.0270	0.4266	-1.3253	0.0778
4	150.12	0.2001	-0.0427	0.0017	0.0046	0.0010	-0.1281	0.0036	-0.0058	0.0282
4	150.12	0.2502	-0.0287	0.0019	0.0169	0.0034	-0.2805	0.0087	-0.0759	0.0369
4	150.12	0.3001	-0.0306	0.0020	0.0281	0.0048	-0.5423	0.0167	-0.0506	0.0596
4	150.12	0.3502	-0.0282	0.0018	0.0460	0.0096	-0.9515	0.0264	-0.1645	0.0439
4	150.12	0.4002	-0.0167	0.0022	0.0778	0.0144	-1.4748	0.0432	-0.1868	0.0504
4	150.12	0.4500	0.0001	0.0030	0.1213	0.0184	-2.1719	0.0610	-0.4844	0.0525
4	150.12	0.5001	-0.0016	0.0042	0.1541	0.0238	-3.0029	0.0844	-0.3628	0.0601
4	150.12	0.5560	-0.0109	0.0059	0.2002	0.0297	-4.2179	0.1145	-0.5772	0.0570
4	150.12	0.6001	-0.0229	0.0069	0.2370	0.0352	-5.3254	0.1399	-0.6556	0.0603
4	150.12	0.6501	-0.0674	0.0095	0.2498	0.0422	-6.7688	0.1699	-0.5203	0.0624
4	150.12	0.6999	-0.1080	0.0122	0.2646	0.0493	-8.3906	0.2015	-0.3936	0.0649
4	150.12	0.7500	-0.1730	0.0152	0.2950	0.0572	-10.1540	0.2320	-0.1876	0.0695
4	150.12	0.8002	-0.2601	0.0185	0.3117	0.0660	-12.0851	0.2616	-0.2458	0.0645
4	150.12	0.8582	-0.3701	0.0230	0.3275	0.0762	-14.4283	0.2965	-0.4198	0.0683
4	150.12	0.9101	-0.4602	0.0269	0.3386	0.0855	-16.5587	0.3291	-0.3383	0.0668
4	150.12	0.9728	-0.5251	0.0313	0.3707	0.0972	-19.1229	0.3719	-0.0939	0.0653

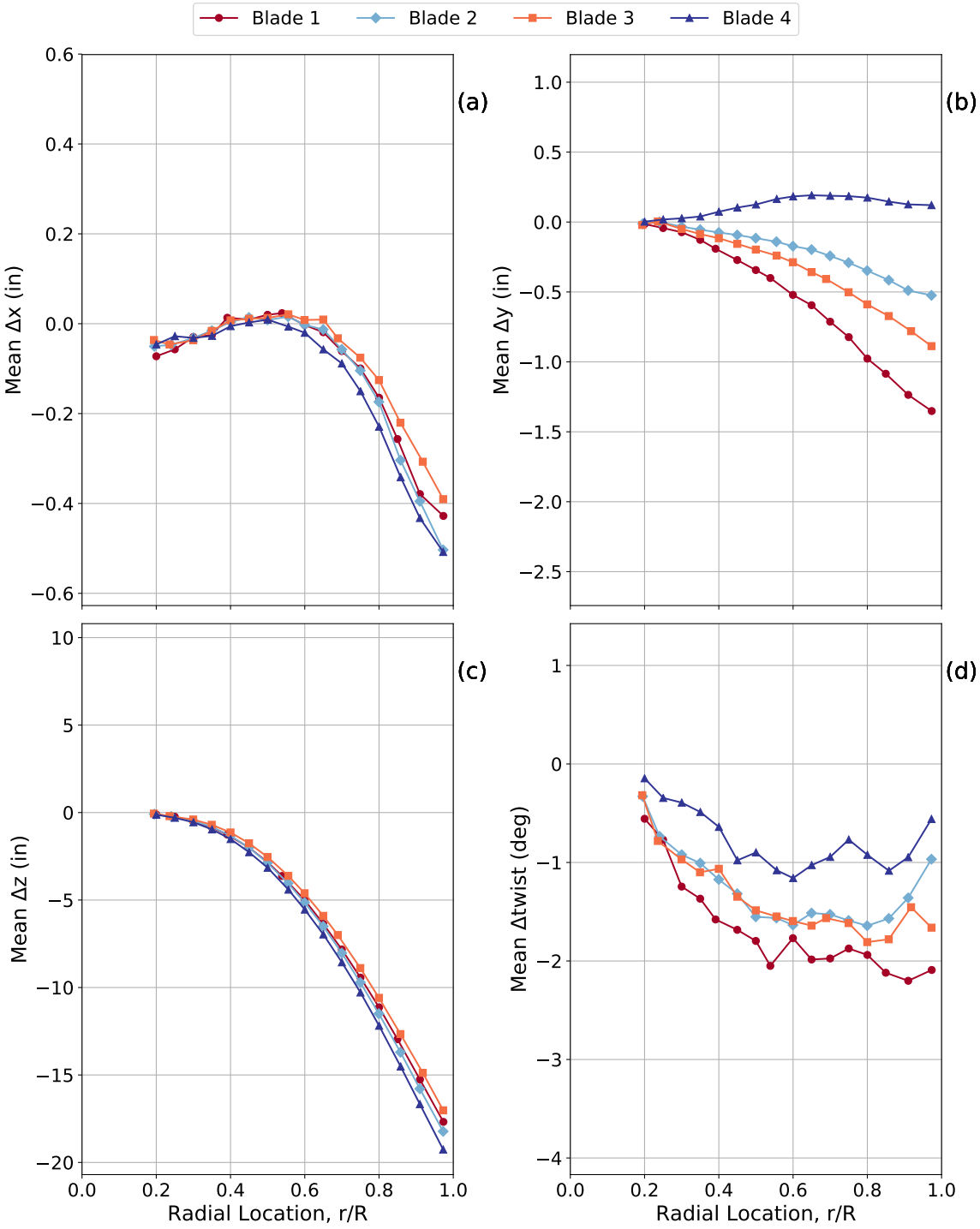


Figure 2.16-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0725	0.0023	-0.0144	0.0011	-0.1134	0.0046	-0.5565	0.0304
1	164.88	0.2499	-0.0571	0.0023	-0.0432	0.0027	-0.2387	0.0079	-0.7696	0.0629
1	164.88	0.2998	-0.0295	0.0024	-0.0728	0.0053	-0.5083	0.0164	-1.2447	0.0729
1	164.88	0.3498	-0.0253	0.0021	-0.1273	0.0083	-0.8520	0.0284	-1.3678	0.0746
1	164.88	0.3913	0.0133	0.0026	-0.1911	0.0127	-1.2582	0.0396	-1.5785	0.0769
1	164.88	0.4496	0.0093	0.0036	-0.2719	0.0175	-1.9991	0.0550	-1.6838	0.0804
1	164.88	0.4997	0.0198	0.0038	-0.3434	0.0232	-2.8340	0.0692	-1.7965	0.0917
1	164.88	0.5387	0.0235	0.0046	-0.4003	0.0268	-3.6239	0.0814	-2.0497	0.0863
1	164.88	0.5996	-0.0029	0.0059	-0.5211	0.0342	-4.9972	0.1001	-1.7685	0.0853
1	164.88	0.6498	-0.0190	0.0073	-0.5948	0.0402	-6.3608	0.1155	-1.9850	0.0898
1	164.88	0.6998	-0.0609	0.0091	-0.7126	0.0465	-7.8271	0.1320	-1.9746	0.0877
1	164.88	0.7500	-0.0996	0.0113	-0.8231	0.0534	-9.4342	0.1511	-1.8737	0.0969
1	164.88	0.8001	-0.1647	0.0141	-0.9768	0.0604	-11.1347	0.1728	-1.9387	0.0940
1	164.88	0.8497	-0.2567	0.0175	-1.0849	0.0674	-12.9550	0.1988	-2.1193	0.0959
1	164.88	0.9102	-0.3791	0.0220	-1.2359	0.0761	-15.2599	0.2357	-2.2011	0.0965
1	164.88	0.9734	-0.4278	0.0272	-1.3516	0.0852	-17.6823	0.2813	-2.0913	0.0917
2	164.88	0.1949	-0.0503	0.0017	-0.0127	0.0008	-0.0872	0.0032	-0.3288	0.0246
2	164.88	0.2405	-0.0470	0.0014	0.0007	0.0026	-0.2230	0.0063	-0.7359	0.0465
2	164.88	0.2999	-0.0317	0.0016	-0.0331	0.0055	-0.4849	0.0133	-0.9213	0.0618
2	164.88	0.3498	-0.0154	0.0018	-0.0547	0.0070	-0.8182	0.0229	-1.0067	0.0643
2	164.88	0.3998	0.0038	0.0022	-0.0748	0.0131	-1.3219	0.0354	-1.1728	0.0648
2	164.88	0.4496	0.0138	0.0027	-0.0927	0.0168	-2.0034	0.0483	-1.3172	0.0729
2	164.88	0.4995	0.0082	0.0038	-0.1153	0.0211	-2.8771	0.0637	-1.5519	0.0661
2	164.88	0.5551	0.0157	0.0046	-0.1407	0.0253	-4.0418	0.0822	-1.5639	0.0727
2	164.88	0.5996	-0.0025	0.0059	-0.1727	0.0289	-5.1453	0.0991	-1.6354	0.0778
2	164.88	0.6497	-0.0129	0.0075	-0.1968	0.0333	-6.5032	0.1196	-1.5136	0.0786
2	164.88	0.6996	-0.0571	0.0101	-0.2422	0.0382	-8.0307	0.1418	-1.5270	0.0792
2	164.88	0.7495	-0.1044	0.0131	-0.2906	0.0428	-9.7100	0.1684	-1.5891	0.0775
2	164.88	0.7996	-0.1740	0.0169	-0.3476	0.0476	-11.4978	0.1999	-1.6423	0.0808
2	164.88	0.8578	-0.3038	0.0222	-0.4155	0.0533	-13.7017	0.2435	-1.5685	0.0842
2	164.88	0.9100	-0.3951	0.0276	-0.4893	0.0586	-15.7909	0.2872	-1.3596	0.0831
2	164.88	0.9727	-0.5033	0.0339	-0.5245	0.0648	-18.2245	0.3429	-0.9667	0.0874
3	164.88	0.1938	-0.0363	0.0027	-0.0211	0.0012	-0.0583	0.0045	-0.3176	0.0317
3	164.88	0.2357	-0.0462	0.0026	0.0040	0.0033	-0.2053	0.0067	-0.7816	0.0584
3	164.88	0.2995	-0.0368	0.0020	-0.0495	0.0064	-0.3966	0.0163	-0.9694	0.0768
3	164.88	0.3493	-0.0160	0.0022	-0.0860	0.0101	-0.6981	0.0277	-1.0999	0.0841
3	164.88	0.4000	0.0075	0.0027	-0.1158	0.0171	-1.1371	0.0423	-1.0644	0.0820
3	164.88	0.4497	0.0110	0.0026	-0.1562	0.0221	-1.7538	0.0563	-1.3478	0.0899
3	164.88	0.4997	0.0127	0.0037	-0.1972	0.0273	-2.5377	0.0738	-1.4861	0.0889
3	164.88	0.5556	0.0209	0.0045	-0.2400	0.0345	-3.6174	0.0923	-1.5487	0.0881
3	164.88	0.5995	0.0082	0.0058	-0.2876	0.0398	-4.6121	0.1103	-1.5950	0.0924
3	164.88	0.6498	0.0092	0.0070	-0.3579	0.0467	-5.9054	0.1302	-1.6414	0.0946
3	164.88	0.6890	-0.0325	0.0085	-0.4072	0.0520	-7.0020	0.1463	-1.5648	0.0986
3	164.88	0.7495	-0.0756	0.0114	-0.5021	0.0609	-8.8883	0.1723	-1.6151	0.1068
3	164.88	0.7998	-0.1254	0.0136	-0.5888	0.0688	-10.5919	0.1950	-1.8084	0.0993
3	164.88	0.8577	-0.2203	0.0177	-0.6724	0.0775	-12.6622	0.2240	-1.7800	0.1021
3	164.88	0.9178	-0.3071	0.0218	-0.7804	0.0873	-14.8774	0.2584	-1.4543	0.0994
3	164.88	0.9729	-0.3905	0.0256	-0.8874	0.0963	-17.0217	0.2926	-1.6617	0.0976
4	164.88	0.2001	-0.0461	0.0016	0.0027	0.0010	-0.1251	0.0042	-0.1458	0.0292
4	164.88	0.2502	-0.0278	0.0020	0.0181	0.0030	-0.2992	0.0080	-0.3450	0.0455
4	164.88	0.3001	-0.0317	0.0019	0.0266	0.0047	-0.5559	0.0159	-0.3929	0.0640
4	164.88	0.3502	-0.0271	0.0022	0.0397	0.0080	-0.9642	0.0279	-0.4881	0.0625
4	164.88	0.4002	-0.0055	0.0026	0.0736	0.0127	-1.5158	0.0424	-0.6394	0.0687
4	164.88	0.4500	0.0028	0.0031	0.1031	0.0168	-2.2677	0.0550	-0.9785	0.0767
4	164.88	0.5001	0.0090	0.0040	0.1252	0.0197	-3.1562	0.0712	-0.8985	0.0871
4	164.88	0.5560	-0.0066	0.0049	0.1646	0.0256	-4.4077	0.0884	-1.0793	0.0911
4	164.88	0.6001	-0.0202	0.0061	0.1830	0.0302	-5.5474	0.1042	-1.1586	0.0933
4	164.88	0.6501	-0.0572	0.0074	0.1914	0.0353	-6.9694	0.1222	-1.0271	0.0965
4	164.88	0.6999	-0.0886	0.0094	0.1876	0.0408	-8.5600	0.1419	-0.9440	0.0975
4	164.88	0.7500	-0.1503	0.0113	0.1849	0.0469	-10.2859	0.1647	-0.7684	0.1036
4	164.88	0.8002	-0.2292	0.0142	0.1744	0.0536	-12.1875	0.1887	-0.9229	0.1066
4	164.88	0.8582	-0.3416	0.0188	0.1458	0.0612	-14.5190	0.2231	-1.0840	0.1128
4	164.88	0.9101	-0.4325	0.0232	0.1261	0.0686	-16.6710	0.2574	-0.9468	0.1149
4	164.88	0.9728	-0.5080	0.0283	0.1206	0.0777	-19.2644	0.3026	-0.5590	0.1156

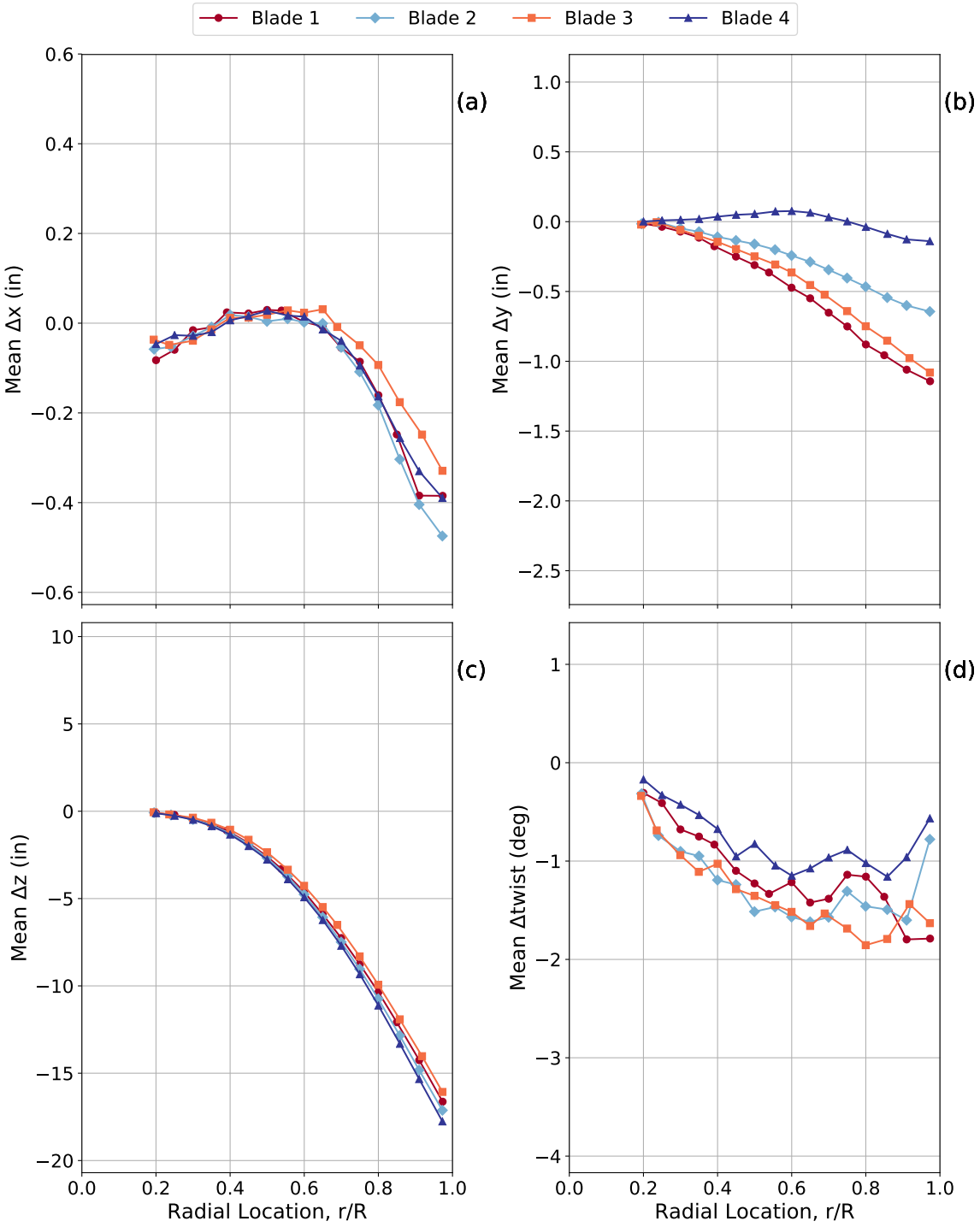


Figure 2.16-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0825	0.0085	-0.0143	0.0013	-0.1011	0.0030	-0.3073	0.0201
1	170.16	0.2499	-0.0593	0.0035	-0.0366	0.0027	-0.2081	0.0069	-0.4102	0.0351
1	170.16	0.2998	-0.0156	0.0032	-0.0711	0.0054	-0.4540	0.0126	-0.6783	0.0449
1	170.16	0.3498	-0.0092	0.0087	-0.1147	0.0091	-0.7460	0.0210	-0.7509	0.0412
1	170.16	0.3913	0.0241	0.0133	-0.1762	0.0133	-1.1099	0.0312	-0.8325	0.0524
1	170.16	0.4496	0.0216	0.0200	-0.2502	0.0182	-1.8178	0.0452	-1.0990	0.0549
1	170.16	0.4997	0.0295	0.0256	-0.3111	0.0240	-2.5887	0.0643	-1.2276	0.0610
1	170.16	0.5387	0.0282	0.0303	-0.3640	0.0289	-3.3061	0.0797	-1.3336	0.0602
1	170.16	0.5996	0.0028	0.0373	-0.4726	0.0365	-4.6111	0.1115	-1.2150	0.0607
1	170.16	0.6498	-0.0075	0.0431	-0.5489	0.0432	-5.9041	0.1430	-1.4221	0.0660
1	170.16	0.6998	-0.0550	0.0482	-0.6519	0.0505	-7.2589	0.1750	-1.3832	0.0778
1	170.16	0.7500	-0.0859	0.0530	-0.7508	0.0575	-8.7706	0.2156	-1.1390	0.0798
1	170.16	0.8001	-0.1605	0.0573	-0.8797	0.0643	-10.3599	0.2595	-1.1586	0.0863
1	170.16	0.8497	-0.2481	0.0602	-0.9566	0.0717	-12.0834	0.3038	-1.3631	0.0848
1	170.16	0.9102	-0.3844	0.0646	-1.0601	0.0813	-14.2515	0.3622	-1.7969	0.2229
1	170.16	0.9734	-0.3848	0.0659	-1.1430	0.0900	-16.6293	0.4310	-1.7880	0.1397
2	170.16	0.1949	-0.0580	0.0095	-0.0151	0.0010	-0.0820	0.0024	-0.3153	0.0188
2	170.16	0.2405	-0.0527	0.0043	-0.0038	0.0025	-0.2147	0.0048	-0.7405	0.0308
2	170.16	0.2999	-0.0287	0.0034	-0.0482	0.0047	-0.4683	0.0100	-0.9021	0.0442
2	170.16	0.3498	-0.0087	0.0094	-0.0724	0.0085	-0.7822	0.0163	-0.9488	0.0517
2	170.16	0.3998	0.0183	0.0155	-0.1088	0.0132	-1.2730	0.0256	-1.1931	0.0527
2	170.16	0.4496	0.0143	0.0218	-0.1347	0.0173	-1.8658	0.0354	-1.2395	0.0562
2	170.16	0.4995	0.0040	0.0280	-0.1603	0.0218	-2.6667	0.0480	-1.5144	0.0625
2	170.16	0.5551	0.0100	0.0347	-0.2008	0.0275	-3.7267	0.0658	-1.4672	0.0726
2	170.16	0.5996	0.0021	0.0395	-0.2424	0.0324	-4.7590	0.0808	-1.5689	0.0713
2	170.16	0.6497	-0.0006	0.0454	-0.2880	0.0383	-6.0671	0.1007	-1.6179	0.0820
2	170.16	0.6996	-0.0538	0.0502	-0.3447	0.0445	-7.4885	0.1197	-1.5714	0.0887
2	170.16	0.7495	-0.1084	0.0549	-0.4038	0.0510	-9.0345	0.1434	-1.3069	0.0938
2	170.16	0.7996	-0.1826	0.0591	-0.4656	0.0582	-10.7406	0.1692	-1.4602	0.0992
2	170.16	0.8578	-0.3035	0.0614	-0.5437	0.0670	-12.8426	0.2029	-1.4929	0.1162
2	170.16	0.9100	-0.4042	0.0636	-0.6005	0.0754	-14.8182	0.2405	-1.6011	0.1366
2	170.16	0.9727	-0.4744	0.0629	-0.6436	0.0833	-17.1243	0.2914	-0.7788	0.1615
3	170.16	0.1938	-0.0367	0.0036	-0.0209	0.0012	-0.0587	0.0046	-0.3376	0.0293
3	170.16	0.2357	-0.0484	0.0028	-0.0038	0.0024	-0.1808	0.0055	-0.6883	0.0585
3	170.16	0.2995	-0.0391	0.0027	-0.0591	0.0057	-0.3691	0.0151	-0.9397	0.0752
3	170.16	0.3493	-0.0139	0.0030	-0.1014	0.0084	-0.6588	0.0259	-1.1095	0.0774
3	170.16	0.4000	0.0118	0.0035	-0.1447	0.0142	-1.0596	0.0389	-1.0272	0.0807
3	170.16	0.4497	0.0124	0.0038	-0.1965	0.0179	-1.6331	0.0516	-1.2856	0.0803
3	170.16	0.4997	0.0188	0.0045	-0.2487	0.0220	-2.3476	0.0672	-1.3538	0.0862
3	170.16	0.5556	0.0285	0.0055	-0.3070	0.0279	-3.3477	0.0855	-1.4482	0.0871
3	170.16	0.5995	0.0233	0.0072	-0.3638	0.0318	-4.2693	0.1025	-1.5168	0.0881
3	170.16	0.6498	0.0310	0.0079	-0.4540	0.0380	-5.4858	0.1203	-1.6599	0.0910
3	170.16	0.6890	-0.0085	0.0092	-0.5230	0.0423	-6.5078	0.1370	-1.5336	0.0922
3	170.16	0.7495	-0.0493	0.0117	-0.6407	0.0494	-8.3100	0.1622	-1.6863	0.0880
3	170.16	0.7998	-0.0932	0.0145	-0.7490	0.0558	-9.9345	0.1861	-1.8552	0.0905
3	170.16	0.8577	-0.1761	0.0185	-0.8524	0.0634	-11.9147	0.2167	-1.7920	0.0987
3	170.16	0.9178	-0.2483	0.0232	-0.9774	0.0717	-14.0249	0.2569	-1.4376	0.0968
3	170.16	0.9729	-0.3290	0.0281	-1.0806	0.0794	-16.0717	0.2974	-1.6313	0.1010
4	170.16	0.2001	-0.0466	0.0017	0.0011	0.0010	-0.1120	0.0030	-0.1709	0.0260
4	170.16	0.2502	-0.0266	0.0021	0.0090	0.0026	-0.2591	0.0069	-0.3302	0.0422
4	170.16	0.3001	-0.0282	0.0017	0.0130	0.0045	-0.4901	0.0118	-0.4266	0.0561
4	170.16	0.3502	-0.0199	0.0017	0.0188	0.0074	-0.8538	0.0196	-0.5324	0.0586
4	170.16	0.4002	0.0064	0.0022	0.0359	0.0120	-1.3356	0.0306	-0.6743	0.0603
4	170.16	0.4500	0.0158	0.0025	0.0489	0.0149	-1.9959	0.0430	-0.9526	0.0565
4	170.16	0.5001	0.0276	0.0032	0.0552	0.0192	-2.7713	0.0567	-0.8251	0.0700
4	170.16	0.5560	0.0169	0.0037	0.0734	0.0247	-3.8954	0.0740	-1.0458	0.0707
4	170.16	0.6001	0.0145	0.0048	0.0761	0.0293	-4.9263	0.0884	-1.1488	0.0710
4	170.16	0.6501	-0.0141	0.0063	0.0642	0.0353	-6.2313	0.1060	-1.0746	0.0783
4	170.16	0.6999	-0.0394	0.0080	0.0316	0.0411	-7.7035	0.1269	-0.9640	0.0765
4	170.16	0.7500	-0.0944	0.0112	0.0016	0.0477	-9.3354	0.1506	-0.8864	0.0753
4	170.16	0.8002	-0.1633	0.0147	-0.0377	0.0542	-11.1276	0.1818	-1.0205	0.0812
4	170.16	0.8582	-0.2560	0.0199	-0.0878	0.0627	-13.3171	0.2251	-1.1594	0.0794
4	170.16	0.9101	-0.3299	0.0252	-0.1272	0.0703	-15.3362	0.2719	-0.9613	0.0823
4	170.16	0.9728	-0.3896	0.0324	-0.1400	0.0801	-17.7606	0.3302	-0.5663	0.0901

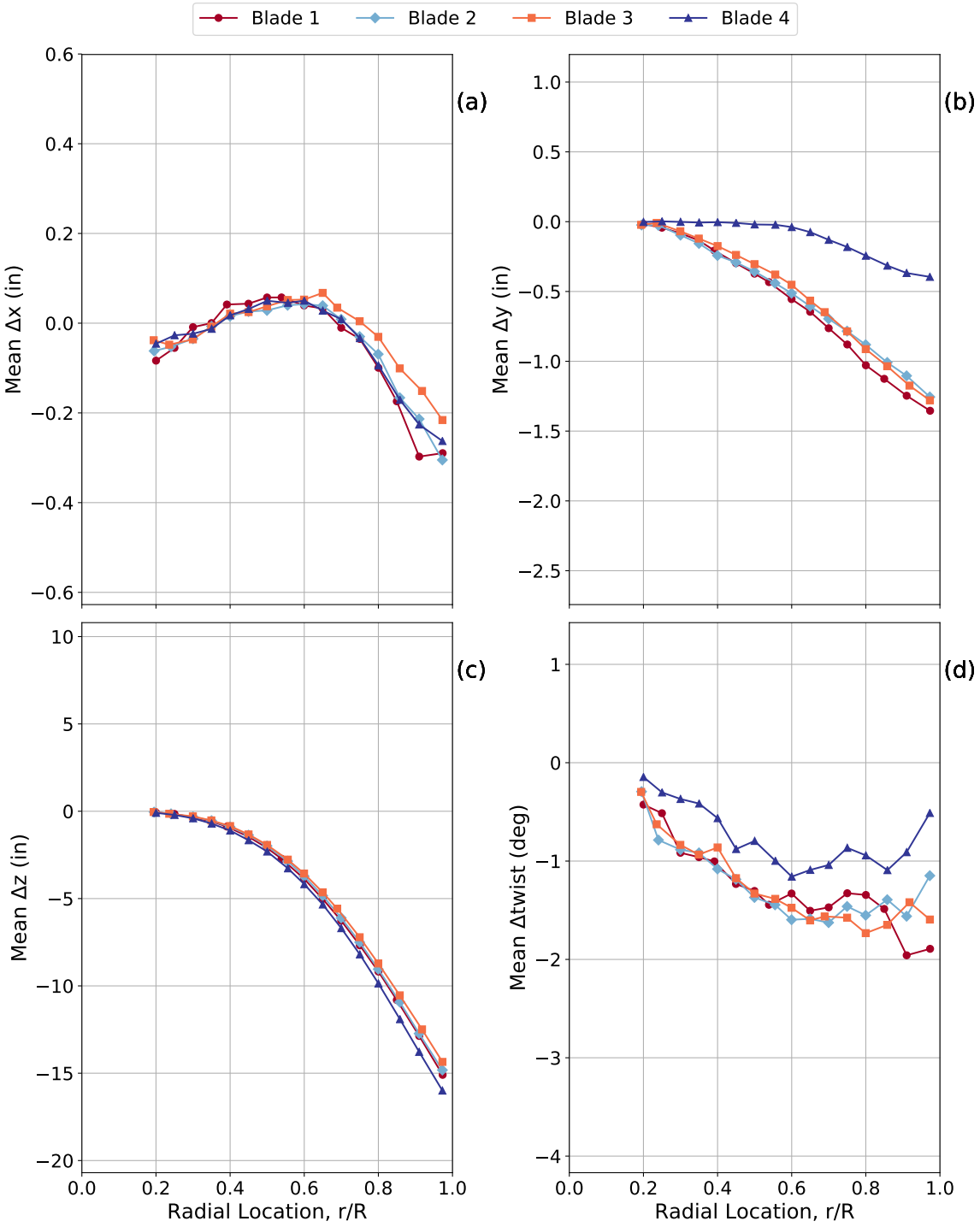


Figure 2.16-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	-0.0835	0.0096	-0.0167	0.0012	-0.0800	0.0028	-0.4262	0.0218
1	175.08	0.2499	-0.0551	0.0037	-0.0432	0.0022	-0.1524	0.0055	-0.5135	0.0444
1	175.08	0.2998	-0.0088	0.0031	-0.0829	0.0047	-0.3640	0.0107	-0.9158	0.0520
1	175.08	0.3498	0.0002	0.0091	-0.1350	0.0079	-0.5857	0.0171	-0.9604	0.0510
1	175.08	0.3913	0.0416	0.0145	-0.2067	0.0113	-0.8773	0.0252	-1.0036	0.0640
1	175.08	0.4496	0.0434	0.0202	-0.2972	0.0154	-1.4603	0.0345	-1.2330	0.0564
1	175.08	0.4997	0.0573	0.0261	-0.3725	0.0198	-2.1024	0.0462	-1.3038	0.0613
1	175.08	0.5387	0.0574	0.0297	-0.4330	0.0241	-2.7199	0.0573	-1.4446	0.0722
1	175.08	0.5996	0.0394	0.0351	-0.5546	0.0301	-3.8654	0.0765	-1.3299	0.0726
1	175.08	0.6498	0.0328	0.0391	-0.6454	0.0359	-5.0221	0.0941	-1.5056	0.0814
1	175.08	0.6998	-0.0102	0.0432	-0.7631	0.0421	-6.2657	0.1130	-1.4710	0.0852
1	175.08	0.7500	-0.0351	0.0460	-0.8798	0.0492	-7.6798	0.1328	-1.3271	0.0836
1	175.08	0.8001	-0.0994	0.0478	-1.0288	0.0571	-9.1794	0.1512	-1.3445	0.0995
1	175.08	0.8497	-0.1742	0.0483	-1.1256	0.0647	-10.8070	0.1754	-1.4867	0.1028
1	175.08	0.9102	-0.2974	0.0476	-1.2466	0.0753	-12.8656	0.2077	-1.9581	0.1163
1	175.08	0.9734	-0.2897	0.0475	-1.3544	0.0850	-15.0936	0.2426	-1.8923	0.1216
2	175.08	0.1949	-0.0619	0.0020	-0.0239	0.0014	-0.0483	0.0036	-0.2938	0.0215
2	175.08	0.2405	-0.0525	0.0015	-0.0268	0.0022	-0.1481	0.0060	-0.7863	0.0441
2	175.08	0.2999	-0.0347	0.0013	-0.0964	0.0055	-0.3234	0.0138	-0.8843	0.0536
2	175.08	0.3498	-0.0070	0.0013	-0.1562	0.0094	-0.5402	0.0226	-0.9164	0.0564
2	175.08	0.3998	0.0155	0.0018	-0.2425	0.0144	-0.8964	0.0348	-1.0808	0.0576
2	175.08	0.4496	0.0260	0.0022	-0.2915	0.0186	-1.3666	0.0473	-1.1861	0.0654
2	175.08	0.4995	0.0284	0.0025	-0.3571	0.0240	-1.9853	0.0622	-1.3701	0.0678
2	175.08	0.5551	0.0399	0.0033	-0.4406	0.0295	-2.8581	0.0812	-1.4453	0.0678
2	175.08	0.5996	0.0424	0.0038	-0.5125	0.0345	-3.7245	0.0976	-1.5967	0.0722
2	175.08	0.6497	0.0390	0.0053	-0.6055	0.0410	-4.8351	0.1175	-1.5877	0.0763
2	175.08	0.6996	0.0087	0.0073	-0.6958	0.0478	-6.1061	0.1387	-1.6259	0.0733
2	175.08	0.7495	-0.0299	0.0094	-0.7840	0.0551	-7.5023	0.1608	-1.4615	0.0743
2	175.08	0.7996	-0.0691	0.0120	-0.8813	0.0606	-9.0409	0.1856	-1.5515	0.0831
2	175.08	0.8578	-0.1662	0.0153	-1.0085	0.0697	-10.9265	0.2156	-1.3928	0.0966
2	175.08	0.9100	-0.2135	0.0200	-1.1041	0.0785	-12.7302	0.2483	-1.5612	0.0871
2	175.08	0.9727	-0.3049	0.0227	-1.2553	0.0865	-14.8199	0.2891	-1.1487	0.0904
3	175.08	0.1938	-0.0380	0.0042	-0.0226	0.0015	-0.0437	0.0055	-0.2968	0.0373
3	175.08	0.2357	-0.0479	0.0035	-0.0093	0.0026	-0.1436	0.0068	-0.6260	0.0840
3	175.08	0.2995	-0.0361	0.0032	-0.0689	0.0051	-0.2929	0.0165	-0.8354	0.1019
3	175.08	0.3493	-0.0077	0.0034	-0.1211	0.0098	-0.5247	0.0282	-0.9343	0.1003
3	175.08	0.4000	0.0212	0.0036	-0.1749	0.0144	-0.8487	0.0419	-0.8617	0.1086
3	175.08	0.4497	0.0247	0.0040	-0.2382	0.0177	-1.3276	0.0546	-1.1742	0.1152
3	175.08	0.4997	0.0377	0.0048	-0.3043	0.0224	-1.9280	0.0701	-1.3301	0.1160
3	175.08	0.5556	0.0517	0.0050	-0.3788	0.0283	-2.7703	0.0876	-1.3844	0.1197
3	175.08	0.5995	0.0525	0.0056	-0.4518	0.0323	-3.5657	0.1020	-1.4748	0.1201
3	175.08	0.6498	0.0675	0.0064	-0.5656	0.0376	-4.6426	0.1161	-1.6036	0.1208
3	175.08	0.6890	0.0346	0.0073	-0.6480	0.0416	-5.5766	0.1280	-1.5630	0.1270
3	175.08	0.7495	0.0043	0.0094	-0.7858	0.0482	-7.2135	0.1472	-1.5757	0.1311
3	175.08	0.7998	-0.0305	0.0121	-0.9129	0.0544	-8.7147	0.1695	-1.7330	0.1288
3	175.08	0.8577	-0.1008	0.0165	-1.0354	0.0616	-10.5413	0.2053	-1.6488	0.1316
3	175.08	0.9178	-0.1511	0.0222	-1.1742	0.0694	-12.4908	0.2551	-1.4189	0.1406
3	175.08	0.9729	-0.2159	0.0285	-1.2799	0.0776	-14.3523	0.3088	-1.5946	0.1483
4	175.08	0.2001	-0.0458	0.0024	-0.0022	0.0026	-0.0926	0.0091	-0.1454	0.0456
4	175.08	0.2502	-0.0270	0.0085	0.0020	0.0034	-0.2117	0.0117	-0.3025	0.0854
4	175.08	0.3001	-0.0235	0.0024	-0.0018	0.0067	-0.4058	0.0233	-0.3690	0.0716
4	175.08	0.3502	-0.0126	0.0022	-0.0062	0.0104	-0.7077	0.0355	-0.4155	0.0743
4	175.08	0.4002	0.0175	0.0027	-0.0037	0.0148	-1.1066	0.0504	-0.5642	0.0675
4	175.08	0.4500	0.0317	0.0030	-0.0089	0.0178	-1.6621	0.0671	-0.8781	0.0742
4	175.08	0.5001	0.0499	0.0037	-0.0201	0.0217	-2.3088	0.0860	-0.7955	0.0776
4	175.08	0.5560	0.0453	0.0038	-0.0221	0.0265	-3.2711	0.1079	-0.9978	0.0781
4	175.08	0.6001	0.0501	0.0049	-0.0389	0.0307	-4.1782	0.1275	-1.1586	0.0778
4	175.08	0.6501	0.0278	0.0064	-0.0752	0.0355	-5.3422	0.1491	-1.0901	0.0784
4	175.08	0.6999	0.0088	0.0082	-0.1303	0.0408	-6.6956	0.1718	-1.0398	0.0862
4	175.08	0.7500	-0.0334	0.0102	-0.1819	0.0468	-8.1980	0.1950	-0.8658	0.0914
4	175.08	0.8002	-0.0943	0.0128	-0.2441	0.0528	-9.8638	0.2223	-0.9427	0.0881
4	175.08	0.8582	-0.1710	0.0171	-0.3151	0.0608	-11.9085	0.2569	-1.0925	0.0883
4	175.08	0.9101	-0.2260	0.0211	-0.3678	0.0679	-13.7796	0.2944	-0.9099	0.0936
4	175.08	0.9728	-0.2627	0.0263	-0.3955	0.0768	-15.9956	0.3423	-0.5112	0.0994

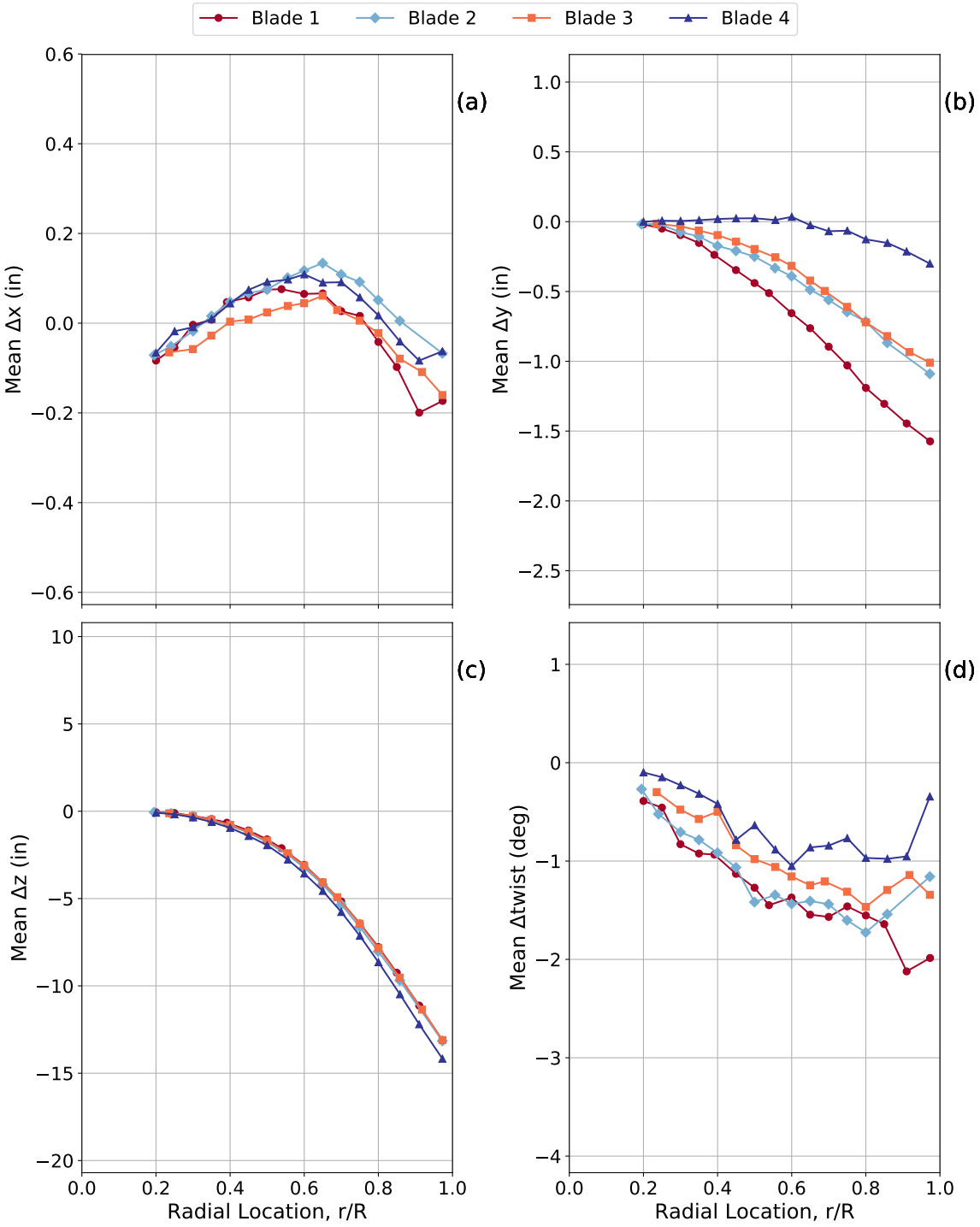


Figure 2.16-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.0833	0.0100	-0.0188	0.0016	-0.0609	0.0033	-0.3891	0.0210
1	180	0.2499	-0.0544	0.0044	-0.0495	0.0033	-0.1020	0.0064	-0.4566	0.0425
1	180	0.2998	-0.0037	0.0024	-0.0964	0.0066	-0.2731	0.0120	-0.8288	0.0494
1	180	0.3498	0.0078	0.0089	-0.1525	0.0113	-0.4429	0.0197	-0.9235	0.0497
1	180	0.3913	0.0469	0.0148	-0.2376	0.0163	-0.6561	0.0286	-0.9337	0.0543
1	180	0.4496	0.0575	0.0223	-0.3468	0.0239	-1.1030	0.0411	-1.1297	0.0586
1	180	0.4997	0.0747	0.0288	-0.4397	0.0321	-1.6111	0.0534	-1.2709	0.0614
1	180	0.5387	0.0758	0.0337	-0.5116	0.0390	-2.1139	0.0644	-1.4487	0.0701
1	180	0.5996	0.0652	0.0416	-0.6554	0.0506	-3.0710	0.0818	-1.3712	0.0749
1	180	0.6498	0.0663	0.0472	-0.7629	0.0609	-4.0692	0.0968	-1.5450	0.0796
1	180	0.6998	0.0268	0.0517	-0.8956	0.0718	-5.1662	0.1120	-1.5677	0.0874
1	180	0.7500	0.0162	0.0550	-1.0302	0.0826	-6.4283	0.1282	-1.4609	0.0887
1	180	0.8001	-0.0418	0.0576	-1.1907	0.0940	-7.7778	0.1437	-1.5533	0.1023
1	180	0.8497	-0.0977	0.0584	-1.3048	0.1064	-9.2475	0.1626	-1.6413	0.1091
1	180	0.9102	-0.1995	0.0571	-1.4454	0.1217	-11.1288	0.1874	-2.1218	0.1170
1	180	0.9734	-0.1732	0.0557	-1.5734	0.1348	-13.1349	0.2168	-1.9854	0.1308
2	180	0.1949	-0.0712	0.0014	-0.0179	0.0013	-0.0546	0.0040	-0.2687	0.0240
2	180	0.2405	-0.0517	0.0012	-0.0160	0.0029	-0.1265	0.0067	-0.5222	0.0468
2	180	0.2999	-0.0176	0.0012	-0.0744	0.0052	-0.3011	0.0146	-0.7054	0.0560
2	180	0.3498	0.0159	0.0011	-0.1062	0.0091	-0.5115	0.0245	-0.7840	0.0514
2	180	0.3998	0.0476	0.0017	-0.1737	0.0141	-0.8233	0.0375	-0.9159	0.0575
2	180	0.4496	0.0671	0.0020	-0.2090	0.0175	-1.2246	0.0504	-1.0652	0.0495
2	180	0.4995	0.0749	0.0023	-0.2496	0.0216	-1.7725	0.0640	-1.4171	0.0530
2	180	0.5551	0.1013	0.0027	-0.3322	0.0265	-2.4784	0.0798	-1.3446	0.0630
2	180	0.5996	0.1173	0.0034	-0.3906	0.0298	-3.2314	0.0963	-1.4346	0.0727
2	180	0.6497	0.1338	0.0048	-0.4876	0.0356	-4.1914	0.1136	-1.4069	0.0665
2	180	0.6996	0.1085	0.0066	-0.5601	0.0404	-5.3326	0.1375	-1.4385	0.0829
2	180	0.7495	0.0919	0.0085	-0.6461	0.0442	-6.6211	0.1613	-1.6021	0.0774
2	180	0.7996	0.0515	0.0115	-0.7147	0.0510	-8.0277	0.1906	-1.7256	0.0917
2	180	0.8578	0.0051	0.0157	-0.8677	0.0568	-9.6874	0.2257	-1.5400	0.1141
2	180	0.9727	-0.0672	0.0230	-1.0899	0.0692	-13.1497	0.3138	-1.1582	0.0975
3	180.35	0.2357	-0.0651	0.0030	-0.0153	0.0039	-0.1156	0.0111	-0.2993	0.1068
3	180.35	0.2995	-0.0578	0.0066	-0.0332	0.0088	-0.2739	0.0245	-0.4772	0.1741
3	180.35	0.3493	-0.0277	0.0064	-0.0632	0.0164	-0.4908	0.0458	-0.5726	0.1708
3	180.35	0.4000	0.0034	0.0066	-0.0965	0.0252	-0.7741	0.0702	-0.4979	0.1745
3	180.35	0.4497	0.0080	0.0072	-0.1429	0.0321	-1.1894	0.0943	-0.8393	0.1763
3	180.35	0.4997	0.0241	0.0071	-0.1961	0.0387	-1.6896	0.1204	-0.9801	0.1763
3	180.35	0.5556	0.0383	0.0085	-0.2549	0.0476	-2.4089	0.1509	-1.0600	0.1837
3	180.35	0.5995	0.0445	0.0090	-0.3167	0.0545	-3.1096	0.1764	-1.1566	0.1749
3	180.35	0.6498	0.0612	0.0104	-0.4216	0.0626	-4.0745	0.2051	-1.2459	0.1841
3	180.35	0.6890	0.0295	0.0116	-0.4960	0.0684	-4.9244	0.2294	-1.2072	0.1907
3	180.35	0.7495	0.0057	0.0139	-0.6104	0.0785	-6.4394	0.2647	-1.3122	0.1879
3	180.35	0.7998	-0.0221	0.0165	-0.7210	0.0865	-7.8378	0.2952	-1.4658	0.1867
3	180.35	0.8577	-0.0792	0.0195	-0.8195	0.0960	-9.5283	0.3310	-1.2943	0.1838
3	180.35	0.9178	-0.1089	0.0227	-0.9338	0.1065	-11.3589	0.3672	-1.1421	0.1929
3	180.35	0.9729	-0.1602	0.0261	-1.0097	0.1165	-13.1043	0.4043	-1.3432	0.1859
4	180	0.2001	-0.0658	0.0012	-0.0001	0.0012	-0.0847	0.0037	-0.0988	0.0250
4	180	0.2502	-0.0181	0.0009	0.0067	0.0028	-0.1778	0.0059	-0.1477	0.0440
4	180	0.3001	-0.0089	0.0012	0.0048	0.0050	-0.3535	0.0126	-0.2291	0.0566
4	180	0.3502	0.0097	0.0011	0.0107	0.0085	-0.6164	0.0213	-0.3164	0.0563
4	180	0.4002	0.0440	0.0017	0.0188	0.0133	-0.9541	0.0318	-0.4191	0.0549
4	180	0.4500	0.0743	0.0018	0.0235	0.0169	-1.4162	0.0425	-0.7841	0.0547
4	180	0.5001	0.0919	0.0021	0.0244	0.0210	-1.9456	0.0544	-0.6356	0.0569
4	180	0.5560	0.0974	0.0026	0.0117	0.0259	-2.7707	0.0691	-0.8832	0.0657
4	180	0.6001	0.1088	0.0030	0.0345	0.0303	-3.5667	0.0804	-1.0500	0.0745
4	180	0.6501	0.0904	0.0039	-0.0253	0.0343	-4.5624	0.0968	-0.8613	0.0783
4	180	0.6999	0.0913	0.0054	-0.0687	0.0401	-5.7683	0.1147	-0.8429	0.0879
4	180	0.7500	0.0575	0.0072	-0.0647	0.0461	-7.1316	0.1367	-0.7672	0.0917
4	180	0.8002	0.0173	0.0098	-0.1266	0.0531	-8.6455	0.1591	-0.9682	0.1262
4	180	0.8582	-0.0409	0.0119	-0.1524	0.0600	-10.4814	0.1868	-0.9771	0.1262
4	180	0.9101	-0.0834	0.0158	-0.2138	0.0727	-12.1975	0.2156	-0.9528	0.2182
4	180	0.9728	-0.0626	0.0204	-0.3003	0.0743	-14.1706	0.2497	-0.3442	0.1280

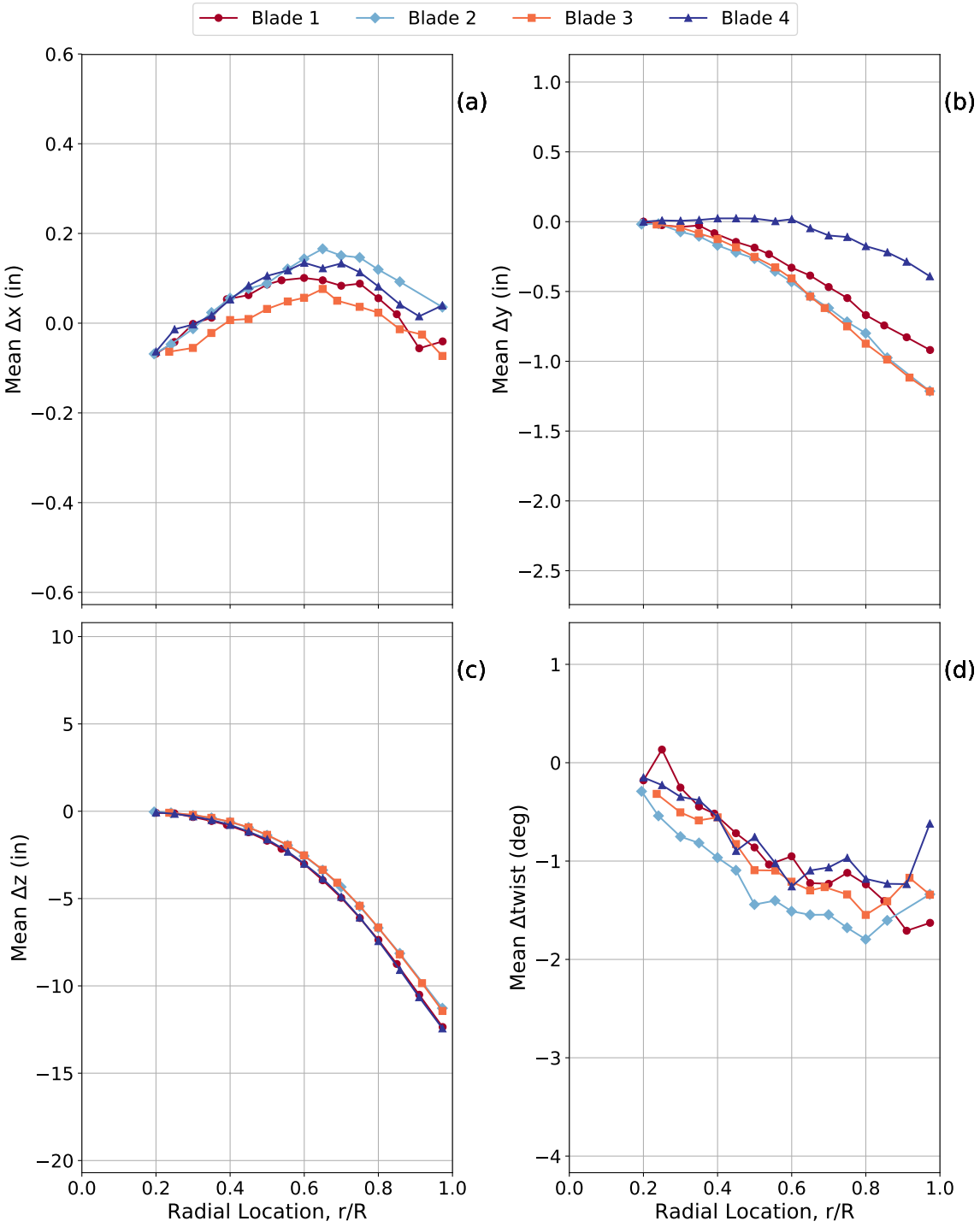


Figure 2.16-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0679	0.0101	0.0005	0.0126	-0.0898	0.0340	-0.1793	0.2000
1	184.92	0.2499	-0.0420	0.0040	-0.0251	0.0134	-0.1207	0.0375	0.1335	0.5309
1	184.92	0.2998	-0.0016	0.0031	-0.0373	0.0440	-0.3331	0.1009	-0.2529	0.5361
1	184.92	0.3498	0.0122	0.0053	-0.0275	0.0747	-0.5588	0.1644	-0.4457	0.5382
1	184.92	0.3913	0.0534	0.0077	-0.0826	0.1019	-0.7830	0.2192	-0.5177	0.5331
1	184.92	0.4496	0.0626	0.0117	-0.1450	0.1410	-1.2047	0.2929	-0.7171	0.5443
1	184.92	0.4997	0.0861	0.0155	-0.1861	0.1769	-1.6879	0.3579	-0.8614	0.5435
1	184.92	0.5387	0.0956	0.0179	-0.2329	0.2065	-2.1489	0.4088	-1.0351	0.5424
1	184.92	0.5996	0.1008	0.0221	-0.3295	0.2543	-3.0219	0.4879	-0.9518	0.5496
1	184.92	0.6498	0.0956	0.0257	-0.3859	0.2966	-3.9515	0.5545	-1.2243	0.5492
1	184.92	0.6998	0.0834	0.0287	-0.4683	0.3402	-4.9569	0.6215	-1.2311	0.5510
1	184.92	0.7500	0.0881	0.0326	-0.5473	0.3855	-6.1136	0.6906	-1.1198	0.5503
1	184.92	0.8001	0.0556	0.0354	-0.6694	0.4324	-7.3667	0.7611	-1.2371	0.5487
1	184.92	0.8497	0.0199	0.0380	-0.7433	0.4806	-8.7441	0.8282	-1.4057	0.5753
1	184.92	0.9102	-0.0560	0.0418	-0.8280	0.5423	-10.5084	0.9187	-1.7084	0.5665
1	184.92	0.9734	-0.0406	0.0472	-0.9192	0.6064	-12.3556	1.0127	-1.6282	0.5766
2	184.92	0.1949	-0.0685	0.0015	-0.0178	0.0013	-0.0386	0.0037	-0.2908	0.0229
2	184.92	0.2405	-0.0471	0.0011	-0.0149	0.0022	-0.0921	0.0067	-0.5405	0.0375
2	184.92	0.2999	-0.0124	0.0013	-0.0727	0.0047	-0.2278	0.0144	-0.7516	0.0529
2	184.92	0.3498	0.0237	0.0011	-0.1044	0.0083	-0.3803	0.0251	-0.8160	0.0532
2	184.92	0.3998	0.0558	0.0014	-0.1695	0.0122	-0.6217	0.0378	-0.9651	0.0489
2	184.92	0.4496	0.0770	0.0017	-0.2190	0.0156	-0.9288	0.0508	-1.0938	0.0528
2	184.92	0.4995	0.0882	0.0023	-0.2644	0.0190	-1.3752	0.0635	-1.4419	0.0566
2	184.92	0.5551	0.1208	0.0026	-0.3550	0.0239	-1.9482	0.0800	-1.4025	0.0584
2	184.92	0.5996	0.1434	0.0033	-0.4312	0.0274	-2.5621	0.0913	-1.5107	0.0706
2	184.92	0.6497	0.1657	0.0041	-0.5333	0.0318	-3.3714	0.1041	-1.5467	0.0667
2	184.92	0.6996	0.1506	0.0054	-0.6187	0.0364	-4.3366	0.1178	-1.5452	0.0644
2	184.92	0.7495	0.1464	0.0071	-0.7172	0.0407	-5.4438	0.1359	-1.6779	0.0748
2	184.92	0.7996	0.1196	0.0096	-0.7992	0.0473	-6.6776	0.1551	-1.7954	0.0650
2	184.92	0.8578	0.0924	0.0132	-0.9745	0.0523	-8.1390	0.1894	-1.6032	0.1008
2	184.92	0.9727	0.0358	0.0208	-1.2137	0.0688	-11.2791	0.2611	-1.3379	0.1038
3	184.92	0.2357	-0.0637	0.0032	-0.0202	0.0059	-0.0861	0.0141	-0.3170	0.1689
3	184.92	0.2995	-0.0552	0.0091	-0.0410	0.0128	-0.2066	0.0298	-0.5047	0.2744
3	184.92	0.3493	-0.0219	0.0091	-0.0841	0.0250	-0.3783	0.0579	-0.5866	0.2650
3	184.92	0.4000	0.0069	0.0086	-0.1246	0.0378	-0.5969	0.0874	-0.5556	0.2738
3	184.92	0.4497	0.0093	0.0097	-0.1833	0.0484	-0.9216	0.1173	-0.8271	0.2746
3	184.92	0.4997	0.0317	0.0099	-0.2523	0.0600	-1.3504	0.1469	-1.0929	0.2812
3	184.92	0.5556	0.0484	0.0105	-0.3271	0.0730	-1.9378	0.1812	-1.0961	0.2714
3	184.92	0.5995	0.0566	0.0112	-0.4063	0.0831	-2.5256	0.2059	-1.2098	0.2780
3	184.92	0.6498	0.0763	0.0126	-0.5363	0.0954	-3.3547	0.2351	-1.2984	0.2759
3	184.92	0.6890	0.0501	0.0138	-0.6184	0.1048	-4.0876	0.2594	-1.2649	0.2755
3	184.92	0.7495	0.0364	0.0160	-0.7502	0.1204	-5.4124	0.2932	-1.3395	0.2766
3	184.92	0.7998	0.0234	0.0181	-0.8739	0.1333	-6.6608	0.3244	-1.5476	0.2765
3	184.92	0.8577	-0.0135	0.0216	-0.9878	0.1484	-8.1946	0.3626	-1.4089	0.2757
3	184.92	0.9178	-0.0254	0.0249	-1.1168	0.1638	-9.8436	0.4055	-1.1701	0.2792
3	184.92	0.9729	-0.0731	0.0296	-1.2164	0.1790	-11.4366	0.4461	-1.3419	0.2824
4	184.92	0.2001	-0.0632	0.0013	-0.0005	0.0011	-0.0682	0.0034	-0.1503	0.0247
4	184.92	0.2502	-0.0137	0.0013	0.0089	0.0029	-0.1478	0.0078	-0.2278	0.0359
4	184.92	0.3001	-0.0029	0.0013	0.0062	0.0049	-0.2928	0.0133	-0.3470	0.0524
4	184.92	0.3502	0.0173	0.0016	0.0121	0.0082	-0.5000	0.0232	-0.3816	0.0501
4	184.92	0.4002	0.0528	0.0019	0.0234	0.0131	-0.7836	0.0358	-0.5536	0.0503
4	184.92	0.4500	0.0838	0.0018	0.0236	0.0160	-1.1679	0.0474	-0.8967	0.0603
4	184.92	0.5001	0.1054	0.0024	0.0224	0.0191	-1.6091	0.0620	-0.7551	0.0601
4	184.92	0.5560	0.1178	0.0027	0.0035	0.0230	-2.3174	0.0785	-1.0224	0.0664
4	184.92	0.6001	0.1346	0.0034	0.0176	0.0270	-3.0038	0.0918	-1.2573	0.0711
4	184.92	0.6501	0.1224	0.0042	-0.0470	0.0311	-3.8590	0.1090	-1.0959	0.0749
4	184.92	0.6999	0.1332	0.0056	-0.0991	0.0362	-4.8989	0.1275	-1.0646	0.0713
4	184.92	0.7500	0.1133	0.0070	-0.1099	0.0411	-6.0842	0.1464	-0.9675	0.0981
4	184.92	0.8002	0.0817	0.0090	-0.1755	0.0462	-7.4354	0.1679	-1.1815	0.1056
4	184.92	0.8582	0.0416	0.0117	-0.2197	0.0531	-9.0887	0.1949	-1.2313	0.1359
4	184.92	0.9101	0.0153	0.0142	-0.2869	0.0628	-10.6481	0.2209	-1.2344	0.1477
4	184.92	0.9728	0.0396	0.0176	-0.3912	0.0619	-12.4350	0.2504	-0.6195	0.1380

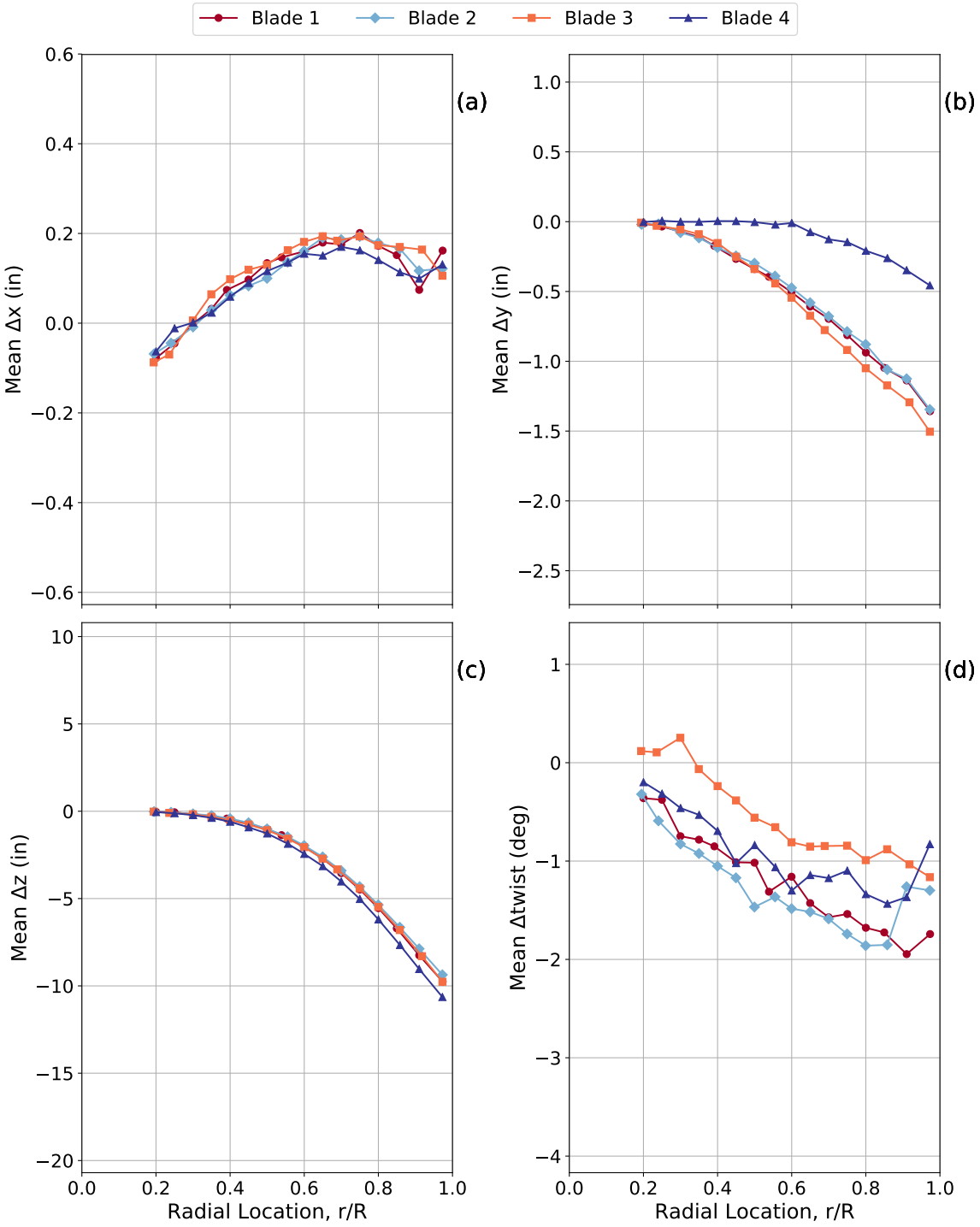


Figure 2.16-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0778	0.0012	-0.0139	0.0011	-0.0366	0.0045	-0.3605	0.0254
1	189.84	0.2499	-0.0451	0.0012	-0.0348	0.0026	-0.0586	0.0086	-0.3773	0.0447
1	189.84	0.2998	-0.0019	0.0012	-0.0719	0.0043	-0.1790	0.0163	-0.7474	0.0573
1	189.84	0.3498	0.0319	0.0016	-0.1096	0.0074	-0.2747	0.0284	-0.7826	0.0558
1	189.84	0.3913	0.0741	0.0018	-0.1734	0.0108	-0.4211	0.0399	-0.8506	0.0527
1	189.84	0.4496	0.0972	0.0021	-0.2666	0.0143	-0.7015	0.0578	-1.0121	0.0600
1	189.84	0.4997	0.1338	0.0022	-0.3395	0.0185	-1.0127	0.0759	-1.0170	0.0573
1	189.84	0.5387	0.1466	0.0023	-0.3945	0.0220	-1.3679	0.0912	-1.3118	0.0643
1	189.84	0.5996	0.1601	0.0030	-0.5050	0.0277	-2.0175	0.1144	-1.1593	0.0705
1	189.84	0.6498	0.1796	0.0036	-0.6078	0.0331	-2.7198	0.1346	-1.4277	0.0744
1	189.84	0.6998	0.1755	0.0046	-0.6960	0.0388	-3.5411	0.1547	-1.5717	0.0829
1	189.84	0.7500	0.2010	0.0057	-0.8131	0.0447	-4.4812	0.1754	-1.5383	0.0803
1	189.84	0.8001	0.1724	0.0077	-0.9373	0.0509	-5.5481	0.1950	-1.6784	0.0857
1	189.84	0.8497	0.1518	0.0094	-1.0472	0.0578	-6.7043	0.2172	-1.7255	0.0917
1	189.84	0.9102	0.0742	0.0117	-1.1374	0.0678	-8.2477	0.2460	-1.9461	0.1498
1	189.84	0.9734	0.1618	0.0141	-1.3576	0.0768	-9.7572	0.2755	-1.7424	0.1154
2	189.84	0.1949	-0.0684	0.0013	-0.0197	0.0013	-0.0188	0.0037	-0.3204	0.0261
2	189.84	0.2405	-0.0445	0.0012	-0.0163	0.0024	-0.0619	0.0063	-0.5908	0.0446
2	189.84	0.2999	-0.0085	0.0012	-0.0783	0.0043	-0.1505	0.0138	-0.8260	0.0615
2	189.84	0.3498	0.0291	0.0013	-0.1162	0.0081	-0.2479	0.0235	-0.9232	0.0606
2	189.84	0.3998	0.0622	0.0012	-0.1855	0.0118	-0.4211	0.0358	-1.0514	0.0506
2	189.84	0.4496	0.0831	0.0017	-0.2455	0.0147	-0.6581	0.0461	-1.1705	0.0481
2	189.84	0.4995	0.0999	0.0020	-0.2977	0.0178	-1.0109	0.0569	-1.4671	0.0575
2	189.84	0.5551	0.1359	0.0026	-0.3898	0.0218	-1.4621	0.0722	-1.3644	0.0551
2	189.84	0.5996	0.1608	0.0030	-0.4737	0.0255	-1.9616	0.0854	-1.4838	0.0618
2	189.84	0.6497	0.1904	0.0040	-0.5804	0.0293	-2.6132	0.1052	-1.5165	0.0615
2	189.84	0.6996	0.1863	0.0052	-0.6779	0.0334	-3.4018	0.1284	-1.5875	0.0651
2	189.84	0.7495	0.1933	0.0070	-0.7875	0.0389	-4.3185	0.1564	-1.7408	0.0690
2	189.84	0.7996	0.1789	0.0088	-0.8790	0.0427	-5.3582	0.1883	-1.8602	0.0702
2	189.84	0.8578	0.1659	0.0122	-1.0595	0.0503	-6.6437	0.2300	-1.8523	0.0848
2	189.84	0.9100	0.1169	0.0151	-1.1253	0.0590	-7.8747	0.2681	-1.2606	0.1556
2	189.84	0.9727	0.1216	0.0187	-1.3452	0.0605	-9.3652	0.3199	-1.2982	0.0885
3	189.84	0.1938	-0.0874	0.0130	-0.0068	0.0079	-0.0213	0.0197	0.1182	0.3139
3	189.84	0.2357	-0.0699	0.0125	-0.0294	0.0096	-0.0960	0.0403	0.1052	0.3084
3	189.84	0.2995	0.0061	0.0049	-0.0549	0.0271	-0.1713	0.0699	0.2534	0.6702
3	189.84	0.3493	0.0644	0.0184	-0.0899	0.0501	-0.3207	0.1480	-0.0651	0.4170
3	189.84	0.4000	0.0980	0.0235	-0.1530	0.0727	-0.5180	0.2041	-0.2381	0.3049
3	189.84	0.4497	0.1191	0.0292	-0.2508	0.0865	-0.7607	0.2394	-0.3834	0.3052
3	189.84	0.4997	0.1299	0.0342	-0.3392	0.1012	-1.0855	0.2761	-0.5588	0.2984
3	189.84	0.5556	0.1627	0.0396	-0.4426	0.1189	-1.5732	0.3151	-0.6557	0.2972
3	189.84	0.5995	0.1811	0.0437	-0.5445	0.1337	-2.0589	0.3457	-0.8091	0.2927
3	189.84	0.6498	0.1937	0.0483	-0.6731	0.1516	-2.7147	0.3791	-0.8530	0.2922
3	189.84	0.6890	0.1838	0.0513	-0.7767	0.1659	-3.3293	0.4048	-0.8472	0.2855
3	189.84	0.7495	0.1934	0.0547	-0.9190	0.1893	-4.4166	0.4428	-0.8435	0.2866
3	189.84	0.7998	0.1738	0.0571	-1.0499	0.2089	-5.4735	0.4753	-0.9909	0.2755
3	189.84	0.8577	0.1698	0.0575	-1.1728	0.2320	-6.8040	0.5129	-0.8800	0.2774
3	189.84	0.9178	0.1640	0.0576	-1.2937	0.2562	-8.3011	0.5506	-1.0334	0.2872
3	189.84	0.9729	0.1057	0.0546	-1.5045	0.2739	-9.7641	0.5884	-1.1637	0.2729
4	189.84	0.2001	-0.0630	0.0011	-0.0026	0.0011	-0.0498	0.0041	-0.1987	0.0245
4	189.84	0.2502	-0.0114	0.0011	0.0062	0.0029	-0.1154	0.0080	-0.3156	0.0395
4	189.84	0.3001	0.0013	0.0012	-0.0007	0.0045	-0.2236	0.0151	-0.4614	0.0548
4	189.84	0.3502	0.0233	0.0012	-0.0016	0.0084	-0.3803	0.0257	-0.5307	0.0550
4	189.84	0.4002	0.0589	0.0014	0.0042	0.0128	-0.6021	0.0391	-0.6939	0.0572
4	189.84	0.4500	0.0895	0.0016	0.0037	0.0164	-0.9223	0.0511	-1.0212	0.0649
4	189.84	0.5001	0.1162	0.0017	-0.0031	0.0209	-1.2744	0.0635	-0.8383	0.0697
4	189.84	0.5560	0.1352	0.0020	-0.0213	0.0256	-1.8657	0.0742	-1.0626	0.0718
4	189.84	0.6001	0.1547	0.0024	-0.0097	0.0303	-2.4433	0.0820	-1.3000	0.0742
4	189.84	0.6501	0.1506	0.0032	-0.0749	0.0354	-3.1466	0.0910	-1.1429	0.0778
4	189.84	0.6999	0.1701	0.0046	-0.1266	0.0411	-4.0239	0.1004	-1.1736	0.0917
4	189.84	0.7500	0.1623	0.0063	-0.1465	0.0474	-5.0257	0.1158	-1.0977	0.0861
4	189.84	0.8002	0.1408	0.0090	-0.2084	0.0540	-6.1983	0.1366	-1.3368	0.0874
4	189.84	0.8582	0.1134	0.0122	-0.2615	0.0625	-7.6628	0.1695	-1.4343	0.1067
4	189.84	0.9101	0.0992	0.0154	-0.3480	0.0734	-9.0363	0.2089	-1.3666	0.1315
4	189.84	0.9728	0.1308	0.0208	-0.4564	0.0813	-10.6393	0.2534	-0.8286	0.0911

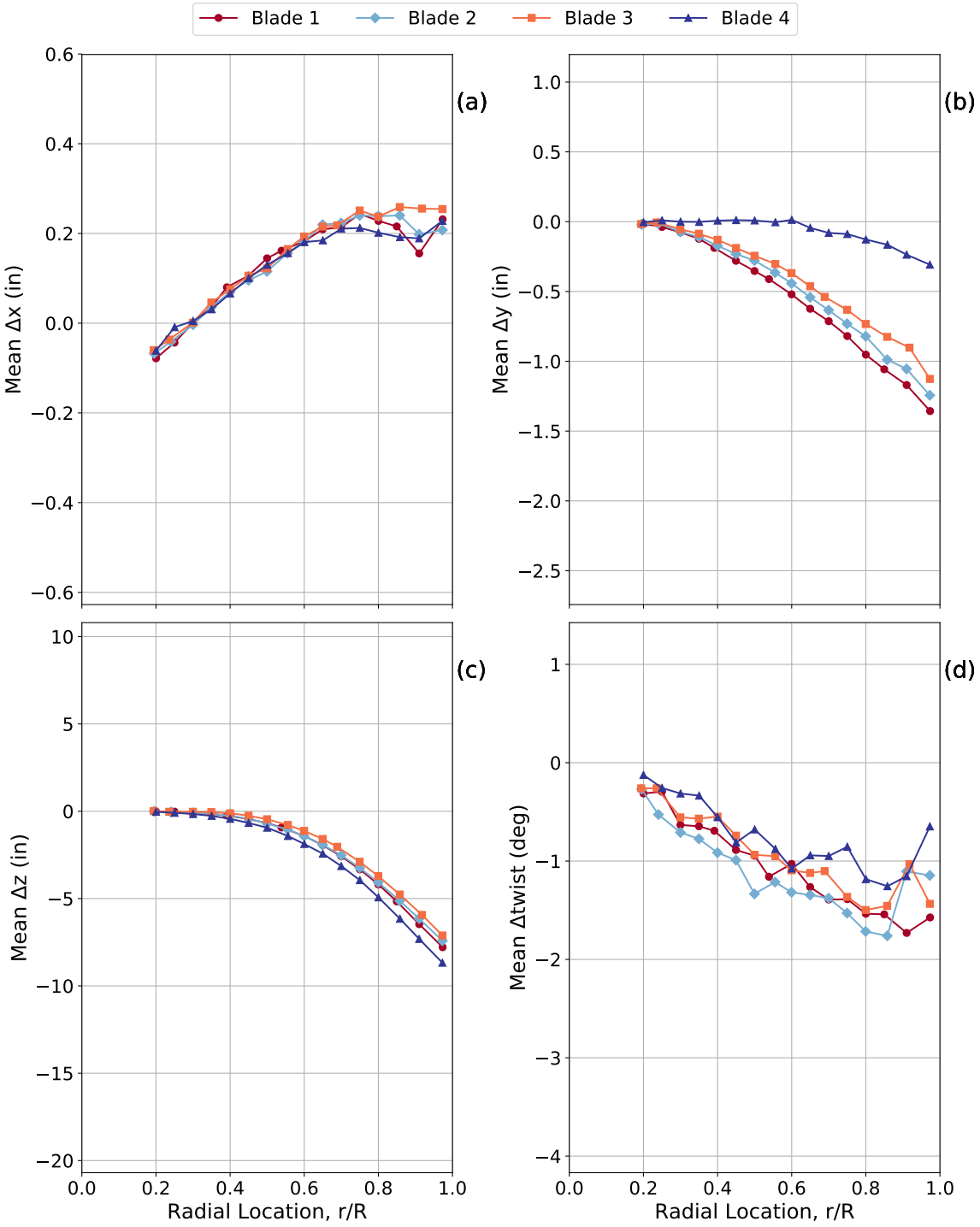


Figure 2.16-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0783	0.0011	-0.0153	0.0011	-0.0176	0.0045	-0.3128	0.0275
1	195.12	0.2499	-0.0433	0.0010	-0.0382	0.0029	-0.0231	0.0093	-0.2949	0.0422
1	195.12	0.2998	0.0005	0.0013	-0.0759	0.0051	-0.1064	0.0174	-0.6330	0.0598
1	195.12	0.3498	0.0366	0.0015	-0.1228	0.0079	-0.1517	0.0288	-0.6464	0.0544
1	195.12	0.3913	0.0800	0.0019	-0.1881	0.0124	-0.2457	0.0418	-0.6919	0.0510
1	195.12	0.4496	0.1061	0.0019	-0.2803	0.0163	-0.4489	0.0566	-0.8873	0.0550
1	195.12	0.4997	0.1446	0.0022	-0.3535	0.0201	-0.6769	0.0717	-0.9449	0.0565
1	195.12	0.5387	0.1615	0.0024	-0.4113	0.0232	-0.9318	0.0847	-1.1595	0.0655
1	195.12	0.5996	0.1824	0.0032	-0.5206	0.0288	-1.4122	0.1051	-1.0288	0.0663
1	195.12	0.6498	0.2093	0.0040	-0.6239	0.0341	-1.9421	0.1250	-1.2642	0.0737
1	195.12	0.6998	0.2137	0.0051	-0.7128	0.0395	-2.5800	0.1468	-1.3919	0.0723
1	195.12	0.7500	0.2436	0.0064	-0.8194	0.0458	-3.3282	0.1716	-1.3876	0.0719
1	195.12	0.8001	0.2281	0.0082	-0.9526	0.0516	-4.1919	0.1986	-1.5355	0.0789
1	195.12	0.8497	0.2156	0.0102	-1.0574	0.0592	-5.1609	0.2259	-1.5418	0.0822
1	195.12	0.9102	0.1554	0.0127	-1.1701	0.0681	-6.4662	0.2633	-1.7306	0.1177
1	195.12	0.9734	0.2315	0.0163	-1.3566	0.0770	-7.7864	0.3071	-1.5733	0.1202
2	195.12	0.1949	-0.0676	0.0015	-0.0194	0.0010	-0.0045	0.0048	-0.2689	0.0284
2	195.12	0.2405	-0.0411	0.0012	-0.0133	0.0031	-0.0395	0.0094	-0.5270	0.0420
2	195.12	0.2999	-0.0035	0.0014	-0.0731	0.0056	-0.0914	0.0199	-0.7097	0.0637
2	195.12	0.3498	0.0357	0.0018	-0.1098	0.0088	-0.1436	0.0339	-0.7745	0.0594
2	195.12	0.3998	0.0694	0.0020	-0.1724	0.0148	-0.2630	0.0520	-0.9151	0.0573
2	195.12	0.4496	0.0955	0.0023	-0.2311	0.0181	-0.4240	0.0705	-0.9902	0.0560
2	195.12	0.4995	0.1153	0.0030	-0.2786	0.0221	-0.7032	0.0922	-1.3335	0.0592
2	195.12	0.5551	0.1562	0.0039	-0.3646	0.0269	-1.0416	0.1205	-1.2138	0.0618
2	195.12	0.5996	0.1824	0.0041	-0.4419	0.0310	-1.4211	0.1472	-1.3176	0.0704
2	195.12	0.6497	0.2195	0.0054	-0.5417	0.0358	-1.9172	0.1804	-1.3453	0.0767
2	195.12	0.6996	0.2232	0.0069	-0.6338	0.0414	-2.5211	0.2187	-1.3773	0.0712
2	195.12	0.7495	0.2402	0.0091	-0.7313	0.0471	-3.2396	0.2631	-1.5290	0.0678
2	195.12	0.7996	0.2385	0.0117	-0.8212	0.0535	-4.0714	0.3101	-1.7162	0.0733
2	195.12	0.8578	0.2401	0.0150	-0.9889	0.0610	-5.1296	0.3702	-1.7603	0.0844
2	195.12	0.9100	0.1981	0.0183	-1.0546	0.0682	-6.1479	0.4239	-1.1054	0.1255
2	195.12	0.9727	0.2076	0.0223	-1.2437	0.0765	-7.4136	0.4889	-1.1461	0.0866
3	195.12	0.1938	-0.0603	0.0017	-0.0171	0.0013	0.0121	0.0042	-0.2609	0.0285
3	195.12	0.2357	-0.0364	0.0011	-0.0053	0.0021	-0.0299	0.0072	-0.2596	0.0401
3	195.12	0.2995	0.0012	0.0013	-0.0541	0.0053	-0.0314	0.0162	-0.5558	0.0635
3	195.12	0.3493	0.0461	0.0013	-0.0865	0.0089	-0.0475	0.0273	-0.5686	0.0672
3	195.12	0.4000	0.0754	0.0018	-0.1299	0.0139	-0.1142	0.0421	-0.5482	0.0566
3	195.12	0.4497	0.1058	0.0021	-0.1886	0.0173	-0.2525	0.0550	-0.7417	0.0677
3	195.12	0.4997	0.1220	0.0025	-0.2443	0.0221	-0.4576	0.0697	-0.9361	0.0698
3	195.12	0.5556	0.1652	0.0031	-0.3026	0.0273	-0.7840	0.0889	-0.9509	0.0733
3	195.12	0.5995	0.1931	0.0035	-0.3685	0.0326	-1.1257	0.1065	-1.0943	0.0756
3	195.12	0.6498	0.2153	0.0044	-0.4626	0.0389	-1.5889	0.1304	-1.1211	0.0788
3	195.12	0.6890	0.2180	0.0056	-0.5388	0.0436	-2.0370	0.1513	-1.1019	0.0743
3	195.12	0.7495	0.2511	0.0073	-0.6316	0.0519	-2.8930	0.1914	-1.3645	0.0804
3	195.12	0.7998	0.2374	0.0095	-0.7325	0.0596	-3.7111	0.2291	-1.4978	0.0803
3	195.12	0.8577	0.2589	0.0127	-0.8252	0.0686	-4.7682	0.2806	-1.4559	0.1056
3	195.12	0.9178	0.2554	0.0160	-0.9023	0.0793	-5.9342	0.3347	-1.0304	0.2054
3	195.12	0.9729	0.2543	0.0197	-1.1262	0.0897	-7.1135	0.3830	-1.4348	0.1099
4	195.12	0.2001	-0.0613	0.0015	-0.0039	0.0012	-0.0317	0.0046	-0.1245	0.0418
4	195.12	0.2502	-0.0089	0.0011	0.0095	0.0028	-0.0904	0.0099	-0.2569	0.0506
4	195.12	0.3001	0.0048	0.0015	-0.0003	0.0052	-0.1598	0.0184	-0.3133	0.0881
4	195.12	0.3502	0.0310	0.0017	-0.0020	0.0084	-0.2653	0.0304	-0.3349	0.0702
4	195.12	0.4002	0.0662	0.0019	0.0075	0.0135	-0.4335	0.0476	-0.5540	0.0685
4	195.12	0.4500	0.1003	0.0023	0.0110	0.0164	-0.6719	0.0630	-0.8119	0.0704
4	195.12	0.5001	0.1300	0.0027	0.0086	0.0212	-0.9440	0.0842	-0.6786	0.0696
4	195.12	0.5560	0.1562	0.0036	-0.0043	0.0257	-1.4175	0.1072	-0.8770	0.0776
4	195.12	0.6001	0.1807	0.0043	0.0127	0.0300	-1.8745	0.1308	-1.0770	0.0854
4	195.12	0.6501	0.1845	0.0053	-0.0445	0.0344	-2.4311	0.1596	-0.9420	0.0827
4	195.12	0.6999	0.2104	0.0070	-0.0805	0.0393	-3.1395	0.1926	-0.9488	0.0866
4	195.12	0.7500	0.2123	0.0087	-0.0887	0.0448	-3.9474	0.2283	-0.8548	0.0898
4	195.12	0.8002	0.2016	0.0113	-0.1279	0.0509	-4.9312	0.2667	-1.1839	0.0967
4	195.12	0.8582	0.1917	0.0142	-0.1653	0.0577	-6.1553	0.3156	-1.2559	0.1026
4	195.12	0.9101	0.1890	0.0172	-0.2364	0.0652	-7.3113	0.3626	-1.1544	0.1027
4	195.12	0.9728	0.2280	0.0212	-0.3081	0.0741	-8.6744	0.4171	-0.6479	0.0891

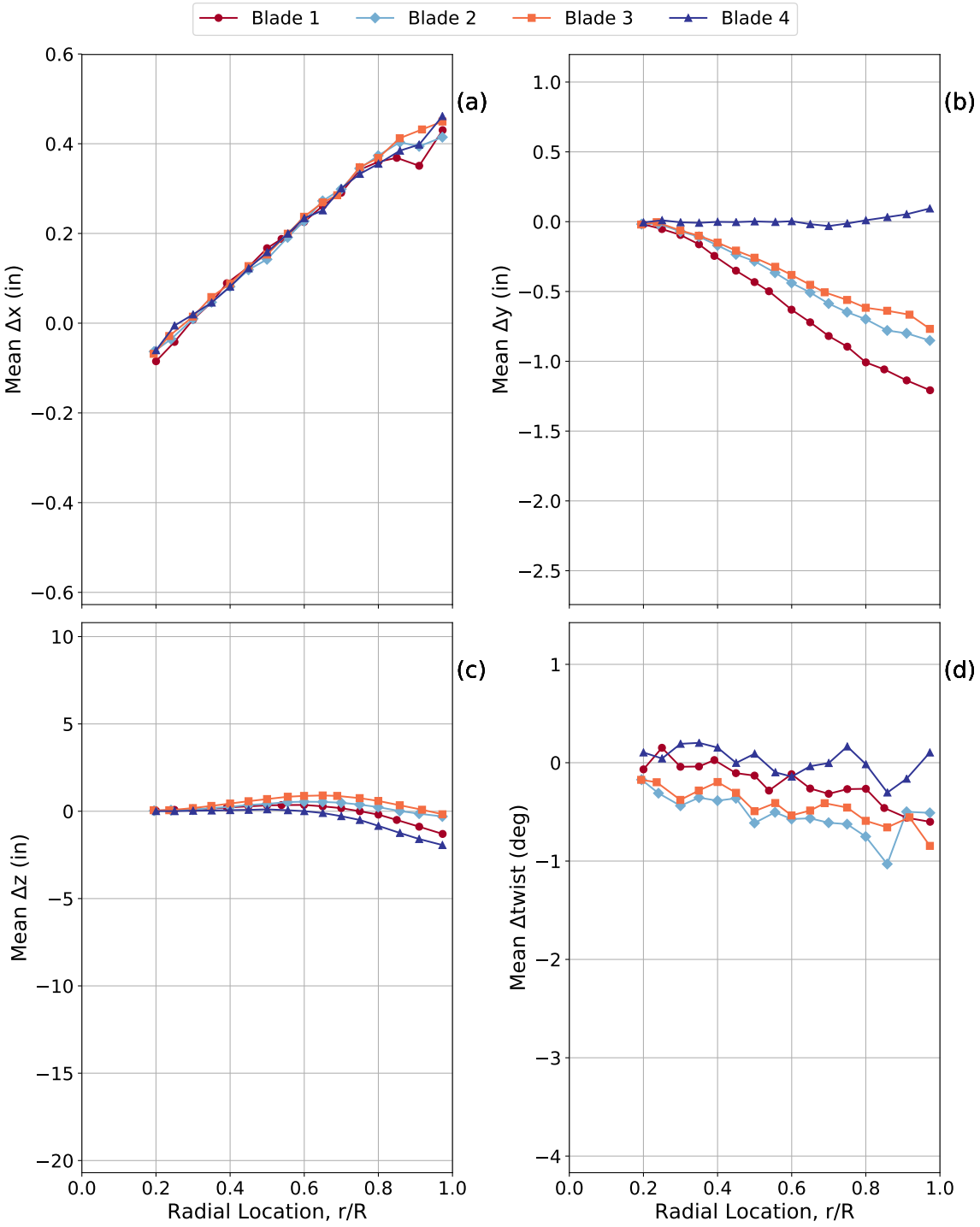


Figure 2.16-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0849	0.0013	-0.0189	0.0010	0.0260	0.0050	-0.0679	0.0255
1	209.88	0.2499	-0.0418	0.0012	-0.0530	0.0029	0.0794	0.0108	0.1518	0.0423
1	209.88	0.2998	0.0078	0.0011	-0.0953	0.0042	0.0857	0.0197	-0.0414	0.0579
1	209.88	0.3498	0.0464	0.0014	-0.1622	0.0080	0.1503	0.0322	-0.0387	0.0634
1	209.88	0.3913	0.0890	0.0027	-0.2452	0.0114	0.2146	0.0474	0.0268	0.0693
1	209.88	0.4496	0.1251	0.0022	-0.3510	0.0138	0.2813	0.0703	-0.1061	0.0661
1	209.88	0.4997	0.1671	0.0034	-0.4328	0.0179	0.3366	0.0963	-0.1311	0.0706
1	209.88	0.5387	0.1877	0.0028	-0.4985	0.0200	0.3525	0.1196	-0.2832	0.0714
1	209.88	0.5996	0.2257	0.0031	-0.6303	0.0250	0.3616	0.1595	-0.1170	0.0858
1	209.88	0.6498	0.2615	0.0032	-0.7207	0.0288	0.2799	0.1988	-0.2624	0.0821
1	209.88	0.6998	0.2907	0.0035	-0.8190	0.0335	0.1776	0.2408	-0.3160	0.0863
1	209.88	0.7500	0.3420	0.0043	-0.8954	0.0381	0.0003	0.2859	-0.2685	0.0885
1	209.88	0.8001	0.3599	0.0049	-1.0080	0.0435	-0.1917	0.3360	-0.2652	0.0965
1	209.88	0.8497	0.3685	0.0057	-1.0582	0.0489	-0.4985	0.3899	-0.4605	0.0922
1	209.88	0.9102	0.3508	0.0068	-1.1370	0.0565	-0.8852	0.4604	-0.5596	0.0923
1	209.88	0.9734	0.4302	0.0089	-1.2074	0.0647	-1.2996	0.5401	-0.6008	0.0946
2	209.88	0.1949	-0.0632	0.0018	-0.0177	0.0010	0.0298	0.0047	-0.1725	0.0329
2	209.88	0.2405	-0.0356	0.0014	-0.0150	0.0030	0.0600	0.0107	-0.3100	0.0436
2	209.88	0.2999	0.0098	0.0014	-0.0704	0.0043	0.0954	0.0199	-0.4380	0.0731
2	209.88	0.3498	0.0467	0.0025	-0.1077	0.0101	0.1791	0.0342	-0.3552	0.0573
2	209.88	0.3998	0.0815	0.0026	-0.1700	0.0137	0.2527	0.0522	-0.3861	0.0590
2	209.88	0.4496	0.1189	0.0038	-0.2345	0.0153	0.3615	0.0652	-0.3619	0.0622
2	209.88	0.4995	0.1423	0.0030	-0.2830	0.0193	0.4210	0.0838	-0.6131	0.0570
2	209.88	0.5551	0.1912	0.0027	-0.3658	0.0237	0.5249	0.1062	-0.5043	0.0618
2	209.88	0.5996	0.2275	0.0027	-0.4390	0.0266	0.5462	0.1262	-0.5728	0.0646
2	209.88	0.6497	0.2726	0.0032	-0.5070	0.0306	0.5355	0.1505	-0.5653	0.0785
2	209.88	0.6996	0.2986	0.0032	-0.5866	0.0347	0.4875	0.1790	-0.6103	0.0778
2	209.88	0.7495	0.3449	0.0035	-0.6481	0.0396	0.3814	0.2121	-0.6249	0.0727
2	209.88	0.7996	0.3734	0.0038	-0.6983	0.0442	0.2353	0.2487	-0.7509	0.0752
2	209.88	0.8578	0.4033	0.0043	-0.7794	0.0497	0.0123	0.2958	-1.0301	0.0799
2	209.88	0.9100	0.3940	0.0046	-0.7996	0.0553	-0.1398	0.3427	-0.4988	0.0775
2	209.88	0.9727	0.4146	0.0062	-0.8511	0.0626	-0.2994	0.4009	-0.5098	0.0786
3	209.88	0.1938	-0.0683	0.0018	-0.0206	0.0011	0.0598	0.0057	-0.1740	0.0363
3	209.88	0.2357	-0.0286	0.0014	-0.0037	0.0027	0.0578	0.0110	-0.1986	0.0440
3	209.88	0.2995	0.0145	0.0017	-0.0630	0.0061	0.1813	0.0237	-0.3782	0.0802
3	209.88	0.3493	0.0582	0.0016	-0.1007	0.0093	0.3053	0.0395	-0.2830	0.0758
3	209.88	0.4000	0.0880	0.0033	-0.1500	0.0157	0.4426	0.0613	-0.1964	0.0722
3	209.88	0.4497	0.1272	0.0032	-0.2072	0.0189	0.5750	0.0811	-0.3062	0.0663
3	209.88	0.4997	0.1529	0.0030	-0.2582	0.0228	0.6967	0.1040	-0.4926	0.0730
3	209.88	0.5556	0.1994	0.0039	-0.3233	0.0272	0.8311	0.1325	-0.4100	0.0792
3	209.88	0.5995	0.2372	0.0034	-0.3816	0.0315	0.8784	0.1511	-0.5359	0.0739
3	209.88	0.6498	0.2692	0.0033	-0.4523	0.0369	0.9038	0.1782	-0.4863	0.0723
3	209.88	0.6890	0.2852	0.0033	-0.5058	0.0403	0.8788	0.1954	-0.4115	0.0693
3	209.88	0.7495	0.3475	0.0036	-0.5607	0.0472	0.7507	0.2257	-0.4561	0.0673
3	209.88	0.7998	0.3683	0.0037	-0.6166	0.0527	0.5907	0.2516	-0.5909	0.0693
3	209.88	0.8577	0.4123	0.0041	-0.6381	0.0594	0.3435	0.2849	-0.6575	0.0733
3	209.88	0.9178	0.4318	0.0044	-0.6661	0.0670	0.0874	0.3207	-0.5556	0.0786
3	209.88	0.9729	0.4494	0.0066	-0.7679	0.0740	-0.1720	0.3565	-0.8456	0.0774
4	209.88	0.2001	-0.0603	0.0011	-0.0054	0.0011	0.0086	0.0068	0.1042	0.0360
4	209.88	0.2502	-0.0053	0.0013	0.0098	0.0026	0.0063	0.0149	0.0427	0.0518
4	209.88	0.3001	0.0195	0.0015	-0.0047	0.0046	0.0289	0.0261	0.1920	0.0787
4	209.88	0.3502	0.0459	0.0014	-0.0084	0.0083	0.0410	0.0461	0.2019	0.0626
4	209.88	0.4002	0.0815	0.0024	-0.0016	0.0126	0.0634	0.0699	0.1533	0.0851
4	209.88	0.4500	0.1223	0.0022	-0.0031	0.0158	0.0794	0.0918	-0.0020	0.0726
4	209.88	0.5001	0.1582	0.0027	0.0016	0.0206	0.1084	0.1182	0.0913	0.0723
4	209.88	0.5560	0.1996	0.0029	-0.0024	0.0264	0.0573	0.1481	-0.0979	0.0767
4	209.88	0.6001	0.2341	0.0027	0.0031	0.0310	0.0067	0.1727	-0.1414	0.0695
4	209.88	0.6501	0.2514	0.0029	-0.0179	0.0362	-0.1011	0.2000	-0.0354	0.0764
4	209.88	0.6999	0.3006	0.0032	-0.0316	0.0418	-0.2817	0.2293	-0.0036	0.0745
4	209.88	0.7500	0.3327	0.0040	-0.0129	0.0479	-0.5011	0.2605	0.1649	0.0713
4	209.88	0.8002	0.3553	0.0041	0.0099	0.0544	-0.8379	0.2957	-0.0158	0.0763
4	209.88	0.8582	0.3845	0.0050	0.0325	0.0618	-1.2445	0.3397	-0.3033	0.0813
4	209.88	0.9101	0.3980	0.0054	0.0530	0.0684	-1.5908	0.3833	-0.1629	0.0789
4	209.88	0.9728	0.4615	0.0068	0.0943	0.0768	-1.9361	0.4368	0.1037	0.0777

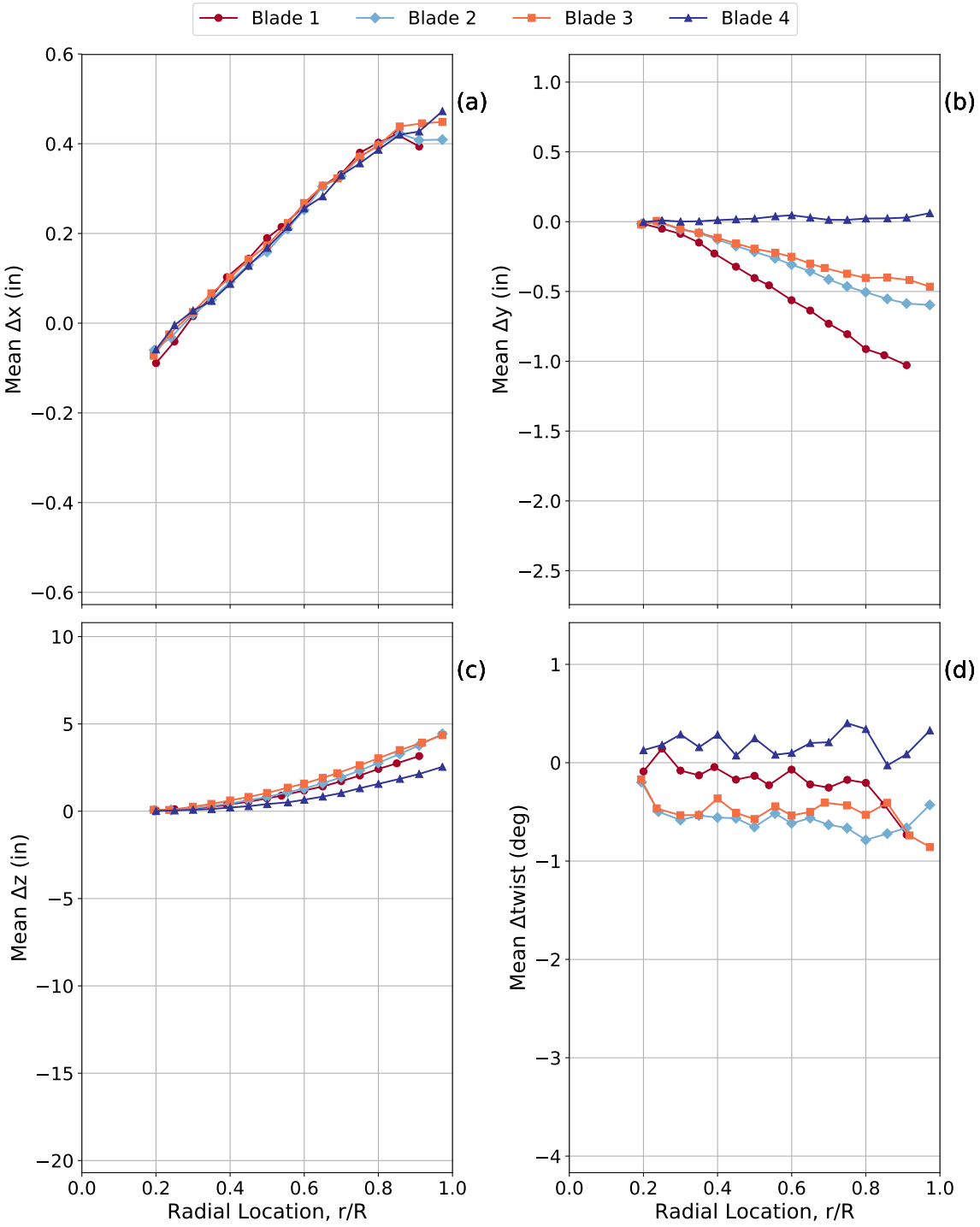


Figure 2.16-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0891	0.0015	-0.0163	0.0013	0.0405	0.0067	-0.0891	0.0283
1	225	0.2499	-0.0409	0.0012	-0.0508	0.0037	0.1173	0.0133	0.1435	0.0440
1	225	0.2998	0.0155	0.0013	-0.0872	0.0070	0.1521	0.0249	-0.0797	0.0629
1	225	0.3498	0.0591	0.0017	-0.1498	0.0111	0.2498	0.0400	-0.1281	0.0521
1	225	0.3913	0.1026	0.0024	-0.2282	0.0174	0.3713	0.0581	-0.0444	0.0614
1	225	0.4496	0.1435	0.0032	-0.3227	0.0230	0.5451	0.0805	-0.1720	0.0579
1	225	0.4997	0.1896	0.0031	-0.4037	0.0299	0.7369	0.1015	-0.1333	0.0599
1	225	0.5387	0.2146	0.0043	-0.4561	0.0356	0.8914	0.1189	-0.2283	0.0669
1	225	0.5996	0.2608	0.0047	-0.5626	0.0446	1.1874	0.1442	-0.0700	0.0767
1	225	0.6498	0.3058	0.0054	-0.6363	0.0519	1.4183	0.1605	-0.2206	0.0849
1	225	0.6998	0.3320	0.0055	-0.7309	0.0607	1.7190	0.1779	-0.2532	0.0845
1	225	0.7500	0.3799	0.0064	-0.8059	0.0702	2.0456	0.1950	-0.1743	0.0726
1	225	0.8001	0.4024	0.0069	-0.9126	0.0796	2.4211	0.2117	-0.2050	0.0765
1	225	0.8497	0.4210	0.0075	-0.9565	0.0892	2.7432	0.2311	-0.4255	0.0788
1	225	0.9102	0.3938	0.0081	-1.0283	0.1011	3.1591	0.2588	-0.7317	0.0760
2	225	0.1949	-0.0601	0.0010	-0.0159	0.0009	0.0516	0.0044	-0.1987	0.0290
2	225	0.2405	-0.0317	0.0012	-0.0049	0.0025	0.0819	0.0085	-0.4979	0.0397
2	225	0.2999	0.0202	0.0015	-0.0559	0.0054	0.1708	0.0172	-0.5831	0.0650
2	225	0.3498	0.0521	0.0017	-0.0824	0.0085	0.3098	0.0292	-0.5373	0.0579
2	225	0.3998	0.0925	0.0023	-0.1280	0.0140	0.4446	0.0445	-0.5578	0.0532
2	225	0.4496	0.1300	0.0025	-0.1744	0.0174	0.6308	0.0604	-0.5649	0.0694
2	225	0.4995	0.1588	0.0033	-0.2161	0.0221	0.8185	0.0797	-0.6534	0.0538
2	225	0.5551	0.2103	0.0032	-0.2621	0.0285	1.0877	0.1003	-0.5169	0.0668
2	225	0.5996	0.2524	0.0036	-0.3078	0.0334	1.2999	0.1183	-0.6160	0.0636
2	225	0.6497	0.3044	0.0039	-0.3553	0.0407	1.6008	0.1381	-0.5636	0.0709
2	225	0.6996	0.3276	0.0047	-0.4134	0.0469	1.9419	0.1576	-0.6307	0.0828
2	225	0.7495	0.3694	0.0050	-0.4639	0.0550	2.3280	0.1770	-0.6643	0.0742
2	225	0.7996	0.3960	0.0054	-0.5052	0.0626	2.7668	0.1964	-0.7855	0.0747
2	225	0.8578	0.4224	0.0064	-0.5533	0.0716	3.2809	0.2204	-0.7209	0.0770
2	225	0.9100	0.4080	0.0070	-0.5863	0.0801	3.7705	0.2442	-0.6627	0.0796
2	225	0.9727	0.4091	0.0100	-0.5968	0.0902	4.4349	0.2774	-0.4286	0.0803
3	225	0.1938	-0.0726	0.0014	-0.0198	0.0012	0.0831	0.0063	-0.1711	0.0375
3	225	0.2357	-0.0251	0.0015	0.0055	0.0032	0.0721	0.0111	-0.4651	0.0459
3	225	0.2995	0.0246	0.0017	-0.0524	0.0072	0.2587	0.0240	-0.5340	0.0830
3	225	0.3493	0.0665	0.0020	-0.0794	0.0117	0.4192	0.0404	-0.5318	0.0699
3	225	0.4000	0.1014	0.0029	-0.1158	0.0193	0.6198	0.0613	-0.3637	0.0687
3	225	0.4497	0.1416	0.0028	-0.1561	0.0242	0.8180	0.0851	-0.5099	0.0713
3	225	0.4997	0.1732	0.0033	-0.1936	0.0315	1.0477	0.1113	-0.5729	0.0639
3	225	0.5556	0.2232	0.0038	-0.2227	0.0410	1.3498	0.1434	-0.4437	0.0839
3	225	0.5995	0.2678	0.0050	-0.2511	0.0484	1.5828	0.1671	-0.5365	0.0660
3	225	0.6498	0.3066	0.0051	-0.3006	0.0571	1.9093	0.1944	-0.4995	0.0793
3	225	0.6890	0.3227	0.0060	-0.3321	0.0643	2.1781	0.2168	-0.4057	0.0770
3	225	0.7495	0.3709	0.0070	-0.3726	0.0766	2.6308	0.2535	-0.4338	0.0737
3	225	0.7998	0.3961	0.0081	-0.4032	0.0866	3.0322	0.2855	-0.5297	0.0729
3	225	0.8577	0.4384	0.0090	-0.3999	0.0988	3.4992	0.3267	-0.4076	0.0761
3	225	0.9178	0.4454	0.0105	-0.4179	0.1117	3.9302	0.3739	-0.7393	0.0776
3	225	0.9729	0.4485	0.0150	-0.4659	0.1233	4.3559	0.4193	-0.8581	0.0809
4	225	0.2001	-0.0585	0.0012	-0.0026	0.0009	0.0151	0.0039	0.1277	0.0375
4	225	0.2502	-0.0043	0.0012	0.0093	0.0027	0.0450	0.0092	0.1808	0.0409
4	225	0.3001	0.0279	0.0013	0.0006	0.0040	0.0842	0.0143	0.2874	0.0772
4	225	0.3502	0.0497	0.0016	0.0029	0.0076	0.1245	0.0249	0.1579	0.0754
4	225	0.4002	0.0876	0.0025	0.0110	0.0117	0.2156	0.0379	0.2849	0.0771
4	225	0.4500	0.1280	0.0024	0.0166	0.0144	0.2896	0.0517	0.0732	0.0670
4	225	0.5001	0.1680	0.0028	0.0219	0.0176	0.4114	0.0678	0.2482	0.0629
4	225	0.5560	0.2148	0.0036	0.0384	0.0237	0.5110	0.0898	0.0816	0.0840
4	225	0.6001	0.2558	0.0033	0.0459	0.0271	0.6577	0.1065	0.0999	0.0730
4	225	0.6501	0.2827	0.0032	0.0294	0.0318	0.8392	0.1238	0.2000	0.0834
4	225	0.6999	0.3297	0.0035	0.0133	0.0382	1.0423	0.1458	0.2085	0.0864
4	225	0.7500	0.3563	0.0037	0.0129	0.0435	1.3186	0.1648	0.4015	0.0724
4	225	0.8002	0.3866	0.0042	0.0227	0.0495	1.5676	0.1880	0.3424	0.0735
4	225	0.8582	0.4202	0.0046	0.0237	0.0566	1.8560	0.2193	-0.0263	0.0771
4	225	0.9101	0.4272	0.0054	0.0292	0.0630	2.1342	0.2525	0.0866	0.0769
4	225	0.9728	0.4726	0.0082	0.0611	0.0710	2.5417	0.2967	0.3283	0.0792

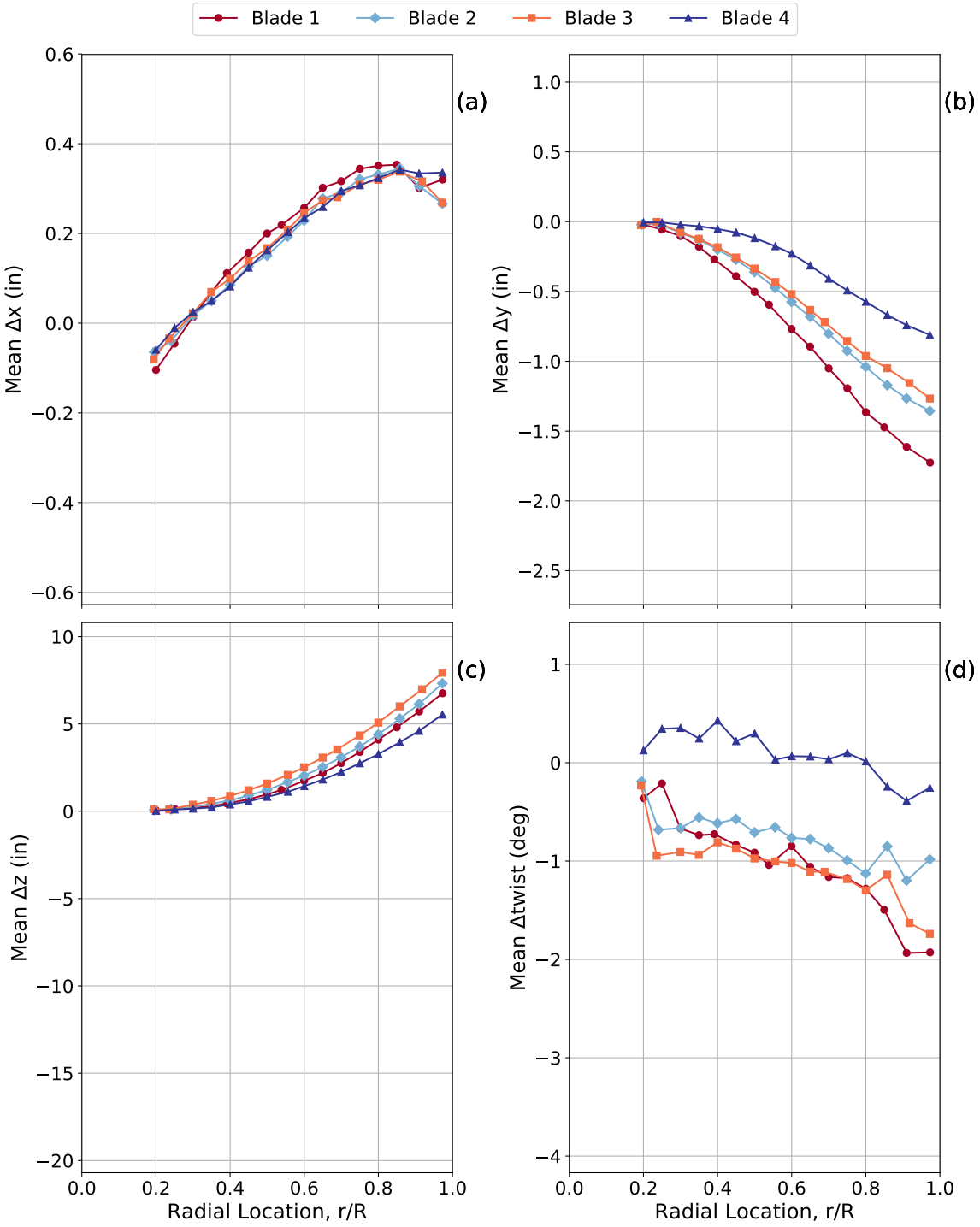


Figure 2.16-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.1041	0.0107	-0.0201	0.0053	0.0513	0.0186	-0.3608	0.0798
1	240.12	0.2499	-0.0455	0.0016	-0.0569	0.0055	0.1469	0.0227	-0.2108	0.2024
1	240.12	0.2998	0.0137	0.0025	-0.1028	0.0189	0.1855	0.0478	-0.6684	0.2072
1	240.12	0.3498	0.0695	0.0027	-0.1798	0.0323	0.2928	0.0741	-0.7363	0.2053
1	240.12	0.3913	0.1116	0.0029	-0.2692	0.0441	0.4397	0.0971	-0.7269	0.2005
1	240.12	0.4496	0.1572	0.0047	-0.3904	0.0595	0.6856	0.1301	-0.8349	0.2039
1	240.12	0.4997	0.2000	0.0051	-0.5022	0.0730	0.9636	0.1601	-0.9145	0.1964
1	240.12	0.5387	0.2188	0.0055	-0.5948	0.0827	1.2243	0.1825	-1.0401	0.1992
1	240.12	0.5996	0.2569	0.0069	-0.7686	0.0996	1.7432	0.2176	-0.8483	0.1993
1	240.12	0.6498	0.3019	0.0086	-0.8952	0.1130	2.1886	0.2470	-1.0590	0.2042
1	240.12	0.6998	0.3165	0.0096	-1.0505	0.1266	2.7573	0.2749	-1.1621	0.1946
1	240.12	0.7500	0.3441	0.0111	-1.1935	0.1397	3.3935	0.3021	-1.1740	0.1993
1	240.12	0.8001	0.3509	0.0128	-1.3645	0.1533	4.1007	0.3298	-1.2812	0.2060
1	240.12	0.8497	0.3532	0.0142	-1.4726	0.1670	4.8038	0.3598	-1.4957	0.2027
1	240.12	0.9102	0.3014	0.0166	-1.6135	0.1838	5.7127	0.3973	-1.9337	0.2059
1	240.12	0.9734	0.3201	0.0242	-1.7258	0.2015	6.7546	0.4408	-1.9280	0.2052
2	240.12	0.1949	-0.0644	0.0020	-0.0211	0.0011	0.0751	0.0055	-0.1895	0.0275
2	240.12	0.2405	-0.0395	0.0010	-0.0152	0.0033	0.1143	0.0095	-0.6820	0.0504
2	240.12	0.2999	0.0172	0.0029	-0.0805	0.0062	0.2462	0.0209	-0.6645	0.0678
2	240.12	0.3498	0.0499	0.0024	-0.1296	0.0104	0.4263	0.0303	-0.5578	0.0742
2	240.12	0.3998	0.0852	0.0023	-0.1992	0.0173	0.6186	0.0487	-0.6157	0.0779
2	240.12	0.4496	0.1263	0.0020	-0.2728	0.0200	0.8966	0.0616	-0.5728	0.0634
2	240.12	0.4995	0.1506	0.0023	-0.3605	0.0247	1.2180	0.0775	-0.7081	0.0649
2	240.12	0.5551	0.1932	0.0029	-0.4732	0.0296	1.6662	0.0996	-0.6565	0.0665
2	240.12	0.5996	0.2286	0.0035	-0.5740	0.0336	2.0416	0.1203	-0.7640	0.0778
2	240.12	0.6497	0.2780	0.0045	-0.6812	0.0391	2.5343	0.1427	-0.7762	0.0807
2	240.12	0.6996	0.2909	0.0052	-0.8030	0.0443	3.0917	0.1658	-0.8692	0.0762
2	240.12	0.7495	0.3208	0.0062	-0.9250	0.0499	3.6994	0.1911	-0.9930	0.0709
2	240.12	0.7996	0.3312	0.0071	-1.0396	0.0555	4.3961	0.2178	-1.1271	0.0719
2	240.12	0.8578	0.3448	0.0089	-1.1716	0.0623	5.3006	0.2496	-0.8502	0.0735
2	240.12	0.9100	0.3059	0.0105	-1.2660	0.0684	6.1409	0.2792	-1.1976	0.0769
2	240.12	0.9727	0.2664	0.0145	-1.3563	0.0757	7.3175	0.3158	-0.9828	0.0809
3	240.12	0.1938	-0.0806	0.0020	-0.0246	0.0012	0.1226	0.0052	-0.2311	0.0258
3	240.12	0.2357	-0.0341	0.0015	-0.0025	0.0029	0.1060	0.0067	-0.9459	0.0482
3	240.12	0.2995	0.0221	0.0022	-0.0762	0.0062	0.3743	0.0168	-0.9075	0.0625
3	240.12	0.3493	0.0695	0.0023	-0.1233	0.0105	0.5887	0.0275	-0.9374	0.0607
3	240.12	0.4000	0.0992	0.0021	-0.1838	0.0171	0.8735	0.0415	-0.8091	0.0543
3	240.12	0.4497	0.1380	0.0023	-0.2566	0.0212	1.2037	0.0565	-0.8738	0.0564
3	240.12	0.4997	0.1671	0.0036	-0.3362	0.0259	1.5847	0.0747	-0.9736	0.0599
3	240.12	0.5556	0.2087	0.0035	-0.4329	0.0336	2.0828	0.0973	-1.0042	0.0665
3	240.12	0.5995	0.2457	0.0035	-0.5191	0.0385	2.5160	0.1164	-1.0196	0.0751
3	240.12	0.6498	0.2735	0.0046	-0.6323	0.0460	3.0710	0.1399	-1.1083	0.0675
3	240.12	0.6890	0.2807	0.0050	-0.7196	0.0512	3.5384	0.1591	-1.1102	0.0714
3	240.12	0.7495	0.3090	0.0063	-0.8554	0.0608	4.3400	0.1913	-1.1826	0.0715
3	240.12	0.7998	0.3197	0.0071	-0.9622	0.0691	5.0758	0.2181	-1.2966	0.0729
3	240.12	0.8577	0.3377	0.0085	-1.0494	0.0788	6.0066	0.2484	-1.1390	0.0697
3	240.12	0.9178	0.3161	0.0103	-1.1566	0.0892	6.9778	0.2777	-1.6312	0.0739
3	240.12	0.9729	0.2686	0.0129	-1.2668	0.0991	7.9304	0.3046	-1.7404	0.0790
4	240.12	0.2001	-0.0591	0.0014	-0.0052	0.0009	0.0248	0.0046	0.1256	0.0247
4	240.12	0.2502	-0.0106	0.0014	-0.0059	0.0025	0.0996	0.0090	0.3452	0.0319
4	240.12	0.3001	0.0250	0.0022	-0.0217	0.0038	0.1492	0.0178	0.3529	0.0520
4	240.12	0.3502	0.0498	0.0021	-0.0329	0.0076	0.2191	0.0276	0.2455	0.0528
4	240.12	0.4002	0.0819	0.0017	-0.0525	0.0111	0.3880	0.0437	0.4286	0.0558
4	240.12	0.4500	0.1238	0.0021	-0.0775	0.0137	0.5652	0.0593	0.2187	0.0504
4	240.12	0.5001	0.1624	0.0017	-0.1178	0.0175	0.8228	0.0807	0.2982	0.0566
4	240.12	0.5560	0.2029	0.0027	-0.1756	0.0222	1.1153	0.1059	0.0316	0.0654
4	240.12	0.6001	0.2341	0.0028	-0.2295	0.0258	1.4406	0.1276	0.0660	0.0623
4	240.12	0.6501	0.2590	0.0031	-0.3142	0.0303	1.8157	0.1532	0.0631	0.0644
4	240.12	0.6999	0.2945	0.0041	-0.4085	0.0348	2.2472	0.1792	0.0348	0.0723
4	240.12	0.7500	0.3073	0.0049	-0.4922	0.0398	2.7476	0.2078	0.0989	0.0712
4	240.12	0.8002	0.3237	0.0055	-0.5735	0.0450	3.2718	0.2358	0.0135	0.0683
4	240.12	0.8582	0.3422	0.0069	-0.6684	0.0513	3.9495	0.2684	-0.2430	0.0636
4	240.12	0.9101	0.3337	0.0085	-0.7420	0.0569	4.6003	0.2975	-0.3881	0.0653
4	240.12	0.9728	0.3357	0.0112	-0.8114	0.0640	5.5374	0.3326	-0.2553	0.0700

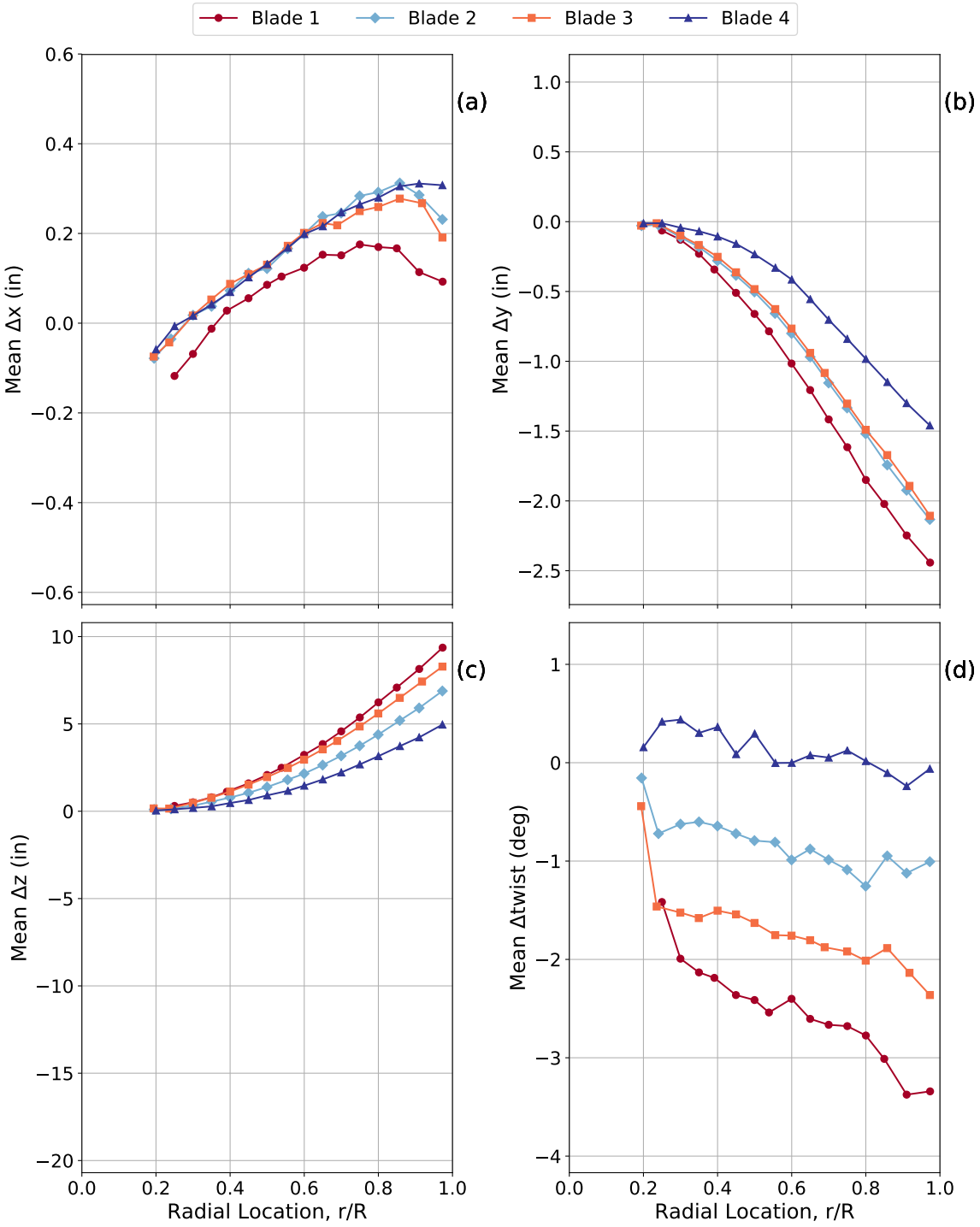


Figure 2.16-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2499	-0.1176	0.0037	-0.0635	0.0033	0.3055	0.0197	-1.4164	0.1160
1	254.88	0.2998	-0.0686	0.0030	-0.1294	0.0061	0.5123	0.0314	-1.9925	0.1638
1	254.88	0.3498	-0.0123	0.0038	-0.2300	0.0119	0.7986	0.0525	-2.1320	0.1566
1	254.88	0.3913	0.0280	0.0040	-0.3426	0.0170	1.1188	0.0718	-2.1875	0.1602
1	254.88	0.4496	0.0556	0.0055	-0.5098	0.0232	1.5958	0.1003	-2.3622	0.1564
1	254.88	0.4997	0.0855	0.0063	-0.6609	0.0287	2.0778	0.1259	-2.4130	0.1642
1	254.88	0.5387	0.1039	0.0072	-0.7852	0.0342	2.4883	0.1463	-2.5396	0.1656
1	254.88	0.5996	0.1236	0.0084	-1.0159	0.0422	3.2256	0.1823	-2.4007	0.1663
1	254.88	0.6498	0.1526	0.0101	-1.2061	0.0499	3.8451	0.2139	-2.6046	0.1654
1	254.88	0.6998	0.1513	0.0115	-1.4164	0.0575	4.5757	0.2471	-2.6647	0.1658
1	254.88	0.7500	0.1754	0.0132	-1.6155	0.0653	5.3704	0.2813	-2.6783	0.1692
1	254.88	0.8001	0.1697	0.0151	-1.8500	0.0737	6.2355	0.3158	-2.7738	0.1736
1	254.88	0.8497	0.1668	0.0166	-2.0220	0.0819	7.0821	0.3513	-3.0112	0.1738
1	254.88	0.9102	0.1138	0.0194	-2.2474	0.0923	8.1457	0.3933	-3.3750	0.1693
1	254.88	0.9734	0.0925	0.0244	-2.4419	0.1033	9.3679	0.4394	-3.3417	0.1701
2	254.88	0.1949	-0.0783	0.0035	-0.0287	0.0014	0.1026	0.0063	-0.1553	0.0376
2	254.88	0.2405	-0.0353	0.0017	-0.0236	0.0019	0.1394	0.0106	-0.7210	0.0839
2	254.88	0.2999	0.0177	0.0014	-0.1117	0.0045	0.3203	0.0219	-0.6245	0.0990
2	254.88	0.3498	0.0376	0.0020	-0.1819	0.0074	0.5452	0.0357	-0.6017	0.0994
2	254.88	0.3998	0.0727	0.0019	-0.2795	0.0113	0.7849	0.0548	-0.6440	0.1010
2	254.88	0.4496	0.1112	0.0022	-0.3846	0.0140	1.0539	0.0757	-0.7209	0.1055
2	254.88	0.4995	0.1217	0.0026	-0.5034	0.0182	1.3858	0.1022	-0.7923	0.1108
2	254.88	0.5551	0.1661	0.0029	-0.6573	0.0227	1.8039	0.1361	-0.8081	0.1111
2	254.88	0.5996	0.1990	0.0041	-0.8003	0.0264	2.1540	0.1664	-0.9882	0.1143
2	254.88	0.6497	0.2378	0.0046	-0.9691	0.0310	2.6439	0.2017	-0.8782	0.1132
2	254.88	0.6996	0.2454	0.0061	-1.1552	0.0356	3.1733	0.2376	-0.9870	0.1170
2	254.88	0.7495	0.2836	0.0077	-1.3343	0.0407	3.7473	0.2731	-1.0880	0.1189
2	254.88	0.7996	0.2920	0.0096	-1.5191	0.0458	4.3865	0.3074	-1.2554	0.1205
2	254.88	0.8578	0.3123	0.0116	-1.7428	0.0519	5.1955	0.3464	-0.9480	0.1209
2	254.88	0.9100	0.2856	0.0137	-1.9239	0.0576	5.9116	0.3823	-1.1229	0.1233
2	254.88	0.9727	0.2313	0.0179	-2.1332	0.0643	6.8861	0.4244	-1.0064	0.1230
3	254.88	0.1938	-0.0744	0.0077	-0.0283	0.0025	0.1621	0.0123	-0.4419	0.0440
3	254.88	0.2357	-0.0429	0.0017	-0.0113	0.0024	0.1529	0.0121	-1.4621	0.1500
3	254.88	0.2995	0.0170	0.0017	-0.0985	0.0079	0.4807	0.0326	-1.5237	0.1506
3	254.88	0.3493	0.0527	0.0020	-0.1672	0.0137	0.7736	0.0532	-1.5796	0.1429
3	254.88	0.4000	0.0876	0.0030	-0.2519	0.0203	1.1293	0.0763	-1.5044	0.1425
3	254.88	0.4497	0.1095	0.0033	-0.3626	0.0261	1.5240	0.1001	-1.5422	0.1436
3	254.88	0.4997	0.1304	0.0045	-0.4831	0.0322	1.9565	0.1285	-1.6293	0.1404
3	254.88	0.5556	0.1724	0.0055	-0.6262	0.0405	2.4801	0.1613	-1.7528	0.1419
3	254.88	0.5995	0.2013	0.0069	-0.7658	0.0470	2.9537	0.1897	-1.7582	0.1402
3	254.88	0.6498	0.2231	0.0083	-0.9400	0.0553	3.5434	0.2228	-1.8049	0.1389
3	254.88	0.6890	0.2182	0.0097	-1.0835	0.0620	4.0262	0.2473	-1.8762	0.1448
3	254.88	0.7495	0.2498	0.0119	-1.3032	0.0730	4.8541	0.2856	-1.9192	0.1410
3	254.88	0.7998	0.2591	0.0138	-1.4908	0.0830	5.5983	0.3150	-2.0127	0.1434
3	254.88	0.8577	0.2777	0.0155	-1.6720	0.0952	6.4924	0.3471	-1.8851	0.1470
3	254.88	0.9178	0.2674	0.0177	-1.8924	0.1084	7.4272	0.3797	-2.1364	0.1476
3	254.88	0.9729	0.1909	0.0225	-2.1064	0.1210	8.2828	0.4102	-2.3621	0.1539
4	254.88	0.2001	-0.0584	0.0023	-0.0115	0.0011	0.0404	0.0067	0.1575	0.0302
4	254.88	0.2502	-0.0067	0.0015	-0.0113	0.0028	0.1113	0.0131	0.4174	0.0721
4	254.88	0.3001	0.0166	0.0014	-0.0435	0.0049	0.1884	0.0241	0.4382	0.0762
4	254.88	0.3502	0.0419	0.0016	-0.0689	0.0089	0.2803	0.0400	0.3031	0.0777
4	254.88	0.4002	0.0694	0.0017	-0.1062	0.0139	0.4715	0.0613	0.3632	0.0817
4	254.88	0.4500	0.1021	0.0020	-0.1589	0.0184	0.6440	0.0862	0.0868	0.0828
4	254.88	0.5001	0.1317	0.0026	-0.2339	0.0243	0.9100	0.1162	0.2953	0.0810
4	254.88	0.5560	0.1682	0.0034	-0.3303	0.0322	1.1701	0.1538	-0.0030	0.0959
4	254.88	0.6001	0.1986	0.0041	-0.4149	0.0389	1.4645	0.1859	-0.0014	0.0892
4	254.88	0.6501	0.2160	0.0053	-0.5552	0.0472	1.8213	0.2222	0.0757	0.0941
4	254.88	0.6999	0.2470	0.0065	-0.7029	0.0559	2.2206	0.2577	0.0521	0.0992
4	254.88	0.7500	0.2648	0.0080	-0.8400	0.0652	2.6819	0.2911	0.1245	0.1016
4	254.88	0.8002	0.2799	0.0093	-0.9831	0.0753	3.1560	0.3224	0.0165	0.1002
4	254.88	0.8582	0.3051	0.0108	-1.1491	0.0872	3.7304	0.3562	-0.1045	0.1040
4	254.88	0.9101	0.3112	0.0122	-1.3000	0.0985	4.2305	0.3868	-0.2380	0.1006
4	254.88	0.9728	0.3075	0.0166	-1.4597	0.1123	4.9603	0.4254	-0.0619	0.1048

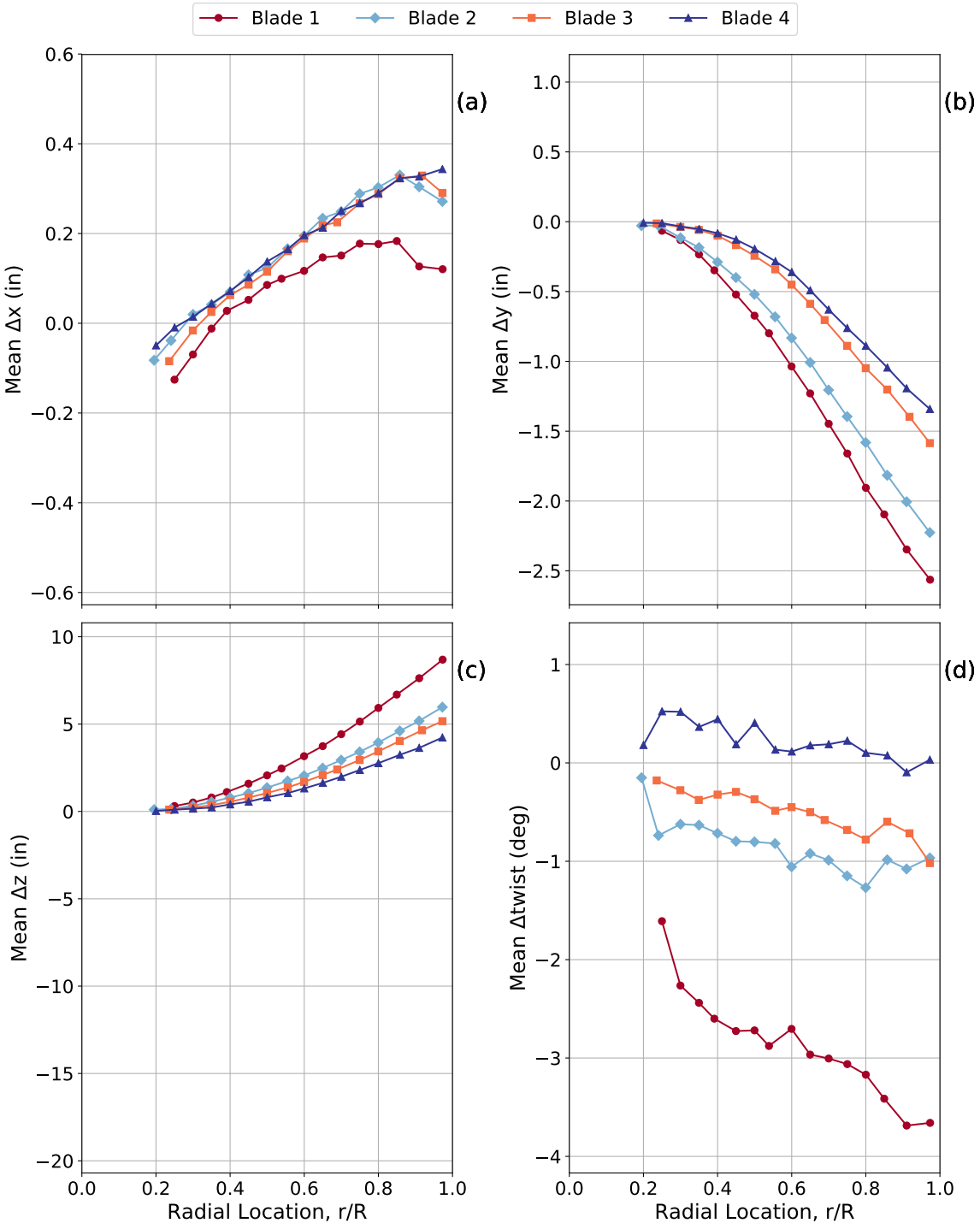


Figure 2.16-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2499	-0.1257	0.0057	-0.0647	0.0036	0.3090	0.0289	-1.6089	0.1584
1	260.16	0.2998	-0.0696	0.0038	-0.1310	0.0070	0.5108	0.0467	-2.2635	0.2229
1	260.16	0.3498	-0.0119	0.0045	-0.2340	0.0131	0.7981	0.0775	-2.4390	0.2188
1	260.16	0.3913	0.0277	0.0052	-0.3479	0.0191	1.1105	0.1065	-2.6003	0.2155
1	260.16	0.4496	0.0521	0.0066	-0.5213	0.0255	1.5896	0.1491	-2.7260	0.2202
1	260.16	0.4997	0.0853	0.0080	-0.6729	0.0327	2.0638	0.1904	-2.7192	0.2185
1	260.16	0.5387	0.0992	0.0092	-0.7989	0.0375	2.4579	0.2235	-2.8773	0.2226
1	260.16	0.5996	0.1168	0.0118	-1.0363	0.0458	3.1634	0.2795	-2.7041	0.2280
1	260.16	0.6498	0.1467	0.0140	-1.2296	0.0529	3.7367	0.3282	-2.9654	0.2309
1	260.16	0.6998	0.1509	0.0164	-1.4470	0.0600	4.4206	0.3771	-3.0051	0.2349
1	260.16	0.7500	0.1774	0.0189	-1.6598	0.0676	5.1445	0.4265	-3.0619	0.2384
1	260.16	0.8001	0.1764	0.0214	-1.9057	0.0753	5.9263	0.4750	-3.1697	0.2372
1	260.16	0.8497	0.1833	0.0239	-2.0958	0.0836	6.6881	0.5226	-3.4133	0.2370
1	260.16	0.9102	0.1266	0.0274	-2.3469	0.0943	7.6254	0.5810	-3.6867	0.2370
1	260.16	0.9734	0.1205	0.0343	-2.5635	0.1056	8.6882	0.6435	-3.6593	0.2369
2	260.16	0.1949	-0.0824	0.0088	-0.0282	0.0032	0.1046	0.0162	-0.1507	0.0696
2	260.16	0.2405	-0.0385	0.0024	-0.0267	0.0026	0.1404	0.0145	-0.7376	0.2118
2	260.16	0.2999	0.0197	0.0019	-0.1153	0.0101	0.3257	0.0420	-0.6233	0.2160
2	260.16	0.3498	0.0417	0.0021	-0.1849	0.0179	0.5489	0.0690	-0.6325	0.2135
2	260.16	0.3998	0.0697	0.0027	-0.2888	0.0258	0.7920	0.0958	-0.7158	0.2178
2	260.16	0.4496	0.1079	0.0031	-0.3999	0.0341	1.0455	0.1232	-0.7972	0.2140
2	260.16	0.4995	0.1232	0.0041	-0.5199	0.0425	1.3622	0.1513	-0.8027	0.2157
2	260.16	0.5551	0.1661	0.0048	-0.6808	0.0529	1.7435	0.1847	-0.8198	0.2176
2	260.16	0.5996	0.1949	0.0058	-0.8324	0.0614	2.0466	0.2134	-1.0566	0.2183
2	260.16	0.6497	0.2340	0.0070	-1.0079	0.0712	2.4831	0.2476	-0.9208	0.2169
2	260.16	0.6996	0.2489	0.0084	-1.2052	0.0814	2.9409	0.2838	-0.9890	0.2194
2	260.16	0.7495	0.2885	0.0099	-1.3951	0.0920	3.4098	0.3211	-1.1486	0.2171
2	260.16	0.7996	0.3026	0.0113	-1.5811	0.1026	3.9415	0.3587	-1.2682	0.2181
2	260.16	0.8578	0.3303	0.0131	-1.8158	0.1151	4.6082	0.4026	-0.9851	0.2215
2	260.16	0.9100	0.3040	0.0150	-2.0053	0.1264	5.1805	0.4430	-1.0781	0.2233
2	260.16	0.9727	0.2714	0.0209	-2.2258	0.1395	5.9725	0.4928	-0.9659	0.2249
3	260.16	0.2357	-0.0845	0.0028	-0.0128	0.0021	0.1039	0.0143	-0.1785	0.0842
3	260.16	0.2995	-0.0161	0.0016	-0.0374	0.0052	0.2227	0.0286	-0.2779	0.1346
3	260.16	0.3493	0.0251	0.0016	-0.0586	0.0094	0.3578	0.0478	-0.3769	0.1375
3	260.16	0.4000	0.0627	0.0022	-0.0999	0.0148	0.5545	0.0718	-0.3223	0.1367
3	260.16	0.4497	0.0860	0.0032	-0.1675	0.0205	0.7911	0.0938	-0.2949	0.1447
3	260.16	0.4997	0.1147	0.0039	-0.2437	0.0268	1.0546	0.1199	-0.3694	0.1474
3	260.16	0.5556	0.1606	0.0043	-0.3413	0.0352	1.3760	0.1497	-0.4869	0.1430
3	260.16	0.5995	0.1889	0.0054	-0.4506	0.0423	1.6911	0.1747	-0.4501	0.1486
3	260.16	0.6498	0.2181	0.0062	-0.5879	0.0516	2.0821	0.2042	-0.5012	0.1498
3	260.16	0.6890	0.2250	0.0069	-0.7043	0.0588	2.4022	0.2300	-0.5810	0.1461
3	260.16	0.7495	0.2673	0.0082	-0.8889	0.0709	2.9441	0.2700	-0.6818	0.1505
3	260.16	0.7998	0.2879	0.0091	-1.0488	0.0818	3.4379	0.3051	-0.7801	0.1475
3	260.16	0.8577	0.3229	0.0104	-1.2018	0.0949	4.0350	0.3490	-0.5978	0.1480
3	260.16	0.9178	0.3291	0.0122	-1.3971	0.1091	4.6473	0.3981	-0.7154	0.1463
3	260.16	0.9729	0.2904	0.0163	-1.5853	0.1225	5.1666	0.4473	-1.0183	0.1445
4	260.16	0.2001	-0.0495	0.0032	-0.0080	0.0015	0.0279	0.0076	0.1814	0.0340
4	260.16	0.2502	-0.0095	0.0019	-0.0104	0.0024	0.1009	0.0105	0.5239	0.0983
4	260.16	0.3001	0.0143	0.0014	-0.0337	0.0054	0.1590	0.0225	0.5192	0.0902
4	260.16	0.3502	0.0436	0.0018	-0.0519	0.0096	0.2266	0.0369	0.3658	0.0897
4	260.16	0.4002	0.0719	0.0018	-0.0829	0.0143	0.4024	0.0540	0.4443	0.0933
4	260.16	0.4500	0.1027	0.0021	-0.1284	0.0181	0.5567	0.0722	0.1888	0.0952
4	260.16	0.5001	0.1376	0.0028	-0.1947	0.0232	0.8083	0.0932	0.4065	0.0922
4	260.16	0.5560	0.1650	0.0028	-0.2833	0.0293	1.0526	0.1187	0.1343	0.0967
4	260.16	0.6001	0.1961	0.0035	-0.3608	0.0347	1.3188	0.1409	0.1153	0.0981
4	260.16	0.6501	0.2129	0.0041	-0.4917	0.0413	1.6349	0.1664	0.1779	0.0996
4	260.16	0.6999	0.2502	0.0051	-0.6296	0.0479	1.9865	0.1913	0.1893	0.1025
4	260.16	0.7500	0.2678	0.0061	-0.7617	0.0554	2.3726	0.2172	0.2251	0.0986
4	260.16	0.8002	0.2898	0.0071	-0.8883	0.0635	2.7629	0.2423	0.1025	0.0988
4	260.16	0.8582	0.3232	0.0080	-1.0448	0.0735	3.2434	0.2712	0.0749	0.1004
4	260.16	0.9101	0.3269	0.0091	-1.1932	0.0827	3.6373	0.2979	-0.0958	0.0993
4	260.16	0.9728	0.3435	0.0131	-1.3414	0.0942	4.2314	0.3323	0.0317	0.0962

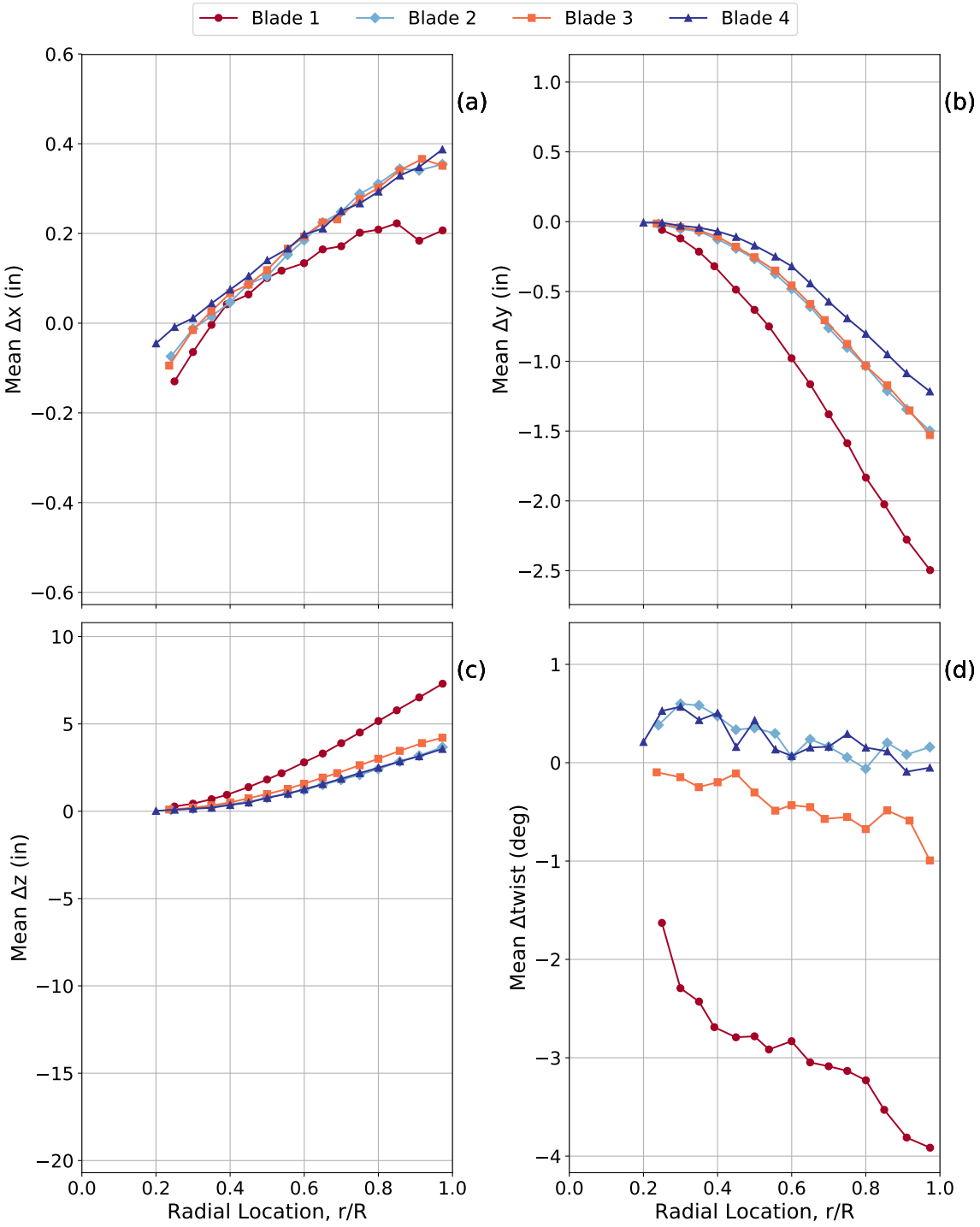


Figure 2.16-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2499	-0.1297	0.0105	-0.0590	0.0044	0.2728	0.0488	-1.6289	0.2933
1	265.08	0.2998	-0.0644	0.0043	-0.1199	0.0084	0.4350	0.0773	-2.2927	0.4123
1	265.08	0.3498	-0.0038	0.0053	-0.2147	0.0168	0.6904	0.1284	-2.4281	0.4121
1	265.08	0.3913	0.0422	0.0064	-0.3192	0.0241	0.9434	0.1746	-2.6892	0.4101
1	265.08	0.4496	0.0641	0.0084	-0.4870	0.0335	1.3825	0.2409	-2.7916	0.4113
1	265.08	0.4997	0.1006	0.0105	-0.6315	0.0425	1.8154	0.3013	-2.7820	0.4112
1	265.08	0.5387	0.1171	0.0122	-0.7506	0.0493	2.1749	0.3501	-2.9156	0.4085
1	265.08	0.5996	0.1338	0.0157	-0.9782	0.0599	2.7995	0.4280	-2.8314	0.4116
1	265.08	0.6498	0.1644	0.0184	-1.1643	0.0695	3.3052	0.4930	-3.0473	0.4072
1	265.08	0.6998	0.1715	0.0216	-1.3795	0.0796	3.8978	0.5576	-3.0865	0.4079
1	265.08	0.7500	0.2017	0.0247	-1.5871	0.0904	4.5107	0.6218	-3.1336	0.4094
1	265.08	0.8001	0.2086	0.0278	-1.8333	0.1017	5.1661	0.6860	-3.2293	0.4087
1	265.08	0.8497	0.2225	0.0308	-2.0245	0.1135	5.7780	0.7480	-3.5295	0.4066
1	265.08	0.9102	0.1839	0.0347	-2.2773	0.1282	6.5159	0.8240	-3.8110	0.4099
1	265.08	0.9734	0.2068	0.0444	-2.4959	0.1439	7.3034	0.9053	-3.9144	0.4084
2	265.08	0.2405	-0.0740	0.0055	-0.0170	0.0037	0.0845	0.0212	0.3822	0.1828
2	265.08	0.2999	-0.0124	0.0019	-0.0519	0.0077	0.1553	0.0381	0.5983	0.2811
2	265.08	0.3498	0.0154	0.0025	-0.0698	0.0148	0.2715	0.0669	0.5834	0.2716
2	265.08	0.3998	0.0466	0.0025	-0.1259	0.0225	0.4002	0.0976	0.4738	0.2780
2	265.08	0.4496	0.0871	0.0028	-0.1917	0.0303	0.5476	0.1298	0.3355	0.2795
2	265.08	0.4995	0.1046	0.0036	-0.2665	0.0391	0.7723	0.1658	0.3536	0.2762
2	265.08	0.5551	0.1527	0.0045	-0.3731	0.0496	1.0259	0.2064	0.2974	0.2768
2	265.08	0.5996	0.1850	0.0054	-0.4814	0.0589	1.2131	0.2397	0.0603	0.2821
2	265.08	0.6497	0.2244	0.0065	-0.6092	0.0698	1.5150	0.2780	0.2379	0.2861
2	265.08	0.6996	0.2479	0.0078	-0.7613	0.0812	1.8032	0.3165	0.1639	0.2887
2	265.08	0.7495	0.2882	0.0089	-0.9018	0.0929	2.0896	0.3550	0.0538	0.2918
2	265.08	0.7996	0.3104	0.0099	-1.0345	0.1050	2.4218	0.3928	-0.0613	0.2958
2	265.08	0.8578	0.3438	0.0112	-1.2109	0.1191	2.8437	0.4364	0.2017	0.2965
2	265.08	0.9100	0.3406	0.0126	-1.3439	0.1320	3.1862	0.4766	0.0834	0.2904
2	265.08	0.9727	0.3542	0.0189	-1.4978	0.1475	3.6718	0.5242	0.1590	0.2907
3	265.08	0.2357	-0.0945	0.0041	-0.0138	0.0026	0.0970	0.0169	-0.0974	0.1188
3	265.08	0.2995	-0.0153	0.0020	-0.0411	0.0069	0.2019	0.0341	-0.1474	0.1899
3	265.08	0.3493	0.0265	0.0023	-0.0623	0.0117	0.3293	0.0564	-0.2485	0.1877
3	265.08	0.4000	0.0669	0.0023	-0.1075	0.0189	0.5039	0.0852	-0.1987	0.1857
3	265.08	0.4497	0.0860	0.0031	-0.1798	0.0244	0.7425	0.1166	-0.1094	0.2045
3	265.08	0.4997	0.1182	0.0032	-0.2549	0.0313	0.9842	0.1467	-0.3029	0.1870
3	265.08	0.5556	0.1659	0.0041	-0.3506	0.0392	1.2809	0.1866	-0.4873	0.1882
3	265.08	0.5995	0.1932	0.0050	-0.4572	0.0464	1.5734	0.2206	-0.4322	0.1916
3	265.08	0.6498	0.2245	0.0063	-0.5897	0.0550	1.9256	0.2608	-0.4517	0.1912
3	265.08	0.6890	0.2314	0.0073	-0.7054	0.0622	2.1853	0.2934	-0.5713	0.1887
3	265.08	0.7495	0.2768	0.0089	-0.8756	0.0739	2.6323	0.3472	-0.5521	0.1863
3	265.08	0.7998	0.3018	0.0104	-1.0323	0.0843	3.0042	0.3933	-0.6746	0.1888
3	265.08	0.8577	0.3404	0.0118	-1.1722	0.0970	3.4576	0.4494	-0.4845	0.1883
3	265.08	0.9178	0.3659	0.0143	-1.3523	0.1104	3.9021	0.5093	-0.5877	0.1901
3	265.08	0.9729	0.3509	0.0197	-1.5280	0.1230	4.2121	0.5669	-0.9939	0.1886
4	265.08	0.2001	-0.0450	0.0076	-0.0068	0.0023	0.0240	0.0112	0.2109	0.0711
4	265.08	0.2502	-0.0084	0.0042	-0.0083	0.0029	0.0881	0.0139	0.5273	0.1584
4	265.08	0.3001	0.0113	0.0027	-0.0288	0.0072	0.1428	0.0307	0.5691	0.1680
4	265.08	0.3502	0.0443	0.0026	-0.0432	0.0123	0.1994	0.0498	0.4335	0.1587
4	265.08	0.4002	0.0749	0.0023	-0.0696	0.0179	0.3589	0.0711	0.5058	0.1596
4	265.08	0.4500	0.1050	0.0025	-0.1094	0.0231	0.4999	0.0952	0.1603	0.1609
4	265.08	0.5001	0.1404	0.0027	-0.1710	0.0282	0.7657	0.1195	0.4307	0.1607
4	265.08	0.5560	0.1662	0.0034	-0.2500	0.0355	1.0092	0.1514	0.1347	0.1595
4	265.08	0.6001	0.1979	0.0043	-0.3198	0.0415	1.2578	0.1791	0.0685	0.1588
4	265.08	0.6501	0.2110	0.0051	-0.4422	0.0489	1.5554	0.2096	0.1544	0.1632
4	265.08	0.6999	0.2498	0.0061	-0.5731	0.0569	1.8590	0.2423	0.1627	0.1571
4	265.08	0.7500	0.2670	0.0073	-0.6921	0.0655	2.1835	0.2746	0.2927	0.1548
4	265.08	0.8002	0.2933	0.0084	-0.8028	0.0746	2.4930	0.3063	0.1540	0.1593
4	265.08	0.8582	0.3291	0.0097	-0.9503	0.0859	2.8560	0.3427	0.1154	0.1586
4	265.08	0.9101	0.3480	0.0112	-1.0855	0.0966	3.1480	0.3749	-0.0914	0.1596
4	265.08	0.9728	0.3873	0.0162	-1.2161	0.1095	3.5662	0.4149	-0.0508	0.1575

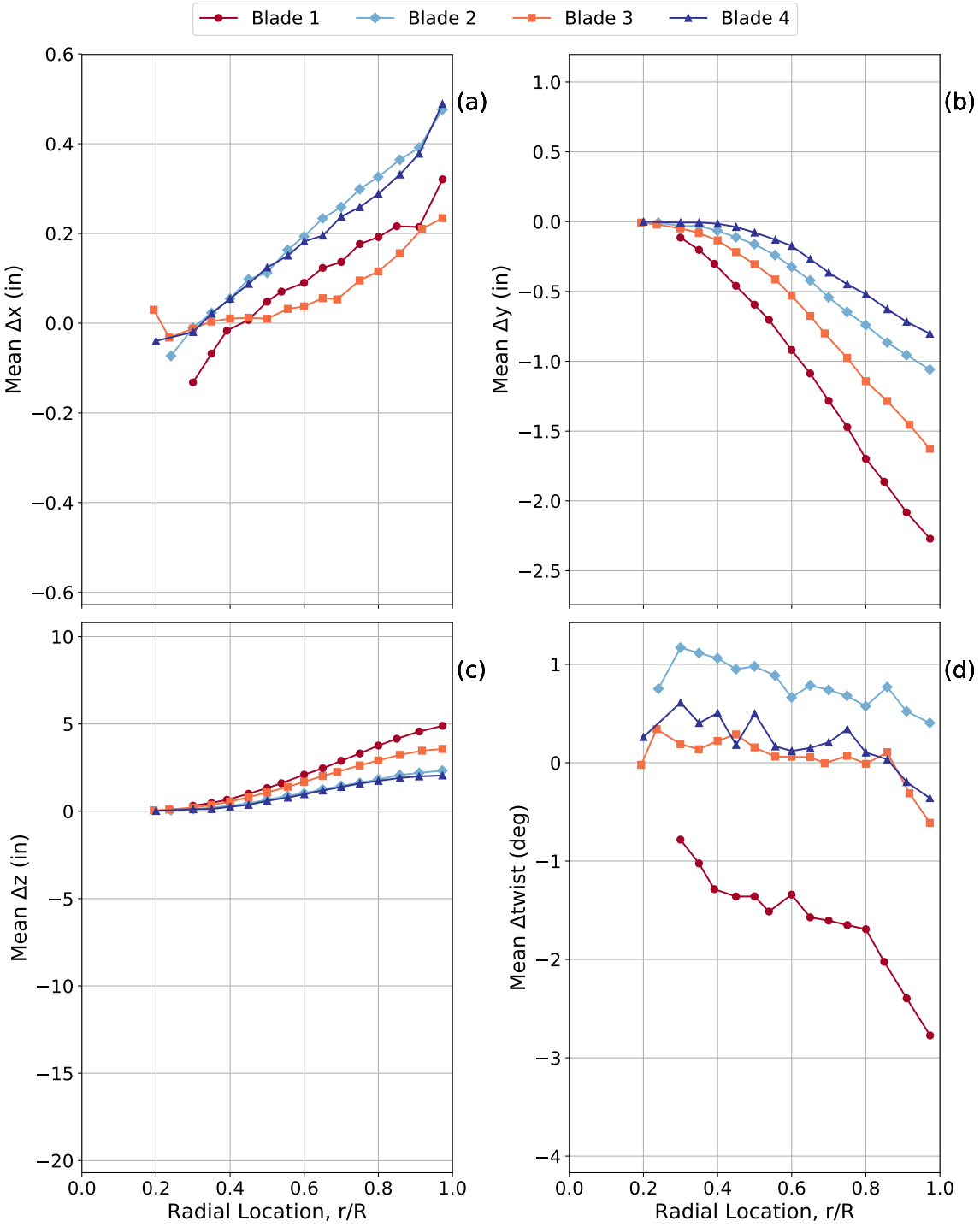


Figure 2.16-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2998	-0.1320	0.0124	-0.1142	0.0153	0.3138	0.1117	-0.7816	0.2897
1	270	0.3498	-0.0678	0.0089	-0.2019	0.0269	0.4773	0.1781	-1.0236	0.3806
1	270	0.3913	-0.0167	0.0121	-0.3014	0.0400	0.6547	0.2515	-1.2858	0.3675
1	270	0.4496	0.0073	0.0144	-0.4598	0.0558	0.9978	0.3465	-1.3601	0.3645
1	270	0.4997	0.0480	0.0169	-0.5945	0.0697	1.3320	0.4287	-1.3588	0.3623
1	270	0.5387	0.0704	0.0193	-0.7031	0.0806	1.6039	0.4932	-1.5128	0.3622
1	270	0.5996	0.0899	0.0225	-0.9191	0.0975	2.0952	0.5944	-1.3410	0.3648
1	270	0.6498	0.1231	0.0258	-1.0874	0.1118	2.4592	0.6797	-1.5729	0.3624
1	270	0.6998	0.1364	0.0286	-1.2828	0.1260	2.8878	0.7644	-1.6055	0.3611
1	270	0.7500	0.1764	0.0316	-1.4717	0.1401	3.3094	0.8507	-1.6508	0.3590
1	270	0.8001	0.1920	0.0348	-1.6991	0.1544	3.7619	0.9391	-1.6929	0.3578
1	270	0.8497	0.2161	0.0374	-1.8629	0.1692	4.1507	1.0267	-2.0244	0.3575
1	270	0.9102	0.2144	0.0413	-2.0829	0.1872	4.5642	1.1346	-2.3959	0.3596
1	270	0.9734	0.3206	0.0510	-2.2708	0.2068	4.8900	1.2513	-2.7733	0.3534
2	270.35	0.2405	-0.0729	0.0176	-0.0071	0.0102	0.0608	0.0624	0.7518	0.6288
2	270.35	0.2999	-0.0106	0.0065	-0.0314	0.0202	0.1232	0.1116	1.1700	0.9710
2	270.35	0.3498	0.0232	0.0060	-0.0303	0.0414	0.2033	0.2044	1.1150	0.9773
2	270.35	0.3998	0.0545	0.0055	-0.0656	0.0618	0.3123	0.2973	1.0626	0.9821
2	270.35	0.4496	0.0977	0.0055	-0.1116	0.0818	0.4436	0.3901	0.9508	0.9828
2	270.35	0.4995	0.1124	0.0057	-0.1618	0.1001	0.6602	0.4835	0.9796	0.9840
2	270.35	0.5551	0.1634	0.0068	-0.2398	0.1216	0.8766	0.5896	0.8861	0.9734
2	270.35	0.5996	0.1933	0.0081	-0.3236	0.1385	1.0311	0.6743	0.6631	0.9761
2	270.35	0.6497	0.2335	0.0095	-0.4209	0.1565	1.2600	0.7699	0.7855	0.9846
2	270.35	0.6996	0.2588	0.0109	-0.5425	0.1753	1.4533	0.8681	0.7395	0.9809
2	270.35	0.7495	0.2986	0.0125	-0.6463	0.1944	1.6319	0.9663	0.6802	0.9796
2	270.35	0.7996	0.3259	0.0137	-0.7411	0.2130	1.8301	1.0667	0.5741	0.9749
2	270.35	0.8578	0.3641	0.0156	-0.8657	0.2345	2.0767	1.1825	0.7696	0.9814
2	270.35	0.9100	0.3912	0.0173	-0.9558	0.2552	2.1973	1.2865	0.5224	0.9824
2	270.35	0.9727	0.4758	0.0257	-1.0587	0.2805	2.3274	1.4108	0.4049	0.9955
3	270	0.1938	0.0300	0.0067	-0.0070	0.0059	0.0513	0.0173	-0.0213	0.0505
3	270	0.2357	-0.0321	0.0035	-0.0204	0.0035	0.0973	0.0136	0.3408	0.0715
3	270	0.2995	-0.0121	0.0028	-0.0478	0.0162	0.2117	0.0441	0.1892	0.0958
3	270	0.3493	0.0036	0.0052	-0.0808	0.0292	0.3551	0.0729	0.1363	0.0808
3	270	0.4000	0.0104	0.0091	-0.1341	0.0413	0.5497	0.1019	0.2214	0.1061
3	270	0.4497	0.0121	0.0108	-0.2182	0.0534	0.7990	0.1318	0.2877	0.1117
3	270	0.4997	0.0100	0.0119	-0.3047	0.0664	1.0753	0.1634	0.1551	0.0983
3	270	0.5556	0.0318	0.0133	-0.4141	0.0800	1.3996	0.1982	0.0624	0.1005
3	270	0.5995	0.0374	0.0149	-0.5302	0.0914	1.6878	0.2273	0.0598	0.0982
3	270	0.6498	0.0557	0.0153	-0.6754	0.1045	2.0170	0.2599	0.0572	0.0970
3	270	0.6890	0.0531	0.0158	-0.8008	0.1151	2.2510	0.2859	-0.0056	0.0997
3	270	0.7495	0.0952	0.0156	-0.9757	0.1319	2.6244	0.3252	0.0699	0.1068
3	270	0.7998	0.1153	0.0147	-1.1431	0.1467	2.9065	0.3585	-0.0122	0.0999
3	270	0.8577	0.1559	0.0150	-1.2849	0.1642	3.2270	0.3967	0.1063	0.1082
3	270	0.9178	0.2103	0.0165	-1.4549	0.1842	3.4656	0.4376	-0.3113	0.1212
3	270	0.9729	0.2340	0.0198	-1.6271	0.2036	3.5658	0.4733	-0.6110	0.1253
4	270	0.2001	-0.0396	0.0111	-0.0005	0.0015	0.0172	0.0113	0.2606	0.1150
4	270	0.3001	-0.0197	0.0039	-0.0068	0.0069	0.1144	0.0377	0.6107	0.2648
4	270	0.3502	0.0214	0.0039	-0.0061	0.0138	0.1275	0.0666	0.4040	0.2623
4	270	0.4002	0.0546	0.0038	-0.0147	0.0208	0.2547	0.0982	0.5062	0.2669
4	270	0.4500	0.0876	0.0035	-0.0382	0.0285	0.3657	0.1321	0.1813	0.2637
4	270	0.5001	0.1243	0.0038	-0.0781	0.0366	0.5982	0.1676	0.5000	0.2674
4	270	0.5560	0.1507	0.0041	-0.1290	0.0469	0.7809	0.2119	0.1653	0.2654
4	270	0.6001	0.1822	0.0049	-0.1737	0.0559	0.9759	0.2485	0.1192	0.2652
4	270	0.6501	0.1953	0.0062	-0.2683	0.0671	1.1882	0.2910	0.1499	0.2686
4	270	0.6999	0.2375	0.0071	-0.3650	0.0792	1.3912	0.3348	0.2073	0.2730
4	270	0.7500	0.2586	0.0081	-0.4486	0.0921	1.5897	0.3780	0.3411	0.2754
4	270	0.8002	0.2886	0.0090	-0.5197	0.1059	1.7426	0.4225	0.1035	0.2762
4	270	0.8582	0.3314	0.0098	-0.6269	0.1227	1.9095	0.4709	0.0331	0.2769
4	270	0.9101	0.3777	0.0107	-0.7170	0.1383	1.9979	0.5133	-0.1962	0.2808
4	270	0.9728	0.4887	0.0158	-0.8026	0.1574	2.0504	0.5635	-0.3600	0.2844

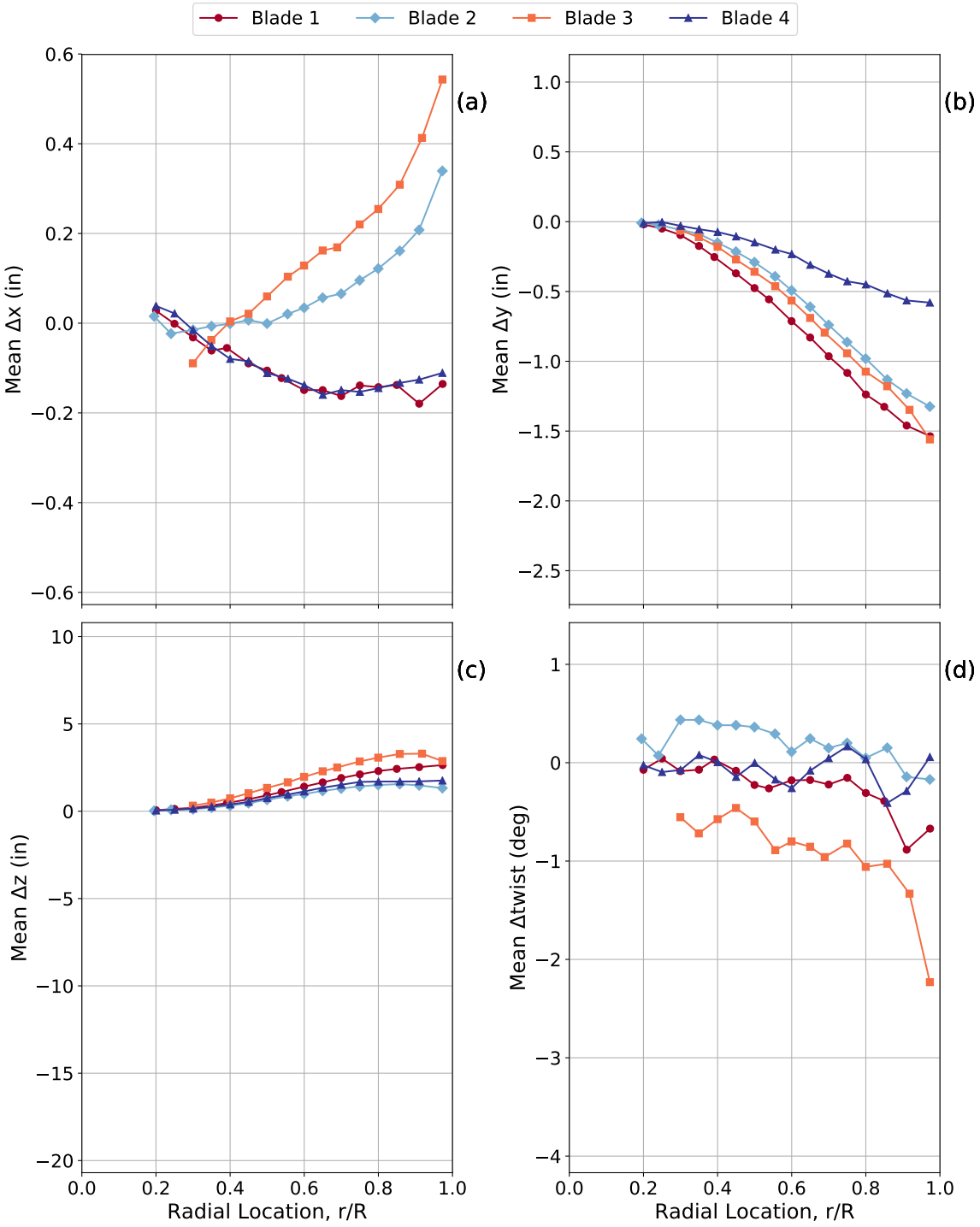


Figure 2.16-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0276	0.0015	-0.0198	0.0011	0.0593	0.0080	-0.0717	0.0331
1	274.92	0.2499	-0.0013	0.0012	-0.0495	0.0032	0.1347	0.0185	0.0429	0.0694
1	274.92	0.2998	-0.0318	0.0015	-0.0958	0.0060	0.1927	0.0334	-0.0857	0.0798
1	274.92	0.3498	-0.0610	0.0023	-0.1741	0.0103	0.3359	0.0488	-0.0710	0.1113
1	274.92	0.3913	-0.0553	0.0036	-0.2533	0.0156	0.4665	0.0760	0.0317	0.0481
1	274.92	0.4496	-0.0897	0.0042	-0.3702	0.0200	0.6873	0.0978	-0.0822	0.0948
1	274.92	0.4997	-0.1057	0.0062	-0.4755	0.0266	0.9097	0.1293	-0.2263	0.0584
1	274.92	0.5387	-0.1224	0.0041	-0.5566	0.0307	1.1000	0.1504	-0.2612	0.0774
1	274.92	0.5996	-0.1490	0.0058	-0.7124	0.0391	1.4083	0.1887	-0.1789	0.0809
1	274.92	0.6498	-0.1492	0.0068	-0.8297	0.0471	1.6514	0.2238	-0.1757	0.0642
1	274.92	0.6998	-0.1624	0.0078	-0.9638	0.0549	1.9031	0.2577	-0.2217	0.0769
1	274.92	0.7500	-0.1388	0.0090	-1.0835	0.0639	2.1116	0.2924	-0.1538	0.0892
1	274.92	0.8001	-0.1426	0.0099	-1.2379	0.0733	2.3029	0.3301	-0.3078	0.0888
1	274.92	0.8497	-0.1377	0.0102	-1.3261	0.0822	2.4255	0.3638	-0.3896	0.0868
1	274.92	0.9102	-0.1795	0.0120	-1.4604	0.0945	2.5266	0.4111	-0.8844	0.0970
1	274.92	0.9734	-0.1355	0.0159	-1.5370	0.1071	2.6437	0.4629	-0.6701	0.1029
2	274.92	0.1949	0.0153	0.0038	-0.0088	0.0013	0.0235	0.0080	0.2434	0.0952
2	274.92	0.2405	-0.0234	0.0032	-0.0234	0.0061	0.0859	0.0223	0.0725	0.1025
2	274.92	0.2999	-0.0149	0.0042	-0.0584	0.0061	0.1118	0.0282	0.4357	0.2045
2	274.92	0.3498	-0.0067	0.0039	-0.0875	0.0190	0.2067	0.0637	0.4352	0.1145
2	274.92	0.3998	-0.0012	0.0043	-0.1514	0.0253	0.3168	0.0870	0.3813	0.1219
2	274.92	0.4496	0.0067	0.0045	-0.2147	0.0314	0.4644	0.1109	0.3812	0.1240
2	274.92	0.4995	-0.0009	0.0047	-0.2906	0.0385	0.6564	0.1369	0.3622	0.1251
2	274.92	0.5551	0.0205	0.0055	-0.3920	0.0468	0.8546	0.1696	0.2933	0.1190
2	274.92	0.5996	0.0342	0.0053	-0.4925	0.0540	0.9852	0.1952	0.1116	0.1237
2	274.92	0.6497	0.0567	0.0057	-0.6098	0.0623	1.1662	0.2263	0.2451	0.1315
2	274.92	0.6996	0.0656	0.0068	-0.7400	0.0714	1.3013	0.2583	0.1491	0.1353
2	274.92	0.7495	0.0955	0.0074	-0.8624	0.0811	1.4223	0.2913	0.2002	0.1359
2	274.92	0.7996	0.1216	0.0081	-0.9812	0.0913	1.5010	0.3272	0.0481	0.1427
2	274.92	0.8578	0.1611	0.0082	-1.1314	0.1037	1.5555	0.3679	0.1514	0.1486
2	274.92	0.9100	0.2078	0.0089	-1.2310	0.1153	1.4814	0.4098	-0.1437	0.1512
2	274.92	0.9727	0.3393	0.0136	-1.3243	0.1300	1.3258	0.4618	-0.1704	0.1507
3	274.92	0.2995	-0.0895	0.0058	-0.0626	0.0093	0.3184	0.0803	-0.5540	0.2176
3	274.92	0.3493	-0.0375	0.0049	-0.1108	0.0163	0.4952	0.1279	-0.7189	0.2849
3	274.92	0.4000	0.0039	0.0064	-0.1799	0.0264	0.7389	0.1941	-0.5742	0.2713
3	274.92	0.4497	0.0210	0.0081	-0.2712	0.0353	1.0313	0.2527	-0.4602	0.2838
3	274.92	0.4997	0.0596	0.0093	-0.3589	0.0451	1.3350	0.3138	-0.5980	0.2791
3	274.92	0.5556	0.1036	0.0113	-0.4626	0.0572	1.6553	0.3845	-0.8892	0.2745
3	274.92	0.5995	0.1285	0.0126	-0.5651	0.0670	1.9682	0.4394	-0.8006	0.2738
3	274.92	0.6498	0.1620	0.0147	-0.6897	0.0791	2.2874	0.5028	-0.8548	0.2753
3	274.92	0.6890	0.1690	0.0161	-0.7946	0.0889	2.5073	0.5522	-0.9595	0.2748
3	274.92	0.7495	0.2201	0.0183	-0.9426	0.1048	2.8511	0.6277	-0.8228	0.2742
3	274.92	0.7998	0.2545	0.0197	-1.0742	0.1187	3.0711	0.6883	-1.0590	0.2792
3	274.92	0.8577	0.3086	0.0208	-1.1790	0.1353	3.2808	0.7602	-1.0273	0.2785
3	274.92	0.9178	0.4129	0.0220	-1.3476	0.1526	3.2973	0.8355	-1.3314	0.2706
3	274.92	0.9729	0.5431	0.0270	-1.5599	0.1688	2.8713	0.9064	-2.2311	0.2888
4	274.92	0.2001	0.0385	0.0033	-0.0102	0.0012	0.0418	0.0065	-0.0257	0.0312
4	274.92	0.2502	0.0216	0.0020	-0.0030	0.0032	0.0855	0.0154	-0.0951	0.0469
4	274.92	0.3001	-0.0155	0.0016	-0.0299	0.0055	0.1513	0.0242	-0.0740	0.0614
4	274.92	0.3502	-0.0509	0.0020	-0.0541	0.0095	0.2585	0.0419	0.0785	0.0592
4	274.92	0.4002	-0.0796	0.0069	-0.0741	0.0154	0.3924	0.0642	0.0053	0.0803
4	274.92	0.4500	-0.0850	0.0028	-0.1057	0.0179	0.5305	0.0783	-0.1441	0.0999
4	274.92	0.5001	-0.1113	0.0035	-0.1487	0.0223	0.7537	0.1054	-0.0019	0.0723
4	274.92	0.5560	-0.1237	0.0049	-0.2002	0.0292	0.9566	0.1412	-0.1710	0.0946
4	274.92	0.6001	-0.1381	0.0045	-0.2325	0.0349	1.1350	0.1675	-0.2586	0.0843
4	274.92	0.6501	-0.1597	0.0052	-0.3090	0.0410	1.3494	0.1984	-0.0799	0.0827
4	274.92	0.6999	-0.1492	0.0058	-0.3727	0.0485	1.5160	0.2328	0.0460	0.0948
4	274.92	0.7500	-0.1531	0.0066	-0.4274	0.0561	1.6798	0.2681	0.1666	0.1040
4	274.92	0.8002	-0.1447	0.0076	-0.4498	0.0645	1.6999	0.2991	0.0352	0.1019
4	274.92	0.8582	-0.1332	0.0085	-0.5140	0.0747	1.7015	0.3397	-0.4086	0.0905
4	274.92	0.9101	-0.1258	0.0092	-0.5643	0.0839	1.7103	0.3746	-0.2872	0.0957
4	274.92	0.9728	-0.1109	0.0123	-0.5799	0.0950	1.7573	0.4207	0.0573	0.1234

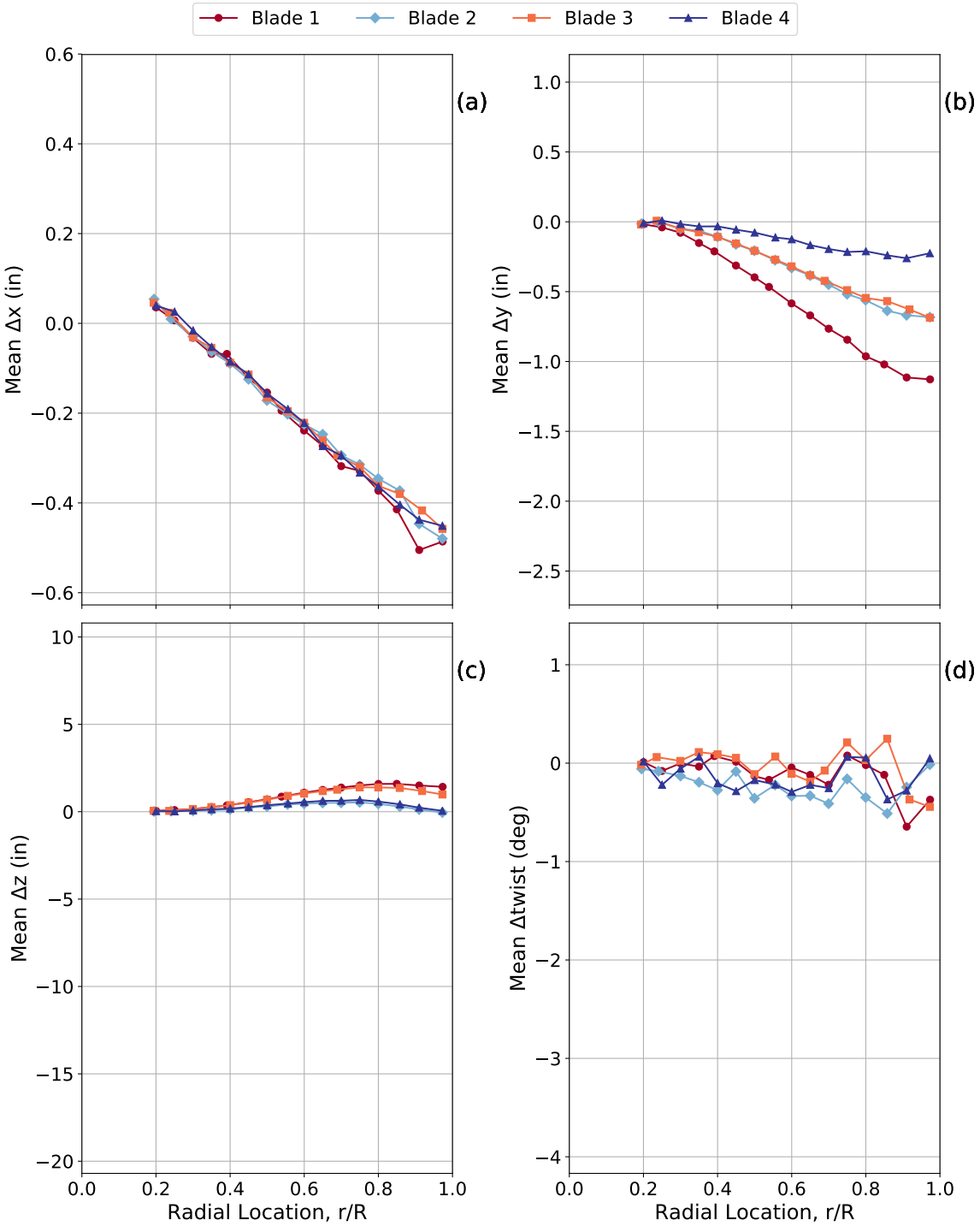


Figure 2.16-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0356	0.0027	-0.0180	0.0011	0.0531	0.0064	0.0102	0.0418
1	279.84	0.2499	0.0066	0.0025	-0.0399	0.0036	0.0952	0.0163	-0.0793	0.0535
1	279.84	0.2998	-0.0323	0.0025	-0.0785	0.0059	0.1552	0.0282	-0.0016	0.0862
1	279.84	0.3498	-0.0679	0.0022	-0.1518	0.0101	0.2667	0.0418	-0.0352	0.1083
1	279.84	0.3913	-0.0681	0.0038	-0.2117	0.0149	0.3577	0.0656	0.0719	0.0743
1	279.84	0.4496	-0.1220	0.0050	-0.3130	0.0218	0.5454	0.0876	0.0150	0.0898
1	279.84	0.4997	-0.1541	0.0049	-0.3975	0.0279	0.7100	0.1149	-0.1324	0.1127
1	279.84	0.5387	-0.1944	0.0053	-0.4660	0.0335	0.8635	0.1285	-0.1700	0.0874
1	279.84	0.5996	-0.2387	0.0078	-0.5842	0.0424	1.0901	0.1611	-0.0448	0.0816
1	279.84	0.6498	-0.2729	0.0071	-0.6702	0.0501	1.2462	0.1912	-0.1197	0.0990
1	279.84	0.6998	-0.3181	0.0082	-0.7652	0.0584	1.3820	0.2190	-0.2195	0.0914
1	279.84	0.7500	-0.3286	0.0083	-0.8444	0.0670	1.5030	0.2474	0.0772	0.0917
1	279.84	0.8001	-0.3728	0.0086	-0.9629	0.0760	1.5896	0.2756	-0.0194	0.1007
1	279.84	0.8497	-0.4143	0.0092	-1.0210	0.0853	1.5946	0.3118	-0.1186	0.1096
1	279.84	0.9102	-0.5049	0.0102	-1.1144	0.0971	1.5021	0.3576	-0.6454	0.1236
1	279.84	0.9734	-0.4860	0.0128	-1.1280	0.1082	1.4235	0.4085	-0.3714	0.1243
2	279.84	0.1949	0.0541	0.0024	-0.0136	0.0021	0.0180	0.0060	-0.0580	0.0587
2	279.84	0.2405	0.0098	0.0048	-0.0008	0.0039	0.0338	0.0128	-0.0821	0.0826
2	279.84	0.2999	-0.0296	0.0032	-0.0501	0.0078	0.0521	0.0273	-0.1307	0.1351
2	279.84	0.3498	-0.0629	0.0028	-0.0645	0.0117	0.0896	0.0386	-0.1937	0.1094
2	279.84	0.3998	-0.0894	0.0038	-0.1063	0.0186	0.1260	0.0633	-0.2744	0.1187
2	279.84	0.4496	-0.1245	0.0027	-0.1615	0.0235	0.2439	0.0775	-0.0847	0.1165
2	279.84	0.4995	-0.1717	0.0042	-0.2072	0.0283	0.2978	0.0990	-0.3571	0.1404
2	279.84	0.5551	-0.2023	0.0040	-0.2746	0.0339	0.4176	0.1247	-0.2213	0.1000
2	279.84	0.5996	-0.2248	0.0038	-0.3305	0.0395	0.4571	0.1485	-0.3342	0.1148
2	279.84	0.6497	-0.2472	0.0045	-0.3845	0.0451	0.5041	0.1747	-0.3312	0.1121
2	279.84	0.6996	-0.2939	0.0048	-0.4495	0.0510	0.5105	0.2019	-0.4119	0.1198
2	279.84	0.7495	-0.3145	0.0051	-0.5181	0.0576	0.5364	0.2302	-0.1605	0.1237
2	279.84	0.7996	-0.3459	0.0058	-0.5615	0.0639	0.4500	0.2601	-0.3488	0.1361
2	279.84	0.8578	-0.3728	0.0068	-0.6365	0.0723	0.2954	0.2991	-0.5121	0.1361
2	279.84	0.9100	-0.4466	0.0068	-0.6688	0.0793	0.1281	0.3339	-0.2443	0.1309
2	279.84	0.9727	-0.4795	0.0086	-0.6829	0.0884	-0.0448	0.3772	-0.0151	0.1383
3	279.84	0.1938	0.0458	0.0025	-0.0193	0.0015	0.0524	0.0066	-0.0167	0.0693
3	279.84	0.2357	0.0236	0.0028	0.0075	0.0031	0.0465	0.0185	0.0615	0.0586
3	279.84	0.2995	-0.0306	0.0029	-0.0491	0.0093	0.1540	0.0337	0.0225	0.1306
3	279.84	0.3493	-0.0545	0.0025	-0.0753	0.0099	0.2620	0.0500	0.1120	0.1313
3	279.84	0.4000	-0.0877	0.0034	-0.1081	0.0202	0.3756	0.0846	0.0904	0.0890
3	279.84	0.4497	-0.1142	0.0051	-0.1555	0.0253	0.5186	0.1121	0.0536	0.0929
3	279.84	0.4997	-0.1649	0.0038	-0.2078	0.0320	0.6839	0.1306	-0.1122	0.1194
3	279.84	0.5556	-0.1959	0.0046	-0.2709	0.0400	0.9060	0.1686	0.0670	0.1230
3	279.84	0.5995	-0.2215	0.0051	-0.3191	0.0477	1.0393	0.2006	-0.1080	0.1217
3	279.84	0.6498	-0.2611	0.0058	-0.3819	0.0562	1.1816	0.2393	-0.1881	0.1237
3	279.84	0.6890	-0.2941	0.0070	-0.4223	0.0637	1.2607	0.2689	-0.0752	0.1183
3	279.84	0.7495	-0.3195	0.0074	-0.4894	0.0755	1.3931	0.3163	0.2102	0.1192
3	279.84	0.7998	-0.3619	0.0090	-0.5449	0.0862	1.3892	0.3604	0.0311	0.1278
3	279.84	0.8577	-0.3800	0.0085	-0.5679	0.0979	1.3609	0.4096	0.2480	0.1302
3	279.84	0.9178	-0.4169	0.0090	-0.6276	0.1106	1.1843	0.4645	-0.3692	0.1270
3	279.84	0.9729	-0.4578	0.0132	-0.6865	0.1220	0.9860	0.5140	-0.4440	0.1321
4	279.84	0.2001	0.0398	0.0025	-0.0100	0.0019	0.0312	0.0076	0.0173	0.0433
4	279.84	0.2502	0.0258	0.0018	0.0087	0.0041	0.0194	0.0151	-0.2202	0.0651
4	279.84	0.3001	-0.0159	0.0036	-0.0161	0.0088	0.0760	0.0284	-0.0555	0.0932
4	279.84	0.3502	-0.0526	0.0047	-0.0333	0.0115	0.1374	0.0405	0.0651	0.1067
4	279.84	0.4002	-0.0853	0.0043	-0.0329	0.0205	0.1789	0.0656	-0.2039	0.0815
4	279.84	0.4500	-0.1135	0.0040	-0.0564	0.0271	0.2633	0.0878	-0.2842	0.0999
4	279.84	0.5001	-0.1562	0.0038	-0.0774	0.0324	0.3724	0.1080	-0.1721	0.0931
4	279.84	0.5560	-0.1912	0.0041	-0.1123	0.0431	0.4684	0.1427	-0.2176	0.0970
4	279.84	0.6001	-0.2219	0.0049	-0.1253	0.0496	0.5474	0.1665	-0.2920	0.1099
4	279.84	0.6501	-0.2734	0.0055	-0.1669	0.0600	0.6214	0.1942	-0.2209	0.1124
4	279.84	0.6999	-0.2946	0.0065	-0.1948	0.0698	0.6275	0.2242	-0.2537	0.1093
4	279.84	0.7500	-0.3326	0.0071	-0.2160	0.0802	0.6744	0.2482	0.0637	0.1007
4	279.84	0.8002	-0.3636	0.0078	-0.2109	0.0915	0.5807	0.2721	0.0557	0.0973
4	279.84	0.8582	-0.4041	0.0084	-0.2403	0.1044	0.4226	0.2983	-0.3679	0.1139
4	279.84	0.9101	-0.4374	0.0095	-0.2608	0.1173	0.2316	0.3299	-0.2785	0.1290
4	279.84	0.9728	-0.4510	0.0126	-0.2251	0.1306	0.0522	0.3658	0.0476	0.1134

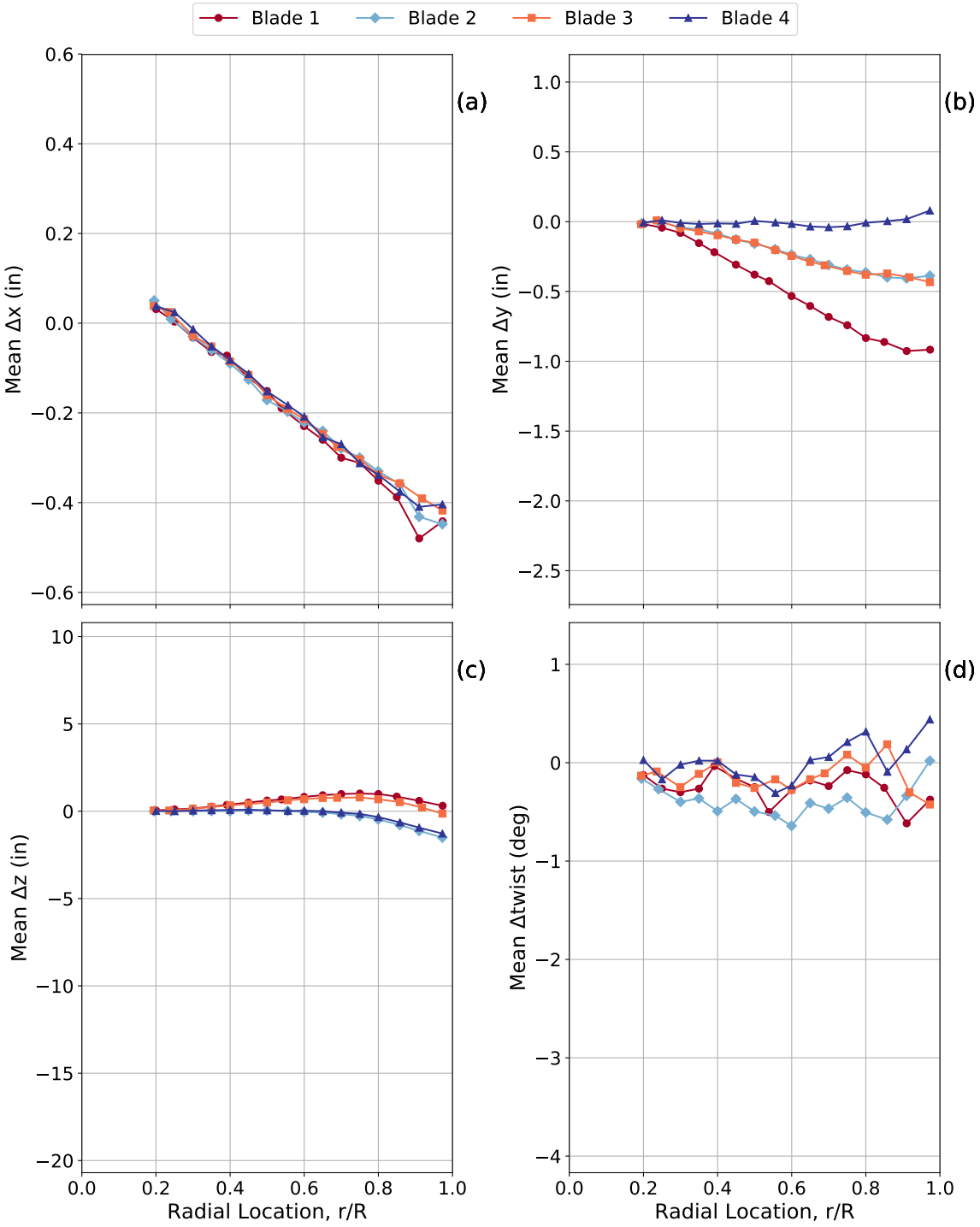


Figure 2.16-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0314	0.0027	-0.0173	0.0015	0.0522	0.0073	-0.1257	0.0396
1	285.12	0.2499	0.0034	0.0018	-0.0430	0.0047	0.1058	0.0179	-0.2630	0.0537
1	285.12	0.2998	-0.0321	0.0035	-0.0806	0.0074	0.1563	0.0298	-0.3003	0.0827
1	285.12	0.3498	-0.0642	0.0029	-0.1538	0.0126	0.2671	0.0442	-0.2638	0.0867
1	285.12	0.3913	-0.0723	0.0033	-0.2185	0.0195	0.3644	0.0687	-0.0340	0.0924
1	285.12	0.4496	-0.1224	0.0058	-0.3082	0.0246	0.4987	0.0862	-0.1622	0.0753
1	285.12	0.4997	-0.1512	0.0042	-0.3791	0.0307	0.6119	0.1082	-0.2485	0.0744
1	285.12	0.5387	-0.1894	0.0064	-0.4258	0.0359	0.6762	0.1271	-0.5013	0.0921
1	285.12	0.5996	-0.2295	0.0049	-0.5329	0.0446	0.8233	0.1564	-0.2778	0.0880
1	285.12	0.6498	-0.2599	0.0054	-0.6040	0.0523	0.9198	0.1815	-0.1809	0.0928
1	285.12	0.6998	-0.2999	0.0064	-0.6822	0.0606	0.9854	0.2097	-0.2377	0.0807
1	285.12	0.7500	-0.3116	0.0062	-0.7418	0.0683	1.0141	0.2360	-0.0754	0.0872
1	285.12	0.8001	-0.3512	0.0068	-0.8337	0.0772	0.9870	0.2644	-0.1193	0.0822
1	285.12	0.8497	-0.3875	0.0070	-0.8618	0.0863	0.8400	0.2932	-0.2551	0.0875
1	285.12	0.9102	-0.4799	0.0076	-0.9263	0.0977	0.5957	0.3289	-0.6169	0.0959
1	285.12	0.9734	-0.4416	0.0105	-0.9169	0.1099	0.3118	0.3718	-0.3754	0.0996
2	285.12	0.1949	0.0504	0.0038	-0.0132	0.0021	0.0094	0.0096	-0.1608	0.0783
2	285.12	0.2405	0.0092	0.0018	0.0032	0.0041	0.0121	0.0176	-0.2683	0.1003
2	285.12	0.2999	-0.0297	0.0024	-0.0415	0.0099	0.0011	0.0334	-0.3980	0.1732
2	285.12	0.3498	-0.0598	0.0032	-0.0545	0.0166	0.0227	0.0596	-0.3632	0.0995
2	285.12	0.3998	-0.0899	0.0033	-0.0852	0.0265	0.0054	0.0872	-0.4925	0.1151
2	285.12	0.4496	-0.1255	0.0038	-0.1279	0.0324	0.0525	0.1081	-0.3684	0.1175
2	285.12	0.4995	-0.1712	0.0057	-0.1570	0.0403	0.0405	0.1369	-0.4960	0.1321
2	285.12	0.5551	-0.1972	0.0052	-0.1974	0.0502	0.0177	0.1704	-0.5374	0.1003
2	285.12	0.5996	-0.2211	0.0057	-0.2367	0.0586	-0.0405	0.1986	-0.6422	0.1161
2	285.12	0.6497	-0.2402	0.0070	-0.2695	0.0683	-0.0754	0.2363	-0.4102	0.1052
2	285.12	0.6996	-0.2789	0.0062	-0.3097	0.0784	-0.1690	0.2673	-0.4668	0.1282
2	285.12	0.7495	-0.2998	0.0069	-0.3436	0.0892	-0.2680	0.3045	-0.3554	0.1204
2	285.12	0.7996	-0.3299	0.0070	-0.3629	0.1000	-0.4675	0.3434	-0.5054	0.1159
2	285.12	0.8578	-0.3588	0.0070	-0.3986	0.1128	-0.7863	0.3922	-0.5785	0.1251
2	285.12	0.9100	-0.4315	0.0075	-0.4061	0.1246	-1.1237	0.4404	-0.3361	0.1262
2	285.12	0.9727	-0.4479	0.0104	-0.3873	0.1388	-1.5046	0.5027	0.0194	0.1216
3	285.12	0.1938	0.0384	0.0030	-0.0186	0.0014	0.0502	0.0059	-0.1318	0.0618
3	285.12	0.2357	0.0251	0.0036	0.0091	0.0044	0.0421	0.0147	-0.0896	0.0664
3	285.12	0.2995	-0.0274	0.0027	-0.0441	0.0071	0.1387	0.0234	-0.2481	0.1295
3	285.12	0.3493	-0.0520	0.0031	-0.0698	0.0139	0.2421	0.0409	-0.1133	0.1207
3	285.12	0.4000	-0.0850	0.0039	-0.0969	0.0211	0.3387	0.0617	0.0037	0.1209
3	285.12	0.4497	-0.1153	0.0049	-0.1283	0.0273	0.4140	0.0824	-0.2047	0.1249
3	285.12	0.4997	-0.1606	0.0047	-0.1504	0.0348	0.4952	0.1048	-0.2572	0.1193
3	285.12	0.5556	-0.1918	0.0073	-0.2031	0.0439	0.6280	0.1300	-0.1696	0.1119
3	285.12	0.5995	-0.2138	0.0055	-0.2451	0.0513	0.6910	0.1532	-0.2747	0.1168
3	285.12	0.6498	-0.2466	0.0063	-0.2873	0.0606	0.7613	0.1852	-0.1678	0.1175
3	285.12	0.6890	-0.2758	0.0068	-0.3125	0.0687	0.7704	0.2101	-0.1083	0.1236
3	285.12	0.7495	-0.3032	0.0082	-0.3529	0.0812	0.7931	0.2503	0.0813	0.1247
3	285.12	0.7998	-0.3376	0.0084	-0.3798	0.0921	0.6891	0.2865	-0.0499	0.1343
3	285.12	0.8577	-0.3568	0.0092	-0.3716	0.1052	0.5258	0.3305	0.1873	0.1356
3	285.12	0.9178	-0.3906	0.0100	-0.3982	0.1190	0.2124	0.3798	-0.3011	0.1357
3	285.12	0.9729	-0.4176	0.0131	-0.4333	0.1321	-0.1326	0.4213	-0.4251	0.1454
4	285.12	0.2001	0.0378	0.0032	-0.0069	0.0013	0.0157	0.0069	0.0275	0.0795
4	285.12	0.2502	0.0243	0.0038	0.0097	0.0032	0.0034	0.0170	-0.1691	0.0758
4	285.12	0.3001	-0.0135	0.0016	-0.0094	0.0062	0.0374	0.0267	-0.0201	0.1503
4	285.12	0.3502	-0.0518	0.0033	-0.0165	0.0095	0.0572	0.0434	0.0209	0.1053
4	285.12	0.4002	-0.0820	0.0030	-0.0129	0.0156	0.0755	0.0667	0.0198	0.1108
4	285.12	0.4500	-0.1131	0.0057	-0.0151	0.0205	0.0850	0.0848	-0.1199	0.1268
4	285.12	0.5001	-0.1521	0.0069	0.0056	0.0258	0.0556	0.1074	-0.1460	0.1126
4	285.12	0.5560	-0.1829	0.0047	-0.0061	0.0318	0.0189	0.1351	-0.3078	0.1060
4	285.12	0.6001	-0.2085	0.0044	-0.0163	0.0369	0.0302	0.1548	-0.2314	0.1094
4	285.12	0.6501	-0.2542	0.0059	-0.0345	0.0429	0.0032	0.1805	0.0266	0.1136
4	285.12	0.6999	-0.2697	0.0062	-0.0399	0.0491	-0.0837	0.2078	0.0580	0.1223
4	285.12	0.7500	-0.3122	0.0063	-0.0331	0.0561	-0.1519	0.2370	0.2111	0.0956
4	285.12	0.8002	-0.3383	0.0058	-0.0083	0.0627	-0.3345	0.2650	0.3165	0.1233
4	285.12	0.8582	-0.3756	0.0068	0.0038	0.0712	-0.6383	0.2987	-0.0921	0.1201
4	285.12	0.9101	-0.4095	0.0073	0.0181	0.0788	-0.9402	0.3313	0.1358	0.1173
4	285.12	0.9728	-0.4039	0.0092	0.0792	0.0882	-1.2786	0.3730	0.4394	0.1265

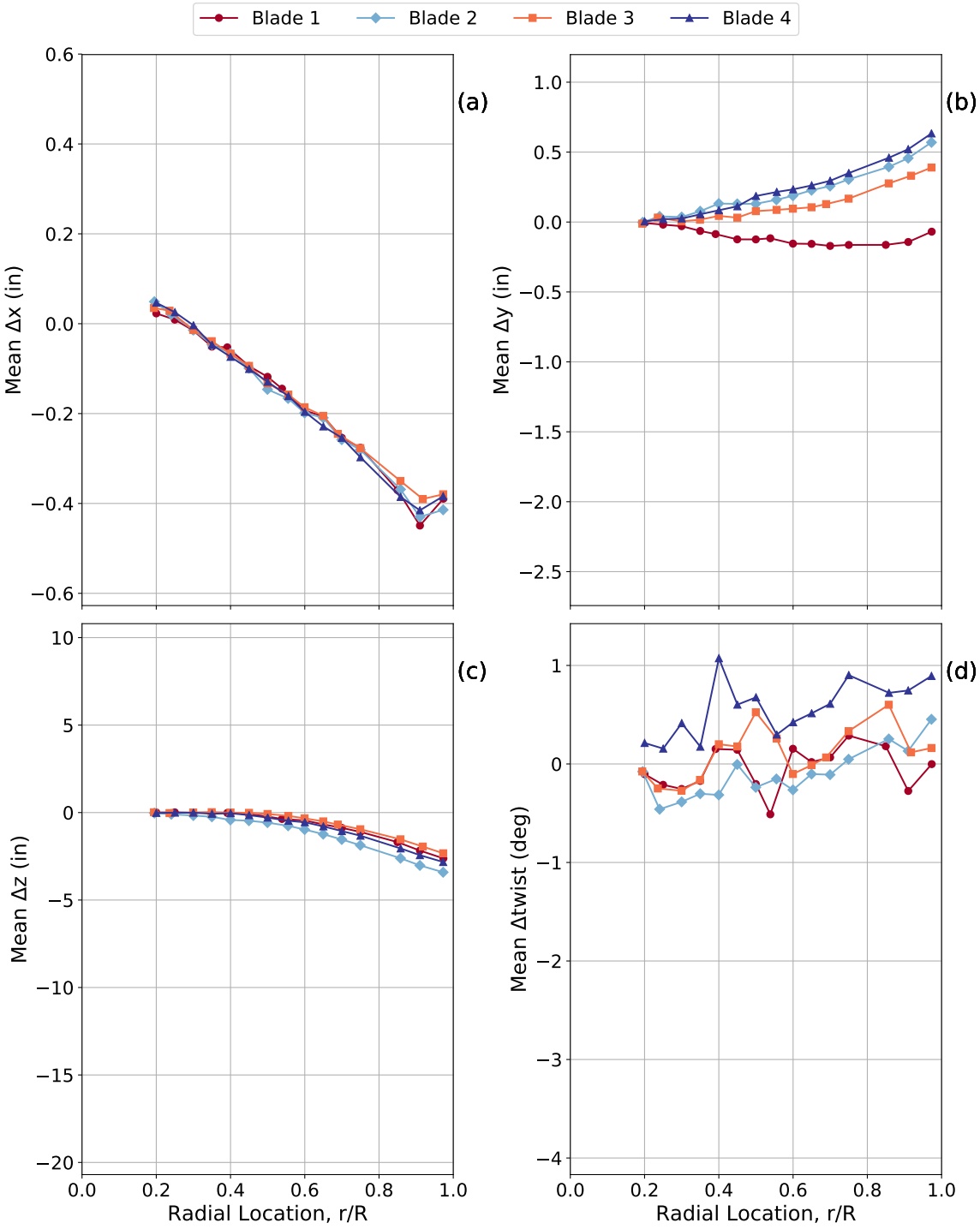


Figure 2.16-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0229	0.0026	-0.0069	0.0010	0.0034	0.0051	-0.1039	0.0322
1	299.88	0.2499	0.0090	0.0026	-0.0187	0.0040	0.0142	0.0106	-0.2118	0.0620
1	299.88	0.2998	-0.0152	0.0031	-0.0296	0.0064	-0.0148	0.0189	-0.2537	0.0722
1	299.88	0.3498	-0.0510	0.0045	-0.0639	0.0101	0.0015	0.0293	-0.1723	0.0869
1	299.88	0.3913	-0.0526	0.0041	-0.0862	0.0161	-0.0220	0.0431	0.1519	0.0776
1	299.88	0.4496	-0.0942	0.0048	-0.1240	0.0200	-0.0854	0.0586	0.1439	0.0856
1	299.88	0.4997	-0.1182	0.0038	-0.1243	0.0262	-0.2269	0.0769	-0.2037	0.0820
1	299.88	0.5387	-0.1446	0.0049	-0.1162	0.0307	-0.3651	0.0923	-0.5115	0.0678
1	299.88	0.5996	-0.1931	0.0046	-0.1546	0.0390	-0.4530	0.1134	0.1542	0.0961
1	299.88	0.6498	-0.2063	0.0050	-0.1562	0.0461	-0.6736	0.1323	0.0191	0.1008
1	299.88	0.6998	-0.2540	0.0065	-0.1708	0.0535	-0.8758	0.1520	0.0666	0.0893
1	299.88	0.7500	-0.2760	0.0065	-0.1637	0.0615	-1.1075	0.1722	0.2875	0.0941
1	299.88	0.8497	-0.3703	0.0075	-0.1634	0.0778	-1.6887	0.2179	0.1800	0.0935
1	299.88	0.9102	-0.4492	0.0084	-0.1427	0.0878	-2.1737	0.2475	-0.2743	0.0928
1	299.88	0.9734	-0.3894	0.0108	-0.0689	0.0984	-2.6189	0.2819	-0.0017	0.0960
2	299.88	0.1949	0.0490	0.0027	-0.0020	0.0014	-0.0286	0.0091	-0.0774	0.0643
2	299.88	0.2405	0.0208	0.0022	0.0403	0.0054	-0.0959	0.0146	-0.4595	0.1136
2	299.88	0.2999	-0.0142	0.0034	0.0357	0.0089	-0.1698	0.0278	-0.3848	0.1602
2	299.88	0.3498	-0.0465	0.0040	0.0771	0.0167	-0.2420	0.0524	-0.3023	0.0999
2	299.88	0.3998	-0.0660	0.0035	0.1321	0.0267	-0.4219	0.0731	-0.3146	0.1097
2	299.88	0.4496	-0.0989	0.0038	0.1298	0.0323	-0.4659	0.0897	-0.0051	0.1297
2	299.88	0.4995	-0.1462	0.0042	0.1301	0.0382	-0.5747	0.1105	-0.2374	0.1104
2	299.88	0.5551	-0.1663	0.0048	0.1590	0.0464	-0.7561	0.1342	-0.1524	0.1068
2	299.88	0.5996	-0.1986	0.0046	0.1877	0.0545	-0.9689	0.1542	-0.2631	0.1073
2	299.88	0.6497	-0.2094	0.0052	0.2274	0.0633	-1.2339	0.1790	-0.1023	0.1047
2	299.88	0.6996	-0.2581	0.0052	0.2571	0.0728	-1.5387	0.2060	-0.1090	0.1047
2	299.88	0.7495	-0.2804	0.0056	0.3045	0.0822	-1.8664	0.2341	0.0475	0.0981
2	299.88	0.8578	-0.3687	0.0066	0.3946	0.1035	-2.6112	0.2994	0.2536	0.1019
2	299.88	0.9100	-0.4300	0.0074	0.4566	0.1138	-3.0208	0.3346	0.1317	0.1058
2	299.88	0.9727	-0.4142	0.0098	0.5696	0.1262	-3.4121	0.3823	0.4532	0.1088
3	299.88	0.1938	0.0349	0.0017	-0.0116	0.0014	0.0171	0.0063	-0.0764	0.0826
3	299.88	0.2357	0.0290	0.0025	0.0318	0.0029	-0.0304	0.0138	-0.2487	0.0889
3	299.88	0.2995	-0.0138	0.0033	0.0046	0.0060	0.0074	0.0205	-0.2717	0.1766
3	299.88	0.3493	-0.0389	0.0035	0.0167	0.0109	0.0231	0.0459	-0.1620	0.0881
3	299.88	0.4000	-0.0667	0.0037	0.0439	0.0165	0.0025	0.0623	0.2000	0.1173
3	299.88	0.4497	-0.0939	0.0039	0.0312	0.0210	-0.0157	0.0784	0.1776	0.1293
3	299.88	0.4997	-0.1330	0.0045	0.0779	0.0286	-0.0809	0.0979	0.5247	0.1087
3	299.88	0.5556	-0.1577	0.0045	0.0869	0.0371	-0.1921	0.1209	0.2576	0.1158
3	299.88	0.5995	-0.1860	0.0052	0.0953	0.0445	-0.3288	0.1434	-0.1020	0.1089
3	299.88	0.6498	-0.2051	0.0056	0.1054	0.0540	-0.5054	0.1668	-0.0121	0.0979
3	299.88	0.6890	-0.2451	0.0058	0.1281	0.0619	-0.6868	0.1866	0.0659	0.1098
3	299.88	0.7495	-0.2769	0.0060	0.1670	0.0739	-0.9535	0.2158	0.3329	0.1056
3	299.88	0.8577	-0.3500	0.0069	0.2763	0.0981	-1.5288	0.2785	0.6009	0.1043
3	299.88	0.9178	-0.3901	0.0073	0.3311	0.1118	-1.9432	0.3198	0.1180	0.1046
3	299.88	0.9729	-0.3796	0.0103	0.3897	0.1246	-2.3275	0.3611	0.1616	0.1133
4	299.88	0.2001	0.0467	0.0035	0.0045	0.0015	-0.0206	0.0071	0.2129	0.0832
4	299.88	0.2502	0.0254	0.0042	0.0204	0.0048	-0.0058	0.0199	0.1557	0.1183
4	299.88	0.3001	-0.0036	0.0032	0.0250	0.0069	-0.0070	0.0309	0.4136	0.1821
4	299.88	0.3502	-0.0471	0.0039	0.0553	0.0136	-0.0704	0.0489	0.1749	0.1647
4	299.88	0.4002	-0.0738	0.0055	0.0843	0.0207	-0.0384	0.0797	1.0729	0.1503
4	299.88	0.4500	-0.1008	0.0057	0.1123	0.0248	-0.1487	0.0975	0.6019	0.1364
4	299.88	0.5001	-0.1294	0.0051	0.1859	0.0338	-0.2891	0.1184	0.6760	0.1578
4	299.88	0.5560	-0.1612	0.0050	0.2150	0.0430	-0.4709	0.1469	0.2978	0.1468
4	299.88	0.6001	-0.1961	0.0052	0.2336	0.0489	-0.5538	0.1696	0.4234	0.1544
4	299.88	0.6501	-0.2287	0.0068	0.2617	0.0578	-0.7905	0.1999	0.5145	0.1620
4	299.88	0.6999	-0.2540	0.0076	0.2950	0.0672	-1.0590	0.2328	0.6106	0.1535
4	299.88	0.7500	-0.2973	0.0064	0.3499	0.0773	-1.3243	0.2673	0.9013	0.1514
4	299.88	0.8582	-0.3856	0.0081	0.4598	0.0997	-2.0512	0.3530	0.7218	0.1539
4	299.88	0.9101	-0.4153	0.0086	0.5204	0.1107	-2.4358	0.3994	0.7457	0.1510
4	299.88	0.9728	-0.3840	0.0109	0.6335	0.1243	-2.8269	0.4614	0.8929	0.1598

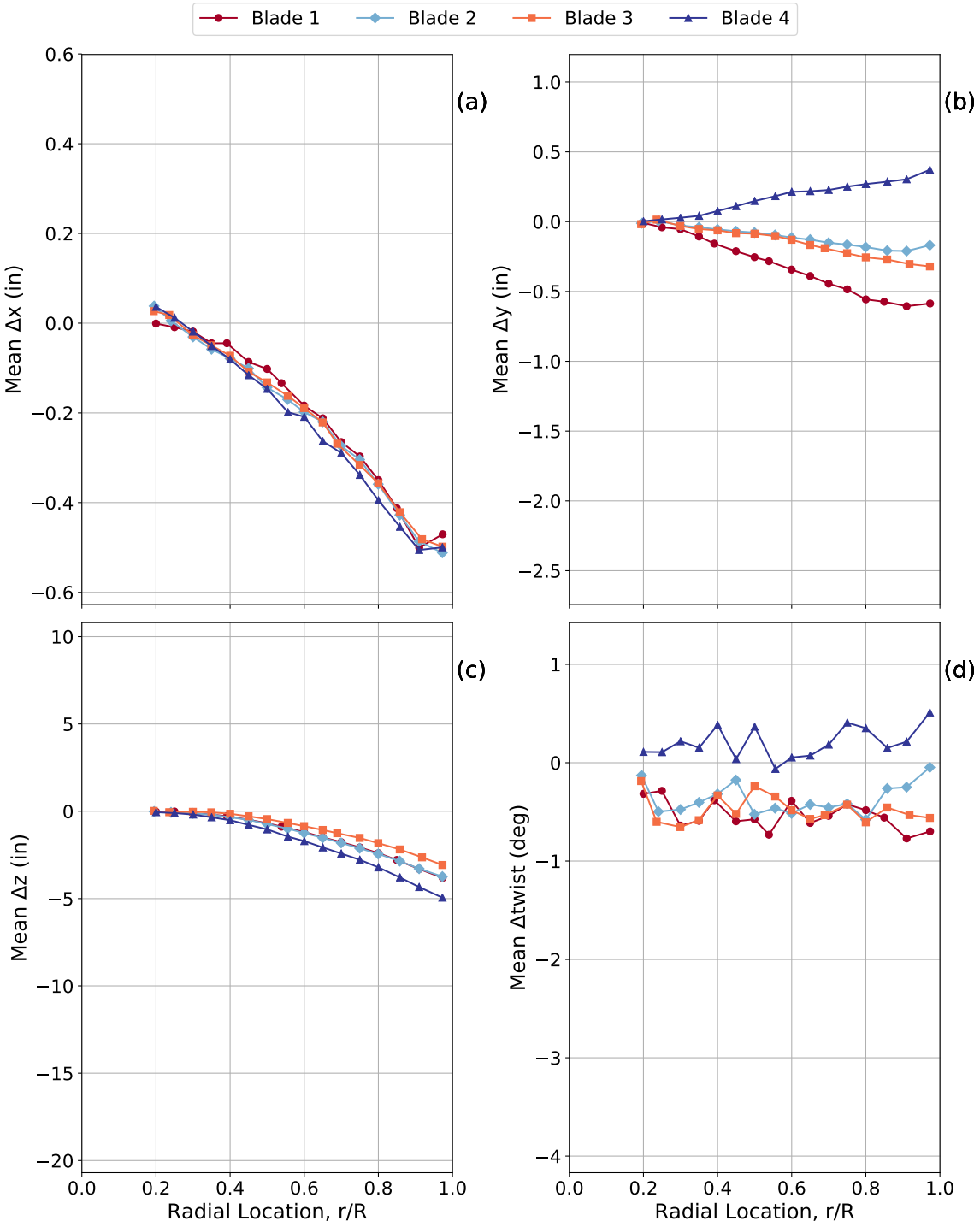


Figure 2.16-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	-0.0009	0.0020	-0.0091	0.0013	-0.0278	0.0060	-0.3165	0.0365
1	315	0.2499	-0.0091	0.0038	-0.0407	0.0036	-0.0153	0.0127	-0.2860	0.0572
1	315	0.2998	-0.0188	0.0018	-0.0537	0.0079	-0.1253	0.0238	-0.6392	0.0766
1	315	0.3498	-0.0448	0.0049	-0.1063	0.0098	-0.1900	0.0354	-0.5906	0.0868
1	315	0.3913	-0.0447	0.0034	-0.1572	0.0175	-0.2811	0.0544	-0.3823	0.1070
1	315	0.4496	-0.0864	0.0041	-0.2113	0.0214	-0.4845	0.0704	-0.5956	0.0933
1	315	0.4997	-0.1020	0.0038	-0.2542	0.0281	-0.6872	0.0900	-0.5751	0.0886
1	315	0.5387	-0.1338	0.0042	-0.2834	0.0339	-0.8816	0.1083	-0.7321	0.0819
1	315	0.5996	-0.1837	0.0051	-0.3435	0.0428	-1.1856	0.1428	-0.3880	0.1081
1	315	0.6498	-0.2119	0.0058	-0.3896	0.0511	-1.4932	0.1768	-0.6122	0.0997
1	315	0.6998	-0.2650	0.0063	-0.4440	0.0594	-1.7684	0.2146	-0.5406	0.0923
1	315	0.7500	-0.2970	0.0076	-0.4847	0.0686	-2.0723	0.2546	-0.4235	0.0952
1	315	0.8001	-0.3497	0.0079	-0.5566	0.0791	-2.4007	0.3021	-0.4827	0.0943
1	315	0.8497	-0.4123	0.0088	-0.5733	0.0896	-2.7901	0.3517	-0.5583	0.0970
1	315	0.9102	-0.5003	0.0100	-0.6052	0.1030	-3.3082	0.4152	-0.7700	0.0978
1	315	0.9734	-0.4705	0.0107	-0.5860	0.1177	-3.8111	0.4848	-0.6982	0.0983
2	315	0.1949	0.0382	0.0032	-0.0114	0.0014	-0.0130	0.0049	-0.1283	0.0519
2	315	0.2405	0.0052	0.0019	0.0053	0.0033	-0.0644	0.0113	-0.4973	0.0535
2	315	0.2999	-0.0307	0.0028	-0.0277	0.0077	-0.1217	0.0201	-0.4758	0.1071
2	315	0.3498	-0.0580	0.0045	-0.0402	0.0117	-0.1995	0.0332	-0.4037	0.0777
2	315	0.3998	-0.0788	0.0041	-0.0554	0.0199	-0.3443	0.0519	-0.3176	0.0845
2	315	0.4496	-0.1006	0.0035	-0.0688	0.0242	-0.4938	0.0648	-0.1763	0.0853
2	315	0.4995	-0.1435	0.0041	-0.0781	0.0301	-0.7306	0.0858	-0.5243	0.0760
2	315	0.5551	-0.1701	0.0041	-0.0953	0.0377	-0.9932	0.1081	-0.4626	0.0865
2	315	0.5996	-0.1980	0.0043	-0.1143	0.0444	-1.2465	0.1300	-0.5154	0.0877
2	315	0.6497	-0.2199	0.0046	-0.1286	0.0521	-1.5208	0.1567	-0.4244	0.0912
2	315	0.6996	-0.2738	0.0058	-0.1511	0.0605	-1.8119	0.1870	-0.4553	0.0974
2	315	0.7495	-0.3041	0.0062	-0.1638	0.0690	-2.1185	0.2214	-0.4177	0.0950
2	315	0.7996	-0.3588	0.0067	-0.1815	0.0776	-2.4477	0.2587	-0.5782	0.0987
2	315	0.8578	-0.4275	0.0075	-0.2074	0.0886	-2.8560	0.3070	-0.2623	0.0931
2	315	0.9100	-0.4863	0.0085	-0.2103	0.0981	-3.2908	0.3537	-0.2487	0.0914
2	315	0.9727	-0.5118	0.0094	-0.1685	0.1099	-3.7404	0.4115	-0.0473	0.0861
3	315	0.1938	0.0269	0.0022	-0.0180	0.0014	0.0196	0.0053	-0.1866	0.0491
3	315	0.2357	0.0182	0.0025	0.0144	0.0028	-0.0550	0.0121	-0.6007	0.0531
3	315	0.2995	-0.0269	0.0034	-0.0307	0.0072	-0.0332	0.0232	-0.6542	0.0960
3	315	0.3493	-0.0495	0.0051	-0.0526	0.0089	-0.0628	0.0356	-0.5840	0.0810
3	315	0.4000	-0.0726	0.0046	-0.0622	0.0159	-0.1452	0.0574	-0.3332	0.1119
3	315	0.4497	-0.1083	0.0035	-0.0824	0.0189	-0.2908	0.0749	-0.5204	0.0923
3	315	0.4997	-0.1321	0.0039	-0.0862	0.0236	-0.4486	0.0926	-0.2386	0.0909
3	315	0.5556	-0.1619	0.0054	-0.1033	0.0291	-0.6676	0.1168	-0.3443	0.0881
3	315	0.5995	-0.1892	0.0050	-0.1296	0.0343	-0.8528	0.1385	-0.4827	0.0878
3	315	0.6498	-0.2212	0.0055	-0.1670	0.0407	-1.0706	0.1648	-0.5714	0.0867
3	315	0.6890	-0.2688	0.0059	-0.1903	0.0459	-1.2545	0.1861	-0.5329	0.0943
3	315	0.7495	-0.3161	0.0073	-0.2261	0.0548	-1.5265	0.2268	-0.4265	0.0967
3	315	0.7998	-0.3569	0.0078	-0.2556	0.0633	-1.8266	0.2604	-0.6061	0.1010
3	315	0.8577	-0.4214	0.0088	-0.2711	0.0727	-2.1865	0.3050	-0.4557	0.0937
3	315	0.9178	-0.4815	0.0095	-0.3035	0.0831	-2.6411	0.3511	-0.5317	0.0950
3	315	0.9729	-0.4981	0.0112	-0.3209	0.0931	-3.0770	0.3946	-0.5615	0.0988
4	315	0.2001	0.0364	0.0033	0.0031	0.0016	-0.0534	0.0079	0.1095	0.0513
4	315	0.2502	0.0120	0.0034	0.0159	0.0065	-0.1053	0.0164	0.1073	0.0978
4	315	0.3001	-0.0189	0.0030	0.0280	0.0087	-0.1905	0.0306	0.2174	0.1118
4	315	0.3502	-0.0509	0.0040	0.0416	0.0108	-0.3472	0.0518	0.1516	0.0893
4	315	0.4002	-0.0807	0.0049	0.0763	0.0221	-0.5146	0.0794	0.3846	0.0987
4	315	0.4500	-0.1160	0.0038	0.1109	0.0270	-0.7803	0.1055	0.0369	0.0816
4	315	0.5001	-0.1465	0.0044	0.1482	0.0339	-1.0393	0.1318	0.3660	0.0990
4	315	0.5560	-0.1984	0.0058	0.1830	0.0411	-1.4530	0.1582	-0.0632	0.1064
4	315	0.6001	-0.2087	0.0056	0.2137	0.0492	-1.7081	0.1826	0.0529	0.0988
4	315	0.6501	-0.2632	0.0063	0.2181	0.0582	-2.0737	0.2110	0.0722	0.0959
4	315	0.6999	-0.2894	0.0067	0.2272	0.0675	-2.4237	0.2374	0.1837	0.1174
4	315	0.7500	-0.3382	0.0079	0.2509	0.0777	-2.7815	0.2689	0.4076	0.1130
4	315	0.8002	-0.3951	0.0085	0.2692	0.0885	-3.2159	0.3032	0.3509	0.1068
4	315	0.8582	-0.4539	0.0095	0.2864	0.1013	-3.7907	0.3452	0.1496	0.1106
4	315	0.9101	-0.5055	0.0104	0.3035	0.1133	-4.3407	0.3891	0.2135	0.1105
4	315	0.9728	-0.4996	0.0124	0.3715	0.1277	-4.9451	0.4429	0.5108	0.1169

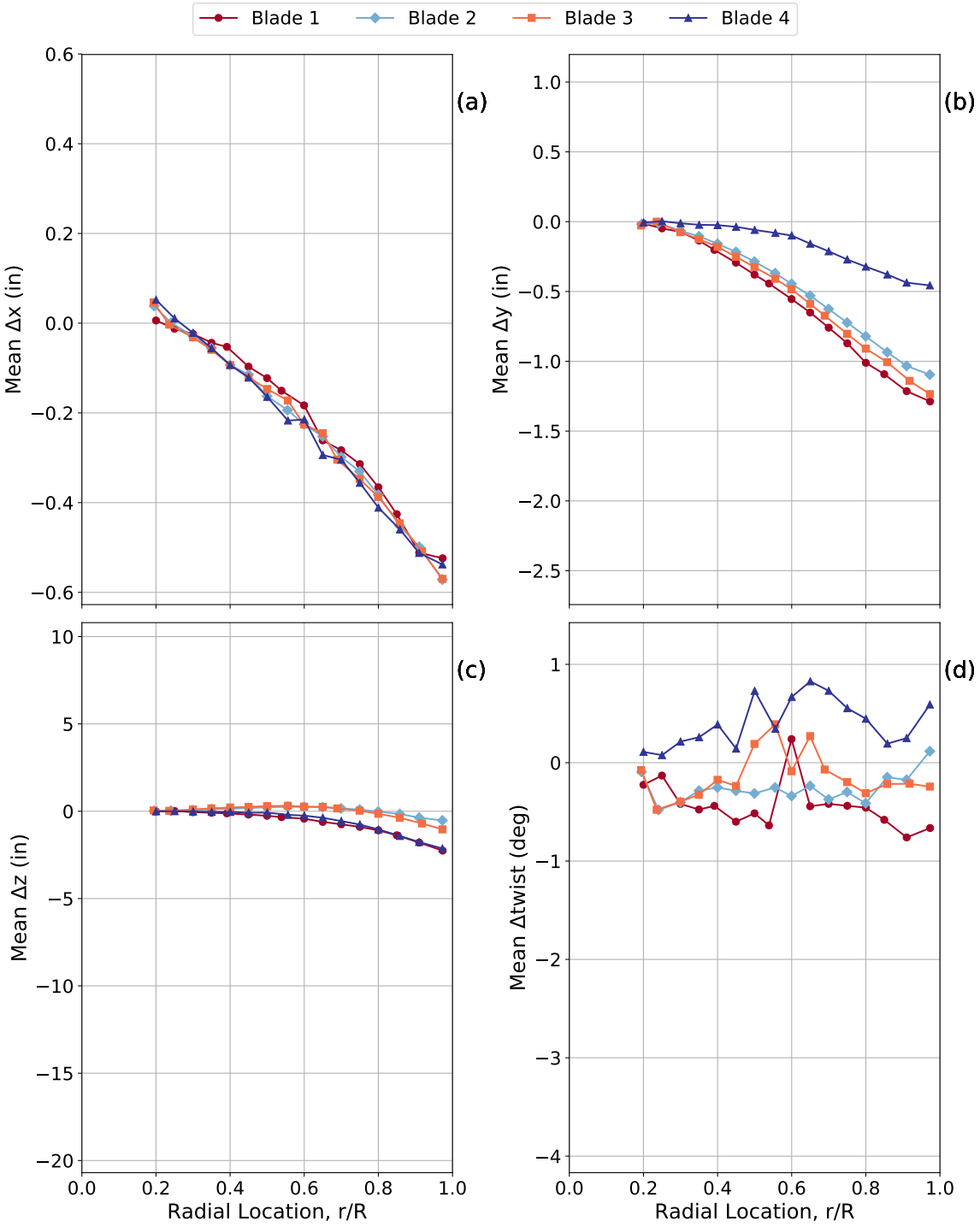


Figure 2.16-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0061	0.0018	-0.0134	0.0014	-0.0117	0.0060	-0.2245	0.0370
1	330.12	0.2499	-0.0124	0.0018	-0.0480	0.0044	0.0177	0.0120	-0.1307	0.0661
1	330.12	0.2998	-0.0239	0.0028	-0.0733	0.0106	-0.0556	0.0191	-0.4191	0.0843
1	330.12	0.3498	-0.0437	0.0047	-0.1355	0.0121	-0.0860	0.0362	-0.4759	0.0662
1	330.12	0.3913	-0.0528	0.0042	-0.2022	0.0228	-0.1206	0.0485	-0.4393	0.0667
1	330.12	0.4496	-0.0969	0.0037	-0.2939	0.0290	-0.1921	0.0650	-0.6000	0.0744
1	330.12	0.4997	-0.1225	0.0032	-0.3795	0.0349	-0.2593	0.0817	-0.5147	0.0909
1	330.12	0.5387	-0.1505	0.0049	-0.4431	0.0401	-0.3371	0.0953	-0.6375	0.0811
1	330.12	0.5996	-0.1832	0.0052	-0.5543	0.0504	-0.4260	0.1184	0.2399	0.1078
1	330.12	0.6498	-0.2613	0.0048	-0.6508	0.0589	-0.6097	0.1373	-0.4429	0.1159
1	330.12	0.6998	-0.2832	0.0050	-0.7590	0.0674	-0.7464	0.1594	-0.4188	0.0810
1	330.12	0.7500	-0.3141	0.0055	-0.8713	0.0780	-0.8958	0.1812	-0.4381	0.0859
1	330.12	0.8001	-0.3658	0.0058	-1.0110	0.0880	-1.0946	0.2027	-0.4570	0.1069
1	330.12	0.8497	-0.4258	0.0062	-1.0925	0.0972	-1.3769	0.2258	-0.5806	0.0979
1	330.12	0.9102	-0.5116	0.0071	-1.2139	0.1103	-1.7941	0.2543	-0.7597	0.1004
1	330.12	0.9734	-0.5240	0.0096	-1.2875	0.1243	-2.2558	0.2882	-0.6641	0.0933
2	330.12	0.1949	0.0384	0.0019	-0.0185	0.0014	0.0261	0.0044	-0.0927	0.0348
2	330.12	0.2405	0.0010	0.0024	-0.0099	0.0027	0.0323	0.0093	-0.4802	0.0538
2	330.12	0.2999	-0.0289	0.0025	-0.0654	0.0056	0.0591	0.0191	-0.4022	0.0809
2	330.12	0.3498	-0.0556	0.0037	-0.1046	0.0093	0.1149	0.0309	-0.2844	0.0652
2	330.12	0.3998	-0.0932	0.0028	-0.1584	0.0145	0.1446	0.0482	-0.2525	0.0766
2	330.12	0.4496	-0.1147	0.0054	-0.2169	0.0185	0.1850	0.0600	-0.2851	0.0589
2	330.12	0.4995	-0.1626	0.0037	-0.2864	0.0245	0.2241	0.0767	-0.3125	0.0851
2	330.12	0.5551	-0.1938	0.0040	-0.3691	0.0309	0.2576	0.0996	-0.2516	0.0781
2	330.12	0.5996	-0.2252	0.0047	-0.4452	0.0368	0.2477	0.1176	-0.3385	0.0763
2	330.12	0.6497	-0.2525	0.0040	-0.5303	0.0433	0.2343	0.1428	-0.2355	0.0668
2	330.12	0.6996	-0.2983	0.0045	-0.6259	0.0508	0.1612	0.1646	-0.3727	0.0759
2	330.12	0.7495	-0.3303	0.0052	-0.7228	0.0588	0.0913	0.1907	-0.2978	0.0640
2	330.12	0.7996	-0.3825	0.0054	-0.8211	0.0673	-0.0184	0.2162	-0.4119	0.0708
2	330.12	0.8578	-0.4517	0.0057	-0.9350	0.0776	-0.1601	0.2498	-0.1475	0.0690
2	330.12	0.9100	-0.4985	0.0063	-1.0331	0.0872	-0.3688	0.2840	-0.1744	0.0668
2	330.12	0.9727	-0.5715	0.0085	-1.0959	0.0992	-0.5233	0.3276	0.1166	0.0741
3	330.12	0.1938	0.0463	0.0028	-0.0268	0.0012	0.0462	0.0047	-0.0748	0.0453
3	330.12	0.2357	-0.0033	0.0021	-0.0003	0.0048	0.0221	0.0084	-0.4781	0.0577
3	330.12	0.2995	-0.0317	0.0032	-0.0753	0.0099	0.1001	0.0167	-0.3957	0.1003
3	330.12	0.3493	-0.0593	0.0030	-0.1250	0.0143	0.1667	0.0282	-0.3261	0.0759
3	330.12	0.4000	-0.0933	0.0042	-0.1802	0.0257	0.2169	0.0431	-0.1738	0.0770
3	330.12	0.4497	-0.1207	0.0044	-0.2517	0.0310	0.2520	0.0585	-0.2363	0.0868
3	330.12	0.4997	-0.1467	0.0043	-0.3254	0.0384	0.2935	0.0770	0.1910	0.0842
3	330.12	0.5556	-0.1723	0.0052	-0.4088	0.0484	0.3143	0.0995	0.3910	0.1063
3	330.12	0.5995	-0.2259	0.0048	-0.4843	0.0557	0.2626	0.1163	-0.0872	0.0988
3	330.12	0.6498	-0.2451	0.0058	-0.5888	0.0654	0.2526	0.1381	0.2704	0.1056
3	330.12	0.6890	-0.3043	0.0069	-0.6730	0.0729	0.1625	0.1543	-0.0694	0.0846
3	330.12	0.7495	-0.3473	0.0069	-0.8031	0.0867	0.0346	0.1801	-0.1972	0.0871
3	330.12	0.7998	-0.3874	0.0070	-0.9094	0.0984	-0.1447	0.1991	-0.3101	0.0929
3	330.12	0.8577	-0.4462	0.0076	-1.0060	0.1116	-0.3715	0.2219	-0.2162	0.0828
3	330.12	0.9178	-0.5084	0.0080	-1.1400	0.1259	-0.6999	0.2468	-0.2141	0.0841
3	330.12	0.9729	-0.5698	0.0110	-1.2352	0.1389	-1.0367	0.2747	-0.2429	0.0911
4	330.12	0.2001	0.0521	0.0018	-0.0061	0.0015	-0.0082	0.0040	0.1099	0.0482
4	330.12	0.2502	0.0105	0.0036	0.0026	0.0046	0.0034	0.0092	0.0767	0.0783
4	330.12	0.3001	-0.0217	0.0029	-0.0114	0.0074	-0.0155	0.0155	0.2150	0.1094
4	330.12	0.3502	-0.0560	0.0041	-0.0226	0.0096	-0.0367	0.0259	0.2594	0.0871
4	330.12	0.4002	-0.0932	0.0038	-0.0248	0.0179	-0.0403	0.0390	0.3881	0.0736
4	330.12	0.4500	-0.1213	0.0052	-0.0370	0.0222	-0.0847	0.0535	0.1430	0.0933
4	330.12	0.5001	-0.1642	0.0045	-0.0592	0.0285	-0.0783	0.0707	0.7300	0.0819
4	330.12	0.5560	-0.2171	0.0053	-0.0808	0.0353	-0.2062	0.0916	0.3445	0.0942
4	330.12	0.6001	-0.2147	0.0053	-0.0995	0.0423	-0.2506	0.1096	0.6689	0.1031
4	330.12	0.6501	-0.2939	0.0060	-0.1581	0.0498	-0.3738	0.1298	0.8272	0.1185
4	330.12	0.6999	-0.3044	0.0064	-0.2124	0.0581	-0.5614	0.1541	0.7310	0.1118
4	330.12	0.7500	-0.3559	0.0062	-0.2713	0.0676	-0.7620	0.1739	0.5543	0.0920
4	330.12	0.8002	-0.4112	0.0066	-0.3223	0.0772	-1.0405	0.1936	0.4469	0.0935
4	330.12	0.8582	-0.4599	0.0079	-0.3787	0.0894	-1.4156	0.2150	0.1938	0.0835
4	330.12	0.9101	-0.5122	0.0075	-0.4369	0.1006	-1.7628	0.2331	0.2502	0.0786
4	330.12	0.9728	-0.5378	0.0106	-0.4564	0.1142	-2.1333	0.2593	0.5910	0.0855

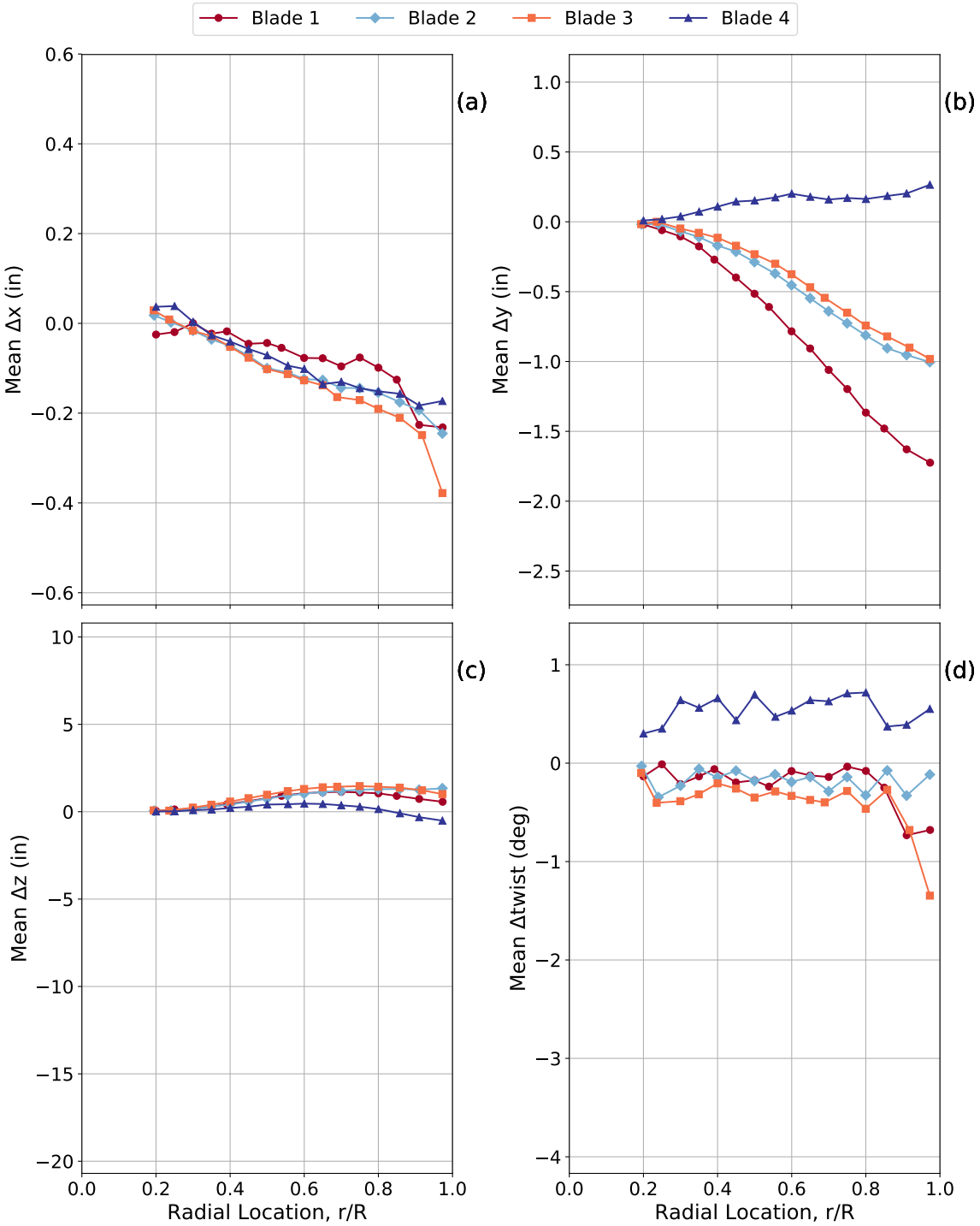


Figure 2.16-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	-0.0249	0.0071	-0.0193	0.0016	0.0460	0.0053	-0.1344	0.0254
1	344.88	0.2499	-0.0194	0.0031	-0.0599	0.0039	0.1314	0.0083	-0.0120	0.0585
1	344.88	0.2998	0.0005	0.0032	-0.1047	0.0072	0.1627	0.0177	-0.2124	0.0621
1	344.88	0.3498	-0.0229	0.0072	-0.1758	0.0121	0.3041	0.0279	-0.1344	0.0650
1	344.88	0.3913	-0.0178	0.0109	-0.2708	0.0180	0.4249	0.0397	-0.0610	0.0705
1	344.88	0.4496	-0.0455	0.0169	-0.3988	0.0249	0.6034	0.0542	-0.1958	0.0733
1	344.88	0.4997	-0.0437	0.0221	-0.5151	0.0331	0.7797	0.0703	-0.1747	0.0731
1	344.88	0.5387	-0.0545	0.0259	-0.6096	0.0384	0.9082	0.0811	-0.2385	0.0760
1	344.88	0.5996	-0.0770	0.0333	-0.7840	0.0479	1.0663	0.1019	-0.0805	0.0693
1	344.88	0.6498	-0.0777	0.0400	-0.9067	0.0570	1.1116	0.1209	-0.1250	0.0887
1	344.88	0.6998	-0.0958	0.0464	-1.0602	0.0664	1.1402	0.1426	-0.1401	0.0883
1	344.88	0.7500	-0.0761	0.0530	-1.1973	0.0767	1.0991	0.1668	-0.0358	0.0888
1	344.88	0.8001	-0.0988	0.0603	-1.3661	0.0875	1.0513	0.1921	-0.0789	0.1001
1	344.88	0.8497	-0.1255	0.0675	-1.4799	0.0993	0.9062	0.2157	-0.2486	0.1159
1	344.88	0.9102	-0.2261	0.0749	-1.6288	0.1137	0.7333	0.2494	-0.7323	0.1886
1	344.88	0.9734	-0.2317	0.0852	-1.7244	0.1272	0.5682	0.2933	-0.6790	0.1466
2	344.88	0.1949	0.0179	0.0030	-0.0170	0.0033	0.0546	0.0049	-0.0298	0.0422
2	344.88	0.2405	0.0024	0.0033	-0.0163	0.0044	0.0598	0.0067	-0.3456	0.1362
2	344.88	0.2999	-0.0162	0.0030	-0.0679	0.0120	0.1582	0.0149	-0.2290	0.1395
2	344.88	0.3498	-0.0357	0.0038	-0.1095	0.0210	0.2975	0.0238	-0.0584	0.1430
2	344.88	0.3998	-0.0502	0.0042	-0.1699	0.0314	0.4080	0.0356	-0.1451	0.1448
2	344.88	0.4496	-0.0721	0.0044	-0.2136	0.0437	0.5767	0.0453	-0.0769	0.1470
2	344.88	0.4995	-0.1000	0.0053	-0.2882	0.0572	0.7450	0.0566	-0.1804	0.1499
2	344.88	0.5551	-0.1090	0.0078	-0.3702	0.0728	0.9272	0.0707	-0.1138	0.1484
2	344.88	0.5996	-0.1241	0.0090	-0.4537	0.0852	1.0288	0.0831	-0.1912	0.1535
2	344.88	0.6497	-0.1263	0.0121	-0.5471	0.1004	1.1349	0.0978	-0.1408	0.1668
2	344.88	0.6996	-0.1436	0.0154	-0.6404	0.1152	1.1942	0.1155	-0.2863	0.1713
2	344.88	0.7495	-0.1443	0.0192	-0.7263	0.1311	1.2592	0.1345	-0.1410	0.1591
2	344.88	0.7996	-0.1542	0.0234	-0.8124	0.1490	1.2870	0.1534	-0.3262	0.1657
2	344.88	0.8578	-0.1755	0.0292	-0.9049	0.1697	1.3049	0.1776	-0.0748	0.1731
2	344.88	0.9100	-0.1930	0.0352	-0.9533	0.1917	1.2557	0.1982	-0.3297	0.1585
2	344.88	0.9727	-0.2453	0.0442	-1.0045	0.2130	1.3414	0.2214	-0.1158	0.1899
3	344.88	0.1938	0.0290	0.0050	-0.0169	0.0018	0.0776	0.0040	-0.0996	0.0209
3	344.88	0.2357	0.0086	0.0020	-0.0001	0.0024	0.0600	0.0054	-0.4025	0.0618
3	344.88	0.2995	-0.0163	0.0030	-0.0478	0.0066	0.2370	0.0122	-0.3866	0.0646
3	344.88	0.3493	-0.0286	0.0050	-0.0791	0.0116	0.3993	0.0212	-0.3167	0.0716
3	344.88	0.4000	-0.0522	0.0074	-0.1143	0.0175	0.5811	0.0311	-0.2051	0.0795
3	344.88	0.4497	-0.0764	0.0098	-0.1713	0.0229	0.7731	0.0411	-0.2585	0.0800
3	344.88	0.4997	-0.1020	0.0111	-0.2319	0.0295	0.9711	0.0552	-0.3493	0.0882
3	344.88	0.5556	-0.1129	0.0119	-0.3000	0.0380	1.1787	0.0711	-0.2872	0.0952
3	344.88	0.5995	-0.1269	0.0141	-0.3754	0.0443	1.3003	0.0842	-0.3323	0.0956
3	344.88	0.6498	-0.1381	0.0155	-0.4687	0.0527	1.3981	0.0997	-0.3737	0.1142
3	344.88	0.6890	-0.1642	0.0164	-0.5440	0.0597	1.4287	0.1119	-0.3986	0.1002
3	344.88	0.7495	-0.1709	0.0181	-0.6504	0.0716	1.4660	0.1298	-0.2828	0.1111
3	344.88	0.7998	-0.1905	0.0197	-0.7428	0.0821	1.4277	0.1455	-0.4637	0.1033
3	344.88	0.8577	-0.2103	0.0215	-0.8204	0.0948	1.3774	0.1622	-0.2709	0.1184
3	344.88	0.9178	-0.2488	0.0244	-0.9006	0.1096	1.2257	0.1815	-0.6794	0.1369
3	344.88	0.9729	-0.3781	0.0198	-0.9817	0.1310	1.0085	0.2713	-1.3464	1.2860
4	344.88	0.2001	0.0369	0.0029	0.0094	0.0048	0.0144	0.0062	0.3010	0.0605
4	344.88	0.2502	0.0385	0.0043	0.0191	0.0062	0.0216	0.0089	0.3507	0.1650
4	344.88	0.3001	0.0034	0.0041	0.0385	0.0167	0.0874	0.0163	0.6404	0.1645
4	344.88	0.3502	-0.0264	0.0046	0.0720	0.0295	0.1232	0.0264	0.5624	0.1626
4	344.88	0.4002	-0.0405	0.0042	0.1084	0.0436	0.2160	0.0383	0.6600	0.1709
4	344.88	0.4500	-0.0571	0.0048	0.1446	0.0603	0.2845	0.0533	0.4363	0.1771
4	344.88	0.5001	-0.0712	0.0055	0.1520	0.0771	0.4105	0.0700	0.6957	0.1786
4	344.88	0.5560	-0.0942	0.0079	0.1748	0.0957	0.4295	0.0892	0.4711	0.1866
4	344.88	0.6001	-0.1016	0.0099	0.2009	0.1106	0.4632	0.1020	0.5340	0.1872
4	344.88	0.6501	-0.1354	0.0126	0.1788	0.1261	0.4421	0.1155	0.6404	0.1998
4	344.88	0.6999	-0.1302	0.0163	0.1593	0.1438	0.3666	0.1304	0.6282	0.1954
4	344.88	0.7500	-0.1443	0.0191	0.1705	0.1646	0.2861	0.1482	0.7087	0.1865
4	344.88	0.8002	-0.1514	0.0241	0.1631	0.1865	0.1515	0.1671	0.7176	0.1838
4	344.88	0.8582	-0.1568	0.0304	0.1851	0.2131	-0.0910	0.1911	0.3721	0.1935
4	344.88	0.9101	-0.1829	0.0345	0.2029	0.2391	-0.3127	0.2167	0.3903	0.1842
4	344.88	0.9728	-0.1730	0.0450	0.2650	0.2704	-0.5109	0.2468	0.5511	0.2047

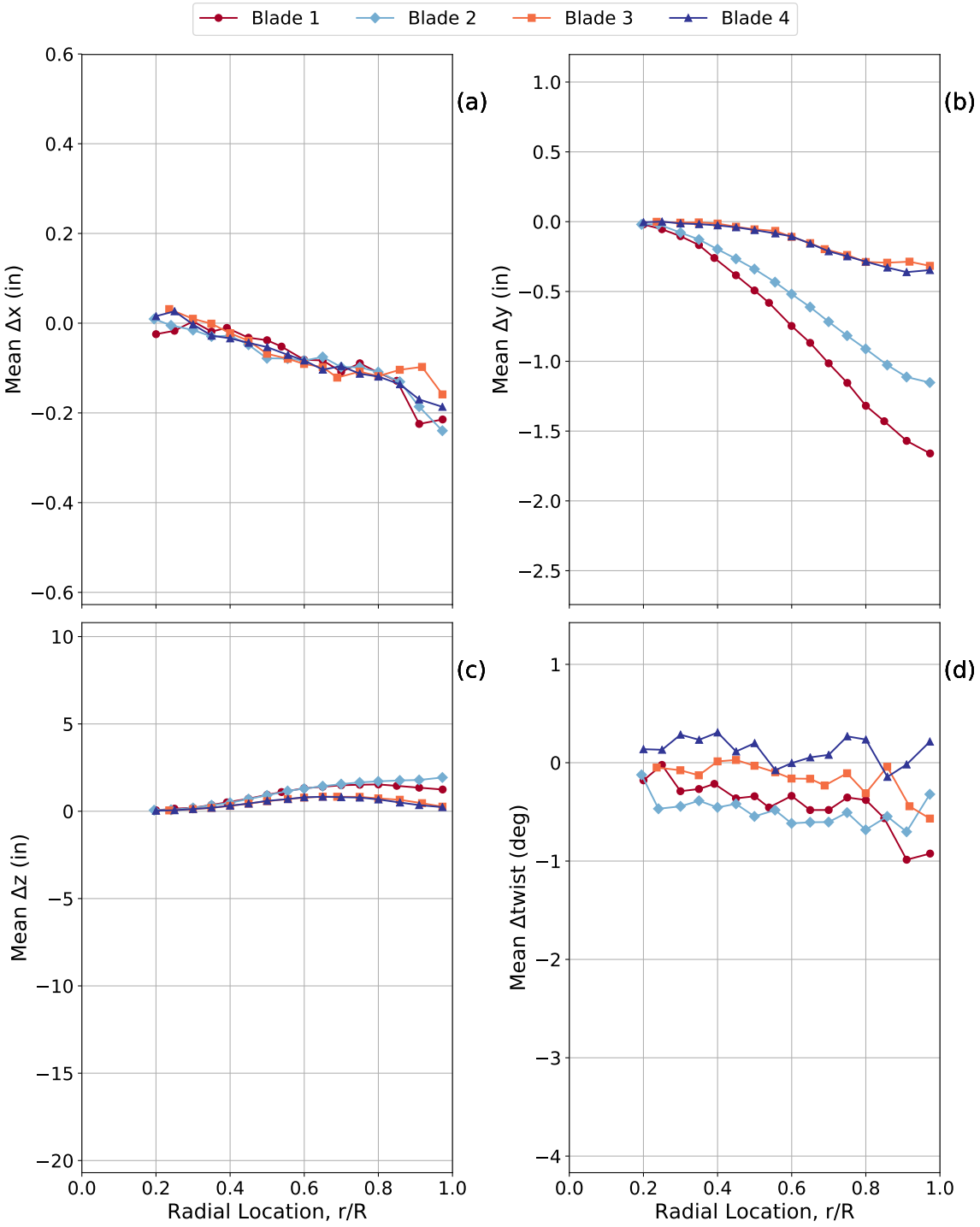


Figure 2.16-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.3, α = -0.6°
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	-0.0245	0.0064	-0.0197	0.0020	0.0537	0.0050	-0.1791	0.0310
1	350.16	0.2499	-0.0169	0.0031	-0.0543	0.0047	0.1468	0.0072	-0.0221	0.0602
1	350.16	0.2998	0.0040	0.0026	-0.1038	0.0094	0.1954	0.0153	-0.2896	0.0724
1	350.16	0.3498	-0.0187	0.0054	-0.1676	0.0145	0.3619	0.0255	-0.2678	0.0755
1	350.16	0.3913	-0.0105	0.0080	-0.2601	0.0226	0.5076	0.0346	-0.2151	0.0593
1	350.16	0.4496	-0.0324	0.0119	-0.3840	0.0300	0.7186	0.0475	-0.3624	0.0766
1	350.16	0.4997	-0.0380	0.0159	-0.4927	0.0366	0.9402	0.0617	-0.3412	0.0643
1	350.16	0.5387	-0.0522	0.0189	-0.5812	0.0426	1.0993	0.0701	-0.4555	0.0724
1	350.16	0.5996	-0.0816	0.0247	-0.7468	0.0509	1.3167	0.0865	-0.3376	0.0749
1	350.16	0.6498	-0.0830	0.0293	-0.8680	0.0588	1.4007	0.1026	-0.4815	0.0785
1	350.16	0.6998	-0.1084	0.0343	-1.0147	0.0671	1.4885	0.1184	-0.4806	0.0883
1	350.16	0.7500	-0.0894	0.0398	-1.1549	0.0765	1.5173	0.1400	-0.3539	0.0805
1	350.16	0.8001	-0.1103	0.0454	-1.3188	0.0867	1.5353	0.1624	-0.3792	0.1048
1	350.16	0.8497	-0.1284	0.0510	-1.4293	0.0969	1.4547	0.1879	-0.5643	0.0916
1	350.16	0.9102	-0.2246	0.0602	-1.5700	0.1111	1.3487	0.2198	-0.9865	0.1381
1	350.16	0.9734	-0.2146	0.0695	-1.6601	0.1243	1.2446	0.2583	-0.9239	0.1318
2	350.16	0.1949	0.0094	0.0071	-0.0196	0.0014	0.0597	0.0041	-0.1232	0.0289
2	350.16	0.2405	-0.0049	0.0035	-0.0190	0.0031	0.0815	0.0062	-0.4682	0.0402
2	350.16	0.2999	-0.0153	0.0031	-0.0782	0.0063	0.1874	0.0154	-0.4439	0.0635
2	350.16	0.3498	-0.0296	0.0066	-0.1279	0.0111	0.3437	0.0247	-0.3868	0.0614
2	350.16	0.3998	-0.0280	0.0109	-0.1973	0.0174	0.4850	0.0381	-0.4543	0.0583
2	350.16	0.4496	-0.0482	0.0142	-0.2661	0.0229	0.6980	0.0517	-0.4186	0.0603
2	350.16	0.4995	-0.0783	0.0176	-0.3397	0.0283	0.9108	0.0661	-0.5462	0.0530
2	350.16	0.5551	-0.0789	0.0223	-0.4332	0.0333	1.1593	0.0829	-0.4817	0.0634
2	350.16	0.5996	-0.0834	0.0263	-0.5186	0.0377	1.2958	0.0990	-0.6168	0.0675
2	350.16	0.6497	-0.0753	0.0310	-0.6117	0.0436	1.4343	0.1242	-0.6055	0.0679
2	350.16	0.6996	-0.0979	0.0357	-0.7168	0.0496	1.5541	0.1510	-0.6035	0.0734
2	350.16	0.7495	-0.0982	0.0411	-0.8167	0.0567	1.6511	0.1839	-0.5071	0.0825
2	350.16	0.7996	-0.1089	0.0460	-0.9114	0.0638	1.7122	0.2212	-0.6823	0.0929
2	350.16	0.8578	-0.1306	0.0514	-1.0268	0.0723	1.7638	0.2681	-0.5464	0.0909
2	350.16	0.9100	-0.1861	0.0564	-1.1126	0.0809	1.7897	0.3132	-0.7024	0.0968
2	350.16	0.9727	-0.2397	0.0636	-1.1523	0.0901	1.9325	0.3696	-0.3208	0.1213
3	350.16	0.2357	0.0314	0.0076	-0.0009	0.0059	0.0490	0.0137	-0.0488	0.0897
3	350.16	0.2995	0.0098	0.0036	-0.0071	0.0138	0.1171	0.0258	-0.0768	0.1426
3	350.16	0.3493	-0.0011	0.0038	-0.0052	0.0253	0.1921	0.0432	-0.1280	0.1409
3	350.16	0.4000	-0.0223	0.0054	-0.0139	0.0394	0.3077	0.0636	0.0137	0.1403
3	350.16	0.4497	-0.0393	0.0073	-0.0363	0.0536	0.4362	0.0827	0.0277	0.1395
3	350.16	0.4997	-0.0682	0.0090	-0.0551	0.0679	0.5741	0.1028	-0.0309	0.1399
3	350.16	0.5556	-0.0793	0.0124	-0.0661	0.0825	0.6993	0.1270	-0.0969	0.1421
3	350.16	0.5995	-0.0909	0.0137	-0.1089	0.0926	0.7812	0.1471	-0.1610	0.1458
3	350.16	0.6498	-0.0980	0.0165	-0.1537	0.1054	0.8375	0.1711	-0.1635	0.1518
3	350.16	0.6890	-0.1213	0.0184	-0.1970	0.1161	0.8305	0.1927	-0.2314	0.1501
3	350.16	0.7495	-0.1079	0.0216	-0.2386	0.1336	0.8237	0.2269	-0.1074	0.1625
3	350.16	0.7998	-0.1181	0.0250	-0.2888	0.1506	0.7366	0.2600	-0.3102	0.1510
3	350.16	0.8577	-0.1039	0.0282	-0.2940	0.1732	0.6584	0.3014	-0.0413	0.1521
3	350.16	0.9178	-0.0975	0.0334	-0.2865	0.2005	0.4613	0.3479	-0.4427	0.1557
3	350.16	0.9729	-0.1588	0.0379	-0.3167	0.2258	0.2629	0.3909	-0.5680	0.1793
4	350.16	0.2001	0.0156	0.0058	-0.0041	0.0014	0.0295	0.0047	0.1375	0.0243
4	350.16	0.2502	0.0265	0.0024	0.0001	0.0040	0.0584	0.0099	0.1315	0.0402
4	350.16	0.3001	-0.0030	0.0026	-0.0128	0.0069	0.1266	0.0181	0.2850	0.0537
4	350.16	0.3502	-0.0279	0.0056	-0.0178	0.0118	0.1989	0.0294	0.2328	0.0497
4	350.16	0.4002	-0.0338	0.0085	-0.0265	0.0190	0.3199	0.0461	0.3075	0.0593
4	350.16	0.4500	-0.0438	0.0112	-0.0403	0.0252	0.4399	0.0623	0.1143	0.0626
4	350.16	0.5001	-0.0534	0.0145	-0.0603	0.0306	0.5957	0.0797	0.1989	0.0656
4	350.16	0.5560	-0.0707	0.0178	-0.0843	0.0374	0.6962	0.1015	-0.0757	0.0704
4	350.16	0.6001	-0.0832	0.0203	-0.1054	0.0432	0.7994	0.1191	-0.0036	0.0794
4	350.16	0.6501	-0.1036	0.0236	-0.1572	0.0503	0.8286	0.1403	0.0542	0.0798
4	350.16	0.6999	-0.0957	0.0267	-0.2122	0.0575	0.8066	0.1640	0.0801	0.0793
4	350.16	0.7500	-0.1127	0.0299	-0.2485	0.0660	0.7833	0.1877	0.2680	0.0835
4	350.16	0.8002	-0.1191	0.0336	-0.2864	0.0748	0.6756	0.2164	0.2355	0.0944
4	350.16	0.8582	-0.1361	0.0380	-0.3288	0.0859	0.5001	0.2505	-0.1444	0.0955
4	350.16	0.9101	-0.1700	0.0415	-0.3614	0.0966	0.3519	0.2835	-0.0179	0.0988
4	350.16	0.9728	-0.1865	0.0480	-0.3468	0.1088	0.2344	0.3289	0.2142	0.1208

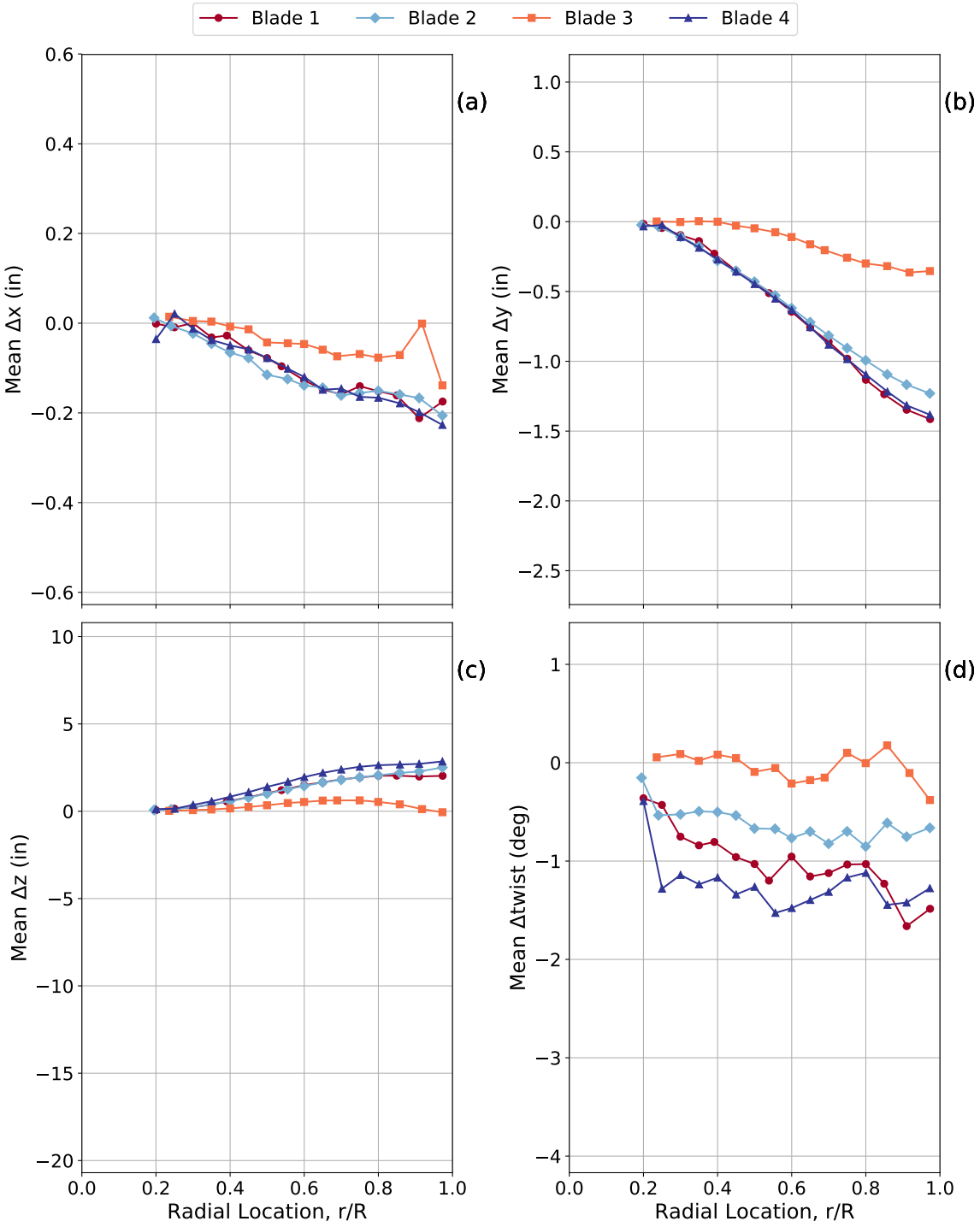


Figure 2.16-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.3, α = -0.6° NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Table 2.16-44. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.07$, $\mu = 0.3$, $\alpha = -0.6°$
NFAC run 67, points 14 to 18. BD run 32, points 5032 to 5071.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	-0.0012	0.0070	-0.0165	0.0031	0.0613	0.0089	-0.3610	0.0535
1	355.08	0.2499	-0.0093	0.0032	-0.0453	0.0060	0.1483	0.0150	-0.4294	0.0969
1	355.08	0.2998	0.0003	0.0029	-0.0962	0.0127	0.2254	0.0285	-0.7521	0.1218
1	355.08	0.3498	-0.0318	0.0055	-0.1390	0.0218	0.3872	0.0470	-0.8406	0.1138
1	355.08	0.3913	-0.0276	0.0081	-0.2294	0.0314	0.5551	0.0651	-0.8059	0.1080
1	355.08	0.4496	-0.0606	0.0116	-0.3514	0.0449	0.8005	0.0877	-0.9595	0.1183
1	355.08	0.4997	-0.0778	0.0143	-0.4319	0.0567	1.0289	0.1078	-1.0300	0.1203
1	355.08	0.5387	-0.0961	0.0169	-0.5120	0.0652	1.2077	0.1209	-1.1988	0.1123
1	355.08	0.5996	-0.1274	0.0206	-0.6450	0.0788	1.4925	0.1415	-0.9548	0.1174
1	355.08	0.6498	-0.1476	0.0233	-0.7577	0.0904	1.6584	0.1580	-1.1570	0.1097
1	355.08	0.6998	-0.1590	0.0264	-0.8604	0.1022	1.8227	0.1775	-1.1223	0.1126
1	355.08	0.7500	-0.1404	0.0296	-0.9815	0.1152	1.9366	0.1991	-1.0349	0.1122
1	355.08	0.8001	-0.1517	0.0325	-1.1326	0.1294	2.0354	0.2235	-1.0307	0.1168
1	355.08	0.8497	-0.1610	0.0355	-1.2362	0.1437	2.0372	0.2522	-1.2307	0.1194
1	355.08	0.9102	-0.2118	0.0394	-1.3472	0.1626	1.9874	0.2882	-1.6619	0.1199
1	355.08	0.9734	-0.1747	0.0433	-1.4142	0.1809	2.0279	0.3288	-1.4851	0.1223
2	355.08	0.1949	0.0119	0.0050	-0.0234	0.0026	0.0710	0.0049	-0.1532	0.0293
2	355.08	0.2405	-0.0059	0.0031	-0.0354	0.0062	0.1013	0.0085	-0.5348	0.0585
2	355.08	0.2999	-0.0230	0.0033	-0.1077	0.0126	0.2302	0.0157	-0.5251	0.0734
2	355.08	0.3498	-0.0455	0.0066	-0.1769	0.0224	0.3992	0.0268	-0.4946	0.0695
2	355.08	0.3998	-0.0656	0.0113	-0.2801	0.0352	0.5775	0.0397	-0.5014	0.0695
2	355.08	0.4496	-0.0775	0.0149	-0.3523	0.0482	0.7798	0.0507	-0.5366	0.0702
2	355.08	0.4995	-0.1149	0.0192	-0.4308	0.0616	1.0045	0.0627	-0.6687	0.0750
2	355.08	0.5551	-0.1245	0.0241	-0.5284	0.0745	1.2635	0.0770	-0.6725	0.0764
2	355.08	0.5996	-0.1388	0.0279	-0.6192	0.0834	1.4434	0.0888	-0.7660	0.0820
2	355.08	0.6497	-0.1440	0.0314	-0.7200	0.0911	1.6495	0.1037	-0.7002	0.0875
2	355.08	0.6996	-0.1610	0.0358	-0.8154	0.1010	1.8001	0.1232	-0.8239	0.0983
2	355.08	0.7495	-0.1557	0.0392	-0.9058	0.1108	1.9455	0.1411	-0.6987	0.1047
2	355.08	0.7996	-0.1507	0.0437	-0.9935	0.1228	2.0575	0.1660	-0.8514	0.1052
2	355.08	0.8578	-0.1590	0.0470	-1.0942	0.1362	2.1922	0.2023	-0.6128	0.0989
2	355.08	0.9100	-0.1668	0.0502	-1.1672	0.1478	2.2757	0.2384	-0.7522	0.0989
2	355.08	0.9727	-0.2058	0.0545	-1.2302	0.1636	2.5042	0.2877	-0.6624	0.0983
3	355.08	0.2357	0.0144	0.0091	0.0010	0.0029	0.0245	0.0074	0.0545	0.0675
3	355.08	0.2995	0.0049	0.0032	-0.0027	0.0072	0.0624	0.0155	0.0887	0.1088
3	355.08	0.3493	0.0036	0.0034	0.0034	0.0124	0.0991	0.0267	0.0189	0.0958
3	355.08	0.4000	-0.0075	0.0068	-0.0006	0.0198	0.1626	0.0407	0.0818	0.0956
3	355.08	0.4497	-0.0137	0.0098	-0.0284	0.0266	0.2450	0.0545	0.0468	0.1028
3	355.08	0.4997	-0.0429	0.0129	-0.0476	0.0347	0.3417	0.0698	-0.0936	0.1056
3	355.08	0.5556	-0.0447	0.0162	-0.0757	0.0439	0.4702	0.0863	-0.0540	0.1064
3	355.08	0.5995	-0.0465	0.0193	-0.1102	0.0511	0.5300	0.1024	-0.2116	0.1063
3	355.08	0.6498	-0.0591	0.0237	-0.1619	0.0590	0.6102	0.1203	-0.1773	0.1147
3	355.08	0.6890	-0.0739	0.0269	-0.2042	0.0662	0.6210	0.1368	-0.1514	0.1112
3	355.08	0.7495	-0.0688	0.0325	-0.2580	0.0772	0.6230	0.1582	0.1003	0.1119
3	355.08	0.7998	-0.0769	0.0381	-0.2994	0.0868	0.5330	0.1774	-0.0046	0.1169
3	355.08	0.8577	-0.0711	0.0459	-0.3185	0.0992	0.3970	0.2038	0.1764	0.1184
3	355.08	0.9178	-0.0009	0.0593	-0.3641	0.1127	0.1225	0.2375	-0.1047	0.1599
3	355.08	0.9729	-0.1386	0.0661	-0.3538	0.1249	-0.0566	0.2661	-0.3797	0.1544
4	355.08	0.2001	-0.0354	0.0114	-0.0335	0.0047	0.1218	0.0176	-0.3900	0.0872
4	355.08	0.2502	0.0209	0.0036	-0.0238	0.0057	0.1436	0.0209	-1.2811	0.2180
4	355.08	0.3001	-0.0124	0.0039	-0.1101	0.0163	0.3627	0.0469	-1.1411	0.2278
4	355.08	0.3502	-0.0376	0.0083	-0.1865	0.0288	0.5727	0.0764	-1.2370	0.2279
4	355.08	0.4002	-0.0496	0.0127	-0.2706	0.0423	0.8349	0.1072	-1.1676	0.2370
4	355.08	0.4500	-0.0584	0.0171	-0.3580	0.0563	1.0921	0.1408	-1.3395	0.2295
4	355.08	0.5001	-0.0777	0.0214	-0.4467	0.0711	1.3982	0.1755	-1.2619	0.2354
4	355.08	0.5560	-0.1015	0.0263	-0.5514	0.0877	1.6877	0.2148	-1.5271	0.2419
4	355.08	0.6001	-0.1200	0.0309	-0.6321	0.1005	1.9584	0.2465	-1.4777	0.2442
4	355.08	0.6501	-0.1483	0.0354	-0.7552	0.1157	2.1981	0.2837	-1.3954	0.2507
4	355.08	0.6999	-0.1460	0.0398	-0.8811	0.1312	2.3881	0.3221	-1.3130	0.2532
4	355.08	0.7500	-0.1642	0.0445	-0.9847	0.1478	2.5476	0.3611	-1.1671	0.2658
4	355.08	0.8002	-0.1662	0.0492	-1.0953	0.1655	2.6365	0.4030	-1.1199	0.2623
4	355.08	0.8582	-0.1787	0.0563	-1.2172	0.1893	2.6756	0.4529	-1.4454	0.2650
4	355.08	0.9101	-0.1984	0.0616	-1.3155	0.2111	2.7131	0.5001	-1.4219	0.2620
4	355.08	0.9728	-0.2268	0.0717	-1.3829	0.2367	2.8499	0.5546	-1.2763	0.2762

2.17 Run 67, Points 34 to 39

2.17.1 Pitch, Flap, and Lag

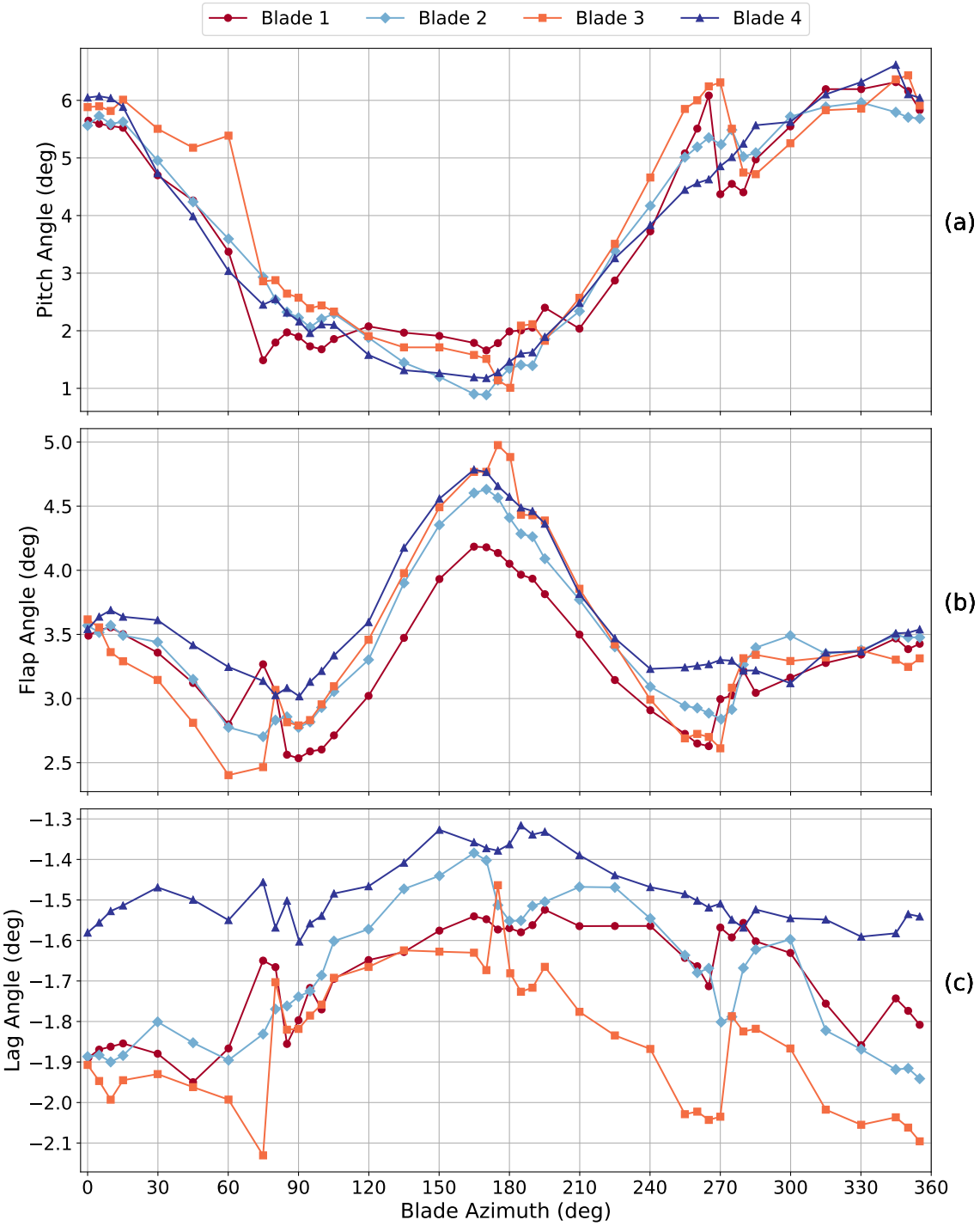


Figure 2.17-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-1. Pitch, flap, and lag vs azimuth for Blade 1.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	5.6466	3.4902	-1.8891	0.1049	0.0557	0.0321
4.92	5.5927	3.5351	-1.8694	0.1005	0.0403	0.0290
9.84	5.5546	3.5545	-1.8622	0.0813	0.0399	0.0229
15.12	5.5242	3.5021	-1.8542	0.0853	0.0384	0.0232
29.88	4.6990	3.3579	-1.8795	0.0861	0.0386	0.0221
45	4.2615	3.1213	-1.9498	0.1146	0.0496	0.0324
60.12	3.3715	2.7980	-1.8665	0.1170	0.0556	0.0315
74.88	1.4882	3.2672	-1.6497	0.1341	0.0705	0.0392
80.16	1.7956	3.0568	-1.6658	0.0730	0.0419	0.0288
85.08	1.9714	2.5618	-1.8554	0.0476	0.0272	0.0171
90	1.8956	2.5346	-1.7970	0.0416	0.0298	0.0185
94.92	1.7300	2.5878	-1.7171	0.0455	0.0315	0.0164
99.84	1.6779	2.6025	-1.7702	0.0370	0.0176	0.0150
105.12	1.8558	2.7127	-1.6947	0.0356	0.0217	0.0194
119.88	2.0765	3.0207	-1.6484	0.0407	0.0367	0.0231
135	1.9667	3.4729	-1.6285	0.0371	0.0264	0.0146
150.12	1.9107	3.9315	-1.5757	0.0399	0.0239	0.0221
164.88	1.7889	4.1843	-1.5404	0.0406	0.0236	0.0217
170.16	1.6594	4.1792	-1.5476	0.0353	0.0203	0.0197
175.08	1.7853	4.1350	-1.5730	0.0629	0.0270	0.0205
180	1.9870	4.0508	-1.5696	0.0564	0.0295	0.0249
184.92	2.0053	3.9655	-1.5797	0.0702	0.0361	0.0246
189.84	2.0546	3.9343	-1.5622	0.0927	0.0410	0.0327
195.12	2.4005	3.8138	-1.5243	0.1400	0.0734	0.0487
209.88	2.0364	3.4988	-1.5646	0.0436	0.0218	0.0311
225	2.8720	3.1442	-1.5643	0.0435	0.0235	0.0239
240.12	3.7266	2.9087	-1.5642	0.0760	0.0306	0.0174
254.88	5.0799	2.7245	-1.6430	0.0589	0.0336	0.0171
260.16	5.5090	2.6494	-1.6636	0.0859	0.0299	0.0247
265.08	6.0835	2.6287	-1.7130	0.1069	0.0517	0.0290
270	4.3708	2.9953	-1.5681	0.0635	0.0259	0.0161
274.92	4.5494	3.0245	-1.5924	0.0567	0.0178	0.0238
279.84	4.4032	3.2164	-1.5567	0.0484	0.0313	0.0216
285.12	4.9744	3.0444	-1.6022	0.0533	0.0290	0.0206
299.88	5.5480	3.1631	-1.6308	0.0785	0.0383	0.0294
315	6.1943	3.2774	-1.7559	0.0541	0.0217	0.0207
330.12	6.1946	3.3427	-1.8587	0.0555	0.0287	0.0209
344.88	6.3157	3.4687	-1.7430	0.0800	0.0312	0.0282
350.16	6.1613	3.3853	-1.7737	0.0764	0.0405	0.0365
355.08	5.8311	3.4272	-1.8082	0.1315	0.0512	0.0339

Table 2.17-2. Pitch, flap, and lag vs azimuth for Blade 2.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	5.5637	3.5693	-1.8866	0.1348	0.0639	0.0387
4.92	5.7289	3.5150	-1.8830	0.0780	0.0412	0.0235
9.84	5.5931	3.5704	-1.8998	0.0526	0.0323	0.0231
15.12	5.6267	3.4923	-1.8840	0.0662	0.0244	0.0220
29.88	4.9555	3.4404	-1.8009	0.0588	0.0324	0.0189
45	4.2373	3.1498	-1.8525	0.0660	0.0317	0.0165
60.12	3.5952	2.7751	-1.8955	0.1704	0.0655	0.0346
74.88	2.9320	2.7027	-1.8310	0.1327	0.0496	0.0259
80.16	2.5417	2.8318	-1.7695	0.0341	0.0262	0.0159
85.08	2.3250	2.8577	-1.7616	0.0435	0.0311	0.0191
90	2.2262	2.7740	-1.7389	0.0339	0.0280	0.0201
94.92	2.0599	2.8181	-1.7250	0.0345	0.0305	0.0138
99.84	2.2045	2.9300	-1.6861	0.0442	0.0275	0.0196
105.12	2.2972	3.0541	-1.6015	0.0356	0.0286	0.0134
119.88	1.8805	3.3021	-1.5721	0.0438	0.0244	0.0140
135	1.4459	3.9008	-1.4728	0.0301	0.0228	0.0198
150.12	1.1999	4.3535	-1.4405	0.0403	0.0226	0.0161
164.88	0.9019	4.6026	-1.3841	0.0355	0.0208	0.0170
170.16	0.8866	4.6310	-1.4022	0.0492	0.0301	0.0273
175.08	1.1435	4.5658	-1.5128	0.0423	0.0246	0.0274
180	1.3435	4.4102	-1.5517	0.0451	0.0309	0.0222
184.92	1.4071	4.2846	-1.5509	0.0652	0.0256	0.0279
189.84	1.3939	4.2619	-1.5148	0.0715	0.0303	0.0184
195.12	1.8574	4.0902	-1.5045	0.0999	0.0451	0.0223
209.88	2.3390	3.7710	-1.4678	0.0434	0.0312	0.0330
225	3.3836	3.4031	-1.4690	0.0497	0.0299	0.0158
240.12	4.1686	3.0920	-1.5458	0.0506	0.0157	0.0214
254.88	5.0129	2.9415	-1.6364	0.0806	0.0510	0.0238
260.16	5.1911	2.9265	-1.6796	0.0587	0.0380	0.0158
265.08	5.3513	2.8862	-1.6687	0.0655	0.0247	0.0247
270.35	5.2345	2.8391	-1.8014	0.0852	0.0408	0.0157
274.92	5.4867	2.9149	-1.7884	0.1083	0.0408	0.0204
279.84	5.0219	3.2640	-1.6680	0.0608	0.0485	0.0171
285.12	5.0905	3.3969	-1.6223	0.0559	0.0300	0.0196
299.88	5.7175	3.4906	-1.5973	0.0484	0.0333	0.0168
315	5.8866	3.3494	-1.8222	0.0736	0.0253	0.0204
330.12	5.9627	3.3785	-1.8687	0.0645	0.0183	0.0160
344.88	5.7946	3.4922	-1.9184	0.0686	0.0283	0.0320
350.16	5.7050	3.4767	-1.9156	0.0663	0.0427	0.0177
355.08	5.6855	3.4766	-1.9412	0.1025	0.0466	0.0281

Table 2.17-3. Pitch, flap, and lag vs azimuth for Blade 3.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	5.8822	3.6170	-1.9072	0.1275	0.0435	0.0241
4.92	5.8970	3.5548	-1.9469	0.2034	0.0653	0.0381
9.84	5.8159	3.3618	-1.9930	0.0706	0.0282	0.0270
15.12	6.0111	3.2904	-1.9450	0.0660	0.0383	0.0252
29.88	5.5055	3.1450	-1.9298	0.0594	0.0388	0.0205
45	5.1774	2.8110	-1.9620	0.0788	0.0387	0.0252
60.12	5.3871	2.4028	-1.9928	0.3418	0.1317	0.0671
74.88	2.8586	2.4651	-2.1305	0.0555	0.0302	0.0270
80.16	2.8781	3.0675	-1.7029	0.0836	0.0426	0.0402
85.08	2.6442	2.8150	-1.8202	0.0413	0.0260	0.0252
90	2.5739	2.7905	-1.8183	0.0375	0.0244	0.0236
94.92	2.3897	2.8323	-1.7854	0.0418	0.0190	0.0232
99.84	2.4397	2.9548	-1.7583	0.0371	0.0253	0.0180
105.12	2.3322	3.0958	-1.6921	0.0378	0.0260	0.0207
119.88	1.9065	3.4584	-1.6653	0.0440	0.0363	0.0228
135	1.7115	3.9774	-1.6245	0.0379	0.0405	0.0166
150.12	1.7118	4.4915	-1.6276	0.0450	0.0319	0.0200
164.88	1.5802	4.7668	-1.6302	0.0470	0.0357	0.0292
170.16	1.5115	4.7677	-1.6732	0.0428	0.0331	0.0182
175.08	1.1410	4.9759	-1.4636	0.0484	0.0301	0.0246
180.35	1.0098	4.8830	-1.6810	0.0984	0.0592	0.0220
184.92	2.0891	4.4333	-1.7265	0.0591	0.0316	0.0294
189.84	2.1128	4.4290	-1.7166	0.0644	0.0316	0.0270
195.12	1.8257	4.3879	-1.6651	0.0472	0.0265	0.0189
209.88	2.5714	3.8561	-1.7761	0.0563	0.0197	0.0211
225	3.5087	3.4218	-1.8344	0.0558	0.0299	0.0274
240.12	4.6604	2.9921	-1.8678	0.0546	0.0177	0.0214
254.88	5.8506	2.6895	-2.0288	0.0799	0.0302	0.0255
260.16	6.0004	2.7241	-2.0225	0.0859	0.0330	0.0204
265.08	6.2429	2.7002	-2.0429	0.1069	0.0431	0.0198
270	6.3113	2.6120	-2.0350	0.1372	0.0649	0.0290
274.92	5.5069	3.0843	-1.7870	0.6432	0.2155	0.0699
279.84	4.7461	3.3143	-1.8246	0.0572	0.0224	0.0159
285.12	4.7176	3.3410	-1.8180	0.0664	0.0335	0.0178
299.88	5.2548	3.2924	-1.8666	0.0854	0.0278	0.0171
315	5.8291	3.3204	-2.0176	0.0579	0.0260	0.0109
330.12	5.8561	3.3737	-2.0549	0.0770	0.0266	0.0166
344.88	6.3644	3.3029	-2.0365	0.0597	0.0313	0.0235
350.16	6.4339	3.2469	-2.0619	0.1009	0.0373	0.0303
355.08	5.9095	3.3134	-2.0958	0.1187	0.0994	0.0440

Table 2.17-4. Pitch, flap, and lag vs azimuth for Blade 4.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	6.0478	3.5420	-1.5807	0.0797	0.0349	0.0248
4.92	6.0715	3.6380	-1.5559	0.0575	0.0228	0.0249
9.84	6.0376	3.6890	-1.5276	0.0610	0.0284	0.0224
15.12	5.8857	3.6377	-1.5138	0.0584	0.0242	0.0189
29.88	4.7358	3.6111	-1.4690	0.0541	0.0291	0.0236
45	3.9877	3.4167	-1.4995	0.0638	0.0331	0.0217
60.12	3.0374	3.2461	-1.5498	0.0921	0.0320	0.0260
74.88	2.4522	3.1373	-1.4560	0.1095	0.0420	0.0322
80.16	2.5489	3.0260	-1.5683	0.0388	0.0324	0.0159
85.08	2.3151	3.0824	-1.5020	0.0432	0.0245	0.0246
90.35	2.1618	3.0170	-1.6028	0.0444	0.0299	0.0196
94.92	1.9605	3.1302	-1.5579	0.0321	0.0267	0.0175
99.84	2.1099	3.2150	-1.5392	0.0365	0.0336	0.0204
105.12	2.1027	3.3359	-1.4842	0.0341	0.0228	0.0153
119.88	1.5807	3.5957	-1.4662	0.0296	0.0209	0.0203
135	1.3149	4.1757	-1.4081	0.0351	0.0313	0.0282
150.12	1.2650	4.5580	-1.3269	0.0310	0.0213	0.0236
164.88	1.1923	4.7849	-1.3578	0.0407	0.0231	0.0236
170.16	1.1780	4.7658	-1.3722	0.0358	0.0235	0.0202
175.08	1.2786	4.6571	-1.3783	0.0328	0.0256	0.0245
180	1.4628	4.5732	-1.3627	0.0530	0.0302	0.0230
184.92	1.6036	4.4894	-1.3159	0.0388	0.0234	0.0206
189.84	1.6249	4.4620	-1.3387	0.0452	0.0301	0.0246
195.12	1.8925	4.3628	-1.3317	0.0601	0.0359	0.0259
209.88	2.4840	3.8157	-1.3895	0.0588	0.0261	0.0213
225	3.2594	3.4703	-1.4390	0.0542	0.0281	0.0170
240.12	3.8336	3.2311	-1.4683	0.0824	0.0339	0.0151
254.88	4.4474	3.2431	-1.4856	0.0663	0.0224	0.0187
260.16	4.5645	3.2552	-1.5020	0.0535	0.0335	0.0166
265.08	4.6283	3.2678	-1.5188	0.0868	0.0259	0.0143
270	4.8563	3.3008	-1.5090	0.0585	0.0237	0.0161
274.92	5.0145	3.2953	-1.5489	0.0721	0.0367	0.0177
279.84	5.2482	3.2182	-1.5683	0.0854	0.0266	0.0318
285.12	5.5675	3.2188	-1.5236	0.0750	0.0320	0.0252
299.88	5.6254	3.1196	-1.5451	0.0625	0.0398	0.0229
315	6.1031	3.3584	-1.5485	0.0468	0.0245	0.0234
330.12	6.3172	3.3666	-1.5906	0.0494	0.0287	0.0206
344.88	6.6160	3.5083	-1.5823	0.0516	0.0279	0.0220
350.16	6.1058	3.5129	-1.5350	0.0524	0.0224	0.0242
355.08	6.0448	3.5391	-1.5409	0.0746	0.0299	0.0266

2.17.2 Spanwise Elastic Deformations

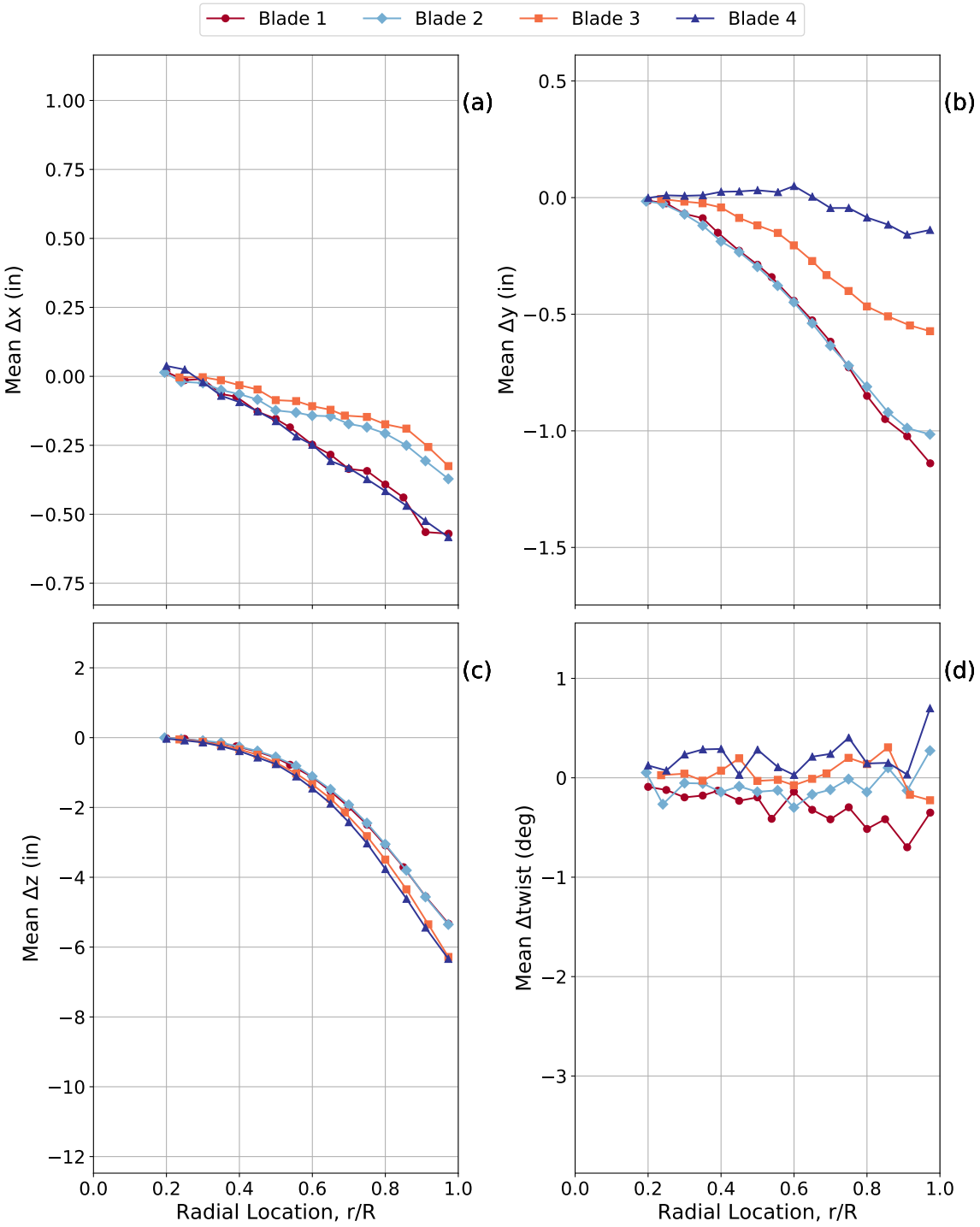


Figure 2.17-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-5. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0157	0.0044	-0.0131	0.0030	-0.0189	0.0075	-0.0911	0.0431
1	0.35	0.2499	-0.0141	0.0017	-0.0245	0.0038	-0.0353	0.0091	-0.1226	0.1063
1	0.35	0.2998	-0.0092	0.0016	-0.0695	0.0101	-0.1013	0.0225	-0.1968	0.1053
1	0.35	0.3498	-0.0640	0.0022	-0.0883	0.0173	-0.1633	0.0367	-0.1786	0.1002
1	0.35	0.3913	-0.0738	0.0024	-0.1505	0.0235	-0.2494	0.0491	-0.1296	0.0977
1	0.35	0.4496	-0.1280	0.0028	-0.2277	0.0318	-0.4038	0.0665	-0.2314	0.0972
1	0.35	0.4997	-0.1541	0.0027	-0.2878	0.0388	-0.5747	0.0821	-0.1966	0.0943
1	0.35	0.5387	-0.1850	0.0029	-0.3408	0.0440	-0.7778	0.0934	-0.4126	0.0933
1	0.35	0.5996	-0.2475	0.0031	-0.4423	0.0528	-1.1281	0.1112	-0.1400	0.0996
1	0.35	0.6498	-0.2840	0.0033	-0.5263	0.0597	-1.5360	0.1256	-0.3219	0.0951
1	0.35	0.6998	-0.3357	0.0031	-0.6177	0.0678	-1.9874	0.1394	-0.4177	0.0989
1	0.35	0.7500	-0.3431	0.0033	-0.7279	0.0742	-2.4949	0.1527	-0.2965	0.0977
1	0.35	0.8001	-0.3922	0.0035	-0.8501	0.0831	-3.0872	0.1672	-0.5147	0.1029
1	0.35	0.8497	-0.4391	0.0044	-0.9495	0.0904	-3.7100	0.1827	-0.4163	0.1038
1	0.35	0.9102	-0.5646	0.0048	-1.0230	0.0987	-4.5507	0.2006	-0.6990	0.1165
1	0.35	0.9734	-0.5704	0.0063	-1.1393	0.1087	-5.3310	0.2184	-0.3505	0.1268
2	0	0.1949	0.0141	0.0091	-0.0157	0.0041	-0.0032	0.0097	0.0522	0.0444
2	0	0.2405	-0.0197	0.0034	-0.0257	0.0035	-0.0455	0.0076	-0.2658	0.1394
2	0	0.2999	-0.0241	0.0025	-0.0713	0.0121	-0.0862	0.0264	-0.0531	0.1375
2	0	0.3498	-0.0498	0.0040	-0.1197	0.0206	-0.1445	0.0443	-0.0571	0.1309
2	0	0.3998	-0.0645	0.0051	-0.1877	0.0295	-0.2595	0.0619	-0.1437	0.1295
2	0	0.4496	-0.0840	0.0066	-0.2334	0.0382	-0.3826	0.0793	-0.0859	0.1326
2	0	0.4995	-0.1235	0.0072	-0.2965	0.0473	-0.5516	0.0974	-0.1411	0.1295
2	0	0.5551	-0.1312	0.0079	-0.3775	0.0578	-0.8094	0.1168	-0.1258	0.1315
2	0	0.5996	-0.1426	0.0084	-0.4489	0.0663	-1.1102	0.1324	-0.2990	0.1322
2	0	0.6497	-0.1446	0.0082	-0.5389	0.0762	-1.4817	0.1501	-0.1674	0.1311
2	0	0.6996	-0.1723	0.0088	-0.6352	0.0861	-1.9243	0.1688	-0.1192	0.1328
2	0	0.7495	-0.1843	0.0089	-0.7206	0.0961	-2.4479	0.1876	-0.0130	0.1328
2	0	0.7996	-0.2071	0.0083	-0.8107	0.1060	-3.0507	0.2066	-0.1426	0.1346
2	0	0.8578	-0.2502	0.0095	-0.9210	0.1184	-3.8009	0.2294	0.1007	0.1326
2	0	0.9100	-0.3065	0.0096	-0.9885	0.1294	-4.5626	0.2503	-0.1290	0.1385
2	0	0.9727	-0.3717	0.0109	-1.0150	0.1434	-5.3521	0.2786	0.2729	0.1456
3	0	0.2357	-0.0038	0.0051	-0.0059	0.0029	-0.0518	0.0077	0.0262	0.0780
3	0	0.2995	-0.0032	0.0018	-0.0171	0.0065	-0.1195	0.0159	0.0416	0.1257
3	0	0.3493	-0.0143	0.0024	-0.0242	0.0123	-0.2147	0.0275	-0.0287	0.1183
3	0	0.4000	-0.0322	0.0033	-0.0422	0.0188	-0.3360	0.0415	0.0719	0.1186
3	0	0.4497	-0.0476	0.0047	-0.0871	0.0245	-0.4904	0.0533	0.1965	0.1175
3	0	0.4997	-0.0863	0.0058	-0.1189	0.0314	-0.7156	0.0658	-0.0314	0.1177
3	0	0.5556	-0.0897	0.0064	-0.1515	0.0389	-1.0280	0.0800	-0.0204	0.1162
3	0	0.5995	-0.1082	0.0068	-0.2048	0.0448	-1.3367	0.0906	-0.0751	0.1180
3	0	0.6498	-0.1212	0.0071	-0.2720	0.0517	-1.7468	0.1031	-0.0106	0.1151
3	0	0.6890	-0.1423	0.0070	-0.3323	0.0573	-2.1411	0.1126	0.0444	0.1131
3	0	0.7495	-0.1472	0.0071	-0.4005	0.0655	-2.8223	0.1271	0.2007	0.1193
3	0	0.7998	-0.1738	0.0072	-0.4667	0.0729	-3.4939	0.1394	0.1381	0.1160
3	0	0.8577	-0.1895	0.0082	-0.5091	0.0815	-4.3452	0.1540	0.3066	0.1249
3	0	0.9178	-0.2562	0.0104	-0.5481	0.0900	-5.3475	0.1696	-0.1707	0.1201
3	0	0.9729	-0.3254	0.0134	-0.5728	0.0991	-6.2820	0.1809	-0.2259	0.1381
4	0	0.2001	0.0377	0.0029	-0.0013	0.0016	-0.0309	0.0038	0.1240	0.0319
4	0	0.2502	0.0245	0.0014	0.0098	0.0024	-0.0813	0.0053	0.0735	0.0690
4	0	0.3001	-0.0214	0.0012	0.0077	0.0055	-0.1395	0.0117	0.2344	0.0767
4	0	0.3502	-0.0707	0.0015	0.0099	0.0090	-0.2460	0.0199	0.2857	0.0747
4	0	0.4002	-0.0934	0.0018	0.0249	0.0134	-0.3865	0.0289	0.2903	0.0707
4	0	0.4500	-0.1270	0.0018	0.0265	0.0169	-0.5702	0.0390	0.0298	0.0688
4	0	0.5001	-0.1625	0.0020	0.0315	0.0204	-0.7595	0.0495	0.2830	0.0716
4	0	0.5560	-0.2182	0.0022	0.0235	0.0247	-1.1121	0.0595	0.1070	0.0817
4	0	0.6001	-0.2481	0.0021	0.0497	0.0282	-1.4560	0.0677	0.0285	0.0782
4	0	0.6501	-0.3070	0.0023	0.0039	0.0325	-1.8899	0.0766	0.2123	0.0745
4	0	0.6999	-0.3326	0.0026	-0.0446	0.0367	-2.4228	0.0849	0.2408	0.0736
4	0	0.7500	-0.3730	0.0028	-0.0445	0.0406	-3.0313	0.0928	0.4039	0.0776
4	0	0.8002	-0.4161	0.0033	-0.0856	0.0447	-3.7651	0.1011	0.1442	0.0851
4	0	0.8582	-0.4694	0.0040	-0.1161	0.0506	-4.6173	0.1123	0.1506	0.0818
4	0	0.9101	-0.5245	0.0046	-0.1592	0.0538	-5.4419	0.1213	0.0327	0.0888
4	0	0.9728	-0.5830	0.0063	-0.1387	0.0601	-6.3376	0.1327	0.6989	0.0896

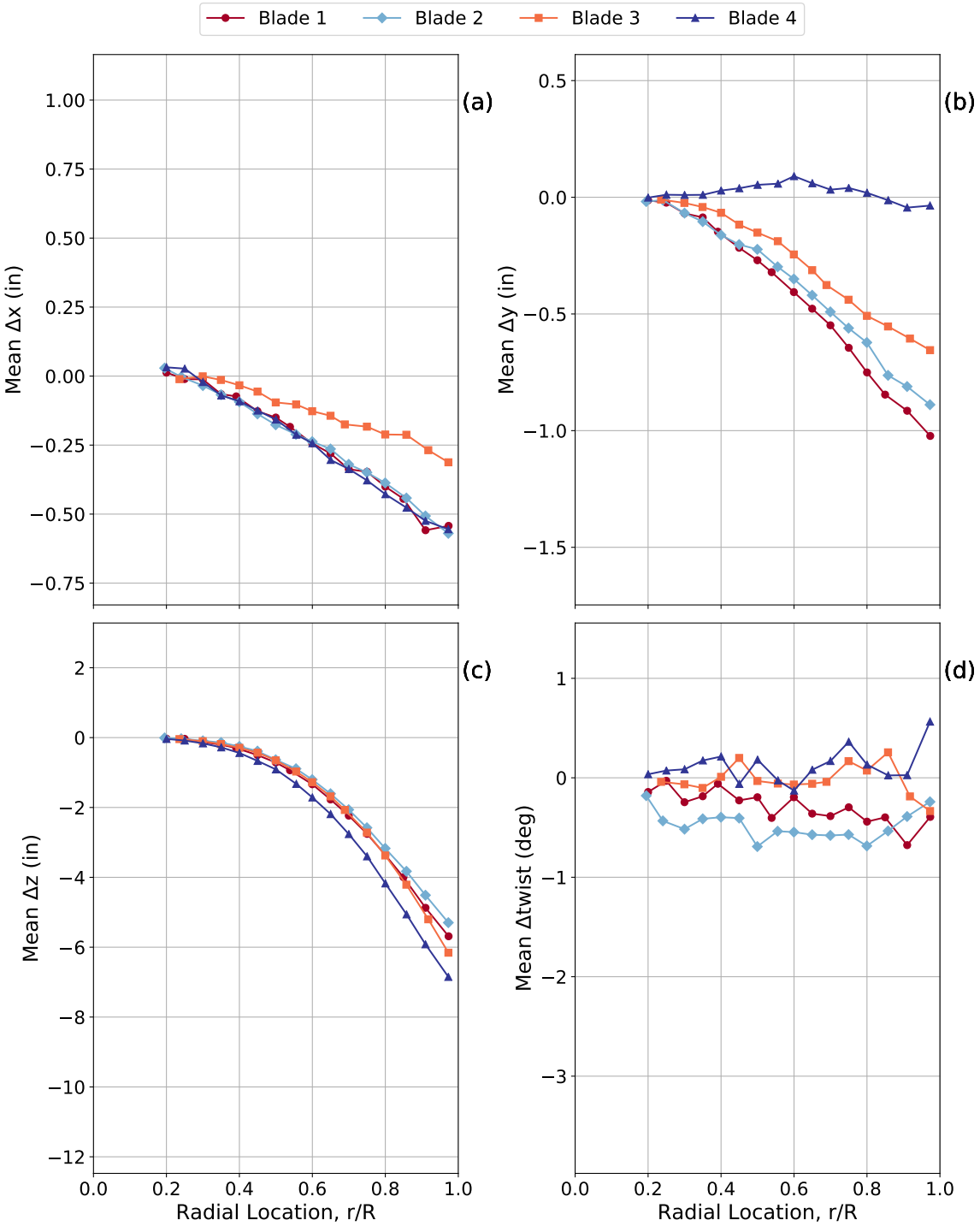


Figure 2.17-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-6. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0126	0.0042	-0.0132	0.0027	-0.0290	0.0061	-0.1427	0.0410
1	4.92	0.2499	-0.0107	0.0019	-0.0231	0.0030	-0.0351	0.0077	-0.0299	0.0934
1	4.92	0.2998	-0.0120	0.0017	-0.0690	0.0091	-0.1274	0.0190	-0.2454	0.1014
1	4.92	0.3498	-0.0653	0.0021	-0.0863	0.0151	-0.2038	0.0312	-0.1858	0.0993
1	4.92	0.3913	-0.0735	0.0023	-0.1475	0.0206	-0.2988	0.0424	-0.0601	0.0996
1	4.92	0.4496	-0.1271	0.0024	-0.2164	0.0271	-0.5010	0.0577	-0.2271	0.0958
1	4.92	0.4997	-0.1501	0.0027	-0.2699	0.0336	-0.7124	0.0698	-0.1955	0.1011
1	4.92	0.5387	-0.1838	0.0028	-0.3210	0.0382	-0.9355	0.0785	-0.4035	0.1029
1	4.92	0.5996	-0.2438	0.0027	-0.4065	0.0460	-1.3355	0.0918	-0.1956	0.1077
1	4.92	0.6498	-0.2804	0.0029	-0.4775	0.0522	-1.7715	0.1029	-0.3605	0.1017
1	4.92	0.6998	-0.3373	0.0030	-0.5486	0.0588	-2.2337	0.1132	-0.3853	0.1012
1	4.92	0.7500	-0.3466	0.0032	-0.6450	0.0653	-2.7554	0.1234	-0.2966	0.1020
1	4.92	0.8001	-0.4006	0.0038	-0.7506	0.0717	-3.3613	0.1342	-0.4408	0.1011
1	4.92	0.8497	-0.4447	0.0039	-0.8457	0.0782	-3.9959	0.1438	-0.3978	0.0999
1	4.92	0.9102	-0.5584	0.0046	-0.9149	0.0870	-4.8726	0.1569	-0.6770	0.1079
1	4.92	0.9734	-0.5425	0.0054	-1.0227	0.0957	-5.6871	0.1708	-0.3932	0.1146
2	4.92	0.1949	0.0290	0.0026	-0.0183	0.0017	-0.0084	0.0040	-0.1798	0.0319
2	4.92	0.2405	-0.0029	0.0018	-0.0121	0.0022	-0.0322	0.0058	-0.4332	0.0678
2	4.92	0.2999	-0.0345	0.0012	-0.0678	0.0051	-0.0924	0.0137	-0.5163	0.0821
2	4.92	0.3498	-0.0675	0.0019	-0.1044	0.0089	-0.1411	0.0229	-0.4127	0.0791
2	4.92	0.3998	-0.0934	0.0024	-0.1618	0.0130	-0.2535	0.0346	-0.3964	0.0767
2	4.92	0.4496	-0.1370	0.0029	-0.2027	0.0160	-0.3873	0.0456	-0.4052	0.0781
2	4.92	0.4995	-0.1764	0.0028	-0.2232	0.0195	-0.6347	0.0578	-0.6914	0.0787
2	4.92	0.5551	-0.2111	0.0028	-0.2980	0.0234	-0.8912	0.0704	-0.5372	0.0811
2	4.92	0.5996	-0.2373	0.0029	-0.3502	0.0263	-1.2017	0.0793	-0.5460	0.0838
2	4.92	0.6497	-0.2641	0.0027	-0.4198	0.0300	-1.6066	0.0904	-0.5723	0.0843
2	4.92	0.6996	-0.3196	0.0031	-0.4911	0.0335	-2.0638	0.1007	-0.5797	0.0825
2	4.92	0.7495	-0.3491	0.0034	-0.5608	0.0367	-2.5807	0.1121	-0.5710	0.0811
2	4.92	0.7996	-0.3870	0.0033	-0.6223	0.0407	-3.1714	0.1235	-0.6853	0.0839
2	4.92	0.8578	-0.4418	0.0036	-0.7632	0.0449	-3.8277	0.1377	-0.5345	0.0771
2	4.92	0.9100	-0.5067	0.0046	-0.8110	0.0493	-4.5112	0.1517	-0.3893	0.0788
2	4.92	0.9727	-0.5697	0.0054	-0.8889	0.0542	-5.2970	0.1624	-0.2411	0.0935
3	4.92	0.2357	-0.0111	0.0058	-0.0101	0.0047	-0.0429	0.0129	-0.0408	0.1349
3	4.92	0.2995	-0.0009	0.0022	-0.0242	0.0097	-0.1031	0.0238	-0.0657	0.2171
3	4.92	0.3493	-0.0139	0.0024	-0.0418	0.0194	-0.1847	0.0452	-0.1022	0.2027
3	4.92	0.4000	-0.0333	0.0039	-0.0664	0.0290	-0.2924	0.0650	0.0098	0.2063
3	4.92	0.4497	-0.0561	0.0050	-0.1172	0.0383	-0.4303	0.0849	0.1996	0.2078
3	4.92	0.4997	-0.0954	0.0062	-0.1514	0.0481	-0.6513	0.1048	-0.0321	0.2049
3	4.92	0.5556	-0.1027	0.0068	-0.1882	0.0593	-0.9714	0.1267	-0.0577	0.2072
3	4.92	0.5995	-0.1272	0.0072	-0.2451	0.0679	-1.2764	0.1434	-0.0676	0.2054
3	4.92	0.6498	-0.1437	0.0076	-0.3124	0.0777	-1.6836	0.1623	-0.0598	0.2040
3	4.92	0.6890	-0.1750	0.0077	-0.3761	0.0854	-2.0721	0.1773	-0.0406	0.2043
3	4.92	0.7495	-0.1832	0.0082	-0.4391	0.0981	-2.7186	0.2005	0.1678	0.2053
3	4.92	0.7998	-0.2116	0.0086	-0.5081	0.1088	-3.3741	0.2202	0.0730	0.2066
3	4.92	0.8577	-0.2125	0.0091	-0.5536	0.1221	-4.2107	0.2434	0.2558	0.2059
3	4.92	0.9178	-0.2684	0.0111	-0.6055	0.1367	-5.2011	0.2681	-0.1872	0.2015
3	4.92	0.9729	-0.3123	0.0128	-0.6551	0.1513	-6.1570	0.2893	-0.3343	0.2079
4	4.92	0.2001	0.0318	0.0022	-0.0015	0.0013	-0.0385	0.0030	0.0355	0.0261
4	4.92	0.2502	0.0270	0.0015	0.0108	0.0020	-0.0844	0.0055	0.0727	0.0562
4	4.92	0.3001	-0.0216	0.0011	0.0098	0.0041	-0.1659	0.0100	0.0855	0.0620
4	4.92	0.3502	-0.0702	0.0013	0.0104	0.0069	-0.2798	0.0171	0.1743	0.0589
4	4.92	0.4002	-0.0913	0.0016	0.0288	0.0102	-0.4408	0.0257	0.2137	0.0573
4	4.92	0.4500	-0.1250	0.0018	0.0386	0.0131	-0.6680	0.0340	-0.0621	0.0585
4	4.92	0.5001	-0.1575	0.0019	0.0532	0.0161	-0.9108	0.0422	0.1821	0.0583
4	4.92	0.5560	-0.2123	0.0022	0.0582	0.0200	-1.3264	0.0518	-0.0269	0.0554
4	4.92	0.6001	-0.2432	0.0023	0.0904	0.0230	-1.7141	0.0576	-0.1288	0.0673
4	4.92	0.6501	-0.3038	0.0023	0.0599	0.0264	-2.1906	0.0639	0.0809	0.0695
4	4.92	0.6999	-0.3367	0.0025	0.0326	0.0302	-2.7624	0.0712	0.1687	0.0690
4	4.92	0.7500	-0.3780	0.0029	0.0399	0.0342	-3.4000	0.0779	0.3621	0.0618
4	4.92	0.8002	-0.4280	0.0032	0.0190	0.0381	-4.1749	0.0843	0.1322	0.0659
4	4.92	0.8582	-0.4770	0.0035	-0.0129	0.0431	-5.0614	0.0938	0.0240	0.0692
4	4.92	0.9101	-0.5245	0.0037	-0.0443	0.0475	-5.9179	0.1022	0.0261	0.0699
4	4.92	0.9728	-0.5548	0.0052	-0.0357	0.0521	-6.8512	0.1151	0.5645	0.0698

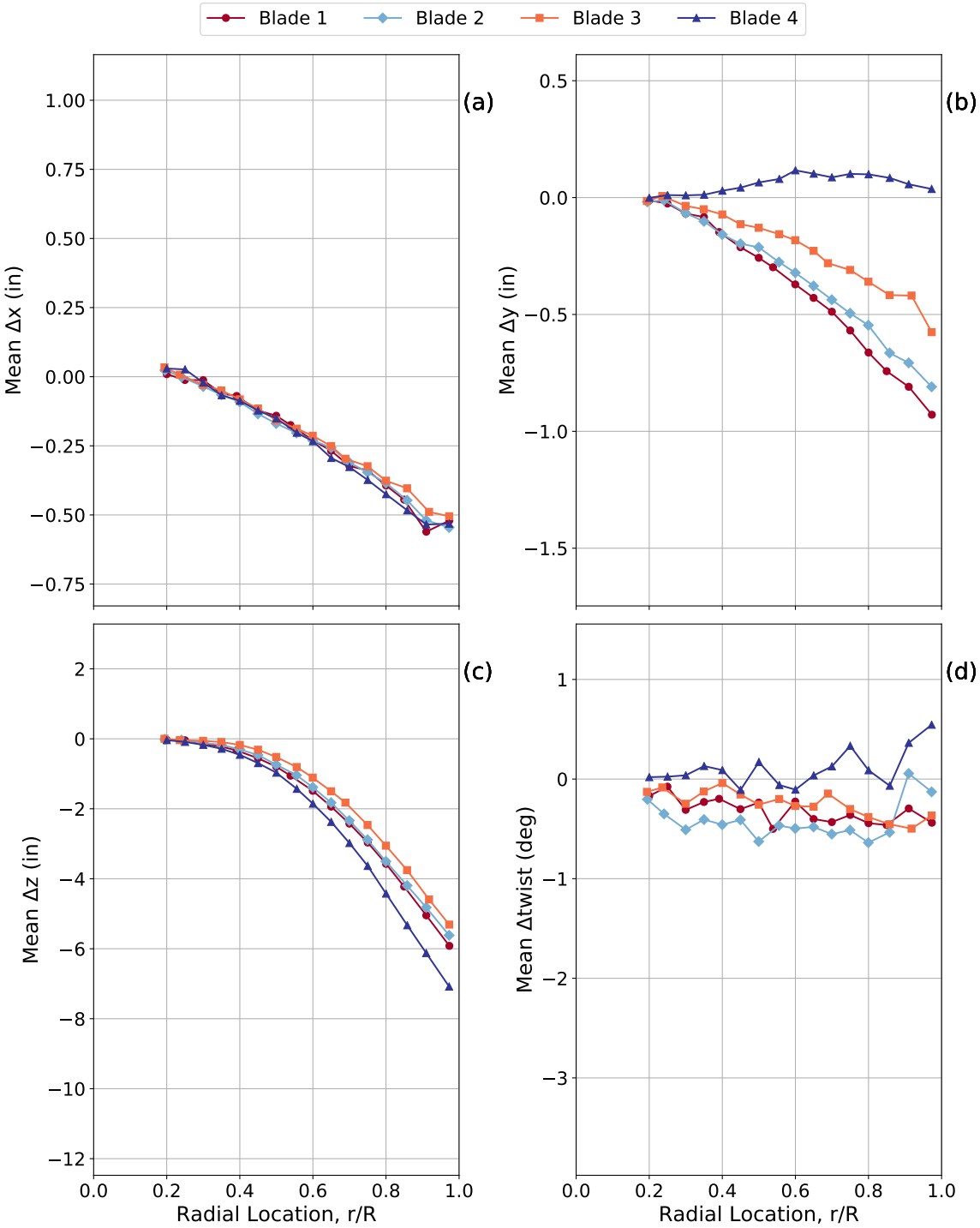


Figure 2.17-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-7. 10° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0093	0.0035	-0.0119	0.0019	-0.0322	0.0046	-0.1694	0.0340
1	9.84	0.2499	-0.0119	0.0020	-0.0252	0.0025	-0.0412	0.0071	-0.0763	0.0814
1	9.84	0.2998	-0.0124	0.0015	-0.0684	0.0058	-0.1431	0.0148	-0.3091	0.0830
1	9.84	0.3498	-0.0610	0.0021	-0.0832	0.0100	-0.2230	0.0243	-0.2302	0.0850
1	9.84	0.3913	-0.0696	0.0021	-0.1474	0.0133	-0.3319	0.0336	-0.1984	0.0863
1	9.84	0.4496	-0.1218	0.0020	-0.2123	0.0177	-0.5552	0.0463	-0.3021	0.0880
1	9.84	0.4997	-0.1412	0.0023	-0.2576	0.0213	-0.7972	0.0569	-0.2360	0.0882
1	9.84	0.5387	-0.1749	0.0022	-0.2981	0.0243	-1.0537	0.0648	-0.4998	0.0897
1	9.84	0.5996	-0.2296	0.0023	-0.3714	0.0288	-1.4853	0.0784	-0.2260	0.0931
1	9.84	0.6498	-0.2678	0.0025	-0.4291	0.0335	-1.9375	0.0913	-0.4011	0.0956
1	9.84	0.6998	-0.3229	0.0030	-0.4882	0.0377	-2.4240	0.1049	-0.4320	0.0908
1	9.84	0.7500	-0.3392	0.0033	-0.5686	0.0425	-2.9651	0.1197	-0.3603	0.0887
1	9.84	0.8001	-0.3934	0.0038	-0.6629	0.0473	-3.5743	0.1358	-0.4427	0.0875
1	9.84	0.8497	-0.4447	0.0049	-0.7426	0.0522	-4.2237	0.1516	-0.4614	0.0894
1	9.84	0.9102	-0.5607	0.0067	-0.8094	0.0582	-5.0459	0.1723	-0.2954	0.1408
1	9.84	0.9734	-0.5203	0.0066	-0.9289	0.0631	-5.9176	0.1984	-0.4383	0.0932
2	9.84	0.1949	0.0235	0.0030	-0.0182	0.0018	-0.0149	0.0040	-0.2035	0.0206
2	9.84	0.2405	-0.0008	0.0016	-0.0112	0.0022	-0.0364	0.0056	-0.3496	0.0499
2	9.84	0.2999	-0.0354	0.0012	-0.0667	0.0055	-0.1171	0.0131	-0.5085	0.0532
2	9.84	0.3498	-0.0654	0.0016	-0.1018	0.0093	-0.1729	0.0217	-0.4064	0.0553
2	9.84	0.3998	-0.0911	0.0018	-0.1578	0.0137	-0.3067	0.0326	-0.4578	0.0521
2	9.84	0.4496	-0.1343	0.0022	-0.1975	0.0173	-0.4613	0.0426	-0.4095	0.0550
2	9.84	0.4995	-0.1694	0.0024	-0.2124	0.0208	-0.7393	0.0526	-0.6268	0.0553
2	9.84	0.5551	-0.2035	0.0025	-0.2760	0.0250	-1.0404	0.0649	-0.4665	0.0549
2	9.84	0.5996	-0.2302	0.0027	-0.3215	0.0282	-1.3852	0.0744	-0.4963	0.0545
2	9.84	0.6497	-0.2566	0.0027	-0.3779	0.0318	-1.8250	0.0842	-0.4804	0.0559
2	9.84	0.6996	-0.3102	0.0028	-0.4370	0.0357	-2.3369	0.0937	-0.5527	0.0600
2	9.84	0.7495	-0.3457	0.0029	-0.4949	0.0396	-2.8850	0.1023	-0.5124	0.0569
2	9.84	0.7996	-0.3845	0.0031	-0.5461	0.0436	-3.5024	0.1121	-0.6383	0.0651
2	9.84	0.8578	-0.4471	0.0040	-0.6648	0.0482	-4.1941	0.1243	-0.5344	0.0611
2	9.84	0.9100	-0.5193	0.0053	-0.7071	0.0525	-4.8196	0.1352	0.0557	0.0856
2	9.84	0.9727	-0.5454	0.0049	-0.8095	0.0578	-5.6157	0.1469	-0.1284	0.0639
3	9.84	0.1938	0.0339	0.0037	-0.0146	0.0020	0.0017	0.0049	-0.1285	0.0229
3	9.84	0.2357	0.0073	0.0019	0.0067	0.0023	-0.0389	0.0048	-0.0841	0.0777
3	9.84	0.2995	-0.0297	0.0014	-0.0355	0.0056	-0.0583	0.0129	-0.2480	0.0685
3	9.84	0.3493	-0.0496	0.0016	-0.0498	0.0094	-0.0918	0.0211	-0.1248	0.0658
3	9.84	0.4000	-0.0818	0.0020	-0.0721	0.0139	-0.1757	0.0305	-0.0396	0.0670
3	9.84	0.4497	-0.1149	0.0022	-0.1139	0.0178	-0.3122	0.0395	-0.1548	0.0669
3	9.84	0.4997	-0.1574	0.0022	-0.1292	0.0221	-0.5196	0.0493	-0.2573	0.0685
3	9.84	0.5556	-0.1878	0.0022	-0.1566	0.0269	-0.8068	0.0589	-0.2001	0.0724
3	9.84	0.5995	-0.2135	0.0023	-0.1822	0.0307	-1.1095	0.0658	-0.2700	0.0732
3	9.84	0.6498	-0.2509	0.0023	-0.2278	0.0358	-1.5003	0.0745	-0.2773	0.0738
3	9.84	0.6890	-0.2968	0.0024	-0.2806	0.0391	-1.8234	0.0797	-0.1458	0.0653
3	9.84	0.7495	-0.3236	0.0025	-0.3095	0.0447	-2.4640	0.0883	-0.3007	0.0694
3	9.84	0.7998	-0.3761	0.0028	-0.3598	0.0497	-3.0547	0.0951	-0.3814	0.0727
3	9.84	0.8577	-0.4037	0.0029	-0.4172	0.0550	-3.7539	0.1046	-0.4534	0.0640
3	9.84	0.9178	-0.4890	0.0078	-0.4192	0.0622	-4.5907	0.1194	-0.4975	0.0968
3	9.84	0.9729	-0.5047	0.0043	-0.5756	0.0667	-5.3098	0.1296	-0.3655	0.0703
4	9.84	0.2001	0.0296	0.0023	-0.0011	0.0012	-0.0387	0.0032	0.0190	0.0259
4	9.84	0.2502	0.0264	0.0015	0.0106	0.0019	-0.0890	0.0050	0.0240	0.0561
4	9.84	0.3001	-0.0214	0.0010	0.0096	0.0040	-0.1740	0.0106	0.0378	0.0609
4	9.84	0.3502	-0.0672	0.0012	0.0120	0.0065	-0.2855	0.0170	0.1305	0.0555
4	9.84	0.4002	-0.0872	0.0016	0.0294	0.0098	-0.4578	0.0257	0.0897	0.0571
4	9.84	0.4500	-0.1224	0.0016	0.0426	0.0121	-0.6958	0.0347	-0.1087	0.0549
4	9.84	0.5001	-0.1509	0.0016	0.0648	0.0151	-0.9692	0.0430	0.1707	0.0558
4	9.84	0.5560	-0.2027	0.0017	0.0797	0.0189	-1.4306	0.0514	-0.0600	0.0541
4	9.84	0.6001	-0.2334	0.0018	0.1166	0.0217	-1.8551	0.0578	-0.1064	0.0587
4	9.84	0.6501	-0.2940	0.0022	0.1021	0.0251	-2.3755	0.0649	0.0363	0.0626
4	9.84	0.6999	-0.3268	0.0024	0.0866	0.0288	-2.9799	0.0719	0.1270	0.0639
4	9.84	0.7500	-0.3735	0.0026	0.1014	0.0318	-3.6342	0.0807	0.3328	0.0547
4	9.84	0.8002	-0.4250	0.0030	0.0995	0.0360	-4.4253	0.0911	0.0880	0.0594
4	9.84	0.8582	-0.4835	0.0037	0.0841	0.0402	-5.3295	0.1042	-0.0673	0.0650
4	9.84	0.9101	-0.5345	0.0052	0.0570	0.0441	-6.1247	0.1167	0.3634	0.0928
4	9.84	0.9728	-0.5319	0.0047	0.0368	0.0487	-7.0819	0.1307	0.5451	0.0605

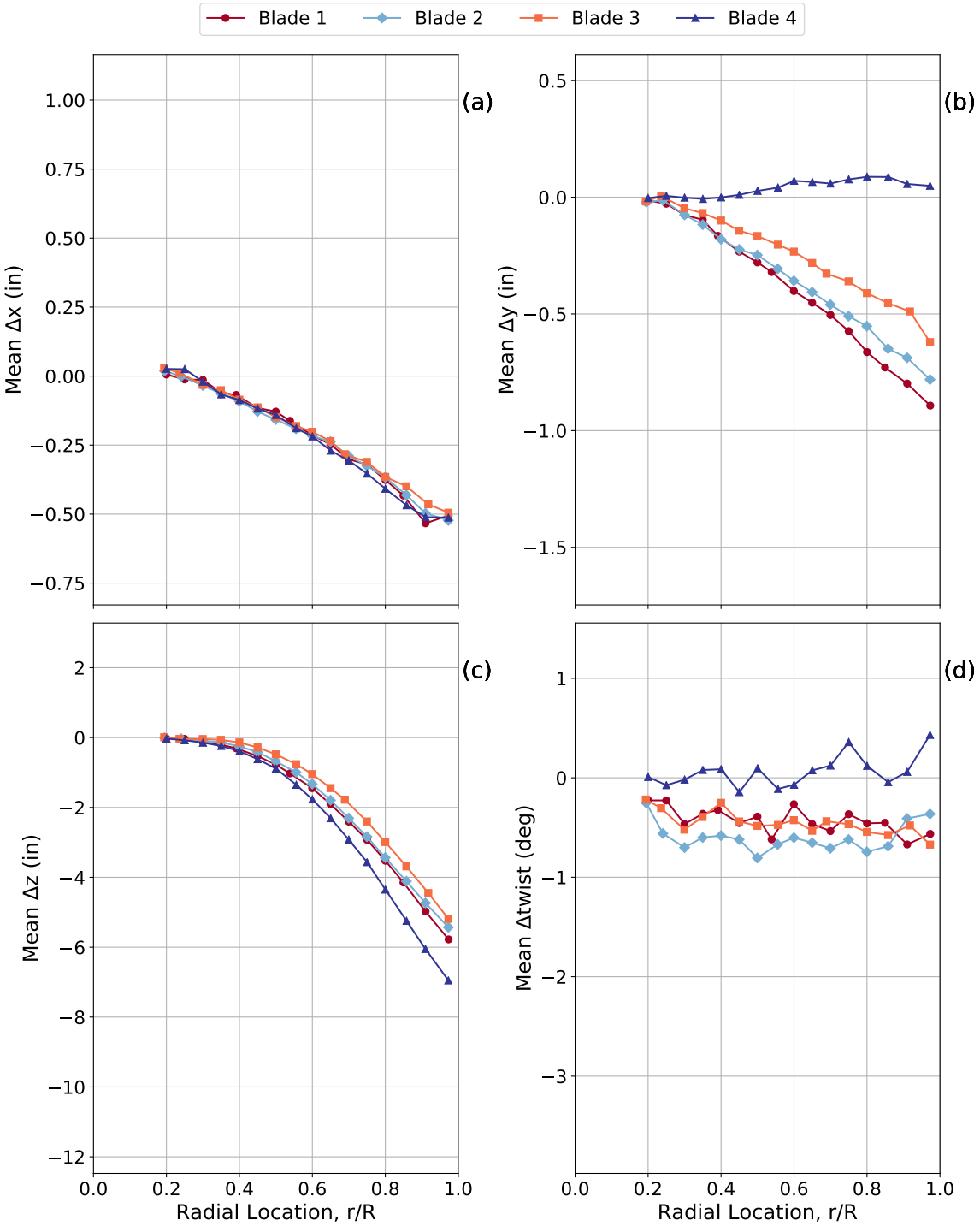


Figure 2.17-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-8. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0058	0.0040	-0.0140	0.0019	-0.0271	0.0057	-0.2269	0.0310
1	15.12	0.2499	-0.0121	0.0020	-0.0278	0.0027	-0.0382	0.0069	-0.2276	0.0825
1	15.12	0.2998	-0.0139	0.0017	-0.0758	0.0066	-0.1318	0.0177	-0.4650	0.0795
1	15.12	0.3498	-0.0595	0.0024	-0.0967	0.0116	-0.2021	0.0289	-0.3622	0.0832
1	15.12	0.3913	-0.0685	0.0024	-0.1653	0.0157	-0.3083	0.0392	-0.3238	0.0781
1	15.12	0.4496	-0.1153	0.0028	-0.2328	0.0209	-0.5293	0.0535	-0.4549	0.0767
1	15.12	0.4997	-0.1284	0.0033	-0.2792	0.0257	-0.7719	0.0661	-0.3912	0.0771
1	15.12	0.5387	-0.1622	0.0031	-0.3204	0.0293	-1.0250	0.0761	-0.6193	0.0778
1	15.12	0.5996	-0.2140	0.0036	-0.4018	0.0355	-1.4473	0.0925	-0.2653	0.0812
1	15.12	0.6498	-0.2478	0.0032	-0.4520	0.0401	-1.9096	0.1050	-0.4659	0.0777
1	15.12	0.6998	-0.3012	0.0035	-0.5044	0.0449	-2.4046	0.1178	-0.5359	0.0740
1	15.12	0.7500	-0.3207	0.0039	-0.5738	0.0500	-2.9256	0.1306	-0.3663	0.0779
1	15.12	0.8001	-0.3760	0.0042	-0.6635	0.0551	-3.5244	0.1441	-0.4581	0.0764
1	15.12	0.8497	-0.4325	0.0049	-0.7294	0.0601	-4.1476	0.1577	-0.4528	0.0822
1	15.12	0.9102	-0.5333	0.0053	-0.7984	0.0661	-4.9774	0.1785	-0.6702	0.0807
1	15.12	0.9734	-0.5049	0.0063	-0.8928	0.0724	-5.7769	0.1992	-0.5643	0.0777
2	15.12	0.1949	0.0185	0.0027	-0.0210	0.0014	-0.0059	0.0035	-0.2530	0.0259
2	15.12	0.2405	-0.0010	0.0020	-0.0125	0.0019	-0.0336	0.0047	-0.5598	0.0554
2	15.12	0.2999	-0.0342	0.0013	-0.0754	0.0043	-0.0933	0.0102	-0.7017	0.0648
2	15.12	0.3498	-0.0641	0.0018	-0.1175	0.0079	-0.1358	0.0188	-0.6002	0.0610
2	15.12	0.3998	-0.0910	0.0021	-0.1800	0.0112	-0.2547	0.0264	-0.5815	0.0602
2	15.12	0.4496	-0.1284	0.0024	-0.2237	0.0142	-0.4114	0.0345	-0.6200	0.0603
2	15.12	0.4995	-0.1575	0.0025	-0.2476	0.0175	-0.6781	0.0425	-0.8060	0.0599
2	15.12	0.5551	-0.1910	0.0025	-0.3065	0.0211	-0.9895	0.0507	-0.6706	0.0603
2	15.12	0.5996	-0.2168	0.0024	-0.3581	0.0245	-1.3286	0.0575	-0.6024	0.0616
2	15.12	0.6497	-0.2375	0.0026	-0.4065	0.0279	-1.7919	0.0648	-0.6528	0.0624
2	15.12	0.6996	-0.2896	0.0028	-0.4600	0.0315	-2.3054	0.0718	-0.7093	0.0633
2	15.12	0.7495	-0.3252	0.0029	-0.5095	0.0352	-2.8363	0.0781	-0.6209	0.0645
2	15.12	0.7996	-0.3664	0.0029	-0.5525	0.0391	-3.4350	0.0853	-0.7446	0.0659
2	15.12	0.8578	-0.4309	0.0033	-0.6492	0.0436	-4.1119	0.0938	-0.6881	0.0678
2	15.12	0.9100	-0.4971	0.0034	-0.6880	0.0478	-4.7357	0.1021	-0.4099	0.0746
2	15.12	0.9727	-0.5229	0.0044	-0.7812	0.0524	-5.4288	0.1161	-0.3637	0.0747
3	15.12	0.1938	0.0281	0.0035	-0.0181	0.0014	0.0088	0.0045	-0.2186	0.0256
3	15.12	0.2357	0.0117	0.0020	0.0055	0.0018	-0.0359	0.0052	-0.3053	0.0626
3	15.12	0.2995	-0.0317	0.0014	-0.0470	0.0042	-0.0422	0.0141	-0.5216	0.0709
3	15.12	0.3493	-0.0511	0.0019	-0.0679	0.0075	-0.0649	0.0242	-0.3940	0.0702
3	15.12	0.4000	-0.0853	0.0021	-0.0998	0.0111	-0.1400	0.0358	-0.2510	0.0669
3	15.12	0.4497	-0.1134	0.0026	-0.1435	0.0145	-0.2834	0.0472	-0.4389	0.0674
3	15.12	0.4997	-0.1486	0.0028	-0.1663	0.0179	-0.4791	0.0586	-0.4840	0.0697
3	15.12	0.5556	-0.1809	0.0026	-0.2029	0.0215	-0.7616	0.0716	-0.4738	0.0700
3	15.12	0.5995	-0.2017	0.0029	-0.2329	0.0246	-1.0449	0.0807	-0.4264	0.0750
3	15.12	0.6498	-0.2356	0.0030	-0.2814	0.0282	-1.4454	0.0915	-0.5328	0.0706
3	15.12	0.6890	-0.2831	0.0029	-0.3273	0.0312	-1.7766	0.1005	-0.4370	0.0753
3	15.12	0.7495	-0.3109	0.0032	-0.3604	0.0354	-2.4009	0.1149	-0.4671	0.0731
3	15.12	0.7998	-0.3651	0.0035	-0.4108	0.0394	-2.9893	0.1268	-0.5444	0.0731
3	15.12	0.8577	-0.3992	0.0038	-0.4539	0.0437	-3.6849	0.1413	-0.5756	0.0720
3	15.12	0.9178	-0.4644	0.0042	-0.4894	0.0489	-4.4501	0.1565	-0.4796	0.0757
3	15.12	0.9729	-0.4949	0.0046	-0.6208	0.0531	-5.1887	0.1704	-0.6720	0.0748
4	15.12	0.2001	0.0260	0.0026	-0.0037	0.0011	-0.0301	0.0029	0.0080	0.0204
4	15.12	0.2502	0.0250	0.0018	0.0058	0.0024	-0.0777	0.0047	-0.0740	0.0486
4	15.12	0.3001	-0.0202	0.0013	-0.0018	0.0041	-0.1468	0.0094	-0.0185	0.0499
4	15.12	0.3502	-0.0663	0.0015	-0.0072	0.0074	-0.2403	0.0156	0.0786	0.0546
4	15.12	0.4002	-0.0869	0.0020	-0.0007	0.0112	-0.3916	0.0234	0.0859	0.0539
4	15.12	0.4500	-0.1178	0.0021	0.0103	0.0145	-0.6181	0.0306	-0.1440	0.0552
4	15.12	0.5001	-0.1410	0.0024	0.0273	0.0181	-0.8871	0.0377	0.0951	0.0577
4	15.12	0.5560	-0.1889	0.0025	0.0413	0.0222	-1.3520	0.0453	-0.1118	0.0553
4	15.12	0.6001	-0.2185	0.0026	0.0705	0.0253	-1.7695	0.0512	-0.0701	0.0564
4	15.12	0.6501	-0.2703	0.0026	0.0657	0.0288	-2.3089	0.0580	0.0753	0.0553
4	15.12	0.6999	-0.3061	0.0028	0.0588	0.0325	-2.9224	0.0652	0.1225	0.0600
4	15.12	0.7500	-0.3534	0.0032	0.0767	0.0366	-3.5663	0.0742	0.3585	0.0620
4	15.12	0.8002	-0.4080	0.0035	0.0878	0.0407	-4.3518	0.0843	0.1202	0.0588
4	15.12	0.8582	-0.4679	0.0039	0.0870	0.0452	-5.2467	0.1000	-0.0440	0.0573
4	15.12	0.9101	-0.5109	0.0047	0.0570	0.0497	-6.0519	0.1157	0.0594	0.0574
4	15.12	0.9728	-0.5128	0.0059	0.0491	0.0550	-6.9515	0.1363	0.4306	0.0657

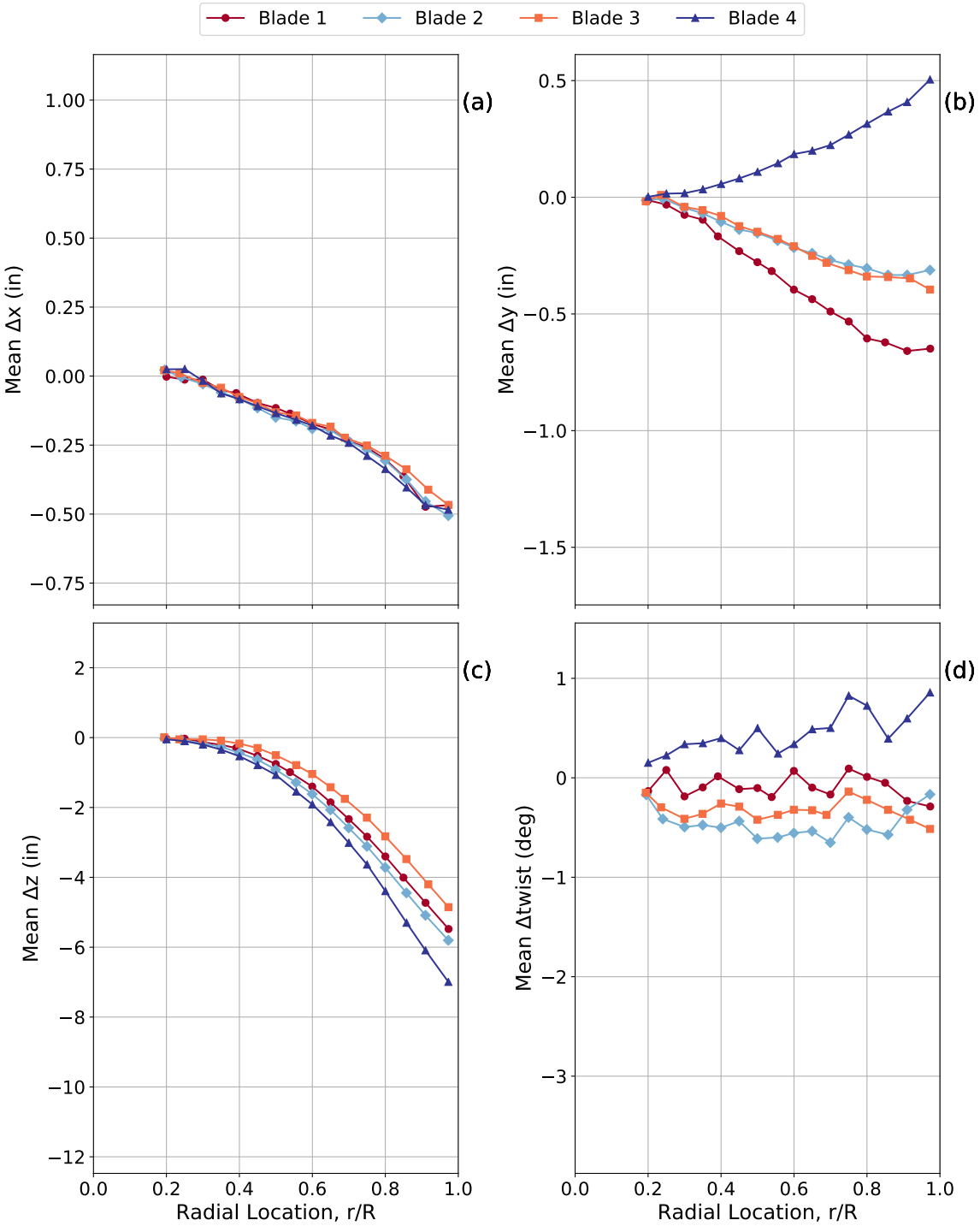


Figure 2.17-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-9. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0022	0.0032	-0.0128	0.0013	-0.0327	0.0046	-0.1340	0.0352
1	29.88	0.2499	-0.0129	0.0021	-0.0314	0.0019	-0.0303	0.0062	0.0784	0.0810
1	29.88	0.2998	-0.0126	0.0015	-0.0751	0.0042	-0.1305	0.0151	-0.1870	0.0872
1	29.88	0.3498	-0.0509	0.0022	-0.0962	0.0069	-0.2082	0.0250	-0.0963	0.0832
1	29.88	0.3913	-0.0615	0.0023	-0.1675	0.0095	-0.2979	0.0344	0.0148	0.0840
1	29.88	0.4496	-0.0972	0.0025	-0.2308	0.0129	-0.5219	0.0475	-0.1140	0.0807
1	29.88	0.4997	-0.1156	0.0031	-0.2782	0.0161	-0.7548	0.0592	-0.1030	0.0819
1	29.88	0.5387	-0.1357	0.0028	-0.3162	0.0185	-0.9883	0.0689	-0.1937	0.0822
1	29.88	0.5996	-0.1734	0.0029	-0.3958	0.0228	-1.4017	0.0839	0.0693	0.0864
1	29.88	0.6498	-0.1933	0.0032	-0.4367	0.0262	-1.8540	0.0956	-0.0984	0.0842
1	29.88	0.6998	-0.2357	0.0032	-0.4894	0.0299	-2.3333	0.1084	-0.1682	0.0878
1	29.88	0.7500	-0.2589	0.0031	-0.5324	0.0335	-2.8371	0.1221	0.0924	0.0833
1	29.88	0.8001	-0.3016	0.0033	-0.6051	0.0371	-3.4023	0.1358	0.0093	0.0814
1	29.88	0.8497	-0.3627	0.0035	-0.6217	0.0410	-4.0078	0.1489	-0.0506	0.0817
1	29.88	0.9102	-0.4735	0.0037	-0.6586	0.0454	-4.7292	0.1656	-0.2326	0.0783
1	29.88	0.9734	-0.4675	0.0040	-0.6487	0.0503	-5.4790	0.1833	-0.2886	0.0804
2	29.88	0.1949	0.0221	0.0028	-0.0134	0.0011	-0.0281	0.0032	-0.1708	0.0230
2	29.88	0.2405	-0.0038	0.0016	-0.0054	0.0015	-0.0616	0.0049	-0.4143	0.0502
2	29.88	0.2999	-0.0285	0.0011	-0.0455	0.0035	-0.1678	0.0113	-0.4949	0.0576
2	29.88	0.3498	-0.0588	0.0014	-0.0690	0.0059	-0.2613	0.0194	-0.4753	0.0560
2	29.88	0.3998	-0.0825	0.0019	-0.1052	0.0087	-0.4394	0.0293	-0.5018	0.0600
2	29.88	0.4496	-0.1153	0.0019	-0.1382	0.0111	-0.6278	0.0391	-0.4363	0.0607
2	29.88	0.4995	-0.1495	0.0025	-0.1531	0.0136	-0.9182	0.0497	-0.6120	0.0628
2	29.88	0.5551	-0.1629	0.0019	-0.1855	0.0162	-1.2831	0.0612	-0.5997	0.0632
2	29.88	0.5996	-0.1907	0.0020	-0.2163	0.0186	-1.6167	0.0702	-0.5556	0.0649
2	29.88	0.6497	-0.1956	0.0023	-0.2400	0.0211	-2.0686	0.0808	-0.5366	0.0643
2	29.88	0.6996	-0.2367	0.0026	-0.2690	0.0240	-2.5832	0.0914	-0.6515	0.0727
2	29.88	0.7495	-0.2654	0.0026	-0.2887	0.0263	-3.1129	0.1023	-0.3985	0.0716
2	29.88	0.7996	-0.3059	0.0029	-0.3041	0.0289	-3.7184	0.1136	-0.5196	0.0626
2	29.88	0.8578	-0.3746	0.0034	-0.3331	0.0321	-4.4456	0.1267	-0.5725	0.0658
2	29.88	0.9100	-0.4539	0.0037	-0.3332	0.0348	-5.0871	0.1391	-0.3213	0.0659
2	29.88	0.9727	-0.5056	0.0038	-0.3120	0.0382	-5.8031	0.1541	-0.1668	0.0682
3	29.88	0.1938	0.0208	0.0029	-0.0176	0.0013	0.0084	0.0042	-0.1502	0.0230
3	29.88	0.2357	0.0102	0.0018	0.0099	0.0014	-0.0498	0.0041	-0.2969	0.0603
3	29.88	0.2995	-0.0248	0.0015	-0.0412	0.0035	-0.0494	0.0125	-0.4125	0.0633
3	29.88	0.3493	-0.0421	0.0020	-0.0553	0.0059	-0.0867	0.0208	-0.3625	0.0619
3	29.88	0.4000	-0.0757	0.0022	-0.0801	0.0086	-0.1705	0.0307	-0.2587	0.0588
3	29.88	0.4497	-0.0989	0.0027	-0.1237	0.0114	-0.2993	0.0408	-0.2903	0.0667
3	29.88	0.4997	-0.1311	0.0032	-0.1480	0.0140	-0.5039	0.0523	-0.4215	0.0669
3	29.88	0.5556	-0.1426	0.0027	-0.1786	0.0171	-0.7884	0.0640	-0.3725	0.0642
3	29.88	0.5995	-0.1696	0.0031	-0.2100	0.0193	-1.0413	0.0730	-0.3213	0.0722
3	29.88	0.6498	-0.1832	0.0029	-0.2509	0.0224	-1.4199	0.0833	-0.3261	0.0665
3	29.88	0.6890	-0.2231	0.0029	-0.2808	0.0249	-1.7530	0.0919	-0.3728	0.0645
3	29.88	0.7495	-0.2515	0.0031	-0.3123	0.0286	-2.2916	0.1040	-0.1386	0.0676
3	29.88	0.7998	-0.2886	0.0029	-0.3393	0.0314	-2.8280	0.1144	-0.2217	0.0752
3	29.88	0.8577	-0.3375	0.0032	-0.3418	0.0358	-3.4762	0.1248	-0.3222	0.0703
3	29.88	0.9178	-0.4116	0.0034	-0.3477	0.0401	-4.2014	0.1357	-0.4215	0.0709
3	29.88	0.9729	-0.4669	0.0035	-0.3956	0.0441	-4.8532	0.1458	-0.5146	0.0673
4	29.88	0.2001	0.0246	0.0021	0.0020	0.0009	-0.0490	0.0030	0.1507	0.0255
4	29.88	0.2502	0.0253	0.0017	0.0155	0.0016	-0.1025	0.0054	0.2251	0.0557
4	29.88	0.3001	-0.0171	0.0014	0.0175	0.0033	-0.2000	0.0105	0.3372	0.0622
4	29.88	0.3502	-0.0627	0.0014	0.0340	0.0052	-0.3455	0.0175	0.3475	0.0585
4	29.88	0.4002	-0.0838	0.0018	0.0568	0.0082	-0.5345	0.0269	0.3991	0.0575
4	29.88	0.4500	-0.1092	0.0016	0.0808	0.0102	-0.7870	0.0361	0.2773	0.0574
4	29.88	0.5001	-0.1344	0.0021	0.1089	0.0128	-1.0701	0.0458	0.4988	0.0615
4	29.88	0.5560	-0.1585	0.0025	0.1459	0.0152	-1.5461	0.0565	0.2430	0.0552
4	29.88	0.6001	-0.1792	0.0026	0.1850	0.0175	-1.9142	0.0640	0.3387	0.0567
4	29.88	0.6501	-0.2156	0.0033	0.1997	0.0200	-2.4200	0.0726	0.4880	0.0597
4	29.88	0.6999	-0.2419	0.0029	0.2236	0.0222	-3.0134	0.0803	0.5009	0.0577
4	29.88	0.7500	-0.2891	0.0028	0.2683	0.0247	-3.6359	0.0879	0.8253	0.0627
4	29.88	0.8002	-0.3365	0.0033	0.3149	0.0277	-4.3950	0.0968	0.7246	0.0632
4	29.88	0.8582	-0.4037	0.0036	0.3673	0.0307	-5.3012	0.1071	0.3932	0.0620
4	29.88	0.9101	-0.4671	0.0036	0.4079	0.0336	-6.0916	0.1179	0.5970	0.0624
4	29.88	0.9728	-0.4843	0.0041	0.5044	0.0368	-6.9939	0.1332	0.8572	0.0699

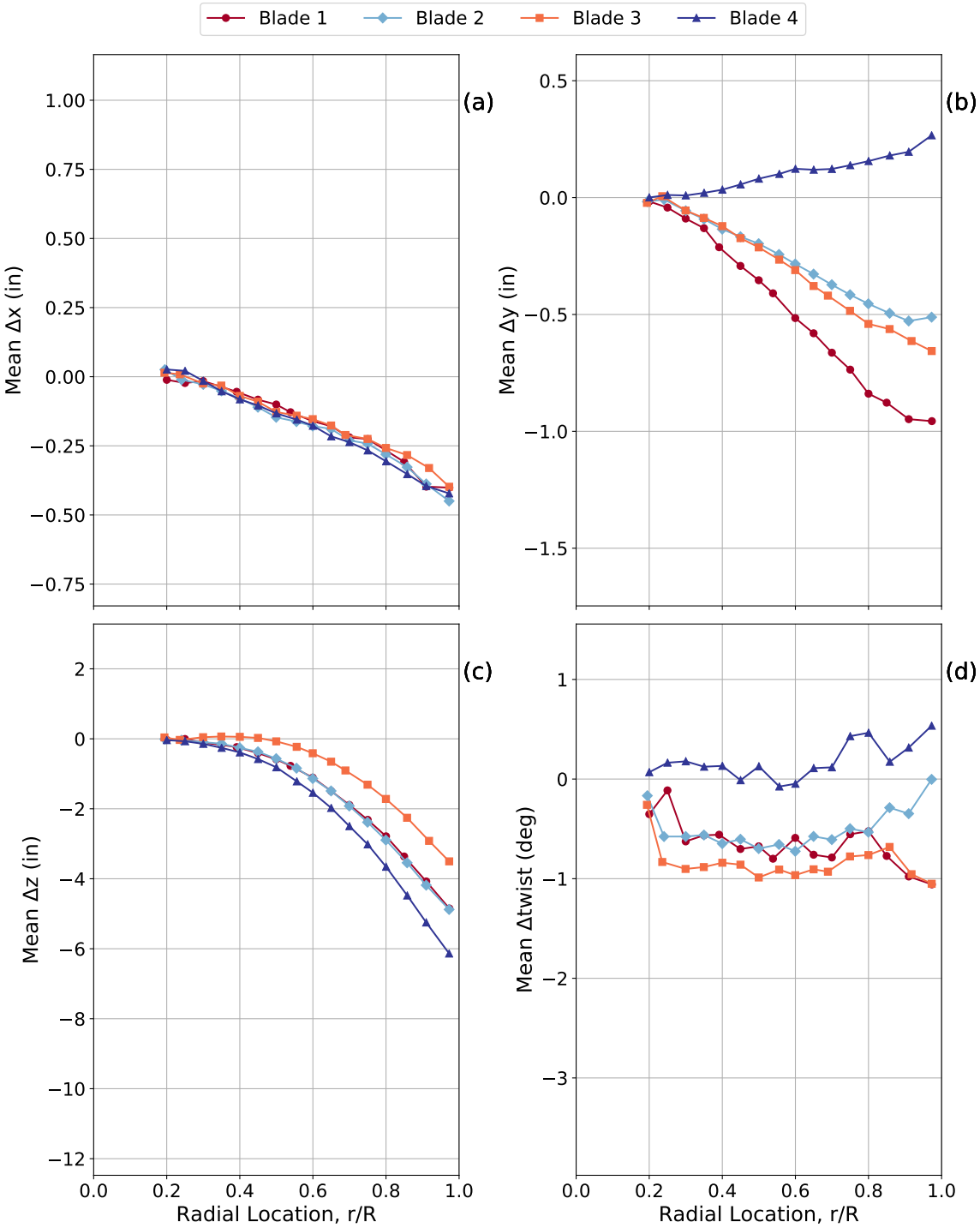


Figure 2.17-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-10. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0112	0.0036	-0.0165	0.0023	-0.0312	0.0069	-0.3521	0.0449
1	45	0.2499	-0.0228	0.0025	-0.0427	0.0027	-0.0050	0.0083	-0.1137	0.1084
1	45	0.2998	-0.0158	0.0019	-0.0897	0.0077	-0.1116	0.0218	-0.6259	0.1144
1	45	0.3498	-0.0367	0.0020	-0.1308	0.0133	-0.1727	0.0360	-0.5646	0.1144
1	45	0.3913	-0.0545	0.0022	-0.2125	0.0179	-0.2376	0.0487	-0.5587	0.1117
1	45	0.4496	-0.0830	0.0023	-0.2923	0.0243	-0.4076	0.0657	-0.7019	0.1127
1	45	0.4997	-0.1005	0.0023	-0.3536	0.0303	-0.5878	0.0801	-0.6753	0.1175
1	45	0.5387	-0.1284	0.0024	-0.4094	0.0344	-0.7727	0.0913	-0.7997	0.1180
1	45	0.5996	-0.1609	0.0035	-0.5154	0.0418	-1.1093	0.1081	-0.5904	0.1176
1	45	0.6498	-0.1791	0.0029	-0.5805	0.0481	-1.4922	0.1215	-0.7595	0.1218
1	45	0.6998	-0.2193	0.0030	-0.6635	0.0541	-1.8909	0.1348	-0.7873	0.1187
1	45	0.7500	-0.2256	0.0030	-0.7361	0.0602	-2.3152	0.1474	-0.5540	0.1189
1	45	0.8001	-0.2666	0.0033	-0.8390	0.0670	-2.7866	0.1619	-0.5234	0.1171
1	45	0.8497	-0.3082	0.0036	-0.8774	0.0735	-3.3638	0.1754	-0.7718	0.1167
1	45	0.9102	-0.3977	0.0039	-0.9479	0.0812	-4.0764	0.1931	-0.9781	0.1162
1	45	0.9734	-0.4012	0.0042	-0.9564	0.0895	-4.8495	0.2147	-1.0575	0.1158
2	45	0.1949	0.0256	0.0026	-0.0173	0.0015	-0.0093	0.0036	-0.1670	0.0255
2	45	0.2405	-0.0106	0.0017	-0.0078	0.0015	-0.0396	0.0041	-0.5771	0.0600
2	45	0.2999	-0.0278	0.0012	-0.0563	0.0042	-0.0961	0.0109	-0.5767	0.0676
2	45	0.3498	-0.0512	0.0022	-0.0918	0.0071	-0.1408	0.0186	-0.5618	0.0641
2	45	0.3998	-0.0787	0.0026	-0.1351	0.0100	-0.2567	0.0271	-0.6480	0.0653
2	45	0.4496	-0.1103	0.0029	-0.1674	0.0126	-0.3708	0.0354	-0.6043	0.0665
2	45	0.4995	-0.1468	0.0033	-0.1971	0.0156	-0.5665	0.0440	-0.6979	0.0660
2	45	0.5551	-0.1624	0.0030	-0.2433	0.0188	-0.8404	0.0535	-0.6561	0.0642
2	45	0.5996	-0.1786	0.0029	-0.2840	0.0216	-1.1362	0.0602	-0.7249	0.0616
2	45	0.6497	-0.1889	0.0028	-0.3273	0.0252	-1.4901	0.0686	-0.5757	0.0619
2	45	0.6996	-0.2302	0.0033	-0.3727	0.0288	-1.9204	0.0752	-0.6079	0.0654
2	45	0.7495	-0.2420	0.0032	-0.4155	0.0323	-2.3841	0.0834	-0.4980	0.0643
2	45	0.7996	-0.2807	0.0036	-0.4543	0.0361	-2.8935	0.0917	-0.5332	0.0623
2	45	0.8578	-0.3271	0.0036	-0.4948	0.0407	-3.5431	0.1025	-0.2874	0.0665
2	45	0.9100	-0.3879	0.0034	-0.5279	0.0449	-4.1834	0.1130	-0.3473	0.0631
2	45	0.9727	-0.4498	0.0041	-0.5115	0.0499	-4.8778	0.1257	-0.0030	0.0671
3	45	0.1938	0.0144	0.0036	-0.0225	0.0019	0.0393	0.0052	-0.2586	0.0250
3	45	0.2357	0.0088	0.0021	0.0059	0.0014	-0.0320	0.0043	-0.8324	0.0746
3	45	0.2995	-0.0246	0.0017	-0.0552	0.0054	0.0460	0.0146	-0.9022	0.0752
3	45	0.3493	-0.0321	0.0019	-0.0869	0.0097	0.0659	0.0243	-0.8836	0.0724
3	45	0.4000	-0.0693	0.0023	-0.1221	0.0138	0.0563	0.0349	-0.8398	0.0757
3	45	0.4497	-0.0904	0.0027	-0.1735	0.0179	0.0255	0.0458	-0.8593	0.0779
3	45	0.4997	-0.1277	0.0029	-0.2130	0.0221	-0.0727	0.0568	-0.9879	0.0775
3	45	0.5556	-0.1410	0.0029	-0.2655	0.0270	-0.2297	0.0692	-0.9087	0.0776
3	45	0.5995	-0.1535	0.0027	-0.3102	0.0305	-0.4127	0.0787	-0.9647	0.0787
3	45	0.6498	-0.1765	0.0028	-0.3782	0.0351	-0.6545	0.0888	-0.9060	0.0788
3	45	0.6890	-0.2108	0.0032	-0.4194	0.0381	-0.9046	0.0972	-0.9299	0.0804
3	45	0.7495	-0.2250	0.0029	-0.4845	0.0436	-1.3115	0.1094	-0.7769	0.0772
3	45	0.7998	-0.2577	0.0029	-0.5404	0.0478	-1.7190	0.1186	-0.7629	0.0803
3	45	0.8577	-0.2834	0.0029	-0.5625	0.0529	-2.2569	0.1315	-0.6817	0.0763
3	45	0.9178	-0.3302	0.0028	-0.6137	0.0579	-2.9168	0.1437	-0.9548	0.0762
3	45	0.9729	-0.3980	0.0032	-0.6565	0.0628	-3.5026	0.1565	-1.0508	0.0752
4	45	0.2001	0.0260	0.0024	0.0005	0.0011	-0.0375	0.0033	0.0688	0.0241
4	45	0.2502	0.0212	0.0022	0.0111	0.0015	-0.0704	0.0044	0.1641	0.0596
4	45	0.3001	-0.0152	0.0018	0.0091	0.0037	-0.1444	0.0097	0.1780	0.0610
4	45	0.3502	-0.0528	0.0019	0.0202	0.0060	-0.2588	0.0174	0.1238	0.0581
4	45	0.4002	-0.0820	0.0023	0.0338	0.0090	-0.3902	0.0246	0.1322	0.0617
4	45	0.4500	-0.1042	0.0022	0.0562	0.0115	-0.5795	0.0316	-0.0119	0.0617
4	45	0.5001	-0.1328	0.0022	0.0809	0.0141	-0.8146	0.0387	0.1276	0.0675
4	45	0.5560	-0.1554	0.0024	0.1011	0.0169	-1.2175	0.0469	-0.0751	0.0622
4	45	0.6001	-0.1774	0.0024	0.1231	0.0195	-1.5424	0.0538	-0.0471	0.0643
4	45	0.6501	-0.2158	0.0029	0.1192	0.0232	-1.9769	0.0613	0.1094	0.0658
4	45	0.6999	-0.2367	0.0026	0.1224	0.0263	-2.4979	0.0694	0.1178	0.0700
4	45	0.7500	-0.2667	0.0028	0.1385	0.0292	-3.0180	0.0762	0.4304	0.0696
4	45	0.8002	-0.3061	0.0029	0.1561	0.0325	-3.6575	0.0843	0.4646	0.0691
4	45	0.8582	-0.3525	0.0026	0.1799	0.0366	-4.4791	0.0943	0.1734	0.0694
4	45	0.9101	-0.3953	0.0029	0.1958	0.0401	-5.2500	0.1055	0.3154	0.0717
4	45	0.9728	-0.4222	0.0033	0.2663	0.0444	-6.1372	0.1206	0.5354	0.0698

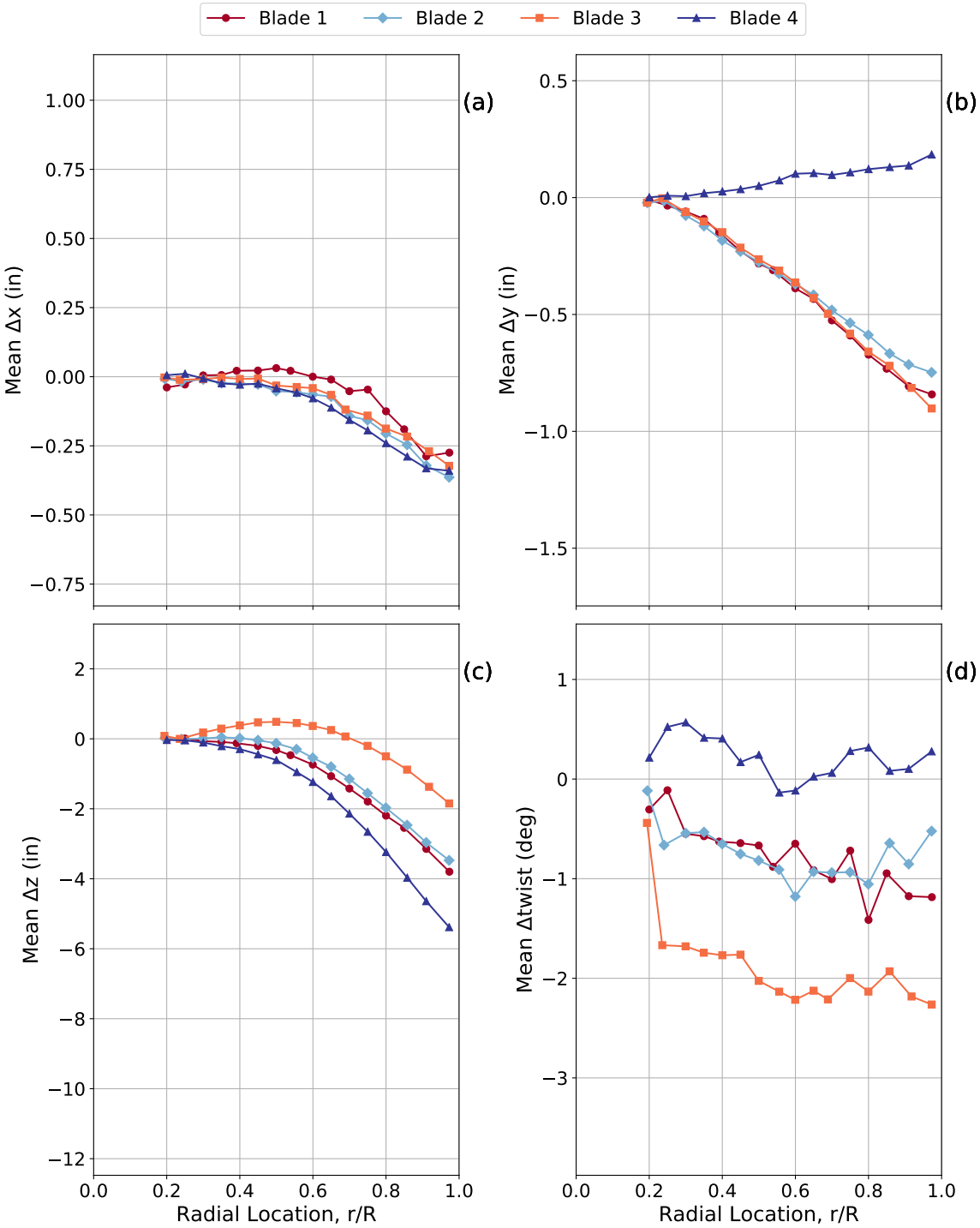


Figure 2.17-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-11. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0387	0.0030	-0.0098	0.0028	-0.0199	0.0075	-0.3055	0.0453
1	60.12	0.2499	-0.0281	0.0015	-0.0344	0.0032	0.0080	0.0085	-0.1124	0.1141
1	60.12	0.2998	0.0048	0.0015	-0.0597	0.0093	-0.0681	0.0227	-0.5492	0.1167
1	60.12	0.3498	0.0062	0.0020	-0.0909	0.0160	-0.0889	0.0380	-0.5734	0.1120
1	60.12	0.3913	0.0215	0.0028	-0.1489	0.0215	-0.1260	0.0505	-0.6273	0.1179
1	60.12	0.4496	0.0223	0.0036	-0.2287	0.0292	-0.2031	0.0684	-0.6431	0.1166
1	60.12	0.4997	0.0311	0.0044	-0.2822	0.0359	-0.3213	0.0840	-0.6669	0.1182
1	60.12	0.5387	0.0214	0.0052	-0.3104	0.0412	-0.4681	0.0962	-0.8806	0.1188
1	60.12	0.5996	0.0001	0.0064	-0.3881	0.0495	-0.7370	0.1151	-0.6490	0.1183
1	60.12	0.6498	-0.0102	0.0077	-0.4335	0.0564	-1.0675	0.1315	-0.9151	0.1242
1	60.12	0.6998	-0.0524	0.0183	-0.5253	0.0520	-1.4211	0.1473	-1.0047	0.1408
1	60.12	0.7500	-0.0466	0.0209	-0.5903	0.0605	-1.7926	0.1639	-0.7186	0.1819
1	60.12	0.8001	-0.1251	0.0066	-0.6720	0.0681	-2.1965	0.1817	-1.4136	0.3401
1	60.12	0.8497	-0.1902	0.0046	-0.7320	0.0761	-2.5455	0.1896	-0.9465	0.1200
1	60.12	0.9102	-0.2878	0.0054	-0.8071	0.0839	-3.1463	0.2115	-1.1756	0.1163
1	60.12	0.9734	-0.2746	0.0053	-0.8420	0.0925	-3.7988	0.2354	-1.1853	0.1188
2	60.12	0.1949	-0.0073	0.0059	-0.0222	0.0031	0.0211	0.0087	-0.1175	0.0634
2	60.12	0.2405	-0.0174	0.0024	-0.0131	0.0030	-0.0110	0.0092	-0.6629	0.1590
2	60.12	0.2999	-0.0098	0.0017	-0.0766	0.0094	0.0110	0.0251	-0.5430	0.1779
2	60.12	0.3498	-0.0232	0.0023	-0.1216	0.0165	0.0445	0.0434	-0.5327	0.1718
2	60.12	0.3998	-0.0245	0.0030	-0.1834	0.0237	0.0167	0.0613	-0.6516	0.1733
2	60.12	0.4496	-0.0277	0.0035	-0.2301	0.0310	-0.0407	0.0800	-0.7514	0.1742
2	60.12	0.4995	-0.0521	0.0040	-0.2757	0.0383	-0.1285	0.0990	-0.8177	0.1756
2	60.12	0.5551	-0.0559	0.0042	-0.3257	0.0469	-0.2981	0.1201	-0.9092	0.1747
2	60.12	0.5996	-0.0644	0.0050	-0.3703	0.0537	-0.5428	0.1366	-1.1791	0.1766
2	60.12	0.6497	-0.0719	0.0056	-0.4162	0.0616	-0.7977	0.1559	-0.9299	0.1684
2	60.12	0.6996	-0.1417	0.0064	-0.4812	0.0792	-1.1471	0.1713	-0.9392	0.1778
2	60.12	0.7495	-0.1572	0.0067	-0.5360	0.0880	-1.5539	0.1904	-0.9343	0.1706
2	60.12	0.7996	-0.2054	0.0066	-0.5877	0.0969	-1.9716	0.2097	-1.0552	0.1691
2	60.12	0.8578	-0.2463	0.0066	-0.6671	0.1070	-2.4675	0.2325	-0.6432	0.1733
2	60.12	0.9100	-0.3209	0.0068	-0.7143	0.1166	-2.9627	0.2540	-0.8533	0.1738
2	60.12	0.9727	-0.3638	0.0065	-0.7478	0.1280	-3.4733	0.2791	-0.5224	0.1753
3	60.12	0.1938	-0.0027	0.0164	-0.0216	0.0071	0.0836	0.0256	-0.4404	0.0960
3	60.12	0.2357	-0.0110	0.0024	-0.0028	0.0025	-0.0023	0.0141	-1.6676	0.3359
3	60.12	0.2995	-0.0089	0.0021	-0.0619	0.0204	0.1799	0.0646	-1.6791	0.3391
3	60.12	0.3493	-0.0030	0.0038	-0.1019	0.0355	0.2919	0.1057	-1.7431	0.3356
3	60.12	0.4000	-0.0082	0.0050	-0.1479	0.0506	0.3845	0.1468	-1.7687	0.3358
3	60.12	0.4497	-0.0065	0.0063	-0.2141	0.0654	0.4698	0.1869	-1.7627	0.3378
3	60.12	0.4997	-0.0319	0.0074	-0.2638	0.0809	0.4862	0.2279	-2.0259	0.3349
3	60.12	0.5556	-0.0373	0.0080	-0.3123	0.0981	0.4507	0.2724	-2.1339	0.3372
3	60.12	0.5995	-0.0413	0.0090	-0.3631	0.1120	0.3672	0.3075	-2.2153	0.3386
3	60.12	0.6498	-0.0658	0.0096	-0.4292	0.1281	0.2508	0.3471	-2.1244	0.3381
3	60.12	0.6890	-0.1189	0.0103	-0.4973	0.1545	0.0661	0.3709	-2.2119	0.3386
3	60.12	0.7495	-0.1406	0.0107	-0.5819	0.1756	-0.2013	0.4172	-1.9978	0.3384
3	60.12	0.7998	-0.1876	0.0105	-0.6588	0.1930	-0.5012	0.4550	-2.1334	0.3399
3	60.12	0.8577	-0.2163	0.0105	-0.7197	0.2137	-0.8811	0.5007	-1.9300	0.3358
3	60.12	0.9178	-0.2695	0.0104	-0.8143	0.2351	-1.3718	0.5480	-2.1827	0.3354
3	60.12	0.9729	-0.3225	0.0114	-0.9022	0.2552	-1.8473	0.5920	-2.2633	0.3354
4	60.12	0.2001	0.0055	0.0031	0.0012	0.0016	-0.0342	0.0041	0.2151	0.0380
4	60.12	0.2502	0.0107	0.0017	0.0079	0.0019	-0.0449	0.0053	0.5234	0.0874
4	60.12	0.3001	-0.0064	0.0013	0.0060	0.0047	-0.1069	0.0120	0.5687	0.0943
4	60.12	0.3502	-0.0241	0.0020	0.0188	0.0084	-0.2109	0.0209	0.4147	0.0906
4	60.12	0.4002	-0.0287	0.0024	0.0261	0.0119	-0.2938	0.0297	0.4070	0.0902
4	60.12	0.4500	-0.0252	0.0029	0.0359	0.0156	-0.4438	0.0381	0.1701	0.0910
4	60.12	0.5001	-0.0420	0.0033	0.0501	0.0194	-0.6070	0.0469	0.2434	0.0906
4	60.12	0.5560	-0.0576	0.0039	0.0735	0.0237	-0.9518	0.0570	-0.1358	0.0907
4	60.12	0.6001	-0.0782	0.0049	0.1020	0.0271	-1.2341	0.0646	-0.1153	0.0917
4	60.12	0.6501	-0.1119	0.0056	0.1047	0.0314	-1.6408	0.0726	0.0250	0.0933
4	60.12	0.6999	-0.1563	0.0058	0.0967	0.0403	-2.1386	0.0839	0.0622	0.0957
4	60.12	0.7500	-0.1942	0.0057	0.1080	0.0445	-2.6575	0.0920	0.2814	0.0967
4	60.12	0.8002	-0.2404	0.0055	0.1216	0.0485	-3.2375	0.1005	0.3166	0.0897
4	60.12	0.8582	-0.2889	0.0057	0.1304	0.0535	-3.9711	0.1093	0.0822	0.0948
4	60.12	0.9101	-0.3314	0.0059	0.1371	0.0585	-4.6411	0.1190	0.1023	0.0977
4	60.12	0.9728	-0.3402	0.0056	0.1843	0.0640	-5.3843	0.1333	0.2778	0.0974

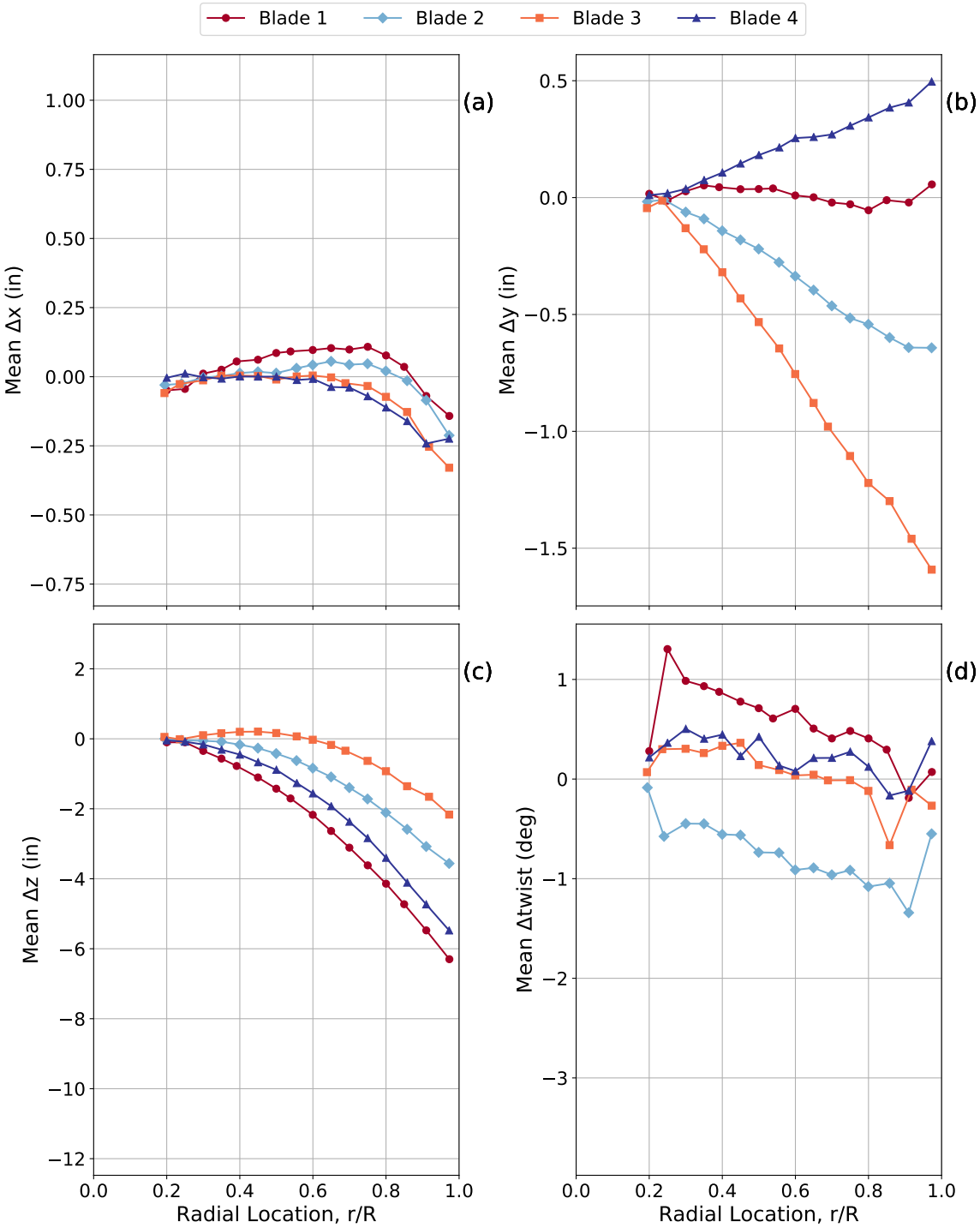


Figure 2.17-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-12. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0493	0.0069	0.0162	0.0058	-0.1013	0.0110	0.2806	0.0593
1	74.88	0.2499	-0.0442	0.0049	-0.0130	0.0051	-0.0990	0.0097	1.3049	0.1585
1	74.88	0.2998	0.0112	0.0031	0.0270	0.0170	-0.3460	0.0317	0.9857	0.1412
1	74.88	0.3498	0.0253	0.0032	0.0520	0.0277	-0.5657	0.0513	0.9327	0.1348
1	74.88	0.3913	0.0551	0.0038	0.0445	0.0359	-0.7765	0.0666	0.8756	0.1313
1	74.88	0.4496	0.0615	0.0041	0.0359	0.0477	-1.1041	0.0877	0.7773	0.1341
1	74.88	0.4997	0.0858	0.0047	0.0367	0.0582	-1.4257	0.1059	0.7113	0.1331
1	74.88	0.5387	0.0914	0.0049	0.0392	0.0666	-1.7041	0.1207	0.6083	0.1327
1	74.88	0.5996	0.0966	0.0058	0.0092	0.0797	-2.1727	0.1426	0.7047	0.1345
1	74.88	0.6498	0.1035	0.0061	0.0014	0.0910	-2.6337	0.1616	0.5069	0.1352
1	74.88	0.6998	0.0983	0.0066	-0.0211	0.1021	-3.1106	0.1809	0.4079	0.1254
1	74.88	0.7500	0.1081	0.0075	-0.0286	0.1136	-3.6168	0.1989	0.4829	0.1394
1	74.88	0.8001	0.0769	0.0082	-0.0542	0.1249	-4.1411	0.2192	0.4076	0.1301
1	74.88	0.8497	0.0356	0.0095	-0.0111	0.1369	-4.7278	0.2359	0.2952	0.1409
1	74.88	0.9102	-0.0697	0.0067	-0.0209	0.1549	-5.4754	0.2581	-0.1887	0.2431
1	74.88	0.9734	-0.1420	0.0397	0.0564	0.1383	-6.2988	0.2968	0.0709	0.2508
2	74.88	0.1949	-0.0299	0.0048	-0.0173	0.0031	0.0027	0.0074	-0.0859	0.0667
2	74.88	0.2405	-0.0252	0.0032	-0.0091	0.0039	-0.0413	0.0099	-0.5755	0.1188
2	74.88	0.2999	-0.0033	0.0022	-0.0620	0.0077	-0.0565	0.0186	-0.4472	0.1516
2	74.88	0.3498	0.0025	0.0023	-0.0910	0.0133	-0.0824	0.0333	-0.4488	0.1338
2	74.88	0.3998	0.0133	0.0029	-0.1421	0.0185	-0.1677	0.0460	-0.5553	0.1357
2	74.88	0.4496	0.0179	0.0035	-0.1809	0.0236	-0.2669	0.0591	-0.5627	0.1378
2	74.88	0.4995	0.0130	0.0039	-0.2199	0.0294	-0.4210	0.0733	-0.7359	0.1353
2	74.88	0.5551	0.0306	0.0046	-0.2768	0.0356	-0.6229	0.0886	-0.7397	0.1363
2	74.88	0.5996	0.0427	0.0047	-0.3362	0.0410	-0.8395	0.1011	-0.9120	0.1397
2	74.88	0.6497	0.0556	0.0054	-0.3958	0.0473	-1.0900	0.1146	-0.8913	0.1407
2	74.88	0.6996	0.0436	0.0055	-0.4632	0.0541	-1.3957	0.1294	-0.9609	0.1392
2	74.88	0.7495	0.0469	0.0058	-0.5153	0.0605	-1.7201	0.1435	-0.9151	0.1348
2	74.88	0.7996	0.0206	0.0061	-0.5423	0.0673	-2.1090	0.1550	-1.0796	0.1524
2	74.88	0.8578	-0.0144	0.0064	-0.5989	0.0750	-2.5861	0.1691	-1.0459	0.1648
2	74.88	0.9100	-0.0850	0.0059	-0.6415	0.0818	-3.0789	0.2002	-1.3418	0.2480
2	74.88	0.9727	-0.2122	0.0169	-0.6427	0.0831	-3.5632	0.2056	-0.5496	0.1583
3	74.88	0.1938	-0.0592	0.0027	-0.0450	0.0031	0.0542	0.0060	0.0693	0.0335
3	74.88	0.2357	-0.0266	0.0030	-0.0126	0.0034	-0.0141	0.0060	0.2999	0.0506
3	74.88	0.2995	-0.0131	0.0026	-0.1309	0.0076	0.1023	0.0139	0.3039	0.0605
3	74.88	0.3493	0.0038	0.0034	-0.2212	0.0133	0.1598	0.0233	0.2612	0.0562
3	74.88	0.4000	0.0041	0.0048	-0.3194	0.0187	0.2001	0.0323	0.3337	0.0567
3	74.88	0.4497	0.0026	0.0058	-0.4311	0.0238	0.2057	0.0408	0.3638	0.0535
3	74.88	0.4997	-0.0101	0.0070	-0.5327	0.0290	0.1643	0.0495	0.1413	0.0549
3	74.88	0.5556	0.0008	0.0084	-0.6454	0.0350	0.0695	0.0593	0.0904	0.0526
3	74.88	0.5995	0.0043	0.0090	-0.7549	0.0397	-0.0262	0.0670	0.0367	0.0557
3	74.88	0.6498	-0.0025	0.0097	-0.8786	0.0450	-0.1741	0.0761	0.0435	0.0550
3	74.88	0.6890	-0.0233	0.0105	-0.9800	0.0493	-0.3400	0.0833	-0.0128	0.0559
3	74.88	0.7495	-0.0336	0.0113	-1.1054	0.0553	-0.6313	0.0935	-0.0113	0.0531
3	74.88	0.7998	-0.0728	0.0124	-1.2210	0.0603	-0.9255	0.1018	-0.1188	0.0640
3	74.88	0.8577	-0.1276	0.0097	-1.2985	0.0745	-1.3555	0.1298	-0.6629	0.3407
3	74.88	0.9178	-0.2535	0.0052	-1.4597	0.0976	-1.6572	0.0958	-0.1066	0.0696
3	74.88	0.9729	-0.3292	0.0048	-1.5918	0.1048	-2.1656	0.1046	-0.2668	0.0683
4	74.88	0.2001	-0.0039	0.0046	0.0105	0.0030	-0.0460	0.0063	0.2170	0.0437
4	74.88	0.2502	0.0113	0.0021	0.0183	0.0038	-0.0831	0.0061	0.3638	0.1112
4	74.88	0.3001	-0.0022	0.0019	0.0370	0.0087	-0.1627	0.0173	0.5033	0.1055
4	74.88	0.3502	-0.0070	0.0028	0.0746	0.0144	-0.3109	0.0274	0.4048	0.1010
4	74.88	0.4002	0.0007	0.0040	0.1067	0.0208	-0.4522	0.0386	0.4460	0.0977
4	74.88	0.4500	0.0003	0.0053	0.1456	0.0262	-0.6713	0.0484	0.2308	0.1007
4	74.88	0.5001	0.0002	0.0063	0.1819	0.0320	-0.8868	0.0593	0.4239	0.1002
4	74.88	0.5560	-0.0119	0.0073	0.2145	0.0387	-1.2665	0.0718	0.1352	0.1019
4	74.88	0.6001	-0.0079	0.0077	0.2546	0.0441	-1.5614	0.0814	0.0798	0.1009
4	74.88	0.6501	-0.0371	0.0086	0.2591	0.0503	-1.9261	0.0925	0.2111	0.1014
4	74.88	0.6999	-0.0392	0.0094	0.2701	0.0565	-2.3700	0.1036	0.2124	0.1031
4	74.88	0.7500	-0.0708	0.0103	0.3075	0.0630	-2.8392	0.1148	0.2743	0.1059
4	74.88	0.8002	-0.1114	0.0111	0.3429	0.0700	-3.4020	0.1269	0.1233	0.1046
4	74.88	0.8582	-0.1607	0.0124	0.3849	0.0776	-4.1118	0.1388	-0.1648	0.1426
4	74.88	0.9101	-0.2417	0.0095	0.4066	0.0865	-4.7329	0.1528	-0.1171	0.1718
4	74.88	0.9728	-0.2242	0.0138	0.4961	0.0929	-5.4775	0.1748	0.3806	0.1309

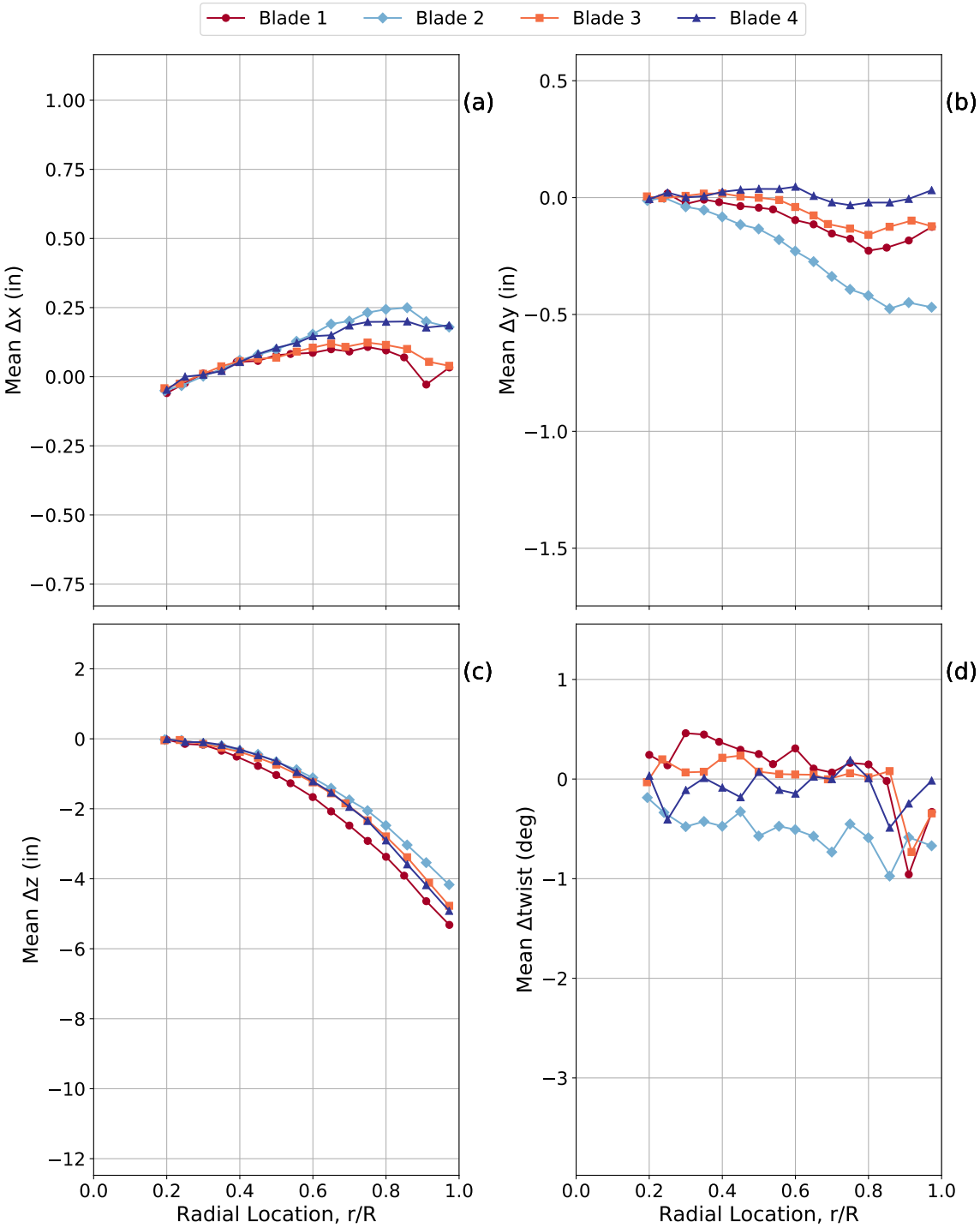


Figure 2.17-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-13. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0593	0.0035	-0.0098	0.0014	-0.0283	0.0031	0.2431	0.0598
1	80.16	0.2499	-0.0235	0.0038	0.0178	0.0069	-0.1454	0.0138	0.1383	0.0653
1	80.16	0.2998	0.0115	0.0028	-0.0272	0.0050	-0.1714	0.0111	0.4604	0.1239
1	80.16	0.3498	0.0217	0.0038	-0.0087	0.0124	-0.3406	0.0259	0.4469	0.0751
1	80.16	0.3913	0.0532	0.0039	-0.0194	0.0175	-0.5088	0.0360	0.3743	0.0723
1	80.16	0.4496	0.0572	0.0042	-0.0363	0.0246	-0.7738	0.0490	0.2940	0.0723
1	80.16	0.4997	0.0779	0.0051	-0.0432	0.0307	-1.0350	0.0603	0.2512	0.0710
1	80.16	0.5387	0.0822	0.0050	-0.0505	0.0354	-1.2700	0.0696	0.1500	0.0726
1	80.16	0.5996	0.0864	0.0055	-0.0961	0.0433	-1.6649	0.0843	0.3080	0.0736
1	80.16	0.6498	0.0993	0.0058	-0.1146	0.0500	-2.0753	0.0964	0.1052	0.0726
1	80.16	0.6998	0.0911	0.0063	-0.1538	0.0568	-2.4786	0.1084	0.0656	0.0694
1	80.16	0.7500	0.1075	0.0069	-0.1762	0.0640	-2.9183	0.1206	0.1626	0.0732
1	80.16	0.8001	0.0951	0.0075	-0.2271	0.0712	-3.3727	0.1331	0.1466	0.0718
1	80.16	0.8497	0.0700	0.0078	-0.2142	0.0787	-3.9114	0.1462	-0.0197	0.0868
1	80.16	0.9102	-0.0284	0.0079	-0.1835	0.0901	-4.6410	0.1752	-0.9572	0.3316
1	80.16	0.9734	0.0335	0.0135	-0.1251	0.0981	-5.3183	0.1811	-0.3305	0.1264
2	80.16	0.1949	-0.0503	0.0028	-0.0125	0.0006	-0.0238	0.0016	-0.1862	0.0139
2	80.16	0.2405	-0.0323	0.0015	-0.0003	0.0013	-0.0458	0.0034	-0.3358	0.0275
2	80.16	0.2999	0.0018	0.0016	-0.0395	0.0027	-0.1300	0.0068	-0.4775	0.0331
2	80.16	0.3498	0.0272	0.0032	-0.0532	0.0047	-0.1974	0.0117	-0.4258	0.0310
2	80.16	0.3998	0.0598	0.0048	-0.0826	0.0073	-0.3310	0.0180	-0.4740	0.0336
2	80.16	0.4496	0.0798	0.0062	-0.1156	0.0092	-0.4425	0.0221	-0.3272	0.0422
2	80.16	0.4995	0.0977	0.0072	-0.1341	0.0121	-0.6562	0.0290	-0.5719	0.0403
2	80.16	0.5551	0.1281	0.0082	-0.1801	0.0154	-0.8828	0.0358	-0.4737	0.0371
2	80.16	0.5996	0.1542	0.0089	-0.2289	0.0181	-1.1138	0.0411	-0.5072	0.0472
2	80.16	0.6497	0.1905	0.0105	-0.2740	0.0215	-1.4139	0.0477	-0.5745	0.0429
2	80.16	0.6996	0.2011	0.0127	-0.3373	0.0250	-1.7442	0.0540	-0.7324	0.0571
2	80.16	0.7495	0.2319	0.0153	-0.3926	0.0283	-2.0539	0.0626	-0.4515	0.0569
2	80.16	0.7996	0.2437	0.0189	-0.4193	0.0324	-2.4763	0.0720	-0.5893	0.0698
2	80.16	0.8578	0.2494	0.0248	-0.4751	0.0366	-3.0354	0.0818	-0.9740	0.0916
2	80.16	0.9100	0.1995	0.0306	-0.4493	0.0447	-3.5392	0.0877	-0.5847	0.2558
2	80.16	0.9727	0.1795	0.0417	-0.4692	0.0494	-4.1689	0.1011	-0.6699	0.1182
3	80.16	0.1938	-0.0416	0.0082	0.0051	0.0057	-0.0439	0.0109	-0.0320	0.0629
3	80.16	0.2357	-0.0253	0.0065	-0.0030	0.0050	-0.0347	0.0098	0.1978	0.0670
3	80.16	0.2995	0.0105	0.0035	0.0074	0.0132	-0.1471	0.0230	0.0670	0.0875
3	80.16	0.3493	0.0375	0.0032	0.0170	0.0211	-0.2535	0.0343	0.0730	0.0747
3	80.16	0.4000	0.0564	0.0039	0.0179	0.0298	-0.3754	0.0474	0.2137	0.0794
3	80.16	0.4497	0.0650	0.0039	0.0046	0.0372	-0.5397	0.0588	0.2357	0.0783
3	80.16	0.4997	0.0687	0.0040	-0.0006	0.0449	-0.7368	0.0700	0.0744	0.0791
3	80.16	0.5556	0.0907	0.0041	-0.0101	0.0541	-1.0114	0.0838	0.0501	0.0758
3	80.16	0.5995	0.1052	0.0044	-0.0402	0.0615	-1.2455	0.0947	0.0457	0.0770
3	80.16	0.6498	0.1196	0.0047	-0.0763	0.0699	-1.5583	0.1070	0.0434	0.0811
3	80.16	0.6890	0.1079	0.0051	-0.1132	0.0769	-1.8459	0.1161	-0.0024	0.0788
3	80.16	0.7495	0.1235	0.0060	-0.1326	0.0879	-2.3306	0.1304	0.0585	0.0784
3	80.16	0.7998	0.1151	0.0074	-0.1594	0.0971	-2.7901	0.1416	0.0178	0.0810
3	80.16	0.8577	0.1003	0.0088	-0.1248	0.1072	-3.3853	0.1551	0.0796	0.1126
3	80.16	0.9178	0.0539	0.0089	-0.0985	0.1213	-4.1097	0.1843	-0.7324	0.3586
3	80.16	0.9729	0.0394	0.0170	-0.1227	0.1294	-4.7729	0.1849	-0.3446	0.1334
4	80.16	0.2001	-0.0475	0.0009	-0.0063	0.0005	-0.0092	0.0022	0.0328	0.0151
4	80.16	0.2502	0.0001	0.0008	0.0214	0.0012	-0.0903	0.0046	-0.4070	0.0269
4	80.16	0.3001	0.0069	0.0007	0.0008	0.0022	-0.0965	0.0083	-0.1105	0.0345
4	80.16	0.3502	0.0206	0.0010	0.0060	0.0036	-0.1725	0.0150	0.0101	0.0312
4	80.16	0.4002	0.0531	0.0012	0.0247	0.0056	-0.3020	0.0226	-0.0861	0.0388
4	80.16	0.4500	0.0819	0.0015	0.0335	0.0070	-0.4682	0.0303	-0.1827	0.0389
4	80.16	0.5001	0.1044	0.0017	0.0371	0.0091	-0.6367	0.0378	0.0711	0.0405
4	80.16	0.5560	0.1224	0.0017	0.0367	0.0114	-0.9504	0.0463	-0.1087	0.0424
4	80.16	0.6001	0.1466	0.0020	0.0465	0.0133	-1.2161	0.0537	-0.1464	0.0451
4	80.16	0.6501	0.1500	0.0022	0.0071	0.0162	-1.5372	0.0607	0.0242	0.0500
4	80.16	0.6999	0.1852	0.0024	-0.0205	0.0188	-1.9461	0.0685	-0.0003	0.0554
4	80.16	0.7500	0.1982	0.0027	-0.0326	0.0214	-2.3484	0.0765	0.1897	0.0562
4	80.16	0.8002	0.1987	0.0033	-0.0214	0.0247	-2.9036	0.0853	0.0081	0.0686
4	80.16	0.8582	0.1997	0.0044	-0.0213	0.0281	-3.5889	0.0953	-0.4883	0.1048
4	80.16	0.9101	0.1779	0.0073	-0.0056	0.0296	-4.1839	0.1054	-0.2461	0.0961
4	80.16	0.9728	0.1857	0.0055	0.0315	0.0346	-4.9181	0.1188	-0.0158	0.1181

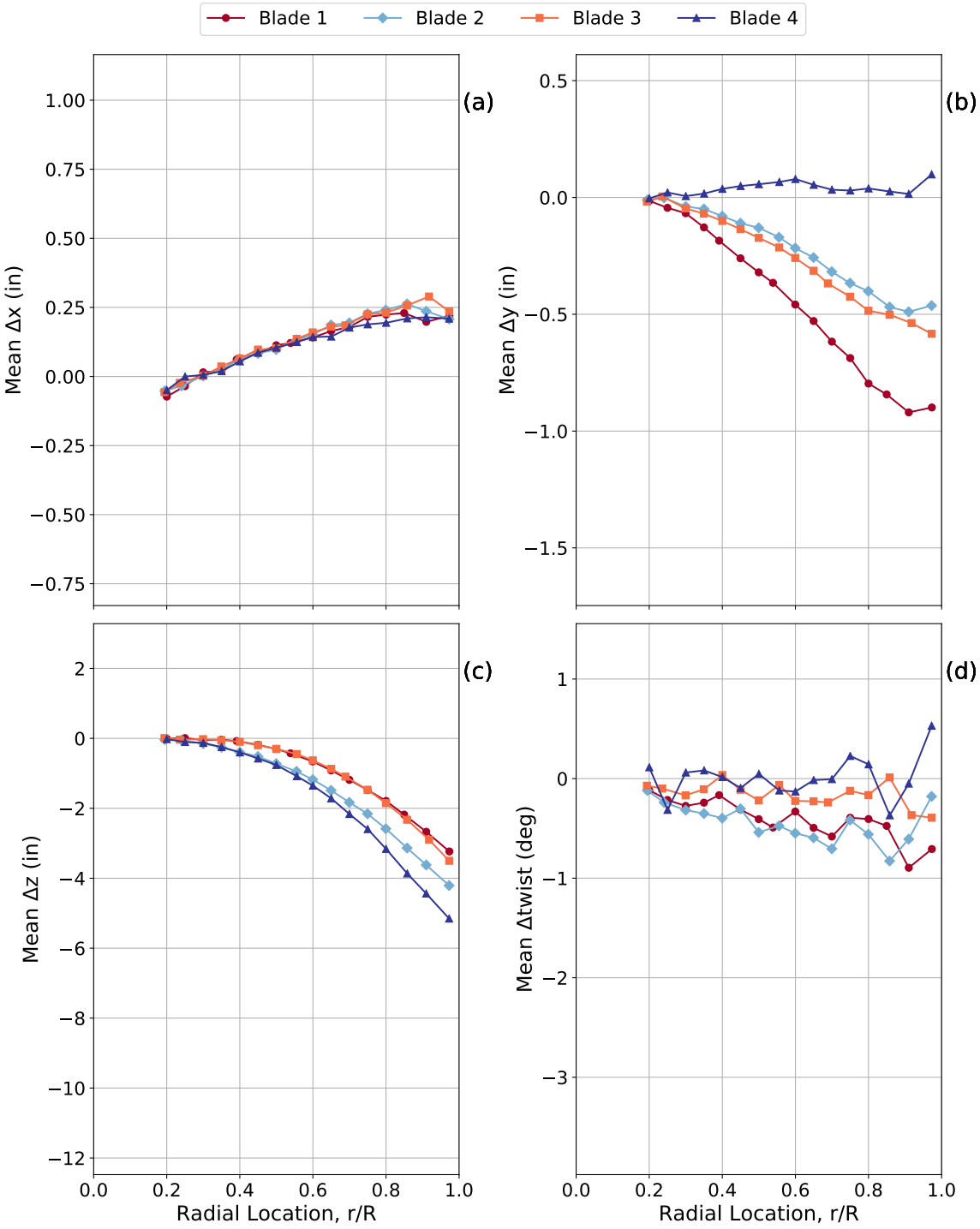


Figure 2.17-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-14. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0727	0.0011	-0.0143	0.0007	-0.0099	0.0020	-0.1162	0.0175
1	85.08	0.2499	-0.0350	0.0009	-0.0442	0.0012	0.0079	0.0033	-0.2148	0.0381
1	85.08	0.2998	0.0152	0.0009	-0.0674	0.0026	-0.0478	0.0070	-0.2742	0.0425
1	85.08	0.3498	0.0202	0.0010	-0.1281	0.0040	-0.0387	0.0122	-0.2418	0.0423
1	85.08	0.3913	0.0616	0.0011	-0.1849	0.0059	-0.0758	0.0167	-0.1661	0.0427
1	85.08	0.4496	0.0843	0.0012	-0.2603	0.0080	-0.1834	0.0226	-0.3106	0.0449
1	85.08	0.4997	0.1131	0.0015	-0.3204	0.0106	-0.3043	0.0289	-0.4069	0.0450
1	85.08	0.5387	0.1213	0.0017	-0.3653	0.0127	-0.4273	0.0342	-0.4911	0.0475
1	85.08	0.5996	0.1411	0.0017	-0.4584	0.0165	-0.6604	0.0416	-0.3308	0.0501
1	85.08	0.6498	0.1644	0.0018	-0.5289	0.0198	-0.9180	0.0473	-0.4946	0.0570
1	85.08	0.6998	0.1794	0.0024	-0.6171	0.0234	-1.1855	0.0531	-0.5816	0.0611
1	85.08	0.7500	0.2158	0.0022	-0.6874	0.0270	-1.4774	0.0585	-0.3930	0.0691
1	85.08	0.8001	0.2239	0.0027	-0.7967	0.0311	-1.7890	0.0635	-0.4061	0.0611
1	85.08	0.8497	0.2298	0.0028	-0.8431	0.0351	-2.1800	0.0687	-0.4750	0.0638
1	85.08	0.9102	0.1979	0.0053	-0.9199	0.0403	-2.6709	0.0779	-0.8953	0.1471
1	85.08	0.9734	0.2193	0.0054	-0.8989	0.0458	-3.2335	0.0810	-0.7075	0.1182
2	85.08	0.1949	-0.0523	0.0008	-0.0113	0.0006	-0.0333	0.0021	-0.1188	0.0174
2	85.08	0.2405	-0.0339	0.0008	-0.0012	0.0013	-0.0516	0.0034	-0.2386	0.0333
2	85.08	0.2999	0.0020	0.0008	-0.0387	0.0027	-0.1495	0.0078	-0.3165	0.0426
2	85.08	0.3498	0.0253	0.0010	-0.0492	0.0045	-0.2523	0.0135	-0.3510	0.0361
2	85.08	0.3998	0.0641	0.0010	-0.0799	0.0072	-0.3940	0.0202	-0.3975	0.0394
2	85.08	0.4496	0.0837	0.0011	-0.1103	0.0084	-0.5171	0.0258	-0.3028	0.0378
2	85.08	0.4995	0.0976	0.0013	-0.1298	0.0105	-0.7227	0.0321	-0.5399	0.0348
2	85.08	0.5551	0.1321	0.0013	-0.1703	0.0133	-0.9433	0.0384	-0.4745	0.0414
2	85.08	0.5996	0.1517	0.0014	-0.2167	0.0155	-1.1777	0.0441	-0.5486	0.0370
2	85.08	0.6497	0.1865	0.0020	-0.2572	0.0185	-1.4866	0.0501	-0.5943	0.0509
2	85.08	0.6996	0.1942	0.0021	-0.3177	0.0216	-1.8304	0.0584	-0.7053	0.0534
2	85.08	0.7495	0.2271	0.0022	-0.3666	0.0250	-2.1566	0.0663	-0.4169	0.0562
2	85.08	0.7996	0.2409	0.0023	-0.4012	0.0286	-2.5835	0.0734	-0.5591	0.0580
2	85.08	0.8578	0.2625	0.0032	-0.4687	0.0332	-3.1357	0.0795	-0.8274	0.0741
2	85.08	0.9100	0.2360	0.0046	-0.4894	0.0370	-3.6198	0.0855	-0.6078	0.1203
2	85.08	0.9727	0.2080	0.0036	-0.4628	0.0427	-4.2076	0.0989	-0.1787	0.0769
3	85.08	0.1938	-0.0566	0.0010	-0.0182	0.0005	0.0076	0.0016	-0.0713	0.0175
3	85.08	0.2357	-0.0230	0.0009	0.0042	0.0011	-0.0348	0.0031	-0.0995	0.0274
3	85.08	0.2995	0.0025	0.0007	-0.0468	0.0023	-0.0227	0.0065	-0.1680	0.0395
3	85.08	0.3493	0.0363	0.0010	-0.0692	0.0037	-0.0526	0.0110	-0.1074	0.0398
3	85.08	0.4000	0.0652	0.0012	-0.1005	0.0060	-0.0980	0.0172	0.0357	0.0430
3	85.08	0.4497	0.0974	0.0014	-0.1358	0.0072	-0.1951	0.0219	-0.1117	0.0400
3	85.08	0.4997	0.1019	0.0014	-0.1728	0.0094	-0.2999	0.0286	-0.2188	0.0402
3	85.08	0.5556	0.1362	0.0016	-0.2140	0.0119	-0.4475	0.0361	-0.0639	0.0392
3	85.08	0.5995	0.1596	0.0019	-0.2589	0.0141	-0.6294	0.0422	-0.2239	0.0461
3	85.08	0.6498	0.1802	0.0021	-0.3136	0.0167	-0.8712	0.0487	-0.2280	0.0410
3	85.08	0.6890	0.1851	0.0023	-0.3679	0.0190	-1.0949	0.0553	-0.2392	0.0493
3	85.08	0.7495	0.2251	0.0023	-0.4247	0.0226	-1.4697	0.0652	-0.1228	0.0559
3	85.08	0.7998	0.2308	0.0027	-0.4848	0.0261	-1.8519	0.0738	-0.1653	0.0520
3	85.08	0.8577	0.2572	0.0035	-0.5019	0.0304	-2.3266	0.0834	0.0118	0.0788
3	85.08	0.9178	0.2894	0.0092	-0.5376	0.0359	-2.8975	0.0922	-0.3670	0.1796
3	85.08	0.9729	0.2359	0.0061	-0.5835	0.0386	-3.5001	0.1055	-0.3923	0.1441
4	85.08	0.2001	-0.0494	0.0008	-0.0039	0.0006	-0.0223	0.0015	0.1134	0.0163
4	85.08	0.2502	-0.0002	0.0008	0.0213	0.0011	-0.1044	0.0038	-0.3142	0.0288
4	85.08	0.3001	0.0057	0.0007	0.0057	0.0022	-0.1293	0.0062	0.0610	0.0356
4	85.08	0.3502	0.0191	0.0009	0.0167	0.0037	-0.2501	0.0101	0.0823	0.0346
4	85.08	0.4002	0.0547	0.0014	0.0369	0.0058	-0.4000	0.0163	0.0152	0.0361
4	85.08	0.4500	0.0857	0.0013	0.0490	0.0069	-0.5763	0.0206	-0.0944	0.0390
4	85.08	0.5001	0.1043	0.0015	0.0568	0.0090	-0.7614	0.0252	0.0470	0.0381
4	85.08	0.5560	0.1246	0.0016	0.0662	0.0114	-1.0827	0.0315	-0.1197	0.0354
4	85.08	0.6001	0.1429	0.0016	0.0789	0.0134	-1.3531	0.0358	-0.1296	0.0373
4	85.08	0.6501	0.1444	0.0019	0.0540	0.0159	-1.7159	0.0402	-0.0148	0.0344
4	85.08	0.6999	0.1769	0.0022	0.0332	0.0187	-2.1627	0.0453	-0.0054	0.0423
4	85.08	0.7500	0.1887	0.0022	0.0298	0.0216	-2.5953	0.0495	0.2274	0.0477
4	85.08	0.8002	0.1942	0.0027	0.0386	0.0244	-3.1624	0.0525	0.1433	0.0581
4	85.08	0.8582	0.2102	0.0035	0.0256	0.0281	-3.8640	0.0609	-0.3689	0.0677
4	85.08	0.9101	0.2144	0.0045	0.0151	0.0318	-4.4382	0.0654	-0.0502	0.0704
4	85.08	0.9728	0.2094	0.0042	0.0987	0.0346	-5.1533	0.0736	0.5306	0.0798

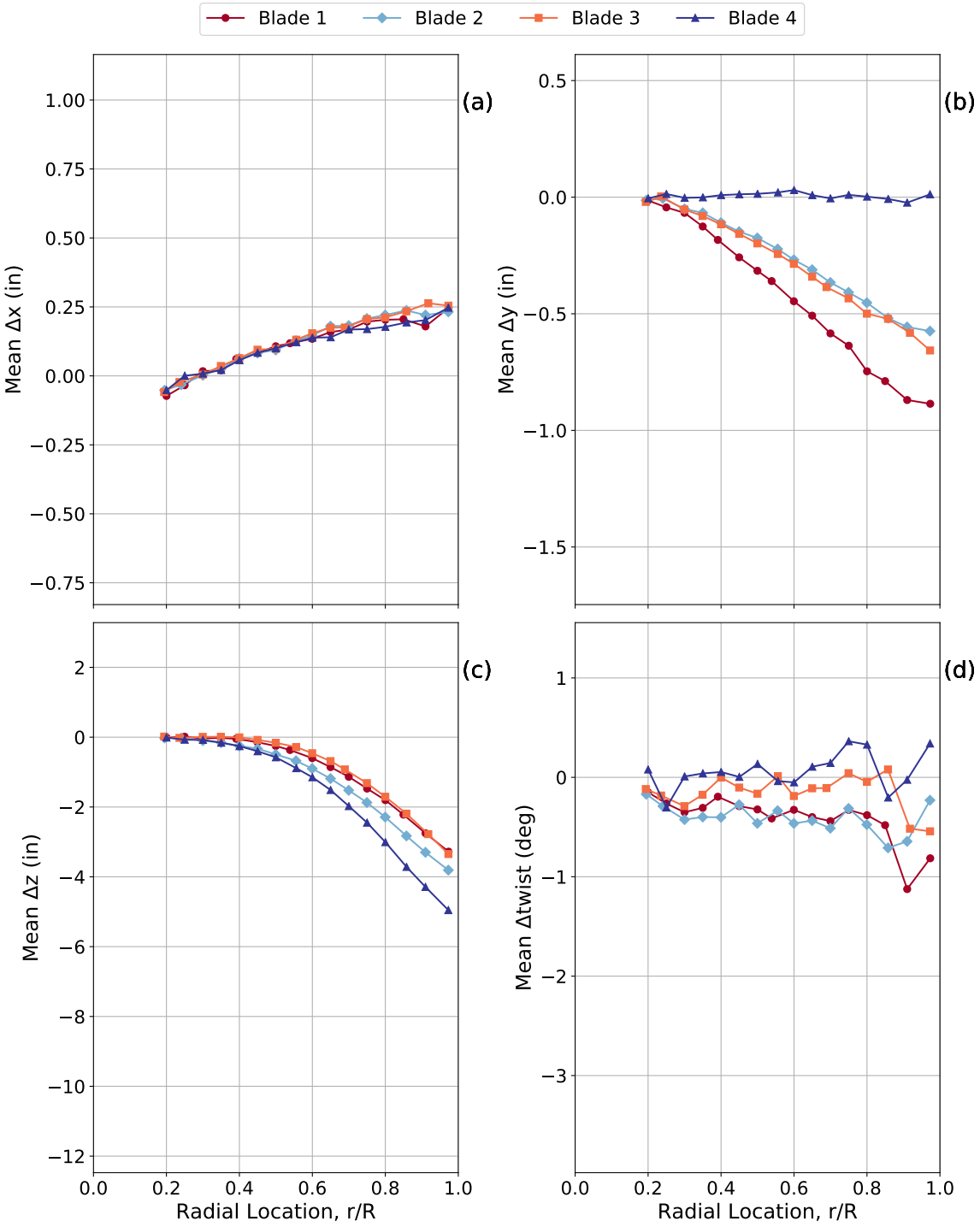


Figure 2.17-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-15. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0727	0.0009	-0.0141	0.0007	-0.0081	0.0021	-0.1507	0.0164
1	90	0.2499	-0.0340	0.0010	-0.0438	0.0017	0.0145	0.0040	-0.2630	0.0298
1	90	0.2998	0.0171	0.0009	-0.0674	0.0032	-0.0350	0.0081	-0.3511	0.0372
1	90	0.3498	0.0199	0.0012	-0.1258	0.0052	-0.0221	0.0135	-0.3071	0.0399
1	90	0.3913	0.0611	0.0016	-0.1833	0.0079	-0.0459	0.0193	-0.1949	0.0358
1	90	0.4496	0.0832	0.0014	-0.2581	0.0097	-0.1455	0.0264	-0.2895	0.0383
1	90	0.4997	0.1074	0.0016	-0.3157	0.0121	-0.2523	0.0331	-0.3230	0.0437
1	90	0.5387	0.1183	0.0017	-0.3598	0.0142	-0.3676	0.0387	-0.4137	0.0368
1	90	0.5996	0.1343	0.0017	-0.4463	0.0175	-0.6002	0.0473	-0.3266	0.0447
1	90	0.6498	0.1589	0.0020	-0.5081	0.0207	-0.8575	0.0543	-0.3999	0.0486
1	90	0.6998	0.1680	0.0022	-0.5842	0.0240	-1.1346	0.0614	-0.4401	0.0419
1	90	0.7500	0.1966	0.0029	-0.6370	0.0275	-1.4726	0.0677	-0.3277	0.0554
1	90	0.8001	0.2033	0.0026	-0.7466	0.0313	-1.8032	0.0745	-0.3802	0.0523
1	90	0.8497	0.2052	0.0029	-0.7888	0.0352	-2.2190	0.0810	-0.4811	0.0567
1	90	0.9102	0.1792	0.0037	-0.8698	0.0400	-2.7519	0.0908	-1.1242	0.0823
1	90	0.9734	0.2462	0.0040	-0.8859	0.0449	-3.2790	0.1009	-0.8142	0.0828
2	90	0.1949	-0.0523	0.0009	-0.0138	0.0005	-0.0214	0.0014	-0.1696	0.0168
2	90	0.2405	-0.0321	0.0008	-0.0052	0.0011	-0.0269	0.0028	-0.2897	0.0265
2	90	0.2999	0.0022	0.0008	-0.0505	0.0019	-0.0992	0.0057	-0.4249	0.0388
2	90	0.3498	0.0258	0.0009	-0.0673	0.0036	-0.1543	0.0103	-0.3993	0.0313
2	90	0.3998	0.0638	0.0011	-0.1094	0.0052	-0.2495	0.0152	-0.4022	0.0341
2	90	0.4496	0.0829	0.0012	-0.1479	0.0067	-0.3290	0.0195	-0.2751	0.0312
2	90	0.4995	0.0937	0.0014	-0.1750	0.0087	-0.4921	0.0242	-0.4627	0.0347
2	90	0.5551	0.1276	0.0015	-0.2224	0.0113	-0.6758	0.0302	-0.3357	0.0373
2	90	0.5996	0.1462	0.0015	-0.2684	0.0132	-0.9003	0.0345	-0.4636	0.0323
2	90	0.6497	0.1802	0.0019	-0.3111	0.0157	-1.1868	0.0391	-0.4354	0.0379
2	90	0.6996	0.1823	0.0022	-0.3658	0.0186	-1.5217	0.0437	-0.5118	0.0365
2	90	0.7495	0.2077	0.0024	-0.4082	0.0213	-1.8718	0.0483	-0.3127	0.0394
2	90	0.7996	0.2206	0.0023	-0.4528	0.0247	-2.2890	0.0538	-0.4752	0.0460
2	90	0.8578	0.2371	0.0029	-0.5187	0.0285	-2.8279	0.0622	-0.7095	0.0509
2	90	0.9100	0.2204	0.0035	-0.5565	0.0320	-3.2986	0.0714	-0.6442	0.0586
2	90	0.9727	0.2321	0.0041	-0.5741	0.0358	-3.8084	0.0877	-0.2303	0.0520
3	90	0.1938	-0.0587	0.0009	-0.0203	0.0007	0.0159	0.0022	-0.1178	0.0175
3	90	0.2357	-0.0224	0.0008	0.0031	0.0009	-0.0206	0.0032	-0.1830	0.0303
3	90	0.2995	0.0048	0.0010	-0.0528	0.0024	0.0089	0.0086	-0.2897	0.0415
3	90	0.3493	0.0358	0.0008	-0.0807	0.0044	0.0111	0.0141	-0.1753	0.0357
3	90	0.4000	0.0641	0.0014	-0.1164	0.0065	-0.0062	0.0217	-0.0021	0.0384
3	90	0.4497	0.0949	0.0015	-0.1574	0.0086	-0.0786	0.0284	-0.1025	0.0375
3	90	0.4997	0.0982	0.0017	-0.1982	0.0115	-0.1601	0.0354	-0.1645	0.0371
3	90	0.5556	0.1312	0.0018	-0.2436	0.0150	-0.2821	0.0433	0.0118	0.0348
3	90	0.5995	0.1545	0.0021	-0.2859	0.0182	-0.4597	0.0483	-0.1879	0.0431
3	90	0.6498	0.1745	0.0025	-0.3412	0.0220	-0.6850	0.0538	-0.1101	0.0385
3	90	0.6890	0.1754	0.0024	-0.3856	0.0252	-0.9234	0.0584	-0.1078	0.0474
3	90	0.7495	0.2058	0.0037	-0.4340	0.0305	-1.3164	0.0661	0.0419	0.0465
3	90	0.7998	0.2119	0.0027	-0.4996	0.0348	-1.7062	0.0727	-0.0455	0.0443
3	90	0.8577	0.2342	0.0035	-0.5217	0.0402	-2.1907	0.0814	0.0794	0.0632
3	90	0.9178	0.2633	0.0046	-0.5817	0.0457	-2.7772	0.0932	-0.5165	0.0829
3	90	0.9729	0.2545	0.0051	-0.6574	0.0511	-3.3470	0.1035	-0.5428	0.0854
4	90.35	0.2001	-0.0516	0.0008	-0.0052	0.0005	-0.0113	0.0017	0.0788	0.0175
4	90.35	0.2502	0.0004	0.0006	0.0136	0.0011	-0.0728	0.0037	-0.3035	0.0252
4	90.35	0.3001	0.0082	0.0009	-0.0030	0.0019	-0.0792	0.0071	0.0089	0.0378
4	90.35	0.3502	0.0213	0.0009	-0.0009	0.0032	-0.1590	0.0114	0.0394	0.0314
4	90.35	0.4002	0.0569	0.0012	0.0086	0.0050	-0.2575	0.0182	0.0537	0.0336
4	90.35	0.4500	0.0836	0.0012	0.0123	0.0068	-0.4037	0.0242	0.0042	0.0355
4	90.35	0.5001	0.1004	0.0014	0.0143	0.0089	-0.5767	0.0316	0.1341	0.0393
4	90.35	0.5560	0.1221	0.0016	0.0203	0.0115	-0.8886	0.0394	-0.0379	0.0356
4	90.35	0.6001	0.1385	0.0017	0.0303	0.0135	-1.1487	0.0472	-0.0505	0.0343
4	90.35	0.6501	0.1399	0.0019	0.0085	0.0160	-1.5144	0.0550	0.1069	0.0371
4	90.35	0.6999	0.1680	0.0023	-0.0053	0.0190	-1.9756	0.0630	0.1443	0.0396
4	90.35	0.7500	0.1695	0.0024	0.0099	0.0238	-2.4492	0.0700	0.3631	0.0433
4	90.35	0.8002	0.1777	0.0027	0.0022	0.0247	-3.0078	0.0762	0.3290	0.0500
4	90.35	0.8582	0.1937	0.0035	-0.0078	0.0284	-3.7167	0.0857	-0.2033	0.0540
4	90.35	0.9101	0.2021	0.0041	-0.0236	0.0320	-4.2908	0.0931	-0.0246	0.0600
4	90.35	0.9728	0.2471	0.0040	0.0120	0.0361	-4.9544	0.1018	0.3403	0.0653

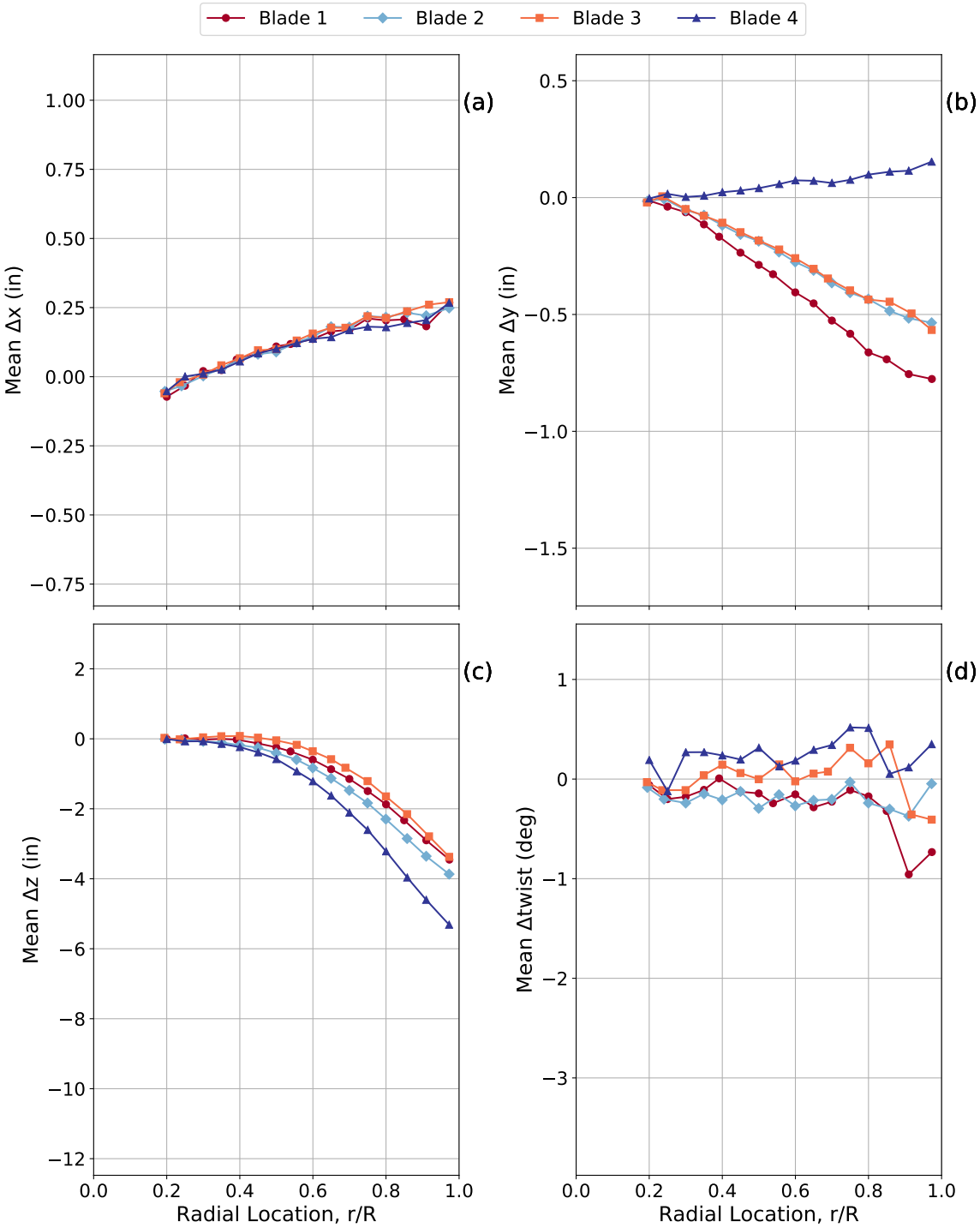


Figure 2.17-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-16. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0726	0.0009	-0.0134	0.0006	-0.0036	0.0019	-0.0612	0.0159
1	94.92	0.2499	-0.0326	0.0009	-0.0387	0.0013	0.0123	0.0045	-0.2011	0.0305
1	94.92	0.2998	0.0205	0.0009	-0.0626	0.0025	-0.0227	0.0082	-0.1777	0.0354
1	94.92	0.3498	0.0238	0.0010	-0.1147	0.0041	-0.0029	0.0125	-0.1084	0.0372
1	94.92	0.3913	0.0624	0.0013	-0.1673	0.0059	-0.0226	0.0195	0.0068	0.0367
1	94.92	0.4496	0.0841	0.0012	-0.2356	0.0080	-0.1303	0.0259	-0.1269	0.0332
1	94.92	0.4997	0.1094	0.0014	-0.2879	0.0102	-0.2427	0.0328	-0.1439	0.0312
1	94.92	0.5387	0.1183	0.0013	-0.3278	0.0119	-0.3604	0.0385	-0.2427	0.0322
1	94.92	0.5996	0.1363	0.0015	-0.4054	0.0146	-0.5976	0.0461	-0.1537	0.0401
1	94.92	0.6498	0.1638	0.0018	-0.4526	0.0176	-0.8704	0.0530	-0.2833	0.0386
1	94.92	0.6998	0.1697	0.0018	-0.5260	0.0199	-1.1473	0.0599	-0.2269	0.0384
1	94.92	0.7500	0.2107	0.0021	-0.5826	0.0228	-1.4936	0.0660	-0.1103	0.0412
1	94.92	0.8001	0.2037	0.0022	-0.6623	0.0256	-1.8737	0.0731	-0.1740	0.0443
1	94.92	0.8497	0.2073	0.0025	-0.6918	0.0285	-2.3284	0.0820	-0.3201	0.0475
1	94.92	0.9102	0.1823	0.0029	-0.7551	0.0318	-2.9010	0.0909	-0.9570	0.0658
1	94.92	0.9734	0.2681	0.0037	-0.7761	0.0356	-3.4528	0.1015	-0.7331	0.0625
2	94.92	0.1949	-0.0531	0.0010	-0.0155	0.0004	-0.0126	0.0016	-0.0846	0.0145
2	94.92	0.2405	-0.0332	0.0007	-0.0054	0.0011	-0.0214	0.0031	-0.2015	0.0248
2	94.92	0.2999	0.0027	0.0008	-0.0534	0.0022	-0.0746	0.0062	-0.2407	0.0336
2	94.92	0.3498	0.0297	0.0010	-0.0755	0.0031	-0.1031	0.0115	-0.1477	0.0287
2	94.92	0.3998	0.0620	0.0012	-0.1182	0.0053	-0.1817	0.0171	-0.2089	0.0282
2	94.92	0.4496	0.0813	0.0014	-0.1577	0.0067	-0.2538	0.0227	-0.1245	0.0338
2	94.92	0.4995	0.0896	0.0016	-0.1864	0.0087	-0.4073	0.0283	-0.2939	0.0331
2	94.92	0.5551	0.1245	0.0015	-0.2328	0.0109	-0.5942	0.0350	-0.1567	0.0358
2	94.92	0.5996	0.1447	0.0017	-0.2755	0.0128	-0.8322	0.0397	-0.2692	0.0364
2	94.92	0.6497	0.1807	0.0018	-0.3114	0.0149	-1.1290	0.0458	-0.2136	0.0380
2	94.92	0.6996	0.1794	0.0019	-0.3649	0.0175	-1.4729	0.0515	-0.2038	0.0383
2	94.92	0.7495	0.2189	0.0020	-0.4070	0.0203	-1.8360	0.0578	-0.0308	0.0371
2	94.92	0.7996	0.2154	0.0024	-0.4341	0.0228	-2.2961	0.0652	-0.2404	0.0413
2	94.92	0.8578	0.2315	0.0028	-0.4847	0.0261	-2.8510	0.0714	-0.3016	0.0433
2	94.92	0.9100	0.2207	0.0032	-0.5160	0.0290	-3.3557	0.0796	-0.3725	0.0573
2	94.92	0.9727	0.2485	0.0036	-0.5355	0.0325	-3.8682	0.0911	-0.0467	0.0467
3	94.92	0.1938	-0.0601	0.0010	-0.0207	0.0006	0.0274	0.0018	-0.0308	0.0178
3	94.92	0.2357	-0.0198	0.0008	0.0055	0.0010	-0.0159	0.0031	-0.1115	0.0288
3	94.92	0.2995	0.0075	0.0008	-0.0490	0.0023	0.0414	0.0068	-0.1112	0.0410
3	94.92	0.3493	0.0412	0.0010	-0.0778	0.0039	0.0736	0.0118	0.0389	0.0339
3	94.92	0.4000	0.0666	0.0013	-0.1075	0.0060	0.0803	0.0180	0.1444	0.0395
3	94.92	0.4497	0.0956	0.0012	-0.1480	0.0079	0.0324	0.0222	0.0604	0.0351
3	94.92	0.4997	0.0996	0.0015	-0.1836	0.0102	-0.0444	0.0272	-0.0014	0.0366
3	94.92	0.5556	0.1308	0.0015	-0.2221	0.0131	-0.1714	0.0337	0.1471	0.0357
3	94.92	0.5995	0.1561	0.0018	-0.2592	0.0155	-0.3572	0.0382	-0.0228	0.0410
3	94.92	0.6498	0.1774	0.0017	-0.3048	0.0186	-0.5836	0.0431	0.0545	0.0413
3	94.92	0.6890	0.1770	0.0020	-0.3461	0.0211	-0.8271	0.0472	0.0752	0.0437
3	94.92	0.7495	0.2187	0.0020	-0.3970	0.0251	-1.2093	0.0528	0.3139	0.0418
3	94.92	0.7998	0.2126	0.0024	-0.4362	0.0288	-1.6460	0.0581	0.1580	0.0465
3	94.92	0.8577	0.2365	0.0027	-0.4454	0.0330	-2.1532	0.0662	0.3471	0.0607
3	94.92	0.9178	0.2606	0.0028	-0.4958	0.0372	-2.7882	0.0743	-0.3557	0.0594
3	94.92	0.9729	0.2696	0.0037	-0.5663	0.0415	-3.3737	0.0809	-0.4074	0.0630
4	94.92	0.2001	-0.0525	0.0007	-0.0039	0.0006	-0.0083	0.0016	0.1913	0.0144
4	94.92	0.2502	0.0007	0.0008	0.0160	0.0013	-0.0729	0.0038	-0.1223	0.0233
4	94.92	0.3001	0.0109	0.0008	0.0028	0.0021	-0.0703	0.0061	0.2692	0.0313
4	94.92	0.3502	0.0258	0.0009	0.0078	0.0039	-0.1449	0.0108	0.2702	0.0246
4	94.92	0.4002	0.0551	0.0009	0.0230	0.0058	-0.2375	0.0165	0.2371	0.0291
4	94.92	0.4500	0.0842	0.0010	0.0302	0.0071	-0.3882	0.0208	0.1960	0.0280
4	94.92	0.5001	0.1008	0.0012	0.0403	0.0087	-0.5810	0.0267	0.3136	0.0283
4	94.92	0.5560	0.1216	0.0012	0.0579	0.0107	-0.9308	0.0345	0.1271	0.0314
4	94.92	0.6001	0.1373	0.0011	0.0739	0.0124	-1.2140	0.0403	0.1852	0.0324
4	94.92	0.6501	0.1429	0.0014	0.0719	0.0142	-1.6245	0.0456	0.2934	0.0313
4	94.92	0.6999	0.1684	0.0015	0.0625	0.0162	-2.1113	0.0501	0.3419	0.0328
4	94.92	0.7500	0.1808	0.0017	0.0762	0.0185	-2.6060	0.0548	0.5185	0.0382
4	94.92	0.8002	0.1789	0.0019	0.0984	0.0208	-3.2165	0.0593	0.5130	0.0435
4	94.92	0.8582	0.1943	0.0024	0.1106	0.0234	-3.9655	0.0660	0.0521	0.0413
4	94.92	0.9101	0.2047	0.0028	0.1150	0.0259	-4.6036	0.0734	0.1173	0.0483
4	94.92	0.9728	0.2672	0.0032	0.1536	0.0290	-5.3142	0.0830	0.3498	0.0488

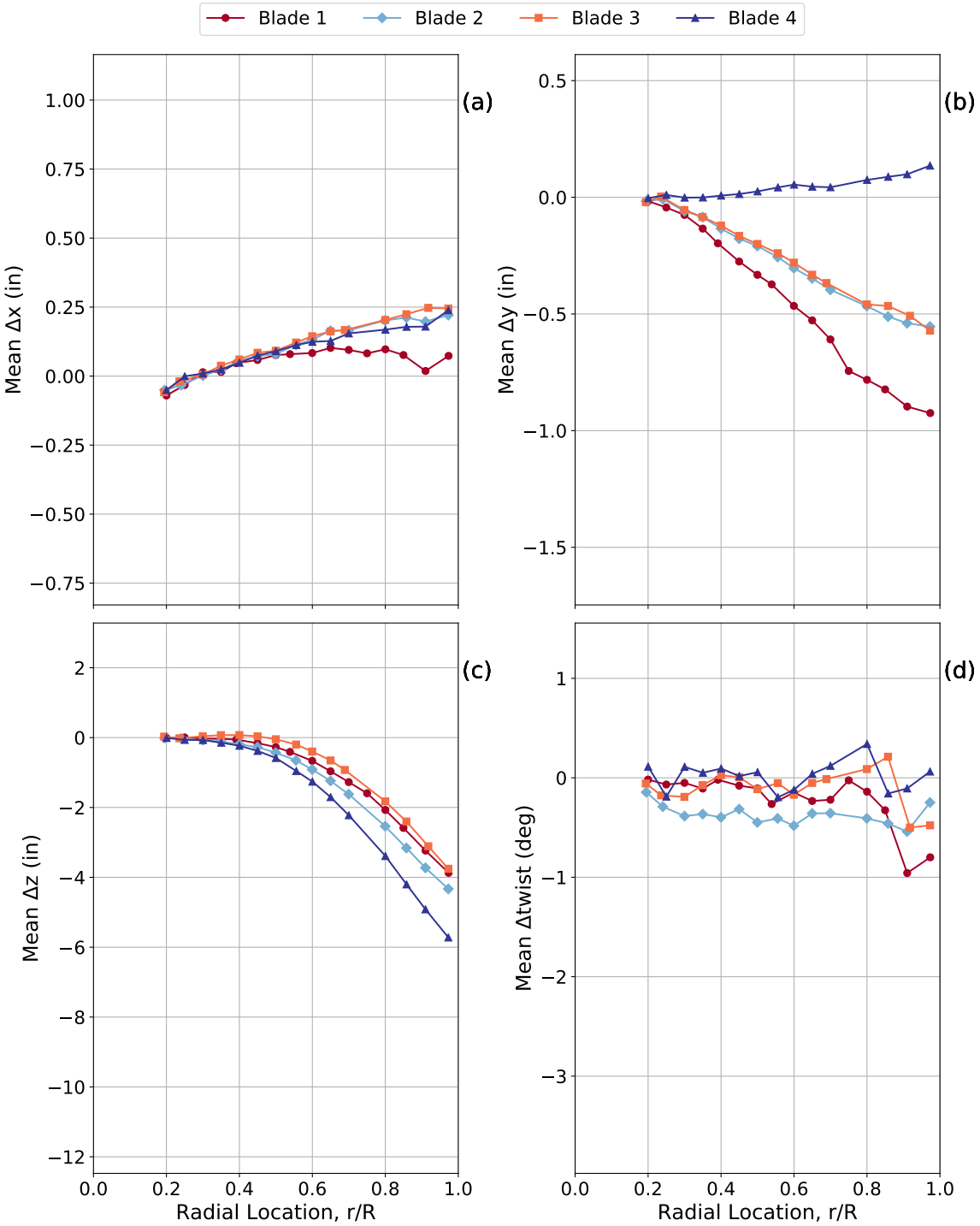


Figure 2.17-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-17. 100° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0703	0.0016	-0.0163	0.0005	-0.0073	0.0016	-0.0181	0.0134
1	99.84	0.2499	-0.0323	0.0011	-0.0438	0.0010	0.0048	0.0036	-0.0677	0.0266
1	99.84	0.2998	0.0141	0.0010	-0.0758	0.0020	-0.0335	0.0062	-0.0511	0.0301
1	99.84	0.3498	0.0150	0.0017	-0.1343	0.0031	-0.0334	0.0108	-0.1085	0.0287
1	99.84	0.3913	0.0468	0.0022	-0.1974	0.0046	-0.0581	0.0155	-0.0197	0.0293
1	99.84	0.4496	0.0583	0.0034	-0.2753	0.0062	-0.1579	0.0221	-0.0790	0.0304
1	99.84	0.4997	0.0761	0.0040	-0.3323	0.0080	-0.2714	0.0285	-0.1064	0.0291
1	99.84	0.5387	0.0795	0.0045	-0.3732	0.0093	-0.4093	0.0327	-0.2639	0.0326
1	99.84	0.5996	0.0836	0.0049	-0.4655	0.0116	-0.6658	0.0404	-0.1481	0.0335
1	99.84	0.6498	0.1021	0.0048	-0.5275	0.0138	-0.9636	0.0462	-0.2334	0.0380
1	99.84	0.6998	0.0949	0.0047	-0.6092	0.0163	-1.2734	0.0520	-0.2207	0.0350
1	99.84	0.7500	0.0824	0.0073	-0.7443	0.0461	-1.5938	0.0675	-0.0253	0.0414
1	99.84	0.8001	0.0971	0.0034	-0.7824	0.0214	-2.0713	0.0616	-0.1398	0.0375
1	99.84	0.8497	0.0763	0.0031	-0.8234	0.0241	-2.5857	0.0671	-0.3264	0.0467
1	99.84	0.9102	0.0185	0.0043	-0.8969	0.0272	-3.2343	0.0760	-0.9579	0.0462
1	99.84	0.9734	0.0733	0.0073	-0.9247	0.0307	-3.8717	0.0867	-0.7994	0.0425
2	99.84	0.1949	-0.0511	0.0007	-0.0167	0.0005	-0.0126	0.0016	-0.1450	0.0154
2	99.84	0.2405	-0.0329	0.0008	-0.0079	0.0013	-0.0242	0.0034	-0.2903	0.0213
2	99.84	0.2999	0.0018	0.0008	-0.0595	0.0023	-0.0760	0.0060	-0.3851	0.0335
2	99.84	0.3498	0.0234	0.0010	-0.0853	0.0041	-0.1117	0.0123	-0.3650	0.0324
2	99.84	0.3998	0.0545	0.0016	-0.1342	0.0064	-0.1924	0.0174	-0.3974	0.0307
2	99.84	0.4496	0.0724	0.0016	-0.1773	0.0077	-0.2720	0.0220	-0.3149	0.0275
2	99.84	0.4995	0.0797	0.0015	-0.2089	0.0098	-0.4298	0.0279	-0.4484	0.0282
2	99.84	0.5551	0.1133	0.0015	-0.2561	0.0126	-0.6527	0.0344	-0.4087	0.0339
2	99.84	0.5996	0.1319	0.0017	-0.3039	0.0147	-0.9132	0.0386	-0.4820	0.0362
2	99.84	0.6497	0.1642	0.0021	-0.3475	0.0173	-1.2385	0.0435	-0.3585	0.0388
2	99.84	0.6996	0.1659	0.0023	-0.3965	0.0200	-1.6210	0.0478	-0.3561	0.0401
2	99.84	0.7996	0.2015	0.0026	-0.4663	0.0259	-2.5381	0.0584	-0.4080	0.0387
2	99.84	0.8578	0.2121	0.0031	-0.5113	0.0294	-3.1604	0.0661	-0.4596	0.0402
2	99.84	0.9100	0.1975	0.0032	-0.5397	0.0326	-3.7279	0.0739	-0.5404	0.0404
2	99.84	0.9727	0.2210	0.0039	-0.5540	0.0366	-4.3315	0.0829	-0.2484	0.0510
3	99.84	0.1938	-0.0586	0.0008	-0.0212	0.0005	0.0286	0.0015	-0.0576	0.0157
3	99.84	0.2357	-0.0191	0.0008	0.0031	0.0010	-0.0191	0.0029	-0.1765	0.0228
3	99.84	0.2995	0.0055	0.0008	-0.0548	0.0018	0.0404	0.0063	-0.1918	0.0338
3	99.84	0.3493	0.0377	0.0011	-0.0843	0.0037	0.0703	0.0102	-0.0740	0.0310
3	99.84	0.4000	0.0602	0.0012	-0.1212	0.0050	0.0733	0.0163	0.0262	0.0265
3	99.84	0.4497	0.0845	0.0013	-0.1656	0.0067	0.0373	0.0206	0.0050	0.0305
3	99.84	0.4997	0.0919	0.0013	-0.2001	0.0088	-0.0469	0.0259	-0.1142	0.0317
3	99.84	0.5556	0.1216	0.0017	-0.2396	0.0108	-0.1976	0.0326	-0.0535	0.0338
3	99.84	0.5995	0.1444	0.0014	-0.2801	0.0131	-0.3983	0.0366	-0.1702	0.0348
3	99.84	0.6498	0.1618	0.0017	-0.3319	0.0153	-0.6537	0.0420	-0.0515	0.0320
3	99.84	0.6890	0.1667	0.0018	-0.3675	0.0174	-0.9261	0.0456	-0.0131	0.0335
3	99.84	0.7998	0.2035	0.0023	-0.4591	0.0235	-1.8238	0.0567	0.0876	0.0333
3	99.84	0.8577	0.2242	0.0028	-0.4659	0.0270	-2.4004	0.0627	0.2118	0.0398
3	99.84	0.9178	0.2472	0.0030	-0.5080	0.0308	-3.1103	0.0714	-0.4998	0.0417
3	99.84	0.9729	0.2449	0.0037	-0.5716	0.0343	-3.7562	0.0805	-0.4781	0.0466
4	99.84	0.2001	-0.0505	0.0008	-0.0038	0.0006	-0.0106	0.0017	0.1117	0.0148
4	99.84	0.2502	-0.0008	0.0010	0.0101	0.0018	-0.0664	0.0045	-0.1894	0.0235
4	99.84	0.3001	0.0095	0.0008	-0.0015	0.0023	-0.0703	0.0073	0.1098	0.0322
4	99.84	0.3502	0.0239	0.0012	-0.0009	0.0054	-0.1463	0.0125	0.0507	0.0261
4	99.84	0.4002	0.0484	0.0013	0.0071	0.0072	-0.2331	0.0199	0.0930	0.0300
4	99.84	0.4500	0.0742	0.0015	0.0138	0.0093	-0.3818	0.0256	0.0169	0.0289
4	99.84	0.5001	0.0902	0.0013	0.0252	0.0110	-0.5838	0.0323	0.0564	0.0296
4	99.84	0.5560	0.1125	0.0016	0.0422	0.0146	-0.9575	0.0402	-0.1957	0.0302
4	99.84	0.6001	0.1240	0.0015	0.0542	0.0166	-1.2608	0.0461	-0.1205	0.0314
4	99.84	0.6501	0.1274	0.0018	0.0454	0.0201	-1.7044	0.0537	0.0394	0.0308
4	99.84	0.6999	0.1547	0.0019	0.0429	0.0232	-2.2232	0.0604	0.1200	0.0307
4	99.84	0.8002	0.1683	0.0025	0.0744	0.0304	-3.3900	0.0743	0.3399	0.0333
4	99.84	0.8582	0.1785	0.0027	0.0877	0.0346	-4.2020	0.0835	-0.1578	0.0369
4	99.84	0.9101	0.1793	0.0031	0.0985	0.0383	-4.9171	0.0937	-0.1072	0.0329
4	99.84	0.9728	0.2386	0.0039	0.1356	0.0428	-5.7222	0.1062	0.0625	0.0352

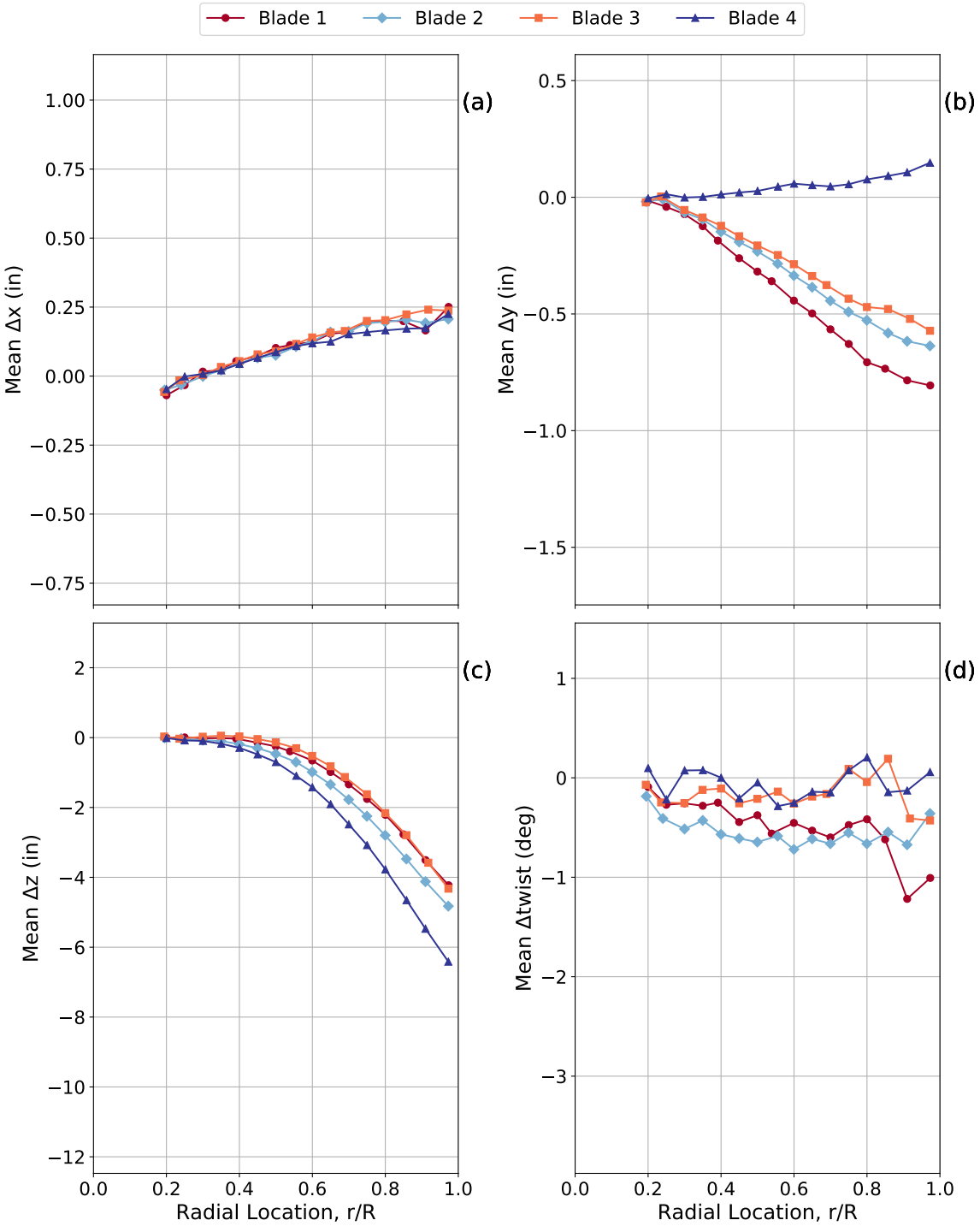


Figure 2.17-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-18. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0694	0.0010	-0.0150	0.0006	-0.0027	0.0014	-0.0923	0.0146
1	105.12	0.2499	-0.0327	0.0009	-0.0410	0.0014	0.0058	0.0035	-0.2712	0.0270
1	105.12	0.2998	0.0163	0.0010	-0.0725	0.0027	-0.0203	0.0060	-0.2571	0.0326
1	105.12	0.3498	0.0215	0.0009	-0.1239	0.0040	-0.0138	0.0096	-0.2813	0.0324
1	105.12	0.3913	0.0540	0.0014	-0.1858	0.0063	-0.0323	0.0145	-0.2503	0.0328
1	105.12	0.4496	0.0729	0.0014	-0.2611	0.0075	-0.1455	0.0175	-0.4445	0.0338
1	105.12	0.4997	0.1020	0.0012	-0.3185	0.0092	-0.2520	0.0223	-0.3765	0.0355
1	105.12	0.5387	0.1124	0.0015	-0.3596	0.0110	-0.3924	0.0263	-0.5608	0.0365
1	105.12	0.5996	0.1235	0.0014	-0.4427	0.0138	-0.6566	0.0320	-0.4536	0.0360
1	105.12	0.6498	0.1534	0.0019	-0.4978	0.0165	-0.9854	0.0377	-0.5312	0.0373
1	105.12	0.6998	0.1597	0.0019	-0.5659	0.0193	-1.3378	0.0438	-0.5996	0.0353
1	105.12	0.7500	0.1979	0.0021	-0.6286	0.0223	-1.7563	0.0496	-0.4753	0.0357
1	105.12	0.8001	0.2001	0.0026	-0.7070	0.0255	-2.2108	0.0570	-0.4170	0.0370
1	105.12	0.8497	0.1990	0.0028	-0.7346	0.0291	-2.7702	0.0643	-0.6194	0.0369
1	105.12	0.9102	0.1653	0.0033	-0.7845	0.0333	-3.5063	0.0745	-1.2175	0.0417
1	105.12	0.9734	0.2507	0.0041	-0.8063	0.0381	-4.2263	0.0871	-1.0072	0.0413
2	105.12	0.1949	-0.0506	0.0009	-0.0187	0.0004	-0.0071	0.0013	-0.1859	0.0153
2	105.12	0.2405	-0.0316	0.0008	-0.0081	0.0015	-0.0297	0.0031	-0.4092	0.0266
2	105.12	0.2999	-0.0011	0.0008	-0.0654	0.0027	-0.0758	0.0058	-0.5149	0.0364
2	105.12	0.3498	0.0216	0.0009	-0.0946	0.0039	-0.0975	0.0101	-0.4287	0.0317
2	105.12	0.3998	0.0472	0.0012	-0.1476	0.0070	-0.1892	0.0156	-0.5685	0.0349
2	105.12	0.4496	0.0660	0.0013	-0.1916	0.0081	-0.3005	0.0194	-0.6099	0.0387
2	105.12	0.4995	0.0755	0.0015	-0.2317	0.0104	-0.4654	0.0237	-0.6460	0.0387
2	105.12	0.5551	0.1070	0.0016	-0.2847	0.0131	-0.6998	0.0293	-0.5858	0.0383
2	105.12	0.5996	0.1257	0.0014	-0.3358	0.0154	-0.9850	0.0337	-0.7196	0.0378
2	105.12	0.6497	0.1594	0.0017	-0.3856	0.0182	-1.3429	0.0379	-0.6136	0.0412
2	105.12	0.6996	0.1616	0.0018	-0.4434	0.0210	-1.7750	0.0420	-0.6627	0.0411
2	105.12	0.7495	0.1918	0.0021	-0.4911	0.0241	-2.2512	0.0469	-0.5519	0.0392
2	105.12	0.7996	0.1963	0.0024	-0.5271	0.0272	-2.7981	0.0511	-0.6628	0.0414
2	105.12	0.8578	0.2043	0.0029	-0.5816	0.0311	-3.4747	0.0571	-0.5459	0.0422
2	105.12	0.9100	0.1924	0.0031	-0.6170	0.0346	-4.1226	0.0643	-0.6730	0.0428
2	105.12	0.9727	0.2068	0.0041	-0.6370	0.0389	-4.8253	0.0734	-0.3594	0.0413
3	105.12	0.1938	-0.0577	0.0009	-0.0217	0.0005	0.0300	0.0014	-0.0702	0.0177
3	105.12	0.2357	-0.0155	0.0009	0.0034	0.0014	-0.0311	0.0027	-0.2476	0.0249
3	105.12	0.2995	0.0036	0.0008	-0.0546	0.0027	0.0253	0.0057	-0.2547	0.0398
3	105.12	0.3493	0.0331	0.0010	-0.0867	0.0042	0.0542	0.0098	-0.1215	0.0315
3	105.12	0.4000	0.0542	0.0014	-0.1223	0.0071	0.0340	0.0150	-0.1081	0.0343
3	105.12	0.4497	0.0788	0.0013	-0.1669	0.0089	-0.0421	0.0192	-0.2568	0.0405
3	105.12	0.4997	0.0902	0.0016	-0.2066	0.0108	-0.1365	0.0251	-0.2112	0.0318
3	105.12	0.5556	0.1168	0.0017	-0.2475	0.0136	-0.3040	0.0320	-0.1390	0.0436
3	105.12	0.5995	0.1401	0.0017	-0.2869	0.0160	-0.5251	0.0378	-0.2595	0.0379
3	105.12	0.6498	0.1582	0.0019	-0.3375	0.0188	-0.8190	0.0444	-0.1885	0.0401
3	105.12	0.6890	0.1634	0.0019	-0.3763	0.0213	-1.1286	0.0503	-0.1626	0.0371
3	105.12	0.7495	0.1999	0.0021	-0.4346	0.0251	-1.6216	0.0593	0.0901	0.0352
3	105.12	0.7998	0.2026	0.0023	-0.4704	0.0285	-2.1609	0.0690	-0.0425	0.0366
3	105.12	0.8577	0.2235	0.0027	-0.4788	0.0324	-2.7930	0.0802	0.1912	0.0431
3	105.12	0.9178	0.2407	0.0031	-0.5212	0.0364	-3.5824	0.0922	-0.4092	0.0393
3	105.12	0.9729	0.2374	0.0039	-0.5720	0.0405	-4.3247	0.1029	-0.4290	0.0493
4	105.12	0.2001	-0.0475	0.0011	-0.0044	0.0006	-0.0134	0.0015	0.0973	0.0200
4	105.12	0.2502	-0.0017	0.0008	0.0131	0.0014	-0.0808	0.0033	-0.2176	0.0280
4	105.12	0.3001	0.0081	0.0009	-0.0011	0.0034	-0.0952	0.0060	0.0738	0.0428
4	105.12	0.3502	0.0206	0.0010	0.0016	0.0044	-0.1770	0.0094	0.0765	0.0344
4	105.12	0.4002	0.0441	0.0008	0.0119	0.0078	-0.2943	0.0151	0.0007	0.0340
4	105.12	0.4500	0.0663	0.0015	0.0205	0.0093	-0.4820	0.0206	-0.2064	0.0345
4	105.12	0.5001	0.0868	0.0017	0.0269	0.0115	-0.7016	0.0261	-0.0474	0.0384
4	105.12	0.5560	0.1089	0.0018	0.0452	0.0146	-1.0937	0.0343	-0.2847	0.0434
4	105.12	0.6001	0.1185	0.0016	0.0582	0.0173	-1.4221	0.0402	-0.2519	0.0396
4	105.12	0.6501	0.1247	0.0021	0.0518	0.0205	-1.9069	0.0478	-0.1399	0.0365
4	105.12	0.6999	0.1517	0.0026	0.0464	0.0236	-2.4850	0.0552	-0.1477	0.0371
4	105.12	0.7500	0.1593	0.0027	0.0557	0.0272	-3.0789	0.0621	0.0746	0.0383
4	105.12	0.8002	0.1656	0.0030	0.0766	0.0305	-3.7741	0.0697	0.2049	0.0390
4	105.12	0.8582	0.1718	0.0037	0.0916	0.0348	-4.6550	0.0810	-0.1447	0.0399
4	105.12	0.9101	0.1736	0.0040	0.1065	0.0386	-5.4726	0.0926	-0.1287	0.0424
4	105.12	0.9728	0.2250	0.0055	0.1478	0.0435	-6.4155	0.1067	0.0569	0.0451

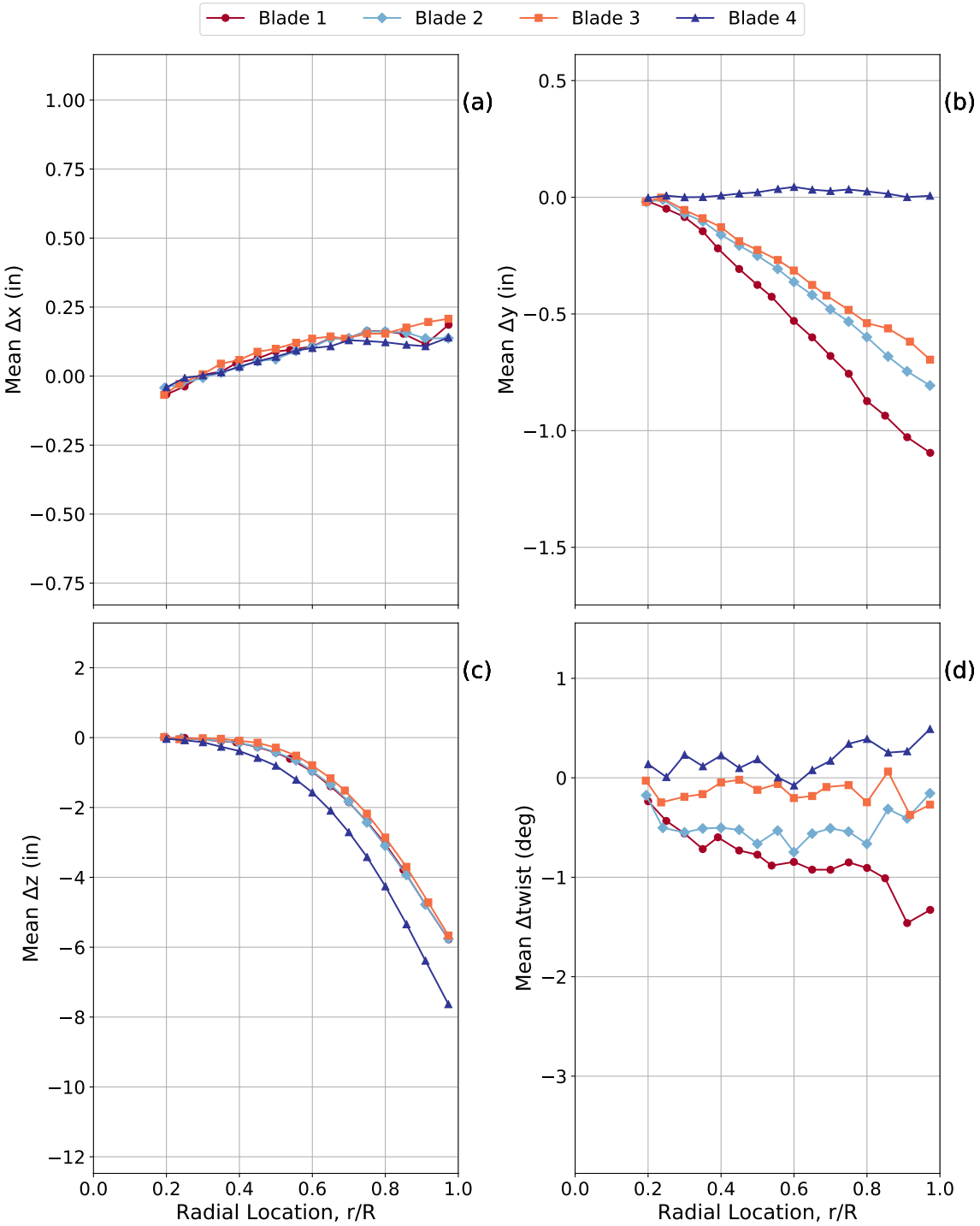


Figure 2.17-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-19. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0664	0.0009	-0.0172	0.0005	-0.0165	0.0020	-0.2360	0.0191
1	119.88	0.2499	-0.0376	0.0007	-0.0491	0.0012	-0.0083	0.0067	-0.4335	0.0294
1	119.88	0.2998	0.0047	0.0009	-0.0847	0.0022	-0.0591	0.0104	-0.5605	0.0418
1	119.88	0.3498	0.0162	0.0014	-0.1455	0.0035	-0.1025	0.0165	-0.7167	0.0475
1	119.88	0.3913	0.0467	0.0015	-0.2190	0.0054	-0.1368	0.0262	-0.5982	0.0307
1	119.88	0.4496	0.0637	0.0014	-0.3073	0.0061	-0.2719	0.0312	-0.7309	0.0355
1	119.88	0.4997	0.0890	0.0015	-0.3757	0.0076	-0.4300	0.0386	-0.7731	0.0407
1	119.88	0.5387	0.0947	0.0016	-0.4263	0.0095	-0.6063	0.0425	-0.8824	0.0433
1	119.88	0.5996	0.1075	0.0020	-0.5298	0.0114	-0.9716	0.0493	-0.8462	0.0403
1	119.88	0.6498	0.1373	0.0019	-0.6002	0.0139	-1.3922	0.0555	-0.9237	0.0380
1	119.88	0.6998	0.1376	0.0023	-0.6801	0.0164	-1.8484	0.0603	-0.9246	0.0424
1	119.88	0.7500	0.1634	0.0021	-0.7563	0.0190	-2.4101	0.0665	-0.8508	0.0402
1	119.88	0.8001	0.1623	0.0028	-0.8734	0.0222	-3.0480	0.0717	-0.9063	0.0367
1	119.88	0.8497	0.1534	0.0030	-0.9359	0.0256	-3.7862	0.0780	-1.0102	0.0373
1	119.88	0.9102	0.1151	0.0036	-1.0282	0.0298	-4.7807	0.0869	-1.4605	0.0400
1	119.88	0.9734	0.1858	0.0049	-1.0951	0.0345	-5.7767	0.0985	-1.3280	0.0380
2	119.88	0.1949	-0.0424	0.0010	-0.0197	0.0005	-0.0075	0.0013	-0.1758	0.0122
2	119.88	0.2405	-0.0280	0.0007	-0.0101	0.0010	-0.0221	0.0028	-0.5034	0.0193
2	119.88	0.2999	-0.0060	0.0012	-0.0701	0.0022	-0.0597	0.0057	-0.5492	0.0285
2	119.88	0.3498	0.0127	0.0008	-0.1030	0.0038	-0.0857	0.0096	-0.5097	0.0260
2	119.88	0.3998	0.0330	0.0013	-0.1605	0.0057	-0.1542	0.0151	-0.5030	0.0322
2	119.88	0.4496	0.0542	0.0015	-0.2068	0.0070	-0.2553	0.0197	-0.5227	0.0294
2	119.88	0.4995	0.0612	0.0015	-0.2502	0.0092	-0.4152	0.0244	-0.6640	0.0281
2	119.88	0.5551	0.0912	0.0017	-0.3067	0.0115	-0.6499	0.0314	-0.5312	0.0314
2	119.88	0.5996	0.1050	0.0017	-0.3629	0.0136	-0.9597	0.0365	-0.7468	0.0320
2	119.88	0.6497	0.1352	0.0016	-0.4188	0.0167	-1.3452	0.0430	-0.5612	0.0330
2	119.88	0.6996	0.1372	0.0018	-0.4799	0.0199	-1.8266	0.0493	-0.5086	0.0329
2	119.88	0.7495	0.1614	0.0019	-0.5327	0.0236	-2.4288	0.0574	-0.5418	0.0331
2	119.88	0.7996	0.1617	0.0020	-0.5991	0.0273	-3.0962	0.0664	-0.6647	0.0362
2	119.88	0.8578	0.1574	0.0023	-0.6822	0.0321	-3.9312	0.0787	-0.3146	0.0403
2	119.88	0.9100	0.1364	0.0027	-0.7459	0.0366	-4.7771	0.0907	-0.4080	0.0407
2	119.88	0.9727	0.1373	0.0035	-0.8067	0.0419	-5.7552	0.1061	-0.1557	0.0404
3	119.88	0.1938	-0.0679	0.0043	-0.0200	0.0007	0.0164	0.0021	-0.0288	0.0194
3	119.88	0.2357	-0.0286	0.0017	-0.0016	0.0011	-0.0465	0.0046	-0.2474	0.0303
3	119.88	0.2995	0.0066	0.0024	-0.0546	0.0027	-0.0188	0.0097	-0.1910	0.0453
3	119.88	0.3493	0.0450	0.0043	-0.0897	0.0046	-0.0348	0.0172	-0.1641	0.0318
3	119.88	0.4000	0.0584	0.0045	-0.1283	0.0071	-0.0905	0.0266	-0.0473	0.0395
3	119.88	0.4497	0.0881	0.0049	-0.1884	0.0090	-0.1472	0.0303	-0.0200	0.0439
3	119.88	0.4997	0.0990	0.0046	-0.2257	0.0114	-0.2888	0.0350	-0.1207	0.0453
3	119.88	0.5556	0.1208	0.0042	-0.2687	0.0142	-0.5164	0.0448	-0.0619	0.0448
3	119.88	0.5995	0.1356	0.0037	-0.3138	0.0165	-0.7919	0.0514	-0.2037	0.0407
3	119.88	0.6498	0.1437	0.0046	-0.3757	0.0186	-1.1661	0.0594	-0.1835	0.0483
3	119.88	0.6890	0.1354	0.0061	-0.4214	0.0206	-1.5161	0.0663	-0.0928	0.0464
3	119.88	0.7495	0.1534	0.0098	-0.4825	0.0235	-2.1761	0.0774	-0.0735	0.0450
3	119.88	0.7998	0.1540	0.0139	-0.5394	0.0261	-2.8606	0.0871	-0.2459	0.0482
3	119.88	0.8577	0.1757	0.0195	-0.5620	0.0298	-3.7001	0.0990	0.0624	0.0550
3	119.88	0.9178	0.1960	0.0266	-0.6186	0.0338	-4.7175	0.1120	-0.3729	0.0527
3	119.88	0.9729	0.2077	0.0343	-0.6959	0.0373	-5.6651	0.1239	-0.2699	0.0526
4	119.88	0.2001	-0.0405	0.0008	-0.0023	0.0004	-0.0349	0.0014	0.1374	0.0126
4	119.88	0.2502	-0.0065	0.0008	0.0070	0.0010	-0.0754	0.0034	0.0075	0.0224
4	119.88	0.3001	0.0025	0.0010	0.0001	0.0020	-0.1330	0.0058	0.2314	0.0278
4	119.88	0.3502	0.0130	0.0013	0.0010	0.0026	-0.2632	0.0090	0.1156	0.0308
4	119.88	0.4002	0.0341	0.0009	0.0073	0.0047	-0.3861	0.0148	0.2254	0.0251
4	119.88	0.4500	0.0536	0.0012	0.0158	0.0065	-0.5801	0.0191	0.0975	0.0267
4	119.88	0.5001	0.0699	0.0016	0.0213	0.0081	-0.8052	0.0234	0.1863	0.0263
4	119.88	0.5560	0.0927	0.0015	0.0353	0.0095	-1.2070	0.0286	0.0038	0.0298
4	119.88	0.6001	0.1017	0.0018	0.0442	0.0111	-1.5721	0.0349	-0.0776	0.0278
4	119.88	0.6501	0.1081	0.0018	0.0326	0.0133	-2.0925	0.0391	0.0772	0.0319
4	119.88	0.6999	0.1299	0.0026	0.0268	0.0155	-2.7079	0.0461	0.1718	0.0290
4	119.88	0.7500	0.1269	0.0024	0.0336	0.0185	-3.4210	0.0534	0.3415	0.0295
4	119.88	0.8002	0.1226	0.0025	0.0251	0.0209	-4.2591	0.0595	0.3904	0.0275
4	119.88	0.8582	0.1135	0.0030	0.0149	0.0244	-5.3450	0.0671	0.2535	0.0296
4	119.88	0.9101	0.1082	0.0033	0.0007	0.0275	-6.3879	0.0764	0.2665	0.0283
4	119.88	0.9728	0.1396	0.0048	0.0065	0.0317	-7.6313	0.0878	0.4903	0.0329

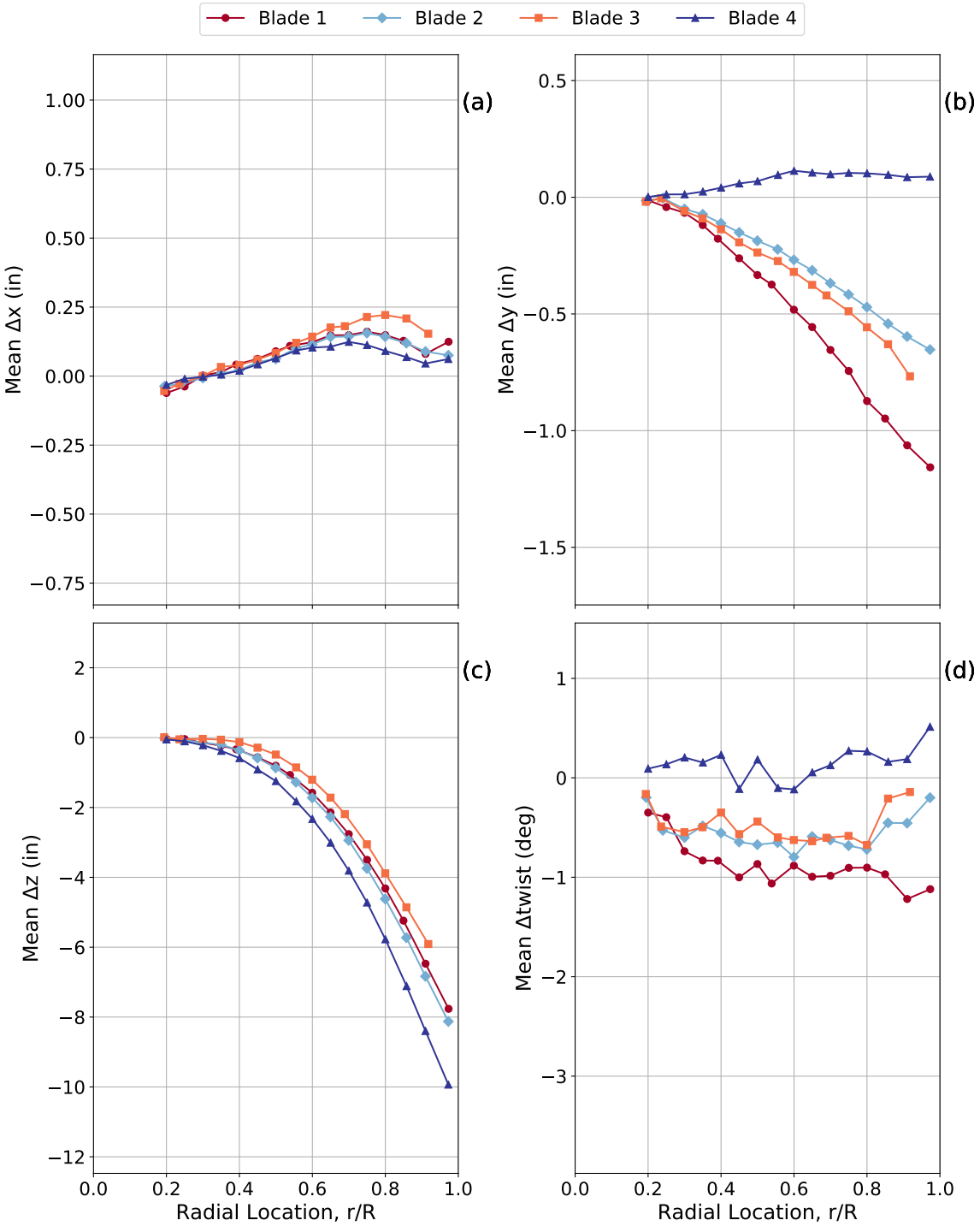


Figure 2.17-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0612	0.0009	-0.0131	0.0005	-0.0380	0.0015	-0.3500	0.0139
1	135	0.2499	-0.0377	0.0009	-0.0420	0.0009	-0.0419	0.0028	-0.3965	0.0269
1	135	0.2998	0.0023	0.0006	-0.0664	0.0018	-0.1478	0.0052	-0.7384	0.0320
1	135	0.3498	0.0146	0.0007	-0.1192	0.0029	-0.2325	0.0092	-0.8315	0.0304
1	135	0.3913	0.0416	0.0010	-0.1776	0.0043	-0.3347	0.0126	-0.8339	0.0322
1	135	0.4496	0.0622	0.0012	-0.2615	0.0057	-0.5624	0.0174	-1.0013	0.0316
1	135	0.4997	0.0899	0.0014	-0.3332	0.0075	-0.8043	0.0200	-0.8670	0.0330
1	135	0.5387	0.1095	0.0017	-0.3741	0.0088	-1.0685	0.0232	-1.0630	0.0373
1	135	0.5996	0.1228	0.0017	-0.4817	0.0109	-1.5780	0.0271	-0.8829	0.0440
1	135	0.6498	0.1478	0.0018	-0.5562	0.0132	-2.1416	0.0319	-0.9951	0.0358
1	135	0.6998	0.1483	0.0021	-0.6543	0.0153	-2.7632	0.0382	-0.9850	0.0286
1	135	0.7500	0.1611	0.0022	-0.7443	0.0176	-3.4994	0.0450	-0.9054	0.0294
1	135	0.8001	0.1486	0.0026	-0.8732	0.0203	-4.3181	0.0538	-0.9033	0.0311
1	135	0.8497	0.1277	0.0032	-0.9481	0.0228	-5.2399	0.0641	-0.9705	0.0323
1	135	0.9102	0.0803	0.0039	-1.0631	0.0263	-6.4724	0.0791	-1.2185	0.0360
1	135	0.9734	0.1244	0.0051	-1.1573	0.0300	-7.7647	0.0984	-1.1197	0.0340
2	135	0.1949	-0.0368	0.0011	-0.0155	0.0005	-0.0191	0.0011	-0.1987	0.0140
2	135	0.2405	-0.0275	0.0009	-0.0038	0.0021	-0.0630	0.0036	-0.5284	0.0189
2	135	0.2999	-0.0068	0.0012	-0.0502	0.0038	-0.1423	0.0056	-0.6008	0.0309
2	135	0.3498	0.0089	0.0012	-0.0732	0.0056	-0.2033	0.0101	-0.4841	0.0273
2	135	0.3998	0.0216	0.0022	-0.1115	0.0100	-0.3639	0.0161	-0.5546	0.0305
2	135	0.4496	0.0506	0.0019	-0.1506	0.0116	-0.5853	0.0188	-0.6457	0.0319
2	135	0.4995	0.0622	0.0018	-0.1865	0.0141	-0.8662	0.0242	-0.6722	0.0284
2	135	0.5551	0.1010	0.0028	-0.2230	0.0178	-1.2766	0.0309	-0.6517	0.0321
2	135	0.5996	0.1148	0.0022	-0.2681	0.0203	-1.7228	0.0360	-0.7967	0.0358
2	135	0.6497	0.1419	0.0028	-0.3132	0.0231	-2.2689	0.0428	-0.5906	0.0350
2	135	0.6996	0.1434	0.0032	-0.3681	0.0268	-2.9410	0.0488	-0.6249	0.0373
2	135	0.7495	0.1559	0.0032	-0.4167	0.0300	-3.7430	0.0570	-0.6823	0.0404
2	135	0.7996	0.1427	0.0035	-0.4707	0.0337	-4.6181	0.0677	-0.7197	0.0328
2	135	0.8578	0.1195	0.0045	-0.5419	0.0384	-5.7279	0.0800	-0.4533	0.0358
2	135	0.9100	0.0890	0.0053	-0.5968	0.0424	-6.8331	0.0923	-0.4557	0.0357
2	135	0.9727	0.0753	0.0063	-0.6528	0.0472	-8.1252	0.1082	-0.2000	0.0384
3	135	0.1938	-0.0539	0.0036	-0.0192	0.0005	0.0117	0.0018	-0.1629	0.0243
3	135	0.2357	-0.0277	0.0014	-0.0042	0.0010	-0.0490	0.0043	-0.4903	0.0324
3	135	0.2995	0.0002	0.0023	-0.0594	0.0022	-0.0361	0.0071	-0.5464	0.0546
3	135	0.3493	0.0331	0.0032	-0.0905	0.0038	-0.0592	0.0146	-0.4970	0.0338
3	135	0.4000	0.0399	0.0038	-0.1372	0.0060	-0.1302	0.0209	-0.3494	0.0435
3	135	0.4497	0.0598	0.0044	-0.1931	0.0079	-0.2883	0.0285	-0.5667	0.0397
3	135	0.4997	0.0837	0.0047	-0.2367	0.0097	-0.4853	0.0347	-0.4397	0.0387
3	135	0.5556	0.1206	0.0050	-0.2733	0.0128	-0.8537	0.0422	-0.5992	0.0510
3	135	0.5995	0.1431	0.0064	-0.3198	0.0142	-1.2059	0.0471	-0.6256	0.0507
3	135	0.6498	0.1762	0.0073	-0.3755	0.0166	-1.7178	0.0552	-0.6375	0.0439
3	135	0.6890	0.1808	0.0092	-0.4206	0.0192	-2.1888	0.0607	-0.6031	0.0385
3	135	0.7495	0.2142	0.0129	-0.4886	0.0223	-3.0541	0.0715	-0.5842	0.0369
3	135	0.7998	0.2213	0.0164	-0.5571	0.0249	-3.8854	0.0789	-0.6750	0.0421
3	135	0.8577	0.2088	0.0209	-0.6298	0.0287	-4.8584	0.0913	-0.2089	0.0393
3	135	0.9178	0.1536	0.0263	-0.7675	0.0324	-5.9100	0.1036	-0.1432	0.0414
4	135	0.2001	-0.0320	0.0011	0.0013	0.0005	-0.0533	0.0014	0.0915	0.0145
4	135	0.2502	-0.0097	0.0014	0.0122	0.0024	-0.1059	0.0051	0.1353	0.0223
4	135	0.3001	-0.0025	0.0012	0.0125	0.0036	-0.2195	0.0081	0.2038	0.0315
4	135	0.3502	0.0055	0.0011	0.0244	0.0052	-0.3801	0.0128	0.1535	0.0320
4	135	0.4002	0.0197	0.0015	0.0411	0.0096	-0.5873	0.0219	0.2310	0.0354
4	135	0.4500	0.0424	0.0016	0.0592	0.0115	-0.9138	0.0270	-0.1122	0.0343
4	135	0.5001	0.0647	0.0017	0.0689	0.0153	-1.2453	0.0334	0.1834	0.0355
4	135	0.5560	0.0928	0.0019	0.0957	0.0174	-1.8250	0.0414	-0.1026	0.0405
4	135	0.6001	0.1034	0.0021	0.1135	0.0203	-2.3288	0.0487	-0.1163	0.0385
4	135	0.6501	0.1066	0.0027	0.1055	0.0237	-3.0095	0.0557	0.0549	0.0384
4	135	0.6999	0.1240	0.0027	0.0986	0.0270	-3.8091	0.0647	0.1268	0.0378
4	135	0.7500	0.1124	0.0027	0.1044	0.0306	-4.7223	0.0721	0.2716	0.0371
4	135	0.8002	0.0911	0.0034	0.1026	0.0349	-5.7745	0.0789	0.2645	0.0341
4	135	0.8582	0.0688	0.0041	0.0962	0.0391	-7.1137	0.0903	0.1607	0.0338
4	135	0.9101	0.0455	0.0046	0.0861	0.0434	-8.3991	0.1005	0.1878	0.0358
4	135	0.9728	0.0619	0.0056	0.0883	0.0485	-9.9343	0.1146	0.5126	0.0332

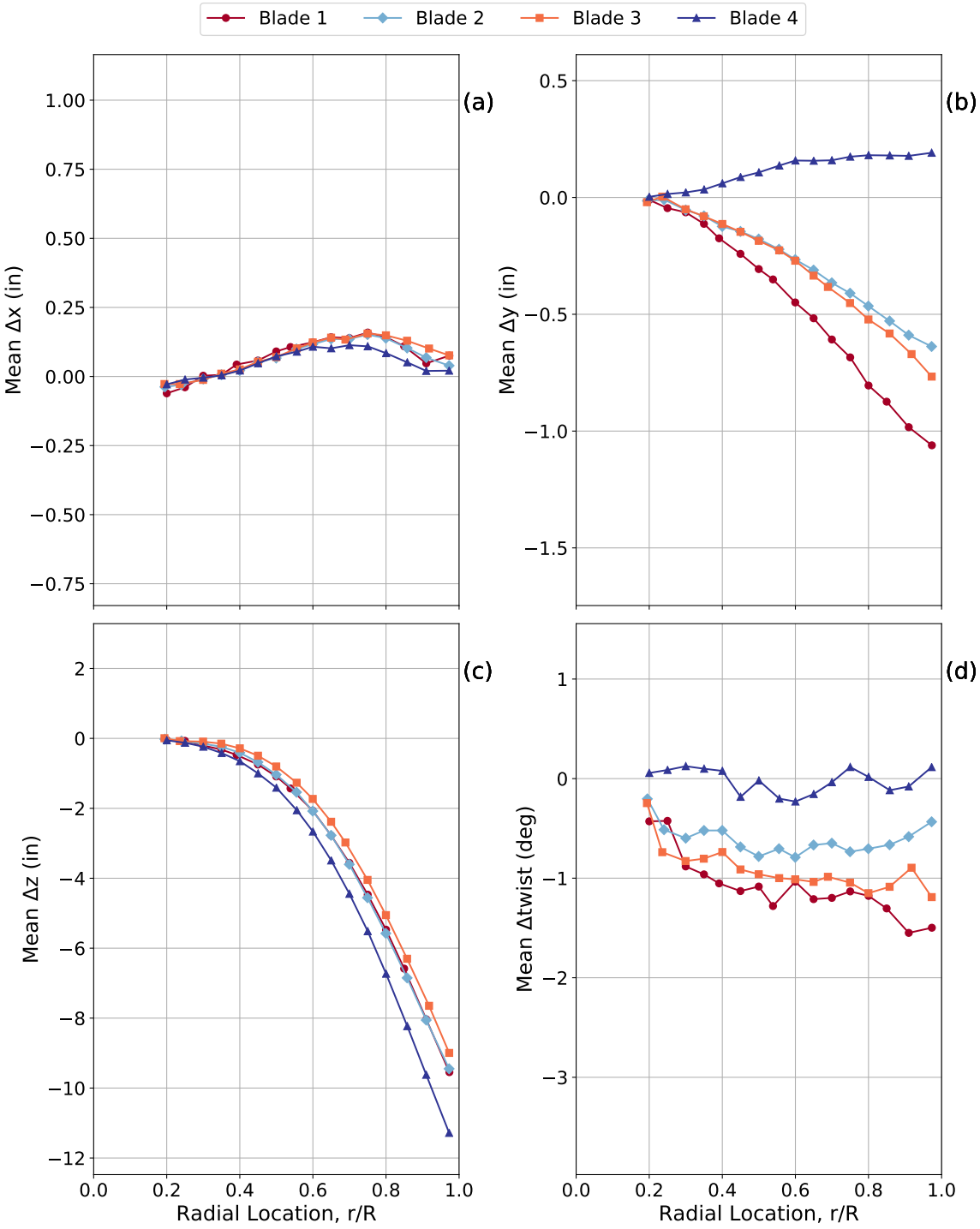


Figure 2.17-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-21. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0609	0.0016	-0.0104	0.0011	-0.0489	0.0017	-0.4292	0.0170
1	150.12	0.2499	-0.0391	0.0016	-0.0456	0.0034	-0.0720	0.0038	-0.4245	0.0306
1	150.12	0.2998	0.0028	0.0018	-0.0635	0.0056	-0.2050	0.0071	-0.8820	0.0389
1	150.12	0.3498	0.0060	0.0015	-0.1128	0.0095	-0.3199	0.0120	-0.9619	0.0349
1	150.12	0.3913	0.0433	0.0016	-0.1748	0.0144	-0.4737	0.0175	-1.0523	0.0372
1	150.12	0.4496	0.0578	0.0017	-0.2414	0.0165	-0.7475	0.0232	-1.1296	0.0373
1	150.12	0.4997	0.0907	0.0027	-0.3064	0.0197	-1.0884	0.0295	-1.0843	0.0465
1	150.12	0.5387	0.1066	0.0022	-0.3508	0.0225	-1.4321	0.0349	-1.2800	0.0388
1	150.12	0.5996	0.1237	0.0025	-0.4494	0.0274	-2.0683	0.0428	-1.0348	0.0463
1	150.12	0.6498	0.1422	0.0028	-0.5171	0.0294	-2.7751	0.0488	-1.2107	0.0424
1	150.12	0.6998	0.1391	0.0033	-0.6080	0.0337	-3.5603	0.0551	-1.1981	0.0456
1	150.12	0.7500	0.1590	0.0034	-0.6845	0.0367	-4.4695	0.0621	-1.1332	0.0436
1	150.12	0.8001	0.1422	0.0042	-0.8049	0.0406	-5.4710	0.0714	-1.1778	0.0438
1	150.12	0.8497	0.1095	0.0049	-0.8741	0.0443	-6.5839	0.0824	-1.3040	0.0462
1	150.12	0.9102	0.0476	0.0060	-0.9833	0.0489	-8.0340	0.0984	-1.5495	0.0463
1	150.12	0.9734	0.0755	0.0080	-1.0609	0.0536	-9.5447	0.1181	-1.4978	0.0458
2	150.12	0.1949	-0.0377	0.0013	-0.0145	0.0007	-0.0222	0.0013	-0.2036	0.0252
2	150.12	0.2405	-0.0299	0.0011	-0.0090	0.0021	-0.0734	0.0036	-0.5133	0.0270
2	150.12	0.2999	-0.0092	0.0013	-0.0535	0.0049	-0.1551	0.0058	-0.5984	0.0535
2	150.12	0.3498	0.0063	0.0012	-0.0791	0.0064	-0.2386	0.0108	-0.5210	0.0379
2	150.12	0.3998	0.0217	0.0012	-0.1240	0.0118	-0.4111	0.0164	-0.5206	0.0455
2	150.12	0.4496	0.0524	0.0014	-0.1454	0.0101	-0.6798	0.0183	-0.6861	0.0353
2	150.12	0.4995	0.0666	0.0021	-0.1780	0.0119	-1.0359	0.0255	-0.7818	0.0327
2	150.12	0.5551	0.0999	0.0018	-0.2217	0.0151	-1.5393	0.0306	-0.7042	0.0386
2	150.12	0.5996	0.1167	0.0017	-0.2658	0.0172	-2.0795	0.0364	-0.7906	0.0332
2	150.12	0.6497	0.1356	0.0024	-0.3107	0.0198	-2.7728	0.0432	-0.6669	0.0472
2	150.12	0.6996	0.1355	0.0022	-0.3653	0.0217	-3.6036	0.0511	-0.6486	0.0289
2	150.12	0.7495	0.1517	0.0026	-0.4097	0.0229	-4.5577	0.0562	-0.7344	0.0392
2	150.12	0.7996	0.1385	0.0035	-0.4648	0.0265	-5.5766	0.0635	-0.7044	0.0365
2	150.12	0.8578	0.1031	0.0037	-0.5288	0.0293	-6.8497	0.0717	-0.6648	0.0397
2	150.12	0.9100	0.0684	0.0041	-0.5893	0.0320	-8.0556	0.0795	-0.5830	0.0402
2	150.12	0.9727	0.0393	0.0050	-0.6379	0.0351	-9.4485	0.0906	-0.4337	0.0373
3	150.12	0.1938	-0.0272	0.0015	-0.0201	0.0006	0.0043	0.0019	-0.2461	0.0163
3	150.12	0.2357	-0.0273	0.0014	0.0036	0.0027	-0.0784	0.0033	-0.7390	0.0258
3	150.12	0.2995	-0.0123	0.0019	-0.0506	0.0038	-0.0924	0.0064	-0.8279	0.0349
3	150.12	0.3493	0.0102	0.0012	-0.0805	0.0074	-0.1503	0.0121	-0.8042	0.0309
3	150.12	0.4000	0.0257	0.0013	-0.1135	0.0115	-0.2852	0.0176	-0.7376	0.0333
3	150.12	0.4497	0.0533	0.0015	-0.1470	0.0121	-0.4955	0.0217	-0.9124	0.0393
3	150.12	0.4997	0.0701	0.0016	-0.1855	0.0143	-0.8039	0.0278	-0.9606	0.0375
3	150.12	0.5556	0.1017	0.0013	-0.2264	0.0169	-1.2678	0.0342	-0.9997	0.0381
3	150.12	0.5995	0.1233	0.0020	-0.2707	0.0192	-1.7314	0.0377	-1.0116	0.0464
3	150.12	0.6498	0.1405	0.0022	-0.3345	0.0217	-2.3841	0.0414	-1.0374	0.0482
3	150.12	0.6890	0.1335	0.0029	-0.3830	0.0244	-2.9772	0.0459	-0.9861	0.0391
3	150.12	0.7495	0.1554	0.0025	-0.4520	0.0275	-4.0476	0.0531	-1.0446	0.0383
3	150.12	0.7998	0.1490	0.0029	-0.5222	0.0308	-5.0539	0.0589	-1.1508	0.0358
3	150.12	0.8577	0.1294	0.0033	-0.5823	0.0348	-6.3021	0.0653	-1.0866	0.0366
3	150.12	0.9178	0.1012	0.0039	-0.6705	0.0387	-7.6479	0.0719	-0.8952	0.0344
3	150.12	0.9729	0.0764	0.0050	-0.7668	0.0426	-8.9950	0.0783	-1.1903	0.0366
4	150.12	0.2001	-0.0284	0.0011	0.0028	0.0008	-0.0552	0.0013	0.0565	0.0118
4	150.12	0.2502	-0.0111	0.0015	0.0148	0.0030	-0.1260	0.0032	0.0867	0.0203
4	150.12	0.3001	-0.0042	0.0013	0.0216	0.0043	-0.2389	0.0062	0.1246	0.0260
4	150.12	0.3502	0.0041	0.0014	0.0340	0.0079	-0.4193	0.0096	0.0992	0.0282
4	150.12	0.4002	0.0216	0.0011	0.0604	0.0126	-0.6531	0.0159	0.0774	0.0312
4	150.12	0.4500	0.0477	0.0013	0.0875	0.0144	-1.0018	0.0183	-0.1833	0.0381
4	150.12	0.5001	0.0729	0.0016	0.1073	0.0192	-1.4105	0.0233	-0.0192	0.0283
4	150.12	0.5560	0.0897	0.0018	0.1366	0.0220	-2.0557	0.0283	-0.2012	0.0318
4	150.12	0.6001	0.1077	0.0017	0.1582	0.0274	-2.6657	0.0320	-0.2304	0.0401
4	150.12	0.6501	0.1020	0.0025	0.1572	0.0297	-3.4912	0.0359	-0.1552	0.0324
4	150.12	0.6999	0.1133	0.0024	0.1592	0.0350	-4.4455	0.0400	-0.0364	0.0317
4	150.12	0.7500	0.1091	0.0026	0.1746	0.0404	-5.5154	0.0444	0.1161	0.0363
4	150.12	0.8002	0.0844	0.0035	0.1809	0.0446	-6.7317	0.0505	0.0166	0.0326
4	150.12	0.8582	0.0511	0.0042	0.1798	0.0503	-8.2300	0.0581	-0.1168	0.0325
4	150.12	0.9101	0.0201	0.0048	0.1781	0.0559	-9.6207	0.0668	-0.0794	0.0318
4	150.12	0.9728	0.0210	0.0069	0.1913	0.0624	-11.2822	0.0780	0.1156	0.0317

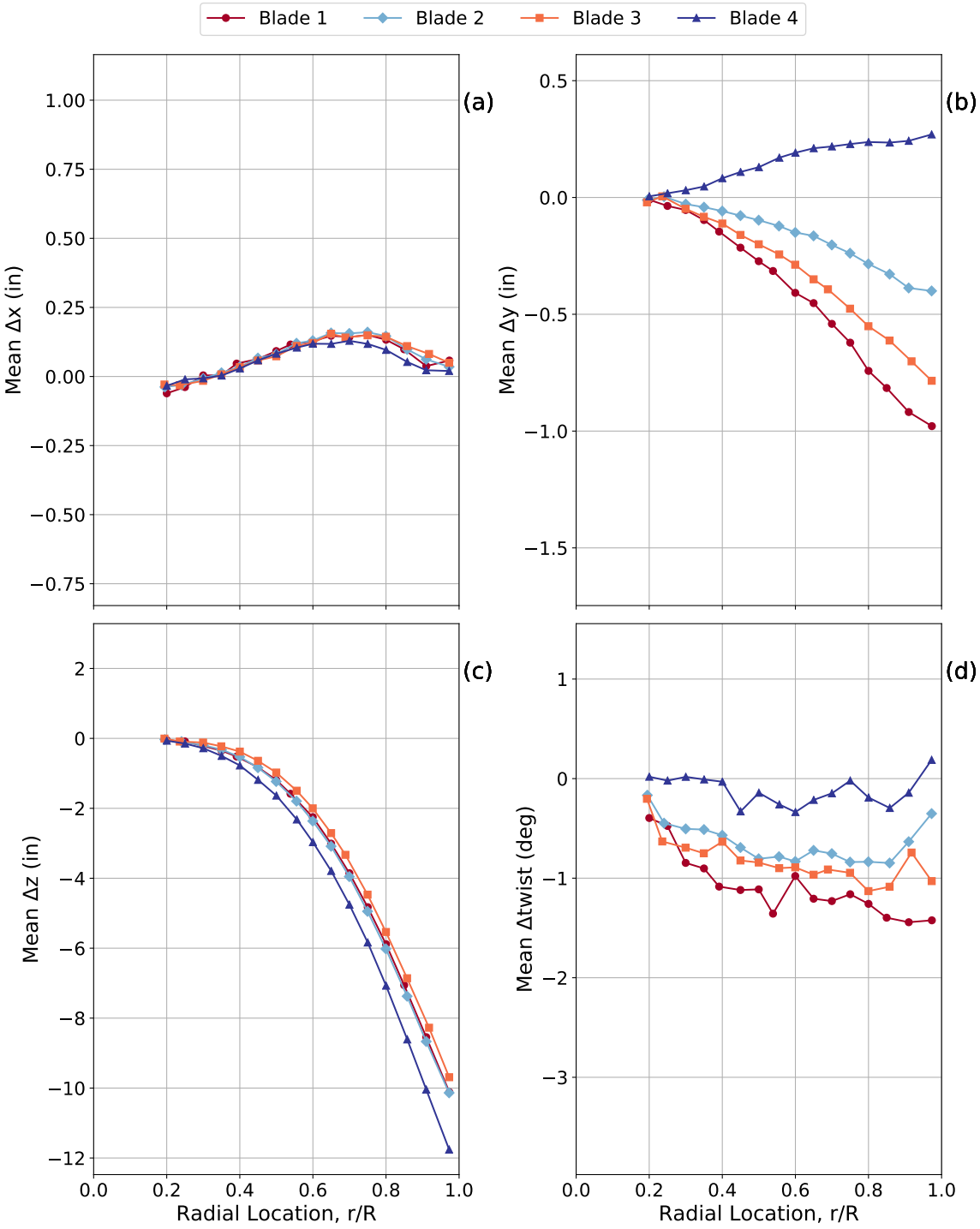


Figure 2.17-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-22. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0609	0.0012	-0.0098	0.0008	-0.0507	0.0020	-0.3957	0.0219
1	164.88	0.2499	-0.0384	0.0018	-0.0362	0.0019	-0.0877	0.0042	-0.4753	0.0350
1	164.88	0.2998	0.0041	0.0015	-0.0536	0.0032	-0.2195	0.0075	-0.8466	0.0478
1	164.88	0.3498	0.0041	0.0014	-0.0966	0.0051	-0.3489	0.0129	-0.9023	0.0460
1	164.88	0.3913	0.0467	0.0016	-0.1460	0.0077	-0.5190	0.0182	-1.0846	0.0407
1	164.88	0.4496	0.0633	0.0018	-0.2147	0.0104	-0.8257	0.0226	-1.1189	0.0491
1	164.88	0.4997	0.0920	0.0019	-0.2728	0.0121	-1.1906	0.0272	-1.1125	0.0424
1	164.88	0.5387	0.1157	0.0020	-0.3147	0.0151	-1.5839	0.0305	-1.3566	0.0478
1	164.88	0.5996	0.1272	0.0020	-0.4082	0.0181	-2.2522	0.0370	-0.9783	0.0417
1	164.88	0.6498	0.1474	0.0024	-0.4522	0.0208	-3.0097	0.0427	-1.2065	0.0443
1	164.88	0.6998	0.1427	0.0027	-0.5410	0.0234	-3.8553	0.0481	-1.2300	0.0433
1	164.88	0.7500	0.1501	0.0027	-0.6215	0.0271	-4.8268	0.0540	-1.1613	0.0440
1	164.88	0.8001	0.1330	0.0033	-0.7423	0.0302	-5.8861	0.0597	-1.2580	0.0483
1	164.88	0.8497	0.0984	0.0037	-0.8156	0.0341	-7.0572	0.0661	-1.3970	0.0414
1	164.88	0.9102	0.0376	0.0042	-0.9184	0.0386	-8.5442	0.0748	-1.4424	0.0419
1	164.88	0.9734	0.0577	0.0056	-0.9788	0.0435	-10.1160	0.0839	-1.4233	0.0459
2	164.88	0.1949	-0.0379	0.0011	-0.0111	0.0005	-0.0333	0.0016	-0.1667	0.0234
2	164.88	0.2405	-0.0309	0.0010	0.0034	0.0010	-0.0922	0.0043	-0.4477	0.0311
2	164.88	0.2999	-0.0074	0.0010	-0.0284	0.0022	-0.1953	0.0065	-0.5050	0.0512
2	164.88	0.3498	0.0134	0.0010	-0.0415	0.0033	-0.3219	0.0130	-0.5117	0.0307
2	164.88	0.3998	0.0353	0.0011	-0.0583	0.0054	-0.5284	0.0189	-0.5690	0.0347
2	164.88	0.4496	0.0666	0.0016	-0.0778	0.0072	-0.8394	0.0224	-0.6921	0.0324
2	164.88	0.4995	0.0805	0.0015	-0.0972	0.0095	-1.2333	0.0285	-0.8051	0.0318
2	164.88	0.5551	0.1203	0.0014	-0.1222	0.0110	-1.7953	0.0344	-0.7837	0.0346
2	164.88	0.5996	0.1299	0.0016	-0.1497	0.0122	-2.3639	0.0386	-0.8319	0.0390
2	164.88	0.6497	0.1574	0.0017	-0.1644	0.0151	-3.0848	0.0445	-0.7207	0.0355
2	164.88	0.6996	0.1558	0.0018	-0.2031	0.0168	-3.9530	0.0473	-0.7533	0.0429
2	164.88	0.7495	0.1605	0.0021	-0.2387	0.0194	-4.9467	0.0526	-0.8382	0.0420
2	164.88	0.7996	0.1462	0.0024	-0.2844	0.0225	-6.0191	0.0585	-0.8355	0.0370
2	164.88	0.8578	0.0981	0.0029	-0.3282	0.0256	-7.3742	0.0648	-0.8478	0.0357
2	164.88	0.9100	0.0622	0.0034	-0.3874	0.0285	-8.6683	0.0712	-0.6337	0.0383
2	164.88	0.9727	0.0351	0.0041	-0.4001	0.0321	-10.1364	0.0805	-0.3515	0.0418
3	164.88	0.1938	-0.0290	0.0014	-0.0208	0.0006	-0.0065	0.0022	-0.2028	0.0202
3	164.88	0.2357	-0.0316	0.0013	0.0048	0.0011	-0.0906	0.0036	-0.6312	0.0353
3	164.88	0.2995	-0.0157	0.0012	-0.0486	0.0037	-0.1181	0.0078	-0.6936	0.0493
3	164.88	0.3493	0.0077	0.0013	-0.0826	0.0039	-0.2275	0.0138	-0.7501	0.0366
3	164.88	0.4000	0.0337	0.0015	-0.1115	0.0073	-0.3780	0.0207	-0.6337	0.0424
3	164.88	0.4497	0.0579	0.0014	-0.1604	0.0084	-0.6417	0.0261	-0.8223	0.0447
3	164.88	0.4997	0.0731	0.0016	-0.2003	0.0103	-0.9771	0.0342	-0.8429	0.0378
3	164.88	0.5556	0.1106	0.0018	-0.2438	0.0119	-1.4963	0.0422	-0.8992	0.0433
3	164.88	0.5995	0.1212	0.0021	-0.2878	0.0132	-2.0010	0.0494	-0.8913	0.0432
3	164.88	0.6498	0.1548	0.0022	-0.3503	0.0150	-2.7084	0.0591	-0.9654	0.0455
3	164.88	0.6890	0.1410	0.0026	-0.3932	0.0171	-3.3298	0.0654	-0.9130	0.0484
3	164.88	0.7495	0.1491	0.0029	-0.4760	0.0199	-4.4685	0.0773	-0.9460	0.0424
3	164.88	0.7998	0.1439	0.0038	-0.5511	0.0225	-5.5365	0.0861	-1.1298	0.0429
3	164.88	0.8577	0.1100	0.0044	-0.6124	0.0257	-6.8596	0.0976	-1.0861	0.0451
3	164.88	0.9178	0.0815	0.0052	-0.7014	0.0292	-8.2743	0.1097	-0.7427	0.0423
3	164.88	0.9729	0.0496	0.0062	-0.7846	0.0325	-9.6900	0.1198	-1.0294	0.0458
4	164.88	0.2001	-0.0336	0.0010	0.0048	0.0006	-0.0664	0.0013	0.0188	0.0156
4	164.88	0.2502	-0.0104	0.0009	0.0180	0.0018	-0.1489	0.0045	-0.0203	0.0205
4	164.88	0.3001	-0.0067	0.0012	0.0309	0.0027	-0.2818	0.0055	0.0177	0.0311
4	164.88	0.3502	0.0033	0.0011	0.0471	0.0045	-0.5018	0.0083	-0.0086	0.0368
4	164.88	0.4002	0.0291	0.0016	0.0824	0.0071	-0.7749	0.0148	-0.0312	0.0294
4	164.88	0.4500	0.0585	0.0012	0.1093	0.0079	-1.1872	0.0182	-0.3294	0.0434
4	164.88	0.5001	0.0825	0.0014	0.1298	0.0108	-1.6371	0.0229	-0.1423	0.0334
4	164.88	0.5560	0.1045	0.0015	0.1703	0.0127	-2.3200	0.0274	-0.2597	0.0420
4	164.88	0.6001	0.1185	0.0019	0.1916	0.0153	-2.9682	0.0324	-0.3360	0.0310
4	164.88	0.6501	0.1180	0.0017	0.2108	0.0176	-3.7920	0.0363	-0.2141	0.0343
4	164.88	0.6999	0.1291	0.0022	0.2184	0.0204	-4.7556	0.0425	-0.1476	0.0342
4	164.88	0.7500	0.1179	0.0025	0.2287	0.0231	-5.8380	0.0489	-0.0204	0.0344
4	164.88	0.8002	0.0962	0.0029	0.2374	0.0262	-7.0723	0.0548	-0.1905	0.0323
4	164.88	0.8582	0.0525	0.0036	0.2350	0.0299	-8.6093	0.0640	-0.2951	0.0291
4	164.88	0.9101	0.0226	0.0042	0.2424	0.0333	-10.0424	0.0718	-0.1420	0.0341
4	164.88	0.9728	0.0199	0.0054	0.2698	0.0375	-11.7587	0.0820	0.1878	0.0345

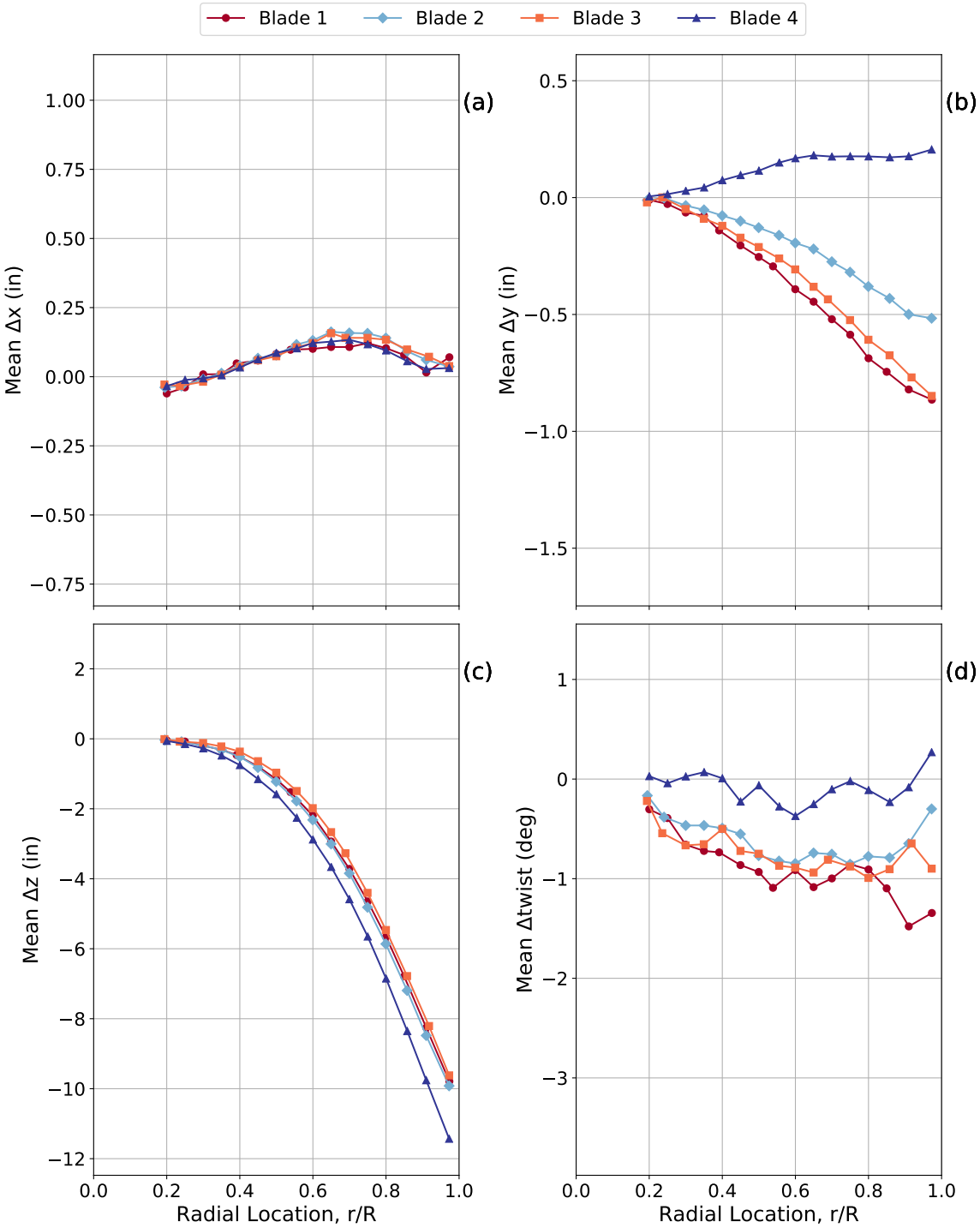


Figure 2.17-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-23. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0606	0.0025	-0.0100	0.0013	-0.0456	0.0021	-0.3034	0.0160
1	170.16	0.2499	-0.0386	0.0016	-0.0274	0.0020	-0.0788	0.0030	-0.3915	0.0344
1	170.16	0.2998	0.0086	0.0012	-0.0639	0.0044	-0.1957	0.0068	-0.6587	0.0372
1	170.16	0.3498	0.0090	0.0025	-0.0774	0.0077	-0.3131	0.0110	-0.7214	0.0354
1	170.16	0.3913	0.0481	0.0039	-0.1406	0.0105	-0.4639	0.0152	-0.7355	0.0363
1	170.16	0.4496	0.0584	0.0060	-0.2045	0.0143	-0.7904	0.0201	-0.8633	0.0381
1	170.16	0.4997	0.0824	0.0077	-0.2540	0.0185	-1.1553	0.0243	-0.9326	0.0387
1	170.16	0.5387	0.0974	0.0094	-0.2942	0.0215	-1.5235	0.0280	-1.0918	0.0411
1	170.16	0.5996	0.1008	0.0118	-0.3921	0.0264	-2.1960	0.0337	-0.9137	0.0396
1	170.16	0.6498	0.1074	0.0142	-0.4455	0.0305	-2.9343	0.0384	-1.0850	0.0391
1	170.16	0.6998	0.1074	0.0166	-0.5204	0.0349	-3.7180	0.0433	-0.9975	0.0406
1	170.16	0.7500	0.1213	0.0196	-0.5866	0.0391	-4.6482	0.0481	-0.8553	0.0373
1	170.16	0.8001	0.1033	0.0234	-0.6874	0.0431	-5.6577	0.0527	-0.9080	0.0430
1	170.16	0.8497	0.0784	0.0266	-0.7453	0.0474	-6.7894	0.0572	-1.0972	0.0439
1	170.16	0.9102	0.0153	0.0325	-0.8209	0.0532	-8.2556	0.0642	-1.4790	0.0713
1	170.16	0.9734	0.0704	0.0392	-0.8645	0.0597	-9.7890	0.0712	-1.3446	0.0564
2	170.16	0.1949	-0.0386	0.0012	-0.0114	0.0006	-0.0351	0.0019	-0.1658	0.0227
2	170.16	0.2405	-0.0338	0.0013	-0.0015	0.0021	-0.0847	0.0037	-0.3820	0.0350
2	170.16	0.2999	-0.0089	0.0017	-0.0344	0.0038	-0.1926	0.0085	-0.4661	0.0521
2	170.16	0.3498	0.0126	0.0014	-0.0525	0.0052	-0.3169	0.0131	-0.4657	0.0377
2	170.16	0.3998	0.0398	0.0016	-0.0771	0.0096	-0.5160	0.0212	-0.4932	0.0601
2	170.16	0.4496	0.0668	0.0020	-0.1005	0.0109	-0.8222	0.0256	-0.5515	0.0441
2	170.16	0.4995	0.0784	0.0022	-0.1287	0.0141	-1.2224	0.0317	-0.7690	0.0532
2	170.16	0.5551	0.1164	0.0022	-0.1612	0.0178	-1.7786	0.0386	-0.8226	0.0370
2	170.16	0.5996	0.1313	0.0025	-0.1942	0.0201	-2.3185	0.0458	-0.8470	0.0463
2	170.16	0.6497	0.1621	0.0030	-0.2200	0.0235	-3.0059	0.0537	-0.7417	0.0443
2	170.16	0.6996	0.1582	0.0031	-0.2744	0.0269	-3.8450	0.0589	-0.7540	0.0429
2	170.16	0.7495	0.1569	0.0037	-0.3191	0.0304	-4.8150	0.0684	-0.8549	0.0428
2	170.16	0.7996	0.1401	0.0042	-0.3804	0.0348	-5.8631	0.0770	-0.7763	0.0439
2	170.16	0.8578	0.0920	0.0052	-0.4314	0.0393	-7.1941	0.0865	-0.7896	0.0480
2	170.16	0.9100	0.0609	0.0056	-0.4993	0.0433	-8.4805	0.0972	-0.6473	0.0513
2	170.16	0.9727	0.0367	0.0074	-0.5161	0.0485	-9.9189	0.1088	-0.2999	0.0461
3	170.16	0.1938	-0.0283	0.0016	-0.0205	0.0008	-0.0097	0.0025	-0.2200	0.0169
3	170.16	0.2357	-0.0334	0.0017	0.0008	0.0020	-0.0798	0.0029	-0.5436	0.0330
3	170.16	0.2995	-0.0182	0.0015	-0.0491	0.0040	-0.1203	0.0075	-0.6653	0.0391
3	170.16	0.3493	0.0074	0.0018	-0.0906	0.0067	-0.2181	0.0123	-0.6543	0.0382
3	170.16	0.4000	0.0364	0.0023	-0.1209	0.0104	-0.3658	0.0182	-0.5005	0.0407
3	170.16	0.4497	0.0594	0.0019	-0.1716	0.0118	-0.6392	0.0238	-0.7215	0.0447
3	170.16	0.4997	0.0740	0.0019	-0.2117	0.0146	-0.9687	0.0290	-0.7495	0.0404
3	170.16	0.5556	0.1063	0.0024	-0.2604	0.0176	-1.4921	0.0355	-0.8700	0.0401
3	170.16	0.5995	0.1214	0.0022	-0.3073	0.0202	-1.9818	0.0405	-0.8889	0.0434
3	170.16	0.6498	0.1572	0.0024	-0.3815	0.0234	-2.6677	0.0468	-0.9380	0.0440
3	170.16	0.6890	0.1406	0.0024	-0.4353	0.0265	-3.2699	0.0522	-0.8096	0.0389
3	170.16	0.7495	0.1404	0.0029	-0.5241	0.0299	-4.4037	0.0601	-0.8776	0.0405
3	170.16	0.7998	0.1337	0.0029	-0.6082	0.0337	-5.4646	0.0667	-0.9923	0.0397
3	170.16	0.8577	0.0985	0.0037	-0.6747	0.0382	-6.7810	0.0744	-0.9044	0.0440
3	170.16	0.9178	0.0721	0.0042	-0.7693	0.0429	-8.2091	0.0825	-0.6459	0.0436
3	170.16	0.9729	0.0386	0.0052	-0.8485	0.0472	-9.6198	0.0908	-0.8992	0.0440
4	170.16	0.2001	-0.0343	0.0015	0.0051	0.0008	-0.0609	0.0014	0.0288	0.0212
4	170.16	0.2502	-0.0117	0.0016	0.0145	0.0024	-0.1501	0.0043	-0.0422	0.0252
4	170.16	0.3001	-0.0060	0.0012	0.0290	0.0032	-0.2741	0.0055	0.0257	0.0428
4	170.16	0.3502	0.0049	0.0012	0.0431	0.0058	-0.4787	0.0100	0.0693	0.0329
4	170.16	0.4002	0.0334	0.0017	0.0744	0.0091	-0.7529	0.0156	0.0075	0.0407
4	170.16	0.4500	0.0626	0.0015	0.0960	0.0092	-1.1527	0.0205	-0.2265	0.0368
4	170.16	0.5001	0.0862	0.0018	0.1151	0.0120	-1.5843	0.0267	-0.0638	0.0270
4	170.16	0.5560	0.1026	0.0019	0.1498	0.0143	-2.2582	0.0322	-0.2754	0.0308
4	170.16	0.6001	0.1217	0.0018	0.1683	0.0161	-2.8787	0.0352	-0.3709	0.0482
4	170.16	0.6501	0.1270	0.0025	0.1807	0.0192	-3.6634	0.0434	-0.2517	0.0366
4	170.16	0.6999	0.1334	0.0022	0.1755	0.0213	-4.5864	0.0479	-0.1028	0.0362
4	170.16	0.7500	0.1172	0.0031	0.1766	0.0239	-5.6520	0.0549	-0.0212	0.0379
4	170.16	0.8002	0.0949	0.0034	0.1761	0.0268	-6.8528	0.0611	-0.1110	0.0390
4	170.16	0.8582	0.0559	0.0036	0.1722	0.0301	-8.3536	0.0705	-0.2310	0.0392
4	170.16	0.9101	0.0278	0.0048	0.1768	0.0335	-9.7596	0.0804	-0.0827	0.0414
4	170.16	0.9728	0.0313	0.0060	0.2054	0.0373	-11.4316	0.0923	0.2695	0.0406

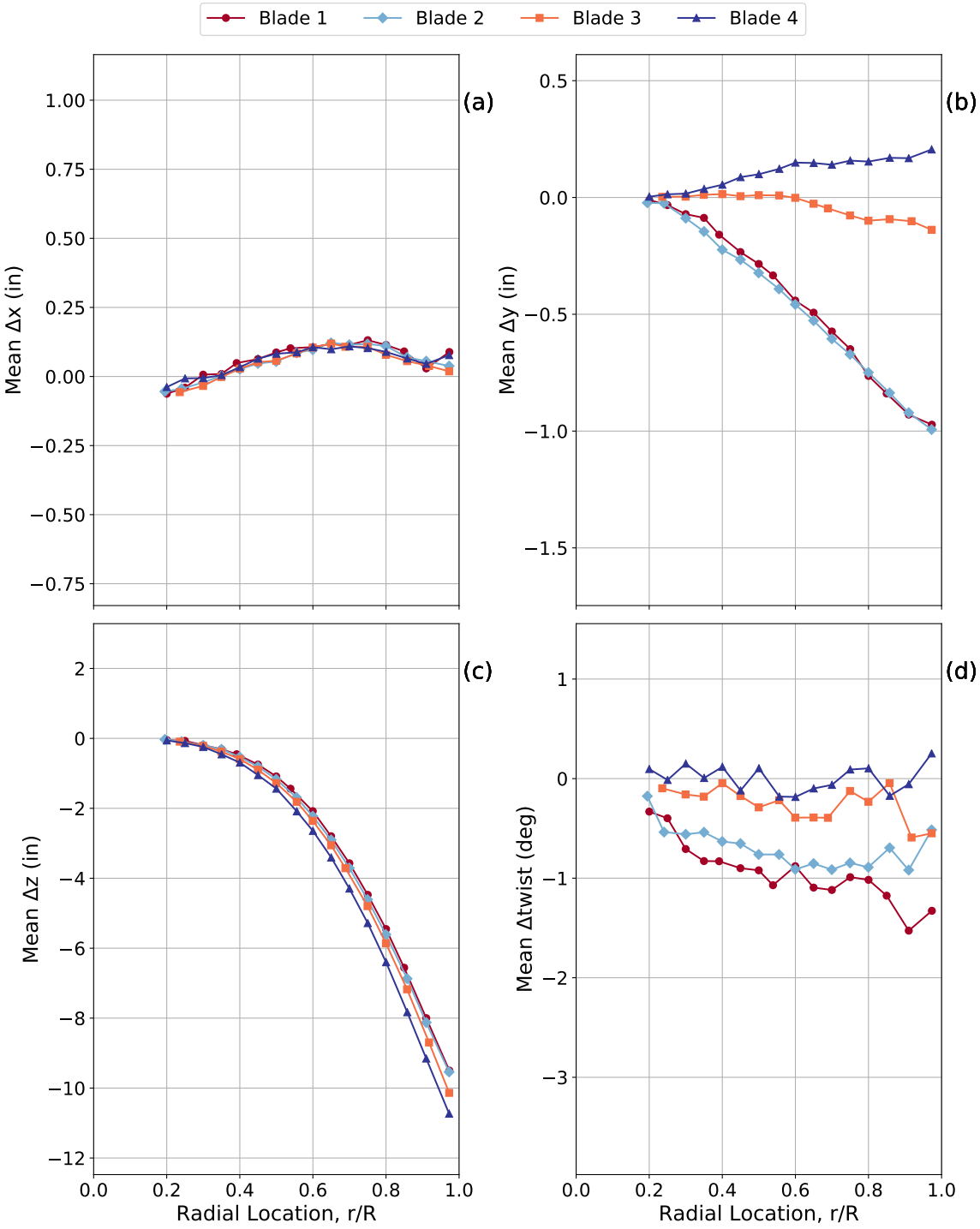


Figure 2.17-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-24. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	-0.0624	0.0025	-0.0107	0.0016	-0.0466	0.0029	-0.3314	0.0222
1	175.08	0.2499	-0.0404	0.0018	-0.0326	0.0024	-0.0722	0.0037	-0.3984	0.0512
1	175.08	0.2998	0.0067	0.0014	-0.0712	0.0056	-0.1920	0.0095	-0.7071	0.0549
1	175.08	0.3498	0.0092	0.0028	-0.0873	0.0095	-0.3112	0.0153	-0.8281	0.0541
1	175.08	0.3913	0.0486	0.0039	-0.1593	0.0133	-0.4533	0.0209	-0.8302	0.0548
1	175.08	0.4496	0.0630	0.0061	-0.2336	0.0177	-0.7482	0.0274	-0.8998	0.0534
1	175.08	0.4997	0.0871	0.0076	-0.2846	0.0218	-1.0877	0.0332	-0.9212	0.0568
1	175.08	0.5387	0.1022	0.0091	-0.3335	0.0249	-1.4391	0.0374	-1.0706	0.0612
1	175.08	0.5996	0.1062	0.0110	-0.4414	0.0305	-2.0803	0.0453	-0.8798	0.0591
1	175.08	0.6498	0.1178	0.0130	-0.4930	0.0345	-2.7983	0.0510	-1.0946	0.0605
1	175.08	0.6998	0.1141	0.0153	-0.5736	0.0396	-3.5718	0.0575	-1.1185	0.0580
1	175.08	0.7500	0.1314	0.0177	-0.6492	0.0445	-4.4738	0.0633	-0.9898	0.0612
1	175.08	0.8001	0.1142	0.0200	-0.7639	0.0492	-5.4525	0.0695	-1.0169	0.0646
1	175.08	0.8497	0.0908	0.0221	-0.8392	0.0539	-6.5580	0.0770	-1.1757	0.0640
1	175.08	0.9102	0.0292	0.0274	-0.9295	0.0601	-8.0008	0.0849	-1.5273	0.0725
1	175.08	0.9734	0.0887	0.0296	-0.9726	0.0672	-9.4996	0.0935	-1.3276	0.0718
2	175.08	0.1949	-0.0542	0.0037	-0.0227	0.0010	-0.0297	0.0016	-0.1759	0.0133
2	175.08	0.2405	-0.0446	0.0021	-0.0245	0.0019	-0.0923	0.0026	-0.5372	0.0279
2	175.08	0.2999	-0.0213	0.0016	-0.0887	0.0040	-0.1980	0.0055	-0.5589	0.0322
2	175.08	0.3498	0.0028	0.0038	-0.1456	0.0068	-0.3131	0.0094	-0.5389	0.0300
2	175.08	0.3998	0.0264	0.0063	-0.2236	0.0105	-0.5308	0.0141	-0.6318	0.0297
2	175.08	0.4496	0.0470	0.0084	-0.2663	0.0139	-0.8068	0.0182	-0.6524	0.0307
2	175.08	0.4995	0.0541	0.0110	-0.3230	0.0180	-1.1690	0.0229	-0.7620	0.0297
2	175.08	0.5551	0.0855	0.0140	-0.3915	0.0229	-1.6903	0.0285	-0.7621	0.0299
2	175.08	0.5996	0.0966	0.0166	-0.4578	0.0270	-2.2247	0.0329	-0.9114	0.0332
2	175.08	0.6497	0.1217	0.0187	-0.5272	0.0317	-2.9022	0.0387	-0.8530	0.0346
2	175.08	0.6996	0.1151	0.0214	-0.6051	0.0360	-3.7059	0.0445	-0.9143	0.0351
2	175.08	0.7495	0.1176	0.0242	-0.6715	0.0409	-4.6075	0.0513	-0.8467	0.0345
2	175.08	0.7996	0.1104	0.0266	-0.7491	0.0463	-5.6074	0.0579	-0.8904	0.0298
2	175.08	0.8578	0.0692	0.0305	-0.8365	0.0528	-6.8709	0.0661	-0.6950	0.0368
2	175.08	0.9100	0.0555	0.0357	-0.9213	0.0590	-8.1257	0.0736	-0.9188	0.0386
2	175.08	0.9727	0.0380	0.0413	-0.9933	0.0672	-9.5401	0.0841	-0.5151	0.0424
3	175.08	0.2357	-0.0566	0.0038	0.0028	0.0011	-0.0928	0.0022	-0.0973	0.0282
3	175.08	0.2995	-0.0341	0.0015	0.0036	0.0026	-0.2148	0.0056	-0.1592	0.0455
3	175.08	0.3493	-0.0018	0.0017	0.0113	0.0045	-0.3765	0.0089	-0.1810	0.0420
3	175.08	0.4000	0.0281	0.0034	0.0145	0.0071	-0.5916	0.0145	-0.0459	0.0384
3	175.08	0.4497	0.0521	0.0042	0.0056	0.0097	-0.8977	0.0178	-0.1746	0.0386
3	175.08	0.4997	0.0569	0.0053	0.0099	0.0112	-1.2787	0.0209	-0.2886	0.0516
3	175.08	0.5556	0.0833	0.0066	0.0087	0.0142	-1.8134	0.0263	-0.2170	0.0440
3	175.08	0.5995	0.1045	0.0070	-0.0015	0.0167	-2.3581	0.0305	-0.3920	0.0480
3	175.08	0.6498	0.1192	0.0082	-0.0268	0.0190	-3.0571	0.0338	-0.3907	0.0479
3	175.08	0.6890	0.1076	0.0093	-0.0466	0.0215	-3.7114	0.0373	-0.3938	0.0468
3	175.08	0.7495	0.1078	0.0108	-0.0769	0.0244	-4.7967	0.0422	-0.1246	0.0458
3	175.08	0.7998	0.0785	0.0127	-0.0993	0.0275	-5.8594	0.0477	-0.2326	0.0473
3	175.08	0.8577	0.0556	0.0147	-0.0929	0.0307	-7.1753	0.0544	-0.0451	0.0568
3	175.08	0.9178	0.0380	0.0188	-0.1016	0.0347	-8.6954	0.0627	-0.5916	0.0586
3	175.08	0.9729	0.0186	0.0251	-0.1385	0.0380	-10.1373	0.0714	-0.5495	0.0802
4	175.08	0.2001	-0.0384	0.0029	0.0034	0.0012	-0.0596	0.0018	0.0958	0.0162
4	175.08	0.2502	-0.0069	0.0016	0.0136	0.0024	-0.1358	0.0033	-0.0136	0.0232
4	175.08	0.3001	-0.0059	0.0012	0.0165	0.0047	-0.2456	0.0061	0.1502	0.0319
4	175.08	0.3502	0.0050	0.0022	0.0365	0.0073	-0.4572	0.0090	0.0060	0.0282
4	175.08	0.4002	0.0337	0.0036	0.0546	0.0118	-0.6932	0.0143	0.1180	0.0284
4	175.08	0.4500	0.0644	0.0054	0.0870	0.0153	-1.0515	0.0187	-0.1194	0.0281
4	175.08	0.5001	0.0823	0.0073	0.0995	0.0199	-1.4390	0.0242	0.1037	0.0281
4	175.08	0.5560	0.0876	0.0091	0.1225	0.0254	-2.0879	0.0306	-0.1806	0.0285
4	175.08	0.6001	0.1060	0.0102	0.1492	0.0302	-2.6462	0.0370	-0.1842	0.0282
4	175.08	0.6501	0.0985	0.0118	0.1475	0.0351	-3.4077	0.0439	-0.0990	0.0327
4	175.08	0.6999	0.1089	0.0131	0.1401	0.0406	-4.2960	0.0518	-0.0629	0.0338
4	175.08	0.7500	0.1026	0.0146	0.1578	0.0461	-5.2829	0.0599	0.0911	0.0333
4	175.08	0.8002	0.0890	0.0161	0.1537	0.0518	-6.4020	0.0690	0.1030	0.0340
4	175.08	0.8582	0.0650	0.0181	0.1697	0.0586	-7.8320	0.0804	-0.1729	0.0349
4	175.08	0.9101	0.0455	0.0210	0.1682	0.0649	-9.1560	0.0923	-0.0562	0.0380
4	175.08	0.9728	0.0772	0.0252	0.2055	0.0726	-10.7329	0.1078	0.2528	0.0394

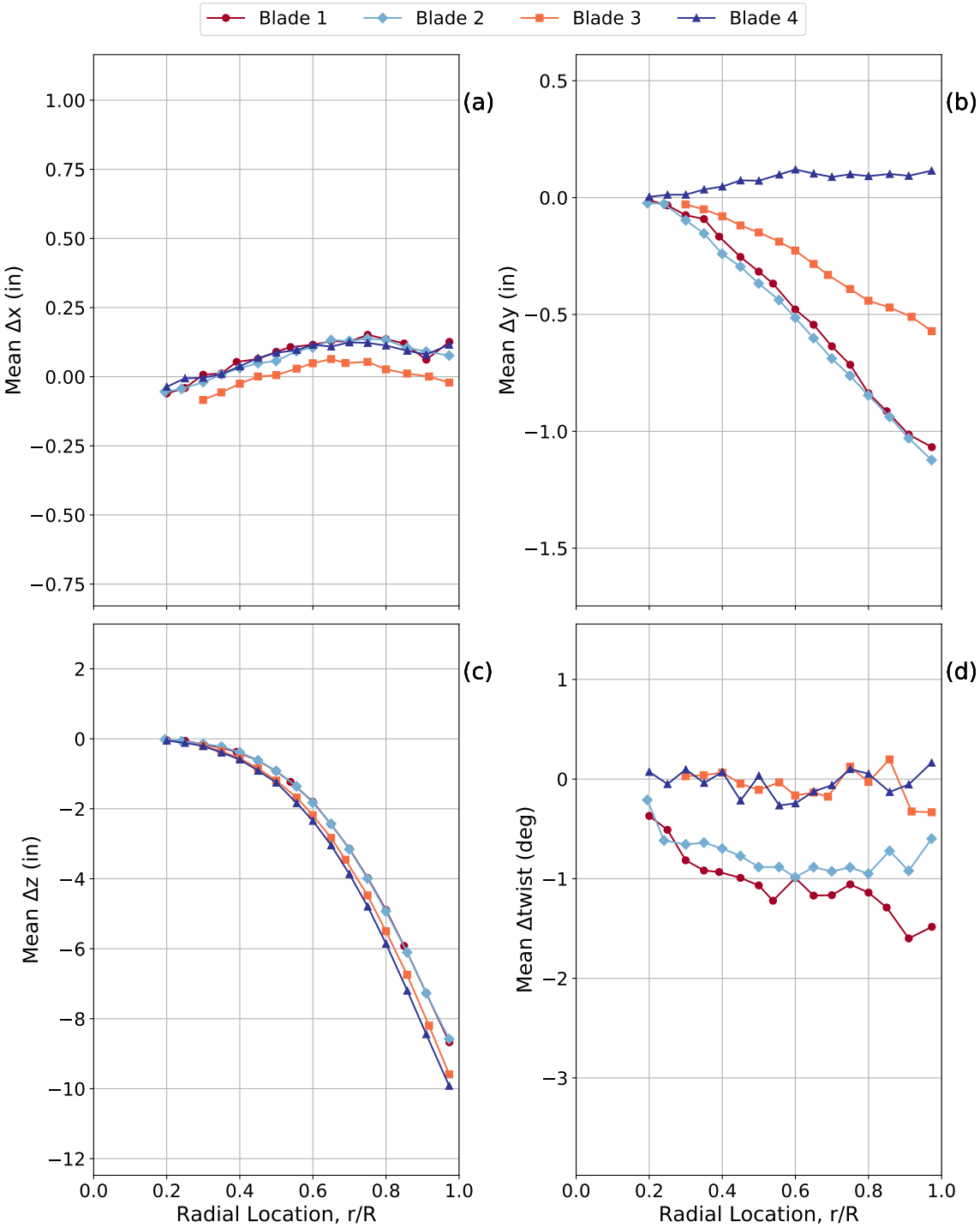


Figure 2.17-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-25. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.0606	0.0041	-0.0116	0.0017	-0.0381	0.0034	-0.3701	0.0260
1	180	0.2499	-0.0409	0.0024	-0.0332	0.0026	-0.0571	0.0049	-0.5096	0.0556
1	180	0.2998	0.0074	0.0015	-0.0753	0.0059	-0.1575	0.0108	-0.8156	0.0618
1	180	0.3498	0.0119	0.0034	-0.0917	0.0095	-0.2565	0.0183	-0.9181	0.0590
1	180	0.3913	0.0536	0.0053	-0.1669	0.0134	-0.3726	0.0248	-0.9329	0.0606
1	180	0.4496	0.0639	0.0082	-0.2538	0.0182	-0.6201	0.0329	-0.9920	0.0618
1	180	0.4997	0.0901	0.0101	-0.3166	0.0226	-0.9257	0.0412	-1.0676	0.0586
1	180	0.5387	0.1073	0.0118	-0.3678	0.0258	-1.2319	0.0475	-1.2211	0.0598
1	180	0.5996	0.1154	0.0141	-0.4787	0.0316	-1.7971	0.0581	-0.9930	0.0582
1	180	0.6498	0.1284	0.0164	-0.5440	0.0366	-2.4461	0.0669	-1.1695	0.0604
1	180	0.6998	0.1270	0.0182	-0.6363	0.0419	-3.1442	0.0761	-1.1655	0.0586
1	180	0.7500	0.1515	0.0201	-0.7153	0.0468	-3.9770	0.0849	-1.0572	0.0586
1	180	0.8001	0.1359	0.0221	-0.8375	0.0523	-4.8937	0.0942	-1.1398	0.0617
1	180	0.8497	0.1203	0.0247	-0.9139	0.0576	-5.9217	0.1038	-1.2892	0.0620
1	180	0.9102	0.0616	0.0284	-1.0137	0.0652	-7.2688	0.1159	-1.5998	0.0627
1	180	0.9734	0.1261	0.0324	-1.0676	0.0734	-8.6732	0.1305	-1.4836	0.0590
2	180	0.1949	-0.0546	0.0015	-0.0238	0.0010	-0.0190	0.0020	-0.2099	0.0183
2	180	0.2405	-0.0440	0.0011	-0.0266	0.0015	-0.0675	0.0029	-0.6162	0.0384
2	180	0.2999	-0.0198	0.0010	-0.0971	0.0036	-0.1441	0.0068	-0.6565	0.0468
2	180	0.3498	0.0082	0.0013	-0.1537	0.0056	-0.2223	0.0114	-0.6385	0.0427
2	180	0.3998	0.0311	0.0017	-0.2409	0.0087	-0.3861	0.0170	-0.6978	0.0411
2	180	0.4496	0.0487	0.0016	-0.2953	0.0103	-0.6141	0.0210	-0.7722	0.0409
2	180	0.4995	0.0568	0.0016	-0.3674	0.0124	-0.9168	0.0265	-0.8828	0.0425
2	180	0.5551	0.0924	0.0016	-0.4382	0.0153	-1.3589	0.0322	-0.8833	0.0422
2	180	0.5996	0.1059	0.0017	-0.5143	0.0174	-1.8259	0.0377	-0.9857	0.0437
2	180	0.6497	0.1326	0.0020	-0.6013	0.0195	-2.4272	0.0436	-0.8853	0.0424
2	180	0.6996	0.1293	0.0021	-0.6885	0.0222	-3.1589	0.0489	-0.9268	0.0434
2	180	0.7495	0.1375	0.0025	-0.7619	0.0251	-3.9948	0.0548	-0.8869	0.0470
2	180	0.7996	0.1335	0.0029	-0.8461	0.0278	-4.9297	0.0606	-0.9503	0.0450
2	180	0.8578	0.1046	0.0029	-0.9379	0.0308	-6.1030	0.0684	-0.7211	0.0490
2	180	0.9100	0.0911	0.0037	-1.0298	0.0343	-7.2714	0.0749	-0.9213	0.0489
2	180	0.9727	0.0765	0.0050	-1.1226	0.0381	-8.5777	0.0854	-0.5984	0.0491
3	180.35	0.2995	-0.0841	0.0038	-0.0292	0.0053	-0.2061	0.0197	0.0285	0.0754
3	180.35	0.3493	-0.0567	0.0031	-0.0502	0.0091	-0.3529	0.0335	0.0391	0.0995
3	180.35	0.4000	-0.0252	0.0025	-0.0801	0.0145	-0.5617	0.0530	0.0649	0.0902
3	180.35	0.4497	0.0007	0.0032	-0.1191	0.0189	-0.8453	0.0701	-0.0475	0.0902
3	180.35	0.4997	0.0058	0.0034	-0.1489	0.0245	-1.1930	0.0891	-0.1084	0.0886
3	180.35	0.5556	0.0292	0.0041	-0.1884	0.0303	-1.6795	0.1068	-0.0335	0.0989
3	180.35	0.5995	0.0488	0.0054	-0.2265	0.0354	-2.1836	0.1237	-0.1645	0.0971
3	180.35	0.6498	0.0639	0.0072	-0.2841	0.0409	-2.8341	0.1422	-0.1357	0.0943
3	180.35	0.6890	0.0496	0.0078	-0.3308	0.0459	-3.4553	0.1568	-0.1764	0.0972
3	180.35	0.7495	0.0537	0.0110	-0.3910	0.0532	-4.4761	0.1797	0.1246	0.0983
3	180.35	0.7998	0.0266	0.0127	-0.4412	0.0590	-5.4989	0.1969	-0.0291	0.1029
3	180.35	0.8577	0.0115	0.0164	-0.4702	0.0668	-6.7442	0.2178	0.1972	0.1000
3	180.35	0.9178	0.0006	0.0205	-0.5101	0.0753	-8.2001	0.2381	-0.3252	0.1065
3	180.35	0.9729	-0.0212	0.0246	-0.5714	0.0831	-9.5881	0.2577	-0.3331	0.1042
4	180	0.2001	-0.0365	0.0014	0.0033	0.0010	-0.0513	0.0021	0.0723	0.0170
4	180	0.2502	-0.0058	0.0012	0.0122	0.0020	-0.1168	0.0039	-0.0505	0.0318
4	180	0.3001	-0.0041	0.0011	0.0124	0.0036	-0.2076	0.0073	0.0967	0.0365
4	180	0.3502	0.0094	0.0012	0.0348	0.0058	-0.3942	0.0119	-0.0385	0.0346
4	180	0.4002	0.0380	0.0015	0.0473	0.0088	-0.5922	0.0182	0.0705	0.0318
4	180	0.4500	0.0676	0.0014	0.0737	0.0105	-0.9134	0.0233	-0.2156	0.0350
4	180	0.5001	0.0865	0.0017	0.0723	0.0128	-1.2507	0.0300	0.0331	0.0325
4	180	0.5560	0.0965	0.0018	0.0986	0.0154	-1.8382	0.0373	-0.2647	0.0334
4	180	0.6001	0.1155	0.0019	0.1203	0.0178	-2.3454	0.0434	-0.2434	0.0337
4	180	0.6501	0.1090	0.0020	0.1027	0.0199	-3.0448	0.0500	-0.1247	0.0343
4	180	0.6999	0.1243	0.0024	0.0883	0.0227	-3.8679	0.0572	-0.0610	0.0321
4	180	0.7500	0.1222	0.0028	0.0997	0.0252	-4.7945	0.0644	0.1000	0.0377
4	180	0.8002	0.1127	0.0031	0.0918	0.0278	-5.8584	0.0708	0.0524	0.0383
4	180	0.8582	0.0939	0.0038	0.1011	0.0312	-7.1985	0.0802	-0.1293	0.0380
4	180	0.9101	0.0800	0.0044	0.0932	0.0340	-8.4422	0.0889	-0.0542	0.0368
4	180	0.9728	0.1156	0.0057	0.1150	0.0379	-9.9173	0.1007	0.1646	0.0363

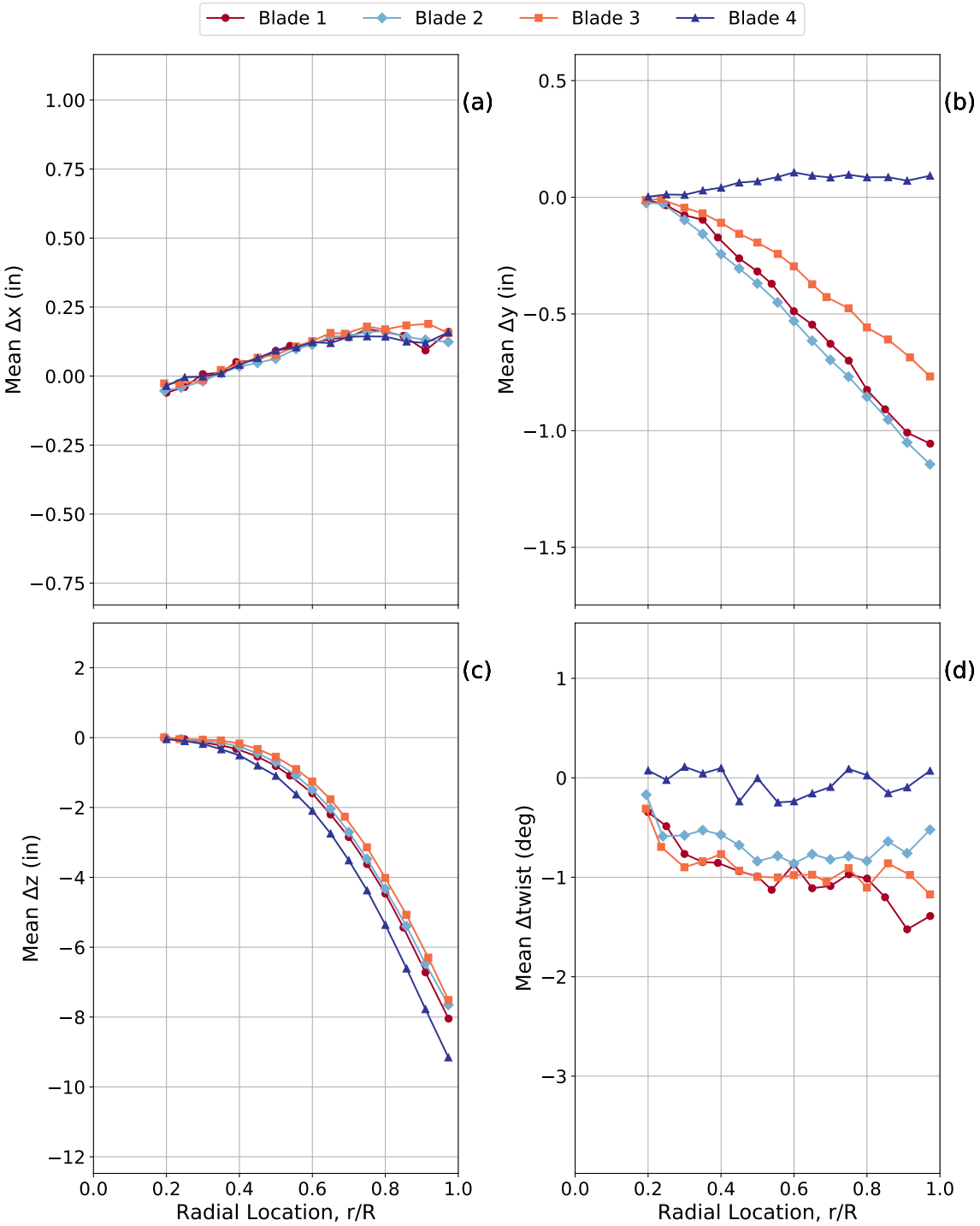


Figure 2.17-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.152, α = 4.76° NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0603	0.0052	-0.0123	0.0021	-0.0334	0.0046	-0.3459	0.0282
1	184.92	0.2499	-0.0393	0.0025	-0.0344	0.0025	-0.0466	0.0057	-0.4865	0.0747
1	184.92	0.2998	0.0071	0.0024	-0.0770	0.0072	-0.1368	0.0145	-0.7657	0.0715
1	184.92	0.3498	0.0124	0.0047	-0.0966	0.0115	-0.2221	0.0228	-0.8467	0.0710
1	184.92	0.3913	0.0511	0.0063	-0.1724	0.0159	-0.3216	0.0313	-0.8559	0.0694
1	184.92	0.4496	0.0572	0.0090	-0.2617	0.0207	-0.5442	0.0415	-0.9398	0.0710
1	184.92	0.4997	0.0915	0.0108	-0.3179	0.0254	-0.8124	0.0496	-0.9915	0.0743
1	184.92	0.5387	0.1095	0.0120	-0.3707	0.0290	-1.0875	0.0564	-1.1268	0.0766
1	184.92	0.5996	0.1176	0.0141	-0.4884	0.0349	-1.5944	0.0670	-0.8706	0.0732
1	184.92	0.6498	0.1346	0.0158	-0.5457	0.0402	-2.2012	0.0761	-1.1102	0.0704
1	184.92	0.6998	0.1403	0.0173	-0.6280	0.0458	-2.8471	0.0842	-1.0880	0.0723
1	184.92	0.7500	0.1703	0.0189	-0.7002	0.0513	-3.6216	0.0932	-0.9705	0.0709
1	184.92	0.8001	0.1602	0.0207	-0.8253	0.0572	-4.4683	0.1020	-1.0132	0.0739
1	184.92	0.8497	0.1458	0.0224	-0.9087	0.0635	-5.4376	0.1115	-1.2010	0.0710
1	184.92	0.9102	0.0929	0.0249	-1.0086	0.0715	-6.7216	0.1232	-1.5234	0.0718
1	184.92	0.9734	0.1604	0.0289	-1.0560	0.0792	-8.0456	0.1368	-1.3899	0.0722
2	184.92	0.1949	-0.0528	0.0040	-0.0245	0.0016	-0.0098	0.0029	-0.1699	0.0202
2	184.92	0.2405	-0.0414	0.0020	-0.0267	0.0023	-0.0461	0.0041	-0.5888	0.0465
2	184.92	0.2999	-0.0185	0.0018	-0.0974	0.0058	-0.0978	0.0097	-0.5785	0.0527
2	184.92	0.3498	0.0111	0.0035	-0.1571	0.0100	-0.1420	0.0166	-0.5266	0.0515
2	184.92	0.3998	0.0347	0.0059	-0.2434	0.0150	-0.2593	0.0246	-0.5719	0.0498
2	184.92	0.4496	0.0479	0.0076	-0.3049	0.0195	-0.4490	0.0302	-0.6768	0.0519
2	184.92	0.4995	0.0630	0.0095	-0.3694	0.0245	-0.7045	0.0370	-0.8392	0.0533
2	184.92	0.5551	0.0984	0.0112	-0.4505	0.0306	-1.0798	0.0449	-0.7853	0.0545
2	184.92	0.5996	0.1138	0.0124	-0.5304	0.0351	-1.4914	0.0513	-0.8620	0.0529
2	184.92	0.6497	0.1432	0.0134	-0.6152	0.0407	-2.0307	0.0592	-0.7683	0.0532
2	184.92	0.6996	0.1459	0.0144	-0.6968	0.0462	-2.7050	0.0664	-0.8210	0.0537
2	184.92	0.7495	0.1586	0.0154	-0.7688	0.0519	-3.4734	0.0739	-0.7880	0.0563
2	184.92	0.7996	0.1636	0.0164	-0.8546	0.0581	-4.3259	0.0820	-0.8374	0.0526
2	184.92	0.8578	0.1419	0.0175	-0.9529	0.0656	-5.4004	0.0911	-0.6397	0.0597
2	184.92	0.9100	0.1316	0.0185	-1.0507	0.0725	-6.4662	0.1010	-0.7589	0.0584
2	184.92	0.9727	0.1237	0.0207	-1.1444	0.0818	-7.6528	0.1139	-0.5225	0.0545
3	184.92	0.1938	-0.0266	0.0049	-0.0119	0.0018	0.0043	0.0033	-0.3104	0.0277
3	184.92	0.2357	-0.0267	0.0031	-0.0083	0.0025	-0.0442	0.0045	-0.6948	0.0470
3	184.92	0.2995	-0.0155	0.0019	-0.0448	0.0052	-0.0587	0.0082	-0.8996	0.0615
3	184.92	0.3493	0.0219	0.0038	-0.0689	0.0095	-0.0814	0.0151	-0.8402	0.0528
3	184.92	0.4000	0.0441	0.0056	-0.1089	0.0140	-0.1703	0.0211	-0.7676	0.0576
3	184.92	0.4497	0.0665	0.0076	-0.1564	0.0179	-0.3279	0.0263	-0.9345	0.0601
3	184.92	0.4997	0.0776	0.0093	-0.1938	0.0226	-0.5485	0.0331	-0.9963	0.0578
3	184.92	0.5556	0.1074	0.0113	-0.2427	0.0286	-0.9008	0.0407	-1.0021	0.0559
3	184.92	0.5995	0.1268	0.0127	-0.2959	0.0323	-1.2547	0.0460	-0.9785	0.0596
3	184.92	0.6498	0.1564	0.0143	-0.3726	0.0372	-1.7663	0.0536	-0.9749	0.0591
3	184.92	0.6890	0.1536	0.0157	-0.4277	0.0412	-2.2659	0.0588	-1.0451	0.0590
3	184.92	0.7495	0.1792	0.0177	-0.4757	0.0471	-3.1391	0.0679	-0.9088	0.0579
3	184.92	0.7998	0.1693	0.0199	-0.5579	0.0529	-4.0160	0.0761	-1.1034	0.0611
3	184.92	0.8577	0.1838	0.0220	-0.6095	0.0595	-5.0722	0.0866	-0.8602	0.0568
3	184.92	0.9178	0.1890	0.0246	-0.6862	0.0680	-6.2988	0.0978	-0.9769	0.0630
3	184.92	0.9729	0.1561	0.0280	-0.7678	0.0761	-7.5130	0.1085	-1.1724	0.0596
4	184.92	0.2001	-0.0356	0.0037	0.0022	0.0011	-0.0441	0.0021	0.0735	0.0217
4	184.92	0.2502	-0.0042	0.0019	0.0118	0.0028	-0.0998	0.0045	-0.0217	0.0295
4	184.92	0.3001	-0.0018	0.0014	0.0104	0.0041	-0.1799	0.0072	0.1105	0.0428
4	184.92	0.3502	0.0104	0.0028	0.0292	0.0071	-0.3365	0.0110	0.0436	0.0411
4	184.92	0.4002	0.0407	0.0041	0.0411	0.0111	-0.5086	0.0175	0.0978	0.0365
4	184.92	0.4500	0.0653	0.0054	0.0631	0.0144	-0.8009	0.0212	-0.2373	0.0378
4	184.92	0.5001	0.0925	0.0071	0.0685	0.0180	-1.0946	0.0264	-0.0041	0.0397
4	184.92	0.5560	0.1042	0.0090	0.0872	0.0229	-1.6274	0.0323	-0.2482	0.0375
4	184.92	0.6001	0.1228	0.0107	0.1064	0.0266	-2.0952	0.0360	-0.2365	0.0381
4	184.92	0.6501	0.1196	0.0123	0.0925	0.0310	-2.7475	0.0409	-0.1571	0.0358
4	184.92	0.6999	0.1424	0.0140	0.0848	0.0353	-3.5146	0.0452	-0.0923	0.0381
4	184.92	0.7500	0.1440	0.0156	0.0966	0.0402	-4.3748	0.0494	0.0891	0.0407
4	184.92	0.8002	0.1429	0.0178	0.0856	0.0455	-5.3610	0.0558	0.0247	0.0393
4	184.92	0.8582	0.1253	0.0199	0.0861	0.0512	-6.6104	0.0624	-0.1541	0.0438
4	184.92	0.9101	0.1201	0.0226	0.0710	0.0577	-7.7741	0.0692	-0.0953	0.0460
4	184.92	0.9728	0.1585	0.0266	0.0923	0.0648	-9.1554	0.0784	0.0709	0.0421

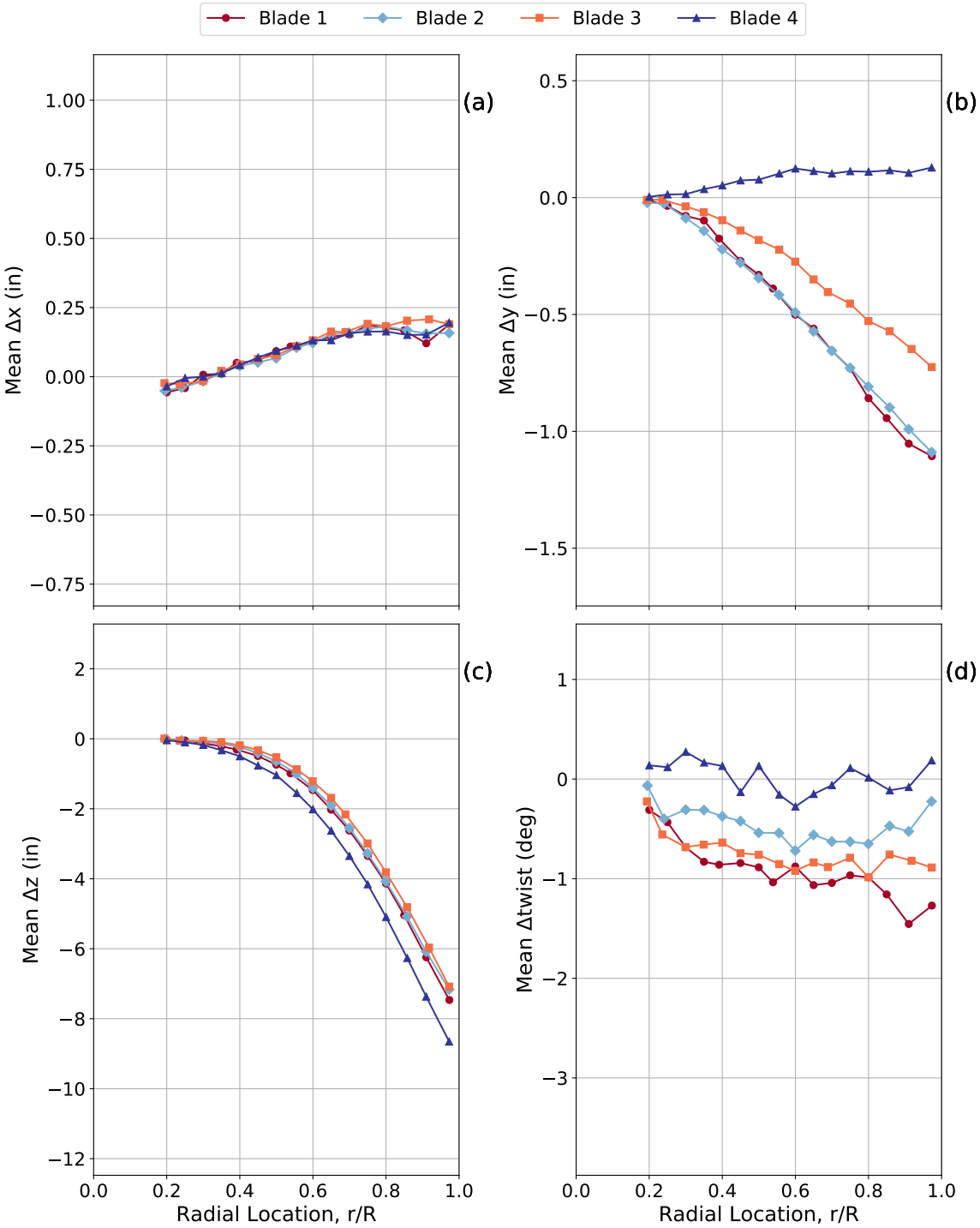


Figure 2.17-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-27. 190° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0566	0.0061	-0.0123	0.0024	-0.0307	0.0051	-0.3102	0.0370
1	189.84	0.2499	-0.0413	0.0033	-0.0353	0.0037	-0.0477	0.0066	-0.4338	0.0853
1	189.84	0.2998	0.0073	0.0030	-0.0782	0.0087	-0.1259	0.0162	-0.6848	0.0919
1	189.84	0.3498	0.0105	0.0051	-0.0980	0.0142	-0.2152	0.0265	-0.8299	0.0860
1	189.84	0.3913	0.0503	0.0067	-0.1754	0.0201	-0.3066	0.0362	-0.8602	0.0883
1	189.84	0.4496	0.0575	0.0098	-0.2706	0.0266	-0.4920	0.0466	-0.8430	0.0925
1	189.84	0.4997	0.0924	0.0121	-0.3305	0.0331	-0.7384	0.0572	-0.8861	0.0861
1	189.84	0.5387	0.1093	0.0136	-0.3890	0.0379	-0.9862	0.0645	-1.0362	0.0938
1	189.84	0.5996	0.1256	0.0155	-0.5008	0.0454	-1.4664	0.0773	-0.8780	0.0924
1	189.84	0.6498	0.1446	0.0176	-0.5604	0.0517	-2.0250	0.0887	-1.0648	0.0931
1	189.84	0.6998	0.1522	0.0192	-0.6552	0.0579	-2.6220	0.0999	-1.0429	0.0945
1	189.84	0.7500	0.1866	0.0207	-0.7308	0.0642	-3.3483	0.1116	-0.9658	0.0935
1	189.84	0.8001	0.1763	0.0222	-0.8584	0.0707	-4.1371	0.1244	-0.9874	0.0906
1	189.84	0.8497	0.1674	0.0233	-0.9436	0.0767	-5.0407	0.1344	-1.1577	0.0937
1	189.84	0.9102	0.1208	0.0249	-1.0529	0.0854	-6.2448	0.1503	-1.4549	0.0958
1	189.84	0.9734	0.1894	0.0282	-1.1066	0.0942	-7.4648	0.1644	-1.2700	0.0959
2	189.84	0.1949	-0.0507	0.0052	-0.0216	0.0017	-0.0074	0.0037	-0.0647	0.0252
2	189.84	0.2405	-0.0390	0.0025	-0.0253	0.0022	-0.0467	0.0036	-0.3989	0.0643
2	189.84	0.2999	-0.0165	0.0026	-0.0879	0.0059	-0.0857	0.0112	-0.3080	0.0712
2	189.84	0.3498	0.0137	0.0047	-0.1420	0.0102	-0.1327	0.0189	-0.3108	0.0658
2	189.84	0.3998	0.0393	0.0069	-0.2210	0.0151	-0.2382	0.0273	-0.3737	0.0664
2	189.84	0.4496	0.0523	0.0088	-0.2788	0.0191	-0.4072	0.0345	-0.4223	0.0676
2	189.84	0.4995	0.0667	0.0108	-0.3441	0.0235	-0.6428	0.0419	-0.5388	0.0690
2	189.84	0.5551	0.1055	0.0128	-0.4163	0.0285	-1.0003	0.0516	-0.5420	0.0667
2	189.84	0.5996	0.1222	0.0141	-0.4910	0.0329	-1.4045	0.0593	-0.7194	0.0653
2	189.84	0.6497	0.1534	0.0153	-0.5724	0.0369	-1.9073	0.0678	-0.5602	0.0662
2	189.84	0.6996	0.1588	0.0169	-0.6554	0.0413	-2.5494	0.0764	-0.6275	0.0682
2	189.84	0.7495	0.1737	0.0181	-0.7286	0.0459	-3.2744	0.0860	-0.6287	0.0735
2	189.84	0.7996	0.1812	0.0196	-0.8090	0.0506	-4.0729	0.0962	-0.6502	0.0772
2	189.84	0.8578	0.1682	0.0219	-0.8982	0.0573	-5.0814	0.1106	-0.4716	0.0640
2	189.84	0.9100	0.1557	0.0245	-0.9910	0.0623	-6.0824	0.1220	-0.5255	0.0715
2	189.84	0.9727	0.1580	0.0288	-1.0893	0.0699	-7.1633	0.1388	-0.2248	0.0701
3	189.84	0.1938	-0.0231	0.0055	-0.0097	0.0018	0.0052	0.0037	-0.2247	0.0286
3	189.84	0.2357	-0.0269	0.0029	-0.0094	0.0031	-0.0520	0.0054	-0.5566	0.0518
3	189.84	0.2995	-0.0157	0.0022	-0.0376	0.0060	-0.0594	0.0109	-0.6831	0.0639
3	189.84	0.3493	0.0212	0.0042	-0.0627	0.0101	-0.0940	0.0171	-0.6580	0.0651
3	189.84	0.4000	0.0450	0.0066	-0.0968	0.0158	-0.1853	0.0264	-0.6377	0.0609
3	189.84	0.4497	0.0642	0.0084	-0.1408	0.0200	-0.3262	0.0317	-0.7441	0.0706
3	189.84	0.4997	0.0774	0.0106	-0.1815	0.0253	-0.5278	0.0395	-0.7602	0.0662
3	189.84	0.5556	0.1106	0.0126	-0.2226	0.0315	-0.8677	0.0483	-0.8535	0.0635
3	189.84	0.5995	0.1315	0.0138	-0.2741	0.0364	-1.2133	0.0548	-0.9210	0.0644
3	189.84	0.6498	0.1630	0.0152	-0.3502	0.0423	-1.6886	0.0622	-0.8370	0.0670
3	189.84	0.6890	0.1614	0.0160	-0.4041	0.0466	-2.1601	0.0681	-0.8837	0.0621
3	189.84	0.7495	0.1913	0.0170	-0.4534	0.0534	-2.9906	0.0762	-0.7903	0.0707
3	189.84	0.7998	0.1826	0.0174	-0.5282	0.0593	-3.8175	0.0836	-0.9850	0.0728
3	189.84	0.8577	0.2029	0.0183	-0.5717	0.0675	-4.8126	0.0939	-0.7577	0.0674
3	189.84	0.9178	0.2072	0.0197	-0.6479	0.0754	-5.9682	0.1036	-0.8206	0.0661
3	189.84	0.9729	0.1901	0.0212	-0.7251	0.0837	-7.0814	0.1128	-0.8878	0.0736
4	189.84	0.2001	-0.0351	0.0049	0.0034	0.0016	-0.0420	0.0035	0.1372	0.0256
4	189.84	0.2502	-0.0051	0.0024	0.0133	0.0030	-0.1018	0.0059	0.1192	0.0479
4	189.84	0.3001	0.0003	0.0019	0.0147	0.0058	-0.1756	0.0115	0.2728	0.0529
4	189.84	0.3502	0.0130	0.0041	0.0363	0.0085	-0.3294	0.0174	0.1655	0.0489
4	189.84	0.4002	0.0420	0.0067	0.0521	0.0138	-0.5003	0.0272	0.1311	0.0441
4	189.84	0.4500	0.0692	0.0089	0.0734	0.0169	-0.7665	0.0342	-0.1310	0.0402
4	189.84	0.5001	0.0934	0.0111	0.0767	0.0209	-1.0394	0.0430	0.1311	0.0429
4	189.84	0.5560	0.1123	0.0138	0.1027	0.0254	-1.5513	0.0523	-0.1572	0.0414
4	189.84	0.6001	0.1316	0.0149	0.1242	0.0284	-2.0154	0.0596	-0.2758	0.0476
4	189.84	0.6501	0.1319	0.0166	0.1136	0.0328	-2.6279	0.0700	-0.1503	0.0402
4	189.84	0.6999	0.1573	0.0181	0.1027	0.0368	-3.3500	0.0796	-0.0617	0.0416
4	189.84	0.7500	0.1631	0.0196	0.1128	0.0415	-4.1607	0.0900	0.1110	0.0412
4	189.84	0.8002	0.1636	0.0214	0.1105	0.0461	-5.0940	0.1005	0.0139	0.0438
4	189.84	0.8582	0.1509	0.0231	0.1167	0.0520	-6.2676	0.1148	-0.1137	0.0442
4	189.84	0.9101	0.1520	0.0256	0.1058	0.0573	-7.3709	0.1293	-0.0806	0.0514
4	189.84	0.9728	0.1954	0.0286	0.1285	0.0651	-8.6543	0.1457	0.1870	0.0447

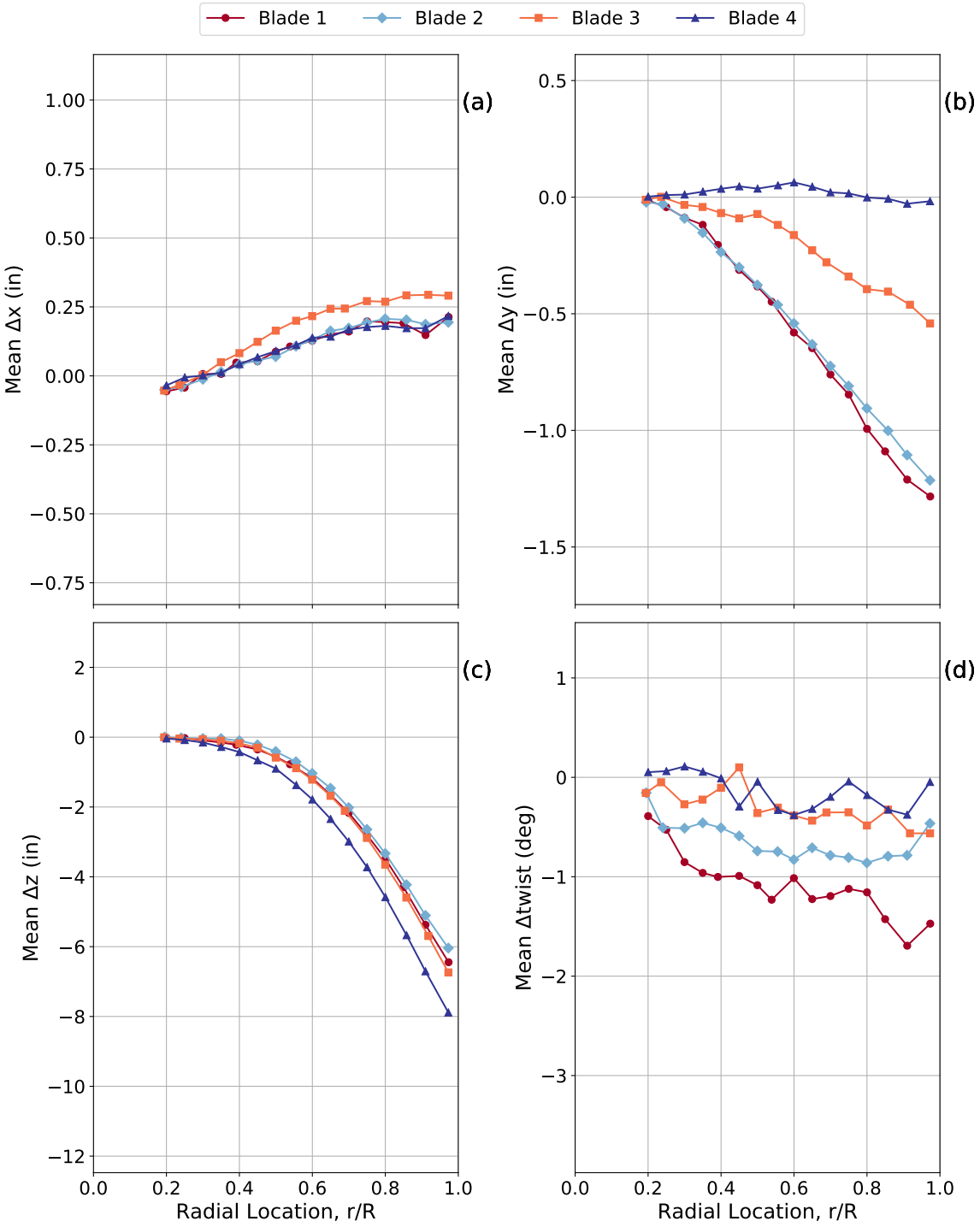


Figure 2.17-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-28. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0560	0.0076	-0.0143	0.0035	-0.0219	0.0088	-0.3899	0.0537
1	195.12	0.2499	-0.0425	0.0048	-0.0427	0.0056	-0.0253	0.0115	-0.5270	0.1353
1	195.12	0.2998	0.0068	0.0034	-0.0883	0.0127	-0.0919	0.0286	-0.8528	0.1384
1	195.12	0.3498	0.0071	0.0057	-0.1187	0.0215	-0.1515	0.0470	-0.9613	0.1309
1	195.12	0.3913	0.0481	0.0087	-0.2048	0.0301	-0.2174	0.0643	-1.0020	0.1267
1	195.12	0.4496	0.0529	0.0123	-0.3118	0.0398	-0.3517	0.0841	-0.9917	0.1292
1	195.12	0.4997	0.0878	0.0151	-0.3831	0.0491	-0.5612	0.1026	-1.0851	0.1245
1	195.12	0.5387	0.1065	0.0172	-0.4485	0.0566	-0.7761	0.1164	-1.2312	0.1318
1	195.12	0.5996	0.1273	0.0195	-0.5804	0.0690	-1.1697	0.1386	-1.0139	0.1311
1	195.12	0.6498	0.1504	0.0217	-0.6473	0.0790	-1.6581	0.1572	-1.2247	0.1266
1	195.12	0.6998	0.1606	0.0224	-0.7603	0.0889	-2.1692	0.1752	-1.1944	0.1283
1	195.12	0.7500	0.1977	0.0234	-0.8463	0.0993	-2.8035	0.1933	-1.1218	0.1296
1	195.12	0.8001	0.1950	0.0240	-0.9935	0.1095	-3.4864	0.2117	-1.1568	0.1326
1	195.12	0.8497	0.1909	0.0250	-1.0901	0.1203	-4.2956	0.2305	-1.4268	0.1320
1	195.12	0.9102	0.1479	0.0259	-1.2110	0.1333	-5.3759	0.2522	-1.6938	0.1371
1	195.12	0.9734	0.2134	0.0284	-1.2835	0.1471	-6.4461	0.2749	-1.4722	0.1446
2	195.12	0.1949	-0.0505	0.0030	-0.0218	0.0020	0.0033	0.0043	-0.1554	0.0324
2	195.12	0.2405	-0.0396	0.0022	-0.0299	0.0028	-0.0201	0.0068	-0.5068	0.0729
2	195.12	0.2999	-0.0125	0.0015	-0.0908	0.0064	-0.0376	0.0137	-0.5121	0.0843
2	195.12	0.3498	0.0146	0.0019	-0.1525	0.0108	-0.0400	0.0243	-0.4581	0.0831
2	195.12	0.3998	0.0411	0.0025	-0.2353	0.0162	-0.0995	0.0356	-0.5080	0.0840
2	195.12	0.4496	0.0560	0.0025	-0.3006	0.0201	-0.2189	0.0475	-0.5897	0.0827
2	195.12	0.4995	0.0697	0.0026	-0.3763	0.0251	-0.4085	0.0595	-0.7406	0.0829
2	195.12	0.5551	0.1077	0.0026	-0.4618	0.0299	-0.7045	0.0746	-0.7470	0.0847
2	195.12	0.5996	0.1304	0.0024	-0.5413	0.0348	-1.0367	0.0877	-0.8276	0.0850
2	195.12	0.6497	0.1629	0.0029	-0.6312	0.0404	-1.4616	0.1041	-0.7089	0.0915
2	195.12	0.6996	0.1734	0.0030	-0.7244	0.0455	-2.0162	0.1195	-0.7852	0.0875
2	195.12	0.7495	0.1932	0.0035	-0.8098	0.0507	-2.6419	0.1360	-0.8073	0.0954
2	195.12	0.7996	0.2068	0.0048	-0.9056	0.0572	-3.3311	0.1543	-0.8604	0.0903
2	195.12	0.8578	0.2031	0.0048	-1.0013	0.0636	-4.2258	0.1759	-0.7933	0.0928
2	195.12	0.9100	0.1872	0.0061	-1.1056	0.0683	-5.1052	0.1947	-0.7842	0.0987
2	195.12	0.9727	0.1941	0.0072	-1.2139	0.0763	-6.0402	0.2173	-0.4638	0.1051
3	195.12	0.1938	-0.0532	0.0016	-0.0109	0.0012	-0.0031	0.0020	-0.1577	0.0150
3	195.12	0.2357	-0.0323	0.0010	0.0015	0.0017	-0.0406	0.0029	-0.0499	0.0273
3	195.12	0.2995	0.0030	0.0010	-0.0332	0.0044	-0.0589	0.0073	-0.2715	0.0340
3	195.12	0.3493	0.0495	0.0010	-0.0421	0.0072	-0.1013	0.0115	-0.2240	0.0360
3	195.12	0.4000	0.0825	0.0015	-0.0681	0.0112	-0.1766	0.0179	-0.1044	0.0382
3	195.12	0.4497	0.1234	0.0029	-0.0906	0.0150	-0.3012	0.0215	0.1003	0.1446
3	195.12	0.4997	0.1639	0.0075	-0.0724	0.0349	-0.5851	0.0423	-0.3587	0.0353
3	195.12	0.5556	0.1999	0.0083	-0.1190	0.0402	-0.8882	0.0475	-0.3046	0.0369
3	195.12	0.5995	0.2166	0.0079	-0.1626	0.0444	-1.2171	0.0543	-0.3849	0.0404
3	195.12	0.6498	0.2432	0.0083	-0.2277	0.0494	-1.6805	0.0600	-0.4352	0.0356
3	195.12	0.6890	0.2441	0.0085	-0.2795	0.0531	-2.1096	0.0640	-0.3533	0.0432
3	195.12	0.7495	0.2711	0.0090	-0.3405	0.0585	-2.8863	0.0726	-0.3518	0.0411
3	195.12	0.7998	0.2688	0.0091	-0.3943	0.0635	-3.6500	0.0802	-0.4843	0.0402
3	195.12	0.8577	0.2920	0.0072	-0.4049	0.0708	-4.5951	0.0867	-0.3242	0.1350
3	195.12	0.9178	0.2938	0.0051	-0.4614	0.0807	-5.6938	0.1238	-0.5631	0.0427
3	195.12	0.9729	0.2908	0.0078	-0.5413	0.0873	-6.7392	0.1377	-0.5633	0.0448
4	195.12	0.2001	-0.0344	0.0054	0.0022	0.0018	-0.0375	0.0037	0.0521	0.0330
4	195.12	0.2502	-0.0058	0.0028	0.0089	0.0034	-0.0824	0.0067	0.0626	0.0531
4	195.12	0.3001	0.0018	0.0021	0.0111	0.0064	-0.1535	0.0120	0.1095	0.0699
4	195.12	0.3502	0.0119	0.0038	0.0236	0.0106	-0.2806	0.0205	0.0564	0.0579
4	195.12	0.4002	0.0425	0.0060	0.0359	0.0163	-0.4271	0.0301	-0.0098	0.0521
4	195.12	0.4500	0.0678	0.0075	0.0463	0.0207	-0.6629	0.0374	-0.2935	0.0597
4	195.12	0.5001	0.0901	0.0102	0.0365	0.0252	-0.9023	0.0464	-0.0438	0.0534
4	195.12	0.5560	0.1116	0.0121	0.0506	0.0310	-1.3732	0.0562	-0.3282	0.0608
4	195.12	0.6001	0.1381	0.0132	0.0633	0.0349	-1.7859	0.0641	-0.3787	0.0614
4	195.12	0.6501	0.1421	0.0145	0.0445	0.0406	-2.3434	0.0764	-0.3176	0.0518
4	195.12	0.6999	0.1677	0.0151	0.0207	0.0457	-2.9902	0.0865	-0.1957	0.0551
4	195.12	0.7500	0.1770	0.0162	0.0161	0.0507	-3.7267	0.0968	-0.0415	0.0642
4	195.12	0.8002	0.1813	0.0166	-0.0014	0.0568	-4.5823	0.1097	-0.1784	0.0644
4	195.12	0.8582	0.1729	0.0178	-0.0071	0.0639	-5.6732	0.1245	-0.3251	0.0596
4	195.12	0.9101	0.1729	0.0186	-0.0282	0.0708	-6.7076	0.1389	-0.3760	0.0655
4	195.12	0.9728	0.2170	0.0207	-0.0175	0.0796	-7.8872	0.1557	-0.0467	0.0639

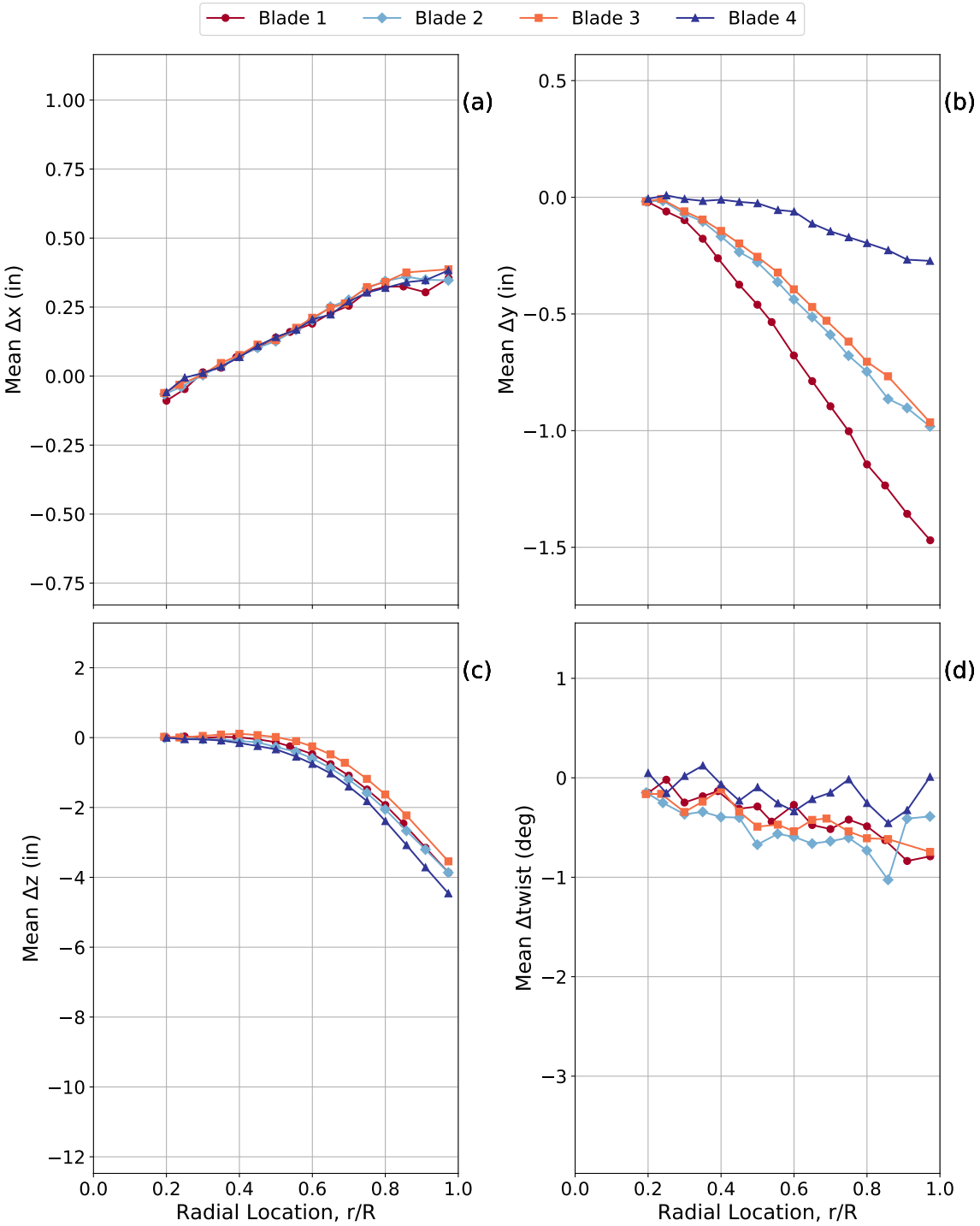


Figure 2.17-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-29. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0892	0.0018	-0.0204	0.0014	-0.0027	0.0026	-0.1521	0.0200
1	209.88	0.2499	-0.0471	0.0017	-0.0608	0.0051	0.0327	0.0050	-0.0194	0.0443
1	209.88	0.2998	0.0139	0.0016	-0.0980	0.0084	-0.0131	0.0089	-0.2487	0.0485
1	209.88	0.3498	0.0302	0.0016	-0.1777	0.0126	0.0209	0.0156	-0.1859	0.0435
1	209.88	0.3913	0.0686	0.0025	-0.2613	0.0209	0.0147	0.0213	-0.1340	0.0417
1	209.88	0.4496	0.1019	0.0021	-0.3745	0.0239	-0.0465	0.0285	-0.3112	0.0406
1	209.88	0.4997	0.1398	0.0023	-0.4604	0.0294	-0.1313	0.0343	-0.2888	0.0481
1	209.88	0.5387	0.1599	0.0025	-0.5348	0.0312	-0.2488	0.0404	-0.4409	0.0425
1	209.88	0.5996	0.1899	0.0025	-0.6779	0.0371	-0.4711	0.0482	-0.2723	0.0469
1	209.88	0.6498	0.2277	0.0026	-0.7879	0.0433	-0.7584	0.0568	-0.4751	0.0500
1	209.88	0.6998	0.2547	0.0027	-0.8957	0.0478	-1.0877	0.0652	-0.5154	0.0461
1	209.88	0.7500	0.3060	0.0028	-1.0026	0.0531	-1.4863	0.0752	-0.4205	0.0538
1	209.88	0.8001	0.3238	0.0030	-1.1449	0.0590	-1.9293	0.0842	-0.4881	0.0533
1	209.88	0.8497	0.3246	0.0032	-1.2350	0.0641	-2.4607	0.0947	-0.6274	0.0590
1	209.88	0.9102	0.3036	0.0040	-1.3567	0.0705	-3.1528	0.1077	-0.8365	0.1155
1	209.88	0.9734	0.3550	0.0047	-1.4698	0.0776	-3.8676	0.1252	-0.7896	0.1273
2	209.88	0.1949	-0.0653	0.0012	-0.0178	0.0010	-0.0062	0.0020	-0.1488	0.0128
2	209.88	0.2405	-0.0392	0.0011	-0.0153	0.0026	-0.0054	0.0053	-0.2516	0.0292
2	209.88	0.2999	0.0034	0.0010	-0.0718	0.0048	-0.0403	0.0115	-0.3668	0.0321
2	209.88	0.3498	0.0378	0.0012	-0.1040	0.0090	-0.0532	0.0158	-0.3424	0.0450
2	209.88	0.3998	0.0713	0.0013	-0.1678	0.0136	-0.0967	0.0279	-0.3948	0.0405
2	209.88	0.4496	0.1027	0.0013	-0.2341	0.0137	-0.1336	0.0321	-0.4000	0.0343
2	209.88	0.4995	0.1262	0.0014	-0.2781	0.0148	-0.2673	0.0374	-0.6722	0.0347
2	209.88	0.5551	0.1678	0.0015	-0.3630	0.0186	-0.4065	0.0491	-0.5639	0.0347
2	209.88	0.5996	0.2027	0.0014	-0.4379	0.0230	-0.5941	0.0564	-0.5931	0.0407
2	209.88	0.6497	0.2513	0.0015	-0.5132	0.0248	-0.8730	0.0635	-0.6616	0.0391
2	209.88	0.6996	0.2761	0.0017	-0.5891	0.0272	-1.2029	0.0724	-0.6376	0.0395
2	209.88	0.7495	0.3179	0.0020	-0.6786	0.0308	-1.5838	0.0819	-0.6031	0.0415
2	209.88	0.7996	0.3443	0.0019	-0.7470	0.0343	-2.0548	0.0924	-0.7305	0.0470
2	209.88	0.8578	0.3600	0.0021	-0.8642	0.0377	-2.6667	0.1047	-1.0261	0.0522
2	209.88	0.9100	0.3491	0.0041	-0.9028	0.0423	-3.2042	0.1157	-0.4103	0.1073
2	209.88	0.9727	0.3470	0.0032	-0.9820	0.0467	-3.8638	0.1288	-0.3886	0.0666
3	209.88	0.1938	-0.0613	0.0013	-0.0187	0.0007	0.0231	0.0019	-0.1636	0.0210
3	209.88	0.2357	-0.0313	0.0009	-0.0072	0.0018	0.0024	0.0036	-0.1618	0.0347
3	209.88	0.2995	0.0056	0.0010	-0.0602	0.0042	0.0482	0.0064	-0.3436	0.0496
3	209.88	0.3493	0.0474	0.0010	-0.0955	0.0058	0.0865	0.0121	-0.2396	0.0384
3	209.88	0.4000	0.0763	0.0010	-0.1442	0.0101	0.1099	0.0176	-0.1156	0.0422
3	209.88	0.4497	0.1141	0.0013	-0.1980	0.0112	0.0717	0.0219	-0.3402	0.0415
3	209.88	0.4997	0.1302	0.0014	-0.2550	0.0140	0.0159	0.0262	-0.4911	0.0450
3	209.88	0.5556	0.1750	0.0013	-0.3225	0.0169	-0.1024	0.0319	-0.4710	0.0520
3	209.88	0.5995	0.2113	0.0015	-0.3945	0.0194	-0.2513	0.0378	-0.5380	0.0448
3	209.88	0.6498	0.2474	0.0016	-0.4703	0.0212	-0.4813	0.0441	-0.4235	0.0443
3	209.88	0.6890	0.2631	0.0018	-0.5291	0.0239	-0.7209	0.0497	-0.4098	0.0459
3	209.88	0.7495	0.3223	0.0018	-0.6183	0.0273	-1.1828	0.0566	-0.5391	0.0458
3	209.88	0.7998	0.3410	0.0022	-0.7048	0.0299	-1.6281	0.0631	-0.6081	0.0498
3	209.88	0.8577	0.3756	0.0037	-0.7673	0.0338	-2.2268	0.0700	-0.6165	0.0792
3	209.88	0.9729	0.3869	0.0043	-0.9646	0.0424	-3.5430	0.0898	-0.7450	0.1182
4	209.88	0.2001	-0.0586	0.0013	-0.0065	0.0010	-0.0031	0.0020	0.0480	0.0192
4	209.88	0.2502	-0.0056	0.0010	0.0084	0.0025	-0.0465	0.0040	-0.1539	0.0333
4	209.88	0.3001	0.0110	0.0009	-0.0073	0.0041	-0.0519	0.0069	0.0186	0.0430
4	209.88	0.3502	0.0341	0.0011	-0.0157	0.0073	-0.0827	0.0121	0.1235	0.0376
4	209.88	0.4002	0.0690	0.0012	-0.0103	0.0112	-0.1556	0.0180	-0.0656	0.0368
4	209.88	0.4500	0.1091	0.0018	-0.0196	0.0132	-0.2412	0.0226	-0.2294	0.0405
4	209.88	0.5001	0.1412	0.0015	-0.0257	0.0168	-0.3360	0.0277	-0.0949	0.0414
4	209.88	0.5560	0.1680	0.0017	-0.0547	0.0194	-0.5461	0.0336	-0.2562	0.0386
4	209.88	0.6001	0.2052	0.0020	-0.0610	0.0233	-0.7524	0.0396	-0.3363	0.0424
4	209.88	0.6501	0.2232	0.0020	-0.1129	0.0253	-1.0255	0.0446	-0.2139	0.0390
4	209.88	0.6999	0.2704	0.0017	-0.1461	0.0296	-1.4002	0.0515	-0.1494	0.0406
4	209.88	0.7500	0.3026	0.0021	-0.1714	0.0333	-1.8193	0.0586	-0.0157	0.0468
4	209.88	0.8002	0.3195	0.0026	-0.1964	0.0369	-2.3895	0.0657	-0.2538	0.0516
4	209.88	0.8582	0.3401	0.0025	-0.2271	0.0419	-3.0792	0.0761	-0.4555	0.0669
4	209.88	0.9101	0.3472	0.0035	-0.2674	0.0455	-3.7148	0.0853	-0.3252	0.0636
4	209.88	0.9728	0.3828	0.0036	-0.2726	0.0508	-4.4585	0.0997	0.0096	0.0687

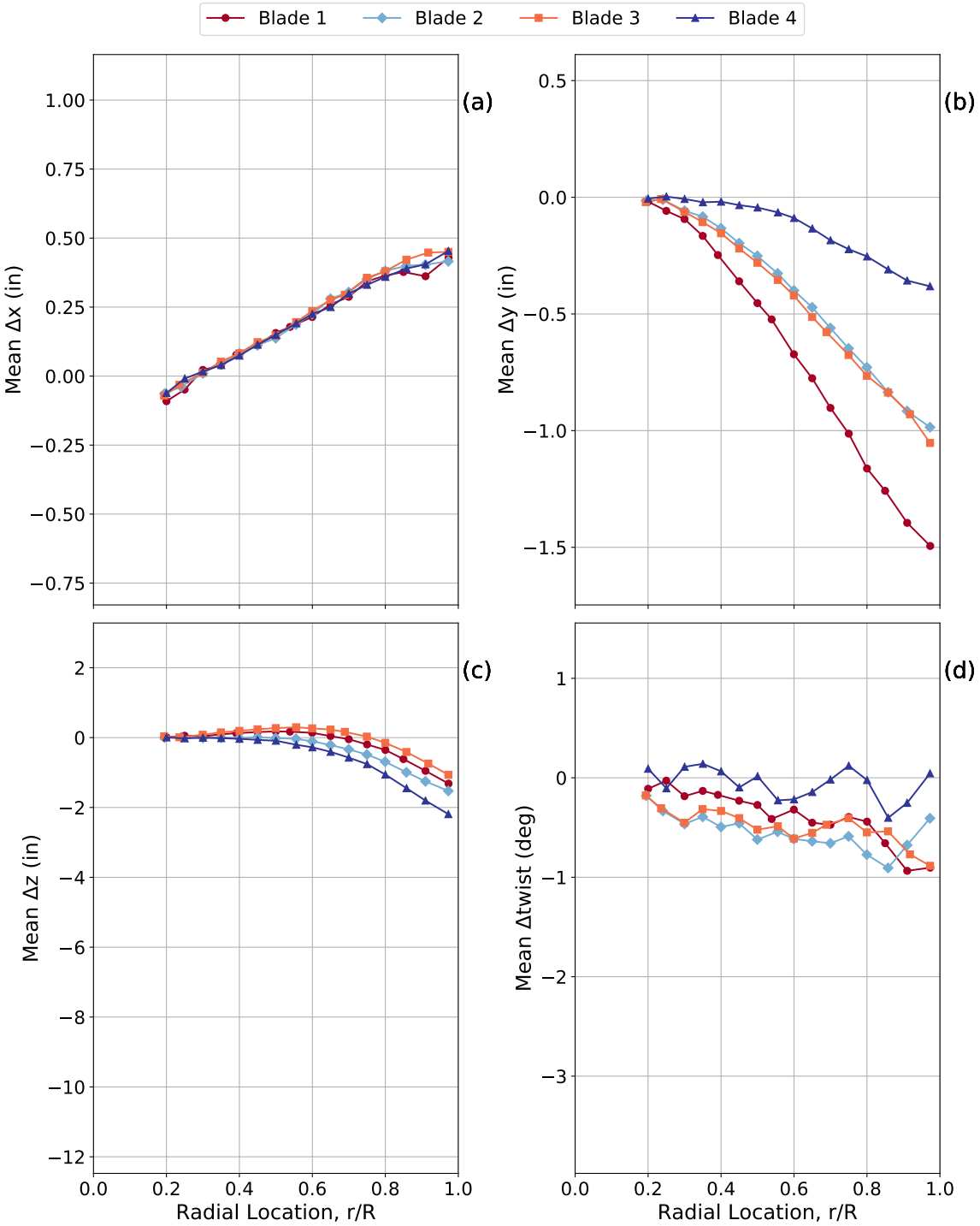


Figure 2.17-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-30. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0910	0.0011	-0.0186	0.0007	0.0102	0.0020	-0.1105	0.0152
1	225	0.2499	-0.0488	0.0009	-0.0583	0.0014	0.0529	0.0041	-0.0292	0.0288
1	225	0.2998	0.0226	0.0008	-0.0934	0.0023	0.0379	0.0073	-0.1849	0.0335
1	225	0.3498	0.0390	0.0009	-0.1656	0.0035	0.0939	0.0122	-0.1319	0.0313
1	225	0.3913	0.0766	0.0012	-0.2475	0.0053	0.1261	0.0176	-0.1716	0.0355
1	225	0.4496	0.1112	0.0013	-0.3601	0.0082	0.1585	0.0258	-0.2308	0.0348
1	225	0.4997	0.1562	0.0015	-0.4536	0.0091	0.1769	0.0283	-0.2733	0.0343
1	225	0.5387	0.1782	0.0018	-0.5233	0.0117	0.1703	0.0361	-0.4144	0.0411
1	225	0.5996	0.2141	0.0016	-0.6728	0.0143	0.1362	0.0420	-0.3197	0.0329
1	225	0.6498	0.2594	0.0019	-0.7755	0.0165	0.0431	0.0480	-0.4517	0.0412
1	225	0.6998	0.2872	0.0018	-0.9027	0.0189	-0.0463	0.0506	-0.4723	0.0444
1	225	0.7500	0.3431	0.0021	-1.0130	0.0213	-0.1961	0.0579	-0.3941	0.0389
1	225	0.8001	0.3644	0.0019	-1.1623	0.0242	-0.3540	0.0656	-0.4408	0.0349
1	225	0.8497	0.3770	0.0018	-1.2579	0.0270	-0.6159	0.0709	-0.6578	0.0381
1	225	0.9102	0.3617	0.0020	-1.3952	0.0303	-0.9524	0.0792	-0.9353	0.0432
1	225	0.9734	0.4290	0.0029	-1.4942	0.0343	-1.3168	0.0880	-0.9036	0.0409
2	225	0.1949	-0.0635	0.0010	-0.0151	0.0006	0.0014	0.0018	-0.1799	0.0204
2	225	0.2405	-0.0385	0.0009	-0.0102	0.0012	0.0077	0.0039	-0.3332	0.0262
2	225	0.2999	0.0101	0.0009	-0.0578	0.0026	-0.0081	0.0084	-0.4636	0.0443
2	225	0.3498	0.0462	0.0012	-0.0831	0.0045	0.0013	0.0120	-0.3923	0.0374
2	225	0.3998	0.0819	0.0012	-0.1329	0.0066	-0.0127	0.0202	-0.4943	0.0399
2	225	0.4496	0.1116	0.0019	-0.1966	0.0081	0.0122	0.0250	-0.4573	0.0608
2	225	0.4995	0.1374	0.0014	-0.2515	0.0109	-0.0138	0.0297	-0.6203	0.0317
2	225	0.5551	0.1867	0.0014	-0.3265	0.0120	-0.0328	0.0367	-0.5426	0.0326
2	225	0.5996	0.2246	0.0012	-0.3994	0.0142	-0.1063	0.0440	-0.6149	0.0363
2	225	0.6497	0.2801	0.0014	-0.4716	0.0165	-0.2130	0.0523	-0.6379	0.0430
2	225	0.6996	0.3042	0.0014	-0.5604	0.0194	-0.3372	0.0596	-0.6580	0.0426
2	225	0.7495	0.3513	0.0016	-0.6476	0.0214	-0.4848	0.0682	-0.5887	0.0407
2	225	0.7996	0.3812	0.0018	-0.7287	0.0234	-0.6914	0.0764	-0.7727	0.0377
2	225	0.8578	0.3995	0.0017	-0.8354	0.0265	-0.9929	0.0864	-0.9064	0.0460
2	225	0.9100	0.4038	0.0017	-0.9162	0.0292	-1.2518	0.0951	-0.6771	0.0456
2	225	0.9727	0.4158	0.0025	-0.9853	0.0322	-1.5266	0.1044	-0.4072	0.0442
3	225	0.1938	-0.0708	0.0014	-0.0208	0.0007	0.0373	0.0017	-0.1770	0.0165
3	225	0.2357	-0.0315	0.0012	-0.0075	0.0019	0.0082	0.0036	-0.3065	0.0282
3	225	0.2995	0.0116	0.0007	-0.0623	0.0039	0.0821	0.0087	-0.4518	0.0399
3	225	0.3493	0.0526	0.0008	-0.1063	0.0058	0.1498	0.0116	-0.3148	0.0425
3	225	0.4000	0.0827	0.0018	-0.1541	0.0099	0.1935	0.0205	-0.3333	0.0454
3	225	0.4497	0.1230	0.0014	-0.2195	0.0114	0.2378	0.0232	-0.4053	0.0362
3	225	0.4997	0.1473	0.0015	-0.2807	0.0144	0.2722	0.0304	-0.5216	0.0470
3	225	0.5556	0.1956	0.0023	-0.3543	0.0170	0.2959	0.0352	-0.4874	0.0455
3	225	0.5995	0.2355	0.0018	-0.4210	0.0192	0.2643	0.0406	-0.6111	0.0448
3	225	0.6498	0.2760	0.0020	-0.5130	0.0223	0.2295	0.0456	-0.5536	0.0417
3	225	0.6890	0.2949	0.0020	-0.5780	0.0246	0.1632	0.0521	-0.4720	0.0536
3	225	0.7495	0.3562	0.0020	-0.6759	0.0279	0.0283	0.0589	-0.4063	0.0448
3	225	0.7998	0.3800	0.0023	-0.7649	0.0316	-0.1497	0.0659	-0.5490	0.0468
3	225	0.8577	0.4217	0.0019	-0.8369	0.0353	-0.4117	0.0725	-0.5385	0.0495
3	225	0.9178	0.4476	0.0022	-0.9299	0.0393	-0.7441	0.0822	-0.7696	0.0555
3	225	0.9729	0.4501	0.0034	-1.0528	0.0434	-1.0643	0.0895	-0.8848	0.0576
4	225	0.2001	-0.0609	0.0010	-0.0058	0.0007	0.0052	0.0016	0.0910	0.0304
4	225	0.2502	-0.0090	0.0008	0.0030	0.0016	-0.0217	0.0067	-0.1059	0.0349
4	225	0.3001	0.0169	0.0012	-0.0073	0.0032	-0.0022	0.0082	0.1105	0.0622
4	225	0.3502	0.0399	0.0008	-0.0215	0.0043	-0.0155	0.0137	0.1405	0.0521
4	225	0.4002	0.0742	0.0010	-0.0189	0.0073	-0.0340	0.0228	0.0646	0.0360
4	225	0.4500	0.1138	0.0014	-0.0338	0.0089	-0.0658	0.0262	-0.0968	0.0434
4	225	0.5001	0.1489	0.0015	-0.0440	0.0110	-0.0895	0.0290	0.0151	0.0649
4	225	0.5560	0.1912	0.0012	-0.0649	0.0140	-0.2052	0.0386	-0.2268	0.0329
4	225	0.6001	0.2251	0.0013	-0.0889	0.0164	-0.2780	0.0437	-0.2170	0.0421
4	225	0.6501	0.2499	0.0018	-0.1340	0.0193	-0.4079	0.0476	-0.1432	0.0442
4	225	0.6999	0.2990	0.0017	-0.1844	0.0224	-0.5736	0.0569	-0.0178	0.0443
4	225	0.7500	0.3307	0.0017	-0.2226	0.0256	-0.7590	0.0607	0.1213	0.0445
4	225	0.8002	0.3594	0.0015	-0.2537	0.0294	-1.0588	0.0678	-0.0230	0.0484
4	225	0.8582	0.3896	0.0016	-0.3094	0.0337	-1.4490	0.0767	-0.4021	0.0450
4	225	0.9101	0.4049	0.0018	-0.3570	0.0375	-1.8028	0.0834	-0.2523	0.0438
4	225	0.9728	0.4531	0.0025	-0.3815	0.0421	-2.1910	0.0930	0.0446	0.0455

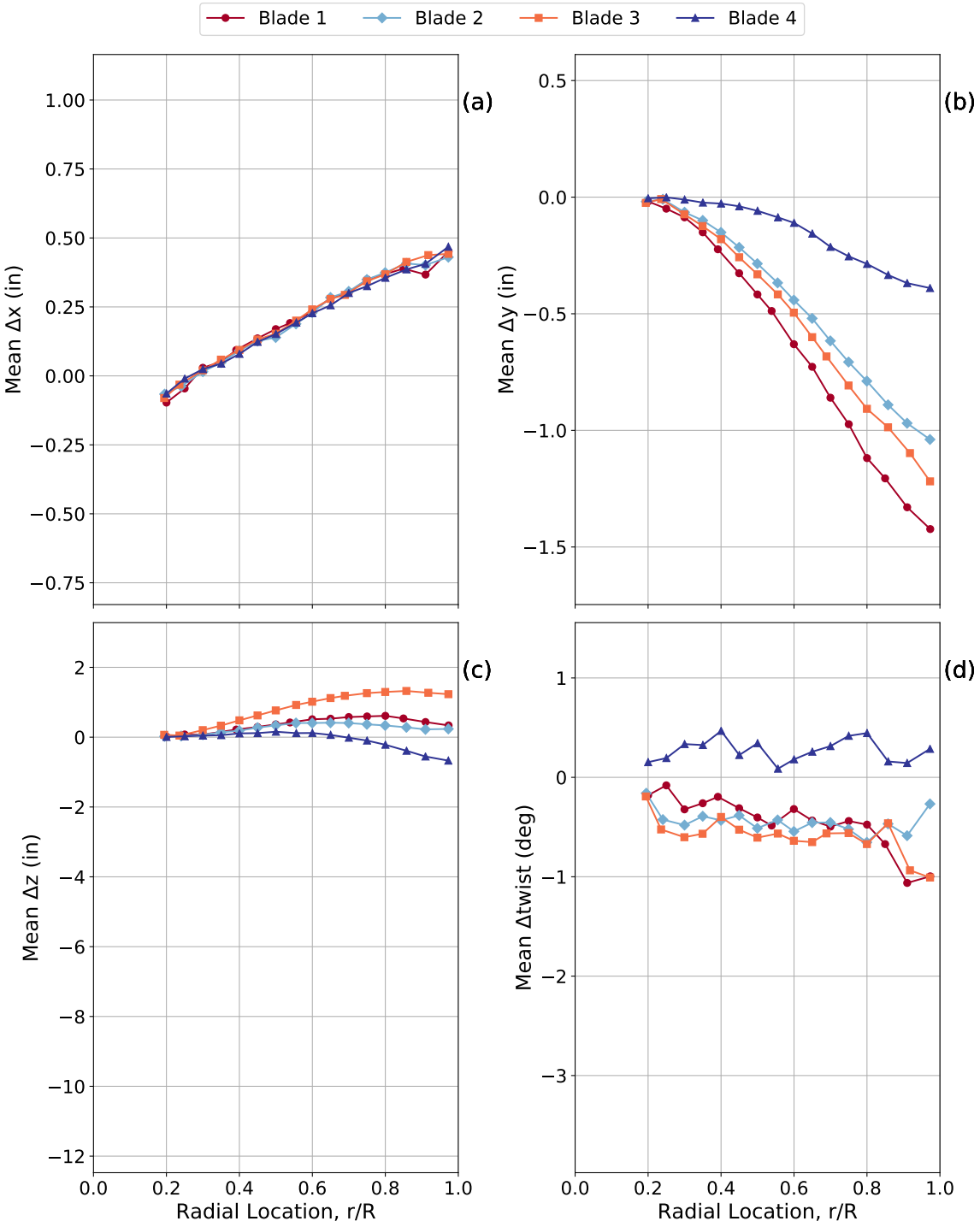


Figure 2.17-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-31. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0968	0.0014	-0.0183	0.0008	0.0176	0.0025	-0.1802	0.0188
1	240.12	0.2499	-0.0457	0.0012	-0.0494	0.0021	0.0771	0.0049	-0.0807	0.0360
1	240.12	0.2998	0.0294	0.0008	-0.0865	0.0040	0.0753	0.0098	-0.3220	0.0432
1	240.12	0.3498	0.0510	0.0009	-0.1506	0.0060	0.1520	0.0143	-0.2605	0.0436
1	240.12	0.3913	0.0936	0.0019	-0.2235	0.0096	0.2186	0.0220	-0.1959	0.0436
1	240.12	0.4496	0.1359	0.0013	-0.3263	0.0099	0.2926	0.0290	-0.3107	0.0414
1	240.12	0.4997	0.1695	0.0012	-0.4172	0.0129	0.3662	0.0355	-0.4037	0.0388
1	240.12	0.5387	0.1916	0.0011	-0.4881	0.0149	0.4210	0.0419	-0.4850	0.0418
1	240.12	0.5996	0.2321	0.0020	-0.6305	0.0185	0.5131	0.0511	-0.3189	0.0452
1	240.12	0.6498	0.2820	0.0018	-0.7274	0.0218	0.5292	0.0596	-0.4342	0.0385
1	240.12	0.6998	0.3018	0.0019	-0.8599	0.0249	0.5765	0.0675	-0.4957	0.0376
1	240.12	0.7500	0.3499	0.0021	-0.9735	0.0277	0.5939	0.0758	-0.4395	0.0414
1	240.12	0.8001	0.3689	0.0020	-1.1189	0.0303	0.6115	0.0838	-0.4755	0.0404
1	240.12	0.8497	0.3889	0.0020	-1.2057	0.0333	0.5364	0.0921	-0.6714	0.0382
1	240.12	0.9102	0.3672	0.0020	-1.3297	0.0371	0.4339	0.1026	-1.0622	0.0417
1	240.12	0.9734	0.4510	0.0029	-1.4231	0.0412	0.3373	0.1139	-0.9960	0.0428
2	240.12	0.1949	-0.0662	0.0010	-0.0191	0.0006	0.0237	0.0020	-0.1598	0.0190
2	240.12	0.2405	-0.0374	0.0009	-0.0092	0.0015	0.0340	0.0034	-0.4250	0.0305
2	240.12	0.2999	0.0151	0.0011	-0.0646	0.0032	0.0694	0.0071	-0.4806	0.0439
2	240.12	0.3498	0.0484	0.0010	-0.0998	0.0050	0.1379	0.0125	-0.3916	0.0408
2	240.12	0.3998	0.0911	0.0014	-0.1510	0.0081	0.1872	0.0186	-0.4326	0.0420
2	240.12	0.4496	0.1262	0.0012	-0.2153	0.0087	0.2729	0.0211	-0.3829	0.0374
2	240.12	0.4995	0.1391	0.0013	-0.2852	0.0101	0.3383	0.0259	-0.5123	0.0452
2	240.12	0.5551	0.1885	0.0014	-0.3675	0.0125	0.4058	0.0305	-0.4287	0.0426
2	240.12	0.5996	0.2292	0.0014	-0.4413	0.0149	0.4059	0.0358	-0.5440	0.0399
2	240.12	0.6497	0.2841	0.0015	-0.5198	0.0171	0.4136	0.0416	-0.4555	0.0516
2	240.12	0.6996	0.3061	0.0016	-0.6162	0.0188	0.4053	0.0452	-0.4544	0.0434
2	240.12	0.7495	0.3490	0.0016	-0.7069	0.0212	0.3682	0.0504	-0.5212	0.0440
2	240.12	0.7996	0.3744	0.0015	-0.7887	0.0240	0.3358	0.0568	-0.6537	0.0414
2	240.12	0.8578	0.4074	0.0020	-0.8905	0.0273	0.2817	0.0638	-0.4678	0.0408
2	240.12	0.9100	0.4016	0.0017	-0.9693	0.0303	0.2235	0.0691	-0.5869	0.0425
2	240.12	0.9727	0.4303	0.0026	-1.0390	0.0335	0.2366	0.0759	-0.2672	0.0402
3	240.12	0.1938	-0.0803	0.0015	-0.0245	0.0008	0.0674	0.0023	-0.1922	0.0172
3	240.12	0.2357	-0.0318	0.0010	-0.0083	0.0019	0.0468	0.0027	-0.5243	0.0327
3	240.12	0.2995	0.0201	0.0009	-0.0735	0.0035	0.2016	0.0067	-0.6024	0.0418
3	240.12	0.3493	0.0589	0.0014	-0.1240	0.0062	0.3303	0.0107	-0.5674	0.0406
3	240.12	0.4000	0.0940	0.0015	-0.1804	0.0098	0.4824	0.0159	-0.3987	0.0404
3	240.12	0.4497	0.1319	0.0017	-0.2578	0.0124	0.6230	0.0192	-0.5267	0.0435
3	240.12	0.4997	0.1528	0.0013	-0.3309	0.0158	0.7665	0.0237	-0.6066	0.0424
3	240.12	0.5556	0.2004	0.0024	-0.4169	0.0182	0.9226	0.0337	-0.5657	0.0500
3	240.12	0.5995	0.2410	0.0028	-0.4953	0.0210	1.0159	0.0370	-0.6384	0.0422
3	240.12	0.6498	0.2790	0.0022	-0.6003	0.0245	1.1198	0.0442	-0.6515	0.0478
3	240.12	0.6890	0.2935	0.0021	-0.6830	0.0272	1.1849	0.0495	-0.5641	0.0447
3	240.12	0.7495	0.3429	0.0024	-0.8075	0.0319	1.2614	0.0566	-0.5607	0.0470
3	240.12	0.7998	0.3684	0.0026	-0.9075	0.0358	1.2952	0.0630	-0.6712	0.0430
3	240.12	0.8577	0.4131	0.0025	-0.9868	0.0401	1.3238	0.0692	-0.4623	0.0406
3	240.12	0.9178	0.4378	0.0026	-1.0974	0.0451	1.2722	0.0762	-0.9354	0.0453
3	240.12	0.9729	0.4423	0.0035	-1.2186	0.0498	1.2312	0.0829	-1.0078	0.0470
4	240.12	0.2001	-0.0640	0.0009	-0.0049	0.0006	0.0066	0.0019	0.1526	0.0180
4	240.12	0.2502	-0.0099	0.0008	-0.0010	0.0014	0.0247	0.0048	0.1940	0.0286
4	240.12	0.3001	0.0246	0.0008	-0.0105	0.0031	0.0444	0.0103	0.3346	0.0385
4	240.12	0.3502	0.0442	0.0011	-0.0234	0.0041	0.0574	0.0129	0.3249	0.0392
4	240.12	0.4002	0.0797	0.0020	-0.0276	0.0071	0.1083	0.0237	0.4673	0.0492
4	240.12	0.4500	0.1232	0.0021	-0.0393	0.0068	0.1164	0.0278	0.2243	0.0392
4	240.12	0.5001	0.1518	0.0016	-0.0587	0.0093	0.1557	0.0361	0.3433	0.0453
4	240.12	0.5560	0.1931	0.0016	-0.0868	0.0116	0.1161	0.0450	0.0867	0.0557
4	240.12	0.6001	0.2271	0.0018	-0.1103	0.0135	0.1200	0.0551	0.1810	0.0483
4	240.12	0.6501	0.2558	0.0015	-0.1564	0.0165	0.0646	0.0625	0.2577	0.0427
4	240.12	0.6999	0.3004	0.0017	-0.2133	0.0188	-0.0158	0.0746	0.3140	0.0489
4	240.12	0.7500	0.3253	0.0016	-0.2539	0.0212	-0.0972	0.0853	0.4176	0.0510
4	240.12	0.8002	0.3555	0.0016	-0.2864	0.0245	-0.2175	0.0953	0.4452	0.0438
4	240.12	0.8582	0.3860	0.0017	-0.3339	0.0281	-0.3897	0.1064	0.1595	0.0448
4	240.12	0.9101	0.4061	0.0015	-0.3687	0.0313	-0.5535	0.1151	0.1439	0.0467
4	240.12	0.9728	0.4680	0.0023	-0.3898	0.0352	-0.6719	0.1255	0.2863	0.0500

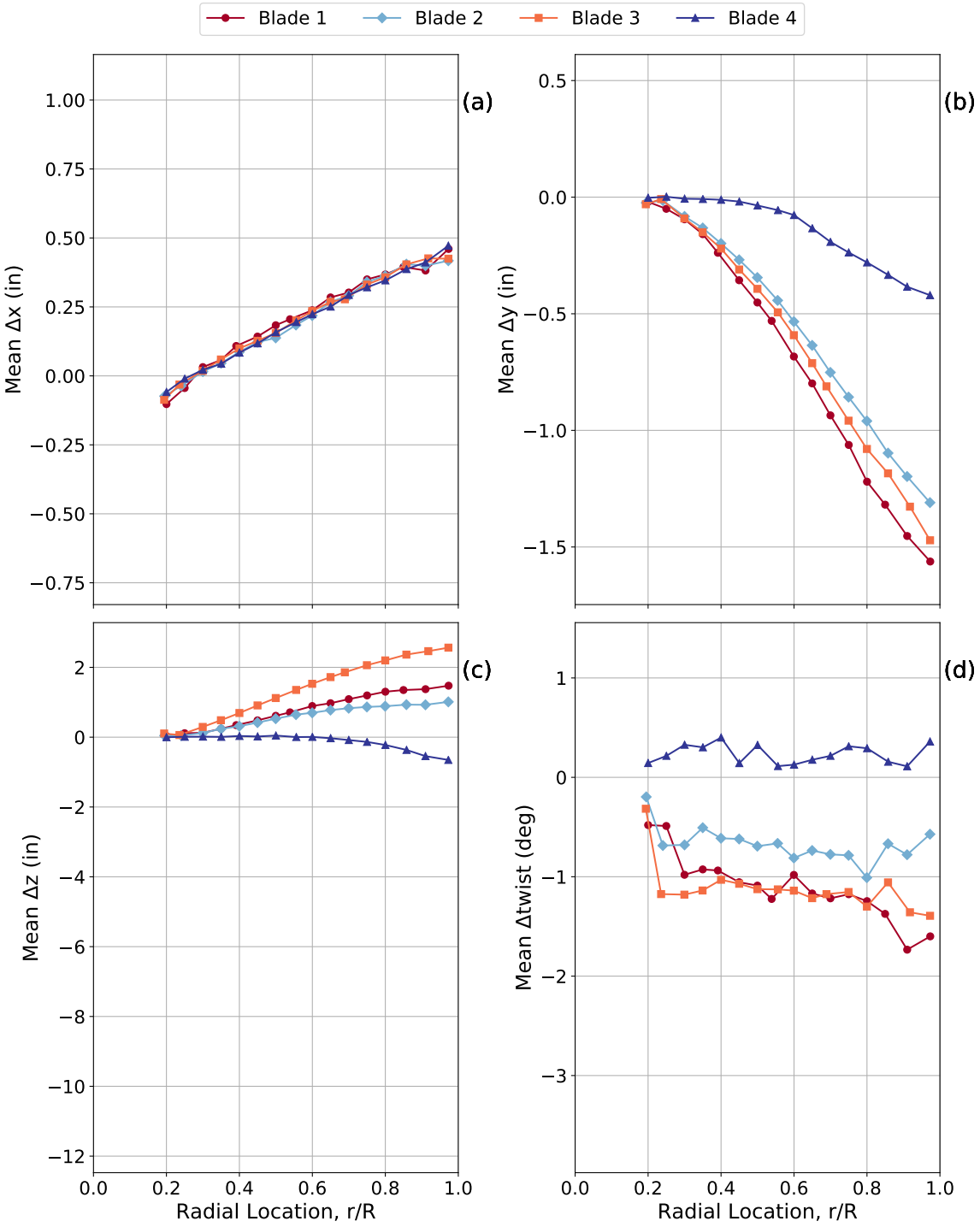


Figure 2.17-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.1023	0.0018	-0.0201	0.0009	0.0315	0.0037	-0.4799	0.0224
1	254.88	0.2499	-0.0441	0.0012	-0.0500	0.0014	0.1139	0.0053	-0.4893	0.0508
1	254.88	0.2998	0.0318	0.0008	-0.0949	0.0033	0.1248	0.0119	-0.9803	0.0546
1	254.88	0.3498	0.0579	0.0011	-0.1587	0.0051	0.2422	0.0190	-0.9262	0.0550
1	254.88	0.3913	0.1084	0.0016	-0.2385	0.0075	0.3452	0.0264	-0.9371	0.0553
1	254.88	0.4496	0.1425	0.0013	-0.3563	0.0093	0.4814	0.0355	-1.0550	0.0616
1	254.88	0.4997	0.1836	0.0014	-0.4518	0.0116	0.6122	0.0438	-1.0891	0.0528
1	254.88	0.5387	0.2053	0.0013	-0.5305	0.0134	0.7109	0.0503	-1.2234	0.0541
1	254.88	0.5996	0.2377	0.0017	-0.6834	0.0159	0.8921	0.0607	-0.9816	0.0556
1	254.88	0.6498	0.2844	0.0018	-0.7986	0.0188	0.9727	0.0688	-1.1683	0.0543
1	254.88	0.6998	0.3022	0.0020	-0.9356	0.0215	1.0891	0.0773	-1.2172	0.0562
1	254.88	0.7500	0.3498	0.0019	-1.0624	0.0238	1.1955	0.0853	-1.1760	0.0577
1	254.88	0.8001	0.3678	0.0020	-1.2200	0.0267	1.3023	0.0936	-1.2453	0.0566
1	254.88	0.8497	0.3947	0.0022	-1.3184	0.0298	1.3503	0.1014	-1.3736	0.0590
1	254.88	0.9102	0.3819	0.0025	-1.4529	0.0335	1.3752	0.1111	-1.7337	0.0560
1	254.88	0.9734	0.4601	0.0034	-1.5623	0.0376	1.4746	0.1210	-1.5997	0.0589
2	254.88	0.1949	-0.0733	0.0015	-0.0240	0.0008	0.0446	0.0029	-0.1966	0.0173
2	254.88	0.2405	-0.0362	0.0010	-0.0144	0.0021	0.0476	0.0052	-0.6859	0.0368
2	254.88	0.2999	0.0153	0.0012	-0.0826	0.0044	0.1193	0.0107	-0.6795	0.0423
2	254.88	0.3498	0.0459	0.0015	-0.1321	0.0060	0.2375	0.0173	-0.5069	0.0382
2	254.88	0.3998	0.0867	0.0022	-0.1985	0.0108	0.3141	0.0270	-0.6128	0.0394
2	254.88	0.4496	0.1222	0.0016	-0.2686	0.0106	0.4174	0.0334	-0.6202	0.0380
2	254.88	0.4995	0.1377	0.0024	-0.3447	0.0143	0.5292	0.0452	-0.6925	0.0405
2	254.88	0.5551	0.1844	0.0018	-0.4427	0.0170	0.6461	0.0574	-0.6644	0.0341
2	254.88	0.5996	0.2185	0.0018	-0.5337	0.0192	0.6980	0.0671	-0.8114	0.0353
2	254.88	0.6497	0.2683	0.0019	-0.6355	0.0222	0.7761	0.0780	-0.7361	0.0374
2	254.88	0.6996	0.2906	0.0023	-0.7514	0.0250	0.8301	0.0891	-0.7751	0.0400
2	254.88	0.7495	0.3403	0.0022	-0.8572	0.0282	0.8662	0.1006	-0.7844	0.0365
2	254.88	0.7996	0.3629	0.0023	-0.9598	0.0317	0.8867	0.1111	-1.0092	0.0379
2	254.88	0.8578	0.4051	0.0024	-1.0975	0.0355	0.9318	0.1246	-0.6678	0.0391
2	254.88	0.9100	0.3993	0.0025	-1.1977	0.0392	0.9277	0.1373	-0.7783	0.0394
2	254.88	0.9727	0.4175	0.0036	-1.3097	0.0437	1.0115	0.1521	-0.5721	0.0385
3	254.88	0.1938	-0.0869	0.0023	-0.0304	0.0009	0.1056	0.0037	-0.3160	0.0185
3	254.88	0.2357	-0.0315	0.0011	-0.0082	0.0013	0.0617	0.0040	-1.1745	0.0480
3	254.88	0.2995	0.0182	0.0010	-0.0912	0.0031	0.2937	0.0107	-1.1800	0.0520
3	254.88	0.3493	0.0594	0.0011	-0.1504	0.0057	0.4850	0.0176	-1.1383	0.0551
3	254.88	0.4000	0.0997	0.0019	-0.2205	0.0086	0.6924	0.0257	-1.0305	0.0526
3	254.88	0.4497	0.1271	0.0014	-0.3102	0.0106	0.9096	0.0333	-1.0707	0.0555
3	254.88	0.4997	0.1555	0.0016	-0.3932	0.0133	1.1208	0.0416	-1.1251	0.0599
3	254.88	0.5556	0.2011	0.0019	-0.4938	0.0169	1.3529	0.0505	-1.1271	0.0636
3	254.88	0.5995	0.2350	0.0026	-0.5919	0.0197	1.5297	0.0576	-1.1397	0.0592
3	254.88	0.6498	0.2687	0.0025	-0.7119	0.0234	1.7202	0.0654	-1.2155	0.0600
3	254.88	0.6890	0.2776	0.0026	-0.8113	0.0262	1.8581	0.0711	-1.1750	0.0577
3	254.88	0.7495	0.3310	0.0028	-0.9584	0.0312	2.0616	0.0807	-1.1535	0.0588
3	254.88	0.7998	0.3575	0.0030	-1.0797	0.0355	2.1985	0.0896	-1.3001	0.0595
3	254.88	0.8577	0.4042	0.0032	-1.1842	0.0406	2.3651	0.1009	-1.0567	0.0550
3	254.88	0.9178	0.4259	0.0033	-1.3271	0.0462	2.4640	0.1127	-1.3576	0.0569
3	254.88	0.9729	0.4248	0.0049	-1.4712	0.0511	2.5647	0.1253	-1.3928	0.0582
4	254.88	0.2001	-0.0585	0.0010	-0.0027	0.0005	-0.0014	0.0017	0.1438	0.0128
4	254.88	0.2502	-0.0099	0.0010	0.0018	0.0013	0.0115	0.0033	0.2161	0.0264
4	254.88	0.3001	0.0220	0.0009	-0.0068	0.0021	0.0152	0.0066	0.3276	0.0298
4	254.88	0.3502	0.0440	0.0010	-0.0080	0.0031	0.0087	0.0102	0.3018	0.0327
4	254.88	0.4002	0.0842	0.0013	-0.0113	0.0053	0.0340	0.0161	0.4000	0.0351
4	254.88	0.4500	0.1179	0.0015	-0.0189	0.0064	0.0197	0.0207	0.1429	0.0359
4	254.88	0.5001	0.1579	0.0014	-0.0358	0.0078	0.0458	0.0259	0.3252	0.0336
4	254.88	0.5560	0.1951	0.0016	-0.0558	0.0098	0.0039	0.0323	0.1128	0.0516
4	254.88	0.6001	0.2235	0.0015	-0.0768	0.0113	0.0071	0.0359	0.1275	0.0501
4	254.88	0.6501	0.2510	0.0014	-0.1335	0.0129	-0.0301	0.0422	0.1768	0.0423
4	254.88	0.6999	0.2933	0.0016	-0.1919	0.0150	-0.0823	0.0465	0.2162	0.0407
4	254.88	0.7500	0.3210	0.0014	-0.2374	0.0169	-0.1359	0.0512	0.3124	0.0394
4	254.88	0.8002	0.3461	0.0016	-0.2800	0.0195	-0.2238	0.0554	0.2926	0.0371
4	254.88	0.8582	0.3871	0.0016	-0.3335	0.0222	-0.3657	0.0605	0.1567	0.0411
4	254.88	0.9101	0.4111	0.0017	-0.3843	0.0247	-0.5430	0.0658	0.1108	0.0398
4	254.88	0.9728	0.4718	0.0023	-0.4204	0.0282	-0.6520	0.0724	0.3602	0.0430

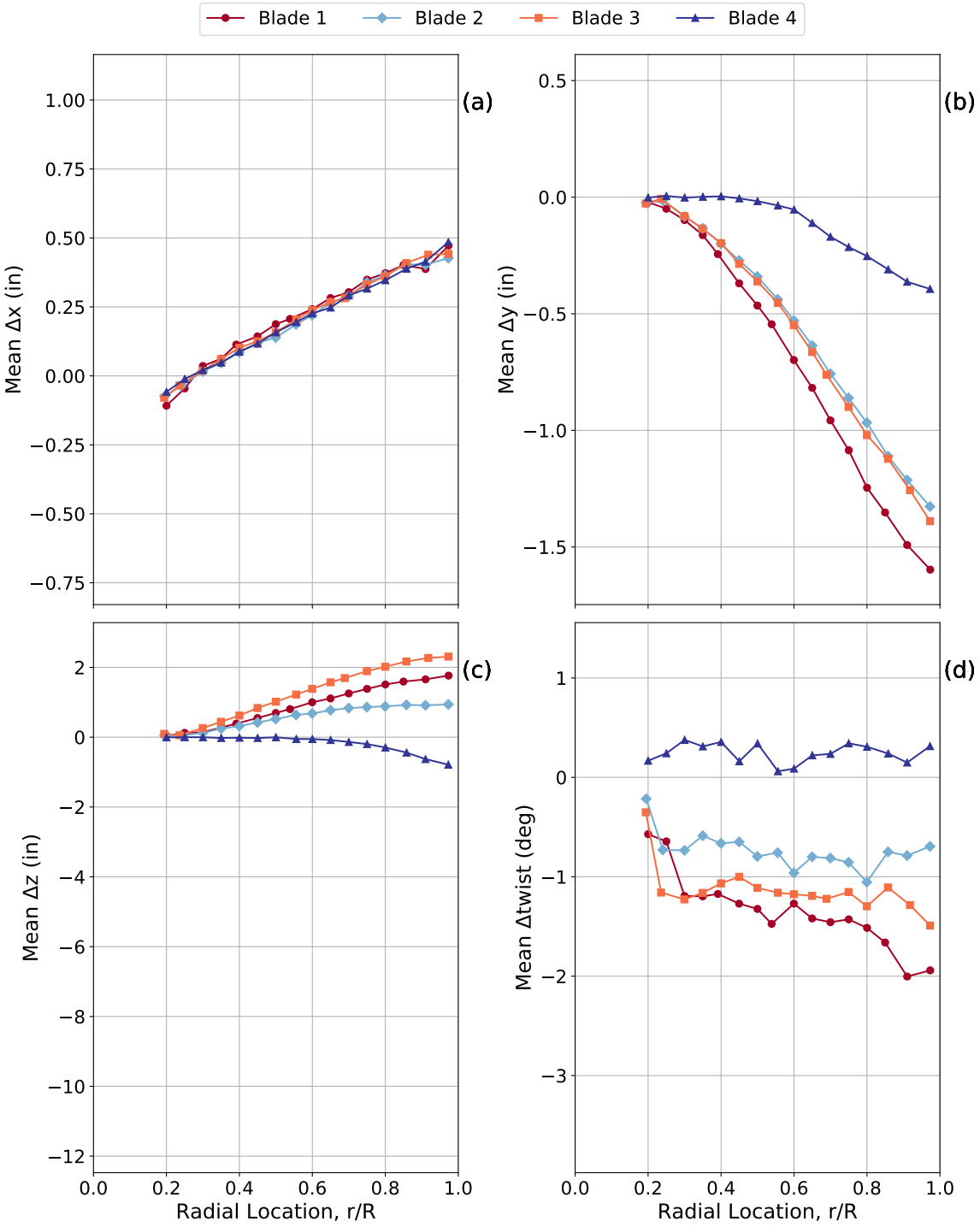


Figure 2.17-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-33. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.1080	0.0019	-0.0211	0.0010	0.0378	0.0043	-0.5721	0.0259
1	260.16	0.2499	-0.0455	0.0013	-0.0498	0.0015	0.1242	0.0060	-0.6446	0.0622
1	260.16	0.2998	0.0358	0.0010	-0.0981	0.0035	0.1439	0.0133	-1.1929	0.0647
1	260.16	0.3498	0.0623	0.0012	-0.1629	0.0062	0.2733	0.0213	-1.1976	0.0626
1	260.16	0.3913	0.1134	0.0013	-0.2442	0.0084	0.3878	0.0292	-1.1730	0.0622
1	260.16	0.4496	0.1432	0.0018	-0.3695	0.0116	0.5496	0.0385	-1.2707	0.0621
1	260.16	0.4997	0.1876	0.0018	-0.4647	0.0144	0.6934	0.0472	-1.3237	0.0614
1	260.16	0.5387	0.2065	0.0017	-0.5450	0.0166	0.8038	0.0540	-1.4744	0.0607
1	260.16	0.5996	0.2419	0.0022	-0.6984	0.0206	0.9996	0.0638	-1.2702	0.0667
1	260.16	0.6498	0.2821	0.0021	-0.8176	0.0241	1.1096	0.0721	-1.4195	0.0621
1	260.16	0.6998	0.3036	0.0025	-0.9572	0.0279	1.2527	0.0803	-1.4572	0.0640
1	260.16	0.7500	0.3487	0.0025	-1.0852	0.0319	1.3829	0.0881	-1.4290	0.0658
1	260.16	0.8001	0.3723	0.0028	-1.2459	0.0362	1.5098	0.0968	-1.5144	0.0657
1	260.16	0.8497	0.4017	0.0028	-1.3521	0.0404	1.5930	0.1052	-1.6618	0.0671
1	260.16	0.9102	0.3874	0.0029	-1.4915	0.0455	1.6564	0.1156	-2.0039	0.0685
1	260.16	0.9734	0.4725	0.0042	-1.5971	0.0511	1.7634	0.1281	-1.9419	0.0667
2	260.16	0.1949	-0.0748	0.0016	-0.0244	0.0007	0.0467	0.0027	-0.2162	0.0241
2	260.16	0.2405	-0.0365	0.0010	-0.0142	0.0014	0.0475	0.0052	-0.7298	0.0442
2	260.16	0.2999	0.0159	0.0010	-0.0831	0.0027	0.1222	0.0096	-0.7345	0.0568
2	260.16	0.3498	0.0470	0.0012	-0.1335	0.0049	0.2432	0.0169	-0.5872	0.0494
2	260.16	0.3998	0.0852	0.0018	-0.1998	0.0074	0.3195	0.0251	-0.6639	0.0524
2	260.16	0.4496	0.1199	0.0019	-0.2714	0.0094	0.4219	0.0336	-0.6492	0.0485
2	260.16	0.4995	0.1386	0.0019	-0.3404	0.0119	0.5185	0.0430	-0.7959	0.0463
2	260.16	0.5551	0.1866	0.0021	-0.4381	0.0146	0.6377	0.0548	-0.7577	0.0456
2	260.16	0.5996	0.2200	0.0021	-0.5292	0.0169	0.6799	0.0648	-0.9608	0.0461
2	260.16	0.6497	0.2650	0.0021	-0.6362	0.0197	0.7731	0.0757	-0.7991	0.0462
2	260.16	0.6996	0.2892	0.0021	-0.7575	0.0226	0.8319	0.0876	-0.8127	0.0487
2	260.16	0.7495	0.3385	0.0022	-0.8608	0.0258	0.8618	0.0990	-0.8549	0.0498
2	260.16	0.7996	0.3644	0.0022	-0.9669	0.0291	0.8832	0.1104	-1.0541	0.0489
2	260.16	0.8578	0.4043	0.0023	-1.1108	0.0330	0.9242	0.1230	-0.7496	0.0504
2	260.16	0.9100	0.4027	0.0024	-1.2128	0.0365	0.9129	0.1339	-0.7874	0.0491
2	260.16	0.9727	0.4268	0.0035	-1.3266	0.0409	0.9376	0.1475	-0.6951	0.0540
3	260.16	0.1938	-0.0792	0.0026	-0.0274	0.0011	0.0958	0.0045	-0.3517	0.0267
3	260.16	0.2357	-0.0347	0.0012	-0.0069	0.0010	0.0560	0.0043	-1.1589	0.0707
3	260.16	0.2995	0.0189	0.0010	-0.0813	0.0032	0.2594	0.0127	-1.2281	0.0785
3	260.16	0.3493	0.0604	0.0009	-0.1352	0.0056	0.4412	0.0207	-1.1625	0.0799
3	260.16	0.4000	0.1022	0.0011	-0.1973	0.0081	0.6196	0.0300	-1.0669	0.0764
3	260.16	0.4497	0.1254	0.0014	-0.2861	0.0106	0.8349	0.0370	-1.0008	0.0815
3	260.16	0.4997	0.1577	0.0016	-0.3616	0.0131	1.0157	0.0455	-1.1121	0.0775
3	260.16	0.5556	0.2044	0.0017	-0.4535	0.0164	1.2220	0.0542	-1.1607	0.0769
3	260.16	0.5995	0.2381	0.0019	-0.5489	0.0189	1.3839	0.0615	-1.1765	0.0769
3	260.16	0.6498	0.2673	0.0020	-0.6642	0.0217	1.5713	0.0685	-1.1922	0.0800
3	260.16	0.6890	0.2817	0.0023	-0.7613	0.0244	1.6929	0.0752	-1.2219	0.0781
3	260.16	0.7495	0.3315	0.0026	-0.8995	0.0284	1.8906	0.0852	-1.1543	0.0758
3	260.16	0.7998	0.3607	0.0027	-1.0201	0.0320	2.0171	0.0931	-1.2972	0.0795
3	260.16	0.8577	0.4091	0.0027	-1.1217	0.0361	2.1685	0.1029	-1.1080	0.0818
3	260.16	0.9178	0.4392	0.0028	-1.2562	0.0406	2.2687	0.1132	-1.2851	0.0809
3	260.16	0.9729	0.4424	0.0040	-1.3893	0.0449	2.3079	0.1233	-1.4909	0.0812
4	260.16	0.2001	-0.0580	0.0010	-0.0017	0.0006	-0.0053	0.0021	0.1675	0.0192
4	260.16	0.2502	-0.0110	0.0009	0.0051	0.0014	-0.0012	0.0045	0.2419	0.0369
4	260.16	0.3001	0.0212	0.0008	-0.0019	0.0027	-0.0020	0.0078	0.3767	0.0443
4	260.16	0.3502	0.0481	0.0009	0.0015	0.0040	-0.0235	0.0125	0.3110	0.0421
4	260.16	0.4002	0.0879	0.0013	0.0035	0.0067	-0.0157	0.0197	0.3562	0.0388
4	260.16	0.4500	0.1171	0.0015	-0.0054	0.0085	-0.0238	0.0266	0.1611	0.0430
4	260.16	0.5001	0.1579	0.0014	-0.0173	0.0110	-0.0036	0.0345	0.3404	0.0389
4	260.16	0.5560	0.1949	0.0017	-0.0356	0.0134	-0.0523	0.0427	0.0609	0.0463
4	260.16	0.6001	0.2265	0.0017	-0.0533	0.0151	-0.0534	0.0503	0.0875	0.0430
4	260.16	0.6501	0.2475	0.0017	-0.1106	0.0180	-0.0810	0.0613	0.2213	0.0434
4	260.16	0.6999	0.2919	0.0018	-0.1699	0.0212	-0.1372	0.0715	0.2357	0.0401
4	260.16	0.7500	0.3163	0.0018	-0.2141	0.0238	-0.1982	0.0811	0.3423	0.0424
4	260.16	0.8002	0.3467	0.0018	-0.2530	0.0269	-0.2965	0.0917	0.3075	0.0436
4	260.16	0.8582	0.3885	0.0020	-0.3100	0.0307	-0.4414	0.1057	0.2396	0.0431
4	260.16	0.9101	0.4141	0.0021	-0.3627	0.0339	-0.6274	0.1186	0.1485	0.0460
4	260.16	0.9728	0.4849	0.0029	-0.3937	0.0379	-0.7878	0.1351	0.3140	0.0432

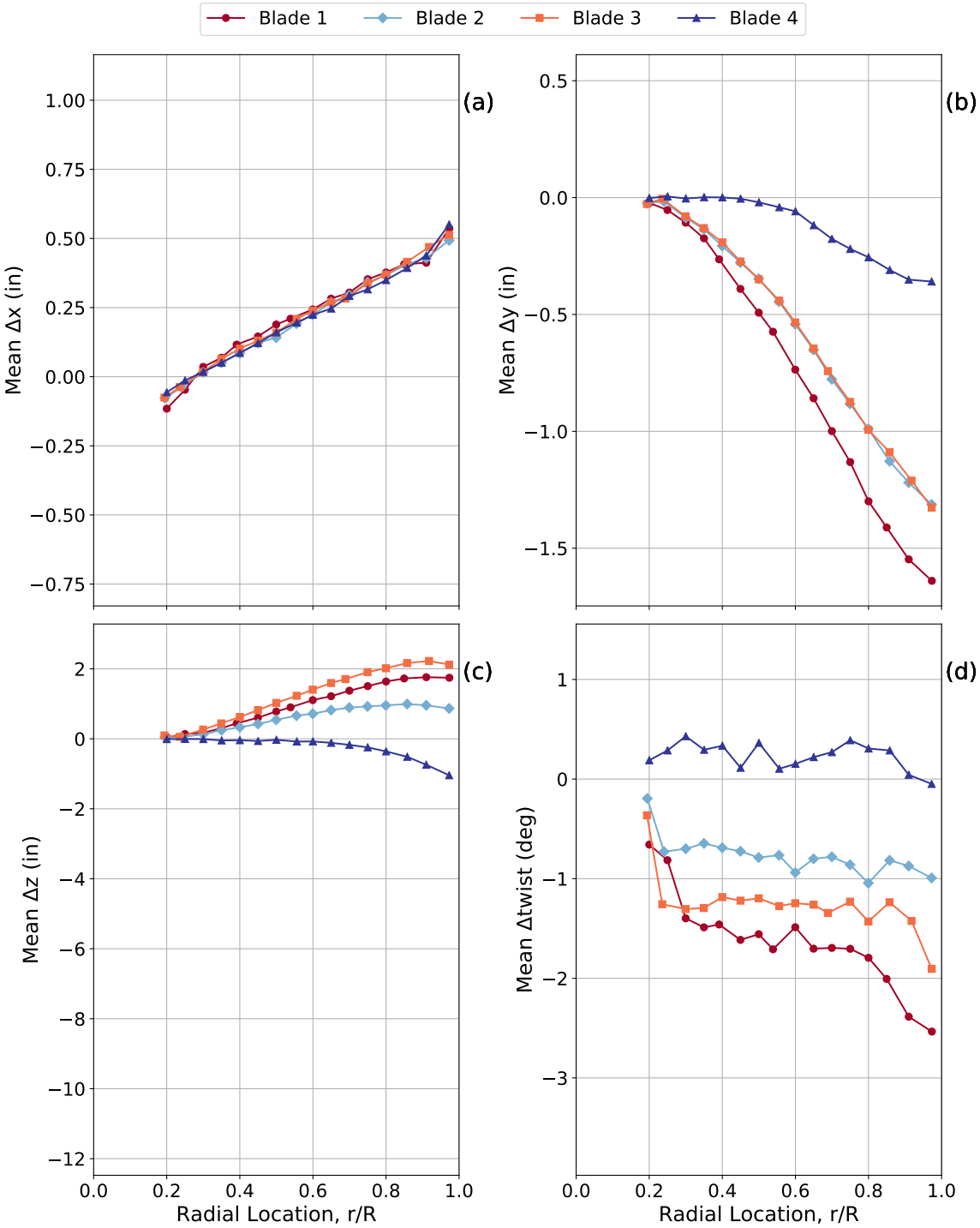


Figure 2.17-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-34. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	-0.1157	0.0028	-0.0227	0.0012	0.0456	0.0059	-0.6576	0.0367
1	265.08	0.2499	-0.0473	0.0015	-0.0533	0.0014	0.1367	0.0071	-0.8146	0.0861
1	265.08	0.2998	0.0355	0.0012	-0.1073	0.0039	0.1710	0.0178	-1.3982	0.0906
1	265.08	0.3498	0.0687	0.0014	-0.1741	0.0063	0.3048	0.0278	-1.4885	0.0929
1	265.08	0.3913	0.1161	0.0017	-0.2642	0.0087	0.4392	0.0379	-1.4598	0.0951
1	265.08	0.4496	0.1455	0.0019	-0.3906	0.0119	0.6052	0.0509	-1.6145	0.0927
1	265.08	0.4997	0.1889	0.0021	-0.4923	0.0147	0.7811	0.0638	-1.5570	0.0890
1	265.08	0.5387	0.2098	0.0024	-0.5739	0.0171	0.8994	0.0748	-1.7088	0.0872
1	265.08	0.5996	0.2434	0.0025	-0.7362	0.0210	1.1064	0.0911	-1.4874	0.0891
1	265.08	0.6498	0.2824	0.0026	-0.8586	0.0243	1.2176	0.1059	-1.7027	0.0900
1	265.08	0.6998	0.3045	0.0029	-0.9992	0.0278	1.3753	0.1211	-1.6949	0.0894
1	265.08	0.7500	0.3527	0.0029	-1.1315	0.0315	1.5053	0.1372	-1.7037	0.0896
1	265.08	0.8001	0.3770	0.0032	-1.2995	0.0355	1.6374	0.1539	-1.7942	0.0882
1	265.08	0.8497	0.4069	0.0033	-1.4113	0.0394	1.7235	0.1700	-2.0063	0.0892
1	265.08	0.9102	0.4121	0.0033	-1.5478	0.0442	1.7610	0.1902	-2.3854	0.0889
1	265.08	0.9734	0.5367	0.0047	-1.6397	0.0497	1.7451	0.2107	-2.5349	0.0950
2	265.08	0.1949	-0.0774	0.0019	-0.0242	0.0007	0.0472	0.0028	-0.1950	0.0191
2	265.08	0.2405	-0.0378	0.0013	-0.0161	0.0011	0.0498	0.0039	-0.7290	0.0459
2	265.08	0.2999	0.0159	0.0012	-0.0864	0.0023	0.1296	0.0093	-0.6999	0.0501
2	265.08	0.3498	0.0503	0.0012	-0.1357	0.0036	0.2444	0.0147	-0.6458	0.0487
2	265.08	0.3998	0.0850	0.0015	-0.2069	0.0056	0.3300	0.0224	-0.6895	0.0469
2	265.08	0.4496	0.1225	0.0015	-0.2778	0.0069	0.4239	0.0271	-0.7248	0.0438
2	265.08	0.4995	0.1412	0.0014	-0.3473	0.0084	0.5419	0.0331	-0.7875	0.0471
2	265.08	0.5551	0.1920	0.0016	-0.4453	0.0106	0.6619	0.0397	-0.7644	0.0464
2	265.08	0.5996	0.2239	0.0017	-0.5417	0.0123	0.7167	0.0451	-0.9386	0.0459
2	265.08	0.6497	0.2689	0.0017	-0.6515	0.0144	0.8204	0.0517	-0.8005	0.0460
2	265.08	0.6996	0.2946	0.0019	-0.7773	0.0167	0.8911	0.0576	-0.7805	0.0478
2	265.08	0.7495	0.3415	0.0020	-0.8823	0.0193	0.9254	0.0643	-0.8602	0.0497
2	265.08	0.7996	0.3669	0.0021	-0.9897	0.0220	0.9552	0.0706	-1.0447	0.0457
2	265.08	0.8578	0.4080	0.0021	-1.1279	0.0253	0.9936	0.0780	-0.8158	0.0483
2	265.08	0.9100	0.4285	0.0024	-1.2194	0.0282	0.9577	0.0848	-0.8725	0.0500
2	265.08	0.9727	0.4932	0.0031	-1.3128	0.0320	0.8672	0.0945	-0.9928	0.0487
3	265.08	0.1938	-0.0755	0.0043	-0.0272	0.0012	0.0967	0.0059	-0.3638	0.0274
3	265.08	0.2357	-0.0374	0.0017	-0.0050	0.0011	0.0558	0.0048	-1.2564	0.0795
3	265.08	0.2995	0.0164	0.0014	-0.0802	0.0037	0.2640	0.0160	-1.3047	0.0846
3	265.08	0.3493	0.0640	0.0013	-0.1307	0.0064	0.4402	0.0260	-1.2942	0.0880
3	265.08	0.4000	0.1014	0.0017	-0.1915	0.0094	0.6232	0.0372	-1.1850	0.0880
3	265.08	0.4497	0.1306	0.0020	-0.2734	0.0124	0.8195	0.0474	-1.2207	0.0892
3	265.08	0.4997	0.1594	0.0022	-0.3495	0.0152	1.0257	0.0589	-1.1970	0.0835
3	265.08	0.5556	0.2086	0.0020	-0.4408	0.0190	1.2290	0.0719	-1.2755	0.0800
3	265.08	0.5995	0.2387	0.0022	-0.5342	0.0221	1.4038	0.0818	-1.2464	0.0840
3	265.08	0.6498	0.2696	0.0026	-0.6460	0.0260	1.5942	0.0947	-1.2610	0.0854
3	265.08	0.6890	0.2828	0.0028	-0.7421	0.0290	1.7074	0.1048	-1.3441	0.0846
3	265.08	0.7495	0.3377	0.0030	-0.8740	0.0339	1.9055	0.1206	-1.2310	0.0878
3	265.08	0.7998	0.3685	0.0032	-0.9935	0.0382	2.0157	0.1339	-1.4295	0.0863
3	265.08	0.8577	0.4155	0.0034	-1.0894	0.0433	2.1632	0.1492	-1.2368	0.0847
3	265.08	0.9178	0.4692	0.0037	-1.2109	0.0488	2.2239	0.1650	-1.4240	0.0870
3	265.08	0.9729	0.5131	0.0054	-1.3262	0.0538	2.1201	0.1792	-1.9048	0.0895
4	265.08	0.2001	-0.0564	0.0013	-0.0017	0.0006	-0.0095	0.0021	0.1883	0.0222
4	265.08	0.2502	-0.0135	0.0010	0.0048	0.0010	-0.0044	0.0040	0.2876	0.0386
4	265.08	0.3001	0.0176	0.0011	-0.0039	0.0022	-0.0082	0.0070	0.4298	0.0499
4	265.08	0.3502	0.0508	0.0012	0.0014	0.0034	-0.0474	0.0120	0.2935	0.0451
4	265.08	0.4002	0.0861	0.0014	0.0008	0.0053	-0.0401	0.0181	0.3347	0.0445
4	265.08	0.4500	0.1213	0.0015	-0.0048	0.0068	-0.0635	0.0231	0.1129	0.0427
4	265.08	0.5001	0.1605	0.0014	-0.0203	0.0085	-0.0293	0.0282	0.3635	0.0426
4	265.08	0.5560	0.1958	0.0018	-0.0415	0.0106	-0.0776	0.0342	0.1034	0.0426
4	265.08	0.6001	0.2241	0.0017	-0.0587	0.0125	-0.0752	0.0380	0.1525	0.0444
4	265.08	0.6501	0.2464	0.0017	-0.1183	0.0148	-0.1153	0.0425	0.2203	0.0418
4	265.08	0.6999	0.2923	0.0018	-0.1766	0.0172	-0.1734	0.0458	0.2700	0.0467
4	265.08	0.7500	0.3160	0.0019	-0.2197	0.0198	-0.2454	0.0491	0.3896	0.0482
4	265.08	0.8002	0.3493	0.0019	-0.2556	0.0226	-0.3599	0.0525	0.3065	0.0486
4	265.08	0.8582	0.3933	0.0020	-0.3098	0.0259	-0.5146	0.0577	0.2872	0.0470
4	265.08	0.9101	0.4382	0.0018	-0.3511	0.0290	-0.7421	0.0646	0.0428	0.0466
4	265.08	0.9728	0.5508	0.0031	-0.3591	0.0329	-1.0418	0.0725	-0.0490	0.0484

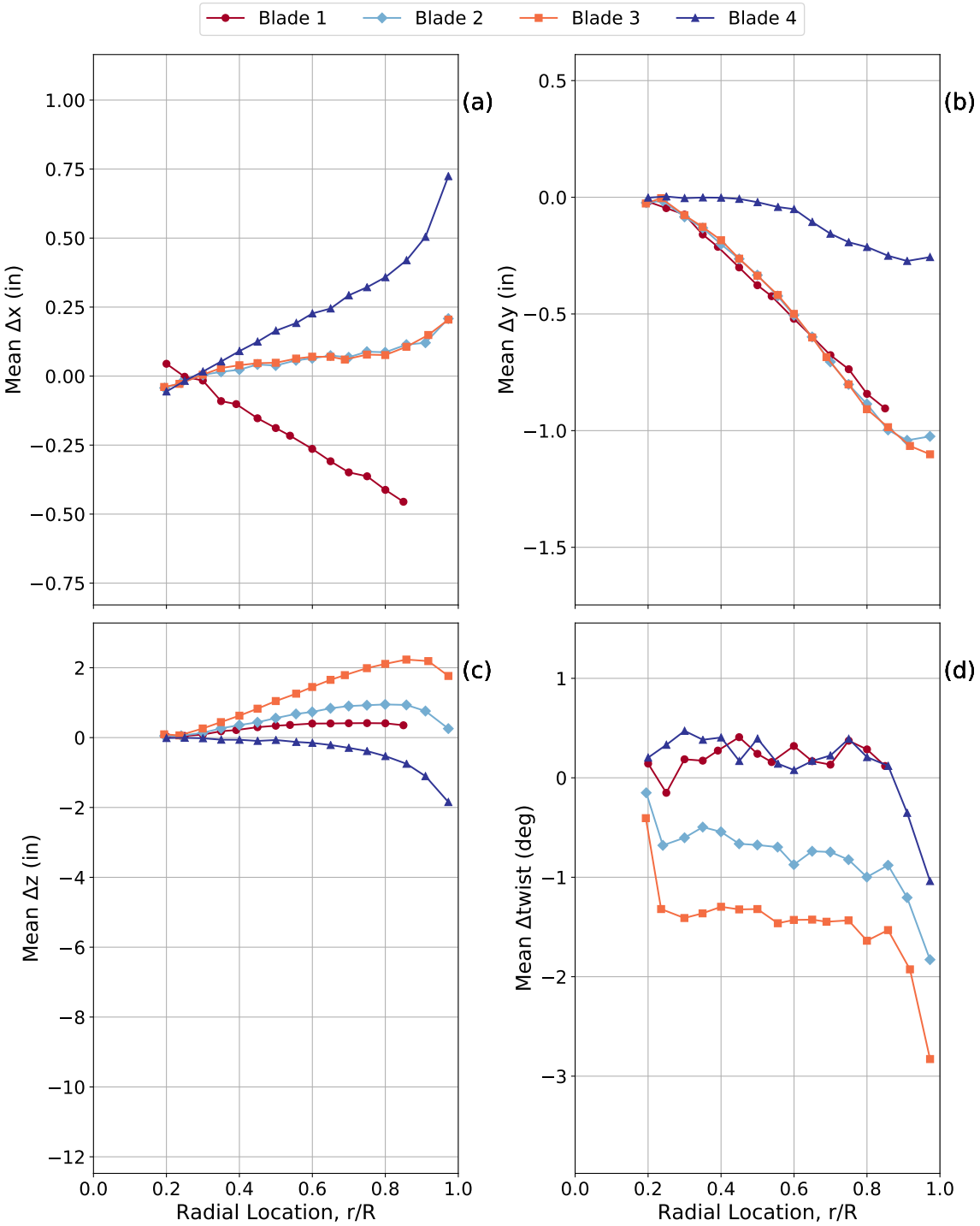


Figure 2.17-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-35. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	0.0446	0.0020	-0.0189	0.0010	0.0345	0.0030	0.1427	0.0298
1	270	0.2499	-0.0024	0.0013	-0.0466	0.0030	0.0479	0.0057	-0.1509	0.0496
1	270	0.2998	-0.0161	0.0016	-0.0742	0.0065	0.0865	0.0106	0.1861	0.0620
1	270	0.3498	-0.0906	0.0017	-0.1595	0.0074	0.1820	0.0182	0.1722	0.0633
1	270	0.3913	-0.1015	0.0022	-0.2123	0.0138	0.2164	0.0253	0.2735	0.0503
1	270	0.4496	-0.1528	0.0031	-0.3006	0.0169	0.2980	0.0309	0.4084	0.0637
1	270	0.4997	-0.1882	0.0024	-0.3770	0.0204	0.3402	0.0369	0.2411	0.0520
1	270	0.5387	-0.2159	0.0038	-0.4239	0.0250	0.3622	0.0418	0.1583	0.0539
1	270	0.5996	-0.2637	0.0032	-0.5207	0.0266	0.4019	0.0484	0.3195	0.0646
1	270	0.6498	-0.3085	0.0047	-0.5976	0.0311	0.4046	0.0553	0.1670	0.1018
1	270	0.6998	-0.3488	0.0037	-0.6766	0.0355	0.4116	0.0655	0.1322	0.0903
1	270	0.7500	-0.3630	0.0067	-0.7368	0.0408	0.4148	0.0759	0.3728	0.1218
1	270	0.8001	-0.4122	0.0099	-0.8425	0.0435	0.4099	0.0805	0.2855	0.2673
1	270	0.8497	-0.4553	0.0112	-0.9049	0.0504	0.3531	0.0920	0.1185	0.2442
2	270.35	0.1949	-0.0429	0.0029	-0.0235	0.0009	0.0494	0.0038	-0.1507	0.0262
2	270.35	0.2405	-0.0239	0.0015	-0.0154	0.0012	0.0531	0.0047	-0.6794	0.0587
2	270.35	0.2999	0.0042	0.0014	-0.0842	0.0029	0.1389	0.0115	-0.6028	0.0679
2	270.35	0.3498	0.0154	0.0019	-0.1316	0.0051	0.2642	0.0195	-0.4956	0.0635
2	270.35	0.3998	0.0231	0.0025	-0.2013	0.0074	0.3584	0.0283	-0.5432	0.0689
2	270.35	0.4496	0.0420	0.0029	-0.2641	0.0095	0.4383	0.0354	-0.6636	0.0646
2	270.35	0.4995	0.0382	0.0034	-0.3336	0.0114	0.5581	0.0452	-0.6757	0.0630
2	270.35	0.5551	0.0570	0.0034	-0.4231	0.0139	0.6774	0.0544	-0.6968	0.0661
2	270.35	0.5996	0.0643	0.0033	-0.5057	0.0156	0.7350	0.0615	-0.8735	0.0671
2	270.35	0.6497	0.0742	0.0035	-0.5985	0.0183	0.8390	0.0711	-0.7385	0.0669
2	270.35	0.6996	0.0682	0.0036	-0.7054	0.0205	0.9031	0.0798	-0.7462	0.0668
2	270.35	0.7495	0.0885	0.0043	-0.8020	0.0228	0.9269	0.0893	-0.8233	0.0698
2	270.35	0.7996	0.0864	0.0053	-0.8858	0.0253	0.9495	0.0987	-0.9983	0.0666
2	270.35	0.8578	0.1140	0.0068	-0.9973	0.0285	0.9348	0.1106	-0.8792	0.0667
2	270.35	0.9100	0.1207	0.0086	-1.0415	0.0314	0.7603	0.1207	-1.2045	0.0694
2	270.35	0.9727	0.2083	0.0111	-1.0246	0.0351	0.2571	0.1331	-1.8287	0.0713
3	270	0.1938	-0.0394	0.0054	-0.0266	0.0016	0.0935	0.0084	-0.4060	0.0397
3	270	0.2357	-0.0281	0.0024	-0.0037	0.0016	0.0631	0.0073	-1.3198	0.1190
3	270	0.2995	0.0051	0.0024	-0.0767	0.0052	0.2610	0.0233	-1.4099	0.1260
3	270	0.3493	0.0291	0.0029	-0.1269	0.0089	0.4434	0.0378	-1.3629	0.1197
3	270	0.4000	0.0393	0.0033	-0.1841	0.0133	0.6279	0.0546	-1.2969	0.1118
3	270	0.4497	0.0469	0.0035	-0.2630	0.0173	0.8282	0.0683	-1.3234	0.1152
3	270	0.4997	0.0483	0.0037	-0.3361	0.0208	1.0462	0.0832	-1.3199	0.1172
3	270	0.5556	0.0635	0.0036	-0.4187	0.0253	1.2574	0.1003	-1.4625	0.1200
3	270	0.5995	0.0703	0.0038	-0.4997	0.0289	1.4486	0.1143	-1.4292	0.1198
3	270	0.6498	0.0698	0.0039	-0.6009	0.0333	1.6537	0.1312	-1.4261	0.1138
3	270	0.6890	0.0600	0.0040	-0.6849	0.0365	1.7885	0.1444	-1.4473	0.1164
3	270	0.7495	0.0778	0.0046	-0.8020	0.0420	1.9876	0.1646	-1.4336	0.1184
3	270	0.7998	0.0763	0.0058	-0.9082	0.0468	2.1098	0.1820	-1.6381	0.1137
3	270	0.8577	0.1061	0.0077	-0.9853	0.0524	2.2339	0.2009	-1.5312	0.1207
3	270	0.9178	0.1489	0.0099	-1.0656	0.0583	2.1900	0.2210	-1.9261	0.1152
3	270	0.9729	0.2047	0.0126	-1.1014	0.0643	1.7651	0.2369	-2.8281	0.1223
4	270	0.2001	-0.0558	0.0017	-0.0017	0.0008	-0.0122	0.0032	0.2029	0.0225
4	270	0.2502	-0.0173	0.0015	0.0033	0.0014	-0.0064	0.0047	0.3316	0.0485
4	270	0.3001	0.0165	0.0013	-0.0038	0.0028	-0.0191	0.0097	0.4716	0.0506
4	270	0.3502	0.0530	0.0012	-0.0010	0.0044	-0.0601	0.0150	0.3823	0.0484
4	270	0.4002	0.0905	0.0014	-0.0019	0.0069	-0.0622	0.0225	0.4051	0.0518
4	270	0.4500	0.1248	0.0016	-0.0070	0.0086	-0.0949	0.0295	0.1688	0.0568
4	270	0.5001	0.1645	0.0017	-0.0212	0.0107	-0.0685	0.0351	0.3935	0.0479
4	270	0.5560	0.1923	0.0017	-0.0417	0.0134	-0.1245	0.0429	0.1413	0.0496
4	270	0.6001	0.2269	0.0018	-0.0508	0.0156	-0.1516	0.0494	0.0780	0.0512
4	270	0.6501	0.2449	0.0018	-0.1060	0.0184	-0.2128	0.0556	0.1697	0.0515
4	270	0.6999	0.2926	0.0022	-0.1562	0.0211	-0.2934	0.0615	0.2245	0.0536
4	270	0.7500	0.3220	0.0023	-0.1927	0.0242	-0.3859	0.0671	0.3917	0.0516
4	270	0.8002	0.3581	0.0022	-0.2132	0.0273	-0.5301	0.0725	0.2077	0.0514
4	270	0.8582	0.4197	0.0023	-0.2508	0.0313	-0.7500	0.0780	0.1195	0.0512
4	270	0.9101	0.5044	0.0023	-0.2731	0.0349	-1.1042	0.0826	-0.3527	0.0484
4	270	0.9728	0.7242	0.0033	-0.2564	0.0396	-1.8455	0.0890	-1.0385	0.0591

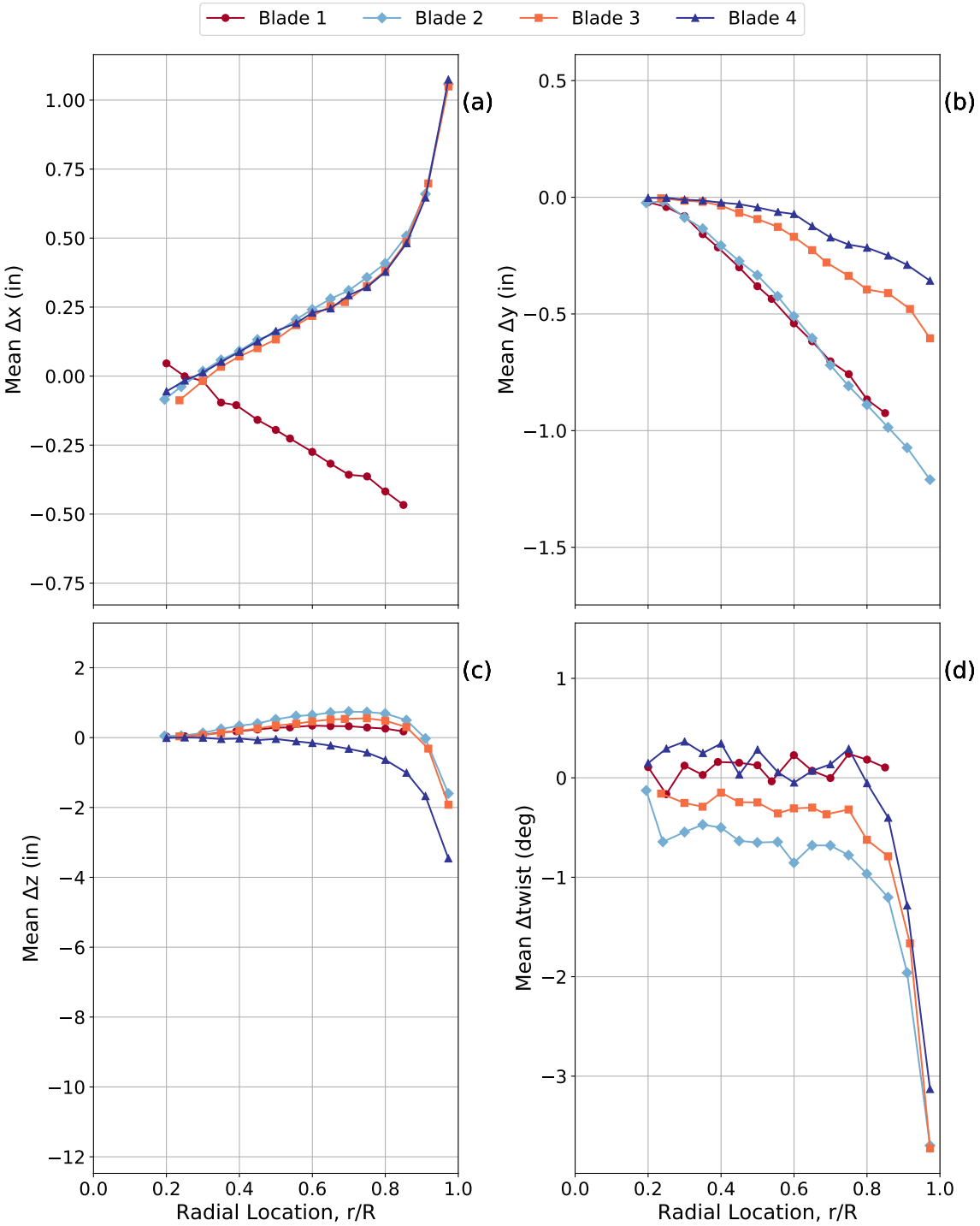


Figure 2.17-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-36. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0460	0.0016	-0.0207	0.0009	0.0315	0.0026	0.1076	0.0215
1	274.92	0.2499	-0.0008	0.0013	-0.0417	0.0022	0.0391	0.0067	-0.1648	0.0438
1	274.92	0.2998	-0.0176	0.0012	-0.0805	0.0036	0.0771	0.0113	0.1222	0.0484
1	274.92	0.3498	-0.0958	0.0016	-0.1581	0.0067	0.1496	0.0173	0.0286	0.0522
1	274.92	0.3913	-0.1052	0.0019	-0.2146	0.0092	0.1796	0.0269	0.1594	0.0456
1	274.92	0.4496	-0.1586	0.0021	-0.3002	0.0118	0.2325	0.0326	0.1510	0.0518
1	274.92	0.4997	-0.1950	0.0025	-0.3814	0.0141	0.2841	0.0393	0.1258	0.0512
1	274.92	0.5387	-0.2261	0.0031	-0.4354	0.0162	0.2913	0.0439	-0.0354	0.0560
1	274.92	0.5996	-0.2746	0.0036	-0.5405	0.0186	0.3433	0.0517	0.2275	0.0592
1	274.92	0.6498	-0.3173	0.0047	-0.6172	0.0224	0.3292	0.0536	0.0703	0.0690
1	274.92	0.6998	-0.3573	0.0037	-0.7031	0.0255	0.3262	0.0588	-0.0027	0.0661
1	274.92	0.7500	-0.3635	0.0052	-0.7579	0.0291	0.2885	0.0646	0.2414	0.0794
1	274.92	0.8001	-0.4179	0.0056	-0.8666	0.0309	0.2574	0.0703	0.1823	0.1270
1	274.92	0.8497	-0.4669	0.0059	-0.9248	0.0346	0.1764	0.0716	0.1039	0.1283
2	274.92	0.1949	-0.0845	0.0036	-0.0236	0.0011	0.0477	0.0056	-0.1272	0.0395
2	274.92	0.2405	-0.0383	0.0021	-0.0172	0.0013	0.0502	0.0072	-0.6440	0.0921
2	274.92	0.2999	0.0179	0.0022	-0.0864	0.0032	0.1337	0.0162	-0.5454	0.1041
2	274.92	0.3498	0.0586	0.0016	-0.1346	0.0053	0.2476	0.0276	-0.4710	0.0986
2	274.92	0.3998	0.0907	0.0019	-0.2072	0.0077	0.3378	0.0396	-0.5007	0.0978
2	274.92	0.4496	0.1323	0.0020	-0.2732	0.0098	0.4051	0.0506	-0.6344	0.0998
2	274.92	0.4995	0.1548	0.0021	-0.3339	0.0125	0.5228	0.0624	-0.6509	0.1005
2	274.92	0.5551	0.2053	0.0021	-0.4243	0.0149	0.6170	0.0763	-0.6448	0.0963
2	274.92	0.5996	0.2415	0.0021	-0.5097	0.0172	0.6444	0.0873	-0.8546	0.0978
2	274.92	0.6497	0.2799	0.0022	-0.6038	0.0197	0.7174	0.1007	-0.6798	0.0988
2	274.92	0.6996	0.3100	0.0026	-0.7192	0.0225	0.7439	0.1144	-0.6807	0.1013
2	274.92	0.7495	0.3574	0.0026	-0.8084	0.0252	0.7323	0.1277	-0.7776	0.1046
2	274.92	0.7996	0.4083	0.0026	-0.8891	0.0282	0.6892	0.1435	-0.9664	0.0960
2	274.92	0.8578	0.5080	0.0029	-0.9861	0.0316	0.4995	0.1611	-1.2017	0.0995
2	274.92	0.9100	0.6598	0.0024	-1.0733	0.0351	-0.0257	0.1778	-1.9602	0.0980
2	274.92	0.9727	1.0579	0.0050	-1.2100	0.0409	-1.6003	0.2041	-3.6979	0.1035
3	274.92	0.2357	-0.0877	0.0136	-0.0046	0.0032	0.0352	0.0454	-0.1591	0.4120
3	274.92	0.2995	-0.0180	0.0025	-0.0148	0.0068	0.0751	0.0828	-0.2530	0.6519
3	274.92	0.3493	0.0336	0.0036	-0.0195	0.0137	0.1291	0.1466	-0.2909	0.6473
3	274.92	0.4000	0.0713	0.0053	-0.0354	0.0206	0.1981	0.2115	-0.1490	0.6483
3	274.92	0.4497	0.1011	0.0066	-0.0667	0.0274	0.2611	0.2748	-0.2456	0.6509
3	274.92	0.4997	0.1326	0.0082	-0.0933	0.0344	0.3440	0.3389	-0.2476	0.6486
3	274.92	0.5556	0.1844	0.0101	-0.1270	0.0426	0.3974	0.4105	-0.3582	0.6480
3	274.92	0.5995	0.2178	0.0114	-0.1695	0.0490	0.4640	0.4665	-0.3077	0.6459
3	274.92	0.6498	0.2531	0.0133	-0.2266	0.0563	0.5178	0.5301	-0.2997	0.6470
3	274.92	0.6890	0.2683	0.0148	-0.2796	0.0626	0.5346	0.5801	-0.3673	0.6467
3	274.92	0.7495	0.3263	0.0169	-0.3368	0.0724	0.5527	0.6574	-0.3186	0.6475
3	274.92	0.7998	0.3818	0.0178	-0.3950	0.0815	0.4841	0.7218	-0.6231	0.6443
3	274.92	0.8577	0.4865	0.0189	-0.4105	0.0932	0.3019	0.7961	-0.7897	0.6464
3	274.92	0.9178	0.6979	0.0196	-0.4787	0.1101	-0.3149	0.8745	-1.6648	0.6485
3	274.92	0.9729	1.0494	0.0233	-0.6046	0.1365	-1.9197	0.9524	-3.7259	0.6414
4	274.92	0.2001	-0.0555	0.0023	-0.0027	0.0009	-0.0097	0.0041	0.1471	0.0310
4	274.92	0.2502	-0.0163	0.0021	-0.0023	0.0012	0.0034	0.0067	0.2938	0.0677
4	274.92	0.3001	0.0126	0.0016	-0.0103	0.0030	-0.0053	0.0127	0.3642	0.0725
4	274.92	0.3502	0.0517	0.0016	-0.0142	0.0052	-0.0408	0.0212	0.2483	0.0674
4	274.92	0.4002	0.0877	0.0014	-0.0230	0.0076	-0.0275	0.0313	0.3442	0.0637
4	274.92	0.4500	0.1255	0.0015	-0.0296	0.0096	-0.0712	0.0390	0.0317	0.0726
4	274.92	0.5001	0.1632	0.0016	-0.0437	0.0120	-0.0394	0.0490	0.2825	0.0680
4	274.92	0.5560	0.1917	0.0015	-0.0628	0.0149	-0.1086	0.0603	0.0552	0.0651
4	274.92	0.6001	0.2297	0.0016	-0.0718	0.0172	-0.1552	0.0681	-0.0482	0.0658
4	274.92	0.6501	0.2450	0.0015	-0.1239	0.0201	-0.2294	0.0777	0.0707	0.0673
4	274.92	0.6999	0.2929	0.0016	-0.1723	0.0232	-0.3215	0.0869	0.1354	0.0680
4	274.92	0.7500	0.3224	0.0020	-0.2029	0.0263	-0.4306	0.0953	0.2909	0.0703
4	274.92	0.8002	0.3776	0.0022	-0.2162	0.0298	-0.6380	0.1052	-0.0548	0.0709
4	274.92	0.8582	0.4812	0.0021	-0.2501	0.0337	-1.0079	0.1176	-0.4018	0.0729
4	274.92	0.9101	0.6466	0.0024	-0.2897	0.0379	-1.6757	0.1295	-1.2836	0.0745
4	274.92	0.9728	1.0743	0.0039	-0.3577	0.0432	-3.4598	0.1446	-3.1299	0.0849

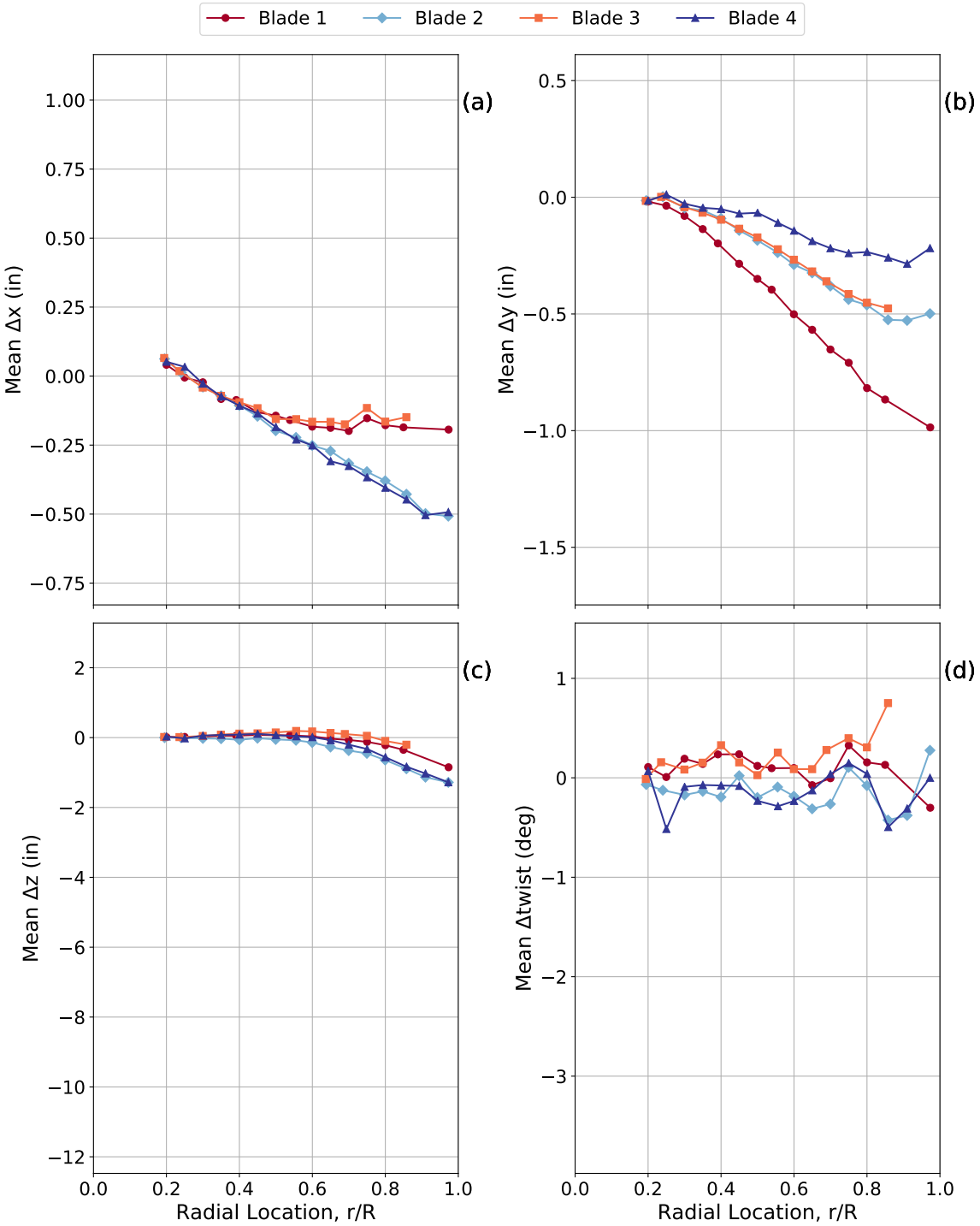


Figure 2.17-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-37. 280° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0409	0.0056	-0.0185	0.0008	0.0144	0.0026	0.1081	0.0174
1	279.84	0.2499	-0.0053	0.0019	-0.0362	0.0012	0.0197	0.0047	0.0078	0.0356
1	279.84	0.2998	-0.0223	0.0018	-0.0797	0.0028	0.0245	0.0097	0.1917	0.0389
1	279.84	0.3498	-0.0829	0.0054	-0.1363	0.0046	0.0539	0.0153	0.1391	0.0449
1	279.84	0.3913	-0.0867	0.0060	-0.1977	0.0065	0.0555	0.0222	0.2353	0.0517
1	279.84	0.4496	-0.1306	0.0081	-0.2850	0.0093	0.0772	0.0315	0.2369	0.0441
1	279.84	0.4997	-0.1433	0.0084	-0.3498	0.0112	0.0683	0.0409	0.1197	0.0437
1	279.84	0.5387	-0.1592	0.0084	-0.3958	0.0131	0.0636	0.0492	0.0964	0.0474
1	279.84	0.5996	-0.1832	0.0093	-0.5014	0.0168	0.0362	0.0636	0.0981	0.0456
1	279.84	0.6498	-0.1876	0.0081	-0.5678	0.0194	-0.0316	0.0754	-0.0739	0.0520
1	279.84	0.6998	-0.1987	0.0088	-0.6524	0.0228	-0.0676	0.0894	-0.0048	0.0517
1	279.84	0.7500	-0.1526	0.0118	-0.7091	0.0262	-0.1215	0.1017	0.3258	0.0585
1	279.84	0.8001	-0.1780	0.0130	-0.8178	0.0298	-0.2182	0.1179	0.1552	0.0655
1	279.84	0.8497	-0.1856	0.0179	-0.8667	0.0332	-0.3497	0.1291	0.1298	0.0801
1	279.84	0.9734	-0.1938	0.0348	-0.9861	0.0464	-0.8492	0.1640	-0.3013	0.1977
2	279.84	0.1949	0.0623	0.0014	-0.0141	0.0010	-0.0006	0.0029	-0.0677	0.0312
2	279.84	0.2405	0.0125	0.0011	0.0024	0.0022	-0.0039	0.0060	-0.1252	0.0373
2	279.84	0.2999	-0.0398	0.0022	-0.0458	0.0042	-0.0226	0.0133	-0.1724	0.0651
2	279.84	0.3498	-0.0716	0.0015	-0.0559	0.0068	-0.0314	0.0211	-0.1362	0.0521
2	279.84	0.3998	-0.1064	0.0029	-0.0906	0.0107	-0.0619	0.0339	-0.1937	0.0596
2	279.84	0.4496	-0.1456	0.0023	-0.1419	0.0122	-0.0172	0.0423	0.0208	0.0471
2	279.84	0.4995	-0.1978	0.0017	-0.1844	0.0148	-0.0521	0.0515	-0.1985	0.0483
2	279.84	0.5551	-0.2222	0.0018	-0.2371	0.0176	-0.0763	0.0621	-0.0930	0.0530
2	279.84	0.5996	-0.2513	0.0024	-0.2888	0.0202	-0.1403	0.0775	-0.1847	0.0530
2	279.84	0.6497	-0.2715	0.0033	-0.3241	0.0231	-0.2698	0.0865	-0.3118	0.0769
2	279.84	0.6996	-0.3158	0.0031	-0.3805	0.0263	-0.3709	0.1001	-0.2640	0.0686
2	279.84	0.7495	-0.3463	0.0031	-0.4379	0.0300	-0.4509	0.1116	0.1049	0.0840
2	279.84	0.7996	-0.3793	0.0034	-0.4614	0.0329	-0.6425	0.1281	-0.0784	0.0829
2	279.84	0.8578	-0.4280	0.0044	-0.5250	0.0379	-0.8919	0.1459	-0.4254	0.0976
2	279.84	0.9100	-0.4980	0.0115	-0.5278	0.0446	-1.1321	0.1665	-0.3784	0.2449
2	279.84	0.9727	-0.5074	0.0151	-0.4987	0.0502	-1.2812	0.1994	0.2762	0.3670
3	279.84	0.1938	0.0655	0.0013	-0.0155	0.0008	0.0177	0.0018	-0.0119	0.0181
3	279.84	0.2357	0.0180	0.0009	0.0017	0.0012	0.0144	0.0032	0.1563	0.0309
3	279.84	0.2995	-0.0416	0.0010	-0.0424	0.0028	0.0463	0.0067	0.0830	0.0430
3	279.84	0.3493	-0.0715	0.0016	-0.0660	0.0047	0.0837	0.0108	0.1521	0.0426
3	279.84	0.4000	-0.0946	0.0015	-0.0961	0.0073	0.1141	0.0170	0.3275	0.0517
3	279.84	0.4497	-0.1162	0.0016	-0.1348	0.0094	0.1217	0.0209	0.1549	0.0428
3	279.84	0.4997	-0.1558	0.0018	-0.1720	0.0121	0.1484	0.0267	0.0265	0.0477
3	279.84	0.5556	-0.1560	0.0023	-0.2228	0.0148	0.1905	0.0328	0.2532	0.0404
3	279.84	0.5995	-0.1654	0.0022	-0.2677	0.0166	0.1764	0.0387	0.0870	0.0505
3	279.84	0.6498	-0.1658	0.0023	-0.3177	0.0194	0.1330	0.0454	0.0869	0.0644
3	279.84	0.6890	-0.1749	0.0033	-0.3603	0.0215	0.1026	0.0485	0.2797	0.0602
3	279.84	0.7495	-0.1156	0.0072	-0.4145	0.0247	0.0511	0.0552	0.3981	0.0638
3	279.84	0.7998	-0.1649	0.0029	-0.4517	0.0285	-0.0951	0.0638	0.3062	0.0609
3	279.84	0.8577	-0.1488	0.0104	-0.4762	0.0317	-0.2032	0.0702	0.7512	0.2459
4	279.84	0.2001	0.0520	0.0024	-0.0144	0.0019	0.0309	0.0033	0.0674	0.0365
4	279.84	0.2502	0.0333	0.0014	0.0113	0.0034	-0.0223	0.0059	-0.5149	0.0541
4	279.84	0.3001	-0.0275	0.0012	-0.0280	0.0074	0.0574	0.0109	-0.0912	0.0796
4	279.84	0.3502	-0.0736	0.0028	-0.0451	0.0121	0.0777	0.0162	-0.0726	0.0598
4	279.84	0.4002	-0.1074	0.0034	-0.0507	0.0189	0.0860	0.0252	-0.0774	0.0656
4	279.84	0.4500	-0.1352	0.0039	-0.0701	0.0211	0.1067	0.0332	-0.0817	0.0510
4	279.84	0.5001	-0.1846	0.0021	-0.0665	0.0270	0.0719	0.0383	-0.2319	0.0712
4	279.84	0.5560	-0.2301	0.0035	-0.1097	0.0324	0.0360	0.0452	-0.2861	0.0755
4	279.84	0.6001	-0.2514	0.0028	-0.1431	0.0354	0.0128	0.0475	-0.2330	0.0770
4	279.84	0.6501	-0.3083	0.0025	-0.1878	0.0393	-0.0745	0.0543	-0.1262	0.0722
4	279.84	0.6999	-0.3259	0.0031	-0.2184	0.0454	-0.2020	0.0648	0.0366	0.0647
4	279.84	0.7500	-0.3668	0.0030	-0.2397	0.0497	-0.3267	0.0713	0.1477	0.0688
4	279.84	0.8002	-0.4046	0.0046	-0.2345	0.0554	-0.5617	0.0816	0.0389	0.0823
4	279.84	0.8582	-0.4471	0.0071	-0.2586	0.0628	-0.8349	0.0908	-0.4955	0.1309
4	279.84	0.9101	-0.5037	0.0162	-0.2850	0.0682	-1.0273	0.1044	-0.3092	0.1537
4	279.84	0.9728	-0.4929	0.0087	-0.2182	0.0743	-1.2795	0.1150	-0.0006	0.1510

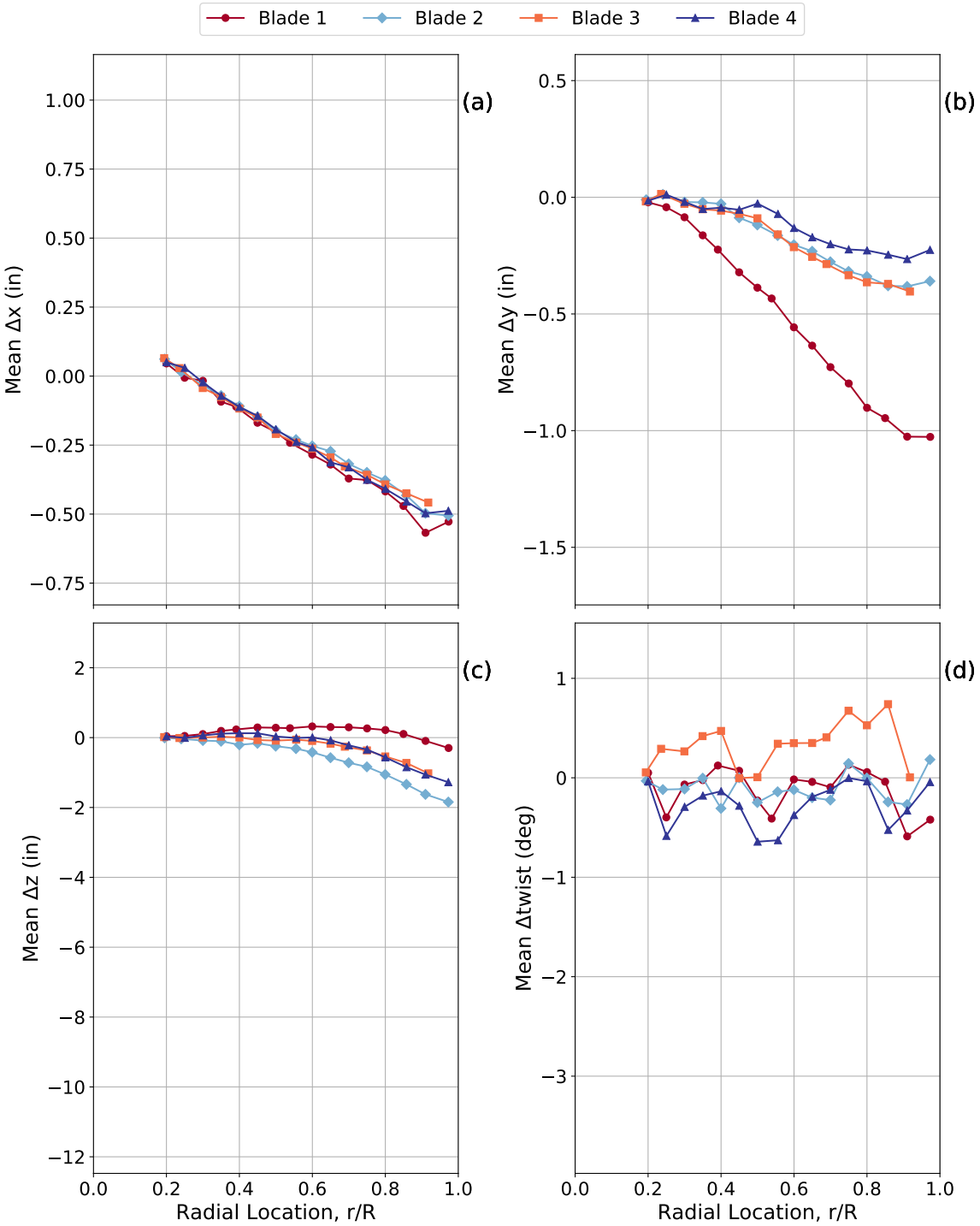


Figure 2.17-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-38. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0459	0.0020	-0.0216	0.0012	0.0400	0.0023	0.0501	0.0226
1	285.12	0.2499	-0.0060	0.0014	-0.0426	0.0025	0.0480	0.0068	-0.3981	0.0374
1	285.12	0.2998	-0.0170	0.0011	-0.0857	0.0054	0.1010	0.0100	-0.0677	0.0481
1	285.12	0.3498	-0.0927	0.0014	-0.1631	0.0077	0.1917	0.0164	-0.0230	0.0562
1	285.12	0.3913	-0.1112	0.0021	-0.2244	0.0115	0.2331	0.0246	0.1233	0.0432
1	285.12	0.4496	-0.1690	0.0021	-0.3215	0.0147	0.2901	0.0350	0.0706	0.0418
1	285.12	0.4997	-0.2026	0.0031	-0.3875	0.0190	0.2822	0.0453	-0.2285	0.0651
1	285.12	0.5387	-0.2416	0.0034	-0.4337	0.0218	0.2694	0.0512	-0.4105	0.0659
1	285.12	0.5996	-0.2847	0.0026	-0.5573	0.0242	0.3202	0.0585	-0.0164	0.0558
1	285.12	0.6498	-0.3206	0.0024	-0.6357	0.0281	0.3028	0.0702	-0.0412	0.0418
1	285.12	0.6998	-0.3711	0.0031	-0.7279	0.0317	0.2956	0.0816	-0.0951	0.0524
1	285.12	0.7500	-0.3766	0.0028	-0.7979	0.0355	0.2631	0.0915	0.1312	0.0553
1	285.12	0.8001	-0.4178	0.0030	-0.9022	0.0394	0.2169	0.1037	0.0570	0.0563
1	285.12	0.8497	-0.4705	0.0043	-0.9464	0.0440	0.1040	0.1163	-0.0393	0.0612
1	285.12	0.9102	-0.5677	0.0076	-1.0259	0.0488	-0.0948	0.1308	-0.5889	0.1611
1	285.12	0.9734	-0.5273	0.0059	-1.0268	0.0537	-0.2978	0.1449	-0.4208	0.0876
2	285.12	0.1949	0.0616	0.0018	-0.0106	0.0009	-0.0075	0.0023	-0.0312	0.0232
2	285.12	0.2405	0.0152	0.0015	0.0122	0.0039	-0.0357	0.0065	-0.1186	0.0391
2	285.12	0.2999	-0.0332	0.0017	-0.0203	0.0068	-0.0838	0.0124	-0.1127	0.0550
2	285.12	0.3498	-0.0705	0.0023	-0.0219	0.0106	-0.1037	0.0179	-0.0036	0.0576
2	285.12	0.3998	-0.1090	0.0047	-0.0282	0.0183	-0.2057	0.0301	-0.3077	0.0617
2	285.12	0.4496	-0.1478	0.0028	-0.0879	0.0205	-0.1635	0.0338	0.0007	0.0667
2	285.12	0.4995	-0.1975	0.0025	-0.1186	0.0216	-0.2447	0.0384	-0.2486	0.0433
2	285.12	0.5551	-0.2301	0.0030	-0.1639	0.0254	-0.3155	0.0456	-0.1405	0.0443
2	285.12	0.5996	-0.2528	0.0026	-0.2034	0.0299	-0.4197	0.0527	-0.1208	0.0635
2	285.12	0.6497	-0.2724	0.0030	-0.2314	0.0318	-0.5756	0.0604	-0.1999	0.0585
2	285.12	0.6996	-0.3181	0.0030	-0.2766	0.0358	-0.7193	0.0674	-0.2239	0.0474
2	285.12	0.7495	-0.3489	0.0028	-0.3178	0.0400	-0.8371	0.0763	0.1439	0.0556
2	285.12	0.7996	-0.3779	0.0032	-0.3390	0.0441	-1.0559	0.0835	-0.0022	0.0534
2	285.12	0.8578	-0.4320	0.0033	-0.3794	0.0492	-1.3383	0.0944	-0.2426	0.0637
2	285.12	0.9100	-0.4969	0.0050	-0.3820	0.0534	-1.6247	0.1014	-0.2689	0.0886
2	285.12	0.9727	-0.5052	0.0064	-0.3595	0.0577	-1.8444	0.1132	0.1833	0.1320
3	285.12	0.1938	0.0649	0.0014	-0.0179	0.0008	0.0143	0.0021	0.0540	0.0354
3	285.12	0.2357	0.0290	0.0010	0.0142	0.0016	-0.0118	0.0057	0.2915	0.0475
3	285.12	0.2995	-0.0433	0.0017	-0.0281	0.0032	0.0032	0.0098	0.2657	0.0819
3	285.12	0.3493	-0.0759	0.0010	-0.0512	0.0053	0.0266	0.0180	0.4190	0.0683
3	285.12	0.4000	-0.1176	0.0015	-0.0573	0.0084	0.0045	0.0274	0.4710	0.0861
3	285.12	0.4497	-0.1500	0.0025	-0.0709	0.0113	-0.0685	0.0349	-0.0036	0.0752
3	285.12	0.4997	-0.2096	0.0022	-0.0901	0.0151	-0.0868	0.0484	0.0061	0.0566
3	285.12	0.5556	-0.2411	0.0022	-0.1591	0.0162	-0.0594	0.0570	0.3424	0.0499
3	285.12	0.5995	-0.2627	0.0022	-0.2138	0.0168	-0.0953	0.0632	0.3485	0.0631
3	285.12	0.6498	-0.2943	0.0022	-0.2554	0.0192	-0.1735	0.0729	0.3497	0.0573
3	285.12	0.6890	-0.3272	0.0029	-0.2863	0.0212	-0.2600	0.0788	0.4067	0.0629
3	285.12	0.7495	-0.3574	0.0034	-0.3342	0.0246	-0.3671	0.0904	0.6742	0.0764
3	285.12	0.7998	-0.3923	0.0035	-0.3645	0.0276	-0.5398	0.1033	0.5278	0.0579
3	285.12	0.8577	-0.4245	0.0054	-0.3713	0.0309	-0.7255	0.1169	0.7402	0.0935
3	285.12	0.9178	-0.4581	0.0130	-0.4040	0.0357	-1.0236	0.1293	0.0047	0.1645
4	285.12	0.2001	0.0501	0.0016	-0.0148	0.0011	0.0340	0.0027	-0.0368	0.0326
4	285.12	0.2502	0.0299	0.0014	0.0109	0.0017	-0.0080	0.0063	-0.5844	0.0455
4	285.12	0.3001	-0.0226	0.0013	-0.0198	0.0044	0.0622	0.0114	-0.2926	0.0701
4	285.12	0.3502	-0.0716	0.0013	-0.0504	0.0062	0.1134	0.0178	-0.1794	0.0447
4	285.12	0.4002	-0.1121	0.0020	-0.0447	0.0098	0.1249	0.0285	-0.1353	0.0671
4	285.12	0.4500	-0.1441	0.0021	-0.0535	0.0110	0.1241	0.0321	-0.2809	0.0629
4	285.12	0.5001	-0.1930	0.0024	-0.0271	0.0138	0.0319	0.0380	-0.6425	0.0700
4	285.12	0.5560	-0.2391	0.0022	-0.0716	0.0169	-0.0107	0.0456	-0.6282	0.0512
4	285.12	0.6001	-0.2586	0.0028	-0.1317	0.0203	0.0053	0.0542	-0.3749	0.0448
4	285.12	0.6501	-0.3125	0.0028	-0.1716	0.0228	-0.0800	0.0611	-0.1912	0.0468
4	285.12	0.6999	-0.3306	0.0035	-0.2013	0.0279	-0.2211	0.0689	-0.1207	0.0524
4	285.12	0.7500	-0.3758	0.0027	-0.2235	0.0312	-0.3429	0.0774	-0.0024	0.0477
4	285.12	0.8002	-0.4086	0.0042	-0.2278	0.0352	-0.5667	0.0862	-0.0350	0.0556
4	285.12	0.8582	-0.4545	0.0041	-0.2462	0.0400	-0.8479	0.0966	-0.5240	0.0627
4	285.12	0.9101	-0.4970	0.0063	-0.2650	0.0437	-1.0602	0.1031	-0.3295	0.0671
4	285.12	0.9728	-0.4881	0.0061	-0.2256	0.0487	-1.2777	0.1200	-0.0435	0.0891

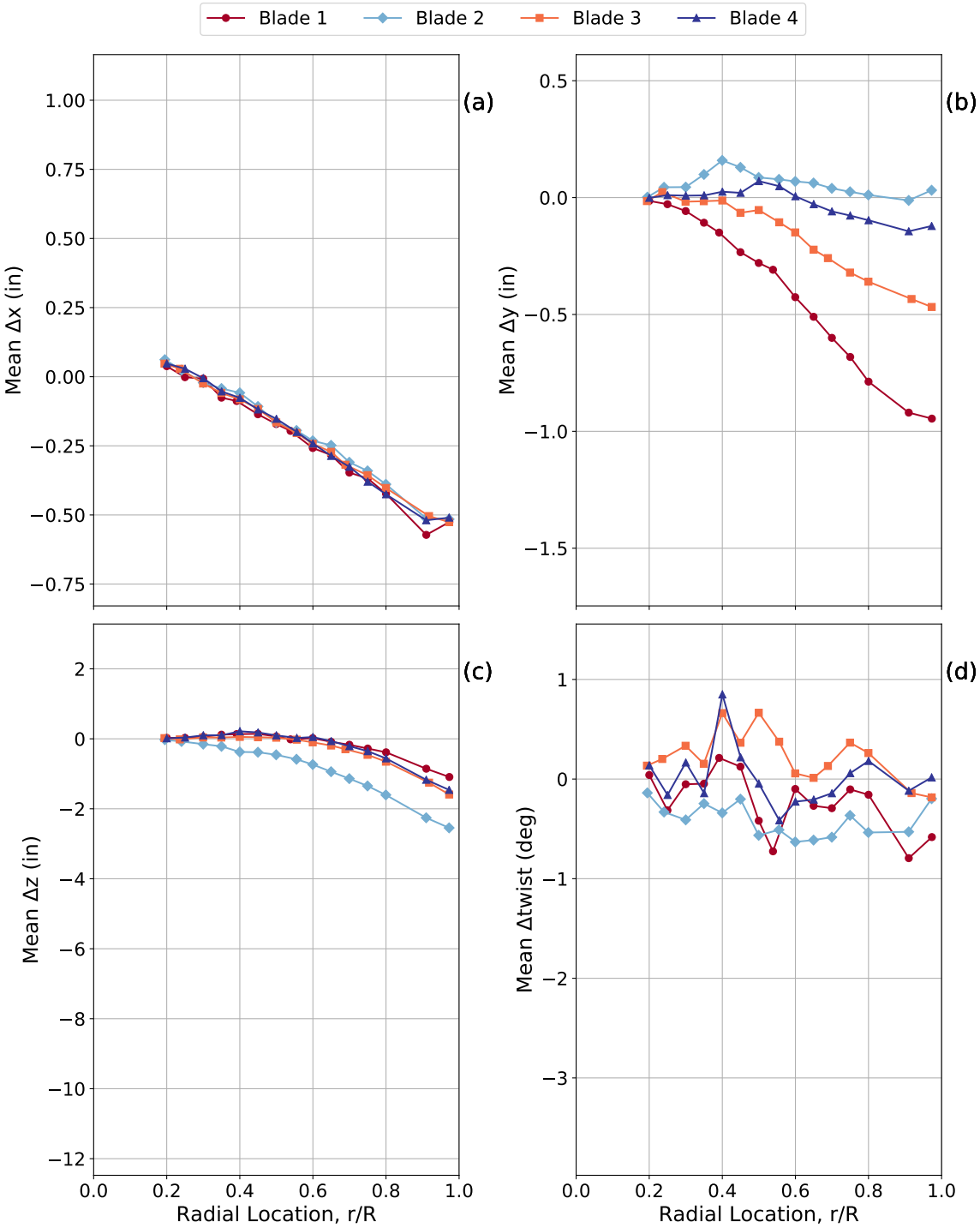


Figure 2.17-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0381	0.0023	-0.0142	0.0014	0.0268	0.0033	0.0407	0.0414
1	299.88	0.2499	-0.0018	0.0016	-0.0283	0.0035	0.0277	0.0130	-0.3138	0.0432
1	299.88	0.2998	-0.0069	0.0015	-0.0576	0.0055	0.0582	0.0171	-0.0519	0.0841
1	299.88	0.3498	-0.0758	0.0023	-0.1075	0.0096	0.1183	0.0275	-0.0465	0.0569
1	299.88	0.3913	-0.0878	0.0031	-0.1496	0.0141	0.1334	0.0446	0.2122	0.0609
1	299.88	0.4496	-0.1359	0.0028	-0.2335	0.0174	0.1428	0.0499	0.1244	0.0712
1	299.88	0.4997	-0.1712	0.0042	-0.2797	0.0229	0.0674	0.0639	-0.4181	0.0702
1	299.88	0.5387	-0.1959	0.0029	-0.3087	0.0244	-0.0154	0.0677	-0.7253	0.0732
1	299.88	0.5996	-0.2579	0.0031	-0.4261	0.0284	0.0180	0.0813	-0.0994	0.0659
1	299.88	0.6498	-0.2834	0.0036	-0.5099	0.0304	-0.0861	0.0913	-0.2686	0.0534
1	299.88	0.6998	-0.3469	0.0030	-0.6001	0.0344	-0.1698	0.1029	-0.2924	0.0572
1	299.88	0.7500	-0.3680	0.0034	-0.6819	0.0386	-0.2779	0.1138	-0.1039	0.0626
1	299.88	0.8001	-0.4235	0.0037	-0.7874	0.0429	-0.3855	0.1262	-0.1574	0.0620
1	299.88	0.9102	-0.5721	0.0043	-0.9199	0.0530	-0.8550	0.1550	-0.7940	0.0595
1	299.88	0.9734	-0.5257	0.0050	-0.9456	0.0589	-1.0914	0.1716	-0.5825	0.0628
2	299.88	0.1949	0.0617	0.0019	0.0019	0.0017	-0.0259	0.0037	-0.1387	0.0226
2	299.88	0.2405	0.0238	0.0018	0.0442	0.0035	-0.0763	0.0066	-0.3310	0.0289
2	299.88	0.2999	-0.0218	0.0018	0.0449	0.0066	-0.1522	0.0132	-0.4095	0.0433
2	299.88	0.3498	-0.0426	0.0033	0.0990	0.0138	-0.2148	0.0219	-0.2463	0.0452
2	299.88	0.3998	-0.0583	0.0036	0.1591	0.0196	-0.3753	0.0330	-0.3397	0.0685
2	299.88	0.4496	-0.1077	0.0032	0.1294	0.0214	-0.3834	0.0345	-0.2015	0.0532
2	299.88	0.4995	-0.1648	0.0037	0.0861	0.0215	-0.4573	0.0379	-0.5650	0.0508
2	299.88	0.5551	-0.1944	0.0029	0.0781	0.0245	-0.5847	0.0450	-0.5095	0.0456
2	299.88	0.5996	-0.2317	0.0031	0.0692	0.0272	-0.7351	0.0519	-0.6308	0.0425
2	299.88	0.6497	-0.2482	0.0027	0.0624	0.0304	-0.9399	0.0596	-0.6125	0.0311
2	299.88	0.6996	-0.3094	0.0031	0.0396	0.0341	-1.1385	0.0689	-0.5833	0.0402
2	299.88	0.7495	-0.3406	0.0033	0.0249	0.0379	-1.3478	0.0776	-0.3648	0.0337
2	299.88	0.7996	-0.3890	0.0031	0.0113	0.0410	-1.6044	0.0870	-0.5363	0.0358
2	299.88	0.9100	-0.5122	0.0036	-0.0121	0.0490	-2.2568	0.1095	-0.5297	0.0387
2	299.88	0.9727	-0.5154	0.0045	0.0315	0.0535	-2.5457	0.1240	-0.1970	0.0391
3	299.88	0.1938	0.0473	0.0018	-0.0149	0.0011	0.0192	0.0031	0.1347	0.0374
3	299.88	0.2357	0.0287	0.0016	0.0235	0.0028	-0.0167	0.0080	0.2018	0.0390
3	299.88	0.2995	-0.0246	0.0014	-0.0175	0.0064	0.0383	0.0153	0.3343	0.0740
3	299.88	0.3493	-0.0587	0.0021	-0.0155	0.0101	0.0364	0.0232	0.1535	0.0581
3	299.88	0.4000	-0.0820	0.0028	-0.0125	0.0168	0.0539	0.0384	0.6623	0.0839
3	299.88	0.4497	-0.1166	0.0036	-0.0650	0.0180	0.0446	0.0421	0.3647	0.0508
3	299.88	0.4997	-0.1652	0.0027	-0.0533	0.0229	0.0316	0.0514	0.6658	0.0699
3	299.88	0.5556	-0.2039	0.0030	-0.1057	0.0247	-0.0247	0.0585	0.3750	0.0601
3	299.88	0.5995	-0.2427	0.0022	-0.1490	0.0296	-0.1016	0.0680	0.0569	0.0434
3	299.88	0.6498	-0.2718	0.0025	-0.2229	0.0321	-0.1920	0.0774	0.0121	0.0490
3	299.88	0.6890	-0.3185	0.0023	-0.2589	0.0343	-0.2975	0.0849	0.1314	0.0508
3	299.88	0.7495	-0.3562	0.0026	-0.3207	0.0386	-0.4579	0.0986	0.3659	0.0558
3	299.88	0.7998	-0.4025	0.0026	-0.3597	0.0421	-0.6536	0.1105	0.2614	0.0450
3	299.88	0.9178	-0.5041	0.0026	-0.4339	0.0502	-1.2536	0.1399	-0.1407	0.0466
3	299.88	0.9729	-0.5260	0.0035	-0.4680	0.0543	-1.5921	0.1540	-0.1840	0.0496
4	299.88	0.2001	0.0476	0.0018	-0.0012	0.0007	0.0140	0.0027	0.1370	0.0447
4	299.88	0.2502	0.0286	0.0025	0.0104	0.0024	0.0361	0.0090	-0.1599	0.0570
4	299.88	0.3001	-0.0056	0.0029	0.0083	0.0042	0.0994	0.0137	0.1657	0.0950
4	299.88	0.3502	-0.0532	0.0014	0.0094	0.0052	0.1028	0.0202	-0.1421	0.0658
4	299.88	0.4002	-0.0767	0.0025	0.0251	0.0095	0.2141	0.0356	0.8494	0.0952
4	299.88	0.4500	-0.1185	0.0028	0.0203	0.0119	0.1816	0.0380	0.2179	0.0954
4	299.88	0.5001	-0.1524	0.0044	0.0704	0.0144	0.0977	0.0471	-0.0464	0.0662
4	299.88	0.5560	-0.2000	0.0030	0.0486	0.0174	0.0233	0.0618	-0.4147	0.0490
4	299.88	0.6001	-0.2418	0.0021	0.0056	0.0187	0.0504	0.0734	-0.2268	0.0527
4	299.88	0.6501	-0.2866	0.0025	-0.0283	0.0215	-0.0665	0.0830	-0.2062	0.0534
4	299.88	0.6999	-0.3260	0.0022	-0.0590	0.0235	-0.2107	0.0944	-0.1424	0.0593
4	299.88	0.7500	-0.3797	0.0024	-0.0770	0.0276	-0.3540	0.1072	0.0593	0.0593
4	299.88	0.8002	-0.4254	0.0024	-0.0971	0.0299	-0.5603	0.1204	0.1814	0.0614
4	299.88	0.9101	-0.5193	0.0029	-0.1442	0.0377	-1.1712	0.1497	-0.1176	0.0536
4	299.88	0.9728	-0.5097	0.0036	-0.1215	0.0419	-1.4607	0.1661	0.0161	0.0618

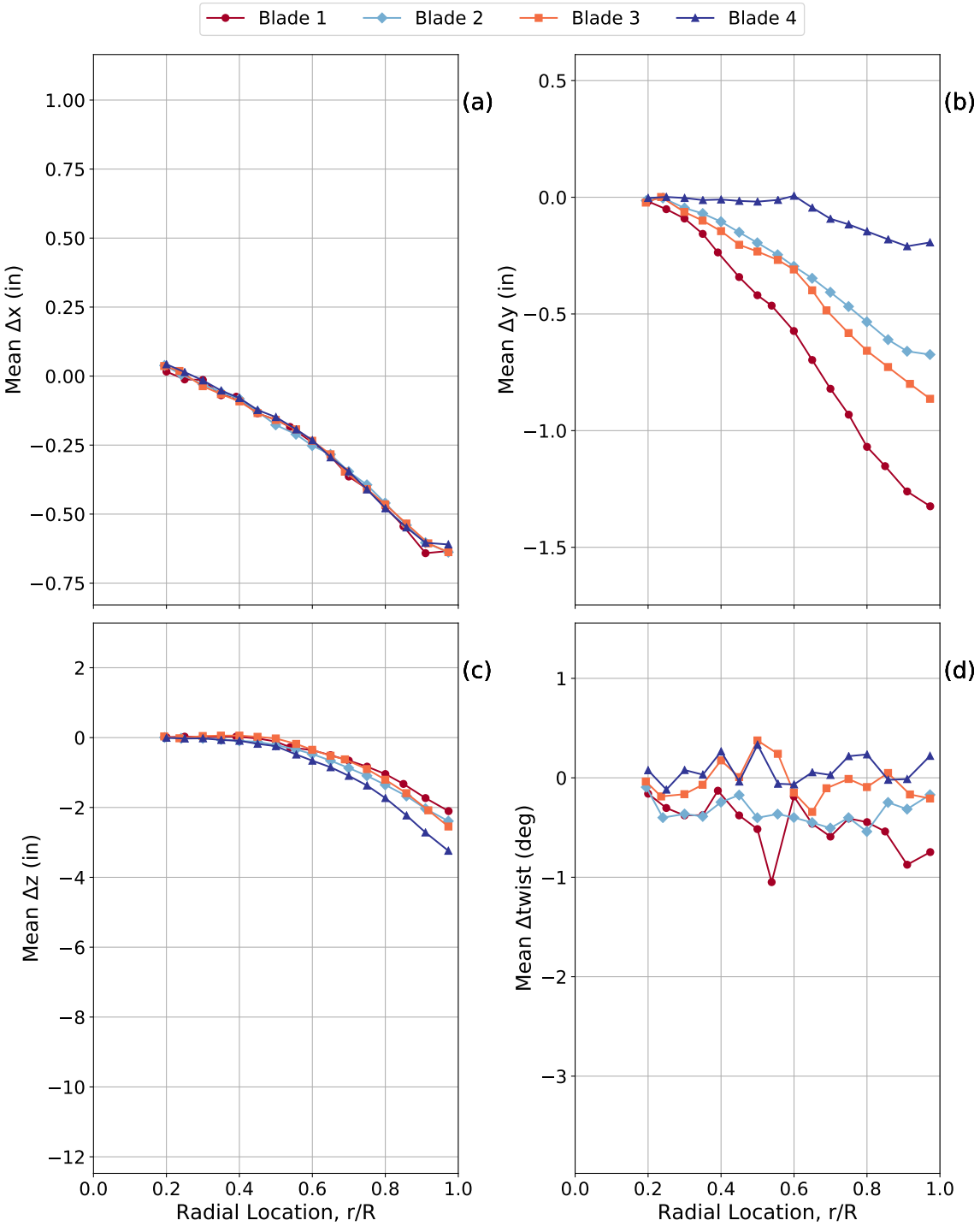


Figure 2.17-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0163	0.0022	-0.0179	0.0006	0.0119	0.0019	-0.1599	0.0244
1	315	0.2499	-0.0121	0.0017	-0.0511	0.0020	0.0273	0.0061	-0.3036	0.0327
1	315	0.2998	-0.0138	0.0023	-0.0911	0.0029	0.0168	0.0082	-0.3783	0.0496
1	315	0.3498	-0.0695	0.0024	-0.1569	0.0047	0.0267	0.0143	-0.3754	0.0506
1	315	0.3913	-0.0747	0.0023	-0.2364	0.0074	0.0289	0.0213	-0.1297	0.0666
1	315	0.4496	-0.1350	0.0024	-0.3419	0.0081	-0.0241	0.0256	-0.3781	0.0719
1	315	0.4997	-0.1580	0.0031	-0.4198	0.0123	-0.1111	0.0304	-0.5159	0.0649
1	315	0.5387	-0.1842	0.0028	-0.4644	0.0137	-0.2753	0.0320	-1.0491	0.0854
1	315	0.5996	-0.2400	0.0035	-0.5731	0.0177	-0.3601	0.0466	-0.1876	0.0618
1	315	0.6498	-0.2902	0.0036	-0.6973	0.0199	-0.5025	0.0514	-0.4624	0.0568
1	315	0.6998	-0.3638	0.0023	-0.8206	0.0215	-0.6576	0.0519	-0.5912	0.0560
1	315	0.7500	-0.4086	0.0031	-0.9316	0.0240	-0.8312	0.0574	-0.4091	0.0532
1	315	0.8001	-0.4744	0.0028	-1.0695	0.0267	-1.0433	0.0628	-0.4458	0.0512
1	315	0.8497	-0.5441	0.0030	-1.1523	0.0294	-1.3264	0.0690	-0.5396	0.0498
1	315	0.9102	-0.6416	0.0031	-1.2607	0.0328	-1.7312	0.0786	-0.8740	0.0438
1	315	0.9734	-0.6335	0.0036	-1.3242	0.0366	-2.1040	0.0900	-0.7471	0.0468
2	315	0.1949	0.0385	0.0013	-0.0142	0.0007	0.0047	0.0023	-0.0941	0.0194
2	315	0.2405	0.0058	0.0014	-0.0032	0.0015	-0.0207	0.0061	-0.4004	0.0333
2	315	0.2999	-0.0298	0.0014	-0.0460	0.0030	-0.0210	0.0116	-0.3644	0.0447
2	315	0.3498	-0.0586	0.0032	-0.0696	0.0053	-0.0532	0.0167	-0.3882	0.0417
2	315	0.3998	-0.0825	0.0040	-0.1046	0.0083	-0.0930	0.0287	-0.2451	0.0618
2	315	0.4496	-0.1286	0.0026	-0.1499	0.0093	-0.1197	0.0323	-0.1735	0.0365
2	315	0.4995	-0.1769	0.0050	-0.1951	0.0108	-0.2118	0.0421	-0.4019	0.0421
2	315	0.5551	-0.2107	0.0027	-0.2463	0.0143	-0.3385	0.0519	-0.3650	0.0478
2	315	0.5996	-0.2520	0.0022	-0.2957	0.0165	-0.4707	0.0578	-0.3998	0.0470
2	315	0.6497	-0.2837	0.0028	-0.3471	0.0193	-0.6587	0.0686	-0.4503	0.0638
2	315	0.6996	-0.3458	0.0039	-0.4069	0.0217	-0.8705	0.0721	-0.5057	0.0574
2	315	0.7495	-0.3939	0.0035	-0.4682	0.0250	-1.0921	0.0825	-0.4012	0.0477
2	315	0.7996	-0.4598	0.0033	-0.5339	0.0283	-1.3519	0.0928	-0.5402	0.0384
2	315	0.8578	-0.5402	0.0030	-0.6102	0.0319	-1.6719	0.1047	-0.2478	0.0430
2	315	0.9100	-0.6035	0.0027	-0.6599	0.0355	-2.0334	0.1176	-0.3151	0.0455
2	315	0.9727	-0.6380	0.0037	-0.6740	0.0399	-2.3908	0.1335	-0.1707	0.0397
3	315	0.1938	0.0364	0.0022	-0.0228	0.0006	0.0328	0.0017	-0.0372	0.0231
3	315	0.2357	0.0186	0.0017	0.0011	0.0013	-0.0195	0.0033	-0.1875	0.0351
3	315	0.2995	-0.0366	0.0017	-0.0629	0.0033	0.0449	0.0083	-0.1648	0.0531
3	315	0.3493	-0.0653	0.0018	-0.0999	0.0041	0.0566	0.0104	-0.0703	0.0351
3	315	0.4000	-0.0916	0.0032	-0.1450	0.0072	0.0571	0.0184	0.1753	0.0467
3	315	0.4497	-0.1340	0.0028	-0.2036	0.0085	0.0227	0.0211	0.0068	0.0431
3	315	0.4997	-0.1590	0.0025	-0.2324	0.0112	-0.0243	0.0275	0.3754	0.0542
3	315	0.5556	-0.1928	0.0026	-0.2686	0.0135	-0.1801	0.0351	0.2413	0.0886
3	315	0.5995	-0.2343	0.0033	-0.3094	0.0149	-0.3493	0.0385	-0.1497	0.0447
3	315	0.6498	-0.2834	0.0047	-0.3987	0.0180	-0.5191	0.0447	-0.3429	0.0564
3	315	0.6890	-0.3462	0.0025	-0.4845	0.0183	-0.6228	0.0495	-0.1051	0.0434
3	315	0.7495	-0.4091	0.0023	-0.5820	0.0216	-0.9008	0.0602	-0.0117	0.0467
3	315	0.7998	-0.4647	0.0025	-0.6577	0.0244	-1.2050	0.0695	-0.0932	0.0485
3	315	0.8577	-0.5341	0.0024	-0.7275	0.0280	-1.5907	0.0826	0.0481	0.0355
3	315	0.9178	-0.6059	0.0025	-0.7996	0.0313	-2.0813	0.0969	-0.1675	0.0374
3	315	0.9729	-0.6379	0.0031	-0.8636	0.0346	-2.5449	0.1112	-0.2083	0.0408
4	315	0.2001	0.0427	0.0020	-0.0031	0.0005	-0.0055	0.0021	0.0756	0.0181
4	315	0.2502	0.0143	0.0019	0.0014	0.0023	-0.0260	0.0053	-0.1189	0.0322
4	315	0.3001	-0.0157	0.0016	-0.0031	0.0042	-0.0209	0.0096	0.0780	0.0412
4	315	0.3502	-0.0526	0.0023	-0.0120	0.0046	-0.0684	0.0149	0.0314	0.0337
4	315	0.4002	-0.0796	0.0033	-0.0096	0.0096	-0.0911	0.0244	0.2646	0.0409
4	315	0.4500	-0.1229	0.0031	-0.0156	0.0110	-0.1775	0.0265	-0.0382	0.0371
4	315	0.5001	-0.1486	0.0032	-0.0187	0.0148	-0.2456	0.0353	0.3317	0.0562
4	315	0.5560	-0.1932	0.0033	-0.0114	0.0165	-0.4848	0.0390	-0.0600	0.0513
4	315	0.6001	-0.2324	0.0031	0.0064	0.0167	-0.6611	0.0476	-0.0667	0.0682
4	315	0.6501	-0.2944	0.0023	-0.0445	0.0196	-0.8487	0.0532	0.0555	0.0424
4	315	0.6999	-0.3455	0.0030	-0.0922	0.0231	-1.0950	0.0567	0.0282	0.0541
4	315	0.7500	-0.4107	0.0028	-0.1165	0.0255	-1.3722	0.0628	0.2174	0.0396
4	315	0.8002	-0.4792	0.0027	-0.1464	0.0283	-1.7310	0.0687	0.2349	0.0394
4	315	0.8582	-0.5484	0.0033	-0.1806	0.0308	-2.2294	0.0780	-0.0207	0.0406
4	315	0.9101	-0.6039	0.0033	-0.2100	0.0337	-2.7161	0.0855	-0.0132	0.0387
4	315	0.9728	-0.6100	0.0039	-0.1936	0.0373	-3.2405	0.0969	0.2201	0.0378

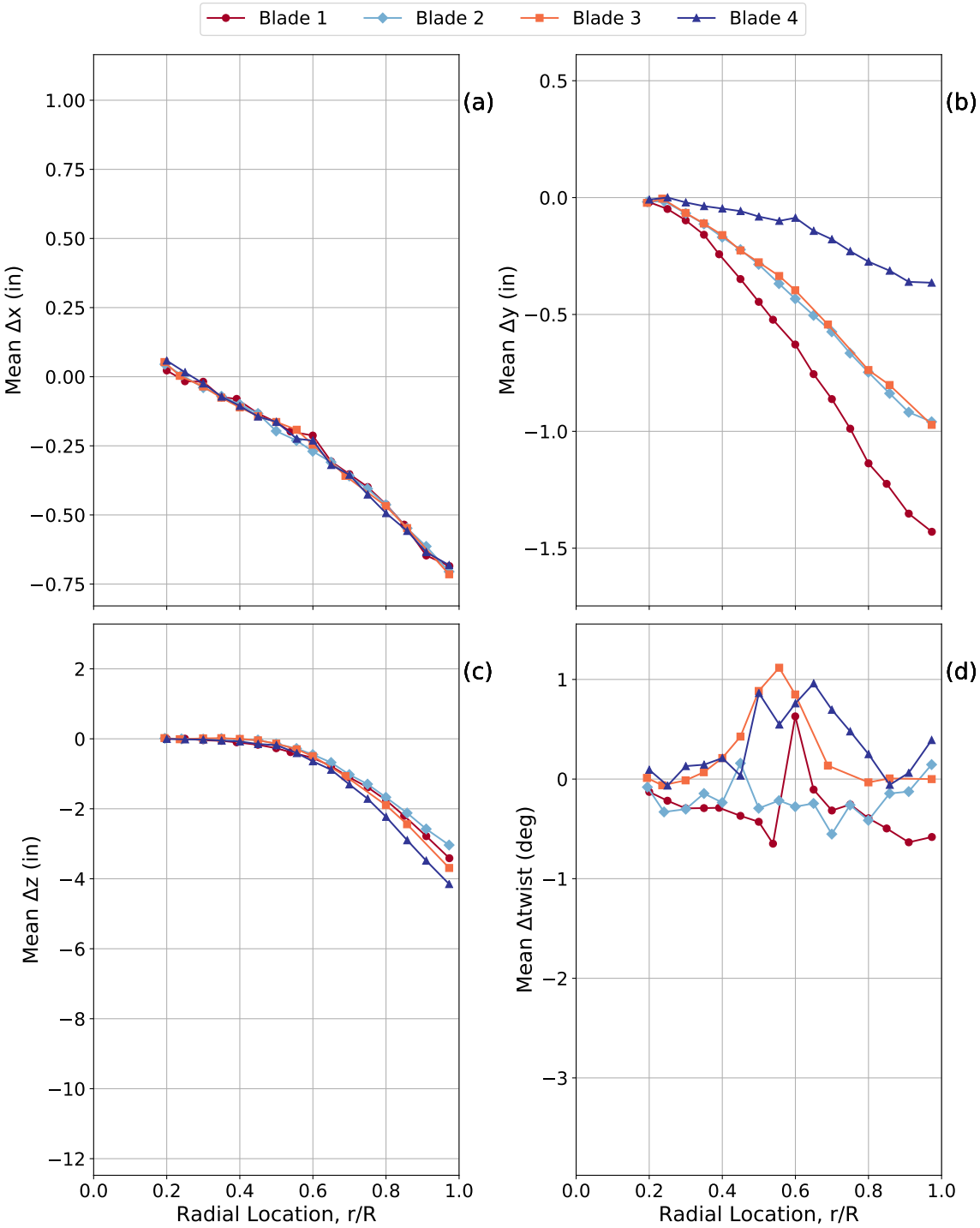


Figure 2.17-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-41. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0226	0.0019	-0.0196	0.0007	-0.0018	0.0031	-0.1288	0.0211
1	330.12	0.2499	-0.0165	0.0016	-0.0487	0.0019	0.0038	0.0059	-0.2175	0.0450
1	330.12	0.2998	-0.0182	0.0019	-0.0974	0.0035	-0.0403	0.0110	-0.2941	0.0513
1	330.12	0.3498	-0.0740	0.0017	-0.1589	0.0054	-0.0583	0.0194	-0.2915	0.0472
1	330.12	0.3913	-0.0802	0.0026	-0.2425	0.0086	-0.1005	0.0271	-0.2885	0.0503
1	330.12	0.4496	-0.1328	0.0024	-0.3485	0.0109	-0.1702	0.0376	-0.3692	0.0486
1	330.12	0.4997	-0.1647	0.0030	-0.4459	0.0133	-0.2696	0.0434	-0.4290	0.0640
1	330.12	0.5387	-0.1982	0.0038	-0.5225	0.0145	-0.3803	0.0489	-0.6486	0.0644
1	330.12	0.5996	-0.2128	0.0047	-0.6286	0.0192	-0.5452	0.0570	0.6294	0.1077
1	330.12	0.6498	-0.3064	0.0040	-0.7553	0.0206	-0.7797	0.0704	-0.1056	0.0763
1	330.12	0.6998	-0.3525	0.0044	-0.8621	0.0220	-1.1031	0.0803	-0.3156	0.0886
1	330.12	0.7500	-0.3991	0.0032	-0.9886	0.0263	-1.3876	0.0886	-0.2549	0.0674
1	330.12	0.8001	-0.4620	0.0028	-1.1371	0.0283	-1.7539	0.0967	-0.3935	0.0544
1	330.12	0.8497	-0.5351	0.0030	-1.2246	0.0314	-2.2010	0.1054	-0.4959	0.0514
1	330.12	0.9102	-0.6466	0.0030	-1.3521	0.0351	-2.7818	0.1174	-0.6348	0.0493
1	330.12	0.9734	-0.6849	0.0036	-1.4297	0.0389	-3.4129	0.1288	-0.5815	0.0525
2	330.12	0.1949	0.0451	0.0015	-0.0185	0.0007	0.0126	0.0024	-0.0808	0.0235
2	330.12	0.2405	0.0061	0.0016	-0.0150	0.0017	-0.0025	0.0053	-0.3300	0.0401
2	330.12	0.2999	-0.0397	0.0014	-0.0673	0.0036	-0.0056	0.0105	-0.3021	0.0576
2	330.12	0.3498	-0.0706	0.0017	-0.1131	0.0050	0.0069	0.0182	-0.1450	0.0497
2	330.12	0.3998	-0.1001	0.0019	-0.1695	0.0088	-0.0268	0.0281	-0.2359	0.0460
2	330.12	0.4496	-0.1331	0.0027	-0.2225	0.0105	-0.0332	0.0314	0.1588	0.0725
2	330.12	0.4995	-0.1965	0.0029	-0.2858	0.0130	-0.1467	0.0371	-0.2933	0.0469
2	330.12	0.5551	-0.2308	0.0024	-0.3682	0.0167	-0.2765	0.0436	-0.2159	0.0731
2	330.12	0.5996	-0.2699	0.0028	-0.4329	0.0181	-0.4490	0.0495	-0.2773	0.0664
2	330.12	0.6497	-0.3090	0.0025	-0.5039	0.0218	-0.6780	0.0559	-0.2447	0.0571
2	330.12	0.6996	-0.3592	0.0038	-0.5742	0.0259	-1.0219	0.0640	-0.5525	0.1016
2	330.12	0.7495	-0.4053	0.0035	-0.6656	0.0286	-1.2956	0.0677	-0.2608	0.0641
2	330.12	0.7996	-0.4630	0.0032	-0.7471	0.0325	-1.6706	0.0728	-0.4144	0.0605
2	330.12	0.8578	-0.5481	0.0033	-0.8378	0.0368	-2.1206	0.0812	-0.1447	0.0508
2	330.12	0.9100	-0.6137	0.0036	-0.9182	0.0409	-2.5771	0.0879	-0.1256	0.0510
2	330.12	0.9727	-0.7050	0.0045	-0.9590	0.0457	-3.0363	0.0974	0.1455	0.0509
3	330.12	0.1938	0.0530	0.0023	-0.0223	0.0007	0.0204	0.0021	0.0114	0.0204
3	330.12	0.2357	0.0032	0.0016	-0.0046	0.0016	-0.0124	0.0036	-0.0624	0.0373
3	330.12	0.2995	-0.0354	0.0016	-0.0657	0.0029	0.0123	0.0080	-0.0131	0.0500
3	330.12	0.3493	-0.0759	0.0015	-0.1107	0.0047	0.0188	0.0117	0.0686	0.0735
3	330.12	0.4000	-0.1111	0.0017	-0.1605	0.0078	-0.0032	0.0195	0.2112	0.0693
3	330.12	0.4497	-0.1426	0.0043	-0.2260	0.0080	-0.0433	0.0220	0.4266	0.0873
3	330.12	0.4997	-0.1638	0.0046	-0.2768	0.0119	-0.1366	0.0323	0.8841	0.0796
3	330.12	0.5556	-0.1918	0.0055	-0.3354	0.0151	-0.2997	0.0421	1.1176	0.0673
3	330.12	0.5995	-0.2456	0.0049	-0.3966	0.0170	-0.4947	0.0455	0.8493	0.0870
3	330.12	0.6890	-0.3586	0.0055	-0.5431	0.0230	-1.0656	0.0626	0.1353	0.0521
3	330.12	0.7998	-0.4680	0.0040	-0.7378	0.0271	-1.8962	0.0795	-0.0331	0.0579
3	330.12	0.8577	-0.5475	0.0041	-0.8019	0.0310	-2.4418	0.0950	0.0062	0.0510
3	330.12	0.9729	-0.7147	0.0047	-0.9723	0.0386	-3.6914	0.1238	-0.0004	0.0504
4	330.12	0.2001	0.0581	0.0014	-0.0085	0.0007	-0.0029	0.0017	0.0928	0.0201
4	330.12	0.2502	0.0158	0.0015	0.0003	0.0024	-0.0170	0.0049	-0.0654	0.0292
4	330.12	0.3001	-0.0247	0.0018	-0.0208	0.0038	-0.0209	0.0088	0.1299	0.0436
4	330.12	0.3502	-0.0723	0.0015	-0.0366	0.0062	-0.0509	0.0109	0.1440	0.0378
4	330.12	0.4002	-0.1059	0.0026	-0.0470	0.0102	-0.0769	0.0202	0.2108	0.0503
4	330.12	0.4500	-0.1441	0.0026	-0.0578	0.0109	-0.1487	0.0227	0.0340	0.0414
4	330.12	0.5001	-0.1635	0.0038	-0.0813	0.0137	-0.1816	0.0278	0.8631	0.0657
4	330.12	0.5560	-0.2244	0.0038	-0.0997	0.0152	-0.4089	0.0336	0.5466	0.0944
4	330.12	0.6001	-0.2310	0.0057	-0.0865	0.0181	-0.6437	0.0402	0.7599	0.0879
4	330.12	0.6501	-0.3194	0.0049	-0.1426	0.0208	-0.8860	0.0447	0.9600	0.0721
4	330.12	0.6999	-0.3548	0.0062	-0.1786	0.0246	-1.3043	0.0528	0.6952	0.0728
4	330.12	0.7500	-0.4263	0.0041	-0.2295	0.0276	-1.7146	0.0585	0.4780	0.0689
4	330.12	0.8002	-0.4936	0.0029	-0.2743	0.0314	-2.2315	0.0664	0.2498	0.0435
4	330.12	0.8582	-0.5580	0.0034	-0.3129	0.0348	-2.9005	0.0737	-0.0581	0.0491
4	330.12	0.9101	-0.6347	0.0033	-0.3605	0.0382	-3.4842	0.0826	0.0623	0.0431
4	330.12	0.9728	-0.6816	0.0038	-0.3642	0.0424	-4.1520	0.0933	0.3914	0.0429

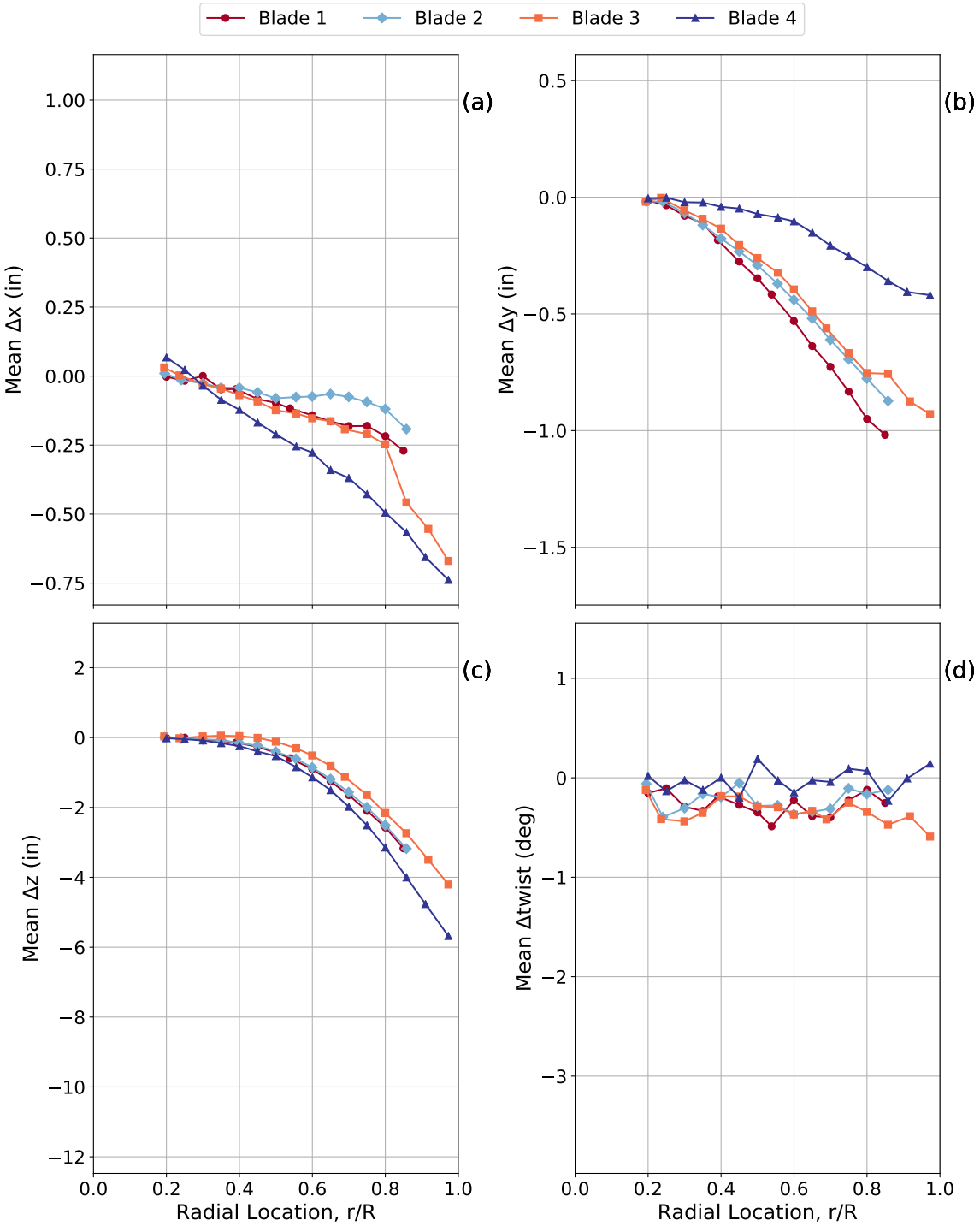


Figure 2.17-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-42. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	-0.0024	0.0029	-0.0148	0.0023	-0.0108	0.0050	-0.1528	0.0300
1	344.88	0.2499	-0.0169	0.0016	-0.0343	0.0035	-0.0044	0.0070	-0.1054	0.0745
1	344.88	0.2998	0.0004	0.0017	-0.0793	0.0083	-0.0615	0.0146	-0.2915	0.0769
1	344.88	0.3498	-0.0480	0.0020	-0.1120	0.0143	-0.0922	0.0244	-0.3330	0.0716
1	344.88	0.3913	-0.0469	0.0028	-0.1835	0.0199	-0.1422	0.0325	-0.1866	0.0737
1	344.88	0.4496	-0.0832	0.0032	-0.2752	0.0269	-0.2652	0.0436	-0.2715	0.0711
1	344.88	0.4997	-0.0967	0.0032	-0.3473	0.0335	-0.4300	0.0543	-0.3479	0.0691
1	344.88	0.5387	-0.1168	0.0033	-0.4169	0.0378	-0.5918	0.0608	-0.4882	0.0789
1	344.88	0.5996	-0.1421	0.0048	-0.5303	0.0445	-0.9005	0.0730	-0.2263	0.0763
1	344.88	0.6498	-0.1641	0.0059	-0.6378	0.0506	-1.2517	0.0830	-0.3865	0.0736
1	344.88	0.6998	-0.1813	0.0078	-0.7267	0.0550	-1.6452	0.0917	-0.3975	0.0842
1	344.88	0.7500	-0.1805	0.0096	-0.8327	0.0602	-2.0969	0.1008	-0.2233	0.0815
1	344.88	0.8001	-0.2178	0.0125	-0.9500	0.0668	-2.5736	0.1130	-0.1210	0.0879
1	344.88	0.8497	-0.2704	0.0162	-1.0184	0.0735	-3.1691	0.1228	-0.2534	0.1020
2	344.88	0.1949	0.0101	0.0036	-0.0184	0.0016	0.0068	0.0035	-0.0613	0.0233
2	344.88	0.2405	-0.0143	0.0025	-0.0183	0.0031	-0.0278	0.0059	-0.3954	0.0519
2	344.88	0.2999	-0.0265	0.0018	-0.0674	0.0073	-0.0543	0.0124	-0.3058	0.0590
2	344.88	0.3498	-0.0419	0.0030	-0.1194	0.0117	-0.0671	0.0192	-0.1622	0.0549
2	344.88	0.3998	-0.0420	0.0042	-0.1763	0.0190	-0.1573	0.0298	-0.1941	0.0525
2	344.88	0.4496	-0.0590	0.0054	-0.2319	0.0196	-0.2276	0.0339	-0.0516	0.0595
2	344.88	0.4995	-0.0803	0.0071	-0.2913	0.0250	-0.3997	0.0442	-0.2835	0.0574
2	344.88	0.5551	-0.0759	0.0083	-0.3707	0.0300	-0.6103	0.0535	-0.2768	0.0601
2	344.88	0.5996	-0.0740	0.0088	-0.4395	0.0328	-0.8547	0.0608	-0.3658	0.0633
2	344.88	0.6497	-0.0648	0.0108	-0.5195	0.0387	-1.1830	0.0720	-0.3422	0.0627
2	344.88	0.6996	-0.0753	0.0108	-0.6107	0.0430	-1.5611	0.0779	-0.3124	0.0673
2	344.88	0.7495	-0.0935	0.0138	-0.6945	0.0491	-1.9947	0.0876	-0.1059	0.0678
2	344.88	0.7996	-0.1190	0.0154	-0.7769	0.0531	-2.5084	0.0967	-0.1638	0.0961
2	344.88	0.8578	-0.1921	0.0207	-0.8728	0.0594	-3.1786	0.1076	-0.1220	0.1871
3	344.88	0.1938	0.0316	0.0032	-0.0192	0.0014	0.0316	0.0031	-0.1230	0.0160
3	344.88	0.2357	0.0024	0.0017	-0.0027	0.0019	-0.0191	0.0034	-0.4157	0.0372
3	344.88	0.2995	-0.0299	0.0018	-0.0560	0.0052	0.0346	0.0092	-0.4377	0.0419
3	344.88	0.3493	-0.0450	0.0019	-0.0923	0.0088	0.0537	0.0149	-0.3524	0.0430
3	344.88	0.4000	-0.0690	0.0024	-0.1346	0.0136	0.0419	0.0220	-0.1844	0.0410
3	344.88	0.4497	-0.0918	0.0030	-0.2049	0.0176	-0.0089	0.0288	-0.1877	0.0461
3	344.88	0.4997	-0.1235	0.0033	-0.2604	0.0216	-0.1166	0.0364	-0.2863	0.0440
3	344.88	0.5556	-0.1354	0.0033	-0.3230	0.0263	-0.3053	0.0440	-0.2960	0.0442
3	344.88	0.5995	-0.1529	0.0031	-0.3948	0.0300	-0.5124	0.0505	-0.3700	0.0460
3	344.88	0.6498	-0.1633	0.0035	-0.4887	0.0342	-0.8161	0.0581	-0.3330	0.0432
3	344.88	0.6890	-0.1929	0.0041	-0.5617	0.0378	-1.1237	0.0632	-0.4183	0.0519
3	344.88	0.7495	-0.2098	0.0053	-0.6677	0.0427	-1.6402	0.0719	-0.2500	0.0544
3	344.88	0.7998	-0.2473	0.0073	-0.7533	0.0467	-2.1592	0.0782	-0.3429	0.0594
3	344.88	0.8577	-0.4580	0.0075	-0.7567	0.0624	-2.7372	0.0969	-0.4722	0.0490
3	344.88	0.9178	-0.5535	0.0071	-0.8748	0.0678	-3.4945	0.1066	-0.3878	0.0490
3	344.88	0.9729	-0.6695	0.0067	-0.9292	0.0732	-4.2053	0.1155	-0.5913	0.0484
4	344.88	0.2001	0.0675	0.0018	-0.0051	0.0012	-0.0188	0.0028	0.0186	0.0248
4	344.88	0.2502	0.0222	0.0018	-0.0021	0.0020	-0.0473	0.0058	-0.1344	0.0424
4	344.88	0.3001	-0.0346	0.0020	-0.0213	0.0043	-0.0836	0.0097	-0.0234	0.0556
4	344.88	0.3502	-0.0859	0.0024	-0.0227	0.0071	-0.1611	0.0169	-0.1209	0.0479
4	344.88	0.4002	-0.1221	0.0024	-0.0412	0.0110	-0.2451	0.0259	0.0021	0.0482
4	344.88	0.4500	-0.1681	0.0025	-0.0485	0.0129	-0.3982	0.0338	-0.2010	0.0539
4	344.88	0.5001	-0.2112	0.0024	-0.0720	0.0164	-0.5307	0.0423	0.1893	0.0517
4	344.88	0.5560	-0.2548	0.0040	-0.0870	0.0193	-0.8471	0.0511	-0.0273	0.0726
4	344.88	0.6001	-0.2773	0.0034	-0.1034	0.0222	-1.1382	0.0575	-0.1461	0.0609
4	344.88	0.6501	-0.3403	0.0031	-0.1515	0.0248	-1.5057	0.0640	-0.0252	0.0679
4	344.88	0.6999	-0.3693	0.0038	-0.2073	0.0283	-1.9812	0.0747	-0.0413	0.0644
4	344.88	0.7500	-0.4279	0.0036	-0.2522	0.0314	-2.5141	0.0811	0.0915	0.0511
4	344.88	0.8002	-0.4949	0.0036	-0.2992	0.0343	-3.1470	0.0887	0.0685	0.0557
4	344.88	0.8582	-0.5663	0.0041	-0.3588	0.0383	-4.0037	0.0985	-0.2312	0.0503
4	344.88	0.9101	-0.6557	0.0044	-0.4057	0.0419	-4.7655	0.1067	-0.0062	0.0570
4	344.88	0.9728	-0.7384	0.0049	-0.4196	0.0463	-5.6793	0.1197	0.1419	0.0507

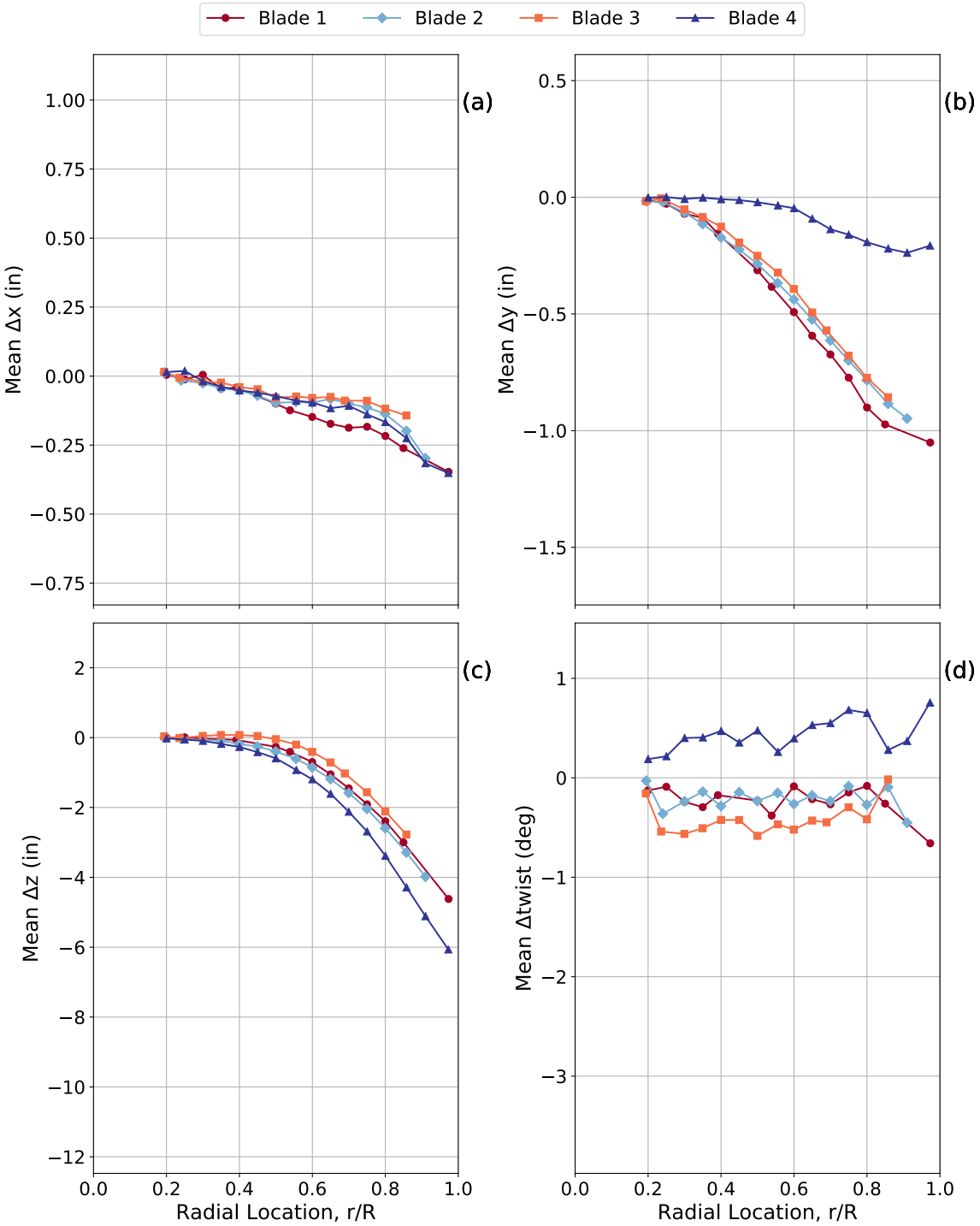


Figure 2.17-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-43. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0045	0.0042	-0.0120	0.0026	-0.0063	0.0056	-0.1265	0.0384
1	350.16	0.2499	-0.0121	0.0018	-0.0278	0.0046	0.0083	0.0078	-0.0901	0.0750
1	350.16	0.2998	0.0047	0.0020	-0.0709	0.0097	-0.0309	0.0164	-0.2420	0.0882
1	350.16	0.3498	-0.0458	0.0024	-0.0879	0.0171	-0.0467	0.0262	-0.2953	0.0794
1	350.16	0.3913	-0.0417	0.0029	-0.1553	0.0238	-0.0670	0.0354	-0.1746	0.0799
1	350.16	0.4997	-0.0999	0.0048	-0.3127	0.0403	-0.2641	0.0563	-0.2295	0.0867
1	350.16	0.5387	-0.1239	0.0055	-0.3835	0.0475	-0.4086	0.0657	-0.3796	0.0847
1	350.16	0.5996	-0.1481	0.0068	-0.4922	0.0567	-0.6991	0.0784	-0.0861	0.0791
1	350.16	0.6498	-0.1728	0.0084	-0.5934	0.0638	-1.0516	0.0886	-0.2145	0.0858
1	350.16	0.6998	-0.1872	0.0101	-0.6736	0.0719	-1.4515	0.0995	-0.2665	0.0842
1	350.16	0.7500	-0.1836	0.0114	-0.7733	0.0798	-1.9094	0.1102	-0.1466	0.0809
1	350.16	0.8001	-0.2170	0.0136	-0.9009	0.0860	-2.3935	0.1211	-0.0815	0.0872
1	350.16	0.8497	-0.2611	0.0167	-0.9733	0.0943	-3.0000	0.1326	-0.2602	0.0836
1	350.16	0.9734	-0.3470	0.0242	-1.0509	0.1116	-4.6194	0.1587	-0.6587	0.1407
2	350.16	0.1949	0.0131	0.0039	-0.0166	0.0021	0.0027	0.0052	-0.0297	0.0250
2	350.16	0.2405	-0.0155	0.0019	-0.0202	0.0022	-0.0303	0.0055	-0.3611	0.0677
2	350.16	0.2999	-0.0258	0.0015	-0.0654	0.0065	-0.0650	0.0156	-0.2368	0.0688
2	350.16	0.3498	-0.0440	0.0028	-0.1147	0.0109	-0.0874	0.0260	-0.1398	0.0636
2	350.16	0.3998	-0.0518	0.0047	-0.1725	0.0159	-0.1842	0.0375	-0.2850	0.0580
2	350.16	0.4496	-0.0704	0.0057	-0.2238	0.0204	-0.2533	0.0486	-0.1458	0.0596
2	350.16	0.4995	-0.0969	0.0066	-0.2855	0.0248	-0.3985	0.0586	-0.2339	0.0648
2	350.16	0.5551	-0.0939	0.0077	-0.3680	0.0303	-0.6052	0.0706	-0.1526	0.0622
2	350.16	0.5996	-0.0966	0.0090	-0.4377	0.0345	-0.8540	0.0799	-0.2637	0.0649
2	350.16	0.6497	-0.0826	0.0097	-0.5235	0.0389	-1.1856	0.0906	-0.1775	0.0676
2	350.16	0.6996	-0.0999	0.0111	-0.6136	0.0447	-1.5856	0.0993	-0.2345	0.0764
2	350.16	0.7495	-0.1135	0.0117	-0.6989	0.0491	-2.0396	0.1103	-0.0843	0.0703
2	350.16	0.7996	-0.1368	0.0129	-0.7836	0.0549	-2.5936	0.1211	-0.2707	0.0718
2	350.16	0.8578	-0.1987	0.0156	-0.8851	0.0607	-3.2891	0.1334	-0.0936	0.0894
2	350.16	0.9100	-0.2979	0.0186	-0.9482	0.0663	-3.9841	0.1405	-0.4516	0.1434
3	350.16	0.1938	0.0156	0.0063	-0.0168	0.0031	0.0342	0.0068	-0.1560	0.0336
3	350.16	0.2357	-0.0060	0.0019	-0.0044	0.0019	-0.0141	0.0047	-0.5403	0.0945
3	350.16	0.2995	-0.0201	0.0019	-0.0520	0.0088	0.0475	0.0172	-0.5642	0.1021
3	350.16	0.3493	-0.0234	0.0025	-0.0850	0.0152	0.0752	0.0284	-0.5071	0.0939
3	350.16	0.4000	-0.0397	0.0040	-0.1260	0.0219	0.0766	0.0395	-0.4237	0.0950
3	350.16	0.4497	-0.0476	0.0046	-0.1939	0.0282	0.0442	0.0506	-0.4245	0.0915
3	350.16	0.4997	-0.0783	0.0054	-0.2509	0.0342	-0.0451	0.0611	-0.5836	0.0952
3	350.16	0.5556	-0.0739	0.0058	-0.3229	0.0417	-0.2005	0.0730	-0.4682	0.0938
3	350.16	0.5995	-0.0791	0.0067	-0.3929	0.0480	-0.4075	0.0819	-0.5212	0.0992
3	350.16	0.6498	-0.0755	0.0067	-0.4934	0.0546	-0.7101	0.0928	-0.4299	0.0980
3	350.16	0.6890	-0.0888	0.0075	-0.5705	0.0602	-1.0260	0.1011	-0.4475	0.0959
3	350.16	0.7495	-0.0896	0.0089	-0.6790	0.0685	-1.5634	0.1136	-0.2958	0.0953
3	350.16	0.7998	-0.1180	0.0108	-0.7737	0.0754	-2.1116	0.1224	-0.4174	0.1081
3	350.16	0.8577	-0.1425	0.0162	-0.8569	0.0832	-2.7743	0.1355	-0.0167	0.1642
4	350.16	0.2001	0.0146	0.0043	-0.0013	0.0012	-0.0232	0.0026	0.1879	0.0229
4	350.16	0.2502	0.0186	0.0019	0.0009	0.0020	-0.0560	0.0044	0.2159	0.0433
4	350.16	0.3001	-0.0188	0.0015	-0.0074	0.0041	-0.0932	0.0085	0.3998	0.0532
4	350.16	0.3502	-0.0386	0.0033	-0.0017	0.0072	-0.1800	0.0142	0.4053	0.0506
4	350.16	0.4002	-0.0520	0.0048	-0.0085	0.0107	-0.2694	0.0212	0.4704	0.0495
4	350.16	0.4500	-0.0600	0.0063	-0.0119	0.0141	-0.4160	0.0280	0.3540	0.0491
4	350.16	0.5001	-0.0721	0.0073	-0.0214	0.0179	-0.5935	0.0346	0.4756	0.0512
4	350.16	0.5560	-0.0892	0.0081	-0.0351	0.0224	-0.9287	0.0415	0.2597	0.0519
4	350.16	0.6001	-0.0957	0.0085	-0.0469	0.0258	-1.1948	0.0468	0.3965	0.0491
4	350.16	0.6501	-0.1163	0.0088	-0.0919	0.0307	-1.6092	0.0532	0.5303	0.0509
4	350.16	0.6999	-0.1077	0.0089	-0.1370	0.0347	-2.1223	0.0590	0.5498	0.0503
4	350.16	0.7500	-0.1388	0.0099	-0.1605	0.0378	-2.6876	0.0632	0.6825	0.0563
4	350.16	0.8002	-0.1665	0.0110	-0.1924	0.0424	-3.3840	0.0693	0.6513	0.0638
4	350.16	0.8582	-0.2252	0.0137	-0.2201	0.0477	-4.2879	0.0755	0.2802	0.0857
4	350.16	0.9101	-0.3159	0.0166	-0.2380	0.0523	-5.1145	0.0855	0.3696	0.0897
4	350.16	0.9728	-0.3513	0.0224	-0.2072	0.0581	-6.0662	0.0979	0.7558	0.1381

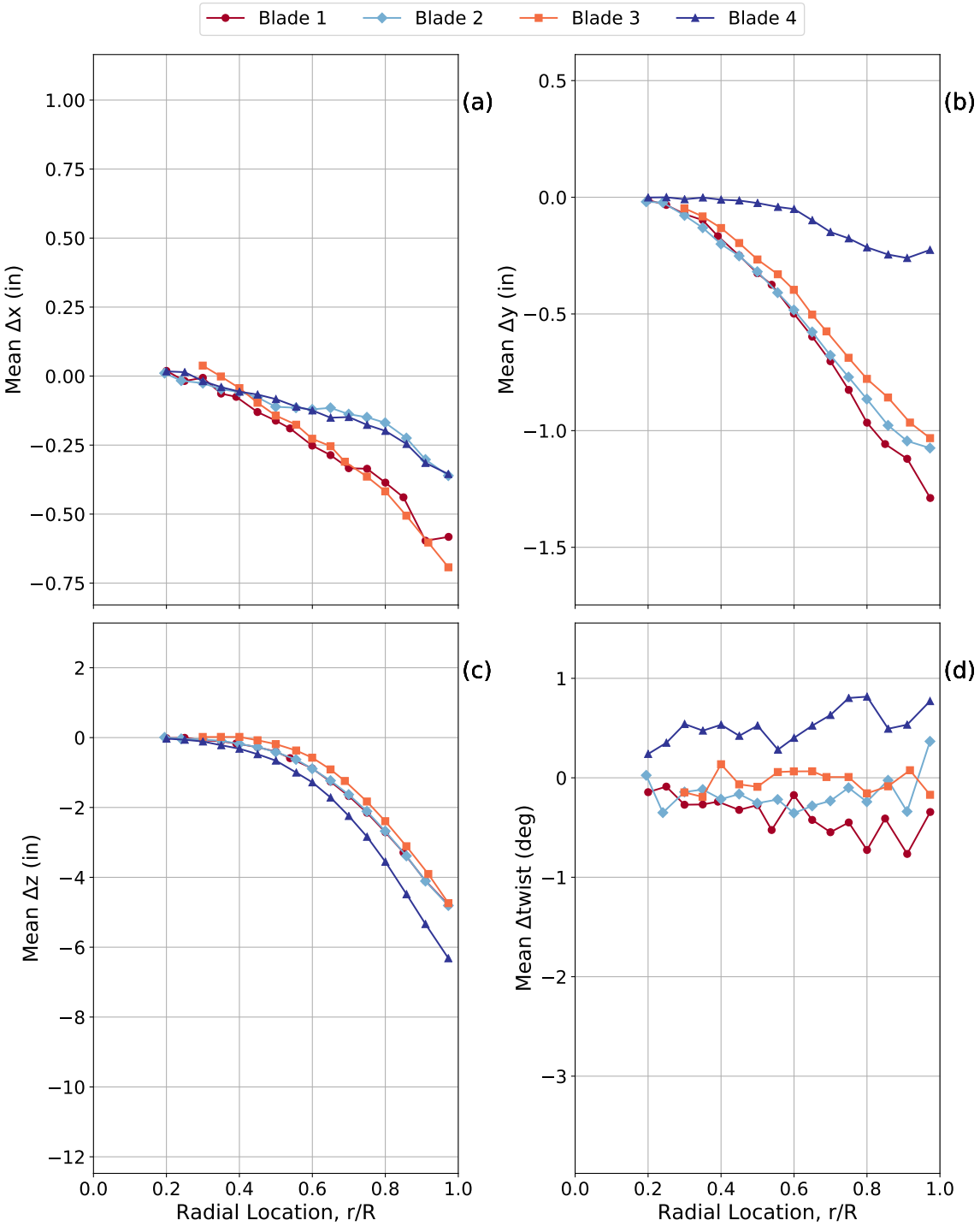


Figure 2.17-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Table 2.17-44. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, points 34 to 39. BD run 32, points 5083 to 5122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0189	0.0043	-0.0122	0.0030	-0.0146	0.0070	-0.1446	0.0523
1	355.08	0.2499	-0.0176	0.0024	-0.0328	0.0047	-0.0071	0.0092	-0.0886	0.1287
1	355.08	0.2998	-0.0062	0.0019	-0.0719	0.0099	-0.0757	0.0209	-0.2708	0.1331
1	355.08	0.3498	-0.0634	0.0020	-0.0981	0.0179	-0.1069	0.0351	-0.2682	0.1250
1	355.08	0.3913	-0.0752	0.0024	-0.1665	0.0240	-0.1670	0.0468	-0.2401	0.1222
1	355.08	0.4496	-0.1302	0.0028	-0.2497	0.0323	-0.2755	0.0621	-0.3228	0.1255
1	355.08	0.4997	-0.1614	0.0028	-0.3255	0.0398	-0.3990	0.0763	-0.2746	0.1256
1	355.08	0.5387	-0.1895	0.0026	-0.3747	0.0456	-0.5879	0.0868	-0.5250	0.1310
1	355.08	0.5996	-0.2518	0.0030	-0.4985	0.0538	-0.8818	0.1035	-0.1740	0.1308
1	355.08	0.6498	-0.2863	0.0032	-0.5971	0.0613	-1.2601	0.1181	-0.4235	0.1296
1	355.08	0.6998	-0.3337	0.0035	-0.7027	0.0678	-1.6735	0.1321	-0.5472	0.1362
1	355.08	0.7500	-0.3357	0.0035	-0.8255	0.0756	-2.1531	0.1472	-0.4491	0.1361
1	355.08	0.8001	-0.3859	0.0042	-0.9660	0.0825	-2.7089	0.1636	-0.7258	0.1228
1	355.08	0.8497	-0.4391	0.0058	-1.0575	0.0917	-3.2888	0.1762	-0.4096	0.1514
1	355.08	0.9102	-0.5964	0.0083	-1.1208	0.0991	-4.1021	0.1971	-0.7655	0.1487
1	355.08	0.9734	-0.5825	0.0101	-1.2887	0.1100	-4.7922	0.2163	-0.3439	0.1724
2	355.08	0.1949	0.0107	0.0065	-0.0194	0.0028	0.0062	0.0065	0.0250	0.0373
2	355.08	0.2405	-0.0165	0.0024	-0.0227	0.0026	-0.0352	0.0059	-0.3504	0.0963
2	355.08	0.2999	-0.0257	0.0018	-0.0778	0.0084	-0.0566	0.0173	-0.1427	0.1035
2	355.08	0.3498	-0.0476	0.0032	-0.1306	0.0143	-0.0884	0.0287	-0.1182	0.0998
2	355.08	0.3998	-0.0575	0.0048	-0.2002	0.0206	-0.1810	0.0403	-0.2149	0.1019
2	355.08	0.4496	-0.0771	0.0064	-0.2515	0.0263	-0.2698	0.0516	-0.1635	0.1030
2	355.08	0.4995	-0.1112	0.0072	-0.3187	0.0324	-0.4133	0.0631	-0.2554	0.1039
2	355.08	0.5551	-0.1148	0.0082	-0.4088	0.0399	-0.6261	0.0758	-0.2182	0.1037
2	355.08	0.5996	-0.1205	0.0088	-0.4829	0.0456	-0.8915	0.0856	-0.3548	0.1024
2	355.08	0.6497	-0.1150	0.0093	-0.5772	0.0523	-1.2307	0.0971	-0.2826	0.1037
2	355.08	0.6996	-0.1379	0.0094	-0.6772	0.0592	-1.6300	0.1087	-0.2322	0.1068
2	355.08	0.7495	-0.1491	0.0099	-0.7705	0.0660	-2.1098	0.1210	-0.0999	0.1051
2	355.08	0.7996	-0.1690	0.0111	-0.8648	0.0728	-2.6764	0.1337	-0.2412	0.1065
2	355.08	0.8578	-0.2245	0.0109	-0.9775	0.0811	-3.3881	0.1488	-0.0249	0.1006
2	355.08	0.9100	-0.3023	0.0120	-1.0444	0.0881	-4.1081	0.1611	-0.3392	0.1083
2	355.08	0.9727	-0.3607	0.0182	-1.0747	0.0977	-4.8076	0.1788	0.3665	0.1617
3	355.08	0.2995	0.0380	0.0058	-0.0473	0.0122	0.0181	0.0327	-0.1468	0.0901
3	355.08	0.3493	-0.0014	0.0076	-0.0821	0.0211	0.0192	0.0551	-0.1919	0.1188
3	355.08	0.4000	-0.0435	0.0062	-0.1318	0.0339	0.0192	0.0870	0.1361	0.1123
3	355.08	0.4497	-0.0965	0.0062	-0.1961	0.0447	-0.0761	0.1103	-0.0661	0.1034
3	355.08	0.4997	-0.1431	0.0067	-0.2666	0.0562	-0.1860	0.1381	-0.0905	0.1043
3	355.08	0.5556	-0.1761	0.0069	-0.3299	0.0687	-0.3692	0.1689	0.0578	0.1085
3	355.08	0.5995	-0.2270	0.0077	-0.3966	0.0786	-0.5740	0.1940	0.0644	0.1105
3	355.08	0.6498	-0.2540	0.0076	-0.5029	0.0903	-0.9110	0.2200	0.0652	0.1220
3	355.08	0.6890	-0.3102	0.0082	-0.5746	0.0993	-1.2412	0.2413	0.0077	0.1074
3	355.08	0.7495	-0.3641	0.0091	-0.6878	0.1130	-1.8298	0.2770	0.0077	0.1293
3	355.08	0.7998	-0.4175	0.0094	-0.7783	0.1249	-2.3929	0.3043	-0.1563	0.1106
3	355.08	0.8577	-0.5057	0.0103	-0.8580	0.1380	-3.1098	0.3363	-0.0857	0.1043
3	355.08	0.9178	-0.6030	0.0107	-0.9655	0.1519	-3.9050	0.3698	0.0759	0.1362
3	355.08	0.9729	-0.6927	0.0146	-1.0321	0.1645	-4.7390	0.3980	-0.1710	0.1104
4	355.08	0.2001	0.0171	0.0047	-0.0010	0.0016	-0.0305	0.0037	0.2396	0.0299
4	355.08	0.2502	0.0142	0.0017	-0.0000	0.0028	-0.0615	0.0056	0.3521	0.0644
4	355.08	0.3001	-0.0183	0.0022	-0.0086	0.0058	-0.1116	0.0111	0.5404	0.0733
4	355.08	0.3502	-0.0401	0.0036	-0.0012	0.0103	-0.2183	0.0192	0.4741	0.0680
4	355.08	0.4002	-0.0564	0.0048	-0.0104	0.0154	-0.3185	0.0278	0.5332	0.0700
4	355.08	0.4500	-0.0669	0.0061	-0.0140	0.0200	-0.4759	0.0349	0.4220	0.0680
4	355.08	0.5001	-0.0834	0.0071	-0.0248	0.0245	-0.6594	0.0417	0.5248	0.0701
4	355.08	0.5560	-0.1108	0.0087	-0.0415	0.0304	-1.0018	0.0497	0.2827	0.0674
4	355.08	0.6001	-0.1244	0.0096	-0.0504	0.0346	-1.2812	0.0555	0.4015	0.0656
4	355.08	0.6501	-0.1508	0.0099	-0.0987	0.0392	-1.7168	0.0629	0.5244	0.0674
4	355.08	0.6999	-0.1484	0.0112	-0.1491	0.0442	-2.2437	0.0699	0.6314	0.0699
4	355.08	0.7500	-0.1768	0.0119	-0.1762	0.0491	-2.8404	0.0777	0.8025	0.0680
4	355.08	0.8002	-0.1986	0.0124	-0.2148	0.0548	-3.5557	0.0848	0.8156	0.0751
4	355.08	0.8582	-0.2460	0.0136	-0.2456	0.0609	-4.4849	0.0953	0.4931	0.0835
4	355.08	0.9101	-0.3147	0.0147	-0.2604	0.0666	-5.3383	0.1060	0.5338	0.0745
4	355.08	0.9728	-0.3549	0.0168	-0.2256	0.0734	-6.3176	0.1184	0.7710	0.0970

2.18 Run 81, Points 12 to 16

2.18.1 Pitch, Flap, and Lag

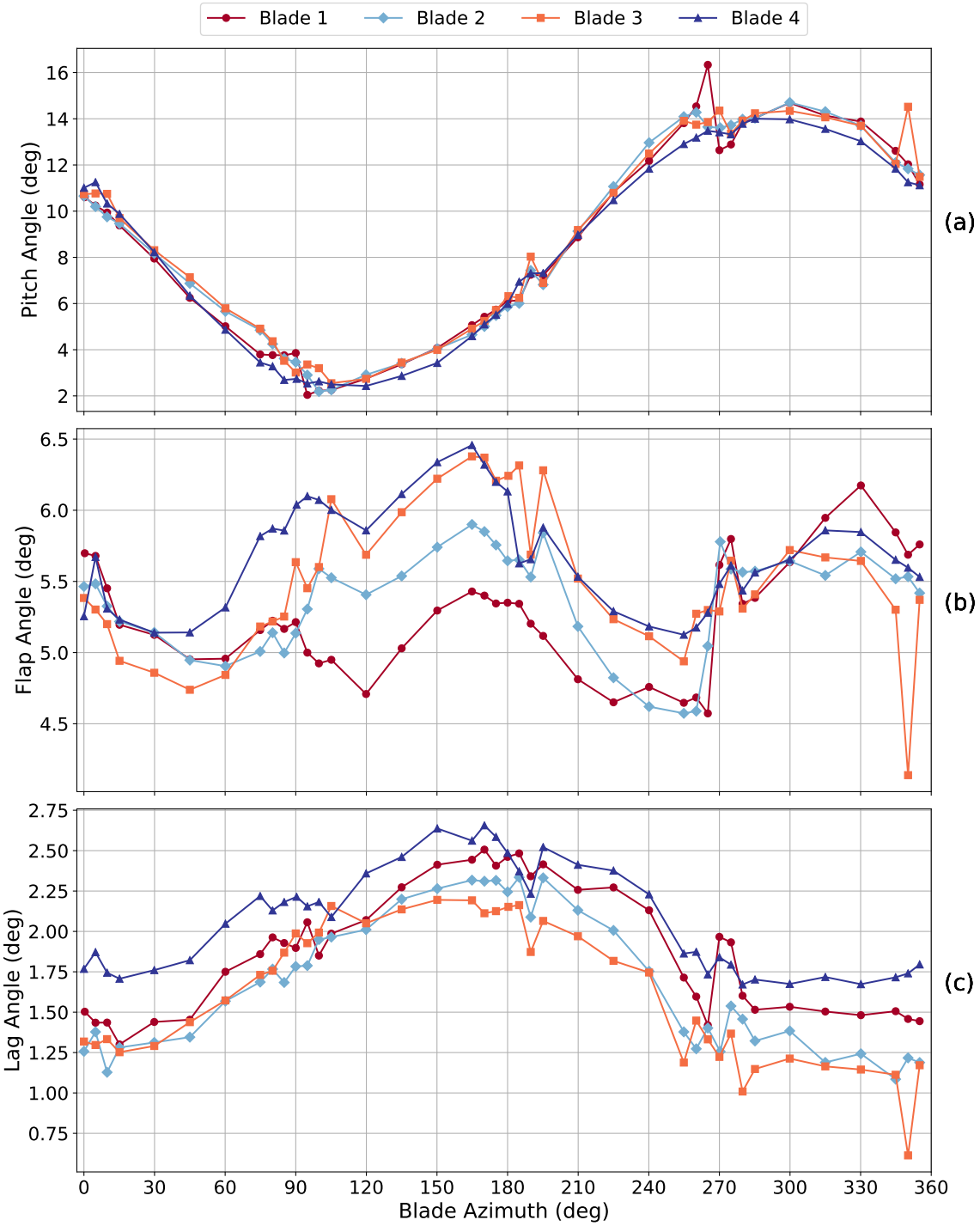


Figure 2.18-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	10.6068	5.6981	1.5030	0.1314	0.0880	0.0551
4.92	10.2444	5.6794	1.4350	0.1003	0.0677	0.0531
9.84	9.9401	5.4516	1.4357	0.1104	0.0980	0.0905
15.12	9.3809	5.1955	1.3003	0.1291	0.1138	0.1283
29.88	7.9474	5.1246	1.4395	0.1255	0.1221	0.0499
45	6.2472	4.9528	1.4534	0.1096	0.0898	0.0422
60.12	5.0162	4.9571	1.7502	0.1718	0.0883	0.0439
74.88	3.7959	5.1580	1.8593	0.1373	0.0952	0.0510
80.16	3.7678	5.2235	1.9631	0.1378	0.0961	0.0510
85.08	3.7622	5.1664	1.9282	0.1580	0.0862	0.0426
90	3.8565	5.2143	1.8978	0.2642	0.1366	0.0459
94.92	2.0443	4.9998	2.0567	0.1297	0.0764	0.0621
99.84	2.2262	4.9241	1.8502	0.1081	0.0926	0.0722
105.12	2.2527	4.9494	1.9862	0.1479	0.0836	0.0554
119.88	2.7462	4.7089	2.0703	0.1062	0.0844	0.0483
135	3.3716	5.0298	2.2733	0.1104	0.0797	0.0842
150.12	4.0754	5.2954	2.4129	0.0872	0.0998	0.0562
164.88	5.0643	5.4292	2.4438	0.0765	0.1424	0.0611
170.16	5.4271	5.4005	2.5065	0.0846	0.1285	0.0430
175.08	5.7350	5.3450	2.4070	0.1094	0.1405	0.0701
180	6.1072	5.3506	2.4615	0.1369	0.1044	0.0498
184.92	6.1330	5.3429	2.4832	0.1022	0.1266	0.0593
189.84	7.2457	5.2029	2.3413	0.5836	0.2067	0.1411
195.12	7.2170	5.1171	2.4151	0.1234	0.1437	0.0823
209.88	8.8677	4.8125	2.2573	0.1019	0.1022	0.0515
225	10.8212	4.6507	2.2723	0.0957	0.0900	0.0469
240.12	12.1775	4.7585	2.1307	0.0955	0.0743	0.0774
254.88	13.8089	4.6472	1.7143	0.1459	0.1173	0.0670
260.16	14.5359	4.6844	1.5963	0.4232	0.1524	0.0904
265.08	16.3353	4.5726	1.4193	0.5530	0.2174	0.1295
270	12.6406	5.6157	1.9664	0.2578	0.1287	0.1141
274.92	12.8875	5.7981	1.9324	0.1924	0.0836	0.0579
279.84	13.8251	5.3426	1.6017	0.1293	0.0886	0.0588
285.12	14.0316	5.3843	1.5150	0.2565	0.0966	0.1060
299.88	14.6896	5.6346	1.5335	0.2136	0.0891	0.1069
315	14.1347	5.9466	1.5040	0.1226	0.0890	0.0842
330.12	13.8823	6.1744	1.4814	0.0939	0.1221	0.0607
344.88	12.6122	5.8444	1.5060	0.1264	0.0800	0.0576
350.16	12.0299	5.6876	1.4581	0.1336	0.0909	0.0961
355.08	11.1579	5.7597	1.4445	0.1348	0.1282	0.0485

Table 2.18-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	10.6558	5.4643	1.2571	0.0818	0.0930	0.0582
4.92	10.1973	5.4829	1.3780	0.2581	0.1582	0.1073
9.84	9.7524	5.3260	1.1279	0.1295	0.0735	0.0761
15.12	9.4617	5.2182	1.2814	0.1200	0.0918	0.0796
29.88	8.1666	5.1418	1.3125	0.1342	0.0851	0.0387
45	6.8730	4.9470	1.3455	0.1506	0.0817	0.0790
60.12	5.6613	4.9049	1.5684	0.1050	0.0923	0.0596
74.88	4.8463	5.0077	1.6864	0.1375	0.1232	0.0458
80.16	4.2481	5.1396	1.7666	0.1181	0.0761	0.0321
85.08	3.6197	4.9971	1.6838	0.1244	0.1085	0.0681
90	3.4630	5.1363	1.7833	0.1204	0.0886	0.0448
94.92	2.9038	5.3057	1.7879	0.0969	0.0697	0.0504
99.84	2.1901	5.5892	1.9494	0.0786	0.0931	0.0845
105.12	2.2628	5.5259	1.9650	0.1363	0.0880	0.0723
119.88	2.9150	5.4065	2.0108	0.1247	0.0777	0.0579
135	3.4133	5.5381	2.1993	0.1096	0.1144	0.0412
150.12	4.0390	5.7405	2.2649	0.1123	0.1189	0.0717
164.88	4.6512	5.9002	2.3174	0.0963	0.1189	0.0553
170.16	5.0070	5.8502	2.3108	0.0666	0.1041	0.0867
175.08	5.4844	5.7560	2.3158	0.0951	0.0921	0.0894
180	5.8603	5.6453	2.2447	0.1446	0.1173	0.1089
184.92	6.0061	5.6517	2.3351	0.2292	0.1170	0.0655
189.84	7.4328	5.5309	2.0884	0.3625	0.1890	0.1505
195.12	6.8158	5.8418	2.3316	0.4696	0.4779	0.1884
209.88	9.1337	5.1836	2.1311	0.1545	0.1247	0.1174
225	11.0675	4.8233	2.0062	0.1451	0.0771	0.0801
240.12	12.9661	4.6203	1.7535	0.1181	0.0712	0.0784
254.88	14.0931	4.5732	1.3781	0.1570	0.0779	0.0602
260.16	14.2789	4.5885	1.2731	0.1399	0.1079	0.0911
265.08	13.6460	5.0459	1.4018	0.2571	0.1213	0.0798
270.35	13.6105	5.7790	1.2561	0.4870	0.2966	0.1295
274.92	13.7257	5.5869	1.5381	0.0989	0.0787	0.0756
279.84	13.9812	5.5648	1.4572	0.2005	0.0944	0.1110
285.12	14.0262	5.5716	1.3218	0.2021	0.1075	0.1486
299.88	14.7069	5.6433	1.3842	0.1389	0.1343	0.0668
315	14.3108	5.5422	1.1889	0.1560	0.1089	0.0780
330.12	13.6997	5.7075	1.2427	0.1654	0.1275	0.0412
344.88	12.1050	5.5185	1.0853	0.1032	0.0867	0.0567
350.16	11.8353	5.5336	1.2171	0.0693	0.0897	0.0577
355.08	11.5656	5.4182	1.1883	0.1039	0.0956	0.0566

Table 2.18-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	10.7349	5.3837	1.3183	0.0944	0.0756	0.0481
4.92	10.7667	5.3024	1.2967	0.2497	0.1320	0.0833
9.84	10.7495	5.2000	1.3332	0.4227	0.1702	0.1172
15.12	9.7028	4.9422	1.2522	0.1062	0.0966	0.0787
29.88	8.3099	4.8583	1.2907	0.1237	0.0653	0.0539
45	7.1372	4.7386	1.4384	0.0682	0.0893	0.0525
60.12	5.7944	4.8430	1.5728	0.1200	0.0726	0.0691
74.88	4.9124	5.1831	1.7307	0.1015	0.0889	0.0412
80.16	4.3670	5.2185	1.7565	0.1915	0.1299	0.0763
85.08	3.5208	5.2532	1.8686	0.0907	0.0692	0.0900
90	3.0126	5.6354	1.9875	0.1817	0.0769	0.1193
94.92	3.3613	5.4522	1.9271	0.2041	0.1001	0.0850
99.84	3.2008	5.6011	1.9929	0.2131	0.1195	0.0583
105.12	2.5511	6.0778	2.1574	0.1734	0.1528	0.1371
119.88	2.7390	5.6872	2.0505	0.1055	0.0866	0.1015
135	3.4439	5.9862	2.1364	0.0757	0.0912	0.0876
150.12	3.9936	6.2217	2.1952	0.0670	0.1134	0.0695
164.88	4.9111	6.3785	2.1924	0.1022	0.1190	0.0399
170.16	5.2461	6.3698	2.1124	0.1029	0.1212	0.0707
175.08	5.7179	6.2078	2.1255	0.0923	0.1396	0.0488
180.35	6.3189	6.2419	2.1521	0.2578	0.1571	0.0541
184.92	6.2475	6.3148	2.1629	0.0703	0.1017	0.0551
189.84	8.0297	5.6885	1.8728	0.3826	0.1374	0.1469
195.12	6.8895	6.2806	2.0649	0.3472	0.3237	0.1899
209.88	9.1829	5.5202	1.9699	0.1214	0.1207	0.0755
225	10.7918	5.2346	1.8177	0.1514	0.0979	0.0484
240.12	12.4941	5.1149	1.7454	0.2143	0.0939	0.0497
254.88	13.9103	4.9384	1.1881	0.1385	0.0815	0.0495
260.16	13.7468	5.2727	1.4480	0.1662	0.0871	0.0614
265.08	13.8606	5.2992	1.3318	0.2279	0.0827	0.0701
270	14.3551	5.2890	1.2233	0.4676	0.1812	0.0928
274.92	13.3523	5.6460	1.3674	0.0857	0.1021	0.0656
279.84	13.9193	5.3091	1.0089	0.2038	0.0874	0.0745
285.12	14.2378	5.4088	1.1481	0.1187	0.0848	0.0832
299.88	14.3439	5.7203	1.2129	0.1430	0.0719	0.0467
315	14.0648	5.6685	1.1644	0.1279	0.0750	0.0693
330.12	13.7008	5.6439	1.1448	0.1341	0.1230	0.0598
344.88	12.0449	5.3011	1.1126	0.0955	0.0967	0.0523
350.16	14.5198	4.1389	0.6134	3.0385	1.3938	0.7833
355.08	11.4862	5.3707	1.1714	0.1858	0.1032	0.0886

Table 2.18-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	11.0094	5.2552	1.7680	0.1634	0.0858	0.1130
4.92	11.2536	5.6716	1.8713	0.1840	0.1245	0.0812
9.84	10.3295	5.3093	1.7441	0.1191	0.0783	0.0643
15.12	9.8809	5.2318	1.7071	0.1249	0.0870	0.0996
29.88	8.2258	5.1398	1.7603	0.0999	0.0747	0.1085
45	6.3400	5.1415	1.8217	0.0960	0.0672	0.0880
60.12	4.8652	5.3171	2.0476	0.0992	0.0745	0.0618
74.88	3.4467	5.8180	2.2192	0.1121	0.0744	0.0305
80.16	3.2789	5.8712	2.1298	0.1449	0.0864	0.0757
85.08	2.6916	5.8571	2.1818	0.1346	0.0809	0.0389
90.35	2.7381	6.0390	2.2144	0.1271	0.0870	0.0515
94.92	2.5363	6.0985	2.1550	0.1354	0.0797	0.0431
99.84	2.6282	6.0721	2.1825	0.1828	0.1023	0.0951
105.12	2.4986	6.0021	2.0889	0.2155	0.1261	0.1422
119.88	2.4303	5.8585	2.3589	0.0978	0.0924	0.0614
135	2.8652	6.1136	2.4608	0.1135	0.0859	0.0545
150.12	3.4265	6.3375	2.6372	0.0812	0.1277	0.0395
164.88	4.5889	6.4577	2.5616	0.0862	0.0963	0.0506
170.16	5.0951	6.3199	2.6565	0.0718	0.0918	0.0489
175.08	5.5105	6.1991	2.5849	0.0808	0.1078	0.0580
180	5.9819	6.1321	2.4860	0.1207	0.1490	0.0475
184.92	6.9429	5.6266	2.3719	0.1966	0.1133	0.0879
189.84	7.3063	5.6557	2.2328	0.1052	0.1004	0.0912
195.12	7.3198	5.8782	2.5218	0.0988	0.1298	0.0675
209.88	8.9751	5.5328	2.4123	0.0866	0.1207	0.0457
225	10.4762	5.2903	2.3763	0.1545	0.0979	0.0767
240.12	11.8399	5.1836	2.2291	0.1370	0.0910	0.0663
254.88	12.9051	5.1250	1.8630	0.1835	0.0886	0.0610
260.16	13.1852	5.1756	1.8734	0.1897	0.0700	0.0454
265.08	13.4804	5.2798	1.7334	0.2526	0.0944	0.0928
270	13.4132	5.4821	1.8400	0.7365	0.2159	0.1052
274.92	13.3238	5.6117	1.7942	0.1140	0.0652	0.0554
279.84	13.7845	5.4354	1.6714	0.2679	0.0605	0.0773
285.12	14.0032	5.5625	1.7021	0.2057	0.0875	0.0979
299.88	13.9770	5.6543	1.6747	0.1690	0.0729	0.0474
315	13.5628	5.8587	1.7177	0.1238	0.0491	0.0408
330.12	13.0280	5.8467	1.6732	0.1095	0.0918	0.0733
344.88	11.8400	5.6517	1.7159	0.0932	0.0653	0.0458
350.16	11.2508	5.5962	1.7401	0.1063	0.0732	0.0717
355.08	11.1208	5.5314	1.7954	0.1074	0.0810	0.0895

2.18.2 Spanwise Elastic Deformations

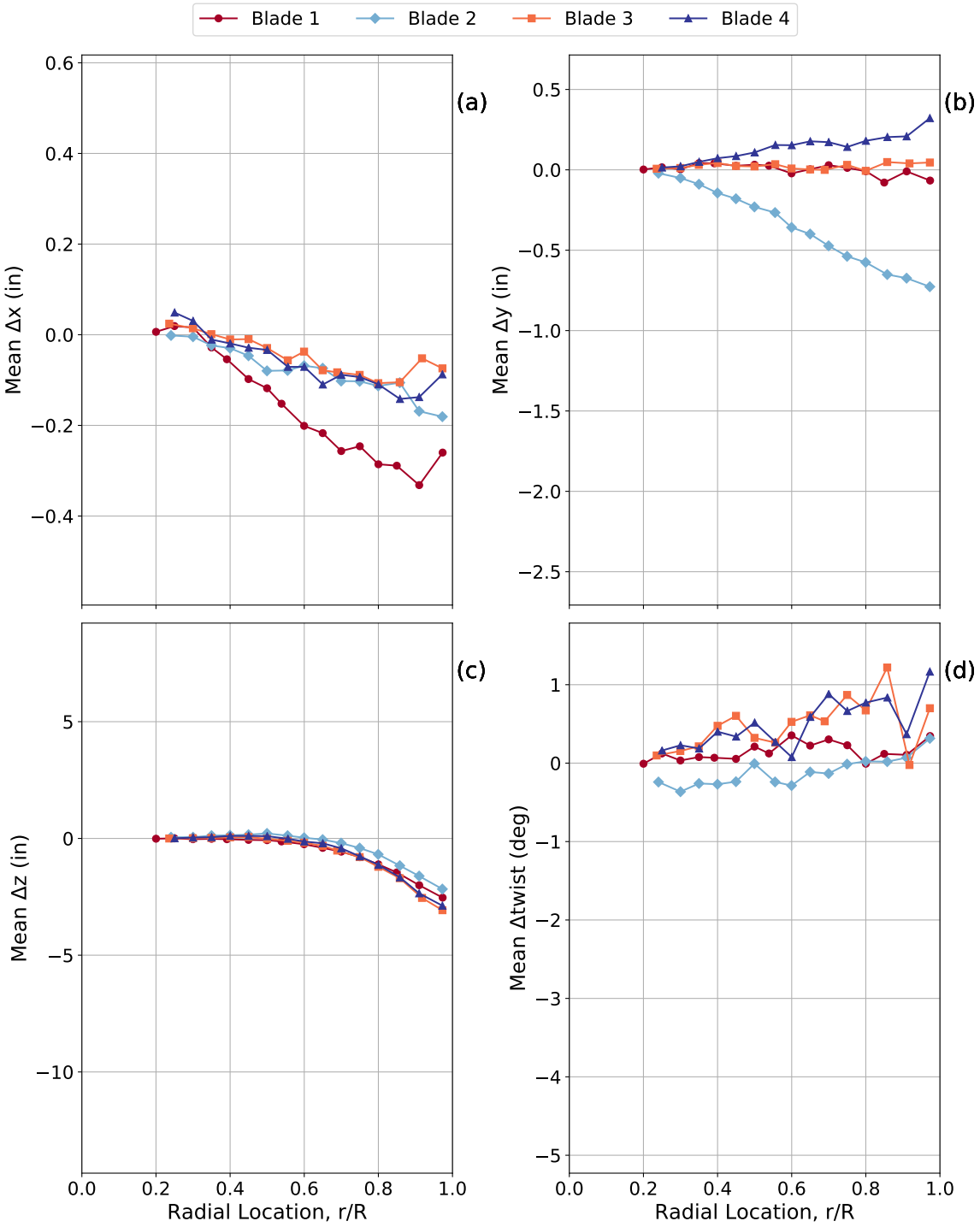


Figure 2.18-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0064	0.0032	0.0021	0.0019	-0.0119	0.0061	-0.0076	0.0574
1	0.35	0.2499	0.0191	0.0019	0.0158	0.0041	0.0031	0.0120	0.1234	0.0858
1	0.35	0.2998	0.0159	0.0018	0.0034	0.0072	-0.0329	0.0194	0.0338	0.1235
1	0.35	0.3498	-0.0281	0.0021	0.0416	0.0139	-0.0167	0.0329	0.0773	0.1166
1	0.35	0.3913	-0.0541	0.0025	0.0405	0.0189	-0.0336	0.0456	0.0687	0.1144
1	0.35	0.4496	-0.0978	0.0022	0.0252	0.0235	-0.0619	0.0600	0.0545	0.1287
1	0.35	0.4997	-0.1181	0.0025	0.0318	0.0293	-0.0747	0.0741	0.2107	0.1267
1	0.35	0.5387	-0.1522	0.0027	0.0258	0.0329	-0.1286	0.0866	0.1233	0.1409
1	0.35	0.5996	-0.2010	0.0031	-0.0220	0.0395	-0.2486	0.1060	0.3540	0.1348
1	0.35	0.6498	-0.2171	0.0034	0.0036	0.0447	-0.4041	0.1248	0.2235	0.1331
1	0.35	0.6998	-0.2566	0.0034	0.0289	0.0513	-0.5665	0.1445	0.3024	0.1427
1	0.35	0.7500	-0.2461	0.0039	0.0122	0.0576	-0.8018	0.1615	0.2278	0.1410
1	0.35	0.8001	-0.2858	0.0039	-0.0085	0.0637	-1.1108	0.1812	-0.0072	0.1419
1	0.35	0.8497	-0.2889	0.0044	-0.0790	0.0700	-1.4556	0.2023	0.1179	0.1338
1	0.35	0.9102	-0.3318	0.0062	-0.0097	0.0786	-2.0034	0.2337	0.1057	0.1506
1	0.35	0.9734	-0.2600	0.0075	-0.0666	0.0876	-2.5357	0.2731	0.3455	0.1520
2	0	0.2405	-0.0016	0.0075	-0.0212	0.0024	0.0495	0.0092	-0.2406	0.0582
2	0	0.2999	-0.0044	0.0027	-0.0508	0.0055	0.0523	0.0172	-0.3641	0.0896
2	0	0.3498	-0.0236	0.0027	-0.0895	0.0101	0.1203	0.0288	-0.2593	0.0863
2	0	0.3998	-0.0296	0.0050	-0.1440	0.0160	0.1353	0.0429	-0.2693	0.0870
2	0	0.4496	-0.0464	0.0081	-0.1798	0.0213	0.1604	0.0525	-0.2366	0.0998
2	0	0.4995	-0.0797	0.0099	-0.2306	0.0275	0.2142	0.0652	-0.0067	0.0967
2	0	0.5551	-0.0788	0.0121	-0.2660	0.0352	0.1182	0.0774	-0.2395	0.0924
2	0	0.5996	-0.0683	0.0142	-0.3583	0.0419	0.0306	0.0883	-0.2860	0.0926
2	0	0.6497	-0.0739	0.0158	-0.3993	0.0498	-0.0509	0.1007	-0.1127	0.0980
2	0	0.6996	-0.1022	0.0181	-0.4727	0.0579	-0.2005	0.1143	-0.1325	0.0978
2	0	0.7495	-0.1027	0.0200	-0.5381	0.0656	-0.4115	0.1323	-0.0126	0.0958
2	0	0.7996	-0.1130	0.0226	-0.5754	0.0738	-0.6815	0.1493	0.0225	0.1024
2	0	0.8578	-0.1058	0.0265	-0.6511	0.0831	-1.1654	0.1737	0.0189	0.1171
2	0	0.9100	-0.1688	0.0323	-0.6739	0.0926	-1.6112	0.2021	0.0694	0.1030
2	0	0.9727	-0.1808	0.0402	-0.7270	0.1028	-2.1689	0.2376	0.3153	0.1589
3	0	0.2357	0.0244	0.0075	0.0069	0.0031	-0.0026	0.0103	0.0980	0.0553
3	0	0.2995	0.0143	0.0026	0.0113	0.0077	0.0107	0.0194	0.1546	0.0884
3	0	0.3493	0.0013	0.0027	0.0311	0.0142	0.0193	0.0313	0.2138	0.0868
3	0	0.4000	-0.0104	0.0052	0.0426	0.0226	0.0439	0.0463	0.4757	0.0910
3	0	0.4497	-0.0097	0.0080	0.0238	0.0301	0.0595	0.0589	0.6033	0.1017
3	0	0.4997	-0.0293	0.0113	0.0211	0.0380	-0.0165	0.0725	0.3222	0.1143
3	0	0.5556	-0.0564	0.0136	0.0350	0.0463	-0.1018	0.0877	0.2614	0.1133
3	0	0.5995	-0.0372	0.0167	0.0084	0.0529	-0.1820	0.1000	0.5262	0.1169
3	0	0.6498	-0.0784	0.0190	0.0024	0.0596	-0.3186	0.1142	0.6103	0.1119
3	0	0.6890	-0.0829	0.0207	-0.0003	0.0655	-0.5196	0.1263	0.5332	0.1176
3	0	0.7495	-0.0886	0.0255	0.0308	0.0757	-0.7992	0.1468	0.8694	0.1094
3	0	0.7998	-0.1068	0.0288	-0.0062	0.0841	-1.2138	0.1638	0.6722	0.1053
3	0	0.8577	-0.1048	0.0339	0.0484	0.0950	-1.7032	0.1890	1.2195	0.1291
3	0	0.9178	-0.0520	0.0375	0.0400	0.1070	-2.5475	0.2071	-0.0238	0.1303
3	0	0.9729	-0.0742	0.0456	0.0456	0.1163	-3.0733	0.2309	0.7001	0.2296
4	0	0.2502	0.0489	0.0085	0.0142	0.0025	0.0062	0.0090	0.1611	0.0682
4	0	0.3001	0.0305	0.0030	0.0219	0.0053	0.0369	0.0154	0.2279	0.0970
4	0	0.3502	-0.0107	0.0030	0.0496	0.0093	0.0530	0.0253	0.1863	0.0953
4	0	0.4002	-0.0193	0.0077	0.0724	0.0150	0.1082	0.0383	0.4009	0.0973
4	0	0.4500	-0.0287	0.0113	0.0853	0.0203	0.1064	0.0497	0.3382	0.1005
4	0	0.5001	-0.0336	0.0148	0.1083	0.0262	0.0968	0.0620	0.5166	0.0979
4	0	0.5560	-0.0709	0.0196	0.1544	0.0331	-0.0149	0.0758	0.2692	0.0986
4	0	0.6001	-0.0708	0.0229	0.1531	0.0391	-0.1331	0.0866	0.0771	0.1065
4	0	0.6501	-0.1098	0.0269	0.1774	0.0467	-0.2093	0.1007	0.5890	0.1006
4	0	0.6999	-0.0884	0.0312	0.1722	0.0552	-0.4241	0.1144	0.8810	0.1051
4	0	0.7500	-0.0934	0.0365	0.1423	0.0635	-0.7681	0.1296	0.6647	0.0998
4	0	0.8002	-0.1095	0.0412	0.1806	0.0727	-1.1308	0.1470	0.7721	0.1116
4	0	0.8582	-0.1417	0.0484	0.2037	0.0846	-1.6689	0.1701	0.8364	0.1196
4	0	0.9101	-0.1376	0.0534	0.2082	0.0956	-2.3513	0.1954	0.3686	0.1383
4	0	0.9728	-0.0875	0.0635	0.3216	0.1099	-2.8802	0.2267	1.1663	0.1637

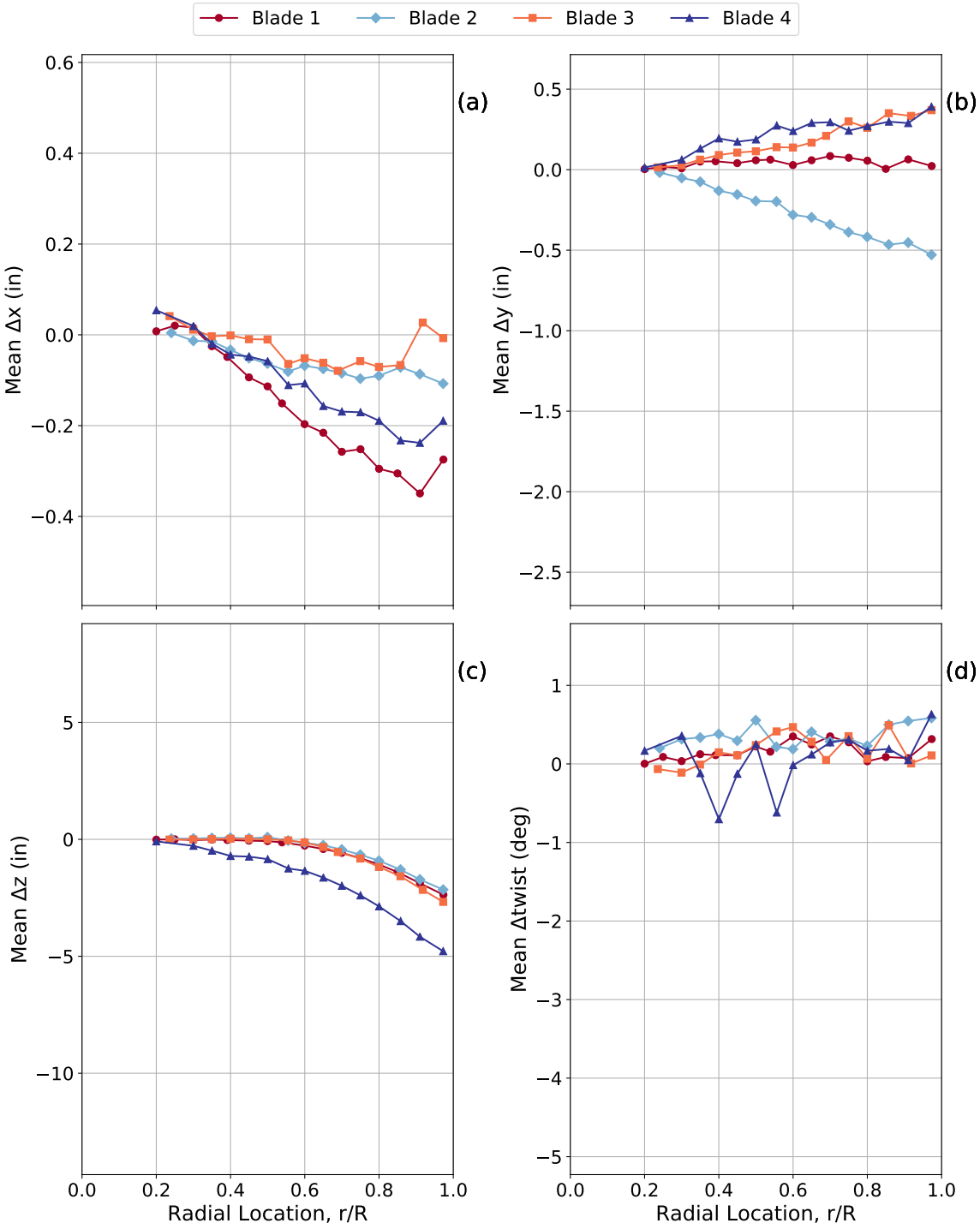


Figure 2.18-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0078	0.0027	0.0034	0.0017	-0.0123	0.0063	0.0024	0.0425
1	4.92	0.2499	0.0202	0.0015	0.0173	0.0039	0.0025	0.0101	0.0892	0.0813
1	4.92	0.2998	0.0158	0.0016	0.0083	0.0067	-0.0319	0.0200	0.0355	0.0974
1	4.92	0.3498	-0.0251	0.0021	0.0500	0.0119	-0.0122	0.0327	0.1236	0.0902
1	4.92	0.3913	-0.0488	0.0027	0.0521	0.0170	-0.0279	0.0454	0.1116	0.0891
1	4.92	0.4496	-0.0937	0.0028	0.0403	0.0223	-0.0563	0.0624	0.1102	0.0905
1	4.92	0.4997	-0.1136	0.0031	0.0582	0.0269	-0.0771	0.0803	0.2221	0.0973
1	4.92	0.5387	-0.1510	0.0029	0.0624	0.0310	-0.1297	0.0951	0.1558	0.0950
1	4.92	0.5996	-0.1968	0.0030	0.0287	0.0382	-0.2683	0.1179	0.3501	0.0909
1	4.92	0.6498	-0.2157	0.0031	0.0583	0.0440	-0.4137	0.1376	0.2464	0.0948
1	4.92	0.6998	-0.2576	0.0034	0.0846	0.0497	-0.5778	0.1555	0.3508	0.0937
1	4.92	0.7500	-0.2520	0.0037	0.0738	0.0564	-0.8075	0.1762	0.2752	0.1090
1	4.92	0.8001	-0.2952	0.0042	0.0558	0.0632	-1.0761	0.1972	0.0337	0.1081
1	4.92	0.8497	-0.3053	0.0043	0.0048	0.0698	-1.3995	0.2200	0.0883	0.1048
1	4.92	0.9102	-0.3494	0.0049	0.0639	0.0788	-1.8764	0.2446	0.0734	0.1282
1	4.92	0.9734	-0.2747	0.0065	0.0226	0.0855	-2.3707	0.2677	0.3161	0.1209
2	4.92	0.2405	0.0044	0.0112	-0.0179	0.0071	0.0285	0.0295	0.2002	0.1828
2	4.92	0.2999	-0.0132	0.0039	-0.0514	0.0168	0.0327	0.0544	0.3164	0.2806
2	4.92	0.3498	-0.0144	0.0053	-0.0751	0.0304	0.0576	0.0878	0.3360	0.2556
2	4.92	0.3998	-0.0332	0.0094	-0.1309	0.0483	0.0647	0.1297	0.3810	0.2507
2	4.92	0.4496	-0.0513	0.0157	-0.1541	0.0623	0.0420	0.1597	0.2953	0.2586
2	4.92	0.4995	-0.0632	0.0234	-0.1947	0.0775	0.0932	0.1924	0.5557	0.2670
2	4.92	0.5551	-0.0809	0.0270	-0.1980	0.0957	-0.0542	0.2308	0.2179	0.2552
2	4.92	0.5996	-0.0680	0.0320	-0.2805	0.1105	-0.1468	0.2613	0.1887	0.2579
2	4.92	0.6497	-0.0749	0.0361	-0.2960	0.1239	-0.2529	0.2918	0.4083	0.2609
2	4.92	0.6996	-0.0845	0.0403	-0.3413	0.1397	-0.4362	0.3247	0.2844	0.2653
2	4.92	0.7495	-0.0965	0.0444	-0.3882	0.1551	-0.6590	0.3593	0.3222	0.2564
2	4.92	0.7996	-0.0902	0.0475	-0.4178	0.1689	-0.9135	0.3919	0.2308	0.2618
2	4.92	0.8578	-0.0715	0.0503	-0.4651	0.1864	-1.2942	0.4343	0.4994	0.2634
2	4.92	0.9100	-0.0865	0.0530	-0.4531	0.2031	-1.7153	0.4745	0.5463	0.2630
2	4.92	0.9727	-0.1075	0.0559	-0.5287	0.2211	-2.1516	0.5243	0.5851	0.2669
3	4.92	0.2357	0.0412	0.0132	0.0138	0.0053	-0.0085	0.0221	-0.0655	0.1642
3	4.92	0.2995	0.0113	0.0045	0.0274	0.0132	-0.0048	0.0423	-0.1108	0.2626
3	4.92	0.3493	-0.0031	0.0041	0.0622	0.0249	0.0117	0.0697	-0.0088	0.2513
3	4.92	0.4000	-0.0013	0.0101	0.0908	0.0394	0.0263	0.1029	0.1477	0.2466
3	4.92	0.4497	-0.0096	0.0155	0.1062	0.0517	0.0161	0.1318	0.1098	0.2470
3	4.92	0.4997	-0.0102	0.0218	0.1142	0.0655	0.0014	0.1629	0.2393	0.2474
3	4.92	0.5556	-0.0641	0.0276	0.1396	0.0810	-0.0450	0.1965	0.4137	0.2567
3	4.92	0.5995	-0.0516	0.0325	0.1375	0.0937	-0.1318	0.2262	0.4688	0.2599
3	4.92	0.6498	-0.0615	0.0379	0.1679	0.1070	-0.3288	0.2607	0.2825	0.2525
3	4.92	0.6890	-0.0792	0.0420	0.2101	0.1183	-0.5425	0.2877	0.0499	0.2542
3	4.92	0.7495	-0.0579	0.0484	0.2998	0.1375	-0.8220	0.3293	0.3534	0.2554
3	4.92	0.7998	-0.0708	0.0537	0.2596	0.1549	-1.1816	0.3657	0.0652	0.2507
3	4.92	0.8577	-0.0666	0.0580	0.3506	0.1758	-1.5789	0.4109	0.4936	0.2493
3	4.92	0.9178	0.0270	0.0601	0.3336	0.1964	-2.1597	0.4575	0.0060	0.2616
3	4.92	0.9729	-0.0072	0.0638	0.3695	0.2179	-2.6749	0.5065	0.1082	0.2632
4	4.92	0.2001	0.0541	0.0100	0.0134	0.0021	-0.0866	0.0115	0.1674	0.0632
4	4.92	0.3001	0.0194	0.0067	0.0618	0.0094	-0.2774	0.0486	0.3576	0.1457
4	4.92	0.3502	-0.0196	0.0048	0.1307	0.0202	-0.4862	0.0662	-0.1181	0.1394
4	4.92	0.4002	-0.0436	0.0096	0.1939	0.0297	-0.7121	0.1119	-0.7046	0.2093
4	4.92	0.4500	-0.0479	0.0044	0.1734	0.0333	-0.7391	0.1079	-0.1265	0.1477
4	4.92	0.5001	-0.0581	0.0050	0.1874	0.0408	-0.8465	0.1302	0.2495	0.1470
4	4.92	0.5560	-0.1108	0.0106	0.2737	0.0512	-1.2471	0.1865	-0.6194	0.2745
4	4.92	0.6001	-0.1071	0.0057	0.2401	0.0570	-1.3465	0.1719	-0.0157	0.1578
4	4.92	0.6501	-0.1568	0.0074	0.2903	0.0649	-1.6368	0.1959	0.1203	0.1496
4	4.92	0.6999	-0.1691	0.0082	0.2948	0.0732	-1.9870	0.2168	0.2738	0.1536
4	4.92	0.7500	-0.1706	0.0105	0.2418	0.0818	-2.3971	0.2413	0.3087	0.1498
4	4.92	0.8002	-0.1893	0.0127	0.2703	0.0917	-2.8670	0.2674	0.1676	0.1603
4	4.92	0.8582	-0.2328	0.0165	0.2980	0.1028	-3.4970	0.3002	0.1913	0.1507
4	4.92	0.9101	-0.2380	0.0202	0.2889	0.1138	-4.1622	0.3303	0.0478	0.1662
4	4.92	0.9728	-0.1893	0.0270	0.3910	0.1246	-4.7816	0.3685	0.6323	0.1640

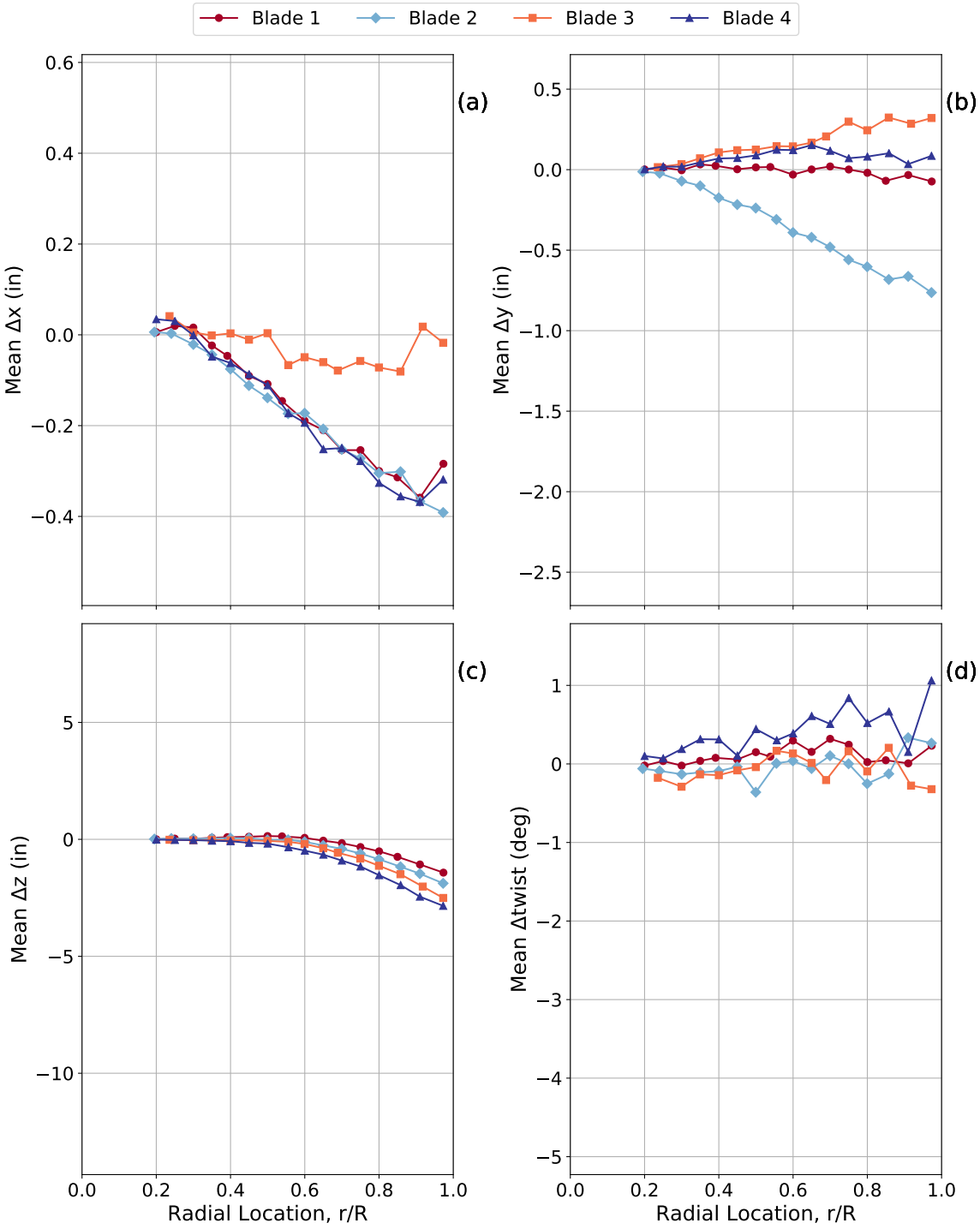


Figure 2.18-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0058	0.0025	0.0012	0.0014	0.0011	0.0065	-0.0208	0.0456
1	9.84	0.2499	0.0197	0.0019	0.0131	0.0039	0.0302	0.0135	0.0363	0.0865
1	9.84	0.2998	0.0160	0.0014	-0.0037	0.0061	0.0215	0.0225	-0.0217	0.1060
1	9.84	0.3498	-0.0235	0.0019	0.0326	0.0113	0.0655	0.0381	0.0387	0.1050
1	9.84	0.3913	-0.0463	0.0024	0.0242	0.0164	0.0917	0.0540	0.0774	0.1028
1	9.84	0.4496	-0.0905	0.0028	0.0024	0.0217	0.1124	0.0765	0.0565	0.1070
1	9.84	0.4997	-0.1083	0.0031	0.0142	0.0264	0.1392	0.0957	0.1499	0.0992
1	9.84	0.5387	-0.1458	0.0031	0.0164	0.0307	0.1274	0.1100	0.0927	0.1065
1	9.84	0.5996	-0.1892	0.0032	-0.0309	0.0371	0.0631	0.1327	0.2969	0.1001
1	9.84	0.6498	-0.2101	0.0036	0.0012	0.0420	-0.0568	0.1512	0.1535	0.1039
1	9.84	0.6998	-0.2540	0.0039	0.0199	0.0477	-0.1635	0.1733	0.3194	0.1090
1	9.84	0.7500	-0.2540	0.0041	0.0009	0.0538	-0.3296	0.1970	0.2441	0.1132
1	9.84	0.8001	-0.3000	0.0043	-0.0198	0.0601	-0.5125	0.2220	0.0236	0.1174
1	9.84	0.8497	-0.3140	0.0046	-0.0691	0.0653	-0.7481	0.2504	0.0466	0.1145
1	9.84	0.9102	-0.3587	0.0045	-0.0331	0.0718	-1.0744	0.2876	0.0074	0.1247
1	9.84	0.9734	-0.2841	0.0063	-0.0735	0.0800	-1.4236	0.3241	0.2319	0.1312
2	9.84	0.1949	0.0060	0.0031	-0.0123	0.0012	0.0131	0.0049	-0.0598	0.0323
2	9.84	0.2405	0.0030	0.0020	-0.0221	0.0027	0.0339	0.0081	-0.0890	0.0557
2	9.84	0.2999	-0.0211	0.0016	-0.0710	0.0051	0.0268	0.0168	-0.1313	0.0738
2	9.84	0.3498	-0.0437	0.0017	-0.1006	0.0088	0.0411	0.0280	-0.1080	0.0694
2	9.84	0.3998	-0.0754	0.0028	-0.1747	0.0138	0.0522	0.0420	-0.0917	0.0738
2	9.84	0.4496	-0.1117	0.0030	-0.2169	0.0176	0.0502	0.0571	-0.0360	0.0747
2	9.84	0.4995	-0.1387	0.0034	-0.2384	0.0215	-0.0256	0.0731	-0.3602	0.0803
2	9.84	0.5551	-0.1736	0.0036	-0.3095	0.0264	-0.0178	0.0916	0.0076	0.0893
2	9.84	0.5996	-0.1726	0.0040	-0.3905	0.0308	-0.1057	0.1093	0.0389	0.0849
2	9.84	0.6497	-0.2075	0.0047	-0.4203	0.0359	-0.2593	0.1310	-0.0588	0.0877
2	9.84	0.6996	-0.2524	0.0054	-0.4810	0.0414	-0.4042	0.1570	0.1040	0.0965
2	9.84	0.7495	-0.2719	0.0068	-0.5591	0.0473	-0.6050	0.1899	0.0017	0.1072
2	9.84	0.7996	-0.3046	0.0079	-0.6031	0.0544	-0.8504	0.2304	-0.2516	0.1105
2	9.84	0.8578	-0.3015	0.0104	-0.6819	0.0613	-1.1711	0.2902	-0.1267	0.1100
2	9.84	0.9100	-0.3666	0.0109	-0.6628	0.0709	-1.4679	0.3470	0.3339	0.1317
2	9.84	0.9727	-0.3914	0.0144	-0.7633	0.0793	-1.8799	0.4139	0.2647	0.1375
3	9.84	0.2357	0.0411	0.0150	0.0155	0.0068	-0.0181	0.0328	-0.1762	0.2696
3	9.84	0.2995	0.0052	0.0057	0.0342	0.0174	-0.0387	0.0632	-0.2902	0.4309
3	9.84	0.3493	-0.0013	0.0058	0.0704	0.0326	-0.0229	0.1053	-0.1328	0.4130
3	9.84	0.4000	0.0032	0.0111	0.1070	0.0518	-0.0431	0.1556	-0.1431	0.4103
3	9.84	0.4497	-0.0107	0.0173	0.1207	0.0688	-0.0388	0.1987	-0.0821	0.4136
3	9.84	0.4997	0.0036	0.0231	0.1245	0.0857	-0.0694	0.2430	-0.0405	0.4106
3	9.84	0.5556	-0.0667	0.0295	0.1457	0.1081	-0.1053	0.2942	0.1672	0.4154
3	9.84	0.5995	-0.0493	0.0338	0.1445	0.1247	-0.1980	0.3312	0.1327	0.4291
3	9.84	0.6498	-0.0602	0.0384	0.1679	0.1467	-0.3810	0.3817	0.0120	0.4222
3	9.84	0.6890	-0.0787	0.0429	0.2063	0.1624	-0.5739	0.4176	-0.2054	0.4146
3	9.84	0.7495	-0.0576	0.0473	0.2982	0.1865	-0.8221	0.4725	0.1618	0.4231
3	9.84	0.7998	-0.0719	0.0496	0.2446	0.2075	-1.1300	0.5189	-0.0949	0.4220
3	9.84	0.8577	-0.0809	0.0520	0.3236	0.2323	-1.4922	0.5763	0.2052	0.4096
3	9.84	0.9178	0.0180	0.0543	0.2853	0.2589	-2.0190	0.6323	-0.2759	0.4205
3	9.84	0.9729	-0.0175	0.0551	0.3208	0.2853	-2.5060	0.6949	-0.3217	0.4028
4	9.84	0.2001	0.0344	0.0024	0.0022	0.0013	-0.0131	0.0056	0.1007	0.0397
4	9.84	0.2502	0.0303	0.0014	0.0191	0.0028	-0.0263	0.0112	0.0696	0.0648
4	9.84	0.3001	-0.0010	0.0015	0.0182	0.0052	-0.0332	0.0186	0.1898	0.0889
4	9.84	0.3502	-0.0481	0.0022	0.0452	0.0096	-0.0583	0.0334	0.3149	0.0754
4	9.84	0.4002	-0.0622	0.0033	0.0694	0.0145	-0.0804	0.0494	0.3116	0.0770
4	9.84	0.4500	-0.0869	0.0035	0.0724	0.0176	-0.1502	0.0666	0.1041	0.0826
4	9.84	0.5001	-0.1112	0.0034	0.0886	0.0222	-0.1830	0.0877	0.4429	0.0814
4	9.84	0.5560	-0.1727	0.0038	0.1237	0.0273	-0.3386	0.1117	0.3005	0.0772
4	9.84	0.6001	-0.1937	0.0038	0.1215	0.0316	-0.4834	0.1312	0.3887	0.0743
4	9.84	0.6501	-0.2520	0.0039	0.1525	0.0359	-0.6559	0.1525	0.6096	0.0819
4	9.84	0.6999	-0.2494	0.0040	0.1171	0.0406	-0.9075	0.1761	0.5084	0.0825
4	9.84	0.7500	-0.2780	0.0044	0.0710	0.0449	-1.1611	0.2016	0.8382	0.0882
4	9.84	0.8002	-0.3261	0.0052	0.0812	0.0503	-1.5340	0.2313	0.5211	0.0916
4	9.84	0.8582	-0.3558	0.0077	0.1020	0.0562	-1.9580	0.2727	0.6667	0.1010
4	9.84	0.9101	-0.3681	0.0083	0.0344	0.0626	-2.4506	0.3148	0.1529	0.1053
4	9.84	0.9728	-0.3188	0.0096	0.0857	0.0707	-2.8438	0.3667	1.0613	0.1140

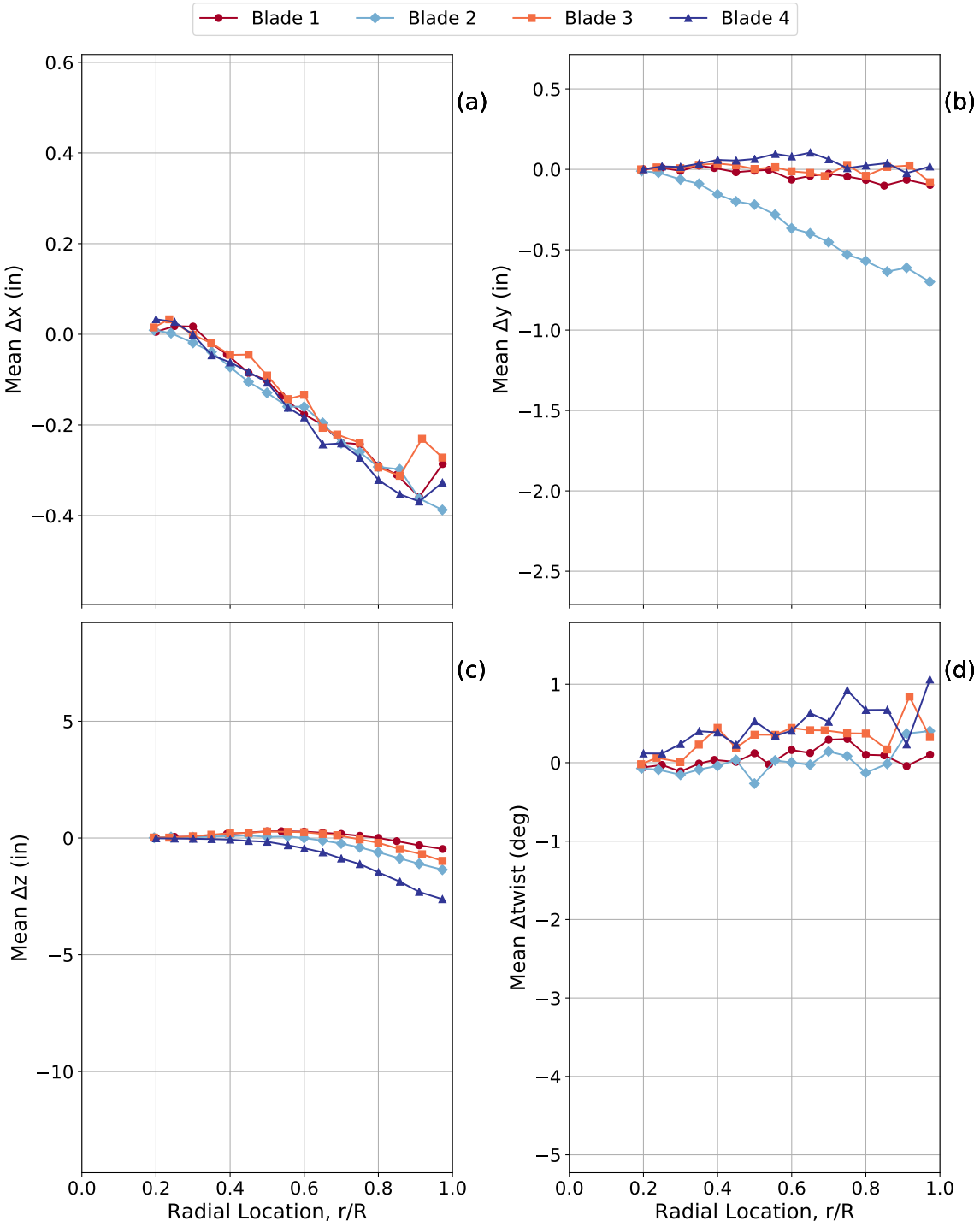


Figure 2.18-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0053	0.0024	0.0002	0.0013	0.0093	0.0064	-0.0598	0.0342
1	15.12	0.2499	0.0180	0.0019	0.0100	0.0030	0.0508	0.0110	-0.0289	0.0690
1	15.12	0.2998	0.0170	0.0016	-0.0102	0.0053	0.0561	0.0226	-0.1117	0.0773
1	15.12	0.3498	-0.0210	0.0024	0.0232	0.0097	0.1218	0.0363	-0.0116	0.0773
1	15.12	0.3913	-0.0443	0.0027	0.0083	0.0137	0.1762	0.0518	0.0349	0.0777
1	15.12	0.4496	-0.0853	0.0028	-0.0175	0.0183	0.2330	0.0726	0.0097	0.0818
1	15.12	0.4997	-0.1019	0.0029	-0.0080	0.0225	0.2875	0.0912	0.1197	0.0807
1	15.12	0.5387	-0.1363	0.0031	-0.0032	0.0262	0.2889	0.1051	-0.0229	0.0859
1	15.12	0.5996	-0.1767	0.0033	-0.0638	0.0321	0.2740	0.1255	0.1618	0.0902
1	15.12	0.6498	-0.1995	0.0034	-0.0408	0.0368	0.2239	0.1411	0.1233	0.0939
1	15.12	0.6998	-0.2391	0.0039	-0.0269	0.0427	0.1747	0.1591	0.2930	0.0938
1	15.12	0.7500	-0.2427	0.0041	-0.0442	0.0484	0.0943	0.1809	0.3016	0.0995
1	15.12	0.8001	-0.2895	0.0045	-0.0658	0.0543	0.0047	0.2075	0.1005	0.1070
1	15.12	0.8497	-0.3099	0.0047	-0.1015	0.0604	-0.1348	0.2397	0.0937	0.1116
1	15.12	0.9102	-0.3586	0.0048	-0.0645	0.0679	-0.3154	0.2873	-0.0432	0.1251
1	15.12	0.9734	-0.2862	0.0067	-0.0972	0.0763	-0.4721	0.3446	0.1028	0.1339
2	15.12	0.1949	0.0089	0.0024	-0.0108	0.0012	0.0116	0.0047	-0.0731	0.0264
2	15.12	0.2405	0.0024	0.0019	-0.0204	0.0026	0.0415	0.0076	-0.0891	0.0529
2	15.12	0.2999	-0.0190	0.0016	-0.0624	0.0048	0.0336	0.0160	-0.1541	0.0628
2	15.12	0.3498	-0.0389	0.0016	-0.0899	0.0085	0.0608	0.0268	-0.0867	0.0585
2	15.12	0.3998	-0.0722	0.0023	-0.1552	0.0132	0.0846	0.0402	-0.0410	0.0570
2	15.12	0.4496	-0.1051	0.0022	-0.1993	0.0166	0.1072	0.0531	0.0344	0.0607
2	15.12	0.4995	-0.1292	0.0025	-0.2193	0.0208	0.0486	0.0679	-0.2664	0.0647
2	15.12	0.5551	-0.1596	0.0029	-0.2813	0.0259	0.0660	0.0851	0.0274	0.0638
2	15.12	0.5996	-0.1599	0.0027	-0.3664	0.0301	-0.0002	0.0989	0.0027	0.0671
2	15.12	0.6497	-0.1954	0.0028	-0.3982	0.0352	-0.1118	0.1139	-0.0266	0.0752
2	15.12	0.6996	-0.2404	0.0031	-0.4526	0.0399	-0.2348	0.1286	0.1425	0.0720
2	15.12	0.7495	-0.2600	0.0037	-0.5299	0.0455	-0.4023	0.1466	0.0839	0.0784
2	15.12	0.7996	-0.2925	0.0042	-0.5696	0.0514	-0.6099	0.1644	-0.1283	0.0912
2	15.12	0.8578	-0.2979	0.0045	-0.6358	0.0574	-0.8769	0.1880	-0.0144	0.0927
2	15.12	0.9100	-0.3623	0.0045	-0.6122	0.0630	-1.1063	0.2157	0.3703	0.1127
2	15.12	0.9727	-0.3875	0.0072	-0.6997	0.0707	-1.3604	0.2465	0.4035	0.1039
3	15.12	0.1938	0.0150	0.0027	-0.0001	0.0013	0.0208	0.0059	-0.0198	0.0292
3	15.12	0.2357	0.0330	0.0020	0.0120	0.0026	0.0178	0.0080	0.0623	0.0545
3	15.12	0.2995	-0.0010	0.0017	0.0064	0.0056	0.0753	0.0195	0.0074	0.0701
3	15.12	0.3493	-0.0197	0.0023	0.0277	0.0096	0.1416	0.0321	0.2301	0.0718
3	15.12	0.4000	-0.0455	0.0028	0.0365	0.0153	0.2076	0.0479	0.4436	0.0690
3	15.12	0.4497	-0.0448	0.0032	0.0251	0.0195	0.2197	0.0640	0.1893	0.0660
3	15.12	0.4997	-0.0910	0.0035	0.0023	0.0239	0.2767	0.0828	0.3562	0.0674
3	15.12	0.5556	-0.1431	0.0034	0.0133	0.0302	0.2643	0.1025	0.3550	0.0652
3	15.12	0.5995	-0.1335	0.0038	-0.0120	0.0351	0.2484	0.1184	0.4425	0.0756
3	15.12	0.6498	-0.2064	0.0036	-0.0221	0.0406	0.1749	0.1360	0.4136	0.0804
3	15.12	0.6890	-0.2212	0.0039	-0.0421	0.0450	0.1213	0.1490	0.4121	0.0859
3	15.12	0.7495	-0.2394	0.0041	0.0270	0.0528	-0.0596	0.1704	0.3750	0.0888
3	15.12	0.7998	-0.2938	0.0048	-0.0406	0.0588	-0.2042	0.1916	0.3715	0.1038
3	15.12	0.8577	-0.3122	0.0059	0.0151	0.0671	-0.4770	0.2220	0.1690	0.1319
3	15.12	0.9178	-0.2306	0.0079	0.0237	0.0754	-0.6979	0.2697	0.8423	0.1758
3	15.12	0.9729	-0.2720	0.0093	-0.0807	0.0844	-0.9826	0.3091	0.3265	0.1461
4	15.12	0.2001	0.0332	0.0024	0.0006	0.0012	-0.0106	0.0053	0.1181	0.0359
4	15.12	0.2502	0.0272	0.0017	0.0183	0.0031	-0.0219	0.0115	0.1169	0.0600
4	15.12	0.3001	-0.0008	0.0015	0.0150	0.0052	-0.0306	0.0192	0.2384	0.0787
4	15.12	0.3502	-0.0463	0.0018	0.0358	0.0090	-0.0444	0.0325	0.4008	0.0698
4	15.12	0.4002	-0.0620	0.0022	0.0588	0.0144	-0.0673	0.0497	0.3862	0.0715
4	15.12	0.4500	-0.0831	0.0022	0.0545	0.0183	-0.1256	0.0649	0.2280	0.0818
4	15.12	0.5001	-0.1067	0.0027	0.0646	0.0231	-0.1592	0.0823	0.5294	0.0878
4	15.12	0.5560	-0.1621	0.0027	0.0960	0.0292	-0.3116	0.0995	0.3434	0.0881
4	15.12	0.6001	-0.1832	0.0033	0.0803	0.0340	-0.4424	0.1126	0.4072	0.0917
4	15.12	0.6501	-0.2432	0.0032	0.1038	0.0398	-0.6152	0.1289	0.6324	0.0873
4	15.12	0.6999	-0.2408	0.0029	0.0626	0.0456	-0.8782	0.1448	0.5218	0.0983
4	15.12	0.7500	-0.2724	0.0036	0.0075	0.0530	-1.1212	0.1623	0.9229	0.0956
4	15.12	0.8002	-0.3214	0.0039	0.0237	0.0601	-1.4731	0.1828	0.6720	0.0956
4	15.12	0.8582	-0.3531	0.0055	0.0388	0.0680	-1.8723	0.2077	0.6735	0.1053
4	15.12	0.9101	-0.3690	0.0056	-0.0236	0.0752	-2.3071	0.2336	0.2323	0.1311
4	15.12	0.9728	-0.3272	0.0068	0.0177	0.0857	-2.6187	0.2710	1.0605	0.1139

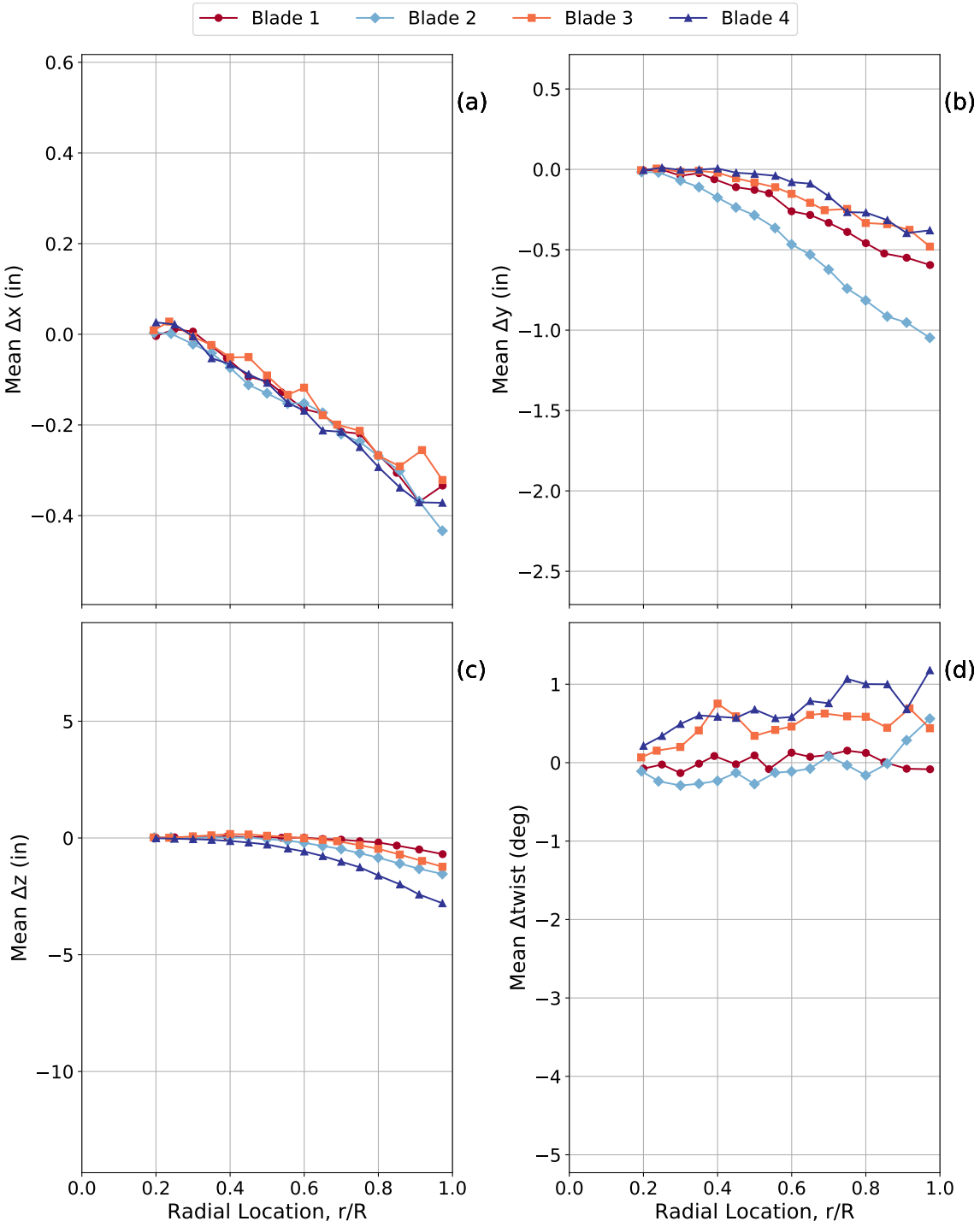


Figure 2.18-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0038	0.0022	-0.0065	0.0011	0.0031	0.0052	-0.0757	0.0290
1	29.88	0.2499	0.0112	0.0016	-0.0018	0.0023	0.0292	0.0101	-0.0238	0.0618
1	29.88	0.2998	0.0059	0.0016	-0.0395	0.0046	0.0213	0.0188	-0.1323	0.0698
1	29.88	0.3498	-0.0264	0.0021	-0.0236	0.0079	0.0391	0.0319	-0.0130	0.0686
1	29.88	0.3913	-0.0526	0.0026	-0.0613	0.0114	0.0644	0.0454	0.0852	0.0645
1	29.88	0.4496	-0.0937	0.0033	-0.1105	0.0158	0.0403	0.0664	-0.0212	0.0634
1	29.88	0.4997	-0.1038	0.0036	-0.1277	0.0204	0.0479	0.0867	0.0921	0.0652
1	29.88	0.5387	-0.1282	0.0037	-0.1484	0.0245	0.0100	0.1035	-0.0821	0.0628
1	29.88	0.5996	-0.1649	0.0036	-0.2607	0.0310	0.0111	0.1270	0.1277	0.0666
1	29.88	0.6498	-0.1753	0.0039	-0.2835	0.0365	-0.0432	0.1464	0.0742	0.0666
1	29.88	0.6998	-0.2148	0.0042	-0.3323	0.0426	-0.0710	0.1652	0.0981	0.0645
1	29.88	0.7500	-0.2195	0.0042	-0.3893	0.0492	-0.1384	0.1865	0.1532	0.0721
1	29.88	0.8001	-0.2660	0.0042	-0.4591	0.0560	-0.1931	0.2091	0.1241	0.0771
1	29.88	0.8497	-0.3057	0.0046	-0.5232	0.0633	-0.3261	0.2339	0.0065	0.0737
1	29.88	0.9102	-0.3695	0.0049	-0.5496	0.0719	-0.4932	0.2672	-0.0773	0.0803
1	29.88	0.9734	-0.3339	0.0072	-0.5950	0.0813	-0.6933	0.3063	-0.0840	0.0902
2	29.88	0.1949	0.0031	0.0024	-0.0160	0.0008	0.0146	0.0039	-0.1093	0.0274
2	29.88	0.2405	0.0015	0.0018	-0.0187	0.0017	0.0170	0.0069	-0.2369	0.0434
2	29.88	0.2999	-0.0218	0.0014	-0.0696	0.0033	0.0148	0.0143	-0.2912	0.0628
2	29.88	0.3498	-0.0415	0.0019	-0.1105	0.0057	0.0271	0.0254	-0.2684	0.0624
2	29.88	0.3998	-0.0737	0.0028	-0.1752	0.0089	0.0180	0.0379	-0.2321	0.0670
2	29.88	0.4496	-0.1115	0.0029	-0.2367	0.0112	0.0178	0.0511	-0.1283	0.0704
2	29.88	0.4995	-0.1302	0.0028	-0.2853	0.0140	-0.0500	0.0654	-0.2722	0.0727
2	29.88	0.5551	-0.1528	0.0029	-0.3648	0.0179	-0.1163	0.0810	-0.1282	0.0729
2	29.88	0.5996	-0.1522	0.0030	-0.4668	0.0212	-0.2036	0.0915	-0.1126	0.0728
2	29.88	0.6497	-0.1731	0.0029	-0.5301	0.0249	-0.3438	0.1027	-0.0756	0.0768
2	29.88	0.6996	-0.2202	0.0032	-0.6232	0.0295	-0.4728	0.1137	0.0826	0.0804
2	29.88	0.7495	-0.2373	0.0035	-0.7410	0.0340	-0.6491	0.1266	-0.0327	0.0807
2	29.88	0.7996	-0.2683	0.0038	-0.8152	0.0387	-0.8436	0.1414	-0.1611	0.0881
2	29.88	0.8578	-0.3012	0.0042	-0.9151	0.0448	-1.0962	0.1615	-0.0125	0.0830
2	29.88	0.9100	-0.3682	0.0043	-0.9528	0.0502	-1.3187	0.1841	0.2857	0.0881
2	29.88	0.9727	-0.4336	0.0059	-1.0477	0.0566	-1.5422	0.2110	0.5611	0.1019
3	29.88	0.1938	0.0088	0.0022	-0.0050	0.0009	0.0229	0.0047	0.0673	0.0218
3	29.88	0.2357	0.0280	0.0018	0.0051	0.0015	0.0089	0.0081	0.1533	0.0388
3	29.88	0.2995	-0.0051	0.0013	-0.0148	0.0038	0.0696	0.0186	0.2002	0.0514
3	29.88	0.3493	-0.0237	0.0019	-0.0093	0.0063	0.1132	0.0315	0.4111	0.0610
3	29.88	0.4000	-0.0510	0.0026	-0.0205	0.0100	0.1670	0.0485	0.7533	0.0539
3	29.88	0.4497	-0.0503	0.0032	-0.0553	0.0131	0.1493	0.0642	0.5909	0.0594
3	29.88	0.4997	-0.0909	0.0038	-0.0818	0.0162	0.0959	0.0811	0.3428	0.0616
3	29.88	0.5556	-0.1335	0.0039	-0.1111	0.0208	0.0441	0.1005	0.4179	0.0595
3	29.88	0.5995	-0.1178	0.0038	-0.1521	0.0239	-0.0096	0.1170	0.4602	0.0620
3	29.88	0.6498	-0.1785	0.0043	-0.2076	0.0287	-0.0782	0.1357	0.6093	0.0624
3	29.88	0.6890	-0.1993	0.0041	-0.2540	0.0322	-0.1371	0.1512	0.6265	0.0609
3	29.88	0.7495	-0.2130	0.0044	-0.2461	0.0386	-0.3087	0.1772	0.5905	0.0627
3	29.88	0.7998	-0.2675	0.0046	-0.3334	0.0440	-0.4647	0.1987	0.5854	0.0656
3	29.88	0.8577	-0.2913	0.0052	-0.3409	0.0511	-0.7096	0.2253	0.4456	0.0767
3	29.88	0.9178	-0.2556	0.0061	-0.3763	0.0591	-0.9849	0.2542	0.6933	0.0826
3	29.88	0.9729	-0.3216	0.0069	-0.4804	0.0652	-1.2321	0.2840	0.4387	0.0918
4	29.88	0.2001	0.0263	0.0022	-0.0045	0.0010	-0.0102	0.0049	0.2152	0.0342
4	29.88	0.2502	0.0217	0.0017	0.0100	0.0020	-0.0319	0.0096	0.3414	0.0544
4	29.88	0.3001	-0.0044	0.0018	-0.0032	0.0039	-0.0494	0.0168	0.4937	0.0745
4	29.88	0.3502	-0.0529	0.0022	-0.0016	0.0074	-0.0783	0.0302	0.6028	0.0636
4	29.88	0.4002	-0.0660	0.0030	0.0055	0.0109	-0.1299	0.0447	0.5862	0.0710
4	29.88	0.4500	-0.0883	0.0035	-0.0208	0.0141	-0.1958	0.0605	0.5713	0.0760
4	29.88	0.5001	-0.1070	0.0033	-0.0281	0.0173	-0.2819	0.0765	0.6781	0.0746
4	29.88	0.5560	-0.1515	0.0037	-0.0398	0.0214	-0.4516	0.0939	0.5670	0.0804
4	29.88	0.6001	-0.1685	0.0040	-0.0795	0.0249	-0.5796	0.1078	0.5830	0.0816
4	29.88	0.6501	-0.2123	0.0043	-0.0887	0.0290	-0.7747	0.1215	0.7859	0.0886
4	29.88	0.6999	-0.2152	0.0043	-0.1673	0.0331	-1.0161	0.1350	0.7578	0.0932
4	29.88	0.7500	-0.2488	0.0048	-0.2659	0.0375	-1.2572	0.1504	1.0680	0.0918
4	29.88	0.8002	-0.2930	0.0050	-0.2685	0.0422	-1.6078	0.1662	1.0017	0.1000
4	29.88	0.8582	-0.3382	0.0053	-0.3158	0.0474	-1.9874	0.1872	0.9993	0.1021
4	29.88	0.9101	-0.3708	0.0050	-0.3961	0.0527	-2.4205	0.2072	0.6815	0.1136
4	29.88	0.9728	-0.3718	0.0068	-0.3795	0.0598	-2.7957	0.2352	1.1786	0.1204

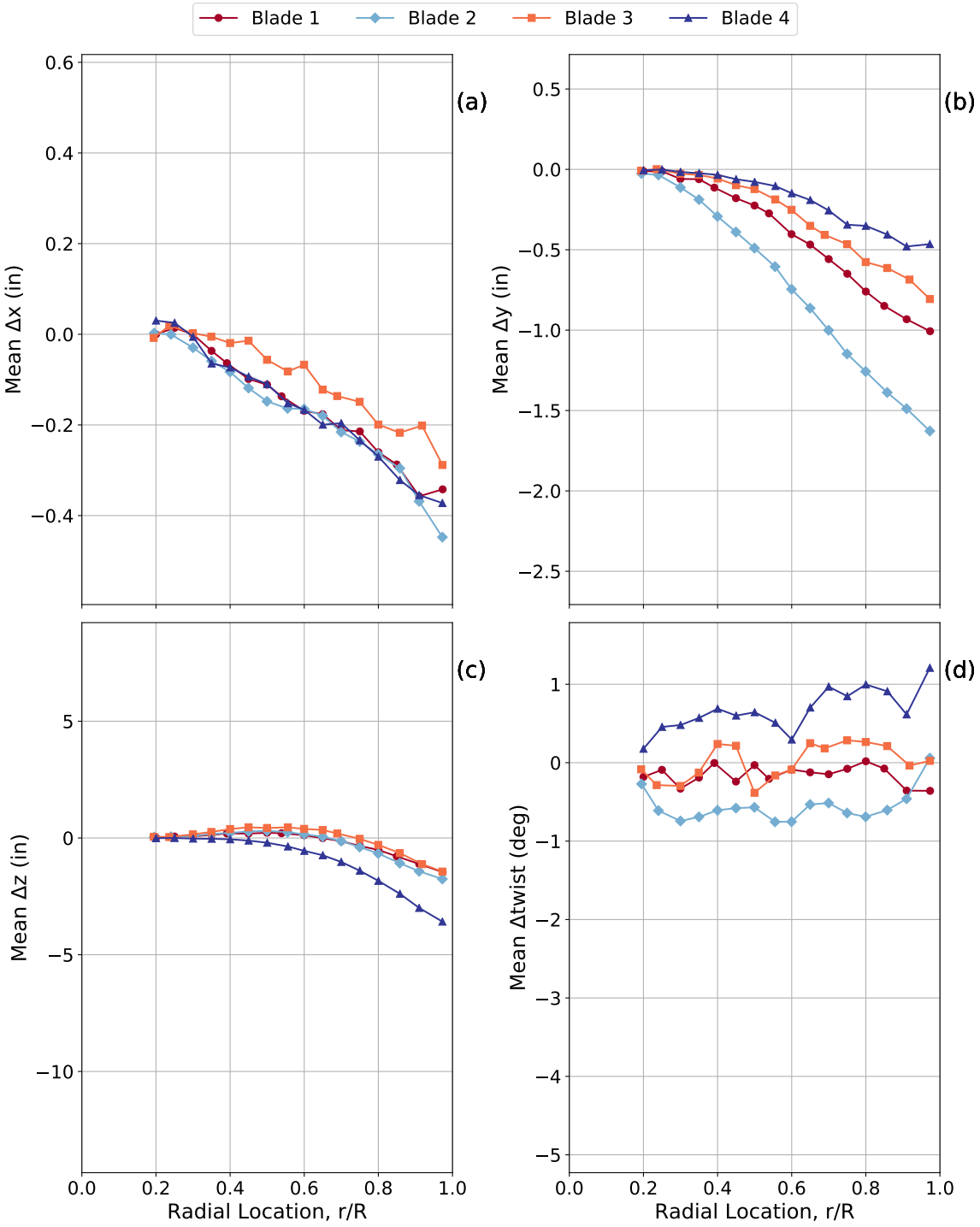


Figure 2.18-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0000	0.0018	-0.0114	0.0010	0.0151	0.0054	-0.1811	0.0328
1	45	0.2499	0.0140	0.0020	-0.0119	0.0020	0.0633	0.0097	-0.0914	0.0554
1	45	0.2998	0.0000	0.0020	-0.0596	0.0041	0.0720	0.0199	-0.3311	0.0724
1	45	0.3498	-0.0365	0.0020	-0.0609	0.0066	0.1277	0.0332	-0.1899	0.0734
1	45	0.3913	-0.0637	0.0027	-0.1134	0.0098	0.1945	0.0472	-0.0039	0.0762
1	45	0.4496	-0.0987	0.0030	-0.1791	0.0135	0.1876	0.0667	-0.2408	0.0806
1	45	0.4997	-0.1112	0.0033	-0.2249	0.0176	0.2221	0.0849	-0.0310	0.0786
1	45	0.5387	-0.1368	0.0033	-0.2737	0.0207	0.2020	0.0981	-0.2062	0.0800
1	45	0.5996	-0.1689	0.0032	-0.4030	0.0264	0.1184	0.1206	-0.0880	0.0902
1	45	0.6498	-0.1762	0.0033	-0.4678	0.0313	-0.0073	0.1413	-0.1231	0.0893
1	45	0.6998	-0.2116	0.0039	-0.5579	0.0376	-0.1416	0.1650	-0.1474	0.0861
1	45	0.7500	-0.2144	0.0042	-0.6494	0.0441	-0.3387	0.1926	-0.0778	0.0856
1	45	0.8001	-0.2603	0.0042	-0.7600	0.0503	-0.5120	0.2205	0.0180	0.0865
1	45	0.8497	-0.2873	0.0044	-0.8493	0.0575	-0.7864	0.2475	-0.0752	0.0916
1	45	0.9102	-0.3574	0.0044	-0.9324	0.0662	-1.1154	0.2821	-0.3561	0.0870
1	45	0.9734	-0.3421	0.0063	-1.0068	0.0754	-1.4635	0.3169	-0.3591	0.0857
2	45	0.1949	0.0025	0.0020	-0.0260	0.0010	0.0392	0.0040	-0.2712	0.0283
2	45	0.2405	-0.0003	0.0016	-0.0347	0.0019	0.0516	0.0066	-0.6118	0.0387
2	45	0.2999	-0.0296	0.0016	-0.1126	0.0043	0.0916	0.0148	-0.7439	0.0624
2	45	0.3498	-0.0590	0.0022	-0.1878	0.0072	0.1685	0.0248	-0.6912	0.0632
2	45	0.3998	-0.0830	0.0030	-0.2926	0.0114	0.2172	0.0377	-0.6070	0.0709
2	45	0.4496	-0.1186	0.0038	-0.3895	0.0145	0.2777	0.0498	-0.5795	0.0696
2	45	0.4995	-0.1480	0.0031	-0.4897	0.0180	0.3070	0.0631	-0.5696	0.0792
2	45	0.5551	-0.1636	0.0039	-0.6050	0.0233	0.2448	0.0788	-0.7542	0.0817
2	45	0.5996	-0.1647	0.0038	-0.7454	0.0274	0.1589	0.0923	-0.7530	0.0813
2	45	0.6497	-0.1796	0.0039	-0.8632	0.0324	0.0540	0.1071	-0.5332	0.0875
2	45	0.6996	-0.2157	0.0041	-1.0008	0.0377	-0.1343	0.1236	-0.5150	0.0822
2	45	0.7495	-0.2365	0.0046	-1.1478	0.0437	-0.3886	0.1399	-0.6422	0.0819
2	45	0.7996	-0.2646	0.0047	-1.2574	0.0494	-0.6630	0.1572	-0.6902	0.0890
2	45	0.8578	-0.2956	0.0049	-1.3878	0.0569	-1.0794	0.1775	-0.6043	0.0904
2	45	0.9100	-0.3686	0.0048	-1.4888	0.0632	-1.4277	0.1959	-0.4608	0.0871
2	45	0.9727	-0.4476	0.0065	-1.6275	0.0710	-1.7574	0.2192	0.0576	0.0920
3	45	0.1938	-0.0079	0.0036	-0.0082	0.0011	0.0481	0.0040	-0.0848	0.0218
3	45	0.2357	0.0188	0.0024	0.0010	0.0022	0.0392	0.0063	-0.2856	0.0313
3	45	0.2995	0.0025	0.0022	-0.0272	0.0050	0.1551	0.0141	-0.2963	0.0472
3	45	0.3493	-0.0053	0.0046	-0.0344	0.0090	0.2586	0.0233	-0.1264	0.0512
3	45	0.4000	-0.0193	0.0080	-0.0569	0.0139	0.3829	0.0356	0.2386	0.0590
3	45	0.4497	-0.0142	0.0124	-0.0984	0.0191	0.4572	0.0493	0.2156	0.0596
3	45	0.4997	-0.0563	0.0175	-0.1226	0.0245	0.4283	0.0641	-0.3838	0.0671
3	45	0.5556	-0.0820	0.0120	-0.1870	0.0662	0.4564	0.1050	-0.1633	0.0685
3	45	0.5995	-0.0672	0.0121	-0.2515	0.0732	0.3894	0.1200	-0.0879	0.0692
3	45	0.6498	-0.1221	0.0118	-0.3510	0.0820	0.3409	0.1373	0.2485	0.0751
3	45	0.6890	-0.1363	0.0116	-0.4075	0.0888	0.1935	0.1507	0.1822	0.0805
3	45	0.7495	-0.1490	0.0117	-0.4653	0.0997	-0.0348	0.1722	0.2854	0.0854
3	45	0.7998	-0.1992	0.0116	-0.5767	0.1087	-0.2961	0.1903	0.2641	0.0862
3	45	0.8577	-0.2172	0.0118	-0.6136	0.1194	-0.6454	0.2112	0.2117	0.0900
3	45	0.9178	-0.2014	0.0121	-0.6854	0.1309	-1.1200	0.2333	-0.0365	0.0904
3	45	0.9729	-0.2884	0.0123	-0.8065	0.1406	-1.4392	0.2529	0.0233	0.1064
4	45	0.2001	0.0302	0.0021	-0.0054	0.0008	-0.0074	0.0033	0.1773	0.0237
4	45	0.2502	0.0252	0.0017	-0.0010	0.0018	-0.0024	0.0074	0.4560	0.0358
4	45	0.3001	-0.0057	0.0020	-0.0162	0.0033	-0.0274	0.0128	0.4800	0.0503
4	45	0.3502	-0.0645	0.0020	-0.0236	0.0058	-0.0350	0.0218	0.5710	0.0503
4	45	0.4002	-0.0733	0.0029	-0.0344	0.0090	-0.0569	0.0337	0.6878	0.0554
4	45	0.4500	-0.0935	0.0032	-0.0613	0.0116	-0.1125	0.0452	0.5999	0.0589
4	45	0.5001	-0.1100	0.0030	-0.0779	0.0154	-0.2046	0.0571	0.6428	0.0603
4	45	0.5560	-0.1521	0.0029	-0.1038	0.0199	-0.3654	0.0703	0.5081	0.0581
4	45	0.6001	-0.1667	0.0028	-0.1486	0.0241	-0.5522	0.0825	0.2945	0.0624
4	45	0.6501	-0.1995	0.0033	-0.1908	0.0291	-0.7407	0.0955	0.7025	0.0604
4	45	0.6999	-0.1962	0.0036	-0.2555	0.0341	-1.0275	0.1084	0.9689	0.0651
4	45	0.7500	-0.2340	0.0041	-0.3443	0.0400	-1.4026	0.1217	0.8471	0.0720
4	45	0.8002	-0.2700	0.0041	-0.3513	0.0459	-1.8371	0.1370	0.9966	0.0692
4	45	0.8582	-0.3217	0.0045	-0.4060	0.0532	-2.3900	0.1533	0.9095	0.0667
4	45	0.9101	-0.3550	0.0048	-0.4797	0.0597	-2.9961	0.1674	0.6151	0.0713
4	45	0.9728	-0.3724	0.0071	-0.4649	0.0680	-3.5819	0.1870	1.2089	0.0681

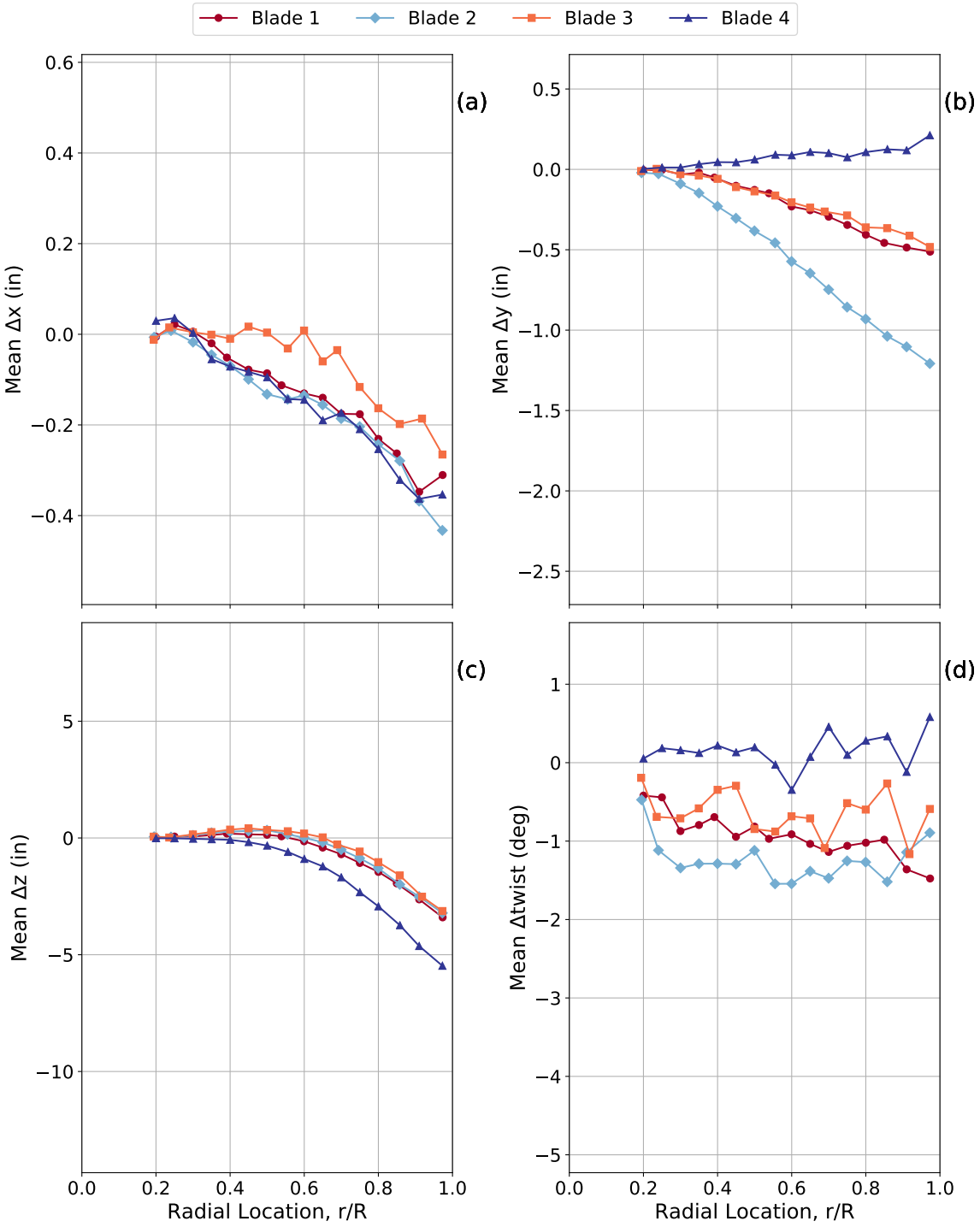


Figure 2.18-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0054	0.0025	-0.0049	0.0012	0.0108	0.0041	-0.4196	0.0288
1	60.12	0.2499	0.0216	0.0022	-0.0032	0.0025	0.0608	0.0066	-0.4422	0.0562
1	60.12	0.2998	0.0058	0.0023	-0.0314	0.0046	0.0644	0.0139	-0.8722	0.0659
1	60.12	0.3498	-0.0199	0.0030	-0.0203	0.0079	0.1234	0.0236	-0.7947	0.0608
1	60.12	0.3913	-0.0513	0.0028	-0.0509	0.0113	0.1885	0.0328	-0.6938	0.0641
1	60.12	0.4496	-0.0780	0.0036	-0.1022	0.0151	0.1571	0.0439	-0.9443	0.0698
1	60.12	0.4997	-0.0861	0.0035	-0.1277	0.0191	0.1370	0.0534	-0.8152	0.0646
1	60.12	0.5387	-0.1125	0.0034	-0.1486	0.0225	0.0706	0.0603	-0.9703	0.0713
1	60.12	0.5996	-0.1304	0.0038	-0.2307	0.0282	-0.1427	0.0728	-0.9133	0.0700
1	60.12	0.6498	-0.1400	0.0035	-0.2541	0.0333	-0.4113	0.0832	-1.0356	0.0734
1	60.12	0.6998	-0.1755	0.0034	-0.2943	0.0384	-0.6959	0.0951	-1.1378	0.0791
1	60.12	0.7500	-0.1763	0.0037	-0.3457	0.0441	-1.0700	0.1067	-1.0597	0.0762
1	60.12	0.8001	-0.2308	0.0039	-0.4064	0.0498	-1.4524	0.1185	-1.0208	0.0809
1	60.12	0.8497	-0.2629	0.0044	-0.4572	0.0559	-1.9452	0.1315	-0.9817	0.0795
1	60.12	0.9102	-0.3476	0.0048	-0.4861	0.0633	-2.6297	0.1474	-1.3607	0.0888
1	60.12	0.9734	-0.3105	0.0064	-0.5119	0.0712	-3.4001	0.1642	-1.4767	0.0804
2	60.12	0.1949	-0.0065	0.0018	-0.0208	0.0009	0.0509	0.0038	-0.4731	0.0251
2	60.12	0.2405	0.0082	0.0017	-0.0273	0.0017	0.0370	0.0085	-1.1171	0.0421
2	60.12	0.2999	-0.0173	0.0018	-0.0894	0.0035	0.1094	0.0174	-1.3419	0.0586
2	60.12	0.3498	-0.0452	0.0023	-0.1472	0.0056	0.2214	0.0282	-1.2885	0.0580
2	60.12	0.3998	-0.0697	0.0033	-0.2299	0.0091	0.2712	0.0452	-1.2872	0.0570
2	60.12	0.4496	-0.0993	0.0030	-0.3038	0.0112	0.3034	0.0607	-1.2940	0.0616
2	60.12	0.4995	-0.1322	0.0037	-0.3828	0.0138	0.3298	0.0777	-1.1189	0.0596
2	60.12	0.5551	-0.1433	0.0035	-0.4570	0.0171	0.1586	0.0984	-1.5446	0.0645
2	60.12	0.5996	-0.1350	0.0033	-0.5728	0.0201	0.0116	0.1133	-1.5439	0.0659
2	60.12	0.6497	-0.1557	0.0037	-0.6461	0.0237	-0.1823	0.1310	-1.3841	0.0671
2	60.12	0.6996	-0.1860	0.0035	-0.7477	0.0275	-0.4982	0.1489	-1.4734	0.0664
2	60.12	0.7495	-0.2038	0.0038	-0.8567	0.0319	-0.8653	0.1669	-1.2527	0.0756
2	60.12	0.7996	-0.2428	0.0035	-0.9309	0.0359	-1.2951	0.1867	-1.2679	0.0710
2	60.12	0.8578	-0.2792	0.0048	-1.0380	0.0409	-1.9876	0.2089	-1.5186	0.0781
2	60.12	0.9100	-0.3681	0.0051	-1.1038	0.0459	-2.5097	0.2293	-1.1428	0.0828
2	60.12	0.9727	-0.4327	0.0065	-1.2079	0.0520	-3.2132	0.2596	-0.8937	0.0745
3	60.12	0.1938	-0.0120	0.0047	-0.0103	0.0010	0.0563	0.0042	-0.1928	0.0199
3	60.12	0.2357	0.0151	0.0022	0.0034	0.0016	0.0191	0.0063	-0.6909	0.0453
3	60.12	0.2995	0.0044	0.0023	-0.0287	0.0043	0.1518	0.0147	-0.7096	0.0535
3	60.12	0.3493	-0.0009	0.0045	-0.0381	0.0072	0.2532	0.0250	-0.5827	0.0563
3	60.12	0.4000	-0.0098	0.0061	-0.0589	0.0114	0.3582	0.0377	-0.3463	0.0642
3	60.12	0.4497	0.0169	0.0076	-0.1102	0.0148	0.4133	0.0512	-0.2943	0.0659
3	60.12	0.4997	0.0038	0.0102	-0.1370	0.0189	0.3429	0.0663	-0.8460	0.0704
3	60.12	0.5556	-0.0313	0.0131	-0.1629	0.0235	0.2881	0.0825	-0.8781	0.0695
3	60.12	0.5995	0.0082	0.0167	-0.2047	0.0277	0.1897	0.0965	-0.6837	0.0676
3	60.12	0.6498	-0.0598	0.0205	-0.2377	0.0323	0.0256	0.1108	-0.7102	0.0759
3	60.12	0.6890	-0.0350	0.0249	-0.2622	0.0361	-0.2773	0.1224	-1.0884	0.0834
3	60.12	0.7495	-0.1163	0.0187	-0.2866	0.0880	-0.5820	0.1479	-0.5164	0.0783
3	60.12	0.7998	-0.1632	0.0187	-0.3608	0.0950	-1.0340	0.1613	-0.5980	0.0763
3	60.12	0.8577	-0.1980	0.0192	-0.3656	0.1034	-1.6031	0.1775	-0.2658	0.0825
3	60.12	0.9178	-0.1860	0.0193	-0.4125	0.1129	-2.5136	0.1930	-1.1661	0.0917
3	60.12	0.9729	-0.2653	0.0207	-0.4828	0.1224	-3.1292	0.2089	-0.5902	0.1133
4	60.12	0.2001	0.0297	0.0016	0.0028	0.0010	-0.0108	0.0035	0.0532	0.0230
4	60.12	0.2502	0.0357	0.0019	0.0116	0.0018	-0.0147	0.0070	0.1850	0.0405
4	60.12	0.3001	0.0030	0.0017	0.0117	0.0036	-0.0340	0.0142	0.1586	0.0515
4	60.12	0.3502	-0.0550	0.0023	0.0324	0.0061	-0.0543	0.0230	0.1237	0.0498
4	60.12	0.4002	-0.0711	0.0024	0.0450	0.0094	-0.0803	0.0364	0.2188	0.0528
4	60.12	0.4500	-0.0829	0.0027	0.0440	0.0124	-0.1789	0.0483	0.1326	0.0576
4	60.12	0.5001	-0.0948	0.0028	0.0612	0.0160	-0.3294	0.0638	0.1966	0.0564
4	60.12	0.5560	-0.1430	0.0028	0.0911	0.0199	-0.5997	0.0830	-0.0255	0.0584
4	60.12	0.6001	-0.1445	0.0031	0.0875	0.0237	-0.8986	0.0980	-0.3464	0.0601
4	60.12	0.6501	-0.1897	0.0030	0.1084	0.0280	-1.2164	0.1161	0.0737	0.0592
4	60.12	0.6999	-0.1735	0.0035	0.1013	0.0328	-1.6855	0.1363	0.4568	0.0624
4	60.12	0.7500	-0.2094	0.0038	0.0751	0.0378	-2.3246	0.1552	0.1001	0.0692
4	60.12	0.8002	-0.2533	0.0040	0.1074	0.0433	-2.9308	0.1762	0.2814	0.0748
4	60.12	0.8582	-0.3212	0.0052	0.1248	0.0495	-3.7393	0.1996	0.3362	0.0718
4	60.12	0.9101	-0.3631	0.0056	0.1188	0.0550	-4.6283	0.2218	-0.1176	0.0739
4	60.12	0.9728	-0.3537	0.0074	0.2121	0.0623	-5.4742	0.2488	0.5823	0.0903

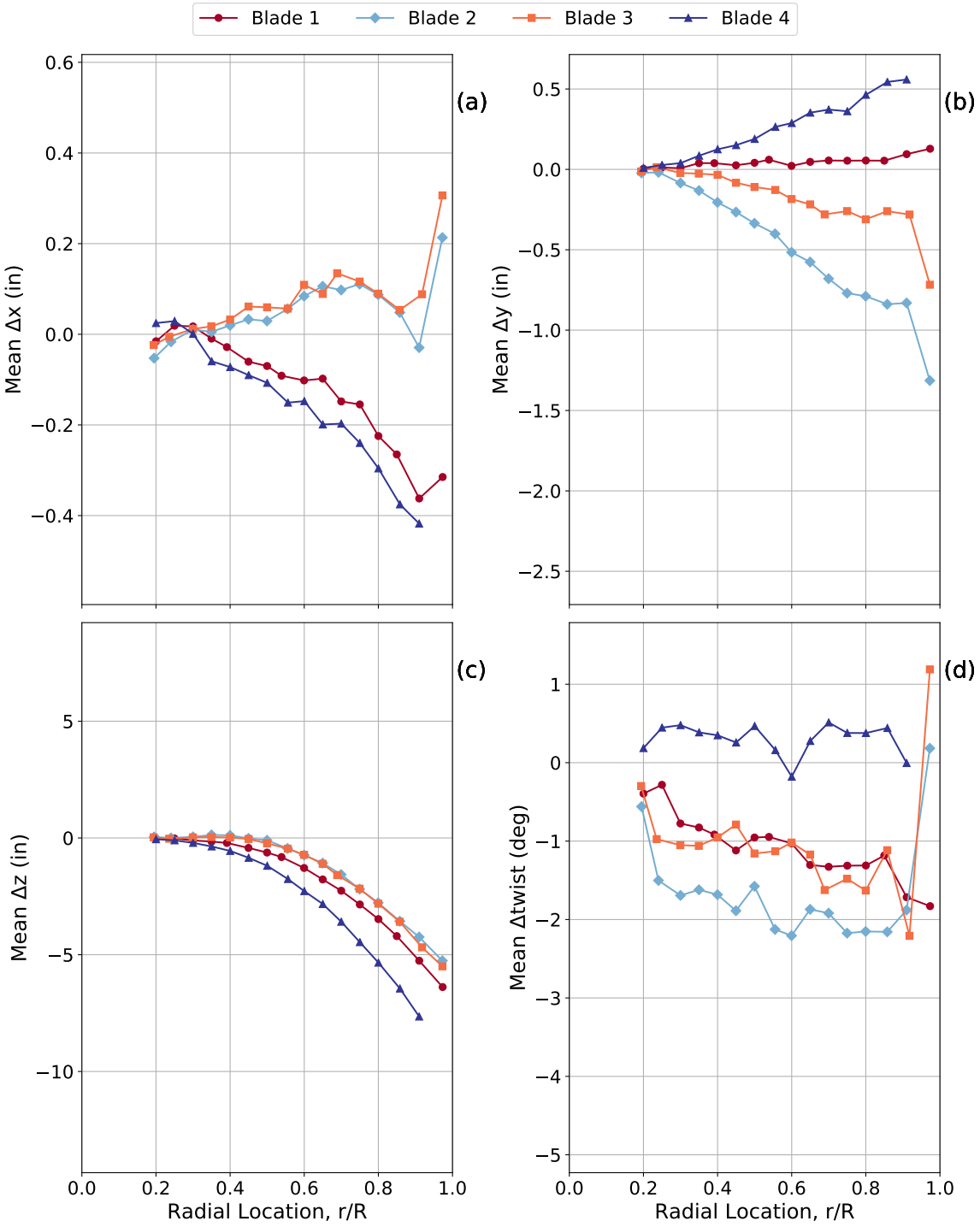


Figure 2.18-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0154	0.0023	0.0038	0.0015	-0.0328	0.0059	-0.3942	0.0374
1	74.88	0.2499	0.0189	0.0019	0.0116	0.0035	-0.0190	0.0112	-0.2823	0.0802
1	74.88	0.2998	0.0174	0.0028	0.0073	0.0066	-0.1049	0.0225	-0.7754	0.0905
1	74.88	0.3498	-0.0095	0.0030	0.0389	0.0109	-0.1536	0.0373	-0.8271	0.0932
1	74.88	0.3913	-0.0283	0.0028	0.0388	0.0163	-0.2126	0.0538	-0.9166	0.0854
1	74.88	0.4496	-0.0604	0.0036	0.0256	0.0220	-0.4259	0.0776	-1.1187	0.0920
1	74.88	0.4997	-0.0700	0.0032	0.0410	0.0269	-0.6243	0.0996	-0.9543	0.0987
1	74.88	0.5387	-0.0914	0.0037	0.0601	0.0313	-0.8164	0.1181	-0.9466	0.0917
1	74.88	0.5996	-0.1018	0.0041	0.0219	0.0379	-1.2849	0.1502	-1.0282	0.0946
1	74.88	0.6498	-0.0979	0.0039	0.0468	0.0441	-1.7753	0.1755	-1.3039	0.0941
1	74.88	0.6998	-0.1482	0.0041	0.0553	0.0498	-2.2590	0.1987	-1.3277	0.1011
1	74.88	0.7500	-0.1548	0.0047	0.0541	0.0565	-2.8476	0.2226	-1.3131	0.1047
1	74.88	0.8001	-0.2245	0.0054	0.0549	0.0626	-3.4741	0.2483	-1.3111	0.0996
1	74.88	0.8497	-0.2651	0.0066	0.0541	0.0699	-4.2026	0.2739	-1.1837	0.1056
1	74.88	0.9102	-0.3623	0.0081	0.0947	0.0782	-5.2558	0.3091	-1.7160	0.1065
1	74.88	0.9734	-0.3149	0.0096	0.1284	0.0868	-6.3844	0.3474	-1.8295	0.1103
2	74.88	0.1949	-0.0527	0.0113	-0.0221	0.0010	0.0417	0.0054	-0.5601	0.0343
2	74.88	0.2405	-0.0165	0.0042	-0.0184	0.0015	-0.0005	0.0073	-1.5016	0.0737
2	74.88	0.2999	0.0103	0.0054	-0.0846	0.0035	0.0460	0.0179	-1.6927	0.0882
2	74.88	0.3498	0.0054	0.0100	-0.1318	0.0060	0.1317	0.0311	-1.6204	0.0834
2	74.88	0.3998	0.0196	0.0135	-0.2050	0.0091	0.1109	0.0456	-1.6833	0.0805
2	74.88	0.4496	0.0330	0.0152	-0.2656	0.0123	-0.0166	0.0624	-1.8880	0.0831
2	74.88	0.4995	0.0293	0.0155	-0.3355	0.0159	-0.0989	0.0823	-1.5762	0.0907
2	74.88	0.5551	0.0560	0.0147	-0.4009	0.0207	-0.4473	0.1066	-2.1261	0.0957
2	74.88	0.5996	0.0841	0.0146	-0.5157	0.0245	-0.7324	0.1279	-2.2061	0.0966
2	74.88	0.6497	0.1059	0.0156	-0.5762	0.0293	-1.0761	0.1539	-1.8705	0.1060
2	74.88	0.6996	0.0977	0.0195	-0.6799	0.0340	-1.5656	0.1817	-1.9188	0.1101
2	74.88	0.7495	0.1107	0.0257	-0.7700	0.0391	-2.1921	0.2109	-2.1738	0.1141
2	74.88	0.7996	0.0874	0.0344	-0.7890	0.0441	-2.7753	0.2431	-2.1521	0.1123
2	74.88	0.8578	0.0481	0.0461	-0.8390	0.0510	-3.5641	0.2802	-2.1574	0.1306
2	74.88	0.9100	-0.0294	0.0587	-0.8309	0.0577	-4.2414	0.3169	-1.8792	0.1290
2	74.88	0.9727	0.2134	0.0729	-1.3137	0.0691	-5.2581	0.3568	0.1836	0.1899
3	74.88	0.1938	-0.0238	0.0116	-0.0127	0.0014	0.0280	0.0059	-0.2980	0.0284
3	74.88	0.2357	-0.0055	0.0053	0.0136	0.0015	-0.0324	0.0060	-0.9745	0.0882
3	74.88	0.2995	0.0117	0.0051	-0.0223	0.0045	0.0238	0.0178	-1.0517	0.0909
3	74.88	0.3493	0.0175	0.0110	-0.0264	0.0080	0.0407	0.0295	-1.0603	0.0888
3	74.88	0.4000	0.0325	0.0148	-0.0341	0.0117	0.0220	0.0436	-0.9525	0.0886
3	74.88	0.4497	0.0612	0.0166	-0.0832	0.0152	-0.0439	0.0574	-0.7894	0.0950
3	74.88	0.4997	0.0595	0.0170	-0.1096	0.0188	-0.2304	0.0735	-1.1583	0.0986
3	74.88	0.5556	0.0566	0.0160	-0.1280	0.0235	-0.4592	0.0921	-1.1291	0.0992
3	74.88	0.5995	0.1091	0.0153	-0.1844	0.0273	-0.7209	0.1078	-1.0185	0.1001
3	74.88	0.6498	0.0890	0.0151	-0.2178	0.0317	-1.1086	0.1251	-1.1718	0.1055
3	74.88	0.6890	0.1346	0.0165	-0.2804	0.0364	-1.5888	0.1390	-1.6241	0.1023
3	74.88	0.7495	0.1163	0.0209	-0.2595	0.0428	-2.1719	0.1606	-1.4803	0.1047
3	74.88	0.7998	0.0896	0.0278	-0.3106	0.0490	-2.8145	0.1791	-1.6302	0.1022
3	74.88	0.8577	0.0537	0.0378	-0.2600	0.0572	-3.5873	0.1974	-1.1165	0.1279
3	74.88	0.9178	0.0883	0.0503	-0.2810	0.0676	-4.6821	0.2193	-2.2082	0.1263
3	74.88	0.9729	0.3064	0.0626	-0.7175	0.0815	-5.4978	0.2358	1.1892	0.1944
4	74.88	0.2001	0.0247	0.0018	0.0090	0.0008	-0.0544	0.0030	0.1856	0.0265
4	74.88	0.2502	0.0291	0.0017	0.0273	0.0025	-0.1018	0.0082	0.4469	0.0402
4	74.88	0.3001	0.0009	0.0019	0.0390	0.0037	-0.2106	0.0140	0.4782	0.0571
4	74.88	0.3502	-0.0596	0.0022	0.0852	0.0066	-0.3633	0.0228	0.3861	0.0654
4	74.88	0.4002	-0.0724	0.0026	0.1249	0.0105	-0.5551	0.0371	0.3488	0.0492
4	74.88	0.4500	-0.0902	0.0028	0.1507	0.0135	-0.8497	0.0475	0.2572	0.0661
4	74.88	0.5001	-0.1072	0.0030	0.1894	0.0176	-1.1911	0.0621	0.4672	0.0625
4	74.88	0.5560	-0.1508	0.0030	0.2643	0.0226	-1.7586	0.0779	0.1600	0.0663
4	74.88	0.6001	-0.1475	0.0031	0.2882	0.0270	-2.2762	0.0924	-0.1790	0.0641
4	74.88	0.6501	-0.1990	0.0031	0.3529	0.0324	-2.8289	0.1084	0.2765	0.0663
4	74.88	0.6999	-0.1972	0.0038	0.3718	0.0374	-3.5877	0.1241	0.5126	0.0740
4	74.88	0.7500	-0.2398	0.0047	0.3615	0.0427	-4.4611	0.1401	0.3786	0.0798
4	74.88	0.8002	-0.2959	0.0052	0.4639	0.0494	-5.3390	0.1589	0.3778	0.0770
4	74.88	0.8582	-0.3753	0.0083	0.5439	0.0562	-6.4489	0.1766	0.4419	0.1134
4	74.88	0.9101	-0.4177	0.0081	0.5590	0.0627	-7.6474	0.1954	-0.0047	0.1168

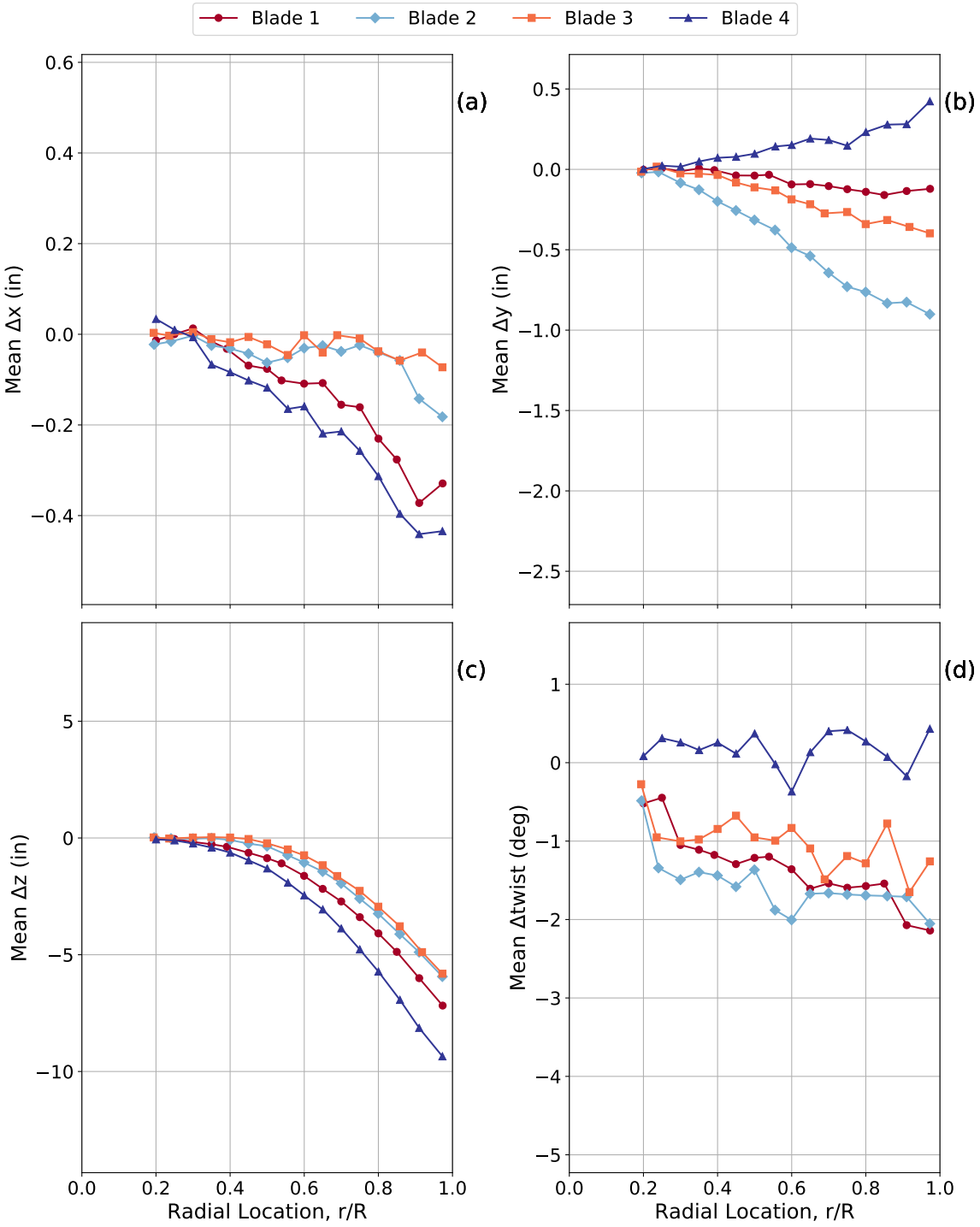


Figure 2.18-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0136	0.0031	-0.0023	0.0018	-0.0484	0.0065	-0.5192	0.0408
1	80.16	0.2499	0.0002	0.0020	0.0071	0.0029	-0.0463	0.0090	-0.4470	0.0993
1	80.16	0.2998	0.0130	0.0021	-0.0119	0.0065	-0.1712	0.0217	-1.0491	0.1023
1	80.16	0.3498	-0.0158	0.0026	0.0058	0.0113	-0.2677	0.0359	-1.1107	0.1067
1	80.16	0.3913	-0.0320	0.0030	-0.0045	0.0156	-0.3765	0.0496	-1.1765	0.1061
1	80.16	0.4496	-0.0689	0.0038	-0.0378	0.0205	-0.6324	0.0699	-1.2932	0.1060
1	80.16	0.4997	-0.0763	0.0034	-0.0385	0.0252	-0.8651	0.0890	-1.2135	0.1094
1	80.16	0.5387	-0.1018	0.0034	-0.0334	0.0287	-1.0884	0.1044	-1.1989	0.1117
1	80.16	0.5996	-0.1090	0.0033	-0.0936	0.0356	-1.6228	0.1325	-1.3586	0.1077
1	80.16	0.6498	-0.1076	0.0038	-0.0914	0.0419	-2.1789	0.1555	-1.6075	0.1097
1	80.16	0.6998	-0.1554	0.0041	-0.1039	0.0480	-2.7185	0.1800	-1.5388	0.1084
1	80.16	0.7500	-0.1609	0.0049	-0.1233	0.0546	-3.3908	0.2063	-1.5945	0.1076
1	80.16	0.8001	-0.2303	0.0059	-0.1396	0.0615	-4.0867	0.2324	-1.5730	0.1086
1	80.16	0.8497	-0.2764	0.0071	-0.1595	0.0688	-4.8765	0.2594	-1.5417	0.1095
1	80.16	0.9102	-0.3722	0.0085	-0.1346	0.0783	-6.0035	0.2926	-2.0719	0.1142
1	80.16	0.9734	-0.3291	0.0102	-0.1210	0.0882	-7.1773	0.3287	-2.1402	0.1129
2	80.16	0.1949	-0.0225	0.0059	-0.0221	0.0010	0.0165	0.0049	-0.4850	0.0309
2	80.16	0.2405	-0.0160	0.0021	-0.0158	0.0019	-0.0238	0.0088	-1.3423	0.0693
2	80.16	0.2999	-0.0030	0.0029	-0.0839	0.0040	-0.0303	0.0182	-1.4922	0.0806
2	80.16	0.3498	-0.0247	0.0049	-0.1268	0.0071	-0.0104	0.0323	-1.3955	0.0777
2	80.16	0.3998	-0.0316	0.0070	-0.1988	0.0107	-0.0865	0.0485	-1.4394	0.0753
2	80.16	0.4496	-0.0427	0.0089	-0.2558	0.0142	-0.2410	0.0644	-1.5813	0.0818
2	80.16	0.4995	-0.0627	0.0095	-0.3150	0.0179	-0.3518	0.0824	-1.3656	0.0866
2	80.16	0.5551	-0.0517	0.0099	-0.3774	0.0223	-0.7375	0.1048	-1.8798	0.0870
2	80.16	0.5996	-0.0306	0.0092	-0.4870	0.0261	-1.0530	0.1228	-2.0046	0.0862
2	80.16	0.6497	-0.0250	0.0089	-0.5388	0.0312	-1.4379	0.1439	-1.6714	0.0900
2	80.16	0.6996	-0.0378	0.0087	-0.6429	0.0367	-1.9488	0.1639	-1.6626	0.0899
2	80.16	0.7495	-0.0241	0.0095	-0.7296	0.0420	-2.5925	0.1852	-1.6802	0.0967
2	80.16	0.7996	-0.0398	0.0122	-0.7627	0.0480	-3.2413	0.2056	-1.6921	0.0924
2	80.16	0.8578	-0.0578	0.0183	-0.8328	0.0551	-4.1163	0.2280	-1.7002	0.1050
2	80.16	0.9100	-0.1422	0.0254	-0.8258	0.0615	-4.8902	0.2491	-1.7103	0.0994
2	80.16	0.9727	-0.1821	0.0372	-0.9008	0.0707	-5.9354	0.2722	-2.0525	0.1125
3	80.16	0.1938	0.0032	0.0083	-0.0144	0.0017	0.0229	0.0080	-0.2750	0.0372
3	80.16	0.2357	-0.0031	0.0028	0.0170	0.0018	-0.0244	0.0098	-0.9519	0.1030
3	80.16	0.2995	0.0046	0.0034	-0.0249	0.0058	0.0183	0.0265	-1.0029	0.1136
3	80.16	0.3493	-0.0107	0.0058	-0.0265	0.0095	0.0352	0.0439	-0.9795	0.1037
3	80.16	0.4000	-0.0176	0.0078	-0.0347	0.0145	0.0182	0.0666	-0.8452	0.1041
3	80.16	0.4497	-0.0059	0.0095	-0.0815	0.0195	-0.0448	0.0896	-0.6758	0.1118
3	80.16	0.4997	-0.0222	0.0103	-0.1118	0.0252	-0.2267	0.1163	-0.9529	0.1079
3	80.16	0.5556	-0.0457	0.0100	-0.1306	0.0324	-0.4917	0.1469	-0.9936	0.1048
3	80.16	0.5995	-0.0021	0.0090	-0.1865	0.0384	-0.7422	0.1740	-0.8327	0.1065
3	80.16	0.6498	-0.0403	0.0081	-0.2171	0.0464	-1.1678	0.2061	-1.0937	0.1058
3	80.16	0.6890	-0.0020	0.0081	-0.2737	0.0524	-1.6305	0.2309	-1.4880	0.1099
3	80.16	0.7495	-0.0093	0.0102	-0.2653	0.0635	-2.2654	0.2695	-1.1905	0.1114
3	80.16	0.7998	-0.0376	0.0151	-0.3404	0.0729	-2.9422	0.3021	-1.2833	0.1178
3	80.16	0.8577	-0.0580	0.0219	-0.3151	0.0844	-3.7816	0.3393	-0.7758	0.1725
3	80.16	0.9178	-0.0401	0.0327	-0.3582	0.1080	-4.8886	0.3957	-1.6498	0.8014
3	80.16	0.9729	-0.0728	0.0439	-0.3980	0.1108	-5.8114	0.4299	-1.2585	0.1933
4	80.16	0.2001	0.0338	0.0019	0.0022	0.0011	-0.0621	0.0039	0.0841	0.0336
4	80.16	0.2502	0.0098	0.0021	0.0229	0.0028	-0.1054	0.0079	0.3117	0.0582
4	80.16	0.3001	-0.0065	0.0018	0.0165	0.0054	-0.2375	0.0155	0.2576	0.0752
4	80.16	0.3502	-0.0670	0.0028	0.0492	0.0082	-0.4121	0.0255	0.1608	0.0694
4	80.16	0.4002	-0.0837	0.0030	0.0719	0.0138	-0.6253	0.0398	0.2555	0.0805
4	80.16	0.4500	-0.1020	0.0033	0.0779	0.0184	-0.9594	0.0547	0.1148	0.0751
4	80.16	0.5001	-0.1178	0.0034	0.0973	0.0231	-1.3053	0.0695	0.3716	0.0813
4	80.16	0.5560	-0.1647	0.0038	0.1424	0.0294	-1.9157	0.0895	-0.0204	0.0815
4	80.16	0.6001	-0.1590	0.0037	0.1518	0.0347	-2.4585	0.1049	-0.3677	0.0849
4	80.16	0.6501	-0.2190	0.0036	0.1917	0.0406	-3.0622	0.1221	0.1335	0.0830
4	80.16	0.6999	-0.2144	0.0044	0.1827	0.0472	-3.8737	0.1360	0.4009	0.0958
4	80.16	0.7500	-0.2573	0.0054	0.1469	0.0539	-4.7758	0.1514	0.4166	0.1002
4	80.16	0.8002	-0.3131	0.0057	0.2323	0.0622	-5.7223	0.1662	0.2709	0.0984
4	80.16	0.8582	-0.3961	0.0073	0.2784	0.0708	-6.9353	0.1848	0.0726	0.1013
4	80.16	0.9101	-0.4410	0.0086	0.2813	0.0793	-8.1349	0.2021	-0.1728	0.1089
4	80.16	0.9728	-0.4344	0.0111	0.4232	0.0895	-9.3524	0.2264	0.4311	0.1097

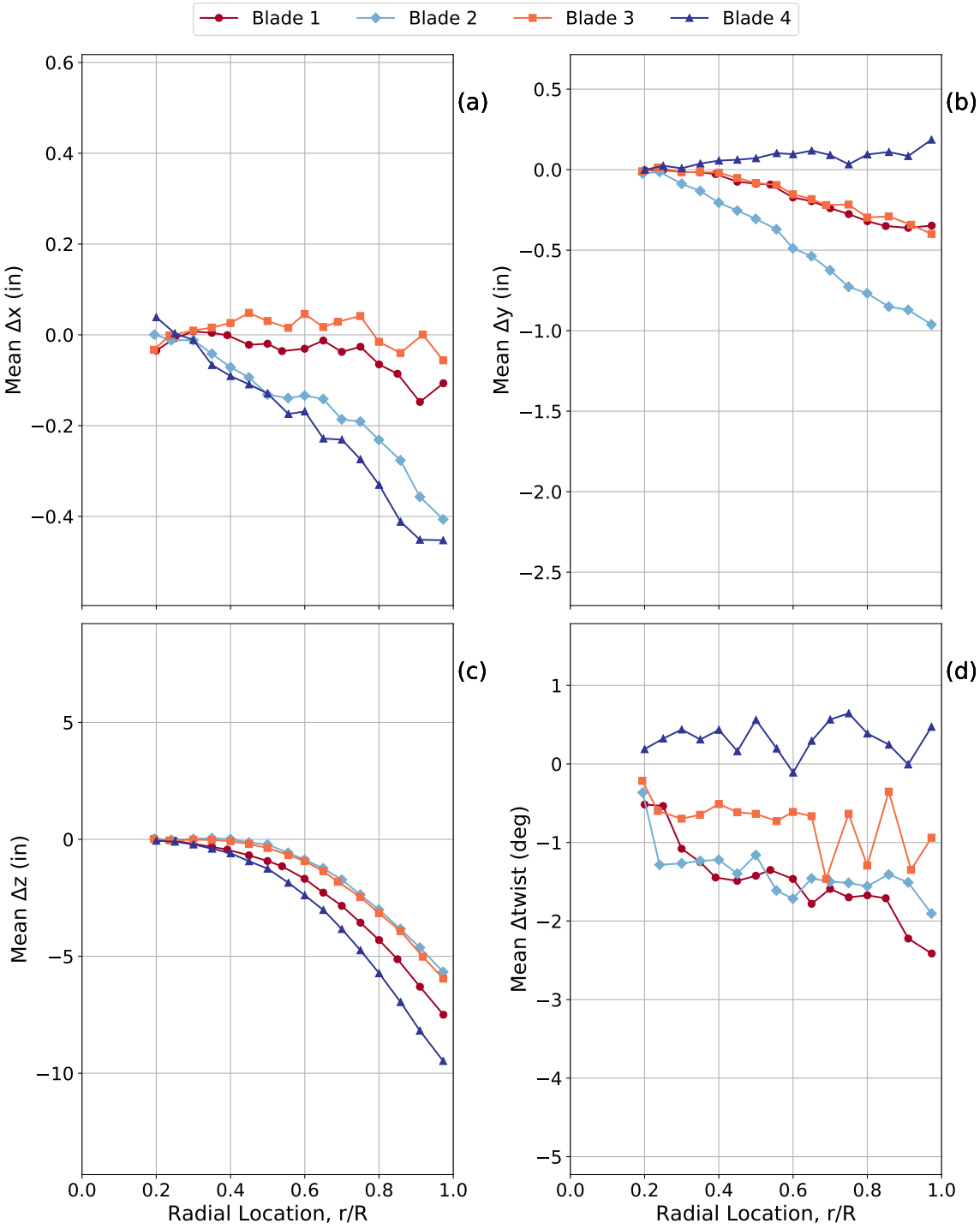


Figure 2.18-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0347	0.0072	-0.0034	0.0017	-0.0545	0.0071	-0.5160	0.0563
1	85.08	0.2499	-0.0076	0.0028	-0.0022	0.0026	-0.0597	0.0111	-0.5356	0.1208
1	85.08	0.2998	0.0075	0.0029	-0.0146	0.0062	-0.1920	0.0246	-1.0792	0.1359
1	85.08	0.3498	0.0043	0.0065	-0.0164	0.0106	-0.3203	0.0404	-1.2501	0.1318
1	85.08	0.3913	-0.0008	0.0074	-0.0275	0.0147	-0.4412	0.0568	-1.4461	0.1310
1	85.08	0.4496	-0.0219	0.0093	-0.0748	0.0205	-0.6825	0.0806	-1.4888	0.1324
1	85.08	0.4997	-0.0196	0.0102	-0.0868	0.0260	-0.9265	0.1020	-1.4236	0.1369
1	85.08	0.5387	-0.0359	0.0105	-0.0925	0.0311	-1.1510	0.1187	-1.3506	0.1367
1	85.08	0.5996	-0.0306	0.0107	-0.1726	0.0393	-1.6873	0.1487	-1.4642	0.1403
1	85.08	0.6498	-0.0126	0.0107	-0.1959	0.0466	-2.2778	0.1741	-1.7808	0.1384
1	85.08	0.6998	-0.0376	0.0115	-0.2394	0.0544	-2.8429	0.1988	-1.5908	0.1408
1	85.08	0.7500	-0.0263	0.0133	-0.2760	0.0625	-3.5624	0.2236	-1.6986	0.1427
1	85.08	0.8001	-0.0652	0.0161	-0.3201	0.0711	-4.3068	0.2471	-1.6730	0.1431
1	85.08	0.8497	-0.0857	0.0207	-0.3503	0.0800	-5.1247	0.2714	-1.7104	0.1416
1	85.08	0.9102	-0.1478	0.0280	-0.3615	0.0916	-6.3004	0.3018	-2.2232	0.1418
1	85.08	0.9734	-0.1067	0.0395	-0.3476	0.1040	-7.4979	0.3351	-2.4135	0.1416
2	85.08	0.1949	0.0004	0.0036	-0.0243	0.0016	0.0280	0.0075	-0.3644	0.0371
2	85.08	0.2405	-0.0118	0.0021	-0.0138	0.0028	-0.0196	0.0126	-1.2847	0.0810
2	85.08	0.2999	-0.0119	0.0020	-0.0879	0.0061	0.0133	0.0286	-1.2667	0.0946
2	85.08	0.3498	-0.0417	0.0020	-0.1323	0.0111	0.0496	0.0494	-1.2352	0.0921
2	85.08	0.3998	-0.0713	0.0030	-0.2053	0.0167	0.0105	0.0747	-1.2207	0.0948
2	85.08	0.4496	-0.0938	0.0031	-0.2542	0.0220	-0.1317	0.1029	-1.3966	0.1018
2	85.08	0.4995	-0.1316	0.0037	-0.3054	0.0291	-0.2187	0.1342	-1.1600	0.1023
2	85.08	0.5551	-0.1394	0.0033	-0.3704	0.0375	-0.5764	0.1719	-1.6114	0.0962
2	85.08	0.5996	-0.1337	0.0036	-0.4885	0.0439	-0.8698	0.2015	-1.7160	0.1037
2	85.08	0.6497	-0.1414	0.0033	-0.5377	0.0533	-1.2397	0.2357	-1.4574	0.1099
2	85.08	0.6996	-0.1862	0.0035	-0.6251	0.0620	-1.7244	0.2695	-1.4987	0.1124
2	85.08	0.7495	-0.1911	0.0044	-0.7271	0.0714	-2.3643	0.3023	-1.5145	0.1117
2	85.08	0.7996	-0.2314	0.0048	-0.7683	0.0818	-3.0058	0.3339	-1.5568	0.1155
2	85.08	0.8578	-0.2765	0.0060	-0.8509	0.0940	-3.8378	0.3701	-1.4072	0.1167
2	85.08	0.9100	-0.3568	0.0069	-0.8708	0.1056	-4.6283	0.4042	-1.5082	0.1188
2	85.08	0.9727	-0.4065	0.0072	-0.9619	0.1196	-5.6666	0.4440	-1.9051	0.1269
3	85.08	0.1938	-0.0329	0.0045	-0.0099	0.0019	0.0158	0.0045	-0.2146	0.0243
3	85.08	0.2357	-0.0014	0.0017	0.0131	0.0019	-0.0434	0.0049	-0.5982	0.0629
3	85.08	0.2995	0.0094	0.0023	-0.0161	0.0062	-0.0161	0.0133	-0.6968	0.0703
3	85.08	0.3493	0.0159	0.0040	-0.0146	0.0107	-0.0267	0.0231	-0.6478	0.0635
3	85.08	0.4000	0.0261	0.0055	-0.0189	0.0160	-0.0775	0.0335	-0.5100	0.0648
3	85.08	0.4497	0.0484	0.0071	-0.0518	0.0214	-0.2021	0.0435	-0.6152	0.0703
3	85.08	0.4997	0.0303	0.0086	-0.0828	0.0274	-0.3681	0.0559	-0.6357	0.0718
3	85.08	0.5556	0.0154	0.0099	-0.0955	0.0350	-0.6712	0.0715	-0.7277	0.0693
3	85.08	0.5995	0.0460	0.0109	-0.1529	0.0414	-0.9283	0.0841	-0.6112	0.0740
3	85.08	0.6498	0.0172	0.0116	-0.1828	0.0494	-1.3600	0.1003	-0.6657	0.0733
3	85.08	0.6890	0.0287	0.0035	-0.2199	0.0624	-1.8127	0.1380	-1.4632	0.9221
3	85.08	0.7495	0.0414	0.0137	-0.2168	0.0661	-2.4638	0.1337	-0.6346	0.1140
3	85.08	0.7998	-0.0154	0.0067	-0.2971	0.0847	-3.1566	0.1541	-1.2942	1.0363
3	85.08	0.8577	-0.0400	0.0092	-0.2904	0.0977	-3.9216	0.2507	-0.3533	0.0854
3	85.08	0.9178	0.0005	0.0108	-0.3423	0.1074	-5.0164	0.2727	-1.3471	0.0888
3	85.08	0.9729	-0.0562	0.0215	-0.3993	0.1146	-5.9538	0.2930	-0.9393	0.1156
4	85.08	0.2001	0.0388	0.0026	-0.0008	0.0014	-0.0588	0.0056	0.1884	0.0352
4	85.08	0.2502	0.0032	0.0022	0.0239	0.0032	-0.1022	0.0120	0.3228	0.0735
4	85.08	0.3001	-0.0114	0.0020	0.0085	0.0058	-0.2192	0.0218	0.4380	0.0813
4	85.08	0.3502	-0.0665	0.0023	0.0378	0.0094	-0.4004	0.0372	0.3109	0.0754
4	85.08	0.4002	-0.0908	0.0024	0.0561	0.0151	-0.5954	0.0579	0.4338	0.0796
4	85.08	0.4500	-0.1091	0.0026	0.0616	0.0186	-0.9367	0.0771	0.1616	0.0722
4	85.08	0.5001	-0.1294	0.0029	0.0709	0.0247	-1.2555	0.1014	0.5602	0.0764
4	85.08	0.5560	-0.1743	0.0031	0.1026	0.0310	-1.8567	0.1270	0.1953	0.0765
4	85.08	0.6001	-0.1688	0.0030	0.0958	0.0369	-2.3932	0.1492	-0.1102	0.0836
4	85.08	0.6501	-0.2284	0.0028	0.1182	0.0447	-3.0201	0.1719	0.2945	0.0804
4	85.08	0.6999	-0.2309	0.0036	0.0905	0.0527	-3.8370	0.1947	0.5644	0.0779
4	85.08	0.7500	-0.2742	0.0043	0.0330	0.0618	-4.7441	0.2176	0.6443	0.0864
4	85.08	0.8002	-0.3305	0.0053	0.0946	0.0713	-5.7248	0.2419	0.3866	0.0931
4	85.08	0.8582	-0.4118	0.0071	0.1096	0.0827	-6.9584	0.2710	0.2455	0.0850
4	85.08	0.9101	-0.4514	0.0083	0.0843	0.0941	-8.1826	0.2981	-0.0069	0.0891
4	85.08	0.9728	-0.4525	0.0092	0.1863	0.1074	-9.4757	0.3329	0.4724	0.0975

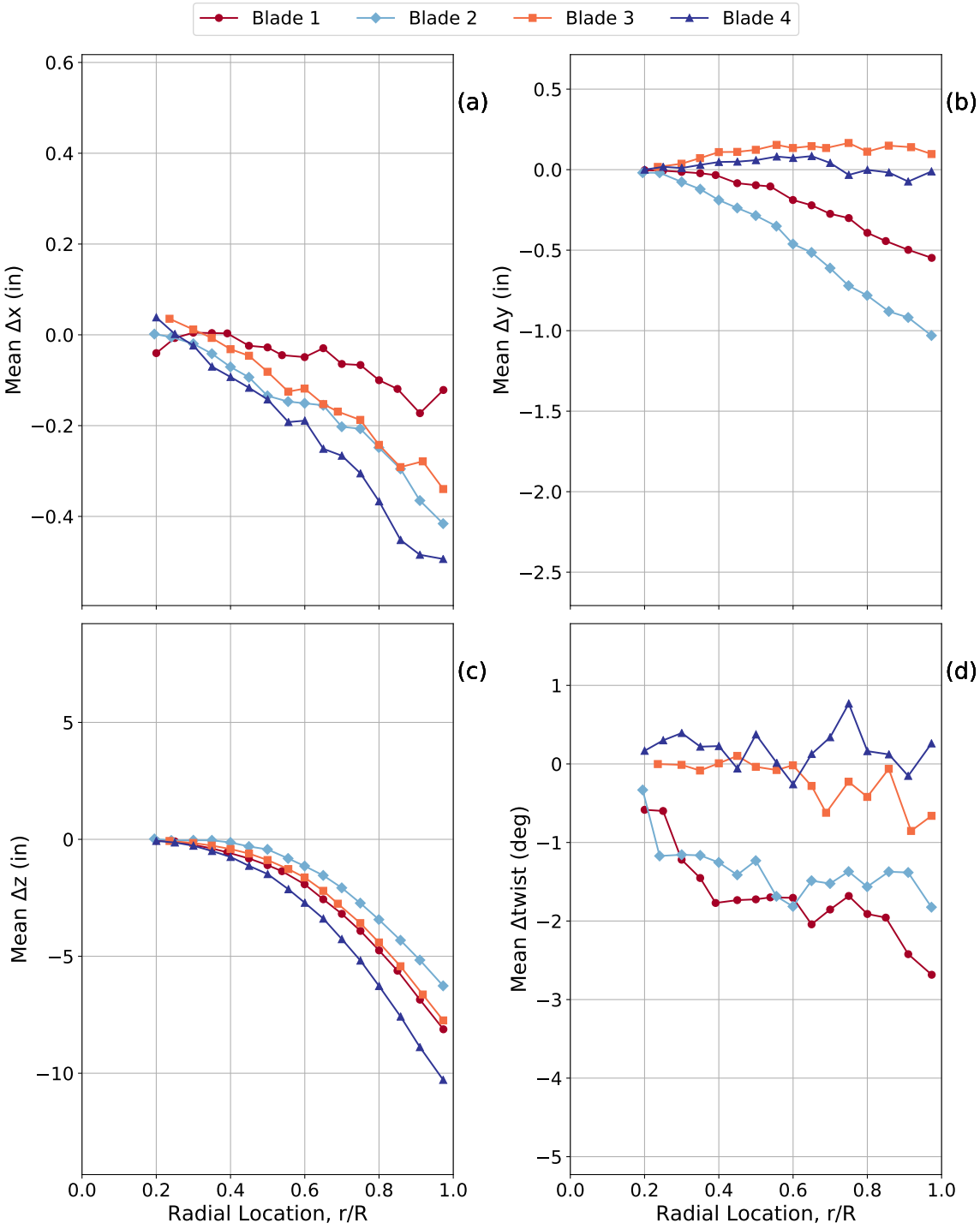


Figure 2.18-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0403	0.0072	-0.0031	0.0025	-0.0611	0.0134	-0.5839	0.0968
1	90	0.2499	-0.0070	0.0054	-0.0064	0.0032	-0.0882	0.0171	-0.5990	0.2328
1	90	0.2998	0.0047	0.0043	-0.0139	0.0087	-0.2373	0.0439	-1.2193	0.2466
1	90	0.3498	0.0039	0.0052	-0.0222	0.0147	-0.3888	0.0748	-1.4523	0.2384
1	90	0.3913	0.0032	0.0066	-0.0336	0.0203	-0.5562	0.1010	-1.7701	0.2341
1	90	0.4496	-0.0241	0.0086	-0.0842	0.0286	-0.8192	0.1373	-1.7339	0.2418
1	90	0.4997	-0.0277	0.0102	-0.0964	0.0366	-1.1042	0.1716	-1.7240	0.2383
1	90	0.5387	-0.0448	0.0109	-0.1043	0.0433	-1.3617	0.1984	-1.6991	0.2338
1	90	0.5996	-0.0491	0.0110	-0.1884	0.0546	-1.9220	0.2403	-1.7047	0.2382
1	90	0.6498	-0.0295	0.0110	-0.2214	0.0651	-2.5628	0.2752	-2.0422	0.2379
1	90	0.6998	-0.0642	0.0114	-0.2743	0.0759	-3.1857	0.3106	-1.8535	0.2411
1	90	0.7500	-0.0665	0.0131	-0.3007	0.0900	-3.9154	0.3456	-1.6811	0.2458
1	90	0.8001	-0.1000	0.0155	-0.3924	0.1000	-4.7482	0.3838	-1.9104	0.2427
1	90	0.8497	-0.1192	0.0201	-0.4435	0.1130	-5.6149	0.4202	-1.9567	0.2462
1	90	0.9102	-0.1726	0.0278	-0.4981	0.1298	-6.8535	0.4657	-2.4221	0.2428
1	90	0.9734	-0.1215	0.0377	-0.5479	0.1486	-8.1210	0.5147	-2.6840	0.2396
2	90	0.1949	0.0017	0.0041	-0.0191	0.0015	0.0173	0.0070	-0.3315	0.0476
2	90	0.2405	-0.0050	0.0030	-0.0193	0.0029	-0.0478	0.0087	-1.1718	0.1170
2	90	0.2999	-0.0197	0.0023	-0.0763	0.0055	-0.0394	0.0213	-1.1561	0.1282
2	90	0.3498	-0.0416	0.0024	-0.1213	0.0096	-0.0418	0.0375	-1.1642	0.1117
2	90	0.3998	-0.0707	0.0028	-0.1889	0.0147	-0.1334	0.0538	-1.2543	0.1109
2	90	0.4496	-0.0935	0.0028	-0.2380	0.0181	-0.3058	0.0694	-1.4127	0.1128
2	90	0.4995	-0.1344	0.0033	-0.2853	0.0222	-0.4289	0.0840	-1.2314	0.1206
2	90	0.5551	-0.1470	0.0036	-0.3511	0.0280	-0.8167	0.1031	-1.6857	0.1182
2	90	0.5996	-0.1508	0.0033	-0.4617	0.0321	-1.1415	0.1175	-1.8144	0.1139
2	90	0.6497	-0.1552	0.0032	-0.5143	0.0367	-1.5427	0.1314	-1.4867	0.1208
2	90	0.6996	-0.2025	0.0030	-0.6115	0.0415	-2.0737	0.1463	-1.5232	0.1213
2	90	0.7495	-0.2069	0.0035	-0.7208	0.0471	-2.7267	0.1616	-1.3705	0.1273
2	90	0.7996	-0.2484	0.0043	-0.7813	0.0535	-3.4298	0.1769	-1.5637	0.1220
2	90	0.8578	-0.2953	0.0052	-0.8805	0.0607	-4.3157	0.1965	-1.3724	0.1280
2	90	0.9100	-0.3651	0.0058	-0.9182	0.0678	-5.1619	0.2159	-1.3821	0.1324
2	90	0.9727	-0.4159	0.0071	-1.0302	0.0760	-6.2634	0.2439	-1.8239	0.1300
3	90	0.2357	0.0354	0.0033	0.0170	0.0021	-0.0699	0.0071	-0.0018	0.0789
3	90	0.2995	0.0118	0.0024	0.0369	0.0052	-0.1547	0.0166	-0.0117	0.1270
3	90	0.3493	-0.0068	0.0029	0.0716	0.0090	-0.2669	0.0288	-0.0841	0.1276
3	90	0.4000	-0.0316	0.0024	0.1091	0.0142	-0.4143	0.0452	0.0080	0.1294
3	90	0.4497	-0.0461	0.0032	0.1104	0.0180	-0.6075	0.0595	0.1022	0.1263
3	90	0.4997	-0.0814	0.0032	0.1232	0.0226	-0.8850	0.0758	-0.0373	0.1315
3	90	0.5556	-0.1251	0.0031	0.1539	0.0287	-1.2710	0.0946	-0.0774	0.1283
3	90	0.5995	-0.1184	0.0038	0.1345	0.0330	-1.6295	0.1103	-0.0174	0.1310
3	90	0.6498	-0.1526	0.0040	0.1461	0.0392	-2.2014	0.1299	-0.2800	0.1314
3	90	0.6890	-0.1691	0.0047	0.1344	0.0444	-2.7518	0.1465	-0.6218	0.1290
3	90	0.7495	-0.1874	0.0055	0.1657	0.0525	-3.5820	0.1724	-0.2264	0.1339
3	90	0.7998	-0.2424	0.0070	0.1117	0.0595	-4.4089	0.1964	-0.4201	0.1339
3	90	0.8577	-0.2914	0.0087	0.1491	0.0684	-5.4256	0.2251	-0.0627	0.1315
3	90	0.9178	-0.2787	0.0098	0.1396	0.0782	-6.6334	0.2560	-0.8532	0.1369
3	90	0.9729	-0.3397	0.0113	0.0969	0.0874	-7.7416	0.2854	-0.6607	0.1397
4	90.35	0.2001	0.0384	0.0033	-0.0001	0.0014	-0.0690	0.0050	0.1670	0.0491
4	90.35	0.2502	0.0017	0.0028	0.0175	0.0033	-0.1364	0.0110	0.3004	0.0864
4	90.35	0.3001	-0.0236	0.0022	0.0102	0.0060	-0.2744	0.0197	0.3932	0.1078
4	90.35	0.3502	-0.0701	0.0026	0.0298	0.0097	-0.4991	0.0323	0.2195	0.0986
4	90.35	0.4002	-0.0929	0.0025	0.0476	0.0158	-0.7545	0.0512	0.2270	0.0964
4	90.35	0.4500	-0.1167	0.0026	0.0495	0.0201	-1.1346	0.0651	-0.0588	0.1110
4	90.35	0.5001	-0.1425	0.0032	0.0587	0.0266	-1.4861	0.0844	0.3744	0.0971
4	90.35	0.5560	-0.1922	0.0033	0.0813	0.0341	-2.1350	0.1039	0.0133	0.1052
4	90.35	0.6001	-0.1891	0.0032	0.0725	0.0404	-2.7131	0.1183	-0.2597	0.1058
4	90.35	0.6501	-0.2511	0.0037	0.0842	0.0481	-3.3917	0.1355	0.1264	0.0994
4	90.35	0.6999	-0.2663	0.0041	0.0416	0.0564	-4.2686	0.1500	0.3398	0.1063
4	90.35	0.7500	-0.3052	0.0048	-0.0326	0.0652	-5.1858	0.1648	0.7675	0.1094
4	90.35	0.8002	-0.3669	0.0059	-0.0015	0.0751	-6.2741	0.1802	0.1624	0.1146
4	90.35	0.8582	-0.4521	0.0076	-0.0178	0.0864	-7.5801	0.1991	0.1212	0.1129
4	90.35	0.9101	-0.4845	0.0089	-0.0738	0.0967	-8.8844	0.2169	-0.1525	0.1179
4	90.35	0.9728	-0.4938	0.0112	-0.0112	0.1101	-10.2850	0.2418	0.2607	0.1103

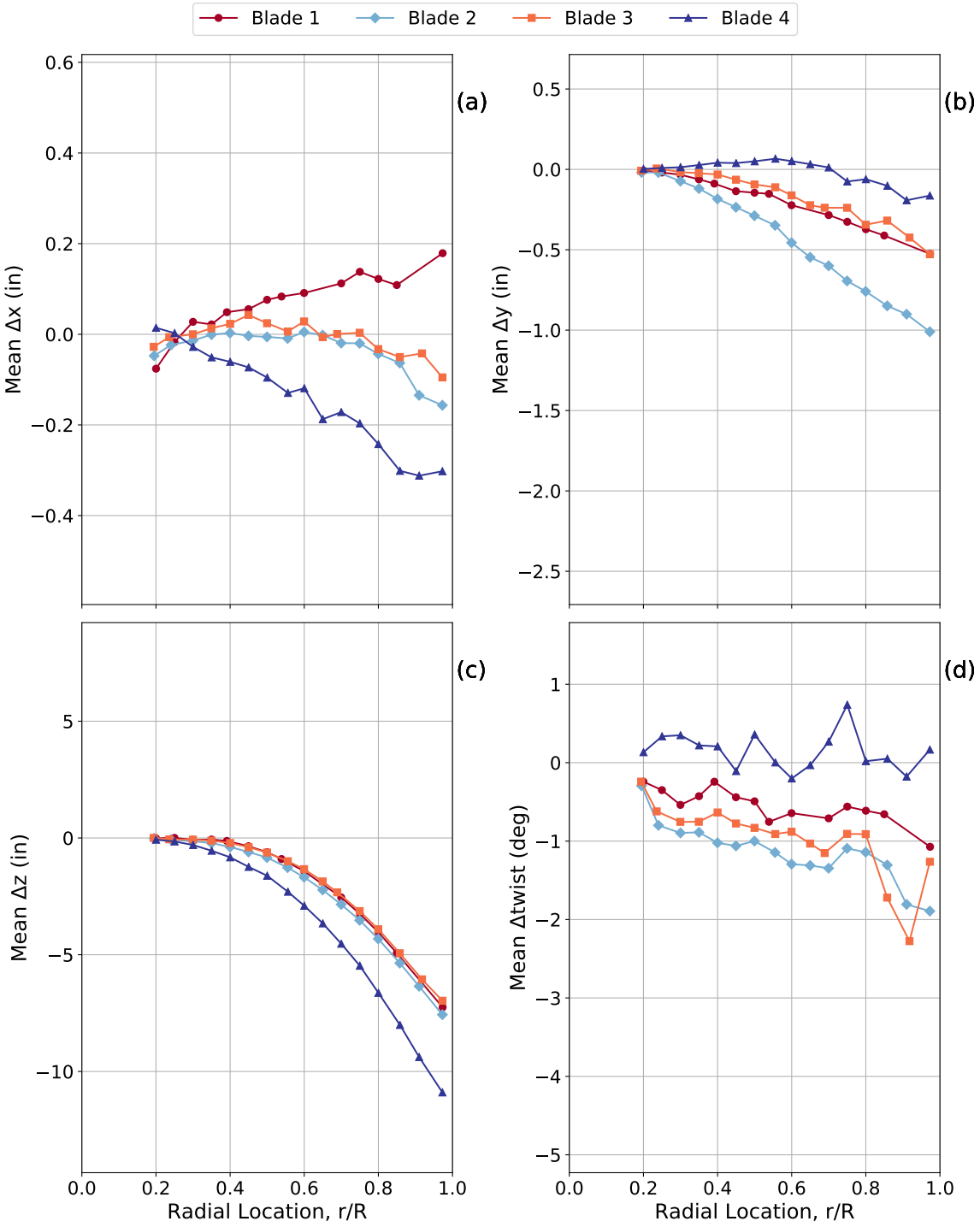


Figure 2.18-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0759	0.0012	-0.0076	0.0010	-0.0181	0.0034	-0.2425	0.0200
1	94.92	0.2499	-0.0172	0.0009	-0.0195	0.0019	0.0047	0.0074	-0.3498	0.0350
1	94.92	0.2998	0.0275	0.0013	-0.0331	0.0038	-0.0805	0.0139	-0.5383	0.0446
1	94.92	0.3498	0.0218	0.0015	-0.0622	0.0065	-0.0656	0.0242	-0.4273	0.0459
1	94.92	0.3913	0.0487	0.0018	-0.0884	0.0093	-0.1276	0.0347	-0.2429	0.0470
1	94.92	0.4496	0.0554	0.0023	-0.1358	0.0137	-0.3534	0.0506	-0.4407	0.0517
1	94.92	0.4997	0.0761	0.0028	-0.1451	0.0181	-0.6082	0.0663	-0.4925	0.0504
1	94.92	0.5387	0.0833	0.0033	-0.1522	0.0220	-0.9019	0.0804	-0.7540	0.0539
1	94.92	0.5996	0.0911	0.0035	-0.2229	0.0291	-1.4199	0.1050	-0.6435	0.0670
1	94.92	0.6998	0.1123	0.0049	-0.2844	0.0434	-2.5448	0.1575	-0.7099	0.0754
1	94.92	0.7500	0.1378	0.0065	-0.3262	0.0514	-3.2513	0.1858	-0.5604	0.0781
1	94.92	0.8001	0.1221	0.0083	-0.3722	0.0597	-4.0358	0.2151	-0.6126	0.0827
1	94.92	0.8497	0.1086	0.0087	-0.4114	0.0684	-4.9321	0.2470	-0.6577	0.1090
1	94.92	0.9734	0.1789	0.0128	-0.5258	0.0902	-7.2504	0.3271	-1.0728	0.1091
2	94.92	0.1949	-0.0475	0.0029	-0.0186	0.0016	-0.0152	0.0055	-0.2942	0.0383
2	94.92	0.2405	-0.0236	0.0024	-0.0198	0.0021	-0.0704	0.0067	-0.7992	0.0807
2	94.92	0.2999	-0.0138	0.0017	-0.0732	0.0054	-0.1431	0.0177	-0.8960	0.0945
2	94.92	0.3498	-0.0007	0.0026	-0.1192	0.0092	-0.2173	0.0287	-0.8879	0.0863
2	94.92	0.3998	0.0028	0.0039	-0.1838	0.0137	-0.3874	0.0427	-1.0217	0.0857
2	94.92	0.4496	-0.0035	0.0048	-0.2356	0.0187	-0.5989	0.0562	-1.0615	0.0861
2	94.92	0.4995	-0.0058	0.0111	-0.2884	0.0294	-0.8393	0.0741	-0.9998	0.1237
2	94.92	0.5551	-0.0092	0.0073	-0.3480	0.0309	-1.2692	0.0876	-1.1448	0.0914
2	94.92	0.5996	0.0051	0.0085	-0.4560	0.0367	-1.6803	0.1005	-1.2933	0.0962
2	94.92	0.6497	-0.0019	0.0233	-0.5467	0.0502	-2.2245	0.1161	-1.3111	0.1433
2	94.92	0.6996	-0.0194	0.0115	-0.5997	0.0512	-2.8452	0.1317	-1.3460	0.0967
2	94.92	0.7495	-0.0200	0.0136	-0.6939	0.0592	-3.5241	0.1488	-1.0930	0.0939
2	94.92	0.7996	-0.0432	0.0157	-0.7591	0.0677	-4.3197	0.1644	-1.1414	0.0899
2	94.92	0.8578	-0.0634	0.0184	-0.8491	0.0785	-5.3579	0.1815	-1.3051	0.1049
2	94.92	0.9100	-0.1346	0.0172	-0.9009	0.0957	-6.3493	0.2288	-1.8069	1.3521
2	94.92	0.9727	-0.1566	0.0232	-1.0102	0.1025	-7.5662	0.3332	-1.8925	1.4497
3	94.92	0.1938	-0.0276	0.0081	-0.0081	0.0026	0.0019	0.0085	-0.2421	0.0413
3	94.92	0.2357	-0.0063	0.0021	0.0055	0.0018	-0.0584	0.0064	-0.6211	0.1302
3	94.92	0.2995	-0.0000	0.0025	-0.0165	0.0079	-0.0703	0.0239	-0.7546	0.1367
3	94.92	0.3493	0.0133	0.0034	-0.0239	0.0138	-0.1155	0.0409	-0.7537	0.1320
3	94.92	0.4000	0.0230	0.0042	-0.0319	0.0201	-0.2157	0.0585	-0.6347	0.1353
3	94.92	0.4497	0.0428	0.0046	-0.0643	0.0267	-0.3942	0.0762	-0.7754	0.1324
3	94.92	0.4997	0.0244	0.0052	-0.0937	0.0338	-0.6245	0.0954	-0.8311	0.1322
3	94.92	0.5556	0.0061	0.0060	-0.1114	0.0418	-0.9945	0.1177	-0.9096	0.1377
3	94.92	0.5995	0.0283	0.0068	-0.1616	0.0486	-1.3344	0.1353	-0.8803	0.1374
3	94.92	0.6498	-0.0064	0.0133	-0.2229	0.0567	-1.8611	0.1550	-1.0314	0.1349
3	94.92	0.6890	0.0006	0.0083	-0.2386	0.0636	-2.3275	0.1703	-1.1520	0.1459
3	94.92	0.7495	0.0034	0.0099	-0.2389	0.0742	-3.1309	0.1946	-0.9077	0.1359
3	94.92	0.7998	-0.0327	0.0117	-0.3442	0.0835	-3.9070	0.2149	-0.9112	0.1459
3	94.92	0.8577	-0.0502	0.0101	-0.3185	0.1040	-4.9373	0.2715	-1.7206	1.1095
3	94.92	0.9178	-0.0422	0.0100	-0.4241	0.1232	-6.0548	0.2716	-2.2757	1.2167
3	94.92	0.9729	-0.0952	0.0185	-0.5281	0.1480	-6.9714	0.3224	-1.2636	0.1514
4	94.92	0.2001	0.0143	0.0059	0.0027	0.0015	-0.0756	0.0073	0.1332	0.0620
4	94.92	0.2502	0.0025	0.0050	0.0089	0.0030	-0.1504	0.0113	0.3359	0.1172
4	94.92	0.3001	-0.0279	0.0030	0.0134	0.0050	-0.3020	0.0201	0.3497	0.1343
4	94.92	0.3502	-0.0510	0.0044	0.0271	0.0086	-0.5473	0.0332	0.2204	0.1305
4	94.92	0.4002	-0.0608	0.0070	0.0415	0.0131	-0.8291	0.0481	0.2075	0.1232
4	94.92	0.4500	-0.0731	0.0079	0.0391	0.0173	-1.2391	0.0610	-0.1073	0.1289
4	94.92	0.5001	-0.0956	0.0085	0.0502	0.0221	-1.6182	0.0737	0.3589	0.1308
4	94.92	0.5560	-0.1294	0.0089	0.0663	0.0282	-2.3042	0.0907	0.0028	0.1297
4	94.92	0.6001	-0.1191	0.0089	0.0512	0.0334	-2.9034	0.1034	-0.2011	0.1342
4	94.92	0.6501	-0.1873	0.0074	0.0320	0.0468	-3.6591	0.1200	-0.0317	0.1440
4	94.92	0.6999	-0.1717	0.0077	0.0118	0.0452	-4.5284	0.1355	0.2679	0.1314
4	94.92	0.7500	-0.1967	0.0080	-0.0755	0.0519	-5.4725	0.1503	0.7377	0.1297
4	94.92	0.8002	-0.2424	0.0102	-0.0612	0.0582	-6.6343	0.1650	0.0189	0.1395
4	94.92	0.8582	-0.3013	0.0148	-0.1023	0.0656	-8.0075	0.1857	0.0509	0.1306
4	94.92	0.9101	-0.3120	0.0202	-0.1924	0.0722	-9.3837	0.2026	-0.1778	0.1445
4	94.92	0.9728	-0.3022	0.0285	-0.1631	0.0795	-10.8966	0.2269	0.1663	0.1468

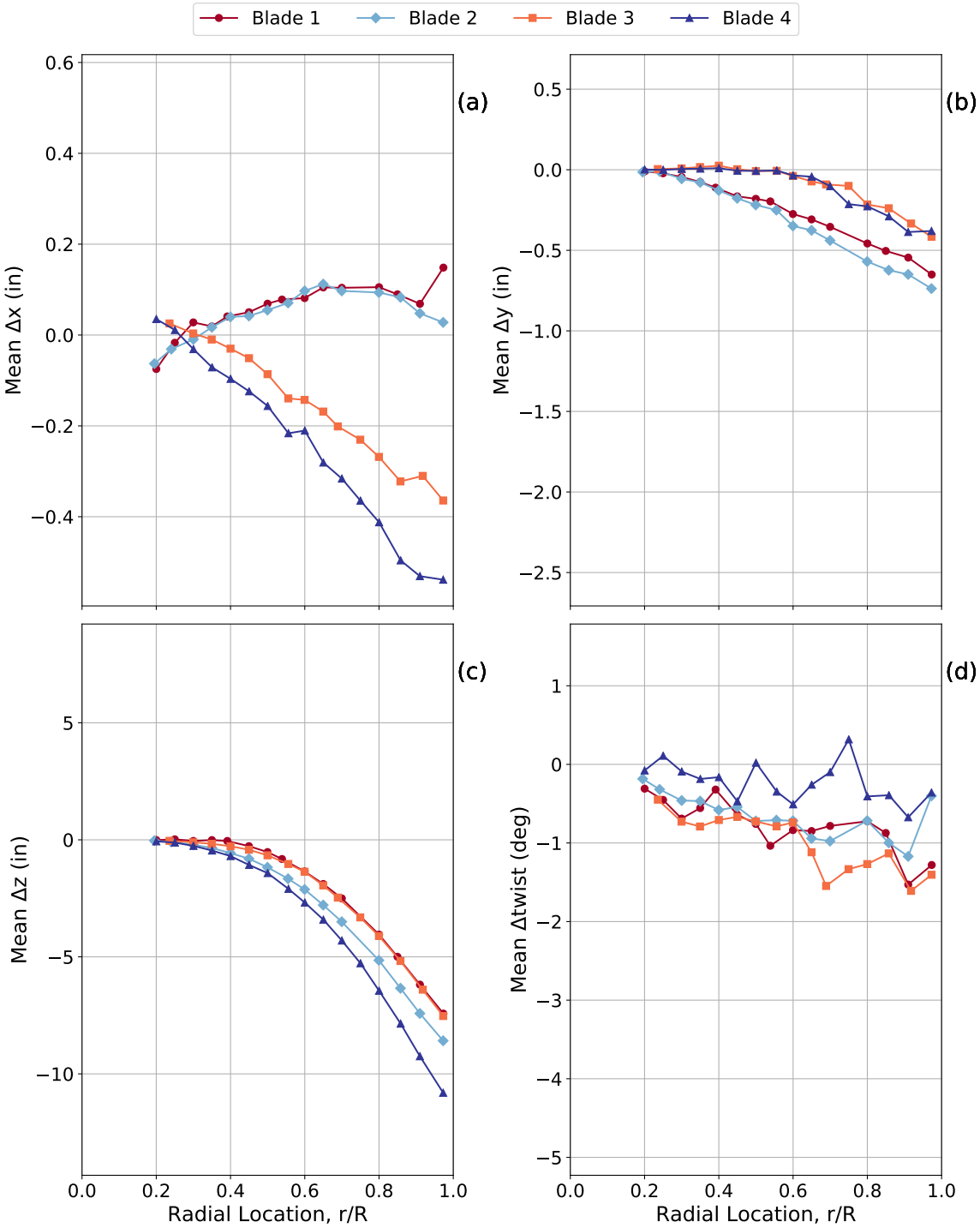


Figure 2.18-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0748	0.0010	-0.0103	0.0010	-0.0100	0.0036	-0.3091	0.0234
1	99.84	0.2499	-0.0170	0.0012	-0.0219	0.0023	0.0213	0.0075	-0.4523	0.0356
1	99.84	0.2998	0.0278	0.0012	-0.0447	0.0044	-0.0479	0.0148	-0.6897	0.0514
1	99.84	0.3498	0.0190	0.0015	-0.0760	0.0073	-0.0111	0.0241	-0.5561	0.0515
1	99.84	0.3913	0.0409	0.0017	-0.1111	0.0108	-0.0483	0.0356	-0.3207	0.0501
1	99.84	0.4496	0.0502	0.0024	-0.1651	0.0159	-0.2708	0.0503	-0.6398	0.0504
1	99.84	0.4997	0.0690	0.0027	-0.1804	0.0211	-0.5231	0.0641	-0.7579	0.0561
1	99.84	0.5387	0.0781	0.0034	-0.1964	0.0259	-0.8199	0.0757	-1.0357	0.0618
1	99.84	0.5996	0.0813	0.0036	-0.2748	0.0343	-1.3503	0.0952	-0.8363	0.0672
1	99.84	0.6498	0.1048	0.0043	-0.3082	0.0419	-1.8870	0.1120	-0.8483	0.0730
1	99.84	0.6998	0.1040	0.0048	-0.3544	0.0504	-2.5032	0.1299	-0.7833	0.0668
1	99.84	0.8001	0.1053	0.0068	-0.4576	0.0692	-4.0478	0.1637	-0.7239	0.0732
1	99.84	0.8497	0.0896	0.0074	-0.5038	0.0795	-4.9963	0.1779	-0.8730	0.0890
1	99.84	0.9102	0.0687	0.0113	-0.5452	0.0922	-6.1868	0.1970	-1.5292	0.1461
1	99.84	0.9734	0.1484	0.0113	-0.6503	0.1053	-7.4257	0.2134	-1.2803	0.0783
2	99.84	0.1949	-0.0631	0.0010	-0.0139	0.0007	-0.0388	0.0024	-0.1841	0.0216
2	99.84	0.2405	-0.0310	0.0010	-0.0104	0.0013	-0.0896	0.0046	-0.3186	0.0299
2	99.84	0.2999	-0.0096	0.0010	-0.0561	0.0030	-0.2139	0.0099	-0.4600	0.0468
2	99.84	0.3498	0.0170	0.0015	-0.0787	0.0052	-0.3453	0.0165	-0.4675	0.0477
2	99.84	0.3998	0.0399	0.0019	-0.1286	0.0079	-0.5664	0.0258	-0.5808	0.0427
2	99.84	0.4496	0.0419	0.0022	-0.1772	0.0108	-0.8083	0.0349	-0.5415	0.0519
2	99.84	0.4995	0.0549	0.0023	-0.2182	0.0144	-1.1731	0.0439	-0.7208	0.0520
2	99.84	0.5551	0.0706	0.0028	-0.2505	0.0186	-1.6622	0.0543	-0.7096	0.0518
2	99.84	0.5996	0.0971	0.0034	-0.3489	0.0227	-2.1204	0.0634	-0.7183	0.0560
2	99.84	0.6497	0.1121	0.0035	-0.3760	0.0270	-2.7872	0.0740	-0.9422	0.0607
2	99.84	0.6996	0.0971	0.0040	-0.4389	0.0320	-3.5006	0.0844	-0.9763	0.0665
2	99.84	0.7996	0.0936	0.0064	-0.5698	0.0430	-5.1475	0.1075	-0.7168	0.0816
2	99.84	0.8578	0.0830	0.0073	-0.6236	0.0502	-6.3416	0.1229	-0.9985	0.0969
2	99.84	0.9100	0.0478	0.0109	-0.6495	0.0563	-7.4193	0.1370	-1.1712	0.1365
2	99.84	0.9727	0.0278	0.0116	-0.7376	0.0650	-8.5851	0.1484	-0.4010	0.1221
3	99.84	0.2357	0.0255	0.0039	0.0040	0.0028	-0.0431	0.0114	-0.4492	0.1354
3	99.84	0.2995	0.0035	0.0030	0.0084	0.0064	-0.1044	0.0245	-0.7287	0.2175
3	99.84	0.3493	-0.0099	0.0035	0.0168	0.0118	-0.1702	0.0444	-0.7906	0.2003
3	99.84	0.4000	-0.0300	0.0028	0.0253	0.0183	-0.2740	0.0675	-0.7080	0.2008
3	99.84	0.4497	-0.0510	0.0034	0.0034	0.0233	-0.4239	0.0861	-0.6680	0.2087
3	99.84	0.4997	-0.0862	0.0036	-0.0080	0.0290	-0.6620	0.1076	-0.7264	0.2037
3	99.84	0.5556	-0.1396	0.0038	-0.0067	0.0359	-1.0316	0.1309	-0.7890	0.2095
3	99.84	0.5995	-0.1428	0.0034	-0.0386	0.0416	-1.3632	0.1509	-0.7398	0.2171
3	99.84	0.6498	-0.1685	0.0040	-0.0723	0.0490	-1.9478	0.1753	-1.1182	0.2050
3	99.84	0.6890	-0.2012	0.0042	-0.0911	0.0553	-2.4687	0.1924	-1.5470	0.2100
3	99.84	0.7495	-0.2304	0.0051	-0.1003	0.0638	-3.3154	0.2251	-1.3333	0.2044
3	99.84	0.7998	-0.2683	0.0062	-0.2155	0.0723	-4.1106	0.2513	-1.2687	0.2069
3	99.84	0.8577	-0.3223	0.0078	-0.2391	0.0824	-5.1770	0.2852	-1.1328	0.2115
3	99.84	0.9178	-0.3101	0.0100	-0.3338	0.0930	-6.4028	0.3229	-1.6093	0.2071
3	99.84	0.9729	-0.3643	0.0102	-0.4159	0.1025	-7.5280	0.3589	-1.4045	0.2039
4	99.84	0.2001	0.0351	0.0053	0.0017	0.0022	-0.0656	0.0115	-0.0777	0.0745
4	99.84	0.2502	0.0110	0.0072	-0.0008	0.0029	-0.1185	0.0132	0.1094	0.1395
4	99.84	0.3001	-0.0311	0.0033	0.0049	0.0070	-0.2597	0.0309	-0.0918	0.1474
4	99.84	0.3502	-0.0712	0.0034	0.0069	0.0104	-0.4579	0.0472	-0.1856	0.1337
4	99.84	0.4002	-0.0965	0.0036	0.0096	0.0160	-0.6966	0.0672	-0.1631	0.1427
4	99.84	0.4500	-0.1240	0.0040	-0.0061	0.0217	-1.0744	0.0881	-0.4703	0.1398
4	99.84	0.5001	-0.1563	0.0040	-0.0074	0.0272	-1.4223	0.1085	0.0203	0.1355
4	99.84	0.5560	-0.2163	0.0035	-0.0046	0.0346	-2.0957	0.1329	-0.3468	0.1498
4	99.84	0.6001	-0.2104	0.0040	-0.0352	0.0408	-2.6819	0.1536	-0.5087	0.1436
4	99.84	0.6501	-0.2808	0.0041	-0.0431	0.0484	-3.4116	0.1818	-0.2586	0.1446
4	99.84	0.6999	-0.3161	0.0048	-0.1019	0.0561	-4.3041	0.2054	-0.0987	0.1417
4	99.84	0.7500	-0.3647	0.0063	-0.2135	0.0642	-5.2757	0.2323	0.3177	0.1404
4	99.84	0.8002	-0.4123	0.0079	-0.2271	0.0728	-6.4500	0.2594	-0.4075	0.1440
4	99.84	0.8582	-0.4962	0.0099	-0.2895	0.0833	-7.8555	0.2917	-0.3925	0.1427
4	99.84	0.9101	-0.5309	0.0119	-0.3863	0.0927	-9.2484	0.3198	-0.6734	0.1446
4	99.84	0.9728	-0.5387	0.0129	-0.3802	0.1045	-10.8090	0.3583	-0.3586	0.1488

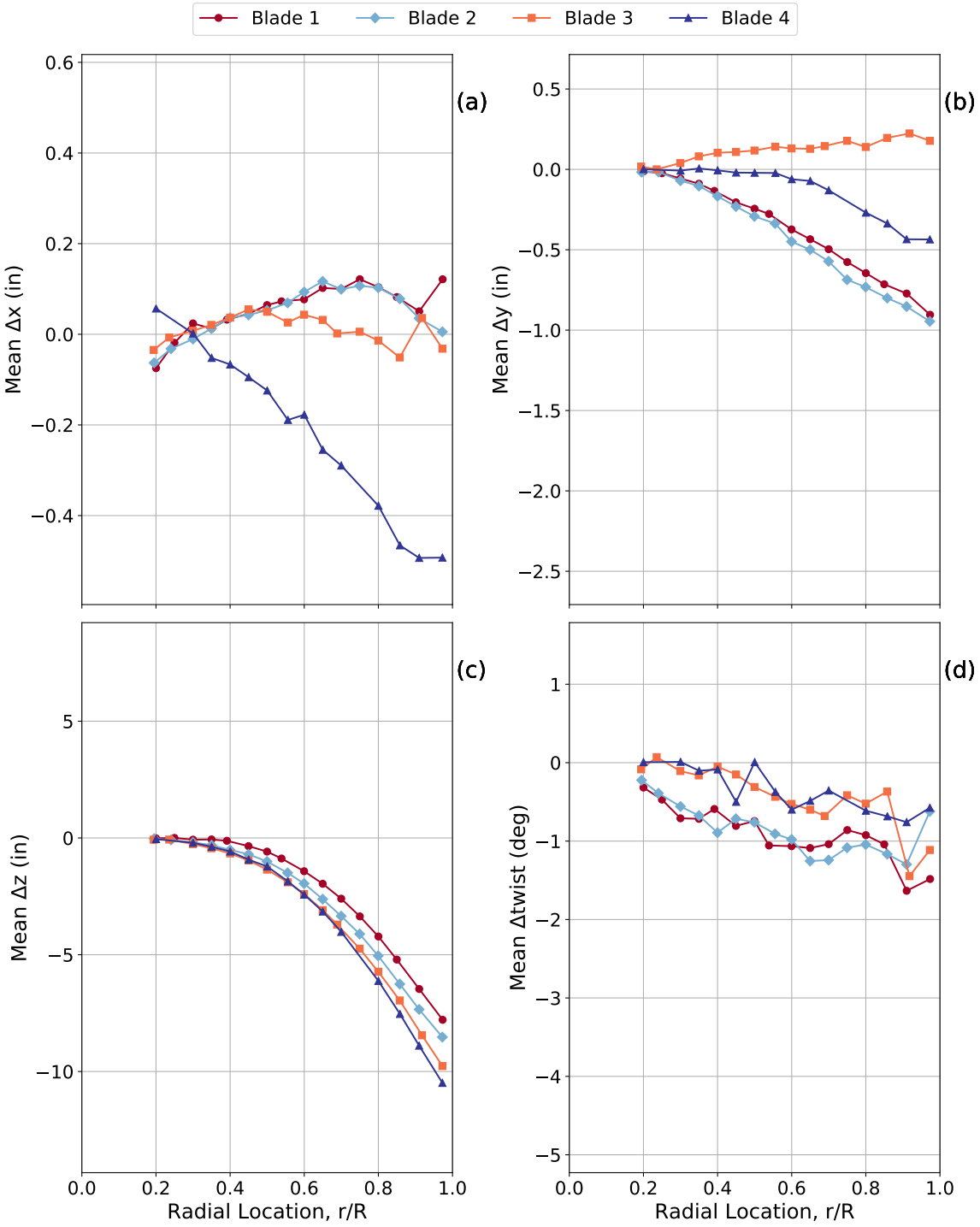


Figure 2.18-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0747	0.0012	-0.0130	0.0008	-0.0146	0.0028	-0.3174	0.0238
1	105.12	0.2499	-0.0188	0.0010	-0.0238	0.0017	0.0023	0.0062	-0.4709	0.0332
1	105.12	0.2998	0.0240	0.0011	-0.0566	0.0034	-0.0714	0.0113	-0.7093	0.0506
1	105.12	0.3498	0.0125	0.0013	-0.0893	0.0057	-0.0629	0.0195	-0.7158	0.0461
1	105.12	0.3913	0.0323	0.0015	-0.1337	0.0083	-0.1206	0.0281	-0.5903	0.0487
1	105.12	0.4496	0.0453	0.0019	-0.2049	0.0116	-0.3491	0.0397	-0.8064	0.0488
1	105.12	0.4997	0.0644	0.0021	-0.2445	0.0148	-0.5831	0.0509	-0.7439	0.0556
1	105.12	0.5387	0.0727	0.0024	-0.2772	0.0175	-0.8783	0.0614	-1.0557	0.0490
1	105.12	0.5996	0.0770	0.0028	-0.3736	0.0225	-1.4227	0.0792	-1.0647	0.0504
1	105.12	0.6498	0.1022	0.0032	-0.4345	0.0266	-1.9605	0.0954	-1.0885	0.0569
1	105.12	0.6998	0.0999	0.0041	-0.4965	0.0307	-2.5996	0.1133	-1.0387	0.0585
1	105.12	0.7500	0.1215	0.0050	-0.5765	0.0353	-3.3579	0.1346	-0.8593	0.0601
1	105.12	0.8001	0.1038	0.0064	-0.6452	0.0397	-4.2195	0.1565	-0.9241	0.0562
1	105.12	0.8497	0.0821	0.0079	-0.7146	0.0447	-5.2077	0.1829	-1.0415	0.0655
1	105.12	0.9102	0.0507	0.0102	-0.7723	0.0511	-6.4672	0.2187	-1.6335	0.0875
1	105.12	0.9734	0.1214	0.0128	-0.9045	0.0580	-7.7860	0.2604	-1.4832	0.0628
2	105.12	0.1949	-0.0631	0.0010	-0.0171	0.0007	-0.0319	0.0026	-0.2232	0.0245
2	105.12	0.2405	-0.0319	0.0011	-0.0160	0.0018	-0.0828	0.0066	-0.3900	0.0296
2	105.12	0.2999	-0.0106	0.0010	-0.0703	0.0036	-0.1908	0.0123	-0.5587	0.0512
2	105.12	0.3498	0.0128	0.0013	-0.1037	0.0059	-0.3075	0.0211	-0.6744	0.0493
2	105.12	0.3998	0.0364	0.0015	-0.1669	0.0094	-0.5105	0.0333	-0.8924	0.0470
2	105.12	0.4496	0.0427	0.0019	-0.2309	0.0131	-0.6987	0.0460	-0.7152	0.0444
2	105.12	0.4995	0.0527	0.0022	-0.2926	0.0173	-1.0061	0.0605	-0.7603	0.0450
2	105.12	0.5551	0.0692	0.0024	-0.3364	0.0220	-1.4948	0.0757	-0.9075	0.0441
2	105.12	0.5996	0.0933	0.0029	-0.4494	0.0262	-1.9506	0.0869	-0.9787	0.0454
2	105.12	0.6497	0.1167	0.0034	-0.4993	0.0315	-2.6210	0.0992	-1.2542	0.0484
2	105.12	0.6996	0.0994	0.0042	-0.5719	0.0370	-3.3455	0.1113	-1.2419	0.0636
2	105.12	0.7495	0.1070	0.0052	-0.6864	0.0426	-4.1115	0.1217	-1.0841	0.0478
2	105.12	0.7996	0.1027	0.0052	-0.7322	0.0485	-5.0459	0.1312	-1.0430	0.0541
2	105.12	0.8578	0.0783	0.0070	-0.8007	0.0561	-6.2563	0.1429	-1.1663	0.0648
2	105.12	0.9100	0.0351	0.0078	-0.8532	0.0631	-7.3420	0.1513	-1.2968	0.0688
2	105.12	0.9727	0.0055	0.0100	-0.9456	0.0724	-8.5276	0.1694	-0.6209	0.0928
3	105.12	0.1938	-0.0346	0.0156	0.0175	0.0088	-0.0745	0.0202	-0.0850	0.0551
3	105.12	0.2357	-0.0070	0.0047	0.0002	0.0039	-0.0687	0.0119	0.0705	0.1309
3	105.12	0.2995	0.0078	0.0041	0.0393	0.0261	-0.2617	0.0564	-0.1070	0.1427
3	105.12	0.3493	0.0207	0.0048	0.0809	0.0453	-0.4395	0.0945	-0.1625	0.1382
3	105.12	0.4000	0.0367	0.0045	0.1033	0.0653	-0.6625	0.1355	-0.0504	0.1319
3	105.12	0.4497	0.0550	0.0047	0.1082	0.0851	-0.9652	0.1738	-0.1505	0.1359
3	105.12	0.4997	0.0497	0.0047	0.1173	0.1056	-1.3546	0.2131	-0.3101	0.1337
3	105.12	0.5556	0.0260	0.0058	0.1410	0.1293	-1.8982	0.2552	-0.4349	0.1452
3	105.12	0.5995	0.0432	0.0073	0.1305	0.1484	-2.4031	0.2895	-0.5256	0.1389
3	105.12	0.6498	0.0317	0.0111	0.1279	0.1705	-3.0896	0.3269	-0.5993	0.1381
3	105.12	0.6890	0.0018	0.0131	0.1449	0.1886	-3.7099	0.3572	-0.6803	0.1372
3	105.12	0.7495	0.0057	0.0189	0.1778	0.2161	-4.7397	0.4034	-0.4158	0.1399
3	105.12	0.7998	-0.0138	0.0236	0.1393	0.2395	-5.7267	0.4412	-0.5224	0.1452
3	105.12	0.8577	-0.0511	0.0302	0.1958	0.2672	-6.9584	0.4880	-0.3685	0.1427
3	105.12	0.9178	0.0359	0.0379	0.2237	0.2977	-8.4486	0.5310	-1.4467	0.1585
3	105.12	0.9729	-0.0318	0.0488	0.1777	0.3248	-9.7662	0.5761	-1.1134	0.1513
4	105.12	0.2001	0.0568	0.0063	0.0008	0.0012	-0.0486	0.0065	0.0066	0.0871
4	105.12	0.3001	0.0017	0.0052	-0.0076	0.0054	-0.2069	0.0303	0.0098	0.2028
4	105.12	0.3502	-0.0522	0.0051	0.0056	0.0101	-0.3782	0.0503	-0.1030	0.2009
4	105.12	0.4002	-0.0667	0.0045	-0.0062	0.0153	-0.5796	0.0799	-0.0868	0.2067
4	105.12	0.4500	-0.0947	0.0077	-0.0201	0.0200	-0.9278	0.0915	-0.4997	0.2122
4	105.12	0.5001	-0.1241	0.0076	-0.0212	0.0254	-1.2227	0.1182	0.0064	0.2030
4	105.12	0.5560	-0.1890	0.0077	-0.0226	0.0321	-1.8595	0.1472	-0.3727	0.1973
4	105.12	0.6001	-0.1775	0.0068	-0.0612	0.0371	-2.4270	0.1663	-0.5988	0.2043
4	105.12	0.6501	-0.2549	0.0077	-0.0721	0.0435	-3.1518	0.1914	-0.4868	0.1972
4	105.12	0.6999	-0.2897	0.0094	-0.1304	0.0503	-4.0223	0.2200	-0.3556	0.2011
4	105.12	0.8002	-0.3784	0.0131	-0.2692	0.0655	-6.1234	0.2790	-0.6128	0.2069
4	105.12	0.8582	-0.4658	0.0154	-0.3370	0.0757	-7.5360	0.3205	-0.6844	0.2007
4	105.12	0.9101	-0.4934	0.0187	-0.4347	0.0852	-8.8959	0.3612	-0.7588	0.2124
4	105.12	0.9728	-0.4928	0.0216	-0.4359	0.0967	-10.4894	0.4054	-0.5747	0.2427

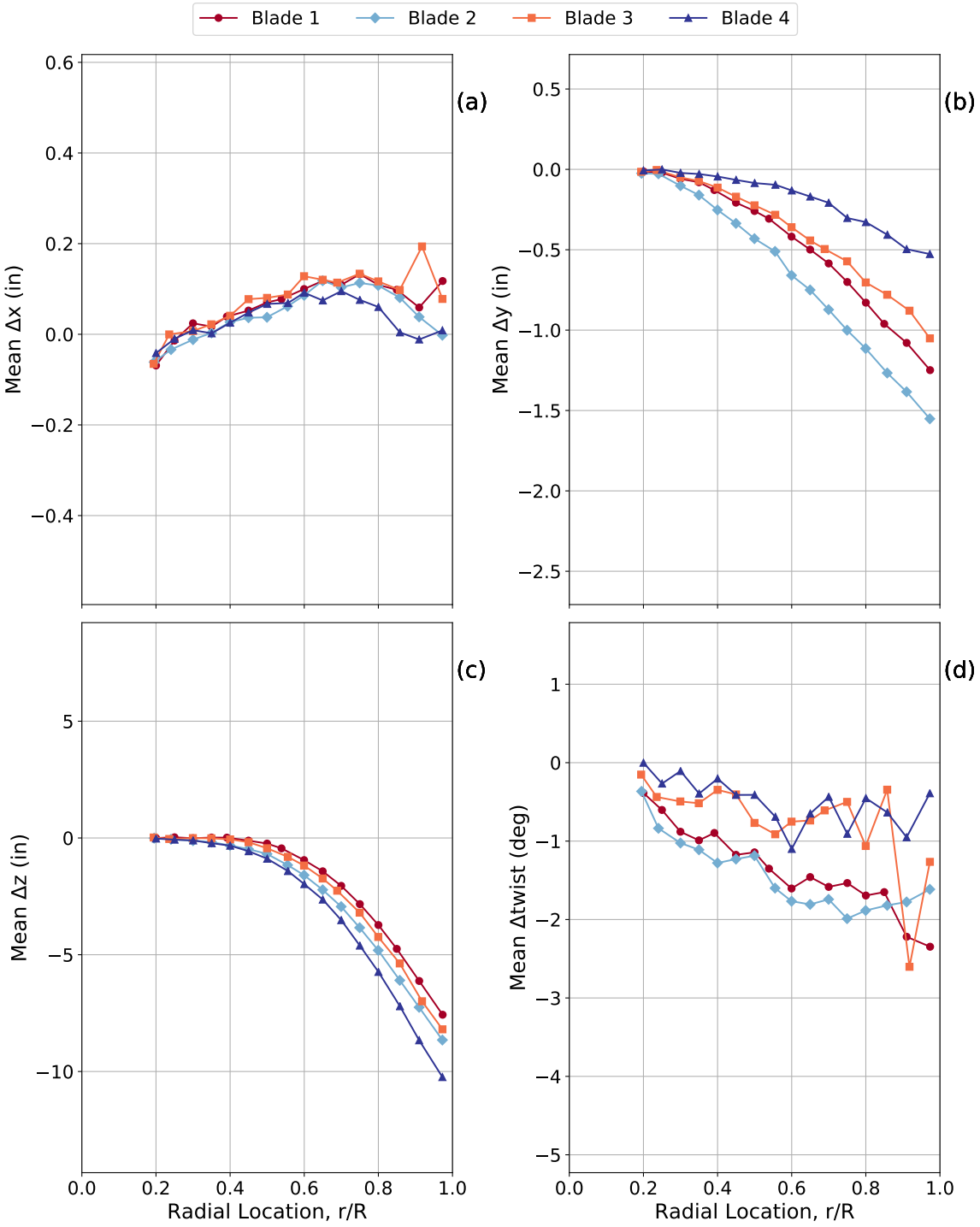


Figure 2.18-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0688	0.0009	-0.0126	0.0006	-0.0029	0.0027	-0.3877	0.0156
1	119.88	0.2499	-0.0138	0.0008	-0.0205	0.0016	0.0288	0.0058	-0.6029	0.0285
1	119.88	0.2998	0.0242	0.0012	-0.0586	0.0025	-0.0109	0.0109	-0.8805	0.0358
1	119.88	0.3498	0.0170	0.0011	-0.0802	0.0044	0.0178	0.0186	-0.9904	0.0304
1	119.88	0.3913	0.0390	0.0015	-0.1286	0.0065	0.0144	0.0269	-0.8959	0.0421
1	119.88	0.4496	0.0523	0.0016	-0.2071	0.0094	-0.1137	0.0392	-1.1750	0.0450
1	119.88	0.4997	0.0703	0.0018	-0.2590	0.0123	-0.2388	0.0513	-1.1433	0.0475
1	119.88	0.5387	0.0776	0.0023	-0.3068	0.0152	-0.4450	0.0609	-1.3512	0.0503
1	119.88	0.5996	0.0998	0.0027	-0.4183	0.0200	-0.9481	0.0772	-1.6043	0.0532
1	119.88	0.6498	0.1178	0.0029	-0.4989	0.0245	-1.4269	0.0921	-1.4586	0.0562
1	119.88	0.6998	0.1091	0.0036	-0.5852	0.0293	-2.0506	0.1091	-1.5837	0.0588
1	119.88	0.7500	0.1325	0.0048	-0.7006	0.0346	-2.8320	0.1296	-1.5347	0.0642
1	119.88	0.8001	0.1090	0.0062	-0.8291	0.0403	-3.7285	0.1526	-1.6937	0.0602
1	119.88	0.8497	0.0982	0.0080	-0.9610	0.0464	-4.7493	0.1785	-1.6502	0.0655
1	119.88	0.9102	0.0591	0.0101	-1.0793	0.0542	-6.1232	0.2135	-2.2197	0.0683
1	119.88	0.9734	0.1175	0.0133	-1.2488	0.0626	-7.5694	0.2537	-2.3469	0.0719
2	119.88	0.1949	-0.0614	0.0014	-0.0246	0.0007	-0.0083	0.0023	-0.3656	0.0217
2	119.88	0.2405	-0.0337	0.0010	-0.0278	0.0020	-0.0578	0.0052	-0.8370	0.0364
2	119.88	0.2999	-0.0118	0.0023	-0.1019	0.0034	-0.1173	0.0094	-1.0241	0.0505
2	119.88	0.3498	0.0030	0.0013	-0.1601	0.0063	-0.1749	0.0175	-1.1106	0.0473
2	119.88	0.3998	0.0270	0.0020	-0.2525	0.0098	-0.3228	0.0262	-1.2793	0.0488
2	119.88	0.4496	0.0365	0.0022	-0.3359	0.0125	-0.4767	0.0357	-1.2295	0.0534
2	119.88	0.4995	0.0375	0.0026	-0.4310	0.0157	-0.6839	0.0483	-1.1859	0.0568
2	119.88	0.5551	0.0618	0.0032	-0.5103	0.0197	-1.1599	0.0613	-1.5997	0.0604
2	119.88	0.5996	0.0858	0.0034	-0.6593	0.0232	-1.5930	0.0731	-1.7667	0.0624
2	119.88	0.6497	0.1182	0.0039	-0.7500	0.0271	-2.2204	0.0849	-1.8073	0.0672
2	119.88	0.6996	0.1032	0.0046	-0.8726	0.0313	-2.9387	0.0967	-1.7423	0.0659
2	119.88	0.7495	0.1133	0.0054	-1.0004	0.0356	-3.8427	0.1087	-1.9887	0.0672
2	119.88	0.7996	0.1076	0.0065	-1.1144	0.0402	-4.8106	0.1232	-1.8848	0.0692
2	119.88	0.8578	0.0809	0.0080	-1.2667	0.0460	-6.0964	0.1424	-1.8194	0.0706
2	119.88	0.9100	0.0383	0.0092	-1.3837	0.0514	-7.2502	0.1611	-1.7758	0.0749
2	119.88	0.9727	-0.0021	0.0114	-1.5515	0.0577	-8.6519	0.1872	-1.6147	0.0783
3	119.88	0.1938	-0.0654	0.0011	-0.0150	0.0006	0.0204	0.0025	-0.1522	0.0276
3	119.88	0.2357	-0.0003	0.0011	-0.0040	0.0013	-0.0427	0.0060	-0.4372	0.0290
3	119.88	0.2995	0.0071	0.0013	-0.0498	0.0027	-0.0057	0.0119	-0.4947	0.0571
3	119.88	0.3493	0.0220	0.0012	-0.0722	0.0043	-0.0151	0.0201	-0.5169	0.0404
3	119.88	0.4000	0.0409	0.0017	-0.1135	0.0070	-0.0605	0.0317	-0.3468	0.0432
3	119.88	0.4497	0.0775	0.0020	-0.1701	0.0094	-0.1803	0.0440	-0.4046	0.0511
3	119.88	0.4997	0.0803	0.0025	-0.2238	0.0120	-0.4397	0.0598	-0.7682	0.0519
3	119.88	0.5556	0.0877	0.0031	-0.2825	0.0159	-0.8076	0.0813	-0.9129	0.0552
3	119.88	0.5995	0.1281	0.0038	-0.3597	0.0190	-1.1810	0.1006	-0.7519	0.0574
3	119.88	0.6498	0.1203	0.0047	-0.4423	0.0230	-1.7359	0.1241	-0.7369	0.0688
3	119.88	0.6890	0.1139	0.0058	-0.4956	0.0261	-2.2575	0.1457	-0.6084	0.0674
3	119.88	0.7495	0.1337	0.0081	-0.5719	0.0317	-3.1980	0.1849	-0.5002	0.0795
3	119.88	0.7998	0.1167	0.0108	-0.7035	0.0364	-4.2391	0.2249	-1.0623	0.0830
3	119.88	0.8577	0.0977	0.0148	-0.7799	0.0423	-5.3722	0.2803	-0.3445	0.0957
3	119.88	0.9178	0.1938	0.0190	-0.8791	0.0482	-6.9927	0.3451	-2.6028	0.1041
3	119.88	0.9729	0.0780	0.0223	-1.0511	0.0537	-8.1944	0.4078	-1.2648	0.1118
4	119.88	0.2001	-0.0415	0.0016	-0.0069	0.0008	-0.0247	0.0030	-0.0010	0.0336
4	119.88	0.2502	-0.0099	0.0011	-0.0005	0.0020	-0.0725	0.0089	-0.2664	0.0328
4	119.88	0.3001	0.0091	0.0013	-0.0221	0.0031	-0.1051	0.0127	-0.1066	0.0645
4	119.88	0.3502	0.0021	0.0014	-0.0289	0.0063	-0.2236	0.0224	-0.3942	0.0496
4	119.88	0.4002	0.0256	0.0017	-0.0445	0.0092	-0.3297	0.0352	-0.2028	0.0524
4	119.88	0.4500	0.0479	0.0021	-0.0656	0.0115	-0.5674	0.0498	-0.4114	0.0567
4	119.88	0.5001	0.0670	0.0024	-0.0851	0.0151	-0.8884	0.0671	-0.4104	0.0668
4	119.88	0.5560	0.0690	0.0030	-0.0958	0.0197	-1.4176	0.0891	-0.6907	0.0777
4	119.88	0.6001	0.0916	0.0037	-0.1312	0.0236	-1.9767	0.1096	-1.1000	0.0792
4	119.88	0.6501	0.0746	0.0046	-0.1691	0.0285	-2.6386	0.1367	-0.6494	0.0831
4	119.88	0.6999	0.0952	0.0062	-0.2080	0.0342	-3.5190	0.1690	-0.4356	0.0916
4	119.88	0.7500	0.0758	0.0087	-0.3027	0.0403	-4.6095	0.2123	-0.9070	0.0886
4	119.88	0.8002	0.0602	0.0124	-0.3282	0.0469	-5.7354	0.2628	-0.4523	0.1022
4	119.88	0.8582	0.0042	0.0177	-0.4070	0.0545	-7.2067	0.3326	-0.6357	0.1049
4	119.88	0.9101	-0.0115	0.0222	-0.4963	0.0615	-8.6637	0.4021	-0.9514	0.1113
4	119.88	0.9728	0.0086	0.0271	-0.5268	0.0696	-10.2390	0.4911	-0.3898	0.1118

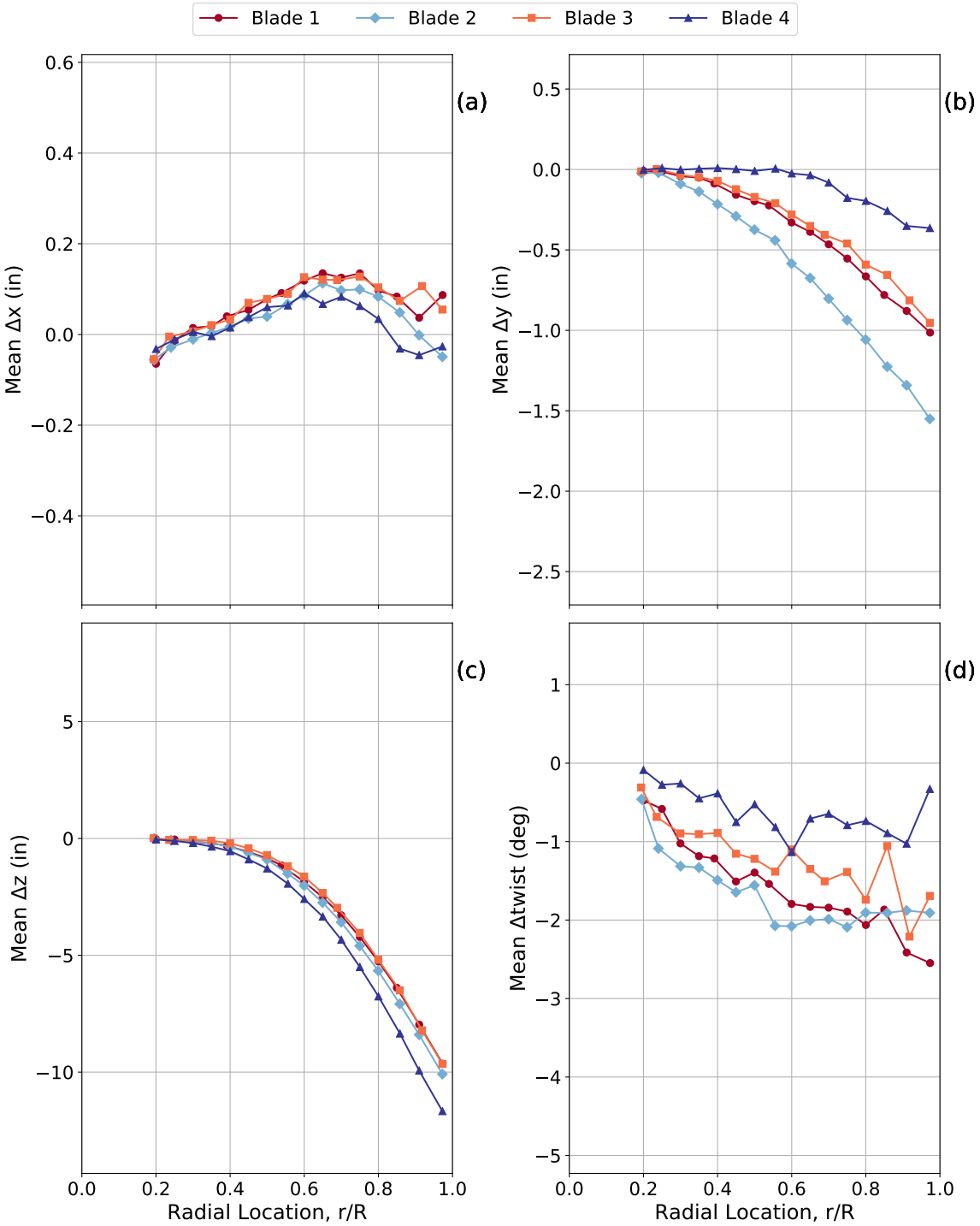


Figure 2.18-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0646	0.0008	-0.0081	0.0008	-0.0318	0.0029	-0.4756	0.0282
1	135	0.2499	-0.0140	0.0008	-0.0133	0.0016	-0.0424	0.0064	-0.5841	0.0351
1	135	0.2998	0.0145	0.0014	-0.0419	0.0029	-0.1391	0.0122	-1.0233	0.0579
1	135	0.3498	0.0182	0.0012	-0.0504	0.0051	-0.2047	0.0199	-1.1857	0.0543
1	135	0.3913	0.0400	0.0015	-0.0875	0.0070	-0.3118	0.0295	-1.2149	0.0497
1	135	0.4496	0.0542	0.0019	-0.1574	0.0099	-0.5769	0.0455	-1.5087	0.0578
1	135	0.4997	0.0778	0.0024	-0.1971	0.0127	-0.8482	0.0638	-1.3946	0.0588
1	135	0.5387	0.0914	0.0028	-0.2234	0.0151	-1.1550	0.0811	-1.5395	0.0652
1	135	0.5996	0.1187	0.0037	-0.3295	0.0192	-1.8530	0.1140	-1.7944	0.0663
1	135	0.6498	0.1350	0.0054	-0.3879	0.0232	-2.5178	0.1462	-1.8322	0.0673
1	135	0.6998	0.1254	0.0072	-0.4654	0.0275	-3.2854	0.1844	-1.8420	0.0718
1	135	0.7500	0.1348	0.0097	-0.5540	0.0318	-4.2191	0.2287	-1.8923	0.0701
1	135	0.8001	0.0970	0.0133	-0.6648	0.0365	-5.2620	0.2805	-2.0631	0.0735
1	135	0.8497	0.0836	0.0178	-0.7803	0.0413	-6.3911	0.3381	-1.8668	0.0731
1	135	0.9102	0.0369	0.0228	-0.8794	0.0474	-7.9667	0.4150	-2.4134	0.0771
1	135	0.9734	0.0870	0.0285	-1.0141	0.0542	-9.6384	0.5029	-2.5478	0.0818
2	135	0.1949	-0.0561	0.0010	-0.0227	0.0007	-0.0049	0.0033	-0.4595	0.0294
2	135	0.2405	-0.0283	0.0011	-0.0201	0.0016	-0.0726	0.0065	-1.0874	0.0377
2	135	0.2999	-0.0107	0.0016	-0.0892	0.0036	-0.1305	0.0133	-1.3135	0.0624
2	135	0.3498	0.0032	0.0012	-0.1373	0.0059	-0.1863	0.0232	-1.3315	0.0557
2	135	0.3998	0.0173	0.0013	-0.2156	0.0095	-0.3599	0.0352	-1.4915	0.0499
2	135	0.4496	0.0351	0.0015	-0.2905	0.0121	-0.6131	0.0466	-1.6456	0.0508
2	135	0.4995	0.0395	0.0019	-0.3745	0.0155	-0.9011	0.0609	-1.5572	0.0519
2	135	0.5551	0.0669	0.0025	-0.4407	0.0188	-1.5029	0.0786	-2.0737	0.0496
2	135	0.5996	0.0860	0.0029	-0.5849	0.0220	-2.0139	0.0957	-2.0788	0.0543
2	135	0.6497	0.1130	0.0039	-0.6750	0.0255	-2.7481	0.1176	-2.0048	0.0611
2	135	0.6996	0.0972	0.0053	-0.8028	0.0293	-3.5816	0.1430	-1.9885	0.0642
2	135	0.7495	0.0995	0.0070	-0.9360	0.0331	-4.5978	0.1717	-2.0905	0.0649
2	135	0.7996	0.0834	0.0093	-1.0575	0.0370	-5.6603	0.2038	-1.9061	0.0662
2	135	0.8578	0.0485	0.0125	-1.2261	0.0423	-7.0803	0.2426	-1.9080	0.0701
2	135	0.9100	-0.0015	0.0148	-1.3416	0.0467	-8.3988	0.2789	-1.8784	0.0711
2	135	0.9727	-0.0492	0.0181	-1.5507	0.0530	-10.0858	0.3228	-1.9081	0.0734
3	135	0.1938	-0.0547	0.0023	-0.0122	0.0014	0.0102	0.0043	-0.3108	0.0305
3	135	0.2357	-0.0047	0.0012	0.0027	0.0017	-0.0638	0.0047	-0.6856	0.0769
3	135	0.2995	0.0068	0.0013	-0.0339	0.0044	-0.0656	0.0127	-0.8960	0.0863
3	135	0.3493	0.0206	0.0017	-0.0468	0.0077	-0.0963	0.0225	-0.9051	0.0846
3	135	0.4000	0.0331	0.0016	-0.0713	0.0115	-0.2054	0.0325	-0.8901	0.0917
3	135	0.4497	0.0698	0.0019	-0.1229	0.0148	-0.4195	0.0421	-1.1542	0.0863
3	135	0.4997	0.0783	0.0020	-0.1710	0.0184	-0.7146	0.0515	-1.2200	0.0988
3	135	0.5556	0.0896	0.0023	-0.2097	0.0227	-1.1884	0.0644	-1.3831	0.0948
3	135	0.5995	0.1263	0.0027	-0.2804	0.0265	-1.6283	0.0764	-1.1004	0.0938
3	135	0.6498	0.1209	0.0035	-0.3512	0.0312	-2.3329	0.0933	-1.3490	0.0923
3	135	0.6890	0.1201	0.0046	-0.4066	0.0350	-2.9666	0.1090	-1.5059	0.0921
3	135	0.7495	0.1276	0.0063	-0.4604	0.0411	-4.0428	0.1380	-1.3867	0.0930
3	135	0.7998	0.1038	0.0086	-0.5916	0.0467	-5.1891	0.1686	-1.7400	0.0982
3	135	0.8577	0.0739	0.0115	-0.6559	0.0532	-6.4980	0.2079	-1.0571	0.0924
3	135	0.9178	0.1067	0.0150	-0.8136	0.0604	-8.2134	0.2535	-2.2104	0.0902
3	135	0.9729	0.0549	0.0182	-0.9535	0.0668	-9.6502	0.2977	-1.6924	0.0865
4	135	0.2001	-0.0320	0.0009	-0.0022	0.0009	-0.0452	0.0033	-0.0874	0.0286
4	135	0.2502	-0.0109	0.0012	0.0085	0.0015	-0.1073	0.0071	-0.2754	0.0531
4	135	0.3001	0.0054	0.0012	-0.0018	0.0025	-0.1964	0.0131	-0.2601	0.0649
4	135	0.3502	-0.0037	0.0013	0.0046	0.0051	-0.3513	0.0226	-0.4489	0.0487
4	135	0.4002	0.0152	0.0017	0.0087	0.0070	-0.5447	0.0349	-0.3862	0.0477
4	135	0.4500	0.0383	0.0019	0.0020	0.0092	-0.8986	0.0490	-0.7516	0.0504
4	135	0.5001	0.0602	0.0024	-0.0091	0.0116	-1.2869	0.0665	-0.5253	0.0501
4	135	0.5560	0.0639	0.0030	0.0053	0.0145	-1.9381	0.0886	-0.8154	0.0556
4	135	0.6001	0.0907	0.0036	-0.0247	0.0169	-2.5907	0.1081	-1.1343	0.0580
4	135	0.6501	0.0672	0.0047	-0.0357	0.0203	-3.3468	0.1329	-0.7072	0.0579
4	135	0.6999	0.0831	0.0062	-0.0818	0.0235	-4.3379	0.1595	-0.6451	0.0583
4	135	0.7500	0.0628	0.0082	-0.1768	0.0273	-5.5053	0.1887	-0.7909	0.0580
4	135	0.8002	0.0341	0.0106	-0.1956	0.0313	-6.7604	0.2194	-0.7375	0.0655
4	135	0.8582	-0.0312	0.0137	-0.2580	0.0355	-8.3508	0.2585	-0.8930	0.0660
4	135	0.9101	-0.0456	0.0165	-0.3511	0.0404	-9.9372	0.2953	-1.0267	0.0628
4	135	0.9728	-0.0264	0.0196	-0.3644	0.0460	-11.6713	0.3395	-0.3300	0.0673

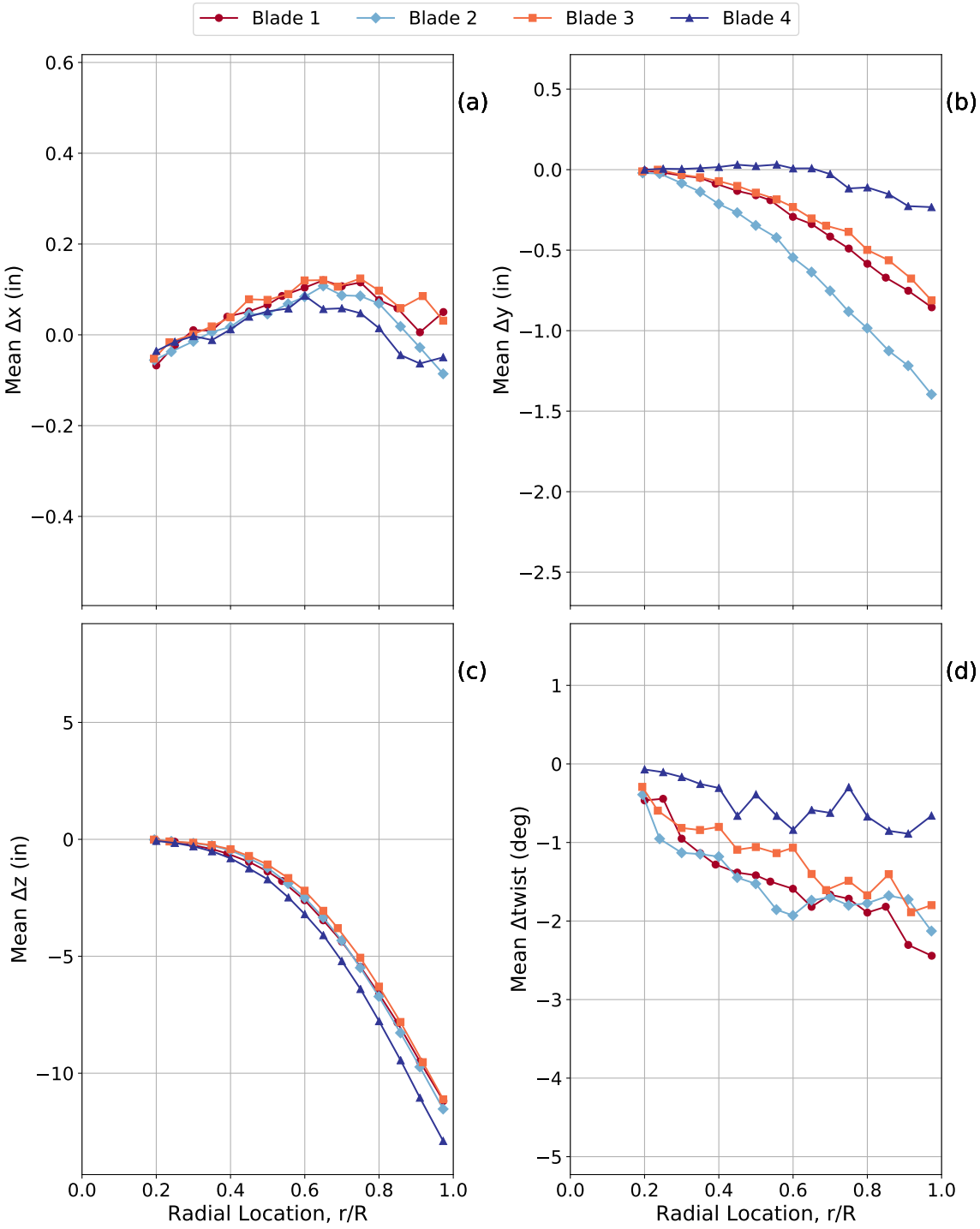


Figure 2.18-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0674	0.0013	-0.0061	0.0016	-0.0605	0.0025	-0.4642	0.0226
1	150.12	0.2499	-0.0235	0.0022	-0.0184	0.0022	-0.1012	0.0055	-0.4439	0.0404
1	150.12	0.2998	0.0102	0.0016	-0.0370	0.0054	-0.2554	0.0099	-0.9509	0.0502
1	150.12	0.3498	0.0093	0.0020	-0.0513	0.0093	-0.4141	0.0168	-1.1371	0.0492
1	150.12	0.3913	0.0399	0.0022	-0.0871	0.0126	-0.6075	0.0244	-1.2813	0.0485
1	150.12	0.4496	0.0515	0.0024	-0.1319	0.0157	-0.9607	0.0349	-1.3830	0.0508
1	150.12	0.4997	0.0662	0.0029	-0.1591	0.0196	-1.3701	0.0459	-1.4181	0.0518
1	150.12	0.5387	0.0856	0.0033	-0.1897	0.0225	-1.7801	0.0562	-1.4976	0.0508
1	150.12	0.5996	0.1039	0.0039	-0.2930	0.0275	-2.6033	0.0756	-1.5894	0.0611
1	150.12	0.6498	0.1201	0.0049	-0.3379	0.0319	-3.4615	0.0931	-1.8191	0.0605
1	150.12	0.6998	0.1070	0.0059	-0.4156	0.0370	-4.3754	0.1136	-1.6652	0.0621
1	150.12	0.7500	0.1155	0.0076	-0.4899	0.0423	-5.4511	0.1348	-1.7162	0.0655
1	150.12	0.8001	0.0766	0.0096	-0.5846	0.0482	-6.6123	0.1577	-1.8927	0.0666
1	150.12	0.8497	0.0585	0.0114	-0.6706	0.0543	-7.8383	0.1815	-1.8178	0.0698
1	150.12	0.9102	0.0056	0.0137	-0.7520	0.0620	-9.5010	0.2117	-2.3043	0.0713
1	150.12	0.9734	0.0502	0.0172	-0.8550	0.0708	-11.1848	0.2453	-2.4423	0.0722
2	150.12	0.1949	-0.0556	0.0014	-0.0205	0.0013	-0.0165	0.0037	-0.3907	0.0253
2	150.12	0.2405	-0.0371	0.0013	-0.0243	0.0022	-0.0861	0.0068	-0.9529	0.0411
2	150.12	0.2999	-0.0144	0.0016	-0.0842	0.0057	-0.1674	0.0143	-1.1314	0.0591
2	150.12	0.3498	0.0062	0.0016	-0.1374	0.0093	-0.2696	0.0254	-1.1483	0.0544
2	150.12	0.3998	0.0175	0.0020	-0.2135	0.0146	-0.4716	0.0383	-1.1802	0.0546
2	150.12	0.4496	0.0457	0.0025	-0.2672	0.0169	-0.8105	0.0529	-1.4469	0.0546
2	150.12	0.4995	0.0458	0.0031	-0.3463	0.0215	-1.2093	0.0699	-1.5261	0.0531
2	150.12	0.5551	0.0681	0.0033	-0.4220	0.0275	-1.8906	0.0926	-1.8550	0.0584
2	150.12	0.5996	0.0839	0.0041	-0.5458	0.0325	-2.4934	0.1130	-1.9291	0.0564
2	150.12	0.6497	0.1077	0.0054	-0.6360	0.0384	-3.3427	0.1387	-1.7353	0.0627
2	150.12	0.6996	0.0869	0.0069	-0.7530	0.0450	-4.3239	0.1671	-1.6989	0.0626
2	150.12	0.7495	0.0856	0.0091	-0.8813	0.0518	-5.4906	0.1977	-1.8004	0.0650
2	150.12	0.7996	0.0689	0.0118	-0.9846	0.0590	-6.7200	0.2311	-1.7743	0.0642
2	150.12	0.8578	0.0184	0.0156	-1.1254	0.0676	-8.2750	0.2737	-1.6775	0.0687
2	150.12	0.9100	-0.0279	0.0181	-1.2177	0.0754	-9.7309	0.3137	-1.7248	0.0722
2	150.12	0.9727	-0.0859	0.0227	-1.3955	0.0848	-11.5292	0.3656	-2.1276	0.0708
3	150.12	0.1938	-0.0525	0.0032	-0.0107	0.0011	-0.0117	0.0033	-0.2923	0.0257
3	150.12	0.2357	-0.0164	0.0016	-0.0004	0.0021	-0.0902	0.0042	-0.5947	0.0513
3	150.12	0.2995	0.0012	0.0016	-0.0316	0.0042	-0.1454	0.0106	-0.8153	0.0641
3	150.12	0.3493	0.0185	0.0019	-0.0476	0.0074	-0.2454	0.0190	-0.8413	0.0571
3	150.12	0.4000	0.0386	0.0021	-0.0716	0.0114	-0.4239	0.0277	-0.8019	0.0604
3	150.12	0.4497	0.0783	0.0024	-0.1012	0.0146	-0.7127	0.0369	-1.0921	0.0543
3	150.12	0.4997	0.0770	0.0026	-0.1430	0.0182	-1.0754	0.0455	-1.0582	0.0555
3	150.12	0.5556	0.0897	0.0033	-0.1846	0.0221	-1.6560	0.0556	-1.1354	0.0580
3	150.12	0.5995	0.1198	0.0035	-0.2320	0.0258	-2.1958	0.0634	-1.0668	0.0593
3	150.12	0.6498	0.1205	0.0043	-0.3030	0.0301	-3.0554	0.0726	-1.4013	0.0623
3	150.12	0.6890	0.1061	0.0048	-0.3481	0.0335	-3.7974	0.0811	-1.6066	0.0580
3	150.12	0.7495	0.1241	0.0062	-0.3862	0.0393	-5.0620	0.0958	-1.4876	0.0578
3	150.12	0.7998	0.0973	0.0077	-0.4983	0.0443	-6.2968	0.1110	-1.6723	0.0591
3	150.12	0.8577	0.0588	0.0096	-0.5629	0.0504	-7.8097	0.1318	-1.4035	0.0569
3	150.12	0.9178	0.0854	0.0125	-0.6761	0.0569	-9.5273	0.1592	-1.8879	0.0647
3	150.12	0.9729	0.0312	0.0151	-0.8117	0.0629	-11.1142	0.1849	-1.7981	0.0623
4	150.12	0.2001	-0.0355	0.0015	-0.0001	0.0012	-0.0675	0.0021	-0.0706	0.0275
4	150.12	0.2502	-0.0154	0.0017	0.0055	0.0024	-0.1557	0.0045	-0.1053	0.0509
4	150.12	0.3001	-0.0029	0.0013	0.0043	0.0049	-0.3003	0.0078	-0.1671	0.0633
4	150.12	0.3502	-0.0115	0.0014	0.0091	0.0077	-0.5122	0.0125	-0.2557	0.0569
4	150.12	0.4002	0.0121	0.0017	0.0162	0.0117	-0.8091	0.0196	-0.3063	0.0617
4	150.12	0.4500	0.0399	0.0021	0.0305	0.0138	-1.2441	0.0274	-0.6611	0.0600
4	150.12	0.5001	0.0518	0.0025	0.0222	0.0176	-1.7117	0.0364	-0.3890	0.0609
4	150.12	0.5560	0.0579	0.0028	0.0314	0.0214	-2.4860	0.0479	-0.6612	0.0636
4	150.12	0.6001	0.0862	0.0034	0.0076	0.0249	-3.2018	0.0585	-0.8397	0.0635
4	150.12	0.6501	0.0567	0.0041	0.0082	0.0291	-4.0999	0.0726	-0.5858	0.0633
4	150.12	0.6999	0.0584	0.0052	-0.0277	0.0335	-5.2064	0.0887	-0.6229	0.0638
4	150.12	0.7500	0.0476	0.0068	-0.1167	0.0384	-6.4005	0.1076	-0.2979	0.0676
4	150.12	0.8002	0.0146	0.0083	-0.1105	0.0437	-7.7752	0.1269	-0.6707	0.0620
4	150.12	0.8582	-0.0446	0.0106	-0.1529	0.0501	-9.4479	0.1510	-0.8520	0.0649
4	150.12	0.9101	-0.0632	0.0123	-0.2265	0.0561	-11.0474	0.1728	-0.8886	0.0586
4	150.12	0.9728	-0.0495	0.0145	-0.2328	0.0630	-12.8967	0.2037	-0.6595	0.0622

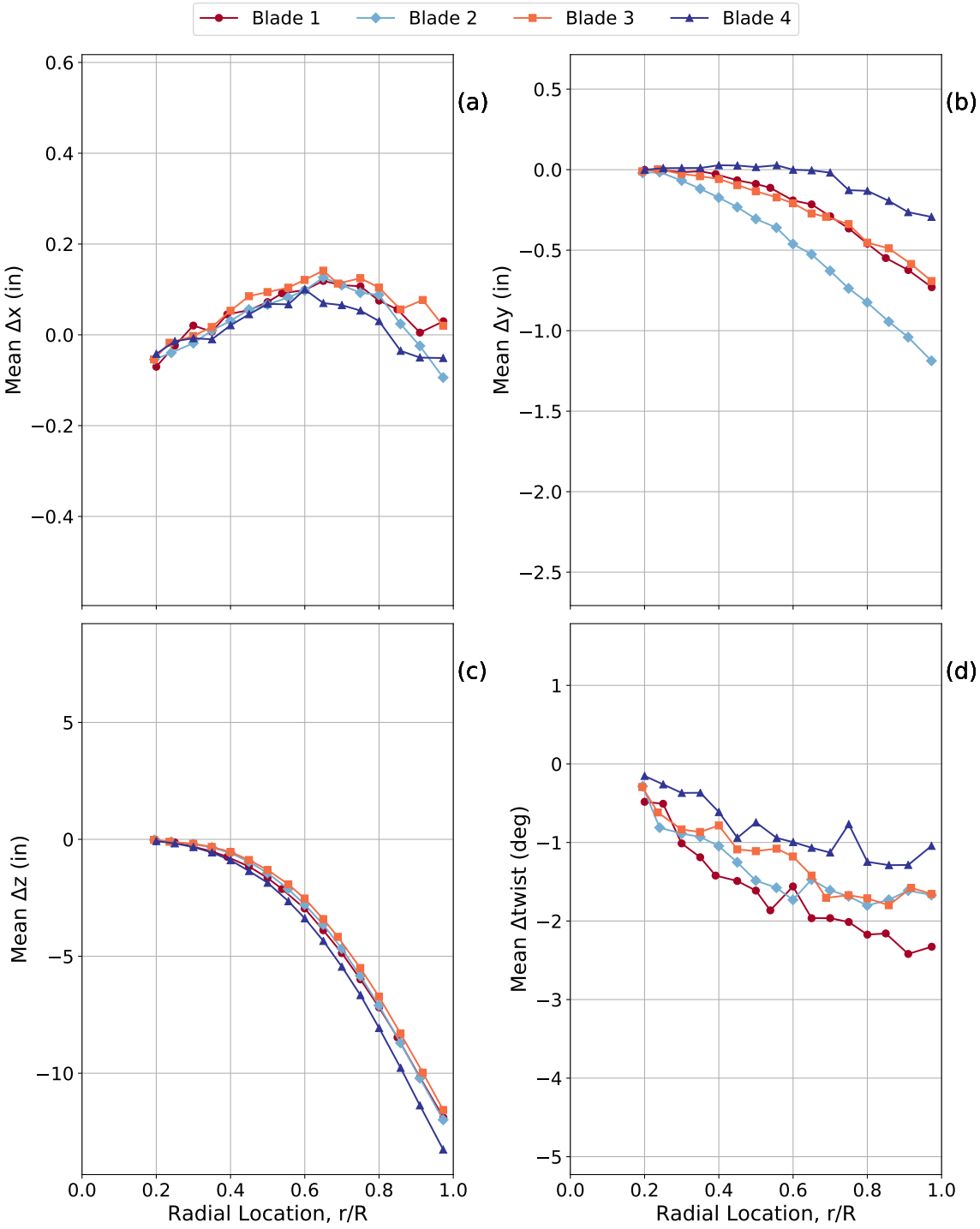


Figure 2.18-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0703	0.0018	-0.0016	0.0015	-0.0765	0.0037	-0.4823	0.0322
1	164.88	0.2499	-0.0238	0.0020	-0.0045	0.0028	-0.1302	0.0067	-0.5073	0.0622
1	164.88	0.2998	0.0204	0.0021	-0.0158	0.0055	-0.3148	0.0133	-1.0119	0.0743
1	164.88	0.3498	0.0070	0.0017	-0.0099	0.0096	-0.5130	0.0216	-1.1884	0.0690
1	164.88	0.3913	0.0450	0.0024	-0.0280	0.0135	-0.7486	0.0311	-1.4212	0.0651
1	164.88	0.4496	0.0544	0.0021	-0.0660	0.0179	-1.1611	0.0440	-1.4902	0.0672
1	164.88	0.4997	0.0721	0.0027	-0.0884	0.0217	-1.6497	0.0587	-1.6126	0.0688
1	164.88	0.5387	0.0915	0.0030	-0.1128	0.0249	-2.1249	0.0691	-1.8642	0.0695
1	164.88	0.5996	0.0985	0.0037	-0.1911	0.0308	-2.9544	0.0884	-1.5598	0.0687
1	164.88	0.6498	0.1187	0.0045	-0.2157	0.0359	-3.8855	0.1034	-1.9640	0.0740
1	164.88	0.6998	0.1095	0.0052	-0.2895	0.0412	-4.8615	0.1184	-1.9635	0.0708
1	164.88	0.7500	0.1068	0.0062	-0.3656	0.0466	-5.9886	0.1364	-2.0126	0.0699
1	164.88	0.8001	0.0753	0.0079	-0.4593	0.0524	-7.1840	0.1562	-2.1731	0.0695
1	164.88	0.8497	0.0558	0.0098	-0.5489	0.0580	-8.4688	0.1791	-2.1582	0.0692
1	164.88	0.9102	0.0049	0.0124	-0.6235	0.0654	-10.1738	0.2106	-2.4189	0.0677
1	164.88	0.9734	0.0298	0.0148	-0.7303	0.0731	-11.8967	0.2461	-2.3274	0.0660
2	164.88	0.1949	-0.0542	0.0016	-0.0198	0.0008	-0.0248	0.0030	-0.2845	0.0235
2	164.88	0.2405	-0.0395	0.0015	-0.0152	0.0026	-0.1070	0.0058	-0.8114	0.0437
2	164.88	0.2999	-0.0184	0.0015	-0.0678	0.0042	-0.2042	0.0126	-0.8869	0.0575
2	164.88	0.3498	0.0096	0.0016	-0.1190	0.0074	-0.3462	0.0199	-0.9292	0.0582
2	164.88	0.3998	0.0307	0.0019	-0.1735	0.0118	-0.5832	0.0320	-1.0458	0.0516
2	164.88	0.4496	0.0558	0.0022	-0.2326	0.0150	-0.9604	0.0419	-1.2523	0.0562
2	164.88	0.4995	0.0667	0.0027	-0.3059	0.0185	-1.4379	0.0551	-1.4854	0.0521
2	164.88	0.5551	0.0823	0.0033	-0.3602	0.0225	-2.1204	0.0691	-1.5764	0.0508
2	164.88	0.5996	0.0976	0.0035	-0.4617	0.0260	-2.7903	0.0821	-1.7304	0.0547
2	164.88	0.6497	0.1264	0.0044	-0.5259	0.0300	-3.6423	0.0962	-1.4724	0.0612
2	164.88	0.6996	0.1096	0.0051	-0.6284	0.0345	-4.6700	0.1110	-1.6090	0.0570
2	164.88	0.7495	0.0926	0.0065	-0.7373	0.0393	-5.8370	0.1280	-1.6852	0.0566
2	164.88	0.7996	0.0879	0.0078	-0.8246	0.0442	-7.1003	0.1463	-1.8026	0.0559
2	164.88	0.8578	0.0241	0.0102	-0.9439	0.0501	-8.7035	0.1706	-1.7291	0.0598
2	164.88	0.9100	-0.0244	0.0118	-1.0406	0.0557	-10.2114	0.1940	-1.6125	0.0559
2	164.88	0.9727	-0.0940	0.0145	-1.1870	0.0626	-11.9908	0.2237	-1.6686	0.0631
3	164.88	0.1938	-0.0541	0.0018	-0.0101	0.0010	-0.0233	0.0039	-0.2939	0.0317
3	164.88	0.2357	-0.0174	0.0019	0.0020	0.0025	-0.1036	0.0051	-0.6175	0.0689
3	164.88	0.2995	-0.0027	0.0018	-0.0261	0.0044	-0.1855	0.0124	-0.8337	0.0853
3	164.88	0.3493	0.0171	0.0018	-0.0405	0.0090	-0.3243	0.0213	-0.8670	0.0757
3	164.88	0.4000	0.0531	0.0023	-0.0581	0.0130	-0.5369	0.0317	-0.7835	0.0865
3	164.88	0.4497	0.0851	0.0026	-0.0961	0.0164	-0.8826	0.0417	-1.0883	0.0787
3	164.88	0.4997	0.0942	0.0030	-0.1342	0.0191	-1.3090	0.0519	-1.1104	0.0842
3	164.88	0.5556	0.1039	0.0033	-0.1720	0.0235	-1.9213	0.0660	-1.0787	0.0833
3	164.88	0.5995	0.1210	0.0037	-0.2088	0.0270	-2.5292	0.0756	-1.1784	0.0868
3	164.88	0.6498	0.1414	0.0043	-0.2718	0.0313	-3.4080	0.0884	-1.4216	0.0831
3	164.88	0.6890	0.1129	0.0049	-0.2930	0.0346	-4.1681	0.0994	-1.7049	0.0814
3	164.88	0.7495	0.1248	0.0062	-0.3381	0.0406	-5.5008	0.1190	-1.6712	0.0864
3	164.88	0.7998	0.1042	0.0079	-0.4533	0.0461	-6.7235	0.1384	-1.7111	0.0950
3	164.88	0.8577	0.0559	0.0102	-0.4884	0.0521	-8.2979	0.1650	-1.7991	0.0874
3	164.88	0.9178	0.0767	0.0128	-0.5860	0.0586	-9.9712	0.1961	-1.5780	0.0948
3	164.88	0.9729	0.0199	0.0158	-0.6917	0.0655	-11.5703	0.2277	-1.6551	0.0894
4	164.88	0.2001	-0.0419	0.0016	-0.0008	0.0011	-0.0740	0.0031	-0.1530	0.0281
4	164.88	0.2502	-0.0141	0.0017	0.0091	0.0030	-0.1742	0.0075	-0.2608	0.0428
4	164.88	0.3001	-0.0076	0.0021	0.0101	0.0041	-0.3330	0.0134	-0.3694	0.0592
4	164.88	0.3502	-0.0098	0.0020	0.0104	0.0083	-0.5635	0.0207	-0.3674	0.0522
4	164.88	0.4002	0.0210	0.0020	0.0275	0.0123	-0.8945	0.0339	-0.6130	0.0499
4	164.88	0.4500	0.0453	0.0021	0.0255	0.0151	-1.3557	0.0428	-0.9402	0.0542
4	164.88	0.5001	0.0682	0.0027	0.0159	0.0176	-1.8584	0.0543	-0.7444	0.0465
4	164.88	0.5560	0.0671	0.0027	0.0272	0.0208	-2.6481	0.0675	-0.9426	0.0475
4	164.88	0.6001	0.0999	0.0031	-0.0007	0.0237	-3.3792	0.0779	-0.9956	0.0524
4	164.88	0.6501	0.0699	0.0037	-0.0043	0.0270	-4.3449	0.0893	-1.0678	0.0577
4	164.88	0.6999	0.0654	0.0043	-0.0186	0.0302	-5.4475	0.1014	-1.1286	0.0544
4	164.88	0.7500	0.0533	0.0052	-0.1273	0.0339	-6.6624	0.1138	-0.7686	0.0526
4	164.88	0.8002	0.0301	0.0065	-0.1316	0.0375	-8.0680	0.1276	-1.2466	0.0552
4	164.88	0.8582	-0.0353	0.0083	-0.1945	0.0421	-9.7725	0.1465	-1.2887	0.0592
4	164.88	0.9101	-0.0501	0.0099	-0.2641	0.0466	-11.3755	0.1657	-1.2863	0.0626
4	164.88	0.9728	-0.0512	0.0127	-0.2935	0.0524	-13.2630	0.1942	-1.0432	0.0576

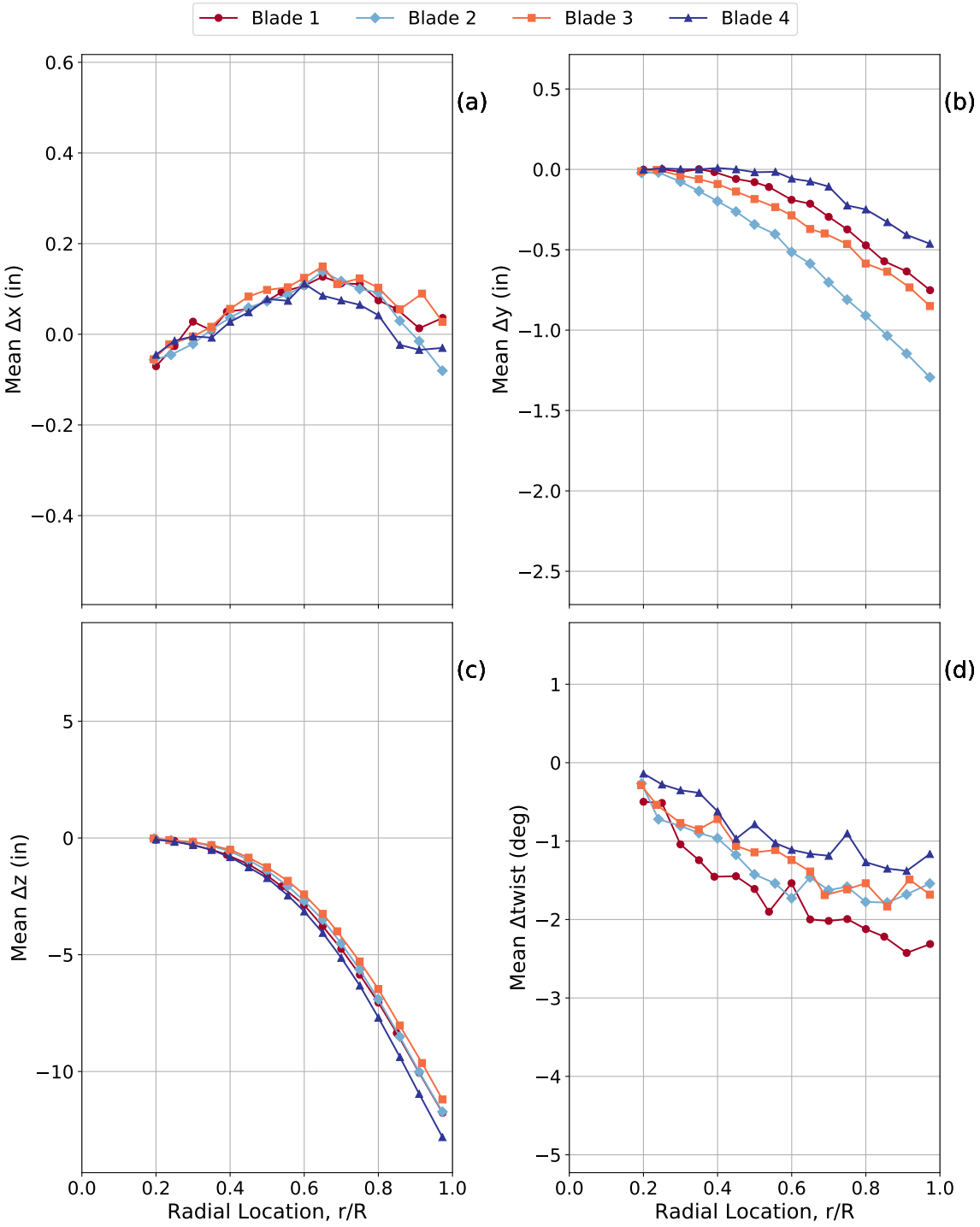


Figure 2.18-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0705	0.0022	-0.0015	0.0012	-0.0761	0.0037	-0.4984	0.0364
1	170.16	0.2499	-0.0261	0.0022	0.0014	0.0029	-0.1221	0.0074	-0.5134	0.0635
1	170.16	0.2998	0.0278	0.0023	-0.0157	0.0053	-0.3080	0.0146	-1.0417	0.0833
1	170.16	0.3498	0.0086	0.0026	0.0012	0.0090	-0.4964	0.0228	-1.2433	0.0825
1	170.16	0.3913	0.0498	0.0022	-0.0168	0.0131	-0.7238	0.0341	-1.4541	0.0757
1	170.16	0.4496	0.0558	0.0027	-0.0594	0.0163	-1.1224	0.0449	-1.4476	0.0778
1	170.16	0.4997	0.0733	0.0026	-0.0795	0.0203	-1.6049	0.0555	-1.6101	0.0809
1	170.16	0.5387	0.0931	0.0029	-0.1095	0.0238	-2.0769	0.0663	-1.9007	0.0848
1	170.16	0.5996	0.1068	0.0032	-0.1893	0.0292	-2.8686	0.0822	-1.5368	0.0851
1	170.16	0.6498	0.1270	0.0035	-0.2138	0.0349	-3.7818	0.0959	-1.9989	0.0936
1	170.16	0.6998	0.1124	0.0046	-0.2953	0.0402	-4.7501	0.1077	-2.0174	0.0896
1	170.16	0.7500	0.1108	0.0051	-0.3736	0.0457	-5.8568	0.1239	-1.9943	0.0868
1	170.16	0.8001	0.0749	0.0063	-0.4723	0.0516	-7.0501	0.1394	-2.1221	0.0946
1	170.16	0.8497	0.0558	0.0078	-0.5717	0.0575	-8.3545	0.1570	-2.2187	0.0920
1	170.16	0.9102	0.0132	0.0097	-0.6350	0.0652	-10.0549	0.1812	-2.4258	0.0961
1	170.16	0.9734	0.0361	0.0115	-0.7515	0.0734	-11.7713	0.2098	-2.3124	0.0907
2	170.16	0.1949	-0.0562	0.0024	-0.0216	0.0011	-0.0244	0.0036	-0.2664	0.0314
2	170.16	0.2405	-0.0452	0.0020	-0.0190	0.0036	-0.1006	0.0056	-0.7210	0.0631
2	170.16	0.2999	-0.0212	0.0020	-0.0763	0.0059	-0.1970	0.0137	-0.8060	0.0782
2	170.16	0.3498	0.0109	0.0022	-0.1352	0.0097	-0.3436	0.0222	-0.8976	0.0745
2	170.16	0.3998	0.0366	0.0024	-0.1980	0.0161	-0.5714	0.0342	-0.9639	0.0696
2	170.16	0.4496	0.0586	0.0026	-0.2626	0.0178	-0.9422	0.0435	-1.1749	0.0763
2	170.16	0.4995	0.0730	0.0025	-0.3426	0.0217	-1.3985	0.0567	-1.4243	0.0743
2	170.16	0.5551	0.0871	0.0028	-0.4027	0.0270	-2.0533	0.0713	-1.5395	0.0738
2	170.16	0.5996	0.1082	0.0036	-0.5139	0.0309	-2.6924	0.0829	-1.7278	0.0835
2	170.16	0.6497	0.1389	0.0039	-0.5863	0.0357	-3.4985	0.0968	-1.4622	0.0906
2	170.16	0.6996	0.1171	0.0046	-0.7023	0.0406	-4.5125	0.1112	-1.6250	0.0852
2	170.16	0.7495	0.1001	0.0059	-0.8101	0.0460	-5.6350	0.1262	-1.5821	0.0859
2	170.16	0.7996	0.0922	0.0070	-0.9097	0.0509	-6.9046	0.1441	-1.7754	0.0892
2	170.16	0.8578	0.0296	0.0089	-1.0348	0.0571	-8.5096	0.1643	-1.7842	0.0951
2	170.16	0.9100	-0.0153	0.0108	-1.1458	0.0626	-10.0119	0.1866	-1.6798	0.0915
2	170.16	0.9727	-0.0804	0.0123	-1.2933	0.0690	-11.7244	0.2148	-1.5413	0.1004
3	170.16	0.1938	-0.0551	0.0030	-0.0118	0.0011	-0.0220	0.0045	-0.2864	0.0319
3	170.16	0.2357	-0.0224	0.0023	-0.0036	0.0021	-0.0926	0.0056	-0.5373	0.0597
3	170.16	0.2995	-0.0050	0.0026	-0.0380	0.0041	-0.1722	0.0127	-0.7692	0.0758
3	170.16	0.3493	0.0165	0.0026	-0.0601	0.0076	-0.3069	0.0226	-0.8503	0.0743
3	170.16	0.4000	0.0561	0.0027	-0.0910	0.0111	-0.5040	0.0325	-0.7189	0.0755
3	170.16	0.4497	0.0832	0.0033	-0.1377	0.0133	-0.8438	0.0438	-1.0606	0.0777
3	170.16	0.4997	0.0979	0.0034	-0.1845	0.0165	-1.2534	0.0566	-1.1436	0.0748
3	170.16	0.5556	0.1036	0.0034	-0.2347	0.0211	-1.8373	0.0709	-1.1139	0.0805
3	170.16	0.5995	0.1245	0.0042	-0.2861	0.0241	-2.4174	0.0837	-1.2409	0.0785
3	170.16	0.6498	0.1496	0.0051	-0.3709	0.0283	-3.2469	0.1001	-1.3876	0.0799
3	170.16	0.6890	0.1108	0.0057	-0.3988	0.0320	-3.9970	0.1132	-1.6886	0.0772
3	170.16	0.7495	0.1232	0.0072	-0.4640	0.0379	-5.2901	0.1349	-1.6145	0.0830
3	170.16	0.7998	0.1027	0.0087	-0.5856	0.0430	-6.4674	0.1558	-1.5374	0.0811
3	170.16	0.8577	0.0549	0.0108	-0.6362	0.0494	-8.0283	0.1817	-1.8336	0.0854
3	170.16	0.9178	0.0897	0.0131	-0.7341	0.0564	-9.6378	0.2115	-1.4900	0.0857
3	170.16	0.9729	0.0274	0.0157	-0.8499	0.0627	-11.1966	0.2392	-1.6819	0.0823
4	170.16	0.2001	-0.0451	0.0016	-0.0022	0.0009	-0.0648	0.0038	-0.1396	0.0391
4	170.16	0.2502	-0.0142	0.0025	0.0060	0.0031	-0.1643	0.0094	-0.2780	0.0553
4	170.16	0.3001	-0.0047	0.0021	0.0019	0.0049	-0.3022	0.0133	-0.3518	0.0803
4	170.16	0.3502	-0.0074	0.0021	0.0003	0.0077	-0.5134	0.0233	-0.3846	0.0653
4	170.16	0.4002	0.0276	0.0023	0.0085	0.0130	-0.8200	0.0359	-0.6216	0.0576
4	170.16	0.4500	0.0487	0.0025	0.0004	0.0153	-1.2552	0.0461	-0.9700	0.0691
4	170.16	0.5001	0.0778	0.0026	-0.0177	0.0191	-1.7165	0.0596	-0.7851	0.0646
4	170.16	0.5560	0.0739	0.0030	-0.0152	0.0240	-2.4615	0.0748	-1.0256	0.0635
4	170.16	0.6001	0.1115	0.0036	-0.0575	0.0274	-3.1475	0.0884	-1.1110	0.0702
4	170.16	0.6501	0.0850	0.0042	-0.0750	0.0319	-4.0657	0.1026	-1.1633	0.0716
4	170.16	0.6999	0.0747	0.0048	-0.1069	0.0369	-5.1336	0.1172	-1.1872	0.0741
4	170.16	0.7500	0.0649	0.0061	-0.2245	0.0415	-6.3241	0.1323	-0.9033	0.0706
4	170.16	0.8002	0.0419	0.0074	-0.2492	0.0467	-7.6957	0.1482	-1.2694	0.0754
4	170.16	0.8582	-0.0234	0.0092	-0.3285	0.0528	-9.3822	0.1679	-1.3509	0.0778
4	170.16	0.9101	-0.0344	0.0109	-0.4075	0.0585	-10.9596	0.1881	-1.3799	0.0811
4	170.16	0.9728	-0.0301	0.0128	-0.4625	0.0653	-12.8099	0.2134	-1.1642	0.0865

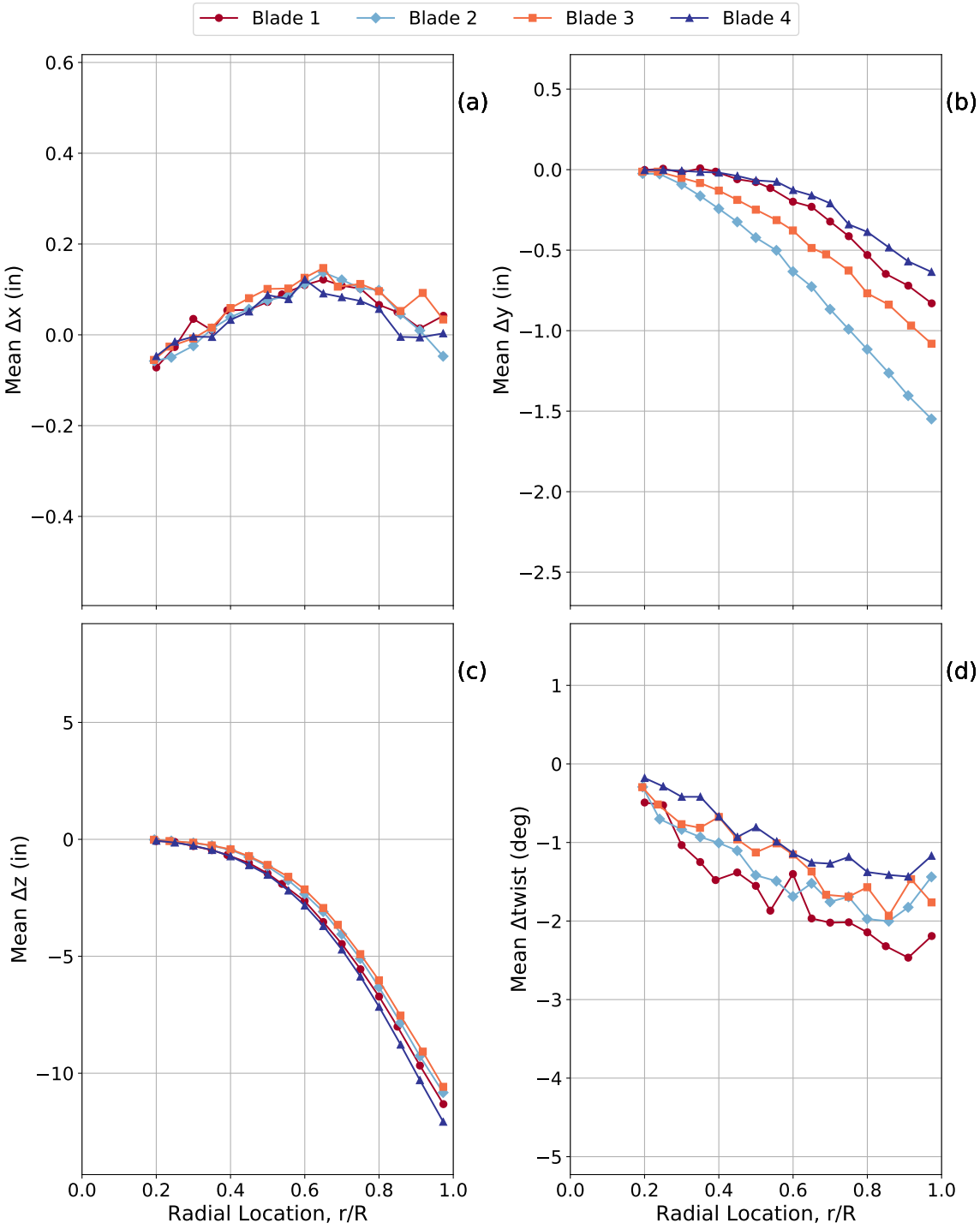


Figure 2.18-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	-0.0719	0.0028	-0.0020	0.0013	-0.0724	0.0052	-0.4913	0.0420
1	175.08	0.2499	-0.0269	0.0038	0.0060	0.0028	-0.1092	0.0092	-0.5260	0.0886
1	175.08	0.2998	0.0351	0.0030	-0.0185	0.0047	-0.2876	0.0188	-1.0343	0.1002
1	175.08	0.3498	0.0099	0.0028	0.0083	0.0087	-0.4613	0.0307	-1.2491	0.0922
1	175.08	0.3913	0.0539	0.0027	-0.0123	0.0120	-0.6697	0.0438	-1.4785	0.0857
1	175.08	0.4496	0.0552	0.0035	-0.0594	0.0151	-1.0134	0.0571	-1.3818	0.0949
1	175.08	0.4997	0.0724	0.0033	-0.0770	0.0189	-1.4562	0.0721	-1.5522	0.0872
1	175.08	0.5387	0.0892	0.0043	-0.1143	0.0223	-1.9047	0.0845	-1.8680	0.0838
1	175.08	0.5996	0.1095	0.0045	-0.1990	0.0276	-2.6357	0.1040	-1.4016	0.0889
1	175.08	0.6498	0.1217	0.0055	-0.2306	0.0323	-3.5349	0.1209	-1.9675	0.0916
1	175.08	0.6998	0.1082	0.0062	-0.3223	0.0373	-4.4729	0.1383	-2.0206	0.0904
1	175.08	0.7500	0.1018	0.0070	-0.4134	0.0426	-5.5539	0.1544	-2.0163	0.0864
1	175.08	0.8001	0.0659	0.0087	-0.5301	0.0479	-6.7206	0.1716	-2.1441	0.0869
1	175.08	0.8497	0.0501	0.0104	-0.6475	0.0538	-8.0080	0.1893	-2.3205	0.0842
1	175.08	0.9102	0.0143	0.0129	-0.7205	0.0608	-9.6710	0.2159	-2.4663	0.0825
1	175.08	0.9734	0.0420	0.0158	-0.8303	0.0687	-11.3201	0.2466	-2.1911	0.0878
2	175.08	0.1949	-0.0577	0.0032	-0.0243	0.0012	-0.0170	0.0040	-0.2931	0.0343
2	175.08	0.2405	-0.0496	0.0028	-0.0269	0.0025	-0.0700	0.0061	-0.7017	0.0719
2	175.08	0.2999	-0.0242	0.0029	-0.0917	0.0057	-0.1531	0.0145	-0.8338	0.0868
2	175.08	0.3498	0.0131	0.0027	-0.1635	0.0084	-0.2717	0.0235	-0.9306	0.0841
2	175.08	0.3998	0.0388	0.0033	-0.2425	0.0139	-0.4528	0.0361	-1.0055	0.0825
2	175.08	0.4496	0.0565	0.0034	-0.3242	0.0172	-0.7578	0.0459	-1.1044	0.0761
2	175.08	0.4995	0.0761	0.0038	-0.4220	0.0206	-1.1599	0.0572	-1.4173	0.0895
2	175.08	0.5551	0.0856	0.0046	-0.5012	0.0252	-1.7421	0.0705	-1.4914	0.0851
2	175.08	0.5996	0.1122	0.0047	-0.6328	0.0291	-2.3329	0.0837	-1.6880	0.0878
2	175.08	0.6497	0.1375	0.0051	-0.7265	0.0331	-3.0926	0.0981	-1.5199	0.0911
2	175.08	0.6996	0.1211	0.0059	-0.8670	0.0376	-4.0565	0.1120	-1.7554	0.0892
2	175.08	0.7495	0.1029	0.0067	-0.9908	0.0426	-5.1013	0.1283	-1.6914	0.0901
2	175.08	0.7996	0.0984	0.0082	-1.1160	0.0475	-6.3137	0.1452	-1.9742	0.0912
2	175.08	0.8578	0.0455	0.0099	-1.2629	0.0536	-7.8359	0.1661	-2.0027	0.0971
2	175.08	0.9100	0.0096	0.0119	-1.4036	0.0590	-9.2637	0.1871	-1.8252	0.0917
2	175.08	0.9727	-0.0472	0.0142	-1.5483	0.0654	-10.8264	0.2136	-1.4381	0.1003
3	175.08	0.1938	-0.0553	0.0039	-0.0126	0.0015	-0.0173	0.0047	-0.2961	0.0354
3	175.08	0.2357	-0.0260	0.0040	-0.0124	0.0021	-0.0729	0.0071	-0.5164	0.0626
3	175.08	0.2995	-0.0080	0.0032	-0.0510	0.0055	-0.1444	0.0155	-0.7672	0.0836
3	175.08	0.3493	0.0158	0.0036	-0.0827	0.0093	-0.2599	0.0255	-0.8136	0.0833
3	175.08	0.4000	0.0590	0.0036	-0.1300	0.0141	-0.4279	0.0393	-0.6751	0.0782
3	175.08	0.4497	0.0807	0.0038	-0.1879	0.0173	-0.7221	0.0506	-0.9604	0.0805
3	175.08	0.4997	0.1011	0.0041	-0.2485	0.0214	-1.0944	0.0645	-1.1269	0.0754
3	175.08	0.5556	0.1020	0.0040	-0.3135	0.0263	-1.6025	0.0779	-1.0115	0.0842
3	175.08	0.5995	0.1256	0.0046	-0.3776	0.0302	-2.1413	0.0887	-1.1533	0.0935
3	175.08	0.6498	0.1471	0.0047	-0.4865	0.0347	-2.9348	0.1036	-1.3694	0.0945
3	175.08	0.6890	0.1061	0.0055	-0.5261	0.0384	-3.6545	0.1148	-1.6661	0.0979
3	175.08	0.7495	0.1120	0.0065	-0.6266	0.0446	-4.9079	0.1317	-1.6905	0.0932
3	175.08	0.7998	0.0961	0.0078	-0.7679	0.0495	-6.0276	0.1482	-1.5695	0.0889
3	175.08	0.8577	0.0525	0.0095	-0.8384	0.0557	-7.5350	0.1678	-1.9324	0.0866
3	175.08	0.9178	0.0923	0.0114	-0.9682	0.0623	-9.0754	0.1921	-1.4670	0.0946
3	175.08	0.9729	0.0338	0.0253	-1.0809	0.0682	-10.5805	0.2170	-1.7631	0.3270
4	175.08	0.2001	-0.0469	0.0018	-0.0028	0.0011	-0.0588	0.0046	-0.1793	0.0371
4	175.08	0.2502	-0.0152	0.0033	-0.0016	0.0037	-0.1387	0.0090	-0.2863	0.0653
4	175.08	0.3001	-0.0041	0.0031	-0.0072	0.0054	-0.2705	0.0126	-0.4189	0.0768
4	175.08	0.3502	-0.0047	0.0020	-0.0143	0.0083	-0.4551	0.0220	-0.4188	0.0673
4	175.08	0.4002	0.0330	0.0027	-0.0184	0.0143	-0.7264	0.0318	-0.6703	0.0616
4	175.08	0.4500	0.0514	0.0027	-0.0390	0.0165	-1.1039	0.0406	-0.9298	0.0627
4	175.08	0.5001	0.0876	0.0028	-0.0666	0.0203	-1.5165	0.0513	-0.8057	0.0645
4	175.08	0.5560	0.0787	0.0031	-0.0750	0.0247	-2.1899	0.0638	-0.9880	0.0729
4	175.08	0.6001	0.1217	0.0035	-0.1266	0.0279	-2.8323	0.0734	-1.1386	0.0681
4	175.08	0.6501	0.0911	0.0039	-0.1600	0.0320	-3.7066	0.0843	-1.2564	0.0703
4	175.08	0.6999	0.0829	0.0043	-0.2093	0.0371	-4.7128	0.0959	-1.2692	0.0705
4	175.08	0.7500	0.0746	0.0055	-0.3400	0.0420	-5.8673	0.1090	-1.1840	0.0691
4	175.08	0.8002	0.0571	0.0067	-0.3870	0.0470	-7.1596	0.1247	-1.3769	0.0718
4	175.08	0.8582	-0.0045	0.0084	-0.4834	0.0537	-8.7778	0.1434	-1.4134	0.0751
4	175.08	0.9101	-0.0057	0.0103	-0.5698	0.0598	-10.2962	0.1641	-1.4343	0.0756
4	175.08	0.9728	0.0032	0.0128	-0.6352	0.0677	-12.0741	0.1879	-1.1696	0.0821

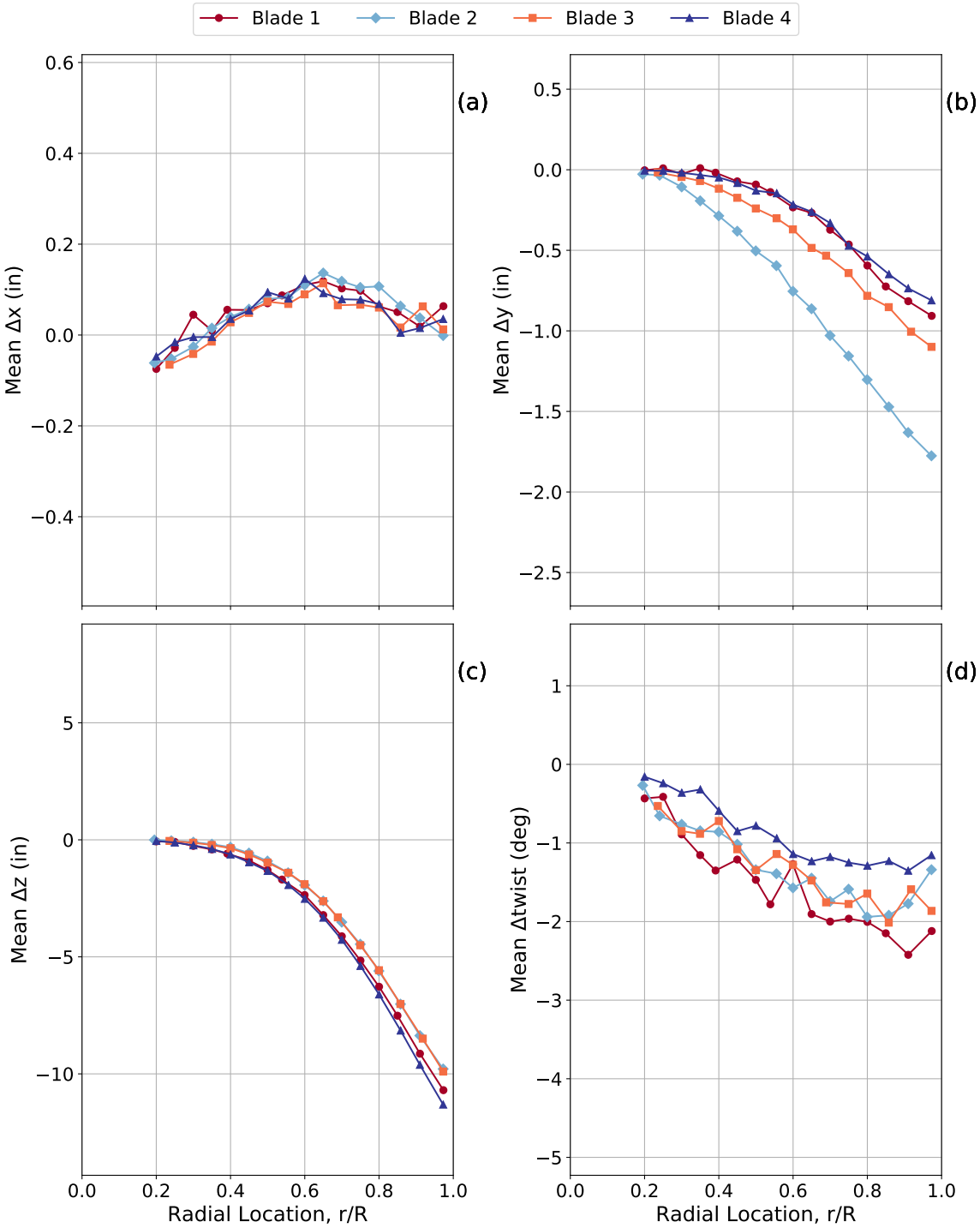


Figure 2.18-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.0746	0.0038	-0.0033	0.0022	-0.0672	0.0084	-0.4334	0.0610
1	180	0.2499	-0.0284	0.0053	0.0089	0.0040	-0.0887	0.0131	-0.4130	0.1289
1	180	0.2998	0.0447	0.0059	-0.0263	0.0079	-0.2593	0.0293	-0.8909	0.1420
1	180	0.3498	0.0098	0.0053	0.0098	0.0142	-0.4101	0.0485	-1.1547	0.1397
1	180	0.3913	0.0556	0.0050	-0.0182	0.0194	-0.5922	0.0678	-1.3506	0.1201
1	180	0.4496	0.0551	0.0064	-0.0720	0.0257	-0.8784	0.0872	-1.2111	0.1423
1	180	0.4997	0.0699	0.0056	-0.0918	0.0313	-1.2874	0.1082	-1.4696	0.1221
1	180	0.5387	0.0872	0.0058	-0.1385	0.0368	-1.6972	0.1247	-1.7808	0.1216
1	180	0.5996	0.1102	0.0067	-0.2335	0.0434	-2.3588	0.1490	-1.2696	0.1174
1	180	0.6498	0.1185	0.0074	-0.2676	0.0495	-3.2152	0.1677	-1.9048	0.1328
1	180	0.6998	0.1026	0.0082	-0.3725	0.0563	-4.1218	0.1878	-2.0002	0.1238
1	180	0.7500	0.0975	0.0092	-0.4640	0.0630	-5.1586	0.2080	-1.9636	0.1209
1	180	0.8001	0.0629	0.0108	-0.5947	0.0699	-6.2771	0.2271	-2.0042	0.1205
1	180	0.8497	0.0507	0.0122	-0.7245	0.0769	-7.5138	0.2467	-2.1490	0.1270
1	180	0.9102	0.0187	0.0139	-0.8159	0.0853	-9.1376	0.2739	-2.4230	0.1261
1	180	0.9734	0.0635	0.0169	-0.9069	0.0947	-10.6964	0.3030	-2.1206	0.1260
2	180	0.1949	-0.0615	0.0046	-0.0275	0.0018	-0.0059	0.0059	-0.2671	0.0451
2	180	0.2405	-0.0524	0.0042	-0.0339	0.0034	-0.0406	0.0088	-0.6550	0.0908
2	180	0.2999	-0.0259	0.0040	-0.1064	0.0067	-0.0999	0.0208	-0.7629	0.1123
2	180	0.3498	0.0152	0.0040	-0.1928	0.0113	-0.1864	0.0338	-0.8456	0.1096
2	180	0.3998	0.0397	0.0051	-0.2861	0.0177	-0.3155	0.0516	-0.8590	0.1087
2	180	0.4496	0.0569	0.0043	-0.3815	0.0212	-0.5650	0.0639	-1.0166	0.1230
2	180	0.4995	0.0793	0.0048	-0.5035	0.0253	-0.9059	0.0813	-1.3407	0.1143
2	180	0.5551	0.0830	0.0052	-0.5955	0.0312	-1.4077	0.0964	-1.3912	0.1146
2	180	0.5996	0.1104	0.0050	-0.7545	0.0361	-1.9352	0.1125	-1.5714	0.1040
2	180	0.6497	0.1365	0.0057	-0.8628	0.0415	-2.6139	0.1288	-1.4480	0.1175
2	180	0.6996	0.1183	0.0062	-1.0291	0.0476	-3.5164	0.1458	-1.7437	0.1063
2	180	0.7495	0.1049	0.0075	-1.1561	0.0542	-4.4599	0.1646	-1.5880	0.1071
2	180	0.7996	0.1070	0.0086	-1.3032	0.0609	-5.6031	0.1853	-1.9410	0.1027
2	180	0.8578	0.0638	0.0106	-1.4720	0.0693	-7.0207	0.2100	-1.9197	0.1054
2	180	0.9100	0.0377	0.0121	-1.6311	0.0763	-8.3655	0.2312	-1.7727	0.1074
2	180	0.9727	-0.0013	0.0147	-1.7756	0.0855	-9.7903	0.2612	-1.3401	0.1101
3	180.35	0.2357	-0.0653	0.0033	-0.0163	0.0036	-0.0476	0.0128	-0.5295	0.1315
3	180.35	0.2995	-0.0416	0.0052	-0.0447	0.0088	-0.1246	0.0274	-0.8498	0.2121
3	180.35	0.3493	-0.0145	0.0060	-0.0698	0.0154	-0.2207	0.0490	-0.8830	0.1993
3	180.35	0.4000	0.0280	0.0047	-0.1172	0.0243	-0.3583	0.0747	-0.7204	0.2051
3	180.35	0.4497	0.0487	0.0051	-0.1740	0.0304	-0.6257	0.0981	-1.0800	0.2004
3	180.35	0.4997	0.0734	0.0058	-0.2403	0.0373	-0.9720	0.1232	-1.3457	0.2087
3	180.35	0.5556	0.0684	0.0059	-0.3010	0.0456	-1.4075	0.1546	-1.1406	0.2038
3	180.35	0.5995	0.0896	0.0067	-0.3701	0.0526	-1.8960	0.1757	-1.2776	0.2154
3	180.35	0.6498	0.1139	0.0073	-0.4852	0.0607	-2.6248	0.2033	-1.4773	0.2249
3	180.35	0.6890	0.0656	0.0085	-0.5334	0.0667	-3.3115	0.2268	-1.7560	0.2116
3	180.35	0.7495	0.0668	0.0102	-0.6410	0.0769	-4.5044	0.2619	-1.7766	0.2171
3	180.35	0.7998	0.0605	0.0125	-0.7824	0.0858	-5.5720	0.2945	-1.6445	0.2113
3	180.35	0.8577	0.0165	0.0154	-0.8528	0.0961	-7.0136	0.3326	-2.0136	0.2180
3	180.35	0.9178	0.0631	0.0185	-1.0052	0.1074	-8.4942	0.3723	-1.5897	0.2121
3	180.35	0.9729	0.0124	0.0212	-1.0994	0.1175	-9.9014	0.4119	-1.8642	0.2266
4	180	0.2001	-0.0473	0.0024	-0.0054	0.0019	-0.0492	0.0068	-0.1578	0.0600
4	180	0.2502	-0.0160	0.0063	-0.0063	0.0043	-0.1161	0.0120	-0.2403	0.0839
4	180	0.3001	-0.0046	0.0039	-0.0187	0.0074	-0.2345	0.0201	-0.3613	0.1159
4	180	0.3502	-0.0044	0.0036	-0.0326	0.0124	-0.3888	0.0315	-0.3196	0.1083
4	180	0.4002	0.0355	0.0034	-0.0480	0.0194	-0.6267	0.0470	-0.5908	0.1046
4	180	0.4500	0.0541	0.0036	-0.0822	0.0227	-0.9600	0.0579	-0.8498	0.1034
4	180	0.5001	0.0944	0.0043	-0.1298	0.0279	-1.3304	0.0735	-0.7808	0.1078
4	180	0.5560	0.0802	0.0048	-0.1461	0.0328	-1.9328	0.0876	-0.9407	0.1049
4	180	0.6001	0.1235	0.0046	-0.2164	0.0379	-2.5217	0.1048	-1.1411	0.0972
4	180	0.6501	0.0922	0.0052	-0.2611	0.0441	-3.3277	0.1220	-1.2324	0.1080
4	180	0.6999	0.0788	0.0068	-0.3309	0.0505	-4.2717	0.1431	-1.1775	0.1000
4	180	0.7500	0.0778	0.0088	-0.4719	0.0581	-5.3895	0.1677	-1.2504	0.1073
4	180	0.8002	0.0681	0.0113	-0.5385	0.0654	-6.6073	0.1993	-1.2893	0.1058
4	180	0.8582	0.0048	0.0154	-0.6487	0.0749	-8.1509	0.2431	-1.2297	0.1110
4	180	0.9101	0.0154	0.0186	-0.7361	0.0838	-9.6137	0.2821	-1.3533	0.1204
4	180	0.9728	0.0352	0.0243	-0.8107	0.0944	-11.3135	0.3370	-1.1555	0.1207

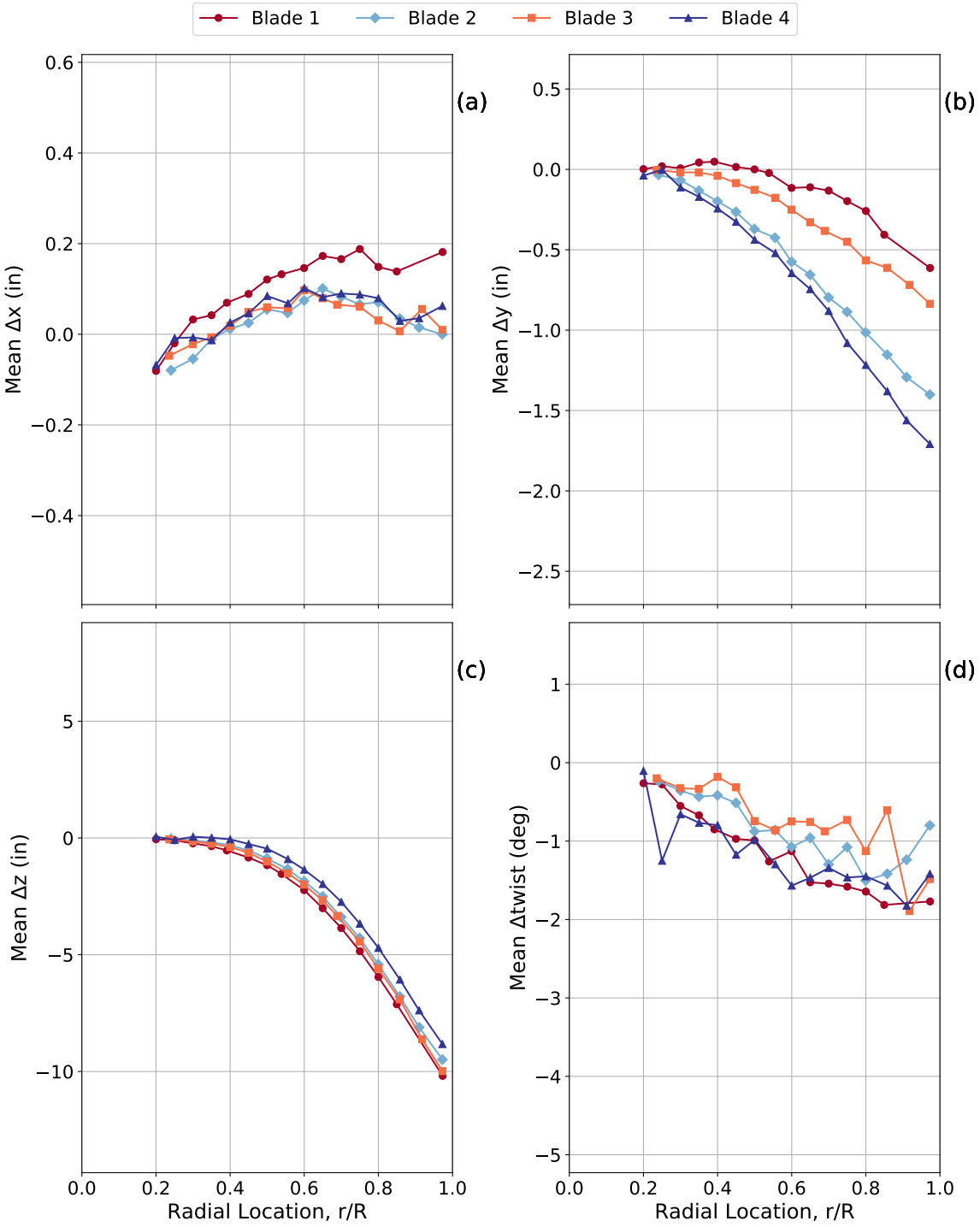


Figure 2.18-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0807	0.0013	0.0017	0.0014	-0.0549	0.0032	-0.2626	0.0305
1	184.92	0.2499	-0.0197	0.0012	0.0195	0.0028	-0.0967	0.0061	-0.2767	0.0511
1	184.92	0.2998	0.0326	0.0015	0.0066	0.0056	-0.2329	0.0113	-0.5519	0.0690
1	184.92	0.3498	0.0421	0.0016	0.0429	0.0091	-0.3515	0.0191	-0.6710	0.0633
1	184.92	0.3913	0.0696	0.0020	0.0479	0.0134	-0.5334	0.0269	-0.8503	0.0630
1	184.92	0.4496	0.0890	0.0025	0.0149	0.0167	-0.8392	0.0388	-0.9714	0.0663
1	184.92	0.4997	0.1208	0.0027	-0.0001	0.0207	-1.1673	0.0518	-0.9912	0.0638
1	184.92	0.5387	0.1324	0.0035	-0.0226	0.0254	-1.5405	0.0656	-1.2593	0.0745
1	184.92	0.5996	0.1461	0.0043	-0.1154	0.0302	-2.2337	0.0860	-1.1285	0.0778
1	184.92	0.6498	0.1728	0.0051	-0.1111	0.0370	-3.0095	0.1066	-1.5259	0.0827
1	184.92	0.6998	0.1659	0.0064	-0.1322	0.0432	-3.8584	0.1326	-1.5424	0.1019
1	184.92	0.7500	0.1880	0.0087	-0.1975	0.0497	-4.8498	0.1585	-1.5813	0.1275
1	184.92	0.8001	0.1486	0.0107	-0.2590	0.0613	-5.9516	0.1939	-1.6436	0.1428
1	184.92	0.8497	0.1386	0.0149	-0.4064	0.0685	-7.1232	0.2321	-1.8137	0.1539
1	184.92	0.9734	0.1815	0.0219	-0.6134	0.0914	-10.1870	0.3471	-1.7695	0.1810
2	184.92	0.2405	-0.0792	0.0048	-0.0339	0.0051	-0.0370	0.0142	-0.2347	0.1387
2	184.92	0.2999	-0.0542	0.0075	-0.0673	0.0118	-0.0994	0.0300	-0.3566	0.2144
2	184.92	0.3498	-0.0106	0.0070	-0.1323	0.0203	-0.1858	0.0520	-0.4326	0.1972
2	184.92	0.3998	0.0120	0.0045	-0.1989	0.0321	-0.3049	0.0807	-0.4166	0.2171
2	184.92	0.4496	0.0250	0.0077	-0.2648	0.0391	-0.5380	0.0990	-0.5127	0.2050
2	184.92	0.4995	0.0549	0.0073	-0.3710	0.0493	-0.8722	0.1271	-0.8762	0.2020
2	184.92	0.5551	0.0472	0.0074	-0.4251	0.0601	-1.3346	0.1513	-0.8601	0.2078
2	184.92	0.5996	0.0745	0.0090	-0.5748	0.0680	-1.8536	0.1738	-1.0754	0.2095
2	184.92	0.6497	0.1010	0.0091	-0.6553	0.0784	-2.5062	0.2028	-0.9596	0.2073
2	184.92	0.6996	0.0828	0.0097	-0.7968	0.0896	-3.3850	0.2266	-1.2962	0.2114
2	184.92	0.7495	0.0660	0.0110	-0.8864	0.0992	-4.2821	0.2544	-1.0771	0.2017
2	184.92	0.7996	0.0709	0.0129	-1.0146	0.1117	-5.4080	0.2807	-1.5026	0.2119
2	184.92	0.8578	0.0348	0.0146	-1.1530	0.1250	-6.7898	0.3149	-1.4171	0.2156
2	184.92	0.9100	0.0151	0.0170	-1.2927	0.1369	-8.1090	0.3443	-1.2371	0.2133
2	184.92	0.9727	-0.0001	0.0209	-1.4007	0.1505	-9.4894	0.3841	-0.7993	0.2107
3	184.92	0.2357	-0.0472	0.0078	-0.0046	0.0022	-0.0604	0.0043	-0.2007	0.0410
3	184.92	0.2995	-0.0219	0.0030	-0.0188	0.0055	-0.1434	0.0088	-0.3254	0.0661
3	184.92	0.3493	-0.0065	0.0024	-0.0191	0.0094	-0.2453	0.0157	-0.3346	0.0550
3	184.92	0.4000	0.0188	0.0055	-0.0397	0.0151	-0.3896	0.0235	-0.1805	0.0594
3	184.92	0.4497	0.0493	0.0089	-0.0852	0.0205	-0.6326	0.0317	-0.3140	0.0584
3	184.92	0.4997	0.0595	0.0121	-0.1274	0.0265	-1.0120	0.0406	-0.7450	0.0691
3	184.92	0.5556	0.0574	0.0157	-0.1770	0.0344	-1.5117	0.0521	-0.8613	0.0668
3	184.92	0.5995	0.0971	0.0185	-0.2504	0.0402	-1.9998	0.0611	-0.7487	0.0697
3	184.92	0.6498	0.0795	0.0211	-0.3291	0.0472	-2.6754	0.0725	-0.7554	0.0725
3	184.92	0.6890	0.0654	0.0223	-0.3826	0.0531	-3.3397	0.0815	-0.8749	0.0719
3	184.92	0.7495	0.0608	0.0249	-0.4501	0.0629	-4.4404	0.0969	-0.7306	0.0796
3	184.92	0.7998	0.0305	0.0270	-0.5660	0.0704	-5.5974	0.1103	-1.1277	0.0849
3	184.92	0.8577	0.0067	0.0291	-0.6124	0.0806	-6.9132	0.1302	-0.6062	0.0856
3	184.92	0.9178	0.0556	0.0321	-0.7186	0.0920	-8.6158	0.1505	-1.8917	0.1032
3	184.92	0.9729	0.0096	0.0362	-0.8365	0.1026	-9.9837	0.1699	-1.4835	0.1479
4	184.92	0.2001	-0.0678	0.0043	-0.0385	0.0027	0.0562	0.0140	-0.1048	0.1280
4	184.92	0.2502	-0.0084	0.0103	-0.0027	0.0066	-0.0848	0.0251	-1.2511	0.1168
4	184.92	0.3001	-0.0069	0.0054	-0.1126	0.0089	0.0505	0.0305	-0.6575	0.2047
4	184.92	0.3502	-0.0131	0.0055	-0.1712	0.0143	0.0106	0.0388	-0.7670	0.2065
4	184.92	0.4002	0.0260	0.0077	-0.2436	0.0232	-0.0581	0.0550	-0.7976	0.2070
4	184.92	0.4500	0.0461	0.0096	-0.3260	0.0309	-0.2586	0.0662	-1.1736	0.2089
4	184.92	0.5001	0.0845	0.0108	-0.4381	0.0400	-0.4593	0.0831	-0.9836	0.2037
4	184.92	0.5560	0.0683	0.0127	-0.5211	0.0512	-0.9078	0.1040	-1.2967	0.2043
4	184.92	0.6001	0.1019	0.0146	-0.6453	0.0600	-1.3582	0.1189	-1.5678	0.2050
4	184.92	0.6501	0.0819	0.0161	-0.7452	0.0709	-1.9722	0.1360	-1.4673	0.2067
4	184.92	0.6999	0.0900	0.0187	-0.8811	0.0820	-2.7377	0.1536	-1.3424	0.2126
4	184.92	0.7500	0.0875	0.0211	-1.0805	0.0934	-3.6702	0.1732	-1.4639	0.2241
4	184.92	0.8002	0.0795	0.0240	-1.2167	0.1054	-4.7083	0.1940	-1.4491	0.2137
4	184.92	0.8582	0.0296	0.0283	-1.3805	0.1207	-6.0661	0.2168	-1.5686	0.2240
4	184.92	0.9101	0.0355	0.0326	-1.5612	0.1344	-7.3863	0.2407	-1.8233	0.2301
4	184.92	0.9728	0.0625	0.0366	-1.7085	0.1536	-8.8260	0.2702	-1.4178	0.2379

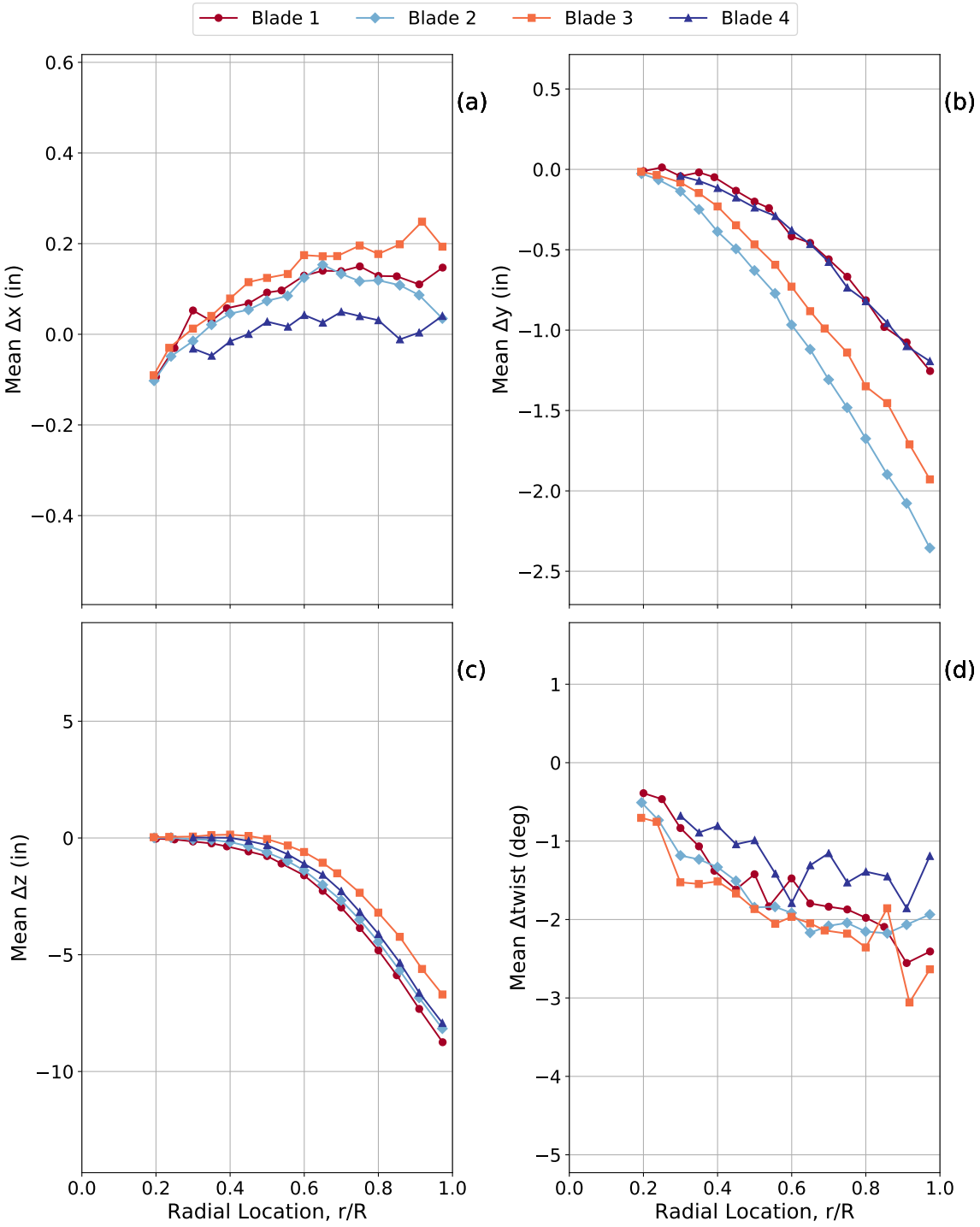


Figure 2.18-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0936	0.0079	-0.0107	0.0039	-0.0305	0.0102	-0.3889	0.3155
1	189.84	0.2499	-0.0303	0.0060	0.0121	0.0192	-0.0619	0.0796	-0.4646	0.2380
1	189.84	0.2998	0.0526	0.0059	-0.0427	0.0137	-0.1512	0.0718	-0.8338	0.6134
1	189.84	0.3498	0.0291	0.0057	-0.0187	0.0300	-0.2328	0.1303	-1.0670	0.6073
1	189.84	0.3913	0.0575	0.0117	-0.0488	0.0471	-0.3606	0.2126	-1.3783	0.4567
1	189.84	0.4496	0.0680	0.0150	-0.1330	0.0677	-0.5776	0.2871	-1.6170	0.4304
1	189.84	0.4997	0.0920	0.0107	-0.2005	0.0819	-0.7742	0.3045	-1.4226	0.6221
1	189.84	0.5387	0.0967	0.0184	-0.2410	0.1003	-1.0960	0.4032	-1.8324	0.3893
1	189.84	0.5996	0.1294	0.0149	-0.4168	0.1216	-1.5999	0.4217	-1.4755	0.6276
1	189.84	0.6498	0.1402	0.0178	-0.4574	0.1443	-2.2630	0.4798	-1.7949	0.6290
1	189.84	0.6998	0.1393	0.0207	-0.5593	0.1682	-2.9788	0.5399	-1.8366	0.6239
1	189.84	0.7500	0.1498	0.0245	-0.6676	0.1941	-3.8577	0.5976	-1.8716	0.6341
1	189.84	0.8001	0.1287	0.0288	-0.8141	0.2208	-4.8119	0.6567	-1.9779	0.6287
1	189.84	0.8497	0.1279	0.0336	-0.9804	0.2492	-5.8779	0.7135	-2.0939	0.6428
1	189.84	0.9102	0.1101	0.0406	-1.0761	0.2887	-7.3209	0.7829	-2.5548	0.6396
1	189.84	0.9734	0.1471	0.0507	-1.2544	0.3247	-8.7459	0.8552	-2.4077	0.6477
2	189.84	0.1949	-0.1025	0.0055	-0.0265	0.0105	0.0048	0.0334	-0.5086	0.1279
2	189.84	0.2405	-0.0486	0.0049	-0.0644	0.0076	0.0175	0.0263	-0.7329	0.3719
2	189.84	0.2999	-0.0150	0.0056	-0.1361	0.0314	-0.0602	0.0878	-1.1845	0.3838
2	189.84	0.3498	0.0212	0.0071	-0.2491	0.0541	-0.0820	0.1429	-1.2326	0.3795
2	189.84	0.3998	0.0456	0.0101	-0.3867	0.0773	-0.1758	0.1980	-1.3320	0.3934
2	189.84	0.4496	0.0542	0.0111	-0.4942	0.1008	-0.3530	0.2541	-1.5076	0.3824
2	189.84	0.4995	0.0738	0.0194	-0.6294	0.1313	-0.6197	0.3536	-1.8442	0.2380
2	189.84	0.5551	0.0847	0.0154	-0.7717	0.1541	-0.9896	0.3719	-1.8380	0.3838
2	189.84	0.5996	0.1247	0.0179	-0.9672	0.1766	-1.3916	0.4210	-1.9161	0.3860
2	189.84	0.6497	0.1534	0.0231	-1.1192	0.2091	-2.0071	0.5392	-2.1686	0.2728
2	189.84	0.6996	0.1334	0.0224	-1.3078	0.2325	-2.6734	0.5315	-2.0805	0.3941
2	189.84	0.7495	0.1171	0.0249	-1.4819	0.2615	-3.4962	0.5858	-2.0430	0.4029
2	189.84	0.7996	0.1191	0.0286	-1.6750	0.2909	-4.4405	0.6423	-2.1534	0.3986
2	189.84	0.8578	0.1083	0.0330	-1.8981	0.3278	-5.6788	0.7079	-2.1751	0.3994
2	189.84	0.9100	0.0865	0.0387	-2.0773	0.3610	-6.8417	0.7935	-2.0655	0.4318
2	189.84	0.9727	0.0349	0.0503	-2.3553	0.4024	-8.1626	0.8376	-1.9360	0.4120
3	189.84	0.1938	-0.0904	0.0122	-0.0149	0.0024	0.0324	0.0083	-0.7035	0.1996
3	189.84	0.2357	-0.0299	0.0054	-0.0348	0.0092	0.0452	0.0355	-0.7537	0.1676
3	189.84	0.2995	0.0125	0.0076	-0.0808	0.0144	0.0599	0.0391	-1.5253	0.4043
3	189.84	0.3493	0.0405	0.0125	-0.1466	0.0300	0.1242	0.0762	-1.5467	0.4011
3	189.84	0.4000	0.0789	0.0178	-0.2306	0.0463	0.1428	0.1142	-1.5142	0.4039
3	189.84	0.4497	0.1150	0.0227	-0.3476	0.0626	0.0864	0.1509	-1.6682	0.4106
3	189.84	0.4997	0.1244	0.0272	-0.4670	0.0797	-0.0478	0.1888	-1.8659	0.4123
3	189.84	0.5556	0.1330	0.0321	-0.5934	0.0996	-0.3230	0.2311	-2.0545	0.4159
3	189.84	0.5995	0.1746	0.0353	-0.7294	0.1162	-0.6009	0.2650	-1.9657	0.4190
3	189.84	0.6498	0.1720	0.0377	-0.8821	0.1359	-1.0591	0.3049	-2.0484	0.4185
3	189.84	0.6890	0.1725	0.0393	-0.9898	0.1523	-1.5134	0.3356	-2.1388	0.4243
3	189.84	0.7495	0.1958	0.0404	-1.1392	0.1779	-2.3450	0.3872	-2.1797	0.4178
3	189.84	0.7998	0.1771	0.0408	-1.3497	0.2022	-3.1968	0.4287	-2.3559	0.4326
3	189.84	0.8577	0.1985	0.0302	-1.4539	0.2234	-4.2326	0.4937	-1.8564	0.1978
3	189.84	0.9178	0.2485	0.0131	-1.7109	0.2390	-5.6096	0.4716	-3.0577	0.4630
3	189.84	0.9729	0.1933	0.0183	-1.9288	0.2630	-6.7014	0.5202	-2.6346	0.4655
4	189.84	0.3001	-0.0316	0.0076	-0.0405	0.0071	0.0182	0.0165	-0.6771	0.0620
4	189.84	0.3502	-0.0473	0.0042	-0.0719	0.0125	0.0145	0.0283	-0.8912	0.0822
4	189.84	0.4002	-0.0155	0.0034	-0.1159	0.0202	0.0070	0.0447	-0.8062	0.0796
4	189.84	0.4500	0.0007	0.0052	-0.1750	0.0279	-0.1265	0.0596	-1.0404	0.0845
4	189.84	0.5001	0.0278	0.0080	-0.2376	0.0370	-0.3086	0.0760	-0.9887	0.0890
4	189.84	0.5560	0.0168	0.0110	-0.2902	0.0485	-0.7039	0.0964	-1.4156	0.0894
4	189.84	0.6001	0.0425	0.0135	-0.3789	0.0585	-1.1107	0.1150	-1.7894	0.0904
4	189.84	0.6501	0.0256	0.0164	-0.4648	0.0708	-1.5740	0.1373	-1.3080	0.0972
4	189.84	0.6999	0.0496	0.0190	-0.5758	0.0839	-2.2771	0.1637	-1.1541	0.1001
4	189.84	0.7500	0.0400	0.0227	-0.7355	0.0979	-3.1689	0.1923	-1.5273	0.1044
4	189.84	0.8002	0.0310	0.0269	-0.8200	0.1132	-4.1120	0.2237	-1.3899	0.1108
4	189.84	0.8582	-0.0112	0.0328	-0.9561	0.1318	-5.3432	0.2633	-1.4505	0.1210
4	189.84	0.9101	0.0038	0.0392	-1.0998	0.1497	-6.6270	0.3010	-1.8557	0.1214
4	189.84	0.9728	0.0405	0.0503	-1.1933	0.1698	-7.9235	0.3513	-1.1900	0.1255

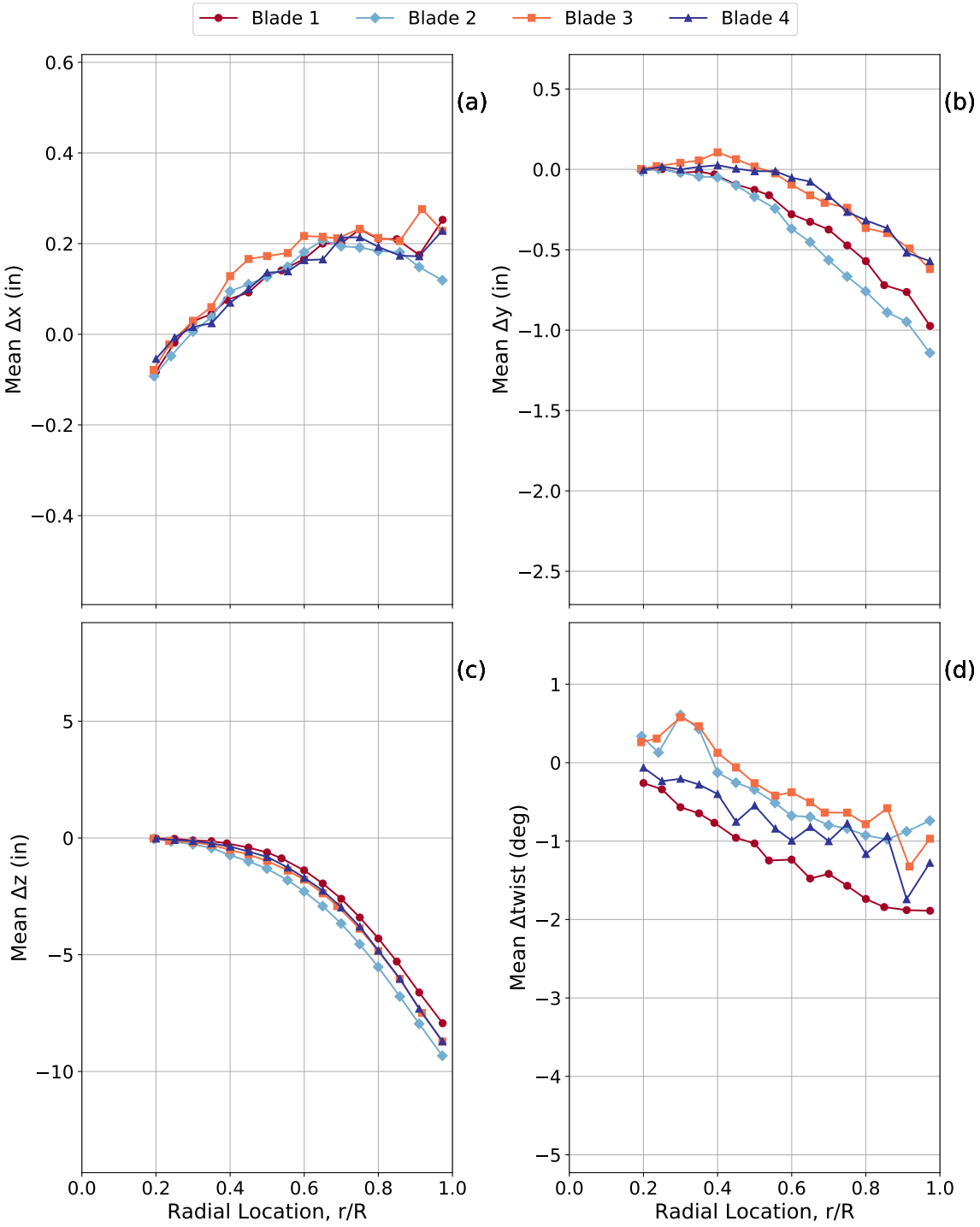


Figure 2.18-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0819	0.0010	-0.0046	0.0008	-0.0191	0.0027	-0.2600	0.0256
1	195.12	0.2499	-0.0187	0.0011	0.0017	0.0025	-0.0348	0.0053	-0.3403	0.0391
1	195.12	0.2998	0.0287	0.0011	-0.0217	0.0035	-0.1041	0.0090	-0.5679	0.0565
1	195.12	0.3498	0.0448	0.0013	-0.0134	0.0072	-0.1371	0.0166	-0.6456	0.0430
1	195.12	0.3913	0.0756	0.0015	-0.0311	0.0098	-0.2302	0.0222	-0.7665	0.0451
1	195.12	0.4496	0.0923	0.0018	-0.0945	0.0131	-0.4095	0.0306	-0.9579	0.0489
1	195.12	0.4997	0.1289	0.0019	-0.1272	0.0169	-0.6184	0.0396	-1.0296	0.0473
1	195.12	0.5387	0.1409	0.0024	-0.1607	0.0191	-0.8733	0.0476	-1.2473	0.0519
1	195.12	0.5996	0.1660	0.0025	-0.2793	0.0242	-1.3844	0.0621	-1.2359	0.0589
1	195.12	0.6498	0.2000	0.0030	-0.3259	0.0285	-1.9493	0.0749	-1.4774	0.0651
1	195.12	0.6998	0.2011	0.0036	-0.3744	0.0330	-2.6037	0.0897	-1.4181	0.0641
1	195.12	0.7500	0.2315	0.0045	-0.4729	0.0374	-3.4049	0.1062	-1.5704	0.0673
1	195.12	0.8001	0.2105	0.0057	-0.5707	0.0428	-4.3077	0.1255	-1.7378	0.0867
1	195.12	0.8497	0.2099	0.0073	-0.7201	0.0477	-5.2908	0.1490	-1.8412	0.0709
1	195.12	0.9102	0.1750	0.0092	-0.7628	0.0543	-6.6175	0.1769	-1.8799	0.1545
1	195.12	0.9734	0.2526	0.0119	-0.9740	0.0641	-7.9328	0.2078	-1.8881	0.1015
2	195.12	0.1949	-0.0923	0.0085	-0.0111	0.0113	-0.0345	0.0413	0.3378	0.4195
2	195.12	0.2405	-0.0479	0.0086	0.0030	0.0450	-0.1486	0.1408	0.1292	0.4251
2	195.12	0.2999	0.0060	0.0082	-0.0198	0.0958	-0.2687	0.2407	0.6086	0.8812
2	195.12	0.3498	0.0376	0.0096	-0.0445	0.1369	-0.4289	0.3451	0.4300	0.9590
2	195.12	0.3998	0.0949	0.0381	-0.0496	0.2482	-0.7367	0.5986	-0.1265	0.4229
2	195.12	0.4496	0.1104	0.0437	-0.0996	0.2991	-0.9991	0.7217	-0.2550	0.4214
2	195.12	0.4995	0.1266	0.0493	-0.1703	0.3506	-1.3155	0.8461	-0.3433	0.4161
2	195.12	0.5551	0.1489	0.0549	-0.2433	0.4089	-1.8090	0.9850	-0.5134	0.4073
2	195.12	0.5996	0.1814	0.0599	-0.3698	0.4563	-2.2891	1.0959	-0.6772	0.4058
2	195.12	0.6497	0.2078	0.0648	-0.4521	0.5108	-2.9191	1.2201	-0.6909	0.4054
2	195.12	0.6996	0.1943	0.0703	-0.5642	0.5655	-3.6650	1.3431	-0.7970	0.4074
2	195.12	0.7495	0.1915	0.0758	-0.6664	0.6219	-4.5469	1.4661	-0.8389	0.4032
2	195.12	0.7996	0.1836	0.0817	-0.7585	0.6791	-5.5233	1.5906	-0.9274	0.3917
2	195.12	0.8578	0.1811	0.0879	-0.8900	0.7454	-6.7876	1.7329	-0.9784	0.3933
2	195.12	0.9100	0.1485	0.0922	-0.9478	0.8039	-7.9563	1.8616	-0.8764	0.3875
2	195.12	0.9727	0.1192	0.0822	-1.1414	0.8729	-9.3275	2.0133	-0.7402	0.3933
3	195.12	0.1938	-0.0787	0.0051	0.0028	0.0074	-0.0212	0.0273	0.2614	0.2738
3	195.12	0.2357	-0.0225	0.0054	0.0200	0.0279	-0.1240	0.0883	0.3072	0.2756
3	195.12	0.2995	0.0296	0.0046	0.0405	0.0648	-0.1882	0.1615	0.5782	0.5743
3	195.12	0.3493	0.0600	0.0054	0.0553	0.0913	-0.2939	0.2301	0.4656	0.6255
3	195.12	0.4000	0.1283	0.0232	0.1060	0.1672	-0.5117	0.3996	0.1265	0.2709
3	195.12	0.4497	0.1661	0.0266	0.0631	0.2013	-0.7097	0.4813	-0.0616	0.2697
3	195.12	0.4997	0.1725	0.0299	0.0174	0.2358	-0.9812	0.5642	-0.2602	0.2633
3	195.12	0.5556	0.1793	0.0333	-0.0252	0.2746	-1.3936	0.6561	-0.4199	0.2613
3	195.12	0.5995	0.2168	0.0358	-0.0947	0.3055	-1.7856	0.7286	-0.3773	0.2627
3	195.12	0.6498	0.2151	0.0389	-0.1614	0.3412	-2.3676	0.8114	-0.5033	0.2642
3	195.12	0.6890	0.2116	0.0410	-0.2075	0.3689	-2.9160	0.8770	-0.6360	0.2589
3	195.12	0.7495	0.2328	0.0447	-0.2393	0.4121	-3.8843	0.9776	-0.6376	0.2569
3	195.12	0.7998	0.2126	0.0484	-0.3647	0.4481	-4.8435	1.0612	-0.7841	0.2522
3	195.12	0.8577	0.2057	0.0533	-0.3965	0.4891	-6.0316	1.1587	-0.5808	0.2517
3	195.12	0.9178	0.2761	0.0472	-0.4926	0.5412	-7.4918	1.2351	-1.3242	0.5854
3	195.12	0.9729	0.2279	0.0512	-0.6201	0.5726	-8.7168	1.3454	-0.9700	0.3016
4	195.12	0.2001	-0.0542	0.0010	-0.0031	0.0014	-0.0259	0.0038	-0.0636	0.0326
4	195.12	0.2502	-0.0071	0.0010	0.0167	0.0022	-0.0873	0.0075	-0.2358	0.0365
4	195.12	0.3001	0.0162	0.0014	-0.0001	0.0045	-0.1272	0.0127	-0.2057	0.0652
4	195.12	0.3502	0.0244	0.0013	0.0159	0.0082	-0.2322	0.0217	-0.2798	0.0537
4	195.12	0.4002	0.0697	0.0017	0.0258	0.0120	-0.3680	0.0328	-0.4001	0.0548
4	195.12	0.4500	0.1001	0.0016	0.0047	0.0152	-0.5831	0.0436	-0.7531	0.0579
4	195.12	0.5001	0.1360	0.0021	-0.0113	0.0184	-0.8122	0.0542	-0.5462	0.0637
4	195.12	0.5560	0.1388	0.0022	-0.0113	0.0219	-1.2666	0.0671	-0.8407	0.0620
4	195.12	0.6001	0.1636	0.0026	-0.0520	0.0252	-1.7071	0.0774	-0.9941	0.0746
4	195.12	0.6501	0.1652	0.0033	-0.0766	0.0285	-2.2537	0.0899	-0.8191	0.0751
4	195.12	0.6999	0.2134	0.0040	-0.1658	0.0324	-2.9742	0.1073	-1.0015	0.0747
4	195.12	0.7500	0.2140	0.0053	-0.2647	0.0363	-3.7981	0.1248	-0.7754	0.0998
4	195.12	0.8002	0.1928	0.0065	-0.3172	0.0388	-4.8242	0.1461	-1.1644	0.1165
4	195.12	0.8582	0.1734	0.0092	-0.3668	0.0509	-6.0327	0.1754	-0.9370	0.1653
4	195.12	0.9101	0.1720	0.0115	-0.5182	0.0563	-7.3121	0.2038	-1.7417	0.3134
4	195.12	0.9728	0.2287	0.0124	-0.5707	0.0557	-8.7043	0.2397	-1.2770	0.2275

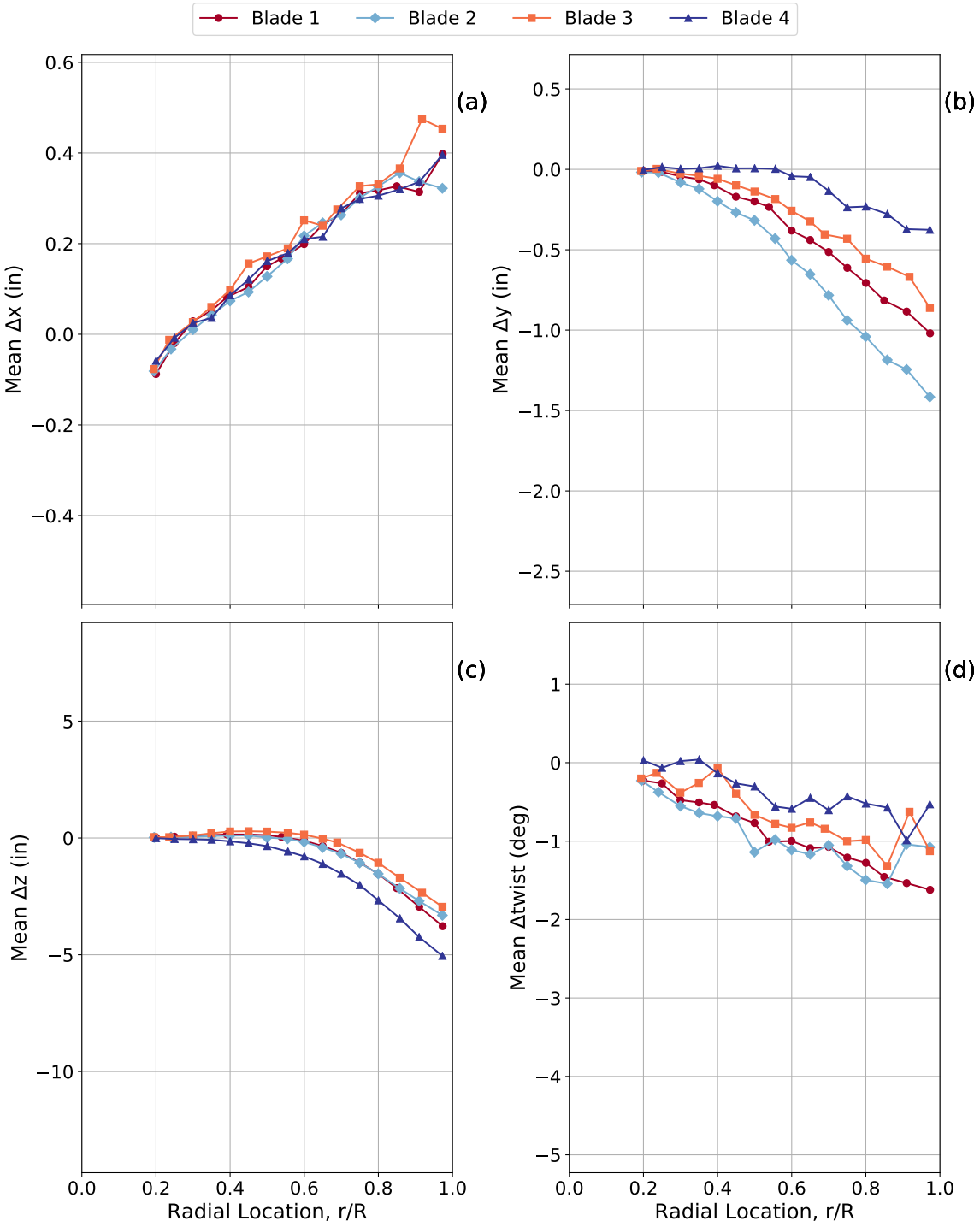


Figure 2.18-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0876	0.0011	-0.0087	0.0010	0.0207	0.0030	-0.2275	0.0250
1	209.88	0.2499	-0.0194	0.0009	-0.0155	0.0022	0.0551	0.0062	-0.2639	0.0311
1	209.88	0.2998	0.0288	0.0010	-0.0436	0.0040	0.0560	0.0098	-0.4777	0.0517
1	209.88	0.3498	0.0524	0.0012	-0.0617	0.0075	0.1220	0.0172	-0.5076	0.0431
1	209.88	0.3913	0.0818	0.0012	-0.0988	0.0104	0.1537	0.0237	-0.5389	0.0428
1	209.88	0.4496	0.1043	0.0014	-0.1701	0.0132	0.1505	0.0311	-0.6847	0.0471
1	209.88	0.4997	0.1501	0.0015	-0.1993	0.0165	0.1223	0.0388	-0.7689	0.0427
1	209.88	0.5387	0.1673	0.0016	-0.2337	0.0192	0.0455	0.0451	-1.0072	0.0486
1	209.88	0.5996	0.1989	0.0019	-0.3805	0.0239	-0.1129	0.0570	-0.9985	0.0470
1	209.88	0.6498	0.2419	0.0017	-0.4394	0.0275	-0.3456	0.0669	-1.0906	0.0589
1	209.88	0.6998	0.2654	0.0023	-0.5139	0.0318	-0.6395	0.0775	-1.0741	0.0538
1	209.88	0.7500	0.3112	0.0024	-0.6129	0.0360	-1.0576	0.0886	-1.2097	0.0559
1	209.88	0.8001	0.3176	0.0026	-0.7066	0.0402	-1.5430	0.1010	-1.2773	0.0582
1	209.88	0.8497	0.3266	0.0031	-0.8154	0.0446	-2.1471	0.1126	-1.4569	0.0595
1	209.88	0.9102	0.3142	0.0035	-0.8841	0.0501	-2.9461	0.1292	-1.5353	0.0649
1	209.88	0.9734	0.3977	0.0047	-1.0199	0.0564	-3.7791	0.1467	-1.6208	0.0632
2	209.88	0.1949	-0.0812	0.0012	-0.0178	0.0008	0.0258	0.0032	-0.2290	0.0352
2	209.88	0.2405	-0.0326	0.0011	-0.0201	0.0027	0.0366	0.0067	-0.3755	0.0549
2	209.88	0.2999	0.0102	0.0013	-0.0810	0.0042	0.0492	0.0108	-0.5546	0.0822
2	209.88	0.3498	0.0428	0.0013	-0.1213	0.0079	0.0854	0.0201	-0.6414	0.0618
2	209.88	0.3998	0.0735	0.0015	-0.1981	0.0123	0.1019	0.0291	-0.6824	0.0624
2	209.88	0.4496	0.0934	0.0014	-0.2680	0.0154	0.1126	0.0384	-0.7099	0.0665
2	209.88	0.4995	0.1276	0.0017	-0.3171	0.0189	0.0168	0.0514	-1.1407	0.0636
2	209.88	0.5551	0.1666	0.0021	-0.4303	0.0232	-0.0333	0.0685	-0.9807	0.0662
2	209.88	0.5996	0.2173	0.0022	-0.5647	0.0268	-0.1713	0.0856	-1.1124	0.0671
2	209.88	0.6497	0.2459	0.0026	-0.6525	0.0309	-0.4112	0.1063	-1.1688	0.0727
2	209.88	0.6996	0.2633	0.0029	-0.7830	0.0347	-0.6773	0.1301	-1.0524	0.0662
2	209.88	0.7495	0.3008	0.0036	-0.9388	0.0397	-1.0659	0.1557	-1.3188	0.0681
2	209.88	0.7996	0.3265	0.0045	-1.0406	0.0445	-1.5367	0.1848	-1.4957	0.0671
2	209.88	0.8578	0.3563	0.0055	-1.1853	0.0503	-2.1602	0.2201	-1.5436	0.0819
2	209.88	0.9100	0.3368	0.0071	-1.2447	0.0546	-2.6974	0.2546	-1.0411	0.0922
2	209.88	0.9727	0.3221	0.0083	-1.4159	0.0611	-3.3114	0.3020	-1.0763	0.0827
3	209.88	0.1938	-0.0768	0.0011	-0.0098	0.0009	0.0393	0.0037	-0.2024	0.0385
3	209.88	0.2357	-0.0123	0.0011	0.0030	0.0027	0.0358	0.0080	-0.1296	0.0407
3	209.88	0.2995	0.0268	0.0014	-0.0264	0.0033	0.1084	0.0146	-0.3828	0.0811
3	209.88	0.3493	0.0603	0.0012	-0.0397	0.0092	0.2031	0.0254	-0.2578	0.0595
3	209.88	0.4000	0.0980	0.0013	-0.0584	0.0120	0.2786	0.0384	-0.0669	0.0540
3	209.88	0.4497	0.1562	0.0017	-0.0989	0.0147	0.2888	0.0506	-0.3946	0.0638
3	209.88	0.4997	0.1719	0.0018	-0.1380	0.0174	0.2744	0.0649	-0.6648	0.0665
3	209.88	0.5556	0.1896	0.0020	-0.1844	0.0207	0.2225	0.0854	-0.7782	0.0745
3	209.88	0.5995	0.2515	0.0023	-0.2574	0.0236	0.1428	0.1042	-0.8299	0.0741
3	209.88	0.6498	0.2394	0.0026	-0.3237	0.0269	-0.0295	0.1292	-0.7610	0.0794
3	209.88	0.6890	0.2755	0.0026	-0.4047	0.0300	-0.1927	0.1505	-0.8421	0.0796
3	209.88	0.7495	0.3268	0.0034	-0.4316	0.0341	-0.6342	0.1866	-1.0013	0.0808
3	209.88	0.7998	0.3310	0.0043	-0.5554	0.0375	-1.0637	0.2201	-0.9855	0.0899
3	209.88	0.8577	0.3659	0.0059	-0.6053	0.0422	-1.7047	0.2607	-1.3185	0.1040
3	209.88	0.9178	0.4747	0.0067	-0.6687	0.0470	-2.3432	0.3056	-0.6270	0.1571
3	209.88	0.9729	0.4535	0.0084	-0.8617	0.0526	-2.9472	0.3477	-1.1285	0.1135
4	209.88	0.2001	-0.0585	0.0011	-0.0036	0.0012	-0.0050	0.0037	0.0293	0.0484
4	209.88	0.2502	-0.0077	0.0010	0.0140	0.0027	-0.0427	0.0078	-0.0656	0.0639
4	209.88	0.3001	0.0249	0.0012	0.0032	0.0037	-0.0536	0.0113	0.0202	0.1010
4	209.88	0.3502	0.0362	0.0011	0.0070	0.0068	-0.0733	0.0204	0.0397	0.0875
4	209.88	0.4002	0.0861	0.0014	0.0217	0.0098	-0.1435	0.0298	-0.1356	0.0760
4	209.88	0.4500	0.1208	0.0013	0.0062	0.0118	-0.2268	0.0393	-0.2647	0.0720
4	209.88	0.5001	0.1617	0.0015	0.0067	0.0146	-0.3486	0.0501	-0.3036	0.0729
4	209.88	0.5560	0.1791	0.0018	0.0031	0.0183	-0.5797	0.0633	-0.5599	0.0670
4	209.88	0.6001	0.2102	0.0021	-0.0428	0.0213	-0.7877	0.0757	-0.5882	0.0780
4	209.88	0.6501	0.2152	0.0020	-0.0474	0.0247	-1.1123	0.0907	-0.4490	0.0766
4	209.88	0.6999	0.2778	0.0024	-0.1337	0.0281	-1.5312	0.1058	-0.6063	0.0803
4	209.88	0.7500	0.2987	0.0029	-0.2359	0.0323	-2.0193	0.1229	-0.4298	0.0772
4	209.88	0.8002	0.3059	0.0036	-0.2314	0.0357	-2.6727	0.1408	-0.5221	0.0842
4	209.88	0.8582	0.3201	0.0044	-0.2779	0.0405	-3.4438	0.1654	-0.5730	0.0849
4	209.88	0.9101	0.3363	0.0053	-0.3716	0.0443	-4.2453	0.1874	-0.9893	0.0920
4	209.88	0.9728	0.3958	0.0061	-0.3759	0.0497	-5.0489	0.2148	-0.5314	0.0878

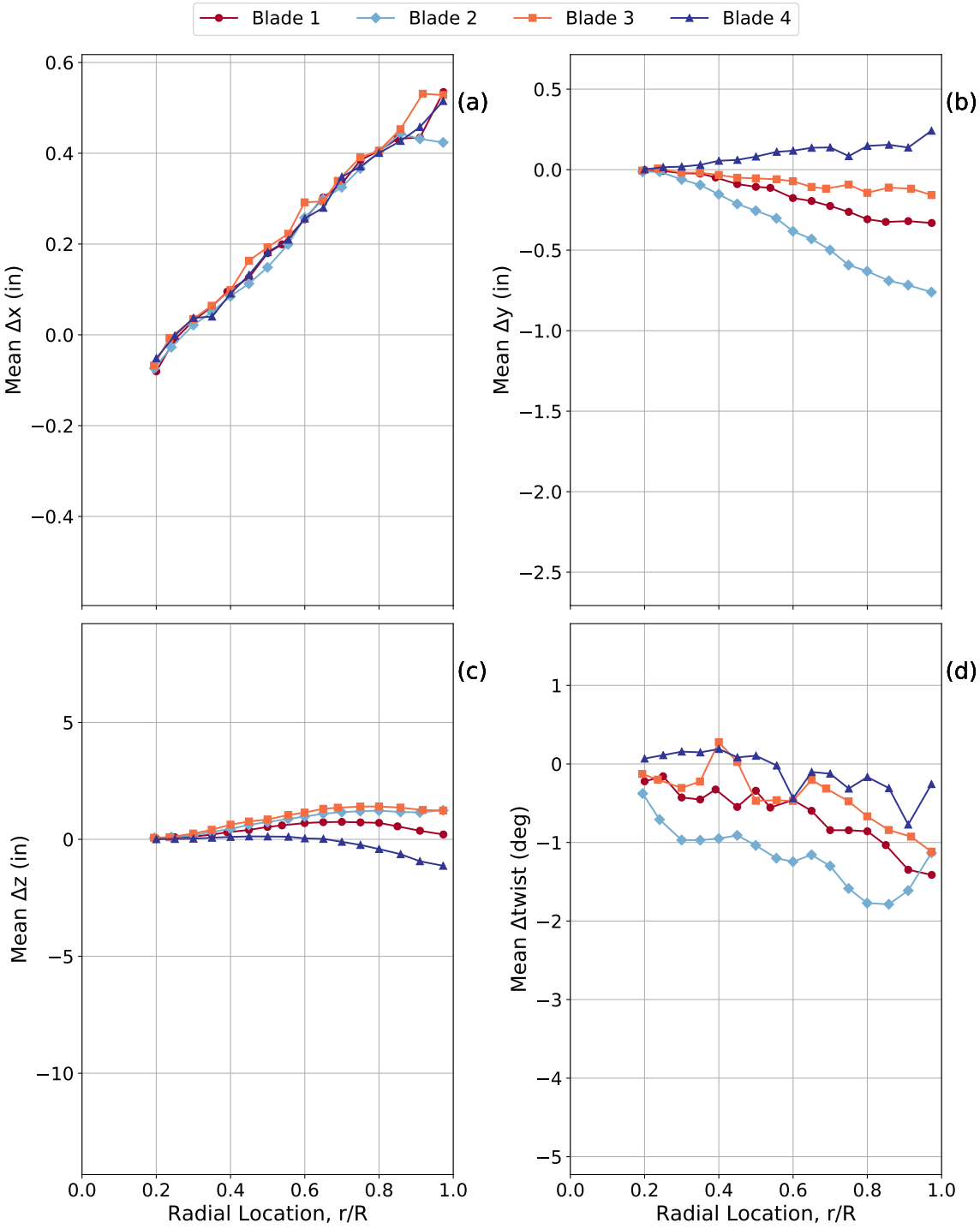


Figure 2.18-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0805	0.0010	-0.0025	0.0010	0.0267	0.0041	-0.2216	0.0296
1	225	0.2499	-0.0100	0.0012	-0.0078	0.0023	0.0894	0.0083	-0.1576	0.0432
1	225	0.2998	0.0308	0.0012	-0.0225	0.0049	0.1172	0.0156	-0.4272	0.0638
1	225	0.3498	0.0625	0.0013	-0.0242	0.0068	0.2018	0.0222	-0.4530	0.0613
1	225	0.3913	0.0950	0.0016	-0.0486	0.0111	0.3031	0.0342	-0.3256	0.0566
1	225	0.4496	0.1260	0.0018	-0.0898	0.0141	0.4014	0.0418	-0.5477	0.0551
1	225	0.4997	0.1798	0.0019	-0.1065	0.0182	0.5299	0.0524	-0.3418	0.0533
1	225	0.5387	0.1993	0.0022	-0.1128	0.0219	0.5965	0.0602	-0.5555	0.0583
1	225	0.5996	0.2544	0.0025	-0.1764	0.0277	0.6964	0.0737	-0.4595	0.0666
1	225	0.6498	0.3026	0.0027	-0.1945	0.0328	0.7338	0.0829	-0.5970	0.0772
1	225	0.6998	0.3327	0.0028	-0.2258	0.0378	0.7458	0.0929	-0.8433	0.0729
1	225	0.7500	0.3848	0.0033	-0.2623	0.0436	0.7249	0.1042	-0.8441	0.0699
1	225	0.8001	0.4057	0.0032	-0.3079	0.0494	0.7042	0.1149	-0.8575	0.0711
1	225	0.8497	0.4319	0.0031	-0.3248	0.0553	0.5555	0.1266	-1.0330	0.0721
1	225	0.9102	0.4344	0.0034	-0.3198	0.0626	0.3665	0.1414	-1.3474	0.0688
1	225	0.9734	0.5349	0.0055	-0.3311	0.0705	0.2076	0.1572	-1.4128	0.0741
2	225	0.1949	-0.0738	0.0010	-0.0134	0.0006	0.0583	0.0031	-0.3769	0.0287
2	225	0.2405	-0.0274	0.0012	-0.0130	0.0016	0.0971	0.0056	-0.7081	0.0489
2	225	0.2999	0.0215	0.0010	-0.0608	0.0036	0.1764	0.0108	-0.9692	0.0690
2	225	0.3498	0.0502	0.0012	-0.0953	0.0055	0.3175	0.0197	-0.9708	0.0630
2	225	0.3998	0.0849	0.0016	-0.1530	0.0088	0.4465	0.0285	-0.9504	0.0739
2	225	0.4496	0.1126	0.0015	-0.2130	0.0097	0.6163	0.0375	-0.9095	0.0705
2	225	0.4995	0.1486	0.0016	-0.2550	0.0121	0.7415	0.0475	-1.0373	0.0697
2	225	0.5551	0.1991	0.0018	-0.3022	0.0151	0.8695	0.0601	-1.2003	0.0665
2	225	0.5996	0.2580	0.0019	-0.3825	0.0177	0.9727	0.0693	-1.2452	0.0635
2	225	0.6497	0.2990	0.0023	-0.4304	0.0210	1.0961	0.0807	-1.1569	0.0793
2	225	0.6996	0.3251	0.0024	-0.4987	0.0246	1.1619	0.0944	-1.2993	0.0766
2	225	0.7495	0.3663	0.0028	-0.5924	0.0285	1.2022	0.1096	-1.5856	0.0707
2	225	0.7996	0.4039	0.0029	-0.6309	0.0327	1.2262	0.1259	-1.7718	0.0766
2	225	0.8578	0.4432	0.0032	-0.6901	0.0378	1.1680	0.1479	-1.7868	0.0839
2	225	0.9100	0.4316	0.0033	-0.7170	0.0425	1.1520	0.1691	-1.6124	0.0809
2	225	0.9727	0.4238	0.0051	-0.7605	0.0483	1.2418	0.1926	-1.1316	0.0916
3	225	0.1938	-0.0678	0.0009	-0.0064	0.0009	0.0652	0.0037	-0.1274	0.0396
3	225	0.2357	-0.0073	0.0010	0.0069	0.0026	0.0905	0.0078	-0.1998	0.0463
3	225	0.2995	0.0349	0.0013	-0.0186	0.0039	0.2475	0.0134	-0.3057	0.0840
3	225	0.3493	0.0641	0.0012	-0.0187	0.0079	0.4085	0.0229	-0.2243	0.0652
3	225	0.4000	0.0986	0.0017	-0.0330	0.0121	0.6274	0.0344	0.2767	0.0660
3	225	0.4497	0.1632	0.0017	-0.0502	0.0151	0.7626	0.0456	0.0254	0.0666
3	225	0.4997	0.1928	0.0020	-0.0540	0.0186	0.8505	0.0554	-0.4692	0.0717
3	225	0.5556	0.2226	0.0022	-0.0600	0.0233	1.0387	0.0681	-0.4621	0.0683
3	225	0.5995	0.2918	0.0024	-0.0719	0.0269	1.1457	0.0778	-0.4712	0.0743
3	225	0.6498	0.2941	0.0024	-0.1074	0.0314	1.3030	0.0883	-0.2034	0.0790
3	225	0.6890	0.3392	0.0027	-0.1182	0.0351	1.3527	0.0958	-0.3135	0.0790
3	225	0.7495	0.3911	0.0032	-0.0929	0.0413	1.4024	0.1084	-0.4763	0.0781
3	225	0.7998	0.4055	0.0034	-0.1437	0.0467	1.4050	0.1187	-0.6677	0.0799
3	225	0.8577	0.4529	0.0035	-0.1115	0.0529	1.3570	0.1317	-0.8413	0.0782
3	225	0.9178	0.5310	0.0037	-0.1182	0.0593	1.2540	0.1466	-0.9261	0.0841
3	225	0.9729	0.5283	0.0065	-0.1576	0.0676	1.2311	0.1619	-1.1178	0.0950
4	225	0.2001	-0.0516	0.0010	0.0015	0.0015	0.0055	0.0043	0.0682	0.0302
4	225	0.2502	-0.0016	0.0014	0.0150	0.0027	0.0166	0.0089	0.1115	0.0309
4	225	0.3001	0.0373	0.0019	0.0187	0.0059	0.0303	0.0149	0.1566	0.0579
4	225	0.3502	0.0402	0.0014	0.0299	0.0096	0.0699	0.0236	0.1469	0.0491
4	225	0.4002	0.0908	0.0017	0.0551	0.0151	0.1034	0.0362	0.1899	0.0468
4	225	0.4500	0.1322	0.0020	0.0604	0.0180	0.1250	0.0477	0.0838	0.0503
4	225	0.5001	0.1821	0.0020	0.0812	0.0235	0.1221	0.0626	0.1038	0.0521
4	225	0.5560	0.2095	0.0025	0.1107	0.0294	0.1111	0.0812	-0.0207	0.0581
4	225	0.6001	0.2564	0.0022	0.1176	0.0348	0.0408	0.0963	-0.4376	0.0549
4	225	0.6501	0.2798	0.0028	0.1360	0.0412	0.0201	0.1138	-0.1029	0.0630
4	225	0.6999	0.3479	0.0028	0.1380	0.0478	-0.1056	0.1323	-0.1244	0.0645
4	225	0.7500	0.3709	0.0030	0.0839	0.0551	-0.2400	0.1517	-0.3144	0.0551
4	225	0.8002	0.4007	0.0030	0.1474	0.0619	-0.4148	0.1727	-0.1671	0.0617
4	225	0.8582	0.4271	0.0031	0.1546	0.0700	-0.6361	0.1981	-0.3088	0.0678
4	225	0.9101	0.4577	0.0030	0.1373	0.0777	-0.9359	0.2232	-0.7724	0.0676
4	225	0.9728	0.5150	0.0053	0.2417	0.0872	-1.1313	0.2525	-0.2572	0.0765

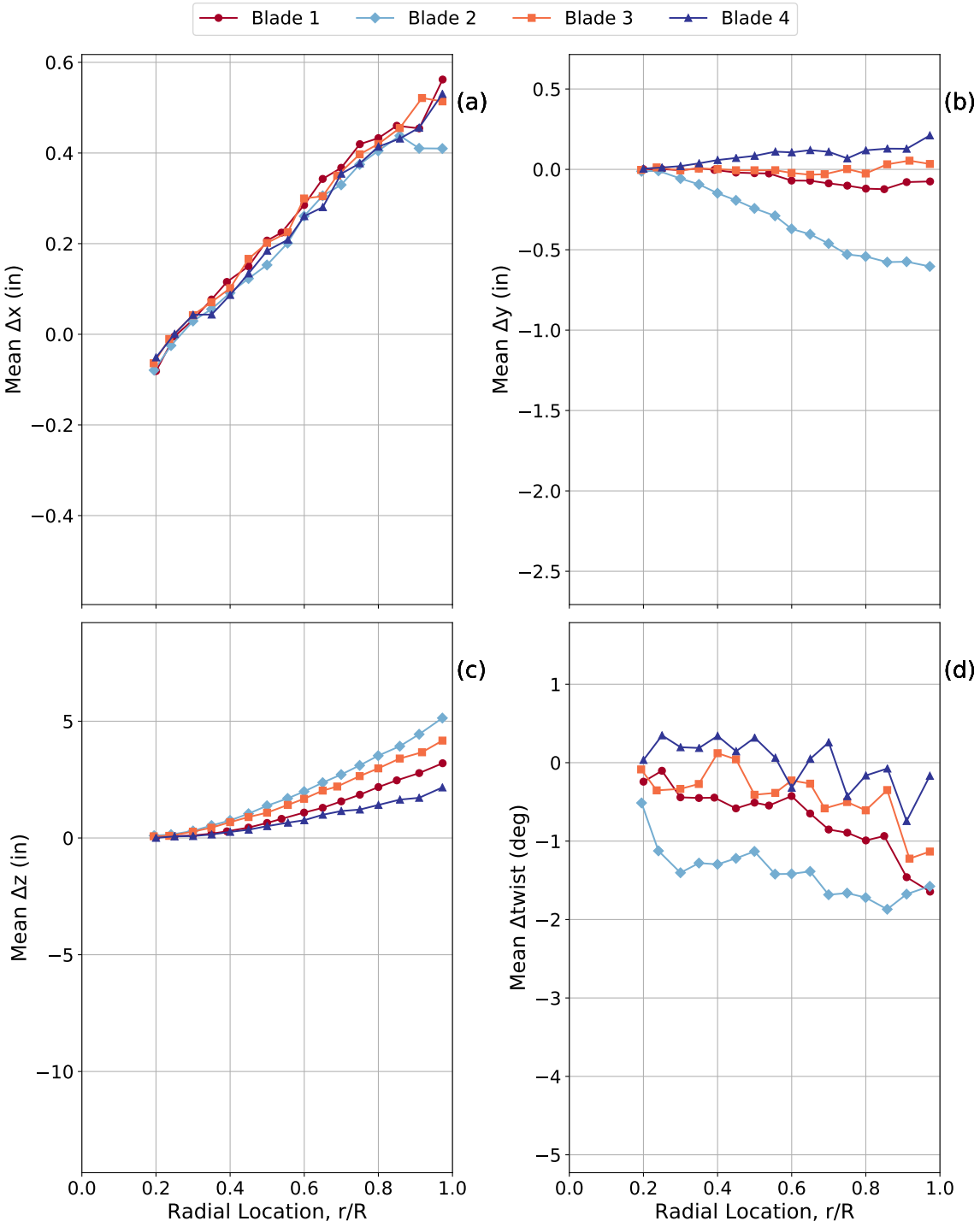


Figure 2.18-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0811	0.0012	0.0011	0.0008	0.0212	0.0034	-0.2423	0.0233
1	240.12	0.2499	-0.0048	0.0012	0.0017	0.0023	0.0764	0.0057	-0.1031	0.0430
1	240.12	0.2998	0.0320	0.0010	-0.0052	0.0041	0.1097	0.0112	-0.4416	0.0540
1	240.12	0.3498	0.0767	0.0013	0.0070	0.0065	0.1831	0.0174	-0.4503	0.0543
1	240.12	0.3913	0.1155	0.0018	-0.0030	0.0103	0.2846	0.0250	-0.4458	0.0545
1	240.12	0.4496	0.1499	0.0018	-0.0198	0.0128	0.4452	0.0336	-0.5829	0.0540
1	240.12	0.4997	0.2067	0.0019	-0.0237	0.0157	0.6426	0.0419	-0.5094	0.0522
1	240.12	0.5387	0.2243	0.0022	-0.0255	0.0189	0.8194	0.0495	-0.5464	0.0633
1	240.12	0.5996	0.2851	0.0025	-0.0695	0.0238	1.0877	0.0651	-0.4255	0.0693
1	240.12	0.6498	0.3428	0.0026	-0.0705	0.0276	1.2909	0.0758	-0.6484	0.0729
1	240.12	0.6998	0.3673	0.0028	-0.0869	0.0332	1.5676	0.0869	-0.8522	0.0766
1	240.12	0.7500	0.4195	0.0030	-0.1012	0.0381	1.8524	0.0980	-0.8931	0.0714
1	240.12	0.8001	0.4328	0.0031	-0.1198	0.0436	2.1804	0.1080	-0.9915	0.0747
1	240.12	0.8497	0.4601	0.0031	-0.1232	0.0490	2.4678	0.1189	-0.9356	0.0775
1	240.12	0.9102	0.4543	0.0032	-0.0791	0.0558	2.7791	0.1319	-1.4605	0.0809
1	240.12	0.9734	0.5621	0.0050	-0.0751	0.0627	3.2002	0.1473	-1.6443	0.0837
2	240.12	0.1949	-0.0792	0.0013	-0.0121	0.0009	0.0996	0.0041	-0.5132	0.0240
2	240.12	0.2405	-0.0249	0.0018	-0.0091	0.0021	0.1448	0.0072	-1.1246	0.0403
2	240.12	0.2999	0.0293	0.0016	-0.0570	0.0044	0.3002	0.0140	-1.4036	0.0574
2	240.12	0.3498	0.0554	0.0013	-0.0932	0.0082	0.5337	0.0222	-1.2800	0.0574
2	240.12	0.3998	0.0913	0.0026	-0.1483	0.0127	0.7519	0.0339	-1.2965	0.0505
2	240.12	0.4496	0.1230	0.0023	-0.1924	0.0157	1.0401	0.0455	-1.2200	0.0567
2	240.12	0.4995	0.1529	0.0022	-0.2429	0.0189	1.3810	0.0563	-1.1314	0.0548
2	240.12	0.5551	0.2012	0.0024	-0.2890	0.0238	1.6943	0.0707	-1.4208	0.0581
2	240.12	0.5996	0.2606	0.0027	-0.3701	0.0281	1.9894	0.0832	-1.4178	0.0614
2	240.12	0.6497	0.3055	0.0031	-0.4036	0.0334	2.3694	0.0969	-1.3864	0.0724
2	240.12	0.6996	0.3297	0.0034	-0.4614	0.0390	2.7163	0.1104	-1.6839	0.0704
2	240.12	0.7495	0.3748	0.0039	-0.5291	0.0449	3.1075	0.1244	-1.6628	0.0633
2	240.12	0.7996	0.4047	0.0042	-0.5419	0.0512	3.5237	0.1386	-1.7201	0.0587
2	240.12	0.8578	0.4380	0.0048	-0.5769	0.0587	3.9296	0.1553	-1.8692	0.0668
2	240.12	0.9100	0.4103	0.0052	-0.5743	0.0653	4.4411	0.1712	-1.6763	0.0668
2	240.12	0.9727	0.4098	0.0072	-0.6038	0.0737	5.1355	0.1930	-1.5762	0.0765
3	240.12	0.1938	-0.0639	0.0009	-0.0031	0.0007	0.0718	0.0037	-0.0860	0.0214
3	240.12	0.2357	-0.0104	0.0011	0.0122	0.0014	0.0903	0.0061	-0.3532	0.0302
3	240.12	0.2995	0.0421	0.0013	-0.0060	0.0034	0.2700	0.0134	-0.3344	0.0454
3	240.12	0.3493	0.0707	0.0016	0.0052	0.0057	0.4399	0.0220	-0.2718	0.0482
3	240.12	0.4000	0.1017	0.0018	0.0021	0.0091	0.6779	0.0338	0.1208	0.0567
3	240.12	0.4497	0.1664	0.0020	-0.0054	0.0120	0.8959	0.0457	0.0429	0.0553
3	240.12	0.4997	0.2016	0.0019	-0.0055	0.0151	1.0837	0.0583	-0.4091	0.0717
3	240.12	0.5556	0.2250	0.0021	-0.0052	0.0193	1.4149	0.0746	-0.3853	0.0667
3	240.12	0.5995	0.2996	0.0026	-0.0221	0.0233	1.6776	0.0873	-0.2272	0.0691
3	240.12	0.6498	0.3046	0.0027	-0.0333	0.0281	2.0288	0.1015	-0.2677	0.0680
3	240.12	0.6890	0.3502	0.0028	-0.0300	0.0316	2.2032	0.1107	-0.5825	0.0708
3	240.12	0.7495	0.3971	0.0031	0.0020	0.0381	2.6500	0.1262	-0.5020	0.0702
3	240.12	0.7998	0.4198	0.0033	-0.0254	0.0438	2.9811	0.1380	-0.6075	0.0809
3	240.12	0.8577	0.4550	0.0035	0.0316	0.0507	3.4020	0.1507	-0.3492	0.0810
3	240.12	0.9178	0.5213	0.0038	0.0542	0.0576	3.6702	0.1635	-1.2234	0.0783
3	240.12	0.9729	0.5139	0.0056	0.0336	0.0643	4.1707	0.1785	-1.1333	0.0867
4	240.12	0.2001	-0.0510	0.0011	0.0044	0.0007	0.0067	0.0031	0.0346	0.0253
4	240.12	0.2502	0.0007	0.0009	0.0116	0.0023	0.0670	0.0059	0.3482	0.0351
4	240.12	0.3001	0.0430	0.0018	0.0203	0.0032	0.0816	0.0103	0.1969	0.0541
4	240.12	0.3502	0.0436	0.0009	0.0377	0.0067	0.1499	0.0168	0.1876	0.0512
4	240.12	0.4002	0.0868	0.0018	0.0582	0.0098	0.2603	0.0250	0.3415	0.0494
4	240.12	0.4500	0.1343	0.0019	0.0710	0.0131	0.3537	0.0332	0.1453	0.0486
4	240.12	0.5001	0.1845	0.0016	0.0842	0.0155	0.5074	0.0408	0.3187	0.0631
4	240.12	0.5560	0.2086	0.0019	0.1102	0.0197	0.6552	0.0508	0.0626	0.0547
4	240.12	0.6001	0.2606	0.0020	0.1059	0.0234	0.7600	0.0588	-0.3192	0.0524
4	240.12	0.6501	0.2805	0.0020	0.1197	0.0277	0.9943	0.0676	0.0487	0.0662
4	240.12	0.6999	0.3543	0.0022	0.1093	0.0322	1.1533	0.0753	0.2590	0.0618
4	240.12	0.7500	0.3772	0.0025	0.0684	0.0367	1.2167	0.0847	-0.4270	0.0615
4	240.12	0.8002	0.4139	0.0027	0.1187	0.0416	1.4137	0.0928	-0.1634	0.0631
4	240.12	0.8582	0.4318	0.0029	0.1291	0.0473	1.6426	0.1051	-0.0745	0.0645
4	240.12	0.9101	0.4558	0.0031	0.1282	0.0523	1.7200	0.1166	-0.7441	0.0705
4	240.12	0.9728	0.5304	0.0046	0.2111	0.0588	2.1644	0.1306	-0.1678	0.0742

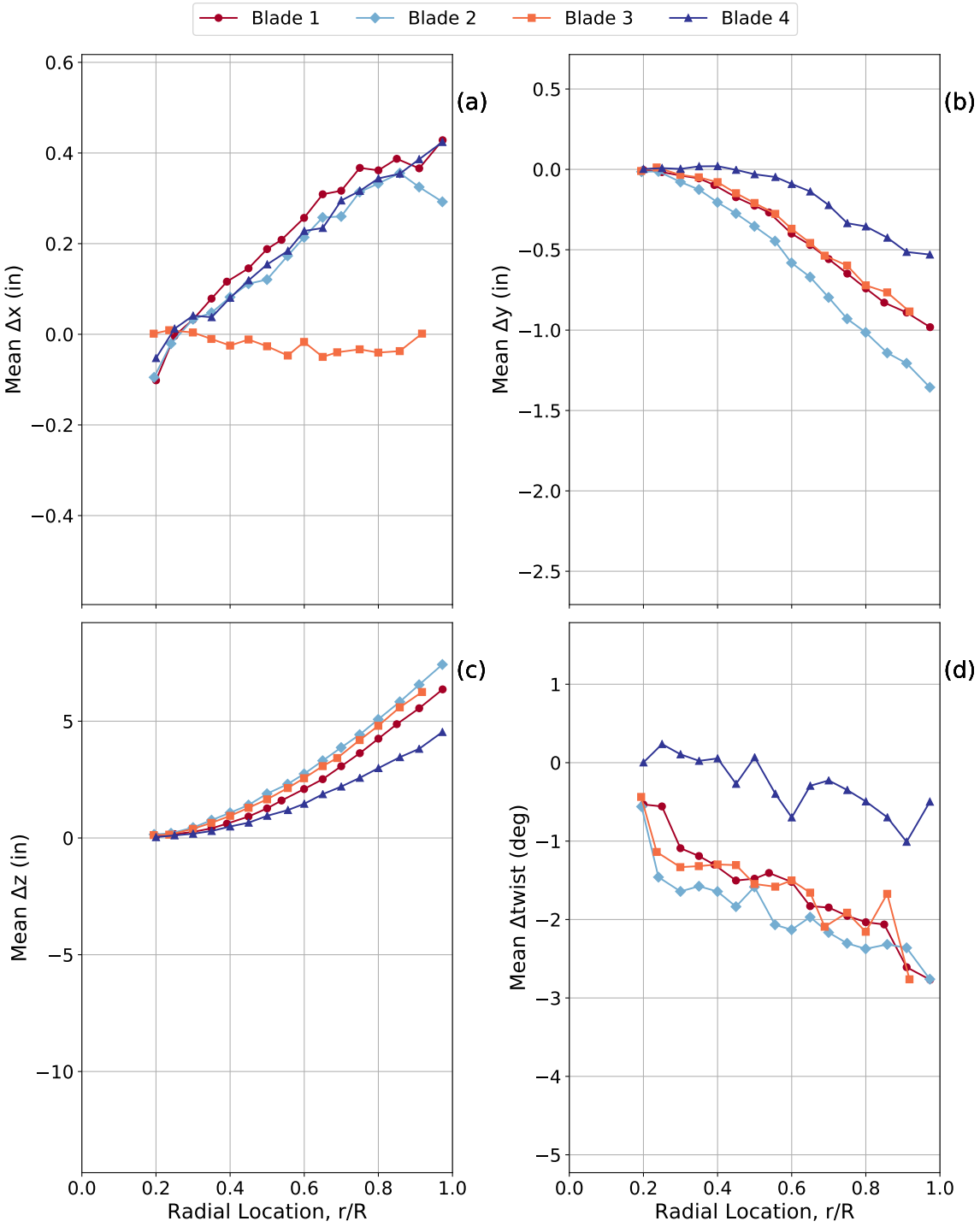


Figure 2.18-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.1016	0.0034	-0.0037	0.0014	0.0688	0.0123	-0.5334	0.0560
1	254.88	0.2499	-0.0035	0.0013	-0.0168	0.0018	0.1633	0.0168	-0.5576	0.1355
1	254.88	0.2998	0.0324	0.0012	-0.0383	0.0053	0.2596	0.0347	-1.0907	0.1422
1	254.88	0.3498	0.0787	0.0013	-0.0559	0.0100	0.4118	0.0570	-1.1903	0.1380
1	254.88	0.3913	0.1161	0.0016	-0.0975	0.0135	0.6116	0.0758	-1.3007	0.1430
1	254.88	0.4496	0.1455	0.0019	-0.1732	0.0187	0.9180	0.1045	-1.5024	0.1440
1	254.88	0.4997	0.1880	0.0026	-0.2258	0.0231	1.2678	0.1311	-1.4793	0.1447
1	254.88	0.5387	0.2084	0.0031	-0.2679	0.0265	1.6036	0.1522	-1.4061	0.1454
1	254.88	0.5996	0.2568	0.0042	-0.3996	0.0321	2.0948	0.1860	-1.5202	0.1428
1	254.88	0.6498	0.3089	0.0052	-0.4705	0.0370	2.5174	0.2134	-1.8295	0.1457
1	254.88	0.6998	0.3167	0.0061	-0.5580	0.0418	3.0721	0.2404	-1.8469	0.1488
1	254.88	0.7500	0.3671	0.0073	-0.6484	0.0471	3.6307	0.2690	-1.9533	0.1491
1	254.88	0.8001	0.3617	0.0087	-0.7406	0.0523	4.2527	0.2978	-2.0339	0.1515
1	254.88	0.8497	0.3872	0.0098	-0.8288	0.0576	4.8736	0.3273	-2.0630	0.1506
1	254.88	0.9102	0.3661	0.0117	-0.8904	0.0645	5.5551	0.3655	-2.6081	0.1545
1	254.88	0.9734	0.4282	0.0158	-0.9815	0.0716	6.3634	0.4078	-2.7677	0.1521
2	254.88	0.1949	-0.0950	0.0031	-0.0147	0.0014	0.1506	0.0075	-0.5601	0.0319
2	254.88	0.2405	-0.0207	0.0014	-0.0127	0.0017	0.2018	0.0088	-1.4594	0.0772
2	254.88	0.2999	0.0332	0.0014	-0.0784	0.0051	0.4442	0.0206	-1.6418	0.0860
2	254.88	0.3498	0.0475	0.0018	-0.1255	0.0091	0.7630	0.0334	-1.5754	0.0805
2	254.88	0.3998	0.0820	0.0021	-0.2051	0.0137	1.0786	0.0474	-1.6429	0.0840
2	254.88	0.4496	0.1115	0.0028	-0.2744	0.0184	1.4105	0.0627	-1.8356	0.0907
2	254.88	0.4995	0.1207	0.0032	-0.3543	0.0238	1.8936	0.0787	-1.5843	0.0896
2	254.88	0.5551	0.1730	0.0037	-0.4462	0.0299	2.3045	0.0985	-2.0669	0.0889
2	254.88	0.5996	0.2139	0.0041	-0.5817	0.0351	2.7443	0.1132	-2.1305	0.0944
2	254.88	0.6497	0.2578	0.0047	-0.6698	0.0413	3.3080	0.1315	-1.9696	0.0976
2	254.88	0.6996	0.2600	0.0052	-0.7966	0.0471	3.8724	0.1499	-2.1653	0.0979
2	254.88	0.7495	0.3139	0.0060	-0.9294	0.0534	4.4247	0.1693	-2.3035	0.0998
2	254.88	0.7996	0.3326	0.0066	-1.0143	0.0598	5.0788	0.1901	-2.3736	0.1024
2	254.88	0.8578	0.3556	0.0077	-1.1417	0.0672	5.8309	0.2158	-2.3175	0.0996
2	254.88	0.9100	0.3249	0.0088	-1.2065	0.0741	6.5613	0.2396	-2.3607	0.1050
2	254.88	0.9727	0.2923	0.0119	-1.3557	0.0829	7.4288	0.2695	-2.7607	0.1074
3	254.88	0.1938	0.0014	0.0095	-0.0100	0.0016	0.1240	0.0088	-0.4368	0.0331
3	254.88	0.2357	0.0090	0.0038	0.0119	0.0025	0.1413	0.0076	-1.1386	0.0891
3	254.88	0.2995	0.0040	0.0041	-0.0341	0.0049	0.3905	0.0231	-1.3320	0.0927
3	254.88	0.3493	-0.0103	0.0076	-0.0494	0.0087	0.6447	0.0368	-1.3193	0.0913
3	254.88	0.4000	-0.0249	0.0106	-0.0795	0.0132	0.9481	0.0524	-1.2981	0.0923
3	254.88	0.4497	-0.0115	0.0134	-0.1483	0.0175	1.2921	0.0690	-1.3057	0.0969
3	254.88	0.4997	-0.0265	0.0154	-0.2091	0.0225	1.6544	0.0859	-1.5469	0.0984
3	254.88	0.5556	-0.0469	0.0169	-0.2766	0.0285	2.1394	0.1053	-1.5812	0.1017
3	254.88	0.5995	-0.0169	0.0177	-0.3694	0.0332	2.5594	0.1213	-1.5014	0.1025
3	254.88	0.6498	-0.0499	0.0187	-0.4576	0.0393	3.0771	0.1384	-1.6574	0.1021
3	254.88	0.6890	-0.0397	0.0196	-0.5367	0.0439	3.4231	0.1527	-2.0921	0.1043
3	254.88	0.7495	-0.0332	0.0220	-0.5981	0.0512	4.1927	0.1734	-1.9131	0.1127
3	254.88	0.7998	-0.0404	0.0249	-0.7214	0.0582	4.8049	0.1914	-2.1561	0.1113
3	254.88	0.8577	-0.0371	0.0295	-0.7653	0.0661	5.5941	0.2120	-1.6724	0.1326
3	254.88	0.9178	0.0015	0.0373	-0.8840	0.0765	6.2497	0.2336	-2.7623	0.1412
4	254.88	0.2001	-0.0525	0.0016	0.0023	0.0007	0.0352	0.0056	0.0031	0.0301
4	254.88	0.2502	0.0123	0.0012	0.0078	0.0016	0.1111	0.0103	0.2370	0.0594
4	254.88	0.3001	0.0411	0.0011	0.0029	0.0027	0.1807	0.0188	0.1061	0.0705
4	254.88	0.3502	0.0377	0.0011	0.0189	0.0053	0.2992	0.0314	0.0229	0.0656
4	254.88	0.4002	0.0804	0.0014	0.0199	0.0079	0.4922	0.0473	0.0543	0.0693
4	254.88	0.4500	0.1191	0.0014	-0.0031	0.0106	0.6554	0.0646	-0.2702	0.0733
4	254.88	0.5001	0.1542	0.0018	-0.0307	0.0137	0.9494	0.0855	0.0680	0.0760
4	254.88	0.5560	0.1841	0.0019	-0.0475	0.0173	1.1949	0.1114	-0.3979	0.0810
4	254.88	0.6001	0.2280	0.0026	-0.0909	0.0204	1.4648	0.1326	-0.6982	0.0761
4	254.88	0.6501	0.2345	0.0030	-0.1377	0.0241	1.8757	0.1580	-0.2946	0.0779
4	254.88	0.6999	0.2952	0.0039	-0.2225	0.0280	2.2014	0.1833	-0.2265	0.0787
4	254.88	0.7500	0.3163	0.0047	-0.3348	0.0318	2.5753	0.2101	-0.3494	0.0865
4	254.88	0.8002	0.3439	0.0052	-0.3550	0.0357	2.9917	0.2388	-0.4946	0.0846
4	254.88	0.8582	0.3544	0.0063	-0.4251	0.0406	3.4601	0.2745	-0.6976	0.0884
4	254.88	0.9101	0.3862	0.0077	-0.5137	0.0447	3.8175	0.3082	-1.0092	0.0878
4	254.88	0.9728	0.4242	0.0104	-0.5299	0.0502	4.5377	0.3522	-0.4978	0.0836

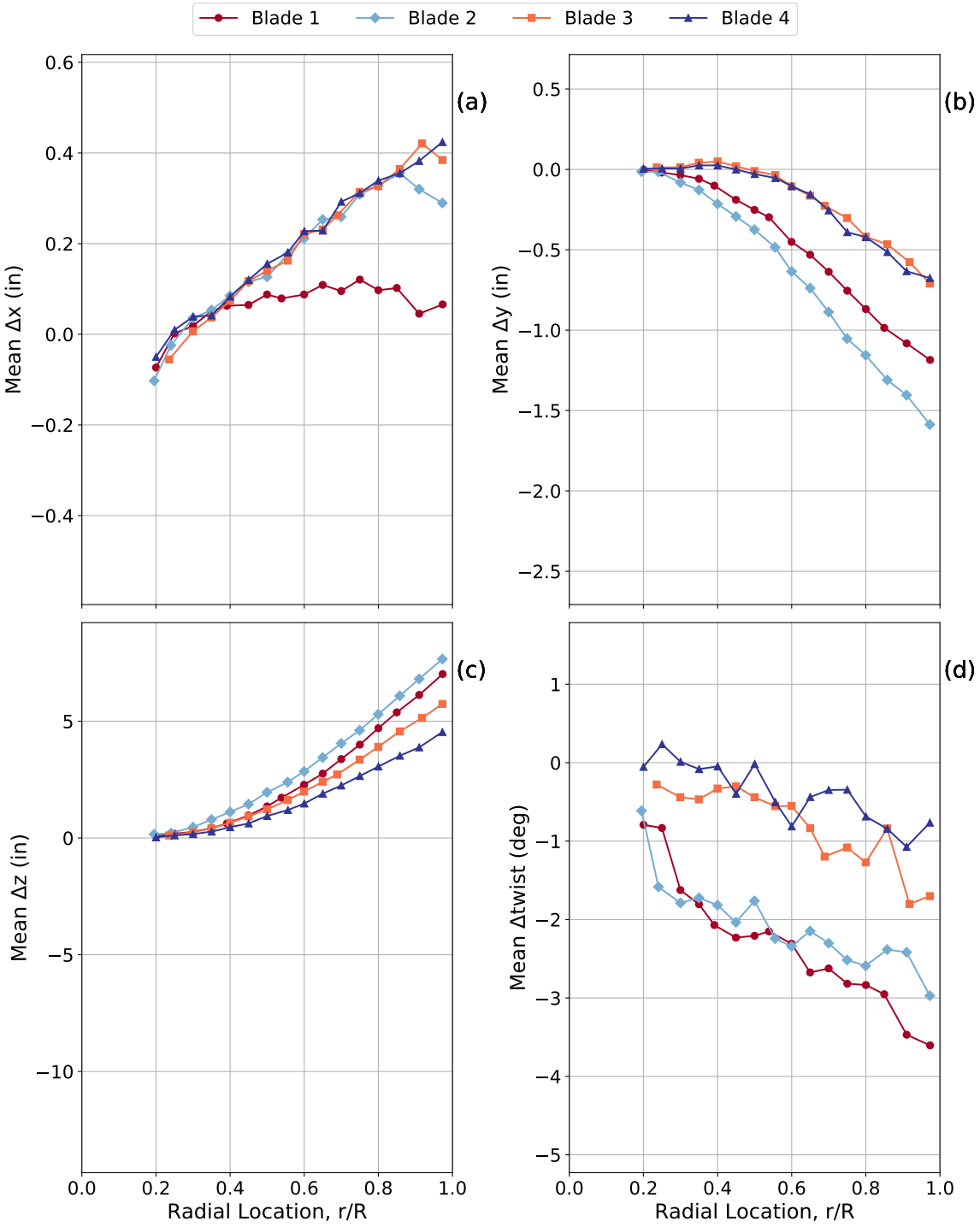


Figure 2.18-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.0734	0.0102	-0.0015	0.0033	0.0720	0.0312	-0.7917	0.1423
1	260.16	0.2499	0.0020	0.0021	-0.0197	0.0025	0.1788	0.0358	-0.8330	0.3734
1	260.16	0.2998	0.0183	0.0028	-0.0352	0.0135	0.2626	0.0818	-1.6247	0.3744
1	260.16	0.3498	0.0515	0.0027	-0.0587	0.0246	0.4189	0.1287	-1.8047	0.3654
1	260.16	0.3913	0.0628	0.0040	-0.1011	0.0334	0.6193	0.1678	-2.0708	0.3677
1	260.16	0.4496	0.0648	0.0050	-0.1892	0.0455	0.9650	0.2221	-2.2307	0.3665
1	260.16	0.4997	0.0878	0.0066	-0.2519	0.0554	1.3531	0.2688	-2.2074	0.3646
1	260.16	0.5387	0.0791	0.0079	-0.2976	0.0628	1.7240	0.3037	-2.1522	0.3688
1	260.16	0.5996	0.0877	0.0102	-0.4510	0.0750	2.2774	0.3583	-2.3081	0.3709
1	260.16	0.6498	0.1089	0.0121	-0.5311	0.0851	2.7549	0.4016	-2.6746	0.3702
1	260.16	0.6998	0.0954	0.0142	-0.6371	0.0947	3.3777	0.4441	-2.6240	0.3668
1	260.16	0.7500	0.1207	0.0161	-0.7549	0.1051	3.9978	0.4855	-2.8179	0.3677
1	260.16	0.8001	0.0972	0.0181	-0.8693	0.1155	4.7026	0.5260	-2.8351	0.3741
1	260.16	0.8497	0.1021	0.0199	-0.9858	0.1262	5.3794	0.5673	-2.9529	0.3722
1	260.16	0.9102	0.0454	0.0224	-1.0823	0.1406	6.1250	0.6191	-3.4689	0.3684
1	260.16	0.9734	0.0659	0.0305	-1.1855	0.1545	7.0178	0.6749	-3.6049	0.3729
2	260.16	0.1949	-0.1027	0.0056	-0.0140	0.0015	0.1575	0.0123	-0.6133	0.0454
2	260.16	0.2405	-0.0242	0.0023	-0.0153	0.0014	0.2084	0.0121	-1.5843	0.1317
2	260.16	0.2999	0.0359	0.0015	-0.0822	0.0051	0.4619	0.0322	-1.7891	0.1321
2	260.16	0.3498	0.0535	0.0020	-0.1282	0.0087	0.7878	0.0505	-1.7235	0.1365
2	260.16	0.3998	0.0852	0.0025	-0.2148	0.0130	1.1139	0.0710	-1.8170	0.1337
2	260.16	0.4496	0.1158	0.0027	-0.2928	0.0169	1.4476	0.0925	-2.0350	0.1340
2	260.16	0.4995	0.1268	0.0036	-0.3748	0.0209	1.9536	0.1153	-1.7630	0.1336
2	260.16	0.5551	0.1756	0.0043	-0.4848	0.0261	2.3903	0.1438	-2.2425	0.1340
2	260.16	0.5996	0.2114	0.0053	-0.6349	0.0305	2.8508	0.1675	-2.3416	0.1324
2	260.16	0.6497	0.2533	0.0066	-0.7388	0.0353	3.4460	0.1937	-2.1467	0.1344
2	260.16	0.6996	0.2592	0.0078	-0.8875	0.0406	4.0488	0.2210	-2.3019	0.1324
2	260.16	0.7495	0.3089	0.0091	-1.0531	0.0463	4.6118	0.2487	-2.5160	0.1292
2	260.16	0.7996	0.3276	0.0110	-1.1556	0.0525	5.2962	0.2760	-2.5905	0.1397
2	260.16	0.8578	0.3554	0.0119	-1.3100	0.0597	6.0864	0.3100	-2.3837	0.1336
2	260.16	0.9100	0.3202	0.0135	-1.4041	0.0669	6.8100	0.3415	-2.4166	0.1358
2	260.16	0.9727	0.2897	0.0181	-1.5869	0.0758	7.6607	0.3824	-2.9719	0.1368
3	260.16	0.2357	-0.0555	0.0020	0.0120	0.0013	0.1062	0.0119	-0.2787	0.0748
3	260.16	0.2995	0.0065	0.0012	0.0134	0.0035	0.2483	0.0228	-0.4403	0.1193
3	260.16	0.3493	0.0371	0.0012	0.0412	0.0069	0.4104	0.0373	-0.4682	0.1122
3	260.16	0.4000	0.0739	0.0017	0.0491	0.0109	0.6522	0.0552	-0.3297	0.1129
3	260.16	0.4497	0.1174	0.0020	0.0196	0.0146	0.9237	0.0721	-0.3020	0.1153
3	260.16	0.4997	0.1402	0.0024	-0.0102	0.0189	1.2291	0.0917	-0.4401	0.1196
3	260.16	0.5556	0.1625	0.0032	-0.0353	0.0248	1.6232	0.1152	-0.5546	0.1182
3	260.16	0.5995	0.2212	0.0037	-0.1062	0.0294	1.9857	0.1337	-0.5519	0.1191
3	260.16	0.6498	0.2313	0.0044	-0.1638	0.0356	2.4071	0.1542	-0.8348	0.1241
3	260.16	0.6890	0.2624	0.0051	-0.2263	0.0406	2.7184	0.1709	-1.1974	0.1245
3	260.16	0.7495	0.3142	0.0058	-0.3025	0.0492	3.3556	0.1979	-1.0819	0.1270
3	260.16	0.7998	0.3267	0.0071	-0.4184	0.0572	3.9027	0.2200	-1.2717	0.1263
3	260.16	0.8577	0.3646	0.0075	-0.4659	0.0666	4.5643	0.2472	-0.8381	0.1297
3	260.16	0.9178	0.4210	0.0088	-0.5769	0.0765	5.1374	0.2745	-1.8017	0.1381
3	260.16	0.9729	0.3845	0.0115	-0.7100	0.0861	5.7393	0.2995	-1.7017	0.1355
4	260.16	0.2001	-0.0499	0.0030	0.0044	0.0011	0.0280	0.0061	-0.0535	0.0465
4	260.16	0.2502	0.0098	0.0019	0.0054	0.0018	0.1103	0.0082	0.2355	0.0865
4	260.16	0.3001	0.0389	0.0015	0.0054	0.0037	0.1673	0.0161	0.0107	0.1040
4	260.16	0.3502	0.0415	0.0015	0.0250	0.0064	0.2725	0.0254	-0.0820	0.0951
4	260.16	0.4002	0.0832	0.0019	0.0245	0.0096	0.4622	0.0362	-0.0469	0.0965
4	260.16	0.4500	0.1199	0.0021	-0.0012	0.0121	0.6227	0.0477	-0.3967	0.0976
4	260.16	0.5001	0.1554	0.0020	-0.0291	0.0152	0.9412	0.0609	-0.0175	0.0954
4	260.16	0.5560	0.1805	0.0024	-0.0538	0.0188	1.1964	0.0759	-0.5035	0.0979
4	260.16	0.6001	0.2274	0.0027	-0.1042	0.0219	1.4757	0.0889	-0.8123	0.1011
4	260.16	0.6501	0.2287	0.0033	-0.1558	0.0253	1.8974	0.1045	-0.4381	0.1022
4	260.16	0.6999	0.2924	0.0034	-0.2557	0.0291	2.2468	0.1210	-0.3484	0.1005
4	260.16	0.7500	0.3114	0.0041	-0.3909	0.0329	2.6538	0.1397	-0.3447	0.0989
4	260.16	0.8002	0.3392	0.0047	-0.4216	0.0368	3.0611	0.1583	-0.6860	0.1010
4	260.16	0.8582	0.3554	0.0054	-0.5143	0.0418	3.5225	0.1821	-0.8445	0.1040
4	260.16	0.9101	0.3825	0.0059	-0.6337	0.0460	3.8792	0.2056	-1.0737	0.0967
4	260.16	0.9728	0.4241	0.0082	-0.6759	0.0514	4.5364	0.2363	-0.7649	0.1019

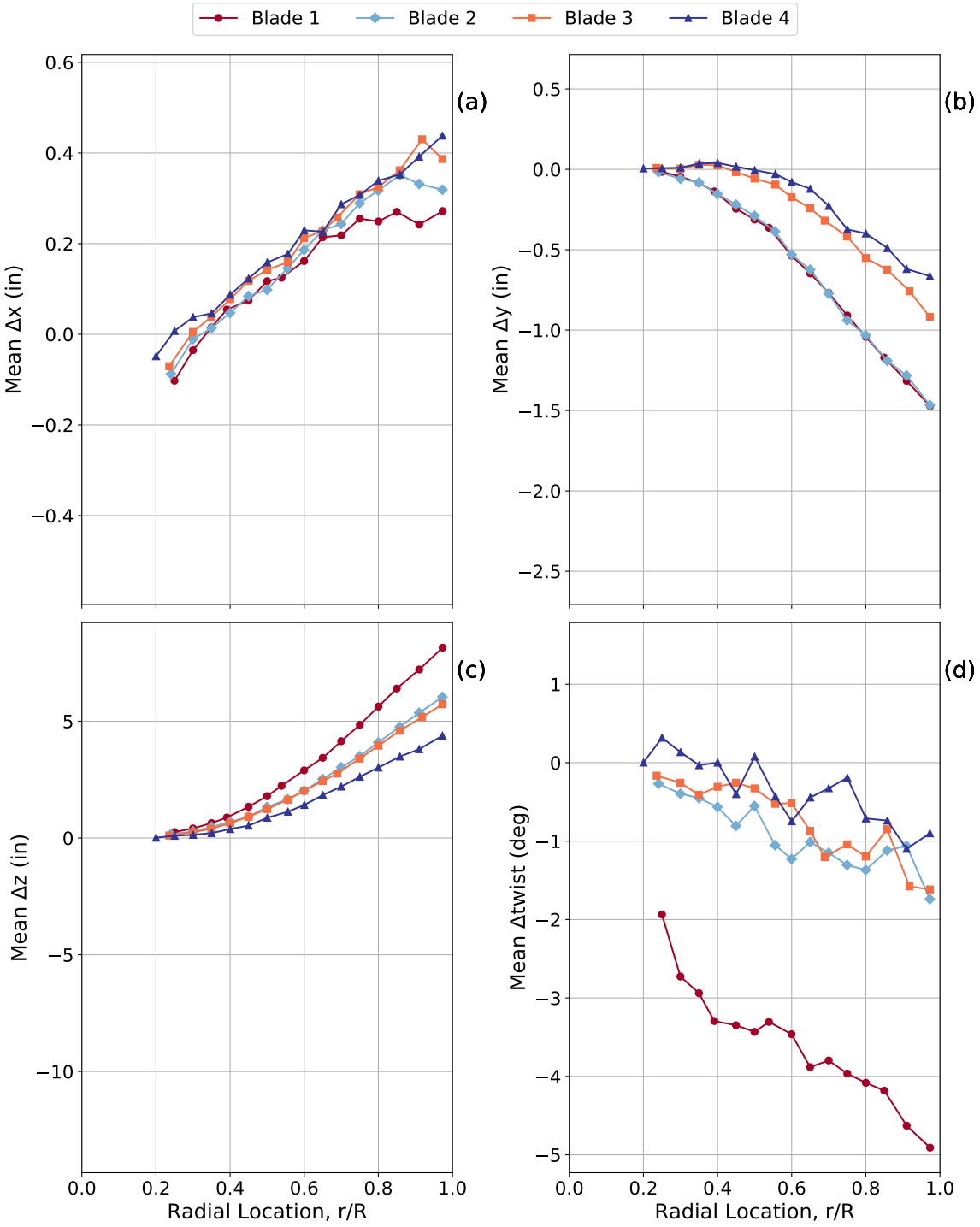


Figure 2.18-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2499	-0.1025	0.0104	-0.0154	0.0031	0.2543	0.0647	-1.9354	0.4248
1	265.08	0.2998	-0.0350	0.0044	-0.0452	0.0063	0.4097	0.0956	-2.7268	0.5976
1	265.08	0.3498	0.0156	0.0071	-0.0850	0.0150	0.6386	0.1656	-2.9394	0.5410
1	265.08	0.3913	0.0547	0.0085	-0.1373	0.0219	0.8777	0.2172	-3.2950	0.5480
1	265.08	0.4496	0.0743	0.0108	-0.2445	0.0304	1.3369	0.2894	-3.3482	0.5441
1	265.08	0.4997	0.1171	0.0132	-0.3121	0.0371	1.7896	0.3506	-3.4328	0.5456
1	265.08	0.5387	0.1247	0.0151	-0.3634	0.0420	2.2353	0.3976	-3.3056	0.5459
1	265.08	0.5996	0.1617	0.0186	-0.5367	0.0505	2.8957	0.4732	-3.4626	0.5393
1	265.08	0.6498	0.2140	0.0215	-0.6473	0.0577	3.4314	0.5347	-3.8822	0.5392
1	265.08	0.6998	0.2183	0.0243	-0.7684	0.0642	4.1422	0.5958	-3.7968	0.5407
1	265.08	0.7500	0.2551	0.0275	-0.9089	0.0711	4.8466	0.6578	-3.9641	0.5443
1	265.08	0.8001	0.2489	0.0309	-1.0424	0.0781	5.6256	0.7202	-4.0823	0.5388
1	265.08	0.8497	0.2701	0.0341	-1.1706	0.0851	6.3972	0.7816	-4.1819	0.5409
1	265.08	0.9102	0.2422	0.0385	-1.3160	0.0944	7.2146	0.8568	-4.6281	0.5440
1	265.08	0.9734	0.2717	0.0479	-1.4724	0.1041	8.1507	0.9368	-4.9094	0.5433
2	265.08	0.2405	-0.0876	0.0060	-0.0160	0.0027	0.1601	0.0271	-0.2679	0.1961
2	265.08	0.2999	-0.0107	0.0020	-0.0586	0.0056	0.2798	0.0449	-0.3965	0.3003
2	265.08	0.3498	0.0136	0.0025	-0.0819	0.0126	0.4751	0.0805	-0.4516	0.2775
2	265.08	0.3998	0.0473	0.0032	-0.1524	0.0189	0.6866	0.1134	-0.5648	0.2736
2	265.08	0.4496	0.0843	0.0038	-0.2188	0.0250	0.9092	0.1453	-0.8064	0.2745
2	265.08	0.4995	0.0981	0.0045	-0.2890	0.0313	1.3232	0.1797	-0.5531	0.2757
2	265.08	0.5551	0.1457	0.0056	-0.3864	0.0389	1.6542	0.2207	-1.0509	0.2700
2	265.08	0.5996	0.1861	0.0068	-0.5292	0.0450	2.0233	0.2554	-1.2291	0.2706
2	265.08	0.6497	0.2290	0.0082	-0.6239	0.0525	2.5239	0.2943	-1.0122	0.2713
2	265.08	0.6996	0.2436	0.0099	-0.7732	0.0604	3.0268	0.3340	-1.1490	0.2741
2	265.08	0.7495	0.2893	0.0115	-0.9388	0.0690	3.4989	0.3745	-1.3054	0.2745
2	265.08	0.7996	0.3172	0.0130	-1.0318	0.0781	4.0897	0.4145	-1.3684	0.2778
2	265.08	0.8578	0.3513	0.0149	-1.1905	0.0889	4.7618	0.4627	-1.1186	0.2754
2	265.08	0.9100	0.3317	0.0170	-1.2823	0.0994	5.3603	0.5052	-1.0612	0.2833
2	265.08	0.9727	0.3190	0.0226	-1.4664	0.1125	6.0347	0.5606	-1.7398	0.2695
3	265.08	0.2357	-0.0705	0.0041	0.0090	0.0018	0.1061	0.0162	-0.1657	0.1243
3	265.08	0.2995	0.0052	0.0018	0.0044	0.0046	0.2479	0.0285	-0.2559	0.1980
3	265.08	0.3493	0.0382	0.0019	0.0275	0.0097	0.3945	0.0493	-0.4101	0.1818
3	265.08	0.4000	0.0776	0.0021	0.0252	0.0151	0.6303	0.0700	-0.3067	0.1778
3	265.08	0.4497	0.1179	0.0027	-0.0169	0.0195	0.9084	0.0888	-0.2560	0.1792
3	265.08	0.4997	0.1419	0.0033	-0.0570	0.0243	1.2387	0.1091	-0.3276	0.1765
3	265.08	0.5556	0.1592	0.0037	-0.0946	0.0301	1.6368	0.1318	-0.5241	0.1743
3	265.08	0.5995	0.2121	0.0043	-0.1726	0.0344	2.0268	0.1479	-0.5160	0.1824
3	265.08	0.6498	0.2280	0.0051	-0.2419	0.0403	2.4368	0.1669	-0.8695	0.1805
3	265.08	0.6890	0.2576	0.0056	-0.3189	0.0448	2.7628	0.1819	-1.2048	0.1785
3	265.08	0.7495	0.3090	0.0064	-0.4171	0.0518	3.4000	0.2028	-1.0413	0.1784
3	265.08	0.7998	0.3249	0.0073	-0.5515	0.0584	3.9533	0.2211	-1.1972	0.1812
3	265.08	0.8577	0.3617	0.0080	-0.6240	0.0660	4.5934	0.2415	-0.8488	0.1860
3	265.08	0.9178	0.4302	0.0092	-0.7581	0.0746	5.1772	0.2650	-1.5776	0.1835
3	265.08	0.9729	0.3867	0.0126	-0.9181	0.0817	5.7257	0.2884	-1.6164	0.1847
4	265.08	0.2001	-0.0484	0.0051	0.0058	0.0020	0.0147	0.0140	0.0019	0.0741
4	265.08	0.2502	0.0074	0.0048	0.0068	0.0033	0.0958	0.0164	0.3178	0.1909
4	265.08	0.3001	0.0376	0.0036	0.0104	0.0058	0.1362	0.0346	0.1341	0.1717
4	265.08	0.3502	0.0462	0.0034	0.0361	0.0098	0.2105	0.0520	-0.0325	0.1704
4	265.08	0.4002	0.0875	0.0038	0.0396	0.0143	0.3832	0.0730	0.0009	0.1738
4	265.08	0.4500	0.1231	0.0037	0.0164	0.0187	0.5296	0.0921	-0.4007	0.1649
4	265.08	0.5001	0.1586	0.0041	-0.0052	0.0235	0.8652	0.1147	0.0768	0.1730
4	265.08	0.5560	0.1774	0.0045	-0.0291	0.0297	1.1245	0.1421	-0.4308	0.1716
4	265.08	0.6001	0.2294	0.0048	-0.0791	0.0345	1.4131	0.1640	-0.7465	0.1764
4	265.08	0.6501	0.2263	0.0057	-0.1207	0.0410	1.8377	0.1903	-0.4438	0.1760
4	265.08	0.6999	0.2868	0.0062	-0.2274	0.0479	2.2003	0.2171	-0.3258	0.1761
4	265.08	0.7500	0.3076	0.0071	-0.3735	0.0550	2.6211	0.2448	-0.1913	0.1727
4	265.08	0.8002	0.3390	0.0078	-0.3987	0.0629	3.0167	0.2715	-0.7106	0.1766
4	265.08	0.8582	0.3526	0.0144	-0.4896	0.0760	3.4867	0.3134	-0.7384	0.3511
4	265.08	0.9101	0.3918	0.0099	-0.6197	0.0811	3.8016	0.3312	-1.0985	0.1802
4	265.08	0.9728	0.4382	0.0129	-0.6643	0.0913	4.3773	0.3673	-0.8997	0.1823

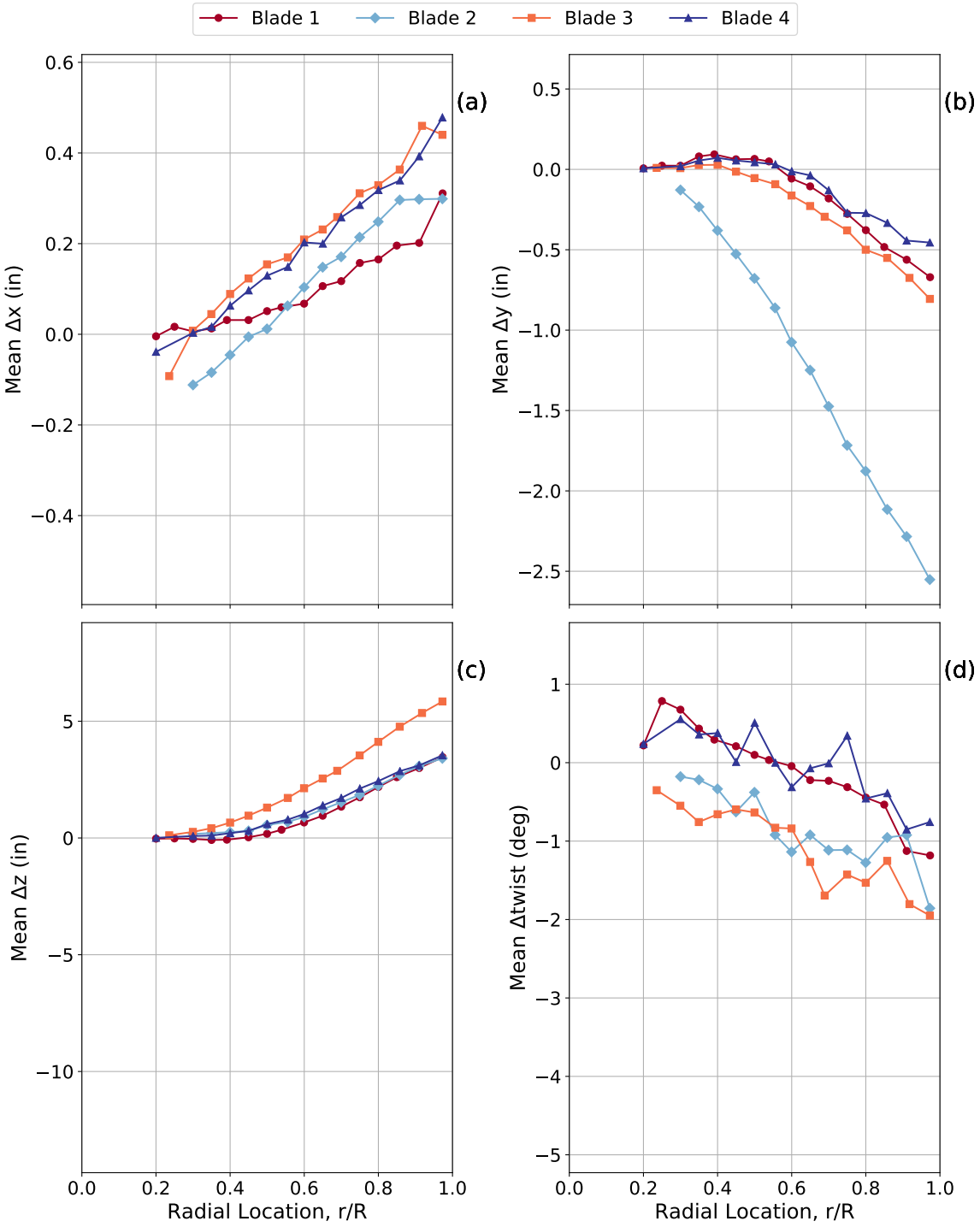


Figure 2.18-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	-0.0044	0.0058	0.0065	0.0028	-0.0290	0.0140	0.2202	0.1206
1	270	0.2499	0.0166	0.0051	0.0231	0.0092	-0.0204	0.0363	0.7860	0.1280
1	270	0.2998	0.0063	0.0061	0.0228	0.0108	-0.0398	0.0430	0.6761	0.2420
1	270	0.3498	0.0128	0.0053	0.0806	0.0269	-0.0861	0.0858	0.4342	0.1496
1	270	0.3913	0.0314	0.0059	0.0934	0.0351	-0.0740	0.1127	0.2935	0.1281
1	270	0.4496	0.0314	0.0056	0.0629	0.0464	0.0279	0.1445	0.2096	0.1287
1	270	0.4997	0.0511	0.0061	0.0652	0.0554	0.1787	0.1742	0.0993	0.1314
1	270	0.5387	0.0596	0.0065	0.0495	0.0629	0.3518	0.1993	0.0341	0.1311
1	270	0.5996	0.0675	0.0073	-0.0571	0.0748	0.6627	0.2389	-0.0441	0.1310
1	270	0.6498	0.1063	0.0081	-0.1055	0.0849	0.9517	0.2738	-0.2220	0.1300
1	270	0.6998	0.1173	0.0093	-0.1807	0.0952	1.3414	0.3087	-0.2314	0.1354
1	270	0.7500	0.1573	0.0105	-0.2767	0.1062	1.7423	0.3450	-0.3120	0.1351
1	270	0.8001	0.1652	0.0118	-0.3782	0.1172	2.1840	0.3833	-0.4455	0.1364
1	270	0.8497	0.1957	0.0128	-0.4829	0.1286	2.6027	0.4224	-0.5348	0.1432
1	270	0.9102	0.2016	0.0139	-0.5621	0.1421	2.9953	0.4736	-1.1256	0.1510
1	270	0.9734	0.3109	0.0194	-0.6706	0.1569	3.4604	0.5339	-1.1830	0.1476
2	270.35	0.2999	-0.1117	0.0083	-0.1282	0.0122	0.1732	0.1115	-0.1780	0.3637
2	270.35	0.3498	-0.0842	0.0037	-0.2328	0.0233	0.2105	0.1760	-0.2184	0.4784
2	270.35	0.3998	-0.0457	0.0040	-0.3801	0.0393	0.2493	0.2635	-0.3344	0.4773
2	270.35	0.4496	-0.0057	0.0043	-0.5262	0.0544	0.3017	0.3462	-0.6276	0.4825
2	270.35	0.4995	0.0118	0.0058	-0.6782	0.0689	0.5537	0.4328	-0.3781	0.4813
2	270.35	0.5551	0.0627	0.0071	-0.8617	0.0862	0.6883	0.5277	-0.9202	0.4878
2	270.35	0.5996	0.1037	0.0091	-1.0751	0.0997	0.8983	0.6056	-1.1377	0.4858
2	270.35	0.6497	0.1480	0.0112	-1.2490	0.1147	1.2240	0.6930	-0.9214	0.4871
2	270.35	0.6996	0.1710	0.0132	-1.4746	0.1298	1.5302	0.7811	-1.1151	0.4846
2	270.35	0.7495	0.2142	0.0157	-1.7166	0.1457	1.8431	0.8688	-1.1121	0.4908
2	270.35	0.7996	0.2484	0.0182	-1.8774	0.1603	2.2380	0.9579	-1.2742	0.4925
2	270.35	0.8578	0.2963	0.0210	-2.1154	0.1777	2.7044	1.0604	-0.9538	0.4985
2	270.35	0.9100	0.2979	0.0240	-2.2841	0.1943	3.0780	1.1562	-0.9229	0.4852
2	270.35	0.9727	0.2989	0.0333	-2.5517	0.2141	3.4106	1.2700	-1.8564	0.4830
3	270	0.2357	-0.0923	0.0114	0.0092	0.0024	0.1152	0.0355	-0.3511	0.2929
3	270	0.2995	0.0079	0.0030	0.0078	0.0064	0.2611	0.0634	-0.5487	0.4649
3	270	0.3493	0.0445	0.0032	0.0271	0.0135	0.4167	0.1084	-0.7571	0.4518
3	270	0.4000	0.0889	0.0037	0.0285	0.0213	0.6589	0.1549	-0.6575	0.4549
3	270	0.4497	0.1231	0.0048	-0.0140	0.0290	0.9555	0.2005	-0.5958	0.4486
3	270	0.4997	0.1543	0.0054	-0.0544	0.0373	1.3007	0.2483	-0.6347	0.4450
3	270	0.5556	0.1696	0.0071	-0.0923	0.0475	1.7142	0.3004	-0.8296	0.4525
3	270	0.5995	0.2091	0.0084	-0.1627	0.0563	2.1301	0.3428	-0.8391	0.4494
3	270	0.6498	0.2312	0.0102	-0.2280	0.0667	2.5471	0.3917	-1.2656	0.4524
3	270	0.6890	0.2585	0.0118	-0.2947	0.0756	2.8763	0.4315	-1.6939	0.4530
3	270	0.7495	0.3111	0.0142	-0.3796	0.0902	3.5369	0.4947	-1.4267	0.4539
3	270	0.7998	0.3290	0.0164	-0.4998	0.1021	4.1163	0.5472	-1.5308	0.4559
3	270	0.8577	0.3635	0.0186	-0.5506	0.1174	4.7660	0.6116	-1.2519	0.4530
3	270	0.9178	0.4599	0.0231	-0.6749	0.1334	5.3518	0.6787	-1.8036	0.4986
3	270	0.9729	0.4401	0.0286	-0.8057	0.1475	5.8456	0.7427	-1.9492	0.4609
4	270	0.2001	-0.0387	0.0232	0.0068	0.0017	0.0064	0.0297	0.2387	0.3220
4	270	0.3001	0.0032	0.0087	0.0201	0.0114	0.0835	0.0910	0.5556	0.7386
4	270	0.3502	0.0165	0.0078	0.0554	0.0256	0.1019	0.1591	0.3593	0.7178
4	270	0.4002	0.0631	0.0078	0.0715	0.0389	0.2076	0.2305	0.3774	0.7076
4	270	0.4500	0.0968	0.0084	0.0552	0.0512	0.3055	0.2900	0.0090	0.7266
4	270	0.5001	0.1294	0.0076	0.0441	0.0627	0.5922	0.3573	0.5078	0.7327
4	270	0.5560	0.1487	0.0076	0.0308	0.0769	0.7856	0.4314	-0.0011	0.7312
4	270	0.6001	0.2026	0.0077	-0.0125	0.0873	1.0294	0.4900	-0.3121	0.7330
4	270	0.6501	0.1999	0.0083	-0.0376	0.0986	1.3939	0.5570	-0.0714	0.7310
4	270	0.6999	0.2580	0.0095	-0.1303	0.1103	1.7125	0.6243	-0.0080	0.7297
4	270	0.7500	0.2852	0.0112	-0.2699	0.1217	2.1151	0.6929	0.3434	0.7208
4	270	0.8002	0.3182	0.0126	-0.2717	0.1342	2.4380	0.7585	-0.4566	0.7211
4	270	0.8582	0.3394	0.0147	-0.3332	0.1474	2.8625	0.8356	-0.3889	0.7243
4	270	0.9101	0.3925	0.0170	-0.4429	0.1618	3.1072	0.9064	-0.8517	0.7192
4	270	0.9728	0.4783	0.0248	-0.4552	0.1771	3.5396	0.9858	-0.7570	0.7381

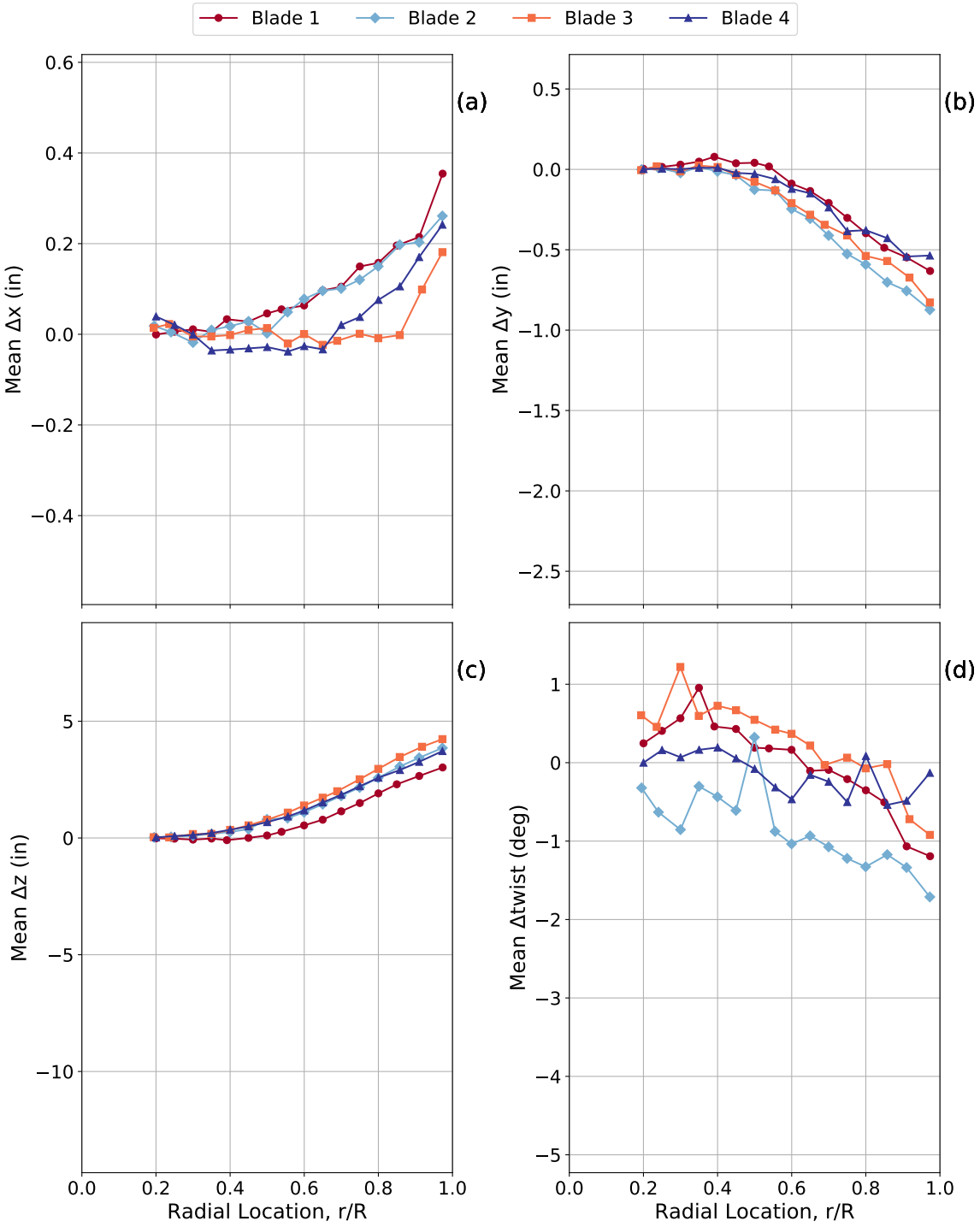


Figure 2.18-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	-0.0005	0.0024	0.0035	0.0012	-0.0160	0.0086	0.2468	0.0767
1	274.92	0.2499	0.0056	0.0024	0.0153	0.0042	-0.0294	0.0211	0.4056	0.0911
1	274.92	0.2998	0.0110	0.0029	0.0293	0.0086	-0.0702	0.0331	0.5663	0.1605
1	274.92	0.3498	0.0055	0.0047	0.0482	0.0131	-0.0254	0.0515	0.9547	0.1326
1	274.92	0.3913	0.0332	0.0041	0.0784	0.0217	-0.0929	0.0774	0.4611	0.1023
1	274.92	0.4496	0.0280	0.0040	0.0380	0.0274	0.0043	0.0967	0.4298	0.1235
1	274.92	0.4997	0.0460	0.0038	0.0411	0.0346	0.1075	0.1192	0.1909	0.1096
1	274.92	0.5387	0.0550	0.0042	0.0178	0.0402	0.2636	0.1372	0.1820	0.1034
1	274.92	0.5996	0.0635	0.0049	-0.0886	0.0496	0.5382	0.1674	0.1639	0.1067
1	274.92	0.6498	0.0966	0.0055	-0.1346	0.0579	0.7813	0.1935	-0.1048	0.1143
1	274.92	0.6998	0.1050	0.0062	-0.2089	0.0665	1.1419	0.2233	-0.0916	0.1085
1	274.92	0.7500	0.1496	0.0071	-0.3018	0.0753	1.4965	0.2540	-0.2096	0.1129
1	274.92	0.8001	0.1576	0.0077	-0.3971	0.0845	1.9103	0.2860	-0.3517	0.1189
1	274.92	0.8497	0.1958	0.0087	-0.4873	0.0936	2.2986	0.3187	-0.5042	0.1187
1	274.92	0.9102	0.2145	0.0102	-0.5478	0.1048	2.6550	0.3587	-1.0669	0.1186
1	274.92	0.9734	0.3544	0.0142	-0.6320	0.1172	3.0198	0.4017	-1.1929	0.1172
2	274.92	0.1949	0.0184	0.0046	-0.0010	0.0032	0.0251	0.0187	-0.3214	0.0588
2	274.92	0.2405	0.0049	0.0025	0.0091	0.0058	0.0441	0.0258	-0.6313	0.0475
2	274.92	0.2999	-0.0182	0.0029	-0.0221	0.0109	0.0981	0.0437	-0.8539	0.1121
2	274.92	0.3498	0.0094	0.0073	0.0153	0.0331	0.1716	0.0947	-0.3013	0.0954
2	274.92	0.3998	0.0178	0.0067	-0.0126	0.0419	0.2582	0.1180	-0.4352	0.1076
2	274.92	0.4496	0.0285	0.0064	-0.0356	0.0483	0.3800	0.1339	-0.6091	0.0993
2	274.92	0.4995	0.0024	0.0061	-0.1256	0.0372	0.7967	0.0878	0.3241	0.3998
2	274.92	0.5551	0.0490	0.0098	-0.1313	0.0637	0.8498	0.1747	-0.8765	0.0959
2	274.92	0.5996	0.0779	0.0117	-0.2459	0.0709	1.1007	0.1934	-1.0359	0.0929
2	274.92	0.6497	0.0960	0.0137	-0.3062	0.0785	1.4444	0.2153	-0.9334	0.0921
2	274.92	0.6996	0.1010	0.0171	-0.4111	0.0866	1.8035	0.2355	-1.0735	0.0841
2	274.92	0.7495	0.1203	0.0203	-0.5258	0.0940	2.1637	0.2576	-1.2208	0.0898
2	274.92	0.7996	0.1499	0.0248	-0.5915	0.1023	2.5742	0.2813	-1.3274	0.1006
2	274.92	0.8578	0.1975	0.0300	-0.7020	0.1115	3.0600	0.3097	-1.1725	0.0977
2	274.92	0.9100	0.2030	0.0371	-0.7556	0.1190	3.4336	0.3347	-1.3369	0.0984
2	274.92	0.9727	0.2610	0.0449	-0.8734	0.1284	3.8543	0.3705	-1.7119	0.1204
3	274.92	0.1938	0.0141	0.0031	-0.0047	0.0011	0.0334	0.0071	0.6050	0.0568
3	274.92	0.2357	0.0226	0.0030	0.0189	0.0026	0.0227	0.0124	0.4570	0.0969
3	274.92	0.2995	-0.0048	0.0028	-0.0125	0.0058	0.1687	0.0263	1.2205	0.1335
3	274.92	0.3493	-0.0048	0.0036	0.0236	0.0091	0.1738	0.0380	0.5965	0.1018
3	274.92	0.4000	-0.0017	0.0037	0.0146	0.0156	0.3451	0.0603	0.7256	0.1059
3	274.92	0.4497	0.0095	0.0049	-0.0340	0.0215	0.5409	0.0760	0.6689	0.1246
3	274.92	0.4997	0.0136	0.0157	-0.0770	0.0292	0.7792	0.0939	0.5465	0.1197
3	274.92	0.5556	-0.0204	0.0038	-0.1302	0.0370	1.0857	0.1100	0.4211	0.1070
3	274.92	0.5995	0.0006	0.0042	-0.2098	0.0451	1.3906	0.1317	0.3680	0.1092
3	274.92	0.6498	-0.0233	0.0053	-0.2820	0.0545	1.7252	0.1576	0.2183	0.1031
3	274.92	0.6890	-0.0143	0.0051	-0.3448	0.0619	2.0000	0.1789	-0.0296	0.1042
3	274.92	0.7495	0.0011	0.0064	-0.4110	0.0747	2.5128	0.2203	0.0638	0.1027
3	274.92	0.7998	-0.0087	0.0072	-0.5385	0.0857	2.9589	0.2576	-0.0720	0.1047
3	274.92	0.8577	-0.0018	0.0082	-0.5701	0.0991	3.4653	0.3036	-0.0184	0.1023
3	274.92	0.9178	0.0988	0.0129	-0.6731	0.1107	3.9054	0.3545	-0.7204	0.1747
3	274.92	0.9729	0.1812	0.0156	-0.8279	0.1245	4.2325	0.3986	-0.9213	0.1098
4	274.92	0.2001	0.0393	0.0022	0.0015	0.0013	0.0230	0.0070	-0.0004	0.0421
4	274.92	0.2502	0.0207	0.0029	0.0046	0.0023	0.0849	0.0103	0.1608	0.0928
4	274.92	0.3001	-0.0005	0.0021	0.0015	0.0051	0.1244	0.0196	0.0684	0.0927
4	274.92	0.3502	-0.0358	0.0017	0.0100	0.0083	0.2135	0.0289	0.1644	0.0889
4	274.92	0.4002	-0.0337	0.0021	0.0097	0.0131	0.3508	0.0430	0.1932	0.0695
4	274.92	0.4500	-0.0311	0.0028	-0.0221	0.0181	0.4997	0.0561	0.0549	0.0636
4	274.92	0.5001	-0.0282	0.0028	-0.0279	0.0237	0.6780	0.0672	-0.0790	0.0768
4	274.92	0.5560	-0.0381	0.0034	-0.0610	0.0314	0.9206	0.0813	-0.3150	0.0892
4	274.92	0.6001	-0.0261	0.0036	-0.1210	0.0382	1.1783	0.0934	-0.4665	0.0912
4	274.92	0.6501	-0.0333	0.0045	-0.1491	0.0466	1.5221	0.1107	-0.1551	0.1073
4	274.92	0.6999	0.0206	0.0050	-0.2368	0.0553	1.8497	0.1279	-0.2429	0.0905
4	274.92	0.7500	0.0382	0.0058	-0.3842	0.0643	2.2164	0.1433	-0.5022	0.0893
4	274.92	0.8002	0.0759	0.0059	-0.3785	0.0741	2.5807	0.1579	0.0851	0.1029
4	274.92	0.8582	0.1057	0.0064	-0.4281	0.0857	2.9104	0.1771	-0.5381	0.0955
4	274.92	0.9101	0.1703	0.0080	-0.5422	0.0965	3.2600	0.1949	-0.4858	0.1081
4	274.92	0.9728	0.2418	0.0109	-0.5361	0.1088	3.7217	0.2202	-0.1300	0.1193

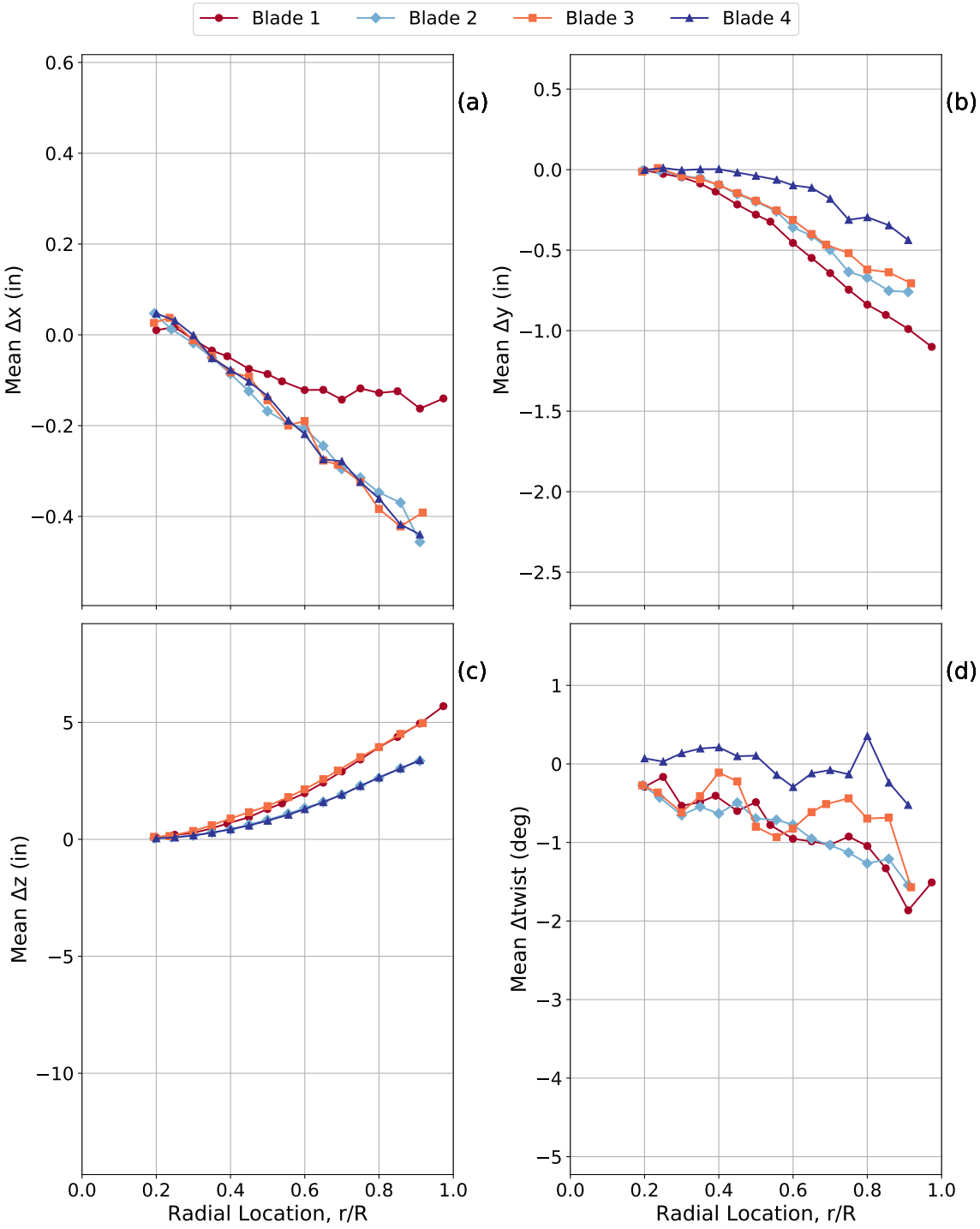


Figure 2.18-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0103	0.0053	-0.0046	0.0010	0.0767	0.0077	-0.2910	0.0352
1	279.84	0.2499	0.0170	0.0015	-0.0260	0.0025	0.1943	0.0130	-0.1658	0.0674
1	279.84	0.2998	-0.0103	0.0023	-0.0472	0.0050	0.2721	0.0233	-0.5330	0.0832
1	279.84	0.3498	-0.0347	0.0040	-0.0859	0.0093	0.4725	0.0383	-0.4866	0.0687
1	279.84	0.3913	-0.0472	0.0048	-0.1359	0.0135	0.6729	0.0527	-0.4050	0.0650
1	279.84	0.4496	-0.0751	0.0060	-0.2165	0.0196	0.9460	0.0714	-0.5993	0.0811
1	279.84	0.4997	-0.0864	0.0067	-0.2791	0.0258	1.2961	0.0900	-0.4868	0.0773
1	279.84	0.5387	-0.1024	0.0075	-0.3230	0.0313	1.5370	0.1057	-0.7774	0.0813
1	279.84	0.5996	-0.1216	0.0091	-0.4551	0.0408	1.9752	0.1305	-0.9527	0.0937
1	279.84	0.6498	-0.1212	0.0111	-0.5482	0.0495	2.4235	0.1555	-0.9862	0.0926
1	279.84	0.6998	-0.1428	0.0136	-0.6425	0.0585	2.9032	0.1791	-1.0284	0.0836
1	279.84	0.7500	-0.1181	0.0172	-0.7455	0.0683	3.4155	0.2040	-0.9252	0.0801
1	279.84	0.8001	-0.1279	0.0215	-0.8387	0.0782	3.9393	0.2287	-1.0456	0.0970
1	279.84	0.8497	-0.1242	0.0268	-0.9021	0.0886	4.3767	0.2512	-1.3293	0.1000
1	279.84	0.9102	-0.1625	0.0341	-0.9896	0.1010	4.9513	0.2827	-1.8640	0.1121
1	279.84	0.9734	-0.1402	0.0460	-1.1005	0.1156	5.6925	0.3154	-1.5089	0.0936
2	279.84	0.1949	0.0472	0.0032	-0.0053	0.0024	0.0469	0.0095	-0.2739	0.0551
2	279.84	0.2405	0.0124	0.0036	-0.0055	0.0029	0.0989	0.0195	-0.4257	0.1318
2	279.84	0.2999	-0.0183	0.0046	-0.0398	0.0075	0.1599	0.0304	-0.6524	0.1431
2	279.84	0.3498	-0.0501	0.0034	-0.0512	0.0144	0.2914	0.0484	-0.5445	0.1414
2	279.84	0.3998	-0.0859	0.0057	-0.0959	0.0208	0.4208	0.0753	-0.6323	0.1150
2	279.84	0.4496	-0.1242	0.0034	-0.1518	0.0261	0.6283	0.0884	-0.4935	0.1160
2	279.84	0.4995	-0.1682	0.0043	-0.1975	0.0327	0.8332	0.1070	-0.6961	0.1141
2	279.84	0.5551	-0.1952	0.0055	-0.2590	0.0411	1.0955	0.1278	-0.7121	0.1218
2	279.84	0.5996	-0.2061	0.0056	-0.3591	0.0483	1.3366	0.1464	-0.7738	0.1123
2	279.84	0.6497	-0.2446	0.0065	-0.4099	0.0563	1.6010	0.1662	-0.9527	0.1365
2	279.84	0.6996	-0.2952	0.0071	-0.4984	0.0649	1.9107	0.1933	-1.0338	0.1142
2	279.84	0.7495	-0.3146	0.0079	-0.6349	0.0746	2.2929	0.2173	-1.1296	0.1331
2	279.84	0.7996	-0.3472	0.0091	-0.6705	0.0839	2.6154	0.2460	-1.2663	0.1157
2	279.84	0.8578	-0.3696	0.0102	-0.7523	0.0959	3.0386	0.2743	-1.2105	0.1113
2	279.84	0.9100	-0.4561	0.0115	-0.7589	0.1063	3.3585	0.3043	-1.5427	0.1416
3	279.84	0.1938	0.0263	0.0023	-0.0118	0.0019	0.1074	0.0078	-0.2730	0.0722
3	279.84	0.2357	0.0374	0.0034	0.0097	0.0031	0.1390	0.0124	-0.3638	0.0985
3	279.84	0.2995	-0.0117	0.0028	-0.0399	0.0079	0.3561	0.0243	-0.6164	0.1592
3	279.84	0.3493	-0.0463	0.0029	-0.0594	0.0125	0.6019	0.0380	-0.4112	0.1471
3	279.84	0.4000	-0.0827	0.0036	-0.0941	0.0206	0.8893	0.0570	-0.1097	0.1303
3	279.84	0.4497	-0.0922	0.0044	-0.1461	0.0266	1.1613	0.0682	-0.2225	0.1352
3	279.84	0.4997	-0.1440	0.0047	-0.1938	0.0358	1.4178	0.0829	-0.8001	0.1316
3	279.84	0.5556	-0.1998	0.0054	-0.2537	0.0471	1.8044	0.1020	-0.9315	0.1431
3	279.84	0.5995	-0.1898	0.0062	-0.3120	0.0568	2.1368	0.1175	-0.8235	0.1376
3	279.84	0.6498	-0.2770	0.0070	-0.3999	0.0693	2.5732	0.1414	-0.6134	0.1279
3	279.84	0.6890	-0.2860	0.0074	-0.4659	0.0795	2.9394	0.1563	-0.5110	0.1388
3	279.84	0.7495	-0.3239	0.0082	-0.5183	0.0970	3.5120	0.1828	-0.4385	0.1377
3	279.84	0.7998	-0.3836	0.0090	-0.6205	0.1125	3.9415	0.2017	-0.6956	0.1390
3	279.84	0.8577	-0.4222	0.0099	-0.6374	0.1307	4.5081	0.2244	-0.6832	0.1631
3	279.84	0.9178	-0.3914	0.0127	-0.7059	0.1507	4.9703	0.2468	-1.5707	0.1709
4	279.84	0.2001	0.0469	0.0041	-0.0016	0.0011	0.0451	0.0062	0.0709	0.0845
4	279.84	0.2502	0.0315	0.0024	0.0105	0.0042	0.0784	0.0184	0.0294	0.1030
4	279.84	0.3001	-0.0009	0.0019	-0.0036	0.0056	0.1663	0.0210	0.1368	0.1538
4	279.84	0.3502	-0.0513	0.0031	0.0026	0.0109	0.2843	0.0361	0.1964	0.1351
4	279.84	0.4002	-0.0772	0.0031	0.0032	0.0174	0.4307	0.0553	0.2113	0.1109
4	279.84	0.4500	-0.1034	0.0049	-0.0182	0.0209	0.5877	0.0671	0.0982	0.1188
4	279.84	0.5001	-0.1350	0.0041	-0.0384	0.0251	0.7978	0.0829	0.1047	0.1006
4	279.84	0.5560	-0.1889	0.0038	-0.0628	0.0309	1.0532	0.1009	-0.1396	0.1229
4	279.84	0.6001	-0.2187	0.0048	-0.0975	0.0358	1.2907	0.1191	-0.2943	0.1155
4	279.84	0.6501	-0.2742	0.0054	-0.1123	0.0415	1.5922	0.1388	-0.1197	0.1125
4	279.84	0.6999	-0.2786	0.0053	-0.1810	0.0474	1.9082	0.1603	-0.0778	0.1154
4	279.84	0.7500	-0.3243	0.0063	-0.3114	0.0534	2.2808	0.1809	-0.1326	0.1337
4	279.84	0.8002	-0.3609	0.0064	-0.2954	0.0595	2.6476	0.2029	0.3547	0.1198
4	279.84	0.8582	-0.4180	0.0076	-0.3459	0.0661	3.0355	0.2264	-0.2383	0.1259
4	279.84	0.9101	-0.4397	0.0088	-0.4375	0.0733	3.3857	0.2488	-0.5224	0.1519

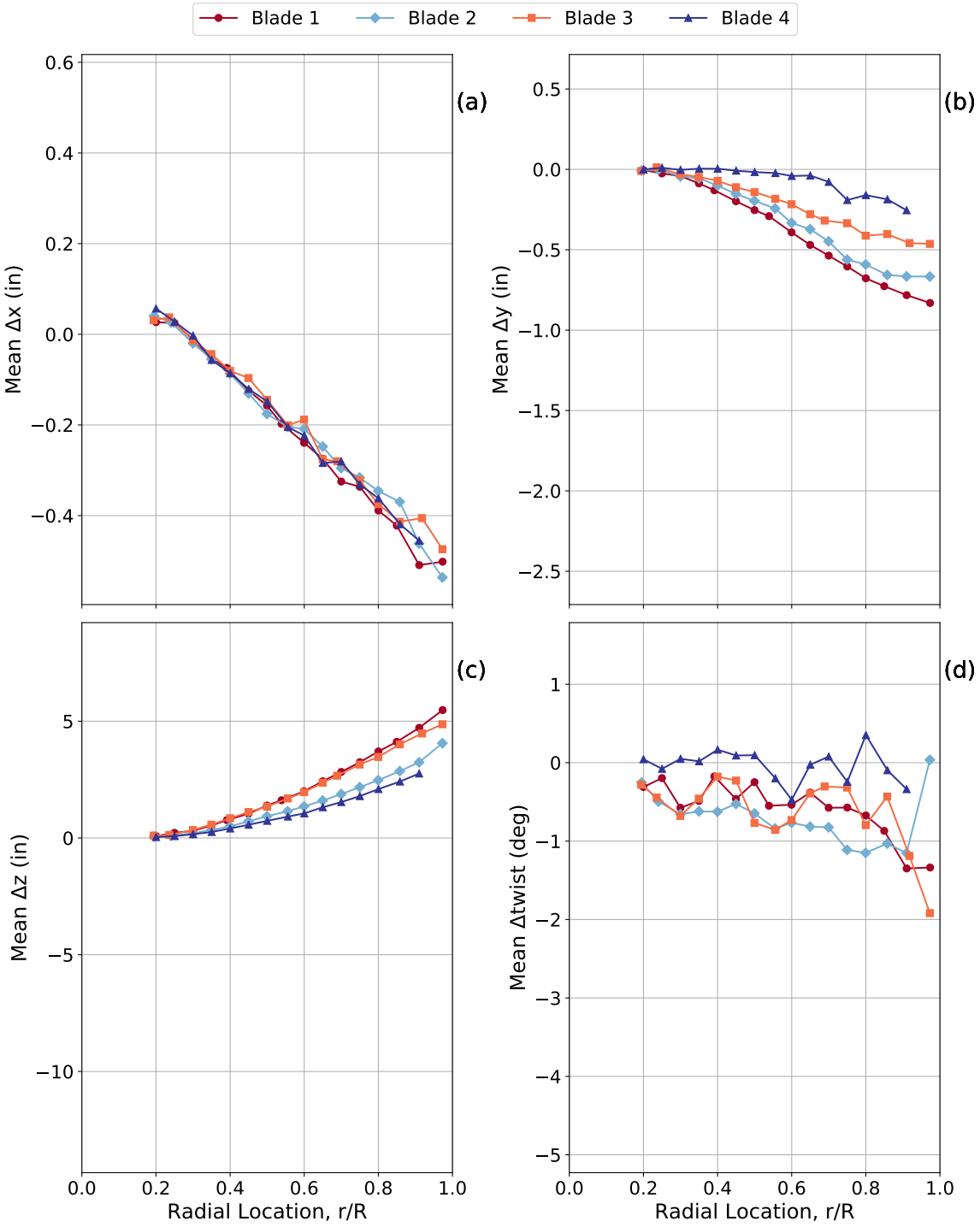


Figure 2.18-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0268	0.0019	-0.0041	0.0013	0.0844	0.0090	-0.3102	0.0571
1	285.12	0.2499	0.0248	0.0026	-0.0251	0.0035	0.2205	0.0166	-0.1965	0.0886
1	285.12	0.2998	-0.0119	0.0020	-0.0414	0.0066	0.3046	0.0273	-0.5750	0.1248
1	285.12	0.3498	-0.0537	0.0024	-0.0872	0.0117	0.5367	0.0449	-0.4874	0.0941
1	285.12	0.3913	-0.0743	0.0030	-0.1300	0.0173	0.7640	0.0617	-0.1749	0.1045
1	285.12	0.4496	-0.1244	0.0029	-0.1983	0.0221	1.0392	0.0777	-0.4631	0.0977
1	285.12	0.4997	-0.1576	0.0038	-0.2535	0.0274	1.3891	0.0946	-0.2482	0.0955
1	285.12	0.5387	-0.1974	0.0042	-0.2910	0.0325	1.6162	0.1082	-0.5490	0.1044
1	285.12	0.5996	-0.2394	0.0047	-0.3917	0.0400	2.0003	0.1313	-0.5362	0.0898
1	285.12	0.6498	-0.2747	0.0060	-0.4697	0.0466	2.4269	0.1514	-0.3812	0.0955
1	285.12	0.6998	-0.3249	0.0067	-0.5366	0.0533	2.8284	0.1705	-0.5747	0.1085
1	285.12	0.7500	-0.3364	0.0075	-0.6041	0.0597	3.2449	0.1905	-0.5722	0.1038
1	285.12	0.8001	-0.3888	0.0084	-0.6776	0.0664	3.7048	0.2098	-0.6735	0.1011
1	285.12	0.8497	-0.4221	0.0094	-0.7267	0.0735	4.1182	0.2318	-0.8693	0.1054
1	285.12	0.9102	-0.5093	0.0107	-0.7823	0.0824	4.7166	0.2596	-1.3487	0.1084
1	285.12	0.9734	-0.5018	0.0143	-0.8309	0.0921	5.4773	0.2884	-1.3366	0.1309
2	285.12	0.1949	0.0405	0.0034	-0.0076	0.0015	0.0648	0.0068	-0.2540	0.0631
2	285.12	0.2405	0.0264	0.0037	-0.0010	0.0042	0.0953	0.0170	-0.4951	0.0694
2	285.12	0.2999	-0.0199	0.0029	-0.0435	0.0061	0.2000	0.0250	-0.6566	0.1210
2	285.12	0.3498	-0.0550	0.0036	-0.0554	0.0110	0.3470	0.0413	-0.6217	0.1089
2	285.12	0.3998	-0.0867	0.0039	-0.1003	0.0180	0.4955	0.0638	-0.6251	0.0995
2	285.12	0.4496	-0.1305	0.0043	-0.1529	0.0245	0.7141	0.0829	-0.5264	0.0996
2	285.12	0.4995	-0.1757	0.0054	-0.1957	0.0320	0.9295	0.1057	-0.6470	0.0885
2	285.12	0.5551	-0.2040	0.0060	-0.2429	0.0412	1.1426	0.1328	-0.8408	0.0979
2	285.12	0.5996	-0.2087	0.0067	-0.3330	0.0485	1.3540	0.1560	-0.7659	0.0930
2	285.12	0.6497	-0.2477	0.0072	-0.3721	0.0582	1.6029	0.1839	-0.8158	0.1002
2	285.12	0.6996	-0.2953	0.0079	-0.4476	0.0682	1.8787	0.2124	-0.8240	0.1086
2	285.12	0.7495	-0.3160	0.0091	-0.5613	0.0789	2.1744	0.2400	-1.1118	0.1034
2	285.12	0.7996	-0.3457	0.0099	-0.5917	0.0899	2.4750	0.2660	-1.1505	0.1029
2	285.12	0.8578	-0.3697	0.0104	-0.6567	0.1028	2.8626	0.2907	-1.0301	0.1080
2	285.12	0.9100	-0.4617	0.0110	-0.6658	0.1150	3.2411	0.3080	-1.1534	0.1140
2	285.12	0.9727	-0.5364	0.0162	-0.6668	0.1339	4.0597	0.3208	0.0358	0.1841
3	285.12	0.1938	0.0311	0.0026	-0.0103	0.0013	0.1024	0.0068	-0.2807	0.0614
3	285.12	0.2357	0.0374	0.0023	0.0126	0.0026	0.1296	0.0142	-0.4443	0.0926
3	285.12	0.2995	-0.0138	0.0031	-0.0311	0.0046	0.3380	0.0245	-0.6790	0.1377
3	285.12	0.3493	-0.0436	0.0022	-0.0466	0.0095	0.5725	0.0396	-0.4588	0.0962
3	285.12	0.4000	-0.0808	0.0042	-0.0717	0.0130	0.8448	0.0611	-0.1777	0.1121
3	285.12	0.4497	-0.0965	0.0034	-0.1111	0.0165	1.1119	0.0722	-0.2277	0.1037
3	285.12	0.4997	-0.1445	0.0038	-0.1417	0.0208	1.3406	0.0873	-0.7687	0.1332
3	285.12	0.5556	-0.2008	0.0045	-0.1829	0.0270	1.6914	0.1075	-0.8564	0.1314
3	285.12	0.5995	-0.1882	0.0048	-0.2169	0.0323	1.9619	0.1269	-0.7320	0.1182
3	285.12	0.6498	-0.2758	0.0060	-0.2790	0.0387	2.3672	0.1507	-0.3920	0.1167
3	285.12	0.6890	-0.2802	0.0064	-0.3183	0.0442	2.6682	0.1693	-0.3037	0.1289
3	285.12	0.7495	-0.3223	0.0076	-0.3351	0.0530	3.1456	0.1993	-0.3172	0.1255
3	285.12	0.7998	-0.3747	0.0087	-0.4124	0.0614	3.4728	0.2257	-0.7967	0.1224
3	285.12	0.8577	-0.4136	0.0098	-0.4025	0.0715	4.0109	0.2579	-0.4331	0.1322
3	285.12	0.9178	-0.4056	0.0112	-0.4586	0.0819	4.4765	0.2879	-1.1896	0.1587
3	285.12	0.9729	-0.4742	0.0177	-0.4631	0.0889	4.8715	0.3834	-1.9191	0.5996
4	285.12	0.2001	0.0568	0.0031	-0.0010	0.0012	0.0390	0.0088	0.0438	0.0570
4	285.12	0.2502	0.0278	0.0030	0.0099	0.0036	0.0793	0.0168	-0.0783	0.1042
4	285.12	0.3001	-0.0030	0.0031	-0.0030	0.0070	0.1600	0.0276	0.0491	0.1226
4	285.12	0.3502	-0.0565	0.0025	0.0043	0.0101	0.2559	0.0444	0.0175	0.1243
4	285.12	0.4002	-0.0858	0.0028	0.0042	0.0177	0.4063	0.0662	0.1657	0.1085
4	285.12	0.4500	-0.1207	0.0037	-0.0081	0.0222	0.5651	0.0806	0.0915	0.1104
4	285.12	0.5001	-0.1483	0.0034	-0.0166	0.0278	0.7337	0.0992	0.0959	0.1093
4	285.12	0.5560	-0.2047	0.0043	-0.0231	0.0344	0.9163	0.1200	-0.1997	0.1059
4	285.12	0.6001	-0.2236	0.0046	-0.0410	0.0406	1.0518	0.1388	-0.4722	0.0909
4	285.12	0.6501	-0.2839	0.0055	-0.0385	0.0471	1.3153	0.1568	-0.0255	0.0980
4	285.12	0.6999	-0.2806	0.0062	-0.0779	0.0548	1.5370	0.1785	0.0780	0.0984
4	285.12	0.7500	-0.3314	0.0069	-0.1910	0.0627	1.7922	0.1995	-0.2448	0.0989
4	285.12	0.8002	-0.3620	0.0076	-0.1601	0.0718	2.0934	0.2243	0.3519	0.1106
4	285.12	0.8582	-0.4191	0.0078	-0.1865	0.0822	2.4165	0.2517	-0.0966	0.1359
4	285.12	0.9101	-0.4552	0.0093	-0.2545	0.0919	2.7609	0.2807	-0.3378	0.1160

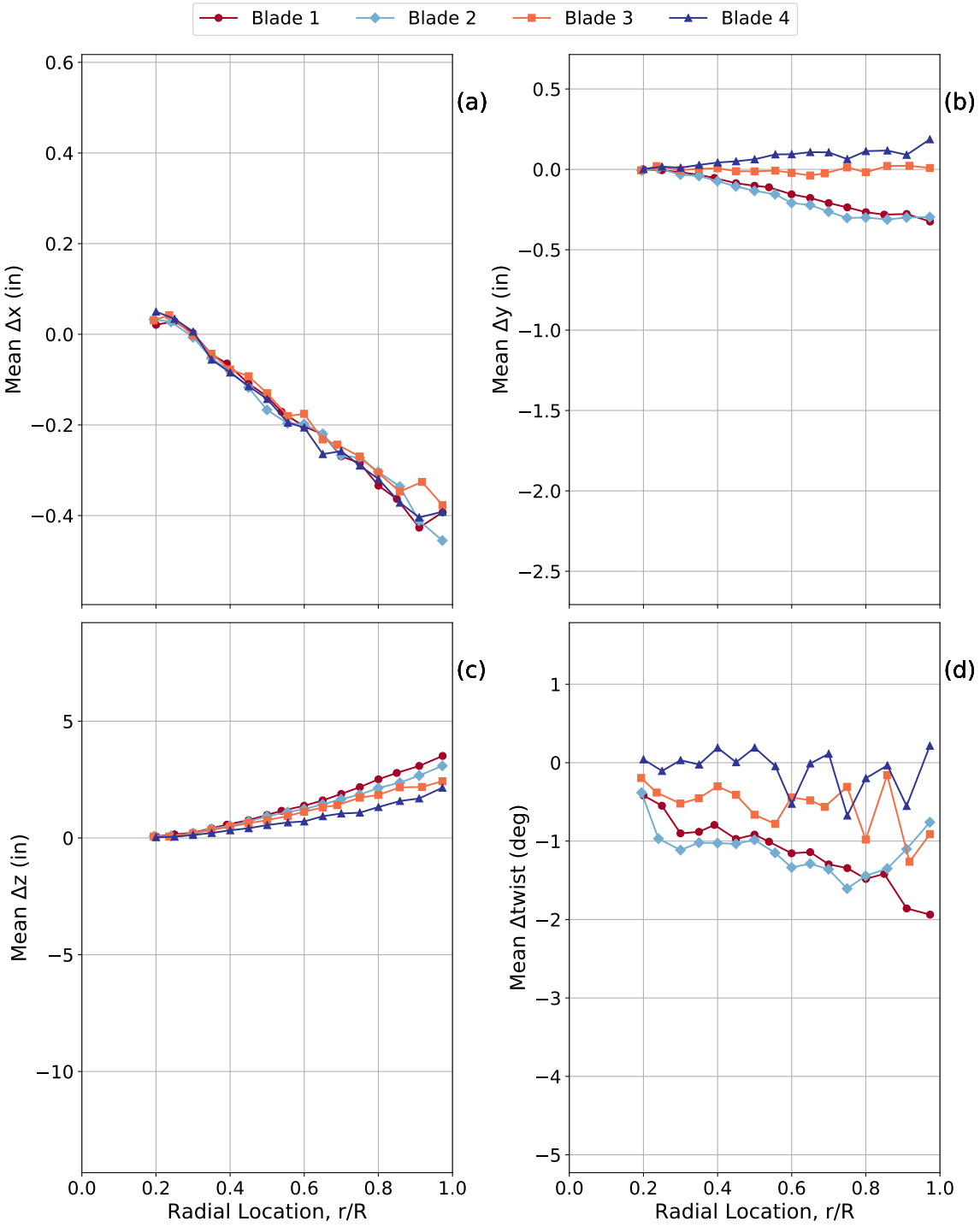


Figure 2.18-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0209	0.0028	-0.0006	0.0010	0.0685	0.0066	-0.4181	0.0463
1	299.88	0.2499	0.0287	0.0024	-0.0052	0.0021	0.1542	0.0120	-0.5492	0.0684
1	299.88	0.2998	0.0027	0.0021	-0.0174	0.0037	0.2266	0.0182	-0.9012	0.0899
1	299.88	0.3498	-0.0445	0.0021	-0.0339	0.0078	0.4182	0.0319	-0.8821	0.0854
1	299.88	0.3913	-0.0645	0.0026	-0.0532	0.0102	0.5699	0.0423	-0.7940	0.0766
1	299.88	0.4496	-0.1087	0.0031	-0.0859	0.0137	0.7628	0.0575	-0.9726	0.0801
1	299.88	0.4997	-0.1371	0.0034	-0.1020	0.0171	0.9875	0.0723	-0.9175	0.0844
1	299.88	0.5387	-0.1710	0.0034	-0.1115	0.0193	1.1633	0.0851	-1.0075	0.0887
1	299.88	0.5996	-0.2035	0.0036	-0.1551	0.0241	1.3778	0.1054	-1.1556	0.1016
1	299.88	0.6498	-0.2203	0.0040	-0.1776	0.0285	1.6100	0.1235	-1.1405	0.0990
1	299.88	0.6998	-0.2694	0.0045	-0.2094	0.0323	1.8865	0.1416	-1.2965	0.0958
1	299.88	0.7500	-0.2841	0.0045	-0.2362	0.0365	2.1776	0.1626	-1.3443	0.1044
1	299.88	0.8001	-0.3339	0.0053	-0.2662	0.0412	2.5125	0.1851	-1.4818	0.1089
1	299.88	0.8497	-0.3631	0.0059	-0.2814	0.0458	2.7852	0.2098	-1.4182	0.1129
1	299.88	0.9102	-0.4266	0.0068	-0.2777	0.0517	3.0844	0.2415	-1.8584	0.1188
1	299.88	0.9734	-0.3927	0.0090	-0.3244	0.0580	3.5143	0.2773	-1.9374	0.1094
2	299.88	0.1949	0.0328	0.0027	-0.0065	0.0013	0.0771	0.0082	-0.3815	0.0589
2	299.88	0.2405	0.0274	0.0025	0.0059	0.0024	0.0908	0.0127	-0.9687	0.0737
2	299.88	0.2999	-0.0066	0.0036	-0.0326	0.0049	0.2070	0.0273	-1.1144	0.1156
2	299.88	0.3498	-0.0529	0.0032	-0.0410	0.0077	0.3887	0.0383	-1.0202	0.1003
2	299.88	0.3998	-0.0807	0.0028	-0.0731	0.0126	0.5220	0.0600	-1.0256	0.1116
2	299.88	0.4496	-0.1174	0.0033	-0.1061	0.0162	0.7056	0.0765	-1.0349	0.0963
2	299.88	0.4995	-0.1668	0.0032	-0.1331	0.0198	0.9228	0.0950	-0.9839	0.0971
2	299.88	0.5551	-0.1965	0.0034	-0.1548	0.0249	1.1098	0.1224	-1.1502	0.1041
2	299.88	0.5996	-0.1979	0.0035	-0.2089	0.0292	1.2360	0.1473	-1.3363	0.0959
2	299.88	0.6497	-0.2197	0.0041	-0.2220	0.0350	1.4388	0.1768	-1.2876	0.1016
2	299.88	0.6996	-0.2669	0.0046	-0.2628	0.0411	1.6601	0.2092	-1.3598	0.0985
2	299.88	0.7495	-0.2724	0.0054	-0.3021	0.0476	1.8534	0.2450	-1.6058	0.0960
2	299.88	0.7996	-0.3032	0.0058	-0.2997	0.0546	2.1388	0.2829	-1.4430	0.1028
2	299.88	0.8578	-0.3359	0.0065	-0.3117	0.0632	2.3671	0.3281	-1.3507	0.1046
2	299.88	0.9100	-0.4114	0.0078	-0.2993	0.0709	2.6725	0.3733	-1.1023	0.1014
2	299.88	0.9727	-0.4551	0.0117	-0.2966	0.0809	3.0889	0.4249	-0.7592	0.1169
3	299.88	0.1938	0.0309	0.0027	-0.0058	0.0008	0.0619	0.0059	-0.1955	0.0479
3	299.88	0.2357	0.0419	0.0034	0.0199	0.0028	0.0609	0.0094	-0.3812	0.0937
3	299.88	0.2995	-0.0022	0.0038	-0.0047	0.0046	0.1883	0.0187	-0.5210	0.1245
3	299.88	0.3493	-0.0429	0.0029	0.0034	0.0096	0.3417	0.0311	-0.4532	0.1196
3	299.88	0.4000	-0.0776	0.0033	0.0069	0.0147	0.4853	0.0450	-0.3016	0.1078
3	299.88	0.4497	-0.0926	0.0042	-0.0113	0.0190	0.6335	0.0539	-0.4094	0.1174
3	299.88	0.4997	-0.1300	0.0041	-0.0122	0.0227	0.7597	0.0643	-0.6643	0.1100
3	299.88	0.5556	-0.1804	0.0034	-0.0076	0.0281	0.9414	0.0770	-0.7807	0.1041
3	299.88	0.5995	-0.1754	0.0036	-0.0216	0.0319	1.1249	0.0884	-0.4418	0.1141
3	299.88	0.6498	-0.2320	0.0039	-0.0379	0.0381	1.3059	0.1028	-0.4798	0.1090
3	299.88	0.6890	-0.2435	0.0042	-0.0247	0.0421	1.4083	0.1138	-0.5634	0.1072
3	299.88	0.7495	-0.2697	0.0043	0.0122	0.0493	1.7244	0.1354	-0.3081	0.1140
3	299.88	0.7998	-0.3059	0.0044	-0.0179	0.0557	1.8420	0.1559	-0.9802	0.1183
3	299.88	0.8577	-0.3470	0.0051	0.0213	0.0640	2.1677	0.1846	-0.1574	0.1243
3	299.88	0.9178	-0.3258	0.0054	0.0224	0.0726	2.1837	0.2176	-1.2638	0.1252
3	299.88	0.9729	-0.3770	0.0077	0.0085	0.0807	2.4308	0.2511	-0.9113	0.1264
4	299.88	0.2001	0.0500	0.0019	0.0011	0.0008	0.0331	0.0086	0.0421	0.0474
4	299.88	0.2502	0.0340	0.0022	0.0169	0.0024	0.0520	0.0127	-0.1060	0.0952
4	299.88	0.3001	0.0059	0.0017	0.0103	0.0048	0.1265	0.0255	0.0315	0.1101
4	299.88	0.3502	-0.0560	0.0028	0.0276	0.0083	0.2154	0.0399	-0.0238	0.0988
4	299.88	0.4002	-0.0844	0.0028	0.0427	0.0137	0.3281	0.0586	0.1901	0.1066
4	299.88	0.4500	-0.1147	0.0030	0.0501	0.0158	0.4170	0.0692	0.0054	0.0907
4	299.88	0.5001	-0.1429	0.0037	0.0626	0.0202	0.5518	0.0859	0.1916	0.0959
4	299.88	0.5560	-0.1952	0.0035	0.0932	0.0250	0.6650	0.1027	-0.0448	0.0956
4	299.88	0.6001	-0.2058	0.0032	0.0940	0.0277	0.7075	0.1148	-0.5246	0.1045
4	299.88	0.6501	-0.2644	0.0038	0.1073	0.0323	0.9311	0.1304	-0.0108	0.0934
4	299.88	0.6999	-0.2579	0.0041	0.1059	0.0362	1.0467	0.1462	0.1133	0.0956
4	299.88	0.7500	-0.2898	0.0046	0.0637	0.0404	1.0834	0.1616	-0.6746	0.1021
4	299.88	0.8002	-0.3193	0.0045	0.1135	0.0448	1.3239	0.1798	-0.1977	0.1030
4	299.88	0.8582	-0.3716	0.0055	0.1172	0.0503	1.5817	0.2041	-0.0349	0.1025
4	299.88	0.9101	-0.4041	0.0057	0.0903	0.0548	1.6921	0.2282	-0.5525	0.1045
4	299.88	0.9728	-0.3915	0.0077	0.1870	0.0611	2.1529	0.2590	0.2159	0.1061

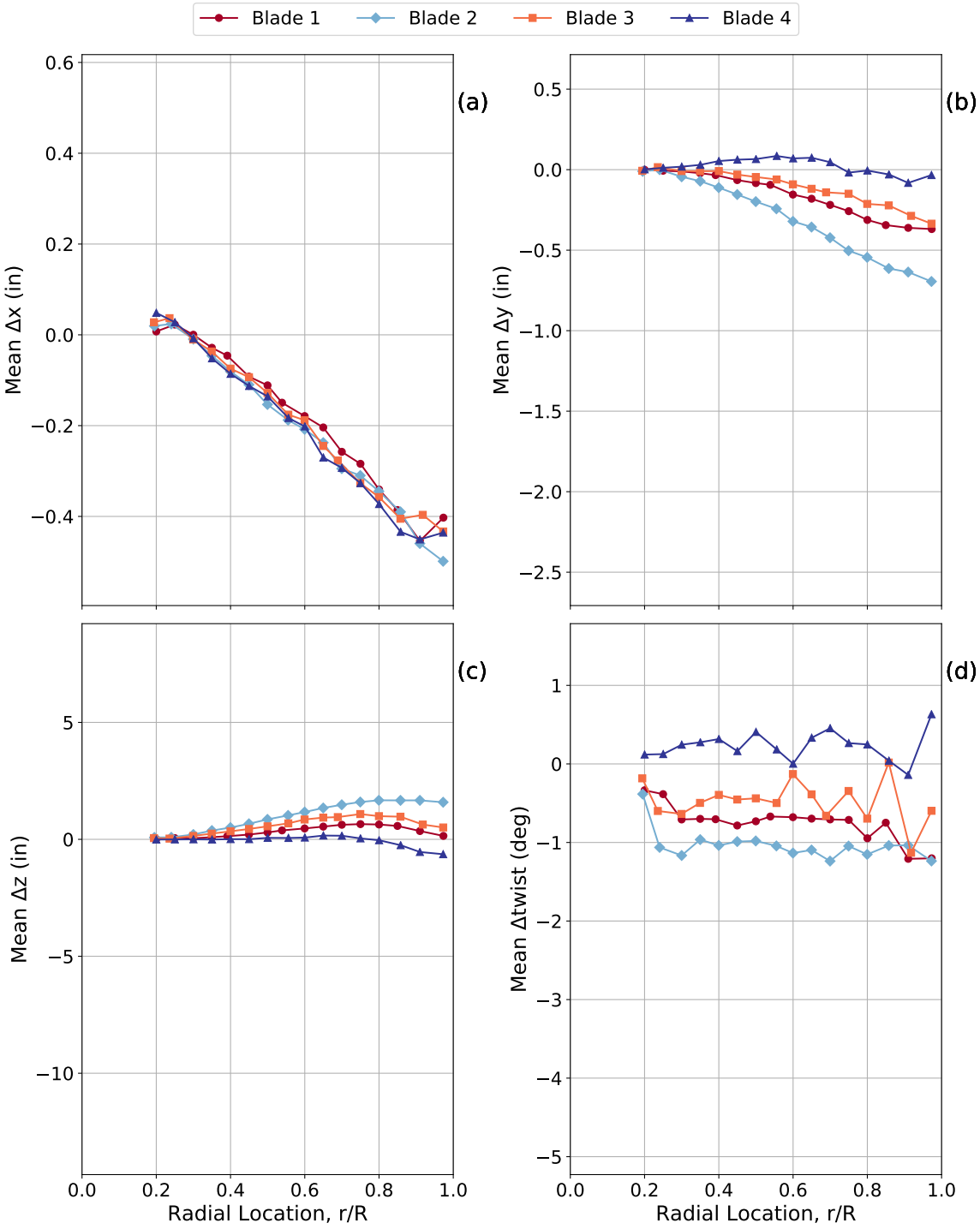


Figure 2.18-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0074	0.0027	-0.0011	0.0011	0.0115	0.0083	-0.3358	0.0469
1	315	0.2499	0.0226	0.0025	-0.0066	0.0030	0.0530	0.0109	-0.3850	0.1000
1	315	0.2998	0.0002	0.0030	-0.0111	0.0056	0.0459	0.0240	-0.7071	0.1091
1	315	0.3498	-0.0285	0.0032	-0.0220	0.0089	0.0920	0.0388	-0.6995	0.0731
1	315	0.3913	-0.0459	0.0045	-0.0337	0.0133	0.1327	0.0517	-0.7043	0.0837
1	315	0.4496	-0.0920	0.0028	-0.0648	0.0149	0.2041	0.0631	-0.7841	0.0895
1	315	0.4997	-0.1113	0.0035	-0.0833	0.0176	0.2945	0.0774	-0.7304	0.0973
1	315	0.5387	-0.1495	0.0035	-0.0942	0.0202	0.3825	0.0870	-0.6698	0.0967
1	315	0.5996	-0.1790	0.0042	-0.1547	0.0246	0.4656	0.1033	-0.6780	0.0950
1	315	0.6498	-0.2040	0.0051	-0.1806	0.0287	0.5444	0.1204	-0.6968	0.1004
1	315	0.6998	-0.2577	0.0058	-0.2188	0.0324	0.6230	0.1368	-0.7065	0.1151
1	315	0.7500	-0.2841	0.0058	-0.2578	0.0365	0.6508	0.1588	-0.7129	0.1185
1	315	0.8001	-0.3407	0.0053	-0.3124	0.0409	0.6345	0.1827	-0.9465	0.1140
1	315	0.8497	-0.3860	0.0056	-0.3444	0.0455	0.5729	0.2098	-0.7485	0.1118
1	315	0.9102	-0.4540	0.0059	-0.3614	0.0510	0.3553	0.2469	-1.2081	0.1082
1	315	0.9734	-0.4027	0.0078	-0.3689	0.0572	0.1468	0.2909	-1.2017	0.1061
2	315	0.1949	0.0194	0.0022	-0.0105	0.0008	0.0802	0.0064	-0.3838	0.0339
2	315	0.2405	0.0240	0.0025	0.0000	0.0028	0.0864	0.0134	-1.0628	0.0466
2	315	0.2999	-0.0095	0.0045	-0.0442	0.0049	0.2076	0.0257	-1.1656	0.0647
2	315	0.3498	-0.0461	0.0030	-0.0715	0.0092	0.3752	0.0383	-0.9635	0.0935
2	315	0.3998	-0.0807	0.0042	-0.1116	0.0148	0.5025	0.0609	-1.0378	0.0669
2	315	0.4496	-0.1098	0.0035	-0.1544	0.0190	0.6651	0.0765	-0.9887	0.0589
2	315	0.4995	-0.1534	0.0037	-0.1984	0.0237	0.8526	0.0967	-0.9804	0.0724
2	315	0.5551	-0.1879	0.0038	-0.2431	0.0284	1.0228	0.1196	-1.0439	0.0755
2	315	0.5996	-0.2081	0.0039	-0.3211	0.0333	1.1674	0.1403	-1.1346	0.0684
2	315	0.6497	-0.2375	0.0039	-0.3564	0.0385	1.3406	0.1654	-1.0955	0.0641
2	315	0.6996	-0.2948	0.0043	-0.4228	0.0440	1.4782	0.1911	-1.2369	0.0845
2	315	0.7495	-0.3099	0.0048	-0.5033	0.0501	1.5965	0.2248	-1.0458	0.0746
2	315	0.7996	-0.3446	0.0055	-0.5448	0.0562	1.6692	0.2611	-1.1522	0.0852
2	315	0.8578	-0.3900	0.0056	-0.6140	0.0635	1.6652	0.3086	-1.0387	0.0827
2	315	0.9100	-0.4597	0.0063	-0.6360	0.0699	1.6663	0.3515	-1.0360	0.0808
2	315	0.9727	-0.4988	0.0083	-0.6945	0.0780	1.5858	0.4029	-1.2357	0.0818
3	315	0.1938	0.0276	0.0020	-0.0071	0.0018	0.0531	0.0041	-0.1837	0.0312
3	315	0.2357	0.0367	0.0027	0.0154	0.0023	0.0311	0.0100	-0.5990	0.0487
3	315	0.2995	-0.0103	0.0048	-0.0085	0.0046	0.1443	0.0194	-0.6369	0.0677
3	315	0.3493	-0.0367	0.0032	-0.0096	0.0127	0.2442	0.0301	-0.4962	0.0684
3	315	0.4000	-0.0744	0.0046	-0.0088	0.0151	0.3439	0.0508	-0.3941	0.0639
3	315	0.4497	-0.0934	0.0039	-0.0307	0.0193	0.4430	0.0588	-0.4531	0.0725
3	315	0.4997	-0.1281	0.0034	-0.0456	0.0243	0.5564	0.0764	-0.4382	0.0694
3	315	0.5556	-0.1758	0.0034	-0.0610	0.0299	0.6829	0.0918	-0.4975	0.0692
3	315	0.5995	-0.1881	0.0045	-0.0911	0.0357	0.8486	0.1031	-0.1291	0.0746
3	315	0.6498	-0.2448	0.0041	-0.1189	0.0418	0.9297	0.1155	-0.3871	0.0697
3	315	0.6890	-0.2767	0.0049	-0.1408	0.0475	0.9506	0.1290	-0.6596	0.0730
3	315	0.7495	-0.3266	0.0048	-0.1495	0.0566	1.0804	0.1513	-0.3445	0.0730
3	315	0.7998	-0.3574	0.0050	-0.2127	0.0649	0.9910	0.1731	-0.6965	0.0703
3	315	0.8577	-0.4051	0.0058	-0.2220	0.0744	0.9679	0.2010	0.0173	0.0678
3	315	0.9178	-0.3965	0.0058	-0.2869	0.0848	0.6325	0.2334	-1.1309	0.0672
3	315	0.9729	-0.4332	0.0074	-0.3356	0.0938	0.5068	0.2641	-0.5968	0.0705
4	315	0.2001	0.0484	0.0023	0.0018	0.0009	-0.0080	0.0064	0.1190	0.0364
4	315	0.2502	0.0277	0.0031	0.0115	0.0037	-0.0048	0.0131	0.1249	0.0673
4	315	0.3001	-0.0078	0.0041	0.0185	0.0056	0.0002	0.0197	0.2444	0.0696
4	315	0.3502	-0.0518	0.0031	0.0298	0.0079	-0.0074	0.0384	0.2755	0.0759
4	315	0.4002	-0.0860	0.0038	0.0535	0.0143	0.0090	0.0541	0.3169	0.0634
4	315	0.4500	-0.1127	0.0035	0.0619	0.0156	0.0074	0.0612	0.1626	0.0662
4	315	0.5001	-0.1358	0.0041	0.0657	0.0174	0.0627	0.0745	0.4069	0.0817
4	315	0.5560	-0.1833	0.0036	0.0850	0.0230	0.0591	0.0942	0.1840	0.0666
4	315	0.6001	-0.2018	0.0041	0.0698	0.0258	0.0750	0.1071	0.0021	0.0702
4	315	0.6501	-0.2703	0.0039	0.0739	0.0293	0.1616	0.1205	0.3329	0.0682
4	315	0.6999	-0.2932	0.0038	0.0462	0.0336	0.1545	0.1363	0.4538	0.0638
4	315	0.7500	-0.3268	0.0041	-0.0181	0.0376	0.0402	0.1533	0.2650	0.0700
4	315	0.8002	-0.3728	0.0042	-0.0056	0.0416	-0.0387	0.1721	0.2478	0.0647
4	315	0.8582	-0.4340	0.0043	-0.0298	0.0469	-0.2503	0.1981	0.0404	0.0639
4	315	0.9101	-0.4507	0.0046	-0.0822	0.0518	-0.5406	0.2238	-0.1402	0.0648
4	315	0.9728	-0.4357	0.0058	-0.0337	0.0575	-0.6362	0.2550	0.6320	0.0612

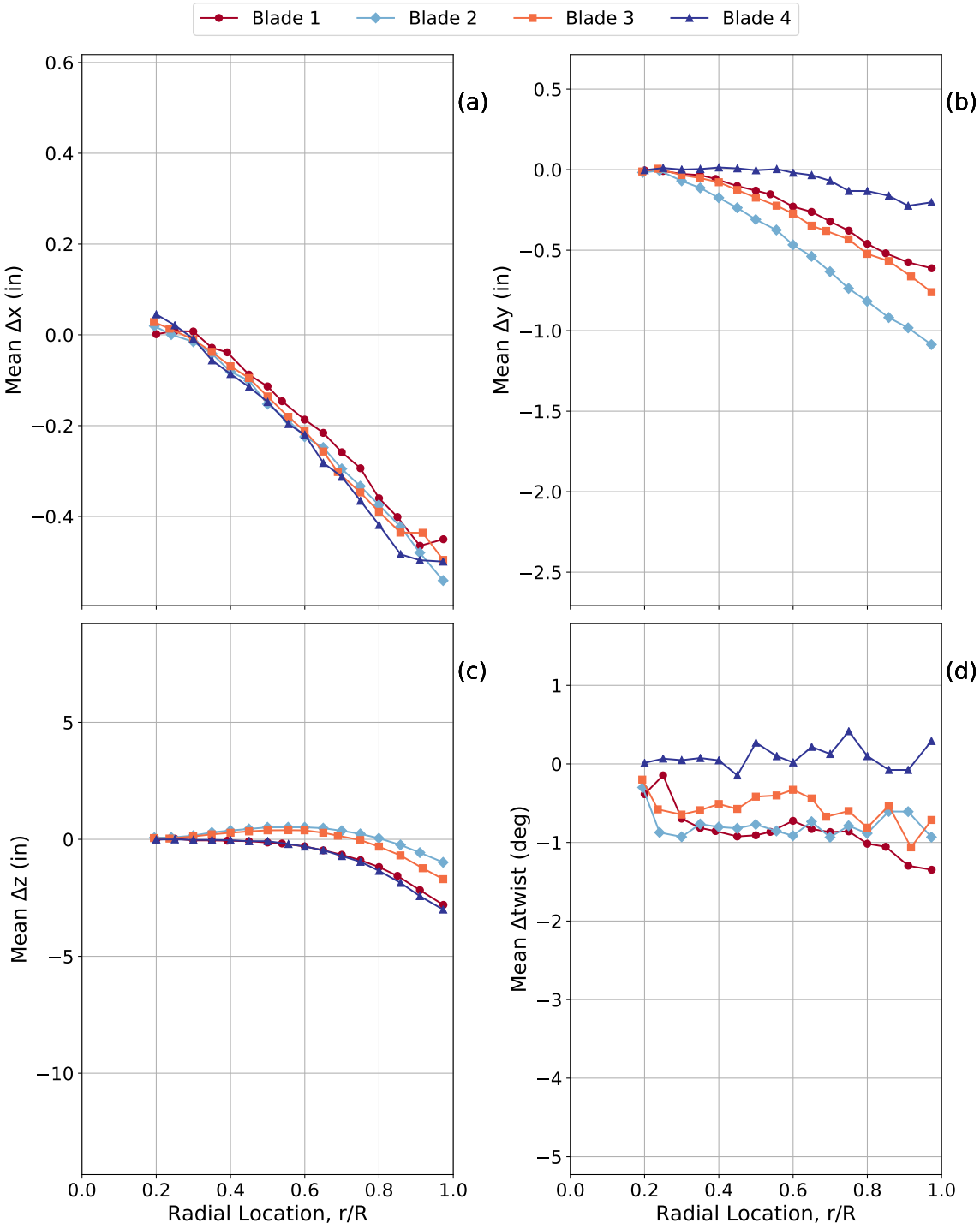


Figure 2.18-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0014	0.0022	-0.0047	0.0015	-0.0162	0.0044	-0.3855	0.0278
1	330.12	0.2499	0.0082	0.0031	-0.0084	0.0049	0.0295	0.0101	-0.1458	0.0538
1	330.12	0.2998	0.0074	0.0043	-0.0263	0.0069	-0.0449	0.0163	-0.6968	0.0566
1	330.12	0.3498	-0.0286	0.0030	-0.0338	0.0150	-0.0456	0.0219	-0.8155	0.0654
1	330.12	0.3913	-0.0386	0.0030	-0.0577	0.0203	-0.0588	0.0345	-0.8548	0.0846
1	330.12	0.4496	-0.0877	0.0037	-0.1016	0.0267	-0.0794	0.0402	-0.9235	0.0689
1	330.12	0.4997	-0.1136	0.0036	-0.1301	0.0312	-0.1363	0.0508	-0.9087	0.0597
1	330.12	0.5387	-0.1463	0.0037	-0.1532	0.0361	-0.1791	0.0607	-0.8655	0.0560
1	330.12	0.5996	-0.1868	0.0033	-0.2293	0.0440	-0.3028	0.0769	-0.7248	0.0641
1	330.12	0.6498	-0.2159	0.0040	-0.2623	0.0504	-0.4714	0.0931	-0.8287	0.0551
1	330.12	0.6998	-0.2586	0.0038	-0.3218	0.0569	-0.6601	0.1092	-0.8677	0.0620
1	330.12	0.7500	-0.2940	0.0045	-0.3790	0.0635	-0.8942	0.1267	-0.8588	0.0618
1	330.12	0.8001	-0.3600	0.0047	-0.4607	0.0706	-1.1845	0.1451	-1.0164	0.0676
1	330.12	0.8497	-0.4014	0.0053	-0.5195	0.0777	-1.5631	0.1667	-1.0550	0.0662
1	330.12	0.9102	-0.4648	0.0056	-0.5759	0.0863	-2.1737	0.1959	-1.2961	0.0661
1	330.12	0.9734	-0.4503	0.0068	-0.6125	0.0956	-2.8015	0.2288	-1.3475	0.0625
2	330.12	0.1949	0.0193	0.0027	-0.0176	0.0009	0.0690	0.0039	-0.2992	0.0523
2	330.12	0.2405	0.0005	0.0018	-0.0060	0.0037	0.0767	0.0090	-0.8733	0.0715
2	330.12	0.2999	-0.0154	0.0027	-0.0696	0.0045	0.1578	0.0146	-0.9285	0.1178
2	330.12	0.3498	-0.0415	0.0024	-0.1133	0.0110	0.2967	0.0275	-0.7652	0.0680
2	330.12	0.3998	-0.0811	0.0025	-0.1746	0.0155	0.3773	0.0395	-0.8030	0.0914
2	330.12	0.4496	-0.1009	0.0034	-0.2368	0.0181	0.4437	0.0466	-0.8200	0.0854
2	330.12	0.4995	-0.1527	0.0034	-0.3095	0.0213	0.5120	0.0563	-0.7709	0.0855
2	330.12	0.5551	-0.1880	0.0032	-0.3746	0.0265	0.5146	0.0687	-0.8536	0.0963
2	330.12	0.5996	-0.2246	0.0031	-0.4669	0.0295	0.5146	0.0781	-0.9146	0.0826
2	330.12	0.6497	-0.2482	0.0036	-0.5386	0.0336	0.4768	0.0921	-0.7351	0.0789
2	330.12	0.6996	-0.2952	0.0037	-0.6336	0.0382	0.3647	0.1079	-0.9338	0.0875
2	330.12	0.7495	-0.3334	0.0037	-0.7378	0.0427	0.2336	0.1232	-0.7871	0.0898
2	330.12	0.7996	-0.3747	0.0045	-0.8177	0.0477	0.0457	0.1422	-0.8841	0.0855
2	330.12	0.8578	-0.4226	0.0050	-0.9186	0.0537	-0.2405	0.1669	-0.6056	0.0865
2	330.12	0.9100	-0.4799	0.0058	-0.9827	0.0591	-0.5681	0.1925	-0.6076	0.0916
2	330.12	0.9727	-0.5412	0.0070	-1.0865	0.0657	-0.9842	0.2262	-0.9321	0.1026
3	330.12	0.1938	0.0282	0.0026	-0.0114	0.0010	0.0524	0.0059	-0.1996	0.0478
3	330.12	0.2357	0.0136	0.0021	0.0056	0.0037	0.0324	0.0121	-0.5787	0.0653
3	330.12	0.2995	-0.0102	0.0040	-0.0335	0.0060	0.1221	0.0204	-0.6451	0.1073
3	330.12	0.3493	-0.0376	0.0031	-0.0522	0.0122	0.2115	0.0357	-0.5897	0.0934
3	330.12	0.4000	-0.0693	0.0029	-0.0781	0.0190	0.2804	0.0534	-0.5111	0.0901
3	330.12	0.4497	-0.0951	0.0034	-0.1266	0.0214	0.3390	0.0677	-0.5731	0.0830
3	330.12	0.4997	-0.1358	0.0035	-0.1738	0.0259	0.3844	0.0868	-0.4172	0.0764
3	330.12	0.5556	-0.1806	0.0036	-0.2239	0.0325	0.3898	0.1072	-0.4016	0.0794
3	330.12	0.5995	-0.2121	0.0043	-0.2730	0.0361	0.3838	0.1225	-0.3291	0.0759
3	330.12	0.6498	-0.2571	0.0042	-0.3482	0.0411	0.2806	0.1408	-0.4398	0.0793
3	330.12	0.6890	-0.3022	0.0043	-0.3802	0.0455	0.1561	0.1546	-0.6724	0.0827
3	330.12	0.7495	-0.3472	0.0044	-0.4324	0.0522	-0.0320	0.1780	-0.6000	0.0841
3	330.12	0.7998	-0.3896	0.0046	-0.5231	0.0582	-0.3119	0.2004	-0.8116	0.0753
3	330.12	0.8577	-0.4356	0.0052	-0.5678	0.0653	-0.6887	0.2302	-0.5322	0.0839
3	330.12	0.9178	-0.4361	0.0057	-0.6631	0.0728	-1.2346	0.2696	-1.0622	0.0843
3	330.12	0.9729	-0.4958	0.0069	-0.7608	0.0800	-1.7024	0.3057	-0.7137	0.0862
4	330.12	0.2001	0.0451	0.0020	-0.0032	0.0009	-0.0074	0.0061	0.0136	0.0330
4	330.12	0.2502	0.0210	0.0027	0.0101	0.0035	-0.0035	0.0091	0.0677	0.0813
4	330.12	0.3001	-0.0089	0.0020	0.0006	0.0040	-0.0232	0.0183	0.0481	0.0794
4	330.12	0.3502	-0.0563	0.0021	0.0038	0.0071	-0.0236	0.0294	0.0751	0.0621
4	330.12	0.4002	-0.0863	0.0033	0.0134	0.0115	-0.0398	0.0429	0.0459	0.0636
4	330.12	0.4500	-0.1148	0.0035	0.0079	0.0148	-0.0810	0.0568	-0.1461	0.0659
4	330.12	0.5001	-0.1480	0.0030	-0.0039	0.0181	-0.0784	0.0739	0.2708	0.0625
4	330.12	0.5560	-0.1965	0.0040	0.0034	0.0236	-0.2012	0.0938	0.0988	0.0634
4	330.12	0.6001	-0.2201	0.0047	-0.0190	0.0275	-0.3092	0.1115	0.0192	0.0744
4	330.12	0.6501	-0.2823	0.0044	-0.0342	0.0332	-0.4652	0.1325	0.2167	0.0698
4	330.12	0.6999	-0.3128	0.0041	-0.0690	0.0383	-0.7145	0.1513	0.1262	0.0737
4	330.12	0.7500	-0.3656	0.0044	-0.1322	0.0445	-0.9608	0.1697	0.4157	0.0695
4	330.12	0.8002	-0.4188	0.0045	-0.1328	0.0506	-1.3491	0.1882	0.0995	0.0649
4	330.12	0.8582	-0.4835	0.0050	-0.1625	0.0576	-1.8620	0.2091	-0.0767	0.0645
4	330.12	0.9101	-0.4964	0.0053	-0.2243	0.0646	-2.4274	0.2295	-0.0766	0.0684
4	330.12	0.9728	-0.4995	0.0072	-0.2030	0.0729	-3.0019	0.2579	0.2914	0.0646

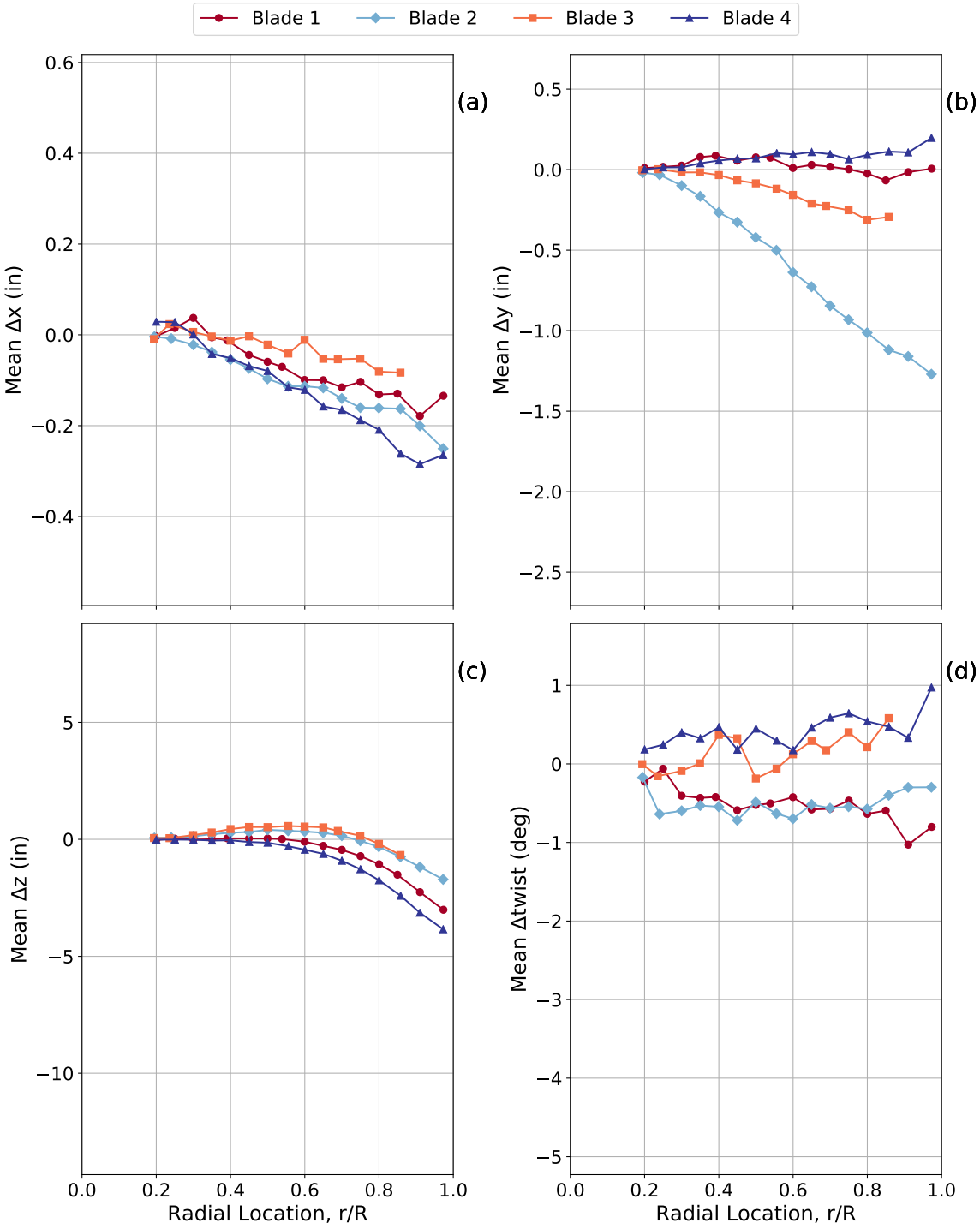


Figure 2.18-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	-0.0029	0.0033	0.0093	0.0021	-0.0228	0.0065	-0.2249	0.0365
1	344.88	0.2499	0.0150	0.0022	0.0173	0.0049	0.0292	0.0092	-0.0611	0.0776
1	344.88	0.2998	0.0373	0.0021	0.0248	0.0096	-0.0128	0.0169	-0.4057	0.0884
1	344.88	0.3498	-0.0056	0.0027	0.0781	0.0173	0.0038	0.0273	-0.4329	0.0866
1	344.88	0.3913	-0.0123	0.0027	0.0866	0.0250	0.0412	0.0361	-0.4218	0.0868
1	344.88	0.4496	-0.0443	0.0039	0.0558	0.0362	0.0384	0.0486	-0.5895	0.0904
1	344.88	0.4997	-0.0594	0.0056	0.0764	0.0447	0.0364	0.0595	-0.5230	0.0905
1	344.88	0.5387	-0.0705	0.0077	0.0739	0.0507	0.0129	0.0671	-0.5035	0.0932
1	344.88	0.5996	-0.0995	0.0121	0.0101	0.0581	-0.1026	0.0806	-0.4238	0.0968
1	344.88	0.6498	-0.1000	0.0166	0.0295	0.0644	-0.2790	0.0924	-0.5803	0.0992
1	344.88	0.6998	-0.1156	0.0212	0.0183	0.0715	-0.4514	0.1040	-0.5713	0.1061
1	344.88	0.7500	-0.1036	0.0270	0.0023	0.0799	-0.7184	0.1168	-0.4672	0.1074
1	344.88	0.8001	-0.1314	0.0337	-0.0242	0.0900	-1.0641	0.1304	-0.6359	0.1060
1	344.88	0.8497	-0.1295	0.0403	-0.0666	0.0990	-1.5146	0.1414	-0.5948	0.1130
1	344.88	0.9102	-0.1787	0.0503	-0.0155	0.1113	-2.2567	0.1586	-1.0283	0.1221
1	344.88	0.9734	-0.1342	0.0612	0.0059	0.1241	-3.0104	0.1758	-0.8021	0.1187
2	344.88	0.1949	-0.0042	0.0024	-0.0191	0.0015	0.0592	0.0052	-0.1717	0.0223
2	344.88	0.2405	-0.0084	0.0016	-0.0319	0.0037	0.0692	0.0072	-0.6394	0.0508
2	344.88	0.2999	-0.0219	0.0019	-0.0991	0.0076	0.1307	0.0147	-0.5975	0.0593
2	344.88	0.3498	-0.0378	0.0025	-0.1658	0.0139	0.2198	0.0237	-0.5307	0.0546
2	344.88	0.3998	-0.0546	0.0026	-0.2659	0.0218	0.2821	0.0341	-0.5460	0.0613
2	344.88	0.4496	-0.0739	0.0038	-0.3259	0.0299	0.3129	0.0434	-0.7176	0.0690
2	344.88	0.4995	-0.0970	0.0046	-0.4206	0.0380	0.4051	0.0536	-0.4852	0.0700
2	344.88	0.5551	-0.1133	0.0073	-0.5007	0.0472	0.3654	0.0654	-0.6321	0.0675
2	344.88	0.5996	-0.1132	0.0104	-0.6379	0.0550	0.3332	0.0758	-0.6988	0.0735
2	344.88	0.6497	-0.1169	0.0125	-0.7276	0.0641	0.2789	0.0872	-0.5173	0.0819
2	344.88	0.6996	-0.1401	0.0163	-0.8455	0.0730	0.1533	0.1004	-0.5632	0.0729
2	344.88	0.7495	-0.1603	0.0219	-0.9321	0.0832	-0.0644	0.1184	-0.5450	0.0736
2	344.88	0.7996	-0.1612	0.0261	-1.0130	0.0913	-0.3219	0.1336	-0.5741	0.0936
2	344.88	0.8578	-0.1627	0.0320	-1.1196	0.1040	-0.7484	0.1555	-0.3999	0.1090
2	344.88	0.9100	-0.2005	0.0385	-1.1600	0.1095	-1.1811	0.1747	-0.2993	0.1129
2	344.88	0.9727	-0.2507	0.0536	-1.2702	0.1211	-1.7128	0.2009	-0.2974	0.1899
3	344.88	0.1938	-0.0096	0.0061	-0.0039	0.0012	0.0548	0.0042	-0.0030	0.0380
3	344.88	0.2357	0.0236	0.0028	0.0027	0.0025	0.0498	0.0070	-0.1565	0.0488
3	344.88	0.2995	0.0063	0.0024	-0.0171	0.0061	0.1806	0.0134	-0.0887	0.0857
3	344.88	0.3493	-0.0037	0.0051	-0.0170	0.0104	0.2913	0.0224	0.0076	0.0660
3	344.88	0.4000	-0.0128	0.0082	-0.0337	0.0168	0.4377	0.0328	0.3698	0.0705
3	344.88	0.4497	-0.0033	0.0116	-0.0665	0.0203	0.5276	0.0418	0.3246	0.0672
3	344.88	0.4997	-0.0217	0.0150	-0.0850	0.0250	0.5215	0.0560	-0.1861	0.0659
3	344.88	0.5556	-0.0411	0.0184	-0.1184	0.0314	0.5692	0.0729	-0.0599	0.0655
3	344.88	0.5995	-0.0110	0.0213	-0.1569	0.0362	0.5447	0.0884	0.1225	0.0777
3	344.88	0.6498	-0.0528	0.0252	-0.2102	0.0424	0.5116	0.1071	0.2928	0.0821
3	344.88	0.6890	-0.0537	0.0281	-0.2258	0.0490	0.3588	0.1240	0.1740	0.0874
3	344.88	0.7495	-0.0525	0.0328	-0.2516	0.0584	0.1522	0.1507	0.4030	0.0985
3	344.88	0.7998	-0.0810	0.0367	-0.3115	0.0670	-0.1954	0.1721	0.2127	0.1169
3	344.88	0.8577	-0.0833	0.0446	-0.2936	0.0769	-0.6701	0.2001	0.5824	0.2662
4	344.88	0.2001	0.0288	0.0051	0.0026	0.0037	-0.0167	0.0139	0.1841	0.0652
4	344.88	0.2502	0.0278	0.0072	0.0136	0.0046	-0.0105	0.0097	0.2446	0.0929
4	344.88	0.3001	0.0007	0.0035	0.0144	0.0094	-0.0187	0.0290	0.3999	0.0844
4	344.88	0.3502	-0.0421	0.0048	0.0394	0.0133	-0.0506	0.0370	0.3262	0.0791
4	344.88	0.4002	-0.0512	0.0059	0.0565	0.0183	-0.0430	0.0469	0.4676	0.0707
4	344.88	0.4500	-0.0688	0.0077	0.0678	0.0228	-0.1155	0.0577	0.1810	0.0798
4	344.88	0.5001	-0.0796	0.0094	0.0699	0.0274	-0.1452	0.0689	0.4493	0.0757
4	344.88	0.5560	-0.1157	0.0116	0.1025	0.0331	-0.2972	0.0808	0.2954	0.0818
4	344.88	0.6001	-0.1212	0.0132	0.0948	0.0369	-0.4448	0.0907	0.1749	0.0812
4	344.88	0.6501	-0.1577	0.0156	0.1088	0.0414	-0.6240	0.1005	0.4617	0.0747
4	344.88	0.6999	-0.1653	0.0187	0.0962	0.0451	-0.9158	0.1130	0.5885	0.0797
4	344.88	0.7500	-0.1879	0.0216	0.0641	0.0497	-1.2796	0.1261	0.6443	0.0884
4	344.88	0.8002	-0.2091	0.0259	0.0918	0.0539	-1.7511	0.1399	0.5410	0.0977
4	344.88	0.8582	-0.2617	0.0299	0.1122	0.0610	-2.4116	0.1584	0.4731	0.1288
4	344.88	0.9101	-0.2848	0.0342	0.1069	0.0665	-3.1362	0.1739	0.3321	0.1133
4	344.88	0.9728	-0.2647	0.0426	0.1970	0.0749	-3.8450	0.1940	0.9726	0.1554

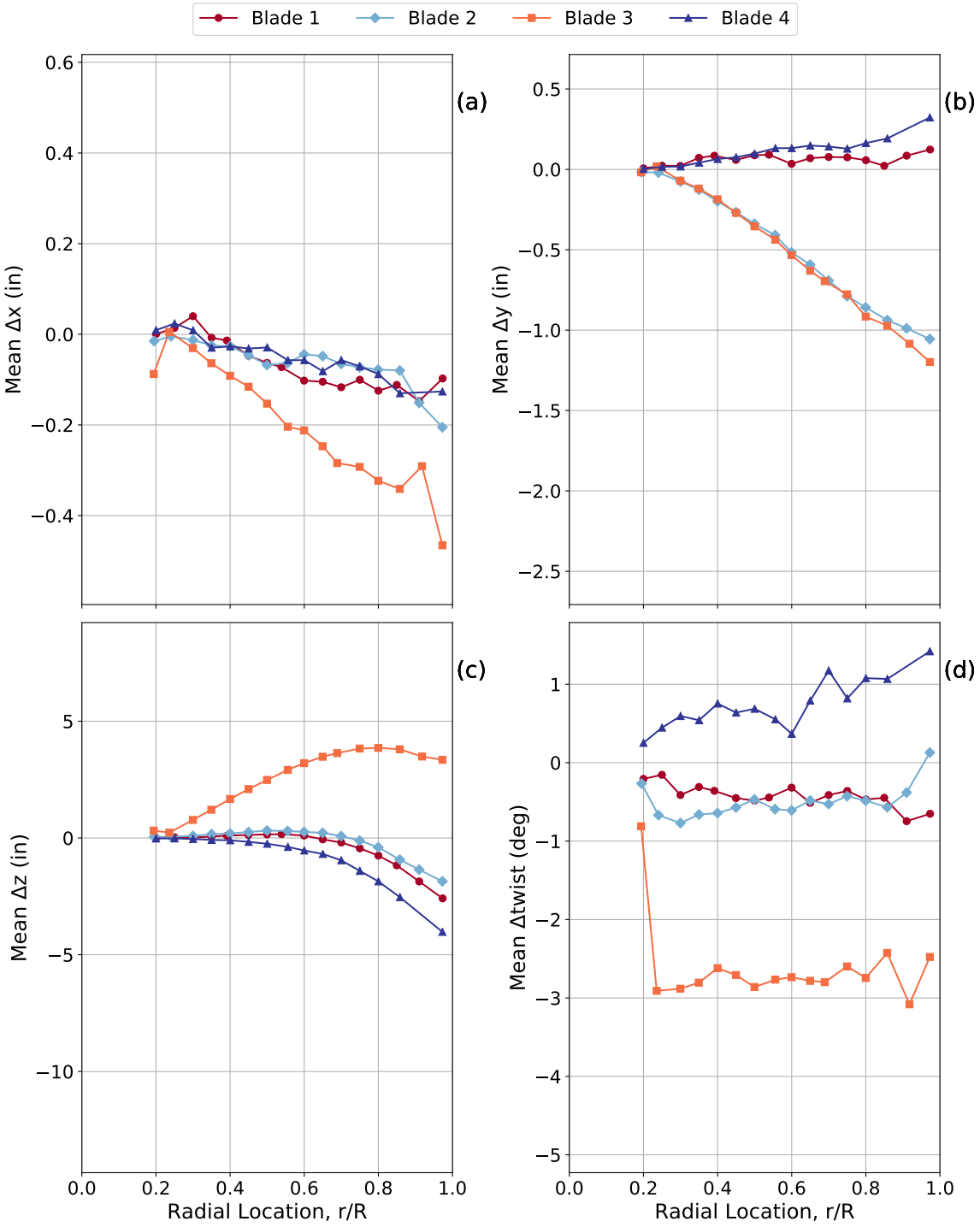


Figure 2.18-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0003	0.0059	0.0063	0.0026	-0.0085	0.0109	-0.2070	0.0577
1	350.16	0.2499	0.0141	0.0027	0.0230	0.0050	0.0300	0.0163	-0.1549	0.1170
1	350.16	0.2998	0.0399	0.0023	0.0216	0.0108	0.0138	0.0313	-0.4126	0.1330
1	350.16	0.3498	-0.0076	0.0030	0.0721	0.0190	0.0620	0.0480	-0.3100	0.1347
1	350.16	0.3913	-0.0138	0.0036	0.0849	0.0272	0.0982	0.0658	-0.3589	0.1304
1	350.16	0.4496	-0.0473	0.0054	0.0590	0.0381	0.1302	0.0865	-0.4514	0.1446
1	350.16	0.4997	-0.0631	0.0077	0.0876	0.0482	0.1518	0.1086	-0.4842	0.1397
1	350.16	0.5387	-0.0725	0.0101	0.0914	0.0554	0.1632	0.1255	-0.4444	0.1443
1	350.16	0.5996	-0.1022	0.0146	0.0344	0.0689	0.1026	0.1544	-0.3179	0.1429
1	350.16	0.6498	-0.1047	0.0197	0.0696	0.0809	-0.0588	0.1792	-0.5129	0.1509
1	350.16	0.6998	-0.1169	0.0255	0.0770	0.0939	-0.1949	0.2081	-0.4127	0.1412
1	350.16	0.7500	-0.1004	0.0318	0.0751	0.1089	-0.4444	0.2360	-0.3606	0.1487
1	350.16	0.8001	-0.1245	0.0391	0.0569	0.1235	-0.7542	0.2624	-0.4688	0.1544
1	350.16	0.8497	-0.1117	0.0476	0.0223	0.1378	-1.1725	0.2894	-0.4478	0.1609
1	350.16	0.9102	-0.1475	0.0580	0.0854	0.1574	-1.8631	0.3160	-0.7462	0.1602
1	350.16	0.9734	-0.0975	0.0723	0.1233	0.1774	-2.5884	0.3431	-0.6514	0.1511
2	350.16	0.1949	-0.0150	0.0112	-0.0163	0.0008	0.0452	0.0040	-0.2662	0.0247
2	350.16	0.2405	-0.0043	0.0046	-0.0201	0.0024	0.0507	0.0078	-0.6696	0.0396
2	350.16	0.2999	-0.0126	0.0045	-0.0758	0.0046	0.0871	0.0150	-0.7701	0.0578
2	350.16	0.3498	-0.0248	0.0108	-0.1261	0.0072	0.1628	0.0235	-0.6617	0.0514
2	350.16	0.3998	-0.0264	0.0164	-0.1991	0.0122	0.1928	0.0370	-0.6429	0.0633
2	350.16	0.4496	-0.0459	0.0219	-0.2663	0.0147	0.2533	0.0446	-0.5717	0.0645
2	350.16	0.4995	-0.0679	0.0267	-0.3386	0.0192	0.3168	0.0545	-0.4682	0.0678
2	350.16	0.5551	-0.0633	0.0334	-0.4092	0.0246	0.2990	0.0644	-0.5933	0.0770
2	350.16	0.5996	-0.0442	0.0370	-0.5163	0.0293	0.2603	0.0746	-0.6084	0.0749
2	350.16	0.6497	-0.0482	0.0416	-0.5926	0.0349	0.2192	0.0875	-0.4824	0.0736
2	350.16	0.6996	-0.0653	0.0462	-0.6915	0.0413	0.0811	0.0999	-0.5285	0.0768
2	350.16	0.7495	-0.0728	0.0516	-0.7885	0.0482	-0.1123	0.1140	-0.4263	0.0881
2	350.16	0.7996	-0.0778	0.0564	-0.8584	0.0551	-0.3975	0.1287	-0.4842	0.1045
2	350.16	0.8578	-0.0800	0.0619	-0.9376	0.0638	-0.9265	0.1499	-0.5685	0.1065
2	350.16	0.9100	-0.1512	0.0655	-0.9887	0.0719	-1.3557	0.1702	-0.3816	0.1363
2	350.16	0.9727	-0.2052	0.0767	-1.0554	0.0785	-1.8577	0.2031	0.1287	0.1743
3	350.16	0.1938	-0.0876	0.1637	-0.0184	0.0279	0.3164	0.3359	-0.8106	0.9040
3	350.16	0.2357	0.0053	0.0207	0.0189	0.0186	0.2266	0.2449	-2.9093	3.1168
3	350.16	0.2995	-0.0305	0.0387	-0.0704	0.0942	0.7722	0.7754	-2.8824	3.1257
3	350.16	0.3493	-0.0639	0.0554	-0.1197	0.1760	1.2092	1.1909	-2.8056	3.1242
3	350.16	0.4000	-0.0915	0.0728	-0.1862	0.2588	1.6695	1.6145	-2.6205	3.1378
3	350.16	0.4497	-0.1158	0.0898	-0.2705	0.3411	2.0928	2.0296	-2.7080	3.1464
3	350.16	0.4997	-0.1530	0.1067	-0.3541	0.4276	2.4849	2.4527	-2.8613	3.1142
3	350.16	0.5556	-0.2040	0.1246	-0.4376	0.5226	2.9136	2.9144	-2.7662	3.1256
3	350.16	0.5995	-0.2120	0.1382	-0.5333	0.6008	3.2048	3.2792	-2.7360	3.1271
3	350.16	0.6498	-0.2471	0.1516	-0.6302	0.6921	3.4785	3.6977	-2.7815	3.1169
3	350.16	0.6890	-0.2841	0.1615	-0.6954	0.7667	3.6340	4.0248	-2.7983	3.1133
3	350.16	0.7495	-0.2926	0.1731	-0.7776	0.8839	3.8303	4.5289	-2.5978	3.1182
3	350.16	0.7998	-0.3232	0.1818	-0.9156	0.9871	3.8581	4.9487	-2.7446	3.1288
3	350.16	0.8577	-0.3411	0.1849	-0.9726	1.1125	3.7975	5.4347	-2.4262	3.0713
3	350.16	0.9178	-0.2910	0.1927	-1.0848	1.2535	3.4888	5.9309	-3.0812	3.1281
3	350.16	0.9729	-0.4655	0.2365	-1.1983	1.3785	3.3480	6.3816	-2.4769	3.2566
4	350.16	0.2001	0.0091	0.0046	0.0023	0.0010	-0.0226	0.0037	0.2525	0.0180
4	350.16	0.2502	0.0237	0.0020	0.0159	0.0025	-0.0203	0.0072	0.4467	0.0271
4	350.16	0.3001	0.0087	0.0023	0.0177	0.0046	-0.0434	0.0115	0.5948	0.0381
4	350.16	0.3502	-0.0297	0.0048	0.0419	0.0082	-0.0836	0.0198	0.5409	0.0425
4	350.16	0.4002	-0.0268	0.0076	0.0645	0.0129	-0.0987	0.0292	0.7536	0.0408
4	350.16	0.4500	-0.0315	0.0104	0.0752	0.0178	-0.1666	0.0394	0.6388	0.0461
4	350.16	0.5001	-0.0291	0.0134	0.0983	0.0234	-0.2476	0.0494	0.6872	0.0621
4	350.16	0.5560	-0.0572	0.0170	0.1319	0.0293	-0.3838	0.0616	0.5524	0.0548
4	350.16	0.6001	-0.0571	0.0206	0.1321	0.0336	-0.5370	0.0703	0.3667	0.0566
4	350.16	0.6501	-0.0815	0.0246	0.1482	0.0381	-0.6839	0.0819	0.7908	0.0548
4	350.16	0.6999	-0.0570	0.0289	0.1420	0.0430	-0.9576	0.0939	1.1736	0.0646
4	350.16	0.7500	-0.0709	0.0342	0.1285	0.0488	-1.4104	0.1102	0.8193	0.0814
4	350.16	0.8002	-0.0879	0.0397	0.1634	0.0543	-1.8614	0.1267	1.0777	0.0684
4	350.16	0.8582	-0.1302	0.0469	0.1928	0.0616	-2.5386	0.1502	1.0675	0.1306
4	350.16	0.9728	-0.1263	0.0639	0.3226	0.0764	-4.0221	0.1935	1.4201	0.2071

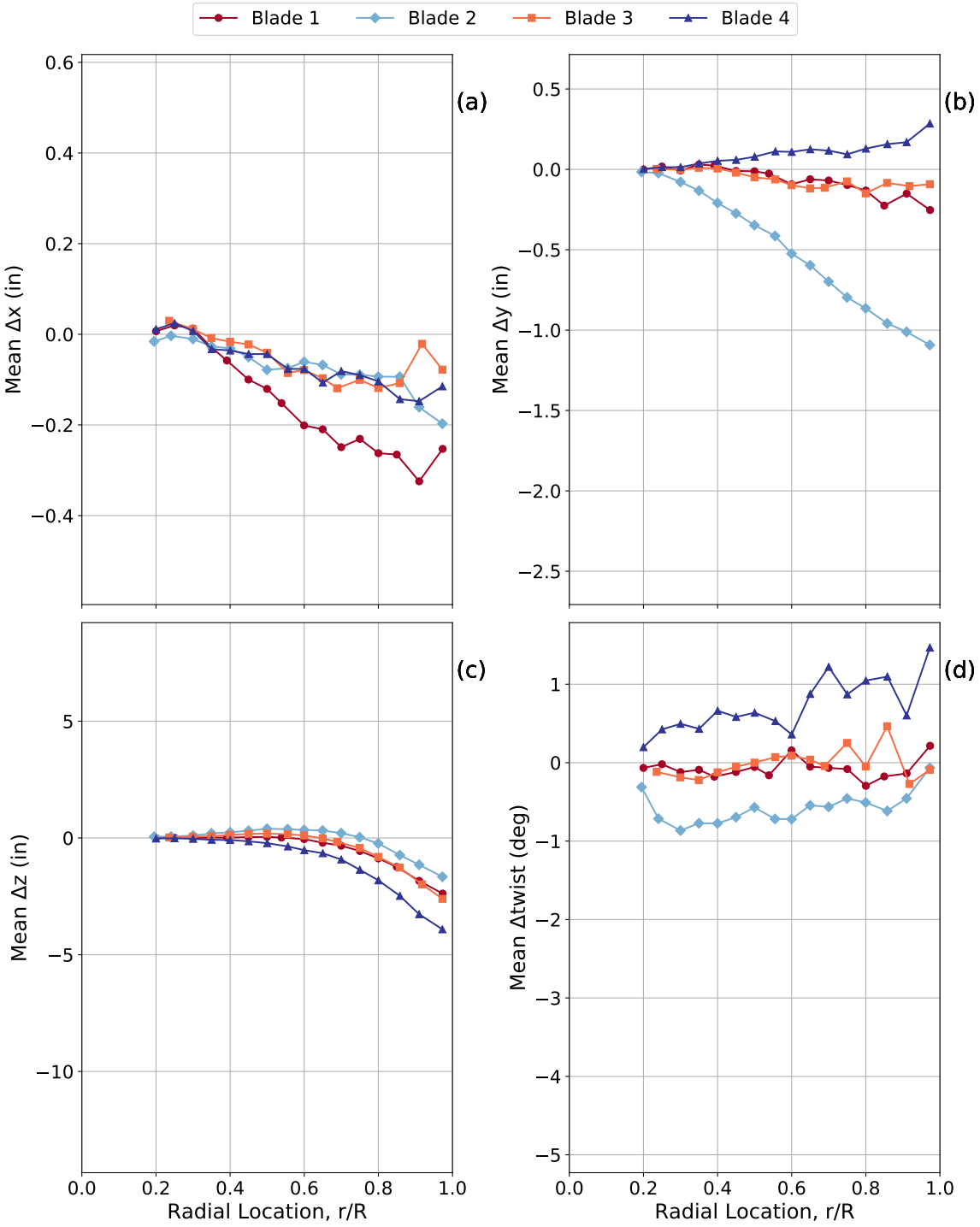


Figure 2.18-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Table 2.18-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, points 12 to 16. BD run 38, points 5889 to 5928.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0069	0.0033	-0.0010	0.0023	-0.0019	0.0093	-0.0667	0.0732
1	355.08	0.2499	0.0195	0.0027	0.0176	0.0061	0.0094	0.0173	-0.0197	0.1100
1	355.08	0.2998	0.0127	0.0020	-0.0072	0.0101	-0.0085	0.0300	-0.1203	0.1586
1	355.08	0.3498	-0.0291	0.0022	0.0304	0.0173	0.0208	0.0487	-0.0907	0.1299
1	355.08	0.3913	-0.0579	0.0031	0.0234	0.0256	0.0128	0.0686	-0.1785	0.1449
1	355.08	0.4496	-0.0999	0.0031	-0.0100	0.0334	0.0359	0.0905	-0.1188	0.1475
1	355.08	0.4997	-0.1206	0.0031	-0.0118	0.0410	0.0468	0.1099	-0.0550	0.1496
1	355.08	0.5387	-0.1519	0.0035	-0.0264	0.0467	0.0162	0.1253	-0.1607	0.1422
1	355.08	0.5996	-0.2011	0.0039	-0.0930	0.0562	-0.0474	0.1489	0.1572	0.1444
1	355.08	0.6498	-0.2097	0.0036	-0.0616	0.0634	-0.2045	0.1708	-0.0505	0.1629
1	355.08	0.6998	-0.2491	0.0038	-0.0692	0.0706	-0.3312	0.1950	-0.0670	0.1594
1	355.08	0.7500	-0.2308	0.0042	-0.0975	0.0779	-0.5587	0.2186	-0.0818	0.1637
1	355.08	0.8001	-0.2623	0.0048	-0.1313	0.0850	-0.8767	0.2441	-0.2951	0.2024
1	355.08	0.8497	-0.2655	0.0048	-0.2252	0.0938	-1.2377	0.2699	-0.1756	0.1928
1	355.08	0.9102	-0.3244	0.0061	-0.1509	0.1053	-1.8373	0.3027	-0.1373	0.2407
1	355.08	0.9734	-0.2529	0.0077	-0.2528	0.1157	-2.3811	0.3471	0.2152	0.1994
2	355.08	0.1949	-0.0157	0.0070	-0.0162	0.0012	0.0508	0.0041	-0.3114	0.0235
2	355.08	0.2405	-0.0033	0.0029	-0.0233	0.0030	0.0590	0.0084	-0.7145	0.0377
2	355.08	0.2999	-0.0104	0.0033	-0.0781	0.0062	0.1046	0.0145	-0.8649	0.0523
2	355.08	0.3498	-0.0269	0.0063	-0.1324	0.0110	0.1983	0.0245	-0.7727	0.0482
2	355.08	0.3998	-0.0309	0.0095	-0.2088	0.0174	0.2414	0.0371	-0.7741	0.0519
2	355.08	0.4496	-0.0501	0.0119	-0.2735	0.0231	0.3104	0.0481	-0.6952	0.0545
2	355.08	0.4995	-0.0783	0.0149	-0.3471	0.0293	0.3945	0.0601	-0.5700	0.0582
2	355.08	0.5551	-0.0750	0.0176	-0.4139	0.0356	0.3755	0.0751	-0.7176	0.0564
2	355.08	0.5996	-0.0608	0.0199	-0.5242	0.0405	0.3437	0.0869	-0.7198	0.0656
2	355.08	0.6497	-0.0677	0.0234	-0.5966	0.0471	0.3191	0.1015	-0.5445	0.0655
2	355.08	0.6996	-0.0886	0.0273	-0.6980	0.0537	0.2073	0.1141	-0.5635	0.0620
2	355.08	0.7495	-0.0890	0.0308	-0.7964	0.0613	0.0303	0.1291	-0.4563	0.0787
2	355.08	0.7996	-0.0935	0.0339	-0.8642	0.0688	-0.2307	0.1456	-0.5080	0.0790
2	355.08	0.8578	-0.0937	0.0402	-0.9584	0.0794	-0.7314	0.1632	-0.6159	0.0916
2	355.08	0.9100	-0.1608	0.0443	-1.0106	0.0881	-1.1481	0.1880	-0.4555	0.1036
2	355.08	0.9727	-0.1973	0.0507	-1.0924	0.0995	-1.6606	0.2196	-0.0657	0.1603
3	355.08	0.2357	0.0298	0.0078	0.0029	0.0056	0.0201	0.0162	-0.1169	0.0887
3	355.08	0.2995	0.0114	0.0041	-0.0024	0.0146	0.0493	0.0300	-0.1874	0.1419
3	355.08	0.3493	-0.0085	0.0046	0.0102	0.0259	0.0806	0.0450	-0.2213	0.1317
3	355.08	0.4000	-0.0164	0.0078	0.0054	0.0419	0.1302	0.0664	-0.1231	0.1331
3	355.08	0.4497	-0.0225	0.0105	-0.0199	0.0565	0.1739	0.0835	-0.0503	0.1292
3	355.08	0.4997	-0.0406	0.0136	-0.0494	0.0717	0.1859	0.1029	0.0001	0.1333
3	355.08	0.5556	-0.0853	0.0177	-0.0625	0.0849	0.1616	0.1236	0.0704	0.1268
3	355.08	0.5995	-0.0789	0.0210	-0.0983	0.0934	0.1081	0.1368	0.0887	0.1341
3	355.08	0.6498	-0.0970	0.0253	-0.1180	0.1026	-0.0185	0.1533	0.0388	0.1400
3	355.08	0.6890	-0.1191	0.0286	-0.1142	0.1102	-0.1701	0.1674	-0.0434	0.1320
3	355.08	0.7495	-0.1005	0.0347	-0.0748	0.1236	-0.4268	0.1889	0.2512	0.1372
3	355.08	0.7998	-0.1185	0.0407	-0.1492	0.1350	-0.8101	0.2067	-0.0484	0.1385
3	355.08	0.8577	-0.1077	0.0466	-0.0841	0.1510	-1.2692	0.2310	0.4642	0.1656
3	355.08	0.9178	-0.0210	0.0560	-0.1041	0.1697	-1.9871	0.2553	-0.2712	0.1491
3	355.08	0.9729	-0.0781	0.0697	-0.0922	0.1890	-2.6048	0.2773	-0.0904	0.2298
4	355.08	0.2001	0.0113	0.0066	0.0020	0.0012	-0.0223	0.0041	0.1978	0.0282
4	355.08	0.2502	0.0245	0.0025	0.0137	0.0027	-0.0130	0.0076	0.4244	0.0435
4	355.08	0.3001	0.0072	0.0026	0.0132	0.0050	-0.0373	0.0134	0.4954	0.0625
4	355.08	0.3502	-0.0328	0.0059	0.0366	0.0094	-0.0783	0.0225	0.4314	0.0506
4	355.08	0.4002	-0.0358	0.0092	0.0533	0.0144	-0.0846	0.0338	0.6622	0.0579
4	355.08	0.4500	-0.0436	0.0121	0.0589	0.0190	-0.1437	0.0436	0.5833	0.0617
4	355.08	0.5001	-0.0437	0.0150	0.0787	0.0237	-0.2231	0.0553	0.6371	0.0611
4	355.08	0.5560	-0.0765	0.0184	0.1118	0.0288	-0.3636	0.0683	0.5297	0.0655
4	355.08	0.6001	-0.0764	0.0216	0.1086	0.0334	-0.5223	0.0778	0.3596	0.0630
4	355.08	0.6501	-0.1067	0.0255	0.1249	0.0389	-0.6528	0.0908	0.8762	0.0654
4	355.08	0.6999	-0.0813	0.0294	0.1167	0.0448	-0.9218	0.1010	1.2211	0.0689
4	355.08	0.7500	-0.0900	0.0341	0.0937	0.0519	-1.3632	0.1132	0.8704	0.0700
4	355.08	0.8002	-0.1040	0.0397	0.1290	0.0593	-1.8149	0.1253	1.0468	0.0758
4	355.08	0.8582	-0.1432	0.0439	0.1569	0.0684	-2.4798	0.1446	1.0973	0.1043
4	355.08	0.9101	-0.1477	0.0500	0.1692	0.0780	-3.2664	0.1597	0.6024	0.1172
4	355.08	0.9728	-0.1149	0.0599	0.2850	0.0905	-3.9110	0.1899	1.4669	0.1706

2.19 Run 83, Points 70 to 74

2.19.1 Pitch, Flap, and Lag

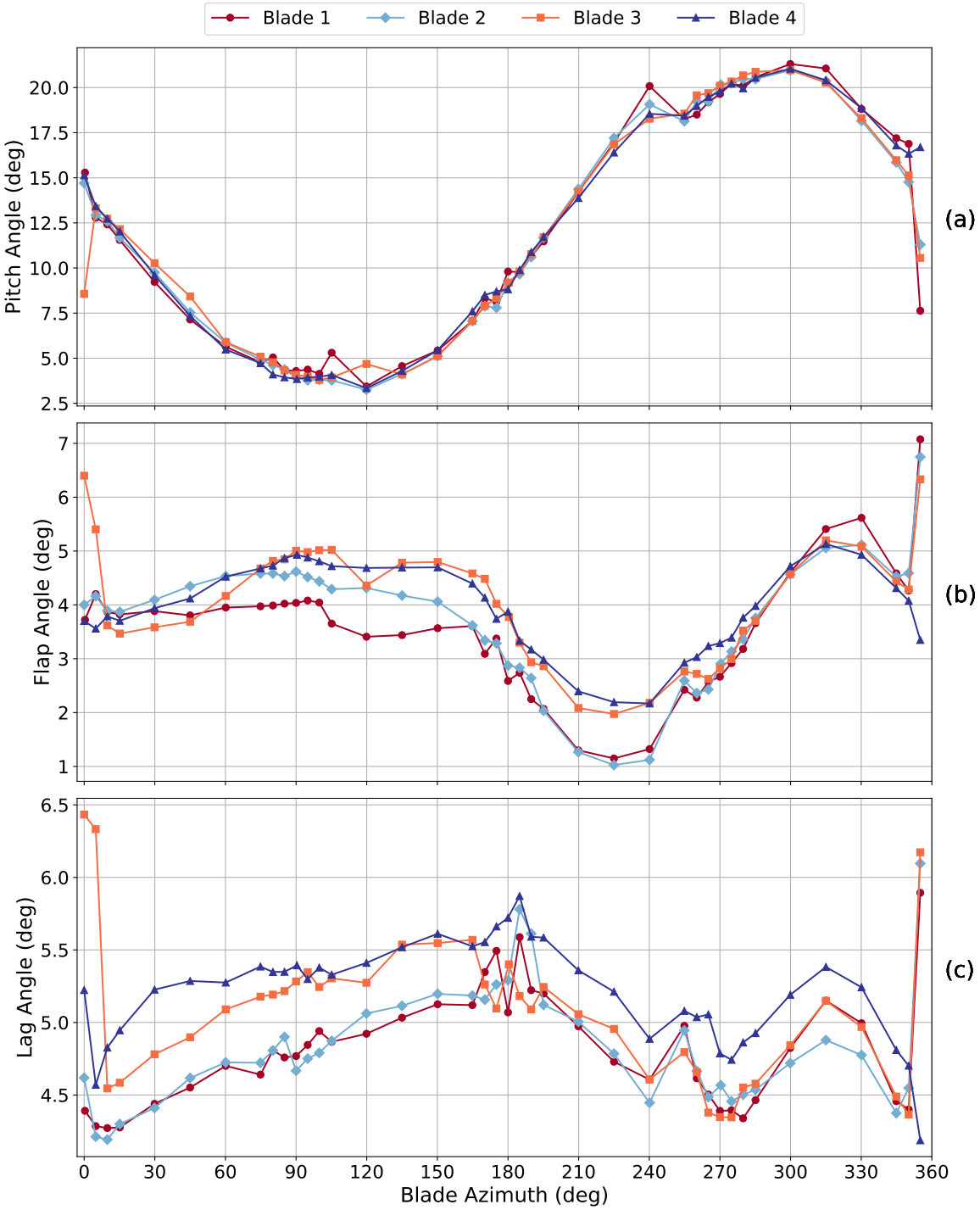


Figure 2.19-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	15.2895	3.7223	4.3911	0.8083	0.3185	0.2138
4.92	12.7829	4.2002	4.2853	0.1784	0.1458	0.1019
9.84	12.4149	3.8685	4.2720	0.1676	0.0750	0.0865
15.12	11.5518	3.8228	4.2762	0.1384	0.0774	0.0751
29.88	9.2281	3.8837	4.4394	0.1351	0.0775	0.0675
45	7.1465	3.8045	4.5514	0.1599	0.1130	0.0765
60.12	5.6382	3.9501	4.7007	0.1362	0.0776	0.0654
74.88	4.7713	3.9726	4.6405	0.1306	0.1072	0.1213
80.16	5.0432	3.9877	4.8076	0.0982	0.1239	0.0594
85.08	4.3393	4.0216	4.7589	0.1860	0.1027	0.0929
90	4.2918	4.0368	4.7681	0.1651	0.1134	0.0981
94.92	4.3711	4.0808	4.8453	0.1917	0.1044	0.1214
99.84	4.1354	4.0430	4.9406	0.2728	0.1585	0.0946
105.12	5.3039	3.6516	4.8664	0.3982	0.1590	0.0841
119.88	3.4345	3.4083	4.9219	0.1408	0.1219	0.0849
135	4.5639	3.4384	5.0329	0.1192	0.1330	0.0884
150.12	5.4295	3.5669	5.1256	0.1290	0.1398	0.0816
164.88	7.0672	3.6059	5.1195	0.1594	0.1432	0.0710
170.16	8.3154	3.0903	5.3471	0.2734	0.1856	0.0943
175.08	8.1236	3.3753	5.4936	0.1847	0.1821	0.0931
180	9.8025	2.5873	5.0695	0.5956	0.3146	0.2102
184.92	9.7754	2.7391	5.5881	0.1619	0.2270	0.1113
189.84	10.6416	2.2500	5.2224	0.1168	0.2341	0.0718
195.12	11.4731	2.0693	5.1992	0.1407	0.1927	0.0781
209.88	14.2066	1.2993	4.9736	0.1429	0.2018	0.1011
225	16.9448	1.1483	4.7294	0.2067	0.1872	0.0985
240.12	20.0819	1.3224	4.6060	0.4918	0.1997	0.1436
254.88	18.2534	2.4232	4.9768	0.2296	0.1086	0.1113
260.16	18.4995	2.2777	4.6150	0.1517	0.1345	0.0820
265.08	19.1862	2.5690	4.5034	0.1024	0.0750	0.0605
270	19.6451	2.6654	4.3903	0.1533	0.1214	0.0913
274.92	20.2127	2.9185	4.3945	0.2052	0.1103	0.0779
279.84	20.1006	3.1816	4.3392	0.2102	0.0815	0.0769
285.12	20.5762	3.6603	4.4647	0.2321	0.1135	0.0817
299.88	21.3050	4.5996	4.8239	0.3214	0.1085	0.0935
315	21.0576	5.4078	5.1508	0.1484	0.1076	0.0755
330.12	18.8145	5.6165	4.9949	0.1196	0.0973	0.0689
344.88	17.1954	4.5855	4.4573	0.3870	0.1678	0.1008
350.16	16.8816	4.2652	4.4000	0.5745	0.2774	0.1167
355.08	7.6293	7.0743	5.8939	0.3574	0.1729	0.1134

Table 2.19-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	14.7083	4.0002	4.6182	0.1154	0.0642	0.0735
4.92	12.9350	4.1602	4.2128	0.1364	0.1390	0.0980
9.84	12.5962	3.8906	4.1929	0.1582	0.0672	0.0651
15.12	11.6697	3.8708	4.3003	0.1770	0.0998	0.0731
29.88	9.7502	4.0938	4.4106	0.1504	0.0796	0.0797
45	7.5308	4.3466	4.6170	0.1527	0.0883	0.0881
60.12	5.8661	4.5339	4.7246	0.1332	0.0734	0.0797
74.88	4.9273	4.5817	4.7223	0.1223	0.0965	0.0638
80.16	4.6235	4.5825	4.8071	0.1349	0.1168	0.0759
85.08	4.3753	4.5340	4.9003	0.1197	0.0994	0.0824
90	3.9389	4.6185	4.6671	0.2226	0.1217	0.1052
94.92	3.7791	4.5166	4.7509	0.2026	0.0993	0.1145
99.84	3.8046	4.4368	4.7905	0.1932	0.1070	0.0784
105.12	3.7744	4.2911	4.8731	0.2103	0.1514	0.0743
119.88	3.2534	4.3135	5.0617	0.1445	0.1190	0.0875
135	4.1255	4.1736	5.1146	0.1705	0.1900	0.0944
150.12	5.1145	4.0595	5.1971	0.1330	0.1681	0.1197
164.88	7.0610	3.6189	5.1855	0.1534	0.1643	0.1058
170.16	7.8801	3.3418	5.1568	0.2202	0.1640	0.0749
175.08	7.7937	3.2856	5.2621	0.3089	0.1959	0.0619
180	9.1647	2.8734	5.2914	0.1189	0.2190	0.0781
184.92	9.6607	2.8330	5.7803	0.1623	0.2132	0.1091
189.84	10.6080	2.6407	5.6122	0.3611	0.2380	0.1812
195.12	11.6768	2.0344	5.1214	0.1534	0.1754	0.0867
209.88	14.3704	1.2658	5.0052	0.1874	0.1575	0.0855
225	17.2024	1.0261	4.7846	0.1215	0.1318	0.0704
240.12	19.0697	1.1218	4.4465	0.3995	0.1940	0.1021
254.88	18.1343	2.5934	4.9451	0.3464	0.1957	0.1030
260.16	19.2271	2.3610	4.6650	0.1719	0.1043	0.0949
265.08	19.2306	2.4297	4.4851	0.1355	0.1087	0.0868
270.35	20.1607	2.9069	4.5669	0.2352	0.1054	0.0981
274.92	20.2451	3.1338	4.4559	0.1881	0.1299	0.1007
279.84	20.4763	3.3636	4.5021	0.2305	0.1202	0.0872
285.12	20.4715	3.7546	4.5368	0.1579	0.0818	0.0696
299.88	20.9613	4.5674	4.7197	0.1291	0.0835	0.0607
315	20.3616	5.0565	4.8784	0.2443	0.1077	0.0838
330.12	18.1538	5.1134	4.7751	0.1277	0.0757	0.0813
344.88	15.8526	4.5257	4.3752	0.3173	0.1107	0.1011
350.16	14.7651	4.5899	4.5475	0.3377	0.1695	0.0668
355.08	11.2993	6.7463	6.0961	0.3340	0.2139	0.1509

Table 2.19-3. Pitch, flap, and lag vs azimuth for Blade 3.
$C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	8.5681	6.3987	6.4329	0.3686	0.2442	0.1889
4.92	13.3170	5.4023	6.3326	0.2459	0.1687	0.2014
9.84	12.7303	3.6176	4.5454	0.1242	0.1137	0.0990
15.12	12.1527	3.4669	4.5844	0.1267	0.0985	0.0900
29.88	10.2658	3.5833	4.7807	0.1518	0.0980	0.1161
45	8.4226	3.6876	4.8975	0.2006	0.1144	0.0799
60.12	5.8917	4.1652	5.0902	0.1375	0.1041	0.1414
74.88	5.0856	4.6742	5.1778	0.1232	0.1734	0.1038
80.16	4.7775	4.8161	5.1921	0.1075	0.1268	0.0796
85.08	4.3237	4.8460	5.2159	0.1060	0.1062	0.0548
90	4.0845	5.0050	5.2826	0.1652	0.1019	0.0807
94.92	3.9769	4.9796	5.3466	0.1926	0.1241	0.1045
99.84	3.7980	5.0149	5.2445	0.1519	0.1022	0.1079
105.12	3.9336	5.0211	5.3040	0.2267	0.1477	0.0915
119.88	4.6836	4.3586	5.2737	0.3306	0.1772	0.1319
135	4.0991	4.7832	5.5365	0.1367	0.1564	0.0772
150.12	5.1205	4.7956	5.5476	0.1358	0.1663	0.0802
164.88	7.0630	4.5843	5.5694	0.1551	0.1575	0.0982
170.16	7.8990	4.4838	5.2617	0.1866	0.2584	0.1139
175.08	8.3279	4.0195	5.0965	0.2289	0.2043	0.1027
180.35	9.1887	3.7735	5.4008	0.2960	0.2548	0.2376
184.92	9.8019	3.2980	5.1820	0.1383	0.3300	0.2403
189.84	10.7681	2.9351	5.0896	0.1464	0.3091	0.2272
195.12	11.7035	2.8605	5.2444	0.1362	0.1752	0.0755
209.88	14.2118	2.0852	5.0568	0.0987	0.1717	0.0700
225	16.8515	1.9733	4.9555	0.2112	0.1813	0.1111
240.12	18.2719	2.1795	4.6064	0.1241	0.1476	0.0960
254.88	18.5550	2.7631	4.7956	0.3775	0.1557	0.1446
260.16	19.5693	2.7186	4.6579	0.1461	0.0901	0.0757
265.08	19.6890	2.6235	4.3789	0.2044	0.1242	0.0916
270	20.1003	2.8221	4.3473	0.1771	0.1265	0.0781
274.92	20.3370	2.9936	4.3460	0.2744	0.1503	0.1210
279.84	20.6718	3.5208	4.5510	0.0882	0.0995	0.0925
285.12	20.8717	3.7029	4.5781	0.1483	0.1154	0.1068
299.88	20.9664	4.5703	4.8424	0.1727	0.0993	0.0807
315	20.2717	5.1980	5.1492	0.1475	0.1107	0.1028
330.12	18.2931	5.0856	4.9689	0.1510	0.0990	0.1003
344.88	15.9753	4.4338	4.4892	0.2499	0.1496	0.0947
350.16	15.1274	4.2858	4.3652	0.2854	0.1432	0.1018
355.08	10.5574	6.3310	6.1732	0.4290	0.2124	0.1701

Table 2.19-4. Pitch, flap, and lag vs azimuth for Blade 4.
$C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	15.1361	3.7000	5.2233	0.1259	0.0876	0.0779
4.92	13.4266	3.5592	4.5703	0.1682	0.1365	0.1591
9.84	12.7305	3.7866	4.8267	0.1089	0.0866	0.0919
15.12	12.0230	3.7044	4.9459	0.1277	0.0921	0.0999
29.88	9.6054	3.9379	5.2262	0.1188	0.0868	0.0941
45	7.3427	4.1181	5.2860	0.1329	0.1052	0.0670
60.12	5.4806	4.5245	5.2750	0.0998	0.1009	0.0751
74.88	4.7253	4.6762	5.3852	0.1408	0.1305	0.0861
80.16	4.0983	4.7285	5.3479	0.1522	0.1061	0.1101
85.08	3.9413	4.8693	5.3491	0.1316	0.0789	0.0859
90.35	3.8453	4.9293	5.3938	0.1174	0.1057	0.1136
94.92	3.9338	4.8783	5.2991	0.2141	0.1221	0.1028
99.84	3.9770	4.8094	5.3782	0.1942	0.1000	0.0866
105.12	4.0690	4.7188	5.3290	0.1408	0.1028	0.0681
119.88	3.3391	4.6852	5.4107	0.1175	0.1052	0.0752
135	4.2909	4.6922	5.5182	0.1570	0.1518	0.0959
150.12	5.4426	4.6962	5.6113	0.1399	0.1214	0.0732
164.88	7.5969	4.3951	5.5250	0.1863	0.1727	0.1319
170.16	8.5000	4.1333	5.5538	0.1885	0.1715	0.0781
175.08	8.7029	3.7406	5.6618	0.3109	0.3201	0.1044
180	8.8190	3.8731	5.7211	0.1654	0.1507	0.0992
184.92	9.8866	3.3339	5.8716	0.2556	0.2293	0.1199
189.84	10.8769	3.1712	5.5908	0.1006	0.1971	0.0826
195.12	11.7152	2.9811	5.5848	0.1034	0.2544	0.0769
209.88	13.8772	2.3945	5.3593	0.1149	0.1951	0.0886
225	16.3992	2.1931	5.2119	0.1309	0.1825	0.1061
240.12	18.5478	2.1692	4.8870	0.1766	0.1318	0.1049
254.88	18.4377	2.9252	5.0795	0.0885	0.0984	0.0903
260.16	18.9736	3.0311	5.0366	0.1623	0.1173	0.1146
265.08	19.4817	3.2355	5.0549	0.1921	0.1145	0.0985
270	19.7742	3.2901	4.7866	0.3196	0.1117	0.1086
274.92	20.2197	3.3908	4.7424	0.2726	0.1141	0.1231
279.84	19.9568	3.7618	4.8615	0.1439	0.0845	0.0793
285.12	20.5457	3.9794	4.9265	0.2219	0.1120	0.1091
299.88	21.0427	4.7181	5.1907	0.2242	0.1275	0.1216
315	20.4024	5.1305	5.3827	0.1956	0.0967	0.1008
330.12	18.8616	4.9313	5.2423	0.2201	0.1125	0.1499
344.88	16.7902	4.3111	4.8097	0.2434	0.1262	0.0906
350.16	16.3314	4.0762	4.7020	0.5720	0.1733	0.1295
355.08	16.6956	3.3478	4.1876	0.5982	0.1141	0.0742

2.19.2 Spanwise Elastic Deformations

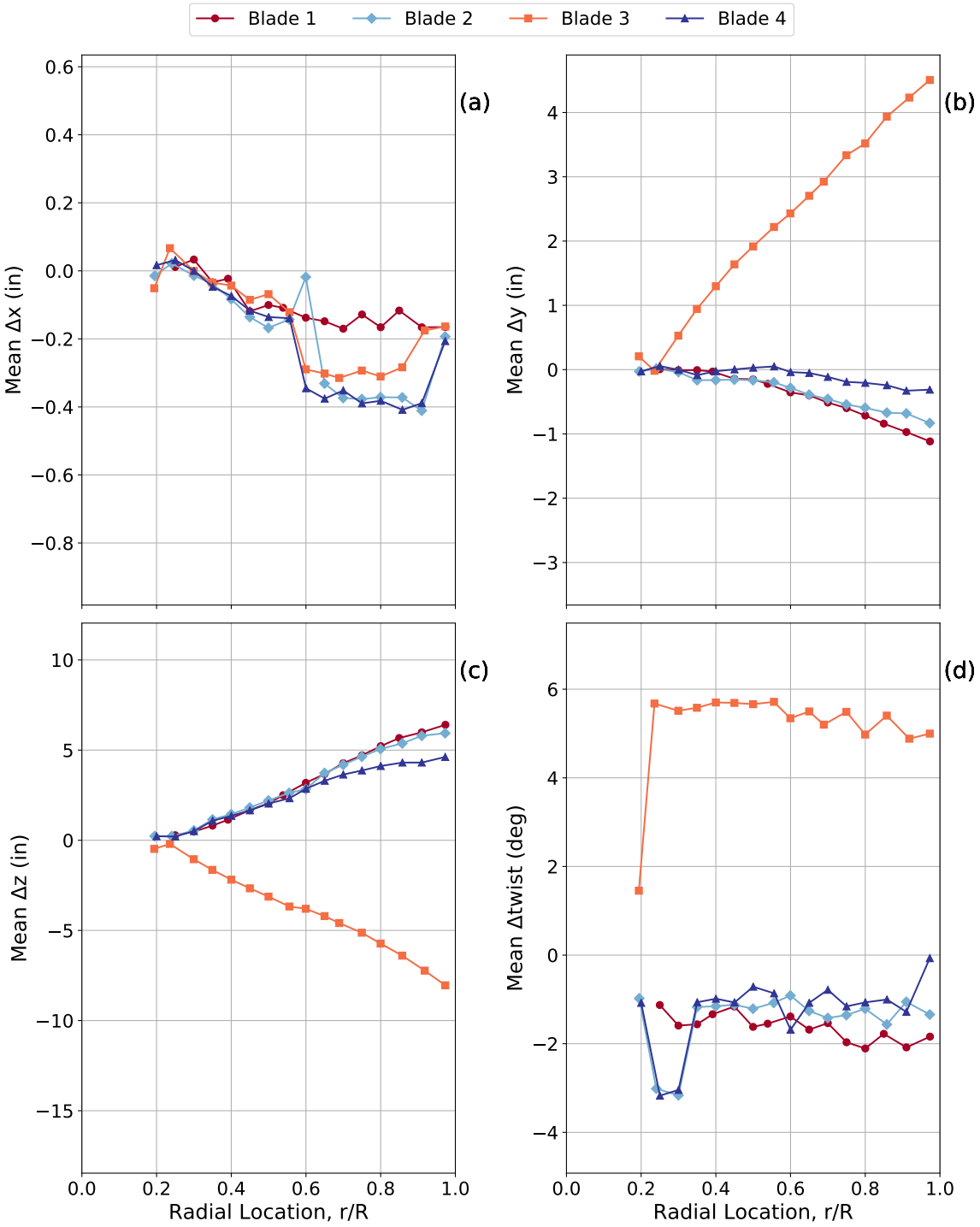


Figure 2.19-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2499	0.0114	0.0264	0.0062	0.0123	0.2796	0.0959	-1.1261	0.6209
1	0.35	0.2998	0.0333	0.0141	-0.0086	0.0255	0.4787	0.1481	-1.5901	0.8802
1	0.35	0.3498	-0.0336	0.0154	-0.0074	0.0501	0.8118	0.2408	-1.5616	0.8205
1	0.35	0.3913	-0.0231	0.0202	-0.0300	0.0738	1.1410	0.3229	-1.3348	0.8135
1	0.35	0.4496	-0.1190	0.0257	-0.1424	0.1040	1.6704	0.4281	-1.1610	0.8235
1	0.35	0.4997	-0.1004	0.0323	-0.1507	0.1318	2.0501	0.5209	-1.6199	0.8148
1	0.35	0.5387	-0.1086	0.0377	-0.2215	0.1530	2.4980	0.5936	-1.5471	0.8184
1	0.35	0.5996	-0.1378	0.0489	-0.3542	0.1857	3.1852	0.7061	-1.3858	0.8175
1	0.35	0.6498	-0.1482	0.0581	-0.4005	0.2115	3.6752	0.7995	-1.6818	0.8124
1	0.35	0.6998	-0.1701	0.0686	-0.5120	0.2374	4.2733	0.8913	-1.5354	0.8179
1	0.35	0.7500	-0.1283	0.0792	-0.5986	0.2638	4.7130	0.9857	-1.9677	0.8103
1	0.35	0.8001	-0.1658	0.0903	-0.7144	0.2899	5.2193	1.0783	-2.1071	0.8122
1	0.35	0.8497	-0.1167	0.1019	-0.8396	0.3164	5.6706	1.1689	-1.7764	0.8185
1	0.35	0.9102	-0.1659	0.1160	-0.9706	0.3501	5.9885	1.2805	-2.0828	0.8157
1	0.35	0.9734	-0.1653	0.1414	-1.1165	0.3850	6.4062	1.4009	-1.8395	0.8156
2	0	0.1949	-0.0146	0.0042	-0.0272	0.0028	0.2291	0.0152	-0.9779	0.0777
2	0	0.2405	0.0218	0.0018	0.0142	0.0035	0.2249	0.0156	-3.0137	0.2120
2	0	0.2999	-0.0140	0.0044	-0.0378	0.0064	0.5389	0.0313	-3.1632	0.2339
2	0	0.3498	-0.0389	0.0080	-0.1640	0.0179	1.1534	0.0810	-1.1735	0.0881
2	0	0.3998	-0.0833	0.0093	-0.1623	0.0206	1.4440	0.0941	-1.1531	0.0941
2	0	0.4496	-0.1358	0.0104	-0.1551	0.0251	1.8147	0.1086	-1.1194	0.0923
2	0	0.4995	-0.1678	0.0117	-0.1650	0.0323	2.2055	0.1246	-1.2110	0.1119
2	0	0.5551	-0.1427	0.0125	-0.1971	0.0397	2.6273	0.1453	-1.0771	0.1174
2	0	0.5996	-0.0182	0.0128	-0.2830	0.0465	2.8334	0.1577	-0.9125	0.1318
2	0	0.6497	-0.3313	0.0803	-0.3903	0.0750	3.7296	0.3092	-1.2597	0.1007
2	0	0.6996	-0.3738	0.0797	-0.4570	0.0876	4.1862	0.3356	-1.4195	0.1140
2	0	0.7495	-0.3771	0.0782	-0.5426	0.1011	4.6383	0.3630	-1.3543	0.1030
2	0	0.7996	-0.3715	0.0764	-0.5942	0.1162	5.0639	0.3902	-1.2097	0.1054
2	0	0.8578	-0.3721	0.0727	-0.6695	0.1340	5.3739	0.4298	-1.5649	0.1327
2	0	0.9100	-0.4110	0.0715	-0.6816	0.1548	5.7950	0.4675	-1.0543	0.1443
2	0	0.9727	-0.1932	0.0693	-0.8310	0.1768	5.9384	0.5222	-1.3409	0.3806
3	0	0.1938	-0.0511	0.0103	0.2068	0.0157	-0.4770	0.0312	1.4533	0.1186
3	0	0.2357	0.0666	0.0080	-0.0183	0.0082	-0.2033	0.0221	5.6766	0.3597
3	0	0.2995	-0.0004	0.0067	0.5287	0.0474	-1.0511	0.0841	5.5141	0.3657
3	0	0.3493	-0.0345	0.0082	0.9434	0.0799	-1.6424	0.1317	5.5813	0.3892
3	0	0.4000	-0.0433	0.0114	1.2971	0.1171	-2.1854	0.1895	5.7012	0.3740
3	0	0.4497	-0.0852	0.0171	1.6374	0.1553	-2.6639	0.2477	5.6912	0.3860
3	0	0.4997	-0.0685	0.0195	1.9165	0.1901	-3.1263	0.2979	5.6624	0.3780
3	0	0.5556	-0.1214	0.0268	2.2184	0.2333	-3.6733	0.3597	5.7148	0.3796
3	0	0.5995	-0.2896	0.0469	2.4301	0.3169	-3.7996	0.3474	5.3444	0.3845
3	0	0.6498	-0.3019	0.0534	2.7040	0.3620	-4.2063	0.3946	5.4985	0.3839
3	0	0.6890	-0.3149	0.0599	2.9245	0.3978	-4.5909	0.4312	5.2007	0.3916
3	0	0.7495	-0.2931	0.0723	3.3351	0.4575	-5.1259	0.4879	5.4894	0.3832
3	0	0.7998	-0.3105	0.0835	3.5179	0.5097	-5.7293	0.5350	4.9771	0.3951
3	0	0.8577	-0.2836	0.0971	3.9345	0.5710	-6.3981	0.5926	5.4043	0.3993
3	0	0.9178	-0.1753	0.1151	4.2317	0.6346	-7.2288	0.6585	4.8834	0.3969
3	0	0.9729	-0.1636	0.1540	4.5054	0.6916	-8.0444	0.7035	4.9980	0.5101
4	0	0.2001	0.0166	0.0045	-0.0269	0.0032	0.2205	0.0214	-1.0776	0.1192
4	0	0.2502	0.0317	0.0030	0.0557	0.0047	0.2055	0.0235	-3.1720	0.2859
4	0	0.3001	-0.0001	0.0052	-0.0027	0.0071	0.5091	0.0441	-3.0424	0.3088
4	0	0.3502	-0.0470	0.0087	-0.0857	0.0199	1.0815	0.1070	-1.0644	0.1101
4	0	0.4002	-0.0739	0.0096	-0.0243	0.0232	1.3526	0.1266	-0.9845	0.1135
4	0	0.4500	-0.1171	0.0106	0.0033	0.0295	1.6599	0.1466	-1.0691	0.1231
4	0	0.5001	-0.1358	0.0118	0.0299	0.0383	2.0349	0.1702	-0.7133	0.1237
4	0	0.5560	-0.1393	0.0119	0.0495	0.0483	2.3323	0.1963	-0.8634	0.1341
4	0	0.6001	-0.3452	0.0865	-0.0380	0.0863	2.8582	0.3242	-1.6836	0.1001
4	0	0.6501	-0.3757	0.0887	-0.0521	0.1021	3.3000	0.3531	-1.0764	0.1023
4	0	0.6999	-0.3516	0.0902	-0.1134	0.1187	3.6439	0.3850	-0.7832	0.1090
4	0	0.7500	-0.3896	0.0912	-0.1902	0.1366	3.8709	0.4161	-1.1577	0.1147
4	0	0.8002	-0.3819	0.0933	-0.2058	0.1547	4.1178	0.4492	-1.0664	0.1281
4	0	0.8582	-0.4086	0.0951	-0.2431	0.1788	4.3097	0.4884	-1.0024	0.1653
4	0	0.9101	-0.3891	0.0968	-0.3275	0.2004	4.3099	0.5252	-1.2813	0.1886
4	0	0.9728	-0.2066	0.0888	-0.3118	0.2182	4.6200	0.5642	-0.0692	0.2948

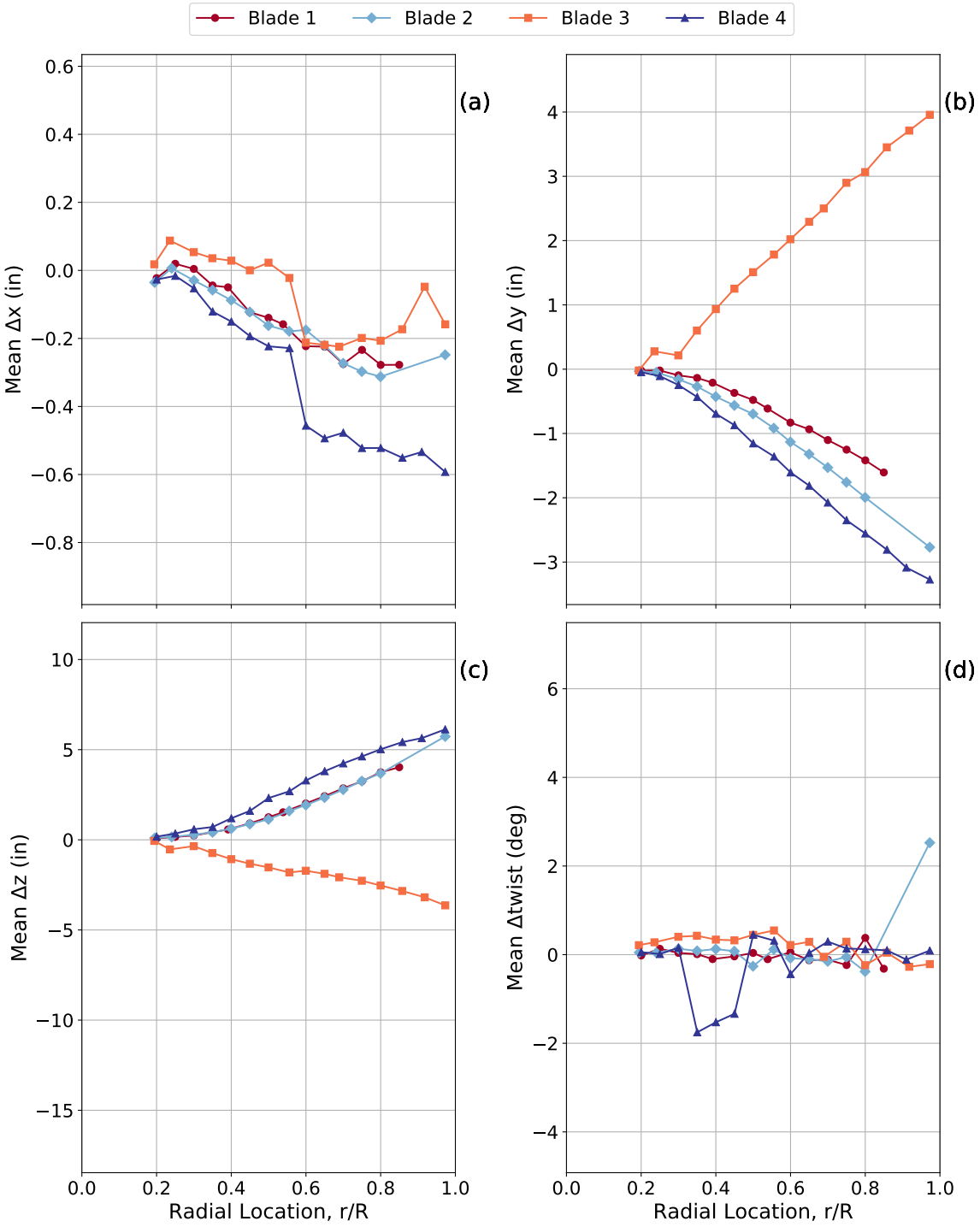


Figure 2.19-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$ NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0228	0.0042	-0.0211	0.0031	0.0787	0.0112	-0.0186	0.0869
1	4.92	0.2499	0.0195	0.0046	-0.0204	0.0081	0.1613	0.0236	0.1326	0.1112
1	4.92	0.2998	0.0043	0.0032	-0.0958	0.0125	0.2399	0.0346	0.0396	0.1774
1	4.92	0.3498	-0.0443	0.0040	-0.1364	0.0221	0.4234	0.0606	0.0106	0.1310
1	4.92	0.3913	-0.0498	0.0055	-0.2100	0.0322	0.5733	0.0830	-0.1005	0.1259
1	4.92	0.4496	-0.1229	0.0056	-0.3690	0.0406	0.9087	0.1111	-0.0394	0.1229
1	4.92	0.4997	-0.1395	0.0127	-0.4788	0.0526	1.2522	0.1394	0.0381	0.1307
1	4.92	0.5387	-0.1583	0.0061	-0.6131	0.0564	1.5289	0.1642	-0.1021	0.1394
1	4.92	0.5996	-0.2229	0.0068	-0.8306	0.0668	2.0161	0.1999	0.0548	0.1341
1	4.92	0.6498	-0.2242	0.0076	-0.9350	0.0766	2.4208	0.2366	-0.1276	0.1286
1	4.92	0.6998	-0.2752	0.0087	-1.1026	0.0858	2.8580	0.2721	-0.1149	0.1632
1	4.92	0.7500	-0.2337	0.0087	-1.2519	0.0964	3.2474	0.3136	-0.2349	0.1577
1	4.92	0.8001	-0.2778	0.0105	-1.4179	0.1081	3.7455	0.3681	0.3788	0.4259
1	4.92	0.8497	-0.2776	0.0112	-1.6062	0.1190	4.0263	0.4161	-0.3179	0.1764
2	4.92	0.1949	-0.0355	0.0027	-0.0320	0.0021	0.0965	0.0094	0.0477	0.0630
2	4.92	0.2405	0.0065	0.0025	-0.0505	0.0048	0.1591	0.0178	0.0435	0.0889
2	4.92	0.2999	-0.0295	0.0023	-0.1583	0.0081	0.2842	0.0304	0.1333	0.1329
2	4.92	0.3498	-0.0579	0.0034	-0.2706	0.0164	0.4165	0.0513	0.0842	0.0982
2	4.92	0.3998	-0.0877	0.0040	-0.4275	0.0241	0.6175	0.0753	0.1254	0.0942
2	4.92	0.4496	-0.1223	0.0045	-0.5641	0.0287	0.8730	0.0947	0.0778	0.0946
2	4.92	0.4995	-0.1623	0.0054	-0.6961	0.0368	1.1353	0.1172	-0.2615	0.1339
2	4.92	0.5551	-0.1790	0.0059	-0.9178	0.0423	1.5994	0.1451	0.1185	0.1007
2	4.92	0.5996	-0.1753	0.0059	-1.1318	0.0493	1.9262	0.1661	-0.0795	0.1286
2	4.92	0.6497	-0.2204	0.0071	-1.3211	0.0566	2.3429	0.1919	-0.1039	0.1125
2	4.92	0.6996	-0.2731	0.0075	-1.5300	0.0645	2.7817	0.2137	-0.1521	0.1282
2	4.92	0.7495	-0.2974	0.0093	-1.7583	0.0745	3.2581	0.2407	-0.0545	0.1683
2	4.92	0.7996	-0.3125	0.0118	-1.9947	0.0858	3.6827	0.2693	-0.3811	0.2105
2	4.92	0.9727	-0.2482	0.0655	-2.7693	0.1235	5.7318	0.4265	2.5257	0.4512
3	4.92	0.1938	0.0179	0.0053	-0.0206	0.0045	-0.0620	0.0090	0.2135	0.1153
3	4.92	0.2357	0.0876	0.0048	0.2778	0.0239	-0.5325	0.0492	0.2785	0.1225
3	4.92	0.2995	0.0536	0.0057	0.2142	0.0157	-0.3520	0.0469	0.4031	0.2444
3	4.92	0.3493	0.0357	0.0038	0.6011	0.0410	-0.7325	0.0874	0.4263	0.2155
3	4.92	0.4000	0.0286	0.0068	0.9345	0.0679	-1.0743	0.1347	0.3391	0.2178
3	4.92	0.4497	0.0003	0.0094	1.2522	0.0922	-1.3249	0.1730	0.3222	0.2226
3	4.92	0.4997	0.0227	0.0129	1.5086	0.1186	-1.5303	0.2174	0.4448	0.2302
3	4.92	0.5556	-0.0222	0.0163	1.7826	0.1491	-1.8084	0.2679	0.5459	0.2291
3	4.92	0.5995	-0.2126	0.0511	2.0202	0.2809	-1.7155	0.2803	0.2161	0.2071
3	4.92	0.6498	-0.2188	0.0603	2.2921	0.3153	-1.8849	0.3185	0.2889	0.2338
3	4.92	0.6890	-0.2243	0.0685	2.4998	0.3448	-2.0777	0.3489	-0.0489	0.2140
3	4.92	0.7495	-0.1987	0.0818	2.8987	0.3888	-2.2697	0.3934	0.2911	0.2176
3	4.92	0.7998	-0.2067	0.0946	3.0658	0.4263	-2.5327	0.4249	-0.2382	0.2077
3	4.92	0.8577	-0.1731	0.1098	3.4512	0.4705	-2.8365	0.4616	0.0446	0.2250
3	4.92	0.9178	-0.0480	0.1267	3.7105	0.5164	-3.1888	0.4997	-0.2744	0.2417
3	4.92	0.9729	-0.1586	0.1662	3.9566	0.5562	-3.6354	0.5391	-0.2139	0.3784
4	4.92	0.2001	-0.0269	0.0154	-0.0467	0.0085	0.1747	0.0243	0.0559	0.0365
4	4.92	0.2502	-0.0161	0.0130	-0.1083	0.0293	0.3503	0.0468	0.0129	0.0579
4	4.92	0.3001	-0.0527	0.0149	-0.2470	0.0508	0.5839	0.0719	0.1563	0.0792
4	4.92	0.3502	-0.1212	0.0231	-0.4331	0.0924	0.7125	0.0724	-1.7524	0.4699
4	4.92	0.4002	-0.1505	0.0329	-0.6934	0.1497	1.1943	0.1265	-1.5252	0.5245
4	4.92	0.4500	-0.1934	0.0351	-0.8711	0.1800	1.6049	0.1554	-1.3351	0.5905
4	4.92	0.5001	-0.2233	0.0449	-1.1545	0.2635	2.3170	0.2956	0.4489	0.1307
4	4.92	0.5560	-0.2285	0.0465	-1.3591	0.3000	2.6936	0.3346	0.3157	0.1305
4	4.92	0.6001	-0.4565	0.1547	-1.6062	0.3241	3.2945	0.5602	-0.4388	0.1518
4	4.92	0.6501	-0.4937	0.1545	-1.8128	0.3571	3.8046	0.6161	0.0383	0.1550
4	4.92	0.6999	-0.4772	0.1532	-2.0753	0.3895	4.2380	0.6713	0.2938	0.1521
4	4.92	0.7500	-0.5223	0.1499	-2.3500	0.4213	4.6264	0.7282	0.1384	0.1540
4	4.92	0.8002	-0.5221	0.1450	-2.5560	0.4542	5.0226	0.7857	0.1228	0.1704
4	4.92	0.8582	-0.5508	0.1373	-2.8083	0.4913	5.4200	0.8525	0.0970	0.1562
4	4.92	0.9101	-0.5338	0.1270	-3.0859	0.5259	5.6381	0.9125	-0.1114	0.1814
4	4.92	0.9728	-0.5926	0.1154	-3.2725	0.5757	6.1248	0.9905	0.0916	0.3225

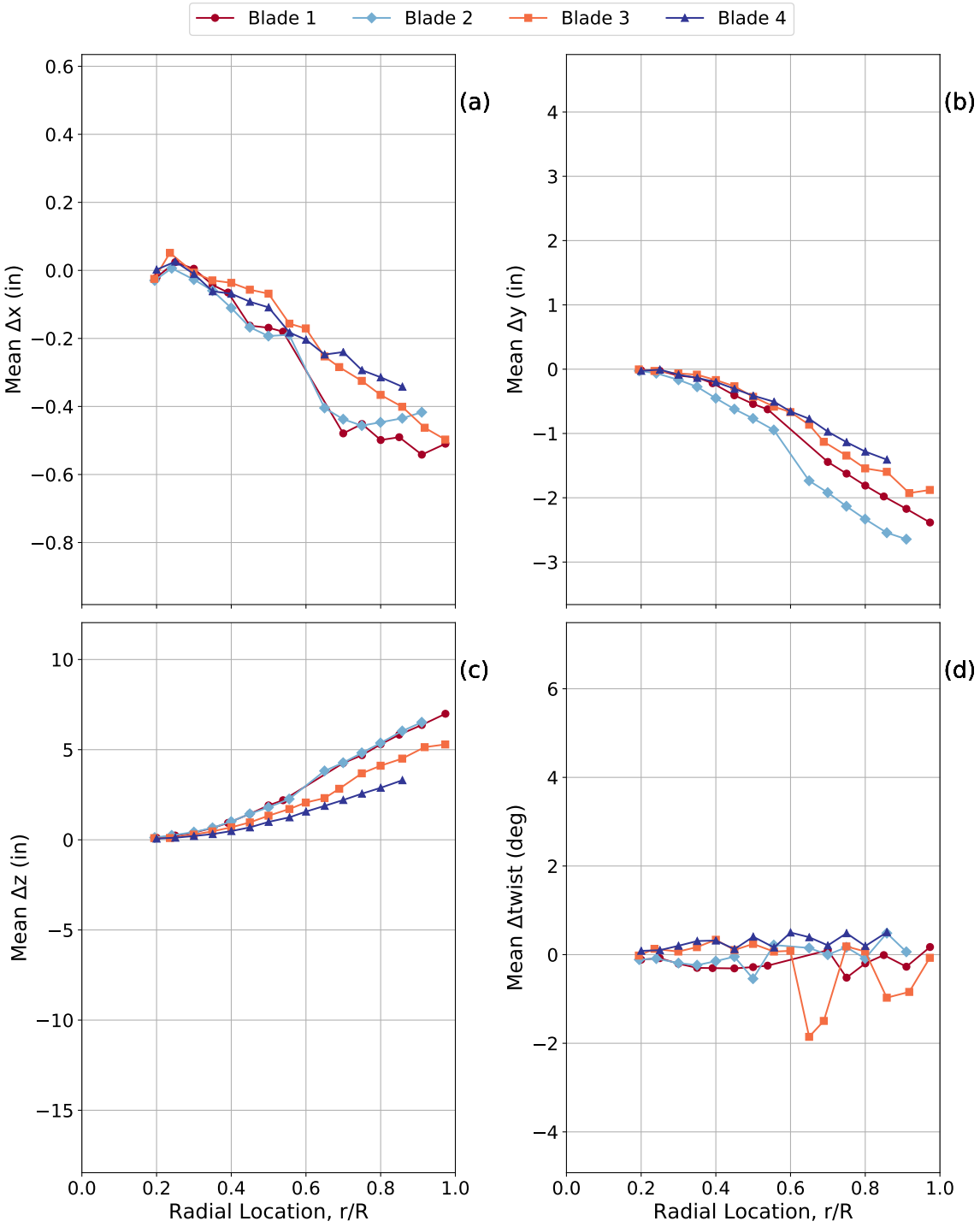


Figure 2.19-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	-0.0205	0.0066	-0.0179	0.0015	0.1139	0.0068	-0.1137	0.0305
1	9.84	0.2499	0.0242	0.0022	-0.0252	0.0038	0.2366	0.0132	-0.0794	0.0520
1	9.84	0.2998	0.0048	0.0040	-0.1001	0.0074	0.3990	0.0221	-0.2037	0.0678
1	9.84	0.3498	-0.0427	0.0095	-0.1299	0.0127	0.6535	0.0352	-0.2986	0.0690
1	9.84	0.3913	-0.0650	0.0137	-0.2184	0.0191	0.9365	0.0503	-0.3040	0.0765
1	9.84	0.4496	-0.1624	0.0194	-0.4064	0.0276	1.4370	0.0702	-0.3105	0.0862
1	9.84	0.4997	-0.1686	0.0243	-0.5411	0.0368	1.9095	0.0895	-0.2811	0.1098
1	9.84	0.5387	-0.1802	0.0273	-0.6248	0.0453	2.1958	0.1072	-0.2485	0.1312
1	9.84	0.6998	-0.4792	0.1098	-1.4428	0.1614	4.2569	0.4148	0.1000	0.1760
1	9.84	0.7500	-0.4515	0.1046	-1.6247	0.1788	4.6920	0.4598	-0.5196	0.1386
1	9.84	0.8001	-0.4986	0.0984	-1.8108	0.1956	5.2989	0.5026	-0.1973	0.1435
1	9.84	0.8497	-0.4904	0.0903	-1.9799	0.2127	5.8289	0.5487	-0.0102	0.1440
1	9.84	0.9102	-0.5417	0.0791	-2.1729	0.2352	6.3698	0.6109	-0.2724	0.1504
1	9.84	0.9734	-0.5096	0.0721	-2.3845	0.2671	6.9915	0.6851	0.1721	0.1751
2	9.84	0.1949	-0.0296	0.0082	-0.0269	0.0014	0.1240	0.0064	-0.1131	0.0328
2	9.84	0.2405	0.0063	0.0025	-0.0631	0.0032	0.2469	0.0121	-0.0897	0.0478
2	9.84	0.2999	-0.0270	0.0053	-0.1657	0.0074	0.4283	0.0219	-0.1903	0.0718
2	9.84	0.3498	-0.0596	0.0109	-0.2740	0.0131	0.6656	0.0339	-0.2373	0.0810
2	9.84	0.3998	-0.1104	0.0157	-0.4519	0.0209	1.0133	0.0521	-0.1473	0.0822
2	9.84	0.4496	-0.1671	0.0203	-0.6208	0.0298	1.4404	0.0677	-0.0456	0.0889
2	9.84	0.4995	-0.1930	0.0238	-0.7664	0.0391	1.7987	0.0876	-0.5435	0.1329
2	9.84	0.5551	-0.1893	0.0281	-0.9456	0.0529	2.2648	0.1114	0.2170	0.1589
2	9.84	0.6497	-0.4044	0.0698	-1.7356	0.1485	3.8201	0.2988	0.1510	0.1589
2	9.84	0.6996	-0.4374	0.0750	-1.9196	0.1584	4.2751	0.3239	-0.0018	0.1558
2	9.84	0.7495	-0.4563	0.0811	-2.1322	0.1687	4.8231	0.3511	0.1663	0.1625
2	9.84	0.7996	-0.4466	0.0884	-2.3320	0.1787	5.3705	0.3785	-0.0863	0.1408
2	9.84	0.8578	-0.4347	0.0937	-2.5442	0.1887	6.0359	0.4177	0.4849	0.1430
2	9.84	0.9100	-0.4170	0.0967	-2.6443	0.1949	6.5186	0.4504	0.0635	0.1513
3	9.84	0.1938	-0.0249	0.0024	-0.0035	0.0017	0.0927	0.0070	-0.0205	0.0498
3	9.84	0.2357	0.0515	0.0029	-0.0277	0.0042	0.1000	0.0125	0.1313	0.0679
3	9.84	0.2995	-0.0064	0.0023	-0.0657	0.0077	0.2917	0.0243	0.0694	0.1009
3	9.84	0.3493	-0.0294	0.0028	-0.0850	0.0104	0.4676	0.0358	0.1692	0.0942
3	9.84	0.4000	-0.0366	0.0033	-0.1697	0.0190	0.6940	0.0568	0.3358	0.0859
3	9.84	0.4497	-0.0568	0.0038	-0.2657	0.0238	0.9644	0.0701	0.1047	0.0932
3	9.84	0.4997	-0.0684	0.0039	-0.4298	0.0299	1.3367	0.0879	0.2418	0.0919
3	9.84	0.5556	-0.1566	0.0044	-0.5829	0.0373	1.7083	0.1060	0.0686	0.1022
3	9.84	0.5995	-0.1706	0.0063	-0.6674	0.0439	2.0668	0.1251	0.0859	0.1161
3	9.84	0.6498	-0.2530	0.0322	-0.8637	0.0646	2.3121	0.1448	-1.8546	0.8522
3	9.84	0.6890	-0.2843	0.0629	-1.1296	0.1070	2.8305	0.1664	-1.4957	0.9168
3	9.84	0.7495	-0.3248	0.0950	-1.3442	0.1707	3.6867	0.3081	0.1848	0.0996
3	9.84	0.7998	-0.3660	0.0951	-1.5434	0.1835	4.1099	0.3421	0.0711	0.1087
3	9.84	0.8577	-0.4010	0.0947	-1.5967	0.2058	4.5048	0.3476	-0.9722	0.8092
3	9.84	0.9178	-0.4625	0.0982	-1.9270	0.2504	5.1391	0.5730	-0.8412	0.1364
3	9.84	0.9729	-0.4973	0.1633	-1.8786	0.2816	5.2895	0.4761	-0.0714	0.2116
4	9.84	0.2001	0.0021	0.0023	-0.0257	0.0014	0.0663	0.0080	0.0853	0.0551
4	9.84	0.2502	0.0259	0.0023	-0.0071	0.0048	0.1176	0.0169	0.1007	0.0684
4	9.84	0.3001	-0.0107	0.0019	-0.0860	0.0079	0.2101	0.0301	0.2003	0.1106
4	9.84	0.3502	-0.0614	0.0023	-0.1359	0.0121	0.3178	0.0399	0.3071	0.1053
4	9.84	0.4002	-0.0686	0.0033	-0.2003	0.0213	0.4844	0.0666	0.3180	0.0910
4	9.84	0.4500	-0.0922	0.0030	-0.3055	0.0256	0.6896	0.0807	0.1237	0.1085
4	9.84	0.5001	-0.1089	0.0042	-0.4122	0.0321	0.9941	0.0994	0.4045	0.1024
4	9.84	0.5560	-0.1828	0.0040	-0.5068	0.0386	1.2474	0.1197	0.1609	0.1105
4	9.84	0.6001	-0.2038	0.0050	-0.6583	0.0449	1.5658	0.1352	0.4991	0.1118
4	9.84	0.6501	-0.2474	0.0056	-0.7720	0.0524	1.8826	0.1533	0.3924	0.1080
4	9.84	0.6999	-0.2401	0.0073	-0.9722	0.0611	2.2079	0.1730	0.2085	0.1329
4	9.84	0.7500	-0.2935	0.0074	-1.1356	0.0687	2.5598	0.1898	0.4832	0.1302
4	9.84	0.8002	-0.3143	0.0087	-1.2818	0.0762	2.8851	0.2075	0.1938	0.1613
4	9.84	0.8582	-0.3420	0.0112	-1.4079	0.0934	3.3047	0.2336	0.5069	0.2351

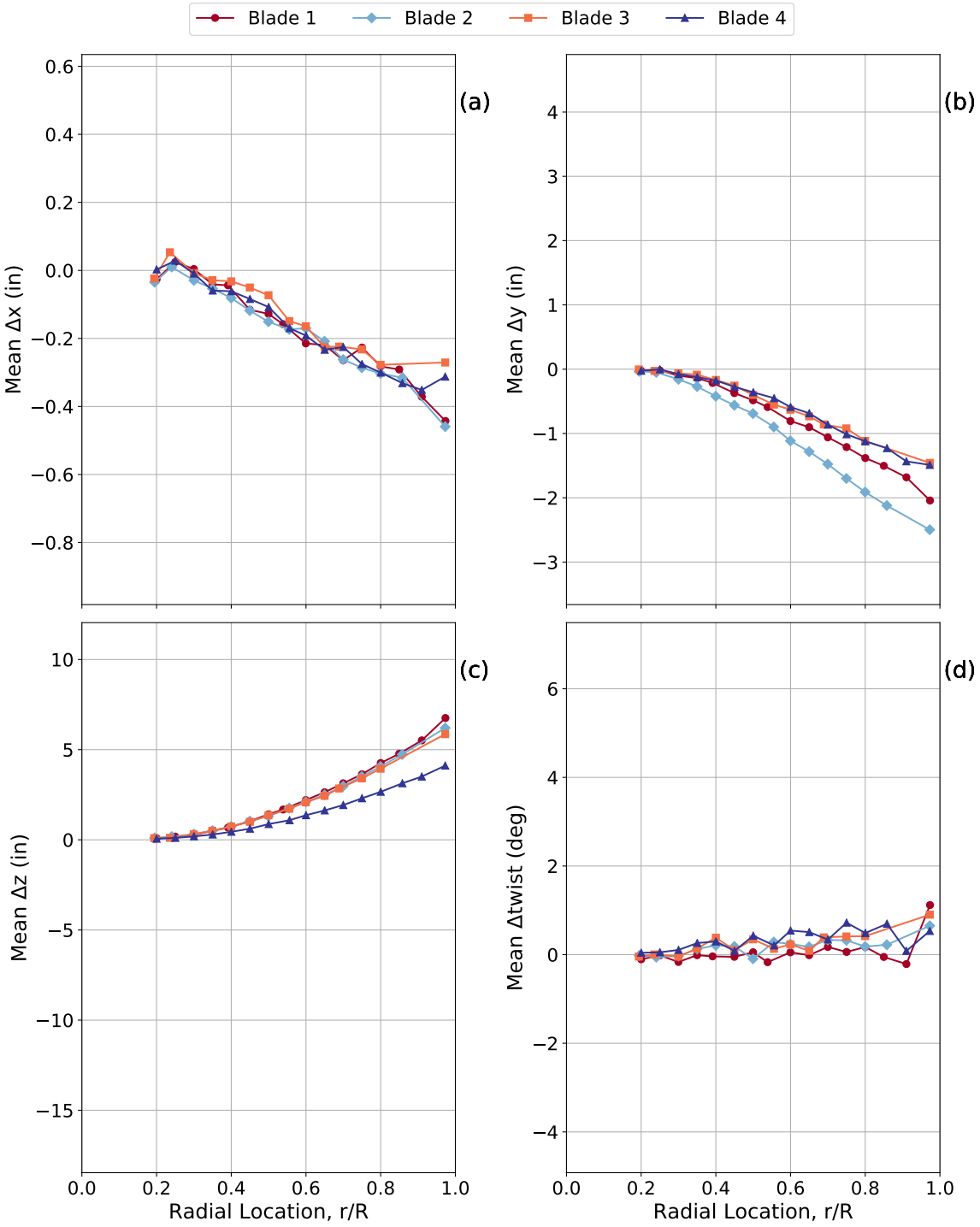


Figure 2.19-5. 15° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0263	0.0029	-0.0234	0.0019	0.0859	0.0090	-0.1046	0.0689
1	15.12	0.2499	0.0246	0.0033	-0.0189	0.0053	0.1778	0.0202	-0.0159	0.0857
1	15.12	0.2998	0.0041	0.0024	-0.1010	0.0078	0.2769	0.0293	-0.1653	0.1347
1	15.12	0.3498	-0.0412	0.0042	-0.1387	0.0132	0.4941	0.0516	-0.0123	0.1093
1	15.12	0.3913	-0.0439	0.0038	-0.2140	0.0197	0.6744	0.0712	-0.0392	0.1068
1	15.12	0.4496	-0.1157	0.0039	-0.3718	0.0254	1.0359	0.0966	-0.0492	0.1151
1	15.12	0.4997	-0.1279	0.0044	-0.4840	0.0321	1.4155	0.1231	0.0540	0.1143
1	15.12	0.5387	-0.1581	0.0050	-0.5897	0.0365	1.6808	0.1430	-0.1699	0.1204
1	15.12	0.5996	-0.2147	0.0056	-0.8066	0.0436	2.2030	0.1772	0.0525	0.1106
1	15.12	0.6498	-0.2195	0.0065	-0.9023	0.0510	2.6370	0.2074	-0.0120	0.1235
1	15.12	0.6998	-0.2642	0.0071	-1.0604	0.0587	3.1363	0.2396	0.1738	0.1257
1	15.12	0.7500	-0.2269	0.0081	-1.2120	0.0666	3.6358	0.2765	0.0603	0.1355
1	15.12	0.8001	-0.2823	0.0096	-1.3820	0.0755	4.2588	0.3163	0.1727	0.1682
1	15.12	0.8497	-0.2913	0.0111	-1.5033	0.0842	4.7736	0.3599	-0.0521	0.1415
1	15.12	0.9102	-0.3715	0.0135	-1.6822	0.0942	5.5151	0.4056	-0.2125	0.2140
1	15.12	0.9734	-0.4427	0.0186	-2.0426	0.1058	6.7549	0.4587	1.1192	0.7926
2	15.12	0.1949	-0.0347	0.0023	-0.0337	0.0015	0.1033	0.0071	-0.0188	0.0460
2	15.12	0.2405	0.0101	0.0024	-0.0494	0.0032	0.1758	0.0123	-0.0570	0.0709
2	15.12	0.2999	-0.0293	0.0021	-0.1574	0.0059	0.3184	0.0246	-0.0294	0.1036
2	15.12	0.3498	-0.0537	0.0035	-0.2697	0.0095	0.5116	0.0394	0.1272	0.0881
2	15.12	0.3998	-0.0813	0.0039	-0.4218	0.0150	0.7473	0.0596	0.2095	0.1033
2	15.12	0.4496	-0.1181	0.0039	-0.5610	0.0194	1.0344	0.0789	0.1840	0.1032
2	15.12	0.4995	-0.1509	0.0042	-0.6906	0.0244	1.3104	0.1003	-0.0940	0.0998
2	15.12	0.5551	-0.1735	0.0044	-0.8988	0.0296	1.7619	0.1231	0.2838	0.1070
2	15.12	0.5996	-0.1700	0.0048	-1.1147	0.0355	2.1020	0.1390	0.2411	0.1204
2	15.12	0.6497	-0.2084	0.0057	-1.2823	0.0421	2.4936	0.1620	0.1753	0.1227
2	15.12	0.6996	-0.2621	0.0066	-1.4766	0.0501	2.9769	0.1836	0.3301	0.1287
2	15.12	0.7495	-0.2859	0.0075	-1.6998	0.0587	3.5106	0.2088	0.3235	0.1407
2	15.12	0.7996	-0.3031	0.0084	-1.9111	0.0671	4.0691	0.2382	0.1816	0.1378
2	15.12	0.8578	-0.3156	0.0104	-2.1214	0.0766	4.7350	0.2826	0.2226	0.1597
2	15.12	0.9727	-0.4592	0.0160	-2.4972	0.1014	6.2036	0.3820	0.6514	0.1973
3	15.12	0.1938	-0.0238	0.0025	-0.0040	0.0017	0.0946	0.0060	-0.0429	0.0508
3	15.12	0.2357	0.0533	0.0029	-0.0272	0.0037	0.1071	0.0115	0.0045	0.0623
3	15.12	0.2995	-0.0078	0.0021	-0.0642	0.0056	0.3054	0.0220	-0.0433	0.1040
3	15.12	0.3493	-0.0288	0.0034	-0.0857	0.0093	0.4967	0.0339	0.1336	0.0998
3	15.12	0.4000	-0.0323	0.0033	-0.1672	0.0153	0.7387	0.0537	0.3832	0.1045
3	15.12	0.4497	-0.0503	0.0031	-0.2556	0.0182	0.9982	0.0666	0.1014	0.1120
3	15.12	0.4997	-0.0730	0.0034	-0.4013	0.0236	1.3601	0.0827	0.3451	0.1136
3	15.12	0.5556	-0.1492	0.0045	-0.5506	0.0301	1.7245	0.1056	0.1310	0.1098
3	15.12	0.5995	-0.1641	0.0051	-0.6301	0.0370	2.0837	0.1239	0.2312	0.1217
3	15.12	0.6498	-0.2254	0.0054	-0.7333	0.0437	2.4379	0.1443	0.0866	0.1213
3	15.12	0.6890	-0.2239	0.0057	-0.8594	0.0504	2.8479	0.1648	0.3900	0.1544
3	15.12	0.7495	-0.2323	0.0069	-0.9206	0.0589	3.4078	0.1910	0.4108	0.1453
3	15.12	0.7998	-0.2775	0.0074	-1.1157	0.0686	3.9434	0.2185	0.4174	0.1540
3	15.12	0.9729	-0.2708	0.0182	-1.4575	0.1100	5.8606	0.3394	0.9020	0.3177
4	15.12	0.2001	0.0026	0.0027	-0.0250	0.0016	0.0589	0.0077	0.0419	0.0473
4	15.12	0.2502	0.0285	0.0023	-0.0031	0.0042	0.1062	0.0156	0.0524	0.0776
4	15.12	0.3001	-0.0095	0.0025	-0.0777	0.0077	0.1890	0.0265	0.1063	0.1006
4	15.12	0.3502	-0.0593	0.0029	-0.1236	0.0103	0.2930	0.0402	0.2618	0.1034
4	15.12	0.4002	-0.0614	0.0033	-0.1773	0.0188	0.4449	0.0632	0.2966	0.0920
4	15.12	0.4500	-0.0841	0.0030	-0.2745	0.0212	0.6168	0.0802	0.0848	0.0967
4	15.12	0.5001	-0.1080	0.0032	-0.3599	0.0267	0.8727	0.1030	0.4263	0.1018
4	15.12	0.5560	-0.1699	0.0040	-0.4509	0.0338	1.0869	0.1310	0.2074	0.1025
4	15.12	0.6001	-0.1918	0.0044	-0.5892	0.0394	1.3634	0.1549	0.5426	0.1147
4	15.12	0.6501	-0.2333	0.0047	-0.6862	0.0451	1.6306	0.1822	0.5087	0.1093
4	15.12	0.6999	-0.2253	0.0054	-0.8633	0.0515	1.9271	0.2142	0.3394	0.1348
4	15.12	0.7500	-0.2754	0.0069	-1.0130	0.0583	2.3033	0.2465	0.7210	0.1322
4	15.12	0.8002	-0.3004	0.0080	-1.1227	0.0665	2.6623	0.2852	0.4876	0.1673
4	15.12	0.8582	-0.3315	0.0098	-1.2285	0.0753	3.1354	0.3335	0.6964	0.1811
4	15.12	0.9101	-0.3514	0.0125	-1.4337	0.0875	3.5080	0.3758	0.0835	0.2765
4	15.12	0.9728	-0.3124	0.0171	-1.4892	0.0952	4.1142	0.4318	0.5339	0.2012

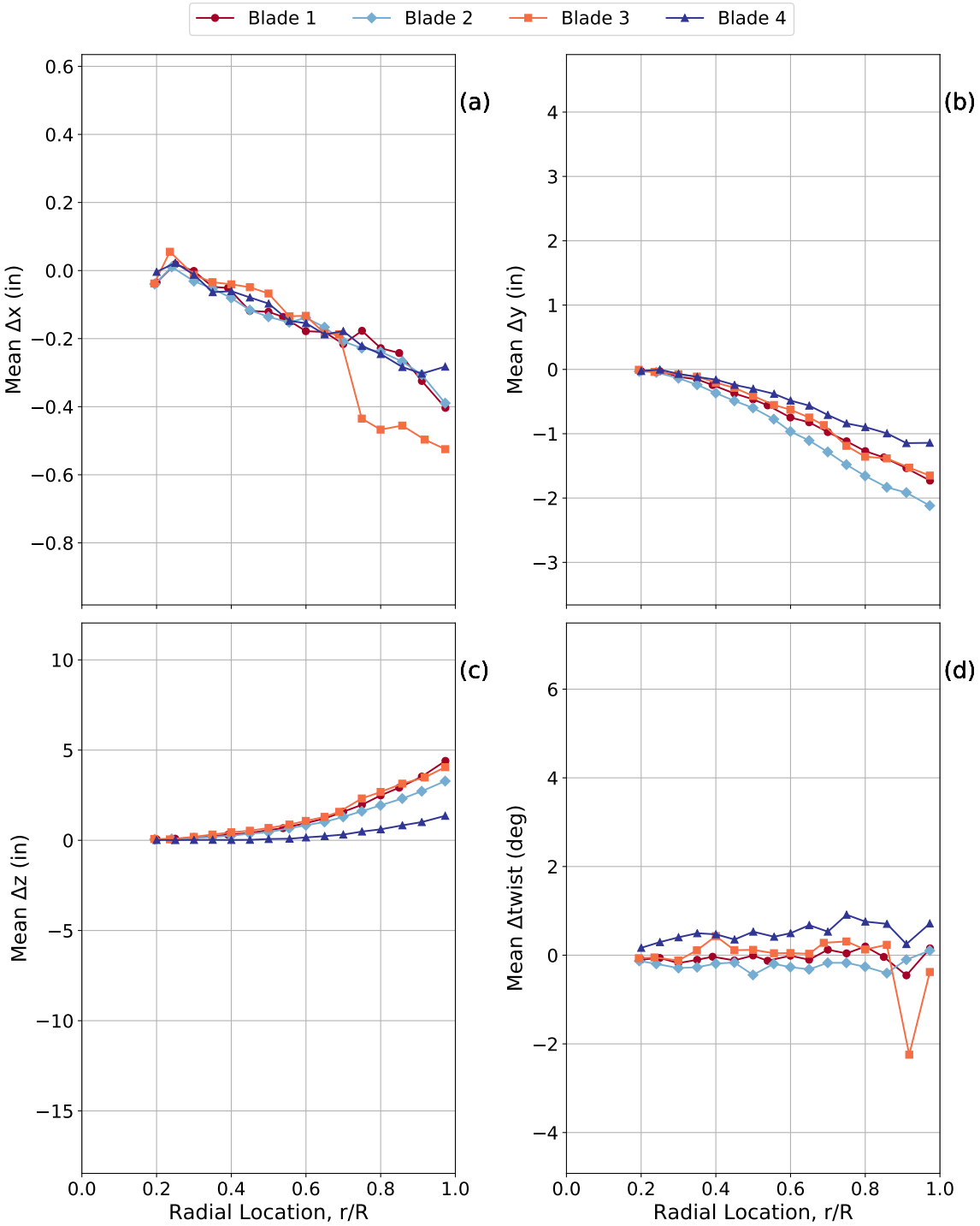


Figure 2.19-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0350	0.0034	-0.0264	0.0016	0.0474	0.0054	-0.0999	0.0454
1	29.88	0.2499	0.0186	0.0035	-0.0278	0.0036	0.0901	0.0114	-0.0627	0.0617
1	29.88	0.2998	-0.0012	0.0026	-0.1152	0.0060	0.1342	0.0190	-0.1785	0.0924
1	29.88	0.3498	-0.0480	0.0033	-0.1547	0.0104	0.2302	0.0316	-0.1046	0.0777
1	29.88	0.3913	-0.0510	0.0033	-0.2434	0.0148	0.3081	0.0448	-0.0347	0.0838
1	29.88	0.4496	-0.1185	0.0041	-0.3740	0.0197	0.4049	0.0632	-0.1173	0.0943
1	29.88	0.4997	-0.1212	0.0045	-0.4659	0.0252	0.5634	0.0795	-0.0069	0.0921
1	29.88	0.5387	-0.1362	0.0042	-0.5594	0.0295	0.6727	0.0956	-0.1254	0.0908
1	29.88	0.5996	-0.1781	0.0043	-0.7478	0.0366	0.9516	0.1219	-0.0117	0.0941
1	29.88	0.6498	-0.1805	0.0046	-0.8224	0.0429	1.2061	0.1482	-0.1025	0.0915
1	29.88	0.6998	-0.2161	0.0049	-0.9747	0.0499	1.5806	0.1754	0.1241	0.1010
1	29.88	0.7500	-0.1770	0.0053	-1.1176	0.0570	1.9702	0.2089	0.0413	0.1025
1	29.88	0.8001	-0.2280	0.0059	-1.2706	0.0647	2.4882	0.2405	0.1950	0.1010
1	29.88	0.8497	-0.2423	0.0067	-1.3684	0.0729	2.9185	0.2754	-0.0393	0.1049
1	29.88	0.9102	-0.3244	0.0085	-1.5353	0.0817	3.5318	0.3210	-0.4548	0.1092
1	29.88	0.9734	-0.4034	0.0120	-1.7287	0.0919	4.4012	0.3656	0.1543	0.1281
2	29.88	0.1949	-0.0396	0.0023	-0.0312	0.0010	0.0523	0.0049	-0.1299	0.0428
2	29.88	0.2405	0.0106	0.0025	-0.0456	0.0031	0.0764	0.0114	-0.1958	0.0528
2	29.88	0.2999	-0.0313	0.0022	-0.1375	0.0051	0.1250	0.0201	-0.2904	0.0906
2	29.88	0.3498	-0.0530	0.0025	-0.2387	0.0086	0.1881	0.0317	-0.2718	0.0697
2	29.88	0.3998	-0.0807	0.0036	-0.3680	0.0141	0.2563	0.0504	-0.1894	0.0743
2	29.88	0.4496	-0.1161	0.0037	-0.4892	0.0175	0.3646	0.0645	-0.1648	0.0769
2	29.88	0.4995	-0.1360	0.0044	-0.5981	0.0222	0.4480	0.0832	-0.4452	0.0859
2	29.88	0.5551	-0.1522	0.0040	-0.7735	0.0284	0.6661	0.1053	-0.1956	0.0841
2	29.88	0.5996	-0.1389	0.0039	-0.9650	0.0336	0.8325	0.1258	-0.2692	0.0761
2	29.88	0.6497	-0.1665	0.0048	-1.1059	0.0410	1.0161	0.1478	-0.3188	0.0877
2	29.88	0.6996	-0.2082	0.0049	-1.2831	0.0482	1.2972	0.1682	-0.1715	0.0893
2	29.88	0.7495	-0.2279	0.0053	-1.4804	0.0563	1.6110	0.1911	-0.1723	0.0833
2	29.88	0.7996	-0.2385	0.0054	-1.6560	0.0632	1.9363	0.2135	-0.2607	0.0861
2	29.88	0.8578	-0.2671	0.0060	-1.8325	0.0738	2.3142	0.2427	-0.4042	0.0924
2	29.88	0.9100	-0.3059	0.0069	-1.9151	0.0837	2.7194	0.2717	-0.1013	0.1625
2	29.88	0.9727	-0.3895	0.0092	-2.1184	0.0950	3.2829	0.3094	0.1034	0.1305
3	29.88	0.1938	-0.0381	0.0023	-0.0057	0.0011	0.0736	0.0049	-0.0677	0.0340
3	29.88	0.2357	0.0552	0.0026	-0.0392	0.0031	0.0522	0.0099	-0.0505	0.0428
3	29.88	0.2995	-0.0126	0.0020	-0.0764	0.0055	0.1921	0.0200	-0.1190	0.0685
3	29.88	0.3493	-0.0342	0.0028	-0.1117	0.0091	0.3190	0.0297	0.1101	0.0707
3	29.88	0.4000	-0.0405	0.0038	-0.2066	0.0150	0.4447	0.0486	0.4314	0.0659
3	29.88	0.4497	-0.0490	0.0038	-0.2864	0.0180	0.5312	0.0611	0.1136	0.0641
3	29.88	0.4997	-0.0674	0.0045	-0.4125	0.0229	0.6829	0.0809	0.1205	0.0712
3	29.88	0.5556	-0.1344	0.0043	-0.5531	0.0282	0.8729	0.1023	0.0439	0.0754
3	29.88	0.5995	-0.1330	0.0045	-0.6260	0.0336	1.0733	0.1233	0.0481	0.0720
3	29.88	0.6498	-0.1843	0.0047	-0.7482	0.0392	1.2990	0.1444	0.0316	0.0762
3	29.88	0.6890	-0.1872	0.0048	-0.8663	0.0452	1.5771	0.1623	0.2788	0.0883
3	29.88	0.7495	-0.4350	0.0356	-1.1884	0.1456	2.3182	0.2547	0.3099	0.2021
3	29.88	0.7998	-0.4673	0.0284	-1.3569	0.1581	2.6790	0.2747	0.1289	0.0858
3	29.88	0.8577	-0.4555	0.0206	-1.3841	0.1719	3.1409	0.3020	0.2344	0.0875
3	29.88	0.9178	-0.4966	0.0193	-1.5277	0.1848	3.4820	0.3032	-2.2444	0.9144
3	29.88	0.9729	-0.5248	0.0185	-1.6505	0.2040	4.0563	0.3557	-0.3789	0.1013
4	29.88	0.2001	-0.0038	0.0021	-0.0251	0.0013	0.0167	0.0063	0.1660	0.0430
4	29.88	0.2502	0.0226	0.0027	-0.0036	0.0029	0.0118	0.0106	0.2946	0.0697
4	29.88	0.3001	-0.0124	0.0022	-0.0696	0.0052	0.0205	0.0205	0.4034	0.0926
4	29.88	0.3502	-0.0636	0.0027	-0.1171	0.0084	0.0264	0.0326	0.4954	0.0847
4	29.88	0.4002	-0.0606	0.0033	-0.1598	0.0134	0.0205	0.0493	0.4713	0.0814
4	29.88	0.4500	-0.0791	0.0037	-0.2408	0.0167	0.0268	0.0647	0.3537	0.0757
4	29.88	0.5001	-0.0972	0.0039	-0.3020	0.0215	0.0719	0.0831	0.5298	0.0813
4	29.88	0.5560	-0.1479	0.0040	-0.3803	0.0266	0.0878	0.1061	0.4165	0.0808
4	29.88	0.6001	-0.1547	0.0043	-0.4849	0.0312	0.1598	0.1289	0.4968	0.0813
4	29.88	0.6501	-0.1876	0.0042	-0.5638	0.0366	0.2295	0.1568	0.6770	0.0845
4	29.88	0.6999	-0.1779	0.0045	-0.7087	0.0423	0.3160	0.1898	0.5307	0.0813
4	29.88	0.7500	-0.2213	0.0049	-0.8394	0.0493	0.4847	0.2246	0.9123	0.0912
4	29.88	0.8002	-0.2453	0.0053	-0.8969	0.0556	0.6085	0.2659	0.7574	0.0998
4	29.88	0.8582	-0.2835	0.0057	-0.9943	0.0638	0.8295	0.3205	0.7066	0.1151
4	29.88	0.9101	-0.3028	0.0071	-1.1460	0.0722	1.0103	0.3748	0.2505	0.1120
4	29.88	0.9728	-0.2824	0.0097	-1.1416	0.0816	1.3572	0.4495	0.7142	0.1279

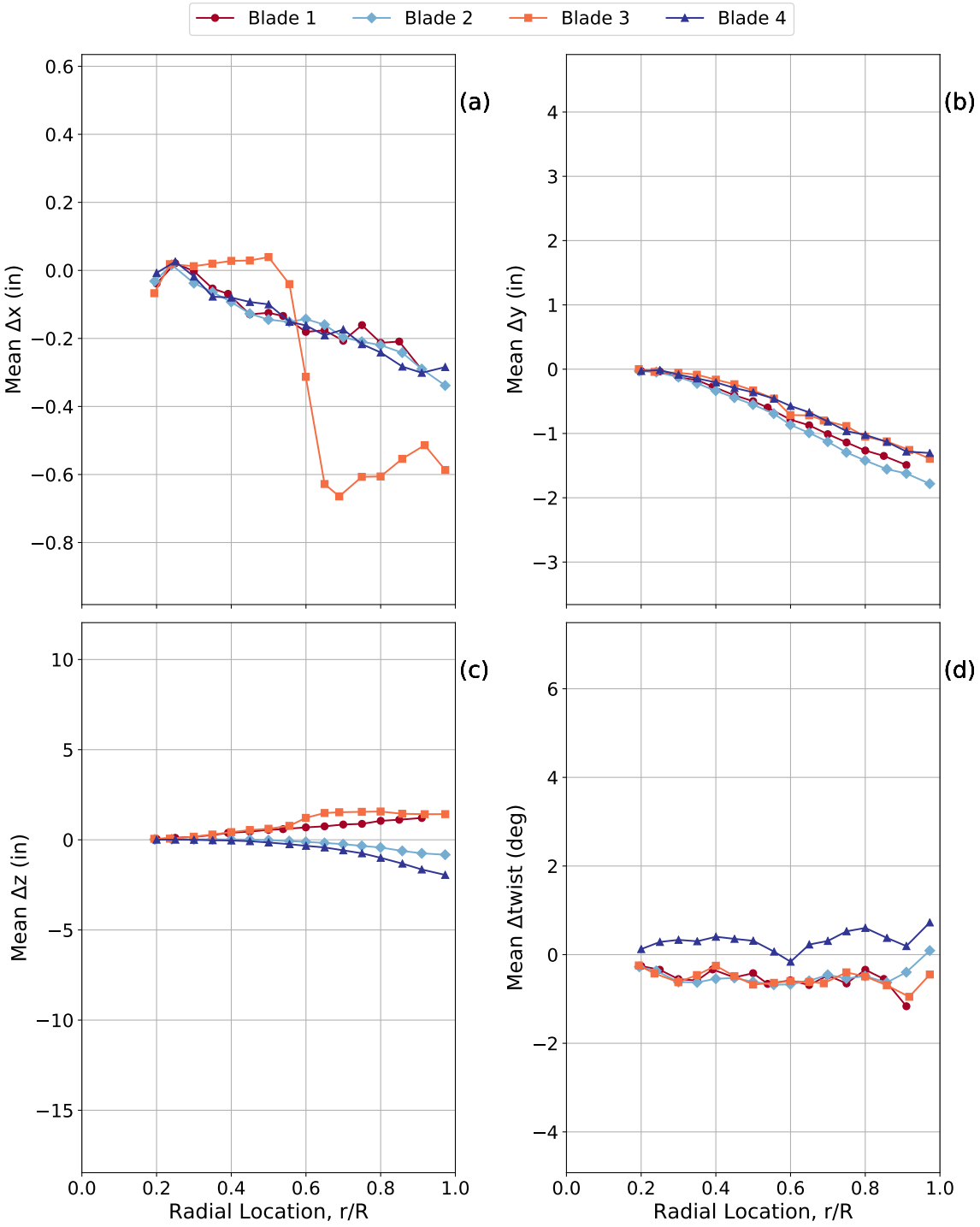


Figure 2.19-7. 45° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-10. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0386	0.0026	-0.0288	0.0014	0.0464	0.0066	-0.2576	0.0478
1	45	0.2499	0.0210	0.0031	-0.0346	0.0030	0.1099	0.0151	-0.3412	0.0584
1	45	0.2998	-0.0021	0.0028	-0.1261	0.0056	0.1645	0.0262	-0.5522	0.0959
1	45	0.3498	-0.0532	0.0028	-0.1708	0.0097	0.2615	0.0435	-0.5837	0.0931
1	45	0.3913	-0.0689	0.0037	-0.2691	0.0139	0.3840	0.0634	-0.3344	0.0804
1	45	0.4496	-0.1290	0.0045	-0.4056	0.0190	0.4535	0.0879	-0.5141	0.0861
1	45	0.4997	-0.1248	0.0042	-0.4981	0.0238	0.5533	0.1137	-0.4185	0.0925
1	45	0.5387	-0.1339	0.0046	-0.5966	0.0286	0.5910	0.1335	-0.6591	0.0902
1	45	0.5996	-0.1807	0.0045	-0.7846	0.0352	0.6903	0.1652	-0.5799	0.0907
1	45	0.6498	-0.1760	0.0045	-0.8728	0.0414	0.7472	0.1932	-0.6860	0.0889
1	45	0.6998	-0.2068	0.0050	-1.0104	0.0481	0.8484	0.2196	-0.4698	0.0878
1	45	0.7500	-0.1609	0.0055	-1.1395	0.0553	0.8852	0.2495	-0.6495	0.0959
1	45	0.8001	-0.2130	0.0058	-1.2653	0.0626	1.0525	0.2799	-0.3411	0.0956
1	45	0.8497	-0.2091	0.0061	-1.3493	0.0710	1.1142	0.3097	-0.5488	0.1063
1	45	0.9102	-0.2921	0.0070	-1.4907	0.0799	1.2121	0.3466	-1.1647	0.1156
2	45	0.1949	-0.0317	0.0018	-0.0291	0.0009	0.0210	0.0046	-0.2750	0.0370
2	45	0.2405	0.0165	0.0023	-0.0444	0.0022	0.0341	0.0090	-0.3651	0.0553
2	45	0.2999	-0.0376	0.0025	-0.1235	0.0045	0.0223	0.0182	-0.6177	0.0839
2	45	0.3498	-0.0639	0.0028	-0.2215	0.0069	0.0300	0.0301	-0.6264	0.0742
2	45	0.3998	-0.0928	0.0036	-0.3356	0.0115	0.0185	0.0464	-0.5440	0.0852
2	45	0.4496	-0.1271	0.0051	-0.4434	0.0149	0.0154	0.0607	-0.5266	0.0883
2	45	0.4995	-0.1447	0.0040	-0.5500	0.0184	-0.0199	0.0755	-0.6124	0.1060
2	45	0.5551	-0.1513	0.0048	-0.6920	0.0239	-0.0694	0.0952	-0.6797	0.0938
2	45	0.5996	-0.1430	0.0048	-0.8665	0.0284	-0.1125	0.1092	-0.6708	0.1037
2	45	0.6497	-0.1597	0.0046	-0.9902	0.0341	-0.1745	0.1276	-0.5911	0.1101
2	45	0.6996	-0.1967	0.0048	-1.1286	0.0407	-0.2411	0.1483	-0.4545	0.0981
2	45	0.7495	-0.2096	0.0057	-1.2935	0.0480	-0.3358	0.1701	-0.5401	0.1030
2	45	0.7996	-0.2196	0.0058	-1.4202	0.0558	-0.4268	0.1939	-0.4838	0.1116
2	45	0.8578	-0.2420	0.0057	-1.5547	0.0652	-0.6151	0.2238	-0.6289	0.1123
2	45	0.9100	-0.2899	0.0066	-1.6221	0.0743	-0.7498	0.2485	-0.3966	0.1271
2	45	0.9727	-0.3384	0.0092	-1.7822	0.0853	-0.8267	0.2862	0.0913	0.1141
3	45	0.1938	-0.0671	0.0158	0.0007	0.0015	0.0550	0.0056	-0.2444	0.0305
3	45	0.2357	0.0183	0.0059	-0.0418	0.0029	0.0652	0.0090	-0.4250	0.0491
3	45	0.2995	0.0124	0.0072	-0.0555	0.0067	0.1721	0.0200	-0.6210	0.0711
3	45	0.3493	0.0198	0.0148	-0.0855	0.0120	0.2938	0.0318	-0.4610	0.0706
3	45	0.4000	0.0280	0.0217	-0.1630	0.0187	0.4267	0.0491	-0.2506	0.0714
3	45	0.4497	0.0290	0.0281	-0.2342	0.0269	0.5421	0.0633	-0.4849	0.0866
3	45	0.4997	0.0392	0.0340	-0.3313	0.0361	0.6139	0.0854	-0.6748	0.0819
3	45	0.5556	-0.0403	0.0405	-0.4570	0.0467	0.7737	0.1032	-0.6364	0.1231
3	45	0.5995	-0.3128	0.0528	-0.7145	0.1240	1.2171	0.2560	-0.5971	0.1594
3	45	0.6498	-0.6279	0.0996	-0.7180	0.1272	1.4865	0.4484	-0.6172	0.1363
3	45	0.6890	-0.6643	0.0962	-0.7984	0.1357	1.5295	0.4756	-0.6466	0.1227
3	45	0.7495	-0.6069	0.0897	-0.8847	0.1489	1.5516	0.5176	-0.4001	0.1291
3	45	0.7998	-0.6058	0.0836	-1.0499	0.1594	1.5692	0.5508	-0.4923	0.1285
3	45	0.8577	-0.5540	0.0751	-1.1232	0.1703	1.4442	0.5941	-0.6906	0.1615
3	45	0.9178	-0.5138	0.0699	-1.2564	0.1835	1.4214	0.6333	-0.9516	0.1346
3	45	0.9729	-0.5867	0.0666	-1.3932	0.1964	1.4245	0.6869	-0.4483	0.2079
4	45	0.2001	-0.0075	0.0024	-0.0282	0.0013	0.0068	0.0057	0.1246	0.0341
4	45	0.2502	0.0261	0.0021	-0.0141	0.0031	0.0072	0.0137	0.2863	0.0559
4	45	0.3001	-0.0182	0.0027	-0.0863	0.0061	0.0001	0.0239	0.3334	0.0733
4	45	0.3502	-0.0772	0.0029	-0.1447	0.0094	-0.0251	0.0369	0.3015	0.0792
4	45	0.4002	-0.0800	0.0042	-0.2057	0.0157	-0.0392	0.0600	0.4032	0.0713
4	45	0.4500	-0.0929	0.0042	-0.2926	0.0200	-0.0765	0.0730	0.3561	0.0810
4	45	0.5001	-0.0999	0.0044	-0.3599	0.0265	-0.1504	0.0942	0.3123	0.0758
4	45	0.5560	-0.1510	0.0040	-0.4596	0.0335	-0.2447	0.1168	0.0669	0.0778
4	45	0.6001	-0.1619	0.0041	-0.5725	0.0402	-0.3335	0.1336	-0.1599	0.0753
4	45	0.6501	-0.1910	0.0045	-0.6717	0.0489	-0.4246	0.1538	0.2280	0.0739
4	45	0.6999	-0.1738	0.0049	-0.8151	0.0576	-0.5829	0.1726	0.3091	0.0690
4	45	0.7500	-0.2170	0.0052	-0.9635	0.0665	-0.7481	0.1916	0.5267	0.0729
4	45	0.8002	-0.2413	0.0059	-1.0219	0.0769	-0.9988	0.2149	0.6023	0.0815
4	45	0.8582	-0.2829	0.0076	-1.1316	0.0889	-1.3202	0.2383	0.3770	0.0890
4	45	0.9101	-0.3011	0.0070	-1.2810	0.0993	-1.6469	0.2650	0.1926	0.0966
4	45	0.9728	-0.2842	0.0108	-1.3040	0.1123	-1.9472	0.2975	0.7262	0.1044

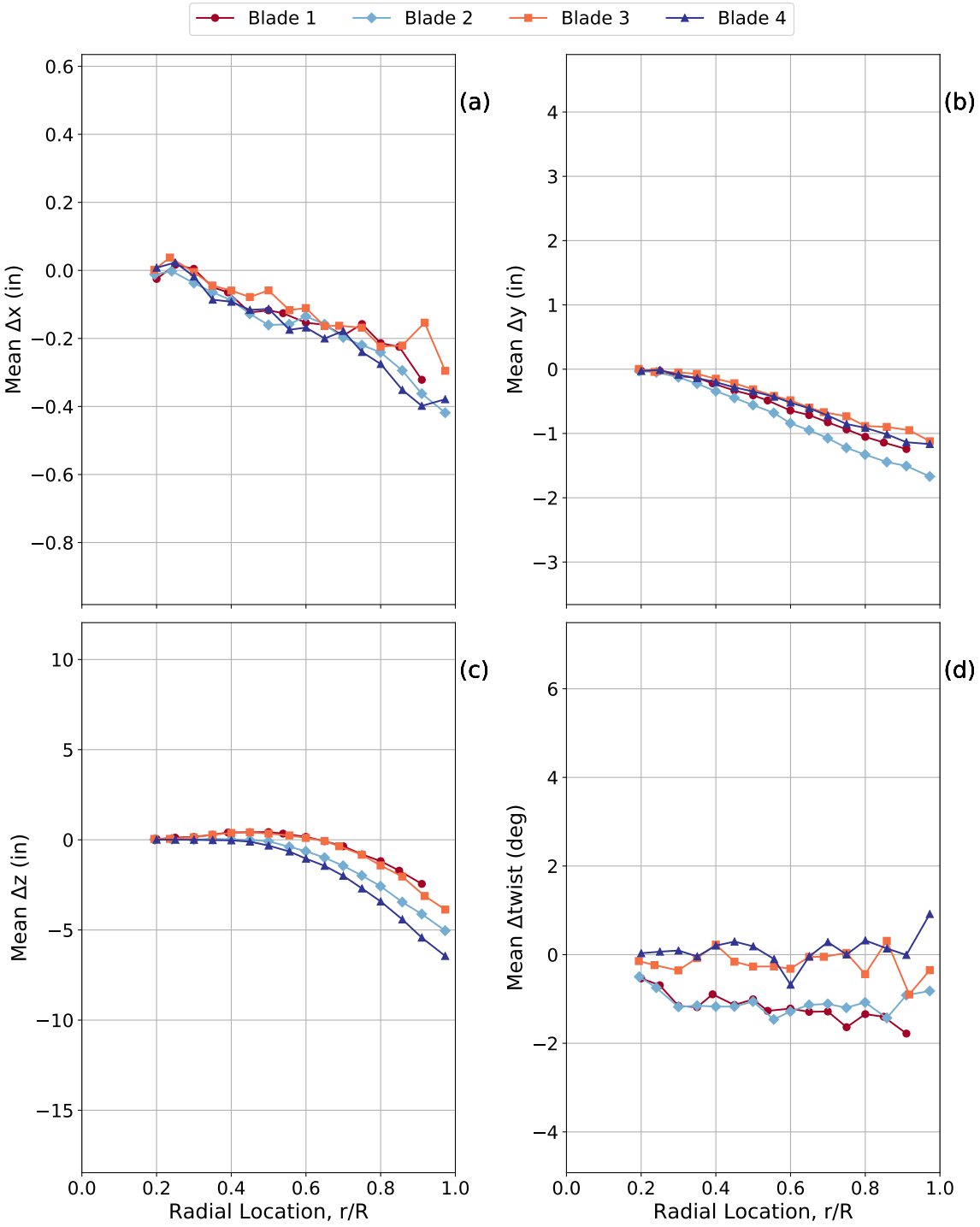


Figure 2.19-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0251	0.0022	-0.0240	0.0013	0.0399	0.0050	-0.5355	0.0402
1	60.12	0.2499	0.0163	0.0026	-0.0264	0.0024	0.1201	0.0120	-0.6909	0.0645
1	60.12	0.2998	0.0047	0.0031	-0.1064	0.0050	0.1558	0.0218	-1.1555	0.0872
1	60.12	0.3498	-0.0494	0.0039	-0.1360	0.0080	0.2840	0.0343	-1.1859	0.0707
1	60.12	0.3913	-0.0646	0.0039	-0.2197	0.0118	0.4077	0.0524	-0.8952	0.0762
1	60.12	0.4496	-0.1236	0.0062	-0.3322	0.0174	0.4207	0.0725	-1.1361	0.0957
1	60.12	0.4997	-0.1174	0.0043	-0.4063	0.0223	0.4292	0.0921	-1.0083	0.0835
1	60.12	0.5387	-0.1258	0.0049	-0.4865	0.0271	0.3440	0.1098	-1.2686	0.0779
1	60.12	0.5996	-0.1537	0.0046	-0.6427	0.0355	0.1638	0.1410	-1.2174	0.0758
1	60.12	0.6498	-0.1600	0.0043	-0.7138	0.0433	-0.0763	0.1698	-1.2902	0.0849
1	60.12	0.6998	-0.1917	0.0045	-0.8270	0.0516	-0.3566	0.1965	-1.2831	0.0754
1	60.12	0.7500	-0.1577	0.0053	-0.9365	0.0602	-0.8080	0.2258	-1.6372	0.0818
1	60.12	0.8001	-0.2138	0.0059	-1.0524	0.0698	-1.1844	0.2559	-1.3428	0.0895
1	60.12	0.8497	-0.2246	0.0072	-1.1415	0.0793	-1.7126	0.2929	-1.4014	0.0838
1	60.12	0.9102	-0.3216	0.0089	-1.2420	0.0914	-2.4445	0.3438	-1.7809	0.1009
2	60.12	0.1949	-0.0119	0.0023	-0.0289	0.0012	0.0206	0.0044	-0.4985	0.0311
2	60.12	0.2405	-0.0023	0.0019	-0.0474	0.0025	0.0317	0.0112	-0.7453	0.0507
2	60.12	0.2999	-0.0373	0.0027	-0.1257	0.0058	0.0069	0.0226	-1.1792	0.0724
2	60.12	0.3498	-0.0645	0.0031	-0.2254	0.0096	0.0536	0.0345	-1.1515	0.0780
2	60.12	0.3998	-0.0873	0.0038	-0.3429	0.0153	0.0220	0.0576	-1.1726	0.0847
2	60.12	0.4496	-0.1277	0.0042	-0.4470	0.0200	-0.0071	0.0688	-1.1714	0.0786
2	60.12	0.4995	-0.1605	0.0054	-0.5580	0.0259	-0.0791	0.0898	-1.0585	0.0949
2	60.12	0.5551	-0.1584	0.0049	-0.6799	0.0332	-0.3841	0.1058	-1.4624	0.0892
2	60.12	0.5996	-0.1348	0.0049	-0.8415	0.0400	-0.6332	0.1215	-1.2824	0.0927
2	60.12	0.6497	-0.1582	0.0051	-0.9494	0.0480	-0.9885	0.1381	-1.1324	0.0945
2	60.12	0.6996	-0.1972	0.0052	-1.0732	0.0568	-1.4404	0.1538	-1.1115	0.0780
2	60.12	0.7495	-0.2195	0.0060	-1.2230	0.0656	-1.9832	0.1677	-1.1989	0.0996
2	60.12	0.7996	-0.2409	0.0067	-1.3288	0.0747	-2.5727	0.1854	-1.0768	0.0916
2	60.12	0.8578	-0.2943	0.0077	-1.4440	0.0862	-3.4523	0.2045	-1.4296	0.1031
2	60.12	0.9100	-0.3624	0.0085	-1.5053	0.0966	-4.1179	0.2246	-0.9141	0.1192
2	60.12	0.9727	-0.4185	0.0116	-1.6687	0.1079	-5.0393	0.2499	-0.8204	0.1341
3	60.12	0.1938	0.0018	0.0024	0.0034	0.0010	0.0472	0.0049	-0.1449	0.0348
3	60.12	0.2357	0.0378	0.0021	-0.0427	0.0022	0.0529	0.0108	-0.2365	0.0495
3	60.12	0.2995	-0.0048	0.0025	-0.0510	0.0050	0.1367	0.0235	-0.3555	0.0784
3	60.12	0.3493	-0.0445	0.0034	-0.0728	0.0083	0.2791	0.0363	-0.0787	0.0908
3	60.12	0.4000	-0.0593	0.0046	-0.1490	0.0133	0.3792	0.0596	0.2257	0.0949
3	60.12	0.4497	-0.0784	0.0048	-0.2182	0.0170	0.4123	0.0763	-0.1588	0.0878
3	60.12	0.4997	-0.0589	0.0053	-0.3138	0.0212	0.3431	0.0977	-0.2682	0.0956
3	60.12	0.5556	-0.1167	0.0052	-0.4157	0.0279	0.2430	0.1233	-0.2665	0.1026
3	60.12	0.5995	-0.1108	0.0056	-0.4838	0.0330	0.1070	0.1452	-0.3179	0.0898
3	60.12	0.6498	-0.1636	0.0046	-0.5968	0.0388	-0.0650	0.1694	-0.0507	0.0993
3	60.12	0.6890	-0.1627	0.0044	-0.6688	0.0443	-0.3549	0.1897	-0.0484	0.0919
3	60.12	0.7495	-0.1684	0.0043	-0.7334	0.0526	-0.8294	0.2210	0.0381	0.0902
3	60.12	0.7998	-0.2237	0.0056	-0.8842	0.0589	-1.4204	0.2466	-0.4401	0.1268
3	60.12	0.8577	-0.2209	0.0103	-0.8982	0.0676	-2.0375	0.2800	0.3112	0.1512
3	60.12	0.9178	-0.1538	0.0115	-0.9492	0.0775	-3.1156	0.3211	-0.8995	0.1351
3	60.12	0.9729	-0.2953	0.0153	-1.1210	0.0822	-3.8696	0.3824	-0.3497	0.3568
4	60.12	0.2001	0.0077	0.0021	-0.0281	0.0014	0.0066	0.0069	0.0323	0.0333
4	60.12	0.2502	0.0232	0.0022	-0.0120	0.0028	0.0030	0.0158	0.0669	0.0485
4	60.12	0.3001	-0.0180	0.0025	-0.0883	0.0056	0.0014	0.0295	0.0927	0.0725
4	60.12	0.3502	-0.0861	0.0035	-0.1387	0.0099	-0.0182	0.0476	-0.0419	0.0747
4	60.12	0.4002	-0.0922	0.0050	-0.2021	0.0152	-0.0308	0.0762	0.2037	0.0760
4	60.12	0.4500	-0.1162	0.0059	-0.2836	0.0194	-0.1015	0.0986	0.2949	0.0752
4	60.12	0.5001	-0.1132	0.0041	-0.3468	0.0253	-0.3222	0.1306	0.1866	0.0715
4	60.12	0.5560	-0.1746	0.0048	-0.4289	0.0325	-0.6514	0.1637	-0.1007	0.0908
4	60.12	0.6001	-0.1680	0.0048	-0.5208	0.0378	-1.0462	0.1899	-0.6783	0.0773
4	60.12	0.6501	-0.2002	0.0047	-0.6089	0.0447	-1.4458	0.2186	-0.0412	0.0762
4	60.12	0.6999	-0.1781	0.0056	-0.7212	0.0519	-1.9973	0.2438	0.2832	0.0762
4	60.12	0.7500	-0.2399	0.0057	-0.8532	0.0598	-2.6980	0.2687	0.0029	0.0892
4	60.12	0.8002	-0.2752	0.0074	-0.9127	0.0675	-3.4213	0.2940	0.3207	0.0971
4	60.12	0.8582	-0.3515	0.0095	-1.0142	0.0769	-4.4186	0.3245	0.1377	0.1165
4	60.12	0.9101	-0.3983	0.0101	-1.1361	0.0841	-5.4256	0.3542	-0.0067	0.1113
4	60.12	0.9728	-0.3788	0.0127	-1.1649	0.0938	-6.4432	0.3926	0.9165	0.1258

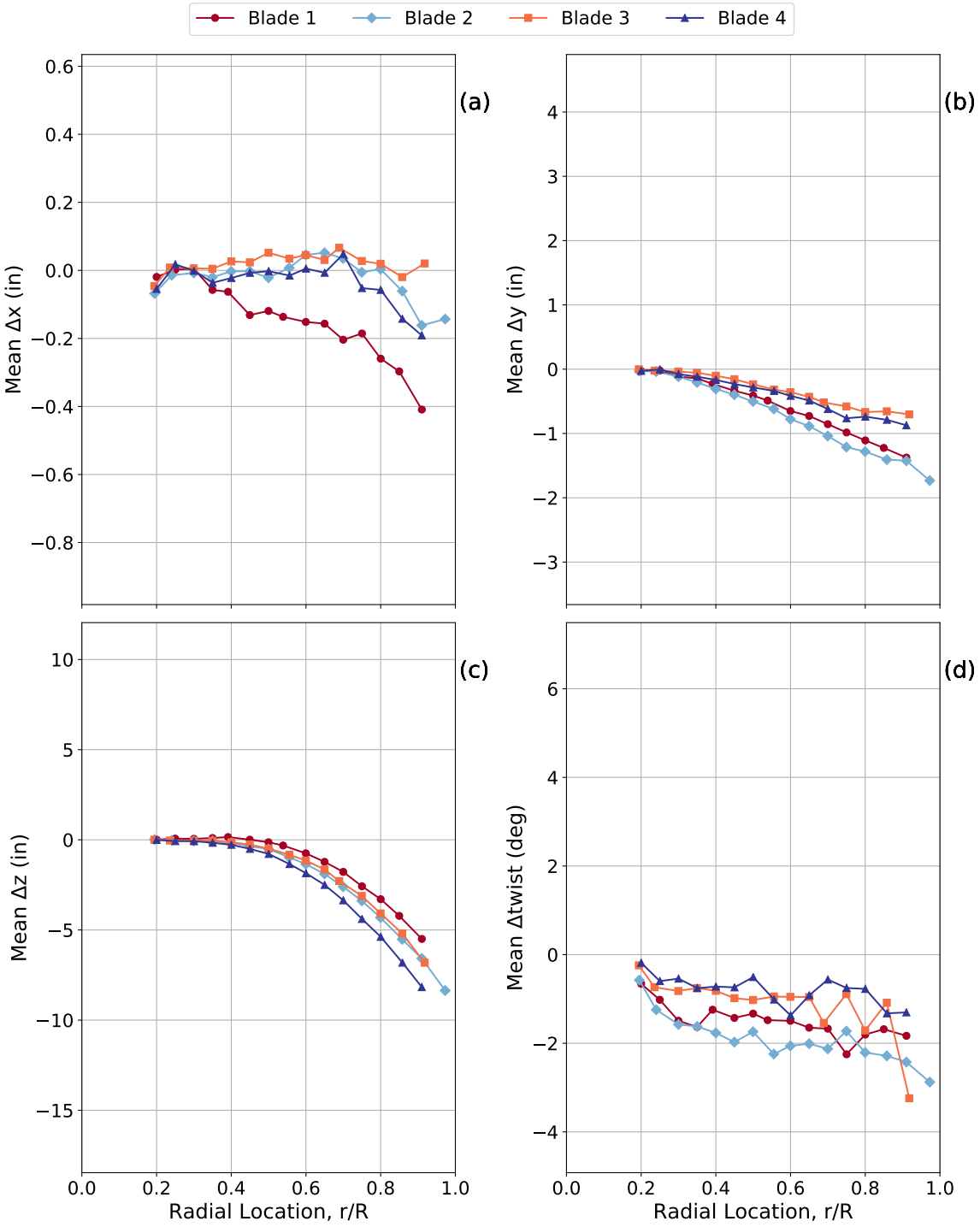


Figure 2.19-9. 75° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-12. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0192	0.0021	-0.0281	0.0014	0.0138	0.0066	-0.6585	0.0384
1	74.88	0.2499	0.0017	0.0021	-0.0208	0.0031	0.0669	0.0142	-1.0189	0.0632
1	74.88	0.2998	0.0052	0.0028	-0.1145	0.0055	0.0557	0.0270	-1.4921	0.0852
1	74.88	0.3498	-0.0574	0.0034	-0.1438	0.0096	0.1003	0.0448	-1.6327	0.0811
1	74.88	0.3913	-0.0629	0.0036	-0.2274	0.0138	0.1525	0.0657	-1.2425	0.0862
1	74.88	0.4496	-0.1313	0.0060	-0.3360	0.0189	0.0083	0.0924	-1.4281	0.1060
1	74.88	0.4997	-0.1193	0.0057	-0.4099	0.0235	-0.1349	0.1146	-1.3308	0.1013
1	74.88	0.5387	-0.1365	0.0060	-0.4888	0.0276	-0.3156	0.1357	-1.4785	0.1074
1	74.88	0.5996	-0.1515	0.0052	-0.6505	0.0340	-0.7475	0.1725	-1.4932	0.1099
1	74.88	0.6498	-0.1567	0.0045	-0.7279	0.0414	-1.2210	0.1988	-1.6483	0.0831
1	74.88	0.6998	-0.2039	0.0047	-0.8557	0.0476	-1.7790	0.2302	-1.6706	0.0934
1	74.88	0.7500	-0.1854	0.0057	-0.9840	0.0545	-2.5769	0.2649	-2.2486	0.0974
1	74.88	0.8001	-0.2594	0.0074	-1.1084	0.0616	-3.2930	0.2986	-1.8035	0.1036
1	74.88	0.8497	-0.2969	0.0088	-1.2246	0.0692	-4.2181	0.3349	-1.6825	0.1052
1	74.88	0.9102	-0.4091	0.0126	-1.3749	0.0776	-5.4966	0.3780	-1.8318	0.1220
2	74.88	0.1949	-0.0678	0.0132	-0.0300	0.0014	0.0147	0.0070	-0.5741	0.0314
2	74.88	0.2405	-0.0142	0.0041	-0.0374	0.0026	-0.0271	0.0117	-1.2441	0.0608
2	74.88	0.2999	-0.0075	0.0059	-0.1153	0.0059	-0.0619	0.0260	-1.5758	0.0763
2	74.88	0.3498	-0.0200	0.0122	-0.2065	0.0106	-0.0557	0.0447	-1.6200	0.0676
2	74.88	0.3998	-0.0029	0.0170	-0.3071	0.0162	-0.1724	0.0673	-1.7662	0.0727
2	74.88	0.4496	-0.0023	0.0196	-0.3977	0.0226	-0.3582	0.0915	-1.9738	0.0733
2	74.88	0.4995	-0.0216	0.0210	-0.5023	0.0299	-0.5114	0.1197	-1.7399	0.0761
2	74.88	0.5551	0.0073	0.0207	-0.6182	0.0378	-0.9717	0.1499	-2.2426	0.0855
2	74.88	0.5996	0.0456	0.0199	-0.7785	0.0449	-1.3474	0.1752	-2.0587	0.0904
2	74.88	0.6497	0.0517	0.0195	-0.8861	0.0526	-1.8933	0.2046	-2.0091	0.0856
2	74.88	0.6996	0.0351	0.0208	-1.0393	0.0601	-2.6003	0.2371	-2.1261	0.0937
2	74.88	0.7495	-0.0055	0.0244	-1.2123	0.0681	-3.3856	0.2697	-1.7251	0.1057
2	74.88	0.7996	0.0036	0.0329	-1.2816	0.0771	-4.3120	0.3053	-2.2081	0.1068
2	74.88	0.8578	-0.0608	0.0457	-1.4068	0.0878	-5.5213	0.3478	-2.2847	0.1041
2	74.88	0.9100	-0.1617	0.0593	-1.4241	0.0980	-6.5785	0.3938	-2.4234	0.1196
2	74.88	0.9727	-0.1431	0.0810	-1.7325	0.1174	-8.3591	0.4479	-2.8754	0.3251
3	74.88	0.1938	-0.0459	0.0221	-0.0019	0.0014	0.0084	0.0067	-0.2413	0.0280
3	74.88	0.2357	0.0084	0.0074	-0.0231	0.0023	-0.0394	0.0103	-0.7349	0.0567
3	74.88	0.2995	0.0059	0.0106	-0.0371	0.0058	-0.0471	0.0255	-0.8202	0.0674
3	74.88	0.3493	0.0047	0.0199	-0.0553	0.0099	-0.0590	0.0423	-0.7538	0.0652
3	74.88	0.4000	0.0264	0.0258	-0.1028	0.0155	-0.1396	0.0654	-0.8166	0.0727
3	74.88	0.4497	0.0236	0.0291	-0.1566	0.0212	-0.2607	0.0902	-0.9819	0.0785
3	74.88	0.4997	0.0520	0.0294	-0.2355	0.0282	-0.4907	0.1220	-1.0241	0.0815
3	74.88	0.5556	0.0345	0.0284	-0.3167	0.0372	-0.8300	0.1614	-0.9448	0.0814
3	74.88	0.5995	0.0452	0.0272	-0.3572	0.0452	-1.1489	0.1965	-0.9529	0.0886
3	74.88	0.6498	0.0306	0.0267	-0.4300	0.0554	-1.6472	0.2380	-0.9567	0.0967
3	74.88	0.6890	0.0665	0.0295	-0.5167	0.0636	-2.2852	0.2738	-1.5419	0.1011
3	74.88	0.7495	0.0276	0.0385	-0.5796	0.0769	-3.1144	0.3315	-0.8906	0.1001
3	74.88	0.7998	0.0194	0.0498	-0.6668	0.0887	-4.0849	0.3781	-1.7111	0.1030
3	74.88	0.8577	-0.0197	0.0681	-0.6556	0.1025	-5.1915	0.4360	-1.0839	0.1549
3	74.88	0.9178	0.0203	0.0922	-0.7038	0.1186	-6.8160	0.5028	-3.2408	0.2359
4	74.88	0.2001	-0.0546	0.0215	-0.0263	0.0017	-0.0036	0.0061	-0.1846	0.0328
4	74.88	0.2502	0.0177	0.0050	-0.0046	0.0038	-0.0734	0.0118	-0.5977	0.0606
4	74.88	0.3001	-0.0012	0.0093	-0.0763	0.0076	-0.0773	0.0222	-0.5415	0.0762
4	74.88	0.3502	-0.0363	0.0195	-0.1176	0.0130	-0.1635	0.0370	-0.7560	0.0784
4	74.88	0.4002	-0.0224	0.0274	-0.1669	0.0205	-0.2765	0.0567	-0.7216	0.0840
4	74.88	0.4500	-0.0072	0.0328	-0.2314	0.0287	-0.5026	0.0766	-0.7381	0.0920
4	74.88	0.5001	-0.0024	0.0344	-0.2844	0.0386	-0.7847	0.1017	-0.5061	0.0995
4	74.88	0.5560	-0.0152	0.0339	-0.3387	0.0502	-1.3454	0.1289	-1.0147	0.1063
4	74.88	0.6001	0.0052	0.0308	-0.4149	0.0605	-1.8534	0.1514	-1.3716	0.1188
4	74.88	0.6501	-0.0070	0.0277	-0.4877	0.0725	-2.5027	0.1795	-0.9170	0.1314
4	74.88	0.6999	0.0481	0.0272	-0.6202	0.0864	-3.3578	0.2076	-0.5628	0.1400
4	74.88	0.7500	-0.0521	0.0346	-0.7633	0.1014	-4.3893	0.2375	-0.7528	0.1735
4	74.88	0.8002	-0.0574	0.0486	-0.7387	0.1147	-5.3818	0.2685	-0.7727	0.1516
4	74.88	0.8582	-0.1423	0.0720	-0.7881	0.1326	-6.8140	0.3067	-1.3251	0.1882
4	74.88	0.9101	-0.1911	0.0946	-0.8732	0.1488	-8.1702	0.3418	-1.3032	0.1873

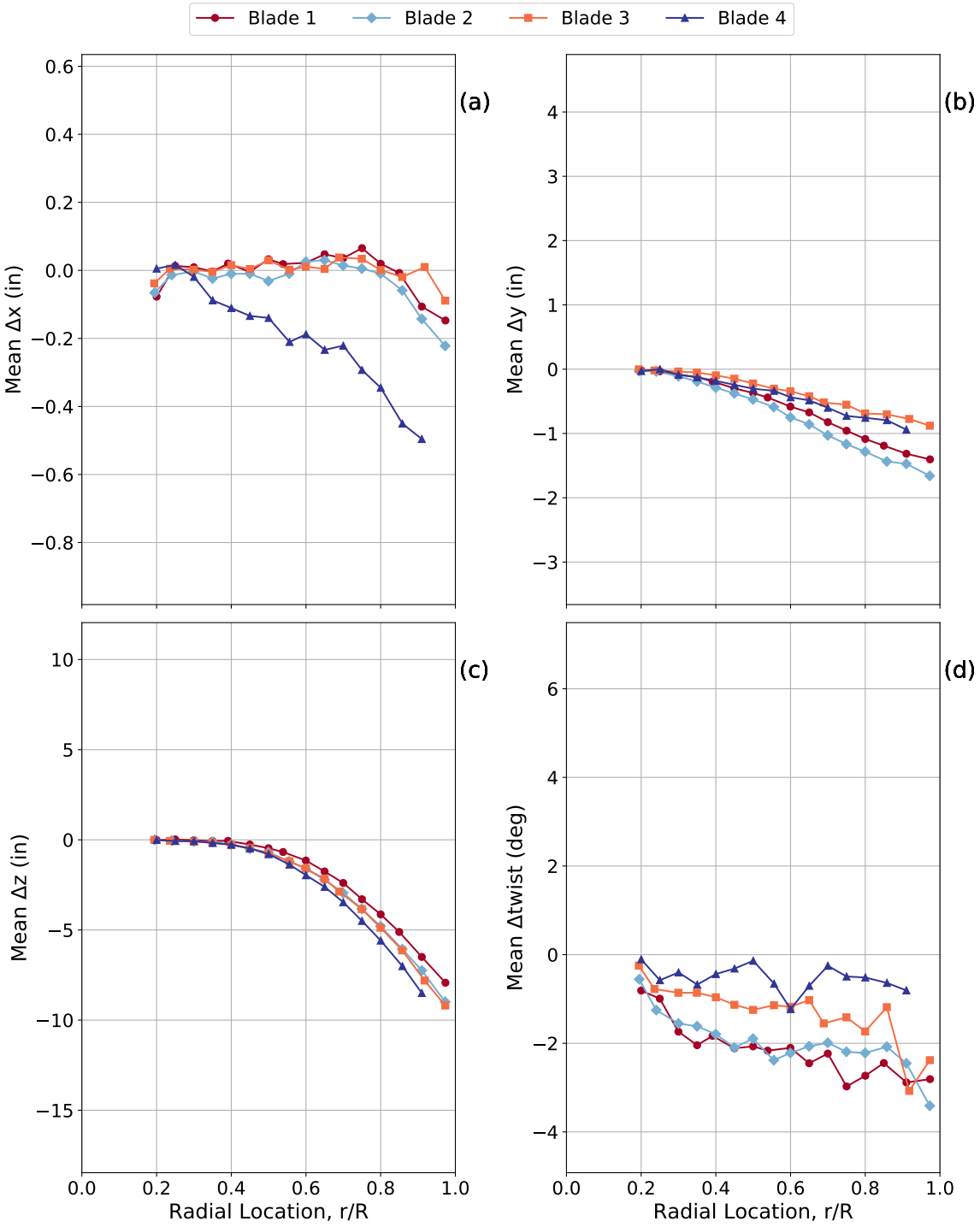


Figure 2.19-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$ NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-13. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0771	0.0172	-0.0182	0.0016	-0.0095	0.0089	-0.8110	0.0343
1	80.16	0.2499	0.0130	0.0045	-0.0326	0.0032	0.0207	0.0167	-0.9935	0.0710
1	80.16	0.2998	0.0094	0.0069	-0.0848	0.0064	-0.0227	0.0328	-1.7386	0.0800
1	80.16	0.3498	-0.0032	0.0148	-0.1224	0.0111	-0.0620	0.0558	-2.0429	0.0812
1	80.16	0.3913	0.0201	0.0190	-0.1924	0.0159	-0.0589	0.0791	-1.8324	0.0867
1	80.16	0.4496	-0.0042	0.0237	-0.2973	0.0235	-0.2609	0.1164	-2.1133	0.0820
1	80.16	0.4997	0.0328	0.0252	-0.3706	0.0306	-0.4653	0.1506	-2.0700	0.0935
1	80.16	0.5387	0.0186	0.0257	-0.4401	0.0367	-0.6762	0.1783	-2.1662	0.0949
1	80.16	0.5996	0.0222	0.0242	-0.5820	0.0470	-1.1485	0.2225	-2.1039	0.1031
1	80.16	0.6498	0.0474	0.0227	-0.6716	0.0566	-1.7531	0.2621	-2.4508	0.1049
1	80.16	0.6998	0.0359	0.0233	-0.8237	0.0666	-2.3929	0.3018	-2.2328	0.1051
1	80.16	0.7500	0.0654	0.0274	-0.9568	0.0784	-3.2959	0.3444	-2.9749	0.1080
1	80.16	0.8001	0.0195	0.0362	-1.0854	0.0913	-4.1379	0.3885	-2.7330	0.1142
1	80.16	0.8497	-0.0075	0.0481	-1.1897	0.1050	-5.1098	0.4330	-2.4460	0.1216
1	80.16	0.9102	-0.1065	0.0667	-1.3153	0.1235	-6.4971	0.4886	-2.8838	0.1250
1	80.16	0.9734	-0.1473	0.0891	-1.4024	0.1477	-7.9266	0.5456	-2.8098	0.1342
2	80.16	0.1949	-0.0656	0.0196	-0.0281	0.0010	0.0042	0.0050	-0.5560	0.0308
2	80.16	0.2405	-0.0136	0.0062	-0.0348	0.0018	-0.0417	0.0079	-1.2520	0.0621
2	80.16	0.2999	-0.0031	0.0086	-0.1098	0.0042	-0.0989	0.0177	-1.5546	0.0760
2	80.16	0.3498	-0.0239	0.0178	-0.1910	0.0074	-0.1160	0.0297	-1.6167	0.0641
2	80.16	0.3998	-0.0101	0.0249	-0.2877	0.0114	-0.2632	0.0447	-1.7956	0.0701
2	80.16	0.4496	-0.0097	0.0294	-0.3765	0.0159	-0.4977	0.0589	-2.0974	0.0687
2	80.16	0.4995	-0.0315	0.0310	-0.4712	0.0213	-0.6882	0.0753	-1.8960	0.0771
2	80.16	0.5551	-0.0095	0.0305	-0.5880	0.0283	-1.1973	0.0948	-2.3825	0.0787
2	80.16	0.5996	0.0254	0.0277	-0.7491	0.0350	-1.6142	0.1113	-2.2188	0.0836
2	80.16	0.6497	0.0302	0.0240	-0.8579	0.0434	-2.2089	0.1281	-2.0676	0.0909
2	80.16	0.6996	0.0143	0.0225	-1.0285	0.0518	-2.9490	0.1480	-1.9893	0.0973
2	80.16	0.7495	0.0053	0.0258	-1.1662	0.0609	-3.8293	0.1698	-2.1920	0.0959
2	80.16	0.7996	-0.0093	0.0363	-1.2828	0.0711	-4.7939	0.1924	-2.2187	0.1000
2	80.16	0.8578	-0.0587	0.0545	-1.4348	0.0849	-6.0618	0.2196	-2.0789	0.1005
2	80.16	0.9100	-0.1427	0.0756	-1.4717	0.0972	-7.2461	0.2462	-2.4524	0.1045
2	80.16	0.9727	-0.2219	0.1024	-1.6588	0.1190	-8.9845	0.2770	-3.4107	0.1785
3	80.16	0.1938	-0.0382	0.0227	-0.0028	0.0016	-0.0070	0.0072	-0.2483	0.0249
3	80.16	0.2357	0.0049	0.0080	-0.0194	0.0026	-0.0585	0.0106	-0.7764	0.0586
3	80.16	0.2995	0.0021	0.0103	-0.0366	0.0070	-0.1028	0.0265	-0.8602	0.0644
3	80.16	0.3493	-0.0042	0.0217	-0.0510	0.0119	-0.1598	0.0447	-0.8597	0.0659
3	80.16	0.4000	0.0153	0.0312	-0.0962	0.0186	-0.2886	0.0681	-0.9612	0.0703
3	80.16	0.4497	0.0040	0.0377	-0.1485	0.0261	-0.4628	0.0946	-1.1316	0.0694
3	80.16	0.4997	0.0295	0.0412	-0.2229	0.0346	-0.7615	0.1253	-1.2468	0.0746
3	80.16	0.5556	0.0017	0.0416	-0.3038	0.0446	-1.1865	0.1609	-1.1421	0.0823
3	80.16	0.5995	0.0108	0.0392	-0.3443	0.0532	-1.5836	0.1904	-1.1760	0.0856
3	80.16	0.6498	0.0044	0.0363	-0.4204	0.0633	-2.1700	0.2237	-1.0264	0.0939
3	80.16	0.6890	0.0379	0.0342	-0.5185	0.0718	-2.8698	0.2506	-1.5523	0.1076
3	80.16	0.7495	0.0341	0.0361	-0.5523	0.0864	-3.8486	0.2952	-1.4150	0.1164
3	80.16	0.7998	0.0012	0.0462	-0.6892	0.0999	-4.8760	0.3316	-1.7326	0.1219
3	80.16	0.8577	-0.0195	0.0663	-0.7022	0.1169	-6.1313	0.3795	-1.1860	0.1417
3	80.16	0.9178	0.0098	0.0955	-0.7742	0.1365	-7.8056	0.4291	-3.0744	0.1627
3	80.16	0.9729	-0.0890	0.1267	-0.8793	0.1657	-9.1901	0.4724	-2.3819	0.2683
4	80.16	0.2001	0.0052	0.0022	-0.0298	0.0012	-0.0079	0.0050	-0.1070	0.0324
4	80.16	0.2502	0.0162	0.0018	-0.0010	0.0032	-0.0653	0.0124	-0.5777	0.0590
4	80.16	0.3001	-0.0191	0.0022	-0.0865	0.0057	-0.0708	0.0211	-0.4015	0.0734
4	80.16	0.3502	-0.0881	0.0027	-0.1273	0.0095	-0.1736	0.0347	-0.6760	0.0802
4	80.16	0.4002	-0.1107	0.0035	-0.1821	0.0152	-0.2676	0.0554	-0.4386	0.0875
4	80.16	0.4500	-0.1339	0.0040	-0.2430	0.0199	-0.4814	0.0732	-0.3143	0.0941
4	80.16	0.5001	-0.1398	0.0040	-0.3037	0.0259	-0.7983	0.0959	-0.1388	0.0905
4	80.16	0.5560	-0.2104	0.0050	-0.3373	0.0337	-1.3741	0.1223	-0.6563	0.1118
4	80.16	0.6001	-0.1879	0.0050	-0.4370	0.0410	-1.9654	0.1425	-1.2291	0.0907
4	80.16	0.6501	-0.2336	0.0051	-0.4854	0.0487	-2.6127	0.1659	-0.7034	0.1023
4	80.16	0.6999	-0.2214	0.0057	-0.6002	0.0579	-3.4636	0.1892	-0.2516	0.1050
4	80.16	0.7500	-0.2928	0.0073	-0.7265	0.0673	-4.4994	0.2146	-0.4941	0.1190
4	80.16	0.8002	-0.3451	0.0085	-0.7571	0.0776	-5.5898	0.2385	-0.5155	0.1156
4	80.16	0.8582	-0.4505	0.0123	-0.7939	0.0899	-7.0066	0.2703	-0.6382	0.1673
4	80.16	0.9101	-0.4957	0.0146	-0.9411	0.0994	-8.4980	0.2994	-0.8077	0.1342

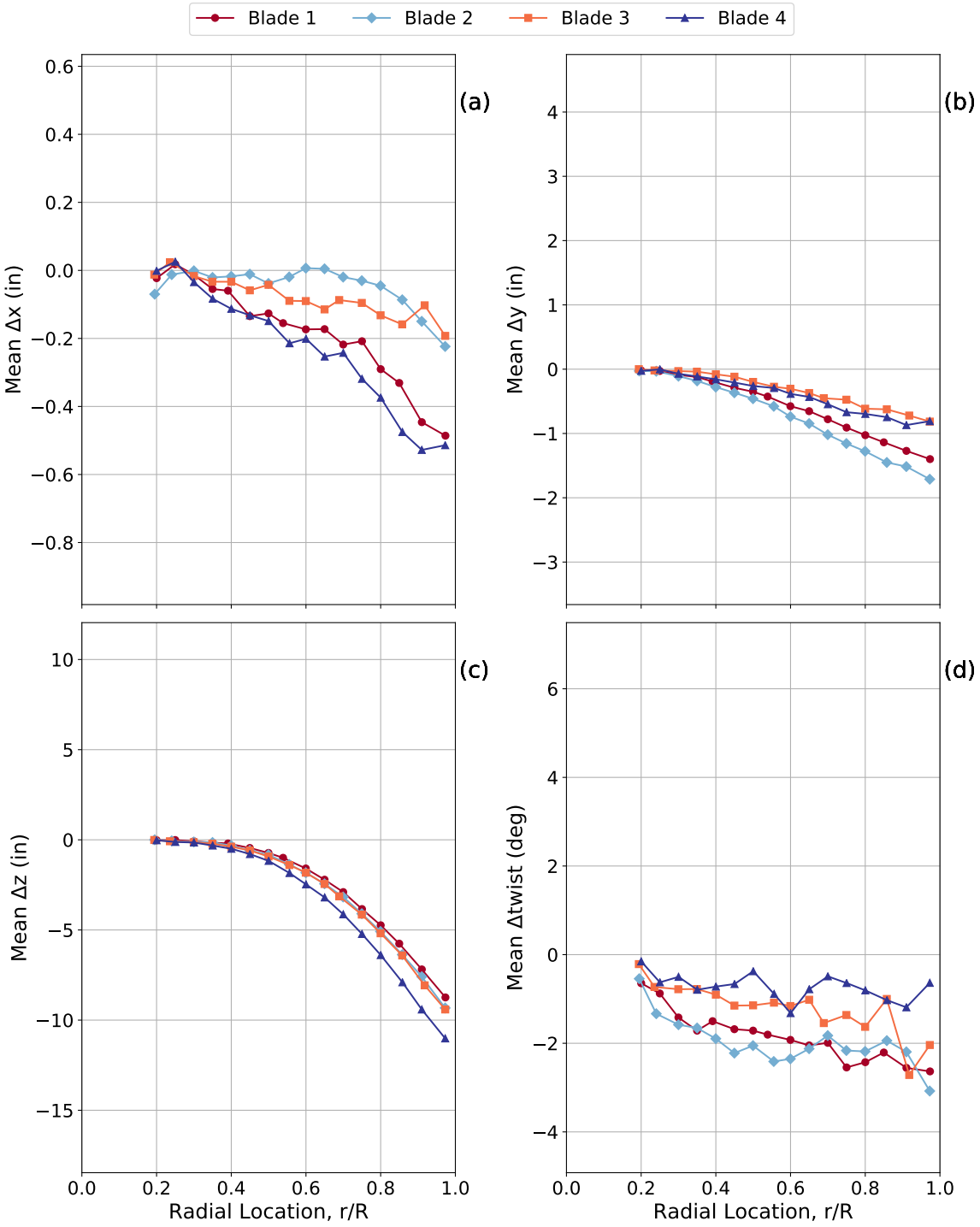


Figure 2.19-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-14. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0229	0.0031	-0.0199	0.0017	-0.0220	0.0082	-0.6453	0.0425
1	85.08	0.2499	0.0180	0.0021	-0.0274	0.0040	-0.0131	0.0163	-0.8757	0.0788
1	85.08	0.2998	-0.0129	0.0020	-0.0899	0.0071	-0.0811	0.0305	-1.4183	0.0973
1	85.08	0.3498	-0.0548	0.0028	-0.1211	0.0120	-0.1555	0.0532	-1.7150	0.0923
1	85.08	0.3913	-0.0597	0.0030	-0.1931	0.0178	-0.2024	0.0750	-1.5013	0.0982
1	85.08	0.4496	-0.1345	0.0138	-0.2888	0.0289	-0.4526	0.1130	-1.6826	0.1710
1	85.08	0.4997	-0.1265	0.0042	-0.3517	0.0321	-0.7266	0.1433	-1.7144	0.1134
1	85.08	0.5387	-0.1550	0.0044	-0.4261	0.0384	-0.9982	0.1708	-1.8056	0.1081
1	85.08	0.5996	-0.1733	0.0045	-0.5758	0.0478	-1.5903	0.2160	-1.9241	0.1184
1	85.08	0.6498	-0.1727	0.0047	-0.6534	0.0578	-2.2121	0.2525	-2.0486	0.1199
1	85.08	0.6998	-0.2180	0.0057	-0.7786	0.0676	-2.8994	0.2899	-1.9900	0.1170
1	85.08	0.7500	-0.2082	0.0074	-0.9090	0.0787	-3.8401	0.3284	-2.5453	0.1117
1	85.08	0.8001	-0.2903	0.0092	-1.0263	0.0906	-4.7398	0.3673	-2.4275	0.1172
1	85.08	0.8497	-0.3309	0.0115	-1.1374	0.1024	-5.7587	0.4077	-2.2085	0.1181
1	85.08	0.9102	-0.4462	0.0146	-1.2707	0.1175	-7.1884	0.4594	-2.5549	0.1176
1	85.08	0.9734	-0.4859	0.0162	-1.3987	0.1336	-8.7418	0.5150	-2.6349	0.1234
2	85.08	0.1949	-0.0699	0.0173	-0.0278	0.0011	0.0012	0.0063	-0.5433	0.0363
2	85.08	0.2405	-0.0124	0.0061	-0.0319	0.0019	-0.0562	0.0100	-1.3337	0.0747
2	85.08	0.2999	-0.0012	0.0080	-0.1089	0.0044	-0.1186	0.0229	-1.5811	0.0918
2	85.08	0.3498	-0.0208	0.0160	-0.1825	0.0078	-0.1484	0.0391	-1.6555	0.0849
2	85.08	0.3998	-0.0176	0.0229	-0.2784	0.0119	-0.3174	0.0589	-1.8963	0.0904
2	85.08	0.4496	-0.0111	0.0283	-0.3671	0.0163	-0.5915	0.0811	-2.2226	0.0919
2	85.08	0.4995	-0.0384	0.0315	-0.4593	0.0215	-0.8270	0.1044	-2.0535	0.0986
2	85.08	0.5551	-0.0193	0.0325	-0.5774	0.0287	-1.3639	0.1335	-2.4111	0.1019
2	85.08	0.5996	0.0066	0.0311	-0.7380	0.0354	-1.8251	0.1589	-2.3518	0.1047
2	85.08	0.6497	0.0046	0.0282	-0.8455	0.0429	-2.4393	0.1883	-2.1232	0.1071
2	85.08	0.6996	-0.0197	0.0253	-1.0186	0.0514	-3.1703	0.2187	-1.8269	0.1162
2	85.08	0.7495	-0.0303	0.0239	-1.1563	0.0610	-4.0978	0.2498	-2.1639	0.1165
2	85.08	0.7996	-0.0451	0.0301	-1.2768	0.0710	-5.0853	0.2824	-2.1849	0.1224
2	85.08	0.8578	-0.0864	0.0465	-1.4508	0.0836	-6.3696	0.3206	-1.9407	0.1394
2	85.08	0.9100	-0.1498	0.0673	-1.5148	0.0952	-7.5897	0.3549	-2.1938	0.1447
2	85.08	0.9727	-0.2236	0.0965	-1.7114	0.1200	-9.3264	0.3931	-3.0778	0.1890
3	85.08	0.1938	-0.0124	0.0099	0.0001	0.0013	-0.0104	0.0060	-0.2137	0.0335
3	85.08	0.2357	0.0240	0.0043	-0.0197	0.0020	-0.0804	0.0088	-0.7301	0.0677
3	85.08	0.2995	-0.0166	0.0045	-0.0297	0.0049	-0.1361	0.0219	-0.7804	0.0823
3	85.08	0.3493	-0.0333	0.0086	-0.0385	0.0083	-0.2130	0.0364	-0.7756	0.0794
3	85.08	0.4000	-0.0334	0.0128	-0.0795	0.0130	-0.3811	0.0561	-0.9026	0.0856
3	85.08	0.4497	-0.0586	0.0149	-0.1168	0.0169	-0.5924	0.0756	-1.1497	0.0884
3	85.08	0.4997	-0.0424	0.0165	-0.1982	0.0211	-0.9249	0.0968	-1.1446	0.0960
3	85.08	0.5556	-0.0895	0.0163	-0.2733	0.0266	-1.4014	0.1198	-1.0835	0.0892
3	85.08	0.5995	-0.0901	0.0146	-0.3041	0.0313	-1.8222	0.1400	-1.1599	0.0945
3	85.08	0.6498	-0.1147	0.0134	-0.3708	0.0364	-2.4494	0.1639	-1.0178	0.0899
3	85.08	0.6890	-0.0872	0.0133	-0.4515	0.0411	-3.1344	0.1830	-1.5445	0.1008
3	85.08	0.7495	-0.0956	0.0142	-0.4747	0.0483	-4.1476	0.2144	-1.3620	0.1041
3	85.08	0.7998	-0.1320	0.0194	-0.6148	0.0540	-5.1838	0.2433	-1.6295	0.1094
3	85.08	0.8577	-0.1587	0.0287	-0.6246	0.0616	-6.4146	0.2800	-1.0001	0.1124
3	85.08	0.9178	-0.1026	0.0395	-0.7212	0.0698	-8.0715	0.3216	-2.7151	0.1523
3	85.08	0.9729	-0.1925	0.0527	-0.8152	0.0777	-9.4090	0.3589	-2.0392	0.1629
4	85.08	0.2001	-0.0013	0.0020	-0.0256	0.0011	-0.0250	0.0051	-0.1525	0.0305
4	85.08	0.2502	0.0254	0.0019	-0.0032	0.0024	-0.1185	0.0108	-0.6251	0.0542
4	85.08	0.3001	-0.0346	0.0016	-0.0711	0.0044	-0.1516	0.0203	-0.5014	0.0690
4	85.08	0.3502	-0.0834	0.0023	-0.1144	0.0077	-0.3183	0.0337	-0.7927	0.0788
4	85.08	0.4002	-0.1130	0.0024	-0.1578	0.0119	-0.4968	0.0529	-0.7210	0.0747
4	85.08	0.4500	-0.1321	0.0032	-0.2085	0.0157	-0.7923	0.0689	-0.6632	0.0736
4	85.08	0.5001	-0.1491	0.0034	-0.2619	0.0207	-1.1688	0.0867	-0.3745	0.0727
4	85.08	0.5560	-0.2143	0.0039	-0.2931	0.0267	-1.8435	0.1107	-0.8876	0.0714
4	85.08	0.6001	-0.2011	0.0044	-0.3842	0.0324	-2.4708	0.1283	-1.3200	0.0730
4	85.08	0.6501	-0.2534	0.0048	-0.4320	0.0388	-3.1976	0.1506	-0.7806	0.0727
4	85.08	0.6999	-0.2424	0.0061	-0.5455	0.0464	-4.1338	0.1720	-0.4897	0.0757
4	85.08	0.7500	-0.3188	0.0077	-0.6694	0.0539	-5.2226	0.1970	-0.6406	0.0857
4	85.08	0.8002	-0.3742	0.0101	-0.6958	0.0618	-6.3948	0.2255	-0.8069	0.0816
4	85.08	0.8582	-0.4752	0.0128	-0.7468	0.0716	-7.9027	0.2596	-1.0279	0.0907
4	85.08	0.9101	-0.5278	0.0147	-0.8698	0.0805	-9.4119	0.2914	-1.1890	0.0967
4	85.08	0.9728	-0.5139	0.0184	-0.8087	0.0911	-11.0154	0.3310	-0.6371	0.1283

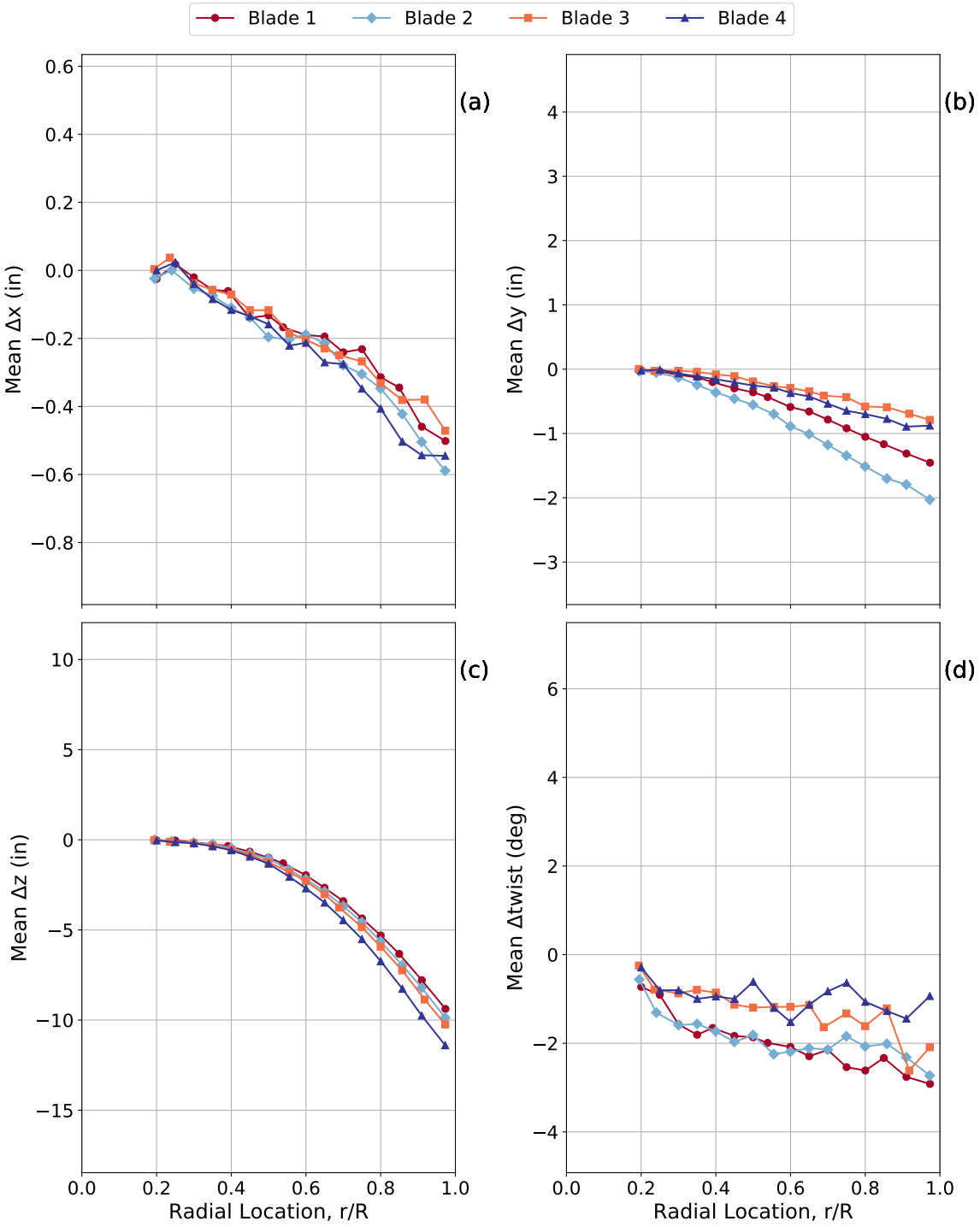


Figure 2.19-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0249	0.0034	-0.0185	0.0017	-0.0360	0.0095	-0.7288	0.0465
1	90	0.2499	0.0181	0.0026	-0.0344	0.0031	-0.0378	0.0147	-0.9064	0.1178
1	90	0.2998	-0.0203	0.0022	-0.0877	0.0063	-0.1440	0.0332	-1.5715	0.1186
1	90	0.3498	-0.0576	0.0026	-0.1274	0.0110	-0.2484	0.0551	-1.8089	0.1216
1	90	0.3913	-0.0606	0.0025	-0.2005	0.0154	-0.3461	0.0771	-1.6547	0.1281
1	90	0.4496	-0.1393	0.0039	-0.2982	0.0212	-0.6596	0.1142	-1.8344	0.1430
1	90	0.4997	-0.1324	0.0035	-0.3599	0.0275	-0.9922	0.1492	-1.8664	0.1415
1	90	0.5387	-0.1672	0.0042	-0.4337	0.0324	-1.3042	0.1803	-1.9925	0.1361
1	90	0.5996	-0.1898	0.0046	-0.5885	0.0418	-1.9638	0.2308	-2.0815	0.1393
1	90	0.6498	-0.1945	0.0061	-0.6585	0.0496	-2.6586	0.2738	-2.2924	0.1479
1	90	0.6998	-0.2407	0.0082	-0.7843	0.0583	-3.4042	0.3195	-2.1491	0.1429
1	90	0.7500	-0.2316	0.0098	-0.9193	0.0663	-4.3604	0.3676	-2.5386	0.1409
1	90	0.8001	-0.3139	0.0131	-1.0523	0.0766	-5.3050	0.4148	-2.6152	0.1468
1	90	0.8497	-0.3445	0.0161	-1.1668	0.0866	-6.3277	0.4638	-2.3317	0.1508
1	90	0.9102	-0.4595	0.0201	-1.3124	0.0991	-7.7881	0.5264	-2.7592	0.1495
1	90	0.9734	-0.5016	0.0231	-1.4555	0.1122	-9.3776	0.5978	-2.9172	0.1486
2	90	0.1949	-0.0239	0.0028	-0.0309	0.0012	-0.0067	0.0073	-0.5610	0.0330
2	90	0.2405	0.0006	0.0021	-0.0533	0.0026	-0.0793	0.0136	-1.3064	0.0692
2	90	0.2999	-0.0535	0.0024	-0.1279	0.0051	-0.1641	0.0285	-1.5907	0.0790
2	90	0.3498	-0.0744	0.0022	-0.2440	0.0086	-0.2375	0.0496	-1.5631	0.0772
2	90	0.3998	-0.1098	0.0028	-0.3610	0.0136	-0.4544	0.0754	-1.7315	0.0789
2	90	0.4496	-0.1380	0.0033	-0.4581	0.0179	-0.7681	0.1040	-1.9684	0.0851
2	90	0.4995	-0.1959	0.0037	-0.5541	0.0225	-1.0512	0.1360	-1.8139	0.0903
2	90	0.5551	-0.2028	0.0052	-0.6977	0.0290	-1.6572	0.1764	-2.2449	0.0928
2	90	0.5996	-0.1888	0.0057	-0.8889	0.0344	-2.1816	0.2136	-2.1886	0.0892
2	90	0.6497	-0.2136	0.0072	-1.0092	0.0404	-2.8643	0.2560	-2.1111	0.0975
2	90	0.6996	-0.2786	0.0091	-1.1777	0.0476	-3.6751	0.3022	-2.1432	0.0960
2	90	0.7495	-0.3047	0.0121	-1.3450	0.0540	-4.5713	0.3490	-1.8425	0.1083
2	90	0.7996	-0.3471	0.0152	-1.5127	0.0628	-5.6341	0.4004	-2.0719	0.1084
2	90	0.8578	-0.4222	0.0196	-1.7017	0.0725	-6.9518	0.4615	-2.0125	0.1104
2	90	0.9100	-0.5044	0.0229	-1.7940	0.0809	-8.2007	0.5147	-2.3168	0.1180
2	90	0.9727	-0.5888	0.0273	-2.0292	0.0911	-9.8654	0.5859	-2.7284	0.1248
3	90	0.1938	0.0042	0.0036	0.0031	0.0017	-0.0211	0.0072	-0.2474	0.0339
3	90	0.2357	0.0375	0.0022	-0.0264	0.0027	-0.1090	0.0116	-0.7892	0.0814
3	90	0.2995	-0.0377	0.0023	-0.0258	0.0072	-0.1959	0.0283	-0.8724	0.0961
3	90	0.3493	-0.0575	0.0024	-0.0408	0.0121	-0.3144	0.0481	-0.7948	0.0973
3	90	0.4000	-0.0711	0.0032	-0.0818	0.0190	-0.5451	0.0741	-0.8577	0.0868
3	90	0.4497	-0.1170	0.0047	-0.1094	0.0252	-0.8295	0.0998	-1.1288	0.0981
3	90	0.4997	-0.1171	0.0049	-0.1905	0.0332	-1.2365	0.1273	-1.1955	0.0981
3	90	0.5556	-0.1847	0.0051	-0.2651	0.0430	-1.8007	0.1594	-1.1794	0.0969
3	90	0.5995	-0.2036	0.0066	-0.2928	0.0517	-2.2924	0.1847	-1.1767	0.1074
3	90	0.6498	-0.2297	0.0072	-0.3455	0.0627	-3.0164	0.2154	-1.1370	0.1064
3	90	0.6890	-0.2493	0.0086	-0.4115	0.0716	-3.7494	0.2398	-1.6368	0.1028
3	90	0.7495	-0.2677	0.0114	-0.4347	0.0866	-4.8384	0.2796	-1.3263	0.1050
3	90	0.7998	-0.3315	0.0133	-0.5803	0.0995	-5.9257	0.3129	-1.6135	0.1063
3	90	0.8577	-0.3811	0.0166	-0.5918	0.1142	-7.2393	0.3550	-1.2139	0.1133
3	90	0.9178	-0.3796	0.0200	-0.6931	0.1308	-8.8599	0.3973	-2.6153	0.1164
3	90	0.9729	-0.4715	0.0239	-0.7894	0.1458	-10.2399	0.4411	-2.0897	0.1119
4	90.35	0.2001	-0.0001	0.0021	-0.0233	0.0016	-0.0318	0.0067	-0.2889	0.0331
4	90.35	0.2502	0.0240	0.0018	-0.0086	0.0033	-0.1323	0.0124	-0.8041	0.0651
4	90.35	0.3001	-0.0400	0.0018	-0.0655	0.0070	-0.1881	0.0250	-0.8029	0.0779
4	90.35	0.3502	-0.0844	0.0026	-0.1141	0.0109	-0.3638	0.0415	-0.9974	0.0817
4	90.35	0.4002	-0.1163	0.0029	-0.1560	0.0178	-0.5800	0.0642	-0.9431	0.0813
4	90.35	0.4500	-0.1345	0.0033	-0.2052	0.0234	-0.9325	0.0885	-0.9999	0.0848
4	90.35	0.5001	-0.1588	0.0031	-0.2543	0.0303	-1.3259	0.1134	-0.6126	0.0856
4	90.35	0.5560	-0.2212	0.0035	-0.2873	0.0382	-2.0520	0.1458	-1.2024	0.0827
4	90.35	0.6001	-0.2129	0.0038	-0.3708	0.0450	-2.6932	0.1721	-1.5199	0.0909
4	90.35	0.6501	-0.2705	0.0050	-0.4249	0.0542	-3.4857	0.2018	-1.1273	0.0921
4	90.35	0.6999	-0.2755	0.0066	-0.5376	0.0627	-4.4583	0.2349	-0.8276	0.0948
4	90.35	0.7500	-0.3477	0.0093	-0.6464	0.0735	-5.5106	0.2665	-0.6364	0.1063
4	90.35	0.8002	-0.4065	0.0117	-0.6989	0.0822	-6.7368	0.3040	-1.0647	0.1065
4	90.35	0.8582	-0.5038	0.0150	-0.7731	0.0932	-8.2650	0.3517	-1.2719	0.1147
4	90.35	0.9101	-0.5435	0.0184	-0.8942	0.1039	-9.7540	0.3952	-1.4439	0.1076
4	90.35	0.9728	-0.5450	0.0218	-0.8778	0.1158	-11.3969	0.4560	-0.9345	0.1205

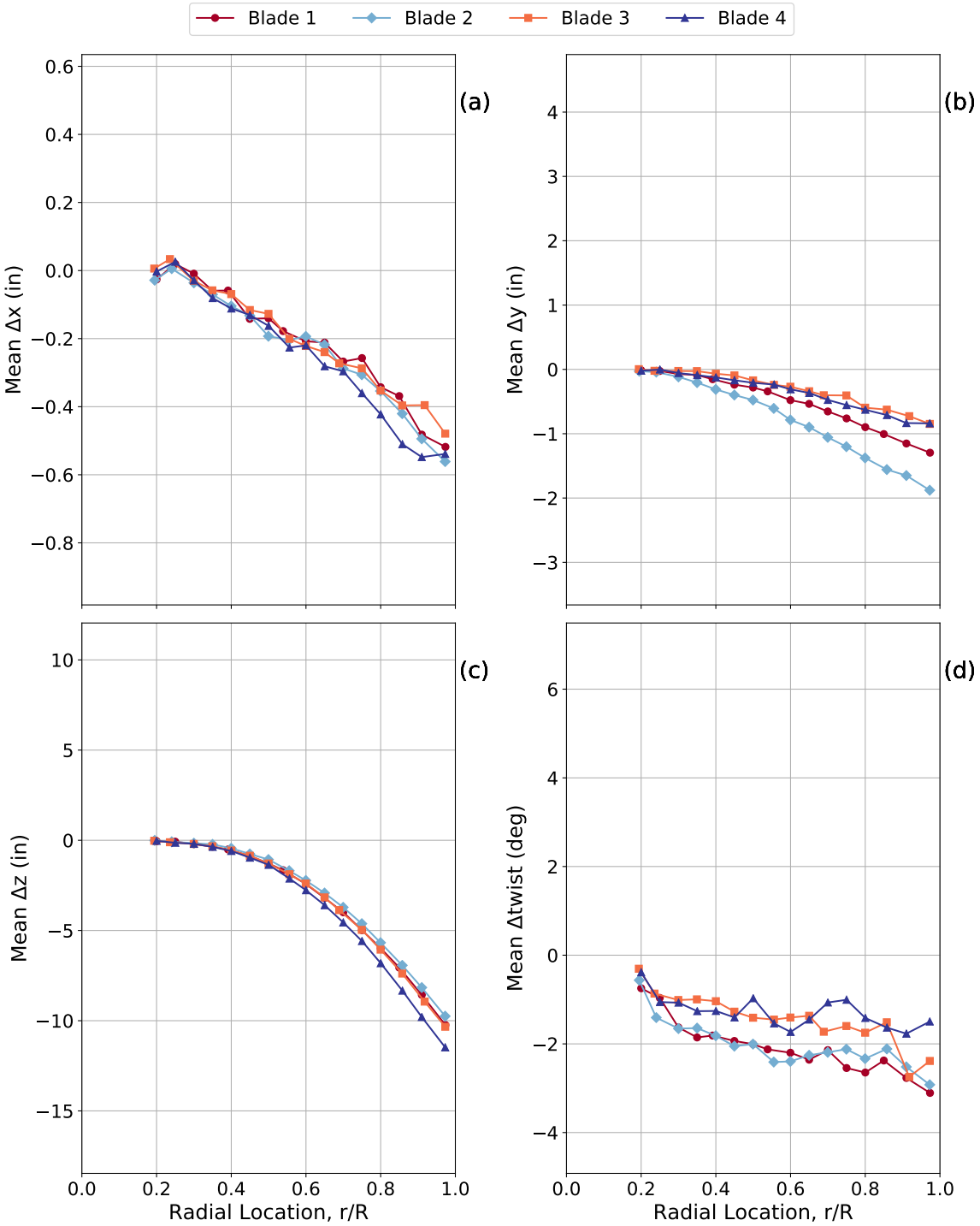


Figure 2.19-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0261	0.0052	-0.0135	0.0022	-0.0519	0.0092	-0.7459	0.0547
1	94.92	0.2499	0.0195	0.0029	-0.0244	0.0040	-0.0739	0.0152	-0.9632	0.1387
1	94.92	0.2998	-0.0092	0.0031	-0.0716	0.0087	-0.2124	0.0311	-1.6289	0.1404
1	94.92	0.3498	-0.0593	0.0032	-0.0879	0.0145	-0.3550	0.0541	-1.8547	0.1402
1	94.92	0.3913	-0.0587	0.0028	-0.1522	0.0208	-0.5083	0.0744	-1.8122	0.1363
1	94.92	0.4496	-0.1419	0.0037	-0.2371	0.0287	-0.8689	0.1018	-1.9338	0.1419
1	94.92	0.4997	-0.1402	0.0040	-0.2821	0.0374	-1.2823	0.1261	-2.0065	0.1406
1	94.92	0.5387	-0.1778	0.0043	-0.3414	0.0443	-1.6571	0.1448	-2.1237	0.1413
1	94.92	0.5996	-0.2077	0.0053	-0.4779	0.0568	-2.4220	0.1760	-2.1999	0.1364
1	94.92	0.6498	-0.2117	0.0061	-0.5357	0.0678	-3.1954	0.2025	-2.3567	0.1381
1	94.92	0.6998	-0.2674	0.0076	-0.6538	0.0791	-3.9884	0.2306	-2.1409	0.1415
1	94.92	0.7500	-0.2571	0.0092	-0.7621	0.0916	-4.9806	0.2599	-2.5446	0.1421
1	94.92	0.8001	-0.3428	0.0111	-0.8979	0.1048	-5.9842	0.2889	-2.6465	0.1417
1	94.92	0.8497	-0.3688	0.0134	-1.0053	0.1180	-7.0551	0.3193	-2.3751	0.1432
1	94.92	0.9102	-0.4820	0.0161	-1.1518	0.1352	-8.5680	0.3581	-2.7682	0.1447
1	94.92	0.9734	-0.5181	0.0198	-1.2949	0.1532	-10.2400	0.4027	-3.1062	0.1487
2	94.92	0.1949	-0.0284	0.0039	-0.0280	0.0019	-0.0057	0.0092	-0.5644	0.0386
2	94.92	0.2405	0.0056	0.0027	-0.0419	0.0035	-0.0834	0.0129	-1.4073	0.0885
2	94.92	0.2999	-0.0362	0.0026	-0.1164	0.0085	-0.1603	0.0326	-1.6551	0.1014
2	94.92	0.3498	-0.0701	0.0025	-0.2050	0.0141	-0.2280	0.0546	-1.6444	0.0954
2	94.92	0.3998	-0.1043	0.0027	-0.3113	0.0223	-0.4417	0.0819	-1.8172	0.1043
2	94.92	0.4496	-0.1323	0.0030	-0.3983	0.0286	-0.7588	0.1119	-2.0515	0.1081
2	94.92	0.4995	-0.1929	0.0038	-0.4766	0.0374	-1.0666	0.1445	-2.0051	0.1197
2	94.92	0.5551	-0.2038	0.0039	-0.6063	0.0487	-1.6868	0.1827	-2.4096	0.1213
2	94.92	0.5996	-0.1935	0.0044	-0.7855	0.0582	-2.2259	0.2137	-2.3955	0.1212
2	94.92	0.6497	-0.2179	0.0057	-0.8980	0.0692	-2.9233	0.2491	-2.2570	0.1180
2	94.92	0.6996	-0.2877	0.0064	-1.0563	0.0818	-3.7150	0.2833	-2.1897	0.1226
2	94.92	0.7495	-0.3061	0.0077	-1.2014	0.0947	-4.6213	0.3182	-2.1199	0.1280
2	94.92	0.7996	-0.3540	0.0101	-1.3763	0.1083	-5.6747	0.3548	-2.3332	0.1295
2	94.92	0.8578	-0.4205	0.0125	-1.5572	0.1245	-6.9321	0.4006	-2.1138	0.1263
2	94.92	0.9100	-0.4944	0.0149	-1.6500	0.1398	-8.1623	0.4435	-2.5189	0.1306
2	94.92	0.9727	-0.5612	0.0165	-1.8782	0.1575	-9.7489	0.4990	-2.9212	0.1382
3	94.92	0.1938	0.0058	0.0061	0.0036	0.0022	-0.0263	0.0086	-0.3054	0.0400
3	94.92	0.2357	0.0336	0.0028	-0.0219	0.0025	-0.1074	0.0114	-0.8660	0.0957
3	94.92	0.2995	-0.0300	0.0024	-0.0246	0.0082	-0.2047	0.0299	-1.0106	0.1089
3	94.92	0.3493	-0.0582	0.0025	-0.0270	0.0132	-0.3319	0.0492	-0.9961	0.1134
3	94.92	0.4000	-0.0692	0.0032	-0.0674	0.0207	-0.5650	0.0754	-1.0373	0.1166
3	94.92	0.4497	-0.1160	0.0036	-0.0937	0.0269	-0.8573	0.1035	-1.2735	0.1063
3	94.92	0.4997	-0.1273	0.0037	-0.1708	0.0347	-1.2848	0.1319	-1.4099	0.1283
3	94.92	0.5556	-0.2007	0.0042	-0.2405	0.0442	-1.8811	0.1681	-1.4526	0.1291
3	94.92	0.5995	-0.2215	0.0051	-0.2695	0.0527	-2.3962	0.1973	-1.4057	0.1268
3	94.92	0.6498	-0.2396	0.0063	-0.3394	0.0630	-3.1640	0.2352	-1.3662	0.1217
3	94.92	0.6890	-0.2726	0.0079	-0.4018	0.0719	-3.8688	0.2629	-1.7268	0.1279
3	94.92	0.7495	-0.2872	0.0103	-0.4049	0.0871	-4.9653	0.3085	-1.5976	0.1271
3	94.92	0.7998	-0.3526	0.0131	-0.5954	0.0998	-6.0604	0.3520	-1.7482	0.1337
3	94.92	0.8577	-0.3963	0.0170	-0.6259	0.1158	-7.3867	0.4048	-1.5129	0.1341
3	94.92	0.9178	-0.3954	0.0207	-0.7273	0.1321	-8.9420	0.4645	-2.7446	0.1347
3	94.92	0.9729	-0.4792	0.0228	-0.8478	0.1492	-10.3348	0.5211	-2.3850	0.1407
4	94.92	0.2001	-0.0029	0.0028	-0.0201	0.0019	-0.0318	0.0092	-0.3865	0.0308
4	94.92	0.2502	0.0258	0.0026	-0.0026	0.0038	-0.1384	0.0175	-1.0576	0.0620
4	94.92	0.3001	-0.0290	0.0022	-0.0572	0.0077	-0.1948	0.0345	-1.0705	0.0667
4	94.92	0.3502	-0.0810	0.0023	-0.0892	0.0128	-0.3671	0.0584	-1.2624	0.0676
4	94.92	0.4002	-0.1116	0.0026	-0.1252	0.0202	-0.5931	0.0897	-1.2581	0.0752
4	94.92	0.4500	-0.1307	0.0033	-0.1692	0.0272	-0.9636	0.1228	-1.4039	0.0820
4	94.92	0.5001	-0.1627	0.0036	-0.2084	0.0364	-1.3624	0.1623	-0.9711	0.0884
4	94.92	0.5560	-0.2264	0.0049	-0.2364	0.0469	-2.1236	0.2075	-1.5390	0.0876
4	94.92	0.6001	-0.2198	0.0060	-0.3102	0.0563	-2.7686	0.2454	-1.7315	0.0930
4	94.92	0.6501	-0.2813	0.0079	-0.3665	0.0677	-3.6008	0.2899	-1.4523	0.0985
4	94.92	0.6999	-0.2961	0.0102	-0.4747	0.0798	-4.5547	0.3388	-1.0666	0.1046
4	94.92	0.7500	-0.3603	0.0140	-0.5554	0.0920	-5.5870	0.3881	-1.0059	0.1314
4	94.92	0.8002	-0.4228	0.0170	-0.6278	0.1063	-6.8156	0.4435	-1.4159	0.1143
4	94.92	0.8582	-0.5102	0.0215	-0.7104	0.1218	-8.3362	0.5086	-1.6343	0.1224
4	94.92	0.9101	-0.5481	0.0261	-0.8345	0.1371	-9.7966	0.5659	-1.7698	0.1189
4	94.92	0.9728	-0.5388	0.0297	-0.8390	0.1545	-11.4792	0.6394	-1.4971	0.1264

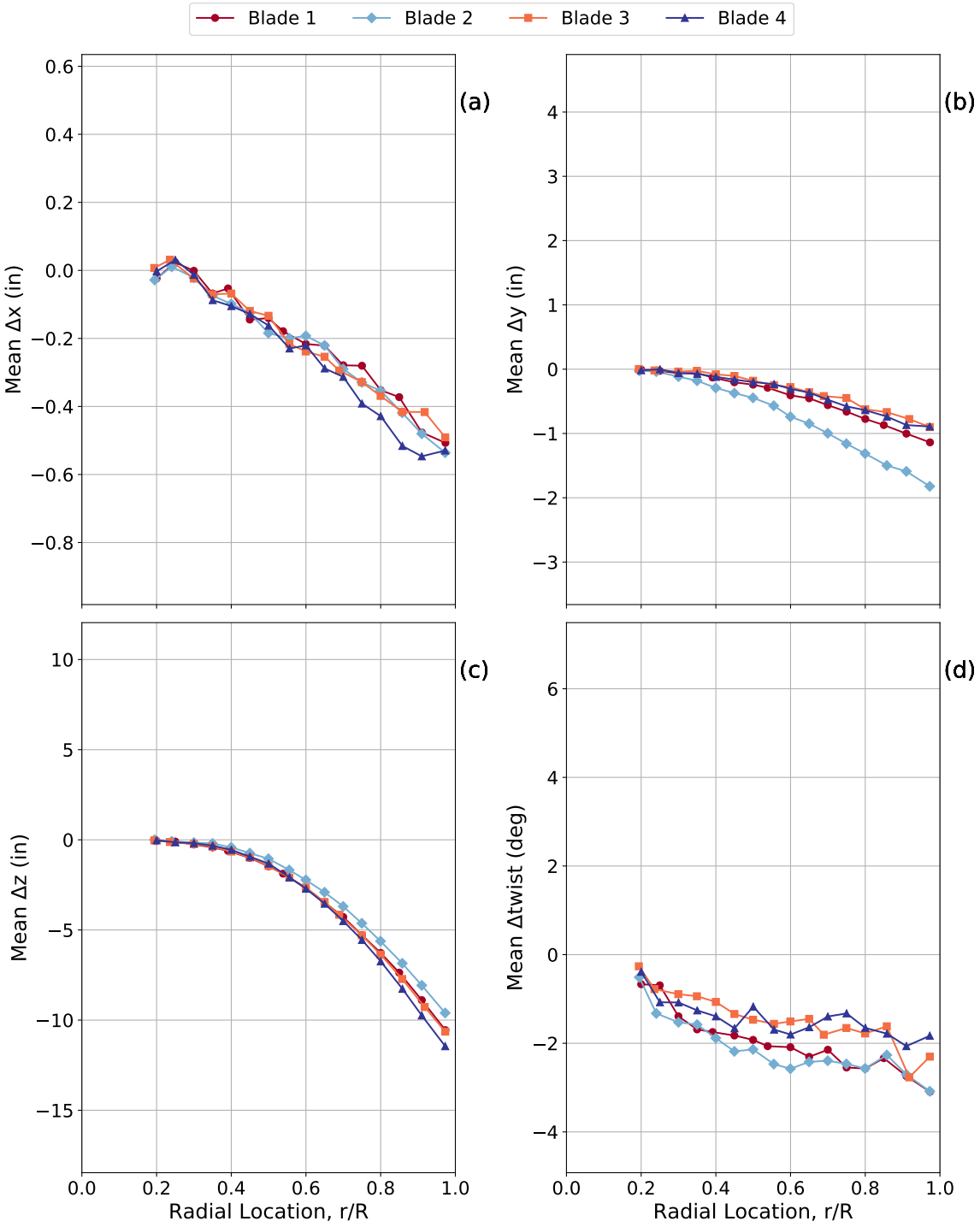


Figure 2.19-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0238	0.0103	-0.0071	0.0035	-0.0620	0.0167	-0.6672	0.1076
1	99.84	0.2499	0.0235	0.0063	-0.0261	0.0047	-0.0960	0.0217	-0.6927	0.2661
1	99.84	0.2998	-0.0011	0.0044	-0.0631	0.0126	-0.2590	0.0575	-1.3915	0.2780
1	99.84	0.3498	-0.0679	0.0054	-0.0596	0.0212	-0.4195	0.0943	-1.6867	0.2783
1	99.84	0.3913	-0.0530	0.0053	-0.1299	0.0294	-0.6125	0.1309	-1.7469	0.2713
1	99.84	0.4496	-0.1446	0.0056	-0.2041	0.0409	-1.0019	0.1802	-1.8248	0.2665
1	99.84	0.4997	-0.1404	0.0066	-0.2408	0.0519	-1.4678	0.2249	-1.9235	0.2718
1	99.84	0.5387	-0.1788	0.0073	-0.2883	0.0607	-1.8770	0.2613	-2.0657	0.2715
1	99.84	0.5996	-0.2163	0.0091	-0.4065	0.0744	-2.6724	0.3183	-2.0884	0.2716
1	99.84	0.6498	-0.2212	0.0106	-0.4531	0.0871	-3.4710	0.3634	-2.3064	0.2755
1	99.84	0.6998	-0.2789	0.0127	-0.5593	0.0997	-4.2809	0.4088	-2.1464	0.2735
1	99.84	0.7500	-0.2803	0.0150	-0.6606	0.1141	-5.2860	0.4530	-2.5468	0.2725
1	99.84	0.8001	-0.3521	0.0173	-0.7742	0.1285	-6.2743	0.4952	-2.5701	0.2728
1	99.84	0.8497	-0.3726	0.0201	-0.8689	0.1433	-7.3669	0.5373	-2.3358	0.2748
1	99.84	0.9102	-0.4764	0.0232	-1.0027	0.1626	-8.8922	0.5864	-2.7398	0.2766
1	99.84	0.9734	-0.5069	0.0250	-1.1384	0.1828	-10.5578	0.6385	-3.0940	0.2824
2	99.84	0.1949	-0.0282	0.0063	-0.0253	0.0019	-0.0017	0.0104	-0.5109	0.0452
2	99.84	0.2405	0.0107	0.0035	-0.0373	0.0029	-0.0836	0.0157	-1.3263	0.1246
2	99.84	0.2999	-0.0214	0.0032	-0.1160	0.0070	-0.1549	0.0371	-1.5270	0.1282
2	99.84	0.3498	-0.0743	0.0033	-0.1800	0.0119	-0.2026	0.0619	-1.5785	0.1230
2	99.84	0.3998	-0.0985	0.0038	-0.2908	0.0182	-0.4169	0.0941	-1.8830	0.1284
2	99.84	0.4496	-0.1250	0.0044	-0.3727	0.0238	-0.7389	0.1267	-2.1824	0.1270
2	99.84	0.4995	-0.1844	0.0057	-0.4455	0.0307	-1.0510	0.1639	-2.1390	0.1300
2	99.84	0.5551	-0.1996	0.0067	-0.5682	0.0384	-1.6733	0.2118	-2.4696	0.1203
2	99.84	0.5996	-0.1925	0.0069	-0.7396	0.0455	-2.2239	0.2499	-2.5748	0.1244
2	99.84	0.6497	-0.2206	0.0086	-0.8471	0.0538	-2.9096	0.2933	-2.4200	0.1216
2	99.84	0.6996	-0.2896	0.0099	-0.9969	0.0628	-3.6951	0.3327	-2.3942	0.1310
2	99.84	0.7495	-0.3291	0.0120	-1.1592	0.0730	-4.6289	0.3718	-2.4658	0.1253
2	99.84	0.7996	-0.3539	0.0144	-1.3125	0.0840	-5.6220	0.4069	-2.5687	0.1317
2	99.84	0.8578	-0.4187	0.0171	-1.4984	0.0963	-6.8522	0.4480	-2.2659	0.1331
2	99.84	0.9100	-0.4802	0.0191	-1.5896	0.1084	-8.0718	0.4826	-2.7031	0.1298
2	99.84	0.9727	-0.5359	0.0216	-1.8220	0.1225	-9.6035	0.5276	-3.0832	0.1377
3	99.84	0.1938	0.0071	0.0072	0.0021	0.0019	-0.0323	0.0091	-0.2627	0.0387
3	99.84	0.2357	0.0313	0.0043	-0.0197	0.0027	-0.1205	0.0081	-0.7784	0.1211
3	99.84	0.2995	-0.0239	0.0033	-0.0372	0.0071	-0.2388	0.0266	-0.8921	0.1212
3	99.84	0.3493	-0.0704	0.0037	-0.0253	0.0117	-0.3818	0.0453	-0.9389	0.1169
3	99.84	0.4000	-0.0681	0.0040	-0.0803	0.0183	-0.6509	0.0658	-1.0666	0.1256
3	99.84	0.4497	-0.1191	0.0051	-0.1050	0.0236	-0.9821	0.0919	-1.3391	0.1244
3	99.84	0.4997	-0.1335	0.0053	-0.1802	0.0305	-1.4474	0.1209	-1.4689	0.1247
3	99.84	0.5556	-0.2162	0.0060	-0.2482	0.0394	-2.1003	0.1519	-1.5622	0.1319
3	99.84	0.5995	-0.2383	0.0066	-0.2785	0.0478	-2.6475	0.1785	-1.5075	0.1269
3	99.84	0.6498	-0.2538	0.0078	-0.3581	0.0574	-3.4462	0.2060	-1.4502	0.1354
3	99.84	0.6890	-0.2942	0.0085	-0.4186	0.0651	-4.1554	0.2257	-1.8070	0.1346
3	99.84	0.7495	-0.3284	0.0097	-0.4486	0.0785	-5.2974	0.2573	-1.6554	0.1324
3	99.84	0.7998	-0.3690	0.0117	-0.6235	0.0897	-6.3639	0.2816	-1.7785	0.1381
3	99.84	0.8577	-0.4158	0.0137	-0.6675	0.1041	-7.7199	0.3122	-1.6176	0.1354
3	99.84	0.9178	-0.4165	0.0152	-0.7762	0.1191	-9.2731	0.3437	-2.7697	0.1373
3	99.84	0.9729	-0.4908	0.0171	-0.9008	0.1327	-10.6387	0.3734	-2.3016	0.1397
4	99.84	0.2001	-0.0027	0.0029	-0.0170	0.0014	-0.0236	0.0064	-0.3872	0.0545
4	99.84	0.2502	0.0308	0.0029	-0.0027	0.0030	-0.1392	0.0137	-1.0750	0.0866
4	99.84	0.3001	-0.0132	0.0028	-0.0613	0.0055	-0.1866	0.0234	-1.0797	0.1156
4	99.84	0.3502	-0.0875	0.0026	-0.0723	0.0092	-0.3258	0.0387	-1.2586	0.1142
4	99.84	0.4002	-0.1050	0.0033	-0.1199	0.0144	-0.5576	0.0602	-1.3930	0.1167
4	99.84	0.4500	-0.1282	0.0030	-0.1622	0.0191	-0.9365	0.0823	-1.6618	0.1097
4	99.84	0.5001	-0.1623	0.0038	-0.2002	0.0253	-1.3226	0.1072	-1.1745	0.1158
4	99.84	0.5560	-0.2296	0.0045	-0.2336	0.0327	-2.0846	0.1401	-1.6923	0.1175
4	99.84	0.6001	-0.2206	0.0053	-0.3065	0.0390	-2.7130	0.1691	-1.8022	0.1201
4	99.84	0.6501	-0.2883	0.0072	-0.3656	0.0467	-3.5466	0.2058	-1.6376	0.1225
4	99.84	0.6999	-0.3130	0.0094	-0.4759	0.0552	-4.5067	0.2447	-1.3962	0.1218
4	99.84	0.7500	-0.3916	0.0118	-0.5787	0.0642	-5.5532	0.2872	-1.3261	0.1193
4	99.84	0.8002	-0.4286	0.0146	-0.6381	0.0738	-6.7432	0.3276	-1.6535	0.1228
4	99.84	0.8582	-0.5161	0.0184	-0.7378	0.0859	-8.2659	0.3740	-1.7834	0.1341
4	99.84	0.9101	-0.5466	0.0207	-0.8689	0.0967	-9.7421	0.4139	-2.0652	0.1220
4	99.84	0.9728	-0.5295	0.0228	-0.8921	0.1099	-11.4484	0.4638	-1.8309	0.1270

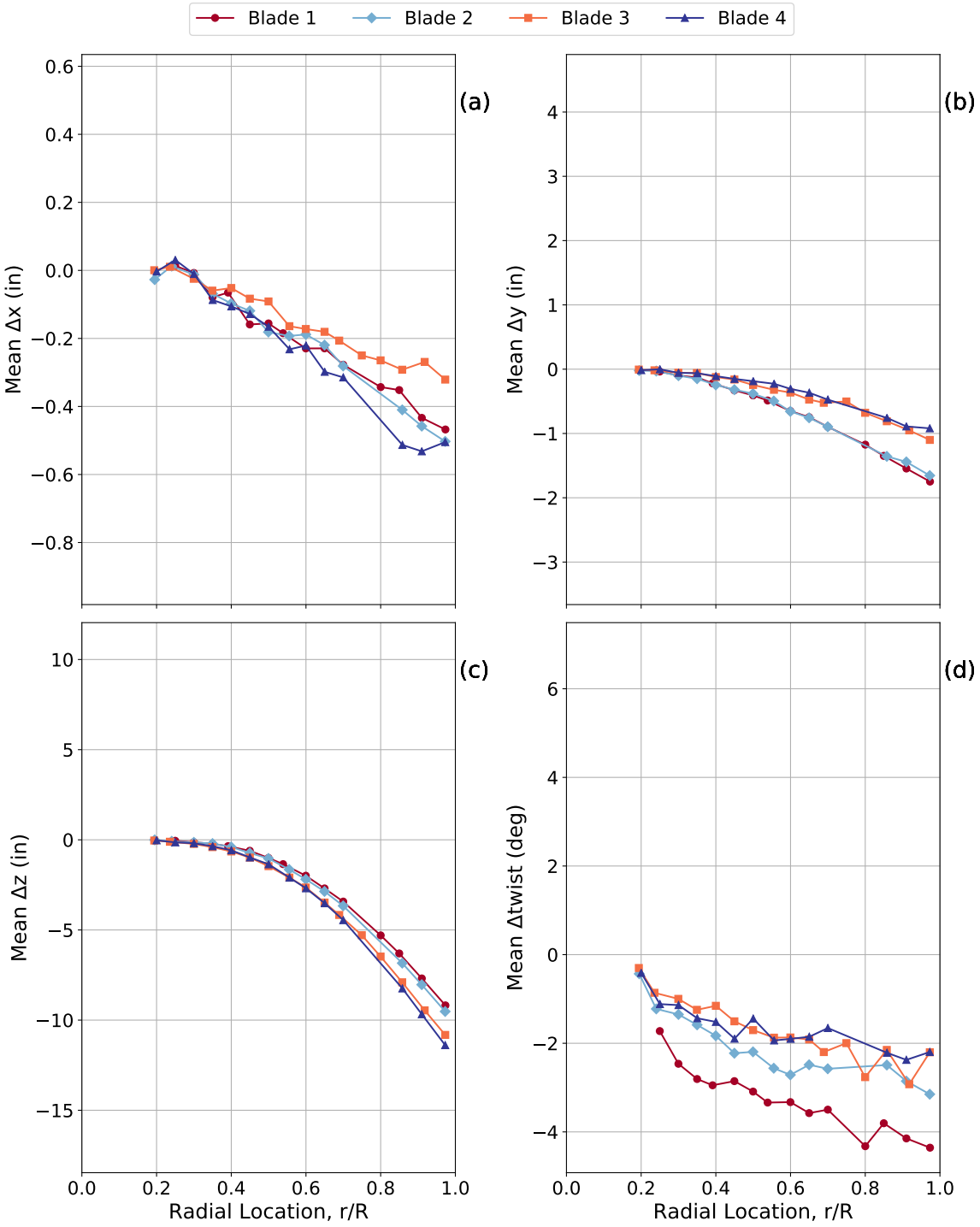


Figure 2.19-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2499	0.0136	0.0052	-0.0367	0.0040	-0.0538	0.0290	-1.7248	0.2489
1	105.12	0.2998	-0.0076	0.0058	-0.0992	0.0073	-0.1324	0.0489	-2.4630	0.3538
1	105.12	0.3498	-0.0792	0.0043	-0.1281	0.0138	-0.2231	0.0902	-2.8066	0.3338
1	105.12	0.3913	-0.0652	0.0038	-0.2200	0.0196	-0.3536	0.1250	-2.9479	0.3423
1	105.12	0.4496	-0.1589	0.0053	-0.3284	0.0327	-0.6079	0.1651	-2.8544	0.4408
1	105.12	0.4997	-0.1559	0.0063	-0.4079	0.0362	-1.0061	0.2162	-3.0903	0.3653
1	105.12	0.5387	-0.1846	0.0068	-0.4871	0.0427	-1.3491	0.2548	-3.3380	0.3549
1	105.12	0.5996	-0.2294	0.0076	-0.6509	0.0552	-1.9916	0.3124	-3.3281	0.3633
1	105.12	0.6498	-0.2292	0.0092	-0.7467	0.0658	-2.6958	0.3647	-3.5756	0.3575
1	105.12	0.6998	-0.2774	0.0111	-0.8971	0.0771	-3.4261	0.4163	-3.4981	0.3535
1	105.12	0.8001	-0.3430	0.0177	-1.1740	0.1017	-5.3007	0.5262	-4.3231	0.3572
1	105.12	0.8497	-0.3518	0.0213	-1.3487	0.1171	-6.3014	0.5819	-3.8047	0.3590
1	105.12	0.9102	-0.4335	0.0262	-1.5453	0.1356	-7.6890	0.6562	-4.1472	0.3684
1	105.12	0.9734	-0.4677	0.0308	-1.7483	0.1549	-9.1829	0.7464	-4.3565	0.3435
2	105.12	0.1949	-0.0271	0.0076	-0.0221	0.0019	-0.0044	0.0121	-0.4328	0.0648
2	105.12	0.2405	0.0126	0.0052	-0.0289	0.0034	-0.0821	0.0167	-1.2245	0.1743
2	105.12	0.2999	-0.0125	0.0048	-0.1014	0.0068	-0.1418	0.0378	-1.3494	0.1810
2	105.12	0.3498	-0.0685	0.0041	-0.1483	0.0122	-0.2080	0.0657	-1.5848	0.1695
2	105.12	0.3998	-0.0973	0.0054	-0.2450	0.0183	-0.3986	0.0962	-1.8308	0.1934
2	105.12	0.4496	-0.1189	0.0059	-0.3187	0.0242	-0.7320	0.1287	-2.2248	0.1791
2	105.12	0.4995	-0.1813	0.0071	-0.3807	0.0309	-1.0334	0.1669	-2.1934	0.1912
2	105.12	0.5551	-0.1928	0.0075	-0.4951	0.0402	-1.6464	0.2137	-2.5631	0.1855
2	105.12	0.5996	-0.1883	0.0083	-0.6567	0.0473	-2.1884	0.2539	-2.7129	0.1835
2	105.12	0.6497	-0.2196	0.0105	-0.7564	0.0571	-2.8622	0.3036	-2.4855	0.1956
2	105.12	0.6996	-0.2811	0.0130	-0.8955	0.0671	-3.6616	0.3559	-2.5755	0.1956
2	105.12	0.8578	-0.4100	0.0247	-1.3561	0.1047	-6.8392	0.5367	-2.4910	0.1944
2	105.12	0.9100	-0.4578	0.0283	-1.4420	0.1179	-8.0343	0.5964	-2.8539	0.2049
2	105.12	0.9727	-0.5028	0.0333	-1.6545	0.1344	-9.5210	0.6721	-3.1500	0.2098
3	105.12	0.1938	0.0005	0.0182	-0.0062	0.0017	-0.0396	0.0149	-0.3012	0.0663
3	105.12	0.2357	0.0107	0.0081	-0.0176	0.0022	-0.1072	0.0108	-0.8607	0.1830
3	105.12	0.2995	-0.0247	0.0084	-0.0544	0.0057	-0.2281	0.0433	-0.9980	0.1993
3	105.12	0.3493	-0.0595	0.0127	-0.0592	0.0103	-0.4052	0.0737	-1.2452	0.1910
3	105.12	0.4000	-0.0518	0.0162	-0.1227	0.0153	-0.6466	0.1065	-1.1548	0.2008
3	105.12	0.4497	-0.0831	0.0184	-0.1608	0.0204	-0.9866	0.1401	-1.5047	0.2007
3	105.12	0.4997	-0.0913	0.0204	-0.2452	0.0270	-1.4609	0.1766	-1.7032	0.1954
3	105.12	0.5556	-0.1640	0.0204	-0.3207	0.0335	-2.0960	0.2150	-1.8733	0.2043
3	105.12	0.5995	-0.1723	0.0198	-0.3633	0.0395	-2.6444	0.2494	-1.8694	0.2026
3	105.12	0.6498	-0.1806	0.0181	-0.4724	0.0474	-3.4793	0.2873	-1.9139	0.2048
3	105.12	0.6890	-0.2064	0.0167	-0.5227	0.0535	-4.1679	0.3200	-2.1985	0.1983
3	105.12	0.7495	-0.2500	0.0231	-0.5024	0.2993	-5.2909	0.5035	-1.9968	0.2298
3	105.12	0.7998	-0.2645	0.0273	-0.6785	0.2222	-6.4752	0.3982	-2.7640	1.9731
3	105.12	0.8577	-0.2920	0.0300	-0.8099	0.0831	-7.9031	0.4492	-2.1504	0.2075
3	105.12	0.9178	-0.2691	0.0443	-0.9520	0.0938	-9.4582	0.4967	-2.9246	0.2139
3	105.12	0.9729	-0.3210	0.0599	-1.1001	0.1013	-10.8213	0.5415	-2.2031	0.2232
4	105.12	0.2001	-0.0033	0.0044	-0.0152	0.0013	-0.0297	0.0088	-0.4121	0.0700
4	105.12	0.2502	0.0306	0.0051	-0.0018	0.0028	-0.1416	0.0142	-1.1161	0.1180
4	105.12	0.3001	-0.0106	0.0038	-0.0571	0.0046	-0.1898	0.0264	-1.1393	0.1460
4	105.12	0.3502	-0.0871	0.0032	-0.0629	0.0080	-0.3573	0.0417	-1.4357	0.1299
4	105.12	0.4002	-0.1059	0.0038	-0.1083	0.0122	-0.5815	0.0621	-1.5179	0.1321
4	105.12	0.4500	-0.1284	0.0045	-0.1511	0.0161	-0.9789	0.0794	-1.8968	0.1316
4	105.12	0.5001	-0.1657	0.0049	-0.1870	0.0190	-1.3578	0.0997	-1.4434	0.1338
4	105.12	0.5560	-0.2320	0.0051	-0.2272	0.0238	-2.0998	0.1237	-1.9364	0.1301
4	105.12	0.6001	-0.2209	0.0056	-0.3068	0.0278	-2.6901	0.1454	-1.9008	0.1333
4	105.12	0.6501	-0.2982	0.0068	-0.3666	0.0331	-3.5189	0.1696	-1.8535	0.1326
4	105.12	0.6999	-0.3147	0.0077	-0.4739	0.0377	-4.4565	0.1969	-1.6568	0.1289
4	105.12	0.8582	-0.5132	0.0146	-0.7577	0.0570	-8.2443	0.2903	-2.2150	0.1369
4	105.12	0.9101	-0.5319	0.0164	-0.8906	0.0642	-9.6758	0.3236	-2.3749	0.1333
4	105.12	0.9728	-0.5048	0.0197	-0.9202	0.0733	-11.3900	0.3626	-2.1971	0.1482

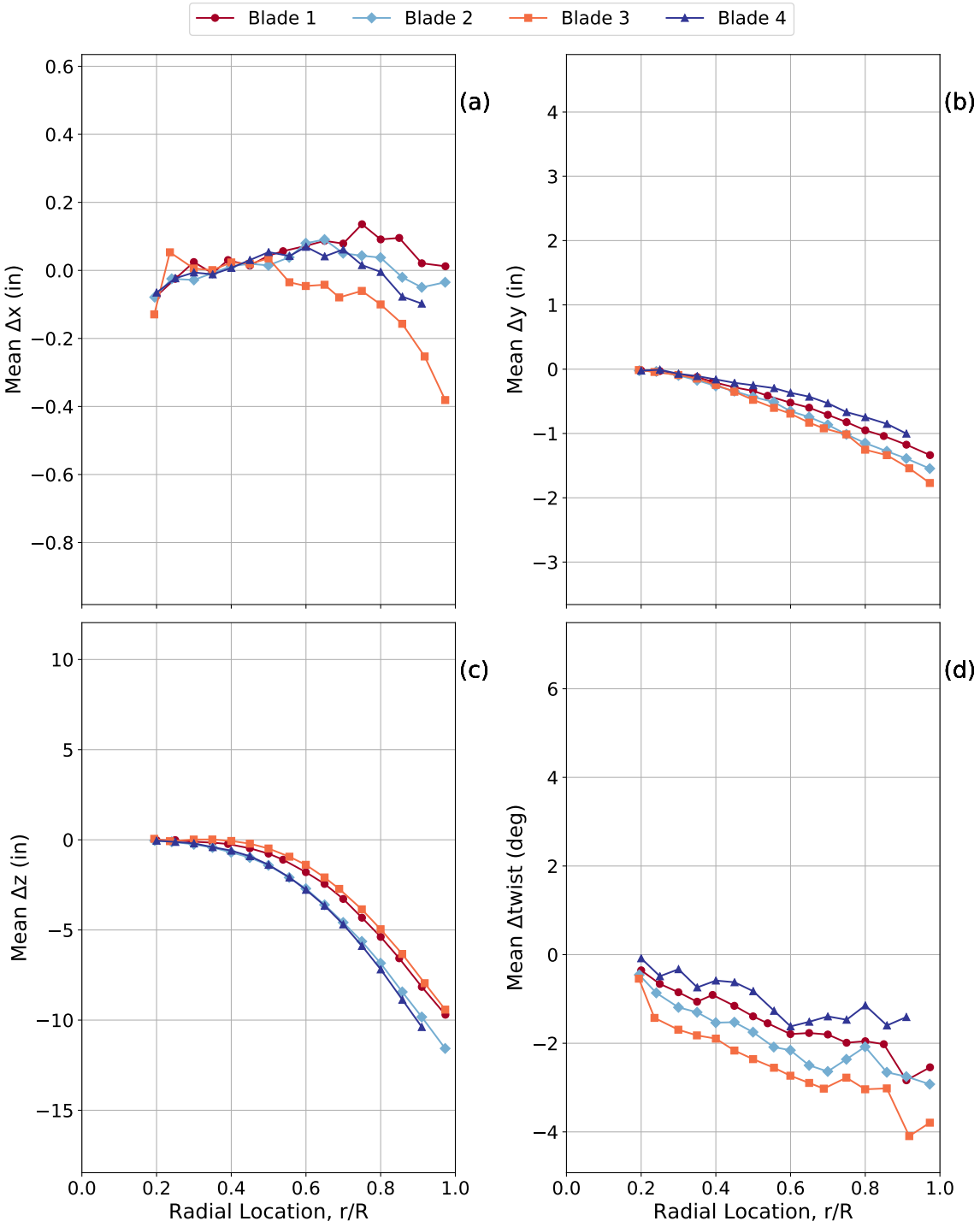


Figure 2.19-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0750	0.0023	-0.0203	0.0010	-0.0250	0.0049	-0.3546	0.0271
1	119.88	0.2499	-0.0248	0.0013	-0.0287	0.0021	-0.0161	0.0107	-0.6603	0.0451
1	119.88	0.2998	0.0245	0.0016	-0.0925	0.0040	-0.1067	0.0204	-0.8490	0.0608
1	119.88	0.3498	-0.0085	0.0025	-0.1219	0.0068	-0.1561	0.0345	-1.0621	0.0600
1	119.88	0.3913	0.0304	0.0036	-0.1971	0.0100	-0.2326	0.0504	-0.9090	0.0592
1	119.88	0.4496	0.0141	0.0051	-0.2828	0.0128	-0.4693	0.0740	-1.1554	0.0612
1	119.88	0.4997	0.0434	0.0061	-0.3375	0.0168	-0.7653	0.0996	-1.3924	0.0635
1	119.88	0.5387	0.0565	0.0069	-0.4135	0.0204	-1.1020	0.1222	-1.5491	0.0670
1	119.88	0.5996	0.0720	0.0086	-0.5220	0.0267	-1.7933	0.1653	-1.7925	0.0727
1	119.88	0.6498	0.0869	0.0105	-0.5990	0.0321	-2.4455	0.2085	-1.7684	0.0773
1	119.88	0.6998	0.0788	0.0129	-0.7104	0.0385	-3.2795	0.2583	-1.8025	0.0755
1	119.88	0.7500	0.1357	0.0157	-0.8237	0.0456	-4.3205	0.3122	-1.9882	0.0779
1	119.88	0.8001	0.0911	0.0196	-0.9506	0.0530	-5.3836	0.3726	-1.9538	0.0851
1	119.88	0.8497	0.0954	0.0243	-1.0398	0.0614	-6.5708	0.4357	-2.0206	0.0830
1	119.88	0.9102	0.0209	0.0302	-1.1748	0.0715	-8.1567	0.5183	-2.8357	0.1029
1	119.88	0.9734	0.0121	0.0346	-1.3368	0.0832	-9.7004	0.6096	-2.5423	0.1074
2	119.88	0.1949	-0.0788	0.0022	-0.0238	0.0008	-0.0417	0.0045	-0.4558	0.0250
2	119.88	0.2405	-0.0247	0.0016	-0.0355	0.0021	-0.1128	0.0089	-0.8637	0.0419
2	119.88	0.2999	-0.0281	0.0016	-0.0967	0.0039	-0.2510	0.0194	-1.1899	0.0590
2	119.88	0.3498	-0.0079	0.0029	-0.1734	0.0068	-0.4285	0.0333	-1.3006	0.0545
2	119.88	0.3998	0.0124	0.0039	-0.2606	0.0108	-0.6965	0.0516	-1.5353	0.0582
2	119.88	0.4496	0.0195	0.0052	-0.3418	0.0134	-0.9842	0.0718	-1.5242	0.0595
2	119.88	0.4995	0.0147	0.0067	-0.4302	0.0169	-1.4152	0.0986	-1.7489	0.0597
2	119.88	0.5551	0.0384	0.0079	-0.5116	0.0213	-2.0898	0.1324	-2.0861	0.0750
2	119.88	0.5996	0.0799	0.0092	-0.6528	0.0250	-2.7075	0.1632	-2.1577	0.0743
2	119.88	0.6497	0.0907	0.0118	-0.7443	0.0295	-3.6047	0.2025	-2.4982	0.0814
2	119.88	0.6996	0.0504	0.0140	-0.8648	0.0344	-4.5843	0.2438	-2.6363	0.0860
2	119.88	0.7495	0.0431	0.0180	-1.0140	0.0398	-5.6346	0.2881	-2.3617	0.0790
2	119.88	0.7996	0.0376	0.0219	-1.1490	0.0457	-6.8406	0.3362	-2.0792	0.0853
2	119.88	0.8578	-0.0203	0.0284	-1.2763	0.0527	-8.4350	0.4011	-2.6549	0.1071
2	119.88	0.9100	-0.0498	0.0330	-1.3896	0.0591	-9.8260	0.4621	-2.7522	0.1216
2	119.88	0.9727	-0.0349	0.0403	-1.5456	0.0675	-11.5728	0.5453	-2.9238	0.2104
3	119.88	0.1938	-0.1293	0.0140	-0.0138	0.0073	0.0558	0.0313	-0.5424	0.1312
3	119.88	0.2357	0.0532	0.0141	-0.0432	0.0065	-0.0752	0.0243	-1.4276	0.3245
3	119.88	0.2995	0.0056	0.0067	-0.0902	0.0196	0.0156	0.0774	-1.6935	0.3266
3	119.88	0.3493	0.0008	0.0061	-0.1466	0.0324	0.0189	0.1237	-1.8225	0.3267
3	119.88	0.4000	0.0234	0.0071	-0.2453	0.0472	-0.0635	0.1743	-1.8949	0.3198
3	119.88	0.4497	0.0192	0.0079	-0.3504	0.0619	-0.2125	0.2197	-2.1641	0.3201
3	119.88	0.4997	0.0353	0.0081	-0.4767	0.0780	-0.4817	0.2668	-2.3581	0.3354
3	119.88	0.5556	-0.0349	0.0078	-0.6017	0.0982	-0.9365	0.3235	-2.5526	0.3230
3	119.88	0.5995	-0.0459	0.0099	-0.6917	0.1160	-1.3863	0.3693	-2.7320	0.3113
3	119.88	0.6498	-0.0422	0.0134	-0.8318	0.1372	-2.0877	0.4207	-2.8952	0.3158
3	119.88	0.6890	-0.0795	0.0184	-0.9201	0.1553	-2.7224	0.4595	-3.0234	0.3203
3	119.88	0.7495	-0.0603	0.0276	-1.0143	0.1854	-3.8559	0.5209	-2.7756	0.3204
3	119.88	0.7998	-0.1001	0.0370	-1.2523	0.2123	-4.9603	0.5728	-3.0384	0.3269
3	119.88	0.8577	-0.1570	0.0434	-1.3377	0.2847	-6.3312	0.7324	-3.0184	1.6169
3	119.88	0.9178	-0.2530	0.0366	-1.5411	0.4392	-7.9535	0.5395	-4.0951	0.3554
3	119.88	0.9729	-0.3812	0.0366	-1.7703	0.4757	-9.4176	0.5953	-3.7921	0.3963
4	119.88	0.2001	-0.0652	0.0022	-0.0227	0.0008	-0.0478	0.0045	-0.0826	0.0253
4	119.88	0.2502	-0.0232	0.0014	-0.0089	0.0024	-0.1172	0.0095	-0.4877	0.0373
4	119.88	0.3001	-0.0061	0.0018	-0.0717	0.0038	-0.1999	0.0181	-0.3289	0.0550
4	119.88	0.3502	-0.0117	0.0020	-0.1080	0.0067	-0.4059	0.0309	-0.7392	0.0509
4	119.88	0.4002	0.0073	0.0028	-0.1593	0.0106	-0.6018	0.0479	-0.5851	0.0566
4	119.88	0.4500	0.0305	0.0034	-0.2121	0.0141	-0.9100	0.0673	-0.6230	0.0574
4	119.88	0.5001	0.0538	0.0043	-0.2504	0.0189	-1.3871	0.0925	-0.8250	0.0597
4	119.88	0.5560	0.0423	0.0051	-0.2952	0.0247	-2.0905	0.1241	-1.2679	0.0676
4	119.88	0.6001	0.0693	0.0062	-0.3673	0.0301	-2.7724	0.1530	-1.6198	0.0670
4	119.88	0.6501	0.0413	0.0075	-0.4278	0.0371	-3.6542	0.1880	-1.5145	0.0769
4	119.88	0.6999	0.0615	0.0099	-0.5304	0.0447	-4.6938	0.2257	-1.3937	0.0784
4	119.88	0.7500	0.0155	0.0122	-0.6682	0.0527	-5.8856	0.2643	-1.4693	0.0845
4	119.88	0.8002	-0.0045	0.0152	-0.7461	0.0613	-7.1893	0.3052	-1.1455	0.0874
4	119.88	0.8582	-0.0772	0.0199	-0.8509	0.0718	-8.8707	0.3506	-1.5977	0.0937
4	119.88	0.9101	-0.0977	0.0217	-1.0022	0.0820	-10.3841	0.3920	-1.4088	0.1133

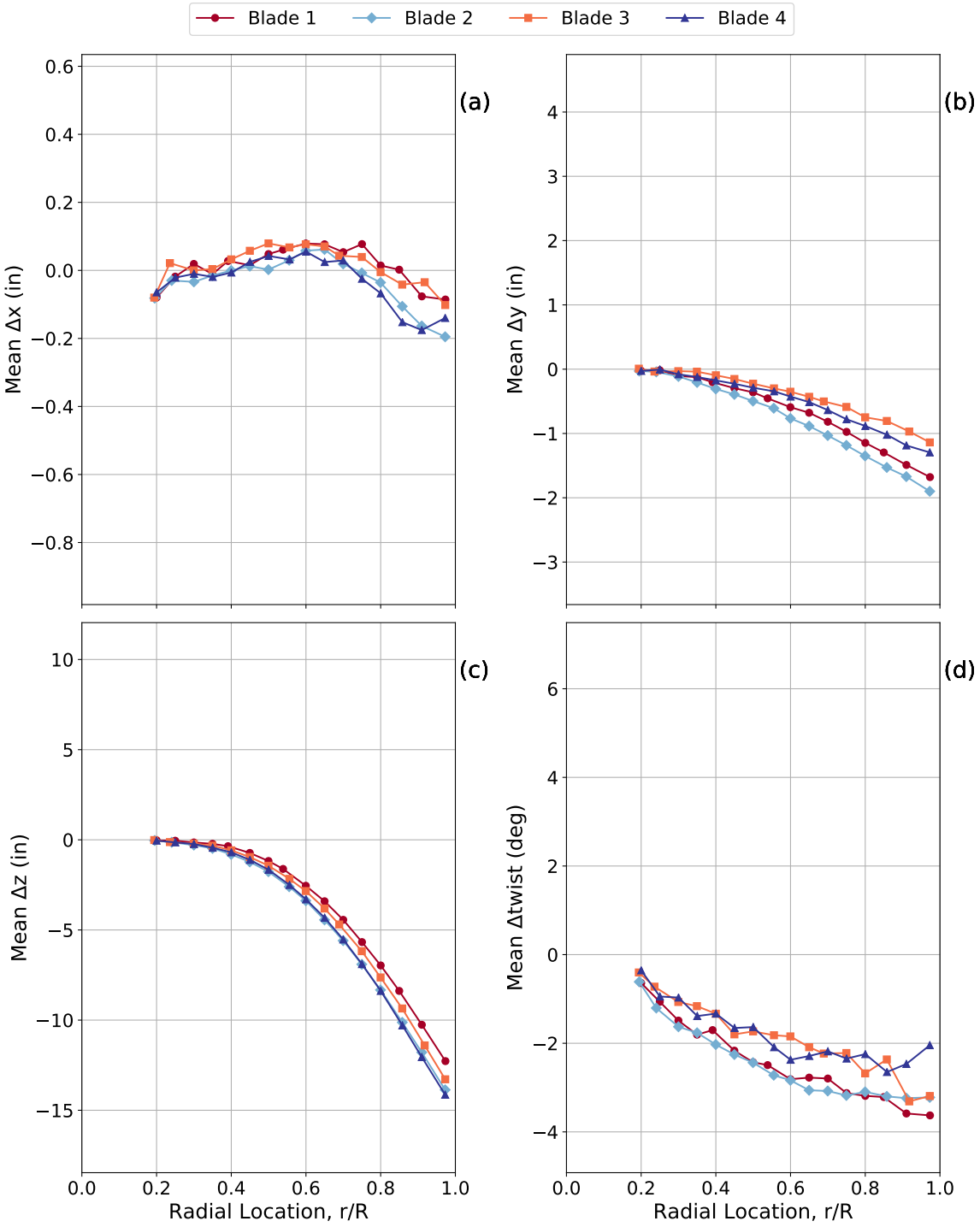


Figure 2.19-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0796	0.0023	-0.0257	0.0009	-0.0260	0.0039	-0.6401	0.0239
1	135	0.2499	-0.0183	0.0017	-0.0169	0.0020	-0.0509	0.0075	-1.0642	0.0422
1	135	0.2998	0.0190	0.0017	-0.1059	0.0036	-0.1470	0.0156	-1.4879	0.0547
1	135	0.3498	-0.0109	0.0026	-0.1243	0.0064	-0.2240	0.0255	-1.8059	0.0504
1	135	0.3913	0.0277	0.0036	-0.2031	0.0091	-0.3536	0.0373	-1.7029	0.0616
1	135	0.4496	0.0152	0.0049	-0.2953	0.0122	-0.7273	0.0553	-2.1668	0.0609
1	135	0.4997	0.0480	0.0061	-0.3599	0.0154	-1.1755	0.0763	-2.4285	0.0638
1	135	0.5387	0.0609	0.0073	-0.4538	0.0182	-1.6150	0.0944	-2.4927	0.0809
1	135	0.5996	0.0791	0.0088	-0.5911	0.0231	-2.5485	0.1296	-2.8112	0.0694
1	135	0.6498	0.0768	0.0109	-0.6782	0.0278	-3.4072	0.1651	-2.7749	0.0774
1	135	0.6998	0.0536	0.0137	-0.8178	0.0330	-4.4387	0.2067	-2.7956	0.0823
1	135	0.7500	0.0773	0.0170	-0.9747	0.0389	-5.6725	0.2556	-3.1247	0.0801
1	135	0.8001	0.0143	0.0215	-1.1462	0.0452	-6.9681	0.3095	-3.1867	0.0831
1	135	0.8497	0.0020	0.0269	-1.2954	0.0523	-8.3808	0.3702	-3.2137	0.0896
1	135	0.9102	-0.0764	0.0343	-1.4898	0.0617	-10.2588	0.4500	-3.5849	0.0933
1	135	0.9734	-0.0856	0.0415	-1.6786	0.0722	-12.2738	0.5423	-3.6276	0.0966
2	135	0.1949	-0.0816	0.0023	-0.0283	0.0008	-0.0391	0.0063	-0.6133	0.0238
2	135	0.2405	-0.0297	0.0017	-0.0416	0.0017	-0.1361	0.0140	-1.2048	0.0389
2	135	0.2999	-0.0338	0.0020	-0.1130	0.0036	-0.2937	0.0290	-1.6275	0.0557
2	135	0.3498	-0.0152	0.0031	-0.2063	0.0060	-0.4760	0.0490	-1.7638	0.0610
2	135	0.3998	-0.0004	0.0042	-0.3072	0.0095	-0.8091	0.0769	-2.0291	0.0696
2	135	0.4496	0.0124	0.0057	-0.3924	0.0128	-1.2242	0.1114	-2.2542	0.0795
2	135	0.4995	0.0022	0.0073	-0.4960	0.0176	-1.7682	0.1583	-2.4378	0.0900
2	135	0.5551	0.0298	0.0107	-0.6072	0.0238	-2.6015	0.2259	-2.7213	0.1040
2	135	0.5996	0.0579	0.0139	-0.7659	0.0296	-3.3783	0.2922	-2.8356	0.1017
2	135	0.6497	0.0615	0.0189	-0.8850	0.0367	-4.4411	0.3819	-3.0603	0.1128
2	135	0.6996	0.0190	0.0256	-1.0321	0.0441	-5.5928	0.4827	-3.0767	0.1246
2	135	0.7495	-0.0075	0.0346	-1.1849	0.0518	-6.9062	0.5928	-3.1774	0.1284
2	135	0.7996	-0.0357	0.0448	-1.3496	0.0603	-8.3262	0.7162	-3.0973	0.1363
2	135	0.8578	-0.1057	0.0588	-1.5286	0.0709	-10.1245	0.8688	-3.1989	0.1431
2	135	0.9100	-0.1634	0.0707	-1.6710	0.0813	-11.7878	1.0061	-3.2390	0.1400
2	135	0.9727	-0.1952	0.0838	-1.8998	0.0942	-13.8680	1.1873	-3.2213	0.1455
3	135	0.1938	-0.0800	0.0026	0.0080	0.0009	-0.0147	0.0045	-0.4024	0.0251
3	135	0.2357	0.0214	0.0017	-0.0368	0.0015	-0.1269	0.0079	-0.7228	0.0465
3	135	0.2995	0.0000	0.0019	-0.0306	0.0031	-0.2096	0.0188	-1.0684	0.0627
3	135	0.3493	0.0039	0.0028	-0.0385	0.0054	-0.3225	0.0318	-1.1620	0.0604
3	135	0.4000	0.0324	0.0038	-0.0949	0.0084	-0.5836	0.0498	-1.3330	0.0672
3	135	0.4497	0.0576	0.0053	-0.1526	0.0115	-0.9554	0.0716	-1.7990	0.0717
3	135	0.4997	0.0794	0.0068	-0.2257	0.0149	-1.4375	0.0989	-1.7321	0.0795
3	135	0.5556	0.0675	0.0080	-0.2989	0.0200	-2.1650	0.1368	-1.8188	0.0776
3	135	0.5995	0.0768	0.0094	-0.3507	0.0244	-2.8413	0.1712	-1.8450	0.0884
3	135	0.6498	0.0704	0.0118	-0.4298	0.0301	-3.8110	0.2181	-2.0887	0.0916
3	135	0.6890	0.0432	0.0145	-0.5019	0.0351	-4.6956	0.2604	-2.2320	0.0910
3	135	0.7495	0.0394	0.0194	-0.5874	0.0428	-6.1761	0.3323	-2.2204	0.0950
3	135	0.7998	-0.0049	0.0249	-0.7486	0.0503	-7.6329	0.4011	-2.6798	0.0965
3	135	0.8577	-0.0418	0.0326	-0.8054	0.0586	-9.3547	0.4875	-2.3653	0.1057
3	135	0.9178	-0.0348	0.0408	-0.9693	0.0678	-11.4026	0.5829	-3.3113	0.1121
3	135	0.9729	-0.1019	0.0478	-1.1390	0.0768	-13.2822	0.6769	-3.1904	0.1151
4	135	0.2001	-0.0646	0.0027	-0.0269	0.0009	-0.0453	0.0041	-0.3549	0.0215
4	135	0.2502	-0.0213	0.0013	-0.0058	0.0017	-0.1427	0.0092	-0.9448	0.0339
4	135	0.3001	-0.0101	0.0016	-0.0791	0.0036	-0.2347	0.0169	-0.9687	0.0483
4	135	0.3502	-0.0193	0.0029	-0.1223	0.0059	-0.4408	0.0286	-1.3859	0.0446
4	135	0.4002	-0.0063	0.0041	-0.1742	0.0093	-0.6939	0.0448	-1.3310	0.0510
4	135	0.4500	0.0249	0.0057	-0.2275	0.0125	-1.1153	0.0649	-1.6558	0.0546
4	135	0.5001	0.0424	0.0072	-0.2887	0.0166	-1.6637	0.0930	-1.6342	0.0678
4	135	0.5560	0.0322	0.0091	-0.3448	0.0221	-2.5067	0.1320	-2.0890	0.0642
4	135	0.6001	0.0551	0.0109	-0.4267	0.0267	-3.3027	0.1705	-2.3724	0.0721
4	135	0.6501	0.0245	0.0137	-0.5127	0.0325	-4.3258	0.2231	-2.2871	0.0812
4	135	0.6999	0.0291	0.0176	-0.6367	0.0385	-5.5275	0.2834	-2.1831	0.0794
4	135	0.7500	-0.0246	0.0229	-0.7795	0.0447	-6.8951	0.3519	-2.3455	0.0830
4	135	0.8002	-0.0676	0.0291	-0.8838	0.0513	-8.3814	0.4279	-2.2447	0.0826
4	135	0.8582	-0.1522	0.0384	-1.0203	0.0590	-10.2941	0.5239	-2.6490	0.0869
4	135	0.9101	-0.1755	0.0463	-1.1866	0.0667	-12.0507	0.6118	-2.4673	0.0763
4	135	0.9728	-0.1399	0.0560	-1.2952	0.0755	-14.1383	0.7313	-2.0438	0.0912

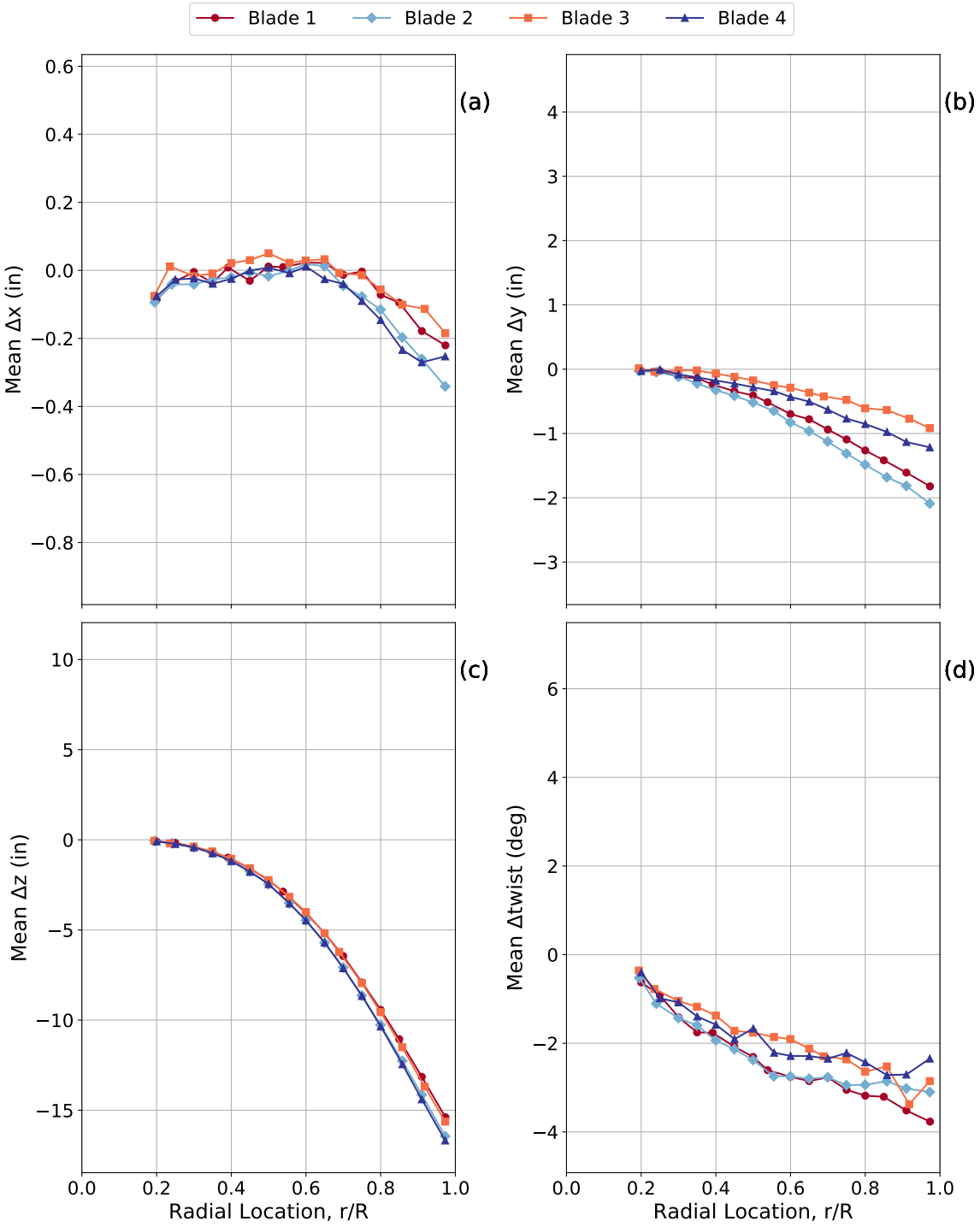


Figure 2.19-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$ NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0859	0.0090	-0.0259	0.0013	-0.0892	0.0048	-0.6267	0.0363
1	150.12	0.2499	-0.0325	0.0040	-0.0278	0.0022	-0.1702	0.0089	-0.9139	0.0876
1	150.12	0.2998	-0.0046	0.0042	-0.1177	0.0048	-0.3987	0.0191	-1.4105	0.0966
1	150.12	0.3498	-0.0366	0.0043	-0.1417	0.0082	-0.6779	0.0328	-1.7546	0.0965
1	150.12	0.3913	0.0084	0.0046	-0.2367	0.0115	-0.9897	0.0469	-1.7635	0.0948
1	150.12	0.4496	-0.0305	0.0055	-0.3437	0.0165	-1.5805	0.0696	-2.0759	0.1002
1	150.12	0.4997	0.0113	0.0066	-0.4082	0.0212	-2.2449	0.0940	-2.3077	0.0994
1	150.12	0.5387	0.0098	0.0075	-0.5137	0.0252	-2.8715	0.1135	-2.6064	0.0979
1	150.12	0.5996	0.0230	0.0096	-0.6984	0.0317	-4.0524	0.1499	-2.7573	0.0952
1	150.12	0.6498	0.0218	0.0118	-0.7785	0.0375	-5.1769	0.1830	-2.8534	0.0977
1	150.12	0.6998	-0.0131	0.0148	-0.9382	0.0439	-6.4457	0.2188	-2.7697	0.0956
1	150.12	0.7500	-0.0034	0.0184	-1.0937	0.0505	-7.9135	0.2571	-3.0505	0.1003
1	150.12	0.8001	-0.0718	0.0225	-1.2643	0.0580	-9.4313	0.2977	-3.1824	0.1024
1	150.12	0.8497	-0.0950	0.0277	-1.4166	0.0657	-11.0573	0.3403	-3.2082	0.1018
1	150.12	0.9102	-0.1783	0.0333	-1.6090	0.0754	-13.1460	0.3959	-3.5171	0.0976
1	150.12	0.9734	-0.2204	0.0396	-1.8220	0.0859	-15.3868	0.4588	-3.7684	0.0947
2	150.12	0.1949	-0.0936	0.0022	-0.0291	0.0011	-0.0663	0.0052	-0.5227	0.0256
2	150.12	0.2405	-0.0412	0.0018	-0.0473	0.0020	-0.1922	0.0100	-1.1058	0.0422
2	150.12	0.2999	-0.0411	0.0021	-0.1151	0.0046	-0.4232	0.0221	-1.4336	0.0613
2	150.12	0.3498	-0.0267	0.0030	-0.2230	0.0078	-0.7093	0.0370	-1.5959	0.0678
2	150.12	0.3998	-0.0201	0.0042	-0.3255	0.0122	-1.1692	0.0574	-1.9367	0.0679
2	150.12	0.4496	-0.0055	0.0059	-0.4144	0.0163	-1.7425	0.0814	-2.1333	0.0692
2	150.12	0.4995	-0.0171	0.0074	-0.5171	0.0209	-2.4585	0.1114	-2.3789	0.0717
2	150.12	0.5551	-0.0013	0.0096	-0.6495	0.0266	-3.5138	0.1517	-2.7449	0.0781
2	150.12	0.5996	0.0189	0.0124	-0.8269	0.0312	-4.4558	0.1885	-2.7470	0.0816
2	150.12	0.6497	0.0123	0.0155	-0.9632	0.0373	-5.7064	0.2346	-2.7981	0.0885
2	150.12	0.6996	-0.0451	0.0199	-1.1261	0.0434	-7.0779	0.2857	-2.7674	0.0906
2	150.12	0.7495	-0.0768	0.0254	-1.3124	0.0502	-8.6400	0.3415	-2.9460	0.0935
2	150.12	0.7996	-0.1151	0.0319	-1.4851	0.0579	-10.2651	0.4012	-2.9370	0.0932
2	150.12	0.8578	-0.1971	0.0405	-1.6820	0.0669	-12.2643	0.4776	-2.8571	0.0998
2	150.12	0.9100	-0.2602	0.0480	-1.8157	0.0757	-14.1421	0.5493	-3.0207	0.0929
2	150.12	0.9727	-0.3410	0.0573	-2.0897	0.0865	-16.4428	0.6423	-3.1009	0.0983
3	150.12	0.1938	-0.0750	0.0064	0.0133	0.0018	-0.0584	0.0075	-0.3589	0.0274
3	150.12	0.2357	0.0118	0.0026	-0.0390	0.0019	-0.1978	0.0097	-0.7750	0.0867
3	150.12	0.2995	-0.0170	0.0026	-0.0180	0.0066	-0.3793	0.0267	-1.0456	0.0911
3	150.12	0.3493	-0.0093	0.0030	-0.0199	0.0110	-0.6439	0.0442	-1.1766	0.0927
3	150.12	0.4000	0.0214	0.0040	-0.0686	0.0169	-1.0576	0.0677	-1.3752	0.0938
3	150.12	0.4497	0.0302	0.0048	-0.1188	0.0222	-1.5764	0.0935	-1.7199	0.1012
3	150.12	0.4997	0.0504	0.0060	-0.1748	0.0282	-2.2362	0.1232	-1.7585	0.1011
3	150.12	0.5556	0.0224	0.0074	-0.2496	0.0353	-3.1612	0.1590	-1.8600	0.1025
3	150.12	0.5995	0.0290	0.0089	-0.2887	0.0414	-4.0058	0.1888	-1.9046	0.1040
3	150.12	0.6498	0.0328	0.0110	-0.3638	0.0489	-5.1912	0.2239	-2.1211	0.1042
3	150.12	0.6890	-0.0073	0.0135	-0.4244	0.0544	-6.2161	0.2521	-2.2939	0.1097
3	150.12	0.7495	-0.0142	0.0172	-0.4770	0.0641	-7.9495	0.2952	-2.3626	0.1101
3	150.12	0.7998	-0.0560	0.0210	-0.6081	0.0724	-9.5519	0.3329	-2.6385	0.1163
3	150.12	0.8577	-0.1008	0.0265	-0.6346	0.0826	-11.5032	0.3790	-2.5236	0.1176
3	150.12	0.9178	-0.1130	0.0323	-0.7711	0.0934	-13.6905	0.4305	-3.3760	0.1206
3	150.12	0.9729	-0.1848	0.0371	-0.9175	0.1036	-15.6299	0.4821	-2.8536	0.1312
4	150.12	0.2001	-0.0761	0.0027	-0.0288	0.0010	-0.0873	0.0050	-0.4029	0.0214
4	150.12	0.2502	-0.0271	0.0020	-0.0045	0.0018	-0.2326	0.0101	-0.9861	0.0419
4	150.12	0.3001	-0.0235	0.0021	-0.0789	0.0037	-0.4184	0.0193	-1.0761	0.0494
4	150.12	0.3502	-0.0391	0.0029	-0.1293	0.0062	-0.7484	0.0335	-1.3955	0.0428
4	150.12	0.4002	-0.0248	0.0043	-0.1770	0.0095	-1.1803	0.0514	-1.5801	0.0469
4	150.12	0.4500	-0.0003	0.0057	-0.2242	0.0128	-1.7754	0.0721	-1.9065	0.0431
4	150.12	0.5001	0.0081	0.0071	-0.2806	0.0170	-2.4550	0.0989	-1.6676	0.0450
4	150.12	0.5560	-0.0083	0.0092	-0.3425	0.0222	-3.5326	0.1330	-2.2126	0.0478
4	150.12	0.6001	0.0114	0.0108	-0.4311	0.0269	-4.4730	0.1640	-2.2855	0.0495
4	150.12	0.6501	-0.0257	0.0137	-0.5049	0.0328	-5.7070	0.2032	-2.2892	0.0541
4	150.12	0.6999	-0.0400	0.0170	-0.6302	0.0386	-7.1216	0.2469	-2.3468	0.0567
4	150.12	0.7500	-0.0899	0.0215	-0.7688	0.0451	-8.6582	0.2961	-2.2189	0.0557
4	150.12	0.8002	-0.1457	0.0271	-0.8534	0.0522	-10.3541	0.3507	-2.4306	0.0576
4	150.12	0.8582	-0.2337	0.0347	-0.9767	0.0609	-12.4518	0.4197	-2.7164	0.0606
4	150.12	0.9101	-0.2703	0.0417	-1.1323	0.0690	-14.3945	0.4835	-2.7058	0.0694
4	150.12	0.9728	-0.2528	0.0507	-1.2154	0.0791	-16.6774	0.5698	-2.3460	0.0691

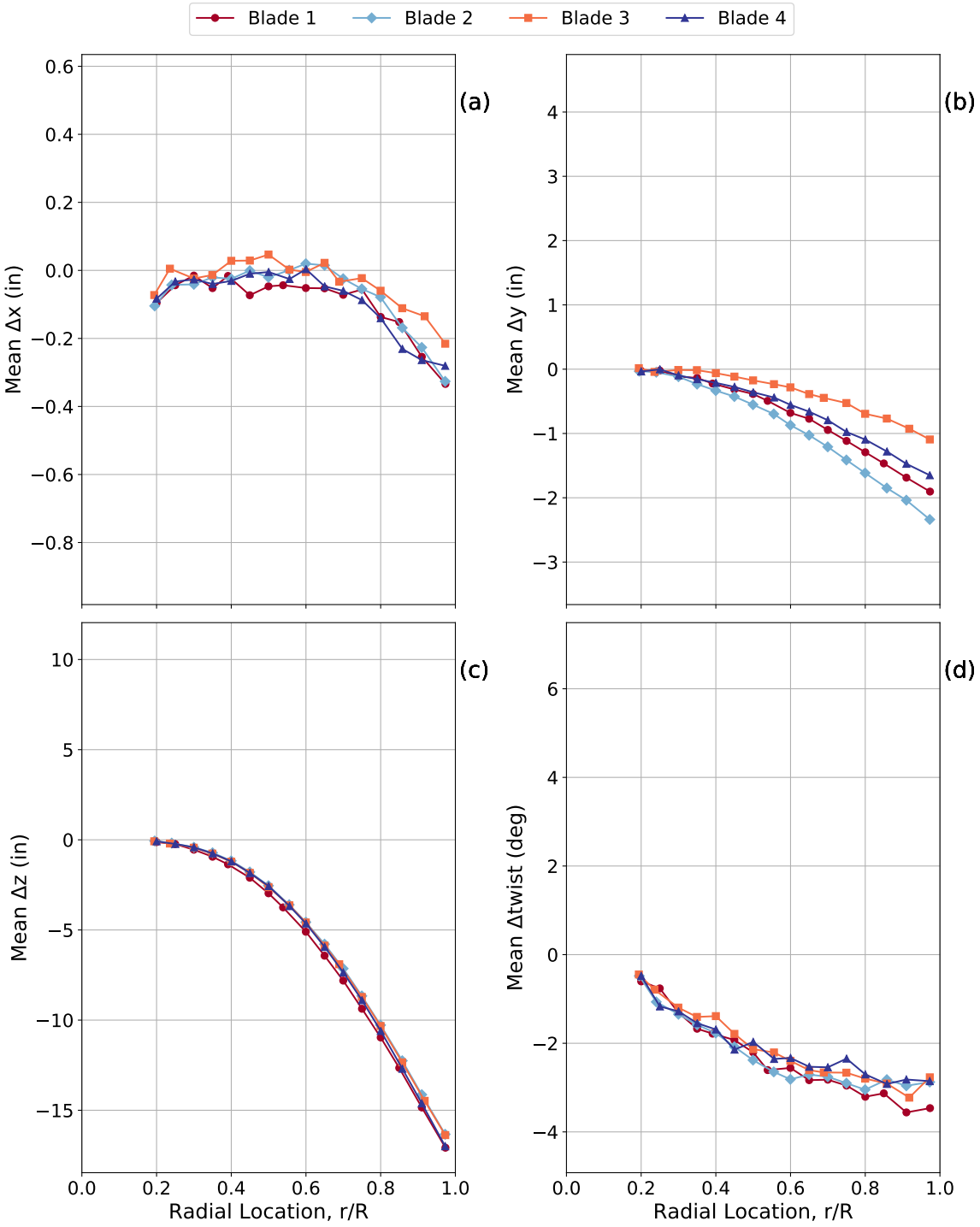


Figure 2.19-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0957	0.0057	-0.0265	0.0021	-0.1250	0.0091	-0.6035	0.0536
1	164.88	0.2499	-0.0436	0.0053	-0.0217	0.0031	-0.2390	0.0099	-0.7617	0.1549
1	164.88	0.2998	-0.0153	0.0053	-0.1140	0.0076	-0.5473	0.0287	-1.3120	0.1503
1	164.88	0.3498	-0.0521	0.0057	-0.1357	0.0130	-0.9386	0.0477	-1.6719	0.1481
1	164.88	0.3913	-0.0163	0.0061	-0.2236	0.0181	-1.3620	0.0642	-1.7826	0.1578
1	164.88	0.4496	-0.0730	0.0076	-0.3156	0.0257	-2.1027	0.0885	-1.9259	0.1618
1	164.88	0.4997	-0.0469	0.0081	-0.3862	0.0329	-2.9662	0.1110	-2.2037	0.1607
1	164.88	0.5387	-0.0436	0.0090	-0.4924	0.0389	-3.7485	0.1291	-2.6049	0.1663
1	164.88	0.5996	-0.0519	0.0106	-0.6797	0.0488	-5.0975	0.1606	-2.5561	0.1643
1	164.88	0.6498	-0.0527	0.0125	-0.7714	0.0576	-6.4275	0.1878	-2.8324	0.1686
1	164.88	0.6998	-0.0718	0.0150	-0.9446	0.0667	-7.8092	0.2181	-2.8217	0.1664
1	164.88	0.7500	-0.0561	0.0182	-1.1156	0.0767	-9.3711	0.2504	-2.9547	0.1698
1	164.88	0.8001	-0.1369	0.0220	-1.2923	0.0866	-10.9639	0.2854	-3.2068	0.1686
1	164.88	0.8497	-0.1518	0.0258	-1.4660	0.0972	-12.6523	0.3225	-3.1296	0.1692
1	164.88	0.9102	-0.2540	0.0312	-1.6871	0.1106	-14.8449	0.3696	-3.5604	0.1693
1	164.88	0.9734	-0.3338	0.0368	-1.9039	0.1246	-17.0762	0.4238	-3.4638	0.1690
2	164.88	0.1949	-0.1045	0.0047	-0.0310	0.0014	-0.0656	0.0072	-0.4794	0.0348
2	164.88	0.2405	-0.0428	0.0030	-0.0467	0.0022	-0.1831	0.0104	-1.0665	0.0754
2	164.88	0.2999	-0.0410	0.0035	-0.1167	0.0049	-0.4119	0.0253	-1.3449	0.0884
2	164.88	0.3498	-0.0205	0.0038	-0.2325	0.0088	-0.7190	0.0426	-1.5834	0.0856
2	164.88	0.3998	-0.0248	0.0046	-0.3334	0.0132	-1.1648	0.0636	-1.7685	0.0846
2	164.88	0.4496	-0.0007	0.0061	-0.4255	0.0178	-1.7848	0.0867	-2.0787	0.0875
2	164.88	0.4995	-0.0203	0.0067	-0.5519	0.0229	-2.5438	0.1134	-2.3800	0.0878
2	164.88	0.5551	0.0006	0.0086	-0.6968	0.0296	-3.5996	0.1440	-2.6462	0.0916
2	164.88	0.5996	0.0198	0.0100	-0.8708	0.0351	-4.5658	0.1705	-2.8139	0.0960
2	164.88	0.6497	0.0149	0.0121	-1.0270	0.0423	-5.7867	0.2035	-2.7065	0.1019
2	164.88	0.6996	-0.0245	0.0148	-1.2081	0.0494	-7.1393	0.2379	-2.7553	0.0969
2	164.88	0.7495	-0.0544	0.0185	-1.4126	0.0574	-8.6589	0.2780	-2.9007	0.1013
2	164.88	0.7996	-0.0786	0.0233	-1.6148	0.0655	-10.2777	0.3222	-3.0474	0.0996
2	164.88	0.8578	-0.1688	0.0292	-1.8492	0.0756	-12.2524	0.3771	-2.8205	0.0979
2	164.88	0.9100	-0.2264	0.0347	-2.0379	0.0852	-14.1344	0.4299	-2.9597	0.1027
2	164.88	0.9727	-0.3263	0.0412	-2.3376	0.0967	-16.3330	0.5016	-2.8744	0.1082
3	164.88	0.1938	-0.0725	0.0096	0.0157	0.0015	-0.0830	0.0066	-0.4474	0.0313
3	164.88	0.2357	0.0051	0.0062	-0.0422	0.0022	-0.2060	0.0093	-0.7894	0.0732
3	164.88	0.2995	-0.0238	0.0050	-0.0127	0.0058	-0.4378	0.0220	-1.1949	0.0839
3	164.88	0.3493	-0.0136	0.0052	-0.0154	0.0100	-0.7644	0.0370	-1.4061	0.0769
3	164.88	0.4000	0.0282	0.0058	-0.0612	0.0153	-1.2134	0.0560	-1.3875	0.0780
3	164.88	0.4497	0.0289	0.0067	-0.1155	0.0203	-1.8333	0.0753	-1.7883	0.0817
3	164.88	0.4997	0.0465	0.0078	-0.1745	0.0263	-2.6238	0.0971	-2.1329	0.0825
3	164.88	0.5556	0.0022	0.0093	-0.2333	0.0334	-3.6331	0.1261	-2.2075	0.0897
3	164.88	0.5995	-0.0047	0.0108	-0.2826	0.0396	-4.5857	0.1525	-2.3957	0.0887
3	164.88	0.6498	0.0222	0.0125	-0.3874	0.0474	-5.8691	0.1868	-2.6066	0.0902
3	164.88	0.6890	-0.0333	0.0146	-0.4462	0.0539	-6.9018	0.2148	-2.6583	0.0933
3	164.88	0.7495	-0.0228	0.0181	-0.5268	0.0644	-8.7156	0.2606	-2.6638	0.0975
3	164.88	0.7998	-0.0598	0.0219	-0.6943	0.0738	-10.3269	0.3007	-2.7974	0.1014
3	164.88	0.8577	-0.1112	0.0267	-0.7681	0.0850	-12.3425	0.3491	-2.9087	0.1010
3	164.88	0.9178	-0.1349	0.0324	-0.9263	0.0976	-14.4785	0.4030	-3.2266	0.1135
3	164.88	0.9729	-0.2156	0.0374	-1.0932	0.1088	-16.3754	0.4555	-2.7685	0.1098
4	164.88	0.2001	-0.0833	0.0032	-0.0355	0.0015	-0.0839	0.0091	-0.4803	0.0515
4	164.88	0.2502	-0.0328	0.0063	-0.0026	0.0025	-0.2309	0.0123	-1.1694	0.0991
4	164.88	0.3001	-0.0266	0.0034	-0.0967	0.0047	-0.4193	0.0236	-1.2798	0.0963
4	164.88	0.3502	-0.0400	0.0037	-0.1559	0.0073	-0.7573	0.0366	-1.5480	0.0929
4	164.88	0.4002	-0.0309	0.0050	-0.2132	0.0112	-1.1978	0.0525	-1.6892	0.0933
4	164.88	0.4500	-0.0098	0.0056	-0.2762	0.0144	-1.8441	0.0697	-2.1437	0.0980
4	164.88	0.5001	-0.0048	0.0068	-0.3594	0.0187	-2.5684	0.0911	-1.9699	0.1002
4	164.88	0.5560	-0.0254	0.0082	-0.4409	0.0243	-3.6772	0.1162	-2.3537	0.1054
4	164.88	0.6001	0.0035	0.0097	-0.5555	0.0292	-4.6450	0.1391	-2.3318	0.1058
4	164.88	0.6501	-0.0470	0.0119	-0.6614	0.0353	-5.9459	0.1659	-2.5305	0.1092
4	164.88	0.6999	-0.0601	0.0141	-0.7940	0.0425	-7.3579	0.1928	-2.5423	0.1089
4	164.88	0.7500	-0.0874	0.0172	-0.9770	0.0507	-8.8997	0.2222	-2.3470	0.1110
4	164.88	0.8002	-0.1406	0.0205	-1.0951	0.0599	-10.6040	0.2542	-2.7031	0.1119
4	164.88	0.8582	-0.2309	0.0261	-1.2809	0.0707	-12.7012	0.2944	-2.9186	0.1121
4	164.88	0.9101	-0.2637	0.0307	-1.4720	0.0814	-14.6181	0.3347	-2.8182	0.1152
4	164.88	0.9728	-0.2806	0.0374	-1.6500	0.0944	-16.9969	0.3909	-2.8549	0.1223

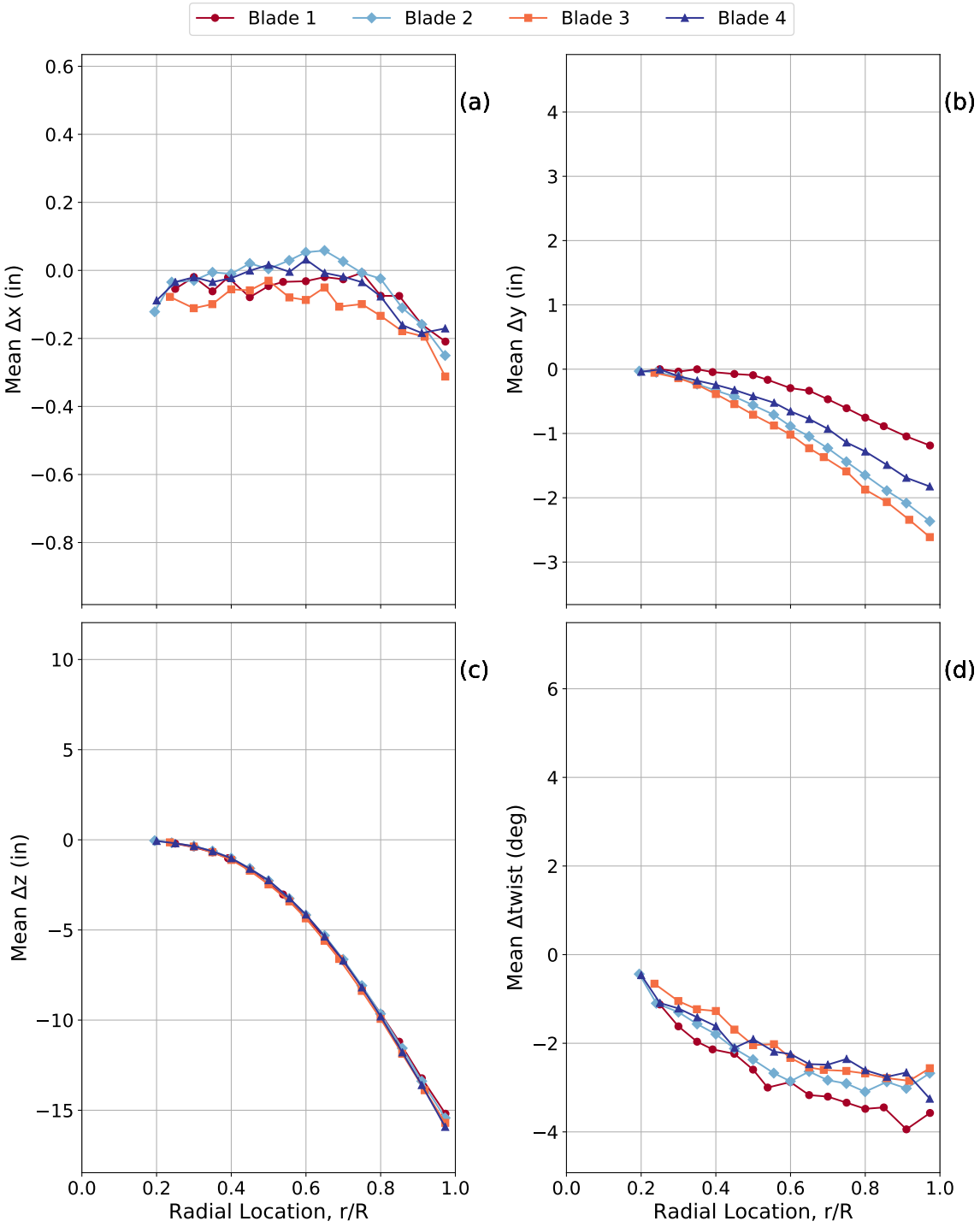


Figure 2.19-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2499	-0.0544	0.0054	-0.0002	0.0061	-0.2083	0.0246	-1.1239	0.1879
1	170.16	0.2998	-0.0195	0.0084	-0.0375	0.0112	-0.4091	0.0430	-1.6186	0.2686
1	170.16	0.3498	-0.0615	0.0076	-0.0015	0.0209	-0.6900	0.0761	-1.9647	0.2601
1	170.16	0.3913	-0.0206	0.0078	-0.0449	0.0298	-1.0222	0.1075	-2.1381	0.2569
1	170.16	0.4496	-0.0788	0.0096	-0.0743	0.0415	-1.6040	0.1478	-2.2379	0.2678
1	170.16	0.4997	-0.0461	0.0106	-0.0932	0.0525	-2.3526	0.1843	-2.5950	0.2676
1	170.16	0.5387	-0.0338	0.0119	-0.1659	0.0617	-3.0329	0.2152	-2.9996	0.2643
1	170.16	0.5996	-0.0318	0.0147	-0.2945	0.0768	-4.2266	0.2659	-2.8745	0.2694
1	170.16	0.6498	-0.0196	0.0172	-0.3353	0.0898	-5.4452	0.3086	-3.1694	0.2706
1	170.16	0.6998	-0.0262	0.0207	-0.4682	0.1032	-6.7255	0.3531	-3.2040	0.2733
1	170.16	0.7500	-0.0072	0.0242	-0.6076	0.1175	-8.1774	0.3998	-3.3409	0.2690
1	170.16	0.8001	-0.0747	0.0288	-0.7536	0.1323	-9.6376	0.4483	-3.4796	0.2714
1	170.16	0.8497	-0.0751	0.0338	-0.8869	0.1473	-11.1970	0.4981	-3.4476	0.2749
1	170.16	0.9102	-0.1591	0.0398	-1.0458	0.1658	-13.2254	0.5642	-3.9425	0.2795
1	170.16	0.9734	-0.2093	0.0468	-1.1873	0.1855	-15.1896	0.6387	-3.5724	0.2812
2	170.16	0.1949	-0.1216	0.0099	-0.0299	0.0022	-0.0485	0.0127	-0.4376	0.0675
2	170.16	0.2405	-0.0345	0.0073	-0.0487	0.0030	-0.1652	0.0113	-1.0978	0.1865
2	170.16	0.2999	-0.0297	0.0075	-0.1136	0.0075	-0.3490	0.0362	-1.2969	0.1975
2	170.16	0.3498	-0.0056	0.0072	-0.2324	0.0134	-0.6215	0.0607	-1.5655	0.1880
2	170.16	0.3998	-0.0102	0.0083	-0.3315	0.0197	-1.0142	0.0860	-1.7944	0.1919
2	170.16	0.4496	0.0204	0.0090	-0.4264	0.0258	-1.5838	0.1130	-2.1196	0.1901
2	170.16	0.4995	0.0045	0.0106	-0.5586	0.0328	-2.2675	0.1418	-2.3683	0.1884
2	170.16	0.5551	0.0293	0.0124	-0.7091	0.0408	-3.2544	0.1748	-2.6740	0.1891
2	170.16	0.5996	0.0533	0.0141	-0.8867	0.0477	-4.1706	0.2038	-2.8587	0.1902
2	170.16	0.6497	0.0583	0.0161	-1.0462	0.0557	-5.3101	0.2375	-2.6384	0.1914
2	170.16	0.6996	0.0262	0.0193	-1.2288	0.0639	-6.6313	0.2721	-2.8328	0.1877
2	170.16	0.7495	-0.0073	0.0224	-1.4398	0.0729	-8.0853	0.3093	-2.9085	0.1906
2	170.16	0.7996	-0.0242	0.0265	-1.6481	0.0820	-9.6520	0.3489	-3.0942	0.1927
2	170.16	0.8578	-0.1103	0.0320	-1.8901	0.0932	-11.5582	0.3989	-2.8700	0.1901
2	170.16	0.9100	-0.1586	0.0369	-2.0832	0.1036	-13.3858	0.4461	-3.0180	0.1882
2	170.16	0.9727	-0.2502	0.0429	-2.3652	0.1158	-15.4246	0.5057	-2.6760	0.1915
3	170.16	0.2357	-0.0778	0.0045	-0.0558	0.0023	-0.1409	0.0101	-0.6564	0.1078
3	170.16	0.2995	-0.1112	0.0047	-0.1393	0.0057	-0.3759	0.0217	-1.0476	0.1756
3	170.16	0.3493	-0.0993	0.0055	-0.2400	0.0105	-0.6885	0.0379	-1.2324	0.1767
3	170.16	0.4000	-0.0557	0.0060	-0.3863	0.0165	-1.1166	0.0581	-1.2723	0.1753
3	170.16	0.4497	-0.0587	0.0075	-0.5431	0.0219	-1.7144	0.0752	-1.6915	0.1840
3	170.16	0.4997	-0.0303	0.0087	-0.7080	0.0282	-2.4705	0.0937	-2.0417	0.1885
3	170.16	0.5556	-0.0795	0.0100	-0.8759	0.0352	-3.4180	0.1172	-2.0219	0.1864
3	170.16	0.5995	-0.0869	0.0115	-1.0173	0.0413	-4.3562	0.1358	-2.3301	0.1824
3	170.16	0.6498	-0.0502	0.0128	-1.2291	0.0488	-5.6002	0.1582	-2.5464	0.1865
3	170.16	0.6890	-0.1067	0.0142	-1.3675	0.0550	-6.6082	0.1770	-2.6001	0.1854
3	170.16	0.7495	-0.0991	0.0167	-1.5896	0.0650	-8.3805	0.2056	-2.6248	0.1857
3	170.16	0.7998	-0.1336	0.0193	-1.8732	0.0741	-9.9311	0.2318	-2.6808	0.1888
3	170.16	0.8577	-0.1787	0.0230	-2.0664	0.0850	-11.8688	0.2647	-2.7863	0.1857
3	170.16	0.9178	-0.1949	0.0267	-2.3426	0.0969	-13.8887	0.3048	-2.8465	0.1915
3	170.16	0.9729	-0.3119	0.0307	-2.6120	0.1076	-15.6976	0.3416	-2.5631	0.1914
4	170.16	0.2001	-0.0884	0.0054	-0.0397	0.0028	-0.0647	0.0128	-0.4616	0.0836
4	170.16	0.2502	-0.0341	0.0104	-0.0048	0.0038	-0.1925	0.0142	-1.0902	0.1271
4	170.16	0.3001	-0.0200	0.0050	-0.1091	0.0067	-0.3533	0.0323	-1.2150	0.1544
4	170.16	0.3502	-0.0342	0.0053	-0.1781	0.0105	-0.6382	0.0478	-1.4150	0.1504
4	170.16	0.4002	-0.0227	0.0065	-0.2441	0.0148	-1.0220	0.0671	-1.6146	0.1489
4	170.16	0.4500	-0.0008	0.0073	-0.3229	0.0191	-1.6072	0.0840	-2.1039	0.1589
4	170.16	0.5001	0.0163	0.0085	-0.4199	0.0245	-2.2434	0.1066	-1.9078	0.1569
4	170.16	0.5560	-0.0042	0.0094	-0.5222	0.0312	-3.2461	0.1328	-2.1899	0.1532
4	170.16	0.6001	0.0317	0.0105	-0.6563	0.0371	-4.1482	0.1565	-2.2428	0.1568
4	170.16	0.6501	-0.0075	0.0121	-0.7756	0.0441	-5.3696	0.1850	-2.4708	0.1636
4	170.16	0.6999	-0.0186	0.0141	-0.9279	0.0517	-6.7031	0.2153	-2.4833	0.1644
4	170.16	0.7500	-0.0347	0.0167	-1.1406	0.0591	-8.1870	0.2470	-2.3552	0.1589
4	170.16	0.8002	-0.0768	0.0200	-1.2810	0.0670	-9.8001	0.2813	-2.6086	0.1612
4	170.16	0.8582	-0.1609	0.0244	-1.4893	0.0767	-11.7896	0.3236	-2.7570	0.1667
4	170.16	0.9101	-0.1842	0.0282	-1.6896	0.0859	-13.6043	0.3642	-2.6598	0.1667
4	170.16	0.9728	-0.1707	0.0507	-1.8243	0.1164	-15.9238	0.3999	-3.2515	0.7567

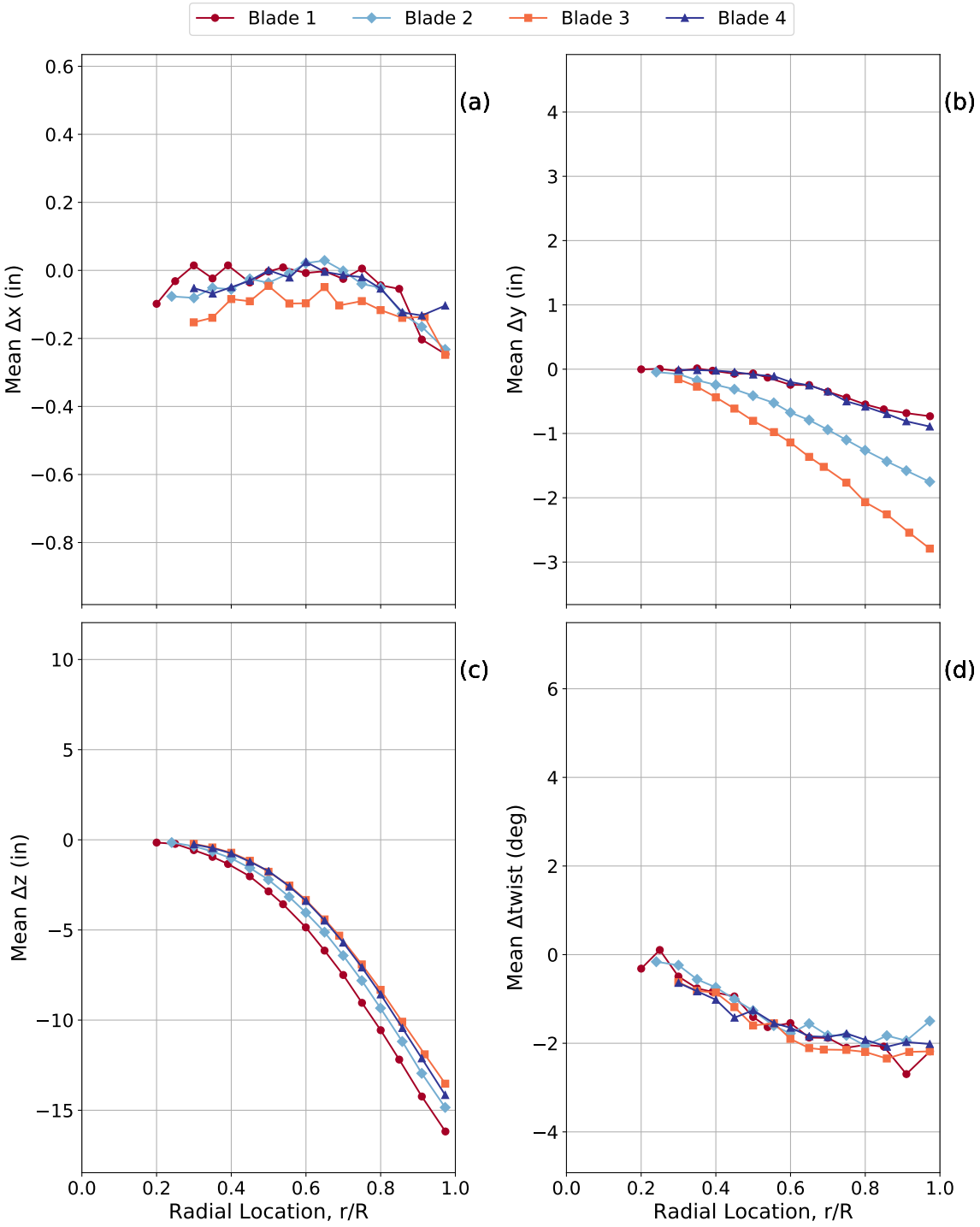


Figure 2.19-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	-0.0983	0.0070	-0.0024	0.0049	-0.1529	0.0141	-0.3159	0.0977
1	175.08	0.2499	-0.0316	0.0122	0.0051	0.0055	-0.2258	0.0201	0.1051	0.1761
1	175.08	0.2998	0.0146	0.0066	-0.0298	0.0157	-0.5721	0.0401	-0.4932	0.2172
1	175.08	0.3498	-0.0237	0.0048	0.0122	0.0269	-0.9460	0.0672	-0.7605	0.1885
1	175.08	0.3913	0.0147	0.0045	-0.0238	0.0358	-1.3407	0.0887	-0.8411	0.1899
1	175.08	0.4496	-0.0356	0.0059	-0.0710	0.0490	-2.0250	0.1192	-0.9422	0.1983
1	175.08	0.4997	-0.0034	0.0058	-0.0664	0.0607	-2.8602	0.1454	-1.4062	0.1964
1	175.08	0.5387	0.0088	0.0065	-0.1308	0.0703	-3.5739	0.1676	-1.6349	0.1965
1	175.08	0.5996	-0.0076	0.0085	-0.2434	0.0859	-4.8584	0.2046	-1.5451	0.1937
1	175.08	0.6498	-0.0025	0.0113	-0.2465	0.0995	-6.1453	0.2374	-1.8722	0.1934
1	175.08	0.6998	-0.0250	0.0134	-0.3502	0.1131	-7.4975	0.2741	-1.8771	0.1932
1	175.08	0.7500	0.0054	0.0182	-0.4431	0.1274	-9.0416	0.3139	-2.1007	0.1963
1	175.08	0.8001	-0.0439	0.0267	-0.5475	0.1407	-10.5606	0.3563	-2.0354	0.2299
1	175.08	0.8497	-0.0543	0.0306	-0.6248	0.1566	-12.1882	0.4076	-2.0742	0.2641
1	175.08	0.9102	-0.2033	0.0363	-0.6839	0.1746	-14.2375	0.4695	-2.6955	0.1906
1	175.08	0.9734	-0.2461	0.0413	-0.7319	0.1939	-16.1775	0.5385	-2.1818	0.1956
2	175.08	0.2405	-0.0765	0.0047	-0.0450	0.0049	-0.1523	0.0195	-0.1602	0.2088
2	175.08	0.2999	-0.0808	0.0091	-0.0755	0.0100	-0.3533	0.0365	-0.2385	0.3264
2	175.08	0.3498	-0.0511	0.0084	-0.1729	0.0195	-0.6478	0.0708	-0.5588	0.3094
2	175.08	0.3998	-0.0556	0.0081	-0.2440	0.0295	-1.0272	0.1046	-0.7384	0.3177
2	175.08	0.4496	-0.0249	0.0091	-0.3121	0.0383	-1.5600	0.1372	-1.0056	0.3136
2	175.08	0.4995	-0.0366	0.0111	-0.4129	0.0480	-2.2102	0.1685	-1.2629	0.3172
2	175.08	0.5551	-0.0084	0.0121	-0.5240	0.0597	-3.1634	0.2070	-1.6028	0.3147
2	175.08	0.5996	0.0213	0.0133	-0.6742	0.0691	-4.0383	0.2388	-1.7789	0.3099
2	175.08	0.6497	0.0290	0.0155	-0.7915	0.0803	-5.1227	0.2730	-1.5573	0.3114
2	175.08	0.6996	-0.0016	0.0178	-0.9408	0.0919	-6.4188	0.3074	-1.8231	0.3173
2	175.08	0.7495	-0.0398	0.0204	-1.1006	0.1041	-7.8085	0.3421	-1.8236	0.3161
2	175.08	0.7996	-0.0508	0.0238	-1.2615	0.1166	-9.3375	0.3768	-2.0520	0.3150
2	175.08	0.8578	-0.1275	0.0275	-1.4352	0.1318	-11.1861	0.4187	-1.8282	0.3132
2	175.08	0.9100	-0.1655	0.0313	-1.5786	0.1456	-12.9524	0.4550	-1.9413	0.3174
2	175.08	0.9727	-0.2324	0.0350	-1.7509	0.1619	-14.8438	0.5009	-1.4979	0.3223
3	175.08	0.2995	-0.1527	0.0095	-0.1555	0.0147	-0.2221	0.0472	-0.6221	0.1585
3	175.08	0.3493	-0.1393	0.0115	-0.2717	0.0260	-0.4239	0.0772	-0.8161	0.2100
3	175.08	0.4000	-0.0843	0.0096	-0.4377	0.0423	-0.7175	0.1197	-0.8560	0.1952
3	175.08	0.4497	-0.0907	0.0107	-0.6130	0.0554	-1.1596	0.1562	-1.1839	0.2003
3	175.08	0.4997	-0.0456	0.0120	-0.8031	0.0700	-1.7738	0.1942	-1.5977	0.1949
3	175.08	0.5556	-0.0974	0.0130	-0.9788	0.0855	-2.5350	0.2346	-1.5490	0.1962
3	175.08	0.5995	-0.0967	0.0146	-1.1395	0.0982	-3.3372	0.2673	-1.9005	0.1911
3	175.08	0.6498	-0.0489	0.0159	-1.3644	0.1133	-4.4153	0.3052	-2.1091	0.1968
3	175.08	0.6890	-0.1030	0.0177	-1.5194	0.1249	-5.3163	0.3348	-2.1426	0.1996
3	175.08	0.7495	-0.0903	0.0208	-1.7645	0.1429	-6.9114	0.3826	-2.1492	0.1999
3	175.08	0.7998	-0.1167	0.0243	-2.0688	0.1585	-8.3221	0.4235	-2.1956	0.2029
3	175.08	0.8577	-0.1396	0.0286	-2.2583	0.1756	-10.0911	0.4757	-2.3438	0.1994
3	175.08	0.9178	-0.1368	0.0333	-2.5430	0.1943	-11.8966	0.5297	-2.1951	0.1971
3	175.08	0.9729	-0.2482	0.0372	-2.7909	0.2114	-13.5250	0.5812	-2.1825	0.1993
4	175.08	0.3001	-0.0523	0.0136	-0.0096	0.0175	-0.2516	0.0768	-0.6375	0.2429
4	175.08	0.3502	-0.0683	0.0182	-0.0150	0.0311	-0.4585	0.1371	-0.8285	0.3257
4	175.08	0.4002	-0.0493	0.0143	-0.0222	0.0500	-0.7498	0.2221	-1.0179	0.2907
4	175.08	0.4500	-0.0302	0.0173	-0.0443	0.0659	-1.2160	0.2933	-1.4215	0.2897
4	175.08	0.5001	0.0002	0.0198	-0.0836	0.0840	-1.7337	0.3691	-1.2559	0.2935
4	175.08	0.5560	-0.0211	0.0216	-0.1098	0.1036	-2.5972	0.4530	-1.5489	0.2956
4	175.08	0.6001	0.0246	0.0246	-0.1999	0.1203	-3.3896	0.5205	-1.6499	0.2907
4	175.08	0.6501	-0.0042	0.0287	-0.2532	0.1392	-4.4816	0.5953	-1.8417	0.2951
4	175.08	0.6999	-0.0139	0.0335	-0.3464	0.1587	-5.7004	0.6711	-1.8594	0.2999
4	175.08	0.7500	-0.0198	0.0396	-0.5011	0.1791	-7.0812	0.7486	-1.7801	0.2994
4	175.08	0.8002	-0.0536	0.0460	-0.5827	0.1996	-8.5753	0.8275	-1.9227	0.2990
4	175.08	0.8582	-0.1236	0.0554	-0.6974	0.2247	-10.4388	0.9209	-2.0788	0.2983
4	175.08	0.9101	-0.1326	0.0626	-0.8108	0.2475	-12.1201	1.0088	-1.9727	0.3053
4	175.08	0.9728	-0.1036	0.0712	-0.8922	0.2753	-14.1548	1.1160	-2.0172	0.3072

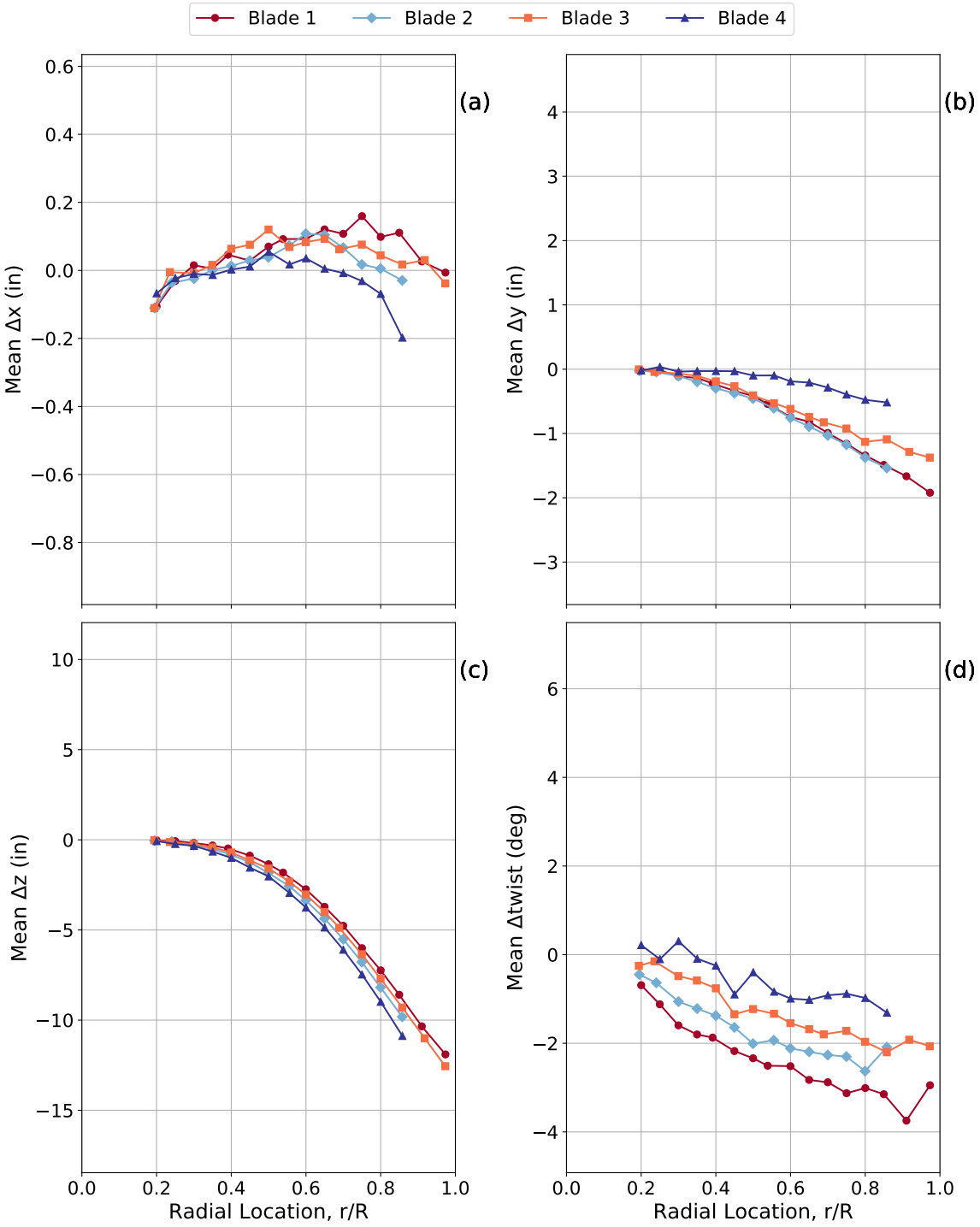


Figure 2.19-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$ NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.1060	0.0235	-0.0269	0.0093	-0.0242	0.0470	-0.6894	0.2319
1	180	0.2499	-0.0312	0.0047	-0.0170	0.0088	-0.0727	0.0512	-1.1204	0.6373
1	180	0.2998	0.0151	0.0091	-0.1145	0.0335	-0.1765	0.1314	-1.5957	0.6392
1	180	0.3498	0.0049	0.0213	-0.1355	0.0579	-0.3138	0.2104	-1.8015	0.6406
1	180	0.3913	0.0459	0.0323	-0.2219	0.0787	-0.4809	0.2771	-1.8719	0.6454
1	180	0.4496	0.0287	0.0471	-0.3378	0.1090	-0.8767	0.3707	-2.1758	0.6533
1	180	0.4997	0.0699	0.0602	-0.4168	0.1360	-1.3519	0.4516	-2.3385	0.6646
1	180	0.5387	0.0920	0.0699	-0.5419	0.1583	-1.8161	0.5170	-2.5067	0.6643
1	180	0.5996	0.0925	0.0837	-0.7425	0.1943	-2.7402	0.6187	-2.5165	0.6757
1	180	0.6498	0.1205	0.0940	-0.8183	0.2250	-3.7129	0.7034	-2.8271	0.6844
1	180	0.6998	0.1075	0.1036	-0.9920	0.2560	-4.7660	0.7902	-2.8799	0.6962
1	180	0.7500	0.1595	0.1105	-1.1594	0.2897	-6.0071	0.8801	-3.1262	0.6957
1	180	0.8001	0.0985	0.1167	-1.3418	0.3219	-7.2416	0.9695	-3.0104	0.7094
1	180	0.8497	0.1107	0.1191	-1.4893	0.3560	-8.5946	1.0615	-3.1490	0.7063
1	180	0.9102	0.0264	0.1598	-1.6656	0.3919	-10.3448	1.1652	-3.7453	0.8104
1	180	0.9734	-0.0064	0.1579	-1.9217	0.4429	-11.9020	1.3105	-2.9473	0.7784
2	180	0.1949	-0.1107	0.0017	-0.0248	0.0017	-0.0499	0.0059	-0.4491	0.0288
2	180	0.2405	-0.0362	0.0017	-0.0427	0.0029	-0.0989	0.0117	-0.6358	0.0435
2	180	0.2999	-0.0242	0.0018	-0.1080	0.0064	-0.2982	0.0240	-1.0597	0.0635
2	180	0.3498	0.0012	0.0019	-0.1962	0.0106	-0.5123	0.0383	-1.2176	0.0592
2	180	0.3998	0.0130	0.0025	-0.2974	0.0165	-0.8292	0.0603	-1.3765	0.0691
2	180	0.4496	0.0291	0.0034	-0.3735	0.0209	-1.2496	0.0814	-1.6407	0.0671
2	180	0.4995	0.0384	0.0040	-0.4577	0.0264	-1.8332	0.1063	-2.0090	0.0871
2	180	0.5551	0.0729	0.0054	-0.6069	0.0331	-2.5698	0.1351	-1.9316	0.0767
2	180	0.5996	0.1080	0.0065	-0.7564	0.0376	-3.3588	0.1640	-2.1156	0.0840
2	180	0.6497	0.1045	0.0092	-0.8927	0.0450	-4.3678	0.1980	-2.1925	0.1127
2	180	0.6996	0.0668	0.0107	-1.0306	0.0522	-5.5106	0.2349	-2.2655	0.1296
2	180	0.7495	0.0173	0.0148	-1.1747	0.0607	-6.7828	0.2723	-2.3000	0.1021
2	180	0.7996	0.0052	0.0234	-1.3752	0.0691	-8.1869	0.3158	-2.6292	0.1669
2	180	0.8578	-0.0295	0.0370	-1.5367	0.0796	-9.8168	0.3803	-2.0873	0.3174
3	180.35	0.1938	-0.1110	0.0193	-0.0035	0.0063	-0.0272	0.0068	-0.2528	0.3241
3	180.35	0.2357	-0.0052	0.0061	-0.0427	0.0264	-0.1244	0.0849	-0.1505	0.3010
3	180.35	0.2995	-0.0084	0.0134	-0.0674	0.0369	-0.2404	0.0453	-0.4844	0.3334
3	180.35	0.3493	0.0160	0.0178	-0.1039	0.0783	-0.4195	0.1050	-0.5842	0.3349
3	180.35	0.4000	0.0636	0.0227	-0.1901	0.1205	-0.7017	0.1672	-0.7598	0.3373
3	180.35	0.4497	0.0755	0.0412	-0.2650	0.1742	-1.1445	0.2879	-1.3453	0.1462
3	180.35	0.4997	0.1201	0.0316	-0.4082	0.2075	-1.5927	0.2904	-1.2281	0.3470
3	180.35	0.5556	0.0689	0.0357	-0.5293	0.2579	-2.3186	0.3597	-1.3342	0.3529
3	180.35	0.5995	0.0830	0.0381	-0.6181	0.2993	-3.0328	0.4159	-1.5448	0.3401
3	180.35	0.6498	0.0928	0.0408	-0.7424	0.3469	-4.0046	0.4786	-1.6810	0.3520
3	180.35	0.6890	0.0621	0.0423	-0.8268	0.3846	-4.8755	0.5272	-1.7982	0.3633
3	180.35	0.7495	0.0758	0.0450	-0.9231	0.4450	-6.3462	0.6073	-1.7200	0.3509
3	180.35	0.7998	0.0441	0.0472	-1.1306	0.4944	-7.7055	0.6760	-1.9668	0.3730
3	180.35	0.8577	0.0173	0.0322	-1.0924	0.7549	-9.2991	0.4841	-2.2034	0.3226
3	180.35	0.9178	0.0304	0.0380	-1.2862	0.8276	-11.0078	0.5488	-1.9203	0.3360
3	180.35	0.9729	-0.0383	0.0345	-1.3752	0.8933	-12.5562	0.6113	-2.0675	0.3307
4	180	0.2001	-0.0675	0.0035	-0.0213	0.0028	-0.0736	0.0116	0.2146	0.0956
4	180	0.2502	-0.0229	0.0037	0.0353	0.0125	-0.2318	0.0359	-0.1021	0.1175
4	180	0.3001	-0.0102	0.0055	-0.0385	0.0186	-0.3374	0.0516	0.3041	0.1989
4	180	0.3502	-0.0135	0.0049	-0.0293	0.0312	-0.6545	0.0765	-0.0924	0.1956
4	180	0.4002	0.0023	0.0052	-0.0294	0.0519	-1.0052	0.1267	-0.2483	0.1437
4	180	0.4500	0.0112	0.0057	-0.0312	0.0617	-1.5451	0.1469	-0.8987	0.1339
4	180	0.5001	0.0546	0.0062	-0.0984	0.0749	-2.0318	0.1779	-0.3989	0.1568
4	180	0.5560	0.0174	0.0058	-0.0977	0.0890	-2.9488	0.2095	-0.8364	0.1352
4	180	0.6001	0.0354	0.0062	-0.1896	0.1008	-3.7578	0.2365	-0.9920	0.1280
4	180	0.6501	0.0051	0.0078	-0.2085	0.1150	-4.8638	0.2680	-1.0211	0.1342
4	180	0.6999	-0.0080	0.0099	-0.2865	0.1292	-6.0965	0.2997	-0.9163	0.1321
4	180	0.7500	-0.0314	0.0134	-0.3942	0.1432	-7.4701	0.3330	-0.8822	0.1239
4	180	0.8002	-0.0692	0.0169	-0.4766	0.1572	-8.9859	0.3692	-0.9778	0.1332
4	180	0.8582	-0.1978	0.0263	-0.5177	0.1769	-10.8788	0.4081	-1.3113	0.1798

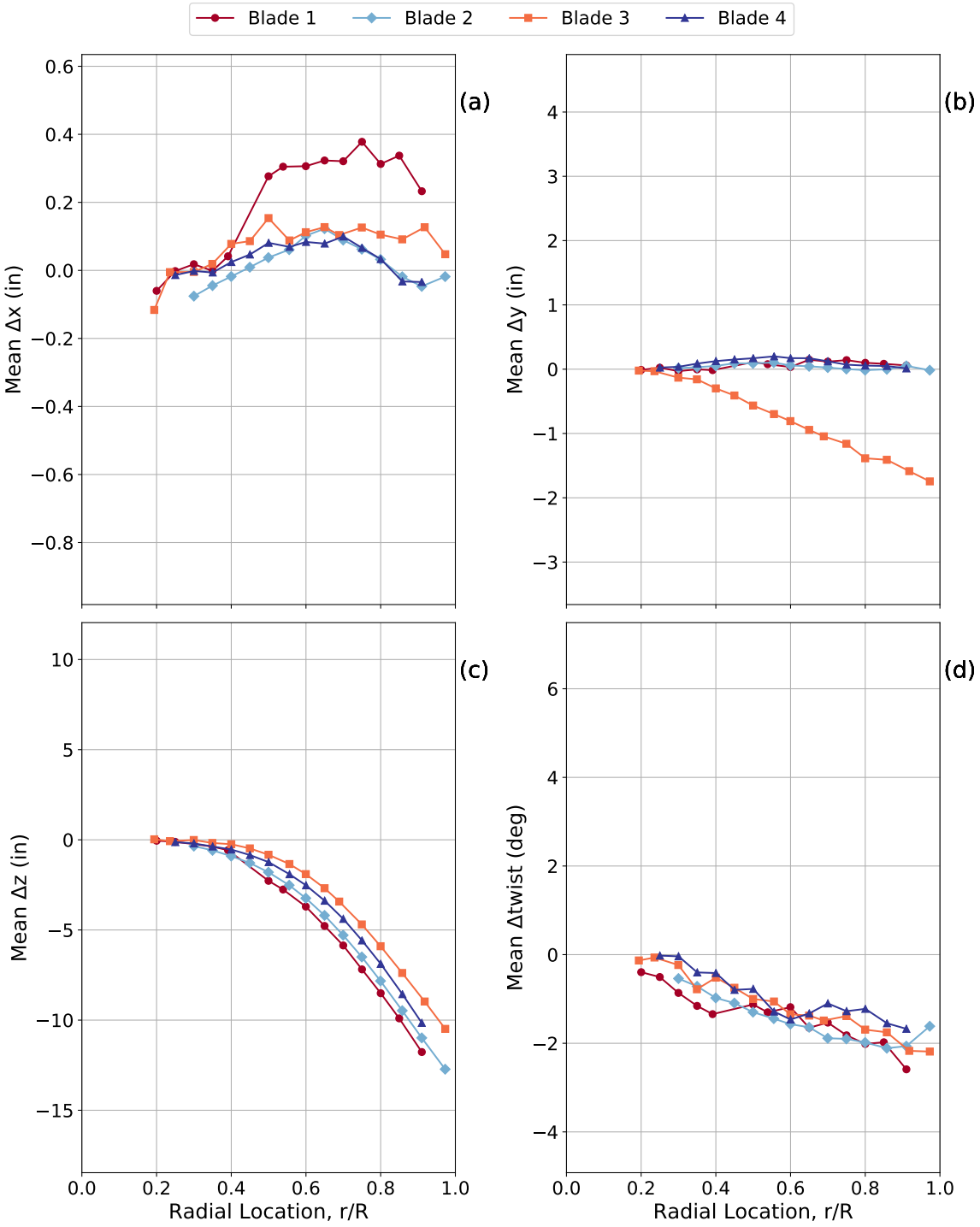


Figure 2.19-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0601	0.0123	-0.0109	0.0031	-0.0500	0.0084	-0.3955	0.0337
1	184.92	0.2499	-0.0020	0.0029	0.0230	0.0065	-0.1132	0.0159	-0.5053	0.0488
1	184.92	0.2998	0.0182	0.0070	-0.0304	0.0132	-0.2370	0.0277	-0.8635	0.0720
1	184.92	0.3498	-0.0014	0.0146	-0.0029	0.0233	-0.3770	0.0441	-1.1568	0.0750
1	184.92	0.3913	0.0415	0.0197	-0.0150	0.0336	-0.5756	0.0632	-1.3429	0.0881
1	184.92	0.4997	0.2767	0.0708	0.1098	0.2833	-2.2749	0.1210	-1.1251	0.1108
1	184.92	0.5387	0.3048	0.0813	0.0775	0.3043	-2.7567	0.1413	-1.3016	0.1814
1	184.92	0.5996	0.3063	0.0904	0.0332	0.3359	-3.7032	0.1591	-1.1854	0.1041
1	184.92	0.6498	0.3231	0.0974	0.1475	0.3586	-4.7773	0.1770	-1.6498	0.1079
1	184.92	0.6998	0.3209	0.1019	0.1176	0.3798	-5.8587	0.1930	-1.5336	0.1043
1	184.92	0.7500	0.3780	0.1059	0.1408	0.3988	-7.1869	0.2093	-1.8206	0.1003
1	184.92	0.8001	0.3129	0.1079	0.0992	0.4136	-8.5086	0.2281	-2.0145	0.1097
1	184.92	0.8497	0.3374	0.1083	0.0837	0.4280	-9.9045	0.2542	-1.9775	0.1133
1	184.92	0.9102	0.2327	0.1082	0.0580	0.4397	-11.7715	0.2947	-2.5882	0.1306
2	184.92	0.2999	-0.0757	0.0415	0.0164	0.0147	-0.3501	0.0302	-0.5392	0.0939
2	184.92	0.3498	-0.0447	0.0153	0.0305	0.0256	-0.5835	0.0467	-0.7153	0.1238
2	184.92	0.3998	-0.0180	0.0143	0.0505	0.0409	-0.9053	0.0693	-0.9768	0.1280
2	184.92	0.4496	0.0093	0.0386	0.0911	0.0558	-1.2853	0.0922	-1.0932	0.1326
2	184.92	0.4995	0.0376	0.0629	0.0905	0.0713	-1.7981	0.1177	-1.2977	0.1403
2	184.92	0.5551	0.0610	0.0883	0.1035	0.0886	-2.5185	0.1495	-1.4440	0.1384
2	184.92	0.5996	0.1018	0.1065	0.0578	0.1039	-3.2391	0.1760	-1.5685	0.1454
2	184.92	0.6497	0.1226	0.1233	0.0446	0.1202	-4.1935	0.2084	-1.6396	0.1462
2	184.92	0.6996	0.0891	0.1365	0.0250	0.1372	-5.2900	0.2414	-1.8867	0.1605
2	184.92	0.7495	0.0622	0.1456	0.0021	0.1560	-6.4978	0.2772	-1.9009	0.1555
2	184.92	0.7996	0.0323	0.1494	-0.0154	0.1747	-7.8289	0.3135	-1.9816	0.1604
2	184.92	0.8578	-0.0187	0.1452	-0.0017	0.1961	-9.4750	0.3600	-2.1109	0.1953
2	184.92	0.9100	-0.0469	0.1332	0.0513	0.2144	-10.9856	0.4065	-2.0653	0.2399
2	184.92	0.9727	-0.0182	0.1154	-0.0158	0.2411	-12.7235	0.4643	-1.6156	0.2014
3	184.92	0.1938	-0.1163	0.0257	-0.0221	0.0166	0.0277	0.0412	-0.1317	0.0482
3	184.92	0.2357	-0.0051	0.0168	-0.0312	0.0080	-0.0729	0.0259	-0.0651	0.0838
3	184.92	0.2995	-0.0046	0.0101	-0.1318	0.0455	-0.0116	0.0723	-0.2337	0.1133
3	184.92	0.3493	0.0191	0.0211	-0.1577	0.0922	-0.1743	0.1674	-0.7812	0.2970
3	184.92	0.4000	0.0779	0.0164	-0.2990	0.1243	-0.2448	0.1854	-0.5188	0.1113
3	184.92	0.4497	0.0860	0.0212	-0.4091	0.1628	-0.4759	0.2407	-0.7471	0.1143
3	184.92	0.4997	0.1537	0.0263	-0.5654	0.2036	-0.8283	0.3009	-1.0008	0.1126
3	184.92	0.5556	0.0880	0.0303	-0.6985	0.2489	-1.3431	0.3656	-1.0572	0.1216
3	184.92	0.5995	0.1122	0.0341	-0.8076	0.2849	-1.9025	0.4149	-1.3459	0.1364
3	184.92	0.6498	0.1272	0.0373	-0.9443	0.3280	-2.6839	0.4749	-1.3750	0.1401
3	184.92	0.6890	0.1039	0.0402	-1.0448	0.3613	-3.4253	0.5166	-1.4869	0.1268
3	184.92	0.7495	0.1261	0.0436	-1.1605	0.4147	-4.6936	0.5866	-1.3863	0.1362
3	184.92	0.7998	0.1052	0.0470	-1.3860	0.4605	-5.9020	0.6448	-1.6922	0.1391
3	184.92	0.8577	0.0912	0.0719	-1.4094	0.5606	-7.3859	0.6668	-1.7530	0.1793
3	184.92	0.9178	0.1269	0.0309	-1.5860	0.7318	-8.9682	0.7747	-2.1713	2.4034
3	184.92	0.9729	0.0475	0.0781	-1.7453	0.6787	-10.4860	0.8079	-2.1871	0.2153
4	184.92	0.2502	-0.0137	0.0163	0.0247	0.0064	-0.1292	0.0195	-0.0223	0.1609
4	184.92	0.3001	-0.0018	0.0070	0.0370	0.0117	-0.2008	0.0314	-0.0381	0.2292
4	184.92	0.3502	-0.0062	0.0047	0.0870	0.0224	-0.3721	0.0544	-0.4016	0.2230
4	184.92	0.4002	0.0246	0.0135	0.1257	0.0347	-0.5395	0.0801	-0.4153	0.2211
4	184.92	0.4500	0.0467	0.0224	0.1505	0.0472	-0.8458	0.1046	-0.7957	0.2293
4	184.92	0.5001	0.0809	0.0319	0.1702	0.0609	-1.2384	0.1318	-0.7736	0.2288
4	184.92	0.5560	0.0691	0.0420	0.1994	0.0777	-1.9102	0.1628	-1.2852	0.2313
4	184.92	0.6001	0.0836	0.0499	0.1716	0.0921	-2.5247	0.1894	-1.4639	0.2349
4	184.92	0.6501	0.0788	0.0584	0.1706	0.1092	-3.3789	0.2200	-1.3265	0.2426
4	184.92	0.6999	0.0996	0.0667	0.1219	0.1273	-4.3857	0.2535	-1.1014	0.2475
4	184.92	0.7500	0.0663	0.0750	0.0698	0.1461	-5.5814	0.2890	-1.2761	0.2446
4	184.92	0.8002	0.0332	0.0815	0.0556	0.1663	-6.8818	0.3274	-1.2234	0.2609
4	184.92	0.8582	-0.0325	0.0910	0.0496	0.1896	-8.5604	0.3722	-1.5489	0.2690
4	184.92	0.9101	-0.0342	0.0971	0.0118	0.2144	-10.1551	0.4136	-1.6742	0.2766

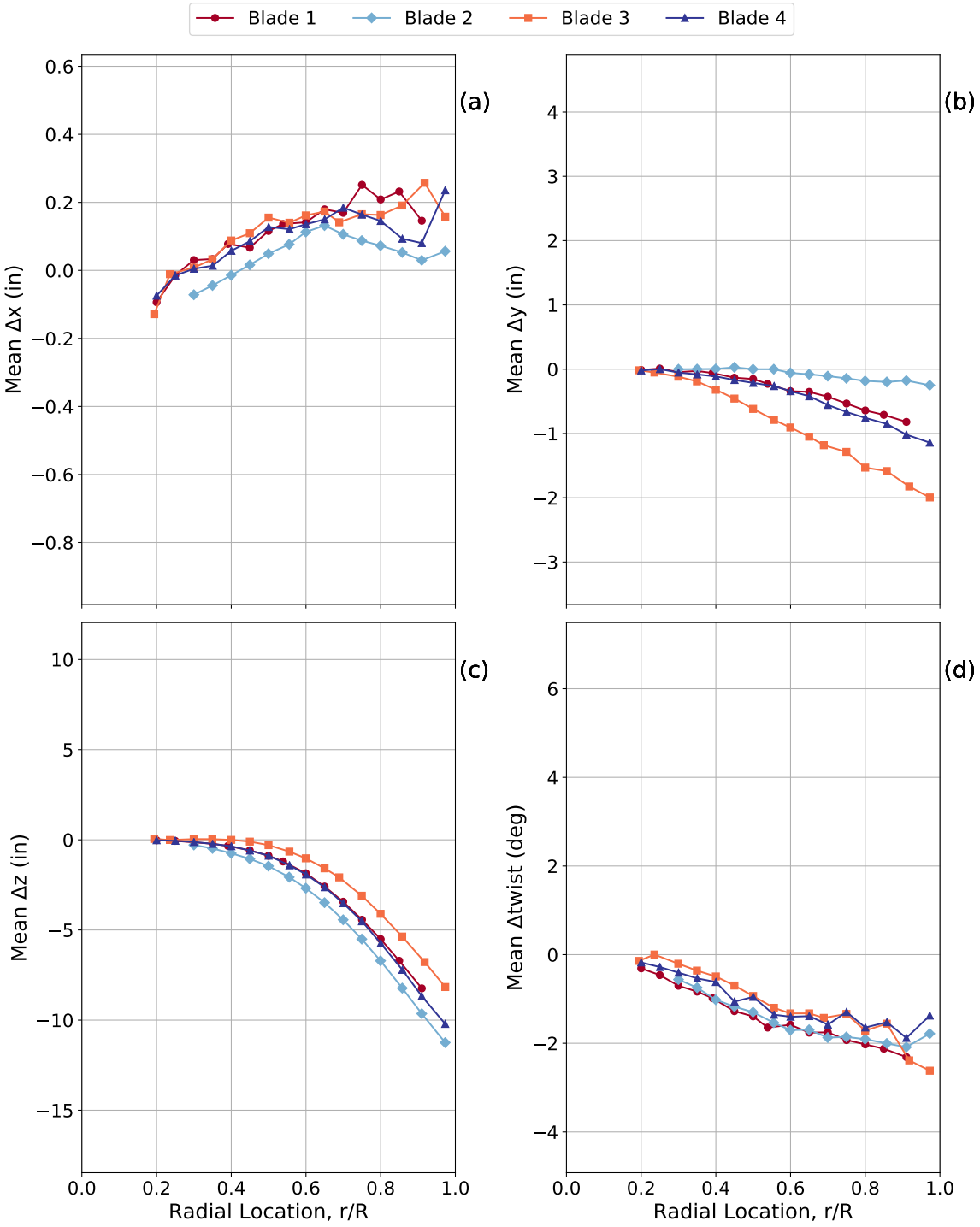


Figure 2.19-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0936	0.0016	-0.0117	0.0013	-0.0253	0.0052	-0.3107	0.0275
1	189.84	0.2499	-0.0149	0.0014	0.0096	0.0034	-0.0593	0.0102	-0.4618	0.0527
1	189.84	0.2998	0.0304	0.0017	-0.0460	0.0057	-0.1371	0.0178	-0.7023	0.0631
1	189.84	0.3498	0.0335	0.0019	-0.0274	0.0102	-0.2180	0.0301	-0.8345	0.0636
1	189.84	0.3913	0.0778	0.0026	-0.0595	0.0146	-0.3388	0.0424	-0.9832	0.0617
1	189.84	0.4496	0.0669	0.0030	-0.1324	0.0202	-0.5833	0.0603	-1.2754	0.0615
1	189.84	0.4997	0.1159	0.0034	-0.1533	0.0266	-0.8852	0.0772	-1.3930	0.0600
1	189.84	0.5387	0.1364	0.0037	-0.2280	0.0322	-1.2025	0.0921	-1.6465	0.0679
1	189.84	0.5996	0.1413	0.0047	-0.3431	0.0409	-1.8582	0.1155	-1.5827	0.0794
1	189.84	0.6498	0.1794	0.0059	-0.3534	0.0496	-2.5935	0.1359	-1.7609	0.0895
1	189.84	0.6998	0.1690	0.0064	-0.4291	0.0592	-3.4323	0.1575	-1.7532	0.1066
1	189.84	0.7500	0.2516	0.0086	-0.5343	0.0688	-4.4328	0.1812	-1.9285	0.0933
1	189.84	0.8001	0.2086	0.0110	-0.6420	0.0799	-5.5092	0.2084	-2.0254	0.1101
1	189.84	0.8497	0.2320	0.0140	-0.7105	0.0920	-6.7095	0.2378	-2.1236	0.1108
1	189.84	0.9102	0.1459	0.0190	-0.8200	0.1041	-8.2396	0.2768	-2.3125	0.1343
2	189.84	0.2999	-0.0716	0.0446	-0.0004	0.0336	-0.2857	0.0885	-0.5622	0.2699
2	189.84	0.3498	-0.0443	0.0182	0.0015	0.0594	-0.4795	0.1361	-0.7460	0.3550
2	189.84	0.3998	-0.0144	0.0155	0.0044	0.0955	-0.7473	0.2001	-1.0192	0.3530
2	189.84	0.4496	0.0162	0.0403	0.0297	0.1311	-1.0571	0.2614	-1.1731	0.3553
2	189.84	0.4995	0.0491	0.0655	-0.0002	0.1667	-1.4587	0.3220	-1.2978	0.3592
2	189.84	0.5551	0.0766	0.0921	-0.0003	0.2098	-2.0713	0.3908	-1.5368	0.3559
2	189.84	0.5996	0.1129	0.1106	-0.0577	0.2453	-2.6826	0.4461	-1.7043	0.3518
2	189.84	0.6497	0.1318	0.1294	-0.0797	0.2857	-3.4838	0.5072	-1.6950	0.3510
2	189.84	0.6996	0.1060	0.1434	-0.1080	0.3272	-4.4359	0.5684	-1.8728	0.3524
2	189.84	0.7495	0.0876	0.1526	-0.1426	0.3699	-5.5070	0.6303	-1.8575	0.3521
2	189.84	0.7996	0.0727	0.1541	-0.1831	0.4129	-6.7104	0.6935	-1.9077	0.3559
2	189.84	0.8578	0.0528	0.1486	-0.1988	0.4635	-8.2263	0.7692	-2.0048	0.3616
2	189.84	0.9100	0.0297	0.1338	-0.1775	0.5098	-9.6403	0.8403	-2.0866	0.3533
2	189.84	0.9727	0.0564	0.1118	-0.2504	0.5621	-11.2468	0.9223	-1.7837	0.3721
3	189.84	0.1938	-0.1287	0.0385	-0.0169	0.0165	0.0491	0.0457	-0.1415	0.0707
3	189.84	0.2357	-0.0111	0.0092	-0.0519	0.0089	-0.0080	0.0321	0.0029	0.1100
3	189.84	0.2995	0.0080	0.0163	-0.1170	0.0469	0.0396	0.1117	-0.2050	0.1140
3	189.84	0.3493	0.0327	0.0283	-0.1898	0.0824	0.0382	0.1780	-0.3609	0.1006
3	189.84	0.4000	0.0879	0.0412	-0.3201	0.1180	-0.0028	0.2465	-0.4934	0.1025
3	189.84	0.4497	0.1093	0.0537	-0.4575	0.1529	-0.0982	0.3152	-0.6971	0.1085
3	189.84	0.4997	0.1551	0.0661	-0.6179	0.1881	-0.2942	0.3870	-0.9339	0.1143
3	189.84	0.5556	0.1400	0.0788	-0.7886	0.2275	-0.6544	0.4665	-1.1997	0.1150
3	189.84	0.5995	0.1615	0.0876	-0.9065	0.2581	-1.0278	0.5306	-1.3252	0.1189
3	189.84	0.6498	0.1729	0.0963	-1.0502	0.2946	-1.5825	0.6055	-1.3251	0.1307
3	189.84	0.6890	0.1413	0.0336	-1.1826	0.3177	-2.0830	0.5687	-1.4269	0.1422
3	189.84	0.7495	0.1650	0.0392	-1.2866	0.3637	-3.1012	0.6493	-1.3378	0.1239
3	189.84	0.7998	0.1627	0.0433	-1.5309	0.4047	-4.1040	0.7158	-1.7144	0.1496
3	189.84	0.8577	0.1907	0.0484	-1.5851	0.4518	-5.3657	0.7980	-1.5580	0.1481
3	189.84	0.9178	0.2576	0.0430	-1.8247	0.5482	-6.7788	1.0290	-2.3860	2.7923
3	189.84	0.9729	0.1577	0.0775	-1.9955	0.5563	-8.1649	1.0214	-2.6186	0.5270
4	189.84	0.2001	-0.0742	0.0013	-0.0194	0.0012	-0.0217	0.0046	-0.1767	0.0293
4	189.84	0.2502	-0.0151	0.0015	0.0017	0.0027	-0.0543	0.0093	-0.2809	0.0485
4	189.84	0.3001	0.0048	0.0016	-0.0531	0.0051	-0.1203	0.0167	-0.4068	0.0649
4	189.84	0.3502	0.0136	0.0020	-0.0817	0.0084	-0.2267	0.0266	-0.5367	0.0641
4	189.84	0.4002	0.0578	0.0023	-0.1127	0.0135	-0.3566	0.0416	-0.6178	0.0739
4	189.84	0.4500	0.0859	0.0026	-0.1684	0.0171	-0.5960	0.0548	-1.0597	0.0671
4	189.84	0.5001	0.1275	0.0030	-0.2139	0.0215	-0.8818	0.0719	-0.9528	0.0648
4	189.84	0.5560	0.1211	0.0041	-0.2637	0.0265	-1.4163	0.0941	-1.3548	0.0696
4	189.84	0.6001	0.1357	0.0045	-0.3423	0.0308	-1.9222	0.1122	-1.4009	0.0720
4	189.84	0.6501	0.1500	0.0056	-0.4217	0.0371	-2.6294	0.1374	-1.3872	0.0787
4	189.84	0.6999	0.1842	0.0072	-0.5564	0.0436	-3.5178	0.1646	-1.5791	0.0864
4	189.84	0.7500	0.1638	0.0092	-0.6665	0.0507	-4.5193	0.1922	-1.2939	0.0783
4	189.84	0.8002	0.1453	0.0121	-0.7578	0.0563	-5.7416	0.2226	-1.6444	0.1186
4	189.84	0.8582	0.0931	0.0165	-0.8521	0.0683	-7.2144	0.2591	-1.5240	0.1462
4	189.84	0.9101	0.0803	0.0192	-1.0183	0.0779	-8.6684	0.3014	-1.8801	0.1630
4	189.84	0.9728	0.2357	0.0318	-1.1431	0.0870	-10.2111	0.3489	-1.3751	0.2849

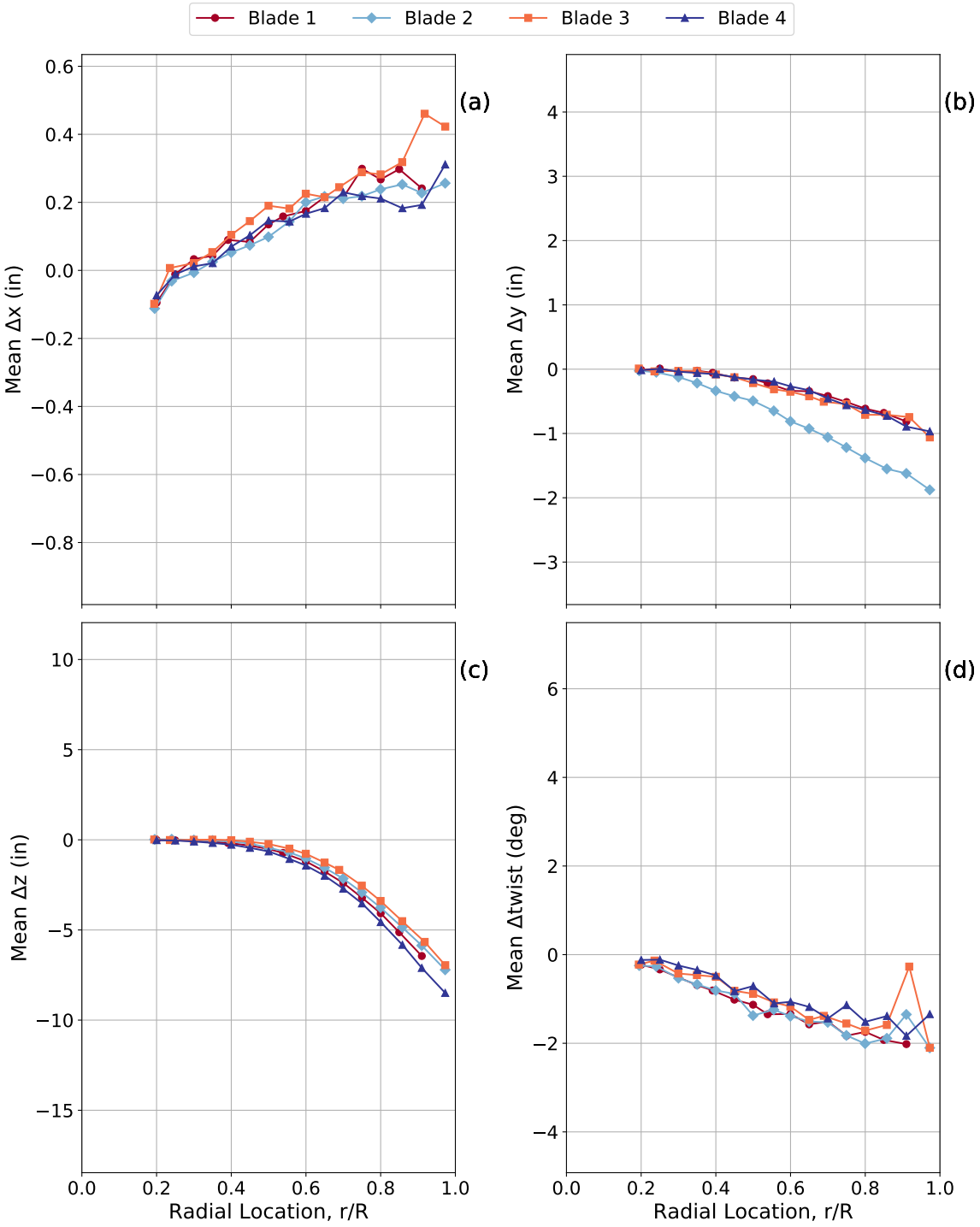


Figure 2.19-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$ NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0949	0.0015	-0.0108	0.0014	-0.0088	0.0058	-0.2286	0.0335
1	195.12	0.2499	-0.0116	0.0014	0.0099	0.0032	-0.0293	0.0107	-0.3341	0.0493
1	195.12	0.2998	0.0331	0.0016	-0.0455	0.0062	-0.0660	0.0192	-0.5143	0.0724
1	195.12	0.3498	0.0429	0.0018	-0.0238	0.0109	-0.1110	0.0320	-0.6871	0.0673
1	195.12	0.3913	0.0895	0.0024	-0.0573	0.0157	-0.1756	0.0446	-0.8085	0.0637
1	195.12	0.4496	0.0837	0.0028	-0.1307	0.0218	-0.3171	0.0619	-1.0158	0.0651
1	195.12	0.4997	0.1351	0.0036	-0.1540	0.0276	-0.5101	0.0798	-1.1309	0.0671
1	195.12	0.5387	0.1586	0.0043	-0.2202	0.0326	-0.7279	0.0952	-1.3456	0.0752
1	195.12	0.5996	0.1746	0.0048	-0.3380	0.0427	-1.1955	0.1220	-1.3390	0.0756
1	195.12	0.6498	0.2154	0.0061	-0.3425	0.0513	-1.7554	0.1472	-1.5739	0.0858
1	195.12	0.6998	0.2142	0.0084	-0.4182	0.0607	-2.3918	0.1750	-1.5061	0.0891
1	195.12	0.7500	0.2988	0.0110	-0.5108	0.0714	-3.2126	0.2102	-1.8291	0.0975
1	195.12	0.8001	0.2675	0.0142	-0.6141	0.0827	-4.0767	0.2499	-1.7431	0.1251
1	195.12	0.8497	0.2976	0.0177	-0.6801	0.0954	-5.1255	0.2970	-1.9240	0.1014
1	195.12	0.9102	0.2411	0.0238	-0.8131	0.1093	-6.4441	0.3698	-2.0192	0.1191
2	195.12	0.1949	-0.1120	0.0012	-0.0252	0.0010	0.0209	0.0045	-0.2468	0.0312
2	195.12	0.2405	-0.0315	0.0012	-0.0476	0.0022	0.0313	0.0077	-0.2657	0.0489
2	195.12	0.2999	-0.0066	0.0014	-0.1229	0.0041	-0.0118	0.0159	-0.5307	0.0718
2	195.12	0.3498	0.0253	0.0016	-0.2156	0.0075	-0.0400	0.0254	-0.6714	0.0677
2	195.12	0.3998	0.0524	0.0020	-0.3367	0.0115	-0.0996	0.0391	-0.8094	0.0702
2	195.12	0.4496	0.0738	0.0025	-0.4218	0.0145	-0.2020	0.0526	-0.8828	0.0646
2	195.12	0.4995	0.0984	0.0028	-0.4924	0.0176	-0.4434	0.0700	-1.3752	0.0726
2	195.12	0.5551	0.1433	0.0034	-0.6484	0.0220	-0.6938	0.0912	-1.2420	0.0684
2	195.12	0.5996	0.2003	0.0038	-0.8120	0.0257	-1.0344	0.1106	-1.3906	0.0815
2	195.12	0.6497	0.2174	0.0050	-0.9254	0.0300	-1.5440	0.1340	-1.5081	0.0889
2	195.12	0.6996	0.2110	0.0061	-1.0591	0.0349	-2.1504	0.1618	-1.5280	0.0813
2	195.12	0.7495	0.2182	0.0083	-1.2179	0.0395	-2.9146	0.1920	-1.8226	0.0869
2	195.12	0.7996	0.2383	0.0103	-1.3823	0.0457	-3.7624	0.2274	-2.0076	0.0983
2	195.12	0.8578	0.2528	0.0130	-1.5507	0.0531	-4.8523	0.2743	-1.8881	0.1186
2	195.12	0.9100	0.2275	0.0169	-1.6217	0.0580	-5.8621	0.3205	-1.3499	0.1376
2	195.12	0.9727	0.2564	0.0241	-1.8769	0.0680	-7.2091	0.3813	-2.1037	0.1483
3	195.12	0.1938	-0.0982	0.0016	0.0099	0.0013	0.0170	0.0049	-0.2241	0.0199
3	195.12	0.2357	0.0070	0.0012	-0.0344	0.0020	-0.0129	0.0080	-0.1341	0.0313
3	195.12	0.2995	0.0215	0.0011	-0.0263	0.0050	0.0012	0.0177	-0.4260	0.0454
3	195.12	0.3493	0.0537	0.0016	-0.0277	0.0079	0.0105	0.0290	-0.4614	0.0493
3	195.12	0.4000	0.1045	0.0021	-0.0820	0.0127	-0.0203	0.0443	-0.5006	0.0530
3	195.12	0.4497	0.1449	0.0023	-0.1258	0.0155	-0.1065	0.0603	-0.8155	0.0520
3	195.12	0.4997	0.1901	0.0025	-0.2165	0.0196	-0.2328	0.0792	-0.8839	0.0589
3	195.12	0.5556	0.1817	0.0028	-0.3122	0.0247	-0.4894	0.1012	-1.0773	0.0601
3	195.12	0.5995	0.2254	0.0041	-0.3504	0.0285	-0.7736	0.1197	-1.1701	0.0688
3	195.12	0.6498	0.2151	0.0042	-0.4215	0.0338	-1.2614	0.1422	-1.4731	0.0721
3	195.12	0.6890	0.2445	0.0048	-0.5061	0.0385	-1.6693	0.1585	-1.3815	0.0680
3	195.12	0.7495	0.2886	0.0067	-0.5436	0.0458	-2.5425	0.1899	-1.5537	0.0699
3	195.12	0.7998	0.2822	0.0091	-0.7096	0.0548	-3.3928	0.2179	-1.7148	0.0904
3	195.12	0.8577	0.3183	0.0138	-0.7090	0.0635	-4.5125	0.2525	-1.5865	0.1435
3	195.12	0.9178	0.4605	0.0157	-0.7455	0.0772	-5.6620	0.2970	-0.2700	0.2357
3	195.12	0.9729	0.4227	0.0317	-1.0610	0.0869	-6.9542	0.3487	-2.1013	0.3786
4	195.12	0.2001	-0.0733	0.0013	-0.0156	0.0011	-0.0182	0.0046	-0.1202	0.0393
4	195.12	0.2502	-0.0117	0.0012	0.0055	0.0023	-0.0386	0.0099	-0.1136	0.0535
4	195.12	0.3001	0.0117	0.0017	-0.0392	0.0042	-0.0948	0.0174	-0.2459	0.0853
4	195.12	0.3502	0.0213	0.0023	-0.0591	0.0073	-0.1735	0.0292	-0.3456	0.0799
4	195.12	0.4002	0.0700	0.0027	-0.0784	0.0112	-0.2725	0.0454	-0.4703	0.0797
4	195.12	0.4500	0.1034	0.0035	-0.1237	0.0152	-0.4461	0.0651	-0.8236	0.0878
4	195.12	0.5001	0.1464	0.0043	-0.1622	0.0201	-0.6434	0.0873	-0.7086	0.0885
4	195.12	0.5560	0.1436	0.0050	-0.1932	0.0259	-1.0615	0.1182	-1.1012	0.0977
4	195.12	0.6001	0.1665	0.0061	-0.2678	0.0309	-1.4291	0.1460	-1.0639	0.0960
4	195.12	0.6501	0.1830	0.0074	-0.3286	0.0370	-1.9936	0.1803	-1.1807	0.1034
4	195.12	0.6999	0.2295	0.0091	-0.4548	0.0452	-2.7104	0.2193	-1.4404	0.1152
4	195.12	0.7500	0.2184	0.0118	-0.5604	0.0526	-3.5271	0.2622	-1.1388	0.1095
4	195.12	0.8002	0.2112	0.0144	-0.6332	0.0614	-4.5638	0.3078	-1.5165	0.1293
4	195.12	0.8582	0.1828	0.0190	-0.7262	0.0720	-5.8260	0.3668	-1.3852	0.1577
4	195.12	0.9101	0.1925	0.0233	-0.8935	0.0810	-7.1067	0.4208	-1.8332	0.1461
4	195.12	0.9728	0.3113	0.0311	-0.9678	0.0941	-8.4927	0.4909	-1.3431	0.2203

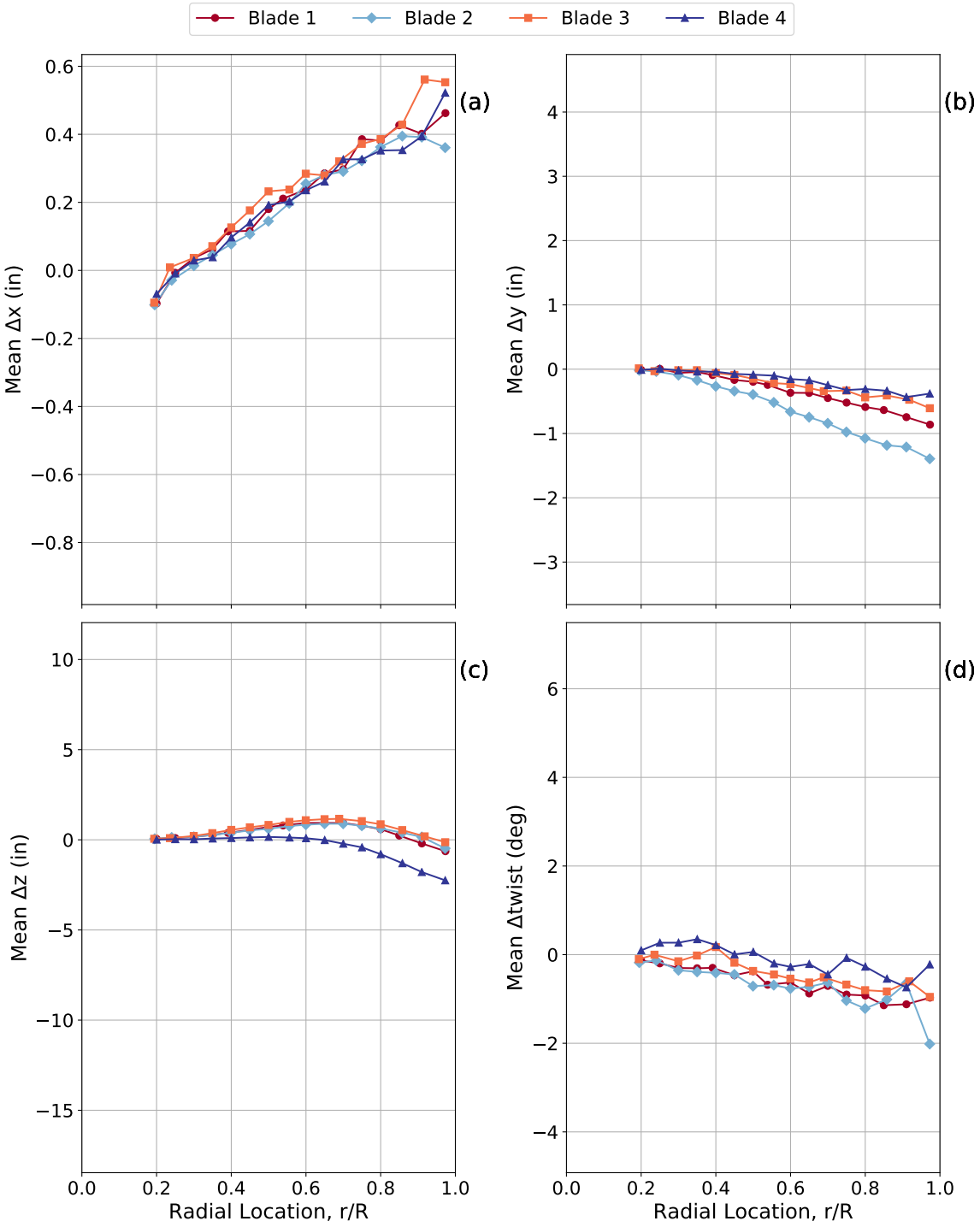


Figure 2.19-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0973	0.0015	-0.0115	0.0010	0.0509	0.0058	-0.1336	0.0258
1	209.88	0.2499	-0.0070	0.0011	0.0048	0.0021	0.0983	0.0107	-0.1964	0.0507
1	209.88	0.2998	0.0361	0.0011	-0.0573	0.0044	0.1695	0.0189	-0.3011	0.0606
1	209.88	0.3498	0.0624	0.0017	-0.0442	0.0074	0.2705	0.0314	-0.3073	0.0648
1	209.88	0.3913	0.1146	0.0020	-0.0911	0.0109	0.3860	0.0441	-0.2982	0.0627
1	209.88	0.4496	0.1162	0.0023	-0.1672	0.0144	0.5474	0.0646	-0.4641	0.0779
1	209.88	0.4997	0.1803	0.0030	-0.1964	0.0177	0.7122	0.0863	-0.3763	0.0772
1	209.88	0.5387	0.2110	0.0028	-0.2446	0.0213	0.7967	0.1052	-0.6791	0.0854
1	209.88	0.5996	0.2376	0.0031	-0.3673	0.0259	0.9321	0.1406	-0.6281	0.0875
1	209.88	0.6498	0.2853	0.0032	-0.3695	0.0302	0.9364	0.1759	-0.8753	0.0881
1	209.88	0.6998	0.2971	0.0036	-0.4488	0.0348	0.9318	0.2161	-0.7052	0.0942
1	209.88	0.7500	0.3858	0.0040	-0.5203	0.0398	0.7826	0.2602	-0.9013	0.0985
1	209.88	0.8001	0.3817	0.0048	-0.5886	0.0452	0.5907	0.3071	-0.9220	0.0970
1	209.88	0.8497	0.4267	0.0055	-0.6357	0.0515	0.2344	0.3585	-1.1419	0.0950
1	209.88	0.9102	0.4016	0.0068	-0.7461	0.0583	-0.2017	0.4239	-1.1202	0.1033
1	209.88	0.9734	0.4623	0.0098	-0.8626	0.0665	-0.6322	0.4952	-0.9700	0.0904
2	209.88	0.1949	-0.1013	0.0016	-0.0175	0.0011	0.0577	0.0051	-0.1802	0.0273
2	209.88	0.2405	-0.0290	0.0012	-0.0359	0.0019	0.1299	0.0090	-0.1317	0.0457
2	209.88	0.2999	0.0137	0.0013	-0.0928	0.0043	0.1655	0.0165	-0.3525	0.0610
2	209.88	0.3498	0.0452	0.0013	-0.1715	0.0075	0.2743	0.0270	-0.3888	0.0564
2	209.88	0.3998	0.0772	0.0020	-0.2666	0.0116	0.3893	0.0403	-0.4114	0.0573
2	209.88	0.4496	0.1066	0.0023	-0.3407	0.0155	0.5209	0.0532	-0.4468	0.0545
2	209.88	0.4995	0.1447	0.0032	-0.3935	0.0203	0.6103	0.0674	-0.7108	0.0632
2	209.88	0.5551	0.1972	0.0030	-0.5168	0.0262	0.7596	0.0870	-0.6875	0.0636
2	209.88	0.5996	0.2550	0.0032	-0.6607	0.0316	0.8398	0.1026	-0.7651	0.0719
2	209.88	0.6497	0.2804	0.0038	-0.7468	0.0383	0.8903	0.1224	-0.7264	0.0785
2	209.88	0.6996	0.2908	0.0042	-0.8421	0.0450	0.8922	0.1428	-0.6307	0.0769
2	209.88	0.7495	0.3223	0.0047	-0.9772	0.0526	0.7796	0.1629	-1.0355	0.0728
2	209.88	0.7996	0.3625	0.0050	-1.0748	0.0609	0.6302	0.1899	-1.2163	0.0815
2	209.88	0.8578	0.3947	0.0050	-1.1840	0.0713	0.3940	0.2214	-1.0127	0.0900
2	209.88	0.9100	0.3918	0.0055	-1.2110	0.0803	0.1576	0.2514	-0.6443	0.0971
2	209.88	0.9727	0.3608	0.0175	-1.3939	0.0916	-0.4729	0.2981	-2.0168	0.3383
3	209.88	0.1938	-0.0948	0.0014	0.0127	0.0008	0.0581	0.0055	-0.1018	0.0235
3	209.88	0.2357	0.0088	0.0012	-0.0305	0.0017	0.0928	0.0100	-0.0017	0.0320
3	209.88	0.2995	0.0367	0.0013	-0.0161	0.0036	0.2114	0.0199	-0.1499	0.0499
3	209.88	0.3493	0.0712	0.0016	-0.0160	0.0065	0.3694	0.0337	-0.0196	0.0568
3	209.88	0.4000	0.1263	0.0023	-0.0616	0.0102	0.5508	0.0509	0.1713	0.0602
3	209.88	0.4497	0.1764	0.0025	-0.0896	0.0136	0.6932	0.0689	-0.1819	0.0602
3	209.88	0.4997	0.2323	0.0025	-0.1492	0.0172	0.8228	0.0922	-0.3679	0.0840
3	209.88	0.5556	0.2376	0.0031	-0.2171	0.0226	0.9934	0.1188	-0.4479	0.0658
3	209.88	0.5995	0.2843	0.0034	-0.2324	0.0267	1.0862	0.1445	-0.5422	0.0860
3	209.88	0.6498	0.2792	0.0037	-0.2933	0.0323	1.1444	0.1740	-0.6279	0.0850
3	209.88	0.6890	0.3206	0.0041	-0.3422	0.0372	1.1646	0.1988	-0.5114	0.0856
3	209.88	0.7495	0.3720	0.0046	-0.3330	0.0435	1.0361	0.2403	-0.6756	0.0951
3	209.88	0.7998	0.3861	0.0048	-0.4388	0.0502	0.8620	0.2766	-0.8018	0.0904
3	209.88	0.8577	0.4285	0.0055	-0.4088	0.0594	0.5391	0.3261	-0.8310	0.0978
3	209.88	0.9178	0.5611	0.0063	-0.4753	0.0684	0.1917	0.3828	-0.6017	0.1222
3	209.88	0.9729	0.5531	0.0089	-0.6073	0.0757	-0.1329	0.4299	-0.9540	0.1041
4	209.88	0.2001	-0.0692	0.0013	-0.0107	0.0009	0.0100	0.0057	0.0956	0.0315
4	209.88	0.2502	-0.0090	0.0012	0.0081	0.0023	0.0353	0.0111	0.2687	0.0499
4	209.88	0.3001	0.0292	0.0014	-0.0198	0.0043	0.0303	0.0199	0.2699	0.0707
4	209.88	0.3502	0.0386	0.0016	-0.0366	0.0076	0.0710	0.0325	0.3484	0.0683
4	209.88	0.4002	0.0968	0.0019	-0.0398	0.0121	0.0981	0.0497	0.2146	0.0675
4	209.88	0.4500	0.1411	0.0022	-0.0738	0.0167	0.1324	0.0698	0.0050	0.0787
4	209.88	0.5001	0.1921	0.0027	-0.0854	0.0220	0.1602	0.0955	0.0609	0.1051
4	209.88	0.5560	0.2025	0.0031	-0.1009	0.0287	0.1266	0.1234	-0.1998	0.0943
4	209.88	0.6001	0.2356	0.0032	-0.1538	0.0342	0.0876	0.1491	-0.2764	0.1020
4	209.88	0.6501	0.2612	0.0033	-0.1719	0.0411	-0.0153	0.1822	-0.2116	0.1166
4	209.88	0.6999	0.3262	0.0039	-0.2486	0.0482	-0.2166	0.2172	-0.4474	0.1183
4	209.88	0.7500	0.3267	0.0040	-0.3246	0.0553	-0.4195	0.2544	-0.0733	0.1288
4	209.88	0.8002	0.3524	0.0047	-0.3090	0.0623	-0.7994	0.2984	-0.2710	0.1376
4	209.88	0.8582	0.3536	0.0056	-0.3356	0.0714	-1.2987	0.3513	-0.5436	0.1307
4	209.88	0.9101	0.3941	0.0067	-0.4339	0.0797	-1.7888	0.4040	-0.7378	0.1555
4	209.88	0.9728	0.5222	0.0092	-0.3802	0.0907	-2.2490	0.4679	-0.2219	0.1386

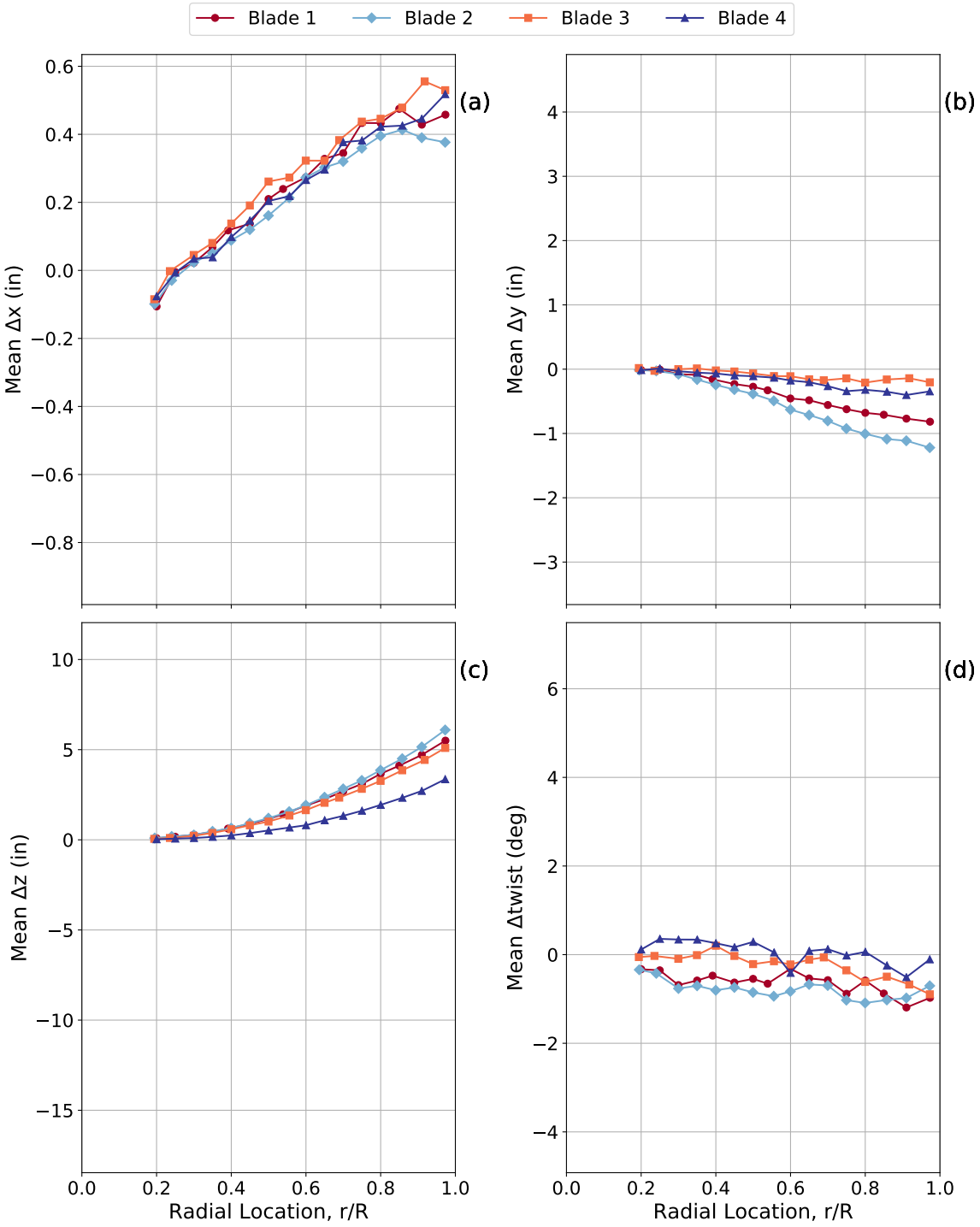


Figure 2.19-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$ NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.1060	0.0017	-0.0128	0.0010	0.0892	0.0101	-0.3293	0.0330
1	225	0.2499	-0.0047	0.0011	-0.0065	0.0020	0.1698	0.0173	-0.3539	0.0620
1	225	0.2998	0.0221	0.0011	-0.0770	0.0047	0.2840	0.0302	-0.6870	0.0761
1	225	0.3498	0.0684	0.0018	-0.0896	0.0091	0.4314	0.0498	-0.5841	0.0731
1	225	0.3913	0.1176	0.0022	-0.1574	0.0129	0.6213	0.0682	-0.4739	0.0761
1	225	0.4496	0.1374	0.0026	-0.2309	0.0189	0.8781	0.0997	-0.6295	0.0727
1	225	0.4997	0.2098	0.0027	-0.2731	0.0251	1.1611	0.1330	-0.5461	0.0759
1	225	0.5387	0.2393	0.0033	-0.3284	0.0304	1.4109	0.1621	-0.6552	0.0793
1	225	0.5996	0.2737	0.0045	-0.4554	0.0394	1.8947	0.2133	-0.3188	0.0816
1	225	0.6498	0.3280	0.0058	-0.4830	0.0479	2.2531	0.2616	-0.5363	0.0819
1	225	0.6998	0.3448	0.0074	-0.5573	0.0570	2.6899	0.3165	-0.5761	0.0846
1	225	0.7500	0.4334	0.0098	-0.6227	0.0673	3.1011	0.3779	-0.8832	0.0850
1	225	0.8001	0.4330	0.0120	-0.6789	0.0777	3.6638	0.4458	-0.5841	0.0875
1	225	0.8497	0.4749	0.0144	-0.7086	0.0887	4.1124	0.5195	-0.8771	0.0884
1	225	0.9102	0.4284	0.0184	-0.7693	0.1026	4.7107	0.6153	-1.1923	0.0909
1	225	0.9734	0.4577	0.0278	-0.8171	0.1178	5.5020	0.7236	-0.9740	0.0919
2	225	0.1949	-0.0988	0.0015	-0.0133	0.0010	0.0961	0.0076	-0.3410	0.0296
2	225	0.2405	-0.0295	0.0011	-0.0268	0.0014	0.1850	0.0111	-0.4220	0.0628
2	225	0.2999	0.0237	0.0014	-0.0779	0.0037	0.2683	0.0236	-0.7637	0.0753
2	225	0.3498	0.0503	0.0015	-0.1613	0.0066	0.4699	0.0378	-0.7025	0.0715
2	225	0.3998	0.0883	0.0023	-0.2440	0.0101	0.6510	0.0559	-0.8042	0.0732
2	225	0.4496	0.1198	0.0026	-0.3174	0.0135	0.9207	0.0766	-0.7394	0.0720
2	225	0.4995	0.1610	0.0030	-0.3842	0.0175	1.1989	0.1007	-0.8521	0.0770
2	225	0.5551	0.2134	0.0039	-0.4918	0.0225	1.5627	0.1311	-0.9385	0.0787
2	225	0.5996	0.2728	0.0047	-0.6290	0.0270	1.9170	0.1574	-0.8289	0.0827
2	225	0.6497	0.3026	0.0051	-0.7138	0.0323	2.3643	0.1880	-0.6719	0.0864
2	225	0.6996	0.3202	0.0063	-0.8039	0.0378	2.8257	0.2200	-0.6963	0.0851
2	225	0.7495	0.3591	0.0075	-0.9239	0.0437	3.2953	0.2549	-1.0268	0.0897
2	225	0.7996	0.3953	0.0085	-1.0054	0.0500	3.8624	0.2923	-1.0904	0.0910
2	225	0.8578	0.4135	0.0101	-1.0871	0.0575	4.5016	0.3409	-1.0227	0.0930
2	225	0.9100	0.3900	0.0118	-1.1132	0.0644	5.1511	0.3868	-0.9788	0.0961
2	225	0.9727	0.3766	0.0166	-1.2205	0.0722	6.0931	0.4443	-0.7033	0.1294
3	225	0.1938	-0.0848	0.0012	0.0173	0.0008	0.0529	0.0078	-0.0552	0.0283
3	225	0.2357	-0.0022	0.0013	-0.0250	0.0019	0.1024	0.0125	-0.0290	0.0501
3	225	0.2995	0.0454	0.0016	0.0005	0.0045	0.2218	0.0261	-0.0939	0.0698
3	225	0.3493	0.0806	0.0017	0.0115	0.0080	0.3796	0.0413	-0.0107	0.0674
3	225	0.4000	0.1377	0.0023	-0.0197	0.0131	0.5853	0.0628	0.2009	0.0690
3	225	0.4497	0.1909	0.0029	-0.0361	0.0182	0.8041	0.0850	-0.0292	0.0688
3	225	0.4997	0.2612	0.0033	-0.0669	0.0245	1.0129	0.1131	-0.2135	0.0733
3	225	0.5556	0.2730	0.0037	-0.1074	0.0317	1.3472	0.1452	-0.1486	0.0807
3	225	0.5995	0.3227	0.0046	-0.1097	0.0383	1.6440	0.1730	-0.2212	0.0826
3	225	0.6498	0.3225	0.0056	-0.1575	0.0462	2.0533	0.2058	-0.1126	0.0844
3	225	0.6890	0.3829	0.0056	-0.1728	0.0525	2.3402	0.2330	-0.0627	0.0894
3	225	0.7495	0.4373	0.0074	-0.1423	0.0626	2.8277	0.2769	-0.3547	0.0886
3	225	0.7998	0.4457	0.0083	-0.2089	0.0712	3.2698	0.3169	-0.6163	0.0840
3	225	0.8577	0.4785	0.0097	-0.1606	0.0813	3.8556	0.3687	-0.4966	0.0898
3	225	0.9178	0.5556	0.0123	-0.1411	0.0923	4.4309	0.4279	-0.6739	0.0925
3	225	0.9729	0.5297	0.0169	-0.2044	0.1006	5.0959	0.4808	-0.8954	0.0943
4	225	0.2001	-0.0763	0.0014	-0.0141	0.0010	0.0305	0.0079	0.1158	0.0318
4	225	0.2502	-0.0066	0.0011	0.0108	0.0021	0.0669	0.0143	0.3560	0.0511
4	225	0.3001	0.0341	0.0018	-0.0328	0.0050	0.0980	0.0244	0.3410	0.0704
4	225	0.3502	0.0384	0.0015	-0.0540	0.0090	0.1624	0.0395	0.3390	0.0718
4	225	0.4002	0.0981	0.0019	-0.0670	0.0143	0.2435	0.0589	0.2570	0.0722
4	225	0.4500	0.1465	0.0022	-0.0977	0.0197	0.3720	0.0798	0.1678	0.0773
4	225	0.5001	0.2039	0.0028	-0.1094	0.0259	0.5192	0.1042	0.2881	0.0745
4	225	0.5560	0.2185	0.0031	-0.1324	0.0339	0.6816	0.1336	0.0497	0.0772
4	225	0.6001	0.2657	0.0039	-0.1766	0.0413	0.8085	0.1587	-0.4112	0.0790
4	225	0.6501	0.2960	0.0046	-0.2026	0.0492	1.0840	0.1884	0.0838	0.0855
4	225	0.6999	0.3769	0.0049	-0.2640	0.0577	1.3296	0.2182	0.1227	0.0833
4	225	0.7500	0.3819	0.0060	-0.3421	0.0665	1.6127	0.2497	-0.0198	0.0866
4	225	0.8002	0.4223	0.0065	-0.3205	0.0755	1.9370	0.2854	0.0618	0.0848
4	225	0.8582	0.4256	0.0081	-0.3509	0.0861	2.3315	0.3269	-0.2456	0.0821
4	225	0.9101	0.4459	0.0098	-0.4020	0.0965	2.7111	0.3654	-0.5087	0.0931
4	225	0.9728	0.5181	0.0145	-0.3449	0.1081	3.3597	0.4108	-0.1069	0.1055

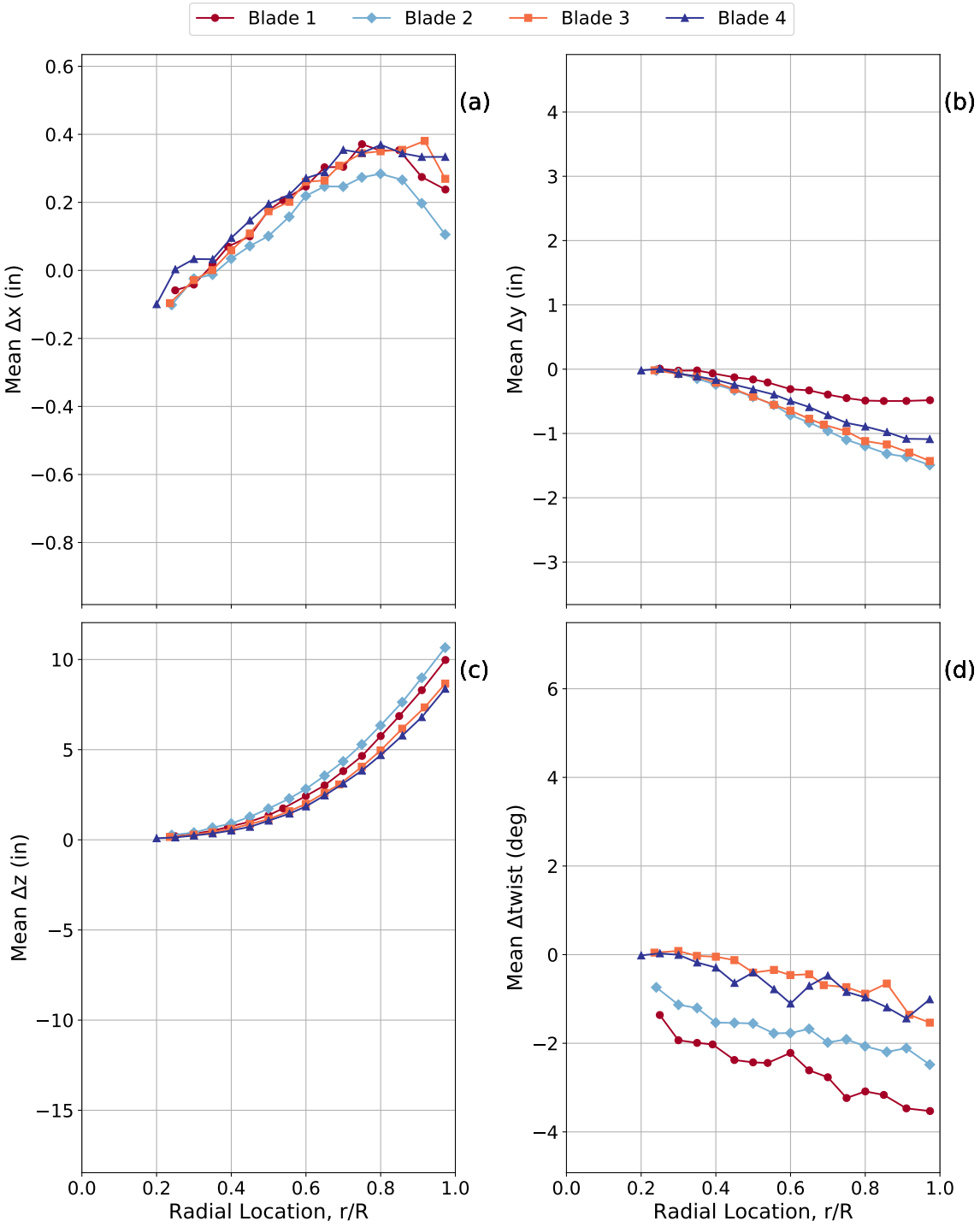


Figure 2.19-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2499	-0.0586	0.0056	0.0073	0.0035	0.1978	0.0524	-1.3621	0.2900
1	240.12	0.2998	-0.0417	0.0039	-0.0233	0.0068	0.3351	0.0780	-1.9319	0.4107
1	240.12	0.3498	0.0163	0.0047	-0.0200	0.0158	0.5014	0.1286	-1.9912	0.3990
1	240.12	0.3913	0.0700	0.0056	-0.0654	0.0240	0.7078	0.1697	-2.0262	0.3999
1	240.12	0.4496	0.1000	0.0070	-0.1266	0.0355	1.0050	0.2279	-2.3776	0.4067
1	240.12	0.4997	0.1767	0.0086	-0.1599	0.0454	1.3598	0.2796	-2.4309	0.4041
1	240.12	0.5387	0.2061	0.0101	-0.2064	0.0533	1.7402	0.3206	-2.4441	0.4052
1	240.12	0.5996	0.2464	0.0127	-0.3103	0.0659	2.4277	0.3854	-2.2183	0.4028
1	240.12	0.6498	0.3031	0.0153	-0.3301	0.0761	3.0183	0.4384	-2.6111	0.3958
1	240.12	0.6998	0.3043	0.0183	-0.3951	0.0866	3.8111	0.4901	-2.7674	0.4002
1	240.12	0.7500	0.3710	0.0216	-0.4498	0.0973	4.6502	0.5421	-3.2355	0.4020
1	240.12	0.8001	0.3519	0.0253	-0.4886	0.1079	5.7551	0.5928	-3.0866	0.4002
1	240.12	0.8497	0.3533	0.0291	-0.4949	0.1187	6.8637	0.6435	-3.1652	0.4034
1	240.12	0.9102	0.2745	0.0347	-0.4942	0.1322	8.2999	0.7058	-3.4693	0.3951
1	240.12	0.9734	0.2377	0.0456	-0.4825	0.1461	9.9747	0.7723	-3.5295	0.3926
2	240.12	0.2405	-0.1016	0.0068	-0.0215	0.0027	0.2639	0.0411	-0.7388	0.2409
2	240.12	0.2999	-0.0243	0.0035	-0.0645	0.0062	0.3995	0.0668	-1.1308	0.3707
2	240.12	0.3498	-0.0124	0.0039	-0.1471	0.0152	0.6724	0.1089	-1.2043	0.3623
2	240.12	0.3998	0.0344	0.0050	-0.2395	0.0245	0.9055	0.1524	-1.5344	0.3616
2	240.12	0.4496	0.0717	0.0060	-0.3278	0.0338	1.2738	0.1961	-1.5403	0.3627
2	240.12	0.4995	0.1007	0.0079	-0.4295	0.0425	1.7281	0.2415	-1.5535	0.3634
2	240.12	0.5551	0.1576	0.0100	-0.5534	0.0526	2.2842	0.2924	-1.7757	0.3634
2	240.12	0.5996	0.2190	0.0120	-0.7142	0.0606	2.8196	0.3333	-1.7694	0.3672
2	240.12	0.6497	0.2468	0.0140	-0.8291	0.0691	3.5538	0.3779	-1.6761	0.3711
2	240.12	0.6996	0.2463	0.0167	-0.9590	0.0779	4.3472	0.4235	-1.9818	0.3688
2	240.12	0.7495	0.2734	0.0199	-1.0980	0.0860	5.2894	0.4687	-1.9111	0.3704
2	240.12	0.7996	0.2839	0.0228	-1.1956	0.0943	6.3393	0.5141	-2.0684	0.3729
2	240.12	0.8578	0.2660	0.0270	-1.3157	0.1038	7.6358	0.5686	-2.1950	0.3672
2	240.12	0.9100	0.1971	0.0317	-1.3635	0.1124	8.9848	0.6167	-2.1098	0.3680
2	240.12	0.9727	0.1055	0.0413	-1.4909	0.1230	10.6587	0.6750	-2.4821	0.3797
3	240.12	0.2357	-0.0962	0.0026	-0.0172	0.0016	0.1603	0.0140	0.0458	0.0800
3	240.12	0.2995	-0.0285	0.0018	-0.0727	0.0043	0.2856	0.0255	0.0829	0.1286
3	240.12	0.3493	0.0008	0.0019	-0.1151	0.0086	0.4220	0.0410	-0.0285	0.1229
3	240.12	0.4000	0.0590	0.0022	-0.2108	0.0139	0.6095	0.0598	-0.0473	0.1218
3	240.12	0.4497	0.1086	0.0028	-0.3109	0.0195	0.8707	0.0788	-0.1241	0.1272
3	240.12	0.4997	0.1738	0.0034	-0.4278	0.0261	1.1468	0.1011	-0.4050	0.1292
3	240.12	0.5556	0.2016	0.0040	-0.5546	0.0336	1.5854	0.1278	-0.3449	0.1252
3	240.12	0.5995	0.2602	0.0050	-0.6449	0.0405	1.9927	0.1505	-0.4614	0.1264
3	240.12	0.6498	0.2644	0.0061	-0.7709	0.0487	2.6061	0.1764	-0.4429	0.1304
3	240.12	0.6890	0.3077	0.0069	-0.8630	0.0560	3.0687	0.1982	-0.6878	0.1267
3	240.12	0.7495	0.3444	0.0091	-0.9653	0.0684	4.0509	0.2321	-0.7333	0.1280
3	240.12	0.7998	0.3501	0.0108	-1.1183	0.0788	4.9573	0.2614	-0.8818	0.1266
3	240.12	0.8577	0.3543	0.0133	-1.1713	0.0915	6.1635	0.2948	-0.6525	0.1257
3	240.12	0.9178	0.3807	0.0162	-1.2972	0.1053	7.3440	0.3329	-1.3567	0.1269
3	240.12	0.9729	0.2692	0.0220	-1.4282	0.1181	8.6663	0.3684	-1.5347	0.1288
4	240.12	0.2001	-0.0994	0.0056	-0.0194	0.0039	0.0872	0.0181	-0.0182	0.0689
4	240.12	0.2502	0.0032	0.0039	0.0048	0.0055	0.1330	0.0189	0.0293	0.1591
4	240.12	0.3001	0.0334	0.0030	-0.0704	0.0105	0.2374	0.0431	-0.0050	0.1559
4	240.12	0.3502	0.0328	0.0030	-0.1115	0.0161	0.3533	0.0639	-0.1774	0.1569
4	240.12	0.4002	0.0957	0.0034	-0.1659	0.0230	0.5148	0.0883	-0.2923	0.1615
4	240.12	0.4500	0.1468	0.0037	-0.2424	0.0299	0.7190	0.1145	-0.6381	0.1557
4	240.12	0.5001	0.1956	0.0042	-0.3132	0.0372	1.0634	0.1445	-0.4010	0.1539
4	240.12	0.5560	0.2229	0.0054	-0.3956	0.0462	1.4531	0.1787	-0.7810	0.1582
4	240.12	0.6001	0.2712	0.0066	-0.4937	0.0534	1.8527	0.2079	-1.1037	0.1602
4	240.12	0.6501	0.2886	0.0080	-0.5898	0.0618	2.4619	0.2408	-0.7031	0.1622
4	240.12	0.6999	0.3542	0.0097	-0.7164	0.0709	3.1273	0.2744	-0.4732	0.1644
4	240.12	0.7500	0.3453	0.0117	-0.8360	0.0799	3.8418	0.3098	-0.8406	0.1686
4	240.12	0.8002	0.3691	0.0140	-0.8924	0.0894	4.6996	0.3471	-0.9666	0.1708
4	240.12	0.8582	0.3441	0.0169	-0.9791	0.1006	5.7866	0.3905	-1.1899	0.1697
4	240.12	0.9101	0.3335	0.0200	-1.0826	0.1107	6.8052	0.4306	-1.4388	0.1735
4	240.12	0.9728	0.3336	0.0275	-1.0880	0.1228	8.3778	0.4795	-1.0083	0.1784

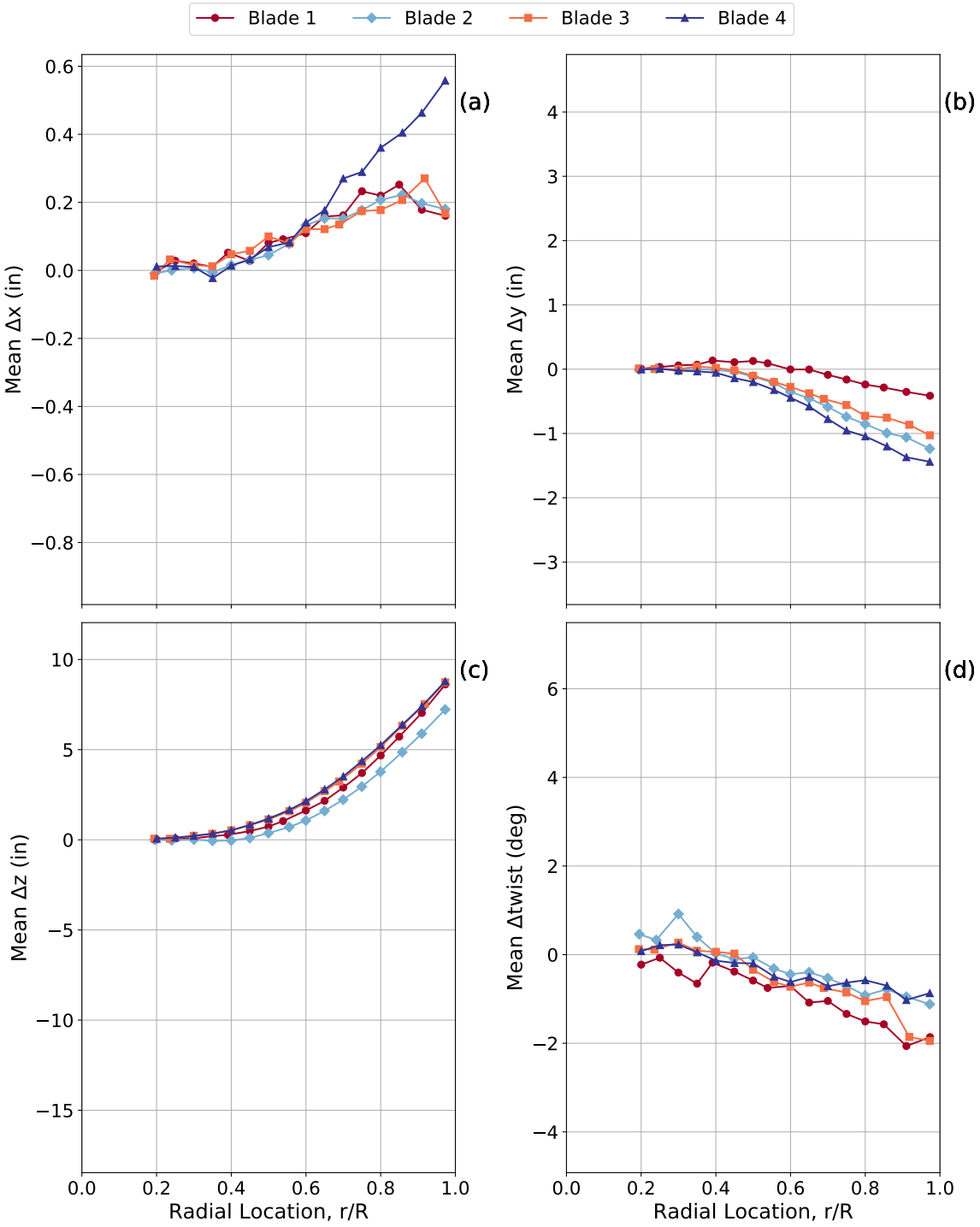


Figure 2.19-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0028	0.0020	0.0071	0.0012	0.0146	0.0135	-0.2260	0.0332
1	254.88	0.2499	0.0283	0.0019	0.0344	0.0068	0.0723	0.0282	-0.0697	0.0593
1	254.88	0.2998	0.0205	0.0025	0.0580	0.0132	0.0787	0.0437	-0.4046	0.0755
1	254.88	0.3498	0.0105	0.0035	0.0701	0.0205	0.2048	0.0620	-0.6539	0.0665
1	254.88	0.3913	0.0522	0.0055	0.1343	0.0355	0.2735	0.0931	-0.1798	0.0687
1	254.88	0.4496	0.0278	0.0066	0.1078	0.0440	0.4844	0.1116	-0.3817	0.0974
1	254.88	0.4997	0.0810	0.0063	0.1279	0.0523	0.7344	0.1354	-0.5849	0.0710
1	254.88	0.5387	0.0915	0.0067	0.0914	0.0592	1.0392	0.1543	-0.7508	0.0762
1	254.88	0.5996	0.1093	0.0082	-0.0041	0.0700	1.6266	0.1833	-0.7063	0.0722
1	254.88	0.6498	0.1583	0.0086	-0.0049	0.0800	2.1607	0.2099	-1.0813	0.0715
1	254.88	0.6998	0.1618	0.0101	-0.0877	0.0902	2.9000	0.2392	-1.0450	0.0757
1	254.88	0.7500	0.2326	0.0119	-0.1614	0.1014	3.7053	0.2698	-1.3378	0.0725
1	254.88	0.8001	0.2198	0.0140	-0.2381	0.1126	4.6787	0.3022	-1.5080	0.0745
1	254.88	0.8497	0.2521	0.0162	-0.2855	0.1245	5.7219	0.3342	-1.5714	0.0797
1	254.88	0.9102	0.1783	0.0198	-0.3527	0.1384	7.0374	0.3746	-2.0625	0.0787
1	254.88	0.9734	0.1604	0.0253	-0.4138	0.1532	8.6208	0.4172	-1.8616	0.1039
2	254.88	0.1949	-0.0093	0.0088	-0.0051	0.0027	0.0006	0.0425	0.4615	0.3145
2	254.88	0.2405	0.0004	0.0048	0.0083	0.0079	-0.0324	0.0753	0.3298	0.3254
2	254.88	0.2999	0.0069	0.0038	-0.0177	0.0129	0.0109	0.0983	0.9169	0.6707
2	254.88	0.3498	-0.0054	0.0112	0.0023	0.0514	-0.0549	0.2339	0.3983	0.3029
2	254.88	0.3998	0.0151	0.0162	-0.0114	0.0641	-0.0426	0.2856	0.0276	0.2932
2	254.88	0.4496	0.0304	0.0204	-0.0406	0.0757	0.1026	0.3340	-0.1009	0.2981
2	254.88	0.4995	0.0448	0.0243	-0.1155	0.0874	0.3717	0.3860	-0.0618	0.2880
2	254.88	0.5551	0.0784	0.0278	-0.2104	0.1002	0.7061	0.4408	-0.3147	0.2956
2	254.88	0.5996	0.1330	0.0290	-0.3527	0.1108	1.0703	0.4879	-0.4427	0.2924
2	254.88	0.6497	0.1528	0.0299	-0.4540	0.1217	1.6038	0.5392	-0.3970	0.2988
2	254.88	0.6996	0.1521	0.0309	-0.5866	0.1325	2.2286	0.5918	-0.5300	0.2936
2	254.88	0.7495	0.1769	0.0311	-0.7407	0.1437	2.9517	0.6432	-0.7073	0.2929
2	254.88	0.7996	0.2071	0.0307	-0.8540	0.1539	3.7734	0.6953	-0.9188	0.2955
2	254.88	0.8578	0.2223	0.0308	-0.9938	0.1661	4.8602	0.7552	-0.7809	0.3001
2	254.88	0.9100	0.1969	0.0336	-1.0594	0.1770	5.8863	0.8098	-0.9506	0.3064
2	254.88	0.9727	0.1802	0.0414	-1.2369	0.1878	7.2246	0.8818	-1.1182	0.2765
3	254.88	0.1938	-0.0157	0.0131	0.0103	0.0023	0.0592	0.0351	0.1240	0.3377
3	254.88	0.2357	0.0323	0.0091	0.0024	0.0065	0.0575	0.0542	0.1148	0.3348
3	254.88	0.2995	0.0153	0.0041	-0.0004	0.0100	0.2223	0.0762	0.2708	0.7201
3	254.88	0.3493	0.0123	0.0124	0.0405	0.0373	0.3319	0.1862	0.0880	0.3220
3	254.88	0.4000	0.0474	0.0173	0.0206	0.0472	0.5283	0.2225	0.0633	0.3221
3	254.88	0.4497	0.0575	0.0219	-0.0179	0.0580	0.8082	0.2578	0.0219	0.3222
3	254.88	0.4997	0.0996	0.0260	-0.1023	0.0693	1.1290	0.2947	-0.3409	0.3136
3	254.88	0.5556	0.0793	0.0301	-0.1991	0.0816	1.5871	0.3339	-0.6163	0.3187
3	254.88	0.5995	0.1211	0.0325	-0.2754	0.0929	2.0518	0.3684	-0.7238	0.3036
3	254.88	0.6498	0.1213	0.0341	-0.3750	0.1048	2.7002	0.4039	-0.6291	0.3089
3	254.88	0.6890	0.1349	0.0353	-0.4622	0.1146	3.2314	0.4329	-0.7539	0.3053
3	254.88	0.7495	0.1744	0.0355	-0.5581	0.1303	4.2221	0.4761	-0.8550	0.3037
3	254.88	0.7998	0.1774	0.0363	-0.7251	0.1428	5.1467	0.5105	-1.0477	0.3056
3	254.88	0.8577	0.2067	0.0365	-0.7549	0.1584	6.3197	0.5528	-0.9566	0.3188
3	254.88	0.9178	0.2705	0.0424	-0.8650	0.1749	7.5291	0.5925	-1.8568	0.3665
3	254.88	0.9729	0.1675	0.0462	-1.0282	0.1903	8.7354	0.6289	-1.9466	0.3468
4	254.88	0.2001	0.0114	0.0025	-0.0038	0.0014	0.0619	0.0104	0.0793	0.0416
4	254.88	0.2502	0.0130	0.0013	0.0059	0.0024	0.1262	0.0185	0.2139	0.0689
4	254.88	0.3001	0.0097	0.0018	-0.0218	0.0057	0.2145	0.0312	0.2286	0.0917
4	254.88	0.3502	-0.0225	0.0021	-0.0340	0.0113	0.3449	0.0511	0.0518	0.0673
4	254.88	0.4002	0.0138	0.0030	-0.0550	0.0170	0.5292	0.0747	-0.1362	0.0684
4	254.88	0.4500	0.0329	0.0034	-0.1393	0.0220	0.8252	0.1010	-0.1883	0.0711
4	254.88	0.5001	0.0683	0.0046	-0.2001	0.0291	1.1769	0.1292	-0.1970	0.0845
4	254.88	0.5560	0.0824	0.0057	-0.3230	0.0367	1.6641	0.1676	-0.4951	0.0914
4	254.88	0.6001	0.1406	0.0071	-0.4439	0.0429	2.1439	0.1973	-0.6184	0.0878
4	254.88	0.6501	0.1770	0.0090	-0.5806	0.0515	2.7965	0.2355	-0.5031	0.0873
4	254.88	0.6999	0.2702	0.0115	-0.7750	0.0606	3.5150	0.2747	-0.7143	0.0892
4	254.88	0.7500	0.2893	0.0138	-0.9546	0.0703	4.3685	0.3071	-0.6321	0.1510
4	254.88	0.8002	0.3606	0.0161	-1.0446	0.0794	5.2513	0.3459	-0.5766	0.1340
4	254.88	0.8582	0.4050	0.0195	-1.2008	0.0932	6.3872	0.3893	-0.7023	0.2046
4	254.88	0.9101	0.4632	0.0234	-1.3692	0.1058	7.3984	0.4298	-1.0242	0.2790
4	254.88	0.9728	0.5579	0.0302	-1.4404	0.1149	8.7916	0.4682	-0.8694	0.3427

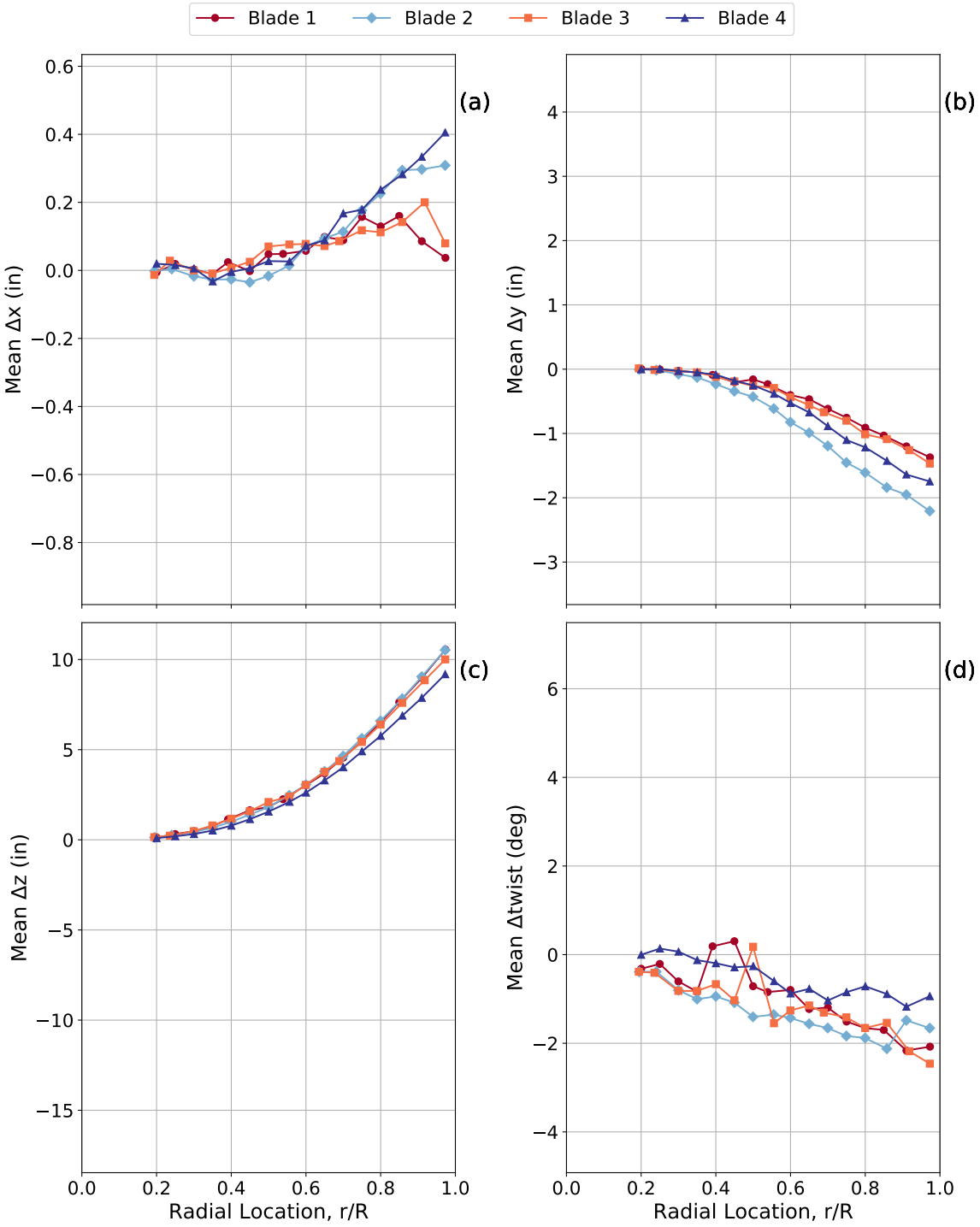


Figure 2.19-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.0057	0.0014	0.0049	0.0008	0.1275	0.0098	-0.3190	0.0429
1	260.16	0.2499	0.0189	0.0014	-0.0042	0.0019	0.3184	0.0165	-0.2096	0.0805
1	260.16	0.2998	0.0027	0.0017	-0.0250	0.0036	0.4765	0.0293	-0.6043	0.1004
1	260.16	0.3498	-0.0106	0.0023	-0.0514	0.0066	0.7620	0.0474	-0.8369	0.0817
1	260.16	0.3913	0.0243	0.0030	-0.0895	0.0099	1.1304	0.0654	0.1881	0.1313
1	260.16	0.4496	-0.0021	0.0045	-0.2044	0.0147	1.6378	0.0937	0.3031	0.1256
1	260.16	0.4997	0.0476	0.0061	-0.1587	0.0231	1.8178	0.1194	-0.7127	0.0895
1	260.16	0.5387	0.0485	0.0065	-0.2334	0.0268	2.2528	0.1425	-0.8438	0.0999
1	260.16	0.5996	0.0575	0.0076	-0.4025	0.0339	3.0216	0.1857	-0.7971	0.0979
1	260.16	0.6498	0.0984	0.0101	-0.4672	0.0407	3.6847	0.2255	-1.2269	0.1037
1	260.16	0.6998	0.0888	0.0124	-0.6162	0.0479	4.5582	0.2676	-1.1972	0.1069
1	260.16	0.7500	0.1572	0.0155	-0.7554	0.0557	5.4665	0.3115	-1.5100	0.1074
1	260.16	0.8001	0.1293	0.0185	-0.9102	0.0640	6.5279	0.3549	-1.6583	0.1144
1	260.16	0.8497	0.1601	0.0218	-1.0328	0.0723	7.6357	0.4003	-1.6997	0.1160
1	260.16	0.9102	0.0857	0.0268	-1.2007	0.0833	8.9818	0.4547	-2.1642	0.1336
1	260.16	0.9734	0.0368	0.0350	-1.3713	0.0927	10.5508	0.5163	-2.0768	0.1378
2	260.16	0.1949	-0.0014	0.0026	-0.0032	0.0011	0.1317	0.0096	-0.3871	0.0807
2	260.16	0.2405	0.0042	0.0019	-0.0155	0.0021	0.2542	0.0169	-0.3840	0.1023
2	260.16	0.2999	-0.0172	0.0025	-0.0772	0.0043	0.4284	0.0272	-0.8021	0.1790
2	260.16	0.3498	-0.0269	0.0020	-0.1290	0.0088	0.6668	0.0498	-1.0044	0.1032
2	260.16	0.3998	-0.0264	0.0028	-0.2311	0.0133	0.9989	0.0684	-0.9429	0.1055
2	260.16	0.4496	-0.0349	0.0033	-0.3428	0.0177	1.3970	0.0894	-1.0832	0.1132
2	260.16	0.4995	-0.0164	0.0039	-0.4291	0.0232	1.8136	0.1137	-1.4047	0.1236
2	260.16	0.5551	0.0145	0.0055	-0.6137	0.0307	2.4660	0.1464	-1.3530	0.1295
2	260.16	0.5996	0.0700	0.0072	-0.8236	0.0374	3.0576	0.1746	-1.4299	0.1339
2	260.16	0.6497	0.0947	0.0092	-0.9895	0.0458	3.7964	0.2095	-1.5618	0.1447
2	260.16	0.6996	0.1136	0.0112	-1.1937	0.0544	4.6463	0.2425	-1.6561	0.1377
2	260.16	0.7495	0.1764	0.0145	-1.4524	0.0646	5.6258	0.2823	-1.8353	0.1522
2	260.16	0.7996	0.2259	0.0174	-1.6080	0.0756	6.5939	0.3228	-1.8812	0.1464
2	260.16	0.8578	0.2945	0.0209	-1.8406	0.0877	7.8314	0.3724	-2.1235	0.1548
2	260.16	0.9100	0.2970	0.0253	-1.9522	0.0995	9.0506	0.4124	-1.4827	0.1949
2	260.16	0.9727	0.3087	0.0341	-2.2070	0.1131	10.5276	0.4795	-1.6579	0.1969
3	260.16	0.1938	-0.0132	0.0024	0.0121	0.0014	0.1482	0.0076	-0.3869	0.0872
3	260.16	0.2357	0.0285	0.0018	-0.0109	0.0021	0.2280	0.0148	-0.4091	0.0715
3	260.16	0.2995	0.0001	0.0015	-0.0332	0.0038	0.4810	0.0244	-0.8179	0.1705
3	260.16	0.3493	-0.0093	0.0020	-0.0487	0.0069	0.7924	0.0401	-0.8196	0.1050
3	260.16	0.4000	0.0078	0.0035	-0.1196	0.0113	1.1703	0.0595	-0.6668	0.1035
3	260.16	0.4497	0.0253	0.0032	-0.1899	0.0147	1.5855	0.0785	-1.0304	0.0962
3	260.16	0.4997	0.0702	0.0045	-0.2610	0.0193	2.0967	0.1013	0.1775	0.1169
3	260.16	0.5556	0.0762	0.0242	-0.2932	0.0394	2.3984	0.1379	-1.5482	0.3406
3	260.16	0.5995	0.0778	0.0063	-0.4350	0.0301	3.0424	0.1541	-1.2596	0.1108
3	260.16	0.6498	0.0715	0.0080	-0.5594	0.0363	3.7733	0.1869	-1.1463	0.1063
3	260.16	0.6890	0.0859	0.0095	-0.6693	0.0412	4.3655	0.2149	-1.3080	0.1041
3	260.16	0.7495	0.1179	0.0121	-0.8013	0.0497	5.4256	0.2648	-1.4145	0.1084
3	260.16	0.7998	0.1119	0.0149	-1.0132	0.0572	6.3932	0.3081	-1.6549	0.1160
3	260.16	0.8577	0.1421	0.0188	-1.0875	0.0666	7.5951	0.3611	-1.5387	0.1232
3	260.16	0.9178	0.2003	0.0230	-1.2595	0.0784	8.8486	0.4158	-2.1802	0.1600
3	260.16	0.9729	0.0796	0.0293	-1.4682	0.0865	10.0068	0.4710	-2.4600	0.1611
4	260.16	0.2001	0.0196	0.0018	-0.0022	0.0010	0.0938	0.0086	-0.0030	0.0724
4	260.16	0.2502	0.0156	0.0020	0.0035	0.0025	0.1963	0.0173	0.1374	0.0718
4	260.16	0.3001	0.0055	0.0022	-0.0290	0.0045	0.3188	0.0236	0.0667	0.1409
4	260.16	0.3502	-0.0323	0.0024	-0.0509	0.0092	0.5142	0.0425	-0.1247	0.0854
4	260.16	0.4002	-0.0046	0.0030	-0.0858	0.0144	0.7857	0.0595	-0.1945	0.0883
4	260.16	0.4500	0.0068	0.0042	-0.1794	0.0197	1.1458	0.0804	-0.2868	0.0850
4	260.16	0.5001	0.0273	0.0056	-0.2521	0.0265	1.5646	0.1054	-0.2599	0.0951
4	260.16	0.5560	0.0263	0.0074	-0.3822	0.0349	2.1065	0.1359	-0.5982	0.1040
4	260.16	0.6001	0.0721	0.0090	-0.5262	0.0429	2.6176	0.1641	-0.8759	0.0998
4	260.16	0.6501	0.0885	0.0109	-0.6732	0.0511	3.2958	0.1966	-0.7710	0.1141
4	260.16	0.6999	0.1675	0.0139	-0.8867	0.0614	4.0274	0.2383	-1.0340	0.1086
4	260.16	0.7500	0.1785	0.0173	-1.1020	0.0729	4.9089	0.2748	-0.8472	0.1263
4	260.16	0.8002	0.2372	0.0196	-1.2168	0.0832	5.7670	0.3180	-0.7150	0.1474
4	260.16	0.8582	0.2825	0.0249	-1.4260	0.0970	6.8878	0.3689	-0.8901	0.1892
4	260.16	0.9101	0.3339	0.0292	-1.6383	0.1091	7.8742	0.4148	-1.1746	0.1816
4	260.16	0.9728	0.4054	0.0376	-1.7465	0.1255	9.1844	0.4841	-0.9378	0.2200

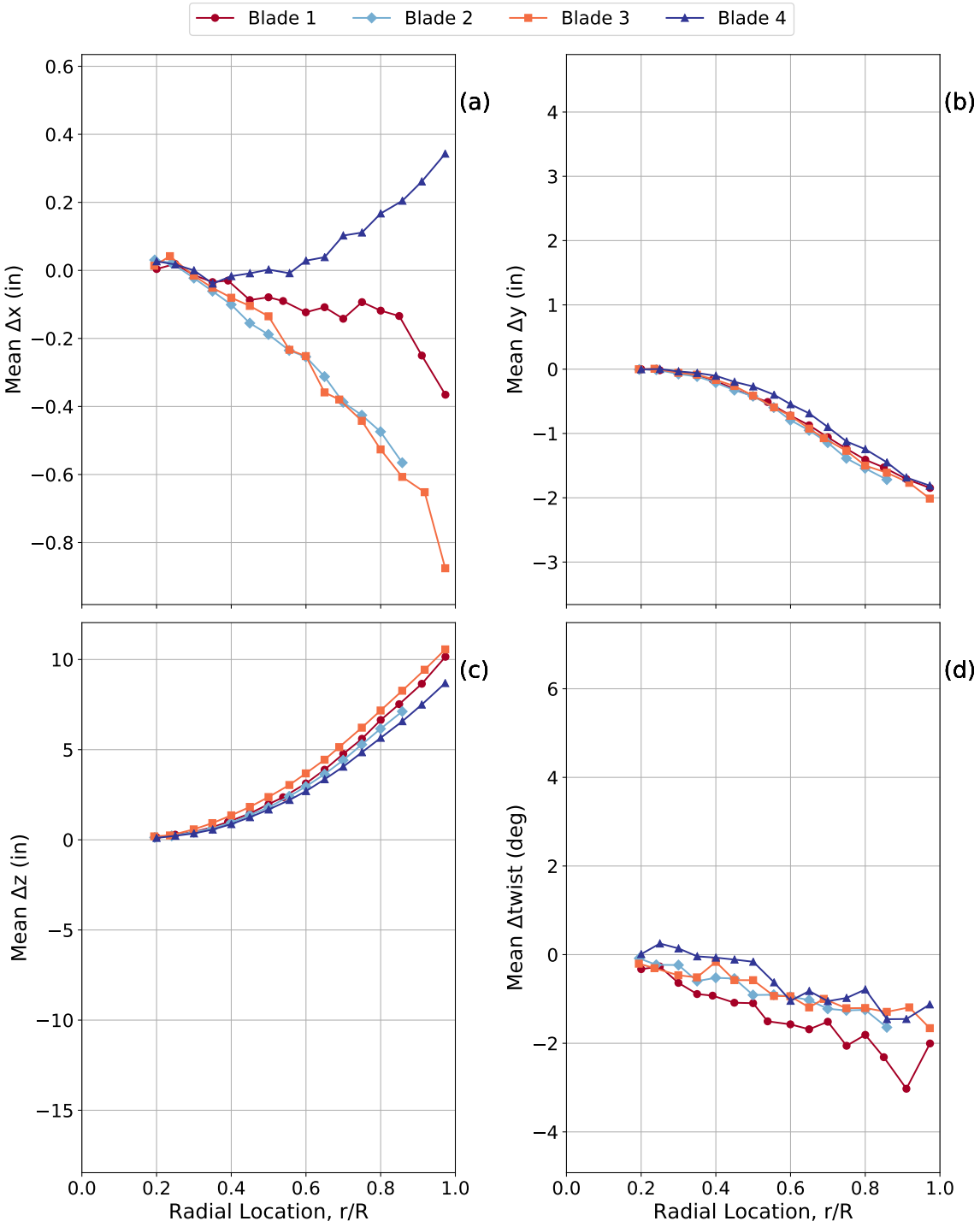


Figure 2.19-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	0.0040	0.0019	0.0010	0.0011	0.1393	0.0079	-0.3276	0.0549
1	265.08	0.2499	0.0191	0.0014	-0.0166	0.0022	0.2853	0.0148	-0.2672	0.0764
1	265.08	0.2998	-0.0138	0.0013	-0.0535	0.0046	0.4370	0.0234	-0.6369	0.1171
1	265.08	0.3498	-0.0344	0.0020	-0.0983	0.0085	0.7004	0.0386	-0.8894	0.0917
1	265.08	0.3913	-0.0300	0.0028	-0.1643	0.0122	0.9898	0.0531	-0.9253	0.0894
1	265.08	0.4496	-0.0872	0.0037	-0.3086	0.0167	1.4586	0.0713	-1.0852	0.1026
1	265.08	0.4997	-0.0790	0.0049	-0.4259	0.0221	1.9746	0.0926	-1.0952	0.1017
1	265.08	0.5387	-0.0900	0.0058	-0.5104	0.0264	2.3595	0.1132	-1.5048	0.1045
1	265.08	0.5996	-0.1232	0.0080	-0.7208	0.0340	3.1250	0.1452	-1.5729	0.1190
1	265.08	0.6498	-0.1083	0.0097	-0.8729	0.0407	3.8874	0.1740	-1.6841	0.1113
1	265.08	0.6998	-0.1422	0.0118	-1.0596	0.0486	4.7645	0.2018	-1.5141	0.1184
1	265.08	0.7500	-0.0933	0.0142	-1.2389	0.0565	5.6043	0.2310	-2.0568	0.1186
1	265.08	0.8001	-0.1183	0.0165	-1.4083	0.0650	6.6443	0.2594	-1.8103	0.1286
1	265.08	0.8497	-0.1341	0.0183	-1.5285	0.0731	7.5230	0.2875	-2.3142	0.1246
1	265.08	0.9102	-0.2503	0.0217	-1.7094	0.0838	8.6540	0.3242	-3.0258	0.1318
1	265.08	0.9734	-0.3655	0.0274	-1.8478	0.0952	10.1514	0.3731	-2.0046	0.1963
2	265.08	0.1949	0.0305	0.0024	-0.0048	0.0013	0.1324	0.0094	-0.0832	0.0578
2	265.08	0.2405	0.0217	0.0020	-0.0083	0.0030	0.2196	0.0162	-0.2297	0.1152
2	265.08	0.2999	-0.0227	0.0025	-0.0754	0.0039	0.4217	0.0265	-0.2347	0.1381
2	265.08	0.3498	-0.0611	0.0025	-0.1140	0.0092	0.6376	0.0454	-0.5971	0.1038
2	265.08	0.3998	-0.1006	0.0038	-0.2098	0.0133	0.9578	0.0641	-0.5226	0.1092
2	265.08	0.4496	-0.1551	0.0048	-0.3265	0.0184	1.3733	0.0867	-0.5398	0.1065
2	265.08	0.4995	-0.1883	0.0060	-0.4209	0.0235	1.7953	0.1107	-0.9111	0.1200
2	265.08	0.5551	-0.2352	0.0079	-0.5968	0.0298	2.4096	0.1449	-0.9049	0.0997
2	265.08	0.5996	-0.2540	0.0090	-0.7928	0.0361	2.9535	0.1671	-0.9462	0.1209
2	265.08	0.6497	-0.3123	0.0115	-0.9520	0.0431	3.6403	0.1980	-1.0239	0.1191
2	265.08	0.6996	-0.3878	0.0136	-1.1432	0.0509	4.4132	0.2270	-1.2224	0.1148
2	265.08	0.7495	-0.4257	0.0164	-1.3868	0.0598	5.2854	0.2540	-1.2587	0.1480
2	265.08	0.7996	-0.4742	0.0183	-1.5422	0.0680	6.1578	0.2889	-1.2457	0.1344
2	265.08	0.8578	-0.5654	0.0212	-1.7174	0.0785	7.1189	0.3212	-1.6413	0.1931
3	265.08	0.1938	0.0137	0.0026	-0.0007	0.0016	0.1915	0.0123	-0.2038	0.0605
3	265.08	0.2357	0.0418	0.0025	0.0067	0.0032	0.2433	0.0204	-0.3053	0.0950
3	265.08	0.2995	-0.0155	0.0024	-0.0574	0.0055	0.5795	0.0361	-0.4656	0.1266
3	265.08	0.3493	-0.0510	0.0027	-0.0858	0.0112	0.9256	0.0572	-0.5127	0.0852
3	265.08	0.4000	-0.0804	0.0041	-0.1674	0.0184	1.3569	0.0838	-0.1630	0.0923
3	265.08	0.4497	-0.1044	0.0056	-0.2620	0.0252	1.8246	0.1118	-0.5751	0.0977
3	265.08	0.4997	-0.1350	0.0075	-0.4121	0.0343	2.3723	0.1503	-0.5767	0.0991
3	265.08	0.5556	-0.2333	0.0099	-0.5938	0.0447	3.0410	0.1893	-0.9331	0.0944
3	265.08	0.5995	-0.2520	0.0118	-0.7254	0.0537	3.6838	0.2246	-0.9392	0.1179
3	265.08	0.6498	-0.3587	0.0148	-0.9246	0.0653	4.4420	0.2662	-1.1910	0.1186
3	265.08	0.6890	-0.3796	0.0175	-1.0731	0.0748	5.1404	0.2995	-0.9982	0.1283
3	265.08	0.7495	-0.4423	0.0214	-1.2693	0.0905	6.2208	0.3461	-1.2088	0.1416
3	265.08	0.7998	-0.5263	0.0239	-1.4993	0.1042	7.1717	0.3858	-1.2047	0.1725
3	265.08	0.8577	-0.6071	0.0285	-1.6103	0.1195	8.2686	0.4189	-1.2914	0.2430
3	265.08	0.9178	-0.6520	0.0337	-1.7678	0.1352	9.4329	0.4536	-1.1898	0.3370
3	265.08	0.9729	-0.8756	0.0682	-2.0129	0.1624	10.5618	0.6051	-1.6595	1.1243
4	265.08	0.2001	0.0266	0.0073	-0.0018	0.0010	0.1045	0.0094	0.0116	0.0490
4	265.08	0.2502	0.0173	0.0025	0.0025	0.0024	0.2217	0.0165	0.2505	0.0727
4	265.08	0.3001	-0.0000	0.0037	-0.0347	0.0048	0.3547	0.0258	0.1400	0.0981
4	265.08	0.3502	-0.0388	0.0069	-0.0596	0.0090	0.5675	0.0401	-0.0393	0.0809
4	265.08	0.4002	-0.0170	0.0106	-0.1034	0.0147	0.8697	0.0590	-0.0679	0.0798
4	265.08	0.4500	-0.0086	0.0146	-0.1977	0.0213	1.2540	0.0806	-0.1116	0.0988
4	265.08	0.5001	0.0023	0.0193	-0.2691	0.0298	1.6798	0.1093	-0.1609	0.0904
4	265.08	0.5560	-0.0084	0.0263	-0.3979	0.0403	2.2104	0.1445	-0.6260	0.1065
4	265.08	0.6001	0.0286	0.0337	-0.5459	0.0500	2.7007	0.1771	-1.0416	0.1165
4	265.08	0.6501	0.0389	0.0444	-0.6881	0.0619	3.3583	0.2181	-0.8212	0.1243
4	265.08	0.6999	0.1024	0.0601	-0.8999	0.0754	4.0544	0.2628	-1.0501	0.1423
4	265.08	0.7500	0.1112	0.0792	-1.1246	0.0903	4.8554	0.3133	-0.9775	0.1746
4	265.08	0.8002	0.1673	0.1036	-1.2449	0.1066	5.6556	0.3668	-0.7862	0.1643
4	265.08	0.8582	0.2047	0.1396	-1.4502	0.1264	6.5765	0.4328	-1.4569	0.2113
4	265.08	0.9101	0.2612	0.1792	-1.6854	0.1470	7.4980	0.5030	-1.4529	0.2059
4	265.08	0.9728	0.3431	0.2397	-1.8115	0.1804	8.6915	0.5880	-1.1236	0.2494

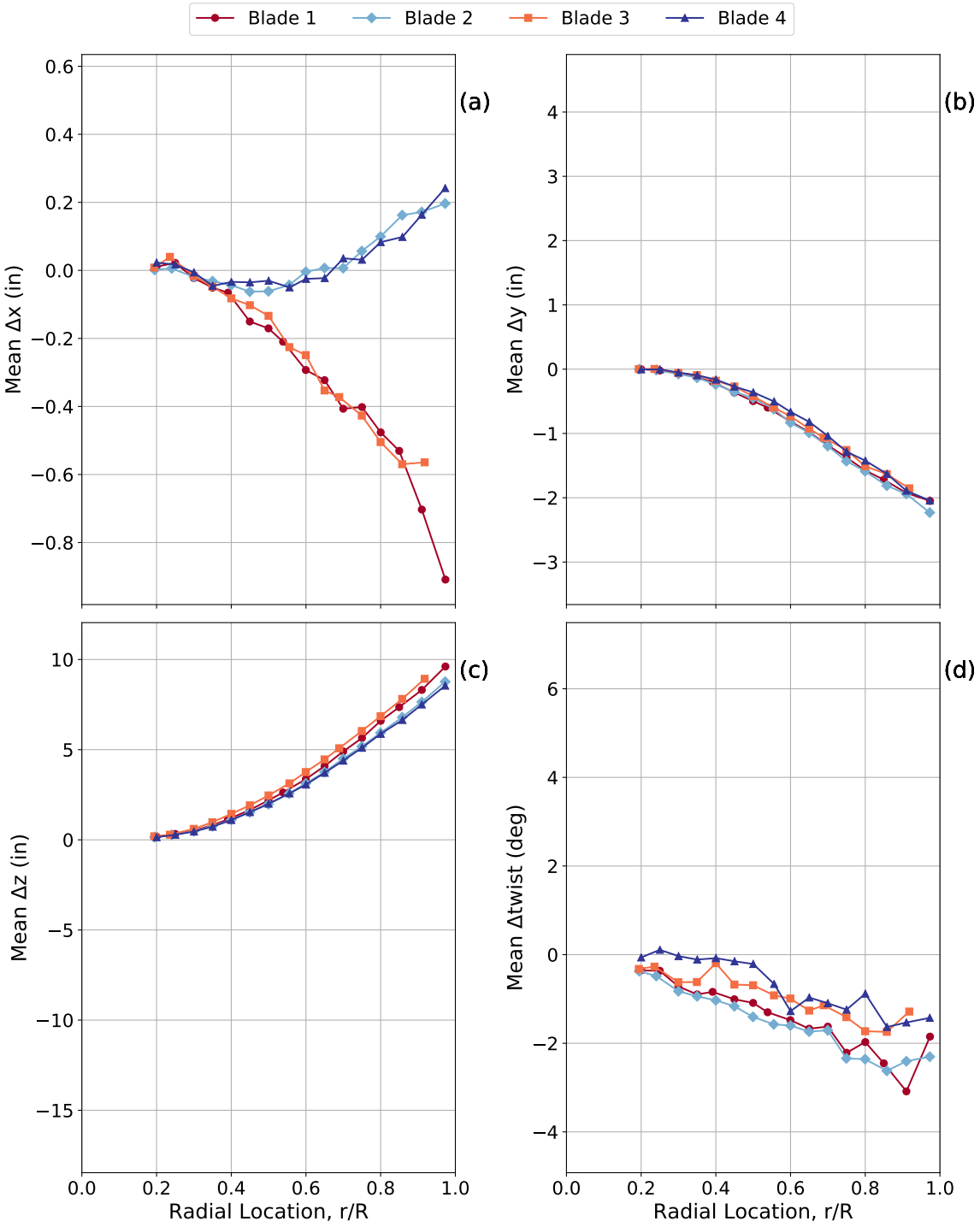


Figure 2.19-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	0.0110	0.0020	0.0007	0.0012	0.1689	0.0111	-0.3566	0.0563
1	270	0.2499	0.0220	0.0019	-0.0209	0.0030	0.3268	0.0167	-0.3644	0.1199
1	270	0.2998	-0.0227	0.0019	-0.0616	0.0054	0.5076	0.0300	-0.7188	0.1348
1	270	0.3498	-0.0507	0.0032	-0.1265	0.0104	0.8158	0.0466	-0.8971	0.1170
1	270	0.3913	-0.0655	0.0039	-0.2002	0.0154	1.1356	0.0625	-0.8401	0.1224
1	270	0.4496	-0.1503	0.0055	-0.3636	0.0233	1.6551	0.0882	-1.0070	0.1338
1	270	0.4997	-0.1705	0.0072	-0.4964	0.0317	2.1904	0.1159	-1.0889	0.1213
1	270	0.5387	-0.2097	0.0087	-0.5974	0.0388	2.6238	0.1375	-1.3005	0.1327
1	270	0.5996	-0.2928	0.0112	-0.8139	0.0522	3.3660	0.1795	-1.4779	0.1331
1	270	0.6498	-0.3227	0.0134	-0.9781	0.0633	4.0908	0.2148	-1.6713	0.1324
1	270	0.6998	-0.4067	0.0167	-1.1829	0.0756	4.9016	0.2578	-1.6243	0.1426
1	270	0.7500	-0.4018	0.0200	-1.3760	0.0889	5.6465	0.3036	-2.2148	0.1662
1	270	0.8001	-0.4762	0.0236	-1.5760	0.1019	6.6005	0.3532	-1.9730	0.1706
1	270	0.8497	-0.5305	0.0275	-1.7187	0.1151	7.3587	0.4026	-2.4528	0.1858
1	270	0.9102	-0.7031	0.0326	-1.9246	0.1318	8.3116	0.4779	-3.0853	0.1891
1	270	0.9734	-0.9089	0.0474	-2.0493	0.1493	9.6133	0.5467	-1.8502	0.3069
2	270.35	0.1949	0.0015	0.0023	-0.0004	0.0009	0.1555	0.0077	-0.3727	0.0393
2	270.35	0.2405	0.0058	0.0020	-0.0136	0.0021	0.2749	0.0148	-0.4837	0.0539
2	270.35	0.2999	-0.0193	0.0024	-0.0755	0.0036	0.4744	0.0258	-0.8255	0.0829
2	270.35	0.3498	-0.0317	0.0022	-0.1333	0.0069	0.7594	0.0416	-0.9402	0.0799
2	270.35	0.3998	-0.0433	0.0029	-0.2386	0.0113	1.1074	0.0622	-1.0309	0.0793
2	270.35	0.4496	-0.0625	0.0037	-0.3525	0.0159	1.5208	0.0844	-1.1647	0.0792
2	270.35	0.4995	-0.0614	0.0049	-0.4483	0.0217	1.9756	0.1130	-1.4048	0.0779
2	270.35	0.5551	-0.0431	0.0063	-0.6209	0.0291	2.5690	0.1467	-1.5727	0.0924
2	270.35	0.5996	-0.0041	0.0076	-0.8323	0.0361	3.1261	0.1767	-1.6002	0.0848
2	270.35	0.6497	0.0069	0.0098	-0.9896	0.0450	3.7562	0.2106	-1.7372	0.1048
2	270.35	0.6996	0.0065	0.0124	-1.1948	0.0543	4.5007	0.2483	-1.7067	0.0985
2	270.35	0.7495	0.0567	0.0143	-1.4311	0.0642	5.1764	0.2822	-2.3414	0.1096
2	270.35	0.7996	0.0994	0.0173	-1.5877	0.0750	5.9332	0.3186	-2.3583	0.1199
2	270.35	0.8578	0.1624	0.0197	-1.8117	0.0869	6.7997	0.3576	-2.6221	0.1472
2	270.35	0.9100	0.1717	0.0222	-1.9400	0.0987	7.6456	0.3981	-2.4056	0.1351
2	270.35	0.9727	0.1966	0.0304	-2.2304	0.1129	8.7698	0.4404	-2.3033	0.1664
3	270	0.1938	0.0082	0.0033	0.0021	0.0014	0.1927	0.0141	-0.3231	0.0656
3	270	0.2357	0.0397	0.0021	0.0036	0.0026	0.2828	0.0203	-0.2708	0.1064
3	270	0.2995	-0.0158	0.0020	-0.0577	0.0049	0.6071	0.0369	-0.6230	0.1398
3	270	0.3493	-0.0478	0.0032	-0.0919	0.0100	0.9741	0.0605	-0.6179	0.1286
3	270	0.4000	-0.0822	0.0043	-0.1795	0.0158	1.4392	0.0853	-0.1938	0.1066
3	270	0.4497	-0.1023	0.0048	-0.2691	0.0207	1.9131	0.1070	-0.6749	0.1161
3	270	0.4997	-0.1336	0.0062	-0.4221	0.0279	2.4622	0.1348	-0.6906	0.1134
3	270	0.5556	-0.2256	0.0078	-0.5987	0.0361	3.1302	0.1667	-0.9186	0.1133
3	270	0.5995	-0.2490	0.0098	-0.7329	0.0429	3.7585	0.1952	-0.9901	0.1139
3	270	0.6498	-0.3530	0.0119	-0.9255	0.0513	4.4603	0.2268	-1.2632	0.1244
3	270	0.6890	-0.3725	0.0142	-1.0648	0.0578	5.0781	0.2509	-1.1419	0.1367
3	270	0.7495	-0.4268	0.0160	-1.2570	0.0687	6.0346	0.2867	-1.4113	0.1475
3	270	0.7998	-0.5047	0.0190	-1.5088	0.0777	6.8580	0.3187	-1.7285	0.1513
3	270	0.8577	-0.5698	0.0221	-1.6323	0.0897	7.8132	0.3558	-1.7424	0.2286
3	270	0.9178	-0.5643	0.0294	-1.8530	0.1022	8.9293	0.3927	-1.2848	0.2871
4	270	0.2001	0.0228	0.0020	-0.0029	0.0011	0.1429	0.0088	-0.0636	0.0529
4	270	0.2502	0.0173	0.0019	-0.0030	0.0018	0.2815	0.0150	0.1088	0.0786
4	270	0.3001	-0.0060	0.0017	-0.0526	0.0035	0.4585	0.0246	-0.0340	0.1145
4	270	0.3502	-0.0457	0.0024	-0.0950	0.0068	0.7276	0.0388	-0.1109	0.1025
4	270	0.4002	-0.0338	0.0029	-0.1624	0.0111	1.1003	0.0563	-0.0789	0.0927
4	270	0.4500	-0.0351	0.0037	-0.2715	0.0161	1.5369	0.0751	-0.1502	0.0898
4	270	0.5001	-0.0304	0.0050	-0.3603	0.0218	2.0045	0.0972	-0.2116	0.0973
4	270	0.5560	-0.0501	0.0060	-0.5027	0.0289	2.5753	0.1260	-0.6622	0.1010
4	270	0.6001	-0.0250	0.0072	-0.6646	0.0355	3.0657	0.1494	-1.2745	0.1218
4	270	0.6501	-0.0227	0.0087	-0.8200	0.0434	3.7170	0.1820	-0.9681	0.1208
4	270	0.6999	0.0354	0.0110	-1.0382	0.0523	4.3904	0.2205	-1.0971	0.1217
4	270	0.7500	0.0313	0.0121	-1.2827	0.0609	5.1051	0.2546	-1.2416	0.1326
4	270	0.8002	0.0831	0.0148	-1.4229	0.0703	5.8768	0.2946	-0.8811	0.1373
4	270	0.8582	0.0982	0.0173	-1.6289	0.0819	6.6464	0.3456	-1.6335	0.1666
4	270	0.9101	0.1636	0.0206	-1.8903	0.0922	7.5029	0.3882	-1.5312	0.1818
4	270	0.9728	0.2419	0.0267	-2.0435	0.1051	8.5500	0.4474	-1.4264	0.1881

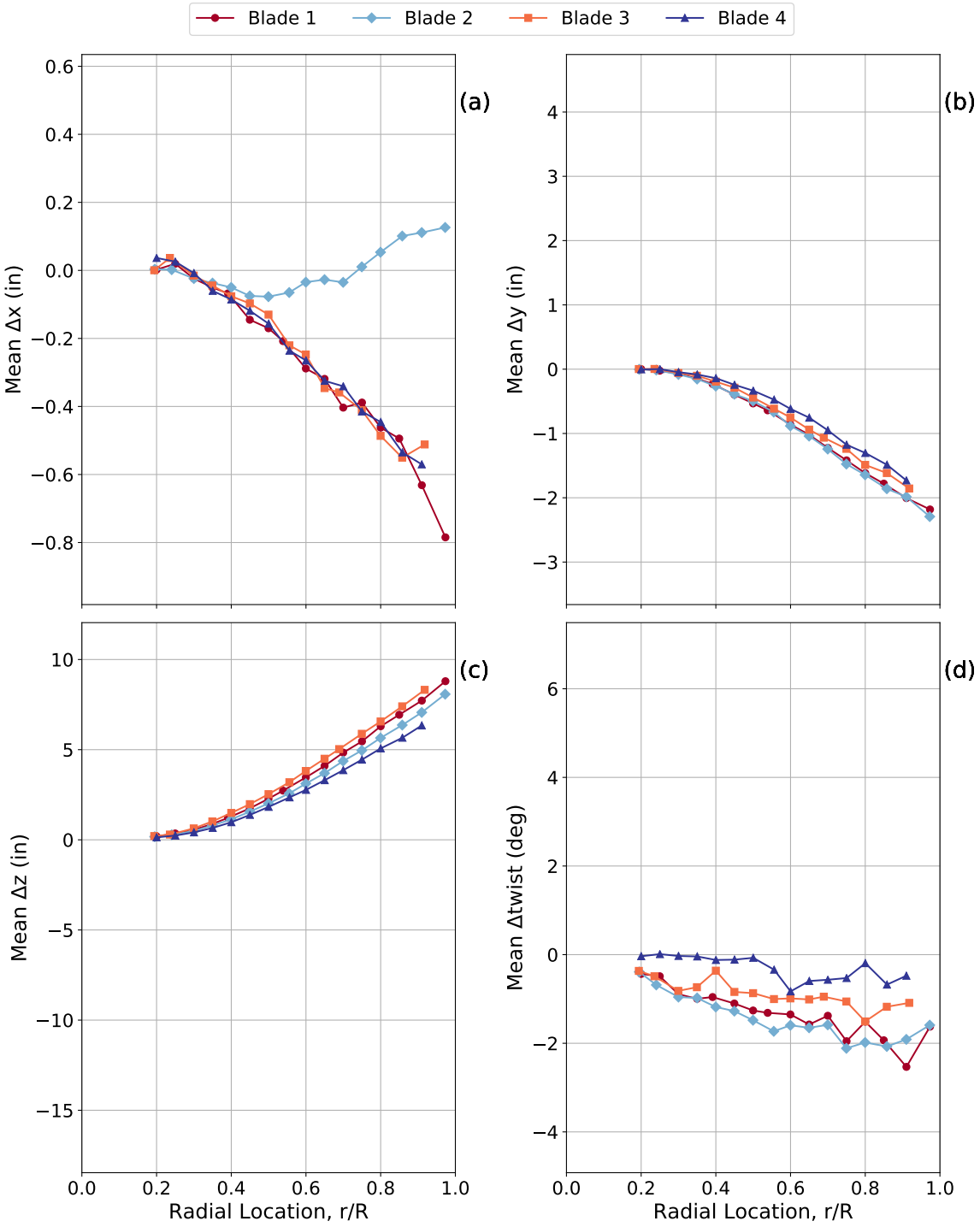


Figure 2.19-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0023	0.0019	0.0010	0.0015	0.1899	0.0144	-0.4348	0.0687
1	274.92	0.2499	0.0195	0.0028	-0.0235	0.0027	0.3530	0.0263	-0.4881	0.1200
1	274.92	0.2998	-0.0241	0.0020	-0.0701	0.0052	0.5526	0.0412	-0.8928	0.1582
1	274.92	0.3498	-0.0505	0.0029	-0.1462	0.0097	0.8836	0.0670	-0.9958	0.1293
1	274.92	0.3913	-0.0675	0.0047	-0.2301	0.0154	1.2191	0.0914	-0.9567	0.1133
1	274.92	0.4496	-0.1451	0.0056	-0.3959	0.0237	1.7452	0.1237	-1.1027	0.1361
1	274.92	0.4997	-0.1701	0.0076	-0.5325	0.0328	2.2793	0.1601	-1.2604	0.1201
1	274.92	0.5387	-0.2079	0.0089	-0.6400	0.0403	2.7294	0.1896	-1.3134	0.1152
1	274.92	0.5996	-0.2884	0.0121	-0.8608	0.0544	3.4586	0.2373	-1.3494	0.1261
1	274.92	0.6498	-0.3189	0.0147	-1.0200	0.0673	4.1003	0.2790	-1.5763	0.1246
1	274.92	0.6998	-0.4034	0.0170	-1.2240	0.0808	4.8365	0.3157	-1.3792	0.1271
1	274.92	0.7500	-0.3885	0.0197	-1.4183	0.0959	5.4600	0.3514	-1.9534	0.1307
1	274.92	0.8001	-0.4622	0.0217	-1.6170	0.1108	6.2981	0.3817	-1.5124	0.1391
1	274.92	0.8497	-0.4943	0.0241	-1.7798	0.1274	6.9362	0.4168	-1.9326	0.1203
1	274.92	0.9102	-0.6315	0.0269	-2.0048	0.1462	7.7204	0.4486	-2.5325	0.1574
1	274.92	0.9734	-0.7848	0.0332	-2.1820	0.1677	8.7968	0.4873	-1.6248	0.2281
2	274.92	0.1949	0.0033	0.0024	-0.0026	0.0010	0.1715	0.0132	-0.3903	0.0334
2	274.92	0.2405	0.0021	0.0021	-0.0135	0.0020	0.2781	0.0182	-0.6833	0.0758
2	274.92	0.2999	-0.0240	0.0022	-0.0818	0.0050	0.4908	0.0381	-0.9574	0.0848
2	274.92	0.3498	-0.0373	0.0034	-0.1536	0.0097	0.7964	0.0611	-0.9779	0.0846
2	274.92	0.3998	-0.0500	0.0037	-0.2633	0.0162	1.1346	0.0881	-1.1808	0.0703
2	274.92	0.4496	-0.0751	0.0046	-0.3886	0.0240	1.5602	0.1173	-1.2745	0.0828
2	274.92	0.4995	-0.0772	0.0057	-0.4956	0.0334	2.0191	0.1512	-1.4796	0.0858
2	274.92	0.5551	-0.0651	0.0074	-0.6673	0.0454	2.5727	0.1947	-1.7303	0.0876
2	274.92	0.5996	-0.0346	0.0093	-0.8826	0.0567	3.1157	0.2356	-1.5945	0.0956
2	274.92	0.6497	-0.0272	0.0115	-1.0403	0.0702	3.6955	0.2829	-1.6505	0.0930
2	274.92	0.6996	-0.0351	0.0143	-1.2427	0.0856	4.3685	0.3369	-1.5840	0.1065
2	274.92	0.7495	0.0104	0.0166	-1.4760	0.1013	4.9579	0.3947	-2.1138	0.1096
2	274.92	0.7996	0.0534	0.0192	-1.6434	0.1184	5.6486	0.4597	-1.9822	0.1245
2	274.92	0.8578	0.1010	0.0225	-1.8598	0.1389	6.3649	0.5396	-2.0721	0.1281
2	274.92	0.9100	0.1112	0.0263	-1.9845	0.1569	7.0660	0.6107	-1.9127	0.1640
2	274.92	0.9727	0.1262	0.0376	-2.2928	0.1784	8.0771	0.7056	-1.5907	0.1789
3	274.92	0.1938	0.0004	0.0032	0.0021	0.0015	0.2073	0.0099	-0.3672	0.0543
3	274.92	0.2357	0.0366	0.0023	0.0036	0.0030	0.2918	0.0169	-0.4878	0.0710
3	274.92	0.2995	-0.0153	0.0026	-0.0600	0.0058	0.6330	0.0299	-0.8177	0.1143
3	274.92	0.3493	-0.0443	0.0030	-0.1026	0.0102	1.0195	0.0459	-0.7349	0.1165
3	274.92	0.4000	-0.0760	0.0040	-0.1938	0.0169	1.4922	0.0688	-0.3620	0.1113
3	274.92	0.4497	-0.0972	0.0049	-0.2877	0.0232	1.9778	0.0891	-0.8413	0.1031
3	274.92	0.4997	-0.1300	0.0056	-0.4409	0.0312	2.5325	0.1126	-0.8692	0.1100
3	274.92	0.5556	-0.2203	0.0076	-0.6141	0.0416	3.1938	0.1414	-1.0026	0.1134
3	274.92	0.5995	-0.2472	0.0086	-0.7503	0.0505	3.8177	0.1699	-0.9875	0.1197
3	274.92	0.6498	-0.3460	0.0107	-0.9400	0.0619	4.4971	0.2014	-1.0113	0.1429
3	274.92	0.6890	-0.3588	0.0119	-1.0655	0.0718	5.0304	0.2270	-0.9484	0.1441
3	274.92	0.7495	-0.4111	0.0146	-1.2389	0.0876	5.8799	0.2677	-1.0574	0.1579
3	274.92	0.7998	-0.4864	0.0168	-1.4888	0.1014	6.5636	0.3040	-1.5073	0.1547
3	274.92	0.8577	-0.5505	0.0191	-1.6154	0.1181	7.4022	0.3570	-1.1765	0.2216
3	274.92	0.9178	-0.5117	0.0245	-1.8559	0.1385	8.3180	0.4119	-1.0883	0.2788
4	274.92	0.2001	0.0365	0.0024	-0.0028	0.0017	0.1365	0.0096	-0.0359	0.0518
4	274.92	0.2502	0.0257	0.0023	0.0010	0.0030	0.2364	0.0188	0.0109	0.0845
4	274.92	0.3001	-0.0082	0.0023	-0.0461	0.0049	0.4135	0.0274	-0.0299	0.1021
4	274.92	0.3502	-0.0602	0.0026	-0.0827	0.0080	0.6597	0.0449	-0.0412	0.0983
4	274.92	0.4002	-0.0856	0.0033	-0.1406	0.0136	0.9764	0.0650	-0.1206	0.0796
4	274.92	0.4500	-0.1188	0.0040	-0.2433	0.0189	1.3825	0.0837	-0.1130	0.0908
4	274.92	0.5001	-0.1567	0.0050	-0.3346	0.0259	1.8271	0.1107	-0.0716	0.0824
4	274.92	0.5560	-0.2361	0.0070	-0.4747	0.0356	2.3548	0.1396	-0.3399	0.1119
4	274.92	0.6001	-0.2648	0.0085	-0.6180	0.0441	2.7699	0.1687	-0.8291	0.0903
4	274.92	0.6501	-0.3247	0.0104	-0.7548	0.0552	3.3073	0.2013	-0.5952	0.1244
4	274.92	0.6999	-0.3407	0.0125	-0.9508	0.0670	3.8635	0.2367	-0.5668	0.1252
4	274.92	0.7500	-0.4148	0.0156	-1.1754	0.0800	4.4480	0.2799	-0.5283	0.1247
4	274.92	0.8002	-0.4459	0.0172	-1.3035	0.0935	5.0696	0.3166	-0.1923	0.1481
4	274.92	0.8582	-0.5351	0.0204	-1.4872	0.1096	5.6621	0.3748	-0.6764	0.1602
4	274.92	0.9101	-0.5703	0.0243	-1.7303	0.1234	6.3422	0.4189	-0.4760	0.2159

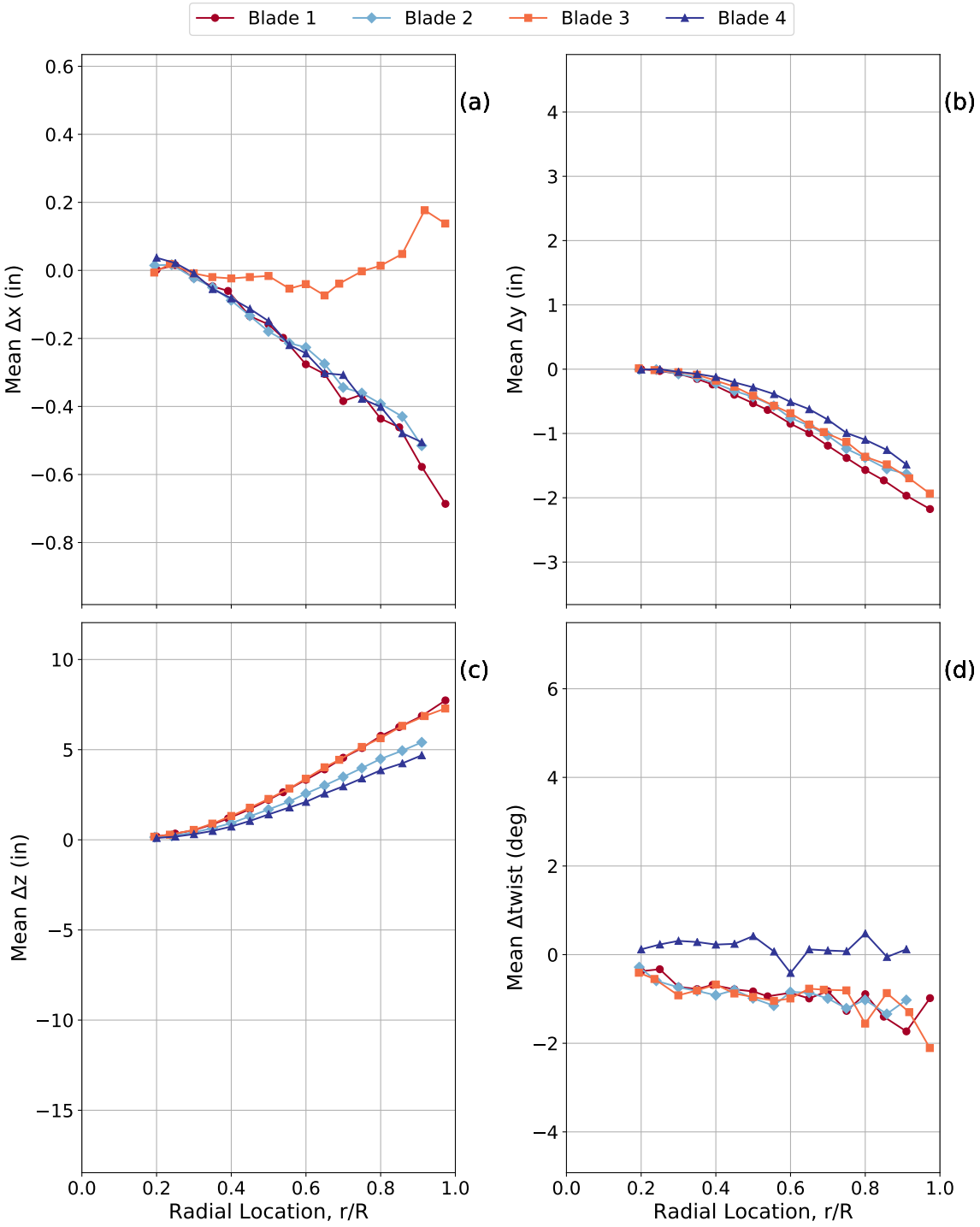


Figure 2.19-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0020	0.0022	0.0002	0.0017	0.1814	0.0093	-0.3733	0.0528
1	279.84	0.2499	0.0155	0.0020	-0.0281	0.0024	0.3469	0.0181	-0.3295	0.0888
1	279.84	0.2998	-0.0225	0.0019	-0.0722	0.0055	0.5306	0.0276	-0.7250	0.1198
1	279.84	0.3498	-0.0466	0.0035	-0.1520	0.0092	0.8554	0.0433	-0.7773	0.1007
1	279.84	0.3913	-0.0604	0.0031	-0.2375	0.0135	1.1806	0.0607	-0.6821	0.1034
1	279.84	0.4496	-0.1346	0.0043	-0.3971	0.0204	1.6956	0.0815	-0.7829	0.1077
1	279.84	0.4997	-0.1587	0.0050	-0.5296	0.0276	2.2143	0.1027	-0.8299	0.1005
1	279.84	0.5387	-0.1982	0.0058	-0.6340	0.0343	2.6380	0.1227	-0.9408	0.1089
1	279.84	0.5996	-0.2761	0.0076	-0.8472	0.0462	3.3276	0.1519	-0.8613	0.1196
1	279.84	0.6498	-0.3045	0.0089	-0.9944	0.0568	3.9057	0.1784	-0.9885	0.1133
1	279.84	0.6998	-0.3842	0.0108	-1.1896	0.0693	4.5530	0.2080	-0.8241	0.1153
1	279.84	0.7500	-0.3649	0.0123	-1.3811	0.0824	5.0907	0.2358	-1.2692	0.1347
1	279.84	0.8001	-0.4360	0.0143	-1.5680	0.0966	5.7651	0.2656	-0.8925	0.1199
1	279.84	0.8497	-0.4612	0.0158	-1.7300	0.1113	6.2528	0.2958	-1.4005	0.1376
1	279.84	0.9102	-0.5777	0.0179	-1.9675	0.1290	6.8706	0.3268	-1.7317	0.1451
1	279.84	0.9734	-0.6863	0.0241	-2.1758	0.1504	7.7339	0.3711	-0.9817	0.2135
2	279.84	0.1949	0.0147	0.0034	-0.0043	0.0010	0.1460	0.0113	-0.2821	0.0570
2	279.84	0.2405	0.0168	0.0023	-0.0067	0.0024	0.2176	0.0202	-0.5899	0.0888
2	279.84	0.2999	-0.0222	0.0021	-0.0744	0.0040	0.4079	0.0339	-0.7377	0.1235
2	279.84	0.3498	-0.0499	0.0037	-0.1280	0.0088	0.6472	0.0603	-0.8176	0.1074
2	279.84	0.3998	-0.0881	0.0040	-0.2235	0.0136	0.9206	0.0848	-0.9163	0.0849
2	279.84	0.4496	-0.1336	0.0045	-0.3370	0.0191	1.3021	0.1114	-0.7981	0.1070
2	279.84	0.4995	-0.1794	0.0061	-0.4312	0.0259	1.6817	0.1447	-0.9849	0.1030
2	279.84	0.5551	-0.2138	0.0069	-0.5710	0.0351	2.1211	0.1869	-1.1510	0.1035
2	279.84	0.5996	-0.2263	0.0087	-0.7576	0.0431	2.5653	0.2242	-0.8434	0.1099
2	279.84	0.6497	-0.2745	0.0108	-0.8787	0.0529	3.0135	0.2694	-0.8569	0.1071
2	279.84	0.6996	-0.3441	0.0127	-1.0328	0.0636	3.4885	0.3164	-0.9883	0.1097
2	279.84	0.7495	-0.3607	0.0149	-1.2378	0.0755	3.9773	0.3640	-1.2116	0.1259
2	279.84	0.7996	-0.3921	0.0170	-1.3760	0.0874	4.4854	0.4099	-1.0213	0.1438
2	279.84	0.8578	-0.4297	0.0194	-1.5511	0.1022	4.9441	0.4630	-1.3388	0.1742
2	279.84	0.9100	-0.5153	0.0215	-1.6280	0.1134	5.4067	0.5185	-1.0239	0.1860
3	279.84	0.1938	-0.0063	0.0021	0.0131	0.0010	0.1726	0.0081	-0.4080	0.0355
3	279.84	0.2357	0.0189	0.0014	-0.0147	0.0013	0.2847	0.0149	-0.5492	0.0425
3	279.84	0.2995	-0.0088	0.0018	-0.0465	0.0036	0.5500	0.0258	-0.9185	0.0716
3	279.84	0.3493	-0.0197	0.0022	-0.0865	0.0068	0.8983	0.0446	-0.8089	0.0564
3	279.84	0.4000	-0.0236	0.0025	-0.1786	0.0109	1.3219	0.0651	-0.6744	0.0611
3	279.84	0.4497	-0.0196	0.0033	-0.2720	0.0159	1.7807	0.0847	-0.8771	0.0660
3	279.84	0.4997	-0.0164	0.0042	-0.4132	0.0221	2.2663	0.1117	-0.9559	0.0627
3	279.84	0.5556	-0.0536	0.0054	-0.5685	0.0301	2.8442	0.1428	-1.0438	0.0704
3	279.84	0.5995	-0.0404	0.0070	-0.6846	0.0372	3.3882	0.1684	-0.9890	0.0733
3	279.84	0.6498	-0.0736	0.0077	-0.8612	0.0462	4.0205	0.1999	-0.7683	0.0792
3	279.84	0.6890	-0.0390	0.0095	-0.9782	0.0536	4.4367	0.2271	-0.7916	0.0935
3	279.84	0.7495	-0.0026	0.0118	-1.1304	0.0665	5.1507	0.2745	-0.8069	0.0880
3	279.84	0.7998	0.0139	0.0135	-1.3621	0.0778	5.6352	0.3154	-1.5557	0.1168
3	279.84	0.8577	0.0483	0.0159	-1.4806	0.0915	6.3220	0.3668	-0.8680	0.1458
3	279.84	0.9178	0.1769	0.0200	-1.6970	0.1061	6.8630	0.4379	-1.2977	0.1561
3	279.84	0.9729	0.1378	0.0256	-1.9342	0.1206	7.2822	0.4960	-2.1074	0.2148
4	279.84	0.2001	0.0372	0.0026	-0.0050	0.0017	0.1019	0.0102	0.1189	0.0595
4	279.84	0.2502	0.0215	0.0018	-0.0003	0.0028	0.1763	0.0207	0.2295	0.0726
4	279.84	0.3001	-0.0085	0.0020	-0.0421	0.0043	0.3131	0.0321	0.3104	0.1231
4	279.84	0.3502	-0.0549	0.0032	-0.0736	0.0080	0.4926	0.0507	0.2845	0.1115
4	279.84	0.4002	-0.0822	0.0039	-0.1213	0.0131	0.7348	0.0765	0.2268	0.1011
4	279.84	0.4500	-0.1131	0.0041	-0.2062	0.0182	1.0481	0.0994	0.2439	0.1224
4	279.84	0.5001	-0.1493	0.0051	-0.2827	0.0243	1.4105	0.1284	0.4195	0.1218
4	279.84	0.5560	-0.2196	0.0068	-0.3878	0.0330	1.7974	0.1615	0.0694	0.1289
4	279.84	0.6001	-0.2440	0.0080	-0.5099	0.0409	2.1044	0.1928	-0.4123	0.1341
4	279.84	0.6501	-0.3023	0.0099	-0.6228	0.0501	2.5673	0.2246	0.1186	0.1496
4	279.84	0.6999	-0.3074	0.0112	-0.7854	0.0617	2.9673	0.2626	0.0929	0.1398
4	279.84	0.7500	-0.3775	0.0136	-0.9933	0.0732	3.4068	0.2958	0.0762	0.1697
4	279.84	0.8002	-0.4013	0.0154	-1.0980	0.0863	3.8583	0.3389	0.4786	0.1609
4	279.84	0.8582	-0.4787	0.0171	-1.2566	0.1023	4.2446	0.3923	-0.0518	0.1891
4	279.84	0.9101	-0.5050	0.0198	-1.4823	0.1160	4.6881	0.4368	0.1203	0.2324

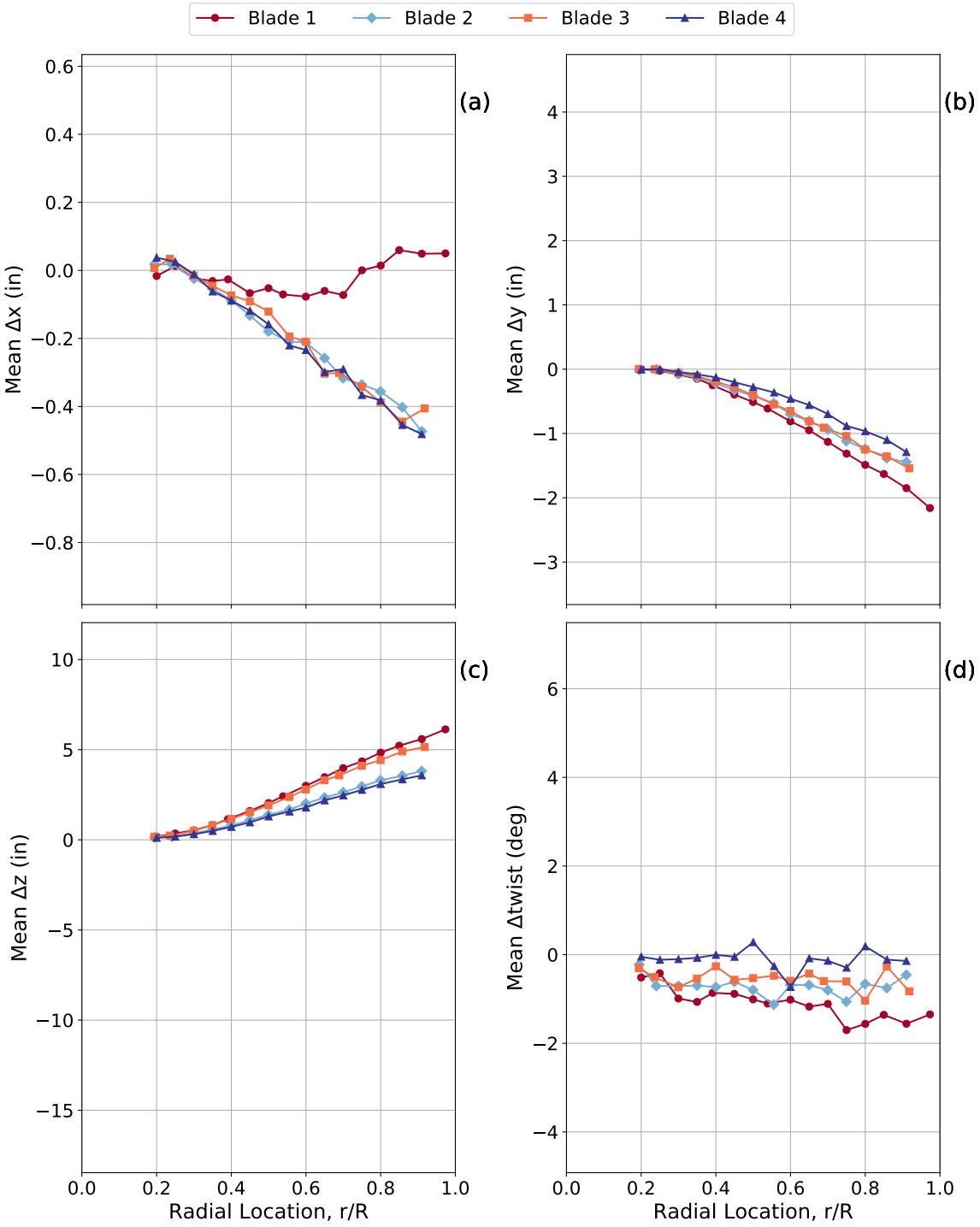


Figure 2.19-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	-0.0165	0.0022	0.0008	0.0013	0.1766	0.0097	-0.5165	0.0451
1	285.12	0.2499	0.0128	0.0022	-0.0259	0.0022	0.3524	0.0171	-0.4198	0.0765
1	285.12	0.2998	-0.0228	0.0016	-0.0823	0.0046	0.5275	0.0268	-0.9916	0.1025
1	285.12	0.3498	-0.0313	0.0024	-0.1496	0.0080	0.8110	0.0449	-1.0667	0.0752
1	285.12	0.3913	-0.0265	0.0032	-0.2500	0.0122	1.1498	0.0602	-0.8629	0.0983
1	285.12	0.4496	-0.0669	0.0041	-0.3949	0.0178	1.5980	0.0853	-0.8848	0.0910
1	285.12	0.4997	-0.0522	0.0050	-0.5110	0.0242	2.0394	0.1095	-1.0095	0.0885
1	285.12	0.5387	-0.0707	0.0056	-0.6124	0.0298	2.4137	0.1306	-1.1035	0.0825
1	285.12	0.5996	-0.0772	0.0075	-0.8114	0.0399	2.9947	0.1662	-1.0170	0.0986
1	285.12	0.6498	-0.0603	0.0084	-0.9497	0.0492	3.4755	0.1956	-1.1730	0.0920
1	285.12	0.6998	-0.0724	0.0105	-1.1299	0.0592	3.9774	0.2294	-1.1113	0.0905
1	285.12	0.7500	0.0003	0.0112	-1.3138	0.0705	4.3509	0.2611	-1.7025	0.1031
1	285.12	0.8001	0.0142	0.0131	-1.4891	0.0825	4.8352	0.2953	-1.5625	0.0936
1	285.12	0.8497	0.0596	0.0140	-1.6300	0.0952	5.2200	0.3287	-1.3586	0.1128
1	285.12	0.9102	0.0490	0.0160	-1.8503	0.1103	5.5890	0.3732	-1.5591	0.1162
1	285.12	0.9734	0.0499	0.0209	-2.1601	0.1271	6.1262	0.4225	-1.3490	0.1079
2	285.12	0.1949	0.0185	0.0033	-0.0075	0.0013	0.1402	0.0079	-0.2229	0.0804
2	285.12	0.2405	0.0175	0.0022	-0.0043	0.0032	0.1765	0.0207	-0.7071	0.0806
2	285.12	0.2999	-0.0242	0.0025	-0.0748	0.0047	0.3611	0.0247	-0.7083	0.1466
2	285.12	0.3498	-0.0537	0.0036	-0.1302	0.0103	0.5733	0.0425	-0.6982	0.1017
2	285.12	0.3998	-0.0880	0.0062	-0.2199	0.0160	0.7924	0.0629	-0.7314	0.1109
2	285.12	0.4496	-0.1324	0.0054	-0.3247	0.0202	1.0931	0.0824	-0.6127	0.1116
2	285.12	0.4995	-0.1794	0.0055	-0.4122	0.0264	1.3845	0.1036	-0.7970	0.1076
2	285.12	0.5551	-0.2096	0.0068	-0.5303	0.0332	1.6715	0.1311	-1.1273	0.1054
2	285.12	0.5996	-0.2115	0.0080	-0.7007	0.0395	2.0127	0.1562	-0.6833	0.0991
2	285.12	0.6497	-0.2580	0.0092	-0.8064	0.0468	2.3407	0.1822	-0.6853	0.1118
2	285.12	0.6996	-0.3170	0.0104	-0.9366	0.0546	2.6338	0.2104	-0.8014	0.1193
2	285.12	0.7495	-0.3359	0.0111	-1.1187	0.0629	2.9561	0.2393	-1.0622	0.1208
2	285.12	0.7996	-0.3560	0.0122	-1.2399	0.0719	3.3009	0.2720	-0.6599	0.1256
2	285.12	0.8578	-0.4024	0.0139	-1.3847	0.0828	3.5526	0.3178	-0.7534	0.1436
2	285.12	0.9100	-0.4732	0.0162	-1.4433	0.0928	3.8125	0.3589	-0.4561	0.1423
3	285.12	0.1938	0.0066	0.0026	0.0002	0.0011	0.1717	0.0123	-0.3052	0.0583
3	285.12	0.2357	0.0339	0.0034	-0.0005	0.0023	0.2340	0.0205	-0.5082	0.0877
3	285.12	0.2995	-0.0148	0.0028	-0.0588	0.0058	0.4975	0.0370	-0.7348	0.1328
3	285.12	0.3493	-0.0452	0.0030	-0.1073	0.0113	0.8105	0.0632	-0.5413	0.0817
3	285.12	0.4000	-0.0735	0.0043	-0.1928	0.0186	1.1645	0.0905	-0.2626	0.0916
3	285.12	0.4497	-0.0909	0.0051	-0.2826	0.0264	1.5287	0.1174	-0.5691	0.0866
3	285.12	0.4997	-0.1209	0.0062	-0.4025	0.0363	1.9099	0.1516	-0.5304	0.1149
3	285.12	0.5556	-0.1944	0.0083	-0.5481	0.0493	2.3776	0.1958	-0.4759	0.1074
3	285.12	0.5995	-0.2098	0.0105	-0.6501	0.0610	2.7867	0.2336	-0.5914	0.1184
3	285.12	0.6498	-0.3036	0.0122	-0.8122	0.0763	3.3071	0.2789	-0.4289	0.1269
3	285.12	0.6890	-0.3015	0.0142	-0.9090	0.0885	3.5716	0.3162	-0.5977	0.1290
3	285.12	0.7495	-0.3421	0.0168	-1.0393	0.1101	4.1041	0.3768	-0.6057	0.1418
3	285.12	0.7998	-0.3880	0.0197	-1.2493	0.1290	4.4206	0.4293	-1.0371	0.1345
3	285.12	0.8577	-0.4446	0.0217	-1.3562	0.1530	4.8984	0.4948	-0.2677	0.1666
3	285.12	0.9178	-0.4058	0.0249	-1.5423	0.1784	5.1450	0.5620	-0.8275	0.2239
4	285.12	0.2001	0.0376	0.0028	-0.0048	0.0011	0.1096	0.0157	-0.0471	0.0679
4	285.12	0.2502	0.0251	0.0027	0.0010	0.0029	0.1736	0.0267	-0.1168	0.1243
4	285.12	0.3001	-0.0115	0.0026	-0.0419	0.0056	0.3130	0.0445	-0.1015	0.1530
4	285.12	0.3502	-0.0620	0.0036	-0.0804	0.0117	0.4912	0.0723	-0.0709	0.1165
4	285.12	0.4002	-0.0887	0.0041	-0.1282	0.0192	0.7161	0.1046	-0.0038	0.1171
4	285.12	0.4500	-0.1186	0.0049	-0.2040	0.0276	0.9678	0.1358	-0.0491	0.1279
4	285.12	0.5001	-0.1586	0.0061	-0.2779	0.0380	1.2965	0.1769	0.2808	0.1262
4	285.12	0.5560	-0.2206	0.0070	-0.3625	0.0504	1.5684	0.2224	-0.2602	0.1248
4	285.12	0.6001	-0.2340	0.0084	-0.4598	0.0616	1.7884	0.2632	-0.7297	0.1350
4	285.12	0.6501	-0.2988	0.0106	-0.5573	0.0753	2.1865	0.3095	-0.0824	0.1319
4	285.12	0.6999	-0.2903	0.0123	-0.6978	0.0904	2.4657	0.3575	-0.1382	0.1464
4	285.12	0.7500	-0.3664	0.0140	-0.8829	0.1058	2.7710	0.4091	-0.2941	0.1429
4	285.12	0.8002	-0.3823	0.0161	-0.9644	0.1226	3.0929	0.4677	0.1875	0.1535
4	285.12	0.8582	-0.4544	0.0177	-1.1011	0.1423	3.3548	0.5333	-0.1136	0.1640
4	285.12	0.9101	-0.4814	0.0196	-1.2893	0.1603	3.5744	0.5976	-0.1426	0.1895

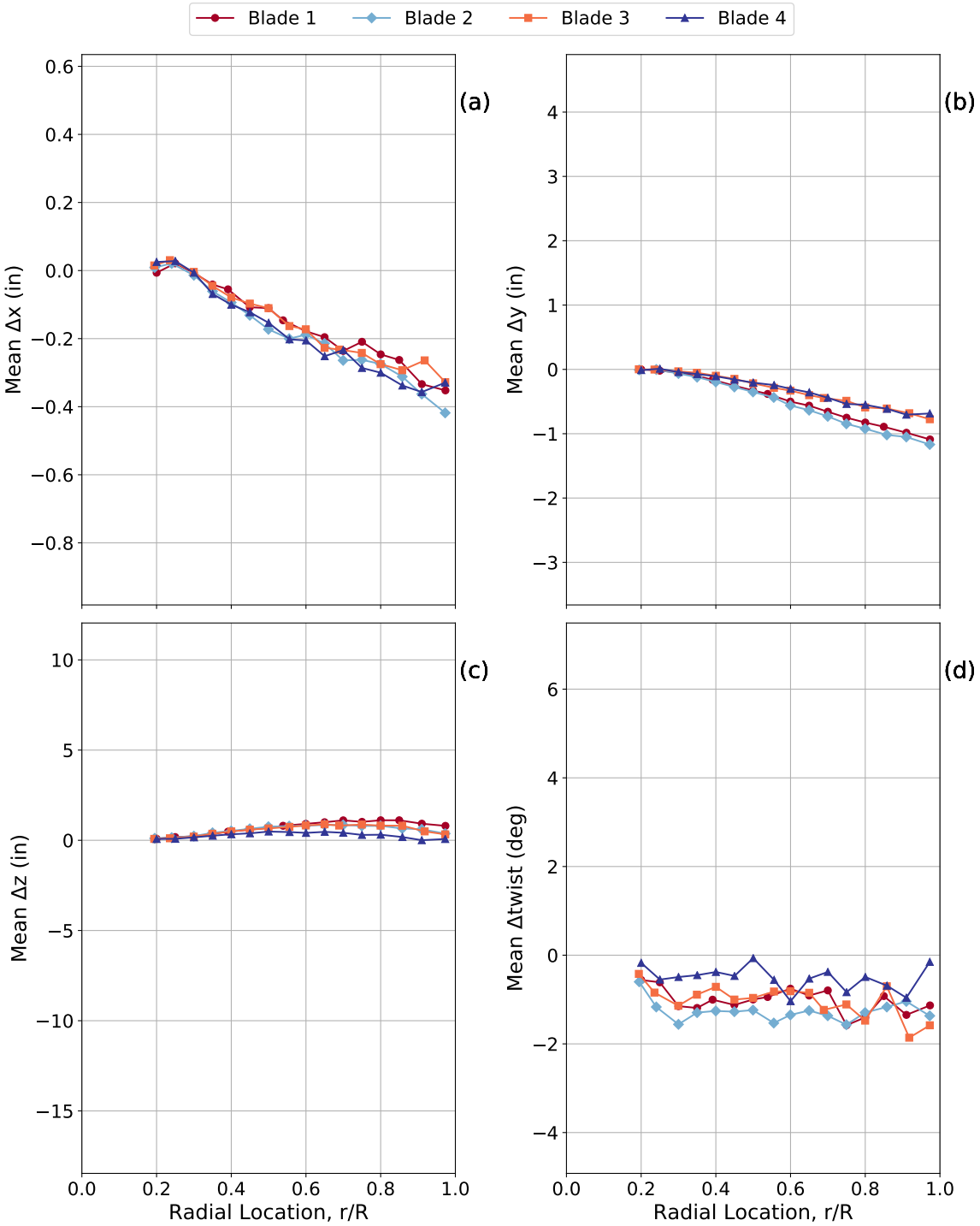


Figure 2.19-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	-0.0064	0.0033	-0.0009	0.0012	0.0846	0.0077	-0.5591	0.0693
1	299.88	0.2499	0.0212	0.0024	-0.0198	0.0024	0.1784	0.0152	-0.6114	0.0582
1	299.88	0.2998	-0.0067	0.0028	-0.0509	0.0047	0.2224	0.0233	-1.1497	0.1307
1	299.88	0.3498	-0.0410	0.0029	-0.1021	0.0084	0.3511	0.0375	-1.1898	0.1061
1	299.88	0.3913	-0.0552	0.0045	-0.1610	0.0126	0.4800	0.0523	-1.0032	0.1225
1	299.88	0.4496	-0.1078	0.0039	-0.2538	0.0169	0.5873	0.0701	-1.1223	0.1109
1	299.88	0.4997	-0.1104	0.0045	-0.3283	0.0223	0.6947	0.0912	-0.9988	0.1133
1	299.88	0.5387	-0.1462	0.0051	-0.3815	0.0266	0.8048	0.1089	-0.9429	0.1107
1	299.88	0.5996	-0.1783	0.0063	-0.5003	0.0340	0.9109	0.1399	-0.7549	0.1091
1	299.88	0.6498	-0.1957	0.0073	-0.5637	0.0406	1.0021	0.1672	-0.9099	0.1091
1	299.88	0.6998	-0.2362	0.0078	-0.6583	0.0480	1.1057	0.1952	-0.7944	0.1127
1	299.88	0.7500	-0.2093	0.0093	-0.7510	0.0557	1.0234	0.2247	-1.5793	0.1110
1	299.88	0.8001	-0.2463	0.0100	-0.8261	0.0642	1.1101	0.2579	-1.4015	0.1159
1	299.88	0.8497	-0.2627	0.0107	-0.8916	0.0727	1.1097	0.2927	-0.9217	0.1120
1	299.88	0.9102	-0.3337	0.0120	-0.9846	0.0830	0.9211	0.3387	-1.3464	0.1258
1	299.88	0.9734	-0.3521	0.0148	-1.0886	0.0946	0.8006	0.3900	-1.1324	0.1279
2	299.88	0.1949	0.0090	0.0028	-0.0079	0.0008	0.1081	0.0079	-0.6005	0.0422
2	299.88	0.2405	0.0209	0.0021	-0.0022	0.0016	0.1473	0.0154	-1.1678	0.0696
2	299.88	0.2999	-0.0138	0.0023	-0.0642	0.0035	0.2312	0.0250	-1.5596	0.0937
2	299.88	0.3498	-0.0610	0.0021	-0.1208	0.0066	0.4162	0.0423	-1.2952	0.0847
2	299.88	0.3998	-0.0939	0.0028	-0.1948	0.0108	0.5200	0.0623	-1.2568	0.1047
2	299.88	0.4496	-0.1314	0.0035	-0.2733	0.0136	0.6363	0.0777	-1.2740	0.1009
2	299.88	0.4995	-0.1726	0.0036	-0.3503	0.0183	0.7528	0.0992	-1.2377	0.0782
2	299.88	0.5551	-0.2002	0.0045	-0.4359	0.0247	0.7860	0.1272	-1.5301	0.0962
2	299.88	0.5996	-0.1886	0.0050	-0.5611	0.0296	0.8093	0.1515	-1.3466	0.0868
2	299.88	0.6497	-0.2141	0.0052	-0.6343	0.0355	0.8502	0.1827	-1.2488	0.0880
2	299.88	0.6996	-0.2639	0.0061	-0.7302	0.0419	0.8515	0.2177	-1.3659	0.0908
2	299.88	0.7495	-0.2623	0.0066	-0.8460	0.0485	0.7982	0.2587	-1.5678	0.0963
2	299.88	0.7996	-0.2744	0.0071	-0.9219	0.0556	0.8003	0.3042	-1.2940	0.1017
2	299.88	0.8578	-0.3117	0.0082	-1.0185	0.0638	0.6559	0.3611	-1.1678	0.0932
2	299.88	0.9100	-0.3628	0.0090	-1.0504	0.0714	0.6095	0.4136	-1.0426	0.1038
2	299.88	0.9727	-0.4182	0.0108	-1.1673	0.0809	0.3723	0.4818	-1.3675	0.1208
3	299.88	0.1938	0.0150	0.0022	0.0017	0.0009	0.0784	0.0081	-0.4218	0.0448
3	299.88	0.2357	0.0305	0.0023	-0.0026	0.0020	0.1122	0.0120	-0.8432	0.0945
3	299.88	0.2995	-0.0039	0.0027	-0.0299	0.0044	0.2042	0.0243	-1.1399	0.1120
3	299.88	0.3493	-0.0448	0.0027	-0.0525	0.0074	0.3635	0.0386	-0.8901	0.0981
3	299.88	0.4000	-0.0792	0.0039	-0.0989	0.0124	0.4927	0.0571	-0.7136	0.1045
3	299.88	0.4497	-0.0971	0.0041	-0.1470	0.0165	0.5893	0.0742	-1.0008	0.0955
3	299.88	0.4997	-0.1105	0.0044	-0.2168	0.0216	0.6571	0.0932	-0.9639	0.0940
3	299.88	0.5556	-0.1631	0.0055	-0.2867	0.0292	0.7435	0.1193	-0.8194	0.1020
3	299.88	0.5995	-0.1726	0.0059	-0.3300	0.0353	0.8224	0.1390	-0.8124	0.1099
3	299.88	0.6498	-0.2271	0.0069	-0.4011	0.0432	0.8860	0.1664	-0.8473	0.1082
3	299.88	0.6890	-0.2321	0.0072	-0.4448	0.0496	0.8160	0.1882	-1.2338	0.0984
3	299.88	0.7495	-0.2420	0.0081	-0.4882	0.0600	0.8712	0.2237	-1.1106	0.1058
3	299.88	0.7998	-0.2750	0.0086	-0.5909	0.0699	0.8149	0.2542	-1.4754	0.1058
3	299.88	0.8577	-0.2928	0.0092	-0.6079	0.0806	0.8095	0.2904	-0.7010	0.1358
3	299.88	0.9178	-0.2639	0.0109	-0.6813	0.0923	0.4941	0.3339	-1.8604	0.1193
3	299.88	0.9729	-0.3278	0.0138	-0.7750	0.1030	0.3281	0.3768	-1.5809	0.1444
4	299.88	0.2001	0.0252	0.0019	-0.0105	0.0012	0.0737	0.0132	-0.1737	0.0840
4	299.88	0.2502	0.0279	0.0031	0.0098	0.0019	0.0824	0.0225	-0.5498	0.1259
4	299.88	0.3001	-0.0064	0.0023	-0.0420	0.0050	0.1643	0.0339	-0.4922	0.1846
4	299.88	0.3502	-0.0689	0.0025	-0.0734	0.0101	0.2532	0.0592	-0.4500	0.1506
4	299.88	0.4002	-0.1004	0.0033	-0.1073	0.0165	0.3346	0.0813	-0.3786	0.1235
4	299.88	0.4500	-0.1226	0.0038	-0.1585	0.0212	0.3868	0.1030	-0.4679	0.1461
4	299.88	0.5001	-0.1536	0.0038	-0.2064	0.0267	0.4838	0.1255	-0.0663	0.1563
4	299.88	0.5560	-0.2021	0.0042	-0.2440	0.0352	0.4567	0.1551	-0.5581	0.1455
4	299.88	0.6001	-0.2054	0.0055	-0.3015	0.0417	0.4109	0.1791	-1.0368	0.1457
4	299.88	0.6501	-0.2517	0.0062	-0.3573	0.0494	0.4677	0.2072	-0.5283	0.1649
4	299.88	0.6999	-0.2336	0.0067	-0.4416	0.0578	0.4171	0.2374	-0.3771	0.1619
4	299.88	0.7500	-0.2862	0.0077	-0.5371	0.0670	0.2977	0.2676	-0.8337	0.1504
4	299.88	0.8002	-0.3002	0.0085	-0.5502	0.0758	0.3091	0.3025	-0.4909	0.1632
4	299.88	0.8582	-0.3378	0.0089	-0.6135	0.0874	0.1805	0.3439	-0.6876	0.1546
4	299.88	0.9101	-0.3570	0.0106	-0.7037	0.0973	0.0055	0.3766	-0.9600	0.1734
4	299.88	0.9728	-0.3293	0.0128	-0.6854	0.1105	0.0716	0.4221	-0.1519	0.1624

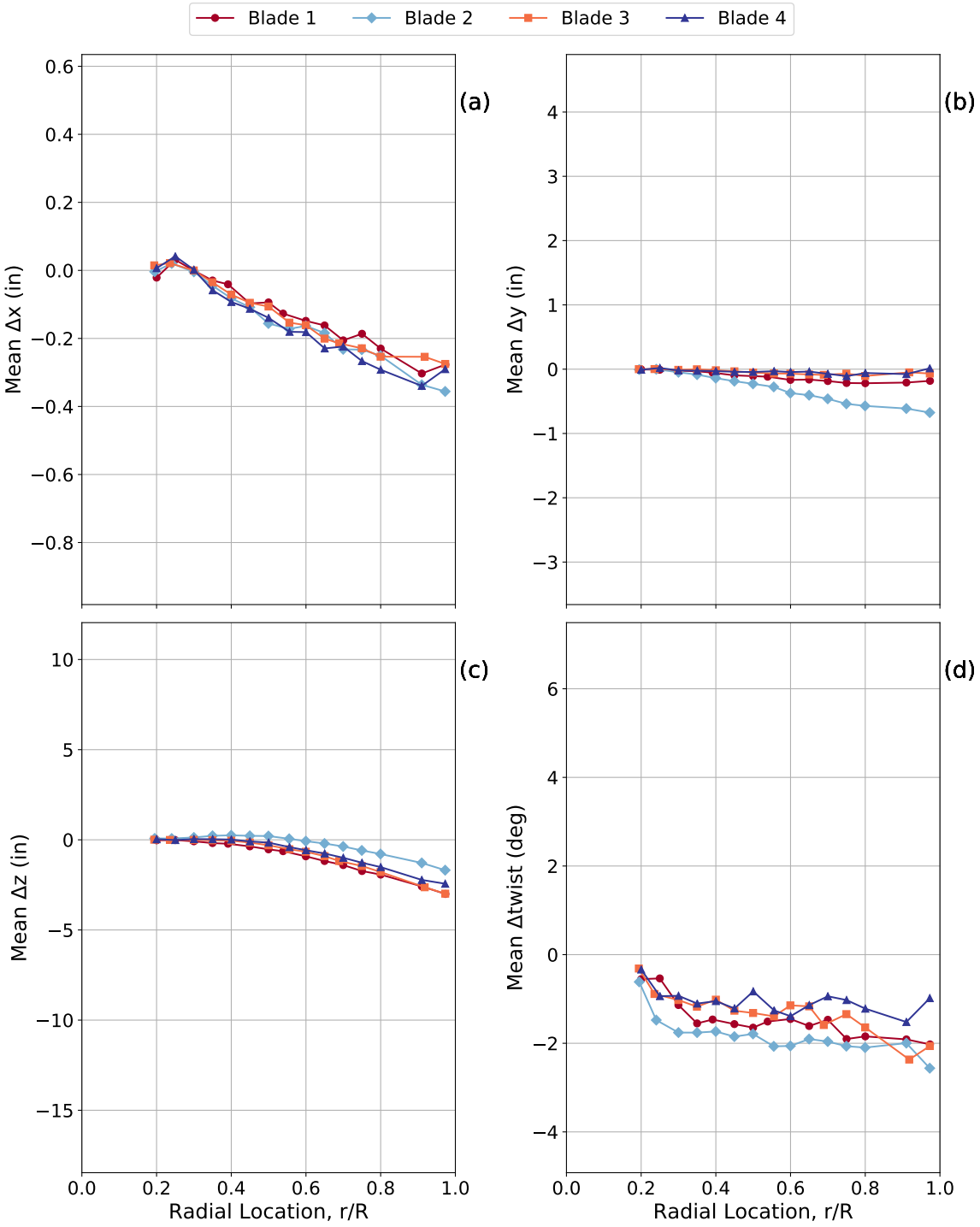


Figure 2.19-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	-0.0212	0.0023	-0.0035	0.0011	-0.0268	0.0091	-0.5533	0.0445
1	315	0.2499	0.0312	0.0027	-0.0094	0.0020	-0.0155	0.0166	-0.5361	0.0868
1	315	0.2998	-0.0006	0.0023	-0.0223	0.0040	-0.0831	0.0266	-1.1369	0.1044
1	315	0.3498	-0.0297	0.0022	-0.0329	0.0077	-0.1815	0.0438	-1.5517	0.0907
1	315	0.3913	-0.0409	0.0029	-0.0540	0.0109	-0.2182	0.0599	-1.4637	0.0858
1	315	0.4496	-0.0970	0.0031	-0.0960	0.0139	-0.3647	0.0806	-1.5673	0.0899
1	315	0.4997	-0.0941	0.0038	-0.1079	0.0185	-0.5297	0.1030	-1.6475	0.0898
1	315	0.5387	-0.1269	0.0039	-0.1166	0.0222	-0.6315	0.1204	-1.5093	0.0945
1	315	0.5996	-0.1484	0.0047	-0.1668	0.0290	-0.9162	0.1504	-1.4529	0.0970
1	315	0.6498	-0.1618	0.0056	-0.1615	0.0355	-1.1764	0.1780	-1.6107	0.1021
1	315	0.6998	-0.2056	0.0061	-0.1845	0.0430	-1.4011	0.2084	-1.4693	0.0977
1	315	0.7500	-0.1863	0.0069	-0.2152	0.0512	-1.7314	0.2407	-1.9038	0.1005
1	315	0.8001	-0.2298	0.0078	-0.2186	0.0603	-1.9296	0.2779	-1.8447	0.0978
1	315	0.9102	-0.3031	0.0096	-0.2082	0.0813	-2.5843	0.3736	-1.9123	0.1018
1	315	0.9734	-0.2768	0.0109	-0.1818	0.0937	-3.0018	0.4344	-2.0248	0.1049
2	315	0.1949	-0.0038	0.0027	-0.0061	0.0012	0.0762	0.0076	-0.6150	0.0442
2	315	0.2405	0.0205	0.0026	-0.0014	0.0024	0.0709	0.0123	-1.4770	0.0562
2	315	0.2999	-0.0042	0.0029	-0.0477	0.0038	0.1307	0.0234	-1.7586	0.0851
2	315	0.3498	-0.0450	0.0028	-0.0849	0.0073	0.2232	0.0358	-1.7594	0.0770
2	315	0.3998	-0.0820	0.0035	-0.1392	0.0120	0.2505	0.0533	-1.7336	0.0667
2	315	0.4496	-0.1082	0.0039	-0.1866	0.0152	0.2215	0.0669	-1.8498	0.0814
2	315	0.4995	-0.1561	0.0046	-0.2279	0.0189	0.2095	0.0836	-1.7887	0.0691
2	315	0.5551	-0.1719	0.0050	-0.2754	0.0237	0.0561	0.1063	-2.0693	0.0802
2	315	0.5996	-0.1633	0.0054	-0.3721	0.0279	-0.0746	0.1237	-2.0607	0.0744
2	315	0.6497	-0.1842	0.0062	-0.4045	0.0329	-0.2047	0.1461	-1.9040	0.0845
2	315	0.6996	-0.2320	0.0069	-0.4613	0.0385	-0.3696	0.1694	-1.9607	0.0923
2	315	0.7495	-0.2331	0.0073	-0.5388	0.0448	-0.5891	0.1947	-2.0657	0.0827
2	315	0.7996	-0.2507	0.0076	-0.5713	0.0513	-0.7865	0.2213	-2.0975	0.0938
2	315	0.9100	-0.3363	0.0093	-0.6122	0.0665	-1.2829	0.2885	-1.9959	0.0880
2	315	0.9727	-0.3559	0.0110	-0.6754	0.0751	-1.6845	0.3293	-2.5625	0.0944
3	315	0.1938	0.0148	0.0030	0.0002	0.0008	0.0066	0.0082	-0.3132	0.0434
3	315	0.2357	0.0213	0.0022	0.0020	0.0023	-0.0074	0.0151	-0.8876	0.0657
3	315	0.2995	-0.0002	0.0029	-0.0102	0.0035	-0.0078	0.0274	-1.0239	0.0980
3	315	0.3493	-0.0350	0.0033	-0.0018	0.0077	-0.0256	0.0440	-1.1742	0.0784
3	315	0.4000	-0.0711	0.0037	-0.0167	0.0121	-0.0498	0.0663	-1.0163	0.0768
3	315	0.4497	-0.0953	0.0039	-0.0332	0.0164	-0.1517	0.0829	-1.2650	0.0846
3	315	0.4997	-0.1062	0.0042	-0.0527	0.0212	-0.3026	0.1066	-1.3167	0.0918
3	315	0.5556	-0.1535	0.0052	-0.0665	0.0275	-0.5243	0.1325	-1.3930	0.0955
3	315	0.5995	-0.1610	0.0058	-0.0694	0.0334	-0.6597	0.1554	-1.1449	0.0840
3	315	0.6498	-0.2006	0.0062	-0.0824	0.0401	-0.9043	0.1800	-1.1670	0.0947
3	315	0.6890	-0.2145	0.0067	-0.0884	0.0465	-1.1757	0.2016	-1.5876	0.0948
3	315	0.7495	-0.2290	0.0076	-0.0694	0.0568	-1.4516	0.2366	-1.3425	0.0974
3	315	0.7998	-0.2536	0.0084	-0.1056	0.0657	-1.7856	0.2706	-1.6419	0.1019
3	315	0.9178	-0.2540	0.0093	-0.0495	0.0889	-2.6299	0.3645	-2.3673	0.1094
3	315	0.9729	-0.2750	0.0121	-0.0675	0.1001	-2.9862	0.4129	-2.0624	0.1032
4	315	0.2001	0.0065	0.0024	-0.0083	0.0012	0.0328	0.0082	-0.3365	0.0516
4	315	0.2502	0.0414	0.0019	0.0182	0.0025	-0.0129	0.0167	-0.9365	0.0838
4	315	0.3001	0.0017	0.0031	-0.0191	0.0038	0.0396	0.0264	-0.9292	0.1146
4	315	0.3502	-0.0585	0.0024	-0.0248	0.0083	0.0338	0.0413	-1.1043	0.1067
4	315	0.4002	-0.0929	0.0035	-0.0300	0.0123	0.0144	0.0632	-1.0481	0.1047
4	315	0.4500	-0.1128	0.0038	-0.0412	0.0164	-0.0893	0.0784	-1.2145	0.1063
4	315	0.5001	-0.1397	0.0043	-0.0435	0.0201	-0.1565	0.0998	-0.8294	0.1095
4	315	0.5560	-0.1806	0.0049	-0.0308	0.0264	-0.4057	0.1252	-1.2585	0.1044
4	315	0.6001	-0.1814	0.0055	-0.0445	0.0313	-0.5774	0.1455	-1.3892	0.1113
4	315	0.6501	-0.2294	0.0065	-0.0375	0.0381	-0.7612	0.1718	-1.1387	0.1076
4	315	0.6999	-0.2238	0.0070	-0.0721	0.0462	-0.9975	0.1984	-0.9397	0.1042
4	315	0.7500	-0.2666	0.0074	-0.1083	0.0541	-1.2714	0.2274	-1.0250	0.1109
4	315	0.8002	-0.2921	0.0086	-0.0598	0.0638	-1.5145	0.2610	-1.2191	0.1104
4	315	0.9101	-0.3395	0.0105	-0.0765	0.0867	-2.2240	0.3459	-1.5201	0.1095
4	315	0.9728	-0.2902	0.0116	0.0134	0.1004	-2.4366	0.3969	-0.9820	0.1082

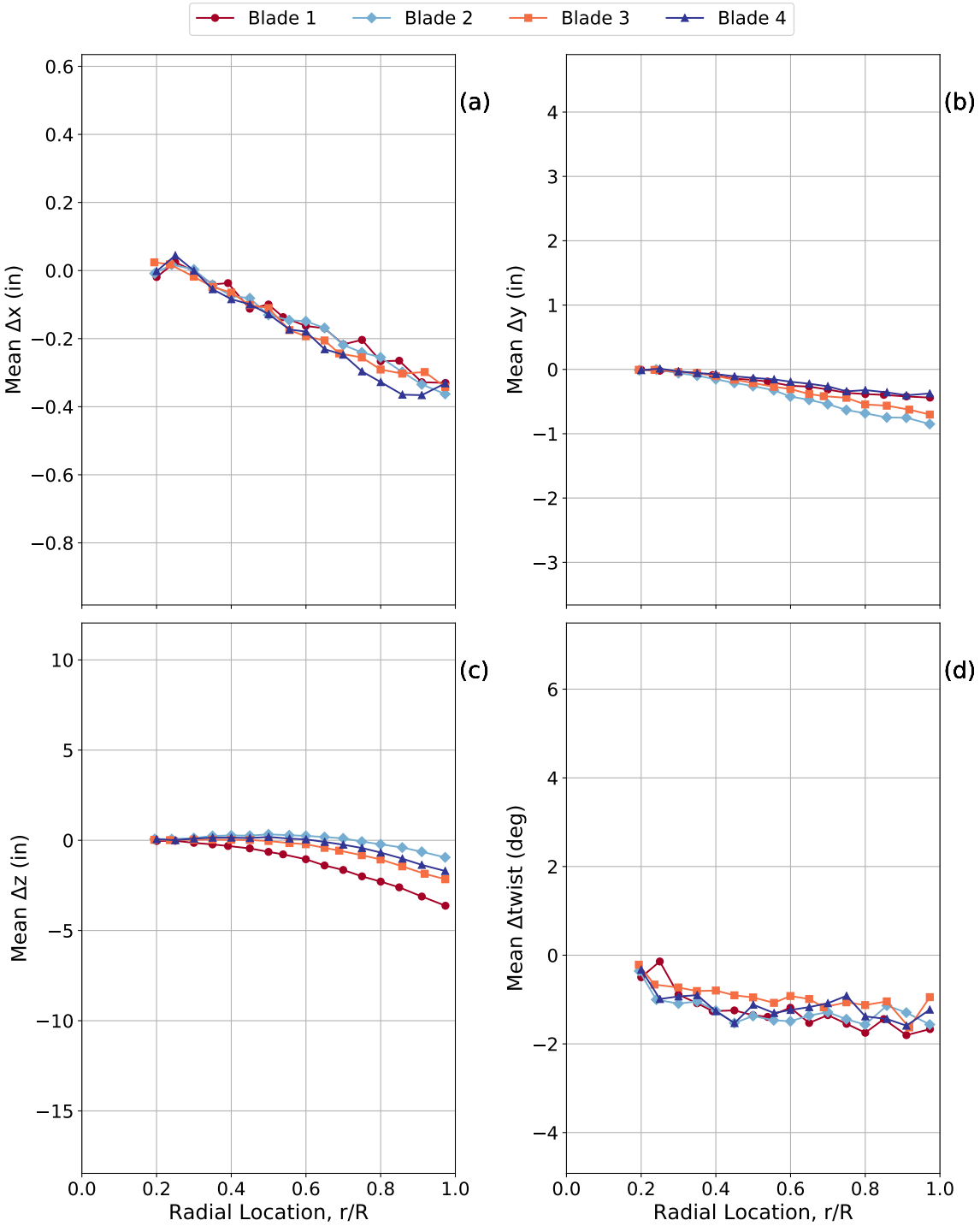


Figure 2.19-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	-0.0191	0.0041	-0.0061	0.0014	-0.0394	0.0094	-0.4975	0.0512
1	330.12	0.2499	0.0243	0.0032	-0.0209	0.0051	-0.0258	0.0149	-0.1420	0.1010
1	330.12	0.2998	-0.0014	0.0034	-0.0349	0.0090	-0.1412	0.0276	-0.8886	0.1185
1	330.12	0.3498	-0.0407	0.0036	-0.0558	0.0148	-0.2287	0.0444	-1.0837	0.1093
1	330.12	0.3913	-0.0369	0.0040	-0.0887	0.0238	-0.3150	0.0613	-1.2612	0.1088
1	330.12	0.4496	-0.1122	0.0048	-0.1437	0.0260	-0.4479	0.0826	-1.2452	0.1165
1	330.12	0.4997	-0.0997	0.0053	-0.1641	0.0342	-0.6406	0.1051	-1.3533	0.1167
1	330.12	0.5387	-0.1367	0.0059	-0.1887	0.0387	-0.7795	0.1247	-1.3915	0.1103
1	330.12	0.5996	-0.1627	0.0066	-0.2544	0.0491	-1.0504	0.1565	-1.1854	0.1179
1	330.12	0.6498	-0.1697	0.0072	-0.2681	0.0582	-1.3950	0.1856	-1.5276	0.1178
1	330.12	0.6998	-0.2169	0.0075	-0.3125	0.0682	-1.6448	0.2167	-1.3516	0.1204
1	330.12	0.7500	-0.2037	0.0082	-0.3649	0.0788	-1.9987	0.2474	-1.5475	0.1218
1	330.12	0.8001	-0.2663	0.0089	-0.3837	0.0899	-2.2893	0.2794	-1.7496	0.1254
1	330.12	0.8497	-0.2649	0.0092	-0.3959	0.1013	-2.6073	0.3117	-1.4407	0.1249
1	330.12	0.9102	-0.3280	0.0101	-0.4209	0.1163	-3.1170	0.3510	-1.8033	0.1200
1	330.12	0.9734	-0.3300	0.0123	-0.4388	0.1320	-3.6265	0.3927	-1.6668	0.1312
2	330.12	0.1949	-0.0084	0.0031	-0.0126	0.0009	0.0701	0.0062	-0.3563	0.0397
2	330.12	0.2405	0.0172	0.0026	-0.0024	0.0040	0.0647	0.0105	-1.0024	0.0599
2	330.12	0.2999	0.0032	0.0024	-0.0586	0.0063	0.1220	0.0197	-1.0911	0.0873
2	330.12	0.3498	-0.0423	0.0037	-0.0969	0.0109	0.2423	0.0298	-1.0425	0.0829
2	330.12	0.3998	-0.0744	0.0034	-0.1532	0.0185	0.2704	0.0465	-1.2490	0.0831
2	330.12	0.4496	-0.0813	0.0042	-0.2103	0.0199	0.2564	0.0601	-1.5290	0.0759
2	330.12	0.4995	-0.1305	0.0046	-0.2592	0.0253	0.3311	0.0774	-1.3718	0.0760
2	330.12	0.5551	-0.1458	0.0057	-0.3232	0.0311	0.2806	0.0971	-1.4669	0.0791
2	330.12	0.5996	-0.1489	0.0062	-0.4222	0.0370	0.2463	0.1151	-1.4907	0.0778
2	330.12	0.6497	-0.1688	0.0070	-0.4723	0.0435	0.1807	0.1353	-1.3617	0.0793
2	330.12	0.6996	-0.2186	0.0079	-0.5404	0.0507	0.1061	0.1557	-1.2837	0.0887
2	330.12	0.7495	-0.2406	0.0085	-0.6310	0.0583	-0.0706	0.1773	-1.4432	0.0860
2	330.12	0.7996	-0.2550	0.0090	-0.6822	0.0666	-0.2195	0.1988	-1.5665	0.0828
2	330.12	0.8578	-0.2980	0.0101	-0.7472	0.0763	-0.4020	0.2244	-1.1372	0.0907
2	330.12	0.9100	-0.3345	0.0109	-0.7513	0.0850	-0.6361	0.2498	-1.2949	0.0955
2	330.12	0.9727	-0.3627	0.0130	-0.8497	0.0961	-0.9461	0.2795	-1.5642	0.0985
3	330.12	0.1938	0.0241	0.0044	-0.0058	0.0008	0.0271	0.0083	-0.2146	0.0406
3	330.12	0.2357	0.0182	0.0025	-0.0070	0.0035	0.0098	0.0104	-0.6631	0.0898
3	330.12	0.2995	-0.0180	0.0033	-0.0413	0.0057	0.0333	0.0229	-0.7275	0.1095
3	330.12	0.3493	-0.0479	0.0028	-0.0565	0.0123	0.0350	0.0362	-0.8085	0.0982
3	330.12	0.4000	-0.0649	0.0037	-0.1036	0.0187	0.0273	0.0523	-0.7970	0.0935
3	330.12	0.4497	-0.1014	0.0040	-0.1595	0.0208	0.0157	0.0685	-0.9051	0.0937
3	330.12	0.4997	-0.1103	0.0051	-0.2123	0.0241	-0.0397	0.0880	-0.9523	0.1005
3	330.12	0.5556	-0.1749	0.0054	-0.2700	0.0316	-0.1529	0.1122	-1.0745	0.1034
3	330.12	0.5995	-0.1931	0.0063	-0.3052	0.0367	-0.2170	0.1321	-0.9205	0.1072
3	330.12	0.6498	-0.2054	0.0067	-0.3827	0.0439	-0.4186	0.1573	-0.9881	0.1033
3	330.12	0.6890	-0.2435	0.0074	-0.4165	0.0496	-0.5717	0.1763	-1.1746	0.1056
3	330.12	0.7495	-0.2553	0.0081	-0.4417	0.0592	-0.8253	0.2052	-1.0630	0.1067
3	330.12	0.7998	-0.2908	0.0089	-0.5454	0.0677	-1.0617	0.2284	-1.1251	0.1114
3	330.12	0.8577	-0.3028	0.0094	-0.5636	0.0783	-1.4442	0.2571	-1.0421	0.1036
3	330.12	0.9178	-0.2982	0.0106	-0.6257	0.0889	-1.8544	0.2869	-1.6298	0.1103
3	330.12	0.9729	-0.3420	0.0118	-0.7018	0.0994	-2.1573	0.3184	-0.9464	0.1162
4	330.12	0.2001	-0.0019	0.0029	-0.0121	0.0013	0.0593	0.0090	-0.3282	0.0460
4	330.12	0.2502	0.0444	0.0034	0.0120	0.0053	0.0061	0.0146	-0.9883	0.0723
4	330.12	0.3001	-0.0004	0.0036	-0.0314	0.0090	0.0937	0.0262	-0.9295	0.0973
4	330.12	0.3502	-0.0549	0.0030	-0.0574	0.0137	0.1454	0.0405	-0.9014	0.0853
4	330.12	0.4002	-0.0841	0.0033	-0.0728	0.0246	0.1476	0.0600	-1.2636	0.0916
4	330.12	0.4500	-0.0995	0.0041	-0.1077	0.0271	0.1249	0.0806	-1.5314	0.0936
4	330.12	0.5001	-0.1283	0.0045	-0.1324	0.0339	0.1868	0.1043	-1.1173	0.0931
4	330.12	0.5560	-0.1733	0.0049	-0.1552	0.0413	0.0926	0.1342	-1.3045	0.0988
4	330.12	0.6001	-0.1794	0.0050	-0.1921	0.0467	0.0506	0.1591	-1.2348	0.1003
4	330.12	0.6501	-0.2312	0.0053	-0.2228	0.0544	-0.0907	0.1896	-1.1708	0.1024
4	330.12	0.6999	-0.2472	0.0060	-0.2638	0.0620	-0.2437	0.2210	-1.0833	0.1031
4	330.12	0.7500	-0.2964	0.0065	-0.3415	0.0704	-0.4274	0.2547	-0.9158	0.1121
4	330.12	0.8002	-0.3277	0.0073	-0.3220	0.0786	-0.6799	0.2919	-1.3805	0.1092
4	330.12	0.8582	-0.3647	0.0083	-0.3570	0.0891	-1.0176	0.3381	-1.4388	0.1138
4	330.12	0.9101	-0.3661	0.0088	-0.4022	0.0987	-1.3635	0.3810	-1.5896	0.1198
4	330.12	0.9728	-0.3315	0.0105	-0.3741	0.1112	-1.7014	0.4306	-1.2283	0.1147

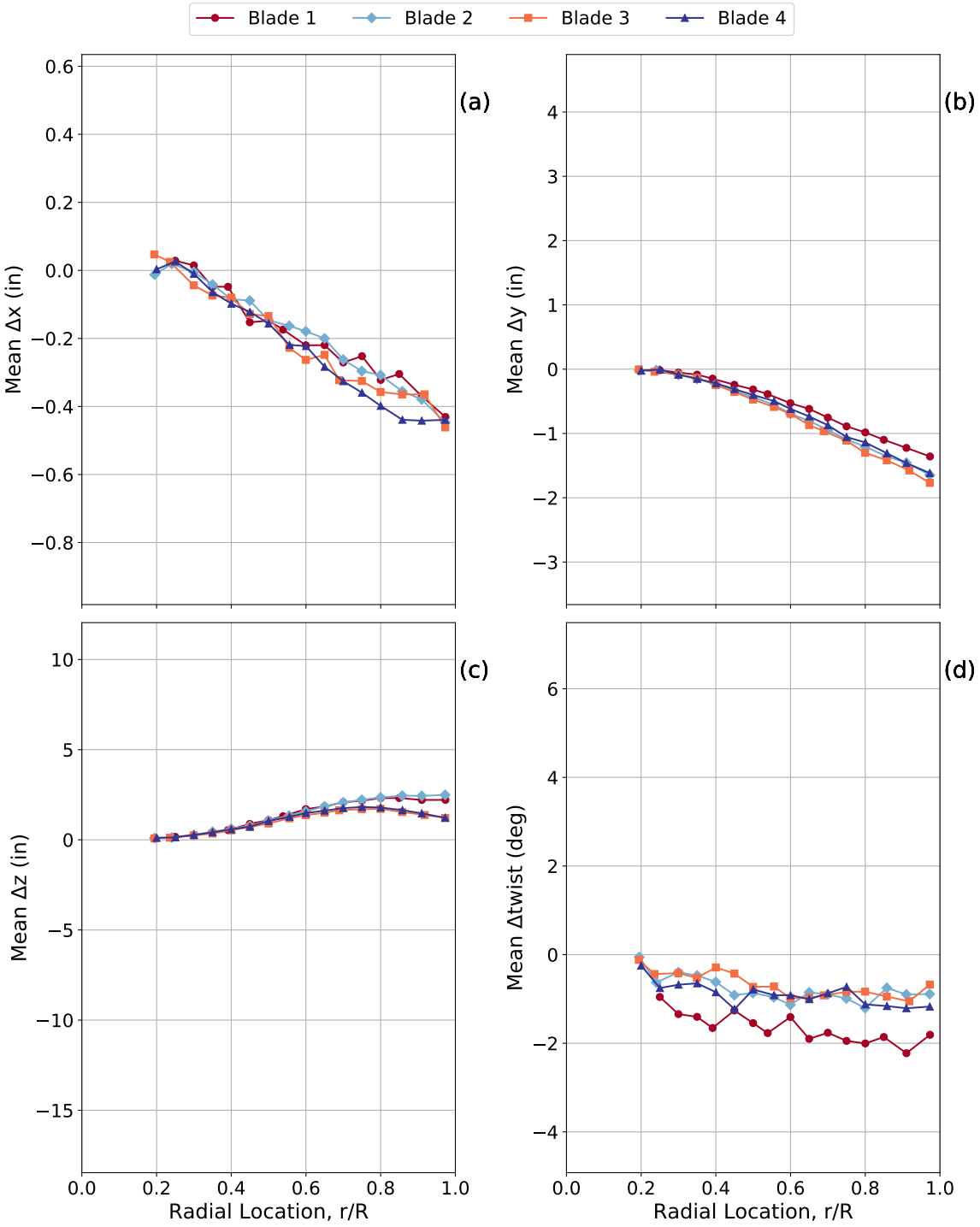


Figure 2.19-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.349$, $\alpha = -6.9°$ NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2499	0.0285	0.0051	-0.0153	0.0047	0.1696	0.0424	-0.9549	0.2683
1	344.88	0.2998	0.0147	0.0074	-0.0528	0.0103	0.2518	0.0685	-1.3422	0.3782
1	344.88	0.3498	-0.0480	0.0064	-0.0853	0.0175	0.4084	0.1159	-1.4039	0.3516
1	344.88	0.3913	-0.0482	0.0050	-0.1466	0.0273	0.5377	0.1587	-1.6555	0.3412
1	344.88	0.4496	-0.1526	0.0061	-0.2428	0.0369	0.8827	0.2113	-1.2601	0.3517
1	344.88	0.4997	-0.1479	0.0063	-0.3156	0.0461	1.0916	0.2583	-1.5451	0.3530
1	344.88	0.5387	-0.1740	0.0067	-0.3879	0.0532	1.3091	0.2960	-1.7704	0.3531
1	344.88	0.5996	-0.2202	0.0081	-0.5289	0.0651	1.7020	0.3564	-1.4085	0.3516
1	344.88	0.6498	-0.2198	0.0093	-0.6178	0.0747	1.8465	0.4083	-1.9005	0.3553
1	344.88	0.6998	-0.2708	0.0103	-0.7530	0.0853	2.0832	0.4613	-1.7624	0.3533
1	344.88	0.7500	-0.2522	0.0110	-0.8897	0.0962	2.1709	0.5165	-1.9462	0.3549
1	344.88	0.8001	-0.3220	0.0121	-0.9834	0.1076	2.3113	0.5715	-2.0039	0.3564
1	344.88	0.8497	-0.3046	0.0126	-1.0984	0.1191	2.3178	0.6266	-1.8589	0.3566
1	344.88	0.9102	-0.3700	0.0132	-1.2244	0.1343	2.2113	0.6940	-2.2246	0.3594
1	344.88	0.9734	-0.4309	0.0170	-1.3580	0.1499	2.2145	0.7655	-1.8086	0.3563
2	344.88	0.1949	-0.0124	0.0084	-0.0186	0.0013	0.1014	0.0163	-0.0559	0.0787
2	344.88	0.2405	0.0193	0.0057	-0.0154	0.0038	0.1273	0.0170	-0.6291	0.2025
2	344.88	0.2999	-0.0045	0.0050	-0.0874	0.0059	0.2714	0.0439	-0.3973	0.2192
2	344.88	0.3498	-0.0417	0.0048	-0.1497	0.0108	0.4463	0.0700	-0.4713	0.2145
2	344.88	0.3998	-0.0845	0.0053	-0.2341	0.0172	0.6194	0.0989	-0.6172	0.2052
2	344.88	0.4496	-0.0889	0.0053	-0.3360	0.0225	0.7730	0.1265	-0.9133	0.2100
2	344.88	0.4995	-0.1464	0.0054	-0.4366	0.0279	1.0677	0.1546	-0.8657	0.2110
2	344.88	0.5551	-0.1631	0.0061	-0.5516	0.0345	1.3454	0.1901	-0.9597	0.2042
2	344.88	0.5996	-0.1791	0.0068	-0.6935	0.0410	1.5713	0.2188	-1.1325	0.2092
2	344.88	0.6497	-0.2001	0.0071	-0.8043	0.0487	1.8531	0.2537	-0.8532	0.2171
2	344.88	0.6996	-0.2622	0.0075	-0.9445	0.0571	2.0750	0.2895	-0.8953	0.2165
2	344.88	0.7495	-0.2961	0.0082	-1.0942	0.0660	2.2196	0.3288	-0.9890	0.2251
2	344.88	0.7996	-0.3079	0.0087	-1.2054	0.0751	2.3499	0.3685	-1.2058	0.2208
2	344.88	0.8578	-0.3555	0.0093	-1.3581	0.0871	2.4479	0.4145	-0.7500	0.2219
2	344.88	0.9100	-0.3793	0.0099	-1.4551	0.0978	2.4347	0.4577	-0.8992	0.2098
2	344.88	0.9727	-0.4471	0.0131	-1.6445	0.1103	2.4915	0.5086	-0.8883	0.2245
3	344.88	0.1938	0.0469	0.0216	-0.0036	0.0027	0.0802	0.0208	-0.1192	0.0891
3	344.88	0.2357	0.0250	0.0115	-0.0387	0.0036	0.1157	0.0180	-0.4372	0.2322
3	344.88	0.2995	-0.0439	0.0112	-0.0832	0.0097	0.2430	0.0564	-0.4188	0.2622
3	344.88	0.3493	-0.0738	0.0109	-0.1372	0.0172	0.3485	0.0908	-0.5233	0.2642
3	344.88	0.4000	-0.0801	0.0104	-0.2466	0.0266	0.5271	0.1298	-0.2892	0.2537
3	344.88	0.4497	-0.1284	0.0104	-0.3543	0.0348	0.7151	0.1639	-0.4278	0.2590
3	344.88	0.4997	-0.1344	0.0097	-0.4725	0.0416	0.9037	0.2022	-0.7282	0.2580
3	344.88	0.5556	-0.2275	0.0095	-0.5882	0.0511	1.1944	0.2436	-0.7194	0.2605
3	344.88	0.5995	-0.2632	0.0096	-0.6939	0.0594	1.3646	0.2783	-0.9828	0.2527
3	344.88	0.6498	-0.2482	0.0098	-0.8696	0.0693	1.5046	0.3174	-0.9780	0.2510
3	344.88	0.6890	-0.3227	0.0101	-0.9648	0.0772	1.6362	0.3480	-0.9183	0.2544
3	344.88	0.7495	-0.3252	0.0107	-1.1109	0.0906	1.7002	0.3957	-0.8395	0.2592
3	344.88	0.7998	-0.3575	0.0110	-1.3012	0.1022	1.7148	0.4359	-0.8349	0.2569
3	344.88	0.8577	-0.3648	0.0116	-1.4174	0.1164	1.5411	0.4809	-0.9462	0.2616
3	344.88	0.9178	-0.3642	0.0121	-1.5761	0.1322	1.3781	0.5269	-1.0524	0.2688
3	344.88	0.9729	-0.4615	0.0162	-1.7683	0.1466	1.2139	0.5699	-0.6758	0.2634
4	344.88	0.2001	0.0032	0.0058	-0.0230	0.0018	0.1077	0.0194	-0.2470	0.0921
4	344.88	0.2502	0.0264	0.0096	-0.0067	0.0053	0.1366	0.0187	-0.7540	0.1932
4	344.88	0.3001	-0.0102	0.0050	-0.0852	0.0072	0.2708	0.0458	-0.6782	0.1788
4	344.88	0.3502	-0.0638	0.0047	-0.1502	0.0166	0.4178	0.0675	-0.6473	0.1641
4	344.88	0.4002	-0.0979	0.0051	-0.2199	0.0237	0.5820	0.0914	-0.8491	0.1668
4	344.88	0.4500	-0.1222	0.0055	-0.3102	0.0301	0.7286	0.1145	-1.2308	0.1687
4	344.88	0.5001	-0.1564	0.0068	-0.4016	0.0365	1.0390	0.1426	-0.7862	0.1682
4	344.88	0.5560	-0.2191	0.0072	-0.4954	0.0452	1.2777	0.1766	-0.9151	0.1740
4	344.88	0.6001	-0.2225	0.0077	-0.6180	0.0530	1.4806	0.2046	-0.9163	0.1695
4	344.88	0.6501	-0.2835	0.0081	-0.7354	0.0611	1.6203	0.2409	-1.0051	0.1678
4	344.88	0.6999	-0.3257	0.0089	-0.8715	0.0701	1.7566	0.2796	-0.8720	0.1721
4	344.88	0.7500	-0.3596	0.0092	-1.0556	0.0791	1.8197	0.3229	-0.7273	0.1739
4	344.88	0.8002	-0.3983	0.0099	-1.1395	0.0891	1.7902	0.3671	-1.1233	0.1750
4	344.88	0.8582	-0.4392	0.0108	-1.3084	0.1005	1.6457	0.4191	-1.1605	0.1706
4	344.88	0.9101	-0.4418	0.0116	-1.4598	0.1124	1.4682	0.4674	-1.2096	0.1713
4	344.88	0.9728	-0.4394	0.0139	-1.6159	0.1255	1.2197	0.5268	-1.1724	0.1780

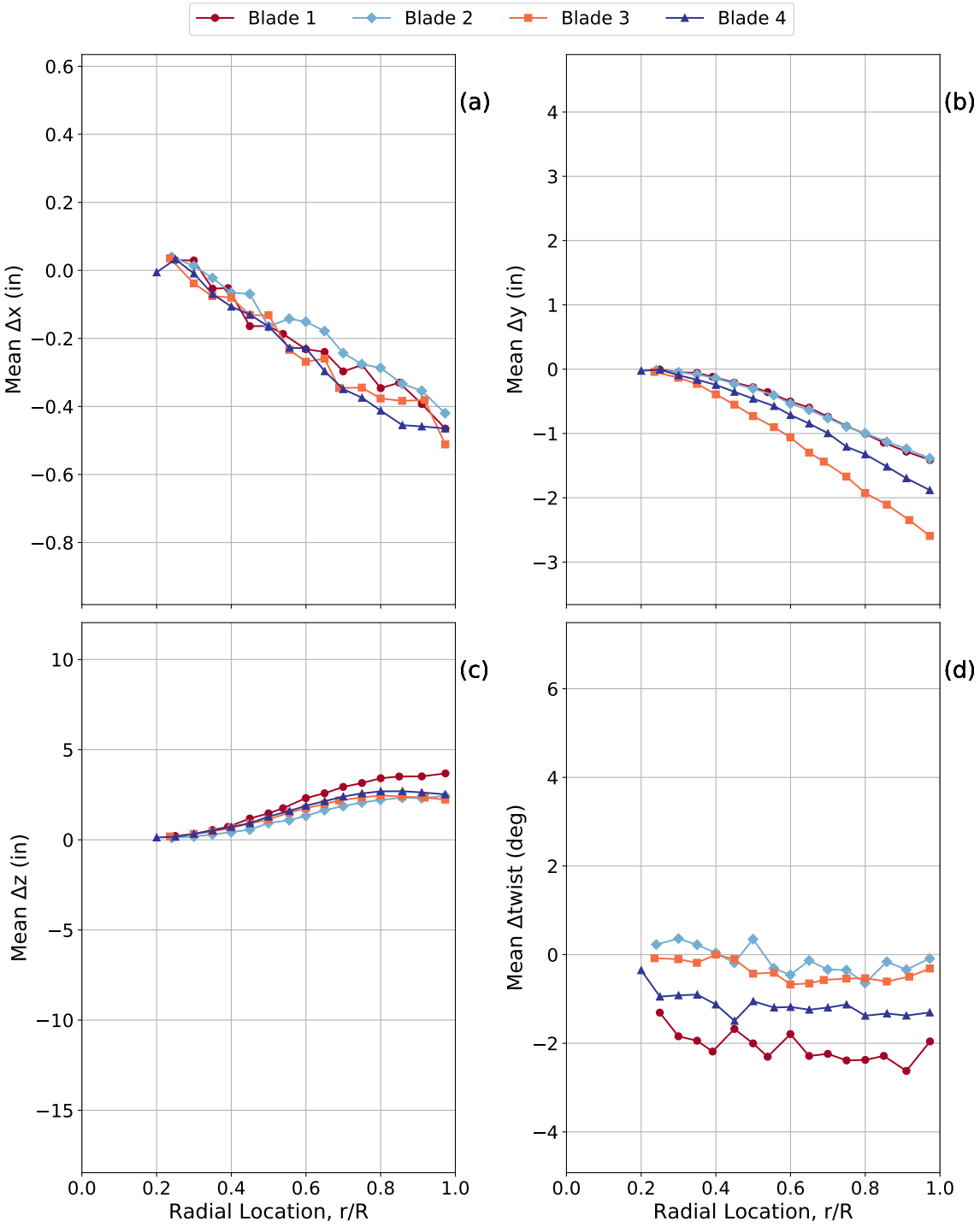


Figure 2.19-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2499	0.0301	0.0096	-0.0063	0.0082	0.2132	0.0554	-1.3087	0.3995
1	350.16	0.2998	0.0292	0.0106	-0.0466	0.0142	0.3190	0.0916	-1.8422	0.5624
1	350.16	0.3498	-0.0536	0.0089	-0.0577	0.0262	0.5436	0.1571	-1.9421	0.5524
1	350.16	0.3913	-0.0520	0.0069	-0.1186	0.0370	0.7184	0.2173	-2.1868	0.5323
1	350.16	0.4496	-0.1640	0.0079	-0.2081	0.0478	1.1813	0.2936	-1.6768	0.5347
1	350.16	0.4997	-0.1637	0.0081	-0.2793	0.0599	1.4685	0.3605	-2.0027	0.5320
1	350.16	0.5387	-0.1867	0.0092	-0.3560	0.0693	1.7522	0.4157	-2.3044	0.5298
1	350.16	0.5996	-0.2317	0.0115	-0.5020	0.0848	2.3126	0.4991	-1.7932	0.5374
1	350.16	0.6498	-0.2397	0.0136	-0.5971	0.0968	2.5808	0.5694	-2.2862	0.5330
1	350.16	0.6998	-0.2970	0.0151	-0.7393	0.1092	2.9335	0.6384	-2.2389	0.5352
1	350.16	0.7500	-0.2782	0.0166	-0.8884	0.1208	3.1503	0.7078	-2.3868	0.5401
1	350.16	0.8001	-0.3461	0.0184	-1.0048	0.1336	3.4143	0.7789	-2.3755	0.5392
1	350.16	0.8497	-0.3301	0.0185	-1.1436	0.1457	3.5119	0.8493	-2.2854	0.5422
1	350.16	0.9102	-0.3928	0.0204	-1.2828	0.1611	3.5174	0.9348	-2.6236	0.5462
1	350.16	0.9734	-0.4655	0.0247	-1.4125	0.1781	3.6826	1.0265	-1.9584	0.5533
2	350.16	0.2405	0.0397	0.0063	-0.0163	0.0062	0.1062	0.0258	0.2280	0.2215
2	350.16	0.2999	0.0131	0.0090	-0.0481	0.0148	0.1792	0.0468	0.3626	0.3409
2	350.16	0.3498	-0.0223	0.0079	-0.0831	0.0266	0.2977	0.0819	0.2218	0.3381
2	350.16	0.3998	-0.0657	0.0067	-0.1411	0.0427	0.4236	0.1205	0.0376	0.3371
2	350.16	0.4496	-0.0692	0.0082	-0.2256	0.0485	0.5612	0.1589	-0.1867	0.3402
2	350.16	0.4995	-0.1650	0.0540	-0.3022	0.0608	0.9257	0.2396	0.3488	0.7271
2	350.16	0.5551	-0.1421	0.0092	-0.4057	0.0745	1.0882	0.2447	-0.3073	0.3490
2	350.16	0.5996	-0.1509	0.0095	-0.5382	0.0848	1.3256	0.2845	-0.4568	0.3442
2	350.16	0.6497	-0.1783	0.0101	-0.6330	0.0977	1.6422	0.3271	-0.1332	0.3595
2	350.16	0.6996	-0.2431	0.0103	-0.7603	0.1103	1.8664	0.3718	-0.3352	0.3681
2	350.16	0.7495	-0.2757	0.0113	-0.8932	0.1238	2.0689	0.4170	-0.3475	0.3811
2	350.16	0.7996	-0.2866	0.0120	-0.9953	0.1370	2.2145	0.4628	-0.6422	0.3887
2	350.16	0.8578	-0.3332	0.0127	-1.1322	0.1527	2.3350	0.5204	-0.1607	0.3905
2	350.16	0.9100	-0.3540	0.0131	-1.2379	0.1666	2.3084	0.5740	-0.3387	0.3969
2	350.16	0.9727	-0.4199	0.0174	-1.3866	0.1840	2.4363	0.6410	-0.0866	0.4153
3	350.16	0.2357	0.0355	0.0073	-0.0418	0.0050	0.1855	0.0223	-0.0798	0.1780
3	350.16	0.2995	-0.0382	0.0083	-0.1341	0.0109	0.3254	0.0413	-0.1027	0.2838
3	350.16	0.3493	-0.0754	0.0066	-0.2284	0.0236	0.4615	0.0702	-0.1850	0.2878
3	350.16	0.4000	-0.0801	0.0059	-0.3910	0.0355	0.6629	0.1033	0.0020	0.2900
3	350.16	0.4497	-0.1315	0.0067	-0.5516	0.0409	0.9023	0.1351	-0.1015	0.2864
3	350.16	0.4997	-0.1316	0.0067	-0.7297	0.0511	1.1298	0.1708	-0.4293	0.2801
3	350.16	0.5556	-0.2334	0.0062	-0.9014	0.0620	1.5063	0.2088	-0.4079	0.2842
3	350.16	0.5995	-0.2686	0.0070	-1.0607	0.0705	1.7516	0.2403	-0.6725	0.2828
3	350.16	0.6498	-0.2594	0.0074	-1.2980	0.0800	1.9882	0.2781	-0.6502	0.2919
3	350.16	0.6890	-0.3457	0.0078	-1.4382	0.0878	2.1839	0.3086	-0.5724	0.2870
3	350.16	0.7495	-0.3446	0.0089	-1.6701	0.1002	2.3505	0.3589	-0.5394	0.2899
3	350.16	0.7998	-0.3765	0.0093	-1.9263	0.1114	2.4579	0.4030	-0.5321	0.2847
3	350.16	0.8577	-0.3836	0.0099	-2.1065	0.1242	2.3986	0.4531	-0.6075	0.2964
3	350.16	0.9178	-0.3811	0.0102	-2.3469	0.1375	2.3411	0.5123	-0.4957	0.2897
3	350.16	0.9729	-0.5115	0.0139	-2.5935	0.1510	2.2335	0.5647	-0.3128	0.2900
4	350.16	0.2001	-0.0058	0.0286	-0.0247	0.0071	0.1300	0.0544	-0.3514	0.2187
4	350.16	0.2502	0.0328	0.0273	-0.0088	0.0061	0.1681	0.0313	-0.9475	0.7691
4	350.16	0.3001	-0.0093	0.0211	-0.0944	0.0238	0.3317	0.1168	-0.9176	0.5591
4	350.16	0.3502	-0.0696	0.0214	-0.1652	0.0416	0.5153	0.1628	-0.9023	0.5511
4	350.16	0.4002	-0.1065	0.0228	-0.2441	0.0605	0.7209	0.2105	-1.1244	0.5597
4	350.16	0.4500	-0.1301	0.0229	-0.3520	0.0778	0.9206	0.2536	-1.4946	0.5504
4	350.16	0.5001	-0.1652	0.0238	-0.4596	0.0946	1.2888	0.3023	-1.0520	0.5590
4	350.16	0.5560	-0.2276	0.0240	-0.5729	0.1150	1.6004	0.3536	-1.1938	0.5569
4	350.16	0.6001	-0.2288	0.0250	-0.7132	0.1314	1.8926	0.3950	-1.1812	0.5545
4	350.16	0.6501	-0.2964	0.0261	-0.8456	0.1498	2.1440	0.4421	-1.2426	0.5474
4	350.16	0.6999	-0.3491	0.0271	-0.9962	0.1686	2.3969	0.4891	-1.1946	0.5525
4	350.16	0.7500	-0.3743	0.0281	-1.2067	0.1886	2.5777	0.5362	-1.1252	0.5556
4	350.16	0.8002	-0.4122	0.0289	-1.3248	0.2089	2.6874	0.5843	-1.3786	0.5534
4	350.16	0.8582	-0.4551	0.0296	-1.5165	0.2343	2.6949	0.6428	-1.3281	0.5510
4	350.16	0.9101	-0.4588	0.0307	-1.6964	0.2577	2.6285	0.6955	-1.3754	0.5562
4	350.16	0.9728	-0.4645	0.0373	-1.8812	0.2856	2.5189	0.7624	-1.3047	0.5573

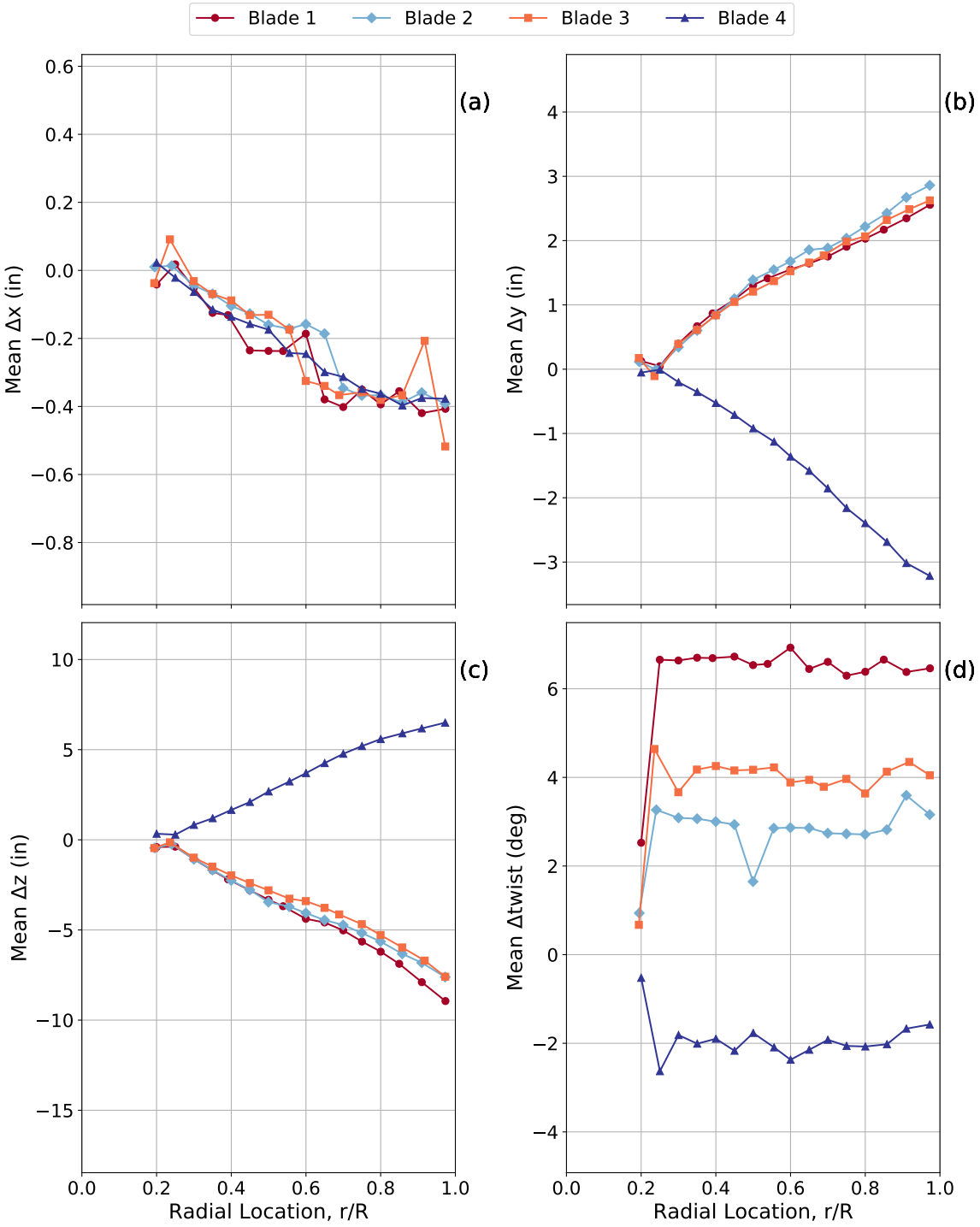


Figure 2.19-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.349, α = -6.9° NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Table 2.19-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.349, α = -6.9°
NFAC run 83, points 70 to 74. BD run 39, points 6017 to 6056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	-0.0415	0.0137	0.1260	0.0113	-0.4025	0.0230	2.5257	0.1810
1	355.08	0.2499	0.0179	0.0099	0.0467	0.0200	-0.3822	0.0282	6.6551	0.3146
1	355.08	0.2998	-0.0508	0.0102	0.3962	0.0322	-1.0699	0.0694	6.6386	0.3722
1	355.08	0.3498	-0.1249	0.0114	0.6679	0.0530	-1.6973	0.1137	6.7003	0.3479
1	355.08	0.3913	-0.1314	0.0120	0.8672	0.0695	-2.1925	0.1527	6.6915	0.3454
1	355.08	0.4496	-0.2352	0.0152	1.0819	0.0927	-2.7963	0.2054	6.7253	0.3489
1	355.08	0.4997	-0.2367	0.0193	1.3079	0.1131	-3.3242	0.2524	6.5339	0.3488
1	355.08	0.5387	-0.2372	0.0230	1.4124	0.1301	-3.6827	0.2902	6.5615	0.3562
1	355.08	0.5996	-0.1861	0.0299	1.5506	0.1563	-4.3806	0.3526	6.9279	0.3562
1	355.08	0.6498	-0.3794	0.0454	1.6442	0.2100	-4.5851	0.2751	6.4473	0.3595
1	355.08	0.6998	-0.4017	0.0521	1.7525	0.2316	-5.0244	0.3160	6.6067	0.3511
1	355.08	0.7500	-0.3503	0.0595	1.9044	0.2556	-5.6427	0.3575	6.2960	0.3637
1	355.08	0.8001	-0.3939	0.0689	2.0294	0.2806	-6.2046	0.4002	6.3846	0.3630
1	355.08	0.8497	-0.3551	0.0798	2.1698	0.3066	-6.8774	0.4441	6.6574	0.3665
1	355.08	0.9102	-0.4195	0.0940	2.3473	0.3389	-7.8947	0.5001	6.3783	0.3636
1	355.08	0.9734	-0.4070	0.1399	2.5570	0.3669	-8.9429	0.5840	6.4611	0.4161
2	355.08	0.1949	0.0102	0.0140	0.1156	0.0109	-0.4512	0.0344	0.9373	0.1597
2	355.08	0.2405	0.0138	0.0093	-0.0076	0.0076	-0.2440	0.0326	3.2669	0.3332
2	355.08	0.2999	-0.0443	0.0074	0.3432	0.0351	-1.0768	0.0884	3.0877	0.3944
2	355.08	0.3498	-0.0692	0.0085	0.6021	0.0624	-1.6750	0.1429	3.0663	0.3940
2	355.08	0.3998	-0.1042	0.0089	0.8450	0.0899	-2.2553	0.1968	3.0025	0.3991
2	355.08	0.4496	-0.1271	0.0100	1.0960	0.1165	-2.7773	0.2496	2.9365	0.4085
2	355.08	0.4995	-0.1601	0.0134	1.3893	0.1518	-3.4545	0.3362	1.6489	0.2722
2	355.08	0.5551	-0.1717	0.0119	1.5461	0.1714	-3.7036	0.3606	2.8542	0.4238
2	355.08	0.5996	-0.1580	0.0135	1.6772	0.1938	-4.0596	0.4063	2.8652	0.4236
2	355.08	0.6497	-0.1861	0.0168	1.8564	0.2231	-4.4515	0.4557	2.8575	0.4281
2	355.08	0.6996	-0.3463	0.0265	1.8829	0.2254	-4.7244	0.4573	2.7399	0.4257
2	355.08	0.7495	-0.3677	0.0256	2.0360	0.2484	-5.1652	0.5015	2.7261	0.4353
2	355.08	0.7996	-0.3672	0.0257	2.2182	0.2732	-5.6418	0.5457	2.7122	0.4428
2	355.08	0.8578	-0.3880	0.0290	2.4265	0.3040	-6.3232	0.5985	2.8185	0.4457
2	355.08	0.9100	-0.3593	0.0472	2.6717	0.3394	-6.8181	0.6423	3.5942	0.4688
2	355.08	0.9727	-0.3918	0.0335	2.8600	0.3669	-7.6114	0.8122	3.1592	1.8847
3	355.08	0.1938	-0.0375	0.0147	0.1734	0.0151	-0.4602	0.0329	0.6728	0.1823
3	355.08	0.2357	0.0912	0.0060	-0.1076	0.0110	-0.1361	0.0316	4.6404	0.3800
3	355.08	0.2995	-0.0315	0.0060	0.3917	0.0453	-0.9870	0.0864	3.6652	0.4716
3	355.08	0.3493	-0.0695	0.0062	0.6108	0.0835	-1.4847	0.1398	4.1768	0.4421
3	355.08	0.4000	-0.0883	0.0081	0.8379	0.1191	-1.9731	0.1966	4.2559	0.4351
3	355.08	0.4497	-0.1314	0.0110	1.0463	0.1534	-2.4002	0.2528	4.1571	0.4391
3	355.08	0.4997	-0.1304	0.0132	1.2066	0.1890	-2.7996	0.3101	4.1727	0.4424
3	355.08	0.5556	-0.1741	0.0189	1.3698	0.2291	-3.2664	0.3740	4.2246	0.4511
3	355.08	0.5995	-0.3250	0.0380	1.5240	0.2470	-3.3991	0.3854	3.8860	0.4443
3	355.08	0.6498	-0.3398	0.0366	1.6586	0.2823	-3.7752	0.4376	3.9445	0.4447
3	355.08	0.6890	-0.3666	0.0355	1.7685	0.3103	-4.1386	0.4787	3.7891	0.4529
3	355.08	0.7495	-0.3583	0.0341	1.9866	0.3526	-4.6795	0.5392	3.9654	0.4653
3	355.08	0.7998	-0.3809	0.0347	2.0660	0.3880	-5.2810	0.5928	3.6364	0.4616
3	355.08	0.8577	-0.3669	0.0358	2.3207	0.4305	-5.9688	0.6490	4.1289	0.4902
3	355.08	0.9178	-0.2069	0.0703	2.4879	0.5248	-6.6999	0.6978	4.3486	0.5108
3	355.08	0.9729	-0.5175	0.0337	2.6256	0.5121	-7.5926	0.8321	4.0476	0.4316
4	355.08	0.2001	0.0226	0.0232	-0.0518	0.0172	0.3361	0.0270	-0.5238	0.3329
4	355.08	0.2502	-0.0215	0.0049	-0.0077	0.0125	0.2860	0.0305	-2.6302	0.2025
4	355.08	0.3001	-0.0633	0.0057	-0.2028	0.0367	0.8271	0.0549	-1.8152	0.5924
4	355.08	0.3502	-0.1151	0.0067	-0.3551	0.0465	1.1971	0.0734	-2.0094	0.5778
4	355.08	0.4002	-0.1365	0.0087	-0.5258	0.0588	1.6582	0.0963	-1.8986	0.5836
4	355.08	0.4500	-0.1575	0.0096	-0.7110	0.0709	2.0961	0.1197	-2.1695	0.5814
4	355.08	0.5001	-0.1745	0.0098	-0.9203	0.0844	2.6811	0.1435	-1.7678	0.5817
4	355.08	0.5560	-0.2427	0.0123	-1.1282	0.0984	3.2360	0.1722	-2.0936	0.5852
4	355.08	0.6001	-0.2456	0.0134	-1.3599	0.1101	3.6990	0.1964	-2.3719	0.5824
4	355.08	0.6501	-0.2990	0.0168	-1.5813	0.1231	4.2552	0.2243	-2.1472	0.5838
4	355.08	0.6999	-0.3132	0.0215	-1.8543	0.1357	4.7718	0.2508	-1.9216	0.5813
4	355.08	0.7500	-0.3485	0.0274	-2.1595	0.1487	5.2001	0.2796	-2.0599	0.5912
4	355.08	0.8002	-0.3627	0.0352	-2.3952	0.1614	5.5868	0.3101	-2.0736	0.5882
4	355.08	0.8582	-0.3971	0.0443	-2.6870	0.1759	5.9057	0.3479	-2.0218	0.5939
4	355.08	0.9101	-0.3751	0.0759	-3.0159	0.2362	6.1785	0.3838	-1.6698	0.5237
4	355.08	0.9728	-0.3775	0.0704	-3.2150	0.1980	6.4968	0.4435	-1.5768	0.6543

2.20 Run 87, Points 37 to 41

2.20.1 Pitch, Flap, and Lag

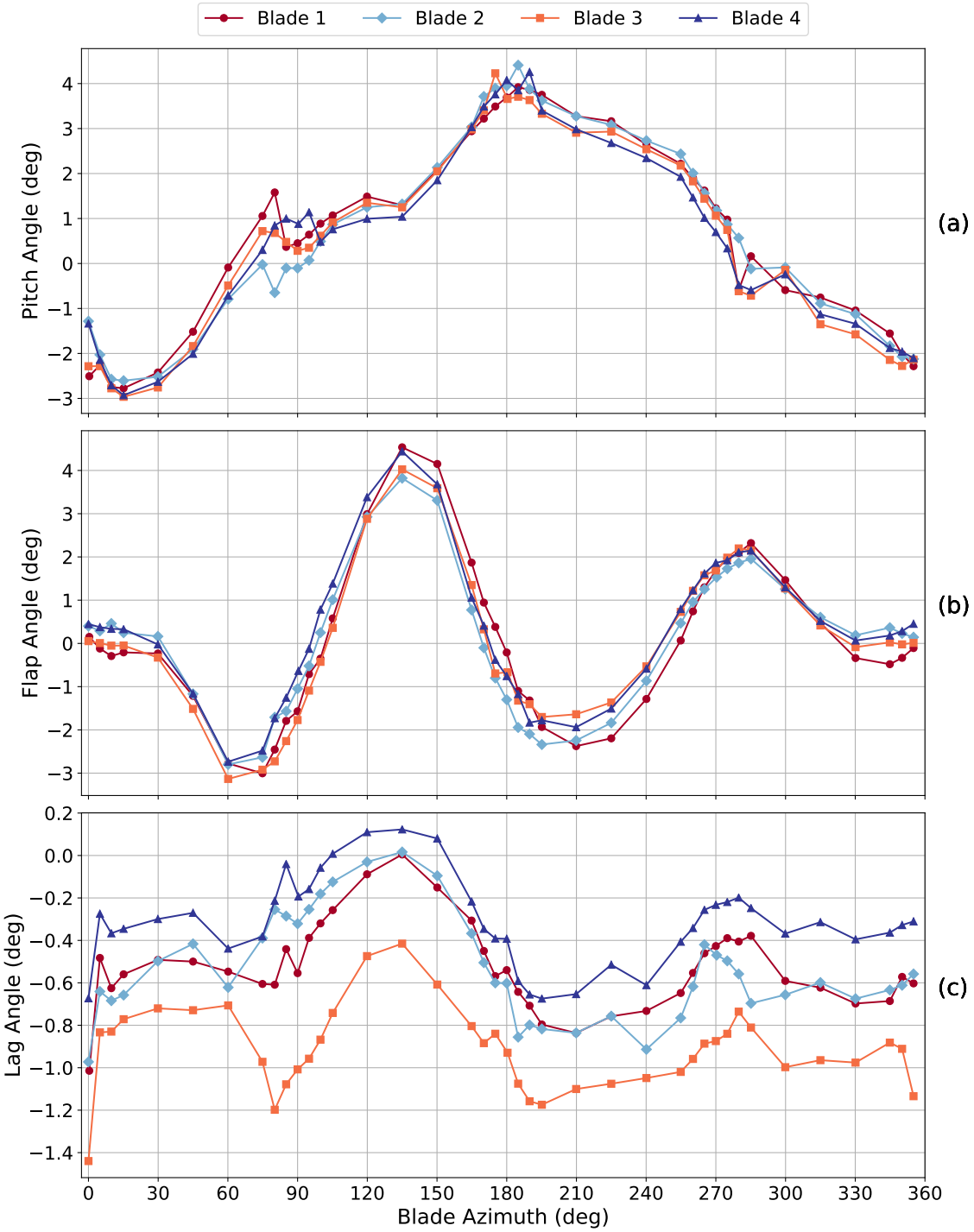


Figure 2.20-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	-2.5064	0.1501	-1.0142	0.1192	0.2190	0.0699
4.92	-2.2612	-0.1186	-0.4827	0.1025	0.2011	0.1415
9.84	-2.7456	-0.2921	-0.6252	0.1700	0.2769	0.0550
15.12	-2.7744	-0.2071	-0.5598	0.1705	0.2801	0.0399
29.88	-2.4234	-0.2331	-0.4917	0.1134	0.2098	0.0608
45	-1.5170	-1.2136	-0.4998	0.1148	0.1673	0.0515
60.12	-0.0895	-2.7765	-0.5471	0.5054	0.2406	0.1290
74.88	1.0561	-3.0040	-0.6052	0.4343	0.2277	0.1091
80.16	1.5797	-2.4547	-0.6089	0.4019	0.2465	0.1268
85.08	0.3681	-1.7915	-0.4412	0.0971	0.1288	0.0605
90	0.4506	-1.5700	-0.5543	0.0754	0.1902	0.0501
94.92	0.6411	-0.7099	-0.3883	0.0775	0.3120	0.0488
99.84	0.8857	-0.3517	-0.3199	0.0757	0.2724	0.0420
105.12	1.0692	0.5794	-0.2574	0.0669	0.3360	0.0414
119.88	1.4872	2.9883	-0.0885	0.0593	0.2986	0.0270
135	1.2964	4.5354	0.0048	0.0708	0.3808	0.0495
150.12	2.0775	4.1500	-0.1509	0.0694	0.4791	0.0432
164.88	2.9400	1.8686	-0.3066	0.0858	0.4613	0.0465
170.16	3.2207	0.9436	-0.4498	0.1022	0.4957	0.0463
175.08	3.4905	0.3815	-0.5684	0.1099	0.5553	0.0590
180	3.6913	-0.2099	-0.5401	0.1105	0.4406	0.0571
184.92	3.9198	-1.1013	-0.6426	0.0814	0.2824	0.0506
189.84	3.8585	-1.3191	-0.7077	0.0703	0.3915	0.0608
195.12	3.7501	-1.9325	-0.7963	0.0834	0.3223	0.0565
209.88	3.2754	-2.3755	-0.8364	0.0782	0.3258	0.0503
225	3.1629	-2.1951	-0.7577	0.0624	0.2665	0.0517
240.12	2.6412	-1.2849	-0.7324	0.0810	0.2518	0.0452
254.88	2.2160	0.0668	-0.6479	0.1319	0.2383	0.0444
260.16	1.8987	0.7426	-0.5533	0.1240	0.2250	0.0396
265.08	1.6220	1.2972	-0.4607	0.1237	0.2779	0.0391
270	1.2270	1.6841	-0.4268	0.1291	0.1956	0.0460
274.92	0.9757	1.9662	-0.3894	0.1461	0.2828	0.0406
279.84	-0.5928	2.0926	-0.4056	0.0931	0.1671	0.0385
285.12	0.1611	2.3198	-0.3785	0.2230	0.1469	0.0392
299.88	-0.5920	1.4638	-0.5908	0.0714	0.1614	0.0338
315	-0.7563	0.4727	-0.6228	0.0933	0.2436	0.0385
330.12	-1.0454	-0.3384	-0.6975	0.0754	0.2372	0.0336
344.88	-1.5558	-0.4810	-0.6858	0.1014	0.2611	0.0432
350.16	-2.0156	-0.3337	-0.5720	0.0905	0.2740	0.0601
355.08	-2.2840	-0.1075	-0.6026	0.1162	0.2335	0.0736

Table 2.20-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-1.2835	0.4016	-0.9724	0.1134	0.2782	0.0769
4.92	-2.0287	0.2892	-0.6408	0.0797	0.2552	0.1345
9.84	-2.5736	0.4599	-0.6840	0.1661	0.1891	0.0504
15.12	-2.6058	0.2471	-0.6576	0.1941	0.2291	0.0452
29.88	-2.5179	0.1619	-0.4976	0.1058	0.1882	0.0379
45	-1.9066	-1.1684	-0.4164	0.1377	0.1442	0.0611
60.12	-0.7914	-2.7981	-0.6216	0.1771	0.1493	0.0521
74.88	-0.0236	-2.6345	-0.3893	0.2003	0.1611	0.0628
80.16	-0.6482	-1.7081	-0.2544	0.5859	0.2320	0.1464
85.08	-0.1014	-1.5689	-0.2855	0.2529	0.3171	0.0681
90	-0.1041	-1.0484	-0.3214	0.2667	0.2589	0.0541
94.92	0.0718	-0.5205	-0.2540	0.2825	0.2726	0.0394
99.84	0.4913	0.2496	-0.1810	0.0533	0.3862	0.0531
105.12	0.8671	1.0108	-0.1244	0.0504	0.2945	0.0401
119.88	1.2511	2.9258	-0.0303	0.0660	0.5177	0.0549
135	1.3212	3.8214	0.0165	0.0670	0.4735	0.0403
150.12	2.1342	3.3076	-0.0954	0.0814	0.4122	0.0491
164.88	3.0347	0.7738	-0.3673	0.0577	0.3792	0.0469
170.16	3.7127	-0.1014	-0.5049	0.0487	0.3093	0.3394
175.08	3.8962	-0.8000	-0.6003	0.1756	0.5809	0.0885
180	3.9521	-1.3008	-0.6017	0.1215	0.4484	0.0619
184.92	4.4089	-1.9442	-0.8559	0.1401	0.5431	0.1539
189.84	3.8786	-2.0961	-0.7986	0.1000	0.3598	0.0551
195.12	3.6226	-2.3382	-0.8174	0.0986	0.3845	0.0571
209.88	3.2758	-2.2443	-0.8360	0.0877	0.3192	0.0476
225	3.0814	-1.8367	-0.7570	0.0831	0.3490	0.0575
240.12	2.7315	-0.8657	-0.9135	0.0718	0.2363	0.0396
254.88	2.4354	0.4685	-0.7655	0.0877	0.2342	0.0419
260.16	2.0069	0.9555	-0.6177	0.0994	0.2172	0.0340
265.08	1.5616	1.2543	-0.4202	0.1126	0.2567	0.0548
270.35	1.1770	1.5321	-0.4695	0.0930	0.1876	0.0472
274.92	0.8702	1.7274	-0.4964	0.0838	0.1859	0.0536
279.84	0.5669	1.8625	-0.5581	0.0911	0.1296	0.0551
285.12	-0.1190	1.9558	-0.6965	0.0762	0.1169	0.0473
299.88	-0.0873	1.2573	-0.6563	0.1358	0.1543	0.0660
315	-0.8861	0.6046	-0.5987	0.0881	0.2169	0.0517
330.12	-1.1265	0.1880	-0.6747	0.0880	0.2727	0.0591
344.88	-1.8336	0.3636	-0.6335	0.0798	0.2736	0.0448
350.16	-2.0695	0.2297	-0.6114	0.0834	0.2449	0.0659
355.08	-2.1242	0.1436	-0.5583	0.0747	0.2946	0.2633

Table 2.20-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-2.2842	0.0532	-1.4397	0.1462	0.2472	0.0580
4.92	-2.2830	0.0075	-0.8335	0.0935	0.2261	0.1232
9.84	-2.7754	-0.0517	-0.8298	0.1350	0.3199	0.0429
15.12	-2.9644	-0.0491	-0.7714	0.1260	0.2124	0.0451
29.88	-2.7563	-0.3280	-0.7203	0.1046	0.2328	0.0392
45	-1.8366	-1.5143	-0.7290	0.0917	0.1566	0.0363
60.12	-0.4902	-3.1341	-0.7063	0.1476	0.1279	0.0458
74.88	0.7198	-2.9205	-0.9722	0.2034	0.1407	0.0421
80.16	0.6786	-2.7280	-1.1981	0.1134	0.2176	0.1823
85.08	0.4802	-2.2595	-1.0781	0.1304	0.3261	0.1795
90	0.2818	-1.7724	-1.0078	0.0975	0.3147	0.2063
94.92	0.3499	-1.0905	-0.9574	0.1032	0.4703	0.2454
99.84	0.6165	-0.4264	-0.8677	0.0893	0.3563	0.2628
105.12	0.9128	0.3597	-0.7419	0.0864	0.4458	0.2624
119.88	1.3498	2.8813	-0.4741	0.0632	0.4742	0.0269
135	1.2490	4.0249	-0.4152	0.1362	0.7171	0.0391
150.12	2.0491	3.5885	-0.6081	0.0969	0.4924	0.0402
164.88	2.9825	1.3503	-0.8038	0.0904	0.4750	0.0445
170.16	3.4031	0.3254	-0.8842	0.0890	0.4738	0.0475
175.08	4.2284	-0.6952	-0.8398	0.0973	0.3418	0.1762
180.35	3.6583	-0.6664	-0.9294	0.0736	0.3279	0.0539
184.92	3.7069	-1.3233	-1.0750	0.0863	0.3559	0.0601
189.84	3.6323	-1.4060	-1.1580	0.0890	0.3861	0.0606
195.12	3.3287	-1.7021	-1.1744	0.1044	0.3487	0.0618
209.88	2.9073	-1.6387	-1.1003	0.0672	0.3356	0.0712
225	2.9325	-1.3656	-1.0754	0.0646	0.3579	0.0645
240.12	2.5397	-0.5308	-1.0485	0.0648	0.3238	0.0605
254.88	2.1771	0.7282	-1.0197	0.0945	0.2307	0.0534
260.16	1.8263	1.2158	-0.9585	0.0985	0.2435	0.0465
265.08	1.4403	1.5759	-0.8866	0.0849	0.2071	0.0485
270	1.0625	1.6879	-0.8744	0.0772	0.2192	0.0526
274.92	0.7457	1.9829	-0.8400	0.0945	0.2199	0.0422
279.84	-0.6159	2.1967	-0.7357	0.0719	0.1501	0.0381
285.12	-0.7162	2.1504	-0.8105	0.0672	0.1508	0.0359
299.88	-0.1423	1.2716	-0.9974	0.1256	0.1105	0.0426
315	-1.3514	0.4148	-0.9644	0.0853	0.1570	0.0486
330.12	-1.5755	-0.0859	-0.9758	0.0780	0.2428	0.0439
344.88	-2.1439	0.0238	-0.8816	0.1120	0.2855	0.0426
350.16	-2.2774	-0.0221	-0.9110	0.0974	0.3094	0.0688
355.08	-2.1374	0.0121	-1.1342	0.2139	0.4094	0.1208

Table 2.20-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-1.3357	0.4462	-0.6730	0.1383	0.3187	0.0746
4.92	-2.1443	0.3759	-0.2747	0.1339	0.4261	0.1844
9.84	-2.7080	0.3364	-0.3667	0.1497	0.2560	0.0387
15.12	-2.9295	0.3290	-0.3456	0.1340	0.2753	0.0424
29.88	-2.6308	-0.0238	-0.2995	0.1128	0.2020	0.0296
45	-2.0089	-1.1621	-0.2703	0.0985	0.2404	0.0566
60.12	-0.7133	-2.7360	-0.4387	0.1279	0.1435	0.0403
74.88	0.3009	-2.4804	-0.3816	0.2072	0.1629	0.0517
80.16	0.8441	-1.7291	-0.2136	0.2555	0.1897	0.0423
85.08	0.9977	-1.2559	-0.0404	0.2120	0.1713	0.0650
90.35	0.8792	-0.6367	-0.1934	0.2090	0.1929	0.0550
94.92	1.1387	-0.1257	-0.1585	0.2226	0.2794	0.0657
99.84	0.4834	0.7816	-0.0578	0.0847	0.3108	0.0646
105.12	0.7599	1.3829	0.0079	0.0568	0.4145	0.0491
119.88	0.9932	3.3811	0.1098	0.0590	0.4041	0.0718
135	1.0398	4.4392	0.1229	0.0943	0.5442	0.0503
150.12	1.8509	3.6796	0.0801	0.0964	0.5439	0.0624
164.88	3.0317	1.0590	-0.2171	0.0734	0.4599	0.0484
170.16	3.4895	0.4100	-0.3458	0.0620	0.3943	0.0549
175.08	3.7603	-0.3808	-0.3912	0.0665	0.2789	0.0490
180	4.0767	-0.7563	-0.3926	0.1859	0.4454	0.0595
184.92	3.8510	-1.1720	-0.5914	0.1065	0.4103	0.0565
189.84	4.2557	-1.8322	-0.6550	0.1121	0.3308	0.0703
195.12	3.4000	-1.7780	-0.6744	0.0931	0.3374	0.0675
209.88	2.9852	-1.9375	-0.6532	0.0869	0.3051	0.0576
225	2.6784	-1.5074	-0.5147	0.0564	0.2477	0.0541
240.12	2.3433	-0.5845	-0.6110	0.0709	0.2959	0.0460
254.88	1.9269	0.7957	-0.4064	0.0954	0.2046	0.0525
260.16	1.4675	1.2283	-0.3419	0.0756	0.2024	0.0364
265.08	1.0144	1.6149	-0.2562	0.0983	0.3098	0.0428
270	0.6983	1.8625	-0.2326	0.0747	0.1930	0.0358
274.92	0.3362	1.9218	-0.2193	0.0818	0.1929	0.0385
279.84	-0.4782	2.1072	-0.1984	0.1079	0.1886	0.0380
285.12	-0.5911	2.1462	-0.2478	0.0564	0.1639	0.0361
299.88	-0.2420	1.2962	-0.3682	0.0836	0.1449	0.0395
315	-1.1293	0.5198	-0.3141	0.0699	0.1414	0.0391
330.12	-1.3410	0.0665	-0.3952	0.0778	0.2387	0.0364
344.88	-1.8790	0.1822	-0.3634	0.1176	0.2974	0.0433
350.16	-1.9604	0.2837	-0.3279	0.1141	0.2494	0.0390
355.08	-2.1054	0.4526	-0.3106	0.1814	0.4186	0.0473

2.20.2 Spanwise Elastic Deformations

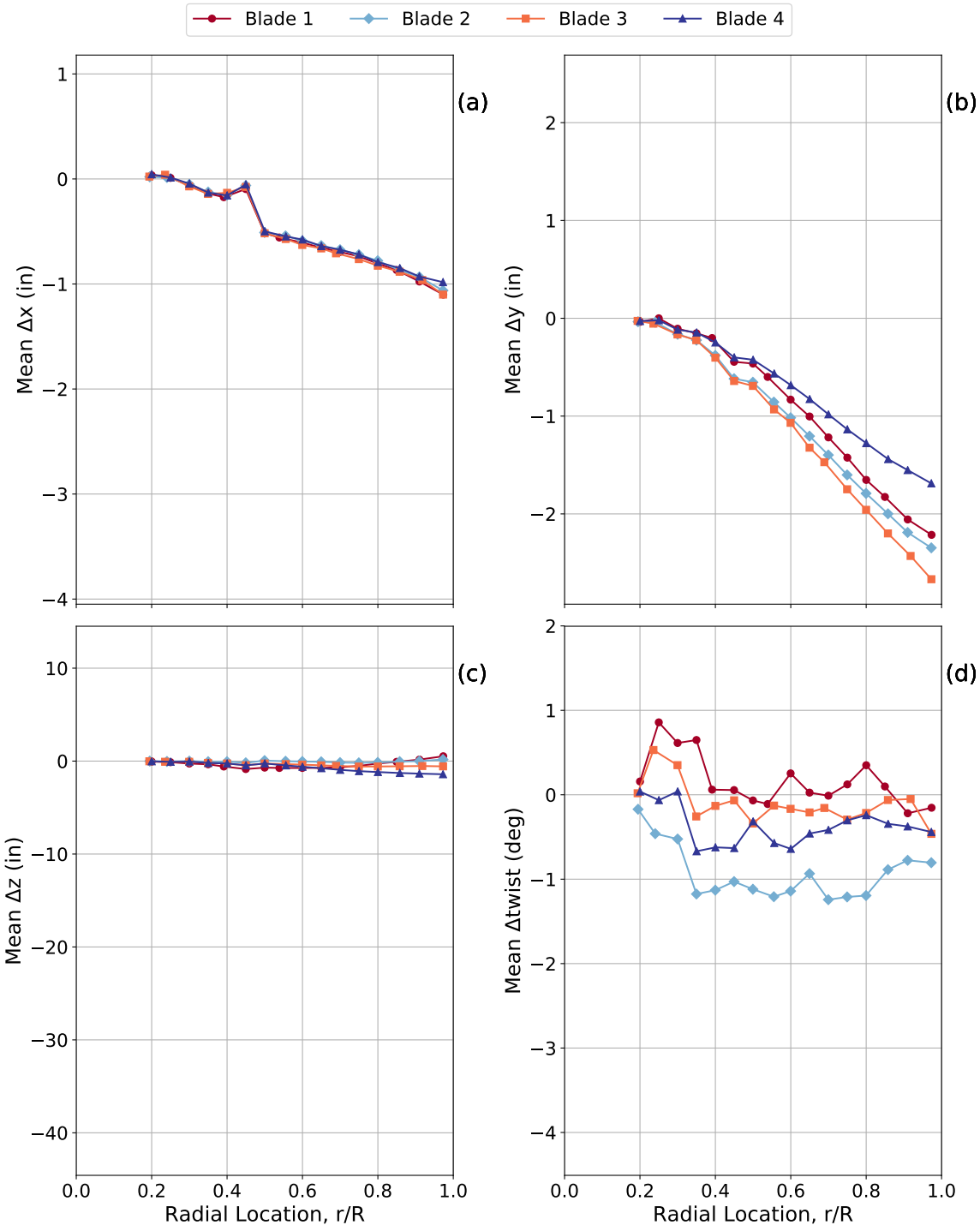


Figure 2.20-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.012$, $\mu = 0.6$, $\alpha = -0°$ NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0350	0.0200	-0.0364	0.0074	-0.0517	0.0067	0.1573	0.0762
1	0.35	0.2499	0.0103	0.0053	-0.0001	0.0095	-0.1173	0.0264	0.8576	0.1823
1	0.35	0.2998	-0.0586	0.0087	-0.1066	0.0167	-0.2648	0.0453	0.6132	0.2003
1	0.35	0.3498	-0.1384	0.0186	-0.1535	0.0331	-0.3447	0.0643	0.6484	0.2236
1	0.35	0.3913	-0.1736	0.0367	-0.2021	0.0396	-0.5835	0.1110	0.0604	0.0908
1	0.35	0.4496	-0.0960	0.0545	-0.4449	0.0636	-0.8549	0.1406	0.0554	0.0964
1	0.35	0.4997	-0.5173	0.0368	-0.4631	0.1344	-0.7018	0.3500	-0.0673	0.1360
1	0.35	0.5387	-0.5577	0.0366	-0.5998	0.1427	-0.7384	0.3896	-0.1099	0.1254
1	0.35	0.5996	-0.6061	0.0373	-0.8316	0.1580	-0.7368	0.4519	0.2532	0.1459
1	0.35	0.6498	-0.6550	0.0366	-1.0040	0.1707	-0.7275	0.5025	0.0253	0.1426
1	0.35	0.6998	-0.6947	0.0379	-1.2178	0.1840	-0.6582	0.5597	-0.0110	0.1333
1	0.35	0.7500	-0.7378	0.0379	-1.4250	0.1974	-0.5153	0.6107	0.1229	0.1441
1	0.35	0.8001	-0.8062	0.0377	-1.6525	0.2102	-0.2583	0.6724	0.3498	0.1374
1	0.35	0.8497	-0.8669	0.0383	-1.8267	0.2247	-0.0802	0.7454	0.0981	0.1420
1	0.35	0.9102	-0.9765	0.0392	-2.0568	0.2411	0.1619	0.8374	-0.2193	0.1363
1	0.35	0.9734	-1.1012	0.0394	-2.2143	0.2596	0.5204	0.9412	-0.1538	0.1573
2	0	0.1949	0.0202	0.0163	-0.0353	0.0035	0.0003	0.0057	-0.1717	0.0447
2	0	0.2405	0.0139	0.0062	-0.0407	0.0084	-0.0410	0.0116	-0.4612	0.0728
2	0	0.2999	-0.0515	0.0081	-0.1636	0.0155	0.0030	0.0231	-0.5242	0.1080
2	0	0.3498	-0.1245	0.0241	-0.2236	0.0291	-0.0625	0.0461	-1.1758	0.0793
2	0	0.3998	-0.1540	0.0348	-0.3800	0.0427	-0.0606	0.0652	-1.1299	0.0744
2	0	0.4496	-0.0622	0.0470	-0.6180	0.0592	-0.1815	0.0863	-1.0288	0.0871
2	0	0.4995	-0.5100	0.0369	-0.6537	0.1762	0.0564	0.2405	-1.1190	0.0894
2	0	0.5551	-0.5419	0.0364	-0.8565	0.1966	-0.0148	0.2787	-1.2078	0.1149
2	0	0.5996	-0.5885	0.0365	-1.0167	0.2134	-0.0422	0.3071	-1.1410	0.1040
2	0	0.6497	-0.6345	0.0369	-1.2049	0.2328	-0.0737	0.3437	-0.9339	0.1152
2	0	0.6996	-0.6735	0.0370	-1.3980	0.2521	-0.1593	0.3779	-1.2429	0.1099
2	0	0.7495	-0.7206	0.0362	-1.6015	0.2710	-0.1862	0.4153	-1.2102	0.1155
2	0	0.7996	-0.7784	0.0367	-1.7903	0.2904	-0.1429	0.4543	-1.1940	0.1116
2	0	0.8578	-0.8702	0.0363	-1.9990	0.3125	-0.0545	0.5036	-0.8867	0.1165
2	0	0.9100	-0.9326	0.0358	-2.1898	0.3325	-0.0009	0.5553	-0.7763	0.1124
2	0	0.9727	-1.0619	0.0318	-2.3470	0.3564	0.1755	0.6251	-0.8045	0.1104
3	0	0.1938	0.0226	0.0220	-0.0266	0.0064	-0.0188	0.0060	0.0178	0.0560
3	0	0.2357	0.0401	0.0080	-0.0549	0.0087	-0.0713	0.0112	0.5298	0.1471
3	0	0.2995	-0.0707	0.0075	-0.1652	0.0205	-0.0750	0.0229	0.3507	0.1731
3	0	0.3493	-0.1424	0.0226	-0.2238	0.0281	-0.1941	0.0474	-0.2571	0.0868
3	0	0.4000	-0.1322	0.0326	-0.4027	0.0457	-0.2606	0.0666	-0.1319	0.0802
3	0	0.4497	-0.0758	0.0440	-0.6412	0.0652	-0.4456	0.0878	-0.0659	0.0856
3	0	0.4997	-0.5174	0.0398	-0.6914	0.1221	-0.2667	0.2202	-0.3408	0.1278
3	0	0.5556	-0.5719	0.0398	-0.9319	0.1337	-0.3252	0.2454	-0.1282	0.1269
3	0	0.5995	-0.6283	0.0400	-1.0688	0.1432	-0.3788	0.2659	-0.1665	0.1252
3	0	0.6498	-0.6614	0.0399	-1.3229	0.1534	-0.4532	0.2948	-0.2094	0.1329
3	0	0.6890	-0.7082	0.0398	-1.4714	0.1622	-0.5172	0.3212	-0.1564	0.1443
3	0	0.7495	-0.7633	0.0394	-1.7483	0.1749	-0.5876	0.3612	-0.2941	0.1357
3	0	0.7998	-0.8261	0.0398	-1.9582	0.1856	-0.5777	0.4053	-0.2158	0.1492
3	0	0.8577	-0.8834	0.0401	-2.1996	0.1988	-0.5565	0.4657	-0.0623	0.1493
3	0	0.9178	-0.9629	0.0398	-2.4300	0.2128	-0.5279	0.5353	-0.0504	0.1335
3	0	0.9729	-1.1009	0.0392	-2.6679	0.2253	-0.5658	0.6051	-0.4630	0.1424
4	0	0.2001	0.0441	0.0191	-0.0285	0.0032	-0.0209	0.0054	0.0381	0.0415
4	0	0.2502	0.0132	0.0063	-0.0206	0.0087	-0.0776	0.0124	-0.0641	0.0631
4	0	0.3001	-0.0445	0.0079	-0.1169	0.0145	-0.0591	0.0205	0.0395	0.0935
4	0	0.3502	-0.1302	0.0257	-0.1457	0.0262	-0.2041	0.0422	-0.6695	0.0776
4	0	0.4002	-0.1570	0.0382	-0.2477	0.0391	-0.2575	0.0590	-0.6230	0.0832
4	0	0.4500	-0.0527	0.0535	-0.4000	0.0554	-0.4578	0.0785	-0.6319	0.0901
4	0	0.5001	-0.4992	0.0439	-0.4242	0.1763	-0.2596	0.2350	-0.3152	0.0814
4	0	0.5560	-0.5477	0.0435	-0.5652	0.1959	-0.4626	0.2693	-0.5721	0.0797
4	0	0.6001	-0.5771	0.0439	-0.6841	0.2110	-0.6092	0.2979	-0.6410	0.1076
4	0	0.6501	-0.6393	0.0436	-0.8262	0.2286	-0.7638	0.3311	-0.4595	0.0936
4	0	0.6999	-0.6740	0.0426	-0.9822	0.2468	-0.9411	0.3679	-0.4161	0.1208
4	0	0.7500	-0.7194	0.0427	-1.1361	0.2650	-1.0805	0.4049	-0.3031	0.1070
4	0	0.8002	-0.7922	0.0425	-1.2770	0.2821	-1.1771	0.4451	-0.2415	0.1052
4	0	0.8582	-0.8491	0.0418	-1.4401	0.3035	-1.2812	0.4952	-0.3443	0.1179
4	0	0.9101	-0.9292	0.0421	-1.5523	0.3218	-1.3464	0.5444	-0.3754	0.1084
4	0	0.9728	-0.9830	0.0383	-1.6881	0.3449	-1.4148	0.6136	-0.4414	0.1121

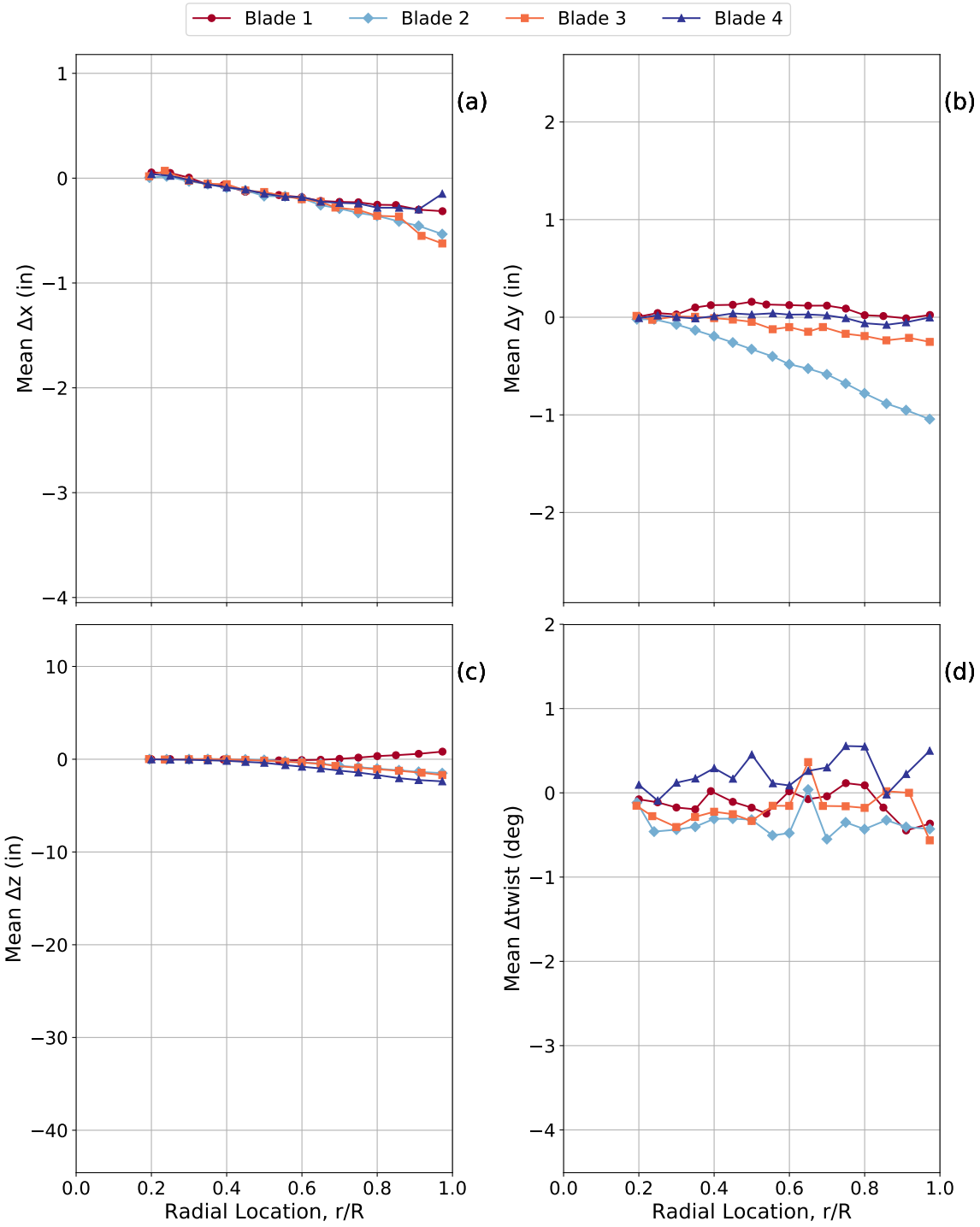


Figure 2.20-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0540	0.0235	0.0062	0.0051	-0.0069	0.0061	-0.0774	0.0478
1	4.92	0.2499	0.0496	0.0082	0.0426	0.0106	0.0108	0.0121	-0.1127	0.0777
1	4.92	0.2998	0.0051	0.0097	0.0282	0.0209	-0.0223	0.0248	-0.1743	0.1036
1	4.92	0.3498	-0.0603	0.0283	0.0997	0.0362	-0.0258	0.0433	-0.1955	0.0833
1	4.92	0.3913	-0.0665	0.0452	0.1234	0.0520	-0.0354	0.0617	0.0201	0.0942
1	4.92	0.4496	-0.1303	0.0707	0.1274	0.0763	-0.0758	0.0848	-0.1071	0.0980
1	4.92	0.4997	-0.1381	0.0935	0.1583	0.1033	-0.1176	0.1059	-0.1762	0.1065
1	4.92	0.5387	-0.1611	0.1115	0.1302	0.1256	-0.1250	0.1236	-0.2459	0.1167
1	4.92	0.5996	-0.1819	0.1385	0.1244	0.1611	-0.0936	0.1467	0.0180	0.1273
1	4.92	0.6498	-0.2174	0.1598	0.1182	0.1909	-0.0591	0.1671	-0.0749	0.1279
1	4.92	0.6998	-0.2262	0.1792	0.1191	0.2214	0.0419	0.1864	-0.0412	0.1352
1	4.92	0.7500	-0.2302	0.1953	0.0883	0.2491	0.1745	0.2108	0.1148	0.1654
1	4.92	0.8001	-0.2538	0.2084	0.0210	0.2777	0.3367	0.2367	0.0890	0.1558
1	4.92	0.8497	-0.2564	0.2179	0.0122	0.3038	0.4355	0.2664	-0.1751	0.1529
1	4.92	0.9102	-0.3005	0.2229	-0.0115	0.3371	0.5824	0.3080	-0.4466	0.1693
1	4.92	0.9734	-0.3151	0.2143	0.0228	0.3734	0.8196	0.3636	-0.3658	0.1614
2	4.92	0.1949	0.0053	0.0246	-0.0209	0.0046	0.0045	0.0057	-0.1169	0.0366
2	4.92	0.2405	0.0172	0.0100	-0.0214	0.0089	-0.0131	0.0109	-0.4603	0.0884
2	4.92	0.2999	-0.0304	0.0109	-0.0741	0.0202	0.0040	0.0241	-0.4371	0.1014
2	4.92	0.3498	-0.0570	0.0285	-0.1329	0.0353	0.0141	0.0423	-0.4024	0.0981
2	4.92	0.3998	-0.0911	0.0485	-0.1942	0.0547	0.0104	0.0652	-0.3087	0.1095
2	4.92	0.4496	-0.1158	0.0703	-0.2592	0.0771	-0.0245	0.0896	-0.3065	0.1181
2	4.92	0.4995	-0.1710	0.0916	-0.3275	0.1003	-0.0821	0.1186	-0.3187	0.1123
2	4.92	0.5551	-0.1727	0.1164	-0.4014	0.1304	-0.2232	0.1537	-0.5053	0.1261
2	4.92	0.5996	-0.1915	0.1354	-0.4819	0.1570	-0.3308	0.1860	-0.4783	0.1351
2	4.92	0.6497	-0.2569	0.0478	-0.5260	0.1519	-0.4657	0.2251	0.0382	0.5226
2	4.92	0.6996	-0.2898	0.0235	-0.5852	0.1911	-0.7165	0.3168	-0.5495	0.1317
2	4.92	0.7495	-0.3316	0.0225	-0.6792	0.2095	-0.8564	0.3693	-0.3506	0.1433
2	4.92	0.7996	-0.3593	0.0229	-0.7796	0.2299	-1.0103	0.4276	-0.4313	0.1378
2	4.92	0.8578	-0.4127	0.0237	-0.8849	0.2582	-1.1912	0.4993	-0.3238	0.1317
2	4.92	0.9100	-0.4550	0.0253	-0.9521	0.2892	-1.3614	0.5678	-0.4052	0.1495
2	4.92	0.9727	-0.5339	0.0401	-1.0436	0.3626	-1.5024	0.6072	-0.4294	3.3836
3	4.92	0.1938	0.0177	0.0221	0.0138	0.0053	0.0180	0.0077	-0.1529	0.0338
3	4.92	0.2357	0.0702	0.0116	-0.0265	0.0097	-0.0291	0.0106	-0.2771	0.0860
3	4.92	0.2995	-0.0248	0.0084	0.0081	0.0238	0.0031	0.0289	-0.4058	0.0977
3	4.92	0.3493	-0.0530	0.0236	0.0045	0.0416	0.0175	0.0492	-0.2862	0.1032
3	4.92	0.4000	-0.0577	0.0407	-0.0093	0.0649	-0.0110	0.0757	-0.2246	0.1042
3	4.92	0.4497	-0.1172	0.0578	-0.0243	0.0879	-0.0694	0.1064	-0.2536	0.1160
3	4.92	0.4997	-0.1322	0.0740	-0.0469	0.1126	-0.1558	0.1335	-0.3338	0.1188
3	4.92	0.5556	-0.1723	0.0909	-0.1230	0.1395	-0.2706	0.1675	-0.1536	0.1286
3	4.92	0.5995	-0.2012	0.1034	-0.1013	0.1608	-0.3608	0.1994	-0.1547	0.1282
3	4.92	0.6498	-0.2252	0.0334	-0.1488	0.2069	-0.5024	0.2346	0.3642	0.3869
3	4.92	0.6890	-0.2805	0.0302	-0.1009	0.2521	-0.7223	0.3012	-0.1555	0.1059
3	4.92	0.7495	-0.3025	0.0291	-0.1696	0.2826	-0.9264	0.3593	-0.1595	0.1176
3	4.92	0.7998	-0.3591	0.0288	-0.1924	0.3084	-1.0768	0.4111	-0.1788	0.1208
3	4.92	0.8577	-0.3661	0.0302	-0.2368	0.3403	-1.2453	0.4760	0.0184	0.1361
3	4.92	0.9178	-0.5505	0.0562	-0.2112	0.5993	-1.4579	0.7981	0.0005	0.1364
3	4.92	0.9729	-0.6232	0.0659	-0.2526	0.6396	-1.7039	0.8890	-0.5640	0.1392
4	4.92	0.2001	0.0390	0.0321	-0.0086	0.0062	-0.0111	0.0067	0.0950	0.0461
4	4.92	0.2502	0.0228	0.0123	0.0178	0.0127	-0.0428	0.0154	-0.0928	0.0811
4	4.92	0.3001	-0.0180	0.0120	0.0008	0.0261	-0.0548	0.0296	0.1201	0.1060
4	4.92	0.3502	-0.0587	0.0360	-0.0115	0.0451	-0.1139	0.0502	0.1697	0.0997
4	4.92	0.4002	-0.0877	0.0626	0.0107	0.0701	-0.1738	0.0796	0.2923	0.1185
4	4.92	0.4500	-0.1093	0.0904	0.0392	0.0986	-0.2835	0.1095	0.1675	0.1245
4	4.92	0.5001	-0.1482	0.1192	0.0281	0.1314	-0.3822	0.1455	0.4528	0.1396
4	4.92	0.5560	-0.1781	0.1507	0.0404	0.1708	-0.6325	0.1914	0.1131	0.1530
4	4.92	0.6001	-0.1798	0.1760	0.0266	0.2056	-0.8032	0.2352	0.0873	0.1615
4	4.92	0.6501	-0.2239	0.2053	0.0284	0.2487	-0.9936	0.2867	0.2599	0.1622
4	4.92	0.6999	-0.2359	0.2354	0.0188	0.2980	-1.2294	0.3443	0.3012	0.1738
4	4.92	0.7500	-0.2416	0.2626	-0.0093	0.3537	-1.4334	0.4111	0.5553	0.1890
4	4.92	0.8002	-0.2819	0.2916	-0.0616	0.4180	-1.6997	0.4893	0.5497	0.1900
4	4.92	0.8582	-0.2821	0.3157	-0.0776	0.4950	-2.0445	0.5918	-0.0195	0.1922
4	4.92	0.9101	-0.2982	0.3295	-0.0519	0.5650	-2.2434	0.6913	0.2232	0.2052
4	4.92	0.9728	-0.1491	0.3158	-0.0026	0.6381	-2.3843	0.8253	0.4991	0.4437

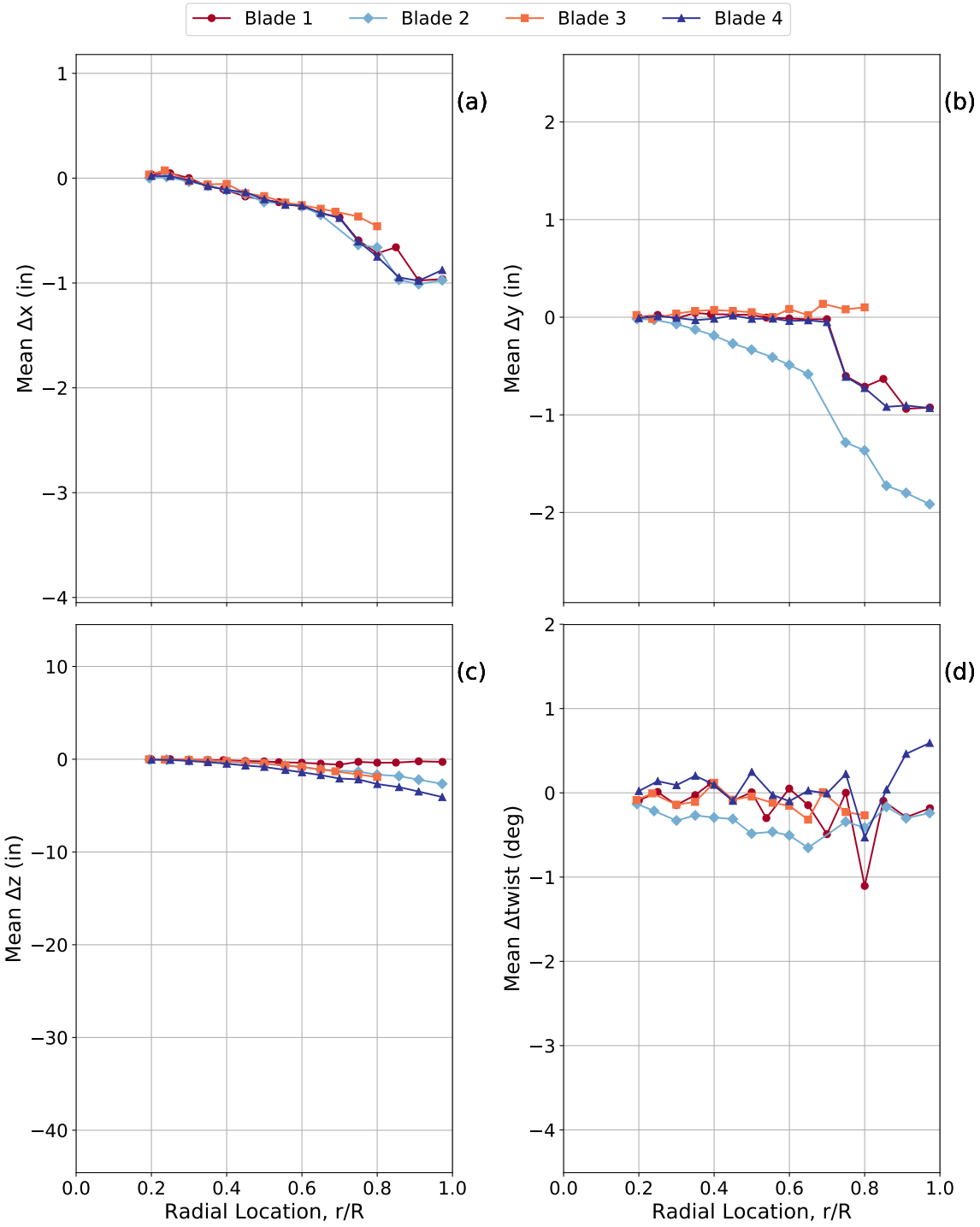


Figure 2.20-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-7. 10° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.012$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0357	0.0079	-0.0007	0.0040	-0.0176	0.0091	-0.0906	0.0732
1	9.84	0.2499	0.0470	0.0052	0.0238	0.0080	0.0060	0.0171	0.0105	0.1545
1	9.84	0.2998	0.0007	0.0033	-0.0107	0.0140	-0.0557	0.0373	-0.1452	0.1739
1	9.84	0.3498	-0.0765	0.0039	0.0441	0.0257	-0.0688	0.0647	-0.0271	0.1684
1	9.84	0.3913	-0.1048	0.0046	0.0314	0.0352	-0.0970	0.0926	0.1154	0.1690
1	9.84	0.4496	-0.1748	0.0047	0.0277	0.0465	-0.1946	0.1379	-0.0931	0.1733
1	9.84	0.4997	-0.2071	0.0051	0.0233	0.0561	-0.2332	0.1803	0.0065	0.1760
1	9.84	0.5387	-0.2287	0.0051	-0.0036	0.0650	-0.3146	0.2142	-0.3001	0.1735
1	9.84	0.5996	-0.2733	0.0050	-0.0122	0.0767	-0.3809	0.2716	0.0502	0.1728
1	9.84	0.6498	-0.3335	0.0053	-0.0214	0.0879	-0.4811	0.3234	-0.1470	0.1692
1	9.84	0.6998	-0.3749	0.0061	-0.0201	0.0987	-0.5853	0.3779	-0.4908	0.1879
1	9.84	0.7500	-0.5935	0.0886	-0.6025	0.1960	-0.2828	0.4855	0.0010	0.1736
1	9.84	0.8001	-0.7172	0.0805	-0.7112	0.2189	-0.3764	0.5330	-1.1048	0.5388
1	9.84	0.8497	-0.6594	0.0961	-0.6315	0.2317	-0.3663	0.6080	-0.0952	0.1874
1	9.84	0.9102	-0.9763	0.0671	-0.9383	0.2967	-0.2237	0.7414	-0.2901	0.2058
1	9.84	0.9734	-0.9632	0.0646	-0.9247	0.3371	-0.2870	0.8282	-0.1828	0.2007
2	9.84	0.1949	0.0005	0.0066	-0.0170	0.0031	-0.0313	0.0072	-0.1319	0.0531
2	9.84	0.2405	0.0125	0.0031	-0.0266	0.0050	-0.0372	0.0144	-0.2150	0.1278
2	9.84	0.2999	-0.0338	0.0028	-0.0694	0.0103	-0.1148	0.0323	-0.3285	0.1465
2	9.84	0.3498	-0.0683	0.0032	-0.1253	0.0188	-0.1771	0.0549	-0.2683	0.1463
2	9.84	0.3998	-0.1138	0.0041	-0.1882	0.0274	-0.2738	0.0865	-0.2933	0.1447
2	9.84	0.4496	-0.1523	0.0035	-0.2699	0.0349	-0.3720	0.1214	-0.3102	0.1484
2	9.84	0.4995	-0.2277	0.0047	-0.3328	0.0451	-0.5073	0.1641	-0.4836	0.1591
2	9.84	0.5551	-0.2399	0.0046	-0.4101	0.0549	-0.6866	0.2156	-0.4629	0.1583
2	9.84	0.5996	-0.2675	0.0046	-0.4885	0.0636	-0.8640	0.2636	-0.5049	0.1625
2	9.84	0.6497	-0.3491	0.0065	-0.5831	0.0740	-1.1100	0.3181	-0.6521	0.1676
2	9.84	0.7495	-0.6360	0.0988	-1.2830	0.2677	-1.3345	0.4686	-0.3431	0.1594
2	9.84	0.7996	-0.6604	0.1060	-1.3642	0.2951	-1.6631	0.5228	-0.4115	0.1754
2	9.84	0.8578	-0.9695	0.0864	-1.7259	0.3870	-1.8205	0.6595	-0.1666	0.1916
2	9.84	0.9100	-1.0106	0.0812	-1.7997	0.4383	-2.2065	0.7247	-0.3015	0.2030
2	9.84	0.9727	-0.9737	0.0798	-1.9150	0.5083	-2.6533	0.8040	-0.2398	0.2472
3	9.84	0.1938	0.0343	0.0071	0.0224	0.0040	-0.0053	0.0090	-0.0857	0.0568
3	9.84	0.2357	0.0739	0.0040	-0.0170	0.0061	-0.0411	0.0155	-0.0065	0.1255
3	9.84	0.2995	-0.0275	0.0034	0.0371	0.0131	-0.0637	0.0384	-0.1406	0.1488
3	9.84	0.3493	-0.0594	0.0037	0.0638	0.0229	-0.1179	0.0673	-0.1077	0.1462
3	9.84	0.4000	-0.0551	0.0046	0.0741	0.0346	-0.1961	0.1045	0.1190	0.1519
3	9.84	0.4497	-0.1444	0.0047	0.0643	0.0435	-0.3161	0.1416	-0.0816	0.1576
3	9.84	0.4997	-0.1715	0.0046	0.0512	0.0531	-0.4383	0.1837	-0.0442	0.1587
3	9.84	0.5556	-0.2332	0.0051	0.0024	0.0641	-0.6527	0.2331	-0.1189	0.1566
3	9.84	0.5995	-0.2575	0.0053	0.0844	0.0730	-0.8230	0.2745	-0.1528	0.1676
3	9.84	0.6498	-0.2916	0.0060	0.0206	0.0839	-1.1049	0.3266	-0.3180	0.1727
3	9.84	0.6890	-0.3199	0.0086	0.1374	0.0946	-1.3017	0.3694	0.0074	0.1889
3	9.84	0.7495	-0.3657	0.0080	0.0809	0.1065	-1.6435	0.4477	-0.2280	0.1694
3	9.84	0.7998	-0.4588	0.0105	0.1012	0.1172	-1.9276	0.5140	-0.2665	0.1850
4	9.84	0.2001	0.0208	0.0053	-0.0100	0.0029	-0.0472	0.0075	0.0211	0.0684
4	9.84	0.2502	0.0196	0.0037	0.0107	0.0056	-0.0798	0.0162	0.1383	0.1024
4	9.84	0.3001	-0.0220	0.0027	-0.0060	0.0101	-0.1863	0.0312	0.0909	0.1498
4	9.84	0.3502	-0.0765	0.0030	-0.0297	0.0179	-0.3126	0.0549	0.2023	0.1417
4	9.84	0.4002	-0.1121	0.0041	-0.0152	0.0265	-0.4822	0.0848	0.0951	0.1435
4	9.84	0.4500	-0.1350	0.0037	0.0176	0.0339	-0.6791	0.1188	-0.0950	0.1462
4	9.84	0.5001	-0.2010	0.0041	-0.0166	0.0426	-0.8302	0.1571	0.2487	0.1412
4	9.84	0.5560	-0.2545	0.0045	-0.0143	0.0518	-1.1588	0.2040	-0.0264	0.1479
4	9.84	0.6001	-0.2625	0.0050	-0.0382	0.0599	-1.4069	0.2410	-0.0992	0.1454
4	9.84	0.6501	-0.3316	0.0055	-0.0317	0.0684	-1.7150	0.2843	0.0264	0.1520
4	9.84	0.6999	-0.3799	0.0058	-0.0506	0.0764	-2.0794	0.3319	-0.0070	0.1411
4	9.84	0.7500	-0.6041	0.1438	-0.6106	0.3239	-2.1757	0.4918	0.2235	0.1475
4	9.84	0.8002	-0.7488	0.1234	-0.7254	0.3678	-2.6777	0.5044	-0.5298	0.8458
4	9.84	0.8582	-0.9470	0.0784	-0.9180	0.4530	-3.0055	0.7198	0.0385	0.1878
4	9.84	0.9101	-0.9790	0.0802	-0.9044	0.5134	-3.4824	0.7762	0.4627	0.2092
4	9.84	0.9728	-0.8761	0.0851	-0.9303	0.5958	-4.0779	0.8492	0.5914	0.2401

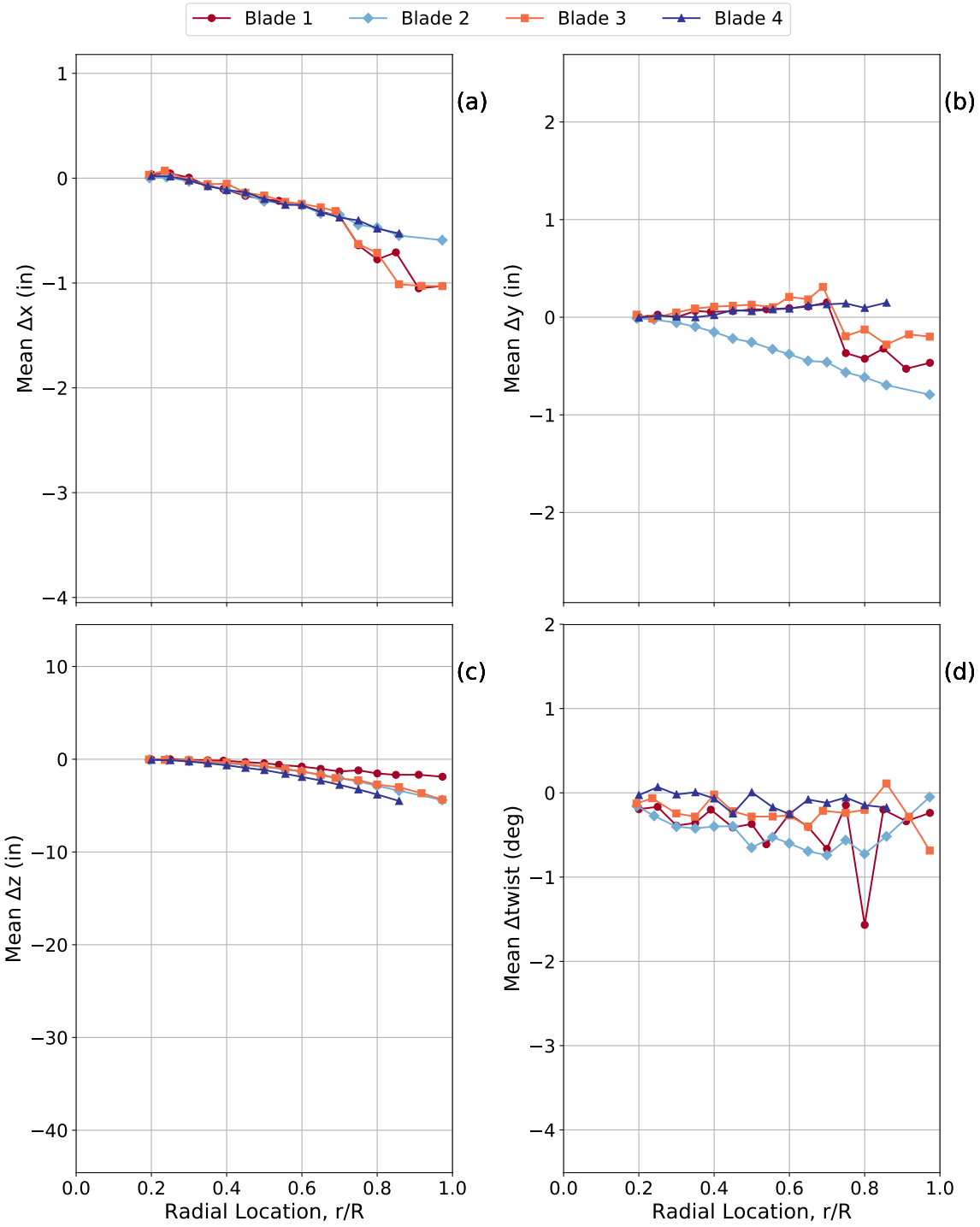


Figure 2.20-5. 15° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0363	0.0059	0.0031	0.0032	-0.0233	0.0084	-0.1938	0.0738
1	15.12	0.2499	0.0449	0.0035	0.0258	0.0056	-0.0051	0.0171	-0.1658	0.1581
1	15.12	0.2998	0.0049	0.0040	-0.0010	0.0114	-0.0772	0.0351	-0.3885	0.1790
1	15.12	0.3498	-0.0731	0.0035	0.0640	0.0193	-0.1134	0.0615	-0.3578	0.1752
1	15.12	0.3913	-0.1029	0.0041	0.0544	0.0269	-0.1560	0.0883	-0.1998	0.1847
1	15.12	0.4496	-0.1686	0.0042	0.0625	0.0350	-0.3075	0.1332	-0.4109	0.1932
1	15.12	0.4997	-0.2009	0.0044	0.0789	0.0439	-0.4302	0.1800	-0.3697	0.2038
1	15.12	0.5387	-0.2167	0.0052	0.0811	0.0511	-0.5928	0.2185	-0.6106	0.2041
1	15.12	0.5996	-0.2605	0.0051	0.0922	0.0610	-0.7982	0.2806	-0.2530	0.2077
1	15.12	0.6498	-0.3196	0.0050	0.1090	0.0701	-1.0357	0.3321	-0.4039	0.2116
1	15.12	0.6998	-0.3605	0.0070	0.1522	0.0793	-1.3167	0.3831	-0.6653	0.2125
1	15.12	0.7500	-0.6402	0.0682	-0.3677	0.2262	-1.1993	0.4848	-0.1456	0.1951
1	15.12	0.8001	-0.7747	0.0560	-0.4250	0.2517	-1.5298	0.5226	-1.5669	0.6265
1	15.12	0.8497	-0.7080	0.0737	-0.3216	0.2736	-1.6851	0.5938	-0.1992	0.1992
1	15.12	0.9102	-1.0509	0.0505	-0.5277	0.3416	-1.6701	0.7318	-0.3373	0.2075
1	15.12	0.9734	-1.0287	0.0447	-0.4666	0.3934	-1.8874	0.8141	-0.2381	0.2076
2	15.12	0.1949	0.0016	0.0063	-0.0117	0.0030	-0.0490	0.0085	-0.1562	0.0533
2	15.12	0.2405	0.0088	0.0025	-0.0239	0.0043	-0.0577	0.0147	-0.2736	0.1319
2	15.12	0.2999	-0.0309	0.0025	-0.0565	0.0102	-0.1757	0.0346	-0.4016	0.1490
2	15.12	0.3498	-0.0677	0.0030	-0.0958	0.0175	-0.2985	0.0616	-0.4213	0.1418
2	15.12	0.3998	-0.1139	0.0037	-0.1513	0.0260	-0.4447	0.0937	-0.3996	0.1399
2	15.12	0.4496	-0.1487	0.0038	-0.2181	0.0326	-0.6135	0.1285	-0.3964	0.1412
2	15.12	0.4995	-0.2209	0.0035	-0.2557	0.0405	-0.8400	0.1648	-0.6507	0.1482
2	15.12	0.5551	-0.2391	0.0044	-0.3275	0.0494	-1.0811	0.2069	-0.5265	0.1456
2	15.12	0.5996	-0.2570	0.0044	-0.3782	0.0567	-1.3353	0.2403	-0.5996	0.1488
2	15.12	0.6497	-0.3363	0.0049	-0.4469	0.0668	-1.6469	0.2805	-0.6938	0.1566
2	15.12	0.6996	-0.3482	0.0058	-0.4600	0.0754	-2.0332	0.3203	-0.7397	0.1479
2	15.12	0.7495	-0.4446	0.0063	-0.5643	0.0826	-2.3896	0.3614	-0.5614	0.1585
2	15.12	0.7996	-0.4698	0.0080	-0.6151	0.0927	-2.8635	0.4058	-0.7250	0.1623
2	15.12	0.8578	-0.5471	0.0126	-0.6953	0.1032	-3.3893	0.4601	-0.5169	0.1990
2	15.12	0.9727	-0.5914	0.0127	-0.7927	0.1233	-4.3994	0.6037	-0.0495	0.1906
3	15.12	0.1938	0.0324	0.0056	0.0263	0.0025	-0.0208	0.0081	-0.1279	0.0384
3	15.12	0.2357	0.0715	0.0036	-0.0135	0.0045	-0.0585	0.0138	-0.0642	0.0853
3	15.12	0.2995	-0.0251	0.0026	0.0484	0.0090	-0.1184	0.0345	-0.2442	0.0925
3	15.12	0.3493	-0.0575	0.0032	0.0892	0.0164	-0.2261	0.0614	-0.2824	0.1025
3	15.12	0.4000	-0.0532	0.0032	0.1079	0.0248	-0.3510	0.0943	-0.0204	0.1030
3	15.12	0.4497	-0.1387	0.0034	0.1172	0.0309	-0.5395	0.1293	-0.2188	0.0994
3	15.12	0.4997	-0.1654	0.0042	0.1290	0.0385	-0.7527	0.1676	-0.2819	0.1069
3	15.12	0.5556	-0.2264	0.0040	0.1024	0.0479	-1.0533	0.2152	-0.2812	0.1158
3	15.12	0.5995	-0.2453	0.0053	0.2083	0.0547	-1.3160	0.2546	-0.2690	0.1183
3	15.12	0.6498	-0.2782	0.0058	0.1829	0.0627	-1.7097	0.3020	-0.4009	0.1270
3	15.12	0.6890	-0.3137	0.0068	0.3106	0.0709	-2.0281	0.3419	-0.2131	0.1388
3	15.12	0.7495	-0.6283	0.0987	-0.1942	0.2258	-2.2670	0.4232	-0.2387	0.1721
3	15.12	0.7998	-0.7123	0.0984	-0.1262	0.2576	-2.7286	0.4728	-0.2018	0.1369
3	15.12	0.8577	-1.0124	0.0569	-0.2800	0.3153	-3.0160	0.5926	0.1109	0.1523
3	15.12	0.9178	-1.0277	0.0513	-0.1759	0.3736	-3.6655	0.6550	-0.2837	0.1743
3	15.12	0.9729	-1.0292	0.0467	-0.1992	0.4400	-4.3436	0.7147	-0.6857	0.1879
4	15.12	0.2001	0.0204	0.0043	-0.0050	0.0026	-0.0655	0.0073	-0.0273	0.0482
4	15.12	0.2502	0.0159	0.0028	0.0152	0.0046	-0.1066	0.0166	0.0677	0.0759
4	15.12	0.3001	-0.0207	0.0031	0.0065	0.0095	-0.2476	0.0318	-0.0189	0.1069
4	15.12	0.3502	-0.0764	0.0029	-0.0002	0.0164	-0.4366	0.0556	0.0065	0.0913
4	15.12	0.4002	-0.1134	0.0037	0.0218	0.0248	-0.6569	0.0869	-0.0672	0.0936
4	15.12	0.4500	-0.1341	0.0041	0.0728	0.0297	-0.9275	0.1203	-0.2462	0.0962
4	15.12	0.5001	-0.1984	0.0048	0.0624	0.0377	-1.1683	0.1574	0.0059	0.0996
4	15.12	0.5560	-0.2544	0.0048	0.0809	0.0458	-1.5712	0.2016	-0.1716	0.1001
4	15.12	0.6001	-0.2560	0.0053	0.0881	0.0530	-1.9063	0.2398	-0.2517	0.1037
4	15.12	0.6501	-0.3243	0.0054	0.1196	0.0605	-2.2977	0.2867	-0.0793	0.1111
4	15.12	0.6999	-0.3756	0.0076	0.1328	0.0692	-2.7623	0.3387	-0.1202	0.1132
4	15.12	0.7500	-0.4034	0.0088	0.1411	0.0774	-3.2546	0.4007	-0.0556	0.1244
4	15.12	0.8002	-0.4807	0.0117	0.0958	0.0890	-3.8073	0.4674	-0.1465	0.1583
4	15.12	0.8582	-0.5275	0.0163	0.1489	0.0975	-4.5018	0.5547	-0.1757	0.2007

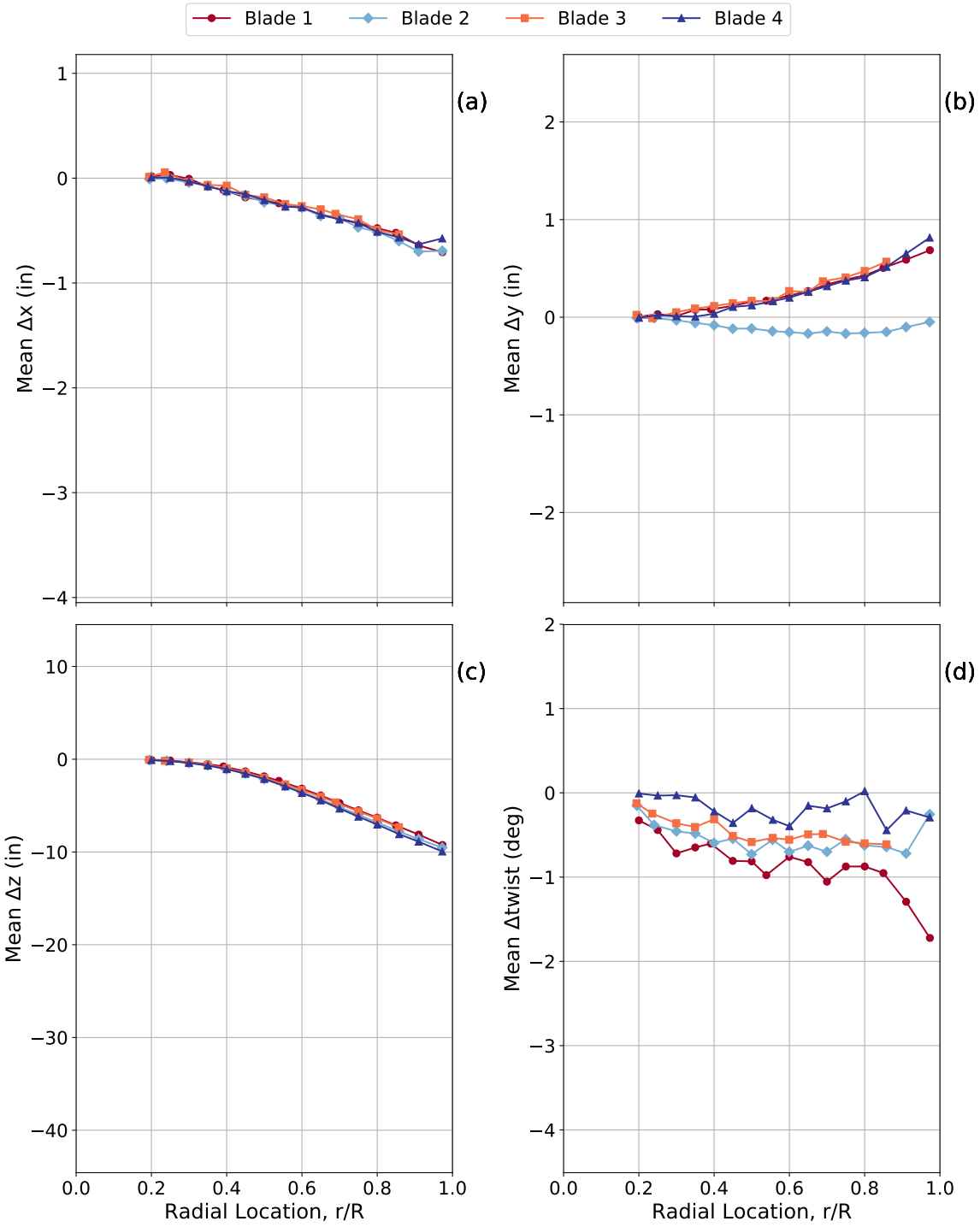


Figure 2.20-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0185	0.0047	0.0046	0.0025	-0.0736	0.0079	-0.3270	0.0448
1	29.88	0.2499	0.0301	0.0035	0.0311	0.0046	-0.1384	0.0175	-0.4418	0.0911
1	29.88	0.2998	-0.0060	0.0029	0.0118	0.0089	-0.3260	0.0347	-0.7190	0.1065
1	29.88	0.3498	-0.0783	0.0039	0.0760	0.0155	-0.5255	0.0606	-0.6482	0.0987
1	29.88	0.3913	-0.1131	0.0035	0.0806	0.0217	-0.7831	0.0881	-0.6023	0.0961
1	29.88	0.4496	-0.1837	0.0044	0.1165	0.0296	-1.3064	0.1293	-0.8075	0.1080
1	29.88	0.4997	-0.2121	0.0052	0.1598	0.0366	-1.8471	0.1676	-0.8132	0.1112
1	29.88	0.5387	-0.2395	0.0060	0.1693	0.0431	-2.3349	0.1995	-0.9768	0.1066
1	29.88	0.5996	-0.2841	0.0075	0.2211	0.0530	-3.1685	0.2522	-0.7592	0.1135
1	29.88	0.6498	-0.3478	0.0098	0.2682	0.0612	-3.9083	0.3000	-0.8224	0.1103
1	29.88	0.6998	-0.3853	0.0120	0.3363	0.0702	-4.7186	0.3533	-1.0540	0.1105
1	29.88	0.7500	-0.4288	0.0154	0.3861	0.0789	-5.5046	0.4141	-0.8745	0.1124
1	29.88	0.8001	-0.4775	0.0179	0.4280	0.0885	-6.2997	0.4793	-0.8740	0.1260
1	29.88	0.8497	-0.5210	0.0216	0.5048	0.0973	-7.1317	0.5478	-0.9526	0.1200
1	29.88	0.9102	-0.6418	0.0278	0.5892	0.1102	-8.1213	0.6368	-1.2926	0.1863
1	29.88	0.9734	-0.7069	0.0278	0.6869	0.1204	-9.2473	0.7314	-1.7222	0.1348
2	29.88	0.1949	-0.0078	0.0049	-0.0094	0.0022	-0.0846	0.0069	-0.1514	0.0402
2	29.88	0.2405	-0.0029	0.0032	-0.0082	0.0030	-0.1759	0.0146	-0.3819	0.0821
2	29.88	0.2999	-0.0415	0.0029	-0.0311	0.0070	-0.4015	0.0319	-0.4568	0.1015
2	29.88	0.3498	-0.0730	0.0031	-0.0575	0.0126	-0.6760	0.0551	-0.4824	0.1042
2	29.88	0.3998	-0.1269	0.0038	-0.0818	0.0181	-1.0673	0.0864	-0.5949	0.1127
2	29.88	0.4496	-0.1676	0.0046	-0.1177	0.0234	-1.5329	0.1197	-0.5443	0.1145
2	29.88	0.4995	-0.2294	0.0061	-0.1154	0.0293	-2.1410	0.1563	-0.7295	0.1211
2	29.88	0.5551	-0.2611	0.0075	-0.1433	0.0362	-2.8557	0.2005	-0.5570	0.1227
2	29.88	0.5996	-0.2814	0.0088	-0.1524	0.0424	-3.5489	0.2379	-0.7003	0.1239
2	29.88	0.6497	-0.3606	0.0106	-0.1674	0.0489	-4.3137	0.2824	-0.6276	0.1296
2	29.88	0.6996	-0.3812	0.0133	-0.1453	0.0550	-5.1607	0.3312	-0.6994	0.1426
2	29.88	0.7495	-0.4689	0.0157	-0.1677	0.0623	-5.9682	0.3870	-0.5513	0.1395
2	29.88	0.7996	-0.5106	0.0193	-0.1601	0.0696	-6.8160	0.4469	-0.6238	0.1485
2	29.88	0.8578	-0.6003	0.0238	-0.1503	0.0777	-7.7875	0.5216	-0.6428	0.1483
2	29.88	0.9100	-0.7006	0.0286	-0.1013	0.0854	-8.6090	0.5942	-0.7197	0.2085
2	29.88	0.9727	-0.6928	0.0290	-0.0481	0.0938	-9.5348	0.6842	-0.2546	0.1294
3	29.88	0.1938	0.0130	0.0047	0.0247	0.0020	-0.0602	0.0069	-0.1239	0.0338
3	29.88	0.2357	0.0557	0.0035	-0.0097	0.0031	-0.1701	0.0147	-0.2464	0.0772
3	29.88	0.2995	-0.0371	0.0031	0.0514	0.0062	-0.3473	0.0328	-0.3611	0.0893
3	29.88	0.3493	-0.0646	0.0037	0.0889	0.0110	-0.6096	0.0562	-0.4055	0.0888
3	29.88	0.4000	-0.0711	0.0047	0.1146	0.0164	-0.9767	0.0891	-0.3137	0.0940
3	29.88	0.4497	-0.1585	0.0057	0.1434	0.0216	-1.4499	0.1281	-0.5126	0.0965
3	29.88	0.4997	-0.1828	0.0073	0.1680	0.0265	-2.0064	0.1732	-0.5837	0.0974
3	29.88	0.5556	-0.2467	0.0090	0.1656	0.0326	-2.7083	0.2281	-0.5347	0.0980
3	29.88	0.5995	-0.2666	0.0109	0.2684	0.0375	-3.3134	0.2749	-0.5565	0.0984
3	29.88	0.6498	-0.2975	0.0127	0.2582	0.0437	-4.0445	0.3296	-0.4930	0.1056
3	29.88	0.6890	-0.3405	0.0152	0.3681	0.0486	-4.6575	0.3727	-0.4890	0.1065
3	29.88	0.7495	-0.3924	0.0177	0.4084	0.0567	-5.6197	0.4443	-0.5805	0.1053
3	29.88	0.7998	-0.4933	0.0207	0.4737	0.0625	-6.3927	0.5034	-0.5992	0.1121
3	29.88	0.8577	-0.5361	0.0246	0.5692	0.0709	-7.3335	0.5755	-0.6110	0.1367
4	29.88	0.2001	0.0062	0.0038	-0.0057	0.0015	-0.0909	0.0070	-0.0080	0.0357
4	29.88	0.2502	0.0035	0.0029	0.0215	0.0039	-0.1999	0.0177	-0.0330	0.0644
4	29.88	0.3001	-0.0300	0.0032	0.0101	0.0057	-0.3932	0.0315	-0.0283	0.0822
4	29.88	0.3502	-0.0781	0.0037	0.0064	0.0104	-0.6830	0.0561	-0.0550	0.0790
4	29.88	0.4002	-0.1251	0.0046	0.0360	0.0158	-1.0660	0.0879	-0.2207	0.0811
4	29.88	0.4500	-0.1511	0.0054	0.1058	0.0207	-1.5646	0.1239	-0.3576	0.0823
4	29.88	0.5001	-0.2092	0.0069	0.1214	0.0263	-2.1266	0.1638	-0.1834	0.0878
4	29.88	0.5560	-0.2716	0.0085	0.1647	0.0326	-2.9296	0.2088	-0.3202	0.0884
4	29.88	0.6001	-0.2788	0.0099	0.2005	0.0380	-3.6335	0.2465	-0.3958	0.0872
4	29.88	0.6501	-0.3489	0.0119	0.2605	0.0440	-4.4364	0.2898	-0.1531	0.0881
4	29.88	0.6999	-0.3945	0.0141	0.3180	0.0500	-5.3206	0.3349	-0.1849	0.0924
4	29.88	0.7500	-0.4280	0.0167	0.3750	0.0560	-6.1924	0.3826	-0.1011	0.0940
4	29.88	0.8002	-0.5111	0.0193	0.4086	0.0616	-7.0438	0.4343	0.0195	0.1018
4	29.88	0.8582	-0.5662	0.0229	0.5166	0.0694	-8.0804	0.4977	-0.4434	0.1151
4	29.88	0.9101	-0.6310	0.0269	0.6513	0.0760	-8.8846	0.5563	-0.2096	0.1291
4	29.88	0.9728	-0.5750	0.0281	0.8149	0.0822	-9.9487	0.6325	-0.2925	0.1596

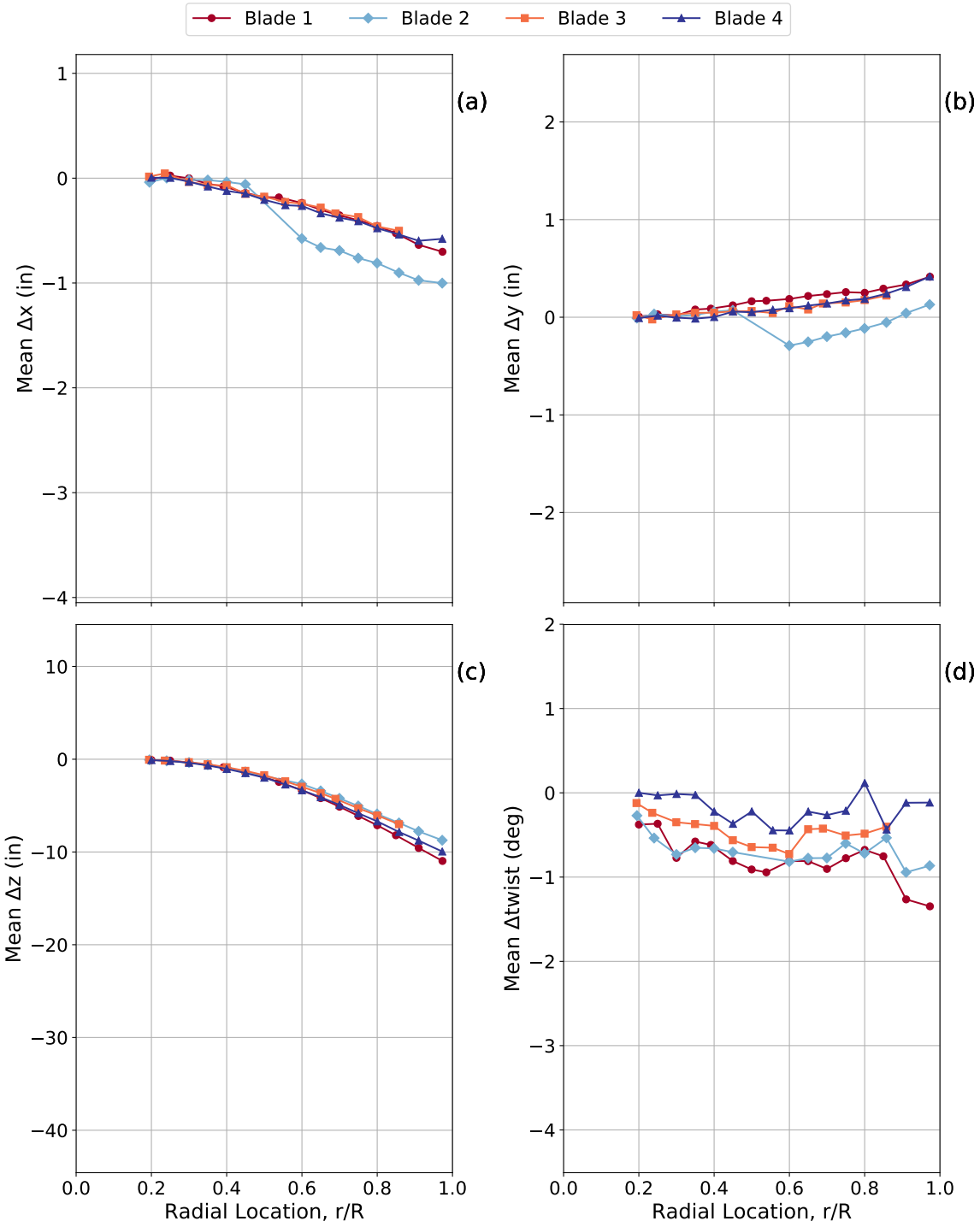


Figure 2.20-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0108	0.0056	0.0063	0.0030	-0.0856	0.0061	-0.3765	0.0383
1	45	0.2499	0.0244	0.0034	0.0294	0.0054	-0.1488	0.0125	-0.3669	0.0875
1	45	0.2998	-0.0013	0.0030	0.0185	0.0116	-0.3679	0.0256	-0.7718	0.0935
1	45	0.3498	-0.0539	0.0055	0.0788	0.0198	-0.5860	0.0446	-0.5780	0.0933
1	45	0.3913	-0.0775	0.0089	0.0882	0.0281	-0.8703	0.0642	-0.6181	0.0950
1	45	0.4496	-0.1410	0.0146	0.1216	0.0394	-1.3901	0.0943	-0.8091	0.1004
1	45	0.4997	-0.1808	0.0218	0.1634	0.0498	-1.9354	0.1218	-0.9095	0.1016
1	45	0.5387	-0.1836	0.0200	0.1687	0.0864	-2.4404	0.1873	-0.9435	0.1102
1	45	0.5996	-0.2364	0.0196	0.1868	0.0998	-3.3379	0.2247	-0.8098	0.1132
1	45	0.6498	-0.3016	0.0201	0.2174	0.1112	-4.1952	0.2560	-0.8103	0.1141
1	45	0.6998	-0.3544	0.0205	0.2367	0.1230	-5.1181	0.2887	-0.9029	0.1121
1	45	0.7500	-0.4021	0.0215	0.2572	0.1349	-6.1180	0.3248	-0.7760	0.1136
1	45	0.8001	-0.4560	0.0228	0.2504	0.1469	-7.1207	0.3653	-0.6770	0.1171
1	45	0.8497	-0.5249	0.0247	0.2927	0.1595	-8.1996	0.4102	-0.7531	0.1211
1	45	0.9102	-0.6361	0.0274	0.3355	0.1746	-9.5667	0.4740	-1.2644	0.1228
1	45	0.9734	-0.7022	0.0310	0.4150	0.1902	-10.9675	0.5456	-1.3471	0.1283
2	45	0.1949	-0.0386	0.0059	-0.0086	0.0028	-0.0662	0.0064	-0.2704	0.0626
2	45	0.2405	0.0012	0.0030	0.0324	0.0076	-0.1694	0.0147	-0.5368	0.1106
2	45	0.2999	-0.0171	0.0033	0.0102	0.0138	-0.3521	0.0303	-0.7313	0.1505
2	45	0.3498	-0.0177	0.0053	0.0241	0.0242	-0.5949	0.0538	-0.6517	0.1168
2	45	0.3998	-0.0358	0.0075	0.0566	0.0377	-0.9549	0.0833	-0.6598	0.1449
2	45	0.4496	-0.0588	0.0087	0.0713	0.0450	-1.3690	0.1062	-0.7040	0.1484
2	45	0.5996	-0.5760	0.0315	-0.2905	0.2419	-2.6716	0.3786	-0.8164	0.1356
2	45	0.6497	-0.6615	0.0342	-0.2524	0.2639	-3.4154	0.4156	-0.7756	0.1416
2	45	0.6996	-0.6902	0.0378	-0.1986	0.2868	-4.2163	0.4531	-0.7734	0.1434
2	45	0.7495	-0.7629	0.0410	-0.1591	0.3096	-5.0406	0.4911	-0.6002	0.1458
2	45	0.7996	-0.8100	0.0448	-0.1147	0.3319	-5.9011	0.5305	-0.7192	0.1514
2	45	0.8578	-0.9022	0.0499	-0.0529	0.3581	-6.8659	0.5802	-0.5337	0.1593
2	45	0.9100	-0.9742	0.0543	0.0419	0.3776	-7.7745	0.6270	-0.9428	0.1660
2	45	0.9727	-1.0012	0.0609	0.1298	0.3949	-8.7357	0.6820	-0.8652	0.1737
3	45	0.1938	0.0150	0.0038	0.0210	0.0020	-0.0565	0.0062	-0.1212	0.0416
3	45	0.2357	0.0451	0.0033	-0.0224	0.0028	-0.1460	0.0117	-0.2370	0.0773
3	45	0.2995	-0.0361	0.0031	0.0289	0.0062	-0.3124	0.0264	-0.3489	0.1002
3	45	0.3493	-0.0647	0.0030	0.0452	0.0107	-0.5370	0.0459	-0.3707	0.0932
3	45	0.4000	-0.0670	0.0037	0.0469	0.0162	-0.8628	0.0716	-0.3924	0.0968
3	45	0.4497	-0.1497	0.0045	0.0600	0.0215	-1.2507	0.1015	-0.5623	0.0930
3	45	0.4997	-0.1766	0.0049	0.0634	0.0271	-1.7247	0.1349	-0.6439	0.1011
3	45	0.5556	-0.2276	0.0061	0.0431	0.0340	-2.3770	0.1734	-0.6514	0.1010
3	45	0.5995	-0.2431	0.0067	0.1136	0.0403	-2.9640	0.2038	-0.7264	0.0996
3	45	0.6498	-0.2807	0.0082	0.0794	0.0469	-3.6586	0.2378	-0.4320	0.1083
3	45	0.6890	-0.3363	0.0092	0.1407	0.0534	-4.2679	0.2638	-0.4243	0.1052
3	45	0.7495	-0.3711	0.0114	0.1511	0.0629	-5.2828	0.3046	-0.5068	0.1099
3	45	0.7998	-0.4608	0.0128	0.1758	0.0712	-6.0582	0.3394	-0.4846	0.1106
3	45	0.8577	-0.5017	0.0152	0.2221	0.0805	-7.0038	0.3817	-0.4018	0.1132
4	45	0.2001	0.0044	0.0032	-0.0089	0.0020	-0.0901	0.0061	0.0004	0.0309
4	45	0.2502	0.0030	0.0022	0.0164	0.0034	-0.1947	0.0135	-0.0305	0.0681
4	45	0.3001	-0.0338	0.0029	-0.0043	0.0072	-0.3859	0.0265	-0.0139	0.0758
4	45	0.3502	-0.0794	0.0027	-0.0141	0.0123	-0.6724	0.0456	-0.0251	0.0702
4	45	0.4002	-0.1215	0.0034	0.0017	0.0187	-1.0462	0.0717	-0.2228	0.0708
4	45	0.4500	-0.1473	0.0037	0.0575	0.0248	-1.4967	0.1025	-0.3679	0.0754
4	45	0.5001	-0.2068	0.0046	0.0513	0.0316	-1.9888	0.1360	-0.2211	0.0738
4	45	0.5560	-0.2579	0.0055	0.0766	0.0392	-2.7253	0.1743	-0.4451	0.0786
4	45	0.6001	-0.2651	0.0064	0.0922	0.0459	-3.3500	0.2054	-0.4468	0.0765
4	45	0.6501	-0.3354	0.0082	0.1195	0.0531	-4.0959	0.2394	-0.2227	0.0808
4	45	0.6999	-0.3768	0.0102	0.1402	0.0606	-4.9341	0.2749	-0.2646	0.0861
4	45	0.7500	-0.4105	0.0117	0.1721	0.0682	-5.8257	0.3133	-0.2125	0.0880
4	45	0.8002	-0.4779	0.0144	0.1873	0.0764	-6.7016	0.3552	0.1169	0.0993
4	45	0.8582	-0.5380	0.0177	0.2415	0.0857	-7.8472	0.4085	-0.4355	0.1037
4	45	0.9101	-0.5975	0.0203	0.3091	0.0941	-8.7719	0.4606	-0.1180	0.1119
4	45	0.9728	-0.5787	0.0220	0.4164	0.1049	-9.9521	0.5276	-0.1159	0.1169

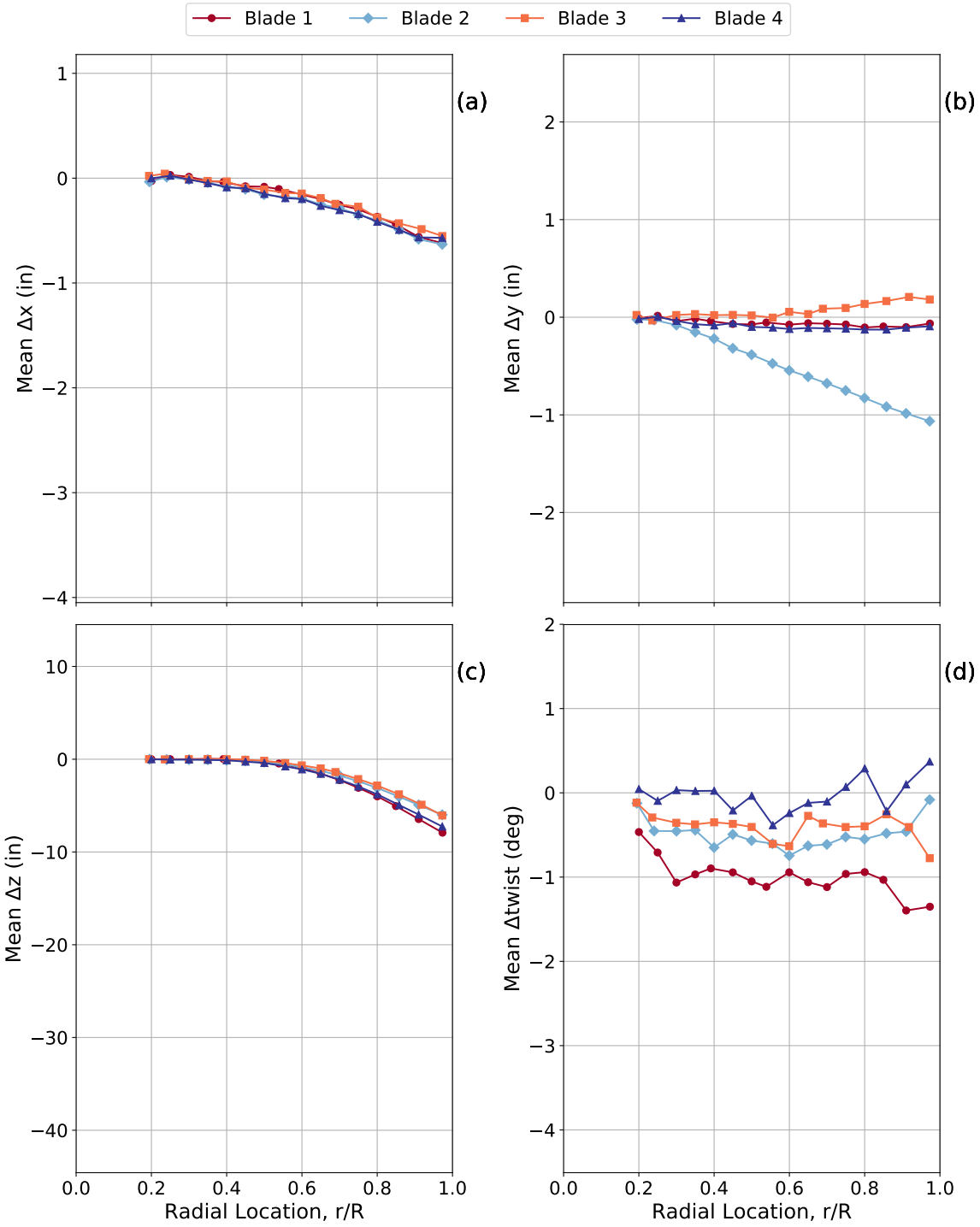


Figure 2.20-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0281	0.0134	-0.0109	0.0118	0.0048	0.0275	-0.4653	0.1627
1	60.12	0.2499	0.0307	0.0058	0.0150	0.0127	0.0085	0.0297	-0.7084	0.4774
1	60.12	0.2998	0.0129	0.0131	-0.0398	0.0407	-0.0012	0.0937	-1.0649	0.4678
1	60.12	0.3498	-0.0274	0.0222	-0.0148	0.0683	0.0398	0.1583	-0.9680	0.4742
1	60.12	0.3913	-0.0373	0.0281	-0.0402	0.0933	0.0249	0.2152	-0.8970	0.4741
1	60.12	0.4496	-0.0777	0.0359	-0.0692	0.1288	-0.0933	0.2944	-0.9437	0.4882
1	60.12	0.4997	-0.0823	0.0415	-0.0738	0.1615	-0.3173	0.3650	-1.0510	0.4881
1	60.12	0.5387	-0.1040	0.0526	-0.0535	0.2171	-0.4630	0.2800	-1.1155	0.4297
1	60.12	0.5996	-0.1558	0.0543	-0.0761	0.2576	-0.9501	0.3543	-0.9431	0.4326
1	60.12	0.6498	-0.2002	0.0559	-0.0613	0.2923	-1.5483	0.4168	-1.0609	0.4314
1	60.12	0.6998	-0.2550	0.0578	-0.0666	0.3278	-2.2448	0.4802	-1.1185	0.4273
1	60.12	0.7500	-0.2979	0.0603	-0.0745	0.3639	-3.0809	0.5436	-0.9625	0.4284
1	60.12	0.8001	-0.3690	0.0627	-0.1048	0.4014	-4.0059	0.6090	-0.9411	0.4278
1	60.12	0.8497	-0.4403	0.0664	-0.0947	0.4386	-5.0579	0.6723	-1.0320	0.4277
1	60.12	0.9102	-0.5608	0.0702	-0.1011	0.4855	-6.4504	0.7517	-1.3967	0.4280
1	60.12	0.9734	-0.6202	0.0651	-0.0645	0.5349	-7.9177	0.8358	-1.3516	0.4321
2	60.12	0.1949	-0.0350	0.0065	-0.0227	0.0034	0.0018	0.0094	-0.1238	0.0531
2	60.12	0.2405	0.0103	0.0031	-0.0276	0.0035	-0.0371	0.0167	-0.4527	0.1375
2	60.12	0.2999	-0.0134	0.0031	-0.0805	0.0099	-0.0457	0.0369	-0.4544	0.1496
2	60.12	0.3498	-0.0419	0.0027	-0.1525	0.0162	-0.0487	0.0643	-0.4424	0.1454
2	60.12	0.3998	-0.0816	0.0035	-0.2192	0.0236	-0.1165	0.0981	-0.6492	0.1428
2	60.12	0.4496	-0.1057	0.0037	-0.3183	0.0316	-0.1744	0.1343	-0.4928	0.1460
2	60.12	0.4995	-0.1568	0.0040	-0.3839	0.0395	-0.3129	0.1724	-0.5660	0.1499
2	60.12	0.5551	-0.1795	0.0039	-0.4742	0.0486	-0.5574	0.2168	-0.6032	0.1479
2	60.12	0.5996	-0.1921	0.0044	-0.5451	0.0568	-0.8554	0.2539	-0.7446	0.1480
2	60.12	0.6497	-0.2515	0.0050	-0.6089	0.0655	-1.2425	0.2981	-0.6290	0.1524
2	60.12	0.6996	-0.2847	0.0064	-0.6773	0.0751	-1.7598	0.3461	-0.6122	0.1521
2	60.12	0.7495	-0.3495	0.0080	-0.7508	0.0855	-2.3751	0.3974	-0.5230	0.1558
2	60.12	0.7996	-0.4000	0.0102	-0.8276	0.0956	-3.0922	0.4525	-0.5498	0.1598
2	60.12	0.8578	-0.4896	0.0140	-0.9168	0.1079	-4.0379	0.5223	-0.4808	0.1608
2	60.12	0.9100	-0.5820	0.0172	-0.9853	0.1189	-4.9215	0.5882	-0.4601	0.1623
2	60.12	0.9727	-0.6313	0.0199	-1.0647	0.1327	-5.9902	0.6728	-0.0818	0.1542
3	60.12	0.1938	0.0214	0.0076	0.0231	0.0039	0.0129	0.0075	-0.1168	0.0417
3	60.12	0.2357	0.0425	0.0032	-0.0331	0.0027	-0.0179	0.0125	-0.2925	0.1023
3	60.12	0.2995	-0.0087	0.0025	0.0225	0.0104	0.0106	0.0294	-0.3553	0.1154
3	60.12	0.3493	-0.0266	0.0029	0.0323	0.0180	0.0155	0.0504	-0.3744	0.1113
3	60.12	0.4000	-0.0311	0.0032	0.0215	0.0255	0.0067	0.0781	-0.3500	0.1154
3	60.12	0.4497	-0.0903	0.0031	0.0238	0.0327	-0.0541	0.1093	-0.3686	0.1139
3	60.12	0.4997	-0.1086	0.0039	0.0183	0.0401	-0.1646	0.1423	-0.4049	0.1154
3	60.12	0.5556	-0.1406	0.0041	-0.0040	0.0485	-0.4134	0.1809	-0.6060	0.1187
3	60.12	0.5995	-0.1469	0.0045	0.0552	0.0554	-0.6640	0.2113	-0.6333	0.1185
3	60.12	0.6498	-0.1900	0.0046	0.0322	0.0637	-0.9878	0.2463	-0.2732	0.1207
3	60.12	0.6890	-0.2453	0.0052	0.0870	0.0706	-1.3815	0.2743	-0.3632	0.1208
3	60.12	0.7495	-0.2726	0.0064	0.0948	0.0814	-2.1424	0.3182	-0.4060	0.1247
3	60.12	0.7998	-0.3750	0.0082	0.1361	0.0904	-2.8322	0.3573	-0.3972	0.1307
3	60.12	0.8577	-0.4306	0.0115	0.1656	0.1020	-3.7839	0.4073	-0.2549	0.1304
3	60.12	0.9178	-0.4865	0.0138	0.2079	0.1135	-4.9025	0.4661	-0.4058	0.1340
3	60.12	0.9729	-0.5521	0.0172	0.1816	0.1242	-6.0622	0.5255	-0.7754	0.1321
4	60.12	0.2001	-0.0016	0.0040	-0.0182	0.0023	-0.0021	0.0088	0.0445	0.0434
4	60.12	0.2502	0.0233	0.0027	0.0043	0.0039	-0.0401	0.0197	-0.0954	0.0981
4	60.12	0.3001	-0.0131	0.0027	-0.0377	0.0075	-0.0293	0.0368	0.0320	0.1078
4	60.12	0.3502	-0.0473	0.0026	-0.0714	0.0135	-0.0685	0.0650	0.0219	0.1067
4	60.12	0.4002	-0.0874	0.0025	-0.0839	0.0198	-0.1120	0.1005	0.0246	0.1075
4	60.12	0.4500	-0.0960	0.0029	-0.0600	0.0263	-0.2593	0.1388	-0.2091	0.1136
4	60.12	0.5001	-0.1507	0.0032	-0.0993	0.0333	-0.4037	0.1797	-0.0353	0.1170
4	60.12	0.5560	-0.1907	0.0031	-0.1059	0.0408	-0.7755	0.2263	-0.3846	0.1159
4	60.12	0.6001	-0.1989	0.0040	-0.1205	0.0470	-1.0940	0.2630	-0.2400	0.1195
4	60.12	0.6501	-0.2638	0.0045	-0.1098	0.0538	-1.5745	0.3051	-0.1194	0.1220
4	60.12	0.6999	-0.3050	0.0056	-0.1138	0.0607	-2.2030	0.3491	-0.1039	0.1287
4	60.12	0.7500	-0.3423	0.0075	-0.1174	0.0679	-2.9426	0.3940	0.0697	0.1293
4	60.12	0.8002	-0.4163	0.0101	-0.1268	0.0751	-3.7851	0.4409	0.2895	0.1339
4	60.12	0.8582	-0.4930	0.0136	-0.1268	0.0839	-4.9408	0.4968	-0.2175	0.1367
4	60.12	0.9101	-0.5646	0.0164	-0.1069	0.0912	-5.9658	0.5492	0.0995	0.1310
4	60.12	0.9728	-0.5692	0.0191	-0.0929	0.1012	-7.2552	0.6150	0.3704	0.1244

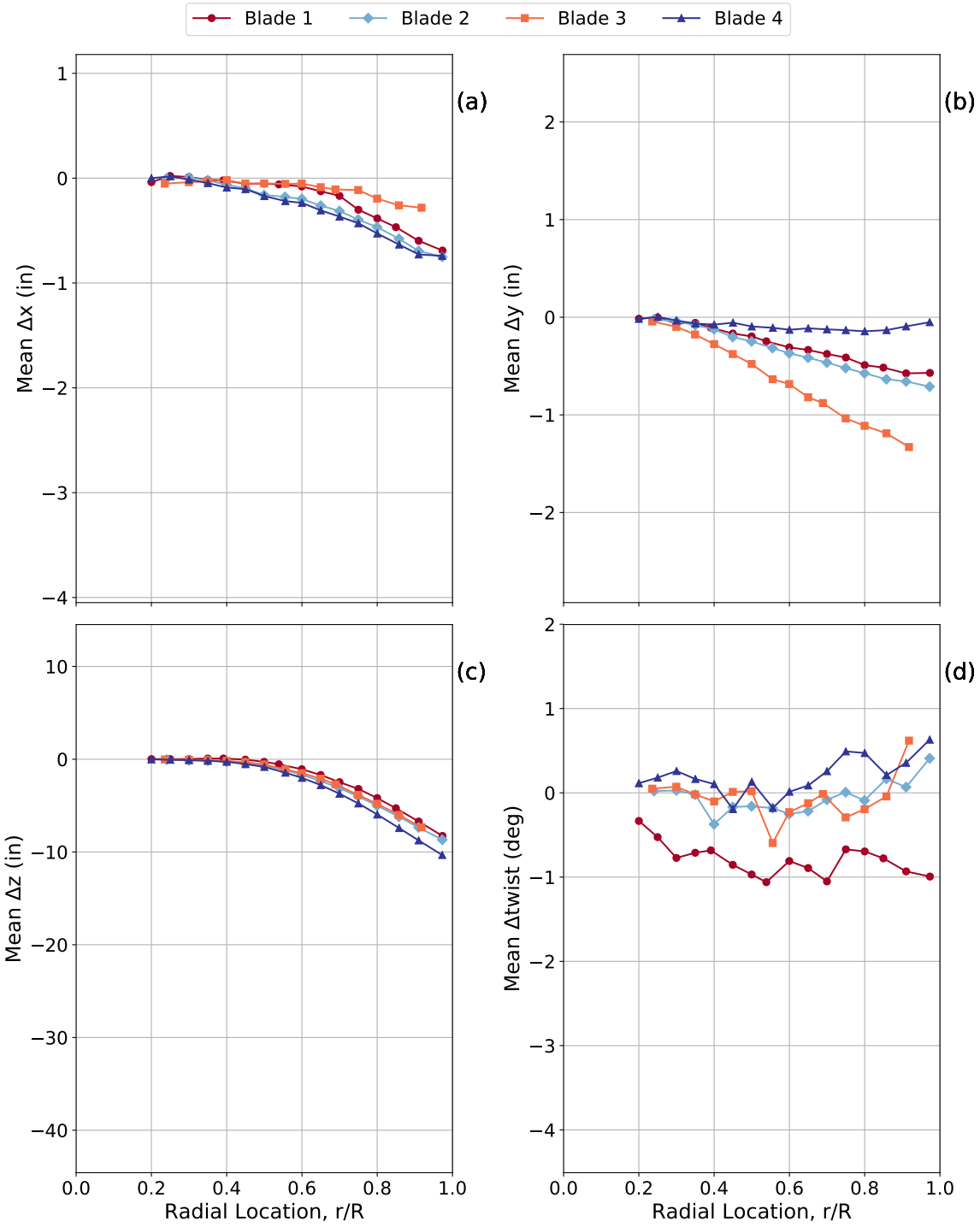


Figure 2.20-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0381	0.0084	-0.0153	0.0091	0.0135	0.0223	-0.3337	0.1475
1	74.88	0.2499	0.0212	0.0043	-0.0016	0.0108	0.0147	0.0261	-0.5258	0.4040
1	74.88	0.2998	0.0111	0.0090	-0.0646	0.0315	0.0257	0.0736	-0.7724	0.4077
1	74.88	0.3498	-0.0159	0.0152	-0.0576	0.0524	0.0807	0.1241	-0.7111	0.3886
1	74.88	0.3913	-0.0200	0.0194	-0.1065	0.0720	0.0807	0.1685	-0.6826	0.3908
1	74.88	0.4496	-0.0532	0.0235	-0.1669	0.1022	-0.0402	0.2391	-0.8542	0.3865
1	74.88	0.4997	-0.0520	0.0278	-0.1961	0.1292	-0.2827	0.3035	-0.9692	0.3932
1	74.88	0.5387	-0.0599	0.0315	-0.2463	0.1523	-0.5410	0.3557	-1.0605	0.3866
1	74.88	0.5996	-0.0793	0.0366	-0.3088	0.1883	-1.0779	0.4381	-0.8090	0.4027
1	74.88	0.6498	-0.1249	0.0410	-0.3350	0.2204	-1.6979	0.5068	-0.8929	0.4156
1	74.88	0.6998	-0.1691	0.0479	-0.3763	0.2546	-2.4726	0.5749	-1.0512	0.4429
1	74.88	0.7500	-0.3012	0.0408	-0.4127	0.3556	-3.2024	0.5147	-0.6711	0.4132
1	74.88	0.8001	-0.3843	0.0437	-0.4905	0.3919	-4.1890	0.5813	-0.6953	0.4140
1	74.88	0.8497	-0.4677	0.0477	-0.5159	0.4285	-5.2860	0.6489	-0.7776	0.4146
1	74.88	0.9102	-0.5974	0.0521	-0.5749	0.4741	-6.7166	0.7327	-0.9325	0.4143
1	74.88	0.9734	-0.6903	0.0494	-0.5699	0.5223	-8.2665	0.8220	-0.9936	0.4170
2	74.88	0.2405	-0.0030	0.0058	-0.0215	0.0051	-0.0393	0.0146	0.0214	0.1235
2	74.88	0.2999	0.0039	0.0032	-0.0431	0.0098	-0.1174	0.0310	0.0284	0.1917
2	74.88	0.3498	-0.0201	0.0037	-0.0814	0.0190	-0.1526	0.0551	-0.0216	0.1847
2	74.88	0.3998	-0.0636	0.0035	-0.1230	0.0282	-0.2757	0.0852	-0.3730	0.1844
2	74.88	0.4496	-0.0966	0.0038	-0.2033	0.0369	-0.4102	0.1199	-0.1681	0.1832
2	74.88	0.4995	-0.1602	0.0044	-0.2481	0.0462	-0.6853	0.1580	-0.1595	0.1757
2	74.88	0.5551	-0.1787	0.0054	-0.3156	0.0574	-1.1685	0.2026	-0.1805	0.1780
2	74.88	0.5996	-0.1980	0.0063	-0.3690	0.0665	-1.6796	0.2409	-0.2510	0.1735
2	74.88	0.6497	-0.2619	0.0073	-0.4149	0.0776	-2.3426	0.2862	-0.2177	0.1725
2	74.88	0.6996	-0.3133	0.0093	-0.4646	0.0887	-3.1148	0.3330	-0.0823	0.1740
2	74.88	0.7495	-0.3952	0.0115	-0.5204	0.1007	-4.0100	0.3820	0.0065	0.1752
2	74.88	0.7996	-0.4666	0.0147	-0.5739	0.1127	-5.0035	0.4325	-0.0908	0.1769
2	74.88	0.8578	-0.5780	0.0188	-0.6352	0.1275	-6.2111	0.4922	0.1667	0.1785
2	74.88	0.9100	-0.6944	0.0217	-0.6577	0.1409	-7.3530	0.5451	0.0677	0.1763
2	74.88	0.9727	-0.7502	0.0245	-0.7105	0.1569	-8.6824	0.6105	0.4093	0.1724
3	74.88	0.2357	-0.0515	0.0170	-0.0431	0.0035	-0.0242	0.0153	0.0497	0.1128
3	74.88	0.2995	-0.0384	0.0039	-0.0984	0.0079	-0.0657	0.0334	0.0720	0.1824
3	74.88	0.3493	-0.0304	0.0066	-0.1766	0.0142	-0.1070	0.0604	-0.0187	0.1819
3	74.88	0.4000	-0.0192	0.0118	-0.2756	0.0218	-0.1778	0.0925	-0.1022	0.1870
3	74.88	0.4497	-0.0519	0.0152	-0.3773	0.0299	-0.3096	0.1296	0.0109	0.1864
3	74.88	0.4997	-0.0501	0.0192	-0.4790	0.0387	-0.5753	0.1707	0.0205	0.1860
3	74.88	0.5556	-0.0541	0.0243	-0.6353	0.0492	-1.0922	0.2192	-0.5957	0.1854
3	74.88	0.5995	-0.0518	0.0284	-0.6842	0.0575	-1.5072	0.2582	-0.2299	0.1881
3	74.88	0.6498	-0.0862	0.0333	-0.8193	0.0672	-2.0877	0.3024	-0.1232	0.1902
3	74.88	0.6890	-0.1080	0.0371	-0.8790	0.0752	-2.7047	0.3349	-0.0136	0.1909
3	74.88	0.7495	-0.1133	0.0434	-1.0362	0.0876	-3.8484	0.3848	-0.2916	0.1944
3	74.88	0.7998	-0.1950	0.0493	-1.1120	0.0989	-4.7984	0.4258	-0.1935	0.1982
3	74.88	0.8577	-0.2593	0.0573	-1.1892	0.1139	-6.0090	0.4748	-0.0428	0.2009
3	74.88	0.9178	-0.2821	0.0683	-1.3296	0.1323	-7.3448	0.5264	0.6196	0.2062
4	74.88	0.2001	-0.0004	0.0063	-0.0165	0.0027	-0.0195	0.0096	0.1138	0.0791
4	74.88	0.2502	0.0174	0.0036	0.0040	0.0040	-0.0584	0.0178	0.1804	0.1960
4	74.88	0.3001	-0.0141	0.0034	-0.0341	0.0087	-0.0949	0.0350	0.2587	0.2053
4	74.88	0.3502	-0.0473	0.0033	-0.0647	0.0150	-0.1706	0.0615	0.1640	0.1927
4	74.88	0.4002	-0.0899	0.0037	-0.0759	0.0219	-0.2704	0.0930	0.1032	0.1983
4	74.88	0.4500	-0.1045	0.0043	-0.0558	0.0297	-0.5275	0.1275	-0.1933	0.1989
4	74.88	0.5001	-0.1711	0.0043	-0.0947	0.0376	-0.8284	0.1623	0.1299	0.1979
4	74.88	0.5560	-0.2190	0.0050	-0.1082	0.0478	-1.4526	0.2046	-0.1793	0.1983
4	74.88	0.6001	-0.2357	0.0059	-0.1283	0.0561	-2.0084	0.2389	0.0130	0.1973
4	74.88	0.6501	-0.3078	0.0070	-0.1134	0.0663	-2.7916	0.2792	0.0874	0.1960
4	74.88	0.6999	-0.3665	0.0093	-0.1242	0.0769	-3.7207	0.3188	0.2565	0.1983
4	74.88	0.7500	-0.4306	0.0115	-0.1321	0.0883	-4.7665	0.3583	0.4918	0.2021
4	74.88	0.8002	-0.5279	0.0143	-0.1439	0.1000	-5.9589	0.3963	0.4726	0.1992
4	74.88	0.8582	-0.6339	0.0178	-0.1321	0.1143	-7.4196	0.4414	0.2110	0.2047
4	74.88	0.9101	-0.7276	0.0209	-0.0938	0.1274	-8.7546	0.4817	0.3560	0.2044
4	74.88	0.9728	-0.7418	0.0241	-0.0506	0.1434	-10.3263	0.5341	0.6308	0.2010

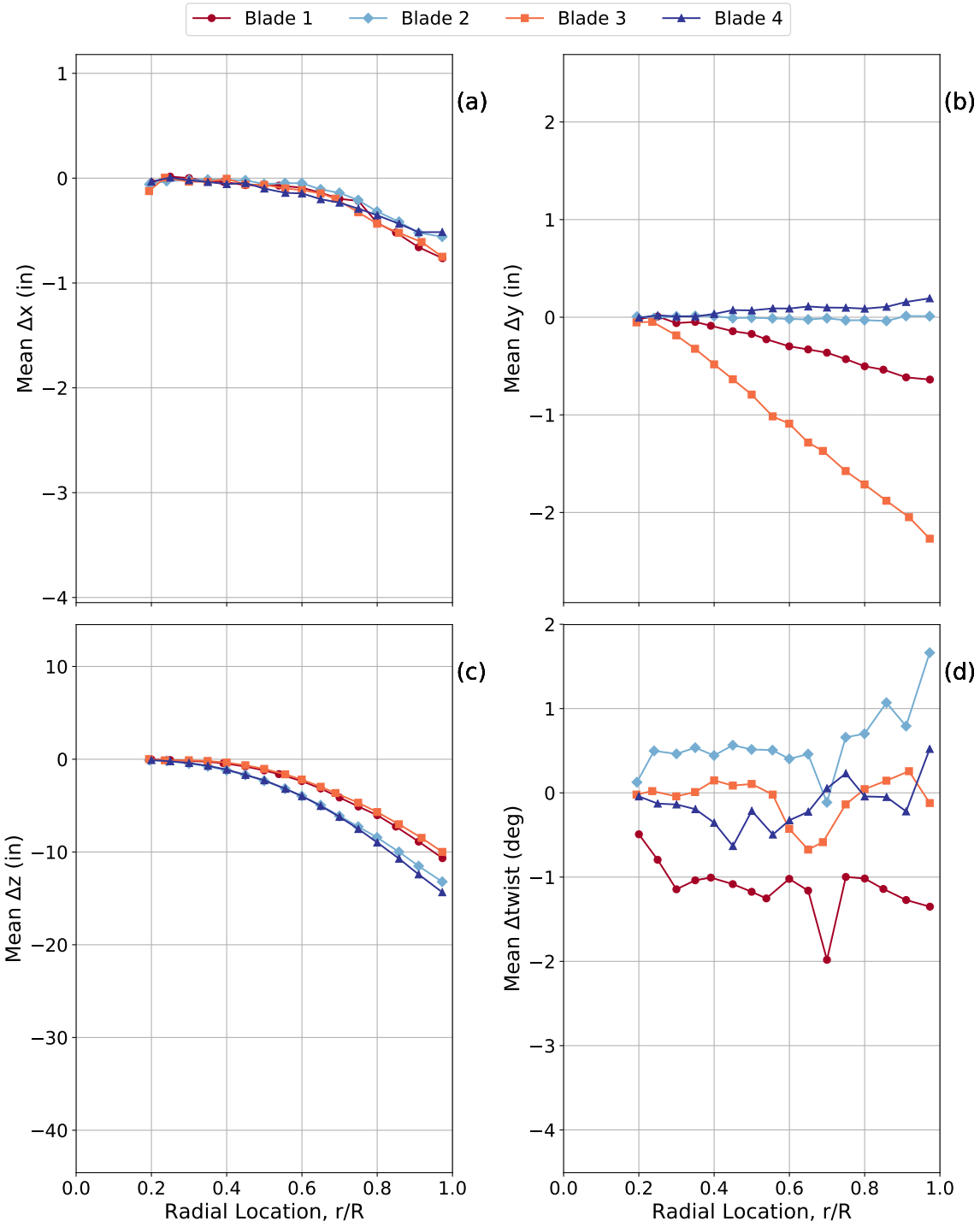


Figure 2.20-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0414	0.0095	-0.0162	0.0090	-0.0333	0.0245	-0.4920	0.1404
1	80.16	0.2499	0.0149	0.0053	0.0074	0.0118	-0.0879	0.0326	-0.7944	0.3676
1	80.16	0.2998	0.0008	0.0062	-0.0599	0.0310	-0.1776	0.0842	-1.1447	0.3792
1	80.16	0.3498	-0.0285	0.0117	-0.0480	0.0537	-0.2720	0.1424	-1.0380	0.3694
1	80.16	0.3913	-0.0339	0.0155	-0.0874	0.0731	-0.4319	0.1959	-1.0061	0.3697
1	80.16	0.4496	-0.0668	0.0207	-0.1432	0.1041	-0.7804	0.2767	-1.0834	0.3690
1	80.16	0.4997	-0.0669	0.0245	-0.1709	0.1326	-1.2084	0.3525	-1.1745	0.3734
1	80.16	0.5387	-0.0706	0.0281	-0.2258	0.1556	-1.6062	0.4153	-1.2530	0.3752
1	80.16	0.5996	-0.0909	0.0316	-0.2980	0.1934	-2.3566	0.5158	-1.0212	0.3660
1	80.16	0.6498	-0.1390	0.0350	-0.3300	0.2251	-3.1579	0.5995	-1.1606	0.3654
1	80.16	0.6998	-0.1974	0.0269	-0.3632	0.2823	-4.1267	0.7455	-1.9817	0.8941
1	80.16	0.7500	-0.2167	0.0410	-0.4293	0.2914	-5.0973	0.7619	-0.9979	0.3811
1	80.16	0.8001	-0.4279	0.0488	-0.5025	0.3934	-6.0379	0.6804	-1.0171	0.3739
1	80.16	0.8497	-0.5184	0.0537	-0.5372	0.4296	-7.2628	0.7482	-1.1408	0.3776
1	80.16	0.9102	-0.6589	0.0595	-0.6157	0.4745	-8.8819	0.8331	-1.2721	0.3756
1	80.16	0.9734	-0.7635	0.0579	-0.6386	0.5222	-10.6646	0.9248	-1.3510	0.3789
2	80.16	0.1949	-0.0584	0.0167	0.0067	0.0117	-0.1048	0.0298	0.1260	0.1606
2	80.16	0.2405	-0.0274	0.0050	-0.0083	0.0086	-0.1721	0.0178	0.4979	0.5456
2	80.16	0.2999	-0.0184	0.0045	0.0091	0.0382	-0.4624	0.0931	0.4623	0.5499
2	80.16	0.3498	-0.0139	0.0085	0.0134	0.0649	-0.7657	0.1591	0.5356	0.5576
2	80.16	0.3998	-0.0166	0.0129	0.0122	0.0945	-1.2004	0.2287	0.4429	0.5540
2	80.16	0.4496	-0.0207	0.0160	-0.0092	0.1256	-1.6942	0.2989	0.5650	0.5564
2	80.16	0.4995	-0.0557	0.0189	-0.0048	0.1584	-2.3254	0.3692	0.5147	0.5726
2	80.16	0.5551	-0.0475	0.0211	-0.0118	0.1972	-3.1676	0.4517	0.5067	0.5670
2	80.16	0.5996	-0.0480	0.0231	-0.0178	0.2303	-3.9665	0.5186	0.4030	0.5670
2	80.16	0.6497	-0.1068	0.0254	-0.0227	0.2685	-4.9569	0.5929	0.4597	0.5753
2	80.16	0.6996	-0.1403	0.0292	-0.0099	0.3236	-6.1219	0.7192	-0.1134	0.6161
2	80.16	0.7495	-0.2092	0.0287	-0.0317	0.3475	-7.2653	0.7414	0.6587	0.5812
2	80.16	0.7996	-0.3180	0.0565	-0.0300	0.4140	-8.4319	0.6780	0.7005	0.6318
2	80.16	0.8578	-0.4154	0.0509	-0.0378	0.4594	-9.9926	0.7600	1.0697	0.6342
2	80.16	0.9100	-0.5216	0.0471	0.0121	0.5015	-11.5183	0.8362	0.7917	0.6434
2	80.16	0.9727	-0.5586	0.0389	0.0105	0.5454	-13.2065	0.9321	1.6623	0.6705
3	80.16	0.1938	-0.1232	0.0153	-0.0526	0.0188	0.0134	0.0284	-0.0207	0.0375
3	80.16	0.2357	0.0046	0.0062	-0.0471	0.0091	-0.1165	0.0165	0.0205	0.0879
3	80.16	0.2995	-0.0338	0.0141	-0.1858	0.0568	-0.1097	0.0817	-0.0419	0.0994
3	80.16	0.3493	-0.0337	0.0240	-0.3231	0.0981	-0.1866	0.1409	0.0092	0.0859
3	80.16	0.4000	-0.0054	0.0332	-0.4825	0.1420	-0.3615	0.2014	0.1472	0.0846
3	80.16	0.4497	-0.0606	0.0410	-0.6354	0.1863	-0.6476	0.2623	0.0860	0.0885
3	80.16	0.4997	-0.0635	0.0474	-0.7922	0.2332	-1.0405	0.3273	0.1052	0.0886
3	80.16	0.5556	-0.0979	0.0528	-1.0155	0.2854	-1.6284	0.3993	-0.0206	0.0849
3	80.16	0.5995	-0.1143	0.0289	-1.0901	0.3788	-2.1913	0.5498	-0.4272	1.4663
3	80.16	0.6498	-0.1449	0.0308	-1.2836	0.4258	-2.9689	0.6251	-0.6734	1.6021
3	80.16	0.6890	-0.1957	0.0321	-1.3693	0.4625	-3.6450	0.6873	-0.5856	1.7375
3	80.16	0.7495	-0.3250	0.0468	-1.5754	0.5917	-4.6919	0.3949	-0.1375	0.1368
3	80.16	0.7998	-0.4347	0.0486	-1.7130	0.6447	-5.6979	0.4421	0.0437	0.1368
3	80.16	0.8577	-0.5215	0.0519	-1.8797	0.7058	-7.0088	0.4983	0.1442	0.1346
3	80.16	0.9178	-0.6091	0.0556	-2.0481	0.7690	-8.4799	0.5602	0.2569	0.1366
3	80.16	0.9729	-0.7494	0.0442	-2.2685	0.8266	-9.9912	0.6208	-0.1213	0.1410
4	80.16	0.2001	-0.0332	0.0203	-0.0049	0.0029	-0.0904	0.0112	-0.0425	0.0959
4	80.16	0.2502	0.0056	0.0101	0.0199	0.0039	-0.2244	0.0202	-0.1281	0.2347
4	80.16	0.3001	-0.0197	0.0089	0.0082	0.0089	-0.4085	0.0368	-0.1381	0.2352
4	80.16	0.3502	-0.0368	0.0176	0.0082	0.0147	-0.7079	0.0606	-0.1942	0.2271
4	80.16	0.4002	-0.0567	0.0248	0.0333	0.0215	-1.1173	0.0924	-0.3556	0.2274
4	80.16	0.4500	-0.0468	0.0295	0.0733	0.0285	-1.6908	0.1222	-0.6316	0.2176
4	80.16	0.5001	-0.0993	0.0319	0.0696	0.0361	-2.2676	0.1561	-0.2139	0.2247
4	80.16	0.5560	-0.1402	0.0337	0.0905	0.0456	-3.1902	0.1951	-0.4951	0.2243
4	80.16	0.6001	-0.1456	0.0349	0.0891	0.0532	-3.9796	0.2257	-0.3256	0.2242
4	80.16	0.6501	-0.2009	0.0360	0.1100	0.0625	-5.0384	0.2594	-0.2252	0.2262
4	80.16	0.6999	-0.2337	0.0373	0.0988	0.0724	-6.2167	0.2935	0.0537	0.2271
4	80.16	0.7500	-0.2914	0.0396	0.0973	0.0837	-7.5220	0.3285	0.2301	0.2278
4	80.16	0.8002	-0.3544	0.0431	0.0877	0.0960	-8.9833	0.3661	-0.0430	0.2269
4	80.16	0.8582	-0.4353	0.0493	0.1069	0.1110	-10.7250	0.4150	-0.0499	0.2258
4	80.16	0.9101	-0.5156	0.0579	0.1563	0.1262	-12.4168	0.4623	-0.2207	0.2223
4	80.16	0.9728	-0.5144	0.0728	0.1937	0.1483	-14.3413	0.5207	0.5208	0.2272

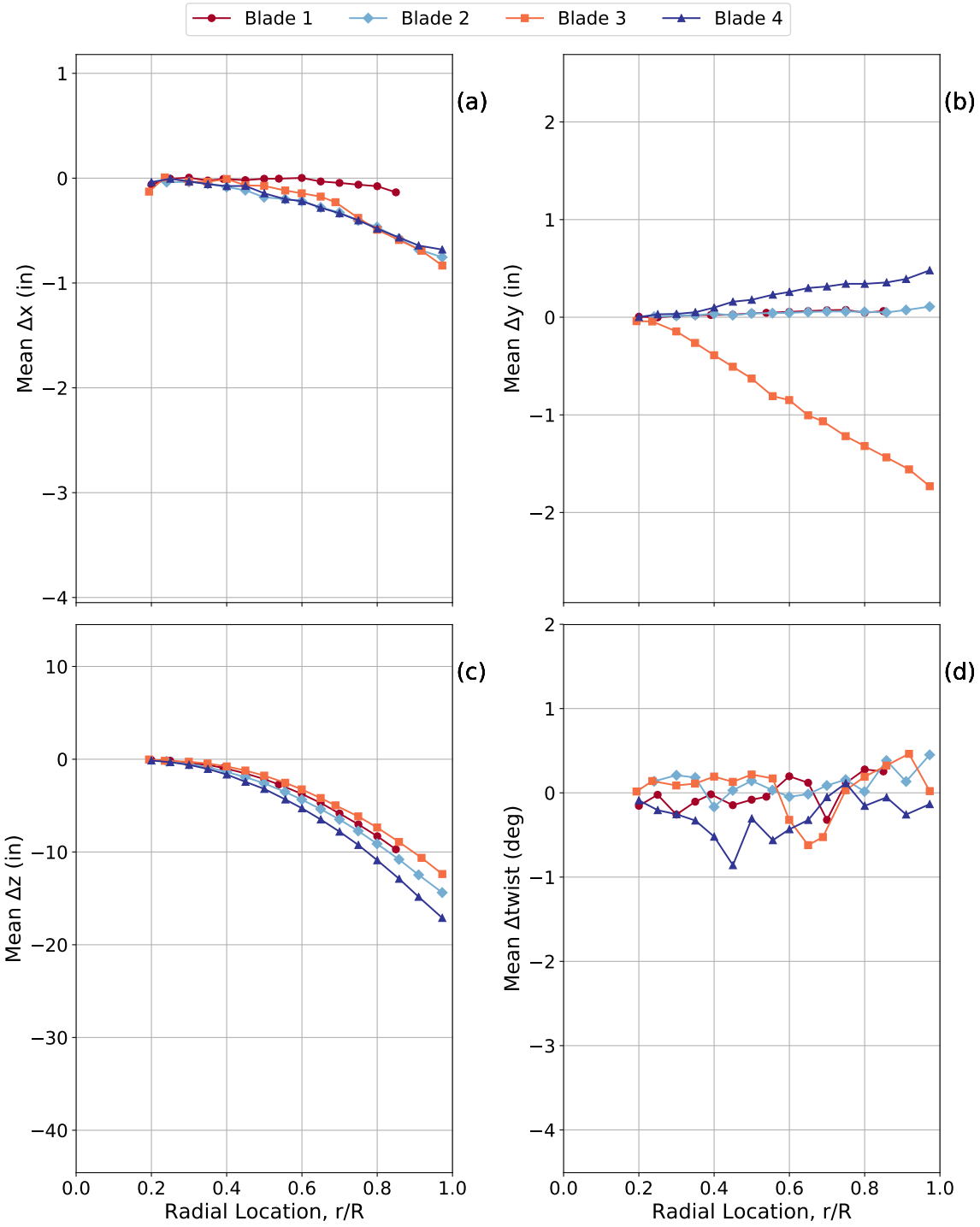


Figure 2.20-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0604	0.0035	0.0053	0.0015	-0.0934	0.0075	-0.1538	0.0369
1	85.08	0.2499	-0.0053	0.0026	-0.0014	0.0028	-0.1589	0.0171	-0.0233	0.0643
1	85.08	0.2998	0.0047	0.0024	0.0126	0.0056	-0.4017	0.0322	-0.2582	0.0829
1	85.08	0.3498	-0.0228	0.0036	0.0205	0.0099	-0.6216	0.0567	-0.1053	0.0812
1	85.08	0.3913	-0.0078	0.0044	0.0233	0.0140	-0.9338	0.0820	-0.0182	0.0814
1	85.08	0.4496	-0.0188	0.0066	0.0260	0.0205	-1.5238	0.1233	-0.1465	0.0836
1	85.08	0.4997	-0.0057	0.0079	0.0406	0.0268	-2.1443	0.1637	-0.0818	0.0875
1	85.08	0.5387	-0.0048	0.0092	0.0453	0.0317	-2.7153	0.1961	-0.0465	0.0989
1	85.08	0.5996	0.0021	0.0121	0.0551	0.0404	-3.7405	0.2472	0.1961	0.0937
1	85.08	0.6498	-0.0316	0.0145	0.0630	0.0477	-4.7141	0.2888	0.1195	0.1217
1	85.08	0.6998	-0.0452	0.0167	0.0718	0.0551	-5.8510	0.3253	-0.3212	0.1196
1	85.08	0.7500	-0.0622	0.0196	0.0748	0.0633	-7.0275	0.3609	0.1155	0.1244
1	85.08	0.8001	-0.0769	0.0257	0.0467	0.0725	-8.3012	0.3885	0.2774	0.2194
1	85.08	0.8497	-0.1351	0.0262	0.0628	0.0791	-9.7133	0.4244	0.2541	0.1710
2	85.08	0.2405	-0.0379	0.0104	0.0056	0.0064	-0.2218	0.0215	0.1367	0.1872
2	85.08	0.2999	-0.0360	0.0076	0.0139	0.0123	-0.5120	0.0439	0.2089	0.2931
2	85.08	0.3498	-0.0525	0.0121	0.0216	0.0244	-0.8574	0.0870	0.1818	0.2594
2	85.08	0.3998	-0.0847	0.0187	0.0357	0.0361	-1.3738	0.1315	-0.1676	0.2724
2	85.08	0.4496	-0.1152	0.0248	0.0208	0.0489	-1.9268	0.1826	0.0288	0.2632
2	85.08	0.4995	-0.1821	0.0290	0.0392	0.0623	-2.5935	0.2376	0.1422	0.2690
2	85.08	0.5551	-0.1992	0.0333	0.0422	0.0782	-3.5242	0.2992	0.0318	0.2748
2	85.08	0.5996	-0.2198	0.0348	0.0449	0.0909	-4.3550	0.3487	-0.0465	0.2796
2	85.08	0.6497	-0.2786	0.0349	0.0532	0.1057	-5.3766	0.4041	-0.0159	0.2741
2	85.08	0.6996	-0.3277	0.0348	0.0589	0.1209	-6.4944	0.4575	0.0871	0.2778
2	85.08	0.7495	-0.4039	0.0330	0.0585	0.1368	-7.7355	0.5114	0.1563	0.2727
2	85.08	0.7996	-0.4658	0.0338	0.0558	0.1527	-9.1156	0.5645	0.0158	0.2743
2	85.08	0.8578	-0.5756	0.0386	0.0491	0.1719	-10.8030	0.6295	0.3833	0.2726
2	85.08	0.9100	-0.6804	0.0479	0.0740	0.1895	-12.4656	0.6895	0.1339	0.2753
2	85.08	0.9727	-0.7541	0.0653	0.1086	0.2116	-14.3782	0.7637	0.4512	0.2908
3	85.08	0.1938	-0.1284	0.0137	-0.0403	0.0159	-0.0273	0.0264	0.0158	0.0449
3	85.08	0.2357	0.0069	0.0059	-0.0432	0.0094	-0.1711	0.0205	0.1398	0.0916
3	85.08	0.2995	-0.0347	0.0100	-0.1453	0.0489	-0.2700	0.0831	0.0872	0.1130
3	85.08	0.3493	-0.0349	0.0186	-0.2631	0.0842	-0.4553	0.1417	0.1095	0.0954
3	85.08	0.4000	-0.0085	0.0267	-0.3891	0.1226	-0.7755	0.2079	0.1929	0.1054
3	85.08	0.4497	-0.0678	0.0326	-0.5069	0.1620	-1.2158	0.2773	0.1300	0.0994
3	85.08	0.4997	-0.0738	0.0375	-0.6280	0.2042	-1.7680	0.3525	0.2173	0.1050
3	85.08	0.5556	-0.1176	0.0409	-0.8084	0.2522	-2.5384	0.4383	0.1708	0.1047
3	85.08	0.5995	-0.1444	0.0219	-0.8486	0.3437	-3.2533	0.5957	-0.3213	1.4021
3	85.08	0.6498	-0.1761	0.0234	-1.0048	0.3869	-4.1864	0.6824	-0.6207	1.5468
3	85.08	0.6890	-0.2292	0.0247	-1.0662	0.4212	-4.9740	0.7504	-0.5253	1.6660
3	85.08	0.7495	-0.3794	0.0461	-1.2183	0.5530	-6.1640	0.4656	0.0307	0.1761
3	85.08	0.7998	-0.4918	0.0492	-1.3191	0.6028	-7.3597	0.5216	0.1909	0.1830
3	85.08	0.8577	-0.5894	0.0542	-1.4354	0.6604	-8.9146	0.5857	0.3239	0.1802
3	85.08	0.9178	-0.6922	0.0588	-1.5585	0.7204	-10.6307	0.6530	0.4630	0.1849
3	85.08	0.9729	-0.8334	0.0501	-1.7310	0.7753	-12.3768	0.7170	0.0202	0.1943
4	85.08	0.2001	-0.0377	0.0180	0.0018	0.0028	-0.1397	0.0129	-0.0894	0.0984
4	85.08	0.2502	-0.0054	0.0094	0.0300	0.0040	-0.3184	0.0204	-0.2060	0.2090
4	85.08	0.3001	-0.0309	0.0087	0.0337	0.0089	-0.6101	0.0413	-0.2548	0.2192
4	85.08	0.3502	-0.0574	0.0143	0.0511	0.0146	-1.0510	0.0698	-0.3291	0.2066
4	85.08	0.4002	-0.0759	0.0206	0.0989	0.0217	-1.6491	0.1036	-0.5208	0.2099
4	85.08	0.4500	-0.0740	0.0254	0.1591	0.0288	-2.4356	0.1379	-0.8588	0.1992
4	85.08	0.5001	-0.1451	0.0288	0.1785	0.0358	-3.2035	0.1722	-0.3053	0.1976
4	85.08	0.5560	-0.2009	0.0315	0.2307	0.0445	-4.3396	0.2107	-0.5624	0.2065
4	85.08	0.6001	-0.2185	0.0329	0.2587	0.0517	-5.2873	0.2406	-0.4327	0.2092
4	85.08	0.6501	-0.2825	0.0340	0.2995	0.0601	-6.4999	0.2724	-0.3225	0.2019
4	85.08	0.6999	-0.3353	0.0351	0.3147	0.0691	-7.8100	0.3040	-0.0512	0.2085
4	85.08	0.7500	-0.4028	0.0357	0.3425	0.0789	-9.2491	0.3369	0.1135	0.2056
4	85.08	0.8002	-0.4822	0.0384	0.3420	0.0898	-10.8944	0.3709	-0.1550	0.2079
4	85.08	0.8582	-0.5661	0.0445	0.3561	0.1029	-12.8922	0.4156	-0.0542	0.2152
4	85.08	0.9101	-0.6427	0.0533	0.3914	0.1157	-14.8363	0.4615	-0.2577	0.2189
4	85.08	0.9728	-0.6814	0.0671	0.4801	0.1352	-17.1100	0.5234	-0.1347	0.2213

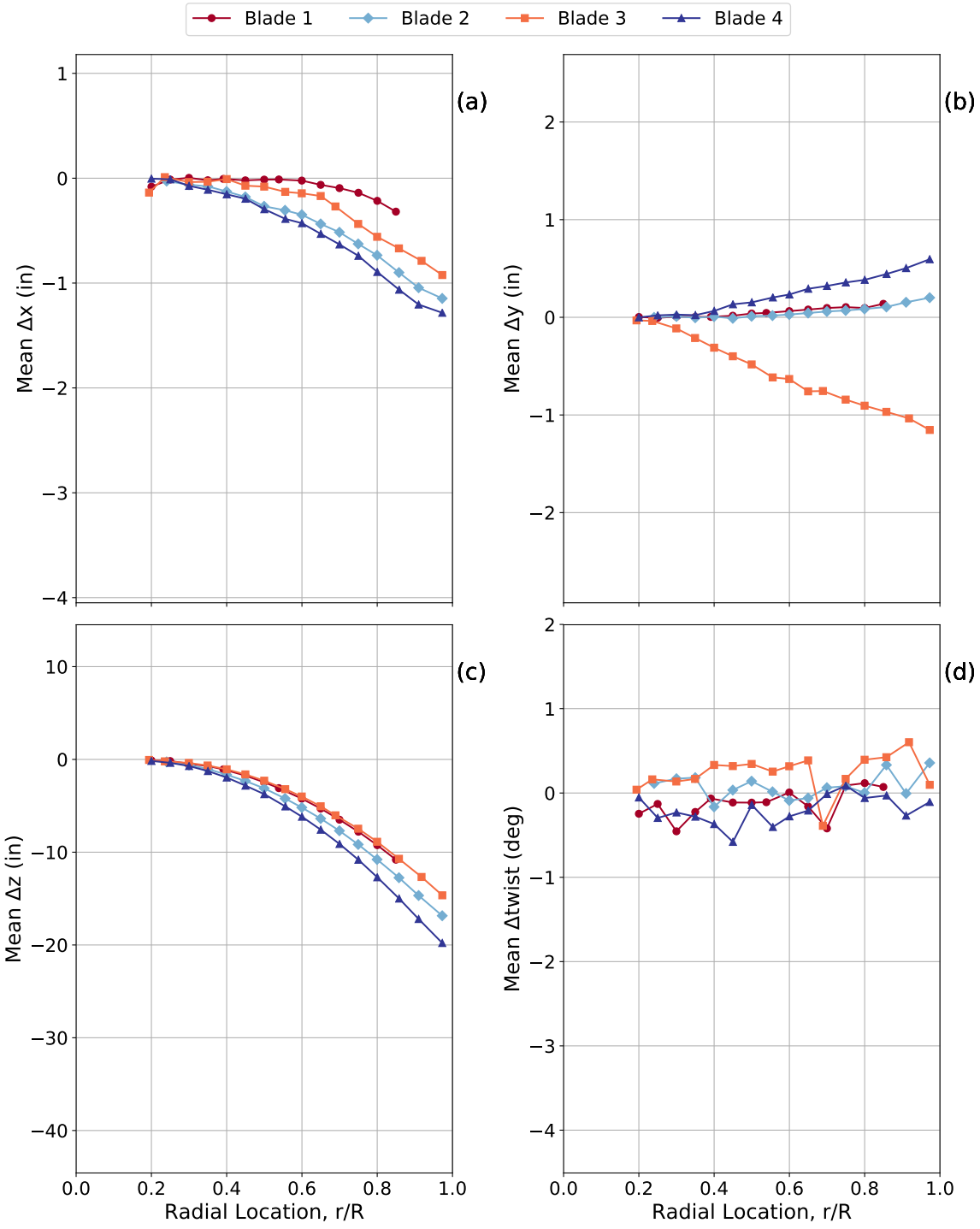


Figure 2.20-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0806	0.0197	0.0032	0.0028	-0.1105	0.0076	-0.2460	0.0336
1	90	0.2499	-0.0128	0.0068	-0.0056	0.0059	-0.1771	0.0173	-0.1297	0.0534
1	90	0.2998	0.0032	0.0077	0.0065	0.0117	-0.4651	0.0317	-0.4544	0.0734
1	90	0.3498	-0.0194	0.0201	0.0044	0.0200	-0.7165	0.0551	-0.2248	0.0661
1	90	0.3913	-0.0070	0.0288	0.0044	0.0289	-1.0715	0.0798	-0.0651	0.0730
1	90	0.4496	-0.0204	0.0393	0.0162	0.0429	-1.7470	0.1182	-0.1126	0.0755
1	90	0.4997	-0.0134	0.0459	0.0386	0.0571	-2.4616	0.1592	-0.1141	0.0749
1	90	0.5387	-0.0120	0.0502	0.0447	0.0691	-3.0977	0.1923	-0.1093	0.0773
1	90	0.5996	-0.0228	0.0537	0.0633	0.0907	-4.2303	0.2453	0.0063	0.0802
1	90	0.6498	-0.0634	0.0525	0.0794	0.1107	-5.2973	0.2904	-0.1593	0.0867
1	90	0.6998	-0.0946	0.0486	0.0953	0.1322	-6.5004	0.3376	-0.4197	0.0950
1	90	0.7500	-0.1389	0.0456	0.1042	0.1551	-7.7913	0.3830	0.0895	0.1272
1	90	0.8001	-0.2160	0.0462	0.0953	0.1797	-9.2423	0.4347	0.1172	0.1512
1	90	0.8497	-0.3190	0.0579	0.1381	0.2058	-10.8078	0.4812	0.0715	0.1445
2	90	0.2405	-0.0276	0.0060	-0.0015	0.0062	-0.2660	0.0189	0.1137	0.1903
2	90	0.2999	-0.0617	0.0084	0.0090	0.0116	-0.6078	0.0385	0.1699	0.2988
2	90	0.3498	-0.0782	0.0073	-0.0046	0.0234	-1.0344	0.0777	0.1824	0.2695
2	90	0.3998	-0.1266	0.0088	0.0070	0.0345	-1.6486	0.1171	-0.1645	0.2654
2	90	0.4496	-0.1783	0.0099	-0.0104	0.0454	-2.3217	0.1610	0.0348	0.2628
2	90	0.4995	-0.2677	0.0127	0.0108	0.0571	-3.1142	0.2066	0.1407	0.2712
2	90	0.5551	-0.3061	0.0156	0.0173	0.0711	-4.2096	0.2618	0.0145	0.2676
2	90	0.5996	-0.3483	0.0184	0.0284	0.0831	-5.1845	0.3086	-0.0892	0.2641
2	90	0.6497	-0.4361	0.0218	0.0439	0.0965	-6.3759	0.3592	-0.0601	0.2668
2	90	0.6996	-0.5154	0.0261	0.0596	0.1110	-7.6921	0.4129	0.0630	0.2699
2	90	0.7495	-0.6267	0.0313	0.0699	0.1258	-9.1692	0.4676	0.0805	0.2685
2	90	0.7996	-0.7351	0.0370	0.0855	0.1419	-10.7848	0.5261	0.0021	0.2639
2	90	0.8578	-0.8998	0.0444	0.1060	0.1602	-12.7515	0.5920	0.3331	0.2685
2	90	0.9100	-1.0445	0.0504	0.1539	0.1774	-14.6695	0.6535	-0.0061	0.2612
2	90	0.9727	-1.1466	0.0566	0.2007	0.1977	-16.8510	0.7269	0.3575	0.2634
3	90	0.1938	-0.1371	0.0149	-0.0313	0.0185	-0.0584	0.0279	0.0393	0.0406
3	90	0.2357	0.0102	0.0066	-0.0372	0.0104	-0.2092	0.0175	0.1620	0.0751
3	90	0.2995	-0.0368	0.0097	-0.1137	0.0572	-0.3806	0.0842	0.1364	0.0895
3	90	0.3493	-0.0340	0.0192	-0.2120	0.0984	-0.6554	0.1438	0.1668	0.0814
3	90	0.4000	-0.0085	0.0276	-0.3111	0.1435	-1.0702	0.2088	0.3327	0.0796
3	90	0.4497	-0.0714	0.0346	-0.3991	0.1901	-1.6146	0.2752	0.3194	0.0867
3	90	0.4997	-0.0801	0.0392	-0.4824	0.2396	-2.2927	0.3430	0.3448	0.0890
3	90	0.5556	-0.1303	0.0437	-0.6155	0.2959	-3.2076	0.4198	0.2540	0.0856
3	90	0.5995	-0.1440	0.0463	-0.6319	0.3409	-3.9993	0.4791	0.3174	0.0884
3	90	0.6498	-0.1699	0.0485	-0.7581	0.3924	-5.0512	0.5487	0.3870	0.0941
3	90	0.6890	-0.2696	0.0289	-0.7547	0.5085	-6.0245	0.7309	-0.3891	2.0764
3	90	0.7495	-0.4361	0.0513	-0.8428	0.6874	-7.4681	0.3947	0.1678	0.1302
3	90	0.7998	-0.5590	0.0543	-0.9052	0.7489	-8.8763	0.4447	0.3949	0.1309
3	90	0.8577	-0.6692	0.0590	-0.9681	0.8202	-10.7099	0.5004	0.4248	0.1307
3	90	0.9178	-0.7882	0.0632	-1.0352	0.8946	-12.6711	0.5585	0.6025	0.1466
3	90	0.9729	-0.9234	0.0523	-1.1534	0.9625	-14.6479	0.6183	0.0973	0.1406
4	90.35	0.2001	-0.0043	0.0073	-0.0011	0.0035	-0.1665	0.0137	-0.0531	0.1027
4	90.35	0.2502	-0.0110	0.0109	0.0201	0.0059	-0.3705	0.0244	-0.2959	0.1930
4	90.35	0.3001	-0.0734	0.0069	0.0274	0.0102	-0.7147	0.0414	-0.2310	0.2058
4	90.35	0.3502	-0.1104	0.0075	0.0221	0.0168	-1.2581	0.0685	-0.2810	0.1822
4	90.35	0.4002	-0.1538	0.0076	0.0650	0.0249	-1.9532	0.1032	-0.3686	0.1784
4	90.35	0.4500	-0.1960	0.0107	0.1334	0.0314	-2.8302	0.1331	-0.5799	0.1855
4	90.35	0.5001	-0.2957	0.0119	0.1530	0.0399	-3.7488	0.1750	-0.1421	0.1782
4	90.35	0.5560	-0.3882	0.0153	0.2032	0.0498	-5.0697	0.2217	-0.4036	0.1874
4	90.35	0.6001	-0.4292	0.0173	0.2336	0.0581	-6.1792	0.2621	-0.2771	0.1871
4	90.35	0.6501	-0.5311	0.0207	0.2923	0.0678	-7.5800	0.3058	-0.2082	0.1844
4	90.35	0.6999	-0.6320	0.0249	0.3211	0.0779	-9.1156	0.3521	-0.0116	0.1824
4	90.35	0.7500	-0.7404	0.0288	0.3568	0.0891	-10.8186	0.3981	0.0861	0.1842
4	90.35	0.8002	-0.8943	0.0342	0.3836	0.1005	-12.7056	0.4440	-0.0594	0.1865
4	90.35	0.8582	-1.0635	0.0405	0.4436	0.1143	-15.0008	0.4941	-0.0293	0.1887
4	90.35	0.9101	-1.2050	0.0456	0.5036	0.1271	-17.2036	0.5403	-0.2681	0.1814
4	90.35	0.9728	-1.2835	0.0499	0.5944	0.1431	-19.7898	0.5950	-0.1064	0.1760

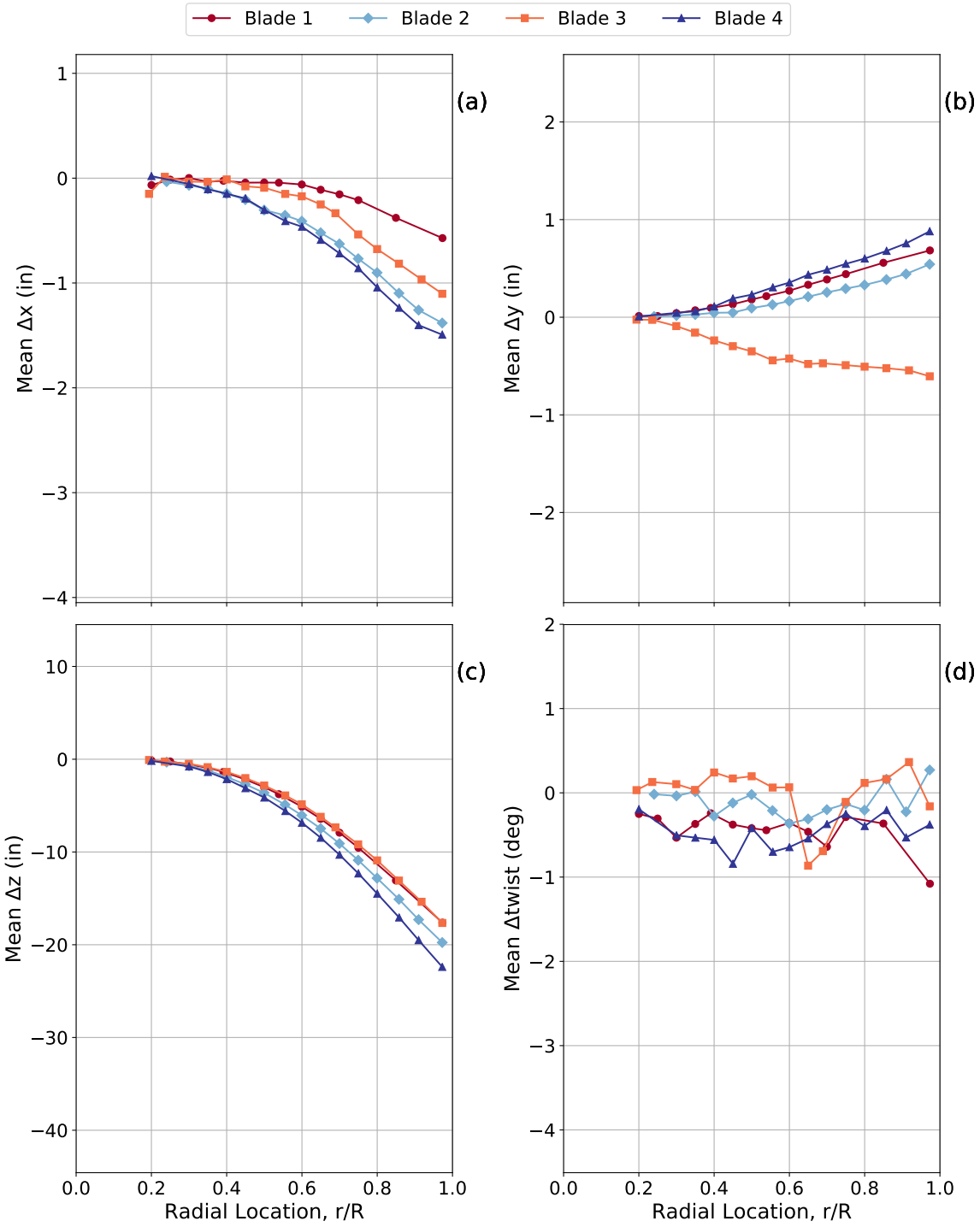


Figure 2.20-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0655	0.0030	0.0126	0.0013	-0.1360	0.0078	-0.2508	0.0322
1	94.92	0.2499	-0.0141	0.0025	0.0120	0.0028	-0.2429	0.0174	-0.3052	0.0534
1	94.92	0.2998	0.0013	0.0031	0.0417	0.0052	-0.5734	0.0339	-0.5322	0.0720
1	94.92	0.3498	-0.0343	0.0041	0.0709	0.0091	-0.9243	0.0579	-0.3692	0.0655
1	94.92	0.3913	-0.0248	0.0054	0.0950	0.0130	-1.3636	0.0848	-0.2429	0.0726
1	94.92	0.4496	-0.0429	0.0081	0.1326	0.0181	-2.1798	0.1264	-0.3771	0.0723
1	94.92	0.4997	-0.0416	0.0110	0.1816	0.0241	-3.0184	0.1699	-0.4200	0.0719
1	94.92	0.5387	-0.0434	0.0133	0.2163	0.0284	-3.7696	0.2076	-0.4436	0.0762
1	94.92	0.5996	-0.0605	0.0179	0.2713	0.0361	-5.1148	0.2729	-0.3573	0.0761
1	94.92	0.6498	-0.1105	0.0231	0.3325	0.0429	-6.4274	0.3316	-0.4625	0.0823
1	94.92	0.6998	-0.1544	0.0279	0.3867	0.0501	-7.9193	0.3909	-0.6409	0.0934
1	94.92	0.7500	-0.2097	0.0351	0.4418	0.0580	-9.5412	0.4507	-0.2873	0.0898
1	94.92	0.8497	-0.3786	0.0474	0.5578	0.0742	-13.0699	0.5633	-0.3643	0.1197
1	94.92	0.9734	-0.5718	0.0581	0.6843	0.0970	-17.6184	0.6923	-1.0786	0.1676
2	94.92	0.2405	-0.0331	0.0061	0.0071	0.0059	-0.3083	0.0169	-0.0168	0.2002
2	94.92	0.2999	-0.0679	0.0098	0.0176	0.0121	-0.7054	0.0345	-0.0362	0.3147
2	94.92	0.3498	-0.1008	0.0077	0.0276	0.0225	-1.1972	0.0719	0.0137	0.2864
2	94.92	0.3998	-0.1469	0.0082	0.0455	0.0342	-1.9095	0.1082	-0.2768	0.2772
2	94.92	0.4496	-0.2048	0.0097	0.0479	0.0453	-2.7066	0.1431	-0.1204	0.2913
2	94.92	0.4995	-0.3040	0.0121	0.0937	0.0582	-3.6235	0.1828	-0.0205	0.2985
2	94.92	0.5551	-0.3545	0.0153	0.1289	0.0740	-4.8947	0.2333	-0.2107	0.2942
2	94.92	0.5996	-0.4100	0.0181	0.1652	0.0882	-6.0460	0.2799	-0.3641	0.2890
2	94.92	0.6497	-0.5207	0.0227	0.2106	0.1048	-7.4746	0.3354	-0.3105	0.2939
2	94.92	0.6996	-0.6274	0.0284	0.2550	0.1228	-9.0916	0.3934	-0.1999	0.3011
2	94.92	0.7495	-0.7685	0.0356	0.2931	0.1415	-10.8875	0.4564	-0.1318	0.3009
2	94.92	0.7996	-0.9017	0.0434	0.3302	0.1610	-12.8213	0.5191	-0.2055	0.3029
2	94.92	0.8578	-1.0975	0.0524	0.3857	0.1843	-15.1006	0.5941	0.1613	0.3016
2	94.92	0.9100	-1.2585	0.0604	0.4434	0.2055	-17.2945	0.6594	-0.2249	0.3082
2	94.92	0.9727	-1.3816	0.0666	0.5426	0.2306	-19.7603	0.7363	0.2712	0.3065
3	94.92	0.1938	-0.1496	0.0121	-0.0244	0.0203	-0.0835	0.0354	0.0320	0.0479
3	94.92	0.2357	0.0130	0.0092	-0.0264	0.0088	-0.2573	0.0191	0.1283	0.0664
3	94.92	0.2995	-0.0332	0.0071	-0.0908	0.0592	-0.4843	0.1048	0.1028	0.0996
3	94.92	0.3493	-0.0356	0.0159	-0.1574	0.1008	-0.8552	0.1780	0.0342	0.0836
3	94.92	0.4000	-0.0120	0.0244	-0.2376	0.1452	-1.3662	0.2575	0.2412	0.0843
3	94.92	0.4497	-0.0782	0.0314	-0.2965	0.1907	-2.0339	0.3390	0.1702	0.0887
3	94.92	0.4997	-0.0911	0.0366	-0.3498	0.2398	-2.8326	0.4248	0.1963	0.0891
3	94.92	0.5556	-0.1503	0.0398	-0.4418	0.2989	-3.9037	0.5250	0.0628	0.0832
3	94.92	0.5995	-0.1733	0.0401	-0.4232	0.3500	-4.8612	0.6091	0.0652	0.0913
3	94.92	0.6498	-0.2507	0.0238	-0.4787	0.5124	-6.2090	0.8547	-0.8643	2.3339
3	94.92	0.6890	-0.3343	0.0292	-0.4720	0.5619	-7.3458	0.9418	-0.6921	2.4617
3	94.92	0.7495	-0.5367	0.0685	-0.4910	0.7869	-9.1772	0.5400	-0.1079	0.1363
3	94.92	0.7998	-0.6766	0.0761	-0.5067	0.8574	-10.9103	0.6280	0.1173	0.1407
3	94.92	0.8577	-0.8159	0.0862	-0.5221	0.9393	-13.0818	0.7281	0.1632	0.1419
3	94.92	0.9178	-0.9663	0.0958	-0.5441	1.0247	-15.3694	0.8239	0.3647	0.1474
3	94.92	0.9729	-1.1028	0.0855	-0.6050	1.1033	-17.6514	0.9121	-0.1605	0.1448
4	94.92	0.2001	0.0196	0.0083	0.0076	0.0022	-0.1806	0.0079	-0.1954	0.0929
4	94.92	0.3001	-0.0558	0.0069	0.0448	0.0101	-0.7837	0.0373	-0.5047	0.2234
4	94.92	0.3502	-0.1062	0.0076	0.0613	0.0171	-1.3781	0.0660	-0.5322	0.2255
4	94.92	0.4002	-0.1489	0.0081	0.1098	0.0272	-2.1457	0.1036	-0.5587	0.2227
4	94.92	0.4500	-0.1940	0.0111	0.1924	0.0360	-3.1233	0.1389	-0.8425	0.2249
4	94.92	0.5001	-0.3034	0.0133	0.2315	0.0463	-4.1343	0.1795	-0.4180	0.2263
4	94.92	0.5560	-0.4098	0.0166	0.3056	0.0594	-5.5883	0.2308	-0.7000	0.2265
4	94.92	0.6001	-0.4631	0.0199	0.3549	0.0710	-6.8489	0.2789	-0.6448	0.2169
4	94.92	0.6501	-0.5882	0.0251	0.4351	0.0849	-8.4691	0.3369	-0.5414	0.2288
4	94.92	0.6999	-0.7173	0.0319	0.4860	0.0999	-10.2999	0.3991	-0.3711	0.2412
4	94.92	0.7500	-0.8596	0.0396	0.5468	0.1161	-12.3189	0.4649	-0.2509	0.2346
4	94.92	0.8002	-1.0429	0.0476	0.6011	0.1336	-14.4974	0.5278	-0.3948	0.2351
4	94.92	0.8582	-1.2364	0.0574	0.6792	0.1538	-17.0662	0.5994	-0.2057	0.2355
4	94.92	0.9101	-1.4025	0.0655	0.7567	0.1730	-19.5113	0.6605	-0.5301	0.2329
4	94.92	0.9728	-1.4933	0.0723	0.8799	0.1956	-22.3930	0.7359	-0.3783	0.2332

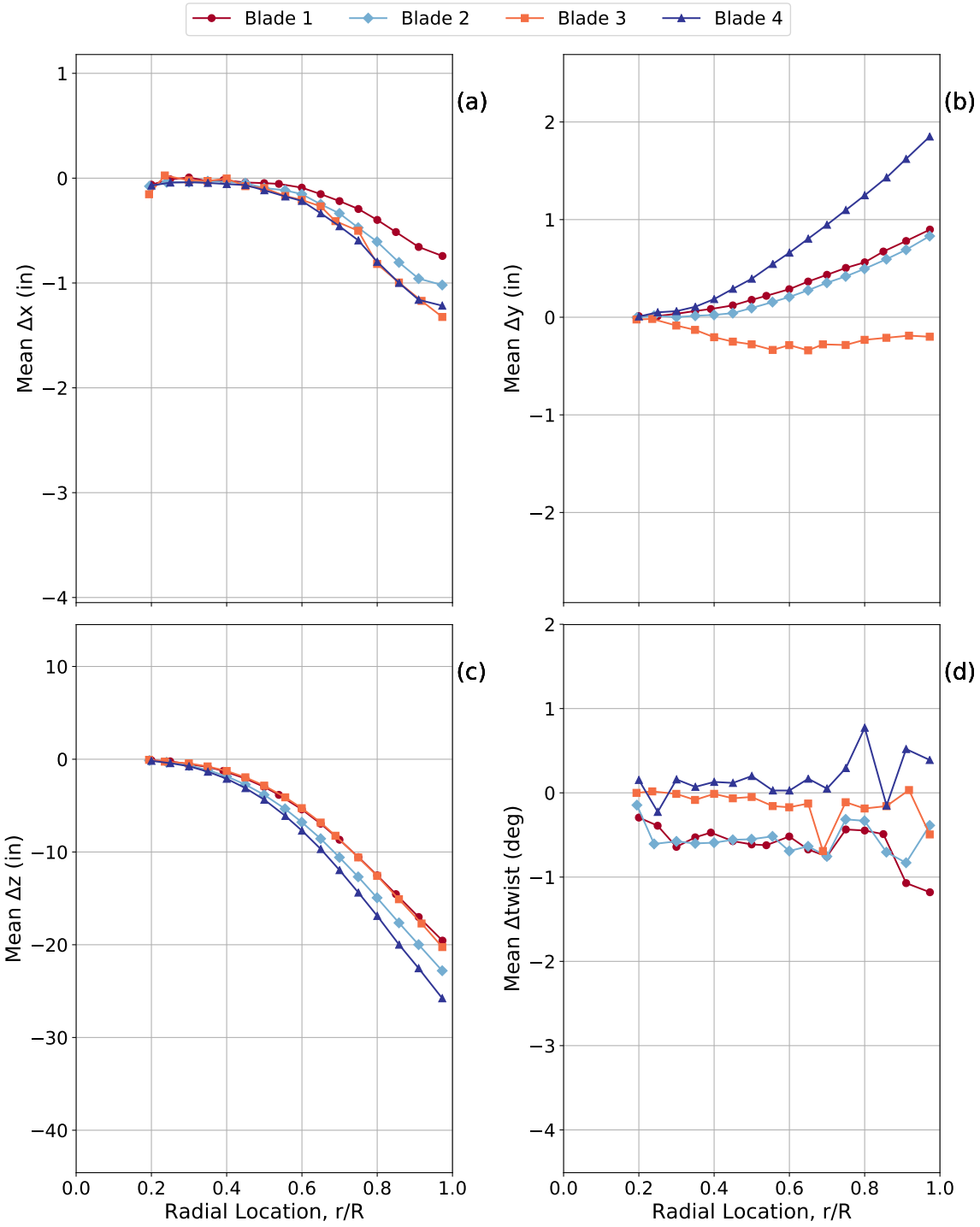


Figure 2.20-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-17. 100° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.012$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0624	0.0032	0.0109	0.0012	-0.1219	0.0059	-0.2937	0.0278
1	99.84	0.2499	-0.0109	0.0023	0.0118	0.0025	-0.2282	0.0126	-0.3903	0.0509
1	99.84	0.2998	0.0066	0.0026	0.0355	0.0047	-0.5305	0.0254	-0.6412	0.0645
1	99.84	0.3498	-0.0287	0.0034	0.0638	0.0082	-0.8378	0.0431	-0.5281	0.0589
1	99.84	0.3913	-0.0188	0.0049	0.0841	0.0116	-1.2556	0.0630	-0.4719	0.0622
1	99.84	0.4496	-0.0411	0.0074	0.1211	0.0164	-2.0792	0.0938	-0.5731	0.0681
1	99.84	0.4997	-0.0473	0.0092	0.1778	0.0216	-2.9856	0.1277	-0.6122	0.0641
1	99.84	0.5387	-0.0545	0.0122	0.2192	0.0260	-3.8409	0.1581	-0.6219	0.0723
1	99.84	0.5996	-0.0906	0.0168	0.2870	0.0336	-5.4064	0.2191	-0.5180	0.0712
1	99.84	0.6498	-0.1522	0.0226	0.3656	0.0409	-6.9511	0.2754	-0.6722	0.0766
1	99.84	0.6998	-0.2188	0.0293	0.4345	0.0486	-8.6797	0.3384	-0.7550	0.0719
1	99.84	0.7500	-0.2942	0.0373	0.5051	0.0567	-10.5569	0.4038	-0.4347	0.0837
1	99.84	0.8001	-0.3985	0.0454	0.5625	0.0651	-12.5242	0.4696	-0.4474	0.0858
1	99.84	0.8497	-0.5141	0.0542	0.6730	0.0741	-14.5425	0.5326	-0.4899	0.0837
1	99.84	0.9102	-0.6564	0.0683	0.7809	0.0842	-17.0116	0.6158	-1.0715	0.1951
1	99.84	0.9734	-0.7425	0.0718	0.8978	0.0973	-19.5548	0.7050	-1.1798	0.1071
2	99.84	0.1949	-0.0770	0.0039	-0.0035	0.0011	-0.1345	0.0067	-0.1457	0.0275
2	99.84	0.2405	-0.0399	0.0023	0.0150	0.0029	-0.3209	0.0153	-0.6063	0.0426
2	99.84	0.2999	-0.0385	0.0032	0.0010	0.0054	-0.6774	0.0328	-0.5760	0.0624
2	99.84	0.3498	-0.0295	0.0043	0.0145	0.0097	-1.1686	0.0553	-0.6002	0.0543
2	99.84	0.3998	-0.0366	0.0064	0.0237	0.0150	-1.8466	0.0879	-0.5916	0.0700
2	99.84	0.4496	-0.0476	0.0083	0.0419	0.0215	-2.7276	0.1273	-0.5577	0.0699
2	99.84	0.4995	-0.0939	0.0114	0.0941	0.0298	-3.8378	0.1781	-0.5503	0.0774
2	99.84	0.5551	-0.1159	0.0167	0.1552	0.0402	-5.3473	0.2423	-0.5168	0.0813
2	99.84	0.5996	-0.1522	0.0220	0.2074	0.0500	-6.7902	0.3038	-0.6908	0.0828
2	99.84	0.6497	-0.2487	0.0298	0.2763	0.0618	-8.5663	0.3788	-0.6345	0.0837
2	99.84	0.6996	-0.3362	0.0392	0.3530	0.0741	-10.5837	0.4596	-0.7549	0.1116
2	99.84	0.7495	-0.4725	0.0501	0.4180	0.0873	-12.6807	0.5486	-0.3151	0.0916
2	99.84	0.7996	-0.6058	0.0618	0.4959	0.1019	-14.9386	0.6348	-0.3320	0.1026
2	99.84	0.8578	-0.8039	0.0734	0.5946	0.1197	-17.6413	0.7299	-0.7044	0.1233
2	99.84	0.9100	-0.9579	0.0858	0.6912	0.1357	-19.9909	0.8156	-0.8300	0.1759
2	99.84	0.9727	-1.0192	0.0955	0.8312	0.1546	-22.8026	0.9211	-0.3868	0.2679
3	99.84	0.1938	-0.1535	0.0167	-0.0229	0.0204	-0.0648	0.0374	-0.0005	0.0553
3	99.84	0.2357	0.0256	0.0102	-0.0175	0.0086	-0.2581	0.0179	0.0169	0.0679
3	99.84	0.2995	-0.0210	0.0059	-0.0852	0.0590	-0.4457	0.1055	-0.0125	0.0883
3	99.84	0.3493	-0.0270	0.0137	-0.1295	0.0992	-0.7757	0.1772	-0.0843	0.0881
3	99.84	0.4000	-0.0033	0.0218	-0.2049	0.1433	-1.2678	0.2543	-0.0121	0.0816
3	99.84	0.4497	-0.0762	0.0278	-0.2499	0.1883	-1.9496	0.3323	-0.0649	0.0872
3	99.84	0.4997	-0.0946	0.0313	-0.2778	0.2389	-2.8452	0.4169	-0.0491	0.0920
3	99.84	0.5556	-0.1701	0.0321	-0.3349	0.2987	-4.1067	0.5105	-0.1574	0.0850
3	99.84	0.5995	-0.2075	0.0311	-0.2855	0.3505	-5.2756	0.5882	-0.1714	0.0848
3	99.84	0.6498	-0.2691	0.0286	-0.3393	0.4133	-6.8278	0.6782	-0.1273	0.0799
3	99.84	0.6890	-0.4099	0.0229	-0.2779	0.5913	-8.2491	0.9398	-0.6906	2.8391
3	99.84	0.7495	-0.5020	0.0310	-0.2844	0.5501	-10.5853	0.8657	-0.1115	0.0819
3	99.84	0.7998	-0.8185	0.0774	-0.2315	0.9333	-12.5752	0.5213	-0.1859	0.1086
3	99.84	0.8577	-0.9955	0.0895	-0.2106	1.0197	-15.0938	0.6194	-0.1580	0.1160
3	99.84	0.9178	-1.1707	0.1021	-0.1887	1.1094	-17.7088	0.7241	0.0328	0.1197
3	99.84	0.9729	-1.3240	0.0924	-0.1997	1.1909	-20.2521	0.8276	-0.4939	0.1183
4	99.84	0.2001	-0.0706	0.0032	0.0077	0.0016	-0.1713	0.0075	0.1526	0.0298
4	99.84	0.2502	-0.0423	0.0028	0.0505	0.0034	-0.4245	0.0188	-0.2268	0.0511
4	99.84	0.3001	-0.0392	0.0035	0.0623	0.0063	-0.7617	0.0343	0.1588	0.0683
4	99.84	0.3502	-0.0455	0.0044	0.1075	0.0114	-1.3479	0.0588	0.0705	0.0585
4	99.84	0.4002	-0.0562	0.0062	0.1859	0.0174	-2.1073	0.0934	0.1294	0.0667
4	99.84	0.4500	-0.0661	0.0091	0.2912	0.0248	-3.1164	0.1336	0.1174	0.0637
4	99.84	0.5001	-0.1155	0.0125	0.3943	0.0333	-4.3681	0.1829	0.1993	0.0758
4	99.84	0.5560	-0.1748	0.0174	0.5454	0.0438	-6.1166	0.2448	0.0276	0.0742
4	99.84	0.6001	-0.2173	0.0236	0.6611	0.0527	-7.7020	0.2970	0.0272	0.0781
4	99.84	0.6501	-0.3353	0.0316	0.8045	0.0636	-9.6878	0.3618	0.1674	0.0855
4	99.84	0.6999	-0.4587	0.0414	0.9474	0.0750	-11.9590	0.4333	0.0500	0.0863
4	99.84	0.7500	-0.5942	0.0527	1.0978	0.0872	-14.3814	0.5089	0.2935	0.0983
4	99.84	0.8002	-0.7983	0.0651	1.2490	0.0998	-16.8978	0.5842	0.7723	0.1019
4	99.84	0.8582	-0.9997	0.0799	1.4312	0.1150	-19.9958	0.6738	-0.1515	0.1076
4	99.84	0.9101	-1.1605	0.0941	1.6216	0.1278	-22.5400	0.7548	0.5194	0.1086
4	99.84	0.9728	-1.2164	0.1061	1.8507	0.1445	-25.7765	0.8609	0.3896	0.1532

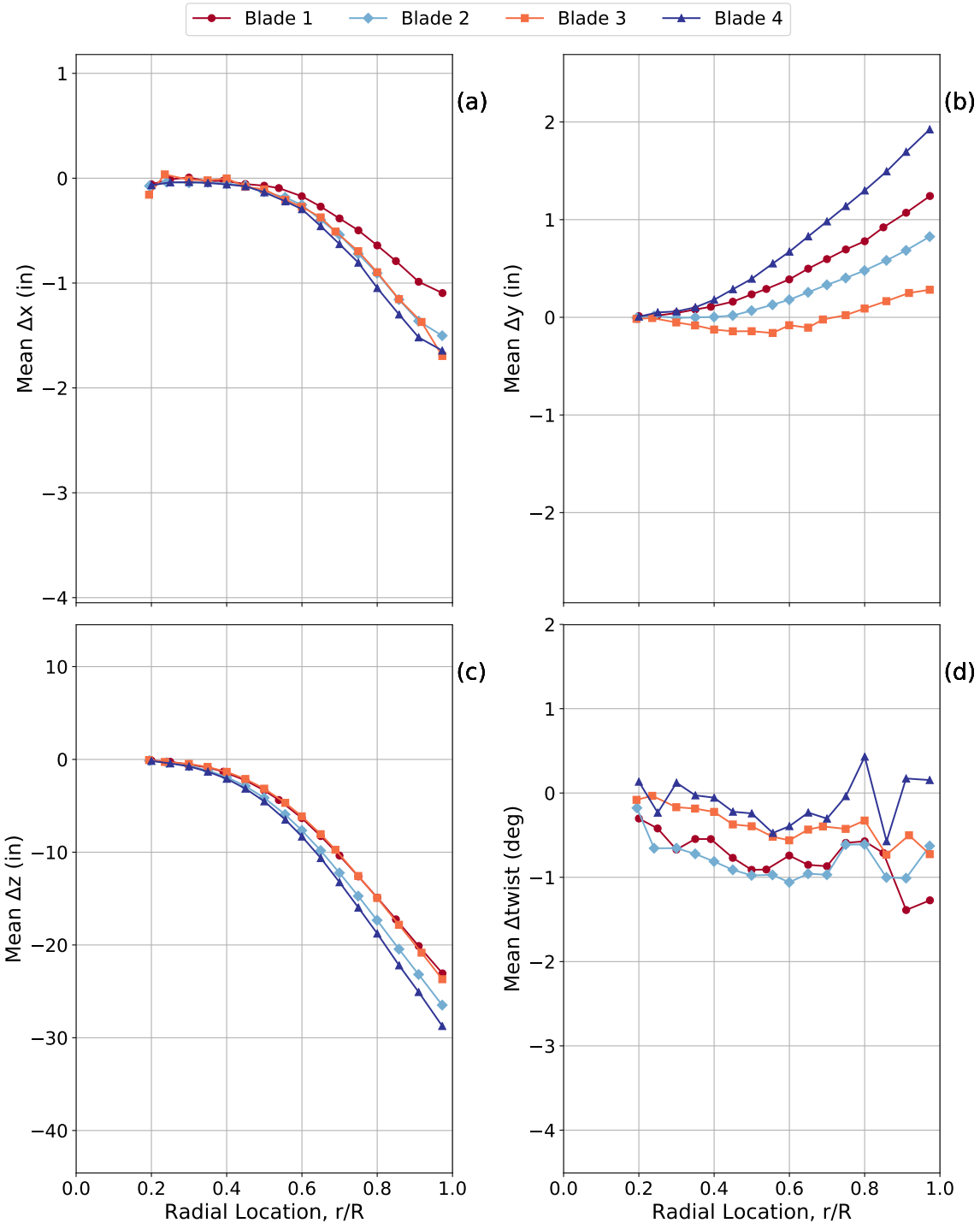


Figure 2.20-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0585	0.0027	0.0122	0.0009	-0.1233	0.0065	-0.3026	0.0266
1	105.12	0.2499	-0.0103	0.0026	0.0188	0.0022	-0.2502	0.0177	-0.4205	0.0473
1	105.12	0.2998	0.0064	0.0029	0.0436	0.0042	-0.5571	0.0305	-0.6713	0.0590
1	105.12	0.3498	-0.0304	0.0034	0.0796	0.0067	-0.8701	0.0518	-0.5457	0.0551
1	105.12	0.3913	-0.0235	0.0051	0.1080	0.0101	-1.3230	0.0778	-0.5466	0.0593
1	105.12	0.4496	-0.0555	0.0079	0.1599	0.0149	-2.2572	0.1223	-0.7694	0.0589
1	105.12	0.4997	-0.0717	0.0111	0.2352	0.0201	-3.3368	0.1696	-0.9114	0.0635
1	105.12	0.5387	-0.0943	0.0148	0.2900	0.0246	-4.3758	0.2118	-0.9078	0.0608
1	105.12	0.5996	-0.1724	0.0225	0.3880	0.0325	-6.3221	0.2903	-0.7417	0.0634
1	105.12	0.6498	-0.2709	0.0311	0.4979	0.0392	-8.2599	0.3634	-0.8524	0.0649
1	105.12	0.6998	-0.3838	0.0418	0.5961	0.0463	-10.3655	0.4426	-0.8688	0.0646
1	105.12	0.7500	-0.4975	0.0541	0.6947	0.0541	-12.6130	0.5288	-0.5911	0.0661
1	105.12	0.8001	-0.6414	0.0677	0.7788	0.0623	-14.8989	0.6192	-0.5729	0.0726
1	105.12	0.8497	-0.7906	0.0807	0.9211	0.0704	-17.2380	0.7073	-0.7117	0.0806
1	105.12	0.9102	-0.9876	0.0957	1.0708	0.0805	-20.1126	0.8194	-1.3887	0.0924
1	105.12	0.9734	-1.0953	0.1080	1.2421	0.0923	-23.0636	0.9343	-1.2732	0.0847
2	105.12	0.1949	-0.0735	0.0024	-0.0063	0.0011	-0.1308	0.0054	-0.1769	0.0229
2	105.12	0.2405	-0.0383	0.0018	0.0136	0.0027	-0.3409	0.0127	-0.6554	0.0367
2	105.12	0.2999	-0.0439	0.0026	-0.0065	0.0052	-0.6958	0.0256	-0.6546	0.0532
2	105.12	0.3498	-0.0382	0.0038	-0.0006	0.0095	-1.1885	0.0442	-0.7222	0.0571
2	105.12	0.3998	-0.0519	0.0055	0.0037	0.0146	-1.9004	0.0697	-0.8126	0.0598
2	105.12	0.4496	-0.0714	0.0077	0.0187	0.0200	-2.8719	0.1026	-0.9113	0.0648
2	105.12	0.4995	-0.1294	0.0110	0.0684	0.0275	-4.1380	0.1438	-0.9772	0.0624
2	105.12	0.5551	-0.1825	0.0160	0.1286	0.0361	-5.9276	0.1989	-0.9718	0.0675
2	105.12	0.5996	-0.2540	0.0224	0.1801	0.0442	-7.6561	0.2511	-1.0597	0.0629
2	105.12	0.6497	-0.3967	0.0304	0.2559	0.0533	-9.8250	0.3139	-0.9573	0.0625
2	105.12	0.6996	-0.5399	0.0409	0.3322	0.0633	-12.2308	0.3823	-0.9696	0.0723
2	105.12	0.7495	-0.7214	0.0534	0.4026	0.0735	-14.7277	0.4579	-0.6121	0.0744
2	105.12	0.7996	-0.9061	0.0670	0.4786	0.0842	-17.3338	0.5413	-0.6101	0.0880
2	105.12	0.8578	-1.1574	0.0835	0.5826	0.0962	-20.4486	0.6380	-1.0021	0.1028
2	105.12	0.9100	-1.3626	0.0973	0.6852	0.1077	-23.1800	0.7315	-1.0102	0.0918
2	105.12	0.9727	-1.5019	0.1117	0.8261	0.1215	-26.4837	0.8429	-0.6282	0.1318
3	105.12	0.1938	-0.1572	0.0268	-0.0162	0.0207	-0.0663	0.0416	-0.0808	0.0670
3	105.12	0.2357	0.0363	0.0139	-0.0077	0.0109	-0.2747	0.0233	-0.0337	0.0888
3	105.12	0.2995	-0.0152	0.0051	-0.0525	0.0609	-0.4796	0.1174	-0.1682	0.1079
3	105.12	0.3493	-0.0205	0.0074	-0.0828	0.1034	-0.8070	0.2009	-0.1846	0.0992
3	105.12	0.4000	-0.0027	0.0108	-0.1254	0.1498	-1.3428	0.2870	-0.2241	0.0917
3	105.12	0.4497	-0.0813	0.0127	-0.1431	0.1999	-2.1091	0.3818	-0.3729	0.0954
3	105.12	0.4997	-0.1066	0.0136	-0.1424	0.2548	-3.1521	0.4849	-0.3944	0.1017
3	105.12	0.5556	-0.2061	0.0163	-0.1606	0.3199	-4.6809	0.6002	-0.5189	0.0792
3	105.12	0.5995	-0.2725	0.0227	-0.0811	0.3746	-6.1377	0.6929	-0.5611	0.0934
3	105.12	0.6498	-0.3735	0.0328	-0.1060	0.4395	-8.0586	0.7979	-0.4338	0.0926
3	105.12	0.6890	-0.5087	0.0455	-0.0224	0.4935	-9.7391	0.8857	-0.3964	0.0899
3	105.12	0.7495	-0.6957	0.0673	0.0221	0.5800	-12.5650	1.0196	-0.4256	0.0900
3	105.12	0.7998	-0.8967	0.1027	0.0897	0.5183	-14.9330	1.1044	-0.3267	0.2504
3	105.12	0.8577	-1.1529	0.1158	0.1654	0.8494	-17.8281	1.4413	-0.7317	2.9755
3	105.12	0.9178	-1.3712	0.1408	0.2492	0.9294	-20.8306	1.5814	-0.5011	3.1331
3	105.12	0.9729	-1.6955	0.1406	0.2822	1.2117	-23.6942	1.1257	-0.7256	0.1363
4	105.12	0.2001	-0.0670	0.0033	0.0066	0.0013	-0.1636	0.0070	0.1341	0.0249
4	105.12	0.2502	-0.0400	0.0032	0.0503	0.0031	-0.4317	0.0199	-0.2337	0.0439
4	105.12	0.3001	-0.0375	0.0035	0.0601	0.0056	-0.7537	0.0340	0.1216	0.0559
4	105.12	0.3502	-0.0454	0.0042	0.1024	0.0099	-1.3220	0.0574	-0.0282	0.0517
4	105.12	0.4002	-0.0597	0.0056	0.1800	0.0153	-2.0878	0.0930	-0.0554	0.0613
4	105.12	0.4500	-0.0772	0.0092	0.2873	0.0214	-3.1534	0.1390	-0.2220	0.0661
4	105.12	0.5001	-0.1351	0.0137	0.3947	0.0300	-4.5242	0.1999	-0.2421	0.0656
4	105.12	0.5560	-0.2208	0.0224	0.5515	0.0403	-6.4999	0.2829	-0.4741	0.0765
4	105.12	0.6001	-0.2956	0.0322	0.6722	0.0500	-8.3176	0.3589	-0.3934	0.0763
4	105.12	0.6501	-0.4577	0.0447	0.8284	0.0610	-10.6383	0.4546	-0.2322	0.0775
4	105.12	0.6999	-0.6287	0.0606	0.9820	0.0727	-13.2424	0.5537	-0.3037	0.0832
4	105.12	0.7500	-0.8057	0.0770	1.1389	0.0844	-15.9768	0.6584	-0.0379	0.0842
4	105.12	0.8002	-1.0476	0.0956	1.2986	0.0968	-18.7749	0.7665	0.4308	0.0953
4	105.12	0.8582	-1.2999	0.1176	1.4940	0.1100	-22.2037	0.8926	-0.5727	0.1099
4	105.12	0.9101	-1.5182	0.1366	1.6940	0.1225	-25.0765	1.0125	0.1723	0.0942
4	105.12	0.9728	-1.6439	0.1587	1.9239	0.1375	-28.7377	1.1583	0.1535	0.0979

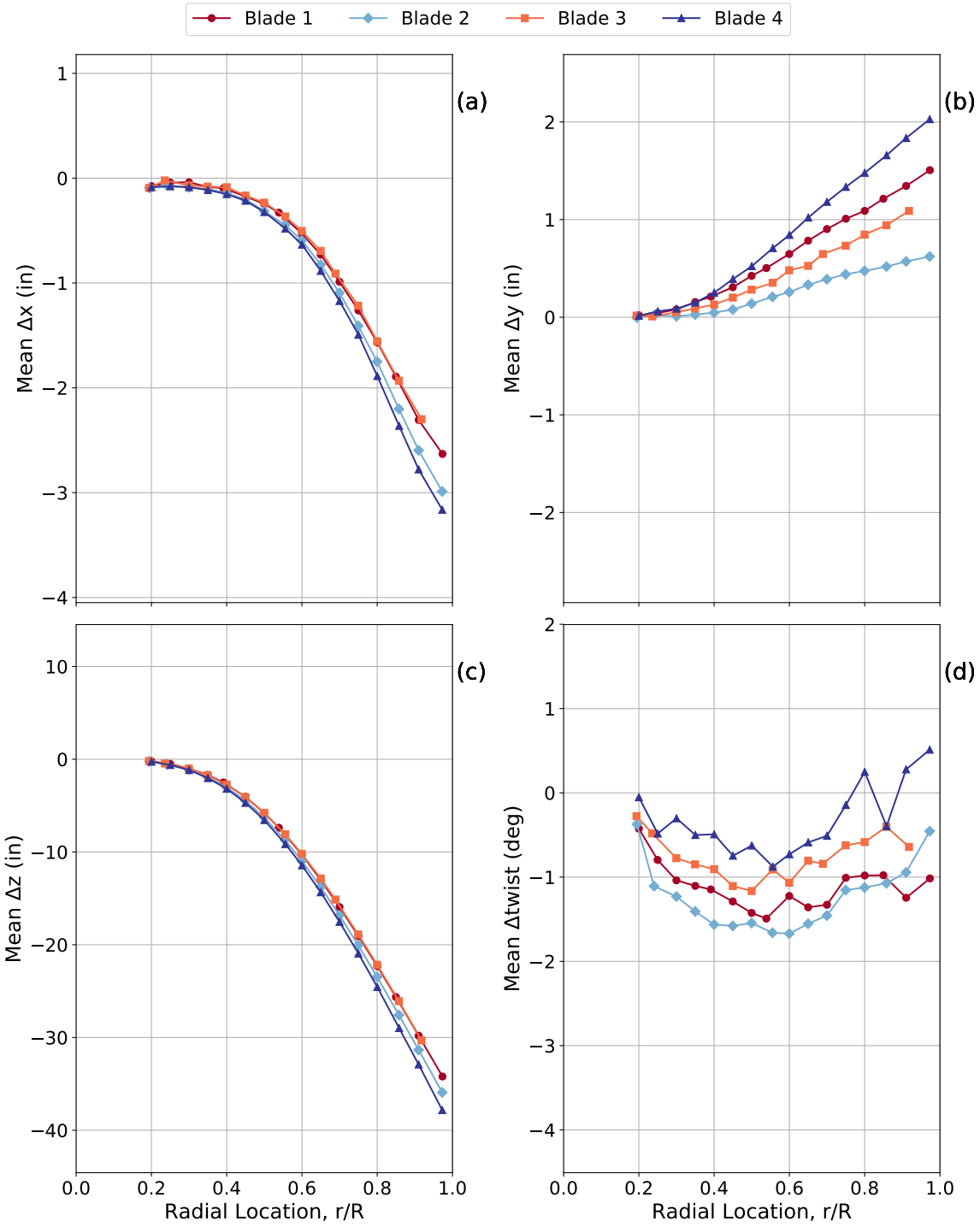


Figure 2.20-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0760	0.0040	0.0208	0.0011	-0.2288	0.0083	-0.4254	0.0229
1	119.88	0.2499	-0.0424	0.0032	0.0430	0.0023	-0.5038	0.0184	-0.7966	0.0393
1	119.88	0.2998	-0.0394	0.0043	0.0791	0.0044	-1.0149	0.0362	-1.0380	0.0513
1	119.88	0.3498	-0.0827	0.0065	0.1555	0.0077	-1.6863	0.0614	-1.1044	0.0532
1	119.88	0.3913	-0.0966	0.0086	0.2105	0.0109	-2.5020	0.0902	-1.1466	0.0507
1	119.88	0.4496	-0.1733	0.0124	0.3071	0.0149	-4.0532	0.1351	-1.2892	0.0550
1	119.88	0.4997	-0.2465	0.0179	0.4241	0.0192	-5.7820	0.1837	-1.4253	0.0597
1	119.88	0.5387	-0.3288	0.0238	0.5038	0.0228	-7.3887	0.2262	-1.4921	0.0672
1	119.88	0.5996	-0.5278	0.0360	0.6478	0.0289	-10.2614	0.3061	-1.2243	0.0799
1	119.88	0.6498	-0.7298	0.0498	0.7840	0.0343	-13.0170	0.3854	-1.3589	0.0804
1	119.88	0.6998	-0.9884	0.0668	0.9032	0.0403	-15.9417	0.4747	-1.3283	0.0909
1	119.88	0.7500	-1.2616	0.0876	1.0087	0.0465	-19.0681	0.5744	-1.0083	0.0958
1	119.88	0.8001	-1.5674	0.1103	1.0894	0.0530	-22.3064	0.6831	-0.9809	0.1053
1	119.88	0.8497	-1.8935	0.1348	1.2135	0.0592	-25.6455	0.7969	-0.9778	0.1153
1	119.88	0.9102	-2.3067	0.1652	1.3448	0.0673	-29.8102	0.9416	-1.2452	0.1276
1	119.88	0.9734	-2.6306	0.1983	1.5065	0.0757	-34.2076	1.0987	-1.0157	0.1380
2	119.88	0.1949	-0.0938	0.0043	-0.0027	0.0016	-0.2202	0.0124	-0.3727	0.0265
2	119.88	0.2405	-0.0660	0.0048	0.0200	0.0024	-0.5275	0.0241	-1.1079	0.0402
2	119.88	0.2999	-0.0871	0.0062	0.0100	0.0067	-1.1127	0.0554	-1.2307	0.0613
2	119.88	0.3498	-0.1032	0.0091	0.0273	0.0112	-1.9129	0.0970	-1.4077	0.0554
2	119.88	0.3998	-0.1432	0.0127	0.0472	0.0172	-3.0282	0.1496	-1.5632	0.0534
2	119.88	0.4496	-0.2017	0.0185	0.0782	0.0234	-4.4658	0.2124	-1.5794	0.0550
2	119.88	0.4995	-0.3142	0.0265	0.1392	0.0298	-6.2507	0.2847	-1.5448	0.0571
2	119.88	0.5551	-0.4457	0.0399	0.2087	0.0368	-8.7131	0.3785	-1.6608	0.0591
2	119.88	0.5996	-0.5937	0.0532	0.2575	0.0424	-10.9737	0.4639	-1.6709	0.0581
2	119.88	0.6497	-0.8242	0.0731	0.3330	0.0484	-13.7733	0.5763	-1.5536	0.0609
2	119.88	0.6996	-1.0935	0.0984	0.3890	0.0551	-16.8174	0.7043	-1.4570	0.0641
2	119.88	0.7495	-1.4085	0.1280	0.4396	0.0615	-20.0489	0.8465	-1.1546	0.0652
2	119.88	0.7996	-1.7494	0.1623	0.4748	0.0673	-23.4609	1.0058	-1.1238	0.0724
2	119.88	0.8578	-2.2019	0.2067	0.5185	0.0743	-27.5810	1.2055	-1.0734	0.0769
2	119.88	0.9100	-2.5964	0.2472	0.5717	0.0800	-31.3418	1.3912	-0.9440	0.0854
2	119.88	0.9727	-2.9889	0.2969	0.6219	0.0871	-35.9254	1.6191	-0.4558	0.1080
3	119.88	0.1938	-0.0934	0.0045	0.0164	0.0011	-0.1949	0.0072	-0.2763	0.0297
3	119.88	0.2357	-0.0215	0.0033	0.0088	0.0025	-0.4564	0.0151	-0.4816	0.0433
3	119.88	0.2995	-0.0697	0.0041	0.0508	0.0047	-1.0069	0.0349	-0.7754	0.0694
3	119.88	0.3493	-0.0810	0.0063	0.0896	0.0077	-1.7122	0.0595	-0.8489	0.0617
3	119.88	0.4000	-0.0864	0.0088	0.1296	0.0126	-2.7369	0.0945	-0.9062	0.0634
3	119.88	0.4497	-0.1655	0.0129	0.2010	0.0164	-4.0807	0.1357	-1.1059	0.0657
3	119.88	0.4997	-0.2334	0.0193	0.2821	0.0212	-5.7778	0.1896	-1.1651	0.0727
3	119.88	0.5556	-0.3653	0.0284	0.3526	0.0265	-8.0882	0.2584	-0.9092	0.0667
3	119.88	0.5995	-0.5035	0.0382	0.4811	0.0312	-10.1928	0.3246	-1.0669	0.0676
3	119.88	0.6498	-0.6940	0.0536	0.5259	0.0365	-12.8496	0.4126	-0.8058	0.0739
3	119.88	0.6890	-0.9104	0.0681	0.6478	0.0410	-15.1312	0.4883	-0.8420	0.0725
3	119.88	0.7495	-1.2168	0.0948	0.7324	0.0486	-18.8900	0.6218	-0.6231	0.0805
3	119.88	0.7998	-1.5562	0.1201	0.8463	0.0548	-22.1624	0.7441	-0.5849	0.0830
3	119.88	0.8577	-1.9327	0.1525	0.9427	0.0619	-26.0899	0.8926	-0.4028	0.0810
3	119.88	0.9178	-2.2992	0.1850	1.0890	0.0694	-30.3207	1.0501	-0.6418	0.0952
4	119.88	0.2001	-0.0866	0.0044	0.0143	0.0013	-0.2657	0.0094	-0.0528	0.0273
4	119.88	0.2502	-0.0783	0.0045	0.0596	0.0024	-0.6273	0.0189	-0.4836	0.0407
4	119.88	0.3001	-0.0869	0.0052	0.0874	0.0050	-1.1640	0.0391	-0.3027	0.0592
4	119.88	0.3502	-0.1133	0.0074	0.1503	0.0087	-2.0378	0.0670	-0.5004	0.0554
4	119.88	0.4002	-0.1521	0.0110	0.2506	0.0133	-3.1854	0.1041	-0.4925	0.0593
4	119.88	0.4500	-0.2156	0.0156	0.3911	0.0175	-4.7058	0.1497	-0.7465	0.0668
4	119.88	0.5001	-0.3232	0.0223	0.5229	0.0226	-6.5572	0.2052	-0.6259	0.0711
4	119.88	0.5560	-0.4818	0.0330	0.7076	0.0287	-9.1471	0.2787	-0.8766	0.0756
4	119.88	0.6001	-0.6342	0.0445	0.8432	0.0339	-11.4454	0.3450	-0.7290	0.0730
4	119.88	0.6501	-0.8849	0.0611	1.0206	0.0397	-14.3466	0.4334	-0.5881	0.0753
4	119.88	0.6999	-1.1720	0.0816	1.1817	0.0458	-17.5402	0.5333	-0.5101	0.0953
4	119.88	0.7500	-1.4934	0.1069	1.3348	0.0518	-20.9499	0.6473	-0.1447	0.0980
4	119.88	0.8002	-1.8879	0.1361	1.4789	0.0578	-24.5577	0.7725	0.2484	0.0980
4	119.88	0.8582	-2.3633	0.1731	1.6588	0.0647	-28.9870	0.9262	-0.3969	0.1133
4	119.88	0.9101	-2.7786	0.2062	1.8355	0.0706	-32.9141	1.0708	0.2777	0.1138
4	119.88	0.9728	-3.1635	0.2489	2.0282	0.0781	-37.8314	1.2492	0.5116	0.1222

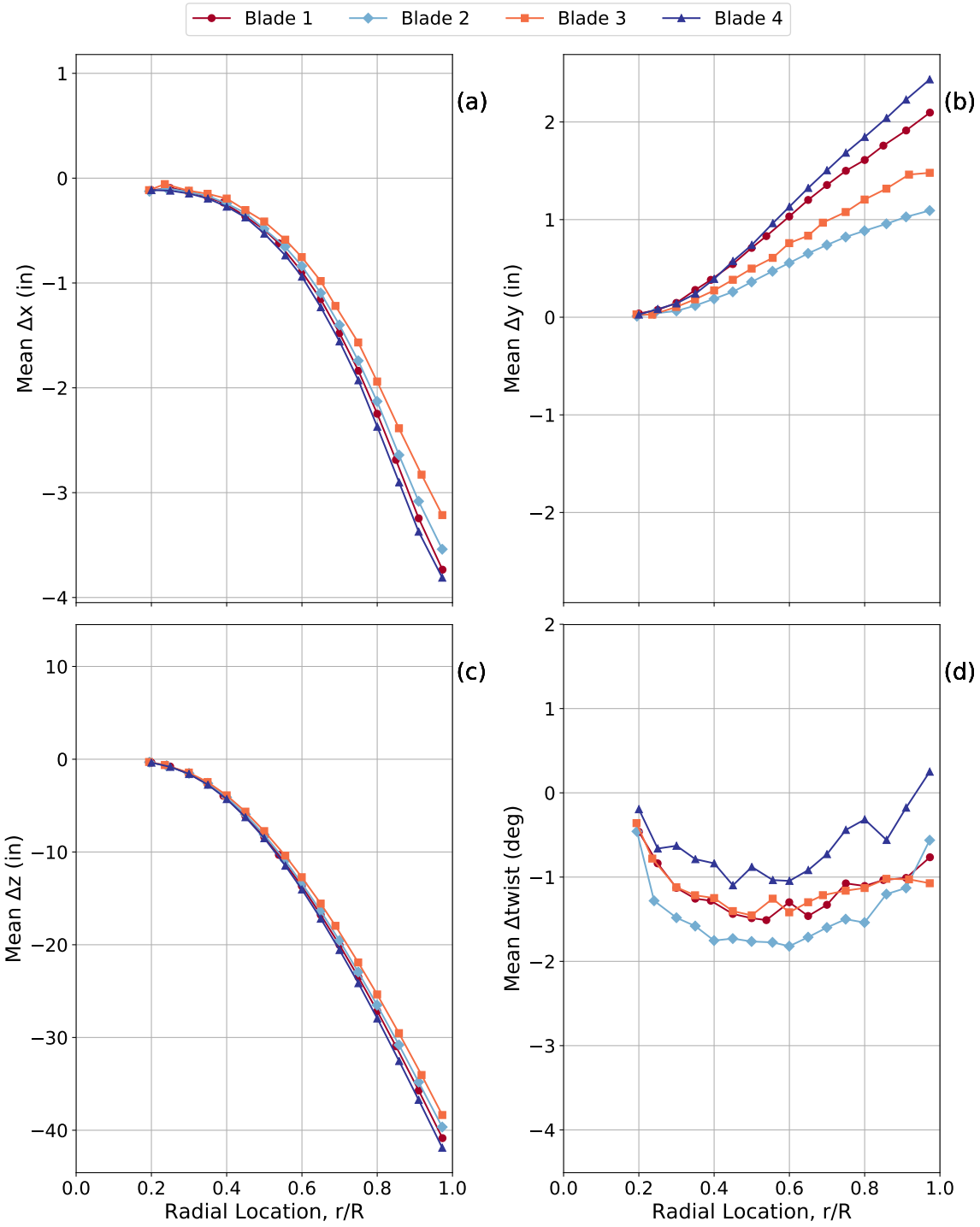


Figure 2.20-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.1145	0.0055	0.0380	0.0016	-0.3654	0.0092	-0.4631	0.0250
1	135	0.2499	-0.0940	0.0056	0.0747	0.0029	-0.7837	0.0204	-0.8370	0.0500
1	135	0.2998	-0.1260	0.0064	0.1468	0.0065	-1.5832	0.0395	-1.1275	0.0597
1	135	0.3498	-0.1845	0.0079	0.2793	0.0107	-2.6973	0.0691	-1.2561	0.0621
1	135	0.3913	-0.2323	0.0113	0.3828	0.0154	-3.9422	0.0999	-1.2802	0.0571
1	135	0.4496	-0.3636	0.0179	0.5443	0.0221	-6.1222	0.1567	-1.4371	0.0721
1	135	0.4997	-0.4916	0.0260	0.7101	0.0290	-8.3720	0.2131	-1.4876	0.0670
1	135	0.5387	-0.6220	0.0337	0.8311	0.0345	-10.3117	0.2658	-1.5105	0.0731
1	135	0.5996	-0.8915	0.0499	1.0317	0.0436	-13.6678	0.3598	-1.2985	0.0785
1	135	0.6498	-1.1549	0.0659	1.2013	0.0512	-16.7695	0.4475	-1.4619	0.0794
1	135	0.6998	-1.4781	0.0857	1.3542	0.0589	-20.0231	0.5426	-1.3289	0.0809
1	135	0.7500	-1.8372	0.1093	1.5000	0.0665	-23.4969	0.6487	-1.0747	0.0809
1	135	0.8001	-2.2477	0.1354	1.6106	0.0743	-27.1517	0.7618	-1.1054	0.0865
1	135	0.8497	-2.6873	0.1644	1.7577	0.0819	-30.9431	0.8811	-1.0346	0.0841
1	135	0.9102	-3.2447	0.2022	1.9131	0.0916	-35.7164	1.0347	-1.0098	0.0860
1	135	0.9734	-3.7348	0.2420	2.0961	0.1016	-40.8509	1.2037	-0.7646	0.0853
2	135	0.1949	-0.1256	0.0047	0.0106	0.0012	-0.3123	0.0091	-0.4579	0.0333
2	135	0.2405	-0.0963	0.0051	0.0383	0.0029	-0.6963	0.0213	-1.2813	0.0489
2	135	0.2999	-0.1326	0.0063	0.0641	0.0054	-1.5214	0.0453	-1.4823	0.0772
2	135	0.3498	-0.1687	0.0092	0.1193	0.0101	-2.6035	0.0775	-1.5811	0.0735
2	135	0.3998	-0.2413	0.0142	0.1882	0.0153	-4.1046	0.1225	-1.7531	0.0739
2	135	0.4496	-0.3319	0.0213	0.2599	0.0205	-5.9388	0.1827	-1.7296	0.0859
2	135	0.4995	-0.4832	0.0320	0.3615	0.0269	-8.1234	0.2588	-1.7641	0.0874
2	135	0.5551	-0.6537	0.0477	0.4709	0.0351	-10.9012	0.3597	-1.7746	0.0896
2	135	0.5996	-0.8379	0.0642	0.5560	0.0408	-13.3697	0.4557	-1.8203	0.0956
2	135	0.6497	-1.0952	0.0869	0.6539	0.0474	-16.3559	0.5753	-1.7132	0.0915
2	135	0.6996	-1.4003	0.1133	0.7400	0.0550	-19.5474	0.7057	-1.5984	0.0822
2	135	0.7495	-1.7413	0.1444	0.8217	0.0620	-22.9397	0.8495	-1.4994	0.0810
2	135	0.7996	-2.1290	0.1799	0.8854	0.0686	-26.5089	1.0052	-1.5393	0.0872
2	135	0.8578	-2.6406	0.2252	0.9568	0.0756	-30.7992	1.1964	-1.2023	0.0805
2	135	0.9100	-3.0821	0.2673	1.0277	0.0825	-34.8045	1.3739	-1.1291	0.0778
2	135	0.9727	-3.5396	0.3177	1.0926	0.0904	-39.6532	1.5929	-0.5622	0.0756
3	135	0.1938	-0.1144	0.0065	0.0295	0.0020	-0.2962	0.0122	-0.3594	0.0316
3	135	0.2357	-0.0567	0.0067	0.0263	0.0033	-0.6234	0.0249	-0.7804	0.0866
3	135	0.2995	-0.1195	0.0083	0.1051	0.0081	-1.4373	0.0581	-1.1205	0.0983
3	135	0.3493	-0.1491	0.0114	0.1835	0.0139	-2.4610	0.1013	-1.2157	0.0981
3	135	0.4000	-0.1946	0.0166	0.2743	0.0218	-3.8909	0.1591	-1.2490	0.1066
3	135	0.4497	-0.3044	0.0246	0.3836	0.0299	-5.6498	0.2339	-1.4036	0.1150
3	135	0.4997	-0.4135	0.0366	0.4985	0.0397	-7.7487	0.3226	-1.4538	0.1106
3	135	0.5556	-0.5867	0.0537	0.6081	0.0523	-10.3885	0.4427	-1.2559	0.1157
3	135	0.5995	-0.7531	0.0718	0.7588	0.0613	-12.7203	0.5561	-1.4182	0.1169
3	135	0.6498	-0.9814	0.0970	0.8352	0.0722	-15.5614	0.6976	-1.2984	0.1112
3	135	0.6890	-1.2187	0.1201	0.9686	0.0815	-17.9587	0.8224	-1.2147	0.1159
3	135	0.7495	-1.5673	0.1632	1.0775	0.0952	-21.9070	1.0364	-1.1611	0.1191
3	135	0.7998	-1.9399	0.2054	1.2054	0.1069	-25.3564	1.2323	-1.1294	0.1193
3	135	0.8577	-2.3858	0.2604	1.3170	0.1195	-29.5302	1.4754	-1.0205	0.1231
3	135	0.9178	-2.8282	0.3194	1.4611	0.1333	-34.0427	1.7409	-1.0263	0.1281
3	135	0.9729	-3.2140	0.3742	1.4792	0.1453	-38.3561	1.9937	-1.0729	0.1297
4	135	0.2001	-0.1142	0.0059	0.0270	0.0017	-0.3663	0.0108	-0.1949	0.0243
4	135	0.2502	-0.1194	0.0059	0.0832	0.0032	-0.8275	0.0238	-0.6615	0.0374
4	135	0.3001	-0.1469	0.0071	0.1413	0.0065	-1.5872	0.0455	-0.6286	0.0505
4	135	0.3502	-0.1946	0.0098	0.2406	0.0118	-2.7503	0.0812	-0.7873	0.0512
4	135	0.4002	-0.2720	0.0141	0.3923	0.0178	-4.3007	0.1252	-0.8368	0.0498
4	135	0.4500	-0.3742	0.0212	0.5746	0.0238	-6.2513	0.1841	-1.0978	0.0682
4	135	0.5001	-0.5294	0.0309	0.7402	0.0308	-8.5201	0.2527	-0.8792	0.0698
4	135	0.5560	-0.7373	0.0446	0.9627	0.0398	-11.4829	0.3445	-1.0356	0.0748
4	135	0.6001	-0.9399	0.0604	1.1323	0.0459	-14.0486	0.4294	-1.0452	0.0846
4	135	0.6501	-1.2312	0.0805	1.3242	0.0536	-17.1952	0.5360	-0.9172	0.0883
4	135	0.6999	-1.5572	0.1057	1.5051	0.0621	-20.5723	0.6549	-0.7278	0.0797
4	135	0.7500	-1.9286	0.1350	1.6849	0.0697	-24.1478	0.7892	-0.4402	0.0829
4	135	0.8002	-2.3714	0.1693	1.8466	0.0769	-27.9504	0.9340	-0.3162	0.0786
4	135	0.8582	-2.9020	0.2131	2.0411	0.0856	-32.5431	1.1127	-0.5598	0.0864
4	135	0.9101	-3.3723	0.2535	2.2285	0.0931	-36.7277	1.2767	-0.1765	0.0838
4	135	0.9728	-3.8111	0.3032	2.4358	0.1021	-41.8906	1.4871	0.2502	0.0848

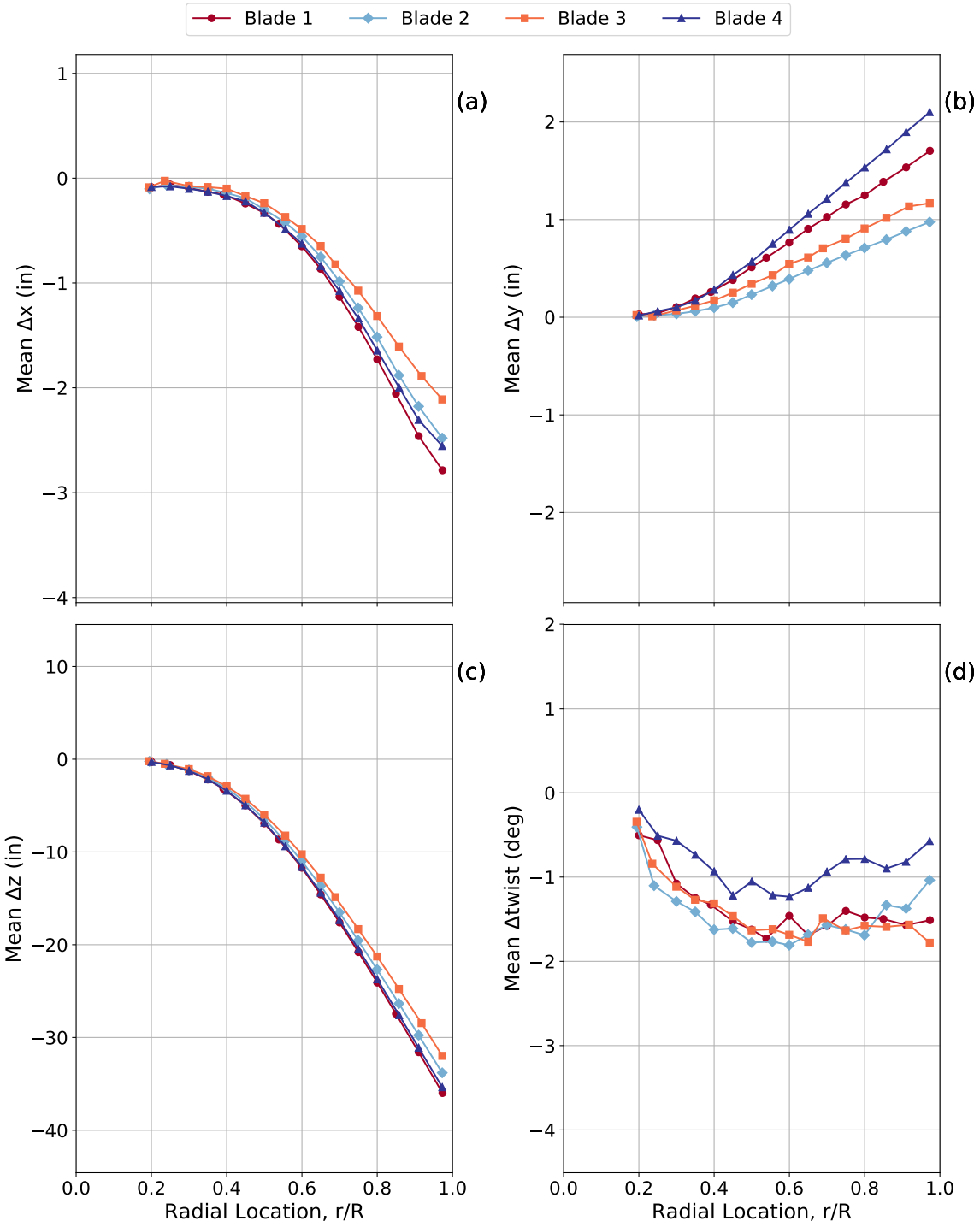


Figure 2.20-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0866	0.0039	0.0289	0.0014	-0.2958	0.0078	-0.5035	0.0260
1	150.12	0.2499	-0.0611	0.0035	0.0433	0.0024	-0.6308	0.0160	-0.5617	0.0429
1	150.12	0.2998	-0.0918	0.0046	0.1030	0.0055	-1.2779	0.0327	-1.0764	0.0579
1	150.12	0.3498	-0.1304	0.0060	0.1926	0.0086	-2.1794	0.0560	-1.2476	0.0613
1	150.12	0.3913	-0.1543	0.0082	0.2584	0.0123	-3.1817	0.0812	-1.3278	0.0569
1	150.12	0.4496	-0.2422	0.0119	0.3814	0.0168	-4.9788	0.1243	-1.5249	0.0633
1	150.12	0.4997	-0.3317	0.0187	0.5120	0.0215	-6.9181	0.1724	-1.6227	0.0616
1	150.12	0.5387	-0.4353	0.0249	0.6097	0.0253	-8.6545	0.2175	-1.7300	0.0634
1	150.12	0.5996	-0.6496	0.0369	0.7649	0.0318	-11.7007	0.2962	-1.4605	0.0684
1	150.12	0.6498	-0.8652	0.0510	0.9058	0.0370	-14.5811	0.3765	-1.6877	0.0707
1	150.12	0.6998	-1.1321	0.0680	1.0265	0.0428	-17.6033	0.4652	-1.5798	0.0695
1	150.12	0.7500	-1.4189	0.0879	1.1550	0.0480	-20.7909	0.5635	-1.4010	0.0823
1	150.12	0.8001	-1.7290	0.1102	1.2488	0.0526	-24.0841	0.6710	-1.4795	0.0880
1	150.12	0.8497	-2.0575	0.1342	1.3873	0.0579	-27.4428	0.7805	-1.4973	0.0842
1	150.12	0.9102	-2.4605	0.1627	1.5351	0.0643	-31.5844	0.9201	-1.5702	0.0883
1	150.12	0.9734	-2.7866	0.1927	1.7048	0.0715	-35.9870	1.0707	-1.5115	0.0907
2	150.12	0.1949	-0.1021	0.0038	0.0057	0.0018	-0.2311	0.0087	-0.4055	0.0302
2	150.12	0.2405	-0.0658	0.0030	0.0195	0.0032	-0.5487	0.0168	-1.1017	0.0550
2	150.12	0.2999	-0.0840	0.0046	0.0340	0.0082	-1.1626	0.0384	-1.2881	0.0747
2	150.12	0.3498	-0.0994	0.0069	0.0616	0.0127	-1.9801	0.0663	-1.4125	0.0697
2	150.12	0.3998	-0.1417	0.0102	0.0980	0.0207	-3.1430	0.1027	-1.6237	0.0703
2	150.12	0.4496	-0.1906	0.0149	0.1492	0.0257	-4.5943	0.1482	-1.6101	0.0745
2	150.12	0.4995	-0.2978	0.0214	0.2314	0.0311	-6.4132	0.2029	-1.7768	0.0712
2	150.12	0.5551	-0.4212	0.0307	0.3198	0.0383	-8.8139	0.2749	-1.7652	0.0765
2	150.12	0.5996	-0.5547	0.0403	0.3915	0.0437	-10.9891	0.3395	-1.8085	0.0750
2	150.12	0.6497	-0.7510	0.0536	0.4777	0.0502	-13.6544	0.4188	-1.6834	0.0810
2	150.12	0.6996	-0.9851	0.0693	0.5567	0.0565	-16.5128	0.5059	-1.5686	0.0759
2	150.12	0.7495	-1.2379	0.0872	0.6357	0.0633	-19.5428	0.6000	-1.6222	0.0824
2	150.12	0.7996	-1.5152	0.1071	0.7099	0.0700	-22.6671	0.7003	-1.6894	0.0854
2	150.12	0.8578	-1.8809	0.1316	0.7948	0.0775	-26.3457	0.8211	-1.3318	0.0819
2	150.12	0.9100	-2.1771	0.1541	0.8793	0.0845	-29.7569	0.9337	-1.3733	0.0824
2	150.12	0.9727	-2.4792	0.1802	0.9752	0.0930	-33.8053	1.0722	-1.0361	0.0824
3	150.12	0.1938	-0.0869	0.0045	0.0227	0.0017	-0.2097	0.0097	-0.3430	0.0363
3	150.12	0.2357	-0.0252	0.0042	0.0088	0.0027	-0.4918	0.0190	-0.8413	0.0942
3	150.12	0.2995	-0.0752	0.0050	0.0697	0.0060	-1.0663	0.0440	-1.1140	0.1115
3	150.12	0.3493	-0.0849	0.0076	0.1172	0.0102	-1.8308	0.0767	-1.2690	0.1156
3	150.12	0.4000	-0.0999	0.0110	0.1717	0.0158	-2.9092	0.1196	-1.3123	0.1174
3	150.12	0.4497	-0.1693	0.0156	0.2519	0.0199	-4.2711	0.1742	-1.4639	0.1152
3	150.12	0.4997	-0.2390	0.0241	0.3422	0.0254	-5.9848	0.2470	-1.6325	0.1156
3	150.12	0.5556	-0.3708	0.0355	0.4311	0.0315	-8.2289	0.3434	-1.6185	0.1269
3	150.12	0.5995	-0.4847	0.0486	0.5461	0.0368	-10.2481	0.4301	-1.6846	0.1194
3	150.12	0.6498	-0.6470	0.0663	0.6118	0.0432	-12.7701	0.5437	-1.7676	0.1225
3	150.12	0.6890	-0.8231	0.0822	0.7060	0.0482	-14.8620	0.6384	-1.4886	0.1195
3	150.12	0.7495	-1.0733	0.1102	0.8030	0.0562	-18.3168	0.7982	-1.6323	0.1162
3	150.12	0.7998	-1.3153	0.1365	0.9094	0.0628	-21.2645	0.9408	-1.5781	0.1228
3	150.12	0.8577	-1.6066	0.1686	1.0181	0.0707	-24.7702	1.1118	-1.5904	0.1195
3	150.12	0.9178	-1.8879	0.2014	1.1353	0.0787	-28.4548	1.2940	-1.5651	0.1223
3	150.12	0.9729	-2.1106	0.2305	1.1680	0.0863	-31.9801	1.4635	-1.7791	0.1225
4	150.12	0.2001	-0.0837	0.0085	0.0180	0.0018	-0.2851	0.0107	-0.2011	0.0406
4	150.12	0.2502	-0.0778	0.0056	0.0617	0.0029	-0.6631	0.0235	-0.5090	0.1055
4	150.12	0.3001	-0.1014	0.0065	0.1018	0.0070	-1.2546	0.0443	-0.5689	0.1179
4	150.12	0.3502	-0.1284	0.0083	0.1691	0.0114	-2.1616	0.0760	-0.7360	0.1277
4	150.12	0.4002	-0.1697	0.0121	0.2818	0.0177	-3.3978	0.1184	-0.9321	0.1322
4	150.12	0.4500	-0.2218	0.0166	0.4326	0.0225	-4.9660	0.1738	-1.2183	0.1303
4	150.12	0.5001	-0.3310	0.0246	0.5691	0.0285	-6.8346	0.2422	-1.0505	0.1318
4	150.12	0.5560	-0.4865	0.0360	0.7524	0.0376	-9.3819	0.3316	-1.2151	0.1378
4	150.12	0.6001	-0.6245	0.0484	0.8960	0.0438	-11.6118	0.4091	-1.2324	0.1398
4	150.12	0.6501	-0.8384	0.0645	1.0594	0.0515	-14.3820	0.5059	-1.1259	0.1388
4	150.12	0.6999	-1.0752	0.0834	1.2145	0.0592	-17.3428	0.6080	-0.9362	0.1430
4	150.12	0.7500	-1.3376	0.1044	1.3781	0.0673	-20.4643	0.7218	-0.7870	0.1449
4	150.12	0.8002	-1.6446	0.1291	1.5346	0.0754	-23.7238	0.8427	-0.7843	0.1537
4	150.12	0.8582	-1.9971	0.1597	1.7204	0.0854	-27.5896	0.9897	-0.8978	0.1516
4	150.12	0.9101	-2.3058	0.1869	1.8968	0.0945	-31.0999	1.1260	-0.8186	0.1522
4	150.12	0.9728	-2.5550	0.2186	2.1012	0.1053	-35.3593	1.2954	-0.5721	0.1494

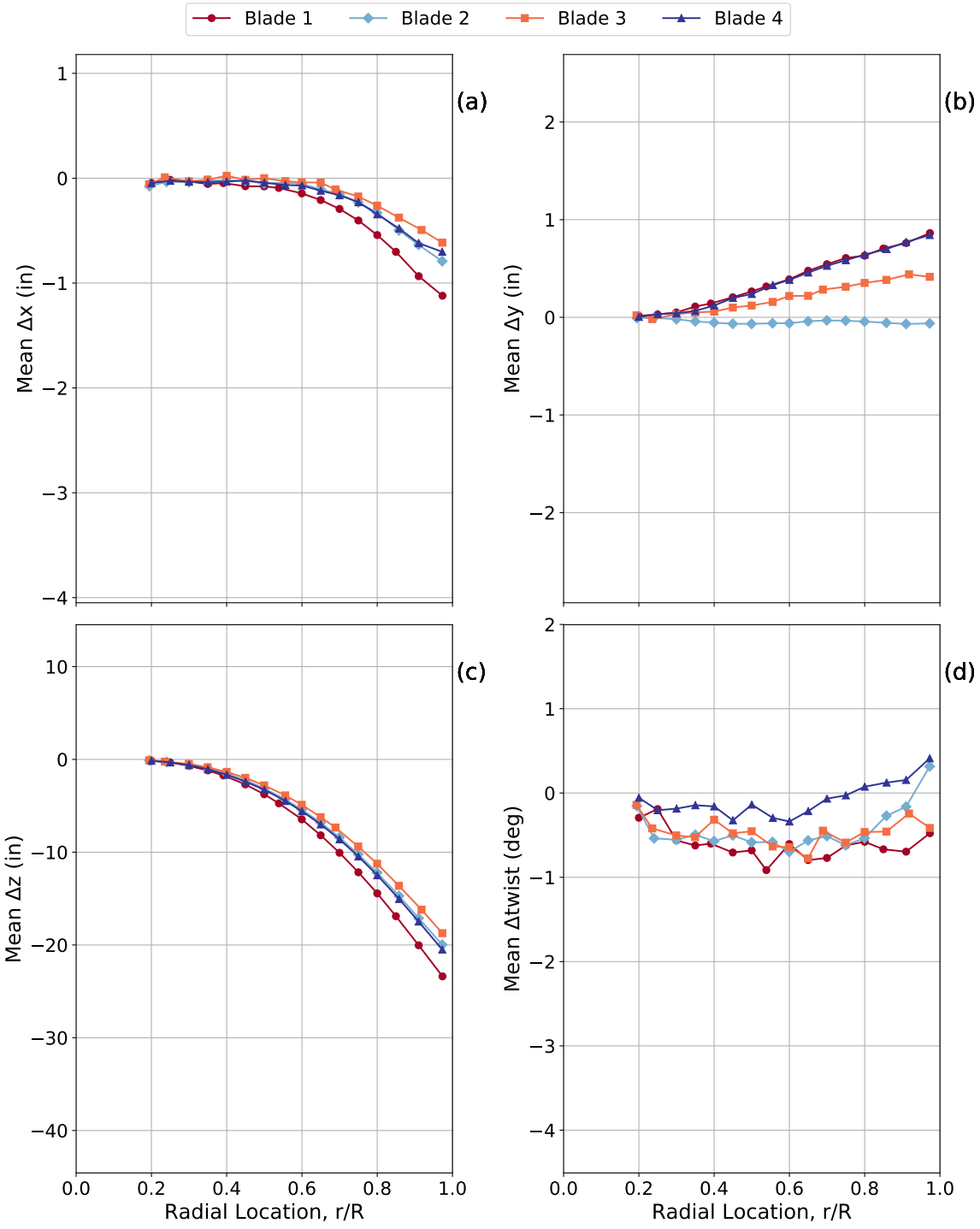


Figure 2.20-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0444	0.0032	0.0145	0.0016	-0.1673	0.0076	-0.2935	0.0306
1	164.88	0.2499	-0.0156	0.0027	0.0292	0.0030	-0.3284	0.0163	-0.1909	0.0570
1	164.88	0.2998	-0.0318	0.0032	0.0501	0.0069	-0.6997	0.0315	-0.5620	0.0711
1	164.88	0.3498	-0.0550	0.0037	0.1103	0.0104	-1.1908	0.0558	-0.6224	0.0592
1	164.88	0.3913	-0.0465	0.0048	0.1414	0.0159	-1.7241	0.0798	-0.6009	0.0634
1	164.88	0.4496	-0.0764	0.0070	0.2051	0.0207	-2.6967	0.1229	-0.7059	0.0755
1	164.88	0.4997	-0.0781	0.0095	0.2650	0.0267	-3.7582	0.1656	-0.6802	0.0769
1	164.88	0.5387	-0.0927	0.0121	0.3157	0.0315	-4.7380	0.2073	-0.9152	0.0851
1	164.88	0.5996	-0.1449	0.0187	0.3883	0.0389	-6.4587	0.2822	-0.6050	0.0819
1	164.88	0.6498	-0.2083	0.0259	0.4770	0.0459	-8.1766	0.3528	-0.7956	0.0800
1	164.88	0.6998	-0.2930	0.0354	0.5439	0.0535	-10.0621	0.4356	-0.7705	0.0838
1	164.88	0.7500	-0.4032	0.0480	0.6069	0.0601	-12.1679	0.5260	-0.6212	0.0824
1	164.88	0.8001	-0.5424	0.0625	0.6318	0.0676	-14.4381	0.6238	-0.5789	0.0904
1	164.88	0.8497	-0.7021	0.0805	0.7039	0.0735	-16.9004	0.7293	-0.6682	0.0930
1	164.88	0.9102	-0.9344	0.0994	0.7605	0.0844	-20.0353	0.8677	-0.6960	0.1030
1	164.88	0.9734	-1.1208	0.1203	0.8627	0.0938	-23.3843	1.0133	-0.4765	0.1054
2	164.88	0.1949	-0.0752	0.0033	-0.0070	0.0013	-0.1099	0.0059	-0.1538	0.0216
2	164.88	0.2405	-0.0356	0.0021	-0.0051	0.0032	-0.2680	0.0110	-0.5381	0.0401
2	164.88	0.2999	-0.0372	0.0027	-0.0198	0.0063	-0.5694	0.0249	-0.5538	0.0501
2	164.88	0.3498	-0.0222	0.0041	-0.0414	0.0105	-0.9664	0.0422	-0.4963	0.0558
2	164.88	0.3998	-0.0205	0.0058	-0.0549	0.0169	-1.5427	0.0655	-0.5707	0.0660
2	164.88	0.4496	-0.0246	0.0073	-0.0662	0.0210	-2.2354	0.0927	-0.5021	0.0662
2	164.88	0.4995	-0.0500	0.0092	-0.0669	0.0266	-3.1190	0.1246	-0.5851	0.0647
2	164.88	0.5551	-0.0432	0.0118	-0.0611	0.0339	-4.2976	0.1680	-0.5810	0.0690
2	164.88	0.5996	-0.0562	0.0144	-0.0603	0.0395	-5.4165	0.2095	-0.6979	0.0719
2	164.88	0.6497	-0.1061	0.0188	-0.0408	0.0463	-6.8051	0.2633	-0.5630	0.0725
2	164.88	0.6996	-0.1526	0.0251	-0.0318	0.0529	-8.4051	0.3277	-0.5106	0.0783
2	164.88	0.7495	-0.2299	0.0336	-0.0344	0.0597	-10.2311	0.4037	-0.6198	0.0715
2	164.88	0.7996	-0.3290	0.0446	-0.0434	0.0668	-12.2107	0.4886	-0.5356	0.0775
2	164.88	0.8578	-0.4969	0.0596	-0.0564	0.0745	-14.7100	0.5971	-0.2700	0.0717
2	164.88	0.9100	-0.6354	0.0725	-0.0681	0.0828	-17.1139	0.6995	-0.1626	0.0958
2	164.88	0.9727	-0.7914	0.0888	-0.0623	0.0919	-19.9705	0.8248	0.3152	0.0913
3	164.88	0.1938	-0.0575	0.0037	0.0201	0.0013	-0.0913	0.0077	-0.1411	0.0230
3	164.88	0.2357	0.0088	0.0026	-0.0180	0.0032	-0.2405	0.0119	-0.4200	0.0693
3	164.88	0.2995	-0.0301	0.0026	0.0326	0.0060	-0.4844	0.0303	-0.5033	0.0708
3	164.88	0.3493	-0.0141	0.0039	0.0500	0.0104	-0.8473	0.0522	-0.5237	0.0713
3	164.88	0.4000	0.0231	0.0056	0.0584	0.0167	-1.3441	0.0801	-0.3167	0.0671
3	164.88	0.4497	-0.0157	0.0072	0.0999	0.0206	-1.9881	0.1143	-0.4786	0.0809
3	164.88	0.4997	0.0002	0.0092	0.1212	0.0260	-2.7968	0.1539	-0.4538	0.0796
3	164.88	0.5556	-0.0282	0.0124	0.1576	0.0332	-3.8774	0.2071	-0.6344	0.0894
3	164.88	0.5995	-0.0397	0.0160	0.2184	0.0380	-4.8933	0.2575	-0.6419	0.0898
3	164.88	0.6498	-0.0417	0.0214	0.2199	0.0448	-6.2229	0.3219	-0.7763	0.0867
3	164.88	0.6890	-0.1074	0.0266	0.2838	0.0507	-7.3425	0.3806	-0.4462	0.0906
3	164.88	0.7495	-0.1745	0.0374	0.3125	0.0583	-9.3921	0.4782	-0.5881	0.0871
3	164.88	0.7998	-0.2613	0.0483	0.3520	0.0662	-11.2431	0.5694	-0.4629	0.0917
3	164.88	0.8577	-0.3762	0.0629	0.3832	0.0750	-13.6257	0.6794	-0.4577	0.0894
3	164.88	0.9178	-0.4937	0.0766	0.4394	0.0846	-16.1997	0.7998	-0.2427	0.1000
3	164.88	0.9729	-0.6145	0.0890	0.4144	0.0918	-18.7275	0.9107	-0.4146	0.1048
4	164.88	0.2001	-0.0470	0.0029	0.0040	0.0015	-0.1419	0.0068	-0.0558	0.0298
4	164.88	0.2502	-0.0247	0.0028	0.0332	0.0029	-0.3203	0.0150	-0.2042	0.0507
4	164.88	0.3001	-0.0338	0.0033	0.0418	0.0060	-0.6125	0.0286	-0.1854	0.0660
4	164.88	0.3502	-0.0380	0.0043	0.0660	0.0099	-1.0541	0.0491	-0.1449	0.0567
4	164.88	0.4002	-0.0321	0.0059	0.1210	0.0155	-1.6511	0.0766	-0.1592	0.0583
4	164.88	0.4500	-0.0223	0.0077	0.1978	0.0196	-2.4022	0.1120	-0.3242	0.0666
4	164.88	0.5001	-0.0423	0.0099	0.2387	0.0260	-3.2678	0.1510	-0.1376	0.0689
4	164.88	0.5560	-0.0656	0.0136	0.3298	0.0330	-4.4849	0.2066	-0.2955	0.0714
4	164.88	0.6001	-0.0700	0.0174	0.3835	0.0384	-5.5891	0.2587	-0.3378	0.0798
4	164.88	0.6501	-0.1198	0.0229	0.4582	0.0454	-7.0086	0.3256	-0.2150	0.0745
4	164.88	0.6999	-0.1626	0.0309	0.5275	0.0523	-8.6202	0.4022	-0.0669	0.0754
4	164.88	0.7500	-0.2285	0.0409	0.5845	0.0595	-10.4640	0.4890	-0.0280	0.0773
4	164.88	0.8002	-0.3446	0.0530	0.6422	0.0671	-12.4868	0.5835	0.0749	0.0800
4	164.88	0.8582	-0.4799	0.0697	0.6987	0.0754	-15.0458	0.7004	0.1235	0.0857
4	164.88	0.9101	-0.6193	0.0830	0.7711	0.0846	-17.4816	0.8106	0.1549	0.0950
4	164.88	0.9728	-0.7019	0.1002	0.8422	0.0946	-20.4956	0.9447	0.4115	0.0898

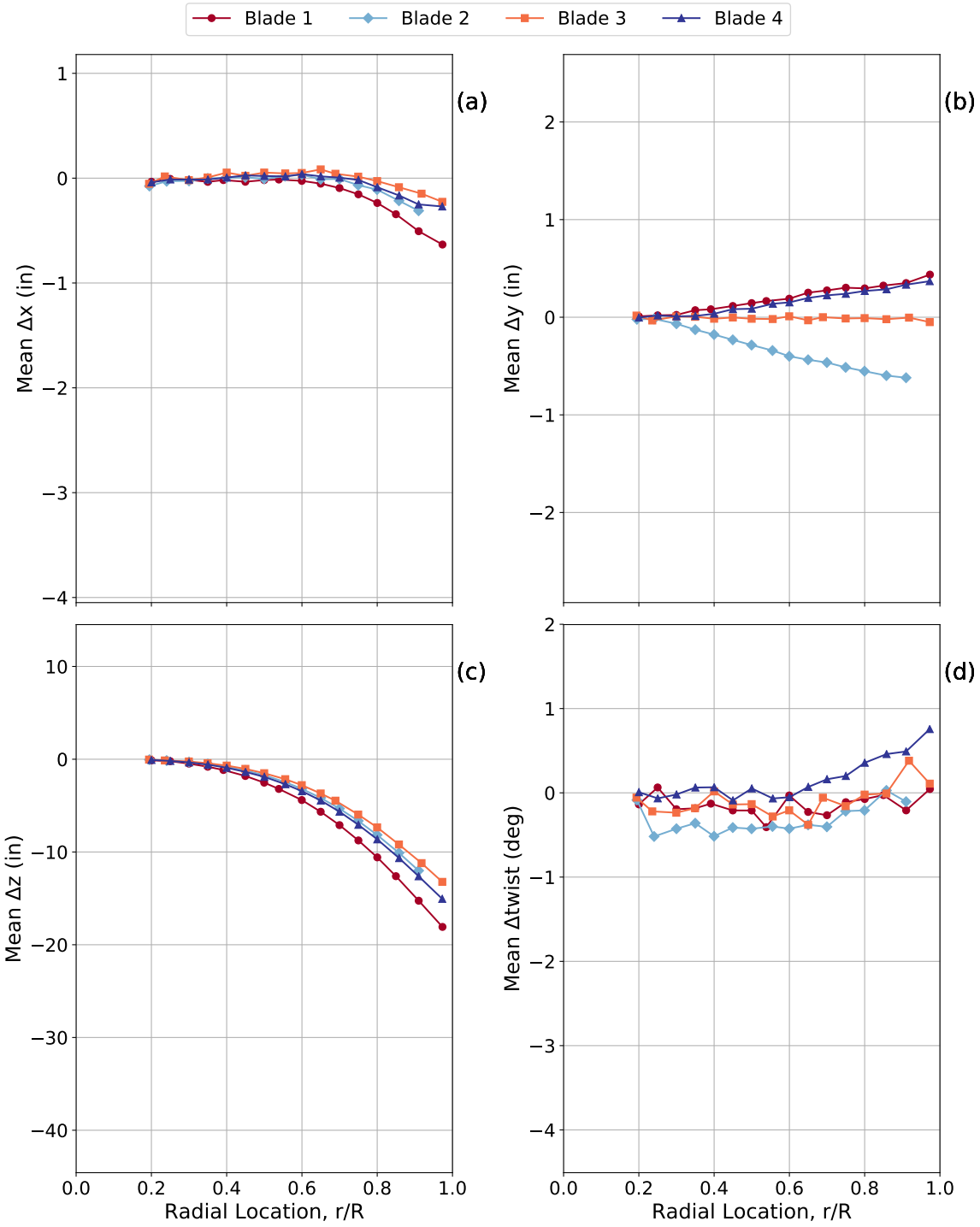


Figure 2.20-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0341	0.0032	0.0086	0.0015	-0.1176	0.0058	-0.1369	0.0333
1	170.16	0.2499	-0.0069	0.0031	0.0194	0.0029	-0.2107	0.0116	0.0637	0.0670
1	170.16	0.2998	-0.0160	0.0028	0.0234	0.0061	-0.4768	0.0232	-0.1946	0.0795
1	170.16	0.3498	-0.0352	0.0035	0.0720	0.0095	-0.8085	0.0409	-0.1836	0.0778
1	170.16	0.3913	-0.0183	0.0042	0.0815	0.0141	-1.1613	0.0580	-0.1283	0.0789
1	170.16	0.4496	-0.0342	0.0057	0.1150	0.0187	-1.8040	0.0868	-0.2090	0.0864
1	170.16	0.4997	-0.0180	0.0070	0.1446	0.0234	-2.5260	0.1152	-0.2097	0.0812
1	170.16	0.5387	-0.0131	0.0086	0.1658	0.0273	-3.2012	0.1417	-0.4076	0.0870
1	170.16	0.5996	-0.0258	0.0108	0.1898	0.0339	-4.4005	0.1876	-0.0315	0.0892
1	170.16	0.6498	-0.0522	0.0138	0.2516	0.0399	-5.6627	0.2272	-0.2266	0.0826
1	170.16	0.6998	-0.0943	0.0186	0.2748	0.0451	-7.1033	0.2727	-0.2657	0.0883
1	170.16	0.7500	-0.1542	0.0238	0.3024	0.0514	-8.7540	0.3217	-0.1111	0.0991
1	170.16	0.8001	-0.2366	0.0302	0.2956	0.0578	-10.5801	0.3731	-0.0734	0.1051
1	170.16	0.8497	-0.3441	0.0385	0.3239	0.0648	-12.6083	0.4276	-0.0270	0.0976
1	170.16	0.9102	-0.5061	0.0479	0.3500	0.0729	-15.2530	0.4992	-0.2080	0.1091
1	170.16	0.9734	-0.6333	0.0578	0.4364	0.0815	-18.0788	0.5768	0.0455	0.1060
2	170.16	0.1949	-0.0756	0.0365	-0.0214	0.0044	-0.0488	0.0052	-0.0855	0.0293
2	170.16	0.2405	-0.0295	0.0176	-0.0170	0.0094	-0.1438	0.0087	-0.5181	0.0491
2	170.16	0.2999	-0.0260	0.0093	-0.0669	0.0207	-0.3014	0.0202	-0.4262	0.0691
2	170.16	0.3498	-0.0024	0.0303	-0.1274	0.0355	-0.4998	0.0340	-0.3606	0.0714
2	170.16	0.3998	0.0042	0.0511	-0.1775	0.0558	-0.8241	0.0524	-0.5159	0.0846
2	170.16	0.4496	0.0083	0.0711	-0.2317	0.0801	-1.2070	0.0746	-0.4122	0.0977
2	170.16	0.4995	-0.0064	0.0880	-0.2850	0.1101	-1.7215	0.1016	-0.4266	0.1185
2	170.16	0.5551	0.0186	0.1041	-0.3412	0.1520	-2.4585	0.1374	-0.3993	0.1286
2	170.16	0.5996	0.0330	0.1139	-0.3998	0.1923	-3.1907	0.1669	-0.4251	0.1278
2	170.16	0.6497	-0.0107	0.1216	-0.4357	0.2447	-4.1676	0.2068	-0.3801	0.1311
2	170.16	0.6996	-0.0072	0.1266	-0.4638	0.3071	-5.3203	0.2506	-0.4031	0.1385
2	170.16	0.7495	-0.0667	0.1261	-0.5135	0.3770	-6.6447	0.3015	-0.2175	0.1489
2	170.16	0.7996	-0.1089	0.1250	-0.5527	0.4552	-8.1596	0.3532	-0.2081	0.1532
2	170.16	0.8578	-0.2155	0.1184	-0.5977	0.5542	-10.0994	0.4201	0.0284	0.1608
2	170.16	0.9100	-0.3109	0.1126	-0.6199	0.6519	-12.0073	0.4792	-0.1049	0.1613
3	170.16	0.1938	-0.0536	0.0026	0.0169	0.0013	-0.0398	0.0081	-0.0567	0.0292
3	170.16	0.2357	0.0164	0.0029	-0.0333	0.0024	-0.1333	0.0119	-0.2204	0.0682
3	170.16	0.2995	-0.0189	0.0026	0.0080	0.0050	-0.2427	0.0313	-0.2360	0.0786
3	170.16	0.3493	0.0066	0.0032	0.0042	0.0081	-0.4275	0.0526	-0.1826	0.0726
3	170.16	0.4000	0.0531	0.0043	-0.0154	0.0130	-0.6873	0.0813	0.0169	0.0840
3	170.16	0.4497	0.0226	0.0051	-0.0025	0.0163	-1.0382	0.1135	-0.1384	0.0878
3	170.16	0.4997	0.0534	0.0065	-0.0158	0.0211	-1.5060	0.1497	-0.1344	0.0843
3	170.16	0.5556	0.0452	0.0078	-0.0185	0.0278	-2.1503	0.1976	-0.2810	0.0892
3	170.16	0.5995	0.0495	0.0096	0.0095	0.0320	-2.7938	0.2387	-0.2078	0.0919
3	170.16	0.6498	0.0836	0.0123	-0.0313	0.0383	-3.6909	0.2892	-0.3791	0.0896
3	170.16	0.6890	0.0419	0.0151	0.0004	0.0434	-4.4674	0.3359	-0.0578	0.0945
3	170.16	0.7495	0.0145	0.0212	-0.0127	0.0511	-5.9634	0.4134	-0.1581	0.0959
3	170.16	0.7998	-0.0279	0.0277	-0.0091	0.0579	-7.3457	0.4847	-0.0210	0.1002
3	170.16	0.8577	-0.0865	0.0366	-0.0202	0.0664	-9.1921	0.5737	-0.0084	0.1015
3	170.16	0.9178	-0.1479	0.0448	-0.0041	0.0753	-11.2008	0.6707	0.3811	0.1091
3	170.16	0.9729	-0.2258	0.0526	-0.0500	0.0824	-13.2237	0.7593	0.1089	0.1068
4	170.16	0.2001	-0.0404	0.0026	-0.0033	0.0014	-0.0771	0.0054	0.0072	0.0226
4	170.16	0.2502	-0.0124	0.0027	0.0180	0.0036	-0.1802	0.0120	-0.0658	0.0408
4	170.16	0.3001	-0.0139	0.0025	0.0091	0.0063	-0.3429	0.0220	-0.0196	0.0487
4	170.16	0.3502	-0.0123	0.0028	0.0129	0.0101	-0.5824	0.0374	0.0627	0.0495
4	170.16	0.4002	0.0058	0.0042	0.0356	0.0166	-0.9215	0.0584	0.0663	0.0522
4	170.16	0.4500	0.0264	0.0051	0.0827	0.0198	-1.3683	0.0830	-0.0898	0.0571
4	170.16	0.5001	0.0205	0.0065	0.0870	0.0272	-1.8999	0.1126	0.0518	0.0574
4	170.16	0.5560	0.0165	0.0085	0.1380	0.0324	-2.6951	0.1548	-0.0669	0.0565
4	170.16	0.6001	0.0383	0.0105	0.1522	0.0379	-3.4463	0.1941	-0.0520	0.0594
4	170.16	0.6501	0.0172	0.0140	0.1976	0.0449	-4.4531	0.2473	0.0696	0.0626
4	170.16	0.6999	0.0047	0.0185	0.2243	0.0518	-5.6567	0.3103	0.1608	0.0555
4	170.16	0.7500	-0.0172	0.0249	0.2399	0.0599	-7.0706	0.3859	0.1999	0.0653
4	170.16	0.8002	-0.0867	0.0330	0.2687	0.0682	-8.6387	0.4707	0.3567	0.0641
4	170.16	0.8582	-0.1654	0.0446	0.2860	0.0781	-10.6621	0.5793	0.4597	0.0607
4	170.16	0.9101	-0.2505	0.0550	0.3332	0.0864	-12.6212	0.6835	0.4910	0.0690
4	170.16	0.9728	-0.2701	0.0681	0.3691	0.0965	-15.0544	0.8144	0.7565	0.0652

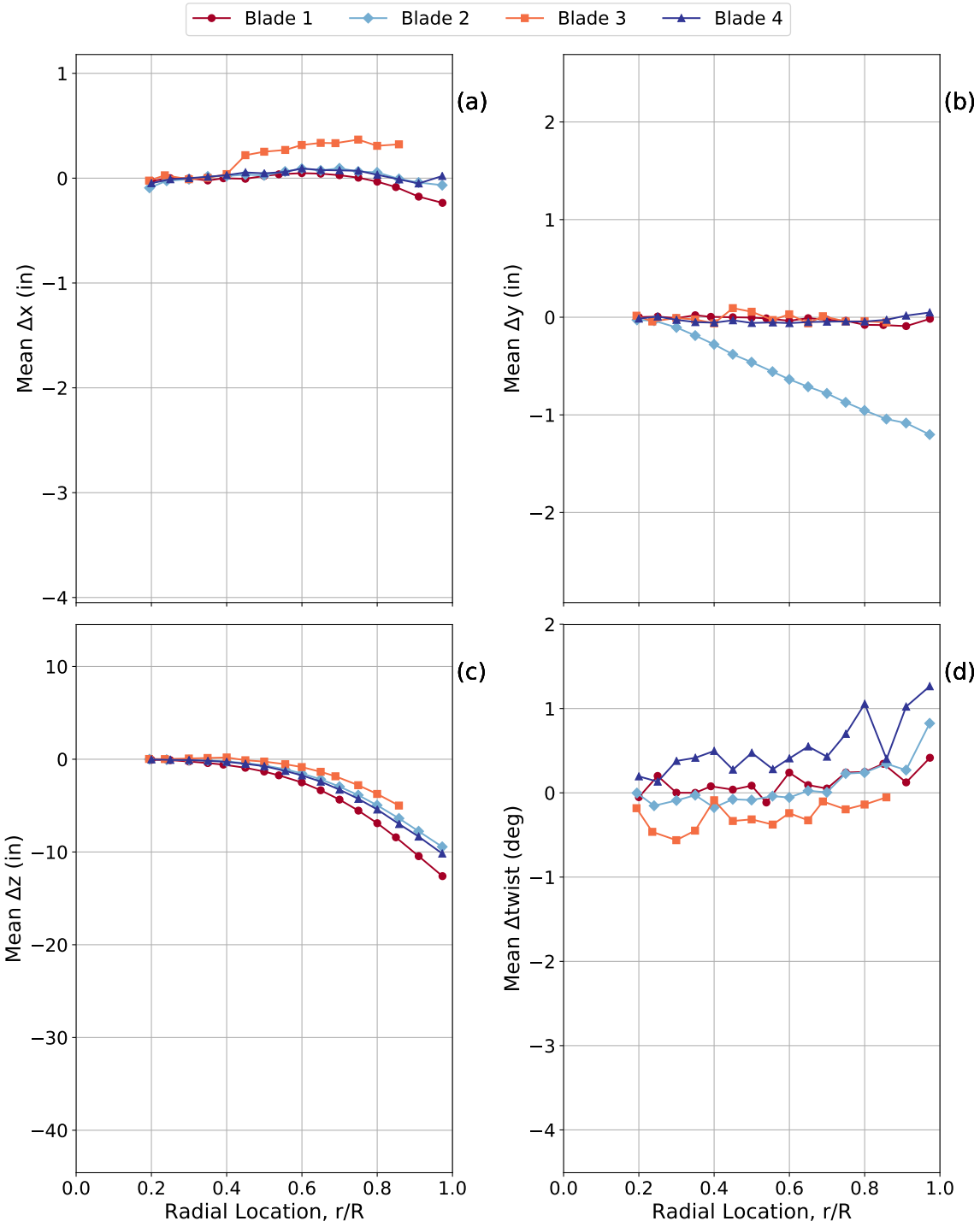


Figure 2.20-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	-0.0263	0.0030	0.0007	0.0024	-0.0626	0.0073	-0.0516	0.0432
1	175.08	0.2499	-0.0004	0.0035	0.0067	0.0040	-0.0953	0.0154	0.2004	0.0908
1	175.08	0.2998	-0.0021	0.0037	-0.0101	0.0101	-0.2443	0.0298	0.0009	0.1052
1	175.08	0.3498	-0.0221	0.0032	0.0204	0.0148	-0.4100	0.0520	-0.0001	0.0987
1	175.08	0.3913	-0.0012	0.0046	0.0042	0.0226	-0.5831	0.0746	0.0773	0.0977
1	175.08	0.4496	-0.0059	0.0049	-0.0002	0.0291	-0.9210	0.1114	0.0379	0.1063
1	175.08	0.4997	0.0208	0.0058	-0.0038	0.0362	-1.3285	0.1505	0.0848	0.1040
1	175.08	0.5387	0.0368	0.0069	-0.0116	0.0432	-1.7362	0.1859	-0.1147	0.1070
1	175.08	0.5996	0.0479	0.0088	-0.0365	0.0533	-2.4958	0.2501	0.2398	0.1080
1	175.08	0.6498	0.0428	0.0113	-0.0096	0.0635	-3.3444	0.3127	0.0918	0.1157
1	175.08	0.6998	0.0283	0.0156	-0.0258	0.0731	-4.3543	0.3819	0.0513	0.1109
1	175.08	0.7500	0.0044	0.0214	-0.0365	0.0841	-5.5417	0.4601	0.2410	0.1120
1	175.08	0.8001	-0.0334	0.0287	-0.0781	0.0952	-6.8989	0.5471	0.2481	0.1188
1	175.08	0.8497	-0.0853	0.0373	-0.0802	0.1058	-8.4211	0.6388	0.3446	0.1167
1	175.08	0.9102	-0.1763	0.0477	-0.0910	0.1201	-10.4542	0.7574	0.1237	0.1191
1	175.08	0.9734	-0.2356	0.0580	-0.0165	0.1349	-12.6044	0.8888	0.4160	0.1440
2	175.08	0.1949	-0.0924	0.0096	-0.0276	0.0075	-0.0009	0.0146	-0.0021	0.1388
2	175.08	0.2405	-0.0251	0.0102	-0.0355	0.0174	-0.0453	0.0305	-0.1533	0.3374
2	175.08	0.2999	-0.0105	0.0056	-0.1045	0.0411	-0.0868	0.0653	-0.0906	0.4069
2	175.08	0.3498	0.0167	0.0059	-0.1878	0.0623	-0.1315	0.0977	-0.0277	0.4687
2	175.08	0.3998	0.0200	0.0330	-0.2781	0.1049	-0.2519	0.1595	-0.1748	0.1714
2	175.08	0.4496	0.0335	0.0395	-0.3797	0.1220	-0.4089	0.2040	-0.0765	0.1232
2	175.08	0.4995	0.0270	0.0496	-0.4607	0.1457	-0.6638	0.2557	-0.0857	0.1181
2	175.08	0.5551	0.0638	0.0611	-0.5575	0.1734	-1.0789	0.3189	-0.0391	0.1154
2	175.08	0.5996	0.0905	0.0704	-0.6364	0.1955	-1.5373	0.3756	-0.0557	0.1167
2	175.08	0.6497	0.0740	0.0814	-0.7122	0.2209	-2.1627	0.4452	0.0246	0.1179
2	175.08	0.6996	0.0940	0.0927	-0.7804	0.2457	-2.9510	0.5224	0.0059	0.1123
2	175.08	0.7495	0.0639	0.1038	-0.8720	0.2719	-3.8708	0.6039	0.2287	0.1017
2	175.08	0.7996	0.0552	0.1154	-0.9547	0.2979	-4.9593	0.6899	0.2395	0.1082
2	175.08	0.8578	-0.0070	0.1270	-1.0431	0.3292	-6.3778	0.7977	0.3450	0.1054
2	175.08	0.9100	-0.0413	0.1351	-1.0840	0.3559	-7.7663	0.8929	0.2696	0.1461
2	175.08	0.9727	-0.0669	0.1415	-1.2018	0.3809	-9.4408	1.0130	0.8247	0.1062
3	175.08	0.1938	-0.0234	0.0150	0.0157	0.0064	0.0289	0.0078	-0.1823	0.0511
3	175.08	0.2357	0.0273	0.0077	-0.0438	0.0127	0.0153	0.0135	-0.4632	0.1216
3	175.08	0.2995	-0.0103	0.0042	-0.0078	0.0334	0.0798	0.0336	-0.5619	0.1492
3	175.08	0.3493	0.0023	0.0058	-0.0230	0.0520	0.1342	0.0554	-0.4486	0.1659
3	175.08	0.4000	0.0387	0.0155	-0.0621	0.0865	0.1904	0.0882	-0.0882	0.0681
3	175.08	0.4497	0.2191	0.0117	0.0931	0.3183	-0.1089	0.2041	-0.3342	0.1054
3	175.08	0.4997	0.2523	0.0116	0.0563	0.3619	-0.2528	0.2397	-0.3151	0.1075
3	175.08	0.5556	0.2691	0.0122	-0.0288	0.4101	-0.5378	0.2849	-0.3768	0.1033
3	175.08	0.5995	0.3163	0.0120	0.0300	0.4487	-0.8444	0.3239	-0.2412	0.1054
3	175.08	0.6498	0.3365	0.0124	-0.0625	0.4918	-1.3541	0.3762	-0.3264	0.1225
3	175.08	0.6890	0.3338	0.0126	0.0101	0.5263	-1.8395	0.4167	-0.1025	0.1281
3	175.08	0.7495	0.3678	0.0131	-0.0430	0.5772	-2.7997	0.4811	-0.1960	0.1159
3	175.08	0.7998	0.3086	0.0151	-0.0414	0.6204	-3.7428	0.5449	-0.1389	0.1259
3	175.08	0.8577	0.3228	0.0198	-0.0529	0.6659	-4.9945	0.6176	-0.0536	0.2151
4	175.08	0.2001	-0.0481	0.0020	-0.0141	0.0014	-0.0159	0.0065	0.1952	0.0240
4	175.08	0.2502	-0.0104	0.0020	0.0069	0.0027	-0.0667	0.0131	0.1327	0.0390
4	175.08	0.3001	0.0002	0.0018	-0.0269	0.0056	-0.0896	0.0262	0.3784	0.0526
4	175.08	0.3502	0.0130	0.0027	-0.0501	0.0091	-0.1747	0.0444	0.4157	0.0456
4	175.08	0.4002	0.0289	0.0036	-0.0558	0.0143	-0.2767	0.0691	0.4967	0.0538
4	175.08	0.4500	0.0547	0.0038	-0.0314	0.0182	-0.4952	0.0977	0.2750	0.0571
4	175.08	0.5001	0.0461	0.0050	-0.0586	0.0231	-0.7537	0.1322	0.4745	0.0647
4	175.08	0.5560	0.0601	0.0061	-0.0533	0.0289	-1.2637	0.1790	0.2806	0.0690
4	175.08	0.6001	0.0928	0.0077	-0.0604	0.0336	-1.7458	0.2216	0.4086	0.0701
4	175.08	0.6501	0.0773	0.0096	-0.0495	0.0394	-2.4163	0.2784	0.5501	0.0728
4	175.08	0.6999	0.0741	0.0130	-0.0455	0.0454	-3.2830	0.3421	0.4289	0.0756
4	175.08	0.7500	0.0703	0.0171	-0.0433	0.0518	-4.2762	0.4182	0.6996	0.0791
4	175.08	0.8002	0.0320	0.0232	-0.0440	0.0593	-5.4224	0.4998	1.0557	0.0738
4	175.08	0.8582	-0.0119	0.0316	-0.0262	0.0664	-6.9887	0.6064	0.4016	0.0905
4	175.08	0.9101	-0.0504	0.0379	0.0166	0.0750	-8.3411	0.7079	1.0224	0.0908
4	175.08	0.9728	0.0205	0.0479	0.0484	0.0836	-10.1687	0.8334	1.2644	0.0779

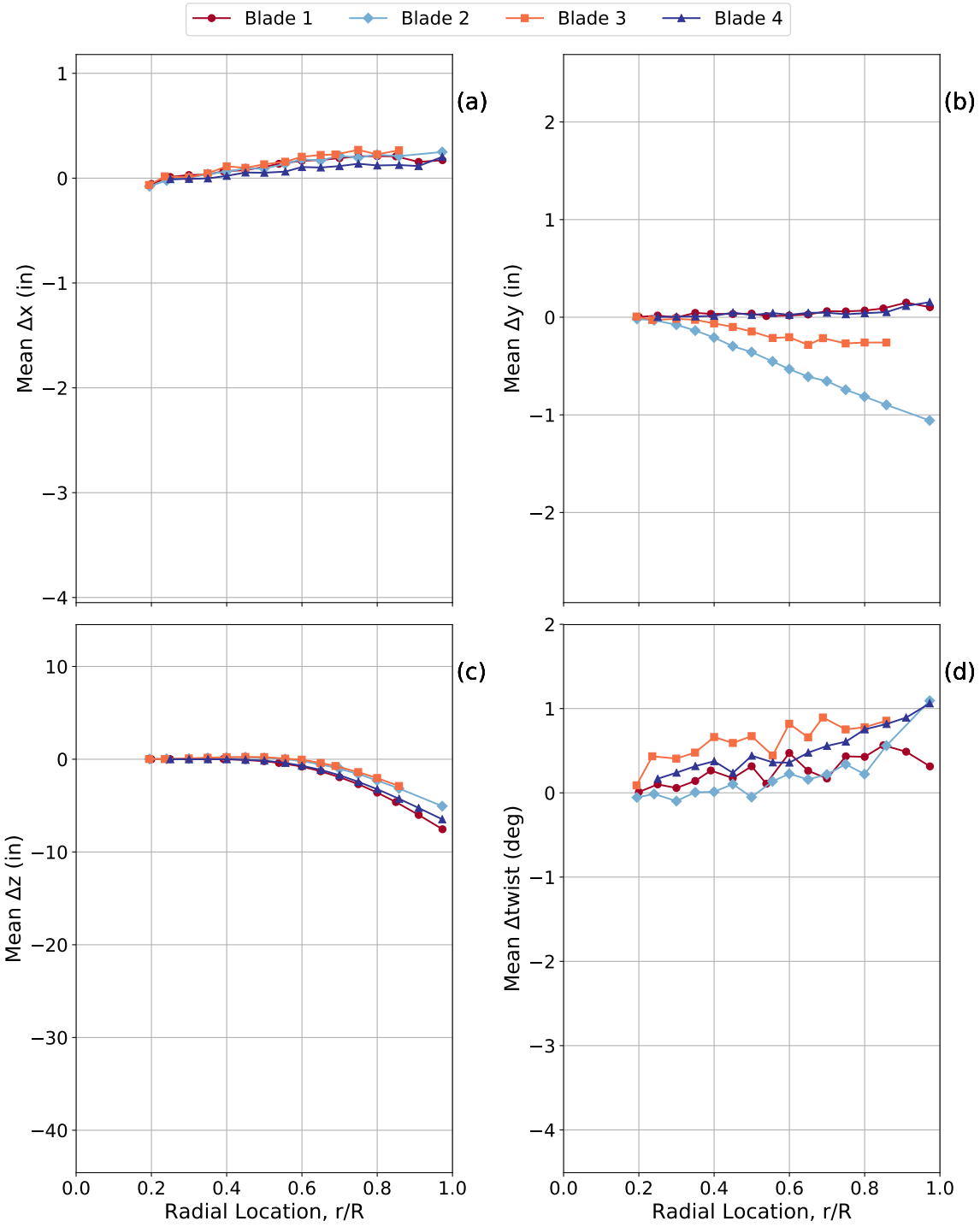


Figure 2.20-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.0555	0.0016	0.0023	0.0021	-0.0021	0.0093	0.0103	0.0318
1	180	0.2499	0.0114	0.0016	0.0172	0.0040	0.0110	0.0196	0.0999	0.0536
1	180	0.2998	0.0297	0.0017	-0.0027	0.0084	-0.0016	0.0385	0.0578	0.0697
1	180	0.3498	0.0345	0.0023	0.0446	0.0141	0.0204	0.0653	0.1409	0.0574
1	180	0.3913	0.0662	0.0024	0.0346	0.0202	0.0228	0.0949	0.2649	0.0597
1	180	0.4496	0.0762	0.0030	0.0333	0.0269	-0.0821	0.1418	0.1739	0.0630
1	180	0.4997	0.1072	0.0036	0.0376	0.0340	-0.2072	0.1906	0.3153	0.0697
1	180	0.5387	0.1367	0.0038	0.0120	0.0405	-0.3971	0.2350	0.1082	0.0646
1	180	0.5996	0.1660	0.0053	0.0176	0.0504	-0.7865	0.3123	0.4726	0.0683
1	180	0.6498	0.1731	0.0075	0.0279	0.0582	-1.2990	0.3837	0.2620	0.0768
1	180	0.6998	0.1911	0.0109	0.0615	0.0660	-1.9412	0.4671	0.1697	0.0834
1	180	0.7500	0.2075	0.0151	0.0599	0.0746	-2.6915	0.5571	0.4330	0.0952
1	180	0.8001	0.2101	0.0213	0.0683	0.0856	-3.6021	0.6581	0.4270	0.1083
1	180	0.8497	0.2081	0.0280	0.0903	0.0928	-4.6172	0.7651	0.5645	0.0923
1	180	0.9102	0.1548	0.0372	0.1498	0.1037	-6.0068	0.9055	0.4880	0.1635
1	180	0.9734	0.1715	0.0456	0.1029	0.1156	-7.5465	1.0518	0.3139	0.1382
2	180	0.1949	-0.0778	0.0017	-0.0179	0.0015	0.0224	0.0081	-0.0546	0.0247
2	180	0.2405	-0.0226	0.0017	-0.0308	0.0040	0.0419	0.0155	-0.0141	0.0437
2	180	0.2999	0.0027	0.0016	-0.0770	0.0069	0.0642	0.0333	-0.0977	0.0586
2	180	0.3498	0.0387	0.0018	-0.1363	0.0131	0.1402	0.0594	0.0063	0.0542
2	180	0.3998	0.0631	0.0021	-0.2079	0.0198	0.1851	0.0897	0.0120	0.0600
2	180	0.4496	0.0908	0.0026	-0.2967	0.0257	0.2161	0.1226	0.1035	0.0628
2	180	0.4995	0.0906	0.0030	-0.3569	0.0325	0.1445	0.1580	-0.0512	0.0599
2	180	0.5551	0.1370	0.0034	-0.4526	0.0410	0.0137	0.1974	0.1361	0.0676
2	180	0.5996	0.1793	0.0036	-0.5313	0.0467	-0.1968	0.2289	0.2260	0.0796
2	180	0.6497	0.1690	0.0042	-0.6094	0.0533	-0.5570	0.2623	0.1590	0.0741
2	180	0.6996	0.2136	0.0053	-0.6550	0.0621	-1.0265	0.2987	0.2174	0.0849
2	180	0.7495	0.1947	0.0068	-0.7425	0.0688	-1.5902	0.3392	0.3395	0.0726
2	180	0.7996	0.2236	0.0104	-0.8136	0.0771	-2.2874	0.3835	0.2217	0.0834
2	180	0.8578	0.2103	0.0144	-0.8975	0.0865	-3.1495	0.4449	0.5596	0.1241
2	180	0.9727	0.2499	0.0229	-1.0575	0.1059	-5.0581	0.5870	1.0925	0.1559
3	180.35	0.1938	-0.0651	0.0014	0.0071	0.0015	0.0307	0.0076	0.0886	0.0243
3	180.35	0.2357	0.0174	0.0013	-0.0282	0.0030	0.0155	0.0145	0.4336	0.0394
3	180.35	0.2995	0.0079	0.0017	-0.0174	0.0057	0.0892	0.0342	0.4061	0.0550
3	180.35	0.3493	0.0457	0.0022	-0.0260	0.0099	0.1590	0.0579	0.4779	0.0529
3	180.35	0.4000	0.1131	0.0022	-0.0628	0.0153	0.2253	0.0910	0.6622	0.0610
3	180.35	0.4497	0.0983	0.0027	-0.0999	0.0194	0.2475	0.1291	0.5917	0.0586
3	180.35	0.4997	0.1325	0.0027	-0.1464	0.0246	0.2336	0.1741	0.6728	0.0644
3	180.35	0.5556	0.1569	0.0045	-0.2127	0.0343	0.0663	0.2336	0.4427	0.2474
3	180.35	0.5995	0.2037	0.0045	-0.2047	0.0375	-0.0492	0.2817	0.8193	0.0752
3	180.35	0.6498	0.2216	0.0053	-0.2832	0.0419	-0.4030	0.3448	0.6584	0.0872
3	180.35	0.6890	0.2257	0.0065	-0.2145	0.0468	-0.7293	0.4001	0.8940	0.0909
3	180.35	0.7495	0.2699	0.0099	-0.2682	0.0531	-1.3882	0.4974	0.7526	0.0949
3	180.35	0.7998	0.2276	0.0132	-0.2589	0.0611	-2.0266	0.5858	0.7782	0.0777
3	180.35	0.8577	0.2658	0.0183	-0.2589	0.0689	-2.8848	0.6997	0.8557	0.1621
4	180	0.2502	-0.0096	0.0035	0.0022	0.0048	-0.0007	0.0175	0.1673	0.1083
4	180	0.3001	-0.0067	0.0044	0.0062	0.0088	-0.0043	0.0328	0.2390	0.1547
4	180	0.3502	-0.0025	0.0042	0.0076	0.0160	-0.0010	0.0567	0.3166	0.1440
4	180	0.4002	0.0218	0.0045	0.0142	0.0246	-0.0047	0.0884	0.3748	0.1440
4	180	0.4500	0.0538	0.0049	0.0478	0.0316	-0.0612	0.1239	0.2364	0.1467
4	180	0.5001	0.0517	0.0059	0.0223	0.0389	-0.1456	0.1648	0.4403	0.1486
4	180	0.5560	0.0626	0.0061	0.0432	0.0481	-0.4021	0.2139	0.3608	0.1467
4	180	0.6001	0.1060	0.0076	0.0246	0.0553	-0.7027	0.2558	0.3585	0.1456
4	180	0.6501	0.1018	0.0086	0.0457	0.0637	-1.1432	0.3033	0.4767	0.1516
4	180	0.6999	0.1152	0.0105	0.0459	0.0718	-1.7223	0.3558	0.5565	0.1434
4	180	0.7500	0.1376	0.0126	0.0303	0.0803	-2.4360	0.4177	0.6075	0.1474
4	180	0.8002	0.1211	0.0153	0.0412	0.0888	-3.2321	0.4794	0.7528	0.1540
4	180	0.8582	0.1253	0.0199	0.0523	0.0989	-4.2676	0.5576	0.8168	0.1506
4	180	0.9101	0.1154	0.0234	0.1159	0.1085	-5.2564	0.6339	0.8925	0.1660
4	180	0.9728	0.2033	0.0285	0.1544	0.1198	-6.4770	0.7275	1.0614	0.1561

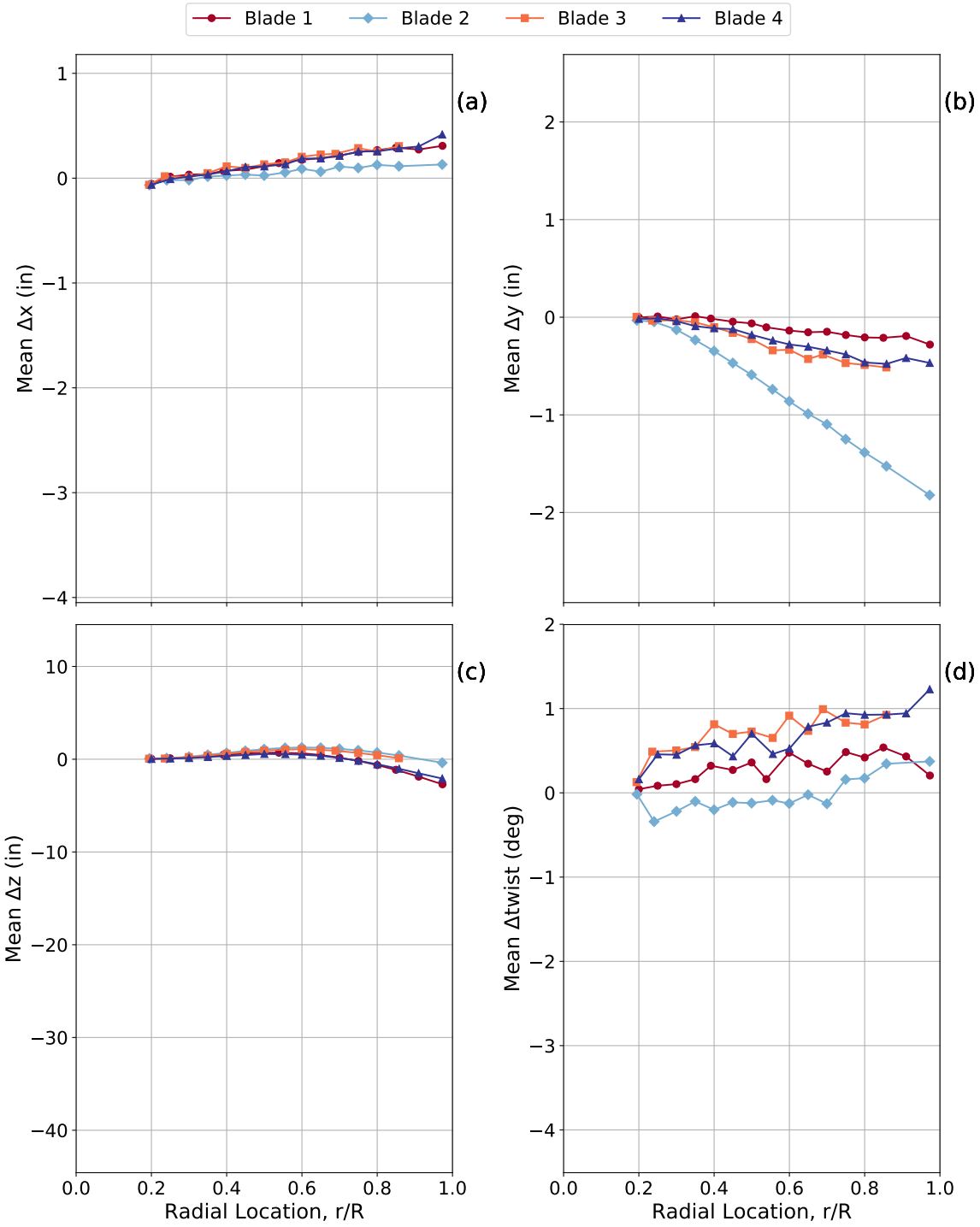


Figure 2.20-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0545	0.0017	-0.0024	0.0015	0.0436	0.0063	0.0432	0.0252
1	184.92	0.2499	0.0140	0.0015	0.0078	0.0035	0.1006	0.0139	0.0839	0.0554
1	184.92	0.2998	0.0336	0.0017	-0.0219	0.0058	0.1856	0.0261	0.1033	0.0614
1	184.92	0.3498	0.0393	0.0017	0.0104	0.0104	0.3359	0.0449	0.1623	0.0536
1	184.92	0.3913	0.0693	0.0020	-0.0139	0.0147	0.4800	0.0651	0.3214	0.0634
1	184.92	0.4496	0.0812	0.0023	-0.0458	0.0189	0.6129	0.1006	0.2714	0.0662
1	184.92	0.4997	0.1136	0.0023	-0.0630	0.0241	0.7013	0.1377	0.3602	0.0642
1	184.92	0.5387	0.1438	0.0025	-0.1033	0.0277	0.6997	0.1697	0.1626	0.0718
1	184.92	0.5996	0.1749	0.0029	-0.1365	0.0343	0.6436	0.2278	0.4767	0.0681
1	184.92	0.6498	0.1908	0.0032	-0.1539	0.0400	0.4544	0.2837	0.3454	0.0662
1	184.92	0.6998	0.2160	0.0043	-0.1485	0.0456	0.1656	0.3440	0.2524	0.0657
1	184.92	0.7500	0.2493	0.0057	-0.1819	0.0521	-0.1769	0.4124	0.4835	0.0722
1	184.92	0.8001	0.2675	0.0073	-0.2069	0.0575	-0.6310	0.4860	0.4190	0.0938
1	184.92	0.8497	0.2908	0.0101	-0.2106	0.0640	-1.1427	0.5649	0.5381	0.0849
1	184.92	0.9102	0.2734	0.0125	-0.1922	0.0750	-1.8772	0.6661	0.4312	0.1555
1	184.92	0.9734	0.3083	0.0163	-0.2802	0.0810	-2.7028	0.7778	0.2053	0.1052
2	184.92	0.1949	-0.0656	0.0079	-0.0326	0.0053	0.0811	0.0086	-0.0167	0.0314
2	184.92	0.2405	-0.0189	0.0063	-0.0464	0.0100	0.1102	0.0171	-0.3414	0.0736
2	184.92	0.2999	-0.0183	0.0083	-0.1277	0.0233	0.2611	0.0365	-0.2198	0.0866
2	184.92	0.3498	0.0150	0.0141	-0.2334	0.0409	0.4790	0.0606	-0.1018	0.0907
2	184.92	0.3998	0.0251	0.0208	-0.3463	0.0632	0.6803	0.0952	-0.2010	0.0970
2	184.92	0.4496	0.0340	0.0292	-0.4688	0.0914	0.9008	0.1328	-0.1135	0.0918
2	184.92	0.4995	0.0250	0.0373	-0.5893	0.1220	1.0852	0.1800	-0.1222	0.1066
2	184.92	0.5551	0.0544	0.0503	-0.7387	0.1595	1.2242	0.2437	-0.0887	0.1608
2	184.92	0.5996	0.0890	0.0589	-0.8607	0.1913	1.2639	0.3054	-0.1266	0.1146
2	184.92	0.6497	0.0620	0.0706	-0.9894	0.2286	1.2373	0.3851	-0.0225	0.1104
2	184.92	0.6996	0.1099	0.0834	-1.0966	0.2678	1.1136	0.4696	-0.1294	0.1113
2	184.92	0.7495	0.0976	0.0972	-1.2494	0.3092	0.9587	0.5677	0.1590	0.1100
2	184.92	0.7996	0.1270	0.1120	-1.3843	0.3521	0.7264	0.6728	0.1735	0.1130
2	184.92	0.8578	0.1139	0.1309	-1.5256	0.4025	0.3993	0.8053	0.3447	0.1174
2	184.92	0.9727	0.1305	0.1746	-1.8223	0.5024	-0.3786	1.0760	0.3729	0.1371
3	184.92	0.1938	-0.0630	0.0026	0.0042	0.0022	0.0596	0.0068	0.1266	0.0221
3	184.92	0.2357	0.0180	0.0015	-0.0344	0.0027	0.0759	0.0126	0.4885	0.0424
3	184.92	0.2995	0.0104	0.0014	-0.0313	0.0069	0.2291	0.0294	0.5027	0.0536
3	184.92	0.3493	0.0482	0.0016	-0.0516	0.0121	0.3913	0.0499	0.5429	0.0479
3	184.92	0.4000	0.1126	0.0020	-0.1022	0.0178	0.5966	0.0782	0.8135	0.0519
3	184.92	0.4497	0.0980	0.0021	-0.1601	0.0229	0.7742	0.1110	0.6990	0.0556
3	184.92	0.4997	0.1320	0.0023	-0.2239	0.0283	0.9322	0.1497	0.7270	0.0600
3	184.92	0.5556	0.1507	0.0029	-0.3392	0.0353	1.0269	0.1983	0.6515	0.0717
3	184.92	0.5995	0.2041	0.0034	-0.3330	0.0404	1.0932	0.2396	0.9154	0.0645
3	184.92	0.6498	0.2255	0.0037	-0.4278	0.0465	1.0053	0.2878	0.7346	0.0653
3	184.92	0.6890	0.2319	0.0035	-0.3819	0.0512	0.9188	0.3332	0.9925	0.0746
3	184.92	0.7495	0.2867	0.0037	-0.4690	0.0592	0.6803	0.4050	0.8331	0.0759
3	184.92	0.7998	0.2535	0.0044	-0.4887	0.0659	0.4410	0.4678	0.8118	0.0839
3	184.92	0.8577	0.3056	0.0059	-0.5141	0.0733	0.1075	0.5517	0.9255	0.1587
4	184.92	0.2001	-0.0629	0.0016	-0.0169	0.0014	0.0325	0.0091	0.1609	0.0290
4	184.92	0.2502	-0.0090	0.0012	-0.0112	0.0038	0.0782	0.0200	0.4565	0.0389
4	184.92	0.3001	0.0153	0.0016	-0.0402	0.0057	0.1275	0.0379	0.4517	0.0620
4	184.92	0.3502	0.0346	0.0017	-0.0915	0.0102	0.2341	0.0646	0.5637	0.0526
4	184.92	0.4002	0.0667	0.0022	-0.1134	0.0158	0.3546	0.1009	0.5870	0.0528
4	184.92	0.4500	0.1060	0.0022	-0.1219	0.0215	0.4541	0.1441	0.4327	0.0585
4	184.92	0.5001	0.1119	0.0021	-0.1804	0.0277	0.5681	0.1951	0.7020	0.0606
4	184.92	0.5560	0.1324	0.0036	-0.2383	0.0366	0.5479	0.2610	0.4604	0.0983
4	184.92	0.6001	0.1864	0.0031	-0.2789	0.0417	0.4939	0.3199	0.5248	0.0645
4	184.92	0.6501	0.1880	0.0031	-0.3024	0.0507	0.3736	0.3919	0.7844	0.0659
4	184.92	0.6999	0.2131	0.0037	-0.3396	0.0580	0.1360	0.4714	0.8336	0.0746
4	184.92	0.7500	0.2540	0.0054	-0.3808	0.0662	-0.1661	0.5584	0.9443	0.0738
4	184.92	0.8002	0.2557	0.0069	-0.4634	0.0764	-0.5403	0.6530	0.9258	0.1109
4	184.92	0.8582	0.2848	0.0105	-0.4777	0.0838	-1.0301	0.7740	0.9287	0.1260
4	184.92	0.9101	0.3022	0.0121	-0.4175	0.0925	-1.5160	0.8854	0.9429	0.1911
4	184.92	0.9728	0.4166	0.0129	-0.4680	0.1049	-2.0827	1.0159	1.2282	0.1740

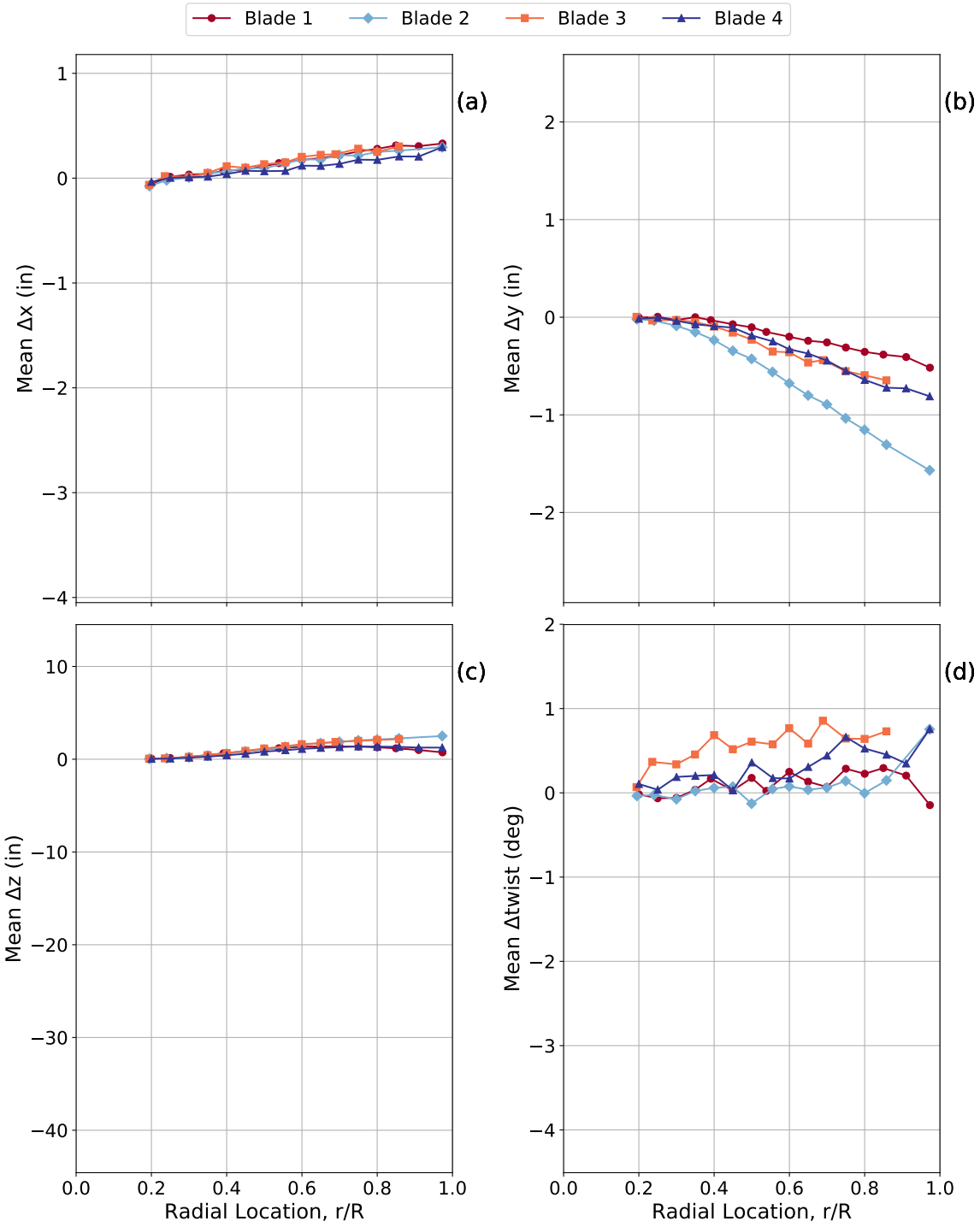


Figure 2.20-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0549	0.0018	-0.0037	0.0016	0.0596	0.0091	-0.0180	0.0193
1	189.84	0.2499	0.0133	0.0015	0.0044	0.0040	0.1319	0.0197	-0.0646	0.0430
1	189.84	0.2998	0.0340	0.0020	-0.0283	0.0069	0.2488	0.0387	-0.0601	0.0420
1	189.84	0.3498	0.0414	0.0024	0.0000	0.0114	0.4469	0.0651	0.0364	0.0461
1	189.84	0.3913	0.0693	0.0025	-0.0297	0.0170	0.6372	0.0954	0.1676	0.0467
1	189.84	0.4496	0.0821	0.0024	-0.0723	0.0217	0.8615	0.1478	0.0280	0.0466
1	189.84	0.4997	0.1142	0.0026	-0.1033	0.0277	1.0723	0.2051	0.1771	0.0520
1	189.84	0.5387	0.1436	0.0026	-0.1507	0.0321	1.1859	0.2579	0.0231	0.0642
1	189.84	0.5996	0.1750	0.0032	-0.1994	0.0398	1.3446	0.3507	0.2489	0.0593
1	189.84	0.6498	0.1909	0.0039	-0.2412	0.0474	1.3877	0.4411	0.1324	0.0607
1	189.84	0.6998	0.2180	0.0042	-0.2579	0.0553	1.3796	0.5448	0.0695	0.0659
1	189.84	0.7500	0.2549	0.0047	-0.3103	0.0635	1.3632	0.6606	0.2860	0.0663
1	189.84	0.8001	0.2794	0.0058	-0.3546	0.0714	1.2810	0.7839	0.2257	0.0857
1	189.84	0.8497	0.3118	0.0067	-0.3828	0.0795	1.1791	0.9176	0.2941	0.0804
1	189.84	0.9102	0.3053	0.0076	-0.4076	0.0872	0.9962	1.0847	0.2042	0.2039
1	189.84	0.9734	0.3305	0.0092	-0.5168	0.1017	0.7387	1.2679	-0.1460	0.1395
2	189.84	0.1949	-0.0758	0.0016	-0.0203	0.0014	0.0518	0.0073	-0.0359	0.0242
2	189.84	0.2405	-0.0200	0.0012	-0.0338	0.0030	0.1135	0.0144	-0.0257	0.0464
2	189.84	0.2999	0.0059	0.0015	-0.0883	0.0057	0.2173	0.0312	-0.0752	0.0583
2	189.84	0.3498	0.0436	0.0014	-0.1516	0.0098	0.3900	0.0537	0.0222	0.0590
2	189.84	0.3998	0.0651	0.0018	-0.2342	0.0153	0.5901	0.0829	0.0590	0.0571
2	189.84	0.4496	0.0941	0.0021	-0.3442	0.0200	0.8322	0.1195	0.0730	0.0595
2	189.84	0.4995	0.0946	0.0026	-0.4267	0.0249	1.0383	0.1638	-0.1280	0.0639
2	189.84	0.5551	0.1392	0.0034	-0.5609	0.0329	1.3279	0.2231	0.0460	0.0662
2	189.84	0.5996	0.1806	0.0041	-0.6771	0.0383	1.5308	0.2780	0.0758	0.0707
2	189.84	0.6497	0.1769	0.0051	-0.8007	0.0463	1.7219	0.3440	0.0365	0.0849
2	189.84	0.6996	0.2203	0.0057	-0.8933	0.0537	1.8777	0.4172	0.0614	0.0857
2	189.84	0.7495	0.2144	0.0072	-1.0351	0.0617	2.0285	0.4974	0.1403	0.0938
2	189.84	0.7996	0.2498	0.0082	-1.1533	0.0699	2.1197	0.5843	-0.0042	0.0831
2	189.84	0.8578	0.2624	0.0094	-1.3050	0.0823	2.2473	0.6951	0.1474	0.1250
2	189.84	0.9727	0.2953	0.0157	-1.5676	0.0980	2.5046	0.9280	0.7548	0.1485
3	189.84	0.1938	-0.0635	0.0020	0.0040	0.0023	0.0640	0.0074	0.0675	0.0229
3	189.84	0.2357	0.0189	0.0015	-0.0323	0.0037	0.0900	0.0130	0.3673	0.0370
3	189.84	0.2995	0.0124	0.0015	-0.0282	0.0074	0.2532	0.0301	0.3377	0.0517
3	189.84	0.3493	0.0499	0.0020	-0.0489	0.0133	0.4387	0.0515	0.4549	0.0448
3	189.84	0.4000	0.1135	0.0025	-0.0947	0.0202	0.6691	0.0798	0.6844	0.0687
3	189.84	0.4497	0.1000	0.0026	-0.1573	0.0248	0.9000	0.1141	0.5171	0.0532
3	189.84	0.4997	0.1332	0.0030	-0.2296	0.0309	1.1570	0.1563	0.6074	0.0591
3	189.84	0.5556	0.1508	0.0037	-0.3513	0.0396	1.4041	0.2137	0.5756	0.0549
3	189.84	0.5995	0.2031	0.0044	-0.3587	0.0461	1.6216	0.2653	0.7663	0.0570
3	189.84	0.6498	0.2224	0.0054	-0.4641	0.0536	1.7446	0.3326	0.5841	0.0621
3	189.84	0.6890	0.2284	0.0061	-0.4392	0.0597	1.8635	0.3925	0.8558	0.0768
3	189.84	0.7495	0.2810	0.0075	-0.5527	0.0691	1.9784	0.4958	0.6438	0.0858
3	189.84	0.7998	0.2507	0.0083	-0.5940	0.0780	2.0756	0.5937	0.6399	0.0975
3	189.84	0.8577	0.3022	0.0095	-0.6467	0.0860	2.1602	0.7118	0.7296	0.1462
4	189.84	0.2001	-0.0349	0.0023	-0.0151	0.0021	0.0446	0.0087	0.1043	0.0273
4	189.84	0.2502	0.0031	0.0026	-0.0041	0.0042	0.0763	0.0168	0.0367	0.0562
4	189.84	0.3001	0.0078	0.0024	-0.0368	0.0080	0.1701	0.0333	0.1882	0.0580
4	189.84	0.3502	0.0144	0.0023	-0.0719	0.0126	0.2772	0.0550	0.2011	0.0590
4	189.84	0.4002	0.0397	0.0033	-0.0913	0.0200	0.4292	0.0854	0.2117	0.0591
4	189.84	0.4500	0.0704	0.0029	-0.1067	0.0242	0.5870	0.1179	0.0292	0.0626
4	189.84	0.5001	0.0665	0.0028	-0.1870	0.0305	0.8220	0.1585	0.3601	0.0656
4	189.84	0.5560	0.0696	0.0031	-0.2479	0.0370	0.9762	0.2097	0.1747	0.0643
4	189.84	0.6001	0.1194	0.0040	-0.3285	0.0433	1.1113	0.2553	0.1702	0.0675
4	189.84	0.6501	0.1174	0.0051	-0.3724	0.0509	1.2267	0.3116	0.3074	0.0646
4	189.84	0.6999	0.1363	0.0056	-0.4444	0.0578	1.3033	0.3736	0.4416	0.0683
4	189.84	0.7500	0.1764	0.0067	-0.5487	0.0662	1.3811	0.4421	0.6619	0.0728
4	189.84	0.8002	0.1744	0.0069	-0.6418	0.0752	1.3596	0.5178	0.5257	0.0829
4	189.84	0.8582	0.2071	0.0079	-0.7218	0.0850	1.3341	0.6176	0.4528	0.0788
4	189.84	0.9101	0.2061	0.0095	-0.7285	0.0943	1.2567	0.7081	0.3483	0.0993
4	189.84	0.9728	0.2962	0.0138	-0.8103	0.1032	1.2535	0.8257	0.7563	0.0965

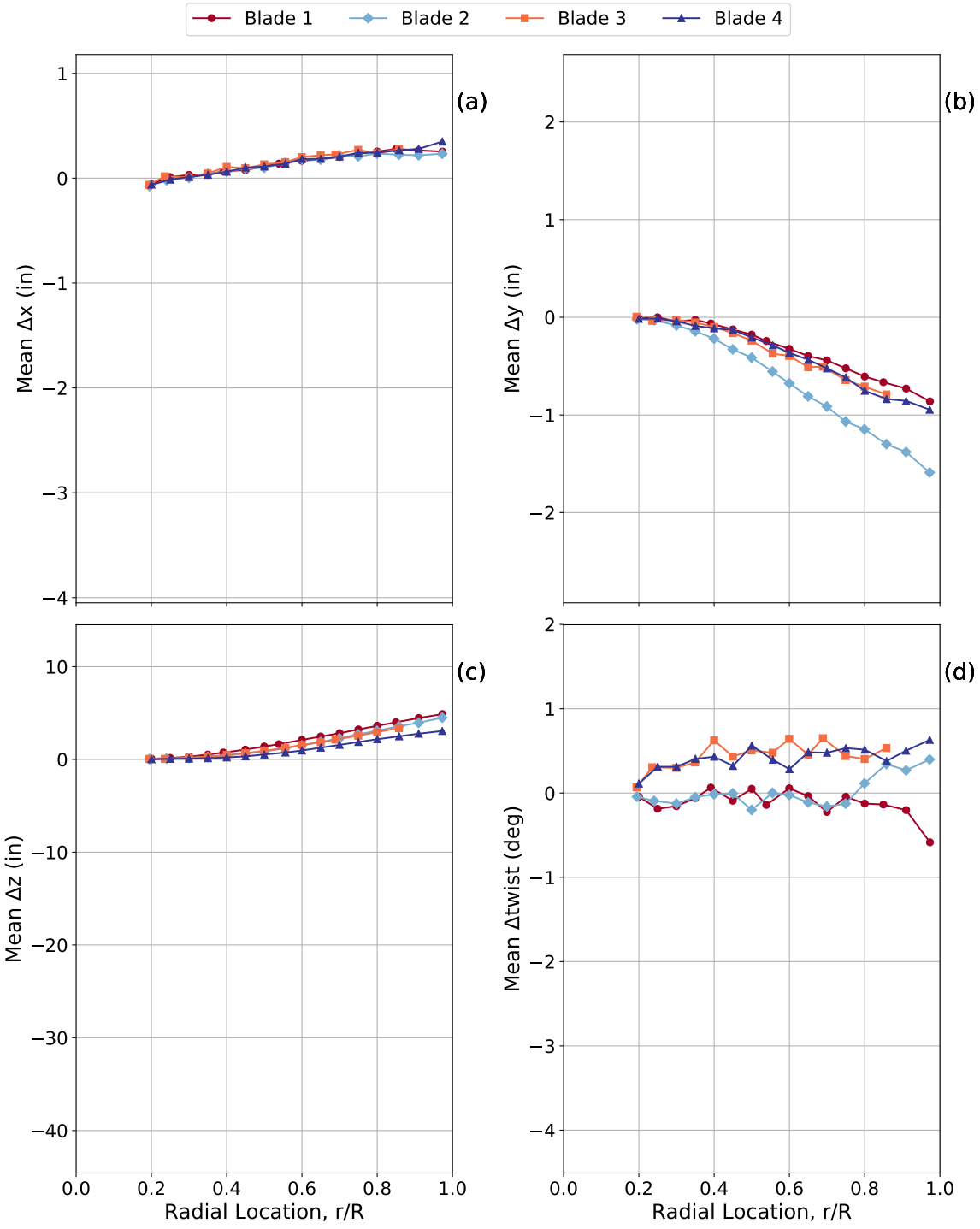


Figure 2.20-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-28. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.012$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0563	0.0018	-0.0081	0.0014	0.0701	0.0073	-0.0443	0.0235
1	195.12	0.2499	0.0103	0.0013	-0.0005	0.0036	0.1521	0.0154	-0.1871	0.0445
1	195.12	0.2998	0.0311	0.0014	-0.0424	0.0055	0.2914	0.0302	-0.1554	0.0535
1	195.12	0.3498	0.0382	0.0015	-0.0263	0.0100	0.5131	0.0508	-0.0612	0.0500
1	195.12	0.3913	0.0652	0.0018	-0.0638	0.0142	0.7361	0.0741	0.0643	0.0566
1	195.12	0.4496	0.0773	0.0024	-0.1244	0.0193	1.0501	0.1146	-0.0913	0.0618
1	195.12	0.4997	0.1112	0.0030	-0.1774	0.0247	1.3921	0.1580	0.0499	0.0663
1	195.12	0.5387	0.1385	0.0036	-0.2423	0.0295	1.6436	0.1972	-0.1409	0.0675
1	195.12	0.5996	0.1665	0.0051	-0.3231	0.0366	2.1010	0.2671	0.0557	0.0694
1	195.12	0.6498	0.1795	0.0068	-0.3961	0.0442	2.4694	0.3349	-0.0365	0.0756
1	195.12	0.6998	0.2020	0.0092	-0.4411	0.0515	2.8248	0.4078	-0.2241	0.0787
1	195.12	0.7500	0.2322	0.0113	-0.5228	0.0586	3.2348	0.4891	-0.0439	0.0841
1	195.12	0.8001	0.2550	0.0135	-0.6063	0.0653	3.6244	0.5767	-0.1252	0.0931
1	195.12	0.8497	0.2795	0.0158	-0.6645	0.0739	4.0049	0.6697	-0.1363	0.0947
1	195.12	0.9102	0.2659	0.0192	-0.7299	0.0793	4.4608	0.7848	-0.2031	0.1994
1	195.12	0.9734	0.2540	0.0275	-0.8608	0.0938	4.8859	0.9150	-0.5849	0.1469
2	195.12	0.1949	-0.0756	0.0015	-0.0200	0.0016	0.0347	0.0098	-0.0434	0.0254
2	195.12	0.2405	-0.0205	0.0015	-0.0296	0.0032	0.0853	0.0191	-0.0932	0.0376
2	195.12	0.2999	0.0039	0.0014	-0.0830	0.0061	0.1532	0.0430	-0.1256	0.0563
2	195.12	0.3498	0.0414	0.0015	-0.1425	0.0106	0.2688	0.0729	-0.0494	0.0525
2	195.12	0.3998	0.0622	0.0020	-0.2182	0.0163	0.4137	0.1136	-0.0141	0.0524
2	195.12	0.4496	0.0929	0.0019	-0.3287	0.0223	0.6205	0.1645	-0.0044	0.0559
2	195.12	0.4995	0.0986	0.0026	-0.4133	0.0301	0.8359	0.2252	-0.2002	0.0578
2	195.12	0.5551	0.1457	0.0041	-0.5553	0.0392	1.2020	0.3029	0.0015	0.0621
2	195.12	0.5996	0.1815	0.0060	-0.6761	0.0478	1.5117	0.3756	-0.0230	0.0622
2	195.12	0.6497	0.1778	0.0084	-0.8094	0.0573	1.8833	0.4639	-0.1112	0.0667
2	195.12	0.6996	0.2186	0.0112	-0.9135	0.0676	2.2741	0.5603	-0.1604	0.0760
2	195.12	0.7495	0.2080	0.0148	-1.0676	0.0786	2.7025	0.6643	-0.1261	0.0795
2	195.12	0.7996	0.2350	0.0175	-1.1470	0.0926	3.0913	0.7796	0.1145	0.1080
2	195.12	0.8578	0.2242	0.0215	-1.2986	0.1036	3.5812	0.9146	0.3444	0.1034
2	195.12	0.9100	0.2188	0.0276	-1.3796	0.1145	3.9489	1.0408	0.2690	0.1022
2	195.12	0.9727	0.2335	0.0359	-1.5890	0.1294	4.5031	1.1978	0.3982	0.1128
3	195.12	0.1938	-0.0640	0.0038	0.0050	0.0031	0.0456	0.0089	0.0685	0.0725
3	195.12	0.2357	0.0169	0.0034	-0.0361	0.0118	0.0631	0.0206	0.3051	0.0810
3	195.12	0.2995	0.0087	0.0050	-0.0270	0.0156	0.1858	0.0378	0.2981	0.1587
3	195.12	0.3493	0.0445	0.0035	-0.0530	0.0388	0.3053	0.0713	0.3631	0.0962
3	195.12	0.4000	0.1075	0.0045	-0.0992	0.0547	0.4769	0.1064	0.6248	0.0957
3	195.12	0.4497	0.0955	0.0043	-0.1617	0.0686	0.6644	0.1466	0.4328	0.0975
3	195.12	0.4997	0.1319	0.0052	-0.2383	0.0832	0.9225	0.1959	0.5059	0.0979
3	195.12	0.5556	0.1530	0.0058	-0.3719	0.1005	1.2372	0.2603	0.4779	0.0937
3	195.12	0.5995	0.2018	0.0067	-0.3950	0.1142	1.5594	0.3151	0.6431	0.1074
3	195.12	0.6498	0.2202	0.0088	-0.5104	0.1302	1.8532	0.3861	0.4536	0.1015
3	195.12	0.6890	0.2266	0.0103	-0.5054	0.1430	2.1404	0.4459	0.6503	0.1080
3	195.12	0.7495	0.2706	0.0130	-0.6425	0.1628	2.5625	0.5457	0.4388	0.1119
3	195.12	0.7998	0.2383	0.0158	-0.7096	0.1802	2.9423	0.6364	0.4033	0.1233
3	195.12	0.8577	0.2801	0.0185	-0.7901	0.2004	3.3767	0.7483	0.5334	0.1703
4	195.12	0.2001	-0.0612	0.0019	-0.0157	0.0019	0.0136	0.0083	0.1126	0.0258
4	195.12	0.2502	-0.0139	0.0018	-0.0126	0.0054	0.0587	0.0176	0.3114	0.0411
4	195.12	0.3001	0.0119	0.0022	-0.0408	0.0079	0.0765	0.0333	0.3112	0.0564
4	195.12	0.3502	0.0321	0.0019	-0.0878	0.0154	0.1262	0.0576	0.4050	0.0489
4	195.12	0.4002	0.0616	0.0022	-0.1132	0.0233	0.2128	0.0890	0.4304	0.0535
4	195.12	0.4500	0.1004	0.0026	-0.1298	0.0285	0.3240	0.1262	0.3212	0.0534
4	195.12	0.5001	0.1116	0.0029	-0.2068	0.0362	0.5278	0.1715	0.5615	0.0538
4	195.12	0.5560	0.1379	0.0034	-0.2872	0.0451	0.7389	0.2288	0.3948	0.0587
4	195.12	0.6001	0.1837	0.0041	-0.3643	0.0518	0.9577	0.2792	0.2828	0.0683
4	195.12	0.6501	0.1848	0.0056	-0.4346	0.0612	1.2629	0.3432	0.4831	0.0705
4	195.12	0.6999	0.2065	0.0070	-0.5235	0.0711	1.5642	0.4133	0.4782	0.0816
4	195.12	0.7500	0.2427	0.0095	-0.6170	0.0808	1.8779	0.4917	0.5323	0.0858
4	195.12	0.8002	0.2429	0.0119	-0.7525	0.0924	2.1805	0.5764	0.5143	0.1047
4	195.12	0.8582	0.2665	0.0140	-0.8369	0.1047	2.4915	0.6788	0.3792	0.1178
4	195.12	0.9101	0.2801	0.0160	-0.8557	0.1109	2.7738	0.7705	0.5023	0.1633
4	195.12	0.9728	0.3494	0.0239	-0.9459	0.1282	3.0665	0.8907	0.6305	0.1888

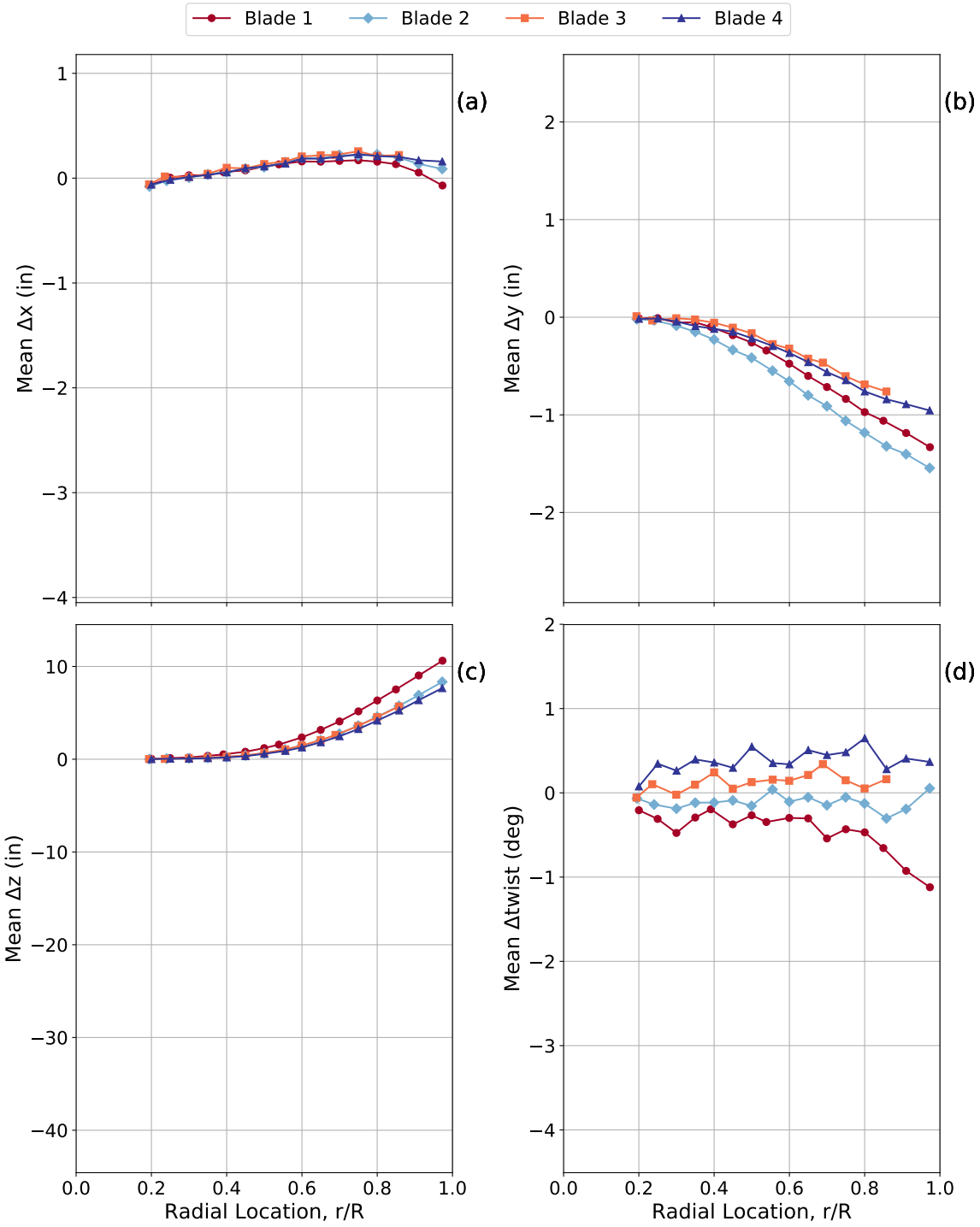


Figure 2.20-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-29. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.012$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0625	0.0018	-0.0108	0.0015	0.0448	0.0088	-0.2068	0.0240
1	209.88	0.2499	0.0044	0.0015	-0.0097	0.0035	0.1247	0.0192	-0.3096	0.0384
1	209.88	0.2998	0.0274	0.0014	-0.0541	0.0061	0.1979	0.0365	-0.4759	0.0527
1	209.88	0.3498	0.0296	0.0016	-0.0524	0.0109	0.3620	0.0631	-0.2933	0.0495
1	209.88	0.3913	0.0584	0.0028	-0.0992	0.0155	0.5233	0.0913	-0.1954	0.0507
1	209.88	0.4496	0.0741	0.0026	-0.1837	0.0217	0.8060	0.1410	-0.3740	0.0575
1	209.88	0.4997	0.1099	0.0032	-0.2594	0.0277	1.1992	0.1934	-0.2665	0.0672
1	209.88	0.5387	0.1316	0.0044	-0.3406	0.0326	1.5767	0.2397	-0.3463	0.0649
1	209.88	0.5996	0.1597	0.0070	-0.4757	0.0412	2.3514	0.3238	-0.2980	0.0704
1	209.88	0.6498	0.1571	0.0114	-0.6013	0.0488	3.1596	0.4050	-0.3035	0.0703
1	209.88	0.6998	0.1648	0.0163	-0.7151	0.0563	4.0752	0.4946	-0.5415	0.0743
1	209.88	0.7500	0.1709	0.0230	-0.8367	0.0632	5.1595	0.5929	-0.4323	0.0824
1	209.88	0.8001	0.1573	0.0310	-0.9719	0.0702	6.3380	0.7001	-0.4690	0.0898
1	209.88	0.8497	0.1339	0.0400	-1.0605	0.0770	7.5249	0.8126	-0.6555	0.0785
1	209.88	0.9102	0.0541	0.0518	-1.1858	0.0854	9.0288	0.9582	-0.9267	0.1145
1	209.88	0.9734	-0.0701	0.0698	-1.3310	0.0941	10.6228	1.1151	-1.1205	0.1029
2	209.88	0.1949	-0.0793	0.0016	-0.0204	0.0015	0.0201	0.0064	-0.0662	0.0239
2	209.88	0.2405	-0.0244	0.0012	-0.0323	0.0023	0.0592	0.0141	-0.1392	0.0384
2	209.88	0.2999	0.0050	0.0014	-0.0862	0.0056	0.0930	0.0296	-0.1878	0.0554
2	209.88	0.3498	0.0359	0.0016	-0.1491	0.0086	0.1605	0.0500	-0.1174	0.0509
2	209.88	0.3998	0.0575	0.0022	-0.2285	0.0134	0.2504	0.0787	-0.1150	0.0571
2	209.88	0.4496	0.0925	0.0024	-0.3346	0.0177	0.4132	0.1117	-0.0898	0.0573
2	209.88	0.4995	0.1047	0.0021	-0.4149	0.0227	0.6357	0.1532	-0.1552	0.0564
2	209.88	0.5551	0.1524	0.0028	-0.5481	0.0284	1.0481	0.2054	0.0397	0.0675
2	209.88	0.5996	0.1936	0.0038	-0.6563	0.0336	1.4383	0.2541	-0.1049	0.0691
2	209.88	0.6497	0.1903	0.0061	-0.7995	0.0398	2.0464	0.3143	-0.0530	0.0716
2	209.88	0.6996	0.2217	0.0087	-0.9114	0.0454	2.7449	0.3811	-0.1474	0.0682
2	209.88	0.7495	0.2147	0.0120	-1.0608	0.0515	3.6168	0.4548	-0.0527	0.0755
2	209.88	0.7996	0.2277	0.0170	-1.1821	0.0579	4.5673	0.5352	-0.1264	0.0838
2	209.88	0.8578	0.1954	0.0237	-1.3216	0.0645	5.7484	0.6334	-0.3034	0.0966
2	209.88	0.9100	0.1369	0.0304	-1.4024	0.0701	6.8999	0.7255	-0.1928	0.1269
2	209.88	0.9727	0.0878	0.0423	-1.5445	0.0768	8.3391	0.8426	0.0535	0.1084
3	209.88	0.1938	-0.0594	0.0012	0.0102	0.0015	0.0235	0.0092	-0.0572	0.0294
3	209.88	0.2357	0.0158	0.0014	-0.0329	0.0027	0.0381	0.0179	0.1025	0.0418
3	209.88	0.2995	0.0111	0.0017	-0.0105	0.0060	0.1002	0.0421	-0.0223	0.0674
3	209.88	0.3493	0.0415	0.0019	-0.0236	0.0107	0.1714	0.0711	0.0966	0.0688
3	209.88	0.4000	0.0990	0.0024	-0.0565	0.0164	0.2657	0.1120	0.2424	0.0681
3	209.88	0.4497	0.0934	0.0021	-0.1070	0.0222	0.4076	0.1579	0.0492	0.0676
3	209.88	0.4997	0.1343	0.0021	-0.1645	0.0289	0.6650	0.2134	0.1269	0.0748
3	209.88	0.5556	0.1605	0.0033	-0.2752	0.0365	1.0536	0.2835	0.1560	0.0772
3	209.88	0.5995	0.2069	0.0044	-0.3218	0.0433	1.4878	0.3451	0.1428	0.0726
3	209.88	0.6498	0.2183	0.0078	-0.4245	0.0506	2.0550	0.4237	0.2116	0.0786
3	209.88	0.6890	0.2216	0.0104	-0.4650	0.0573	2.6177	0.4904	0.3400	0.0840
3	209.88	0.7495	0.2560	0.0162	-0.6039	0.0660	3.5868	0.6020	0.1488	0.0882
3	209.88	0.7998	0.2125	0.0221	-0.6887	0.0741	4.5392	0.7027	0.0518	0.0848
3	209.88	0.8577	0.2203	0.0299	-0.7610	0.0824	5.6907	0.8247	0.1621	0.1116
4	209.88	0.2001	-0.0614	0.0018	-0.0163	0.0016	0.0107	0.0080	0.0758	0.0275
4	209.88	0.2502	-0.0156	0.0016	-0.0129	0.0030	0.0581	0.0179	0.3451	0.0476
4	209.88	0.3001	0.0119	0.0016	-0.0440	0.0060	0.0676	0.0336	0.2629	0.0622
4	209.88	0.3502	0.0309	0.0023	-0.0906	0.0102	0.1155	0.0577	0.3959	0.0571
4	209.88	0.4002	0.0550	0.0032	-0.1190	0.0156	0.1960	0.0902	0.3600	0.0643
4	209.88	0.4500	0.0938	0.0028	-0.1488	0.0203	0.3270	0.1305	0.2968	0.0677
4	209.88	0.5001	0.1123	0.0024	-0.2155	0.0262	0.5833	0.1780	0.5473	0.0716
4	209.88	0.5560	0.1396	0.0026	-0.2948	0.0321	0.9011	0.2398	0.3529	0.0715
4	209.88	0.6001	0.1859	0.0036	-0.3662	0.0377	1.2726	0.2932	0.3381	0.0763
4	209.88	0.6501	0.1854	0.0057	-0.4602	0.0434	1.8305	0.3599	0.5066	0.0902
4	209.88	0.6999	0.2045	0.0086	-0.5621	0.0501	2.4795	0.4314	0.4484	0.0878
4	209.88	0.7500	0.2286	0.0128	-0.6450	0.0559	3.2558	0.5100	0.4819	0.0981
4	209.88	0.8002	0.2101	0.0181	-0.7603	0.0632	4.1678	0.5942	0.6475	0.1062
4	209.88	0.8582	0.2036	0.0249	-0.8405	0.0706	5.2561	0.7000	0.2805	0.1166
4	209.88	0.9101	0.1707	0.0343	-0.8906	0.0806	6.3635	0.8012	0.4072	0.1206
4	209.88	0.9728	0.1591	0.0450	-0.9550	0.0863	7.6655	0.9271	0.3668	0.1265

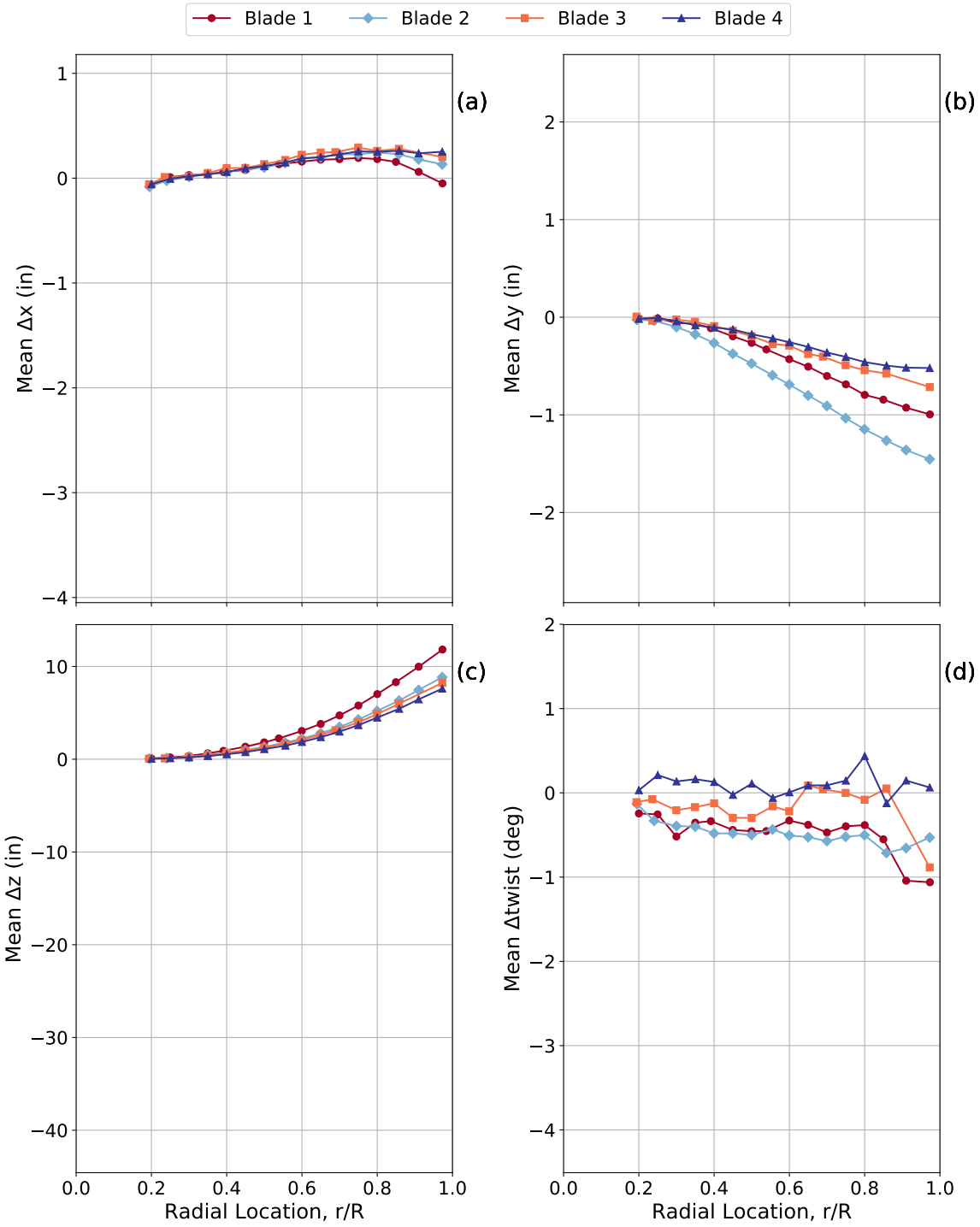


Figure 2.20-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-30. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.012$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0667	0.0017	-0.0132	0.0011	0.0850	0.0059	-0.2449	0.0235
1	225	0.2499	0.0093	0.0012	-0.0119	0.0026	0.1982	0.0124	-0.2561	0.0432
1	225	0.2998	0.0296	0.0014	-0.0579	0.0046	0.3476	0.0238	-0.5184	0.0536
1	225	0.3498	0.0351	0.0016	-0.0669	0.0079	0.6407	0.0407	-0.3545	0.0513
1	225	0.3913	0.0601	0.0024	-0.1126	0.0113	0.9048	0.0588	-0.3360	0.0543
1	225	0.4496	0.0777	0.0025	-0.1956	0.0149	1.3509	0.0906	-0.4408	0.0642
1	225	0.4997	0.1116	0.0039	-0.2628	0.0188	1.8181	0.1259	-0.4552	0.0677
1	225	0.5387	0.1329	0.0040	-0.3301	0.0214	2.2443	0.1546	-0.4540	0.0719
1	225	0.5996	0.1579	0.0059	-0.4296	0.0264	3.0440	0.2086	-0.3291	0.0852
1	225	0.6498	0.1762	0.0085	-0.5067	0.0316	3.8067	0.2603	-0.3802	0.0839
1	225	0.6998	0.1816	0.0112	-0.6023	0.0353	4.7252	0.3160	-0.4712	0.0853
1	225	0.7500	0.1927	0.0157	-0.6876	0.0397	5.7893	0.3779	-0.3970	0.0837
1	225	0.8001	0.1818	0.0200	-0.7954	0.0436	7.0245	0.4449	-0.3832	0.0927
1	225	0.8497	0.1556	0.0267	-0.8443	0.0484	8.3090	0.5114	-0.5510	0.0927
1	225	0.9102	0.0602	0.0355	-0.9267	0.0544	9.9720	0.5971	-1.0430	0.1000
1	225	0.9734	-0.0500	0.0476	-0.9954	0.0600	11.8284	0.6908	-1.0612	0.1073
2	225	0.1949	-0.0821	0.0015	-0.0252	0.0011	0.0655	0.0065	-0.1321	0.0219
2	225	0.2405	-0.0236	0.0013	-0.0352	0.0021	0.1154	0.0124	-0.3311	0.0452
2	225	0.2999	0.0115	0.0020	-0.1004	0.0049	0.2538	0.0282	-0.3940	0.0547
2	225	0.3498	0.0393	0.0020	-0.1745	0.0072	0.4537	0.0475	-0.4018	0.0638
2	225	0.3998	0.0550	0.0024	-0.2640	0.0120	0.6768	0.0738	-0.4810	0.0769
2	225	0.4496	0.0907	0.0024	-0.3744	0.0156	0.9758	0.1032	-0.4811	0.0861
2	225	0.4995	0.1018	0.0026	-0.4740	0.0205	1.3266	0.1403	-0.4999	0.0794
2	225	0.5551	0.1448	0.0038	-0.5950	0.0260	1.7961	0.1873	-0.4345	0.0867
2	225	0.5996	0.1888	0.0049	-0.6890	0.0309	2.2157	0.2316	-0.5061	0.0975
2	225	0.6497	0.1977	0.0072	-0.8016	0.0368	2.8027	0.2866	-0.5253	0.0974
2	225	0.6996	0.2284	0.0097	-0.9088	0.0430	3.4766	0.3488	-0.5726	0.1094
2	225	0.7495	0.2283	0.0133	-1.0339	0.0488	4.2847	0.4165	-0.5213	0.1143
2	225	0.7996	0.2457	0.0170	-1.1472	0.0551	5.1992	0.4918	-0.5022	0.1222
2	225	0.8578	0.2282	0.0230	-1.2634	0.0616	6.3170	0.5837	-0.7133	0.1317
2	225	0.9100	0.1797	0.0296	-1.3604	0.0683	7.4634	0.6693	-0.6560	0.1461
2	225	0.9727	0.1319	0.0412	-1.4543	0.0761	8.8436	0.7751	-0.5299	0.1767
3	225	0.1938	-0.0586	0.0017	0.0062	0.0014	0.0645	0.0068	-0.1110	0.0263
3	225	0.2357	0.0106	0.0015	-0.0359	0.0024	0.0919	0.0124	-0.0760	0.0414
3	225	0.2995	0.0171	0.0018	-0.0238	0.0060	0.2502	0.0293	-0.2068	0.0611
3	225	0.3493	0.0484	0.0014	-0.0471	0.0088	0.4443	0.0502	-0.1699	0.0582
3	225	0.4000	0.0962	0.0026	-0.0909	0.0148	0.6693	0.0777	-0.1240	0.0604
3	225	0.4497	0.0973	0.0025	-0.1386	0.0184	0.9348	0.1090	-0.2965	0.0745
3	225	0.4997	0.1336	0.0028	-0.1943	0.0227	1.2625	0.1442	-0.2974	0.0865
3	225	0.5556	0.1736	0.0037	-0.2737	0.0281	1.6869	0.1928	-0.1601	0.0725
3	225	0.5995	0.2228	0.0045	-0.2903	0.0327	2.0758	0.2348	-0.2195	0.0815
3	225	0.6498	0.2442	0.0066	-0.3766	0.0376	2.6321	0.2890	0.0869	0.0787
3	225	0.6890	0.2483	0.0083	-0.4031	0.0418	3.1175	0.3342	0.0422	0.0932
3	225	0.7495	0.2917	0.0121	-0.4909	0.0483	3.9724	0.4113	-0.0016	0.0890
3	225	0.7998	0.2602	0.0155	-0.5425	0.0538	4.8670	0.4793	-0.0821	0.0882
3	225	0.8577	0.2798	0.0208	-0.5769	0.0590	5.9728	0.5599	0.0516	0.1011
3	225	0.9729	0.2022	0.0353	-0.7158	0.0706	8.2323	0.7256	-0.8853	0.1114
4	225	0.2001	-0.0579	0.0018	-0.0170	0.0011	0.0469	0.0064	0.0310	0.0242
4	225	0.2502	-0.0062	0.0013	-0.0065	0.0029	0.1094	0.0152	0.2108	0.0420
4	225	0.3001	0.0177	0.0018	-0.0416	0.0048	0.1977	0.0279	0.1353	0.0544
4	225	0.3502	0.0373	0.0019	-0.0826	0.0081	0.3443	0.0473	0.1619	0.0596
4	225	0.4002	0.0588	0.0021	-0.1051	0.0129	0.5358	0.0747	0.1287	0.0658
4	225	0.4500	0.0940	0.0025	-0.1254	0.0170	0.7702	0.1084	-0.0238	0.0705
4	225	0.5001	0.1150	0.0025	-0.1746	0.0212	1.0914	0.1476	0.1093	0.0821
4	225	0.5560	0.1494	0.0033	-0.2165	0.0270	1.4629	0.2015	-0.0606	0.0791
4	225	0.6001	0.1883	0.0047	-0.2564	0.0313	1.8629	0.2455	0.0061	0.0786
4	225	0.6501	0.2014	0.0069	-0.3039	0.0376	2.3810	0.2998	0.0878	0.0914
4	225	0.6999	0.2278	0.0093	-0.3612	0.0419	2.9822	0.3560	0.0893	0.0935
4	225	0.7500	0.2556	0.0123	-0.4064	0.0477	3.6739	0.4152	0.1448	0.1020
4	225	0.8002	0.2510	0.0151	-0.4595	0.0522	4.4910	0.4768	0.4356	0.0977
4	225	0.8582	0.2620	0.0200	-0.4958	0.0594	5.4373	0.5499	-0.1230	0.1026
4	225	0.9101	0.2369	0.0254	-0.5166	0.0655	6.4553	0.6177	0.1458	0.1044
4	225	0.9728	0.2521	0.0340	-0.5204	0.0723	7.6158	0.7039	0.0635	0.1190

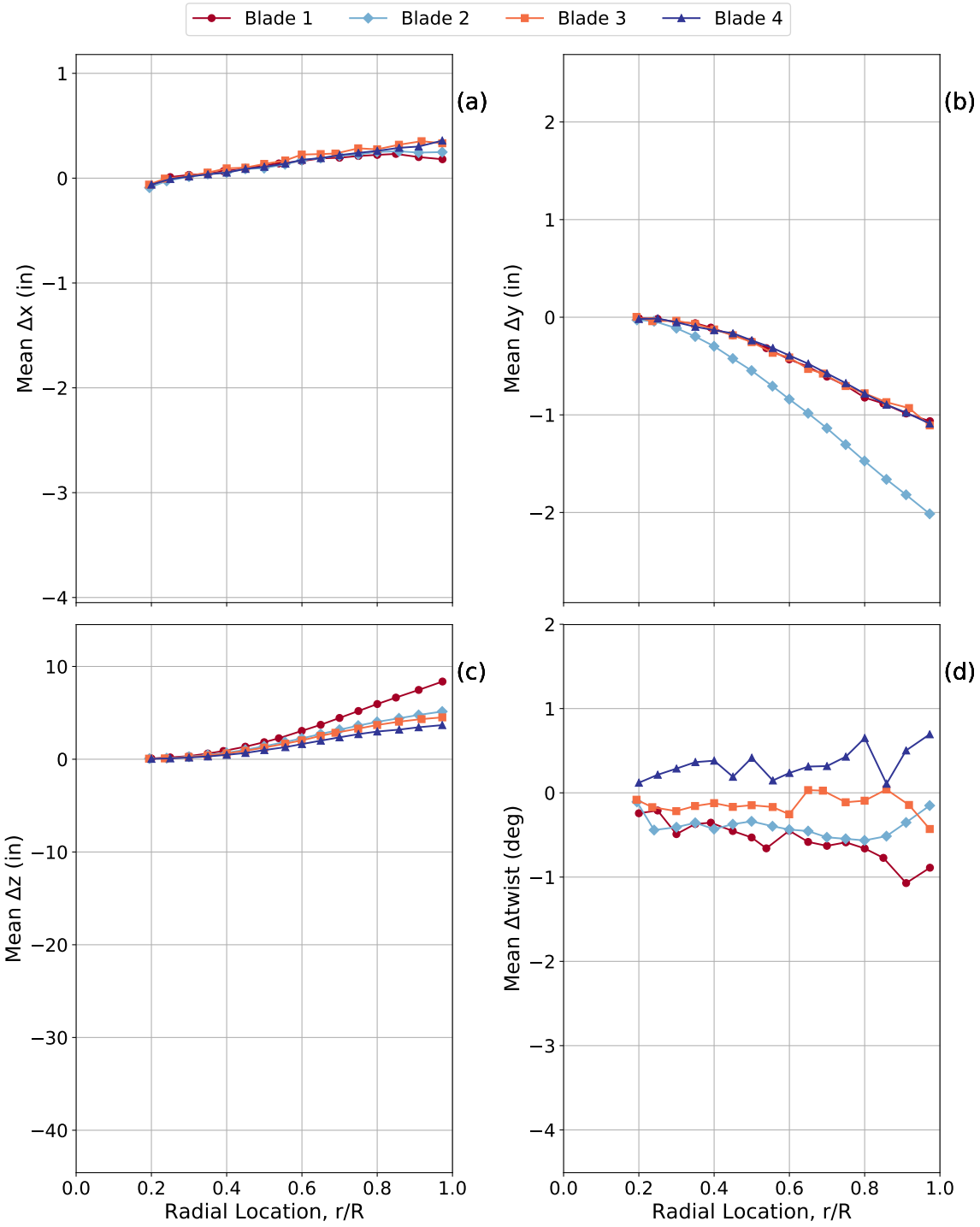


Figure 2.20-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0696	0.0024	-0.0100	0.0013	0.0795	0.0070	-0.2424	0.0323
1	240.12	0.2499	0.0103	0.0013	-0.0167	0.0022	0.1959	0.0151	-0.2100	0.0693
1	240.12	0.2998	0.0311	0.0012	-0.0510	0.0048	0.3423	0.0297	-0.4899	0.0781
1	240.12	0.3498	0.0423	0.0017	-0.0611	0.0077	0.6162	0.0488	-0.3697	0.0745
1	240.12	0.3913	0.0666	0.0024	-0.1061	0.0111	0.8871	0.0723	-0.3544	0.0870
1	240.12	0.4496	0.0898	0.0025	-0.1840	0.0147	1.3529	0.1053	-0.4533	0.0810
1	240.12	0.4997	0.1241	0.0030	-0.2472	0.0182	1.8384	0.1424	-0.5300	0.0946
1	240.12	0.5387	0.1402	0.0043	-0.3166	0.0212	2.2609	0.1762	-0.6588	0.0772
1	240.12	0.5996	0.1630	0.0065	-0.4315	0.0265	3.0557	0.2332	-0.4489	0.0864
1	240.12	0.6498	0.1887	0.0089	-0.5069	0.0305	3.7141	0.2855	-0.5826	0.0800
1	240.12	0.6998	0.1947	0.0111	-0.6085	0.0351	4.4526	0.3393	-0.6291	0.0889
1	240.12	0.7500	0.2116	0.0140	-0.7019	0.0403	5.1992	0.3980	-0.5877	0.0873
1	240.12	0.8001	0.2221	0.0170	-0.8232	0.0449	5.9510	0.4585	-0.6601	0.0901
1	240.12	0.8497	0.2313	0.0201	-0.8838	0.0500	6.6466	0.5221	-0.7718	0.0910
1	240.12	0.9102	0.2012	0.0245	-0.9860	0.0561	7.4723	0.6023	-1.0710	0.0946
1	240.12	0.9734	0.1804	0.0308	-1.0645	0.0625	8.3766	0.6907	-0.8886	0.0975
2	240.12	0.1949	-0.0909	0.0019	-0.0280	0.0014	0.0704	0.0073	-0.1076	0.0226
2	240.12	0.2405	-0.0263	0.0014	-0.0412	0.0022	0.1130	0.0135	-0.4417	0.0429
2	240.12	0.2999	0.0143	0.0015	-0.1122	0.0054	0.2655	0.0303	-0.4080	0.0544
2	240.12	0.3498	0.0394	0.0016	-0.1973	0.0089	0.4673	0.0519	-0.3559	0.0640
2	240.12	0.3998	0.0537	0.0029	-0.2976	0.0138	0.6966	0.0799	-0.4303	0.0644
2	240.12	0.4496	0.0889	0.0024	-0.4233	0.0177	1.0146	0.1131	-0.3726	0.0790
2	240.12	0.4995	0.0952	0.0032	-0.5466	0.0236	1.3977	0.1508	-0.3382	0.0710
2	240.12	0.5551	0.1326	0.0043	-0.7062	0.0299	1.8533	0.2000	-0.3967	0.0764
2	240.12	0.5996	0.1718	0.0056	-0.8395	0.0353	2.2479	0.2443	-0.4357	0.0810
2	240.12	0.6497	0.1916	0.0074	-0.9838	0.0415	2.7179	0.2991	-0.4540	0.0825
2	240.12	0.6996	0.2154	0.0094	-1.1368	0.0480	3.1806	0.3609	-0.5278	0.0902
2	240.12	0.7495	0.2264	0.0115	-1.3046	0.0544	3.6249	0.4288	-0.5458	0.0947
2	240.12	0.7996	0.2509	0.0134	-1.4731	0.0607	4.0273	0.5010	-0.5645	0.0906
2	240.12	0.8578	0.2562	0.0152	-1.6609	0.0680	4.4136	0.5879	-0.5143	0.1031
2	240.12	0.9100	0.2438	0.0180	-1.8188	0.0744	4.7751	0.6693	-0.3522	0.1042
2	240.12	0.9727	0.2488	0.0228	-2.0139	0.0824	5.1427	0.7679	-0.1513	0.1088
3	240.12	0.1938	-0.0616	0.0019	0.0032	0.0012	0.0581	0.0056	-0.0819	0.0289
3	240.12	0.2357	-0.0042	0.0013	-0.0405	0.0016	0.0904	0.0117	-0.1704	0.0445
3	240.12	0.2995	0.0189	0.0013	-0.0368	0.0042	0.2391	0.0266	-0.2171	0.0679
3	240.12	0.3493	0.0532	0.0020	-0.0692	0.0070	0.4082	0.0437	-0.1563	0.0624
3	240.12	0.4000	0.0932	0.0022	-0.1254	0.0108	0.6296	0.0702	-0.1222	0.0765
3	240.12	0.4497	0.1006	0.0028	-0.1848	0.0147	0.9096	0.0976	-0.1670	0.0724
3	240.12	0.4997	0.1358	0.0031	-0.2550	0.0198	1.2542	0.1313	-0.1471	0.0783
3	240.12	0.5556	0.1684	0.0038	-0.3643	0.0246	1.6774	0.1742	-0.1686	0.0867
3	240.12	0.5995	0.2250	0.0044	-0.4122	0.0291	2.0290	0.2112	-0.2546	0.0924
3	240.12	0.6498	0.2298	0.0059	-0.5296	0.0352	2.5219	0.2535	0.0323	0.0897
3	240.12	0.6890	0.2348	0.0070	-0.5773	0.0399	2.8505	0.2905	0.0259	0.0958
3	240.12	0.7495	0.2845	0.0092	-0.7046	0.0472	3.2980	0.3483	-0.1118	0.0998
3	240.12	0.7998	0.2751	0.0103	-0.7790	0.0535	3.6902	0.3991	-0.0934	0.1015
3	240.12	0.8577	0.3189	0.0114	-0.8700	0.0610	4.0467	0.4597	0.0399	0.1013
3	240.12	0.9178	0.3525	0.0134	-0.9306	0.0690	4.3267	0.5248	-0.1442	0.1127
3	240.12	0.9729	0.3331	0.0164	-1.1079	0.0765	4.5113	0.5882	-0.4294	0.1192
4	240.12	0.2001	-0.0617	0.0017	-0.0184	0.0011	0.0439	0.0073	0.1197	0.0204
4	240.12	0.2502	-0.0083	0.0013	-0.0131	0.0023	0.0899	0.0157	0.2145	0.0423
4	240.12	0.3001	0.0156	0.0015	-0.0521	0.0048	0.1832	0.0304	0.2879	0.0482
4	240.12	0.3502	0.0364	0.0018	-0.0979	0.0076	0.3002	0.0517	0.3643	0.0461
4	240.12	0.4002	0.0527	0.0025	-0.1329	0.0121	0.4740	0.0807	0.3813	0.0536
4	240.12	0.4500	0.0882	0.0020	-0.1645	0.0159	0.6759	0.1152	0.1901	0.0590
4	240.12	0.5001	0.1083	0.0027	-0.2367	0.0202	0.9874	0.1564	0.4152	0.0645
4	240.12	0.5560	0.1383	0.0031	-0.3156	0.0258	1.3015	0.2096	0.1463	0.0647
4	240.12	0.6001	0.1750	0.0036	-0.3924	0.0304	1.6352	0.2579	0.2356	0.0722
4	240.12	0.6501	0.1910	0.0053	-0.4765	0.0354	2.0023	0.3173	0.3116	0.0706
4	240.12	0.6999	0.2196	0.0067	-0.5755	0.0410	2.3618	0.3821	0.3173	0.0729
4	240.12	0.7500	0.2411	0.0091	-0.6753	0.0467	2.7048	0.4543	0.4288	0.0784
4	240.12	0.8002	0.2604	0.0103	-0.7829	0.0521	2.9865	0.5299	0.6503	0.0744
4	240.12	0.8582	0.2894	0.0120	-0.8964	0.0587	3.1919	0.6213	0.1073	0.0806
4	240.12	0.9101	0.3017	0.0145	-0.9772	0.0642	3.4475	0.7073	0.5027	0.0835
4	240.12	0.9728	0.3580	0.0187	-1.0892	0.0710	3.6784	0.8134	0.6946	0.0945

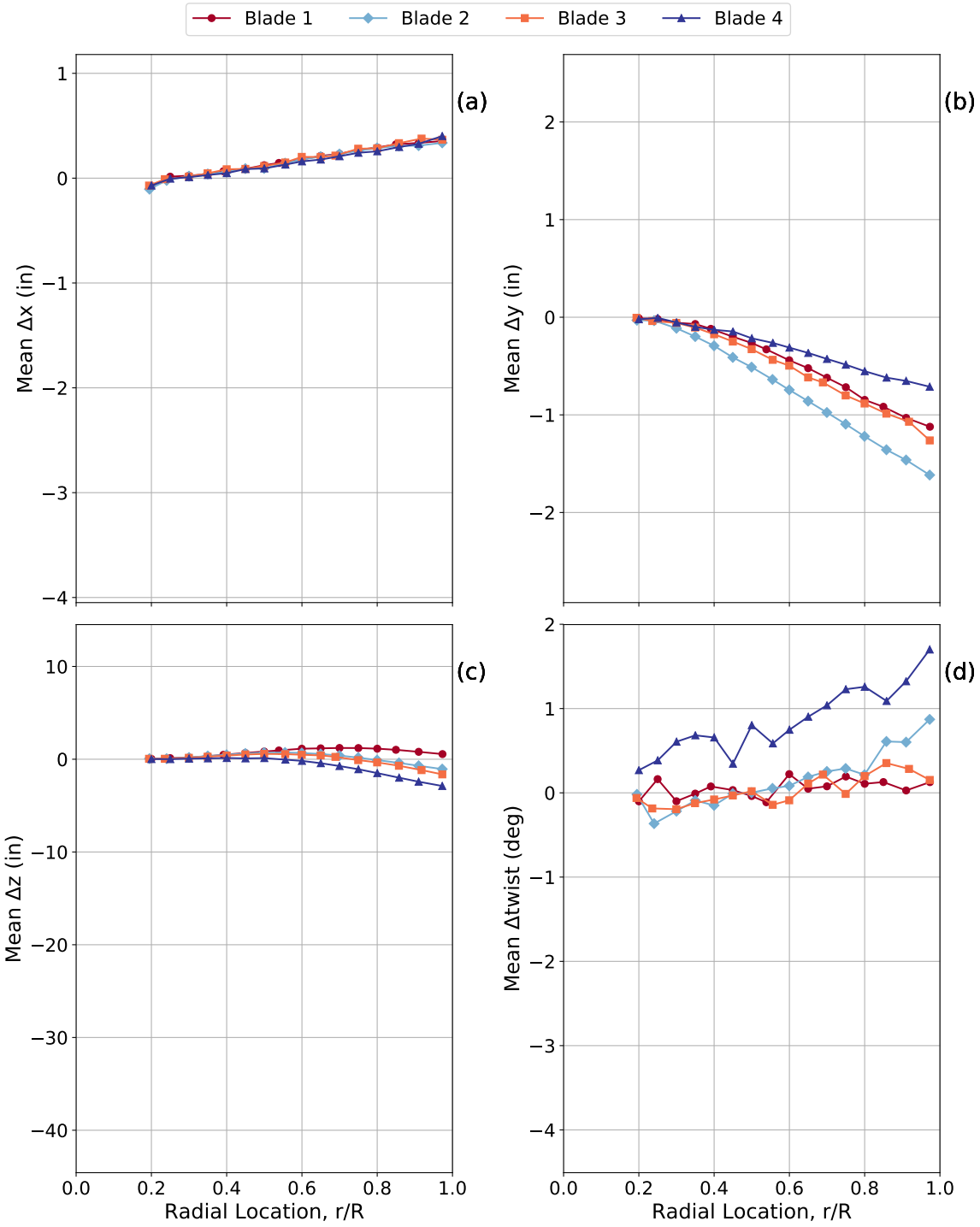


Figure 2.20-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0753	0.0036	-0.0112	0.0020	0.0376	0.0085	-0.1009	0.0372
1	254.88	0.2499	0.0144	0.0017	-0.0187	0.0029	0.1164	0.0148	0.1626	0.0928
1	254.88	0.2998	0.0239	0.0012	-0.0566	0.0070	0.1778	0.0321	-0.0998	0.0967
1	254.88	0.3498	0.0389	0.0019	-0.0694	0.0118	0.3250	0.0541	-0.0094	0.0995
1	254.88	0.3913	0.0661	0.0022	-0.1189	0.0164	0.4767	0.0771	0.0756	0.0998
1	254.88	0.4496	0.0892	0.0024	-0.1994	0.0228	0.6764	0.1175	0.0324	0.1032
1	254.88	0.4997	0.1235	0.0028	-0.2636	0.0292	0.8323	0.1597	-0.0377	0.1084
1	254.88	0.5387	0.1453	0.0029	-0.3291	0.0338	0.9475	0.1975	-0.1118	0.1017
1	254.88	0.5996	0.1774	0.0035	-0.4411	0.0430	1.1364	0.2666	0.2217	0.1069
1	254.88	0.6498	0.2122	0.0041	-0.5219	0.0503	1.1741	0.3332	0.0488	0.1140
1	254.88	0.6998	0.2322	0.0040	-0.6199	0.0581	1.2143	0.4046	0.0772	0.1120
1	254.88	0.7500	0.2695	0.0044	-0.7170	0.0662	1.2049	0.4860	0.1935	0.1135
1	254.88	0.8001	0.2926	0.0047	-0.8468	0.0746	1.1383	0.5727	0.1074	0.1172
1	254.88	0.8497	0.3227	0.0048	-0.9170	0.0830	1.0164	0.6630	0.1277	0.1187
1	254.88	0.9102	0.3363	0.0053	-1.0311	0.0937	0.7989	0.7781	0.0281	0.1223
1	254.88	0.9734	0.3544	0.0075	-1.1218	0.1047	0.5544	0.9020	0.1271	0.1244
2	254.88	0.1949	-0.1049	0.0021	-0.0309	0.0012	0.0627	0.0055	-0.0183	0.0302
2	254.88	0.2405	-0.0210	0.0014	-0.0351	0.0019	0.0604	0.0104	-0.3655	0.0544
2	254.88	0.2999	0.0187	0.0014	-0.1127	0.0044	0.1853	0.0225	-0.2179	0.0748
2	254.88	0.3498	0.0402	0.0018	-0.1979	0.0076	0.3463	0.0392	-0.0908	0.0763
2	254.88	0.3998	0.0589	0.0021	-0.2929	0.0114	0.4783	0.0598	-0.1492	0.0799
2	254.88	0.4496	0.0909	0.0028	-0.4113	0.0151	0.6186	0.0854	-0.0099	0.0826
2	254.88	0.4995	0.0928	0.0018	-0.5111	0.0195	0.7069	0.1142	0.0018	0.0843
2	254.88	0.5551	0.1430	0.0023	-0.6378	0.0247	0.7224	0.1528	0.0527	0.0905
2	254.88	0.5996	0.1788	0.0026	-0.7443	0.0295	0.6751	0.1889	0.0830	0.0933
2	254.88	0.6497	0.2042	0.0027	-0.8595	0.0351	0.5640	0.2335	0.1885	0.1047
2	254.88	0.6996	0.2298	0.0030	-0.9759	0.0409	0.3969	0.2841	0.2536	0.1057
2	254.88	0.7495	0.2609	0.0038	-1.0948	0.0465	0.1753	0.3403	0.2888	0.1064
2	254.88	0.7996	0.2874	0.0046	-1.2202	0.0524	-0.0910	0.4019	0.2148	0.1111
2	254.88	0.8578	0.3070	0.0060	-1.3575	0.0596	-0.3957	0.4790	0.6094	0.1152
2	254.88	0.9100	0.3102	0.0065	-1.4625	0.0659	-0.7050	0.5529	0.6015	0.1172
2	254.88	0.9727	0.3369	0.0073	-1.6162	0.0736	-1.0623	0.6441	0.8715	0.1205
3	254.88	0.1938	-0.0706	0.0025	-0.0060	0.0015	0.0455	0.0073	-0.0610	0.0248
3	254.88	0.2357	-0.0096	0.0015	-0.0389	0.0023	0.0487	0.0113	-0.1852	0.0505
3	254.88	0.2995	0.0146	0.0012	-0.0581	0.0059	0.1540	0.0287	-0.1944	0.0611
3	254.88	0.3493	0.0461	0.0021	-0.1057	0.0098	0.2709	0.0488	-0.1228	0.0676
3	254.88	0.4000	0.0848	0.0023	-0.1745	0.0153	0.3986	0.0751	-0.0791	0.0634
3	254.88	0.4497	0.0882	0.0020	-0.2491	0.0206	0.5052	0.1061	-0.0313	0.0654
3	254.88	0.4997	0.1155	0.0023	-0.3272	0.0264	0.5771	0.1447	0.0188	0.0631
3	254.88	0.5556	0.1495	0.0024	-0.4363	0.0337	0.5515	0.1924	-0.1422	0.0690
3	254.88	0.5995	0.2028	0.0026	-0.4959	0.0402	0.4831	0.2355	-0.0885	0.0727
3	254.88	0.6498	0.2022	0.0030	-0.6165	0.0475	0.4143	0.2887	0.1095	0.0734
3	254.88	0.6890	0.2150	0.0035	-0.6676	0.0538	0.2542	0.3342	0.2164	0.0756
3	254.88	0.7495	0.2810	0.0040	-0.8011	0.0636	-0.0956	0.4089	-0.0128	0.0817
3	254.88	0.7998	0.2843	0.0047	-0.8836	0.0714	-0.3402	0.4768	0.1991	0.0866
3	254.88	0.8577	0.3337	0.0062	-0.9874	0.0810	-0.7027	0.5603	0.3531	0.0851
3	254.88	0.9178	0.3776	0.0070	-1.0702	0.0910	-1.1715	0.6514	0.2837	0.0930
3	254.88	0.9729	0.3669	0.0080	-1.2618	0.1002	-1.6321	0.7374	0.1528	0.0904
4	254.88	0.2001	-0.0703	0.0017	-0.0208	0.0013	0.0205	0.0070	0.2688	0.0255
4	254.88	0.2502	-0.0048	0.0013	-0.0068	0.0025	0.0108	0.0147	0.3853	0.0465
4	254.88	0.3001	0.0095	0.0016	-0.0532	0.0050	0.0597	0.0284	0.6064	0.0577
4	254.88	0.3502	0.0300	0.0018	-0.0986	0.0088	0.0913	0.0488	0.6823	0.0588
4	254.88	0.4002	0.0477	0.0019	-0.1288	0.0132	0.1313	0.0756	0.6567	0.0636
4	254.88	0.4500	0.0868	0.0025	-0.1460	0.0186	0.0913	0.1077	0.3454	0.0639
4	254.88	0.5001	0.0928	0.0035	-0.2158	0.0244	0.1218	0.1458	0.8027	0.0669
4	254.88	0.5560	0.1293	0.0025	-0.2630	0.0319	-0.0454	0.1950	0.5863	0.0679
4	254.88	0.6001	0.1600	0.0029	-0.3114	0.0382	-0.1787	0.2396	0.7482	0.0744
4	254.88	0.6501	0.1774	0.0035	-0.3659	0.0460	-0.4276	0.2961	0.9028	0.0814
4	254.88	0.6999	0.2090	0.0049	-0.4273	0.0542	-0.7362	0.3614	1.0384	0.0914
4	254.88	0.7500	0.2421	0.0058	-0.4863	0.0629	-1.0781	0.4367	1.2292	0.0899
4	254.88	0.8002	0.2561	0.0076	-0.5529	0.0721	-1.4961	0.5207	1.2581	0.0911
4	254.88	0.8582	0.2969	0.0103	-0.6187	0.0824	-1.9925	0.6268	1.0897	0.0961
4	254.88	0.9101	0.3276	0.0114	-0.6524	0.0921	-2.4221	0.7289	1.3238	0.0965
4	254.88	0.9728	0.4014	0.0116	-0.7121	0.1040	-2.8840	0.8561	1.7006	0.1018

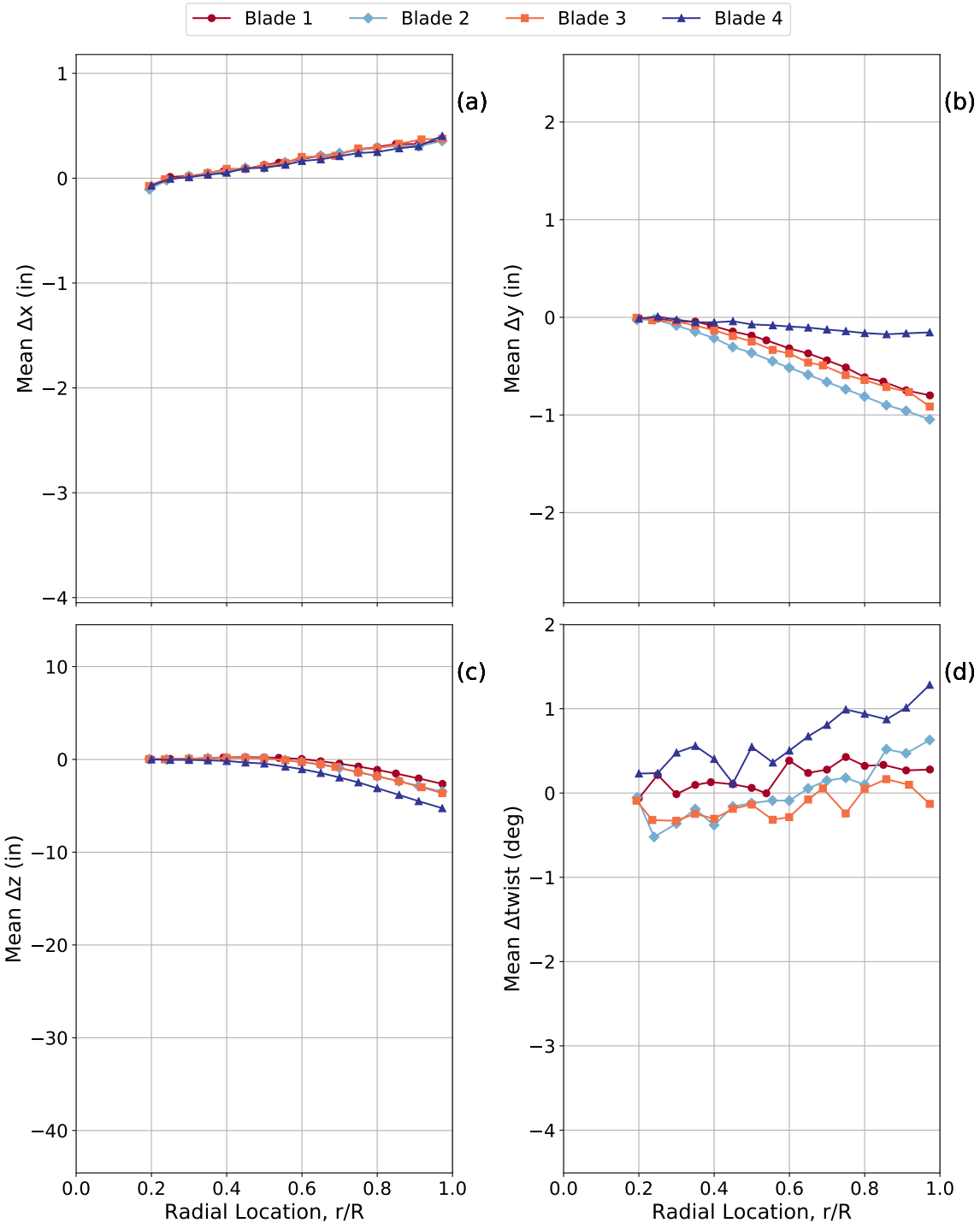


Figure 2.20-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-33. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.012$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.0741	0.0041	-0.0070	0.0021	0.0139	0.0080	-0.0613	0.0419
1	260.16	0.2499	0.0119	0.0019	-0.0131	0.0028	0.0562	0.0133	0.2144	0.1063
1	260.16	0.2998	0.0218	0.0014	-0.0408	0.0072	0.0726	0.0298	-0.0137	0.1088
1	260.16	0.3498	0.0420	0.0016	-0.0436	0.0123	0.1414	0.0505	0.0958	0.1104
1	260.16	0.3913	0.0654	0.0019	-0.0823	0.0168	0.2076	0.0712	0.1290	0.1109
1	260.16	0.4496	0.0874	0.0019	-0.1453	0.0231	0.2481	0.1066	0.1039	0.1091
1	260.16	0.4997	0.1265	0.0024	-0.1872	0.0290	0.2166	0.1423	0.0608	0.1130
1	260.16	0.5387	0.1478	0.0026	-0.2357	0.0342	0.1694	0.1739	-0.0032	0.1141
1	260.16	0.5996	0.1808	0.0031	-0.3179	0.0422	0.0479	0.2299	0.3846	0.1135
1	260.16	0.6498	0.2152	0.0038	-0.3695	0.0500	-0.1975	0.2832	0.2381	0.1167
1	260.16	0.6998	0.2368	0.0044	-0.4409	0.0575	-0.4586	0.3413	0.2773	0.1193
1	260.16	0.7500	0.2725	0.0053	-0.5138	0.0654	-0.7651	0.4049	0.4269	0.1158
1	260.16	0.8001	0.2982	0.0068	-0.6148	0.0736	-1.1278	0.4732	0.3220	0.1197
1	260.16	0.8497	0.3258	0.0086	-0.6586	0.0820	-1.5207	0.5434	0.3341	0.1229
1	260.16	0.9102	0.3253	0.0101	-0.7479	0.0919	-2.0510	0.6314	0.2681	0.1259
1	260.16	0.9734	0.3637	0.0115	-0.7997	0.1029	-2.6405	0.7263	0.2788	0.1244
2	260.16	0.1949	-0.1065	0.0022	-0.0249	0.0014	0.0366	0.0072	-0.0528	0.0287
2	260.16	0.2405	-0.0191	0.0014	-0.0215	0.0022	-0.0015	0.0124	-0.5210	0.0622
2	260.16	0.2999	0.0213	0.0015	-0.0833	0.0051	0.0599	0.0283	-0.3625	0.0747
2	260.16	0.3498	0.0472	0.0017	-0.1471	0.0091	0.1387	0.0497	-0.1905	0.0725
2	260.16	0.3998	0.0672	0.0024	-0.2130	0.0136	0.1477	0.0750	-0.3813	0.0662
2	260.16	0.4496	0.0986	0.0022	-0.3044	0.0188	0.1639	0.1071	-0.1596	0.0813
2	260.16	0.4995	0.1018	0.0023	-0.3636	0.0242	0.1032	0.1427	-0.1202	0.0815
2	260.16	0.5551	0.1518	0.0029	-0.4492	0.0310	-0.0731	0.1897	-0.0890	0.0807
2	260.16	0.5996	0.1923	0.0034	-0.5167	0.0365	-0.2777	0.2335	-0.0909	0.0846
2	260.16	0.6497	0.2150	0.0043	-0.5882	0.0434	-0.5733	0.2881	0.0544	0.0856
2	260.16	0.6996	0.2397	0.0058	-0.6628	0.0504	-0.9315	0.3502	0.1486	0.0949
2	260.16	0.7495	0.2662	0.0078	-0.7363	0.0575	-1.3579	0.4201	0.1796	0.0953
2	260.16	0.7996	0.2923	0.0101	-0.8112	0.0650	-1.8269	0.4979	0.1001	0.1029
2	260.16	0.8578	0.3077	0.0132	-0.8997	0.0734	-2.3526	0.5939	0.5196	0.1067
2	260.16	0.9100	0.3040	0.0147	-0.9578	0.0814	-2.8720	0.6847	0.4709	0.1062
2	260.16	0.9727	0.3555	0.0156	-1.0457	0.0908	-3.4763	0.7942	0.6278	0.1097
3	260.16	0.1938	-0.0741	0.0024	-0.0050	0.0016	0.0280	0.0072	-0.0908	0.0249
3	260.16	0.2357	-0.0096	0.0013	-0.0294	0.0018	0.0059	0.0102	-0.3208	0.0545
3	260.16	0.2995	0.0148	0.0016	-0.0445	0.0054	0.0634	0.0272	-0.3295	0.0640
3	260.16	0.3493	0.0489	0.0016	-0.0822	0.0089	0.1201	0.0465	-0.2466	0.0655
3	260.16	0.4000	0.0888	0.0022	-0.1340	0.0137	0.1556	0.0710	-0.3052	0.0670
3	260.16	0.4497	0.0903	0.0024	-0.1923	0.0182	0.1626	0.0986	-0.1876	0.0751
3	260.16	0.4997	0.1194	0.0027	-0.2482	0.0231	0.1023	0.1318	-0.1364	0.0716
3	260.16	0.5556	0.1465	0.0032	-0.3338	0.0292	-0.0814	0.1715	-0.3175	0.0723
3	260.16	0.5995	0.2029	0.0041	-0.3698	0.0342	-0.2885	0.2083	-0.2859	0.0789
3	260.16	0.6498	0.2033	0.0046	-0.4629	0.0403	-0.5093	0.2555	-0.0772	0.0862
3	260.16	0.6890	0.2133	0.0055	-0.4923	0.0452	-0.8112	0.2955	0.0551	0.0833
3	260.16	0.7495	0.2837	0.0073	-0.5919	0.0528	-1.3914	0.3635	-0.2424	0.0856
3	260.16	0.7998	0.2856	0.0090	-0.6421	0.0596	-1.8069	0.4250	0.0516	0.0893
3	260.16	0.8577	0.3282	0.0110	-0.7140	0.0671	-2.3556	0.5003	0.1643	0.0929
3	260.16	0.9178	0.3698	0.0127	-0.7653	0.0756	-2.9945	0.5807	0.0979	0.0986
3	260.16	0.9729	0.3769	0.0137	-0.9138	0.0833	-3.6381	0.6548	-0.1288	0.0930
4	260.16	0.2001	-0.0699	0.0019	-0.0138	0.0014	-0.0047	0.0063	0.2308	0.0336
4	260.16	0.2502	-0.0055	0.0016	0.0065	0.0028	-0.0533	0.0117	0.2359	0.0502
4	260.16	0.3001	0.0101	0.0014	-0.0236	0.0055	-0.0523	0.0249	0.4797	0.0725
4	260.16	0.3502	0.0326	0.0016	-0.0500	0.0092	-0.1008	0.0412	0.5585	0.0670
4	260.16	0.4002	0.0524	0.0025	-0.0520	0.0144	-0.1726	0.0640	0.4039	0.0749
4	260.16	0.4500	0.0943	0.0023	-0.0403	0.0192	-0.3378	0.0904	0.1153	0.0785
4	260.16	0.5001	0.1000	0.0026	-0.0733	0.0248	-0.4507	0.1211	0.5461	0.0797
4	260.16	0.5560	0.1281	0.0026	-0.0822	0.0322	-0.7791	0.1609	0.3613	0.0828
4	260.16	0.6001	0.1643	0.0034	-0.0947	0.0378	-1.0519	0.1964	0.5032	0.0870
4	260.16	0.6501	0.1795	0.0040	-0.1051	0.0453	-1.4623	0.2427	0.6728	0.0929
4	260.16	0.6999	0.2105	0.0051	-0.1255	0.0530	-1.9471	0.2936	0.8081	0.0983
4	260.16	0.7500	0.2395	0.0069	-0.1417	0.0610	-2.4772	0.3508	0.9901	0.1048
4	260.16	0.8002	0.2498	0.0089	-0.1617	0.0690	-3.1058	0.4119	0.9397	0.1019
4	260.16	0.8582	0.2851	0.0114	-0.1737	0.0785	-3.8295	0.4874	0.8742	0.1103
4	260.16	0.9101	0.3048	0.0131	-0.1641	0.0870	-4.5001	0.5582	1.0123	0.1104
4	260.16	0.9728	0.4030	0.0137	-0.1544	0.0973	-5.2616	0.6480	1.2837	0.1095

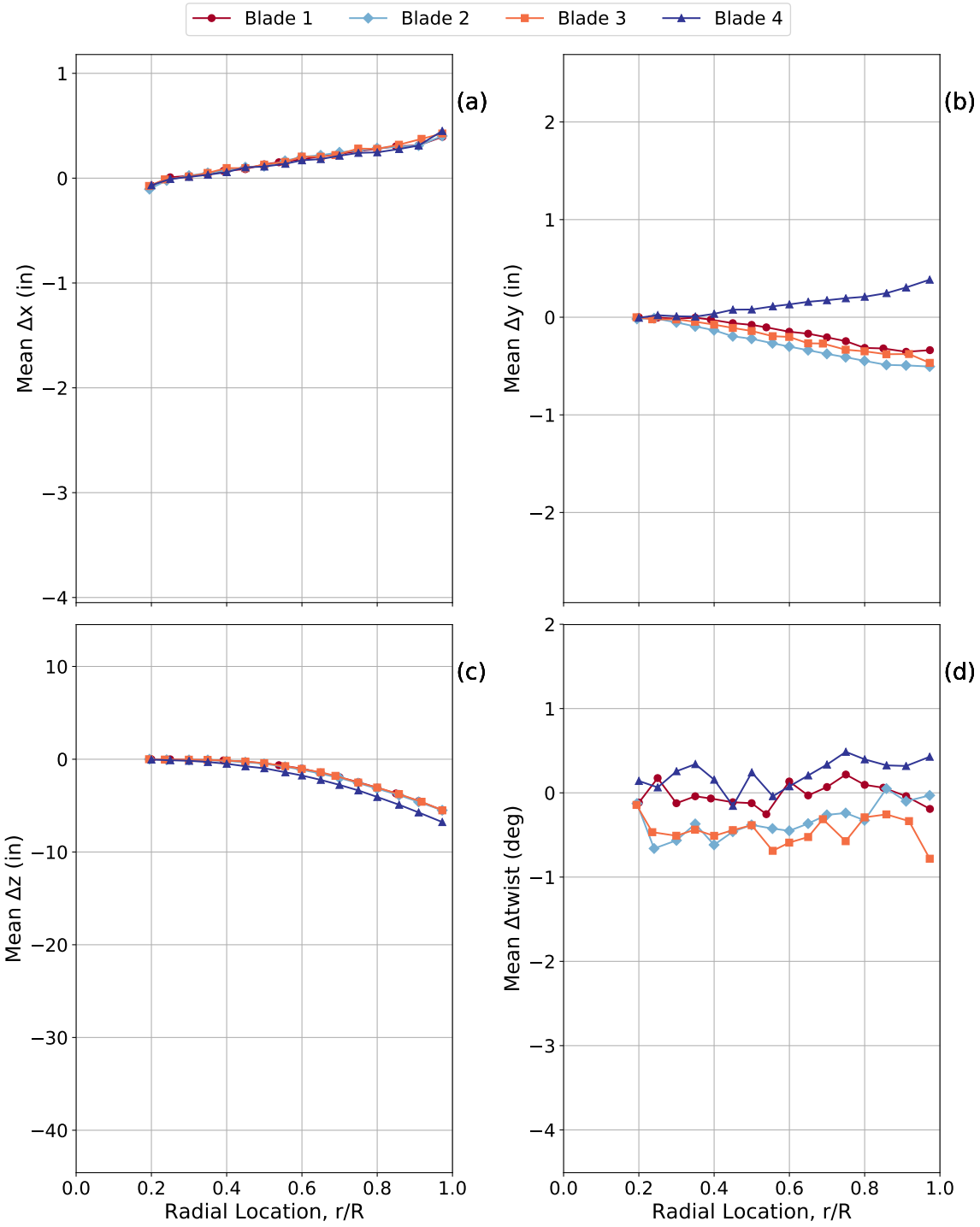


Figure 2.20-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	-0.0717	0.0041	-0.0007	0.0018	-0.0188	0.0076	-0.1162	0.0445
1	265.08	0.2499	0.0081	0.0020	-0.0039	0.0027	-0.0113	0.0136	0.1750	0.1135
1	265.08	0.2998	0.0219	0.0022	-0.0154	0.0063	-0.0674	0.0297	-0.1234	0.1167
1	265.08	0.3498	0.0394	0.0021	-0.0045	0.0109	-0.0906	0.0494	-0.0410	0.1211
1	265.08	0.3913	0.0691	0.0026	-0.0245	0.0150	-0.1342	0.0712	-0.0673	0.1190
1	265.08	0.4496	0.0861	0.0026	-0.0607	0.0207	-0.2588	0.1070	-0.1118	0.1200
1	265.08	0.4997	0.1318	0.0031	-0.0782	0.0262	-0.4486	0.1436	-0.1227	0.1288
1	265.08	0.5387	0.1516	0.0038	-0.1038	0.0310	-0.6442	0.1767	-0.2536	0.1285
1	265.08	0.5996	0.1794	0.0043	-0.1485	0.0384	-1.0063	0.2365	0.1342	0.1346
1	265.08	0.6498	0.2084	0.0059	-0.1686	0.0453	-1.4629	0.2956	-0.0309	0.1399
1	265.08	0.6998	0.2323	0.0078	-0.2060	0.0525	-1.9420	0.3598	0.0685	0.1391
1	265.08	0.7500	0.2582	0.0100	-0.2452	0.0598	-2.4763	0.4319	0.2169	0.1453
1	265.08	0.8001	0.2800	0.0126	-0.3144	0.0677	-3.0699	0.5113	0.0947	0.1440
1	265.08	0.8497	0.3031	0.0158	-0.3197	0.0754	-3.6897	0.5935	0.0606	0.1478
1	265.08	0.9102	0.3132	0.0189	-0.3541	0.0852	-4.5111	0.7005	-0.0401	0.1476
1	265.08	0.9734	0.3943	0.0218	-0.3372	0.0957	-5.4935	0.8169	-0.1911	0.1533
2	265.08	0.1949	-0.1048	0.0019	-0.0174	0.0014	0.0059	0.0080	-0.1270	0.0309
2	265.08	0.2405	-0.0216	0.0017	-0.0104	0.0027	-0.0567	0.0157	-0.6608	0.0712
2	265.08	0.2999	0.0244	0.0016	-0.0530	0.0059	-0.0732	0.0348	-0.5643	0.0829
2	265.08	0.3498	0.0498	0.0019	-0.0943	0.0103	-0.0792	0.0593	-0.3688	0.0891
2	265.08	0.3998	0.0740	0.0022	-0.1331	0.0158	-0.1942	0.0921	-0.6174	0.0845
2	265.08	0.4496	0.1052	0.0028	-0.1954	0.0217	-0.3093	0.1312	-0.4617	0.0932
2	265.08	0.4995	0.1137	0.0032	-0.2207	0.0282	-0.4887	0.1749	-0.3807	0.1026
2	265.08	0.5551	0.1651	0.0034	-0.2669	0.0362	-0.8157	0.2309	-0.4243	0.1052
2	265.08	0.5996	0.2027	0.0045	-0.3008	0.0430	-1.1357	0.2817	-0.4505	0.1125
2	265.08	0.6497	0.2182	0.0058	-0.3378	0.0511	-1.5529	0.3435	-0.3651	0.1132
2	265.08	0.6996	0.2464	0.0076	-0.3754	0.0588	-2.0264	0.4135	-0.2613	0.1214
2	265.08	0.7495	0.2644	0.0102	-0.4095	0.0672	-2.5709	0.4898	-0.2397	0.1255
2	265.08	0.7996	0.2862	0.0131	-0.4468	0.0753	-3.1723	0.5759	-0.3263	0.1314
2	265.08	0.8578	0.2993	0.0177	-0.4881	0.0848	-3.8738	0.6821	0.0498	0.1369
2	265.08	0.9100	0.3105	0.0205	-0.4934	0.0936	-4.5984	0.7829	-0.1001	0.1360
2	265.08	0.9727	0.4024	0.0233	-0.5053	0.1038	-5.5041	0.9062	-0.0306	0.1377
3	265.08	0.1938	-0.0743	0.0035	-0.0005	0.0014	0.0020	0.0061	-0.1434	0.0242
3	265.08	0.2357	-0.0117	0.0015	-0.0210	0.0023	-0.0396	0.0124	-0.4668	0.0563
3	265.08	0.2995	0.0159	0.0016	-0.0225	0.0049	-0.0504	0.0269	-0.5095	0.0658
3	265.08	0.3493	0.0497	0.0015	-0.0457	0.0086	-0.0712	0.0460	-0.4371	0.0690
3	265.08	0.4000	0.0961	0.0021	-0.0757	0.0132	-0.1441	0.0723	-0.5103	0.0735
3	265.08	0.4497	0.0955	0.0025	-0.1096	0.0178	-0.2520	0.1042	-0.4429	0.0739
3	265.08	0.4997	0.1291	0.0031	-0.1408	0.0231	-0.4211	0.1445	-0.3839	0.0807
3	265.08	0.5556	0.1547	0.0037	-0.1941	0.0297	-0.7466	0.1986	-0.6881	0.0874
3	265.08	0.5995	0.2058	0.0046	-0.2017	0.0354	-1.0521	0.2492	-0.5908	0.0869
3	265.08	0.6498	0.2042	0.0061	-0.2672	0.0418	-1.4032	0.3145	-0.5246	0.0894
3	265.08	0.6890	0.2203	0.0079	-0.2695	0.0475	-1.7928	0.3728	-0.3129	0.0924
3	265.08	0.7495	0.2821	0.0110	-0.3328	0.0561	-2.5136	0.4704	-0.5737	0.0918
3	265.08	0.7998	0.2794	0.0140	-0.3490	0.0634	-3.0517	0.5597	-0.2911	0.0969
3	265.08	0.8577	0.3190	0.0181	-0.3788	0.0718	-3.7583	0.6683	-0.2560	0.1010
3	265.08	0.9178	0.3748	0.0216	-0.3768	0.0809	-4.5842	0.7852	-0.3357	0.1051
3	265.08	0.9729	0.4260	0.0232	-0.4676	0.0891	-5.5095	0.8940	-0.7818	0.1053
4	265.08	0.2001	-0.0673	0.0021	-0.0054	0.0016	-0.0338	0.0081	0.1407	0.0236
4	265.08	0.2502	-0.0080	0.0015	0.0208	0.0038	-0.1103	0.0181	0.0644	0.0510
4	265.08	0.3001	0.0119	0.0020	0.0099	0.0068	-0.1727	0.0349	0.2561	0.0552
4	265.08	0.3502	0.0323	0.0018	0.0064	0.0119	-0.3011	0.0589	0.3406	0.0595
4	265.08	0.4002	0.0574	0.0020	0.0350	0.0186	-0.4865	0.0928	0.1558	0.0661
4	265.08	0.4500	0.1028	0.0029	0.0775	0.0256	-0.7622	0.1328	-0.1549	0.0610
4	265.08	0.5001	0.1108	0.0029	0.0790	0.0343	-0.9732	0.1797	0.2418	0.0661
4	265.08	0.5560	0.1371	0.0036	0.1116	0.0446	-1.4088	0.2410	-0.0399	0.0676
4	265.08	0.6001	0.1704	0.0045	0.1315	0.0537	-1.7534	0.2954	0.0770	0.0753
4	265.08	0.6501	0.1819	0.0066	0.1581	0.0639	-2.2275	0.3641	0.2064	0.0742
4	265.08	0.6999	0.2141	0.0087	0.1741	0.0744	-2.7705	0.4402	0.3353	0.0774
4	265.08	0.7500	0.2412	0.0114	0.1943	0.0851	-3.3638	0.5248	0.4862	0.0791
4	265.08	0.8002	0.2464	0.0151	0.2097	0.0958	-4.0717	0.6184	0.3972	0.0793
4	265.08	0.8582	0.2779	0.0196	0.2469	0.1085	-4.9083	0.7375	0.3257	0.0861
4	265.08	0.9101	0.3111	0.0233	0.3045	0.1193	-5.7382	0.8503	0.3185	0.0849
4	265.08	0.9728	0.4500	0.0251	0.3845	0.1325	-6.7746	0.9934	0.4279	0.0894

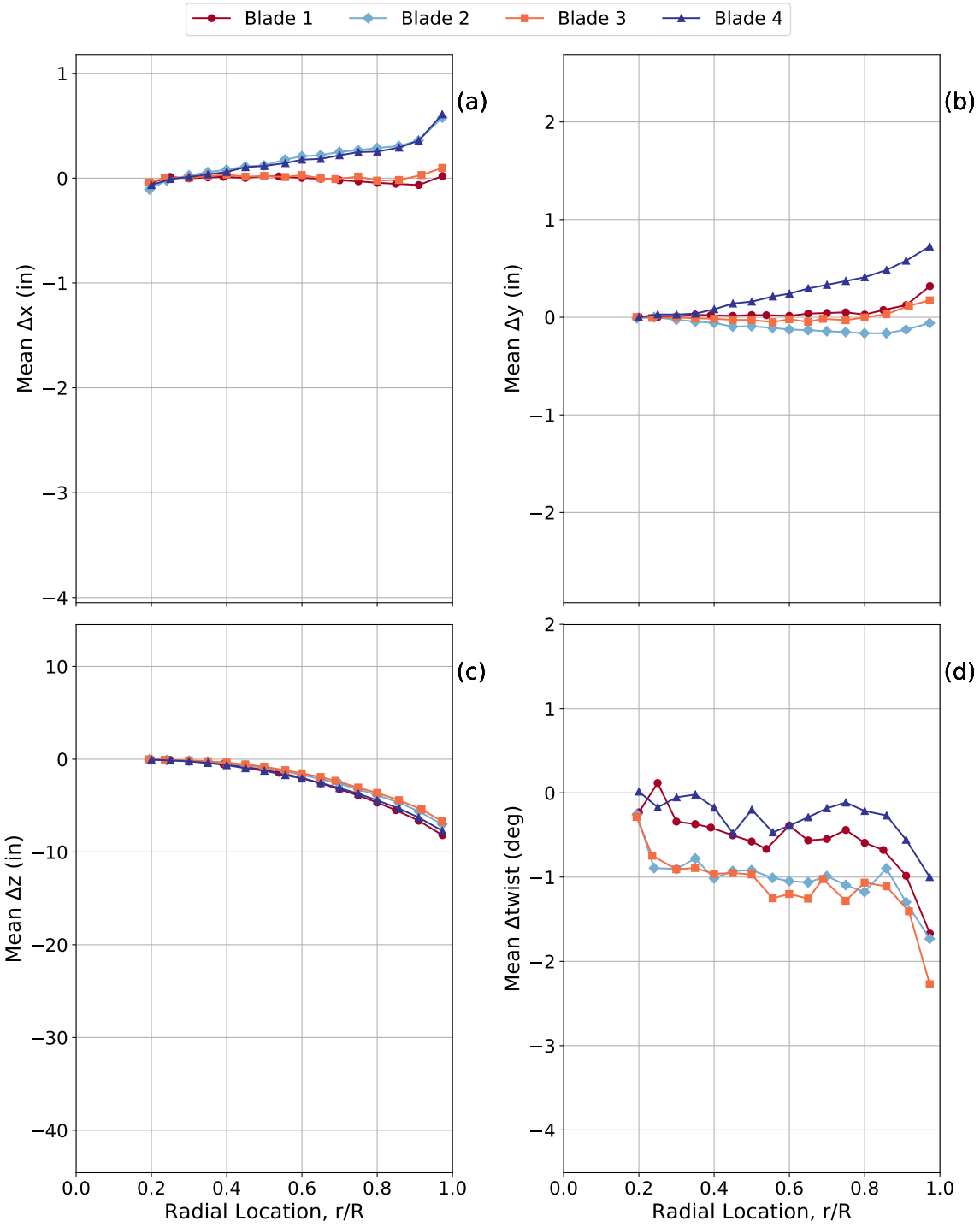


Figure 2.20-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-35. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.012$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	-0.0423	0.0066	0.0052	0.0020	-0.0609	0.0070	-0.2314	0.0519
1	270	0.2499	0.0117	0.0026	0.0001	0.0036	-0.0824	0.0140	0.1170	0.1239
1	270	0.2998	-0.0024	0.0030	0.0070	0.0074	-0.2267	0.0275	-0.3413	0.1341
1	270	0.3498	0.0074	0.0059	0.0247	0.0125	-0.3786	0.0481	-0.3713	0.1370
1	270	0.3913	0.0126	0.0076	0.0201	0.0178	-0.5318	0.0684	-0.4123	0.1383
1	270	0.4496	0.0017	0.0102	0.0142	0.0253	-0.8162	0.1017	-0.5040	0.1366
1	270	0.4997	0.0195	0.0117	0.0224	0.0330	-1.1564	0.1351	-0.5775	0.1440
1	270	0.5387	0.0162	0.0130	0.0208	0.0391	-1.4558	0.1641	-0.6663	0.1423
1	270	0.5996	0.0022	0.0146	0.0144	0.0496	-1.9970	0.2164	-0.3888	0.1443
1	270	0.6498	-0.0056	0.0160	0.0374	0.0589	-2.6010	0.2688	-0.5642	0.1481
1	270	0.6998	-0.0204	0.0175	0.0439	0.0694	-3.2313	0.3301	-0.5476	0.1540
1	270	0.7500	-0.0299	0.0198	0.0504	0.0809	-3.9214	0.4001	-0.4407	0.1551
1	270	0.8001	-0.0448	0.0232	0.0275	0.0935	-4.6773	0.4777	-0.5929	0.1597
1	270	0.8497	-0.0540	0.0277	0.0741	0.1075	-5.4948	0.5621	-0.6786	0.1608
1	270	0.9102	-0.0657	0.0346	0.1240	0.1261	-6.6287	0.6730	-0.9842	0.1653
1	270	0.9734	0.0199	0.0439	0.3183	0.1487	-8.1861	0.7985	-1.6696	0.1779
2	270.35	0.1949	-0.1076	0.0029	-0.0108	0.0015	-0.0198	0.0079	-0.2569	0.0289
2	270.35	0.2405	-0.0213	0.0019	0.0010	0.0024	-0.0945	0.0139	-0.8931	0.0693
2	270.35	0.2999	0.0265	0.0024	-0.0257	0.0056	-0.1703	0.0320	-0.9041	0.0789
2	270.35	0.3498	0.0570	0.0021	-0.0447	0.0103	-0.2519	0.0556	-0.7797	0.0754
2	270.35	0.3998	0.0811	0.0028	-0.0585	0.0152	-0.4509	0.0848	-1.0144	0.0761
2	270.35	0.4496	0.1106	0.0031	-0.0963	0.0211	-0.6606	0.1203	-0.9276	0.0810
2	270.35	0.4995	0.1209	0.0036	-0.0928	0.0276	-0.9213	0.1605	-0.9182	0.0846
2	270.35	0.5551	0.1774	0.0053	-0.1096	0.0350	-1.3251	0.2097	-1.0084	0.0923
2	270.35	0.5996	0.2090	0.0054	-0.1258	0.0418	-1.6840	0.2548	-1.0480	0.0937
2	270.35	0.6497	0.2196	0.0071	-0.1324	0.0497	-2.1459	0.3102	-1.0627	0.0993
2	270.35	0.6996	0.2504	0.0092	-0.1438	0.0578	-2.6440	0.3718	-0.9884	0.1021
2	270.35	0.7495	0.2664	0.0119	-0.1520	0.0660	-3.2336	0.4453	-1.0940	0.1087
2	270.35	0.7996	0.2879	0.0157	-0.1645	0.0744	-3.8769	0.5268	-1.1768	0.1130
2	270.35	0.8578	0.3060	0.0210	-0.1646	0.0843	-4.6831	0.6334	-0.8966	0.1127
2	270.35	0.9100	0.3598	0.0249	-0.1272	0.0933	-5.6086	0.7359	-1.2967	0.1129
2	270.35	0.9727	0.5775	0.0286	-0.0600	0.1045	-7.0065	0.8662	-1.7312	0.1272
3	270	0.1938	-0.0410	0.0029	0.0009	0.0013	-0.0204	0.0063	-0.2864	0.0257
3	270	0.2357	-0.0003	0.0019	-0.0067	0.0023	-0.0671	0.0115	-0.7458	0.0547
3	270	0.2995	0.0027	0.0018	-0.0024	0.0053	-0.1342	0.0276	-0.9073	0.0644
3	270	0.3493	0.0175	0.0018	-0.0108	0.0091	-0.2185	0.0456	-0.8918	0.0634
3	270	0.4000	0.0341	0.0022	-0.0157	0.0142	-0.3654	0.0723	-0.9622	0.0694
3	270	0.4497	0.0136	0.0028	-0.0274	0.0190	-0.5566	0.1019	-0.9515	0.0710
3	270	0.4997	0.0210	0.0027	-0.0285	0.0247	-0.8061	0.1385	-0.9685	0.0729
3	270	0.5556	0.0108	0.0033	-0.0500	0.0321	-1.1846	0.1861	-1.2512	0.0764
3	270	0.5995	0.0296	0.0038	-0.0213	0.0380	-1.5188	0.2269	-1.2001	0.0820
3	270	0.6498	-0.0016	0.0052	-0.0473	0.0447	-1.9196	0.2788	-1.2550	0.0841
3	270	0.6890	-0.0092	0.0067	-0.0162	0.0505	-2.3197	0.3251	-1.0232	0.0900
3	270	0.7495	0.0144	0.0094	-0.0301	0.0594	-3.0544	0.4047	-1.2810	0.0882
3	270	0.7998	-0.0233	0.0124	-0.0018	0.0669	-3.6310	0.4795	-1.0657	0.0944
3	270	0.8577	-0.0174	0.0167	0.0308	0.0752	-4.4153	0.5760	-1.1100	0.1024
3	270	0.9178	0.0298	0.0207	0.1177	0.0836	-5.4095	0.6823	-1.4064	0.1031
3	270	0.9729	0.0978	0.0228	0.1729	0.0909	-6.7033	0.7842	-2.2714	0.1143
4	270	0.2001	-0.0663	0.0019	-0.0009	0.0013	-0.0495	0.0074	0.0145	0.0225
4	270	0.2502	-0.0084	0.0021	0.0287	0.0023	-0.1367	0.0145	-0.1726	0.0492
4	270	0.3001	0.0110	0.0020	0.0278	0.0048	-0.2303	0.0297	-0.0533	0.0532
4	270	0.3502	0.0357	0.0021	0.0371	0.0082	-0.4054	0.0510	-0.0207	0.0577
4	270	0.4002	0.0592	0.0028	0.0820	0.0124	-0.6413	0.0787	-0.1762	0.0610
4	270	0.4500	0.1052	0.0033	0.1410	0.0173	-0.9702	0.1108	-0.4798	0.0669
4	270	0.5001	0.1159	0.0040	0.1606	0.0227	-1.2441	0.1468	-0.2002	0.0758
4	270	0.5560	0.1435	0.0043	0.2128	0.0289	-1.7170	0.1896	-0.4690	0.0794
4	270	0.6001	0.1764	0.0055	0.2417	0.0345	-2.0789	0.2272	-0.3893	0.0817
4	270	0.6501	0.1839	0.0069	0.2946	0.0413	-2.5637	0.2759	-0.2895	0.0835
4	270	0.6999	0.2184	0.0086	0.3316	0.0485	-3.1088	0.3318	-0.1827	0.0885
4	270	0.7500	0.2480	0.0108	0.3710	0.0560	-3.7170	0.3983	-0.1155	0.0947
4	270	0.8002	0.2531	0.0141	0.4092	0.0635	-4.4370	0.4731	-0.2153	0.0963
4	270	0.8582	0.2913	0.0187	0.4835	0.0724	-5.3197	0.5713	-0.2694	0.0989
4	270	0.9101	0.3586	0.0219	0.5788	0.0810	-6.2802	0.6663	-0.5569	0.0989
4	270	0.9728	0.6087	0.0246	0.7252	0.0917	-7.7128	0.7885	-0.9990	0.1089

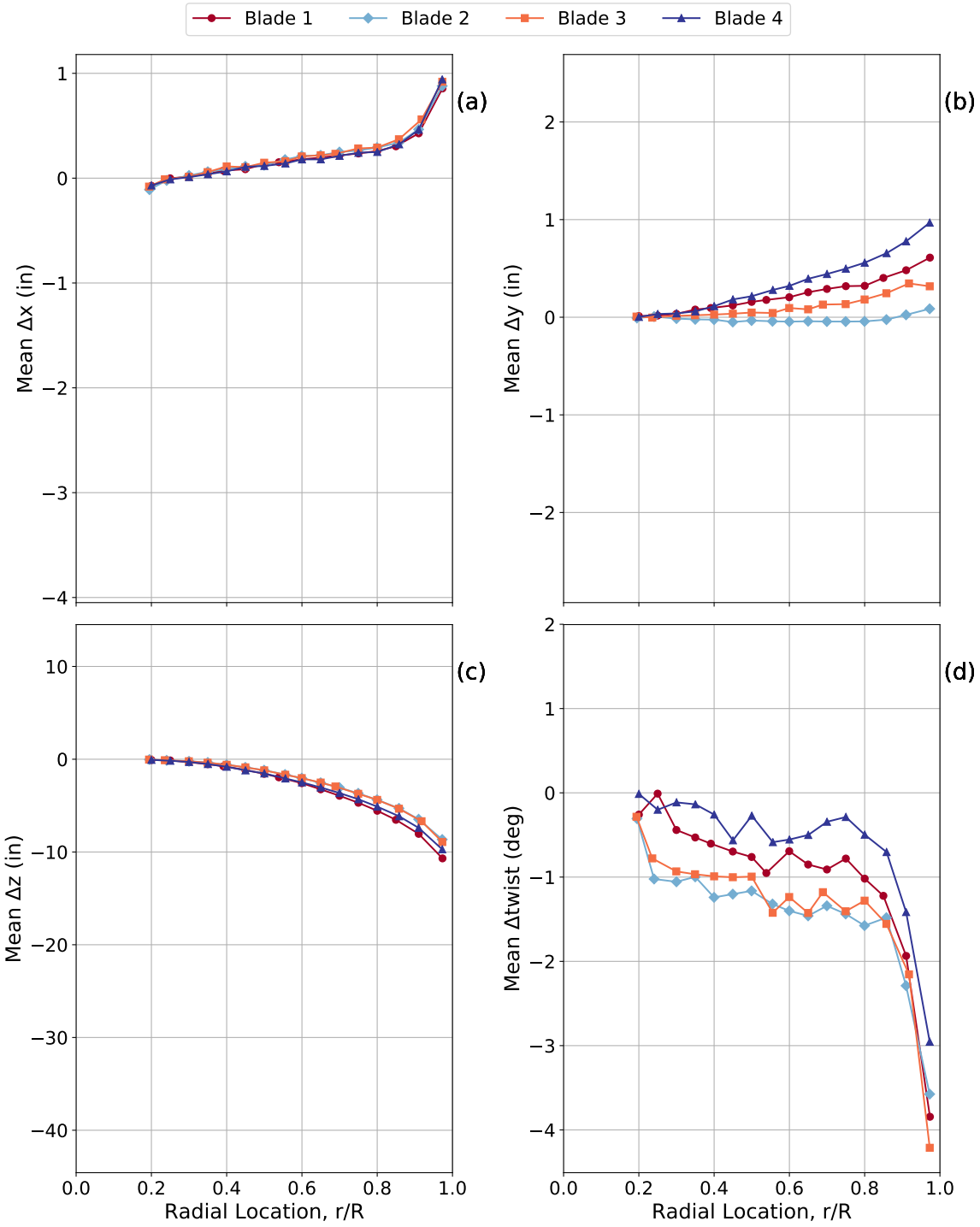


Figure 2.20-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	-0.0732	0.0042	0.0118	0.0019	-0.0822	0.0096	-0.2584	0.0608
1	274.92	0.2499	-0.0017	0.0030	0.0171	0.0030	-0.1279	0.0170	-0.0095	0.1369
1	274.92	0.2998	0.0148	0.0027	0.0342	0.0070	-0.3176	0.0374	-0.4412	0.1529
1	274.92	0.3498	0.0424	0.0030	0.0784	0.0115	-0.5339	0.0642	-0.5299	0.1539
1	274.92	0.3913	0.0720	0.0037	0.0945	0.0163	-0.7581	0.0912	-0.6032	0.1481
1	274.92	0.4496	0.0853	0.0047	0.1208	0.0238	-1.1501	0.1412	-0.6969	0.1578
1	274.92	0.4997	0.1339	0.0059	0.1572	0.0308	-1.5729	0.1896	-0.7615	0.1612
1	274.92	0.5387	0.1519	0.0070	0.1774	0.0372	-1.9520	0.2340	-0.9515	0.1613
1	274.92	0.5996	0.1795	0.0090	0.2048	0.0474	-2.5802	0.3101	-0.6927	0.1668
1	274.92	0.6498	0.1962	0.0117	0.2560	0.0561	-3.2440	0.3823	-0.8510	0.1726
1	274.92	0.6998	0.2173	0.0150	0.2897	0.0651	-3.9382	0.4621	-0.9099	0.1791
1	274.92	0.7500	0.2357	0.0194	0.3182	0.0741	-4.6948	0.5506	-0.7802	0.1800
1	274.92	0.8001	0.2588	0.0243	0.3217	0.0833	-5.5559	0.6478	-1.0184	0.1878
1	274.92	0.8497	0.3037	0.0309	0.4025	0.0923	-6.5308	0.7491	-1.2222	0.1880
1	274.92	0.9102	0.4277	0.0395	0.4814	0.1038	-8.0444	0.8788	-1.9352	0.1951
1	274.92	0.9734	0.8560	0.0534	0.6106	0.1170	-10.6894	1.0205	-3.8443	0.2067
2	274.92	0.1949	-0.1096	0.0028	-0.0080	0.0015	-0.0318	0.0070	-0.3057	0.0375
2	274.92	0.2405	-0.0214	0.0021	0.0067	0.0022	-0.1209	0.0125	-1.0226	0.0769
2	274.92	0.2999	0.0257	0.0019	-0.0139	0.0056	-0.2238	0.0294	-1.0560	0.0979
2	274.92	0.3498	0.0611	0.0020	-0.0218	0.0097	-0.3493	0.0496	-0.9972	0.0903
2	274.92	0.3998	0.0855	0.0029	-0.0246	0.0146	-0.5991	0.0768	-1.2407	0.0989
2	274.92	0.4496	0.1131	0.0034	-0.0490	0.0203	-0.8765	0.1094	-1.2022	0.1049
2	274.92	0.4995	0.1235	0.0034	-0.0338	0.0266	-1.1858	0.1479	-1.1637	0.1088
2	274.92	0.5551	0.1768	0.0042	-0.0415	0.0340	-1.6477	0.1945	-1.3194	0.1163
2	274.92	0.5996	0.2114	0.0050	-0.0452	0.0406	-2.0427	0.2350	-1.4008	0.1132
2	274.92	0.6497	0.2181	0.0062	-0.0413	0.0480	-2.5384	0.2840	-1.4603	0.1198
2	274.92	0.6996	0.2490	0.0082	-0.0440	0.0557	-3.0594	0.3377	-1.3407	0.1198
2	274.92	0.7495	0.2638	0.0101	-0.0444	0.0633	-3.6763	0.3970	-1.4375	0.1295
2	274.92	0.7996	0.2914	0.0132	-0.0426	0.0710	-4.3703	0.4613	-1.5759	0.1354
2	274.92	0.8578	0.3395	0.0171	-0.0245	0.0799	-5.2907	0.5412	-1.4812	0.1376
2	274.92	0.9100	0.4654	0.0210	0.0245	0.0881	-6.4704	0.6193	-2.2890	0.1383
2	274.92	0.9727	0.8794	0.0286	0.0861	0.0975	-8.6551	0.7198	-3.5755	0.1534
3	274.92	0.1938	-0.0806	0.0033	0.0067	0.0014	-0.0391	0.0080	-0.2841	0.0354
3	274.92	0.2357	-0.0113	0.0025	-0.0039	0.0021	-0.1063	0.0127	-0.7781	0.0834
3	274.92	0.2995	0.0138	0.0022	0.0138	0.0052	-0.2166	0.0320	-0.9324	0.0980
3	274.92	0.3493	0.0576	0.0022	0.0202	0.0089	-0.3710	0.0540	-0.9663	0.0943
3	274.92	0.4000	0.1121	0.0033	0.0271	0.0138	-0.5965	0.0840	-0.9911	0.0975
3	274.92	0.4497	0.1047	0.0038	0.0362	0.0190	-0.8732	0.1189	-1.0015	0.0998
3	274.92	0.4997	0.1474	0.0048	0.0481	0.0246	-1.1991	0.1582	-0.9943	0.1066
3	274.92	0.5556	0.1616	0.0053	0.0433	0.0318	-1.6704	0.2086	-1.4235	0.1030
3	274.92	0.5995	0.2073	0.0061	0.0945	0.0378	-2.0381	0.2510	-1.2365	0.1062
3	274.92	0.6498	0.2184	0.0076	0.0807	0.0452	-2.5163	0.3035	-1.4258	0.1135
3	274.92	0.6890	0.2322	0.0087	0.1297	0.0513	-2.9409	0.3491	-1.1791	0.1155
3	274.92	0.7495	0.2834	0.0113	0.1342	0.0607	-3.7257	0.4239	-1.4058	0.1206
3	274.92	0.7998	0.2917	0.0142	0.1819	0.0687	-4.3848	0.4927	-1.2796	0.1175
3	274.92	0.8577	0.3712	0.0191	0.2456	0.0778	-5.3354	0.5769	-1.5555	0.1174
3	274.92	0.9178	0.5604	0.0250	0.3462	0.0874	-6.6857	0.6701	-2.1542	0.1249
3	274.92	0.9729	0.9198	0.0342	0.3167	0.0964	-8.9254	0.7535	-4.2123	0.1241
4	274.92	0.2001	-0.0697	0.0020	0.0029	0.0014	-0.0667	0.0069	-0.0133	0.0350
4	274.92	0.2502	-0.0115	0.0021	0.0329	0.0025	-0.1651	0.0151	-0.2010	0.0614
4	274.92	0.3001	0.0100	0.0021	0.0391	0.0053	-0.2946	0.0296	-0.1135	0.0794
4	274.92	0.3502	0.0372	0.0019	0.0598	0.0089	-0.5208	0.0496	-0.1368	0.0681
4	274.92	0.4002	0.0646	0.0027	0.1132	0.0137	-0.8135	0.0784	-0.2582	0.0722
4	274.92	0.4500	0.1080	0.0039	0.1823	0.0187	-1.2048	0.1119	-0.5637	0.0786
4	274.92	0.5001	0.1166	0.0042	0.2152	0.0245	-1.5325	0.1523	-0.2715	0.0794
4	274.92	0.5560	0.1400	0.0052	0.2795	0.0316	-2.0763	0.2048	-0.5856	0.0915
4	274.92	0.6001	0.1789	0.0061	0.3210	0.0376	-2.4974	0.2503	-0.5543	0.0881
4	274.92	0.6501	0.1794	0.0079	0.3940	0.0448	-3.0473	0.3081	-0.5002	0.0973
4	274.92	0.6999	0.2127	0.0097	0.4425	0.0518	-3.6460	0.3710	-0.3437	0.0954
4	274.92	0.7500	0.2422	0.0125	0.4970	0.0591	-4.3168	0.4396	-0.2871	0.0992
4	274.92	0.8002	0.2498	0.0153	0.5585	0.0665	-5.1130	0.5132	-0.4970	0.1001
4	274.92	0.8582	0.3227	0.0202	0.6561	0.0751	-6.1495	0.6031	-0.7031	0.1014
4	274.92	0.9101	0.4621	0.0239	0.7775	0.0826	-7.3993	0.6886	-1.4151	0.1106
4	274.92	0.9728	0.9418	0.0349	0.9683	0.0894	-9.7178	0.8018	-2.9543	0.1240

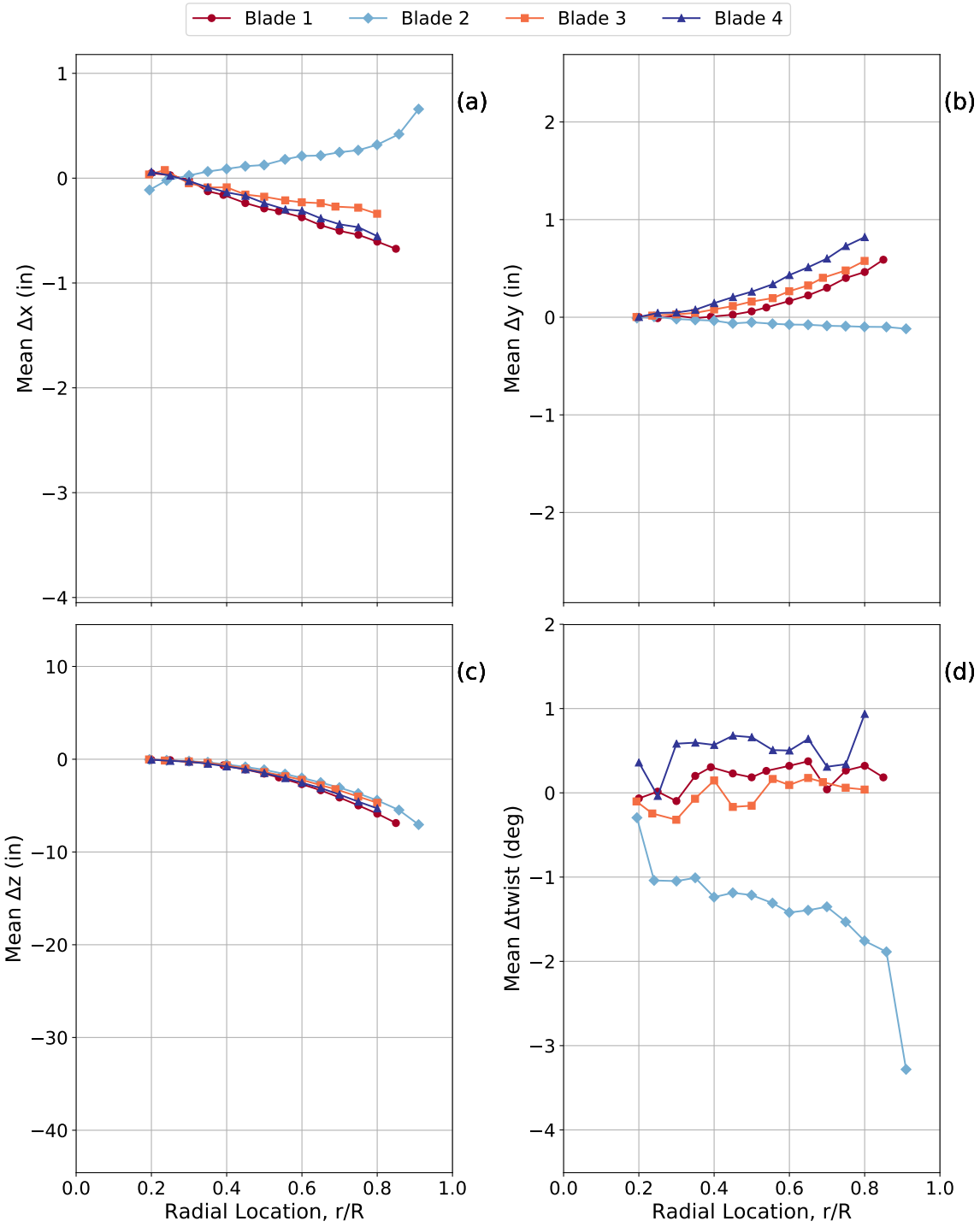


Figure 2.20-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0479	0.0032	0.0027	0.0020	-0.0662	0.0069	-0.0659	0.0436
1	279.84	0.2499	0.0274	0.0022	-0.0097	0.0049	-0.0969	0.0149	0.0140	0.0671
1	279.84	0.2998	-0.0160	0.0026	0.0170	0.0086	-0.3015	0.0292	-0.0976	0.0948
1	279.84	0.3498	-0.1248	0.0031	-0.0105	0.0145	-0.4146	0.0503	0.2009	0.0990
1	279.84	0.3913	-0.1598	0.0042	0.0059	0.0212	-0.6580	0.0731	0.3044	0.0812
1	279.84	0.4496	-0.2376	0.0056	0.0259	0.0282	-1.0984	0.1111	0.2297	0.0956
1	279.84	0.4997	-0.2887	0.0055	0.0599	0.0356	-1.5499	0.1503	0.1838	0.1074
1	279.84	0.5387	-0.3146	0.0064	0.0998	0.0418	-1.9639	0.1814	0.2601	0.0912
1	279.84	0.5996	-0.3730	0.0084	0.1661	0.0513	-2.6889	0.2392	0.3202	0.0870
1	279.84	0.6498	-0.4489	0.0110	0.2240	0.0608	-3.3455	0.2901	0.3742	0.1248
1	279.84	0.6998	-0.5027	0.0128	0.3013	0.0690	-4.1279	0.3443	0.0416	0.1067
1	279.84	0.7500	-0.5406	0.0156	0.4020	0.0790	-4.9831	0.4068	0.2646	0.1235
1	279.84	0.8001	-0.6055	0.0210	0.4632	0.0886	-5.8686	0.4724	0.3205	0.1480
1	279.84	0.8497	-0.6739	0.0289	0.5892	0.0973	-6.8788	0.5462	0.1833	0.2085
2	279.84	0.1949	-0.1127	0.0036	-0.0088	0.0013	-0.0285	0.0060	-0.2951	0.0362
2	279.84	0.2405	-0.0210	0.0023	0.0054	0.0020	-0.1177	0.0110	-1.0398	0.0840
2	279.84	0.2999	0.0259	0.0022	-0.0185	0.0047	-0.2095	0.0243	-1.0475	0.0991
2	279.84	0.3498	0.0635	0.0021	-0.0274	0.0083	-0.3300	0.0423	-1.0086	0.0915
2	279.84	0.3998	0.0885	0.0024	-0.0348	0.0124	-0.5667	0.0647	-1.2378	0.0960
2	279.84	0.4496	0.1139	0.0032	-0.0633	0.0168	-0.8291	0.0885	-1.1865	0.0983
2	279.84	0.4995	0.1258	0.0034	-0.0516	0.0220	-1.1382	0.1201	-1.2137	0.1006
2	279.84	0.5551	0.1795	0.0039	-0.0669	0.0276	-1.5989	0.1585	-1.3085	0.1017
2	279.84	0.5996	0.2116	0.0053	-0.0750	0.0330	-2.0140	0.1940	-1.4202	0.1047
2	279.84	0.6497	0.2158	0.0065	-0.0769	0.0389	-2.5132	0.2397	-1.3935	0.1099
2	279.84	0.6996	0.2471	0.0078	-0.0876	0.0454	-3.0597	0.2895	-1.3523	0.1092
2	279.84	0.7495	0.2666	0.0100	-0.0917	0.0519	-3.6956	0.3457	-1.5314	0.1129
2	279.84	0.7996	0.3180	0.0124	-0.0982	0.0588	-4.4219	0.4077	-1.7571	0.1192
2	279.84	0.8578	0.4197	0.0163	-0.0997	0.0669	-5.4770	0.4861	-1.8865	0.1231
2	279.84	0.9100	0.6587	0.0197	-0.1183	0.0747	-7.0498	0.5666	-3.2820	0.1415
3	279.84	0.1938	0.0353	0.0118	0.0023	0.0012	-0.0224	0.0044	-0.1022	0.0431
3	279.84	0.2357	0.0771	0.0048	0.0167	0.0023	-0.1417	0.0082	-0.2452	0.0697
3	279.84	0.2995	-0.0489	0.0051	0.0292	0.0054	-0.2280	0.0195	-0.3196	0.1051
3	279.84	0.3493	-0.0887	0.0118	0.0442	0.0091	-0.3814	0.0328	-0.0699	0.0932
3	279.84	0.4000	-0.0877	0.0181	0.0800	0.0144	-0.6533	0.0519	0.1468	0.0959
3	279.84	0.4497	-0.1564	0.0230	0.1143	0.0182	-0.9988	0.0727	-0.1675	0.1022
3	279.84	0.4997	-0.1771	0.0269	0.1602	0.0234	-1.3782	0.0972	-0.1529	0.1037
3	279.84	0.5556	-0.2117	0.0298	0.1954	0.0297	-1.8353	0.1292	0.1645	0.1003
3	279.84	0.5995	-0.2299	0.0304	0.2663	0.0346	-2.2191	0.1581	0.0928	0.1203
3	279.84	0.6498	-0.2387	0.0301	0.3257	0.0414	-2.7995	0.1958	0.1764	0.1094
3	279.84	0.6890	-0.2712	0.0285	0.4038	0.0458	-3.2315	0.2290	0.1269	0.1445
3	279.84	0.7495	-0.2818	0.0250	0.4790	0.0540	-4.0249	0.2851	0.0605	0.1291
3	279.84	0.7998	-0.3395	0.0216	0.5770	0.0612	-4.6925	0.3384	0.0386	0.1408
4	279.84	0.2001	0.0600	0.0033	0.0025	0.0024	-0.0489	0.0078	0.3598	0.0562
4	279.84	0.2502	0.0240	0.0029	0.0437	0.0055	-0.1780	0.0154	-0.0369	0.0906
4	279.84	0.3001	-0.0282	0.0022	0.0479	0.0088	-0.2637	0.0317	0.5831	0.1259
4	279.84	0.3502	-0.0882	0.0031	0.0765	0.0172	-0.4868	0.0550	0.5954	0.1199
4	279.84	0.4002	-0.1353	0.0045	0.1446	0.0251	-0.7782	0.0848	0.5685	0.1227
4	279.84	0.4500	-0.1687	0.0051	0.2063	0.0313	-1.0897	0.1168	0.6783	0.1263
4	279.84	0.5001	-0.2380	0.0054	0.2619	0.0398	-1.4879	0.1547	0.6598	0.1138
4	279.84	0.5560	-0.2984	0.0078	0.3383	0.0492	-2.0375	0.2018	0.5069	0.1188
4	279.84	0.6001	-0.3109	0.0082	0.4318	0.0567	-2.5417	0.2491	0.5019	0.1262
4	279.84	0.6501	-0.3836	0.0113	0.5120	0.0655	-3.1107	0.2994	0.6394	0.1332
4	279.84	0.6999	-0.4401	0.0126	0.6008	0.0751	-3.8108	0.3625	0.3093	0.1313
4	279.84	0.7500	-0.4682	0.0156	0.7291	0.0844	-4.5790	0.4299	0.3391	0.1729
4	279.84	0.8002	-0.5535	0.0202	0.8204	0.0939	-5.2996	0.4954	0.9365	0.2383

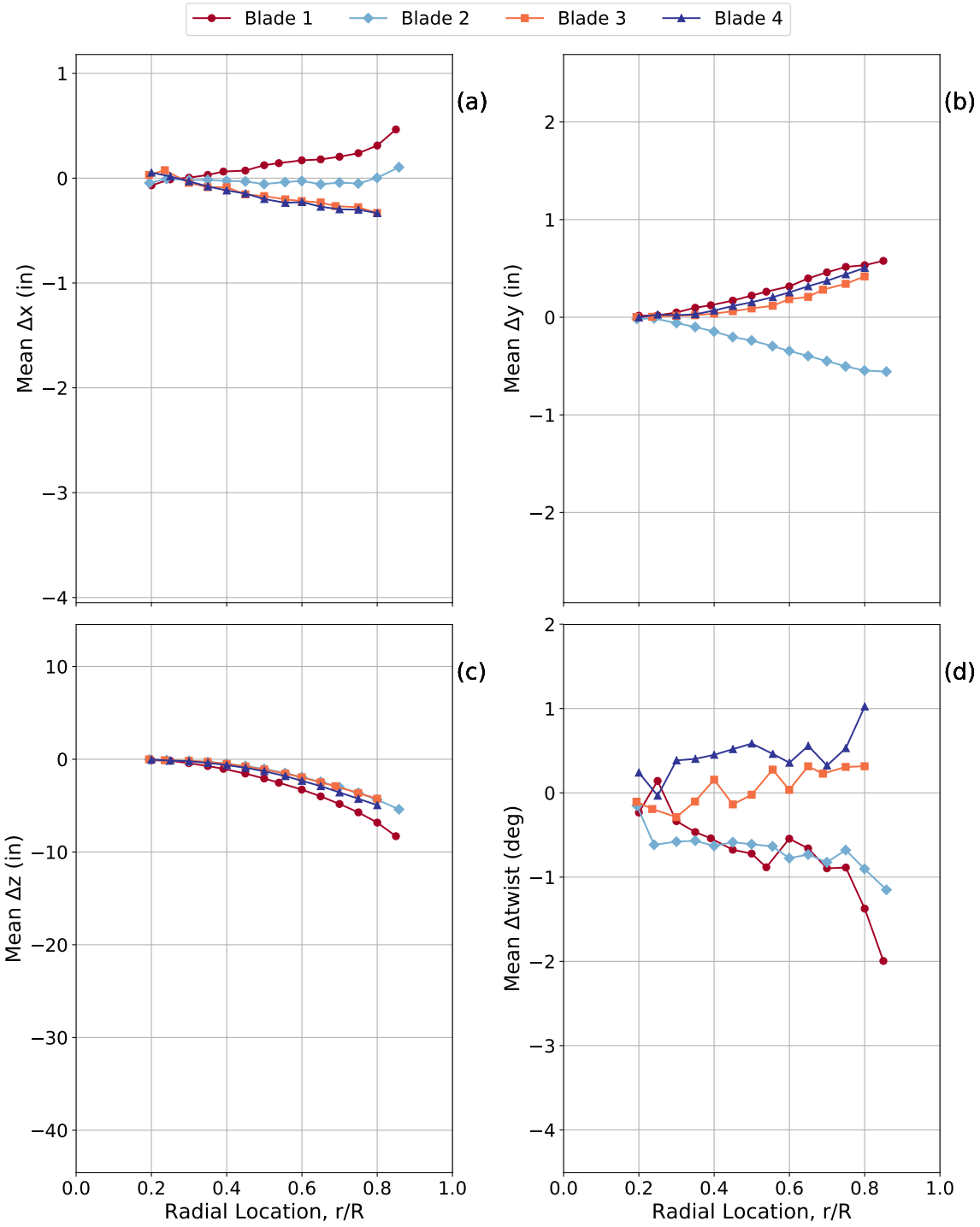


Figure 2.20-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-38. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.012$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	-0.0686	0.0057	0.0158	0.0024	-0.1093	0.0103	-0.2340	0.0915
1	285.12	0.2499	-0.0117	0.0048	0.0188	0.0034	-0.1728	0.0164	0.1414	0.2293
1	285.12	0.2998	0.0046	0.0056	0.0487	0.0086	-0.4264	0.0393	-0.3364	0.2428
1	285.12	0.3498	0.0309	0.0053	0.0973	0.0147	-0.7323	0.0687	-0.4657	0.2388
1	285.12	0.3913	0.0628	0.0058	0.1227	0.0204	-1.0335	0.0959	-0.5403	0.2440
1	285.12	0.4496	0.0723	0.0070	0.1704	0.0284	-1.5464	0.1363	-0.6756	0.2423
1	285.12	0.4997	0.1236	0.0079	0.2219	0.0357	-2.0794	0.1720	-0.7215	0.2427
1	285.12	0.5387	0.1433	0.0087	0.2614	0.0419	-2.5280	0.2040	-0.8836	0.2452
1	285.12	0.5996	0.1700	0.0100	0.3159	0.0519	-3.2723	0.2561	-0.5447	0.2483
1	285.12	0.6498	0.1790	0.0116	0.3977	0.0600	-4.0053	0.3016	-0.6598	0.2497
1	285.12	0.6998	0.2042	0.0141	0.4600	0.0689	-4.8245	0.3494	-0.8960	0.2494
1	285.12	0.7500	0.2385	0.0167	0.5156	0.0776	-5.7282	0.4015	-0.8866	0.2506
1	285.12	0.8001	0.3112	0.0201	0.5331	0.0872	-6.8340	0.4560	-1.3739	0.2678
1	285.12	0.8497	0.4646	0.0244	0.5773	0.0979	-8.2970	0.5186	-1.9951	0.2704
2	285.12	0.1949	-0.0455	0.0040	-0.0179	0.0018	-0.0288	0.0054	-0.1517	0.0298
2	285.12	0.2405	-0.0060	0.0023	-0.0122	0.0037	-0.0949	0.0088	-0.6167	0.0604
2	285.12	0.2999	-0.0187	0.0023	-0.0594	0.0078	-0.1795	0.0222	-0.5799	0.0745
2	285.12	0.3498	-0.0162	0.0034	-0.1000	0.0137	-0.2951	0.0376	-0.5683	0.0670
2	285.12	0.3998	-0.0255	0.0041	-0.1467	0.0211	-0.4889	0.0578	-0.6303	0.0733
2	285.12	0.4496	-0.0314	0.0042	-0.2034	0.0286	-0.7278	0.0789	-0.5860	0.0794
2	285.12	0.4995	-0.0568	0.0048	-0.2381	0.0369	-1.0402	0.1031	-0.6099	0.0792
2	285.12	0.5551	-0.0372	0.0051	-0.2958	0.0463	-1.4907	0.1343	-0.6349	0.0805
2	285.12	0.5996	-0.0266	0.0058	-0.3454	0.0533	-1.9262	0.1612	-0.7757	0.0830
2	285.12	0.6497	-0.0583	0.0078	-0.3974	0.0621	-2.4398	0.1950	-0.7324	0.0808
2	285.12	0.6996	-0.0422	0.0100	-0.4493	0.0710	-3.0151	0.2345	-0.8242	0.0849
2	285.12	0.7495	-0.0513	0.0138	-0.5036	0.0800	-3.6233	0.2784	-0.6796	0.0895
2	285.12	0.7996	0.0027	0.0180	-0.5459	0.0919	-4.3503	0.3223	-0.9026	0.0960
2	285.12	0.8578	0.1045	0.0231	-0.5571	0.1052	-5.4047	0.3814	-1.1511	0.1041
3	285.12	0.1938	0.0307	0.0098	0.0024	0.0012	-0.0131	0.0046	-0.1055	0.0289
3	285.12	0.2357	0.0757	0.0044	0.0052	0.0029	-0.1119	0.0106	-0.1923	0.0571
3	285.12	0.2995	-0.0444	0.0048	0.0152	0.0056	-0.1694	0.0231	-0.2884	0.0752
3	285.12	0.3493	-0.0858	0.0106	0.0206	0.0100	-0.2801	0.0397	-0.1031	0.0662
3	285.12	0.4000	-0.0867	0.0157	0.0371	0.0156	-0.4885	0.0633	0.1558	0.0510
3	285.12	0.4497	-0.1548	0.0201	0.0619	0.0199	-0.7799	0.0835	-0.1375	0.0696
3	285.12	0.4997	-0.1710	0.0221	0.0903	0.0251	-1.1056	0.1105	-0.0228	0.0641
3	285.12	0.5556	-0.2020	0.0237	0.1172	0.0315	-1.5459	0.1462	0.2756	0.0666
3	285.12	0.5995	-0.2188	0.0238	0.1853	0.0366	-1.9517	0.1780	0.0356	0.0732
3	285.12	0.6498	-0.2314	0.0233	0.2084	0.0427	-2.4870	0.2189	0.3151	0.0883
3	285.12	0.6890	-0.2665	0.0223	0.2823	0.0472	-2.9150	0.2549	0.2274	0.0856
3	285.12	0.7495	-0.2773	0.0202	0.3421	0.0542	-3.6467	0.3150	0.3072	0.0869
3	285.12	0.7998	-0.3319	0.0192	0.4181	0.0602	-4.2565	0.3705	0.3156	0.1054
4	285.12	0.2001	0.0526	0.0082	-0.0024	0.0014	-0.0411	0.0058	0.2397	0.0315
4	285.12	0.2502	0.0164	0.0033	0.0275	0.0029	-0.1442	0.0134	-0.0343	0.0505
4	285.12	0.3001	-0.0304	0.0035	0.0207	0.0056	-0.2171	0.0261	0.3849	0.0693
4	285.12	0.3502	-0.0797	0.0077	0.0306	0.0092	-0.3978	0.0443	0.4028	0.0618
4	285.12	0.4002	-0.1175	0.0111	0.0691	0.0146	-0.6354	0.0702	0.4510	0.0645
4	285.12	0.4500	-0.1470	0.0138	0.1154	0.0190	-0.9234	0.0985	0.5185	0.0604
4	285.12	0.5001	-0.1991	0.0151	0.1539	0.0244	-1.2905	0.1325	0.5847	0.0668
4	285.12	0.5560	-0.2354	0.0173	0.2055	0.0308	-1.8217	0.1782	0.4616	0.0801
4	285.12	0.6001	-0.2279	0.0179	0.2550	0.0367	-2.3282	0.2176	0.3571	0.0802
4	285.12	0.6501	-0.2728	0.0186	0.3177	0.0433	-2.9018	0.2665	0.5574	0.0815
4	285.12	0.6999	-0.2970	0.0191	0.3731	0.0494	-3.5805	0.3192	0.3240	0.0885
4	285.12	0.7500	-0.3005	0.0198	0.4395	0.0560	-4.2654	0.3792	0.5301	0.1042
4	285.12	0.8002	-0.3338	0.0200	0.5047	0.0633	-4.9576	0.4413	1.0242	0.1331

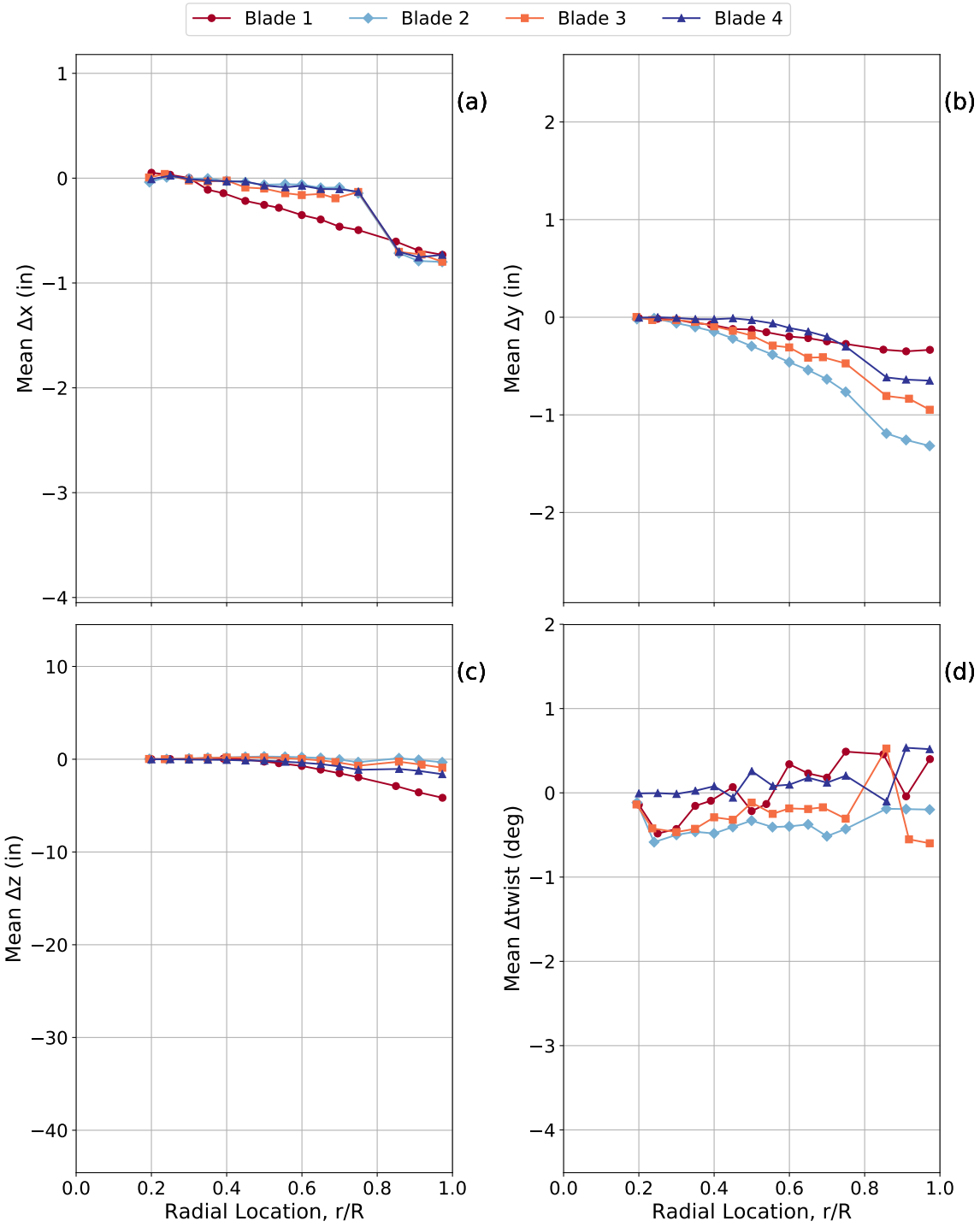


Figure 2.20-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0514	0.0030	-0.0080	0.0015	0.0120	0.0061	-0.1412	0.0356
1	299.88	0.2499	0.0320	0.0023	-0.0157	0.0040	0.0176	0.0142	-0.4827	0.0733
1	299.88	0.2998	0.0018	0.0020	-0.0259	0.0068	-0.0010	0.0271	-0.4295	0.0793
1	299.88	0.3498	-0.1104	0.0026	-0.0608	0.0111	0.0998	0.0454	-0.1550	0.0674
1	299.88	0.3913	-0.1433	0.0040	-0.0753	0.0169	0.0645	0.0671	-0.0945	0.0713
1	299.88	0.4496	-0.2169	0.0035	-0.1211	0.0214	-0.0295	0.0992	0.0678	0.0755
1	299.88	0.4997	-0.2547	0.0050	-0.1247	0.0279	-0.2530	0.1354	-0.2167	0.0763
1	299.88	0.5387	-0.2825	0.0045	-0.1532	0.0315	-0.4271	0.1653	-0.1332	0.0733
1	299.88	0.5996	-0.3520	0.0055	-0.1975	0.0394	-0.7245	0.2183	0.3397	0.0969
1	299.88	0.6498	-0.3943	0.0058	-0.2139	0.0451	-1.1173	0.2657	0.2303	0.0859
1	299.88	0.6998	-0.4627	0.0068	-0.2470	0.0513	-1.5105	0.3171	0.1803	0.0899
1	299.88	0.7500	-0.4954	0.0087	-0.2738	0.0577	-1.9479	0.3736	0.4886	0.0899
1	299.88	0.8497	-0.6051	0.0124	-0.3321	0.0712	-2.8935	0.5010	0.4575	0.1009
1	299.88	0.9102	-0.6908	0.0146	-0.3492	0.0792	-3.5714	0.5892	-0.0418	0.1014
1	299.88	0.9734	-0.7312	0.0157	-0.3341	0.0873	-4.1556	0.6857	0.3999	0.1083
2	299.88	0.1949	-0.0379	0.0051	-0.0184	0.0016	0.0295	0.0079	-0.1158	0.0485
2	299.88	0.2405	0.0087	0.0027	-0.0113	0.0024	0.0118	0.0114	-0.5849	0.1290
2	299.88	0.2999	-0.0041	0.0029	-0.0607	0.0053	0.0784	0.0268	-0.4988	0.1379
2	299.88	0.3498	-0.0033	0.0026	-0.0999	0.0096	0.1495	0.0462	-0.4626	0.1357
2	299.88	0.3998	-0.0249	0.0030	-0.1473	0.0139	0.1991	0.0686	-0.4822	0.1324
2	299.88	0.4496	-0.0390	0.0030	-0.2164	0.0181	0.2490	0.0890	-0.4055	0.1335
2	299.88	0.4995	-0.0630	0.0036	-0.2964	0.0224	0.2921	0.1147	-0.3296	0.1374
2	299.88	0.5551	-0.0575	0.0033	-0.3824	0.0277	0.2603	0.1456	-0.4069	0.1381
2	299.88	0.5996	-0.0617	0.0036	-0.4605	0.0324	0.2182	0.1768	-0.3981	0.1272
2	299.88	0.6497	-0.0921	0.0049	-0.5406	0.0385	0.1366	0.2153	-0.3753	0.1555
2	299.88	0.6996	-0.0889	0.0051	-0.6348	0.0445	-0.0366	0.2595	-0.5148	0.1528
2	299.88	0.7495	-0.1436	0.0074	-0.7649	0.0501	-0.3149	0.3149	-0.4289	0.1523
2	299.88	0.8578	-0.7155	0.0072	-1.1903	0.0648	0.1049	0.4420	-0.1892	0.1405
2	299.88	0.9100	-0.7898	0.0078	-1.2575	0.0723	-0.0726	0.5133	-0.1932	0.1388
2	299.88	0.9727	-0.7988	0.0087	-1.3176	0.0816	-0.3263	0.6004	-0.1990	0.1429
3	299.88	0.1938	0.0064	0.0117	0.0024	0.0034	0.0302	0.0107	-0.1382	0.0511
3	299.88	0.2357	0.0397	0.0050	-0.0287	0.0032	0.0042	0.0105	-0.4221	0.1231
3	299.88	0.2995	-0.0221	0.0036	-0.0295	0.0096	0.0753	0.0317	-0.4658	0.1369
3	299.88	0.3493	-0.0324	0.0042	-0.0480	0.0166	0.1355	0.0533	-0.4273	0.1274
3	299.88	0.4000	-0.0225	0.0046	-0.0927	0.0239	0.1839	0.0787	-0.2906	0.1411
3	299.88	0.4497	-0.0887	0.0050	-0.1389	0.0304	0.1943	0.1032	-0.3201	0.1451
3	299.88	0.4997	-0.0990	0.0051	-0.1870	0.0369	0.1909	0.1295	-0.1163	0.1457
3	299.88	0.5556	-0.1433	0.0053	-0.2902	0.0442	0.1054	0.1633	-0.2496	0.1382
3	299.88	0.5995	-0.1610	0.0062	-0.3091	0.0510	0.0273	0.1913	-0.1848	0.1510
3	299.88	0.6498	-0.1503	0.0062	-0.4143	0.0581	-0.1302	0.2271	-0.1922	0.1543
3	299.88	0.6890	-0.1920	0.0052	-0.4097	0.0641	-0.3026	0.2590	-0.1719	0.1531
3	299.88	0.7495	-0.1318	0.0064	-0.4731	0.0734	-0.7034	0.3165	-0.3068	0.1516
3	299.88	0.8577	-0.7028	0.0068	-0.8064	0.0898	-0.2658	0.4227	0.5254	0.1486
3	299.88	0.9178	-0.7283	0.0093	-0.8345	0.0994	-0.5847	0.4902	-0.5519	0.2555
3	299.88	0.9729	-0.7969	0.0114	-0.9476	0.1086	-0.9135	0.5587	-0.5987	0.1762
4	299.88	0.2001	-0.0100	0.0026	-0.0043	0.0014	-0.0110	0.0071	-0.0071	0.0410
4	299.88	0.2502	0.0244	0.0028	-0.0004	0.0029	-0.0062	0.0149	-0.0039	0.0787
4	299.88	0.3001	-0.0090	0.0031	-0.0072	0.0050	-0.0319	0.0282	-0.0136	0.0902
4	299.88	0.3502	-0.0210	0.0025	-0.0200	0.0082	-0.0551	0.0470	0.0248	0.0778
4	299.88	0.4002	-0.0315	0.0036	-0.0209	0.0128	-0.0766	0.0738	0.0782	0.0816
4	299.88	0.4500	-0.0315	0.0045	-0.0109	0.0169	-0.1400	0.1031	-0.0575	0.0819
4	299.88	0.5001	-0.0706	0.0045	-0.0291	0.0221	-0.1560	0.1428	0.2576	0.0887
4	299.88	0.5560	-0.0873	0.0040	-0.0633	0.0271	-0.2739	0.1933	0.0817	0.0831
4	299.88	0.6001	-0.0719	0.0041	-0.1103	0.0323	-0.3712	0.2390	0.0967	0.0820
4	299.88	0.6501	-0.1036	0.0040	-0.1464	0.0385	-0.5257	0.2967	0.1794	0.0900
4	299.88	0.6999	-0.1052	0.0046	-0.1994	0.0450	-0.7735	0.3585	0.1204	0.0921
4	299.88	0.7500	-0.1290	0.0067	-0.3003	0.0512	-1.1390	0.4198	0.2033	0.0957
4	299.88	0.8582	-0.7023	0.0055	-0.6164	0.0656	-1.0466	0.5607	-0.1020	0.0874
4	299.88	0.9101	-0.7550	0.0063	-0.6390	0.0732	-1.2514	0.6330	0.5346	0.0821
4	299.88	0.9728	-0.7311	0.0070	-0.6495	0.0824	-1.6124	0.7218	0.5181	0.1008

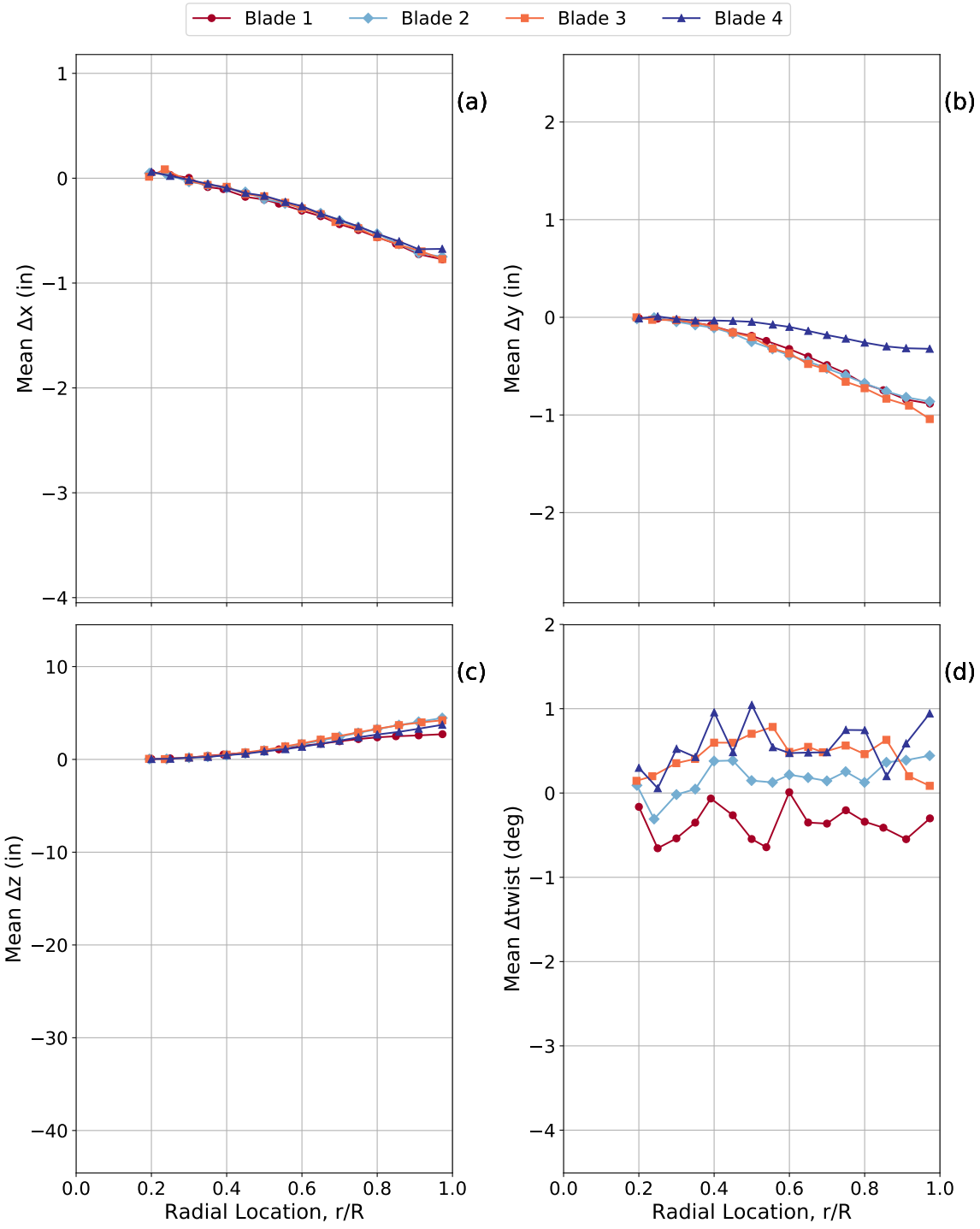


Figure 2.20-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0508	0.0030	-0.0086	0.0015	0.0498	0.0055	-0.1640	0.0364
1	315	0.2499	0.0312	0.0032	-0.0139	0.0038	0.1072	0.0138	-0.6556	0.0645
1	315	0.2998	0.0033	0.0023	-0.0357	0.0070	0.1951	0.0257	-0.5384	0.0817
1	315	0.3498	-0.0844	0.0046	-0.0565	0.0106	0.3836	0.0420	-0.3516	0.0773
1	315	0.3913	-0.1038	0.0055	-0.0835	0.0162	0.5230	0.0637	-0.0651	0.0853
1	315	0.4496	-0.1773	0.0050	-0.1494	0.0205	0.7303	0.0941	-0.2638	0.0901
1	315	0.4997	-0.2044	0.0064	-0.1897	0.0260	0.9012	0.1258	-0.5457	0.0903
1	315	0.5387	-0.2425	0.0057	-0.2418	0.0306	1.0803	0.1571	-0.6430	0.0933
1	315	0.5996	-0.3093	0.0074	-0.3248	0.0383	1.4549	0.2156	0.0093	0.0985
1	315	0.6498	-0.3623	0.0087	-0.4032	0.0454	1.6846	0.2724	-0.3504	0.0998
1	315	0.6998	-0.4382	0.0100	-0.4894	0.0540	1.9579	0.3337	-0.3630	0.1149
1	315	0.7500	-0.4941	0.0116	-0.5745	0.0619	2.1923	0.4041	-0.2047	0.1042
1	315	0.8001	-0.5636	0.0126	-0.6832	0.0701	2.3784	0.4777	-0.3406	0.0947
1	315	0.8497	-0.6256	0.0136	-0.7465	0.0787	2.4954	0.5572	-0.4116	0.0969
1	315	0.9102	-0.7248	0.0149	-0.8423	0.0888	2.5877	0.6586	-0.5476	0.0992
1	315	0.9734	-0.7742	0.0189	-0.8846	0.0998	2.7179	0.7711	-0.3010	0.0993
2	315	0.1949	0.0479	0.0033	-0.0161	0.0014	0.0472	0.0066	0.0910	0.0555
2	315	0.2405	0.0370	0.0028	-0.0036	0.0036	0.0476	0.0149	-0.3088	0.0681
2	315	0.2999	-0.0341	0.0039	-0.0456	0.0073	0.1862	0.0307	-0.0186	0.1151
2	315	0.3498	-0.0632	0.0042	-0.0778	0.0117	0.2950	0.0535	0.0462	0.0993
2	315	0.3998	-0.0921	0.0038	-0.1087	0.0190	0.4591	0.0831	0.3795	0.1081
2	315	0.4496	-0.1317	0.0050	-0.1651	0.0229	0.6694	0.1145	0.3855	0.0846
2	315	0.4995	-0.1986	0.0055	-0.2494	0.0285	0.9521	0.1529	0.1477	0.0948
2	315	0.5551	-0.2405	0.0054	-0.3234	0.0357	1.3049	0.2044	0.1259	0.1000
2	315	0.5996	-0.2834	0.0063	-0.3899	0.0424	1.6348	0.2540	0.2164	0.1065
2	315	0.6497	-0.3348	0.0076	-0.4525	0.0499	2.0194	0.3156	0.1825	0.1132
2	315	0.6996	-0.4045	0.0093	-0.5232	0.0581	2.4362	0.3861	0.1438	0.1080
2	315	0.7495	-0.4659	0.0112	-0.5964	0.0664	2.8524	0.4638	0.2534	0.1159
2	315	0.7996	-0.5298	0.0130	-0.6751	0.0747	3.2519	0.5481	0.1260	0.1094
2	315	0.8578	-0.6274	0.0150	-0.7589	0.0850	3.6972	0.6519	0.3646	0.1121
2	315	0.9100	-0.7136	0.0179	-0.8192	0.0942	4.0488	0.7490	0.3891	0.1177
2	315	0.9727	-0.7491	0.0236	-0.8623	0.1053	4.4623	0.8661	0.4432	0.1275
3	315	0.1938	0.0145	0.0029	-0.0004	0.0010	0.0629	0.0062	0.1446	0.0400
3	315	0.2357	0.0844	0.0022	-0.0258	0.0027	0.0339	0.0117	0.1994	0.0720
3	315	0.2995	-0.0273	0.0034	-0.0295	0.0050	0.2120	0.0270	0.3539	0.0864
3	315	0.3493	-0.0643	0.0035	-0.0557	0.0086	0.3358	0.0470	0.4045	0.0797
3	315	0.4000	-0.0823	0.0041	-0.0953	0.0132	0.5125	0.0728	0.5975	0.0789
3	315	0.4497	-0.1526	0.0046	-0.1565	0.0167	0.7483	0.1001	0.5964	0.0852
3	315	0.4997	-0.1724	0.0048	-0.2021	0.0213	1.0178	0.1314	0.7028	0.0963
3	315	0.5556	-0.2336	0.0058	-0.3199	0.0272	1.3996	0.1748	0.7840	0.0844
3	315	0.5995	-0.2875	0.0059	-0.3693	0.0316	1.7241	0.2127	0.4878	0.0711
3	315	0.6498	-0.3431	0.0075	-0.4778	0.0377	2.1292	0.2610	0.5471	0.0879
3	315	0.6890	-0.4174	0.0087	-0.5218	0.0430	2.4392	0.3044	0.4833	0.0816
3	315	0.7495	-0.4768	0.0101	-0.6601	0.0505	2.9201	0.3750	0.5631	0.0790
3	315	0.7998	-0.5610	0.0118	-0.7261	0.0572	3.2942	0.4388	0.4614	0.0835
3	315	0.8577	-0.6341	0.0132	-0.8331	0.0653	3.6919	0.5182	0.6310	0.0806
3	315	0.9178	-0.6979	0.0158	-0.9038	0.0739	3.9921	0.6042	0.1990	0.0818
3	315	0.9729	-0.7716	0.0196	-1.0420	0.0820	4.2143	0.6848	0.0852	0.0845
4	315	0.2001	0.0607	0.0034	-0.0110	0.0014	0.0401	0.0058	0.2984	0.0336
4	315	0.2502	0.0220	0.0031	0.0091	0.0036	0.0707	0.0131	0.0564	0.0644
4	315	0.3001	-0.0152	0.0025	-0.0176	0.0059	0.1947	0.0248	0.5236	0.0772
4	315	0.3502	-0.0539	0.0038	-0.0338	0.0102	0.2659	0.0434	0.4266	0.0751
4	315	0.4002	-0.0925	0.0054	-0.0328	0.0157	0.4589	0.0674	0.9564	0.0832
4	315	0.4500	-0.1416	0.0060	-0.0375	0.0200	0.6098	0.0916	0.4844	0.0845
4	315	0.5001	-0.1681	0.0065	-0.0462	0.0249	0.8670	0.1202	1.0439	0.0878
4	315	0.5560	-0.2269	0.0069	-0.0752	0.0309	1.1052	0.1628	0.5434	0.0847
4	315	0.6001	-0.2670	0.0076	-0.0982	0.0363	1.3590	0.2013	0.4737	0.0954
4	315	0.6501	-0.3384	0.0096	-0.1395	0.0429	1.6860	0.2525	0.4796	0.0950
4	315	0.6999	-0.3973	0.0105	-0.1816	0.0501	2.0194	0.3110	0.4832	0.0932
4	315	0.7500	-0.4596	0.0117	-0.2187	0.0574	2.3801	0.3775	0.7481	0.0932
4	315	0.8002	-0.5300	0.0134	-0.2594	0.0649	2.6825	0.4509	0.7459	0.0901
4	315	0.8582	-0.6025	0.0151	-0.2984	0.0741	2.9702	0.5415	0.1994	0.0924
4	315	0.9101	-0.6773	0.0176	-0.3168	0.0826	3.3062	0.6278	0.5878	0.0934
4	315	0.9728	-0.6742	0.0231	-0.3226	0.0922	3.7309	0.7379	0.9436	0.0909

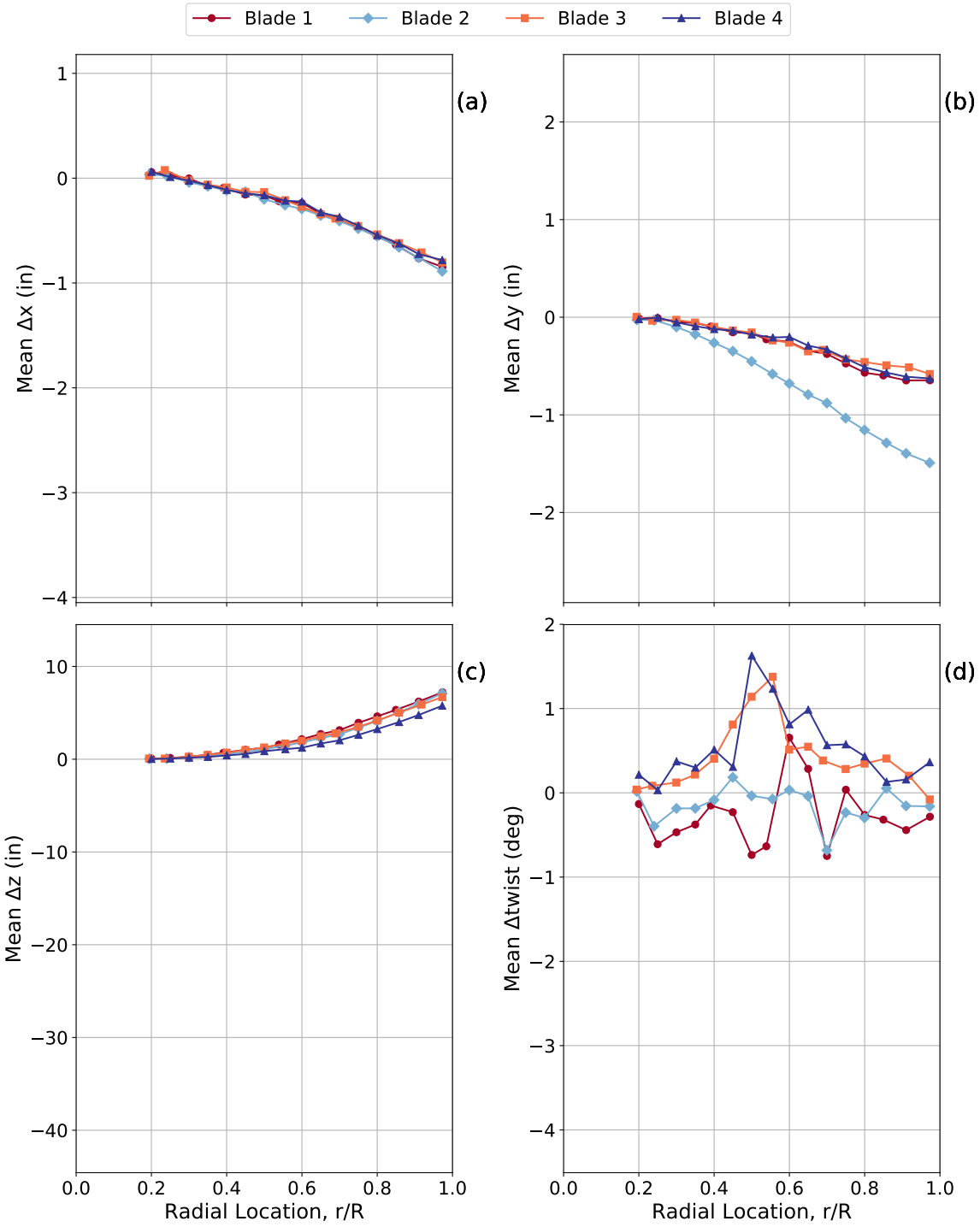


Figure 2.20-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-41. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.012$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0576	0.0024	-0.0119	0.0014	0.0619	0.0074	-0.1325	0.0328
1	330.12	0.2499	0.0250	0.0024	-0.0081	0.0028	0.1437	0.0148	-0.6096	0.0536
1	330.12	0.2998	-0.0027	0.0039	-0.0494	0.0056	0.2669	0.0308	-0.4680	0.0719
1	330.12	0.3498	-0.0733	0.0027	-0.0584	0.0095	0.4908	0.0530	-0.3764	0.0647
1	330.12	0.3913	-0.0933	0.0044	-0.0951	0.0133	0.6982	0.0763	-0.1501	0.0699
1	330.12	0.4496	-0.1564	0.0046	-0.1543	0.0168	1.0220	0.1171	-0.2294	0.0722
1	330.12	0.4997	-0.1654	0.0062	-0.1641	0.0232	1.2336	0.1610	-0.7374	0.0852
1	330.12	0.5387	-0.2192	0.0061	-0.2261	0.0264	1.5773	0.2024	-0.6348	0.0947
1	330.12	0.5996	-0.2370	0.0089	-0.2518	0.0338	2.1616	0.2765	0.6546	0.0904
1	330.12	0.6498	-0.3375	0.0109	-0.3433	0.0396	2.7179	0.3465	0.2845	0.0925
1	330.12	0.6998	-0.3970	0.0132	-0.3768	0.0456	3.1319	0.4296	-0.7494	0.0936
1	330.12	0.7500	-0.4758	0.0158	-0.4737	0.0514	3.9279	0.5204	0.0369	0.0859
1	330.12	0.8001	-0.5578	0.0196	-0.5680	0.0574	4.6211	0.6214	-0.2626	0.0808
1	330.12	0.8497	-0.6367	0.0240	-0.5965	0.0639	5.3224	0.7263	-0.3184	0.0850
1	330.12	0.9102	-0.7641	0.0307	-0.6473	0.0717	6.2212	0.8577	-0.4422	0.0924
1	330.12	0.9734	-0.8465	0.0405	-0.6458	0.0800	7.2203	0.9995	-0.2838	0.0877
2	330.12	0.1949	0.0344	0.0032	-0.0267	0.0011	0.0538	0.0062	0.0155	0.0297
2	330.12	0.2405	0.0249	0.0038	-0.0301	0.0037	0.0647	0.0129	-0.3966	0.0535
2	330.12	0.2999	-0.0399	0.0028	-0.1007	0.0061	0.2192	0.0291	-0.1851	0.0653
2	330.12	0.3498	-0.0769	0.0038	-0.1746	0.0109	0.3652	0.0484	-0.1838	0.0739
2	330.12	0.3998	-0.1179	0.0053	-0.2614	0.0168	0.5625	0.0768	-0.0841	0.0789
2	330.12	0.4496	-0.1305	0.0062	-0.3477	0.0228	0.7903	0.1138	0.1843	0.0977
2	330.12	0.4995	-0.2009	0.0065	-0.4525	0.0288	1.0669	0.1526	-0.0355	0.0900
2	330.12	0.5551	-0.2568	0.0067	-0.5815	0.0362	1.4569	0.2038	-0.0737	0.0750
2	330.12	0.5996	-0.2932	0.0089	-0.6788	0.0424	1.8116	0.2515	0.0345	0.0760
2	330.12	0.6497	-0.3553	0.0095	-0.7922	0.0498	2.2679	0.3086	-0.0392	0.0928
2	330.12	0.6996	-0.4091	0.0118	-0.8795	0.0585	2.6788	0.3721	-0.6816	0.0950
2	330.12	0.7495	-0.4809	0.0144	-1.0334	0.0657	3.3960	0.4380	-0.2338	0.0857
2	330.12	0.7996	-0.5520	0.0173	-1.1555	0.0749	4.1132	0.5062	-0.2966	0.0859
2	330.12	0.8578	-0.6597	0.0215	-1.2870	0.0841	5.0751	0.5892	0.0542	0.0798
2	330.12	0.9100	-0.7580	0.0262	-1.3954	0.0929	5.9454	0.6680	-0.1553	0.0816
2	330.12	0.9727	-0.8884	0.0353	-1.4913	0.1034	7.1020	0.7635	-0.1608	0.0836
3	330.12	0.1938	0.0233	0.0028	0.0043	0.0011	0.0738	0.0050	0.0380	0.0274
3	330.12	0.2357	0.0768	0.0027	-0.0351	0.0028	0.0746	0.0097	0.0838	0.0435
3	330.12	0.2995	-0.0216	0.0022	-0.0266	0.0054	0.2741	0.0234	0.1225	0.0612
3	330.12	0.3493	-0.0617	0.0028	-0.0545	0.0081	0.4657	0.0379	0.2163	0.0724
3	330.12	0.4000	-0.0888	0.0039	-0.0988	0.0137	0.7076	0.0610	0.4045	0.0622
3	330.12	0.4497	-0.1309	0.0047	-0.1355	0.0176	0.9905	0.0849	0.8104	0.0710
3	330.12	0.4997	-0.1329	0.0058	-0.1560	0.0217	1.2674	0.1148	1.1397	0.1071
3	330.12	0.5556	-0.2104	0.0063	-0.2376	0.0267	1.6965	0.1531	1.3775	0.0815
3	330.12	0.5995	-0.2727	0.0079	-0.2597	0.0318	1.9899	0.1886	0.5131	0.0813
3	330.12	0.6498	-0.3448	0.0105	-0.3493	0.0371	2.4791	0.2348	0.5473	0.0847
3	330.12	0.6890	-0.3854	0.0104	-0.3350	0.0424	2.7820	0.2748	0.3836	0.0831
3	330.12	0.7495	-0.4566	0.0121	-0.4314	0.0483	3.4939	0.3399	0.2824	0.0895
3	330.12	0.7998	-0.5364	0.0149	-0.4588	0.0537	4.1710	0.4030	0.3470	0.0800
3	330.12	0.8577	-0.6194	0.0182	-0.4927	0.0611	5.0181	0.4797	0.4073	0.0774
3	330.12	0.9178	-0.7082	0.0236	-0.5132	0.0682	5.8948	0.5631	0.2026	0.0774
3	330.12	0.9729	-0.8034	0.0297	-0.5814	0.0745	6.6930	0.6411	-0.0782	0.0841
4	330.12	0.2001	0.0597	0.0037	-0.0200	0.0013	0.0318	0.0054	0.2145	0.0377
4	330.12	0.2502	0.0109	0.0038	-0.0040	0.0042	0.0719	0.0122	0.0311	0.0666
4	330.12	0.3001	-0.0242	0.0059	-0.0522	0.0056	0.1641	0.0236	0.3728	0.0862
4	330.12	0.3502	-0.0663	0.0039	-0.0920	0.0111	0.2434	0.0398	0.2994	0.0747
4	330.12	0.4002	-0.1124	0.0059	-0.1217	0.0164	0.4131	0.0629	0.5126	0.0699
4	330.12	0.4500	-0.1453	0.0059	-0.1375	0.0205	0.5623	0.0871	0.3077	0.0759
4	330.12	0.5001	-0.1628	0.0061	-0.1775	0.0253	0.8707	0.1164	1.6274	0.0802
4	330.12	0.5560	-0.2155	0.0069	-0.2078	0.0318	1.0836	0.1527	1.2348	0.0889
4	330.12	0.6001	-0.2233	0.0076	-0.2019	0.0370	1.2410	0.1816	0.8126	0.1026
4	330.12	0.6501	-0.3261	0.0095	-0.2914	0.0426	1.6956	0.2188	0.9864	0.1014
4	330.12	0.6999	-0.3713	0.0099	-0.3300	0.0491	2.0401	0.2610	0.5650	0.1067
4	330.12	0.7500	-0.4531	0.0107	-0.4226	0.0557	2.6260	0.3090	0.5749	0.1057
4	330.12	0.8002	-0.5439	0.0128	-0.5122	0.0621	3.2498	0.3647	0.4323	0.0844
4	330.12	0.8582	-0.6243	0.0154	-0.5667	0.0696	4.0062	0.4325	0.1302	0.0812
4	330.12	0.9101	-0.7238	0.0189	-0.6091	0.0764	4.7688	0.4971	0.1579	0.0817
4	330.12	0.9728	-0.7818	0.0250	-0.6275	0.0845	5.7709	0.5804	0.3625	0.0827

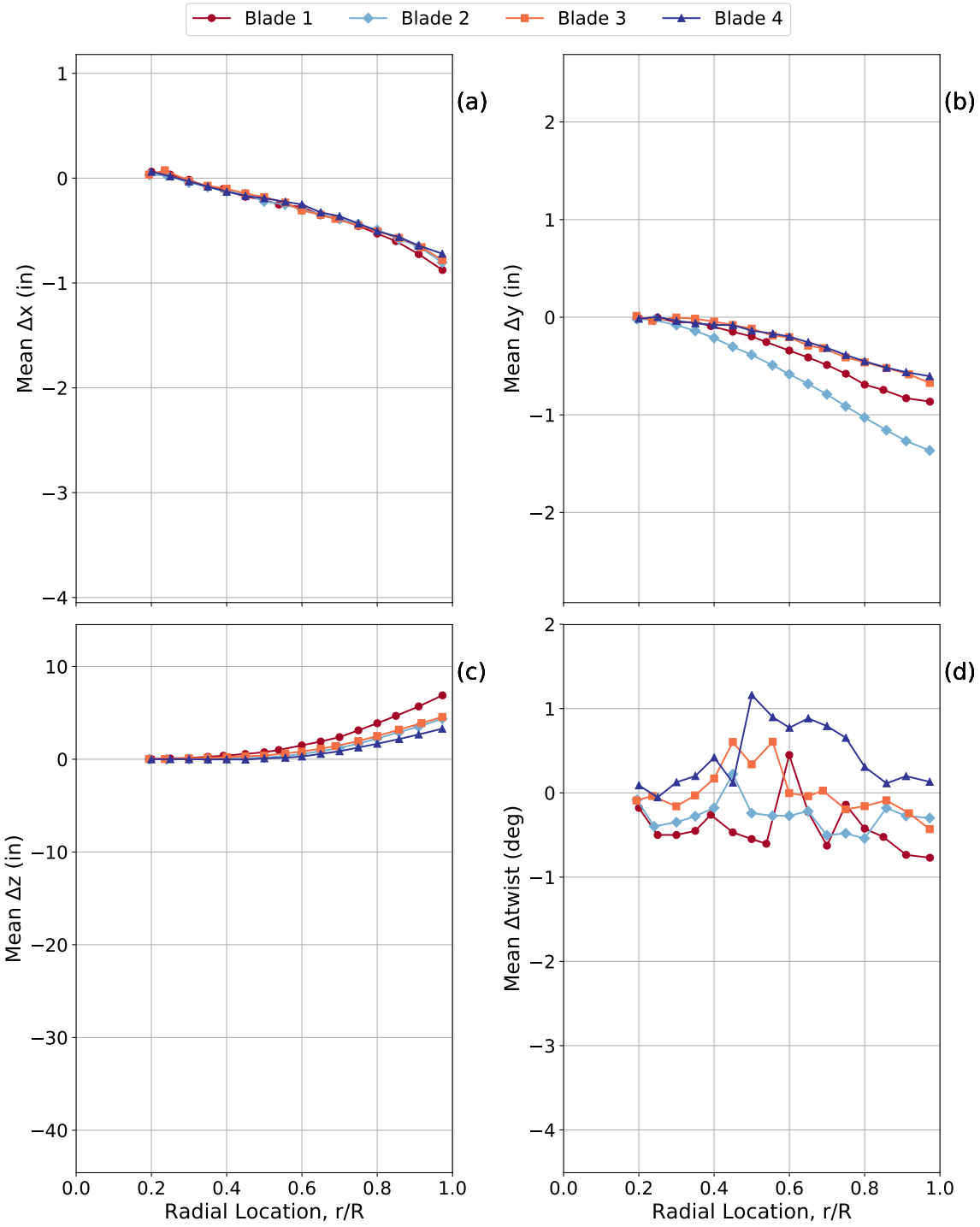


Figure 2.20-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.012, μ = 0.6, α = -0°
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0615	0.0020	-0.0119	0.0016	0.0296	0.0054	-0.1782	0.0286
1	344.88	0.2499	0.0345	0.0024	-0.0039	0.0031	0.0832	0.0110	-0.4997	0.0618
1	344.88	0.2998	-0.0159	0.0022	-0.0522	0.0071	0.1366	0.0229	-0.4999	0.0660
1	344.88	0.3498	-0.0840	0.0036	-0.0496	0.0101	0.2644	0.0380	-0.4513	0.0735
1	344.88	0.3913	-0.1031	0.0038	-0.0904	0.0158	0.3758	0.0559	-0.2610	0.0693
1	344.88	0.4496	-0.1775	0.0055	-0.1484	0.0203	0.5654	0.0823	-0.4692	0.0697
1	344.88	0.4997	-0.2051	0.0066	-0.1969	0.0266	0.7561	0.1113	-0.5487	0.0924
1	344.88	0.5387	-0.2521	0.0056	-0.2543	0.0308	0.9973	0.1305	-0.6046	0.0796
1	344.88	0.5996	-0.2737	0.0086	-0.3414	0.0379	1.4944	0.1713	0.4484	0.1063
1	344.88	0.6498	-0.3536	0.0102	-0.4120	0.0443	1.9119	0.2086	-0.2274	0.0835
1	344.88	0.6998	-0.3925	0.0113	-0.4890	0.0507	2.3859	0.2492	-0.6272	0.0909
1	344.88	0.7500	-0.4566	0.0127	-0.5794	0.0569	3.1170	0.2989	-0.1418	0.1027
1	344.88	0.8001	-0.5286	0.0143	-0.6907	0.0641	3.8778	0.3483	-0.4244	0.0977
1	344.88	0.8497	-0.6007	0.0170	-0.7448	0.0708	4.6716	0.4061	-0.5236	0.0882
1	344.88	0.9102	-0.7250	0.0214	-0.8295	0.0789	5.6925	0.4818	-0.7362	0.0916
1	344.88	0.9734	-0.8762	0.0298	-0.8646	0.0878	6.8845	0.5649	-0.7701	0.0941
2	344.88	0.1949	0.0310	0.0031	-0.0197	0.0015	0.0063	0.0048	-0.0838	0.0303
2	344.88	0.2405	0.0283	0.0029	-0.0279	0.0040	-0.0006	0.0110	-0.3978	0.0468
2	344.88	0.2999	-0.0421	0.0046	-0.0807	0.0084	0.0258	0.0230	-0.3493	0.0642
2	344.88	0.3498	-0.0843	0.0059	-0.1397	0.0122	0.0435	0.0361	-0.2778	0.0715
2	344.88	0.3998	-0.1288	0.0043	-0.2127	0.0211	0.0666	0.0592	-0.1784	0.0523
2	344.88	0.4496	-0.1513	0.0047	-0.3024	0.0231	0.1280	0.0831	0.2217	0.0673
2	344.88	0.4995	-0.2217	0.0057	-0.3847	0.0277	0.1732	0.1025	-0.2413	0.0707
2	344.88	0.5551	-0.2516	0.0050	-0.4913	0.0336	0.3445	0.1326	-0.2727	0.0701
2	344.88	0.5996	-0.2997	0.0056	-0.5834	0.0398	0.5601	0.1652	-0.2721	0.0683
2	344.88	0.6497	-0.3429	0.0065	-0.6829	0.0457	0.8665	0.2005	-0.2182	0.0741
2	344.88	0.6996	-0.3891	0.0071	-0.7897	0.0522	1.2213	0.2433	-0.5035	0.0760
2	344.88	0.7495	-0.4377	0.0096	-0.9119	0.0586	1.6779	0.2919	-0.4805	0.0670
2	344.88	0.7996	-0.4926	0.0101	-1.0274	0.0661	2.2223	0.3418	-0.5412	0.0822
2	344.88	0.8578	-0.5829	0.0120	-1.1568	0.0745	2.9228	0.4070	-0.1800	0.0725
2	344.88	0.9100	-0.6509	0.0148	-1.2682	0.0819	3.5122	0.4675	-0.2740	0.0650
2	344.88	0.9727	-0.8042	0.0218	-1.3647	0.0904	4.3699	0.5438	-0.2986	0.0686
3	344.88	0.1938	0.0335	0.0028	0.0136	0.0015	0.0274	0.0060	-0.0914	0.0351
3	344.88	0.2357	0.0756	0.0031	-0.0356	0.0028	0.0186	0.0121	-0.0377	0.0679
3	344.88	0.2995	-0.0263	0.0029	-0.0039	0.0061	0.0865	0.0288	-0.1601	0.0866
3	344.88	0.3493	-0.0720	0.0045	-0.0150	0.0099	0.1552	0.0453	-0.0308	0.0874
3	344.88	0.4000	-0.1006	0.0043	-0.0449	0.0157	0.2241	0.0745	0.1695	0.0770
3	344.88	0.4497	-0.1454	0.0049	-0.0796	0.0187	0.3203	0.0973	0.6027	0.0884
3	344.88	0.4997	-0.1811	0.0061	-0.1174	0.0244	0.3971	0.1289	0.3384	0.0959
3	344.88	0.5556	-0.2327	0.0064	-0.1880	0.0310	0.6296	0.1681	0.6056	0.1188
3	344.88	0.5995	-0.3084	0.0067	-0.2045	0.0359	0.8266	0.2031	-0.0036	0.0947
3	344.88	0.6498	-0.3493	0.0079	-0.2907	0.0419	1.1399	0.2441	-0.0393	0.0788
3	344.88	0.6890	-0.3884	0.0083	-0.3164	0.0469	1.4186	0.2752	0.0262	0.0836
3	344.88	0.7495	-0.4505	0.0101	-0.4107	0.0543	1.9495	0.3332	-0.1961	0.0903
3	344.88	0.7998	-0.5071	0.0115	-0.4622	0.0605	2.5018	0.3806	-0.1584	0.0852
3	344.88	0.8577	-0.5696	0.0146	-0.5209	0.0680	3.1829	0.4400	-0.0890	0.0902
3	344.88	0.9178	-0.6588	0.0177	-0.5852	0.0761	3.8887	0.5057	-0.2419	0.0894
3	344.88	0.9729	-0.7808	0.0231	-0.6734	0.0835	4.5579	0.5670	-0.4307	0.0902
4	344.88	0.2001	0.0607	0.0026	-0.0157	0.0018	-0.0076	0.0058	0.0882	0.0336
4	344.88	0.2502	0.0171	0.0027	0.0031	0.0047	0.0024	0.0141	-0.0532	0.0567
4	344.88	0.3001	-0.0312	0.0037	-0.0364	0.0081	-0.0030	0.0262	0.1258	0.0736
4	344.88	0.3502	-0.0811	0.0060	-0.0625	0.0141	-0.0248	0.0441	0.1993	0.0727
4	344.88	0.4002	-0.1292	0.0052	-0.0785	0.0223	-0.0128	0.0704	0.4199	0.0650
4	344.88	0.4500	-0.1688	0.0049	-0.0811	0.0269	-0.0375	0.1029	0.1209	0.0656
4	344.88	0.5001	-0.1919	0.0064	-0.1374	0.0338	0.0950	0.1396	1.1598	0.0890
4	344.88	0.5560	-0.2252	0.0068	-0.1681	0.0428	0.1629	0.1883	0.8978	0.0990
4	344.88	0.6001	-0.2507	0.0081	-0.1987	0.0499	0.2925	0.2331	0.7725	0.1100
4	344.88	0.6501	-0.3274	0.0088	-0.2572	0.0578	0.5776	0.2858	0.8835	0.0873
4	344.88	0.6999	-0.3628	0.0102	-0.3138	0.0658	0.8625	0.3464	0.7914	0.1073
4	344.88	0.7500	-0.4327	0.0112	-0.3866	0.0744	1.2626	0.4121	0.6530	0.1012
4	344.88	0.8002	-0.5055	0.0122	-0.4516	0.0827	1.6701	0.4835	0.3073	0.0729
4	344.88	0.8582	-0.5614	0.0150	-0.5167	0.0928	2.1736	0.5743	0.1131	0.0705
4	344.88	0.9101	-0.6430	0.0186	-0.5629	0.1011	2.6654	0.6579	0.1979	0.0672
4	344.88	0.9728	-0.7204	0.0261	-0.6042	0.1123	3.2915	0.7597	0.1306	0.0663

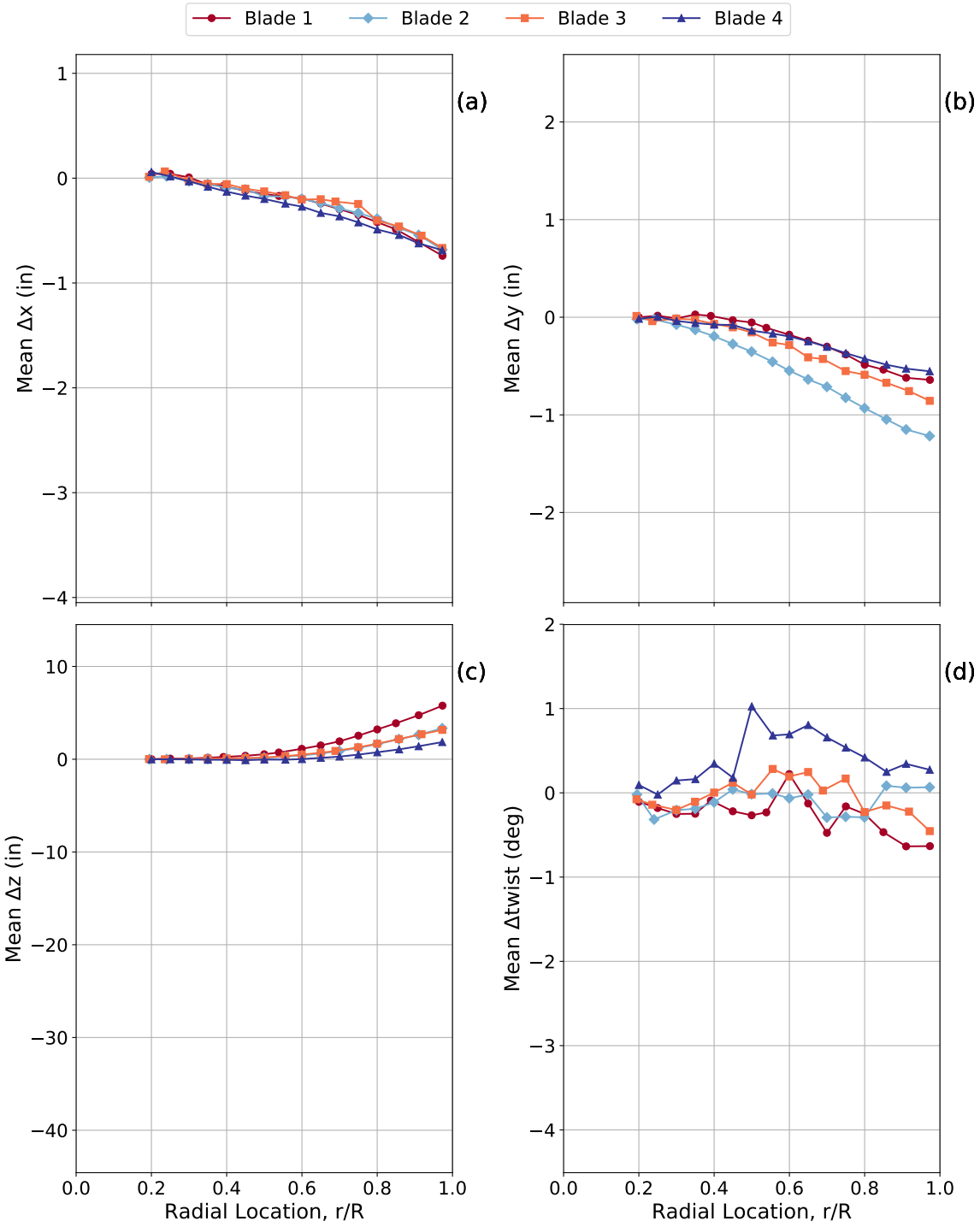


Figure 2.20-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-43. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.012$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0406	0.0060	-0.0010	0.0028	0.0135	0.0053	-0.1063	0.0280
1	350.16	0.2499	0.0418	0.0035	0.0155	0.0059	0.0697	0.0112	-0.1803	0.0491
1	350.16	0.2998	0.0070	0.0041	-0.0123	0.0124	0.0803	0.0230	-0.2506	0.0620
1	350.16	0.3498	-0.0597	0.0060	0.0279	0.0200	0.1643	0.0394	-0.2483	0.0606
1	350.16	0.3913	-0.0747	0.0080	0.0137	0.0297	0.2425	0.0575	-0.0910	0.0692
1	350.16	0.4496	-0.1208	0.0115	-0.0302	0.0423	0.3701	0.0824	-0.2191	0.0818
1	350.16	0.4997	-0.1510	0.0117	-0.0535	0.0537	0.5365	0.1067	-0.2667	0.0725
1	350.16	0.5387	-0.1698	0.0134	-0.1084	0.0628	0.7251	0.1266	-0.2322	0.0694
1	350.16	0.5996	-0.1943	0.0157	-0.1790	0.0785	1.1239	0.1571	0.2229	0.0716
1	350.16	0.6498	-0.2419	0.0156	-0.2410	0.0898	1.4887	0.1850	-0.1266	0.0819
1	350.16	0.6998	-0.2965	0.0249	-0.3017	0.1894	1.9306	0.3501	-0.4752	0.0777
1	350.16	0.7500	-0.3509	0.0251	-0.3815	0.2057	2.5431	0.3917	-0.1611	0.1016
1	350.16	0.8001	-0.4203	0.0265	-0.4865	0.2223	3.2134	0.4400	-0.2510	0.0903
1	350.16	0.8497	-0.4873	0.0276	-0.5368	0.2389	3.8768	0.4891	-0.4668	0.0789
1	350.16	0.9102	-0.6097	0.0292	-0.6205	0.2586	4.7475	0.5557	-0.6353	0.0857
1	350.16	0.9734	-0.7407	0.0317	-0.6416	0.2800	5.7757	0.6272	-0.6324	0.0831
2	350.16	0.1949	0.0057	0.0052	-0.0196	0.0017	0.0035	0.0040	-0.0211	0.0234
2	350.16	0.2405	0.0177	0.0026	-0.0228	0.0041	-0.0012	0.0085	-0.3164	0.0444
2	350.16	0.2999	-0.0293	0.0028	-0.0755	0.0080	0.0208	0.0192	-0.2054	0.0559
2	350.16	0.3498	-0.0564	0.0056	-0.1286	0.0140	0.0297	0.0317	-0.1897	0.0624
2	350.16	0.3998	-0.0925	0.0077	-0.1945	0.0220	0.0514	0.0507	-0.1132	0.0552
2	350.16	0.4496	-0.1077	0.0105	-0.2743	0.0310	0.0955	0.0678	0.0406	0.0620
2	350.16	0.4995	-0.1719	0.0116	-0.3523	0.0399	0.1617	0.0898	-0.0158	0.0638
2	350.16	0.5551	-0.1756	0.0136	-0.4562	0.0526	0.2769	0.1183	-0.0078	0.0718
2	350.16	0.5996	-0.1980	0.0152	-0.5473	0.0630	0.4079	0.1462	-0.0645	0.0782
2	350.16	0.6497	-0.2358	0.0168	-0.6366	0.0763	0.6173	0.1808	-0.0205	0.0812
2	350.16	0.6996	-0.2891	0.0200	-0.7125	0.1621	0.8868	0.3783	-0.2929	0.0853
2	350.16	0.7495	-0.3327	0.0207	-0.8242	0.1767	1.2073	0.4384	-0.2841	0.0772
2	350.16	0.7996	-0.3861	0.0222	-0.9309	0.1908	1.6184	0.5028	-0.2906	0.0770
2	350.16	0.8578	-0.4758	0.0229	-1.0460	0.2072	2.1659	0.5864	0.0833	0.0855
2	350.16	0.9100	-0.5418	0.0252	-1.1497	0.2228	2.6271	0.6666	0.0609	0.0845
2	350.16	0.9727	-0.6810	0.0270	-1.2169	0.2411	3.3349	0.7670	0.0662	0.0794
3	350.16	0.1938	0.0131	0.0051	0.0129	0.0018	0.0186	0.0041	-0.0766	0.0245
3	350.16	0.2357	0.0641	0.0032	-0.0401	0.0040	-0.0061	0.0083	-0.1412	0.0533
3	350.16	0.2995	-0.0250	0.0033	-0.0135	0.0081	0.0395	0.0178	-0.2028	0.0643
3	350.16	0.3493	-0.0537	0.0056	-0.0263	0.0143	0.0691	0.0300	-0.1062	0.0615
3	350.16	0.4000	-0.0571	0.0074	-0.0682	0.0225	0.0896	0.0480	0.0030	0.0663
3	350.16	0.4497	-0.1009	0.0094	-0.1032	0.0307	0.1229	0.0639	0.1206	0.0815
3	350.16	0.4997	-0.1265	0.0111	-0.1552	0.0393	0.1809	0.0814	-0.0198	0.0803
3	350.16	0.5556	-0.1631	0.0130	-0.2587	0.0503	0.3322	0.1046	0.2830	0.0803
3	350.16	0.5995	-0.2035	0.0153	-0.2845	0.0593	0.4971	0.1245	0.1936	0.0964
3	350.16	0.6498	-0.2011	0.0165	-0.4113	0.0727	0.6995	0.1513	0.2467	0.0919
3	350.16	0.6890	-0.2232	0.0181	-0.4276	0.0831	0.8918	0.1747	0.0274	0.1311
3	350.16	0.7495	-0.2463	0.0248	-0.5513	0.0995	1.2868	0.2146	0.1692	0.1511
3	350.16	0.7998	-0.4040	0.0208	-0.5890	0.1861	1.6740	0.4715	-0.2286	0.0913
3	350.16	0.8577	-0.4612	0.0219	-0.6709	0.2007	2.1737	0.5338	-0.1498	0.0780
3	350.16	0.9178	-0.5487	0.0233	-0.7567	0.2167	2.6949	0.6014	-0.2225	0.0745
3	350.16	0.9729	-0.6661	0.0241	-0.8564	0.2311	3.1660	0.6624	-0.4543	0.0775
4	350.16	0.2001	0.0580	0.0024	-0.0162	0.0021	-0.0112	0.0062	0.0926	0.0298
4	350.16	0.2502	0.0167	0.0025	0.0060	0.0043	-0.0086	0.0147	-0.0210	0.0443
4	350.16	0.3001	-0.0304	0.0051	-0.0381	0.0092	-0.0209	0.0267	0.1461	0.0600
4	350.16	0.3502	-0.0815	0.0039	-0.0593	0.0150	-0.0563	0.0473	0.1628	0.0629
4	350.16	0.4002	-0.1289	0.0041	-0.0759	0.0237	-0.0632	0.0735	0.3462	0.0704
4	350.16	0.4500	-0.1667	0.0062	-0.0793	0.0287	-0.1030	0.1010	0.1792	0.0638
4	350.16	0.5001	-0.1983	0.0059	-0.1374	0.0366	-0.0354	0.1345	1.0248	0.0900
4	350.16	0.5560	-0.2426	0.0069	-0.1676	0.0464	-0.0478	0.1714	0.6804	0.1032
4	350.16	0.6001	-0.2718	0.0081	-0.1973	0.0536	0.0142	0.2023	0.6938	0.1197
4	350.16	0.6501	-0.3313	0.0068	-0.2468	0.0619	0.1509	0.2364	0.8044	0.0906
4	350.16	0.6999	-0.3645	0.0090	-0.3034	0.0706	0.2817	0.2765	0.6570	0.1063
4	350.16	0.7500	-0.4220	0.0087	-0.3682	0.0805	0.5020	0.3147	0.5368	0.0931
4	350.16	0.8002	-0.4896	0.0104	-0.4260	0.0899	0.7487	0.3620	0.4196	0.0741
4	350.16	0.8582	-0.5418	0.0108	-0.4868	0.1012	1.0627	0.4148	0.2489	0.0890
4	350.16	0.9101	-0.6218	0.0124	-0.5264	0.1119	1.4018	0.4646	0.3433	0.0767
4	350.16	0.9728	-0.6864	0.0175	-0.5540	0.1245	1.8486	0.5277	0.2737	0.0702

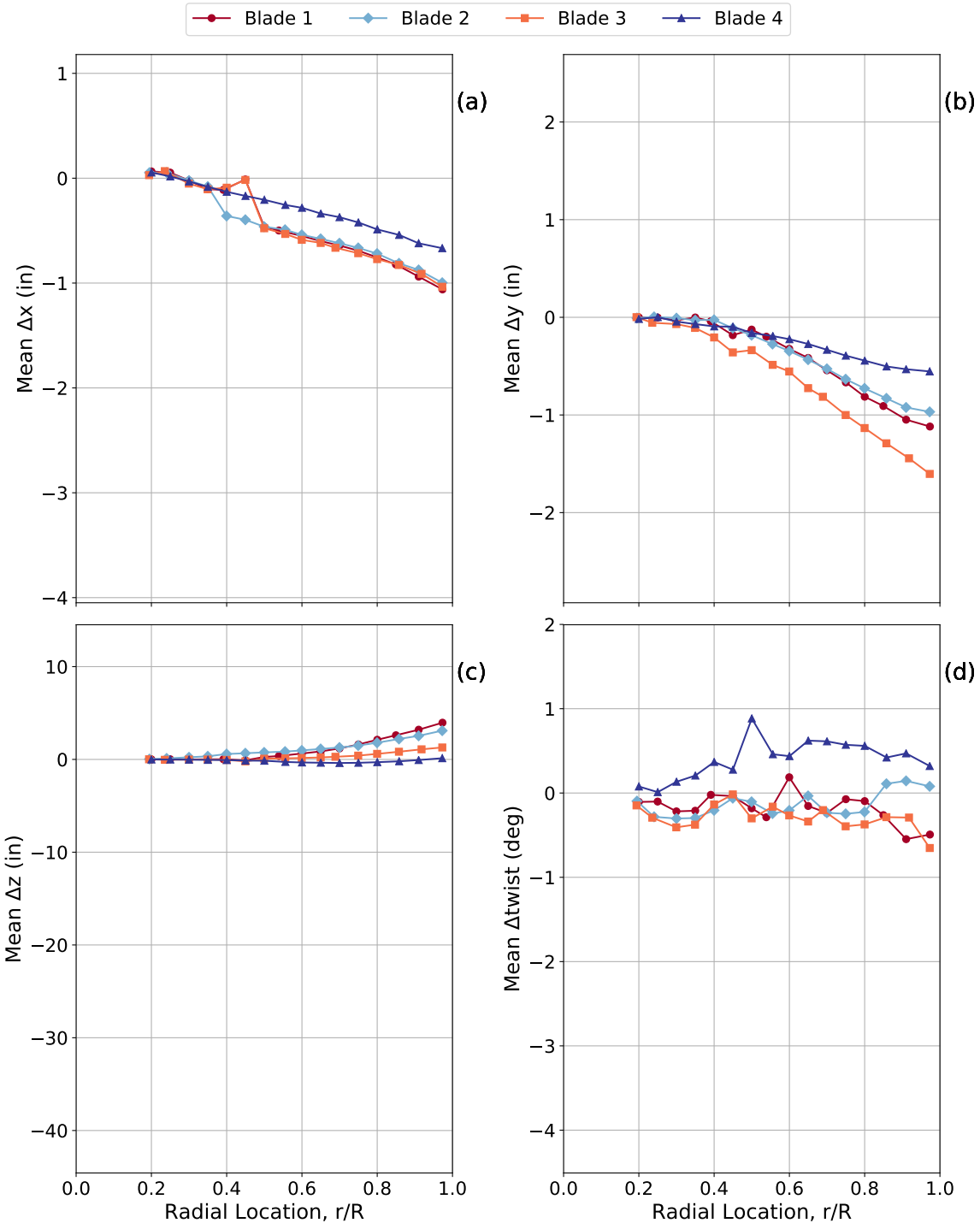


Figure 2.20-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.012, μ = 0.6, α = -0° NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Table 2.20-44. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.012$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, points 37 to 41. BD run 41, points 6723 to 6762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0645	0.0179	-0.0017	0.0029	-0.0035	0.0049	-0.1059	0.0271
1	355.08	0.2499	0.0534	0.0075	-0.0029	0.0057	0.0164	0.0102	-0.1015	0.0524
1	355.08	0.2998	-0.0216	0.0074	-0.0304	0.0123	-0.0075	0.0219	-0.2179	0.0642
1	355.08	0.3498	-0.1048	0.0194	-0.0019	0.0203	0.0190	0.0367	-0.2102	0.0621
1	355.08	0.3913	-0.1114	0.0309	-0.0404	0.0298	0.0179	0.0542	-0.0218	0.0654
1	355.08	0.4496	-0.0121	0.0492	-0.1831	0.0445	-0.1036	0.0819	-0.0366	0.0730
1	355.08	0.4997	-0.4627	0.0510	-0.1258	0.1546	0.2655	0.1680	-0.1812	0.0939
1	355.08	0.5387	-0.4987	0.0516	-0.1986	0.1702	0.3644	0.1860	-0.2872	0.0940
1	355.08	0.5996	-0.5508	0.0517	-0.3231	0.1943	0.6347	0.2192	0.1867	0.1057
1	355.08	0.6498	-0.5997	0.0503	-0.4160	0.2136	0.8630	0.2506	-0.1539	0.1018
1	355.08	0.6998	-0.6422	0.0519	-0.5427	0.2347	1.1818	0.2865	-0.2363	0.0981
1	355.08	0.7500	-0.6916	0.0516	-0.6666	0.2557	1.6096	0.3307	-0.0735	0.1043
1	355.08	0.8001	-0.7554	0.0517	-0.8132	0.2766	2.1176	0.3828	-0.0961	0.0991
1	355.08	0.8497	-0.8227	0.0517	-0.9085	0.2974	2.6033	0.4406	-0.2626	0.1109
1	355.08	0.9102	-0.9385	0.0513	-1.0482	0.3233	3.2015	0.5177	-0.5474	0.0976
1	355.08	0.9734	-1.0606	0.0479	-1.1186	0.3503	3.9575	0.6049	-0.4927	0.0956
2	355.08	0.1949	0.0534	0.0164	-0.0075	0.0171	0.0358	0.0278	-0.0962	0.0169
2	355.08	0.2405	0.0541	0.0235	0.0043	0.0657	0.1075	0.0917	-0.2825	0.0317
2	355.08	0.2999	-0.0225	0.0331	-0.0086	0.1297	0.2276	0.1734	-0.3027	0.0402
2	355.08	0.3498	-0.0797	0.0440	-0.0289	0.1852	0.3358	0.2396	-0.2965	0.0442
2	355.08	0.3998	-0.3604	0.0260	-0.0256	0.3325	0.5821	0.4261	-0.2057	0.0719
2	355.08	0.4496	-0.3963	0.0276	-0.1116	0.4003	0.6655	0.5100	-0.0613	0.0830
2	355.08	0.4995	-0.4623	0.0285	-0.1832	0.4684	0.7554	0.5949	-0.1041	0.0851
2	355.08	0.5551	-0.4915	0.0292	-0.2738	0.5442	0.8430	0.6885	-0.2438	0.0743
2	355.08	0.5996	-0.5400	0.0300	-0.3459	0.6057	0.9678	0.7649	-0.2067	0.0955
2	355.08	0.6497	-0.5785	0.0311	-0.4341	0.6748	1.1277	0.8470	-0.0341	0.0919
2	355.08	0.6996	-0.6201	0.0323	-0.5277	0.7444	1.2838	0.9316	-0.2342	0.0816
2	355.08	0.7495	-0.6646	0.0324	-0.6337	0.8130	1.4933	1.0162	-0.2470	0.0764
2	355.08	0.7996	-0.7189	0.0343	-0.7277	0.8827	1.7967	1.1001	-0.2246	0.0817
2	355.08	0.8578	-0.8118	0.0355	-0.8299	0.9630	2.2041	1.1966	0.1098	0.0812
2	355.08	0.9100	-0.8748	0.0377	-0.9228	1.0352	2.5409	1.2877	0.1440	0.0857
2	355.08	0.9727	-0.9966	0.0267	-0.9680	1.1219	3.0986	1.3944	0.0791	0.0800
3	355.08	0.1938	0.0290	0.0225	0.0015	0.0089	0.0130	0.0059	-0.1470	0.0280
3	355.08	0.2357	0.0675	0.0109	-0.0560	0.0072	-0.0416	0.0093	-0.2928	0.0936
3	355.08	0.2995	-0.0514	0.0131	-0.0691	0.0299	-0.0147	0.0227	-0.4071	0.0949
3	355.08	0.3493	-0.1051	0.0270	-0.1086	0.0515	-0.0089	0.0415	-0.3754	0.0837
3	355.08	0.4000	-0.0905	0.0416	-0.2063	0.0769	-0.0519	0.0626	-0.1360	0.0973
3	355.08	0.4497	-0.0166	0.0594	-0.3595	0.1069	-0.2125	0.0883	-0.0167	0.1078
3	355.08	0.4997	-0.4774	0.0607	-0.3365	0.2330	0.0754	0.2123	-0.3010	0.1263
3	355.08	0.5556	-0.5315	0.0611	-0.4868	0.2694	0.1113	0.2492	-0.1620	0.1177
3	355.08	0.5995	-0.5875	0.0596	-0.5549	0.2965	0.1551	0.2796	-0.2656	0.0982
3	355.08	0.6498	-0.6174	0.0601	-0.7254	0.3296	0.2124	0.3201	-0.3382	0.1177
3	355.08	0.6890	-0.6635	0.0606	-0.8138	0.3546	0.2838	0.3517	-0.2030	0.1259
3	355.08	0.7495	-0.7152	0.0605	-1.0007	0.3947	0.4076	0.4071	-0.3951	0.1144
3	355.08	0.7998	-0.7717	0.0605	-1.1341	0.4278	0.5959	0.4601	-0.3727	0.1349
3	355.08	0.8577	-0.8276	0.0609	-1.2903	0.4657	0.8272	0.5290	-0.2863	0.1108
3	355.08	0.9178	-0.9120	0.0612	-1.4439	0.5058	1.0875	0.6042	-0.2912	0.1005
3	355.08	0.9729	-1.0352	0.0576	-1.6037	0.5419	1.2878	0.6769	-0.6524	0.1040
4	355.08	0.2001	0.0542	0.0024	-0.0171	0.0027	-0.0089	0.0076	0.0774	0.0385
4	355.08	0.2502	0.0168	0.0041	0.0017	0.0047	-0.0141	0.0151	0.0103	0.0749
4	355.08	0.3001	-0.0313	0.0033	-0.0439	0.0102	-0.0272	0.0309	0.1335	0.0891
4	355.08	0.3502	-0.0825	0.0044	-0.0697	0.0175	-0.0503	0.0519	0.2070	0.0898
4	355.08	0.4002	-0.1297	0.0062	-0.0931	0.0268	-0.0713	0.0813	0.3683	0.0920
4	355.08	0.4500	-0.1692	0.0061	-0.0967	0.0323	-0.1279	0.1145	0.2767	0.0917
4	355.08	0.5001	-0.2062	0.0070	-0.1602	0.0416	-0.1417	0.1488	0.8846	0.1140
4	355.08	0.5560	-0.2552	0.0071	-0.1920	0.0504	-0.2729	0.1882	0.4597	0.1076
4	355.08	0.6001	-0.2824	0.0077	-0.2243	0.0591	-0.3293	0.2253	0.4374	0.1229
4	355.08	0.6501	-0.3372	0.0080	-0.2735	0.0682	-0.3572	0.2683	0.6216	0.1141
4	355.08	0.6999	-0.3719	0.0086	-0.3327	0.0784	-0.3878	0.3132	0.6131	0.1212
4	355.08	0.7500	-0.4222	0.0087	-0.3927	0.0890	-0.3641	0.3639	0.5719	0.0952
4	355.08	0.8002	-0.4885	0.0098	-0.4438	0.0995	-0.2985	0.4205	0.5593	0.0828
4	355.08	0.8582	-0.5409	0.0101	-0.5034	0.1123	-0.2036	0.4926	0.4211	0.0907
4	355.08	0.9101	-0.6208	0.0130	-0.5316	0.1240	-0.0672	0.5639	0.4702	0.0900
4	355.08	0.9728	-0.6675	0.0181	-0.5542	0.1388	0.1303	0.6512	0.3201	0.0986

2.21 Run 91, Points 37 to 40

2.21.1 Pitch, Flap, and Lag

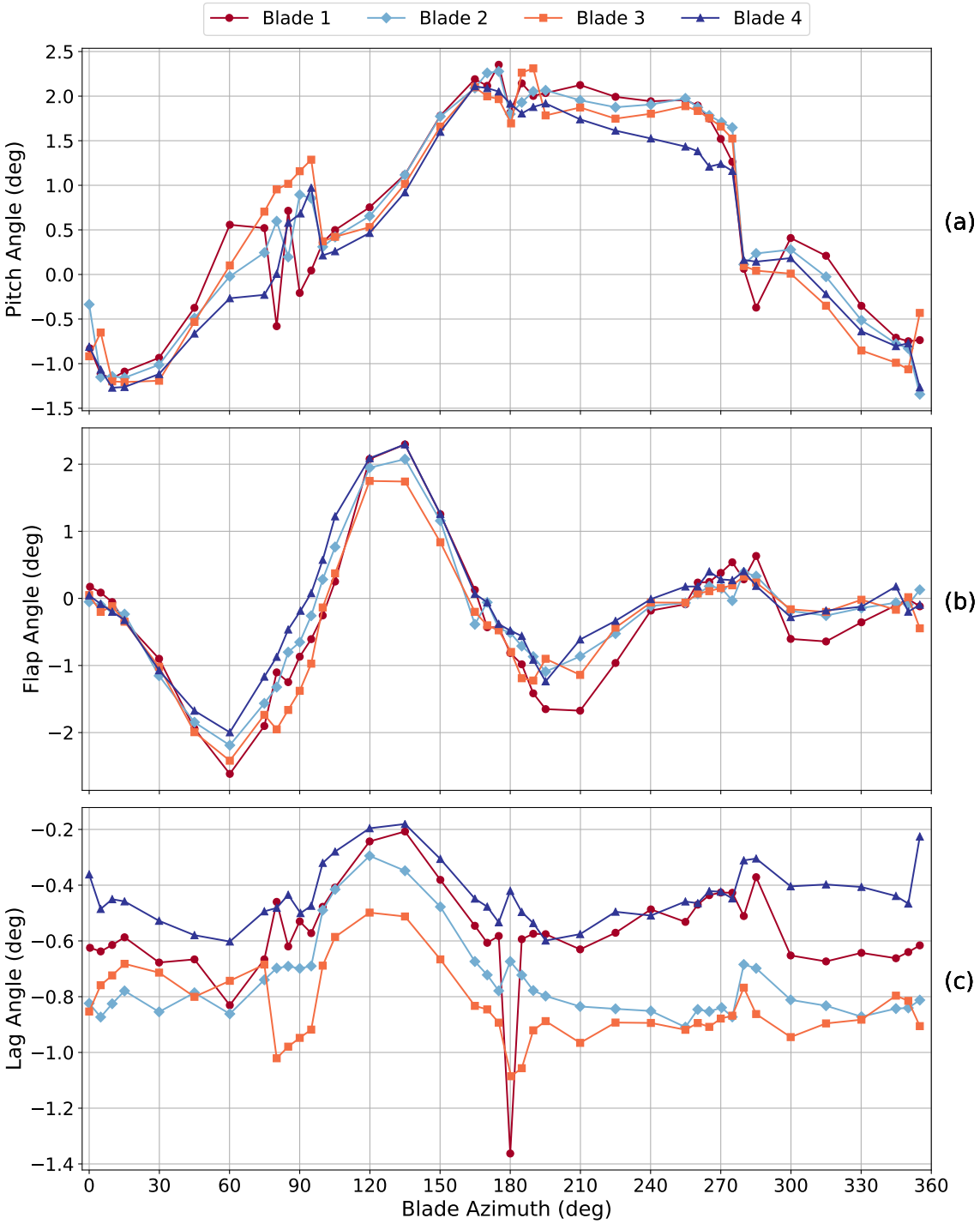


Figure 2.21-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	-0.8297	0.1730	-0.6247	0.1455	0.3558	0.0451
4.92	-1.1162	0.0861	-0.6376	0.1781	0.5739	0.0525
9.84	-1.1655	-0.0553	-0.6146	0.1184	0.3135	0.0450
15.12	-1.0894	-0.3408	-0.5869	0.1158	0.2355	0.0432
29.88	-0.9347	-0.9000	-0.6774	0.1165	0.3430	0.0301
45	-0.3742	-1.9417	-0.6662	0.0830	0.2487	0.0314
60.12	0.5573	-2.6156	-0.8306	0.3545	0.1808	0.0888
74.88	0.5204	-1.9020	-0.6661	0.2375	0.1291	0.0721
80.16	-0.5803	-1.1029	-0.4599	0.2046	0.1369	0.0458
85.08	0.7146	-1.2486	-0.6198	0.3017	0.1727	0.0867
90	-0.2074	-0.8694	-0.5299	0.0526	0.2699	0.0309
94.92	0.0448	-0.6074	-0.5720	0.0446	0.1708	0.0162
99.84	0.3575	-0.2546	-0.4777	0.0516	0.3654	0.0363
105.12	0.4982	0.2505	-0.4085	0.0608	0.4123	0.0421
119.88	0.7527	2.0771	-0.2430	0.0406	0.3867	0.0254
135	1.1207	2.2948	-0.2074	0.0466	0.4397	0.0241
150.12	1.7801	1.2539	-0.3810	0.0386	0.6969	0.0212
164.88	2.1898	0.1264	-0.5457	0.0568	0.4206	0.0317
170.16	2.1158	-0.4305	-0.6067	0.0704	0.4868	0.0409
175.08	2.3518	-0.4317	-0.5823	0.0523	0.3816	0.0883
180	1.8152	-0.8133	-1.3626	0.1029	0.4876	0.1152
184.92	2.1437	-0.9828	-0.5938	0.0632	0.8798	0.2019
189.84	2.0024	-1.4153	-0.5743	0.0546	0.5777	0.0442
195.12	2.0346	-1.6504	-0.5757	0.0573	0.4580	0.0434
209.88	2.1242	-1.6737	-0.6303	0.0578	0.4390	0.0408
225	1.9921	-0.9630	-0.5707	0.0672	0.5747	0.0571
240.12	1.9427	-0.1816	-0.4869	0.0626	0.4957	0.0403
254.88	1.9560	-0.0881	-0.5317	0.0949	0.4747	0.0805
260.16	1.8944	0.2357	-0.4698	0.0863	0.2525	0.0391
265.08	1.7485	0.2447	-0.4358	0.1505	0.3151	0.0498
270	1.5199	0.3795	-0.4263	0.1945	0.2313	0.0780
274.92	1.2631	0.5379	-0.4272	0.3038	0.2901	0.0729
279.84	0.0633	0.2837	-0.5108	0.0580	0.1993	0.0797
285.12	-0.3713	0.6322	-0.3713	0.0605	0.1767	0.0521
299.88	0.4088	-0.6041	-0.6521	0.0588	0.1291	0.0538
315	0.2097	-0.6423	-0.6735	0.0532	0.1176	0.0468
330.12	-0.3520	-0.3564	-0.6428	0.0687	0.3166	0.0533
344.88	-0.7091	-0.1026	-0.6621	0.0734	0.2353	0.0299
350.16	-0.7488	-0.0126	-0.6400	0.0766	0.2644	0.0506
355.08	-0.7363	-0.1180	-0.6159	0.1206	0.3199	0.0882

Table 2.21-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-0.3360	-0.0512	-0.8239	0.1403	0.3900	0.0907
4.92	-1.1513	-0.0989	-0.8732	0.1516	0.2681	0.0272
9.84	-1.1435	-0.1626	-0.8253	0.1448	0.4490	0.0480
15.12	-1.1584	-0.2348	-0.7793	0.1434	0.5196	0.0475
29.88	-1.0123	-1.1539	-0.8545	0.1175	0.2893	0.0441
45	-0.4903	-1.8461	-0.7859	0.0828	0.2348	0.0656
60.12	-0.0216	-2.1889	-0.8617	0.1291	0.1732	0.0600
74.88	0.2439	-1.5648	-0.7395	0.1795	0.1072	0.0455
80.16	0.5971	-1.3224	-0.6976	0.1988	0.1349	0.0444
85.08	0.1960	-0.8012	-0.6909	0.1225	0.1003	0.0408
90	0.8941	-0.6532	-0.6987	0.2602	0.1923	0.0443
94.92	0.8552	-0.2589	-0.6901	0.5365	0.4055	0.1556
99.84	0.3100	0.2826	-0.4897	0.0442	0.3145	0.0365
105.12	0.4206	0.7660	-0.4151	0.0349	0.3073	0.0304
119.88	0.6550	1.9473	-0.2948	0.0648	0.3986	0.0251
135	1.1164	2.0752	-0.3483	0.0486	0.5701	0.0252
150.12	1.7729	1.1568	-0.4776	0.0600	0.5490	0.0306
164.88	2.0908	-0.3870	-0.6738	0.0875	1.0967	0.0722
170.16	2.2598	-0.0594	-0.7220	0.0517	0.5059	0.1882
175.08	2.2774	-0.4491	-0.7790	0.0578	0.7144	0.2820
180	1.7992	-0.5122	-0.6737	0.0682	0.7559	0.0465
184.92	1.9298	-0.7102	-0.7226	0.0519	0.7716	0.0514
189.84	2.0526	-0.8677	-0.7779	0.0504	0.8370	0.0798
195.12	2.0653	-1.0924	-0.7977	0.0528	0.6951	0.0515
209.88	1.9532	-0.8632	-0.8352	0.0512	0.6316	0.0581
225	1.8753	-0.5252	-0.8437	0.0488	0.6061	0.0529
240.12	1.9062	-0.1133	-0.8513	0.0452	0.4829	0.0551
254.88	1.9747	-0.0674	-0.9092	0.0558	0.3459	0.0272
260.16	1.8733	0.0683	-0.8458	0.0614	0.2466	0.0508
265.08	1.7830	0.1801	-0.8530	0.0776	0.3576	0.0439
270.35	1.7052	0.1507	-0.8392	0.0808	0.2384	0.0460
274.92	1.6476	-0.0338	-0.8727	0.0895	0.3689	0.0613
279.84	0.1120	0.3869	-0.6844	0.0479	0.1710	0.0460
285.12	0.2356	0.3319	-0.6982	0.0645	0.1892	0.0391
299.88	0.2786	-0.1881	-0.8114	0.0537	0.1200	0.0326
315	-0.0257	-0.2568	-0.8325	0.0593	0.1918	0.0327
330.12	-0.5132	-0.1445	-0.8716	0.0595	0.2240	0.0337
344.88	-0.7764	-0.0641	-0.8427	0.0804	0.3549	0.0331
350.16	-0.8297	-0.0914	-0.8404	0.0813	0.2703	0.0286
355.08	-1.3432	0.1280	-0.8122	0.0994	0.4625	0.0352

Table 2.21-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-0.9174	0.0486	-0.8532	0.1132	0.3362	0.0624
4.92	-0.6511	-0.2010	-0.7588	0.1093	0.5887	0.1153
9.84	-1.1986	-0.1170	-0.7237	0.1096	0.3746	0.0487
15.12	-1.2067	-0.3476	-0.6821	0.0861	0.2983	0.0455
29.88	-1.1917	-1.0198	-0.7137	0.0838	0.2282	0.0371
45	-0.5322	-1.9943	-0.8005	0.1288	0.2986	0.0422
60.12	0.1015	-2.4193	-0.7431	0.1309	0.1282	0.0599
74.88	0.7047	-1.7364	-0.6848	0.2971	0.1537	0.0742
80.16	0.9544	-1.9517	-1.0209	0.2499	0.1563	0.0864
85.08	1.0167	-1.6630	-0.9793	0.3122	0.2166	0.1097
90	1.1581	-1.3777	-0.9478	0.3347	0.2634	0.1220
94.92	1.2872	-0.9730	-0.9181	0.3962	0.3641	0.1483
99.84	0.3716	-0.1357	-0.6886	0.0774	0.3441	0.0343
105.12	0.4224	0.3732	-0.5857	0.0379	0.3470	0.0397
119.88	0.5308	1.7503	-0.4984	0.0555	0.4547	0.0324
135	1.0157	1.7413	-0.5123	0.0823	0.5799	0.0366
150.12	1.6583	0.8367	-0.6662	0.0879	0.6141	0.0383
164.88	2.1001	-0.2007	-0.8329	0.0679	0.4279	0.0336
170.16	1.9976	-0.4014	-0.8457	0.0561	0.4366	0.0480
175.08	1.9666	-0.4764	-0.8931	0.0817	0.5596	0.0530
180.35	1.6941	-0.7986	-1.0854	0.0901	0.5126	0.0666
184.92	2.2631	-1.1899	-1.0566	0.3165	0.9236	0.1543
189.84	2.3112	-1.2244	-0.9207	0.1173	0.5223	0.2525
195.12	1.7837	-0.9004	-0.8877	0.0333	0.4274	0.0426
209.88	1.8725	-1.1406	-0.9656	0.0445	0.6290	0.0589
225	1.7472	-0.4363	-0.8928	0.0378	0.5010	0.0634
240.12	1.8027	-0.0620	-0.8942	0.0412	0.3261	0.0530
254.88	1.8876	-0.0637	-0.9188	0.0583	0.3746	0.0647
260.16	1.8336	0.0733	-0.8945	0.0616	0.2352	0.0513
265.08	1.7533	0.1076	-0.9083	0.0721	0.2717	0.0773
270	1.6579	0.1534	-0.8785	0.0922	0.3670	0.0797
274.92	1.5239	0.1946	-0.8682	0.0826	0.1613	0.0394
279.84	0.0949	0.3250	-0.7677	0.0531	0.2801	0.1090
285.12	0.0427	0.2357	-0.8623	0.0473	0.2313	0.1231
299.88	0.0094	-0.1627	-0.9450	0.0612	0.1593	0.0503
315	-0.3504	-0.2024	-0.8959	0.0727	0.1753	0.0673
330.12	-0.8527	-0.0204	-0.8825	0.0747	0.3447	0.0504
344.88	-0.9898	-0.1693	-0.7963	0.0675	0.2554	0.0420
350.16	-1.0634	0.0175	-0.8150	0.0771	0.3174	0.0556
355.08	-0.4314	-0.4460	-0.9056	0.1827	0.3002	0.0520

Table 2.21-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-0.8116	0.0439	-0.3616	0.1553	0.5482	0.1541
4.92	-1.0663	-0.0832	-0.4854	0.1398	0.4920	0.0593
9.84	-1.2700	-0.1998	-0.4504	0.1052	0.4573	0.0479
15.12	-1.2621	-0.3234	-0.4582	0.1102	0.3891	0.0345
29.88	-1.1170	-1.0725	-0.5279	0.1079	0.3650	0.0417
45	-0.6632	-1.6747	-0.5794	0.0835	0.2033	0.0382
60.12	-0.2668	-1.9965	-0.6022	0.1154	0.1629	0.0478
74.88	-0.2285	-1.1673	-0.4940	0.0952	0.1026	0.0456
80.16	0.0062	-0.8721	-0.4815	0.1497	0.1376	0.0278
85.08	0.5787	-0.4643	-0.4346	0.1669	0.2021	0.0376
90.35	0.6838	-0.1848	-0.5003	0.1626	0.2209	0.0376
94.92	0.9718	0.0773	-0.4741	0.1697	0.3923	0.0451
99.84	0.2134	0.5745	-0.3202	0.0455	0.2155	0.0253
105.12	0.2603	1.2222	-0.2795	0.0371	0.2884	0.0295
119.88	0.4654	2.0894	-0.1958	0.0446	0.4304	0.0196
135	0.9214	2.2951	-0.1806	0.0356	0.4736	0.0195
150.12	1.5993	1.2583	-0.3060	0.0510	0.4113	0.0371
164.88	2.1101	0.0680	-0.4483	0.0495	0.5358	0.0433
170.16	2.0892	-0.0598	-0.4772	0.0443	0.3911	0.0336
175.08	2.0514	-0.3822	-0.5334	0.1084	0.7155	0.0694
180	1.9157	-0.4805	-0.4205	0.0918	0.6319	0.0572
184.92	1.8055	-0.5610	-0.4963	0.0380	0.4286	0.0421
189.84	1.8779	-0.9148	-0.5362	0.0411	0.7547	0.0809
195.12	1.9182	-1.2372	-0.5988	0.0516	0.8571	0.0997
209.88	1.7395	-0.6128	-0.5756	0.0424	0.5892	0.0570
225	1.6131	-0.3352	-0.4954	0.0490	0.5188	0.0672
240.12	1.5250	-0.0110	-0.5091	0.0568	0.6355	0.0783
254.88	1.4342	0.1761	-0.4586	0.0477	0.2418	0.0558
260.16	1.3815	0.1775	-0.4646	0.0441	0.2766	0.0625
265.08	1.2091	0.3995	-0.4213	0.0597	0.1730	0.0432
270	1.2400	0.2832	-0.4235	0.0661	0.2416	0.0592
274.92	1.1606	0.2708	-0.4477	0.0898	0.3902	0.0486
279.84	0.1633	0.4048	-0.3110	0.0500	0.2406	0.0664
285.12	0.1435	0.1858	-0.3045	0.0377	0.1904	0.0615
299.88	0.1835	-0.2796	-0.4042	0.0597	0.1008	0.0494
315	-0.2199	-0.1812	-0.3975	0.0864	0.2266	0.0622
330.12	-0.6370	-0.1240	-0.4064	0.0679	0.2469	0.0523
344.88	-0.8038	0.1766	-0.4389	0.2279	0.7894	0.0622
350.16	-0.7713	-0.1987	-0.4662	0.0689	0.2993	0.0353
355.08	-1.2666	-0.0943	-0.2257	0.1375	0.4874	0.0438

2.21.2 Spanwise Elastic Deformations

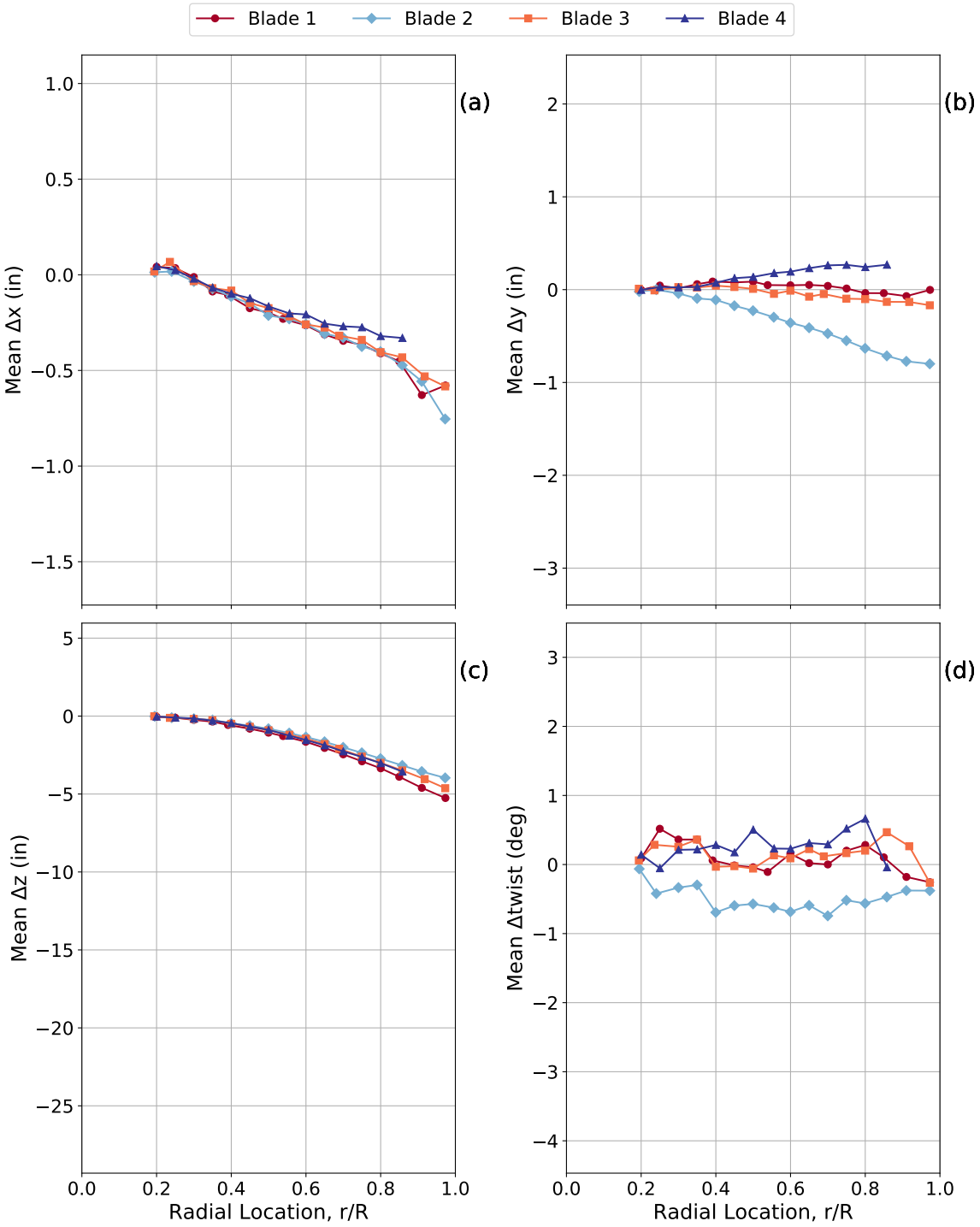


Figure 2.21-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0415	0.0048	-0.0030	0.0084	-0.0489	0.0137	0.0902	0.1303
1	0.35	0.2499	0.0351	0.0110	0.0440	0.0100	-0.1024	0.0506	0.5176	0.3164
1	0.35	0.2998	-0.0117	0.0074	0.0134	0.0131	-0.2455	0.0887	0.3620	0.3444
1	0.35	0.3498	-0.0873	0.0042	0.0586	0.0308	-0.3580	0.1278	0.3616	0.3778
1	0.35	0.3913	-0.1059	0.0212	0.0872	0.0296	-0.5704	0.2169	0.0602	0.1240
1	0.35	0.4496	-0.1746	0.0197	0.0780	0.0481	-0.8084	0.2748	-0.0131	0.1207
1	0.35	0.4997	-0.1979	0.0189	0.0862	0.0673	-1.0635	0.3261	-0.0399	0.1149
1	0.35	0.5387	-0.2303	0.0178	0.0491	0.0832	-1.2824	0.3683	-0.1074	0.1154
1	0.35	0.5996	-0.2640	0.0164	0.0469	0.1105	-1.6479	0.4356	0.1557	0.1112
1	0.35	0.6498	-0.3122	0.0155	0.0509	0.1347	-2.0430	0.4939	0.0204	0.1072
1	0.35	0.6998	-0.3452	0.0156	0.0402	0.1600	-2.4537	0.5531	0.0009	0.1061
1	0.35	0.7500	-0.3665	0.0164	0.0120	0.1864	-2.9028	0.6135	0.2007	0.1044
1	0.35	0.8001	-0.4108	0.0181	-0.0373	0.2130	-3.3511	0.6750	0.2828	0.1100
1	0.35	0.8497	-0.4525	0.0203	-0.0382	0.2412	-3.8918	0.7373	0.1038	0.1072
1	0.35	0.9102	-0.6287	0.0333	-0.0699	0.1505	-4.6049	0.7710	-0.1796	2.7205
1	0.35	0.9734	-0.5786	0.0303	-0.0027	0.3110	-5.2562	0.8915	-0.2570	0.1699
2	0	0.1949	0.0130	0.0083	-0.0206	0.0027	-0.0159	0.0079	-0.0627	0.0455
2	0	0.2405	0.0177	0.0117	-0.0000	0.0133	-0.1038	0.0396	-0.4205	0.0699
2	0	0.2999	-0.0348	0.0073	-0.0413	0.0186	-0.1710	0.0705	-0.3339	0.1053
2	0	0.3498	-0.0730	0.0048	-0.0945	0.0235	-0.2515	0.0979	-0.2963	0.1445
2	0	0.3998	-0.1140	0.0206	-0.1103	0.0484	-0.4596	0.1819	-0.6935	0.1359
2	0	0.4496	-0.1498	0.0186	-0.1738	0.0570	-0.6171	0.2237	-0.5949	0.1357
2	0	0.4995	-0.2126	0.0177	-0.2269	0.0686	-0.8112	0.2673	-0.5705	0.1317
2	0	0.5551	-0.2303	0.0157	-0.2971	0.0826	-1.0896	0.3248	-0.6252	0.1495
2	0	0.5996	-0.2580	0.0143	-0.3572	0.0954	-1.3415	0.3727	-0.6840	0.1481
2	0	0.6497	-0.3084	0.0139	-0.4107	0.1108	-1.6478	0.4303	-0.5911	0.1506
2	0	0.6996	-0.3285	0.0135	-0.4730	0.1263	-2.0063	0.4888	-0.7432	0.1499
2	0	0.7495	-0.3751	0.0147	-0.5497	0.1424	-2.3568	0.5516	-0.5180	0.1597
2	0	0.7996	-0.4018	0.0162	-0.6325	0.1590	-2.7274	0.6176	-0.5633	0.1619
2	0	0.8578	-0.4729	0.0179	-0.7138	0.1800	-3.1657	0.6947	-0.4698	0.1785
2	0	0.9100	-0.5570	0.0255	-0.7723	0.2336	-3.5572	0.6657	-0.3764	2.4954
2	0	0.9727	-0.7539	0.0429	-0.7995	0.4576	-3.9646	1.1927	-0.3784	0.1045
3	0	0.1938	0.0172	0.0041	0.0098	0.0073	-0.0111	0.0090	0.0600	0.0888
3	0	0.2357	0.0676	0.0112	-0.0079	0.0126	-0.1148	0.0353	0.2856	0.2262
3	0	0.2995	-0.0333	0.0063	0.0273	0.0084	-0.1812	0.0711	0.2574	0.2699
3	0	0.3493	-0.0699	0.0044	0.0228	0.0160	-0.2675	0.0993	0.3614	0.3015
3	0	0.4000	-0.0824	0.0190	0.0427	0.0232	-0.4955	0.1807	-0.0321	0.0737
3	0	0.4497	-0.1475	0.0182	0.0283	0.0310	-0.6863	0.2160	-0.0239	0.0767
3	0	0.4997	-0.1743	0.0167	0.0084	0.0413	-0.9126	0.2544	-0.0587	0.0799
3	0	0.5556	-0.2173	0.0158	-0.0454	0.0549	-1.1972	0.2988	0.1337	0.0751
3	0	0.5995	-0.2590	0.0149	-0.0109	0.0663	-1.4446	0.3351	0.0897	0.0722
3	0	0.6498	-0.2757	0.0142	-0.0757	0.0821	-1.7918	0.3776	0.2236	0.0740
3	0	0.6890	-0.3182	0.0134	-0.0471	0.0940	-2.0978	0.4111	0.1184	0.0729
3	0	0.7495	-0.3403	0.0127	-0.0973	0.1142	-2.5983	0.4635	0.1656	0.0780
3	0	0.7998	-0.4045	0.0137	-0.1019	0.1333	-3.0001	0.5087	0.2010	0.0739
3	0	0.8577	-0.4317	0.0163	-0.1315	0.1577	-3.4855	0.5595	0.4676	0.1235
3	0	0.9178	-0.5311	0.0206	-0.1325	0.1574	-4.0445	0.5120	0.2645	2.2259
3	0	0.9729	-0.5835	0.0244	-0.1685	0.1783	-4.6275	0.4898	-0.2642	2.4338
4	0	0.2001	0.0447	0.0185	-0.0025	0.0050	-0.0328	0.0049	0.1418	0.0358
4	0	0.2502	0.0242	0.0070	0.0279	0.0107	-0.0987	0.0117	-0.0537	0.0631
4	0	0.3001	-0.0203	0.0076	0.0245	0.0219	-0.1564	0.0218	0.2129	0.0802
4	0	0.3502	-0.0679	0.0211	0.0298	0.0365	-0.2929	0.0364	0.2177	0.0864
4	0	0.4002	-0.0990	0.0366	0.0734	0.0580	-0.4566	0.0583	0.2839	0.0893
4	0	0.4500	-0.1224	0.0540	0.1232	0.0821	-0.6756	0.0806	0.1761	0.0952
4	0	0.5001	-0.1656	0.0702	0.1371	0.1107	-0.8877	0.1099	0.5040	0.1014
4	0	0.5560	-0.2021	0.0893	0.1783	0.1455	-1.2603	0.1451	0.2315	0.1083
4	0	0.6001	-0.2073	0.1041	0.1938	0.1747	-1.5386	0.1734	0.2281	0.1292
4	0	0.6501	-0.2554	0.1209	0.2315	0.2065	-1.8765	0.2130	0.3112	0.1084
4	0	0.6999	-0.2693	0.1353	0.2615	0.2347	-2.2633	0.2490	0.2916	0.1262
4	0	0.7500	-0.2744	0.1487	0.2669	0.2647	-2.6241	0.2891	0.5208	0.1340
4	0	0.8002	-0.3204	0.1595	0.2429	0.2895	-3.0188	0.3262	0.6631	0.1444
4	0	0.8582	-0.3303	0.1673	0.2683	0.3215	-3.5615	0.3767	-0.0405	0.1706

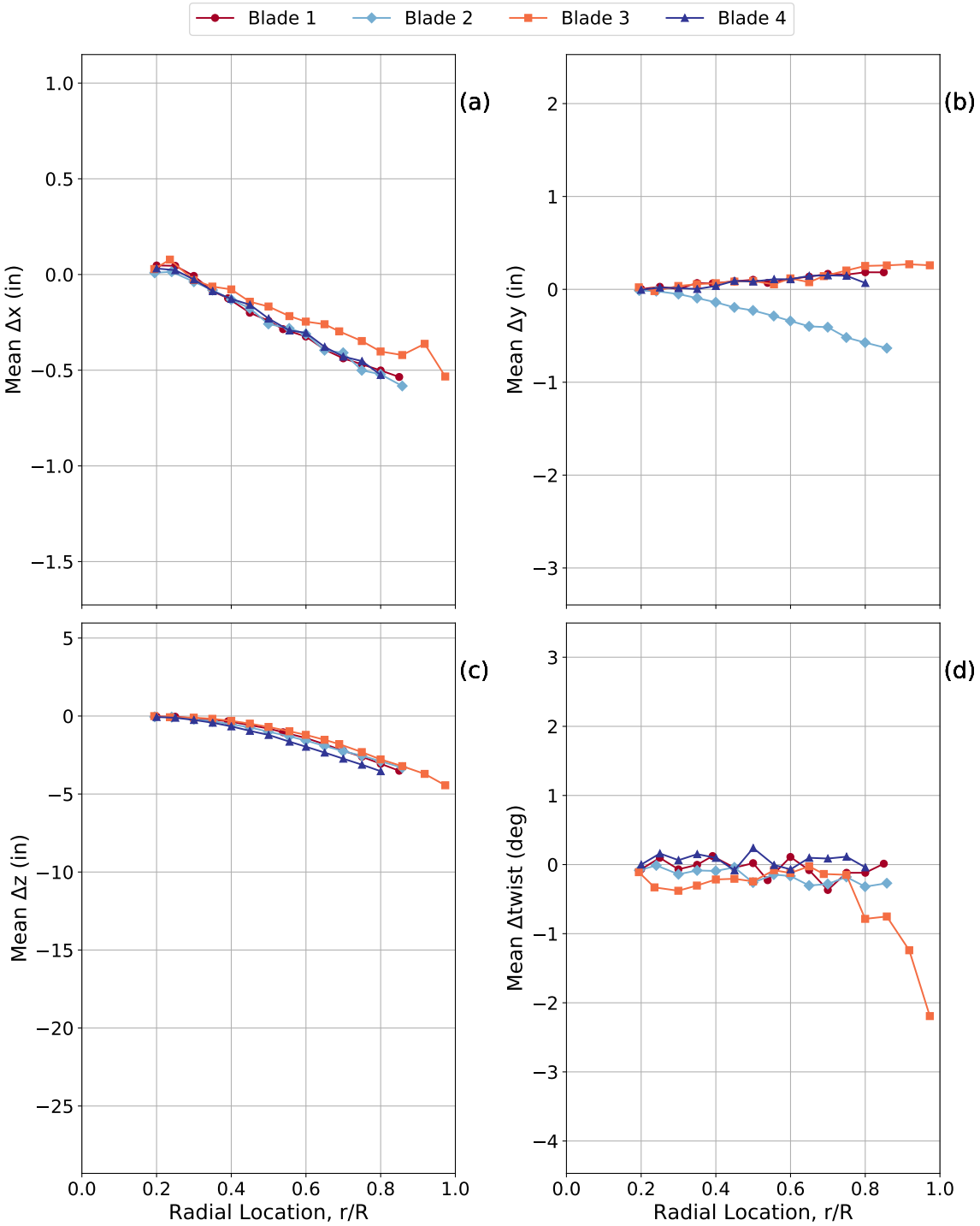


Figure 2.21-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0472	0.0075	0.0036	0.0049	-0.0385	0.0088	-0.0674	0.0697
1	4.92	0.2499	0.0454	0.0038	0.0275	0.0089	-0.0425	0.0174	0.0977	0.1348
1	4.92	0.2998	-0.0074	0.0030	0.0044	0.0176	-0.1484	0.0350	-0.0690	0.1586
1	4.92	0.3498	-0.0874	0.0037	0.0677	0.0316	-0.2331	0.0646	-0.0037	0.1333
1	4.92	0.3913	-0.1241	0.0047	0.0644	0.0432	-0.3353	0.0899	0.1232	0.1403
1	4.92	0.4496	-0.1998	0.0046	0.0867	0.0568	-0.5813	0.1284	-0.0457	0.1313
1	4.92	0.4997	-0.2417	0.0055	0.1030	0.0696	-0.8014	0.1633	0.0205	0.1425
1	4.92	0.5387	-0.2857	0.0054	0.0699	0.0808	-1.0399	0.1926	-0.2259	0.1484
1	4.92	0.5996	-0.3240	0.0051	0.1131	0.0952	-1.4101	0.2386	0.1102	0.1408
1	4.92	0.6498	-0.3921	0.0059	0.1365	0.1082	-1.8037	0.2783	-0.0805	0.1442
1	4.92	0.6998	-0.4381	0.0069	0.1669	0.1204	-2.2256	0.3181	-0.3675	0.1631
1	4.92	0.7500	-0.4694	0.0082	0.1589	0.1327	-2.6114	0.3628	-0.1190	0.1531
1	4.92	0.8001	-0.5013	0.0141	0.1838	0.1391	-3.0612	0.4091	-0.1188	0.2448
1	4.92	0.8497	-0.5354	0.0110	0.1834	0.1593	-3.5091	0.4551	0.0127	0.1789
2	4.92	0.1949	0.0086	0.0055	-0.0130	0.0028	-0.0508	0.0059	-0.0824	0.0584
2	4.92	0.2405	0.0143	0.0026	-0.0193	0.0046	-0.0691	0.0100	-0.0123	0.1334
2	4.92	0.2999	-0.0380	0.0023	-0.0510	0.0082	-0.2073	0.0227	-0.1405	0.1603
2	4.92	0.3498	-0.0813	0.0029	-0.0941	0.0162	-0.3387	0.0413	-0.0850	0.1403
2	4.92	0.3998	-0.1309	0.0032	-0.1393	0.0225	-0.5254	0.0615	-0.0925	0.1412
2	4.92	0.4496	-0.1767	0.0034	-0.1944	0.0281	-0.7312	0.0836	-0.0406	0.1420
2	4.92	0.4995	-0.2584	0.0038	-0.2273	0.0355	-1.0038	0.1078	-0.2608	0.1462
2	4.92	0.5551	-0.2815	0.0047	-0.2872	0.0422	-1.2988	0.1363	-0.1451	0.1407
2	4.92	0.5996	-0.3108	0.0049	-0.3407	0.0480	-1.5731	0.1613	-0.1658	0.1447
2	4.92	0.6497	-0.3957	0.0055	-0.3984	0.0545	-1.9113	0.1905	-0.3032	0.1487
2	4.92	0.6996	-0.4088	0.0062	-0.4075	0.0606	-2.2542	0.2208	-0.2816	0.1554
2	4.92	0.7495	-0.5005	0.0067	-0.5186	0.0685	-2.5391	0.2530	-0.1791	0.1584
2	4.92	0.7996	-0.5214	0.0080	-0.5732	0.0766	-2.9003	0.2903	-0.3198	0.1770
2	4.92	0.8578	-0.5824	0.0125	-0.6327	0.0853	-3.3080	0.3304	-0.2697	0.3981
3	4.92	0.1938	0.0284	0.0214	0.0216	0.0054	-0.0050	0.0062	-0.1100	0.0385
3	4.92	0.2357	0.0779	0.0102	-0.0186	0.0097	-0.0770	0.0118	-0.3300	0.0894
3	4.92	0.2995	-0.0290	0.0095	0.0362	0.0230	-0.1020	0.0257	-0.3788	0.1034
3	4.92	0.3493	-0.0632	0.0260	0.0556	0.0405	-0.1775	0.0455	-0.3036	0.1002
3	4.92	0.4000	-0.0779	0.0442	0.0661	0.0629	-0.3080	0.0700	-0.2156	0.1076
3	4.92	0.4497	-0.1423	0.0630	0.0836	0.0859	-0.4870	0.0957	-0.2054	0.1131
3	4.92	0.4997	-0.1672	0.0822	0.0890	0.1116	-0.6982	0.1271	-0.2439	0.1179
3	4.92	0.5556	-0.2175	0.1038	0.0541	0.1400	-0.9756	0.1624	-0.0815	0.1251
3	4.92	0.5995	-0.2461	0.1204	0.1182	0.1619	-1.2059	0.1924	-0.1220	0.1465
3	4.92	0.6498	-0.2599	0.1382	0.0770	0.1854	-1.5233	0.2316	-0.0256	0.1394
3	4.92	0.6890	-0.2970	0.1506	0.1422	0.2047	-1.7985	0.2618	-0.1364	0.1356
3	4.92	0.7495	-0.3476	0.0212	0.2028	0.2184	-2.3108	0.3157	-0.1483	0.1615
3	4.92	0.7998	-0.4023	0.0428	0.2520	0.2387	-2.7801	0.3446	-0.7856	0.7372
3	4.92	0.8577	-0.4208	0.0441	0.2578	0.2575	-3.2123	0.3932	-0.7514	0.8439
3	4.92	0.9178	-0.3622	0.0473	0.2699	0.2763	-3.7088	0.4361	-1.2399	1.0479
3	4.92	0.9729	-0.5329	0.0741	0.2590	0.3354	-4.4387	0.7781	-2.1922	3.8269
4	4.92	0.2001	0.0315	0.0060	-0.0052	0.0035	-0.0625	0.0076	-0.0005	0.0550
4	4.92	0.2502	0.0224	0.0038	0.0192	0.0056	-0.1097	0.0141	0.1603	0.1093
4	4.92	0.3001	-0.0263	0.0026	0.0136	0.0118	-0.2527	0.0303	0.0635	0.1286
4	4.92	0.3502	-0.0868	0.0034	0.0038	0.0211	-0.4294	0.0518	0.1504	0.1066
4	4.92	0.4002	-0.1277	0.0044	0.0364	0.0307	-0.6631	0.0800	0.0969	0.1099
4	4.92	0.4500	-0.1582	0.0043	0.0915	0.0372	-0.9499	0.1091	-0.0828	0.1046
4	4.92	0.5001	-0.2305	0.0048	0.0838	0.0458	-1.2127	0.1419	0.2394	0.1063
4	4.92	0.5560	-0.2926	0.0046	0.1091	0.0555	-1.6435	0.1798	-0.0066	0.1121
4	4.92	0.6001	-0.3049	0.0055	0.1087	0.0634	-1.9693	0.2065	-0.0693	0.1166
4	4.92	0.6501	-0.3784	0.0055	0.1456	0.0716	-2.3437	0.2377	0.0978	0.1197
4	4.92	0.6999	-0.4289	0.0070	0.1503	0.0805	-2.7340	0.2693	0.0872	0.1124
4	4.92	0.7500	-0.4526	0.0078	0.1459	0.0883	-3.1215	0.3017	0.1137	0.1313
4	4.92	0.8002	-0.5248	0.0088	0.0684	0.1016	-3.5372	0.3303	-0.0404	0.2625

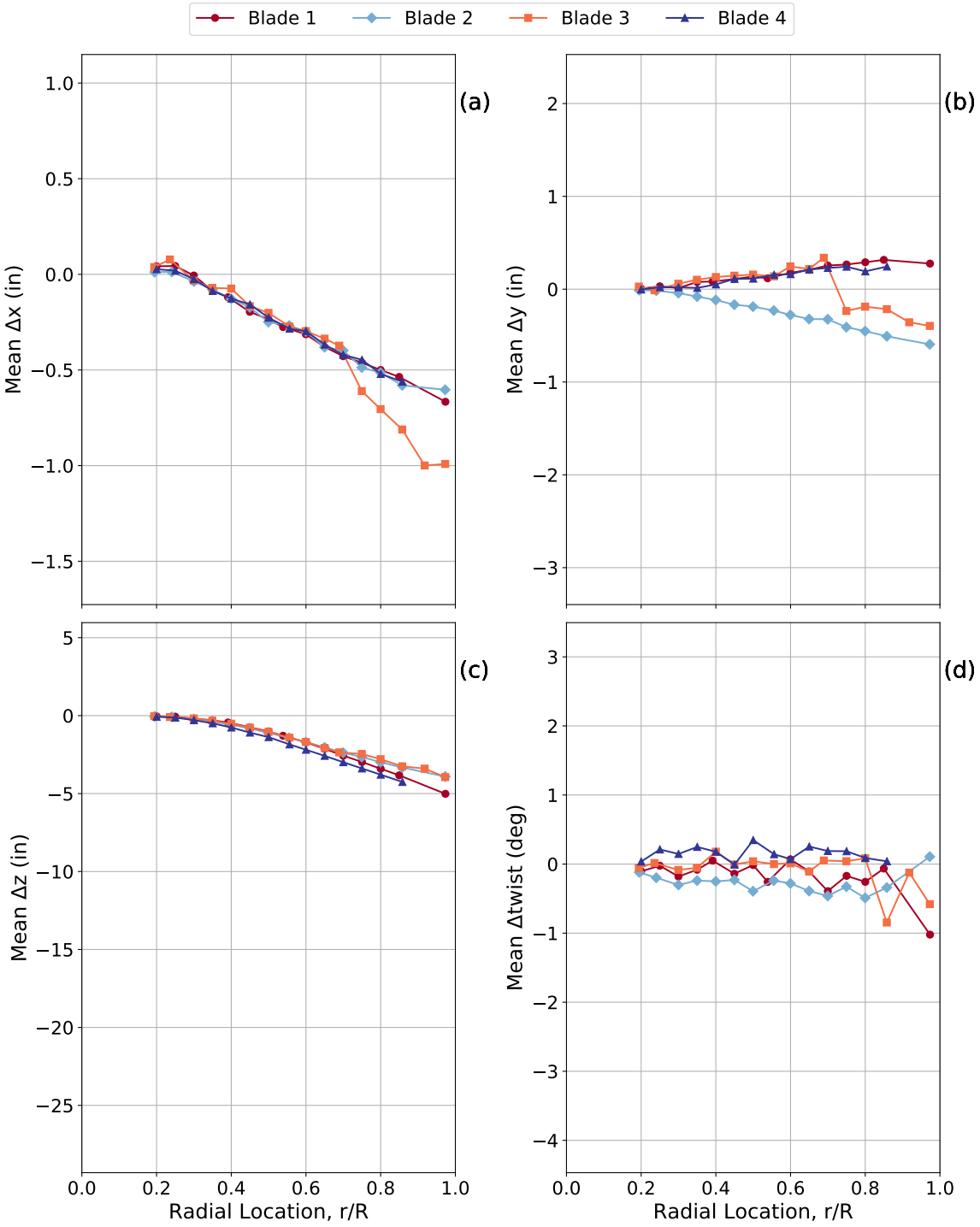


Figure 2.21-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0421	0.0060	0.0050	0.0033	-0.0463	0.0066	-0.1055	0.0653
1	9.84	0.2499	0.0438	0.0040	0.0312	0.0063	-0.0651	0.0126	-0.0238	0.1225
1	9.84	0.2998	-0.0061	0.0033	0.0123	0.0108	-0.1897	0.0260	-0.1807	0.1464
1	9.84	0.3498	-0.0859	0.0037	0.0781	0.0199	-0.3009	0.0461	-0.0821	0.1292
1	9.84	0.3913	-0.1196	0.0037	0.0824	0.0265	-0.4400	0.0647	0.0503	0.1291
1	9.84	0.4496	-0.1959	0.0042	0.1092	0.0356	-0.7474	0.0932	-0.1399	0.1313
1	9.84	0.4997	-0.2350	0.0043	0.1364	0.0441	-1.0123	0.1204	-0.0141	0.1322
1	9.84	0.5387	-0.2755	0.0046	0.1176	0.0512	-1.2919	0.1427	-0.2578	0.1322
1	9.84	0.5996	-0.3132	0.0046	0.1760	0.0607	-1.7099	0.1788	0.0680	0.1334
1	9.84	0.6498	-0.3793	0.0052	0.2087	0.0694	-2.1278	0.2095	-0.1074	0.1337
1	9.84	0.6998	-0.4279	0.0063	0.2550	0.0775	-2.5701	0.2432	-0.3917	0.1257
1	9.84	0.7500	-0.4622	0.0076	0.2659	0.0860	-2.9728	0.2802	-0.1707	0.1383
1	9.84	0.8001	-0.5000	0.0090	0.2902	0.0923	-3.4079	0.3192	-0.2576	0.1437
1	9.84	0.8497	-0.5364	0.0101	0.3158	0.1012	-3.8294	0.3609	-0.0646	0.1356
1	9.84	0.9734	-0.6661	0.0150	0.2759	0.1266	-5.0155	0.4764	-1.0213	0.2138
2	9.84	0.1949	0.0114	0.0061	-0.0112	0.0032	-0.0532	0.0073	-0.1192	0.0414
2	9.84	0.2405	0.0129	0.0028	-0.0158	0.0050	-0.0824	0.0128	-0.1976	0.1149
2	9.84	0.2999	-0.0368	0.0028	-0.0424	0.0105	-0.2286	0.0310	-0.3021	0.1206
2	9.84	0.3498	-0.0799	0.0031	-0.0797	0.0180	-0.3733	0.0518	-0.2389	0.1205
2	9.84	0.3998	-0.1282	0.0033	-0.1165	0.0268	-0.5853	0.0811	-0.2507	0.1172
2	9.84	0.4496	-0.1724	0.0037	-0.1669	0.0345	-0.8203	0.1106	-0.2293	0.1217
2	9.84	0.4995	-0.2496	0.0041	-0.1882	0.0427	-1.1094	0.1448	-0.3931	0.1236
2	9.84	0.5551	-0.2679	0.0052	-0.2302	0.0502	-1.4283	0.1809	-0.2383	0.1224
2	9.84	0.5996	-0.2987	0.0052	-0.2775	0.0581	-1.7025	0.2151	-0.2799	0.1247
2	9.84	0.6497	-0.3807	0.0059	-0.3215	0.0669	-2.0361	0.2533	-0.3898	0.1200
2	9.84	0.6996	-0.3980	0.0078	-0.3241	0.0727	-2.3770	0.2931	-0.4615	0.1351
2	9.84	0.7495	-0.4871	0.0069	-0.4094	0.0825	-2.6522	0.3431	-0.3268	0.1200
2	9.84	0.7996	-0.5141	0.0089	-0.4518	0.0904	-2.9865	0.3914	-0.4901	0.1479
2	9.84	0.8578	-0.5805	0.0128	-0.5074	0.1027	-3.3311	0.4455	-0.3399	0.1989
2	9.84	0.9727	-0.6034	0.0137	-0.5941	0.1154	-3.9080	0.5811	0.1067	0.2047
3	9.84	0.1938	0.0379	0.0056	0.0281	0.0028	-0.0321	0.0069	-0.0547	0.0441
3	9.84	0.2357	0.0777	0.0033	-0.0109	0.0036	-0.0906	0.0090	0.0158	0.1002
3	9.84	0.2995	-0.0324	0.0021	0.0585	0.0085	-0.1831	0.0258	-0.0852	0.1151
3	9.84	0.3493	-0.0706	0.0028	0.1016	0.0131	-0.3269	0.0429	-0.0536	0.1180
3	9.84	0.4000	-0.0743	0.0033	0.1310	0.0202	-0.5198	0.0663	0.1788	0.1107
3	9.84	0.4497	-0.1661	0.0037	0.1458	0.0259	-0.7742	0.0908	-0.0056	0.1138
3	9.84	0.4997	-0.2014	0.0038	0.1575	0.0324	-1.0401	0.1174	0.0403	0.1139
3	9.84	0.5556	-0.2724	0.0039	0.1383	0.0391	-1.4106	0.1485	0.0004	0.1125
3	9.84	0.5995	-0.2965	0.0049	0.2453	0.0444	-1.6861	0.1752	0.0101	0.1193
3	9.84	0.6498	-0.3361	0.0047	0.2175	0.0501	-2.0748	0.2049	-0.1093	0.1279
3	9.84	0.6890	-0.3727	0.0051	0.3383	0.0538	-2.3567	0.2299	0.0521	0.1257
3	9.84	0.7495	-0.6104	0.1081	-0.2347	0.2201	-2.4598	0.3248	0.0417	0.1813
3	9.84	0.7998	-0.7047	0.1135	-0.1883	0.2531	-2.7932	0.3612	0.0835	0.1221
3	9.84	0.8577	-0.8111	0.0948	-0.2152	0.2882	-3.2531	0.3720	-0.8464	0.6999
3	9.84	0.9178	-0.9994	0.0537	-0.3569	0.3562	-3.3992	0.5305	-0.1239	0.1385
3	9.84	0.9729	-0.9913	0.0577	-0.3957	0.3991	-3.9440	0.5694	-0.5805	0.2374
4	9.84	0.2001	0.0269	0.0046	-0.0035	0.0025	-0.0712	0.0078	0.0364	0.0452
4	9.84	0.2502	0.0189	0.0030	0.0210	0.0044	-0.1273	0.0139	0.2113	0.1057
4	9.84	0.3001	-0.0252	0.0027	0.0200	0.0090	-0.2909	0.0296	0.1466	0.1121
4	9.84	0.3502	-0.0868	0.0029	0.0134	0.0146	-0.4941	0.0522	0.2481	0.1005
4	9.84	0.4002	-0.1265	0.0034	0.0516	0.0223	-0.7648	0.0791	0.1779	0.0991
4	9.84	0.4500	-0.1577	0.0038	0.1107	0.0283	-1.0897	0.1094	-0.0081	0.0999
4	9.84	0.5001	-0.2266	0.0041	0.1132	0.0353	-1.3803	0.1436	0.3467	0.0928
4	9.84	0.5560	-0.2843	0.0052	0.1544	0.0423	-1.8471	0.1808	0.1423	0.1013
4	9.84	0.6001	-0.2973	0.0056	0.1619	0.0484	-2.1889	0.2150	0.0712	0.1009
4	9.84	0.6501	-0.3674	0.0072	0.2119	0.0566	-2.5813	0.2563	0.2536	0.1029
4	9.84	0.6999	-0.4210	0.0074	0.2288	0.0630	-2.9884	0.2979	0.1886	0.1074
4	9.84	0.7500	-0.4468	0.0076	0.2420	0.0721	-3.3886	0.3469	0.1857	0.1066
4	9.84	0.8002	-0.5208	0.0097	0.1919	0.0792	-3.7884	0.3947	0.0881	0.1785
4	9.84	0.8582	-0.5614	0.0145	0.2438	0.0831	-4.2548	0.4591	0.0397	0.1798

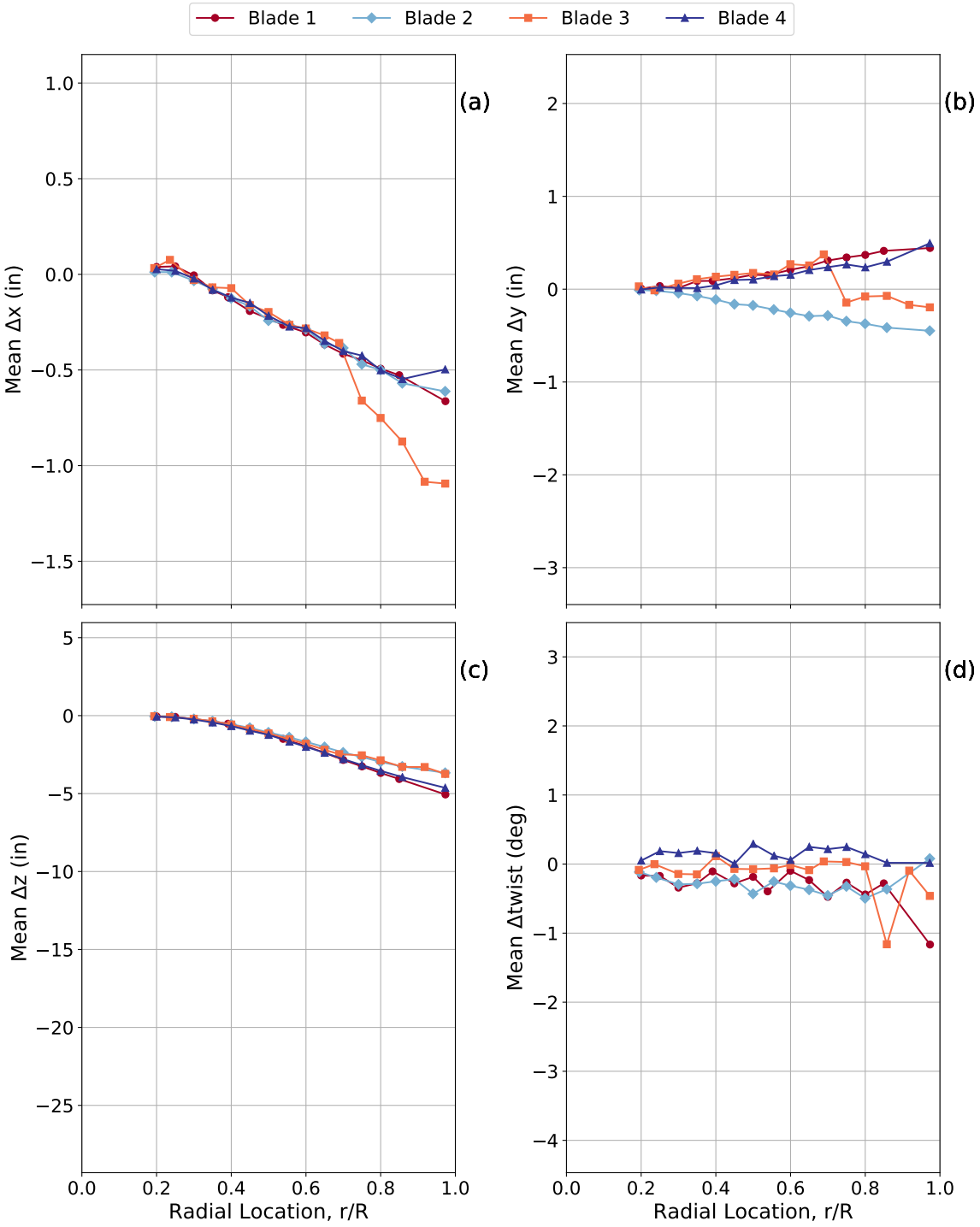


Figure 2.21-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0388	0.0051	0.0059	0.0031	-0.0536	0.0064	-0.1656	0.0552
1	15.12	0.2499	0.0419	0.0035	0.0338	0.0055	-0.0830	0.0140	-0.1724	0.0957
1	15.12	0.2998	-0.0053	0.0028	0.0130	0.0105	-0.2172	0.0269	-0.3410	0.1247
1	15.12	0.3498	-0.0839	0.0033	0.0875	0.0192	-0.3604	0.0488	-0.2783	0.1198
1	15.12	0.3913	-0.1193	0.0039	0.0901	0.0259	-0.5186	0.0693	-0.1061	0.1178
1	15.12	0.4496	-0.1917	0.0039	0.1188	0.0353	-0.8667	0.1003	-0.2799	0.1141
1	15.12	0.4997	-0.2319	0.0043	0.1557	0.0435	-1.1771	0.1268	-0.1851	0.1178
1	15.12	0.5387	-0.2643	0.0041	0.1502	0.0500	-1.4910	0.1478	-0.3950	0.1167
1	15.12	0.5996	-0.3038	0.0051	0.2085	0.0606	-1.9476	0.1817	-0.0973	0.1173
1	15.12	0.6498	-0.3667	0.0050	0.2478	0.0691	-2.3849	0.2108	-0.2320	0.1158
1	15.12	0.6998	-0.4151	0.0060	0.3088	0.0775	-2.8430	0.2400	-0.4752	0.1142
1	15.12	0.7500	-0.4492	0.0066	0.3419	0.0867	-3.2575	0.2730	-0.2690	0.1208
1	15.12	0.8001	-0.4932	0.0081	0.3692	0.0949	-3.6766	0.3051	-0.4401	0.1292
1	15.12	0.8497	-0.5271	0.0090	0.4129	0.1033	-4.0665	0.3392	-0.2792	0.1315
1	15.12	0.9734	-0.6632	0.0111	0.4437	0.1252	-5.0580	0.4305	-1.1649	0.1662
2	15.12	0.1949	0.0118	0.0065	-0.0095	0.0024	-0.0527	0.0075	-0.1157	0.0387
2	15.12	0.2405	0.0118	0.0027	-0.0163	0.0032	-0.0754	0.0127	-0.1939	0.0919
2	15.12	0.2999	-0.0335	0.0024	-0.0422	0.0075	-0.2147	0.0313	-0.2944	0.1020
2	15.12	0.3498	-0.0762	0.0028	-0.0722	0.0133	-0.3608	0.0546	-0.2851	0.0943
2	15.12	0.3998	-0.1256	0.0029	-0.1120	0.0193	-0.5543	0.0836	-0.2500	0.1009
2	15.12	0.4496	-0.1668	0.0035	-0.1616	0.0248	-0.7808	0.1152	-0.2179	0.1028
2	15.12	0.4995	-0.2419	0.0042	-0.1747	0.0306	-1.0768	0.1468	-0.4307	0.0990
2	15.12	0.5551	-0.2629	0.0041	-0.2200	0.0383	-1.3861	0.1853	-0.2533	0.1035
2	15.12	0.5996	-0.2867	0.0051	-0.2549	0.0438	-1.6779	0.2169	-0.3131	0.1047
2	15.12	0.6497	-0.3637	0.0058	-0.2903	0.0505	-2.0117	0.2532	-0.3717	0.0972
2	15.12	0.6996	-0.3849	0.0064	-0.2841	0.0569	-2.3642	0.2904	-0.4544	0.0962
2	15.12	0.7495	-0.4698	0.0064	-0.3448	0.0648	-2.6513	0.3350	-0.3231	0.1042
2	15.12	0.7996	-0.4995	0.0083	-0.3721	0.0708	-2.9704	0.3763	-0.4959	0.1106
2	15.12	0.8578	-0.5692	0.0117	-0.4141	0.0764	-3.2620	0.4238	-0.3623	0.1754
2	15.12	0.9727	-0.6118	0.0114	-0.4482	0.0943	-3.6703	0.5405	0.0789	0.1706
3	15.12	0.1938	0.0327	0.0046	0.0300	0.0025	-0.0398	0.0079	-0.0851	0.0383
3	15.12	0.2357	0.0756	0.0031	-0.0124	0.0035	-0.0928	0.0129	-0.0015	0.0905
3	15.12	0.2995	-0.0297	0.0026	0.0593	0.0084	-0.2016	0.0336	-0.1432	0.1016
3	15.12	0.3493	-0.0681	0.0028	0.1073	0.0138	-0.3660	0.0569	-0.1490	0.0928
3	15.12	0.4000	-0.0723	0.0030	0.1344	0.0213	-0.5702	0.0891	0.1151	0.0838
3	15.12	0.4497	-0.1610	0.0038	0.1545	0.0276	-0.8454	0.1213	-0.0696	0.0892
3	15.12	0.4997	-0.1970	0.0040	0.1745	0.0345	-1.1369	0.1567	-0.0738	0.0948
3	15.12	0.5556	-0.2638	0.0041	0.1585	0.0430	-1.5153	0.1995	-0.0622	0.0875
3	15.12	0.5995	-0.2831	0.0059	0.2692	0.0494	-1.8030	0.2338	-0.0128	0.0928
3	15.12	0.6498	-0.3194	0.0053	0.2557	0.0561	-2.1904	0.2736	-0.0875	0.0983
3	15.12	0.6890	-0.3588	0.0076	0.3747	0.0613	-2.4736	0.3043	0.0382	0.0983
3	15.12	0.7495	-0.6600	0.0969	-0.1443	0.2651	-2.5481	0.4121	0.0296	0.2348
3	15.12	0.7998	-0.7509	0.0992	-0.0788	0.2999	-2.8663	0.4563	-0.0321	0.1089
3	15.12	0.8577	-0.8738	0.0698	-0.0721	0.3330	-3.2875	0.4745	-1.1610	0.8669
3	15.12	0.9178	-1.0842	0.0312	-0.1688	0.3968	-3.2978	0.6583	-0.0946	0.1468
3	15.12	0.9729	-1.0939	0.0290	-0.1956	0.4433	-3.7369	0.7041	-0.4610	0.1524
4	15.12	0.2001	0.0271	0.0036	-0.0036	0.0023	-0.0635	0.0077	0.0501	0.0472
4	15.12	0.2502	0.0181	0.0030	0.0191	0.0039	-0.1128	0.0131	0.1873	0.0807
4	15.12	0.3001	-0.0218	0.0026	0.0136	0.0079	-0.2522	0.0303	0.1595	0.1068
4	15.12	0.3502	-0.0807	0.0030	0.0117	0.0129	-0.4406	0.0516	0.1926	0.0903
4	15.12	0.4002	-0.1215	0.0032	0.0412	0.0195	-0.6725	0.0791	0.1567	0.0906
4	15.12	0.4500	-0.1499	0.0040	0.0988	0.0248	-0.9650	0.1089	0.0048	0.0960
4	15.12	0.5001	-0.2170	0.0040	0.1040	0.0302	-1.2355	0.1407	0.2931	0.0986
4	15.12	0.5560	-0.2731	0.0042	0.1403	0.0374	-1.6690	0.1827	0.1205	0.0943
4	15.12	0.6001	-0.2817	0.0057	0.1546	0.0416	-2.0033	0.2157	0.0592	0.0983
4	15.12	0.6501	-0.3483	0.0059	0.2062	0.0482	-2.3837	0.2622	0.2493	0.0950
4	15.12	0.6999	-0.4010	0.0073	0.2369	0.0543	-2.7871	0.3108	0.2164	0.1000
4	15.12	0.7500	-0.4249	0.0068	0.2663	0.0630	-3.1754	0.3659	0.2477	0.0960
4	15.12	0.8002	-0.5015	0.0093	0.2355	0.0695	-3.5422	0.4151	0.1434	0.1398
4	15.12	0.8582	-0.5474	0.0122	0.2959	0.0786	-3.9432	0.4821	0.0181	0.1741
4	15.12	0.9728	-0.4969	0.0178	0.4941	0.0907	-4.6322	0.5956	0.0172	0.2478

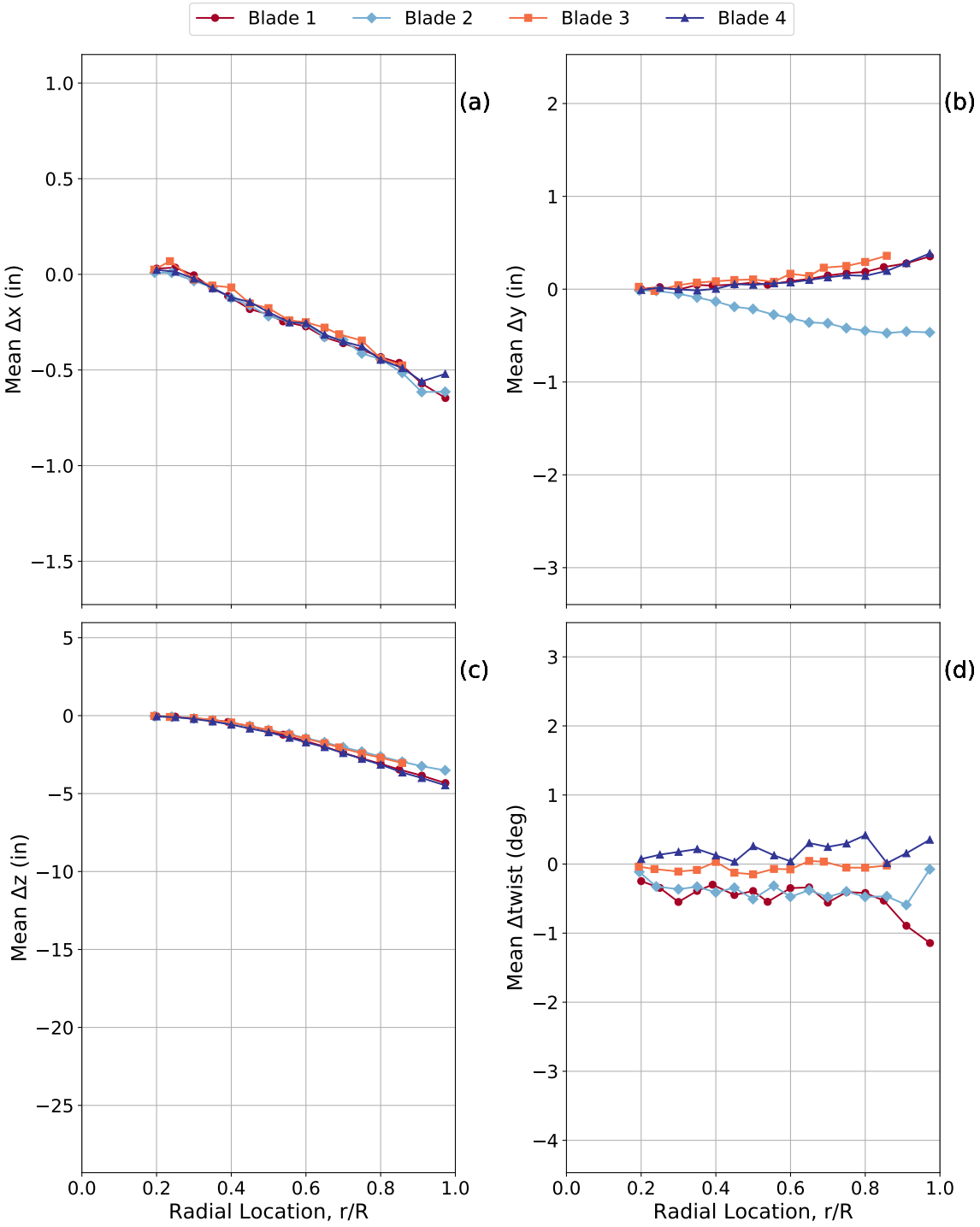


Figure 2.21-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0303	0.0038	0.0008	0.0023	-0.0409	0.0080	-0.2471	0.0396
1	29.88	0.2499	0.0351	0.0037	0.0222	0.0041	-0.0644	0.0163	-0.3450	0.0808
1	29.88	0.2998	-0.0049	0.0027	-0.0044	0.0078	-0.1760	0.0336	-0.5487	0.0928
1	29.88	0.3498	-0.0743	0.0026	0.0461	0.0134	-0.2686	0.0591	-0.3886	0.0880
1	29.88	0.3913	-0.1130	0.0037	0.0382	0.0186	-0.4045	0.0846	-0.2985	0.0907
1	29.88	0.4496	-0.1815	0.0037	0.0504	0.0262	-0.6956	0.1250	-0.4478	0.0917
1	29.88	0.4997	-0.2096	0.0042	0.0713	0.0334	-0.9724	0.1643	-0.3899	0.0909
1	29.88	0.5387	-0.2462	0.0046	0.0476	0.0395	-1.2244	0.1958	-0.5465	0.0897
1	29.88	0.5996	-0.2721	0.0054	0.0861	0.0484	-1.6352	0.2461	-0.3484	0.0918
1	29.88	0.6498	-0.3292	0.0056	0.1106	0.0566	-1.9884	0.2896	-0.3378	0.0944
1	29.88	0.6998	-0.3600	0.0066	0.1474	0.0648	-2.3906	0.3329	-0.5577	0.0948
1	29.88	0.7500	-0.3951	0.0073	0.1718	0.0732	-2.7469	0.3772	-0.4050	0.0960
1	29.88	0.8001	-0.4324	0.0080	0.1868	0.0812	-3.0908	0.4206	-0.4186	0.0974
1	29.88	0.8497	-0.4627	0.0085	0.2380	0.0901	-3.4572	0.4626	-0.5284	0.1046
1	29.88	0.9102	-0.5709	0.0100	0.2779	0.1011	-3.8474	0.5127	-0.8934	0.1251
1	29.88	0.9734	-0.6465	0.0074	0.3536	0.1121	-4.3263	0.5672	-1.1434	0.1046
2	29.88	0.1949	0.0091	0.0051	-0.0130	0.0019	-0.0399	0.0071	-0.1127	0.0289
2	29.88	0.2405	0.0084	0.0024	-0.0170	0.0026	-0.0743	0.0130	-0.3258	0.0705
2	29.88	0.2999	-0.0342	0.0019	-0.0495	0.0066	-0.1849	0.0309	-0.3636	0.0792
2	29.88	0.3498	-0.0678	0.0024	-0.0896	0.0111	-0.3013	0.0537	-0.3279	0.0700
2	29.88	0.3998	-0.1244	0.0035	-0.1324	0.0167	-0.4794	0.0828	-0.4098	0.0770
2	29.88	0.4496	-0.1616	0.0039	-0.1898	0.0223	-0.6695	0.1177	-0.3429	0.0748
2	29.88	0.4995	-0.2184	0.0045	-0.2136	0.0283	-0.9287	0.1571	-0.5063	0.0811
2	29.88	0.5551	-0.2457	0.0043	-0.2746	0.0356	-1.1756	0.2075	-0.3152	0.0773
2	29.88	0.5996	-0.2586	0.0050	-0.3115	0.0418	-1.4517	0.2511	-0.4737	0.0767
2	29.88	0.6497	-0.3271	0.0049	-0.3580	0.0499	-1.7107	0.3027	-0.3785	0.0753
2	29.88	0.6996	-0.3425	0.0061	-0.3674	0.0566	-2.0335	0.3567	-0.4769	0.0771
2	29.88	0.7495	-0.4135	0.0068	-0.4193	0.0645	-2.3122	0.4174	-0.3969	0.0768
2	29.88	0.7996	-0.4433	0.0075	-0.4475	0.0722	-2.6163	0.4787	-0.4743	0.0779
2	29.88	0.8578	-0.5145	0.0090	-0.4732	0.0810	-2.9627	0.5516	-0.4670	0.0861
2	29.88	0.9100	-0.6150	0.0112	-0.4563	0.0883	-3.2446	0.6211	-0.5915	0.1213
2	29.88	0.9727	-0.6139	0.0080	-0.4654	0.0996	-3.5115	0.7097	-0.0756	0.0982
3	29.88	0.1938	0.0246	0.0039	0.0250	0.0022	-0.0214	0.0059	-0.0369	0.0278
3	29.88	0.2357	0.0687	0.0028	-0.0185	0.0023	-0.0869	0.0119	-0.0718	0.0595
3	29.88	0.2995	-0.0270	0.0023	0.0432	0.0069	-0.1529	0.0267	-0.1082	0.0674
3	29.88	0.3493	-0.0586	0.0022	0.0709	0.0116	-0.2709	0.0457	-0.0849	0.0649
3	29.88	0.4000	-0.0685	0.0030	0.0850	0.0172	-0.4417	0.0722	0.0318	0.0623
3	29.88	0.4497	-0.1523	0.0033	0.0987	0.0220	-0.6668	0.1016	-0.1248	0.0581
3	29.88	0.4997	-0.1768	0.0035	0.1049	0.0281	-0.9148	0.1376	-0.1487	0.0579
3	29.88	0.5556	-0.2409	0.0040	0.0796	0.0349	-1.2158	0.1819	-0.0699	0.0559
3	29.88	0.5995	-0.2500	0.0045	0.1661	0.0410	-1.4725	0.2204	-0.0764	0.0591
3	29.88	0.6498	-0.2787	0.0045	0.1417	0.0483	-1.7705	0.2669	0.0452	0.0637
3	29.88	0.6890	-0.3134	0.0055	0.2316	0.0538	-2.0371	0.3057	0.0349	0.0636
3	29.88	0.7495	-0.3462	0.0057	0.2502	0.0635	-2.4268	0.3686	-0.0512	0.0597
3	29.88	0.7998	-0.4396	0.0063	0.2934	0.0713	-2.7001	0.4208	-0.0526	0.0657
3	29.88	0.8577	-0.4758	0.0079	0.3598	0.0802	-3.0389	0.4823	-0.0205	0.0864
4	29.88	0.2001	0.0231	0.0032	-0.0083	0.0018	-0.0525	0.0076	0.0734	0.0293
4	29.88	0.2502	0.0138	0.0022	0.0154	0.0036	-0.1027	0.0158	0.1360	0.0597
4	29.88	0.3001	-0.0225	0.0025	-0.0019	0.0071	-0.2151	0.0315	0.1765	0.0686
4	29.88	0.3502	-0.0724	0.0027	-0.0139	0.0122	-0.3764	0.0560	0.2167	0.0652
4	29.88	0.4002	-0.1208	0.0034	0.0039	0.0187	-0.5789	0.0860	0.1249	0.0637
4	29.88	0.4500	-0.1448	0.0037	0.0542	0.0246	-0.8321	0.1216	0.0336	0.0647
4	29.88	0.5001	-0.1981	0.0047	0.0472	0.0317	-1.0683	0.1617	0.2601	0.0653
4	29.88	0.5560	-0.2513	0.0053	0.0632	0.0397	-1.4225	0.2128	0.1256	0.0685
4	29.88	0.6001	-0.2550	0.0053	0.0729	0.0463	-1.7170	0.2557	0.0396	0.0675
4	29.88	0.6501	-0.3151	0.0057	0.0993	0.0546	-2.0201	0.3080	0.3045	0.0688
4	29.88	0.6999	-0.3511	0.0064	0.1272	0.0628	-2.4008	0.3642	0.2481	0.0671
4	29.88	0.7500	-0.3772	0.0067	0.1506	0.0708	-2.7733	0.4222	0.2974	0.0643
4	29.88	0.8002	-0.4465	0.0079	0.1436	0.0802	-3.1474	0.4823	0.4183	0.0688
4	29.88	0.8582	-0.4899	0.0085	0.1971	0.0915	-3.6494	0.5531	0.0142	0.0797
4	29.88	0.9101	-0.5596	0.0099	0.2805	0.1004	-4.0021	0.6167	0.1572	0.0811
4	29.88	0.9728	-0.5203	0.0089	0.3856	0.1125	-4.4708	0.6955	0.3523	0.0961

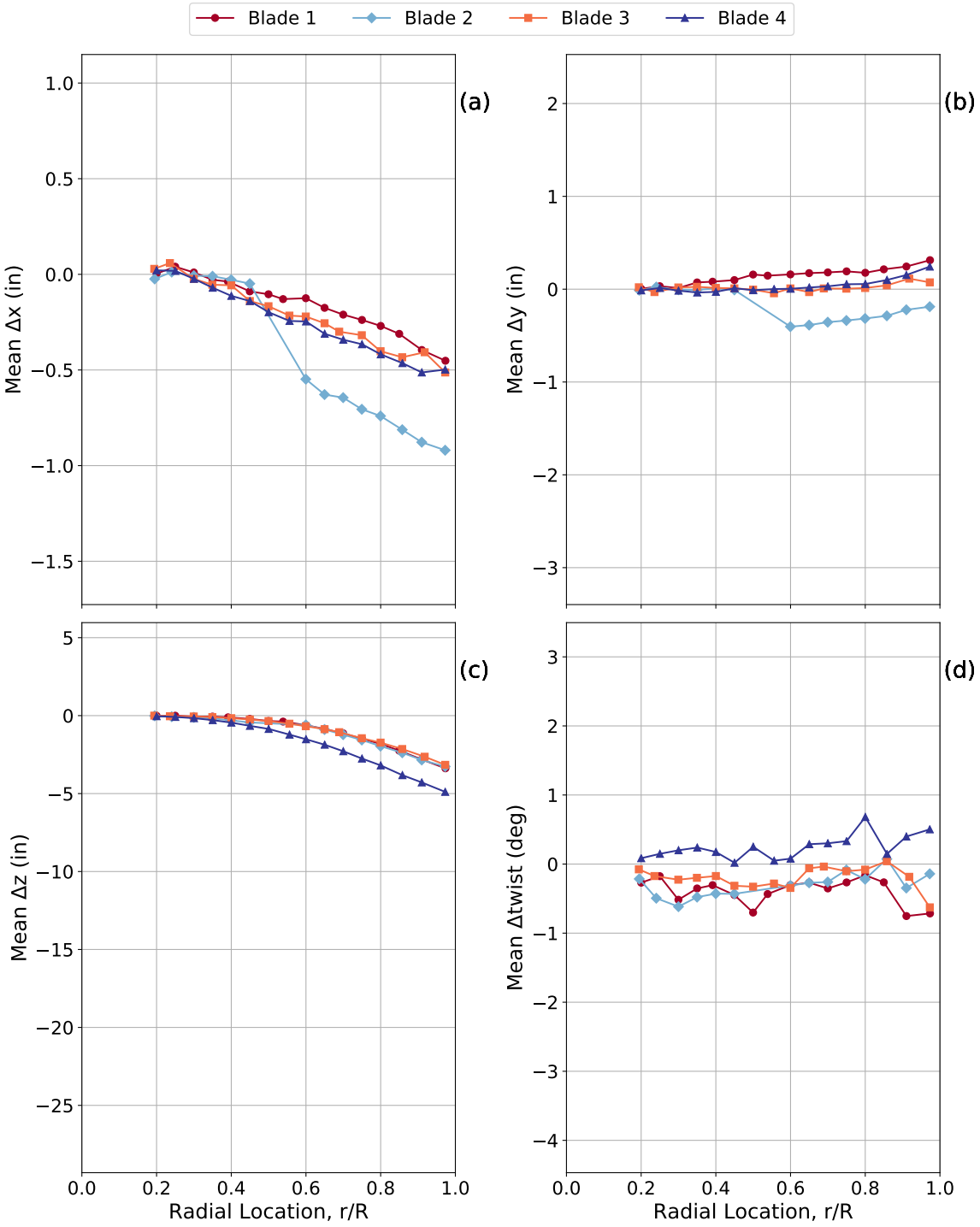


Figure 2.21-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0037	0.0087	0.0038	0.0021	-0.0145	0.0048	-0.2692	0.0317
1	45	0.2499	0.0400	0.0036	0.0319	0.0034	-0.0051	0.0096	-0.1752	0.0734
1	45	0.2998	0.0098	0.0041	0.0126	0.0075	-0.0617	0.0197	-0.5166	0.0787
1	45	0.3498	-0.0284	0.0100	0.0726	0.0123	-0.0637	0.0333	-0.3527	0.0737
1	45	0.3913	-0.0379	0.0145	0.0808	0.0175	-0.1102	0.0483	-0.3049	0.0720
1	45	0.4496	-0.0891	0.0217	0.0980	0.0238	-0.2122	0.0745	-0.4472	0.1156
1	45	0.4997	-0.1041	0.0145	0.1576	0.0269	-0.3433	0.1059	-0.7021	0.5662
1	45	0.5387	-0.1294	0.0130	0.1458	0.0445	-0.3833	0.1684	-0.4337	0.0825
1	45	0.5996	-0.1248	0.0262	0.1592	0.0538	-0.6105	0.2807	-0.3046	0.0750
1	45	0.6498	-0.1751	0.0259	0.1729	0.0607	-0.8535	0.3248	-0.2695	0.0821
1	45	0.6998	-0.2106	0.0253	0.1807	0.0666	-1.1385	0.3743	-0.3526	0.0863
1	45	0.7500	-0.2384	0.0248	0.1919	0.0730	-1.4818	0.4289	-0.2658	0.0793
1	45	0.8001	-0.2697	0.0254	0.1766	0.0798	-1.8194	0.4880	-0.1616	0.0850
1	45	0.8497	-0.3111	0.0249	0.2139	0.0855	-2.2456	0.5480	-0.2644	0.0908
1	45	0.9102	-0.3955	0.0252	0.2442	0.0939	-2.8133	0.6248	-0.7528	0.1030
1	45	0.9734	-0.4517	0.0245	0.3126	0.1022	-3.3792	0.7085	-0.7150	0.0989
2	45	0.1949	-0.0241	0.0062	-0.0114	0.0024	-0.0129	0.0048	-0.2149	0.0453
2	45	0.2405	0.0118	0.0023	0.0226	0.0051	-0.0676	0.0104	-0.4943	0.0837
2	45	0.2999	-0.0070	0.0035	-0.0058	0.0106	-0.1125	0.0223	-0.6165	0.1117
2	45	0.3498	-0.0099	0.0052	-0.0074	0.0179	-0.1769	0.0372	-0.4784	0.1019
2	45	0.3998	-0.0283	0.0051	0.0085	0.0280	-0.3089	0.0590	-0.4285	0.1058
2	45	0.4496	-0.0487	0.0045	-0.0078	0.0335	-0.4377	0.0767	-0.4306	0.1199
2	45	0.5996	-0.5481	0.0492	-0.4037	0.2835	-0.5980	0.4769	-0.3110	0.1139
2	45	0.6497	-0.6284	0.0536	-0.3867	0.3059	-0.8913	0.5232	-0.2713	0.1129
2	45	0.6996	-0.6446	0.0562	-0.3555	0.3269	-1.2195	0.5717	-0.2598	0.1234
2	45	0.7495	-0.7054	0.0599	-0.3374	0.3466	-1.5646	0.6228	-0.0855	0.1235
2	45	0.7996	-0.7406	0.0623	-0.3159	0.3671	-1.9568	0.6749	-0.2198	0.1326
2	45	0.8578	-0.8122	0.0644	-0.2870	0.3857	-2.3816	0.7389	0.0731	0.1387
2	45	0.9100	-0.8776	0.0646	-0.2221	0.3994	-2.8439	0.8038	-0.3470	0.1437
2	45	0.9727	-0.9196	0.0646	-0.1887	0.4125	-3.2652	0.8772	-0.1412	0.1615
3	45	0.1938	0.0287	0.0035	0.0205	0.0024	-0.0025	0.0066	-0.0764	0.0280
3	45	0.2357	0.0590	0.0032	-0.0309	0.0023	-0.0408	0.0101	-0.1735	0.0648
3	45	0.2995	-0.0237	0.0025	0.0185	0.0076	-0.0557	0.0269	-0.2262	0.0693
3	45	0.3493	-0.0542	0.0029	0.0253	0.0127	-0.0929	0.0461	-0.1990	0.0654
3	45	0.4000	-0.0574	0.0035	0.0136	0.0190	-0.1647	0.0714	-0.1733	0.0643
3	45	0.4497	-0.1395	0.0034	0.0088	0.0246	-0.2485	0.0997	-0.3141	0.0643
3	45	0.4997	-0.1667	0.0036	-0.0049	0.0305	-0.3492	0.1306	-0.3275	0.0638
3	45	0.5556	-0.2157	0.0044	-0.0438	0.0375	-0.5184	0.1669	-0.2821	0.0674
3	45	0.5995	-0.2205	0.0045	0.0082	0.0435	-0.6803	0.1974	-0.3454	0.0675
3	45	0.6498	-0.2557	0.0049	-0.0311	0.0496	-0.8699	0.2330	-0.0610	0.0708
3	45	0.6890	-0.2998	0.0046	0.0081	0.0550	-1.0632	0.2617	-0.0365	0.0763
3	45	0.7495	-0.3182	0.0052	0.0056	0.0635	-1.4505	0.3098	-0.1041	0.0752
3	45	0.7998	-0.4019	0.0057	0.0127	0.0701	-1.7312	0.3522	-0.0803	0.0781
3	45	0.8577	-0.4334	0.0064	0.0412	0.0780	-2.1421	0.4052	0.0416	0.0869
3	45	0.9178	-0.4073	0.0151	0.1137	0.0879	-2.6371	0.4631	-0.1846	0.0977
3	45	0.9729	-0.5129	0.0116	0.0734	0.0935	-3.1575	0.5200	-0.6267	0.1232
4	45	0.2001	0.0211	0.0026	-0.0127	0.0017	-0.0384	0.0057	0.0847	0.0344
4	45	0.2502	0.0180	0.0021	0.0127	0.0028	-0.0842	0.0118	0.1482	0.0681
4	45	0.3001	-0.0235	0.0021	-0.0160	0.0061	-0.1646	0.0232	0.1998	0.0785
4	45	0.3502	-0.0700	0.0022	-0.0359	0.0101	-0.2891	0.0407	0.2388	0.0684
4	45	0.4002	-0.1126	0.0032	-0.0288	0.0155	-0.4488	0.0627	0.1749	0.0669
4	45	0.4500	-0.1397	0.0032	0.0101	0.0204	-0.6574	0.0895	0.0187	0.0668
4	45	0.5001	-0.1980	0.0036	-0.0111	0.0260	-0.8531	0.1206	0.2502	0.0681
4	45	0.5560	-0.2437	0.0041	0.0012	0.0322	-1.2193	0.1597	0.0487	0.0672
4	45	0.6001	-0.2463	0.0043	0.0046	0.0374	-1.5157	0.1937	0.0784	0.0669
4	45	0.6501	-0.3108	0.0048	0.0181	0.0430	-1.8662	0.2355	0.2877	0.0700
4	45	0.6999	-0.3419	0.0061	0.0309	0.0490	-2.2858	0.2818	0.3007	0.0721
4	45	0.7500	-0.3655	0.0071	0.0530	0.0562	-2.7552	0.3344	0.3321	0.0704
4	45	0.8002	-0.4183	0.0083	0.0557	0.0618	-3.1937	0.3899	0.6812	0.0738
4	45	0.8582	-0.4641	0.0100	0.0992	0.0697	-3.8201	0.4574	0.1469	0.0756
4	45	0.9101	-0.5129	0.0107	0.1527	0.0761	-4.2854	0.5203	0.3984	0.0771
4	45	0.9728	-0.4979	0.0107	0.2432	0.0845	-4.8913	0.5941	0.5025	0.0801

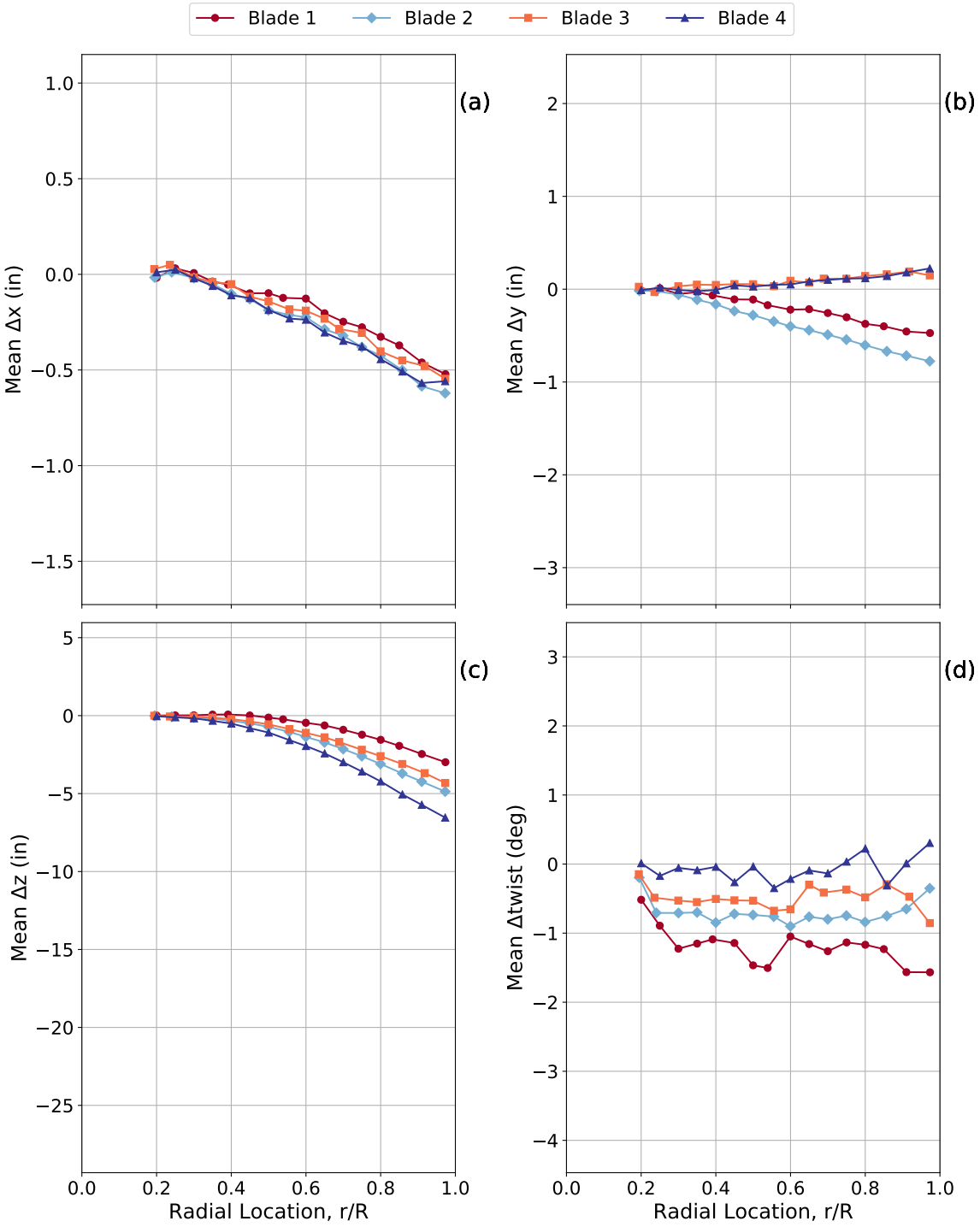


Figure 2.21-8. 60° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0178	0.0102	-0.0137	0.0085	0.0094	0.0192	-0.5166	0.1241
1	60.12	0.2499	0.0313	0.0036	0.0107	0.0099	0.0162	0.0222	-0.8919	0.3455
1	60.12	0.2998	0.0069	0.0098	-0.0515	0.0300	0.0202	0.0655	-1.2256	0.3489
1	60.12	0.3498	-0.0374	0.0168	-0.0321	0.0502	0.0682	0.1111	-1.1517	0.3519
1	60.12	0.3913	-0.0533	0.0218	-0.0665	0.0692	0.0713	0.1515	-1.0898	0.3509
1	60.12	0.4496	-0.0990	0.0266	-0.1100	0.0963	0.0122	0.2087	-1.1432	0.3600
1	60.12	0.4997	-0.0985	0.0123	-0.1117	0.1390	-0.1245	0.3033	-1.4660	0.4338
1	60.12	0.5387	-0.1229	0.0168	-0.1724	0.1582	-0.2350	0.3477	-1.5044	0.4820
1	60.12	0.5996	-0.1268	0.0384	-0.2207	0.1723	-0.4600	0.3649	-1.0487	0.3606
1	60.12	0.6498	-0.2034	0.0362	-0.2156	0.2217	-0.6286	0.3161	-1.1578	0.3341
1	60.12	0.6998	-0.2478	0.0364	-0.2568	0.2477	-0.9072	0.3673	-1.2614	0.3300
1	60.12	0.7500	-0.2766	0.0370	-0.3025	0.2740	-1.2224	0.4201	-1.1349	0.3279
1	60.12	0.8001	-0.3266	0.0377	-0.3735	0.3003	-1.5513	0.4735	-1.1686	0.3342
1	60.12	0.8497	-0.3714	0.0384	-0.3998	0.3271	-1.9380	0.5287	-1.2313	0.3346
1	60.12	0.9102	-0.4606	0.0392	-0.4559	0.3601	-2.4620	0.5967	-1.5647	0.3312
1	60.12	0.9734	-0.5217	0.0323	-0.4724	0.3945	-2.9865	0.6684	-1.5668	0.3294
2	60.12	0.1949	-0.0163	0.0058	-0.0172	0.0032	-0.0148	0.0076	-0.1959	0.0451
2	60.12	0.2405	0.0115	0.0027	-0.0198	0.0031	-0.0716	0.0110	-0.7070	0.1132
2	60.12	0.2999	-0.0191	0.0024	-0.0595	0.0099	-0.1228	0.0280	-0.7082	0.1270
2	60.12	0.3498	-0.0512	0.0027	-0.1134	0.0170	-0.1924	0.0479	-0.6997	0.1200
2	60.12	0.3998	-0.1014	0.0032	-0.1619	0.0245	-0.3352	0.0723	-0.8471	0.1197
2	60.12	0.4496	-0.1290	0.0035	-0.2354	0.0317	-0.4940	0.0986	-0.7214	0.1247
2	60.12	0.4995	-0.1875	0.0035	-0.2799	0.0390	-0.7188	0.1252	-0.7360	0.1209
2	60.12	0.5551	-0.2125	0.0041	-0.3469	0.0475	-1.0395	0.1550	-0.7607	0.1227
2	60.12	0.5996	-0.2240	0.0037	-0.4001	0.0547	-1.3624	0.1797	-0.9010	0.1217
2	60.12	0.6497	-0.2873	0.0045	-0.4416	0.0630	-1.7168	0.2076	-0.7633	0.1231
2	60.12	0.6996	-0.3208	0.0045	-0.4903	0.0713	-2.1468	0.2380	-0.7993	0.1216
2	60.12	0.7495	-0.3803	0.0052	-0.5433	0.0791	-2.6031	0.2701	-0.7465	0.1206
2	60.12	0.7996	-0.4250	0.0060	-0.6034	0.0876	-3.0989	0.3033	-0.8391	0.1248
2	60.12	0.8578	-0.5008	0.0074	-0.6694	0.0975	-3.7080	0.3457	-0.7515	0.1227
2	60.12	0.9100	-0.5848	0.0081	-0.7165	0.1063	-4.2321	0.3844	-0.6500	0.1221
2	60.12	0.9727	-0.6213	0.0084	-0.7758	0.1173	-4.8694	0.4327	-0.3516	0.1280
3	60.12	0.1938	0.0275	0.0066	0.0257	0.0034	-0.0048	0.0078	-0.1471	0.0384
3	60.12	0.2357	0.0497	0.0031	-0.0307	0.0026	-0.0561	0.0090	-0.4871	0.1285
3	60.12	0.2995	-0.0162	0.0024	0.0314	0.0098	-0.0716	0.0261	-0.5282	0.1287
3	60.12	0.3493	-0.0396	0.0024	0.0487	0.0169	-0.1340	0.0447	-0.5509	0.1258
3	60.12	0.4000	-0.0512	0.0035	0.0454	0.0244	-0.2233	0.0671	-0.5051	0.1248
3	60.12	0.4497	-0.1167	0.0034	0.0554	0.0314	-0.3693	0.0909	-0.5252	0.1268
3	60.12	0.4997	-0.1413	0.0038	0.0540	0.0386	-0.5594	0.1169	-0.5301	0.1257
3	60.12	0.5556	-0.1830	0.0032	0.0320	0.0471	-0.8603	0.1473	-0.6756	0.1267
3	60.12	0.5995	-0.1899	0.0034	0.0908	0.0539	-1.1076	0.1709	-0.6556	0.1287
3	60.12	0.6498	-0.2320	0.0033	0.0704	0.0618	-1.3901	0.1982	-0.2989	0.1284
3	60.12	0.6890	-0.2856	0.0035	0.1138	0.0682	-1.6921	0.2193	-0.4128	0.1305
3	60.12	0.7495	-0.3063	0.0037	0.1130	0.0777	-2.1907	0.2516	-0.3693	0.1300
3	60.12	0.7998	-0.4029	0.0038	0.1418	0.0857	-2.5997	0.2789	-0.4817	0.1283
3	60.12	0.8577	-0.4501	0.0048	0.1604	0.0951	-3.1030	0.3111	-0.2916	0.1328
3	60.12	0.9178	-0.4791	0.0054	0.1908	0.1050	-3.6885	0.3457	-0.4728	0.1303
3	60.12	0.9729	-0.5458	0.0052	0.1484	0.1145	-4.3188	0.3779	-0.8547	0.1409
4	60.12	0.2001	0.0104	0.0038	-0.0105	0.0022	-0.0395	0.0061	0.0113	0.0344
4	60.12	0.2502	0.0243	0.0023	0.0161	0.0034	-0.1094	0.0110	-0.1713	0.0709
4	60.12	0.3001	-0.0210	0.0024	-0.0094	0.0076	-0.1754	0.0227	-0.0550	0.0804
4	60.12	0.3502	-0.0607	0.0025	-0.0212	0.0126	-0.3322	0.0406	-0.0889	0.0800
4	60.12	0.4002	-0.1098	0.0033	-0.0088	0.0190	-0.5096	0.0609	-0.0401	0.0822
4	60.12	0.4500	-0.1239	0.0039	0.0417	0.0243	-0.8070	0.0842	-0.2630	0.0783
4	60.12	0.5001	-0.1864	0.0042	0.0281	0.0305	-1.0875	0.1087	-0.0371	0.0777
4	60.12	0.5560	-0.2310	0.0043	0.0480	0.0371	-1.5744	0.1370	-0.3482	0.0810
4	60.12	0.6001	-0.2374	0.0044	0.0512	0.0425	-1.9501	0.1623	-0.2146	0.0801
4	60.12	0.6501	-0.3043	0.0046	0.0840	0.0489	-2.4263	0.1917	-0.0919	0.0817
4	60.12	0.6999	-0.3475	0.0054	0.0998	0.0550	-2.9910	0.2218	-0.1357	0.0834
4	60.12	0.7500	-0.3777	0.0059	0.1137	0.0617	-3.5889	0.2524	0.0349	0.0802
4	60.12	0.8002	-0.4435	0.0070	0.1178	0.0683	-4.2227	0.2828	0.2236	0.0820
4	60.12	0.8582	-0.5082	0.0079	0.1411	0.0760	-5.0571	0.3180	-0.3107	0.0816
4	60.12	0.9101	-0.5681	0.0085	0.1798	0.0831	-5.7229	0.3480	0.0100	0.0927
4	60.12	0.9728	-0.5588	0.0090	0.2235	0.0919	-6.5419	0.3870	0.3053	0.0850

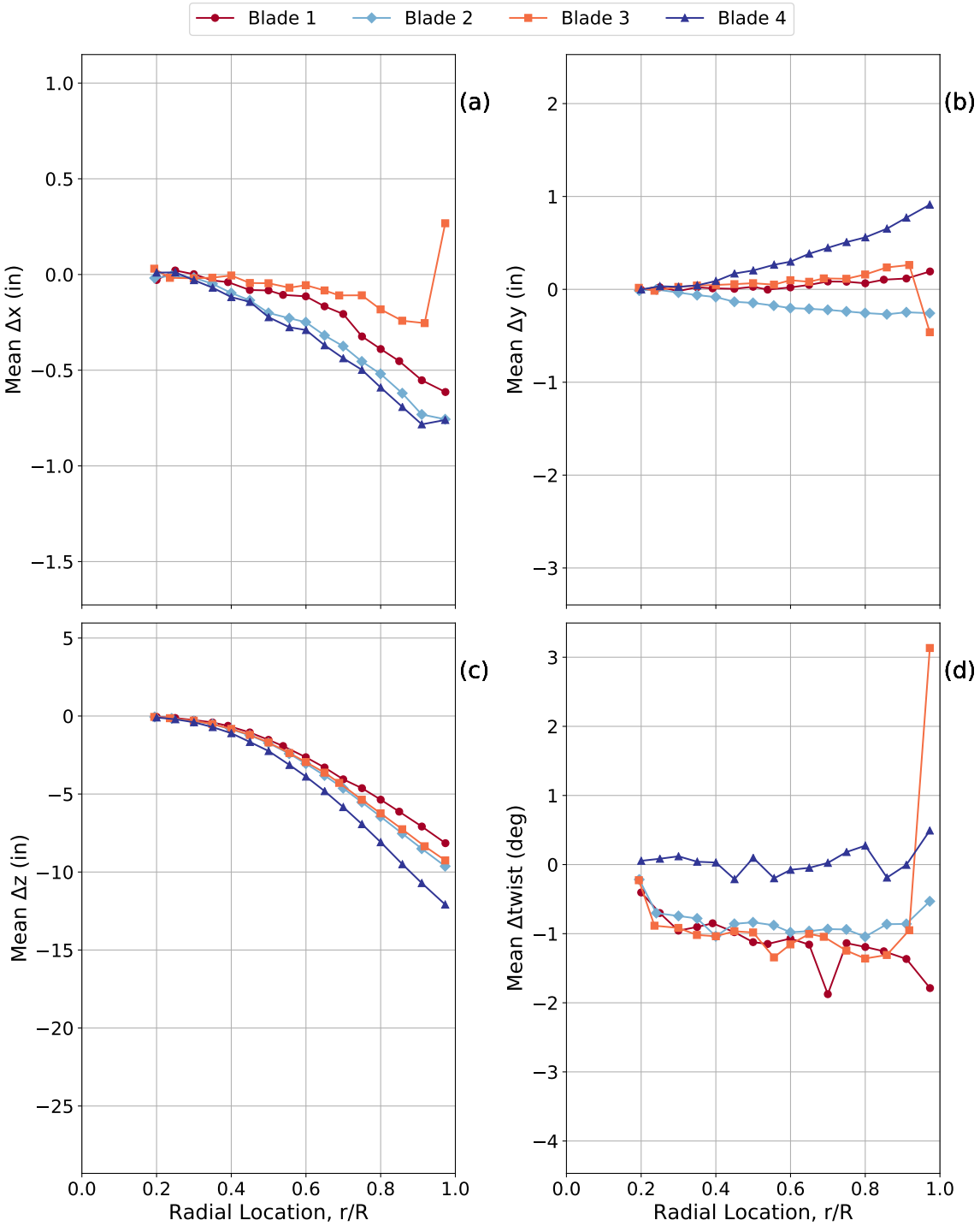


Figure 2.21-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0285	0.0068	-0.0050	0.0061	-0.0533	0.0133	-0.4036	0.0886
1	74.88	0.2499	0.0210	0.0034	0.0229	0.0084	-0.1268	0.0155	-0.7013	0.2330
1	74.88	0.2998	0.0016	0.0044	-0.0185	0.0216	-0.2549	0.0455	-0.9558	0.2391
1	74.88	0.3498	-0.0312	0.0090	0.0222	0.0369	-0.4116	0.0769	-0.9032	0.2361
1	74.88	0.3913	-0.0398	0.0126	0.0107	0.0509	-0.6269	0.1049	-0.8496	0.2378
1	74.88	0.4496	-0.0811	0.0170	0.0058	0.0719	-1.0513	0.1451	-0.9782	0.2349
1	74.88	0.4997	-0.0832	0.0204	0.0279	0.0915	-1.5256	0.1805	-1.1224	0.2322
1	74.88	0.5387	-0.1065	0.0231	-0.0029	0.1071	-1.9228	0.2091	-1.1487	0.2334
1	74.88	0.5996	-0.1141	0.0267	0.0209	0.1328	-2.6404	0.2542	-1.0704	0.2375
1	74.88	0.6498	-0.1664	0.0285	0.0480	0.1537	-3.3000	0.2907	-1.1583	0.2414
1	74.88	0.6998	-0.2065	0.0220	0.0846	0.1863	-4.0572	0.3597	-1.8754	0.6001
1	74.88	0.7500	-0.3236	0.0277	0.0823	0.2238	-4.6256	0.3141	-1.1373	0.2331
1	74.88	0.8001	-0.3894	0.0293	0.0652	0.2446	-5.3619	0.3532	-1.1923	0.2325
1	74.88	0.8497	-0.4526	0.0309	0.1041	0.2654	-6.1283	0.3926	-1.2546	0.2348
1	74.88	0.9102	-0.5526	0.0333	0.1167	0.2912	-7.0830	0.4422	-1.3662	0.2337
1	74.88	0.9734	-0.6140	0.0298	0.1925	0.3178	-8.1499	0.4974	-1.7873	0.2369
2	74.88	0.1949	-0.0183	0.0064	-0.0135	0.0039	-0.0575	0.0103	-0.2162	0.0628
2	74.88	0.2405	-0.0063	0.0031	-0.0015	0.0035	-0.1523	0.0130	-0.7015	0.1706
2	74.88	0.2999	-0.0169	0.0029	-0.0349	0.0116	-0.3231	0.0339	-0.7440	0.1834
2	74.88	0.3498	-0.0486	0.0028	-0.0620	0.0199	-0.5216	0.0593	-0.7795	0.1801
2	74.88	0.3998	-0.0966	0.0032	-0.0831	0.0286	-0.8582	0.0870	-1.0376	0.1771
2	74.88	0.4496	-0.1348	0.0038	-0.1337	0.0365	-1.2410	0.1166	-0.8574	0.1761
2	74.88	0.4995	-0.2007	0.0075	-0.1461	0.0438	-1.7300	0.1497	-0.8357	0.1724
2	74.88	0.5551	-0.2283	0.0053	-0.1752	0.0542	-2.4131	0.1832	-0.8777	0.1756
2	74.88	0.5996	-0.2491	0.0063	-0.2020	0.0624	-3.0528	0.2123	-0.9797	0.1780
2	74.88	0.6497	-0.3184	0.0079	-0.2096	0.0718	-3.8096	0.2461	-0.9628	0.1765
2	74.88	0.6996	-0.3746	0.0096	-0.2207	0.0811	-4.6296	0.2819	-0.9339	0.1768
2	74.88	0.7495	-0.4543	0.0112	-0.2376	0.0906	-5.5216	0.3196	-0.9386	0.1752
2	74.88	0.7996	-0.5191	0.0136	-0.2550	0.1001	-6.4465	0.3592	-1.0444	0.1819
2	74.88	0.8578	-0.6203	0.0170	-0.2687	0.1115	-7.5327	0.4074	-0.8629	0.1794
2	74.88	0.9100	-0.7313	0.0191	-0.2467	0.1213	-8.5043	0.4526	-0.8586	0.1800
2	74.88	0.9727	-0.7563	0.0212	-0.2567	0.1335	-9.6271	0.5082	-0.5313	0.1856
3	74.88	0.1938	0.0304	0.0284	0.0164	0.0050	-0.0578	0.0144	-0.2264	0.0749
3	74.88	0.2357	-0.0174	0.0090	-0.0148	0.0032	-0.1390	0.0107	-0.8845	0.2313
3	74.88	0.2995	-0.0200	0.0110	0.0259	0.0150	-0.2989	0.0437	-0.9169	0.2465
3	74.88	0.3493	-0.0166	0.0179	0.0415	0.0269	-0.5195	0.0763	-1.0186	0.2369
3	74.88	0.4000	-0.0052	0.0245	0.0474	0.0386	-0.8238	0.1109	-1.0368	0.2421
3	74.88	0.4497	-0.0444	0.0290	0.0559	0.0510	-1.2091	0.1461	-0.9648	0.2429
3	74.88	0.4997	-0.0457	0.0323	0.0662	0.0646	-1.6945	0.1855	-0.9825	0.2432
3	74.88	0.5556	-0.0689	0.0342	0.0506	0.0809	-2.3743	0.2315	-1.3431	0.2489
3	74.88	0.5995	-0.0559	0.0337	0.0982	0.0934	-2.9497	0.2696	-1.1551	0.2458
3	74.88	0.6498	-0.0833	0.0327	0.0816	0.1087	-3.6286	0.3159	-1.0041	0.2450
3	74.88	0.6890	-0.1092	0.0316	0.1179	0.1212	-4.2860	0.3532	-1.0454	0.2483
3	74.88	0.7495	-0.1087	0.0302	0.1137	0.1411	-5.3661	0.4149	-1.2450	0.2509
3	74.88	0.7998	-0.1822	0.0307	0.1599	0.1581	-6.2380	0.4706	-1.3593	0.2491
3	74.88	0.8577	-0.2415	0.0343	0.2360	0.1788	-7.2571	0.5383	-1.3084	0.2527
3	74.88	0.9178	-0.2540	0.0419	0.2621	0.2031	-8.3480	0.6140	-0.9506	0.2575
3	74.88	0.9729	0.2677	0.0645	-0.4614	0.2464	-9.2534	0.6871	3.1335	0.3671
4	74.88	0.2001	0.0099	0.0051	-0.0016	0.0020	-0.0937	0.0051	0.0542	0.0476
4	74.88	0.2502	0.0110	0.0028	0.0336	0.0038	-0.2083	0.0110	0.0843	0.1002
4	74.88	0.3001	-0.0296	0.0026	0.0268	0.0067	-0.4019	0.0207	0.1196	0.1124
4	74.88	0.3502	-0.0691	0.0030	0.0432	0.0118	-0.7113	0.0338	0.0409	0.0991
4	74.88	0.4002	-0.1182	0.0031	0.0895	0.0175	-1.1021	0.0535	0.0297	0.1028
4	74.88	0.4500	-0.1431	0.0038	0.1702	0.0221	-1.6641	0.0758	-0.2118	0.1031
4	74.88	0.5001	-0.2232	0.0039	0.2033	0.0273	-2.2454	0.1006	0.0975	0.1050
4	74.88	0.5560	-0.2757	0.0056	0.2647	0.0331	-3.1373	0.1296	-0.1986	0.1040
4	74.88	0.6001	-0.2902	0.0072	0.2981	0.0382	-3.8845	0.1553	-0.0759	0.1038
4	74.88	0.6501	-0.3700	0.0090	0.3837	0.0436	-4.8158	0.1855	-0.0474	0.1051
4	74.88	0.6999	-0.4376	0.0107	0.4472	0.0488	-5.8396	0.2189	0.0246	0.1062
4	74.88	0.7500	-0.4985	0.0132	0.5085	0.0544	-6.9335	0.2560	0.1816	0.1070
4	74.88	0.8002	-0.5907	0.0162	0.5597	0.0599	-8.0900	0.2965	0.2736	0.1074
4	74.88	0.8582	-0.6922	0.0198	0.6533	0.0661	-9.5009	0.3476	-0.1887	0.1114
4	74.88	0.9101	-0.7830	0.0229	0.7715	0.0719	-10.7101	0.3959	-0.0046	0.1093
4	74.88	0.9728	-0.7600	0.0258	0.9116	0.0787	-12.0847	0.4588	0.4921	0.1086

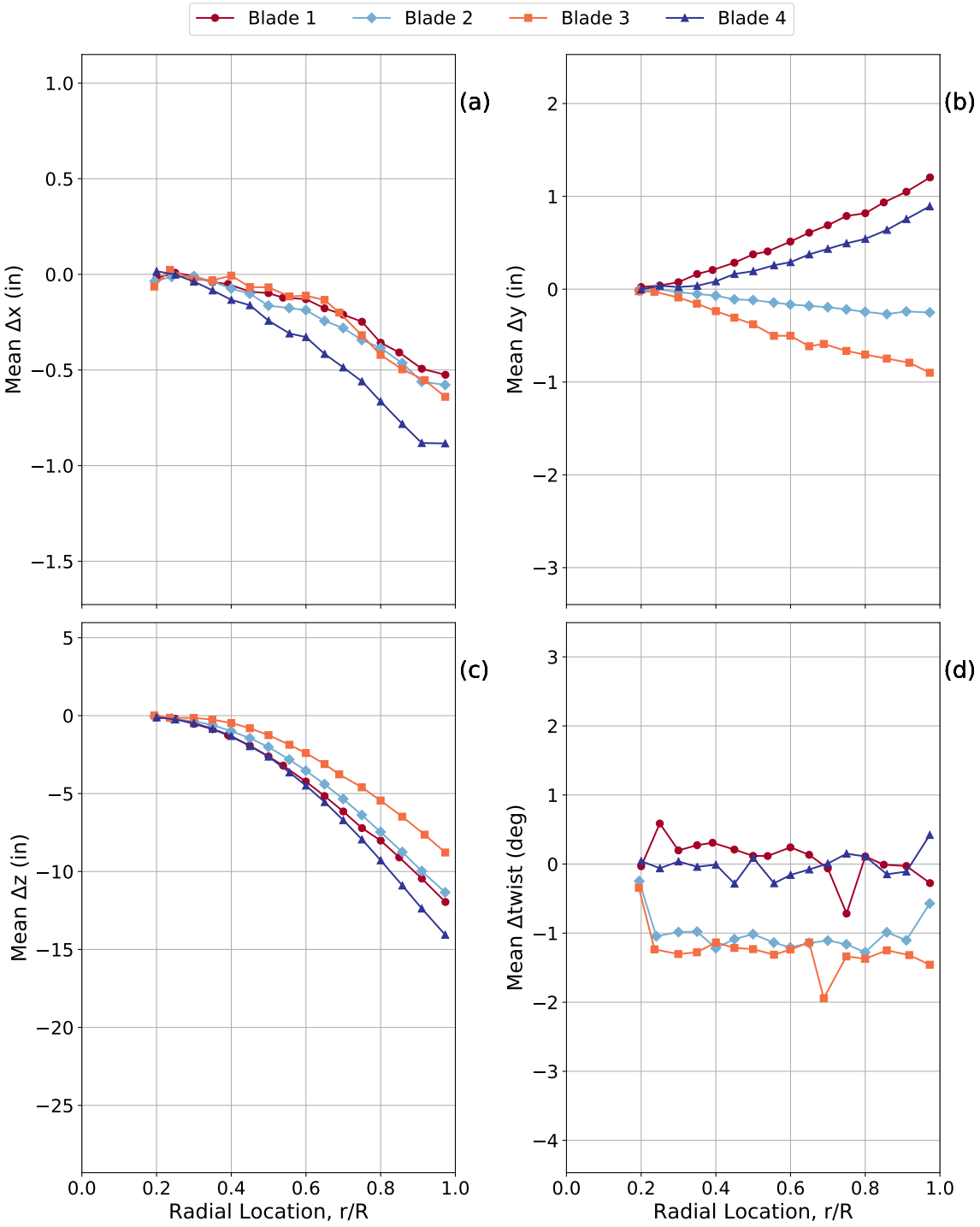


Figure 2.21-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0180	0.0046	0.0232	0.0049	-0.1302	0.0097	-0.0312	0.0770
1	80.16	0.2499	0.0083	0.0033	0.0395	0.0066	-0.2005	0.0131	0.5873	0.1980
1	80.16	0.2998	-0.0096	0.0029	0.0755	0.0169	-0.5260	0.0356	0.1981	0.2031
1	80.16	0.3498	-0.0418	0.0029	0.1635	0.0291	-0.8707	0.0622	0.2731	0.2022
1	80.16	0.3913	-0.0503	0.0041	0.2066	0.0398	-1.2530	0.0853	0.3085	0.2014
1	80.16	0.4496	-0.0905	0.0057	0.2850	0.0562	-1.9196	0.1208	0.2099	0.2007
1	80.16	0.4997	-0.0982	0.0071	0.3749	0.0707	-2.6191	0.1527	0.1185	0.1959
1	80.16	0.5387	-0.1221	0.0086	0.4068	0.0827	-3.2041	0.1813	0.1167	0.1992
1	80.16	0.5996	-0.1296	0.0105	0.5125	0.1012	-4.2273	0.2231	0.2422	0.2102
1	80.16	0.6498	-0.1776	0.0125	0.6086	0.1169	-5.1567	0.2599	0.1340	0.2009
1	80.16	0.6998	-0.2106	0.0211	0.6890	0.1320	-6.1472	0.2988	-0.0626	0.2304
1	80.16	0.7500	-0.2478	0.0154	0.7885	0.1521	-7.2146	0.3471	-0.7170	0.5092
1	80.16	0.8001	-0.3575	0.0267	0.8181	0.1661	-8.0154	0.3324	0.1099	0.2202
1	80.16	0.8497	-0.4084	0.0256	0.9345	0.1809	-9.0921	0.3660	-0.0091	0.2196
1	80.16	0.9102	-0.4935	0.0246	1.0495	0.1988	-10.4510	0.4084	-0.0280	0.2230
1	80.16	0.9734	-0.5251	0.0253	1.2038	0.2165	-11.9556	0.4555	-0.2760	0.2273
2	80.16	0.1949	-0.0351	0.0110	-0.0133	0.0031	-0.0623	0.0100	-0.2468	0.0670
2	80.16	0.2405	-0.0130	0.0054	0.0029	0.0036	-0.1870	0.0135	-1.0450	0.1807
2	80.16	0.2999	-0.0099	0.0060	-0.0319	0.0099	-0.3694	0.0318	-0.9847	0.1940
2	80.16	0.3498	-0.0369	0.0081	-0.0520	0.0174	-0.6035	0.0567	-0.9778	0.1812
2	80.16	0.3998	-0.0743	0.0108	-0.0692	0.0252	-0.9958	0.0825	-1.2185	0.1856
2	80.16	0.4496	-0.1013	0.0124	-0.1100	0.0328	-1.4478	0.1112	-1.0870	0.1840
2	80.16	0.4995	-0.1636	0.0138	-0.1176	0.0414	-2.0114	0.1429	-1.0146	0.1847
2	80.16	0.5551	-0.1762	0.0146	-0.1443	0.0512	-2.8137	0.1827	-1.1362	0.1837
2	80.16	0.5996	-0.1871	0.0147	-0.1656	0.0597	-3.5315	0.2178	-1.2071	0.1851
2	80.16	0.6497	-0.2434	0.0157	-0.1800	0.0696	-4.3999	0.2572	-1.1440	0.1867
2	80.16	0.6996	-0.2806	0.0168	-0.1947	0.0797	-5.3443	0.2994	-1.1076	0.1901
2	80.16	0.7495	-0.3432	0.0181	-0.2178	0.0900	-6.3774	0.3415	-1.1613	0.1877
2	80.16	0.7996	-0.3846	0.0197	-0.2444	0.1006	-7.4627	0.3844	-1.2770	0.1908
2	80.16	0.8578	-0.4638	0.0224	-0.2686	0.1136	-8.7493	0.4357	-0.9874	0.1901
2	80.16	0.9100	-0.5609	0.0261	-0.2403	0.1259	-9.9716	0.4826	-1.1036	0.1887
2	80.16	0.9727	-0.5779	0.0328	-0.2504	0.1408	-11.3353	0.5408	-0.5707	0.1920
3	80.16	0.1938	-0.0638	0.0062	-0.0228	0.0076	0.0094	0.0190	-0.3432	0.0662
3	80.16	0.2357	0.0232	0.0035	-0.0276	0.0053	-0.1420	0.0122	-1.2352	0.2214
3	80.16	0.2995	-0.0274	0.0058	-0.0892	0.0242	-0.1460	0.0549	-1.3028	0.2322
3	80.16	0.3493	-0.0314	0.0109	-0.1558	0.0423	-0.2547	0.0930	-1.2772	0.2350
3	80.16	0.4000	-0.0068	0.0157	-0.2367	0.0619	-0.4719	0.1336	-1.1346	0.2355
3	80.16	0.4497	-0.0664	0.0197	-0.3071	0.0829	-0.8065	0.1757	-1.2139	0.2318
3	80.16	0.4997	-0.0681	0.0224	-0.3776	0.1060	-1.2508	0.2196	-1.2316	0.2325
3	80.16	0.5556	-0.1154	0.0252	-0.5026	0.1331	-1.8697	0.2700	-1.3125	0.2299
3	80.16	0.5995	-0.1119	0.0265	-0.5015	0.1555	-2.3987	0.3088	-1.2376	0.2391
3	80.16	0.6498	-0.1340	0.0271	-0.6147	0.1826	-3.1073	0.3533	-1.1348	0.2461
3	80.16	0.6890	-0.1998	0.0170	-0.5899	0.2247	-3.7681	0.4390	-1.9422	0.7010
3	80.16	0.7495	-0.3182	0.0289	-0.6650	0.2879	-4.5983	0.3318	-1.3369	0.2378
3	80.16	0.7998	-0.4208	0.0308	-0.7049	0.3152	-5.4482	0.3762	-1.3712	0.2363
3	80.16	0.8577	-0.4963	0.0333	-0.7476	0.3468	-6.4808	0.4293	-1.2492	0.2397
3	80.16	0.9178	-0.5532	0.0357	-0.7917	0.3802	-7.6348	0.4887	-1.3182	0.2363
3	80.16	0.9729	-0.6401	0.0309	-0.9001	0.4112	-8.7793	0.5455	-1.4573	0.2369
4	80.16	0.2001	0.0163	0.0059	-0.0043	0.0023	-0.1131	0.0077	0.0430	0.0582
4	80.16	0.2502	-0.0014	0.0041	0.0370	0.0034	-0.2457	0.0127	-0.0610	0.1410
4	80.16	0.3001	-0.0380	0.0028	0.0229	0.0074	-0.4785	0.0276	0.0378	0.1473
4	80.16	0.3502	-0.0840	0.0034	0.0371	0.0127	-0.8475	0.0476	-0.0400	0.1379
4	80.16	0.4002	-0.1334	0.0041	0.0844	0.0187	-1.3092	0.0719	-0.0093	0.1360
4	80.16	0.4500	-0.1617	0.0055	0.1637	0.0235	-1.9584	0.0950	-0.2835	0.1475
4	80.16	0.5001	-0.2427	0.0060	0.1937	0.0296	-2.6289	0.1265	0.0895	0.1409
4	80.16	0.5560	-0.3091	0.0079	0.2575	0.0364	-3.6462	0.1671	-0.2781	0.1381
4	80.16	0.6001	-0.3281	0.0098	0.2913	0.0422	-4.4903	0.2030	-0.1573	0.1371
4	80.16	0.6501	-0.4163	0.0122	0.3747	0.0489	-5.5452	0.2475	-0.0779	0.1362
4	80.16	0.6999	-0.4866	0.0155	0.4343	0.0558	-6.7074	0.2950	0.0079	0.1382
4	80.16	0.7500	-0.5597	0.0188	0.4938	0.0632	-7.9455	0.3458	0.1504	0.1374
4	80.16	0.8002	-0.6650	0.0230	0.5416	0.0709	-9.2856	0.3969	0.1104	0.1401
4	80.16	0.8582	-0.7825	0.0283	0.6388	0.0798	-10.8983	0.4591	-0.1474	0.1383
4	80.16	0.9101	-0.8819	0.0324	0.7553	0.0878	-12.3750	0.5177	-0.1093	0.1391
4	80.16	0.9728	-0.8840	0.0370	0.8927	0.0977	-14.0569	0.5910	0.4216	0.1443

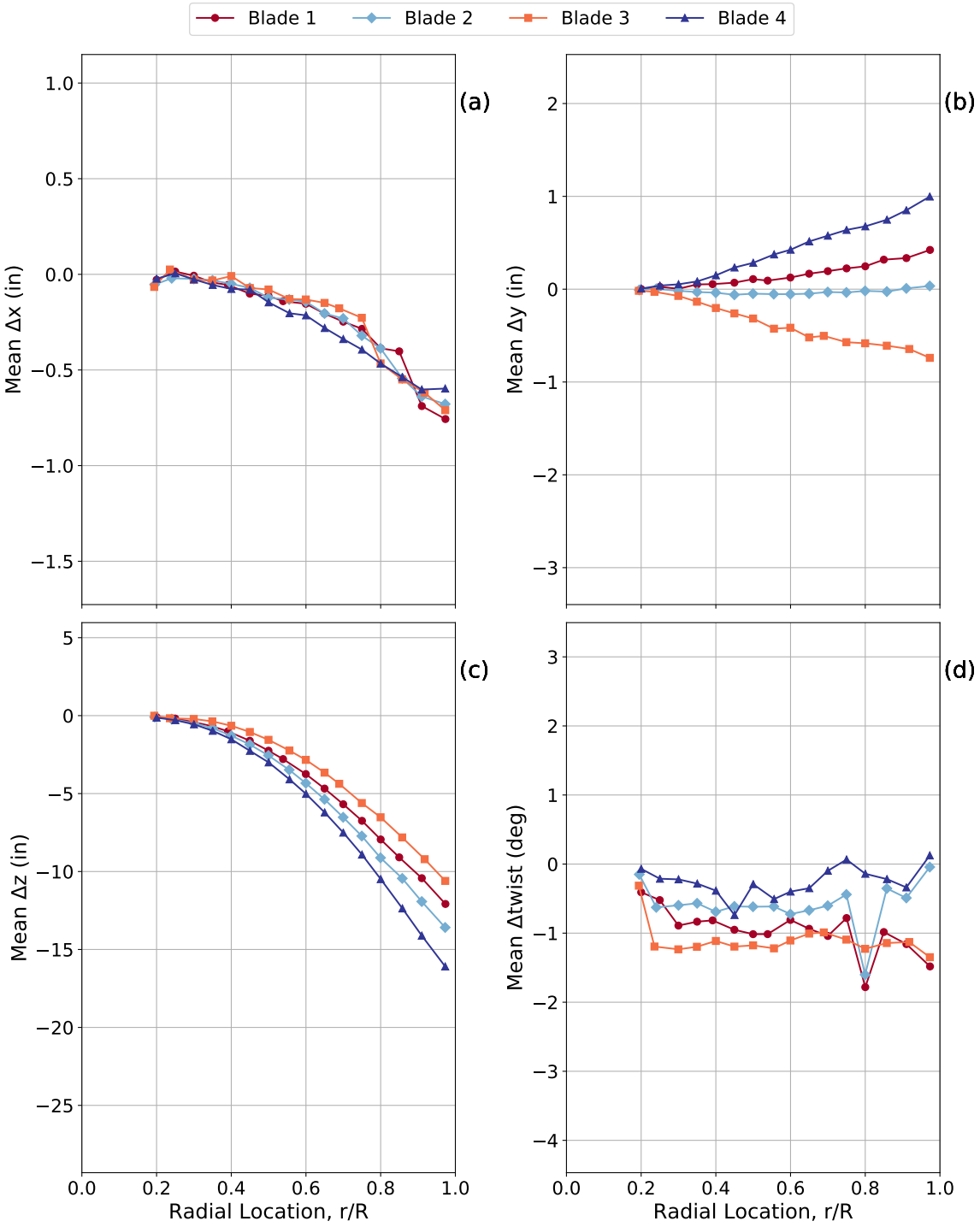


Figure 2.21-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0283	0.0084	0.0013	0.0075	-0.0966	0.0176	-0.4076	0.1104
1	85.08	0.2499	0.0147	0.0061	0.0255	0.0092	-0.1877	0.0209	-0.5217	0.2932
1	85.08	0.2998	-0.0072	0.0047	0.0044	0.0259	-0.4177	0.0602	-0.8905	0.2957
1	85.08	0.3498	-0.0429	0.0084	0.0511	0.0424	-0.6853	0.1021	-0.8340	0.2956
1	85.08	0.3913	-0.0555	0.0124	0.0543	0.0587	-1.0118	0.1391	-0.8153	0.2911
1	85.08	0.4496	-0.1009	0.0179	0.0699	0.0823	-1.6118	0.1932	-0.9511	0.2918
1	85.08	0.4997	-0.1126	0.0217	0.1086	0.1039	-2.2498	0.2419	-1.0150	0.2918
1	85.08	0.5387	-0.1403	0.0249	0.0923	0.1215	-2.7871	0.2801	-1.0144	0.2979
1	85.08	0.5996	-0.1537	0.0287	0.1253	0.1512	-3.7492	0.3417	-0.8086	0.3029
1	85.08	0.6498	-0.2055	0.0317	0.1667	0.1770	-4.6788	0.3959	-0.9369	0.3005
1	85.08	0.6998	-0.2474	0.0349	0.1944	0.2043	-5.6837	0.4533	-1.0408	0.2951
1	85.08	0.7500	-0.2848	0.0383	0.2239	0.2308	-6.7467	0.5116	-0.7815	0.2992
1	85.08	0.8001	-0.3865	0.0329	0.2462	0.2867	-7.9438	0.6542	-1.7822	1.3287
1	85.08	0.8497	-0.4025	0.0456	0.3180	0.2884	-9.0912	0.6343	-0.9840	0.3251
1	85.08	0.9102	-0.6886	0.0477	0.3350	0.4082	-10.4268	0.5585	-1.1585	0.3059
1	85.08	0.9734	-0.7565	0.0460	0.4229	0.4471	-12.0807	0.6333	-1.4820	0.3032
2	85.08	0.1949	-0.0535	0.0076	-0.0085	0.0032	-0.0921	0.0076	-0.1498	0.0464
2	85.08	0.2405	-0.0206	0.0033	0.0034	0.0040	-0.2244	0.0117	-0.6268	0.1164
2	85.08	0.2999	-0.0238	0.0030	-0.0178	0.0102	-0.4774	0.0283	-0.5970	0.1292
2	85.08	0.3498	-0.0314	0.0048	-0.0307	0.0179	-0.8035	0.0498	-0.5678	0.1149
2	85.08	0.3998	-0.0497	0.0067	-0.0380	0.0262	-1.2865	0.0747	-0.6904	0.1152
2	85.08	0.4496	-0.0707	0.0088	-0.0601	0.0350	-1.8543	0.1005	-0.6129	0.1193
2	85.08	0.4995	-0.1219	0.0107	-0.0485	0.0452	-2.5552	0.1300	-0.6176	0.1187
2	85.08	0.5551	-0.1316	0.0131	-0.0532	0.0568	-3.4791	0.1641	-0.6140	0.1153
2	85.08	0.5996	-0.1429	0.0146	-0.0538	0.0670	-4.3329	0.1939	-0.7244	0.1266
2	85.08	0.6497	-0.2046	0.0173	-0.0483	0.0789	-5.3695	0.2283	-0.6690	0.1360
2	85.08	0.6996	-0.2307	0.0213	-0.0308	0.0917	-6.5207	0.2654	-0.6030	0.1722
2	85.08	0.7495	-0.3204	0.0234	-0.0354	0.1034	-7.7238	0.3040	-0.4401	0.1166
2	85.08	0.7996	-0.3870	0.0211	-0.0185	0.1139	-9.1208	0.3617	-1.6021	1.1698
2	85.08	0.8578	-0.5438	0.0307	-0.0259	0.1289	-10.4414	0.4411	-0.3527	0.1282
2	85.08	0.9100	-0.6385	0.0293	0.0084	0.1411	-11.9253	0.4905	-0.4906	0.1343
2	85.08	0.9727	-0.6782	0.0328	0.0345	0.1574	-13.5899	0.5535	-0.0429	0.1352
3	85.08	0.1938	-0.0658	0.0078	-0.0173	0.0100	-0.0055	0.0257	-0.3128	0.0760
3	85.08	0.2357	0.0252	0.0048	-0.0283	0.0057	-0.1693	0.0145	-1.1939	0.3060
3	85.08	0.2995	-0.0282	0.0070	-0.0725	0.0312	-0.2138	0.0737	-1.2344	0.2982
3	85.08	0.3493	-0.0322	0.0135	-0.1346	0.0534	-0.3670	0.1226	-1.1974	0.3015
3	85.08	0.4000	-0.0090	0.0196	-0.2027	0.0782	-0.6499	0.1769	-1.1132	0.3036
3	85.08	0.4497	-0.0715	0.0250	-0.2609	0.1043	-1.0486	0.2327	-1.1949	0.3005
3	85.08	0.4997	-0.0792	0.0292	-0.3161	0.1329	-1.5524	0.2908	-1.1769	0.3043
3	85.08	0.5556	-0.1289	0.0326	-0.4256	0.1672	-2.2388	0.3585	-1.2203	0.3076
3	85.08	0.5995	-0.1314	0.0344	-0.4154	0.1955	-2.8366	0.4127	-1.1067	0.3121
3	85.08	0.6498	-0.1493	0.0361	-0.5195	0.2302	-3.6571	0.4789	-1.0065	0.3081
3	85.08	0.6890	-0.1775	0.0358	-0.5030	0.2579	-4.3727	0.5297	-0.9896	0.3217
3	85.08	0.7495	-0.2272	0.0388	-0.5711	0.3036	-5.6054	0.6116	-1.0938	0.3184
3	85.08	0.7998	-0.4656	0.0417	-0.5828	0.4380	-6.5206	0.5181	-1.2269	0.3159
3	85.08	0.8577	-0.5495	0.0466	-0.6086	0.4825	-7.8129	0.5967	-1.1432	0.3121
3	85.08	0.9178	-0.6192	0.0514	-0.6444	0.5288	-9.2097	0.6784	-1.1289	0.3138
3	85.08	0.9729	-0.7102	0.0459	-0.7398	0.5721	-10.6023	0.7540	-1.3483	0.3131
4	85.08	0.2001	-0.0230	0.0158	0.0065	0.0021	-0.1299	0.0110	-0.0691	0.0769
4	85.08	0.2502	0.0053	0.0085	0.0385	0.0037	-0.2926	0.0180	-0.2124	0.1686
4	85.08	0.3001	-0.0265	0.0080	0.0527	0.0068	-0.5584	0.0363	-0.2214	0.1708
4	85.08	0.3502	-0.0555	0.0142	0.0839	0.0113	-0.9746	0.0612	-0.2832	0.1648
4	85.08	0.4002	-0.0764	0.0217	0.1493	0.0170	-1.5183	0.0918	-0.3852	0.1726
4	85.08	0.4500	-0.0795	0.0282	0.2335	0.0224	-2.2601	0.1219	-0.7378	0.1752
4	85.08	0.5001	-0.1464	0.0323	0.2840	0.0285	-3.0001	0.1569	-0.2913	0.1741
4	85.08	0.5560	-0.2034	0.0351	0.3745	0.0363	-4.0890	0.2008	-0.5068	0.1774
4	85.08	0.6001	-0.2145	0.0362	0.4251	0.0427	-5.0205	0.2375	-0.3986	0.1824
4	85.08	0.6501	-0.2806	0.0367	0.5146	0.0503	-6.2118	0.2843	-0.3493	0.1818
4	85.08	0.6999	-0.3384	0.0365	0.5763	0.0585	-7.5053	0.3331	-0.0974	0.1873
4	85.08	0.7500	-0.3935	0.0365	0.6385	0.0667	-8.9167	0.3862	0.0656	0.1895
4	85.08	0.8002	-0.4667	0.0372	0.6770	0.0758	-10.4889	0.4433	-0.1407	0.1955
4	85.08	0.8582	-0.5374	0.0396	0.7486	0.0867	-12.3679	0.5110	-0.2184	0.2066
4	85.08	0.9101	-0.6024	0.0442	0.8505	0.0972	-14.1150	0.5745	-0.3380	0.2077
4	85.08	0.9728	-0.5971	0.0530	0.9979	0.1128	-16.0918	0.6551	0.1249	0.2054

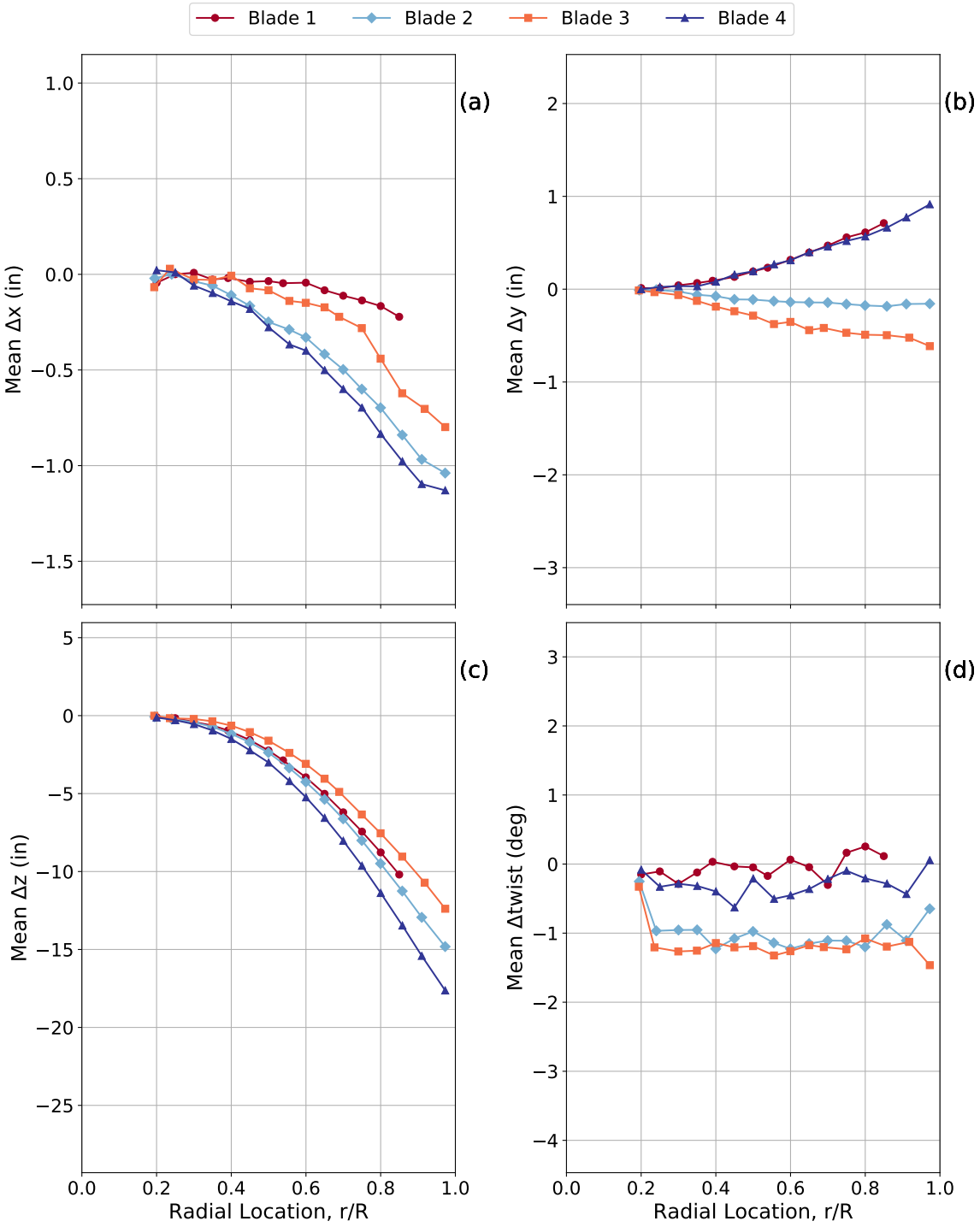


Figure 2.21-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0445	0.0017	0.0122	0.0012	-0.0948	0.0060	-0.1512	0.0243
1	90	0.2499	0.0007	0.0016	0.0104	0.0027	-0.1624	0.0139	-0.1061	0.0365
1	90	0.2998	0.0081	0.0019	0.0412	0.0051	-0.4071	0.0263	-0.2868	0.0517
1	90	0.3498	-0.0271	0.0023	0.0661	0.0088	-0.6354	0.0460	-0.1214	0.0426
1	90	0.3913	-0.0195	0.0028	0.0907	0.0128	-0.9509	0.0669	0.0330	0.0461
1	90	0.4496	-0.0390	0.0042	0.1323	0.0180	-1.5656	0.1029	-0.0338	0.0494
1	90	0.4997	-0.0352	0.0057	0.1907	0.0235	-2.2366	0.1410	-0.0477	0.0488
1	90	0.5387	-0.0463	0.0078	0.2315	0.0285	-2.8693	0.1760	-0.1716	0.0499
1	90	0.5996	-0.0436	0.0104	0.3157	0.0365	-3.9574	0.2400	0.0641	0.0556
1	90	0.6498	-0.0832	0.0146	0.3947	0.0439	-5.0164	0.3031	-0.0451	0.0701
1	90	0.6998	-0.1118	0.0185	0.4698	0.0520	-6.2013	0.3719	-0.3023	0.0786
1	90	0.7500	-0.1363	0.0235	0.5582	0.0635	-7.4406	0.4498	0.1644	0.0892
1	90	0.8001	-0.1658	0.0343	0.6114	0.0673	-8.7743	0.5291	0.2545	0.1601
1	90	0.8497	-0.2219	0.0406	0.7115	0.0752	-10.1941	0.6112	0.1151	0.1464
2	90	0.1949	-0.0209	0.0127	-0.0102	0.0039	-0.0754	0.0133	-0.2517	0.0930
2	90	0.2405	0.0006	0.0070	-0.0069	0.0040	-0.2175	0.0143	-0.9670	0.2559
2	90	0.2999	-0.0362	0.0063	-0.0257	0.0122	-0.4319	0.0416	-0.9547	0.2748
2	90	0.3498	-0.0593	0.0061	-0.0601	0.0212	-0.7183	0.0718	-0.9528	0.2628
2	90	0.3998	-0.1090	0.0063	-0.0754	0.0306	-1.1719	0.1042	-1.2273	0.2602
2	90	0.4496	-0.1649	0.0073	-0.1101	0.0400	-1.7097	0.1375	-1.0786	0.2606
2	90	0.4995	-0.2489	0.0085	-0.1120	0.0499	-2.3750	0.1728	-0.9755	0.2660
2	90	0.5551	-0.2886	0.0106	-0.1289	0.0628	-3.3556	0.2164	-1.1407	0.2611
2	90	0.5996	-0.3296	0.0121	-0.1387	0.0734	-4.2527	0.2547	-1.2275	0.2586
2	90	0.6497	-0.4170	0.0153	-0.1426	0.0858	-5.3711	0.2986	-1.1517	0.2628
2	90	0.6996	-0.4974	0.0188	-0.1442	0.0984	-6.6227	0.3459	-1.1076	0.2607
2	90	0.7495	-0.6002	0.0230	-0.1607	0.1123	-8.0076	0.3962	-1.1104	0.2592
2	90	0.7996	-0.6973	0.0280	-0.1755	0.1261	-9.4899	0.4506	-1.1996	0.2591
2	90	0.8578	-0.8399	0.0341	-0.1846	0.1425	-11.2531	0.5154	-0.8755	0.2663
2	90	0.9100	-0.9675	0.0398	-0.1599	0.1577	-12.9389	0.5756	-1.1079	0.2646
2	90	0.9727	-1.0388	0.0445	-0.1567	0.1753	-14.8156	0.6505	-0.6474	0.2643
3	90	0.1938	-0.0673	0.0054	-0.0134	0.0104	-0.0068	0.0266	-0.3282	0.0901
3	90	0.2357	0.0293	0.0051	-0.0319	0.0062	-0.1649	0.0149	-1.2061	0.3345
3	90	0.2995	-0.0270	0.0066	-0.0631	0.0325	-0.2132	0.0743	-1.2655	0.3369
3	90	0.3493	-0.0292	0.0131	-0.1257	0.0559	-0.3629	0.1251	-1.2534	0.3369
3	90	0.4000	-0.0071	0.0200	-0.1879	0.0817	-0.6427	0.1786	-1.1435	0.3401
3	90	0.4497	-0.0729	0.0250	-0.2375	0.1088	-1.0592	0.2308	-1.2059	0.3432
3	90	0.4997	-0.0831	0.0299	-0.2846	0.1386	-1.6059	0.2862	-1.1882	0.3393
3	90	0.5556	-0.1389	0.0351	-0.3759	0.1740	-2.3916	0.3485	-1.3233	0.3397
3	90	0.5995	-0.1488	0.0384	-0.3526	0.2029	-3.0925	0.3972	-1.2613	0.3392
3	90	0.6498	-0.1725	0.0422	-0.4412	0.2380	-4.0480	0.4552	-1.1747	0.3384
3	90	0.6890	-0.2220	0.0446	-0.4177	0.2662	-4.8925	0.5009	-1.2026	0.3348
3	90	0.7495	-0.2812	0.0479	-0.4692	0.3113	-6.3428	0.5706	-1.2336	0.3453
3	90	0.7998	-0.4409	0.0367	-0.4907	0.3938	-7.5463	0.5578	-1.0770	0.3503
3	90	0.8577	-0.6219	0.0442	-0.4954	0.5441	-9.0430	0.5480	-1.1951	0.3497
3	90	0.9178	-0.7034	0.0493	-0.5224	0.5972	-10.7166	0.6240	-1.1266	0.3528
3	90	0.9729	-0.7985	0.0466	-0.6136	0.6465	-12.3877	0.6968	-1.4639	0.3519
4	90.35	0.2001	0.0216	0.0070	-0.0003	0.0038	-0.1214	0.0149	-0.0811	0.0823
4	90.35	0.2502	0.0098	0.0099	0.0238	0.0054	-0.2942	0.0214	-0.3294	0.1762
4	90.35	0.3001	-0.0590	0.0060	0.0332	0.0101	-0.5438	0.0452	-0.2848	0.1694
4	90.35	0.3502	-0.0977	0.0059	0.0310	0.0172	-0.9542	0.0749	-0.3170	0.1474
4	90.35	0.4002	-0.1414	0.0061	0.0807	0.0245	-1.4965	0.1104	-0.3966	0.1514
4	90.35	0.4500	-0.1808	0.0078	0.1572	0.0312	-2.2281	0.1414	-0.6271	0.1530
4	90.35	0.5001	-0.2769	0.0093	0.1932	0.0393	-3.0103	0.1834	-0.2102	0.1485
4	90.35	0.5560	-0.3666	0.0120	0.2675	0.0490	-4.2022	0.2337	-0.5036	0.1481
4	90.35	0.6001	-0.3991	0.0144	0.3115	0.0570	-5.2421	0.2775	-0.4518	0.1512
4	90.35	0.6501	-0.5010	0.0184	0.3984	0.0664	-6.5605	0.3320	-0.3608	0.1494
4	90.35	0.6999	-0.5998	0.0238	0.4593	0.0760	-8.0318	0.3899	-0.2154	0.1515
4	90.35	0.7500	-0.6968	0.0299	0.5192	0.0860	-9.6337	0.4546	-0.0971	0.1550
4	90.35	0.8002	-0.8344	0.0368	0.5680	0.0964	-11.3785	0.5245	-0.2076	0.1505
4	90.35	0.8582	-0.9780	0.0464	0.6635	0.1086	-13.4653	0.6084	-0.2838	0.1518
4	90.35	0.9101	-1.0964	0.0542	0.7738	0.1199	-15.4135	0.6872	-0.4337	0.1547
4	90.35	0.9728	-1.1294	0.0614	0.9142	0.1333	-17.6298	0.7854	0.0563	0.1491

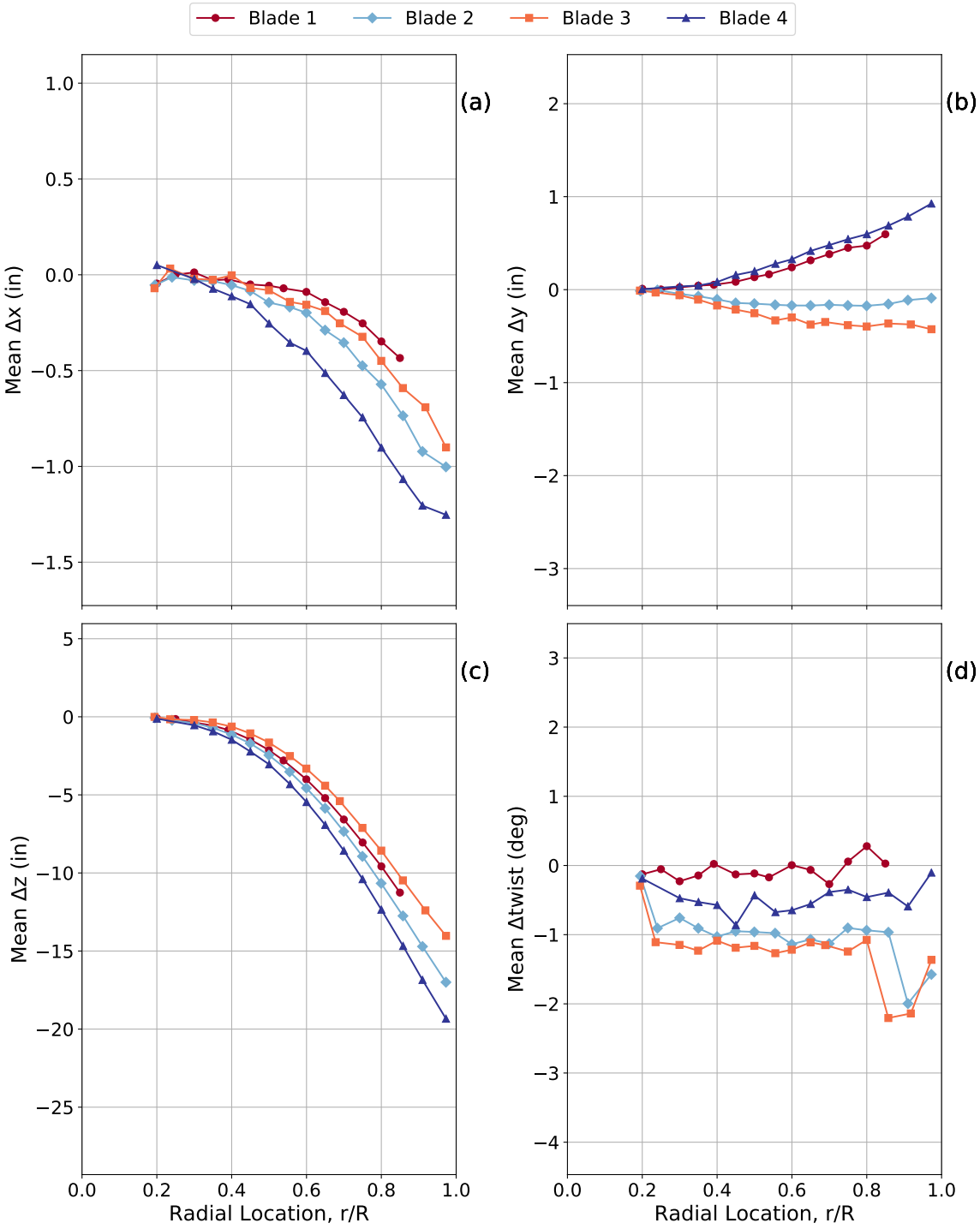


Figure 2.21-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0458	0.0104	0.0093	0.0011	-0.0857	0.0034	-0.1273	0.0212
1	94.92	0.2499	0.0004	0.0035	0.0023	0.0024	-0.1436	0.0090	-0.0542	0.0376
1	94.92	0.2998	0.0124	0.0045	0.0246	0.0047	-0.3646	0.0159	-0.2281	0.0482
1	94.92	0.3498	-0.0282	0.0106	0.0432	0.0077	-0.5664	0.0269	-0.1443	0.0404
1	94.92	0.3913	-0.0242	0.0150	0.0521	0.0115	-0.8472	0.0402	0.0223	0.0342
1	94.92	0.4496	-0.0502	0.0202	0.0846	0.0164	-1.4532	0.0608	-0.1291	0.0399
1	94.92	0.4997	-0.0569	0.0229	0.1342	0.0214	-2.1347	0.0850	-0.1152	0.0407
1	94.92	0.5387	-0.0705	0.0242	0.1655	0.0256	-2.7958	0.1067	-0.1718	0.0448
1	94.92	0.5996	-0.0893	0.0253	0.2401	0.0326	-4.0065	0.1536	0.0049	0.0426
1	94.92	0.6498	-0.1429	0.0255	0.3158	0.0388	-5.2069	0.1998	-0.0646	0.0538
1	94.92	0.6998	-0.1933	0.0262	0.3820	0.0455	-6.5775	0.2541	-0.2696	0.0528
1	94.92	0.7500	-0.2537	0.0272	0.4502	0.0522	-8.0512	0.3179	0.0567	0.0493
1	94.92	0.8001	-0.3480	0.0334	0.4737	0.0765	-9.5806	0.3976	0.2788	0.3117
1	94.92	0.8497	-0.4344	0.0340	0.5961	0.0667	-11.2589	0.4618	0.0277	0.0699
2	94.92	0.1949	-0.0537	0.0111	-0.0147	0.0107	-0.0672	0.0300	-0.1535	0.2237
2	94.92	0.2405	-0.0127	0.0091	-0.0043	0.0161	-0.2233	0.0369	-0.9070	0.5214
2	94.92	0.2999	-0.0294	0.0090	-0.0456	0.0362	-0.4072	0.0919	-0.7576	0.6119
2	94.92	0.3498	-0.0331	0.0116	-0.0708	0.0703	-0.7031	0.1737	-0.9073	0.5280
2	94.92	0.3998	-0.0542	0.0184	-0.1043	0.0994	-1.1394	0.2420	-1.0285	0.5270
2	94.92	0.4496	-0.0839	0.0230	-0.1427	0.1311	-1.7067	0.3099	-0.9504	0.5288
2	94.92	0.4995	-0.1449	0.0270	-0.1505	0.1657	-2.4563	0.3788	-0.9608	0.5308
2	94.92	0.5551	-0.1684	0.0293	-0.1630	0.2094	-3.5227	0.4572	-0.9788	0.5287
2	94.92	0.5996	-0.1980	0.0310	-0.1701	0.2475	-4.5599	0.5193	-1.1384	0.5306
2	94.92	0.6497	-0.2889	0.0322	-0.1710	0.2937	-5.8577	0.5900	-1.0678	0.5306
2	94.92	0.6996	-0.3545	0.0344	-0.1627	0.3445	-7.3439	0.6618	-1.1302	0.5289
2	94.92	0.7495	-0.4748	0.0391	-0.1698	0.3983	-8.9380	0.7359	-0.9031	0.5219
2	94.92	0.7996	-0.5716	0.0465	-0.1739	0.4550	-10.6654	0.8111	-0.9370	0.5232
2	94.92	0.8578	-0.7356	0.0588	-0.1542	0.5253	-12.7506	0.9043	-0.9653	0.5038
2	94.92	0.9100	-0.9224	0.0725	-0.1126	0.6444	-14.7112	1.1110	-1.9965	2.4512
2	94.92	0.9727	-1.0025	0.0800	-0.0903	0.7098	-16.9993	1.3950	-1.5743	2.6431
3	94.92	0.1938	-0.0701	0.0062	-0.0102	0.0119	-0.0076	0.0321	-0.2917	0.1063
3	94.92	0.2357	0.0326	0.0052	-0.0305	0.0064	-0.1611	0.0153	-1.1088	0.4087
3	94.92	0.2995	-0.0211	0.0061	-0.0599	0.0363	-0.2053	0.0875	-1.1484	0.4029
3	94.92	0.3493	-0.0260	0.0127	-0.1069	0.0623	-0.3604	0.1460	-1.2315	0.4064
3	94.92	0.4000	-0.0027	0.0186	-0.1704	0.0906	-0.6279	0.2074	-1.0868	0.4090
3	94.92	0.4497	-0.0684	0.0231	-0.2143	0.1217	-1.0639	0.2683	-1.1889	0.4120
3	94.92	0.4997	-0.0807	0.0267	-0.2535	0.1557	-1.6496	0.3318	-1.1623	0.4047
3	94.92	0.5556	-0.1414	0.0296	-0.3305	0.1979	-2.5158	0.4018	-1.2678	0.4069
3	94.92	0.5995	-0.1565	0.0313	-0.2988	0.2335	-3.3185	0.4569	-1.2176	0.4102
3	94.92	0.6498	-0.1890	0.0329	-0.3755	0.2780	-4.4123	0.5211	-1.1121	0.4152
3	94.92	0.6890	-0.2532	0.0350	-0.3479	0.3152	-5.3996	0.5732	-1.1513	0.4181
3	94.92	0.7495	-0.3235	0.0394	-0.3819	0.3776	-7.1153	0.6558	-1.2438	0.4079
3	94.92	0.7998	-0.4494	0.0441	-0.3962	0.4314	-8.5703	0.7274	-1.0759	0.4061
3	94.92	0.8577	-0.5913	0.0497	-0.3640	0.5431	-10.4776	0.9206	-2.2049	1.8185
3	94.92	0.9178	-0.6914	0.0611	-0.3743	0.6018	-12.3980	1.0090	-2.1391	1.9921
3	94.92	0.9729	-0.9009	0.0665	-0.4259	0.7609	-14.0283	0.8352	-1.3638	0.4068
4	94.92	0.2001	0.0506	0.0077	0.0054	0.0012	-0.1221	0.0072	-0.1894	0.0704
4	94.92	0.3001	-0.0220	0.0055	0.0346	0.0060	-0.5430	0.0335	-0.4734	0.1667
4	94.92	0.3502	-0.0729	0.0051	0.0438	0.0096	-0.9337	0.0562	-0.5282	0.1741
4	94.92	0.4002	-0.1120	0.0059	0.0822	0.0155	-1.4707	0.0895	-0.5722	0.1909
4	94.92	0.4500	-0.1534	0.0079	0.1577	0.0213	-2.2270	0.1253	-0.8620	0.1721
4	94.92	0.5001	-0.2545	0.0104	0.1985	0.0282	-3.0476	0.1688	-0.4331	0.1801
4	94.92	0.5560	-0.3548	0.0140	0.2778	0.0368	-4.3203	0.2297	-0.6749	0.1757
4	94.92	0.6001	-0.3972	0.0179	0.3266	0.0441	-5.4620	0.2844	-0.6470	0.1716
4	94.92	0.6501	-0.5127	0.0244	0.4166	0.0528	-6.9278	0.3554	-0.5570	0.1840
4	94.92	0.6999	-0.6278	0.0324	0.4792	0.0623	-8.5763	0.4369	-0.3849	0.1828
4	94.92	0.7500	-0.7447	0.0423	0.5423	0.0720	-10.4006	0.5262	-0.3498	0.1755
4	94.92	0.8002	-0.9023	0.0537	0.5961	0.0820	-12.3550	0.6214	-0.4570	0.1803
4	94.92	0.8582	-1.0664	0.0681	0.6886	0.0933	-14.6799	0.7390	-0.3924	0.1900
4	94.92	0.9101	-1.2050	0.0806	0.7854	0.1040	-16.8535	0.8497	-0.5926	0.1779
4	94.92	0.9728	-1.2529	0.0935	0.9257	0.1156	-19.3356	0.9889	-0.1039	0.1876

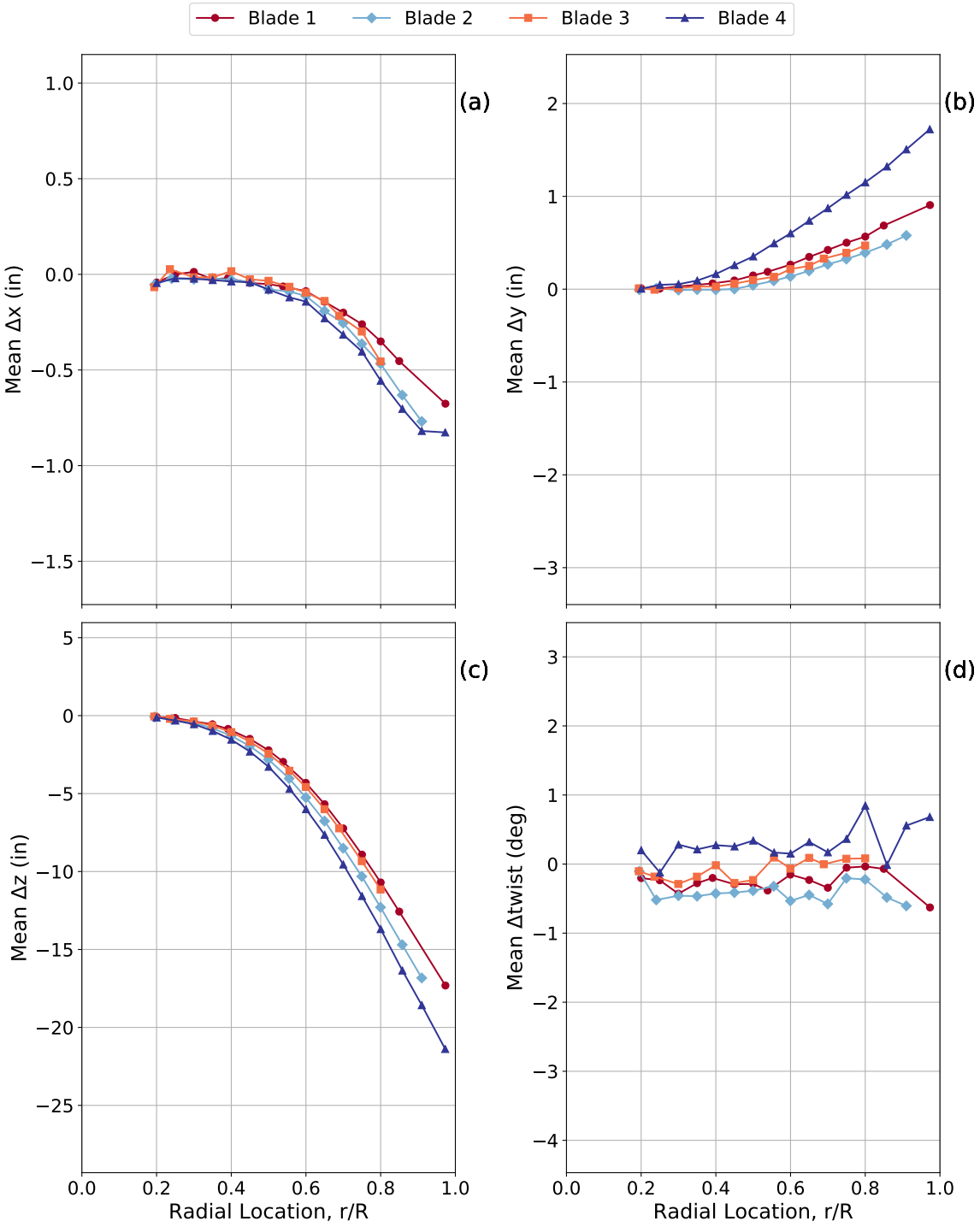


Figure 2.21-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0425	0.0015	0.0090	0.0010	-0.0820	0.0062	-0.2033	0.0228
1	99.84	0.2499	0.0004	0.0015	0.0062	0.0021	-0.1507	0.0142	-0.2352	0.0403
1	99.84	0.2998	0.0127	0.0022	0.0282	0.0038	-0.3690	0.0278	-0.4292	0.0514
1	99.84	0.3498	-0.0259	0.0026	0.0470	0.0068	-0.5569	0.0469	-0.2765	0.0453
1	99.84	0.3913	-0.0196	0.0031	0.0620	0.0096	-0.8547	0.0693	-0.2010	0.0472
1	99.84	0.4496	-0.0452	0.0049	0.0938	0.0133	-1.4891	0.1106	-0.2928	0.0487
1	99.84	0.4997	-0.0511	0.0071	0.1479	0.0174	-2.2239	0.1567	-0.2860	0.0510
1	99.84	0.5387	-0.0635	0.0102	0.1869	0.0212	-2.9651	0.1991	-0.3826	0.0537
1	99.84	0.5996	-0.0879	0.0154	0.2642	0.0273	-4.3130	0.2792	-0.1524	0.0470
1	99.84	0.6498	-0.1434	0.0218	0.3476	0.0329	-5.6835	0.3554	-0.2307	0.0559
1	99.84	0.6998	-0.2002	0.0301	0.4227	0.0384	-7.2341	0.4394	-0.3429	0.0585
1	99.84	0.7500	-0.2609	0.0399	0.5008	0.0440	-8.9174	0.5316	-0.0524	0.0637
1	99.84	0.8001	-0.3505	0.0517	0.5666	0.0496	-10.7022	0.6317	-0.0345	0.0681
1	99.84	0.8497	-0.4535	0.0637	0.6854	0.0549	-12.5702	0.7366	-0.0693	0.0701
1	99.84	0.9734	-0.6763	0.0919	0.9061	0.0689	-17.3121	1.0177	-0.6282	0.1201
2	99.84	0.1949	-0.0540	0.0013	-0.0057	0.0007	-0.0887	0.0051	-0.1044	0.0195
2	99.84	0.2405	-0.0223	0.0015	0.0097	0.0020	-0.2323	0.0115	-0.5192	0.0321
2	99.84	0.2999	-0.0258	0.0019	-0.0100	0.0036	-0.4718	0.0252	-0.4582	0.0456
2	99.84	0.3498	-0.0212	0.0026	-0.0050	0.0061	-0.8105	0.0423	-0.4653	0.0438
2	99.84	0.3998	-0.0284	0.0035	-0.0069	0.0097	-1.2932	0.0674	-0.4256	0.0415
2	99.84	0.4496	-0.0385	0.0048	0.0018	0.0132	-1.9519	0.0967	-0.4134	0.0410
2	99.84	0.4995	-0.0787	0.0066	0.0427	0.0174	-2.8162	0.1346	-0.3855	0.0397
2	99.84	0.5551	-0.0898	0.0101	0.0903	0.0225	-4.0362	0.1854	-0.3216	0.0409
2	99.84	0.5996	-0.1128	0.0143	0.1367	0.0265	-5.2561	0.2332	-0.5327	0.0508
2	99.84	0.6497	-0.1915	0.0198	0.1974	0.0312	-6.7639	0.2933	-0.4472	0.0450
2	99.84	0.6996	-0.2549	0.0273	0.2676	0.0355	-8.5022	0.3582	-0.5775	0.0553
2	99.84	0.7495	-0.3634	0.0357	0.3246	0.0400	-10.3158	0.4325	-0.2046	0.0475
2	99.84	0.7996	-0.4669	0.0457	0.3914	0.0446	-12.2944	0.5121	-0.2229	0.0701
2	99.84	0.8578	-0.6312	0.0592	0.4818	0.0495	-14.6949	0.6124	-0.4832	0.0845
2	99.84	0.9100	-0.7689	0.0687	0.5786	0.0549	-16.8286	0.7073	-0.6056	0.1227
3	99.84	0.1938	-0.0671	0.0227	0.0088	0.0015	-0.0590	0.0089	-0.1034	0.0194
3	99.84	0.2357	0.0269	0.0108	-0.0055	0.0031	-0.2022	0.0182	-0.1813	0.0252
3	99.84	0.2995	-0.0154	0.0084	0.0116	0.0068	-0.3796	0.0415	-0.2884	0.0416
3	99.84	0.3493	-0.0161	0.0220	0.0284	0.0117	-0.6441	0.0712	-0.1824	0.0380
3	99.84	0.4000	0.0163	0.0351	0.0282	0.0185	-1.0567	0.1118	-0.0170	0.0360
3	99.84	0.4497	-0.0261	0.0454	0.0587	0.0264	-1.6631	0.1623	-0.2737	0.0371
3	99.84	0.4997	-0.0339	0.0535	0.0983	0.0360	-2.4409	0.2249	-0.2313	0.0383
3	99.84	0.5556	-0.0651	0.0579	0.1330	0.0480	-3.5349	0.3104	0.0948	0.0444
3	99.84	0.5995	-0.0949	0.0583	0.2160	0.0583	-4.5738	0.3875	-0.0653	0.0464
3	99.84	0.6498	-0.1390	0.0558	0.2512	0.0708	-6.0029	0.4876	0.0895	0.0487
3	99.84	0.6890	-0.2160	0.0519	0.3298	0.0805	-7.2319	0.5726	-0.0025	0.0396
3	99.84	0.7495	-0.2991	0.0447	0.3920	0.0960	-9.3342	0.7165	0.0768	0.0460
3	99.84	0.7998	-0.4555	0.0448	0.4703	0.1087	-11.1543	0.8456	0.0824	0.0575
4	99.84	0.2001	-0.0454	0.0020	0.0054	0.0011	-0.1206	0.0070	0.1993	0.0201
4	99.84	0.2502	-0.0205	0.0021	0.0469	0.0022	-0.3185	0.0152	-0.1226	0.0334
4	99.84	0.3001	-0.0227	0.0027	0.0537	0.0044	-0.5515	0.0303	0.2809	0.0451
4	99.84	0.3502	-0.0301	0.0035	0.0928	0.0074	-0.9830	0.0520	0.2122	0.0427
4	99.84	0.4002	-0.0372	0.0050	0.1635	0.0117	-1.5424	0.0814	0.2736	0.0513
4	99.84	0.4500	-0.0417	0.0067	0.2590	0.0160	-2.3087	0.1174	0.2548	0.0485
4	99.84	0.5001	-0.0800	0.0100	0.3529	0.0207	-3.2835	0.1605	0.3396	0.0558
4	99.84	0.5560	-0.1204	0.0141	0.4939	0.0273	-4.6975	0.2177	0.1667	0.0536
4	99.84	0.6001	-0.1427	0.0185	0.6020	0.0321	-6.0032	0.2680	0.1510	0.0536
4	99.84	0.6501	-0.2296	0.0250	0.7376	0.0384	-7.6484	0.3307	0.3199	0.0513
4	99.84	0.6999	-0.3154	0.0330	0.8721	0.0444	-9.5497	0.3994	0.1701	0.0635
4	99.84	0.7500	-0.4039	0.0425	1.0164	0.0504	-11.5775	0.4725	0.3647	0.0657
4	99.84	0.8002	-0.5562	0.0530	1.1512	0.0564	-13.6951	0.5501	0.8454	0.0704
4	99.84	0.8582	-0.7033	0.0670	1.3215	0.0638	-16.3527	0.6457	-0.0130	0.0918
4	99.84	0.9101	-0.8190	0.0779	1.5061	0.0700	-18.5747	0.7306	0.5569	0.0960
4	99.84	0.9728	-0.8265	0.0908	1.7224	0.0783	-21.3847	0.8374	0.6814	0.1504

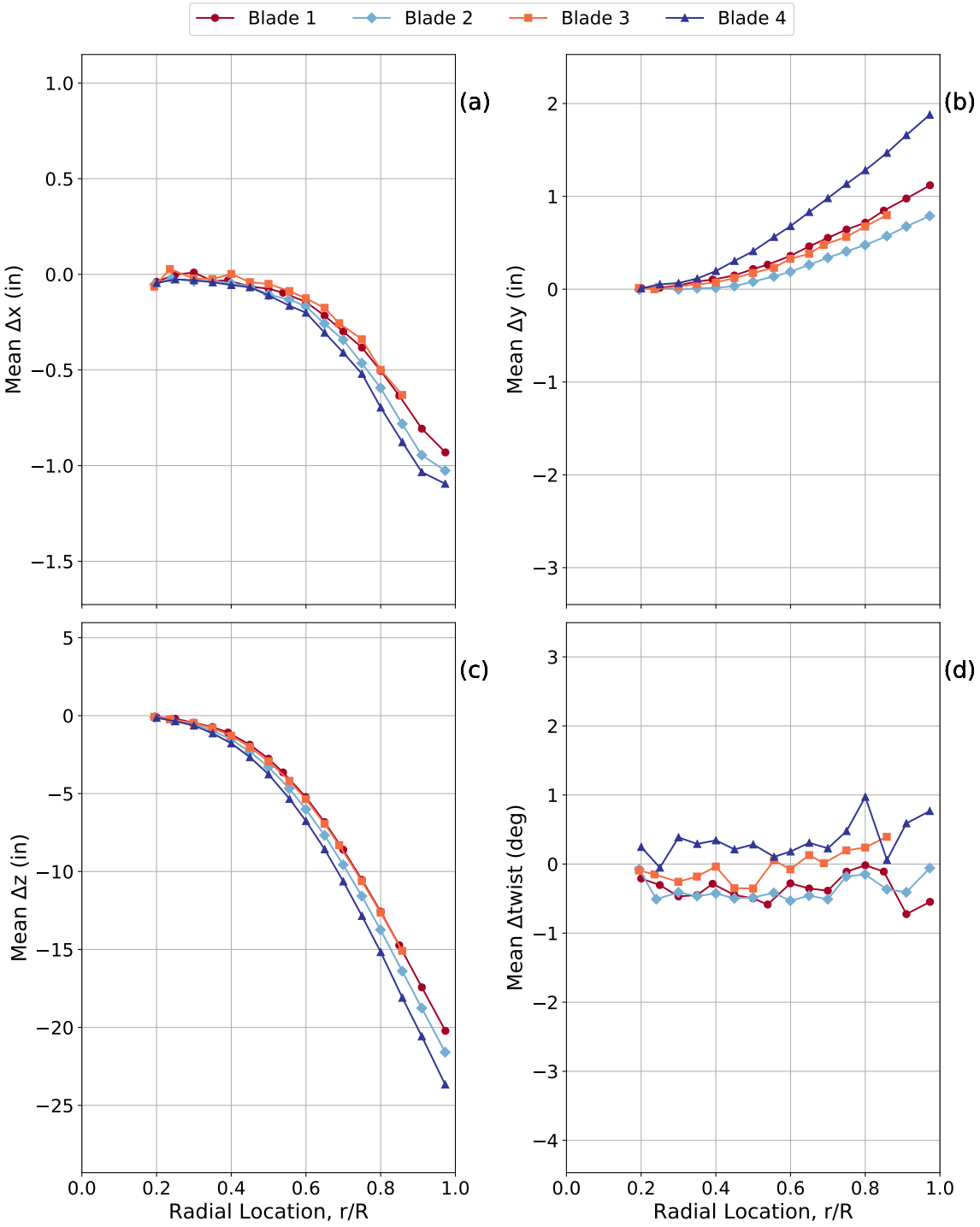


Figure 2.21-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0391	0.0054	0.0134	0.0019	-0.1056	0.0089	-0.2097	0.0175
1	105.12	0.2499	-0.0010	0.0029	0.0159	0.0045	-0.1981	0.0260	-0.3036	0.0393
1	105.12	0.2998	0.0095	0.0036	0.0405	0.0098	-0.4555	0.0510	-0.4686	0.0433
1	105.12	0.3498	-0.0350	0.0031	0.0827	0.0123	-0.7310	0.0713	-0.4484	0.1159
1	105.12	0.3913	-0.0312	0.0050	0.1030	0.0213	-1.0868	0.1194	-0.2859	0.0598
1	105.12	0.4496	-0.0637	0.0074	0.1481	0.0296	-1.8666	0.1770	-0.4475	0.0545
1	105.12	0.4997	-0.0749	0.0113	0.2169	0.0367	-2.7631	0.2372	-0.4962	0.0519
1	105.12	0.5387	-0.0959	0.0146	0.2643	0.0436	-3.6440	0.2902	-0.5858	0.0510
1	105.12	0.5996	-0.1442	0.0224	0.3589	0.0541	-5.2266	0.3847	-0.2795	0.0472
1	105.12	0.6498	-0.2162	0.0310	0.4613	0.0631	-6.8288	0.4713	-0.3531	0.0479
1	105.12	0.6998	-0.2988	0.0422	0.5526	0.0721	-8.5987	0.5672	-0.3858	0.0491
1	105.12	0.7500	-0.3829	0.0553	0.6430	0.0813	-10.5394	0.6733	-0.1110	0.0546
1	105.12	0.8001	-0.5047	0.0701	0.7166	0.0903	-12.5750	0.7865	-0.0177	0.0542
1	105.12	0.8497	-0.6344	0.0868	0.8468	0.0995	-14.7293	0.9061	-0.1093	0.0613
1	105.12	0.9102	-0.8067	0.1068	0.9769	0.1106	-17.4284	1.0576	-0.7245	0.0796
1	105.12	0.9734	-0.9309	0.1270	1.1193	0.1235	-20.2166	1.2259	-0.5468	0.1072
2	105.12	0.1949	-0.0529	0.0016	-0.0045	0.0009	-0.1064	0.0056	-0.0760	0.0183
2	105.12	0.2405	-0.0227	0.0018	0.0142	0.0024	-0.2731	0.0155	-0.5088	0.0269
2	105.12	0.2999	-0.0356	0.0025	-0.0033	0.0051	-0.5561	0.0322	-0.4095	0.0413
2	105.12	0.3498	-0.0340	0.0028	0.0091	0.0078	-0.9640	0.0515	-0.4642	0.0449
2	105.12	0.3998	-0.0474	0.0043	0.0142	0.0131	-1.5291	0.0854	-0.4254	0.0361
2	105.12	0.4496	-0.0617	0.0062	0.0328	0.0178	-2.3061	0.1239	-0.4967	0.0379
2	105.12	0.4995	-0.1062	0.0092	0.0808	0.0235	-3.2932	0.1695	-0.4837	0.0414
2	105.12	0.5551	-0.1315	0.0139	0.1369	0.0303	-4.6700	0.2320	-0.4179	0.0434
2	105.12	0.5996	-0.1667	0.0194	0.1876	0.0367	-6.0074	0.2916	-0.5314	0.0443
2	105.12	0.6497	-0.2575	0.0269	0.2624	0.0436	-7.6793	0.3642	-0.4573	0.0427
2	105.12	0.6996	-0.3424	0.0367	0.3386	0.0508	-9.5670	0.4449	-0.5094	0.0490
2	105.12	0.7495	-0.4642	0.0477	0.4072	0.0578	-11.5749	0.5327	-0.1800	0.0490
2	105.12	0.7996	-0.5937	0.0608	0.4758	0.0650	-13.7402	0.6280	-0.1480	0.0503
2	105.12	0.8578	-0.7815	0.0774	0.5719	0.0726	-16.3907	0.7454	-0.3655	0.0579
2	105.12	0.9100	-0.9454	0.0913	0.6761	0.0802	-18.7581	0.8550	-0.4090	0.0619
2	105.12	0.9727	-1.0257	0.1084	0.7884	0.0881	-21.5896	0.9895	-0.0586	0.0943
3	105.12	0.1938	-0.0641	0.0014	0.0121	0.0010	-0.0775	0.0050	-0.0922	0.0207
3	105.12	0.2357	0.0271	0.0016	0.0001	0.0022	-0.2371	0.0111	-0.1503	0.0298
3	105.12	0.2995	-0.0222	0.0022	0.0301	0.0043	-0.4673	0.0252	-0.2571	0.0479
3	105.12	0.3493	-0.0249	0.0023	0.0530	0.0074	-0.7914	0.0416	-0.1801	0.0538
3	105.12	0.4000	0.0019	0.0034	0.0722	0.0117	-1.2904	0.0671	-0.0366	0.0351
3	105.12	0.4497	-0.0408	0.0045	0.1206	0.0148	-2.0158	0.0959	-0.3488	0.0363
3	105.12	0.4997	-0.0499	0.0081	0.1745	0.0205	-2.9287	0.1305	-0.3539	0.0785
3	105.12	0.5556	-0.0874	0.0102	0.2310	0.0248	-4.1858	0.1808	0.0536	0.0436
3	105.12	0.5995	-0.1254	0.0142	0.3274	0.0296	-5.3603	0.2261	-0.0764	0.0397
3	105.12	0.6498	-0.1750	0.0202	0.3817	0.0351	-6.9442	0.2855	0.1302	0.0418
3	105.12	0.6890	-0.2556	0.0258	0.4782	0.0395	-8.3080	0.3368	0.0132	0.0417
3	105.12	0.7495	-0.3396	0.0366	0.5635	0.0464	-10.6186	0.4252	0.1982	0.0484
3	105.12	0.7998	-0.4988	0.0463	0.6748	0.0525	-12.6287	0.5043	0.2392	0.0439
3	105.12	0.8577	-0.6304	0.0597	0.7975	0.0590	-15.0885	0.5983	0.3952	0.0703
4	105.12	0.2001	-0.0454	0.0018	0.0088	0.0009	-0.1408	0.0058	0.2472	0.0221
4	105.12	0.2502	-0.0264	0.0022	0.0516	0.0022	-0.3647	0.0149	-0.0515	0.0317
4	105.12	0.3001	-0.0306	0.0025	0.0664	0.0041	-0.6392	0.0267	0.3865	0.0476
4	105.12	0.3502	-0.0417	0.0032	0.1141	0.0070	-1.1363	0.0460	0.2912	0.0386
4	105.12	0.4002	-0.0559	0.0045	0.1959	0.0109	-1.7815	0.0732	0.3435	0.0318
4	105.12	0.4500	-0.0677	0.0063	0.3044	0.0150	-2.6681	0.1054	0.2122	0.0292
4	105.12	0.5001	-0.1101	0.0090	0.4096	0.0200	-3.7705	0.1454	0.2840	0.0408
4	105.12	0.5560	-0.1646	0.0140	0.5628	0.0263	-5.3418	0.2014	0.1053	0.0404
4	105.12	0.6001	-0.2006	0.0192	0.6798	0.0321	-6.7639	0.2533	0.1818	0.0365
4	105.12	0.6501	-0.3050	0.0265	0.8316	0.0388	-8.5755	0.3193	0.3083	0.0414
4	105.12	0.6999	-0.4095	0.0356	0.9802	0.0455	-10.6365	0.3910	0.2275	0.0409
4	105.12	0.7500	-0.5203	0.0466	1.1345	0.0527	-12.8487	0.4704	0.4776	0.0530
4	105.12	0.8002	-0.6963	0.0586	1.2816	0.0599	-15.1718	0.5548	0.9730	0.0510
4	105.12	0.8582	-0.8775	0.0742	1.4689	0.0677	-18.1000	0.6553	0.0591	0.0597
4	105.12	0.9101	-1.0340	0.0868	1.6594	0.0754	-20.5719	0.7474	0.5898	0.0548
4	105.12	0.9728	-1.0949	0.1016	1.8795	0.0843	-23.6664	0.8615	0.7677	0.0795

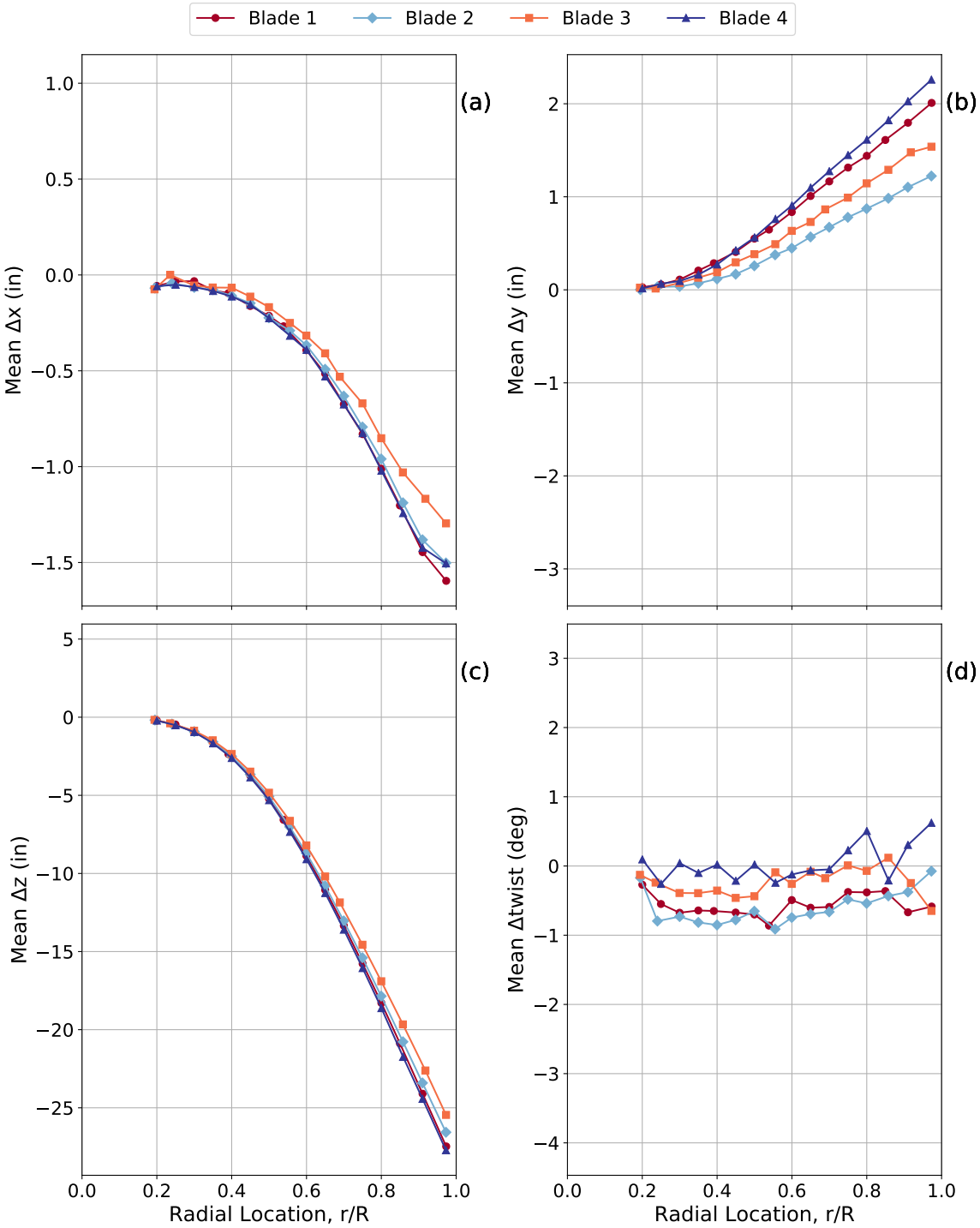


Figure 2.21-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0571	0.0021	0.0279	0.0010	-0.2178	0.0062	-0.2704	0.0180
1	119.88	0.2499	-0.0336	0.0024	0.0578	0.0021	-0.4661	0.0130	-0.5492	0.0405
1	119.88	0.2998	-0.0324	0.0028	0.1097	0.0040	-0.9599	0.0261	-0.6757	0.0451
1	119.88	0.3498	-0.0796	0.0039	0.2069	0.0070	-1.5943	0.0457	-0.6425	0.0469
1	119.88	0.3913	-0.0952	0.0051	0.2859	0.0099	-2.3601	0.0658	-0.6501	0.0473
1	119.88	0.4496	-0.1619	0.0089	0.4069	0.0142	-3.7328	0.1075	-0.6729	0.0509
1	119.88	0.4997	-0.2131	0.0127	0.5504	0.0184	-5.2092	0.1490	-0.7006	0.0507
1	119.88	0.5387	-0.2677	0.0168	0.6473	0.0220	-6.5678	0.1863	-0.8615	0.0543
1	119.88	0.5996	-0.3924	0.0248	0.8358	0.0286	-8.8674	0.2540	-0.4925	0.0492
1	119.88	0.6498	-0.5148	0.0337	1.0085	0.0339	-11.0494	0.3165	-0.6031	0.0553
1	119.88	0.6998	-0.6742	0.0442	1.1652	0.0397	-13.3390	0.3852	-0.5922	0.0507
1	119.88	0.7500	-0.8303	0.0567	1.3142	0.0448	-15.7783	0.4639	-0.3763	0.0555
1	119.88	0.8001	-1.0109	0.0706	1.4403	0.0504	-18.2892	0.5482	-0.3809	0.0624
1	119.88	0.8497	-1.2025	0.0858	1.6106	0.0559	-20.8769	0.6369	-0.3628	0.0563
1	119.88	0.9102	-1.4457	0.1042	1.7958	0.0627	-24.0993	0.7497	-0.6688	0.0725
1	119.88	0.9734	-1.5957	0.1222	2.0093	0.0697	-27.4716	0.8719	-0.5862	0.0705
2	119.88	0.1949	-0.0685	0.0018	0.0022	0.0015	-0.1805	0.0078	-0.1711	0.0173
2	119.88	0.2405	-0.0425	0.0027	0.0317	0.0047	-0.4398	0.0215	-0.7958	0.0248
2	119.88	0.2999	-0.0651	0.0037	0.0361	0.0093	-0.9180	0.0445	-0.7312	0.0387
2	119.88	0.3498	-0.0767	0.0046	0.0699	0.0147	-1.5836	0.0707	-0.8155	0.0394
2	119.88	0.3998	-0.1085	0.0071	0.1167	0.0248	-2.5065	0.1173	-0.8524	0.1009
2	119.88	0.4496	-0.1472	0.0102	0.1681	0.0275	-3.6625	0.1517	-0.7782	0.0429
2	119.88	0.4995	-0.2235	0.0152	0.2580	0.0346	-5.0733	0.2033	-0.6531	0.0391
2	119.88	0.5551	-0.2902	0.0225	0.3761	0.0590	-7.0169	0.3074	-0.9121	0.3416
2	119.88	0.5996	-0.3666	0.0311	0.4478	0.0509	-8.7022	0.3415	-0.7451	0.0432
2	119.88	0.6497	-0.4920	0.0420	0.5685	0.0590	-10.7951	0.4267	-0.6937	0.0424
2	119.88	0.6996	-0.6319	0.0556	0.6726	0.0675	-13.0379	0.5182	-0.6630	0.0415
2	119.88	0.7495	-0.7931	0.0709	0.7792	0.0765	-15.3941	0.6203	-0.4820	0.0490
2	119.88	0.7996	-0.9597	0.0885	0.8720	0.0849	-17.8523	0.7312	-0.5401	0.0502
2	119.88	0.8578	-1.1886	0.1104	0.9839	0.0947	-20.7733	0.8673	-0.4328	0.0500
2	119.88	0.9100	-1.3814	0.1301	1.1030	0.1034	-23.4074	0.9961	-0.3766	0.0608
2	119.88	0.9727	-1.5024	0.1518	1.2234	0.1135	-26.5630	1.1525	-0.0750	0.0725
3	119.88	0.1938	-0.0750	0.0031	0.0232	0.0014	-0.1684	0.0091	-0.1281	0.0226
3	119.88	0.2357	0.0007	0.0029	0.0142	0.0024	-0.3913	0.0185	-0.2398	0.0250
3	119.88	0.2995	-0.0554	0.0041	0.0739	0.0061	-0.8637	0.0427	-0.3903	0.0463
3	119.88	0.3493	-0.0655	0.0058	0.1302	0.0096	-1.4777	0.0750	-0.3924	0.0302
3	119.88	0.4000	-0.0665	0.0087	0.1895	0.0155	-2.3547	0.1169	-0.3552	0.0473
3	119.88	0.4497	-0.1131	0.0126	0.2956	0.0231	-3.4834	0.1730	-0.4611	0.0375
3	119.88	0.4997	-0.1681	0.0177	0.3832	0.0273	-4.8340	0.2341	-0.4370	0.0388
3	119.88	0.5556	-0.2503	0.0277	0.4905	0.0353	-6.6335	0.3170	-0.0916	0.0509
3	119.88	0.5995	-0.3163	0.0350	0.6337	0.0428	-8.2043	0.3933	-0.2587	0.0382
3	119.88	0.6498	-0.4087	0.0466	0.7297	0.0508	-10.1936	0.4908	-0.0835	0.0410
3	119.88	0.6890	-0.5311	0.0573	0.8644	0.0576	-11.8556	0.5739	-0.1764	0.0421
3	119.88	0.7495	-0.6699	0.0778	0.9910	0.0679	-14.5628	0.7155	0.0086	0.0433
3	119.88	0.7998	-0.8518	0.0963	1.1444	0.0766	-16.9007	0.8435	-0.0703	0.0462
3	119.88	0.8577	-1.0301	0.1201	1.2900	0.0864	-19.6621	0.9997	0.1190	0.0542
3	119.88	0.9178	-1.1676	0.1440	1.4780	0.0965	-22.6128	1.1693	-0.2466	0.0610
3	119.88	0.9729	-1.2959	0.1638	1.5386	0.1060	-25.4534	1.3289	-0.6493	0.0606
4	119.88	0.2001	-0.0591	0.0027	0.0155	0.0013	-0.2165	0.0086	0.0944	0.0141
4	119.88	0.2502	-0.0510	0.0032	0.0653	0.0030	-0.5150	0.0185	-0.2589	0.0228
4	119.88	0.3001	-0.0629	0.0038	0.0946	0.0059	-0.9485	0.0362	0.0405	0.0311
4	119.88	0.3502	-0.0836	0.0052	0.1636	0.0101	-1.6747	0.0634	-0.1008	0.0506
4	119.88	0.4002	-0.1125	0.0070	0.2723	0.0159	-2.6109	0.0982	0.0190	0.0321
4	119.88	0.4500	-0.1550	0.0110	0.4232	0.0213	-3.8528	0.1465	-0.2134	0.0358
4	119.88	0.5001	-0.2259	0.0172	0.5627	0.0288	-5.3129	0.2066	0.0202	0.0396
4	119.88	0.5560	-0.3173	0.0262	0.7608	0.0382	-7.3412	0.2877	-0.2426	0.0308
4	119.88	0.6001	-0.3909	0.0357	0.9067	0.0460	-9.0901	0.3623	-0.1228	0.0373
4	119.88	0.6501	-0.5297	0.0483	1.0987	0.0552	-11.2568	0.4587	-0.0631	0.0390
4	119.88	0.6999	-0.6756	0.0635	1.2755	0.0647	-13.6005	0.5644	-0.0493	0.0361
4	119.88	0.7500	-0.8256	0.0813	1.4484	0.0749	-16.0583	0.6796	0.2268	0.0370
4	119.88	0.8002	-1.0210	0.1010	1.6138	0.0845	-18.6209	0.8033	0.5056	0.0355
4	119.88	0.8582	-1.2425	0.1252	1.8229	0.0957	-21.7433	0.9517	-0.2095	0.0432
4	119.88	0.9101	-1.4231	0.1462	2.0267	0.1057	-24.4260	1.0894	0.3036	0.0485
4	119.88	0.9728	-1.5047	0.1689	2.2587	0.1174	-27.7146	1.2590	0.6230	0.0475

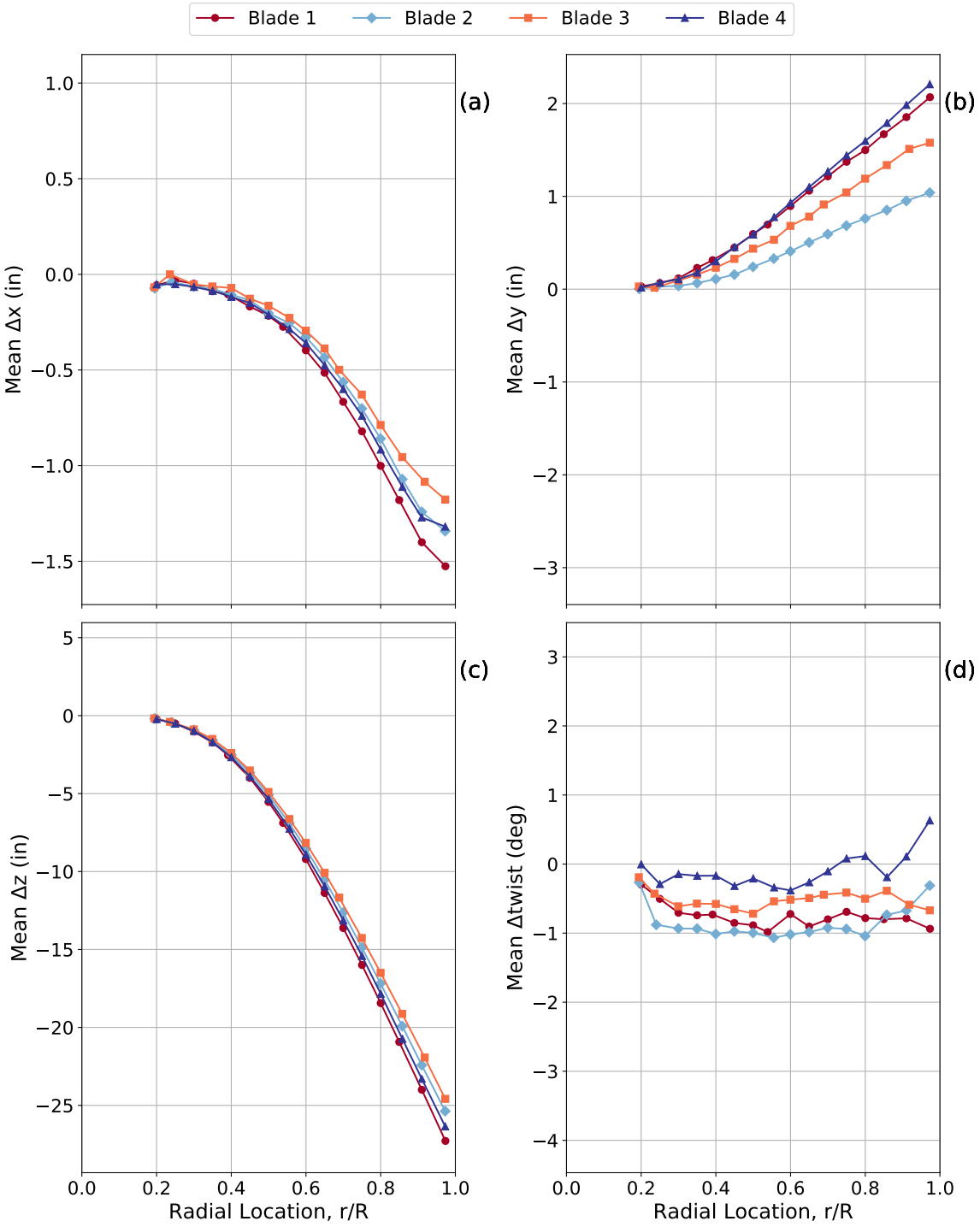


Figure 2.21-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0567	0.0022	0.0298	0.0009	-0.2335	0.0065	-0.2965	0.0177
1	135	0.2499	-0.0311	0.0025	0.0656	0.0020	-0.5049	0.0144	-0.5033	0.0311
1	135	0.2998	-0.0489	0.0033	0.1165	0.0039	-1.0242	0.0283	-0.7049	0.0409
1	135	0.3498	-0.0885	0.0042	0.2290	0.0065	-1.7256	0.0485	-0.7414	0.0432
1	135	0.3913	-0.1046	0.0057	0.3126	0.0094	-2.5390	0.0709	-0.7312	0.0443
1	135	0.4496	-0.1683	0.0096	0.4475	0.0141	-3.9915	0.1106	-0.8527	0.0628
1	135	0.4997	-0.2168	0.0134	0.5943	0.0182	-5.5342	0.1561	-0.8862	0.0528
1	135	0.5387	-0.2740	0.0182	0.6957	0.0224	-6.8860	0.1965	-0.9843	0.0517
1	135	0.5996	-0.3973	0.0277	0.8952	0.0300	-9.2052	0.2777	-0.7233	0.0734
1	135	0.6498	-0.5145	0.0370	1.0613	0.0351	-11.3752	0.3463	-0.9043	0.0559
1	135	0.6998	-0.6665	0.0486	1.2155	0.0413	-13.6231	0.4261	-0.8002	0.0498
1	135	0.7500	-0.8209	0.0621	1.3725	0.0470	-15.9965	0.5130	-0.6918	0.0554
1	135	0.8001	-1.0012	0.0769	1.4984	0.0529	-18.4405	0.6078	-0.7826	0.0521
1	135	0.8497	-1.1803	0.0928	1.6700	0.0585	-20.9336	0.7063	-0.7986	0.0544
1	135	0.9102	-1.4005	0.1122	1.8538	0.0656	-23.9990	0.8317	-0.7854	0.0566
1	135	0.9734	-1.5262	0.1312	2.0683	0.0732	-27.2799	0.9679	-0.9372	0.0591
2	135	0.1949	-0.0727	0.0019	0.0035	0.0011	-0.1832	0.0060	-0.2656	0.0231
2	135	0.2405	-0.0401	0.0021	0.0268	0.0025	-0.4366	0.0124	-0.8792	0.0433
2	135	0.2999	-0.0631	0.0025	0.0357	0.0049	-0.9283	0.0270	-0.9331	0.0580
2	135	0.3498	-0.0747	0.0035	0.0659	0.0087	-1.5809	0.0467	-0.9354	0.0614
2	135	0.3998	-0.1068	0.0051	0.1091	0.0134	-2.5120	0.0727	-1.0123	0.0617
2	135	0.4496	-0.1352	0.0079	0.1575	0.0178	-3.6685	0.1055	-0.9746	0.0647
2	135	0.4995	-0.2033	0.0116	0.2408	0.0227	-5.0812	0.1480	-0.9960	0.0536
2	135	0.5551	-0.2546	0.0174	0.3294	0.0301	-6.9013	0.2084	-1.0672	0.1209
2	135	0.5996	-0.3277	0.0243	0.4078	0.0352	-8.5256	0.2689	-1.0186	0.0883
2	135	0.6497	-0.4346	0.0336	0.5036	0.0408	-10.5169	0.3431	-0.9845	0.0660
2	135	0.6996	-0.5633	0.0448	0.5928	0.0477	-12.6286	0.4295	-0.9222	0.0717
2	135	0.7495	-0.7015	0.0579	0.6843	0.0538	-14.8665	0.5255	-0.9405	0.0681
2	135	0.7996	-0.8590	0.0729	0.7610	0.0601	-17.1840	0.6300	-1.0426	0.0716
2	135	0.8578	-1.0709	0.0920	0.8521	0.0671	-19.9129	0.7598	-0.7355	0.0711
2	135	0.9100	-1.2417	0.1085	0.9513	0.0737	-22.4180	0.8799	-0.6724	0.0705
2	135	0.9727	-1.3423	0.1268	1.0398	0.0810	-25.3719	1.0275	-0.3112	0.0743
3	135	0.1938	-0.0677	0.0024	0.0286	0.0019	-0.1738	0.0069	-0.1910	0.0270
3	135	0.2357	0.0000	0.0027	0.0161	0.0020	-0.3990	0.0115	-0.4291	0.0838
3	135	0.2995	-0.0526	0.0031	0.0925	0.0061	-0.8856	0.0293	-0.6121	0.0905
3	135	0.3493	-0.0633	0.0040	0.1567	0.0106	-1.5016	0.0506	-0.5726	0.0961
3	135	0.4000	-0.0711	0.0061	0.2317	0.0159	-2.3982	0.0786	-0.5773	0.0982
3	135	0.4497	-0.1274	0.0087	0.3263	0.0218	-3.5177	0.1151	-0.6538	0.1082
3	135	0.4997	-0.1641	0.0132	0.4364	0.0286	-4.9003	0.1662	-0.7183	0.1201
3	135	0.5556	-0.2276	0.0180	0.5322	0.0351	-6.6336	0.2240	-0.5392	0.1423
3	135	0.5995	-0.2943	0.0246	0.6822	0.0425	-8.1645	0.2799	-0.5151	0.1135
3	135	0.6498	-0.3876	0.0332	0.7819	0.0490	-10.0833	0.3497	-0.4926	0.1056
3	135	0.6890	-0.4991	0.0405	0.9127	0.0556	-11.6750	0.4107	-0.4440	0.1073
3	135	0.7495	-0.6285	0.0542	1.0422	0.0651	-14.2635	0.5126	-0.4127	0.1073
3	135	0.7998	-0.7875	0.0666	1.1906	0.0735	-16.4985	0.6023	-0.5016	0.1139
3	135	0.8577	-0.9554	0.0822	1.3371	0.0826	-19.1309	0.7092	-0.3867	0.1146
3	135	0.9178	-1.0846	0.0970	1.5109	0.0925	-21.9280	0.8230	-0.5889	0.1115
3	135	0.9729	-1.1775	0.1098	1.5778	0.1017	-24.5828	0.9300	-0.6694	0.1143
4	135	0.2001	-0.0526	0.0019	0.0177	0.0012	-0.2242	0.0060	-0.0045	0.0198
4	135	0.2502	-0.0515	0.0024	0.0695	0.0020	-0.5196	0.0138	-0.2896	0.0288
4	135	0.3001	-0.0659	0.0028	0.1072	0.0043	-0.9824	0.0264	-0.1451	0.0431
4	135	0.3502	-0.0862	0.0037	0.1784	0.0076	-1.7020	0.0454	-0.1700	0.0405
4	135	0.4002	-0.1182	0.0053	0.3006	0.0113	-2.6683	0.0713	-0.1682	0.0396
4	135	0.4500	-0.1501	0.0077	0.4541	0.0172	-3.8992	0.1035	-0.3171	0.0827
4	135	0.5001	-0.2118	0.0122	0.5887	0.0206	-5.3489	0.1513	-0.2092	0.0606
4	135	0.5560	-0.2858	0.0179	0.7766	0.0277	-7.2539	0.2084	-0.3388	0.0558
4	135	0.6001	-0.3595	0.0250	0.9313	0.0356	-8.9182	0.2747	-0.3819	0.1027
4	135	0.6501	-0.4756	0.0334	1.1006	0.0390	-10.9503	0.3406	-0.2636	0.0583
4	135	0.6999	-0.5999	0.0449	1.2680	0.0470	-13.1304	0.4248	-0.1049	0.0552
4	135	0.7500	-0.7396	0.0585	1.4412	0.0530	-15.4202	0.5184	0.0808	0.0561
4	135	0.8002	-0.9163	0.0738	1.5969	0.0603	-17.8424	0.6202	0.1157	0.0483
4	135	0.8582	-1.1114	0.0929	1.7911	0.0681	-20.7335	0.7472	-0.1903	0.0521
4	135	0.9101	-1.2710	0.1094	1.9845	0.0755	-23.2992	0.8638	0.1089	0.0541
4	135	0.9728	-1.3190	0.1281	2.2070	0.0840	-26.3531	1.0100	0.6310	0.0526

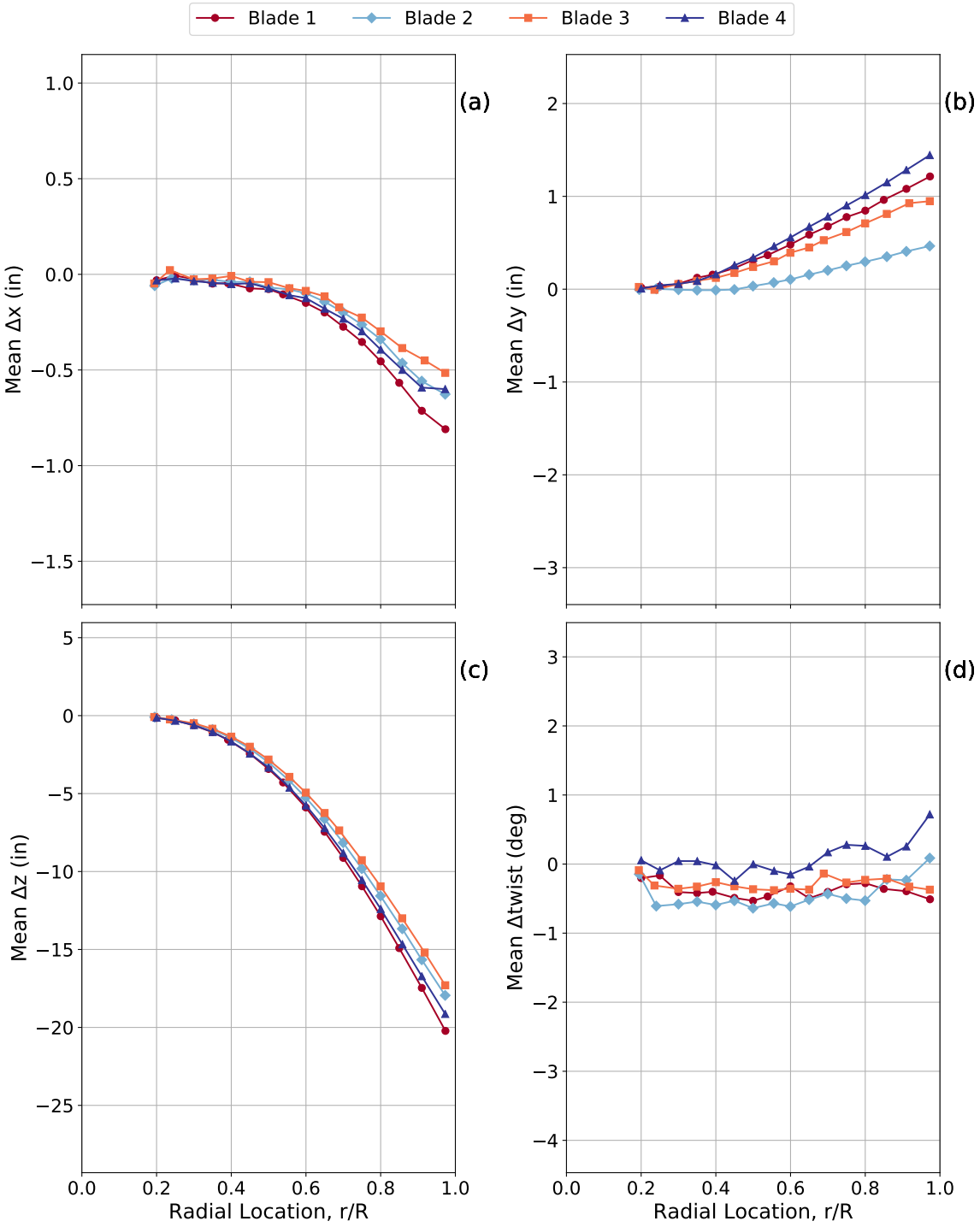


Figure 2.21-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0306	0.0022	0.0176	0.0010	-0.1454	0.0054	-0.2031	0.0221
1	150.12	0.2499	-0.0065	0.0018	0.0290	0.0047	-0.3030	0.0115	-0.1654	0.0316
1	150.12	0.2998	-0.0257	0.0023	0.0580	0.0041	-0.6261	0.0230	-0.4051	0.0435
1	150.12	0.3498	-0.0485	0.0026	0.1229	0.0099	-1.0616	0.0396	-0.4200	0.0482
1	150.12	0.3913	-0.0462	0.0032	0.1564	0.0132	-1.5509	0.0575	-0.4010	0.0483
1	150.12	0.4496	-0.0735	0.0049	0.2265	0.0172	-2.4397	0.0896	-0.4897	0.0543
1	150.12	0.4997	-0.0774	0.0065	0.3136	0.0224	-3.4218	0.1234	-0.5320	0.0625
1	150.12	0.5387	-0.1046	0.0085	0.3670	0.0258	-4.2889	0.1539	-0.4690	0.0516
1	150.12	0.5996	-0.1492	0.0133	0.4803	0.0315	-5.8901	0.2107	-0.3221	0.0775
1	150.12	0.6498	-0.1994	0.0192	0.5874	0.0376	-7.4491	0.2664	-0.4946	0.0692
1	150.12	0.6998	-0.2740	0.0255	0.6765	0.0432	-9.1242	0.3312	-0.4029	0.0676
1	150.12	0.7500	-0.3536	0.0360	0.7769	0.0490	-10.9467	0.4082	-0.2928	0.1360
1	150.12	0.8001	-0.4549	0.0450	0.8464	0.0566	-12.8676	0.4835	-0.2769	0.1989
1	150.12	0.8497	-0.5671	0.0559	0.9621	0.0609	-14.9129	0.5754	-0.3598	0.1186
1	150.12	0.9102	-0.7132	0.0696	1.0808	0.0690	-17.4647	0.6858	-0.3934	0.0743
1	150.12	0.9734	-0.8097	0.0834	1.2145	0.0776	-20.2208	0.8082	-0.5096	0.0858
2	150.12	0.1949	-0.0593	0.0018	-0.0039	0.0012	-0.0983	0.0050	-0.1461	0.0220
2	150.12	0.2405	-0.0211	0.0015	0.0036	0.0029	-0.2586	0.0084	-0.6086	0.0583
2	150.12	0.2999	-0.0296	0.0016	-0.0057	0.0063	-0.5287	0.0201	-0.5804	0.0646
2	150.12	0.3498	-0.0283	0.0019	-0.0105	0.0099	-0.8939	0.0338	-0.5436	0.0655
2	150.12	0.3998	-0.0402	0.0025	-0.0105	0.0162	-1.4369	0.0522	-0.5925	0.0713
2	150.12	0.4496	-0.0389	0.0035	-0.0037	0.0191	-2.1172	0.0736	-0.5305	0.0790
2	150.12	0.4995	-0.0686	0.0049	0.0330	0.0236	-2.9927	0.1008	-0.6384	0.0683
2	150.12	0.5551	-0.0789	0.0072	0.0710	0.0303	-4.1664	0.1370	-0.5687	0.0742
2	150.12	0.5996	-0.0990	0.0098	0.1049	0.0360	-5.2573	0.1703	-0.6144	0.0777
2	150.12	0.6497	-0.1430	0.0140	0.1565	0.0416	-6.6289	0.2142	-0.5148	0.0765
2	150.12	0.6996	-0.1982	0.0179	0.2025	0.0479	-8.1501	0.2629	-0.4313	0.0803
2	150.12	0.7495	-0.2628	0.0236	0.2518	0.0546	-9.8148	0.3183	-0.4990	0.0821
2	150.12	0.7996	-0.3397	0.0308	0.2953	0.0614	-11.5649	0.3797	-0.5290	0.0974
2	150.12	0.8578	-0.4642	0.0396	0.3502	0.0691	-13.6719	0.4559	-0.2218	0.0806
2	150.12	0.9100	-0.5583	0.0479	0.4070	0.0761	-15.6582	0.5274	-0.2338	0.0823
2	150.12	0.9727	-0.6267	0.0561	0.4650	0.0846	-17.9439	0.6160	0.0864	0.0814
3	150.12	0.1938	-0.0478	0.0029	0.0239	0.0017	-0.0895	0.0055	-0.0895	0.0222
3	150.12	0.2357	0.0219	0.0020	-0.0067	0.0022	-0.2427	0.0074	-0.3103	0.0756
3	150.12	0.2995	-0.0261	0.0020	0.0551	0.0060	-0.4898	0.0200	-0.3582	0.0777
3	150.12	0.3493	-0.0219	0.0021	0.0894	0.0098	-0.8414	0.0341	-0.3265	0.0825
3	150.12	0.4000	-0.0084	0.0030	0.1217	0.0152	-1.3490	0.0520	-0.2622	0.0841
3	150.12	0.4497	-0.0391	0.0042	0.1753	0.0188	-1.9965	0.0741	-0.3219	0.0845
3	150.12	0.4997	-0.0408	0.0052	0.2395	0.0233	-2.8193	0.0992	-0.3644	0.0887
3	150.12	0.5556	-0.0727	0.0073	0.3002	0.0284	-3.9295	0.1319	-0.3785	0.0872
3	150.12	0.5995	-0.0865	0.0098	0.3927	0.0341	-4.9399	0.1610	-0.3572	0.0955
3	150.12	0.6498	-0.1151	0.0127	0.4493	0.0399	-6.2471	0.2014	-0.3695	0.0988
3	150.12	0.6890	-0.1724	0.0162	0.5277	0.0440	-7.3629	0.2357	-0.1381	0.0869
3	150.12	0.7495	-0.2261	0.0229	0.6153	0.0519	-9.2750	0.2993	-0.2671	0.0956
3	150.12	0.7998	-0.2980	0.0297	0.7088	0.0585	-10.9512	0.3602	-0.2288	0.0887
3	150.12	0.8577	-0.3855	0.0383	0.8109	0.0662	-13.0020	0.4383	-0.2102	0.0914
3	150.12	0.9178	-0.4500	0.0474	0.9264	0.0738	-15.1963	0.5242	-0.3270	0.0919
3	150.12	0.9729	-0.5151	0.0553	0.9480	0.0822	-17.2954	0.6059	-0.3708	0.0924
4	150.12	0.2001	-0.0321	0.0016	0.0064	0.0011	-0.1362	0.0046	0.0546	0.0195
4	150.12	0.2502	-0.0216	0.0019	0.0420	0.0032	-0.3305	0.0107	-0.0902	0.0297
4	150.12	0.3001	-0.0358	0.0023	0.0563	0.0053	-0.6087	0.0203	0.0437	0.0427
4	150.12	0.3502	-0.0441	0.0026	0.0889	0.0089	-1.0541	0.0345	0.0422	0.0405
4	150.12	0.4002	-0.0510	0.0033	0.1602	0.0144	-1.6602	0.0545	-0.0177	0.0416
4	150.12	0.4500	-0.0469	0.0046	0.2578	0.0170	-2.4402	0.0790	-0.2425	0.0435
4	150.12	0.5001	-0.0729	0.0062	0.3402	0.0211	-3.3381	0.1088	-0.0025	0.0400
4	150.12	0.5560	-0.1090	0.0089	0.4629	0.0264	-4.6230	0.1498	-0.0984	0.0448
4	150.12	0.6001	-0.1245	0.0113	0.5576	0.0303	-5.7656	0.1863	-0.1506	0.0689
4	150.12	0.6501	-0.1798	0.0161	0.6729	0.0353	-7.2172	0.2355	-0.0364	0.0420
4	150.12	0.6999	-0.2320	0.0207	0.7813	0.0402	-8.8151	0.2903	0.1707	0.0444
4	150.12	0.7500	-0.2978	0.0276	0.9019	0.0453	-10.5456	0.3542	0.2785	0.0471
4	150.12	0.8002	-0.3936	0.0361	1.0139	0.0501	-12.4061	0.4268	0.2634	0.0423
4	150.12	0.8582	-0.4993	0.0466	1.1513	0.0599	-14.6712	0.5351	0.1059	0.3269
4	150.12	0.9101	-0.5920	0.0564	1.2844	0.0609	-16.7181	0.6060	0.2546	0.0473
4	150.12	0.9728	-0.6000	0.0677	1.4440	0.0672	-19.1362	0.7170	0.7181	0.0463

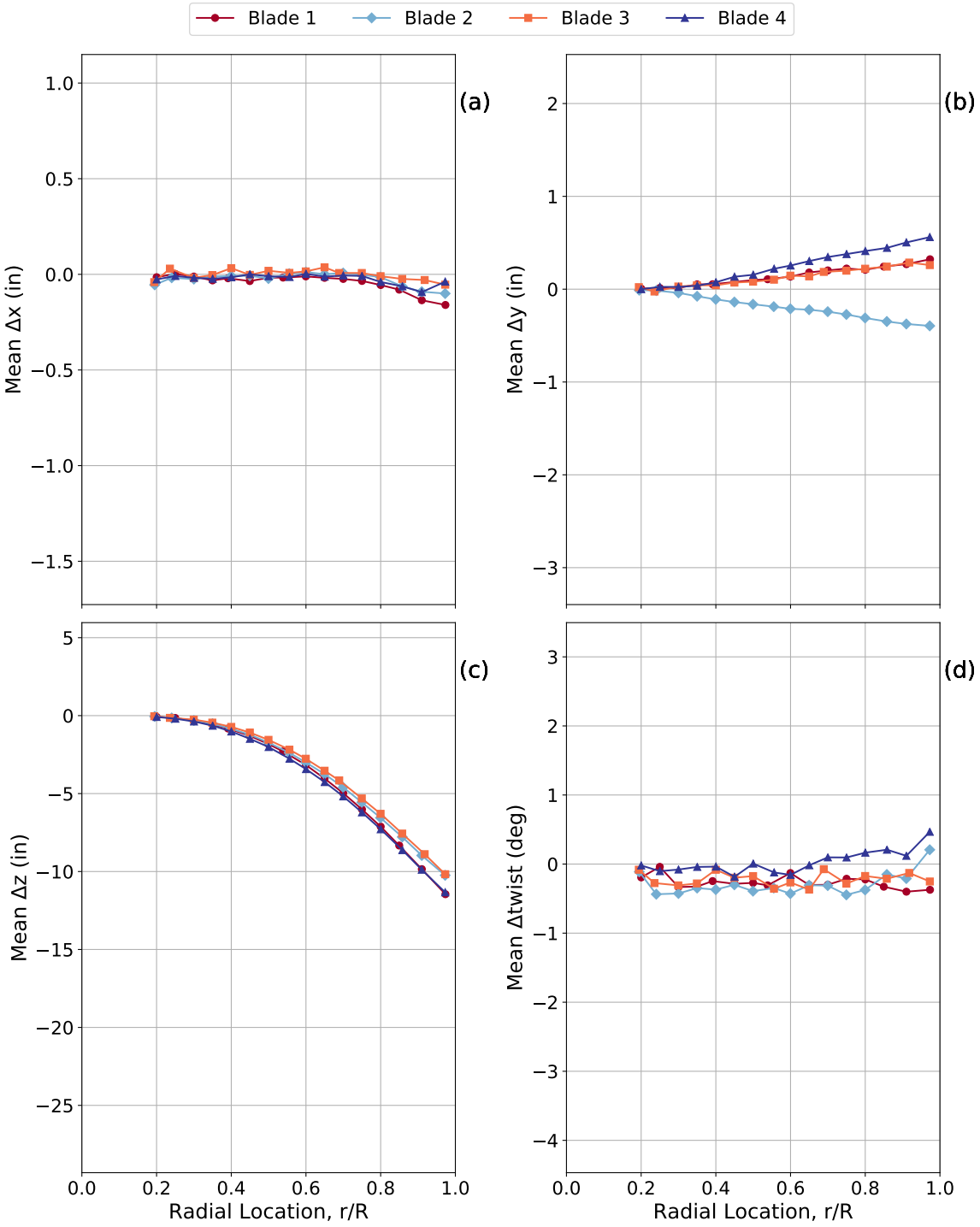


Figure 2.21-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0149	0.0019	0.0064	0.0011	-0.0830	0.0056	-0.1932	0.0218
1	164.88	0.2499	0.0023	0.0024	0.0128	0.0031	-0.1474	0.0109	-0.0402	0.0439
1	164.88	0.2998	-0.0116	0.0020	0.0131	0.0050	-0.3406	0.0227	-0.3323	0.0498
1	164.88	0.3498	-0.0317	0.0018	0.0520	0.0088	-0.5738	0.0388	-0.3252	0.0494
1	164.88	0.3913	-0.0205	0.0022	0.0530	0.0127	-0.8275	0.0558	-0.2465	0.0493
1	164.88	0.4496	-0.0352	0.0031	0.0774	0.0171	-1.2935	0.0833	-0.2859	0.0543
1	164.88	0.4997	-0.0176	0.0039	0.0979	0.0210	-1.8281	0.1111	-0.2722	0.0540
1	164.88	0.5387	-0.0169	0.0050	0.1070	0.0244	-2.2960	0.1346	-0.3082	0.0533
1	164.88	0.5996	-0.0108	0.0066	0.1354	0.0295	-3.1636	0.1756	-0.1301	0.0525
1	164.88	0.6498	-0.0182	0.0085	0.1802	0.0339	-4.0348	0.2135	-0.3032	0.0546
1	164.88	0.6998	-0.0240	0.0113	0.2020	0.0388	-4.9728	0.2553	-0.2996	0.0526
1	164.88	0.7500	-0.0345	0.0145	0.2223	0.0435	-6.0146	0.3026	-0.2129	0.0567
1	164.88	0.8001	-0.0559	0.0181	0.2091	0.0475	-7.1190	0.3549	-0.2221	0.0538
1	164.88	0.8497	-0.0800	0.0230	0.2437	0.0527	-8.3326	0.4090	-0.3278	0.0736
1	164.88	0.9102	-0.1354	0.0274	0.2694	0.0571	-9.8468	0.4789	-0.3998	0.0528
1	164.88	0.9734	-0.1600	0.0312	0.3224	0.0631	-11.4539	0.5546	-0.3722	0.0571
2	164.88	0.1949	-0.0548	0.0022	-0.0109	0.0010	-0.0543	0.0072	-0.1124	0.0365
2	164.88	0.2405	-0.0178	0.0025	-0.0147	0.0028	-0.1508	0.0117	-0.4367	0.0566
2	164.88	0.2999	-0.0249	0.0028	-0.0398	0.0049	-0.3093	0.0284	-0.4257	0.0850
2	164.88	0.3498	-0.0115	0.0028	-0.0760	0.0078	-0.5193	0.0516	-0.3472	0.0718
2	164.88	0.3998	-0.0086	0.0040	-0.1099	0.0131	-0.8435	0.0769	-0.3700	0.0816
2	164.88	0.4496	-0.0075	0.0048	-0.1385	0.0154	-1.2227	0.1063	-0.3000	0.0798
2	164.88	0.4995	-0.0219	0.0059	-0.1625	0.0190	-1.7262	0.1389	-0.3919	0.0736
2	164.88	0.5551	0.0034	0.0075	-0.1882	0.0243	-2.3811	0.1798	-0.3468	0.0868
2	164.88	0.5996	0.0118	0.0078	-0.2114	0.0283	-3.0006	0.2146	-0.4281	0.1038
2	164.88	0.6497	0.0009	0.0105	-0.2211	0.0330	-3.7471	0.2597	-0.3063	0.1016
2	164.88	0.6996	0.0069	0.0122	-0.2421	0.0379	-4.6016	0.3082	-0.3116	0.0962
2	164.88	0.7495	-0.0024	0.0150	-0.2725	0.0432	-5.5605	0.3615	-0.4459	0.0893
2	164.88	0.7996	-0.0145	0.0188	-0.3102	0.0477	-6.5547	0.4198	-0.3748	0.0795
2	164.88	0.8578	-0.0627	0.0247	-0.3481	0.0548	-7.7846	0.4895	-0.1505	0.0854
2	164.88	0.9100	-0.0907	0.0288	-0.3748	0.0603	-8.9696	0.5550	-0.2096	0.1103
2	164.88	0.9727	-0.1003	0.0318	-0.3953	0.0662	-10.2421	0.6394	0.2072	0.1108
3	164.88	0.1938	-0.0408	0.0018	0.0217	0.0016	-0.0403	0.0066	-0.0820	0.0224
3	164.88	0.2357	0.0299	0.0018	-0.0252	0.0022	-0.1441	0.0101	-0.2751	0.0570
3	164.88	0.2995	-0.0182	0.0019	0.0288	0.0060	-0.2542	0.0256	-0.3088	0.0624
3	164.88	0.3493	-0.0037	0.0021	0.0420	0.0104	-0.4484	0.0442	-0.2809	0.0575
3	164.88	0.4000	0.0323	0.0030	0.0423	0.0159	-0.7230	0.0677	-0.0823	0.0579
3	164.88	0.4497	-0.0029	0.0040	0.0713	0.0189	-1.0843	0.0945	-0.1976	0.0554
3	164.88	0.4997	0.0185	0.0047	0.0809	0.0236	-1.5546	0.1249	-0.1741	0.0590
3	164.88	0.5556	0.0077	0.0060	0.1023	0.0286	-2.1821	0.1613	-0.3568	0.0691
3	164.88	0.5995	0.0153	0.0072	0.1458	0.0333	-2.7658	0.1936	-0.2660	0.0713
3	164.88	0.6498	0.0369	0.0091	0.1379	0.0384	-3.5343	0.2345	-0.3696	0.0741
3	164.88	0.6890	0.0070	0.0111	0.1861	0.0423	-4.1567	0.2694	-0.0739	0.0725
3	164.88	0.7495	0.0071	0.0141	0.1994	0.0497	-5.3128	0.3294	-0.2836	0.0606
3	164.88	0.7998	-0.0096	0.0172	0.2206	0.0553	-6.2981	0.3833	-0.1729	0.0621
3	164.88	0.8577	-0.0240	0.0214	0.2430	0.0609	-7.5662	0.4485	-0.2125	0.0656
3	164.88	0.9178	-0.0297	0.0254	0.2867	0.0671	-8.8870	0.5201	-0.1286	0.0695
3	164.88	0.9729	-0.0539	0.0283	0.2595	0.0741	-10.1743	0.5854	-0.2524	0.0848
4	164.88	0.2001	-0.0266	0.0016	0.0001	0.0013	-0.0852	0.0064	-0.0200	0.0223
4	164.88	0.2502	-0.0086	0.0025	0.0249	0.0029	-0.1984	0.0132	-0.1028	0.0375
4	164.88	0.3001	-0.0181	0.0021	0.0243	0.0054	-0.3762	0.0256	-0.0793	0.0490
4	164.88	0.3502	-0.0232	0.0023	0.0371	0.0090	-0.6472	0.0449	-0.0414	0.0413
4	164.88	0.4002	-0.0153	0.0027	0.0747	0.0142	-1.0184	0.0689	-0.0372	0.0449
4	164.88	0.4500	-0.0000	0.0036	0.1340	0.0176	-1.4882	0.0977	-0.1842	0.0456
4	164.88	0.5001	-0.0100	0.0050	0.1550	0.0226	-2.0146	0.1323	0.0065	0.0499
4	164.88	0.5560	-0.0140	0.0062	0.2200	0.0287	-2.7665	0.1742	-0.1214	0.0553
4	164.88	0.6001	0.0025	0.0078	0.2546	0.0339	-3.4311	0.2109	-0.1567	0.0556
4	164.88	0.6501	-0.0119	0.0102	0.3028	0.0395	-4.2622	0.2580	-0.0175	0.0579
4	164.88	0.6999	-0.0062	0.0124	0.3461	0.0451	-5.1810	0.3086	0.0971	0.0532
4	164.88	0.7500	-0.0083	0.0160	0.3780	0.0511	-6.2062	0.3646	0.0954	0.0514
4	164.88	0.8002	-0.0399	0.0198	0.4106	0.0570	-7.2904	0.4257	0.1652	0.0529
4	164.88	0.8582	-0.0629	0.0253	0.4449	0.0642	-8.6273	0.5011	0.2078	0.0519
4	164.88	0.9101	-0.0930	0.0290	0.5035	0.0701	-9.8850	0.5729	0.1192	0.0500
4	164.88	0.9728	-0.0383	0.0328	0.5609	0.0777	-11.3350	0.6608	0.4669	0.0554

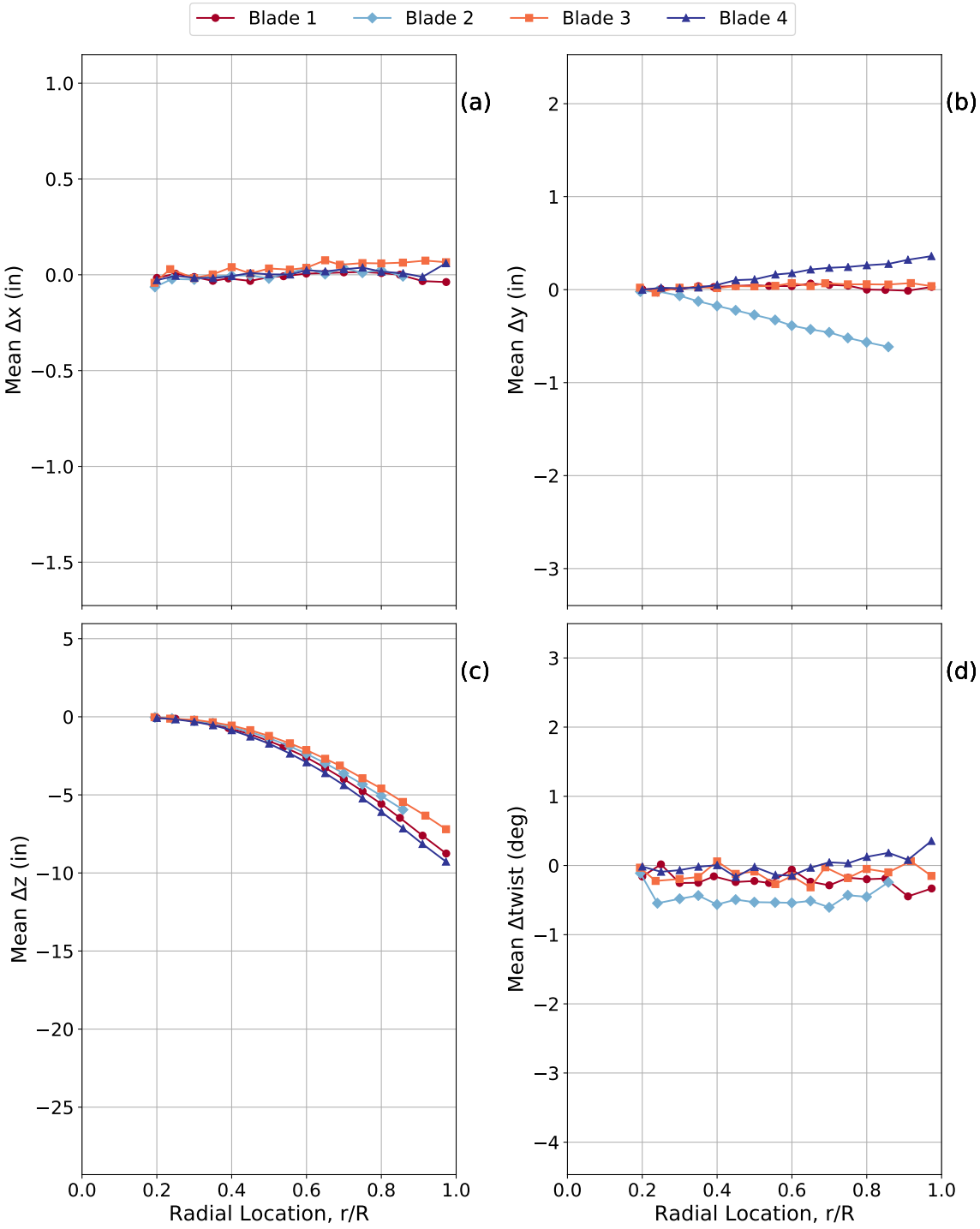


Figure 2.21-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0163	0.0022	0.0047	0.0016	-0.0743	0.0074	-0.1597	0.0275
1	170.16	0.2499	0.0059	0.0030	0.0074	0.0025	-0.1235	0.0162	0.0160	0.0807
1	170.16	0.2998	-0.0116	0.0026	0.0026	0.0065	-0.2982	0.0319	-0.2532	0.0699
1	170.16	0.3498	-0.0317	0.0028	0.0373	0.0093	-0.5039	0.0546	-0.2503	0.0586
1	170.16	0.3913	-0.0192	0.0032	0.0281	0.0141	-0.7208	0.0798	-0.1574	0.0625
1	170.16	0.4496	-0.0320	0.0043	0.0406	0.0190	-1.1135	0.1206	-0.2390	0.0653
1	170.16	0.4997	-0.0125	0.0052	0.0471	0.0242	-1.5528	0.1640	-0.2242	0.0608
1	170.16	0.5387	-0.0077	0.0064	0.0404	0.0287	-1.9216	0.2026	-0.2524	0.0719
1	170.16	0.5996	0.0063	0.0087	0.0376	0.0363	-2.5972	0.2711	-0.0607	0.0674
1	170.16	0.6498	0.0086	0.0107	0.0654	0.0431	-3.2676	0.3353	-0.2353	0.0674
1	170.16	0.6998	0.0125	0.0138	0.0513	0.0498	-3.9874	0.4066	-0.2868	0.0623
1	170.16	0.7500	0.0144	0.0173	0.0432	0.0569	-4.7649	0.4834	-0.1773	0.0639
1	170.16	0.8001	0.0092	0.0214	0.0007	0.0638	-5.5787	0.5663	-0.1992	0.0690
1	170.16	0.8497	0.0003	0.0263	-0.0026	0.0708	-6.4731	0.6523	-0.1881	0.0660
1	170.16	0.9102	-0.0329	0.0314	-0.0112	0.0793	-7.6074	0.7604	-0.4468	0.0693
1	170.16	0.9734	-0.0379	0.0346	0.0292	0.0877	-8.7552	0.8765	-0.3326	0.0688
2	170.16	0.1949	-0.0634	0.0204	-0.0207	0.0046	-0.0402	0.0077	-0.1113	0.0219
2	170.16	0.2405	-0.0222	0.0100	-0.0177	0.0092	-0.1178	0.0152	-0.5458	0.0436
2	170.16	0.2999	-0.0246	0.0056	-0.0653	0.0216	-0.2456	0.0347	-0.4810	0.0536
2	170.16	0.3498	-0.0073	0.0159	-0.1256	0.0366	-0.4064	0.0582	-0.4347	0.0537
2	170.16	0.3998	-0.0042	0.0268	-0.1750	0.0575	-0.6698	0.0915	-0.5643	0.0597
2	170.16	0.4496	-0.0035	0.0374	-0.2221	0.0824	-0.9721	0.1301	-0.4936	0.0733
2	170.16	0.4995	-0.0187	0.0461	-0.2714	0.1114	-1.3625	0.1757	-0.5301	0.0738
2	170.16	0.5551	0.0112	0.0553	-0.3260	0.1475	-1.8859	0.2351	-0.5347	0.0861
2	170.16	0.5996	0.0321	0.0607	-0.3869	0.1793	-2.3674	0.2868	-0.5403	0.0873
2	170.16	0.6497	0.0037	0.0661	-0.4275	0.2164	-2.9694	0.3505	-0.5125	0.0871
2	170.16	0.6996	0.0349	0.0690	-0.4595	0.2562	-3.6281	0.4196	-0.6052	0.0843
2	170.16	0.7495	0.0106	0.0703	-0.5195	0.2973	-4.3204	0.4935	-0.4302	0.0909
2	170.16	0.7996	0.0249	0.0683	-0.5656	0.3417	-5.0636	0.5725	-0.4527	0.1064
2	170.16	0.8578	-0.0078	0.0676	-0.6150	0.3964	-5.9481	0.6665	-0.2430	0.1281
3	170.16	0.1938	-0.0417	0.0017	0.0212	0.0014	-0.0276	0.0074	-0.0318	0.0258
3	170.16	0.2357	0.0292	0.0019	-0.0317	0.0022	-0.1194	0.0129	-0.2233	0.0497
3	170.16	0.2995	-0.0170	0.0021	0.0211	0.0048	-0.1920	0.0319	-0.1961	0.0618
3	170.16	0.3493	0.0019	0.0025	0.0261	0.0087	-0.3506	0.0542	-0.1666	0.0576
3	170.16	0.4000	0.0398	0.0031	0.0167	0.0131	-0.5629	0.0845	0.0587	0.0583
3	170.16	0.4497	0.0069	0.0040	0.0384	0.0174	-0.8583	0.1197	-0.1217	0.0583
3	170.16	0.4997	0.0329	0.0045	0.0355	0.0222	-1.2267	0.1613	-0.0872	0.0591
3	170.16	0.5556	0.0270	0.0057	0.0409	0.0276	-1.6992	0.2129	-0.2687	0.0657
3	170.16	0.5995	0.0363	0.0071	0.0701	0.0331	-2.1273	0.2579	-0.1539	0.0615
3	170.16	0.6498	0.0757	0.0085	0.0388	0.0387	-2.6888	0.3130	-0.3156	0.0644
3	170.16	0.6890	0.0524	0.0101	0.0686	0.0437	-3.1244	0.3584	-0.0261	0.0739
3	170.16	0.7495	0.0611	0.0124	0.0571	0.0506	-3.9343	0.4338	-0.1818	0.0667
3	170.16	0.7998	0.0594	0.0148	0.0578	0.0566	-4.5925	0.5034	-0.0501	0.0741
3	170.16	0.8577	0.0635	0.0183	0.0552	0.0632	-5.4555	0.5870	-0.0990	0.0807
3	170.16	0.9178	0.0740	0.0215	0.0704	0.0705	-6.3302	0.6749	0.0628	0.0768
3	170.16	0.9729	0.0657	0.0227	0.0379	0.0772	-7.2001	0.7586	-0.1510	0.0811
4	170.16	0.2001	-0.0281	0.0016	-0.0017	0.0014	-0.0720	0.0067	-0.0163	0.0198
4	170.16	0.2502	-0.0052	0.0023	0.0205	0.0029	-0.1660	0.0139	-0.0912	0.0460
4	170.16	0.3001	-0.0158	0.0024	0.0153	0.0058	-0.3177	0.0271	-0.0677	0.0487
4	170.16	0.3502	-0.0175	0.0023	0.0230	0.0094	-0.5452	0.0472	-0.0181	0.0447
4	170.16	0.4002	-0.0069	0.0037	0.0513	0.0150	-0.8582	0.0728	0.0041	0.0390
4	170.16	0.4500	0.0096	0.0041	0.1025	0.0184	-1.2648	0.1041	-0.1669	0.0464
4	170.16	0.5001	0.0022	0.0052	0.1100	0.0231	-1.7205	0.1440	-0.0217	0.0484
4	170.16	0.5560	0.0014	0.0066	0.1625	0.0290	-2.3584	0.1913	-0.1374	0.0494
4	170.16	0.6001	0.0235	0.0084	0.1778	0.0339	-2.9173	0.2334	-0.1469	0.0548
4	170.16	0.6501	0.0179	0.0105	0.2167	0.0397	-3.6098	0.2873	-0.0321	0.0575
4	170.16	0.6999	0.0288	0.0123	0.2350	0.0454	-4.3789	0.3418	0.0459	0.0559
4	170.16	0.7500	0.0374	0.0149	0.2437	0.0509	-5.2271	0.4041	0.0315	0.0554
4	170.16	0.8002	0.0165	0.0182	0.2623	0.0567	-6.0941	0.4690	0.1247	0.0495
4	170.16	0.8582	0.0080	0.0221	0.2770	0.0633	-7.1507	0.5487	0.1829	0.0523
4	170.16	0.9101	-0.0110	0.0257	0.3214	0.0691	-8.1447	0.6213	0.0808	0.0595
4	170.16	0.9728	0.0604	0.0280	0.3603	0.0762	-9.2760	0.7126	0.3539	0.0591

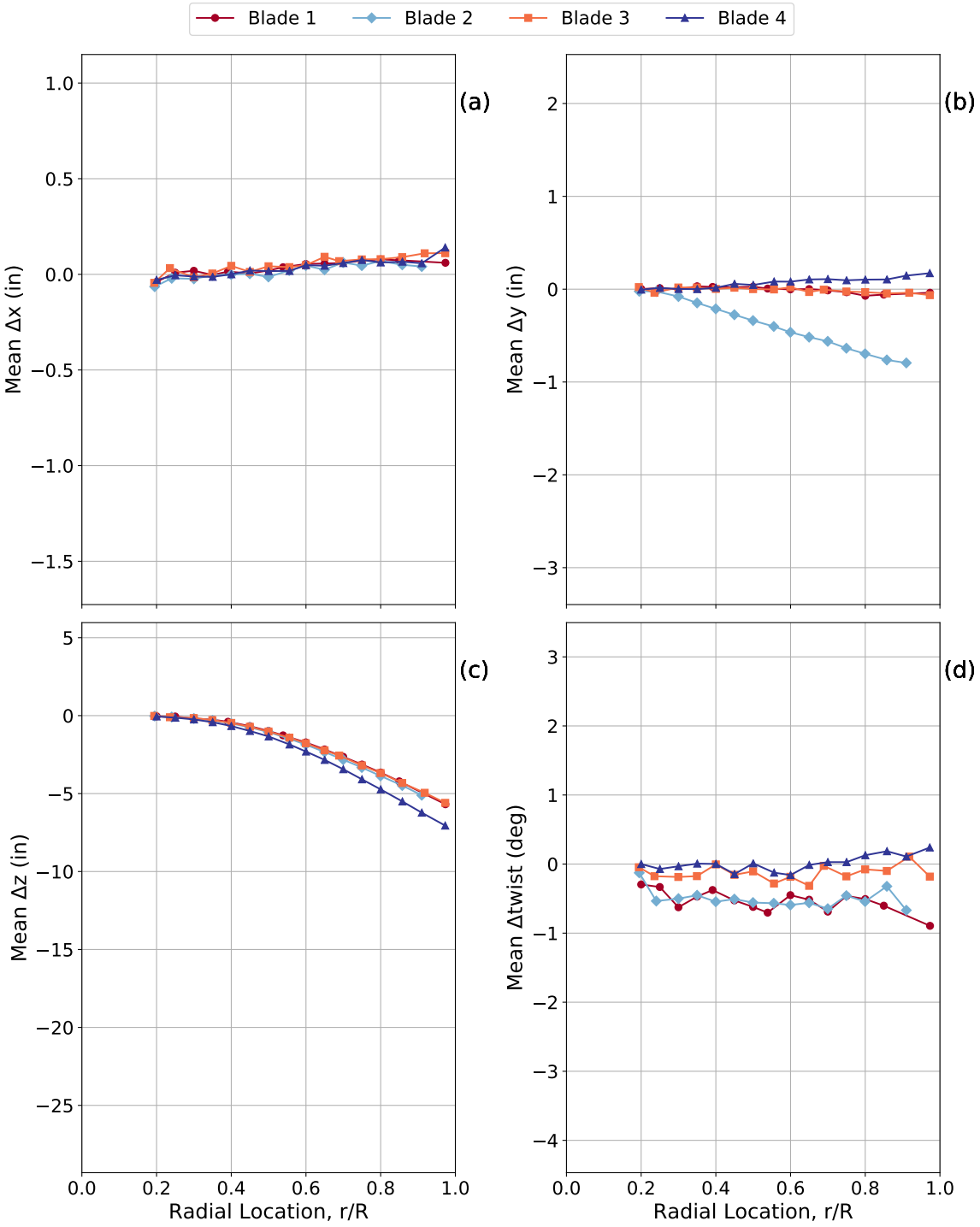


Figure 2.21-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	-0.0392	0.0186	0.0022	0.0029	-0.0440	0.0064	-0.2954	0.0256
1	175.08	0.2499	0.0088	0.0088	0.0108	0.0058	-0.0571	0.0128	-0.3322	0.0451
1	175.08	0.2998	0.0187	0.0051	-0.0009	0.0115	-0.1790	0.0257	-0.6255	0.0584
1	175.08	0.3498	-0.0032	0.0174	0.0312	0.0209	-0.2598	0.0451	-0.4707	0.0583
1	175.08	0.3913	0.0147	0.0306	0.0241	0.0293	-0.3925	0.0642	-0.3759	0.0656
1	175.08	0.4496	0.0044	0.0490	0.0197	0.0445	-0.6745	0.0971	-0.5263	0.0678
1	175.08	0.4997	0.0202	0.0667	0.0264	0.0594	-0.9814	0.1305	-0.6205	0.0796
1	175.08	0.5387	0.0372	0.0796	0.0067	0.0727	-1.2664	0.1582	-0.7032	0.0964
1	175.08	0.5996	0.0541	0.1014	-0.0020	0.0948	-1.7171	0.2117	-0.4500	0.0965
1	175.08	0.6498	0.0567	0.1178	0.0016	0.1151	-2.1702	0.2618	-0.5159	0.1049
1	175.08	0.6998	0.0590	0.1339	-0.0129	0.1379	-2.6436	0.3166	-0.6886	0.1180
1	175.08	0.7500	0.0724	0.1484	-0.0326	0.1616	-3.1372	0.3796	-0.4612	0.1278
1	175.08	0.8001	0.0781	0.1608	-0.0710	0.1875	-3.6502	0.4482	-0.5067	0.1368
1	175.08	0.8497	0.0736	0.1696	-0.0583	0.2146	-4.2155	0.5200	-0.6027	0.1508
1	175.08	0.9734	0.0604	0.1777	-0.0384	0.2738	-5.6853	0.7284	-0.8943	0.1802
2	175.08	0.1949	-0.0644	0.0399	-0.0229	0.0053	-0.0258	0.0068	-0.1269	0.0204
2	175.08	0.2405	-0.0208	0.0181	-0.0247	0.0105	-0.0908	0.0133	-0.5354	0.0339
2	175.08	0.2999	-0.0235	0.0120	-0.0791	0.0243	-0.1834	0.0291	-0.5002	0.0466
2	175.08	0.3498	-0.0053	0.0352	-0.1478	0.0418	-0.2986	0.0509	-0.4518	0.0496
2	175.08	0.3998	-0.0011	0.0575	-0.2121	0.0652	-0.5039	0.0783	-0.5450	0.0630
2	175.08	0.4496	0.0031	0.0790	-0.2754	0.0931	-0.7477	0.1121	-0.5074	0.0622
2	175.08	0.4995	-0.0135	0.0973	-0.3384	0.1270	-1.0594	0.1508	-0.5573	0.0704
2	175.08	0.5551	0.0201	0.1150	-0.4016	0.1696	-1.4796	0.2001	-0.5674	0.0788
2	175.08	0.5996	0.0459	0.1258	-0.4642	0.2085	-1.8628	0.2446	-0.5927	0.0879
2	175.08	0.6497	0.0241	0.1343	-0.5165	0.2562	-2.3296	0.2980	-0.5607	0.0902
2	175.08	0.6996	0.0618	0.1396	-0.5618	0.3074	-2.8238	0.3576	-0.6464	0.0961
2	175.08	0.7495	0.0456	0.1390	-0.6359	0.3629	-3.3273	0.4197	-0.4572	0.1076
2	175.08	0.7996	0.0695	0.1343	-0.6961	0.4223	-3.8682	0.4864	-0.5426	0.1154
2	175.08	0.8578	0.0499	0.1233	-0.7624	0.4950	-4.4842	0.5687	-0.3222	0.1272
2	175.08	0.9100	0.0407	0.1094	-0.7944	0.5653	-5.1043	0.6405	-0.6687	0.1416
3	175.08	0.1938	-0.0443	0.0019	0.0223	0.0023	-0.0199	0.0085	-0.0458	0.0302
3	175.08	0.2357	0.0326	0.0020	-0.0377	0.0029	-0.1045	0.0147	-0.1758	0.0793
3	175.08	0.2995	-0.0156	0.0024	0.0182	0.0075	-0.1579	0.0356	-0.1867	0.0888
3	175.08	0.3493	0.0043	0.0024	0.0182	0.0133	-0.2897	0.0609	-0.1748	0.0863
3	175.08	0.4000	0.0444	0.0028	0.0027	0.0198	-0.4694	0.0945	-0.0048	0.0896
3	175.08	0.4497	0.0127	0.0037	0.0159	0.0254	-0.7178	0.1326	-0.1558	0.0965
3	175.08	0.4997	0.0422	0.0045	0.0008	0.0330	-1.0199	0.1799	-0.1058	0.0956
3	175.08	0.5556	0.0377	0.0051	-0.0027	0.0414	-1.4117	0.2367	-0.2816	0.0997
3	175.08	0.5995	0.0478	0.0065	0.0201	0.0488	-1.7706	0.2880	-0.1845	0.1106
3	175.08	0.6498	0.0917	0.0076	-0.0302	0.0586	-2.2251	0.3521	-0.3150	0.1021
3	175.08	0.6890	0.0690	0.0092	-0.0051	0.0652	-2.5601	0.4052	-0.0254	0.1053
3	175.08	0.7495	0.0781	0.0107	-0.0251	0.0762	-3.1921	0.4942	-0.1785	0.0993
3	175.08	0.7998	0.0793	0.0126	-0.0322	0.0853	-3.6825	0.5706	-0.0765	0.1174
3	175.08	0.8577	0.0899	0.0149	-0.0458	0.0955	-4.3220	0.6689	-0.0995	0.0983
3	175.08	0.9178	0.1101	0.0177	-0.0384	0.1059	-4.9498	0.7694	0.1079	0.1004
3	175.08	0.9729	0.1107	0.0171	-0.0641	0.1167	-5.5947	0.8594	-0.1814	0.1219
4	175.08	0.2001	-0.0291	0.0018	-0.0047	0.0020	-0.0544	0.0084	-0.0002	0.0369
4	175.08	0.2502	-0.0048	0.0023	0.0138	0.0037	-0.1310	0.0164	-0.0714	0.0829
4	175.08	0.3001	-0.0117	0.0022	0.0018	0.0077	-0.2467	0.0331	-0.0317	0.0925
4	175.08	0.3502	-0.0132	0.0022	0.0005	0.0134	-0.4225	0.0573	0.0062	0.0878
4	175.08	0.4002	0.0003	0.0035	0.0153	0.0204	-0.6692	0.0879	0.0018	0.0928
4	175.08	0.4500	0.0198	0.0032	0.0575	0.0258	-0.9864	0.1240	-0.1449	0.0890
4	175.08	0.5001	0.0170	0.0048	0.0453	0.0351	-1.3390	0.1676	0.0103	0.0971
4	175.08	0.5560	0.0178	0.0053	0.0820	0.0432	-1.8513	0.2225	-0.1245	0.0857
4	175.08	0.6001	0.0482	0.0063	0.0810	0.0510	-2.3053	0.2678	-0.1587	0.0891
4	175.08	0.6501	0.0449	0.0076	0.1049	0.0601	-2.8421	0.3255	-0.0123	0.0933
4	175.08	0.6999	0.0589	0.0092	0.1082	0.0686	-3.4391	0.3877	0.0281	0.0937
4	175.08	0.7500	0.0750	0.0113	0.0959	0.0777	-4.0878	0.4514	0.0280	0.1001
4	175.08	0.8002	0.0621	0.0138	0.1030	0.0871	-4.7338	0.5208	0.1280	0.1006
4	175.08	0.8582	0.0661	0.0167	0.1049	0.0981	-5.5056	0.6038	0.1858	0.1059
4	175.08	0.9101	0.0578	0.0184	0.1458	0.1079	-6.2264	0.6802	0.1089	0.1018
4	175.08	0.9728	0.1402	0.0183	0.1723	0.1198	-7.0544	0.7733	0.2398	0.1019

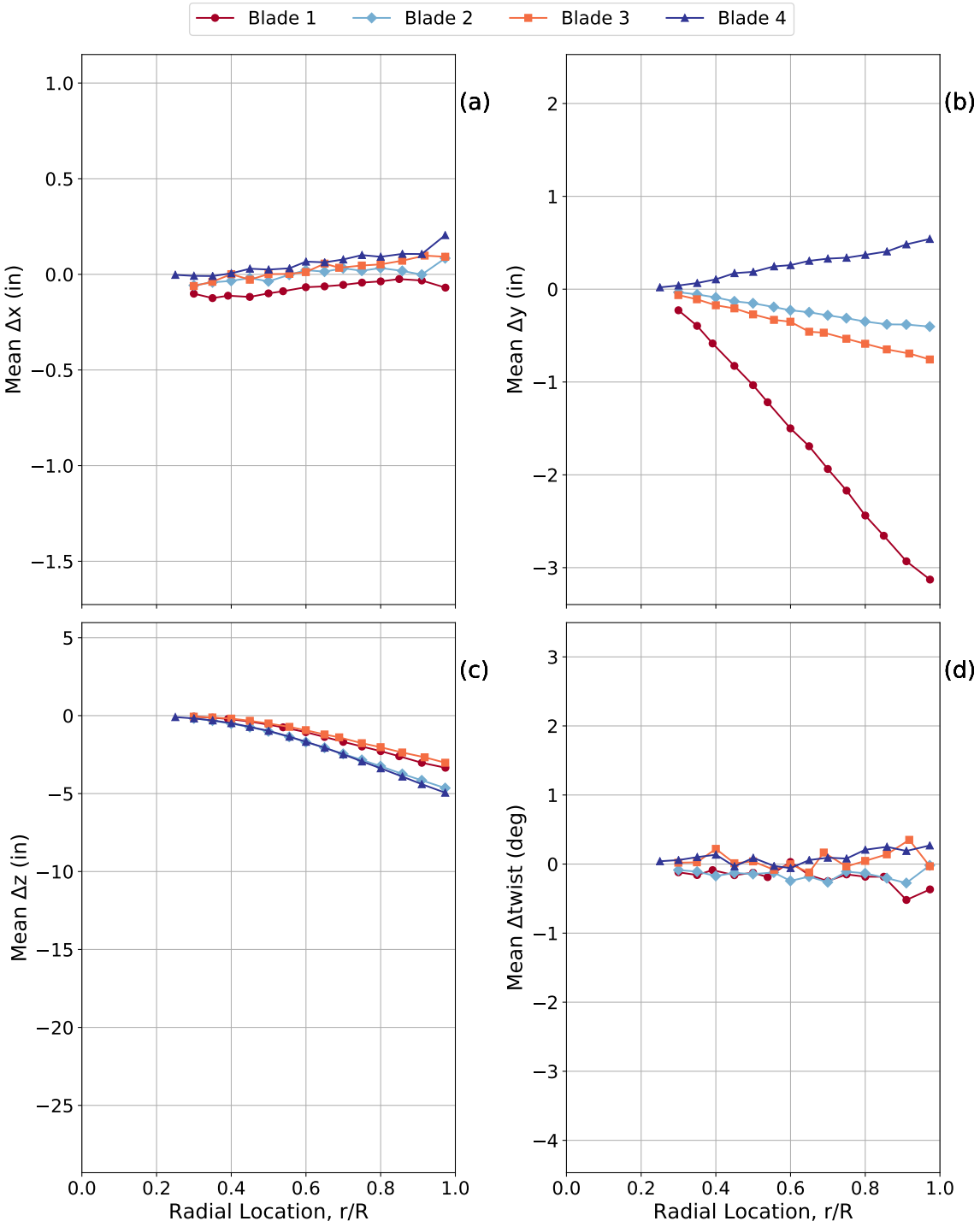


Figure 2.21-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2998	-0.1011	0.0133	-0.2274	0.0264	-0.0637	0.0446	-0.1190	0.0682
1	180	0.3498	-0.1242	0.0134	-0.3951	0.0457	-0.1323	0.0788	-0.1585	0.0917
1	180	0.3913	-0.1117	0.0144	-0.5847	0.0676	-0.2123	0.1176	-0.0877	0.0853
1	180	0.4496	-0.1180	0.0141	-0.8264	0.0897	-0.3787	0.1749	-0.1607	0.0875
1	180	0.4997	-0.0994	0.0152	-1.0340	0.1118	-0.5809	0.2300	-0.1250	0.0925
1	180	0.5387	-0.0883	0.0167	-1.2181	0.1292	-0.7504	0.2787	-0.1888	0.0901
1	180	0.5996	-0.0672	0.0162	-1.4995	0.1555	-1.0611	0.3596	0.0303	0.0859
1	180	0.6498	-0.0630	0.0173	-1.6919	0.1768	-1.3700	0.4296	-0.1595	0.0931
1	180	0.6998	-0.0551	0.0175	-1.9370	0.1982	-1.6822	0.5045	-0.2467	0.0901
1	180	0.7500	-0.0432	0.0178	-2.1701	0.2194	-1.9815	0.5824	-0.1498	0.0914
1	180	0.8001	-0.0367	0.0178	-2.4386	0.2410	-2.2786	0.6645	-0.1831	0.0957
1	180	0.8497	-0.0247	0.0193	-2.6562	0.2626	-2.6061	0.7441	-0.1838	0.0992
1	180	0.9102	-0.0321	0.0208	-2.9315	0.2885	-3.0258	0.8449	-0.5195	0.0873
1	180	0.9734	-0.0695	0.0256	-3.1284	0.3158	-3.3427	0.9501	-0.3667	0.0952
2	180	0.2999	-0.0577	0.0037	-0.0329	0.0119	-0.1817	0.0302	-0.0858	0.0978
2	180	0.3498	-0.0418	0.0039	-0.0564	0.0204	-0.3209	0.0525	-0.1094	0.1302
2	180	0.3998	-0.0342	0.0048	-0.0890	0.0322	-0.5155	0.0836	-0.1723	0.1194
2	180	0.4496	-0.0192	0.0047	-0.1308	0.0424	-0.7375	0.1133	-0.1285	0.1221
2	180	0.4995	-0.0369	0.0057	-0.1520	0.0534	-1.0094	0.1509	-0.1445	0.1266
2	180	0.5551	-0.0025	0.0062	-0.1923	0.0661	-1.3593	0.1981	-0.1221	0.1246
2	180	0.5996	0.0219	0.0068	-0.2273	0.0765	-1.6975	0.2411	-0.2436	0.1248
2	180	0.6497	0.0141	0.0078	-0.2488	0.0879	-2.0579	0.2930	-0.1817	0.1385
2	180	0.6996	0.0317	0.0090	-0.2815	0.0998	-2.4543	0.3508	-0.2631	0.1339
2	180	0.7495	0.0187	0.0106	-0.3122	0.1118	-2.8382	0.4106	-0.1091	0.1477
2	180	0.7996	0.0329	0.0121	-0.3484	0.1232	-3.2414	0.4772	-0.1338	0.1472
2	180	0.8578	0.0180	0.0143	-0.3789	0.1378	-3.7415	0.5580	-0.2039	0.1288
2	180	0.9100	-0.0015	0.0160	-0.3808	0.1508	-4.1508	0.6326	-0.2743	0.1179
2	180	0.9727	0.0842	0.0162	-0.4028	0.1660	-4.6456	0.7210	-0.0192	0.1503
3	180.35	0.2995	-0.0610	0.0061	-0.0634	0.0129	-0.0686	0.0410	0.0201	0.0707
3	180.35	0.3493	-0.0389	0.0066	-0.1088	0.0222	-0.1189	0.0689	0.0256	0.0937
3	180.35	0.4000	0.0009	0.0061	-0.1734	0.0354	-0.1907	0.1084	0.2202	0.0860
3	180.35	0.4497	-0.0280	0.0061	-0.2069	0.0463	-0.3314	0.1495	0.0119	0.0992
3	180.35	0.4997	0.0014	0.0074	-0.2717	0.0588	-0.5044	0.1985	0.0389	0.0878
3	180.35	0.5556	0.0023	0.0069	-0.3305	0.0720	-0.7219	0.2573	-0.0826	0.0958
3	180.35	0.5995	0.0118	0.0078	-0.3506	0.0831	-0.9340	0.3092	-0.0029	0.0933
3	180.35	0.6498	0.0560	0.0084	-0.4584	0.0961	-1.2084	0.3714	-0.1216	0.0841
3	180.35	0.6890	0.0343	0.0086	-0.4685	0.1062	-1.3935	0.4229	0.1671	0.0866
3	180.35	0.7495	0.0461	0.0088	-0.5340	0.1217	-1.7674	0.5069	-0.0345	0.0924
3	180.35	0.7998	0.0521	0.0090	-0.5880	0.1346	-2.0260	0.5820	0.0457	0.0937
3	180.35	0.8577	0.0712	0.0104	-0.6486	0.1498	-2.3650	0.6684	0.1405	0.0884
3	180.35	0.9178	0.0979	0.0115	-0.6929	0.1658	-2.6732	0.7615	0.3508	0.0882
3	180.35	0.9729	0.0919	0.0123	-0.7572	0.1798	-3.0204	0.8443	-0.0319	0.0989
4	180	0.2502	-0.0027	0.0026	0.0198	0.0033	-0.0944	0.0153	0.0408	0.0652
4	180	0.3001	-0.0080	0.0037	0.0397	0.0060	-0.1788	0.0291	0.0578	0.0934
4	180	0.3502	-0.0089	0.0033	0.0662	0.0109	-0.3081	0.0508	0.1009	0.0893
4	180	0.4002	0.0054	0.0038	0.1062	0.0168	-0.4832	0.0798	0.1355	0.0912
4	180	0.4500	0.0295	0.0038	0.1728	0.0224	-0.7221	0.1152	-0.0338	0.0924
4	180	0.5001	0.0250	0.0051	0.1865	0.0284	-0.9770	0.1588	0.0898	0.0902
4	180	0.5560	0.0317	0.0052	0.2456	0.0359	-1.3518	0.2136	-0.0278	0.0966
4	180	0.6001	0.0665	0.0068	0.2588	0.0421	-1.6791	0.2630	-0.0582	0.0921
4	180	0.6501	0.0628	0.0078	0.3054	0.0494	-2.0598	0.3215	0.0584	0.0974
4	180	0.6999	0.0777	0.0085	0.3290	0.0564	-2.4830	0.3869	0.0919	0.0966
4	180	0.7500	0.1007	0.0092	0.3386	0.0639	-2.9409	0.4574	0.0800	0.0890
4	180	0.8002	0.0918	0.0108	0.3697	0.0714	-3.3800	0.5324	0.2075	0.0959
4	180	0.8582	0.1070	0.0131	0.4064	0.0804	-3.9119	0.6172	0.2496	0.0962
4	180	0.9101	0.1061	0.0146	0.4826	0.0881	-4.3974	0.6951	0.1898	0.0996
4	180	0.9728	0.2049	0.0137	0.5411	0.0982	-4.9452	0.7926	0.2694	0.1036

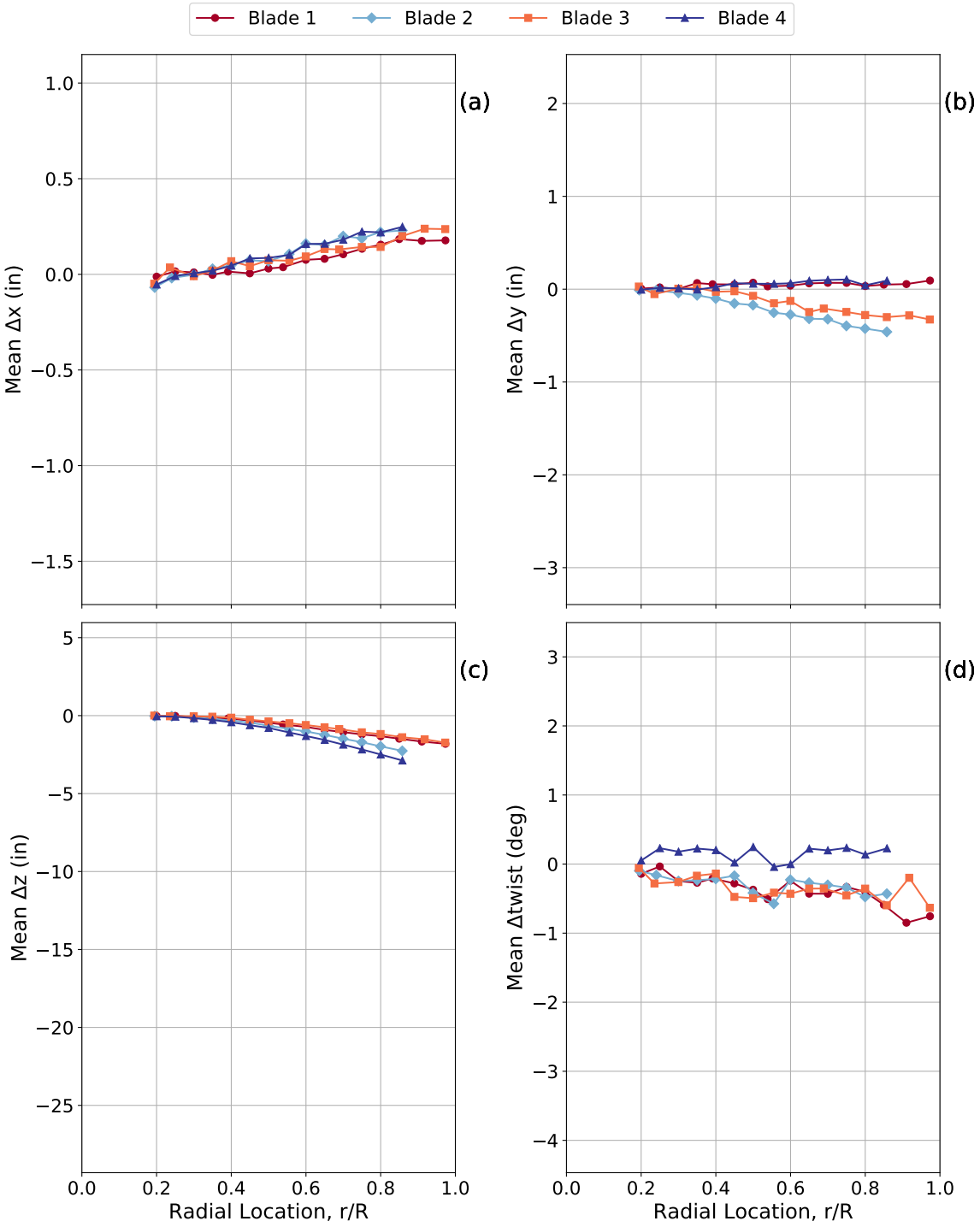


Figure 2.21-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0120	0.0472	0.0060	0.0044	-0.0275	0.0084	-0.1413	0.0260
1	184.92	0.2499	0.0156	0.0171	0.0189	0.0102	-0.0173	0.0219	-0.0348	0.0625
1	184.92	0.2998	0.0102	0.0144	0.0029	0.0190	-0.0885	0.0406	-0.2465	0.0622
1	184.92	0.3498	-0.0026	0.0454	0.0656	0.0328	-0.1359	0.0673	-0.2702	0.0587
1	184.92	0.3913	0.0144	0.0712	0.0532	0.0480	-0.1854	0.1021	-0.2082	0.0723
1	184.92	0.4496	0.0051	0.1056	0.0506	0.0725	-0.3142	0.1522	-0.2803	0.0680
1	184.92	0.4997	0.0304	0.1328	0.0700	0.0980	-0.4564	0.2090	-0.3712	0.0769
1	184.92	0.5387	0.0372	0.1516	0.0301	0.1191	-0.5692	0.2591	-0.5078	0.0930
1	184.92	0.5996	0.0760	0.1756	0.0382	0.1539	-0.7227	0.3407	-0.2410	0.0848
1	184.92	0.6498	0.0812	0.1903	0.0625	0.1840	-0.9159	0.4169	-0.4285	0.1002
1	184.92	0.6998	0.1052	0.1985	0.0683	0.2156	-1.0594	0.4972	-0.4299	0.1028
1	184.92	0.7500	0.1338	0.2006	0.0678	0.2473	-1.2053	0.5788	-0.3319	0.1103
1	184.92	0.8001	0.1552	0.1952	0.0336	0.2812	-1.3222	0.6646	-0.4035	0.1142
1	184.92	0.8497	0.1842	0.1833	0.0491	0.3170	-1.4790	0.7529	-0.5903	0.1147
1	184.92	0.9102	0.1749	0.1587	0.0550	0.3641	-1.6646	0.8623	-0.8494	0.1206
1	184.92	0.9734	0.1775	0.1164	0.0932	0.4174	-1.8071	0.9793	-0.7554	0.1286
2	184.92	0.1949	-0.0685	0.0018	-0.0097	0.0012	-0.0279	0.0077	-0.0971	0.0263
2	184.92	0.2405	-0.0190	0.0014	-0.0128	0.0031	-0.0405	0.0160	-0.1612	0.0371
2	184.92	0.2999	-0.0019	0.0018	-0.0395	0.0056	-0.1243	0.0358	-0.2460	0.0576
2	184.92	0.3498	0.0290	0.0022	-0.0656	0.0098	-0.2023	0.0611	-0.2337	0.0477
2	184.92	0.3998	0.0476	0.0026	-0.1010	0.0153	-0.3197	0.0957	-0.2146	0.0507
2	184.92	0.4496	0.0735	0.0028	-0.1537	0.0201	-0.4457	0.1356	-0.1693	0.0513
2	184.92	0.4995	0.0685	0.0034	-0.1713	0.0263	-0.6487	0.1824	-0.4174	0.0557
2	184.92	0.5551	0.1059	0.0140	-0.2530	0.0461	-0.8555	0.2397	-0.5744	0.3924
2	184.92	0.5996	0.1609	0.0038	-0.2734	0.0398	-1.0135	0.2931	-0.2267	0.0643
2	184.92	0.6497	0.1535	0.0046	-0.3181	0.0454	-1.2342	0.3542	-0.2701	0.0869
2	184.92	0.6996	0.1998	0.0055	-0.3225	0.0514	-1.4809	0.4194	-0.3019	0.1134
2	184.92	0.7495	0.1884	0.0063	-0.3953	0.0600	-1.7056	0.4845	-0.3402	0.1016
2	184.92	0.7996	0.2212	0.0072	-0.4245	0.0660	-1.9701	0.5572	-0.4759	0.1288
2	184.92	0.8578	0.2295	0.0082	-0.4597	0.0863	-2.2602	0.6347	-0.4294	0.3292
3	184.92	0.1938	-0.0488	0.0195	0.0284	0.0110	0.0027	0.0093	-0.0558	0.2706
3	184.92	0.2357	0.0360	0.0149	-0.0533	0.0087	-0.0423	0.0233	-0.2812	0.2704
3	184.92	0.2995	-0.0097	0.0138	0.0057	0.0184	-0.0429	0.0405	-0.2605	0.5807
3	184.92	0.3493	0.0195	0.0499	0.0156	0.0424	-0.0693	0.0868	-0.1685	0.5986
3	184.92	0.4000	0.0688	0.0625	-0.0279	0.0496	-0.1329	0.1247	-0.1381	0.6488
3	184.92	0.4497	0.0427	0.1112	-0.0220	0.0733	-0.2628	0.2229	-0.4751	0.2726
3	184.92	0.4997	0.0738	0.1265	-0.0717	0.0867	-0.3682	0.2736	-0.4938	0.2641
3	184.92	0.5556	0.0710	0.1404	-0.1512	0.1057	-0.4877	0.3358	-0.4138	0.2535
3	184.92	0.5995	0.0936	0.1494	-0.1264	0.1224	-0.6019	0.3871	-0.4297	0.2481
3	184.92	0.6498	0.1325	0.1569	-0.2460	0.1428	-0.7465	0.4511	-0.3555	0.2528
3	184.92	0.6890	0.1303	0.1596	-0.2085	0.1587	-0.8641	0.5014	-0.3539	0.2426
3	184.92	0.7495	0.1432	0.1598	-0.2450	0.1861	-1.0712	0.5797	-0.4531	0.2422
3	184.92	0.7998	0.1433	0.1532	-0.2785	0.2086	-1.1818	0.6518	-0.3555	0.2357
3	184.92	0.8577	0.1998	0.0858	-0.3009	0.3567	-1.3864	0.6110	-0.5976	5.4017
3	184.92	0.9178	0.2385	0.0314	-0.2820	0.7230	-1.5184	1.5510	-0.1985	0.3056
3	184.92	0.9729	0.2365	0.0235	-0.3266	0.7625	-1.7292	1.6772	-0.6329	0.3178
4	184.92	0.2001	-0.0531	0.0017	-0.0052	0.0014	-0.0424	0.0072	0.0518	0.0193
4	184.92	0.2502	-0.0088	0.0017	0.0144	0.0033	-0.0681	0.0152	0.2295	0.0356
4	184.92	0.3001	0.0055	0.0014	0.0086	0.0058	-0.1644	0.0299	0.1790	0.0437
4	184.92	0.3502	0.0190	0.0019	-0.0034	0.0096	-0.2774	0.0517	0.2241	0.0412
4	184.92	0.4002	0.0455	0.0023	0.0216	0.0152	-0.4250	0.0802	0.2018	0.0416
4	184.92	0.4500	0.0832	0.0028	0.0645	0.0200	-0.6162	0.1146	0.0218	0.0390
4	184.92	0.5001	0.0860	0.0038	0.0588	0.0255	-0.7881	0.1558	0.2462	0.0407
4	184.92	0.5560	0.1020	0.0048	0.0577	0.0337	-1.0855	0.2104	-0.0419	0.1012
4	184.92	0.6001	0.1586	0.0044	0.0635	0.0378	-1.3080	0.2582	-0.0012	0.0458
4	184.92	0.6501	0.1600	0.0051	0.0903	0.0452	-1.5591	0.3181	0.2232	0.0528
4	184.92	0.6999	0.1809	0.0057	0.0996	0.0526	-1.8620	0.3830	0.1981	0.0739
4	184.92	0.7500	0.2233	0.0068	0.1044	0.0599	-2.1706	0.4548	0.2341	0.0978
4	184.92	0.8002	0.2195	0.0076	0.0417	0.0741	-2.4953	0.5249	0.1369	0.1774
4	184.92	0.8582	0.2483	0.0095	0.0920	0.0901	-2.8788	0.6167	0.2276	0.2981

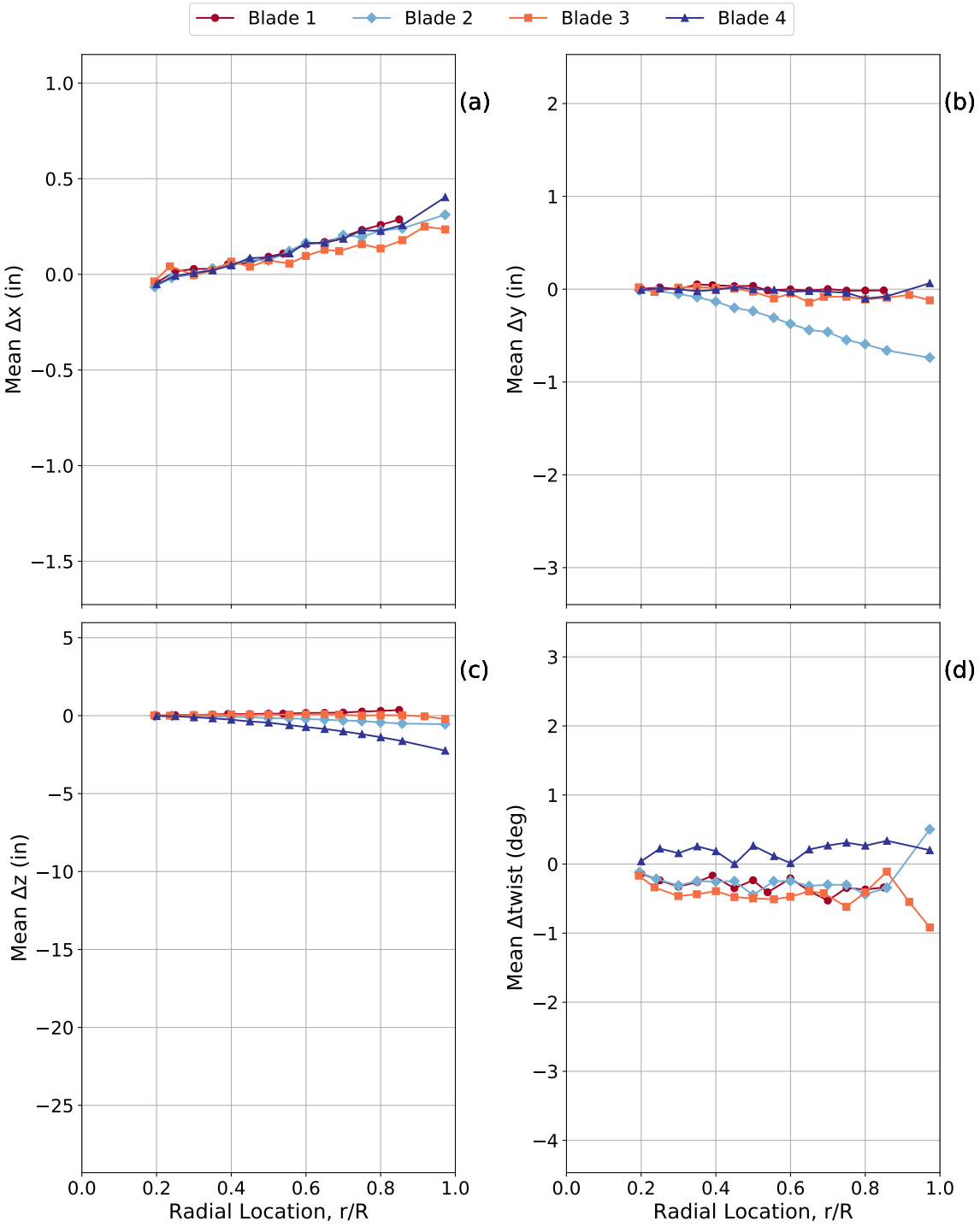


Figure 2.21-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0429	0.0016	0.0031	0.0014	0.0048	0.0066	-0.1386	0.0230
1	189.84	0.2499	0.0152	0.0014	0.0193	0.0036	0.0308	0.0135	-0.2361	0.0410
1	189.84	0.2998	0.0280	0.0014	0.0001	0.0056	0.0326	0.0270	-0.3263	0.0503
1	189.84	0.3498	0.0290	0.0016	0.0514	0.0105	0.0742	0.0467	-0.2610	0.0462
1	189.84	0.3913	0.0532	0.0018	0.0432	0.0146	0.1069	0.0672	-0.1678	0.0477
1	189.84	0.4496	0.0601	0.0017	0.0328	0.0201	0.0997	0.1045	-0.3493	0.0493
1	189.84	0.4997	0.0923	0.0022	0.0349	0.0255	0.1264	0.1430	-0.2344	0.0488
1	189.84	0.5387	0.1088	0.0022	-0.0130	0.0299	0.1268	0.1779	-0.4088	0.0512
1	189.84	0.5996	0.1562	0.0021	-0.0022	0.0365	0.1675	0.2358	-0.2071	0.0472
1	189.84	0.6498	0.1692	0.0022	-0.0150	0.0433	0.1784	0.2900	-0.3889	0.0521
1	189.84	0.6998	0.1957	0.0028	0.0012	0.0494	0.1960	0.3479	-0.5279	0.0650
1	189.84	0.7500	0.2320	0.0035	-0.0154	0.0560	0.2586	0.4083	-0.3458	0.0825
1	189.84	0.8001	0.2582	0.0040	-0.0146	0.0601	0.3023	0.4723	-0.3684	0.1553
1	189.84	0.8497	0.2869	0.0039	-0.0131	0.0696	0.3597	0.5405	-0.3385	0.1178
2	189.84	0.1949	-0.0660	0.0022	-0.0121	0.0018	-0.0076	0.0104	-0.1192	0.0279
2	189.84	0.2405	-0.0179	0.0014	-0.0184	0.0028	-0.0004	0.0183	-0.2144	0.0603
2	189.84	0.2999	0.0003	0.0017	-0.0512	0.0063	-0.0347	0.0435	-0.3097	0.0737
2	189.84	0.3498	0.0314	0.0019	-0.0864	0.0117	-0.0446	0.0763	-0.2465	0.0673
2	189.84	0.3998	0.0494	0.0023	-0.1336	0.0170	-0.0772	0.1164	-0.2544	0.0714
2	189.84	0.4496	0.0759	0.0025	-0.2014	0.0233	-0.0984	0.1633	-0.2469	0.0779
2	189.84	0.4995	0.0725	0.0025	-0.2362	0.0310	-0.1695	0.2193	-0.4486	0.0698
2	189.84	0.5551	0.1214	0.0025	-0.3082	0.0382	-0.1823	0.2888	-0.2492	0.0700
2	189.84	0.5996	0.1651	0.0030	-0.3732	0.0438	-0.2127	0.3477	-0.2448	0.0749
2	189.84	0.6497	0.1583	0.0032	-0.4396	0.0528	-0.2567	0.4211	-0.3178	0.0967
2	189.84	0.6996	0.2052	0.0034	-0.4613	0.0582	-0.3115	0.4997	-0.2984	0.0958
2	189.84	0.7495	0.1955	0.0036	-0.5470	0.0677	-0.3500	0.5847	-0.3014	0.1099
2	189.84	0.7996	0.2289	0.0041	-0.5923	0.0741	-0.4343	0.6749	-0.4380	0.1338
2	189.84	0.8578	0.2405	0.0049	-0.6607	0.0865	-0.5090	0.7869	-0.3433	0.2187
2	189.84	0.9727	0.3115	0.0352	-0.7375	0.0985	-0.5513	1.0245	0.5032	0.4351
3	189.84	0.1938	-0.0374	0.0640	0.0194	0.0054	0.0151	0.0096	-0.1676	0.0345
3	189.84	0.2357	0.0417	0.0300	-0.0293	0.0082	-0.0064	0.0117	-0.3367	0.1206
3	189.84	0.2995	-0.0040	0.0229	0.0174	0.0225	0.0295	0.0322	-0.4631	0.1206
3	189.84	0.3493	0.0200	0.0634	0.0240	0.0381	0.0525	0.0523	-0.4366	0.1363
3	189.84	0.4000	0.0665	0.1031	0.0128	0.0594	0.0656	0.0797	-0.3914	0.1387
3	189.84	0.4497	0.0402	0.1387	0.0050	0.0837	0.0612	0.1082	-0.4779	0.1415
3	189.84	0.4997	0.0731	0.1717	-0.0265	0.1134	0.0636	0.1423	-0.4958	0.1477
3	189.84	0.5556	0.0566	0.2037	-0.0999	0.1509	0.0688	0.1856	-0.5103	0.1643
3	189.84	0.5995	0.0958	0.2246	-0.0460	0.1844	0.0805	0.2249	-0.4730	0.1669
3	189.84	0.6498	0.1289	0.2426	-0.1434	0.2252	0.0937	0.2706	-0.3942	0.1768
3	189.84	0.6890	0.1216	0.2510	-0.0825	0.2592	0.0622	0.3088	-0.4224	0.1762
3	189.84	0.7495	0.1577	0.2558	-0.0815	0.3151	0.0002	0.3696	-0.6190	0.1937
3	189.84	0.7998	0.1349	0.2513	-0.1102	0.3647	0.0323	0.4284	-0.4101	0.1905
3	189.84	0.8577	0.1784	0.2351	-0.0921	0.4236	0.0167	0.4982	-0.1097	0.1998
3	189.84	0.9178	0.2497	0.2051	-0.0614	0.4892	-0.0493	0.5709	-0.5484	0.1948
3	189.84	0.9729	0.2350	0.1555	-0.1196	0.5488	-0.2211	0.6429	-0.9182	0.1933
4	189.84	0.2001	-0.0520	0.0017	-0.0074	0.0015	-0.0281	0.0074	0.0406	0.0231
4	189.84	0.2502	-0.0080	0.0016	0.0084	0.0031	-0.0359	0.0152	0.2238	0.0366
4	189.84	0.3001	0.0071	0.0015	-0.0020	0.0055	-0.1057	0.0296	0.1579	0.0512
4	189.84	0.3502	0.0208	0.0019	-0.0213	0.0098	-0.1708	0.0524	0.2563	0.0463
4	189.84	0.4002	0.0475	0.0024	-0.0073	0.0148	-0.2623	0.0803	0.1862	0.0604
4	189.84	0.4500	0.0848	0.0025	0.0222	0.0191	-0.3759	0.1156	-0.0002	0.0603
4	189.84	0.5001	0.0889	0.0026	0.0006	0.0247	-0.4492	0.1577	0.2648	0.0588
4	189.84	0.5560	0.1094	0.0027	-0.0072	0.0317	-0.6118	0.2143	0.1158	0.0502
4	189.84	0.6001	0.1633	0.0032	-0.0275	0.0371	-0.7314	0.2612	0.0130	0.0692
4	189.84	0.6501	0.1654	0.0029	-0.0197	0.0442	-0.8552	0.3220	0.2119	0.0667
4	189.84	0.6999	0.1863	0.0033	-0.0276	0.0509	-1.0130	0.3876	0.2684	0.0756
4	189.84	0.7500	0.2303	0.0033	-0.0381	0.0577	-1.1883	0.4565	0.3100	0.1029
4	189.84	0.8002	0.2272	0.0037	-0.1006	0.0672	-1.3863	0.5308	0.2664	0.1393
4	189.84	0.8582	0.2575	0.0051	-0.0765	0.0717	-1.6309	0.6243	0.3373	0.2307
4	189.84	0.9728	0.4033	0.0076	0.0648	0.0993	-2.2475	0.7808	0.2013	0.4333

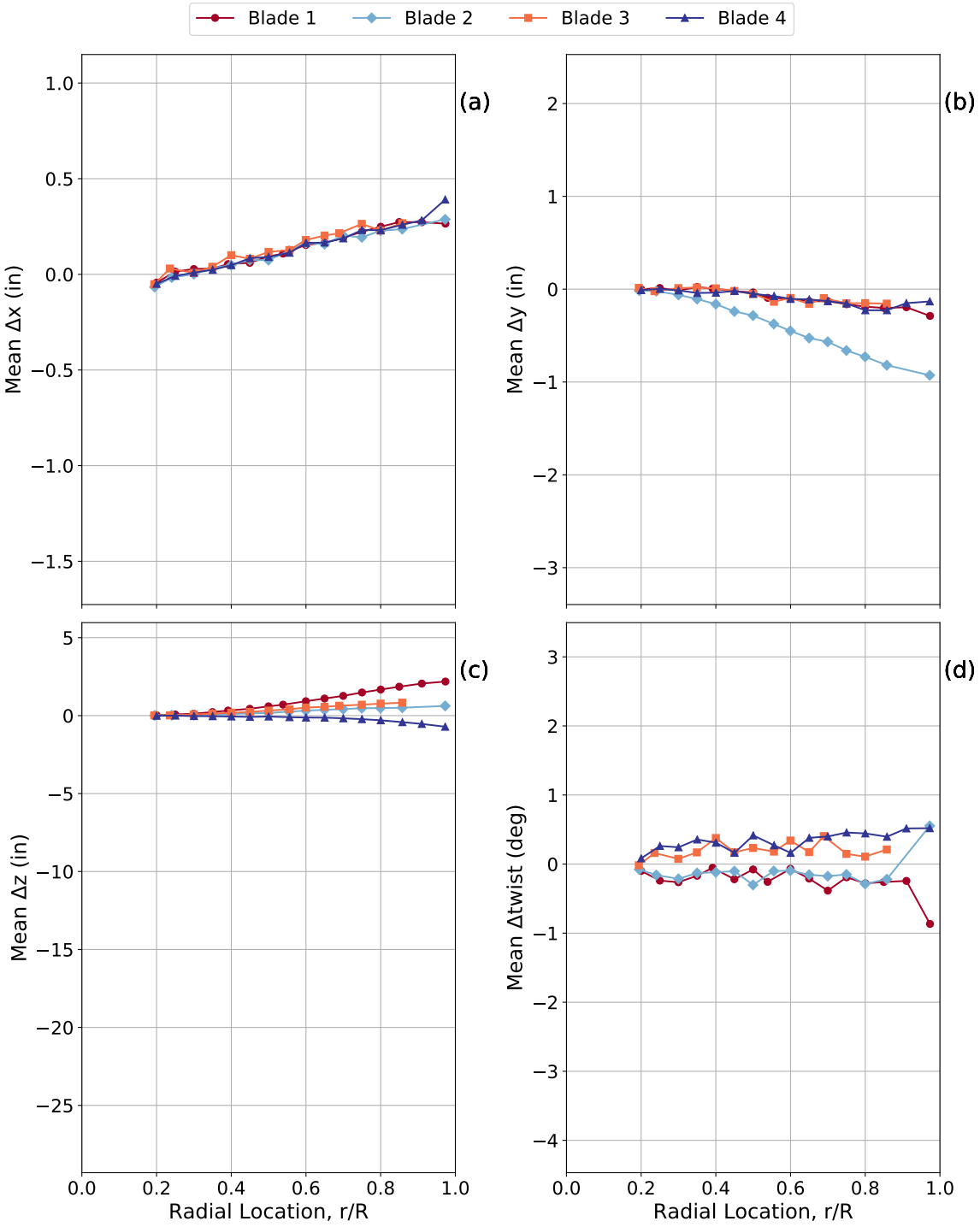


Figure 2.21-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0434	0.0016	-0.0012	0.0017	0.0270	0.0071	-0.0985	0.0219
1	195.12	0.2499	0.0143	0.0012	0.0129	0.0029	0.0718	0.0152	-0.2392	0.0456
1	195.12	0.2998	0.0278	0.0014	-0.0146	0.0060	0.1221	0.0298	-0.2628	0.0505
1	195.12	0.3498	0.0304	0.0013	0.0233	0.0105	0.2260	0.0512	-0.1693	0.0464
1	195.12	0.3913	0.0536	0.0017	0.0061	0.0145	0.3251	0.0743	-0.0543	0.0453
1	195.12	0.4496	0.0602	0.0018	-0.0212	0.0203	0.4381	0.1153	-0.2198	0.0433
1	195.12	0.4997	0.0935	0.0021	-0.0352	0.0254	0.5938	0.1570	-0.0779	0.0483
1	195.12	0.5387	0.1084	0.0022	-0.0932	0.0296	0.7019	0.1948	-0.2575	0.0447
1	195.12	0.5996	0.1537	0.0025	-0.1013	0.0372	0.9223	0.2619	-0.0687	0.0522
1	195.12	0.6498	0.1642	0.0037	-0.1301	0.0440	1.0961	0.3257	-0.2103	0.0538
1	195.12	0.6998	0.1904	0.0044	-0.1290	0.0505	1.2663	0.3911	-0.3842	0.0548
1	195.12	0.7500	0.2230	0.0052	-0.1620	0.0559	1.4838	0.4643	-0.1916	0.0644
1	195.12	0.8001	0.2487	0.0069	-0.1883	0.0650	1.6711	0.5411	-0.2785	0.0983
1	195.12	0.8497	0.2735	0.0072	-0.2021	0.0689	1.8546	0.6214	-0.2600	0.0784
1	195.12	0.9102	0.2725	0.0118	-0.1947	0.0810	2.0563	0.7319	-0.2437	0.4606
1	195.12	0.9734	0.2650	0.0150	-0.2880	0.0880	2.1862	0.8318	-0.8667	0.1948
2	195.12	0.1949	-0.0668	0.0015	-0.0155	0.0013	0.0078	0.0056	-0.0783	0.0173
2	195.12	0.2405	-0.0167	0.0012	-0.0209	0.0024	0.0265	0.0096	-0.1590	0.0341
2	195.12	0.2999	0.0010	0.0012	-0.0617	0.0046	0.0306	0.0227	-0.2141	0.0427
2	195.12	0.3498	0.0327	0.0014	-0.1062	0.0078	0.0691	0.0402	-0.1296	0.0354
2	195.12	0.3998	0.0485	0.0017	-0.1610	0.0120	0.0967	0.0608	-0.1183	0.0421
2	195.12	0.4496	0.0745	0.0016	-0.2398	0.0153	0.1488	0.0857	-0.1025	0.0443
2	195.12	0.4995	0.0744	0.0017	-0.2838	0.0194	0.1650	0.1161	-0.3020	0.0543
2	195.12	0.5551	0.1229	0.0018	-0.3747	0.0249	0.2590	0.1532	-0.1002	0.0596
2	195.12	0.5996	0.1635	0.0023	-0.4495	0.0286	0.3172	0.1855	-0.0960	0.0552
2	195.12	0.6497	0.1580	0.0022	-0.5264	0.0335	0.3748	0.2267	-0.1543	0.0574
2	195.12	0.6996	0.2028	0.0027	-0.5669	0.0395	0.4195	0.2690	-0.1755	0.0645
2	195.12	0.7495	0.1935	0.0030	-0.6605	0.0448	0.4739	0.3147	-0.1503	0.0744
2	195.12	0.7996	0.2279	0.0035	-0.7281	0.0509	0.4840	0.3645	-0.2871	0.0774
2	195.12	0.8578	0.2363	0.0036	-0.8189	0.0573	0.5047	0.4240	-0.2198	0.1271
2	195.12	0.9727	0.2875	0.0064	-0.9277	0.0722	0.6217	0.5447	0.5527	0.1506
3	195.12	0.1938	-0.0517	0.0020	0.0144	0.0018	0.0218	0.0064	-0.0170	0.0194
3	195.12	0.2357	0.0303	0.0013	-0.0216	0.0028	0.0153	0.0108	0.1607	0.0321
3	195.12	0.2995	0.0075	0.0011	0.0118	0.0058	0.0728	0.0268	0.0755	0.0451
3	195.12	0.3493	0.0395	0.0011	0.0182	0.0104	0.1265	0.0457	0.1687	0.0361
3	195.12	0.4000	0.1002	0.0018	0.0084	0.0157	0.1869	0.0711	0.3773	0.0453
3	195.12	0.4497	0.0814	0.0018	-0.0195	0.0198	0.2365	0.1019	0.1707	0.0465
3	195.12	0.4997	0.1173	0.0018	-0.0509	0.0243	0.3229	0.1386	0.2328	0.0450
3	195.12	0.5556	0.1268	0.0019	-0.1353	0.0309	0.4058	0.1854	0.1803	0.0455
3	195.12	0.5995	0.1795	0.0022	-0.0949	0.0366	0.5184	0.2281	0.3406	0.0499
3	195.12	0.6498	0.2027	0.0024	-0.1580	0.0419	0.5616	0.2768	0.1737	0.0570
3	195.12	0.6890	0.2149	0.0028	-0.0965	0.0458	0.6333	0.3196	0.4049	0.0575
3	195.12	0.7495	0.2639	0.0032	-0.1517	0.0538	0.6997	0.3876	0.1475	0.0646
3	195.12	0.7998	0.2287	0.0033	-0.1504	0.0599	0.7692	0.4479	0.1077	0.0648
3	195.12	0.8577	0.2673	0.0063	-0.1556	0.0707	0.8294	0.5204	0.2106	0.1881
4	195.12	0.2001	-0.0496	0.0015	-0.0100	0.0016	-0.0091	0.0081	0.0826	0.0187
4	195.12	0.2502	-0.0081	0.0012	0.0029	0.0026	0.0014	0.0147	0.2617	0.0429
4	195.12	0.3001	0.0089	0.0012	-0.0134	0.0060	-0.0281	0.0306	0.2430	0.0459
4	195.12	0.3502	0.0236	0.0015	-0.0408	0.0100	-0.0379	0.0539	0.3557	0.0400
4	195.12	0.4002	0.0481	0.0017	-0.0377	0.0152	-0.0566	0.0816	0.3094	0.0465
4	195.12	0.4500	0.0841	0.0020	-0.0193	0.0194	-0.0830	0.1151	0.1624	0.0491
4	195.12	0.5001	0.0910	0.0021	-0.0502	0.0255	-0.0591	0.1582	0.4149	0.0548
4	195.12	0.5560	0.1129	0.0021	-0.0739	0.0325	-0.1003	0.2121	0.2717	0.0561
4	195.12	0.6001	0.1643	0.0023	-0.1049	0.0383	-0.1232	0.2587	0.1623	0.0651
4	195.12	0.6501	0.1661	0.0026	-0.1104	0.0456	-0.1295	0.3197	0.3796	0.0574
4	195.12	0.6999	0.1879	0.0021	-0.1293	0.0520	-0.1729	0.3833	0.3993	0.0650
4	195.12	0.7500	0.2314	0.0026	-0.1542	0.0589	-0.2271	0.4544	0.4567	0.0699
4	195.12	0.8002	0.2309	0.0030	-0.2271	0.0670	-0.3002	0.5309	0.4436	0.1147
4	195.12	0.8582	0.2590	0.0036	-0.2270	0.0749	-0.4188	0.6236	0.3956	0.1241
4	195.12	0.9101	0.2824	0.0062	-0.1507	0.0825	-0.5321	0.7044	0.5160	0.2630
4	195.12	0.9728	0.3908	0.0165	-0.1319	0.0910	-0.7133	0.8024	0.5192	0.3007

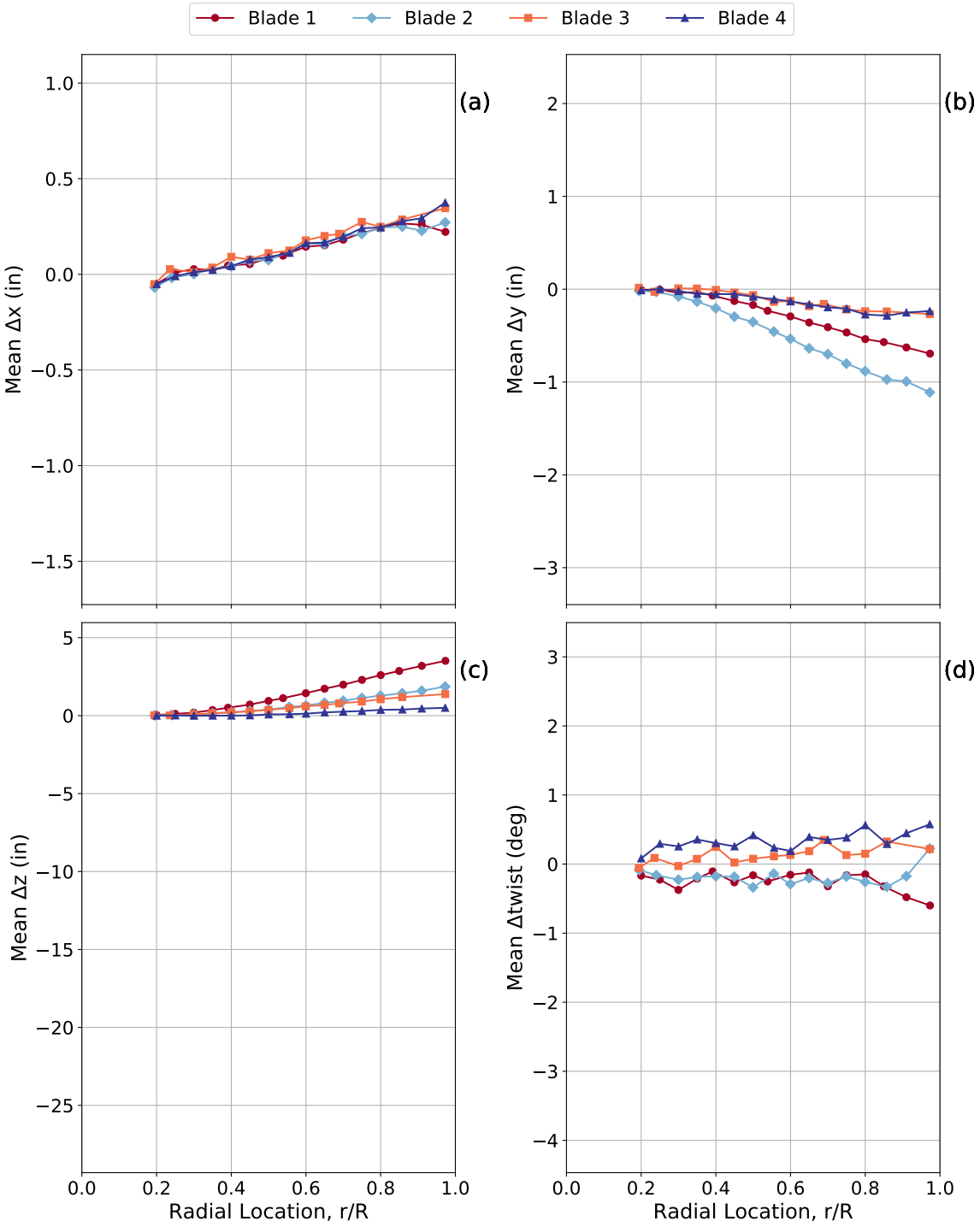


Figure 2.21-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0507	0.0011	-0.0075	0.0013	0.0448	0.0070	-0.1674	0.0202
1	209.88	0.2499	0.0095	0.0011	-0.0050	0.0032	0.1141	0.0157	-0.2253	0.0449
1	209.88	0.2998	0.0273	0.0011	-0.0409	0.0053	0.1906	0.0294	-0.3742	0.0497
1	209.88	0.3498	0.0244	0.0012	-0.0320	0.0100	0.3580	0.0516	-0.2120	0.0469
1	209.88	0.3913	0.0462	0.0021	-0.0690	0.0139	0.5071	0.0743	-0.1059	0.0464
1	209.88	0.4496	0.0531	0.0016	-0.1275	0.0199	0.7085	0.1143	-0.2649	0.0530
1	209.88	0.4997	0.0852	0.0024	-0.1695	0.0257	0.9438	0.1535	-0.1622	0.0421
1	209.88	0.5387	0.0977	0.0031	-0.2326	0.0299	1.1213	0.1871	-0.2527	0.0511
1	209.88	0.5996	0.1445	0.0039	-0.2930	0.0383	1.4395	0.2453	-0.1552	0.0513
1	209.88	0.6498	0.1518	0.0055	-0.3590	0.0457	1.7243	0.2980	-0.1220	0.0633
1	209.88	0.6998	0.1810	0.0059	-0.4096	0.0523	1.9845	0.3495	-0.3222	0.0571
1	209.88	0.7500	0.2163	0.0076	-0.4664	0.0588	2.2910	0.4029	-0.1609	0.0614
1	209.88	0.8001	0.2413	0.0085	-0.5382	0.0662	2.5997	0.4583	-0.1490	0.0647
1	209.88	0.8497	0.2669	0.0102	-0.5700	0.0732	2.8648	0.5124	-0.3218	0.0652
1	209.88	0.9102	0.2592	0.0117	-0.6280	0.0813	3.1937	0.5817	-0.4797	0.1196
1	209.88	0.9734	0.2220	0.0169	-0.6943	0.0917	3.5145	0.6528	-0.5995	0.0934
2	209.88	0.1949	-0.0689	0.0016	-0.0189	0.0012	0.0186	0.0067	-0.0854	0.0177
2	209.88	0.2405	-0.0182	0.0012	-0.0283	0.0023	0.0416	0.0124	-0.1616	0.0307
2	209.88	0.2999	0.0019	0.0013	-0.0784	0.0052	0.0754	0.0284	-0.2262	0.0421
2	209.88	0.3498	0.0279	0.0013	-0.1341	0.0086	0.1390	0.0505	-0.1872	0.0442
2	209.88	0.3998	0.0420	0.0013	-0.2056	0.0136	0.2072	0.0768	-0.1760	0.0433
2	209.88	0.4496	0.0703	0.0015	-0.2961	0.0173	0.3023	0.1084	-0.1835	0.0446
2	209.88	0.4995	0.0743	0.0015	-0.3531	0.0229	0.3854	0.1459	-0.3377	0.0467
2	209.88	0.5551	0.1174	0.0023	-0.4571	0.0289	0.5512	0.1922	-0.1395	0.0449
2	209.88	0.5996	0.1616	0.0025	-0.5349	0.0342	0.6477	0.2335	-0.2906	0.0484
2	209.88	0.6497	0.1586	0.0035	-0.6375	0.0401	0.8199	0.2827	-0.2015	0.0485
2	209.88	0.6996	0.2017	0.0034	-0.6998	0.0462	0.9523	0.3344	-0.2752	0.0492
2	209.88	0.7495	0.2109	0.0046	-0.8019	0.0530	1.1304	0.3899	-0.1806	0.0554
2	209.88	0.7996	0.2445	0.0051	-0.8828	0.0589	1.2782	0.4460	-0.2588	0.0600
2	209.88	0.8578	0.2490	0.0056	-0.9726	0.0656	1.4348	0.5120	-0.3298	0.0691
2	209.88	0.9100	0.2278	0.0073	-0.9941	0.0730	1.5945	0.5752	-0.1754	0.1350
2	209.88	0.9727	0.2715	0.0113	-1.1110	0.0806	1.8609	0.6455	0.2240	0.0900
3	209.88	0.1938	-0.0514	0.0014	0.0147	0.0023	0.0242	0.0072	-0.0562	0.0171
3	209.88	0.2357	0.0270	0.0010	-0.0274	0.0018	0.0201	0.0111	0.0885	0.0338
3	209.88	0.2995	0.0113	0.0010	0.0090	0.0065	0.0790	0.0285	-0.0287	0.0430
3	209.88	0.3493	0.0353	0.0011	0.0067	0.0111	0.1453	0.0503	0.0749	0.0304
3	209.88	0.4000	0.0917	0.0015	-0.0076	0.0160	0.2098	0.0763	0.2493	0.0401
3	209.88	0.4497	0.0763	0.0015	-0.0365	0.0218	0.2694	0.1073	0.0220	0.0338
3	209.88	0.4997	0.1110	0.0020	-0.0639	0.0271	0.3702	0.1417	0.0762	0.0397
3	209.88	0.5556	0.1246	0.0030	-0.1362	0.0340	0.4771	0.1841	0.1124	0.0393
3	209.88	0.5995	0.1777	0.0022	-0.1269	0.0421	0.5921	0.2189	0.1326	0.0440
3	209.88	0.6498	0.2004	0.0046	-0.1829	0.0463	0.6860	0.2556	0.1868	0.0497
3	209.88	0.6890	0.2122	0.0042	-0.1591	0.0539	0.7827	0.2885	0.3482	0.0486
3	209.88	0.7495	0.2739	0.0048	-0.2181	0.0625	0.8999	0.3355	0.1303	0.0590
3	209.88	0.7998	0.2486	0.0053	-0.2383	0.0701	1.0514	0.3792	0.1497	0.0505
3	209.88	0.8577	0.2865	0.0062	-0.2400	0.0779	1.1858	0.4276	0.3268	0.0798
3	209.88	0.9729	0.3458	0.0112	-0.2687	0.0983	1.3800	0.5324	0.2175	0.2402
4	209.88	0.2001	-0.0509	0.0010	-0.0118	0.0016	-0.0038	0.0077	0.0819	0.0220
4	209.88	0.2502	-0.0098	0.0011	0.0010	0.0026	0.0114	0.0142	0.2935	0.0335
4	209.88	0.3001	0.0114	0.0013	-0.0203	0.0058	-0.0060	0.0303	0.2548	0.0478
4	209.88	0.3502	0.0231	0.0012	-0.0504	0.0097	-0.0018	0.0522	0.3556	0.0436
4	209.88	0.4002	0.0432	0.0016	-0.0535	0.0148	0.0003	0.0799	0.3035	0.0454
4	209.88	0.4500	0.0773	0.0015	-0.0534	0.0193	0.0158	0.1115	0.2559	0.0498
4	209.88	0.5001	0.0900	0.0016	-0.0814	0.0246	0.0761	0.1455	0.4171	0.0467
4	209.88	0.5560	0.1124	0.0014	-0.1088	0.0315	0.0903	0.1910	0.2351	0.0494
4	209.88	0.6001	0.1625	0.0017	-0.1317	0.0365	0.1259	0.2268	0.1900	0.0479
4	209.88	0.6501	0.1665	0.0024	-0.1642	0.0435	0.2079	0.2702	0.3925	0.0509
4	209.88	0.6999	0.1961	0.0021	-0.1953	0.0500	0.2517	0.3154	0.3497	0.0486
4	209.88	0.7500	0.2412	0.0036	-0.2101	0.0565	0.2967	0.3605	0.3825	0.0581
4	209.88	0.8002	0.2451	0.0039	-0.2726	0.0627	0.3690	0.4103	0.5621	0.0663
4	209.88	0.8582	0.2779	0.0049	-0.2853	0.0714	0.3881	0.4673	0.2905	0.0711
4	209.88	0.9101	0.2935	0.0048	-0.2518	0.0783	0.4531	0.5219	0.4464	0.0852
4	209.88	0.9728	0.3747	0.0092	-0.2359	0.0871	0.4983	0.5850	0.5760	0.0995

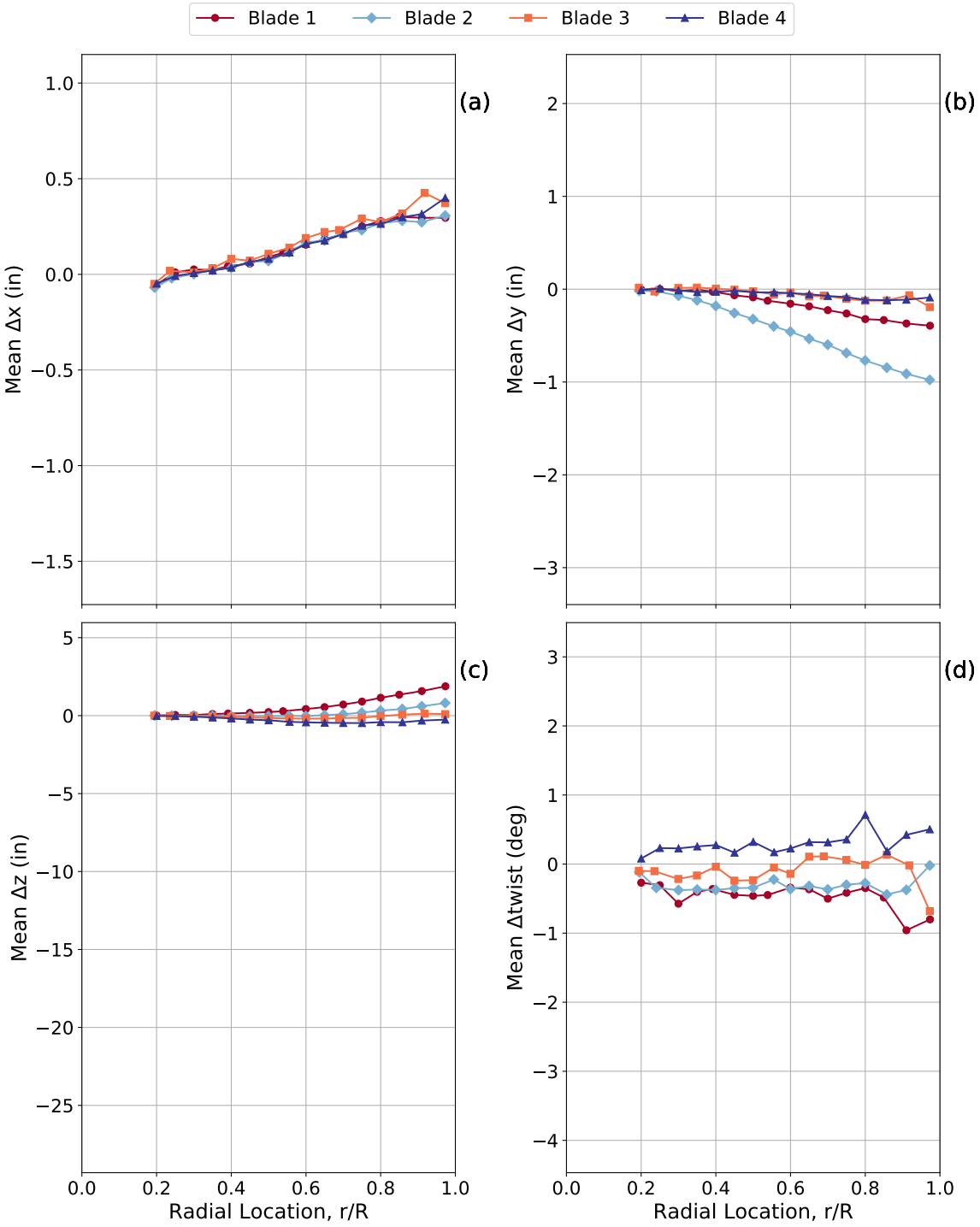


Figure 2.21-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0538	0.0015	-0.0035	0.0013	0.0080	0.0064	-0.2699	0.0277
1	225	0.2499	0.0101	0.0011	0.0019	0.0039	0.0443	0.0126	-0.3053	0.0429
1	225	0.2998	0.0257	0.0010	-0.0212	0.0055	0.0342	0.0266	-0.5740	0.0611
1	225	0.3498	0.0225	0.0011	-0.0064	0.0108	0.1054	0.0434	-0.4021	0.0490
1	225	0.3913	0.0429	0.0016	-0.0265	0.0151	0.1330	0.0640	-0.3612	0.0559
1	225	0.4496	0.0557	0.0017	-0.0653	0.0221	0.1757	0.0972	-0.4454	0.0507
1	225	0.4997	0.0909	0.0023	-0.0886	0.0277	0.2260	0.1298	-0.4608	0.0614
1	225	0.5387	0.1125	0.0019	-0.1244	0.0313	0.2849	0.1583	-0.4478	0.0610
1	225	0.5996	0.1548	0.0023	-0.1566	0.0389	0.4212	0.2078	-0.3409	0.0675
1	225	0.6498	0.1838	0.0031	-0.1841	0.0468	0.5467	0.2526	-0.3648	0.0730
1	225	0.6998	0.2109	0.0031	-0.2260	0.0517	0.7109	0.2967	-0.5008	0.0590
1	225	0.7500	0.2509	0.0041	-0.2623	0.0586	0.9021	0.3506	-0.4151	0.0679
1	225	0.8001	0.2782	0.0047	-0.3225	0.0648	1.1467	0.4074	-0.3477	0.0710
1	225	0.8497	0.3009	0.0060	-0.3323	0.0708	1.3434	0.4658	-0.4849	0.0679
1	225	0.9102	0.2955	0.0073	-0.3696	0.0785	1.5749	0.5405	-0.9586	0.0689
1	225	0.9734	0.2955	0.0116	-0.3934	0.0876	1.8803	0.6239	-0.8012	0.0721
2	225	0.1949	-0.0691	0.0020	-0.0179	0.0012	0.0028	0.0052	-0.1173	0.0210
2	225	0.2405	-0.0199	0.0012	-0.0225	0.0019	-0.0035	0.0123	-0.3441	0.0368
2	225	0.2999	0.0019	0.0016	-0.0701	0.0047	-0.0109	0.0264	-0.3770	0.0474
2	225	0.3498	0.0237	0.0016	-0.1191	0.0075	-0.0094	0.0433	-0.3692	0.0565
2	225	0.3998	0.0339	0.0022	-0.1808	0.0118	-0.0304	0.0696	-0.3751	0.0499
2	225	0.4496	0.0642	0.0019	-0.2569	0.0158	-0.0331	0.0978	-0.3492	0.0587
2	225	0.4995	0.0699	0.0023	-0.3219	0.0187	-0.0351	0.1321	-0.3443	0.0552
2	225	0.5551	0.1152	0.0021	-0.4007	0.0231	-0.0159	0.1770	-0.2235	0.0544
2	225	0.5996	0.1665	0.0024	-0.4578	0.0270	-0.0270	0.2172	-0.3621	0.0644
2	225	0.6497	0.1774	0.0023	-0.5337	0.0313	0.0321	0.2675	-0.3172	0.0596
2	225	0.6996	0.2180	0.0025	-0.5984	0.0359	0.0879	0.3186	-0.3675	0.0637
2	225	0.7495	0.2318	0.0022	-0.6871	0.0412	0.1950	0.3792	-0.3002	0.0647
2	225	0.7996	0.2670	0.0029	-0.7685	0.0464	0.3180	0.4409	-0.2750	0.0695
2	225	0.8578	0.2802	0.0028	-0.8452	0.0517	0.4259	0.5121	-0.4403	0.0684
2	225	0.9100	0.2730	0.0045	-0.9117	0.0569	0.5983	0.5766	-0.3740	0.0778
2	225	0.9727	0.3073	0.0072	-0.9773	0.0633	0.8110	0.6587	-0.0201	0.0846
3	225	0.1938	-0.0499	0.0012	0.0161	0.0011	0.0004	0.0050	-0.0979	0.0212
3	225	0.2357	0.0184	0.0013	-0.0255	0.0018	-0.0209	0.0100	-0.1033	0.0332
3	225	0.2995	0.0096	0.0012	0.0132	0.0040	-0.0263	0.0234	-0.2155	0.0504
3	225	0.3493	0.0320	0.0018	0.0170	0.0066	-0.0356	0.0393	-0.1651	0.0426
3	225	0.4000	0.0807	0.0016	0.0060	0.0102	-0.0722	0.0622	-0.0386	0.0489
3	225	0.4497	0.0717	0.0017	-0.0060	0.0137	-0.1197	0.0888	-0.2398	0.0510
3	225	0.4997	0.1072	0.0020	-0.0224	0.0182	-0.1534	0.1237	-0.2336	0.0555
3	225	0.5556	0.1396	0.0020	-0.0574	0.0227	-0.1806	0.1678	-0.0487	0.0495
3	225	0.5995	0.1895	0.0019	-0.0364	0.0273	-0.1953	0.2085	-0.1411	0.0508
3	225	0.6498	0.2214	0.0020	-0.0765	0.0328	-0.1840	0.2606	0.1071	0.0533
3	225	0.6890	0.2315	0.0019	-0.0690	0.0366	-0.1587	0.3060	0.1122	0.0527
3	225	0.7495	0.2916	0.0022	-0.1040	0.0439	-0.1344	0.3836	0.0607	0.0505
3	225	0.7998	0.2738	0.0020	-0.1244	0.0497	-0.0278	0.4542	-0.0115	0.0489
3	225	0.8577	0.3185	0.0028	-0.1224	0.0552	0.0600	0.5389	0.1344	0.0506
3	225	0.9178	0.4252	0.0053	-0.0652	0.0616	0.1287	0.6312	-0.0187	0.1094
3	225	0.9729	0.3721	0.0118	-0.1927	0.0684	0.0976	0.7170	-0.6826	0.1117
4	225	0.2001	-0.0485	0.0011	-0.0098	0.0010	-0.0186	0.0055	0.0800	0.0198
4	225	0.2502	-0.0086	0.0011	0.0075	0.0023	-0.0275	0.0114	0.2318	0.0287
4	225	0.3001	0.0068	0.0014	-0.0135	0.0045	-0.0690	0.0233	0.2268	0.0421
4	225	0.3502	0.0198	0.0017	-0.0314	0.0067	-0.1212	0.0384	0.2549	0.0371
4	225	0.4002	0.0351	0.0018	-0.0278	0.0111	-0.1814	0.0608	0.2753	0.0382
4	225	0.4500	0.0652	0.0022	-0.0171	0.0152	-0.2547	0.0878	0.1654	0.0548
4	225	0.5001	0.0813	0.0022	-0.0335	0.0195	-0.2989	0.1187	0.3209	0.0409
4	225	0.5560	0.1144	0.0026	-0.0344	0.0244	-0.4000	0.1597	0.1711	0.0577
4	225	0.6001	0.1595	0.0028	-0.0425	0.0291	-0.4310	0.1960	0.2265	0.0515
4	225	0.6501	0.1763	0.0023	-0.0544	0.0342	-0.4564	0.2406	0.3178	0.0443
4	225	0.6999	0.2108	0.0023	-0.0736	0.0396	-0.4727	0.2873	0.3142	0.0486
4	225	0.7500	0.2542	0.0021	-0.0858	0.0450	-0.4765	0.3393	0.3562	0.0487
4	225	0.8002	0.2642	0.0024	-0.1140	0.0502	-0.4155	0.3942	0.7122	0.0582
4	225	0.8582	0.2987	0.0023	-0.1190	0.0569	-0.4260	0.4616	0.1845	0.0551
4	225	0.9101	0.3151	0.0030	-0.1134	0.0629	-0.3198	0.5247	0.4226	0.0589
4	225	0.9728	0.3995	0.0056	-0.0896	0.0695	-0.2568	0.6055	0.5031	0.0613

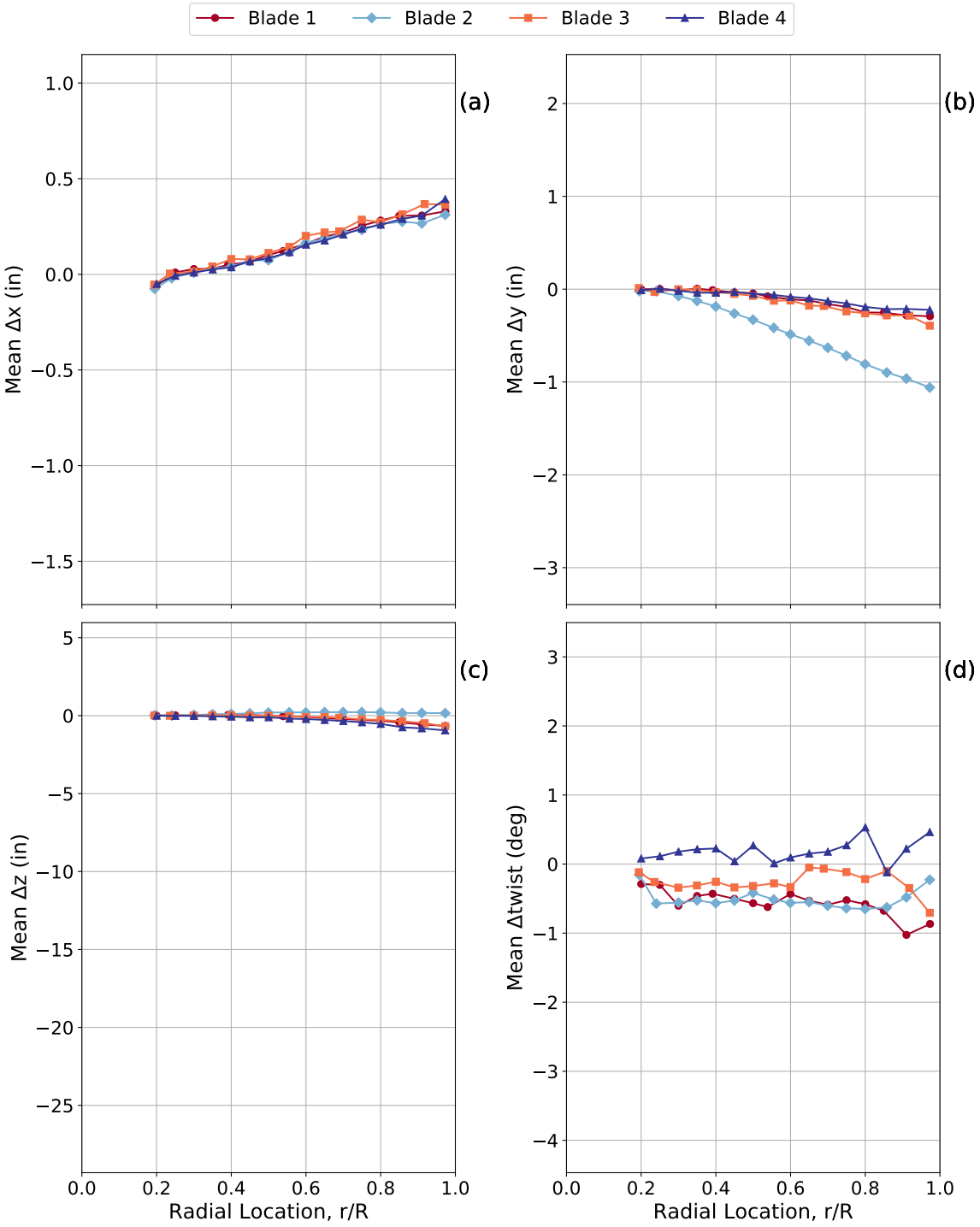


Figure 2.21-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0591	0.0014	-0.0007	0.0011	0.0004	0.0069	-0.2885	0.0230
1	240.12	0.2499	0.0098	0.0015	0.0018	0.0023	0.0242	0.0146	-0.3015	0.0433
1	240.12	0.2998	0.0279	0.0012	-0.0120	0.0045	0.0040	0.0293	-0.6025	0.0521
1	240.12	0.3498	0.0300	0.0014	0.0047	0.0072	0.0438	0.0493	-0.4621	0.0513
1	240.12	0.3913	0.0492	0.0024	-0.0105	0.0106	0.0491	0.0722	-0.4299	0.0473
1	240.12	0.4496	0.0664	0.0022	-0.0347	0.0142	0.0315	0.1121	-0.5028	0.0524
1	240.12	0.4997	0.1015	0.0028	-0.0451	0.0190	-0.0025	0.1557	-0.5663	0.0509
1	240.12	0.5387	0.1218	0.0021	-0.0774	0.0229	-0.0380	0.1945	-0.6225	0.0582
1	240.12	0.5996	0.1598	0.0025	-0.1098	0.0284	-0.0736	0.2634	-0.4328	0.0630
1	240.12	0.6498	0.1976	0.0022	-0.1213	0.0338	-0.1597	0.3288	-0.5313	0.0538
1	240.12	0.6998	0.2186	0.0028	-0.1601	0.0387	-0.2104	0.4002	-0.5887	0.0511
1	240.12	0.7500	0.2545	0.0028	-0.1918	0.0446	-0.2732	0.4799	-0.5228	0.0548
1	240.12	0.8001	0.2814	0.0031	-0.2508	0.0495	-0.3298	0.5629	-0.5806	0.0527
1	240.12	0.8497	0.3058	0.0033	-0.2522	0.0546	-0.4262	0.6497	-0.6758	0.0550
1	240.12	0.9102	0.3075	0.0036	-0.2824	0.0605	-0.5644	0.7586	-1.0255	0.0556
1	240.12	0.9734	0.3299	0.0051	-0.2916	0.0672	-0.6595	0.8782	-0.8667	0.0614
2	240.12	0.1949	-0.0758	0.0023	-0.0196	0.0012	0.0211	0.0053	-0.1541	0.0171
2	240.12	0.2405	-0.0197	0.0014	-0.0221	0.0028	0.0071	0.0095	-0.5724	0.0373
2	240.12	0.2999	0.0092	0.0011	-0.0724	0.0054	0.0452	0.0225	-0.5578	0.0436
2	240.12	0.3498	0.0310	0.0017	-0.1257	0.0096	0.0863	0.0387	-0.5257	0.0440
2	240.12	0.3998	0.0401	0.0028	-0.1872	0.0148	0.1063	0.0594	-0.5659	0.0485
2	240.12	0.4496	0.0720	0.0026	-0.2621	0.0173	0.1414	0.0860	-0.5279	0.0499
2	240.12	0.4995	0.0743	0.0023	-0.3294	0.0211	0.1965	0.1178	-0.4168	0.0542
2	240.12	0.5551	0.1171	0.0023	-0.4164	0.0258	0.2056	0.1625	-0.5141	0.0472
2	240.12	0.5996	0.1646	0.0022	-0.4862	0.0296	0.2063	0.2049	-0.5619	0.0464
2	240.12	0.6497	0.1864	0.0022	-0.5556	0.0340	0.2208	0.2599	-0.5502	0.0539
2	240.12	0.6996	0.2179	0.0024	-0.6310	0.0391	0.2217	0.3235	-0.6023	0.0475
2	240.12	0.7495	0.2327	0.0020	-0.7185	0.0437	0.2194	0.3964	-0.6392	0.0526
2	240.12	0.7996	0.2630	0.0020	-0.8074	0.0485	0.2081	0.4777	-0.6499	0.0516
2	240.12	0.8578	0.2753	0.0025	-0.8978	0.0542	0.1599	0.5778	-0.6269	0.0531
2	240.12	0.9100	0.2662	0.0031	-0.9631	0.0591	0.1675	0.6738	-0.4818	0.0515
2	240.12	0.9727	0.3116	0.0056	-1.0591	0.0650	0.1574	0.7924	-0.2272	0.0595
3	240.12	0.1938	-0.0538	0.0017	0.0122	0.0011	0.0097	0.0056	-0.1185	0.0201
3	240.12	0.2357	0.0041	0.0010	-0.0293	0.0016	-0.0093	0.0104	-0.2597	0.0334
3	240.12	0.2995	0.0145	0.0009	-0.0012	0.0042	0.0112	0.0253	-0.3413	0.0477
3	240.12	0.3493	0.0411	0.0014	-0.0076	0.0068	0.0217	0.0422	-0.3095	0.0378
3	240.12	0.4000	0.0803	0.0020	-0.0313	0.0106	0.0194	0.0667	-0.2562	0.0430
3	240.12	0.4497	0.0783	0.0031	-0.0501	0.0140	0.0093	0.0949	-0.3381	0.0483
3	240.12	0.4997	0.1119	0.0020	-0.0719	0.0181	-0.0043	0.1284	-0.3177	0.0534
3	240.12	0.5556	0.1437	0.0028	-0.1240	0.0231	-0.0430	0.1721	-0.2790	0.0519
3	240.12	0.5995	0.2011	0.0027	-0.1218	0.0264	-0.0857	0.2104	-0.3325	0.0445
3	240.12	0.6498	0.2189	0.0025	-0.1773	0.0314	-0.0912	0.2599	-0.0488	0.0519
3	240.12	0.6890	0.2248	0.0026	-0.1810	0.0349	-0.1349	0.3031	-0.0666	0.0544
3	240.12	0.7495	0.2858	0.0029	-0.2391	0.0406	-0.2323	0.3764	-0.1158	0.0482
3	240.12	0.7998	0.2728	0.0028	-0.2599	0.0451	-0.2787	0.4434	-0.2171	0.0542
3	240.12	0.8577	0.3136	0.0030	-0.2823	0.0503	-0.3637	0.5257	-0.1004	0.0501
3	240.12	0.9178	0.3676	0.0031	-0.2845	0.0557	-0.4889	0.6145	-0.3473	0.0527
3	240.12	0.9729	0.3644	0.0038	-0.3936	0.0605	-0.6827	0.7018	-0.7053	0.0642
4	240.12	0.2001	-0.0500	0.0016	-0.0108	0.0010	-0.0040	0.0059	0.0807	0.0249
4	240.12	0.2502	-0.0073	0.0011	0.0058	0.0018	-0.0162	0.0141	0.1126	0.0495
4	240.12	0.3001	0.0093	0.0014	-0.0179	0.0039	-0.0174	0.0268	0.1800	0.0600
4	240.12	0.3502	0.0256	0.0013	-0.0378	0.0064	-0.0455	0.0441	0.2147	0.0510
4	240.12	0.4002	0.0372	0.0022	-0.0385	0.0099	-0.0643	0.0709	0.2260	0.0610
4	240.12	0.4500	0.0679	0.0027	-0.0284	0.0137	-0.1114	0.1024	0.0401	0.0772
4	240.12	0.5001	0.0850	0.0021	-0.0492	0.0179	-0.1093	0.1367	0.2699	0.0649
4	240.12	0.5560	0.1159	0.0030	-0.0619	0.0225	-0.1966	0.1841	0.0108	0.0611
4	240.12	0.6001	0.1553	0.0028	-0.0828	0.0276	-0.2187	0.2273	0.0955	0.0713
4	240.12	0.6501	0.1769	0.0023	-0.0986	0.0332	-0.2787	0.2796	0.1524	0.0658
4	240.12	0.6999	0.2082	0.0024	-0.1274	0.0390	-0.3451	0.3363	0.1783	0.0699
4	240.12	0.7500	0.2389	0.0021	-0.1538	0.0449	-0.4282	0.3984	0.2720	0.0621
4	240.12	0.8002	0.2595	0.0022	-0.1914	0.0505	-0.5319	0.4652	0.5307	0.0675
4	240.12	0.8582	0.2896	0.0027	-0.2152	0.0579	-0.7483	0.5452	-0.1204	0.0663
4	240.12	0.9101	0.3070	0.0027	-0.2124	0.0635	-0.8178	0.6226	0.2225	0.0702
4	240.12	0.9728	0.3936	0.0038	-0.2232	0.0708	-0.9450	0.7179	0.4628	0.0757

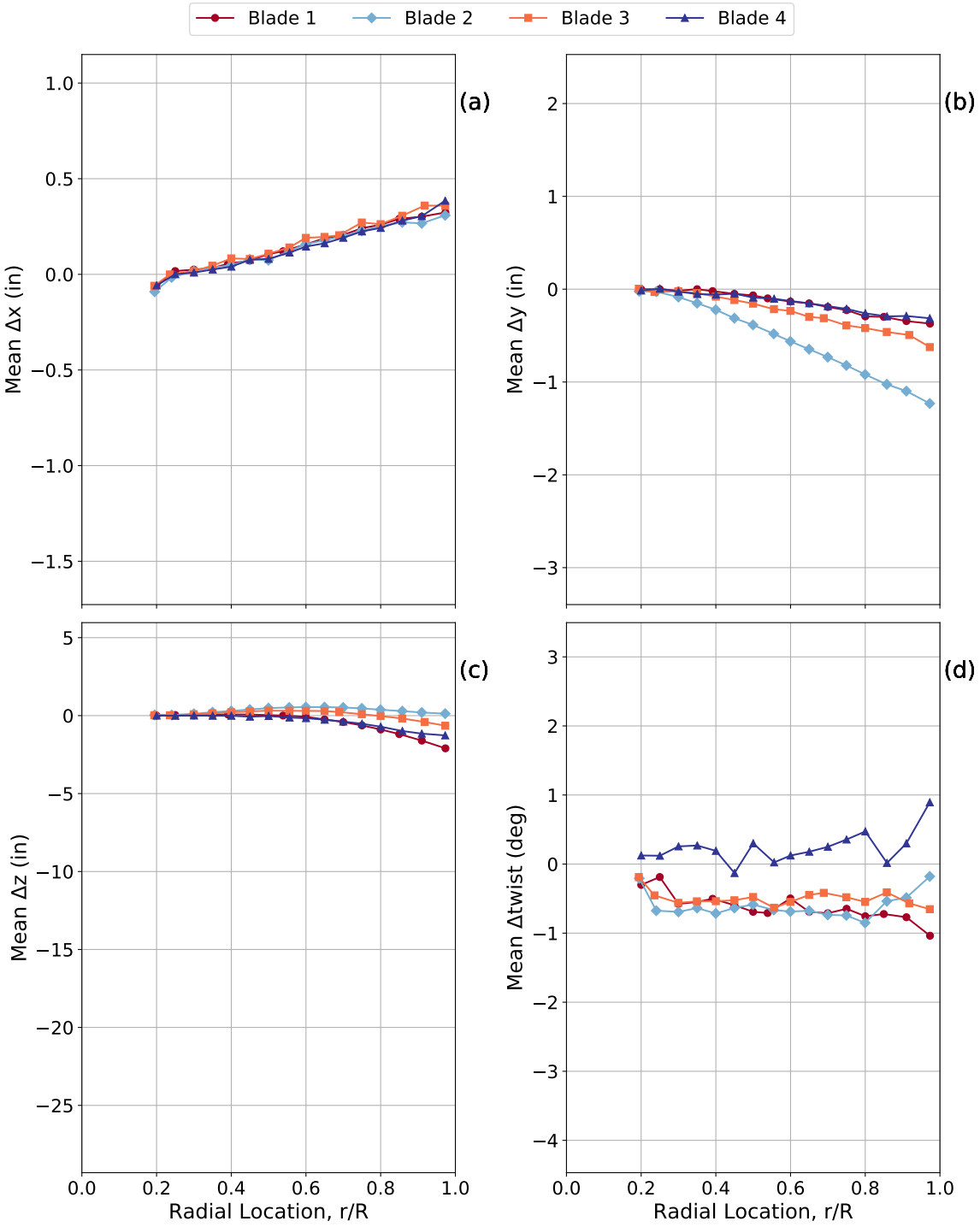


Figure 2.21-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0630	0.0032	-0.0013	0.0029	-0.0032	0.0134	-0.3010	0.0407
1	254.88	0.2499	0.0170	0.0014	-0.0001	0.0043	0.0374	0.0245	-0.1877	0.1108
1	254.88	0.2998	0.0247	0.0012	-0.0170	0.0099	0.0133	0.0525	-0.5765	0.1094
1	254.88	0.3498	0.0329	0.0013	-0.0002	0.0185	0.0452	0.0903	-0.5488	0.1050
1	254.88	0.3913	0.0555	0.0029	-0.0206	0.0245	0.0740	0.1283	-0.5023	0.0986
1	254.88	0.4496	0.0718	0.0023	-0.0501	0.0353	0.0717	0.1911	-0.5949	0.1056
1	254.88	0.4997	0.1056	0.0024	-0.0668	0.0449	0.0310	0.2536	-0.6912	0.1071
1	254.88	0.5387	0.1207	0.0029	-0.0989	0.0526	0.0044	0.3065	-0.7085	0.1069
1	254.88	0.5996	0.1568	0.0034	-0.1331	0.0666	-0.0753	0.3978	-0.4976	0.1072
1	254.88	0.6498	0.1886	0.0028	-0.1526	0.0783	-0.2436	0.4783	-0.6908	0.1162
1	254.88	0.6998	0.2058	0.0034	-0.1917	0.0895	-0.4122	0.5621	-0.7119	0.1116
1	254.88	0.7500	0.2414	0.0042	-0.2257	0.1015	-0.6276	0.6482	-0.6473	0.1133
1	254.88	0.8001	0.2591	0.0055	-0.2934	0.1135	-0.8891	0.7386	-0.7551	0.1122
1	254.88	0.8497	0.2902	0.0067	-0.2984	0.1242	-1.1825	0.8292	-0.7233	0.1136
1	254.88	0.9102	0.3016	0.0091	-0.3439	0.1381	-1.6015	0.9427	-0.7695	0.1212
1	254.88	0.9734	0.3238	0.0070	-0.3707	0.1539	-2.0986	1.0667	-1.0376	0.1119
2	254.88	0.1949	-0.0909	0.0020	-0.0237	0.0012	0.0396	0.0061	-0.2062	0.0223
2	254.88	0.2405	-0.0161	0.0014	-0.0264	0.0018	0.0386	0.0105	-0.6747	0.0523
2	254.88	0.2999	0.0168	0.0011	-0.0852	0.0042	0.1150	0.0245	-0.6922	0.0598
2	254.88	0.3498	0.0352	0.0016	-0.1510	0.0073	0.2178	0.0420	-0.6370	0.0597
2	254.88	0.3998	0.0477	0.0018	-0.2223	0.0109	0.2985	0.0643	-0.7149	0.0556
2	254.88	0.4496	0.0782	0.0018	-0.3127	0.0142	0.3919	0.0898	-0.6362	0.0634
2	254.88	0.4995	0.0739	0.0018	-0.3848	0.0182	0.4829	0.1210	-0.5859	0.0563
2	254.88	0.5551	0.1225	0.0020	-0.4812	0.0226	0.5256	0.1601	-0.6649	0.0667
2	254.88	0.5996	0.1575	0.0020	-0.5626	0.0266	0.5481	0.1955	-0.6876	0.0638
2	254.88	0.6497	0.1782	0.0021	-0.6466	0.0310	0.5472	0.2394	-0.6755	0.0662
2	254.88	0.6996	0.2007	0.0023	-0.7317	0.0354	0.5211	0.2874	-0.7354	0.0712
2	254.88	0.7495	0.2271	0.0027	-0.8214	0.0401	0.4647	0.3390	-0.7439	0.0667
2	254.88	0.7996	0.2522	0.0029	-0.9191	0.0448	0.3783	0.3941	-0.8507	0.0683
2	254.88	0.8578	0.2717	0.0031	-1.0254	0.0503	0.2890	0.4609	-0.5374	0.0704
2	254.88	0.9100	0.2665	0.0040	-1.0978	0.0554	0.1991	0.5233	-0.4864	0.0698
2	254.88	0.9727	0.3086	0.0043	-1.2314	0.0612	0.1263	0.5974	-0.1791	0.0736
3	254.88	0.1938	-0.0598	0.0028	0.0048	0.0015	0.0263	0.0060	-0.1881	0.0178
3	254.88	0.2357	-0.0004	0.0012	-0.0305	0.0018	0.0220	0.0108	-0.4535	0.0451
3	254.88	0.2995	0.0170	0.0009	-0.0216	0.0047	0.0838	0.0253	-0.5612	0.0482
3	254.88	0.3493	0.0450	0.0012	-0.0417	0.0084	0.1458	0.0437	-0.5394	0.0480
3	254.88	0.4000	0.0833	0.0015	-0.0800	0.0123	0.2125	0.0677	-0.5374	0.0495
3	254.88	0.4497	0.0803	0.0015	-0.1170	0.0167	0.2707	0.0949	-0.5239	0.0571
3	254.88	0.4997	0.1075	0.0021	-0.1558	0.0216	0.3168	0.1273	-0.4765	0.0527
3	254.88	0.5556	0.1404	0.0022	-0.2153	0.0272	0.3095	0.1701	-0.6323	0.0560
3	254.88	0.5995	0.1907	0.0019	-0.2339	0.0321	0.3016	0.2079	-0.5478	0.0589
3	254.88	0.6498	0.1957	0.0021	-0.2982	0.0381	0.2949	0.2531	-0.4471	0.0595
3	254.88	0.6890	0.2044	0.0023	-0.3123	0.0424	0.2300	0.2925	-0.4165	0.0604
3	254.88	0.7495	0.2710	0.0028	-0.3900	0.0498	0.0920	0.3560	-0.4804	0.0572
3	254.88	0.7998	0.2624	0.0029	-0.4190	0.0560	-0.0280	0.4118	-0.5471	0.0601
3	254.88	0.8577	0.3064	0.0034	-0.4610	0.0629	-0.1824	0.4789	-0.4090	0.0624
3	254.88	0.9178	0.3595	0.0034	-0.4940	0.0699	-0.4085	0.5503	-0.5686	0.0609
3	254.88	0.9729	0.3587	0.0048	-0.6241	0.0767	-0.6467	0.6171	-0.6535	0.0637
4	254.88	0.2001	-0.0577	0.0015	-0.0141	0.0010	0.0031	0.0053	0.1241	0.0197
4	254.88	0.2502	0.0006	0.0011	0.0052	0.0019	-0.0103	0.0116	0.1207	0.0349
4	254.88	0.3001	0.0092	0.0010	-0.0266	0.0037	0.0053	0.0222	0.2561	0.0437
4	254.88	0.3502	0.0252	0.0012	-0.0528	0.0062	-0.0080	0.0379	0.2685	0.0426
4	254.88	0.4002	0.0402	0.0015	-0.0584	0.0096	-0.0096	0.0592	0.1912	0.0421
4	254.88	0.4500	0.0763	0.0013	-0.0486	0.0132	-0.0680	0.0833	-0.1303	0.0418
4	254.88	0.5001	0.0809	0.0020	-0.0904	0.0173	-0.0256	0.1119	0.3000	0.0479
4	254.88	0.5560	0.1138	0.0017	-0.1034	0.0222	-0.1231	0.1493	0.0242	0.0504
4	254.88	0.6001	0.1452	0.0019	-0.1273	0.0262	-0.1626	0.1818	0.1239	0.0508
4	254.88	0.6501	0.1624	0.0015	-0.1521	0.0310	-0.2630	0.2201	0.1787	0.0552
4	254.88	0.6999	0.1912	0.0018	-0.1826	0.0362	-0.3808	0.2615	0.2498	0.0531
4	254.88	0.7500	0.2244	0.0018	-0.2122	0.0413	-0.5213	0.3031	0.3555	0.0530
4	254.88	0.8002	0.2427	0.0022	-0.2603	0.0465	-0.7109	0.3466	0.4724	0.0474
4	254.88	0.8582	0.2808	0.0023	-0.2931	0.0524	-0.9875	0.3975	0.0163	0.0566
4	254.88	0.9101	0.3041	0.0048	-0.2888	0.0580	-1.1559	0.4486	0.2988	0.0805
4	254.88	0.9728	0.3850	0.0029	-0.3134	0.0646	-1.2683	0.5067	0.8939	0.0540

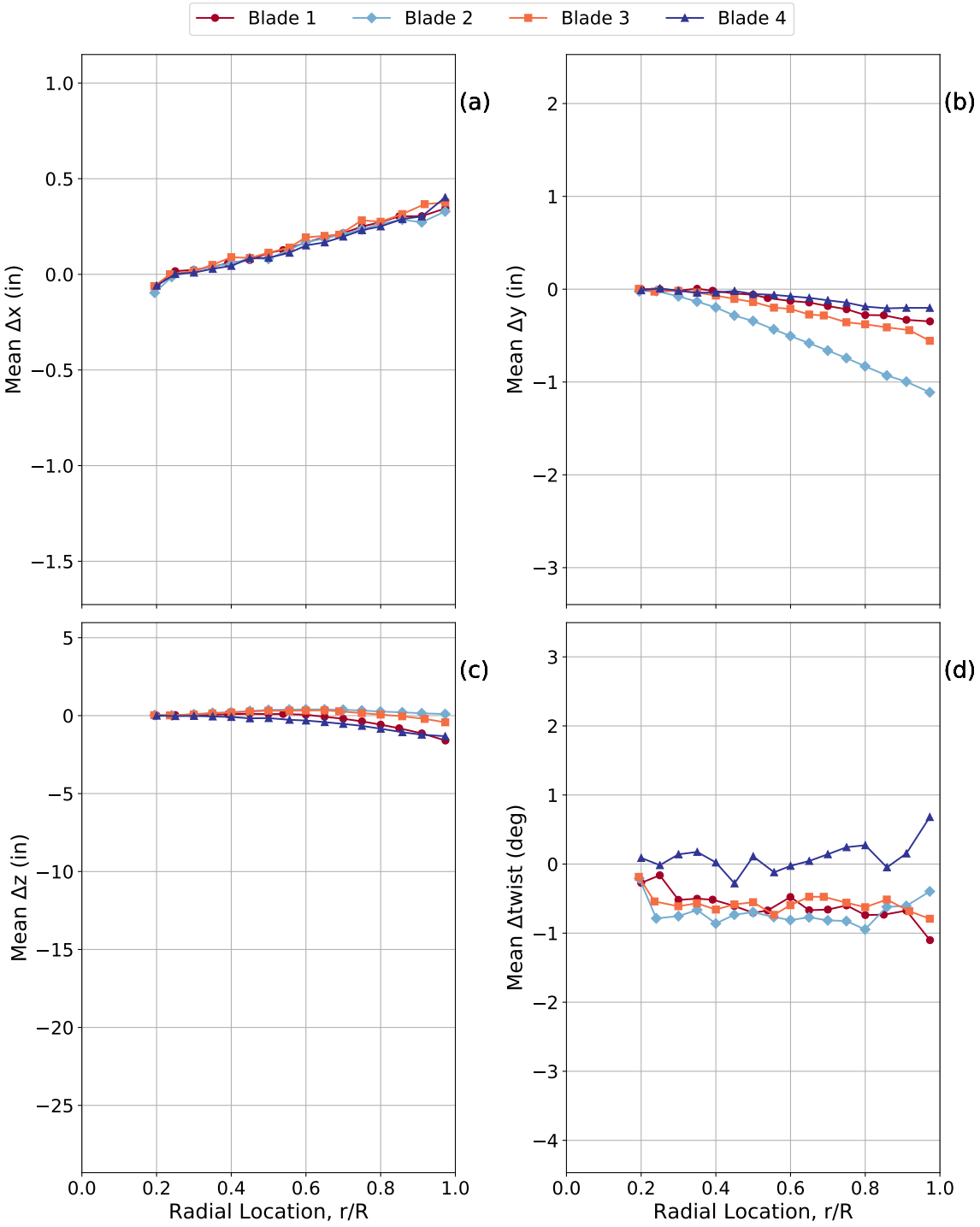


Figure 2.21-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.0617	0.0033	0.0001	0.0018	-0.0001	0.0077	-0.2721	0.0345
1	260.16	0.2499	0.0166	0.0014	-0.0010	0.0025	0.0370	0.0135	-0.1623	0.0948
1	260.16	0.2998	0.0235	0.0015	-0.0148	0.0061	0.0251	0.0293	-0.5181	0.0911
1	260.16	0.3498	0.0390	0.0010	0.0046	0.0104	0.0573	0.0492	-0.5019	0.0903
1	260.16	0.3913	0.0581	0.0017	-0.0168	0.0143	0.0942	0.0702	-0.5151	0.0870
1	260.16	0.4496	0.0746	0.0016	-0.0463	0.0200	0.1166	0.1047	-0.6075	0.0884
1	260.16	0.4997	0.1124	0.0018	-0.0596	0.0252	0.0971	0.1380	-0.7058	0.0907
1	260.16	0.5387	0.1265	0.0017	-0.0959	0.0295	0.1058	0.1666	-0.6717	0.0930
1	260.16	0.5996	0.1656	0.0019	-0.1269	0.0372	0.0569	0.2147	-0.4772	0.0965
1	260.16	0.6498	0.1953	0.0019	-0.1436	0.0435	-0.0749	0.2561	-0.6681	0.0912
1	260.16	0.6998	0.2151	0.0021	-0.1815	0.0495	-0.2023	0.2974	-0.6590	0.0951
1	260.16	0.7500	0.2497	0.0023	-0.2160	0.0561	-0.3686	0.3409	-0.5988	0.0936
1	260.16	0.8001	0.2733	0.0027	-0.2785	0.0626	-0.5801	0.3851	-0.7380	0.0961
1	260.16	0.8497	0.3032	0.0033	-0.2812	0.0694	-0.8114	0.4296	-0.7328	0.0975
1	260.16	0.9102	0.3041	0.0035	-0.3304	0.0775	-1.1378	0.4863	-0.6745	0.0970
1	260.16	0.9734	0.3451	0.0044	-0.3472	0.0865	-1.5975	0.5488	-1.1013	0.0973
2	260.16	0.1949	-0.0962	0.0024	-0.0224	0.0012	0.0371	0.0053	-0.2065	0.0217
2	260.16	0.2405	-0.0135	0.0011	-0.0206	0.0018	0.0184	0.0094	-0.7862	0.0628
2	260.16	0.2999	0.0190	0.0012	-0.0770	0.0043	0.0879	0.0210	-0.7539	0.0638
2	260.16	0.3498	0.0418	0.0015	-0.1341	0.0074	0.1743	0.0361	-0.6644	0.0631
2	260.16	0.3998	0.0550	0.0019	-0.1963	0.0110	0.2217	0.0553	-0.8613	0.0612
2	260.16	0.4496	0.0837	0.0019	-0.2841	0.0144	0.2981	0.0773	-0.7332	0.0654
2	260.16	0.4995	0.0809	0.0015	-0.3426	0.0182	0.3632	0.1044	-0.6968	0.0637
2	260.16	0.5551	0.1283	0.0022	-0.4325	0.0228	0.3864	0.1379	-0.7669	0.0672
2	260.16	0.5996	0.1685	0.0022	-0.5048	0.0267	0.3997	0.1675	-0.8109	0.0630
2	260.16	0.6497	0.1871	0.0023	-0.5817	0.0311	0.3955	0.2030	-0.7712	0.0647
2	260.16	0.6996	0.2101	0.0025	-0.6615	0.0357	0.3761	0.2410	-0.8146	0.0650
2	260.16	0.7495	0.2346	0.0028	-0.7420	0.0405	0.3298	0.2811	-0.8252	0.0639
2	260.16	0.7996	0.2642	0.0029	-0.8309	0.0453	0.2603	0.3235	-0.9465	0.0674
2	260.16	0.8578	0.2859	0.0032	-0.9300	0.0508	0.2115	0.3757	-0.6194	0.0724
2	260.16	0.9100	0.2721	0.0031	-0.9962	0.0564	0.1474	0.4247	-0.6062	0.0688
2	260.16	0.9727	0.3287	0.0052	-1.1110	0.0628	0.1026	0.4864	-0.3963	0.0709
3	260.16	0.1938	-0.0619	0.0037	0.0041	0.0015	0.0276	0.0059	-0.1856	0.0252
3	260.16	0.2357	0.0004	0.0013	-0.0262	0.0015	0.0162	0.0105	-0.5410	0.0596
3	260.16	0.2995	0.0170	0.0011	-0.0182	0.0045	0.0799	0.0246	-0.6109	0.0694
3	260.16	0.3493	0.0491	0.0013	-0.0364	0.0074	0.1409	0.0416	-0.5677	0.0690
3	260.16	0.4000	0.0895	0.0013	-0.0687	0.0111	0.1999	0.0650	-0.6582	0.0697
3	260.16	0.4497	0.0857	0.0015	-0.1049	0.0148	0.2628	0.0916	-0.5839	0.0696
3	260.16	0.4997	0.1132	0.0017	-0.1380	0.0184	0.3117	0.1229	-0.5521	0.0686
3	260.16	0.5556	0.1400	0.0019	-0.1991	0.0236	0.3161	0.1624	-0.7349	0.0700
3	260.16	0.5995	0.1933	0.0019	-0.2119	0.0277	0.3267	0.1962	-0.5954	0.0681
3	260.16	0.6498	0.2010	0.0019	-0.2732	0.0323	0.3406	0.2369	-0.4735	0.0702
3	260.16	0.6890	0.2069	0.0021	-0.2833	0.0364	0.2766	0.2711	-0.4743	0.0689
3	260.16	0.7495	0.2822	0.0022	-0.3563	0.0426	0.1622	0.3271	-0.5593	0.0697
3	260.16	0.7998	0.2751	0.0025	-0.3779	0.0480	0.0668	0.3739	-0.6243	0.0707
3	260.16	0.8577	0.3149	0.0024	-0.4114	0.0538	-0.0413	0.4311	-0.5134	0.0719
3	260.16	0.9178	0.3669	0.0028	-0.4412	0.0607	-0.2097	0.4931	-0.6822	0.0712
3	260.16	0.9729	0.3759	0.0051	-0.5559	0.0671	-0.4287	0.5515	-0.7916	0.0709
4	260.16	0.2001	-0.0590	0.0017	-0.0120	0.0011	-0.0011	0.0056	0.0886	0.0235
4	260.16	0.2502	0.0018	0.0012	0.0089	0.0021	-0.0304	0.0114	-0.0158	0.0414
4	260.16	0.3001	0.0090	0.0010	-0.0179	0.0043	-0.0204	0.0227	0.1410	0.0536
4	260.16	0.3502	0.0287	0.0011	-0.0382	0.0073	-0.0538	0.0388	0.1755	0.0500
4	260.16	0.4002	0.0442	0.0014	-0.0358	0.0111	-0.0856	0.0602	0.0229	0.0508
4	260.16	0.4500	0.0839	0.0013	-0.0197	0.0147	-0.1741	0.0853	-0.2800	0.0564
4	260.16	0.5001	0.0865	0.0018	-0.0514	0.0189	-0.1588	0.1147	0.1107	0.0554
4	260.16	0.5560	0.1128	0.0016	-0.0617	0.0241	-0.2675	0.1529	-0.1192	0.0591
4	260.16	0.6001	0.1511	0.0014	-0.0769	0.0285	-0.3152	0.1847	-0.0260	0.0570
4	260.16	0.6501	0.1670	0.0017	-0.0934	0.0336	-0.4162	0.2240	0.0452	0.0591
4	260.16	0.6999	0.1973	0.0016	-0.1199	0.0386	-0.5296	0.2658	0.1419	0.0575
4	260.16	0.7500	0.2309	0.0017	-0.1446	0.0438	-0.6572	0.3100	0.2445	0.0638
4	260.16	0.8002	0.2506	0.0020	-0.1871	0.0491	-0.8404	0.3566	0.2724	0.0698
4	260.16	0.8582	0.2889	0.0031	-0.2067	0.0552	-1.0658	0.4125	-0.0478	0.0805
4	260.16	0.9101	0.3027	0.0022	-0.2011	0.0610	-1.2233	0.4642	0.1533	0.0682
4	260.16	0.9728	0.4025	0.0037	-0.2016	0.0679	-1.3214	0.5304	0.6807	0.0749

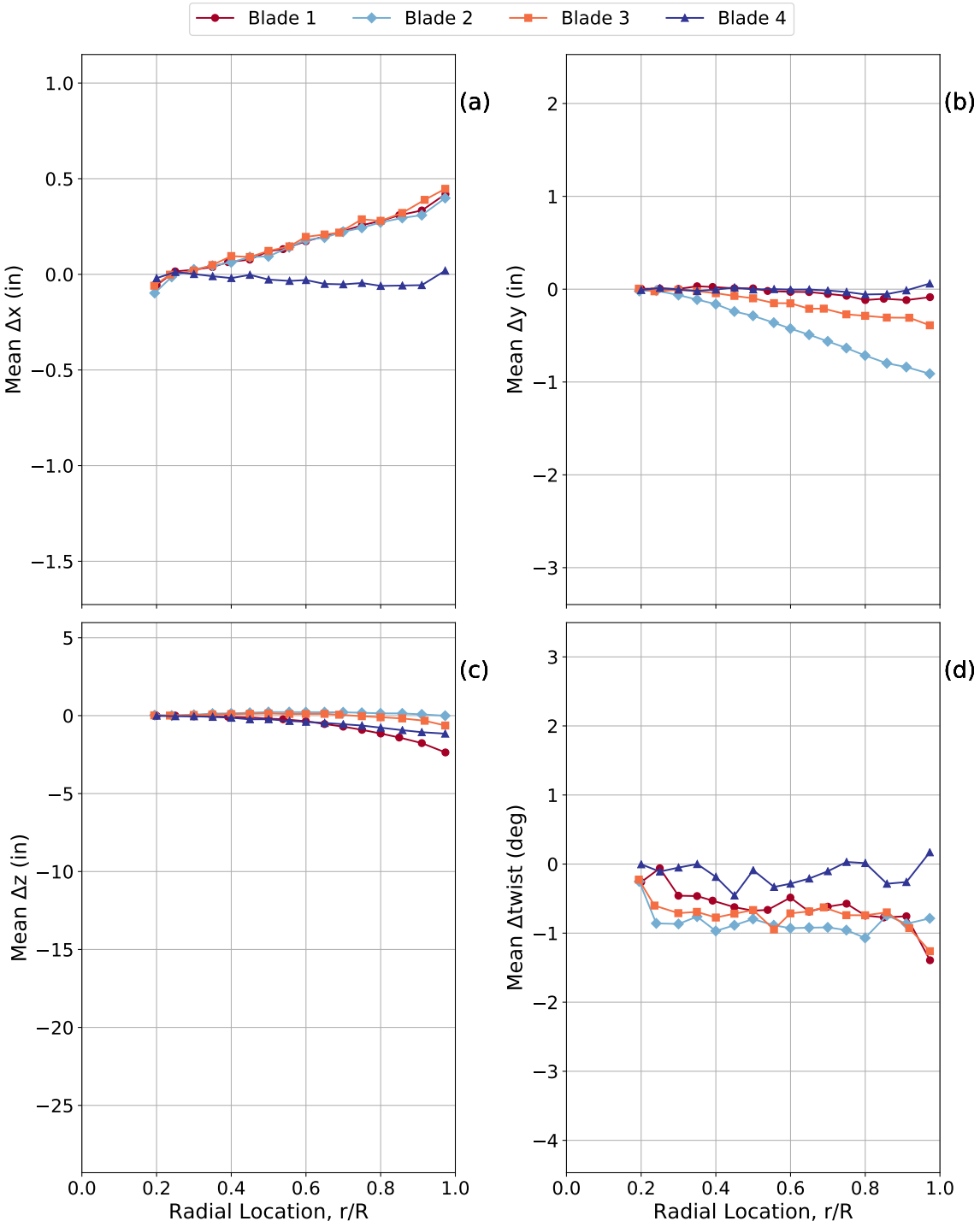


Figure 2.21-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	-0.0563	0.0053	0.0043	0.0027	-0.0164	0.0100	-0.2602	0.0583
1	265.08	0.2499	0.0154	0.0022	0.0056	0.0036	0.0036	0.0156	-0.0611	0.1443
1	265.08	0.2998	0.0239	0.0020	0.0032	0.0093	-0.0451	0.0365	-0.4579	0.1529
1	265.08	0.3498	0.0378	0.0018	0.0312	0.0165	-0.0568	0.0635	-0.4633	0.1432
1	265.08	0.3913	0.0641	0.0019	0.0239	0.0223	-0.0755	0.0881	-0.5294	0.1447
1	265.08	0.4496	0.0771	0.0018	0.0092	0.0307	-0.1197	0.1276	-0.6239	0.1451
1	265.08	0.4997	0.1205	0.0019	0.0087	0.0385	-0.1925	0.1663	-0.6749	0.1457
1	265.08	0.5387	0.1317	0.0020	-0.0190	0.0443	-0.2327	0.1982	-0.6639	0.1465
1	265.08	0.5996	0.1728	0.0023	-0.0287	0.0545	-0.3578	0.2544	-0.4854	0.1475
1	265.08	0.6498	0.1988	0.0023	-0.0305	0.0629	-0.5384	0.3040	-0.6883	0.1462
1	265.08	0.6998	0.2255	0.0026	-0.0510	0.0713	-0.7072	0.3561	-0.6169	0.1462
1	265.08	0.7500	0.2573	0.0031	-0.0710	0.0799	-0.9106	0.4117	-0.5738	0.1473
1	265.08	0.8001	0.2787	0.0037	-0.1168	0.0885	-1.1487	0.4698	-0.7455	0.1500
1	265.08	0.8497	0.3092	0.0045	-0.1033	0.0974	-1.4035	0.5308	-0.7726	0.1470
1	265.08	0.9102	0.3340	0.0048	-0.1174	0.1085	-1.7636	0.6073	-0.7557	0.1475
1	265.08	0.9734	0.4192	0.0070	-0.0859	0.1216	-2.3615	0.6965	-1.3924	0.1450
2	265.08	0.1949	-0.0979	0.0028	-0.0195	0.0013	0.0310	0.0075	-0.2521	0.0253
2	265.08	0.2405	-0.0134	0.0016	-0.0153	0.0014	0.0052	0.0119	-0.8587	0.0745
2	265.08	0.2999	0.0256	0.0010	-0.0635	0.0043	0.0560	0.0292	-0.8670	0.0762
2	265.08	0.3498	0.0451	0.0015	-0.1119	0.0074	0.1294	0.0497	-0.7610	0.0694
2	265.08	0.3998	0.0625	0.0017	-0.1612	0.0108	0.1446	0.0759	-0.9686	0.0738
2	265.08	0.4496	0.0907	0.0016	-0.2402	0.0142	0.1846	0.1057	-0.8855	0.0718
2	265.08	0.4995	0.0938	0.0017	-0.2867	0.0181	0.2298	0.1410	-0.7958	0.0759
2	265.08	0.5551	0.1417	0.0015	-0.3610	0.0230	0.2243	0.1846	-0.8858	0.0743
2	265.08	0.5996	0.1796	0.0021	-0.4248	0.0271	0.2228	0.2227	-0.9284	0.0789
2	265.08	0.6497	0.1923	0.0021	-0.4905	0.0318	0.2183	0.2689	-0.9209	0.0786
2	265.08	0.6996	0.2227	0.0023	-0.5619	0.0365	0.2129	0.3186	-0.9168	0.0798
2	265.08	0.7495	0.2431	0.0024	-0.6341	0.0413	0.1838	0.3702	-0.9561	0.0771
2	265.08	0.7996	0.2713	0.0024	-0.7146	0.0462	0.1449	0.4245	-1.0698	0.0801
2	265.08	0.8578	0.2948	0.0026	-0.7981	0.0523	0.1409	0.4914	-0.7434	0.0824
2	265.08	0.9100	0.3093	0.0038	-0.8388	0.0577	0.0789	0.5537	-0.8643	0.0848
2	265.08	0.9727	0.3987	0.0105	-0.9109	0.0654	-0.0070	0.6362	-0.7863	0.1004
3	265.08	0.1938	-0.0594	0.0047	0.0058	0.0020	0.0178	0.0071	-0.2247	0.0263
3	265.08	0.2357	-0.0016	0.0017	-0.0225	0.0015	0.0031	0.0109	-0.6009	0.0721
3	265.08	0.2995	0.0191	0.0016	-0.0081	0.0057	0.0397	0.0266	-0.7106	0.0760
3	265.08	0.3493	0.0487	0.0012	-0.0218	0.0099	0.0765	0.0459	-0.6922	0.0781
3	265.08	0.4000	0.0956	0.0016	-0.0434	0.0142	0.0983	0.0700	-0.7738	0.0777
3	265.08	0.4497	0.0907	0.0016	-0.0724	0.0186	0.1206	0.0982	-0.7181	0.0777
3	265.08	0.4997	0.1225	0.0017	-0.0983	0.0234	0.1403	0.1315	-0.6662	0.0754
3	265.08	0.5556	0.1462	0.0018	-0.1504	0.0290	0.1040	0.1739	-0.9466	0.0797
3	265.08	0.5995	0.1958	0.0017	-0.1519	0.0341	0.1090	0.2103	-0.7141	0.0790
3	265.08	0.6498	0.2083	0.0019	-0.2105	0.0396	0.1133	0.2558	-0.6851	0.0834
3	265.08	0.6890	0.2182	0.0018	-0.2097	0.0442	0.0577	0.2910	-0.6266	0.0783
3	265.08	0.7495	0.2876	0.0022	-0.2711	0.0512	-0.0367	0.3499	-0.7401	0.0813
3	265.08	0.7998	0.2797	0.0025	-0.2870	0.0570	-0.1044	0.3993	-0.7416	0.0829
3	265.08	0.8577	0.3210	0.0026	-0.3060	0.0641	-0.1796	0.4588	-0.6998	0.0824
3	265.08	0.9178	0.3894	0.0045	-0.3077	0.0717	-0.3284	0.5232	-0.9272	0.0853
3	265.08	0.9729	0.4471	0.0112	-0.3891	0.0804	-0.6331	0.5903	-1.2618	0.1015
4	265.08	0.2001	-0.0200	0.0023	-0.0089	0.0014	-0.0051	0.0063	-0.0034	0.0277
4	265.08	0.2502	0.0121	0.0019	0.0132	0.0023	-0.0393	0.0127	-0.1094	0.0596
4	265.08	0.3001	0.0015	0.0016	-0.0043	0.0049	-0.0442	0.0252	-0.0506	0.0667
4	265.08	0.3502	-0.0099	0.0014	-0.0196	0.0083	-0.0814	0.0438	-0.0002	0.0615
4	265.08	0.4002	-0.0196	0.0015	-0.0045	0.0125	-0.1384	0.0673	-0.1858	0.0622
4	265.08	0.4500	-0.0027	0.0017	0.0187	0.0169	-0.2374	0.0962	-0.4558	0.0641
4	265.08	0.5001	-0.0274	0.0018	-0.0033	0.0214	-0.2315	0.1296	-0.0887	0.0664
4	265.08	0.5560	-0.0344	0.0021	0.0003	0.0274	-0.3441	0.1718	-0.3316	0.0670
4	265.08	0.6001	-0.0299	0.0018	-0.0045	0.0323	-0.3953	0.2073	-0.2836	0.0636
4	265.08	0.6501	-0.0501	0.0019	-0.0036	0.0379	-0.4695	0.2514	-0.2095	0.0709
4	265.08	0.6999	-0.0523	0.0019	-0.0144	0.0438	-0.5508	0.2974	-0.1037	0.0677
4	265.08	0.7500	-0.0454	0.0021	-0.0302	0.0499	-0.6376	0.3468	0.0303	0.0722
4	265.08	0.8002	-0.0605	0.0023	-0.0570	0.0558	-0.7739	0.3971	0.0145	0.0699
4	265.08	0.8582	-0.0585	0.0027	-0.0530	0.0630	-0.9339	0.4592	-0.2850	0.0723
4	265.08	0.9101	-0.0565	0.0024	-0.0130	0.0699	-1.0632	0.5177	-0.2602	0.0775
4	265.08	0.9728	0.0191	0.0044	0.0605	0.0790	-1.1561	0.5906	0.1707	0.0819

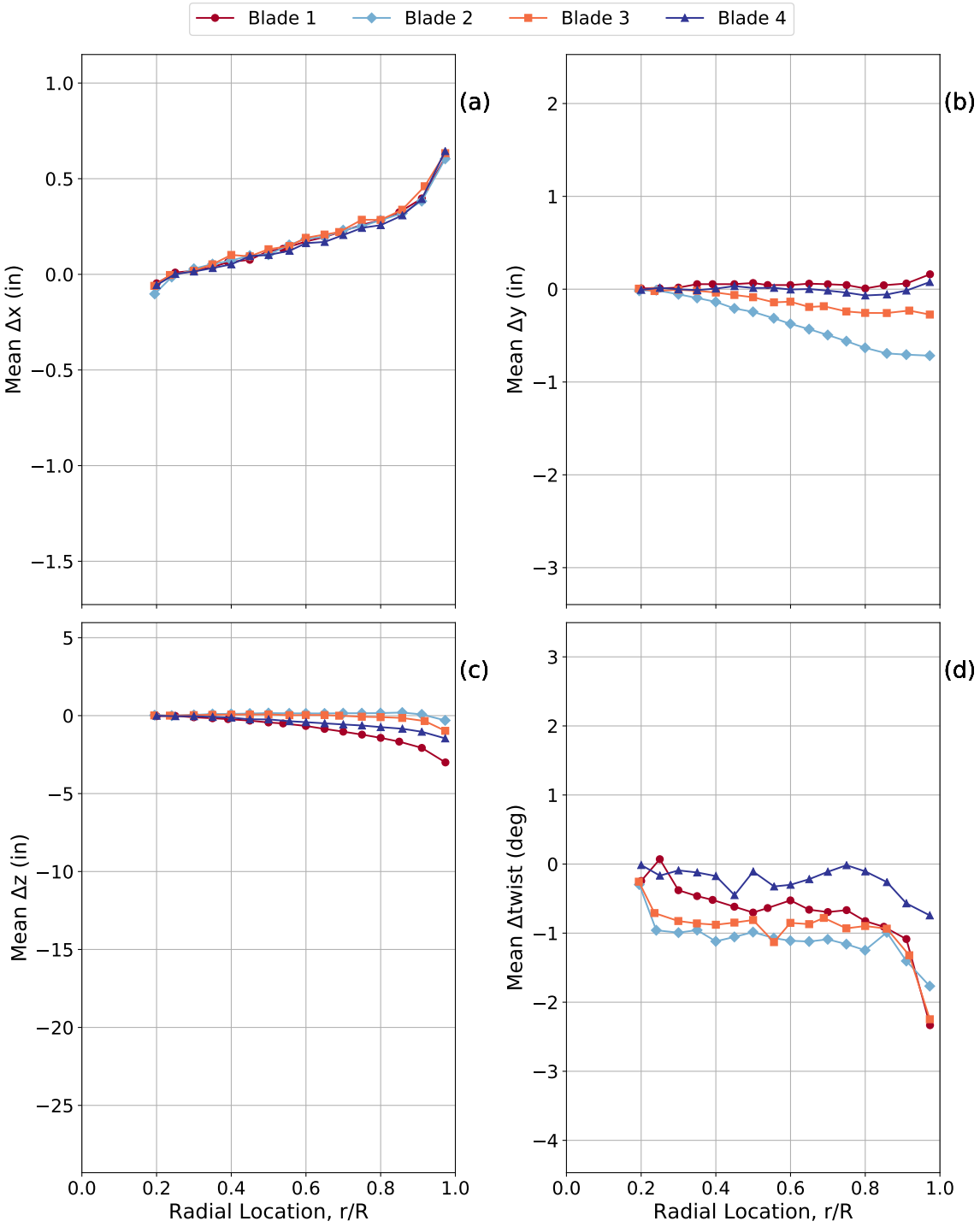


Figure 2.21-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	-0.0468	0.0071	0.0087	0.0034	-0.0350	0.0141	-0.2447	0.0705
1	270	0.2499	0.0094	0.0033	0.0085	0.0042	-0.0174	0.0188	0.0706	0.2055
1	270	0.2998	0.0188	0.0033	0.0172	0.0116	-0.1063	0.0511	-0.3788	0.1982
1	270	0.3498	0.0382	0.0031	0.0539	0.0202	-0.1696	0.0872	-0.4638	0.1983
1	270	0.3913	0.0635	0.0031	0.0542	0.0273	-0.2232	0.1210	-0.5191	0.1977
1	270	0.4496	0.0760	0.0034	0.0541	0.0375	-0.3204	0.1722	-0.6175	0.1952
1	270	0.4997	0.1218	0.0036	0.0667	0.0466	-0.4390	0.2199	-0.7017	0.1967
1	270	0.5387	0.1333	0.0032	0.0446	0.0536	-0.5025	0.2593	-0.6365	0.1951
1	270	0.5996	0.1719	0.0037	0.0445	0.0652	-0.6622	0.3242	-0.5257	0.1957
1	270	0.6498	0.1950	0.0037	0.0594	0.0749	-0.8514	0.3787	-0.6606	0.1978
1	270	0.6998	0.2267	0.0039	0.0533	0.0846	-1.0278	0.4344	-0.6948	0.1960
1	270	0.7500	0.2591	0.0042	0.0446	0.0945	-1.2181	0.4882	-0.6672	0.2027
1	270	0.8001	0.2831	0.0047	0.0077	0.1045	-1.4263	0.5436	-0.8264	0.1983
1	270	0.8497	0.3243	0.0048	0.0422	0.1147	-1.6679	0.5974	-0.9077	0.1978
1	270	0.9102	0.3968	0.0053	0.0613	0.1291	-2.0697	0.6676	-1.0860	0.1904
1	270	0.9734	0.6113	0.0179	0.1605	0.1471	-3.0014	0.7570	-2.3330	0.1835
2	270.35	0.1949	-0.1025	0.0031	-0.0173	0.0013	0.0271	0.0068	-0.2969	0.0307
2	270.35	0.2405	-0.0140	0.0020	-0.0113	0.0022	0.0001	0.0132	-0.9586	0.0828
2	270.35	0.2999	0.0293	0.0017	-0.0553	0.0047	0.0446	0.0279	-0.9932	0.0861
2	270.35	0.3498	0.0537	0.0014	-0.0948	0.0081	0.1036	0.0480	-0.9561	0.0828
2	270.35	0.3998	0.0721	0.0016	-0.1368	0.0123	0.1107	0.0739	-1.1187	0.0853
2	270.35	0.4496	0.0981	0.0020	-0.2072	0.0166	0.1327	0.1043	-1.0553	0.0836
2	270.35	0.4995	0.1025	0.0018	-0.2443	0.0213	0.1639	0.1390	-0.9848	0.0861
2	270.35	0.5551	0.1539	0.0020	-0.3132	0.0270	0.1457	0.1845	-1.0722	0.0932
2	270.35	0.5996	0.1858	0.0019	-0.3736	0.0320	0.1444	0.2236	-1.1102	0.0909
2	270.35	0.6497	0.1966	0.0020	-0.4306	0.0376	0.1391	0.2711	-1.1211	0.0916
2	270.35	0.6996	0.2311	0.0022	-0.4936	0.0435	0.1550	0.3206	-1.0896	0.0907
2	270.35	0.7495	0.2515	0.0024	-0.5601	0.0492	0.1537	0.3713	-1.1597	0.0889
2	270.35	0.7996	0.2828	0.0026	-0.6317	0.0552	0.1632	0.4241	-1.2478	0.0926
2	270.35	0.8578	0.3190	0.0038	-0.6921	0.0626	0.1970	0.4848	-0.9895	0.0971
2	270.35	0.9100	0.3828	0.0074	-0.7051	0.0696	0.0782	0.5425	-1.4034	0.0977
2	270.35	0.9727	0.6037	0.0195	-0.7161	0.0789	-0.3058	0.6215	-1.7672	0.1222
3	270	0.1938	-0.0601	0.0062	0.0057	0.0018	0.0143	0.0080	-0.2552	0.0330
3	270	0.2357	-0.0034	0.0024	-0.0200	0.0018	-0.0007	0.0127	-0.7094	0.0900
3	270	0.2995	0.0185	0.0018	-0.0063	0.0054	0.0301	0.0313	-0.8245	0.0991
3	270	0.3493	0.0522	0.0020	-0.0172	0.0090	0.0525	0.0536	-0.8595	0.1006
3	270	0.4000	0.1015	0.0021	-0.0360	0.0134	0.0676	0.0824	-0.8785	0.0998
3	270	0.4497	0.0941	0.0019	-0.0625	0.0181	0.0716	0.1151	-0.8474	0.1024
3	270	0.4997	0.1312	0.0021	-0.0869	0.0229	0.0743	0.1541	-0.8099	0.1001
3	270	0.5556	0.1477	0.0021	-0.1416	0.0291	0.0267	0.2043	-1.1302	0.0994
3	270	0.5995	0.1909	0.0020	-0.1348	0.0345	0.0386	0.2478	-0.8513	0.0987
3	270	0.6498	0.2080	0.0022	-0.1916	0.0405	0.0355	0.2998	-0.8701	0.1001
3	270	0.6890	0.2211	0.0020	-0.1836	0.0453	-0.0050	0.3427	-0.7794	0.1000
3	270	0.7495	0.2853	0.0023	-0.2400	0.0532	-0.0708	0.4126	-0.9308	0.0992
3	270	0.7998	0.2846	0.0025	-0.2557	0.0599	-0.0960	0.4738	-0.8971	0.1041
3	270	0.8577	0.3379	0.0040	-0.2568	0.0678	-0.1485	0.5437	-0.9350	0.1089
3	270	0.9178	0.4604	0.0100	-0.2304	0.0769	-0.3459	0.6209	-1.3202	0.1092
3	270	0.9729	0.6336	0.0261	-0.2735	0.0867	-0.9750	0.7000	-2.2466	0.1369
4	270	0.2001	-0.0563	0.0024	-0.0072	0.0012	-0.0070	0.0067	-0.0138	0.0314
4	270	0.2502	0.0020	0.0019	0.0145	0.0020	-0.0352	0.0133	-0.1675	0.0689
4	270	0.3001	0.0147	0.0015	-0.0011	0.0042	-0.0385	0.0261	-0.0918	0.0743
4	270	0.3502	0.0327	0.0016	-0.0099	0.0071	-0.0837	0.0449	-0.1218	0.0717
4	270	0.4002	0.0522	0.0016	0.0062	0.0107	-0.1284	0.0692	-0.1741	0.0672
4	270	0.4500	0.0954	0.0017	0.0331	0.0148	-0.2371	0.0991	-0.4499	0.0701
4	270	0.5001	0.1013	0.0019	0.0126	0.0194	-0.2428	0.1331	-0.1087	0.0718
4	270	0.5560	0.1231	0.0016	0.0143	0.0249	-0.3594	0.1764	-0.3243	0.0806
4	270	0.6001	0.1630	0.0018	-0.0035	0.0295	-0.4202	0.2117	-0.3000	0.0732
4	270	0.6501	0.1694	0.0017	0.0015	0.0350	-0.4950	0.2544	-0.2185	0.0742
4	270	0.6999	0.2055	0.0019	-0.0154	0.0407	-0.5675	0.2991	-0.1117	0.0793
4	270	0.7500	0.2428	0.0022	-0.0370	0.0466	-0.6339	0.3442	-0.0163	0.0770
4	270	0.8002	0.2572	0.0026	-0.0676	0.0525	-0.7373	0.3907	-0.1063	0.0800
4	270	0.8582	0.3084	0.0033	-0.0571	0.0597	-0.8415	0.4482	-0.2616	0.0841
4	270	0.9101	0.3938	0.0055	-0.0150	0.0667	-1.0345	0.5018	-0.5690	0.0880
4	270	0.9728	0.6442	0.0189	0.0768	0.0768	-1.4603	0.5796	-0.7433	0.1208

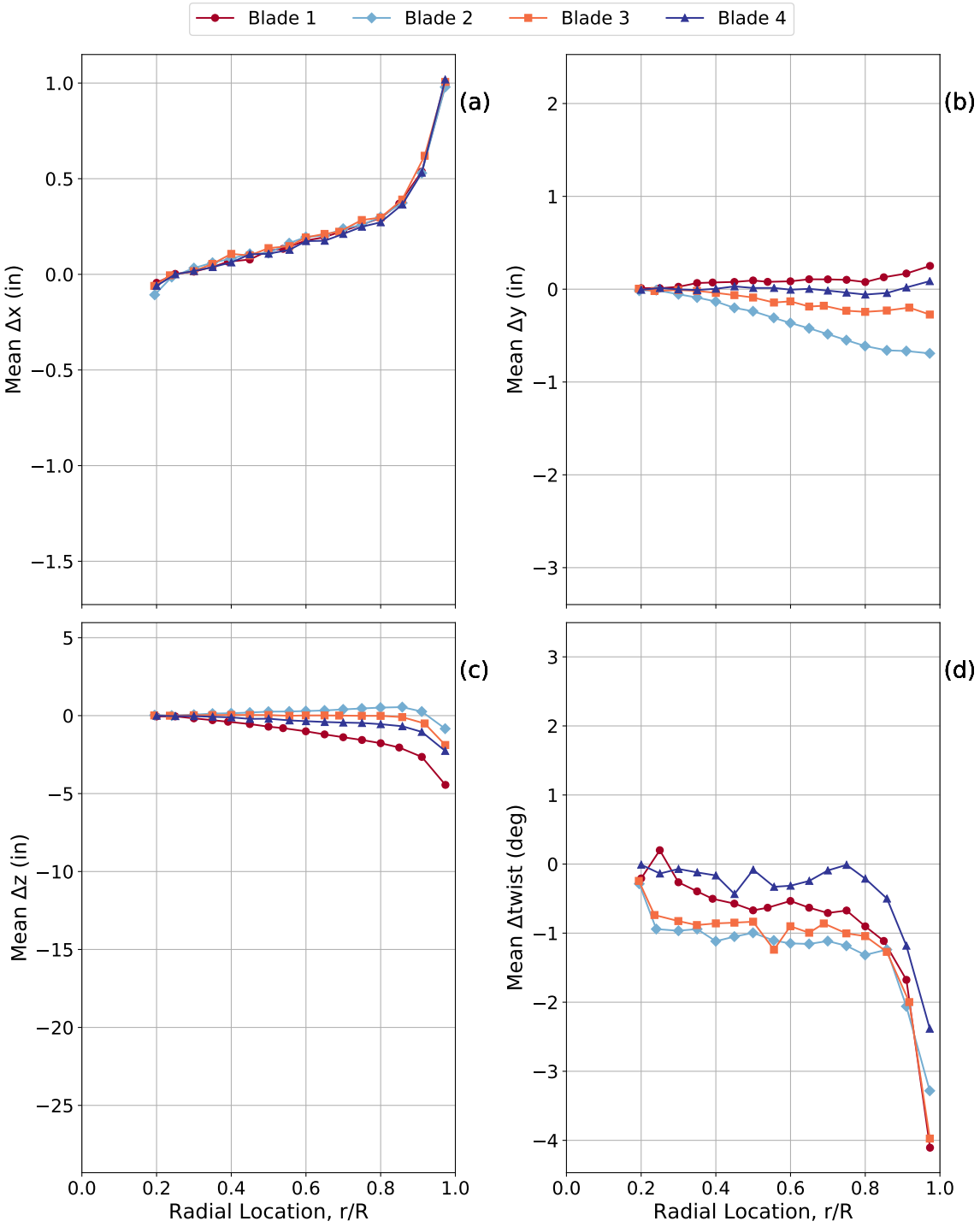


Figure 2.21-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	-0.0441	0.0103	0.0111	0.0037	-0.0520	0.0143	-0.2077	0.1155
1	274.92	0.2499	0.0024	0.0051	0.0100	0.0046	-0.0468	0.0172	0.2006	0.3016
1	274.92	0.2998	0.0140	0.0054	0.0258	0.0126	-0.1740	0.0499	-0.2638	0.3137
1	274.92	0.3498	0.0383	0.0048	0.0662	0.0224	-0.2912	0.0888	-0.3954	0.3083
1	274.92	0.3913	0.0661	0.0058	0.0720	0.0301	-0.3932	0.1196	-0.5028	0.3079
1	274.92	0.4496	0.0774	0.0051	0.0780	0.0412	-0.5419	0.1671	-0.5726	0.3098
1	274.92	0.4997	0.1240	0.0053	0.0940	0.0506	-0.7078	0.2104	-0.6700	0.3091
1	274.92	0.5387	0.1334	0.0053	0.0790	0.0579	-0.8034	0.2457	-0.6320	0.3092
1	274.92	0.5996	0.1765	0.0055	0.0849	0.0700	-1.0059	0.3049	-0.5342	0.3077
1	274.92	0.6498	0.1944	0.0057	0.1068	0.0801	-1.2046	0.3557	-0.6318	0.3044
1	274.92	0.6998	0.2277	0.0062	0.1057	0.0902	-1.3868	0.4085	-0.7083	0.3084
1	274.92	0.7500	0.2602	0.0064	0.1008	0.1002	-1.5633	0.4642	-0.6724	0.3100
1	274.92	0.8001	0.2948	0.0067	0.0768	0.1106	-1.7689	0.5226	-0.9020	0.3063
1	274.92	0.8497	0.3693	0.0074	0.1283	0.1216	-2.0461	0.5833	-1.1132	0.3102
1	274.92	0.9102	0.5373	0.0158	0.1689	0.1370	-2.6482	0.6683	-1.6764	0.3002
1	274.92	0.9734	0.9907	0.0496	0.2508	0.1608	-4.4429	0.7997	-4.1064	0.3337
2	274.92	0.1949	-0.1071	0.0043	-0.0166	0.0015	0.0303	0.0094	-0.2860	0.0329
2	274.92	0.2405	-0.0142	0.0029	-0.0108	0.0021	0.0070	0.0139	-0.9413	0.0939
2	274.92	0.2999	0.0328	0.0019	-0.0549	0.0052	0.0597	0.0334	-0.9654	0.0923
2	274.92	0.3498	0.0608	0.0019	-0.0900	0.0088	0.1302	0.0574	-0.9413	0.0848
2	274.92	0.3998	0.0822	0.0019	-0.1328	0.0133	0.1520	0.0862	-1.1170	0.0851
2	274.92	0.4496	0.1076	0.0022	-0.2012	0.0177	0.1966	0.1190	-1.0505	0.0898
2	274.92	0.4995	0.1111	0.0022	-0.2379	0.0229	0.2556	0.1579	-0.9959	0.0870
2	274.92	0.5551	0.1630	0.0023	-0.3087	0.0287	0.2643	0.2049	-1.1062	0.0888
2	274.92	0.5996	0.1951	0.0026	-0.3644	0.0336	0.2935	0.2447	-1.1487	0.0957
2	274.92	0.6497	0.2035	0.0036	-0.4213	0.0393	0.3303	0.2932	-1.1564	0.0943
2	274.92	0.6996	0.2387	0.0034	-0.4841	0.0449	0.3983	0.3430	-1.1149	0.0956
2	274.92	0.7495	0.2583	0.0041	-0.5491	0.0508	0.4595	0.3949	-1.1829	0.0925
2	274.92	0.7996	0.2994	0.0052	-0.6126	0.0567	0.5151	0.4496	-1.3162	0.0902
2	274.92	0.8578	0.3734	0.0099	-0.6588	0.0641	0.5454	0.5169	-1.2388	0.0945
2	274.92	0.9100	0.5295	0.0238	-0.6663	0.0712	0.2617	0.5874	-2.0593	0.1069
2	274.92	0.9727	0.9790	0.0675	-0.6916	0.0813	-0.8383	0.7230	-3.2827	0.2176
3	274.92	0.1938	-0.0605	0.0082	0.0051	0.0018	0.0121	0.0082	-0.2440	0.0251
3	274.92	0.2357	-0.0051	0.0031	-0.0197	0.0011	-0.0052	0.0074	-0.7376	0.0931
3	274.92	0.2995	0.0164	0.0028	-0.0089	0.0054	0.0230	0.0261	-0.8252	0.0869
3	274.92	0.3493	0.0545	0.0027	-0.0184	0.0089	0.0336	0.0426	-0.8832	0.0873
3	274.92	0.4000	0.1069	0.0025	-0.0399	0.0131	0.0429	0.0639	-0.8590	0.0850
3	274.92	0.4497	0.0987	0.0027	-0.0638	0.0170	0.0402	0.0856	-0.8483	0.0822
3	274.92	0.4997	0.1370	0.0026	-0.0898	0.0210	0.0377	0.1110	-0.8347	0.0908
3	274.92	0.5556	0.1473	0.0026	-0.1437	0.0259	-0.0122	0.1437	-1.2400	0.0852
3	274.92	0.5995	0.1928	0.0025	-0.1311	0.0299	0.0130	0.1706	-0.9004	0.0878
3	274.92	0.6498	0.2113	0.0028	-0.1870	0.0345	0.0142	0.2047	-0.9945	0.0882
3	274.92	0.6890	0.2227	0.0027	-0.1785	0.0383	0.0035	0.2328	-0.8599	0.0878
3	274.92	0.7495	0.2839	0.0028	-0.2320	0.0440	-0.0130	0.2801	-1.0036	0.0876
3	274.92	0.7998	0.2968	0.0031	-0.2442	0.0488	-0.0153	0.3215	-1.0431	0.0919
3	274.92	0.8577	0.3909	0.0050	-0.2297	0.0550	-0.0944	0.3755	-1.2708	0.0840
3	274.92	0.9178	0.6200	0.0130	-0.1986	0.0618	-0.5035	0.4386	-1.9982	0.0994
3	274.92	0.9729	1.0060	0.0325	-0.2732	0.0697	-1.8847	0.5256	-3.9744	0.1421
4	274.92	0.2001	-0.0598	0.0026	-0.0064	0.0012	-0.0065	0.0071	-0.0088	0.0373
4	274.92	0.2502	0.0002	0.0024	0.0128	0.0024	-0.0311	0.0165	-0.1371	0.0738
4	274.92	0.3001	0.0173	0.0024	-0.0019	0.0044	-0.0345	0.0287	-0.0710	0.0824
4	274.92	0.3502	0.0379	0.0019	-0.0089	0.0075	-0.0749	0.0500	-0.1209	0.0760
4	274.92	0.4002	0.0623	0.0024	0.0044	0.0115	-0.1145	0.0777	-0.1651	0.0772
4	274.92	0.4500	0.1047	0.0024	0.0302	0.0158	-0.2094	0.1106	-0.4338	0.0783
4	274.92	0.5001	0.1078	0.0024	0.0127	0.0206	-0.1971	0.1491	-0.0820	0.0776
4	274.92	0.5560	0.1282	0.0023	0.0134	0.0263	-0.3074	0.1978	-0.3293	0.0770
4	274.92	0.6001	0.1737	0.0023	-0.0056	0.0314	-0.3558	0.2415	-0.3135	0.0774
4	274.92	0.6501	0.1756	0.0026	0.0036	0.0371	-0.4090	0.2914	-0.2437	0.0765
4	274.92	0.6999	0.2113	0.0024	-0.0153	0.0430	-0.4450	0.3462	-0.0923	0.0821
4	274.92	0.7500	0.2490	0.0025	-0.0366	0.0493	-0.4716	0.4030	-0.0118	0.0862
4	274.92	0.8002	0.2721	0.0033	-0.0581	0.0553	-0.5491	0.4613	-0.2114	0.0855
4	274.92	0.8582	0.3653	0.0082	-0.0409	0.0633	-0.6822	0.5350	-0.4997	0.0959
4	274.92	0.9101	0.5313	0.0217	0.0184	0.0709	-1.0446	0.6082	-1.1818	0.1153
4	274.92	0.9728	1.0185	0.0633	0.0866	0.0818	-2.2632	0.7377	-2.3840	0.2604

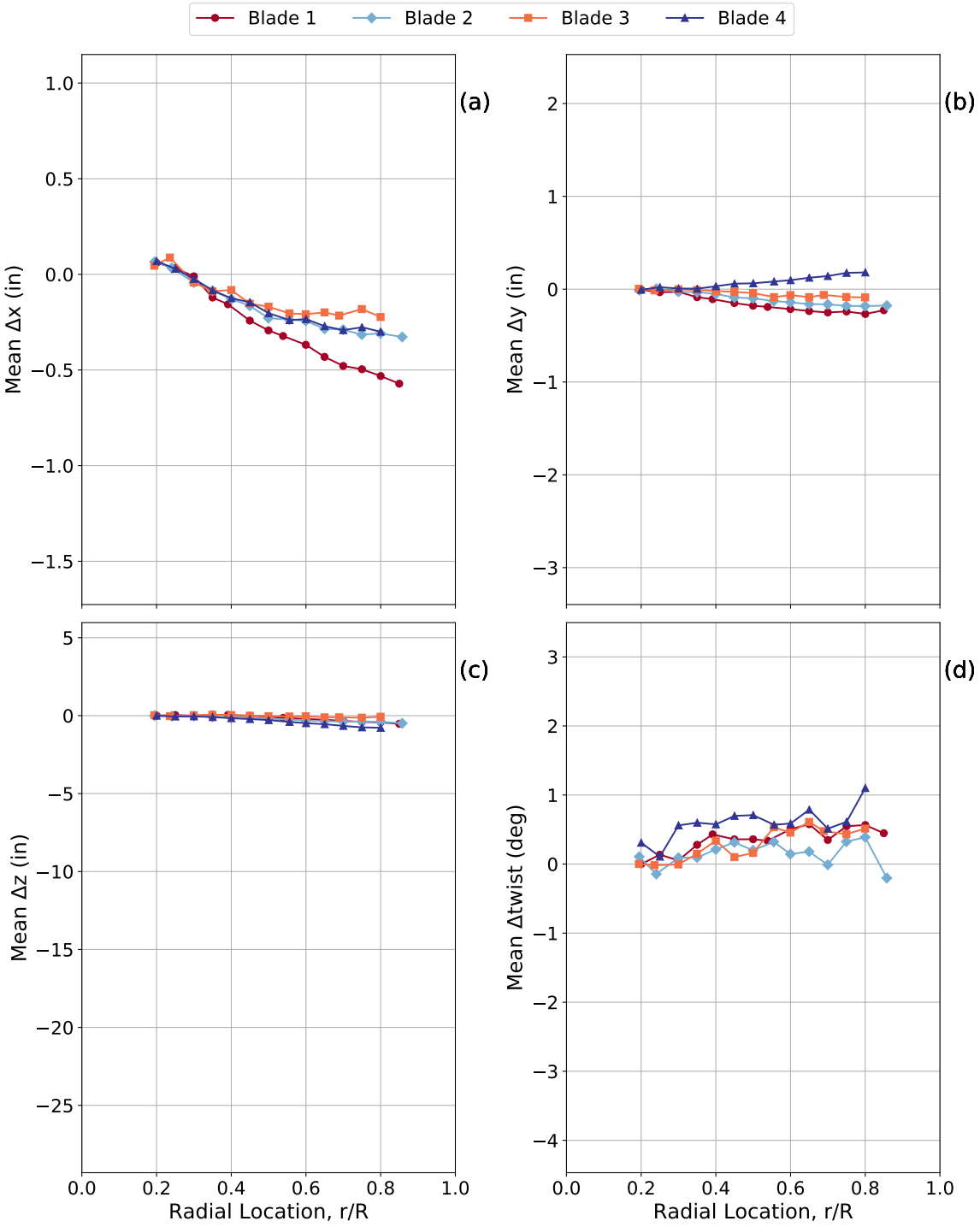


Figure 2.21-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0599	0.0027	-0.0074	0.0018	-0.0031	0.0067	-0.0015	0.0295
1	279.84	0.2499	0.0323	0.0027	-0.0323	0.0066	0.0388	0.0139	0.1356	0.0672
1	279.84	0.2998	-0.0103	0.0022	-0.0289	0.0103	-0.0171	0.0268	0.0527	0.0678
1	279.84	0.3498	-0.1211	0.0020	-0.0865	0.0149	0.0610	0.0487	0.2786	0.0686
1	279.84	0.3913	-0.1566	0.0040	-0.1076	0.0252	0.0464	0.0686	0.4300	0.0669
1	279.84	0.4496	-0.2419	0.0035	-0.1494	0.0305	-0.0113	0.1041	0.3577	0.0616
1	279.84	0.4997	-0.2932	0.0041	-0.1779	0.0369	-0.0634	0.1386	0.3597	0.0730
1	279.84	0.5387	-0.3224	0.0044	-0.1912	0.0423	-0.1461	0.1700	0.3368	0.0714
1	279.84	0.5996	-0.3683	0.0042	-0.2144	0.0512	-0.2143	0.2265	0.5042	0.0660
1	279.84	0.6498	-0.4315	0.0044	-0.2359	0.0582	-0.2662	0.2757	0.5774	0.1039
1	279.84	0.6998	-0.4789	0.0068	-0.2508	0.0665	-0.3343	0.3329	0.3485	0.0932
1	279.84	0.7500	-0.4961	0.0054	-0.2404	0.0736	-0.4057	0.3903	0.5482	0.0982
1	279.84	0.8001	-0.5318	0.0095	-0.2671	0.0799	-0.4328	0.4552	0.5649	0.1533
1	279.84	0.8497	-0.5716	0.0100	-0.2272	0.0904	-0.5243	0.5146	0.4469	0.1707
2	279.84	0.1949	0.0657	0.0023	-0.0097	0.0012	-0.0016	0.0050	0.1068	0.0204
2	279.84	0.2405	0.0338	0.0016	0.0042	0.0021	-0.0309	0.0105	-0.1444	0.0341
2	279.84	0.2999	-0.0431	0.0017	-0.0274	0.0047	-0.0332	0.0238	0.0918	0.0443
2	279.84	0.3498	-0.0858	0.0026	-0.0327	0.0077	-0.0675	0.0406	0.0939	0.0475
2	279.84	0.3998	-0.1288	0.0028	-0.0508	0.0120	-0.1113	0.0639	0.2119	0.0476
2	279.84	0.4496	-0.1648	0.0034	-0.0896	0.0162	-0.1367	0.0888	0.3143	0.0502
2	279.84	0.4995	-0.2287	0.0035	-0.0984	0.0203	-0.1976	0.1202	0.1987	0.0563
2	279.84	0.5551	-0.2367	0.0032	-0.1277	0.0254	-0.2456	0.1590	0.3220	0.0670
2	279.84	0.5996	-0.2430	0.0048	-0.1414	0.0307	-0.3185	0.1971	0.1447	0.0808
2	279.84	0.6497	-0.2848	0.0045	-0.1601	0.0353	-0.3439	0.2367	0.1799	0.0754
2	279.84	0.6996	-0.2893	0.0056	-0.1635	0.0408	-0.3967	0.2839	-0.0102	0.0956
2	279.84	0.7495	-0.3153	0.0048	-0.1799	0.0461	-0.3790	0.3329	0.3246	0.0754
2	279.84	0.7996	-0.3088	0.0066	-0.1816	0.0515	-0.3952	0.3813	0.3891	0.1262
2	279.84	0.8578	-0.3275	0.0121	-0.1766	0.0579	-0.4917	0.4452	-0.2023	0.3506
3	279.84	0.1938	0.0451	0.0019	0.0043	0.0010	0.0274	0.0050	0.0023	0.0272
3	279.84	0.2357	0.0878	0.0017	-0.0133	0.0022	-0.0326	0.0096	-0.0166	0.0440
3	279.84	0.2995	-0.0426	0.0018	-0.0015	0.0042	0.0258	0.0233	-0.0058	0.0638
3	279.84	0.3493	-0.0881	0.0020	-0.0098	0.0070	0.0536	0.0390	0.1490	0.0484
3	279.84	0.4000	-0.0821	0.0024	-0.0196	0.0114	0.0393	0.0621	0.3394	0.0467
3	279.84	0.4497	-0.1532	0.0024	-0.0296	0.0146	-0.0074	0.0841	0.1009	0.0566
3	279.84	0.4997	-0.1695	0.0038	-0.0418	0.0187	-0.0344	0.1090	0.1620	0.0564
3	279.84	0.5556	-0.2040	0.0039	-0.0856	0.0235	-0.0520	0.1422	0.5335	0.0614
3	279.84	0.5995	-0.2086	0.0049	-0.0636	0.0276	-0.0417	0.1720	0.4547	0.0750
3	279.84	0.6498	-0.1988	0.0039	-0.0863	0.0324	-0.1074	0.2063	0.6103	0.0680
3	279.84	0.6890	-0.2156	0.0068	-0.0618	0.0361	-0.1071	0.2367	0.4773	0.0784
3	279.84	0.7495	-0.1814	0.0068	-0.0844	0.0425	-0.1317	0.2858	0.4335	0.0887
3	279.84	0.7998	-0.2231	0.0080	-0.0887	0.0477	-0.0717	0.3301	0.5132	0.1118
4	279.84	0.2001	0.0692	0.0016	-0.0061	0.0012	-0.0016	0.0043	0.3091	0.0308
4	279.84	0.2502	0.0289	0.0015	0.0211	0.0025	-0.0557	0.0105	0.1079	0.0435
4	279.84	0.3001	-0.0238	0.0017	0.0075	0.0045	-0.0459	0.0194	0.5602	0.0662
4	279.84	0.3502	-0.0838	0.0020	0.0049	0.0071	-0.0936	0.0325	0.5987	0.0585
4	279.84	0.4002	-0.1249	0.0029	0.0318	0.0114	-0.1639	0.0521	0.5750	0.0572
4	279.84	0.4500	-0.1463	0.0031	0.0590	0.0150	-0.2207	0.0746	0.6977	0.0710
4	279.84	0.5001	-0.2031	0.0035	0.0635	0.0189	-0.2855	0.1007	0.7085	0.0609
4	279.84	0.5560	-0.2392	0.0042	0.0826	0.0242	-0.4031	0.1332	0.5682	0.0572
4	279.84	0.6001	-0.2338	0.0041	0.0970	0.0281	-0.4852	0.1622	0.5875	0.0695
4	279.84	0.6501	-0.2711	0.0041	0.1237	0.0331	-0.5477	0.1950	0.7875	0.0620
4	279.84	0.6999	-0.2917	0.0049	0.1413	0.0381	-0.6589	0.2327	0.5127	0.0806
4	279.84	0.7500	-0.2766	0.0047	0.1756	0.0436	-0.7530	0.2694	0.6112	0.0825
4	279.84	0.8002	-0.3000	0.0072	0.1806	0.0495	-0.7804	0.3051	1.1010	0.1308

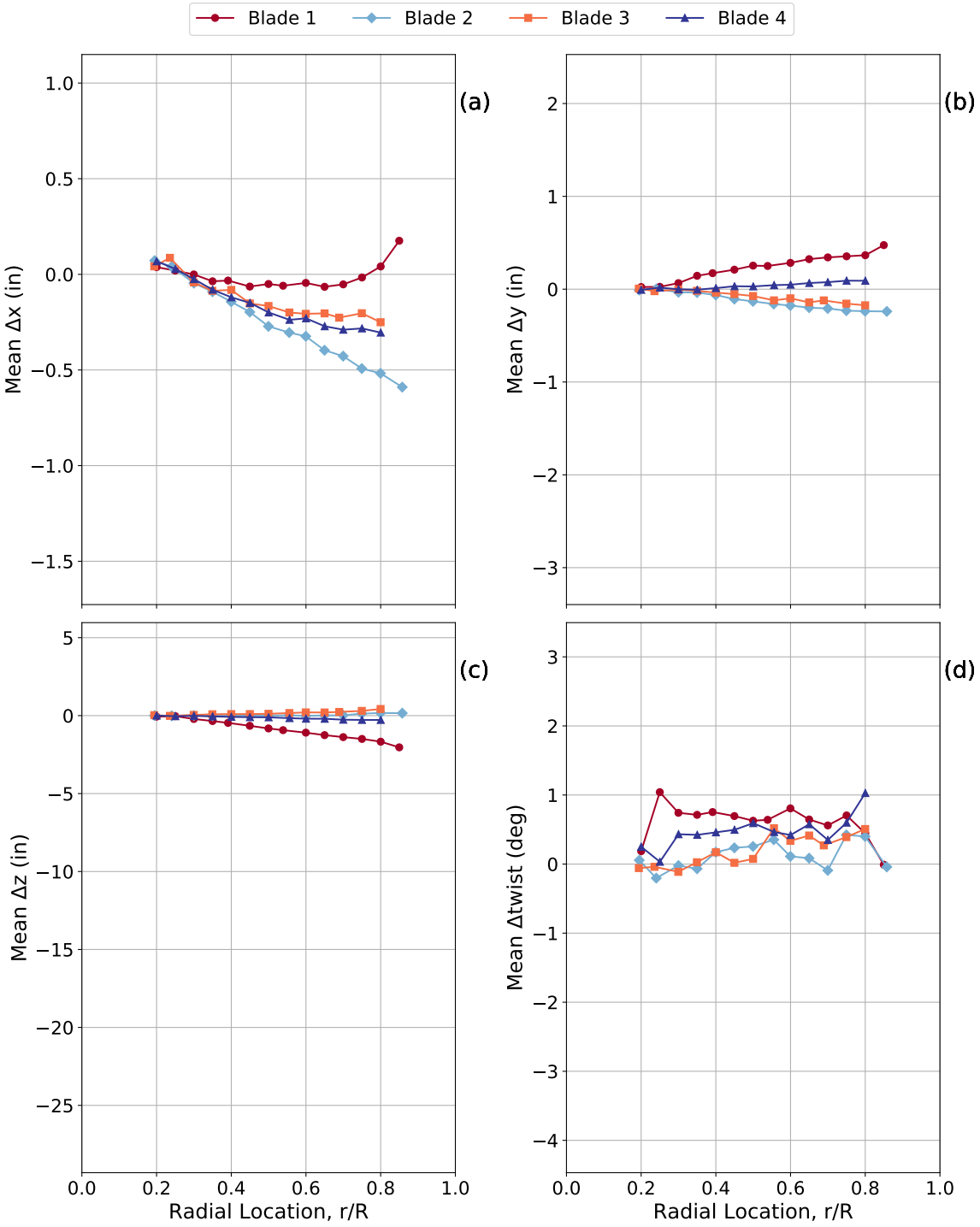


Figure 2.21-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0377	0.0030	0.0231	0.0022	-0.0650	0.0067	0.1869	0.0365
1	285.12	0.2499	0.0196	0.0033	0.0255	0.0038	-0.0330	0.0140	1.0413	0.0701
1	285.12	0.2998	-0.0005	0.0028	0.0653	0.0074	-0.2148	0.0278	0.7422	0.0795
1	285.12	0.3498	-0.0363	0.0021	0.1444	0.0124	-0.3467	0.0496	0.7127	0.0628
1	285.12	0.3913	-0.0325	0.0024	0.1725	0.0172	-0.4658	0.0705	0.7530	0.0588
1	285.12	0.4496	-0.0638	0.0025	0.2101	0.0241	-0.6524	0.1067	0.6951	0.0626
1	285.12	0.4997	-0.0504	0.0028	0.2537	0.0305	-0.8222	0.1436	0.6272	0.0615
1	285.12	0.5387	-0.0596	0.0031	0.2501	0.0356	-0.9325	0.1754	0.6405	0.0684
1	285.12	0.5996	-0.0448	0.0032	0.2835	0.0443	-1.0924	0.2302	0.8064	0.0641
1	285.12	0.6498	-0.0651	0.0038	0.3238	0.0513	-1.2510	0.2788	0.6454	0.0699
1	285.12	0.6998	-0.0524	0.0036	0.3426	0.0586	-1.3787	0.3316	0.5595	0.0724
1	285.12	0.7500	-0.0164	0.0039	0.3540	0.0664	-1.4944	0.3863	0.7042	0.0691
1	285.12	0.8001	0.0411	0.0047	0.3657	0.0742	-1.6713	0.4447	0.4450	0.0828
1	285.12	0.8497	0.1756	0.0079	0.4748	0.0828	-2.0347	0.5059	-0.0094	0.0846
2	285.12	0.1949	0.0718	0.0020	-0.0098	0.0010	0.0029	0.0053	0.0561	0.0333
2	285.12	0.2405	0.0409	0.0018	0.0018	0.0023	-0.0129	0.0097	-0.2034	0.0687
2	285.12	0.2999	-0.0458	0.0019	-0.0334	0.0047	0.0061	0.0224	-0.0213	0.0819
2	285.12	0.3498	-0.0909	0.0021	-0.0366	0.0074	-0.0167	0.0387	-0.0681	0.0550
2	285.12	0.3998	-0.1433	0.0026	-0.0630	0.0118	-0.0147	0.0595	0.1723	0.0676
2	285.12	0.4496	-0.1969	0.0026	-0.1064	0.0159	0.0028	0.0844	0.2352	0.0738
2	285.12	0.4995	-0.2718	0.0028	-0.1313	0.0194	0.0061	0.1114	0.2552	0.0797
2	285.12	0.5551	-0.3044	0.0029	-0.1601	0.0244	0.0181	0.1488	0.3527	0.0634
2	285.12	0.5996	-0.3239	0.0035	-0.1765	0.0284	-0.0130	0.1817	0.1112	0.0750
2	285.12	0.6497	-0.3969	0.0030	-0.1990	0.0330	0.0126	0.2230	0.0852	0.0641
2	285.12	0.6996	-0.4277	0.0040	-0.2078	0.0370	0.0219	0.2652	-0.0915	0.0929
2	285.12	0.7495	-0.4926	0.0050	-0.2315	0.0427	0.1281	0.3103	0.4222	0.0867
2	285.12	0.7996	-0.5174	0.0058	-0.2374	0.0483	0.1667	0.3593	0.3998	0.0943
2	285.12	0.8578	-0.5896	0.0085	-0.2396	0.0546	0.1580	0.4197	-0.0416	0.1244
3	285.12	0.1938	0.0418	0.0016	0.0063	0.0011	0.0281	0.0058	-0.0582	0.0190
3	285.12	0.2357	0.0863	0.0012	-0.0213	0.0018	-0.0171	0.0108	-0.0397	0.0331
3	285.12	0.2995	-0.0419	0.0014	-0.0057	0.0045	0.0447	0.0261	-0.1125	0.0437
3	285.12	0.3493	-0.0860	0.0016	-0.0178	0.0077	0.0876	0.0451	0.0262	0.0434
3	285.12	0.4000	-0.0813	0.0024	-0.0369	0.0119	0.0979	0.0706	0.1713	0.0393
3	285.12	0.4497	-0.1521	0.0023	-0.0528	0.0161	0.0989	0.1012	0.0182	0.0421
3	285.12	0.4997	-0.1656	0.0028	-0.0735	0.0208	0.1168	0.1376	0.0746	0.0432
3	285.12	0.5556	-0.1994	0.0031	-0.1204	0.0270	0.1653	0.1873	0.5196	0.0396
3	285.12	0.5995	-0.2063	0.0047	-0.0986	0.0320	0.2070	0.2292	0.3362	0.0662
3	285.12	0.6498	-0.2040	0.0040	-0.1420	0.0378	0.2021	0.2807	0.4133	0.0577
3	285.12	0.6890	-0.2264	0.0052	-0.1208	0.0425	0.2366	0.3253	0.2705	0.0584
3	285.12	0.7495	-0.2033	0.0054	-0.1557	0.0498	0.3029	0.3980	0.3905	0.0557
3	285.12	0.7998	-0.2504	0.0059	-0.1735	0.0567	0.4247	0.4604	0.5075	0.0696
4	285.12	0.2001	0.0682	0.0015	-0.0070	0.0010	0.0022	0.0055	0.2506	0.0193
4	285.12	0.2502	0.0281	0.0015	0.0168	0.0030	-0.0366	0.0135	0.0329	0.0330
4	285.12	0.3001	-0.0250	0.0013	-0.0007	0.0045	-0.0139	0.0249	0.4320	0.0413
4	285.12	0.3502	-0.0805	0.0021	-0.0052	0.0073	-0.0502	0.0425	0.4229	0.0464
4	285.12	0.4002	-0.1201	0.0022	0.0117	0.0121	-0.0814	0.0676	0.4593	0.0394
4	285.12	0.4500	-0.1492	0.0023	0.0319	0.0162	-0.1005	0.0967	0.4961	0.0391
4	285.12	0.5001	-0.1993	0.0021	0.0295	0.0212	-0.1090	0.1320	0.5925	0.0440
4	285.12	0.5560	-0.2378	0.0034	0.0434	0.0273	-0.1617	0.1780	0.4636	0.0438
4	285.12	0.6001	-0.2300	0.0027	0.0482	0.0324	-0.1966	0.2187	0.4205	0.0415
4	285.12	0.6501	-0.2715	0.0032	0.0663	0.0380	-0.2019	0.2690	0.5764	0.0452
4	285.12	0.6999	-0.2895	0.0034	0.0756	0.0446	-0.2621	0.3239	0.3494	0.0644
4	285.12	0.7500	-0.2827	0.0042	0.0914	0.0507	-0.2761	0.3820	0.5997	0.0808
4	285.12	0.8002	-0.3046	0.0044	0.0908	0.0568	-0.2779	0.4419	1.0283	0.0698

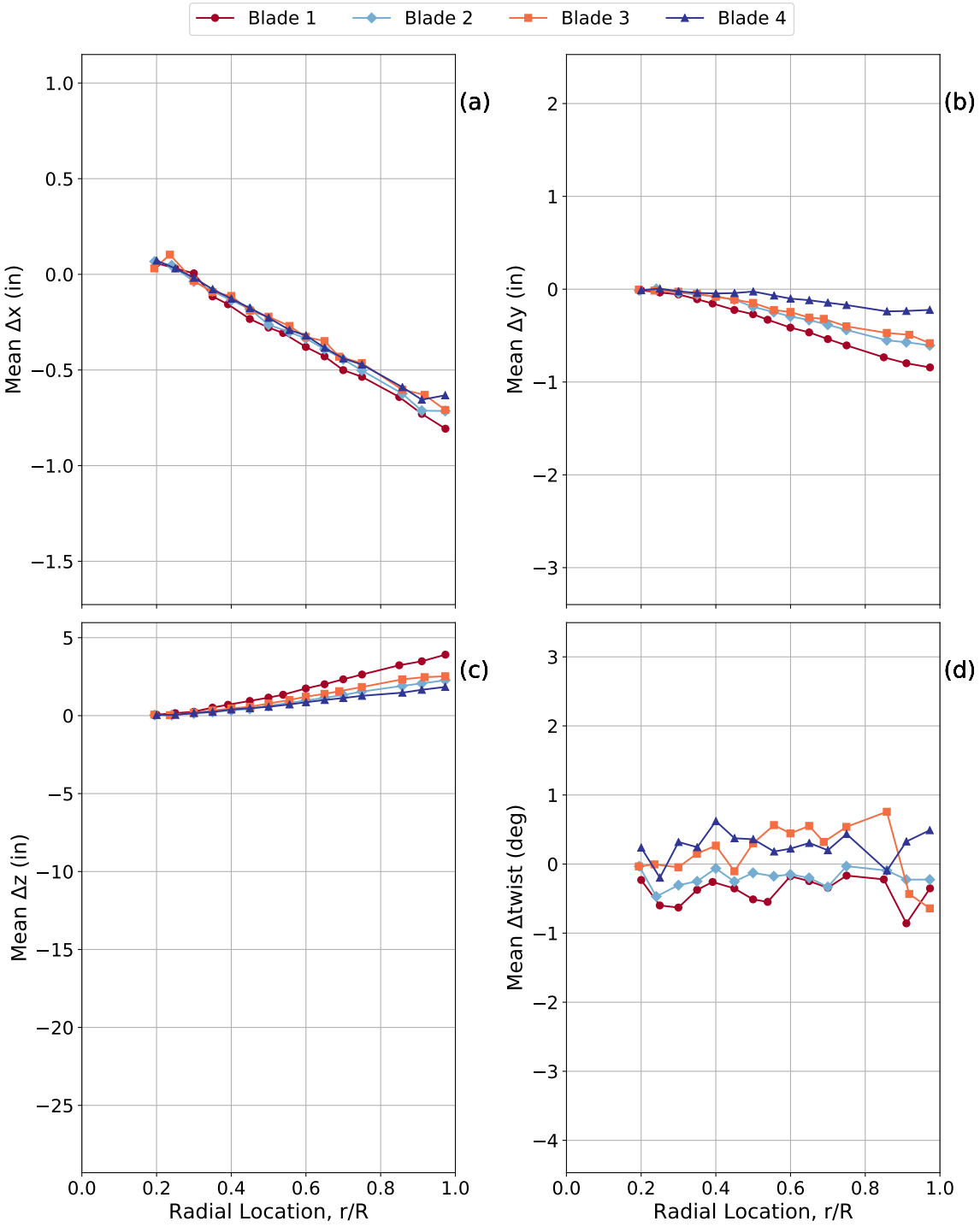


Figure 2.21-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0581	0.0032	-0.0125	0.0018	0.0623	0.0085	-0.2303	0.0220
1	299.88	0.2499	0.0316	0.0018	-0.0358	0.0035	0.1590	0.0174	-0.5989	0.0596
1	299.88	0.2998	0.0053	0.0014	-0.0565	0.0065	0.2489	0.0350	-0.6296	0.0537
1	299.88	0.3498	-0.1153	0.0026	-0.1082	0.0124	0.5160	0.0604	-0.3732	0.0561
1	299.88	0.3913	-0.1567	0.0032	-0.1543	0.0168	0.6988	0.0870	-0.2591	0.0594
1	299.88	0.4496	-0.2334	0.0035	-0.2238	0.0224	0.9402	0.1333	-0.3531	0.0545
1	299.88	0.4997	-0.2782	0.0038	-0.2698	0.0286	1.1565	0.1816	-0.5115	0.0643
1	299.88	0.5387	-0.3065	0.0044	-0.3293	0.0332	1.3396	0.2258	-0.5478	0.0593
1	299.88	0.5996	-0.3795	0.0054	-0.4137	0.0411	1.7414	0.3061	-0.1760	0.0601
1	299.88	0.6498	-0.4289	0.0073	-0.4654	0.0481	2.0129	0.3795	-0.2463	0.0544
1	299.88	0.6998	-0.5009	0.0086	-0.5374	0.0551	2.3300	0.4588	-0.3442	0.0537
1	299.88	0.7500	-0.5358	0.0102	-0.6057	0.0620	2.6361	0.5452	-0.1667	0.0584
1	299.88	0.8497	-0.6412	0.0135	-0.7341	0.0764	3.2301	0.7273	-0.2216	0.0638
1	299.88	0.9102	-0.7295	0.0168	-0.7982	0.0851	3.4871	0.8409	-0.8587	0.0709
1	299.88	0.9734	-0.8070	0.0222	-0.8428	0.0948	3.9106	0.9649	-0.3516	0.0610
2	299.88	0.1949	0.0674	0.0027	-0.0148	0.0015	0.0374	0.0053	-0.0317	0.0250
2	299.88	0.2405	0.0471	0.0027	0.0033	0.0052	0.0359	0.0107	-0.4697	0.0357
2	299.88	0.2999	-0.0375	0.0020	-0.0374	0.0088	0.1335	0.0240	-0.3051	0.0541
2	299.88	0.3498	-0.0876	0.0027	-0.0585	0.0149	0.2298	0.0412	-0.2500	0.0641
2	299.88	0.3998	-0.1361	0.0047	-0.0803	0.0245	0.3405	0.0644	-0.0629	0.0724
2	299.88	0.4496	-0.1812	0.0047	-0.1127	0.0295	0.4283	0.0911	-0.2533	0.0574
2	299.88	0.4995	-0.2632	0.0043	-0.1901	0.0323	0.6349	0.1237	-0.1276	0.0558
2	299.88	0.5551	-0.3018	0.0039	-0.2462	0.0384	0.8132	0.1691	-0.1760	0.0546
2	299.88	0.5996	-0.3353	0.0041	-0.2940	0.0442	0.9673	0.2112	-0.1505	0.0609
2	299.88	0.6497	-0.3909	0.0045	-0.3321	0.0504	1.1413	0.2633	-0.1996	0.0577
2	299.88	0.6996	-0.4444	0.0053	-0.3833	0.0570	1.3232	0.3209	-0.3309	0.0598
2	299.88	0.7495	-0.5021	0.0055	-0.4388	0.0635	1.5397	0.3846	-0.0307	0.0614
2	299.88	0.8578	-0.6237	0.0071	-0.5507	0.0777	1.9073	0.5393	-0.0931	0.0600
2	299.88	0.9100	-0.7127	0.0088	-0.5715	0.0847	2.0649	0.6203	-0.2250	0.0691
2	299.88	0.9727	-0.7145	0.0135	-0.6055	0.0930	2.2672	0.7181	-0.2243	0.0802
3	299.88	0.1938	0.0309	0.0026	-0.0045	0.0011	0.0628	0.0042	-0.0333	0.0260
3	299.88	0.2357	0.1028	0.0019	-0.0151	0.0037	0.0284	0.0096	-0.0044	0.0386
3	299.88	0.2995	-0.0338	0.0016	-0.0273	0.0068	0.1801	0.0202	-0.0463	0.0572
3	299.88	0.3493	-0.0931	0.0020	-0.0514	0.0110	0.3283	0.0343	0.1503	0.0586
3	299.88	0.4000	-0.1128	0.0055	-0.0807	0.0183	0.4612	0.0546	0.2669	0.0497
3	299.88	0.4497	-0.1904	0.0048	-0.1125	0.0210	0.5683	0.0774	-0.1042	0.0670
3	299.88	0.4997	-0.2214	0.0038	-0.1479	0.0257	0.7770	0.1028	0.3008	0.0604
3	299.88	0.5556	-0.2700	0.0037	-0.2246	0.0315	1.0005	0.1415	0.5644	0.0483
3	299.88	0.5995	-0.3269	0.0035	-0.2456	0.0363	1.2148	0.1747	0.4445	0.0531
3	299.88	0.6498	-0.3489	0.0042	-0.3061	0.0423	1.3967	0.2185	0.5523	0.0462
3	299.88	0.6890	-0.4306	0.0048	-0.3199	0.0466	1.5665	0.2556	0.3196	0.0508
3	299.88	0.7495	-0.4640	0.0057	-0.4003	0.0541	1.8313	0.3204	0.5385	0.0554
3	299.88	0.8577	-0.6028	0.0077	-0.4714	0.0676	2.3263	0.4562	0.7571	0.0610
3	299.88	0.9178	-0.6302	0.0110	-0.4914	0.0750	2.4671	0.5383	-0.4330	0.1541
3	299.88	0.9729	-0.7089	0.0156	-0.5821	0.0818	2.5240	0.6137	-0.6412	0.1198
4	299.88	0.2001	0.0718	0.0028	-0.0114	0.0014	0.0413	0.0046	0.2379	0.0308
4	299.88	0.2502	0.0309	0.0033	0.0057	0.0051	0.0484	0.0110	-0.1978	0.0441
4	299.88	0.3001	-0.0181	0.0029	-0.0228	0.0056	0.1680	0.0203	0.3194	0.0653
4	299.88	0.3502	-0.0782	0.0029	-0.0402	0.0106	0.2393	0.0332	0.2439	0.0716
4	299.88	0.4002	-0.1274	0.0043	-0.0462	0.0158	0.3894	0.0533	0.6215	0.0819
4	299.88	0.4500	-0.1763	0.0030	-0.0419	0.0201	0.4777	0.0705	0.3738	0.0864
4	299.88	0.5001	-0.2273	0.0042	-0.0253	0.0249	0.5657	0.0936	0.3591	0.0774
4	299.88	0.5560	-0.2911	0.0035	-0.0687	0.0309	0.7180	0.1285	0.1815	0.0773
4	299.88	0.6001	-0.3196	0.0036	-0.1020	0.0350	0.8582	0.1584	0.2233	0.0640
4	299.88	0.6501	-0.3839	0.0043	-0.1186	0.0409	1.0041	0.1956	0.3053	0.0620
4	299.88	0.6999	-0.4398	0.0051	-0.1454	0.0470	1.1268	0.2378	0.1999	0.0627
4	299.88	0.7500	-0.4717	0.0050	-0.1710	0.0525	1.2703	0.2846	0.4349	0.0634
4	299.88	0.8582	-0.5897	0.0066	-0.2391	0.0666	1.4716	0.3986	-0.0942	0.0656
4	299.88	0.9101	-0.6555	0.0077	-0.2346	0.0727	1.6564	0.4567	0.3265	0.0645
4	299.88	0.9728	-0.6323	0.0113	-0.2233	0.0810	1.8390	0.5313	0.4899	0.0649

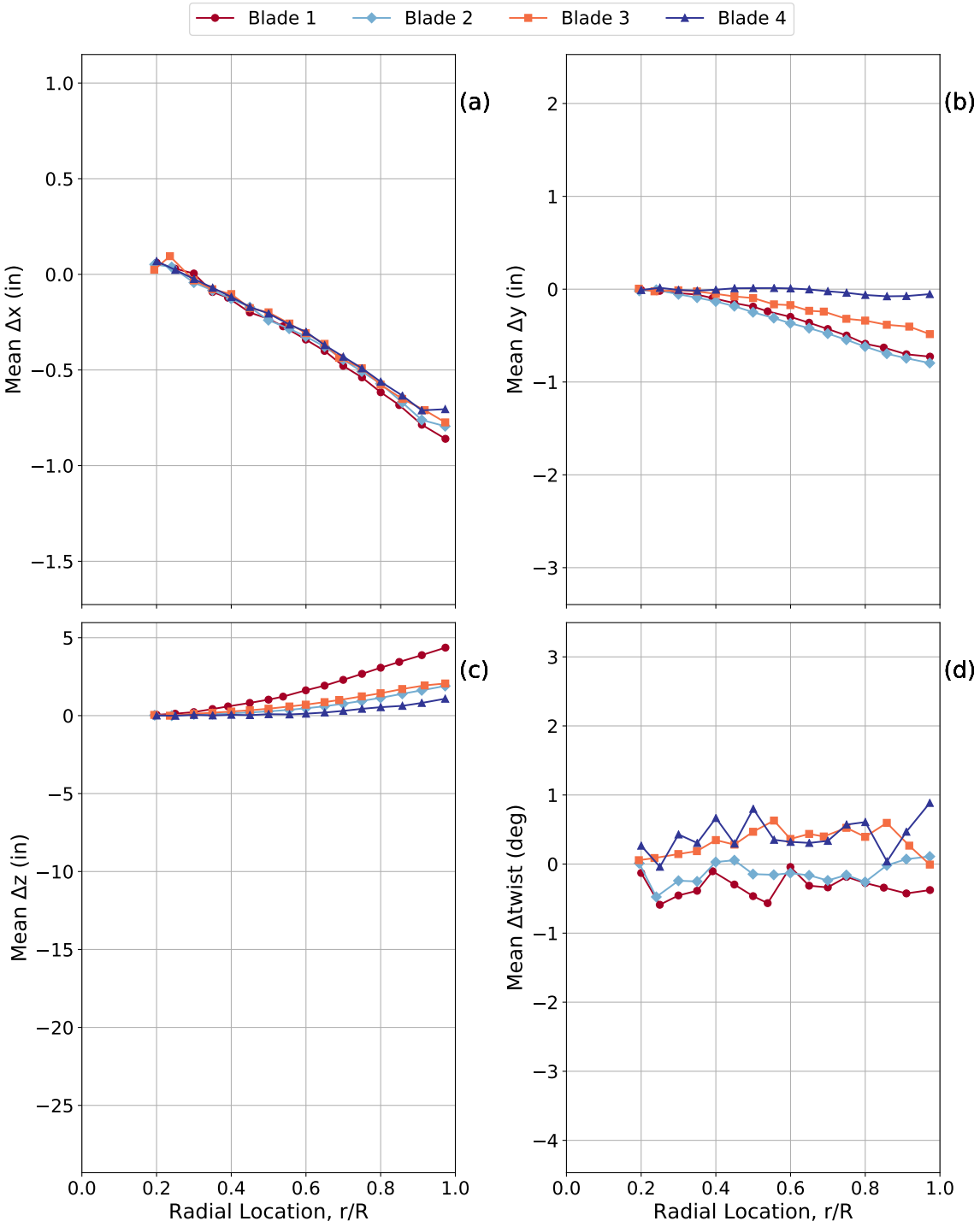


Figure 2.21-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0608	0.0023	-0.0081	0.0012	0.0546	0.0048	-0.1290	0.0382
1	315	0.2499	0.0295	0.0019	-0.0178	0.0041	0.1227	0.0117	-0.5891	0.0413
1	315	0.2998	0.0044	0.0024	-0.0422	0.0064	0.2256	0.0204	-0.4543	0.0776
1	315	0.3498	-0.0925	0.0026	-0.0584	0.0109	0.4217	0.0365	-0.3868	0.0600
1	315	0.3913	-0.1222	0.0054	-0.0959	0.0167	0.5917	0.0523	-0.1043	0.0718
1	315	0.4496	-0.1994	0.0034	-0.1499	0.0186	0.8164	0.0719	-0.2962	0.0738
1	315	0.4997	-0.2330	0.0040	-0.1879	0.0238	1.0245	0.0961	-0.4644	0.0880
1	315	0.5387	-0.2717	0.0043	-0.2389	0.0266	1.2197	0.1169	-0.5658	0.0787
1	315	0.5996	-0.3409	0.0047	-0.2982	0.0335	1.6228	0.1552	-0.0424	0.0732
1	315	0.6498	-0.4002	0.0048	-0.3615	0.0377	1.9227	0.1877	-0.3135	0.0678
1	315	0.6998	-0.4785	0.0051	-0.4291	0.0430	2.2937	0.2238	-0.3375	0.0677
1	315	0.7500	-0.5390	0.0057	-0.4992	0.0477	2.6785	0.2636	-0.1851	0.0700
1	315	0.8001	-0.6163	0.0068	-0.5883	0.0533	3.0725	0.3071	-0.2748	0.0658
1	315	0.8497	-0.6833	0.0074	-0.6291	0.0585	3.4425	0.3529	-0.3415	0.0674
1	315	0.9102	-0.7862	0.0085	-0.7013	0.0650	3.8801	0.4111	-0.4249	0.0685
1	315	0.9734	-0.8598	0.0117	-0.7268	0.0718	4.3607	0.4752	-0.3762	0.0718
2	315	0.1949	0.0517	0.0041	-0.0177	0.0011	0.0255	0.0031	0.0109	0.0256
2	315	0.2405	0.0382	0.0030	-0.0071	0.0033	-0.0037	0.0072	-0.4755	0.0395
2	315	0.2999	-0.0433	0.0033	-0.0554	0.0056	0.0760	0.0140	-0.2413	0.0577
2	315	0.3498	-0.0839	0.0038	-0.0913	0.0089	0.0990	0.0240	-0.2512	0.0752
2	315	0.3998	-0.1273	0.0086	-0.1325	0.0148	0.1525	0.0369	0.0294	0.0867
2	315	0.4496	-0.1716	0.0048	-0.1832	0.0177	0.2006	0.0470	0.0556	0.0776
2	315	0.4995	-0.2396	0.0043	-0.2483	0.0201	0.2720	0.0657	-0.1453	0.0559
2	315	0.5551	-0.2842	0.0038	-0.3111	0.0239	0.3709	0.0874	-0.1555	0.0568
2	315	0.5996	-0.3248	0.0040	-0.3674	0.0271	0.4702	0.1053	-0.1308	0.0554
2	315	0.6497	-0.3780	0.0041	-0.4199	0.0315	0.5982	0.1288	-0.1631	0.0469
2	315	0.6996	-0.4460	0.0047	-0.4786	0.0353	0.7625	0.1548	-0.2372	0.0643
2	315	0.7495	-0.5079	0.0047	-0.5449	0.0393	0.9420	0.1829	-0.1586	0.0488
2	315	0.7996	-0.5716	0.0050	-0.6186	0.0440	1.1392	0.2137	-0.2592	0.0493
2	315	0.8578	-0.6698	0.0055	-0.6954	0.0489	1.3988	0.2524	-0.0178	0.0503
2	315	0.9100	-0.7612	0.0062	-0.7439	0.0533	1.6238	0.2894	0.0712	0.0539
2	315	0.9727	-0.7941	0.0078	-0.7957	0.0587	1.9008	0.3357	0.1096	0.0600
3	315	0.1938	0.0242	0.0024	0.0055	0.0008	0.0460	0.0038	0.0560	0.0435
3	315	0.2357	0.0951	0.0026	-0.0232	0.0028	-0.0049	0.0099	0.0872	0.0547
3	315	0.2995	-0.0316	0.0022	-0.0119	0.0049	0.1189	0.0192	0.1448	0.0974
3	315	0.3493	-0.0778	0.0027	-0.0241	0.0075	0.1834	0.0333	0.1872	0.0750
3	315	0.4000	-0.1032	0.0043	-0.0504	0.0128	0.2631	0.0528	0.3472	0.0683
3	315	0.4497	-0.1766	0.0033	-0.0781	0.0158	0.3430	0.0720	0.2818	0.0806
3	315	0.4997	-0.1985	0.0041	-0.0956	0.0199	0.4439	0.0970	0.4674	0.0775
3	315	0.5556	-0.2572	0.0039	-0.1634	0.0240	0.5860	0.1290	0.6298	0.0697
3	315	0.5995	-0.3074	0.0036	-0.1720	0.0278	0.7038	0.1563	0.3636	0.0683
3	315	0.6498	-0.3633	0.0036	-0.2329	0.0317	0.8660	0.1922	0.4364	0.0583
3	315	0.6890	-0.4364	0.0036	-0.2416	0.0359	1.0007	0.2217	0.3994	0.0790
3	315	0.7495	-0.4912	0.0047	-0.3193	0.0414	1.2342	0.2713	0.5249	0.0677
3	315	0.7998	-0.5765	0.0050	-0.3384	0.0462	1.4353	0.3164	0.3940	0.0669
3	315	0.8577	-0.6510	0.0053	-0.3836	0.0517	1.7045	0.3711	0.5963	0.0612
3	315	0.9178	-0.7101	0.0067	-0.4034	0.0574	1.9386	0.4296	0.2667	0.0634
3	315	0.9729	-0.7740	0.0093	-0.4841	0.0628	2.0612	0.4870	-0.0074	0.0720
4	315	0.2001	0.0686	0.0035	-0.0089	0.0012	0.0084	0.0032	0.2659	0.0453
4	315	0.2502	0.0232	0.0031	0.0146	0.0042	-0.0090	0.0096	-0.0391	0.0670
4	315	0.3001	-0.0242	0.0024	-0.0080	0.0072	0.0457	0.0154	0.4287	0.0976
4	315	0.3502	-0.0705	0.0033	-0.0163	0.0097	0.0116	0.0251	0.3052	0.0936
4	315	0.4002	-0.1181	0.0050	-0.0057	0.0178	0.0531	0.0412	0.6670	0.0899
4	315	0.4500	-0.1707	0.0037	0.0099	0.0193	0.0331	0.0523	0.2959	0.0858
4	315	0.5001	-0.2051	0.0039	0.0112	0.0245	0.0916	0.0678	0.7993	0.1067
4	315	0.5560	-0.2629	0.0043	0.0121	0.0296	0.0769	0.0892	0.3511	0.1005
4	315	0.6001	-0.3006	0.0045	0.0083	0.0333	0.1254	0.1112	0.3214	0.0892
4	315	0.6501	-0.3701	0.0040	-0.0027	0.0379	0.1989	0.1380	0.3062	0.0837
4	315	0.6999	-0.4306	0.0045	-0.0225	0.0433	0.3044	0.1676	0.3355	0.0830
4	315	0.7500	-0.4911	0.0048	-0.0386	0.0481	0.4375	0.2021	0.5713	0.0816
4	315	0.8002	-0.5616	0.0046	-0.0624	0.0534	0.5403	0.2388	0.6078	0.0830
4	315	0.8582	-0.6341	0.0051	-0.0767	0.0589	0.6270	0.2872	0.0377	0.0796
4	315	0.9101	-0.7111	0.0060	-0.0741	0.0644	0.8143	0.3320	0.4683	0.0842
4	315	0.9728	-0.7049	0.0074	-0.0533	0.0710	1.0844	0.3896	0.8852	0.0891

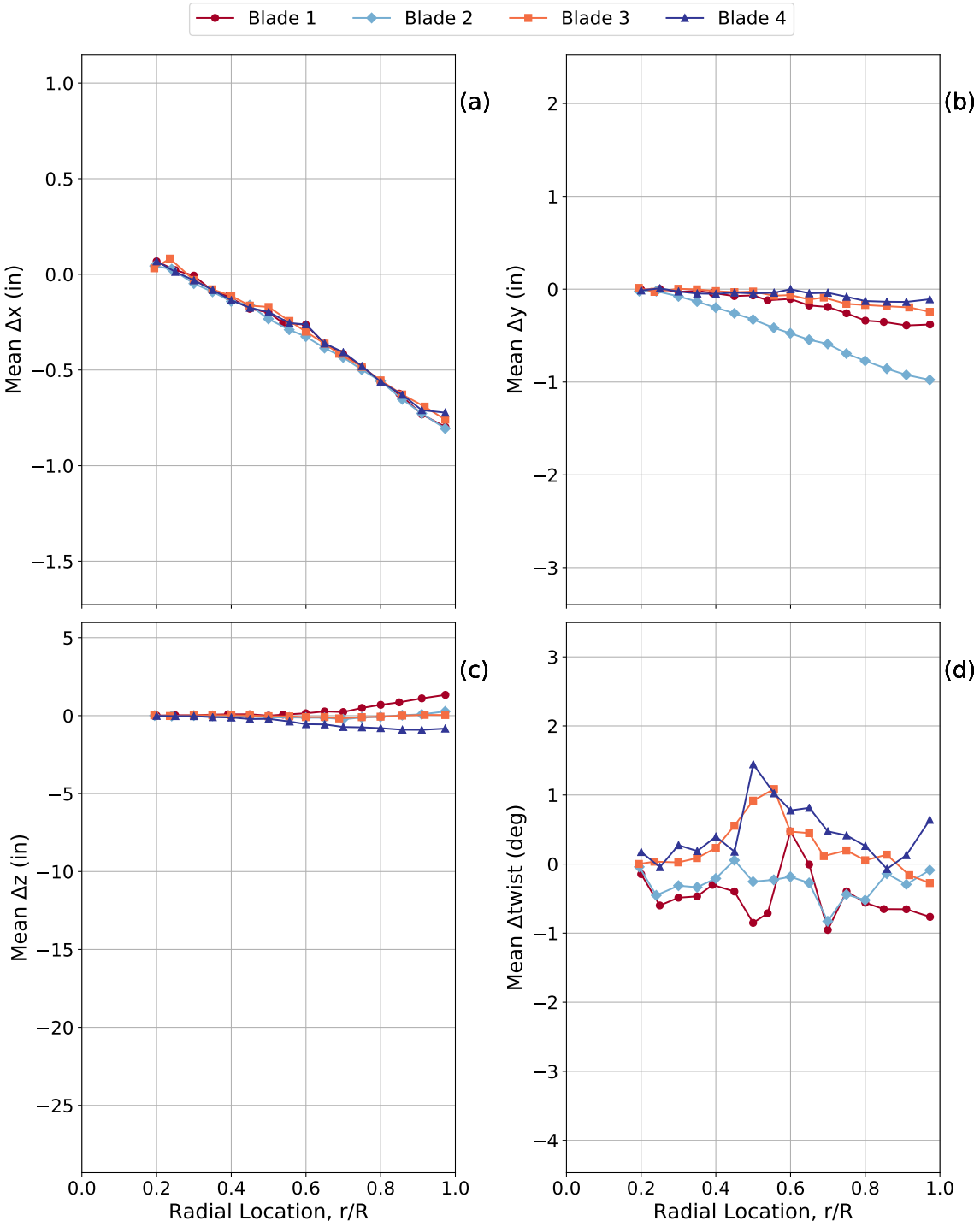


Figure 2.21-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0679	0.0025	-0.0061	0.0010	0.0051	0.0057	-0.1462	0.0323
1	330.12	0.2499	0.0219	0.0021	0.0018	0.0040	0.0259	0.0126	-0.5989	0.0690
1	330.12	0.2998	-0.0069	0.0024	-0.0284	0.0051	0.0245	0.0245	-0.4866	0.0775
1	330.12	0.3498	-0.0870	0.0019	-0.0176	0.0101	0.0663	0.0424	-0.4676	0.0810
1	330.12	0.3913	-0.1139	0.0042	-0.0409	0.0144	0.0870	0.0616	-0.3001	0.0728
1	330.12	0.4496	-0.1801	0.0039	-0.0739	0.0192	0.0880	0.0842	-0.3967	0.0800
1	330.12	0.4997	-0.1996	0.0050	-0.0669	0.0239	-0.0013	0.1055	-0.8514	0.0945
1	330.12	0.5387	-0.2544	0.0038	-0.1194	0.0264	0.0659	0.1266	-0.7130	0.0720
1	330.12	0.5996	-0.2632	0.0052	-0.1049	0.0325	0.1508	0.1508	0.4742	0.1118
1	330.12	0.6498	-0.3621	0.0048	-0.1756	0.0370	0.2691	0.1736	-0.0065	0.0972
1	330.12	0.6998	-0.4169	0.0062	-0.1915	0.0423	0.2317	0.1965	-0.9533	0.0924
1	330.12	0.7500	-0.4836	0.0057	-0.2598	0.0469	0.4948	0.2174	-0.3955	0.0835
1	330.12	0.8001	-0.5585	0.0046	-0.3388	0.0502	0.6935	0.2370	-0.5595	0.0778
1	330.12	0.8497	-0.6238	0.0048	-0.3532	0.0542	0.8522	0.2605	-0.6519	0.0696
1	330.12	0.9102	-0.7320	0.0056	-0.3911	0.0604	1.1066	0.2908	-0.6542	0.0774
1	330.12	0.9734	-0.7976	0.0063	-0.3809	0.0667	1.3318	0.3281	-0.7651	0.0780
2	330.12	0.1949	0.0433	0.0025	-0.0210	0.0010	0.0067	0.0046	-0.0407	0.0316
2	330.12	0.2405	0.0269	0.0032	-0.0212	0.0025	-0.0235	0.0097	-0.4522	0.0469
2	330.12	0.2999	-0.0484	0.0022	-0.0775	0.0058	0.0055	0.0204	-0.3126	0.0723
2	330.12	0.3498	-0.0914	0.0036	-0.1330	0.0065	-0.0135	0.0350	-0.3350	0.0743
2	330.12	0.3998	-0.1415	0.0043	-0.1987	0.0127	-0.0204	0.0548	-0.2092	0.0759
2	330.12	0.4496	-0.1615	0.0059	-0.2601	0.0167	-0.0550	0.0755	0.0555	0.0707
2	330.12	0.4995	-0.2335	0.0053	-0.3270	0.0197	-0.1073	0.0946	-0.2536	0.0557
2	330.12	0.5551	-0.2897	0.0039	-0.4161	0.0237	-0.1134	0.1229	-0.2281	0.0595
2	330.12	0.5996	-0.3256	0.0049	-0.4761	0.0272	-0.1295	0.1442	-0.1843	0.0646
2	330.12	0.6497	-0.3853	0.0058	-0.5448	0.0310	-0.1350	0.1706	-0.2727	0.0583
2	330.12	0.6996	-0.4341	0.0058	-0.5903	0.0359	-0.2323	0.1994	-0.8283	0.0826
2	330.12	0.7495	-0.4982	0.0044	-0.6935	0.0391	-0.1207	0.2242	-0.4400	0.0755
2	330.12	0.7996	-0.5585	0.0044	-0.7718	0.0427	-0.0754	0.2535	-0.5212	0.0595
2	330.12	0.8578	-0.6532	0.0044	-0.8564	0.0480	0.0285	0.2905	-0.1391	0.0589
2	330.12	0.9100	-0.7271	0.0048	-0.9230	0.0523	0.0826	0.3241	-0.2937	0.0656
2	330.12	0.9727	-0.8056	0.0061	-0.9769	0.0574	0.2702	0.3667	-0.0878	0.0591
3	330.12	0.1938	0.0315	0.0021	0.0133	0.0014	0.0182	0.0058	0.0014	0.0392
3	330.12	0.2357	0.0823	0.0022	-0.0287	0.0021	-0.0229	0.0102	0.0346	0.0402
3	330.12	0.2995	-0.0296	0.0021	0.0037	0.0054	0.0236	0.0258	0.0239	0.0809
3	330.12	0.3493	-0.0785	0.0034	-0.0021	0.0080	0.0298	0.0426	0.0866	0.0685
3	330.12	0.4000	-0.1127	0.0033	-0.0211	0.0131	0.0292	0.0676	0.2332	0.0685
3	330.12	0.4497	-0.1635	0.0037	-0.0324	0.0172	0.0150	0.0940	0.5555	0.0733
3	330.12	0.4997	-0.1705	0.0052	-0.0256	0.0218	-0.0372	0.1220	0.9175	0.0811
3	330.12	0.5556	-0.2437	0.0056	-0.0705	0.0265	-0.0468	0.1548	1.0863	0.0826
3	330.12	0.5995	-0.2995	0.0060	-0.0636	0.0315	-0.0962	0.1834	0.4707	0.0795
3	330.12	0.6498	-0.3625	0.0057	-0.1106	0.0358	-0.0910	0.2179	0.4482	0.0761
3	330.12	0.6890	-0.4152	0.0067	-0.0900	0.0396	-0.1757	0.2440	0.1158	0.0765
3	330.12	0.7495	-0.4834	0.0067	-0.1579	0.0454	-0.0970	0.2885	0.1971	0.0867
3	330.12	0.7998	-0.5542	0.0056	-0.1702	0.0498	-0.0658	0.3250	0.0549	0.0788
3	330.12	0.8577	-0.6281	0.0062	-0.1837	0.0556	0.0029	0.3738	0.1353	0.0733
3	330.12	0.9178	-0.6916	0.0075	-0.1961	0.0613	0.0470	0.4240	-0.1604	0.0676
3	330.12	0.9729	-0.7591	0.0083	-0.2441	0.0676	0.0391	0.4733	-0.2744	0.0644
4	330.12	0.2001	0.0677	0.0024	-0.0139	0.0012	-0.0120	0.0044	0.1746	0.0393
4	330.12	0.2502	0.0126	0.0027	0.0087	0.0048	-0.0270	0.0102	-0.0439	0.0604
4	330.12	0.3001	-0.0315	0.0039	-0.0253	0.0069	-0.0305	0.0190	0.2734	0.0874
4	330.12	0.3502	-0.0818	0.0035	-0.0465	0.0118	-0.0967	0.0330	0.1881	0.0724
4	330.12	0.4002	-0.1354	0.0043	-0.0503	0.0194	-0.1193	0.0516	0.3976	0.0619
4	330.12	0.4500	-0.1748	0.0039	-0.0365	0.0229	-0.2186	0.0705	0.1795	0.0736
4	330.12	0.5001	-0.1968	0.0050	-0.0454	0.0280	-0.2071	0.0940	1.4447	0.0876
4	330.12	0.5560	-0.2552	0.0050	-0.0378	0.0336	-0.3757	0.1234	1.0236	0.0969
4	330.12	0.6001	-0.2617	0.0059	-0.0010	0.0398	-0.5469	0.1497	0.7763	0.0694
4	330.12	0.6501	-0.3614	0.0059	-0.0440	0.0447	-0.5616	0.1838	0.8144	0.0669
4	330.12	0.6999	-0.4071	0.0063	-0.0388	0.0505	-0.7285	0.2195	0.4734	0.0872
4	330.12	0.7500	-0.4799	0.0056	-0.0815	0.0561	-0.7515	0.2603	0.4153	0.0880
4	330.12	0.8002	-0.5618	0.0052	-0.1274	0.0599	-0.8015	0.3040	0.2625	0.0681
4	330.12	0.8582	-0.6297	0.0055	-0.1353	0.0664	-0.9054	0.3590	-0.0706	0.0657
4	330.12	0.9101	-0.7098	0.0054	-0.1369	0.0722	-0.9114	0.4085	0.1290	0.0613
4	330.12	0.9728	-0.7229	0.0068	-0.1082	0.0792	-0.8302	0.4732	0.6408	0.0591

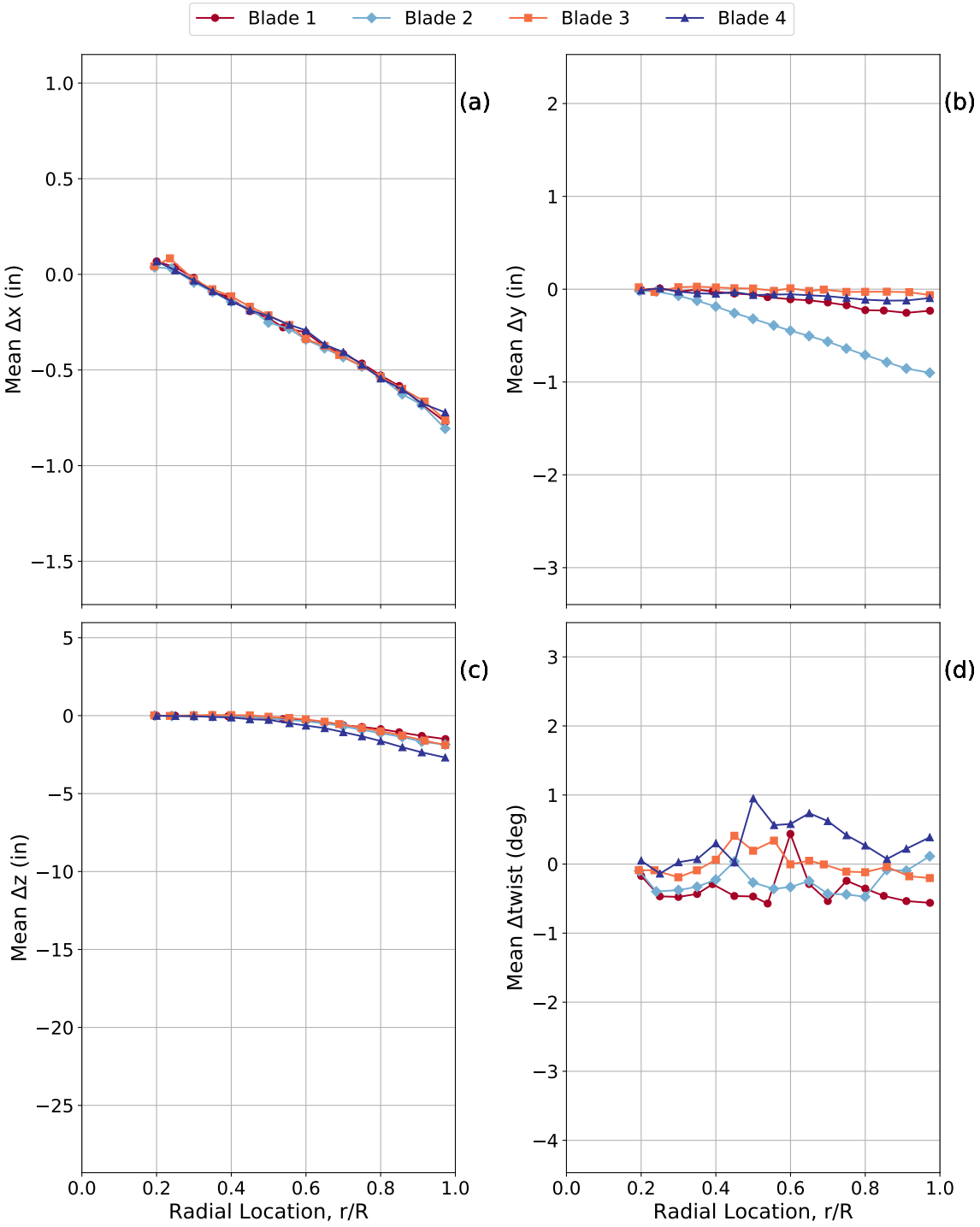


Figure 2.21-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0680	0.0019	-0.0056	0.0012	-0.0047	0.0044	-0.1719	0.0303
1	344.88	0.2499	0.0374	0.0023	0.0083	0.0024	-0.0028	0.0095	-0.4671	0.0546
1	344.88	0.2998	-0.0183	0.0022	-0.0256	0.0045	-0.0266	0.0180	-0.4758	0.0671
1	344.88	0.3498	-0.0929	0.0030	-0.0043	0.0076	-0.0184	0.0317	-0.4330	0.0582
1	344.88	0.3913	-0.1162	0.0031	-0.0248	0.0105	-0.0431	0.0454	-0.2911	0.0740
1	344.88	0.4496	-0.1925	0.0047	-0.0470	0.0136	-0.1001	0.0626	-0.4624	0.0628
1	344.88	0.4997	-0.2289	0.0043	-0.0592	0.0172	-0.1768	0.0846	-0.4697	0.0681
1	344.88	0.5387	-0.2773	0.0041	-0.0856	0.0196	-0.2247	0.1033	-0.5716	0.0674
1	344.88	0.5996	-0.3038	0.0062	-0.1089	0.0239	-0.2715	0.1364	0.4363	0.1007
1	344.88	0.6498	-0.3755	0.0044	-0.1197	0.0268	-0.4379	0.1696	-0.2890	0.0822
1	344.88	0.6998	-0.4159	0.0065	-0.1435	0.0305	-0.6163	0.2089	-0.5350	0.0865
1	344.88	0.7500	-0.4660	0.0066	-0.1733	0.0340	-0.7268	0.2507	-0.2424	0.0814
1	344.88	0.8001	-0.5282	0.0054	-0.2257	0.0375	-0.8657	0.2987	-0.3549	0.0637
1	344.88	0.8497	-0.5836	0.0067	-0.2297	0.0415	-1.0648	0.3469	-0.4609	0.0751
1	344.88	0.9102	-0.6789	0.0073	-0.2546	0.0460	-1.3009	0.4099	-0.5357	0.0647
1	344.88	0.9734	-0.7723	0.0076	-0.2323	0.0509	-1.5025	0.4777	-0.5614	0.0647
2	344.88	0.1949	0.0367	0.0019	-0.0175	0.0014	0.0017	0.0049	-0.0994	0.0287
2	344.88	0.2405	0.0310	0.0029	-0.0247	0.0037	-0.0204	0.0123	-0.3977	0.0501
2	344.88	0.2999	-0.0424	0.0033	-0.0704	0.0077	-0.0145	0.0256	-0.3767	0.0665
2	344.88	0.3498	-0.0915	0.0040	-0.1239	0.0107	-0.0237	0.0414	-0.3293	0.0697
2	344.88	0.3998	-0.1428	0.0046	-0.1871	0.0191	-0.0479	0.0679	-0.2249	0.0836
2	344.88	0.4496	-0.1775	0.0067	-0.2579	0.0210	-0.0831	0.0964	0.0375	0.0889
2	344.88	0.4995	-0.2520	0.0049	-0.3189	0.0274	-0.1763	0.1289	-0.2676	0.0715
2	344.88	0.5551	-0.2844	0.0043	-0.3905	0.0325	-0.2852	0.1737	-0.3584	0.0658
2	344.88	0.5996	-0.3407	0.0044	-0.4471	0.0377	-0.3620	0.2151	-0.3329	0.0639
2	344.88	0.6497	-0.3861	0.0055	-0.5041	0.0437	-0.4993	0.2646	-0.2464	0.0788
2	344.88	0.6996	-0.4325	0.0066	-0.5650	0.0499	-0.6902	0.3206	-0.4308	0.0688
2	344.88	0.7495	-0.4818	0.0067	-0.6391	0.0557	-0.9097	0.3783	-0.4397	0.0706
2	344.88	0.7996	-0.5373	0.0079	-0.7093	0.0610	-1.1221	0.4413	-0.4732	0.0683
2	344.88	0.8578	-0.6265	0.0091	-0.7872	0.0684	-1.3741	0.5174	-0.0846	0.0562
2	344.88	0.9100	-0.6825	0.0097	-0.8545	0.0744	-1.6705	0.5883	-0.0952	0.0578
2	344.88	0.9727	-0.8064	0.0115	-0.9004	0.0819	-1.8607	0.6730	0.1134	0.0642
3	344.88	0.1938	0.0421	0.0025	0.0205	0.0013	0.0170	0.0041	-0.0886	0.0269
3	344.88	0.2357	0.0836	0.0028	-0.0299	0.0021	-0.0157	0.0083	-0.0901	0.0474
3	344.88	0.2995	-0.0268	0.0025	0.0213	0.0053	0.0203	0.0195	-0.1913	0.0653
3	344.88	0.3493	-0.0777	0.0050	0.0268	0.0082	0.0392	0.0323	-0.0904	0.0619
3	344.88	0.4000	-0.1146	0.0033	0.0190	0.0132	0.0361	0.0515	0.0625	0.0725
3	344.88	0.4497	-0.1694	0.0053	0.0105	0.0160	0.0158	0.0683	0.4101	0.0958
3	344.88	0.4997	-0.2142	0.0054	0.0074	0.0199	-0.0716	0.0903	0.1927	0.0912
3	344.88	0.5556	-0.2649	0.0051	-0.0180	0.0239	-0.1492	0.1199	0.3400	0.0993
3	344.88	0.5995	-0.3378	0.0037	0.0094	0.0276	-0.2410	0.1457	-0.0044	0.0772
3	344.88	0.6498	-0.3740	0.0057	-0.0195	0.0320	-0.3896	0.1804	0.0477	0.0993
3	344.88	0.6890	-0.4216	0.0053	-0.0049	0.0350	-0.5432	0.2102	-0.0057	0.0831
3	344.88	0.7495	-0.4786	0.0045	-0.0292	0.0407	-0.7886	0.2595	-0.1093	0.0611
3	344.88	0.7998	-0.5361	0.0046	-0.0283	0.0449	-1.0035	0.3056	-0.1179	0.0669
3	344.88	0.8577	-0.5984	0.0052	-0.0269	0.0500	-1.2736	0.3600	-0.0400	0.0696
3	344.88	0.9178	-0.6648	0.0065	-0.0323	0.0549	-1.6029	0.4177	-0.1772	0.0656
3	344.88	0.9729	-0.7627	0.0070	-0.0633	0.0597	-1.8874	0.4737	-0.2027	0.0634
4	344.88	0.2001	0.0672	0.0025	-0.0141	0.0016	-0.0109	0.0067	0.0496	0.0291
4	344.88	0.2502	0.0211	0.0025	0.0102	0.0037	-0.0245	0.0154	-0.1380	0.0572
4	344.88	0.3001	-0.0326	0.0024	-0.0260	0.0077	-0.0378	0.0321	0.0265	0.0682
4	344.88	0.3502	-0.0880	0.0048	-0.0450	0.0112	-0.0839	0.0501	0.0711	0.0827
4	344.88	0.4002	-0.1412	0.0049	-0.0488	0.0190	-0.1176	0.0825	0.3009	0.0754
4	344.88	0.4500	-0.1868	0.0052	-0.0315	0.0213	-0.2318	0.1120	0.0240	0.0642
4	344.88	0.5001	-0.2180	0.0064	-0.0624	0.0280	-0.2716	0.1429	0.9510	0.1033
4	344.88	0.5560	-0.2639	0.0063	-0.0585	0.0359	-0.4865	0.1874	0.5637	0.1200
4	344.88	0.6001	-0.2928	0.0075	-0.0546	0.0408	-0.6409	0.2298	0.5804	0.0944
4	344.88	0.6501	-0.3672	0.0072	-0.0656	0.0472	-0.8020	0.2763	0.7364	0.1011
4	344.88	0.6999	-0.4063	0.0076	-0.0756	0.0531	-1.0615	0.3277	0.6214	0.1132
4	344.88	0.7500	-0.4724	0.0078	-0.0947	0.0586	-1.3258	0.3798	0.4171	0.0971
4	344.88	0.8002	-0.5443	0.0092	-0.1134	0.0664	-1.6297	0.4366	0.2685	0.0741
4	344.88	0.8582	-0.6019	0.0105	-0.1233	0.0739	-2.0268	0.5039	0.0735	0.0773
4	344.88	0.9101	-0.6741	0.0121	-0.1222	0.0808	-2.3569	0.5666	0.2217	0.0687
4	344.88	0.9728	-0.7219	0.0175	-0.0956	0.0902	-2.6879	0.6396	0.3873	0.0814

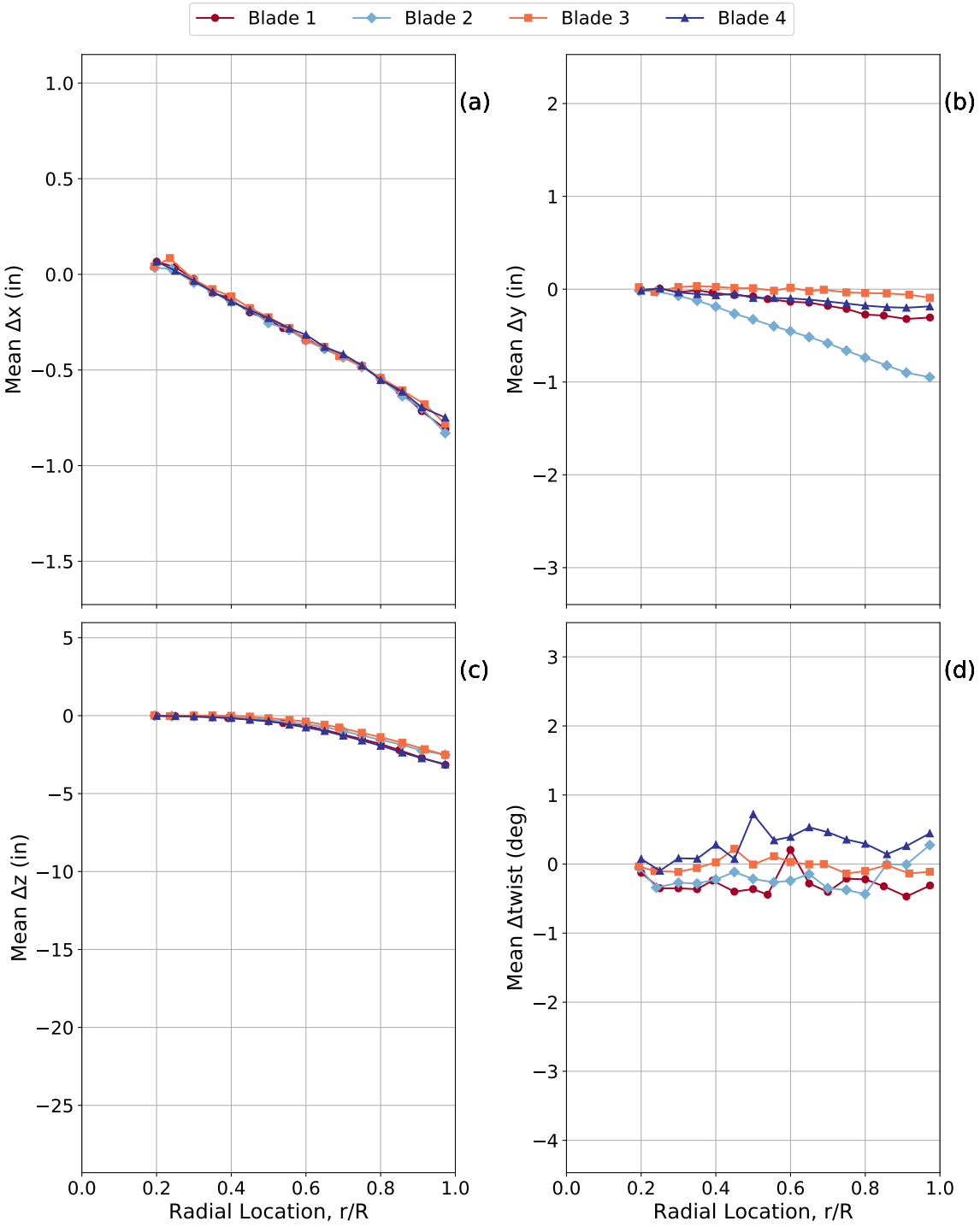


Figure 2.21-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0662	0.0020	-0.0065	0.0013	-0.0136	0.0059	-0.1256	0.0310
1	350.16	0.2499	0.0376	0.0025	0.0061	0.0029	-0.0278	0.0133	-0.3507	0.0538
1	350.16	0.2998	-0.0242	0.0025	-0.0327	0.0053	-0.0668	0.0254	-0.3512	0.0687
1	350.16	0.3498	-0.0980	0.0032	-0.0105	0.0087	-0.0961	0.0439	-0.3634	0.0614
1	350.16	0.3913	-0.1201	0.0041	-0.0385	0.0127	-0.1534	0.0641	-0.2392	0.0673
1	350.16	0.4496	-0.1990	0.0058	-0.0634	0.0171	-0.2544	0.0976	-0.3991	0.0699
1	350.16	0.4997	-0.2364	0.0040	-0.0773	0.0224	-0.3749	0.1350	-0.3627	0.0760
1	350.16	0.5387	-0.2811	0.0048	-0.1067	0.0258	-0.4768	0.1680	-0.4433	0.0710
1	350.16	0.5996	-0.3326	0.0068	-0.1352	0.0326	-0.6423	0.2213	0.2052	0.0930
1	350.16	0.6498	-0.3901	0.0050	-0.1448	0.0380	-0.9178	0.2741	-0.2806	0.0794
1	350.16	0.6998	-0.4332	0.0059	-0.1795	0.0436	-1.2152	0.3338	-0.4025	0.0839
1	350.16	0.7500	-0.4797	0.0068	-0.2121	0.0490	-1.5089	0.3932	-0.2113	0.0831
1	350.16	0.8001	-0.5466	0.0087	-0.2734	0.0549	-1.8199	0.4601	-0.2207	0.0735
1	350.16	0.8497	-0.6079	0.0101	-0.2841	0.0608	-2.2096	0.5297	-0.3218	0.0655
1	350.16	0.9102	-0.7151	0.0123	-0.3208	0.0679	-2.7075	0.6173	-0.4694	0.0734
1	350.16	0.9734	-0.8087	0.0132	-0.3050	0.0743	-3.1572	0.7047	-0.3104	0.0873
2	350.16	0.1949	0.0351	0.0021	-0.0174	0.0012	-0.0019	0.0053	-0.0517	0.0374
2	350.16	0.2405	0.0283	0.0024	-0.0248	0.0027	-0.0324	0.0121	-0.3409	0.0599
2	350.16	0.2999	-0.0432	0.0023	-0.0713	0.0043	-0.0345	0.0263	-0.2700	0.0854
2	350.16	0.3498	-0.0904	0.0025	-0.1236	0.0082	-0.0621	0.0433	-0.2816	0.0854
2	350.16	0.3998	-0.1433	0.0035	-0.1881	0.0122	-0.1072	0.0697	-0.2236	0.0885
2	350.16	0.4496	-0.1839	0.0058	-0.2643	0.0155	-0.1749	0.0937	-0.1147	0.0947
2	350.16	0.4995	-0.2544	0.0039	-0.3254	0.0201	-0.2736	0.1246	-0.2152	0.0786
2	350.16	0.5551	-0.2903	0.0039	-0.3994	0.0241	-0.4215	0.1671	-0.2641	0.0693
2	350.16	0.5996	-0.3460	0.0038	-0.4528	0.0284	-0.5442	0.2036	-0.2421	0.0796
2	350.16	0.6497	-0.3896	0.0049	-0.5158	0.0328	-0.7322	0.2477	-0.1448	0.0896
2	350.16	0.6996	-0.4340	0.0049	-0.5824	0.0380	-0.9904	0.2990	-0.3502	0.0720
2	350.16	0.7495	-0.4842	0.0050	-0.6620	0.0431	-1.2717	0.3526	-0.3748	0.0882
2	350.16	0.7996	-0.5437	0.0068	-0.7375	0.0476	-1.5534	0.4086	-0.4350	0.0866
2	350.16	0.8578	-0.6372	0.0080	-0.8220	0.0538	-1.8758	0.4805	-0.0024	0.0766
2	350.16	0.9100	-0.6995	0.0089	-0.8996	0.0592	-2.2458	0.5446	-0.0067	0.0774
2	350.16	0.9727	-0.8298	0.0108	-0.9481	0.0650	-2.5111	0.6223	0.2757	0.0700
3	350.16	0.1938	0.0413	0.0020	0.0217	0.0015	0.0176	0.0058	-0.0340	0.0288
3	350.16	0.2357	0.0847	0.0024	-0.0299	0.0030	-0.0311	0.0111	-0.0997	0.0599
3	350.16	0.2995	-0.0283	0.0032	0.0231	0.0066	0.0070	0.0255	-0.1137	0.0743
3	350.16	0.3493	-0.0771	0.0034	0.0326	0.0103	0.0098	0.0443	-0.0564	0.0628
3	350.16	0.4000	-0.1152	0.0042	0.0250	0.0169	-0.0127	0.0692	0.0255	0.0670
3	350.16	0.4497	-0.1763	0.0058	0.0128	0.0196	-0.0625	0.0961	0.2198	0.0682
3	350.16	0.4997	-0.2242	0.0056	0.0109	0.0241	-0.1652	0.1264	-0.0062	0.0722
3	350.16	0.5556	-0.2800	0.0059	-0.0165	0.0290	-0.2723	0.1709	0.1133	0.0824
3	350.16	0.5995	-0.3433	0.0051	0.0162	0.0340	-0.3853	0.2112	0.0303	0.0724
3	350.16	0.6498	-0.3786	0.0061	-0.0198	0.0384	-0.5812	0.2619	-0.0049	0.0817
3	350.16	0.6890	-0.4265	0.0055	-0.0066	0.0429	-0.7678	0.3052	0.0003	0.0720
3	350.16	0.7495	-0.4789	0.0069	-0.0343	0.0500	-1.1011	0.3785	-0.1372	0.0745
3	350.16	0.7998	-0.5412	0.0075	-0.0413	0.0556	-1.3804	0.4473	-0.1009	0.0663
3	350.16	0.8577	-0.6062	0.0103	-0.0454	0.0614	-1.7355	0.5289	-0.0145	0.0634
3	350.16	0.9178	-0.6794	0.0120	-0.0599	0.0675	-2.1566	0.6183	-0.1359	0.0766
3	350.16	0.9729	-0.7808	0.0135	-0.0920	0.0724	-2.5139	0.6996	-0.1113	0.0988
4	350.16	0.2001	0.0666	0.0020	-0.0158	0.0017	-0.0136	0.0056	0.0745	0.0280
4	350.16	0.2502	0.0187	0.0024	0.0091	0.0028	-0.0307	0.0124	-0.0966	0.0493
4	350.16	0.3001	-0.0342	0.0028	-0.0348	0.0065	-0.0485	0.0244	0.0844	0.0624
4	350.16	0.3502	-0.0910	0.0032	-0.0528	0.0104	-0.1046	0.0421	0.0780	0.0511
4	350.16	0.4002	-0.1429	0.0029	-0.0650	0.0162	-0.1483	0.0657	0.2802	0.0560
4	350.16	0.4500	-0.1873	0.0050	-0.0501	0.0196	-0.2643	0.0928	0.0737	0.0640
4	350.16	0.5001	-0.2289	0.0046	-0.0943	0.0244	-0.3423	0.1286	0.7220	0.0944
4	350.16	0.5560	-0.2829	0.0060	-0.0958	0.0306	-0.5826	0.1727	0.3444	0.0814
4	350.16	0.6001	-0.3160	0.0069	-0.0991	0.0352	-0.7583	0.2090	0.3942	0.0763
4	350.16	0.6501	-0.3797	0.0071	-0.1124	0.0404	-0.9837	0.2559	0.5324	0.1041
4	350.16	0.6999	-0.4181	0.0063	-0.1327	0.0461	-1.2828	0.3034	0.4616	0.0840
4	350.16	0.7500	-0.4763	0.0070	-0.1545	0.0518	-1.5947	0.3521	0.3548	0.0663
4	350.16	0.8002	-0.5526	0.0081	-0.1771	0.0572	-1.9334	0.4005	0.2942	0.0577
4	350.16	0.8582	-0.6131	0.0100	-0.1940	0.0635	-2.3682	0.4638	0.1429	0.0608
4	350.16	0.9101	-0.6958	0.0109	-0.1996	0.0691	-2.7350	0.5201	0.2612	0.0541
4	350.16	0.9728	-0.7482	0.0115	-0.1855	0.0772	-3.1216	0.5904	0.4448	0.0887

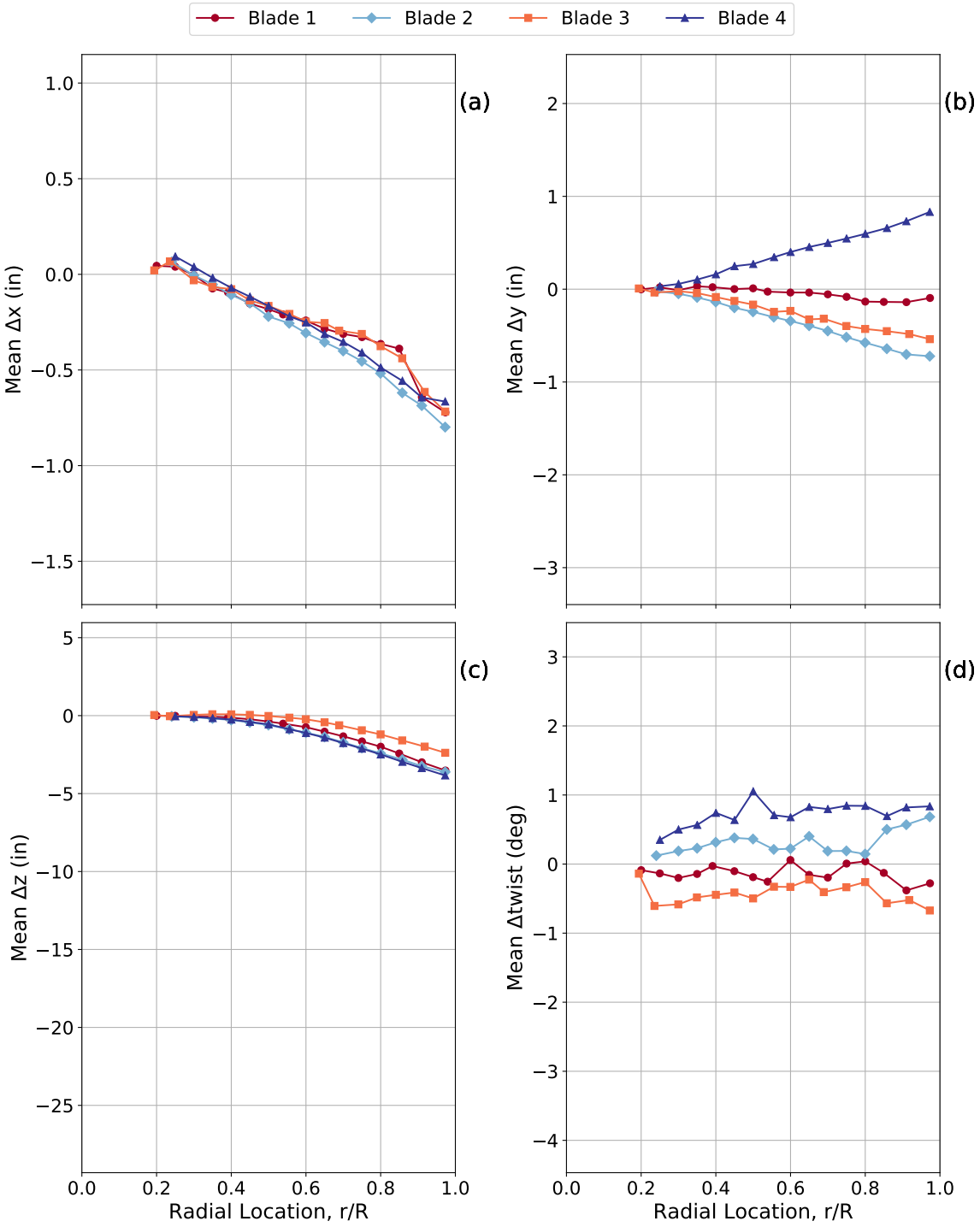


Figure 2.21-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.599, α = -0° NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Table 2.21-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.599, α = -0°
NFAC run 91, points 37 to 40. BD run 42, points 7123 to 7162.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0449	0.0054	-0.0018	0.0051	-0.0125	0.0054	-0.0880	0.0365
1	355.08	0.2499	0.0396	0.0032	0.0199	0.0068	-0.0127	0.0114	-0.1350	0.0908
1	355.08	0.2998	-0.0026	0.0037	-0.0108	0.0184	-0.0594	0.0234	-0.2010	0.0954
1	355.08	0.3498	-0.0740	0.0045	0.0312	0.0308	-0.0690	0.0410	-0.1430	0.0875
1	355.08	0.3913	-0.0944	0.0056	0.0213	0.0430	-0.1180	0.0591	-0.0283	0.0896
1	355.08	0.4496	-0.1526	0.0074	0.0012	0.0590	-0.2309	0.0893	-0.1027	0.1044
1	355.08	0.4997	-0.1821	0.0073	0.0092	0.0765	-0.3790	0.1207	-0.1894	0.1015
1	355.08	0.5387	-0.2098	0.0081	-0.0265	0.0896	-0.5127	0.1474	-0.2550	0.1047
1	355.08	0.5996	-0.2412	0.0075	-0.0359	0.1110	-0.7397	0.1966	0.0585	0.0975
1	355.08	0.6498	-0.2843	0.0086	-0.0363	0.1307	-1.0284	0.2398	-0.1563	0.1086
1	355.08	0.6998	-0.3116	0.0092	-0.0555	0.1509	-1.3274	0.2867	-0.1960	0.1072
1	355.08	0.7500	-0.3283	0.0104	-0.0824	0.1718	-1.6545	0.3372	0.0070	0.1111
1	355.08	0.8001	-0.3637	0.0133	-0.1338	0.1949	-1.9935	0.3893	0.0394	0.1324
1	355.08	0.8497	-0.3884	0.0163	-0.1371	0.2188	-2.4294	0.4481	-0.1280	0.1303
1	355.08	0.9102	-0.6416	0.0183	-0.1399	0.3645	-2.9917	0.6561	-0.3811	0.0811
1	355.08	0.9734	-0.7217	0.0203	-0.0949	0.3943	-3.5191	0.7390	-0.2783	0.0907
2	355.08	0.2405	0.0651	0.0031	-0.0229	0.0036	-0.0481	0.0105	0.1221	0.0633
2	355.08	0.2999	-0.0054	0.0041	-0.0493	0.0084	-0.1066	0.0235	0.1887	0.0980
2	355.08	0.3498	-0.0525	0.0052	-0.0887	0.0141	-0.1801	0.0412	0.2293	0.0884
2	355.08	0.3998	-0.1076	0.0039	-0.1379	0.0224	-0.2846	0.0648	0.3154	0.1022
2	355.08	0.4496	-0.1502	0.0054	-0.2002	0.0274	-0.4332	0.0904	0.3794	0.1041
2	355.08	0.4995	-0.2203	0.0051	-0.2442	0.0340	-0.6065	0.1209	0.3626	0.1009
2	355.08	0.5551	-0.2559	0.0059	-0.3012	0.0427	-0.8765	0.1572	0.2121	0.0994
2	355.08	0.5996	-0.3065	0.0052	-0.3425	0.0486	-1.0919	0.1890	0.2230	0.1167
2	355.08	0.6497	-0.3544	0.0071	-0.3936	0.0565	-1.3641	0.2276	0.4006	0.1066
2	355.08	0.6996	-0.4006	0.0072	-0.4499	0.0634	-1.7141	0.2725	0.1881	0.1091
2	355.08	0.7495	-0.4542	0.0087	-0.5172	0.0710	-2.0733	0.3188	0.1904	0.1025
2	355.08	0.7996	-0.5175	0.0096	-0.5764	0.0794	-2.4182	0.3686	0.1454	0.1050
2	355.08	0.8578	-0.6194	0.0120	-0.6415	0.0882	-2.8207	0.4294	0.5014	0.1242
2	355.08	0.9100	-0.6862	0.0128	-0.7024	0.0969	-3.2420	0.4868	0.5700	0.1181
2	355.08	0.9727	-0.7986	0.0155	-0.7220	0.1068	-3.6134	0.5577	0.6842	0.1056
3	355.08	0.1938	0.0206	0.0095	0.0075	0.0036	0.0384	0.0123	-0.1388	0.0487
3	355.08	0.2357	0.0678	0.0032	-0.0357	0.0034	-0.0385	0.0112	-0.6064	0.1768
3	355.08	0.2995	-0.0311	0.0021	-0.0217	0.0115	0.0469	0.0412	-0.5836	0.1795
3	355.08	0.3493	-0.0655	0.0029	-0.0414	0.0204	0.0877	0.0697	-0.4826	0.1810
3	355.08	0.4000	-0.0775	0.0036	-0.0846	0.0299	0.0823	0.1043	-0.4451	0.1832
3	355.08	0.4497	-0.1360	0.0048	-0.1264	0.0401	0.0481	0.1419	-0.4121	0.1899
3	355.08	0.4997	-0.1652	0.0051	-0.1661	0.0520	-0.0238	0.1851	-0.4974	0.1951
3	355.08	0.5556	-0.2069	0.0052	-0.2444	0.0654	-0.1313	0.2386	-0.3281	0.1963
3	355.08	0.5995	-0.2474	0.0054	-0.2341	0.0784	-0.2330	0.2853	-0.3311	0.1957
3	355.08	0.6498	-0.2546	0.0058	-0.3255	0.0933	-0.4286	0.3416	-0.2248	0.1964
3	355.08	0.6890	-0.2945	0.0065	-0.3182	0.1070	-0.6199	0.3892	-0.4063	0.2056
3	355.08	0.7495	-0.3116	0.0069	-0.3970	0.1288	-0.9410	0.4671	-0.3354	0.2194
3	355.08	0.7998	-0.3757	0.0104	-0.4284	0.1495	-1.2055	0.5382	-0.2609	0.2353
3	355.08	0.8577	-0.4390	0.0113	-0.4522	0.1261	-1.5909	0.7174	-0.5678	1.8651
3	355.08	0.9178	-0.6146	0.0151	-0.4835	0.2171	-1.9871	0.6138	-0.5207	0.1695
3	355.08	0.9729	-0.7173	0.0142	-0.5382	0.2319	-2.3841	0.7026	-0.6720	0.1606
4	355.08	0.2502	0.0934	0.0048	0.0311	0.0043	-0.0460	0.0125	0.3498	0.0839
4	355.08	0.3001	0.0386	0.0045	0.0566	0.0087	-0.0866	0.0260	0.4998	0.1200
4	355.08	0.3502	-0.0183	0.0060	0.1037	0.0143	-0.1624	0.0424	0.5666	0.1079
4	355.08	0.4002	-0.0707	0.0034	0.1602	0.0229	-0.2535	0.0687	0.7412	0.1204
4	355.08	0.4500	-0.1168	0.0070	0.2478	0.0264	-0.4044	0.0931	0.6378	0.1083
4	355.08	0.5001	-0.1655	0.0066	0.2710	0.0336	-0.5612	0.1228	1.0517	0.1417
4	355.08	0.5560	-0.2199	0.0072	0.3451	0.0406	-0.8730	0.1611	0.7078	0.1258
4	355.08	0.6001	-0.2517	0.0070	0.4005	0.0474	-1.1142	0.1951	0.6783	0.1421
4	355.08	0.6501	-0.3120	0.0082	0.4546	0.0541	-1.4121	0.2363	0.8274	0.1514
4	355.08	0.6999	-0.3533	0.0094	0.4982	0.0611	-1.7626	0.2749	0.7962	0.1298
4	355.08	0.7500	-0.4092	0.0099	0.5458	0.0683	-2.1183	0.3220	0.8448	0.1127
4	355.08	0.8002	-0.4870	0.0106	0.5960	0.0760	-2.4903	0.3703	0.8423	0.1272
4	355.08	0.8582	-0.5570	0.0126	0.6585	0.0850	-2.9647	0.4304	0.6948	0.1212
4	355.08	0.9101	-0.6440	0.0144	0.7320	0.0923	-3.3648	0.4860	0.8198	0.1219
4	355.08	0.9728	-0.6650	0.0163	0.8321	0.1019	-3.8379	0.5577	0.8357	0.1190

2.22 Run 91, Points 68 to 73

2.22.1 Pitch, Flap, and Lag

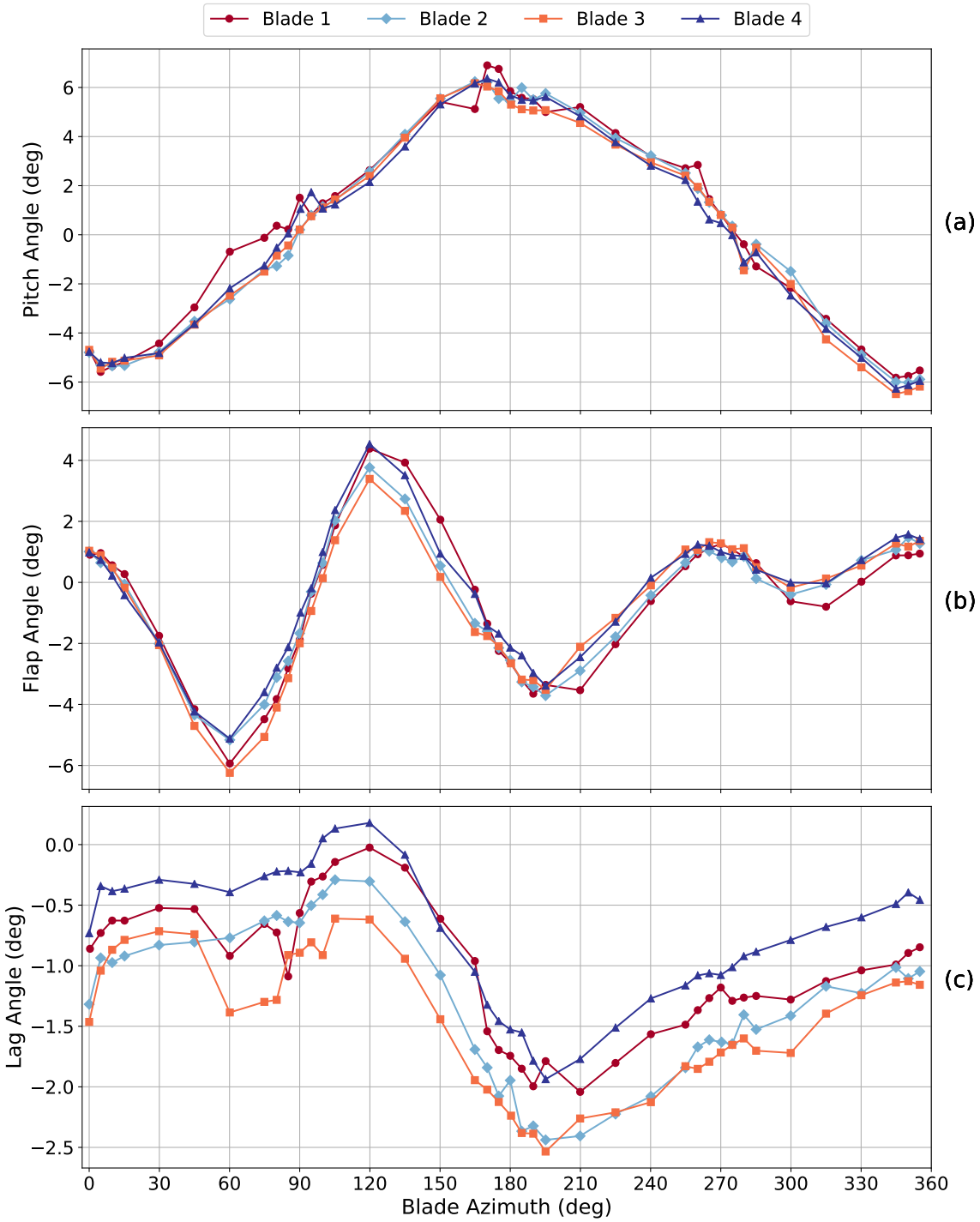


Figure 2.22-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	-4.7645	0.9062	-0.8604	0.1527	0.5145	0.2023
4.92	-5.5869	0.9613	-0.7297	0.3667	0.4853	0.1619
9.84	-5.3574	0.5618	-0.6272	0.2708	0.4215	0.1272
15.12	-5.1894	0.2718	-0.6276	0.1808	0.3890	0.1094
29.88	-4.4304	-1.7512	-0.5235	0.2822	0.5008	0.1710
45	-2.9586	-4.1526	-0.5319	0.4434	0.3454	0.1715
60.12	-0.6907	-5.9375	-0.9187	0.4478	0.1829	0.1168
74.88	-0.1244	-4.4844	-0.6549	0.6480	0.3784	0.2146
80.16	0.3691	-3.8239	-0.7257	0.9349	0.5833	0.3054
85.08	0.2207	-2.8170	-1.0884	0.4158	0.5225	0.1424
90	1.5090	-1.8818	-0.5651	1.1104	0.6469	0.4035
94.92	0.8040	-0.3711	-0.3058	0.0720	0.6367	0.1371
99.84	1.2847	0.5737	-0.2637	0.0639	0.5030	0.1295
105.12	1.5766	1.8690	-0.1434	0.0807	0.7502	0.1774
119.88	2.6311	4.3831	-0.0246	0.1153	0.7063	0.1298
135	4.0033	3.9259	-0.1905	0.1359	0.7587	0.1492
150.12	5.4145	2.0560	-0.6126	0.1345	0.4661	0.1224
164.88	5.1221	-0.2405	-0.9614	0.1581	0.8840	0.2124
170.16	6.9008	-1.3555	-1.5415	0.2053	0.8064	0.2506
175.08	6.7552	-2.2463	-1.6963	0.2238	0.9382	0.2157
180	5.8491	-2.6252	-1.7438	0.1285	0.8077	0.1910
184.92	5.5808	-3.2101	-1.8506	0.2006	0.9602	0.2686
189.84	5.5261	-3.6487	-1.9956	0.1575	0.8430	0.2033
195.12	4.9990	-3.3602	-1.7881	1.7745	1.2645	0.4414
209.88	5.2043	-3.5341	-2.0418	0.2053	0.9021	0.2413
225	4.1442	-2.0271	-1.8031	0.1965	0.7429	0.1613
240.12	3.1904	-0.6110	-1.5656	0.4821	0.7674	0.2449
254.88	2.7108	0.5300	-1.4869	0.1920	0.6565	0.2103
260.16	2.8446	0.9234	-1.3670	0.2220	0.5971	0.2137
265.08	1.4538	1.1165	-1.2675	0.1618	0.5162	0.1916
270	0.8219	1.2641	-1.1803	0.1361	0.4521	0.1830
274.92	0.1998	1.0772	-1.2902	0.1691	0.3810	0.2056
279.84	-0.3859	0.8460	-1.2633	0.1916	0.3786	0.1715
285.12	-1.2899	0.6299	-1.2497	0.8613	0.4879	0.2556
299.88	-2.1703	-0.6185	-1.2796	0.1046	0.2010	0.1202
315	-3.4249	-0.7974	-1.1271	0.1565	0.3568	0.2495
330.12	-4.6722	0.0228	-1.0384	0.2221	0.2829	0.1608
344.88	-5.8228	0.8834	-0.9903	0.3164	0.4899	0.1901
350.16	-5.7514	0.8875	-0.8950	0.1009	0.3695	0.1753
355.08	-5.5275	0.9436	-0.8476	0.1371	0.4178	0.1962

Table 2.22-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-4.7932	1.0093	-1.3182	0.1539	0.4541	0.1492
4.92	-5.3034	0.6456	-0.9354	0.2561	0.4507	0.1895
9.84	-5.3423	0.4257	-0.9744	0.2256	0.3932	0.1181
15.12	-5.3267	-0.0583	-0.9201	0.2122	0.5082	0.1637
29.88	-4.7753	-2.0113	-0.8296	0.2107	0.3373	0.1115
45	-3.5269	-4.3469	-0.8044	0.2741	0.2616	0.0998
60.12	-2.6216	-5.1632	-0.7700	0.2835	0.1813	0.1023
74.88	-1.4038	-4.0044	-0.6301	0.2362	0.3665	0.1187
80.16	-1.2736	-3.1158	-0.5854	0.2360	0.4103	0.0971
85.08	-0.8459	-2.5809	-0.6363	0.3011	0.4579	0.1194
90	0.2046	-1.6672	-0.6458	0.3361	0.5505	0.1052
94.92	0.7935	-0.3055	-0.5027	0.3965	0.6727	0.1359
99.84	1.1528	0.6340	-0.4131	0.0509	0.4895	0.0953
105.12	1.3982	2.0262	-0.2905	0.0573	0.4463	0.0736
119.88	2.5750	3.7652	-0.3041	0.0707	0.4906	0.1047
135	4.0926	2.7357	-0.6366	0.1188	0.6495	0.1010
150.12	5.5498	0.5457	-1.0774	0.2349	0.8204	0.1433
164.88	6.2369	-1.3437	-1.6918	0.1072	0.8522	0.1952
170.16	6.2148	-1.6021	-1.8414	0.1173	0.8510	0.1945
175.08	5.5499	-2.1480	-2.0761	0.1523	0.8381	0.1916
180	5.4423	-2.5495	-1.9465	0.1645	0.5844	0.1727
184.92	5.9921	-3.2626	-2.3664	0.1359	0.7190	0.2803
189.84	5.5058	-3.4244	-2.3228	0.3509	0.7606	0.1667
195.12	5.7568	-3.7115	-2.4382	1.4326	1.0124	0.3132
209.88	4.9659	-2.8959	-2.4058	0.0854	0.3529	0.1246
225	3.9405	-1.7790	-2.2248	1.0323	0.9523	0.3408
240.12	3.2216	-0.4243	-2.0786	0.7830	0.7248	0.2942
254.88	2.5146	0.6434	-1.8425	0.4577	0.5795	0.2275
260.16	1.8833	1.0467	-1.6707	0.3882	0.5338	0.1994
265.08	1.3221	1.0245	-1.6119	0.0945	0.4417	0.1935
270.35	0.7926	0.8082	-1.6307	0.1125	0.4878	0.2330
274.92	0.3525	0.6730	-1.6448	0.1414	0.3898	0.1593
279.84	-1.3777	0.8499	-1.4049	0.0905	0.4096	0.1324
285.12	-0.3849	0.1230	-1.5262	0.1412	0.3478	0.1384
299.88	-1.4900	-0.3988	-1.4131	0.1645	0.2698	0.2000
315	-3.6060	-0.0693	-1.1697	0.1562	0.3077	0.1745
330.12	-4.8844	0.7229	-1.2274	0.2736	0.4074	0.1294
344.88	-5.9922	1.0666	-1.0144	0.1677	0.3831	0.1351
350.16	-6.0186	1.4751	-1.1060	0.0955	0.4127	0.1285
355.08	-5.8902	1.2758	-1.0475	0.1063	0.4651	0.1609

Table 2.22-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-4.6895	1.0365	-1.4639	0.1928	0.5057	0.1795
4.92	-5.4529	0.8875	-1.0408	0.2457	0.5216	0.1749
9.84	-5.1755	0.4786	-0.8684	0.3193	0.4765	0.1077
15.12	-5.1290	-0.1794	-0.7867	0.1847	0.3675	0.0845
29.88	-4.9127	-2.0559	-0.7152	0.2115	0.2883	0.0986
45	-3.6623	-4.7048	-0.7407	0.2074	0.2433	0.0732
60.12	-2.4784	-6.2413	-1.3861	0.2245	0.1479	0.1589
74.88	-1.5009	-5.0651	-1.2987	0.1260	0.3612	0.2133
80.16	-0.8456	-4.1016	-1.2821	0.0939	0.4560	0.2814
85.08	-0.4363	-3.1397	-0.9123	0.0821	0.5559	0.2831
90	0.2105	-1.9960	-0.8931	0.0826	0.5152	0.3001
94.92	0.7554	-0.9367	-0.8071	0.0718	0.4281	0.2386
99.84	1.1091	0.1392	-0.9126	0.5874	0.5465	0.0801
105.12	1.4331	1.3822	-0.6113	0.0705	0.5930	0.0787
119.88	2.3944	3.3918	-0.6188	0.0589	0.4373	0.0609
135	3.9547	2.3457	-0.9426	0.1399	1.0246	0.1408
150.12	5.5585	0.1767	-1.4422	0.1419	0.7947	0.1192
164.88	6.1719	-1.6274	-1.9450	0.0919	0.8967	0.1569
170.16	6.0386	-1.7590	-2.0229	0.0876	0.8380	0.1355
175.08	5.8433	-2.0939	-2.1252	0.1214	0.8141	0.2014
180.35	5.3029	-2.6533	-2.2382	0.0751	0.8960	0.1986
184.92	5.1127	-3.1858	-2.3813	0.0894	0.6689	0.1380
189.84	5.0636	-3.2051	-2.3868	0.3532	0.6648	0.1452
195.12	5.0748	-3.5220	-2.5345	0.2404	0.5848	0.1309
209.88	4.5550	-2.1113	-2.2615	0.1816	0.8532	0.2290
225	3.6711	-1.1631	-2.2105	0.9771	0.9337	0.2739
240.12	2.9510	-0.0972	-2.1265	0.2144	0.5692	0.1627
254.88	2.4061	1.0775	-1.8298	0.2845	0.4855	0.1330
260.16	1.9497	1.0647	-1.8520	0.1437	0.5069	0.1627
265.08	1.3410	1.3194	-1.7928	0.2882	0.5776	0.2095
270	0.8073	1.2806	-1.7165	0.2980	0.4754	0.1675
274.92	0.2925	1.0849	-1.6536	0.1444	0.4726	0.1885
279.84	-1.4474	1.1214	-1.6006	0.0870	0.4061	0.1396
285.12	-0.5271	0.4975	-1.7019	0.1169	0.4085	0.1900
299.88	-2.0052	-0.1717	-1.7203	0.1033	0.2455	0.1706
315	-4.2656	0.1273	-1.3956	0.1702	0.2931	0.1490
330.12	-5.3987	0.5517	-1.2436	0.2077	0.2876	0.1006
344.88	-6.4892	1.2729	-1.1388	0.1537	0.5394	0.1259
350.16	-6.3695	1.1714	-1.1278	0.1294	0.4494	0.1207
355.08	-6.1868	1.3615	-1.1579	0.1288	0.6215	0.1496

Table 2.22-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-4.7662	0.9810	-0.7316	0.1275	0.3881	0.1355
4.92	-5.2002	0.7383	-0.3427	0.1132	0.4816	0.2885
9.84	-5.2350	0.2209	-0.3847	0.1769	0.5440	0.1397
15.12	-5.0157	-0.4203	-0.3642	0.6506	0.6987	0.2009
29.88	-4.8190	-1.9713	-0.2903	0.1365	0.3231	0.1080
45	-3.6338	-4.2331	-0.3246	0.2449	0.3232	0.1513
60.12	-2.1797	-5.1225	-0.3932	0.2531	0.1821	0.1081
74.88	-1.2560	-3.5983	-0.2616	0.1699	0.3464	0.1214
80.16	-0.5277	-2.7977	-0.2225	0.2250	0.4160	0.1441
85.08	0.0517	-2.1219	-0.2175	0.2170	0.3918	0.1342
90.35	1.0536	-0.9922	-0.2293	0.2587	0.5484	0.1185
94.92	1.7304	-0.1925	-0.1587	0.3952	0.4977	0.0972
99.84	1.0651	0.9969	0.0517	0.0632	0.4458	0.0963
105.12	1.2305	2.3688	0.1320	0.0577	0.5388	0.0879
119.88	2.1458	4.5323	0.1793	0.1347	0.7100	0.1425
135	3.5931	3.5126	-0.0841	0.1335	0.8503	0.1482
150.12	5.3108	0.9411	-0.6880	0.2433	0.8360	0.1400
164.88	6.1606	-0.3792	-1.0505	0.1038	0.6842	0.1733
170.16	6.3624	-1.4245	-1.3224	0.1062	0.7173	0.1550
175.08	6.2018	-1.6805	-1.4571	0.0941	0.7074	0.1398
180	5.6865	-2.1379	-1.5267	0.2142	0.7724	0.1918
184.92	5.4964	-2.3924	-1.5514	0.1004	0.8013	0.1863
189.84	5.4728	-2.9684	-1.7848	0.6315	0.8788	0.2084
195.12	5.6175	-3.3860	-1.9370	1.2197	1.1631	0.3851
209.88	4.8246	-2.4506	-1.7706	1.3078	1.2222	0.3959
225	3.7698	-1.2898	-1.5116	0.2997	0.7942	0.1907
240.12	2.8119	0.1513	-1.2707	0.9268	0.8108	0.2283
254.88	2.2279	0.9322	-1.1634	1.1664	0.7841	0.2661
260.16	1.3469	1.2396	-1.0807	0.5276	0.5969	0.2258
265.08	0.6209	1.1971	-1.0627	0.1328	0.5077	0.2222
270	0.4741	1.0048	-1.0770	0.5323	0.5290	0.1728
274.92	-0.0154	0.8874	-1.0123	0.3124	0.4783	0.2125
279.84	-1.1252	0.8642	-0.9212	0.1286	0.3675	0.1724
285.12	-0.7166	0.4155	-0.8846	0.1106	0.2718	0.1210
299.88	-2.4751	-0.0050	-0.7875	0.1049	0.3275	0.1718
315	-3.8263	-0.0299	-0.6800	0.1479	0.2894	0.1496
330.12	-5.0124	0.7310	-0.6005	0.3064	0.2587	0.1643
344.88	-6.2731	1.4612	-0.4908	0.1033	0.3473	0.1869
350.16	-6.1250	1.5723	-0.3953	0.1054	0.3278	0.1830
355.08	-5.9532	1.4189	-0.4569	0.1323	0.4132	0.1604

2.22.2 Spanwise Elastic Deformations

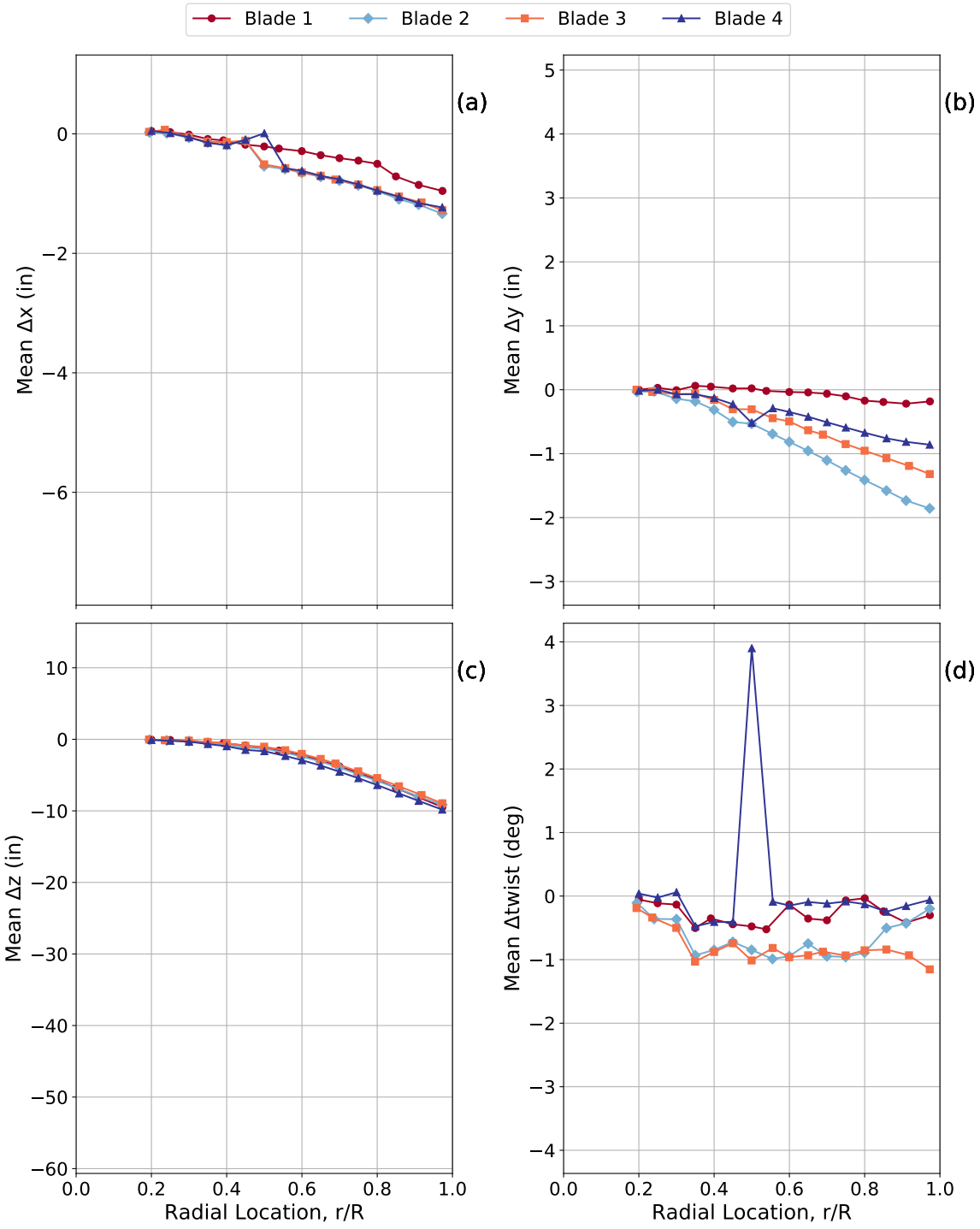


Figure 2.22-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0473	0.0031	0.0009	0.0040	-0.0528	0.0179	-0.0547	0.0387
1	0.35	0.2499	0.0289	0.0032	0.0291	0.0083	-0.0973	0.0392	-0.1132	0.0797
1	0.35	0.2998	-0.0129	0.0037	-0.0079	0.0166	-0.2114	0.0819	-0.1342	0.0924
1	0.35	0.3498	-0.0868	0.0054	0.0613	0.0292	-0.3898	0.1435	-0.5027	0.0904
1	0.35	0.3913	-0.1091	0.0069	0.0482	0.0416	-0.5416	0.2093	-0.3515	0.0942
1	0.35	0.4496	-0.1810	0.0097	0.0198	0.0594	-0.8586	0.3140	-0.4435	0.0973
1	0.35	0.4997	-0.2108	0.0114	0.0216	0.0761	-1.2330	0.4136	-0.4771	0.1037
1	0.35	0.5387	-0.2462	0.0140	-0.0186	0.0904	-1.5857	0.4925	-0.5226	0.1109
1	0.35	0.5996	-0.2886	0.0158	-0.0355	0.1124	-2.2449	0.6140	-0.1344	0.1230
1	0.35	0.6498	-0.3570	0.0206	-0.0422	0.1308	-2.9741	0.7097	-0.3541	0.1288
1	0.35	0.6998	-0.4068	0.0242	-0.0622	0.1492	-3.7963	0.7996	-0.3804	0.1303
1	0.35	0.7500	-0.4479	0.0288	-0.1033	0.1676	-4.7018	0.8859	-0.0689	0.1232
1	0.35	0.8001	-0.5015	0.0344	-0.1709	0.1867	-5.6641	0.9691	-0.0349	0.2021
1	0.35	0.8497	-0.7126	0.0414	-0.1914	0.2070	-6.7856	1.0557	-0.2400	0.1236
1	0.35	0.9102	-0.8542	0.0491	-0.2184	0.2323	-8.1188	1.1612	-0.4181	0.1236
1	0.35	0.9734	-0.9555	0.0545	-0.1828	0.2583	-9.4651	1.2828	-0.3015	0.1315
2	0	0.1949	0.0241	0.0387	-0.0311	0.0055	-0.0627	0.0150	-0.1071	0.1002
2	0	0.2405	0.0119	0.0127	-0.0259	0.0149	-0.1610	0.0322	-0.3591	0.1605
2	0	0.2999	-0.0642	0.0161	-0.1408	0.0257	-0.2582	0.0443	-0.3638	0.2481
2	0	0.3498	-0.1449	0.0571	-0.1813	0.0443	-0.4999	0.1284	-0.9318	0.1624
2	0	0.3998	-0.1850	0.0825	-0.3140	0.0647	-0.7365	0.1580	-0.8481	0.1767
2	0	0.4496	-0.1149	0.1117	-0.5048	0.0931	-1.1538	0.1931	-0.7214	0.1800
2	0	0.4995	-0.5406	0.0761	-0.5313	0.3873	-1.2976	0.6993	-0.8464	0.1649
2	0	0.5551	-0.5899	0.0732	-0.6911	0.4276	-1.8760	0.7989	-0.9889	0.1752
2	0	0.5996	-0.6510	0.0720	-0.8159	0.4597	-2.4061	0.8801	-0.9465	0.1645
2	0	0.6497	-0.7184	0.0683	-0.9556	0.4967	-3.1049	0.9748	-0.7482	0.1862
2	0	0.6996	-0.7843	0.0655	-1.1039	0.5347	-3.9622	1.0730	-0.9465	0.1831
2	0	0.7495	-0.8621	0.0624	-1.2623	0.5724	-4.8851	1.1718	-0.9578	0.1670
2	0	0.7996	-0.9546	0.0595	-1.4128	0.6102	-5.8143	1.2770	-0.8912	0.1737
2	0	0.8578	-1.0943	0.0584	-1.5785	0.6546	-6.9241	1.4064	-0.5031	0.1807
2	0	0.9100	-1.1845	0.0583	-1.7335	0.6944	-8.0006	1.5299	-0.4290	0.1697
2	0	0.9727	-1.3365	0.0551	-1.8561	0.7438	-9.1315	1.6862	-0.1990	0.1784
3	0	0.1938	0.0327	0.0500	0.0006	0.0066	-0.0276	0.0181	-0.1880	0.1168
3	0	0.2357	0.0687	0.0167	-0.0349	0.0160	-0.1351	0.0352	-0.3377	0.1890
3	0	0.2995	-0.0537	0.0200	-0.0680	0.0273	-0.1776	0.0504	-0.5001	0.2944
3	0	0.3493	-0.1339	0.0724	-0.0638	0.0448	-0.3602	0.1495	-1.0316	0.1896
3	0	0.4000	-0.1363	0.1054	-0.1586	0.0647	-0.5515	0.1817	-0.8791	0.1893
3	0	0.4497	-0.1145	0.1421	-0.3047	0.0917	-0.9127	0.2186	-0.7425	0.2105
3	0	0.4997	-0.5106	0.0980	-0.3061	0.4679	-1.0349	0.8455	-1.0128	0.1518
3	0	0.5556	-0.5747	0.0950	-0.4450	0.5164	-1.5283	0.9599	-0.8170	0.1408
3	0	0.5995	-0.6472	0.0929	-0.4957	0.5537	-2.0337	1.0560	-0.9617	0.1629
3	0	0.6498	-0.7016	0.0883	-0.6333	0.5962	-2.7433	1.1657	-0.9317	0.1693
3	0	0.6890	-0.7645	0.0864	-0.7020	0.6306	-3.3897	1.2532	-0.8761	0.1644
3	0	0.7495	-0.8479	0.0806	-0.8498	0.6826	-4.4810	1.3831	-0.9343	0.1689
3	0	0.7998	-0.9420	0.0758	-0.9538	0.7268	-5.4213	1.4910	-0.8535	0.1609
3	0	0.8577	-1.0488	0.0712	-1.0705	0.7771	-6.5649	1.6170	-0.8405	0.1492
3	0	0.9178	-1.1485	0.0676	-1.1917	0.8301	-7.7865	1.7499	-0.9319	0.1588
3	0	0.9729	-1.2778	0.0555	-1.3191	0.8782	-8.9450	1.8798	-1.1529	0.1562
4	0	0.2001	0.0495	0.0373	-0.0173	0.0063	-0.0894	0.0170	0.0389	0.1103
4	0	0.2502	0.0121	0.0124	-0.0003	0.0128	-0.2062	0.0332	-0.0235	0.1817
4	0	0.3001	-0.0581	0.0139	-0.0710	0.0295	-0.3367	0.0481	0.0603	0.2587
4	0	0.3502	-0.1508	0.0533	-0.0703	0.0430	-0.6603	0.1285	-0.4752	0.1505
4	0	0.4002	-0.1901	0.0799	-0.1296	0.0682	-0.9718	0.1627	-0.4068	0.1421
4	0	0.4500	-0.1004	0.1105	-0.2265	0.1007	-1.4813	0.2033	-0.4062	0.1641
4	0	0.5001	0.0102	0.0824	-0.5193	0.1178	-1.6619	0.6641	3.9000	2.7762
4	0	0.5560	-0.5759	0.0683	-0.2898	0.3770	-2.3291	0.7920	-0.0884	0.1675
4	0	0.6001	-0.6179	0.0680	-0.3487	0.4054	-2.9281	0.8769	-0.1502	0.1608
4	0	0.6501	-0.7031	0.0638	-0.4228	0.4370	-3.6703	0.9669	-0.0925	0.1643
4	0	0.6999	-0.7613	0.0626	-0.5095	0.4700	-4.5383	1.0617	-0.1193	0.1654
4	0	0.7500	-0.8471	0.0590	-0.5918	0.5022	-5.4360	1.1532	-0.0842	0.1778
4	0	0.8002	-0.9510	0.0568	-0.6731	0.5352	-6.4019	1.2438	-0.1273	0.1641
4	0	0.8582	-1.0540	0.0556	-0.7606	0.5739	-7.5730	1.3535	-0.2471	0.1787
4	0	0.9101	-1.1584	0.0551	-0.8152	0.6074	-8.6093	1.4504	-0.1567	0.1704
4	0	0.9728	-1.2312	0.0507	-0.8599	0.6506	-9.8281	1.5752	-0.0599	0.1917

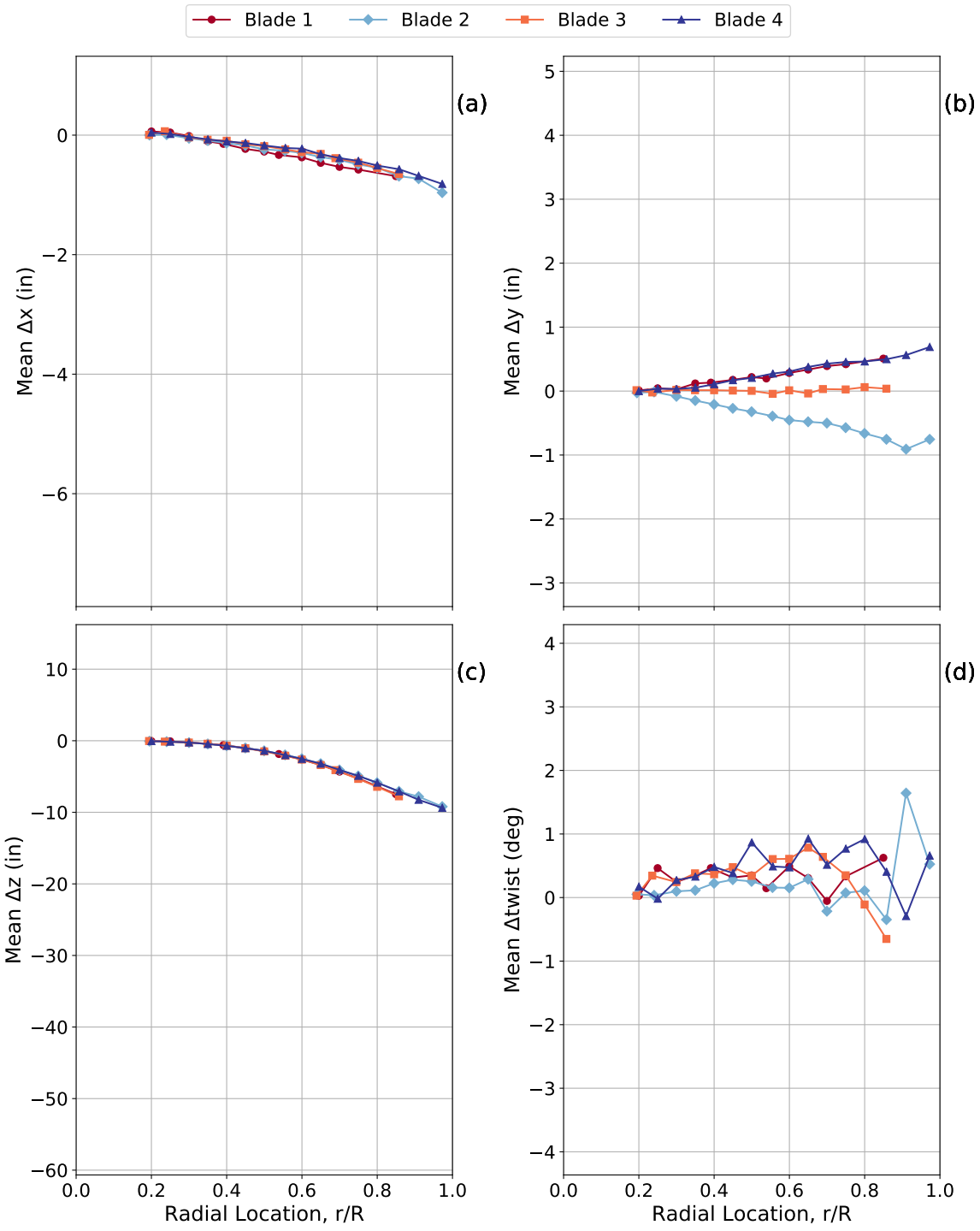


Figure 2.22-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-6. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0621	0.0178	0.0093	0.0114	-0.0617	0.0124	0.0287	0.1494
1	4.92	0.2499	0.0443	0.0085	0.0434	0.0162	-0.0755	0.0283	0.4632	0.2831
1	4.92	0.2998	-0.0148	0.0068	0.0270	0.0379	-0.2609	0.0570	0.2454	0.3509
1	4.92	0.3498	-0.1037	0.0094	0.1195	0.0684	-0.4213	0.1053	0.3487	0.3398
1	4.92	0.3913	-0.1457	0.0086	0.1324	0.0914	-0.6117	0.1504	0.4631	0.3227
1	4.92	0.4496	-0.2299	0.0091	0.1753	0.1248	-1.0209	0.2228	0.3149	0.3274
1	4.92	0.4997	-0.2752	0.0113	0.2188	0.1506	-1.4362	0.2905	0.3488	0.3334
1	4.92	0.5387	-0.3313	0.0125	0.1971	0.1750	-1.8550	0.3496	0.1464	0.3560
1	4.92	0.5996	-0.3715	0.0148	0.2833	0.2110	-2.6083	0.4399	0.4915	0.3306
1	4.92	0.6498	-0.4639	0.0175	0.3361	0.2421	-3.3993	0.5200	0.3069	0.3449
1	4.92	0.6998	-0.5313	0.0232	0.3906	0.2825	-4.3216	0.5990	-0.0535	0.4176
1	4.92	0.7500	-0.5762	0.0282	0.4203	0.3066	-5.2711	0.6876	0.3339	0.3612
1	4.92	0.8497	-0.6865	0.0410	0.5081	0.3721	-7.4677	0.8656	0.6255	0.4586
2	4.92	0.1949	0.0013	0.0116	-0.0272	0.0154	-0.0612	0.0096	0.0514	0.2350
2	4.92	0.2405	0.0081	0.0141	-0.0131	0.0147	-0.1286	0.0162	0.0352	0.5885
2	4.92	0.2999	-0.0522	0.0123	-0.0824	0.0528	-0.2632	0.0400	0.0978	0.6930
2	4.92	0.3498	-0.0912	0.0332	-0.1482	0.0917	-0.4472	0.0682	0.1140	0.7817
2	4.92	0.3998	-0.1331	0.0568	-0.2080	0.1349	-0.6922	0.1062	0.2244	0.8529
2	4.92	0.4496	-0.1717	0.0826	-0.2704	0.1830	-1.0114	0.1489	0.2809	0.9305
2	4.92	0.4995	-0.2375	0.1095	-0.3229	0.2359	-1.4123	0.1986	0.2542	1.0155
2	4.92	0.5551	-0.2624	0.1422	-0.3918	0.3020	-1.9774	0.2586	0.1570	1.1373
2	4.92	0.5996	-0.2968	0.1695	-0.4536	0.3608	-2.5059	0.3109	0.1522	1.1876
2	4.92	0.6497	-0.3662	0.1000	-0.4800	0.3193	-3.2058	0.3976	0.2888	1.2491
2	4.92	0.6996	-0.4151	0.0475	-0.5007	0.2862	-4.0779	0.5861	-0.2151	0.1880
2	4.92	0.7495	-0.4901	0.0483	-0.5722	0.3329	-4.9267	0.6581	0.0743	0.1896
2	4.92	0.7996	-0.5449	0.0482	-0.6621	0.3805	-5.8626	0.7332	0.1080	0.1847
2	4.92	0.8578	-0.6858	0.0484	-0.7542	0.3030	-7.0759	0.6437	-0.3474	5.5907
2	4.92	0.9100	-0.7286	0.0665	-0.9083	0.5386	-7.8096	0.9949	1.6434	2.6307
2	4.92	0.9727	-0.9618	0.1171	-0.7544	0.5884	-9.2045	1.8020	0.5253	0.5125
3	4.92	0.1938	0.0049	0.0107	0.0139	0.0143	-0.0396	0.0100	0.0295	0.2055
3	4.92	0.2357	0.0652	0.0142	-0.0213	0.0132	-0.1248	0.0166	0.3449	0.4960
3	4.92	0.2995	-0.0384	0.0106	0.0180	0.0482	-0.2520	0.0403	0.2437	0.6157
3	4.92	0.3493	-0.0769	0.0310	0.0140	0.0850	-0.4181	0.0698	0.3809	0.6973
3	4.92	0.4000	-0.0932	0.0533	0.0136	0.1261	-0.6916	0.1082	0.3668	0.7814
3	4.92	0.4497	-0.1529	0.0772	0.0082	0.1687	-1.0419	0.1536	0.4781	0.8442
3	4.92	0.4997	-0.1841	0.1027	0.0036	0.2167	-1.4905	0.2044	0.3417	0.9199
3	4.92	0.5556	-0.2378	0.1303	-0.0431	0.2702	-2.0903	0.2685	0.6054	0.9709
3	4.92	0.5995	-0.2856	0.1530	0.0119	0.3134	-2.6353	0.3258	0.6090	1.0401
3	4.92	0.6498	-0.3140	0.1770	-0.0373	0.3648	-3.3959	0.3967	0.7854	1.0911
3	4.92	0.6890	-0.3853	0.0993	0.0315	0.3068	-4.1083	0.4645	0.6399	1.1226
3	4.92	0.7495	-0.4605	0.0419	0.0257	0.2801	-5.3332	0.6305	0.3500	0.1739
3	4.92	0.7998	-0.5494	0.0853	0.0615	0.2939	-6.4420	0.6227	-0.1097	1.7852
3	4.92	0.8577	-0.6512	0.1036	0.0372	0.3068	-7.7665	0.7822	-0.6512	6.5081
4	4.92	0.2001	0.0429	0.0385	-0.0008	0.0070	-0.0549	0.0099	0.1709	0.0466
4	4.92	0.2502	0.0192	0.0168	0.0374	0.0161	-0.1392	0.0205	-0.0189	0.0777
4	4.92	0.3001	-0.0275	0.0110	0.0333	0.0313	-0.2472	0.0395	0.2745	0.1038
4	4.92	0.3502	-0.0717	0.0371	0.0527	0.0545	-0.4628	0.0659	0.3290	0.0979
4	4.92	0.4002	-0.1053	0.0667	0.1069	0.0855	-0.7119	0.1042	0.4812	0.1016
4	4.92	0.4500	-0.1311	0.0950	0.1700	0.1213	-1.0483	0.1508	0.3846	0.1267
4	4.92	0.5001	-0.1730	0.1265	0.2061	0.1634	-1.4003	0.2098	0.8668	0.1408
4	4.92	0.5560	-0.2150	0.1606	0.2738	0.2161	-2.0191	0.2853	0.4893	0.1330
4	4.92	0.6001	-0.2259	0.1885	0.3050	0.2631	-2.5373	0.3539	0.4741	0.1468
4	4.92	0.6501	-0.3191	0.0577	0.3776	0.4180	-3.2051	0.4349	0.9254	0.8872
4	4.92	0.6999	-0.3837	0.0782	0.4283	0.5481	-4.0728	0.5580	0.5150	0.1145
4	4.92	0.7500	-0.4315	0.0731	0.4554	0.6018	-4.9137	0.6476	0.7692	0.1231
4	4.92	0.8002	-0.5089	0.0694	0.4627	0.6554	-5.8666	0.7365	0.9206	0.1388
4	4.92	0.8582	-0.5709	0.0653	0.4980	0.7159	-7.0839	0.8398	0.4048	0.1571
4	4.92	0.9101	-0.6821	0.1461	0.5629	0.9272	-8.2570	0.9908	-0.2922	6.8476
4	4.92	0.9728	-0.8168	0.1371	0.6890	1.4171	-9.3755	1.5247	0.6591	0.1536

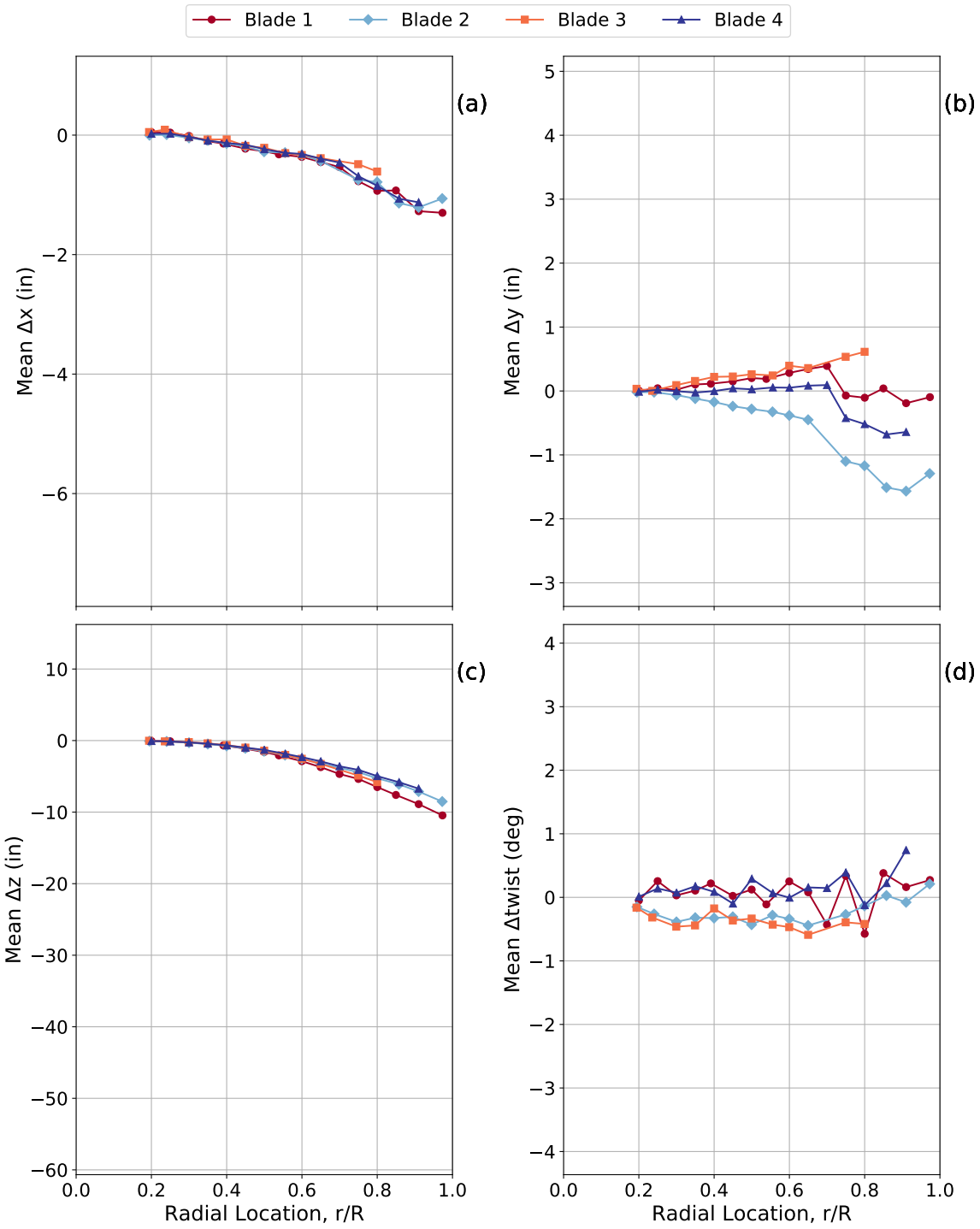


Figure 2.22-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-7. 10° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0501	0.0121	0.0061	0.0072	-0.0658	0.0120	-0.0495	0.1117
1	9.84	0.2499	0.0421	0.0071	0.0420	0.0118	-0.1001	0.0203	0.2550	0.2495
1	9.84	0.2998	-0.0140	0.0051	0.0196	0.0245	-0.2861	0.0490	0.0309	0.2671
1	9.84	0.3498	-0.1023	0.0064	0.1020	0.0423	-0.4632	0.0849	0.1064	0.2405
1	9.84	0.3913	-0.1416	0.0071	0.1134	0.0578	-0.6805	0.1205	0.2190	0.2376
1	9.84	0.4496	-0.2266	0.0074	0.1498	0.0772	-1.1409	0.1759	0.0227	0.2433
1	9.84	0.4997	-0.2710	0.0083	0.2017	0.0939	-1.6016	0.2306	0.1228	0.2490
1	9.84	0.5387	-0.3220	0.0083	0.1891	0.1101	-2.0686	0.2743	-0.1107	0.2623
1	9.84	0.5996	-0.3646	0.0106	0.2830	0.1315	-2.8837	0.3486	0.2507	0.2500
1	9.84	0.6498	-0.4516	0.0139	0.3438	0.1501	-3.7141	0.4121	0.0804	0.2554
1	9.84	0.6998	-0.5350	0.0247	0.3914	0.1821	-4.6701	0.4795	-0.4308	0.4330
1	9.84	0.7500	-0.7713	0.2313	-0.0710	0.4020	-5.3638	0.6032	0.3368	0.6084
1	9.84	0.8001	-0.9320	0.2227	-0.1054	0.5013	-6.5016	0.6812	-0.5739	1.0435
1	9.84	0.8497	-0.9268	0.2509	0.0399	0.5469	-7.6010	0.7738	0.3814	0.2568
1	9.84	0.9102	-1.2731	0.1896	-0.1909	0.6892	-8.8868	0.9702	0.1615	0.2854
1	9.84	0.9734	-1.3007	0.1888	-0.0963	0.7923	-10.4606	1.0607	0.2723	0.3060
2	9.84	0.1949	-0.0020	0.0161	-0.0183	0.0060	-0.0721	0.0116	-0.1503	0.0800
2	9.84	0.2405	0.0090	0.0048	-0.0186	0.0063	-0.1233	0.0200	-0.2618	0.2340
2	9.84	0.2999	-0.0468	0.0044	-0.0641	0.0200	-0.2984	0.0499	-0.3865	0.2454
2	9.84	0.3498	-0.0883	0.0049	-0.1193	0.0343	-0.4799	0.0851	-0.3204	0.2388
2	9.84	0.3998	-0.1399	0.0057	-0.1720	0.0505	-0.7512	0.1325	-0.3264	0.2357
2	9.84	0.4496	-0.1899	0.0062	-0.2389	0.0642	-1.0782	0.1785	-0.3065	0.2440
2	9.84	0.4995	-0.2789	0.0071	-0.2825	0.0794	-1.4936	0.2285	-0.4302	0.2641
2	9.84	0.5551	-0.2931	0.0088	-0.3262	0.0954	-2.0366	0.2879	-0.2811	0.2770
2	9.84	0.5996	-0.3337	0.0114	-0.3823	0.1080	-2.5448	0.3365	-0.3397	0.2711
2	9.84	0.6497	-0.4328	0.0133	-0.4500	0.1325	-3.1971	0.3946	-0.4427	0.2674
2	9.84	0.7495	-0.7475	0.3348	-1.1000	0.6413	-4.4169	0.6323	-0.2699	0.6955
2	9.84	0.7996	-0.7854	0.3615	-1.1698	0.7286	-5.2622	0.7075	-0.1356	0.2677
2	9.84	0.8578	-1.1381	0.2226	-1.5097	0.9104	-6.1116	1.0504	0.0285	0.3167
2	9.84	0.9100	-1.2095	0.2209	-1.5657	1.0290	-7.1226	1.1182	-0.0780	0.3145
2	9.84	0.9727	-1.0621	0.9729	-1.2914	1.4168	-8.5232	0.8846	0.2107	0.4365
3	9.84	0.1938	0.0514	0.0157	0.0340	0.0061	-0.0261	0.0147	-0.1620	0.0991
3	9.84	0.2357	0.0905	0.0055	0.0021	0.0062	-0.1135	0.0185	-0.3172	0.3225
3	9.84	0.2995	-0.0354	0.0043	0.0917	0.0181	-0.2153	0.0555	-0.4618	0.3237
3	9.84	0.3493	-0.0732	0.0046	0.1565	0.0318	-0.3882	0.0954	-0.4421	0.3310
3	9.84	0.4000	-0.0721	0.0064	0.2208	0.0464	-0.6377	0.1464	-0.1747	0.3241
3	9.84	0.4497	-0.1796	0.0065	0.2264	0.0586	-0.9851	0.1947	-0.3644	0.3173
3	9.84	0.4997	-0.2125	0.0063	0.2617	0.0720	-1.4042	0.2436	-0.3336	0.3331
3	9.84	0.5556	-0.3019	0.0077	0.2431	0.0894	-2.0086	0.2996	-0.4291	0.3341
3	9.84	0.5995	-0.3330	0.0104	0.3955	0.1020	-2.5405	0.3459	-0.4688	0.3414
3	9.84	0.6498	-0.3865	0.0100	0.3579	0.1178	-3.2659	0.3980	-0.5900	0.3302
3	9.84	0.7495	-0.4867	0.0200	0.5346	0.1476	-4.8885	0.5199	-0.3933	0.3490
3	9.84	0.7998	-0.6095	0.0263	0.6127	0.1612	-5.8056	0.5915	-0.4191	0.3296
4	9.84	0.2001	0.0228	0.0086	-0.0118	0.0039	-0.0621	0.0165	0.0105	0.0829
4	9.84	0.2502	0.0233	0.0044	0.0198	0.0091	-0.1228	0.0385	0.1392	0.1673
4	9.84	0.3001	-0.0291	0.0057	-0.0036	0.0148	-0.2601	0.0734	0.0736	0.1986
4	9.84	0.3502	-0.0923	0.0052	-0.0243	0.0274	-0.4312	0.1295	0.1752	0.1746
4	9.84	0.4002	-0.1327	0.0064	-0.0010	0.0412	-0.6779	0.2024	0.0860	0.1757
4	9.84	0.4500	-0.1609	0.0071	0.0417	0.0530	-0.9925	0.2846	-0.0984	0.1798
4	9.84	0.5001	-0.2354	0.0082	0.0262	0.0666	-1.3028	0.3815	0.2917	0.1791
4	9.84	0.5560	-0.2989	0.0105	0.0547	0.0809	-1.8568	0.4979	0.0666	0.1819
4	9.84	0.6001	-0.3144	0.0116	0.0514	0.0954	-2.3196	0.5914	-0.0054	0.1888
4	9.84	0.6501	-0.3949	0.0137	0.0832	0.1122	-2.9108	0.6937	0.1560	0.1757
4	9.84	0.6999	-0.4599	0.0165	0.0926	0.1271	-3.5978	0.7907	0.1461	0.1999
4	9.84	0.7500	-0.6887	0.3899	-0.4235	0.6056	-4.0963	1.1968	0.3910	0.2045
4	9.84	0.8002	-0.8488	0.3745	-0.5186	0.6683	-4.9711	1.2261	-0.1235	1.3636
4	9.84	0.8582	-1.0646	0.3187	-0.6801	0.7909	-5.8282	1.6061	0.2242	0.2593
4	9.84	0.9101	-1.1251	0.3145	-0.6413	0.8923	-6.7208	1.7034	0.7430	0.3205

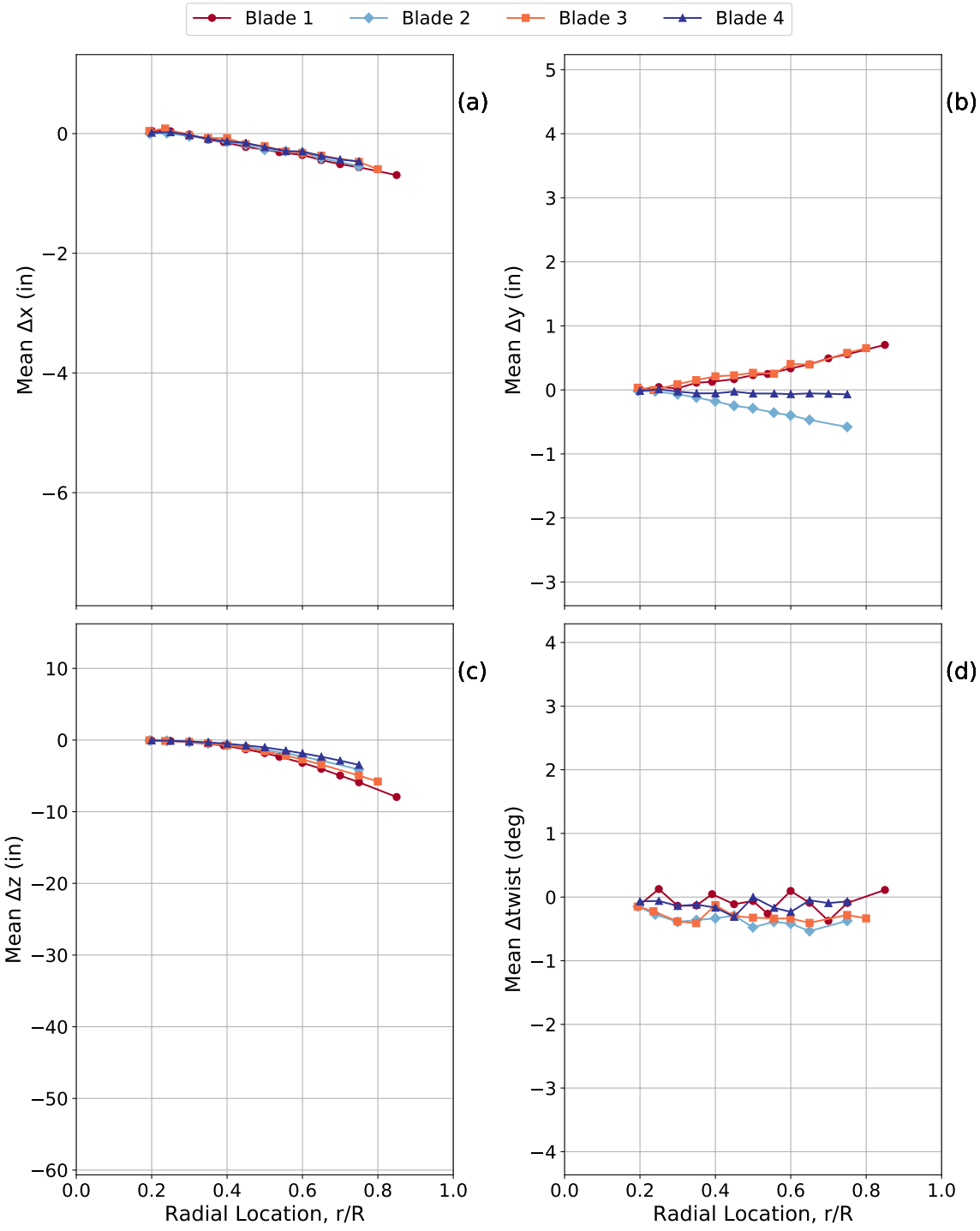


Figure 2.22-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-8. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0486	0.0102	0.0077	0.0051	-0.0747	0.0121	-0.1192	0.0910
1	15.12	0.2499	0.0400	0.0056	0.0445	0.0088	-0.1201	0.0258	0.1264	0.1681
1	15.12	0.2998	-0.0126	0.0056	0.0243	0.0175	-0.3204	0.0535	-0.1372	0.2052
1	15.12	0.3498	-0.1036	0.0059	0.1126	0.0307	-0.5348	0.0918	-0.1323	0.1925
1	15.12	0.3913	-0.1416	0.0064	0.1265	0.0421	-0.7760	0.1345	0.0462	0.2020
1	15.12	0.4496	-0.2230	0.0078	0.1679	0.0566	-1.2921	0.1998	-0.1122	0.1971
1	15.12	0.4997	-0.2674	0.0094	0.2305	0.0707	-1.8161	0.2609	-0.0610	0.2194
1	15.12	0.5387	-0.3100	0.0104	0.2491	0.0812	-2.3327	0.3095	-0.2622	0.2213
1	15.12	0.5996	-0.3574	0.0133	0.3361	0.0989	-3.1751	0.3862	0.0965	0.2202
1	15.12	0.6498	-0.4423	0.0165	0.3998	0.1140	-4.0098	0.4552	-0.0900	0.2253
1	15.12	0.6998	-0.5107	0.0195	0.4927	0.1311	-4.9442	0.5236	-0.3731	0.2545
1	15.12	0.7500	-0.5625	0.0242	0.5565	0.1455	-5.8971	0.6010	-0.0923	0.2529
1	15.12	0.8497	-0.6922	0.0385	0.7029	0.1788	-7.9444	0.7628	0.1121	0.2633
2	15.12	0.1949	0.0001	0.0117	-0.0169	0.0044	-0.0688	0.0119	-0.1481	0.0676
2	15.12	0.2405	0.0081	0.0038	-0.0219	0.0067	-0.1091	0.0221	-0.2726	0.1861
2	15.12	0.2999	-0.0434	0.0039	-0.0678	0.0152	-0.2700	0.0524	-0.3898	0.2008
2	15.12	0.3498	-0.0862	0.0045	-0.1180	0.0261	-0.4424	0.0925	-0.3614	0.1980
2	15.12	0.3998	-0.1380	0.0050	-0.1786	0.0393	-0.6807	0.1427	-0.3339	0.2121
2	15.12	0.4496	-0.1836	0.0056	-0.2478	0.0521	-0.9726	0.2016	-0.2904	0.2038
2	15.12	0.4995	-0.2684	0.0069	-0.2871	0.0660	-1.3581	0.2660	-0.4752	0.2134
2	15.12	0.5551	-0.2928	0.0075	-0.3555	0.0831	-1.8340	0.3460	-0.3880	0.2242
2	15.12	0.5996	-0.3165	0.0107	-0.3987	0.0947	-2.2935	0.4135	-0.4175	0.2132
2	15.12	0.6497	-0.4098	0.0134	-0.4687	0.1113	-2.8567	0.4930	-0.5338	0.2339
2	15.12	0.7495	-0.5421	0.0178	-0.5783	0.1499	-4.1010	0.6692	-0.3732	0.2386
3	15.12	0.1938	0.0441	0.0105	0.0352	0.0042	-0.0382	0.0108	-0.1485	0.0652
3	15.12	0.2357	0.0854	0.0049	-0.0015	0.0057	-0.1205	0.0163	-0.2218	0.1797
3	15.12	0.2995	-0.0332	0.0032	0.0888	0.0138	-0.2487	0.0441	-0.3823	0.1954
3	15.12	0.3493	-0.0734	0.0046	0.1540	0.0233	-0.4524	0.0767	-0.4094	0.1857
3	15.12	0.4000	-0.0747	0.0058	0.2122	0.0356	-0.7256	0.1184	-0.1252	0.1748
3	15.12	0.4497	-0.1758	0.0058	0.2279	0.0451	-1.1072	0.1633	-0.3018	0.1802
3	15.12	0.4997	-0.2092	0.0075	0.2672	0.0565	-1.5600	0.2108	-0.3224	0.1797
3	15.12	0.5556	-0.2954	0.0089	0.2537	0.0693	-2.1703	0.2686	-0.3367	0.1831
3	15.12	0.5995	-0.3216	0.0105	0.4054	0.0797	-2.7030	0.3165	-0.3360	0.1935
3	15.12	0.6498	-0.3681	0.0127	0.3961	0.0930	-3.4101	0.3747	-0.4048	0.1963
3	15.12	0.7495	-0.4704	0.0236	0.5783	0.1238	-4.9511	0.5082	-0.2804	0.2135
3	15.12	0.7998	-0.5943	0.0245	0.6518	0.1291	-5.7752	0.5831	-0.3346	0.2102
4	15.12	0.2001	0.0151	0.0318	-0.0153	0.0139	-0.0480	0.0384	-0.0686	0.2276
4	15.12	0.2502	0.0223	0.0069	0.0091	0.0137	-0.0960	0.0590	-0.0602	0.6109
4	15.12	0.3001	-0.0254	0.0072	-0.0253	0.0449	-0.1935	0.1404	-0.1400	0.6237
4	15.12	0.3502	-0.0874	0.0087	-0.0532	0.0762	-0.3257	0.2483	-0.1173	0.6133
4	15.12	0.4002	-0.1289	0.0113	-0.0540	0.1106	-0.5063	0.3710	-0.1668	0.6215
4	15.12	0.4500	-0.1545	0.0108	-0.0263	0.1447	-0.7591	0.5121	-0.3102	0.6270
4	15.12	0.5001	-0.2262	0.0131	-0.0564	0.1800	-1.0119	0.6652	-0.0007	0.6280
4	15.12	0.5560	-0.2916	0.0161	-0.0572	0.2202	-1.4646	0.8425	-0.1692	0.6237
4	15.12	0.6001	-0.2985	0.0169	-0.0660	0.2536	-1.8522	0.9888	-0.2328	0.6223
4	15.12	0.6501	-0.3720	0.0201	-0.0551	0.2914	-2.3203	1.1502	-0.0504	0.6254
4	15.12	0.6999	-0.4331	0.0233	-0.0605	0.3293	-2.8713	1.3088	-0.0942	0.6210
4	15.12	0.7500	-0.4655	0.0281	-0.0690	0.3679	-3.4700	1.4632	-0.0681	0.6376

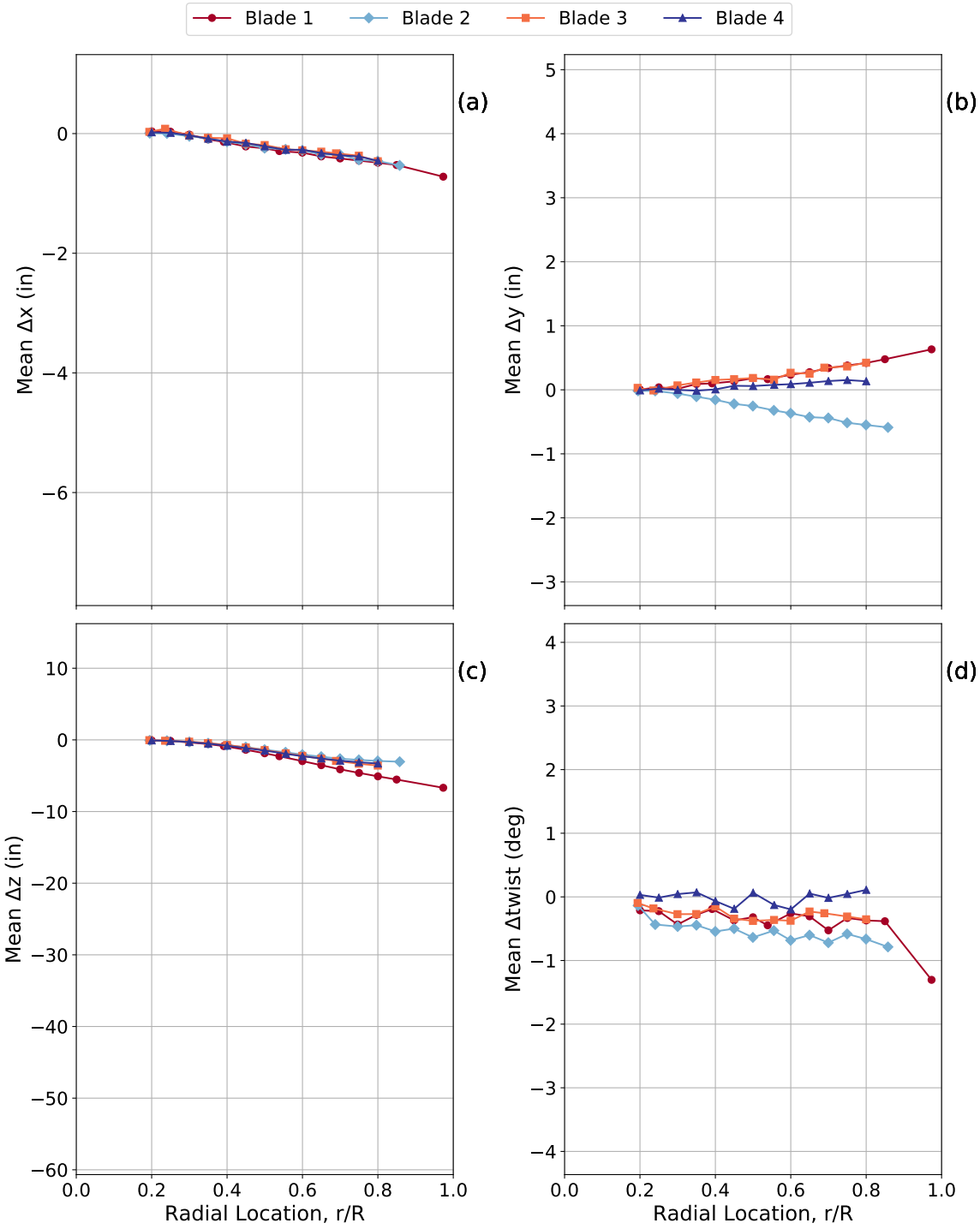


Figure 2.22-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-9. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0379	0.0075	0.0049	0.0038	-0.0819	0.0172	-0.2117	0.0608
1	29.88	0.2499	0.0318	0.0059	0.0388	0.0063	-0.1442	0.0353	-0.2245	0.1424
1	29.88	0.2998	-0.0164	0.0048	0.0159	0.0141	-0.3579	0.0764	-0.4339	0.1528
1	29.88	0.3498	-0.0981	0.0055	0.0904	0.0233	-0.5881	0.1314	-0.2823	0.1502
1	29.88	0.3913	-0.1389	0.0070	0.1002	0.0332	-0.8648	0.1915	-0.1911	0.1565
1	29.88	0.4496	-0.2152	0.0098	0.1320	0.0468	-1.3798	0.2904	-0.3688	0.1563
1	29.88	0.4997	-0.2469	0.0123	0.1800	0.0606	-1.8686	0.3910	-0.3200	0.1634
1	29.88	0.5387	-0.2925	0.0147	0.1668	0.0710	-2.2835	0.4735	-0.4465	0.1717
1	29.88	0.5996	-0.3183	0.0179	0.2353	0.0889	-2.9643	0.6083	-0.2597	0.1664
1	29.88	0.6498	-0.3818	0.0212	0.2758	0.1038	-3.5306	0.7187	-0.3061	0.1729
1	29.88	0.6998	-0.4155	0.0235	0.3395	0.1184	-4.1085	0.8286	-0.5259	0.1837
1	29.88	0.7500	-0.4516	0.0264	0.3802	0.1324	-4.6086	0.9337	-0.3318	0.1781
1	29.88	0.8001	-0.4866	0.0292	0.4195	0.1473	-5.0894	1.0339	-0.3701	0.1895
1	29.88	0.8497	-0.5251	0.0314	0.4777	0.1637	-5.5362	1.1340	-0.3826	0.1967
1	29.88	0.9734	-0.7204	0.0316	0.6319	0.2041	-6.6831	1.3775	-1.3038	0.2685
2	29.88	0.1949	0.0063	0.0062	-0.0163	0.0034	-0.0659	0.0106	-0.1356	0.0443
2	29.88	0.2405	0.0028	0.0037	-0.0172	0.0045	-0.1240	0.0192	-0.4345	0.0998
2	29.88	0.2999	-0.0444	0.0040	-0.0581	0.0120	-0.2849	0.0465	-0.4658	0.1151
2	29.88	0.3498	-0.0813	0.0042	-0.1074	0.0208	-0.4683	0.0811	-0.4445	0.1067
2	29.88	0.3998	-0.1368	0.0057	-0.1557	0.0309	-0.7336	0.1256	-0.5434	0.1147
2	29.88	0.4496	-0.1785	0.0058	-0.2196	0.0415	-1.0173	0.1797	-0.4992	0.1236
2	29.88	0.4995	-0.2428	0.0065	-0.2538	0.0523	-1.3677	0.2397	-0.6372	0.1242
2	29.88	0.5551	-0.2627	0.0071	-0.3211	0.0663	-1.7282	0.3150	-0.5302	0.1227
2	29.88	0.5996	-0.2801	0.0084	-0.3664	0.0777	-2.0575	0.3816	-0.6826	0.1334
2	29.88	0.6497	-0.3499	0.0091	-0.4265	0.0914	-2.3441	0.4605	-0.6007	0.1364
2	29.88	0.6996	-0.3519	0.0094	-0.4401	0.1055	-2.6335	0.5442	-0.7199	0.1410
2	29.88	0.7495	-0.4385	0.0097	-0.5147	0.1198	-2.7906	0.6308	-0.5822	0.1340
2	29.88	0.7996	-0.4586	0.0111	-0.5491	0.1349	-2.9423	0.7241	-0.6633	0.1532
2	29.88	0.8578	-0.5319	0.0122	-0.5872	0.1519	-3.0470	0.8253	-0.7869	0.1986
3	29.88	0.1938	0.0289	0.0072	0.0305	0.0033	-0.0383	0.0098	-0.0955	0.0456
3	29.88	0.2357	0.0810	0.0049	-0.0100	0.0044	-0.1233	0.0202	-0.1818	0.1052
3	29.88	0.2995	-0.0345	0.0040	0.0691	0.0106	-0.2464	0.0454	-0.2721	0.1181
3	29.88	0.3493	-0.0697	0.0044	0.1143	0.0182	-0.4436	0.0789	-0.2699	0.1101
3	29.88	0.4000	-0.0788	0.0052	0.1539	0.0276	-0.7130	0.1244	-0.1515	0.1094
3	29.88	0.4497	-0.1690	0.0058	0.1659	0.0373	-1.0536	0.1816	-0.3421	0.1116
3	29.88	0.4997	-0.1912	0.0080	0.1847	0.0470	-1.4248	0.2480	-0.3775	0.1124
3	29.88	0.5556	-0.2623	0.0091	0.1584	0.0604	-1.8705	0.3355	-0.3623	0.1127
3	29.88	0.5995	-0.2794	0.0112	0.2667	0.0718	-2.2275	0.4111	-0.3748	0.1134
3	29.88	0.6498	-0.3017	0.0128	0.2516	0.0842	-2.6291	0.5005	-0.2303	0.1127
3	29.88	0.6890	-0.3300	0.0150	0.3464	0.0937	-2.9339	0.5721	-0.2572	0.1116
3	29.88	0.7495	-0.3693	0.0153	0.3645	0.1105	-3.3290	0.6884	-0.3086	0.1134
3	29.88	0.7998	-0.4623	0.0172	0.4236	0.1237	-3.5856	0.7917	-0.3528	0.1220
4	29.88	0.2001	0.0216	0.0049	-0.0091	0.0027	-0.0726	0.0105	0.0313	0.0486
4	29.88	0.2502	0.0120	0.0033	0.0184	0.0038	-0.1503	0.0235	-0.0125	0.0814
4	29.88	0.3001	-0.0299	0.0035	-0.0018	0.0087	-0.3006	0.0454	0.0438	0.1078
4	29.88	0.3502	-0.0850	0.0039	-0.0134	0.0155	-0.5242	0.0802	0.0708	0.0933
4	29.88	0.4002	-0.1345	0.0050	0.0066	0.0225	-0.8098	0.1249	-0.0661	0.0977
4	29.88	0.4500	-0.1557	0.0059	0.0631	0.0308	-1.1594	0.1771	-0.1879	0.0986
4	29.88	0.5001	-0.2134	0.0065	0.0590	0.0399	-1.4891	0.2359	0.0646	0.0900
4	29.88	0.5560	-0.2720	0.0080	0.0778	0.0510	-1.9479	0.3087	-0.1281	0.0883
4	29.88	0.6001	-0.2690	0.0084	0.0883	0.0598	-2.2856	0.3714	-0.1973	0.0905
4	29.88	0.6501	-0.3255	0.0094	0.1102	0.0707	-2.5959	0.4480	0.0516	0.0949
4	29.88	0.6999	-0.3623	0.0099	0.1369	0.0811	-2.9061	0.5333	-0.0165	0.1027
4	29.88	0.7500	-0.3829	0.0108	0.1525	0.0918	-3.1256	0.6316	0.0453	0.0993
4	29.88	0.8002	-0.4553	0.0115	0.1338	0.1031	-3.2993	0.7371	0.1100	0.1200

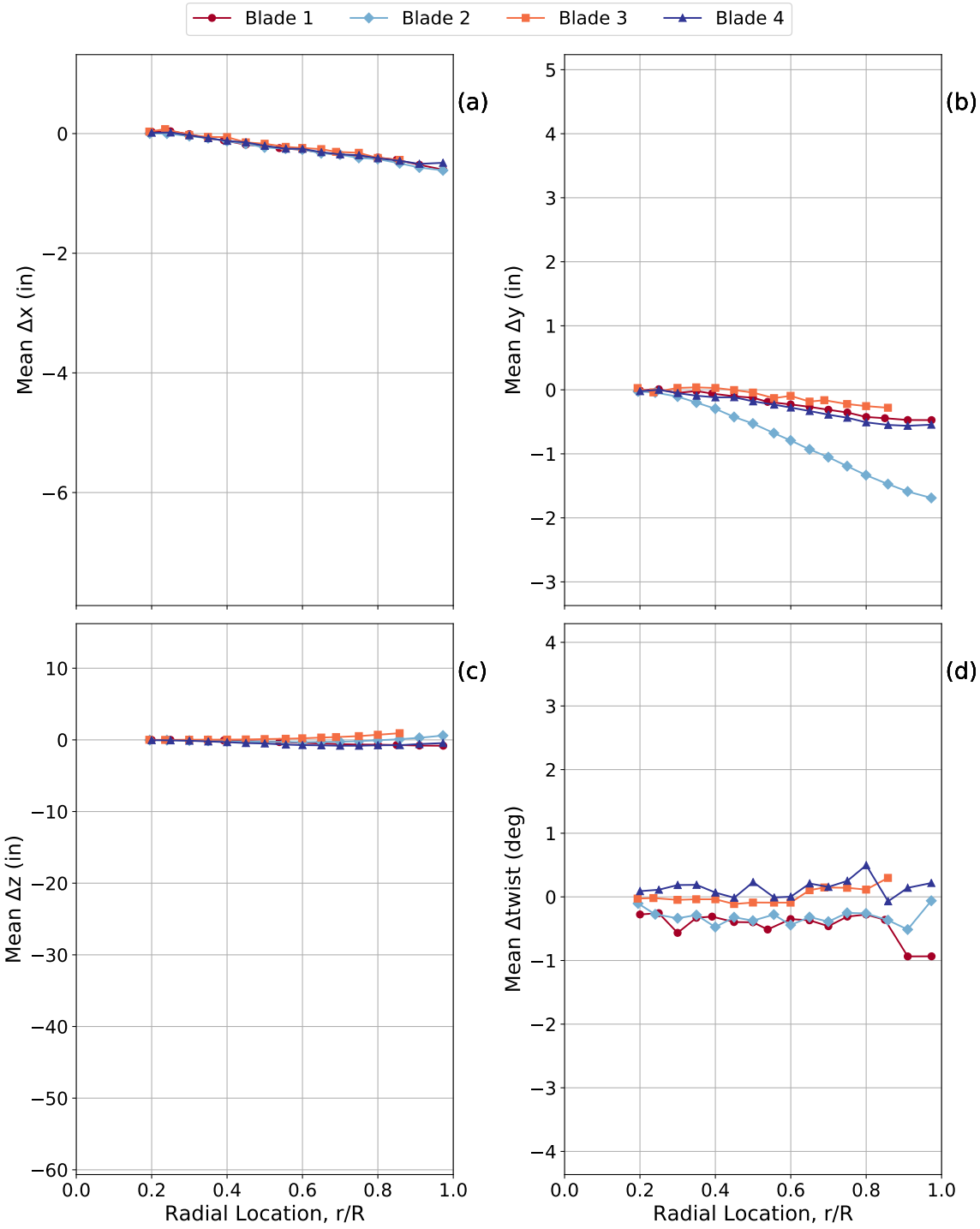


Figure 2.22-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-10. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0305	0.0106	-0.0102	0.0079	-0.0150	0.0192	-0.2764	0.1150
1	45	0.2499	0.0387	0.0064	0.0089	0.0091	0.0025	0.0282	-0.2559	0.3271
1	45	0.2998	-0.0088	0.0063	-0.0479	0.0267	-0.0551	0.0751	-0.5656	0.3248
1	45	0.3498	-0.0816	0.0066	-0.0193	0.0466	-0.0480	0.1308	-0.3281	0.3183
1	45	0.3913	-0.1129	0.0065	-0.0582	0.0626	-0.0847	0.1830	-0.3101	0.3138
1	45	0.4496	-0.1857	0.0071	-0.1017	0.0858	-0.1609	0.2628	-0.3956	0.3106
1	45	0.4997	-0.2117	0.0072	-0.1234	0.1060	-0.2319	0.3359	-0.3995	0.3150
1	45	0.5387	-0.2423	0.0074	-0.1881	0.1223	-0.3107	0.3955	-0.5130	0.3127
1	45	0.5996	-0.2710	0.0080	-0.2277	0.1475	-0.4135	0.4863	-0.3488	0.3166
1	45	0.6498	-0.3187	0.0082	-0.2661	0.1687	-0.5083	0.5589	-0.3679	0.3087
1	45	0.6998	-0.3554	0.0072	-0.3116	0.1898	-0.5911	0.6279	-0.4609	0.3106
1	45	0.7500	-0.3738	0.0081	-0.3544	0.2110	-0.6528	0.6942	-0.3097	0.3075
1	45	0.8001	-0.3994	0.0079	-0.4244	0.2314	-0.6700	0.7619	-0.2777	0.3024
1	45	0.8497	-0.4385	0.0080	-0.4433	0.2521	-0.7160	0.8343	-0.3605	0.3021
1	45	0.9102	-0.5218	0.0099	-0.4716	0.2786	-0.7941	0.9301	-0.9356	0.3103
1	45	0.9734	-0.6042	0.0157	-0.4730	0.3054	-0.8191	1.0386	-0.9342	0.3122
2	45	0.1949	0.0014	0.0082	-0.0259	0.0062	-0.0283	0.0105	-0.1039	0.0698
2	45	0.2405	0.0001	0.0035	-0.0424	0.0044	-0.0345	0.0196	-0.2743	0.1839
2	45	0.2999	-0.0417	0.0036	-0.1062	0.0184	-0.0979	0.0444	-0.3359	0.2034
2	45	0.3498	-0.0775	0.0041	-0.1992	0.0315	-0.1330	0.0775	-0.2856	0.1969
2	45	0.3998	-0.1251	0.0045	-0.2958	0.0449	-0.2118	0.1198	-0.4744	0.2037
2	45	0.4496	-0.1718	0.0054	-0.4240	0.0583	-0.2299	0.1697	-0.3197	0.2070
2	45	0.4995	-0.2314	0.0052	-0.5264	0.0720	-0.2706	0.2281	-0.3738	0.2138
2	45	0.5551	-0.2525	0.0057	-0.6764	0.0878	-0.2894	0.3034	-0.2784	0.2221
2	45	0.5996	-0.2663	0.0056	-0.7914	0.1007	-0.3294	0.3688	-0.4429	0.2301
2	45	0.6497	-0.3288	0.0058	-0.9299	0.1148	-0.2896	0.4463	-0.3169	0.2393
2	45	0.6996	-0.3510	0.0072	-1.0519	0.1299	-0.2638	0.5280	-0.3893	0.2426
2	45	0.7495	-0.4077	0.0071	-1.1923	0.1444	-0.1763	0.6142	-0.2508	0.2436
2	45	0.7996	-0.4263	0.0077	-1.3330	0.1595	-0.0578	0.7057	-0.2606	0.2417
2	45	0.8578	-0.4966	0.0078	-1.4725	0.1764	0.0953	0.8168	-0.3659	0.2620
2	45	0.9100	-0.5676	0.0100	-1.5884	0.1917	0.2893	0.9221	-0.5131	0.2601
2	45	0.9727	-0.6144	0.0162	-1.6889	0.2106	0.6025	1.0521	-0.0612	0.2630
3	45	0.1938	0.0335	0.0061	0.0276	0.0048	0.0134	0.0104	-0.0271	0.0543
3	45	0.2357	0.0743	0.0040	-0.0400	0.0035	-0.0046	0.0166	-0.0187	0.1509
3	45	0.2995	-0.0220	0.0038	0.0295	0.0136	0.0241	0.0428	-0.0468	0.1619
3	45	0.3493	-0.0555	0.0035	0.0383	0.0237	0.0320	0.0716	-0.0374	0.1617
3	45	0.4000	-0.0591	0.0039	0.0289	0.0339	0.0403	0.1125	-0.0373	0.1724
3	45	0.4497	-0.1468	0.0041	-0.0040	0.0443	0.0600	0.1608	-0.1123	0.1796
3	45	0.4997	-0.1697	0.0041	-0.0432	0.0552	0.1128	0.2195	-0.0889	0.1831
3	45	0.5556	-0.2219	0.0043	-0.1301	0.0680	0.1557	0.2940	-0.0900	0.1845
3	45	0.5995	-0.2403	0.0047	-0.0940	0.0784	0.2184	0.3597	-0.0904	0.1949
3	45	0.6498	-0.2592	0.0050	-0.1840	0.0900	0.3229	0.4406	0.1052	0.1975
3	45	0.6890	-0.3053	0.0054	-0.1620	0.1004	0.3914	0.5093	0.1476	0.2049
3	45	0.7495	-0.3212	0.0063	-0.2222	0.1155	0.5248	0.6226	0.1425	0.2003
3	45	0.7998	-0.4070	0.0070	-0.2546	0.1284	0.7137	0.7249	0.1145	0.1993
3	45	0.8577	-0.4394	0.0088	-0.2801	0.1430	0.9305	0.8503	0.2982	0.2129
4	45	0.2001	0.0145	0.0053	-0.0214	0.0034	-0.0338	0.0106	0.0896	0.0518
4	45	0.2502	0.0179	0.0034	0.0004	0.0052	-0.0633	0.0220	0.1124	0.1155
4	45	0.3001	-0.0291	0.0027	-0.0516	0.0117	-0.1195	0.0440	0.1859	0.1255
4	45	0.3502	-0.0762	0.0033	-0.0925	0.0201	-0.2185	0.0782	0.1888	0.1242
4	45	0.4002	-0.1222	0.0039	-0.1177	0.0299	-0.3224	0.1204	0.0671	0.1264
4	45	0.4500	-0.1466	0.0035	-0.1157	0.0402	-0.4417	0.1725	-0.0140	0.1282
4	45	0.5001	-0.2043	0.0041	-0.1803	0.0508	-0.4996	0.2332	0.2324	0.1275
4	45	0.5560	-0.2525	0.0047	-0.2319	0.0639	-0.6575	0.3088	-0.0095	0.1324
4	45	0.6001	-0.2549	0.0041	-0.2773	0.0743	-0.7304	0.3688	0.0022	0.1358
4	45	0.6501	-0.3107	0.0043	-0.3316	0.0873	-0.7644	0.4390	0.2102	0.1375
4	45	0.6999	-0.3479	0.0044	-0.3880	0.1003	-0.8132	0.5095	0.1560	0.1436
4	45	0.7500	-0.3615	0.0047	-0.4363	0.1127	-0.8155	0.5814	0.2513	0.1461
4	45	0.8002	-0.4129	0.0043	-0.5082	0.1266	-0.7552	0.6567	0.4977	0.1518
4	45	0.8582	-0.4546	0.0057	-0.5486	0.1415	-0.7361	0.7482	-0.0696	0.1579
4	45	0.9101	-0.5065	0.0059	-0.5624	0.1564	-0.5841	0.8351	0.1420	0.1632
4	45	0.9728	-0.4883	0.0132	-0.5449	0.1745	-0.4450	0.9501	0.2180	0.1833

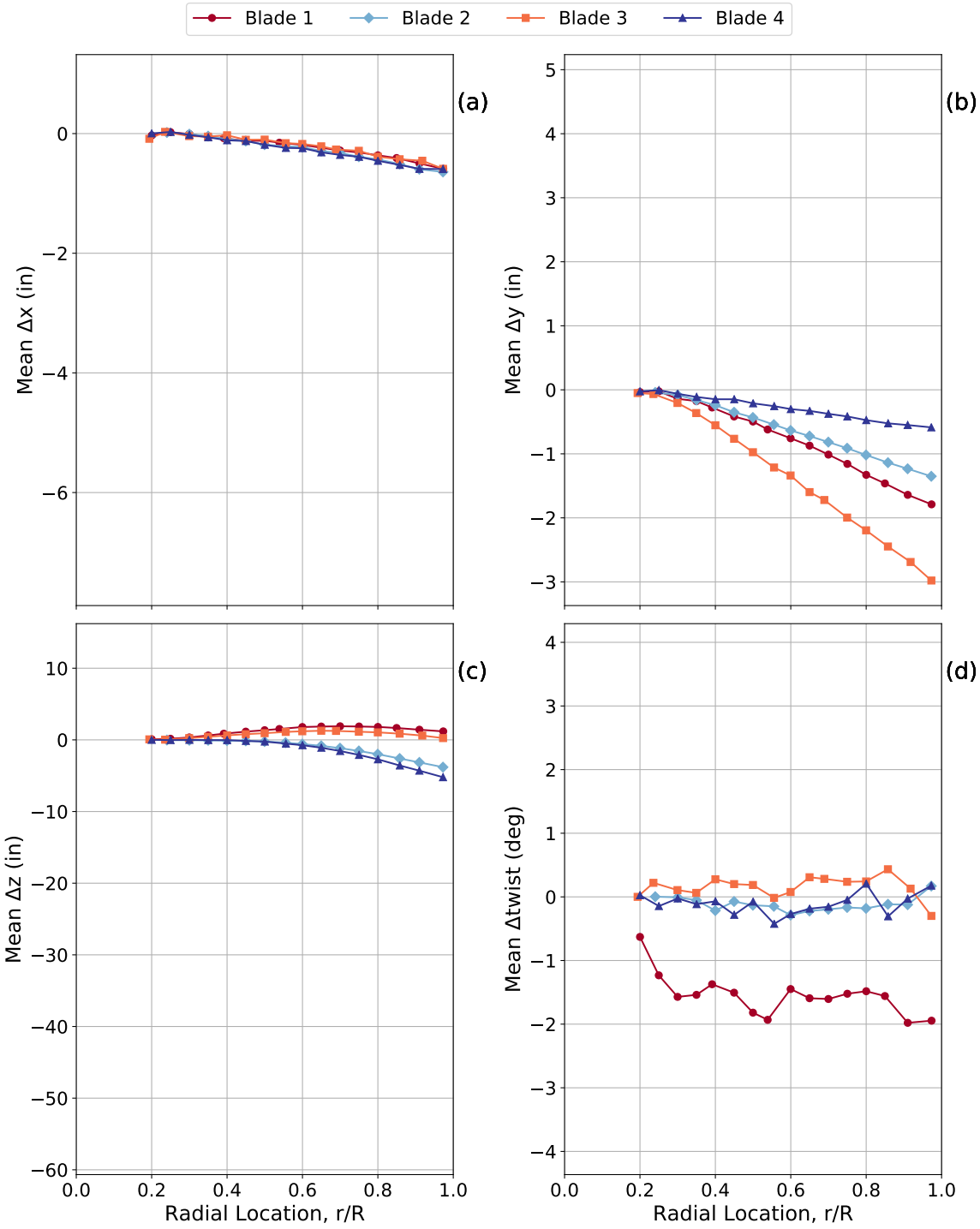


Figure 2.22-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0321	0.0128	-0.0355	0.0080	0.0870	0.0201	-0.6291	0.1281
1	60.12	0.2499	0.0237	0.0067	-0.0235	0.0086	0.1571	0.0222	-1.2325	0.3603
1	60.12	0.2998	-0.0063	0.0129	-0.1403	0.0276	0.3431	0.0688	-1.5714	0.3618
1	60.12	0.3498	-0.0570	0.0204	-0.1763	0.0455	0.6177	0.1146	-1.5395	0.3640
1	60.12	0.3913	-0.0766	0.0293	-0.2762	0.0624	0.8630	0.1569	-1.3730	0.3658
1	60.12	0.4496	-0.1234	0.0403	-0.4168	0.0863	1.1513	0.2180	-1.5056	0.3520
1	60.12	0.4997	-0.1183	0.0260	-0.4954	0.1257	1.3517	0.3227	-1.8195	0.7193
1	60.12	0.5387	-0.1522	0.0156	-0.6197	0.1548	1.5202	0.3224	-1.9321	0.8337
1	60.12	0.5996	-0.1881	0.0345	-0.7571	0.1865	1.7941	0.2999	-1.4485	0.3600
1	60.12	0.6498	-0.2363	0.0338	-0.8719	0.2099	1.8597	0.3590	-1.5927	0.3530
1	60.12	0.6998	-0.2829	0.0336	-1.0121	0.2323	1.8994	0.4189	-1.6048	0.3609
1	60.12	0.7500	-0.3149	0.0331	-1.1569	0.2561	1.8669	0.4820	-1.5221	0.3616
1	60.12	0.8001	-0.3632	0.0326	-1.3282	0.2797	1.8076	0.5480	-1.4830	0.3597
1	60.12	0.8497	-0.4087	0.0326	-1.4619	0.3041	1.6589	0.6167	-1.5583	0.3567
1	60.12	0.9102	-0.4993	0.0325	-1.6406	0.3344	1.4196	0.7024	-1.9790	0.3558
1	60.12	0.9734	-0.5890	0.0278	-1.7890	0.3655	1.1876	0.7957	-1.9456	0.3595
2	60.12	0.2405	0.0180	0.0073	-0.0412	0.0072	-0.0221	0.0179	0.0028	0.1464
2	60.12	0.2999	-0.0097	0.0032	-0.0817	0.0138	-0.0530	0.0393	-0.0073	0.2276
2	60.12	0.3498	-0.0425	0.0038	-0.1598	0.0274	-0.0607	0.0702	-0.0516	0.2193
2	60.12	0.3998	-0.0912	0.0041	-0.2401	0.0407	-0.1048	0.1098	-0.2156	0.2221
2	60.12	0.4496	-0.1243	0.0045	-0.3502	0.0544	-0.1384	0.1547	-0.0728	0.2237
2	60.12	0.4995	-0.1852	0.0047	-0.4320	0.0685	-0.2285	0.2044	-0.1310	0.2215
2	60.12	0.5551	-0.2120	0.0047	-0.5436	0.0845	-0.3880	0.2630	-0.1486	0.2233
2	60.12	0.5996	-0.2247	0.0053	-0.6347	0.0984	-0.5871	0.3115	-0.2863	0.2246
2	60.12	0.6497	-0.2918	0.0054	-0.7222	0.1137	-0.8297	0.3646	-0.2219	0.2239
2	60.12	0.6996	-0.3227	0.0056	-0.8166	0.1295	-1.1554	0.4198	-0.1958	0.2260
2	60.12	0.7495	-0.3873	0.0062	-0.9120	0.1454	-1.5455	0.4757	-0.1666	0.2255
2	60.12	0.7996	-0.4308	0.0070	-1.0181	0.1618	-1.9964	0.5346	-0.1806	0.2251
2	60.12	0.8578	-0.5089	0.0090	-1.1376	0.1807	-2.5999	0.6073	-0.1160	0.2232
2	60.12	0.9100	-0.5957	0.0106	-1.2332	0.1984	-3.1434	0.6737	-0.1229	0.2291
2	60.12	0.9727	-0.6410	0.0127	-1.3508	0.2194	-3.8042	0.7566	0.1701	0.2334
3	60.12	0.1938	-0.0871	0.0173	-0.0505	0.0166	0.0738	0.0145	0.0006	0.0489
3	60.12	0.2357	0.0286	0.0099	-0.0657	0.0067	0.0313	0.0115	0.2207	0.1284
3	60.12	0.2995	-0.0424	0.0150	-0.2054	0.0497	0.2458	0.0489	0.1067	0.1369
3	60.12	0.3493	-0.0504	0.0221	-0.3633	0.0864	0.4250	0.0859	0.0629	0.1150
3	60.12	0.4000	-0.0284	0.0321	-0.5537	0.1247	0.6300	0.1276	0.2762	0.1249
3	60.12	0.4497	-0.1031	0.0401	-0.7649	0.1621	0.7936	0.1684	0.2011	0.1214
3	60.12	0.4997	-0.1003	0.0480	-0.9746	0.2008	0.9357	0.2146	0.1868	0.1169
3	60.12	0.5556	-0.1600	0.0338	-1.2135	0.2496	1.1116	0.2098	-0.0159	0.2023
3	60.12	0.5995	-0.1728	0.0333	-1.3382	0.2819	1.2014	0.2472	0.0765	0.2032
3	60.12	0.6498	-0.2129	0.0320	-1.5975	0.3192	1.2745	0.2903	0.3085	0.1998
3	60.12	0.6890	-0.2660	0.0316	-1.7212	0.3476	1.2504	0.3267	0.2830	0.2001
3	60.12	0.7495	-0.2872	0.0311	-1.9955	0.3925	1.1392	0.3867	0.2371	0.2010
3	60.12	0.7998	-0.3866	0.0306	-2.1948	0.4298	1.0483	0.4411	0.2425	0.1964
3	60.12	0.8577	-0.4288	0.0304	-2.4470	0.4725	0.8662	0.5085	0.4342	0.1996
3	60.12	0.9178	-0.4535	0.0297	-2.6890	0.5172	0.6025	0.5817	0.1296	0.2016
3	60.12	0.9729	-0.5889	0.0243	-2.9786	0.5580	0.2507	0.6519	-0.2992	0.2022
4	60.12	0.2001	0.0037	0.0084	-0.0238	0.0044	0.0009	0.0117	0.0257	0.0620
4	60.12	0.2502	0.0273	0.0041	-0.0060	0.0056	-0.0267	0.0204	-0.1450	0.1613
4	60.12	0.3001	-0.0218	0.0034	-0.0622	0.0139	0.0001	0.0439	-0.0252	0.1642
4	60.12	0.3502	-0.0623	0.0032	-0.1116	0.0252	-0.0270	0.0775	-0.1145	0.1512
4	60.12	0.4002	-0.1119	0.0039	-0.1476	0.0359	-0.0342	0.1169	-0.0697	0.1513
4	60.12	0.4500	-0.1249	0.0039	-0.1477	0.0469	-0.1439	0.1611	-0.2821	0.1537
4	60.12	0.5001	-0.1867	0.0037	-0.2114	0.0582	-0.2362	0.2085	-0.0742	0.1519
4	60.12	0.5560	-0.2398	0.0046	-0.2553	0.0717	-0.5210	0.2634	-0.4235	0.1544
4	60.12	0.6001	-0.2439	0.0051	-0.3013	0.0823	-0.7459	0.3067	-0.2691	0.1567
4	60.12	0.6501	-0.3137	0.0066	-0.3292	0.0956	-1.0968	0.3580	-0.1856	0.1563
4	60.12	0.6999	-0.3565	0.0077	-0.3750	0.1073	-1.5569	0.4131	-0.1552	0.1612
4	60.12	0.7500	-0.3885	0.0103	-0.4164	0.1206	-2.1010	0.4780	-0.0473	0.1608
4	60.12	0.8002	-0.4551	0.0135	-0.4737	0.1341	-2.7144	0.5575	0.2073	0.1622
4	60.12	0.8582	-0.5239	0.0193	-0.5241	0.1505	-3.5790	0.6655	-0.3059	0.1619
4	60.12	0.9101	-0.5897	0.0229	-0.5501	0.1648	-4.2978	0.7753	-0.0277	0.1632
4	60.12	0.9728	-0.5928	0.0282	-0.5868	0.1826	-5.2106	0.9193	0.1768	0.1586

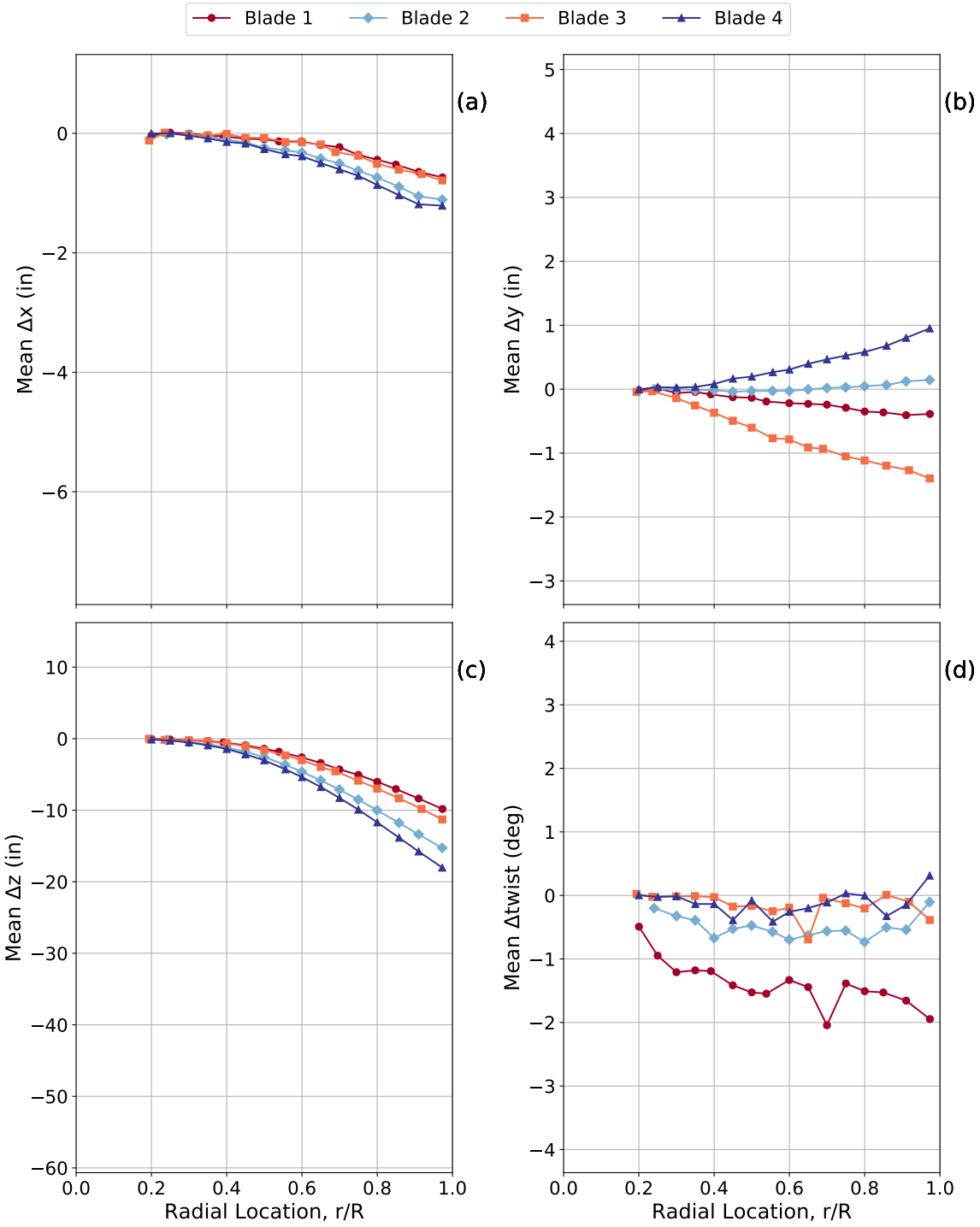


Figure 2.22-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0369	0.0239	-0.0167	0.0151	-0.0391	0.0364	-0.4915	0.2224
1	74.88	0.2499	0.0134	0.0090	0.0120	0.0178	-0.1145	0.0388	-0.9478	0.6520
1	74.88	0.2998	-0.0028	0.0145	-0.0604	0.0525	-0.2104	0.1245	-1.2087	0.6385
1	74.88	0.3498	-0.0372	0.0306	-0.0433	0.0886	-0.3340	0.2085	-1.1789	0.6425
1	74.88	0.3913	-0.0489	0.0440	-0.0817	0.1215	-0.5255	0.2847	-1.1918	0.6284
1	74.88	0.4496	-0.0907	0.0598	-0.1256	0.1715	-0.9266	0.3912	-1.4144	0.6381
1	74.88	0.4997	-0.0981	0.0700	-0.1342	0.2187	-1.4006	0.4880	-1.5259	0.6296
1	74.88	0.5387	-0.1342	0.0776	-0.1931	0.2577	-1.8224	0.5639	-1.5474	0.6485
1	74.88	0.5996	-0.1367	0.0852	-0.2186	0.3224	-2.6122	0.6886	-1.3317	0.6517
1	74.88	0.6498	-0.1952	0.0875	-0.2294	0.3786	-3.3974	0.7966	-1.4429	0.6423
1	74.88	0.6998	-0.2302	0.0521	-0.2423	0.4924	-4.2960	1.0489	-2.0439	1.9386
1	74.88	0.7500	-0.3595	0.0853	-0.2908	0.6399	-5.0618	0.6659	-1.3859	0.6829
1	74.88	0.8001	-0.4424	0.0888	-0.3495	0.7023	-6.0256	0.7540	-1.5077	0.6849
1	74.88	0.8497	-0.5226	0.0940	-0.3634	0.7656	-7.0468	0.8375	-1.5276	0.6850
1	74.88	0.9102	-0.6446	0.0988	-0.4061	0.8434	-8.3700	0.9373	-1.6565	0.6874
1	74.88	0.9734	-0.7365	0.0886	-0.3867	0.9254	-9.8276	1.0441	-1.9470	0.6748
2	74.88	0.2405	-0.0156	0.0073	-0.0036	0.0082	-0.2044	0.0189	-0.2013	0.1538
2	74.88	0.2999	-0.0184	0.0054	-0.0023	0.0159	-0.4756	0.0414	-0.3240	0.2414
2	74.88	0.3498	-0.0520	0.0061	-0.0131	0.0310	-0.7787	0.0770	-0.3914	0.2302
2	74.88	0.3998	-0.1079	0.0068	-0.0142	0.0461	-1.2544	0.1195	-0.6720	0.2268
2	74.88	0.4496	-0.1526	0.0087	-0.0408	0.0610	-1.8272	0.1679	-0.5266	0.2271
2	74.88	0.4995	-0.2389	0.0118	-0.0278	0.0761	-2.5709	0.2242	-0.4734	0.2306
2	74.88	0.5551	-0.2825	0.0150	-0.0263	0.0953	-3.6372	0.2939	-0.5723	0.2234
2	74.88	0.5996	-0.3204	0.0194	-0.0268	0.1108	-4.6239	0.3545	-0.6964	0.2282
2	74.88	0.6497	-0.4216	0.0241	-0.0037	0.1289	-5.8210	0.4262	-0.6271	0.2281
2	74.88	0.6996	-0.5041	0.0301	0.0181	0.1474	-7.1186	0.4986	-0.5621	0.2263
2	74.88	0.7495	-0.6265	0.0358	0.0302	0.1657	-8.5210	0.5688	-0.5541	0.2346
2	74.88	0.7996	-0.7373	0.0423	0.0467	0.1846	-10.0099	0.6416	-0.7329	0.2323
2	74.88	0.8578	-0.8949	0.0512	0.0655	0.2073	-11.7675	0.7260	-0.5039	0.2369
2	74.88	0.9100	-1.0522	0.0581	0.1227	0.2270	-13.3861	0.8043	-0.5406	0.2360
2	74.88	0.9727	-1.1096	0.0639	0.1444	0.2513	-15.2686	0.9010	-0.1036	0.2534
3	74.88	0.1938	-0.1191	0.0272	-0.0423	0.0170	-0.0150	0.0259	0.0229	0.0393
3	74.88	0.2357	0.0117	0.0093	-0.0324	0.0093	-0.1761	0.0155	-0.0221	0.0966
3	74.88	0.2995	-0.0342	0.0184	-0.1395	0.0533	-0.2261	0.0805	-0.0142	0.1061
3	74.88	0.3493	-0.0325	0.0373	-0.2541	0.0916	-0.3818	0.1373	-0.0108	0.0970
3	74.88	0.4000	-0.0091	0.0549	-0.3686	0.1343	-0.6628	0.2014	-0.0271	0.1021
3	74.88	0.4497	-0.0744	0.0684	-0.4942	0.1785	-1.0582	0.2671	-0.1752	0.0970
3	74.88	0.4997	-0.0759	0.0798	-0.6020	0.2266	-1.5819	0.3401	-0.1632	0.0976
3	74.88	0.5556	-0.1455	0.0879	-0.7665	0.2830	-2.3330	0.4233	-0.2495	0.1083
3	74.88	0.5995	-0.1486	0.0973	-0.7855	0.3292	-3.0029	0.4915	-0.1925	0.1544
3	74.88	0.6498	-0.1845	0.0590	-0.9125	0.4436	-3.9519	0.6898	-0.6924	2.2017
3	74.88	0.6890	-0.3136	0.0576	-0.9327	0.5563	-4.5617	0.4352	-0.0366	0.1532
3	74.88	0.7495	-0.3740	0.0608	-1.0506	0.6254	-5.8656	0.5245	-0.1228	0.1640
3	74.88	0.7998	-0.5087	0.0633	-1.1145	0.6831	-6.9808	0.5998	-0.2046	0.1572
3	74.88	0.8577	-0.6059	0.0683	-1.1959	0.7503	-8.3251	0.6849	0.0074	0.1572
3	74.88	0.9178	-0.6825	0.0723	-1.2688	0.8194	-9.8193	0.7772	-0.1015	0.1579
3	74.88	0.9729	-0.7879	0.0625	-1.3964	0.8838	-11.2950	0.8641	-0.3877	0.1807
4	74.88	0.2001	-0.0023	0.0080	-0.0035	0.0032	-0.1222	0.0093	0.0029	0.0643
4	74.88	0.2502	0.0029	0.0048	0.0334	0.0055	-0.2729	0.0222	-0.0239	0.1529
4	74.88	0.3001	-0.0392	0.0045	0.0240	0.0110	-0.5275	0.0398	-0.0128	0.1558
4	74.88	0.3502	-0.0839	0.0061	0.0346	0.0181	-0.9282	0.0675	-0.1350	0.1451
4	74.88	0.4002	-0.1430	0.0077	0.0808	0.0275	-1.4426	0.1068	-0.1353	0.1538
4	74.88	0.4500	-0.1700	0.0098	0.1653	0.0368	-2.1861	0.1554	-0.3889	0.1553
4	74.88	0.5001	-0.2623	0.0123	0.1963	0.0469	-3.0282	0.2184	-0.0813	0.1544
4	74.88	0.5560	-0.3490	0.0179	0.2663	0.0588	-4.2931	0.3003	-0.4127	0.1499
4	74.88	0.6001	-0.3827	0.0236	0.3068	0.0692	-5.3767	0.3768	-0.2583	0.1575
4	74.88	0.6501	-0.4983	0.0316	0.3966	0.0813	-6.7610	0.4725	-0.2000	0.1568
4	74.88	0.6999	-0.6034	0.0413	0.4662	0.0939	-8.2822	0.5752	-0.1109	0.1584
4	74.88	0.7500	-0.7106	0.0519	0.5268	0.1068	-9.9256	0.6824	0.0319	0.1588
4	74.88	0.8002	-0.8635	0.0640	0.5812	0.1204	-11.6992	0.7940	-0.0047	0.1629
4	74.88	0.8582	-1.0354	0.0791	0.6784	0.1360	-13.8439	0.9280	-0.3251	0.1641
4	74.88	0.9101	-1.1872	0.0923	0.8035	0.1503	-15.7673	1.0527	-0.1486	0.1634
4	74.88	0.9728	-1.2109	0.1061	0.9511	0.1670	-18.0233	1.2103	0.3119	0.1662

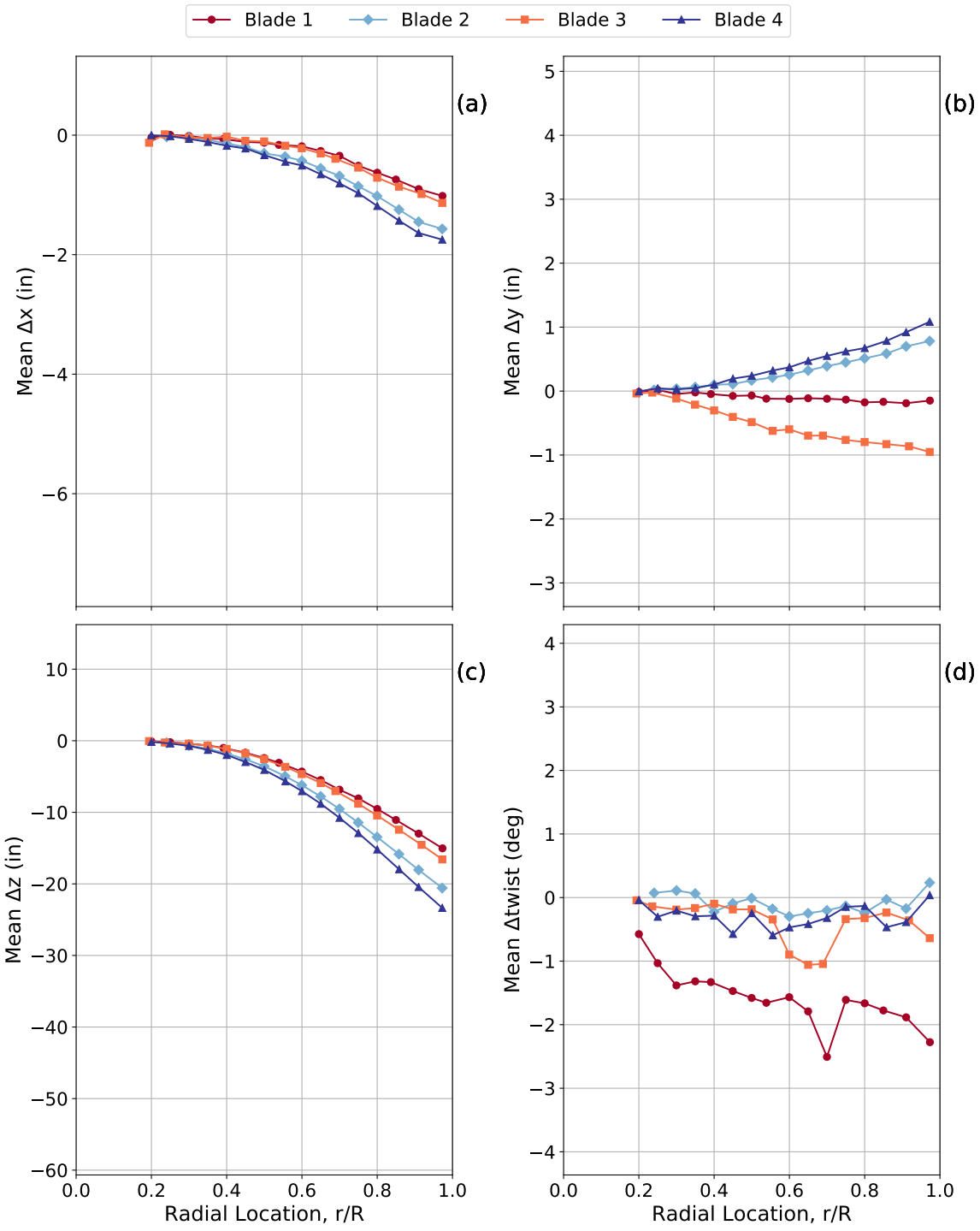


Figure 2.22-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0395	0.0324	-0.0136	0.0202	-0.0827	0.0506	-0.5753	0.3357
1	80.16	0.2499	0.0044	0.0168	0.0187	0.0214	-0.2063	0.0541	-1.0329	0.9258
1	80.16	0.2998	-0.0141	0.0161	-0.0454	0.0685	-0.4038	0.1672	-1.3823	0.9361
1	80.16	0.3498	-0.0537	0.0399	-0.0211	0.1152	-0.6611	0.2847	-1.3183	0.9250
1	80.16	0.3913	-0.0656	0.0592	-0.0466	0.1565	-1.0059	0.3832	-1.3303	0.9330
1	80.16	0.4496	-0.1126	0.0809	-0.0756	0.2226	-1.6718	0.5276	-1.4705	0.9399
1	80.16	0.4997	-0.1263	0.0967	-0.0689	0.2870	-2.4205	0.6590	-1.5794	0.9229
1	80.16	0.5387	-0.1629	0.1064	-0.1187	0.3403	-3.0827	0.7602	-1.6558	0.9289
1	80.16	0.5996	-0.1862	0.1158	-0.1226	0.4307	-4.3073	0.9253	-1.5675	0.9192
1	80.16	0.6498	-0.2650	0.1231	-0.1121	0.5110	-5.4927	1.0640	-1.7910	0.9341
1	80.16	0.6998	-0.3460	0.0653	-0.1201	0.7029	-6.8404	1.4450	-2.5068	3.0127
1	80.16	0.7500	-0.5128	0.1265	-0.1334	0.9677	-8.0634	0.7794	-1.6101	0.9160
1	80.16	0.8001	-0.6284	0.1346	-0.1767	1.0635	-9.5342	0.8931	-1.6643	0.9077
1	80.16	0.8497	-0.7429	0.1446	-0.1681	1.1597	-11.0701	1.0021	-1.7762	0.9185
1	80.16	0.9102	-0.9031	0.1555	-0.1897	1.2779	-12.9779	1.1356	-1.8845	0.9196
1	80.16	0.9734	-1.0172	0.1437	-0.1485	1.4025	-15.0324	1.2756	-2.2755	0.9152
2	80.16	0.2405	-0.0285	0.0084	0.0161	0.0078	-0.2877	0.0204	0.0728	0.1730
2	80.16	0.2999	-0.0401	0.0074	0.0364	0.0149	-0.6632	0.0448	0.1098	0.2718
2	80.16	0.3498	-0.0781	0.0081	0.0618	0.0296	-1.1134	0.0832	0.0626	0.2518
2	80.16	0.3998	-0.1395	0.0098	0.0981	0.0438	-1.7823	0.1293	-0.2260	0.2488
2	80.16	0.4496	-0.1973	0.0122	0.1092	0.0580	-2.5842	0.1849	-0.0918	0.2488
2	80.16	0.4995	-0.3041	0.0187	0.1673	0.0739	-3.5623	0.2483	-0.0104	0.2633
2	80.16	0.5551	-0.3592	0.0219	0.2130	0.0927	-4.9431	0.3317	-0.1780	0.2568
2	80.16	0.5996	-0.4278	0.0272	0.2555	0.1088	-6.2124	0.4038	-0.2981	0.2546
2	80.16	0.6497	-0.5558	0.0356	0.3218	0.1272	-7.7826	0.4880	-0.2478	0.2573
2	80.16	0.6996	-0.6829	0.0453	0.3905	0.1460	-9.5302	0.5758	-0.2027	0.2592
2	80.16	0.7495	-0.8552	0.0572	0.4492	0.1660	-11.4311	0.6703	-0.1342	0.2581
2	80.16	0.7996	-1.0200	0.0694	0.5111	0.1860	-13.4549	0.7662	-0.2418	0.2583
2	80.16	0.8578	-1.2467	0.0849	0.5866	0.2096	-15.8514	0.8793	-0.0306	0.2578
2	80.16	0.9100	-1.4508	0.0982	0.6989	0.2309	-18.0484	0.9815	-0.1735	0.2601
2	80.16	0.9727	-1.5698	0.1101	0.7821	0.2565	-20.5813	1.1052	0.2344	0.2641
3	80.16	0.1938	-0.1274	0.0144	-0.0374	0.0249	-0.0510	0.0345	-0.0438	0.0388
3	80.16	0.2357	0.0141	0.0087	-0.0233	0.0108	-0.2493	0.0188	-0.1397	0.0642
3	80.16	0.2995	-0.0409	0.0176	-0.1158	0.0740	-0.4055	0.1052	-0.1896	0.0758
3	80.16	0.3493	-0.0477	0.0350	-0.2121	0.1276	-0.6863	0.1807	-0.1659	0.0760
3	80.16	0.4000	-0.0255	0.0511	-0.3031	0.1843	-1.1481	0.2628	-0.0974	0.0818
3	80.16	0.4497	-0.0949	0.0629	-0.4040	0.2452	-1.7698	0.3490	-0.1870	0.0758
3	80.16	0.4997	-0.1055	0.0726	-0.4855	0.3087	-2.5583	0.4410	-0.1846	0.0837
3	80.16	0.5556	-0.1769	0.0819	-0.6225	0.3820	-3.6467	0.5432	-0.3446	0.0890
3	80.16	0.5995	-0.2187	0.0440	-0.5983	0.5291	-4.6585	0.7720	-0.8970	2.4603
3	80.16	0.6498	-0.3070	0.0394	-0.6961	0.6606	-5.9155	0.7320	-1.0579	2.6372
3	80.16	0.6890	-0.3957	0.0460	-0.6961	0.7148	-7.0338	0.8073	-1.0455	2.8039
3	80.16	0.7495	-0.5437	0.0870	-0.7635	0.8501	-8.7970	0.5356	-0.3395	0.1121
3	80.16	0.7998	-0.7122	0.0924	-0.7972	0.9268	-10.4436	0.6101	-0.3229	0.1183
3	80.16	0.8577	-0.8617	0.0999	-0.8295	1.0144	-12.4289	0.6940	-0.2360	0.1170
3	80.16	0.9178	-0.9856	0.1070	-0.8641	1.1064	-14.5472	0.7815	-0.3592	0.1267
3	80.16	0.9729	-1.1340	0.0914	-0.9523	1.1900	-16.5798	0.8614	-0.6388	0.1247
4	80.16	0.2001	-0.0009	0.0089	-0.0042	0.0046	-0.1658	0.0173	-0.0402	0.0877
4	80.16	0.2502	-0.0173	0.0087	0.0426	0.0073	-0.3851	0.0362	-0.3030	0.2119
4	80.16	0.3001	-0.0629	0.0080	0.0281	0.0162	-0.7277	0.0727	-0.2058	0.2241
4	80.16	0.3502	-0.1146	0.0094	0.0462	0.0277	-1.2762	0.1260	-0.2945	0.2125
4	80.16	0.4002	-0.1779	0.0129	0.1014	0.0416	-1.9932	0.1961	-0.2849	0.2086
4	80.16	0.4500	-0.2224	0.0178	0.1943	0.0569	-2.9780	0.2804	-0.5726	0.2066
4	80.16	0.5001	-0.3344	0.0234	0.2393	0.0734	-4.0761	0.3794	-0.2461	0.2215
4	80.16	0.5560	-0.4454	0.0337	0.3215	0.0945	-5.6625	0.5005	-0.5931	0.2124
4	80.16	0.6001	-0.5083	0.0432	0.3720	0.1117	-7.0462	0.6035	-0.4695	0.2150
4	80.16	0.6501	-0.6555	0.0554	0.4719	0.1320	-8.8077	0.7241	-0.4160	0.2166
4	80.16	0.6999	-0.8084	0.0698	0.5498	0.1530	-10.7734	0.8463	-0.3209	0.2119
4	80.16	0.7500	-0.9717	0.0858	0.6203	0.1751	-12.9077	0.9703	-0.1461	0.2180
4	80.16	0.8002	-1.1857	0.1032	0.6727	0.1972	-15.1992	1.0950	-0.1320	0.2158
4	80.16	0.8582	-1.4319	0.1241	0.7853	0.2232	-17.9642	1.2357	-0.4675	0.2195
4	80.16	0.9101	-1.6373	0.1412	0.9207	0.2474	-20.4469	1.3613	-0.3865	0.2159
4	80.16	0.9728	-1.7487	0.1567	1.0831	0.2764	-23.3600	1.5125	0.0367	0.2133

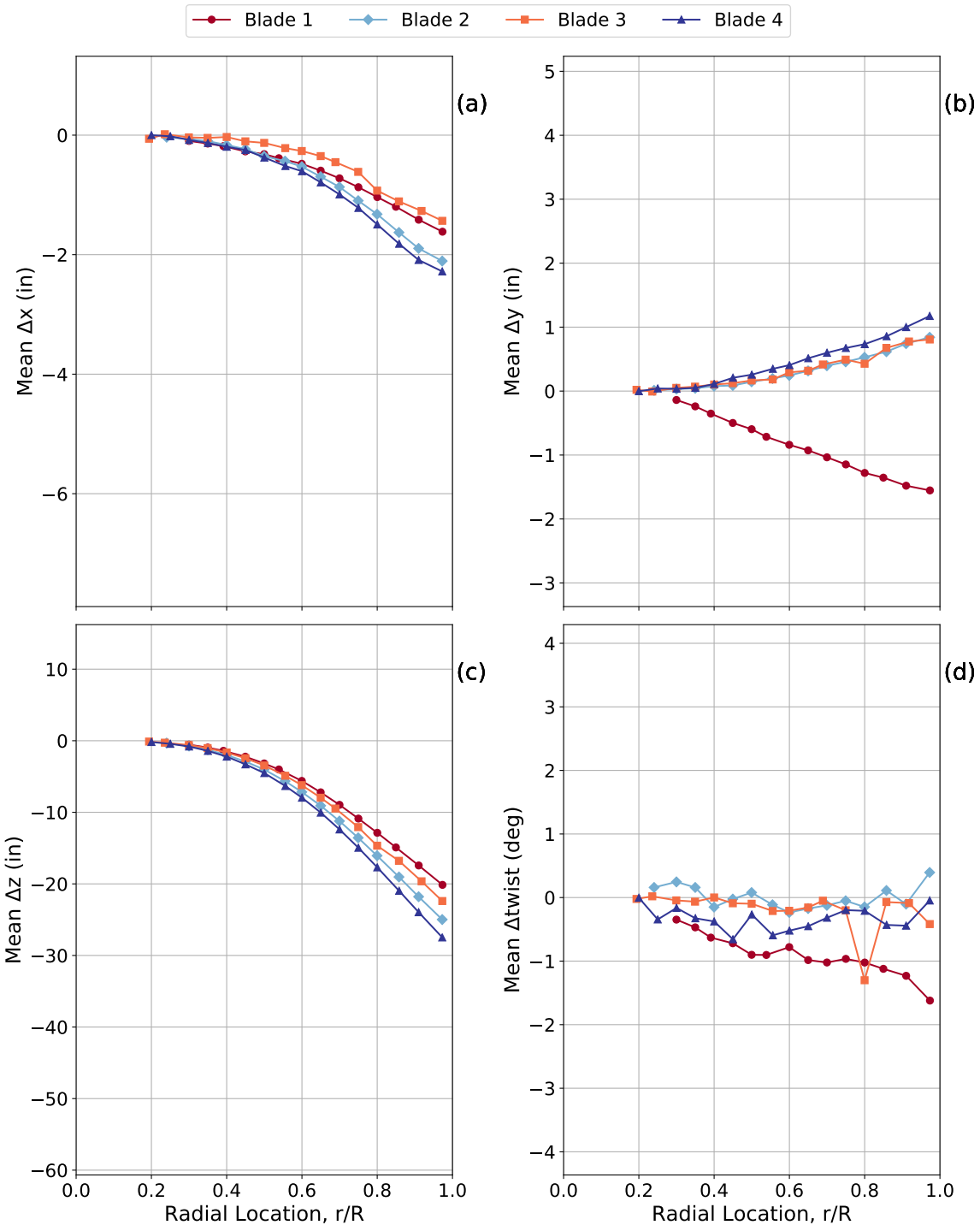


Figure 2.22-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-14. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2998	-0.0966	0.0224	-0.1390	0.0365	-0.5449	0.1056	-0.3473	0.3362
1	85.08	0.3498	-0.1405	0.0263	-0.2392	0.0623	-0.9512	0.1889	-0.4694	0.4517
1	85.08	0.3913	-0.1841	0.0272	-0.3522	0.0914	-1.4110	0.2839	-0.6299	0.4288
1	85.08	0.4496	-0.2720	0.0320	-0.4985	0.1301	-2.2284	0.4126	-0.7192	0.4253
1	85.08	0.4997	-0.3179	0.0385	-0.5961	0.1646	-3.1745	0.5287	-0.9009	0.4379
1	85.08	0.5387	-0.3859	0.0439	-0.7148	0.1924	-4.0136	0.6237	-0.9032	0.4387
1	85.08	0.5996	-0.4796	0.0559	-0.8404	0.2373	-5.6118	0.7778	-0.7799	0.4442
1	85.08	0.6498	-0.5940	0.0672	-0.9272	0.2760	-7.2100	0.9094	-0.9837	0.4390
1	85.08	0.6998	-0.7227	0.0813	-1.0356	0.3156	-8.9577	1.0420	-1.0218	0.4434
1	85.08	0.7500	-0.8714	0.0967	-1.1471	0.3566	-10.8770	1.1773	-0.9647	0.4463
1	85.08	0.8001	-1.0368	0.1134	-1.2800	0.3976	-12.8621	1.3140	-1.0226	0.4503
1	85.08	0.8497	-1.1982	0.1308	-1.3537	0.4391	-14.9076	1.4522	-1.1215	0.4496
1	85.08	0.9102	-1.4152	0.1511	-1.4797	0.4896	-17.4266	1.6221	-1.2311	0.4499
1	85.08	0.9734	-1.6157	0.1647	-1.5533	0.5433	-20.1380	1.8027	-1.6208	0.4521
2	85.08	0.2405	-0.0350	0.0097	0.0112	0.0092	-0.3222	0.0243	0.1591	0.2044
2	85.08	0.2999	-0.0644	0.0112	0.0319	0.0176	-0.7378	0.0519	0.2463	0.3229
2	85.08	0.3498	-0.0988	0.0099	0.0436	0.0350	-1.2537	0.1020	0.1589	0.2816
2	85.08	0.3998	-0.1656	0.0122	0.0769	0.0518	-1.9999	0.1560	-0.1499	0.2805
2	85.08	0.4496	-0.2333	0.0159	0.0875	0.0682	-2.9053	0.2130	-0.0240	0.2876
2	85.08	0.4995	-0.3520	0.0205	0.1453	0.0863	-4.0214	0.2813	0.0789	0.2863
2	85.08	0.5551	-0.4345	0.0281	0.1963	0.1083	-5.6415	0.3630	-0.1133	0.2906
2	85.08	0.5996	-0.5272	0.0354	0.2445	0.1269	-7.1605	0.4356	-0.2342	0.2898
2	85.08	0.6497	-0.6947	0.0454	0.3155	0.1488	-9.0744	0.5215	-0.1731	0.2849
2	85.08	0.6996	-0.8676	0.0577	0.3959	0.1712	-11.2208	0.6103	-0.1229	0.2896
2	85.08	0.7495	-1.0965	0.0713	0.4572	0.1948	-13.5657	0.7020	-0.0512	0.2852
2	85.08	0.7996	-1.3228	0.0869	0.5278	0.2190	-16.0640	0.7984	-0.1476	0.2886
2	85.08	0.8578	-1.6285	0.1069	0.6158	0.2474	-19.0342	0.9138	0.1105	0.2853
2	85.08	0.9100	-1.8953	0.1237	0.7410	0.2735	-21.7925	1.0199	-0.1033	0.2824
2	85.08	0.9727	-2.1067	0.1414	0.8411	0.3044	-24.9831	1.1512	0.3948	0.2826
3	85.08	0.1938	-0.0604	0.0251	0.0198	0.0266	-0.1154	0.0485	-0.0220	0.0420
3	85.08	0.2357	0.0153	0.0086	-0.0073	0.0084	-0.2714	0.0190	0.0192	0.0610
3	85.08	0.2995	-0.0371	0.0048	0.0501	0.0767	-0.6011	0.1394	-0.0447	0.0866
3	85.08	0.3493	-0.0458	0.0090	0.0693	0.1323	-1.0269	0.2398	-0.0648	0.0799
3	85.08	0.4000	-0.0309	0.0136	0.1022	0.1894	-1.6408	0.3437	0.0014	0.0754
3	85.08	0.4497	-0.1037	0.0177	0.1231	0.2480	-2.4372	0.4534	-0.0902	0.0792
3	85.08	0.4997	-0.1295	0.0200	0.1663	0.3083	-3.4574	0.5652	-0.0975	0.0837
3	85.08	0.5556	-0.2171	0.0220	0.1821	0.3776	-4.8932	0.6946	-0.2117	0.0777
3	85.08	0.5995	-0.2655	0.0234	0.2927	0.4341	-6.2078	0.7966	-0.2082	0.0834
3	85.08	0.6498	-0.3510	0.0293	0.3176	0.4984	-7.9608	0.9116	-0.1564	0.0895
3	85.08	0.6890	-0.4519	0.0360	0.4160	0.5496	-9.4744	1.0024	-0.0495	0.1286
3	85.08	0.7495	-0.6147	0.0513	0.4915	0.6319	-12.0700	1.1471	-0.2003	0.0958
3	85.08	0.7998	-0.9281	0.1098	0.4276	0.7574	-14.6645	1.5091	-1.3009	4.0794
3	85.08	0.8577	-1.1088	0.2091	0.6753	0.8806	-16.7782	0.8185	-0.0711	0.1455
3	85.08	0.9178	-1.2685	0.1864	0.7753	0.9516	-19.6400	0.9331	-0.0872	0.1564
3	85.08	0.9729	-1.4340	0.1395	0.8064	0.9914	-22.3968	1.0415	-0.4173	0.1641
4	85.08	0.2001	0.0002	0.0096	-0.0021	0.0046	-0.1815	0.0169	-0.0047	0.1010
4	85.08	0.2502	-0.0187	0.0113	0.0404	0.0076	-0.4348	0.0343	-0.3444	0.1887
4	85.08	0.3001	-0.0802	0.0086	0.0361	0.0145	-0.8055	0.0644	-0.1635	0.2186
4	85.08	0.3502	-0.1309	0.0094	0.0502	0.0251	-1.4221	0.1124	-0.3263	0.2046
4	85.08	0.4002	-0.1944	0.0126	0.1114	0.0372	-2.2219	0.1726	-0.3762	0.2053
4	85.08	0.4500	-0.2488	0.0158	0.2081	0.0501	-3.3015	0.2452	-0.6567	0.2056
4	85.08	0.5001	-0.3751	0.0220	0.2566	0.0633	-4.5193	0.3289	-0.2670	0.1969
4	85.08	0.5560	-0.5170	0.0338	0.3480	0.0818	-6.3306	0.4397	-0.5943	0.1920
4	85.08	0.6001	-0.6040	0.0448	0.4057	0.0969	-7.9586	0.5377	-0.5205	0.1976
4	85.08	0.6501	-0.7918	0.0599	0.5135	0.1151	-10.0506	0.6589	-0.4506	0.1980
4	85.08	0.6999	-0.9922	0.0777	0.5989	0.1338	-12.3945	0.7832	-0.3179	0.1991
4	85.08	0.7500	-1.2182	0.0977	0.6735	0.1535	-14.9568	0.9097	-0.1975	0.2024
4	85.08	0.8002	-1.4951	0.1190	0.7336	0.1737	-17.6958	1.0355	-0.2089	0.1968
4	85.08	0.8582	-1.8186	0.1441	0.8572	0.1978	-20.9764	1.1780	-0.4308	0.2013
4	85.08	0.9101	-2.0892	0.1659	0.9997	0.2199	-23.9617	1.3051	-0.4427	0.1998
4	85.08	0.9728	-2.2806	0.1863	1.1739	0.2466	-27.4810	1.4604	-0.0465	0.2002

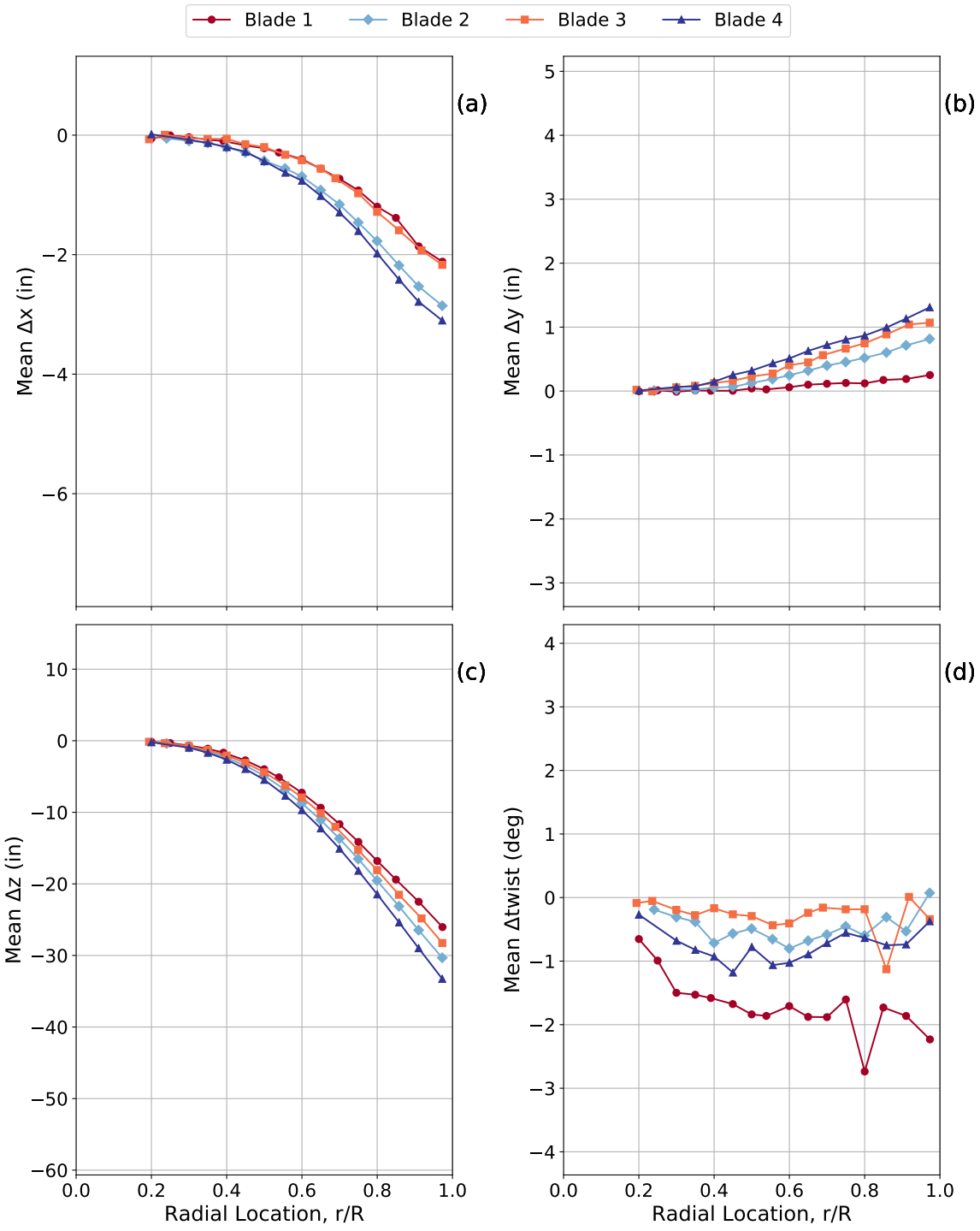


Figure 2.22-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-15. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0560	0.0291	-0.0025	0.0260	-0.1468	0.0631	-0.6528	0.3969
1	90	0.2499	-0.0045	0.0205	0.0120	0.0320	-0.3303	0.0729	-0.9917	1.0911
1	90	0.2998	-0.0343	0.0083	-0.0097	0.0916	-0.6744	0.2142	-1.4986	1.0955
1	90	0.3498	-0.0758	0.0221	0.0113	0.1536	-1.1154	0.3605	-1.5286	1.1111
1	90	0.3913	-0.0990	0.0334	0.0050	0.2122	-1.6678	0.4918	-1.5813	1.1099
1	90	0.4496	-0.1720	0.0442	0.0055	0.3058	-2.7394	0.6819	-1.6758	1.1104
1	90	0.4997	-0.2195	0.0498	0.0411	0.3977	-3.9807	0.8510	-1.8386	1.1192
1	90	0.5387	-0.2909	0.0533	0.0258	0.4757	-5.1189	0.9860	-1.8622	1.1204
1	90	0.5996	-0.4014	0.0558	0.0603	0.6117	-7.2558	1.2029	-1.7079	1.1216
1	90	0.6498	-0.5619	0.0600	0.0998	0.7355	-9.3554	1.3855	-1.8778	1.1173
1	90	0.6998	-0.7303	0.0738	0.1143	0.8678	-11.6513	1.5691	-1.8816	1.1330
1	90	0.7500	-0.9258	0.0970	0.1268	1.0090	-14.1361	1.7586	-1.6046	1.1210
1	90	0.8001	-1.1974	0.1512	0.1203	1.2618	-16.7999	2.2155	-2.7366	3.0792
1	90	0.8497	-1.3844	0.1657	0.1736	1.3096	-19.3933	2.1328	-1.7299	1.1266
1	90	0.9102	-1.8610	0.2986	0.1890	1.7702	-22.4919	1.7742	-1.8627	1.0807
1	90	0.9734	-2.1178	0.3094	0.2511	1.9489	-26.0373	2.0116	-2.2319	1.0799
2	90	0.2405	-0.0533	0.0103	0.0064	0.0093	-0.3863	0.0278	-0.1895	0.2318
2	90	0.2999	-0.0949	0.0148	0.0264	0.0184	-0.8838	0.0615	-0.3077	0.3671
2	90	0.3498	-0.1287	0.0143	0.0256	0.0354	-1.4894	0.1149	-0.3815	0.3225
2	90	0.3998	-0.2037	0.0159	0.0544	0.0531	-2.3777	0.1788	-0.7143	0.3310
2	90	0.4496	-0.2898	0.0210	0.0664	0.0711	-3.4807	0.2480	-0.5665	0.3365
2	90	0.4995	-0.4294	0.0297	0.1264	0.0921	-4.8695	0.3275	-0.4890	0.3367
2	90	0.5551	-0.5571	0.0385	0.1883	0.1164	-6.8587	0.4310	-0.6551	0.3463
2	90	0.5996	-0.6912	0.0499	0.2471	0.1380	-8.7286	0.5184	-0.8021	0.3390
2	90	0.6497	-0.9208	0.0650	0.3197	0.1637	-11.0693	0.6266	-0.6790	0.3399
2	90	0.6996	-1.1595	0.0844	0.3985	0.1904	-13.6804	0.7379	-0.5826	0.3423
2	90	0.7495	-1.4610	0.1058	0.4546	0.2187	-16.5165	0.8589	-0.4527	0.3455
2	90	0.7996	-1.7719	0.1305	0.5189	0.2476	-19.5396	0.9845	-0.5977	0.3448
2	90	0.8578	-2.1799	0.1613	0.6031	0.2817	-23.1299	1.1392	-0.3086	0.3464
2	90	0.9100	-2.5311	0.1887	0.7151	0.3133	-26.4627	1.2804	-0.5304	0.3438
2	90	0.9727	-2.8547	0.2176	0.8152	0.3506	-30.3258	1.4512	0.0721	0.3473
3	90	0.1938	-0.0694	0.0222	0.0211	0.0255	-0.1460	0.0531	-0.0854	0.0477
3	90	0.2357	0.0054	0.0115	-0.0033	0.0105	-0.3434	0.0238	-0.0535	0.0699
3	90	0.2995	-0.0513	0.0053	0.0589	0.0763	-0.7576	0.1563	-0.1939	0.0933
3	90	0.3493	-0.0642	0.0075	0.0825	0.1311	-1.2943	0.2673	-0.2780	0.0842
3	90	0.4000	-0.0610	0.0109	0.1251	0.1897	-2.0670	0.3858	-0.1682	0.0971
3	90	0.4497	-0.1524	0.0132	0.1622	0.2519	-3.0907	0.5078	-0.2640	0.0822
3	90	0.4997	-0.2001	0.0163	0.2268	0.3152	-4.4102	0.6317	-0.2916	0.1004
3	90	0.5556	-0.3280	0.0216	0.2743	0.3911	-6.2442	0.7734	-0.4352	0.0901
3	90	0.5995	-0.4194	0.0304	0.4035	0.4515	-7.9187	0.8840	-0.4066	0.0990
3	90	0.6498	-0.5608	0.0442	0.4496	0.5224	-10.1223	1.0116	-0.2402	0.1086
3	90	0.6890	-0.7203	0.0579	0.5615	0.5790	-12.0350	1.1123	-0.1585	0.1129
3	90	0.7495	-0.9731	0.0839	0.6646	0.6688	-15.2770	1.2688	-0.1853	0.0974
3	90	0.7998	-1.2836	0.0887	0.7469	0.6959	-18.0822	1.3351	-0.1846	0.4147
3	90	0.8577	-1.5917	0.1761	0.8861	0.9229	-21.5223	1.8784	-1.1279	5.3783
3	90	0.9178	-1.9278	0.2469	1.0410	1.1494	-24.8227	0.9960	0.0104	0.1661
3	90	0.9729	-2.1703	0.2041	1.0706	1.2022	-28.2609	1.1270	-0.3406	0.1652
4	90.35	0.2001	0.0135	0.0112	0.0094	0.0033	-0.2199	0.0124	-0.2695	0.1164
4	90.35	0.3001	-0.0781	0.0102	0.0632	0.0147	-0.9754	0.0588	-0.6794	0.2814
4	90.35	0.3502	-0.1299	0.0112	0.0765	0.0258	-1.6831	0.1035	-0.8227	0.2601
4	90.35	0.4002	-0.2007	0.0141	0.1473	0.0404	-2.6471	0.1634	-0.9277	0.2572
4	90.35	0.4500	-0.2779	0.0189	0.2530	0.0529	-3.9493	0.2282	-1.1801	0.2712
4	90.35	0.5001	-0.4364	0.0270	0.3204	0.0688	-5.4677	0.3067	-0.7777	0.2774
4	90.35	0.5560	-0.6285	0.0371	0.4347	0.0874	-7.6850	0.4052	-1.0624	0.2754
4	90.35	0.6001	-0.7629	0.0493	0.5105	0.1036	-9.6951	0.4919	-1.0265	0.2670
4	90.35	0.6501	-1.0177	0.0656	0.6290	0.1228	-12.2494	0.6002	-0.8937	0.2777
4	90.35	0.6999	-1.2948	0.0871	0.7220	0.1432	-15.0870	0.7157	-0.7154	0.2725
4	90.35	0.7500	-1.6048	0.1110	0.8047	0.1644	-18.1739	0.8422	-0.5546	0.2701
4	90.35	0.8002	-1.9806	0.1383	0.8685	0.1867	-21.4632	0.9736	-0.6366	0.2667
4	90.35	0.8582	-2.4192	0.1720	0.9946	0.2128	-25.3943	1.1332	-0.7506	0.2648
4	90.35	0.9101	-2.7882	0.2027	1.1328	0.2366	-28.9907	1.2784	-0.7381	0.2719
4	90.35	0.9728	-3.1015	0.2364	1.3090	0.2656	-33.2695	1.4587	-0.3741	0.2673

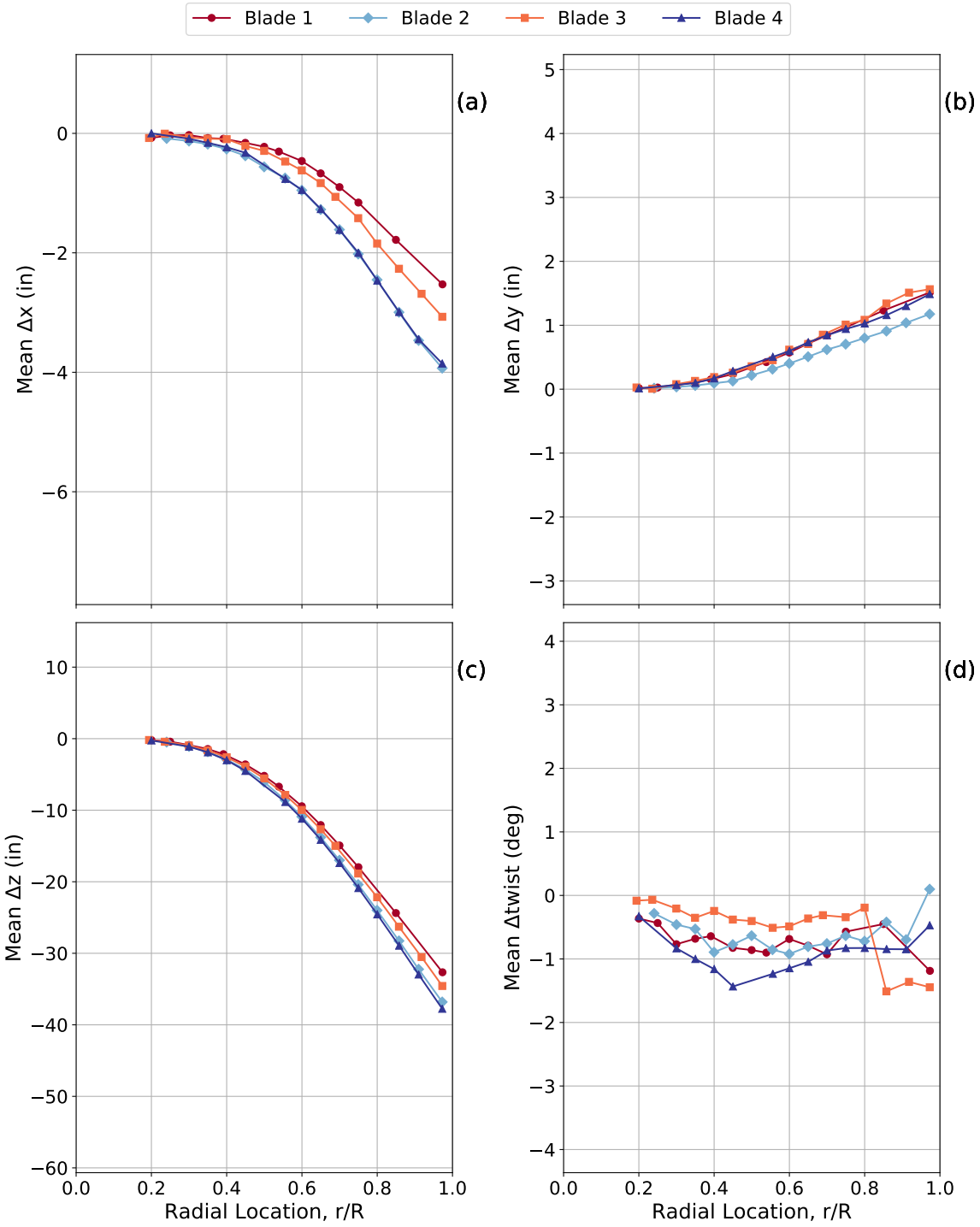


Figure 2.22-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-16. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0740	0.0050	0.0167	0.0020	-0.1983	0.0141	-0.3647	0.0337
1	94.92	0.2499	-0.0337	0.0053	0.0257	0.0044	-0.4202	0.0325	-0.4346	0.0619
1	94.92	0.2998	-0.0282	0.0066	0.0644	0.0086	-0.8878	0.0627	-0.7682	0.0772
1	94.92	0.3498	-0.0786	0.0085	0.1075	0.0148	-1.4461	0.1074	-0.6822	0.0747
1	94.92	0.3913	-0.0903	0.0117	0.1528	0.0214	-2.1618	0.1579	-0.6418	0.0819
1	94.92	0.4496	-0.1586	0.0190	0.2357	0.0315	-3.5932	0.2482	-0.8256	0.0914
1	94.92	0.4997	-0.2247	0.0290	0.3445	0.0418	-5.1974	0.3436	-0.8601	0.0923
1	94.92	0.5387	-0.3047	0.0396	0.4238	0.0503	-6.7085	0.4292	-0.9007	0.1010
1	94.92	0.5996	-0.4628	0.0612	0.5731	0.0642	-9.4437	0.5798	-0.6856	0.0920
1	94.92	0.6498	-0.6696	0.0841	0.7133	0.0765	-12.0720	0.7172	-0.7910	0.0934
1	94.92	0.6998	-0.8998	0.1112	0.8423	0.0884	-14.9294	0.8674	-0.9271	0.0994
1	94.92	0.7500	-1.1584	0.1418	0.9672	0.1008	-17.9644	1.0270	-0.5705	0.1108
1	94.92	0.8497	-1.7827	0.2107	1.2303	0.1255	-24.3746	1.3553	-0.4512	0.1066
1	94.92	0.9734	-2.5279	0.2920	1.5144	0.1575	-32.6545	1.7925	-1.1875	0.2100
2	94.92	0.2405	-0.0850	0.0161	0.0150	0.0101	-0.4751	0.0332	-0.2829	0.2785
2	94.92	0.2999	-0.1285	0.0239	0.0349	0.0207	-1.0884	0.0707	-0.4597	0.4434
2	94.92	0.3498	-0.1802	0.0217	0.0576	0.0388	-1.8265	0.1422	-0.5289	0.3856
2	94.92	0.3998	-0.2629	0.0256	0.0928	0.0590	-2.9187	0.2185	-0.8934	0.3891
2	94.92	0.4496	-0.3751	0.0336	0.1271	0.0812	-4.3074	0.3084	-0.7734	0.3860
2	94.92	0.4995	-0.5611	0.0441	0.2168	0.1061	-6.0597	0.4099	-0.6343	0.4185
2	94.92	0.5551	-0.7479	0.0616	0.3135	0.1369	-8.5762	0.5412	-0.8545	0.3908
2	94.92	0.5996	-0.9518	0.0797	0.4021	0.1641	-10.8998	0.6570	-0.9219	0.3864
2	94.92	0.6497	-1.2746	0.1041	0.5078	0.1958	-13.7949	0.7961	-0.8068	0.3879
2	94.92	0.6996	-1.6115	0.1348	0.6193	0.2295	-16.9926	0.9454	-0.7580	0.3956
2	94.92	0.7495	-2.0200	0.1683	0.7043	0.2642	-20.3949	1.0998	-0.6342	0.4012
2	94.92	0.7996	-2.4516	0.2054	0.7996	0.3002	-23.9970	1.2655	-0.7203	0.4050
2	94.92	0.8578	-2.9949	0.2524	0.9090	0.3429	-28.2640	1.4580	-0.4195	0.4092
2	94.92	0.9100	-3.4670	0.2939	1.0377	0.3812	-32.2322	1.6407	-0.6960	0.4055
2	94.92	0.9727	-3.9311	0.3385	1.1751	0.4273	-36.8051	1.8601	0.0980	0.4258
3	94.92	0.1938	-0.0774	0.0231	0.0267	0.0189	-0.1879	0.0416	-0.0828	0.0477
3	94.92	0.2357	-0.0054	0.0107	0.0071	0.0074	-0.4269	0.0195	-0.0685	0.0686
3	94.92	0.2995	-0.0673	0.0103	0.0787	0.0561	-0.9517	0.1164	-0.2069	0.0833
3	94.92	0.3493	-0.0889	0.0105	0.1296	0.0953	-1.6316	0.2009	-0.3523	0.0764
3	94.92	0.4000	-0.0973	0.0132	0.1893	0.1382	-2.5937	0.2863	-0.2446	0.0755
3	94.92	0.4497	-0.2107	0.0181	0.2578	0.1822	-3.8874	0.3726	-0.3803	0.0862
3	94.92	0.4997	-0.2933	0.0249	0.3584	0.2287	-5.5606	0.4585	-0.4032	0.0877
3	94.92	0.5556	-0.4713	0.0343	0.4537	0.2834	-7.8663	0.5617	-0.5097	0.0759
3	94.92	0.5995	-0.6197	0.0454	0.6183	0.3282	-9.9581	0.6416	-0.4877	0.0845
3	94.92	0.6498	-0.8319	0.0606	0.7068	0.3805	-12.6687	0.7318	-0.3629	0.0878
3	94.92	0.6890	-1.0625	0.0744	0.8525	0.4219	-14.9804	0.8050	-0.3115	0.0926
3	94.92	0.7495	-1.4196	0.0979	1.0105	0.4868	-18.8491	0.9168	-0.3432	0.1033
3	94.92	0.7998	-1.8455	0.1248	1.0847	0.4672	-22.1628	0.9525	-0.1926	0.4734
3	94.92	0.8577	-2.2667	0.1623	1.3400	0.6976	-26.2866	1.3672	-1.5100	4.9647
3	94.92	0.9178	-2.6859	0.1821	1.5105	0.7481	-30.5243	1.4885	-1.3608	5.3496
3	94.92	0.9729	-3.0710	0.1903	1.5638	0.8484	-34.5704	1.7253	-1.4451	5.7719
4	94.92	0.2001	0.0001	0.0139	0.0122	0.0036	-0.2515	0.0123	-0.3282	0.1680
4	94.92	0.3001	-0.0908	0.0119	0.0664	0.0152	-1.1166	0.0560	-0.8338	0.4114
4	94.92	0.3502	-0.1585	0.0131	0.0979	0.0276	-1.9098	0.1044	-1.0013	0.3759
4	94.92	0.4002	-0.2324	0.0164	0.1682	0.0423	-3.0130	0.1606	-1.1602	0.3888
4	94.92	0.4500	-0.3256	0.0229	0.2841	0.0590	-4.5101	0.2246	-1.4336	0.3925
4	94.92	0.5560	-0.7624	0.0450	0.5051	0.1040	-8.8565	0.4005	-1.2344	0.3839
4	94.92	0.6001	-0.9475	0.0596	0.5972	0.1257	-11.1876	0.4841	-1.1464	0.3990
4	94.92	0.6501	-1.2675	0.0790	0.7333	0.1526	-14.1411	0.5886	-1.0446	0.3981
4	94.92	0.6999	-1.6167	0.1024	0.8429	0.1815	-17.3847	0.7006	-0.8678	0.3854
4	94.92	0.7500	-2.0003	0.1287	0.9423	0.2119	-20.8851	0.8174	-0.8290	0.3962
4	94.92	0.8002	-2.4645	0.1567	1.0268	0.2436	-24.5637	0.9399	-0.8279	0.3885
4	94.92	0.8582	-2.9911	0.1911	1.1588	0.2813	-28.9438	1.0821	-0.8454	0.3894
4	94.92	0.9101	-3.4461	0.2212	1.2998	0.3154	-32.9694	1.2100	-0.8475	0.3958
4	94.92	0.9728	-3.8541	0.2548	1.4868	0.3568	-37.7576	1.3714	-0.4713	0.3919

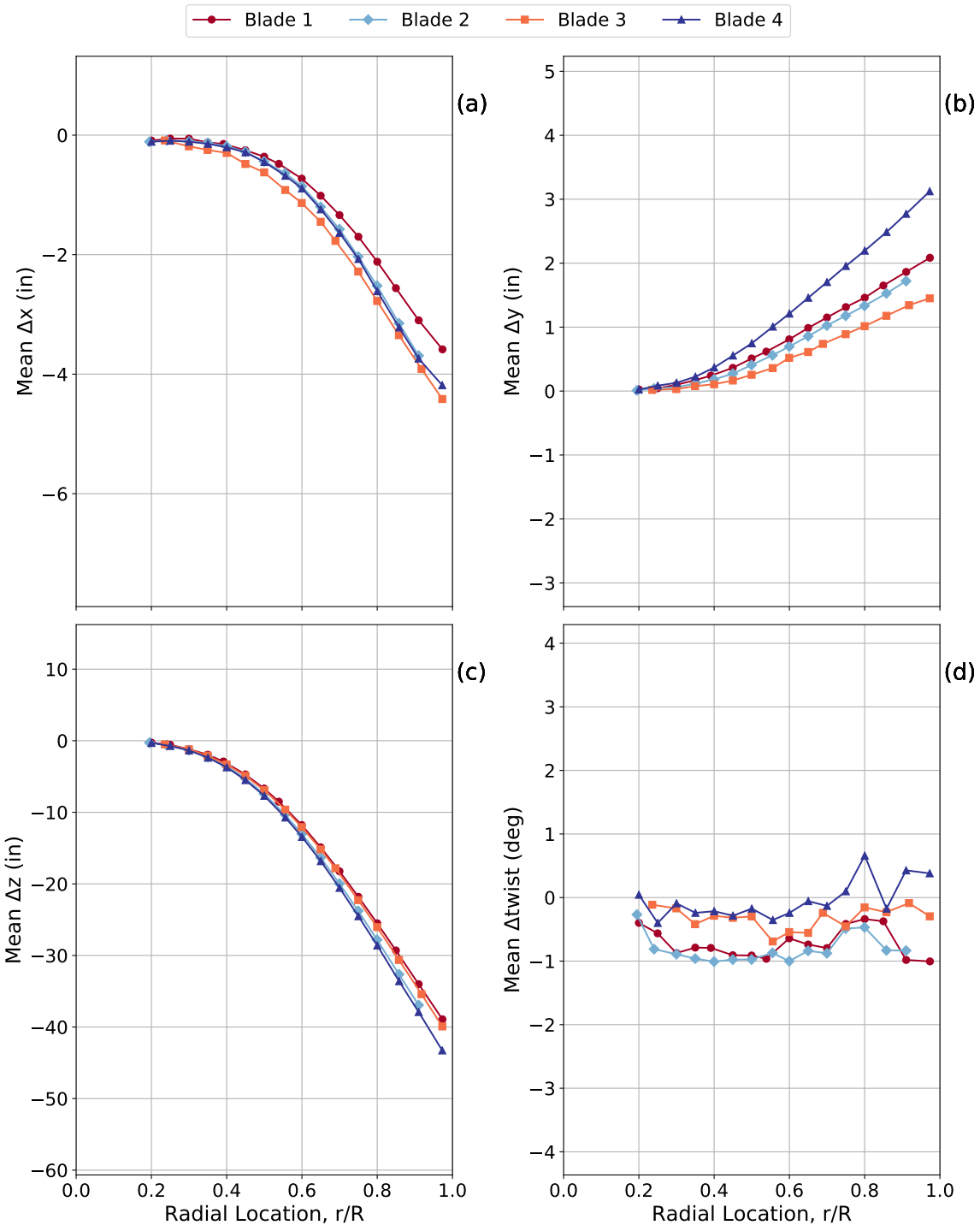


Figure 2.22-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-17. 100° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0905	0.0046	0.0252	0.0021	-0.2671	0.0121	-0.3978	0.0409
1	99.84	0.2499	-0.0575	0.0054	0.0438	0.0056	-0.5701	0.0273	-0.5632	0.0668
1	99.84	0.2998	-0.0591	0.0069	0.0982	0.0090	-1.1826	0.0522	-0.8732	0.0945
1	99.84	0.3498	-0.1209	0.0085	0.1706	0.0165	-1.9516	0.0914	-0.7875	0.0882
1	99.84	0.3913	-0.1476	0.0124	0.2407	0.0238	-2.8982	0.1324	-0.7925	0.0901
1	99.84	0.4496	-0.2516	0.0198	0.3629	0.0336	-4.7031	0.1984	-0.9075	0.0974
1	99.84	0.4997	-0.3608	0.0281	0.5099	0.0424	-6.6785	0.2639	-0.9113	0.1111
1	99.84	0.5387	-0.4801	0.0362	0.6171	0.0501	-8.5141	0.3193	-0.9633	0.0927
1	99.84	0.5996	-0.7277	0.0519	0.8090	0.0623	-11.7812	0.4114	-0.6418	0.0858
1	99.84	0.6498	-1.0134	0.0685	0.9865	0.0731	-14.8898	0.4929	-0.7386	0.0904
1	99.84	0.6998	-1.3378	0.0881	1.1506	0.0843	-18.2448	0.5791	-0.7950	0.0878
1	99.84	0.7500	-1.7007	0.1093	1.3132	0.0957	-21.8124	0.6666	-0.4149	0.0885
1	99.84	0.8001	-2.1183	0.1319	1.4596	0.1069	-25.5096	0.7569	-0.3386	0.0861
1	99.84	0.8497	-2.5609	0.1561	1.6505	0.1188	-29.3070	0.8484	-0.3735	0.0837
1	99.84	0.9102	-3.0985	0.1839	1.8633	0.1338	-34.0186	0.9633	-0.9817	0.2164
1	99.84	0.9734	-3.5850	0.2124	2.0843	0.1511	-38.9291	1.0926	-1.0046	0.1268
2	99.84	0.1949	-0.1109	0.0051	0.0096	0.0015	-0.2675	0.0080	-0.2674	0.0258
2	99.84	0.2405	-0.0867	0.0040	0.0394	0.0025	-0.6123	0.0152	-0.8117	0.0522
2	99.84	0.2999	-0.1063	0.0044	0.0607	0.0062	-1.3215	0.0355	-0.8919	0.0641
2	99.84	0.3498	-0.1295	0.0065	0.1164	0.0103	-2.2640	0.0600	-0.9607	0.0646
2	99.84	0.3998	-0.1855	0.0096	0.1826	0.0161	-3.5758	0.0936	-1.0082	0.0566
2	99.84	0.4496	-0.2780	0.0138	0.2720	0.0219	-5.2862	0.1325	-0.9757	0.0745
2	99.84	0.4995	-0.4409	0.0190	0.4085	0.0283	-7.4359	0.1788	-0.9744	0.0819
2	99.84	0.5551	-0.6370	0.0294	0.5603	0.0362	-10.3231	0.2378	-0.8708	0.0756
2	99.84	0.5996	-0.8546	0.0396	0.6965	0.0429	-13.0252	0.2926	-1.0012	0.0628
2	99.84	0.6497	-1.1991	0.0546	0.8576	0.0507	-16.3320	0.3637	-0.8378	0.0779
2	99.84	0.6996	-1.5744	0.0733	1.0253	0.0593	-19.9772	0.4421	-0.8768	0.0850
2	99.84	0.7495	-2.0330	0.0952	1.1778	0.0675	-23.7856	0.5306	-0.4894	0.0730
2	99.84	0.7996	-2.5212	0.1209	1.3327	0.0756	-27.8111	0.6229	-0.4685	0.0782
2	99.84	0.8578	-3.1494	0.1509	1.5279	0.0866	-32.6386	0.7362	-0.8310	0.0976
2	99.84	0.9100	-3.6905	0.1798	1.7203	0.0961	-36.9370	0.8435	-0.8347	0.1454
3	99.84	0.2357	-0.0895	0.0144	0.0182	0.0103	-0.5053	0.0269	-0.1134	0.3670
3	99.84	0.2995	-0.1868	0.0296	0.0314	0.0231	-1.2006	0.0701	-0.1703	0.6254
3	99.84	0.3493	-0.2483	0.0314	0.0767	0.0437	-2.0967	0.1411	-0.4193	0.5915
3	99.84	0.4000	-0.2974	0.0350	0.1068	0.0672	-3.3217	0.2257	-0.2863	0.5906
3	99.84	0.4497	-0.4822	0.0437	0.1650	0.0942	-4.8933	0.3053	-0.3192	0.5937
3	99.84	0.4997	-0.6233	0.0562	0.2550	0.1245	-6.9055	0.3965	-0.2973	0.6310
3	99.84	0.5556	-0.9180	0.0704	0.3589	0.1646	-9.6223	0.5082	-0.6906	0.5885
3	99.84	0.5995	-1.1359	0.0877	0.5187	0.1986	-12.0680	0.5994	-0.5435	0.5966
3	99.84	0.6498	-1.4505	0.1104	0.6107	0.2408	-15.1843	0.7134	-0.5563	0.6149
3	99.84	0.6890	-1.7691	0.1315	0.7378	0.2760	-17.8204	0.8102	-0.2402	0.5893
3	99.84	0.7495	-2.2828	0.1699	0.8896	0.3339	-22.2683	0.9653	-0.4532	0.6044
3	99.84	0.7998	-2.7750	0.2027	1.0146	0.3825	-26.0427	1.1046	-0.1556	0.6036
3	99.84	0.8577	-3.3480	0.2456	1.1770	0.4412	-30.6272	1.2719	-0.2311	0.5876
3	99.84	0.9178	-3.9141	0.2904	1.3432	0.5022	-35.4163	1.4450	-0.0872	0.6079
3	99.84	0.9729	-4.4153	0.3279	1.4503	0.5595	-39.9194	1.6115	-0.2957	0.6023
4	99.84	0.2001	-0.1100	0.0055	0.0232	0.0017	-0.3080	0.0105	0.0437	0.0293
4	99.84	0.2502	-0.0933	0.0058	0.0853	0.0036	-0.7368	0.0234	-0.4002	0.0504
4	99.84	0.3001	-0.1096	0.0068	0.1295	0.0071	-1.3599	0.0462	-0.0914	0.0683
4	99.84	0.3502	-0.1454	0.0091	0.2244	0.0122	-2.3710	0.0789	-0.2410	0.0577
4	99.84	0.4002	-0.2034	0.0132	0.3684	0.0190	-3.7173	0.1242	-0.2150	0.0602
4	99.84	0.4500	-0.2880	0.0198	0.5555	0.0258	-5.5016	0.1787	-0.2860	0.0700
4	99.84	0.5001	-0.4490	0.0298	0.7469	0.0341	-7.7044	0.2459	-0.1745	0.0838
4	99.84	0.5560	-0.6799	0.0442	1.0073	0.0437	-10.7291	0.3324	-0.3537	0.0685
4	99.84	0.6001	-0.8924	0.0599	1.2119	0.0513	-13.4388	0.4093	-0.2416	0.0638
4	99.84	0.6501	-1.2417	0.0810	1.4590	0.0605	-16.8235	0.5079	-0.0569	0.0748
4	99.84	0.6999	-1.6361	0.1063	1.7045	0.0698	-20.5591	0.6141	-0.1314	0.0702
4	99.84	0.7500	-2.0725	0.1354	1.9554	0.0791	-24.5216	0.7304	0.0979	0.0694
4	99.84	0.8002	-2.6107	0.1680	2.1955	0.0886	-28.6113	0.8507	0.6595	0.0968
4	99.84	0.8582	-3.2189	0.2077	2.4871	0.0994	-33.6021	0.9927	-0.1750	0.1161
4	99.84	0.9101	-3.7397	0.2404	2.7713	0.1093	-37.9066	1.1292	0.4277	0.1078
4	99.84	0.9728	-4.1854	0.2794	3.1238	0.1213	-43.2733	1.2932	0.3806	0.1904

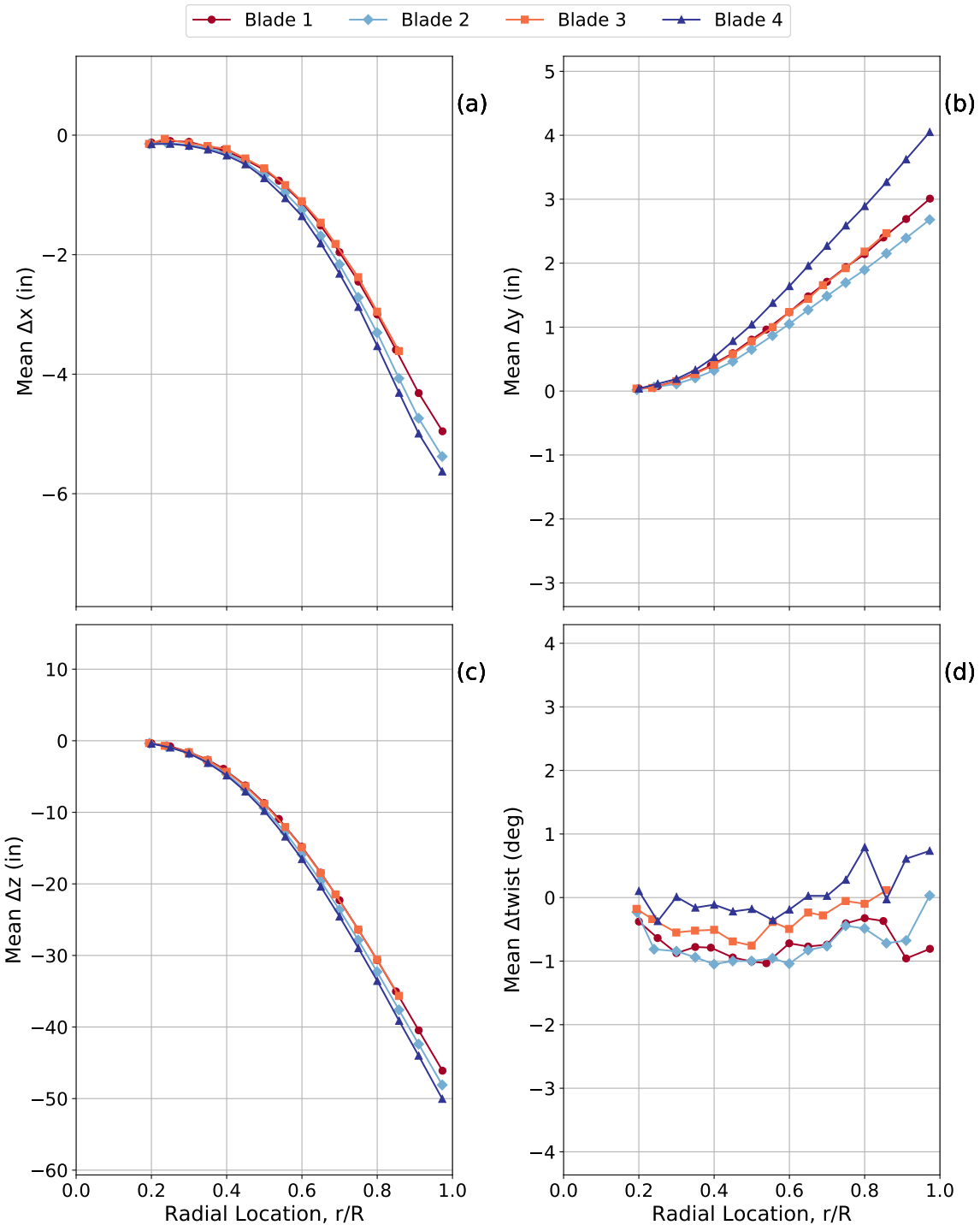


Figure 2.22-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-18. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.1235	0.0074	0.0402	0.0025	-0.3634	0.0150	-0.3779	0.0318
1	105.12	0.2499	-0.0979	0.0079	0.0764	0.0054	-0.7808	0.0352	-0.6371	0.0621
1	105.12	0.2998	-0.1118	0.0102	0.1599	0.0099	-1.5891	0.0665	-0.8736	0.0783
1	105.12	0.3498	-0.1936	0.0140	0.2829	0.0185	-2.6557	0.1140	-0.7781	0.0780
1	105.12	0.3913	-0.2465	0.0187	0.3995	0.0256	-3.9178	0.1678	-0.7885	0.1071
1	105.12	0.4496	-0.4093	0.0315	0.5927	0.0372	-6.2404	0.2625	-0.9426	0.1227
1	105.12	0.4997	-0.5811	0.0477	0.8048	0.0488	-8.7060	0.3628	-1.0061	0.1014
1	105.12	0.5387	-0.7621	0.0641	0.9621	0.0578	-10.9293	0.4519	-1.0339	0.1039
1	105.12	0.5996	-1.1256	0.0962	1.2340	0.0728	-14.8066	0.6081	-0.7203	0.0943
1	105.12	0.6498	-1.5135	0.1293	1.4815	0.0858	-18.4293	0.7528	-0.7701	0.0903
1	105.12	0.6998	-1.9594	0.1675	1.7100	0.0983	-22.2885	0.9050	-0.7412	0.0989
1	105.12	0.7500	-2.4508	0.2101	1.9378	0.1115	-26.4050	1.0649	-0.4057	0.0915
1	105.12	0.8001	-3.0010	0.2560	2.1413	0.1248	-30.6567	1.2286	-0.3240	0.0894
1	105.12	0.8497	-3.5923	0.3041	2.4006	0.1371	-35.0284	1.3963	-0.3690	0.1004
1	105.12	0.9102	-4.3165	0.3593	2.6906	0.1529	-40.4570	1.6018	-0.9581	0.1384
1	105.12	0.9734	-4.9557	0.4161	3.0093	0.1705	-46.1066	1.8233	-0.8070	0.1262
2	105.12	0.1949	-0.1460	0.0053	0.0202	0.0014	-0.3564	0.0088	-0.2302	0.0214
2	105.12	0.2405	-0.1264	0.0053	0.0625	0.0028	-0.7880	0.0202	-0.8135	0.0392
2	105.12	0.2999	-0.1661	0.0071	0.1111	0.0063	-1.7204	0.0427	-0.8442	0.0501
2	105.12	0.3498	-0.2120	0.0093	0.2055	0.0107	-2.9617	0.0720	-0.9395	0.0471
2	105.12	0.3998	-0.3064	0.0143	0.3211	0.0168	-4.6528	0.1145	-1.0488	0.0700
2	105.12	0.4496	-0.4491	0.0214	0.4632	0.0234	-6.7910	0.1672	-0.9987	0.0743
2	105.12	0.4995	-0.6754	0.0324	0.6500	0.0308	-9.3858	0.2311	-0.9986	0.0615
2	105.12	0.5551	-0.9625	0.0487	0.8683	0.0399	-12.7882	0.3157	-0.9551	0.0664
2	105.12	0.5996	-1.2548	0.0652	1.0487	0.0475	-15.8732	0.3934	-1.0404	0.0633
2	105.12	0.6497	-1.6858	0.0881	1.2690	0.0566	-19.5992	0.4870	-0.8274	0.0609
2	105.12	0.6996	-2.1617	0.1141	1.4846	0.0656	-23.6265	0.5875	-0.7642	0.0663
2	105.12	0.7495	-2.7150	0.1427	1.6952	0.0742	-27.8480	0.6941	-0.4441	0.0709
2	105.12	0.7996	-3.3052	0.1744	1.8955	0.0834	-32.2878	0.8049	-0.4867	0.0796
2	105.12	0.8578	-4.0711	0.2134	2.1524	0.0940	-37.6090	0.9361	-0.7177	0.0870
2	105.12	0.9100	-4.7382	0.2475	2.3922	0.1039	-42.3900	1.0583	-0.6769	0.0980
2	105.12	0.9727	-5.3777	0.2870	2.6804	0.1166	-48.0928	1.2070	0.0312	0.1541
3	105.12	0.1938	-0.1459	0.0066	0.0391	0.0019	-0.3240	0.0106	-0.1780	0.0265
3	105.12	0.2357	-0.0625	0.0057	0.0488	0.0030	-0.7076	0.0207	-0.3389	0.0500
3	105.12	0.2995	-0.1366	0.0075	0.1556	0.0069	-1.5994	0.0497	-0.5497	0.0651
3	105.12	0.3493	-0.1811	0.0110	0.2671	0.0121	-2.7271	0.0841	-0.5204	0.0606
3	105.12	0.4000	-0.2329	0.0156	0.4095	0.0184	-4.3280	0.1332	-0.5077	0.0665
3	105.12	0.4497	-0.3901	0.0239	0.5777	0.0257	-6.3618	0.1944	-0.6902	0.0789
3	105.12	0.4997	-0.5559	0.0365	0.7782	0.0344	-8.8401	0.2695	-0.7547	0.0728
3	105.12	0.5556	-0.8356	0.0557	0.9993	0.0450	-12.0578	0.3704	-0.3836	0.0708
3	105.12	0.5995	-1.1060	0.0739	1.2370	0.0539	-14.8995	0.4621	-0.4943	0.0764
3	105.12	0.6498	-1.4640	0.1017	1.4410	0.0642	-18.4845	0.5788	-0.2357	0.0847
3	105.12	0.6890	-1.8203	0.1260	1.6551	0.0729	-21.4719	0.6787	-0.2807	0.0837
3	105.12	0.7495	-2.3773	0.1696	1.9212	0.0863	-26.3784	0.8434	-0.0550	0.0906
3	105.12	0.7998	-2.9542	0.2098	2.1815	0.0972	-30.6040	0.9908	-0.0982	0.1090
3	105.12	0.8577	-3.6132	0.2600	2.4693	0.1105	-35.6450	1.1700	0.1152	0.1089
4	105.12	0.2001	-0.1511	0.0083	0.0382	0.0020	-0.4097	0.0133	0.1021	0.0240
4	105.12	0.2502	-0.1450	0.0093	0.1142	0.0043	-0.9511	0.0322	-0.3711	0.0375
4	105.12	0.3001	-0.1782	0.0105	0.1895	0.0084	-1.7799	0.0607	0.0094	0.0531
4	105.12	0.3502	-0.2409	0.0140	0.3315	0.0147	-3.1049	0.1017	-0.1586	0.0511
4	105.12	0.4002	-0.3405	0.0214	0.5314	0.0228	-4.8505	0.1625	-0.1126	0.0601
4	105.12	0.4500	-0.4879	0.0327	0.7832	0.0318	-7.0983	0.2393	-0.2188	0.0720
4	105.12	0.5001	-0.7197	0.0482	1.0417	0.0425	-9.8070	0.3299	-0.1796	0.0673
4	105.12	0.5560	-1.0555	0.0720	1.3792	0.0551	-13.3941	0.4510	-0.3560	0.0688
4	105.12	0.6001	-1.3560	0.0964	1.6410	0.0660	-16.5280	0.5561	-0.1892	0.0692
4	105.12	0.6501	-1.8123	0.1283	1.9596	0.0784	-20.3856	0.6846	0.0270	0.0676
4	105.12	0.6999	-2.3188	0.1647	2.2706	0.0914	-24.5697	0.8208	0.0264	0.0698
4	105.12	0.7500	-2.8750	0.2048	2.5887	0.1040	-28.9909	0.9642	0.2792	0.0778
4	105.12	0.8002	-3.5305	0.2487	2.8919	0.1171	-33.5642	1.1117	0.7905	0.0792
4	105.12	0.8582	-4.3113	0.3014	3.2697	0.1316	-39.1388	1.2840	-0.0285	0.0893
4	105.12	0.9101	-4.9935	0.3480	3.6239	0.1449	-44.0057	1.4462	0.6102	0.1075
4	105.12	0.9728	-5.6290	0.4033	4.0500	0.1615	-50.0429	1.6414	0.7346	0.1186

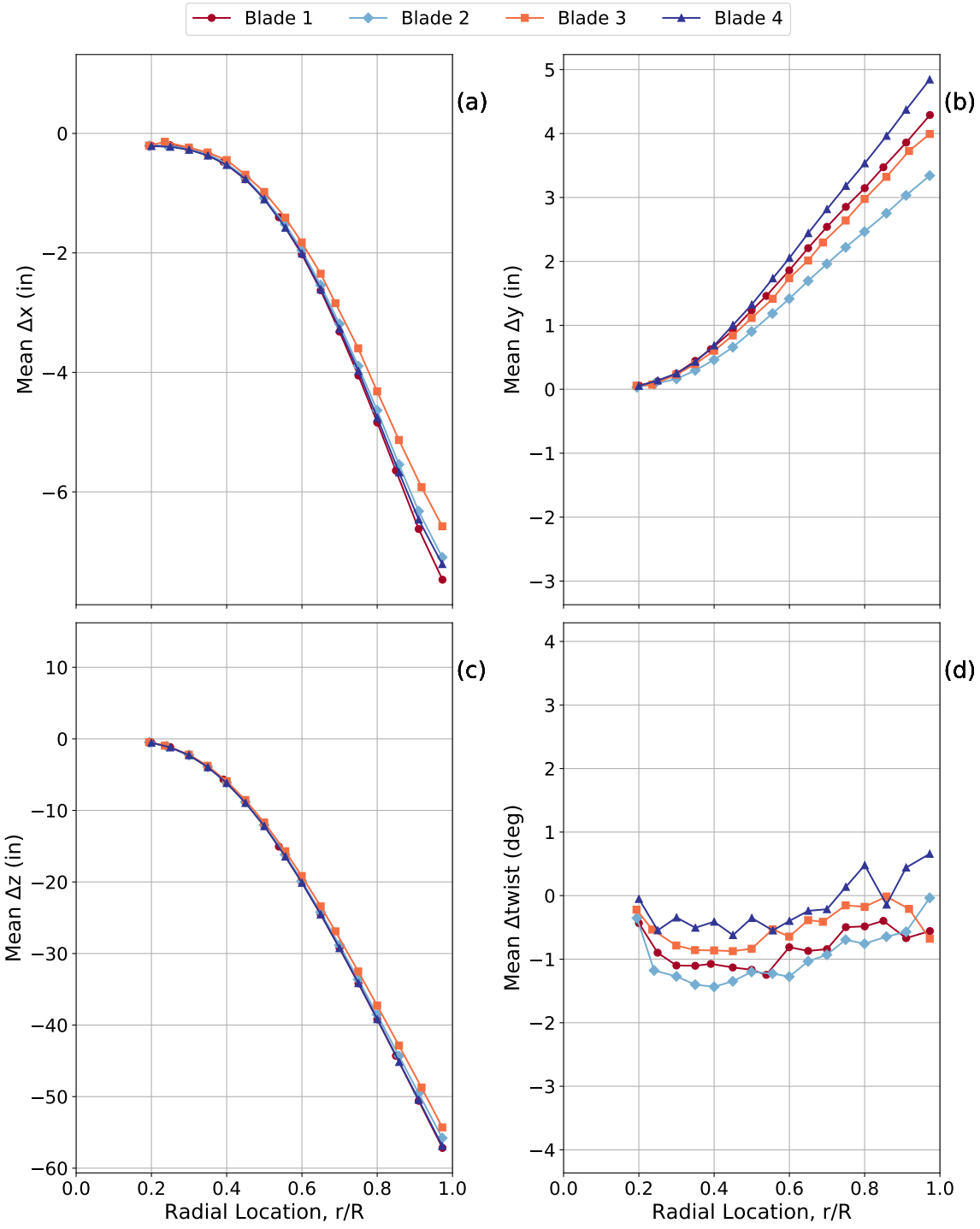


Figure 2.22-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-19. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.2079	0.0099	0.0603	0.0018	-0.5414	0.0138	-0.4331	0.0234
1	119.88	0.2499	-0.1990	0.0107	0.1236	0.0030	-1.1516	0.0294	-0.8983	0.0468
1	119.88	0.2998	-0.2408	0.0130	0.2447	0.0076	-2.2984	0.0596	-1.0994	0.0550
1	119.88	0.3498	-0.3617	0.0175	0.4443	0.0119	-3.9017	0.1006	-1.1039	0.0557
1	119.88	0.3913	-0.4758	0.0224	0.6258	0.0176	-5.6923	0.1476	-1.0748	0.0561
1	119.88	0.4496	-0.7683	0.0362	0.9217	0.0254	-8.8658	0.2244	-1.1300	0.0680
1	119.88	0.4997	-1.0877	0.0538	1.2337	0.0351	-12.1568	0.3065	-1.1671	0.0625
1	119.88	0.5387	-1.4030	0.0707	1.4600	0.0423	-15.0610	0.3755	-1.2469	0.0663
1	119.88	0.5996	-2.0223	0.1012	1.8601	0.0542	-20.0111	0.4917	-0.8118	0.0763
1	119.88	0.6498	-2.6266	0.1317	2.2079	0.0650	-24.5263	0.6010	-0.8699	0.0746
1	119.88	0.6998	-3.3183	0.1666	2.5404	0.0752	-29.2354	0.7140	-0.8426	0.0783
1	119.88	0.7500	-4.0533	0.2066	2.8532	0.0870	-34.1686	0.8361	-0.4961	0.0789
1	119.88	0.8001	-4.8390	0.2492	3.1458	0.0979	-39.2042	0.9650	-0.4843	0.0809
1	119.88	0.8497	-5.6441	0.2952	3.4724	0.1097	-44.2955	1.0990	-0.3969	0.0953
1	119.88	0.9102	-6.6219	0.3529	3.8582	0.1228	-50.5821	1.2735	-0.6689	0.0949
1	119.88	0.9734	-7.4706	0.4122	4.2896	0.1364	-57.1761	1.4592	-0.5574	0.0988
2	119.88	0.1949	-0.2083	0.0072	0.0317	0.0014	-0.4840	0.0105	-0.3527	0.0212
2	119.88	0.2405	-0.1958	0.0074	0.0827	0.0033	-1.0327	0.0231	-1.1779	0.0437
2	119.88	0.2999	-0.2595	0.0101	0.1632	0.0073	-2.2646	0.0500	-1.2708	0.0530
2	119.88	0.3498	-0.3448	0.0142	0.2948	0.0123	-3.9037	0.0841	-1.4004	0.0549
2	119.88	0.3998	-0.5042	0.0210	0.4599	0.0197	-6.0992	0.1331	-1.4351	0.0618
2	119.88	0.4496	-0.7371	0.0314	0.6576	0.0269	-8.8187	0.1923	-1.3483	0.0576
2	119.88	0.4995	-1.0798	0.0460	0.9032	0.0353	-12.0293	0.2635	-1.2003	0.0590
2	119.88	0.5551	-1.5197	0.0686	1.1855	0.0449	-16.1826	0.3563	-1.2269	0.0619
2	119.88	0.5996	-1.9559	0.0900	1.4151	0.0533	-19.8538	0.4390	-1.2748	0.0715
2	119.88	0.6497	-2.5403	0.1190	1.6947	0.0635	-24.2199	0.5427	-1.0346	0.0652
2	119.88	0.6996	-3.1886	0.1521	1.9612	0.0732	-28.8296	0.6544	-0.9305	0.0687
2	119.88	0.7495	-3.8940	0.1896	2.2206	0.0834	-33.6108	0.7744	-0.6936	0.0718
2	119.88	0.7996	-4.6353	0.2303	2.4655	0.0932	-38.5365	0.9024	-0.7573	0.0782
2	119.88	0.8578	-5.5419	0.2813	2.7528	0.1052	-44.3183	1.0585	-0.6456	0.0782
2	119.88	0.9100	-6.3237	0.3269	3.0323	0.1152	-49.5365	1.2040	-0.5689	0.0879
2	119.88	0.9727	-7.0962	0.3819	3.3420	0.1268	-55.7776	1.3817	-0.0357	0.1067
3	119.88	0.1938	-0.2032	0.0077	0.0572	0.0016	-0.4704	0.0114	-0.2212	0.0246
3	119.88	0.2357	-0.1395	0.0076	0.0718	0.0034	-0.9479	0.0225	-0.5341	0.0399
3	119.88	0.2995	-0.2365	0.0105	0.2276	0.0074	-2.1981	0.0542	-0.7846	0.0586
3	119.88	0.3493	-0.3193	0.0153	0.3947	0.0130	-3.7674	0.0906	-0.8575	0.0524
3	119.88	0.4000	-0.4462	0.0226	0.6031	0.0205	-5.9200	0.1443	-0.8623	0.0601
3	119.88	0.4497	-0.6923	0.0345	0.8414	0.0283	-8.5524	0.2093	-0.8738	0.0682
3	119.88	0.4997	-0.9808	0.0506	1.1154	0.0382	-11.6948	0.2897	-0.8355	0.0680
3	119.88	0.5556	-1.4097	0.0748	1.4146	0.0492	-15.7068	0.3938	-0.5295	0.0693
3	119.88	0.5995	-1.8242	0.0983	1.7375	0.0587	-19.1720	0.4853	-0.6447	0.0729
3	119.88	0.6498	-2.3484	0.1298	2.0145	0.0698	-23.4165	0.6024	-0.3862	0.0726
3	119.88	0.6890	-2.8419	0.1581	2.2963	0.0786	-26.9021	0.7009	-0.4121	0.0740
3	119.88	0.7495	-3.5974	0.2080	2.6394	0.0926	-32.5045	0.8626	-0.1528	0.0765
3	119.88	0.7998	-4.3181	0.2529	2.9767	0.1039	-37.2699	1.0062	-0.1770	0.0750
3	119.88	0.8577	-5.1327	0.3086	3.3232	0.1171	-42.8562	1.1802	-0.0142	0.0826
3	119.88	0.9178	-5.9218	0.3669	3.7266	0.1307	-48.7354	1.3675	-0.2085	0.0905
3	119.88	0.9729	-6.5762	0.4188	3.9934	0.1430	-54.2993	1.5447	-0.6788	0.0985
4	119.88	0.2001	-0.2118	0.0088	0.0520	0.0022	-0.5409	0.0127	-0.0520	0.0275
4	119.88	0.2502	-0.2246	0.0094	0.1384	0.0048	-1.1952	0.0277	-0.5459	0.0654
4	119.88	0.3001	-0.2743	0.0120	0.2479	0.0096	-2.2850	0.0540	-0.3444	0.0683
4	119.88	0.3502	-0.3715	0.0167	0.4304	0.0161	-3.9725	0.0931	-0.5053	0.0706
4	119.88	0.4002	-0.5282	0.0235	0.6853	0.0255	-6.1763	0.1454	-0.4101	0.0735
4	119.88	0.4500	-0.7654	0.0352	1.0041	0.0345	-8.9584	0.2100	-0.6214	0.0801
4	119.88	0.5001	-1.1043	0.0509	1.3242	0.0458	-12.2042	0.2886	-0.3523	0.0790
4	119.88	0.5560	-1.5788	0.0747	1.7352	0.0594	-16.4587	0.3871	-0.5483	0.0816
4	119.88	0.6001	-2.0108	0.0980	2.0537	0.0708	-20.1138	0.4729	-0.3984	0.0917
4	119.88	0.6501	-2.6110	0.1279	2.4418	0.0840	-24.5464	0.5816	-0.2394	0.0887
4	119.88	0.6999	-3.2704	0.1633	2.8167	0.0980	-29.2554	0.6977	-0.2138	0.0913
4	119.88	0.7500	-3.9763	0.2026	3.1812	0.1121	-34.1453	0.8212	0.1374	0.0950
4	119.88	0.8002	-4.7606	0.2460	3.5343	0.1263	-39.1772	0.9524	0.4790	0.0954
4	119.88	0.8582	-5.6756	0.2986	3.9640	0.1425	-45.1595	1.1116	-0.1413	0.1113
4	119.88	0.9101	-6.4637	0.3465	4.3714	0.1573	-50.4344	1.2592	0.4417	0.1102
4	119.88	0.9728	-7.2094	0.4034	4.8445	0.1743	-56.8958	1.4425	0.6573	0.1091

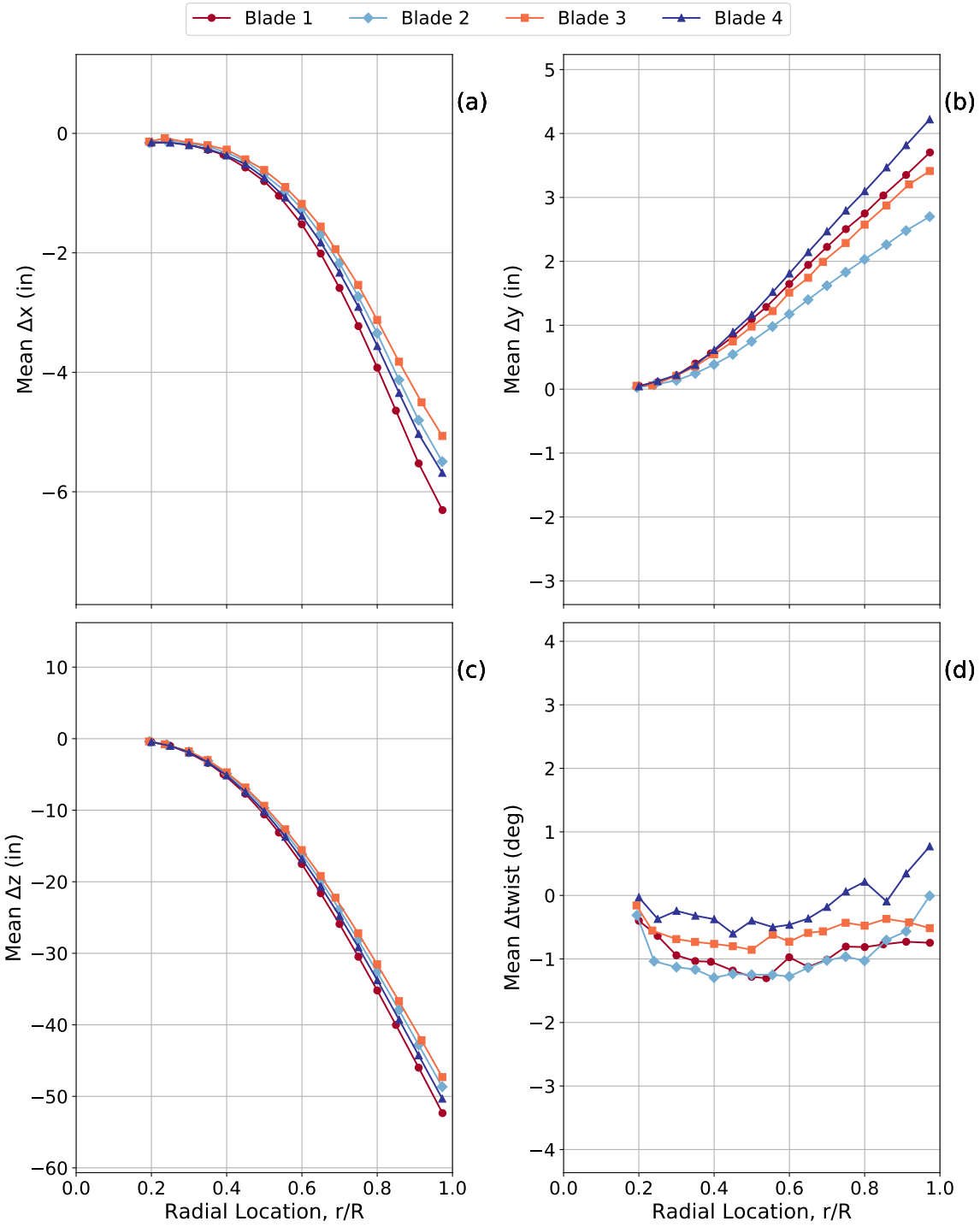


Figure 2.22-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-20. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.1614	0.0109	0.0537	0.0021	-0.4759	0.0162	-0.3981	0.0272
1	135	0.2499	-0.1449	0.0108	0.1096	0.0039	-1.0096	0.0375	-0.6373	0.0447
1	135	0.2998	-0.1892	0.0135	0.2165	0.0087	-2.0013	0.0708	-0.9430	0.0616
1	135	0.3498	-0.2753	0.0174	0.4013	0.0145	-3.3968	0.1224	-1.0336	0.0667
1	135	0.3913	-0.3562	0.0245	0.5600	0.0209	-4.9486	0.1789	-1.0446	0.0666
1	135	0.4496	-0.5714	0.0405	0.8223	0.0310	-7.6989	0.2814	-1.1831	0.0834
1	135	0.4997	-0.8009	0.0603	1.0928	0.0413	-10.5904	0.3909	-1.2803	0.0766
1	135	0.5387	-1.0433	0.0799	1.2861	0.0505	-13.1213	0.4891	-1.3029	0.0820
1	135	0.5996	-1.5227	0.1209	1.6456	0.0644	-17.5238	0.6661	-0.9736	0.0778
1	135	0.6498	-2.0126	0.1618	1.9440	0.0763	-21.6092	0.8298	-1.1245	0.0873
1	135	0.6998	-2.5889	0.2106	2.2255	0.0880	-25.9143	1.0010	-1.0116	0.0815
1	135	0.7500	-3.2269	0.2638	2.5039	0.1009	-30.4817	1.1816	-0.8057	0.0828
1	135	0.8001	-3.9231	0.3212	2.7485	0.1128	-35.1981	1.3687	-0.8135	0.0867
1	135	0.8497	-4.6417	0.3806	3.0305	0.1244	-40.0210	1.5565	-0.7708	0.0910
1	135	0.9102	-5.5266	0.4536	3.3512	0.1393	-45.9909	1.7889	-0.7294	0.0980
1	135	0.9734	-6.3075	0.5267	3.7038	0.1556	-52.3443	2.0352	-0.7458	0.0992
2	135	0.1949	-0.1566	0.0068	0.0268	0.0016	-0.3918	0.0123	-0.3117	0.0223
2	135	0.2405	-0.1292	0.0068	0.0679	0.0039	-0.8416	0.0258	-1.0368	0.0364
2	135	0.2999	-0.1691	0.0092	0.1383	0.0076	-1.8287	0.0565	-1.1294	0.0537
2	135	0.3498	-0.2190	0.0127	0.2458	0.0140	-3.1136	0.0970	-1.1651	0.0600
2	135	0.3998	-0.3228	0.0192	0.3857	0.0216	-4.8840	0.1514	-1.2957	0.0635
2	135	0.4496	-0.4624	0.0286	0.5439	0.0300	-7.0712	0.2225	-1.2346	0.0656
2	135	0.4995	-0.6855	0.0439	0.7475	0.0386	-9.6961	0.3100	-1.2481	0.0707
2	135	0.5551	-0.9668	0.0654	0.9792	0.0518	-13.1008	0.4279	-1.2493	0.0822
2	135	0.5996	-1.2646	0.0884	1.1733	0.0615	-16.1484	0.5376	-1.2761	0.0772
2	135	0.6497	-1.6852	0.1203	1.3995	0.0724	-19.8723	0.6717	-1.1377	0.0737
2	135	0.6996	-2.1742	0.1582	1.6194	0.0846	-23.8777	0.8208	-1.0235	0.0844
2	135	0.7495	-2.7307	0.2017	1.8306	0.0970	-28.1425	0.9803	-0.9635	0.0810
2	135	0.7996	-3.3451	0.2510	2.0301	0.1090	-32.5977	1.1511	-1.0294	0.0843
2	135	0.8578	-4.1273	0.3125	2.2612	0.1227	-37.9130	1.3582	-0.7032	0.0849
2	135	0.9100	-4.8021	0.3686	2.4806	0.1363	-42.8050	1.5474	-0.5659	0.0965
2	135	0.9727	-5.4944	0.4338	2.6994	0.1517	-48.6516	1.7788	-0.0072	0.1039
3	135	0.1938	-0.1388	0.0097	0.0536	0.0017	-0.3788	0.0166	-0.1580	0.0250
3	135	0.2357	-0.0814	0.0093	0.0596	0.0038	-0.7771	0.0335	-0.5532	0.0439
3	135	0.2995	-0.1518	0.0123	0.2085	0.0080	-1.7586	0.0787	-0.6874	0.0680
3	135	0.3493	-0.1983	0.0169	0.3572	0.0135	-2.9921	0.1343	-0.7321	0.0879
3	135	0.4000	-0.2722	0.0256	0.5460	0.0215	-4.7070	0.2120	-0.7634	0.0859
3	135	0.4497	-0.4355	0.0379	0.7462	0.0300	-6.8191	0.3110	-0.7995	0.0966
3	135	0.4997	-0.6130	0.0588	0.9789	0.0403	-9.3812	0.4327	-0.8560	0.0931
3	135	0.5556	-0.8979	0.0877	1.2212	0.0528	-12.6714	0.5971	-0.6180	0.1064
3	135	0.5995	-1.1802	0.1167	1.5116	0.0640	-15.5763	0.7480	-0.7282	0.1141
3	135	0.6498	-1.5612	0.1582	1.7427	0.0758	-19.1971	0.9345	-0.5894	0.1008
3	135	0.6890	-1.9399	0.1952	1.9923	0.0853	-22.2309	1.0934	-0.5651	0.1032
3	135	0.7495	-2.5379	0.2611	2.2866	0.1009	-27.2072	1.3538	-0.4303	0.0983
3	135	0.7998	-3.1239	0.3220	2.5736	0.1133	-31.5358	1.5819	-0.4761	0.0989
3	135	0.8577	-3.8220	0.3971	2.8743	0.1277	-36.6898	1.8540	-0.3691	0.1051
3	135	0.9178	-4.5026	0.4733	3.2033	0.1433	-42.1563	2.1383	-0.4250	0.0974
3	135	0.9729	-5.0662	0.5405	3.4131	0.1570	-47.3137	2.4025	-0.5156	0.1029
4	135	0.2001	-0.1514	0.0090	0.0443	0.0021	-0.4575	0.0157	-0.0306	0.0325
4	135	0.2502	-0.1559	0.0097	0.1259	0.0046	-1.0056	0.0350	-0.3703	0.0566
4	135	0.3001	-0.1984	0.0122	0.2211	0.0091	-1.9167	0.0672	-0.2433	0.0770
4	135	0.3502	-0.2611	0.0170	0.3804	0.0161	-3.2985	0.1150	-0.3193	0.0845
4	135	0.4002	-0.3704	0.0256	0.6128	0.0248	-5.1384	0.1803	-0.3745	0.0892
4	135	0.4500	-0.5171	0.0384	0.8938	0.0345	-7.4522	0.2622	-0.6010	0.1050
4	135	0.5001	-0.7477	0.0559	1.1645	0.0457	-10.1593	0.3635	-0.3976	0.0992
4	135	0.5560	-1.0740	0.0810	1.5211	0.0606	-13.7143	0.4948	-0.4996	0.1039
4	135	0.6001	-1.3814	0.1087	1.8097	0.0721	-16.8197	0.6143	-0.4623	0.1096
4	135	0.6501	-1.8275	0.1444	2.1441	0.0863	-20.6602	0.7646	-0.3634	0.1164
4	135	0.6999	-2.3321	0.1877	2.4685	0.1008	-24.7870	0.9263	-0.1813	0.1189
4	135	0.7500	-2.9045	0.2369	2.7944	0.1158	-29.1656	1.1016	0.0621	0.1212
4	135	0.8002	-3.5609	0.2923	3.0972	0.1305	-33.7653	1.2856	0.2152	0.1276
4	135	0.8582	-4.3468	0.3605	3.4694	0.1478	-39.2872	1.5085	-0.0942	0.1327
4	135	0.9101	-5.0335	0.4222	3.8173	0.1637	-44.2633	1.7111	0.3450	0.1380
4	135	0.9728	-5.6834	0.4954	4.2204	0.1828	-50.3174	1.9620	0.7716	0.1334

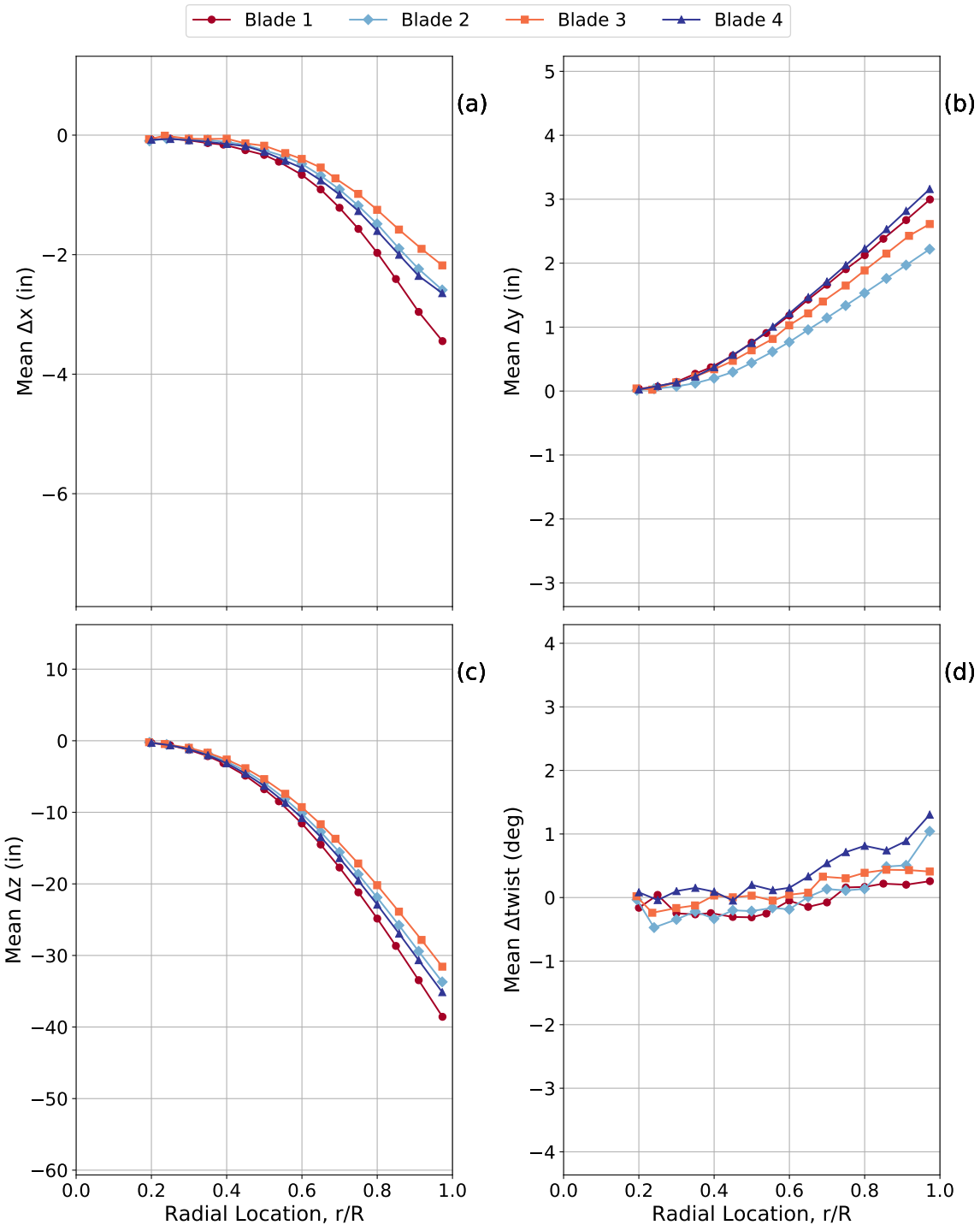


Figure 2.22-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0741	0.0057	0.0367	0.0017	-0.3091	0.0111	-0.1609	0.0316
1	150.12	0.2499	-0.0590	0.0052	0.0686	0.0040	-0.6327	0.0234	0.0416	0.0649
1	150.12	0.2998	-0.0875	0.0068	0.1431	0.0072	-1.2704	0.0459	-0.2484	0.0826
1	150.12	0.3498	-0.1326	0.0091	0.2706	0.0125	-2.1549	0.0789	-0.2649	0.0880
1	150.12	0.3913	-0.1587	0.0121	0.3711	0.0181	-3.1233	0.1141	-0.2451	0.0855
1	150.12	0.4496	-0.2511	0.0190	0.5548	0.0265	-4.8744	0.1757	-0.3054	0.1027
1	150.12	0.4997	-0.3310	0.0266	0.7580	0.0351	-6.7728	0.2406	-0.3112	0.1117
1	150.12	0.5387	-0.4438	0.0342	0.9078	0.0424	-8.4645	0.2966	-0.2522	0.1035
1	150.12	0.5996	-0.6639	0.0503	1.1818	0.0543	-11.5577	0.3974	-0.0500	0.1212
1	150.12	0.6498	-0.9083	0.0681	1.4311	0.0655	-14.5051	0.4934	-0.1469	0.1215
1	150.12	0.6998	-1.2155	0.0906	1.6620	0.0768	-17.7137	0.6003	-0.0771	0.1193
1	150.12	0.7500	-1.5688	0.1184	1.9062	0.0884	-21.1861	0.7197	0.1588	0.1155
1	150.12	0.8001	-1.9700	0.1507	2.1247	0.1010	-24.8504	0.8535	0.1671	0.1150
1	150.12	0.8497	-2.4075	0.1864	2.3809	0.1136	-28.6706	0.9940	0.2183	0.1212
1	150.12	0.9102	-2.9578	0.2317	2.6737	0.1294	-33.4593	1.1770	0.2019	0.1168
1	150.12	0.9734	-3.4470	0.2801	2.9962	0.1471	-38.5728	1.3738	0.2578	0.1333
2	150.12	0.1949	-0.0971	0.0048	0.0126	0.0019	-0.2286	0.0114	-0.0341	0.0279
2	150.12	0.2405	-0.0595	0.0040	0.0354	0.0039	-0.5162	0.0230	-0.4723	0.0556
2	150.12	0.2999	-0.0710	0.0058	0.0733	0.0085	-1.0896	0.0508	-0.3442	0.0751
2	150.12	0.3498	-0.0803	0.0083	0.1232	0.0146	-1.8331	0.0870	-0.2191	0.0833
2	150.12	0.3998	-0.1146	0.0125	0.2005	0.0228	-2.8978	0.1354	-0.3330	0.0733
2	150.12	0.4496	-0.1632	0.0177	0.2975	0.0299	-4.2243	0.1997	-0.2008	0.0949
2	150.12	0.4995	-0.2523	0.0264	0.4417	0.0387	-5.8813	0.2778	-0.2132	0.1024
2	150.12	0.5551	-0.3585	0.0399	0.6158	0.0497	-8.1137	0.3822	-0.1626	0.0957
2	150.12	0.5996	-0.4806	0.0528	0.7663	0.0592	-10.1801	0.4805	-0.1854	0.1241
2	150.12	0.6497	-0.6788	0.0718	0.9587	0.0693	-12.7390	0.5982	0.0094	0.1006
2	150.12	0.6996	-0.9083	0.0964	1.1444	0.0801	-15.5758	0.7302	0.1339	0.0992
2	150.12	0.7495	-1.1800	0.1243	1.3369	0.0908	-18.6530	0.8711	0.1114	0.0872
2	150.12	0.7996	-1.4843	0.1557	1.5324	0.1023	-21.8878	1.0240	0.1369	0.1093
2	150.12	0.8578	-1.8963	0.1958	1.7609	0.1151	-25.7806	1.2060	0.4870	0.1042
2	150.12	0.9100	-2.2390	0.2314	1.9698	0.1270	-29.4212	1.3733	0.5075	0.0996
2	150.12	0.9727	-2.5904	0.2718	2.2189	0.1417	-33.6954	1.5758	1.0424	0.1056
3	150.12	0.1938	-0.0679	0.0067	0.0409	0.0021	-0.2113	0.0129	0.0208	0.0285
3	150.12	0.2357	-0.0090	0.0051	0.0219	0.0032	-0.4611	0.0255	-0.2393	0.0489
3	150.12	0.2995	-0.0596	0.0066	0.1360	0.0081	-0.9829	0.0583	-0.1655	0.0703
3	150.12	0.3493	-0.0639	0.0088	0.2283	0.0142	-1.6706	0.0992	-0.1242	0.0588
3	150.12	0.4000	-0.0598	0.0131	0.3411	0.0217	-2.6276	0.1558	0.0320	0.0680
3	150.12	0.4497	-0.1376	0.0185	0.4725	0.0272	-3.8426	0.2273	0.0040	0.0685
3	150.12	0.4997	-0.1772	0.0281	0.6373	0.0356	-5.3641	0.3165	0.0300	0.0668
3	150.12	0.5556	-0.3006	0.0418	0.8157	0.0445	-7.4134	0.4386	-0.0479	0.0835
3	150.12	0.5995	-0.3983	0.0559	1.0286	0.0549	-9.2780	0.5515	0.0438	0.0780
3	150.12	0.6498	-0.5424	0.0781	1.2147	0.0650	-11.6671	0.6947	0.0771	0.0761
3	150.12	0.6890	-0.7229	0.0988	1.4003	0.0746	-13.6997	0.8202	0.3284	0.0779
3	150.12	0.7495	-0.9831	0.1371	1.6497	0.0885	-17.1538	1.0322	0.3028	0.0902
3	150.12	0.7998	-1.2497	0.1743	1.8867	0.1006	-20.1880	1.2274	0.3896	0.0873
3	150.12	0.8577	-1.5804	0.2221	2.1499	0.1148	-23.8831	1.4621	0.4373	0.0935
3	150.12	0.9178	-1.9031	0.2715	2.4279	0.1296	-27.8339	1.7154	0.4318	0.1012
3	150.12	0.9729	-2.1795	0.3157	2.6122	0.1431	-31.5705	1.9490	0.4094	0.1042
4	150.12	0.2001	-0.0763	0.0065	0.0240	0.0037	-0.2846	0.0222	0.0820	0.0729
4	150.12	0.2502	-0.0640	0.0129	0.0801	0.0063	-0.6317	0.0381	-0.0397	0.1516
4	150.12	0.3001	-0.0849	0.0086	0.1335	0.0106	-1.1826	0.0725	0.1014	0.0890
4	150.12	0.3502	-0.1120	0.0110	0.2267	0.0169	-2.0162	0.1187	0.1521	0.0851
4	150.12	0.4002	-0.1480	0.0169	0.3733	0.0251	-3.1477	0.1815	0.0917	0.0838
4	150.12	0.4500	-0.1841	0.0240	0.5654	0.0350	-4.5985	0.2655	-0.0480	0.0955
4	150.12	0.5001	-0.2795	0.0362	0.7504	0.0469	-6.3129	0.3706	0.1989	0.0977
4	150.12	0.5560	-0.4298	0.0543	1.0057	0.0610	-8.6810	0.5108	0.1157	0.0938
4	150.12	0.6001	-0.5510	0.0738	1.2156	0.0731	-10.7998	0.6423	0.1541	0.1114
4	150.12	0.6501	-0.7582	0.1011	1.4663	0.0874	-13.4669	0.8039	0.3315	0.0958
4	150.12	0.6999	-0.9951	0.1347	1.7115	0.1025	-16.3980	0.9851	0.5409	0.1015
4	150.12	0.7500	-1.2703	0.1746	1.9699	0.1174	-19.5594	1.1830	0.7145	0.1060
4	150.12	0.8002	-1.6031	0.2199	2.2273	0.1318	-22.9061	1.3962	0.8137	0.1024
4	150.12	0.8582	-2.0020	0.2780	2.5316	0.1488	-26.9534	1.6577	0.7413	0.1040
4	150.12	0.9101	-2.3555	0.3297	2.8166	0.1640	-30.6627	1.8974	0.8892	0.1170
4	150.12	0.9728	-2.6443	0.3916	3.1586	0.1820	-35.1339	2.1978	1.3035	0.1181

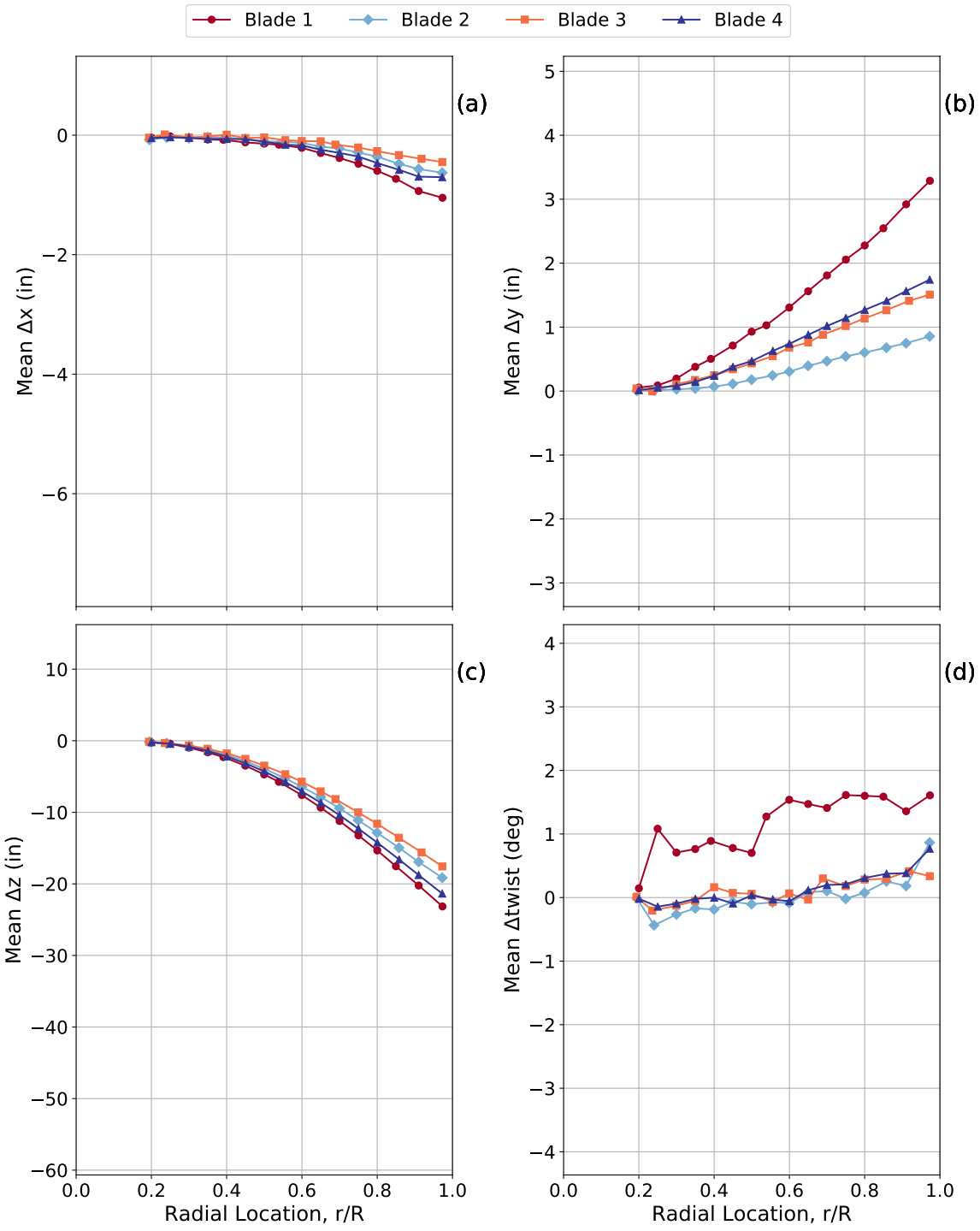


Figure 2.22-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0405	0.0055	0.0548	0.0039	-0.2627	0.0140	0.1456	0.0488
1	164.88	0.2499	-0.0196	0.0048	0.0880	0.0066	-0.4249	0.0290	1.0825	0.1094
1	164.88	0.2998	-0.0329	0.0062	0.1954	0.0155	-0.9712	0.0571	0.7075	0.1234
1	164.88	0.3498	-0.0735	0.0078	0.3790	0.0253	-1.6197	0.0967	0.7632	0.1171
1	164.88	0.3913	-0.0793	0.0102	0.5037	0.0368	-2.2928	0.1403	0.8904	0.1212
1	164.88	0.4496	-0.1214	0.0152	0.7124	0.0521	-3.4799	0.2159	0.7791	0.1272
1	164.88	0.4997	-0.1433	0.0216	0.9288	0.0672	-4.7079	0.2998	0.7023	0.1337
1	164.88	0.5387	-0.1605	0.0279	1.0289	0.0786	-5.7389	0.3732	1.2734	0.1802
1	164.88	0.5996	-0.2128	0.0416	1.3065	0.1002	-7.5894	0.5085	1.5382	0.1763
1	164.88	0.6498	-0.2989	0.0540	1.5614	0.1196	-9.3429	0.6307	1.4711	0.1817
1	164.88	0.6998	-0.3833	0.0694	1.8085	0.1386	-11.2136	0.7615	1.4098	0.1884
1	164.88	0.7500	-0.4793	0.0876	2.0554	0.1598	-13.2220	0.9029	1.6124	0.1906
1	164.88	0.8001	-0.5970	0.1068	2.2768	0.1812	-15.3284	1.0480	1.6004	0.1902
1	164.88	0.8497	-0.7307	0.1276	2.5456	0.2029	-17.5392	1.1932	1.5873	0.2037
1	164.88	0.9102	-0.9352	0.1501	2.9206	0.2338	-20.2283	1.3707	1.3582	0.2062
1	164.88	0.9734	-1.0482	0.1721	3.2884	0.2614	-23.1514	1.5635	1.6082	0.2102
2	164.88	0.1949	-0.0780	0.0047	0.0045	0.0021	-0.1570	0.0133	-0.0094	0.0388
2	164.88	0.2405	-0.0386	0.0056	0.0103	0.0045	-0.3552	0.0227	-0.4352	0.0914
2	164.88	0.2999	-0.0496	0.0059	0.0279	0.0088	-0.7469	0.0559	-0.2657	0.1044
2	164.88	0.3498	-0.0356	0.0077	0.0403	0.0159	-1.2771	0.0930	-0.1699	0.1022
2	164.88	0.3998	-0.0435	0.0103	0.0703	0.0244	-2.0067	0.1446	-0.1877	0.1073
2	164.88	0.4496	-0.0627	0.0139	0.1134	0.0332	-2.8634	0.2091	-0.0684	0.1090
2	164.88	0.4995	-0.1041	0.0195	0.1781	0.0423	-3.9013	0.2901	-0.1037	0.1215
2	164.88	0.5551	-0.1104	0.0270	0.2442	0.0550	-5.2414	0.3950	-0.0766	0.1198
2	164.88	0.5996	-0.1298	0.0355	0.3051	0.0657	-6.4300	0.4962	-0.0863	0.1160
2	164.88	0.6497	-0.1925	0.0464	0.3952	0.0779	-7.8570	0.6182	0.0819	0.1190
2	164.88	0.6996	-0.2244	0.0607	0.4685	0.0915	-9.4301	0.7560	0.1029	0.1323
2	164.88	0.7495	-0.2902	0.0768	0.5425	0.1043	-11.1134	0.9064	-0.0198	0.1299
2	164.88	0.7996	-0.3588	0.0941	0.6030	0.1181	-12.8517	1.0659	0.0758	0.1290
2	164.88	0.8578	-0.4806	0.1166	0.6784	0.1337	-14.9555	1.2566	0.2550	0.1316
2	164.88	0.9100	-0.5678	0.1358	0.7483	0.1485	-16.9272	1.4319	0.1825	0.1275
2	164.88	0.9727	-0.6291	0.1547	0.8554	0.1658	-19.1431	1.6384	0.8646	0.1369
3	164.88	0.1938	-0.0435	0.0056	0.0403	0.0022	-0.1445	0.0114	0.0125	0.0439
3	164.88	0.2357	0.0113	0.0064	-0.0044	0.0034	-0.3149	0.0200	-0.2047	0.0844
3	164.88	0.2995	-0.0386	0.0050	0.1067	0.0078	-0.6594	0.0466	-0.1278	0.1099
3	164.88	0.3493	-0.0244	0.0058	0.1730	0.0136	-1.1295	0.0793	-0.0526	0.1102
3	164.88	0.4000	0.0067	0.0086	0.2467	0.0207	-1.7658	0.1231	0.1629	0.1115
3	164.88	0.4497	-0.0486	0.0111	0.3415	0.0275	-2.5374	0.1794	0.0728	0.1162
3	164.88	0.4997	-0.0384	0.0158	0.4331	0.0354	-3.4822	0.2502	0.0592	0.1169
3	164.88	0.5556	-0.0840	0.0210	0.5459	0.0451	-4.6741	0.3464	-0.0668	0.1374
3	164.88	0.5995	-0.0990	0.0274	0.6809	0.0546	-5.7300	0.4317	0.0658	0.1127
3	164.88	0.6498	-0.1027	0.0367	0.7603	0.0651	-7.0741	0.5420	-0.0332	0.1196
3	164.88	0.6890	-0.1583	0.0448	0.8810	0.0731	-8.1522	0.6346	0.3004	0.1280
3	164.88	0.7495	-0.2070	0.0594	1.0174	0.0863	-10.0160	0.7939	0.1807	0.1346
3	164.88	0.7998	-0.2676	0.0726	1.1355	0.0972	-11.6018	0.9376	0.2836	0.1306
3	164.88	0.8577	-0.3348	0.0908	1.2652	0.1091	-13.5561	1.1112	0.2949	0.1485
3	164.88	0.9178	-0.3965	0.1068	1.4120	0.1228	-15.6044	1.2963	0.4148	0.1479
3	164.88	0.9729	-0.4506	0.1201	1.5083	0.1349	-17.5625	1.4651	0.3370	0.1309
4	164.88	0.2001	-0.0504	0.0044	0.0139	0.0019	-0.2050	0.0118	-0.0185	0.0384
4	164.88	0.2502	-0.0361	0.0058	0.0532	0.0043	-0.4358	0.0241	-0.1436	0.0586
4	164.88	0.3001	-0.0462	0.0047	0.0819	0.0075	-0.8330	0.0464	-0.0943	0.0750
4	164.88	0.3502	-0.0622	0.0063	0.1450	0.0134	-1.4210	0.0788	-0.0206	0.0769
4	164.88	0.4002	-0.0641	0.0082	0.2377	0.0206	-2.2066	0.1219	-0.0021	0.0858
4	164.88	0.4500	-0.0677	0.0118	0.3789	0.0267	-3.1667	0.1758	-0.0932	0.0819
4	164.88	0.5001	-0.1098	0.0162	0.4696	0.0348	-4.2868	0.2406	0.0348	0.0893
4	164.88	0.5560	-0.1601	0.0218	0.6281	0.0440	-5.7680	0.3244	-0.0305	0.0887
4	164.88	0.6001	-0.1729	0.0289	0.7392	0.0513	-7.0684	0.4033	-0.0576	0.1048
4	164.88	0.6501	-0.2442	0.0379	0.8801	0.0604	-8.6671	0.4999	0.1154	0.0997
4	164.88	0.6999	-0.2979	0.0494	1.0175	0.0693	-10.4034	0.6055	0.1977	0.1028
4	164.88	0.7500	-0.3587	0.0627	1.1416	0.0792	-12.2826	0.7253	0.2089	0.1196
4	164.88	0.8002	-0.4671	0.0779	1.2695	0.0885	-14.2365	0.8516	0.3084	0.1284
4	164.88	0.8582	-0.5808	0.0966	1.4103	0.0989	-16.5927	1.0046	0.3744	0.1199
4	164.88	0.9101	-0.6946	0.1119	1.5639	0.1090	-18.7693	1.1459	0.3838	0.1204
4	164.88	0.9728	-0.7037	0.1302	1.7413	0.1210	-21.3649	1.3207	0.7683	0.1261

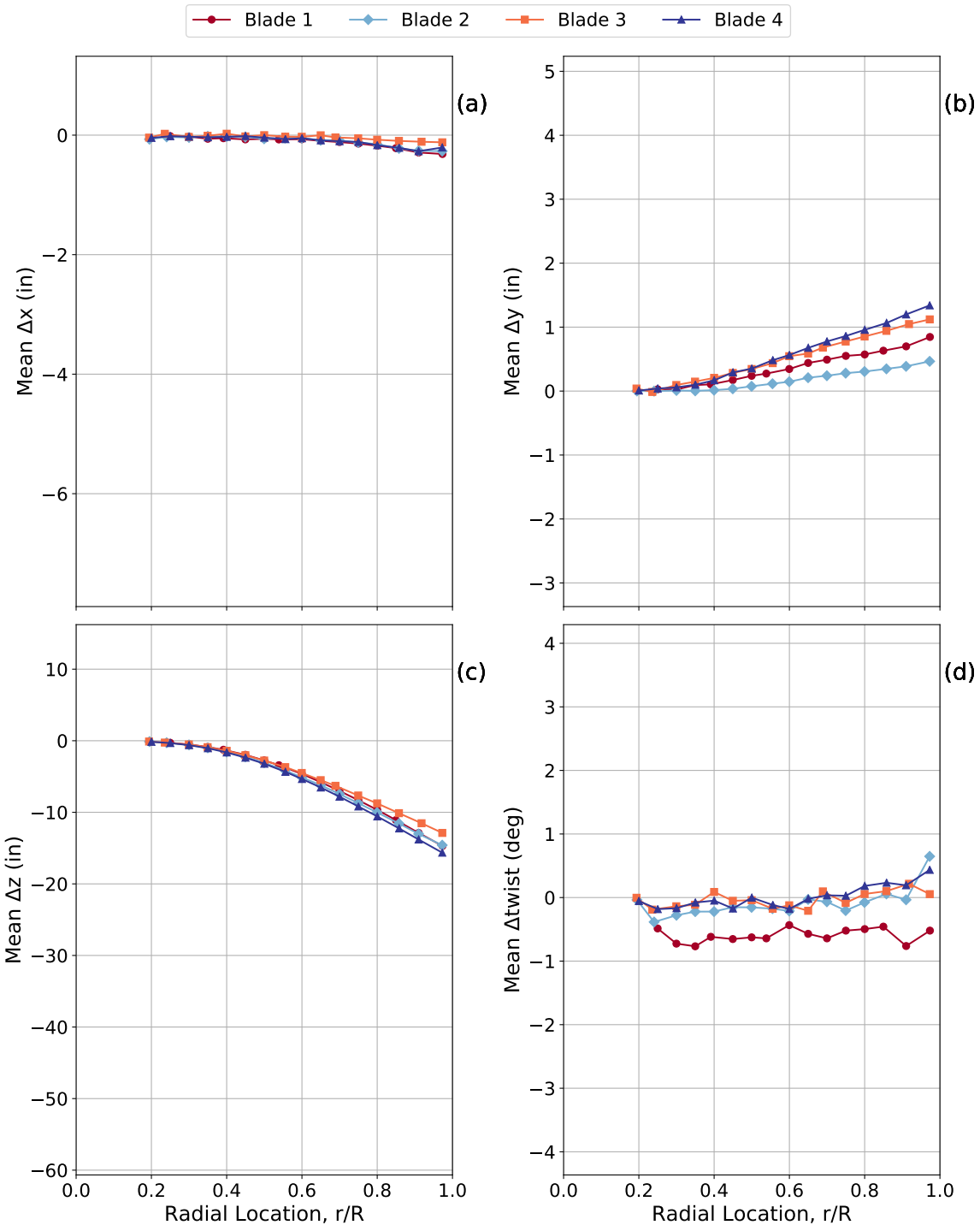


Figure 2.22-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-23. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2499	-0.0168	0.0072	0.0275	0.0060	-0.2876	0.0289	-0.4863	0.1560
1	170.16	0.2998	-0.0243	0.0089	0.0245	0.0119	-0.5250	0.0520	-0.7250	0.2238
1	170.16	0.3498	-0.0604	0.0093	0.0942	0.0201	-0.8731	0.0901	-0.7671	0.1931
1	170.16	0.3913	-0.0513	0.0097	0.1050	0.0298	-1.2613	0.1287	-0.6179	0.1967
1	170.16	0.4496	-0.0712	0.0123	0.1726	0.0416	-1.9678	0.1989	-0.6528	0.2004
1	170.16	0.4997	-0.0622	0.0154	0.2384	0.0521	-2.7493	0.2744	-0.6261	0.2019
1	170.16	0.5387	-0.0720	0.0188	0.2734	0.0620	-3.4199	0.3386	-0.6421	0.2010
1	170.16	0.5996	-0.0686	0.0263	0.3449	0.0768	-4.6346	0.4594	-0.4338	0.2139
1	170.16	0.6498	-0.0955	0.0332	0.4398	0.0903	-5.7824	0.5752	-0.5706	0.2071
1	170.16	0.6998	-0.1156	0.0429	0.4912	0.1033	-7.0104	0.7038	-0.6418	0.2160
1	170.16	0.7500	-0.1419	0.0550	0.5502	0.1171	-8.3107	0.8458	-0.5203	0.2178
1	170.16	0.8001	-0.1766	0.0678	0.5723	0.1321	-9.6589	1.0018	-0.4963	0.2266
1	170.16	0.8497	-0.2176	0.0819	0.6318	0.1468	-11.0867	1.1634	-0.4576	0.2146
1	170.16	0.9102	-0.2906	0.0984	0.6989	0.1652	-12.8834	1.3675	-0.7625	0.2190
1	170.16	0.9734	-0.3155	0.1123	0.8460	0.1839	-14.7028	1.5867	-0.5202	0.2174
2	170.16	0.1949	-0.0680	0.0059	0.0015	0.0027	-0.1184	0.0125	-0.0367	0.0432
2	170.16	0.2405	-0.0292	0.0044	-0.0013	0.0047	-0.2757	0.0263	-0.3848	0.0990
2	170.16	0.2999	-0.0392	0.0048	0.0097	0.0103	-0.5777	0.0532	-0.2785	0.1156
2	170.16	0.3498	-0.0191	0.0060	0.0039	0.0188	-0.9913	0.0897	-0.2214	0.1091
2	170.16	0.3998	-0.0225	0.0073	0.0141	0.0282	-1.5618	0.1394	-0.2210	0.1187
2	170.16	0.4496	-0.0296	0.0109	0.0359	0.0397	-2.2461	0.2033	-0.1515	0.1238
2	170.16	0.4995	-0.0610	0.0138	0.0749	0.0520	-3.0739	0.2827	-0.1545	0.1288
2	170.16	0.5551	-0.0478	0.0193	0.1151	0.0691	-4.1515	0.3822	-0.1747	0.1291
2	170.16	0.5996	-0.0494	0.0254	0.1462	0.0826	-5.1058	0.4777	-0.2116	0.1331
2	170.16	0.6497	-0.0856	0.0321	0.2090	0.0990	-6.2114	0.5950	-0.0298	0.1353
2	170.16	0.6996	-0.0890	0.0424	0.2400	0.1169	-7.4401	0.7262	-0.0669	0.1322
2	170.16	0.7495	-0.1218	0.0535	0.2801	0.1343	-8.7209	0.8697	-0.2052	0.1390
2	170.16	0.7996	-0.1512	0.0650	0.3053	0.1532	-10.0117	1.0246	-0.0765	0.1422
2	170.16	0.8578	-0.2225	0.0807	0.3473	0.1746	-11.5679	1.2099	0.0571	0.1475
2	170.16	0.9100	-0.2611	0.0940	0.3870	0.1945	-13.0268	1.3862	-0.0355	0.1454
2	170.16	0.9727	-0.2672	0.1030	0.4651	0.2174	-14.5918	1.5994	0.6478	0.1475
3	170.16	0.1938	-0.0414	0.0068	0.0396	0.0026	-0.1118	0.0145	-0.0035	0.0395
3	170.16	0.2357	0.0227	0.0070	-0.0138	0.0035	-0.2579	0.0256	-0.1900	0.0820
3	170.16	0.2995	-0.0297	0.0069	0.0949	0.0078	-0.5198	0.0616	-0.1375	0.0948
3	170.16	0.3493	-0.0108	0.0077	0.1478	0.0137	-0.8998	0.1059	-0.1135	0.1024
3	170.16	0.4000	0.0237	0.0104	0.2065	0.0205	-1.4051	0.1645	0.0879	0.0992
3	170.16	0.4497	-0.0214	0.0138	0.2840	0.0269	-2.0253	0.2328	-0.0514	0.1026
3	170.16	0.4997	-0.0003	0.0185	0.3452	0.0341	-2.7687	0.3155	-0.0412	0.0998
3	170.16	0.5556	-0.0253	0.0222	0.4370	0.0424	-3.6871	0.4241	-0.1761	0.1141
3	170.16	0.5995	-0.0272	0.0290	0.5457	0.0506	-4.5048	0.5185	-0.1221	0.1175
3	170.16	0.6498	-0.0024	0.0353	0.5871	0.0594	-5.5090	0.6389	-0.2081	0.1175
3	170.16	0.6890	-0.0382	0.0424	0.6805	0.0669	-6.2960	0.7399	0.0970	0.1158
3	170.16	0.7495	-0.0532	0.0541	0.7750	0.0789	-7.6527	0.9108	-0.0843	0.1219
3	170.16	0.7998	-0.0766	0.0636	0.8537	0.0884	-8.7554	1.0659	0.0562	0.1200
3	170.16	0.8577	-0.0964	0.0772	0.9417	0.0994	-10.1205	1.2535	0.1003	0.1200
3	170.16	0.9178	-0.1106	0.0894	1.0471	0.1103	-11.5289	1.4528	0.2167	0.1366
3	170.16	0.9729	-0.1200	0.0982	1.1210	0.1216	-12.8794	1.6416	0.0537	0.1266
4	170.16	0.2001	-0.0456	0.0046	0.0083	0.0022	-0.1517	0.0126	-0.0550	0.0729
4	170.16	0.2502	-0.0177	0.0063	0.0400	0.0041	-0.3246	0.0256	-0.1821	0.1173
4	170.16	0.3001	-0.0262	0.0051	0.0578	0.0077	-0.6203	0.0479	-0.1674	0.1577
4	170.16	0.3502	-0.0360	0.0065	0.0994	0.0135	-1.0504	0.0784	-0.0781	0.1244
4	170.16	0.4002	-0.0291	0.0070	0.1684	0.0202	-1.6372	0.1224	-0.0482	0.1165
4	170.16	0.4500	-0.0161	0.0102	0.2917	0.0270	-2.3679	0.1771	-0.1729	0.1249
4	170.16	0.5001	-0.0418	0.0121	0.3523	0.0345	-3.2145	0.2452	-0.0021	0.1330
4	170.16	0.5560	-0.0671	0.0175	0.4834	0.0451	-4.3502	0.3295	-0.1170	0.1258
4	170.16	0.6001	-0.0517	0.0233	0.5643	0.0523	-5.3454	0.4089	-0.1799	0.1304
4	170.16	0.6501	-0.0869	0.0293	0.6759	0.0625	-6.5366	0.5073	-0.0196	0.1355
4	170.16	0.6999	-0.1015	0.0375	0.7760	0.0712	-7.8185	0.6145	0.0350	0.1438
4	170.16	0.7500	-0.1136	0.0476	0.8613	0.0805	-9.1862	0.7319	0.0284	0.1351
4	170.16	0.8002	-0.1680	0.0577	0.9575	0.0902	-10.5776	0.8581	0.1827	0.1443
4	170.16	0.8582	-0.2128	0.0712	1.0650	0.1007	-12.2550	1.0109	0.2326	0.1349
4	170.16	0.9101	-0.2684	0.0822	1.1980	0.1104	-13.8013	1.1546	0.1929	0.1414
4	170.16	0.9728	-0.2069	0.0918	1.3398	0.1216	-15.6402	1.3309	0.4355	0.1487

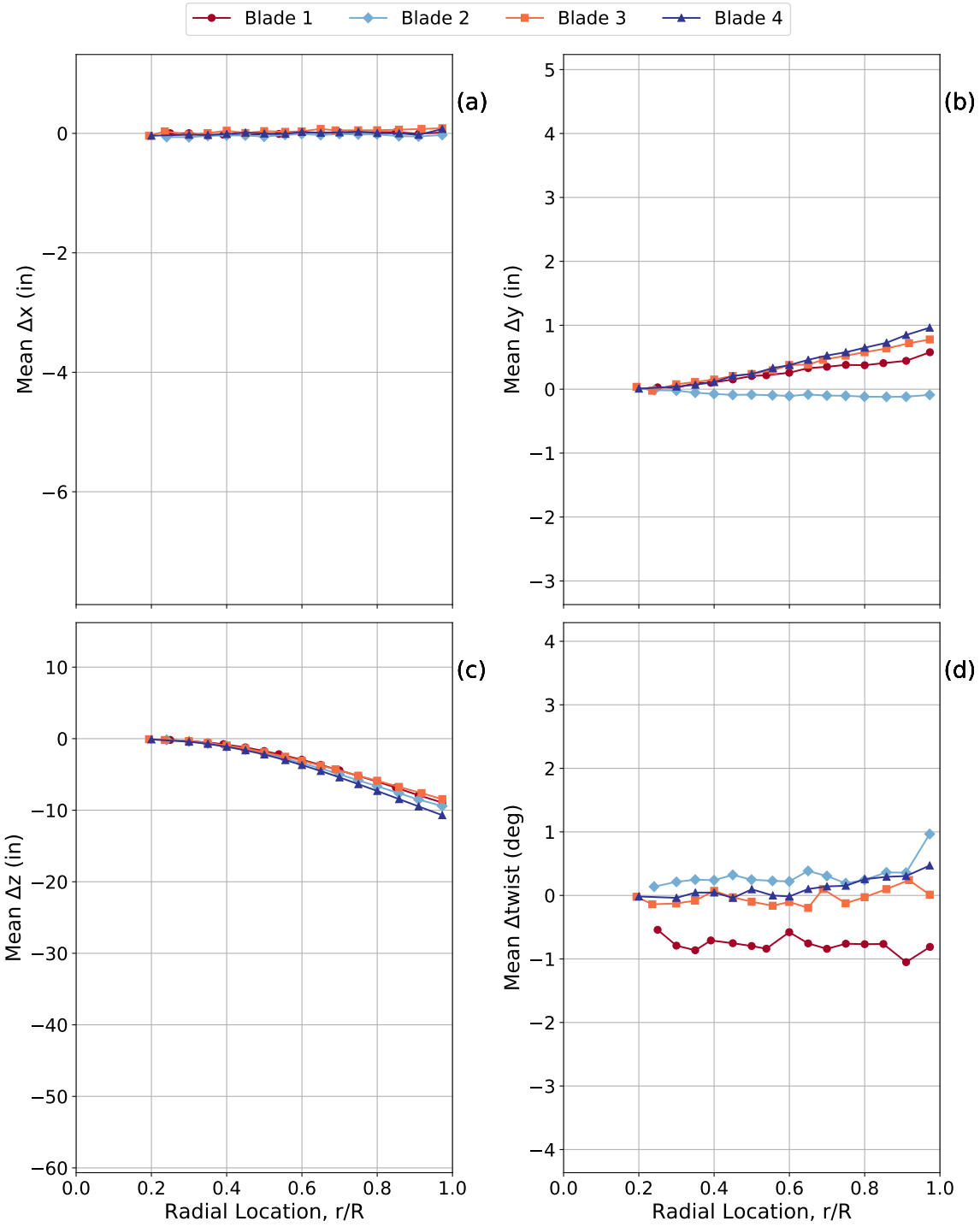


Figure 2.22-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-24. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2499	0.0027	0.0075	0.0287	0.0079	-0.1772	0.0376	-0.5417	0.1684
1	175.08	0.2998	0.0032	0.0110	0.0198	0.0141	-0.3237	0.0697	-0.7902	0.2399
1	175.08	0.3498	-0.0340	0.0112	0.0964	0.0267	-0.5307	0.1183	-0.8634	0.2343
1	175.08	0.3913	-0.0219	0.0111	0.1004	0.0377	-0.7678	0.1714	-0.7088	0.2208
1	175.08	0.4496	-0.0297	0.0136	0.1519	0.0520	-1.2161	0.2582	-0.7521	0.2243
1	175.08	0.4997	-0.0118	0.0159	0.2058	0.0638	-1.7316	0.3438	-0.7965	0.2338
1	175.08	0.5387	-0.0088	0.0183	0.2178	0.0739	-2.1670	0.4166	-0.8386	0.2296
1	175.08	0.5996	0.0170	0.0231	0.2575	0.0898	-2.9359	0.5465	-0.5786	0.2313
1	175.08	0.6498	0.0089	0.0274	0.3294	0.1045	-3.6660	0.6663	-0.7554	0.2272
1	175.08	0.6998	0.0165	0.0333	0.3504	0.1186	-4.4245	0.7944	-0.8405	0.2387
1	175.08	0.7500	0.0199	0.0397	0.3804	0.1325	-5.2071	0.9357	-0.7601	0.2316
1	175.08	0.8001	0.0215	0.0475	0.3746	0.1472	-5.9963	1.0852	-0.7674	0.2407
1	175.08	0.8497	0.0200	0.0553	0.4078	0.1616	-6.8470	1.2428	-0.7644	0.2331
1	175.08	0.9102	-0.0053	0.0635	0.4433	0.1799	-7.9132	1.4421	-1.0509	0.2415
1	175.08	0.9734	0.0153	0.0697	0.5778	0.1984	-8.9438	1.6557	-0.8109	0.2332
2	175.08	0.2405	-0.0613	0.0061	-0.0145	0.0050	-0.1696	0.0281	0.1382	0.1114
2	175.08	0.2999	-0.0648	0.0074	-0.0225	0.0107	-0.3799	0.0594	0.2134	0.1732
2	175.08	0.3498	-0.0404	0.0072	-0.0544	0.0195	-0.6572	0.1020	0.2479	0.1541
2	175.08	0.3998	-0.0354	0.0081	-0.0746	0.0301	-1.0388	0.1583	0.2396	0.1415
2	175.08	0.4496	-0.0345	0.0104	-0.0892	0.0418	-1.4858	0.2238	0.3223	0.1620
2	175.08	0.4995	-0.0551	0.0125	-0.0854	0.0553	-2.0479	0.3035	0.2481	0.1595
2	175.08	0.5551	-0.0242	0.0158	-0.0949	0.0728	-2.7793	0.4041	0.2290	0.1578
2	175.08	0.5996	-0.0105	0.0197	-0.1063	0.0874	-3.4244	0.4939	0.2199	0.1580
2	175.08	0.6497	-0.0285	0.0231	-0.0833	0.1053	-4.1534	0.6012	0.3853	0.1724
2	175.08	0.6996	-0.0094	0.0290	-0.0999	0.1240	-4.9816	0.7196	0.3052	0.1711
2	175.08	0.7495	-0.0187	0.0347	-0.1028	0.1424	-5.8168	0.8462	0.1922	0.1717
2	175.08	0.7996	-0.0163	0.0419	-0.1172	0.1619	-6.6423	0.9824	0.2440	0.1530
2	175.08	0.8578	-0.0467	0.0497	-0.1197	0.1849	-7.6186	1.1473	0.3629	0.1613
2	175.08	0.9100	-0.0519	0.0558	-0.1180	0.2050	-8.5180	1.3037	0.3576	0.1657
2	175.08	0.9727	-0.0270	0.0585	-0.0887	0.2298	-9.4155	1.4917	0.9664	0.1786
3	175.08	0.1938	-0.0405	0.0065	0.0369	0.0064	-0.0705	0.0137	-0.0213	0.0475
3	175.08	0.2357	0.0323	0.0083	-0.0243	0.0041	-0.1842	0.0231	-0.1398	0.1184
3	175.08	0.2995	-0.0201	0.0075	0.0773	0.0190	-0.3481	0.0546	-0.1272	0.1298
3	175.08	0.3493	0.0040	0.0081	0.1117	0.0329	-0.6044	0.0925	-0.0826	0.1309
3	175.08	0.4000	0.0451	0.0097	0.1512	0.0477	-0.9504	0.1432	0.0717	0.1293
3	175.08	0.4497	0.0062	0.0106	0.2069	0.0620	-1.3696	0.2017	-0.0293	0.1238
3	175.08	0.4997	0.0379	0.0117	0.2383	0.0773	-1.8993	0.2703	-0.0988	0.1375
3	175.08	0.5556	0.0265	0.0150	0.2946	0.0960	-2.5202	0.3615	-0.1625	0.1406
3	175.08	0.5995	0.0337	0.0179	0.3788	0.1097	-3.0799	0.4401	-0.1027	0.1476
3	175.08	0.6498	0.0750	0.0215	0.3840	0.1259	-3.7625	0.5401	-0.1966	0.1434
3	175.08	0.6890	0.0499	0.0250	0.4591	0.1386	-4.2769	0.6249	0.1003	0.1502
3	175.08	0.7495	0.0523	0.0304	0.5241	0.1582	-5.1769	0.7647	-0.1234	0.1455
3	175.08	0.7998	0.0527	0.0358	0.5780	0.1751	-5.8744	0.8921	-0.0284	0.1615
3	175.08	0.8577	0.0619	0.0425	0.6366	0.1944	-6.7368	1.0481	0.0990	0.1612
3	175.08	0.9178	0.0742	0.0478	0.7188	0.2152	-7.6034	1.2120	0.2413	0.1682
3	175.08	0.9729	0.0863	0.0505	0.7778	0.2322	-8.4563	1.3680	0.0117	0.1721
4	175.08	0.2001	-0.0394	0.0055	0.0082	0.0021	-0.1046	0.0161	-0.0173	0.0518
4	175.08	0.3001	-0.0224	0.0059	0.0409	0.0097	-0.4304	0.0651	-0.0381	0.1217
4	175.08	0.3502	-0.0277	0.0061	0.0690	0.0172	-0.7291	0.1106	0.0444	0.1052
4	175.08	0.4002	-0.0106	0.0080	0.1113	0.0266	-1.1384	0.1720	0.0454	0.1085
4	175.08	0.4500	0.0125	0.0108	0.2071	0.0354	-1.6316	0.2442	-0.0393	0.1097
4	175.08	0.5001	-0.0029	0.0133	0.2385	0.0466	-2.2075	0.3323	0.0960	0.1158
4	175.08	0.5560	-0.0078	0.0185	0.3303	0.0607	-2.9994	0.4435	-0.0021	0.1217
4	175.08	0.6001	0.0239	0.0225	0.3761	0.0721	-3.6898	0.5429	-0.0157	0.1155
4	175.08	0.6501	0.0087	0.0285	0.4593	0.0849	-4.5184	0.6655	0.1007	0.1248
4	175.08	0.6999	0.0163	0.0350	0.5272	0.0984	-5.4133	0.7976	0.1417	0.1296
4	175.08	0.7500	0.0281	0.0427	0.5775	0.1121	-6.3604	0.9398	0.1519	0.1290
4	175.08	0.8002	0.0047	0.0514	0.6491	0.1258	-7.3114	1.0902	0.2558	0.1267
4	175.08	0.8582	0.0008	0.0619	0.7263	0.1420	-8.4511	1.2702	0.2929	0.1333
4	175.08	0.9101	-0.0251	0.0692	0.8475	0.1558	-9.4768	1.4365	0.3046	0.1260
4	175.08	0.9728	0.0731	0.0751	0.9619	0.1740	-10.6962	1.6381	0.4705	0.1380

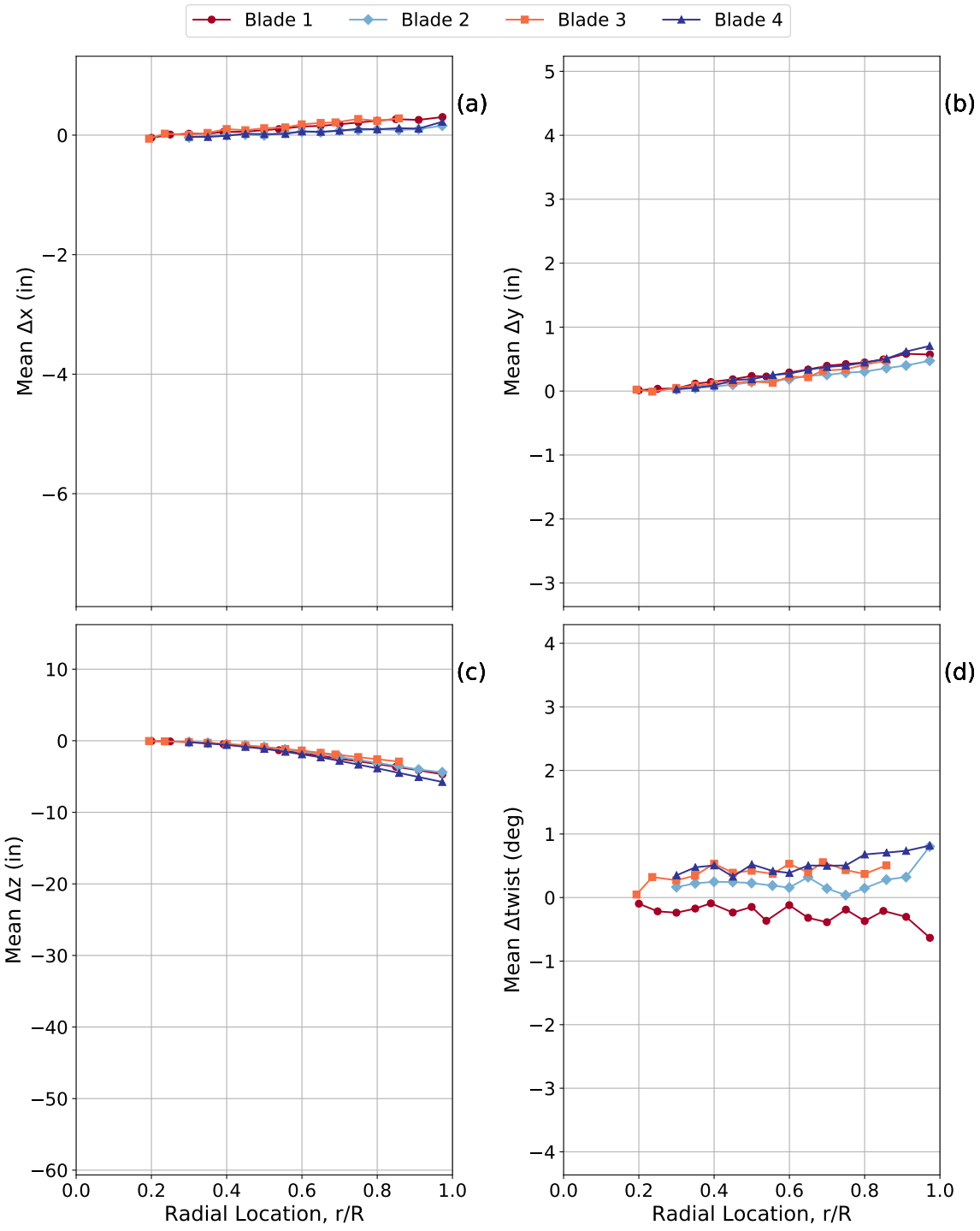


Figure 2.22-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.0453	0.0025	0.0124	0.0027	-0.0564	0.0174	-0.0968	0.0429
1	180	0.2499	0.0098	0.0025	0.0360	0.0051	-0.0954	0.0347	-0.2169	0.1032
1	180	0.2998	0.0236	0.0030	0.0414	0.0111	-0.2060	0.0692	-0.2387	0.1089
1	180	0.3498	0.0248	0.0036	0.1166	0.0175	-0.3346	0.1164	-0.1733	0.1052
1	180	0.3913	0.0521	0.0047	0.1411	0.0261	-0.4787	0.1683	-0.0908	0.1033
1	180	0.4496	0.0579	0.0056	0.1850	0.0382	-0.7880	0.2542	-0.2358	0.1173
1	180	0.4997	0.0842	0.0065	0.2362	0.0501	-1.0644	0.3369	-0.1477	0.1211
1	180	0.5387	0.1012	0.0077	0.2280	0.0601	-1.3279	0.4063	-0.3659	0.1217
1	180	0.5996	0.1446	0.0098	0.2914	0.0762	-1.7263	0.5207	-0.1198	0.1254
1	180	0.6498	0.1550	0.0116	0.3374	0.0901	-2.1265	0.6224	-0.3193	0.1284
1	180	0.6998	0.1825	0.0134	0.3956	0.1049	-2.5107	0.7307	-0.3876	0.1241
1	180	0.7500	0.2118	0.0158	0.4225	0.1215	-2.8750	0.8479	-0.1893	0.1234
1	180	0.8001	0.2415	0.0184	0.4480	0.1358	-3.2674	0.9649	-0.3694	0.1351
1	180	0.8497	0.2668	0.0207	0.4946	0.1501	-3.6374	1.0865	-0.2106	0.1374
1	180	0.9102	0.2553	0.0252	0.5822	0.1676	-4.1351	1.2403	-0.3040	0.2194
1	180	0.9734	0.3031	0.0223	0.5721	0.1886	-4.6863	1.4100	-0.6339	0.1882
2	180	0.2999	-0.0389	0.0161	0.0266	0.0305	-0.1701	0.0667	0.1642	0.1216
2	180	0.3498	-0.0091	0.0161	0.0457	0.0524	-0.2869	0.1147	0.2234	0.1610
2	180	0.3998	-0.0011	0.0156	0.0722	0.0828	-0.4485	0.1818	0.2479	0.1529
2	180	0.4496	0.0074	0.0170	0.0987	0.1111	-0.6473	0.2547	0.2441	0.1506
2	180	0.4995	-0.0036	0.0183	0.1401	0.1407	-0.8851	0.3429	0.2273	0.1556
2	180	0.5551	0.0392	0.0209	0.1690	0.1740	-1.2113	0.4576	0.1884	0.1542
2	180	0.5996	0.0579	0.0215	0.1838	0.1996	-1.5131	0.5608	0.1565	0.1618
2	180	0.6497	0.0486	0.0228	0.2406	0.2295	-1.8314	0.6878	0.3200	0.1573
2	180	0.6996	0.0761	0.0262	0.2532	0.2591	-2.2651	0.8212	0.1433	0.1572
2	180	0.7495	0.0831	0.0289	0.2861	0.2888	-2.6872	0.9672	0.0380	0.1642
2	180	0.7996	0.0975	0.0321	0.3041	0.3184	-3.0872	1.1232	0.1462	0.1542
2	180	0.8578	0.0877	0.0359	0.3585	0.3525	-3.5649	1.3089	0.2817	0.1554
2	180	0.9100	0.0997	0.0398	0.3999	0.3831	-4.0225	1.4844	0.3222	0.1770
2	180	0.9727	0.1579	0.0443	0.4737	0.4213	-4.4013	1.7000	0.8030	0.1858
3	180.35	0.1938	-0.0593	0.0021	0.0230	0.0025	-0.0404	0.0136	0.0473	0.0333
3	180.35	0.2357	0.0245	0.0020	-0.0085	0.0048	-0.0814	0.0253	0.3225	0.0483
3	180.35	0.2995	0.0055	0.0026	0.0486	0.0104	-0.1698	0.0581	0.2717	0.0725
3	180.35	0.3493	0.0373	0.0032	0.0855	0.0190	-0.2917	0.1000	0.3440	0.0578
3	180.35	0.4000	0.1016	0.0039	0.1105	0.0289	-0.4492	0.1548	0.5334	0.0598
3	180.35	0.4497	0.0826	0.0047	0.1320	0.0386	-0.6587	0.2195	0.3903	0.0649
3	180.35	0.4997	0.1158	0.0055	0.1490	0.0502	-0.8747	0.2941	0.4216	0.0736
3	180.35	0.5556	0.1296	0.0067	0.1293	0.0653	-1.1660	0.3899	0.3728	0.0788
3	180.35	0.5995	0.1806	0.0080	0.2267	0.0767	-1.3708	0.4693	0.5302	0.0806
3	180.35	0.6498	0.2045	0.0092	0.2168	0.0902	-1.6903	0.5687	0.3955	0.0689
3	180.35	0.6890	0.2135	0.0104	0.3200	0.1019	-1.9203	0.6510	0.5558	0.0744
3	180.35	0.7495	0.2707	0.0125	0.3394	0.1224	-2.2878	0.7844	0.4328	0.0789
3	180.35	0.7998	0.2388	0.0143	0.4139	0.1379	-2.5856	0.9034	0.3712	0.0773
3	180.35	0.8577	0.2808	0.0169	0.4768	0.1576	-2.9131	1.0431	0.5067	0.1872
4	180	0.3001	-0.0269	0.0140	0.0305	0.0229	-0.2169	0.0710	0.3498	0.1819
4	180	0.3502	-0.0300	0.0172	0.0541	0.0397	-0.3718	0.1258	0.4756	0.2434
4	180	0.4002	-0.0101	0.0166	0.0872	0.0630	-0.5871	0.2027	0.5062	0.2234
4	180	0.4500	0.0236	0.0173	0.1732	0.0822	-0.8560	0.2808	0.3294	0.2281
4	180	0.5001	0.0174	0.0181	0.1848	0.1038	-1.1339	0.3717	0.5209	0.2322
4	180	0.5560	0.0207	0.0207	0.2523	0.1277	-1.5406	0.4757	0.4175	0.2332
4	180	0.6001	0.0630	0.0220	0.2727	0.1471	-1.8992	0.5672	0.3874	0.2253
4	180	0.6501	0.0563	0.0240	0.3349	0.1693	-2.3209	0.6738	0.5049	0.2292
4	180	0.6999	0.0747	0.0270	0.3770	0.1920	-2.8076	0.7900	0.4998	0.2267
4	180	0.7500	0.1052	0.0303	0.3992	0.2152	-3.3374	0.9163	0.5054	0.2217
4	180	0.8002	0.0980	0.0337	0.4471	0.2377	-3.8549	1.0451	0.6785	0.2340
4	180	0.8582	0.1165	0.0384	0.5055	0.2643	-4.4964	1.1970	0.7070	0.2285
4	180	0.9101	0.1093	0.0409	0.6187	0.2883	-5.0708	1.3351	0.7349	0.2499
4	180	0.9728	0.2238	0.0445	0.7054	0.3175	-5.7585	1.5053	0.8169	0.2271

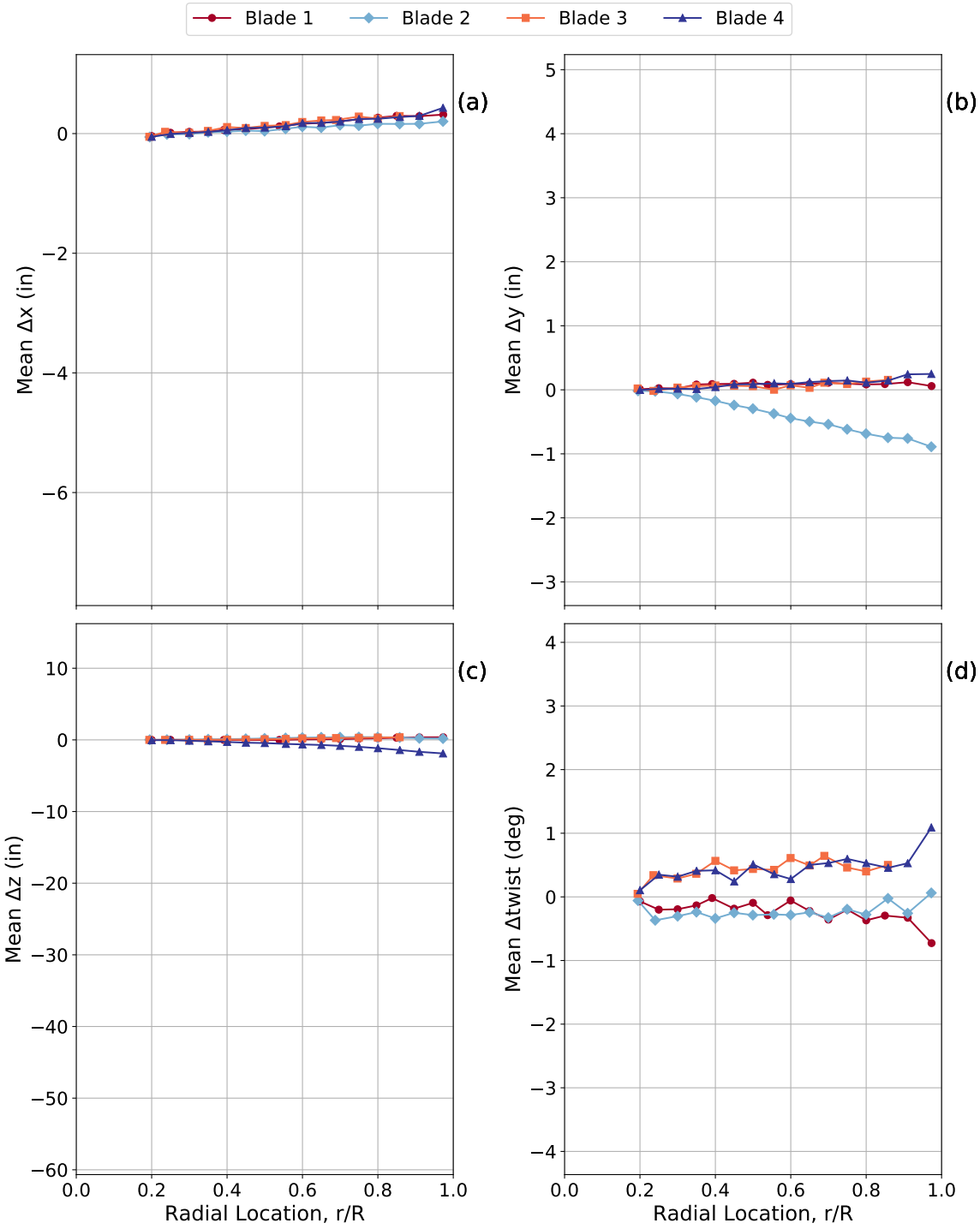


Figure 2.22-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-26. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0411	0.0021	0.0083	0.0064	-0.0110	0.0212	-0.0703	0.0642
1	184.92	0.2499	0.0143	0.0040	0.0252	0.0072	0.0056	0.0346	-0.2011	0.1742
1	184.92	0.2998	0.0298	0.0047	0.0211	0.0222	-0.0135	0.0754	-0.1944	0.1776
1	184.92	0.3498	0.0330	0.0045	0.0827	0.0372	-0.0122	0.1286	-0.1338	0.1789
1	184.92	0.3913	0.0618	0.0048	0.0896	0.0511	-0.0045	0.1797	-0.0184	0.1841
1	184.92	0.4496	0.0712	0.0043	0.0938	0.0704	-0.0314	0.2576	-0.1852	0.1848
1	184.92	0.4997	0.1014	0.0045	0.1119	0.0877	-0.0069	0.3342	-0.0938	0.1823
1	184.92	0.5387	0.1199	0.0048	0.0779	0.1019	-0.0018	0.4000	-0.2872	0.2033
1	184.92	0.5996	0.1642	0.0053	0.0885	0.1254	0.0614	0.5201	-0.0568	0.1900
1	184.92	0.6498	0.1783	0.0063	0.0901	0.1447	0.0782	0.6298	-0.2213	0.1886
1	184.92	0.6998	0.2059	0.0076	0.1104	0.1647	0.1063	0.7524	-0.3567	0.1941
1	184.92	0.7500	0.2393	0.0086	0.0953	0.1852	0.1753	0.8838	-0.1996	0.2043
1	184.92	0.8001	0.2658	0.0100	0.0843	0.2052	0.2223	1.0240	-0.3689	0.2123
1	184.92	0.8497	0.2964	0.0107	0.0895	0.2268	0.2896	1.1692	-0.2940	0.1996
1	184.92	0.9102	0.2916	0.0132	0.1190	0.2518	0.3518	1.3495	-0.3281	0.2817
1	184.92	0.9734	0.3168	0.0228	0.0587	0.2816	0.3677	1.5416	-0.7268	0.2732
2	184.92	0.1949	-0.0573	0.0277	-0.0161	0.0078	0.0201	0.0131	-0.0585	0.0387
2	184.92	0.2405	-0.0127	0.0138	-0.0222	0.0159	0.0245	0.0237	-0.3677	0.1062
2	184.92	0.2999	-0.0079	0.0077	-0.0637	0.0371	0.0404	0.0506	-0.3030	0.1138
2	184.92	0.3498	0.0218	0.0177	-0.1151	0.0640	0.0810	0.0858	-0.2388	0.1142
2	184.92	0.3998	0.0328	0.0281	-0.1717	0.1003	0.0967	0.1316	-0.3385	0.1192
2	184.92	0.4496	0.0497	0.0377	-0.2392	0.1420	0.1474	0.1847	-0.2496	0.1203
2	184.92	0.4995	0.0413	0.0456	-0.2953	0.1892	0.1966	0.2451	-0.2864	0.1259
2	184.92	0.5551	0.0801	0.0535	-0.3725	0.2474	0.2583	0.3219	-0.2754	0.1317
2	184.92	0.5996	0.1146	0.0590	-0.4431	0.2977	0.3088	0.3889	-0.2852	0.1378
2	184.92	0.6497	0.0995	0.0649	-0.4959	0.3578	0.3511	0.4700	-0.2429	0.1500
2	184.92	0.6996	0.1415	0.0717	-0.5382	0.4205	0.3680	0.5587	-0.3262	0.1457
2	184.92	0.7495	0.1331	0.0790	-0.6161	0.4849	0.3913	0.6513	-0.1945	0.1537
2	184.92	0.7996	0.1633	0.0891	-0.6857	0.5512	0.3712	0.7467	-0.2779	0.1606
2	184.92	0.8578	0.1609	0.1082	-0.7479	0.6295	0.3351	0.8598	-0.0243	0.1643
2	184.92	0.9100	0.1635	0.1328	-0.7593	0.7031	0.2167	0.9598	-0.2574	0.1757
2	184.92	0.9727	0.2033	0.1869	-0.8893	0.7923	0.1861	1.0759	0.0622	0.1791
3	184.92	0.1938	-0.0533	0.0019	0.0211	0.0025	-0.0008	0.0146	0.0478	0.0258
3	184.92	0.2357	0.0295	0.0016	-0.0170	0.0047	-0.0015	0.0265	0.3414	0.0375
3	184.92	0.2995	0.0126	0.0023	0.0352	0.0108	0.0115	0.0627	0.2881	0.0588
3	184.92	0.3493	0.0447	0.0025	0.0578	0.0182	0.0188	0.1058	0.3635	0.0598
3	184.92	0.4000	0.1094	0.0032	0.0680	0.0288	0.0372	0.1651	0.5663	0.0561
3	184.92	0.4497	0.0930	0.0035	0.0634	0.0396	0.0486	0.2341	0.4170	0.0581
3	184.92	0.4997	0.1285	0.0034	0.0567	0.0520	0.0881	0.3180	0.4385	0.0602
3	184.92	0.5556	0.1421	0.0037	0.0016	0.0676	0.1277	0.4243	0.4246	0.0651
3	184.92	0.5995	0.1940	0.0041	0.0700	0.0807	0.2075	0.5180	0.6103	0.0705
3	184.92	0.6498	0.2197	0.0047	0.0310	0.0965	0.2233	0.6292	0.4939	0.0726
3	184.92	0.6890	0.2272	0.0051	0.1108	0.1079	0.2559	0.7223	0.6450	0.0766
3	184.92	0.7495	0.2847	0.0069	0.0902	0.1279	0.2934	0.8716	0.4609	0.0816
3	184.92	0.7998	0.2503	0.0079	0.1286	0.1434	0.3276	0.9999	0.3998	0.0881
3	184.92	0.8577	0.2927	0.0097	0.1554	0.1622	0.3669	1.1507	0.5021	0.1495
4	184.92	0.2001	-0.0536	0.0022	-0.0019	0.0029	-0.0385	0.0211	0.1043	0.0323
4	184.92	0.2502	-0.0066	0.0027	0.0150	0.0063	-0.0354	0.0420	0.3483	0.0440
4	184.92	0.3001	0.0116	0.0034	0.0170	0.0120	-0.1196	0.0808	0.3170	0.0681
4	184.92	0.3502	0.0284	0.0040	0.0125	0.0213	-0.2014	0.1406	0.4096	0.0709
4	184.92	0.4002	0.0562	0.0045	0.0422	0.0328	-0.2899	0.2144	0.4178	0.0775
4	184.92	0.4500	0.0938	0.0045	0.0849	0.0458	-0.3934	0.2994	0.2421	0.0843
4	184.92	0.5001	0.0997	0.0045	0.0869	0.0603	-0.4416	0.3953	0.5097	0.0808
4	184.92	0.5560	0.1238	0.0047	0.1004	0.0772	-0.5627	0.5122	0.3564	0.0853
4	184.92	0.6001	0.1759	0.0050	0.0930	0.0913	-0.6347	0.6111	0.2801	0.0865
4	184.92	0.6501	0.1775	0.0055	0.1202	0.1074	-0.7100	0.7290	0.5021	0.0987
4	184.92	0.6999	0.2007	0.0061	0.1369	0.1249	-0.8323	0.8562	0.5316	0.0934
4	184.92	0.7500	0.2437	0.0072	0.1453	0.1420	-0.9728	0.9916	0.5965	0.1046
4	184.92	0.8002	0.2476	0.0084	0.1117	0.1592	-1.1622	1.1326	0.5304	0.1374
4	184.92	0.8582	0.2764	0.0095	0.1442	0.1799	-1.4188	1.3010	0.4562	0.1562
4	184.92	0.9101	0.2954	0.0104	0.2419	0.1958	-1.6665	1.4536	0.5290	0.1711
4	184.92	0.9728	0.4305	0.0272	0.2477	0.2232	-1.8929	1.6461	1.0897	0.3459

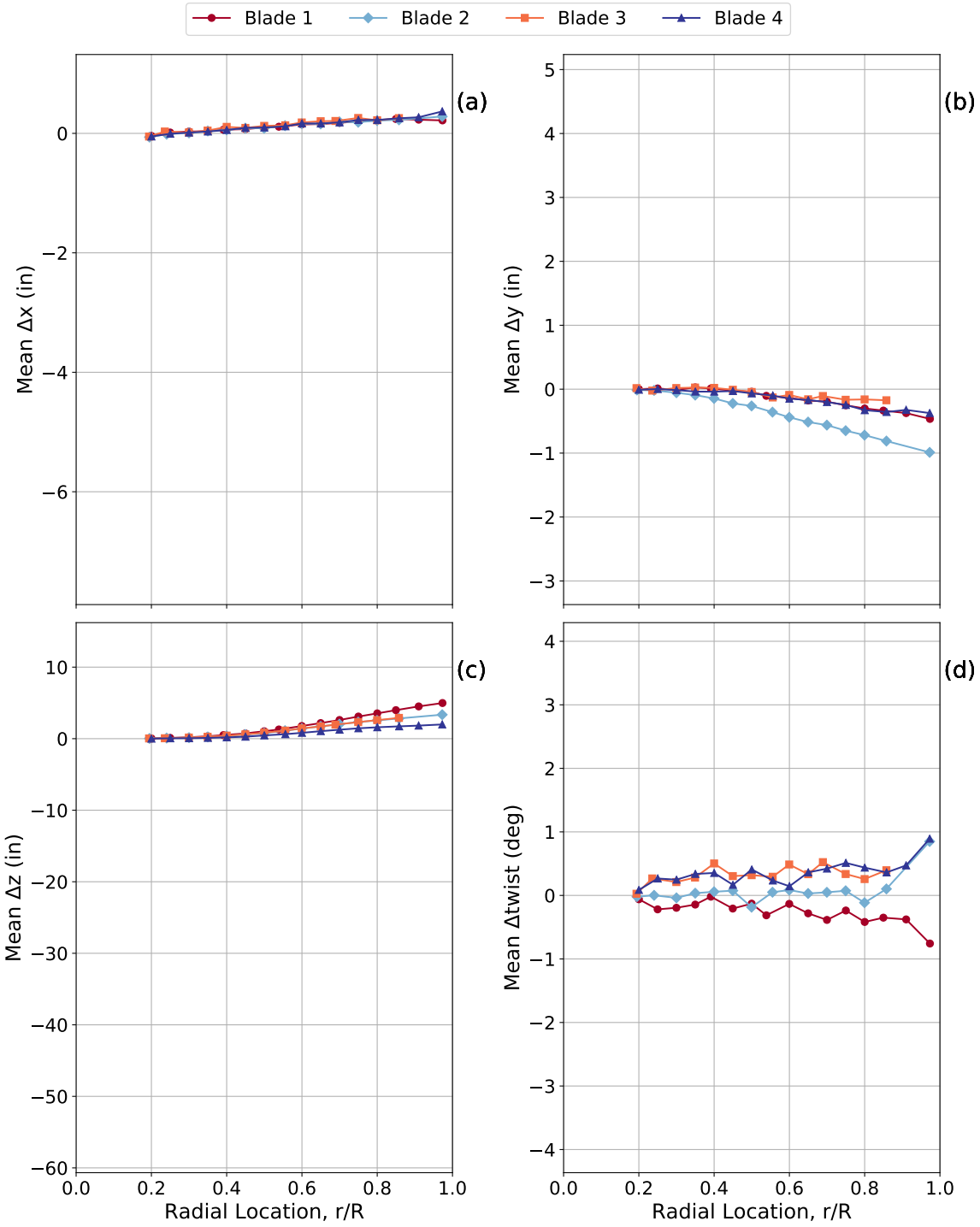


Figure 2.22-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-27. 190° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0427	0.0018	0.0006	0.0032	0.0410	0.0292	-0.0608	0.0246
1	189.84	0.2499	0.0144	0.0021	0.0115	0.0053	0.1092	0.0504	-0.2193	0.0481
1	189.84	0.2998	0.0306	0.0034	-0.0118	0.0125	0.1939	0.1096	-0.1948	0.0551
1	189.84	0.3498	0.0357	0.0037	0.0285	0.0213	0.3371	0.1895	-0.1443	0.0603
1	189.84	0.3913	0.0614	0.0042	0.0104	0.0301	0.5000	0.2662	-0.0198	0.0658
1	189.84	0.4496	0.0706	0.0038	-0.0213	0.0425	0.7399	0.3803	-0.2069	0.0726
1	189.84	0.4997	0.0987	0.0041	-0.0402	0.0521	1.0364	0.4724	-0.1292	0.0807
1	189.84	0.5387	0.1113	0.0054	-0.1041	0.0607	1.2848	0.5422	-0.3129	0.0837
1	189.84	0.5996	0.1492	0.0083	-0.1358	0.0736	1.7713	0.6443	-0.1334	0.0849
1	189.84	0.6498	0.1559	0.0112	-0.1771	0.0835	2.1797	0.7230	-0.2822	0.0887
1	189.84	0.6998	0.1758	0.0138	-0.1957	0.0942	2.6113	0.8054	-0.3857	0.1071
1	189.84	0.7500	0.2014	0.0167	-0.2524	0.1059	3.0942	0.8890	-0.2375	0.1055
1	189.84	0.8001	0.2171	0.0195	-0.3017	0.1193	3.5369	0.9811	-0.4178	0.1502
1	189.84	0.8497	0.2405	0.0227	-0.3348	0.1309	3.9879	1.0827	-0.3501	0.0937
1	189.84	0.9102	0.2293	0.0274	-0.3741	0.1460	4.5108	1.2084	-0.3778	0.1899
1	189.84	0.9734	0.2170	0.0361	-0.4651	0.1656	4.9830	1.3405	-0.7573	0.1347
2	189.84	0.1949	-0.0625	0.0020	-0.0125	0.0050	0.0292	0.0277	-0.0203	0.0882
2	189.84	0.2405	-0.0138	0.0027	-0.0195	0.0050	0.0879	0.0320	0.0014	0.3054
2	189.84	0.2999	0.0073	0.0032	-0.0555	0.0172	0.1401	0.0922	-0.0387	0.3088
2	189.84	0.3498	0.0402	0.0041	-0.0925	0.0301	0.2481	0.1560	0.0351	0.3137
2	189.84	0.3998	0.0584	0.0047	-0.1449	0.0441	0.3859	0.2302	0.0575	0.3146
2	189.84	0.4496	0.0868	0.0055	-0.2222	0.0575	0.5853	0.3118	0.0747	0.3222
2	189.84	0.4995	0.0861	0.0065	-0.2620	0.0717	0.7736	0.3978	-0.1851	0.3324
2	189.84	0.5551	0.1279	0.0085	-0.3588	0.0877	1.1212	0.5043	0.0503	0.3308
2	189.84	0.5996	0.1647	0.0106	-0.4401	0.1001	1.4052	0.5946	0.0848	0.3191
2	189.84	0.6497	0.1583	0.0131	-0.5140	0.1149	1.7169	0.7004	0.0304	0.3211
2	189.84	0.6996	0.1931	0.0155	-0.5620	0.1298	2.0262	0.8126	0.0490	0.3229
2	189.84	0.7495	0.1866	0.0185	-0.6491	0.1455	2.3206	0.9296	0.0732	0.3168
2	189.84	0.7996	0.2145	0.0210	-0.7187	0.1614	2.5520	1.0527	-0.1147	0.3262
2	189.84	0.8578	0.2264	0.0233	-0.8114	0.1793	2.8273	1.2009	0.1020	0.3123
2	189.84	0.9727	0.2823	0.0512	-0.9889	0.2183	3.3556	1.5254	0.8491	0.6794
3	189.84	0.1938	-0.0530	0.0030	0.0164	0.0110	0.0342	0.0298	0.0263	0.0882
3	189.84	0.2357	0.0310	0.0065	-0.0220	0.0044	0.0596	0.0289	0.2672	0.3310
3	189.84	0.2995	0.0154	0.0071	0.0176	0.0322	0.1595	0.0911	0.2105	0.3392
3	189.84	0.3493	0.0465	0.0078	0.0255	0.0558	0.2704	0.1536	0.2811	0.3423
3	189.84	0.4000	0.1087	0.0085	0.0201	0.0803	0.4272	0.2254	0.5029	0.3430
3	189.84	0.4497	0.0914	0.0094	-0.0090	0.1040	0.6018	0.3008	0.3041	0.3478
3	189.84	0.4997	0.1254	0.0103	-0.0439	0.1274	0.8375	0.3808	0.3187	0.3501
3	189.84	0.5556	0.1349	0.0118	-0.1299	0.1534	1.1332	0.4749	0.2937	0.3535
3	189.84	0.5995	0.1827	0.0129	-0.0902	0.1732	1.4385	0.5519	0.4869	0.3444
3	189.84	0.6498	0.2034	0.0146	-0.1581	0.1963	1.7157	0.6415	0.3341	0.3530
3	189.84	0.6890	0.2074	0.0160	-0.1067	0.2141	1.9614	0.7140	0.5238	0.3494
3	189.84	0.7495	0.2578	0.0189	-0.1656	0.2420	2.3171	0.8330	0.3369	0.3481
3	189.84	0.7998	0.2191	0.0206	-0.1600	0.2646	2.5941	0.9370	0.2574	0.3426
3	189.84	0.8577	0.2556	0.0233	-0.1734	0.2929	2.9048	1.0621	0.3960	0.3675
4	189.84	0.2001	-0.0517	0.0037	-0.0087	0.0093	0.0093	0.0448	0.0863	0.2006
4	189.84	0.2502	-0.0060	0.0096	0.0017	0.0081	0.0559	0.0563	0.2661	0.5787
4	189.84	0.3001	0.0134	0.0108	-0.0140	0.0316	0.0635	0.1344	0.2480	0.5821
4	189.84	0.3502	0.0313	0.0125	-0.0379	0.0571	0.1072	0.2278	0.3380	0.5770
4	189.84	0.4002	0.0567	0.0143	-0.0386	0.0823	0.1844	0.3291	0.3534	0.5802
4	189.84	0.4500	0.0929	0.0152	-0.0293	0.1069	0.2788	0.4341	0.1667	0.5836
4	189.84	0.5001	0.0980	0.0165	-0.0661	0.1304	0.4575	0.5358	0.4083	0.5865
4	189.84	0.5560	0.1184	0.0186	-0.0996	0.1578	0.6299	0.6471	0.2345	0.5781
4	189.84	0.6001	0.1664	0.0200	-0.1482	0.1782	0.8173	0.7294	0.1440	0.5764
4	189.84	0.6501	0.1654	0.0219	-0.1701	0.2005	1.0517	0.8157	0.3623	0.5742
4	189.84	0.6999	0.1841	0.0238	-0.2012	0.2236	1.2538	0.8998	0.4221	0.5741
4	189.84	0.7500	0.2244	0.0258	-0.2464	0.2469	1.4521	0.9847	0.5119	0.5681
4	189.84	0.8002	0.2245	0.0270	-0.3288	0.2707	1.5947	1.0749	0.4374	0.5638
4	189.84	0.8582	0.2532	0.0291	-0.3571	0.2988	1.7227	1.1912	0.3616	0.5676
4	189.84	0.9101	0.2693	0.0308	-0.3238	0.3256	1.8276	1.3050	0.4721	0.5900
4	189.84	0.9728	0.3678	0.0404	-0.3740	0.3507	1.9904	1.4581	0.8929	0.4829

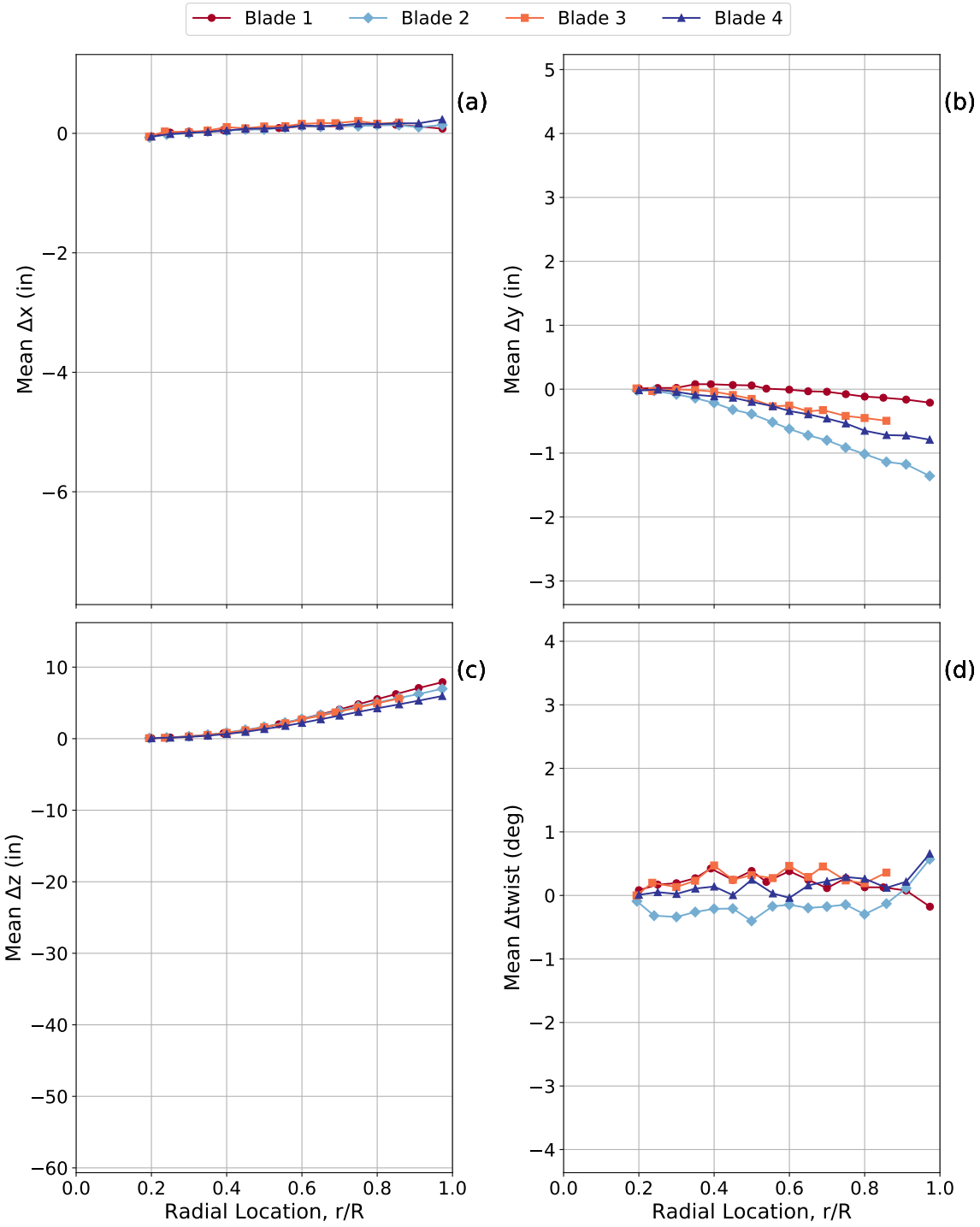


Figure 2.22-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0477	0.0149	0.0110	0.0427	0.0623	0.1210	0.0821	0.5926
1	195.12	0.2499	0.0135	0.0207	0.0184	0.0425	0.1713	0.1492	0.1705	1.6814
1	195.12	0.2998	0.0297	0.0248	0.0200	0.1431	0.2927	0.4050	0.1922	1.6821
1	195.12	0.3498	0.0330	0.0294	0.0784	0.2439	0.5055	0.6826	0.2704	1.6974
1	195.12	0.3913	0.0566	0.0341	0.0771	0.3283	0.7531	0.9315	0.4237	1.7016
1	195.12	0.4496	0.0594	0.0416	0.0650	0.4479	1.1477	1.2944	0.2438	1.7135
1	195.12	0.4997	0.0830	0.0489	0.0588	0.5450	1.6172	1.6085	0.3846	1.7139
1	195.12	0.5387	0.0895	0.0553	0.0084	0.6194	2.0140	1.8524	0.2133	1.7166
1	195.12	0.5996	0.1159	0.0665	-0.0075	0.7296	2.7592	2.2218	0.3821	1.7268
1	195.12	0.6498	0.1102	0.0766	-0.0327	0.8174	3.4020	2.5139	0.2466	1.7260
1	195.12	0.6998	0.1194	0.0875	-0.0399	0.9027	4.0779	2.7956	0.1152	1.7180
1	195.12	0.7500	0.1311	0.0989	-0.0779	0.9856	4.8147	3.0723	0.2720	1.7164
1	195.12	0.8001	0.1376	0.1105	-0.1162	1.0678	5.5252	3.3464	0.1281	1.7284
1	195.12	0.8497	0.1443	0.1210	-0.1337	1.1490	6.2312	3.6226	0.1269	1.7311
1	195.12	0.9102	0.1163	0.1381	-0.1626	1.2484	7.0806	3.9679	0.0766	1.7545
1	195.12	0.9734	0.0782	0.1805	-0.2110	1.3536	7.9020	4.3423	-0.1775	1.7546
2	195.12	0.1949	-0.0682	0.0237	-0.0194	0.0130	0.0826	0.1097	-0.0920	0.3562
2	195.12	0.2405	-0.0191	0.0335	-0.0246	0.0052	0.1595	0.0834	-0.3190	1.3632
2	195.12	0.2999	-0.0004	0.0424	-0.0819	0.0472	0.3307	0.2899	-0.3386	1.3584
2	195.12	0.3498	0.0315	0.0514	-0.1399	0.0872	0.5631	0.4668	-0.2611	1.3635
2	195.12	0.3998	0.0447	0.0607	-0.2151	0.1266	0.8591	0.6491	-0.2109	1.3645
2	195.12	0.4496	0.0672	0.0706	-0.3203	0.1630	1.2421	0.8346	-0.2072	1.3612
2	195.12	0.4995	0.0641	0.0816	-0.3874	0.1987	1.6472	1.0213	-0.4026	1.3666
2	195.12	0.5551	0.0974	0.0955	-0.5164	0.2360	2.2536	1.2356	-0.1720	1.3645
2	195.12	0.5996	0.1247	0.1072	-0.6217	0.2650	2.7565	1.4090	-0.1474	1.3618
2	195.12	0.6497	0.1087	0.1203	-0.7219	0.2977	3.3307	1.6046	-0.1973	1.3629
2	195.12	0.6996	0.1340	0.1328	-0.7992	0.3297	3.9194	1.8028	-0.1765	1.3603
2	195.12	0.7495	0.1192	0.1462	-0.9138	0.3621	4.5052	2.0053	-0.1458	1.3538
2	195.12	0.7996	0.1401	0.1584	-1.0140	0.3948	5.0517	2.2097	-0.2972	1.3579
2	195.12	0.8578	0.1372	0.1731	-1.1378	0.4331	5.6936	2.4519	-0.1296	1.3580
2	195.12	0.9100	0.1035	0.1868	-1.1753	0.4687	6.2405	2.6733	0.1145	1.3493
2	195.12	0.9727	0.1404	0.2261	-1.3579	0.5097	6.9757	2.9355	0.5694	1.4443
3	195.12	0.1938	-0.0550	0.0030	0.0116	0.0071	0.0680	0.0230	0.0007	0.0536
3	195.12	0.2357	0.0314	0.0049	-0.0300	0.0038	0.1233	0.0304	0.1990	0.2271
3	195.12	0.2995	0.0158	0.0055	-0.0036	0.0203	0.3080	0.0799	0.1314	0.2221
3	195.12	0.3493	0.0467	0.0063	-0.0126	0.0354	0.5220	0.1353	0.2313	0.2229
3	195.12	0.4000	0.1051	0.0072	-0.0386	0.0506	0.8200	0.2046	0.4715	0.2227
3	195.12	0.4497	0.0849	0.0081	-0.0911	0.0662	1.1624	0.2829	0.2453	0.2215
3	195.12	0.4997	0.1156	0.0100	-0.1526	0.0820	1.6077	0.3718	0.3194	0.2255
3	195.12	0.5556	0.1197	0.0133	-0.2676	0.1002	2.1540	0.4808	0.2724	0.2270
3	195.12	0.5995	0.1593	0.0159	-0.2571	0.1146	2.6767	0.5749	0.4644	0.2268
3	195.12	0.6498	0.1713	0.0203	-0.3466	0.1310	3.2093	0.6843	0.2902	0.2424
3	195.12	0.6890	0.1708	0.0238	-0.3275	0.1442	3.6720	0.7802	0.4555	0.2434
3	195.12	0.7495	0.2067	0.0304	-0.4188	0.1651	4.3663	0.9379	0.2354	0.2494
3	195.12	0.7998	0.1616	0.0358	-0.4510	0.1822	4.9477	1.0765	0.1916	0.2409
3	195.12	0.8577	0.1818	0.0428	-0.4941	0.2034	5.6042	1.2464	0.3596	0.2606
4	195.12	0.2001	-0.0532	0.0187	-0.0163	0.0168	0.0608	0.0965	0.0088	0.4029
4	195.12	0.2502	-0.0101	0.0279	-0.0073	0.0112	0.1461	0.1119	0.0514	1.1803
4	195.12	0.3001	0.0093	0.0328	-0.0413	0.0589	0.2501	0.2739	0.0229	1.1830
4	195.12	0.3502	0.0244	0.0393	-0.0884	0.1070	0.4197	0.4535	0.1078	1.1851
4	195.12	0.4002	0.0474	0.0461	-0.1123	0.1543	0.6596	0.6455	0.1396	1.1883
4	195.12	0.4500	0.0775	0.0535	-0.1330	0.2006	0.9507	0.8459	0.0041	1.1953
4	195.12	0.5001	0.0811	0.0626	-0.1982	0.2445	1.3496	1.0521	0.2476	1.1957
4	195.12	0.5560	0.0945	0.0741	-0.2666	0.2930	1.7896	1.2796	0.0312	1.2009
4	195.12	0.6001	0.1331	0.0841	-0.3410	0.3301	2.2065	1.4590	-0.0389	1.2017
4	195.12	0.6501	0.1223	0.0953	-0.3934	0.3701	2.7164	1.6555	0.1572	1.2057
4	195.12	0.6999	0.1325	0.1069	-0.4587	0.4105	3.2235	1.8512	0.2231	1.1984
4	195.12	0.7500	0.1626	0.1191	-0.5359	0.4507	3.7435	2.0469	0.2890	1.2093
4	195.12	0.8002	0.1545	0.1304	-0.6502	0.4914	4.2445	2.2450	0.2626	1.2167
4	195.12	0.8582	0.1685	0.1436	-0.7177	0.5373	4.7977	2.4782	0.1209	1.2093
4	195.12	0.9101	0.1684	0.1578	-0.7256	0.5818	5.3123	2.6939	0.2153	1.2267
4	195.12	0.9728	0.2334	0.1951	-0.7901	0.6317	5.9623	2.9564	0.6565	1.2721

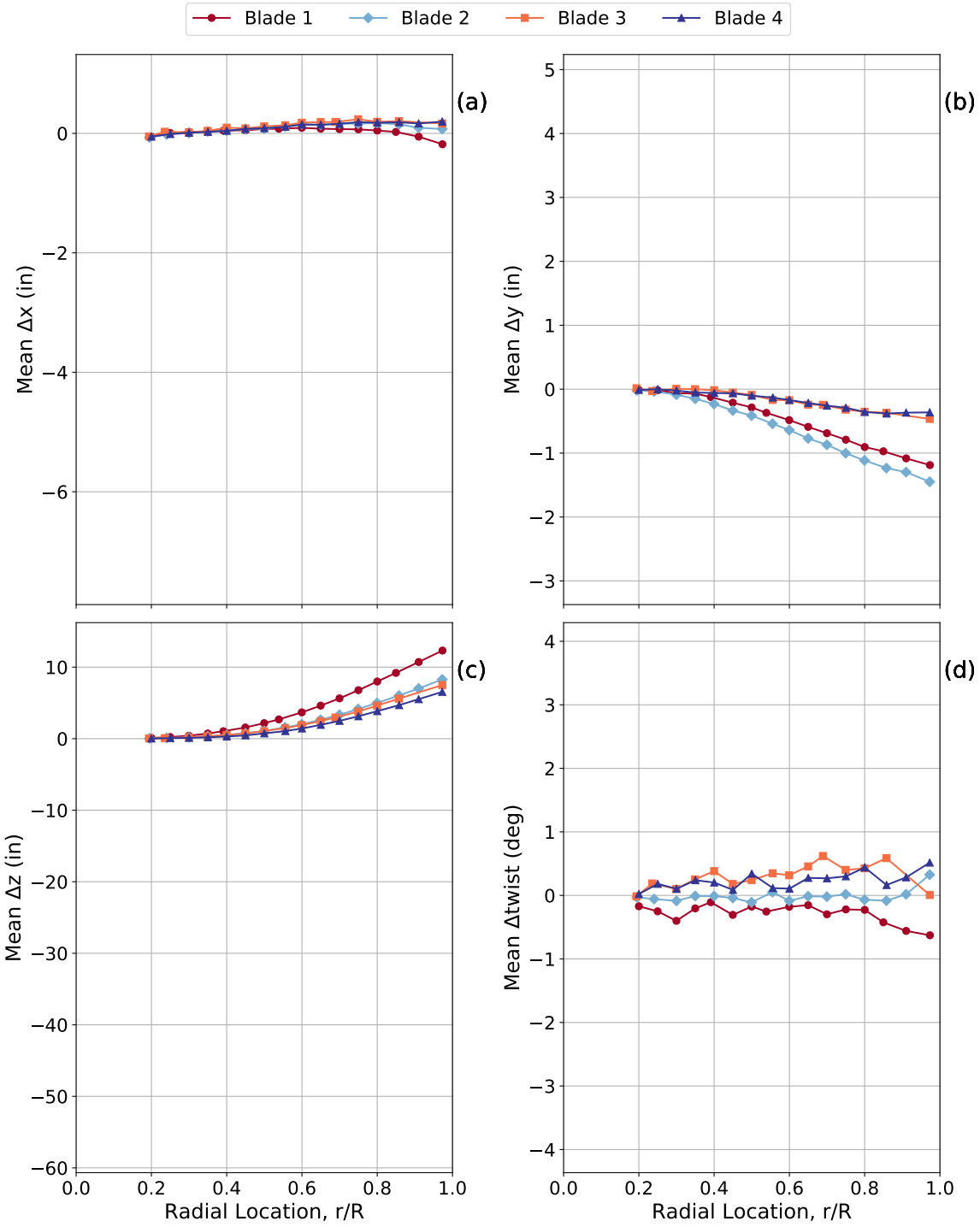


Figure 2.22-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0559	0.0029	-0.0120	0.0055	0.0991	0.0417	-0.1708	0.0258
1	209.88	0.2499	0.0064	0.0017	-0.0161	0.0107	0.2302	0.0845	-0.2502	0.0579
1	209.88	0.2998	0.0253	0.0020	-0.0618	0.0236	0.4111	0.1671	-0.4001	0.0624
1	209.88	0.3498	0.0274	0.0024	-0.0695	0.0393	0.7254	0.2836	-0.2039	0.0675
1	209.88	0.3913	0.0471	0.0038	-0.1237	0.0576	1.0439	0.4093	-0.1072	0.0745
1	209.88	0.4496	0.0518	0.0064	-0.2110	0.0862	1.5632	0.6199	-0.3063	0.0792
1	209.88	0.4997	0.0738	0.0125	-0.2859	0.1152	2.1676	0.8326	-0.1753	0.0864
1	209.88	0.5387	0.0773	0.0170	-0.3699	0.1377	2.6952	1.0073	-0.2541	0.0906
1	209.88	0.5996	0.0926	0.0300	-0.4840	0.1752	3.6780	1.2955	-0.1790	0.0934
1	209.88	0.6498	0.0784	0.0420	-0.5898	0.2078	4.6161	1.5386	-0.1533	0.1069
1	209.88	0.6998	0.0713	0.0559	-0.6889	0.2407	5.6371	1.7814	-0.2977	0.1154
1	209.88	0.7500	0.0674	0.0711	-0.7908	0.2744	6.7778	2.0206	-0.2203	0.1217
1	209.88	0.8001	0.0477	0.0874	-0.9048	0.3091	7.9917	2.2528	-0.2273	0.1254
1	209.88	0.8497	0.0247	0.1028	-0.9717	0.3438	9.1971	2.4770	-0.4239	0.1320
1	209.88	0.9102	-0.0553	0.1239	-1.0828	0.3854	10.7228	2.7443	-0.5585	0.1461
1	209.88	0.9734	-0.1821	0.1592	-1.1876	0.4319	12.3161	3.0233	-0.6274	0.1539
2	209.88	0.1949	-0.0686	0.0016	-0.0195	0.0016	0.0447	0.0094	-0.0293	0.0248
2	209.88	0.2405	-0.0186	0.0014	-0.0342	0.0033	0.1070	0.0198	-0.0575	0.0435
2	209.88	0.2999	0.0061	0.0015	-0.0862	0.0070	0.1925	0.0422	-0.0861	0.0575
2	209.88	0.3498	0.0317	0.0018	-0.1507	0.0119	0.3343	0.0715	-0.0092	0.0677
2	209.88	0.3998	0.0449	0.0024	-0.2322	0.0186	0.5139	0.1118	-0.0107	0.0781
2	209.88	0.4496	0.0744	0.0028	-0.3342	0.0262	0.7632	0.1609	-0.0402	0.0858
2	209.88	0.4995	0.0785	0.0034	-0.4129	0.0346	1.0803	0.2186	-0.1090	0.0795
2	209.88	0.5551	0.1167	0.0058	-0.5404	0.0455	1.5746	0.2928	0.0525	0.0849
2	209.88	0.5996	0.1530	0.0081	-0.6398	0.0549	2.0105	0.3588	-0.0849	0.0881
2	209.88	0.6497	0.1433	0.0117	-0.7699	0.0663	2.6448	0.4391	-0.0131	0.0911
2	209.88	0.6996	0.1640	0.0158	-0.8700	0.0777	3.3390	0.5235	-0.0196	0.0881
2	209.88	0.7495	0.1614	0.0205	-1.0016	0.0900	4.1433	0.6146	0.0185	0.0930
2	209.88	0.7996	0.1733	0.0258	-1.1144	0.1027	4.9942	0.7128	-0.0679	0.1032
2	209.88	0.8578	0.1512	0.0328	-1.2345	0.1170	6.0329	0.8299	-0.0825	0.1054
2	209.88	0.9100	0.0934	0.0410	-1.2970	0.1309	7.0144	0.9406	0.0174	0.1144
2	209.88	0.9727	0.0732	0.0536	-1.4482	0.1459	8.2815	1.0704	0.3263	0.1248
3	209.88	0.1938	-0.0516	0.0022	0.0146	0.0022	0.0440	0.0155	-0.0137	0.0360
3	209.88	0.2357	0.0273	0.0014	-0.0300	0.0052	0.0738	0.0333	0.1888	0.0631
3	209.88	0.2995	0.0171	0.0016	0.0075	0.0094	0.1889	0.0736	0.1019	0.0931
3	209.88	0.3493	0.0424	0.0024	0.0001	0.0171	0.3348	0.1244	0.2522	0.1025
3	209.88	0.4000	0.0957	0.0023	-0.0160	0.0269	0.5137	0.1971	0.3825	0.1037
3	209.88	0.4497	0.0829	0.0022	-0.0533	0.0387	0.7332	0.2887	0.1801	0.1088
3	209.88	0.4997	0.1172	0.0037	-0.0893	0.0526	1.0521	0.4027	0.2413	0.1269
3	209.88	0.5556	0.1360	0.0071	-0.1682	0.0689	1.4814	0.5417	0.3483	0.1240
3	209.88	0.5995	0.1784	0.0106	-0.1726	0.0839	1.9052	0.6583	0.3170	0.1295
3	209.88	0.6498	0.1891	0.0154	-0.2417	0.1008	2.4543	0.7964	0.4566	0.1503
3	209.88	0.6890	0.1908	0.0206	-0.2450	0.1152	2.9585	0.9031	0.6201	0.1474
3	209.88	0.7495	0.2361	0.0288	-0.3200	0.1362	3.7953	1.0645	0.4012	0.1513
3	209.88	0.7998	0.1934	0.0358	-0.3526	0.1549	4.6217	1.1943	0.4266	0.1512
3	209.88	0.8577	0.2048	0.0438	-0.3686	0.1765	5.5958	1.3421	0.5871	0.1696
3	209.88	0.9729	0.1654	0.0692	-0.4657	0.2221	7.4946	1.6317	0.0066	0.1857
4	209.88	0.2001	-0.0544	0.0216	-0.0110	0.0252	0.0260	0.0958	0.0214	0.4433
4	209.88	0.2502	-0.0115	0.0191	-0.0007	0.0232	0.0788	0.1206	0.1816	1.2419
4	209.88	0.3001	0.0104	0.0231	-0.0216	0.0837	0.1113	0.2871	0.1039	1.2528
4	209.88	0.3502	0.0246	0.0277	-0.0529	0.1474	0.1902	0.4784	0.2392	1.2539
4	209.88	0.4002	0.0431	0.0331	-0.0597	0.2131	0.3017	0.6925	0.2030	1.2614
4	209.88	0.4500	0.0742	0.0388	-0.0647	0.2789	0.4589	0.9234	0.0866	1.2785
4	209.88	0.5001	0.0869	0.0459	-0.1021	0.3461	0.7402	1.1810	0.3421	1.2646
4	209.88	0.5560	0.1100	0.0556	-0.1320	0.4202	1.0616	1.4749	0.1154	1.2760
4	209.88	0.6001	0.1474	0.0641	-0.1695	0.4781	1.4240	1.7123	0.1063	1.2790
4	209.88	0.6501	0.1439	0.0752	-0.2157	0.5425	1.9323	1.9783	0.2755	1.2692
4	209.88	0.6999	0.1604	0.0873	-0.2580	0.6063	2.4897	2.2400	0.2687	1.2755
4	209.88	0.7500	0.1883	0.0993	-0.2909	0.6700	3.1294	2.5017	0.3001	1.2687
4	209.88	0.8002	0.1778	0.1116	-0.3569	0.7330	3.8490	2.7533	0.4400	1.2962
4	209.88	0.8582	0.1861	0.1262	-0.3814	0.8067	4.6872	3.0424	0.1631	1.2762
4	209.88	0.9101	0.1654	0.1413	-0.3670	0.8721	5.5222	3.2914	0.2840	1.2877
4	209.88	0.9728	0.1967	0.1828	-0.3632	0.9491	6.5413	3.6168	0.5161	1.1747

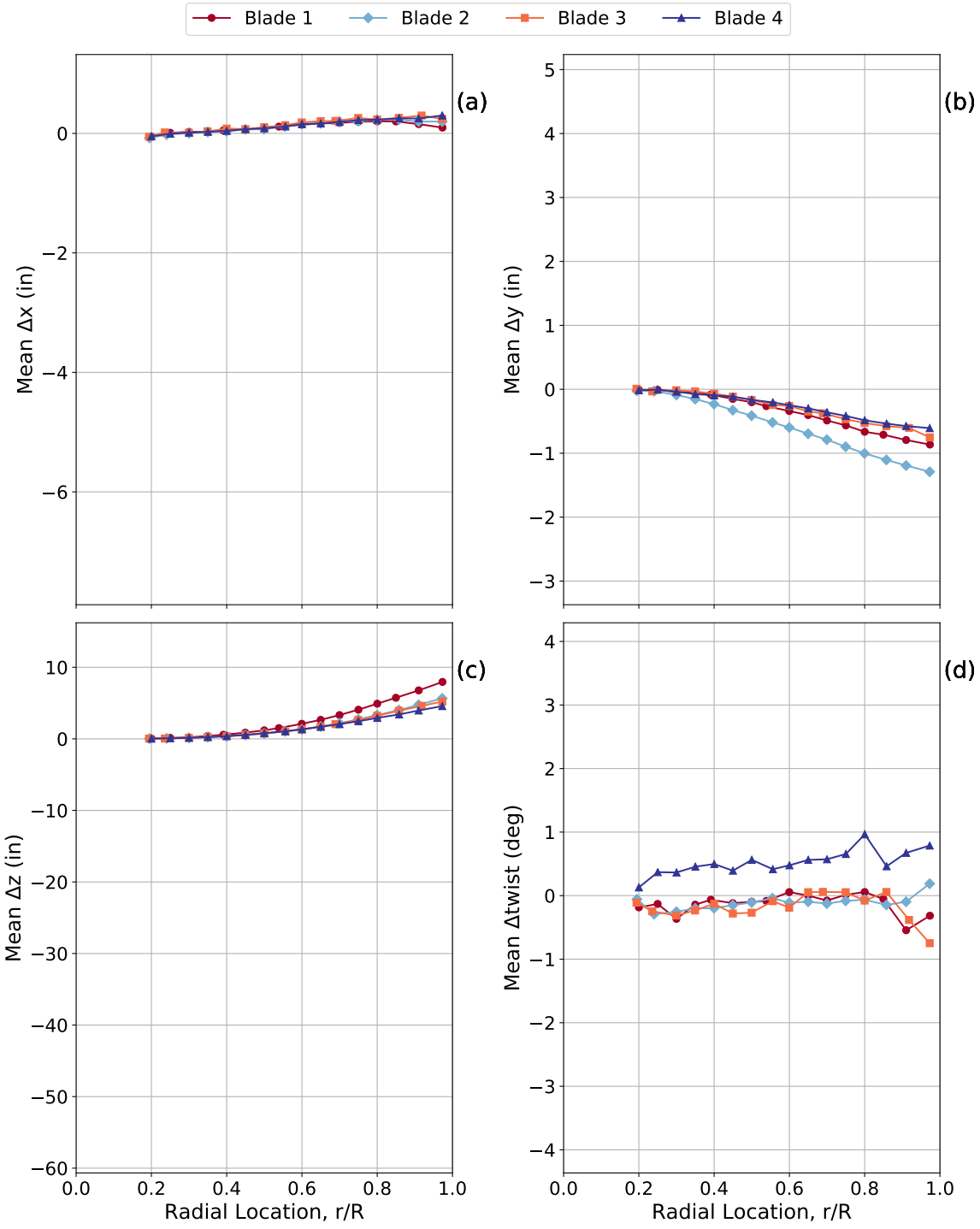


Figure 2.22-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0554	0.0021	-0.0088	0.0019	0.0510	0.0108	-0.1855	0.0292
1	225	0.2499	0.0109	0.0016	-0.0089	0.0040	0.1362	0.0205	-0.1306	0.0613
1	225	0.2998	0.0253	0.0014	-0.0436	0.0068	0.2142	0.0408	-0.3662	0.0692
1	225	0.3498	0.0286	0.0021	-0.0451	0.0131	0.4078	0.0712	-0.1415	0.0697
1	225	0.3913	0.0493	0.0025	-0.0824	0.0178	0.5754	0.1005	-0.0650	0.0768
1	225	0.4496	0.0631	0.0032	-0.1507	0.0256	0.8686	0.1473	-0.1188	0.0840
1	225	0.4997	0.0947	0.0044	-0.2026	0.0332	1.1940	0.1929	-0.0962	0.0918
1	225	0.5387	0.1137	0.0056	-0.2638	0.0396	1.5022	0.2377	-0.0830	0.0906
1	225	0.5996	0.1447	0.0069	-0.3402	0.0507	2.0997	0.3361	0.0558	0.1027
1	225	0.6498	0.1654	0.0112	-0.4037	0.0621	2.6576	0.4641	-0.0001	0.1033
1	225	0.6998	0.1760	0.0158	-0.4880	0.0744	3.3255	0.6398	-0.0772	0.1143
1	225	0.7500	0.1952	0.0233	-0.5654	0.0880	4.0728	0.8692	0.0134	0.1258
1	225	0.8001	0.2025	0.0328	-0.6647	0.1011	4.9140	1.1434	0.0567	0.1276
1	225	0.8497	0.2006	0.0449	-0.7105	0.1139	5.7445	1.4486	-0.0528	0.1360
1	225	0.9102	0.1552	0.0649	-0.7936	0.1293	6.7752	1.8486	-0.5446	0.1694
1	225	0.9734	0.0971	0.0929	-0.8648	0.1462	7.9544	2.2908	-0.3159	0.1658
2	225	0.1949	-0.0757	0.0263	-0.0228	0.0172	0.0426	0.0715	-0.0571	0.2661
2	225	0.2405	-0.0205	0.0108	-0.0286	0.0084	0.0680	0.0545	-0.2913	0.9403
2	225	0.2999	0.0044	0.0127	-0.0883	0.0541	0.1422	0.1952	-0.2540	0.9337
2	225	0.3498	0.0247	0.0167	-0.1541	0.0932	0.2532	0.3161	-0.2007	0.9350
2	225	0.3998	0.0352	0.0191	-0.2314	0.1338	0.3659	0.4451	-0.1971	0.9026
2	225	0.4496	0.0660	0.0220	-0.3272	0.1694	0.5357	0.5636	-0.1498	0.9424
2	225	0.4995	0.0713	0.0250	-0.4126	0.2069	0.7526	0.6960	-0.1085	0.9302
2	225	0.5551	0.1142	0.0289	-0.5183	0.2490	1.0545	0.8502	-0.0406	0.9259
2	225	0.5996	0.1612	0.0328	-0.5976	0.2816	1.3237	0.9770	-0.1114	0.9305
2	225	0.6497	0.1681	0.0367	-0.6959	0.3167	1.7255	1.1300	-0.0962	0.9218
2	225	0.6996	0.1991	0.0405	-0.7877	0.3516	2.1779	1.2853	-0.1250	0.9331
2	225	0.7495	0.2048	0.0454	-0.8991	0.3864	2.7169	1.4529	-0.0821	0.9244
2	225	0.7996	0.2304	0.0505	-1.0033	0.4204	3.3167	1.6234	-0.0651	0.9363
2	225	0.8578	0.2308	0.0572	-1.1047	0.4601	4.0277	1.8330	-0.1459	0.9294
2	225	0.9100	0.1990	0.0653	-1.1925	0.4944	4.7563	2.0270	-0.0965	0.9320
2	225	0.9727	0.1977	0.0884	-1.2905	0.5363	5.6547	2.2665	0.1879	0.9391
3	225	0.1938	-0.0567	0.0216	0.0079	0.0205	0.0458	0.0654	-0.1105	0.2244
3	225	0.2357	0.0158	0.0080	-0.0325	0.0053	0.0463	0.0401	-0.2455	0.8734
3	225	0.2995	0.0106	0.0098	-0.0147	0.0580	0.1502	0.1718	-0.3134	0.8736
3	225	0.3493	0.0340	0.0124	-0.0342	0.1004	0.2634	0.2834	-0.2335	0.8652
3	225	0.4000	0.0807	0.0150	-0.0686	0.1431	0.3851	0.3994	-0.1269	0.8775
3	225	0.4497	0.0713	0.0173	-0.1154	0.1843	0.5372	0.5164	-0.2813	0.8732
3	225	0.4997	0.1034	0.0200	-0.1674	0.2261	0.7450	0.6426	-0.2681	0.8663
3	225	0.5556	0.1371	0.0239	-0.2461	0.2728	1.0381	0.7910	-0.0872	0.8664
3	225	0.5995	0.1840	0.0272	-0.2611	0.3088	1.3090	0.9140	-0.1892	0.8546
3	225	0.6498	0.2057	0.0317	-0.3468	0.3485	1.7066	1.0635	0.0540	0.8571
3	225	0.6890	0.2087	0.0364	-0.3759	0.3792	2.0509	1.1874	0.0585	0.8532
3	225	0.7495	0.2583	0.0445	-0.4674	0.4276	2.6316	1.3930	0.0537	0.8536
3	225	0.7998	0.2323	0.0524	-0.5277	0.4651	3.2224	1.5745	-0.0776	0.8447
3	225	0.8577	0.2598	0.0622	-0.5769	0.5079	3.9124	1.7957	0.0573	0.8523
3	225	0.9178	0.2989	0.0760	-0.6049	0.5528	4.6124	2.0395	-0.3822	0.8590
3	225	0.9729	0.2427	0.1046	-0.7529	0.5946	5.2083	2.2732	-0.7487	0.8646
4	225	0.2001	-0.0490	0.0056	-0.0155	0.0052	0.0321	0.0224	0.1293	0.1062
4	225	0.2502	-0.0044	0.0025	-0.0054	0.0054	0.0842	0.0361	0.3693	0.2833
4	225	0.3001	0.0130	0.0034	-0.0379	0.0166	0.1402	0.0784	0.3641	0.2918
4	225	0.3502	0.0264	0.0035	-0.0753	0.0291	0.2424	0.1332	0.4558	0.2895
4	225	0.4002	0.0420	0.0047	-0.0956	0.0418	0.3818	0.2008	0.4969	0.3010
4	225	0.4500	0.0712	0.0046	-0.1146	0.0548	0.5514	0.2692	0.3922	0.2942
4	225	0.5001	0.0850	0.0061	-0.1645	0.0678	0.7958	0.3357	0.5630	0.3063
4	225	0.5560	0.1170	0.0080	-0.2060	0.0828	1.0576	0.4008	0.4152	0.3062
4	225	0.6001	0.1545	0.0096	-0.2489	0.0944	1.3409	0.4426	0.4771	0.3094
4	225	0.6501	0.1664	0.0117	-0.2989	0.1061	1.6814	0.4913	0.5625	0.3213
4	225	0.6999	0.1928	0.0142	-0.3601	0.1187	2.0562	0.5553	0.5721	0.3184
4	225	0.7500	0.2237	0.0167	-0.4179	0.1314	2.4620	0.6589	0.6551	0.3283
4	225	0.8002	0.2297	0.0205	-0.4847	0.1430	2.9256	0.8152	0.9643	0.3266
4	225	0.8582	0.2519	0.0269	-0.5380	0.1579	3.4095	1.0573	0.4613	0.3288
4	225	0.9101	0.2500	0.0369	-0.5751	0.1715	3.9589	1.3165	0.6727	0.3248
4	225	0.9728	0.2993	0.0546	-0.6081	0.1868	4.5776	1.6582	0.7878	0.3432

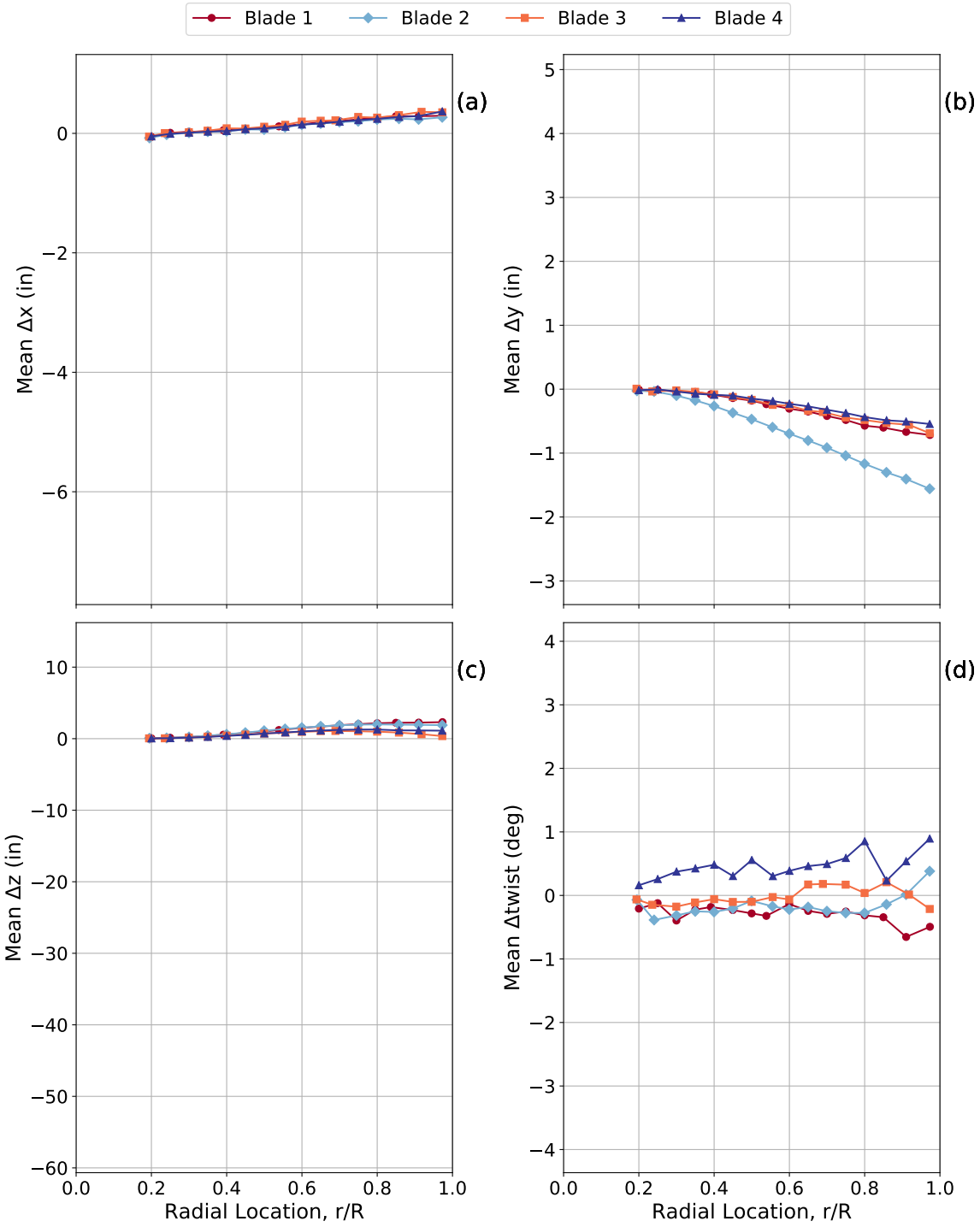


Figure 2.22-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0592	0.0053	-0.0073	0.0069	0.0496	0.0239	-0.2076	0.1634
1	240.12	0.2499	0.0097	0.0036	-0.0120	0.0072	0.1283	0.0295	-0.1219	0.4277
1	240.12	0.2998	0.0272	0.0026	-0.0392	0.0234	0.2082	0.0823	-0.3952	0.4444
1	240.12	0.3498	0.0335	0.0032	-0.0441	0.0394	0.3933	0.1390	-0.2245	0.4506
1	240.12	0.3913	0.0524	0.0046	-0.0795	0.0535	0.5554	0.1905	-0.1827	0.4485
1	240.12	0.4496	0.0684	0.0052	-0.1386	0.0731	0.8045	0.2647	-0.2306	0.4611
1	240.12	0.4997	0.1019	0.0061	-0.1789	0.0905	1.0254	0.3346	-0.2833	0.4579
1	240.12	0.5387	0.1171	0.0070	-0.2345	0.1036	1.2076	0.3909	-0.3222	0.4728
1	240.12	0.5996	0.1528	0.0089	-0.3050	0.1254	1.5087	0.4905	-0.1363	0.4650
1	240.12	0.6498	0.1868	0.0094	-0.3496	0.1446	1.6887	0.5859	-0.2436	0.4663
1	240.12	0.6998	0.2054	0.0107	-0.4191	0.1635	1.8825	0.6970	-0.2904	0.4709
1	240.12	0.7500	0.2354	0.0119	-0.4822	0.1837	2.0330	0.8289	-0.2535	0.4847
1	240.12	0.8001	0.2615	0.0129	-0.5713	0.2039	2.1588	0.9834	-0.3138	0.4912
1	240.12	0.8497	0.2865	0.0140	-0.6015	0.2249	2.2242	1.1538	-0.3433	0.5024
1	240.12	0.9102	0.2877	0.0166	-0.6680	0.2508	2.2488	1.3817	-0.6539	0.5143
1	240.12	0.9734	0.2949	0.0212	-0.7165	0.2781	2.3125	1.6389	-0.4940	0.5167
2	240.12	0.1949	-0.0765	0.0224	-0.0251	0.0139	0.0678	0.0498	-0.0694	0.2053
2	240.12	0.2405	-0.0212	0.0051	-0.0355	0.0064	0.0962	0.0381	-0.3868	0.7083
2	240.12	0.2999	0.0097	0.0070	-0.0998	0.0420	0.2362	0.1370	-0.3142	0.7076
2	240.12	0.3498	0.0286	0.0087	-0.1754	0.0719	0.4169	0.2248	-0.2508	0.7064
2	240.12	0.3998	0.0351	0.0116	-0.2641	0.1024	0.6101	0.3160	-0.2602	0.7078
2	240.12	0.4496	0.0661	0.0137	-0.3690	0.1322	0.8419	0.4085	-0.2063	0.7132
2	240.12	0.4995	0.0639	0.0162	-0.4697	0.1614	1.1109	0.5056	-0.0864	0.7229
2	240.12	0.5551	0.1032	0.0193	-0.5956	0.1954	1.3599	0.6185	-0.1719	0.7126
2	240.12	0.5996	0.1461	0.0214	-0.6964	0.2238	1.5409	0.7130	-0.2216	0.7104
2	240.12	0.6497	0.1640	0.0233	-0.8033	0.2547	1.7331	0.8205	-0.1830	0.7129
2	240.12	0.6996	0.1898	0.0253	-0.9154	0.2869	1.8717	0.9339	-0.2483	0.7122
2	240.12	0.7495	0.2023	0.0262	-1.0405	0.3195	1.9605	1.0528	-0.2758	0.7161
2	240.12	0.7996	0.2316	0.0273	-1.1675	0.3537	1.9970	1.1804	-0.2760	0.7166
2	240.12	0.8578	0.2452	0.0286	-1.3015	0.3940	1.9623	1.3355	-0.1414	0.7189
2	240.12	0.9100	0.2340	0.0299	-1.4056	0.4304	1.9353	1.4808	0.0129	0.7182
2	240.12	0.9727	0.2691	0.0401	-1.5581	0.4746	1.8886	1.6593	0.3814	0.7319
3	240.12	0.1938	-0.0543	0.0021	0.0077	0.0015	0.0450	0.0081	-0.0628	0.0443
3	240.12	0.2357	0.0043	0.0017	-0.0359	0.0022	0.0521	0.0138	-0.1472	0.0838
3	240.12	0.2995	0.0180	0.0017	-0.0187	0.0062	0.1612	0.0339	-0.1767	0.1152
3	240.12	0.3493	0.0450	0.0022	-0.0412	0.0097	0.2845	0.0571	-0.1110	0.1088
3	240.12	0.4000	0.0846	0.0024	-0.0807	0.0156	0.4233	0.0891	-0.0588	0.1274
3	240.12	0.4497	0.0811	0.0023	-0.1222	0.0199	0.5715	0.1253	-0.1031	0.1290
3	240.12	0.4997	0.1113	0.0035	-0.1666	0.0255	0.7198	0.1695	-0.1006	0.1481
3	240.12	0.5556	0.1437	0.0026	-0.2455	0.0320	0.8620	0.2277	-0.0261	0.1538
3	240.12	0.5995	0.1971	0.0030	-0.2593	0.0382	0.9465	0.2827	-0.0637	0.1581
3	240.12	0.6498	0.2121	0.0034	-0.3358	0.0447	1.0557	0.3529	0.1719	0.1663
3	240.12	0.6890	0.2178	0.0038	-0.3577	0.0505	1.0783	0.4168	0.1804	0.1734
3	240.12	0.7495	0.2749	0.0043	-0.4440	0.0584	1.0413	0.5265	0.1690	0.1982
3	240.12	0.7998	0.2639	0.0044	-0.4818	0.0657	0.9822	0.6335	0.0377	0.1947
3	240.12	0.8577	0.3051	0.0055	-0.5295	0.0736	0.8519	0.7709	0.2080	0.1827
3	240.12	0.9178	0.3603	0.0053	-0.5575	0.0823	0.6301	0.9239	0.0143	0.1912
3	240.12	0.9729	0.3530	0.0079	-0.6893	0.0891	0.3609	1.0670	-0.2134	0.1849
4	240.12	0.2001	-0.0505	0.0128	-0.0154	0.0177	0.0395	0.0463	0.1597	0.3136
4	240.12	0.2502	-0.0070	0.0069	-0.0034	0.0153	0.0716	0.0536	0.2575	0.8638
4	240.12	0.3001	0.0120	0.0077	-0.0366	0.0569	0.1541	0.1555	0.3737	0.8753
4	240.12	0.3502	0.0281	0.0092	-0.0709	0.1001	0.2477	0.2723	0.4247	0.8695
4	240.12	0.4002	0.0394	0.0111	-0.0891	0.1433	0.3875	0.3978	0.4828	0.8763
4	240.12	0.4500	0.0696	0.0127	-0.1010	0.1876	0.5212	0.5322	0.3045	0.8753
4	240.12	0.5001	0.0830	0.0151	-0.1474	0.2316	0.7254	0.6750	0.5581	0.8723
4	240.12	0.5560	0.1118	0.0175	-0.1855	0.2823	0.8676	0.8416	0.3033	0.8670
4	240.12	0.6001	0.1476	0.0195	-0.2286	0.3199	1.0208	0.9756	0.3864	0.8713
4	240.12	0.6501	0.1664	0.0219	-0.2697	0.3644	1.1408	1.1322	0.4613	0.8732
4	240.12	0.6999	0.1953	0.0245	-0.3220	0.4092	1.2318	1.2931	0.4931	0.8688
4	240.12	0.7500	0.2217	0.0269	-0.3733	0.4538	1.2780	1.4619	0.5888	0.8720
4	240.12	0.8002	0.2430	0.0288	-0.4369	0.4991	1.2788	1.6376	0.8526	0.8756
4	240.12	0.8582	0.2743	0.0315	-0.4873	0.5523	1.1572	1.8506	0.2339	0.8723
4	240.12	0.9101	0.2889	0.0349	-0.5057	0.5989	1.1520	2.0467	0.5379	0.8778
4	240.12	0.9728	0.3668	0.0422	-0.5447	0.6555	1.1193	2.2905	0.8943	0.8777

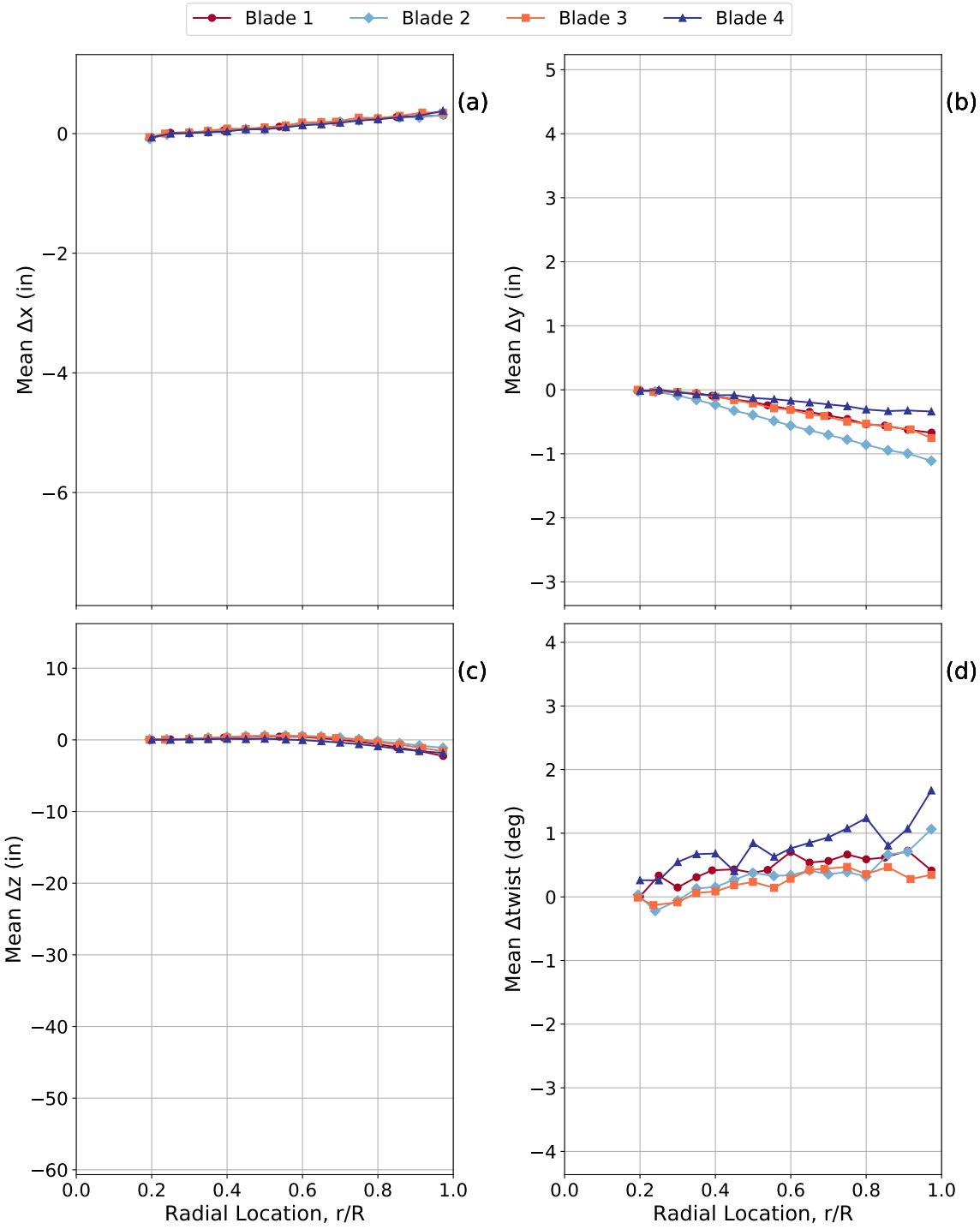


Figure 2.22-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0650	0.0040	-0.0076	0.0032	0.0221	0.0175	0.0062	0.0771
1	254.88	0.2499	0.0144	0.0016	-0.0160	0.0062	0.0814	0.0372	0.3349	0.1823
1	254.88	0.2998	0.0212	0.0015	-0.0440	0.0130	0.1109	0.0732	0.1476	0.2000
1	254.88	0.3498	0.0328	0.0030	-0.0508	0.0218	0.2117	0.1242	0.3092	0.2068
1	254.88	0.3913	0.0538	0.0019	-0.0925	0.0317	0.3104	0.1811	0.4174	0.2225
1	254.88	0.4496	0.0667	0.0023	-0.1514	0.0463	0.4133	0.2745	0.4326	0.2497
1	254.88	0.4997	0.0999	0.0028	-0.1895	0.0603	0.4435	0.3644	0.3773	0.2695
1	254.88	0.5387	0.1153	0.0032	-0.2416	0.0715	0.4577	0.4363	0.4237	0.2761
1	254.88	0.5996	0.1517	0.0038	-0.3047	0.0902	0.4100	0.5438	0.7056	0.2963
1	254.88	0.6498	0.1804	0.0048	-0.3443	0.1051	0.2285	0.6212	0.5397	0.2925
1	254.88	0.6998	0.1980	0.0059	-0.4028	0.1207	0.0174	0.6859	0.5650	0.3037
1	254.88	0.7500	0.2314	0.0074	-0.4553	0.1366	-0.2644	0.7382	0.6651	0.3188
1	254.88	0.8001	0.2520	0.0102	-0.5383	0.1533	-0.6138	0.7824	0.5903	0.3382
1	254.88	0.8497	0.2782	0.0127	-0.5589	0.1705	-1.0119	0.8275	0.6186	0.3376
1	254.88	0.9102	0.2895	0.0155	-0.6241	0.1918	-1.5619	0.8954	0.7248	0.3537
1	254.88	0.9734	0.3027	0.0213	-0.6687	0.2151	-2.2457	0.9901	0.4132	0.3537
2	254.88	0.1949	-0.0874	0.0119	-0.0242	0.0082	0.0520	0.0269	0.0319	0.1221
2	254.88	0.2405	-0.0156	0.0033	-0.0284	0.0059	0.0597	0.0271	-0.2204	0.3975
2	254.88	0.2999	0.0173	0.0037	-0.0891	0.0266	0.1613	0.0909	-0.0596	0.4085
2	254.88	0.3498	0.0352	0.0036	-0.1570	0.0453	0.3050	0.1558	0.1326	0.4081
2	254.88	0.3998	0.0453	0.0033	-0.2327	0.0658	0.4254	0.2287	0.1539	0.4086
2	254.88	0.4496	0.0749	0.0037	-0.3259	0.0865	0.5326	0.3078	0.2698	0.4157
2	254.88	0.4995	0.0692	0.0034	-0.3938	0.1081	0.6208	0.3918	0.3759	0.4269
2	254.88	0.5551	0.1201	0.0038	-0.4856	0.1335	0.6139	0.4918	0.3291	0.4318
2	254.88	0.5996	0.1582	0.0046	-0.5591	0.1543	0.5722	0.5732	0.3405	0.4355
2	254.88	0.6497	0.1762	0.0049	-0.6330	0.1781	0.4682	0.6667	0.4145	0.4434
2	254.88	0.6996	0.1960	0.0057	-0.7034	0.2026	0.3065	0.7627	0.3552	0.4510
2	254.88	0.7495	0.2218	0.0068	-0.7765	0.2271	0.0947	0.8614	0.3919	0.4497
2	254.88	0.7996	0.2502	0.0082	-0.8589	0.2524	-0.1687	0.9638	0.3200	0.4495
2	254.88	0.8578	0.2702	0.0106	-0.9445	0.2818	-0.4786	1.0855	0.6625	0.4536
2	254.88	0.9100	0.2687	0.0118	-0.9950	0.3086	-0.7847	1.1988	0.7082	0.4571
2	254.88	0.9727	0.3147	0.0099	-1.1091	0.3408	-1.1165	1.3369	1.0636	0.4624
3	254.88	0.1938	-0.0616	0.0028	0.0007	0.0029	0.0393	0.0142	-0.0114	0.0494
3	254.88	0.2357	0.0002	0.0015	-0.0318	0.0028	0.0405	0.0163	-0.1296	0.1539
3	254.88	0.2995	0.0165	0.0019	-0.0317	0.0095	0.1318	0.0481	-0.0862	0.1603
3	254.88	0.3493	0.0449	0.0025	-0.0629	0.0169	0.2370	0.0846	0.0599	0.1551
3	254.88	0.4000	0.0846	0.0029	-0.1077	0.0250	0.3456	0.1252	0.0853	0.1643
3	254.88	0.4497	0.0780	0.0027	-0.1617	0.0332	0.4411	0.1715	0.1820	0.1747
3	254.88	0.4997	0.1045	0.0035	-0.2124	0.0423	0.5060	0.2204	0.2346	0.1828
3	254.88	0.5556	0.1368	0.0041	-0.2886	0.0525	0.4975	0.2765	0.1419	0.1844
3	254.88	0.5995	0.1851	0.0040	-0.3111	0.0615	0.4702	0.3216	0.2851	0.1915
3	254.88	0.6498	0.1932	0.0048	-0.3868	0.0712	0.3973	0.3728	0.4245	0.1896
3	254.88	0.6890	0.1986	0.0050	-0.4087	0.0793	0.2560	0.4132	0.4404	0.1989
3	254.88	0.7495	0.2669	0.0060	-0.4958	0.0920	-0.0217	0.4761	0.4709	0.1989
3	254.88	0.7998	0.2566	0.0067	-0.5297	0.1031	-0.3075	0.5335	0.3575	0.2069
3	254.88	0.8577	0.2974	0.0081	-0.5768	0.1163	-0.6676	0.6015	0.4683	0.2093
3	254.88	0.9178	0.3513	0.0088	-0.6185	0.1302	-1.1334	0.6777	0.2802	0.2104
3	254.88	0.9729	0.3497	0.0115	-0.7533	0.1434	-1.5840	0.7529	0.3466	0.2125
4	254.88	0.2001	-0.0659	0.0432	-0.0177	0.0180	0.0263	0.0848	0.2616	0.4001
4	254.88	0.2502	-0.0002	0.0058	0.0024	0.0178	0.0121	0.0950	0.2597	1.0667
4	254.88	0.3001	0.0077	0.0087	-0.0371	0.0569	0.0699	0.2397	0.5478	1.0740
4	254.88	0.3502	0.0229	0.0131	-0.0717	0.0991	0.1006	0.3981	0.6709	1.0663
4	254.88	0.4002	0.0362	0.0169	-0.0847	0.1422	0.1419	0.5647	0.6818	1.0620
4	254.88	0.4500	0.0719	0.0213	-0.0830	0.1867	0.1064	0.7361	0.4048	1.0640
4	254.88	0.5001	0.0740	0.0255	-0.1282	0.2314	0.1552	0.9120	0.8448	1.0549
4	254.88	0.5560	0.1058	0.0303	-0.1466	0.2839	0.0435	1.1047	0.6321	1.0593
4	254.88	0.6001	0.1392	0.0338	-0.1711	0.3254	-0.0274	1.2507	0.7623	1.0584
4	254.88	0.6501	0.1547	0.0370	-0.1973	0.3739	-0.1857	1.4062	0.8500	1.0539
4	254.88	0.6999	0.1824	0.0400	-0.2277	0.4229	-0.3789	1.5478	0.9359	1.0528
4	254.88	0.7500	0.2171	0.0423	-0.2569	0.4729	-0.6026	1.6783	1.0782	1.0559
4	254.88	0.8002	0.2377	0.0440	-0.3072	0.5249	-0.8888	1.7994	1.2384	1.0557
4	254.88	0.8582	0.2733	0.0458	-0.3318	0.5871	-1.2765	1.9345	0.8060	1.0525
4	254.88	0.9101	0.2994	0.0477	-0.3226	0.6417	-1.5642	2.0520	1.0706	1.0574
4	254.88	0.9728	0.3808	0.0660	-0.3386	0.7070	-1.8231	2.2030	1.6719	1.0510

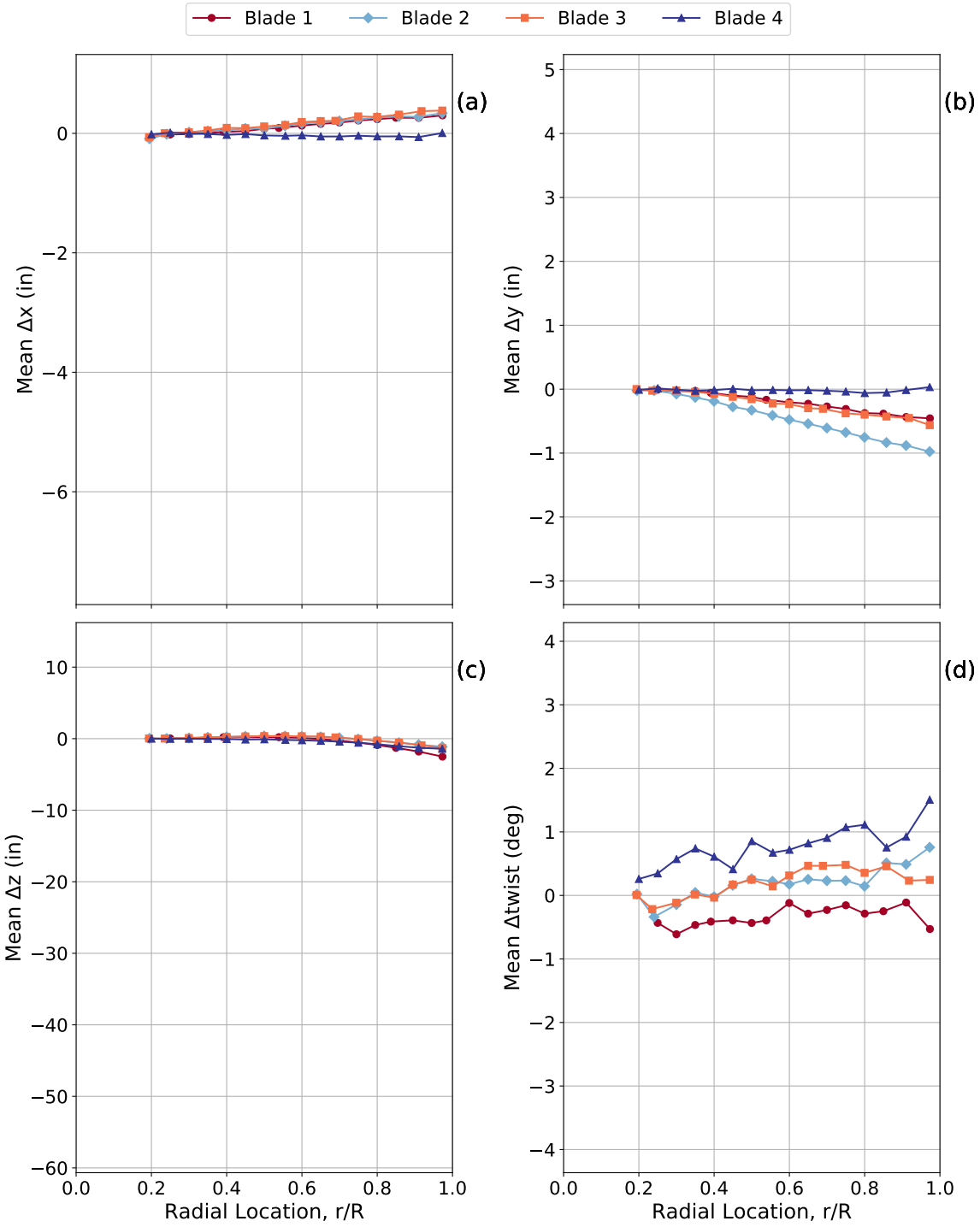


Figure 2.22-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-33. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2499	-0.0189	0.0035	-0.0080	0.0063	0.0461	0.0396	-0.4316	0.1278
1	260.16	0.2998	-0.0117	0.0028	-0.0303	0.0120	0.0764	0.0729	-0.6111	0.1850
1	260.16	0.3498	0.0040	0.0038	-0.0276	0.0211	0.1429	0.1241	-0.4655	0.2043
1	260.16	0.3913	0.0262	0.0032	-0.0576	0.0307	0.1972	0.1794	-0.4123	0.2174
1	260.16	0.4496	0.0380	0.0039	-0.1001	0.0452	0.2406	0.2690	-0.3919	0.2335
1	260.16	0.4997	0.0774	0.0049	-0.1205	0.0588	0.2177	0.3492	-0.4340	0.2497
1	260.16	0.5387	0.0905	0.0050	-0.1657	0.0702	0.2088	0.4117	-0.3928	0.2677
1	260.16	0.5996	0.1309	0.0067	-0.2052	0.0879	0.1256	0.4913	-0.1194	0.2663
1	260.16	0.6498	0.1589	0.0078	-0.2277	0.1031	-0.0620	0.5438	-0.2872	0.2787
1	260.16	0.6998	0.1811	0.0091	-0.2705	0.1184	-0.2698	0.5837	-0.2290	0.2935
1	260.16	0.7500	0.2156	0.0111	-0.3098	0.1346	-0.5462	0.6208	-0.1552	0.3074
1	260.16	0.8001	0.2379	0.0143	-0.3740	0.1517	-0.8910	0.6686	-0.2867	0.3230
1	260.16	0.8497	0.2620	0.0174	-0.3825	0.1694	-1.2759	0.7423	-0.2488	0.3295
1	260.16	0.9102	0.2605	0.0199	-0.4349	0.1922	-1.8018	0.8733	-0.1121	0.3496
1	260.16	0.9734	0.3013	0.0259	-0.4561	0.2157	-2.5076	1.0583	-0.5293	0.3496
2	260.16	0.1949	-0.0897	0.0139	-0.0214	0.0072	0.0383	0.0220	0.0206	0.1088
2	260.16	0.2405	-0.0140	0.0043	-0.0198	0.0044	0.0257	0.0228	-0.3388	0.3671
2	260.16	0.2999	0.0201	0.0040	-0.0747	0.0219	0.0983	0.0740	-0.1442	0.3716
2	260.16	0.3498	0.0396	0.0039	-0.1284	0.0379	0.1956	0.1273	0.0452	0.3716
2	260.16	0.3998	0.0515	0.0041	-0.1894	0.0540	0.2554	0.1870	-0.0209	0.3722
2	260.16	0.4496	0.0820	0.0041	-0.2759	0.0705	0.3226	0.2541	0.1586	0.3783
2	260.16	0.4995	0.0801	0.0041	-0.3279	0.0876	0.3737	0.3286	0.2613	0.3824
2	260.16	0.5551	0.1266	0.0046	-0.4101	0.1076	0.3583	0.4195	0.2228	0.3903
2	260.16	0.5996	0.1675	0.0053	-0.4763	0.1237	0.3196	0.4962	0.1757	0.3970
2	260.16	0.6497	0.1846	0.0057	-0.5403	0.1425	0.2438	0.5847	0.2536	0.3980
2	260.16	0.6996	0.2078	0.0061	-0.6077	0.1617	0.1191	0.6745	0.2314	0.4035
2	260.16	0.7495	0.2344	0.0069	-0.6764	0.1813	-0.0651	0.7672	0.2326	0.4035
2	260.16	0.7996	0.2638	0.0077	-0.7532	0.2014	-0.2966	0.8606	0.1445	0.4028
2	260.16	0.8578	0.2838	0.0085	-0.8351	0.2250	-0.5529	0.9693	0.5112	0.4045
2	260.16	0.9100	0.2755	0.0093	-0.8811	0.2466	-0.8279	1.0669	0.4891	0.4020
2	260.16	0.9727	0.3394	0.0103	-0.9768	0.2722	-1.1220	1.1846	0.7571	0.4089
3	260.16	0.1938	-0.0641	0.0041	0.0018	0.0019	0.0327	0.0105	0.0058	0.0429
3	260.16	0.2357	0.0027	0.0017	-0.0239	0.0022	0.0181	0.0168	-0.2156	0.0990
3	260.16	0.2995	0.0182	0.0022	-0.0199	0.0061	0.0940	0.0423	-0.1154	0.1170
3	260.16	0.3493	0.0487	0.0024	-0.0422	0.0106	0.1695	0.0723	0.0146	0.1225
3	260.16	0.4000	0.0921	0.0028	-0.0726	0.0158	0.2387	0.1116	-0.0343	0.1327
3	260.16	0.4497	0.0869	0.0030	-0.1196	0.0215	0.3143	0.1598	0.1708	0.1419
3	260.16	0.4997	0.1158	0.0031	-0.1569	0.0278	0.3584	0.2172	0.2476	0.1528
3	260.16	0.5556	0.1413	0.0030	-0.2245	0.0358	0.3497	0.2897	0.1432	0.1561
3	260.16	0.5995	0.1896	0.0041	-0.2319	0.0423	0.3351	0.3531	0.3141	0.1668
3	260.16	0.6498	0.2057	0.0042	-0.2971	0.0498	0.2946	0.4305	0.4668	0.1710
3	260.16	0.6890	0.2101	0.0041	-0.3068	0.0558	0.1758	0.4928	0.4654	0.1773
3	260.16	0.7495	0.2841	0.0053	-0.3780	0.0653	-0.0421	0.5927	0.4806	0.1768
3	260.16	0.7998	0.2752	0.0061	-0.3984	0.0736	-0.2766	0.6808	0.3555	0.1880
3	260.16	0.8577	0.3138	0.0075	-0.4276	0.0825	-0.5493	0.7817	0.4584	0.1913
3	260.16	0.9178	0.3724	0.0079	-0.4511	0.0928	-0.9177	0.8897	0.2328	0.2044
3	260.16	0.9729	0.3816	0.0100	-0.5626	0.1021	-1.3255	0.9889	0.2443	0.2019
4	260.16	0.2001	-0.0167	0.0099	-0.0098	0.0081	0.0024	0.0253	0.2587	0.1700
4	260.16	0.2502	0.0118	0.0038	0.0118	0.0077	-0.0236	0.0288	0.3465	0.4810
4	260.16	0.3001	-0.0013	0.0035	-0.0083	0.0261	-0.0119	0.0825	0.5723	0.4759
4	260.16	0.3502	-0.0107	0.0040	-0.0255	0.0459	-0.0286	0.1423	0.7390	0.4701
4	260.16	0.4002	-0.0250	0.0044	-0.0141	0.0658	-0.0546	0.2076	0.6092	0.4708
4	260.16	0.4500	-0.0118	0.0045	0.0064	0.0861	-0.1205	0.2774	0.4123	0.4729
4	260.16	0.5001	-0.0347	0.0053	-0.0158	0.1068	-0.0888	0.3517	0.8539	0.4745
4	260.16	0.5560	-0.0407	0.0065	-0.0126	0.1302	-0.1759	0.4401	0.6724	0.4796
4	260.16	0.6001	-0.0329	0.0066	-0.0172	0.1479	-0.2200	0.5134	0.7179	0.4829
4	260.16	0.6501	-0.0519	0.0074	-0.0155	0.1687	-0.3037	0.6037	0.8200	0.4866
4	260.16	0.6999	-0.0522	0.0084	-0.0247	0.1894	-0.4202	0.7032	0.9049	0.4851
4	260.16	0.7500	-0.0392	0.0096	-0.0372	0.2101	-0.5615	0.8158	1.0726	0.4871
4	260.16	0.8002	-0.0509	0.0117	-0.0610	0.2317	-0.7751	0.9435	1.1123	0.4887
4	260.16	0.8582	-0.0502	0.0142	-0.0524	0.2569	-1.0558	1.1085	0.7542	0.4956
4	260.16	0.9101	-0.0621	0.0155	-0.0132	0.2789	-1.2647	1.2724	0.9241	0.4988
4	260.16	0.9728	0.0056	0.0202	0.0325	0.3046	-1.4175	1.4875	1.5049	0.4960

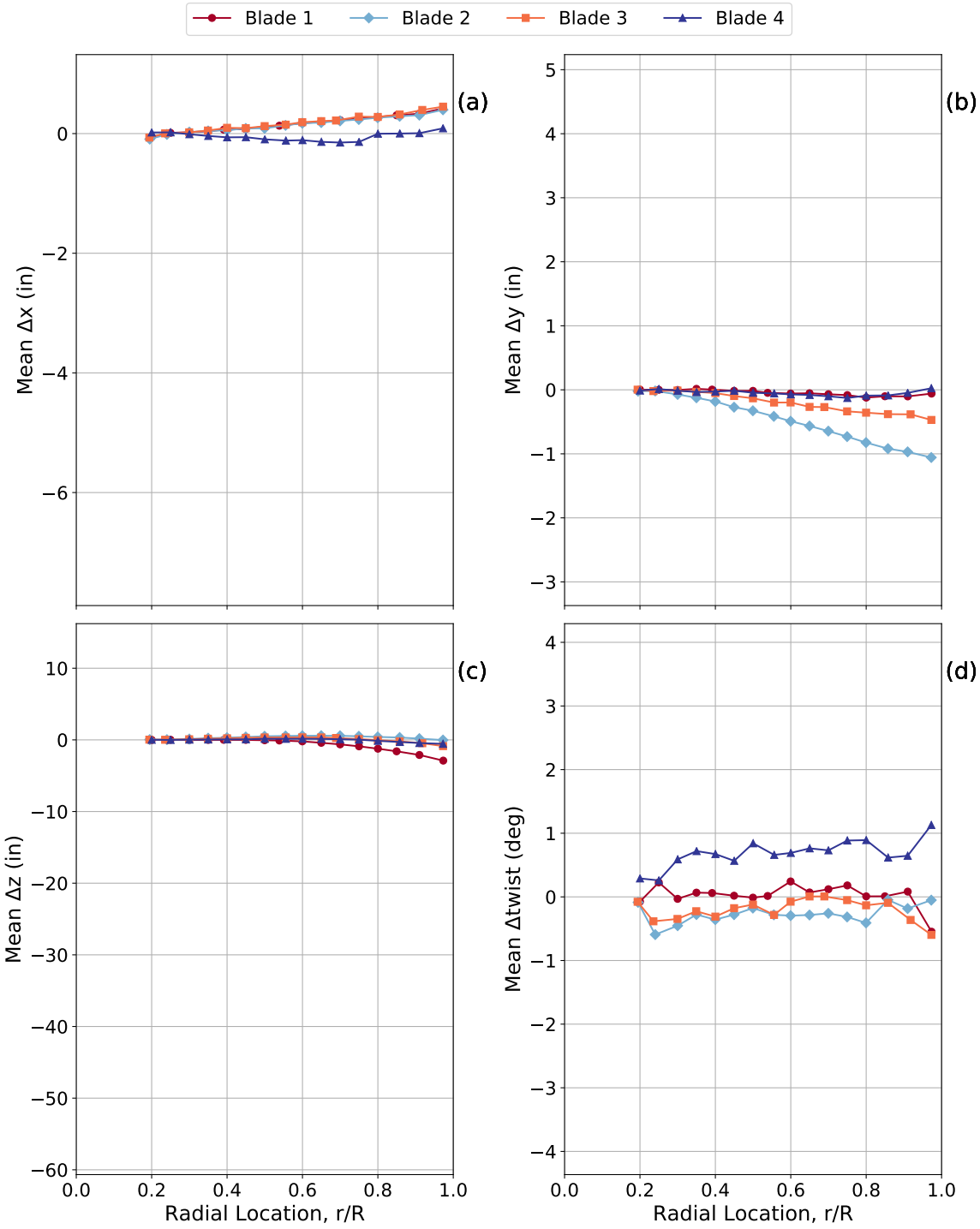


Figure 2.22-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	-0.0557	0.0045	0.0026	0.0027	-0.0084	0.0141	-0.0734	0.0578
1	265.08	0.2499	0.0121	0.0020	0.0001	0.0044	0.0190	0.0289	0.2269	0.1350
1	265.08	0.2998	0.0235	0.0023	-0.0031	0.0102	-0.0134	0.0588	-0.0310	0.1469
1	265.08	0.3498	0.0379	0.0025	0.0151	0.0173	-0.0010	0.1001	0.0665	0.1610
1	265.08	0.3913	0.0657	0.0031	0.0034	0.0244	0.0036	0.1453	0.0610	0.1681
1	265.08	0.4496	0.0759	0.0036	-0.0161	0.0347	-0.0025	0.2200	0.0184	0.1785
1	265.08	0.4997	0.1192	0.0040	-0.0166	0.0442	-0.0509	0.2957	-0.0121	0.1834
1	265.08	0.5387	0.1320	0.0049	-0.0472	0.0519	-0.0864	0.3618	0.0143	0.1883
1	265.08	0.5996	0.1738	0.0056	-0.0580	0.0646	-0.2071	0.4782	0.2425	0.1895
1	265.08	0.6498	0.1954	0.0066	-0.0538	0.0756	-0.4088	0.5858	0.0696	0.1956
1	265.08	0.6998	0.2249	0.0078	-0.0692	0.0866	-0.6277	0.7065	0.1201	0.2027
1	265.08	0.7500	0.2561	0.0101	-0.0827	0.0980	-0.8992	0.8433	0.1799	0.2057
1	265.08	0.8001	0.2777	0.0128	-0.1216	0.1095	-1.2309	0.9931	0.0081	0.2158
1	265.08	0.8497	0.3057	0.0160	-0.1008	0.1212	-1.5955	1.1555	0.0089	0.2149
1	265.08	0.9102	0.3324	0.0189	-0.1027	0.1354	-2.1049	1.3696	0.0826	0.2129
1	265.08	0.9734	0.4212	0.0233	-0.0588	0.1510	-2.8941	1.6079	-0.5474	0.2211
2	265.08	0.1949	-0.0922	0.0026	-0.0212	0.0016	0.0433	0.0105	-0.0864	0.0454
2	265.08	0.2405	-0.0133	0.0019	-0.0181	0.0029	0.0321	0.0223	-0.5928	0.0774
2	265.08	0.2999	0.0247	0.0021	-0.0720	0.0065	0.1185	0.0472	-0.4528	0.1106
2	265.08	0.3498	0.0431	0.0025	-0.1243	0.0112	0.2337	0.0813	-0.2780	0.1171
2	265.08	0.3998	0.0562	0.0035	-0.1820	0.0172	0.3116	0.1266	-0.3575	0.1317
2	265.08	0.4496	0.0858	0.0036	-0.2715	0.0235	0.3994	0.1814	-0.2790	0.1452
2	265.08	0.4995	0.0878	0.0033	-0.3271	0.0308	0.5034	0.2471	-0.1762	0.1583
2	265.08	0.5551	0.1379	0.0038	-0.4144	0.0396	0.5467	0.3324	-0.2819	0.1685
2	265.08	0.5996	0.1735	0.0041	-0.4904	0.0471	0.5749	0.4073	-0.2950	0.1768
2	265.08	0.6497	0.1840	0.0049	-0.5652	0.0557	0.5820	0.4953	-0.2848	0.1790
2	265.08	0.6996	0.2123	0.0050	-0.6451	0.0643	0.5696	0.5871	-0.2588	0.1884
2	265.08	0.7495	0.2355	0.0058	-0.7307	0.0730	0.5029	0.6827	-0.3154	0.1890
2	265.08	0.7996	0.2651	0.0060	-0.8241	0.0817	0.4126	0.7823	-0.4088	0.1911
2	265.08	0.8578	0.2896	0.0068	-0.9192	0.0922	0.3296	0.9026	-0.0471	0.1940
2	265.08	0.9100	0.3082	0.0083	-0.9689	0.1025	0.1776	1.0149	-0.1837	0.1959
2	265.08	0.9727	0.3978	0.0162	-1.0569	0.1156	-0.0250	1.1556	-0.0514	0.1993
3	265.08	0.1938	-0.0665	0.0080	0.0024	0.0036	0.0316	0.0175	-0.0770	0.0781
3	265.08	0.2357	0.0034	0.0025	-0.0197	0.0029	0.0146	0.0212	-0.3840	0.2537
3	265.08	0.2995	0.0213	0.0021	-0.0111	0.0113	0.0848	0.0595	-0.3466	0.2641
3	265.08	0.3493	0.0510	0.0024	-0.0317	0.0186	0.1587	0.0992	-0.2255	0.2707
3	265.08	0.4000	0.0966	0.0036	-0.0512	0.0278	0.2173	0.1509	-0.3102	0.2795
3	265.08	0.4497	0.0906	0.0030	-0.0968	0.0362	0.2839	0.2089	-0.1779	0.2864
3	265.08	0.4997	0.1248	0.0032	-0.1324	0.0455	0.3383	0.2778	-0.1205	0.2900
3	265.08	0.5556	0.1494	0.0033	-0.1989	0.0562	0.3389	0.3664	-0.2836	0.2903
3	265.08	0.5995	0.1904	0.0037	-0.1976	0.0653	0.3548	0.4441	-0.0756	0.3015
3	265.08	0.6498	0.2081	0.0045	-0.2669	0.0754	0.3454	0.5375	0.0066	0.3073
3	265.08	0.6890	0.2186	0.0048	-0.2696	0.0838	0.2632	0.6170	0.0070	0.3160
3	265.08	0.7495	0.2834	0.0058	-0.3364	0.0972	0.1159	0.7440	-0.0513	0.3148
3	265.08	0.7998	0.2784	0.0061	-0.3572	0.1082	-0.0350	0.8563	-0.1325	0.3204
3	265.08	0.8577	0.3201	0.0073	-0.3801	0.1210	-0.2035	0.9904	-0.0933	0.3282
3	265.08	0.9178	0.3948	0.0090	-0.3832	0.1347	-0.4650	1.1330	-0.3627	0.3352
3	265.08	0.9729	0.4504	0.0173	-0.4707	0.1476	-0.8698	1.2601	-0.5972	0.3493
4	265.08	0.2001	0.0185	0.0046	-0.0120	0.0030	0.0143	0.0158	0.2898	0.0360
4	265.08	0.2502	0.0206	0.0022	0.0118	0.0052	-0.0052	0.0354	0.2587	0.0818
4	265.08	0.3001	-0.0109	0.0024	-0.0142	0.0114	0.0363	0.0689	0.5893	0.0888
4	265.08	0.3502	-0.0395	0.0032	-0.0345	0.0199	0.0501	0.1182	0.7191	0.0992
4	265.08	0.4002	-0.0626	0.0033	-0.0267	0.0302	0.0681	0.1857	0.6725	0.1051
4	265.08	0.4500	-0.0601	0.0033	-0.0147	0.0417	0.0765	0.2686	0.5664	0.1082
4	265.08	0.5001	-0.0962	0.0039	-0.0462	0.0545	0.1545	0.3669	0.8417	0.1175
4	265.08	0.5560	-0.1172	0.0041	-0.0563	0.0703	0.1447	0.4919	0.6595	0.1266
4	265.08	0.6001	-0.1099	0.0049	-0.0714	0.0830	0.1509	0.6002	0.6905	0.1321
4	265.08	0.6501	-0.1386	0.0053	-0.0807	0.0981	0.1364	0.7336	0.7625	0.1325
4	265.08	0.6999	-0.1498	0.0064	-0.1008	0.1132	0.0889	0.8706	0.7312	0.1559
4	265.08	0.7500	-0.1390	0.0082	-0.1278	0.1290	0.0292	1.0201	0.8855	0.1475
4	265.08	0.8002	-0.0025	0.0090	-0.0906	0.1443	-0.1373	1.1732	0.8917	0.1470
4	265.08	0.8582	0.0008	0.0096	-0.0874	0.1625	-0.2959	1.3545	0.6172	0.1496
4	265.08	0.9101	0.0065	0.0102	-0.0476	0.1795	-0.4405	1.5228	0.6458	0.1432
4	265.08	0.9728	0.0881	0.0155	0.0244	0.2021	-0.5567	1.7374	1.1294	0.1496

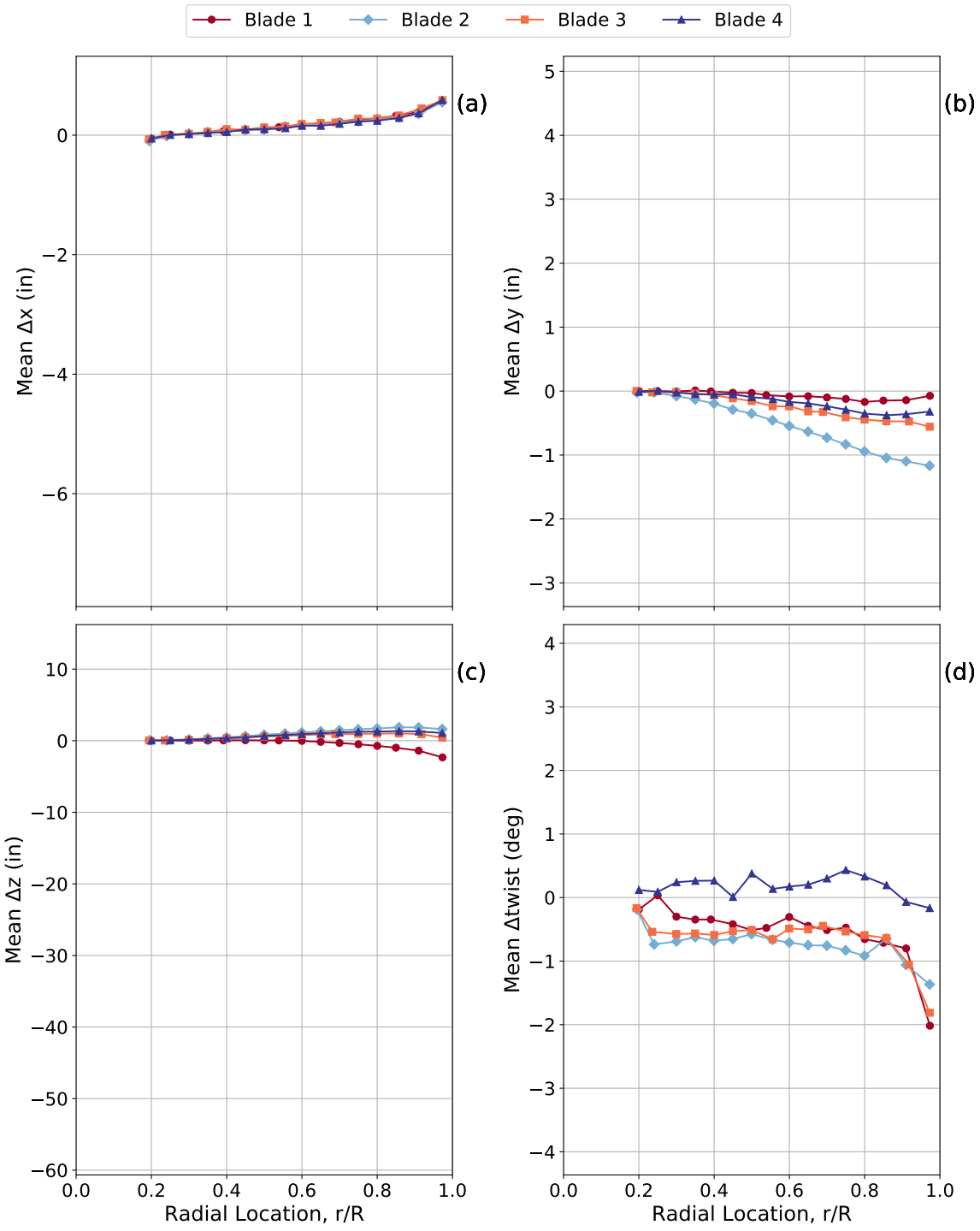


Figure 2.22-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	-0.0566	0.0053	0.0020	0.0029	-0.0048	0.0184	-0.1893	0.0562
1	270	0.2499	0.0100	0.0027	-0.0022	0.0057	0.0292	0.0397	0.0348	0.1318
1	270	0.2998	0.0231	0.0026	-0.0066	0.0115	0.0077	0.0792	-0.3009	0.1422
1	270	0.3498	0.0415	0.0028	0.0093	0.0197	0.0254	0.1347	-0.3468	0.1485
1	270	0.3913	0.0677	0.0029	-0.0058	0.0283	0.0505	0.1972	-0.3446	0.1576
1	270	0.4496	0.0774	0.0034	-0.0263	0.0428	0.0683	0.3089	-0.4195	0.1664
1	270	0.4997	0.1232	0.0033	-0.0293	0.0574	0.0429	0.4299	-0.5114	0.1763
1	270	0.5387	0.1326	0.0037	-0.0632	0.0697	0.0399	0.5368	-0.4783	0.1804
1	270	0.5996	0.1732	0.0045	-0.0837	0.0907	-0.0190	0.7292	-0.3065	0.1924
1	270	0.6498	0.1934	0.0053	-0.0807	0.1090	-0.1559	0.9056	-0.4448	0.2033
1	270	0.6998	0.2251	0.0068	-0.0997	0.1278	-0.3100	1.0927	-0.5111	0.2000
1	270	0.7500	0.2557	0.0087	-0.1228	0.1468	-0.4947	1.2915	-0.4737	0.2094
1	270	0.8001	0.2821	0.0103	-0.1700	0.1656	-0.7169	1.4977	-0.6541	0.2114
1	270	0.8497	0.3207	0.0139	-0.1485	0.1847	-0.9762	1.7105	-0.7122	0.2038
1	270	0.9102	0.3895	0.0208	-0.1423	0.2095	-1.3861	1.9798	-0.8007	0.2102
1	270	0.9734	0.5863	0.0433	-0.0743	0.2384	-2.3261	2.2903	-2.0168	0.2384
2	270.35	0.1949	-0.0973	0.0042	-0.0221	0.0020	0.0570	0.0133	-0.1885	0.0454
2	270.35	0.2405	-0.0138	0.0019	-0.0201	0.0033	0.0619	0.0274	-0.7373	0.0969
2	270.35	0.2999	0.0267	0.0020	-0.0783	0.0077	0.1854	0.0596	-0.6903	0.1186
2	270.35	0.3498	0.0499	0.0026	-0.1309	0.0134	0.3450	0.1017	-0.6242	0.1287
2	270.35	0.3998	0.0639	0.0031	-0.1954	0.0205	0.4891	0.1587	-0.6799	0.1388
2	270.35	0.4496	0.0898	0.0032	-0.2892	0.0285	0.6476	0.2296	-0.6528	0.1497
2	270.35	0.4995	0.0932	0.0039	-0.3516	0.0376	0.8411	0.3149	-0.5755	0.1697
2	270.35	0.5551	0.1435	0.0056	-0.4567	0.0488	1.0084	0.4242	-0.6635	0.1740
2	270.35	0.5996	0.1737	0.0064	-0.5455	0.0581	1.1564	0.5216	-0.7082	0.1910
2	270.35	0.6497	0.1803	0.0077	-0.6338	0.0690	1.3109	0.6363	-0.7490	0.2021
2	270.35	0.6996	0.2092	0.0098	-0.7295	0.0798	1.4712	0.7559	-0.7577	0.2140
2	270.35	0.7495	0.2311	0.0115	-0.8329	0.0908	1.5977	0.8787	-0.8305	0.2176
2	270.35	0.7996	0.2619	0.0130	-0.9427	0.1018	1.7207	1.0032	-0.9155	0.2202
2	270.35	0.8578	0.2973	0.0149	-1.0454	0.1147	1.8748	1.1489	-0.6447	0.2347
2	270.35	0.9100	0.3575	0.0195	-1.0984	0.1265	1.8602	1.2767	-1.0608	0.2368
2	270.35	0.9727	0.5511	0.0355	-1.1674	0.1416	1.6253	1.4235	-1.3669	0.2662
3	270	0.1938	-0.0685	0.0109	0.0010	0.0035	0.0427	0.0205	-0.1666	0.0670
3	270	0.2357	0.0033	0.0028	-0.0208	0.0026	0.0363	0.0235	-0.5387	0.2487
3	270	0.2995	0.0211	0.0028	-0.0170	0.0100	0.1390	0.0679	-0.5740	0.2422
3	270	0.3493	0.0548	0.0024	-0.0396	0.0170	0.2421	0.1135	-0.5660	0.2392
3	270	0.4000	0.1012	0.0030	-0.0646	0.0247	0.3547	0.1710	-0.5889	0.2458
3	270	0.4497	0.0933	0.0029	-0.1132	0.0329	0.4680	0.2404	-0.5294	0.2482
3	270	0.4997	0.1295	0.0034	-0.1558	0.0422	0.5819	0.3221	-0.5102	0.2465
3	270	0.5556	0.1472	0.0037	-0.2377	0.0525	0.6796	0.4259	-0.6567	0.2519
3	270	0.5995	0.1863	0.0045	-0.2386	0.0617	0.7813	0.5187	-0.4878	0.2493
3	270	0.6498	0.2044	0.0056	-0.3176	0.0722	0.8772	0.6302	-0.5014	0.2480
3	270	0.6890	0.2133	0.0067	-0.3258	0.0808	0.9107	0.7223	-0.4458	0.2535
3	270	0.7495	0.2768	0.0084	-0.4095	0.0945	0.9556	0.8726	-0.5343	0.2501
3	270	0.7998	0.2771	0.0097	-0.4454	0.1061	0.9903	1.0020	-0.5909	0.2530
3	270	0.8577	0.3290	0.0117	-0.4724	0.1195	1.0231	1.1556	-0.6379	0.2484
3	270	0.9178	0.4464	0.0163	-0.4752	0.1347	0.9199	1.3185	-1.0542	0.2527
3	270	0.9729	0.5849	0.0298	-0.5576	0.1500	0.4285	1.4679	-1.8124	0.2788
4	270	0.2001	-0.0556	0.0151	-0.0123	0.0068	0.0383	0.0452	0.1193	0.1849
4	270	0.2502	0.0031	0.0022	0.0039	0.0101	0.0585	0.0746	0.0894	0.4802
4	270	0.3001	0.0180	0.0029	-0.0225	0.0239	0.1468	0.1603	0.2410	0.4880
4	270	0.3502	0.0361	0.0040	-0.0471	0.0420	0.2382	0.2754	0.2628	0.4864
4	270	0.4002	0.0528	0.0064	-0.0513	0.0624	0.3685	0.4141	0.2665	0.4867
4	270	0.4500	0.0944	0.0096	-0.0502	0.0855	0.4586	0.5733	0.0091	0.4914
4	270	0.5001	0.0977	0.0136	-0.0948	0.1094	0.6712	0.7527	0.3778	0.4877
4	270	0.5560	0.1165	0.0187	-0.1241	0.1383	0.7955	0.9648	0.1363	0.4894
4	270	0.6001	0.1566	0.0233	-0.1697	0.1615	0.9238	1.1389	0.1724	0.4915
4	270	0.6501	0.1571	0.0284	-0.1920	0.1885	1.0446	1.3380	0.2029	0.4904
4	270	0.6999	0.1892	0.0339	-0.2375	0.2160	1.1528	1.5379	0.3005	0.4909
4	270	0.7500	0.2256	0.0386	-0.2903	0.2439	1.2508	1.7380	0.4327	0.4911
4	270	0.8002	0.2408	0.0420	-0.3523	0.2719	1.2865	1.9326	0.3313	0.4908
4	270	0.8582	0.2886	0.0475	-0.3775	0.3057	1.3397	2.1588	0.1943	0.4984
4	270	0.9101	0.3642	0.0562	-0.3617	0.3369	1.2975	2.3621	-0.0682	0.4987
4	270	0.9728	0.5859	0.0835	-0.3210	0.3787	1.0809	2.6263	-0.1658	0.5099

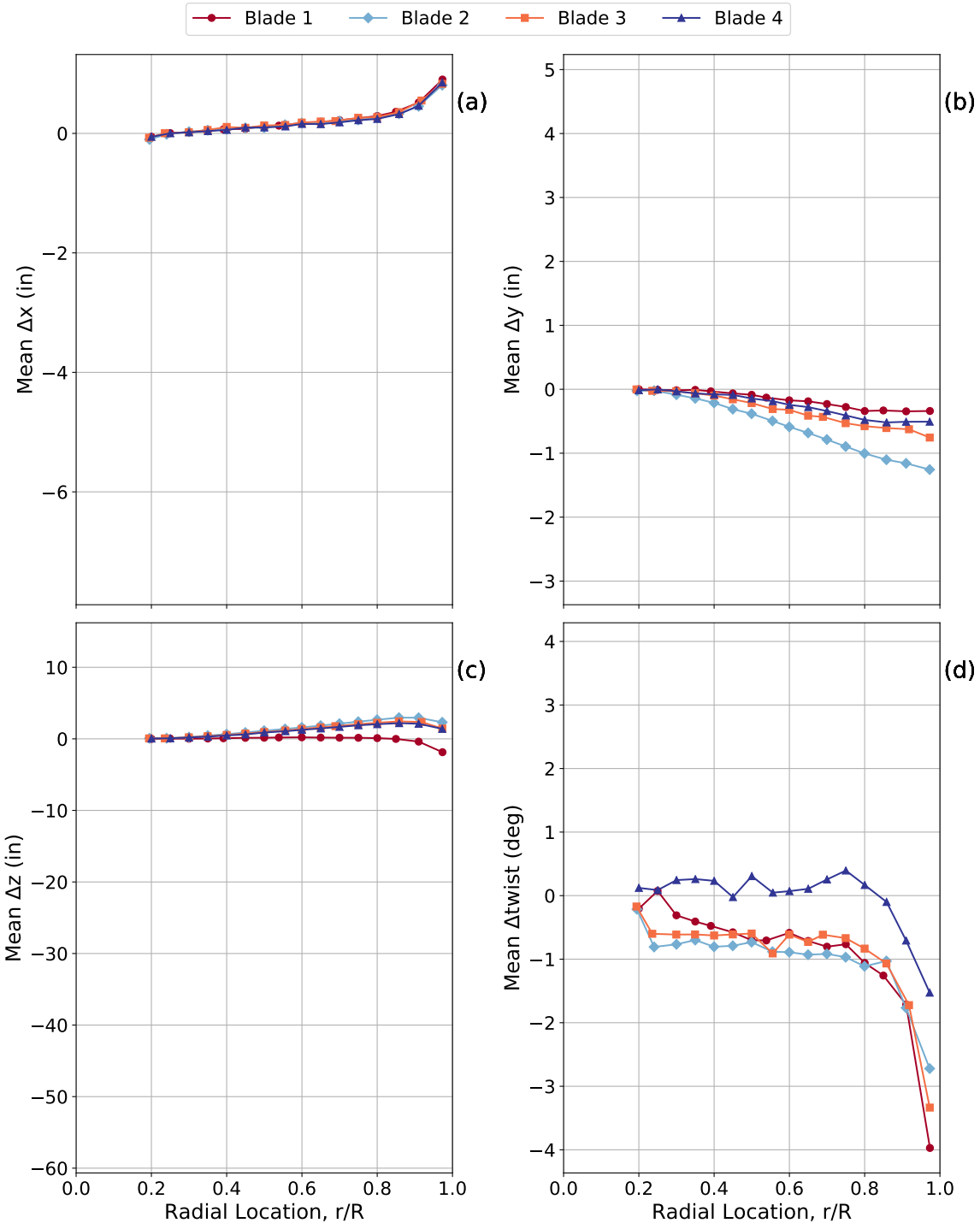


Figure 2.22-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-36. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	-0.0561	0.0049	0.0001	0.0034	-0.0026	0.0237	-0.2044	0.0636
1	274.92	0.2499	0.0053	0.0028	-0.0089	0.0066	0.0386	0.0500	0.0736	0.1485
1	274.92	0.2998	0.0207	0.0026	-0.0155	0.0136	0.0200	0.1010	-0.3099	0.1619
1	274.92	0.3498	0.0412	0.0028	-0.0094	0.0235	0.0483	0.1745	-0.4078	0.1567
1	274.92	0.3913	0.0678	0.0033	-0.0319	0.0336	0.0850	0.2531	-0.4766	0.1622
1	274.92	0.4496	0.0751	0.0033	-0.0646	0.0503	0.1420	0.3888	-0.5769	0.1743
1	274.92	0.4997	0.1223	0.0045	-0.0862	0.0668	0.1551	0.5280	-0.7013	0.1812
1	274.92	0.5387	0.1296	0.0061	-0.1307	0.0803	0.1905	0.6466	-0.7054	0.1884
1	274.92	0.5996	0.1720	0.0091	-0.1731	0.1030	0.2127	0.8482	-0.5857	0.1974
1	274.92	0.6498	0.1895	0.0121	-0.1884	0.1221	0.1795	1.0224	-0.7131	0.1994
1	274.92	0.6998	0.2214	0.0151	-0.2310	0.1417	0.1605	1.2000	-0.8037	0.2089
1	274.92	0.7500	0.2536	0.0179	-0.2774	0.1618	0.1479	1.3773	-0.7653	0.2060
1	274.92	0.8001	0.2909	0.0212	-0.3402	0.1820	0.1013	1.5537	-1.0590	0.2131
1	274.92	0.8497	0.3622	0.0264	-0.3315	0.2025	-0.0097	1.7274	-1.2574	0.2182
1	274.92	0.9102	0.5173	0.0405	-0.3450	0.2300	-0.3851	1.9456	-1.7137	0.2357
1	274.92	0.9734	0.9016	0.0798	-0.3397	0.2604	-1.8648	2.2198	-3.9709	0.3444
2	274.92	0.1949	-0.1008	0.0041	-0.0238	0.0017	0.0721	0.0109	-0.2144	0.0495
2	274.92	0.2405	-0.0150	0.0019	-0.0222	0.0031	0.0863	0.0213	-0.8081	0.1150
2	274.92	0.2999	0.0285	0.0021	-0.0850	0.0069	0.2461	0.0469	-0.7662	0.1335
2	274.92	0.3498	0.0541	0.0023	-0.1418	0.0122	0.4560	0.0792	-0.6992	0.1386
2	274.92	0.3998	0.0700	0.0032	-0.2121	0.0185	0.6544	0.1235	-0.8046	0.1436
2	274.92	0.4496	0.0924	0.0037	-0.3110	0.0254	0.8793	0.1754	-0.7895	0.1614
2	274.92	0.4995	0.0961	0.0035	-0.3825	0.0331	1.1410	0.2398	-0.7322	0.1686
2	274.92	0.5551	0.1444	0.0050	-0.4950	0.0427	1.3781	0.3251	-0.8825	0.1866
2	274.92	0.5996	0.1737	0.0059	-0.5880	0.0509	1.6003	0.4029	-0.8904	0.1923
2	274.92	0.6497	0.1781	0.0079	-0.6827	0.0604	1.8441	0.5024	-0.9297	0.2008
2	274.92	0.6996	0.2058	0.0095	-0.7863	0.0701	2.1229	0.6097	-0.9165	0.2071
2	274.92	0.7495	0.2258	0.0117	-0.8953	0.0801	2.3976	0.7275	-0.9688	0.2152
2	274.92	0.7996	0.2634	0.0139	-1.0038	0.0903	2.6702	0.8525	-1.1123	0.2157
2	274.92	0.8578	0.3287	0.0162	-1.1016	0.1021	2.9650	1.0014	-1.0293	0.2194
2	274.92	0.9100	0.4540	0.0221	-1.1586	0.1130	2.9525	1.1382	-1.7649	0.2121
2	274.92	0.9727	0.8081	0.0423	-1.2559	0.1271	2.3157	1.2925	-2.7216	0.2349
3	274.92	0.1938	-0.0723	0.0053	-0.0023	0.0020	0.0593	0.0160	-0.1714	0.0399
3	274.92	0.2357	0.0028	0.0024	-0.0247	0.0036	0.0634	0.0289	-0.6004	0.1278
3	274.92	0.2995	0.0201	0.0022	-0.0299	0.0086	0.2112	0.0691	-0.6128	0.1277
3	274.92	0.3493	0.0574	0.0022	-0.0619	0.0148	0.3641	0.1167	-0.6107	0.1346
3	274.92	0.4000	0.1076	0.0026	-0.0986	0.0231	0.5452	0.1830	-0.6272	0.1412
3	274.92	0.4497	0.0935	0.0038	-0.1568	0.0317	0.7428	0.2616	-0.6105	0.1453
3	274.92	0.4997	0.1325	0.0043	-0.2156	0.0419	0.9558	0.3568	-0.5965	0.1593
3	274.92	0.5556	0.1411	0.0063	-0.3090	0.0545	1.1631	0.4817	-0.9102	0.1573
3	274.92	0.5995	0.1815	0.0081	-0.3210	0.0649	1.3855	0.5910	-0.6132	0.1631
3	274.92	0.6498	0.1992	0.0112	-0.4130	0.0769	1.6033	0.7233	-0.7289	0.1692
3	274.92	0.6890	0.2064	0.0130	-0.4319	0.0869	1.7720	0.8328	-0.6149	0.1734
3	274.92	0.7495	0.2617	0.0168	-0.5303	0.1021	2.0408	1.0051	-0.6694	0.1734
3	274.92	0.7998	0.2723	0.0199	-0.5768	0.1151	2.2457	1.1477	-0.8336	0.1789
3	274.92	0.8577	0.3551	0.0241	-0.6062	0.1306	2.4404	1.3088	-1.0673	0.1895
3	274.92	0.9178	0.5501	0.0353	-0.6255	0.1481	2.3587	1.4742	-1.7233	0.2034
3	274.92	0.9729	0.8292	0.0639	-0.7553	0.1644	1.4407	1.6275	-3.3353	0.3019
4	274.92	0.2001	-0.0577	0.0079	-0.0144	0.0052	0.0484	0.0326	0.1216	0.1001
4	274.92	0.2502	0.0025	0.0036	-0.0021	0.0090	0.0760	0.0636	0.0873	0.2612
4	274.92	0.3001	0.0183	0.0028	-0.0325	0.0197	0.1854	0.1310	0.2446	0.2689
4	274.92	0.3502	0.0387	0.0029	-0.0650	0.0345	0.3098	0.2258	0.2602	0.2685
4	274.92	0.4002	0.0586	0.0043	-0.0796	0.0523	0.4749	0.3483	0.2326	0.2649
4	274.92	0.4500	0.0976	0.0065	-0.0889	0.0730	0.6176	0.4904	-0.0233	0.2592
4	274.92	0.5001	0.0994	0.0103	-0.1439	0.0949	0.8827	0.6527	0.3068	0.2655
4	274.92	0.5560	0.1165	0.0155	-0.1864	0.1218	1.0678	0.8453	0.0468	0.2718
4	274.92	0.6001	0.1584	0.0200	-0.2439	0.1440	1.2539	1.0033	0.0702	0.2718
4	274.92	0.6501	0.1554	0.0256	-0.2790	0.1693	1.4540	1.1790	0.1076	0.2713
4	274.92	0.6999	0.1851	0.0308	-0.3407	0.1947	1.6709	1.3513	0.2543	0.2790
4	274.92	0.7500	0.2205	0.0360	-0.4095	0.2210	1.8952	1.5166	0.3948	0.2831
4	274.92	0.8002	0.2422	0.0406	-0.4794	0.2481	2.0485	1.6736	0.1673	0.2810
4	274.92	0.8582	0.3233	0.0486	-0.5186	0.2816	2.1950	1.8527	-0.0999	0.2870
4	274.92	0.9101	0.4631	0.0626	-0.5085	0.3124	2.1106	2.0169	-0.7067	0.2981
4	274.92	0.9728	0.8507	0.1065	-0.5071	0.3528	1.3963	2.2534	-1.5268	0.3936

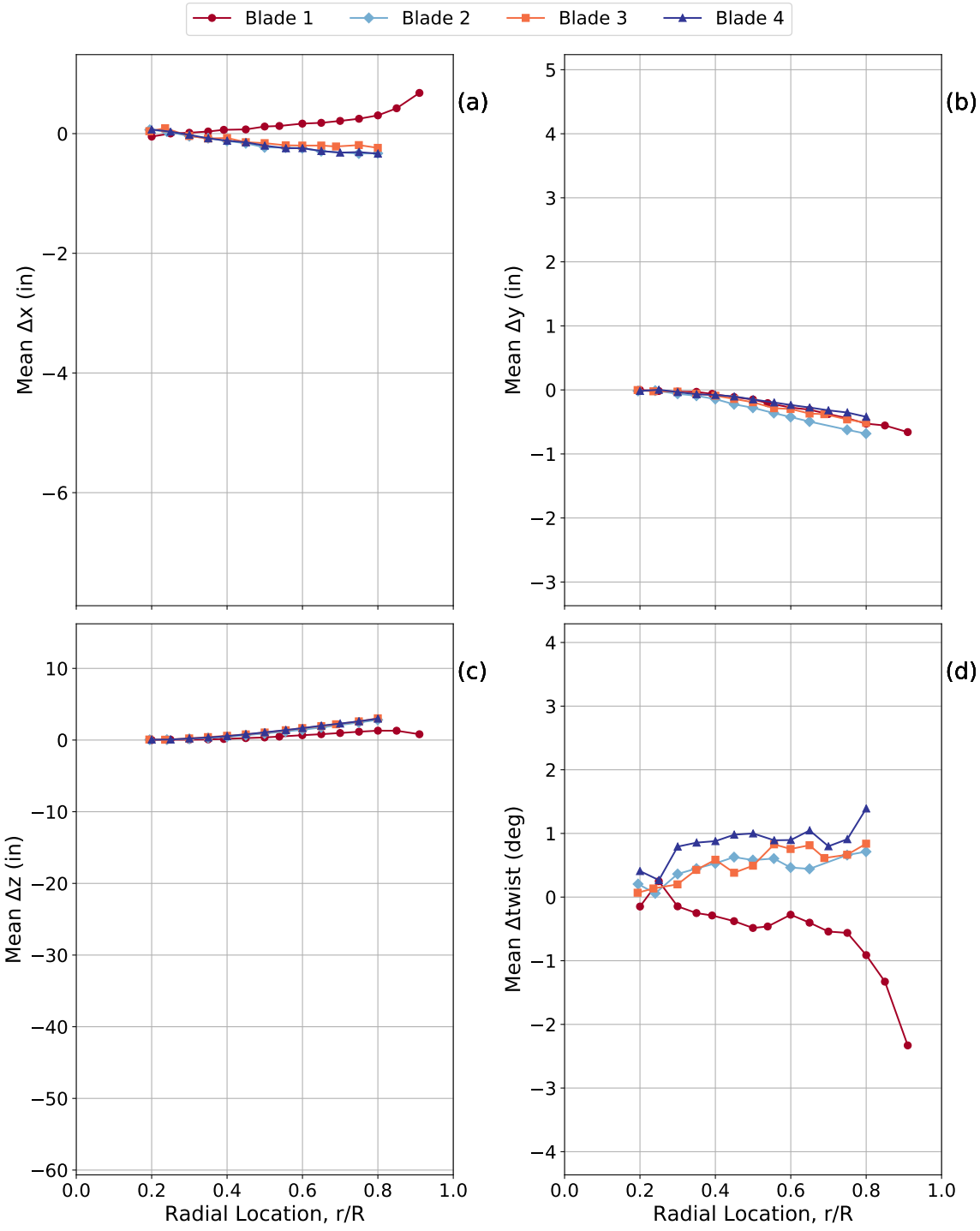


Figure 2.22-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	-0.0497	0.0075	-0.0020	0.0042	-0.0006	0.0307	-0.1485	0.0846
1	279.84	0.2499	0.0020	0.0041	-0.0169	0.0083	0.0584	0.0666	0.2495	0.2125
1	279.84	0.2998	0.0146	0.0035	-0.0264	0.0169	0.0455	0.1337	-0.1456	0.2222
1	279.84	0.3498	0.0354	0.0031	-0.0302	0.0295	0.0861	0.2326	-0.2513	0.2370
1	279.84	0.3913	0.0635	0.0034	-0.0626	0.0422	0.1536	0.3377	-0.2886	0.2316
1	279.84	0.4496	0.0700	0.0058	-0.1118	0.0626	0.2740	0.5128	-0.3781	0.2471
1	279.84	0.4997	0.1184	0.0096	-0.1496	0.0825	0.3659	0.6855	-0.4850	0.2579
1	279.84	0.5387	0.1278	0.0138	-0.2063	0.0982	0.4880	0.8260	-0.4622	0.2625
1	279.84	0.5996	0.1671	0.0208	-0.2746	0.1239	0.6767	1.0551	-0.2769	0.2648
1	279.84	0.6498	0.1804	0.0271	-0.3092	0.1455	0.8176	1.2443	-0.4021	0.2746
1	279.84	0.6998	0.2123	0.0328	-0.3760	0.1678	0.9823	1.4273	-0.5416	0.2767
1	279.84	0.7500	0.2484	0.0397	-0.4428	0.1910	1.1643	1.6002	-0.5625	0.3091
1	279.84	0.8001	0.3047	0.0455	-0.5270	0.2171	1.3095	1.7688	-0.9119	0.3187
1	279.84	0.8497	0.4235	0.0550	-0.5554	0.2377	1.3037	1.9389	-1.3289	0.2797
1	279.84	0.9102	0.6801	0.0774	-0.6589	0.2680	0.8117	2.1600	-2.3301	0.3113
2	279.84	0.1949	0.0637	0.0025	-0.0165	0.0019	0.0420	0.0091	0.2050	0.0477
2	279.84	0.2405	0.0339	0.0021	-0.0109	0.0037	0.0561	0.0213	0.0586	0.0687
2	279.84	0.2999	-0.0421	0.0020	-0.0609	0.0082	0.1741	0.0460	0.3628	0.1084
2	279.84	0.3498	-0.0770	0.0024	-0.0915	0.0144	0.2988	0.0793	0.4485	0.1059
2	279.84	0.3998	-0.1224	0.0036	-0.1430	0.0222	0.4573	0.1258	0.5293	0.1308
2	279.84	0.4496	-0.1613	0.0041	-0.2243	0.0312	0.6801	0.1812	0.6281	0.1351
2	279.84	0.4995	-0.2293	0.0058	-0.2790	0.0406	0.9143	0.2467	0.5816	0.1546
2	279.84	0.5551	-0.2341	0.0075	-0.3617	0.0526	1.1992	0.3280	0.6050	0.1530
2	279.84	0.5996	-0.2438	0.0092	-0.4236	0.0634	1.4337	0.4055	0.4642	0.1533
2	279.84	0.6497	-0.2939	0.0113	-0.4947	0.0758	1.7537	0.5019	0.4434	0.1825
2	279.84	0.7495	-0.3329	0.0159	-0.6228	0.1015	2.4488	0.7147	0.6603	0.1915
2	279.84	0.7996	-0.3294	0.0191	-0.6825	0.1150	2.8173	0.8346	0.7131	0.2440
3	279.84	0.1938	0.0408	0.0028	-0.0026	0.0018	0.0722	0.0125	0.0683	0.0406
3	279.84	0.2357	0.0897	0.0022	-0.0218	0.0039	0.0478	0.0240	0.1356	0.0660
3	279.84	0.2995	-0.0393	0.0026	-0.0262	0.0084	0.2302	0.0582	0.1997	0.0955
3	279.84	0.3493	-0.0813	0.0026	-0.0585	0.0149	0.4120	0.1014	0.4276	0.1060
3	279.84	0.4000	-0.0728	0.0041	-0.0898	0.0234	0.5968	0.1587	0.5868	0.1073
3	279.84	0.4497	-0.1435	0.0040	-0.1407	0.0324	0.7886	0.2284	0.3823	0.1161
3	279.84	0.4997	-0.1589	0.0061	-0.1927	0.0427	1.0526	0.3118	0.4933	0.1240
3	279.84	0.5556	-0.1958	0.0071	-0.2857	0.0554	1.3702	0.4162	0.8284	0.1350
3	279.84	0.5995	-0.1997	0.0088	-0.2978	0.0657	1.6731	0.5077	0.7558	0.1512
3	279.84	0.6498	-0.1995	0.0101	-0.3690	0.0779	1.9428	0.6197	0.8146	0.1641
3	279.84	0.6890	-0.2151	0.0138	-0.3790	0.0879	2.1998	0.7138	0.6135	0.1900
3	279.84	0.7495	-0.1918	0.0162	-0.4605	0.1027	2.6078	0.8648	0.6652	0.1807
3	279.84	0.7998	-0.2379	0.0210	-0.5134	0.1154	3.0358	0.9965	0.8387	0.2169
4	279.84	0.2001	0.0683	0.0028	-0.0163	0.0047	0.0595	0.0280	0.4088	0.0462
4	279.84	0.2502	0.0326	0.0024	0.0023	0.0099	0.0726	0.0621	0.2668	0.0859
4	279.84	0.3001	-0.0209	0.0022	-0.0340	0.0199	0.2185	0.1243	0.7928	0.1091
4	279.84	0.3502	-0.0785	0.0026	-0.0673	0.0348	0.3637	0.2142	0.8556	0.1110
4	279.84	0.4002	-0.1188	0.0050	-0.0792	0.0540	0.5500	0.3365	0.8792	0.1383
4	279.84	0.4500	-0.1453	0.0079	-0.1022	0.0760	0.8007	0.4796	0.9804	0.1540
4	279.84	0.5001	-0.2009	0.0105	-0.1485	0.0994	1.0781	0.6377	0.9997	0.1477
4	279.84	0.5560	-0.2450	0.0174	-0.1964	0.1283	1.3955	0.8317	0.8921	0.1512
4	279.84	0.6001	-0.2424	0.0216	-0.2355	0.1518	1.6632	0.9884	0.8967	0.1587
4	279.84	0.6501	-0.2912	0.0282	-0.2749	0.1778	2.0085	1.1586	1.0468	0.1682
4	279.84	0.6999	-0.3172	0.0350	-0.3189	0.2051	2.3014	1.3277	0.7982	0.1780
4	279.84	0.7500	-0.3087	0.0394	-0.3533	0.2323	2.6162	1.4936	0.9093	0.1834
4	279.84	0.8002	-0.3345	0.0472	-0.4203	0.2610	2.9906	1.6428	1.3920	0.2429

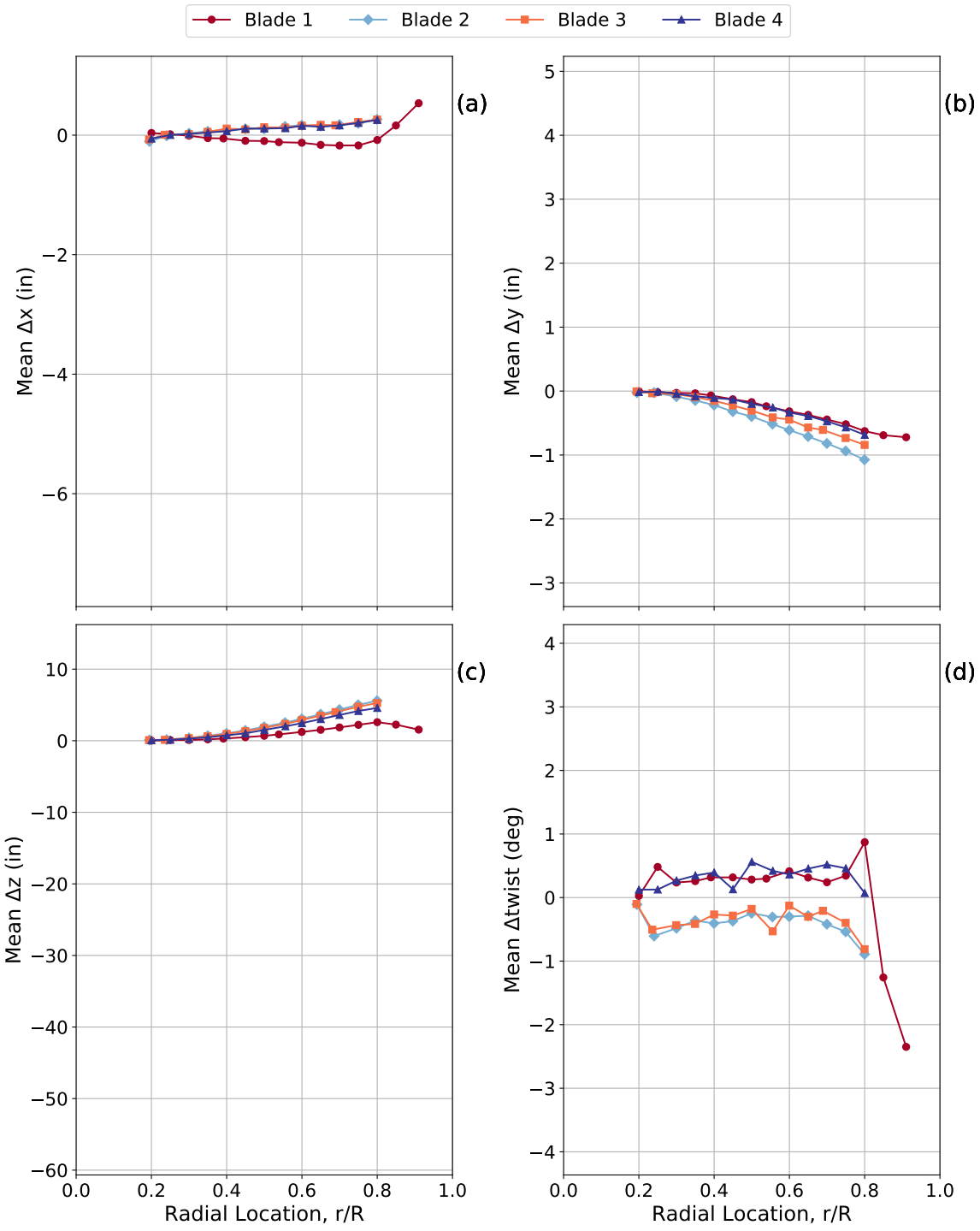


Figure 2.22-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-38. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0362	0.0241	-0.0025	0.0194	0.0126	0.0454	0.0258	0.2947
1	285.12	0.2499	0.0149	0.0075	-0.0186	0.0267	0.0945	0.0595	0.4816	0.8538
1	285.12	0.2998	-0.0092	0.0119	-0.0282	0.0720	0.0976	0.1699	0.2365	0.8399
1	285.12	0.3498	-0.0500	0.0193	-0.0349	0.1231	0.1967	0.2928	0.2583	0.8457
1	285.12	0.3913	-0.0558	0.0261	-0.0686	0.1714	0.3027	0.4059	0.3171	0.8416
1	285.12	0.4496	-0.0945	0.0355	-0.1282	0.2466	0.4923	0.5771	0.3172	0.8400
1	285.12	0.4997	-0.0982	0.0432	-0.1724	0.3168	0.6895	0.7338	0.2830	0.8433
1	285.12	0.5387	-0.1178	0.0494	-0.2373	0.3739	0.8839	0.8609	0.2977	0.8400
1	285.12	0.5996	-0.1271	0.0579	-0.3168	0.4647	1.2279	1.0633	0.4136	0.8485
1	285.12	0.6498	-0.1628	0.0639	-0.3717	0.5406	1.5226	1.2356	0.3145	0.8388
1	285.12	0.6998	-0.1734	0.0703	-0.4447	0.6147	1.8598	1.4058	0.2405	0.8349
1	285.12	0.7500	-0.1722	0.0765	-0.5181	0.6883	2.2203	1.5781	0.3444	0.8285
1	285.12	0.8001	-0.0813	0.0987	-0.6259	0.7286	2.5935	1.7413	0.8709	2.8451
1	285.12	0.8497	0.1618	0.1428	-0.6899	0.7652	2.2496	2.0934	-1.2570	1.0473
1	285.12	0.9102	0.5342	0.1681	-0.7223	0.8811	1.5487	2.3779	-2.3492	0.7613
2	285.12	0.1949	-0.1047	0.0051	-0.0241	0.0023	0.0995	0.0139	-0.1088	0.0567
2	285.12	0.2405	-0.0103	0.0032	-0.0238	0.0041	0.1503	0.0268	-0.6058	0.1183
2	285.12	0.2999	0.0304	0.0028	-0.0877	0.0092	0.3874	0.0591	-0.4822	0.1448
2	285.12	0.3498	0.0629	0.0022	-0.1460	0.0164	0.6932	0.1020	-0.3630	0.1365
2	285.12	0.3998	0.0829	0.0030	-0.2196	0.0248	1.0342	0.1571	-0.4064	0.1525
2	285.12	0.4496	0.1059	0.0045	-0.3207	0.0342	1.4365	0.2251	-0.3707	0.1559
2	285.12	0.4995	0.1051	0.0065	-0.3979	0.0447	1.9421	0.3041	-0.2474	0.1669
2	285.12	0.5551	0.1442	0.0099	-0.5162	0.0581	2.5181	0.4071	-0.3056	0.1756
2	285.12	0.5996	0.1662	0.0139	-0.6109	0.0698	3.0495	0.5002	-0.3000	0.1845
2	285.12	0.6497	0.1539	0.0182	-0.7103	0.0830	3.6971	0.6106	-0.2857	0.1921
2	285.12	0.6996	0.1764	0.0235	-0.8191	0.0970	4.3509	0.7333	-0.4196	0.1913
2	285.12	0.7495	0.1978	0.0298	-0.9370	0.1113	5.0124	0.8663	-0.5383	0.2117
2	285.12	0.7996	0.2643	0.0357	-1.0735	0.1262	5.5831	1.0058	-0.8926	0.1832
3	285.12	0.1938	-0.0717	0.0060	-0.0051	0.0019	0.0896	0.0137	-0.1004	0.0456
3	285.12	0.2357	0.0060	0.0038	-0.0346	0.0037	0.1285	0.0283	-0.5057	0.0987
3	285.12	0.2995	0.0157	0.0033	-0.0493	0.0080	0.3662	0.0627	-0.4346	0.1181
3	285.12	0.3493	0.0548	0.0035	-0.0941	0.0142	0.6184	0.1087	-0.4149	0.1228
3	285.12	0.4000	0.1095	0.0046	-0.1523	0.0221	0.9570	0.1703	-0.2664	0.1348
3	285.12	0.4497	0.0956	0.0055	-0.2251	0.0307	1.3357	0.2417	-0.2844	0.1539
3	285.12	0.4997	0.1322	0.0078	-0.3056	0.0406	1.8002	0.3244	-0.1796	0.1608
3	285.12	0.5556	0.1260	0.0115	-0.4118	0.0517	2.3530	0.4270	-0.5311	0.1659
3	285.12	0.5995	0.1587	0.0149	-0.4458	0.0608	2.8989	0.5120	-0.1267	0.1798
3	285.12	0.6498	0.1724	0.0192	-0.5702	0.0715	3.5054	0.6144	-0.3022	0.1788
3	285.12	0.6890	0.1648	0.0225	-0.6074	0.0802	3.9957	0.7019	-0.2082	0.1866
3	285.12	0.7495	0.2195	0.0288	-0.7339	0.0939	4.7475	0.8433	-0.3978	0.1949
3	285.12	0.7998	0.2609	0.0338	-0.8420	0.1048	5.2680	0.9694	-0.8130	0.1961
4	285.12	0.2001	-0.0573	0.0036	-0.0158	0.0032	0.0675	0.0217	0.1241	0.0424
4	285.12	0.2502	0.0031	0.0035	-0.0092	0.0066	0.1366	0.0468	0.1261	0.0830
4	285.12	0.3001	0.0199	0.0027	-0.0419	0.0129	0.2856	0.0910	0.2668	0.0893
4	285.12	0.3502	0.0430	0.0025	-0.0814	0.0231	0.4817	0.1570	0.3472	0.0846
4	285.12	0.4002	0.0670	0.0035	-0.1072	0.0352	0.7547	0.2445	0.3941	0.1021
4	285.12	0.4500	0.1102	0.0054	-0.1315	0.0502	1.0376	0.3524	0.1300	0.0992
4	285.12	0.5001	0.1106	0.0091	-0.2004	0.0663	1.5153	0.4770	0.5611	0.1095
4	285.12	0.5560	0.1160	0.0142	-0.2577	0.0852	2.0154	0.6271	0.4201	0.1054
4	285.12	0.6001	0.1565	0.0202	-0.3351	0.1009	2.4621	0.7526	0.3635	0.1249
4	285.12	0.6501	0.1404	0.0272	-0.3904	0.1194	3.0288	0.9024	0.4544	0.1203
4	285.12	0.6999	0.1634	0.0349	-0.4732	0.1376	3.5987	1.0509	0.5184	0.1143
4	285.12	0.7500	0.2053	0.0436	-0.5680	0.1559	4.1561	1.2008	0.4601	0.1259
4	285.12	0.8002	0.2545	0.0549	-0.6852	0.1737	4.5848	1.3551	0.0702	0.1210

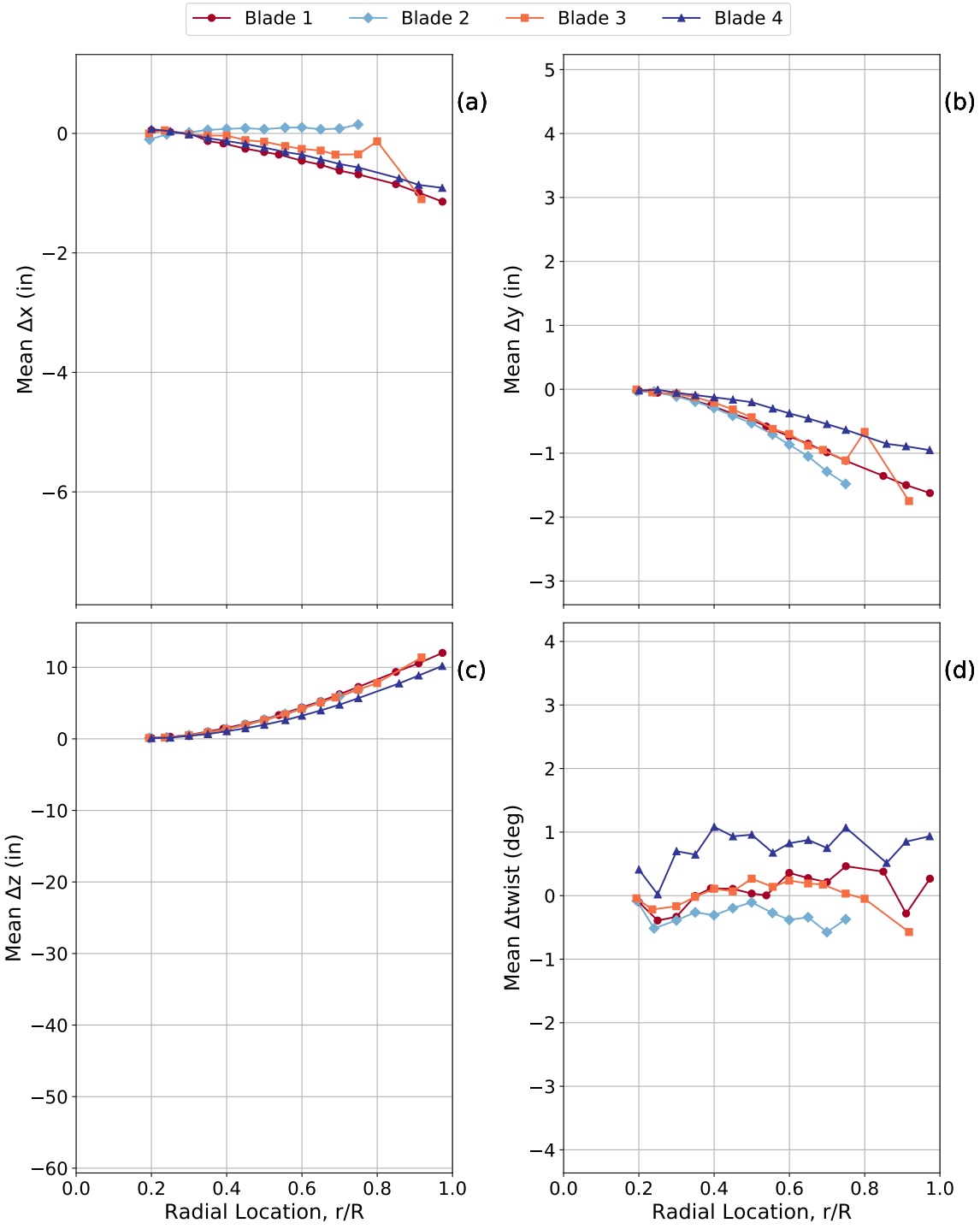


Figure 2.22-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0541	0.0032	-0.0228	0.0018	0.1263	0.0078	-0.1015	0.0375
1	299.88	0.2499	0.0254	0.0032	-0.0542	0.0044	0.2983	0.0184	-0.3915	0.0819
1	299.88	0.2998	0.0049	0.0025	-0.0951	0.0075	0.5342	0.0355	-0.3331	0.0904
1	299.88	0.3498	-0.1275	0.0031	-0.1814	0.0122	1.0251	0.0584	-0.0063	0.0932
1	299.88	0.3913	-0.1686	0.0053	-0.2537	0.0185	1.4324	0.0879	0.1143	0.1117
1	299.88	0.4496	-0.2554	0.0061	-0.3820	0.0232	2.0967	0.1365	0.1069	0.1088
1	299.88	0.4997	-0.3120	0.0083	-0.4804	0.0296	2.7553	0.1856	0.0328	0.1193
1	299.88	0.5387	-0.3544	0.0108	-0.5819	0.0362	3.3215	0.2346	0.0039	0.1281
1	299.88	0.5996	-0.4568	0.0157	-0.7380	0.0465	4.3919	0.3135	0.3577	0.1421
1	299.88	0.6498	-0.5242	0.0204	-0.8505	0.0553	5.2635	0.3858	0.2762	0.1344
1	299.88	0.6998	-0.6227	0.0256	-0.9865	0.0648	6.2351	0.4645	0.2126	0.1369
1	299.88	0.7500	-0.6876	0.0316	-1.1193	0.0747	7.2555	0.5506	0.4627	0.1408
1	299.88	0.8497	-0.8500	0.0454	-1.3553	0.0953	9.3480	0.7398	0.3778	0.1542
1	299.88	0.9102	-0.9908	0.0562	-1.4988	0.1077	10.5636	0.8651	-0.2818	0.1544
1	299.88	0.9734	-1.1426	0.0708	-1.6234	0.1206	12.0122	1.0002	0.2666	0.1599
2	299.88	0.1949	-0.1028	0.0066	-0.0286	0.0025	0.1199	0.0170	-0.0823	0.0798
2	299.88	0.2405	-0.0155	0.0047	-0.0380	0.0041	0.2112	0.0271	-0.5144	0.1621
2	299.88	0.2999	0.0176	0.0046	-0.1126	0.0091	0.5122	0.0669	-0.3889	0.1982
2	299.88	0.3498	0.0581	0.0039	-0.1928	0.0171	0.9050	0.1119	-0.2630	0.1910
2	299.88	0.3998	0.0759	0.0060	-0.2924	0.0250	1.3800	0.1721	-0.3083	0.1848
2	299.88	0.4496	0.0867	0.0061	-0.4143	0.0338	1.9738	0.2327	-0.1971	0.2159
2	299.88	0.4995	0.0703	0.0094	-0.5300	0.0440	2.6770	0.3046	-0.1055	0.2115
2	299.88	0.5551	0.0959	0.0137	-0.7068	0.0560	3.4895	0.3897	-0.2722	0.2180
2	299.88	0.5996	0.1012	0.0180	-0.8652	0.0666	4.2236	0.4663	-0.3807	0.2225
2	299.88	0.6497	0.0688	0.0241	-1.0484	0.0788	5.1108	0.5530	-0.3407	0.2198
2	299.88	0.6996	0.0807	0.0292	-1.2871	0.0914	5.9418	0.6424	-0.5757	0.2656
2	299.88	0.7495	0.1483	0.0351	-1.4806	0.0991	6.8488	0.7487	-0.3720	0.3197
3	299.88	0.1938	-0.0020	0.0083	-0.0053	0.0026	0.1205	0.0104	-0.0422	0.0345
3	299.88	0.2357	0.0518	0.0038	-0.0484	0.0039	0.1826	0.0179	-0.2180	0.0903
3	299.88	0.2995	-0.0191	0.0034	-0.0693	0.0091	0.5061	0.0433	-0.1672	0.0966
3	299.88	0.3493	-0.0363	0.0037	-0.1232	0.0156	0.8812	0.0754	-0.0198	0.1128
3	299.88	0.4000	-0.0363	0.0053	-0.2086	0.0238	1.3560	0.1168	0.1087	0.1119
3	299.88	0.4497	-0.1137	0.0063	-0.3160	0.0312	1.9072	0.1692	0.0672	0.1331
3	299.88	0.4997	-0.1396	0.0087	-0.4380	0.0415	2.5950	0.2324	0.2660	0.1314
3	299.88	0.5556	-0.2127	0.0134	-0.6203	0.0539	3.4228	0.3147	0.1381	0.1371
3	299.88	0.5995	-0.2602	0.0165	-0.6990	0.0639	4.1797	0.3857	0.2368	0.1399
3	299.88	0.6498	-0.2870	0.0224	-0.8813	0.0766	5.0714	0.4769	0.1910	0.1371
3	299.88	0.6890	-0.3550	0.0268	-0.9486	0.0869	5.7881	0.5526	0.1741	0.1443
3	299.88	0.7495	-0.3500	0.0348	-1.1140	0.1033	6.8796	0.6801	0.0319	0.1666
3	299.88	0.7998	-0.1329	0.0421	-0.6671	0.1183	7.7912	0.7931	-0.0498	0.1984
3	299.88	0.9178	-1.1011	0.0709	-1.7490	0.1484	11.3745	1.0763	-0.5729	0.2199
4	299.88	0.2001	0.0734	0.0034	-0.0188	0.0031	0.0992	0.0161	0.4105	0.0440
4	299.88	0.2502	0.0341	0.0028	-0.0074	0.0063	0.1657	0.0350	0.0192	0.0640
4	299.88	0.3001	-0.0165	0.0024	-0.0540	0.0122	0.4193	0.0702	0.6983	0.0913
4	299.88	0.3502	-0.0796	0.0035	-0.0912	0.0213	0.6699	0.1222	0.6454	0.0918
4	299.88	0.4002	-0.1272	0.0049	-0.1265	0.0328	1.0634	0.1907	1.0817	0.1163
4	299.88	0.4500	-0.1777	0.0062	-0.1621	0.0455	1.4741	0.2671	0.9327	0.1137
4	299.88	0.5001	-0.2371	0.0086	-0.2023	0.0589	1.9642	0.3494	0.9587	0.1069
4	299.88	0.5560	-0.3128	0.0137	-0.3012	0.0765	2.6146	0.4476	0.6758	0.1146
4	299.88	0.6001	-0.3561	0.0185	-0.3776	0.0918	3.2338	0.5236	0.8240	0.1249
4	299.88	0.6501	-0.4333	0.0230	-0.4565	0.1079	3.9752	0.5996	0.8756	0.1247
4	299.88	0.6999	-0.5124	0.0281	-0.5449	0.1240	4.7715	0.6688	0.7489	0.1260
4	299.88	0.7500	-0.5708	0.0334	-0.6345	0.1426	5.6880	0.7312	1.0699	0.1370
4	299.88	0.8582	-0.7527	0.0441	-0.8526	0.1785	7.7425	0.8492	0.5146	0.1342
4	299.88	0.9101	-0.8617	0.0512	-0.8922	0.1988	8.8516	0.9172	0.8493	0.1428
4	299.88	0.9728	-0.9118	0.0643	-0.9518	0.2227	10.1868	1.0114	0.9343	0.1530

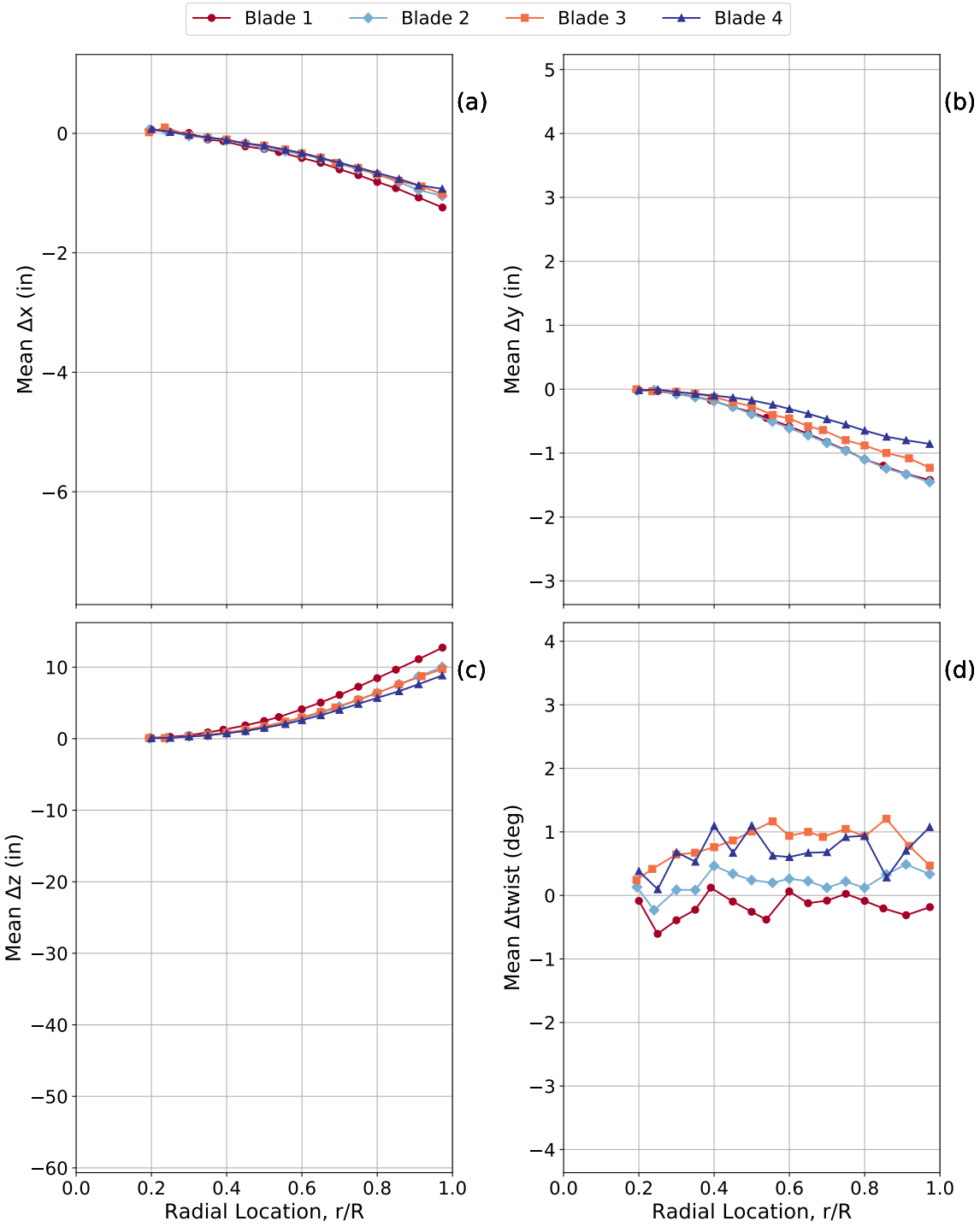


Figure 2.22-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0598	0.0039	-0.0171	0.0030	0.1114	0.0153	-0.0861	0.0590
1	315	0.2499	0.0213	0.0030	-0.0302	0.0067	0.2516	0.0355	-0.6051	0.1056
1	315	0.2998	0.0081	0.0028	-0.0734	0.0134	0.4814	0.0711	-0.3907	0.1371
1	315	0.3498	-0.1033	0.0039	-0.1167	0.0218	0.8794	0.1195	-0.2259	0.1408
1	315	0.3913	-0.1300	0.0052	-0.1735	0.0328	1.2528	0.1780	0.1220	0.1678
1	315	0.4496	-0.2181	0.0083	-0.2797	0.0483	1.8516	0.2702	-0.0970	0.1804
1	315	0.4997	-0.2622	0.0122	-0.3587	0.0638	2.4687	0.3624	-0.2579	0.2125
1	315	0.5387	-0.3130	0.0164	-0.4488	0.0771	3.0275	0.4393	-0.3813	0.2124
1	315	0.5996	-0.4117	0.0234	-0.5815	0.0979	4.1093	0.5614	0.0630	0.2258
1	315	0.6498	-0.4930	0.0304	-0.6971	0.1181	5.0455	0.6669	-0.1226	0.2404
1	315	0.6998	-0.6027	0.0379	-0.8258	0.1373	6.1201	0.7693	-0.0825	0.2607
1	315	0.7500	-0.6992	0.0460	-0.9532	0.1574	7.2621	0.8673	0.0247	0.2573
1	315	0.8001	-0.8131	0.0539	-1.0998	0.1777	8.4597	0.9611	-0.0868	0.2809
1	315	0.8497	-0.9167	0.0618	-1.1978	0.1990	9.6474	1.0505	-0.2047	0.2771
1	315	0.9102	-1.0742	0.0715	-1.3273	0.2255	11.1173	1.1579	-0.3111	0.3236
1	315	0.9734	-1.2409	0.0870	-1.4205	0.2526	12.7263	1.2633	-0.1848	0.2968
2	315	0.1949	0.0620	0.0034	-0.0216	0.0019	0.0646	0.0084	0.1309	0.0448
2	315	0.2405	0.0368	0.0033	-0.0163	0.0040	0.0974	0.0142	-0.2323	0.0807
2	315	0.2999	-0.0439	0.0030	-0.0766	0.0082	0.3033	0.0366	0.0878	0.1090
2	315	0.3498	-0.0796	0.0037	-0.1263	0.0145	0.4872	0.0623	0.0847	0.1063
2	315	0.3998	-0.1173	0.0060	-0.1893	0.0223	0.7805	0.0967	0.4645	0.1142
2	315	0.4496	-0.1649	0.0065	-0.2729	0.0283	1.1269	0.1313	0.3410	0.1310
2	315	0.4995	-0.2413	0.0072	-0.3889	0.0350	1.6162	0.1755	0.2406	0.1147
2	315	0.5551	-0.2973	0.0090	-0.5076	0.0432	2.2499	0.2320	0.1992	0.1417
2	315	0.5996	-0.3515	0.0110	-0.6118	0.0499	2.8564	0.2820	0.2618	0.1237
2	315	0.6497	-0.4198	0.0132	-0.7211	0.0585	3.6108	0.3422	0.2244	0.1253
2	315	0.6996	-0.5127	0.0171	-0.8402	0.0663	4.4643	0.4084	0.1213	0.1334
2	315	0.7495	-0.5994	0.0209	-0.9646	0.0755	5.3948	0.4767	0.2189	0.1322
2	315	0.7996	-0.6871	0.0252	-1.0973	0.0839	6.3873	0.5466	0.1195	0.1284
2	315	0.8578	-0.8167	0.0303	-1.2399	0.0941	7.5889	0.6287	0.3305	0.1426
2	315	0.9100	-0.9489	0.0360	-1.3326	0.1032	8.6951	0.7038	0.4878	0.1470
2	315	0.9727	-1.0466	0.0444	-1.4526	0.1157	10.0171	0.7942	0.3351	0.1465
3	315	0.1938	0.0188	0.0034	-0.0012	0.0016	0.0896	0.0059	0.2438	0.0578
3	315	0.2357	0.0985	0.0030	-0.0317	0.0037	0.0790	0.0149	0.4168	0.0834
3	315	0.2995	-0.0286	0.0026	-0.0404	0.0074	0.3364	0.0306	0.6435	0.1303
3	315	0.3493	-0.0737	0.0035	-0.0705	0.0120	0.5486	0.0529	0.6718	0.1172
3	315	0.4000	-0.1026	0.0056	-0.1238	0.0196	0.8479	0.0845	0.7592	0.1149
3	315	0.4497	-0.1768	0.0058	-0.2015	0.0240	1.2423	0.1163	0.8652	0.1322
3	315	0.4997	-0.2047	0.0072	-0.2658	0.0309	1.7194	0.1584	1.0055	0.1247
3	315	0.5556	-0.2704	0.0082	-0.4025	0.0390	2.3723	0.2143	1.1654	0.1208
3	315	0.5995	-0.3371	0.0101	-0.4588	0.0464	2.9636	0.2646	0.9372	0.1206
3	315	0.6498	-0.4065	0.0128	-0.5795	0.0551	3.7198	0.3291	0.9998	0.1239
3	315	0.6890	-0.4942	0.0160	-0.6395	0.0624	4.3588	0.3820	0.9213	0.1286
3	315	0.7495	-0.5796	0.0211	-0.7975	0.0741	5.4480	0.4694	1.0465	0.1207
3	315	0.7998	-0.6894	0.0257	-0.8803	0.0839	6.3995	0.5472	0.9284	0.1253
3	315	0.8577	-0.7936	0.0315	-0.9981	0.0956	7.5652	0.6395	1.2061	0.1484
3	315	0.9178	-0.8877	0.0387	-1.0816	0.1077	8.7362	0.7374	0.7799	0.1411
3	315	0.9729	-1.0166	0.0479	-1.2290	0.1192	9.7283	0.8293	0.4692	0.1555
4	315	0.2001	0.0712	0.0050	-0.0154	0.0028	0.0647	0.0091	0.3814	0.0478
4	315	0.2502	0.0249	0.0028	-0.0047	0.0042	0.1218	0.0158	0.0961	0.1101
4	315	0.3001	-0.0226	0.0025	-0.0435	0.0092	0.3137	0.0348	0.6791	0.1153
4	315	0.3502	-0.0653	0.0041	-0.0727	0.0162	0.4544	0.0617	0.5310	0.1211
4	315	0.4002	-0.1104	0.0050	-0.1003	0.0236	0.7674	0.0931	1.0939	0.1373
4	315	0.4500	-0.1667	0.0064	-0.1313	0.0310	1.0707	0.1299	0.6701	0.1390
4	315	0.5001	-0.2043	0.0079	-0.1738	0.0396	1.5216	0.1778	1.0980	0.1511
4	315	0.5560	-0.2755	0.0099	-0.2430	0.0498	2.0474	0.2396	0.6257	0.1487
4	315	0.6001	-0.3279	0.0111	-0.3095	0.0580	2.5970	0.2965	0.6045	0.1489
4	315	0.6501	-0.4102	0.0140	-0.3850	0.0688	3.2811	0.3708	0.6706	0.1559
4	315	0.6999	-0.4912	0.0187	-0.4699	0.0797	4.0340	0.4605	0.6811	0.1574
4	315	0.7500	-0.5735	0.0247	-0.5534	0.0908	4.8693	0.5608	0.9192	0.1605
4	315	0.8002	-0.6622	0.0309	-0.6483	0.1015	5.7013	0.6700	0.9395	0.1569
4	315	0.8582	-0.7627	0.0380	-0.7431	0.1137	6.6396	0.8099	0.2824	0.1652
4	315	0.9101	-0.8695	0.0471	-0.7990	0.1253	7.6168	0.9411	0.7042	0.1667
4	315	0.9728	-0.9283	0.0608	-0.8561	0.1387	8.8379	1.1067	1.0756	0.1809

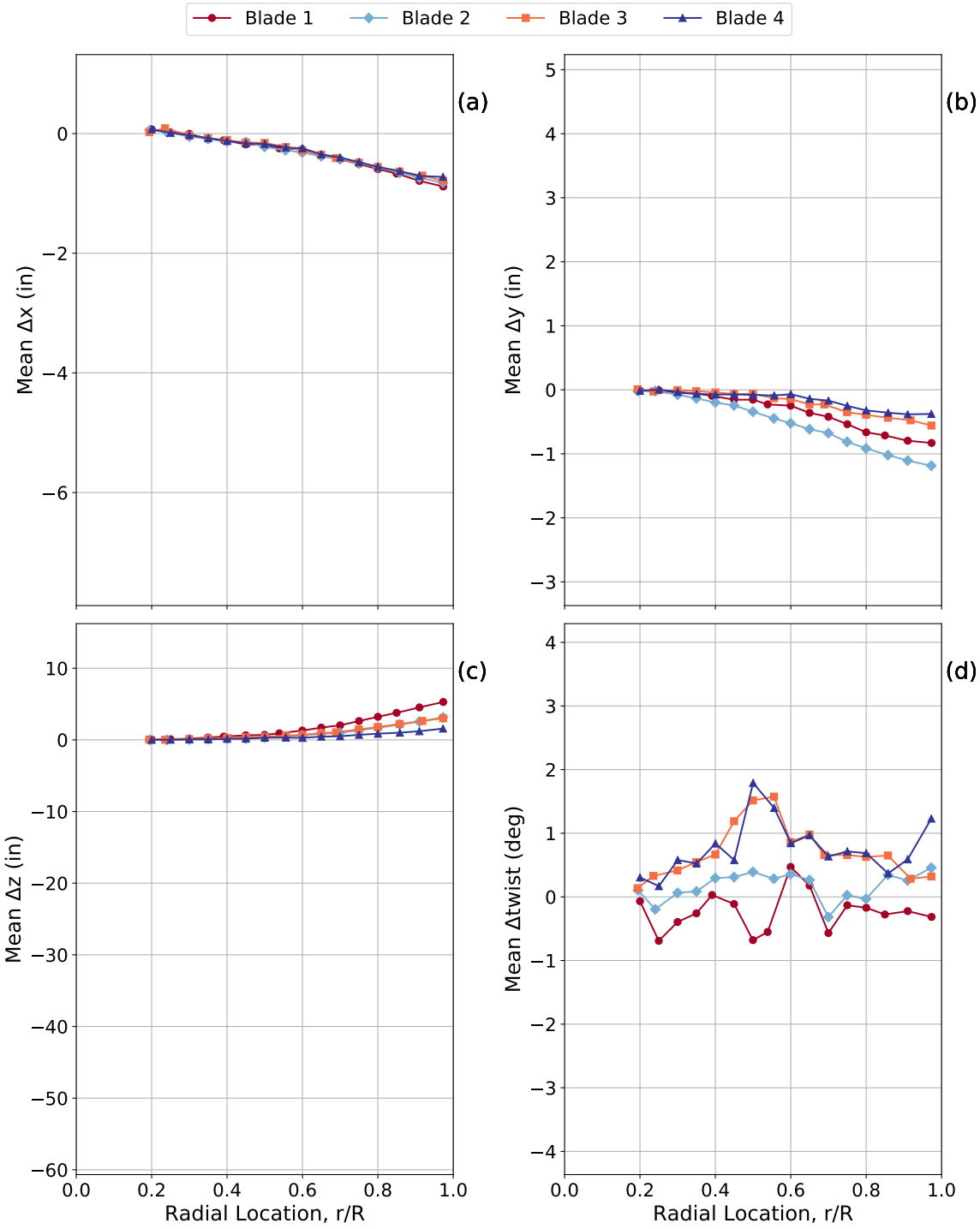


Figure 2.22-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-41. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0700	0.0036	-0.0128	0.0023	0.0414	0.0113	-0.0683	0.0375
1	330.12	0.2499	0.0190	0.0027	-0.0065	0.0057	0.0881	0.0247	-0.6907	0.0778
1	330.12	0.2998	-0.0041	0.0033	-0.0484	0.0105	0.1703	0.0497	-0.3947	0.0887
1	330.12	0.3498	-0.0914	0.0040	-0.0612	0.0181	0.3345	0.0880	-0.2583	0.0826
1	330.12	0.3913	-0.1108	0.0046	-0.0941	0.0266	0.4589	0.1271	0.0295	0.0797
1	330.12	0.4496	-0.1811	0.0069	-0.1550	0.0385	0.6362	0.1806	-0.1122	0.0858
1	330.12	0.4997	-0.1896	0.0086	-0.1534	0.0503	0.6983	0.2248	-0.6796	0.1100
1	330.12	0.5387	-0.2470	0.0083	-0.2279	0.0577	0.9267	0.2523	-0.5517	0.0999
1	330.12	0.5996	-0.2625	0.0110	-0.2477	0.0711	1.3028	0.2841	0.4706	0.1095
1	330.12	0.6498	-0.3659	0.0118	-0.3596	0.0827	1.7135	0.3028	0.1782	0.1082
1	330.12	0.6998	-0.4314	0.0130	-0.4212	0.0936	2.0338	0.3182	-0.5684	0.1097
1	330.12	0.7500	-0.5096	0.0137	-0.5372	0.1055	2.6315	0.3604	-0.1319	0.1087
1	330.12	0.8001	-0.5943	0.0135	-0.6636	0.1185	3.2236	0.4325	-0.1712	0.1020
1	330.12	0.8497	-0.6686	0.0153	-0.7125	0.1329	3.7750	0.5464	-0.2769	0.1114
1	330.12	0.9102	-0.7902	0.0193	-0.7957	0.1503	4.5303	0.7246	-0.2242	0.1120
1	330.12	0.9734	-0.8849	0.0271	-0.8296	0.1692	5.2900	0.9403	-0.3153	0.1169
2	330.12	0.1949	0.0578	0.0035	-0.0218	0.0015	0.0125	0.0057	0.1051	0.0403
2	330.12	0.2405	0.0238	0.0023	-0.0185	0.0039	0.0016	0.0127	-0.1962	0.0690
2	330.12	0.2999	-0.0490	0.0038	-0.0771	0.0078	0.0615	0.0277	0.0636	0.0937
2	330.12	0.3498	-0.0913	0.0036	-0.1338	0.0130	0.0999	0.0457	0.0853	0.1036
2	330.12	0.3998	-0.1308	0.0056	-0.1973	0.0210	0.1605	0.0736	0.2951	0.0942
2	330.12	0.4496	-0.1408	0.0071	-0.2443	0.0272	0.1785	0.1018	0.3103	0.0862
2	330.12	0.4995	-0.2220	0.0076	-0.3418	0.0320	0.3273	0.1325	0.3923	0.1083
2	330.12	0.5551	-0.2783	0.0072	-0.4464	0.0401	0.4839	0.1733	0.2845	0.1005
2	330.12	0.5996	-0.3149	0.0088	-0.5222	0.0463	0.6373	0.2109	0.3570	0.0927
2	330.12	0.6497	-0.3788	0.0089	-0.6152	0.0542	0.8449	0.2563	0.2655	0.1189
2	330.12	0.6996	-0.4297	0.0105	-0.6761	0.0624	0.9811	0.3105	-0.3168	0.1077
2	330.12	0.7495	-0.4984	0.0107	-0.8131	0.0715	1.3540	0.3722	0.0250	0.0951
2	330.12	0.7996	-0.5604	0.0126	-0.9146	0.0808	1.6865	0.4386	-0.0322	0.1106
2	330.12	0.8578	-0.6551	0.0147	-1.0195	0.0914	2.1513	0.5195	0.3461	0.1022
2	330.12	0.9100	-0.7382	0.0172	-1.1058	0.1014	2.5420	0.5962	0.2567	0.1049
2	330.12	0.9727	-0.8220	0.0238	-1.1854	0.1130	3.1349	0.6920	0.4578	0.1069
3	330.12	0.1938	0.0257	0.0032	0.0082	0.0012	0.0390	0.0058	0.1363	0.0580
3	330.12	0.2357	0.0884	0.0022	-0.0265	0.0031	0.0069	0.0121	0.3291	0.0890
3	330.12	0.2995	-0.0273	0.0036	-0.0046	0.0062	0.1060	0.0257	0.4156	0.1347
3	330.12	0.3493	-0.0763	0.0030	-0.0202	0.0097	0.1811	0.0472	0.5464	0.1042
3	330.12	0.4000	-0.1081	0.0054	-0.0414	0.0162	0.2558	0.0722	0.6653	0.1104
3	330.12	0.4497	-0.1504	0.0059	-0.0654	0.0201	0.3629	0.0991	1.1890	0.1276
3	330.12	0.4997	-0.1553	0.0051	-0.0628	0.0264	0.4360	0.1290	1.5159	0.1277
3	330.12	0.5556	-0.2248	0.0063	-0.1312	0.0322	0.5963	0.1647	1.5754	0.1296
3	330.12	0.5995	-0.2837	0.0070	-0.1449	0.0382	0.7013	0.2004	0.8622	0.1217
3	330.12	0.6498	-0.3526	0.0076	-0.2266	0.0450	0.9463	0.2426	0.9789	0.1406
3	330.12	0.6890	-0.4089	0.0081	-0.2286	0.0502	1.0567	0.2789	0.6576	0.1480
3	330.12	0.7495	-0.4855	0.0089	-0.3489	0.0573	1.4549	0.3498	0.6584	0.1426
3	330.12	0.7998	-0.5590	0.0104	-0.3912	0.0641	1.7908	0.4150	0.6272	0.1392
3	330.12	0.8577	-0.6350	0.0121	-0.4362	0.0728	2.2137	0.5007	0.6503	0.1469
3	330.12	0.9178	-0.7009	0.0156	-0.4761	0.0814	2.6389	0.5970	0.2854	0.1490
3	330.12	0.9729	-0.7860	0.0198	-0.5578	0.0892	3.0142	0.6931	0.3198	0.1437
4	330.12	0.2001	0.0709	0.0034	-0.0157	0.0020	0.0077	0.0073	0.3052	0.0417
4	330.12	0.2502	0.0123	0.0025	0.0039	0.0048	0.0223	0.0175	0.1680	0.0638
4	330.12	0.3001	-0.0280	0.0027	-0.0330	0.0088	0.0656	0.0336	0.5790	0.0871
4	330.12	0.3502	-0.0767	0.0037	-0.0629	0.0148	0.0757	0.0587	0.5242	0.0786
4	330.12	0.4002	-0.1243	0.0052	-0.0741	0.0235	0.1525	0.0928	0.8386	0.0875
4	330.12	0.4500	-0.1615	0.0075	-0.0717	0.0309	0.1727	0.1285	0.5784	0.0727
4	330.12	0.5001	-0.1737	0.0073	-0.0788	0.0403	0.3036	0.1685	1.7913	0.0912
4	330.12	0.5560	-0.2328	0.0085	-0.0895	0.0494	0.3180	0.2140	1.3967	0.0969
4	330.12	0.6001	-0.2456	0.0095	-0.0682	0.0579	0.2808	0.2551	0.8437	0.1027
4	330.12	0.6501	-0.3469	0.0099	-0.1411	0.0667	0.4565	0.3090	0.9679	0.1106
4	330.12	0.6999	-0.3993	0.0109	-0.1692	0.0742	0.5053	0.3715	0.6345	0.1191
4	330.12	0.7500	-0.4775	0.0117	-0.2509	0.0830	0.7068	0.4552	0.7147	0.1106
4	330.12	0.8002	-0.5571	0.0129	-0.3217	0.0928	0.8643	0.5628	0.6872	0.1098
4	330.12	0.8582	-0.6270	0.0137	-0.3577	0.1049	1.0062	0.7179	0.3686	0.1032
4	330.12	0.9101	-0.7080	0.0148	-0.3829	0.1162	1.2077	0.8727	0.5894	0.1037
4	330.12	0.9728	-0.7241	0.0184	-0.3767	0.1298	1.5771	1.0788	1.2297	0.1051

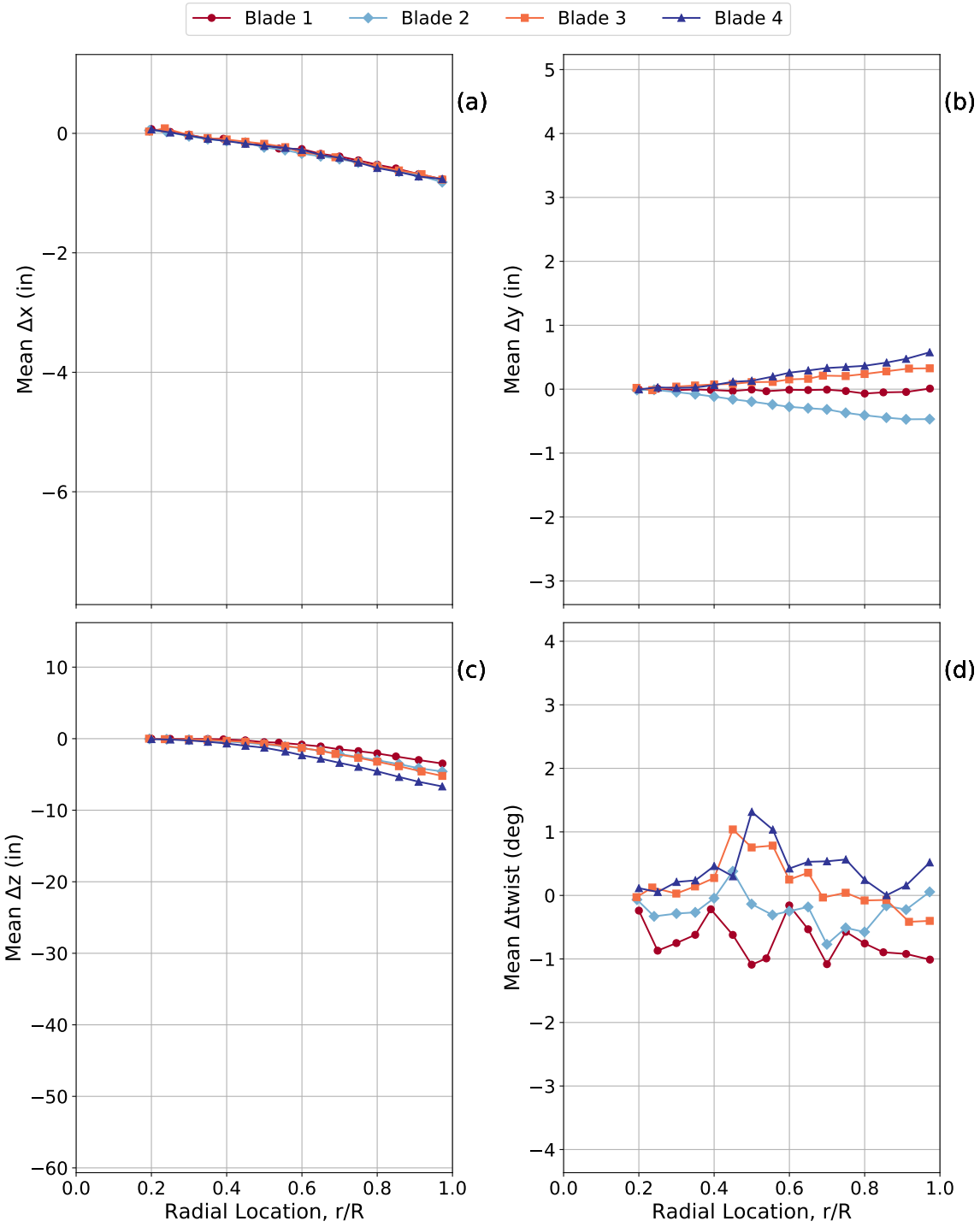


Figure 2.22-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-42. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0718	0.0029	-0.0047	0.0039	-0.0053	0.0169	-0.2390	0.1019
1	344.88	0.2499	0.0248	0.0059	0.0086	0.0051	-0.0235	0.0240	-0.8695	0.2737
1	344.88	0.2998	-0.0197	0.0060	-0.0147	0.0144	-0.0476	0.0589	-0.7500	0.2775
1	344.88	0.3498	-0.0892	0.0057	-0.0046	0.0233	-0.0414	0.1005	-0.6204	0.2837
1	344.88	0.3913	-0.0902	0.0082	-0.0118	0.0328	-0.0962	0.1395	-0.2181	0.2945
1	344.88	0.4496	-0.1772	0.0080	-0.0283	0.0438	-0.2337	0.2021	-0.6215	0.2752
1	344.88	0.4997	-0.1924	0.0095	-0.0052	0.0543	-0.4856	0.2650	-1.0902	0.2933
1	344.88	0.5387	-0.2543	0.0092	-0.0321	0.0630	-0.5570	0.3229	-0.9916	0.2861
1	344.88	0.5996	-0.2625	0.0114	-0.0093	0.0776	-0.8287	0.4260	-0.1580	0.2920
1	344.88	0.6498	-0.3424	0.0143	-0.0132	0.0903	-1.0873	0.5221	-0.5330	0.3034
1	344.88	0.6998	-0.3869	0.0163	-0.0078	0.1022	-1.4914	0.6363	-1.0820	0.3077
1	344.88	0.7500	-0.4516	0.0179	-0.0289	0.1138	-1.7385	0.7627	-0.5727	0.2929
1	344.88	0.8001	-0.5242	0.0217	-0.0682	0.1276	-2.0656	0.8952	-0.7565	0.2900
1	344.88	0.8497	-0.5868	0.0257	-0.0500	0.1396	-2.4838	1.0390	-0.8948	0.2929
1	344.88	0.9102	-0.6813	0.0302	-0.0436	0.1539	-2.9861	1.2202	-0.9212	0.2804
1	344.88	0.9734	-0.7667	0.0336	0.0094	0.1705	-3.4740	1.4173	-1.0104	0.2914
2	344.88	0.1949	0.0496	0.0032	-0.0131	0.0017	-0.0306	0.0076	-0.0658	0.0483
2	344.88	0.2405	0.0257	0.0027	-0.0093	0.0033	-0.0821	0.0170	-0.3296	0.0732
2	344.88	0.2999	-0.0488	0.0046	-0.0458	0.0069	-0.1493	0.0365	-0.2857	0.1043
2	344.88	0.3498	-0.0972	0.0039	-0.0787	0.0119	-0.2470	0.0630	-0.2670	0.0952
2	344.88	0.3998	-0.1276	0.0067	-0.1161	0.0183	-0.3944	0.0994	-0.0441	0.1002
2	344.88	0.4496	-0.1534	0.0089	-0.1580	0.0237	-0.5604	0.1400	0.3800	0.1097
2	344.88	0.4995	-0.2334	0.0080	-0.1944	0.0323	-0.8100	0.1916	-0.1360	0.1058
2	344.88	0.5551	-0.2801	0.0099	-0.2401	0.0413	-1.0852	0.2611	-0.3078	0.0971
2	344.88	0.5996	-0.3379	0.0094	-0.2760	0.0494	-1.3261	0.3259	-0.2479	0.1012
2	344.88	0.6497	-0.3836	0.0110	-0.2980	0.0595	-1.6703	0.4080	-0.1815	0.1225
2	344.88	0.6996	-0.4305	0.0139	-0.3165	0.0692	-2.1555	0.4970	-0.7700	0.1410
2	344.88	0.7495	-0.4899	0.0144	-0.3702	0.0802	-2.5495	0.5989	-0.5108	0.1099
2	344.88	0.7996	-0.5489	0.0169	-0.4082	0.0912	-3.0103	0.7078	-0.5754	0.1138
2	344.88	0.8578	-0.6420	0.0211	-0.4453	0.1046	-3.5557	0.8400	-0.1636	0.1217
2	344.88	0.9100	-0.7034	0.0236	-0.4713	0.1154	-4.1233	0.9643	-0.2239	0.1222
2	344.88	0.9727	-0.8168	0.0242	-0.4684	0.1293	-4.5879	1.1129	0.0555	0.1178
3	344.88	0.1938	0.0305	0.0036	0.0204	0.0019	-0.0014	0.0088	-0.0274	0.0461
3	344.88	0.2357	0.0842	0.0034	-0.0152	0.0044	-0.0681	0.0168	0.1243	0.0928
3	344.88	0.2995	-0.0269	0.0044	0.0398	0.0089	-0.1029	0.0418	0.0292	0.1191
3	344.88	0.3493	-0.0786	0.0041	0.0574	0.0150	-0.1642	0.0704	0.1414	0.1121
3	344.88	0.4000	-0.1020	0.0063	0.0752	0.0241	-0.3036	0.1123	0.2739	0.1191
3	344.88	0.4497	-0.1399	0.0065	0.0825	0.0316	-0.4385	0.1543	1.0384	0.1361
3	344.88	0.4997	-0.1747	0.0084	0.1106	0.0391	-0.7135	0.2098	0.7552	0.1232
3	344.88	0.5556	-0.2310	0.0098	0.1135	0.0486	-1.0113	0.2780	0.7839	0.1528
3	344.88	0.5995	-0.3193	0.0101	0.1534	0.0580	-1.2979	0.3432	0.2490	0.1374
3	344.88	0.6498	-0.3520	0.0123	0.1622	0.0669	-1.7045	0.4229	0.3569	0.1486
3	344.88	0.6890	-0.3999	0.0127	0.2123	0.0748	-2.1341	0.4947	-0.0330	0.1704
3	344.88	0.7495	-0.4836	0.0163	0.2054	0.0872	-2.6704	0.6133	0.0417	0.1382
3	344.88	0.7998	-0.5482	0.0188	0.2376	0.0978	-3.2043	0.7195	-0.0790	0.1506
3	344.88	0.8577	-0.6204	0.0238	0.2798	0.1097	-3.8492	0.8499	-0.0716	0.1574
3	344.88	0.9178	-0.6836	0.0266	0.3230	0.1225	-4.5827	0.9935	-0.4155	0.1569
3	344.88	0.9729	-0.7734	0.0288	0.3265	0.1344	-5.2056	1.1289	-0.4009	0.1556
4	344.88	0.2001	0.0655	0.0035	-0.0035	0.0031	-0.0585	0.0147	0.1142	0.0426
4	344.88	0.2502	0.0140	0.0034	0.0286	0.0065	-0.1203	0.0344	0.0537	0.0618
4	344.88	0.3001	-0.0368	0.0050	0.0187	0.0127	-0.2483	0.0674	0.2117	0.0905
4	344.88	0.3502	-0.0918	0.0060	0.0265	0.0222	-0.4352	0.1197	0.2367	0.0898
4	344.88	0.4002	-0.1294	0.0078	0.0647	0.0344	-0.6737	0.1873	0.4624	0.0817
4	344.88	0.4500	-0.1730	0.0093	0.1156	0.0480	-0.9930	0.2744	0.3006	0.1038
4	344.88	0.5001	-0.2100	0.0105	0.1311	0.0626	-1.2601	0.3706	1.3145	0.1116
4	344.88	0.5560	-0.2421	0.0133	0.1979	0.0814	-1.7994	0.4904	1.0347	0.1129
4	344.88	0.6001	-0.2773	0.0147	0.2582	0.0979	-2.3138	0.5876	0.4239	0.1338
4	344.88	0.6501	-0.3596	0.0176	0.2926	0.1163	-2.7960	0.6947	0.5291	0.1220
4	344.88	0.6999	-0.4086	0.0193	0.3310	0.1361	-3.3813	0.7985	0.5369	0.1203
4	344.88	0.7500	-0.4890	0.0215	0.3472	0.1552	-3.9370	0.8890	0.5649	0.1130
4	344.88	0.8002	-0.5797	0.0255	0.3658	0.1735	-4.5667	0.9710	0.2438	0.1140
4	344.88	0.8582	-0.6479	0.0282	0.4158	0.1984	-5.3543	1.0616	0.0028	0.1208
4	344.88	0.9101	-0.7218	0.0307	0.4742	0.2212	-6.0211	1.1367	0.1563	0.1266
4	344.88	0.9728	-0.7648	0.0287	0.5767	0.2484	-6.6749	1.2243	0.5192	0.1194

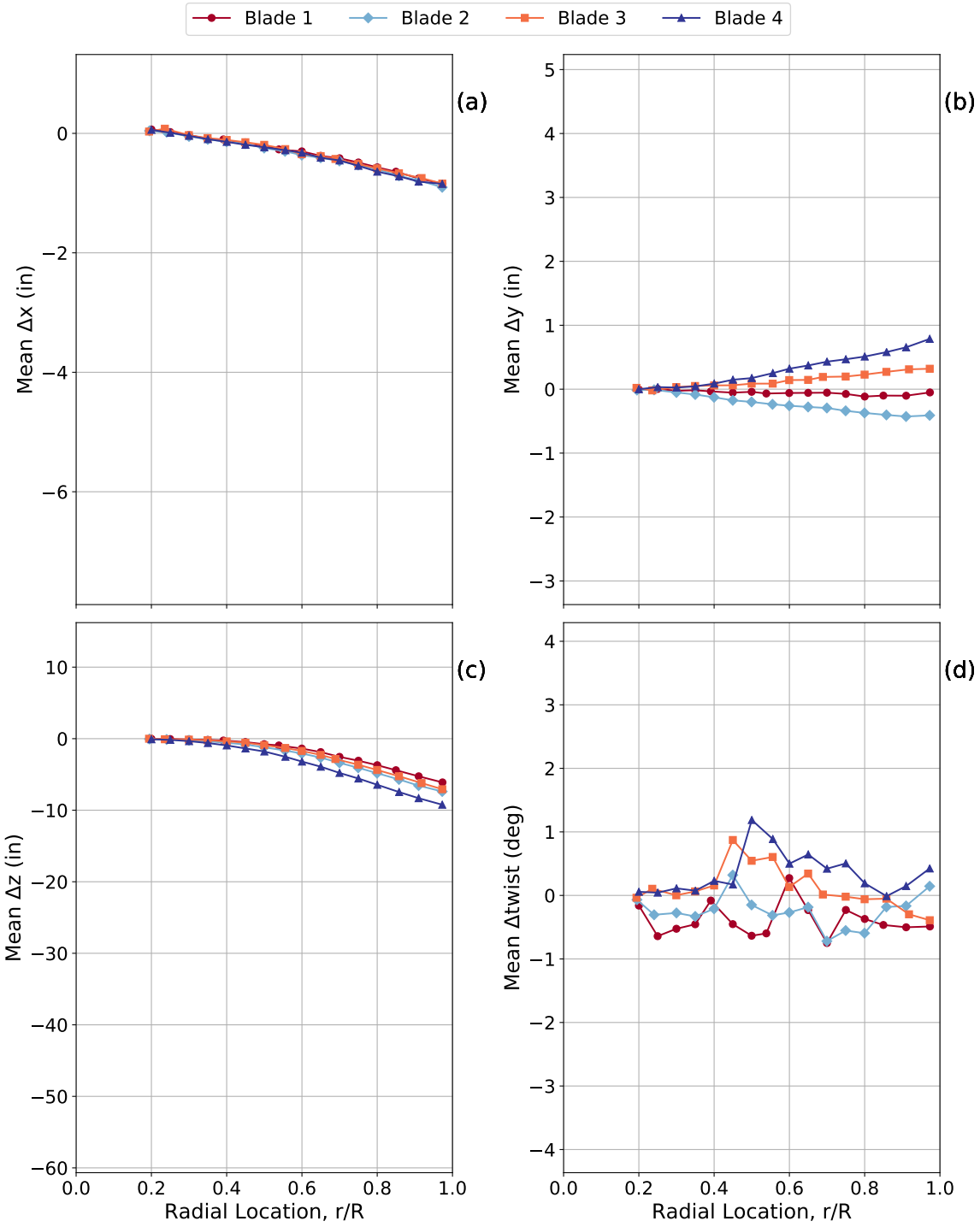


Figure 2.22-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0657	0.0035	-0.0059	0.0028	-0.0240	0.0144	-0.1599	0.0396
1	350.16	0.2499	0.0217	0.0036	0.0039	0.0060	-0.0536	0.0324	-0.6415	0.0844
1	350.16	0.2998	-0.0277	0.0038	-0.0251	0.0108	-0.1104	0.0668	-0.5249	0.0937
1	350.16	0.3498	-0.0924	0.0043	-0.0160	0.0202	-0.1654	0.1142	-0.4543	0.0993
1	350.16	0.3913	-0.1010	0.0056	-0.0346	0.0278	-0.2582	0.1686	-0.0806	0.1209
1	350.16	0.4496	-0.1877	0.0058	-0.0542	0.0413	-0.4738	0.2509	-0.4520	0.1000
1	350.16	0.4997	-0.2114	0.0085	-0.0413	0.0545	-0.7702	0.3305	-0.6349	0.1399
1	350.16	0.5387	-0.2685	0.0087	-0.0680	0.0654	-0.9469	0.4022	-0.5976	0.1156
1	350.16	0.5996	-0.3012	0.0112	-0.0597	0.0844	-1.3802	0.5154	0.2728	0.1371
1	350.16	0.6498	-0.3765	0.0130	-0.0573	0.0991	-1.8745	0.6142	-0.2311	0.1209
1	350.16	0.6998	-0.4166	0.0170	-0.0548	0.1164	-2.5413	0.7170	-0.7489	0.1499
1	350.16	0.7500	-0.4873	0.0199	-0.0742	0.1344	-3.0783	0.8197	-0.2287	0.1320
1	350.16	0.8001	-0.5686	0.0240	-0.1154	0.1517	-3.7053	0.9272	-0.3705	0.1416
1	350.16	0.8497	-0.6416	0.0282	-0.1001	0.1709	-4.4060	1.0353	-0.4652	0.1393
1	350.16	0.9102	-0.7541	0.0336	-0.1021	0.1930	-5.2594	1.1694	-0.5015	0.1450
1	350.16	0.9734	-0.8425	0.0348	-0.0509	0.2161	-6.1104	1.3096	-0.4889	0.1526
2	350.16	0.1949	0.0421	0.0021	-0.0138	0.0017	-0.0450	0.0087	-0.0683	0.0398
2	350.16	0.2405	0.0200	0.0024	-0.0104	0.0037	-0.1155	0.0184	-0.3048	0.0596
2	350.16	0.2999	-0.0517	0.0038	-0.0513	0.0088	-0.2180	0.0416	-0.2757	0.0847
2	350.16	0.3498	-0.1002	0.0042	-0.0833	0.0129	-0.3671	0.0721	-0.3310	0.0802
2	350.16	0.3998	-0.1399	0.0045	-0.1269	0.0219	-0.5819	0.1132	-0.2107	0.1160
2	350.16	0.4496	-0.1729	0.0068	-0.1746	0.0289	-0.8153	0.1544	0.3205	0.1001
2	350.16	0.4995	-0.2463	0.0070	-0.1992	0.0367	-1.2028	0.2035	-0.1498	0.1092
2	350.16	0.5551	-0.3004	0.0073	-0.2368	0.0469	-1.6511	0.2705	-0.3141	0.1095
2	350.16	0.5996	-0.3643	0.0091	-0.2589	0.0555	-2.0696	0.3269	-0.2688	0.1133
2	350.16	0.6497	-0.4093	0.0115	-0.2780	0.0657	-2.6431	0.4000	-0.1846	0.1277
2	350.16	0.6996	-0.4624	0.0151	-0.2942	0.0774	-3.3731	0.4867	-0.7194	0.1523
2	350.16	0.7495	-0.5289	0.0193	-0.3385	0.0873	-4.0680	0.5748	-0.5529	0.1247
2	350.16	0.7996	-0.6018	0.0244	-0.3713	0.0989	-4.8211	0.6721	-0.5946	0.1346
2	350.16	0.8578	-0.7118	0.0305	-0.4028	0.1124	-5.6994	0.7890	-0.1815	0.1236
2	350.16	0.9100	-0.7865	0.0362	-0.4276	0.1241	-6.5605	0.8983	-0.1657	0.1366
2	350.16	0.9727	-0.9025	0.0409	-0.4094	0.1377	-7.3819	1.0333	0.1445	0.1418
3	350.16	0.1938	0.0304	0.0031	0.0204	0.0020	-0.0091	0.0101	-0.0367	0.0395
3	350.16	0.2357	0.0781	0.0041	-0.0188	0.0038	-0.0801	0.0154	0.1046	0.0725
3	350.16	0.2995	-0.0297	0.0042	0.0331	0.0088	-0.1307	0.0414	0.0019	0.0930
3	350.16	0.3493	-0.0796	0.0051	0.0500	0.0146	-0.2165	0.0723	0.0629	0.0925
3	350.16	0.4000	-0.1105	0.0055	0.0586	0.0232	-0.3798	0.1114	0.1564	0.0967
3	350.16	0.4497	-0.1485	0.0065	0.0610	0.0310	-0.5671	0.1546	0.8720	0.1066
3	350.16	0.4997	-0.1924	0.0069	0.0868	0.0401	-0.9078	0.2056	0.5451	0.1197
3	350.16	0.5556	-0.2636	0.0087	0.0869	0.0492	-1.2983	0.2637	0.6047	0.1269
3	350.16	0.5995	-0.3493	0.0091	0.1422	0.0589	-1.7114	0.3136	0.1318	0.1125
3	350.16	0.6498	-0.3808	0.0115	0.1452	0.0680	-2.2680	0.3793	0.3436	0.0981
3	350.16	0.6890	-0.4285	0.0131	0.1915	0.0766	-2.8369	0.4323	0.0144	0.1403
3	350.16	0.7495	-0.5124	0.0165	0.1974	0.0895	-3.6400	0.5185	-0.0201	0.1164
3	350.16	0.7998	-0.5866	0.0203	0.2279	0.0996	-4.3761	0.5976	-0.0601	0.1226
3	350.16	0.8577	-0.6686	0.0250	0.2710	0.1129	-5.2495	0.6939	-0.0511	0.1237
3	350.16	0.9178	-0.7483	0.0294	0.3107	0.1263	-6.2028	0.7964	-0.2972	0.1340
3	350.16	0.9729	-0.8404	0.0325	0.3194	0.1384	-7.0678	0.8929	-0.3905	0.1442
4	350.16	0.2001	0.0584	0.0036	-0.0009	0.0038	-0.0826	0.0196	0.0566	0.0432
4	350.16	0.2502	0.0098	0.0043	0.0325	0.0087	-0.1669	0.0421	0.0433	0.0700
4	350.16	0.3001	-0.0418	0.0049	0.0255	0.0159	-0.3482	0.0871	0.1112	0.0960
4	350.16	0.3502	-0.0970	0.0067	0.0442	0.0294	-0.6110	0.1539	0.0745	0.0973
4	350.16	0.4002	-0.1425	0.0089	0.0871	0.0447	-0.9439	0.2396	0.2291	0.0982
4	350.16	0.4500	-0.1913	0.0117	0.1481	0.0623	-1.3680	0.3446	0.1715	0.0977
4	350.16	0.5001	-0.2326	0.0143	0.1737	0.0803	-1.7942	0.4678	1.1870	0.1226
4	350.16	0.5560	-0.2827	0.0177	0.2512	0.1023	-2.5309	0.6086	0.8869	0.1341
4	350.16	0.6001	-0.3237	0.0207	0.3209	0.1215	-3.2007	0.7186	0.4998	0.1217
4	350.16	0.6501	-0.4068	0.0255	0.3710	0.1403	-3.9177	0.8356	0.6442	0.1496
4	350.16	0.6999	-0.4534	0.0291	0.4306	0.1617	-4.7891	0.9396	0.4205	0.1540
4	350.16	0.7500	-0.5436	0.0328	0.4679	0.1822	-5.5708	1.0314	0.5041	0.1564
4	350.16	0.8002	-0.6413	0.0374	0.5102	0.2026	-6.4453	1.1048	0.1906	0.1522
4	350.16	0.8582	-0.7200	0.0407	0.5802	0.2288	-7.4625	1.1762	-0.0120	0.1622
4	350.16	0.9101	-0.8080	0.0432	0.6549	0.2520	-8.3217	1.2312	0.1470	0.1616
4	350.16	0.9728	-0.8465	0.0408	0.7865	0.2817	-9.2321	1.2956	0.4244	0.1794

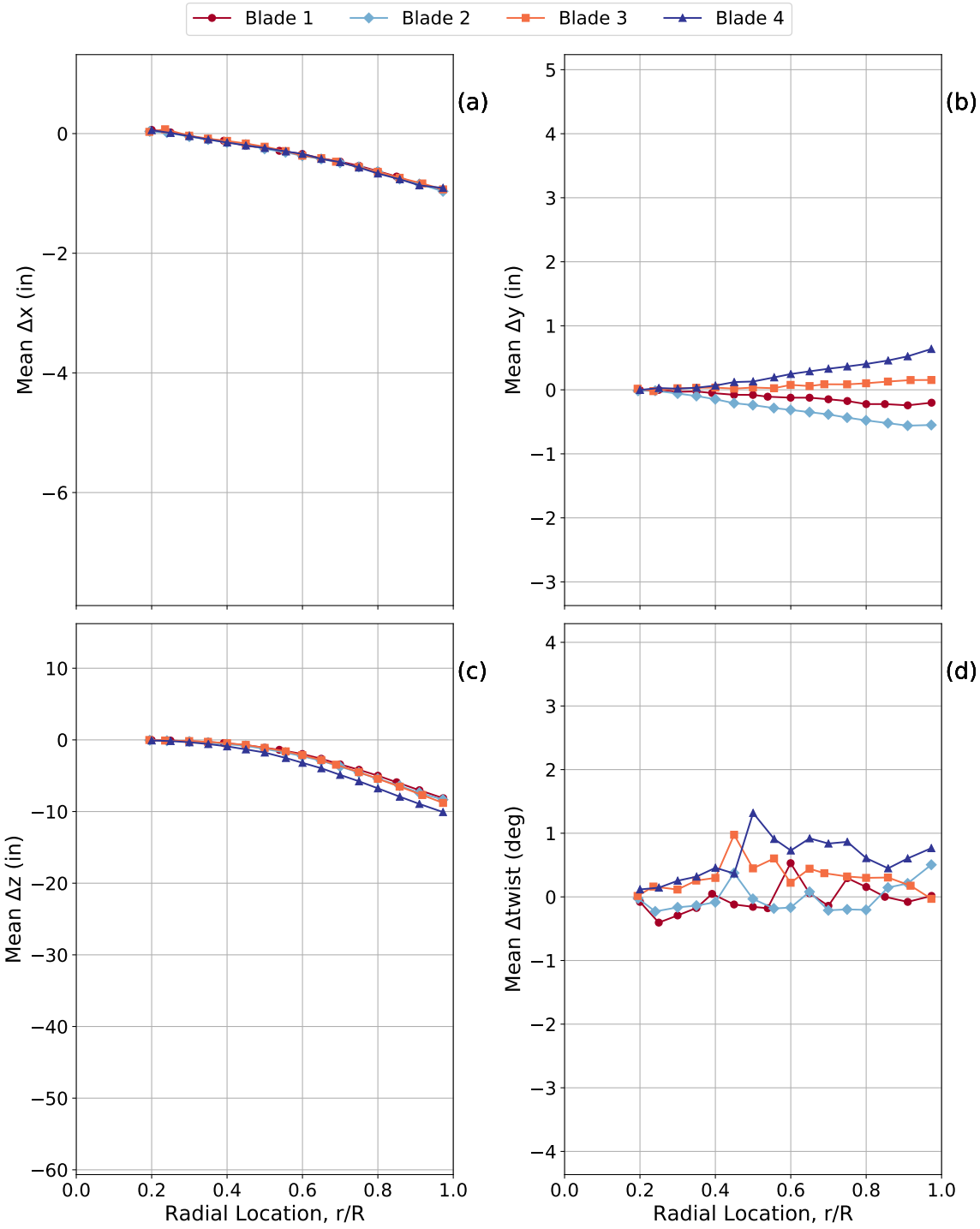


Figure 2.22-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 1, α = -0° NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Table 2.22-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 1, α = -0°
NFAC run 91, points 68 to 73. BD run 42, points 7455 to 7494.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0615	0.0034	-0.0063	0.0036	-0.0401	0.0189	-0.0787	0.0464
1	355.08	0.2499	0.0198	0.0033	-0.0009	0.0081	-0.0903	0.0404	-0.4041	0.0970
1	355.08	0.2998	-0.0363	0.0039	-0.0302	0.0151	-0.1833	0.0846	-0.2917	0.1098
1	355.08	0.3498	-0.1007	0.0053	-0.0254	0.0271	-0.2878	0.1489	-0.1742	0.1062
1	355.08	0.3913	-0.1198	0.0063	-0.0502	0.0388	-0.4399	0.2158	0.0469	0.1112
1	355.08	0.4496	-0.2035	0.0093	-0.0775	0.0563	-0.7313	0.3179	-0.1196	0.1167
1	355.08	0.4997	-0.2396	0.0091	-0.0795	0.0759	-1.0881	0.4189	-0.1566	0.1279
1	355.08	0.5387	-0.2879	0.0115	-0.1075	0.0890	-1.3851	0.4947	-0.1780	0.1116
1	355.08	0.5996	-0.3408	0.0142	-0.1228	0.1130	-1.9725	0.6122	0.5298	0.1365
1	355.08	0.6498	-0.4139	0.0172	-0.1232	0.1329	-2.6325	0.7061	0.0566	0.1264
1	355.08	0.6998	-0.4677	0.0197	-0.1475	0.1538	-3.4198	0.7911	-0.1404	0.1395
1	355.08	0.7500	-0.5387	0.0221	-0.1749	0.1745	-4.1716	0.8666	0.2945	0.1422
1	355.08	0.8001	-0.6277	0.0262	-0.2230	0.1957	-4.9987	0.9322	0.1549	0.1221
1	355.08	0.8497	-0.7184	0.0302	-0.2226	0.2178	-5.9132	0.9933	0.0008	0.1254
1	355.08	0.9102	-0.8459	0.0348	-0.2423	0.2444	-7.0258	1.0653	-0.0788	0.1313
1	355.08	0.9734	-0.9436	0.0362	-0.2014	0.2734	-8.1361	1.1478	0.0154	0.1515
2	355.08	0.1949	0.0357	0.0030	-0.0152	0.0028	-0.0455	0.0086	-0.0241	0.0371
2	355.08	0.2405	0.0171	0.0037	-0.0143	0.0036	-0.1169	0.0166	-0.2293	0.0746
2	355.08	0.2999	-0.0513	0.0043	-0.0582	0.0102	-0.2226	0.0382	-0.1644	0.0933
2	355.08	0.3498	-0.0994	0.0052	-0.0967	0.0172	-0.3668	0.0680	-0.1374	0.0842
2	355.08	0.3998	-0.1494	0.0061	-0.1472	0.0258	-0.5868	0.1047	-0.0843	0.1126
2	355.08	0.4496	-0.1839	0.0081	-0.2086	0.0336	-0.8411	0.1496	0.3752	0.1195
2	355.08	0.4995	-0.2558	0.0080	-0.2388	0.0419	-1.2595	0.2028	-0.0315	0.1058
2	355.08	0.5551	-0.3126	0.0084	-0.2848	0.0520	-1.7789	0.2643	-0.1824	0.1141
2	355.08	0.5996	-0.3724	0.0101	-0.3137	0.0600	-2.2770	0.3235	-0.1679	0.0954
2	355.08	0.6497	-0.4239	0.0126	-0.3485	0.0701	-2.9258	0.3935	0.0793	0.1057
2	355.08	0.6996	-0.4874	0.0153	-0.3840	0.0810	-3.7234	0.4661	-0.2110	0.1206
2	355.08	0.7495	-0.5560	0.0195	-0.4342	0.0913	-4.5595	0.5494	-0.1969	0.1180
2	355.08	0.7996	-0.6360	0.0233	-0.4774	0.1019	-5.4101	0.6384	-0.2044	0.1064
2	355.08	0.8578	-0.7603	0.0294	-0.5207	0.1140	-6.4147	0.7506	0.1460	0.1155
2	355.08	0.9100	-0.8425	0.0344	-0.5595	0.1249	-7.3775	0.8587	0.2114	0.1218
2	355.08	0.9727	-0.9652	0.0390	-0.5497	0.1386	-8.3418	0.9912	0.5049	0.1238
3	355.08	0.1938	0.0288	0.0033	0.0171	0.0032	-0.0169	0.0095	0.0149	0.0524
3	355.08	0.2357	0.0722	0.0048	-0.0202	0.0038	-0.0948	0.0162	0.1622	0.1148
3	355.08	0.2995	-0.0348	0.0043	0.0245	0.0107	-0.1665	0.0420	0.1156	0.1438
3	355.08	0.3493	-0.0839	0.0057	0.0318	0.0189	-0.2694	0.0701	0.2566	0.1265
3	355.08	0.4000	-0.1227	0.0061	0.0345	0.0279	-0.4674	0.1112	0.2980	0.1398
3	355.08	0.4497	-0.1654	0.0082	0.0188	0.0367	-0.7007	0.1558	0.9757	0.1480
3	355.08	0.4997	-0.2197	0.0097	0.0355	0.0454	-1.1160	0.2081	0.4481	0.1482
3	355.08	0.5556	-0.2921	0.0100	0.0250	0.0570	-1.6032	0.2708	0.6037	0.1691
3	355.08	0.5995	-0.3697	0.0111	0.0767	0.0654	-2.1247	0.3192	0.2221	0.1731
3	355.08	0.6498	-0.4105	0.0138	0.0587	0.0758	-2.8144	0.3849	0.4428	0.1692
3	355.08	0.6890	-0.4700	0.0166	0.0867	0.0844	-3.4638	0.4353	0.3720	0.1769
3	355.08	0.7495	-0.5578	0.0204	0.0852	0.0968	-4.5025	0.5260	0.3203	0.1763
3	355.08	0.7998	-0.6388	0.0245	0.1023	0.1075	-5.4278	0.6065	0.2988	0.1707
3	355.08	0.8577	-0.7390	0.0306	0.1290	0.1203	-6.5246	0.7078	0.3042	0.1782
3	355.08	0.9178	-0.8337	0.0365	0.1522	0.1336	-7.6949	0.8164	0.1756	0.1807
3	355.08	0.9729	-0.9325	0.0405	0.1535	0.1459	-8.7941	0.9212	-0.0308	0.1720
4	355.08	0.2001	0.0563	0.0039	-0.0021	0.0032	-0.0781	0.0167	0.1172	0.0443
4	355.08	0.2502	0.0106	0.0047	0.0278	0.0068	-0.1629	0.0369	0.1443	0.0663
4	355.08	0.3001	-0.0431	0.0059	0.0179	0.0131	-0.3348	0.0745	0.2537	0.0973
4	355.08	0.3502	-0.0981	0.0075	0.0322	0.0230	-0.5818	0.1321	0.3182	0.0974
4	355.08	0.4002	-0.1495	0.0086	0.0664	0.0355	-0.9051	0.2057	0.4572	0.1007
4	355.08	0.4500	-0.1987	0.0116	0.1211	0.0495	-1.3287	0.2935	0.3673	0.0830
4	355.08	0.5001	-0.2409	0.0140	0.1298	0.0619	-1.7666	0.3915	1.3190	0.1074
4	355.08	0.5560	-0.2985	0.0181	0.1942	0.0779	-2.5295	0.5035	0.9098	0.1081
4	355.08	0.6001	-0.3392	0.0206	0.2465	0.0915	-3.2005	0.5956	0.7287	0.1277
4	355.08	0.6501	-0.4229	0.0254	0.2889	0.1059	-3.9642	0.6876	0.9195	0.1158
4	355.08	0.6999	-0.4768	0.0299	0.3289	0.1200	-4.8847	0.7620	0.8377	0.1282
4	355.08	0.7500	-0.5675	0.0318	0.3644	0.1343	-5.7811	0.8339	0.8649	0.1380
4	355.08	0.8002	-0.6674	0.0366	0.4031	0.1488	-6.7690	0.8996	0.6084	0.1186
4	355.08	0.8582	-0.7639	0.0422	0.4581	0.1659	-7.9336	0.9716	0.4483	0.1251
4	355.08	0.9101	-0.8655	0.0466	0.5233	0.1809	-8.9396	1.0297	0.6040	0.1157
4	355.08	0.9728	-0.9083	0.0487	0.6376	0.1994	-10.0788	1.1125	0.7654	0.1147

2.23 Run 93, Points 32 to 36

2.23.1 Pitch, Flap, and Lag

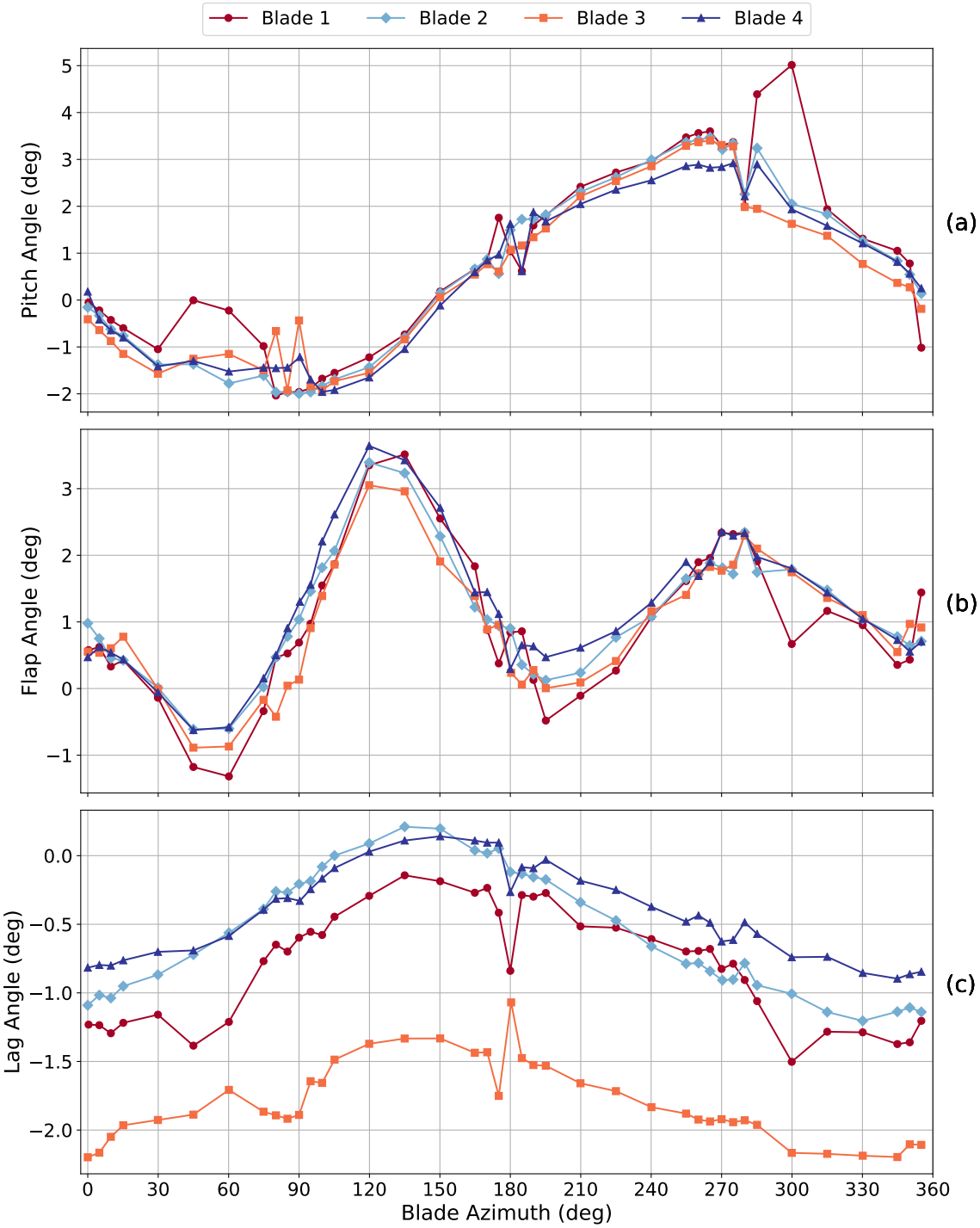


Figure 2.23-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-1. Pitch, flap, and lag vs azimuth for Blade 1.
$C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	-0.0506	0.5769	-1.2314	0.1359	0.3854	0.1147
4.92	-0.2209	0.6234	-1.2355	0.1281	0.3855	0.1044
9.84	-0.4248	0.3310	-1.2943	0.1244	0.3701	0.1236
15.12	-0.5992	0.4248	-1.2184	0.1415	0.3673	0.0937
29.88	-1.0484	-0.1380	-1.1588	0.1332	0.3908	0.1369
45	-0.0043	-1.1775	-1.3849	0.6555	0.4002	0.2342
60.12	-0.2244	-1.3189	-1.2116	0.2024	0.1564	0.1092
74.88	-0.9817	-0.3385	-0.7688	0.2455	0.1500	0.1324
80.16	-2.0364	0.4640	-0.6489	0.2527	0.1590	0.0921
85.08	-1.9636	0.5269	-0.6992	0.0408	0.1635	0.1088
90	-1.9596	0.6893	-0.5975	0.0362	0.2300	0.1376
94.92	-1.8835	0.9729	-0.5549	0.0363	0.1738	0.0829
99.84	-1.6763	1.5470	-0.5782	0.0445	0.2641	0.1246
105.12	-1.5520	1.8680	-0.4449	0.0383	0.2434	0.0767
119.88	-1.2215	3.3505	-0.2932	0.0526	0.2943	0.1098
135	-0.7357	3.5142	-0.1432	0.0345	0.3329	0.0896
150.12	0.1837	2.5518	-0.1863	0.0546	0.5341	0.0809
164.88	0.6622	1.8347	-0.2703	0.0520	0.5243	0.0897
170.16	0.8449	0.8788	-0.2349	0.0539	0.3979	0.0631
175.08	1.7562	0.3771	-0.4160	0.0842	0.6786	0.0803
180	1.0415	0.8433	-0.8392	0.1173	0.6881	0.1318
184.92	0.6182	0.8590	-0.2873	0.8893	0.7441	0.1613
189.84	1.5915	0.1293	-0.2990	0.0535	0.4661	0.0545
195.12	1.8043	-0.4805	-0.2721	0.0698	0.5163	0.0683
209.88	2.4147	-0.1069	-0.5153	0.0930	0.8405	0.1250
225	2.7203	0.2696	-0.5249	0.0564	0.3658	0.0771
240.12	2.9612	1.0745	-0.6080	0.0495	0.4452	0.1024
254.88	3.4703	1.6132	-0.6985	0.0556	0.4956	0.1250
260.16	3.5612	1.8971	-0.6946	0.0656	0.3630	0.1265
265.08	3.5993	1.9586	-0.6799	0.0704	0.3521	0.1562
270	3.2932	2.3390	-0.8253	0.0937	0.2969	0.1023
274.92	3.3707	2.3177	-0.7877	0.1362	0.2482	0.1337
279.84	2.0017	2.3456	-0.9062	0.0481	0.2329	0.1271
285.12	4.3903	1.9095	-1.0602	0.1988	0.2383	0.1291
299.88	5.0144	0.6684	-1.5026	0.0862	0.1304	0.1524
315	1.9373	1.1653	-1.2833	0.0512	0.1621	0.0677
330.12	1.3090	0.9508	-1.2876	0.0590	0.2982	0.1432
344.88	1.0507	0.3553	-1.3731	0.1130	0.2139	0.1275
350.16	0.7798	0.4336	-1.3604	0.1410	0.4294	0.1001
355.08	-1.0168	1.4417	-1.2040	0.1795	0.3572	0.1854

Table 2.23-2. Pitch, flap, and lag vs azimuth for Blade 2.
$C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-0.1542	0.9792	-1.0904	0.1527	0.4919	0.0816
4.92	-0.3311	0.7503	-1.0167	0.1070	0.3256	0.0567
9.84	-0.6211	0.4543	-1.0372	0.1207	0.3925	0.0967
15.12	-0.7635	0.4235	-0.9513	0.1313	0.3562	0.0611
29.88	-1.3760	0.0127	-0.8680	0.0915	0.2927	0.0642
45	-1.3687	-0.6105	-0.7212	0.1192	0.1546	0.0852
60.12	-1.7779	-0.6011	-0.5624	0.1380	0.1414	0.0510
74.88	-1.6111	0.0236	-0.3893	0.2241	0.1214	0.0763
80.16	-1.9653	0.4695	-0.2609	0.2960	0.1621	0.0711
85.08	-1.9583	0.7810	-0.2679	0.3514	0.1900	0.0768
90	-1.9985	1.0364	-0.2066	0.2370	0.2562	0.0816
94.92	-1.9620	1.4583	-0.1861	0.0425	0.1780	0.0869
99.84	-1.8345	1.8150	-0.0806	0.0352	0.1867	0.0361
105.12	-1.6934	2.0673	0.0006	0.0406	0.2396	0.0525
119.88	-1.4320	3.3925	0.0884	0.0553	0.4354	0.0986
135	-0.7988	3.2331	0.2110	0.0458	0.3112	0.0398
150.12	0.1512	2.2851	0.1969	0.0616	0.5594	0.0670
164.88	0.6621	1.2225	0.0390	0.0872	0.8486	0.1000
170.16	0.8717	1.0344	0.0182	0.0596	0.6782	0.0649
175.08	0.5629	0.9431	0.0521	0.0662	0.7006	0.0762
180	1.4922	0.9030	-0.1190	0.0575	0.5752	0.0564
184.92	1.7227	0.3563	-0.1325	0.2604	0.6714	0.2463
189.84	1.7273	0.2138	-0.1560	0.0503	0.6372	0.0732
195.12	1.8205	0.1260	-0.1743	0.0519	0.6769	0.0850
209.88	2.3079	0.2377	-0.3400	0.0394	0.6680	0.0630
225	2.6182	0.7685	-0.4729	0.0378	0.4280	0.0488
240.12	2.9926	1.0805	-0.6609	0.0481	0.4472	0.0781
254.88	3.3669	1.6489	-0.7878	0.0521	0.3927	0.1128
260.16	3.4135	1.7154	-0.7824	0.0425	0.3422	0.0800
265.08	3.4719	1.8853	-0.8420	0.0522	0.3310	0.0851
270.35	3.2115	1.8115	-0.9076	0.0746	0.3089	0.0685
274.92	3.3448	1.7194	-0.9033	0.0750	0.2316	0.0783
279.84	2.2589	2.3445	-0.7838	0.0753	0.2293	0.1189
285.12	3.2402	1.7449	-0.9442	0.1415	0.2318	0.0674
299.88	2.0544	1.7880	-1.0067	0.0467	0.1207	0.0872
315	1.8313	1.4775	-1.1397	0.0595	0.2419	0.0976
330.12	1.2597	1.0436	-1.2041	0.0562	0.2898	0.0663
344.88	0.8345	0.7789	-1.1372	0.0714	0.3564	0.0782
350.16	0.5452	0.6453	-1.1076	0.0440	0.3338	0.0706
355.08	0.1394	0.7093	-1.1391	0.1160	0.3616	0.0613

Table 2.23-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-0.4103	0.5537	-2.1984	0.1433	0.4869	0.1177
4.92	-0.6407	0.5367	-2.1648	0.1104	0.3230	0.1274
9.84	-0.8747	0.6045	-2.0493	0.0974	0.2813	0.0737
15.12	-1.1481	0.7777	-1.9649	0.0936	0.3086	0.0638
29.88	-1.5709	-0.0060	-1.9265	0.1401	0.4054	0.1487
45	-1.2520	-0.8878	-1.8874	0.1358	0.1632	0.0593
60.12	-1.1490	-0.8697	-1.7073	0.1970	0.1479	0.1179
74.88	-1.4954	-0.1694	-1.8664	0.1689	0.1400	0.1313
80.16	-0.6599	-0.4233	-1.8926	0.3967	0.2165	0.1322
85.08	-1.9270	0.0421	-1.9175	0.0744	0.2118	0.1734
90	-0.4351	0.1337	-1.8897	0.3454	0.2452	0.1196
94.92	-1.8402	0.9078	-1.6443	0.0392	0.1985	0.1123
99.84	-1.9251	1.3887	-1.6561	0.0500	0.2436	0.1058
105.12	-1.7310	1.8613	-1.4867	0.0384	0.4040	0.0975
119.88	-1.5504	3.0512	-1.3713	0.0389	0.3767	0.1055
135	-0.8387	2.9601	-1.3329	0.0622	0.3269	0.0606
150.12	0.0634	1.9072	-1.3321	0.0932	0.5983	0.0849
164.88	0.5436	1.3882	-1.4365	0.0415	0.3878	0.0820
170.16	0.7648	0.8881	-1.4330	0.0704	0.6923	0.0654
175.08	0.6102	0.9555	-1.7509	0.0731	0.6262	0.0770
180.35	1.0746	0.2363	-1.0697	0.1551	0.5905	0.0868
184.92	1.1647	0.0604	-1.4754	0.0476	0.6339	0.0704
189.84	1.3400	0.2767	-1.5257	0.0399	0.6067	0.0795
195.12	1.5269	0.0053	-1.5311	0.0529	0.5194	0.0591
209.88	2.2122	0.0914	-1.6590	0.0531	0.6765	0.0834
225	2.5372	0.4126	-1.7163	0.0485	0.8276	0.1110
240.12	2.8558	1.1609	-1.8331	0.0449	0.4001	0.0718
254.88	3.2899	1.4048	-1.8800	0.0579	0.4320	0.0806
260.16	3.3677	1.7283	-1.9236	0.0504	0.3351	0.0747
265.08	3.4035	1.8252	-1.9373	0.0519	0.3438	0.0994
270	3.3073	1.7695	-1.9208	0.0615	0.4033	0.1203
274.92	3.2772	1.8586	-1.9426	0.0760	0.2285	0.0732
279.84	1.9846	2.2937	-1.9286	0.0408	0.1889	0.1148
285.12	1.9460	2.1006	-1.9620	0.0347	0.1491	0.0804
299.88	1.6265	1.7453	-2.1660	0.0543	0.1352	0.1029
315	1.3716	1.3593	-2.1734	0.0471	0.1456	0.0779
330.12	0.7702	1.1019	-2.1871	0.0754	0.2940	0.0990
344.88	0.3660	0.5475	-2.1967	0.0642	0.3175	0.1054
350.16	0.2724	0.9702	-2.1042	0.0579	0.2276	0.0855
355.08	-0.1875	0.9170	-2.1078	0.1599	0.3939	0.1114

Table 2.23-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	0.1802	0.4706	-0.8164	0.0656	0.3427	0.0816
4.92	-0.4174	0.6212	-0.7968	0.0801	0.4024	0.0753
9.84	-0.6450	0.5377	-0.8013	0.0919	0.3581	0.0915
15.12	-0.7978	0.4368	-0.7628	0.1044	0.4152	0.0869
29.88	-1.4150	-0.0564	-0.7011	0.0806	0.3121	0.0749
45	-1.2990	-0.6235	-0.6906	0.0957	0.1980	0.0619
60.12	-1.5248	-0.5810	-0.5849	0.0929	0.1274	0.0858
74.88	-1.4426	0.1538	-0.3940	0.1744	0.1639	0.1109
80.16	-1.4522	0.4997	-0.3144	0.1370	0.1600	0.0910
85.08	-1.4409	0.9062	-0.3089	0.1746	0.1411	0.0967
90.35	-1.2155	1.3029	-0.3295	0.1582	0.2023	0.0737
94.92	-1.6931	1.5573	-0.2438	0.2367	0.2351	0.0825
99.84	-1.9595	2.2086	-0.1665	0.0358	0.2728	0.0928
105.12	-1.9162	2.6131	-0.0901	0.0391	0.2911	0.0539
119.88	-1.6500	3.6427	0.0294	0.0456	0.3616	0.0766
135	-1.0435	3.4264	0.1105	0.0421	0.6192	0.0734
150.12	-0.1154	2.7134	0.1411	0.0360	0.4649	0.0585
164.88	0.5954	1.4417	0.1099	0.0422	0.5797	0.0695
170.16	0.8456	1.4472	0.0950	0.0410	0.5534	0.0680
175.08	0.9683	1.1186	0.0951	0.0804	0.6159	0.0673
180	1.6246	0.2939	-0.2651	0.1410	0.8041	0.0895
184.92	0.6175	0.6500	-0.0842	0.8341	0.6010	0.0645
189.84	1.8754	0.6335	-0.0915	0.0461	0.5899	0.0914
195.12	1.6771	0.4703	-0.0295	0.0535	0.5368	0.0745
209.88	2.0481	0.6137	-0.1825	0.0456	0.6123	0.0742
225	2.3537	0.8611	-0.2497	0.0437	0.4005	0.0971
240.12	2.5551	1.2883	-0.3726	0.0381	0.4596	0.0746
254.88	2.8576	1.9005	-0.4809	0.0413	0.3345	0.0829
260.16	2.8891	1.6898	-0.4361	0.0356	0.2321	0.0586
265.08	2.8218	1.9002	-0.4887	0.0494	0.3376	0.0605
270	2.8391	2.3531	-0.6256	0.0559	0.3916	0.1174
274.92	2.9198	2.2940	-0.6142	0.0580	0.2938	0.1206
279.84	2.2146	2.3339	-0.4856	0.0468	0.1985	0.0552
285.12	2.8958	1.9762	-0.5703	0.0952	0.2018	0.0774
299.88	1.9369	1.8019	-0.7403	0.0520	0.1560	0.1343
315	1.5816	1.4408	-0.7372	0.0304	0.1615	0.0685
330.12	1.2109	1.0467	-0.8548	0.0465	0.2685	0.0808
344.88	0.8161	0.7287	-0.8963	0.0812	0.5365	0.0903
350.16	0.5646	0.5550	-0.8638	0.2908	0.4453	0.0888
355.08	0.2509	0.7047	-0.8461	0.0866	0.4217	0.1093

2.23.2 Spanwise Elastic Deformations

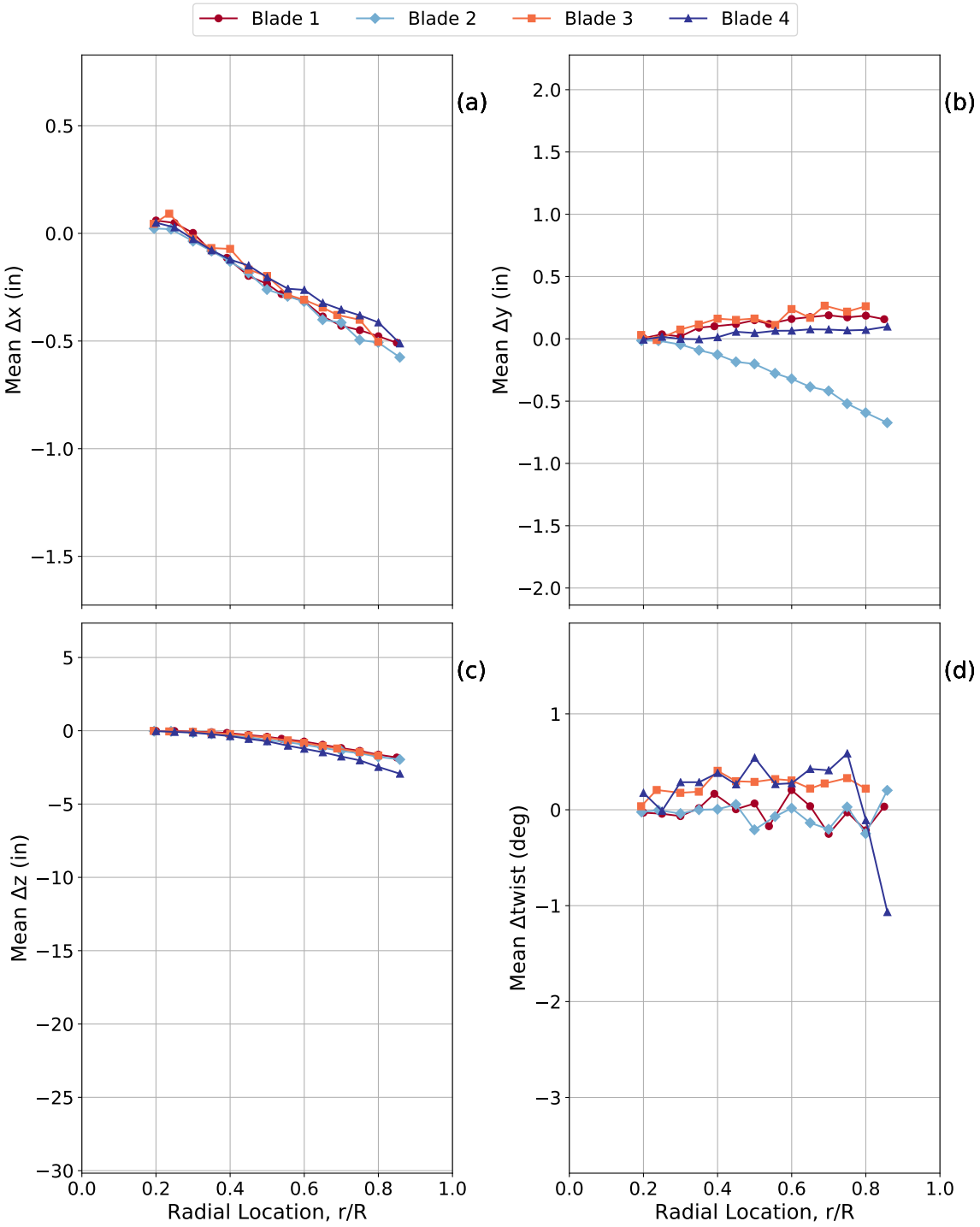


Figure 2.23-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0597	0.0061	0.0059	0.0039	-0.0163	0.0087	-0.0301	0.0613
1	0.35	0.2499	0.0485	0.0031	0.0362	0.0065	-0.0199	0.0154	-0.0416	0.1379
1	0.35	0.2998	0.0020	0.0030	0.0188	0.0141	-0.0676	0.0354	-0.0661	0.1510
1	0.35	0.3498	-0.0838	0.0029	0.0900	0.0239	-0.0989	0.0602	0.0171	0.1333
1	0.35	0.3913	-0.1134	0.0032	0.1008	0.0332	-0.1493	0.0862	0.1664	0.1336
1	0.35	0.4496	-0.1973	0.0041	0.1178	0.0435	-0.2900	0.1253	0.0054	0.1305
1	0.35	0.4997	-0.2349	0.0041	0.1496	0.0533	-0.4118	0.1630	0.0656	0.1360
1	0.35	0.5387	-0.2817	0.0045	0.1191	0.0596	-0.5472	0.1943	-0.1711	0.1382
1	0.35	0.5996	-0.3147	0.0046	0.1593	0.0717	-0.7372	0.2447	0.2056	0.1317
1	0.35	0.6498	-0.3860	0.0050	0.1748	0.0811	-0.9571	0.2873	0.0374	0.1327
1	0.35	0.6998	-0.4292	0.0052	0.1891	0.0901	-1.1813	0.3330	-0.2511	0.1350
1	0.35	0.7500	-0.4496	0.0064	0.1723	0.1016	-1.3761	0.3793	-0.0267	0.1406
1	0.35	0.8001	-0.4779	0.0089	0.1863	0.1120	-1.6312	0.4302	-0.2137	0.1763
1	0.35	0.8497	-0.5079	0.0108	0.1575	0.1208	-1.8252	0.4836	0.0329	0.1697
2	0	0.1949	0.0226	0.0054	-0.0137	0.0032	-0.0309	0.0070	-0.0233	0.0508
2	0	0.2405	0.0195	0.0024	-0.0152	0.0045	-0.0419	0.0126	-0.0046	0.1246
2	0	0.2999	-0.0363	0.0030	-0.0453	0.0103	-0.1322	0.0291	-0.0393	0.1431
2	0	0.3498	-0.0823	0.0027	-0.0912	0.0178	-0.2088	0.0512	0.0004	0.1342
2	0	0.3998	-0.1304	0.0027	-0.1269	0.0262	-0.3309	0.0781	0.0050	0.1291
2	0	0.4496	-0.1837	0.0034	-0.1844	0.0332	-0.4456	0.1083	0.0555	0.1310
2	0	0.4995	-0.2609	0.0035	-0.2016	0.0414	-0.6325	0.1426	-0.2082	0.1377
2	0	0.5551	-0.2924	0.0042	-0.2766	0.0500	-0.7843	0.1821	-0.0702	0.1359
2	0	0.5996	-0.3166	0.0044	-0.3207	0.0560	-0.9498	0.2175	0.0165	0.1424
2	0	0.6497	-0.4009	0.0051	-0.3853	0.0640	-1.1648	0.2560	-0.1360	0.1458
2	0	0.6996	-0.4144	0.0063	-0.4181	0.0722	-1.3767	0.2961	-0.2029	0.1486
2	0	0.7495	-0.4951	0.0072	-0.5202	0.0821	-1.5417	0.3383	0.0289	0.1547
2	0	0.7996	-0.5067	0.0101	-0.5929	0.0893	-1.7828	0.3840	-0.2485	0.1846
2	0	0.8578	-0.5756	0.0374	-0.6732	0.1109	-1.9584	0.4277	0.2026	0.4264
3	0	0.1938	0.0444	0.0069	0.0309	0.0041	-0.0101	0.0088	0.0365	0.0480
3	0	0.2357	0.0913	0.0028	-0.0090	0.0047	-0.0469	0.0140	0.2063	0.1365
3	0	0.2995	-0.0247	0.0032	0.0746	0.0119	-0.0770	0.0364	0.1771	0.1430
3	0	0.3493	-0.0681	0.0025	0.1155	0.0199	-0.1404	0.0615	0.1886	0.1448
3	0	0.4000	-0.0721	0.0032	0.1620	0.0296	-0.2277	0.0962	0.4065	0.1420
3	0	0.4497	-0.1685	0.0034	0.1522	0.0369	-0.3431	0.1347	0.2976	0.1435
3	0	0.4997	-0.1978	0.0031	0.1629	0.0457	-0.4797	0.1795	0.2906	0.1440
3	0	0.5556	-0.2855	0.0036	0.1116	0.0565	-0.6582	0.2281	0.3199	0.1470
3	0	0.5995	-0.3083	0.0042	0.2389	0.0648	-0.8291	0.2748	0.3058	0.1481
3	0	0.6498	-0.3445	0.0044	0.1688	0.0727	-1.0426	0.3207	0.2213	0.1588
3	0	0.6890	-0.3789	0.0053	0.2660	0.0807	-1.2106	0.3589	0.2745	0.1749
3	0	0.7495	-0.4012	0.0065	0.2185	0.0912	-1.4505	0.4159	0.3302	0.1674
3	0	0.7998	-0.5035	0.0107	0.2616	0.1018	-1.6913	0.4651	0.2206	0.1690
4	0	0.2001	0.0493	0.0048	-0.0065	0.0033	-0.0272	0.0059	0.1761	0.0298
4	0	0.2502	0.0278	0.0027	0.0163	0.0059	-0.0820	0.0116	-0.0112	0.0563
4	0	0.3001	-0.0267	0.0030	-0.0002	0.0131	-0.1239	0.0232	0.2873	0.0680
4	0	0.3502	-0.0783	0.0047	-0.0037	0.0222	-0.2429	0.0407	0.2875	0.0677
4	0	0.4002	-0.1222	0.0074	0.0129	0.0343	-0.3708	0.0623	0.3838	0.0705
4	0	0.4500	-0.1495	0.0091	0.0568	0.0492	-0.5557	0.0855	0.2645	0.0714
4	0	0.5001	-0.2044	0.0115	0.0465	0.0654	-0.7195	0.1113	0.5422	0.0756
4	0	0.5560	-0.2572	0.0134	0.0647	0.0850	-1.0201	0.1444	0.2672	0.0717
4	0	0.6001	-0.2626	0.0152	0.0655	0.1019	-1.2288	0.1713	0.2763	0.0869
4	0	0.6501	-0.3230	0.0167	0.0766	0.1204	-1.4704	0.2023	0.4259	0.0883
4	0	0.6999	-0.3540	0.0184	0.0745	0.1397	-1.7576	0.2341	0.4114	0.0843
4	0	0.7500	-0.3808	0.0190	0.0677	0.1599	-2.0216	0.2646	0.5870	0.1015
4	0	0.8002	-0.4136	0.0222	0.0716	0.1689	-2.4714	0.3480	-0.1081	0.7229
4	0	0.8582	-0.5112	0.0329	0.0983	0.1622	-2.9338	0.5035	-1.0670	3.1080

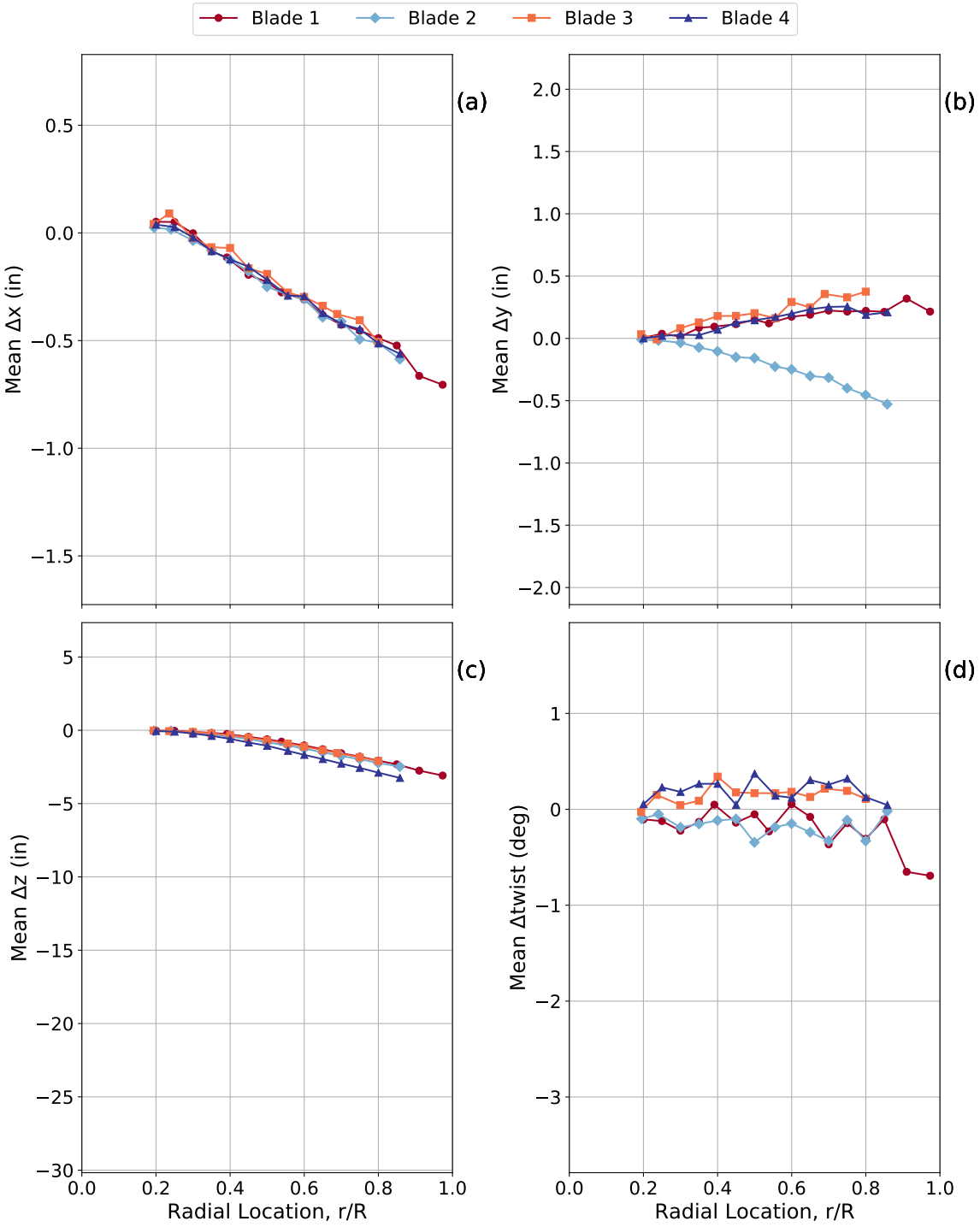


Figure 2.23-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0519	0.0056	0.0043	0.0035	-0.0276	0.0089	-0.1050	0.0633
1	4.92	0.2499	0.0505	0.0035	0.0373	0.0065	-0.0378	0.0193	-0.1225	0.1076
1	4.92	0.2998	-0.0018	0.0028	0.0143	0.0125	-0.1101	0.0384	-0.2227	0.1373
1	4.92	0.3498	-0.0859	0.0034	0.0851	0.0224	-0.1768	0.0662	-0.1313	0.1308
1	4.92	0.3913	-0.1138	0.0035	0.0942	0.0310	-0.2557	0.0962	0.0483	0.1228
1	4.92	0.4496	-0.1944	0.0041	0.1142	0.0402	-0.4489	0.1379	-0.1387	0.1326
1	4.92	0.4997	-0.2287	0.0043	0.1495	0.0504	-0.6151	0.1784	-0.0521	0.1305
1	4.92	0.5387	-0.2762	0.0056	0.1209	0.0567	-0.7782	0.2098	-0.2295	0.1370
1	4.92	0.5996	-0.3093	0.0053	0.1737	0.0683	-1.0365	0.2597	0.0524	0.1347
1	4.92	0.6498	-0.3811	0.0050	0.1899	0.0782	-1.2906	0.2996	-0.0788	0.1330
1	4.92	0.6998	-0.4265	0.0049	0.2233	0.0886	-1.5685	0.3374	-0.3655	0.1428
1	4.92	0.7500	-0.4540	0.0066	0.2150	0.0960	-1.7981	0.3748	-0.1438	0.1331
1	4.92	0.8001	-0.4885	0.0093	0.2211	0.1021	-2.0756	0.4042	-0.3074	0.1571
1	4.92	0.8497	-0.5229	0.0079	0.2131	0.1156	-2.3217	0.4461	-0.1040	0.1430
1	4.92	0.9102	-0.6640	0.0478	0.3194	0.1447	-2.7527	0.5075	-0.6519	0.5465
1	4.92	0.9734	-0.7052	0.0155	0.2151	0.1349	-3.0864	0.5378	-0.6927	0.1865
2	4.92	0.1949	0.0244	0.0060	-0.0091	0.0030	-0.0436	0.0061	-0.0994	0.0378
2	4.92	0.2405	0.0169	0.0024	-0.0164	0.0043	-0.0505	0.0114	-0.0503	0.0921
2	4.92	0.2999	-0.0358	0.0024	-0.0348	0.0099	-0.1732	0.0262	-0.1876	0.1007
2	4.92	0.3498	-0.0809	0.0027	-0.0733	0.0179	-0.2795	0.0444	-0.1525	0.0956
2	4.92	0.3998	-0.1266	0.0031	-0.1037	0.0261	-0.4330	0.0693	-0.1163	0.0946
2	4.92	0.4496	-0.1782	0.0033	-0.1510	0.0328	-0.5946	0.0963	-0.1011	0.0971
2	4.92	0.4995	-0.2502	0.0037	-0.1583	0.0397	-0.8315	0.1262	-0.3443	0.0994
2	4.92	0.5551	-0.2862	0.0040	-0.2263	0.0468	-1.0310	0.1618	-0.1859	0.1015
2	4.92	0.5996	-0.3058	0.0041	-0.2488	0.0538	-1.2527	0.1905	-0.1490	0.0999
2	4.92	0.6497	-0.3918	0.0052	-0.3018	0.0612	-1.5000	0.2226	-0.2392	0.1005
2	4.92	0.6996	-0.4108	0.0046	-0.3148	0.0686	-1.7616	0.2532	-0.3290	0.1027
2	4.92	0.7495	-0.4940	0.0057	-0.3996	0.0759	-1.9605	0.2843	-0.1125	0.1170
2	4.92	0.7996	-0.5106	0.0070	-0.4544	0.0837	-2.2334	0.3188	-0.3299	0.1308
2	4.92	0.8578	-0.5866	0.0094	-0.5280	0.0908	-2.4739	0.3581	-0.0204	0.1418
3	4.92	0.1938	0.0411	0.0052	0.0331	0.0030	-0.0210	0.0065	-0.0260	0.0459
3	4.92	0.2357	0.0900	0.0027	-0.0077	0.0040	-0.0576	0.0111	0.1508	0.1045
3	4.92	0.2995	-0.0239	0.0023	0.0808	0.0087	-0.1179	0.0261	0.0441	0.1203
3	4.92	0.3493	-0.0667	0.0021	0.1282	0.0142	-0.2110	0.0452	0.0892	0.1119
3	4.92	0.4000	-0.0701	0.0023	0.1792	0.0213	-0.3344	0.0700	0.3407	0.1142
3	4.92	0.4497	-0.1641	0.0027	0.1805	0.0263	-0.5003	0.0967	0.1765	0.1123
3	4.92	0.4997	-0.1906	0.0029	0.2024	0.0329	-0.6853	0.1271	0.1687	0.1170
3	4.92	0.5556	-0.2772	0.0029	0.1622	0.0399	-0.9070	0.1648	0.1683	0.1202
3	4.92	0.5995	-0.2971	0.0040	0.2923	0.0469	-1.1104	0.1953	0.1822	0.1247
3	4.92	0.6498	-0.3388	0.0039	0.2487	0.0538	-1.3574	0.2287	0.1290	0.1341
3	4.92	0.6890	-0.3768	0.0048	0.3561	0.0575	-1.5551	0.2569	0.2158	0.1357
3	4.92	0.7495	-0.4054	0.0051	0.3292	0.0674	-1.8421	0.3008	0.1924	0.1195
3	4.92	0.7998	-0.5073	0.0061	0.3753	0.0730	-2.0932	0.3353	0.1086	0.1380
4	4.92	0.2001	0.0384	0.0038	-0.0000	0.0029	-0.0565	0.0062	0.0533	0.0367
4	4.92	0.2502	0.0270	0.0028	0.0201	0.0037	-0.0949	0.0125	0.2293	0.0756
4	4.92	0.3001	-0.0213	0.0023	0.0291	0.0088	-0.2237	0.0254	0.1813	0.0858
4	4.92	0.3502	-0.0847	0.0026	0.0266	0.0139	-0.3835	0.0421	0.2657	0.0787
4	4.92	0.4002	-0.1228	0.0030	0.0697	0.0204	-0.5876	0.0663	0.2664	0.0796
4	4.92	0.4500	-0.1573	0.0033	0.1258	0.0264	-0.8335	0.0916	0.0467	0.0755
4	4.92	0.5001	-0.2183	0.0035	0.1454	0.0333	-1.0590	0.1221	0.3716	0.0843
4	4.92	0.5560	-0.2914	0.0036	0.1714	0.0398	-1.4049	0.1556	0.1419	0.0870
4	4.92	0.6001	-0.2940	0.0042	0.1989	0.0455	-1.6780	0.1848	0.1210	0.0848
4	4.92	0.6501	-0.3724	0.0044	0.2337	0.0521	-1.9632	0.2175	0.3049	0.0851
4	4.92	0.6999	-0.4226	0.0046	0.2528	0.0599	-2.2760	0.2522	0.2568	0.0885
4	4.92	0.7500	-0.4470	0.0059	0.2556	0.0652	-2.5660	0.2863	0.3198	0.0907
4	4.92	0.8002	-0.5133	0.0083	0.1892	0.0713	-2.8925	0.3210	0.1257	0.1220
4	4.92	0.8582	-0.5618	0.0102	0.2095	0.0823	-3.2491	0.3639	0.0442	0.1472

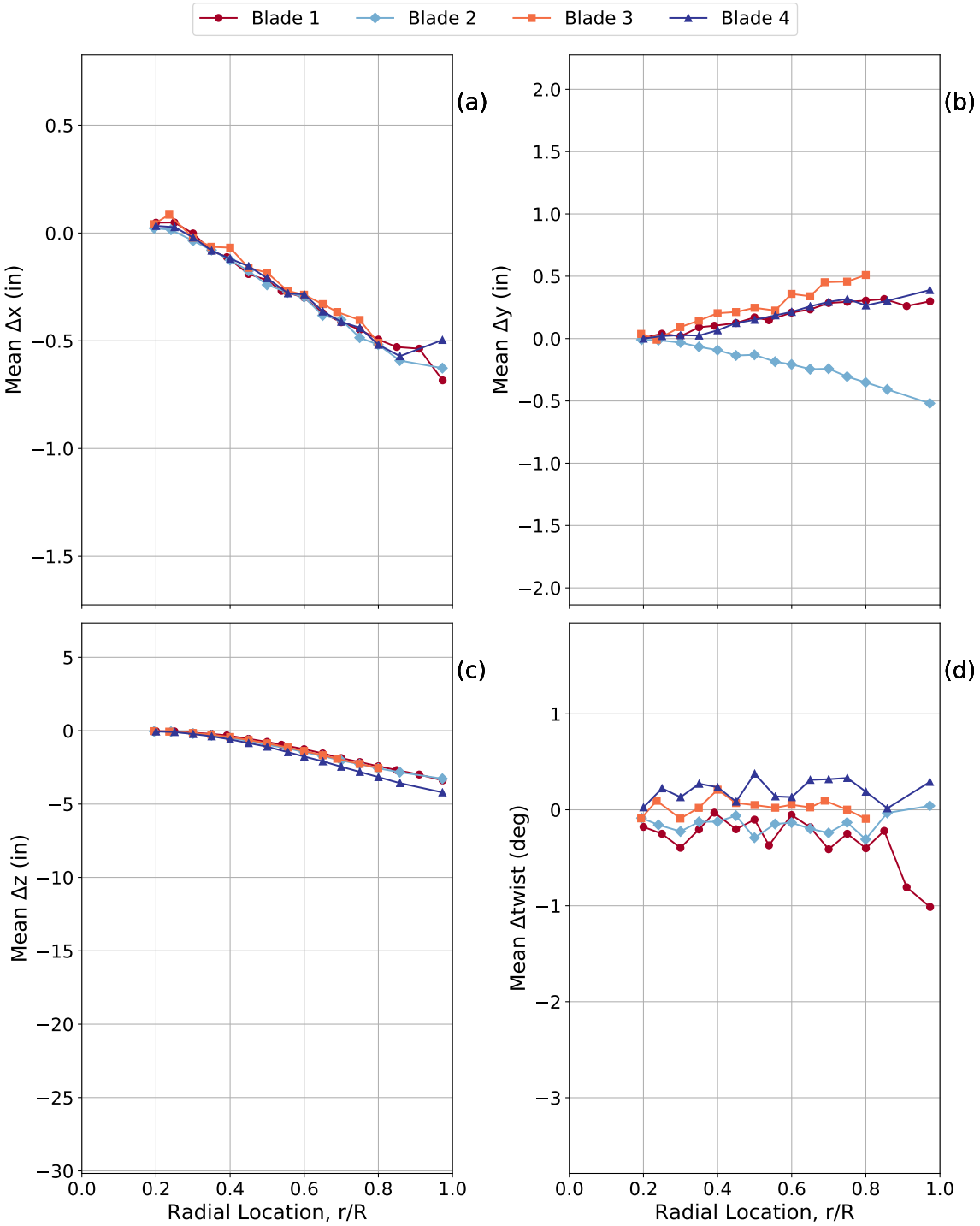


Figure 2.23-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0480	0.0052	0.0051	0.0032	-0.0338	0.0081	-0.1787	0.0489
1	9.84	0.2499	0.0489	0.0032	0.0391	0.0061	-0.0487	0.0148	-0.2501	0.1121
1	9.84	0.2998	-0.0017	0.0028	0.0181	0.0107	-0.1395	0.0319	-0.3966	0.1182
1	9.84	0.3498	-0.0829	0.0031	0.0907	0.0199	-0.2189	0.0563	-0.2052	0.1111
1	9.84	0.3913	-0.1117	0.0036	0.1031	0.0267	-0.3223	0.0794	-0.0299	0.1141
1	9.84	0.4496	-0.1904	0.0040	0.1248	0.0357	-0.5568	0.1135	-0.2031	0.1162
1	9.84	0.4997	-0.2193	0.0043	0.1697	0.0451	-0.7642	0.1455	-0.1026	0.1192
1	9.84	0.5387	-0.2687	0.0044	0.1473	0.0515	-0.9614	0.1719	-0.3706	0.1114
1	9.84	0.5996	-0.2994	0.0047	0.2088	0.0622	-1.2623	0.2144	-0.0542	0.1170
1	9.84	0.6498	-0.3717	0.0049	0.2336	0.0715	-1.5499	0.2511	-0.1820	0.1157
1	9.84	0.6998	-0.4138	0.0056	0.2855	0.0805	-1.8681	0.2900	-0.4113	0.1119
1	9.84	0.7500	-0.4486	0.0058	0.2947	0.0903	-2.1394	0.3285	-0.2499	0.1230
1	9.84	0.8001	-0.4944	0.0074	0.3046	0.0990	-2.4245	0.3658	-0.4012	0.1317
1	9.84	0.8497	-0.5291	0.0067	0.3175	0.1082	-2.6846	0.4073	-0.2196	0.1194
1	9.84	0.9102	-0.5367	0.0231	0.2611	0.1199	-2.9865	0.4611	-0.8076	0.3931
1	9.84	0.9734	-0.6837	0.0110	0.2992	0.1310	-3.3880	0.5082	-1.0135	0.1455
2	9.84	0.1949	0.0224	0.0057	-0.0089	0.0026	-0.0458	0.0068	-0.0863	0.0380
2	9.84	0.2405	0.0151	0.0021	-0.0133	0.0042	-0.0669	0.0102	-0.1575	0.1034
2	9.84	0.2999	-0.0360	0.0020	-0.0317	0.0094	-0.1972	0.0258	-0.2260	0.1094
2	9.84	0.3498	-0.0792	0.0023	-0.0663	0.0162	-0.3171	0.0446	-0.1255	0.1066
2	9.84	0.3998	-0.1251	0.0029	-0.0928	0.0244	-0.5000	0.0677	-0.1243	0.1095
2	9.84	0.4496	-0.1761	0.0029	-0.1357	0.0306	-0.6885	0.0928	-0.0613	0.1063
2	9.84	0.4995	-0.2406	0.0033	-0.1305	0.0382	-0.9652	0.1206	-0.2911	0.1065
2	9.84	0.5551	-0.2756	0.0037	-0.1853	0.0459	-1.2055	0.1533	-0.1483	0.1069
2	9.84	0.5996	-0.2972	0.0036	-0.2075	0.0525	-1.4574	0.1829	-0.1344	0.1111
2	9.84	0.6497	-0.3826	0.0046	-0.2456	0.0602	-1.7358	0.2177	-0.1977	0.1163
2	9.84	0.6996	-0.4019	0.0051	-0.2420	0.0686	-2.0353	0.2574	-0.2412	0.1125
2	9.84	0.7495	-0.4856	0.0058	-0.3048	0.0743	-2.2851	0.2965	-0.1322	0.1212
2	9.84	0.7996	-0.5181	0.0079	-0.3513	0.0813	-2.5690	0.3378	-0.3077	0.1137
2	9.84	0.8578	-0.5920	0.0081	-0.4075	0.0914	-2.8261	0.3863	-0.0329	0.1472
2	9.84	0.9727	-0.6270	0.0149	-0.5192	0.1110	-3.2706	0.4968	0.0412	0.1992
3	9.84	0.1938	0.0412	0.0052	0.0375	0.0032	-0.0310	0.0063	-0.0896	0.0383
3	9.84	0.2357	0.0852	0.0026	-0.0090	0.0039	-0.0653	0.0100	0.0943	0.0898
3	9.84	0.2995	-0.0213	0.0020	0.0926	0.0094	-0.1600	0.0249	-0.0913	0.1021
3	9.84	0.3493	-0.0640	0.0022	0.1442	0.0174	-0.2695	0.0446	0.0205	0.0937
3	9.84	0.4000	-0.0679	0.0032	0.2035	0.0251	-0.4327	0.0680	0.2099	0.0970
3	9.84	0.4497	-0.1617	0.0032	0.2130	0.0315	-0.6352	0.0932	0.0706	0.0934
3	9.84	0.4997	-0.1840	0.0034	0.2470	0.0392	-0.8668	0.1216	0.0494	0.0949
3	9.84	0.5556	-0.2687	0.0034	0.2249	0.0481	-1.1463	0.1556	0.0215	0.0952
3	9.84	0.5995	-0.2863	0.0044	0.3585	0.0547	-1.3840	0.1835	0.0525	0.0921
3	9.84	0.6498	-0.3300	0.0045	0.3392	0.0621	-1.6750	0.2138	0.0248	0.1019
3	9.84	0.6890	-0.3665	0.0053	0.4521	0.0694	-1.9137	0.2374	0.0954	0.1180
3	9.84	0.7495	-0.4034	0.0053	0.4569	0.0793	-2.2658	0.2752	0.0019	0.1060
3	9.84	0.7998	-0.5096	0.0069	0.5099	0.0851	-2.5435	0.3067	-0.0943	0.1160
4	9.84	0.2001	0.0329	0.0033	-0.0006	0.0021	-0.0577	0.0059	0.0250	0.0402
4	9.84	0.2502	0.0272	0.0026	0.0203	0.0040	-0.0952	0.0113	0.2239	0.0792
4	9.84	0.3001	-0.0206	0.0023	0.0277	0.0075	-0.2307	0.0237	0.1316	0.0925
4	9.84	0.3502	-0.0818	0.0023	0.0244	0.0126	-0.3873	0.0404	0.2716	0.0908
4	9.84	0.4002	-0.1194	0.0028	0.0667	0.0191	-0.5983	0.0626	0.2354	0.0891
4	9.84	0.4500	-0.1540	0.0031	0.1249	0.0236	-0.8488	0.0864	0.0854	0.0919
4	9.84	0.5001	-0.2099	0.0030	0.1506	0.0293	-1.0941	0.1125	0.3763	0.0897
4	9.84	0.5560	-0.2798	0.0039	0.1863	0.0358	-1.4670	0.1429	0.1398	0.0955
4	9.84	0.6001	-0.2848	0.0040	0.2142	0.0411	-1.7641	0.1691	0.1321	0.0921
4	9.84	0.6501	-0.3641	0.0045	0.2592	0.0472	-2.0906	0.1989	0.3119	0.0916
4	9.84	0.6999	-0.4117	0.0044	0.2945	0.0532	-2.4555	0.2295	0.3189	0.0988
4	9.84	0.7500	-0.4399	0.0048	0.3180	0.0594	-2.8070	0.2604	0.3318	0.1099
4	9.84	0.8002	-0.5185	0.0075	0.2662	0.0679	-3.1632	0.2928	0.1887	0.1250
4	9.84	0.8582	-0.5718	0.0089	0.3033	0.0762	-3.5711	0.3349	0.0154	0.1215
4	9.84	0.9728	-0.4963	0.0145	0.3893	0.0955	-4.2026	0.4301	0.2909	0.1889

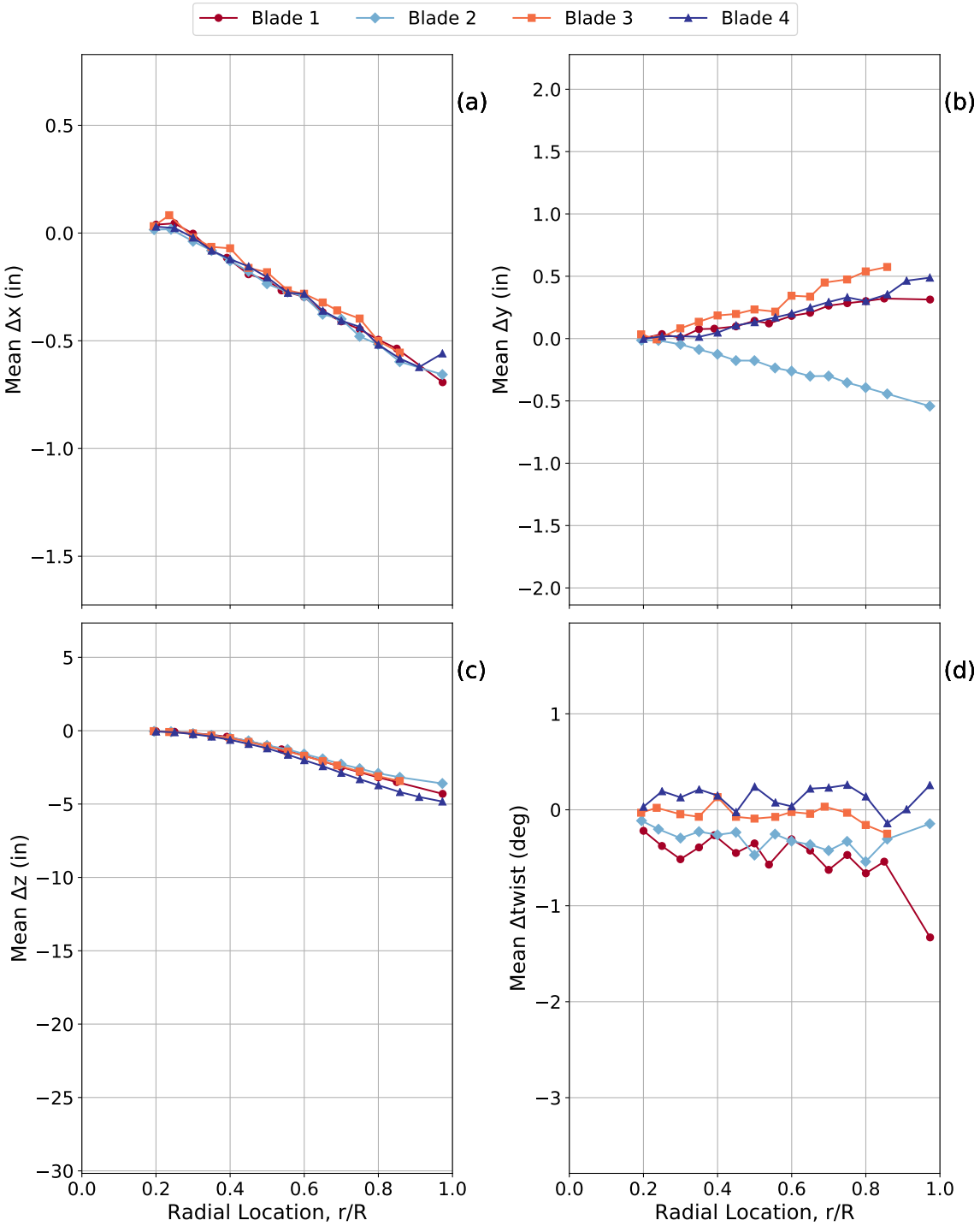


Figure 2.23-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0391	0.0058	0.0026	0.0034	-0.0382	0.0079	-0.2191	0.0558
1	15.12	0.2499	0.0448	0.0033	0.0358	0.0058	-0.0750	0.0151	-0.3769	0.1138
1	15.12	0.2998	-0.0029	0.0024	0.0070	0.0123	-0.1712	0.0321	-0.5153	0.1314
1	15.12	0.3498	-0.0834	0.0026	0.0757	0.0211	-0.2769	0.0564	-0.3920	0.1090
1	15.12	0.3913	-0.1147	0.0031	0.0793	0.0294	-0.4137	0.0803	-0.2650	0.1105
1	15.12	0.4496	-0.1914	0.0032	0.0978	0.0391	-0.7141	0.1144	-0.4500	0.1095
1	15.12	0.4997	-0.2176	0.0039	0.1425	0.0478	-1.0048	0.1446	-0.3505	0.1160
1	15.12	0.5387	-0.2663	0.0038	0.1214	0.0543	-1.2694	0.1694	-0.5714	0.1190
1	15.12	0.5996	-0.2965	0.0046	0.1819	0.0651	-1.6963	0.2111	-0.3072	0.1216
1	15.12	0.6498	-0.3674	0.0051	0.2071	0.0741	-2.0771	0.2502	-0.4248	0.1204
1	15.12	0.6998	-0.4100	0.0059	0.2644	0.0829	-2.4810	0.2932	-0.6259	0.1266
1	15.12	0.7500	-0.4471	0.0072	0.2838	0.0911	-2.8342	0.3403	-0.4709	0.1210
1	15.12	0.8001	-0.4952	0.0088	0.3008	0.1005	-3.1873	0.3903	-0.6616	0.1335
1	15.12	0.8497	-0.5364	0.0093	0.3213	0.1085	-3.5012	0.4434	-0.5404	0.1279
1	15.12	0.9734	-0.6925	0.0122	0.3132	0.1319	-4.3043	0.5810	-1.3300	0.1302
2	15.12	0.1949	0.0158	0.0039	-0.0134	0.0025	-0.0424	0.0072	-0.1140	0.0386
2	15.12	0.2405	0.0174	0.0023	-0.0149	0.0029	-0.0717	0.0109	-0.2025	0.1037
2	15.12	0.2999	-0.0385	0.0022	-0.0465	0.0078	-0.1937	0.0276	-0.2951	0.1095
2	15.12	0.3498	-0.0813	0.0025	-0.0879	0.0129	-0.3085	0.0486	-0.2279	0.1081
2	15.12	0.3998	-0.1291	0.0029	-0.1259	0.0189	-0.4935	0.0730	-0.2609	0.1093
2	15.12	0.4496	-0.1777	0.0030	-0.1764	0.0243	-0.6932	0.1019	-0.2348	0.1101
2	15.12	0.4995	-0.2355	0.0039	-0.1770	0.0296	-1.0000	0.1322	-0.4722	0.1117
2	15.12	0.5551	-0.2739	0.0040	-0.2357	0.0368	-1.2770	0.1725	-0.2537	0.1126
2	15.12	0.5996	-0.2935	0.0046	-0.2610	0.0419	-1.5865	0.2062	-0.3267	0.1157
2	15.12	0.6497	-0.3771	0.0052	-0.3016	0.0474	-1.9167	0.2470	-0.3632	0.1088
2	15.12	0.6996	-0.3992	0.0060	-0.3003	0.0533	-2.2760	0.2890	-0.4252	0.1147
2	15.12	0.7495	-0.4796	0.0062	-0.3540	0.0580	-2.5834	0.3346	-0.3295	0.1178
2	15.12	0.7996	-0.5171	0.0078	-0.3934	0.0655	-2.9027	0.3845	-0.5403	0.1230
2	15.12	0.8578	-0.5975	0.0087	-0.4435	0.0720	-3.1740	0.4422	-0.3054	0.1346
2	15.12	0.9727	-0.6567	0.0101	-0.5421	0.0894	-3.5999	0.5645	-0.1452	0.1347
3	15.12	0.1938	0.0318	0.0043	0.0339	0.0025	-0.0297	0.0057	-0.0305	0.0343
3	15.12	0.2357	0.0826	0.0028	-0.0065	0.0034	-0.0908	0.0091	0.0205	0.0739
3	15.12	0.2995	-0.0199	0.0019	0.0818	0.0084	-0.1777	0.0227	-0.0465	0.0889
3	15.12	0.3493	-0.0643	0.0021	0.1347	0.0141	-0.3187	0.0395	-0.0729	0.0803
3	15.12	0.4000	-0.0708	0.0029	0.1855	0.0214	-0.5085	0.0608	0.1319	0.0873
3	15.12	0.4497	-0.1619	0.0030	0.1977	0.0255	-0.7638	0.0838	-0.0734	0.0858
3	15.12	0.4997	-0.1818	0.0039	0.2336	0.0312	-1.0621	0.1097	-0.0920	0.0864
3	15.12	0.5556	-0.2661	0.0044	0.2161	0.0381	-1.4149	0.1419	-0.0741	0.0918
3	15.12	0.5995	-0.2819	0.0047	0.3439	0.0433	-1.7145	0.1672	-0.0230	0.0849
3	15.12	0.6498	-0.3223	0.0050	0.3366	0.0492	-2.0771	0.1964	-0.0415	0.0842
3	15.12	0.6890	-0.3591	0.0052	0.4497	0.0540	-2.3660	0.2207	0.0321	0.0915
3	15.12	0.7495	-0.3968	0.0057	0.4744	0.0605	-2.7814	0.2555	-0.0307	0.0894
3	15.12	0.7998	-0.5010	0.0069	0.5388	0.0667	-3.1039	0.2849	-0.1586	0.0882
3	15.12	0.8577	-0.5550	0.0084	0.5745	0.0744	-3.4290	0.3184	-0.2493	0.1541
4	15.12	0.2001	0.0296	0.0032	-0.0024	0.0022	-0.0570	0.0070	0.0308	0.0455
4	15.12	0.2502	0.0232	0.0024	0.0181	0.0040	-0.1068	0.0126	0.1934	0.0781
4	15.12	0.3001	-0.0210	0.0018	0.0189	0.0075	-0.2373	0.0271	0.1291	0.1025
4	15.12	0.3502	-0.0814	0.0019	0.0140	0.0129	-0.4017	0.0476	0.2119	0.0816
4	15.12	0.4002	-0.1217	0.0026	0.0480	0.0194	-0.6255	0.0722	0.1479	0.0883
4	15.12	0.4500	-0.1553	0.0029	0.1052	0.0246	-0.9030	0.1021	-0.0250	0.0856
4	15.12	0.5001	-0.2057	0.0032	0.1316	0.0313	-1.2014	0.1370	0.2402	0.0872
4	15.12	0.5560	-0.2775	0.0036	0.1699	0.0379	-1.6388	0.1796	0.0757	0.0925
4	15.12	0.6001	-0.2822	0.0040	0.2004	0.0434	-2.0094	0.2153	0.0355	0.0885
4	15.12	0.6501	-0.3606	0.0049	0.2489	0.0495	-2.4196	0.2577	0.2204	0.0857
4	15.12	0.6999	-0.4068	0.0055	0.2935	0.0563	-2.8735	0.3032	0.2306	0.0910
4	15.12	0.7500	-0.4356	0.0062	0.3307	0.0642	-3.3092	0.3519	0.2595	0.0980
4	15.12	0.8002	-0.5181	0.0093	0.3009	0.0687	-3.7223	0.4001	0.1385	0.1046
4	15.12	0.8582	-0.5828	0.0097	0.3549	0.0786	-4.1819	0.4655	-0.1407	0.1110
4	15.12	0.9101	-0.6223	0.0153	0.4643	0.0833	-4.5149	0.5302	0.0051	0.1586
4	15.12	0.9728	-0.5589	0.0137	0.4887	0.0911	-4.8292	0.5945	0.2566	0.1636

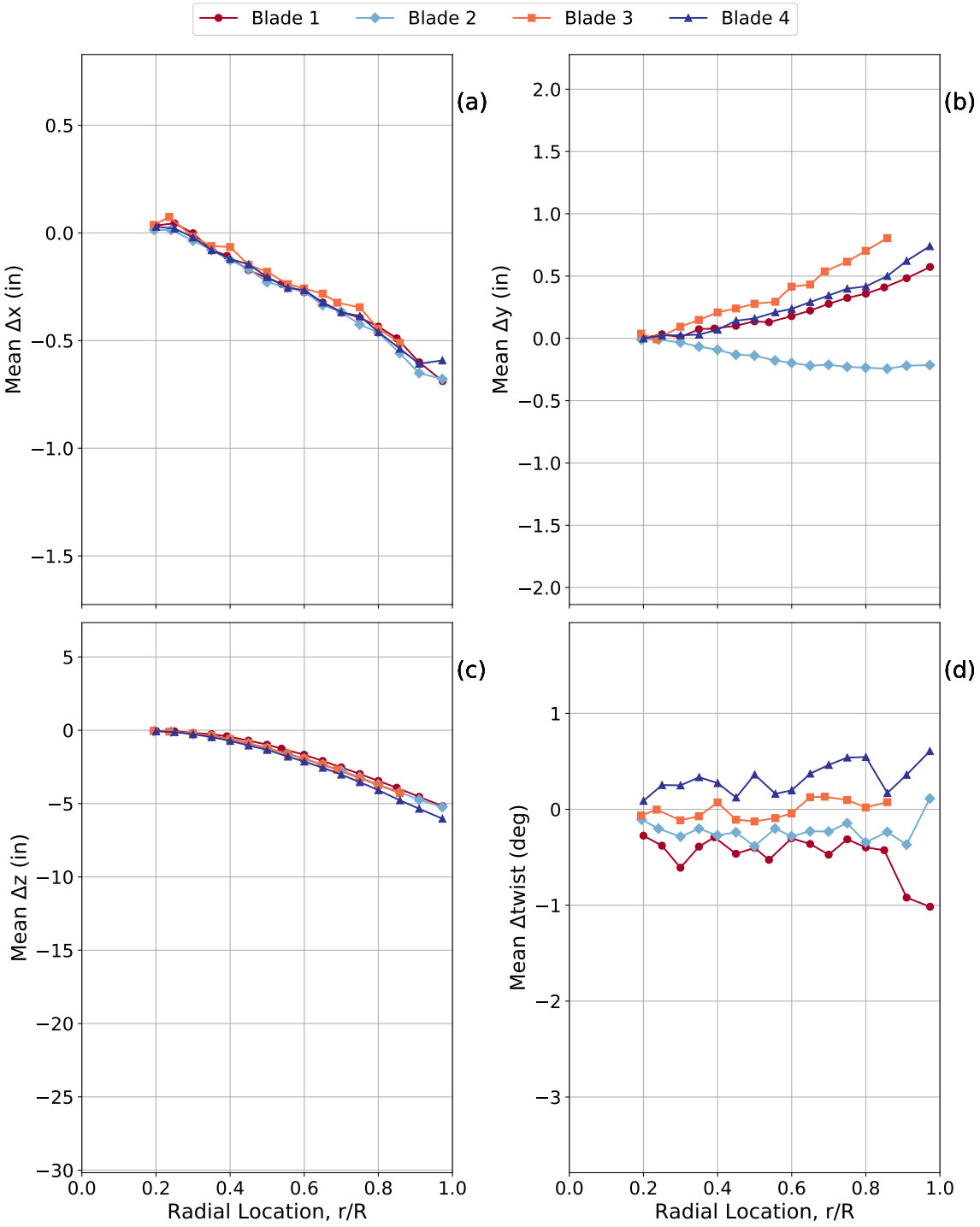


Figure 2.23-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0347	0.0039	0.0032	0.0030	-0.0384	0.0069	-0.2748	0.0412
1	29.88	0.2499	0.0444	0.0034	0.0334	0.0042	-0.0680	0.0133	-0.3790	0.1095
1	29.88	0.2998	-0.0014	0.0023	0.0098	0.0105	-0.1750	0.0276	-0.6087	0.1072
1	29.88	0.3498	-0.0778	0.0031	0.0737	0.0174	-0.2654	0.0480	-0.3897	0.1014
1	29.88	0.3913	-0.1064	0.0033	0.0795	0.0240	-0.4065	0.0685	-0.2911	0.1022
1	29.88	0.4496	-0.1727	0.0036	0.1011	0.0322	-0.7044	0.1037	-0.4636	0.1022
1	29.88	0.4997	-0.2091	0.0042	0.1371	0.0400	-0.9822	0.1370	-0.4022	0.1053
1	29.88	0.5387	-0.2366	0.0048	0.1297	0.0459	-1.2517	0.1645	-0.5265	0.1091
1	29.88	0.5996	-0.2760	0.0051	0.1785	0.0553	-1.6675	0.2100	-0.3018	0.1069
1	29.88	0.6498	-0.3228	0.0056	0.2233	0.0630	-2.0894	0.2495	-0.3615	0.1125
1	29.88	0.6998	-0.3669	0.0066	0.2777	0.0709	-2.5264	0.2891	-0.4725	0.1103
1	29.88	0.7500	-0.3939	0.0076	0.3247	0.0789	-2.9812	0.3316	-0.3130	0.1086
1	29.88	0.8001	-0.4350	0.0091	0.3592	0.0874	-3.4552	0.3765	-0.3973	0.1096
1	29.88	0.8497	-0.4892	0.0102	0.4094	0.0950	-3.9180	0.4239	-0.4263	0.1130
1	29.88	0.9102	-0.6010	0.0122	0.4828	0.1048	-4.5392	0.4829	-0.9206	0.1219
1	29.88	0.9734	-0.6883	0.0149	0.5731	0.1139	-5.1709	0.5492	-1.0159	0.1292
2	29.88	0.1949	0.0140	0.0029	-0.0105	0.0025	-0.0551	0.0074	-0.1071	0.0316
2	29.88	0.2405	0.0135	0.0025	-0.0100	0.0036	-0.0933	0.0153	-0.2015	0.0822
2	29.88	0.2999	-0.0359	0.0029	-0.0329	0.0084	-0.2511	0.0339	-0.2847	0.0865
2	29.88	0.3498	-0.0791	0.0028	-0.0664	0.0146	-0.4016	0.0594	-0.2022	0.0830
2	29.88	0.3998	-0.1268	0.0034	-0.0912	0.0218	-0.6412	0.0924	-0.2719	0.0830
2	29.88	0.4496	-0.1660	0.0038	-0.1307	0.0290	-0.9017	0.1283	-0.2395	0.0889
2	29.88	0.4995	-0.2292	0.0044	-0.1382	0.0363	-1.2318	0.1686	-0.3850	0.0911
2	29.88	0.5551	-0.2537	0.0051	-0.1772	0.0441	-1.5858	0.2143	-0.2007	0.0967
2	29.88	0.5996	-0.2716	0.0050	-0.1971	0.0516	-1.9342	0.2562	-0.2807	0.0874
2	29.88	0.6497	-0.3355	0.0068	-0.2185	0.0597	-2.3257	0.3038	-0.2294	0.0859
2	29.88	0.6996	-0.3664	0.0078	-0.2118	0.0670	-2.7516	0.3543	-0.2314	0.0982
2	29.88	0.7495	-0.4254	0.0090	-0.2287	0.0752	-3.1946	0.4158	-0.1450	0.0987
2	29.88	0.7996	-0.4628	0.0120	-0.2350	0.0837	-3.6923	0.4806	-0.3445	0.0961
2	29.88	0.8578	-0.5589	0.0148	-0.2433	0.0930	-4.2269	0.5646	-0.2362	0.0970
2	29.88	0.9100	-0.6511	0.0182	-0.2194	0.1008	-4.7383	0.6425	-0.3684	0.1102
2	29.88	0.9727	-0.6784	0.0193	-0.2143	0.1105	-5.2335	0.7341	0.1125	0.1269
3	29.88	0.1938	0.0372	0.0034	0.0377	0.0030	-0.0383	0.0089	-0.0648	0.0340
3	29.88	0.2357	0.0738	0.0027	-0.0076	0.0034	-0.0947	0.0158	-0.0033	0.0707
3	29.88	0.2995	-0.0178	0.0027	0.0939	0.0097	-0.2156	0.0388	-0.1144	0.0839
3	29.88	0.3493	-0.0611	0.0027	0.1481	0.0164	-0.3668	0.0678	-0.0726	0.0748
3	29.88	0.4000	-0.0655	0.0039	0.2087	0.0248	-0.5933	0.1054	0.0720	0.0781
3	29.88	0.4497	-0.1489	0.0040	0.2401	0.0326	-0.8863	0.1467	-0.1078	0.0794
3	29.88	0.4997	-0.1808	0.0047	0.2780	0.0403	-1.2045	0.1930	-0.1258	0.0801
3	29.88	0.5556	-0.2380	0.0048	0.2936	0.0496	-1.6133	0.2467	-0.0913	0.0794
3	29.88	0.5995	-0.2578	0.0054	0.4155	0.0580	-1.9405	0.2913	-0.0431	0.0788
3	29.88	0.6498	-0.2821	0.0070	0.4323	0.0653	-2.3456	0.3424	0.1264	0.0777
3	29.88	0.6890	-0.3240	0.0083	0.5373	0.0722	-2.6932	0.3884	0.1317	0.0767
3	29.88	0.7495	-0.3454	0.0091	0.6156	0.0835	-3.2707	0.4660	0.0970	0.0947
3	29.88	0.7998	-0.4451	0.0122	0.7026	0.0925	-3.7405	0.5422	0.0197	0.0811
3	29.88	0.8577	-0.5100	0.0154	0.8046	0.1019	-4.2768	0.6366	0.0753	0.0809
4	29.88	0.2001	0.0284	0.0031	-0.0005	0.0021	-0.0658	0.0086	0.0885	0.0310
4	29.88	0.2502	0.0204	0.0022	0.0227	0.0037	-0.1234	0.0179	0.2529	0.0722
4	29.88	0.3001	-0.0208	0.0026	0.0252	0.0073	-0.2722	0.0358	0.2496	0.0759
4	29.88	0.3502	-0.0801	0.0028	0.0302	0.0132	-0.4671	0.0631	0.3349	0.0748
4	29.88	0.4002	-0.1208	0.0036	0.0696	0.0195	-0.7231	0.0974	0.2731	0.0690
4	29.88	0.4500	-0.1461	0.0038	0.1422	0.0261	-1.0412	0.1377	0.1233	0.0777
4	29.88	0.5001	-0.2051	0.0042	0.1602	0.0331	-1.3378	0.1826	0.3623	0.0777
4	29.88	0.5560	-0.2555	0.0054	0.2099	0.0413	-1.7940	0.2360	0.1614	0.0832
4	29.88	0.6001	-0.2657	0.0060	0.2373	0.0480	-2.1321	0.2804	0.1981	0.0733
4	29.88	0.6501	-0.3230	0.0071	0.2913	0.0555	-2.5571	0.3329	0.3726	0.0690
4	29.88	0.6999	-0.3683	0.0086	0.3447	0.0631	-3.0214	0.3858	0.4629	0.0930
4	29.88	0.7500	-0.3862	0.0091	0.3990	0.0715	-3.5355	0.4493	0.5397	0.0837
4	29.88	0.8002	-0.4602	0.0122	0.4174	0.0793	-4.0879	0.5142	0.5451	0.0934
4	29.88	0.8582	-0.5381	0.0156	0.5008	0.0888	-4.7776	0.5988	0.1700	0.0953
4	29.88	0.9101	-0.6077	0.0196	0.6224	0.0965	-5.3525	0.6781	0.3599	0.0999
4	29.88	0.9728	-0.5922	0.0215	0.7402	0.1060	-6.0294	0.7756	0.6072	0.1212

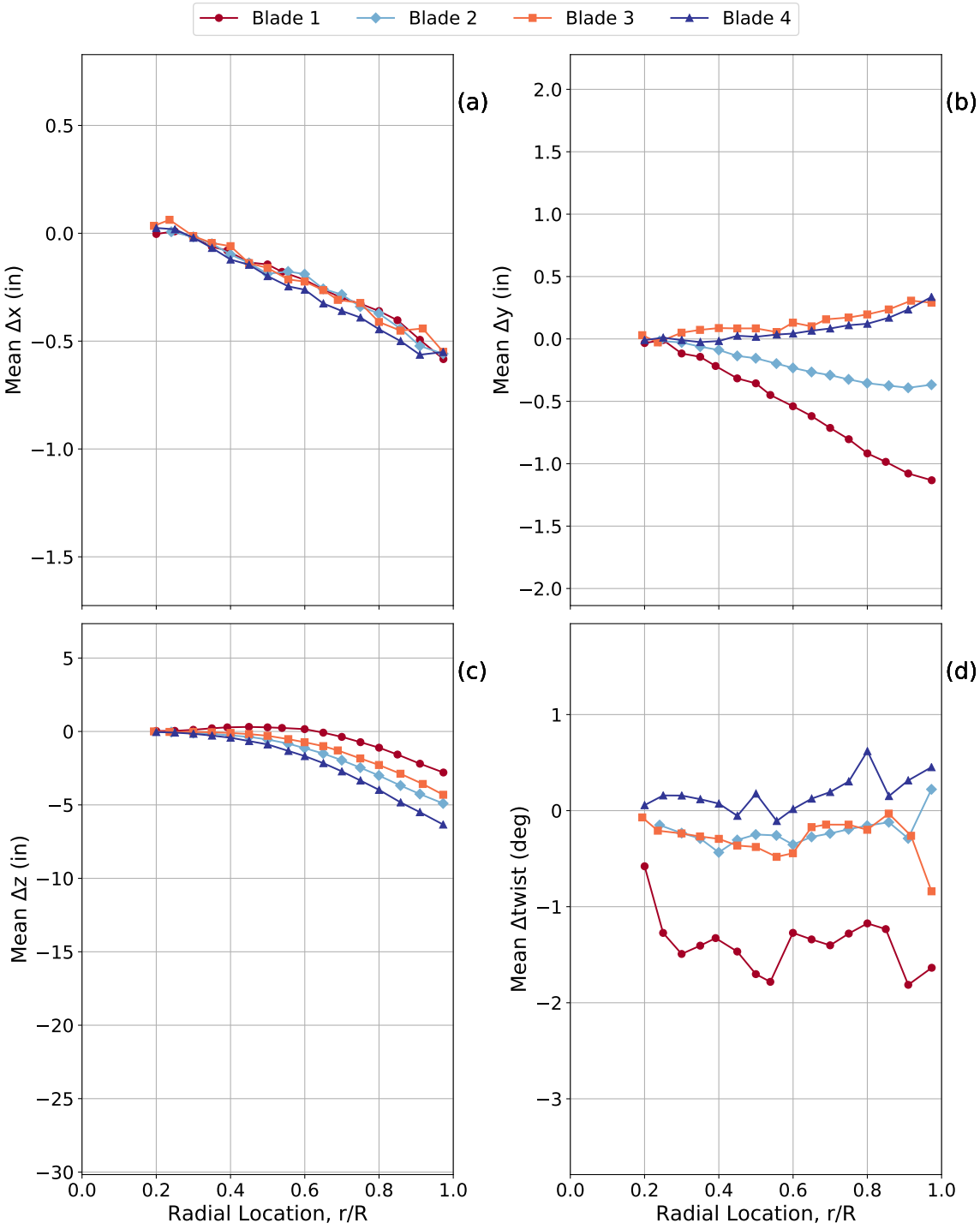


Figure 2.23-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0033	0.0274	-0.0329	0.0141	0.0348	0.0331	-0.5793	0.2336
1	45	0.2499	0.0091	0.0046	-0.0086	0.0137	0.0393	0.0316	-1.2729	0.6717
1	45	0.2998	-0.0194	0.0225	-0.1166	0.0480	0.1143	0.1100	-1.4920	0.6694
1	45	0.3498	-0.0624	0.0434	-0.1436	0.0813	0.2163	0.1871	-1.4057	0.6702
1	45	0.3913	-0.0800	0.0604	-0.2170	0.1101	0.2808	0.2514	-1.3269	0.6781
1	45	0.4496	-0.1353	0.0840	-0.3162	0.1523	0.3109	0.3436	-1.4670	0.6699
1	45	0.4997	-0.1443	0.0442	-0.3558	0.2097	0.2801	0.5274	-1.7019	1.0678
1	45	0.5387	-0.1789	0.0190	-0.4491	0.2320	0.2398	0.4985	-1.7823	1.2605
1	45	0.5996	-0.2156	0.0776	-0.5395	0.2442	0.1598	0.3106	-1.2724	0.6305
1	45	0.6498	-0.2603	0.0773	-0.6184	0.2787	-0.0798	0.3715	-1.3408	0.6316
1	45	0.6998	-0.2998	0.0773	-0.7130	0.3133	-0.3686	0.4344	-1.4021	0.6316
1	45	0.7500	-0.3268	0.0776	-0.8037	0.3484	-0.7296	0.5004	-1.2797	0.6353
1	45	0.8001	-0.3606	0.0779	-0.9173	0.3849	-1.1051	0.5654	-1.1738	0.6320
1	45	0.8497	-0.4032	0.0789	-0.9850	0.4218	-1.5714	0.6311	-1.2334	0.6312
1	45	0.9102	-0.4940	0.0790	-1.0785	0.4664	-2.1951	0.7129	-1.8135	0.6378
1	45	0.9734	-0.5833	0.0705	-1.1325	0.5132	-2.7938	0.7970	-1.6358	0.6304
2	45	0.2405	0.0071	0.0039	-0.0164	0.0041	-0.0435	0.0094	-0.1504	0.0756
2	45	0.2999	-0.0165	0.0024	-0.0283	0.0087	-0.1083	0.0205	-0.2344	0.1171
2	45	0.3498	-0.0485	0.0039	-0.0621	0.0155	-0.1608	0.0365	-0.2901	0.1116
2	45	0.3998	-0.0979	0.0069	-0.0885	0.0240	-0.2685	0.0569	-0.4349	0.1115
2	45	0.4496	-0.1374	0.0121	-0.1360	0.0331	-0.3688	0.0798	-0.3056	0.1139
2	45	0.4995	-0.1880	0.0199	-0.1546	0.0430	-0.5441	0.1048	-0.2486	0.1171
2	45	0.5551	-0.1772	0.0180	-0.1976	0.0776	-0.8266	0.1720	-0.2579	0.1051
2	45	0.5996	-0.1895	0.0183	-0.2325	0.0860	-1.1353	0.2017	-0.3537	0.1091
2	45	0.6497	-0.2578	0.0187	-0.2648	0.0957	-1.5029	0.2350	-0.2735	0.1097
2	45	0.6996	-0.2840	0.0186	-0.2904	0.1051	-1.9565	0.2706	-0.2373	0.1109
2	45	0.7495	-0.3399	0.0191	-0.3240	0.1149	-2.4644	0.3088	-0.1941	0.1147
2	45	0.7996	-0.3717	0.0192	-0.3542	0.1245	-3.0005	0.3457	-0.1561	0.1136
2	45	0.8578	-0.4419	0.0196	-0.3744	0.1360	-3.6827	0.3905	-0.1210	0.1137
2	45	0.9100	-0.5224	0.0205	-0.3915	0.1459	-4.2614	0.4302	-0.2891	0.1175
2	45	0.9727	-0.5586	0.0214	-0.3669	0.1585	-4.9000	0.4771	0.2217	0.1165
3	45	0.1938	0.0345	0.0052	0.0300	0.0037	0.0036	0.0074	-0.0705	0.0396
3	45	0.2357	0.0625	0.0024	-0.0277	0.0028	-0.0308	0.0090	-0.2087	0.0993
3	45	0.2995	-0.0129	0.0021	0.0502	0.0103	-0.0302	0.0262	-0.2372	0.1107
3	45	0.3493	-0.0449	0.0018	0.0726	0.0173	-0.0538	0.0448	-0.2688	0.1066
3	45	0.4000	-0.0598	0.0021	0.0871	0.0251	-0.1021	0.0680	-0.2939	0.1042
3	45	0.4497	-0.1384	0.0022	0.0843	0.0320	-0.1776	0.0928	-0.3634	0.1079
3	45	0.4997	-0.1608	0.0020	0.0846	0.0397	-0.2932	0.1204	-0.3784	0.1094
3	45	0.5556	-0.2141	0.0026	0.0554	0.0483	-0.5226	0.1535	-0.4810	0.1087
3	45	0.5995	-0.2237	0.0029	0.1304	0.0557	-0.7311	0.1803	-0.4433	0.1094
3	45	0.6498	-0.2637	0.0032	0.1007	0.0629	-0.9992	0.2097	-0.1718	0.1086
3	45	0.6890	-0.3087	0.0040	0.1571	0.0704	-1.2918	0.2344	-0.1455	0.1103
3	45	0.7495	-0.3231	0.0047	0.1716	0.0807	-1.8354	0.2737	-0.1460	0.1110
3	45	0.7998	-0.4113	0.0055	0.1964	0.0895	-2.2831	0.3075	-0.1991	0.1141
3	45	0.8577	-0.4513	0.0065	0.2362	0.0987	-2.8789	0.3496	-0.0309	0.1139
3	45	0.9178	-0.4415	0.0108	0.3066	0.1099	-3.5757	0.3954	-0.2620	0.1198
3	45	0.9729	-0.5495	0.0077	0.2904	0.1192	-4.3095	0.4371	-0.8398	0.1221
4	45	0.2001	0.0246	0.0038	-0.0092	0.0027	-0.0393	0.0056	0.0568	0.0360
4	45	0.2502	0.0184	0.0021	0.0101	0.0029	-0.0770	0.0096	0.1582	0.0801
4	45	0.3001	-0.0208	0.0019	-0.0091	0.0082	-0.1562	0.0211	0.1570	0.0887
4	45	0.3502	-0.0680	0.0023	-0.0255	0.0144	-0.2819	0.0375	0.1189	0.0875
4	45	0.4002	-0.1218	0.0027	-0.0167	0.0204	-0.4271	0.0564	0.0730	0.0891
4	45	0.4500	-0.1462	0.0030	0.0255	0.0264	-0.6524	0.0780	-0.0543	0.0879
4	45	0.5001	-0.1988	0.0035	0.0170	0.0324	-0.8847	0.1030	0.1771	0.0912
4	45	0.5560	-0.2464	0.0045	0.0353	0.0396	-1.3273	0.1358	-0.1080	0.0892
4	45	0.6001	-0.2616	0.0047	0.0431	0.0450	-1.6782	0.1637	0.0165	0.0914
4	45	0.6501	-0.3256	0.0052	0.0661	0.0518	-2.1590	0.1965	0.1247	0.0863
4	45	0.6999	-0.3602	0.0059	0.0837	0.0583	-2.7187	0.2314	0.1935	0.0886
4	45	0.7500	-0.3907	0.0068	0.1101	0.0653	-3.3429	0.2671	0.3036	0.0893
4	45	0.8002	-0.4452	0.0081	0.1216	0.0721	-3.9792	0.3030	0.6192	0.0878
4	45	0.8582	-0.5000	0.0098	0.1701	0.0802	-4.8328	0.3499	0.1515	0.0950
4	45	0.9101	-0.5631	0.0112	0.2356	0.0877	-5.4958	0.3923	0.3144	0.0943
4	45	0.9728	-0.5507	0.0115	0.3365	0.0962	-6.3397	0.4498	0.4524	0.0887

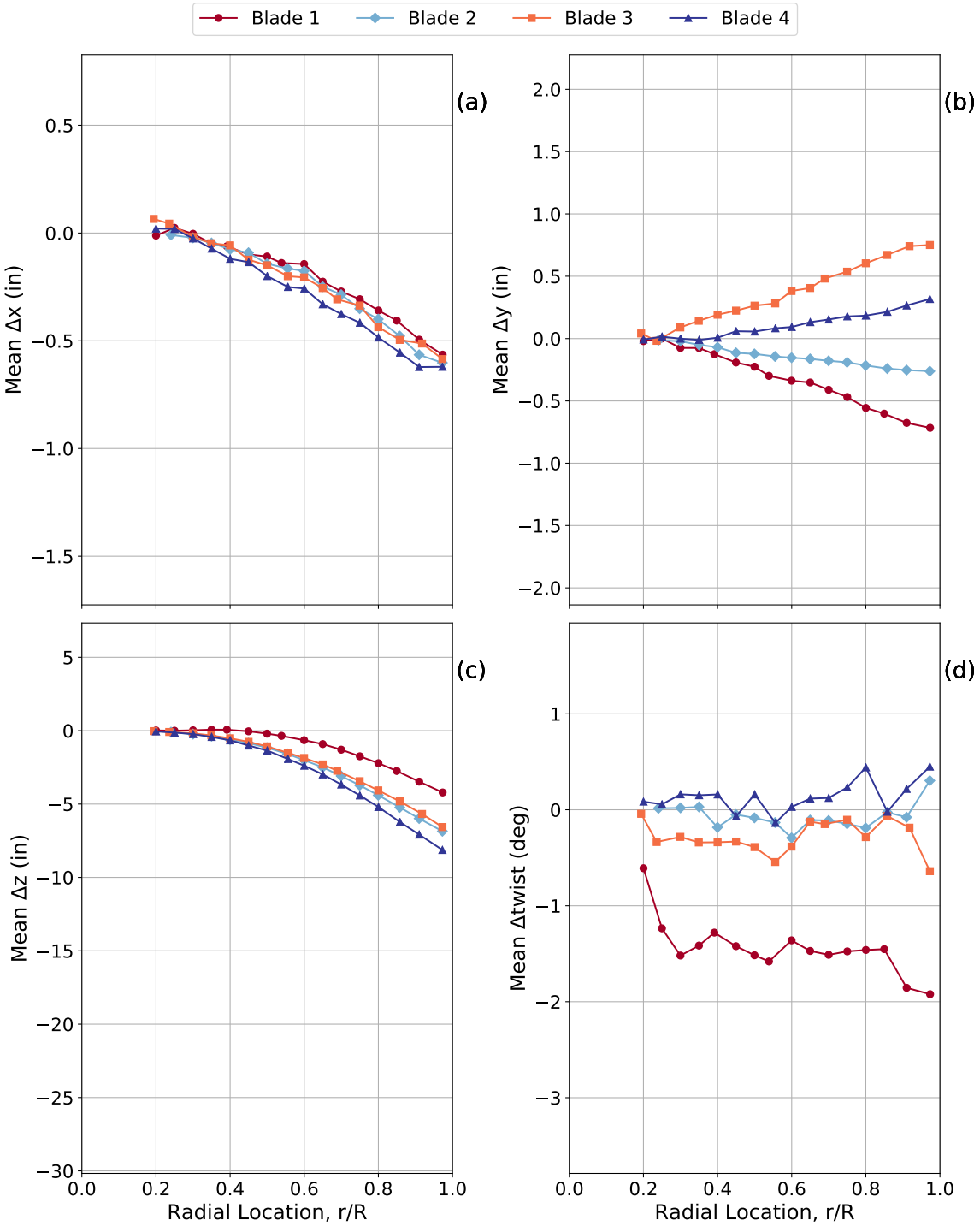


Figure 2.23-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0119	0.0071	-0.0204	0.0051	0.0153	0.0112	-0.6090	0.0742
1	60.12	0.2499	0.0239	0.0036	0.0009	0.0062	-0.0025	0.0151	-1.2354	0.1984
1	60.12	0.2998	-0.0034	0.0056	-0.0752	0.0174	0.0265	0.0395	-1.5188	0.2003
1	60.12	0.3498	-0.0489	0.0110	-0.0755	0.0292	0.0693	0.0674	-1.4150	0.1989
1	60.12	0.3913	-0.0615	0.0157	-0.1251	0.0401	0.0634	0.0929	-1.2798	0.1974
1	60.12	0.4496	-0.0991	0.0216	-0.1921	0.0559	-0.0440	0.1316	-1.4211	0.1969
1	60.12	0.4997	-0.1090	0.0269	-0.2257	0.0698	-0.2040	0.1664	-1.5159	0.2052
1	60.12	0.5387	-0.1390	0.0302	-0.2993	0.0807	-0.3550	0.1974	-1.5805	0.1999
1	60.12	0.5996	-0.1437	0.0362	-0.3379	0.0993	-0.6481	0.2441	-1.3604	0.2111
1	60.12	0.6498	-0.2257	0.0207	-0.3522	0.1288	-0.9150	0.2436	-1.4710	0.1905
1	60.12	0.6998	-0.2715	0.0204	-0.4108	0.1441	-1.2960	0.2837	-1.5113	0.1924
1	60.12	0.7500	-0.3072	0.0209	-0.4686	0.1597	-1.7467	0.3231	-1.4753	0.1934
1	60.12	0.8001	-0.3595	0.0219	-0.5558	0.1753	-2.2151	0.3633	-1.4608	0.1926
1	60.12	0.8497	-0.4063	0.0229	-0.6019	0.1910	-2.7453	0.4031	-1.4520	0.1944
1	60.12	0.9102	-0.4949	0.0233	-0.6761	0.2110	-3.4712	0.4547	-1.8553	0.1925
1	60.12	0.9734	-0.5645	0.0202	-0.7161	0.2316	-4.2082	0.5118	-1.9216	0.1966
2	60.12	0.2405	-0.0089	0.0053	-0.0134	0.0050	-0.0992	0.0113	0.0149	0.1020
2	60.12	0.2999	-0.0223	0.0025	-0.0211	0.0095	-0.2368	0.0233	0.0197	0.1583
2	60.12	0.3498	-0.0463	0.0047	-0.0505	0.0189	-0.3757	0.0449	0.0298	0.1414
2	60.12	0.3998	-0.0760	0.0071	-0.0697	0.0279	-0.6126	0.0682	-0.1836	0.1441
2	60.12	0.4496	-0.0914	0.0091	-0.1145	0.0374	-0.8511	0.0939	-0.0503	0.1425
2	60.12	0.4995	-0.1424	0.0106	-0.1230	0.0474	-1.1610	0.1214	-0.0842	0.1461
2	60.12	0.5551	-0.1648	0.0118	-0.1436	0.0592	-1.5889	0.1547	-0.1330	0.1444
2	60.12	0.5996	-0.1758	0.0130	-0.1535	0.0691	-2.0111	0.1816	-0.2921	0.1481
2	60.12	0.6497	-0.2489	0.0192	-0.1634	0.0965	-2.4999	0.2111	-0.1074	0.1458
2	60.12	0.6996	-0.2861	0.0199	-0.1786	0.1070	-3.0844	0.2438	-0.1115	0.1464
2	60.12	0.7495	-0.3510	0.0204	-0.1906	0.1181	-3.7201	0.2783	-0.1462	0.1487
2	60.12	0.7996	-0.3996	0.0208	-0.2157	0.1293	-4.3968	0.3154	-0.1890	0.1481
2	60.12	0.8578	-0.4784	0.0213	-0.2405	0.1421	-5.2282	0.3610	-0.0262	0.1512
2	60.12	0.9100	-0.5651	0.0220	-0.2529	0.1538	-5.9856	0.4057	-0.0782	0.1521
2	60.12	0.9727	-0.6023	0.0238	-0.2617	0.1676	-6.8520	0.4599	0.3040	0.1577
3	60.12	0.1938	0.0654	0.0117	0.0412	0.0060	-0.0313	0.0096	-0.0422	0.0653
3	60.12	0.2357	0.0436	0.0036	-0.0181	0.0034	-0.0893	0.0106	-0.3355	0.1758
3	60.12	0.2995	-0.0181	0.0027	0.0897	0.0172	-0.1819	0.0332	-0.2824	0.1952
3	60.12	0.3493	-0.0476	0.0026	0.1430	0.0293	-0.3263	0.0566	-0.3405	0.2018
3	60.12	0.4000	-0.0573	0.0029	0.1916	0.0422	-0.5192	0.0856	-0.3382	0.1961
3	60.12	0.4497	-0.1238	0.0033	0.2241	0.0552	-0.7633	0.1149	-0.3311	0.1997
3	60.12	0.4997	-0.1496	0.0037	0.2640	0.0681	-1.0737	0.1459	-0.3886	0.2024
3	60.12	0.5556	-0.2004	0.0044	0.2820	0.0831	-1.5102	0.1820	-0.5442	0.2050
3	60.12	0.5995	-0.2061	0.0051	0.3818	0.0947	-1.8629	0.2100	-0.3835	0.2021
3	60.12	0.6498	-0.2555	0.0060	0.4056	0.1082	-2.3010	0.2427	-0.1241	0.2036
3	60.12	0.6890	-0.3078	0.0068	0.4812	0.1190	-2.7284	0.2684	-0.1491	0.2059
3	60.12	0.7495	-0.3365	0.0075	0.5365	0.1353	-3.4406	0.3108	-0.1043	0.2022
3	60.12	0.7998	-0.4368	0.0088	0.6041	0.1492	-4.0689	0.3467	-0.2848	0.2070
3	60.12	0.8577	-0.4959	0.0102	0.6711	0.1653	-4.8156	0.3919	-0.0648	0.2097
3	60.12	0.9178	-0.5128	0.0119	0.7415	0.1825	-5.6774	0.4416	-0.1865	0.2113
3	60.12	0.9729	-0.5851	0.0124	0.7506	0.1981	-6.5676	0.4911	-0.6400	0.2042
4	60.12	0.2001	0.0206	0.0047	-0.0075	0.0027	-0.0538	0.0066	0.0849	0.0386
4	60.12	0.2502	0.0189	0.0035	0.0152	0.0038	-0.1325	0.0129	0.0570	0.0954
4	60.12	0.3001	-0.0253	0.0023	-0.0006	0.0087	-0.2354	0.0254	0.1613	0.0962
4	60.12	0.3502	-0.0725	0.0027	-0.0105	0.0149	-0.4286	0.0449	0.1518	0.0923
4	60.12	0.4002	-0.1196	0.0033	0.0072	0.0219	-0.6620	0.0683	0.1601	0.0884
4	60.12	0.4500	-0.1352	0.0038	0.0592	0.0282	-1.0142	0.0966	-0.0678	0.0926
4	60.12	0.5001	-0.1999	0.0041	0.0566	0.0354	-1.3572	0.1286	0.1604	0.0904
4	60.12	0.5560	-0.2505	0.0053	0.0829	0.0435	-1.9302	0.1672	-0.1370	0.0916
4	60.12	0.6001	-0.2576	0.0062	0.0931	0.0503	-2.3876	0.1989	0.0300	0.0904
4	60.12	0.6501	-0.3308	0.0071	0.1319	0.0582	-2.9809	0.2362	0.1171	0.0950
4	60.12	0.6999	-0.3761	0.0085	0.1534	0.0659	-3.6700	0.2747	0.1238	0.0935
4	60.12	0.7500	-0.4165	0.0103	0.1781	0.0743	-4.4129	0.3158	0.2334	0.0939
4	60.12	0.8002	-0.4848	0.0124	0.1842	0.0826	-5.2030	0.3586	0.4420	0.0972
4	60.12	0.8582	-0.5553	0.0151	0.2145	0.0920	-6.2259	0.4094	-0.0208	0.0960
4	60.12	0.9101	-0.6220	0.0166	0.2654	0.1009	-7.0793	0.4570	0.2179	0.0995
4	60.12	0.9728	-0.6211	0.0178	0.3174	0.1112	-8.1279	0.5171	0.4498	0.0977

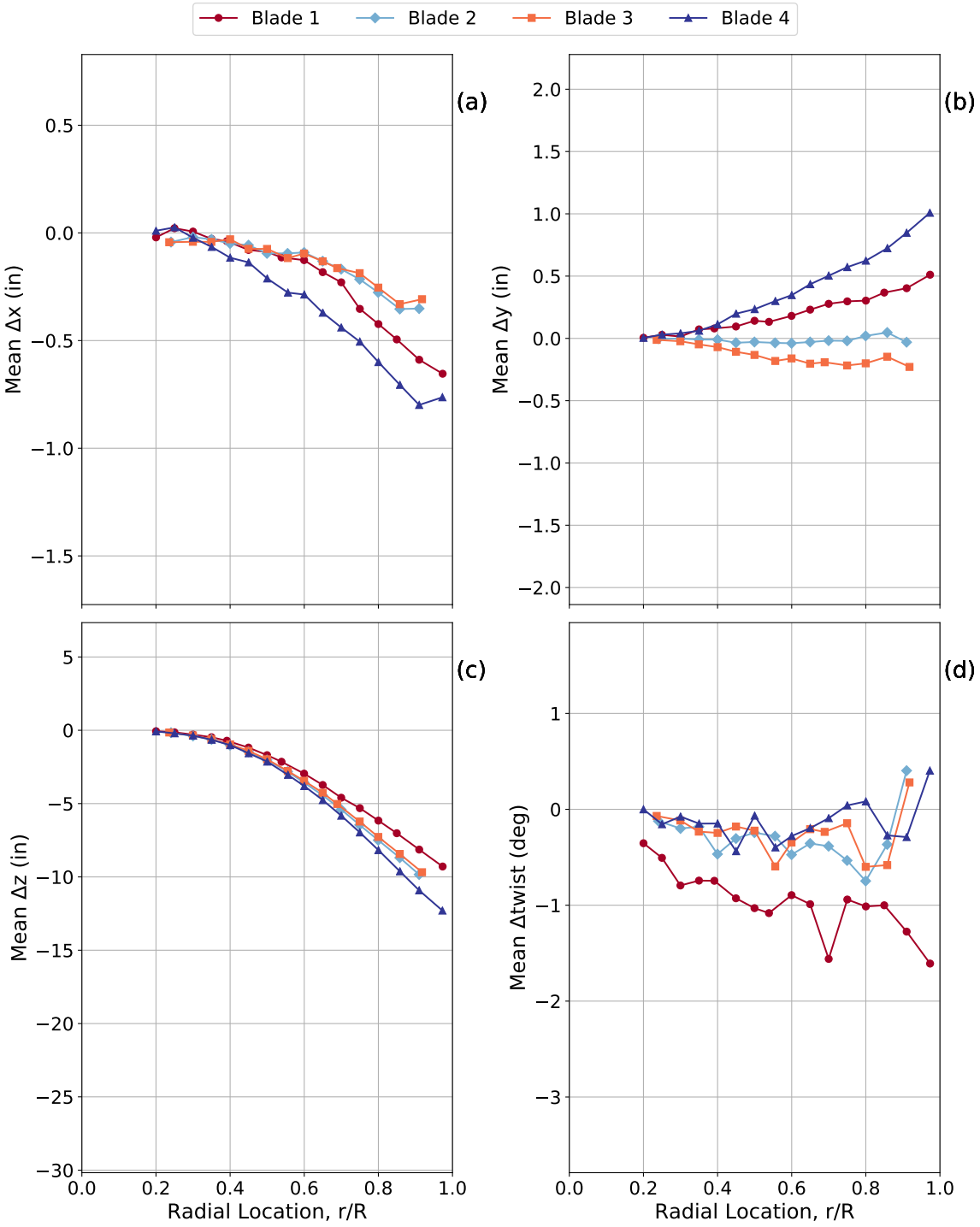


Figure 2.23-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0208	0.0082	0.0051	0.0061	-0.0631	0.0135	-0.3537	0.0915
1	74.88	0.2499	0.0218	0.0035	0.0286	0.0086	-0.1381	0.0194	-0.5060	0.2284
1	74.88	0.2998	0.0062	0.0048	0.0148	0.0216	-0.2922	0.0503	-0.7941	0.2378
1	74.88	0.3498	-0.0277	0.0080	0.0723	0.0363	-0.4743	0.0864	-0.7434	0.2331
1	74.88	0.3913	-0.0383	0.0117	0.0798	0.0504	-0.7144	0.1203	-0.7452	0.2260
1	74.88	0.4496	-0.0790	0.0166	0.0953	0.0710	-1.1811	0.1682	-0.9278	0.2291
1	74.88	0.4997	-0.0883	0.0209	0.1414	0.0904	-1.6979	0.2119	-1.0305	0.2309
1	74.88	0.5387	-0.1139	0.0240	0.1328	0.1057	-2.1460	0.2461	-1.0822	0.2427
1	74.88	0.5996	-0.1264	0.0282	0.1807	0.1322	-2.9575	0.3008	-0.8949	0.2312
1	74.88	0.6498	-0.1822	0.0318	0.2306	0.1544	-3.7304	0.3456	-0.9892	0.2394
1	74.88	0.6998	-0.2295	0.0264	0.2776	0.1874	-4.5994	0.4209	-1.5599	0.5644
1	74.88	0.7500	-0.3528	0.0328	0.2972	0.2233	-5.3106	0.3792	-0.9408	0.2299
1	74.88	0.8001	-0.4233	0.0346	0.3032	0.2442	-6.1607	0.4288	-1.0128	0.2289
1	74.88	0.8497	-0.4948	0.0369	0.3675	0.2650	-7.0207	0.4787	-1.0006	0.2319
1	74.88	0.9102	-0.5890	0.0394	0.4026	0.2906	-8.1360	0.5410	-1.2753	0.2297
1	74.88	0.9734	-0.6540	0.0369	0.5110	0.3171	-9.2915	0.6080	-1.6083	0.2274
2	74.88	0.2405	-0.0426	0.0126	-0.0025	0.0042	-0.1639	0.0121	-0.1230	0.1588
2	74.88	0.2999	-0.0194	0.0044	-0.0014	0.0083	-0.3905	0.0244	-0.1999	0.2473
2	74.88	0.3498	-0.0302	0.0061	-0.0092	0.0159	-0.6257	0.0491	-0.1820	0.2333
2	74.88	0.3998	-0.0491	0.0105	-0.0096	0.0238	-1.0184	0.0736	-0.4672	0.2370
2	74.88	0.4496	-0.0570	0.0147	-0.0350	0.0320	-1.4641	0.1000	-0.3048	0.2377
2	74.88	0.4995	-0.0951	0.0177	-0.0289	0.0408	-2.0271	0.1275	-0.2433	0.2416
2	74.88	0.5551	-0.0951	0.0188	-0.0360	0.0520	-2.8201	0.1606	-0.2799	0.2403
2	74.88	0.5996	-0.0908	0.0197	-0.0391	0.0610	-3.5677	0.1891	-0.4729	0.2388
2	74.88	0.6497	-0.1314	0.0193	-0.0290	0.0718	-4.4379	0.2209	-0.3557	0.2417
2	74.88	0.6996	-0.1683	0.0191	-0.0180	0.0833	-5.4024	0.2536	-0.3846	0.2465
2	74.88	0.7495	-0.2154	0.0210	-0.0198	0.0956	-6.4582	0.2872	-0.5333	0.2439
2	74.88	0.7996	-0.2764	0.0252	0.0198	0.1079	-7.4943	0.3224	-0.7474	0.2464
2	74.88	0.8578	-0.3535	0.0342	0.0472	0.1235	-8.6911	0.3650	-0.3662	0.2486
2	74.88	0.9100	-0.3515	0.0454	-0.0306	0.1384	-9.8381	0.4034	0.4032	0.2587
3	74.88	0.2357	-0.0433	0.0219	-0.0118	0.0027	-0.1509	0.0103	-0.0692	0.1125
3	74.88	0.2995	-0.0412	0.0048	-0.0230	0.0060	-0.3539	0.0229	-0.1165	0.1829
3	74.88	0.3493	-0.0417	0.0072	-0.0479	0.0109	-0.6084	0.0428	-0.2325	0.1710
3	74.88	0.4000	-0.0297	0.0161	-0.0702	0.0168	-0.9623	0.0657	-0.2457	0.1702
3	74.88	0.4497	-0.0740	0.0222	-0.1077	0.0220	-1.4052	0.0872	-0.1796	0.1692
3	74.88	0.4997	-0.0744	0.0264	-0.1328	0.0285	-1.9786	0.1133	-0.2226	0.1733
3	74.88	0.5556	-0.1169	0.0296	-0.1811	0.0360	-2.7766	0.1434	-0.5959	0.1750
3	74.88	0.5995	-0.0959	0.0293	-0.1609	0.0428	-3.4454	0.1682	-0.3460	0.1741
3	74.88	0.6498	-0.1319	0.0286	-0.2031	0.0506	-4.2621	0.1981	-0.2070	0.1814
3	74.88	0.6890	-0.1634	0.0272	-0.1915	0.0579	-5.0253	0.2230	-0.2352	0.1779
3	74.88	0.7495	-0.1870	0.0265	-0.2173	0.0702	-6.2225	0.2633	-0.1451	0.1797
3	74.88	0.7998	-0.2541	0.0282	-0.2003	0.0818	-7.2755	0.2988	-0.5999	0.1820
3	74.88	0.8577	-0.3309	0.0367	-0.1472	0.0972	-8.4343	0.3435	-0.5815	0.1810
3	74.88	0.9178	-0.3079	0.0510	-0.2290	0.1154	-9.6808	0.3920	0.2804	0.1855
4	74.88	0.2001	0.0099	0.0049	0.0043	0.0027	-0.0790	0.0076	-0.0002	0.0759
4	74.88	0.2502	0.0258	0.0037	0.0297	0.0050	-0.2073	0.0173	-0.1557	0.1442
4	74.88	0.3001	-0.0225	0.0036	0.0406	0.0089	-0.3625	0.0299	-0.0757	0.1782
4	74.88	0.3502	-0.0651	0.0034	0.0613	0.0168	-0.6465	0.0567	-0.1491	0.1548
4	74.88	0.4002	-0.1153	0.0038	0.1131	0.0244	-1.0144	0.0854	-0.1480	0.1636
4	74.88	0.4500	-0.1369	0.0054	0.1982	0.0323	-1.5693	0.1196	-0.4367	0.1579
4	74.88	0.5001	-0.2116	0.0067	0.2347	0.0410	-2.1370	0.1594	-0.0660	0.1585
4	74.88	0.5560	-0.2773	0.0112	0.2997	0.0504	-3.0406	0.2083	-0.3975	0.1573
4	74.88	0.6001	-0.2863	0.0104	0.3472	0.0597	-3.8048	0.2535	-0.2785	0.1582
4	74.88	0.6501	-0.3708	0.0134	0.4349	0.0697	-4.7635	0.3089	-0.1959	0.1549
4	74.88	0.6999	-0.4393	0.0168	0.5031	0.0801	-5.8265	0.3685	-0.0921	0.1529
4	74.88	0.7500	-0.5052	0.0211	0.5718	0.0907	-6.9681	0.4317	0.0407	0.1579
4	74.88	0.8002	-0.6000	0.0261	0.6238	0.1012	-8.1748	0.5005	0.0823	0.1579
4	74.88	0.8582	-0.7058	0.0323	0.7241	0.1137	-9.6234	0.5855	-0.2719	0.1530
4	74.88	0.9101	-0.7990	0.0368	0.8474	0.1245	-10.9188	0.6628	-0.2896	0.1578
4	74.88	0.9728	-0.7633	0.0423	1.0081	0.1374	-12.2962	0.7589	0.4035	0.1520

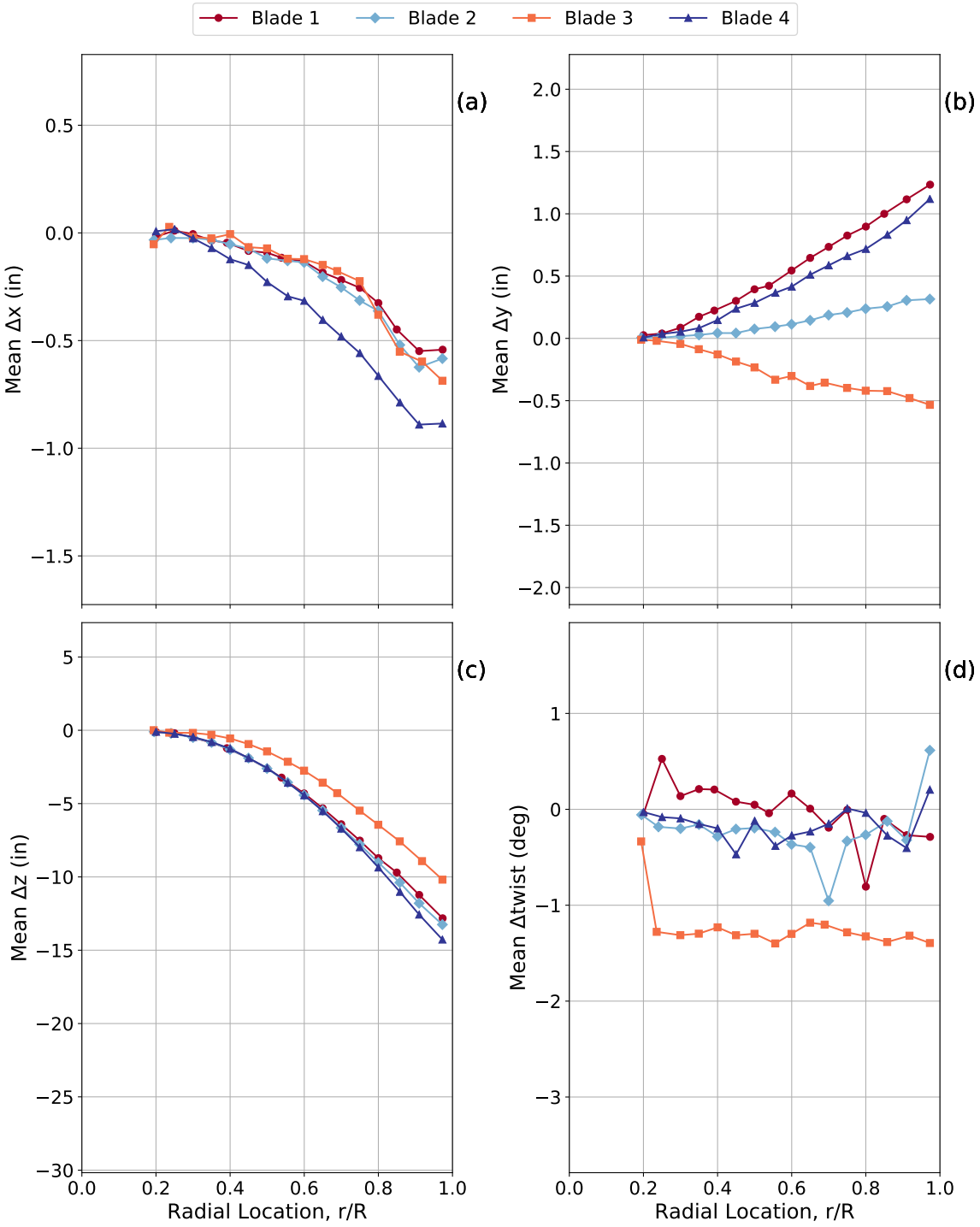


Figure 2.23-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0176	0.0050	0.0258	0.0055	-0.1202	0.0116	-0.0482	0.0985
1	80.16	0.2499	0.0105	0.0037	0.0395	0.0080	-0.1989	0.0168	0.5259	0.2457
1	80.16	0.2998	-0.0054	0.0036	0.0858	0.0198	-0.5067	0.0458	0.1375	0.2590
1	80.16	0.3498	-0.0351	0.0041	0.1734	0.0339	-0.8389	0.0806	0.2112	0.2541
1	80.16	0.3913	-0.0458	0.0049	0.2237	0.0470	-1.2197	0.1123	0.2061	0.2479
1	80.16	0.4496	-0.0837	0.0071	0.3009	0.0658	-1.8956	0.1579	0.0800	0.2546
1	80.16	0.4997	-0.0919	0.0082	0.3941	0.0836	-2.6081	0.2013	0.0476	0.2537
1	80.16	0.5387	-0.1153	0.0094	0.4223	0.0979	-3.2275	0.2358	-0.0407	0.2546
1	80.16	0.5996	-0.1328	0.0120	0.5449	0.1218	-4.3045	0.2921	0.1643	0.2522
1	80.16	0.6498	-0.1840	0.0143	0.6459	0.1420	-5.3208	0.3384	0.0066	0.2547
1	80.16	0.6998	-0.2184	0.0172	0.7345	0.1631	-6.4062	0.3844	-0.1914	0.2583
1	80.16	0.7500	-0.2550	0.0212	0.8256	0.1850	-7.5238	0.4316	-0.0052	0.2635
1	80.16	0.8001	-0.3257	0.0263	0.8973	0.2075	-8.7215	0.5048	-0.8066	0.5866
1	80.16	0.8497	-0.4485	0.0398	0.9997	0.2249	-9.7008	0.4875	-0.0998	0.2530
1	80.16	0.9102	-0.5489	0.0401	1.1162	0.2501	-11.2286	0.5570	-0.2699	0.2573
1	80.16	0.9734	-0.5423	0.0421	1.2340	0.2775	-12.8214	0.6356	-0.2876	0.2504
2	80.16	0.1949	-0.0326	0.0039	0.0047	0.0058	-0.1014	0.0142	-0.0571	0.0875
2	80.16	0.2405	-0.0235	0.0032	0.0040	0.0055	-0.2104	0.0114	-0.1828	0.2828
2	80.16	0.2999	-0.0241	0.0020	0.0177	0.0201	-0.4956	0.0474	-0.2006	0.2918
2	80.16	0.3498	-0.0318	0.0032	0.0278	0.0345	-0.8284	0.0836	-0.1585	0.2877
2	80.16	0.3998	-0.0525	0.0050	0.0429	0.0510	-1.3175	0.1216	-0.2833	0.2893
2	80.16	0.4496	-0.0732	0.0058	0.0425	0.0682	-1.8951	0.1611	-0.2065	0.2906
2	80.16	0.4995	-0.1183	0.0069	0.0752	0.0873	-2.6078	0.2032	-0.1950	0.2867
2	80.16	0.5551	-0.1295	0.0089	0.0940	0.1098	-3.5553	0.2512	-0.2379	0.2926
2	80.16	0.5996	-0.1373	0.0104	0.1135	0.1289	-4.4239	0.2901	-0.3656	0.2959
2	80.16	0.6497	-0.2031	0.0129	0.1448	0.1516	-5.4657	0.3382	-0.3961	0.2821
2	80.16	0.6996	-0.2528	0.0215	0.1875	0.1807	-6.6420	0.4172	-0.9539	0.4913
2	80.16	0.7495	-0.3136	0.0213	0.2074	0.1983	-7.7744	0.4359	-0.3310	0.2932
2	80.16	0.7996	-0.3623	0.0262	0.2381	0.2234	-9.0172	0.4923	-0.2660	0.3196
2	80.16	0.8578	-0.5204	0.0418	0.2553	0.2505	-10.3846	0.5107	-0.1246	0.2914
2	80.16	0.9100	-0.6237	0.0429	0.3054	0.2748	-11.7981	0.5796	-0.3210	0.2912
2	80.16	0.9727	-0.5835	0.0455	0.3154	0.3025	-13.2496	0.6657	0.6155	0.2986
3	80.16	0.1938	-0.0528	0.0074	-0.0106	0.0118	0.0045	0.0284	-0.3347	0.1003
3	80.16	0.2357	0.0279	0.0047	-0.0193	0.0070	-0.1649	0.0159	-1.2776	0.3631
3	80.16	0.2995	-0.0195	0.0080	-0.0442	0.0370	-0.1790	0.0842	-1.3123	0.3688
3	80.16	0.3493	-0.0252	0.0145	-0.0870	0.0636	-0.3054	0.1440	-1.2966	0.3616
3	80.16	0.4000	-0.0057	0.0199	-0.1284	0.0932	-0.5583	0.2080	-1.2305	0.3635
3	80.16	0.4497	-0.0662	0.0239	-0.1859	0.1245	-0.9406	0.2746	-1.3129	0.3604
3	80.16	0.4997	-0.0719	0.0264	-0.2332	0.1585	-1.4413	0.3419	-1.2977	0.3742
3	80.16	0.5556	-0.1201	0.0284	-0.3318	0.1986	-2.1458	0.4236	-1.3985	0.3645
3	80.16	0.5995	-0.1217	0.0292	-0.3018	0.2321	-2.7534	0.4872	-1.2988	0.3656
3	80.16	0.6498	-0.1487	0.0306	-0.3821	0.2725	-3.5712	0.5608	-1.1821	0.3651
3	80.16	0.6890	-0.1772	0.0327	-0.3552	0.3058	-4.2861	0.6175	-1.2025	0.3713
3	80.16	0.7495	-0.2240	0.0382	-0.3975	0.3576	-5.4785	0.7069	-1.2825	0.3521
3	80.16	0.7998	-0.3799	0.0424	-0.4199	0.4319	-6.4445	0.7131	-1.3248	0.3749
3	80.16	0.8577	-0.5519	0.0540	-0.4232	0.5526	-7.5753	0.6898	-1.3840	0.3714
3	80.16	0.9178	-0.5973	0.0593	-0.4789	0.6064	-8.9228	0.7836	-1.3174	0.3689
3	80.16	0.9729	-0.6865	0.0529	-0.5335	0.6549	-10.1865	0.8726	-1.3943	0.3649
4	80.16	0.2001	0.0077	0.0065	0.0073	0.0032	-0.1038	0.0101	-0.0287	0.0535
4	80.16	0.2502	0.0172	0.0051	0.0358	0.0038	-0.2404	0.0159	-0.0813	0.1454
4	80.16	0.3001	-0.0253	0.0040	0.0535	0.0095	-0.4580	0.0366	-0.0948	0.1338
4	80.16	0.3502	-0.0703	0.0043	0.0829	0.0155	-0.8034	0.0617	-0.1531	0.1365
4	80.16	0.4002	-0.1223	0.0051	0.1473	0.0225	-1.2554	0.0935	-0.1991	0.1373
4	80.16	0.4500	-0.1493	0.0061	0.2386	0.0293	-1.8981	0.1296	-0.4696	0.1401
4	80.16	0.5001	-0.2285	0.0078	0.2852	0.0366	-2.5707	0.1718	-0.1200	0.1383
4	80.16	0.5560	-0.2947	0.0101	0.3660	0.0452	-3.5791	0.2236	-0.3817	0.1375
4	80.16	0.6001	-0.3153	0.0127	0.4155	0.0527	-4.4351	0.2675	-0.2728	0.1388
4	80.16	0.6501	-0.4040	0.0156	0.5113	0.0611	-5.5185	0.3178	-0.2318	0.1377
4	80.16	0.6999	-0.4812	0.0187	0.5863	0.0696	-6.7060	0.3699	-0.1509	0.1402
4	80.16	0.7500	-0.5582	0.0226	0.6607	0.0785	-7.9775	0.4231	0.0085	0.1391
4	80.16	0.8002	-0.6642	0.0277	0.7181	0.0876	-9.3586	0.4779	-0.0369	0.1393
4	80.16	0.8582	-0.7876	0.0333	0.8315	0.0981	-11.0202	0.5443	-0.2743	0.1415
4	80.16	0.9101	-0.8903	0.0383	0.9489	0.1075	-12.5708	0.6065	-0.4040	0.1426
4	80.16	0.9728	-0.8852	0.0426	1.1192	0.1191	-14.2755	0.6845	0.2042	0.1439

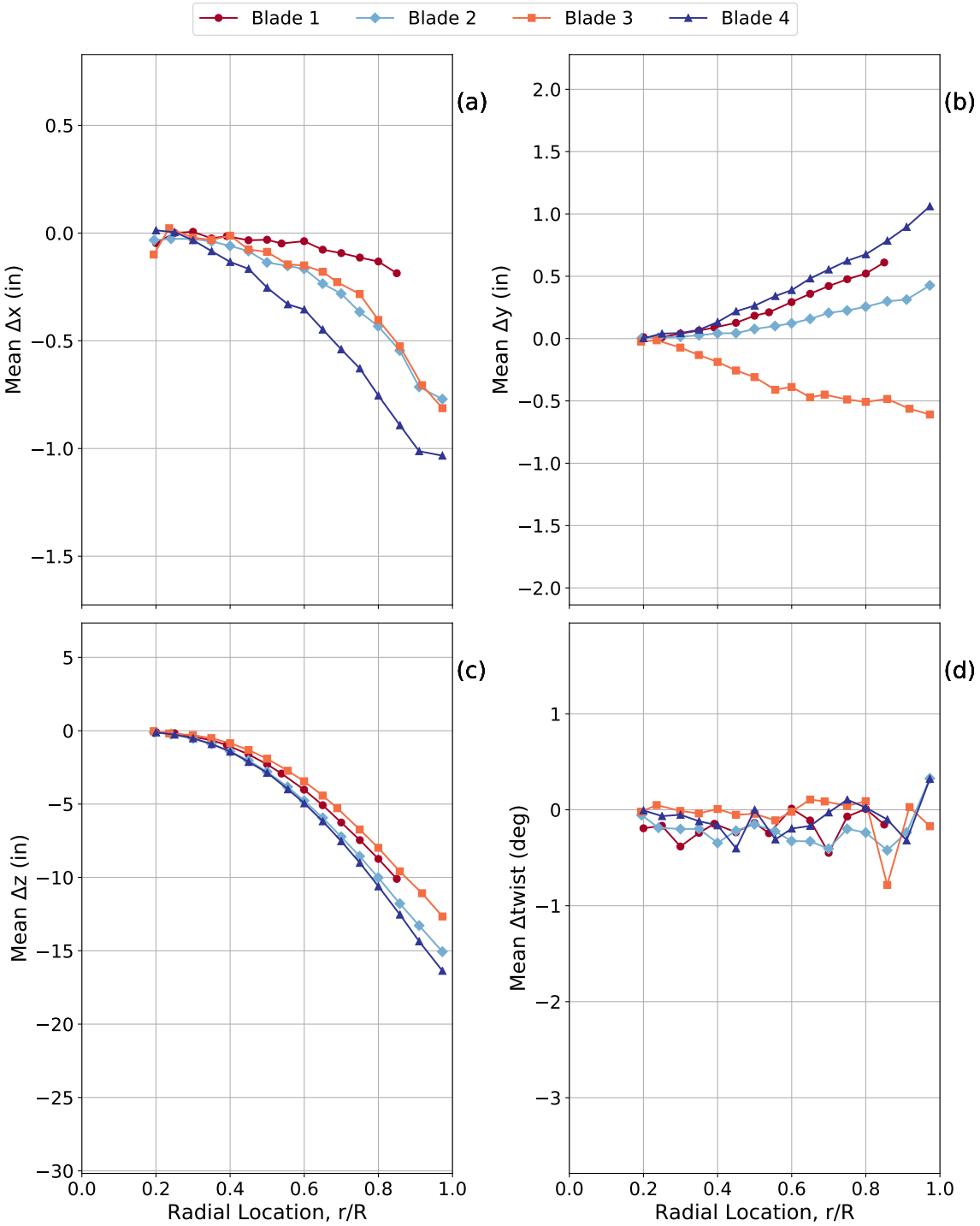


Figure 2.23-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0468	0.0017	0.0117	0.0011	-0.0943	0.0059	-0.1928	0.0225
1	85.08	0.2499	0.0004	0.0017	0.0101	0.0023	-0.1714	0.0128	-0.1667	0.0401
1	85.08	0.2998	0.0057	0.0019	0.0400	0.0042	-0.4159	0.0253	-0.3830	0.0505
1	85.08	0.3498	-0.0247	0.0023	0.0642	0.0076	-0.6509	0.0447	-0.2407	0.0431
1	85.08	0.3913	-0.0146	0.0032	0.0883	0.0106	-0.9799	0.0643	-0.1460	0.0400
1	85.08	0.4496	-0.0335	0.0042	0.1264	0.0153	-1.6147	0.0972	-0.2346	0.0441
1	85.08	0.4997	-0.0312	0.0056	0.1833	0.0196	-2.2897	0.1295	-0.1367	0.0562
1	85.08	0.5387	-0.0485	0.0074	0.2109	0.0235	-2.9209	0.1574	-0.2442	0.0522
1	85.08	0.5996	-0.0378	0.0091	0.2927	0.0290	-4.0212	0.2010	0.0122	0.0484
1	85.08	0.6498	-0.0774	0.0123	0.3595	0.0337	-5.0793	0.2389	-0.1110	0.0633
1	85.08	0.6998	-0.0931	0.0145	0.4213	0.0386	-6.2575	0.2797	-0.4491	0.0837
1	85.08	0.7500	-0.1138	0.0177	0.4761	0.0439	-7.4583	0.3212	-0.0701	0.0881
1	85.08	0.8001	-0.1322	0.0229	0.5216	0.0501	-8.7391	0.3658	0.0088	0.1858
1	85.08	0.8497	-0.1866	0.0273	0.6104	0.0534	-10.1003	0.4178	-0.1540	0.1355
2	85.08	0.1949	-0.0330	0.0064	0.0027	0.0077	-0.1095	0.0177	-0.0553	0.0968
2	85.08	0.2405	-0.0266	0.0037	0.0078	0.0068	-0.2259	0.0140	-0.1874	0.3359
2	85.08	0.2999	-0.0277	0.0032	0.0149	0.0268	-0.5310	0.0604	-0.2004	0.3350
2	85.08	0.3498	-0.0388	0.0044	0.0265	0.0457	-0.8933	0.1039	-0.1984	0.3461
2	85.08	0.3998	-0.0599	0.0063	0.0419	0.0675	-1.4157	0.1528	-0.3457	0.3485
2	85.08	0.4496	-0.0835	0.0081	0.0435	0.0911	-2.0320	0.2048	-0.2180	0.3487
2	85.08	0.4995	-0.1366	0.0099	0.0768	0.1165	-2.7968	0.2604	-0.1516	0.3452
2	85.08	0.5551	-0.1526	0.0126	0.1008	0.1469	-3.8291	0.3241	-0.2237	0.3464
2	85.08	0.5996	-0.1663	0.0158	0.1223	0.1728	-4.7753	0.3767	-0.3257	0.3539
2	85.08	0.6497	-0.2348	0.0193	0.1579	0.2032	-5.9357	0.4376	-0.3289	0.3533
2	85.08	0.6996	-0.2815	0.0241	0.2058	0.2350	-7.2244	0.5022	-0.4060	0.3391
2	85.08	0.7495	-0.3661	0.0306	0.2252	0.2677	-8.5590	0.5676	-0.1990	0.3474
2	85.08	0.7996	-0.4325	0.0379	0.2553	0.3016	-10.0124	0.6389	-0.2376	0.3651
2	85.08	0.8578	-0.5456	0.0453	0.2991	0.3437	-11.7862	0.7228	-0.4221	0.4377
2	85.08	0.9100	-0.7144	0.0623	0.3128	0.3839	-13.2800	0.7628	-0.2372	0.3692
2	85.08	0.9727	-0.7706	0.0642	0.4267	0.4220	-15.0627	0.8757	0.3265	0.3736
3	85.08	0.1938	-0.0997	0.0051	-0.0240	0.0142	-0.0376	0.0203	-0.0198	0.0292
3	85.08	0.2357	0.0221	0.0042	-0.0136	0.0073	-0.1883	0.0123	0.0492	0.0636
3	85.08	0.2995	-0.0214	0.0081	-0.0721	0.0426	-0.2994	0.0630	-0.0122	0.0681
3	85.08	0.3493	-0.0316	0.0138	-0.1320	0.0734	-0.5087	0.1089	-0.0375	0.0617
3	85.08	0.4000	-0.0123	0.0187	-0.1873	0.1064	-0.8494	0.1593	0.0081	0.0668
3	85.08	0.4497	-0.0763	0.0224	-0.2559	0.1412	-1.3165	0.2128	-0.0523	0.0625
3	85.08	0.4997	-0.0875	0.0252	-0.3090	0.1781	-1.9090	0.2694	-0.0415	0.0640
3	85.08	0.5556	-0.1458	0.0277	-0.4107	0.2221	-2.7304	0.3368	-0.1102	0.0674
3	85.08	0.5995	-0.1504	0.0295	-0.3882	0.2587	-3.4495	0.3933	-0.0205	0.0662
3	85.08	0.6498	-0.1798	0.0319	-0.4711	0.3016	-4.4214	0.4580	0.1065	0.0704
3	85.08	0.6890	-0.2278	0.0348	-0.4496	0.3359	-5.2793	0.5102	0.0871	0.0887
3	85.08	0.7495	-0.2832	0.0416	-0.4886	0.3911	-6.7346	0.5938	0.0404	0.0708
3	85.08	0.7998	-0.4035	0.0498	-0.5078	0.4377	-7.9812	0.6649	0.0895	0.0869
3	85.08	0.8577	-0.5255	0.0562	-0.4843	0.5205	-9.5894	0.8130	-0.7833	1.6310
3	85.08	0.9178	-0.7062	0.0617	-0.5630	0.6316	-11.0780	0.7566	0.0278	0.0902
3	85.08	0.9729	-0.8129	0.0572	-0.6087	0.6799	-12.6619	0.8504	-0.1714	0.0886
4	85.08	0.2001	0.0126	0.0071	0.0028	0.0029	-0.1199	0.0097	-0.0066	0.0756
4	85.08	0.2502	0.0036	0.0066	0.0396	0.0045	-0.2670	0.0139	-0.0659	0.1693
4	85.08	0.3001	-0.0332	0.0047	0.0444	0.0080	-0.5213	0.0309	-0.0521	0.1762
4	85.08	0.3502	-0.0842	0.0046	0.0706	0.0135	-0.9137	0.0513	-0.1195	0.1738
4	85.08	0.4002	-0.1342	0.0054	0.1327	0.0193	-1.4233	0.0761	-0.1617	0.1804
4	85.08	0.4500	-0.1664	0.0066	0.2189	0.0252	-2.1303	0.1031	-0.4028	0.1792
4	85.08	0.5001	-0.2539	0.0076	0.2643	0.0323	-2.8688	0.1374	0.0002	0.1726
4	85.08	0.5560	-0.3309	0.0094	0.3412	0.0402	-3.9946	0.1766	-0.3092	0.1793
4	85.08	0.6001	-0.3547	0.0114	0.3892	0.0469	-4.9495	0.2114	-0.1960	0.1776
4	85.08	0.6501	-0.4483	0.0146	0.4826	0.0546	-6.1769	0.2522	-0.1681	0.1765
4	85.08	0.6999	-0.5399	0.0183	0.5540	0.0626	-7.5352	0.2971	-0.0278	0.1781
4	85.08	0.7500	-0.6285	0.0223	0.6243	0.0706	-9.0075	0.3466	0.1056	0.1805
4	85.08	0.8002	-0.7546	0.0280	0.6763	0.0789	-10.6102	0.4005	0.0224	0.1769
4	85.08	0.8582	-0.8922	0.0353	0.7853	0.0891	-12.5355	0.4685	-0.1017	0.1830
4	85.08	0.9101	-1.0126	0.0412	0.8957	0.0984	-14.3588	0.5329	-0.3197	0.1799
4	85.08	0.9728	-1.0332	0.0475	1.0611	0.1091	-16.3689	0.6146	0.3224	0.1734

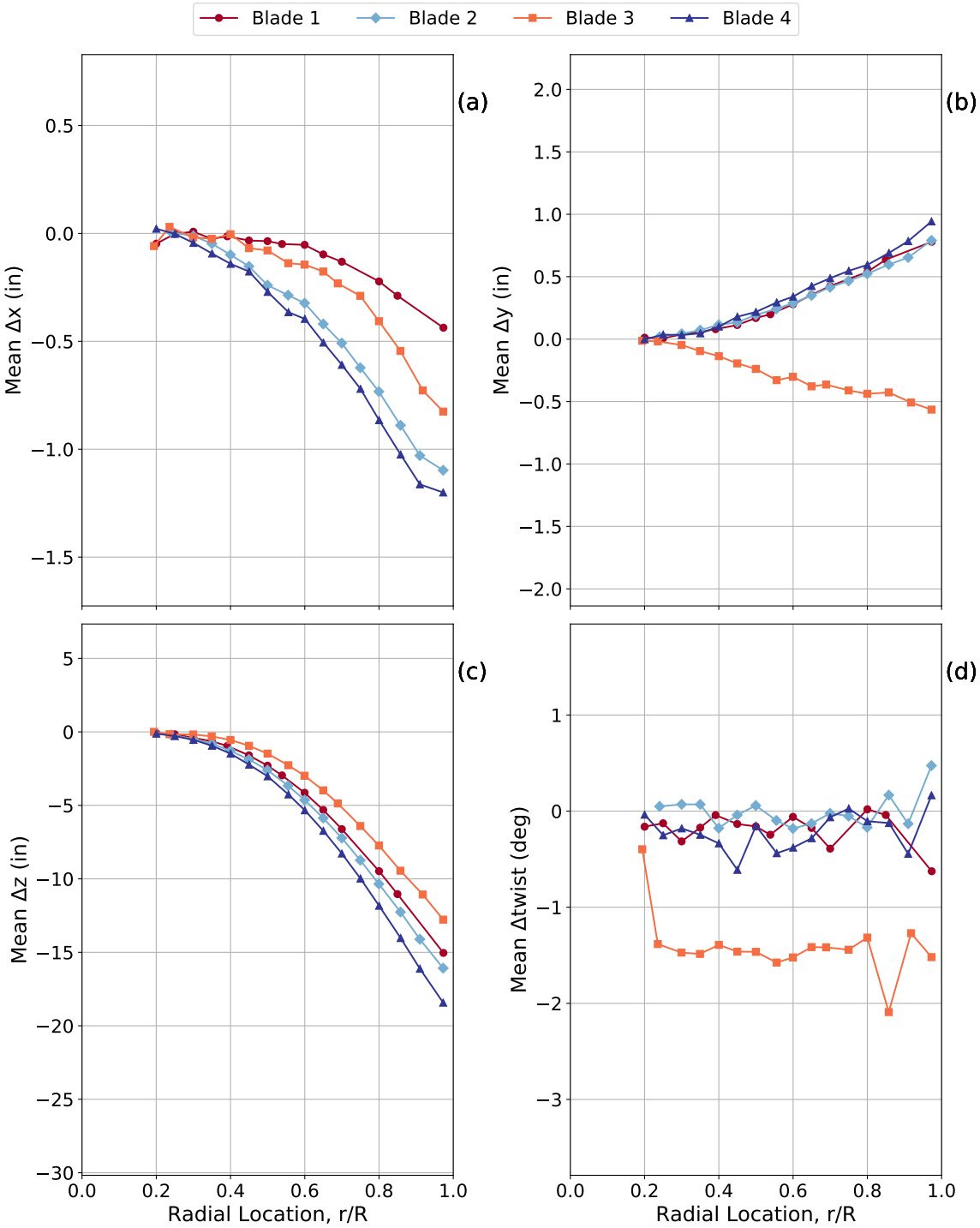


Figure 2.23-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0475	0.0015	0.0115	0.0010	-0.0933	0.0058	-0.1620	0.0172
1	90	0.2499	-0.0021	0.0017	0.0070	0.0023	-0.1660	0.0134	-0.1265	0.0327
1	90	0.2998	0.0079	0.0021	0.0379	0.0042	-0.4076	0.0258	-0.3153	0.0379
1	90	0.3498	-0.0251	0.0019	0.0582	0.0075	-0.6375	0.0452	-0.1722	0.0352
1	90	0.3913	-0.0135	0.0030	0.0799	0.0106	-0.9576	0.0659	-0.0419	0.0355
1	90	0.4496	-0.0329	0.0045	0.1130	0.0153	-1.5960	0.1012	-0.1337	0.0353
1	90	0.4997	-0.0358	0.0059	0.1690	0.0200	-2.2981	0.1392	-0.1599	0.0449
1	90	0.5387	-0.0491	0.0073	0.1991	0.0238	-2.9587	0.1724	-0.2460	0.0479
1	90	0.5996	-0.0530	0.0111	0.2786	0.0302	-4.1420	0.2326	-0.0601	0.0398
1	90	0.6498	-0.0974	0.0159	0.3548	0.0354	-5.3120	0.2906	-0.1753	0.0452
1	90	0.6998	-0.1312	0.0212	0.4248	0.0413	-6.6164	0.3580	-0.3906	0.0562
1	90	0.8001	-0.2224	0.0373	0.5386	0.0526	-9.4773	0.5223	0.0189	0.0953
1	90	0.8497	-0.2889	0.0476	0.6367	0.0572	-11.0393	0.6108	-0.0406	0.1006
1	90	0.9734	-0.4368	0.0698	0.7796	0.0703	-15.0397	0.8623	-0.6259	0.2392
2	90	0.2405	0.0049	0.0052	0.0187	0.0054	-0.2047	0.0155	0.0490	0.1748
2	90	0.2999	-0.0115	0.0058	0.0430	0.0104	-0.4813	0.0309	0.0703	0.2726
2	90	0.3498	-0.0473	0.0048	0.0718	0.0205	-0.7987	0.0637	0.0700	0.2410
2	90	0.3998	-0.0988	0.0057	0.1149	0.0304	-1.2882	0.0950	-0.1778	0.2474
2	90	0.4496	-0.1526	0.0072	0.1341	0.0402	-1.8772	0.1291	-0.0405	0.2466
2	90	0.4995	-0.2398	0.0091	0.1938	0.0507	-2.6008	0.1668	0.0580	0.2484
2	90	0.5551	-0.2863	0.0116	0.2427	0.0643	-3.6644	0.2179	-0.0976	0.2390
2	90	0.5996	-0.3229	0.0143	0.2875	0.0752	-4.6337	0.2607	-0.1816	0.2413
2	90	0.6497	-0.4198	0.0183	0.3500	0.0882	-5.8626	0.3155	-0.1296	0.2400
2	90	0.6996	-0.5083	0.0232	0.4152	0.1015	-7.2205	0.3737	-0.0232	0.2450
2	90	0.7495	-0.6226	0.0294	0.4661	0.1158	-8.7325	0.4379	-0.0517	0.2463
2	90	0.7996	-0.7329	0.0362	0.5234	0.1301	-10.3486	0.5061	-0.1697	0.2466
2	90	0.8578	-0.8892	0.0450	0.5975	0.1471	-12.2576	0.5906	0.1663	0.2445
2	90	0.9100	-1.0293	0.0527	0.6538	0.1624	-14.1101	0.6687	-0.1320	0.2462
2	90	0.9727	-1.0974	0.0595	0.7907	0.1803	-16.0780	0.7644	0.4735	0.2505
3	90	0.1938	-0.0586	0.0066	-0.0129	0.0103	0.0031	0.0260	-0.3968	0.0952
3	90	0.2357	0.0302	0.0050	-0.0184	0.0077	-0.1604	0.0156	-1.3832	0.3364
3	90	0.2995	-0.0182	0.0063	-0.0468	0.0334	-0.1769	0.0763	-1.4721	0.3398
3	90	0.3493	-0.0247	0.0106	-0.0958	0.0558	-0.3036	0.1294	-1.4857	0.3364
3	90	0.4000	-0.0040	0.0149	-0.1365	0.0833	-0.5512	0.1868	-1.3917	0.3388
3	90	0.4497	-0.0682	0.0178	-0.1944	0.1067	-0.9450	0.2439	-1.4621	0.3412
3	90	0.4997	-0.0789	0.0202	-0.2385	0.1364	-1.4792	0.3055	-1.4643	0.3356
3	90	0.5556	-0.1380	0.0221	-0.3287	0.1724	-2.2683	0.3764	-1.5755	0.3332
3	90	0.5995	-0.1446	0.0233	-0.3018	0.2025	-2.9867	0.4322	-1.5226	0.3350
3	90	0.6498	-0.1766	0.0247	-0.3782	0.2389	-3.9802	0.4980	-1.4150	0.3368
3	90	0.6890	-0.2315	0.0267	-0.3639	0.2686	-4.8700	0.5477	-1.4175	0.3460
3	90	0.7495	-0.2892	0.0316	-0.4108	0.3169	-6.4045	0.6276	-1.4420	0.3382
3	90	0.7998	-0.4068	0.0375	-0.4379	0.3579	-7.7312	0.6963	-1.3161	0.3301
3	90	0.8577	-0.5445	0.0448	-0.4269	0.4387	-9.4474	0.8473	-2.0912	1.1944
3	90	0.9178	-0.7275	0.0561	-0.5076	0.5562	-11.0669	0.7122	-1.2704	0.3360
3	90	0.9729	-0.8255	0.0530	-0.5645	0.6024	-12.7751	0.7916	-1.5193	0.3373
4	90.35	0.2001	0.0217	0.0089	-0.0015	0.0042	-0.1194	0.0157	-0.0372	0.0913
4	90.35	0.2502	-0.0022	0.0121	0.0358	0.0057	-0.2887	0.0225	-0.2513	0.1894
4	90.35	0.3001	-0.0440	0.0061	0.0328	0.0110	-0.5397	0.0442	-0.1799	0.1663
4	90.35	0.3502	-0.0932	0.0058	0.0464	0.0173	-0.9425	0.0682	-0.2465	0.1533
4	90.35	0.4002	-0.1411	0.0065	0.1008	0.0246	-1.4823	0.1003	-0.3363	0.1519
4	90.35	0.4500	-0.1767	0.0081	0.1793	0.0312	-2.2296	0.1287	-0.6115	0.1471
4	90.35	0.5001	-0.2710	0.0088	0.2179	0.0384	-3.0236	0.1693	-0.1522	0.1540
4	90.35	0.5560	-0.3651	0.0117	0.2939	0.0478	-4.2574	0.2197	-0.4380	0.1536
4	90.35	0.6001	-0.3960	0.0150	0.3404	0.0554	-5.3355	0.2647	-0.3797	0.1556
4	90.35	0.6501	-0.5057	0.0196	0.4249	0.0644	-6.7334	0.3242	-0.2821	0.1503
4	90.35	0.6999	-0.6090	0.0259	0.4881	0.0733	-8.2786	0.3899	-0.0642	0.1532
4	90.35	0.7500	-0.7203	0.0333	0.5470	0.0827	-9.9810	0.4628	0.0263	0.1506
4	90.35	0.8002	-0.8653	0.0422	0.5949	0.0930	-11.8329	0.5432	-0.1054	0.1511
4	90.35	0.8582	-1.0248	0.0536	0.6904	0.1047	-14.0284	0.6409	-0.1242	0.1548
4	90.35	0.9101	-1.1628	0.0632	0.7850	0.1155	-16.1162	0.7304	-0.4446	0.1602
4	90.35	0.9728	-1.2004	0.0731	0.9427	0.1283	-18.4264	0.8420	0.1649	0.1576

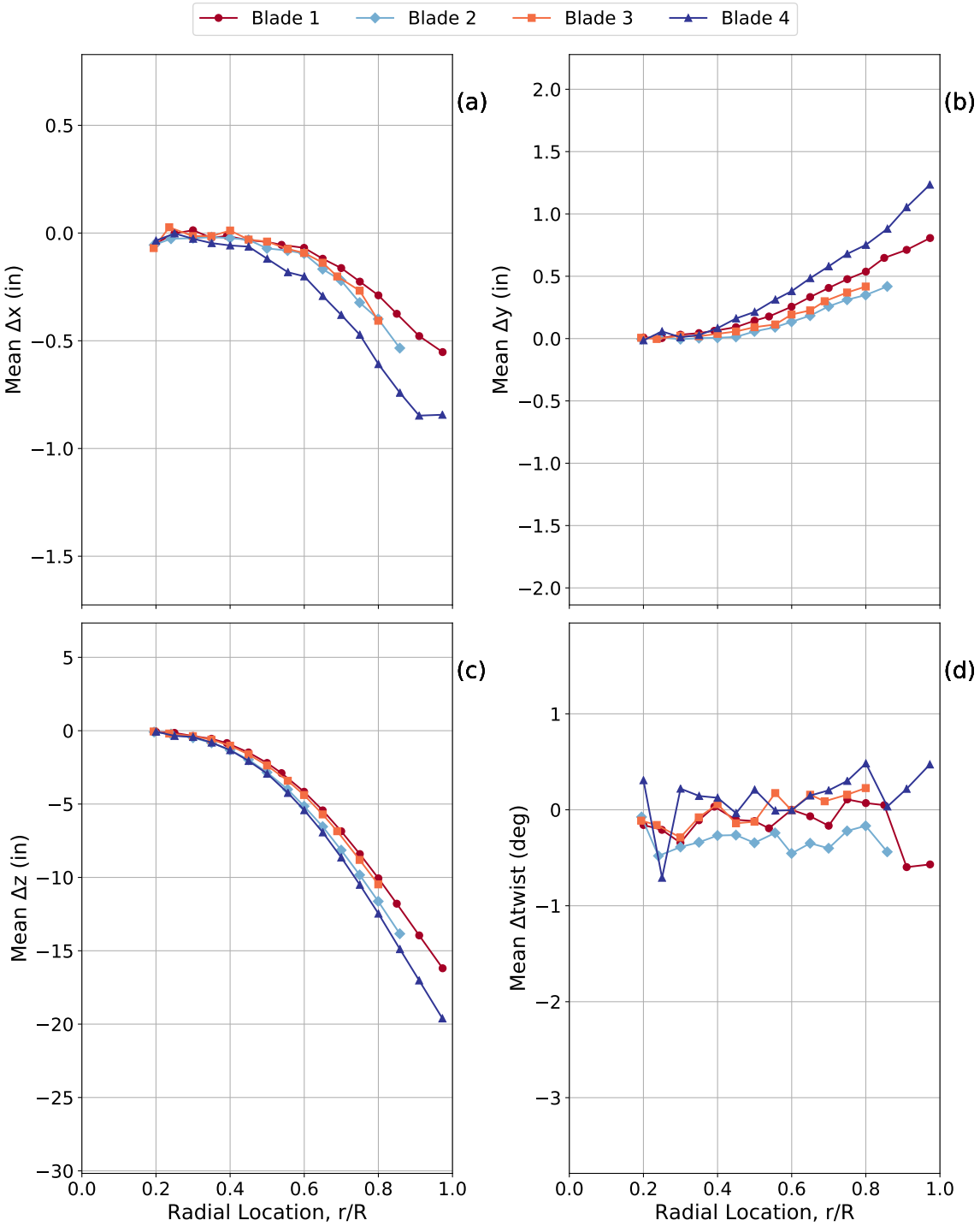


Figure 2.23-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0475	0.0015	0.0093	0.0009	-0.0806	0.0049	-0.1584	0.0189
1	94.92	0.2499	-0.0018	0.0017	0.0040	0.0021	-0.1477	0.0111	-0.2091	0.0348
1	94.92	0.2998	0.0129	0.0017	0.0313	0.0034	-0.3629	0.0213	-0.3441	0.0426
1	94.92	0.3498	-0.0225	0.0021	0.0439	0.0064	-0.5509	0.0372	-0.1090	0.0363
1	94.92	0.3913	-0.0133	0.0024	0.0623	0.0090	-0.8434	0.0541	0.0325	0.0369
1	94.92	0.4496	-0.0337	0.0038	0.0915	0.0127	-1.4820	0.0843	-0.1042	0.0399
1	94.92	0.4997	-0.0410	0.0051	0.1436	0.0166	-2.1986	0.1181	-0.1179	0.0370
1	94.92	0.5387	-0.0548	0.0069	0.1771	0.0201	-2.8914	0.1478	-0.1930	0.0394
1	94.92	0.5996	-0.0688	0.0105	0.2555	0.0258	-4.1611	0.2058	0.0003	0.0405
1	94.92	0.6498	-0.1193	0.0149	0.3332	0.0309	-5.4292	0.2633	-0.0677	0.0438
1	94.92	0.6998	-0.1626	0.0208	0.4063	0.0359	-6.8542	0.3264	-0.1662	0.0515
1	94.92	0.7500	-0.2255	0.0276	0.4768	0.0414	-8.4087	0.3993	0.1080	0.0509
1	94.92	0.8001	-0.2892	0.0367	0.5372	0.0467	-10.0619	0.4776	0.0699	0.0573
1	94.92	0.8497	-0.3748	0.0449	0.6472	0.0519	-11.7916	0.5571	0.0486	0.0725
1	94.92	0.9102	-0.4782	0.0599	0.7118	0.0570	-13.9516	0.6557	-0.5974	0.3656
1	94.92	0.9734	-0.5525	0.0639	0.8066	0.0659	-16.1927	0.7610	-0.5694	0.1042
2	94.92	0.1949	-0.0555	0.0016	-0.0045	0.0008	-0.0926	0.0034	-0.0749	0.0190
2	94.92	0.2405	-0.0264	0.0014	0.0113	0.0016	-0.2338	0.0074	-0.4804	0.0327
2	94.92	0.2999	-0.0241	0.0014	-0.0049	0.0033	-0.4803	0.0163	-0.3879	0.0427
2	94.92	0.3498	-0.0191	0.0020	0.0034	0.0059	-0.8279	0.0279	-0.3387	0.0360
2	94.92	0.3998	-0.0235	0.0030	0.0062	0.0090	-1.3145	0.0439	-0.2681	0.0399
2	94.92	0.4496	-0.0314	0.0038	0.0132	0.0119	-1.9743	0.0655	-0.2636	0.0412
2	94.92	0.4995	-0.0713	0.0053	0.0573	0.0150	-2.8423	0.0920	-0.3444	0.0474
2	94.92	0.5551	-0.0813	0.0081	0.0908	0.0192	-3.9994	0.1303	-0.2409	0.0471
2	94.92	0.5996	-0.0954	0.0106	0.1349	0.0229	-5.1459	0.1659	-0.4547	0.0482
2	94.92	0.6497	-0.1673	0.0148	0.1836	0.0268	-6.5391	0.2117	-0.3488	0.0449
2	94.92	0.6996	-0.2206	0.0201	0.2584	0.0310	-8.1402	0.2620	-0.4010	0.0462
2	94.92	0.7495	-0.3229	0.0255	0.3114	0.0348	-9.8318	0.3157	-0.2206	0.0731
2	94.92	0.7996	-0.3989	0.0325	0.3493	0.0396	-11.6292	0.3783	-0.1676	0.0717
2	94.92	0.8578	-0.5340	0.0423	0.4182	0.0447	-13.8405	0.4502	-0.4383	0.1036
3	94.92	0.1938	-0.0698	0.0126	0.0065	0.0009	-0.0543	0.0045	-0.1133	0.0187
3	94.92	0.2357	0.0269	0.0055	-0.0031	0.0016	-0.1948	0.0084	-0.1588	0.0334
3	94.92	0.2995	-0.0142	0.0061	0.0227	0.0036	-0.3727	0.0202	-0.2877	0.0453
3	94.92	0.3493	-0.0144	0.0137	0.0188	0.0067	-0.6089	0.0342	-0.0791	0.0434
3	94.92	0.4000	0.0116	0.0201	0.0382	0.0100	-1.0208	0.0541	0.0585	0.0409
3	94.92	0.4497	-0.0303	0.0250	0.0572	0.0144	-1.6151	0.0781	-0.1409	0.0454
3	94.92	0.4997	-0.0397	0.0281	0.0916	0.0191	-2.3723	0.1083	-0.1241	0.0476
3	94.92	0.5556	-0.0739	0.0298	0.1130	0.0252	-3.4124	0.1496	0.1742	0.0492
3	94.92	0.5995	-0.0923	0.0302	0.1930	0.0299	-4.3817	0.1861	-0.0050	0.0549
3	94.92	0.6498	-0.1378	0.0304	0.2260	0.0359	-5.7056	0.2355	0.1569	0.0510
3	94.92	0.6890	-0.2014	0.0298	0.2996	0.0403	-6.8500	0.2782	0.0888	0.0556
3	94.92	0.7495	-0.2674	0.0298	0.3694	0.0476	-8.8055	0.3514	0.1575	0.0637
3	94.92	0.7998	-0.4070	0.0310	0.4174	0.0543	-10.4732	0.4179	0.2264	0.0789
4	94.92	0.2001	-0.0349	0.0042	-0.0139	0.0128	-0.0646	0.0417	0.3080	0.2190
4	94.92	0.2502	-0.0019	0.0055	0.0574	0.0157	-0.3554	0.0405	-0.7086	0.3624
4	94.92	0.3001	-0.0266	0.0032	0.0106	0.0256	-0.4272	0.0897	0.2202	0.2481
4	94.92	0.3502	-0.0468	0.0043	0.0287	0.0321	-0.8108	0.1164	0.1440	0.2482
4	94.92	0.4002	-0.0577	0.0057	0.0837	0.0389	-1.3267	0.1452	0.1250	0.2517
4	94.92	0.4500	-0.0631	0.0078	0.1616	0.0446	-2.0619	0.1731	-0.0356	0.2515
4	94.92	0.5001	-0.1194	0.0102	0.2139	0.0509	-2.9339	0.2028	0.2099	0.2496
4	94.92	0.5560	-0.1820	0.0132	0.3128	0.0590	-4.2421	0.2392	-0.0087	0.2581
4	94.92	0.6001	-0.2012	0.0167	0.3807	0.0658	-5.4198	0.2680	-0.0041	0.2474
4	94.92	0.6501	-0.2922	0.0205	0.4849	0.0755	-6.9323	0.3057	0.1483	0.2523
4	94.92	0.6999	-0.3801	0.0261	0.5797	0.0868	-8.6432	0.3455	0.2028	0.2502
4	94.92	0.7500	-0.4723	0.0324	0.6797	0.1003	-10.5033	0.3905	0.3008	0.2567
4	94.92	0.8002	-0.6084	0.0402	0.7517	0.1160	-12.4684	0.4397	0.4835	0.2597
4	94.92	0.8582	-0.7415	0.0498	0.8808	0.1363	-14.8909	0.5032	0.0340	0.2741
4	94.92	0.9101	-0.8474	0.0585	1.0540	0.1550	-17.0239	0.5647	0.2183	0.2559
4	94.92	0.9728	-0.8434	0.0711	1.2347	0.1813	-19.6114	0.6397	0.4724	0.2644

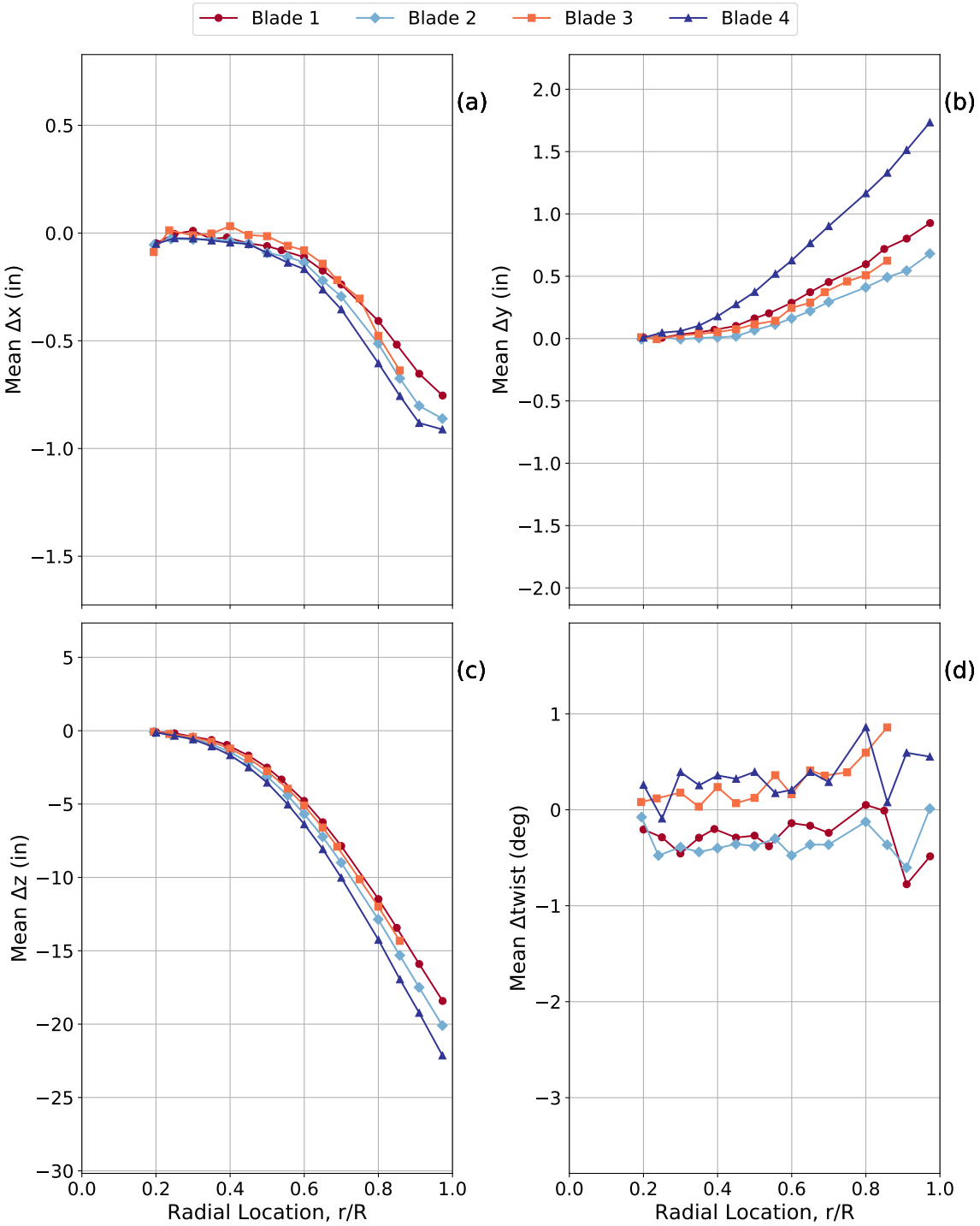


Figure 2.23-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0470	0.0017	0.0099	0.0009	-0.0900	0.0067	-0.2057	0.0214
1	99.84	0.2499	-0.0039	0.0018	0.0063	0.0023	-0.1766	0.0157	-0.2869	0.0401
1	99.84	0.2998	0.0103	0.0026	0.0336	0.0041	-0.4114	0.0306	-0.4554	0.0498
1	99.84	0.3498	-0.0272	0.0028	0.0501	0.0068	-0.6326	0.0517	-0.2912	0.0455
1	99.84	0.3913	-0.0207	0.0036	0.0703	0.0103	-0.9683	0.0767	-0.2006	0.0432
1	99.84	0.4496	-0.0481	0.0054	0.1016	0.0152	-1.6922	0.1226	-0.2896	0.0430
1	99.84	0.4997	-0.0605	0.0084	0.1621	0.0207	-2.5153	0.1742	-0.2694	0.0429
1	99.84	0.5387	-0.0799	0.0114	0.2028	0.0254	-3.3263	0.2220	-0.3802	0.0468
1	99.84	0.5996	-0.1117	0.0185	0.2869	0.0336	-4.7859	0.3131	-0.1393	0.0451
1	99.84	0.6498	-0.1742	0.0266	0.3723	0.0408	-6.2382	0.4014	-0.1662	0.0448
1	99.84	0.6998	-0.2387	0.0369	0.4534	0.0483	-7.8585	0.5010	-0.2401	0.0499
1	99.84	0.8001	-0.4079	0.0643	0.5967	0.0636	-11.4760	0.7306	0.0501	0.0540
1	99.84	0.8497	-0.5182	0.0805	0.7188	0.0718	-13.4376	0.8556	-0.0088	0.0550
1	99.84	0.9102	-0.6531	0.1006	0.8019	0.0813	-15.9032	1.0152	-0.7762	0.0954
1	99.84	0.9734	-0.7543	0.1186	0.9268	0.0920	-18.4211	1.1848	-0.4854	0.0872
2	99.84	0.1949	-0.0548	0.0015	-0.0047	0.0008	-0.1011	0.0040	-0.0764	0.0173
2	99.84	0.2405	-0.0274	0.0015	0.0128	0.0015	-0.2605	0.0092	-0.4764	0.0289
2	99.84	0.2999	-0.0299	0.0018	-0.0045	0.0035	-0.5274	0.0204	-0.3895	0.0400
2	99.84	0.3498	-0.0267	0.0021	0.0054	0.0056	-0.9156	0.0340	-0.4394	0.0359
2	99.84	0.3998	-0.0362	0.0030	0.0093	0.0089	-1.4513	0.0545	-0.3999	0.0360
2	99.84	0.4496	-0.0488	0.0043	0.0181	0.0122	-2.1749	0.0792	-0.3572	0.0391
2	99.84	0.4995	-0.0919	0.0060	0.0673	0.0160	-3.1214	0.1104	-0.3775	0.0405
2	99.84	0.5551	-0.1113	0.0091	0.1133	0.0208	-4.4093	0.1545	-0.3006	0.0422
2	99.84	0.5996	-0.1363	0.0130	0.1613	0.0251	-5.6772	0.1958	-0.4761	0.0361
2	99.84	0.6497	-0.2203	0.0182	0.2210	0.0302	-7.2260	0.2496	-0.3633	0.0446
2	99.84	0.6996	-0.2942	0.0248	0.2933	0.0355	-8.9901	0.3096	-0.3637	0.0452
2	99.84	0.7996	-0.5128	0.0425	0.4105	0.0460	-12.8645	0.4478	-0.1248	0.0485
2	99.84	0.8578	-0.6749	0.0542	0.4921	0.0522	-15.3125	0.5345	-0.3652	0.0652
2	99.84	0.9100	-0.8020	0.0640	0.5448	0.0579	-17.4956	0.6185	-0.6039	0.0943
2	99.84	0.9727	-0.8614	0.0756	0.6812	0.0648	-20.0943	0.7192	0.0117	0.1053
3	99.84	0.1938	-0.0881	0.0227	0.0109	0.0017	-0.0740	0.0059	0.0807	0.0224
3	99.84	0.2357	0.0127	0.0088	-0.0044	0.0042	-0.2249	0.0136	0.1184	0.0354
3	99.84	0.2995	-0.0108	0.0106	0.0253	0.0088	-0.4328	0.0299	0.1790	0.0514
3	99.84	0.3493	-0.0024	0.0228	0.0369	0.0147	-0.7598	0.0511	0.0326	0.0546
3	99.84	0.4000	0.0318	0.0329	0.0520	0.0240	-1.2181	0.0814	0.2371	0.0494
3	99.84	0.4497	-0.0090	0.0398	0.0746	0.0338	-1.8922	0.1176	0.0694	0.0614
3	99.84	0.4997	-0.0146	0.0442	0.1146	0.0456	-2.7517	0.1627	0.1246	0.0649
3	99.84	0.5556	-0.0593	0.0462	0.1429	0.0600	-3.9560	0.2236	0.3605	0.0673
3	99.84	0.5995	-0.0804	0.0449	0.2461	0.0719	-5.0932	0.2774	0.1623	0.0749
3	99.84	0.6498	-0.1422	0.0430	0.2881	0.0857	-6.5977	0.3457	0.4107	0.0830
3	99.84	0.6890	-0.2181	0.0412	0.3726	0.0966	-7.9035	0.4029	0.3564	0.0846
3	99.84	0.7495	-0.3042	0.0420	0.4584	0.1145	-10.1306	0.5005	0.3910	0.0941
3	99.84	0.7998	-0.4771	0.0479	0.5079	0.1290	-11.9913	0.5836	0.5956	0.0990
3	99.84	0.8577	-0.6377	0.0648	0.6247	0.1462	-14.3237	0.6848	0.8590	0.1528
4	99.84	0.2001	-0.0503	0.0017	0.0075	0.0012	-0.1275	0.0062	0.2598	0.0215
4	99.84	0.2502	-0.0241	0.0017	0.0478	0.0021	-0.3461	0.0146	-0.0914	0.0359
4	99.84	0.3001	-0.0256	0.0026	0.0601	0.0047	-0.5894	0.0278	0.3932	0.0479
4	99.84	0.3502	-0.0346	0.0034	0.1036	0.0080	-1.0672	0.0484	0.2552	0.0444
4	99.84	0.4002	-0.0443	0.0045	0.1787	0.0122	-1.6697	0.0761	0.3577	0.0470
4	99.84	0.4500	-0.0512	0.0064	0.2756	0.0170	-2.4997	0.1111	0.3230	0.0462
4	99.84	0.5001	-0.0928	0.0093	0.3745	0.0227	-3.5432	0.1554	0.3949	0.0486
4	99.84	0.5560	-0.1377	0.0141	0.5195	0.0299	-5.0344	0.2182	0.1737	0.0533
4	99.84	0.6001	-0.1673	0.0196	0.6271	0.0357	-6.3815	0.2740	0.2075	0.0519
4	99.84	0.6501	-0.2622	0.0274	0.7657	0.0427	-8.0778	0.3459	0.3939	0.0547
4	99.84	0.6999	-0.3542	0.0363	0.9022	0.0507	-10.0206	0.4261	0.2896	0.0531
4	99.84	0.8002	-0.6046	0.0591	1.1658	0.0651	-14.2531	0.6043	0.8606	0.0594
4	99.84	0.8582	-0.7564	0.0738	1.3302	0.0745	-16.9471	0.7154	0.0782	0.0790
4	99.84	0.9101	-0.8816	0.0863	1.5124	0.0817	-19.2308	0.8170	0.5944	0.0805
4	99.84	0.9728	-0.9115	0.1013	1.7342	0.0907	-22.1363	0.9407	0.5534	0.1145

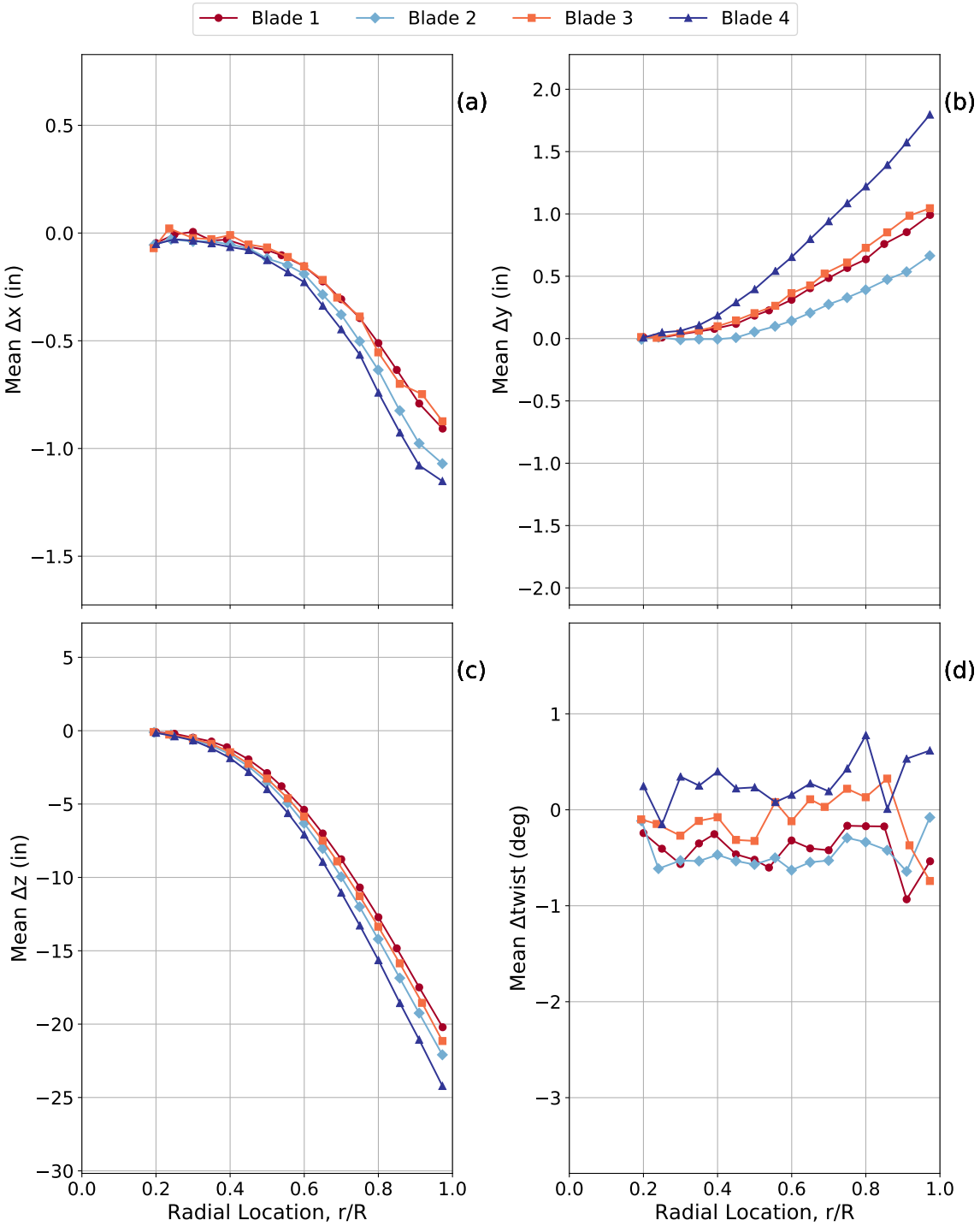


Figure 2.23-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0465	0.0016	0.0106	0.0010	-0.1036	0.0062	-0.2426	0.0195
1	105.12	0.2499	-0.0065	0.0017	0.0085	0.0025	-0.2086	0.0150	-0.4056	0.0333
1	105.12	0.2998	0.0053	0.0020	0.0353	0.0046	-0.4739	0.0286	-0.5656	0.0431
1	105.12	0.3498	-0.0345	0.0025	0.0570	0.0078	-0.7369	0.0490	-0.3507	0.0396
1	105.12	0.3913	-0.0307	0.0029	0.0777	0.0115	-1.1242	0.0724	-0.2538	0.0433
1	105.12	0.4496	-0.0634	0.0050	0.1179	0.0167	-1.9558	0.1154	-0.4641	0.0506
1	105.12	0.4997	-0.0794	0.0079	0.1838	0.0224	-2.8872	0.1609	-0.5206	0.0423
1	105.12	0.5387	-0.1030	0.0108	0.2261	0.0271	-3.7840	0.2028	-0.6024	0.0514
1	105.12	0.5996	-0.1539	0.0174	0.3111	0.0354	-5.3900	0.2843	-0.3197	0.0476
1	105.12	0.6498	-0.2246	0.0247	0.4037	0.0424	-7.0025	0.3594	-0.4024	0.0473
1	105.12	0.6998	-0.3073	0.0340	0.4860	0.0496	-8.7624	0.4425	-0.4216	0.0478
1	105.12	0.7500	-0.3949	0.0450	0.5665	0.0569	-10.6878	0.5342	-0.1664	0.0466
1	105.12	0.8001	-0.5108	0.0573	0.6360	0.0645	-12.7148	0.6314	-0.1710	0.0502
1	105.12	0.8497	-0.6353	0.0702	0.7587	0.0715	-14.8335	0.7303	-0.1735	0.0588
1	105.12	0.9102	-0.7914	0.0859	0.8539	0.0804	-17.4940	0.8570	-0.9328	0.0738
1	105.12	0.9734	-0.9078	0.1007	0.9919	0.0900	-20.2100	0.9909	-0.5366	0.0693
2	105.12	0.1949	-0.0552	0.0015	-0.0060	0.0011	-0.1121	0.0063	-0.1159	0.0233
2	105.12	0.2405	-0.0294	0.0017	0.0108	0.0027	-0.2897	0.0142	-0.6136	0.0312
2	105.12	0.2999	-0.0394	0.0023	-0.0097	0.0055	-0.5873	0.0312	-0.5292	0.0517
2	105.12	0.3498	-0.0380	0.0029	-0.0040	0.0096	-1.0162	0.0539	-0.5345	0.0414
2	105.12	0.3998	-0.0532	0.0044	-0.0048	0.0151	-1.6136	0.0850	-0.4690	0.0422
2	105.12	0.4496	-0.0703	0.0067	0.0076	0.0203	-2.4355	0.1257	-0.5336	0.0450
2	105.12	0.4995	-0.1180	0.0101	0.0536	0.0263	-3.4848	0.1770	-0.5702	0.0475
2	105.12	0.5551	-0.1489	0.0164	0.0985	0.0342	-4.9189	0.2478	-0.5005	0.0423
2	105.12	0.5996	-0.1898	0.0228	0.1422	0.0410	-6.3102	0.3161	-0.6292	0.0496
2	105.12	0.6497	-0.2855	0.0324	0.2061	0.0488	-8.0295	0.4039	-0.5464	0.0464
2	105.12	0.6996	-0.3785	0.0442	0.2745	0.0567	-9.9575	0.5012	-0.5286	0.0442
2	105.12	0.7495	-0.5024	0.0579	0.3285	0.0644	-12.0048	0.6064	-0.2928	0.0448
2	105.12	0.7996	-0.6354	0.0732	0.3915	0.0721	-14.2072	0.7179	-0.3367	0.0460
2	105.12	0.8578	-0.8245	0.0922	0.4744	0.0810	-16.8603	0.8505	-0.4214	0.0558
2	105.12	0.9100	-0.9763	0.1076	0.5362	0.0891	-19.2485	0.9700	-0.6419	0.0537
2	105.12	0.9727	-1.0703	0.1249	0.6645	0.0991	-22.0900	1.1149	-0.0795	0.0904
3	105.12	0.1938	-0.0702	0.0022	0.0123	0.0010	-0.0883	0.0080	-0.1000	0.0225
3	105.12	0.2357	0.0213	0.0021	0.0061	0.0033	-0.2632	0.0190	-0.1475	0.0294
3	105.12	0.2995	-0.0235	0.0031	0.0411	0.0055	-0.5339	0.0420	-0.2695	0.0492
3	105.12	0.3493	-0.0283	0.0038	0.0650	0.0096	-0.8957	0.0716	-0.1160	0.0396
3	105.12	0.4000	-0.0097	0.0056	0.0991	0.0157	-1.4669	0.1148	-0.0772	0.0438
3	105.12	0.4497	-0.0533	0.0082	0.1458	0.0214	-2.2614	0.1674	-0.3139	0.0502
3	105.12	0.4997	-0.0670	0.0123	0.2040	0.0284	-3.2597	0.2306	-0.3247	0.0447
3	105.12	0.5556	-0.1112	0.0189	0.2630	0.0369	-4.6044	0.3161	0.0801	0.0465
3	105.12	0.5995	-0.1545	0.0254	0.3642	0.0442	-5.8508	0.3947	-0.1190	0.0472
3	105.12	0.6498	-0.2175	0.0357	0.4262	0.0528	-7.4930	0.4934	0.1094	0.0504
3	105.12	0.6890	-0.2997	0.0446	0.5213	0.0595	-8.9073	0.5794	0.0301	0.0444
3	105.12	0.7495	-0.3875	0.0619	0.6097	0.0704	-11.2758	0.7224	0.2192	0.0501
3	105.12	0.7998	-0.5539	0.0779	0.7280	0.0792	-13.3564	0.8496	0.1308	0.0542
3	105.12	0.8577	-0.6998	0.0982	0.8523	0.0893	-15.8558	1.0036	0.3251	0.0581
3	105.12	0.9178	-0.7478	0.1201	0.9858	0.0996	-18.5485	1.1669	-0.3702	0.0979
3	105.12	0.9729	-0.8737	0.1375	1.0457	0.1085	-21.1507	1.3147	-0.7420	0.1873
4	105.12	0.2001	-0.0511	0.0022	0.0079	0.0014	-0.1444	0.0076	0.2463	0.0189
4	105.12	0.2502	-0.0290	0.0025	0.0494	0.0032	-0.3837	0.0182	-0.1510	0.0264
4	105.12	0.3001	-0.0351	0.0029	0.0620	0.0058	-0.6639	0.0348	0.3454	0.0393
4	105.12	0.3502	-0.0477	0.0042	0.1079	0.0100	-1.1954	0.0597	0.2517	0.0361
4	105.12	0.4002	-0.0650	0.0062	0.1851	0.0158	-1.8708	0.0946	0.3992	0.0392
4	105.12	0.4500	-0.0792	0.0086	0.2912	0.0213	-2.8175	0.1389	0.2225	0.0392
4	105.12	0.5001	-0.1259	0.0127	0.3961	0.0280	-3.9874	0.1915	0.2337	0.0374
4	105.12	0.5560	-0.1825	0.0188	0.5427	0.0362	-5.6187	0.2613	0.0804	0.0431
4	105.12	0.6001	-0.2281	0.0254	0.6543	0.0435	-7.0849	0.3265	0.1565	0.0388
4	105.12	0.6501	-0.3376	0.0344	0.7987	0.0518	-8.9436	0.4086	0.2748	0.0415
4	105.12	0.6999	-0.4470	0.0454	0.9413	0.0605	-11.0417	0.4972	0.1928	0.0422
4	105.12	0.7500	-0.5650	0.0589	1.0858	0.0689	-13.2806	0.5946	0.4291	0.0410
4	105.12	0.8002	-0.7410	0.0738	1.2209	0.0776	-15.6433	0.6982	0.7769	0.0539
4	105.12	0.8582	-0.9263	0.0925	1.3931	0.0876	-18.5658	0.8232	0.0091	0.0525
4	105.12	0.9101	-1.0786	0.1090	1.5732	0.0961	-21.0631	0.9386	0.5320	0.0609
4	105.12	0.9728	-1.1516	0.1268	1.7966	0.1066	-24.2158	1.0824	0.6173	0.0676

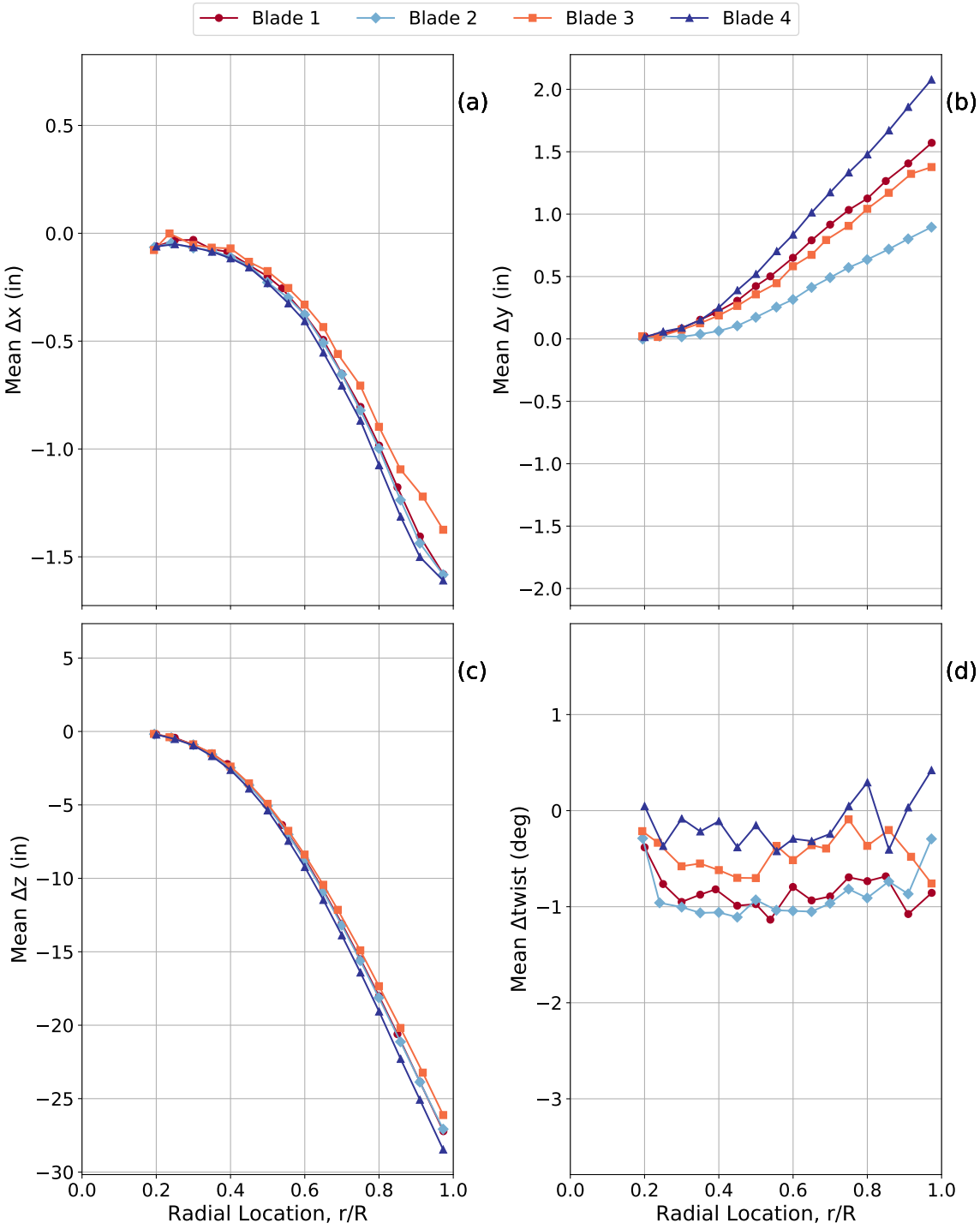


Figure 2.23-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-19. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0608	0.0026	0.0224	0.0012	-0.2032	0.0084	-0.3822	0.0202
1	119.88	0.2499	-0.0319	0.0030	0.0380	0.0027	-0.4307	0.0192	-0.7641	0.0341
1	119.88	0.2998	-0.0307	0.0036	0.0835	0.0051	-0.9019	0.0374	-0.9505	0.0454
1	119.88	0.3498	-0.0736	0.0047	0.1536	0.0089	-1.4947	0.0641	-0.8746	0.0442
1	119.88	0.3913	-0.0857	0.0066	0.2102	0.0127	-2.2158	0.0942	-0.8195	0.0491
1	119.88	0.4496	-0.1474	0.0111	0.3058	0.0189	-3.5832	0.1476	-0.9894	0.0483
1	119.88	0.4997	-0.2001	0.0159	0.4230	0.0246	-5.0256	0.2035	-0.9732	0.0533
1	119.88	0.5387	-0.2555	0.0209	0.5013	0.0300	-6.3666	0.2529	-1.1350	0.0534
1	119.88	0.5996	-0.3762	0.0315	0.6503	0.0382	-8.6371	0.3390	-0.7945	0.0582
1	119.88	0.6498	-0.4943	0.0418	0.7904	0.0452	-10.8119	0.4188	-0.9343	0.0566
1	119.88	0.6998	-0.6509	0.0543	0.9162	0.0526	-13.0845	0.5049	-0.8929	0.0589
1	119.88	0.7500	-0.8049	0.0688	1.0338	0.0594	-15.5121	0.5989	-0.6941	0.0581
1	119.88	0.8001	-0.9841	0.0846	1.1254	0.0666	-18.0214	0.6970	-0.7339	0.0660
1	119.88	0.8497	-1.1776	0.1017	1.2653	0.0734	-20.6094	0.7992	-0.6840	0.0685
1	119.88	0.9102	-1.4057	0.1226	1.4063	0.0826	-23.8634	0.9315	-1.0765	0.0711
1	119.88	0.9734	-1.5811	0.1425	1.5716	0.0910	-27.2161	1.0750	-0.8560	0.0654
2	119.88	0.1949	-0.0650	0.0030	-0.0008	0.0014	-0.1798	0.0090	-0.2882	0.0197
2	119.88	0.2405	-0.0454	0.0032	0.0214	0.0026	-0.4266	0.0191	-0.9597	0.0273
2	119.88	0.2999	-0.0684	0.0042	0.0169	0.0062	-0.9070	0.0432	-1.0043	0.0422
2	119.88	0.3498	-0.0795	0.0054	0.0379	0.0106	-1.5640	0.0748	-1.0645	0.0441
2	119.88	0.3998	-0.1108	0.0080	0.0638	0.0165	-2.4725	0.1170	-1.0599	0.0425
2	119.88	0.4496	-0.1484	0.0122	0.1049	0.0223	-3.6590	0.1685	-1.1090	0.0398
2	119.88	0.4995	-0.2272	0.0178	0.1734	0.0293	-5.0722	0.2303	-0.9292	0.0462
2	119.88	0.5551	-0.2991	0.0261	0.2550	0.0378	-7.0121	0.3096	-1.0372	0.0488
2	119.88	0.5996	-0.3772	0.0345	0.3160	0.0449	-8.7581	0.3786	-1.0435	0.0556
2	119.88	0.6497	-0.5083	0.0456	0.4127	0.0536	-10.9016	0.4623	-1.0512	0.0570
2	119.88	0.6996	-0.6542	0.0584	0.4914	0.0620	-13.1928	0.5514	-0.9650	0.0508
2	119.88	0.7495	-0.8210	0.0728	0.5719	0.0702	-15.6058	0.6460	-0.8164	0.0551
2	119.88	0.7996	-0.9975	0.0888	0.6358	0.0789	-18.1316	0.7462	-0.9093	0.0601
2	119.88	0.8578	-1.2368	0.1089	0.7194	0.0886	-21.1309	0.8679	-0.7374	0.0643
2	119.88	0.9100	-1.4370	0.1264	0.8019	0.0978	-23.8708	0.9813	-0.8671	0.0674
2	119.88	0.9727	-1.5827	0.1456	0.8956	0.1078	-27.0747	1.1202	-0.2945	0.0611
3	119.88	0.1938	-0.0777	0.0027	0.0214	0.0013	-0.1678	0.0086	-0.2136	0.0168
3	119.88	0.2357	-0.0009	0.0030	0.0158	0.0025	-0.3912	0.0169	-0.3342	0.0215
3	119.88	0.2995	-0.0539	0.0045	0.0741	0.0054	-0.8766	0.0408	-0.5792	0.0358
3	119.88	0.3493	-0.0666	0.0053	0.1254	0.0101	-1.4930	0.0705	-0.5503	0.0311
3	119.88	0.4000	-0.0702	0.0077	0.1882	0.0152	-2.3896	0.1108	-0.6191	0.0391
3	119.88	0.4497	-0.1322	0.0112	0.2647	0.0212	-3.5312	0.1615	-0.6997	0.0364
3	119.88	0.4997	-0.1752	0.0166	0.3570	0.0276	-4.9251	0.2193	-0.7021	0.0410
3	119.88	0.5556	-0.2538	0.0243	0.4466	0.0356	-6.7647	0.2956	-0.3672	0.0365
3	119.88	0.5995	-0.3308	0.0322	0.5825	0.0423	-8.3819	0.3610	-0.5154	0.0475
3	119.88	0.6498	-0.4348	0.0420	0.6739	0.0502	-10.4385	0.4421	-0.3596	0.0422
3	119.88	0.6890	-0.5597	0.0514	0.7928	0.0562	-12.1446	0.5126	-0.3944	0.0391
3	119.88	0.7495	-0.7061	0.0679	0.9061	0.0652	-14.9070	0.6275	-0.0909	0.0486
3	119.88	0.7998	-0.8974	0.0829	1.0424	0.0734	-17.3443	0.7278	-0.3664	0.0537
3	119.88	0.8577	-1.0945	0.1016	1.1713	0.0820	-20.1890	0.8501	-0.2021	0.0671
3	119.88	0.9178	-1.2208	0.1214	1.3230	0.0914	-23.2283	0.9848	-0.4806	0.0570
3	119.88	0.9729	-1.3745	0.1371	1.3773	0.0995	-26.1170	1.1093	-0.7584	0.0782
4	119.88	0.2001	-0.0616	0.0028	0.0148	0.0013	-0.2129	0.0083	0.0467	0.0181
4	119.88	0.2502	-0.0507	0.0034	0.0586	0.0028	-0.5154	0.0192	-0.3681	0.0355
4	119.88	0.3001	-0.0648	0.0042	0.0891	0.0055	-0.9490	0.0378	-0.0832	0.0420
4	119.88	0.3502	-0.0856	0.0056	0.1508	0.0092	-1.6790	0.0635	-0.2170	0.0389
4	119.88	0.4002	-0.1161	0.0080	0.2521	0.0145	-2.6240	0.1013	-0.1095	0.0379
4	119.88	0.4500	-0.1581	0.0115	0.3901	0.0202	-3.8906	0.1447	-0.3814	0.0426
4	119.88	0.5001	-0.2313	0.0165	0.5202	0.0266	-5.3777	0.1964	-0.1527	0.0500
4	119.88	0.5560	-0.3251	0.0236	0.7030	0.0343	-7.4475	0.2624	-0.4222	0.0461
4	119.88	0.6001	-0.4076	0.0302	0.8358	0.0407	-9.2330	0.3176	-0.2929	0.0483
4	119.88	0.6501	-0.5533	0.0396	1.0130	0.0484	-11.4734	0.3842	-0.3169	0.0509
4	119.88	0.6999	-0.7063	0.0506	1.1745	0.0561	-13.8825	0.4574	-0.2415	0.0462
4	119.88	0.7500	-0.8688	0.0635	1.3338	0.0637	-16.4161	0.5361	0.0469	0.0491
4	119.88	0.8002	-1.0755	0.0782	1.4788	0.0714	-19.0691	0.6199	0.2941	0.0560
4	119.88	0.8582	-1.3139	0.0968	1.6712	0.0805	-22.2956	0.7234	-0.4063	0.0634
4	119.88	0.9101	-1.5009	0.1131	1.8589	0.0887	-25.0762	0.8228	0.0331	0.0623
4	119.88	0.9728	-1.6099	0.1319	2.0779	0.0980	-28.4670	0.9487	0.4206	0.0617

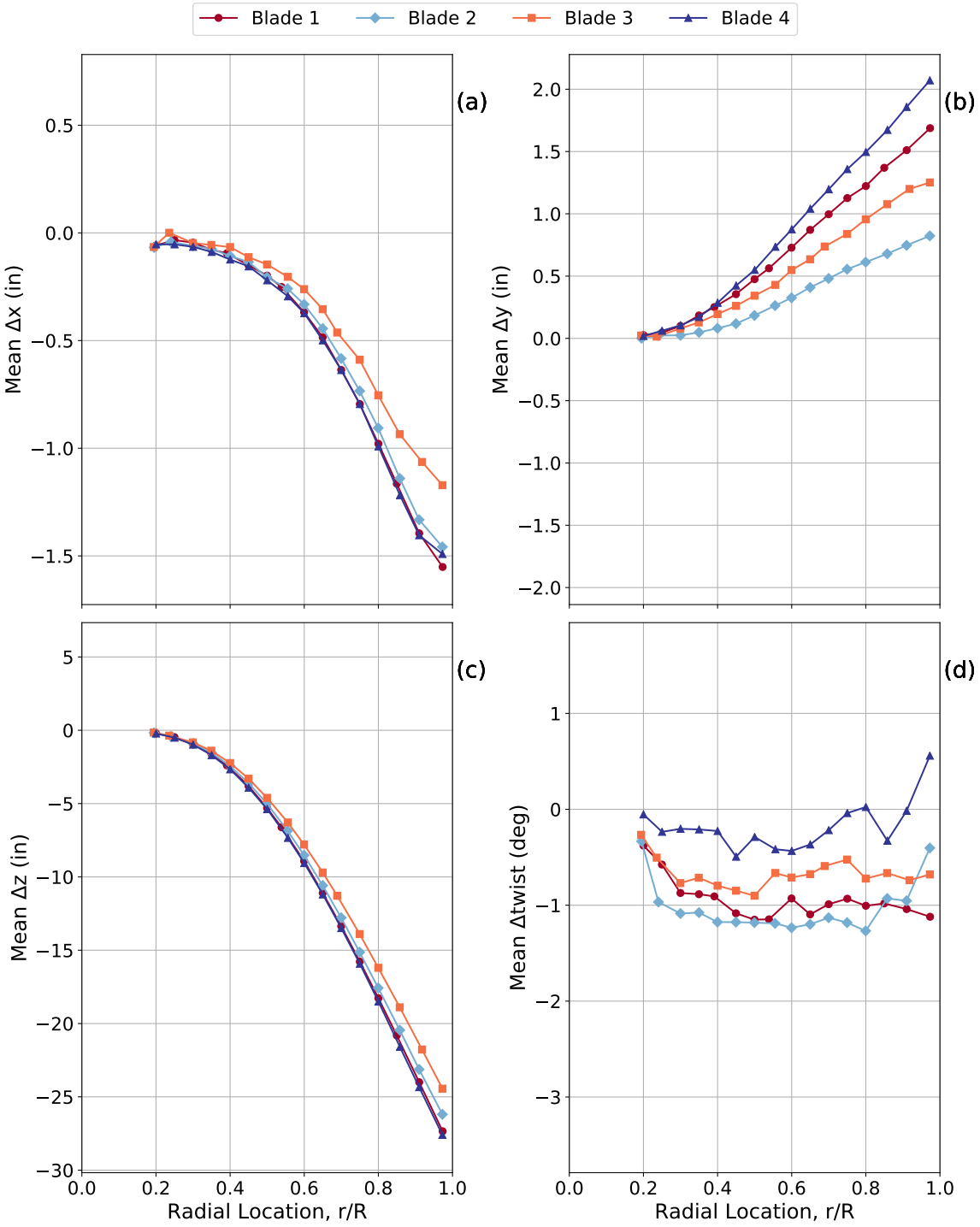


Figure 2.23-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-20. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0582	0.0023	0.0265	0.0012	-0.2184	0.0076	-0.3781	0.0159
1	135	0.2499	-0.0333	0.0029	0.0458	0.0030	-0.4674	0.0177	-0.5760	0.0319
1	135	0.2998	-0.0453	0.0034	0.0991	0.0053	-0.9675	0.0345	-0.8724	0.0362
1	135	0.3498	-0.0780	0.0050	0.1840	0.0093	-1.6237	0.0590	-0.8851	0.0402
1	135	0.3913	-0.0945	0.0067	0.2512	0.0134	-2.3948	0.0870	-0.9080	0.0345
1	135	0.4496	-0.1495	0.0104	0.3549	0.0196	-3.7985	0.1362	-1.0842	0.0410
1	135	0.4997	-0.1983	0.0154	0.4752	0.0253	-5.2996	0.1876	-1.1507	0.0391
1	135	0.5387	-0.2511	0.0200	0.5627	0.0298	-6.6148	0.2340	-1.1474	0.0387
1	135	0.5996	-0.3683	0.0302	0.7280	0.0382	-8.9177	0.3162	-0.9294	0.0458
1	135	0.6498	-0.4846	0.0407	0.8709	0.0453	-11.0970	0.3962	-1.0956	0.0433
1	135	0.6998	-0.6364	0.0538	0.9964	0.0523	-13.3602	0.4842	-0.9895	0.0455
1	135	0.7500	-0.7950	0.0686	1.1261	0.0592	-15.7774	0.5790	-0.9321	0.0432
1	135	0.8001	-0.9791	0.0852	1.2227	0.0663	-18.2717	0.6818	-1.0059	0.0448
1	135	0.8497	-1.1646	0.1030	1.3694	0.0730	-20.8129	0.7891	-0.9814	0.0423
1	135	0.9102	-1.3951	0.1249	1.5111	0.0817	-24.0019	0.9256	-1.0403	0.0471
1	135	0.9734	-1.5514	0.1455	1.6876	0.0908	-27.3472	1.0728	-1.1203	0.0501
2	135	0.1949	-0.0676	0.0018	0.0010	0.0008	-0.1757	0.0049	-0.3340	0.0166
2	135	0.2405	-0.0418	0.0020	0.0231	0.0017	-0.4231	0.0097	-0.9664	0.0281
2	135	0.2999	-0.0602	0.0023	0.0245	0.0035	-0.9033	0.0218	-1.0863	0.0390
2	135	0.3498	-0.0742	0.0030	0.0485	0.0059	-1.5316	0.0382	-1.0768	0.0392
2	135	0.3998	-0.1071	0.0044	0.0813	0.0093	-2.4429	0.0590	-1.1759	0.0386
2	135	0.4496	-0.1352	0.0063	0.1182	0.0124	-3.5950	0.0837	-1.1765	0.0381
2	135	0.4995	-0.2058	0.0090	0.1839	0.0159	-5.0045	0.1148	-1.1813	0.0373
2	135	0.5551	-0.2590	0.0135	0.2630	0.0204	-6.8533	0.1572	-1.1895	0.0357
2	135	0.5996	-0.3317	0.0183	0.3257	0.0239	-8.5249	0.1973	-1.2350	0.0341
2	135	0.6497	-0.4441	0.0251	0.4088	0.0283	-10.5860	0.2486	-1.1988	0.0404
2	135	0.6996	-0.5832	0.0333	0.4809	0.0327	-12.7821	0.3063	-1.1304	0.0357
2	135	0.7495	-0.7339	0.0432	0.5550	0.0370	-15.1342	0.3718	-1.1816	0.0353
2	135	0.7996	-0.9062	0.0549	0.6121	0.0417	-17.5735	0.4436	-1.2680	0.0404
2	135	0.8578	-1.1401	0.0698	0.6792	0.0467	-20.4505	0.5339	-0.9298	0.0394
2	135	0.9100	-1.3320	0.0829	0.7468	0.0512	-23.1265	0.6201	-0.9535	0.0434
2	135	0.9727	-1.4581	0.0983	0.8228	0.0567	-26.1923	0.7263	-0.4033	0.0499
3	135	0.1938	-0.0656	0.0022	0.0229	0.0014	-0.1576	0.0061	-0.2660	0.0237
3	135	0.2357	0.0006	0.0019	0.0145	0.0017	-0.3680	0.0124	-0.5040	0.0535
3	135	0.2995	-0.0472	0.0028	0.0791	0.0051	-0.8240	0.0289	-0.7690	0.0652
3	135	0.3493	-0.0559	0.0037	0.1281	0.0086	-1.3934	0.0488	-0.7136	0.0689
3	135	0.4000	-0.0658	0.0052	0.1951	0.0130	-2.2359	0.0773	-0.7962	0.0620
3	135	0.4497	-0.1127	0.0075	0.2610	0.0178	-3.2974	0.1090	-0.8483	0.0582
3	135	0.4997	-0.1465	0.0105	0.3427	0.0225	-4.6076	0.1496	-0.9005	0.0648
3	135	0.5556	-0.2040	0.0154	0.4294	0.0278	-6.2860	0.2001	-0.6637	0.0651
3	135	0.5995	-0.2612	0.0205	0.5485	0.0339	-7.7914	0.2464	-0.7112	0.0606
3	135	0.6498	-0.3543	0.0267	0.6349	0.0396	-9.6979	0.3054	-0.6760	0.0637
3	135	0.6890	-0.4627	0.0336	0.7374	0.0439	-11.2869	0.3557	-0.5915	0.0672
3	135	0.7495	-0.5890	0.0445	0.8382	0.0515	-13.8957	0.4371	-0.5241	0.0648
3	135	0.7998	-0.7541	0.0552	0.9558	0.0584	-16.1984	0.5100	-0.7221	0.0666
3	135	0.8577	-0.9348	0.0684	1.0768	0.0653	-18.8912	0.5989	-0.6647	0.0660
3	135	0.9178	-1.0638	0.0818	1.1995	0.0735	-21.7743	0.6934	-0.7393	0.0690
3	135	0.9729	-1.1715	0.0927	1.2514	0.0810	-24.4398	0.7848	-0.6791	0.0689
4	135	0.2001	-0.0532	0.0034	0.0189	0.0011	-0.2233	0.0089	-0.0534	0.0246
4	135	0.2502	-0.0534	0.0037	0.0614	0.0039	-0.5045	0.0210	-0.2349	0.0326
4	135	0.3001	-0.0647	0.0046	0.1046	0.0064	-0.9834	0.0402	-0.2034	0.0490
4	135	0.3502	-0.0884	0.0057	0.1713	0.0100	-1.6983	0.0685	-0.2099	0.0452
4	135	0.4002	-0.1237	0.0082	0.2857	0.0171	-2.6653	0.1085	-0.2263	0.0469
4	135	0.4500	-0.1555	0.0118	0.4235	0.0239	-3.9170	0.1514	-0.4944	0.0461
4	135	0.5001	-0.2203	0.0161	0.5496	0.0305	-5.3783	0.2032	-0.2883	0.0479
4	135	0.5560	-0.2948	0.0227	0.7349	0.0368	-7.3414	0.2639	-0.4165	0.0545
4	135	0.6001	-0.3730	0.0292	0.8750	0.0437	-9.0567	0.3149	-0.4339	0.0533
4	135	0.6501	-0.4993	0.0367	1.0404	0.0516	-11.1984	0.3769	-0.3667	0.0504
4	135	0.6999	-0.6369	0.0477	1.1963	0.0587	-13.4912	0.4471	-0.2174	0.0581
4	135	0.7500	-0.7949	0.0588	1.3584	0.0662	-15.9235	0.5207	-0.0396	0.0568
4	135	0.8002	-0.9916	0.0726	1.4962	0.0741	-18.5030	0.6010	0.0239	0.0583
4	135	0.8582	-1.2184	0.0898	1.6730	0.0833	-21.5944	0.7016	-0.3281	0.0652
4	135	0.9101	-1.4042	0.1054	1.8574	0.0909	-24.3402	0.7961	-0.0162	0.0657
4	135	0.9728	-1.4912	0.1227	2.0708	0.1005	-27.5944	0.9180	0.5592	0.0702

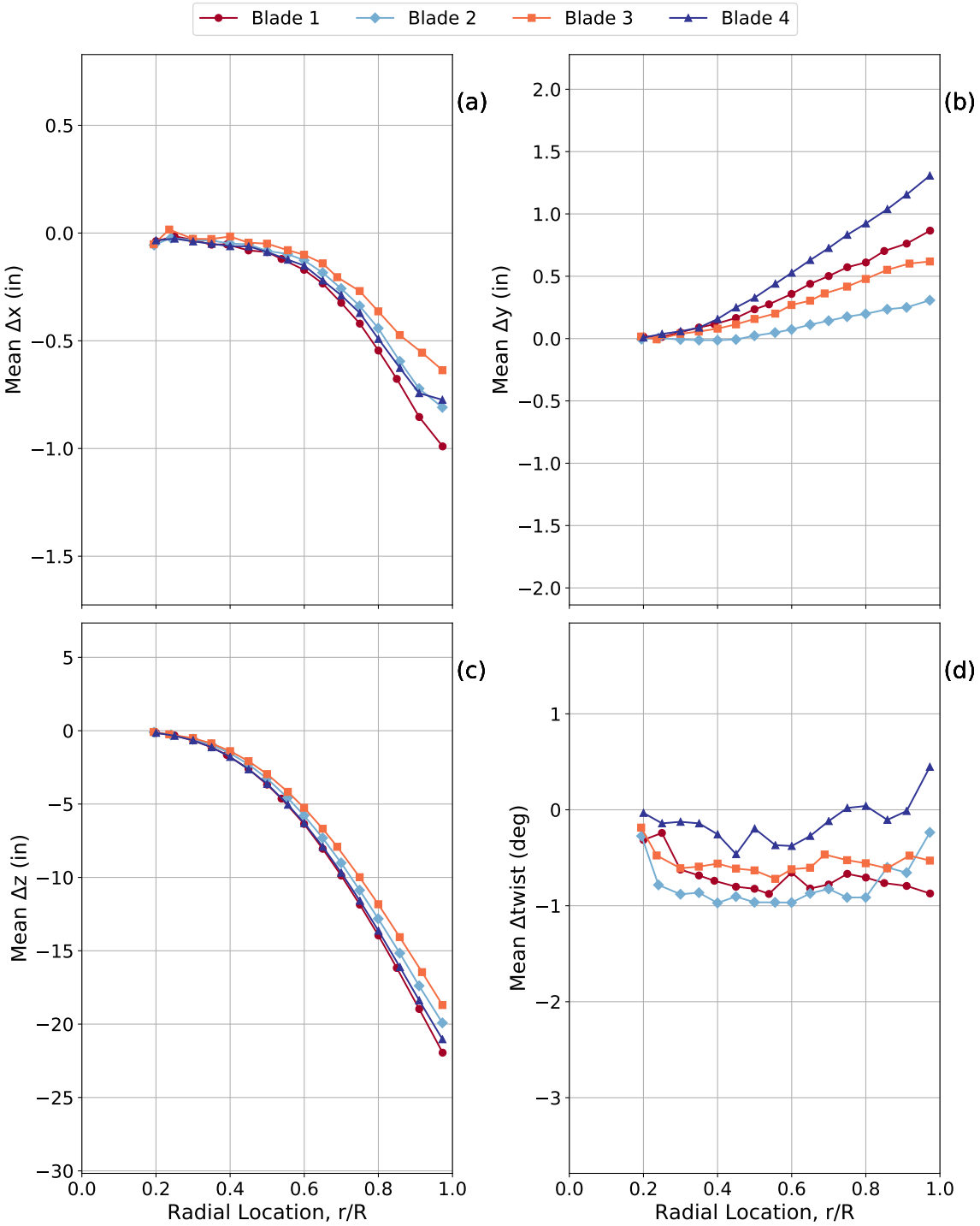


Figure 2.23-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-21. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0378	0.0038	0.0161	0.0010	-0.1518	0.0054	-0.3141	0.0213
1	150.12	0.2499	-0.0149	0.0022	0.0128	0.0021	-0.3221	0.0123	-0.2416	0.0405
1	150.12	0.2998	-0.0317	0.0026	0.0499	0.0038	-0.6676	0.0237	-0.6233	0.0495
1	150.12	0.3498	-0.0540	0.0030	0.0890	0.0065	-1.1282	0.0405	-0.6844	0.0472
1	150.12	0.3913	-0.0524	0.0037	0.1147	0.0091	-1.6569	0.0596	-0.7397	0.0521
1	150.12	0.4496	-0.0808	0.0052	0.1652	0.0129	-2.6095	0.0891	-0.8018	0.0592
1	150.12	0.4997	-0.0882	0.0072	0.2349	0.0166	-3.6729	0.1202	-0.8232	0.0535
1	150.12	0.5387	-0.1203	0.0091	0.2747	0.0189	-4.6292	0.1468	-0.8769	0.0557
1	150.12	0.5996	-0.1708	0.0130	0.3582	0.0234	-6.3549	0.1932	-0.6543	0.0606
1	150.12	0.6498	-0.2344	0.0176	0.4390	0.0274	-8.0483	0.2366	-0.8206	0.0600
1	150.12	0.6998	-0.3241	0.0233	0.5016	0.0312	-9.8749	0.2836	-0.7787	0.0638
1	150.12	0.7500	-0.4204	0.0311	0.5724	0.0350	-11.8574	0.3379	-0.6676	0.0666
1	150.12	0.8001	-0.5454	0.0393	0.6106	0.0387	-13.9541	0.3963	-0.7062	0.0612
1	150.12	0.8497	-0.6770	0.0488	0.7027	0.0431	-16.1707	0.4608	-0.7636	0.0719
1	150.12	0.9102	-0.8538	0.0608	0.7617	0.0480	-18.9680	0.5447	-0.7936	0.0584
1	150.12	0.9734	-0.9903	0.0732	0.8660	0.0536	-21.9441	0.6380	-0.8725	0.0742
2	150.12	0.1949	-0.0557	0.0015	-0.0046	0.0012	-0.1038	0.0059	-0.2733	0.0278
2	150.12	0.2405	-0.0230	0.0018	0.0041	0.0025	-0.2780	0.0111	-0.7833	0.0500
2	150.12	0.2999	-0.0321	0.0020	-0.0074	0.0054	-0.5694	0.0261	-0.8800	0.0678
2	150.12	0.3498	-0.0354	0.0024	-0.0123	0.0091	-0.9525	0.0449	-0.8641	0.0579
2	150.12	0.3998	-0.0487	0.0036	-0.0131	0.0144	-1.5415	0.0696	-0.9708	0.0709
2	150.12	0.4496	-0.0526	0.0051	-0.0072	0.0184	-2.2910	0.1007	-0.9044	0.0699
2	150.12	0.4995	-0.0828	0.0072	0.0226	0.0230	-3.2579	0.1397	-0.9641	0.0657
2	150.12	0.5551	-0.0974	0.0107	0.0477	0.0283	-4.5698	0.1874	-0.9650	0.0638
2	150.12	0.5996	-0.1267	0.0143	0.0733	0.0330	-5.7791	0.2333	-0.9671	0.0650
2	150.12	0.6497	-0.1838	0.0198	0.1116	0.0382	-7.3117	0.2911	-0.8714	0.0685
2	150.12	0.6996	-0.2577	0.0269	0.1430	0.0437	-9.0121	0.3547	-0.8246	0.0624
2	150.12	0.7495	-0.3382	0.0355	0.1755	0.0486	-10.8704	0.4270	-0.9137	0.0663
2	150.12	0.7996	-0.4418	0.0456	0.1983	0.0540	-12.8170	0.5072	-0.9137	0.0767
2	150.12	0.8578	-0.5952	0.0594	0.2354	0.0595	-15.1644	0.6077	-0.6009	0.0739
2	150.12	0.9100	-0.7220	0.0711	0.2501	0.0652	-17.3880	0.7025	-0.6558	0.0818
2	150.12	0.9727	-0.8091	0.0841	0.3075	0.0714	-19.9156	0.8178	-0.2358	0.0712
3	150.12	0.1938	-0.0522	0.0025	0.0162	0.0017	-0.0897	0.0066	-0.1857	0.0352
3	150.12	0.2357	0.0162	0.0024	-0.0060	0.0017	-0.2472	0.0099	-0.4760	0.0857
3	150.12	0.2995	-0.0269	0.0026	0.0386	0.0055	-0.5060	0.0259	-0.6090	0.1020
3	150.12	0.3493	-0.0277	0.0030	0.0563	0.0095	-0.8628	0.0447	-0.5926	0.0950
3	150.12	0.4000	-0.0161	0.0041	0.0800	0.0139	-1.3927	0.0687	-0.5609	0.0920
3	150.12	0.4497	-0.0448	0.0054	0.1141	0.0176	-2.0775	0.0947	-0.6126	0.1009
3	150.12	0.4997	-0.0494	0.0067	0.1576	0.0217	-2.9589	0.1285	-0.6315	0.1039
3	150.12	0.5556	-0.0796	0.0093	0.2004	0.0267	-4.1681	0.1673	-0.7196	0.1048
3	150.12	0.5995	-0.1007	0.0120	0.2695	0.0311	-5.2517	0.2051	-0.6194	0.1022
3	150.12	0.6498	-0.1408	0.0164	0.3042	0.0362	-6.6807	0.2497	-0.6041	0.0994
3	150.12	0.6890	-0.2048	0.0198	0.3621	0.0402	-7.9115	0.2887	-0.4662	0.1036
3	150.12	0.7495	-0.2693	0.0272	0.4169	0.0467	-9.9869	0.3539	-0.5252	0.1003
3	150.12	0.7998	-0.3635	0.0344	0.4782	0.0526	-11.8301	0.4136	-0.5572	0.1031
3	150.12	0.8577	-0.4735	0.0436	0.5515	0.0591	-14.0724	0.4872	-0.6099	0.1040
3	150.12	0.9178	-0.5551	0.0529	0.6019	0.0663	-16.4548	0.5666	-0.4771	0.1000
3	150.12	0.9729	-0.6366	0.0608	0.6186	0.0731	-18.6977	0.6429	-0.5295	0.0990
4	150.12	0.2001	-0.0339	0.0017	0.0081	0.0010	-0.1444	0.0045	-0.0327	0.0180
4	150.12	0.2502	-0.0262	0.0018	0.0370	0.0025	-0.3502	0.0106	-0.1414	0.0312
4	150.12	0.3001	-0.0389	0.0020	0.0585	0.0044	-0.6572	0.0201	-0.1252	0.0399
4	150.12	0.3502	-0.0498	0.0024	0.0878	0.0072	-1.1282	0.0343	-0.1418	0.0356
4	150.12	0.4002	-0.0611	0.0035	0.1574	0.0116	-1.7869	0.0543	-0.2561	0.0443
4	150.12	0.4500	-0.0617	0.0045	0.2497	0.0141	-2.6352	0.0782	-0.4625	0.0427
4	150.12	0.5001	-0.0881	0.0067	0.3283	0.0173	-3.6246	0.1074	-0.1960	0.0452
4	150.12	0.5560	-0.1237	0.0096	0.4401	0.0213	-5.0448	0.1464	-0.3690	0.0502
4	150.12	0.6001	-0.1515	0.0125	0.5281	0.0246	-6.2999	0.1818	-0.3773	0.0550
4	150.12	0.6501	-0.2201	0.0167	0.6300	0.0281	-7.9093	0.2262	-0.2723	0.0538
4	150.12	0.6999	-0.2893	0.0217	0.7265	0.0326	-9.6814	0.2722	-0.1174	0.0490
4	150.12	0.7500	-0.3713	0.0282	0.8325	0.0360	-11.5901	0.3259	0.0189	0.0453
4	150.12	0.8002	-0.4915	0.0357	0.9239	0.0403	-13.6347	0.3831	0.0402	0.0477
4	150.12	0.8582	-0.6263	0.0454	1.0382	0.0448	-16.1151	0.4533	-0.1052	0.0565
4	150.12	0.9101	-0.7432	0.0535	1.1552	0.0490	-18.3794	0.5180	-0.0129	0.0578
4	150.12	0.9728	-0.7740	0.0628	1.3071	0.0544	-21.0286	0.6007	0.4472	0.0552

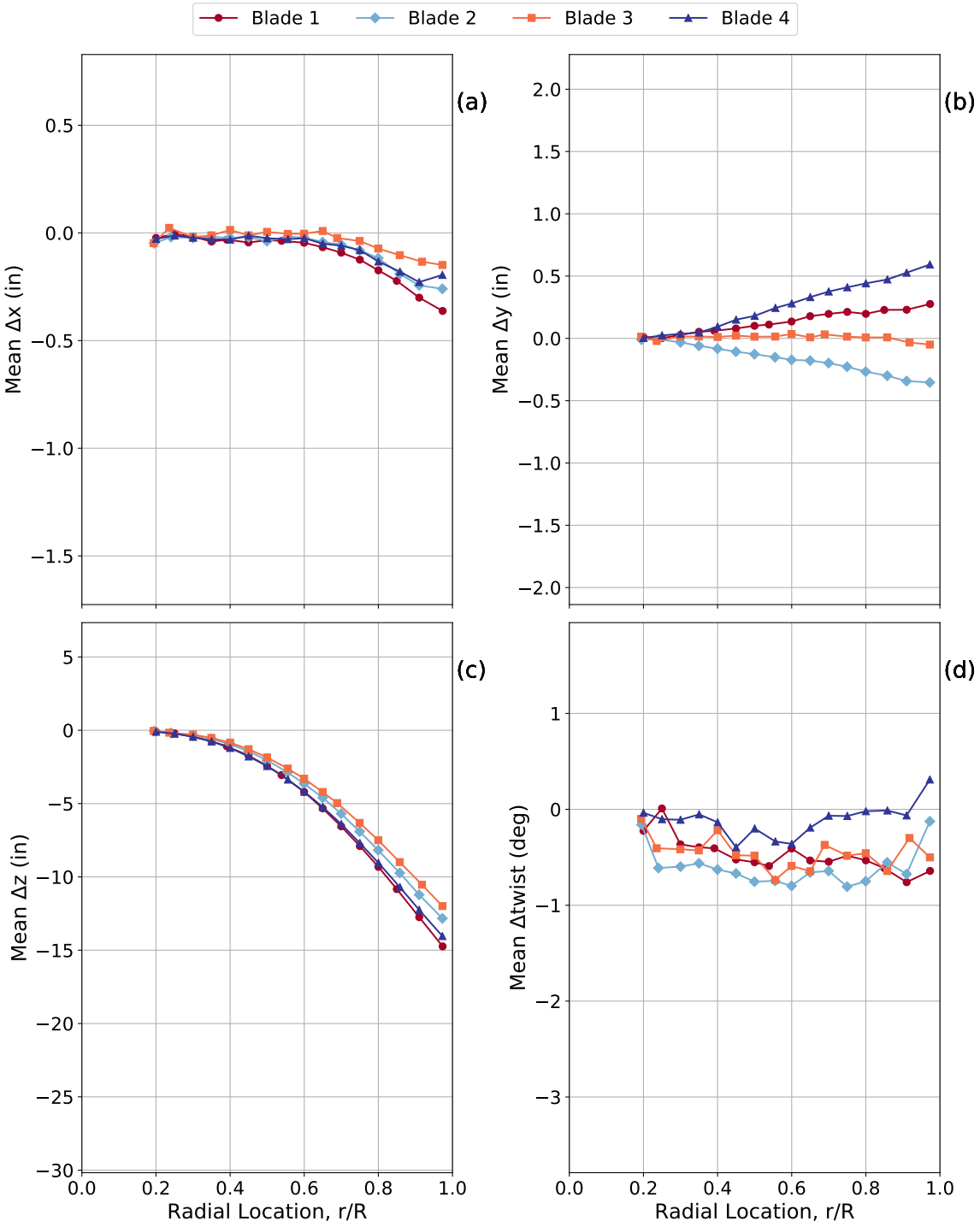


Figure 2.23-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0232	0.0021	0.0113	0.0015	-0.1045	0.0060	-0.2241	0.0234
1	164.88	0.2499	-0.0048	0.0020	0.0022	0.0036	-0.2026	0.0125	0.0089	0.0439
1	164.88	0.2998	-0.0175	0.0020	0.0278	0.0064	-0.4451	0.0255	-0.3653	0.0514
1	164.88	0.3498	-0.0402	0.0024	0.0528	0.0110	-0.7520	0.0437	-0.3959	0.0482
1	164.88	0.3913	-0.0318	0.0027	0.0607	0.0161	-1.0945	0.0635	-0.4064	0.0579
1	164.88	0.4496	-0.0444	0.0040	0.0795	0.0205	-1.7244	0.0927	-0.5230	0.0516
1	164.88	0.4997	-0.0342	0.0051	0.1010	0.0250	-2.4338	0.1246	-0.5518	0.0537
1	164.88	0.5387	-0.0367	0.0067	0.1109	0.0292	-3.0568	0.1521	-0.5916	0.0533
1	164.88	0.5996	-0.0457	0.0091	0.1352	0.0347	-4.2010	0.2011	-0.4089	0.0555
1	164.88	0.6498	-0.0665	0.0120	0.1785	0.0404	-5.3282	0.2458	-0.5334	0.0558
1	164.88	0.6998	-0.0918	0.0155	0.1964	0.0458	-6.5514	0.2940	-0.5466	0.0603
1	164.88	0.7500	-0.1245	0.0201	0.2125	0.0514	-7.8977	0.3471	-0.4835	0.0692
1	164.88	0.8001	-0.1739	0.0253	0.1968	0.0565	-9.3145	0.4028	-0.5320	0.0660
1	164.88	0.8497	-0.2226	0.0308	0.2285	0.0625	-10.8323	0.4623	-0.6136	0.0687
1	164.88	0.9102	-0.3006	0.0378	0.2298	0.0685	-12.7463	0.5385	-0.7600	0.0566
1	164.88	0.9734	-0.3624	0.0438	0.2761	0.0759	-14.7379	0.6203	-0.6424	0.0625
2	164.88	0.1949	-0.0478	0.0544	-0.0102	0.0029	-0.0585	0.0098	-0.1598	0.0318
2	164.88	0.2405	-0.0192	0.0287	-0.0076	0.0052	-0.1810	0.0204	-0.6121	0.0876
2	164.88	0.2999	-0.0232	0.0136	-0.0315	0.0126	-0.3491	0.0446	-0.5971	0.0956
2	164.88	0.3498	-0.0181	0.0509	-0.0596	0.0212	-0.5852	0.0765	-0.5627	0.1077
2	164.88	0.3998	-0.0230	0.0894	-0.0828	0.0331	-0.9570	0.1194	-0.6281	0.1097
2	164.88	0.4496	-0.0198	0.1280	-0.1067	0.0455	-1.4329	0.1719	-0.6688	0.1130
2	164.88	0.4995	-0.0382	0.1650	-0.1266	0.0609	-2.0445	0.2369	-0.7546	0.1182
2	164.88	0.5551	-0.0183	0.2028	-0.1510	0.0815	-2.8677	0.3242	-0.7456	0.1303
2	164.88	0.5996	-0.0213	0.2289	-0.1722	0.1011	-3.6425	0.4042	-0.7986	0.1283
2	164.88	0.6497	-0.0424	0.2534	-0.1784	0.1264	-4.5973	0.5053	-0.6575	0.1331
2	164.88	0.6996	-0.0546	0.2707	-0.1982	0.1541	-5.6866	0.6179	-0.6428	0.1364
2	164.88	0.7495	-0.0805	0.2798	-0.2278	0.1859	-6.9089	0.7421	-0.8068	0.1414
2	164.88	0.7996	-0.1174	0.2802	-0.2668	0.2207	-8.1770	0.8765	-0.7505	0.1466
2	164.88	0.8578	-0.1906	0.2673	-0.2999	0.2659	-9.7322	1.0432	-0.5538	0.1514
2	164.88	0.9100	-0.2437	0.2422	-0.3427	0.3119	-11.2163	1.2015	-0.6752	0.1462
2	164.88	0.9727	-0.2598	0.1956	-0.3534	0.3490	-12.8272	1.4050	-0.1256	0.1534
3	164.88	0.1938	-0.0475	0.0018	0.0137	0.0011	-0.0448	0.0056	-0.0985	0.0188
3	164.88	0.2357	0.0232	0.0017	-0.0207	0.0031	-0.1667	0.0108	-0.4060	0.0402
3	164.88	0.2995	-0.0195	0.0019	0.0152	0.0054	-0.2927	0.0253	-0.4166	0.0500
3	164.88	0.3493	-0.0115	0.0023	0.0153	0.0088	-0.5198	0.0440	-0.4285	0.0548
3	164.88	0.4000	0.0137	0.0028	0.0115	0.0147	-0.8392	0.0686	-0.2182	0.0503
3	164.88	0.4497	-0.0114	0.0037	0.0221	0.0179	-1.2904	0.0996	-0.4786	0.0585
3	164.88	0.4997	0.0050	0.0052	0.0134	0.0219	-1.8518	0.1374	-0.4837	0.0524
3	164.88	0.5556	-0.0045	0.0073	0.0146	0.0270	-2.6123	0.1877	-0.7369	0.0573
3	164.88	0.5995	-0.0039	0.0094	0.0354	0.0314	-3.3027	0.2343	-0.5904	0.0561
3	164.88	0.6498	0.0090	0.0127	0.0084	0.0357	-4.2129	0.2957	-0.6457	0.0654
3	164.88	0.6890	-0.0239	0.0157	0.0320	0.0396	-4.9652	0.3466	-0.3709	0.0625
3	164.88	0.7495	-0.0375	0.0220	0.0141	0.0455	-6.3196	0.4362	-0.4836	0.0595
3	164.88	0.7998	-0.0725	0.0279	0.0077	0.0500	-7.5023	0.5165	-0.4576	0.0617
3	164.88	0.8577	-0.1036	0.0351	0.0082	0.0560	-8.9908	0.6140	-0.6435	0.0686
3	164.88	0.9178	-0.1338	0.0419	-0.0331	0.0616	-10.5331	0.7200	-0.2988	0.0569
3	164.88	0.9729	-0.1490	0.0471	-0.0498	0.0665	-11.9894	0.8192	-0.5010	0.0639
4	164.88	0.2001	-0.0278	0.0016	0.0032	0.0012	-0.0973	0.0055	-0.0361	0.0259
4	164.88	0.2502	-0.0125	0.0016	0.0240	0.0028	-0.2376	0.0122	-0.1033	0.0395
4	164.88	0.3001	-0.0224	0.0021	0.0360	0.0050	-0.4447	0.0238	-0.1089	0.0558
4	164.88	0.3502	-0.0295	0.0022	0.0470	0.0086	-0.7598	0.0397	-0.0530	0.0578
4	164.88	0.4002	-0.0309	0.0033	0.0937	0.0133	-1.2063	0.0630	-0.1353	0.0633
4	164.88	0.4500	-0.0128	0.0039	0.1501	0.0162	-1.7900	0.0880	-0.3971	0.0618
4	164.88	0.5001	-0.0248	0.0051	0.1804	0.0201	-2.4369	0.1200	-0.2008	0.0671
4	164.88	0.5560	-0.0291	0.0073	0.2444	0.0250	-3.3650	0.1609	-0.3354	0.0652
4	164.88	0.6001	-0.0246	0.0092	0.2803	0.0287	-4.1933	0.1986	-0.3607	0.0645
4	164.88	0.6501	-0.0502	0.0118	0.3311	0.0327	-5.2370	0.2468	-0.1911	0.0732
4	164.88	0.6999	-0.0594	0.0151	0.3759	0.0367	-6.3980	0.2986	-0.0673	0.0674
4	164.88	0.7500	-0.0803	0.0200	0.4098	0.0411	-7.6887	0.3587	-0.0700	0.0809
4	164.88	0.8002	-0.1329	0.0253	0.4416	0.0449	-9.0469	0.4222	-0.0197	0.0742
4	164.88	0.8582	-0.1802	0.0319	0.4731	0.0495	-10.7034	0.5013	-0.0126	0.0740
4	164.88	0.9101	-0.2284	0.0374	0.5272	0.0537	-12.2499	0.5743	-0.0640	0.0669
4	164.88	0.9728	-0.1951	0.0430	0.5930	0.0591	-14.0369	0.6655	0.3105	0.0705

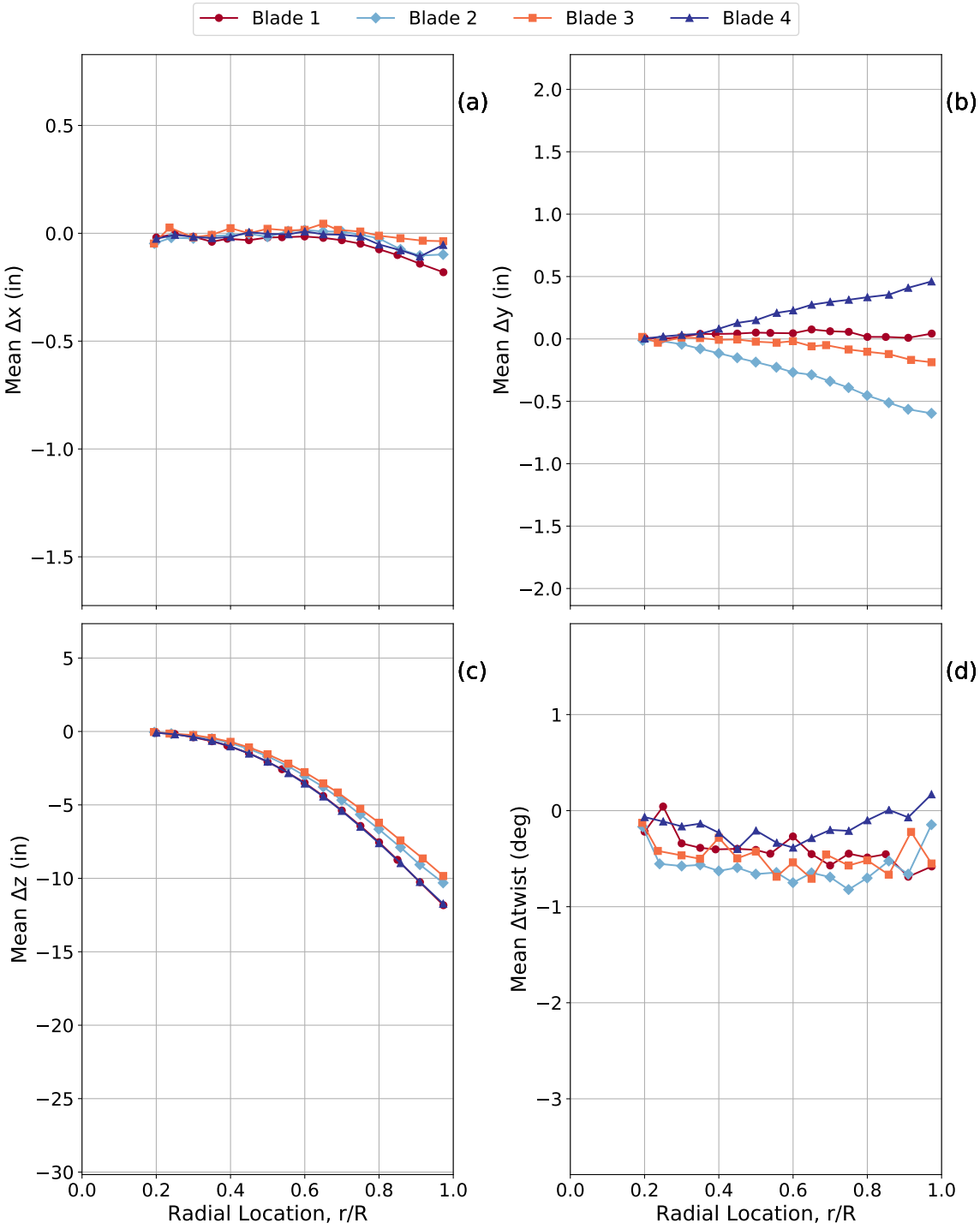


Figure 2.23-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0194	0.0018	0.0087	0.0014	-0.0956	0.0062	-0.2189	0.0265
1	170.16	0.2499	-0.0038	0.0022	0.0006	0.0029	-0.1702	0.0134	0.0428	0.0497
1	170.16	0.2998	-0.0159	0.0022	0.0164	0.0059	-0.3974	0.0268	-0.3410	0.0621
1	170.16	0.3498	-0.0393	0.0028	0.0406	0.0099	-0.6666	0.0467	-0.3874	0.0594
1	170.16	0.3913	-0.0254	0.0032	0.0395	0.0143	-0.9651	0.0676	-0.4033	0.0580
1	170.16	0.4496	-0.0321	0.0043	0.0428	0.0185	-1.4835	0.1044	-0.3978	0.0652
1	170.16	0.4997	-0.0195	0.0051	0.0508	0.0239	-2.0683	0.1436	-0.4089	0.0633
1	170.16	0.5387	-0.0184	0.0066	0.0480	0.0276	-2.5714	0.1779	-0.4487	0.0661
1	170.16	0.5996	-0.0149	0.0089	0.0453	0.0347	-3.4952	0.2378	-0.2689	0.0718
1	170.16	0.6498	-0.0213	0.0119	0.0759	0.0400	-4.3957	0.2935	-0.4522	0.0680
1	170.16	0.6998	-0.0321	0.0156	0.0616	0.0457	-5.3810	0.3530	-0.5708	0.0645
1	170.16	0.7500	-0.0484	0.0199	0.0567	0.0514	-6.4324	0.4194	-0.4482	0.0765
1	170.16	0.8001	-0.0743	0.0249	0.0163	0.0576	-7.5427	0.4888	-0.4878	0.0749
1	170.16	0.8497	-0.1008	0.0304	0.0160	0.0638	-8.7404	0.5612	-0.4538	0.0721
1	170.16	0.9102	-0.1410	0.0365	0.0090	0.0708	-10.2616	0.6523	-0.6880	0.0673
1	170.16	0.9734	-0.1807	0.0410	0.0429	0.0782	-11.8296	0.7494	-0.5809	0.0751
2	170.16	0.1949	-0.0474	0.0023	-0.0117	0.0016	-0.0492	0.0066	-0.1682	0.0234
2	170.16	0.2405	-0.0205	0.0026	-0.0144	0.0039	-0.1486	0.0146	-0.5540	0.0570
2	170.16	0.2999	-0.0238	0.0027	-0.0426	0.0084	-0.2920	0.0304	-0.5767	0.0641
2	170.16	0.3498	-0.0120	0.0029	-0.0788	0.0133	-0.4893	0.0536	-0.5645	0.0657
2	170.16	0.3998	-0.0097	0.0039	-0.1148	0.0220	-0.7996	0.0832	-0.6276	0.0709
2	170.16	0.4496	-0.0022	0.0046	-0.1511	0.0262	-1.1885	0.1200	-0.5931	0.0786
2	170.16	0.4995	-0.0164	0.0063	-0.1856	0.0325	-1.6904	0.1633	-0.6605	0.0839
2	170.16	0.5551	0.0097	0.0081	-0.2271	0.0394	-2.3657	0.2197	-0.6439	0.0903
2	170.16	0.5996	0.0151	0.0103	-0.2677	0.0448	-3.0107	0.2712	-0.7502	0.0906
2	170.16	0.6497	0.0085	0.0130	-0.2872	0.0521	-3.7758	0.3357	-0.6477	0.0934
2	170.16	0.6996	0.0076	0.0171	-0.3393	0.0581	-4.6731	0.4071	-0.6917	0.0843
2	170.16	0.7495	-0.0066	0.0216	-0.3903	0.0654	-5.6531	0.4863	-0.8217	0.0810
2	170.16	0.7996	-0.0237	0.0271	-0.4532	0.0729	-6.6557	0.5725	-0.7016	0.0865
2	170.16	0.8578	-0.0745	0.0342	-0.5112	0.0818	-7.8913	0.6791	-0.5244	0.0904
2	170.16	0.9100	-0.1033	0.0396	-0.5639	0.0889	-9.0680	0.7776	-0.6606	0.0901
2	170.16	0.9727	-0.0983	0.0446	-0.5961	0.0977	-10.3090	0.8995	-0.1461	0.0982
3	170.16	0.1938	-0.0474	0.0024	0.0160	0.0020	-0.0354	0.0082	-0.1269	0.0216
3	170.16	0.2357	0.0265	0.0024	-0.0298	0.0031	-0.1441	0.0142	-0.4195	0.0637
3	170.16	0.2995	-0.0192	0.0021	0.0112	0.0079	-0.2427	0.0342	-0.4655	0.0664
3	170.16	0.3493	-0.0074	0.0025	0.0070	0.0132	-0.4378	0.0597	-0.5011	0.0680
3	170.16	0.4000	0.0236	0.0034	-0.0066	0.0207	-0.7056	0.0922	-0.2822	0.0705
3	170.16	0.4497	0.0001	0.0041	-0.0043	0.0251	-1.0859	0.1296	-0.4963	0.0762
3	170.16	0.4997	0.0208	0.0055	-0.0218	0.0316	-1.5521	0.1760	-0.4257	0.0787
3	170.16	0.5556	0.0129	0.0075	-0.0301	0.0384	-2.1897	0.2306	-0.6880	0.0799
3	170.16	0.5995	0.0162	0.0092	-0.0178	0.0443	-2.7689	0.2773	-0.5388	0.0805
3	170.16	0.6498	0.0445	0.0118	-0.0591	0.0515	-3.5346	0.3352	-0.7091	0.0814
3	170.16	0.6890	0.0157	0.0146	-0.0497	0.0570	-4.1552	0.3818	-0.4568	0.0815
3	170.16	0.7495	0.0081	0.0184	-0.0845	0.0653	-5.2646	0.4573	-0.5709	0.0803
3	170.16	0.7998	-0.0111	0.0220	-0.1026	0.0721	-6.2126	0.5243	-0.5170	0.0800
3	170.16	0.8577	-0.0228	0.0271	-0.1213	0.0804	-7.4185	0.6031	-0.6665	0.0822
3	170.16	0.9178	-0.0343	0.0316	-0.1681	0.0891	-8.6471	0.6867	-0.2214	0.0812
3	170.16	0.9729	-0.0367	0.0341	-0.1868	0.0970	-9.8410	0.7656	-0.5504	0.0816
4	170.16	0.2001	-0.0256	0.0017	0.0033	0.0014	-0.0826	0.0080	-0.0672	0.0220
4	170.16	0.2502	-0.0073	0.0023	0.0198	0.0035	-0.1988	0.0175	-0.1132	0.0326
4	170.16	0.3001	-0.0167	0.0024	0.0322	0.0055	-0.3762	0.0344	-0.1640	0.0464
4	170.16	0.3502	-0.0225	0.0029	0.0415	0.0105	-0.6389	0.0587	-0.1351	0.0399
4	170.16	0.4002	-0.0172	0.0039	0.0819	0.0157	-1.0157	0.0921	-0.2312	0.0473
4	170.16	0.4500	0.0048	0.0054	0.1284	0.0198	-1.5087	0.1321	-0.3989	0.0486
4	170.16	0.5001	-0.0027	0.0071	0.1505	0.0254	-2.0530	0.1813	-0.2075	0.0514
4	170.16	0.5560	-0.0047	0.0099	0.2089	0.0315	-2.8402	0.2444	-0.3346	0.0573
4	170.16	0.6001	0.0086	0.0124	0.2288	0.0373	-3.5505	0.3035	-0.3851	0.0575
4	170.16	0.6501	-0.0048	0.0165	0.2742	0.0433	-4.4289	0.3758	-0.2855	0.0674
4	170.16	0.6999	-0.0067	0.0201	0.2963	0.0498	-5.4105	0.4543	-0.2008	0.0566
4	170.16	0.7500	-0.0150	0.0253	0.3139	0.0560	-6.4921	0.5385	-0.2105	0.0597
4	170.16	0.8002	-0.0520	0.0314	0.3343	0.0616	-7.6086	0.6283	-0.1000	0.0542
4	170.16	0.8582	-0.0788	0.0391	0.3545	0.0684	-8.9671	0.7364	0.0072	0.0572
4	170.16	0.9101	-0.1078	0.0441	0.4097	0.0748	-10.2477	0.8348	-0.0700	0.0575
4	170.16	0.9728	-0.0541	0.0492	0.4607	0.0828	-11.7320	0.9568	0.1696	0.0627

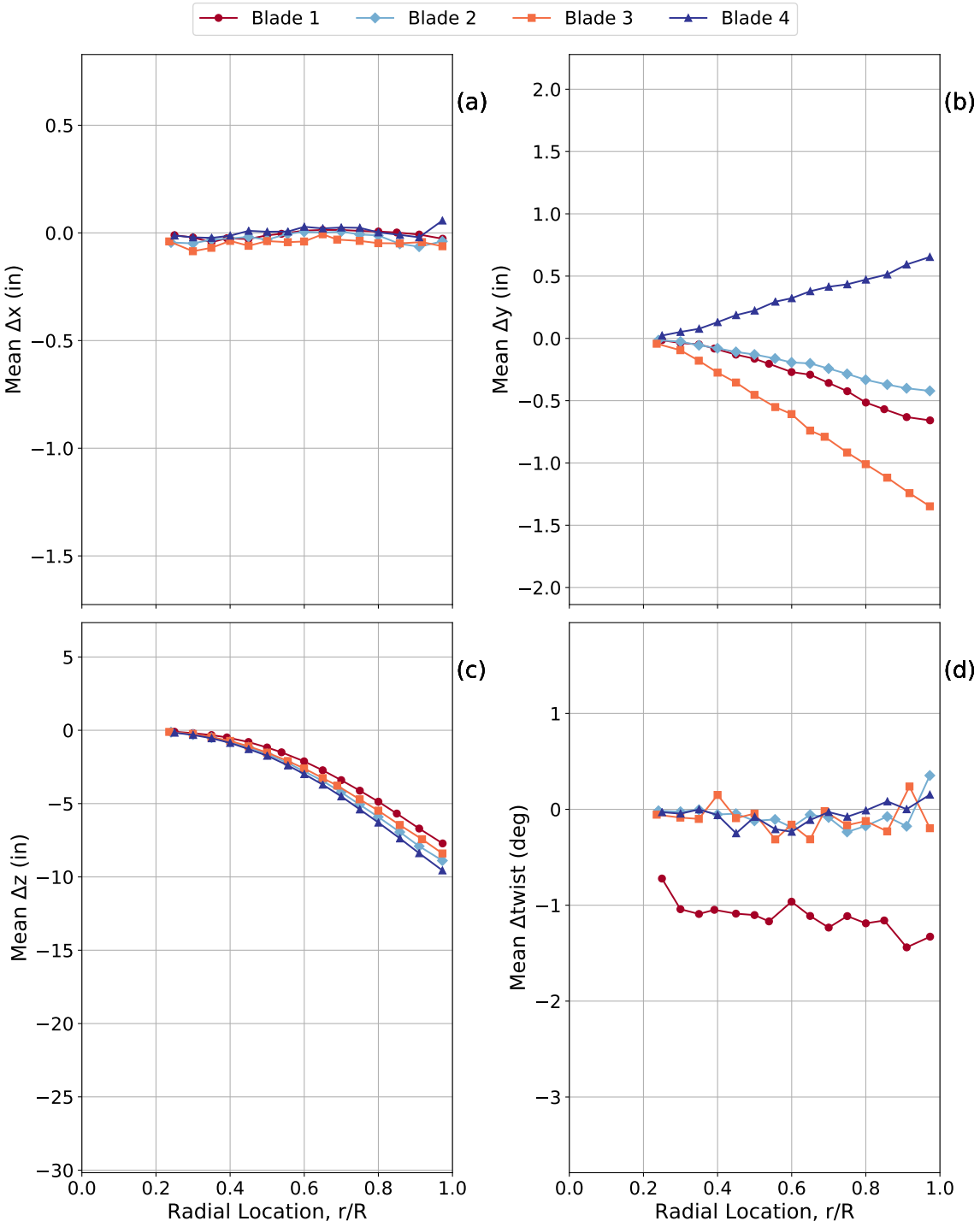


Figure 2.23-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2499	-0.0105	0.0031	-0.0141	0.0043	-0.0999	0.0195	-0.7219	0.0772
1	175.08	0.2998	-0.0212	0.0037	-0.0373	0.0092	-0.1953	0.0374	-1.0415	0.1103
1	175.08	0.3498	-0.0433	0.0037	-0.0478	0.0144	-0.3284	0.0621	-1.0913	0.1106
1	175.08	0.3913	-0.0248	0.0039	-0.0817	0.0221	-0.4859	0.0913	-1.0480	0.1266
1	175.08	0.4496	-0.0285	0.0046	-0.1303	0.0296	-0.8001	0.1381	-1.0879	0.1278
1	175.08	0.4997	-0.0112	0.0057	-0.1633	0.0367	-1.1735	0.1867	-1.1026	0.1270
1	175.08	0.5387	-0.0041	0.0062	-0.2041	0.0423	-1.5022	0.2319	-1.1685	0.1207
1	175.08	0.5996	0.0106	0.0083	-0.2702	0.0515	-2.1184	0.3109	-0.9631	0.1312
1	175.08	0.6498	0.0136	0.0104	-0.2914	0.0598	-2.7275	0.3830	-1.1122	0.1242
1	175.08	0.6998	0.0137	0.0137	-0.3578	0.0670	-3.4012	0.4610	-1.2332	0.1150
1	175.08	0.7500	0.0093	0.0172	-0.4242	0.0750	-4.1189	0.5465	-1.1137	0.1170
1	175.08	0.8001	0.0065	0.0211	-0.5151	0.0827	-4.8691	0.6360	-1.1887	0.1356
1	175.08	0.8497	0.0018	0.0252	-0.5685	0.0906	-5.6802	0.7283	-1.1591	0.1328
1	175.08	0.9102	-0.0076	0.0297	-0.6317	0.1001	-6.7022	0.8457	-1.4395	0.1327
1	175.08	0.9734	-0.0272	0.0322	-0.6581	0.1101	-7.7177	0.9714	-1.3280	0.1250
2	175.08	0.2405	-0.0444	0.0033	-0.0145	0.0037	-0.1294	0.0150	-0.0153	0.0520
2	175.08	0.2999	-0.0487	0.0037	-0.0259	0.0087	-0.2938	0.0334	-0.0250	0.0804
2	175.08	0.3498	-0.0315	0.0036	-0.0550	0.0142	-0.4988	0.0571	-0.0047	0.0810
2	175.08	0.3998	-0.0256	0.0045	-0.0795	0.0229	-0.7937	0.0903	-0.0535	0.0877
2	175.08	0.4496	-0.0186	0.0056	-0.1087	0.0284	-1.1592	0.1285	-0.0454	0.0834
2	175.08	0.4995	-0.0317	0.0064	-0.1294	0.0377	-1.6162	0.1734	-0.1196	0.0789
2	175.08	0.5551	-0.0043	0.0083	-0.1617	0.0465	-2.2261	0.2327	-0.1059	0.0901
2	175.08	0.5996	0.0050	0.0100	-0.1931	0.0552	-2.7975	0.2855	-0.1876	0.0861
2	175.08	0.6497	0.0018	0.0122	-0.2010	0.0639	-3.4550	0.3523	-0.0565	0.0922
2	175.08	0.6996	0.0060	0.0157	-0.2419	0.0736	-4.2277	0.4250	-0.0848	0.0841
2	175.08	0.7495	-0.0073	0.0196	-0.2850	0.0835	-5.0675	0.5039	-0.2359	0.0848
2	175.08	0.7996	-0.0121	0.0244	-0.3322	0.0933	-5.9107	0.5916	-0.1737	0.0934
2	175.08	0.8578	-0.0508	0.0302	-0.3707	0.1053	-6.9395	0.6986	-0.0758	0.1090
2	175.08	0.9100	-0.0641	0.0346	-0.4005	0.1156	-7.9068	0.7979	-0.1767	0.1071
2	175.08	0.9727	-0.0392	0.0375	-0.4215	0.1286	-8.8882	0.9188	0.3526	0.0883
3	175.08	0.2357	-0.0396	0.0031	-0.0429	0.0028	-0.1114	0.0144	-0.0560	0.0525
3	175.08	0.2995	-0.0851	0.0034	-0.0948	0.0069	-0.2542	0.0338	-0.0862	0.0841
3	175.08	0.3493	-0.0693	0.0042	-0.1790	0.0118	-0.4669	0.0590	-0.1002	0.0884
3	175.08	0.4000	-0.0371	0.0042	-0.2747	0.0187	-0.7260	0.0930	0.1498	0.0840
3	175.08	0.4497	-0.0599	0.0058	-0.3543	0.0245	-1.0925	0.1344	-0.0921	0.0911
3	175.08	0.4997	-0.0381	0.0073	-0.4536	0.0313	-1.5225	0.1844	-0.0445	0.0890
3	175.08	0.5556	-0.0430	0.0089	-0.5513	0.0394	-2.0955	0.2481	-0.3134	0.0945
3	175.08	0.5995	-0.0399	0.0109	-0.6078	0.0463	-2.6001	0.3036	-0.1604	0.0967
3	175.08	0.6498	-0.0064	0.0133	-0.7400	0.0528	-3.2599	0.3750	-0.3124	0.0952
3	175.08	0.6890	-0.0311	0.0157	-0.7898	0.0587	-3.7735	0.4337	-0.0187	0.0876
3	175.08	0.7495	-0.0371	0.0199	-0.9159	0.0678	-4.7077	0.5316	-0.1656	0.0966
3	175.08	0.7998	-0.0477	0.0238	-1.0097	0.0748	-5.4802	0.6199	-0.1223	0.0957
3	175.08	0.8577	-0.0487	0.0288	-1.1179	0.0844	-6.4602	0.7251	-0.2300	0.0996
3	175.08	0.9178	-0.0426	0.0330	-1.2421	0.0932	-7.4296	0.8375	0.2380	0.0891
3	175.08	0.9729	-0.0620	0.0349	-1.3479	0.1014	-8.4021	0.9413	-0.1969	0.1048
4	175.08	0.2502	-0.0124	0.0029	0.0228	0.0032	-0.1646	0.0158	-0.0300	0.0551
4	175.08	0.3001	-0.0206	0.0037	0.0520	0.0063	-0.3193	0.0299	-0.0453	0.0787
4	175.08	0.3502	-0.0232	0.0042	0.0771	0.0106	-0.5452	0.0528	-0.0012	0.0747
4	175.08	0.4002	-0.0129	0.0049	0.1303	0.0167	-0.8631	0.0826	-0.0605	0.0761
4	175.08	0.4500	0.0096	0.0057	0.1865	0.0218	-1.2843	0.1183	-0.2499	0.0740
4	175.08	0.5001	0.0055	0.0066	0.2231	0.0275	-1.7372	0.1613	-0.0788	0.0755
4	175.08	0.5560	0.0063	0.0083	0.2946	0.0353	-2.3990	0.2165	-0.2074	0.0761
4	175.08	0.6001	0.0283	0.0104	0.3225	0.0407	-2.9902	0.2676	-0.2342	0.0748
4	175.08	0.6501	0.0208	0.0125	0.3786	0.0479	-3.7096	0.3298	-0.1109	0.0751
4	175.08	0.6999	0.0250	0.0156	0.4142	0.0553	-4.5091	0.3997	-0.0288	0.0777
4	175.08	0.7500	0.0236	0.0191	0.4339	0.0630	-5.3992	0.4756	-0.0772	0.0778
4	175.08	0.8002	0.0023	0.0235	0.4717	0.0704	-6.2962	0.5578	-0.0114	0.0804
4	175.08	0.8582	-0.0092	0.0287	0.5135	0.0792	-7.3752	0.6573	0.0823	0.0844
4	175.08	0.9101	-0.0204	0.0327	0.5929	0.0875	-8.3837	0.7487	0.0009	0.0834
4	175.08	0.9728	0.0574	0.0353	0.6535	0.0972	-9.5576	0.8622	0.1525	0.0821

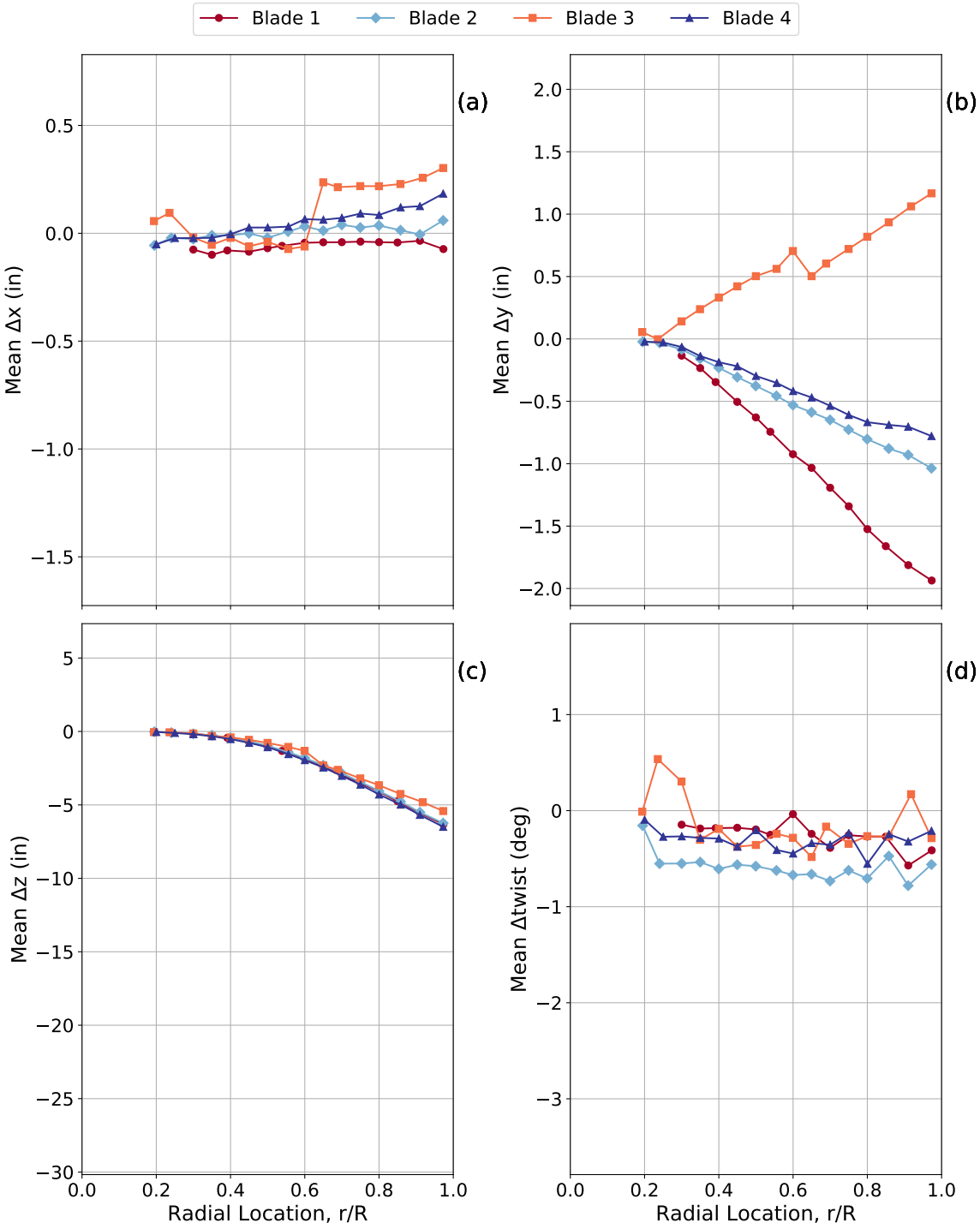


Figure 2.23-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2998	-0.0757	0.0135	-0.1340	0.0251	-0.1562	0.0512	-0.1464	0.1050
1	180	0.3498	-0.0996	0.0133	-0.2333	0.0434	-0.2854	0.0905	-0.1864	0.1388
1	180	0.3913	-0.0795	0.0149	-0.3457	0.0641	-0.4330	0.1351	-0.1827	0.1287
1	180	0.4496	-0.0854	0.0155	-0.5043	0.0889	-0.7095	0.2039	-0.1783	0.1242
1	180	0.4997	-0.0692	0.0159	-0.6290	0.1115	-1.0420	0.2709	-0.1963	0.1298
1	180	0.5387	-0.0583	0.0176	-0.7440	0.1295	-1.3260	0.3305	-0.2516	0.1229
1	180	0.5996	-0.0442	0.0192	-0.9237	0.1583	-1.8521	0.4273	-0.0365	0.1317
1	180	0.6498	-0.0418	0.0203	-1.0331	0.1820	-2.3753	0.5173	-0.2421	0.1223
1	180	0.6998	-0.0413	0.0228	-1.1924	0.2057	-2.9423	0.6090	-0.3873	0.1330
1	180	0.7500	-0.0387	0.0248	-1.3411	0.2295	-3.5115	0.7078	-0.2554	0.1325
1	180	0.8001	-0.0412	0.0274	-1.5243	0.2542	-4.1032	0.8093	-0.2701	0.1255
1	180	0.8497	-0.0428	0.0308	-1.6608	0.2786	-4.7472	0.9126	-0.2706	0.1333
1	180	0.9102	-0.0348	0.0350	-1.8127	0.3081	-5.5534	1.0400	-0.5709	0.1364
1	180	0.9734	-0.0732	0.0375	-1.9360	0.3384	-6.3225	1.1752	-0.4132	0.1479
2	180	0.1949	-0.0562	0.0018	-0.0225	0.0016	-0.0210	0.0080	-0.1557	0.0179
2	180	0.2405	-0.0212	0.0013	-0.0313	0.0022	-0.0823	0.0143	-0.5518	0.0371
2	180	0.2999	-0.0270	0.0017	-0.0847	0.0056	-0.1601	0.0342	-0.5503	0.0442
2	180	0.3498	-0.0094	0.0019	-0.1582	0.0094	-0.2561	0.0585	-0.5358	0.0468
2	180	0.3998	-0.0090	0.0025	-0.2313	0.0143	-0.4385	0.0905	-0.6067	0.0466
2	180	0.4496	-0.0005	0.0031	-0.3062	0.0190	-0.6702	0.1280	-0.5630	0.0482
2	180	0.4995	-0.0209	0.0038	-0.3764	0.0242	-0.9715	0.1726	-0.5782	0.0516
2	180	0.5551	0.0080	0.0049	-0.4565	0.0305	-1.4047	0.2293	-0.6228	0.0524
2	180	0.5996	0.0317	0.0058	-0.5303	0.0359	-1.8039	0.2806	-0.6703	0.0552
2	180	0.6497	0.0122	0.0074	-0.5875	0.0416	-2.3029	0.3417	-0.6615	0.0518
2	180	0.6996	0.0391	0.0093	-0.6486	0.0479	-2.8556	0.4073	-0.7329	0.0467
2	180	0.7495	0.0266	0.0115	-0.7268	0.0540	-3.4327	0.4777	-0.6219	0.0569
2	180	0.7996	0.0360	0.0145	-0.8032	0.0610	-4.0517	0.5520	-0.7061	0.0566
2	180	0.8578	0.0142	0.0184	-0.8786	0.0673	-4.7766	0.6407	-0.4730	0.0629
2	180	0.9100	-0.0058	0.0201	-0.9296	0.0740	-5.5010	0.7220	-0.7808	0.0624
2	180	0.9727	0.0595	0.0223	-1.0363	0.0830	-6.2363	0.8214	-0.5604	0.0675
3	180.35	0.1938	0.0566	0.0434	0.0551	0.0033	-0.0453	0.0172	-0.0108	0.1274
3	180.35	0.2357	0.0946	0.0217	-0.0025	0.0086	-0.0582	0.0172	0.5364	0.2926
3	180.35	0.2995	-0.0195	0.0160	0.1409	0.0216	-0.1338	0.0447	0.3030	0.3708
3	180.35	0.3493	-0.0534	0.0556	0.2384	0.0311	-0.3030	0.1106	-0.3032	0.1297
3	180.35	0.4000	-0.0211	0.0739	0.3320	0.0551	-0.4029	0.1399	-0.1903	0.1185
3	180.35	0.4497	-0.0606	0.0898	0.4216	0.0780	-0.5681	0.1701	-0.3760	0.1212
3	180.35	0.4997	-0.0398	0.1049	0.5030	0.1020	-0.7792	0.2065	-0.3572	0.1161
3	180.35	0.5556	-0.0728	0.1198	0.5615	0.1279	-1.0519	0.2497	-0.2409	0.1365
3	180.35	0.5995	-0.0614	0.1257	0.7046	0.1574	-1.3185	0.2893	-0.2827	0.1797
3	180.35	0.6498	0.2362	0.0635	0.5029	0.2486	-2.3104	0.9065	-0.4824	0.1605
3	180.35	0.6890	0.2138	0.0627	0.6040	0.2558	-2.6152	0.9789	-0.1666	0.1598
3	180.35	0.7495	0.2187	0.0619	0.7211	0.2665	-3.1974	1.0931	-0.3451	0.1601
3	180.35	0.7998	0.2182	0.0611	0.8189	0.2761	-3.6591	1.1923	-0.2657	0.1559
3	180.35	0.8577	0.2284	0.0604	0.9344	0.2866	-4.2569	1.3063	-0.2690	0.1586
3	180.35	0.9178	0.2573	0.0598	1.0622	0.2980	-4.8180	1.4260	0.1711	0.1570
3	180.35	0.9729	0.3025	0.0571	1.1667	0.3087	-5.4190	1.5405	-0.2860	0.1563
4	180	0.2001	-0.0513	0.0022	-0.0216	0.0030	-0.0385	0.0108	-0.0947	0.0529
4	180	0.2502	-0.0221	0.0020	-0.0283	0.0059	-0.1010	0.0205	-0.2721	0.1207
4	180	0.3001	-0.0223	0.0023	-0.0648	0.0102	-0.1866	0.0415	-0.2680	0.1344
4	180	0.3502	-0.0211	0.0024	-0.1376	0.0206	-0.3284	0.0718	-0.2835	0.1276
4	180	0.4002	-0.0042	0.0030	-0.1865	0.0290	-0.5214	0.1097	-0.2907	0.1294
4	180	0.4500	0.0267	0.0036	-0.2194	0.0379	-0.7764	0.1540	-0.3751	0.1297
4	180	0.5001	0.0267	0.0042	-0.2967	0.0477	-1.0723	0.2063	-0.2027	0.1315
4	180	0.5560	0.0309	0.0056	-0.3529	0.0584	-1.5437	0.2717	-0.4099	0.1342
4	180	0.6001	0.0654	0.0065	-0.4178	0.0681	-1.9531	0.3294	-0.4468	0.1325
4	180	0.6501	0.0627	0.0082	-0.4697	0.0786	-2.4556	0.4005	-0.3378	0.1365
4	180	0.6999	0.0714	0.0095	-0.5363	0.0888	-3.0241	0.4775	-0.3549	0.1562
4	180	0.7500	0.0914	0.0134	-0.6095	0.1017	-3.6210	0.5610	-0.2335	0.1850
4	180	0.8002	0.0848	0.0172	-0.6673	0.1114	-4.2934	0.6506	-0.5534	0.1351
4	180	0.8582	0.1201	0.0197	-0.6888	0.1240	-4.9822	0.7585	-0.2457	0.1359
4	180	0.9101	0.1257	0.0220	-0.7035	0.1356	-5.6816	0.8586	-0.3219	0.1363
4	180	0.9728	0.1837	0.0227	-0.7785	0.1493	-6.4940	0.9830	-0.2100	0.1394

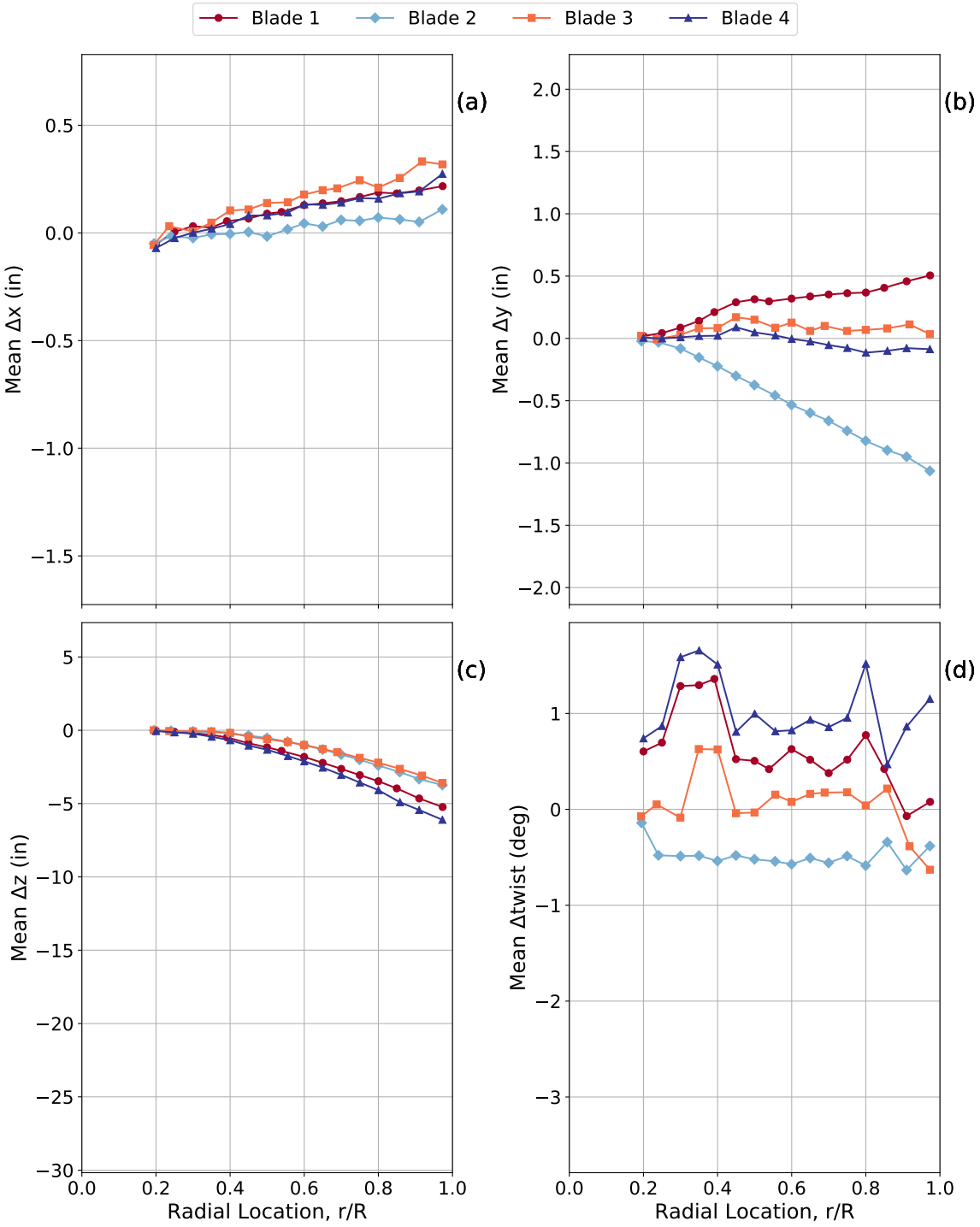


Figure 2.23-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0527	0.0189	0.0189	0.0185	-0.0369	0.0142	0.6032	0.8687
1	184.92	0.2499	0.0056	0.0193	0.0428	0.0536	-0.1056	0.0969	0.6954	0.8789
1	184.92	0.2998	0.0310	0.0085	0.0861	0.1059	-0.1923	0.1203	1.2854	1.7998
1	184.92	0.3498	0.0250	0.0138	0.1401	0.1489	-0.3131	0.1992	1.2952	1.9485
1	184.92	0.3913	0.0543	0.0521	0.2109	0.2493	-0.4846	0.3344	1.3594	2.0543
1	184.92	0.4496	0.0665	0.1062	0.2897	0.4235	-0.8842	0.6890	0.5230	0.8339
1	184.92	0.4997	0.0895	0.1235	0.3143	0.4923	-1.1592	0.8094	0.5052	0.8237
1	184.92	0.5387	0.0972	0.1362	0.2971	0.5460	-1.4071	0.9043	0.4188	0.8203
1	184.92	0.5996	0.1289	0.1554	0.3195	0.6304	-1.8153	1.0554	0.6278	0.8107
1	184.92	0.6498	0.1374	0.1693	0.3368	0.7009	-2.2194	1.1835	0.5173	0.8014
1	184.92	0.6998	0.1472	0.1819	0.3526	0.7697	-2.6325	1.3136	0.3777	0.7824
1	184.92	0.7500	0.1667	0.1910	0.3627	0.8402	-3.0590	1.4457	0.5177	0.7901
1	184.92	0.8001	0.1876	0.1740	0.3679	0.9210	-3.4733	1.5345	0.7738	1.5096
1	184.92	0.8497	0.1835	0.2010	0.4058	0.9778	-3.9635	1.7152	0.4210	0.7835
1	184.92	0.9102	0.1973	0.1258	0.4580	1.1542	-4.6496	2.0348	-0.0705	0.7245
1	184.92	0.9734	0.2170	0.1065	0.5055	1.2478	-5.2341	2.2173	0.0781	0.7098
2	184.92	0.1949	-0.0496	0.0498	-0.0214	0.0077	-0.0074	0.0126	-0.1412	0.0838
2	184.92	0.2405	-0.0159	0.0204	-0.0311	0.0071	-0.0422	0.0101	-0.4796	0.2736
2	184.92	0.2999	-0.0235	0.0153	-0.0810	0.0267	-0.0831	0.0403	-0.4881	0.2810
2	184.92	0.3498	-0.0066	0.0439	-0.1531	0.0457	-0.1278	0.0695	-0.4835	0.2848
2	184.92	0.3998	-0.0047	0.0716	-0.2234	0.0676	-0.2296	0.1006	-0.5385	0.2829
2	184.92	0.4496	0.0041	0.0969	-0.3011	0.0922	-0.3553	0.1322	-0.4808	0.2900
2	184.92	0.4995	-0.0163	0.1189	-0.3744	0.1198	-0.5272	0.1655	-0.5209	0.2912
2	184.92	0.5551	0.0169	0.1399	-0.4582	0.1540	-0.7780	0.2054	-0.5424	0.3012
2	184.92	0.5996	0.0442	0.1523	-0.5338	0.1836	-1.0153	0.2397	-0.5725	0.3036
2	184.92	0.6497	0.0299	0.1624	-0.5977	0.2207	-1.3134	0.2808	-0.5085	0.3066
2	184.92	0.6996	0.0602	0.1659	-0.6617	0.2605	-1.6557	0.3235	-0.5584	0.3140
2	184.92	0.7495	0.0564	0.1643	-0.7419	0.3045	-2.0108	0.3705	-0.4869	0.3148
2	184.92	0.7996	0.0712	0.1575	-0.8221	0.3515	-2.4019	0.4202	-0.5868	0.3186
2	184.92	0.8578	0.0626	0.1424	-0.8978	0.4114	-2.8495	0.4812	-0.3416	0.3126
2	184.92	0.9100	0.0509	0.1230	-0.9500	0.4706	-3.3240	0.5370	-0.6337	0.3203
2	184.92	0.9727	0.1093	0.0895	-1.0642	0.5443	-3.7345	0.6074	-0.3826	0.3354
3	184.92	0.1938	-0.0558	0.0155	0.0204	0.0067	0.0020	0.0158	-0.0731	0.0249
3	184.92	0.2357	0.0311	0.0153	-0.0063	0.0123	-0.0514	0.0251	0.0511	0.0490
3	184.92	0.2995	0.0071	0.0157	0.0283	0.0212	-0.0703	0.0466	-0.0863	0.0652
3	184.92	0.3493	0.0476	0.0158	0.0809	0.0564	-0.0746	0.1347	0.6282	1.1699
3	184.92	0.4000	0.1043	0.0221	0.0825	0.0731	-0.1742	0.1675	0.6241	1.3401
3	184.92	0.4497	0.1089	0.1129	0.1701	0.2851	-0.4370	0.2368	-0.0409	0.0723
3	184.92	0.4997	0.1388	0.1309	0.1498	0.3266	-0.6002	0.2730	-0.0331	0.0785
3	184.92	0.5556	0.1424	0.1502	0.0854	0.3728	-0.8059	0.3169	0.1526	0.0881
3	184.92	0.5995	0.1782	0.1644	0.1266	0.4092	-1.0000	0.3558	0.0777	0.1008
3	184.92	0.6498	0.1982	0.1778	0.0601	0.4516	-1.2760	0.4025	0.1607	0.1096
3	184.92	0.6890	0.2069	0.1879	0.0999	0.4831	-1.4970	0.4418	0.1748	0.1183
3	184.92	0.7495	0.2442	0.1983	0.0599	0.5327	-1.8782	0.5060	0.1779	0.1236
3	184.92	0.7998	0.2104	0.2025	0.0684	0.5733	-2.2044	0.5650	0.0401	0.1552
3	184.92	0.8577	0.2547	0.1105	0.0800	0.7054	-2.6284	0.7474	0.2166	0.2028
3	184.92	0.9178	0.3316	0.1049	0.1123	0.7713	-3.0928	0.8279	-0.3851	0.2766
3	184.92	0.9729	0.3182	0.0929	0.0342	0.8192	-3.5933	0.8933	-0.6296	0.2223
4	184.92	0.2001	-0.0704	0.0208	0.0047	0.0161	-0.0525	0.0150	0.7396	0.8214
4	184.92	0.2502	-0.0241	0.0208	-0.0007	0.0208	-0.1431	0.0641	0.8688	0.8152
4	184.92	0.3001	0.0010	0.0059	0.0090	0.0404	-0.2349	0.0605	1.5871	1.6991
4	184.92	0.3502	0.0194	0.0386	0.0192	0.1031	-0.4412	0.1597	1.6567	1.8543
4	184.92	0.4002	0.0412	0.0508	0.0214	0.1288	-0.6790	0.2231	1.5096	1.9734
4	184.92	0.4500	0.0806	0.1027	0.0893	0.2568	-1.0480	0.5154	0.8085	0.7810
4	184.92	0.5001	0.0812	0.1206	0.0483	0.2946	-1.3286	0.6045	0.9971	0.7774
4	184.92	0.5560	0.0946	0.1394	0.0237	0.3384	-1.7586	0.7076	0.8140	0.7691
4	184.92	0.6001	0.1329	0.1534	-0.0045	0.3740	-2.1181	0.7924	0.8242	0.7623
4	184.92	0.6501	0.1302	0.1680	-0.0243	0.4135	-2.5491	0.8907	0.9342	0.7532
4	184.92	0.6999	0.1409	0.1797	-0.0538	0.4552	-3.0430	0.9932	0.8571	0.7437
4	184.92	0.7500	0.1618	0.1908	-0.0771	0.4945	-3.5644	1.0952	0.9545	0.7591
4	184.92	0.8002	0.1590	0.1737	-0.1145	0.5506	-4.0860	1.1704	1.5179	1.4387
4	184.92	0.8582	0.1841	0.1265	-0.0997	0.6620	-4.9059	1.4621	0.4700	0.6901
4	184.92	0.9101	0.1926	0.1232	-0.0784	0.7182	-5.4381	1.5846	0.8628	0.6789
4	184.92	0.9728	0.2742	0.1134	-0.0866	0.7755	-6.1059	1.7343	1.1511	0.6605

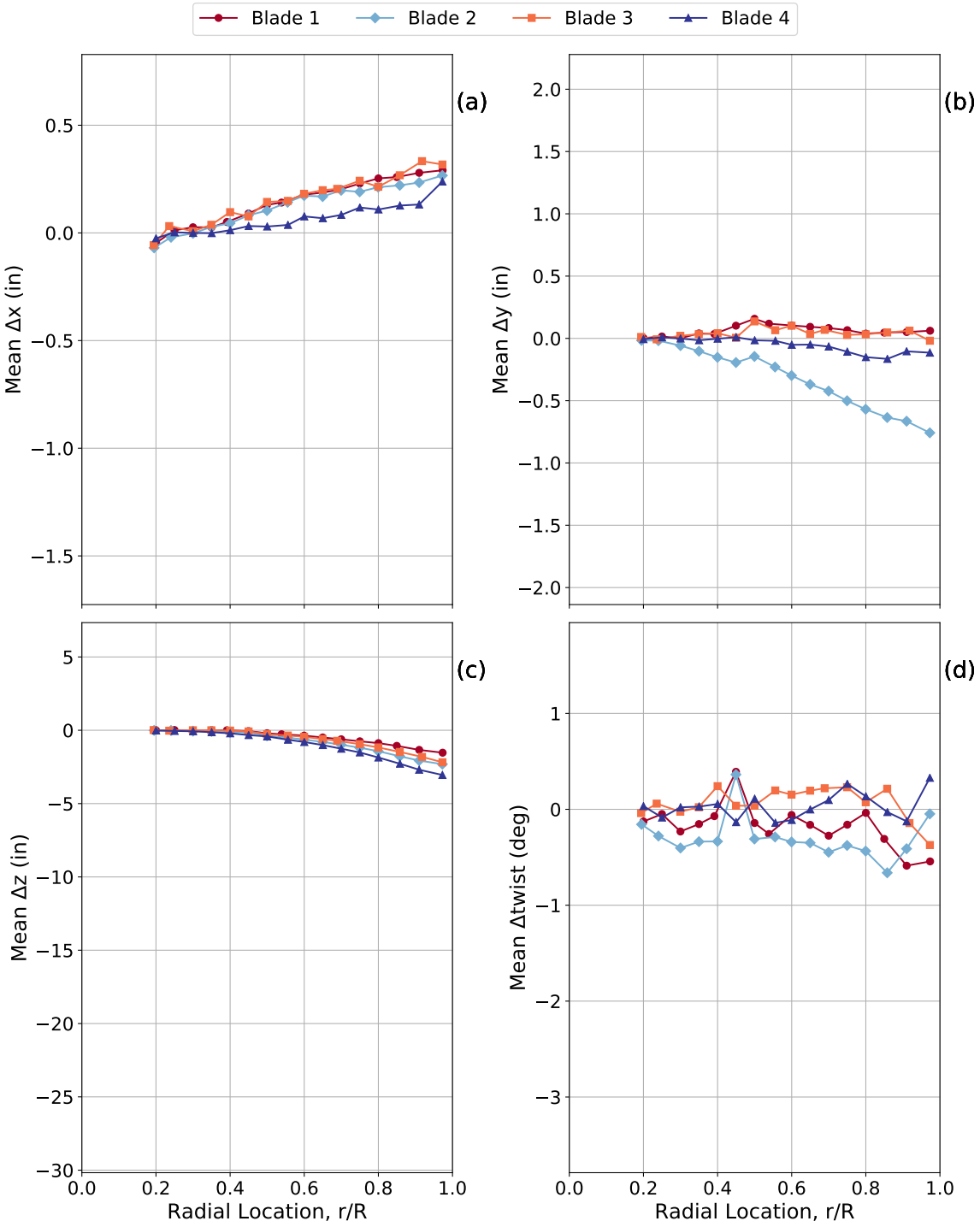


Figure 2.23-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-27. 190° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0465	0.0016	0.0025	0.0013	-0.0066	0.0065	-0.1268	0.0250
1	189.84	0.2499	0.0119	0.0013	0.0152	0.0031	0.0161	0.0145	-0.0495	0.0504
1	189.84	0.2998	0.0263	0.0014	0.0016	0.0050	-0.0163	0.0277	-0.2312	0.0558
1	189.84	0.3498	0.0257	0.0016	0.0400	0.0092	0.0045	0.0478	-0.1538	0.0474
1	189.84	0.3913	0.0508	0.0021	0.0356	0.0129	-0.0002	0.0695	-0.0711	0.0477
1	189.84	0.4496	0.0900	0.0550	0.1019	0.1060	-0.0544	0.1065	0.3915	1.2056
1	189.84	0.4997	0.1303	0.0941	0.1574	0.2279	-0.2049	0.2963	-0.1427	0.0618
1	189.84	0.5387	0.1409	0.1029	0.1182	0.2504	-0.2706	0.3315	-0.2575	0.0615
1	189.84	0.5996	0.1774	0.1157	0.1037	0.2861	-0.3643	0.3949	-0.0590	0.0731
1	189.84	0.6498	0.1871	0.1246	0.0928	0.3156	-0.4895	0.4514	-0.1619	0.0749
1	189.84	0.6998	0.2029	0.1327	0.0829	0.3447	-0.6159	0.5131	-0.2751	0.0862
1	189.84	0.7500	0.2295	0.1380	0.0660	0.3756	-0.7519	0.5797	-0.1603	0.0942
1	189.84	0.8001	0.2532	0.1139	0.0382	0.4144	-0.8776	0.6208	-0.0374	0.6831
1	189.84	0.8497	0.2593	0.1429	0.0465	0.4311	-1.0634	0.7284	-0.3087	0.1288
1	189.84	0.9102	0.2790	0.0517	0.0510	0.5492	-1.3383	0.9371	-0.5879	0.1484
1	189.84	0.9734	0.2909	0.0433	0.0614	0.5977	-1.5297	1.0455	-0.5432	0.1718
2	189.84	0.1949	-0.0694	0.0017	-0.0157	0.0015	-0.0094	0.0067	-0.1570	0.0200
2	189.84	0.2405	-0.0203	0.0012	-0.0184	0.0031	-0.0146	0.0132	-0.2782	0.0397
2	189.84	0.2999	-0.0020	0.0016	-0.0580	0.0059	-0.0584	0.0297	-0.4033	0.0484
2	189.84	0.3498	0.0283	0.0017	-0.1028	0.0098	-0.0767	0.0507	-0.3368	0.0409
2	189.84	0.3998	0.0447	0.0023	-0.1521	0.0153	-0.1390	0.0790	-0.3346	0.0473
2	189.84	0.4496	0.0816	0.0298	-0.1938	0.0456	-0.1464	0.1549	0.3628	1.3282
2	189.84	0.4995	0.1036	0.1142	-0.1450	0.2732	-0.3803	0.3099	-0.3095	0.0647
2	189.84	0.5551	0.1422	0.1292	-0.2296	0.3077	-0.4985	0.3553	-0.2882	0.0761
2	189.84	0.5996	0.1731	0.1398	-0.2984	0.3352	-0.6359	0.3942	-0.3403	0.0798
2	189.84	0.6497	0.1687	0.1498	-0.3692	0.3658	-0.7923	0.4417	-0.3494	0.0880
2	189.84	0.6996	0.1977	0.1577	-0.4229	0.3961	-0.9844	0.4951	-0.4474	0.1091
2	189.84	0.7495	0.1908	0.1621	-0.5008	0.4252	-1.1867	0.5494	-0.3769	0.1045
2	189.84	0.7996	0.2122	0.1642	-0.5690	0.4544	-1.4267	0.6086	-0.4354	0.1102
2	189.84	0.8578	0.2210	0.1293	-0.6353	0.5201	-1.7735	0.8000	-0.6620	1.1009
2	189.84	0.9100	0.2338	0.0610	-0.6647	0.6080	-2.0656	0.8666	-0.4110	0.1766
2	189.84	0.9727	0.2667	0.0518	-0.7580	0.6552	-2.3118	0.9492	-0.0480	0.1925
3	189.84	0.1938	-0.0568	0.0019	0.0114	0.0020	0.0121	0.0069	-0.0393	0.0225
3	189.84	0.2357	0.0316	0.0014	-0.0076	0.0028	-0.0280	0.0138	0.0593	0.0382
3	189.84	0.2995	0.0080	0.0015	0.0208	0.0068	0.0007	0.0314	-0.0249	0.0481
3	189.84	0.3493	0.0377	0.0015	0.0337	0.0116	-0.0005	0.0541	0.0218	0.0427
3	189.84	0.4000	0.0965	0.0019	0.0416	0.0176	-0.0212	0.0848	0.2412	0.0485
3	189.84	0.4497	0.0766	0.0021	0.0051	0.0223	-0.0802	0.1222	0.0372	0.0486
3	189.84	0.4997	0.1439	0.1195	0.1364	0.2959	-0.2648	0.3777	0.0377	0.0703
3	189.84	0.5556	0.1486	0.1337	0.0658	0.3355	-0.3587	0.4400	0.1967	0.0772
3	189.84	0.5995	0.1818	0.1439	0.1017	0.3668	-0.4472	0.4933	0.1529	0.0889
3	189.84	0.6498	0.1983	0.1536	0.0353	0.4022	-0.5994	0.5593	0.1946	0.0969
3	189.84	0.6890	0.2045	0.1597	0.0686	0.4302	-0.7197	0.6134	0.2196	0.1018
3	189.84	0.7495	0.2422	0.1661	0.0280	0.4726	-0.9472	0.7027	0.2305	0.1193
3	189.84	0.7998	0.2143	0.1681	0.0328	0.5072	-1.1689	0.7786	0.0734	0.1140
3	189.84	0.8577	0.2677	0.0604	0.0475	0.6263	-1.4772	1.0180	0.2146	0.1910
3	189.84	0.9178	0.3332	0.0519	0.0622	0.6855	-1.8127	1.1218	-0.1431	0.2047
3	189.84	0.9729	0.3176	0.0409	-0.0188	0.7345	-2.1818	1.2160	-0.3725	0.2182
4	189.84	0.2001	-0.0250	0.0017	-0.0061	0.0017	-0.0148	0.0071	0.0336	0.0251
4	189.84	0.2502	0.0028	0.0019	0.0085	0.0032	-0.0457	0.0137	-0.0860	0.0522
4	189.84	0.3001	-0.0002	0.0018	-0.0013	0.0055	-0.0714	0.0276	0.0208	0.0563
4	189.84	0.3502	-0.0011	0.0021	-0.0151	0.0102	-0.1330	0.0477	0.0282	0.0494
4	189.84	0.4002	0.0126	0.0028	-0.0026	0.0148	-0.2081	0.0730	0.0557	0.0487
4	189.84	0.4500	0.0319	0.0023	0.0092	0.0191	-0.3284	0.1042	-0.1337	0.0481
4	189.84	0.5001	0.0296	0.0025	-0.0153	0.0239	-0.4212	0.1433	0.1102	0.0536
4	189.84	0.5560	0.0370	0.0029	-0.0194	0.0303	-0.6449	0.1916	-0.1414	0.0572
4	189.84	0.6001	0.0765	0.0033	-0.0517	0.0353	-0.8015	0.2360	-0.1114	0.0684
4	189.84	0.6501	0.0682	0.0032	-0.0498	0.0416	-1.0106	0.2891	-0.0015	0.0630
4	189.84	0.6999	0.0836	0.0039	-0.0657	0.0475	-1.2574	0.3469	0.0970	0.0599
4	189.84	0.7500	0.1179	0.0048	-0.1072	0.0538	-1.5134	0.4101	0.2657	0.0569
4	189.84	0.8002	0.1087	0.0048	-0.1505	0.0593	-1.8590	0.4756	0.1352	0.0661
4	189.84	0.8582	0.1270	0.0065	-0.1647	0.0668	-2.2825	0.5592	-0.0289	0.0834
4	189.84	0.9101	0.1319	0.0074	-0.1039	0.0726	-2.6915	0.6316	-0.1250	0.0703
4	189.84	0.9728	0.2385	0.0081	-0.1147	0.0804	-3.0489	0.7245	0.3285	0.0830

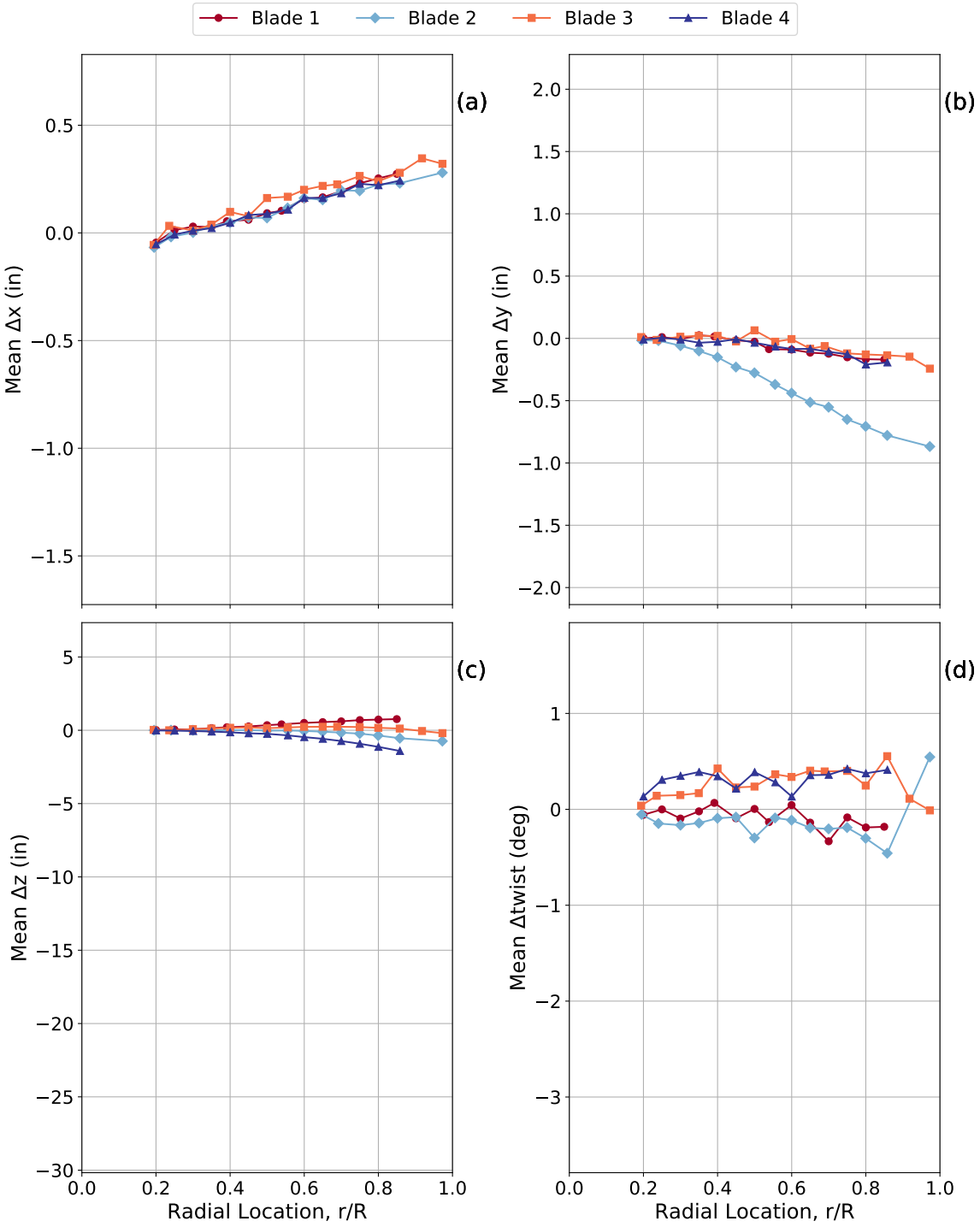


Figure 2.23-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0449	0.0013	0.0009	0.0017	0.0146	0.0090	-0.0570	0.0238
1	195.12	0.2499	0.0126	0.0013	0.0102	0.0038	0.0534	0.0199	-0.0009	0.0475
1	195.12	0.2998	0.0295	0.0012	-0.0059	0.0070	0.0701	0.0384	-0.0960	0.0551
1	195.12	0.3498	0.0278	0.0015	0.0257	0.0118	0.1485	0.0660	-0.0212	0.0480
1	195.12	0.3913	0.0542	0.0019	0.0150	0.0172	0.2081	0.0961	0.0671	0.0455
1	195.12	0.4496	0.0610	0.0019	-0.0154	0.0237	0.2613	0.1464	-0.0937	0.0464
1	195.12	0.4997	0.0915	0.0018	-0.0265	0.0301	0.3472	0.1992	0.0041	0.0480
1	195.12	0.5387	0.1028	0.0018	-0.0864	0.0355	0.4051	0.2438	-0.1331	0.0541
1	195.12	0.5996	0.1572	0.0023	-0.0899	0.0444	0.5016	0.3216	0.0441	0.0560
1	195.12	0.6498	0.1653	0.0030	-0.1143	0.0521	0.5562	0.3924	-0.1388	0.0598
1	195.12	0.6998	0.1939	0.0039	-0.1231	0.0605	0.6089	0.4636	-0.3334	0.0678
1	195.12	0.7500	0.2304	0.0040	-0.1518	0.0673	0.6942	0.5430	-0.0844	0.0793
1	195.12	0.8001	0.2532	0.0048	-0.1671	0.0723	0.7299	0.6231	-0.1892	0.2117
1	195.12	0.8497	0.2741	0.0052	-0.1699	0.0828	0.7611	0.7013	-0.1822	0.1149
2	195.12	0.1949	-0.0674	0.0015	-0.0156	0.0015	0.0031	0.0094	-0.0530	0.0153
2	195.12	0.2405	-0.0185	0.0013	-0.0180	0.0033	0.0059	0.0200	-0.1479	0.0360
2	195.12	0.2999	0.0017	0.0013	-0.0586	0.0070	0.0010	0.0455	-0.1651	0.0407
2	195.12	0.3498	0.0314	0.0022	-0.1010	0.0118	0.0123	0.0742	-0.1429	0.0515
2	195.12	0.3998	0.0477	0.0023	-0.1514	0.0185	0.0076	0.1190	-0.0930	0.0426
2	195.12	0.4496	0.0715	0.0026	-0.2299	0.0256	0.0142	0.1699	-0.0811	0.0417
2	195.12	0.4995	0.0696	0.0028	-0.2766	0.0336	-0.0292	0.2336	-0.2984	0.0521
2	195.12	0.5551	0.1160	0.0027	-0.3698	0.0442	-0.0132	0.3151	-0.0902	0.0629
2	195.12	0.5996	0.1616	0.0033	-0.4391	0.0519	-0.0458	0.3865	-0.1130	0.0579
2	195.12	0.6497	0.1536	0.0037	-0.5128	0.0625	-0.0948	0.4759	-0.1935	0.0700
2	195.12	0.6996	0.1978	0.0036	-0.5523	0.0718	-0.1612	0.5682	-0.2041	0.0759
2	195.12	0.7495	0.1954	0.0042	-0.6502	0.0826	-0.2267	0.6672	-0.1902	0.0737
2	195.12	0.7996	0.2243	0.0049	-0.7063	0.0939	-0.3592	0.7657	-0.3022	0.1016
2	195.12	0.8578	0.2309	0.0066	-0.7788	0.1040	-0.5407	0.8787	-0.4580	0.2562
2	195.12	0.9727	0.2799	0.0151	-0.8679	0.1275	-0.7396	1.1353	0.5457	0.2846
3	195.12	0.1938	-0.0558	0.0019	0.0105	0.0016	0.0275	0.0077	0.0381	0.0189
3	195.12	0.2357	0.0329	0.0011	-0.0121	0.0027	-0.0005	0.0154	0.1413	0.0393
3	195.12	0.2995	0.0106	0.0014	0.0132	0.0063	0.0750	0.0358	0.1484	0.0500
3	195.12	0.3493	0.0383	0.0016	0.0208	0.0107	0.1164	0.0608	0.1686	0.0463
3	195.12	0.4000	0.0975	0.0019	0.0198	0.0166	0.1695	0.0960	0.4254	0.0491
3	195.12	0.4497	0.0773	0.0021	-0.0244	0.0209	0.1988	0.1374	0.2278	0.0493
3	195.12	0.4997	0.1620	0.0943	0.0646	0.3343	0.1433	0.3796	0.2371	0.0785
3	195.12	0.5556	0.1680	0.1066	-0.0265	0.3835	0.1922	0.4392	0.3652	0.0886
3	195.12	0.5995	0.2001	0.1147	-0.0056	0.4227	0.2332	0.4896	0.3377	0.0949
3	195.12	0.6498	0.2183	0.1234	-0.0830	0.4685	0.2387	0.5504	0.4030	0.1008
3	195.12	0.6890	0.2254	0.1278	-0.0619	0.5053	0.2438	0.6028	0.3949	0.1146
3	195.12	0.7495	0.2644	0.1342	-0.1204	0.5610	0.2205	0.6885	0.4008	0.1412
3	195.12	0.7998	0.2396	0.1348	-0.1288	0.6080	0.1676	0.7609	0.2473	0.1389
3	195.12	0.8577	0.2792	0.0810	-0.1356	0.6772	0.1167	0.8020	0.5541	1.2775
3	195.12	0.9178	0.3463	0.0344	-0.1465	0.8185	-0.0502	1.1453	0.1109	0.2522
3	195.12	0.9729	0.3209	0.0429	-0.2426	0.8885	-0.1947	1.2446	-0.0112	0.2617
4	195.12	0.2001	-0.0528	0.0013	-0.0095	0.0012	-0.0118	0.0062	0.1341	0.0213
4	195.12	0.2502	-0.0077	0.0013	0.0052	0.0035	-0.0243	0.0142	0.3081	0.0375
4	195.12	0.3001	0.0103	0.0013	-0.0093	0.0049	-0.0519	0.0268	0.3485	0.0469
4	195.12	0.3502	0.0222	0.0016	-0.0351	0.0089	-0.0875	0.0456	0.3897	0.0612
4	195.12	0.4002	0.0470	0.0021	-0.0273	0.0138	-0.1379	0.0714	0.3447	0.0461
4	195.12	0.4500	0.0826	0.0022	-0.0065	0.0176	-0.2059	0.1003	0.2158	0.0441
4	195.12	0.5001	0.0887	0.0021	-0.0348	0.0229	-0.2435	0.1361	0.3877	0.0503
4	195.12	0.5560	0.1080	0.0021	-0.0654	0.0288	-0.3487	0.1796	0.2816	0.0471
4	195.12	0.6001	0.1629	0.0024	-0.0850	0.0330	-0.4663	0.2174	0.1333	0.0556
4	195.12	0.6501	0.1619	0.0024	-0.0840	0.0393	-0.5813	0.2638	0.3559	0.0532
4	195.12	0.6999	0.1842	0.0029	-0.1080	0.0444	-0.7340	0.3121	0.3600	0.0648
4	195.12	0.7500	0.2280	0.0037	-0.1271	0.0518	-0.9199	0.3634	0.4217	0.0919
4	195.12	0.8002	0.2215	0.0051	-0.2094	0.0571	-1.1318	0.4165	0.3754	0.2237
4	195.12	0.8582	0.2430	0.0049	-0.1932	0.0672	-1.4108	0.4784	0.4113	0.2506

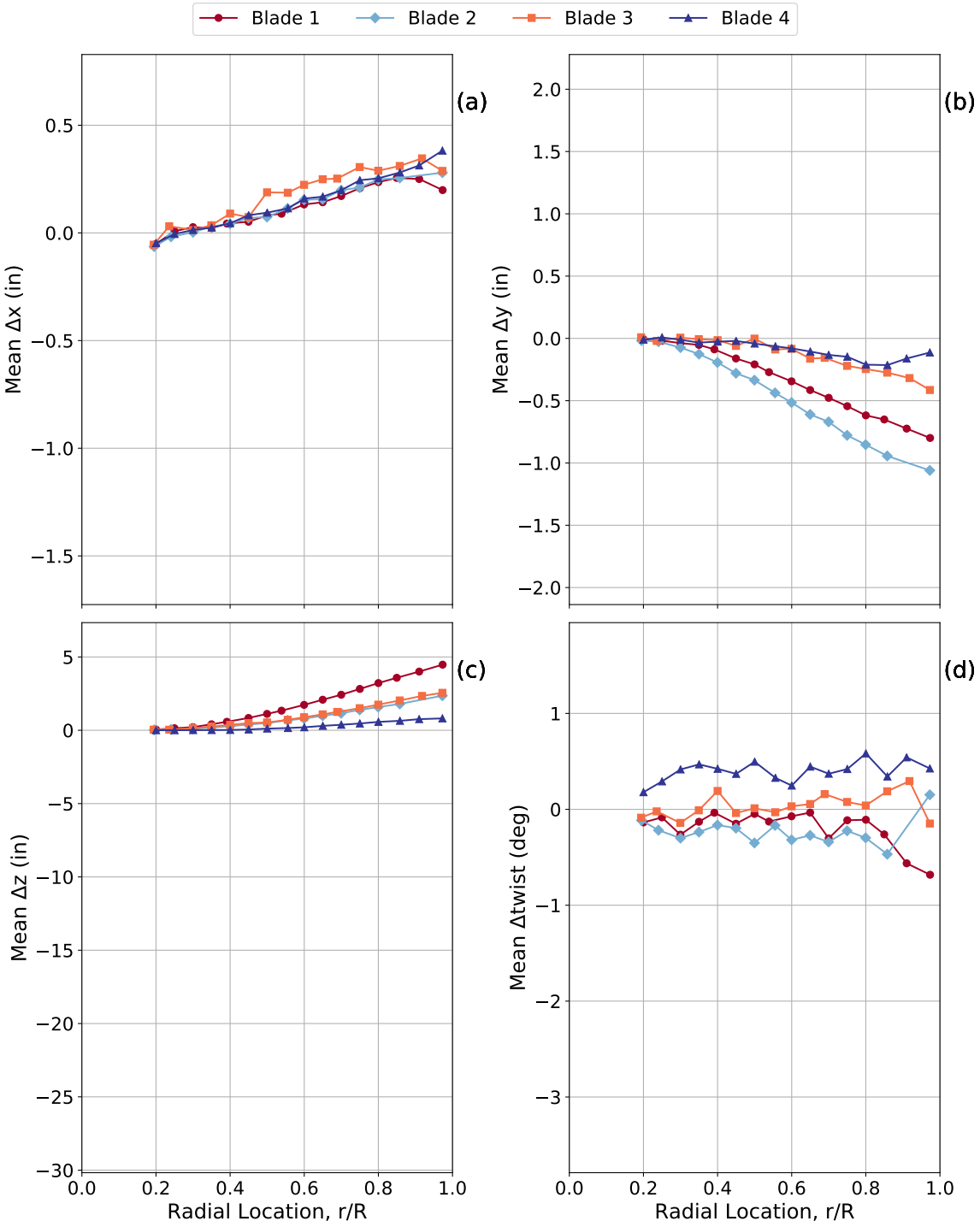


Figure 2.23-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0510	0.0016	-0.0066	0.0015	0.0487	0.0065	-0.1365	0.0239
1	209.88	0.2499	0.0078	0.0009	-0.0185	0.0033	0.1379	0.0140	-0.0844	0.0417
1	209.88	0.2998	0.0267	0.0013	-0.0378	0.0060	0.2129	0.0273	-0.2642	0.0548
1	209.88	0.3498	0.0223	0.0012	-0.0523	0.0090	0.4085	0.0467	-0.1297	0.0489
1	209.88	0.3913	0.0433	0.0016	-0.0881	0.0135	0.5795	0.0678	-0.0354	0.0521
1	209.88	0.4496	0.0519	0.0021	-0.1614	0.0184	0.8386	0.1036	-0.1504	0.0507
1	209.88	0.4997	0.0813	0.0023	-0.2087	0.0241	1.1171	0.1411	-0.0477	0.0596
1	209.88	0.5387	0.0889	0.0031	-0.2710	0.0289	1.3372	0.1738	-0.1277	0.0535
1	209.88	0.5996	0.1321	0.0041	-0.3446	0.0358	1.7318	0.2294	-0.0728	0.0610
1	209.88	0.6498	0.1423	0.0052	-0.4146	0.0427	2.0837	0.2799	-0.0340	0.0634
1	209.88	0.6998	0.1712	0.0069	-0.4770	0.0487	2.4231	0.3323	-0.3026	0.0670
1	209.88	0.7500	0.2076	0.0087	-0.5444	0.0555	2.8198	0.3891	-0.1140	0.0729
1	209.88	0.8001	0.2358	0.0102	-0.6181	0.0626	3.2192	0.4482	-0.1088	0.0774
1	209.88	0.8497	0.2553	0.0113	-0.6509	0.0695	3.5799	0.5091	-0.2614	0.0745
1	209.88	0.9102	0.2503	0.0156	-0.7242	0.0789	4.0025	0.5906	-0.5630	0.2102
1	209.88	0.9734	0.1988	0.0192	-0.7994	0.0866	4.4750	0.6781	-0.6824	0.1327
2	209.88	0.1949	-0.0636	0.0018	-0.0178	0.0012	0.0241	0.0058	-0.1151	0.0203
2	209.88	0.2405	-0.0179	0.0014	-0.0264	0.0031	0.0546	0.0117	-0.2178	0.0290
2	209.88	0.2999	0.0029	0.0013	-0.0738	0.0063	0.1018	0.0258	-0.3007	0.0434
2	209.88	0.3498	0.0295	0.0019	-0.1261	0.0102	0.1842	0.0447	-0.2374	0.0366
2	209.88	0.3998	0.0422	0.0017	-0.1933	0.0164	0.2783	0.0692	-0.1639	0.0378
2	209.88	0.4496	0.0695	0.0023	-0.2797	0.0206	0.3934	0.0961	-0.1964	0.0430
2	209.88	0.4995	0.0738	0.0020	-0.3354	0.0262	0.4887	0.1298	-0.3504	0.0407
2	209.88	0.5551	0.1136	0.0025	-0.4374	0.0328	0.6773	0.1701	-0.1675	0.0594
2	209.88	0.5996	0.1540	0.0024	-0.5148	0.0381	0.7988	0.2088	-0.3187	0.0533
2	209.88	0.6497	0.1564	0.0035	-0.6104	0.0447	0.9874	0.2556	-0.2717	0.0575
2	209.88	0.6996	0.1985	0.0039	-0.6699	0.0519	1.1595	0.3041	-0.3404	0.0654
2	209.88	0.7495	0.2106	0.0046	-0.7780	0.0588	1.3891	0.3606	-0.2241	0.0545
2	209.88	0.7996	0.2477	0.0054	-0.8531	0.0663	1.5837	0.4163	-0.2976	0.0756
2	209.88	0.8578	0.2552	0.0071	-0.9438	0.0751	1.7955	0.4882	-0.4680	0.0844
2	209.88	0.9727	0.2797	0.0120	-1.0596	0.0915	2.3588	0.6318	0.1517	0.1372
3	209.88	0.1938	-0.0547	0.0017	0.0087	0.0021	0.0420	0.0064	-0.0873	0.0150
3	209.88	0.2357	0.0310	0.0013	-0.0204	0.0022	0.0378	0.0104	-0.0215	0.0313
3	209.88	0.2995	0.0134	0.0011	0.0057	0.0070	0.1401	0.0263	-0.1416	0.0378
3	209.88	0.3493	0.0354	0.0012	-0.0063	0.0116	0.2532	0.0451	-0.0107	0.0390
3	209.88	0.4000	0.0896	0.0019	-0.0142	0.0175	0.3688	0.0694	0.1916	0.0377
3	209.88	0.4497	0.0735	0.0016	-0.0602	0.0219	0.4864	0.1004	-0.0385	0.0469
3	209.88	0.4997	0.1884	0.0044	-0.0017	0.0271	0.5341	0.1367	0.0107	0.0501
3	209.88	0.5556	0.1867	0.0047	-0.0889	0.0331	0.7132	0.1820	-0.0305	0.0469
3	209.88	0.5995	0.2234	0.0045	-0.0837	0.0397	0.8905	0.2244	0.0312	0.0495
3	209.88	0.6498	0.2491	0.0058	-0.1626	0.0456	1.0853	0.2746	0.0551	0.0469
3	209.88	0.6890	0.2522	0.0062	-0.1561	0.0508	1.2514	0.3166	0.1588	0.0483
3	209.88	0.7495	0.3058	0.0069	-0.2205	0.0590	1.5057	0.3850	0.0768	0.0544
3	209.88	0.7998	0.2887	0.0078	-0.2463	0.0667	1.7466	0.4446	0.0396	0.0506
3	209.88	0.8577	0.3109	0.0090	-0.2749	0.0743	2.0344	0.5141	0.1878	0.0724
3	209.88	0.9178	0.3461	0.0097	-0.3184	0.0833	2.3415	0.5899	0.2946	0.0515
3	209.88	0.9729	0.2879	0.0126	-0.4143	0.0904	2.5552	0.6640	-0.1481	0.0604
4	209.88	0.2001	-0.0478	0.0013	-0.0102	0.0010	0.0034	0.0058	0.1784	0.0263
4	209.88	0.2502	-0.0051	0.0012	0.0077	0.0031	0.0021	0.0123	0.2913	0.0354
4	209.88	0.3001	0.0136	0.0014	-0.0110	0.0047	0.0107	0.0240	0.4159	0.0518
4	209.88	0.3502	0.0246	0.0016	-0.0337	0.0083	0.0145	0.0409	0.4683	0.0380
4	209.88	0.4002	0.0449	0.0018	-0.0261	0.0129	0.0222	0.0636	0.4222	0.0421
4	209.88	0.4500	0.0821	0.0017	-0.0203	0.0166	0.0512	0.0932	0.3695	0.0503
4	209.88	0.5001	0.0940	0.0019	-0.0418	0.0219	0.1148	0.1281	0.4964	0.0482
4	209.88	0.5560	0.1141	0.0020	-0.0639	0.0288	0.1529	0.1740	0.3282	0.0497
4	209.88	0.6001	0.1594	0.0017	-0.0801	0.0338	0.2025	0.2143	0.2473	0.0442
4	209.88	0.6501	0.1683	0.0029	-0.1056	0.0398	0.3008	0.2653	0.4452	0.0458
4	209.88	0.6999	0.1985	0.0028	-0.1327	0.0479	0.3762	0.3224	0.3708	0.0526
4	209.88	0.7500	0.2446	0.0035	-0.1474	0.0543	0.4619	0.3817	0.4198	0.0494
4	209.88	0.8002	0.2536	0.0041	-0.2110	0.0621	0.5714	0.4465	0.5826	0.0672
4	209.88	0.8582	0.2807	0.0056	-0.2144	0.0706	0.6444	0.5238	0.3418	0.0795
4	209.88	0.9101	0.3132	0.0086	-0.1617	0.0795	0.7584	0.5953	0.5416	0.1468
4	209.88	0.9728	0.3820	0.0098	-0.1133	0.0884	0.8092	0.6788	0.4258	0.1588

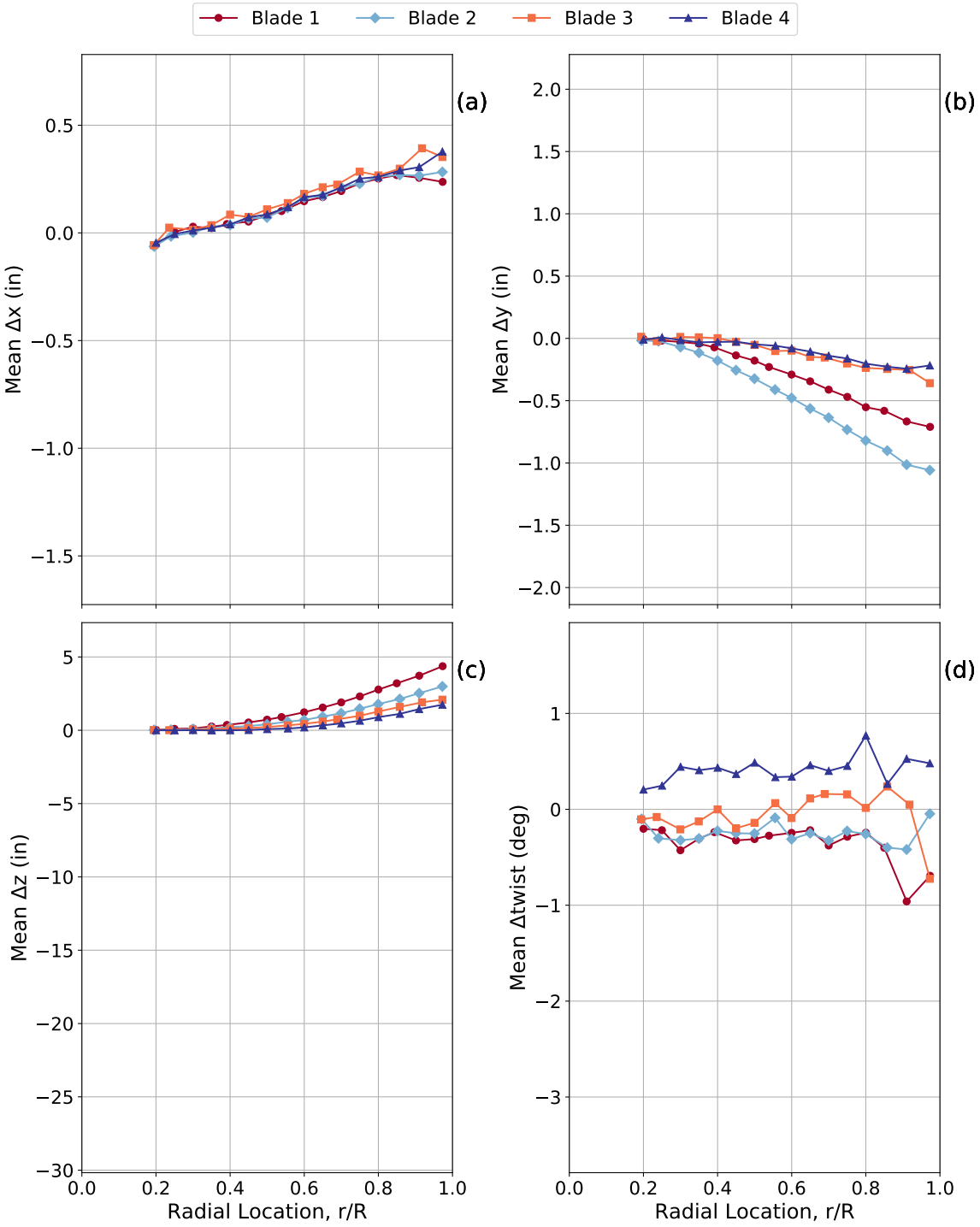


Figure 2.23-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0556	0.0014	-0.0044	0.0010	0.0283	0.0058	-0.2031	0.0231
1	225	0.2499	0.0042	0.0009	-0.0177	0.0030	0.0960	0.0126	-0.2177	0.0372
1	225	0.2998	0.0288	0.0010	-0.0287	0.0041	0.1257	0.0240	-0.4270	0.0504
1	225	0.3498	0.0228	0.0015	-0.0429	0.0078	0.2593	0.0413	-0.3061	0.0529
1	225	0.3913	0.0413	0.0015	-0.0719	0.0109	0.3628	0.0598	-0.2381	0.0416
1	225	0.4496	0.0526	0.0014	-0.1364	0.0148	0.5321	0.0879	-0.3245	0.0449
1	225	0.4997	0.0816	0.0018	-0.1787	0.0189	0.7237	0.1164	-0.3103	0.0435
1	225	0.5387	0.1014	0.0019	-0.2296	0.0214	0.9024	0.1430	-0.2750	0.0467
1	225	0.5996	0.1471	0.0025	-0.2905	0.0274	1.2272	0.1876	-0.2457	0.0522
1	225	0.6498	0.1663	0.0034	-0.3445	0.0316	1.5494	0.2283	-0.2182	0.0524
1	225	0.6998	0.1945	0.0046	-0.4116	0.0368	1.9016	0.2746	-0.3772	0.0536
1	225	0.7500	0.2297	0.0056	-0.4695	0.0412	2.3082	0.3245	-0.2858	0.0570
1	225	0.8001	0.2523	0.0075	-0.5523	0.0462	2.7777	0.3783	-0.2438	0.0545
1	225	0.8497	0.2684	0.0093	-0.5812	0.0510	3.2022	0.4345	-0.4009	0.0585
1	225	0.9102	0.2557	0.0128	-0.6667	0.0576	3.7213	0.5072	-0.9605	0.0544
1	225	0.9734	0.2369	0.0175	-0.7102	0.0641	4.3702	0.5859	-0.6929	0.0604
2	225	0.1949	-0.0629	0.0017	-0.0173	0.0010	0.0205	0.0058	-0.1005	0.0173
2	225	0.2405	-0.0158	0.0012	-0.0221	0.0030	0.0367	0.0116	-0.3024	0.0312
2	225	0.2999	0.0019	0.0015	-0.0697	0.0051	0.0813	0.0265	-0.3225	0.0412
2	225	0.3498	0.0288	0.0013	-0.1153	0.0093	0.1312	0.0444	-0.3046	0.0459
2	225	0.3998	0.0365	0.0017	-0.1777	0.0144	0.2035	0.0698	-0.2251	0.0403
2	225	0.4496	0.0669	0.0020	-0.2553	0.0177	0.2873	0.0981	-0.2496	0.0417
2	225	0.4995	0.0715	0.0020	-0.3236	0.0220	0.4034	0.1312	-0.2526	0.0445
2	225	0.5551	0.1165	0.0022	-0.4114	0.0268	0.5863	0.1714	-0.0886	0.0518
2	225	0.5996	0.1627	0.0024	-0.4780	0.0320	0.6970	0.2081	-0.3111	0.0502
2	225	0.6497	0.1718	0.0032	-0.5633	0.0379	0.9329	0.2511	-0.2494	0.0486
2	225	0.6996	0.2121	0.0041	-0.6366	0.0429	1.1595	0.2989	-0.3265	0.0547
2	225	0.7495	0.2283	0.0048	-0.7320	0.0485	1.4690	0.3505	-0.2267	0.0534
2	225	0.7996	0.2604	0.0055	-0.8202	0.0544	1.7874	0.4050	-0.2575	0.0530
2	225	0.8578	0.2695	0.0072	-0.9014	0.0613	2.1338	0.4729	-0.3993	0.0568
2	225	0.9100	0.2658	0.0092	-1.0136	0.0677	2.5272	0.5366	-0.4190	0.0622
2	225	0.9727	0.2829	0.0140	-1.0581	0.0752	2.9898	0.6121	-0.0469	0.0683
3	225	0.1938	-0.0571	0.0013	0.0130	0.0025	0.0162	0.0102	-0.1048	0.0192
3	225	0.2357	0.0245	0.0014	-0.0225	0.0026	0.0067	0.0181	-0.0807	0.0314
3	225	0.2995	0.0148	0.0014	0.0120	0.0079	0.0456	0.0450	-0.2092	0.0457
3	225	0.3493	0.0358	0.0015	0.0086	0.0136	0.0845	0.0756	-0.1260	0.0443
3	225	0.4000	0.0849	0.0022	0.0016	0.0201	0.1176	0.1186	-0.0008	0.0514
3	225	0.4497	0.0741	0.0022	-0.0277	0.0263	0.1499	0.1688	-0.1977	0.0620
3	225	0.4997	0.1095	0.0023	-0.0527	0.0318	0.2222	0.2275	-0.1411	0.0499
3	225	0.5556	0.1385	0.0025	-0.1016	0.0389	0.3348	0.3043	0.0646	0.0557
3	225	0.5995	0.1813	0.0024	-0.0984	0.0462	0.4361	0.3709	-0.0906	0.0548
3	225	0.6498	0.2119	0.0032	-0.1488	0.0529	0.5929	0.4527	0.1136	0.0574
3	225	0.6890	0.2242	0.0044	-0.1534	0.0584	0.7421	0.5256	0.1597	0.0664
3	225	0.7495	0.2843	0.0054	-0.2013	0.0657	0.9886	0.6434	0.1559	0.0641
3	225	0.7998	0.2670	0.0063	-0.2369	0.0726	1.2768	0.7449	0.0147	0.0663
3	225	0.8577	0.2983	0.0105	-0.2454	0.0802	1.5914	0.8732	0.2377	0.0671
3	225	0.9178	0.3928	0.0153	-0.2534	0.0894	1.9068	1.0086	0.0488	0.0896
3	225	0.9729	0.3524	0.0312	-0.3593	0.1023	2.0869	1.1341	-0.7245	0.2388
4	225	0.2001	-0.0458	0.0013	-0.0100	0.0015	0.0019	0.0073	0.2055	0.0308
4	225	0.2502	-0.0053	0.0014	0.0077	0.0033	-0.0062	0.0123	0.2465	0.0393
4	225	0.3001	0.0111	0.0013	-0.0139	0.0057	0.0105	0.0282	0.4433	0.0605
4	225	0.3502	0.0240	0.0016	-0.0318	0.0106	-0.0079	0.0460	0.4076	0.0486
4	225	0.4002	0.0397	0.0020	-0.0285	0.0157	0.0006	0.0714	0.4336	0.0488
4	225	0.4500	0.0723	0.0018	-0.0266	0.0216	0.0155	0.1017	0.3683	0.0516
4	225	0.5001	0.0857	0.0023	-0.0478	0.0271	0.0785	0.1358	0.4870	0.0512
4	225	0.5560	0.1198	0.0023	-0.0591	0.0341	0.1193	0.1815	0.3353	0.0567
4	225	0.6001	0.1662	0.0025	-0.0801	0.0400	0.1938	0.2182	0.3407	0.0503
4	225	0.6501	0.1770	0.0029	-0.1061	0.0473	0.3335	0.2649	0.4604	0.0545
4	225	0.6999	0.2114	0.0033	-0.1395	0.0546	0.4698	0.3163	0.4001	0.0590
4	225	0.7500	0.2519	0.0040	-0.1617	0.0613	0.6509	0.3710	0.4525	0.0582
4	225	0.8002	0.2603	0.0051	-0.2031	0.0686	0.8959	0.4310	0.7693	0.0596
4	225	0.8582	0.2899	0.0059	-0.2277	0.0783	1.1198	0.5072	0.2649	0.0579
4	225	0.9101	0.3054	0.0085	-0.2436	0.0864	1.4457	0.5797	0.5263	0.0622
4	225	0.9728	0.3775	0.0136	-0.2175	0.0963	1.7413	0.6698	0.4799	0.0685

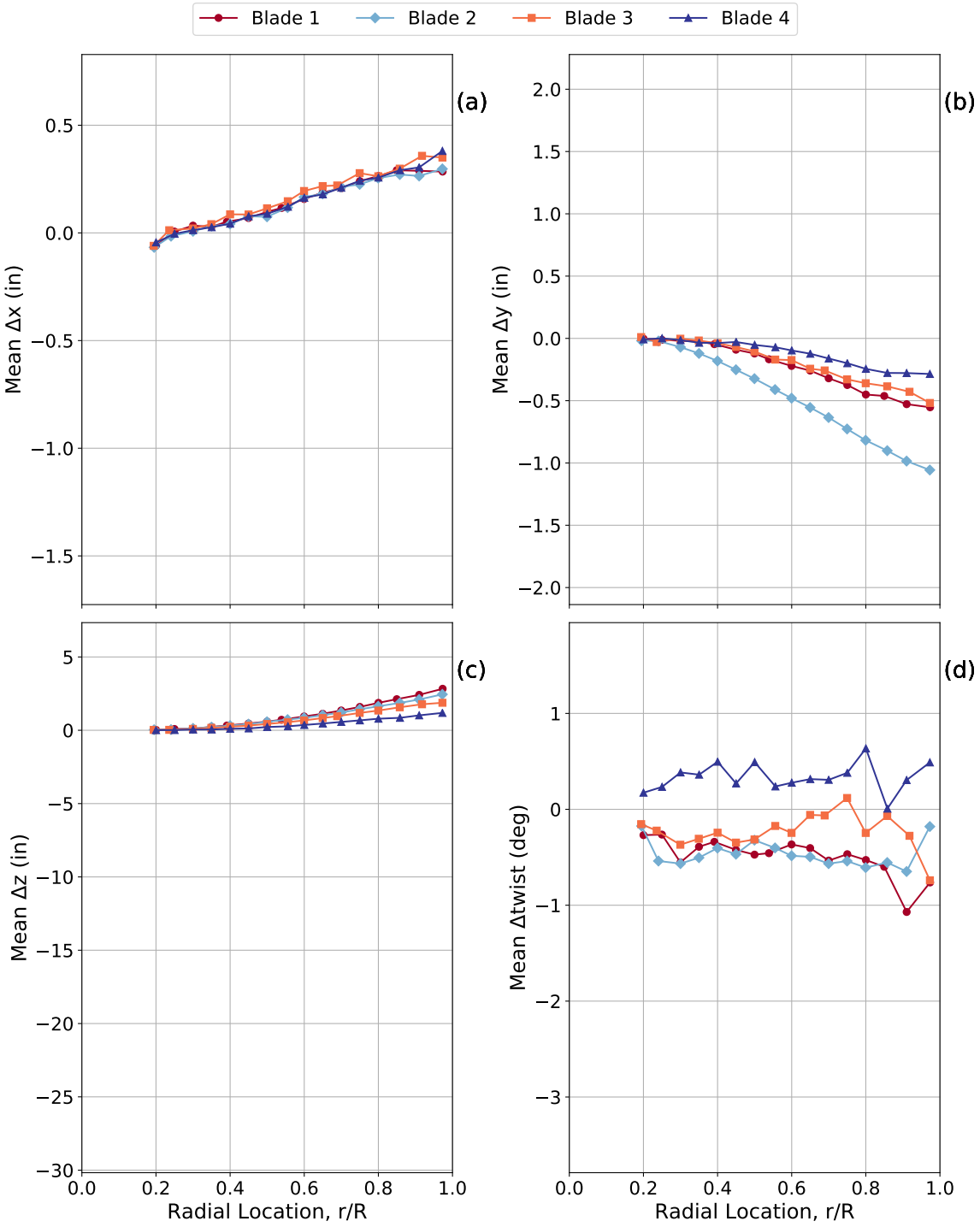


Figure 2.23-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0590	0.0014	-0.0023	0.0015	0.0250	0.0091	-0.2690	0.0224
1	240.12	0.2499	0.0062	0.0012	-0.0117	0.0040	0.0868	0.0201	-0.2636	0.0420
1	240.12	0.2998	0.0338	0.0012	-0.0191	0.0068	0.1086	0.0385	-0.5535	0.0510
1	240.12	0.3498	0.0286	0.0014	-0.0253	0.0116	0.2347	0.0647	-0.3905	0.0477
1	240.12	0.3913	0.0518	0.0021	-0.0463	0.0172	0.3226	0.0950	-0.3391	0.0561
1	240.12	0.4496	0.0691	0.0020	-0.0908	0.0235	0.4617	0.1414	-0.4231	0.0660
1	240.12	0.4997	0.0977	0.0020	-0.1214	0.0310	0.5937	0.1922	-0.4725	0.0567
1	240.12	0.5387	0.1158	0.0025	-0.1677	0.0366	0.7160	0.2346	-0.4573	0.0565
1	240.12	0.5996	0.1576	0.0038	-0.2211	0.0470	0.9424	0.3073	-0.3662	0.0570
1	240.12	0.6498	0.1876	0.0047	-0.2585	0.0555	1.1248	0.3752	-0.4044	0.0677
1	240.12	0.6998	0.2075	0.0059	-0.3204	0.0638	1.3490	0.4435	-0.5346	0.0645
1	240.12	0.7500	0.2405	0.0072	-0.3743	0.0726	1.5935	0.5171	-0.4680	0.0664
1	240.12	0.8001	0.2641	0.0093	-0.4508	0.0816	1.8698	0.5944	-0.5287	0.0701
1	240.12	0.8497	0.2910	0.0104	-0.4620	0.0896	2.1202	0.6718	-0.5992	0.0707
1	240.12	0.9102	0.2883	0.0138	-0.5280	0.1016	2.4154	0.7729	-1.0703	0.0768
1	240.12	0.9734	0.2848	0.0200	-0.5531	0.1127	2.8303	0.8793	-0.7624	0.0778
2	240.12	0.1949	-0.0671	0.0015	-0.0187	0.0012	0.0364	0.0085	-0.1742	0.0205
2	240.12	0.2405	-0.0152	0.0012	-0.0213	0.0023	0.0467	0.0171	-0.5389	0.0363
2	240.12	0.2999	0.0075	0.0016	-0.0704	0.0056	0.1278	0.0380	-0.5660	0.0482
2	240.12	0.3498	0.0316	0.0016	-0.1207	0.0083	0.2116	0.0653	-0.5044	0.0488
2	240.12	0.3998	0.0415	0.0025	-0.1811	0.0137	0.3162	0.1015	-0.4040	0.0477
2	240.12	0.4496	0.0772	0.0027	-0.2516	0.0184	0.4173	0.1436	-0.4680	0.0468
2	240.12	0.4995	0.0748	0.0026	-0.3233	0.0242	0.5784	0.1989	-0.3216	0.0466
2	240.12	0.5551	0.1174	0.0023	-0.4110	0.0302	0.7264	0.2666	-0.4027	0.0456
2	240.12	0.5996	0.1665	0.0024	-0.4799	0.0354	0.8470	0.3287	-0.4844	0.0515
2	240.12	0.6497	0.1810	0.0027	-0.5549	0.0418	1.0308	0.4056	-0.4955	0.0550
2	240.12	0.6996	0.2130	0.0036	-0.6352	0.0484	1.2117	0.4905	-0.5663	0.0581
2	240.12	0.7495	0.2254	0.0046	-0.7273	0.0549	1.4283	0.5832	-0.5395	0.0558
2	240.12	0.7996	0.2545	0.0055	-0.8180	0.0615	1.6362	0.6823	-0.6077	0.0577
2	240.12	0.8578	0.2712	0.0070	-0.9014	0.0688	1.8647	0.8022	-0.5551	0.0583
2	240.12	0.9100	0.2643	0.0092	-0.9849	0.0757	2.0999	0.9140	-0.6485	0.0599
2	240.12	0.9727	0.2972	0.0143	-1.0565	0.0834	2.4492	1.0467	-0.1797	0.0668
3	240.12	0.1938	-0.0600	0.0014	0.0103	0.0013	0.0262	0.0046	-0.1547	0.0215
3	240.12	0.2357	0.0124	0.0014	-0.0292	0.0021	0.0287	0.0091	-0.2222	0.0328
3	240.12	0.2995	0.0206	0.0009	-0.0026	0.0045	0.0924	0.0207	-0.3692	0.0484
3	240.12	0.3493	0.0406	0.0010	-0.0170	0.0075	0.1628	0.0351	-0.3072	0.0451
3	240.12	0.4000	0.0862	0.0019	-0.0391	0.0116	0.2417	0.0551	-0.2437	0.0453
3	240.12	0.4497	0.0856	0.0027	-0.0690	0.0158	0.3199	0.0791	-0.3471	0.0539
3	240.12	0.4997	0.1141	0.0023	-0.1052	0.0203	0.4279	0.1077	-0.3143	0.0468
3	240.12	0.5556	0.1471	0.0024	-0.1701	0.0256	0.5552	0.1473	-0.1735	0.0535
3	240.12	0.5995	0.1946	0.0025	-0.1740	0.0304	0.6714	0.1826	-0.2457	0.0481
3	240.12	0.6498	0.2174	0.0030	-0.2435	0.0362	0.8336	0.2288	-0.0581	0.0497
3	240.12	0.6890	0.2203	0.0035	-0.2574	0.0409	0.9621	0.2681	-0.0641	0.0553
3	240.12	0.7495	0.2775	0.0044	-0.3289	0.0485	1.1824	0.3374	0.1180	0.0582
3	240.12	0.7998	0.2630	0.0050	-0.3599	0.0552	1.3444	0.3998	-0.2462	0.0557
3	240.12	0.8577	0.2985	0.0066	-0.3851	0.0624	1.5673	0.4747	-0.0693	0.0567
3	240.12	0.9178	0.3580	0.0087	-0.4286	0.0708	1.7737	0.5582	-0.2762	0.0597
3	240.12	0.9729	0.3499	0.0127	-0.5184	0.0778	1.8753	0.6359	-0.7401	0.0620
4	240.12	0.2001	-0.0441	0.0014	-0.0081	0.0010	0.0085	0.0060	0.1732	0.0202
4	240.12	0.2502	-0.0042	0.0012	0.0006	0.0027	0.0162	0.0131	0.2336	0.0359
4	240.12	0.3001	0.0128	0.0017	-0.0141	0.0050	0.0488	0.0257	0.3845	0.0449
4	240.12	0.3502	0.0263	0.0014	-0.0351	0.0075	0.0510	0.0428	0.3612	0.0419
4	240.12	0.4002	0.0430	0.0021	-0.0373	0.0126	0.1019	0.0675	0.4964	0.0501
4	240.12	0.4500	0.0770	0.0023	-0.0288	0.0160	0.1256	0.0961	0.2695	0.0641
4	240.12	0.5001	0.0890	0.0026	-0.0524	0.0204	0.2232	0.1303	0.4917	0.0579
4	240.12	0.5560	0.1215	0.0025	-0.0710	0.0252	0.2692	0.1757	0.2384	0.0530
4	240.12	0.6001	0.1632	0.0026	-0.0969	0.0295	0.3610	0.2175	0.2772	0.0593
4	240.12	0.6501	0.1790	0.0026	-0.1231	0.0345	0.4607	0.2728	0.3151	0.0588
4	240.12	0.6999	0.2099	0.0026	-0.1617	0.0397	0.5694	0.3324	0.3075	0.0569
4	240.12	0.7500	0.2419	0.0026	-0.1994	0.0454	0.6758	0.4014	0.3807	0.0602
4	240.12	0.8002	0.2570	0.0028	-0.2447	0.0504	0.7886	0.4764	0.6351	0.0564
4	240.12	0.8582	0.2911	0.0033	-0.2775	0.0567	0.8483	0.5687	0.0071	0.0601
4	240.12	0.9101	0.3043	0.0051	-0.2785	0.0621	1.0176	0.6559	0.3048	0.0587
4	240.12	0.9728	0.3806	0.0083	-0.2857	0.0681	1.1851	0.7614	0.4892	0.0629

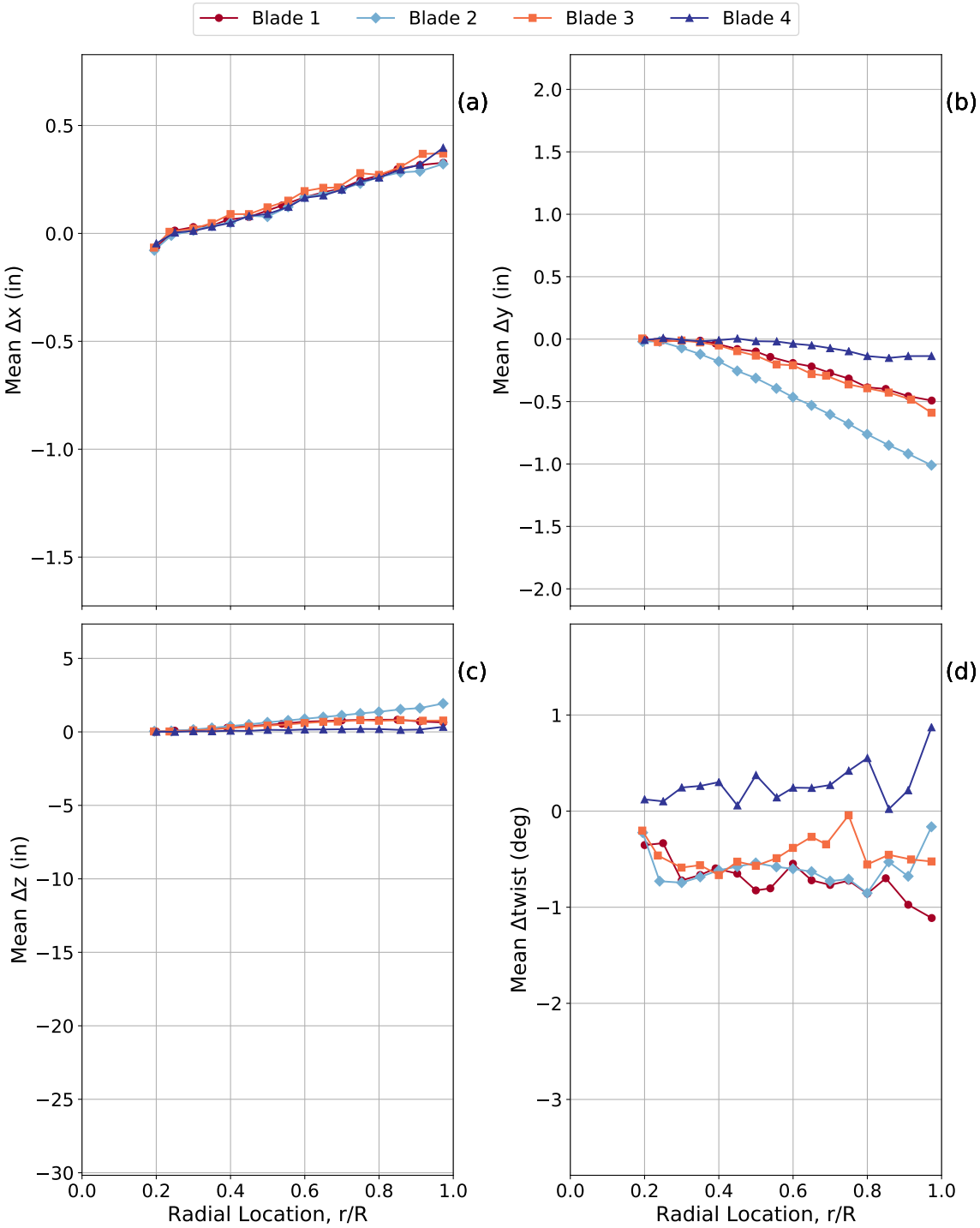


Figure 2.23-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0619	0.0017	-0.0011	0.0014	0.0176	0.0084	-0.3535	0.0238
1	254.88	0.2499	0.0132	0.0011	-0.0080	0.0024	0.0805	0.0176	-0.3338	0.0532
1	254.88	0.2998	0.0294	0.0012	-0.0179	0.0056	0.0961	0.0348	-0.7213	0.0564
1	254.88	0.3498	0.0358	0.0015	-0.0124	0.0090	0.1921	0.0586	-0.6643	0.0561
1	254.88	0.3913	0.0628	0.0035	-0.0352	0.0129	0.2823	0.0854	-0.5958	0.0647
1	254.88	0.4496	0.0757	0.0030	-0.0795	0.0181	0.3997	0.1330	-0.6508	0.0603
1	254.88	0.4997	0.1063	0.0031	-0.0991	0.0238	0.4731	0.1820	-0.8250	0.0603
1	254.88	0.5387	0.1295	0.0034	-0.1427	0.0284	0.5532	0.2264	-0.8037	0.0604
1	254.88	0.5996	0.1678	0.0035	-0.1912	0.0358	0.6953	0.3047	-0.5479	0.0693
1	254.88	0.6498	0.1903	0.0038	-0.2192	0.0424	0.7337	0.3793	-0.7199	0.0632
1	254.88	0.6998	0.2085	0.0041	-0.2707	0.0489	0.7845	0.4593	-0.7683	0.0662
1	254.88	0.7500	0.2459	0.0044	-0.3158	0.0558	0.8178	0.5490	-0.7238	0.0662
1	254.88	0.8001	0.2686	0.0046	-0.3864	0.0626	0.8268	0.6440	-0.8581	0.0674
1	254.88	0.8497	0.2977	0.0048	-0.3989	0.0698	0.8275	0.7434	-0.6987	0.0697
1	254.88	0.9102	0.3168	0.0048	-0.4569	0.0781	0.7091	0.8691	-0.9743	0.0717
1	254.88	0.9734	0.3277	0.0064	-0.4919	0.0874	0.6466	1.0052	-1.1124	0.0722
2	254.88	0.1949	-0.0784	0.0019	-0.0199	0.0013	0.0468	0.0067	-0.2238	0.0210
2	254.88	0.2405	-0.0094	0.0011	-0.0185	0.0025	0.0580	0.0139	-0.7291	0.0396
2	254.88	0.2999	0.0140	0.0011	-0.0702	0.0055	0.1581	0.0289	-0.7444	0.0504
2	254.88	0.3498	0.0364	0.0011	-0.1205	0.0095	0.2709	0.0506	-0.6850	0.0449
2	254.88	0.3998	0.0494	0.0023	-0.1781	0.0147	0.3970	0.0778	-0.6154	0.0440
2	254.88	0.4496	0.0819	0.0023	-0.2547	0.0196	0.5099	0.1116	-0.5783	0.0430
2	254.88	0.4995	0.0776	0.0021	-0.3123	0.0243	0.6507	0.1502	-0.5391	0.0461
2	254.88	0.5551	0.1230	0.0024	-0.3945	0.0310	0.7800	0.2007	-0.5805	0.0406
2	254.88	0.5996	0.1687	0.0028	-0.4648	0.0367	0.8872	0.2454	-0.6003	0.0418
2	254.88	0.6497	0.1826	0.0036	-0.5309	0.0426	1.0084	0.2979	-0.6295	0.0394
2	254.88	0.6996	0.2049	0.0042	-0.6034	0.0489	1.1274	0.3541	-0.7283	0.0451
2	254.88	0.7495	0.2316	0.0045	-0.6790	0.0552	1.2548	0.4138	-0.7077	0.0441
2	254.88	0.7996	0.2607	0.0048	-0.7618	0.0615	1.3649	0.4773	-0.8533	0.0471
2	254.88	0.8578	0.2830	0.0055	-0.8502	0.0694	1.5338	0.5542	-0.5291	0.0470
2	254.88	0.9100	0.2878	0.0067	-0.9185	0.0759	1.6196	0.6254	-0.6782	0.0432
2	254.88	0.9727	0.3219	0.0105	-1.0096	0.0847	1.9312	0.7120	-0.1631	0.0508
3	254.88	0.1938	-0.0658	0.0023	0.0051	0.0011	0.0308	0.0052	-0.2027	0.0222
3	254.88	0.2357	0.0075	0.0017	-0.0232	0.0014	0.0282	0.0089	-0.4619	0.0546
3	254.88	0.2995	0.0217	0.0012	-0.0110	0.0040	0.0993	0.0207	-0.5875	0.0629
3	254.88	0.3493	0.0475	0.0012	-0.0263	0.0068	0.1763	0.0356	-0.5628	0.0641
3	254.88	0.4000	0.0894	0.0013	-0.0506	0.0103	0.2560	0.0548	-0.6655	0.0624
3	254.88	0.4497	0.0893	0.0017	-0.0960	0.0138	0.3515	0.0782	-0.5261	0.0716
3	254.88	0.4997	0.1207	0.0019	-0.1320	0.0181	0.4281	0.1054	-0.5688	0.0650
3	254.88	0.5556	0.1518	0.0020	-0.2025	0.0224	0.5111	0.1409	-0.4900	0.0655
3	254.88	0.5995	0.1959	0.0022	-0.2090	0.0268	0.6044	0.1716	-0.3828	0.0734
3	254.88	0.6498	0.2113	0.0024	-0.2795	0.0310	0.6807	0.2111	-0.2676	0.0689
3	254.88	0.6890	0.2128	0.0026	-0.2928	0.0347	0.7032	0.2440	-0.3458	0.0685
3	254.88	0.7495	0.2793	0.0030	-0.3628	0.0406	0.7998	0.2991	-0.0435	0.0731
3	254.88	0.7998	0.2713	0.0032	-0.3934	0.0456	0.7560	0.3482	-0.5554	0.0725
3	254.88	0.8577	0.3074	0.0033	-0.4279	0.0521	0.7984	0.4086	-0.4545	0.0755
3	254.88	0.9178	0.3688	0.0039	-0.4842	0.0585	0.7607	0.4731	-0.5032	0.0724
3	254.88	0.9729	0.3703	0.0061	-0.5892	0.0647	0.7713	0.5349	-0.5239	0.0764
4	254.88	0.2001	-0.0462	0.0014	-0.0068	0.0010	0.0091	0.0057	0.1220	0.0220
4	254.88	0.2502	0.0038	0.0011	0.0085	0.0020	0.0061	0.0121	0.1016	0.0331
4	254.88	0.3001	0.0117	0.0012	-0.0051	0.0041	0.0415	0.0234	0.2454	0.0476
4	254.88	0.3502	0.0309	0.0011	-0.0172	0.0069	0.0422	0.0400	0.2621	0.0411
4	254.88	0.4002	0.0490	0.0020	-0.0084	0.0108	0.0800	0.0622	0.3016	0.0474
4	254.88	0.4500	0.0810	0.0016	0.0048	0.0140	0.0672	0.0895	0.0585	0.0471
4	254.88	0.5001	0.0900	0.0022	-0.0165	0.0183	0.1397	0.1221	0.3740	0.0528
4	254.88	0.5560	0.1229	0.0022	-0.0189	0.0237	0.1239	0.1647	0.1422	0.0518
4	254.88	0.6001	0.1651	0.0024	-0.0366	0.0281	0.1609	0.2029	0.2438	0.0524
4	254.88	0.6501	0.1760	0.0028	-0.0497	0.0331	0.1667	0.2506	0.2410	0.0500
4	254.88	0.6999	0.2029	0.0026	-0.0725	0.0385	0.1790	0.3033	0.2713	0.0504
4	254.88	0.7500	0.2402	0.0028	-0.0972	0.0438	0.1991	0.3615	0.4194	0.0481
4	254.88	0.8002	0.2589	0.0027	-0.1357	0.0494	0.1903	0.4216	0.5522	0.0550
4	254.88	0.8582	0.2959	0.0030	-0.1505	0.0557	0.1358	0.4966	0.0222	0.0533
4	254.88	0.9101	0.3183	0.0037	-0.1360	0.0614	0.1575	0.5654	0.2166	0.0529
4	254.88	0.9728	0.3965	0.0070	-0.1356	0.0682	0.3418	0.6529	0.8722	0.0532

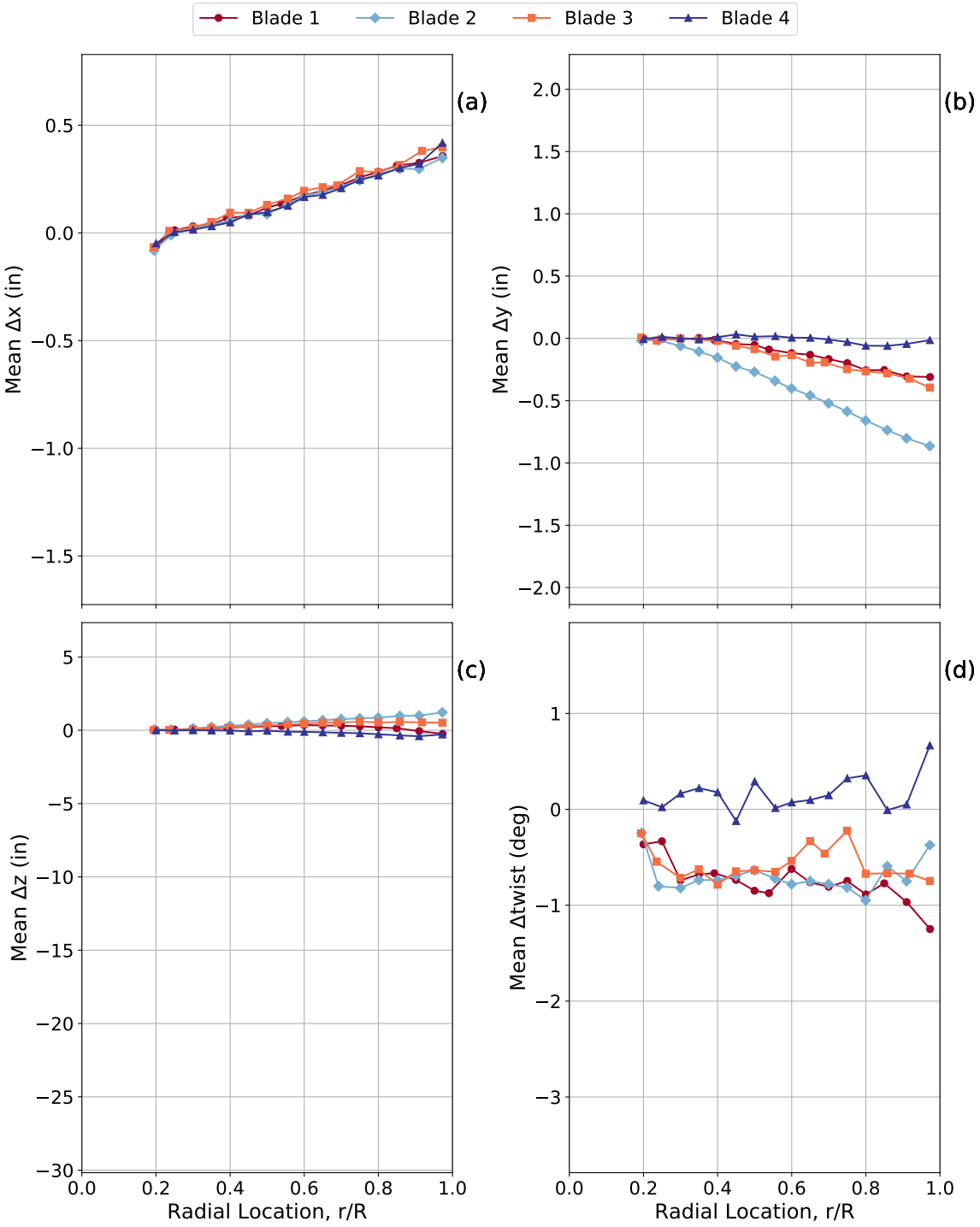


Figure 2.23-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-33. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.0614	0.0018	0.0013	0.0013	0.0085	0.0070	-0.3649	0.0269
1	260.16	0.2499	0.0127	0.0014	-0.0039	0.0021	0.0545	0.0134	-0.3328	0.0583
1	260.16	0.2998	0.0302	0.0011	-0.0083	0.0051	0.0526	0.0271	-0.7407	0.0643
1	260.16	0.3498	0.0395	0.0017	0.0036	0.0084	0.1212	0.0466	-0.6777	0.0624
1	260.16	0.3913	0.0677	0.0024	-0.0121	0.0120	0.1737	0.0663	-0.6664	0.0653
1	260.16	0.4496	0.0805	0.0019	-0.0448	0.0168	0.2381	0.1000	-0.7356	0.0651
1	260.16	0.4997	0.1177	0.0024	-0.0520	0.0220	0.2629	0.1344	-0.8490	0.0641
1	260.16	0.5387	0.1349	0.0018	-0.0894	0.0259	0.2963	0.1644	-0.8738	0.0677
1	260.16	0.5996	0.1733	0.0025	-0.1183	0.0326	0.3523	0.2166	-0.6216	0.0682
1	260.16	0.6498	0.1964	0.0025	-0.1315	0.0382	0.3274	0.2633	-0.7619	0.0670
1	260.16	0.6998	0.2218	0.0031	-0.1657	0.0440	0.3092	0.3122	-0.8076	0.0675
1	260.16	0.7500	0.2581	0.0031	-0.1984	0.0499	0.2712	0.3647	-0.7466	0.0676
1	260.16	0.8001	0.2838	0.0034	-0.2551	0.0561	0.2032	0.4196	-0.8877	0.0706
1	260.16	0.8497	0.3121	0.0038	-0.2538	0.0623	0.1391	0.4777	-0.7716	0.0692
1	260.16	0.9102	0.3255	0.0041	-0.3049	0.0703	-0.0561	0.5518	-0.9671	0.0720
1	260.16	0.9734	0.3574	0.0052	-0.3100	0.0783	-0.2443	0.6345	-1.2483	0.0741
2	260.16	0.1949	-0.0816	0.0018	-0.0179	0.0009	0.0429	0.0059	-0.2457	0.0210
2	260.16	0.2405	-0.0101	0.0011	-0.0153	0.0017	0.0380	0.0111	-0.8018	0.0455
2	260.16	0.2999	0.0202	0.0012	-0.0610	0.0034	0.1213	0.0243	-0.8203	0.0526
2	260.16	0.3498	0.0389	0.0015	-0.1056	0.0064	0.2238	0.0422	-0.7364	0.0471
2	260.16	0.3998	0.0546	0.0016	-0.1546	0.0093	0.3063	0.0646	-0.7394	0.0462
2	260.16	0.4496	0.0860	0.0018	-0.2254	0.0125	0.3864	0.0922	-0.6924	0.0576
2	260.16	0.4995	0.0868	0.0024	-0.2686	0.0160	0.4846	0.1261	-0.6346	0.0483
2	260.16	0.5551	0.1331	0.0022	-0.3414	0.0199	0.5529	0.1715	-0.7215	0.0491
2	260.16	0.5996	0.1726	0.0021	-0.4021	0.0232	0.6084	0.2122	-0.7815	0.0532
2	260.16	0.6497	0.1891	0.0021	-0.4588	0.0273	0.6829	0.2636	-0.7496	0.0542
2	260.16	0.6996	0.2144	0.0022	-0.5210	0.0314	0.7600	0.3214	-0.7802	0.0577
2	260.16	0.7495	0.2440	0.0025	-0.5861	0.0359	0.8138	0.3858	-0.8149	0.0584
2	260.16	0.7996	0.2743	0.0027	-0.6595	0.0405	0.8648	0.4556	-0.9485	0.0599
2	260.16	0.8578	0.2974	0.0032	-0.7369	0.0456	0.9801	0.5429	-0.5930	0.0600
2	260.16	0.9100	0.2973	0.0039	-0.8022	0.0502	0.9981	0.6248	-0.7498	0.0626
2	260.16	0.9727	0.3485	0.0071	-0.8645	0.0562	1.2242	0.7275	-0.3725	0.0634
3	260.16	0.1938	-0.0664	0.0020	0.0062	0.0012	0.0271	0.0054	-0.2499	0.0208
3	260.16	0.2357	0.0095	0.0013	-0.0173	0.0018	0.0180	0.0091	-0.5462	0.0481
3	260.16	0.2995	0.0234	0.0010	0.0006	0.0036	0.0740	0.0219	-0.7138	0.0550
3	260.16	0.3493	0.0509	0.0013	-0.0103	0.0059	0.1470	0.0367	-0.6259	0.0561
3	260.16	0.4000	0.0937	0.0018	-0.0206	0.0091	0.1989	0.0572	-0.7853	0.0499
3	260.16	0.4497	0.0933	0.0019	-0.0589	0.0120	0.2748	0.0811	-0.6467	0.0524
3	260.16	0.4997	0.1302	0.0020	-0.0859	0.0158	0.3350	0.1116	-0.6365	0.0603
3	260.16	0.5556	0.1592	0.0023	-0.1458	0.0199	0.3820	0.1502	-0.6513	0.0536
3	260.16	0.5995	0.1956	0.0024	-0.1350	0.0235	0.4527	0.1843	-0.5374	0.0577
3	260.16	0.6498	0.2125	0.0022	-0.1943	0.0276	0.5247	0.2282	-0.3312	0.0604
3	260.16	0.6890	0.2204	0.0025	-0.1933	0.0309	0.5219	0.2648	-0.4611	0.0618
3	260.16	0.7495	0.2871	0.0026	-0.2467	0.0361	0.5879	0.3278	-0.2233	0.0595
3	260.16	0.7998	0.2822	0.0026	-0.2642	0.0407	0.5330	0.3850	-0.6727	0.0602
3	260.16	0.8577	0.3156	0.0026	-0.2798	0.0461	0.5673	0.4561	-0.6665	0.0617
3	260.16	0.9178	0.3809	0.0029	-0.3234	0.0522	0.5376	0.5349	-0.6710	0.0618
3	260.16	0.9729	0.3969	0.0051	-0.3942	0.0576	0.5197	0.6098	-0.7472	0.0618
4	260.16	0.2001	-0.0484	0.0016	-0.0052	0.0008	0.0031	0.0042	0.0937	0.0156
4	260.16	0.2502	0.0035	0.0011	0.0117	0.0015	-0.0163	0.0090	0.0222	0.0370
4	260.16	0.3001	0.0148	0.0010	0.0021	0.0027	0.0026	0.0170	0.1650	0.0384
4	260.16	0.3502	0.0310	0.0013	-0.0060	0.0051	-0.0116	0.0297	0.2212	0.0420
4	260.16	0.4002	0.0490	0.0015	0.0098	0.0075	-0.0181	0.0457	0.1772	0.0437
4	260.16	0.4500	0.0856	0.0019	0.0320	0.0102	-0.0774	0.0654	-0.1222	0.0477
4	260.16	0.5001	0.0964	0.0019	0.0136	0.0133	-0.0313	0.0877	0.2907	0.0558
4	260.16	0.5560	0.1258	0.0021	0.0181	0.0170	-0.0965	0.1168	0.0135	0.0467
4	260.16	0.6001	0.1666	0.0022	0.0056	0.0202	-0.1081	0.1432	0.0723	0.0513
4	260.16	0.6501	0.1766	0.0021	0.0050	0.0238	-0.1397	0.1746	0.0976	0.0500
4	260.16	0.6999	0.2079	0.0020	-0.0095	0.0276	-0.1735	0.2092	0.1469	0.0542
4	260.16	0.7500	0.2470	0.0021	-0.0287	0.0316	-0.2013	0.2471	0.3231	0.0534
4	260.16	0.8002	0.2667	0.0023	-0.0591	0.0355	-0.2727	0.2878	0.3537	0.0542
4	260.16	0.8582	0.3015	0.0023	-0.0600	0.0404	-0.3523	0.3390	-0.0082	0.0568
4	260.16	0.9101	0.3207	0.0025	-0.0446	0.0445	-0.4047	0.3865	0.0505	0.0568
4	260.16	0.9728	0.4184	0.0038	-0.0136	0.0493	-0.2851	0.4459	0.6665	0.0616

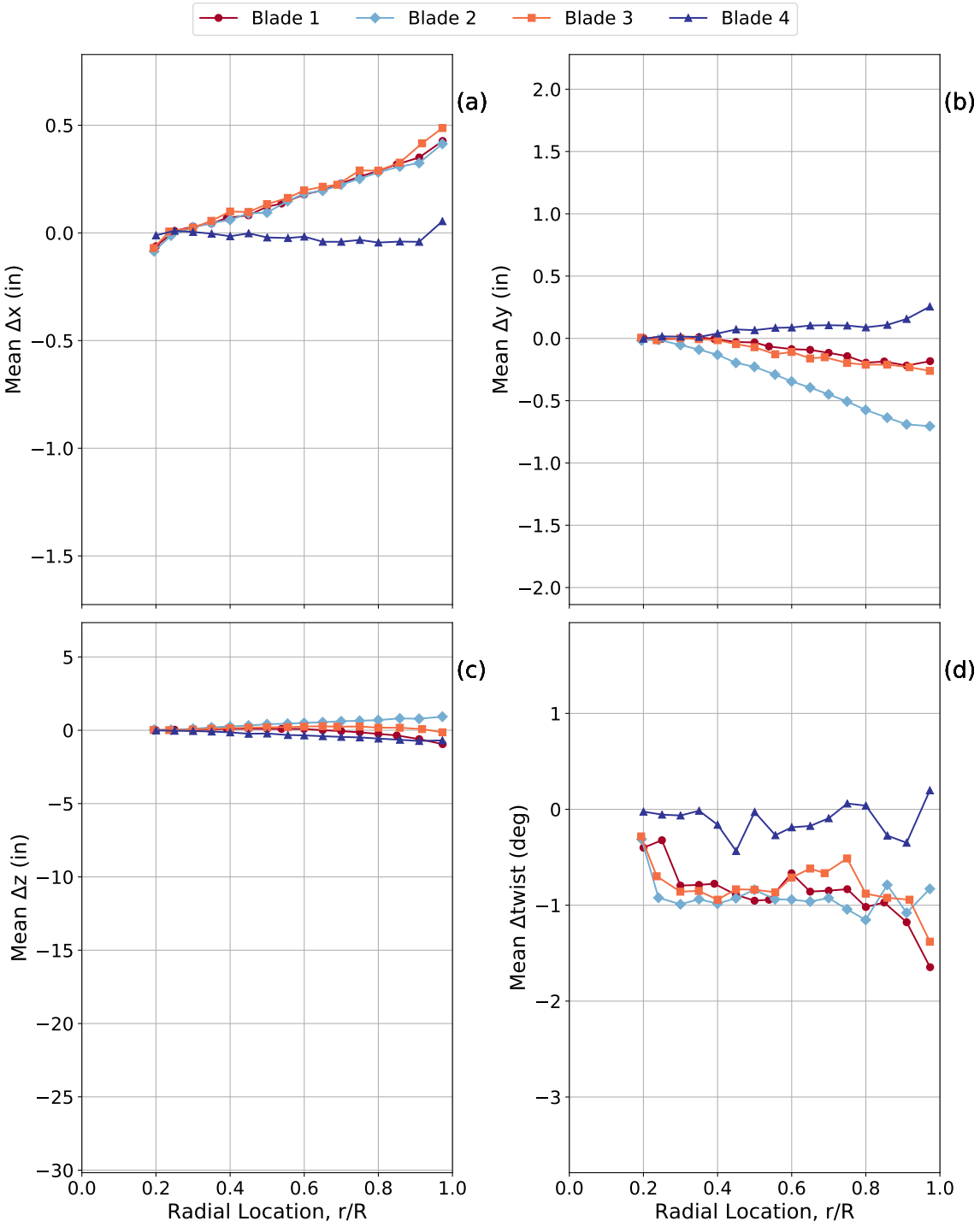


Figure 2.23-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	-0.0621	0.0025	0.0025	0.0015	-0.0018	0.0070	-0.3997	0.0327
1	265.08	0.2499	0.0092	0.0016	-0.0035	0.0021	0.0411	0.0130	-0.3226	0.0807
1	265.08	0.2998	0.0296	0.0013	-0.0048	0.0050	0.0170	0.0261	-0.7951	0.0823
1	265.08	0.3498	0.0436	0.0017	0.0092	0.0085	0.0599	0.0454	-0.7881	0.0760
1	265.08	0.3913	0.0695	0.0019	-0.0049	0.0116	0.0898	0.0639	-0.7762	0.0809
1	265.08	0.4496	0.0817	0.0021	-0.0292	0.0161	0.1066	0.0971	-0.8912	0.0789
1	265.08	0.4997	0.1215	0.0021	-0.0325	0.0204	0.0954	0.1318	-0.9525	0.0777
1	265.08	0.5387	0.1364	0.0019	-0.0651	0.0241	0.0940	0.1625	-0.9429	0.0832
1	265.08	0.5996	0.1782	0.0023	-0.0860	0.0301	0.0886	0.2186	-0.6671	0.0847
1	265.08	0.6498	0.1979	0.0026	-0.0922	0.0354	0.0065	0.2711	-0.8582	0.0868
1	265.08	0.6998	0.2298	0.0026	-0.1160	0.0408	-0.0561	0.3285	-0.8480	0.0851
1	265.08	0.7500	0.2615	0.0026	-0.1427	0.0463	-0.1398	0.3908	-0.8330	0.0931
1	265.08	0.8001	0.2881	0.0032	-0.1952	0.0519	-0.2479	0.4572	-1.0184	0.0925
1	265.08	0.8497	0.3180	0.0035	-0.1853	0.0576	-0.3506	0.5250	-0.9716	0.0914
1	265.08	0.9102	0.3503	0.0031	-0.2185	0.0645	-0.6033	0.6117	-1.1775	0.0924
1	265.08	0.9734	0.4270	0.0045	-0.1829	0.0719	-0.9449	0.7057	-1.6462	0.0926
2	265.08	0.1949	-0.0854	0.0021	-0.0162	0.0010	0.0386	0.0057	-0.3108	0.0238
2	265.08	0.2405	-0.0124	0.0013	-0.0110	0.0018	0.0313	0.0110	-0.9221	0.0527
2	265.08	0.2999	0.0253	0.0013	-0.0529	0.0039	0.1000	0.0236	-0.9900	0.0609
2	265.08	0.3498	0.0458	0.0013	-0.0901	0.0070	0.1960	0.0416	-0.9375	0.0582
2	265.08	0.3998	0.0606	0.0019	-0.1311	0.0106	0.2575	0.0633	-0.9839	0.0552
2	265.08	0.4496	0.0905	0.0023	-0.1964	0.0143	0.3262	0.0897	-0.9271	0.0638
2	265.08	0.4995	0.0942	0.0021	-0.2285	0.0183	0.4130	0.1218	-0.8390	0.0584
2	265.08	0.5551	0.1476	0.0023	-0.2903	0.0234	0.4529	0.1619	-0.9383	0.0627
2	265.08	0.5996	0.1828	0.0027	-0.3456	0.0276	0.5013	0.1982	-0.9415	0.0660
2	265.08	0.6497	0.1958	0.0026	-0.3947	0.0326	0.5490	0.2413	-0.9623	0.0636
2	265.08	0.6996	0.2242	0.0028	-0.4493	0.0375	0.6160	0.2873	-0.9255	0.0658
2	265.08	0.7495	0.2513	0.0030	-0.5064	0.0431	0.6489	0.3352	-1.0426	0.0743
2	265.08	0.7996	0.2814	0.0030	-0.5744	0.0480	0.6954	0.3863	-1.1532	0.0668
2	265.08	0.8578	0.3081	0.0032	-0.6365	0.0544	0.8100	0.4477	-0.7883	0.0615
2	265.08	0.9100	0.3244	0.0039	-0.6902	0.0595	0.7848	0.5039	-1.0795	0.0641
2	265.08	0.9727	0.4136	0.0070	-0.7048	0.0659	0.9281	0.5748	-0.8295	0.0632
3	265.08	0.1938	-0.0702	0.0026	0.0058	0.0011	0.0228	0.0063	-0.2828	0.0219
3	265.08	0.2357	0.0063	0.0011	-0.0148	0.0014	0.0071	0.0109	-0.6982	0.0517
3	265.08	0.2995	0.0237	0.0012	0.0018	0.0034	0.0549	0.0261	-0.8586	0.0584
3	265.08	0.3493	0.0559	0.0014	-0.0062	0.0059	0.1051	0.0440	-0.8506	0.0575
3	265.08	0.4000	0.0992	0.0016	-0.0143	0.0088	0.1386	0.0685	-0.9426	0.0599
3	265.08	0.4497	0.0973	0.0021	-0.0460	0.0117	0.1796	0.0969	-0.8340	0.0592
3	265.08	0.4997	0.1338	0.0020	-0.0708	0.0151	0.2055	0.1330	-0.8381	0.0584
3	265.08	0.5556	0.1623	0.0025	-0.1276	0.0191	0.2106	0.1784	-0.8650	0.0614
3	265.08	0.5995	0.1974	0.0026	-0.1088	0.0224	0.2511	0.2188	-0.7114	0.0604
3	265.08	0.6498	0.2143	0.0023	-0.1609	0.0262	0.2758	0.2690	-0.6179	0.0635
3	265.08	0.6890	0.2236	0.0022	-0.1515	0.0292	0.2463	0.3097	-0.6655	0.0631
3	265.08	0.7495	0.2899	0.0024	-0.1972	0.0341	0.2548	0.3770	-0.5124	0.0655
3	265.08	0.7998	0.2894	0.0026	-0.2110	0.0383	0.1770	0.4353	-0.8792	0.0683
3	265.08	0.8577	0.3262	0.0027	-0.2104	0.0430	0.1717	0.5048	-0.9226	0.0674
3	265.08	0.9178	0.4160	0.0029	-0.2314	0.0483	0.0812	0.5798	-0.9423	0.0678
3	265.08	0.9729	0.4872	0.0069	-0.2607	0.0530	-0.1368	0.6524	-1.3801	0.0694
4	265.08	0.2001	-0.0113	0.0012	-0.0023	0.0011	-0.0101	0.0062	-0.0241	0.0224
4	265.08	0.2502	0.0097	0.0014	0.0157	0.0026	-0.0323	0.0138	-0.0556	0.0397
4	265.08	0.3001	0.0044	0.0016	0.0146	0.0046	-0.0517	0.0260	-0.0644	0.0498
4	265.08	0.3502	-0.0036	0.0015	0.0119	0.0080	-0.0860	0.0445	-0.0153	0.0470
4	265.08	0.4002	-0.0155	0.0022	0.0394	0.0124	-0.1414	0.0696	-0.1614	0.0474
4	265.08	0.4500	-0.0020	0.0022	0.0719	0.0169	-0.2368	0.1015	-0.4347	0.0436
4	265.08	0.5001	-0.0212	0.0025	0.0659	0.0225	-0.2206	0.1400	-0.0281	0.0478
4	265.08	0.5560	-0.0239	0.0029	0.0846	0.0293	-0.3225	0.1905	-0.2702	0.0483
4	265.08	0.6001	-0.0172	0.0032	0.0873	0.0349	-0.3495	0.2340	-0.1876	0.0491
4	265.08	0.6501	-0.0412	0.0033	0.1035	0.0414	-0.4044	0.2877	-0.1734	0.0495
4	265.08	0.6999	-0.0413	0.0033	0.1057	0.0484	-0.4512	0.3448	-0.0930	0.0507
4	265.08	0.7500	-0.0327	0.0036	0.1031	0.0555	-0.4874	0.4041	0.0603	0.0497
4	265.08	0.8002	-0.0447	0.0037	0.0884	0.0627	-0.5655	0.4640	0.0384	0.0502
4	265.08	0.8582	-0.0403	0.0039	0.1084	0.0710	-0.6474	0.5367	-0.2745	0.0517
4	265.08	0.9101	-0.0415	0.0042	0.1561	0.0780	-0.7296	0.6026	-0.3485	0.0518
4	265.08	0.9728	0.0544	0.0066	0.2553	0.0870	-0.6880	0.6844	0.1977	0.0642

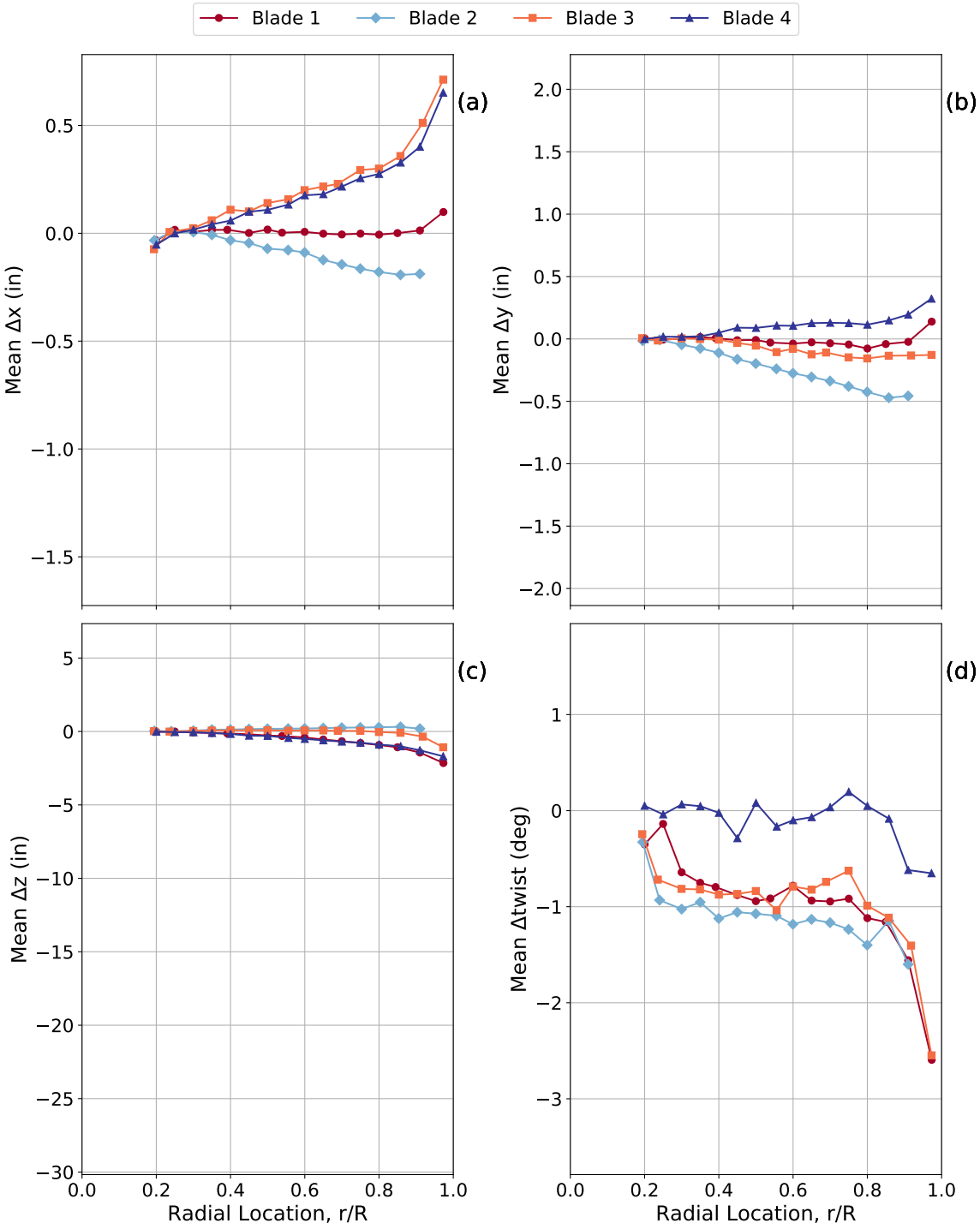


Figure 2.23-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-35. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	-0.0331	0.0035	0.0049	0.0016	-0.0249	0.0075	-0.3514	0.0387
1	270	0.2499	0.0160	0.0022	-0.0053	0.0026	-0.0044	0.0139	-0.1381	0.0917
1	270	0.2998	0.0074	0.0015	0.0033	0.0058	-0.0680	0.0289	-0.6420	0.0975
1	270	0.3498	0.0151	0.0021	0.0150	0.0096	-0.1084	0.0486	-0.7513	0.0985
1	270	0.3913	0.0164	0.0019	0.0059	0.0136	-0.1356	0.0697	-0.7953	0.0937
1	270	0.4496	0.0014	0.0017	-0.0101	0.0187	-0.1913	0.1023	-0.8788	0.0950
1	270	0.4997	0.0173	0.0021	-0.0083	0.0240	-0.2746	0.1359	-0.9423	0.0952
1	270	0.5387	0.0029	0.0017	-0.0291	0.0278	-0.3101	0.1647	-0.9144	0.0989
1	270	0.5996	0.0067	0.0016	-0.0373	0.0345	-0.4085	0.2157	-0.7821	0.0987
1	270	0.6498	-0.0020	0.0018	-0.0270	0.0403	-0.5476	0.2607	-0.9361	0.0994
1	270	0.6998	-0.0055	0.0020	-0.0346	0.0462	-0.6641	0.3079	-0.9457	0.0971
1	270	0.7500	-0.0016	0.0023	-0.0444	0.0522	-0.7846	0.3566	-0.9168	0.0968
1	270	0.8001	-0.0063	0.0025	-0.0769	0.0582	-0.9216	0.4067	-1.1188	0.0985
1	270	0.8497	0.0009	0.0027	-0.0409	0.0643	-1.0763	0.4573	-1.1586	0.0964
1	270	0.9102	0.0130	0.0028	-0.0233	0.0722	-1.4352	0.5200	-1.5575	0.0972
1	270	0.9734	0.0987	0.0065	0.1387	0.0822	-2.1497	0.5930	-2.5940	0.1122
2	270.35	0.1949	-0.0329	0.0026	-0.0145	0.0018	0.0293	0.0057	-0.3272	0.0397
2	270.35	0.2405	0.0052	0.0021	-0.0071	0.0028	0.0067	0.0129	-0.9317	0.0747
2	270.35	0.2999	0.0057	0.0027	-0.0463	0.0056	0.0482	0.0260	-1.0251	0.0976
2	270.35	0.3498	-0.0072	0.0025	-0.0757	0.0104	0.1207	0.0445	-0.9530	0.0812
2	270.35	0.3998	-0.0324	0.0026	-0.1108	0.0148	0.1286	0.0695	-1.1230	0.0817
2	270.35	0.4496	-0.0450	0.0025	-0.1625	0.0191	0.1625	0.0987	-1.0574	0.0790
2	270.35	0.4995	-0.0713	0.0027	-0.1974	0.0243	0.1793	0.1369	-1.0731	0.0823
2	270.35	0.5551	-0.0779	0.0032	-0.2401	0.0307	0.1920	0.1840	-1.0947	0.0822
2	270.35	0.5996	-0.0890	0.0030	-0.2752	0.0358	0.2014	0.2263	-1.1826	0.0790
2	270.35	0.6497	-0.1238	0.0036	-0.3049	0.0420	0.2282	0.2781	-1.1317	0.0812
2	270.35	0.6996	-0.1444	0.0033	-0.3374	0.0484	0.2567	0.3328	-1.1663	0.0813
2	270.35	0.7495	-0.1643	0.0039	-0.3801	0.0551	0.2695	0.3910	-1.2361	0.0833
2	270.35	0.7996	-0.1793	0.0039	-0.4249	0.0614	0.2863	0.4517	-1.4000	0.0852
2	270.35	0.8578	-0.1927	0.0034	-0.4715	0.0686	0.3156	0.5247	-1.1468	0.0907
2	270.35	0.9100	-0.1884	0.0039	-0.4567	0.0739	0.1891	0.5915	-1.5993	0.0920
3	270	0.1938	-0.0738	0.0035	0.0058	0.0011	0.0200	0.0066	-0.2453	0.0219
3	270	0.2357	0.0059	0.0018	-0.0122	0.0016	-0.0073	0.0119	-0.7181	0.0564
3	270	0.2995	0.0235	0.0019	0.0045	0.0036	0.0350	0.0272	-0.8148	0.0606
3	270	0.3493	0.0602	0.0021	-0.0011	0.0065	0.0664	0.0470	-0.8203	0.0541
3	270	0.4000	0.1091	0.0024	-0.0053	0.0096	0.0779	0.0725	-0.8737	0.0558
3	270	0.4497	0.1012	0.0026	-0.0320	0.0126	0.0803	0.1034	-0.8673	0.0592
3	270	0.4997	0.1402	0.0025	-0.0532	0.0160	0.0850	0.1402	-0.8373	0.0566
3	270	0.5556	0.1578	0.0026	-0.1054	0.0202	0.0512	0.1871	-1.0370	0.0553
3	270	0.5995	0.1999	0.0026	-0.0790	0.0238	0.0745	0.2281	-0.7904	0.0538
3	270	0.6498	0.2167	0.0023	-0.1237	0.0278	0.0680	0.2787	-0.8222	0.0610
3	270	0.6890	0.2289	0.0024	-0.1087	0.0310	0.0424	0.3203	-0.7412	0.0627
3	270	0.7495	0.2934	0.0026	-0.1475	0.0361	0.0402	0.3872	-0.6256	0.0622
3	270	0.7998	0.2999	0.0027	-0.1562	0.0404	-0.0385	0.4441	-0.9896	0.0650
3	270	0.8577	0.3582	0.0043	-0.1347	0.0456	-0.0898	0.5130	-1.1147	0.0699
3	270	0.9178	0.5118	0.0103	-0.1324	0.0516	-0.3516	0.5869	-1.4049	0.0729
3	270	0.9729	0.7123	0.0242	-0.1282	0.0582	-1.0755	0.6627	-2.5474	0.0954
4	270	0.2001	-0.0527	0.0019	-0.0009	0.0012	-0.0108	0.0071	0.0502	0.0248
4	270	0.2502	-0.0005	0.0017	0.0177	0.0025	-0.0457	0.0161	-0.0395	0.0490
4	270	0.3001	0.0168	0.0015	0.0172	0.0047	-0.0553	0.0296	0.0647	0.0568
4	270	0.3502	0.0414	0.0021	0.0212	0.0081	-0.1076	0.0508	0.0461	0.0546
4	270	0.4002	0.0590	0.0023	0.0498	0.0126	-0.1691	0.0795	-0.0230	0.0557
4	270	0.4500	0.0999	0.0024	0.0899	0.0168	-0.2879	0.1153	-0.2872	0.0551
4	270	0.5001	0.1087	0.0027	0.0884	0.0226	-0.3023	0.1578	0.0803	0.0556
4	270	0.5560	0.1331	0.0028	0.1072	0.0292	-0.4402	0.2129	-0.1664	0.0559
4	270	0.6001	0.1761	0.0033	0.1052	0.0351	-0.5078	0.2617	-0.1001	0.0565
4	270	0.6501	0.1813	0.0032	0.1266	0.0416	-0.6041	0.3226	-0.0681	0.0595
4	270	0.6999	0.2166	0.0032	0.1295	0.0487	-0.6913	0.3878	0.0354	0.0593
4	270	0.7500	0.2555	0.0032	0.1266	0.0557	-0.7654	0.4576	0.1951	0.0618
4	270	0.8002	0.2751	0.0038	0.1144	0.0627	-0.8905	0.5306	0.0486	0.0661
4	270	0.8582	0.3277	0.0037	0.1486	0.0706	-1.0096	0.6180	-0.0843	0.0683
4	270	0.9101	0.4011	0.0043	0.1948	0.0773	-1.2807	0.6984	-0.6184	0.0668
4	270	0.9728	0.6519	0.0122	0.3225	0.0845	-1.6936	0.8022	-0.6519	0.0997

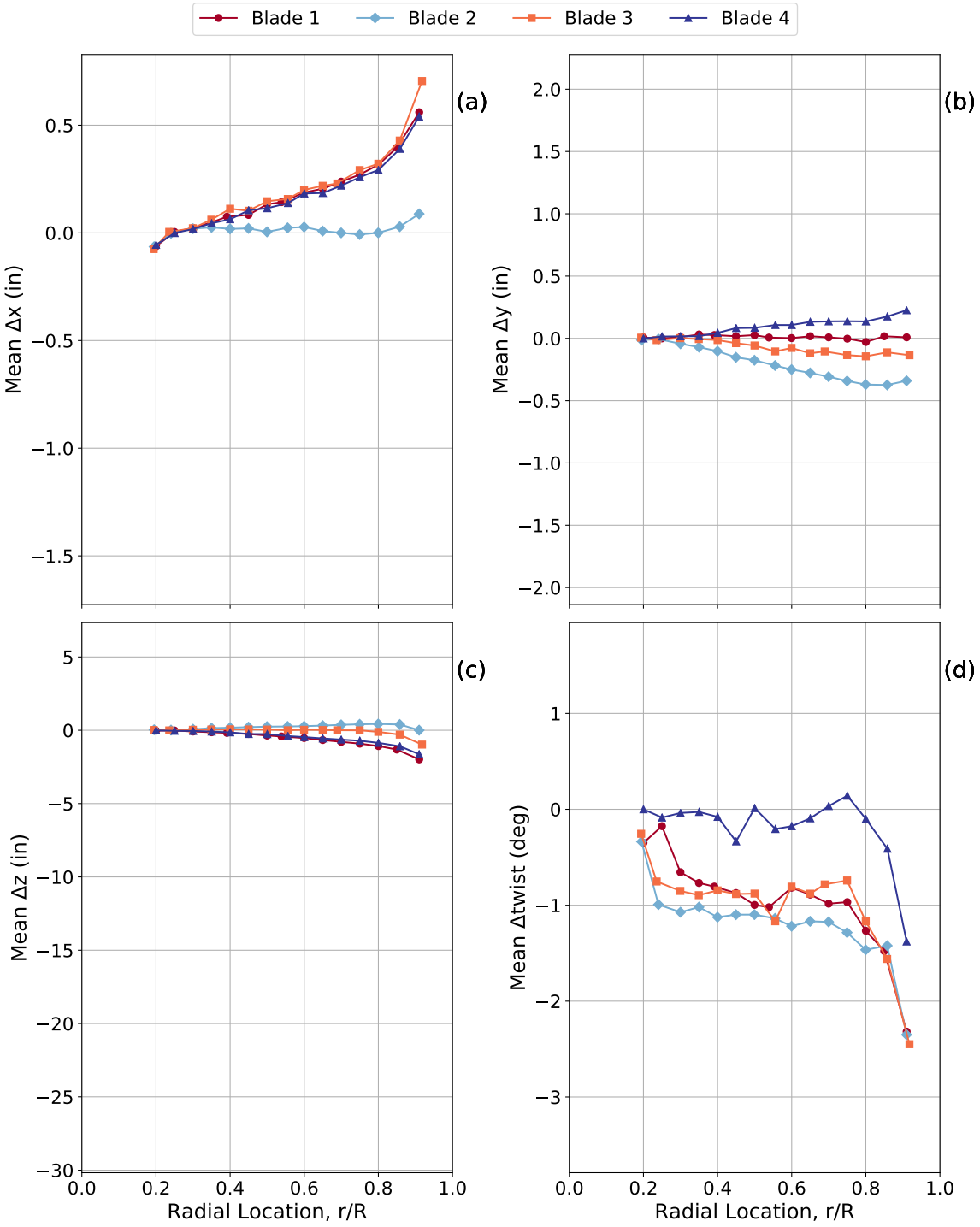


Figure 2.23-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	-0.0622	0.0042	0.0066	0.0019	-0.0296	0.0101	-0.3497	0.0517
1	274.92	0.2499	0.0044	0.0026	-0.0001	0.0028	-0.0141	0.0151	-0.1755	0.1474
1	274.92	0.2998	0.0229	0.0023	0.0099	0.0065	-0.0867	0.0355	-0.6556	0.1407
1	274.92	0.3498	0.0488	0.0023	0.0310	0.0117	-0.1371	0.0600	-0.7677	0.1346
1	274.92	0.3913	0.0751	0.0023	0.0264	0.0158	-0.1789	0.0837	-0.8056	0.1418
1	274.92	0.4496	0.0836	0.0025	0.0172	0.0218	-0.2550	0.1225	-0.8728	0.1423
1	274.92	0.4997	0.1329	0.0025	0.0262	0.0274	-0.3613	0.1616	-0.9967	0.1374
1	274.92	0.5387	0.1428	0.0026	0.0063	0.0319	-0.4245	0.1939	-1.0207	0.1397
1	274.92	0.5996	0.1876	0.0028	0.0021	0.0392	-0.5315	0.2493	-0.8172	0.1438
1	274.92	0.6498	0.2054	0.0028	0.0169	0.0454	-0.6688	0.2992	-0.8885	0.1371
1	274.92	0.6998	0.2379	0.0030	0.0080	0.0516	-0.7927	0.3509	-0.9837	0.1401
1	274.92	0.7500	0.2710	0.0031	-0.0025	0.0578	-0.9161	0.4044	-0.9673	0.1427
1	274.92	0.8001	0.3166	0.0036	-0.0292	0.0640	-1.0785	0.4607	-1.2668	0.1435
1	274.92	0.8497	0.3953	0.0044	0.0168	0.0709	-1.3181	0.5187	-1.4770	0.1470
1	274.92	0.9102	0.5602	0.0089	0.0084	0.0800	-1.9865	0.5939	-2.3186	0.1503
2	274.92	0.1949	-0.0643	0.0028	-0.0139	0.0010	0.0340	0.0059	-0.3368	0.0316
2	274.92	0.2405	-0.0018	0.0022	-0.0058	0.0019	0.0124	0.0100	-0.9933	0.0767
2	274.92	0.2999	0.0195	0.0020	-0.0433	0.0034	0.0701	0.0233	-1.0729	0.0849
2	274.92	0.3498	0.0256	0.0022	-0.0704	0.0061	0.1487	0.0382	-1.0194	0.0804
2	274.92	0.3998	0.0186	0.0022	-0.1024	0.0090	0.1776	0.0596	-1.1245	0.0843
2	274.92	0.4496	0.0209	0.0026	-0.1518	0.0113	0.2143	0.0841	-1.0986	0.0826
2	274.92	0.4995	0.0048	0.0030	-0.1753	0.0143	0.2488	0.1133	-1.0980	0.0827
2	274.92	0.5551	0.0235	0.0026	-0.2178	0.0178	0.2608	0.1496	-1.1378	0.0822
2	274.92	0.5996	0.0273	0.0027	-0.2499	0.0212	0.2807	0.1819	-1.2192	0.0870
2	274.92	0.6497	0.0085	0.0026	-0.2772	0.0249	0.3203	0.2211	-1.1679	0.0910
2	274.92	0.6996	0.0002	0.0025	-0.3077	0.0286	0.3729	0.2616	-1.1741	0.0881
2	274.92	0.7495	-0.0075	0.0028	-0.3418	0.0326	0.4099	0.3064	-1.2854	0.0903
2	274.92	0.7996	0.0004	0.0030	-0.3708	0.0367	0.4306	0.3529	-1.4647	0.0901
2	274.92	0.8578	0.0289	0.0031	-0.3740	0.0407	0.3960	0.4092	-1.4220	0.0948
2	274.92	0.9100	0.0882	0.0071	-0.3403	0.0436	0.0083	0.4660	-2.3509	0.1047
3	274.92	0.1938	-0.0749	0.0038	0.0056	0.0012	0.0181	0.0078	-0.2552	0.0255
3	274.92	0.2357	0.0047	0.0023	-0.0141	0.0018	-0.0076	0.0113	-0.7524	0.0677
3	274.92	0.2995	0.0216	0.0023	0.0015	0.0042	0.0338	0.0295	-0.8509	0.0728
3	274.92	0.3493	0.0612	0.0021	-0.0057	0.0072	0.0543	0.0496	-0.8952	0.0697
3	274.92	0.4000	0.1121	0.0019	-0.0138	0.0111	0.0676	0.0761	-0.8452	0.0721
3	274.92	0.4497	0.1029	0.0023	-0.0384	0.0146	0.0589	0.1056	-0.8832	0.0725
3	274.92	0.4997	0.1471	0.0023	-0.0574	0.0185	0.0492	0.1410	-0.8785	0.0720
3	274.92	0.5556	0.1576	0.0024	-0.1046	0.0234	0.0038	0.1866	-1.1675	0.0715
3	274.92	0.5995	0.1995	0.0028	-0.0767	0.0273	0.0331	0.2246	-0.8063	0.0725
3	274.92	0.6498	0.2188	0.0026	-0.1196	0.0320	0.0185	0.2710	-0.8794	0.0745
3	274.92	0.6890	0.2295	0.0025	-0.1049	0.0355	0.0014	0.3082	-0.7826	0.0722
3	274.92	0.7495	0.2917	0.0027	-0.1341	0.0412	-0.0046	0.3678	-0.7422	0.0733
3	274.92	0.7998	0.3212	0.0027	-0.1441	0.0461	-0.1105	0.4184	-1.1689	0.0862
3	274.92	0.8577	0.4290	0.0036	-0.1118	0.0517	-0.2983	0.4811	-1.5605	0.0786
3	274.92	0.9178	0.7054	0.0114	-0.1352	0.0582	-0.9793	0.5463	-2.4495	0.0836
4	274.92	0.2001	-0.0556	0.0020	-0.0006	0.0010	-0.0098	0.0057	-0.0001	0.0275
4	274.92	0.2502	-0.0007	0.0018	0.0147	0.0019	-0.0381	0.0109	-0.0860	0.0539
4	274.92	0.3001	0.0179	0.0017	0.0165	0.0036	-0.0491	0.0211	-0.0378	0.0612
4	274.92	0.3502	0.0446	0.0020	0.0179	0.0060	-0.0916	0.0376	-0.0276	0.0536
4	274.92	0.4002	0.0634	0.0023	0.0441	0.0093	-0.1454	0.0565	-0.0789	0.0520
4	274.92	0.4500	0.1049	0.0023	0.0825	0.0120	-0.2555	0.0804	-0.3345	0.0547
4	274.92	0.5001	0.1145	0.0022	0.0845	0.0154	-0.2635	0.1092	0.0122	0.0530
4	274.92	0.5560	0.1385	0.0024	0.1073	0.0194	-0.3983	0.1458	-0.2054	0.0524
4	274.92	0.6001	0.1833	0.0026	0.1071	0.0229	-0.4681	0.1775	-0.1761	0.0535
4	274.92	0.6501	0.1853	0.0026	0.1328	0.0265	-0.5596	0.2143	-0.0938	0.0547
4	274.92	0.6999	0.2196	0.0025	0.1363	0.0303	-0.6398	0.2552	0.0339	0.0536
4	274.92	0.7500	0.2586	0.0024	0.1375	0.0342	-0.7171	0.2956	0.1416	0.0572
4	274.92	0.8002	0.2924	0.0026	0.1358	0.0379	-0.8638	0.3391	-0.1008	0.0590
4	274.92	0.8582	0.3903	0.0039	0.1759	0.0414	-1.0958	0.3922	-0.4110	0.0600
4	274.92	0.9101	0.5401	0.0104	0.2261	0.0444	-1.6361	0.4431	-1.3780	0.0685

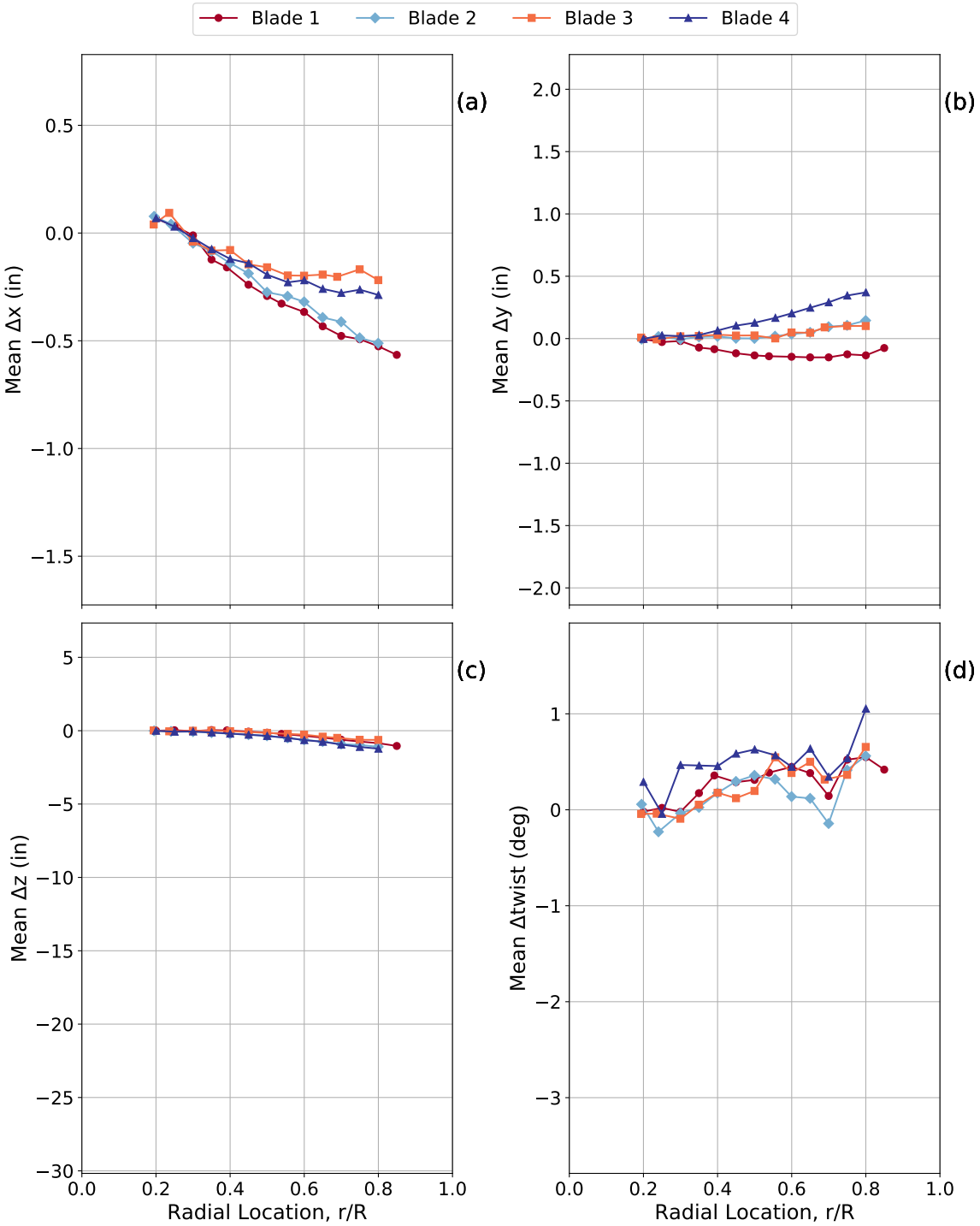


Figure 2.23-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0664	0.0027	-0.0054	0.0020	-0.0022	0.0060	-0.0192	0.0281
1	279.84	0.2499	0.0331	0.0020	-0.0276	0.0049	0.0305	0.0144	0.0198	0.0559
1	279.84	0.2998	-0.0107	0.0023	-0.0195	0.0084	-0.0227	0.0271	-0.0212	0.0614
1	279.84	0.3498	-0.1229	0.0024	-0.0720	0.0138	0.0430	0.0453	0.1736	0.0763
1	279.84	0.3913	-0.1594	0.0032	-0.0850	0.0207	0.0190	0.0674	0.3577	0.0625
1	279.84	0.4496	-0.2399	0.0039	-0.1179	0.0255	-0.0632	0.0975	0.2877	0.0619
1	279.84	0.4997	-0.2922	0.0048	-0.1348	0.0324	-0.1334	0.1323	0.3115	0.0730
1	279.84	0.5387	-0.3276	0.0048	-0.1417	0.0378	-0.2201	0.1613	0.3873	0.0668
1	279.84	0.5996	-0.3662	0.0045	-0.1460	0.0460	-0.3487	0.2113	0.4464	0.0755
1	279.84	0.6498	-0.4329	0.0064	-0.1507	0.0532	-0.4709	0.2551	0.3824	0.0797
1	279.84	0.6998	-0.4775	0.0064	-0.1506	0.0611	-0.6143	0.3057	0.1442	0.0885
1	279.84	0.7500	-0.4929	0.0064	-0.1261	0.0686	-0.7384	0.3558	0.5221	0.0873
1	279.84	0.8001	-0.5257	0.0118	-0.1345	0.0774	-0.8509	0.4064	0.5486	0.1682
1	279.84	0.8497	-0.5654	0.0143	-0.0756	0.0858	-1.0400	0.4605	0.4186	0.2361
2	279.84	0.1949	0.0775	0.0026	-0.0048	0.0014	-0.0088	0.0053	0.0572	0.0486
2	279.84	0.2405	0.0411	0.0017	0.0164	0.0037	-0.0495	0.0111	-0.2294	0.0603
2	279.84	0.2999	-0.0472	0.0026	-0.0049	0.0056	-0.0654	0.0227	-0.0354	0.1034
2	279.84	0.3498	-0.0841	0.0028	0.0133	0.0119	-0.1345	0.0408	0.0245	0.0803
2	279.84	0.3998	-0.1397	0.0032	0.0170	0.0170	-0.2092	0.0621	0.1751	0.0732
2	279.84	0.4496	-0.1876	0.0039	0.0023	0.0218	-0.2710	0.0863	0.2956	0.0747
2	279.84	0.4995	-0.2748	0.0051	0.0012	0.0258	-0.3481	0.1171	0.3588	0.0955
2	279.84	0.5551	-0.2933	0.0050	0.0192	0.0303	-0.4884	0.1505	0.3182	0.0895
2	279.84	0.5996	-0.3192	0.0051	0.0358	0.0355	-0.6229	0.1836	0.1375	0.0918
2	279.84	0.6497	-0.3919	0.0054	0.0498	0.0405	-0.7389	0.2233	0.1190	0.0905
2	279.84	0.6996	-0.4119	0.0147	0.0951	0.0477	-0.9103	0.2676	-0.1433	0.2403
2	279.84	0.7495	-0.4862	0.0069	0.1060	0.0521	-0.9710	0.3144	0.4142	0.1078
2	279.84	0.7996	-0.5113	0.0149	0.1450	0.0588	-1.0954	0.3645	0.5615	0.2285
3	279.84	0.1938	0.0397	0.0017	0.0081	0.0011	0.0200	0.0065	-0.0433	0.0230
3	279.84	0.2357	0.0935	0.0018	-0.0065	0.0019	-0.0423	0.0129	-0.0403	0.0396
3	279.84	0.2995	-0.0400	0.0017	0.0183	0.0045	-0.0028	0.0302	-0.0932	0.0534
3	279.84	0.3493	-0.0812	0.0021	0.0206	0.0079	0.0063	0.0514	0.0530	0.0513
3	279.84	0.4000	-0.0790	0.0026	0.0311	0.0122	-0.0337	0.0812	0.1778	0.0459
3	279.84	0.4497	-0.1453	0.0026	0.0245	0.0167	-0.0941	0.1164	0.1210	0.0479
3	279.84	0.4997	-0.1590	0.0030	0.0252	0.0217	-0.1496	0.1588	0.1962	0.0557
3	279.84	0.5556	-0.1969	0.0043	0.0014	0.0276	-0.2186	0.2122	0.5471	0.0522
3	279.84	0.5995	-0.1979	0.0049	0.0490	0.0324	-0.2671	0.2594	0.3835	0.0656
3	279.84	0.6498	-0.1928	0.0054	0.0467	0.0392	-0.4061	0.3212	0.4999	0.0768
3	279.84	0.6890	-0.2031	0.0072	0.0901	0.0442	-0.4890	0.3727	0.3151	0.0794
3	279.84	0.7495	-0.1685	0.0081	0.1017	0.0517	-0.6197	0.4540	0.3642	0.0744
3	279.84	0.7998	-0.2185	0.0096	0.1008	0.0589	-0.6294	0.5291	0.6551	0.1140
4	279.84	0.2001	0.0690	0.0017	-0.0024	0.0012	-0.0041	0.0057	0.2908	0.0280
4	279.84	0.2502	0.0295	0.0018	0.0257	0.0023	-0.0690	0.0122	-0.0424	0.0524
4	279.84	0.3001	-0.0235	0.0018	0.0195	0.0044	-0.0526	0.0236	0.4669	0.0631
4	279.84	0.3502	-0.0751	0.0021	0.0284	0.0077	-0.1207	0.0409	0.4613	0.0433
4	279.84	0.4002	-0.1201	0.0022	0.0648	0.0117	-0.1977	0.0634	0.4554	0.0604
4	279.84	0.4500	-0.1406	0.0025	0.1037	0.0153	-0.2724	0.0901	0.5851	0.0519
4	279.84	0.5001	-0.1936	0.0035	0.1270	0.0202	-0.3580	0.1228	0.6287	0.0564
4	279.84	0.5560	-0.2287	0.0037	0.1661	0.0259	-0.4988	0.1645	0.5678	0.0909
4	279.84	0.6001	-0.2191	0.0032	0.2026	0.0306	-0.6401	0.2016	0.4473	0.0609
4	279.84	0.6501	-0.2591	0.0036	0.2477	0.0360	-0.7550	0.2475	0.6363	0.0791
4	279.84	0.6999	-0.2779	0.0038	0.2910	0.0416	-0.9441	0.2977	0.3444	0.0750
4	279.84	0.7500	-0.2628	0.0050	0.3452	0.0470	-1.1085	0.3503	0.5367	0.0792
4	279.84	0.8002	-0.2875	0.0080	0.3709	0.0527	-1.2258	0.4078	1.0539	0.2094

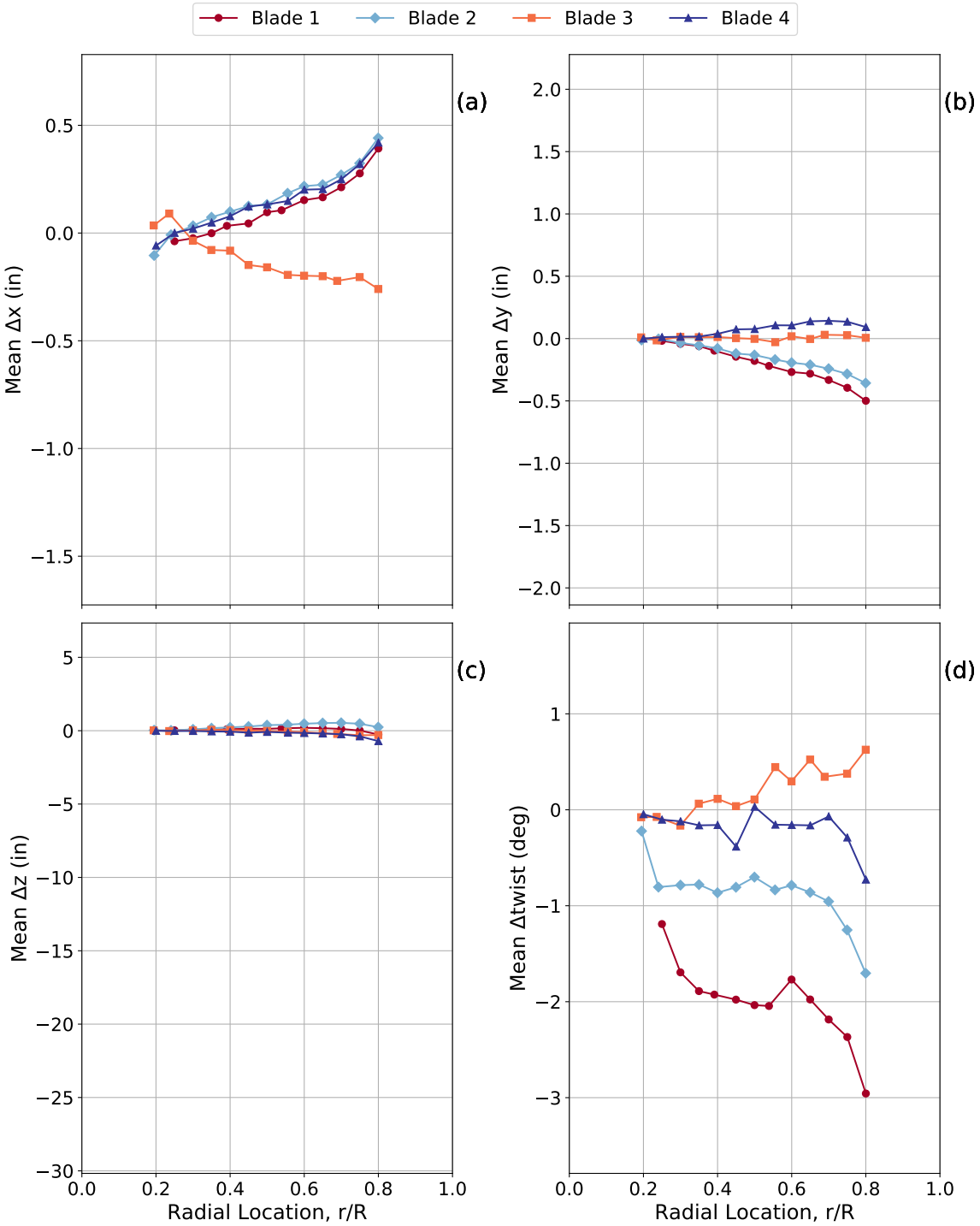


Figure 2.23-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-38. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2499	-0.0381	0.0043	-0.0178	0.0031	0.0276	0.0247	-1.1908	0.1507
1	285.12	0.2998	-0.0240	0.0037	-0.0419	0.0060	0.0472	0.0430	-1.6941	0.2126
1	285.12	0.3498	-0.0008	0.0030	-0.0602	0.0105	0.0695	0.0749	-1.8895	0.1983
1	285.12	0.3913	0.0334	0.0025	-0.0970	0.0153	0.0987	0.1057	-1.9260	0.1952
1	285.12	0.4496	0.0446	0.0029	-0.1456	0.0205	0.1324	0.1524	-1.9785	0.1948
1	285.12	0.4997	0.0965	0.0029	-0.1790	0.0256	0.1280	0.1990	-2.0357	0.1959
1	285.12	0.5387	0.1056	0.0030	-0.2193	0.0298	0.1630	0.2406	-2.0446	0.1964
1	285.12	0.5996	0.1528	0.0035	-0.2682	0.0365	0.1969	0.3130	-1.7689	0.1976
1	285.12	0.6498	0.1659	0.0031	-0.2814	0.0422	0.1701	0.3814	-1.9769	0.2009
1	285.12	0.6998	0.2125	0.0034	-0.3321	0.0485	0.1212	0.4524	-2.1854	0.2014
1	285.12	0.7500	0.2768	0.0040	-0.3948	0.0542	0.0123	0.5307	-2.3682	0.2112
1	285.12	0.8001	0.3923	0.0066	-0.4990	0.0608	-0.2599	0.6140	-2.9568	0.2107
2	285.12	0.1949	-0.1042	0.0060	-0.0114	0.0015	0.0359	0.0100	-0.2215	0.0517
2	285.12	0.2405	-0.0084	0.0033	-0.0033	0.0020	0.0190	0.0158	-0.8054	0.1318
2	285.12	0.2999	0.0335	0.0030	-0.0343	0.0052	0.0908	0.0369	-0.7854	0.1449
2	285.12	0.3498	0.0733	0.0029	-0.0543	0.0089	0.1722	0.0627	-0.7793	0.1367
2	285.12	0.3998	0.0992	0.0030	-0.0789	0.0133	0.2261	0.0949	-0.8646	0.1416
2	285.12	0.4496	0.1248	0.0032	-0.1200	0.0178	0.2842	0.1341	-0.8069	0.1362
2	285.12	0.4995	0.1325	0.0032	-0.1317	0.0231	0.3766	0.1798	-0.7016	0.1413
2	285.12	0.5551	0.1845	0.0031	-0.1684	0.0298	0.4109	0.2413	-0.8347	0.1372
2	285.12	0.5996	0.2174	0.0033	-0.1930	0.0348	0.4747	0.2950	-0.7871	0.1447
2	285.12	0.6497	0.2246	0.0035	-0.2099	0.0409	0.5209	0.3614	-0.8607	0.1378
2	285.12	0.6996	0.2697	0.0034	-0.2417	0.0472	0.5369	0.4362	-0.9552	0.1490
2	285.12	0.7495	0.3238	0.0046	-0.2834	0.0535	0.4744	0.5138	-1.2526	0.1504
2	285.12	0.7996	0.4411	0.0074	-0.3570	0.0599	0.2442	0.5989	-1.7034	0.1575
3	285.12	0.1938	0.0353	0.0017	0.0097	0.0011	0.0249	0.0055	-0.0773	0.0223
3	285.12	0.2357	0.0904	0.0011	-0.0144	0.0016	-0.0255	0.0101	-0.0744	0.0349
3	285.12	0.2995	-0.0358	0.0014	0.0136	0.0042	0.0205	0.0245	-0.1649	0.0498
3	285.12	0.3493	-0.0787	0.0018	0.0111	0.0072	0.0617	0.0416	0.0635	0.0444
3	285.12	0.4000	-0.0818	0.0023	0.0123	0.0110	0.0446	0.0653	0.1140	0.0467
3	285.12	0.4497	-0.1482	0.0029	0.0038	0.0149	0.0125	0.0940	0.0378	0.0429
3	285.12	0.4997	-0.1591	0.0027	-0.0023	0.0191	-0.0174	0.1285	0.1071	0.0481
3	285.12	0.5556	-0.1941	0.0033	-0.0289	0.0244	-0.0604	0.1730	0.4450	0.0505
3	285.12	0.5995	-0.1980	0.0036	0.0186	0.0289	-0.0972	0.2127	0.2965	0.0591
3	285.12	0.6498	-0.2003	0.0033	-0.0033	0.0339	-0.1699	0.2625	0.5235	0.0595
3	285.12	0.6890	-0.2221	0.0044	0.0304	0.0388	-0.2208	0.3039	0.3440	0.0662
3	285.12	0.7495	-0.2044	0.0049	0.0273	0.0457	-0.3102	0.3733	0.3763	0.0683
3	285.12	0.7998	-0.2597	0.0054	0.0062	0.0509	-0.2965	0.4325	0.6261	0.0856
4	285.12	0.2001	-0.0581	0.0032	0.0001	0.0015	-0.0062	0.0103	-0.0460	0.0545
4	285.12	0.2502	0.0007	0.0040	0.0117	0.0026	-0.0173	0.0167	-0.1030	0.0900
4	285.12	0.3001	0.0205	0.0029	0.0148	0.0053	-0.0202	0.0362	-0.1201	0.1106
4	285.12	0.3502	0.0486	0.0024	0.0164	0.0089	-0.0480	0.0595	-0.1620	0.0955
4	285.12	0.4002	0.0782	0.0030	0.0384	0.0135	-0.0661	0.0906	-0.1588	0.1061
4	285.12	0.4500	0.1229	0.0031	0.0740	0.0178	-0.1345	0.1254	-0.3841	0.1003
4	285.12	0.5001	0.1328	0.0033	0.0764	0.0229	-0.0840	0.1685	0.0311	0.0996
4	285.12	0.5560	0.1489	0.0034	0.1067	0.0289	-0.1367	0.2218	-0.1555	0.1050
4	285.12	0.6001	0.2013	0.0033	0.1059	0.0336	-0.1587	0.2684	-0.1584	0.1064
4	285.12	0.6501	0.2037	0.0030	0.1385	0.0391	-0.1907	0.3287	-0.1622	0.1064
4	285.12	0.6999	0.2492	0.0030	0.1427	0.0445	-0.2437	0.3922	-0.0697	0.1100
4	285.12	0.7500	0.3198	0.0037	0.1353	0.0503	-0.3864	0.4610	-0.2890	0.1161
4	285.12	0.8002	0.4197	0.0062	0.0924	0.0552	-0.7101	0.5324	-0.7275	0.1328

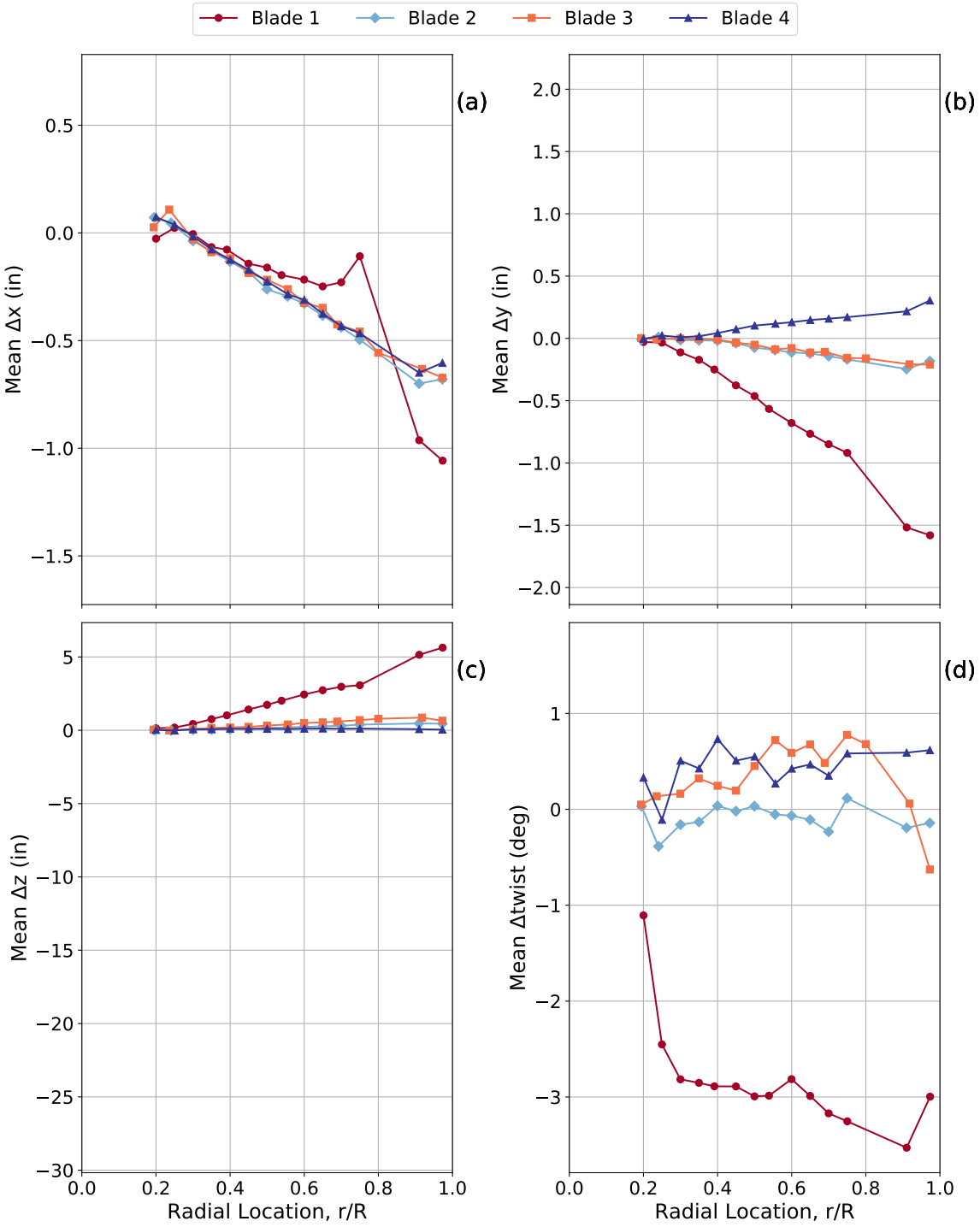


Figure 2.23-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	-0.0268	0.0078	-0.0292	0.0034	0.1331	0.0161	-1.1061	0.0699
1	299.88	0.2499	0.0232	0.0084	-0.0338	0.0039	0.1870	0.0207	-2.4518	0.1337
1	299.88	0.2998	-0.0055	0.0061	-0.1121	0.0098	0.4340	0.0489	-2.8155	0.1307
1	299.88	0.3498	-0.0661	0.0066	-0.1721	0.0158	0.7575	0.0780	-2.8521	0.1005
1	299.88	0.3913	-0.0777	0.0071	-0.2499	0.0207	1.0203	0.1063	-2.8883	0.0906
1	299.88	0.4496	-0.1428	0.0078	-0.3770	0.0269	1.4155	0.1509	-2.8895	0.1031
1	299.88	0.4997	-0.1612	0.0084	-0.4631	0.0319	1.7347	0.1966	-2.9933	0.0939
1	299.88	0.5387	-0.1962	0.0100	-0.5662	0.0369	2.0179	0.2380	-2.9859	0.0969
1	299.88	0.5996	-0.2168	0.0117	-0.6789	0.0436	2.4392	0.3075	-2.8137	0.1055
1	299.88	0.6498	-0.2485	0.0129	-0.7659	0.0487	2.7305	0.3726	-2.9885	0.1152
1	299.88	0.6998	-0.2292	0.0156	-0.8493	0.0552	2.9675	0.4440	-3.1704	0.1111
1	299.88	0.7500	-0.1083	0.0177	-0.9189	0.0604	3.0721	0.5173	-3.2536	0.1067
1	299.88	0.9102	-0.9629	0.0217	-1.5174	0.0787	5.1475	0.7615	-3.5284	0.1028
1	299.88	0.9734	-1.0577	0.0273	-1.5808	0.0862	5.6355	0.8688	-2.9965	0.1163
2	299.88	0.1949	0.0714	0.0024	-0.0083	0.0014	0.0175	0.0051	0.0315	0.0297
2	299.88	0.2405	0.0459	0.0019	0.0103	0.0030	-0.0075	0.0115	-0.3864	0.0377
2	299.88	0.2999	-0.0372	0.0022	-0.0136	0.0071	0.0370	0.0247	-0.1596	0.0612
2	299.88	0.3498	-0.0849	0.0027	-0.0162	0.0112	0.0588	0.0411	-0.1318	0.0568
2	299.88	0.3998	-0.1329	0.0035	-0.0180	0.0181	0.0744	0.0655	0.0358	0.0719
2	299.88	0.4496	-0.1801	0.0026	-0.0379	0.0216	0.0898	0.0902	-0.0195	0.0609
2	299.88	0.4995	-0.2615	0.0032	-0.0738	0.0266	0.1624	0.1232	0.0328	0.0507
2	299.88	0.5551	-0.2947	0.0034	-0.0934	0.0331	0.1926	0.1671	-0.0529	0.0529
2	299.88	0.5996	-0.3280	0.0030	-0.1119	0.0382	0.2272	0.2062	-0.0667	0.0498
2	299.88	0.6497	-0.3835	0.0032	-0.1209	0.0450	0.2661	0.2538	-0.1085	0.0475
2	299.88	0.6996	-0.4384	0.0036	-0.1424	0.0520	0.3060	0.3067	-0.2340	0.0498
2	299.88	0.7495	-0.4954	0.0038	-0.1679	0.0587	0.3859	0.3626	0.1157	0.0558
2	299.88	0.9100	-0.6998	0.0054	-0.2458	0.0822	0.4653	0.5629	-0.1929	0.0531
2	299.88	0.9727	-0.6793	0.0085	-0.1825	0.0911	0.4525	0.6462	-0.1426	0.0940
3	299.88	0.1938	0.0260	0.0025	0.0022	0.0016	0.0445	0.0065	0.0494	0.0420
3	299.88	0.2357	0.1083	0.0025	-0.0064	0.0035	-0.0180	0.0124	0.1365	0.0456
3	299.88	0.2995	-0.0297	0.0017	-0.0015	0.0080	0.0798	0.0292	0.1628	0.0852
3	299.88	0.3493	-0.0896	0.0031	-0.0038	0.0119	0.1588	0.0490	0.3229	0.0686
3	299.88	0.4000	-0.1176	0.0040	-0.0097	0.0203	0.1876	0.0774	0.2455	0.0606
3	299.88	0.4497	-0.1861	0.0038	-0.0343	0.0222	0.2339	0.1050	0.1951	0.0671
3	299.88	0.4997	-0.2171	0.0028	-0.0505	0.0282	0.3217	0.1430	0.4517	0.0691
3	299.88	0.5556	-0.2613	0.0027	-0.0879	0.0344	0.3961	0.1895	0.7210	0.0606
3	299.88	0.5995	-0.3248	0.0028	-0.0780	0.0401	0.4948	0.2315	0.5888	0.0713
3	299.88	0.6498	-0.3478	0.0031	-0.1137	0.0463	0.5392	0.2832	0.6764	0.0652
3	299.88	0.6890	-0.4254	0.0036	-0.1084	0.0509	0.5934	0.3256	0.4841	0.0639
3	299.88	0.7495	-0.4582	0.0038	-0.1562	0.0584	0.6907	0.3959	0.7757	0.0715
3	299.88	0.7998	-0.5567	0.0043	-0.1604	0.0652	0.7826	0.4589	0.6802	0.0713
3	299.88	0.9178	-0.6317	0.0058	-0.2079	0.0798	0.8634	0.6159	0.0595	0.1123
3	299.88	0.9729	-0.6729	0.0110	-0.2105	0.0866	0.6537	0.6963	-0.6275	0.1635
4	299.88	0.2001	0.0734	0.0023	-0.0041	0.0023	0.0222	0.0086	0.3300	0.0363
4	299.88	0.2502	0.0380	0.0019	0.0226	0.0033	-0.0159	0.0168	-0.1094	0.0557
4	299.88	0.3001	-0.0163	0.0020	0.0093	0.0078	0.0673	0.0354	0.5068	0.0756
4	299.88	0.3502	-0.0768	0.0028	0.0172	0.0129	0.0661	0.0587	0.4258	0.0500
4	299.88	0.4002	-0.1247	0.0037	0.0429	0.0195	0.1069	0.0921	0.7318	0.0799
4	299.88	0.4500	-0.1715	0.0035	0.0731	0.0250	0.0955	0.1263	0.5074	0.0652
4	299.88	0.5001	-0.2258	0.0034	0.1029	0.0335	0.1002	0.1697	0.5495	0.0554
4	299.88	0.5560	-0.2854	0.0036	0.1177	0.0412	0.0809	0.2241	0.2687	0.0509
4	299.88	0.6001	-0.3105	0.0030	0.1298	0.0481	0.1092	0.2700	0.4243	0.0548
4	299.88	0.6501	-0.3753	0.0036	0.1476	0.0560	0.1170	0.3246	0.4682	0.0528
4	299.88	0.6999	-0.4327	0.0044	0.1584	0.0650	0.1024	0.3827	0.3505	0.0570
4	299.88	0.7500	-0.4659	0.0046	0.1701	0.0731	0.1120	0.4419	0.5824	0.0595
4	299.88	0.9101	-0.6493	0.0064	0.2174	0.1025	0.0743	0.6374	0.5907	0.0648
4	299.88	0.9728	-0.6038	0.0097	0.3038	0.1138	0.0451	0.7178	0.6166	0.0778

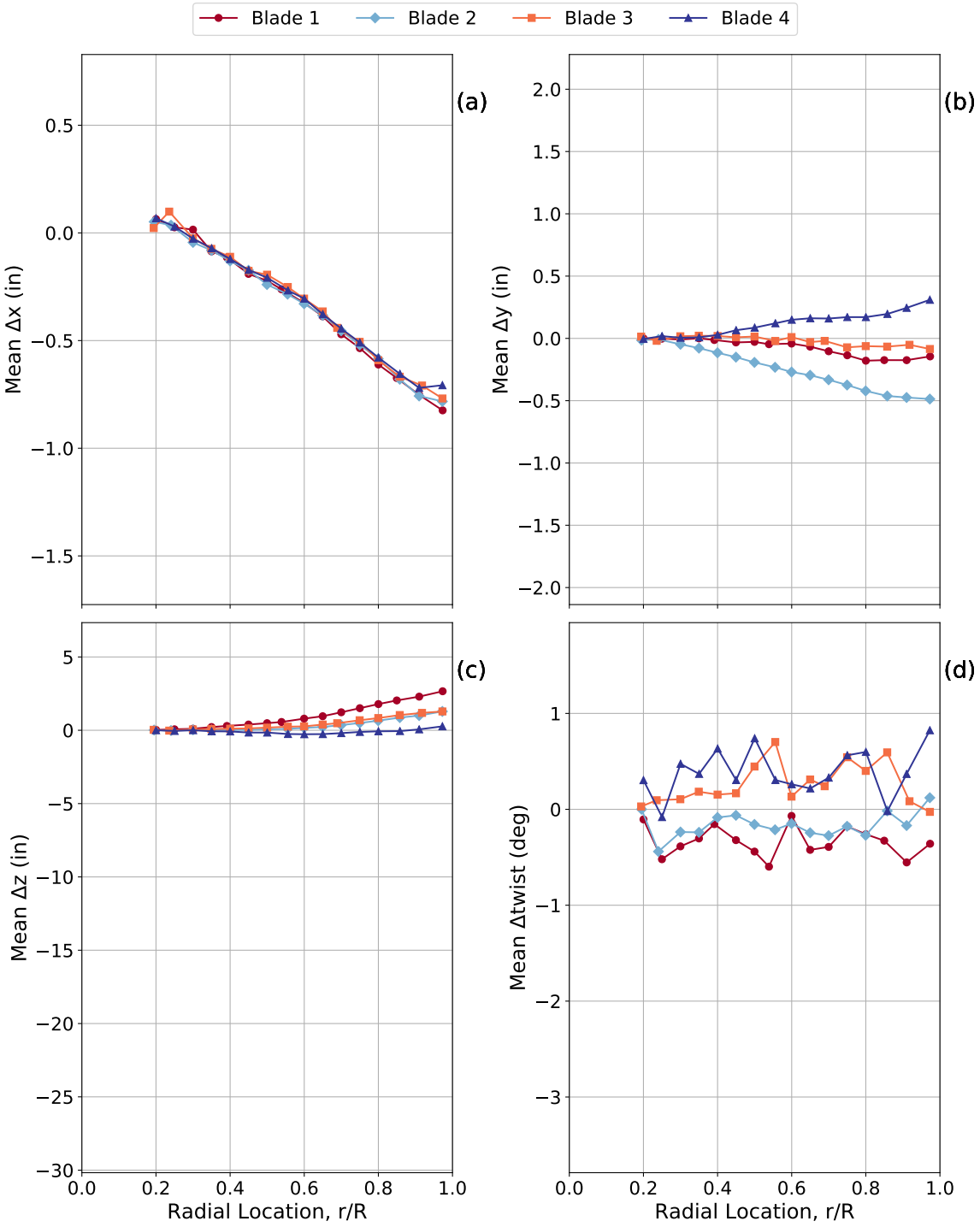


Figure 2.23-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0639	0.0023	0.0001	0.0012	0.0270	0.0067	-0.1052	0.0228
1	315	0.2499	0.0259	0.0020	-0.0022	0.0033	0.0658	0.0137	-0.5204	0.0438
1	315	0.2998	0.0152	0.0027	-0.0091	0.0054	0.1047	0.0276	-0.3863	0.0518
1	315	0.3498	-0.0858	0.0029	0.0004	0.0098	0.2201	0.0472	-0.3037	0.0465
1	315	0.3913	-0.1138	0.0026	-0.0130	0.0140	0.2947	0.0681	-0.1546	0.0489
1	315	0.4496	-0.1903	0.0030	-0.0324	0.0202	0.3910	0.0987	-0.3212	0.0466
1	315	0.4997	-0.2224	0.0029	-0.0280	0.0256	0.4834	0.1318	-0.4407	0.0604
1	315	0.5387	-0.2618	0.0044	-0.0467	0.0312	0.5645	0.1610	-0.5979	0.0586
1	315	0.5996	-0.3250	0.0043	-0.0415	0.0404	0.7931	0.2092	-0.0690	0.0540
1	315	0.6498	-0.3875	0.0047	-0.0662	0.0480	0.9572	0.2519	-0.4227	0.0670
1	315	0.6998	-0.4707	0.0058	-0.1034	0.0551	1.2272	0.2961	-0.3920	0.0649
1	315	0.7500	-0.5351	0.0059	-0.1356	0.0624	1.5065	0.3398	-0.1786	0.0569
1	315	0.8001	-0.6113	0.0062	-0.1790	0.0695	1.7864	0.3870	-0.2600	0.0535
1	315	0.8497	-0.6739	0.0072	-0.1746	0.0779	2.0343	0.4331	-0.3269	0.0552
1	315	0.9102	-0.7523	0.0084	-0.1748	0.0877	2.2942	0.4911	-0.5536	0.0547
1	315	0.9734	-0.8241	0.0124	-0.1447	0.0978	2.6615	0.5524	-0.3590	0.0519
2	315	0.1949	0.0516	0.0029	-0.0142	0.0012	0.0151	0.0060	0.0006	0.0207
2	315	0.2405	0.0357	0.0038	-0.0082	0.0031	-0.0169	0.0110	-0.4402	0.0406
2	315	0.2999	-0.0442	0.0026	-0.0475	0.0058	0.0309	0.0263	-0.2367	0.0466
2	315	0.3498	-0.0812	0.0039	-0.0781	0.0094	0.0181	0.0442	-0.2400	0.0461
2	315	0.3998	-0.1302	0.0040	-0.1154	0.0153	0.0295	0.0690	-0.0849	0.0774
2	315	0.4496	-0.1735	0.0048	-0.1506	0.0197	0.0329	0.0934	-0.0626	0.0531
2	315	0.4995	-0.2398	0.0043	-0.1928	0.0240	0.0616	0.1229	-0.1576	0.0524
2	315	0.5551	-0.2845	0.0051	-0.2320	0.0298	0.0961	0.1623	-0.2132	0.0510
2	315	0.5996	-0.3290	0.0040	-0.2699	0.0350	0.1598	0.1954	-0.1481	0.0583
2	315	0.6497	-0.3827	0.0042	-0.2958	0.0414	0.2279	0.2384	-0.2446	0.0621
2	315	0.6996	-0.4546	0.0044	-0.3322	0.0474	0.3532	0.2818	-0.2746	0.0638
2	315	0.7495	-0.5196	0.0042	-0.3743	0.0530	0.4950	0.3265	-0.1767	0.0564
2	315	0.7996	-0.5840	0.0047	-0.4216	0.0591	0.6548	0.3760	-0.2711	0.0550
2	315	0.8578	-0.6796	0.0053	-0.4622	0.0663	0.8645	0.4352	-0.0164	0.0560
2	315	0.9100	-0.7573	0.0057	-0.4744	0.0733	1.0028	0.4910	-0.1693	0.0552
2	315	0.9727	-0.7826	0.0071	-0.4869	0.0810	1.2855	0.5623	0.1207	0.0642
3	315	0.1938	0.0227	0.0024	0.0142	0.0010	0.0308	0.0035	0.0298	0.0309
3	315	0.2357	0.0988	0.0027	-0.0192	0.0028	-0.0234	0.0071	0.0947	0.0305
3	315	0.2995	-0.0244	0.0024	0.0170	0.0042	0.0561	0.0156	0.1051	0.0597
3	315	0.3493	-0.0740	0.0021	0.0214	0.0084	0.0862	0.0249	0.1837	0.0401
3	315	0.4000	-0.1111	0.0041	0.0191	0.0125	0.1074	0.0399	0.1535	0.0534
3	315	0.4497	-0.1761	0.0038	0.0088	0.0155	0.1291	0.0562	0.1673	0.0667
3	315	0.4997	-0.1940	0.0037	0.0150	0.0184	0.1806	0.0753	0.4463	0.0697
3	315	0.5556	-0.2512	0.0037	-0.0205	0.0233	0.2446	0.1031	0.7018	0.0550
3	315	0.5995	-0.3051	0.0037	0.0105	0.0275	0.2645	0.1281	0.1324	0.0594
3	315	0.6498	-0.3646	0.0040	-0.0295	0.0316	0.3910	0.1616	0.3110	0.0448
3	315	0.6890	-0.4410	0.0039	-0.0202	0.0351	0.4805	0.1904	0.2407	0.0521
3	315	0.7495	-0.5059	0.0039	-0.0718	0.0399	0.6829	0.2439	0.5433	0.0431
3	315	0.7998	-0.5914	0.0039	-0.0622	0.0445	0.8324	0.2936	0.4006	0.0383
3	315	0.8577	-0.6678	0.0043	-0.0662	0.0500	1.0375	0.3559	0.5937	0.0428
3	315	0.9178	-0.7088	0.0053	-0.0514	0.0559	1.1844	0.4257	0.0843	0.0485
3	315	0.9729	-0.7689	0.0072	-0.0852	0.0611	1.2841	0.4914	-0.0268	0.0447
4	315	0.2001	0.0681	0.0027	-0.0045	0.0011	0.0018	0.0037	0.3039	0.0238
4	315	0.2502	0.0294	0.0046	0.0181	0.0038	-0.0452	0.0091	-0.0810	0.0384
4	315	0.3001	-0.0269	0.0027	0.0051	0.0046	0.0026	0.0159	0.4742	0.0511
4	315	0.3502	-0.0714	0.0027	0.0083	0.0082	-0.0694	0.0277	0.3693	0.0421
4	315	0.4002	-0.1215	0.0047	0.0282	0.0132	-0.0800	0.0432	0.6330	0.0566
4	315	0.4500	-0.1720	0.0037	0.0656	0.0150	-0.1544	0.0568	0.3049	0.0488
4	315	0.5001	-0.2083	0.0040	0.0860	0.0195	-0.1567	0.0735	0.7400	0.0583
4	315	0.5560	-0.2672	0.0035	0.1212	0.0233	-0.2551	0.0949	0.3050	0.0659
4	315	0.6001	-0.3055	0.0042	0.1494	0.0276	-0.2697	0.1151	0.2612	0.0538
4	315	0.6501	-0.3778	0.0035	0.1614	0.0307	-0.2616	0.1381	0.2175	0.0544
4	315	0.6999	-0.4445	0.0040	0.1595	0.0349	-0.1938	0.1625	0.3301	0.0515
4	315	0.7500	-0.5093	0.0041	0.1708	0.0391	-0.1144	0.1918	0.5633	0.0488
4	315	0.8002	-0.5791	0.0038	0.1706	0.0432	-0.0695	0.2236	0.5983	0.0489
4	315	0.8582	-0.6547	0.0043	0.1961	0.0484	-0.0558	0.2629	-0.0188	0.0488
4	315	0.9101	-0.7197	0.0043	0.2449	0.0532	0.0616	0.2997	0.3685	0.0507
4	315	0.9728	-0.7074	0.0054	0.3096	0.0586	0.2685	0.3490	0.8242	0.0513

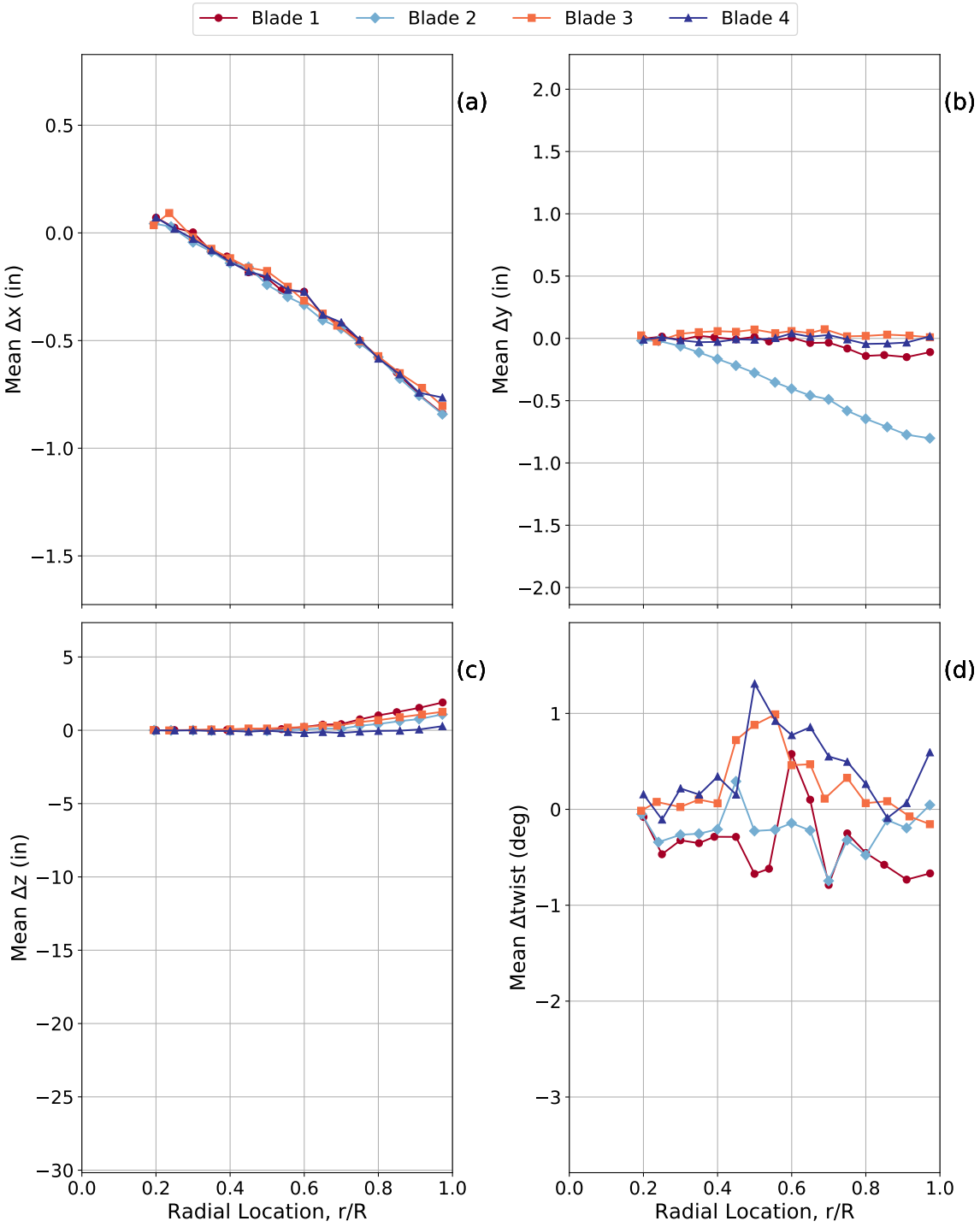


Figure 2.23-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0707	0.0025	-0.0021	0.0012	-0.0002	0.0043	-0.0796	0.0279
1	330.12	0.2499	0.0243	0.0023	0.0144	0.0023	0.0116	0.0091	-0.4689	0.0574
1	330.12	0.2998	0.0026	0.0025	-0.0130	0.0046	-0.0018	0.0188	-0.3230	0.0664
1	330.12	0.3498	-0.0859	0.0027	0.0203	0.0082	0.0231	0.0305	-0.3527	0.0613
1	330.12	0.3913	-0.1095	0.0037	0.0082	0.0113	0.0210	0.0455	-0.2866	0.0595
1	330.12	0.4496	-0.1828	0.0042	-0.0077	0.0145	0.0450	0.0628	-0.2877	0.0691
1	330.12	0.4997	-0.2100	0.0047	0.0121	0.0186	0.0019	0.0825	-0.6730	0.0743
1	330.12	0.5387	-0.2663	0.0037	-0.0245	0.0212	0.0800	0.0984	-0.6197	0.0628
1	330.12	0.5996	-0.2731	0.0041	0.0060	0.0256	0.2257	0.1289	0.5763	0.0833
1	330.12	0.6498	-0.3815	0.0055	-0.0366	0.0300	0.3826	0.1553	0.1004	0.0853
1	330.12	0.6998	-0.4289	0.0054	-0.0343	0.0338	0.4177	0.1825	-0.7886	0.0837
1	330.12	0.7500	-0.4997	0.0046	-0.0812	0.0372	0.7466	0.2189	-0.2512	0.0725
1	330.12	0.8001	-0.5789	0.0047	-0.1408	0.0400	1.0151	0.2572	-0.4555	0.0811
1	330.12	0.8497	-0.6481	0.0057	-0.1336	0.0438	1.2368	0.2944	-0.5785	0.0643
1	330.12	0.9102	-0.7519	0.0072	-0.1501	0.0488	1.5297	0.3481	-0.7330	0.0640
1	330.12	0.9734	-0.8393	0.0101	-0.1102	0.0538	1.8959	0.4066	-0.6679	0.0620
2	330.12	0.1949	0.0431	0.0020	-0.0169	0.0010	0.0037	0.0044	-0.0502	0.0287
2	330.12	0.2405	0.0290	0.0026	-0.0197	0.0019	-0.0091	0.0080	-0.3425	0.0463
2	330.12	0.2999	-0.0432	0.0027	-0.0624	0.0038	0.0010	0.0186	-0.2651	0.0665
2	330.12	0.3498	-0.0875	0.0033	-0.1127	0.0062	-0.0134	0.0318	-0.2546	0.0540
2	330.12	0.3998	-0.1400	0.0059	-0.1658	0.0096	-0.0201	0.0491	-0.2086	0.0654
2	330.12	0.4496	-0.1583	0.0047	-0.2183	0.0123	-0.0084	0.0697	0.2913	0.0791
2	330.12	0.4995	-0.2404	0.0051	-0.2765	0.0153	-0.0338	0.0900	-0.2257	0.0557
2	330.12	0.5551	-0.2968	0.0049	-0.3526	0.0190	0.0114	0.1162	-0.2132	0.0580
2	330.12	0.5996	-0.3340	0.0051	-0.4042	0.0224	0.0610	0.1381	-0.1440	0.0495
2	330.12	0.6497	-0.4048	0.0044	-0.4582	0.0261	0.1264	0.1656	-0.2204	0.0573
2	330.12	0.6996	-0.4440	0.0065	-0.4896	0.0300	0.1065	0.1922	-0.7464	0.0683
2	330.12	0.7495	-0.5130	0.0053	-0.5810	0.0334	0.3090	0.2238	-0.3212	0.0637
2	330.12	0.7996	-0.5769	0.0050	-0.6457	0.0379	0.4267	0.2582	-0.4774	0.0517
2	330.12	0.8578	-0.6761	0.0059	-0.7111	0.0424	0.6240	0.3007	-0.1118	0.0569
2	330.12	0.9100	-0.7553	0.0069	-0.7731	0.0468	0.7633	0.3397	-0.1948	0.0534
2	330.12	0.9727	-0.8420	0.0083	-0.8018	0.0523	1.0822	0.3899	0.0452	0.0557
3	330.12	0.1938	0.0359	0.0021	0.0238	0.0016	0.0176	0.0045	-0.0148	0.0345
3	330.12	0.2357	0.0923	0.0029	-0.0252	0.0018	-0.0124	0.0086	0.0773	0.0497
3	330.12	0.2995	-0.0203	0.0025	0.0372	0.0048	0.0310	0.0194	0.0242	0.0755
3	330.12	0.3493	-0.0738	0.0025	0.0498	0.0079	0.0540	0.0339	0.1016	0.0495
3	330.12	0.4000	-0.1176	0.0041	0.0579	0.0119	0.0647	0.0525	0.0630	0.0525
3	330.12	0.4497	-0.1616	0.0036	0.0528	0.0139	0.1214	0.0724	0.7220	0.0838
3	330.12	0.4997	-0.1769	0.0051	0.0707	0.0169	0.1199	0.0961	0.8806	0.0864
3	330.12	0.5556	-0.2498	0.0047	0.0419	0.0206	0.1785	0.1249	0.9900	0.0630
3	330.12	0.5995	-0.3145	0.0049	0.0587	0.0248	0.2258	0.1529	0.4600	0.0808
3	330.12	0.6498	-0.3748	0.0065	0.0434	0.0290	0.3092	0.1847	0.4698	0.0830
3	330.12	0.6890	-0.4304	0.0065	0.0729	0.0322	0.3120	0.2123	0.1113	0.0723
3	330.12	0.7495	-0.5030	0.0044	0.0165	0.0363	0.5589	0.2621	0.3285	0.0742
3	330.12	0.7998	-0.5724	0.0050	0.0197	0.0390	0.6868	0.3031	0.0645	0.0606
3	330.12	0.8577	-0.6514	0.0044	0.0300	0.0429	0.8883	0.3584	0.0844	0.0583
3	330.12	0.9178	-0.7198	0.0056	0.0225	0.0481	1.0811	0.4227	-0.0741	0.0633
3	330.12	0.9729	-0.8038	0.0077	0.0091	0.0520	1.2568	0.4803	-0.1551	0.0571
4	330.12	0.2001	0.0714	0.0019	-0.0102	0.0010	-0.0038	0.0036	0.1560	0.0199
4	330.12	0.2502	0.0193	0.0027	0.0090	0.0021	-0.0152	0.0083	-0.1072	0.0384
4	330.12	0.3001	-0.0281	0.0032	-0.0152	0.0040	-0.0010	0.0156	0.2176	0.0429
4	330.12	0.3502	-0.0807	0.0031	-0.0304	0.0067	-0.0475	0.0261	0.1535	0.0421
4	330.12	0.4002	-0.1354	0.0038	-0.0281	0.0103	-0.0449	0.0413	0.3415	0.0473
4	330.12	0.4500	-0.1797	0.0038	-0.0074	0.0134	-0.0968	0.0578	0.1533	0.0588
4	330.12	0.5001	-0.2034	0.0041	-0.0110	0.0166	-0.0343	0.0808	1.3095	0.0545
4	330.12	0.5560	-0.2644	0.0054	0.0025	0.0196	-0.1185	0.1081	0.9225	0.0674
4	330.12	0.6001	-0.2731	0.0058	0.0401	0.0241	-0.1864	0.1313	0.7733	0.0591
4	330.12	0.6501	-0.3800	0.0055	0.0129	0.0276	-0.1189	0.1644	0.8560	0.0800
4	330.12	0.6999	-0.4157	0.0066	0.0274	0.0309	-0.1799	0.2009	0.5508	0.0639
4	330.12	0.7500	-0.4962	0.0054	-0.0085	0.0346	-0.0912	0.2386	0.4951	0.0563
4	330.12	0.8002	-0.5839	0.0049	-0.0446	0.0393	-0.0447	0.2808	0.2640	0.0444
4	330.12	0.8582	-0.6570	0.0046	-0.0414	0.0436	-0.0293	0.3299	-0.0904	0.0418
4	330.12	0.9101	-0.7420	0.0059	-0.0332	0.0485	0.0535	0.3765	0.0652	0.0428
4	330.12	0.9728	-0.7646	0.0075	0.0158	0.0538	0.2792	0.4353	0.5940	0.0417

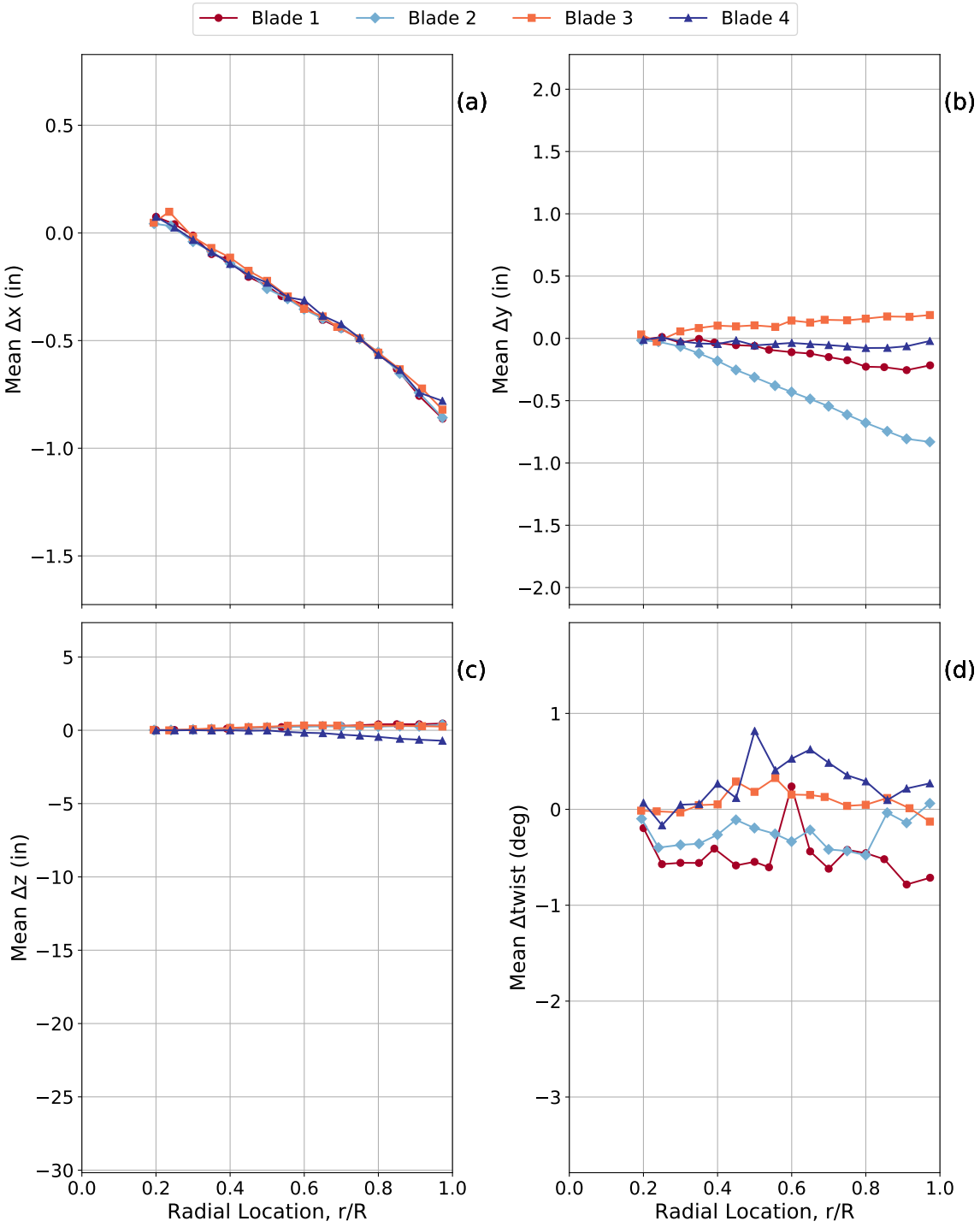


Figure 2.23-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0747	0.0018	-0.0072	0.0020	0.0111	0.0072	-0.1960	0.0428
1	344.88	0.2499	0.0406	0.0031	0.0110	0.0035	0.0221	0.0113	-0.5720	0.1142
1	344.88	0.2998	-0.0123	0.0031	-0.0350	0.0081	0.0369	0.0275	-0.5580	0.1137
1	344.88	0.3498	-0.0985	0.0037	-0.0042	0.0130	0.0851	0.0456	-0.5592	0.1080
1	344.88	0.3913	-0.1212	0.0043	-0.0334	0.0190	0.1069	0.0650	-0.4099	0.1301
1	344.88	0.4496	-0.2042	0.0037	-0.0544	0.0251	0.1454	0.0969	-0.5852	0.1065
1	344.88	0.4997	-0.2453	0.0041	-0.0602	0.0310	0.1817	0.1285	-0.5477	0.1086
1	344.88	0.5387	-0.2934	0.0032	-0.0916	0.0355	0.2177	0.1575	-0.6043	0.1140
1	344.88	0.5996	-0.3339	0.0075	-0.1108	0.0440	0.3188	0.2092	0.2380	0.1264
1	344.88	0.6498	-0.4042	0.0046	-0.1217	0.0498	0.2988	0.2595	-0.4389	0.1193
1	344.88	0.6998	-0.4449	0.0059	-0.1501	0.0566	0.2935	0.3160	-0.6192	0.1154
1	344.88	0.7500	-0.4935	0.0050	-0.1760	0.0635	0.3464	0.3758	-0.4227	0.1221
1	344.88	0.8001	-0.5639	0.0051	-0.2274	0.0701	0.4069	0.4430	-0.4573	0.1107
1	344.88	0.8497	-0.6318	0.0052	-0.2310	0.0762	0.4135	0.5113	-0.5201	0.1158
1	344.88	0.9102	-0.7570	0.0058	-0.2547	0.0845	0.4108	0.5995	-0.7842	0.1101
1	344.88	0.9734	-0.8628	0.0070	-0.2162	0.0932	0.4625	0.6936	-0.7134	0.1109
2	344.88	0.1949	0.0425	0.0021	-0.0155	0.0016	0.0153	0.0047	-0.0981	0.0296
2	344.88	0.2405	0.0321	0.0028	-0.0269	0.0023	0.0137	0.0082	-0.3991	0.0633
2	344.88	0.2999	-0.0409	0.0028	-0.0654	0.0052	0.0515	0.0195	-0.3710	0.0750
2	344.88	0.3498	-0.0864	0.0043	-0.1203	0.0088	0.0832	0.0326	-0.3587	0.0749
2	344.88	0.3998	-0.1422	0.0045	-0.1806	0.0132	0.1241	0.0506	-0.2650	0.0718
2	344.88	0.4496	-0.1827	0.0037	-0.2533	0.0162	0.1648	0.0718	-0.1098	0.0906
2	344.88	0.4995	-0.2592	0.0037	-0.3119	0.0202	0.1985	0.0948	-0.1953	0.0776
2	344.88	0.5551	-0.3063	0.0036	-0.3795	0.0244	0.2267	0.1285	-0.2562	0.0738
2	344.88	0.5996	-0.3546	0.0036	-0.4303	0.0285	0.2455	0.1581	-0.3360	0.0724
2	344.88	0.6497	-0.3979	0.0037	-0.4865	0.0323	0.2691	0.1953	-0.2158	0.0666
2	344.88	0.6996	-0.4419	0.0041	-0.5447	0.0373	0.2507	0.2374	-0.4181	0.0708
2	344.88	0.7495	-0.4919	0.0034	-0.6125	0.0424	0.2349	0.2811	-0.4339	0.0766
2	344.88	0.7996	-0.5538	0.0039	-0.6777	0.0468	0.2463	0.3313	-0.4783	0.0738
2	344.88	0.8578	-0.6528	0.0056	-0.7456	0.0527	0.2872	0.3901	-0.0354	0.0744
2	344.88	0.9100	-0.7418	0.0070	-0.8065	0.0579	0.2710	0.4459	-0.1412	0.0690
2	344.88	0.9727	-0.8576	0.0079	-0.8308	0.0630	0.3887	0.5163	0.0619	0.0707
3	344.88	0.1938	0.0473	0.0022	0.0319	0.0024	0.0295	0.0057	-0.0137	0.0269
3	344.88	0.2357	0.0981	0.0033	-0.0264	0.0022	-0.0048	0.0086	-0.0210	0.0583
3	344.88	0.2995	-0.0187	0.0034	0.0561	0.0067	0.0705	0.0227	-0.0321	0.0679
3	344.88	0.3493	-0.0701	0.0035	0.0832	0.0121	0.1179	0.0383	0.0437	0.0647
3	344.88	0.4000	-0.1147	0.0045	0.1025	0.0172	0.1612	0.0595	0.0513	0.0726
3	344.88	0.4497	-0.1761	0.0047	0.0961	0.0224	0.2108	0.0825	0.2898	0.0692
3	344.88	0.4997	-0.2226	0.0053	0.1048	0.0278	0.2401	0.1105	0.1821	0.0699
3	344.88	0.5556	-0.2948	0.0040	0.0920	0.0322	0.3065	0.1442	0.3267	0.0820
3	344.88	0.5995	-0.3528	0.0036	0.1432	0.0388	0.3273	0.1749	0.1538	0.0786
3	344.88	0.6498	-0.3878	0.0054	0.1272	0.0449	0.3333	0.2134	0.1496	0.0773
3	344.88	0.6890	-0.4366	0.0048	0.1493	0.0492	0.3208	0.2442	0.1287	0.0755
3	344.88	0.7495	-0.4898	0.0040	0.1453	0.0570	0.3030	0.2995	0.0359	0.0839
3	344.88	0.7998	-0.5561	0.0039	0.1583	0.0626	0.3082	0.3499	0.0474	0.0626
3	344.88	0.8577	-0.6333	0.0048	0.1760	0.0694	0.3137	0.4079	0.1177	0.0656
3	344.88	0.9178	-0.7226	0.0055	0.1732	0.0767	0.2809	0.4721	0.0114	0.0629
3	344.88	0.9729	-0.8208	0.0057	0.1872	0.0827	0.2527	0.5328	-0.1284	0.0697
4	344.88	0.2001	0.0746	0.0020	-0.0124	0.0012	0.0002	0.0071	0.0685	0.0302
4	344.88	0.2502	0.0250	0.0031	0.0082	0.0026	-0.0058	0.0142	-0.1667	0.0548
4	344.88	0.3001	-0.0322	0.0025	-0.0236	0.0040	0.0086	0.0279	0.0476	0.0672
4	344.88	0.3502	-0.0890	0.0043	-0.0408	0.0070	-0.0146	0.0499	0.0557	0.0547
4	344.88	0.4002	-0.1440	0.0042	-0.0452	0.0106	-0.0049	0.0759	0.2667	0.0658
4	344.88	0.4500	-0.1959	0.0045	-0.0159	0.0138	-0.0332	0.1078	0.1182	0.0547
4	344.88	0.5001	-0.2314	0.0056	-0.0562	0.0175	-0.0165	0.1452	0.8166	0.1101
4	344.88	0.5560	-0.2994	0.0058	-0.0454	0.0215	-0.1118	0.1905	0.4068	0.0842
4	344.88	0.6001	-0.3125	0.0058	-0.0364	0.0256	-0.1670	0.2311	0.5281	0.1047
4	344.88	0.6501	-0.3849	0.0053	-0.0461	0.0295	-0.1973	0.2815	0.6239	0.0844
4	344.88	0.6999	-0.4237	0.0060	-0.0538	0.0343	-0.2948	0.3344	0.4848	0.0978
4	344.88	0.7500	-0.4883	0.0051	-0.0648	0.0388	-0.3681	0.3928	0.3543	0.0780
4	344.88	0.8002	-0.5666	0.0059	-0.0772	0.0433	-0.4502	0.4546	0.2913	0.0769
4	344.88	0.8582	-0.6365	0.0078	-0.0763	0.0486	-0.5791	0.5312	0.0971	0.0786
4	344.88	0.9101	-0.7419	0.0099	-0.0633	0.0537	-0.6420	0.6022	0.2167	0.0704
4	344.88	0.9728	-0.7800	0.0109	-0.0209	0.0594	-0.7148	0.6894	0.2708	0.0735

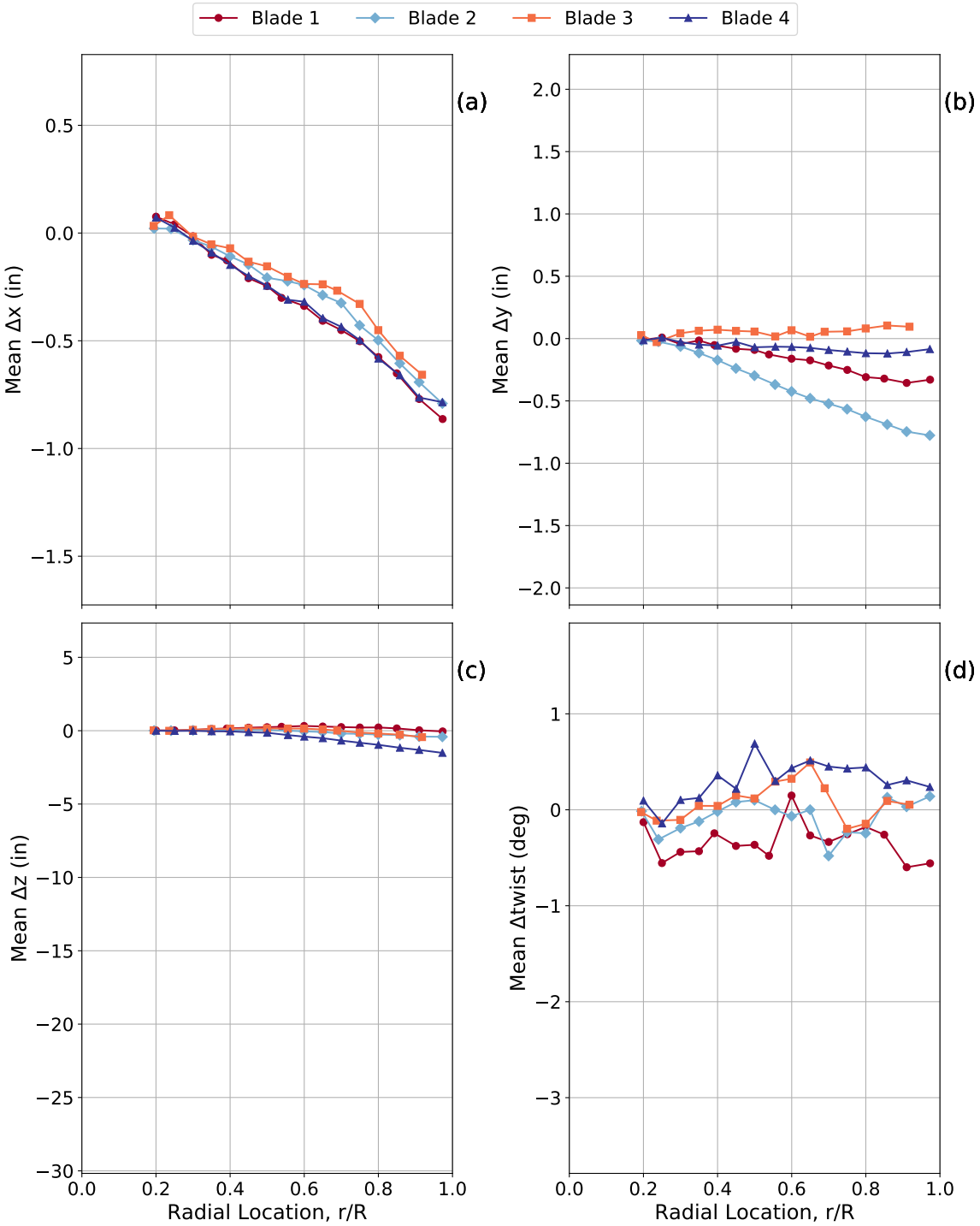


Figure 2.23-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0759	0.0023	-0.0092	0.0028	0.0183	0.0094	-0.1289	0.0552
1	350.16	0.2499	0.0403	0.0042	0.0087	0.0049	0.0245	0.0170	-0.5553	0.1338
1	350.16	0.2998	-0.0147	0.0045	-0.0444	0.0100	0.0590	0.0361	-0.4397	0.1372
1	350.16	0.3498	-0.1012	0.0040	-0.0152	0.0176	0.1193	0.0626	-0.4317	0.1326
1	350.16	0.3913	-0.1266	0.0046	-0.0522	0.0244	0.1521	0.0886	-0.2448	0.1338
1	350.16	0.4496	-0.2097	0.0051	-0.0819	0.0329	0.2071	0.1279	-0.3767	0.1354
1	350.16	0.4997	-0.2463	0.0065	-0.0910	0.0407	0.2396	0.1672	-0.3649	0.1441
1	350.16	0.5387	-0.3009	0.0044	-0.1274	0.0460	0.2670	0.2028	-0.4793	0.1366
1	350.16	0.5996	-0.3382	0.0050	-0.1615	0.0568	0.3245	0.2591	0.1485	0.1396
1	350.16	0.6498	-0.4073	0.0050	-0.1744	0.0643	0.2863	0.3103	-0.2672	0.1347
1	350.16	0.6998	-0.4505	0.0053	-0.2159	0.0720	0.2469	0.3607	-0.3352	0.1295
1	350.16	0.7500	-0.5021	0.0055	-0.2514	0.0803	0.2184	0.4098	-0.2546	0.1334
1	350.16	0.8001	-0.5757	0.0062	-0.3092	0.0889	0.2205	0.4645	-0.1784	0.1282
1	350.16	0.8497	-0.6511	0.0070	-0.3211	0.0969	0.1558	0.5193	-0.2594	0.1469
1	350.16	0.9102	-0.7703	0.0086	-0.3558	0.1068	0.0291	0.5899	-0.5988	0.1402
1	350.16	0.9734	-0.8632	0.0078	-0.3297	0.1167	-0.0480	0.6659	-0.5578	0.1403
2	350.16	0.1949	0.0213	0.0062	-0.0155	0.0026	0.0092	0.0067	-0.0149	0.0197
2	350.16	0.2405	0.0200	0.0038	-0.0247	0.0045	0.0013	0.0134	-0.3089	0.0362
2	350.16	0.2999	-0.0325	0.0029	-0.0629	0.0109	0.0211	0.0308	-0.1906	0.0459
2	350.16	0.3498	-0.0636	0.0050	-0.1156	0.0188	0.0382	0.0521	-0.1212	0.0512
2	350.16	0.3998	-0.1082	0.0075	-0.1723	0.0290	0.0488	0.0819	-0.0176	0.0501
2	350.16	0.4496	-0.1460	0.0098	-0.2390	0.0406	0.0578	0.1163	0.0805	0.0663
2	350.16	0.4995	-0.2075	0.0123	-0.2975	0.0532	0.0487	0.1541	0.1001	0.0675
2	350.16	0.5551	-0.2232	0.0137	-0.3687	0.0688	0.0030	0.2035	-0.0002	0.0579
2	350.16	0.5996	-0.2412	0.0169	-0.4242	0.0820	-0.0440	0.2447	-0.0674	0.0612
2	350.16	0.6497	-0.2882	0.0177	-0.4793	0.0971	-0.0896	0.2896	0.0009	0.0721
2	350.16	0.6996	-0.3245	0.0110	-0.5222	0.0940	-0.1918	0.3455	-0.4806	1.6146
2	350.16	0.7495	-0.4284	0.0171	-0.5659	0.1914	-0.2151	0.5106	-0.2333	0.0633
2	350.16	0.7996	-0.4975	0.0170	-0.6271	0.2057	-0.2613	0.5664	-0.2452	0.0673
2	350.16	0.8578	-0.6050	0.0178	-0.6889	0.2228	-0.3015	0.6242	0.1294	0.0585
2	350.16	0.9100	-0.6919	0.0186	-0.7463	0.2379	-0.3992	0.6816	0.0318	0.0594
2	350.16	0.9727	-0.7910	0.0146	-0.7766	0.2564	-0.4162	0.7585	0.1399	0.0514
3	350.16	0.1938	0.0332	0.0047	0.0278	0.0027	0.0285	0.0047	-0.0240	0.0220
3	350.16	0.2357	0.0828	0.0032	-0.0279	0.0047	-0.0080	0.0091	-0.1130	0.0492
3	350.16	0.2995	-0.0164	0.0026	0.0428	0.0112	0.0569	0.0206	-0.1051	0.0583
3	350.16	0.3493	-0.0525	0.0039	0.0627	0.0199	0.1081	0.0350	0.0415	0.0538
3	350.16	0.4000	-0.0709	0.0057	0.0712	0.0307	0.1345	0.0553	0.0402	0.0556
3	350.16	0.4497	-0.1330	0.0066	0.0618	0.0428	0.1536	0.0781	0.1498	0.0607
3	350.16	0.4997	-0.1545	0.0081	0.0564	0.0578	0.1546	0.1049	0.1178	0.0610
3	350.16	0.5556	-0.2029	0.0105	0.0173	0.0760	0.1457	0.1392	0.2938	0.0692
3	350.16	0.5995	-0.2363	0.0116	0.0667	0.0922	0.1438	0.1692	0.3238	0.0894
3	350.16	0.6498	-0.2380	0.0139	0.0149	0.1101	0.0859	0.2055	0.4931	0.0813
3	350.16	0.6890	-0.2675	0.0174	0.0546	0.1252	0.0101	0.2356	0.2242	0.1051
3	350.16	0.7495	-0.3289	0.0116	0.0578	0.1161	-0.1290	0.2781	-0.1979	1.5136
3	350.16	0.7998	-0.4508	0.0094	0.0812	0.1383	-0.1897	0.3239	-0.1458	1.6320
3	350.16	0.8577	-0.5695	0.0123	0.1049	0.1851	-0.2717	0.5493	0.0923	0.0582
3	350.16	0.9178	-0.6576	0.0128	0.0952	0.1996	-0.4345	0.6197	0.0531	0.0616
4	350.16	0.2001	0.0716	0.0020	-0.0139	0.0024	-0.0025	0.0153	0.0955	0.1033
4	350.16	0.2502	0.0247	0.0043	0.0071	0.0035	-0.0153	0.0168	-0.1422	0.2826
4	350.16	0.3001	-0.0359	0.0044	-0.0282	0.0080	-0.0070	0.0489	0.1025	0.2828
4	350.16	0.3502	-0.0907	0.0040	-0.0487	0.0142	-0.0397	0.0863	0.1240	0.2767
4	350.16	0.4002	-0.1480	0.0042	-0.0565	0.0207	-0.0475	0.1241	0.3587	0.2773
4	350.16	0.4500	-0.1995	0.0045	-0.0268	0.0266	-0.1028	0.1653	0.2187	0.2767
4	350.16	0.5001	-0.2443	0.0047	-0.0697	0.0332	-0.1400	0.2103	0.6886	0.2919
4	350.16	0.5560	-0.3096	0.0058	-0.0650	0.0398	-0.2993	0.2651	0.3000	0.2853
4	350.16	0.6001	-0.3189	0.0065	-0.0670	0.0452	-0.4041	0.3104	0.4342	0.2917
4	350.16	0.6501	-0.3949	0.0052	-0.0747	0.0518	-0.5111	0.3665	0.5142	0.2847
4	350.16	0.6999	-0.4354	0.0067	-0.0915	0.0582	-0.6738	0.4261	0.4505	0.2855
4	350.16	0.7500	-0.4974	0.0064	-0.1045	0.0651	-0.8205	0.4906	0.4300	0.2873
4	350.16	0.8002	-0.5826	0.0064	-0.1173	0.0717	-0.9640	0.5601	0.4417	0.2854
4	350.16	0.8582	-0.6603	0.0083	-0.1199	0.0795	-1.1628	0.6450	0.2582	0.2792
4	350.16	0.9101	-0.7634	0.0093	-0.1082	0.0869	-1.3105	0.7227	0.3066	0.2806
4	350.16	0.9728	-0.7851	0.0064	-0.0846	0.0956	-1.5113	0.8209	0.2380	0.2815

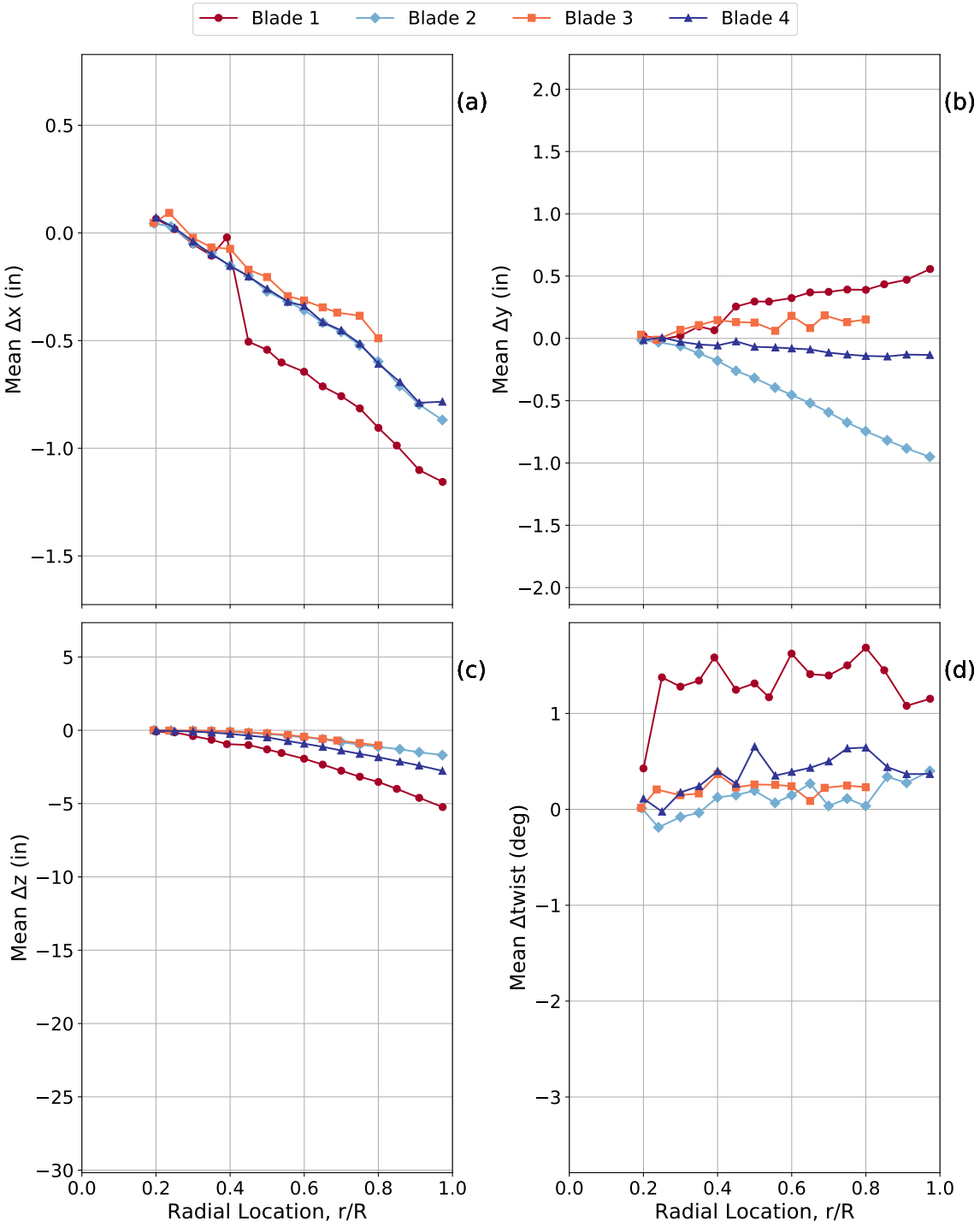


Figure 2.23-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.048$, $\mu = 0.599$, $\alpha = 4°$ NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Table 2.23-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.048, μ = 0.599, α = 4°
NFAC run 93, points 32 to 36. BD run 43, points 7792 to 7831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0651	0.0248	0.0215	0.0062	-0.0922	0.0094	0.4267	0.0689
1	355.08	0.2499	0.0184	0.0119	-0.0077	0.0091	-0.1418	0.0162	1.3760	0.1833
1	355.08	0.2998	-0.0526	0.0079	0.0217	0.0236	-0.3964	0.0395	1.2788	0.1872
1	355.08	0.3498	-0.1058	0.0249	0.0963	0.0399	-0.6455	0.0684	1.3421	0.1923
1	355.08	0.3913	-0.0211	0.0423	0.0657	0.0563	-0.9447	0.0978	1.5832	0.1938
1	355.08	0.4496	-0.5054	0.0670	0.2554	0.1967	-1.0041	0.1397	1.2462	0.1774
1	355.08	0.4997	-0.5428	0.0668	0.2959	0.2261	-1.3040	0.1648	1.3125	0.1976
1	355.08	0.5387	-0.6017	0.0675	0.2954	0.2516	-1.5503	0.1873	1.1688	0.1901
1	355.08	0.5996	-0.6448	0.0663	0.3237	0.2876	-1.9402	0.2232	1.6238	0.1846
1	355.08	0.6498	-0.7127	0.0677	0.3692	0.3193	-2.3388	0.2552	1.4095	0.1948
1	355.08	0.6998	-0.7580	0.0676	0.3734	0.3499	-2.7589	0.2883	1.3956	0.1857
1	355.08	0.7500	-0.8150	0.0672	0.3919	0.3808	-3.1687	0.3270	1.5013	0.1906
1	355.08	0.8001	-0.9053	0.0681	0.3896	0.4118	-3.5264	0.3697	1.6859	0.1947
1	355.08	0.8497	-0.9875	0.0683	0.4341	0.4427	-3.9950	0.4140	1.4501	0.1880
1	355.08	0.9102	-1.1013	0.0689	0.4705	0.4804	-4.6067	0.4677	1.0791	0.1820
1	355.08	0.9734	-1.1563	0.0615	0.5567	0.5210	-5.2369	0.5326	1.1527	0.1955
2	355.08	0.1949	0.0438	0.0020	-0.0136	0.0027	-0.0027	0.0085	0.0136	0.0411
2	355.08	0.2405	0.0299	0.0038	-0.0310	0.0032	-0.0240	0.0123	-0.1877	0.1062
2	355.08	0.2999	-0.0491	0.0039	-0.0611	0.0081	-0.0316	0.0315	-0.0799	0.1137
2	355.08	0.3498	-0.0932	0.0049	-0.1209	0.0129	-0.0586	0.0545	-0.0360	0.1085
2	355.08	0.3998	-0.1529	0.0046	-0.1794	0.0190	-0.0978	0.0821	0.1247	0.1170
2	355.08	0.4496	-0.1993	0.0059	-0.2605	0.0235	-0.1760	0.1100	0.1477	0.1053
2	355.08	0.4995	-0.2714	0.0065	-0.3184	0.0293	-0.2474	0.1433	0.1950	0.1010
2	355.08	0.5551	-0.3177	0.0061	-0.3950	0.0353	-0.3820	0.1838	0.0668	0.1106
2	355.08	0.5996	-0.3586	0.0063	-0.4542	0.0409	-0.4828	0.2209	0.1466	0.1014
2	355.08	0.6497	-0.4167	0.0068	-0.5196	0.0466	-0.6125	0.2612	0.2681	0.1084
2	355.08	0.6996	-0.4592	0.0078	-0.5936	0.0523	-0.8113	0.3046	0.0355	0.1159
2	355.08	0.7495	-0.5214	0.0079	-0.6750	0.0581	-0.9771	0.3455	0.1119	0.1192
2	355.08	0.7996	-0.5971	0.0088	-0.7452	0.0644	-1.1315	0.3948	0.0347	0.1028
2	355.08	0.8578	-0.7109	0.0095	-0.8183	0.0717	-1.2911	0.4492	0.3397	0.1047
2	355.08	0.9100	-0.7966	0.0094	-0.8832	0.0779	-1.4951	0.5025	0.2761	0.1100
2	355.08	0.9727	-0.8688	0.0066	-0.9508	0.0848	-1.6947	0.5728	0.3997	0.1113
3	355.08	0.1938	0.0468	0.0062	0.0297	0.0041	0.0013	0.0073	0.0155	0.0574
3	355.08	0.2357	0.0929	0.0031	-0.0109	0.0048	-0.0242	0.0125	0.2071	0.1480
3	355.08	0.2995	-0.0225	0.0025	0.0682	0.0120	-0.0233	0.0289	0.1471	0.1624
3	355.08	0.3493	-0.0673	0.0028	0.1065	0.0207	-0.0441	0.0495	0.1654	0.1524
3	355.08	0.4000	-0.0739	0.0035	0.1464	0.0303	-0.0784	0.0770	0.3671	0.1696
3	355.08	0.4497	-0.1711	0.0031	0.1307	0.0377	-0.1445	0.1079	0.2283	0.1555
3	355.08	0.4997	-0.2049	0.0033	0.1269	0.0466	-0.2133	0.1459	0.2588	0.1536
3	355.08	0.5556	-0.2937	0.0040	0.0608	0.0565	-0.3226	0.1926	0.2555	0.1601
3	355.08	0.5995	-0.3138	0.0067	0.1814	0.0646	-0.4397	0.2336	0.2408	0.1694
3	355.08	0.6498	-0.3458	0.0060	0.0830	0.0725	-0.5893	0.2831	0.0873	0.1689
3	355.08	0.6890	-0.3702	0.0063	0.1847	0.0807	-0.6983	0.3284	0.2243	0.1823
3	355.08	0.7495	-0.3847	0.0099	0.1305	0.0932	-0.8734	0.4012	0.2477	0.2013
3	355.08	0.7998	-0.4894	0.0174	0.1513	0.1026	-1.0319	0.4627	0.2303	0.2322
4	355.08	0.2001	0.0711	0.0020	-0.0137	0.0023	-0.0190	0.0089	0.1117	0.0334
4	355.08	0.2502	0.0232	0.0028	0.0062	0.0033	-0.0494	0.0176	-0.0238	0.0817
4	355.08	0.3001	-0.0402	0.0034	-0.0271	0.0074	-0.0856	0.0349	0.1766	0.0842
4	355.08	0.3502	-0.0995	0.0055	-0.0495	0.0126	-0.1578	0.0622	0.2418	0.0814
4	355.08	0.4002	-0.1527	0.0045	-0.0567	0.0186	-0.2443	0.0948	0.3995	0.0815
4	355.08	0.4500	-0.2022	0.0068	-0.0238	0.0248	-0.3705	0.1317	0.2669	0.0880
4	355.08	0.5001	-0.2594	0.0059	-0.0675	0.0310	-0.4802	0.1733	0.6536	0.0934
4	355.08	0.5560	-0.3197	0.0062	-0.0729	0.0374	-0.7346	0.2251	0.3517	0.0951
4	355.08	0.6001	-0.3393	0.0081	-0.0804	0.0432	-0.9135	0.2672	0.3906	0.0935
4	355.08	0.6501	-0.4143	0.0076	-0.0886	0.0503	-1.1282	0.3186	0.4328	0.1011
4	355.08	0.6999	-0.4528	0.0074	-0.1145	0.0566	-1.3788	0.3760	0.4997	0.0996
4	355.08	0.7500	-0.5140	0.0090	-0.1296	0.0635	-1.6073	0.4354	0.6354	0.1051
4	355.08	0.8002	-0.6079	0.0111	-0.1410	0.0701	-1.8371	0.5008	0.6439	0.0958
4	355.08	0.8582	-0.6923	0.0115	-0.1450	0.0783	-2.1357	0.5819	0.4403	0.0889
4	355.08	0.9101	-0.7888	0.0118	-0.1301	0.0856	-2.4034	0.6576	0.3674	0.0889
4	355.08	0.9728	-0.7839	0.0075	-0.1328	0.0925	-2.7669	0.7563	0.3685	0.0880

2.24 Run 95, Points 31 to 36

2.24.1 Pitch, Flap, and Lag

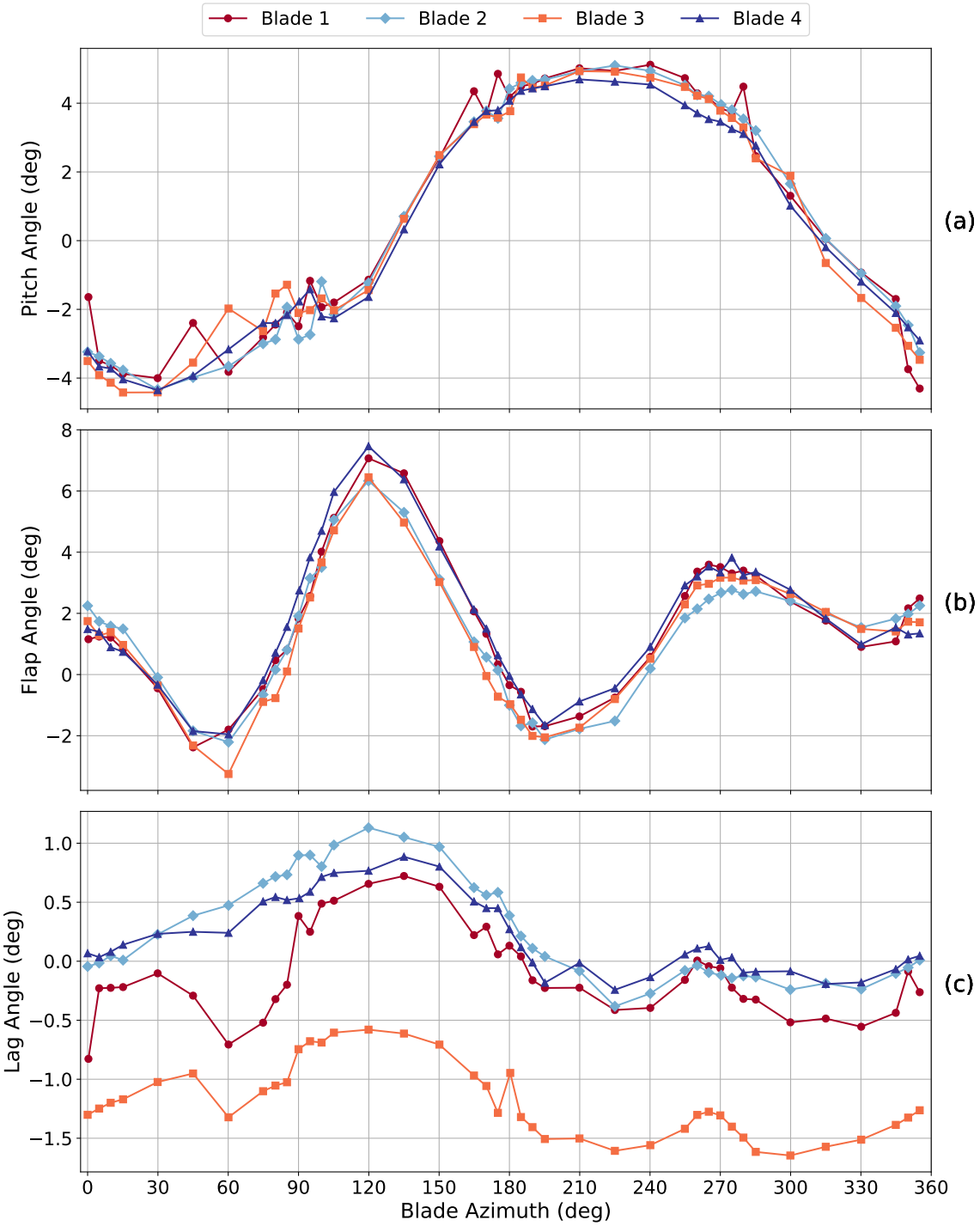


Figure 2.24-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	-1.6422	1.1549	-0.8274	0.5707	0.8419	0.1995
4.92	-3.4958	1.2418	-0.2289	0.2930	0.5984	0.0740
9.84	-3.6312	1.2079	-0.2254	0.2212	0.4998	0.0724
15.12	-3.8757	0.8203	-0.2192	0.2135	0.4816	0.0711
29.88	-4.0018	-0.4490	-0.1025	0.1537	0.3056	0.0848
45	-2.3963	-2.3805	-0.2917	0.6666	0.3228	0.1399
60.12	-3.8168	-1.7993	-0.7060	0.1983	0.1955	0.1460
74.88	-2.8170	-0.4756	-0.5207	0.2649	0.3592	0.1198
80.16	-2.4423	0.4683	-0.3210	0.2879	0.3263	0.1201
85.08	-2.0920	0.8091	-0.1991	0.3249	0.4930	0.1373
90	-2.4918	1.8305	0.3833	0.1848	0.5422	0.0826
94.92	-1.1687	2.5644	0.2494	0.4130	0.6688	0.1003
99.84	-1.9347	4.0158	0.4879	0.1535	0.4485	0.1070
105.12	-1.7996	5.1230	0.5131	0.1784	0.6826	0.0905
119.88	-1.1374	7.0677	0.6556	0.0853	0.5310	0.0789
135	0.6998	6.5786	0.7224	0.1053	0.7792	0.0637
150.12	2.4010	4.3637	0.6310	0.0997	0.8376	0.0866
164.88	4.3490	2.0637	0.2215	0.1068	0.8395	0.0935
170.16	3.6705	1.3308	0.2925	0.1094	0.7317	0.0913
175.08	4.8552	0.3333	0.0582	0.1561	0.8831	0.1058
180	4.1731	-0.3474	0.1317	0.1458	0.8991	0.1048
184.92	4.4925	-0.5634	0.0407	0.1720	1.0786	0.1473
189.84	4.5587	-1.6990	-0.1614	0.1941	0.7728	0.1222
195.12	4.7204	-1.6889	-0.2266	0.1602	0.7482	0.1203
209.88	5.0173	-1.3693	-0.2245	0.1422	0.3669	0.1640
225	4.9416	-0.7523	-0.4133	0.1564	0.4509	0.1339
240.12	5.1191	0.5751	-0.3957	0.1296	0.3345	0.1008
254.88	4.7297	2.5683	-0.1585	0.7668	0.6480	0.1639
260.16	4.2881	3.3658	0.0060	0.1493	0.5166	0.0832
265.08	4.1513	3.5926	-0.0425	0.1471	0.6450	0.0808
270	3.8436	3.5136	-0.0593	0.1420	0.8582	0.1140
274.92	3.7483	3.3051	-0.2240	0.3090	0.9578	0.1050
279.84	4.4823	3.3990	-0.3191	0.2506	0.7207	0.1136
285.12	2.4596	3.2404	-0.3251	0.1832	0.6573	0.1986
299.88	1.3053	2.3867	-0.5178	0.1532	0.2889	0.0647
315	0.0451	1.7634	-0.4859	0.1239	0.3625	0.0921
330.12	-0.9273	0.9026	-0.5551	0.0944	0.7317	0.0776
344.88	-1.6986	1.0840	-0.4373	0.2384	0.9485	0.0839
350.16	-3.7421	2.1650	-0.0860	0.6972	0.8645	0.3737
355.08	-4.3044	2.4887	-0.2625	0.3832	0.8494	0.4380

Table 2.24-2. Pitch, flap, and lag vs azimuth for Blade 2.
$C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-3.2383	2.2475	-0.0443	0.1737	0.5454	0.1085
4.92	-3.3694	1.7365	-0.0152	0.2431	0.6496	0.1109
9.84	-3.5711	1.5835	0.0464	0.2037	0.5710	0.1000
15.12	-3.7685	1.4916	0.0092	0.2356	0.8737	0.1477
29.88	-4.3331	-0.0933	0.2272	0.1211	0.4698	0.1038
45	-3.9829	-1.8407	0.3860	0.1505	0.2330	0.1255
60.12	-3.6565	-2.2086	0.4737	0.2253	0.1977	0.1011
74.88	-2.9996	-0.6563	0.6605	0.2669	0.2617	0.1012
80.16	-2.8753	0.1589	0.7171	0.2398	0.2785	0.0844
85.08	-1.9351	0.8052	0.7329	0.2537	0.3193	0.0928
90	-2.8727	1.9116	0.8976	0.1689	0.3862	0.0974
94.92	-2.7365	3.1492	0.8993	0.2228	0.5598	0.1062
99.84	-1.1908	3.5033	0.8024	0.2416	0.6088	0.1177
105.12	-2.1471	5.0570	0.9847	0.0755	0.5103	0.1077
119.88	-1.2310	6.3300	1.1310	0.0974	0.7752	0.1150
135	0.7067	5.3019	1.0513	0.0991	0.7019	0.0992
150.12	2.4539	3.1172	0.9688	0.0730	0.7200	0.0924
164.88	3.4596	1.0686	0.6238	0.0888	0.6282	0.1164
170.16	3.7758	0.5683	0.5606	0.0909	0.8263	0.1148
175.08	3.5594	0.1407	0.5834	0.1364	0.8700	0.1455
180	4.4213	-1.0042	0.3871	0.0874	1.1320	0.1496
184.92	4.5922	-1.6772	0.2130	0.1448	1.1158	0.1230
189.84	4.6632	-1.5792	0.1095	0.1534	0.7623	0.1389
195.12	4.6868	-2.1268	0.0405	0.1909	0.9425	0.1453
209.88	4.9298	-1.7762	-0.0829	0.1721	0.9972	0.1667
225	5.0978	-1.5181	-0.3822	0.1534	0.9623	0.1265
240.12	4.9421	0.1938	-0.2733	0.1100	0.8763	0.1043
254.88	4.5235	1.8492	-0.0786	0.2127	0.8821	0.0804
260.16	4.2401	2.1464	-0.0353	0.2210	0.6783	0.0927
265.08	4.2049	2.4681	-0.0959	0.1838	0.7219	0.1125
270.35	3.9585	2.6777	-0.1184	0.1878	0.7557	0.1125
274.92	3.8089	2.7682	-0.1425	0.1848	0.6925	0.1064
279.84	3.5423	2.6247	-0.1243	0.1893	0.5122	0.1274
285.12	3.2029	2.7182	-0.1341	0.1880	0.5801	0.1153
299.88	1.6546	2.4006	-0.2405	0.1527	0.4036	0.0970
315	0.0651	1.9976	-0.1876	0.0978	0.3454	0.0986
330.12	-0.9502	1.5396	-0.2363	0.1014	0.5862	0.1275
344.88	-1.9041	1.8252	-0.1036	0.1603	0.6851	0.0990
350.16	-2.4566	1.9797	-0.0535	0.1089	0.5081	0.0909
355.08	-3.2574	2.2539	0.0096	0.2116	0.6784	0.1190

Table 2.24-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-3.5025	1.7458	-1.3012	0.1252	0.5035	0.0916
4.92	-3.9167	1.2766	-1.2484	0.2033	0.5710	0.1048
9.84	-4.1337	1.3833	-1.1994	0.2028	0.6263	0.1111
15.12	-4.4194	0.9684	-1.1701	0.1317	0.7103	0.0946
29.88	-4.4149	-0.3612	-1.0236	0.1444	0.6277	0.1122
45	-3.5492	-2.3193	-0.9513	0.2083	0.2540	0.0952
60.12	-1.9750	-3.2510	-1.3225	0.4942	0.2861	0.1747
74.88	-2.6334	-0.8944	-1.1015	0.1863	0.1988	0.0926
80.16	-1.5406	-0.7697	-1.0536	0.6943	0.3971	0.2296
85.08	-1.2830	0.0998	-1.0256	0.7673	0.4970	0.2866
90	-2.1054	1.5038	-0.7454	1.2737	0.7200	0.3059
94.92	-2.0227	2.5190	-0.6780	1.1201	0.7380	0.2523
99.84	-1.6816	3.6644	-0.6891	1.1840	0.6868	0.2490
105.12	-2.0256	4.7140	-0.6051	0.1241	0.5205	0.1041
119.88	-1.4385	6.4486	-0.5797	0.0614	0.5089	0.0969
135	0.6345	4.9697	-0.6130	0.0898	0.7773	0.0705
150.12	2.4916	3.0242	-0.7066	0.0782	1.1341	0.0690
164.88	3.3897	0.9012	-0.9686	0.0912	1.0291	0.0712
170.16	3.6691	-0.0486	-1.0570	0.0913	0.9273	0.0988
175.08	3.5805	-0.7230	-1.2847	0.1698	1.1174	0.1225
180.35	3.7683	-0.9712	-0.9468	0.5501	0.9667	0.3161
184.92	4.7485	-1.4781	-1.3204	0.1455	0.8425	0.1009
189.84	4.4475	-2.0054	-1.4060	0.1424	0.9062	0.1243
195.12	4.5151	-2.0529	-1.5066	0.1585	0.9906	0.1115
209.88	4.9324	-1.7372	-1.5018	0.1099	1.1752	0.1414
225	4.9168	-0.8010	-1.6067	0.1954	0.7824	0.0970
240.12	4.7396	0.5154	-1.5588	0.1666	0.8739	0.1085
254.88	4.4750	2.2924	-1.4199	0.2017	0.8533	0.0955
260.16	4.2193	2.9138	-1.3023	0.3803	0.7213	0.0968
265.08	4.1230	2.9662	-1.2753	0.1780	0.7426	0.1075
270	3.7835	3.1637	-1.3065	0.1114	0.6790	0.1239
274.92	3.5707	3.1706	-1.4017	0.1388	0.7450	0.1253
279.84	3.2948	3.0711	-1.4942	0.1902	0.6246	0.1252
285.12	2.3970	3.0884	-1.6156	0.2249	0.6131	0.1272
299.88	1.8885	2.6313	-1.6463	0.1740	0.3011	0.0915
315	-0.6502	2.0466	-1.5723	0.1138	0.3140	0.1023
330.12	-1.6689	1.4916	-1.5120	0.1159	0.3295	0.1065
344.88	-2.5361	1.4084	-1.3868	0.1830	0.5291	0.0896
350.16	-3.0614	1.7271	-1.3249	0.1493	0.5311	0.0631
355.08	-3.4677	1.7075	-1.2631	0.1326	0.4668	0.0730

Table 2.24-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-3.2209	1.4878	0.0670	0.2129	0.6698	0.0748
4.92	-3.6658	1.3965	0.0343	0.1564	0.5743	0.0860
9.84	-3.7230	0.8935	0.0796	0.1641	0.4427	0.0959
15.12	-4.0365	0.7417	0.1395	0.1400	0.3649	0.0843
29.88	-4.3507	-0.3345	0.2318	0.1414	0.2951	0.0883
45	-3.9357	-1.8478	0.2494	0.1790	0.2842	0.0712
60.12	-3.1646	-1.9558	0.2405	0.1648	0.2090	0.0966
74.88	-2.3985	-0.1853	0.5064	0.2327	0.2859	0.0973
80.16	-2.4004	0.7107	0.5442	0.2243	0.2578	0.1114
85.08	-2.1669	1.5575	0.5182	0.2617	0.3811	0.0675
90.35	-1.7698	2.7507	0.5339	0.2160	0.4228	0.0847
94.92	-1.4168	3.8317	0.5888	0.2041	0.4806	0.0710
99.84	-2.2063	4.6993	0.7144	0.1551	0.5223	0.0827
105.12	-2.2607	5.9678	0.7486	0.1568	0.6786	0.0778
119.88	-1.6391	7.4623	0.7666	0.1112	0.7319	0.0844
135	0.3287	6.3807	0.8852	0.0995	0.7535	0.0737
150.12	2.2198	4.1850	0.8018	0.0860	0.9850	0.0736
164.88	3.4553	2.1252	0.5060	0.1758	1.1627	0.1045
170.16	3.7728	1.4990	0.4500	0.0944	0.7640	0.1367
175.08	3.7954	0.6287	0.4498	0.1725	1.1867	0.1428
180	4.0742	-0.0439	0.2712	0.1155	1.0717	0.1328
184.92	4.3603	-0.6502	0.1186	0.1511	1.1846	0.1286
189.84	4.4298	-1.1317	-0.0112	0.1402	0.7880	0.1544
195.12	4.4926	-1.6543	-0.1822	0.1550	1.1156	0.1673
209.88	4.6936	-0.8805	-0.0139	0.1404	0.2812	0.1147
225	4.6262	-0.4479	-0.2421	0.1174	0.3722	0.0919
240.12	4.5415	0.9073	-0.1345	0.1549	0.4407	0.1103
254.88	3.9402	2.9151	0.0575	0.1478	0.4804	0.0931
260.16	3.7082	3.2050	0.1083	0.1453	0.5915	0.1112
265.08	3.5363	3.5306	0.1277	0.1512	0.6872	0.0880
270	3.4606	3.3378	0.0111	0.1368	0.7614	0.0908
274.92	3.2507	3.8210	0.0318	0.1607	0.8658	0.1108
279.84	3.1050	3.2372	-0.0970	0.1896	0.7147	0.1006
285.12	2.7648	3.3566	-0.0884	0.2209	0.7286	0.0925
299.88	1.0176	2.7698	-0.0851	0.0977	0.2129	0.1165
315	-0.1914	1.8284	-0.1929	0.0902	0.3628	0.1024
330.12	-1.1929	0.9885	-0.1795	0.0868	0.4474	0.0734
344.88	-2.1053	1.5371	-0.0672	0.1960	0.7145	0.0938
350.16	-2.5237	1.3090	0.0157	0.1383	0.6876	0.0920
355.08	-2.9033	1.3452	0.0459	0.1973	0.7898	0.0921

2.24.2 Spanwise Elastic Deformations

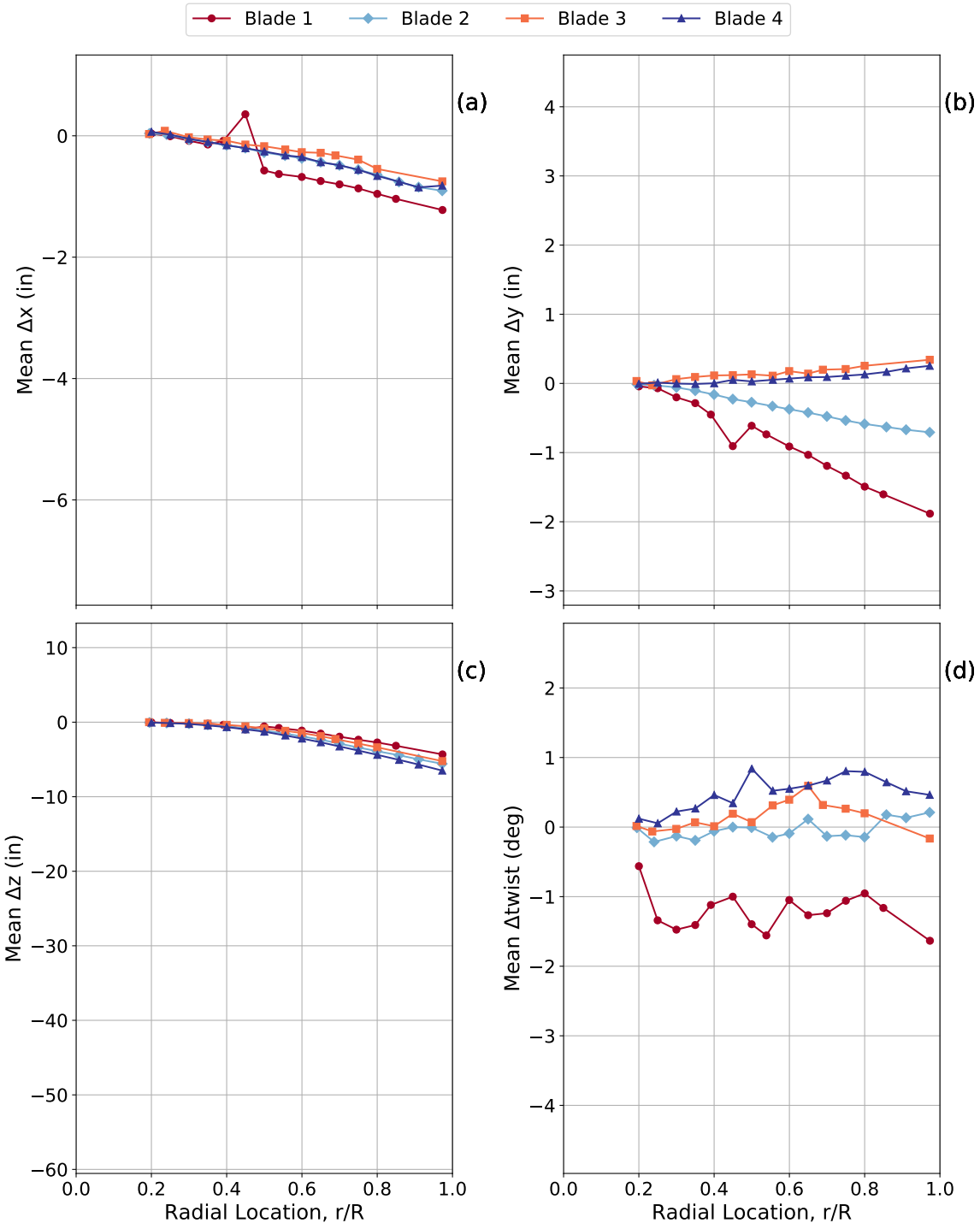


Figure 2.24-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0370	0.1039	-0.0429	0.0166	-0.0221	0.0361	-0.5620	0.1996
1	0.35	0.2499	-0.0070	0.0368	-0.0698	0.0213	-0.1064	0.0468	-1.3405	0.5620
1	0.35	0.2998	-0.0821	0.0191	-0.2010	0.0567	-0.1443	0.1301	-1.4744	0.5676
1	0.35	0.3498	-0.1437	0.0698	-0.2853	0.0971	-0.2027	0.2204	-1.4078	0.5917
1	0.35	0.3913	-0.0814	0.1162	-0.4504	0.1333	-0.3550	0.3055	-1.1193	0.6015
1	0.35	0.4496	0.3547	0.2068	-0.9070	0.1979	-0.9809	0.4434	-1.0000	0.6299
1	0.35	0.4997	-0.5718	0.2229	-0.6122	0.5697	-0.5660	0.4895	-1.3962	0.4303
1	0.35	0.5387	-0.6299	0.2239	-0.7368	0.6112	-0.7742	0.5570	-1.5571	0.4542
1	0.35	0.5996	-0.6783	0.2220	-0.9120	0.6694	-1.1297	0.6756	-1.0486	0.4327
1	0.35	0.6498	-0.7451	0.2202	-1.0331	0.7197	-1.5289	0.7869	-1.2665	0.4125
1	0.35	0.6998	-0.8001	0.2213	-1.1921	0.7707	-1.9478	0.9058	-1.2382	0.4340
1	0.35	0.7500	-0.8668	0.2196	-1.3333	0.8202	-2.3528	1.0243	-1.0590	0.4381
1	0.35	0.8001	-0.9568	0.2177	-1.4924	0.8711	-2.7232	1.1415	-0.9534	0.4263
1	0.35	0.8497	-1.0393	0.2181	-1.6038	0.9220	-3.1635	1.2627	-1.1620	0.4229
1	0.35	0.9734	-1.2227	0.2113	-1.8832	1.0593	-4.3225	1.5389	-1.6340	0.4713
2	0	0.1949	0.0389	0.0029	-0.0120	0.0028	-0.0423	0.0114	-0.0092	0.0490
2	0	0.2405	0.0211	0.0037	-0.0261	0.0053	-0.1055	0.0237	-0.2130	0.0886
2	0	0.2999	-0.0589	0.0041	-0.0574	0.0110	-0.2000	0.0545	-0.1293	0.1176
2	0	0.3498	-0.1004	0.0044	-0.1045	0.0193	-0.3584	0.0939	-0.1908	0.1164
2	0	0.3998	-0.1552	0.0056	-0.1609	0.0296	-0.5537	0.1476	-0.0588	0.1297
2	0	0.4496	-0.2028	0.0072	-0.2271	0.0391	-0.8139	0.2111	-0.0006	0.1381
2	0	0.4995	-0.2760	0.0082	-0.2723	0.0491	-1.1136	0.2876	-0.0071	0.1511
2	0	0.5551	-0.3252	0.0098	-0.3292	0.0620	-1.5371	0.3739	-0.1462	0.1647
2	0	0.5996	-0.3717	0.0119	-0.3730	0.0727	-1.9009	0.4474	-0.0919	0.1727
2	0	0.6497	-0.4339	0.0141	-0.4220	0.0829	-2.3390	0.5264	0.1146	0.1850
2	0	0.6996	-0.4871	0.0158	-0.4768	0.0952	-2.8770	0.6066	-0.1315	0.1751
2	0	0.7495	-0.5587	0.0185	-0.5359	0.1074	-3.3931	0.6798	-0.1162	0.1849
2	0	0.7996	-0.6403	0.0212	-0.5857	0.1198	-3.8878	0.7544	-0.1440	0.1782
2	0	0.8578	-0.7606	0.0232	-0.6301	0.1352	-4.4372	0.8407	0.1778	0.1599
2	0	0.9100	-0.8462	0.0242	-0.6697	0.1486	-4.9833	0.9236	0.1339	0.1601
2	0	0.9727	-0.9051	0.0240	-0.7068	0.1613	-5.5825	1.0246	0.2112	0.1731
3	0	0.1938	0.0294	0.0035	0.0345	0.0036	-0.0009	0.0151	0.0158	0.0413
3	0	0.2357	0.0824	0.0028	-0.0278	0.0044	-0.0876	0.0279	-0.0634	0.0549
3	0	0.2995	-0.0240	0.0033	0.0618	0.0128	-0.1167	0.0693	-0.0258	0.0878
3	0	0.3493	-0.0612	0.0036	0.0927	0.0232	-0.2015	0.1224	0.0687	0.0881
3	0	0.4000	-0.0815	0.0039	0.1151	0.0345	-0.3605	0.1904	0.0122	0.1026
3	0	0.4497	-0.1445	0.0068	0.1196	0.0451	-0.5564	0.2655	0.1921	0.1055
3	0	0.4997	-0.1720	0.0070	0.1307	0.0582	-0.8231	0.3510	0.0706	0.1000
3	0	0.5556	-0.2259	0.0093	0.1116	0.0707	-1.1609	0.4459	0.3117	0.1227
3	0	0.5995	-0.2702	0.0101	0.1777	0.0827	-1.4546	0.5217	0.3937	0.1416
3	0	0.6498	-0.2809	0.0109	0.1412	0.0936	-1.8758	0.6001	0.5936	0.1330
3	0	0.6890	-0.3234	0.0133	0.1983	0.1083	-2.2648	0.6614	0.3178	0.1377
3	0	0.7495	-0.3926	0.0147	0.2075	0.1273	-2.8658	0.7488	0.2643	0.1203
3	0	0.7998	-0.5460	0.0191	0.2546	0.1473	-3.3706	0.8120	0.1982	0.1391
3	0	0.9729	-0.7509	0.0215	0.3418	0.1930	-5.2236	1.0932	-0.1645	0.2622
4	0	0.2001	0.0659	0.0034	-0.0057	0.0030	-0.0582	0.0142	0.1208	0.0522
4	0	0.2502	0.0182	0.0037	0.0113	0.0055	-0.1243	0.0321	0.0546	0.0879
4	0	0.3001	-0.0495	0.0045	-0.0028	0.0115	-0.2379	0.0634	0.2231	0.1177
4	0	0.3502	-0.1018	0.0059	-0.0081	0.0197	-0.4374	0.1100	0.2676	0.1181
4	0	0.4002	-0.1560	0.0071	0.0020	0.0302	-0.6636	0.1728	0.4615	0.1334
4	0	0.4500	-0.2039	0.0084	0.0519	0.0405	-0.9642	0.2462	0.3433	0.1404
4	0	0.5001	-0.2585	0.0111	0.0289	0.0511	-1.2728	0.3318	0.8399	0.1353
4	0	0.5560	-0.3224	0.0139	0.0521	0.0663	-1.7863	0.4343	0.5223	0.1312
4	0	0.6001	-0.3507	0.0148	0.0698	0.0775	-2.1973	0.5157	0.5510	0.1331
4	0	0.6501	-0.4352	0.0188	0.0884	0.0901	-2.6981	0.6020	0.5964	0.1483
4	0	0.6999	-0.4849	0.0213	0.0926	0.1040	-3.2593	0.6842	0.6695	0.1617
4	0	0.7500	-0.5600	0.0239	0.1111	0.1169	-3.8107	0.7668	0.8044	0.1863
4	0	0.8002	-0.6613	0.0273	0.1298	0.1306	-4.3839	0.8476	0.7941	0.1956
4	0	0.8582	-0.7571	0.0318	0.1668	0.1468	-5.0594	0.9443	0.6440	0.1637
4	0	0.9101	-0.8501	0.0333	0.2169	0.1611	-5.6852	1.0372	0.5151	0.1655
4	0	0.9728	-0.8208	0.0283	0.2544	0.1788	-6.4954	1.1610	0.4630	0.1540

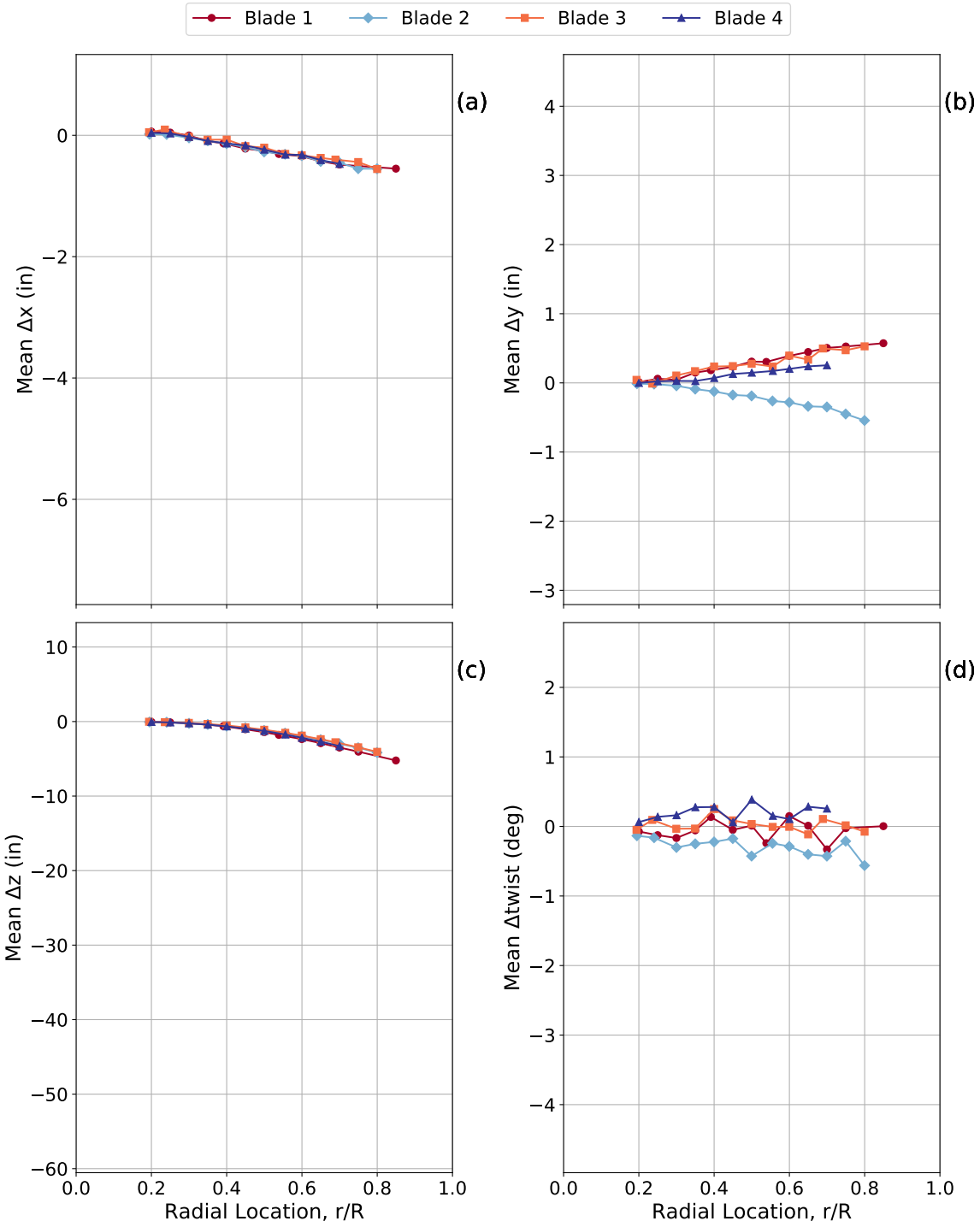


Figure 2.24-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0615	0.0070	0.0108	0.0055	-0.0532	0.0150	-0.0731	0.0975
1	4.92	0.2499	0.0447	0.0052	0.0594	0.0097	-0.1069	0.0318	-0.1253	0.2055
1	4.92	0.2998	-0.0029	0.0043	0.0447	0.0190	-0.2503	0.0666	-0.1664	0.2331
1	4.92	0.3498	-0.0973	0.0055	0.1483	0.0333	-0.4234	0.1176	-0.0569	0.2031
1	4.92	0.3913	-0.1316	0.0061	0.1829	0.0457	-0.6253	0.1697	0.1361	0.2111
1	4.92	0.4496	-0.2190	0.0075	0.2329	0.0624	-1.0369	0.2558	-0.0491	0.2056
1	4.92	0.4997	-0.2573	0.0093	0.3076	0.0777	-1.4273	0.3364	0.0118	0.2103
1	4.92	0.5387	-0.3077	0.0106	0.3032	0.0904	-1.7916	0.4012	-0.2409	0.2095
1	4.92	0.5996	-0.3454	0.0117	0.3907	0.1093	-2.3551	0.5045	0.1484	0.2147
1	4.92	0.6498	-0.4285	0.0138	0.4462	0.1268	-2.8982	0.5833	0.0103	0.2261
1	4.92	0.6998	-0.4822	0.0155	0.5057	0.1437	-3.4906	0.6609	-0.3305	0.2294
1	4.92	0.7500	-0.5051	0.0186	0.5259	0.1585	-4.0404	0.7362	-0.0243	0.2382
1	4.92	0.8497	-0.5496	0.0284	0.5731	0.2031	-5.2223	0.8814	0.0036	0.2946
2	4.92	0.1949	0.0184	0.0109	-0.0124	0.0049	-0.0572	0.0132	-0.1341	0.0556
2	4.92	0.2405	0.0148	0.0038	-0.0168	0.0059	-0.0896	0.0268	-0.1621	0.1779
2	4.92	0.2999	-0.0420	0.0034	-0.0422	0.0167	-0.2397	0.0607	-0.3023	0.1778
2	4.92	0.3498	-0.0901	0.0041	-0.0900	0.0289	-0.3856	0.1051	-0.2501	0.1922
2	4.92	0.3998	-0.1383	0.0052	-0.1242	0.0425	-0.6048	0.1643	-0.2223	0.1797
2	4.92	0.4496	-0.1936	0.0066	-0.1748	0.0549	-0.8484	0.2332	-0.1747	0.1876
2	4.92	0.4995	-0.2740	0.0077	-0.1887	0.0691	-1.1901	0.3167	-0.4263	0.2025
2	4.92	0.5551	-0.3112	0.0106	-0.2619	0.0828	-1.5508	0.4224	-0.2428	0.1978
2	4.92	0.5996	-0.3344	0.0104	-0.2816	0.0963	-1.9507	0.5072	-0.2870	0.2115
2	4.92	0.6497	-0.4315	0.0154	-0.3394	0.1118	-2.4358	0.6023	-0.4012	0.2111
2	4.92	0.6996	-0.4500	0.0177	-0.3482	0.1253	-2.9845	0.6972	-0.4269	0.2411
2	4.92	0.7495	-0.5502	0.0196	-0.4503	0.1417	-3.5151	0.7869	-0.2118	0.2470
2	4.92	0.7996	-0.5512	0.0273	-0.5442	0.1605	-4.1595	0.8765	-0.5624	0.3108
3	4.92	0.1938	0.0498	0.0093	0.0435	0.0054	-0.0278	0.0157	-0.0485	0.0602
3	4.92	0.2357	0.0943	0.0044	-0.0106	0.0074	-0.0815	0.0265	0.0938	0.1748
3	4.92	0.2995	-0.0266	0.0042	0.1062	0.0178	-0.1784	0.0697	-0.0333	0.1849
3	4.92	0.3493	-0.0726	0.0047	0.1695	0.0300	-0.3269	0.1205	-0.0306	0.1765
3	4.92	0.4000	-0.0711	0.0062	0.2366	0.0459	-0.5226	0.1883	0.2507	0.1846
3	4.92	0.4497	-0.1782	0.0068	0.2423	0.0596	-0.7860	0.2629	0.0871	0.1875
3	4.92	0.4997	-0.2034	0.0080	0.2770	0.0743	-1.1039	0.3486	0.0348	0.1881
3	4.92	0.5556	-0.3062	0.0094	0.2357	0.0925	-1.5083	0.4529	-0.0065	0.1946
3	4.92	0.5995	-0.3291	0.0113	0.3943	0.1065	-1.8873	0.5365	-0.0052	0.2137
3	4.92	0.6498	-0.3725	0.0116	0.3350	0.1242	-2.3680	0.6311	-0.1139	0.2407
3	4.92	0.6890	-0.4004	0.0167	0.4973	0.1366	-2.7771	0.7086	0.1069	0.2254
3	4.92	0.7495	-0.4407	0.0227	0.4723	0.1587	-3.4552	0.8265	0.0157	0.2226
3	4.92	0.7998	-0.5556	0.0278	0.5283	0.1786	-4.0659	0.9216	-0.0753	0.2625
4	4.92	0.2001	0.0408	0.0060	-0.0010	0.0035	-0.0551	0.0146	0.0628	0.0613
4	4.92	0.2502	0.0305	0.0046	0.0226	0.0088	-0.1174	0.0335	0.1376	0.1268
4	4.92	0.3001	-0.0260	0.0043	0.0281	0.0136	-0.2415	0.0640	0.1614	0.1462
4	4.92	0.3502	-0.0938	0.0047	0.0262	0.0247	-0.4143	0.1145	0.2760	0.1348
4	4.92	0.4002	-0.1343	0.0056	0.0705	0.0378	-0.6500	0.1778	0.2795	0.1280
4	4.92	0.4500	-0.1672	0.0069	0.1283	0.0481	-0.9481	0.2524	0.0606	0.1294
4	4.92	0.5001	-0.2363	0.0079	0.1471	0.0631	-1.2561	0.3409	0.3855	0.1427
4	4.92	0.5560	-0.3191	0.0103	0.1719	0.0795	-1.7436	0.4464	0.1524	0.1338
4	4.92	0.6001	-0.3229	0.0116	0.2025	0.0878	-2.1801	0.5249	0.1052	0.1622
4	4.92	0.6501	-0.4077	0.0146	0.2393	0.1031	-2.6956	0.6162	0.2835	0.1594
4	4.92	0.6999	-0.4707	0.0171	0.2542	0.1146	-3.2996	0.7017	0.2564	0.1672

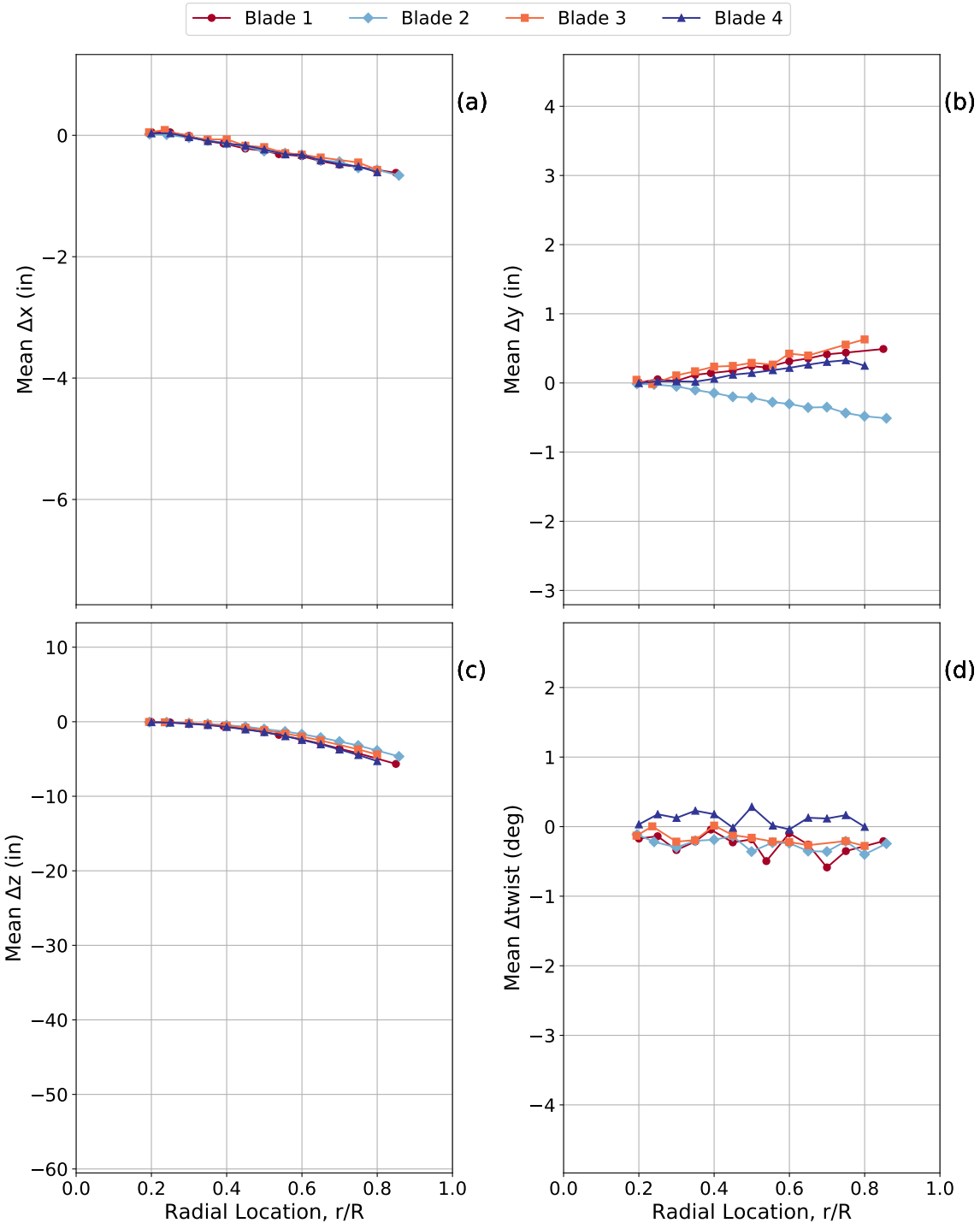


Figure 2.24-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0532	0.0071	0.0060	0.0051	-0.0544	0.0153	-0.1717	0.0680
1	9.84	0.2499	0.0495	0.0048	0.0530	0.0107	-0.0955	0.0334	-0.1380	0.1444
1	9.84	0.2998	-0.0074	0.0046	0.0290	0.0193	-0.2442	0.0672	-0.3367	0.1513
1	9.84	0.3498	-0.0988	0.0047	0.1172	0.0342	-0.4010	0.1210	-0.2145	0.1471
1	9.84	0.3913	-0.1332	0.0066	0.1427	0.0484	-0.5921	0.1736	-0.0426	0.1522
1	9.84	0.4496	-0.2185	0.0078	0.1763	0.0651	-0.9929	0.2628	-0.2266	0.1553
1	9.84	0.4997	-0.2531	0.0085	0.2425	0.0817	-1.3919	0.3505	-0.1828	0.1556
1	9.84	0.5387	-0.3102	0.0109	0.2243	0.0947	-1.7638	0.4211	-0.4955	0.1670
1	9.84	0.5996	-0.3422	0.0124	0.3123	0.1155	-2.3732	0.5288	-0.0947	0.1708
1	9.84	0.6498	-0.4268	0.0167	0.3543	0.1330	-2.9543	0.6146	-0.2578	0.1689
1	9.84	0.6998	-0.4834	0.0188	0.4136	0.1530	-3.6049	0.6987	-0.5865	0.1937
1	9.84	0.7500	-0.5199	0.0218	0.4385	0.1727	-4.2386	0.7802	-0.3517	0.1935
1	9.84	0.8497	-0.6181	0.0294	0.4911	0.2077	-5.6627	0.9427	-0.2091	0.2270
2	9.84	0.1949	0.0194	0.0091	-0.0128	0.0038	-0.0467	0.0169	-0.1128	0.0618
2	9.84	0.2405	0.0111	0.0038	-0.0221	0.0061	-0.0699	0.0325	-0.2188	0.1254
2	9.84	0.2999	-0.0390	0.0041	-0.0495	0.0138	-0.1922	0.0776	-0.2985	0.1593
2	9.84	0.3498	-0.0849	0.0052	-0.1017	0.0240	-0.2983	0.1339	-0.2040	0.1575
2	9.84	0.3998	-0.1321	0.0065	-0.1454	0.0362	-0.4723	0.2086	-0.1879	0.1600
2	9.84	0.4496	-0.1855	0.0073	-0.2002	0.0481	-0.6743	0.2982	-0.1380	0.1673
2	9.84	0.4995	-0.2596	0.0089	-0.2129	0.0603	-0.9787	0.3964	-0.3588	0.1788
2	9.84	0.5551	-0.2936	0.0107	-0.2776	0.0743	-1.3092	0.5188	-0.2302	0.1681
2	9.84	0.5996	-0.3182	0.0124	-0.3030	0.0874	-1.6733	0.6196	-0.2372	0.1707
2	9.84	0.6497	-0.4141	0.0152	-0.3552	0.0998	-2.1269	0.7337	-0.3519	0.1665
2	9.84	0.6996	-0.4342	0.0186	-0.3497	0.1134	-2.6572	0.8460	-0.3582	0.1853
2	9.84	0.7495	-0.5356	0.0225	-0.4347	0.1239	-3.1930	0.9582	-0.2101	0.1958
2	9.84	0.7996	-0.5691	0.0278	-0.4813	0.1369	-3.8586	1.0679	-0.3989	0.2096
2	9.84	0.8578	-0.6597	0.0340	-0.5104	0.1565	-4.6581	1.2056	-0.2446	0.3798
3	9.84	0.1938	0.0496	0.0094	0.0458	0.0043	-0.0294	0.0144	-0.1304	0.0650
3	9.84	0.2357	0.0881	0.0049	-0.0154	0.0071	-0.0762	0.0279	0.0044	0.1608
3	9.84	0.2995	-0.0229	0.0038	0.1091	0.0134	-0.1854	0.0653	-0.2153	0.1822
3	9.84	0.3493	-0.0678	0.0040	0.1689	0.0232	-0.3223	0.1131	-0.1949	0.1705
3	9.84	0.4000	-0.0656	0.0055	0.2358	0.0355	-0.5250	0.1778	0.0152	0.1749
3	9.84	0.4497	-0.1713	0.0069	0.2462	0.0449	-0.7972	0.2536	-0.1221	0.1781
3	9.84	0.4997	-0.1939	0.0080	0.2907	0.0579	-1.1400	0.3418	-0.1601	0.1814
3	9.84	0.5556	-0.2931	0.0100	0.2655	0.0727	-1.5875	0.4529	-0.2140	0.1807
3	9.84	0.5995	-0.3181	0.0126	0.4239	0.0844	-1.9982	0.5430	-0.2210	0.1836
3	9.84	0.6498	-0.3646	0.0135	0.3968	0.1001	-2.5167	0.6524	-0.2665	0.1936
3	9.84	0.7495	-0.4471	0.0229	0.5539	0.1305	-3.7088	0.8772	-0.2080	0.2153
3	9.84	0.7998	-0.5680	0.0277	0.6292	0.1457	-4.3994	0.9932	-0.2772	0.2119
4	9.84	0.2001	0.0327	0.0050	-0.0030	0.0039	-0.0612	0.0176	0.0318	0.0542
4	9.84	0.2502	0.0333	0.0050	0.0235	0.0072	-0.1259	0.0386	0.1775	0.1055
4	9.84	0.3001	-0.0292	0.0051	0.0233	0.0132	-0.2651	0.0751	0.1255	0.1235
4	9.84	0.3502	-0.0943	0.0057	0.0190	0.0233	-0.4497	0.1352	0.2287	0.1162
4	9.84	0.4002	-0.1341	0.0071	0.0612	0.0345	-0.7063	0.2082	0.1784	0.1298
4	9.84	0.4500	-0.1689	0.0088	0.1195	0.0463	-1.0343	0.2962	-0.0157	0.1256
4	9.84	0.5001	-0.2326	0.0105	0.1449	0.0594	-1.3907	0.3961	0.2835	0.1393
4	9.84	0.5560	-0.3138	0.0141	0.1846	0.0744	-1.9472	0.5150	0.0152	0.1472
4	9.84	0.6001	-0.3212	0.0166	0.2182	0.0847	-2.4431	0.6099	-0.0404	0.1453
4	9.84	0.6501	-0.4119	0.0193	0.2644	0.0984	-3.0338	0.7206	0.1276	0.1478
4	9.84	0.6999	-0.4728	0.0235	0.3044	0.1140	-3.7295	0.8263	0.1169	0.1541
4	9.84	0.7500	-0.5123	0.0257	0.3285	0.1286	-4.4697	0.9273	0.1650	0.1796
4	9.84	0.8002	-0.6091	0.0318	0.2489	0.1392	-5.2878	1.0135	-0.0034	0.1896

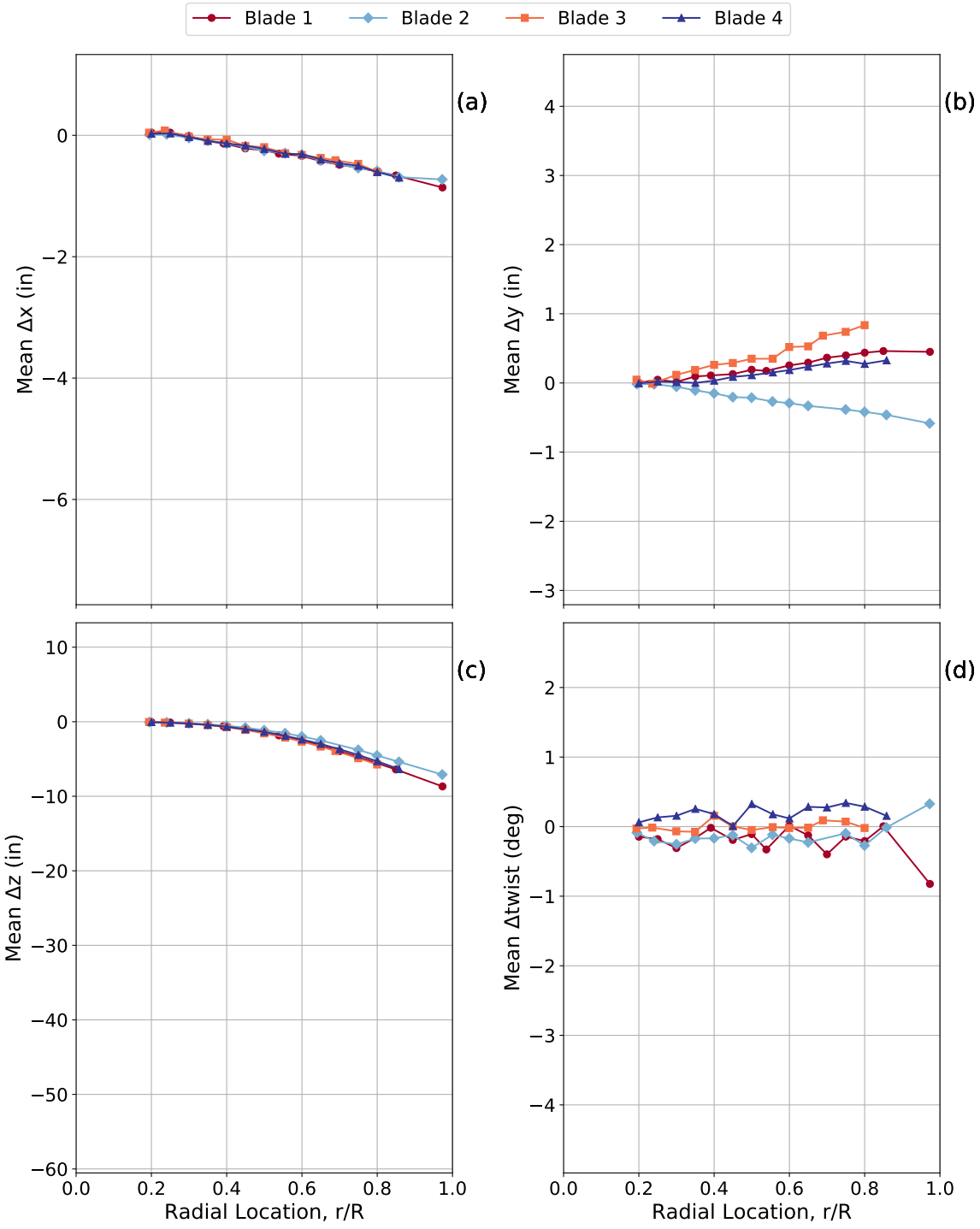


Figure 2.24-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0447	0.0064	0.0027	0.0054	-0.0538	0.0158	-0.1449	0.0770
1	15.12	0.2499	0.0450	0.0045	0.0467	0.0110	-0.1067	0.0395	-0.1794	0.1663
1	15.12	0.2998	-0.0091	0.0036	0.0146	0.0208	-0.2505	0.0760	-0.3083	0.1874
1	15.12	0.3498	-0.0974	0.0044	0.0940	0.0372	-0.4092	0.1337	-0.1626	0.1745
1	15.12	0.3913	-0.1326	0.0055	0.1081	0.0522	-0.6121	0.1971	-0.0171	0.1744
1	15.12	0.4496	-0.2156	0.0080	0.1281	0.0705	-1.0224	0.2998	-0.1914	0.1731
1	15.12	0.4997	-0.2470	0.0092	0.1911	0.0906	-1.4432	0.4064	-0.1074	0.1771
1	15.12	0.5387	-0.3014	0.0119	0.1739	0.1044	-1.8325	0.4935	-0.3284	0.1814
1	15.12	0.5996	-0.3389	0.0151	0.2539	0.1279	-2.5160	0.6365	0.0124	0.1856
1	15.12	0.6498	-0.4255	0.0200	0.2932	0.1486	-3.1839	0.7595	-0.1252	0.1878
1	15.12	0.6998	-0.4851	0.0247	0.3653	0.1688	-3.9545	0.8822	-0.3981	0.1969
1	15.12	0.7500	-0.5326	0.0298	0.3979	0.1906	-4.7301	1.0046	-0.1431	0.2005
1	15.12	0.8001	-0.5984	0.0412	0.4378	0.2046	-5.5666	1.1152	-0.2071	0.2124
1	15.12	0.8497	-0.6609	0.0438	0.4616	0.2310	-6.4054	1.2292	0.0053	0.2085
1	15.12	0.9734	-0.8593	0.0580	0.4500	0.2751	-8.6800	1.4783	-0.8233	0.2381
2	15.12	0.1949	0.0125	0.0076	-0.0162	0.0045	-0.0467	0.0190	-0.0879	0.0625
2	15.12	0.2405	0.0164	0.0032	-0.0171	0.0063	-0.0921	0.0355	-0.2081	0.1311
2	15.12	0.2999	-0.0424	0.0040	-0.0542	0.0166	-0.2159	0.0858	-0.2537	0.1590
2	15.12	0.3498	-0.0879	0.0049	-0.1071	0.0275	-0.3356	0.1498	-0.1713	0.1601
2	15.12	0.3998	-0.1366	0.0063	-0.1501	0.0421	-0.5429	0.2320	-0.1677	0.1711
2	15.12	0.4496	-0.1875	0.0071	-0.2054	0.0567	-0.7842	0.3293	-0.1226	0.1807
2	15.12	0.4995	-0.2564	0.0090	-0.2130	0.0724	-1.1447	0.4352	-0.3051	0.1801
2	15.12	0.5551	-0.2937	0.0108	-0.2682	0.0920	-1.5447	0.5668	-0.1168	0.1988
2	15.12	0.5996	-0.3191	0.0124	-0.2914	0.1080	-1.9797	0.6721	-0.1695	0.2036
2	15.12	0.6497	-0.4117	0.0161	-0.3314	0.1250	-2.5104	0.7894	-0.2265	0.2017
2	15.12	0.7495	-0.5389	0.0229	-0.3843	0.1618	-3.7751	1.0127	-0.0968	0.2121
2	15.12	0.7996	-0.5862	0.0290	-0.4177	0.1783	-4.5266	1.1127	-0.2718	0.2180
2	15.12	0.8578	-0.6883	0.0355	-0.4615	0.2011	-5.3843	1.2391	-0.0120	0.2894
2	15.12	0.9727	-0.7267	0.0453	-0.5837	0.2430	-7.0861	1.5116	0.3273	0.3048
3	15.12	0.1938	0.0434	0.0081	0.0477	0.0043	-0.0380	0.0146	-0.0259	0.0547
3	15.12	0.2357	0.0803	0.0048	-0.0107	0.0060	-0.1201	0.0267	-0.0134	0.1281
3	15.12	0.2995	-0.0215	0.0043	0.1172	0.0145	-0.2550	0.0666	-0.0673	0.1490
3	15.12	0.3493	-0.0674	0.0052	0.1875	0.0254	-0.4543	0.1156	-0.0752	0.1451
3	15.12	0.4000	-0.0711	0.0068	0.2621	0.0384	-0.7366	0.1812	0.1563	0.1511
3	15.12	0.4497	-0.1742	0.0080	0.2880	0.0503	-1.1069	0.2591	0.0017	0.1585
3	15.12	0.4997	-0.1948	0.0105	0.3503	0.0647	-1.5635	0.3481	-0.0482	0.1618
3	15.12	0.5556	-0.2949	0.0122	0.3500	0.0798	-2.1336	0.4559	-0.0072	0.1759
3	15.12	0.5995	-0.3225	0.0156	0.5201	0.0923	-2.6660	0.5417	-0.0207	0.1720
3	15.12	0.6498	-0.3715	0.0177	0.5287	0.1055	-3.3395	0.6384	-0.0145	0.1921
3	15.12	0.6890	-0.4107	0.0221	0.6836	0.1168	-3.9256	0.7157	0.0910	0.1762
3	15.12	0.7495	-0.4698	0.0258	0.7391	0.1379	-4.8919	0.8316	0.0720	0.1989
3	15.12	0.7998	-0.6031	0.0327	0.8360	0.1494	-5.7372	0.9235	-0.0196	0.1944
4	15.12	0.2001	0.0270	0.0051	-0.0060	0.0042	-0.0544	0.0185	0.0610	0.0588
4	15.12	0.2502	0.0305	0.0040	0.0196	0.0070	-0.1305	0.0386	0.1332	0.1054
4	15.12	0.3001	-0.0279	0.0044	0.0120	0.0147	-0.2511	0.0800	0.1561	0.1326
4	15.12	0.3502	-0.0915	0.0053	0.0008	0.0266	-0.4217	0.1398	0.2552	0.1137
4	15.12	0.4002	-0.1334	0.0067	0.0331	0.0391	-0.6742	0.2175	0.1794	0.1289
4	15.12	0.4500	-0.1677	0.0083	0.0874	0.0544	-0.9964	0.3101	0.0085	0.1329
4	15.12	0.5001	-0.2241	0.0095	0.1122	0.0721	-1.3562	0.4150	0.3252	0.1348
4	15.12	0.5560	-0.3047	0.0129	0.1517	0.0924	-1.8992	0.5404	0.1771	0.1410
4	15.12	0.6001	-0.3103	0.0148	0.1866	0.1083	-2.3936	0.6434	0.1178	0.1428
4	15.12	0.6501	-0.3979	0.0185	0.2351	0.1271	-2.9850	0.7665	0.2842	0.1468
4	15.12	0.6999	-0.4596	0.0227	0.2810	0.1484	-3.6936	0.8929	0.2752	0.1559
4	15.12	0.7500	-0.5025	0.0269	0.3190	0.1718	-4.4642	1.0238	0.3406	0.1528
4	15.12	0.8002	-0.6058	0.0372	0.2754	0.1826	-5.3084	1.1429	0.2867	0.1894
4	15.12	0.8582	-0.6978	0.0442	0.3271	0.2086	-6.3611	1.2927	0.1544	0.2217

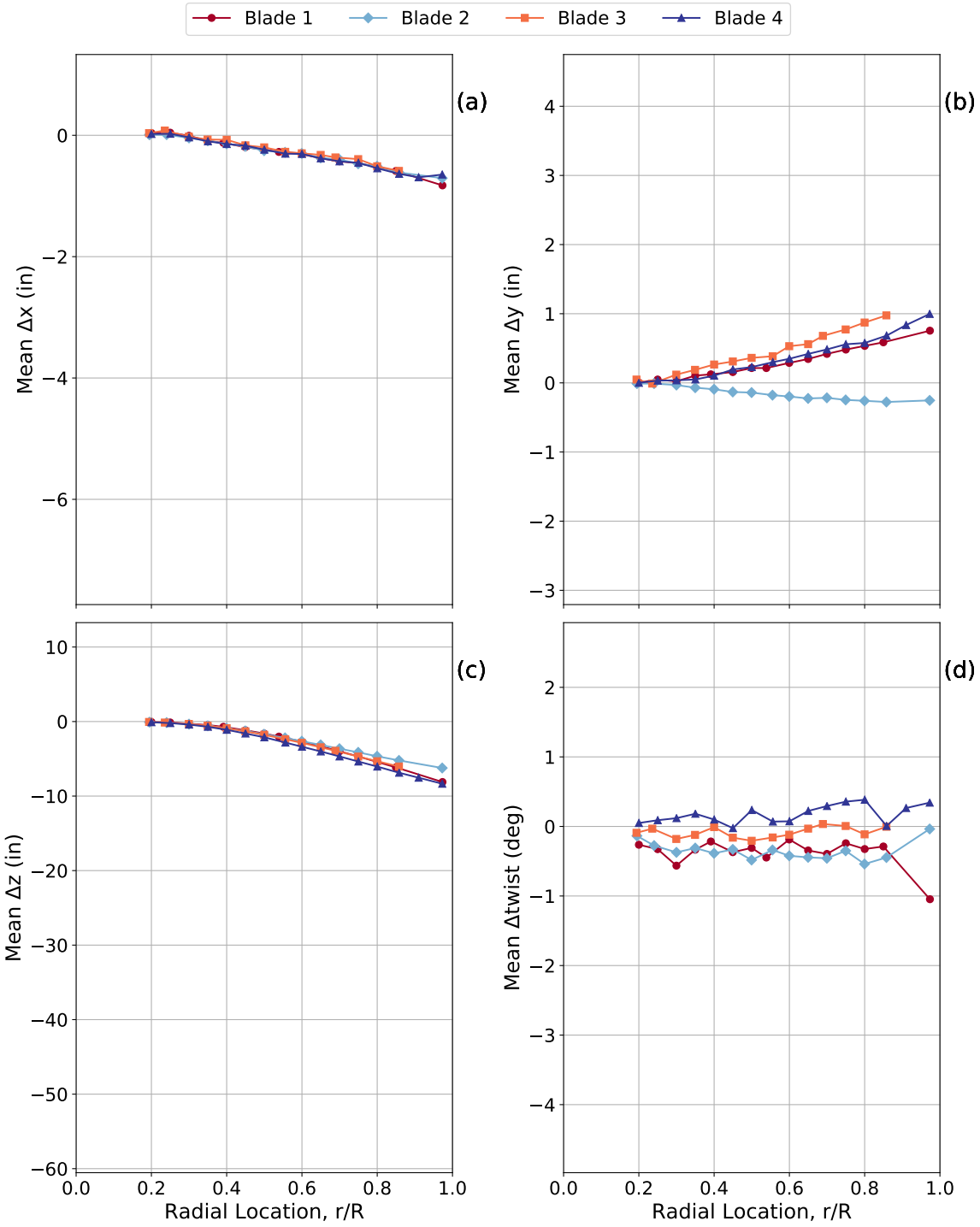


Figure 2.24-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0377	0.0068	0.0048	0.0042	-0.0619	0.0181	-0.2633	0.0519
1	29.88	0.2499	0.0432	0.0040	0.0482	0.0111	-0.1246	0.0460	-0.3267	0.1310
1	29.88	0.2998	-0.0073	0.0051	0.0219	0.0169	-0.2911	0.0872	-0.5639	0.1332
1	29.88	0.3498	-0.0924	0.0060	0.1047	0.0313	-0.4710	0.1532	-0.3345	0.1332
1	29.88	0.3913	-0.1241	0.0076	0.1234	0.0446	-0.7089	0.2262	-0.2163	0.1330
1	29.88	0.4496	-0.1960	0.0103	0.1562	0.0617	-1.1684	0.3488	-0.3701	0.1292
1	29.88	0.4997	-0.2368	0.0130	0.2144	0.0804	-1.6117	0.4738	-0.3086	0.1301
1	29.88	0.5387	-0.2737	0.0165	0.2141	0.0935	-2.0209	0.5832	-0.4472	0.1299
1	29.88	0.5996	-0.3097	0.0210	0.2887	0.1170	-2.6829	0.7675	-0.1877	0.1314
1	29.88	0.6498	-0.3781	0.0293	0.3455	0.1369	-3.3239	0.9407	-0.3454	0.1319
1	29.88	0.6998	-0.4275	0.0347	0.4190	0.1573	-3.9885	1.1364	-0.3950	0.1331
1	29.88	0.7500	-0.4617	0.0443	0.4815	0.1765	-4.6909	1.3520	-0.2421	0.1370
1	29.88	0.8001	-0.5206	0.0563	0.5348	0.1965	-5.4203	1.5877	-0.3250	0.1341
1	29.88	0.8497	-0.5878	0.0680	0.5864	0.2148	-6.1494	1.8424	-0.2882	0.1412
1	29.88	0.9734	-0.8254	0.0924	0.7547	0.2600	-8.1136	2.5110	-1.0463	0.1483
2	29.88	0.1949	0.0083	0.0060	-0.0108	0.0034	-0.0777	0.0105	-0.1358	0.0520
2	29.88	0.2405	0.0114	0.0035	-0.0101	0.0040	-0.1421	0.0208	-0.2751	0.1256
2	29.88	0.2999	-0.0437	0.0035	-0.0316	0.0111	-0.3495	0.0478	-0.3727	0.1379
2	29.88	0.3498	-0.0909	0.0045	-0.0700	0.0200	-0.5679	0.0825	-0.3106	0.1393
2	29.88	0.3998	-0.1399	0.0052	-0.0926	0.0290	-0.8997	0.1289	-0.3862	0.1430
2	29.88	0.4496	-0.1826	0.0071	-0.1318	0.0386	-1.2597	0.1830	-0.3301	0.1480
2	29.88	0.4995	-0.2539	0.0083	-0.1404	0.0496	-1.7035	0.2458	-0.4826	0.1596
2	29.88	0.5551	-0.2805	0.0105	-0.1775	0.0626	-2.1932	0.3257	-0.3381	0.1676
2	29.88	0.5996	-0.2986	0.0124	-0.1973	0.0734	-2.6399	0.3992	-0.4224	0.1687
2	29.88	0.6497	-0.3732	0.0156	-0.2251	0.0865	-3.1323	0.4928	-0.4444	0.1646
2	29.88	0.6996	-0.3990	0.0182	-0.2164	0.0994	-3.6406	0.6032	-0.4578	0.1759
2	29.88	0.7495	-0.4693	0.0228	-0.2464	0.1126	-4.1323	0.7266	-0.3504	0.1711
2	29.88	0.7996	-0.5101	0.0275	-0.2593	0.1263	-4.6580	0.8622	-0.5403	0.1799
2	29.88	0.8578	-0.6127	0.0317	-0.2766	0.1433	-5.2149	1.0293	-0.4470	0.1971
2	29.88	0.9727	-0.7059	0.0410	-0.2536	0.1790	-6.2326	1.3600	-0.0365	0.2377
3	29.88	0.1938	0.0355	0.0060	0.0479	0.0041	-0.0554	0.0113	-0.0915	0.0455
3	29.88	0.2357	0.0785	0.0047	-0.0103	0.0057	-0.1345	0.0197	-0.0318	0.1213
3	29.88	0.2995	-0.0226	0.0035	0.1191	0.0122	-0.3211	0.0482	-0.1801	0.1307
3	29.88	0.3493	-0.0692	0.0038	0.1884	0.0215	-0.5559	0.0845	-0.1215	0.1256
3	29.88	0.4000	-0.0738	0.0047	0.2653	0.0320	-0.8974	0.1315	-0.0094	0.1337
3	29.88	0.4497	-0.1652	0.0063	0.3091	0.0439	-1.3142	0.1894	-0.1612	0.1430
3	29.88	0.4997	-0.1986	0.0082	0.3617	0.0567	-1.7820	0.2592	-0.2061	0.1465
3	29.88	0.5556	-0.2722	0.0105	0.3850	0.0736	-2.3702	0.3515	-0.1585	0.1557
3	29.88	0.5995	-0.2963	0.0132	0.5303	0.0872	-2.8546	0.4318	-0.1187	0.1496
3	29.88	0.6498	-0.3231	0.0165	0.5597	0.1038	-3.4519	0.5348	-0.0313	0.1544
3	29.88	0.6890	-0.3643	0.0192	0.6796	0.1186	-3.9235	0.6252	0.0349	0.1707
3	29.88	0.7495	-0.3927	0.0250	0.7724	0.1405	-4.6966	0.7725	0.0064	0.1738
3	29.88	0.7998	-0.5105	0.0294	0.8725	0.1599	-5.3217	0.9037	-0.1136	0.1868
3	29.88	0.8577	-0.5868	0.0362	0.9759	0.1825	-6.0330	1.0649	-0.0046	0.2284
4	29.88	0.2001	0.0218	0.0051	0.0007	0.0033	-0.0909	0.0115	0.0494	0.0457
4	29.88	0.2502	0.0249	0.0039	0.0325	0.0052	-0.2077	0.0248	0.0895	0.0882
4	29.88	0.3001	-0.0341	0.0033	0.0368	0.0108	-0.4069	0.0503	0.1191	0.1067
4	29.88	0.3502	-0.0987	0.0051	0.0495	0.0197	-0.7052	0.0877	0.1824	0.1070
4	29.88	0.4002	-0.1438	0.0059	0.1041	0.0286	-1.1083	0.1368	0.0985	0.1099
4	29.88	0.4500	-0.1709	0.0080	0.1940	0.0381	-1.6061	0.1978	-0.0249	0.1119
4	29.88	0.5001	-0.2368	0.0101	0.2287	0.0487	-2.1150	0.2691	0.2356	0.1199
4	29.88	0.5560	-0.3029	0.0134	0.2993	0.0619	-2.8231	0.3640	0.0696	0.1182
4	29.88	0.6001	-0.3073	0.0163	0.3488	0.0728	-3.3758	0.4520	0.0738	0.1169
4	29.88	0.6501	-0.3796	0.0219	0.4192	0.0849	-4.0157	0.5665	0.2225	0.1204
4	29.88	0.6999	-0.4292	0.0253	0.4838	0.0991	-4.6827	0.7095	0.2934	0.1329
4	29.88	0.7500	-0.4533	0.0333	0.5582	0.1119	-5.3661	0.8734	0.3564	0.1338
4	29.88	0.8002	-0.5440	0.0411	0.5769	0.1257	-6.0436	1.0626	0.3838	0.1476
4	29.88	0.8582	-0.6358	0.0500	0.6832	0.1426	-6.8698	1.3101	0.0066	0.1427
4	29.88	0.9101	-0.6926	0.0602	0.8359	0.1556	-7.5367	1.5375	0.2646	0.1673
4	29.88	0.9728	-0.6470	0.0794	0.9969	0.1616	-8.3465	1.7989	0.3420	0.2031

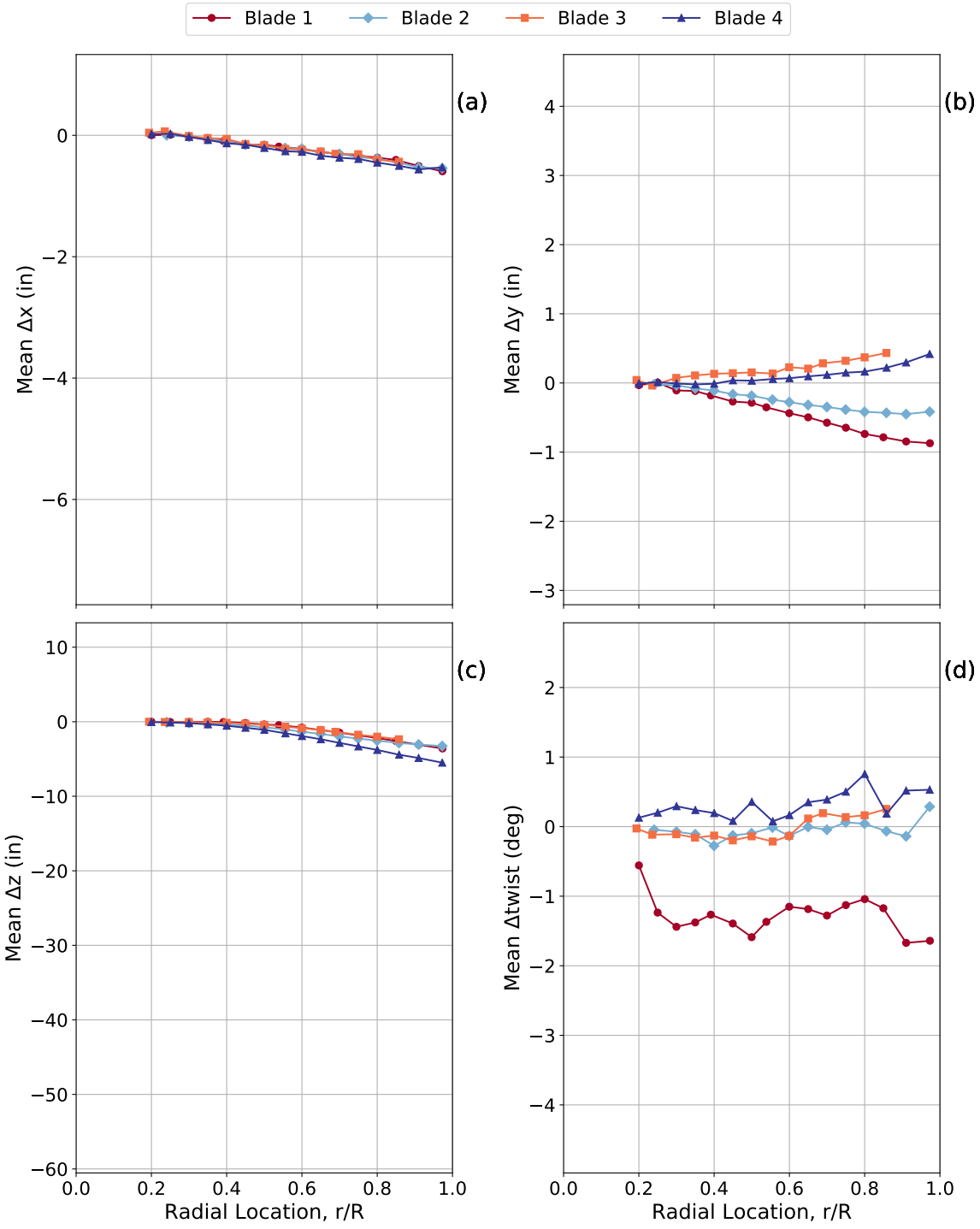


Figure 2.24-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0027	0.0262	-0.0317	0.0141	0.0012	0.0299	-0.5569	0.2165
1	45	0.2499	0.0086	0.0068	0.0055	0.0149	-0.0290	0.0311	-1.2359	0.6214
1	45	0.2998	-0.0211	0.0195	-0.1078	0.0488	-0.0147	0.1078	-1.4398	0.6210
1	45	0.3498	-0.0704	0.0361	-0.1164	0.0830	-0.0073	0.1865	-1.3772	0.6184
1	45	0.3913	-0.0917	0.0500	-0.1801	0.1129	-0.0369	0.2542	-1.2652	0.6198
1	45	0.4496	-0.1517	0.0691	-0.2688	0.1573	-0.1686	0.3484	-1.3930	0.6387
1	45	0.4997	-0.1547	0.0355	-0.2862	0.2113	-0.3603	0.5325	-1.5890	1.1078
1	45	0.5387	-0.1860	0.0776	-0.3519	0.2077	-0.4595	0.2816	-1.3685	0.5757
1	45	0.5996	-0.2234	0.0768	-0.4368	0.2489	-0.7751	0.3566	-1.1511	0.5667
1	45	0.6498	-0.2725	0.0773	-0.4972	0.2837	-1.1090	0.4275	-1.1852	0.5630
1	45	0.6998	-0.3107	0.0772	-0.5745	0.3182	-1.4684	0.5109	-1.2779	0.5688
1	45	0.7500	-0.3339	0.0778	-0.6474	0.3536	-1.8299	0.6104	-1.1282	0.5614
1	45	0.8001	-0.3682	0.0781	-0.7371	0.3893	-2.1794	0.7267	-1.0420	0.5550
1	45	0.8497	-0.4044	0.0786	-0.7855	0.4249	-2.5905	0.8559	-1.1731	0.5672
1	45	0.9102	-0.5059	0.0803	-0.8462	0.4686	-3.0853	1.0286	-1.6709	0.5619
1	45	0.9734	-0.5928	0.0709	-0.8711	0.5145	-3.5899	1.2190	-1.6410	0.5800
2	45	0.2405	0.0014	0.0074	-0.0203	0.0082	-0.0669	0.0164	-0.0451	0.1011
2	45	0.2999	-0.0221	0.0045	-0.0350	0.0173	-0.1547	0.0371	-0.0737	0.1568
2	45	0.3498	-0.0580	0.0072	-0.0776	0.0312	-0.2321	0.0666	-0.1102	0.1550
2	45	0.3998	-0.1101	0.0126	-0.1106	0.0482	-0.3779	0.1050	-0.2750	0.1591
2	45	0.4496	-0.1540	0.0222	-0.1624	0.0662	-0.5201	0.1474	-0.1271	0.1633
2	45	0.4995	-0.1797	0.0369	-0.1848	0.1185	-0.7433	0.2851	-0.0954	0.1544
2	45	0.5551	-0.2093	0.0371	-0.2418	0.1375	-1.0373	0.3511	-0.0124	0.1585
2	45	0.5996	-0.2194	0.0371	-0.2778	0.1529	-1.3414	0.4060	-0.1342	0.1629
2	45	0.6497	-0.2870	0.0378	-0.3178	0.1708	-1.6343	0.4663	-0.0040	0.1642
2	45	0.6996	-0.3067	0.0377	-0.3473	0.1889	-1.9712	0.5282	-0.0444	0.1724
2	45	0.7495	-0.3590	0.0383	-0.3852	0.2072	-2.2615	0.5869	0.0612	0.1745
2	45	0.7996	-0.3852	0.0389	-0.4176	0.2266	-2.5377	0.6518	0.0427	0.1742
2	45	0.8578	-0.4501	0.0391	-0.4322	0.2486	-2.8558	0.7337	-0.0655	0.1856
2	45	0.9100	-0.5299	0.0400	-0.4504	0.2686	-3.0552	0.8259	-0.1390	0.1937
2	45	0.9727	-0.5412	0.0428	-0.4158	0.2931	-3.2650	0.9410	0.2874	0.1923
3	45	0.1938	0.0436	0.0074	0.0421	0.0063	0.0039	0.0144	-0.0258	0.0697
3	45	0.2357	0.0656	0.0041	-0.0363	0.0052	-0.0347	0.0229	-0.1161	0.1745
3	45	0.2995	-0.0115	0.0031	0.0726	0.0192	-0.0409	0.0603	-0.1089	0.2007
3	45	0.3493	-0.0448	0.0037	0.1087	0.0332	-0.0839	0.1057	-0.1583	0.1948
3	45	0.4000	-0.0587	0.0046	0.1323	0.0488	-0.1482	0.1632	-0.1287	0.2034
3	45	0.4497	-0.1431	0.0045	0.1412	0.0645	-0.2637	0.2293	-0.1980	0.2068
3	45	0.4997	-0.1633	0.0051	0.1525	0.0812	-0.4084	0.3033	-0.1391	0.2116
3	45	0.5556	-0.2218	0.0055	0.1358	0.1010	-0.6623	0.3926	-0.2140	0.2140
3	45	0.5995	-0.2371	0.0062	0.2275	0.1182	-0.8728	0.4653	-0.1329	0.2151
3	45	0.6498	-0.2652	0.0068	0.2072	0.1364	-1.1110	0.5436	0.1165	0.2201
3	45	0.6890	-0.3048	0.0078	0.2837	0.1523	-1.3549	0.6048	0.1938	0.2198
3	45	0.7495	-0.3110	0.0092	0.3203	0.1779	-1.7480	0.6916	0.1369	0.2255
3	45	0.7998	-0.4026	0.0111	0.3703	0.1993	-2.0044	0.7627	0.1633	0.2297
3	45	0.8577	-0.4352	0.0131	0.4335	0.2251	-2.3537	0.8436	0.2540	0.2344
4	45	0.2001	0.0220	0.0046	-0.0089	0.0037	-0.0467	0.0095	0.1286	0.0534
4	45	0.2502	0.0248	0.0033	0.0119	0.0045	-0.1047	0.0197	0.2004	0.1250
4	45	0.3001	-0.0264	0.0031	-0.0081	0.0115	-0.1923	0.0397	0.2935	0.1350
4	45	0.3502	-0.0767	0.0033	-0.0212	0.0205	-0.3506	0.0705	0.2381	0.1353
4	45	0.4002	-0.1306	0.0037	-0.0115	0.0291	-0.5349	0.1086	0.1946	0.1396
4	45	0.4500	-0.1551	0.0045	0.0381	0.0396	-0.8094	0.1566	0.0817	0.1430
4	45	0.5001	-0.2074	0.0055	0.0326	0.0502	-1.0862	0.2132	0.3563	0.1460
4	45	0.5560	-0.2625	0.0073	0.0574	0.0634	-1.5601	0.2875	0.0764	0.1477
4	45	0.6001	-0.2718	0.0084	0.0689	0.0737	-1.9209	0.3517	0.1655	0.1491
4	45	0.6501	-0.3357	0.0100	0.0957	0.0865	-2.3526	0.4310	0.3502	0.1499
4	45	0.6999	-0.3690	0.0130	0.1173	0.0998	-2.8371	0.5176	0.3889	0.1571
4	45	0.7500	-0.3891	0.0150	0.1484	0.1131	-3.3191	0.6056	0.5023	0.1642
4	45	0.8002	-0.4489	0.0181	0.1636	0.1266	-3.7891	0.7002	0.7567	0.1708
4	45	0.8582	-0.5029	0.0228	0.2207	0.1414	-4.4276	0.8130	0.1868	0.1764
4	45	0.9101	-0.5613	0.0233	0.2966	0.1587	-4.8660	0.9319	0.5179	0.1703
4	45	0.9728	-0.5283	0.0281	0.4184	0.1771	-5.4966	1.0686	0.5301	0.1779

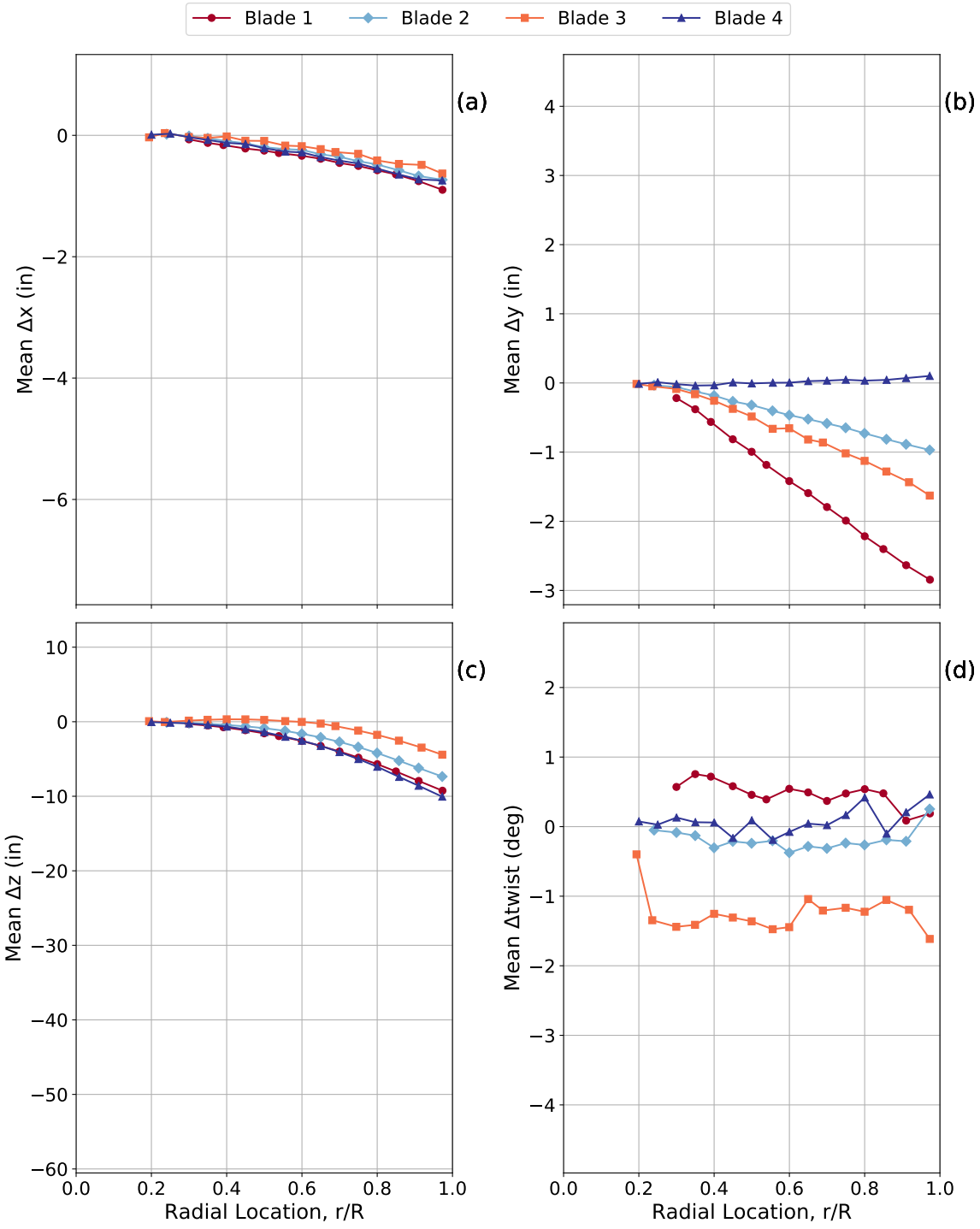


Figure 2.24-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2998	-0.0663	0.0115	-0.2186	0.0280	-0.3106	0.0537	0.5705	0.1568
1	60.12	0.3498	-0.1247	0.0111	-0.3803	0.0482	-0.5148	0.0983	0.7551	0.2096
1	60.12	0.3913	-0.1609	0.0122	-0.5632	0.0710	-0.7430	0.1494	0.7185	0.2128
1	60.12	0.4496	-0.2168	0.0131	-0.8140	0.1013	-1.1409	0.2302	0.5810	0.2195
1	60.12	0.4997	-0.2519	0.0146	-0.9948	0.1279	-1.5578	0.3101	0.4572	0.2289
1	60.12	0.5387	-0.2916	0.0157	-1.1845	0.1486	-1.9270	0.3760	0.3913	0.2387
1	60.12	0.5996	-0.3366	0.0180	-1.4188	0.1819	-2.5830	0.4828	0.5438	0.2440
1	60.12	0.6498	-0.3860	0.0202	-1.5924	0.2093	-3.2524	0.5716	0.4920	0.2499
1	60.12	0.6998	-0.4551	0.0226	-1.7940	0.2373	-3.9911	0.6551	0.3693	0.2589
1	60.12	0.7500	-0.5044	0.0254	-1.9905	0.2655	-4.8154	0.7373	0.4762	0.2609
1	60.12	0.8001	-0.5749	0.0295	-2.2161	0.2935	-5.6905	0.8175	0.5390	0.2694
1	60.12	0.8497	-0.6431	0.0337	-2.4016	0.3215	-6.6672	0.8982	0.4782	0.2722
1	60.12	0.9102	-0.7550	0.0387	-2.6351	0.3565	-7.9439	0.9985	0.0867	0.2845
1	60.12	0.9734	-0.8978	0.0433	-2.8447	0.3925	-9.2529	1.1111	0.1896	0.2905
2	60.12	0.2405	0.0190	0.0063	-0.0322	0.0057	-0.0781	0.0166	-0.0506	0.1258
2	60.12	0.2999	-0.0121	0.0035	-0.0603	0.0115	-0.1779	0.0369	-0.0846	0.1955
2	60.12	0.3498	-0.0486	0.0035	-0.1239	0.0218	-0.2734	0.0655	-0.1294	0.1829
2	60.12	0.3998	-0.0943	0.0042	-0.1821	0.0329	-0.4411	0.1028	-0.3046	0.1814
2	60.12	0.4496	-0.1296	0.0052	-0.2659	0.0441	-0.6195	0.1437	-0.2123	0.1855
2	60.12	0.4995	-0.1955	0.0060	-0.3195	0.0550	-0.8626	0.1889	-0.2394	0.1862
2	60.12	0.5551	-0.2266	0.0066	-0.4027	0.0677	-1.2254	0.2415	-0.2039	0.1845
2	60.12	0.5996	-0.2397	0.0074	-0.4650	0.0782	-1.6176	0.2837	-0.3745	0.1880
2	60.12	0.6497	-0.3122	0.0085	-0.5229	0.0898	-2.0990	0.3313	-0.2841	0.1928
2	60.12	0.6996	-0.3541	0.0106	-0.5852	0.1020	-2.7019	0.3811	-0.3130	0.1924
2	60.12	0.7495	-0.4256	0.0136	-0.6483	0.1140	-3.3935	0.4356	-0.2364	0.1934
2	60.12	0.7996	-0.4800	0.0176	-0.7285	0.1269	-4.1958	0.4981	-0.2632	0.1955
2	60.12	0.8578	-0.5772	0.0234	-0.8140	0.1419	-5.2341	0.5782	-0.1904	0.2029
2	60.12	0.9100	-0.6706	0.0279	-0.8867	0.1557	-6.2111	0.6598	-0.2106	0.2001
2	60.12	0.9727	-0.7317	0.0341	-0.9692	0.1728	-7.3530	0.7657	0.2525	0.2086
3	60.12	0.1938	-0.0331	0.0156	-0.0138	0.0166	0.0771	0.0339	-0.3986	0.1142
3	60.12	0.2357	0.0370	0.0081	-0.0480	0.0077	-0.0397	0.0173	-1.3457	0.4606
3	60.12	0.2995	-0.0274	0.0200	-0.0870	0.0512	0.1489	0.1000	-1.4404	0.4558
3	60.12	0.3493	-0.0419	0.0316	-0.1626	0.0881	0.2596	0.1703	-1.4116	0.4631
3	60.12	0.4000	-0.0183	0.0430	-0.2569	0.1284	0.3245	0.2467	-1.2532	0.4636
3	60.12	0.4497	-0.0891	0.0529	-0.3743	0.1691	0.3181	0.3210	-1.3072	0.4673
3	60.12	0.4997	-0.0917	0.0646	-0.4849	0.2120	0.2408	0.4000	-1.3612	0.4615
3	60.12	0.5556	-0.1692	0.0793	-0.6630	0.2611	0.0843	0.4858	-1.4747	0.4648
3	60.12	0.5995	-0.1790	0.0524	-0.6550	0.3309	-0.0243	0.4382	-1.4449	0.4165
3	60.12	0.6498	-0.2274	0.0526	-0.8179	0.3746	-0.2476	0.5152	-1.0416	0.4176
3	60.12	0.6890	-0.2752	0.0533	-0.8611	0.4087	-0.5876	0.5738	-1.2066	0.4199
3	60.12	0.7495	-0.3049	0.0544	-1.0177	0.4633	-1.1861	0.6689	-1.1668	0.4189
3	60.12	0.7998	-0.4137	0.0560	-1.1264	0.5092	-1.7578	0.7487	-1.2234	0.4148
3	60.12	0.8577	-0.4710	0.0582	-1.2802	0.5631	-2.5388	0.8453	-1.0537	0.4183
3	60.12	0.9178	-0.4870	0.0607	-1.4353	0.6205	-3.4677	0.9499	-1.1956	0.4196
3	60.12	0.9729	-0.6292	0.0521	-1.6282	0.6735	-4.4232	1.0504	-1.6144	0.4085
4	60.12	0.2001	0.0101	0.0073	-0.0123	0.0048	-0.0507	0.0131	0.0740	0.0627
4	60.12	0.2502	0.0267	0.0036	0.0106	0.0067	-0.1415	0.0269	0.0282	0.1678
4	60.12	0.3001	-0.0311	0.0031	-0.0174	0.0166	-0.2302	0.0557	0.1301	0.1684
4	60.12	0.3502	-0.0767	0.0035	-0.0378	0.0290	-0.4219	0.0984	0.0632	0.1748
4	60.12	0.4002	-0.1242	0.0050	-0.0337	0.0428	-0.6564	0.1524	0.0590	0.1804
4	60.12	0.4500	-0.1439	0.0058	0.0071	0.0576	-1.0224	0.2138	-0.1629	0.1844
4	60.12	0.5001	-0.2118	0.0065	-0.0070	0.0734	-1.3938	0.2811	0.0903	0.1854
4	60.12	0.5560	-0.2684	0.0087	0.0027	0.0920	-2.0248	0.3571	-0.1902	0.1907
4	60.12	0.6001	-0.2809	0.0102	0.0042	0.1067	-2.5486	0.4157	-0.0758	0.1946
4	60.12	0.6501	-0.3589	0.0115	0.0262	0.1253	-3.2458	0.4807	0.0429	0.1952
4	60.12	0.6999	-0.4160	0.0147	0.0333	0.1429	-4.0774	0.5432	0.0209	0.2055
4	60.12	0.7500	-0.4653	0.0173	0.0461	0.1621	-5.0111	0.6047	0.1665	0.2057
4	60.12	0.8002	-0.5481	0.0218	0.0333	0.1819	-6.0442	0.6647	0.4185	0.2135
4	60.12	0.8582	-0.6461	0.0269	0.0442	0.2053	-7.4078	0.7349	-0.1010	0.2100
4	60.12	0.9101	-0.7248	0.0312	0.0703	0.2268	-8.5930	0.8014	0.2069	0.2081
4	60.12	0.9728	-0.7441	0.0352	0.1013	0.2533	-10.0541	0.8879	0.4622	0.2082

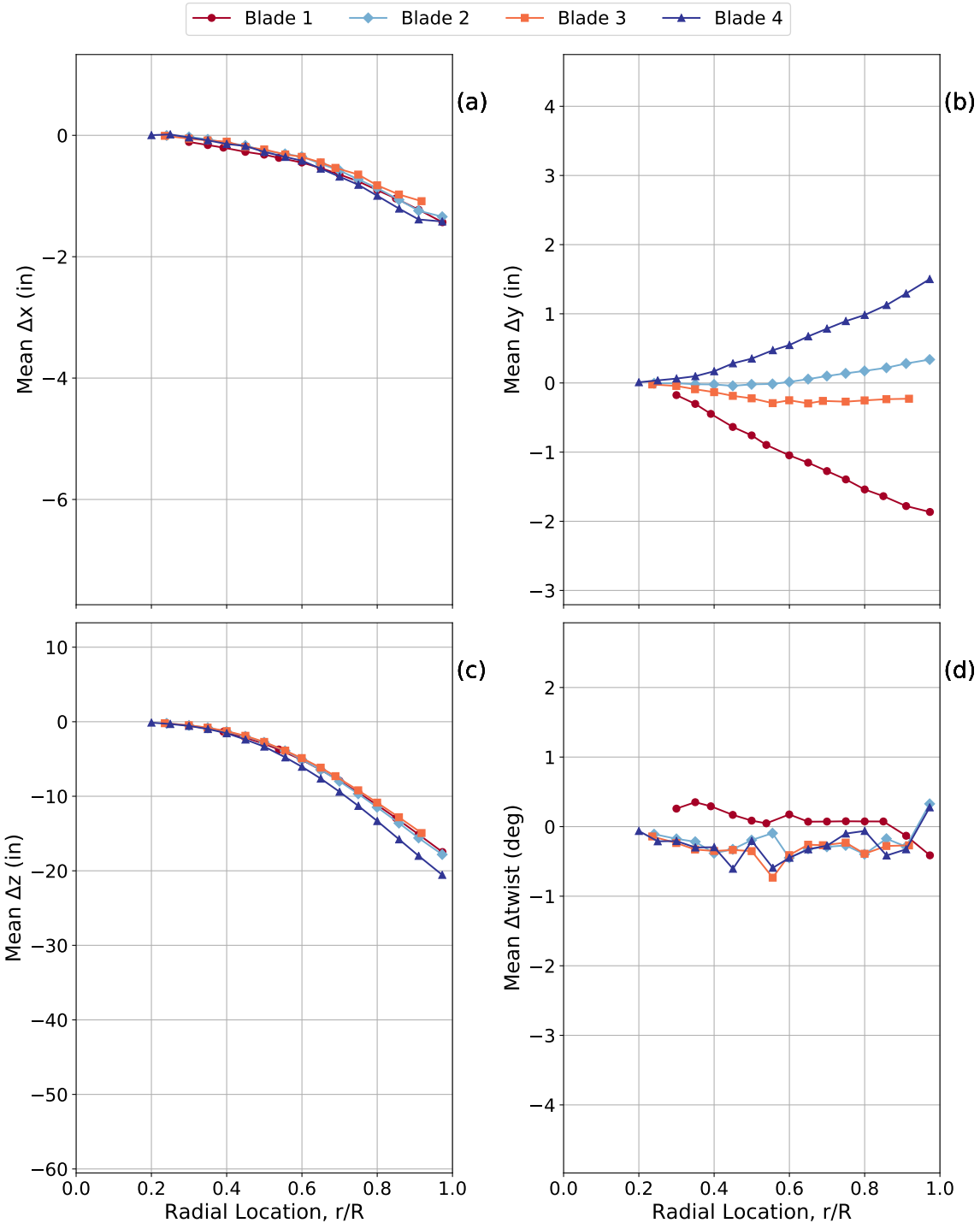


Figure 2.24-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2998	-0.1092	0.0160	-0.1755	0.0297	-0.5288	0.0666	0.2588	0.1919
1	74.88	0.3498	-0.1596	0.0168	-0.3030	0.0509	-0.9123	0.1201	0.3512	0.2572
1	74.88	0.3913	-0.2027	0.0176	-0.4471	0.0747	-1.3452	0.1813	0.2924	0.2503
1	74.88	0.4496	-0.2720	0.0212	-0.6360	0.1067	-2.1203	0.2687	0.1688	0.2486
1	74.88	0.4997	-0.3181	0.0244	-0.7579	0.1348	-2.9747	0.3522	0.0863	0.2486
1	74.88	0.5387	-0.3710	0.0276	-0.8960	0.1568	-3.7304	0.4202	0.0473	0.2554
1	74.88	0.5996	-0.4479	0.0343	-1.0464	0.1923	-5.1175	0.5322	0.1751	0.2649
1	74.88	0.6498	-0.5385	0.0407	-1.1525	0.2220	-6.4599	0.6288	0.0710	0.2638
1	74.88	0.6998	-0.6446	0.0494	-1.2742	0.2521	-7.9153	0.7315	0.0731	0.2656
1	74.88	0.7500	-0.7590	0.0599	-1.3946	0.2823	-9.5150	0.8419	0.0771	0.2717
1	74.88	0.8001	-0.9034	0.0720	-1.5399	0.3128	-11.1761	0.9608	0.0751	0.2733
1	74.88	0.8497	-1.0403	0.0856	-1.6368	0.3435	-12.9115	1.0861	0.0742	0.2800
1	74.88	0.9102	-1.2254	0.1027	-1.7797	0.3807	-15.1323	1.2503	-0.1313	0.2790
1	74.88	0.9734	-1.4319	0.1174	-1.8651	0.4200	-17.4829	1.4287	-0.4126	0.2933
2	74.88	0.2405	-0.0028	0.0056	-0.0049	0.0075	-0.2142	0.0228	-0.1083	0.1255
2	74.88	0.2999	-0.0262	0.0060	-0.0044	0.0155	-0.4961	0.0522	-0.1756	0.1962
2	74.88	0.3498	-0.0660	0.0068	-0.0184	0.0285	-0.8160	0.0926	-0.2170	0.1884
2	74.88	0.3998	-0.1233	0.0076	-0.0214	0.0436	-1.3118	0.1468	-0.3826	0.1879
2	74.88	0.4496	-0.1665	0.0103	-0.0415	0.0588	-1.9550	0.2090	-0.3265	0.1878
2	74.88	0.4995	-0.2554	0.0132	-0.0202	0.0755	-2.7619	0.2804	-0.1934	0.1831
2	74.88	0.5551	-0.3057	0.0189	-0.0140	0.0953	-3.9043	0.3685	-0.0941	0.1958
2	74.88	0.5996	-0.3517	0.0239	0.0152	0.1119	-5.0710	0.4416	-0.4492	0.1951
2	74.88	0.6497	-0.4693	0.0312	0.0556	0.1312	-6.4442	0.5306	-0.3192	0.1943
2	74.88	0.6996	-0.5790	0.0404	0.0996	0.1508	-7.9920	0.6254	-0.2904	0.1980
2	74.88	0.7495	-0.7253	0.0517	0.1389	0.1711	-9.6762	0.7253	-0.2703	0.1946
2	74.88	0.7996	-0.8681	0.0640	0.1740	0.1917	-11.4673	0.8320	-0.3965	0.1975
2	74.88	0.8578	-1.0623	0.0807	0.2195	0.2161	-13.6025	0.9630	-0.1734	0.1982
2	74.88	0.9100	-1.2421	0.0947	0.2810	0.2381	-15.5946	1.0844	-0.2878	0.1950
2	74.88	0.9727	-1.3408	0.1077	0.3385	0.2642	-17.8125	1.2337	0.3278	0.2014
3	74.88	0.2357	-0.0078	0.0062	-0.0218	0.0038	-0.1988	0.0173	-0.1413	0.0966
3	74.88	0.2995	-0.0545	0.0052	-0.0432	0.0086	-0.4702	0.0416	-0.2352	0.1574
3	74.88	0.3493	-0.0839	0.0059	-0.0904	0.0155	-0.7954	0.0720	-0.3287	0.1563
3	74.88	0.4000	-0.1038	0.0066	-0.1329	0.0240	-1.2641	0.1145	-0.3500	0.1624
3	74.88	0.4497	-0.1903	0.0092	-0.1866	0.0319	-1.8908	0.1651	-0.3352	0.1641
3	74.88	0.4997	-0.2326	0.0127	-0.2222	0.0412	-2.7119	0.2259	-0.3518	0.1690
3	74.88	0.5556	-0.3151	0.0181	-0.2920	0.0517	-3.8743	0.3053	-0.7331	0.1734
3	74.88	0.5995	-0.3543	0.0221	-0.2502	0.0609	-4.8828	0.3725	-0.4100	0.1735
3	74.88	0.6498	-0.4460	0.0289	-0.2955	0.0717	-6.1613	0.4545	-0.2599	0.1795
3	74.88	0.6890	-0.5362	0.0353	-0.2597	0.0806	-7.3054	0.5232	-0.2672	0.1764
3	74.88	0.7495	-0.6462	0.0473	-0.2704	0.0949	-9.2028	0.6411	-0.2299	0.1822
3	74.88	0.7998	-0.8231	0.0602	-0.2522	0.1072	-10.8529	0.7500	-0.3896	0.1769
3	74.88	0.8577	-0.9748	0.0767	-0.2345	0.1226	-12.8129	0.8936	-0.2781	0.1821
3	74.88	0.9178	-1.0848	0.0938	-0.2280	0.1389	-14.9344	1.0571	-0.2694	0.1818
4	74.88	0.2001	0.0028	0.0060	0.0102	0.0038	-0.1217	0.0148	-0.0625	0.0616
4	74.88	0.2502	0.0149	0.0046	0.0373	0.0069	-0.3098	0.0332	-0.2110	0.1269
4	74.88	0.3001	-0.0350	0.0053	0.0633	0.0136	-0.5622	0.0642	-0.2071	0.1465
4	74.88	0.3502	-0.0831	0.0066	0.0975	0.0242	-0.9831	0.1131	-0.2996	0.1356
4	74.88	0.4002	-0.1427	0.0089	0.1691	0.0363	-1.5528	0.1760	-0.2958	0.1338
4	74.88	0.4500	-0.1763	0.0120	0.2834	0.0498	-2.3958	0.2498	-0.6056	0.1387
4	74.88	0.5001	-0.2739	0.0171	0.3519	0.0642	-3.3414	0.3355	-0.2063	0.1404
4	74.88	0.5560	-0.3560	0.0262	0.4730	0.0807	-4.7895	0.4353	-0.5922	0.1887
4	74.88	0.6001	-0.4179	0.0315	0.5480	0.0970	-6.0454	0.5228	-0.4474	0.1537
4	74.88	0.6501	-0.5491	0.0408	0.6738	0.1143	-7.6328	0.6227	-0.3262	0.1539
4	74.88	0.6999	-0.6807	0.0517	0.7846	0.1323	-9.4019	0.7251	-0.2738	0.1567
4	74.88	0.7500	-0.8154	0.0641	0.8939	0.1505	-11.2991	0.8323	-0.1000	0.1658
4	74.88	0.8002	-0.9962	0.0787	0.9831	0.1697	-13.3300	0.9447	-0.0621	0.1552
4	74.88	0.8582	-1.2080	0.0968	1.1264	0.1922	-15.7857	1.0817	-0.4152	0.1721
4	74.88	0.9101	-1.3861	0.1126	1.2928	0.2126	-17.9978	1.2120	-0.3259	0.1674
4	74.88	0.9728	-1.4195	0.1284	1.5010	0.2359	-20.5493	1.3771	0.2768	0.1715

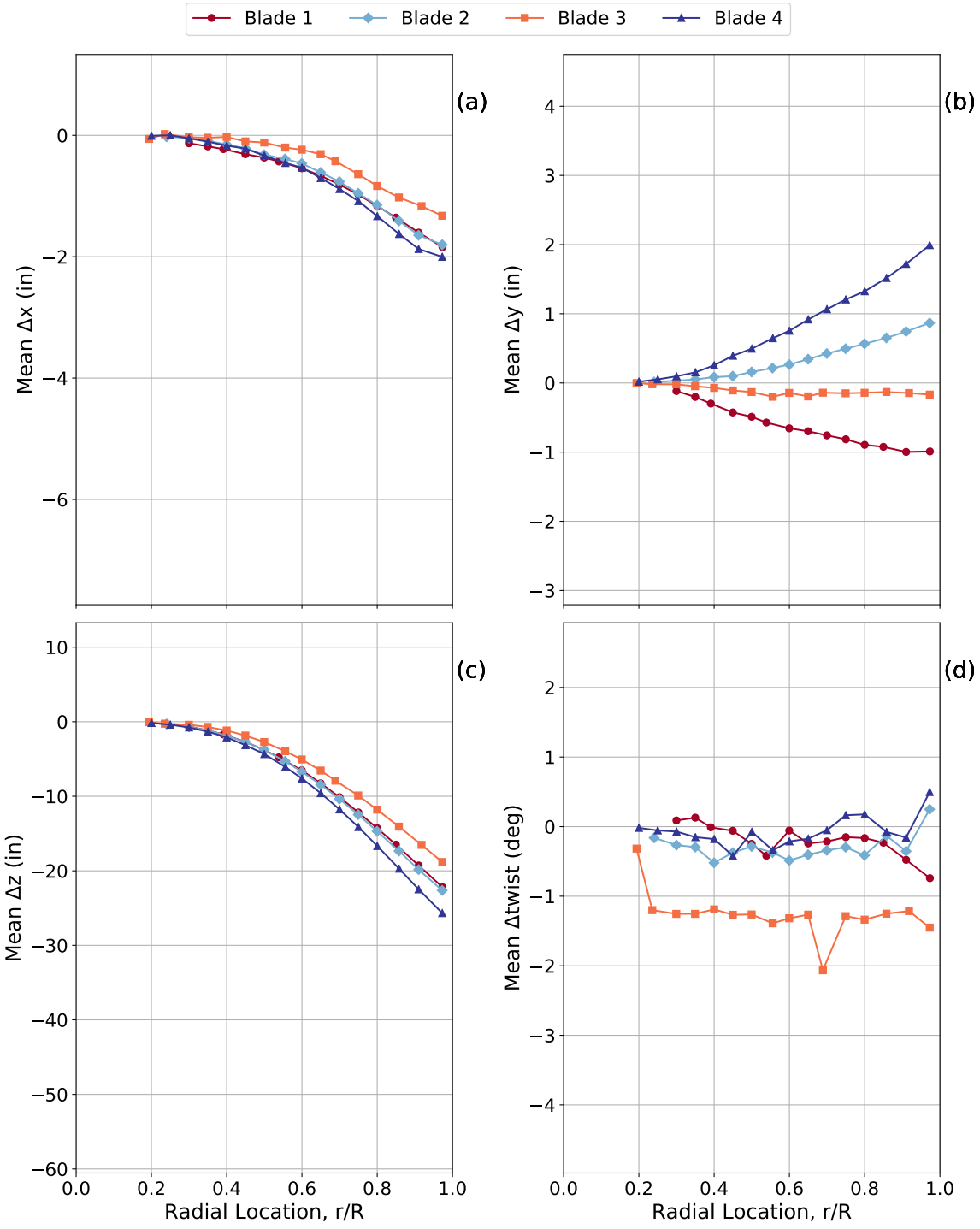


Figure 2.24-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2998	-0.1301	0.0203	-0.1171	0.0335	-0.6621	0.0695	0.0882	0.2029
1	80.16	0.3498	-0.1812	0.0229	-0.2021	0.0575	-1.1558	0.1271	0.1289	0.2729
1	80.16	0.3913	-0.2268	0.0245	-0.2981	0.0845	-1.7146	0.1932	-0.0100	0.2488
1	80.16	0.4496	-0.3105	0.0288	-0.4262	0.1192	-2.6943	0.2843	-0.0599	0.2526
1	80.16	0.4997	-0.3669	0.0333	-0.4890	0.1506	-3.7950	0.3682	-0.2473	0.2553
1	80.16	0.5387	-0.4307	0.0381	-0.5725	0.1755	-4.7829	0.4356	-0.4182	0.2599
1	80.16	0.5996	-0.5425	0.0470	-0.6562	0.2162	-6.5243	0.5433	-0.0567	0.2551
1	80.16	0.6498	-0.6670	0.0553	-0.6987	0.2505	-8.2573	0.6318	-0.2410	0.2555
1	80.16	0.6998	-0.8125	0.0650	-0.7582	0.2853	-10.1240	0.7188	-0.2136	0.2550
1	80.16	0.7500	-0.9759	0.0754	-0.8146	0.3210	-12.1688	0.8076	-0.1516	0.2543
1	80.16	0.8001	-1.1661	0.0873	-0.8950	0.3573	-14.2933	0.8962	-0.1641	0.2510
1	80.16	0.8497	-1.3555	0.0994	-0.9238	0.3935	-16.4912	0.9857	-0.2309	0.2553
1	80.16	0.9102	-1.6031	0.1147	-0.9970	0.4381	-19.2809	1.0987	-0.4772	0.2556
1	80.16	0.9734	-1.8410	0.1248	-0.9904	0.4849	-22.2002	1.2192	-0.7411	0.2608
2	80.16	0.2405	-0.0234	0.0073	0.0132	0.0062	-0.3021	0.0279	-0.1609	0.1296
2	80.16	0.2999	-0.0453	0.0103	0.0328	0.0129	-0.6959	0.0620	-0.2653	0.2028
2	80.16	0.3498	-0.0878	0.0115	0.0508	0.0238	-1.1595	0.1108	-0.2942	0.1840
2	80.16	0.3998	-0.1512	0.0132	0.0841	0.0362	-1.8576	0.1738	-0.5196	0.1872
2	80.16	0.4496	-0.2114	0.0184	0.0983	0.0494	-2.7255	0.2500	-0.3743	0.1927
2	80.16	0.4995	-0.3183	0.0242	0.1589	0.0639	-3.7982	0.3391	-0.2853	0.2004
2	80.16	0.5551	-0.3890	0.0336	0.2151	0.0815	-5.3062	0.4523	-0.3715	0.1965
2	80.16	0.5996	-0.4630	0.0429	0.2651	0.0963	-6.7133	0.5522	-0.4860	0.2014
2	80.16	0.6497	-0.6116	0.0557	0.3433	0.1141	-8.4480	0.6712	-0.4038	0.2052
2	80.16	0.6996	-0.7635	0.0709	0.4257	0.1323	-10.3689	0.7978	-0.3409	0.2067
2	80.16	0.7495	-0.9555	0.0884	0.4949	0.1509	-12.4657	0.9308	-0.2962	0.2115
2	80.16	0.7996	-1.1482	0.1088	0.5664	0.1701	-14.6963	1.0718	-0.4123	0.2162
2	80.16	0.8578	-1.4116	0.1344	0.6514	0.1924	-17.3459	1.2446	-0.1293	0.2211
2	80.16	0.9100	-1.6456	0.1573	0.7443	0.2133	-19.8382	1.4062	-0.3527	0.2217
2	80.16	0.9727	-1.8025	0.1819	0.8673	0.2376	-22.6326	1.6038	0.2494	0.2338
3	80.16	0.1938	-0.0587	0.0172	-0.0019	0.0224	-0.0450	0.0460	-0.3159	0.1741
3	80.16	0.2357	0.0204	0.0083	-0.0181	0.0147	-0.2614	0.0229	-1.2001	0.6461
3	80.16	0.2995	-0.0308	0.0130	-0.0202	0.0734	-0.4101	0.1384	-1.2541	0.6548
3	80.16	0.3493	-0.0396	0.0249	-0.0475	0.1258	-0.6991	0.2372	-1.2535	0.6577
3	80.16	0.4000	-0.0267	0.0345	-0.0716	0.1861	-1.1787	0.3440	-1.1893	0.6568
3	80.16	0.4497	-0.1001	0.0416	-0.1085	0.2510	-1.8513	0.4523	-1.2670	0.6600
3	80.16	0.4997	-0.1183	0.0476	-0.1317	0.3219	-2.7256	0.5640	-1.2624	0.6577
3	80.16	0.5556	-0.2013	0.0562	-0.1996	0.4064	-3.9560	0.6904	-1.3895	0.6644
3	80.16	0.5995	-0.2368	0.0657	-0.1439	0.4767	-5.0653	0.7922	-1.3171	0.6473
3	80.16	0.6498	-0.3098	0.0786	-0.1947	0.5601	-6.5545	0.9070	-1.2652	0.6510
3	80.16	0.6890	-0.4268	0.0773	-0.1407	0.6796	-7.9069	1.1175	-2.0642	2.0527
3	80.16	0.7495	-0.6403	0.1097	-0.1495	0.8709	-9.8935	0.9313	-1.2869	0.6610
3	80.16	0.7998	-0.8353	0.1228	-0.1420	0.9596	-11.7960	1.0601	-1.3366	0.6625
3	80.16	0.8577	-1.0240	0.1400	-0.1305	1.0626	-14.0735	1.2146	-1.2514	0.6620
3	80.16	0.9178	-1.1673	0.1578	-0.1458	1.1706	-16.5255	1.3790	-1.2138	0.6685
3	80.16	0.9729	-1.3256	0.1595	-0.1685	1.2651	-18.8191	1.5560	-1.4513	0.6280
4	80.16	0.2001	-0.0075	0.0071	0.0183	0.0032	-0.1711	0.0146	-0.0181	0.0529
4	80.16	0.2502	0.0008	0.0060	0.0517	0.0061	-0.4004	0.0328	-0.0549	0.1309
4	80.16	0.3001	-0.0506	0.0063	0.0961	0.0120	-0.7675	0.0630	-0.0712	0.1254
4	80.16	0.3502	-0.1047	0.0081	0.1534	0.0206	-1.3385	0.1096	-0.1515	0.1244
4	80.16	0.4002	-0.1696	0.0114	0.2555	0.0314	-2.1017	0.1715	-0.1787	0.1257
4	80.16	0.4500	-0.2192	0.0158	0.3933	0.0427	-3.1524	0.2467	-0.4214	0.1284
4	80.16	0.5001	-0.3340	0.0222	0.4960	0.0554	-4.3465	0.3331	-0.0748	0.1332
4	80.16	0.5560	-0.4561	0.0321	0.6471	0.0719	-6.0794	0.4425	-0.3404	0.1334
4	80.16	0.6001	-0.5340	0.0417	0.7554	0.0853	-7.6200	0.5361	-0.2121	0.1390
4	80.16	0.6501	-0.7046	0.0549	0.9179	0.1020	-9.5882	0.6483	-0.1736	0.1440
4	80.16	0.6999	-0.8855	0.0707	1.0660	0.1192	-11.7681	0.7654	-0.0509	0.1500
4	80.16	0.7500	-1.0842	0.0885	1.2071	0.1374	-14.1327	0.8889	0.1638	0.1470
4	80.16	0.8002	-1.3316	0.1080	1.3255	0.1557	-16.6704	1.0133	0.1758	0.1484
4	80.16	0.8582	-1.6263	0.1318	1.5173	0.1775	-19.7127	1.1597	-0.0763	0.1513
4	80.16	0.9101	-1.8731	0.1521	1.7212	0.1984	-22.4884	1.2904	-0.1574	0.1521
4	80.16	0.9728	-2.0027	0.1720	1.9923	0.2217	-25.6740	1.4511	0.4979	0.1518

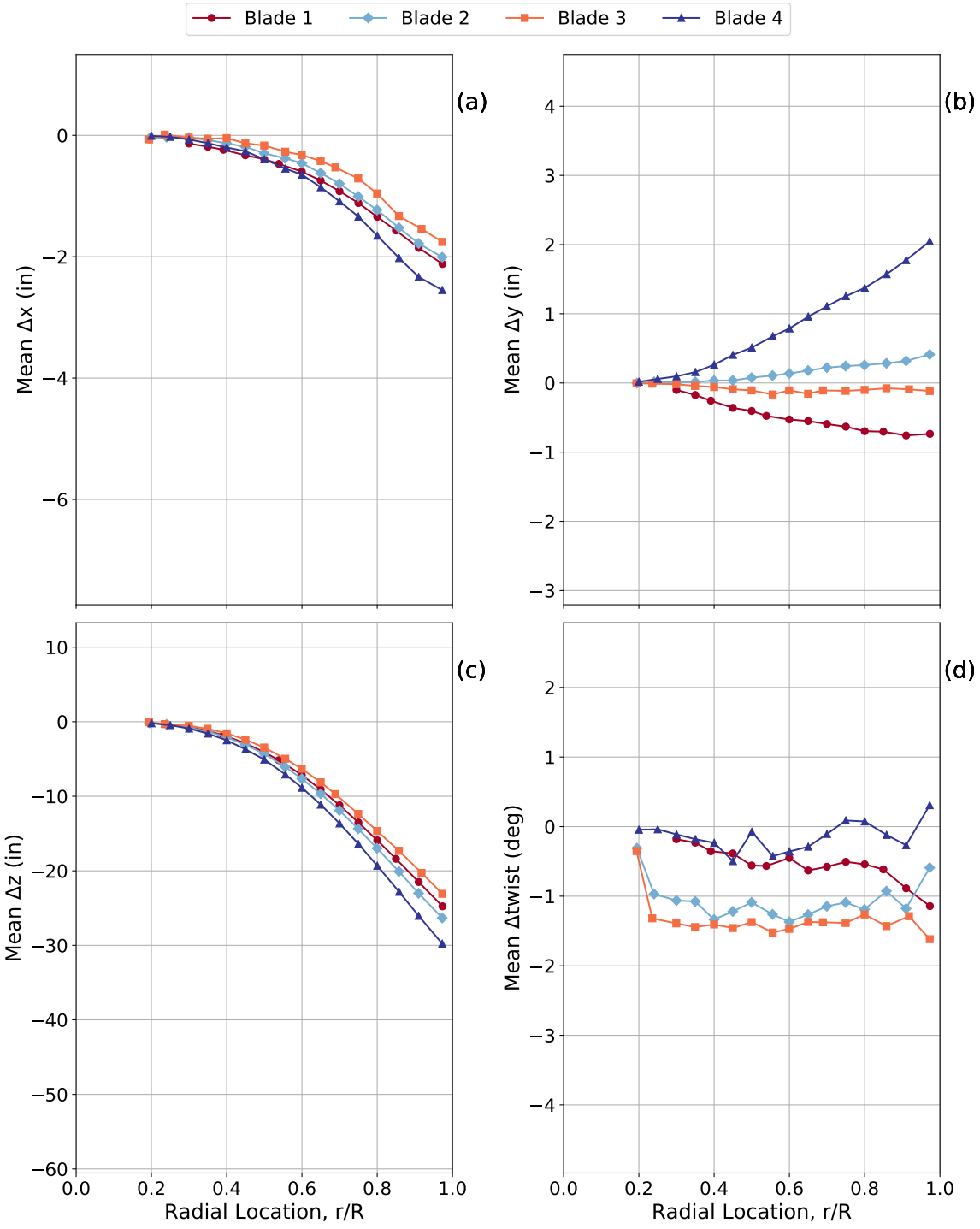


Figure 2.24-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2998	-0.1347	0.0248	-0.1010	0.0375	-0.7032	0.0875	-0.1814	0.2323
1	85.08	0.3498	-0.1872	0.0308	-0.1739	0.0641	-1.2259	0.1610	-0.2305	0.3135
1	85.08	0.3913	-0.2376	0.0324	-0.2563	0.0940	-1.8173	0.2455	-0.3539	0.2872
1	85.08	0.4496	-0.3286	0.0382	-0.3599	0.1328	-2.8804	0.3648	-0.3852	0.2943
1	85.08	0.4997	-0.3932	0.0458	-0.4048	0.1686	-4.0918	0.4766	-0.5581	0.3065
1	85.08	0.5387	-0.4717	0.0530	-0.4760	0.1973	-5.1597	0.5696	-0.5654	0.3033
1	85.08	0.5996	-0.5983	0.0676	-0.5284	0.2434	-7.1464	0.7246	-0.4501	0.3092
1	85.08	0.6498	-0.7454	0.0827	-0.5505	0.2833	-9.0909	0.8624	-0.6299	0.3049
1	85.08	0.6998	-0.9205	0.1015	-0.5941	0.3243	-11.2059	1.0080	-0.5764	0.3090
1	85.08	0.7500	-1.1150	0.1233	-0.6326	0.3661	-13.5174	1.1636	-0.5056	0.3115
1	85.08	0.8001	-1.3428	0.1473	-0.6974	0.4080	-15.9148	1.3279	-0.5416	0.3169
1	85.08	0.8497	-1.5675	0.1736	-0.7049	0.4504	-18.3885	1.4975	-0.6148	0.3208
1	85.08	0.9102	-1.8539	0.2051	-0.7593	0.5018	-21.5029	1.7137	-0.8868	0.3249
1	85.08	0.9734	-2.1192	0.2314	-0.7363	0.5562	-24.7632	1.9428	-1.1421	0.3185
2	85.08	0.1949	-0.0497	0.0230	-0.0031	0.0045	-0.1519	0.0166	-0.3098	0.0671
2	85.08	0.2405	-0.0312	0.0124	0.0155	0.0048	-0.3640	0.0264	-0.9682	0.2601
2	85.08	0.2999	-0.0382	0.0112	0.0081	0.0152	-0.7841	0.0648	-1.0622	0.2392
2	85.08	0.3498	-0.0773	0.0238	0.0161	0.0259	-1.3044	0.1121	-1.0753	0.2324
2	85.08	0.3998	-0.1316	0.0352	0.0341	0.0383	-2.0962	0.1714	-1.3348	0.2384
2	85.08	0.4496	-0.1886	0.0460	0.0359	0.0518	-3.0849	0.2410	-1.2189	0.2446
2	85.08	0.4995	-0.2956	0.0549	0.0768	0.0668	-4.3068	0.3205	-1.0890	0.2517
2	85.08	0.5551	-0.3773	0.0651	0.1069	0.0856	-6.0419	0.4204	-1.2604	0.2532
2	85.08	0.5996	-0.4602	0.0717	0.1362	0.1018	-7.6497	0.5080	-1.3680	0.2605
2	85.08	0.6497	-0.6215	0.0784	0.1790	0.1205	-9.6639	0.6100	-1.2637	0.2656
2	85.08	0.6996	-0.7975	0.0858	0.2213	0.1402	-11.9099	0.7180	-1.1454	0.2691
2	85.08	0.7495	-1.0080	0.0921	0.2437	0.1607	-14.3672	0.8298	-1.0899	0.2749
2	85.08	0.7996	-1.2301	0.0992	0.2586	0.1820	-16.9803	0.9475	-1.1899	0.2844
2	85.08	0.8578	-1.5228	0.1090	0.2834	0.2080	-20.0951	1.0896	-0.9270	0.2961
2	85.08	0.9100	-1.7811	0.1195	0.3179	0.2321	-23.0207	1.2207	-1.1770	0.3072
2	85.08	0.9727	-2.0073	0.1373	0.4118	0.2667	-26.3244	1.3818	-0.5901	0.3160
3	85.08	0.1938	-0.0677	0.0154	-0.0047	0.0270	-0.0755	0.0579	-0.3510	0.1960
3	85.08	0.2357	0.0120	0.0132	-0.0101	0.0182	-0.3217	0.0295	-1.3176	0.7576
3	85.08	0.2995	-0.0383	0.0123	-0.0183	0.0880	-0.5516	0.1732	-1.3906	0.7532
3	85.08	0.3493	-0.0557	0.0223	-0.0426	0.1517	-0.9459	0.2963	-1.4432	0.7577
3	85.08	0.4000	-0.0468	0.0319	-0.0592	0.2238	-1.5638	0.4293	-1.4058	0.7680
3	85.08	0.4497	-0.1308	0.0387	-0.0913	0.3016	-2.3973	0.5655	-1.4576	0.7831
3	85.08	0.4997	-0.1681	0.0468	-0.1077	0.3861	-3.4654	0.7092	-1.3717	0.8043
3	85.08	0.5556	-0.2694	0.0553	-0.1663	0.4900	-4.9674	0.8786	-1.5224	0.7793
3	85.08	0.5995	-0.3247	0.0639	-0.1076	0.5758	-6.3261	1.0134	-1.4698	0.7663
3	85.08	0.6498	-0.4230	0.0778	-0.1556	0.6792	-8.1320	1.1696	-1.3701	0.7747
3	85.08	0.6890	-0.5294	0.0909	-0.1076	0.7636	-9.7083	1.2918	-1.3743	0.7818
3	85.08	0.7495	-0.7107	0.1175	-0.1138	0.8993	-12.3696	1.4850	-1.3839	0.7682
3	85.08	0.7998	-0.9589	0.1432	-0.1005	1.0140	-14.6585	1.6411	-1.2621	0.7877
3	85.08	0.8577	-1.3296	0.2018	-0.0767	1.3019	-17.3118	1.5104	-1.4295	0.8002
3	85.08	0.9178	-1.5427	0.2293	-0.0919	1.4364	-20.2800	1.7027	-1.2866	0.8100
3	85.08	0.9729	-1.7563	0.2313	-0.1166	1.5611	-23.0884	1.8820	-1.6178	0.8045
4	85.08	0.2001	-0.0074	0.0068	0.0168	0.0032	-0.2091	0.0133	-0.0447	0.0668
4	85.08	0.2502	-0.0259	0.0064	0.0578	0.0067	-0.4594	0.0321	-0.0389	0.1576
4	85.08	0.3001	-0.0681	0.0080	0.0960	0.0118	-0.9176	0.0567	-0.1114	0.1633
4	85.08	0.3502	-0.1297	0.0096	0.1570	0.0212	-1.5944	0.1039	-0.1800	0.1550
4	85.08	0.4002	-0.1999	0.0132	0.2634	0.0323	-2.4933	0.1603	-0.2332	0.1563
4	85.08	0.4500	-0.2625	0.0178	0.4055	0.0447	-3.7079	0.2285	-0.4953	0.1615
4	85.08	0.5001	-0.3947	0.0240	0.5122	0.0581	-5.0817	0.3075	-0.0746	0.1666
4	85.08	0.5560	-0.5492	0.0346	0.6752	0.0747	-7.0780	0.4035	-0.4244	0.1676
4	85.08	0.6001	-0.6496	0.0447	0.7879	0.0888	-8.8581	0.4870	-0.3573	0.1662
4	85.08	0.6501	-0.8564	0.0587	0.9581	0.1056	-11.1272	0.5887	-0.2887	0.1676
4	85.08	0.6999	-1.0874	0.0763	1.1087	0.1232	-13.6504	0.6967	-0.1054	0.1726
4	85.08	0.7500	-1.3400	0.0964	1.2548	0.1410	-16.3929	0.8121	0.0880	0.1728
4	85.08	0.8002	-1.6541	0.1186	1.3748	0.1597	-19.3211	0.9317	0.0743	0.1801
4	85.08	0.8582	-2.0225	0.1466	1.5725	0.1811	-22.8233	1.0712	-0.1186	0.1828
4	85.08	0.9101	-2.3327	0.1697	1.7757	0.2014	-26.0414	1.1997	-0.2668	0.1807
4	85.08	0.9728	-2.5496	0.1946	2.0472	0.2252	-29.7713	1.3573	0.3086	0.1830

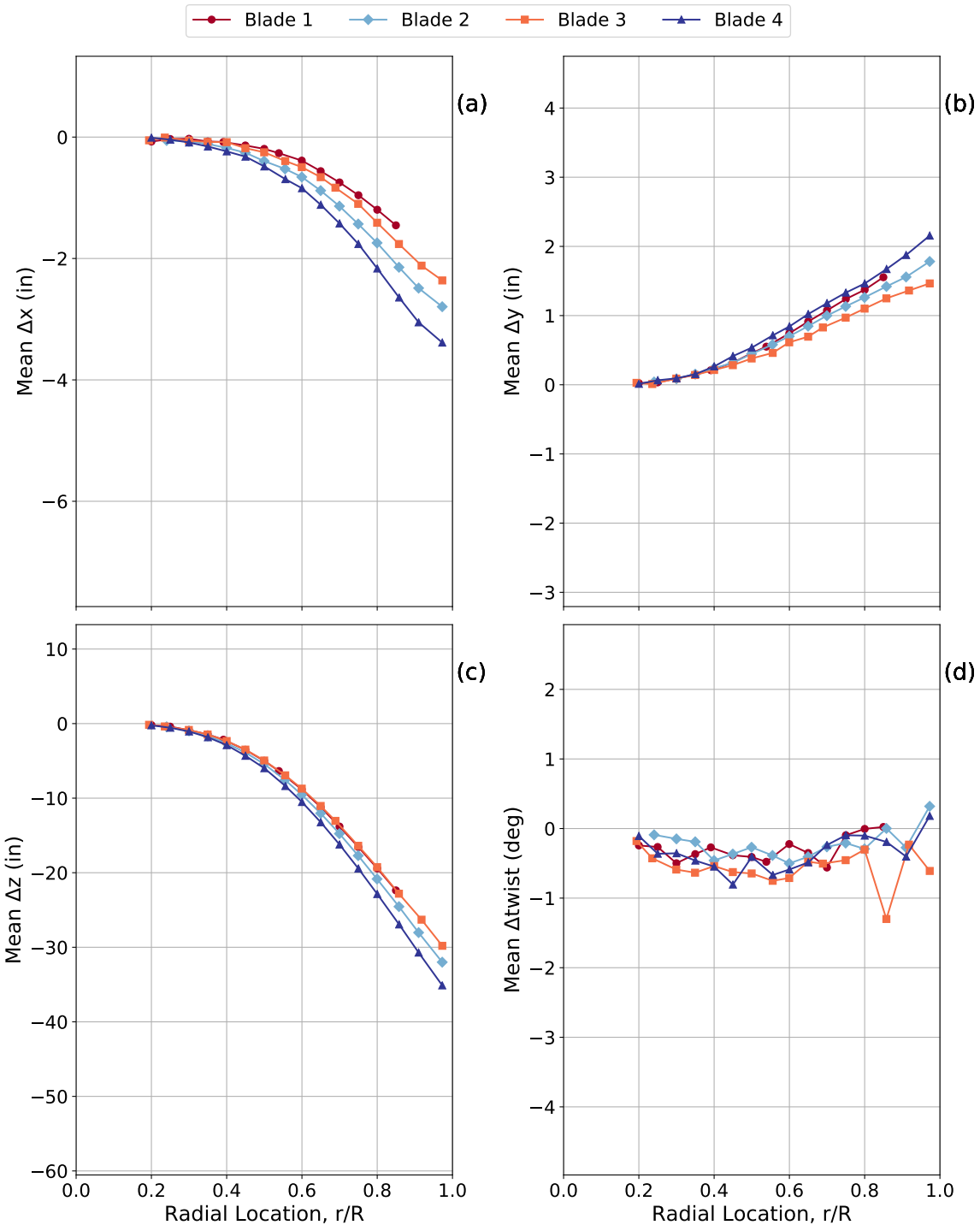


Figure 2.24-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.061, μ = 1.001, α = 4° NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0737	0.0049	0.0229	0.0022	-0.1968	0.0155	-0.2433	0.0400
1	90	0.2499	-0.0317	0.0053	0.0344	0.0044	-0.4087	0.0334	-0.2651	0.0744
1	90	0.2998	-0.0278	0.0071	0.0893	0.0094	-0.8805	0.0676	-0.4988	0.0932
1	90	0.3498	-0.0724	0.0093	0.1472	0.0156	-1.4485	0.1165	-0.3674	0.0819
1	90	0.3913	-0.0809	0.0131	0.2106	0.0228	-2.1539	0.1696	-0.2706	0.0886
1	90	0.4496	-0.1380	0.0203	0.3190	0.0345	-3.5128	0.2635	-0.3838	0.0960
1	90	0.4997	-0.1942	0.0285	0.4566	0.0466	-4.9948	0.3610	-0.4089	0.0977
1	90	0.5387	-0.2649	0.0380	0.5507	0.0566	-6.3632	0.4437	-0.4780	0.1100
1	90	0.5996	-0.3873	0.0556	0.7422	0.0734	-8.8320	0.5896	-0.2228	0.1157
1	90	0.6498	-0.5612	0.0739	0.9134	0.0885	-11.2042	0.7207	-0.3514	0.1254
1	90	0.6998	-0.7471	0.0956	1.0739	0.1042	-13.8081	0.8577	-0.5606	0.1131
1	90	0.7500	-0.9576	0.1210	1.2391	0.1198	-16.5624	1.0002	-0.0966	0.1315
1	90	0.8001	-1.1971	0.1502	1.3728	0.1349	-19.4248	1.1503	-0.0051	0.1584
1	90	0.8497	-1.4537	0.1769	1.5541	0.1522	-22.3701	1.3040	0.0225	0.1549
2	90	0.2405	-0.0559	0.0171	0.0400	0.0057	-0.4264	0.0271	-0.0903	0.1157
2	90	0.2999	-0.0700	0.0118	0.0861	0.0122	-0.9769	0.0626	-0.1486	0.1812
2	90	0.3498	-0.1145	0.0231	0.1530	0.0219	-1.6522	0.1092	-0.1908	0.1644
2	90	0.3998	-0.1781	0.0351	0.2381	0.0340	-2.6375	0.1741	-0.4590	0.1760
2	90	0.4496	-0.2575	0.0452	0.3172	0.0470	-3.8785	0.2547	-0.3664	0.1847
2	90	0.4995	-0.3950	0.0545	0.4456	0.0620	-5.4122	0.3489	-0.2686	0.1827
2	90	0.5551	-0.5246	0.0651	0.5803	0.0799	-7.5603	0.4689	-0.3868	0.1890
2	90	0.5996	-0.6572	0.0727	0.7007	0.0950	-9.5463	0.5742	-0.5014	0.1921
2	90	0.6497	-0.8815	0.0822	0.8470	0.1120	-12.0299	0.6963	-0.4052	0.2061
2	90	0.6996	-1.1382	0.0923	0.9987	0.1300	-14.7623	0.8239	-0.2633	0.2100
2	90	0.7495	-1.4321	0.1038	1.1323	0.1479	-17.7144	0.9533	-0.2088	0.2173
2	90	0.7996	-1.7432	0.1177	1.2623	0.1668	-20.8394	1.0867	-0.2924	0.2234
2	90	0.8578	-2.1449	0.1391	1.4206	0.1887	-24.5484	1.2440	0.0016	0.2312
2	90	0.9100	-2.4883	0.1635	1.5581	0.2094	-28.0292	1.3899	-0.2740	0.2358
2	90	0.9727	-2.7946	0.2011	1.7821	0.2383	-31.9988	1.5645	0.3195	0.2529
3	90	0.1938	-0.0536	0.0131	0.0275	0.0356	-0.1588	0.0800	-0.1795	0.3219
3	90	0.2357	-0.0079	0.0165	0.0105	0.0217	-0.3806	0.0316	-0.4279	1.2616
3	90	0.2995	-0.0586	0.0127	0.0892	0.1164	-0.8492	0.2402	-0.5894	1.2576
3	90	0.3493	-0.0798	0.0138	0.1411	0.2003	-1.4579	0.4156	-0.6344	1.2616
3	90	0.4000	-0.0834	0.0175	0.2137	0.2958	-2.3341	0.6019	-0.5394	1.2618
3	90	0.4497	-0.1822	0.0247	0.2832	0.3983	-3.4875	0.7864	-0.6259	1.2638
3	90	0.4997	-0.2507	0.0361	0.3799	0.5126	-4.9498	0.9784	-0.6454	1.2491
3	90	0.5556	-0.3937	0.0552	0.4603	0.6502	-6.9382	1.1969	-0.7512	1.2581
3	90	0.5995	-0.4951	0.0743	0.6133	0.7641	-8.7226	1.3697	-0.7113	1.2567
3	90	0.6498	-0.6603	0.1012	0.6949	0.9028	-11.0444	1.5738	-0.4777	1.2465
3	90	0.6890	-0.8336	0.1258	0.8283	1.0141	-13.0470	1.7319	-0.5042	1.2542
3	90	0.7495	-1.0999	0.1683	0.9703	1.1907	-16.3875	1.9818	-0.4547	1.2467
3	90	0.7998	-1.4111	0.2063	1.1008	1.3376	-19.2463	2.1964	-0.3026	1.2514
3	90	0.8577	-1.7618	0.2711	1.2488	1.5792	-22.8134	2.6793	-1.2999	3.6830
3	90	0.9178	-2.1178	0.3256	1.3624	1.8617	-26.2994	2.0581	-0.2314	1.4500
3	90	0.9729	-2.3617	0.3047	1.4647	2.0085	-29.8029	2.2696	-0.6095	1.4540
4	90.35	0.2001	-0.0101	0.0060	0.0133	0.0034	-0.2335	0.0144	-0.1078	0.0637
4	90.35	0.2502	-0.0425	0.0080	0.0648	0.0060	-0.5571	0.0316	-0.3624	0.1281
4	90.35	0.3001	-0.0894	0.0080	0.0933	0.0126	-1.0576	0.0616	-0.3556	0.1361
4	90.35	0.3502	-0.1558	0.0095	0.1537	0.0211	-1.8349	0.1040	-0.4610	0.1313
4	90.35	0.4002	-0.2362	0.0149	0.2651	0.0324	-2.8920	0.1645	-0.5474	0.1386
4	90.35	0.4500	-0.3225	0.0206	0.4139	0.0447	-4.3213	0.2355	-0.8054	0.1427
4	90.35	0.5001	-0.4839	0.0303	0.5365	0.0586	-5.9864	0.3237	-0.4074	0.1447
4	90.35	0.5560	-0.6933	0.0456	0.7143	0.0771	-8.3784	0.4409	-0.6676	0.1421
4	90.35	0.6001	-0.8428	0.0607	0.8429	0.0919	-10.5174	0.5418	-0.5884	0.1534
4	90.35	0.6501	-1.1164	0.0826	1.0218	0.1103	-13.2395	0.6678	-0.4870	0.1548
4	90.35	0.6999	-1.4235	0.1084	1.1791	0.1295	-16.2224	0.8004	-0.2367	0.1603
4	90.35	0.7500	-1.7617	0.1367	1.3315	0.1496	-19.4472	0.9427	-0.0963	0.1741
4	90.35	0.8002	-2.1654	0.1685	1.4638	0.1702	-22.8642	1.0862	-0.1021	0.1700
4	90.35	0.8582	-2.6436	0.2072	1.6720	0.1946	-26.9398	1.2565	-0.1929	0.1806
4	90.35	0.9101	-3.0523	0.2407	1.8750	0.2173	-30.7153	1.4152	-0.4038	0.1722
4	90.35	0.9728	-3.3858	0.2780	2.1556	0.2444	-35.1178	1.6086	0.1813	0.1759

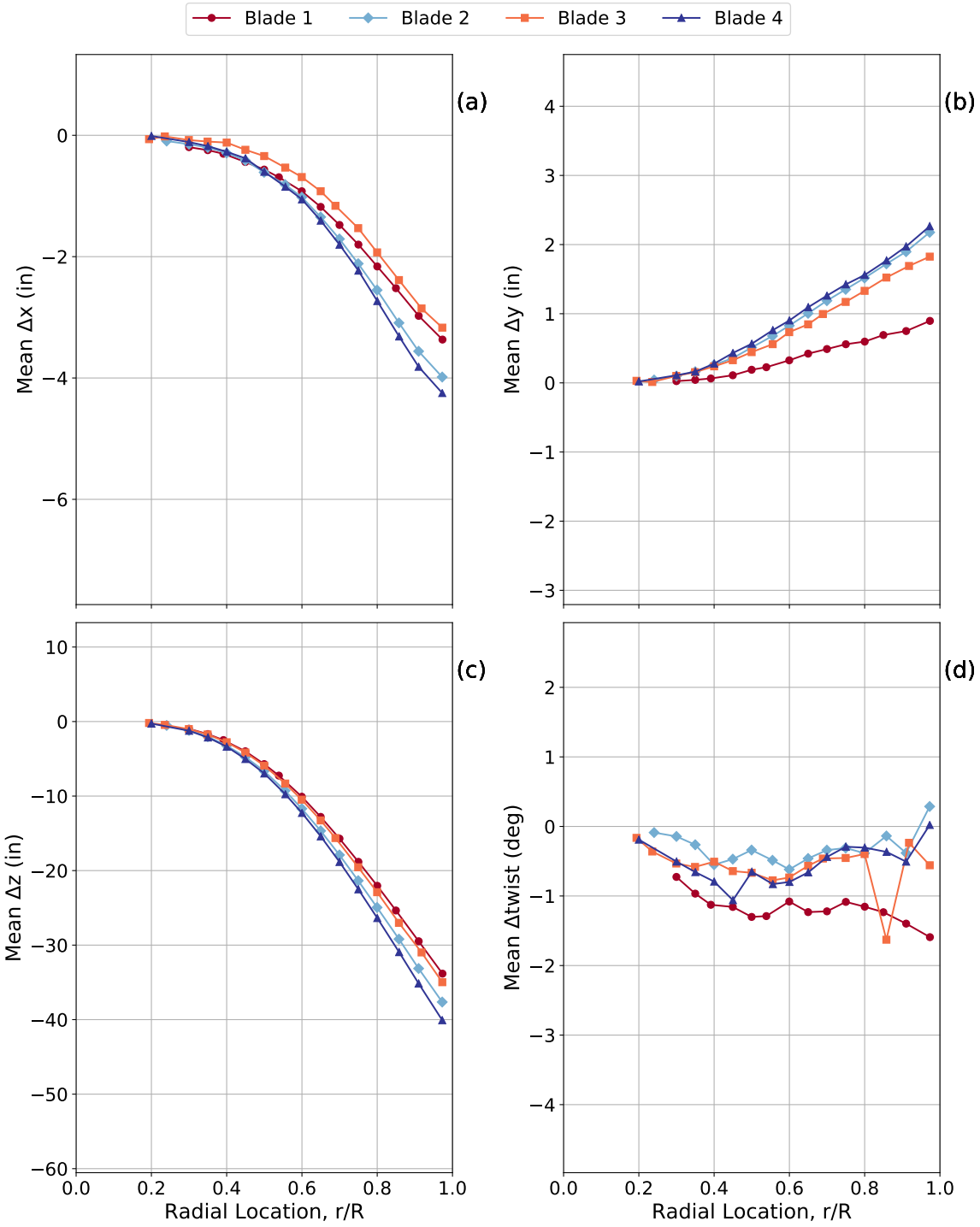


Figure 2.24-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2998	-0.1952	0.0487	0.0252	0.0306	-0.9703	0.1115	-0.7257	0.3279
1	94.92	0.3498	-0.2448	0.0561	0.0433	0.0527	-1.6818	0.2038	-0.9660	0.4392
1	94.92	0.3913	-0.3041	0.0597	0.0637	0.0776	-2.4858	0.3098	-1.1265	0.4012
1	94.92	0.4496	-0.4397	0.0720	0.1098	0.1126	-3.9906	0.4638	-1.1574	0.3944
1	94.92	0.4997	-0.5649	0.0888	0.1895	0.1450	-5.7111	0.6112	-1.3010	0.3950
1	94.92	0.5387	-0.6911	0.1039	0.2264	0.1725	-7.2523	0.7361	-1.2892	0.4019
1	94.92	0.5996	-0.9220	0.1356	0.3260	0.2176	-10.0846	0.9505	-1.0795	0.4045
1	94.92	0.6498	-1.1798	0.1670	0.4225	0.2573	-12.7953	1.1410	-1.2316	0.4108
1	94.92	0.6998	-1.4775	0.2042	0.4892	0.2978	-15.7090	1.3374	-1.2207	0.4091
1	94.92	0.7500	-1.8013	0.2447	0.5587	0.3397	-18.8226	1.5410	-1.0848	0.4180
1	94.92	0.8001	-2.1617	0.2872	0.5968	0.3823	-22.0399	1.7438	-1.1543	0.4252
1	94.92	0.8497	-2.5198	0.3307	0.6919	0.4252	-25.3547	1.9477	-1.2331	0.4264
1	94.92	0.9102	-2.9756	0.3821	0.7495	0.4784	-29.4833	2.1962	-1.3974	0.4267
1	94.92	0.9734	-3.3667	0.4289	0.8962	0.5344	-33.8311	2.4571	-1.5919	0.4227
2	94.92	0.2405	-0.0943	0.0144	0.0419	0.0071	-0.5171	0.0318	-0.0879	0.1417
2	94.92	0.2999	-0.1464	0.0158	0.0984	0.0144	-1.1852	0.0730	-0.1439	0.2231
2	94.92	0.3498	-0.1994	0.0199	0.1615	0.0274	-2.0254	0.1269	-0.2634	0.1890
2	94.92	0.3998	-0.2922	0.0253	0.2608	0.0414	-3.2292	0.2019	-0.5502	0.1947
2	94.92	0.4496	-0.4139	0.0344	0.3576	0.0576	-4.7573	0.2946	-0.4701	0.1974
2	94.92	0.4995	-0.6103	0.0533	0.5105	0.0750	-6.6385	0.3985	-0.3393	0.2085
2	94.92	0.5551	-0.8116	0.0672	0.6780	0.0985	-9.2745	0.5437	-0.4866	0.2115
2	94.92	0.5996	-1.0193	0.0871	0.8275	0.1179	-11.6897	0.6675	-0.6186	0.2025
2	94.92	0.6497	-1.3465	0.1144	1.0053	0.1406	-14.6626	0.8129	-0.4609	0.2075
2	94.92	0.6996	-1.7085	0.1464	1.1881	0.1644	-17.8998	0.9675	-0.3406	0.2125
2	94.92	0.7495	-2.1153	0.1808	1.3519	0.1884	-21.3531	1.1242	-0.3103	0.2194
2	94.92	0.7996	-2.5512	0.2171	1.5165	0.2134	-24.9473	1.2859	-0.3845	0.2184
2	94.92	0.8578	-3.0922	0.2613	1.7209	0.2429	-29.1942	1.4730	-0.1371	0.2145
2	94.92	0.9100	-3.5597	0.2995	1.8969	0.2702	-33.1402	1.6424	-0.3818	0.2174
2	94.92	0.9727	-3.9841	0.3396	2.1767	0.3024	-37.6371	1.8454	0.2870	0.2181
3	94.92	0.1938	-0.0638	0.0111	0.0296	0.0307	-0.1929	0.0709	-0.1643	0.2853
3	94.92	0.2357	-0.0181	0.0210	0.0129	0.0179	-0.4487	0.0299	-0.3604	1.1254
3	94.92	0.2995	-0.0782	0.0207	0.1006	0.1003	-1.0149	0.2173	-0.5332	1.1185
3	94.92	0.3493	-0.1033	0.0238	0.1546	0.1722	-1.7333	0.3774	-0.5821	1.1281
3	94.92	0.4000	-0.1199	0.0297	0.2390	0.2543	-2.7746	0.5495	-0.5072	1.1288
3	94.92	0.4497	-0.2387	0.0400	0.3280	0.3443	-4.1580	0.7215	-0.6424	1.1333
3	94.92	0.4997	-0.3423	0.0578	0.4447	0.4445	-5.9179	0.9015	-0.6665	1.1253
3	94.92	0.5556	-0.5323	0.0793	0.5597	0.5682	-8.3211	1.1071	-0.7750	1.1270
3	94.92	0.5995	-0.6878	0.1020	0.7336	0.6720	-10.4841	1.2705	-0.7344	1.1258
3	94.92	0.6498	-0.9217	0.1338	0.8465	0.7991	-13.2681	1.4624	-0.5657	1.1222
3	94.92	0.6890	-1.1621	0.1628	0.9954	0.9004	-15.6309	1.6107	-0.4615	1.1269
3	94.92	0.7495	-1.5303	0.2072	1.1707	1.0692	-19.5547	1.8379	-0.4535	1.1341
3	94.92	0.7998	-1.9298	0.2475	1.3309	1.2097	-22.8992	2.0251	-0.3970	1.1349
3	94.92	0.8577	-2.3862	0.3106	1.5233	1.4628	-27.0115	2.5249	-1.6288	4.3072
3	94.92	0.9178	-2.8540	0.3510	1.6907	1.8129	-30.9838	1.8169	-0.2352	1.2632
3	94.92	0.9729	-3.1700	0.3340	1.8256	1.9547	-34.9766	1.9931	-0.5582	1.2639
4	94.92	0.2001	-0.0111	0.0079	0.0204	0.0025	-0.2731	0.0108	-0.1903	0.0694
4	94.92	0.3001	-0.1115	0.0091	0.1097	0.0112	-1.2377	0.0507	-0.5052	0.1676
4	94.92	0.3502	-0.1788	0.0109	0.1623	0.0203	-2.1387	0.0891	-0.6572	0.1636
4	94.92	0.4002	-0.2716	0.0154	0.2783	0.0314	-3.3738	0.1404	-0.7931	0.1711
4	94.92	0.4500	-0.3796	0.0212	0.4326	0.0437	-5.0297	0.2028	-1.0605	0.1606
4	94.92	0.5001	-0.6013	0.0335	0.5658	0.0576	-6.9702	0.2734	-0.6524	0.1597
4	94.92	0.5560	-0.8482	0.0444	0.7626	0.0764	-9.7580	0.3703	-0.8297	0.1709
4	94.92	0.6001	-1.0567	0.0589	0.9028	0.0923	-12.2622	0.4548	-0.7981	0.1693
4	94.92	0.6501	-1.4069	0.0789	1.0942	0.1115	-15.4142	0.5578	-0.6606	0.1830
4	94.92	0.6999	-1.8033	0.1026	1.2619	0.1321	-18.8454	0.6666	-0.4387	0.1867
4	94.92	0.7500	-2.2308	0.1285	1.4242	0.1536	-22.5199	0.7804	-0.2918	0.1786
4	94.92	0.8002	-2.7323	0.1568	1.5606	0.1761	-26.3716	0.8974	-0.3048	0.1764
4	94.92	0.8582	-3.3159	0.1912	1.7698	0.2024	-30.9447	1.0297	-0.3664	0.1935
4	94.92	0.9101	-3.8158	0.2211	1.9729	0.2265	-35.1530	1.1542	-0.5064	0.1878
4	94.92	0.9728	-4.2482	0.2527	2.2651	0.2555	-40.0806	1.3053	0.0213	0.1781

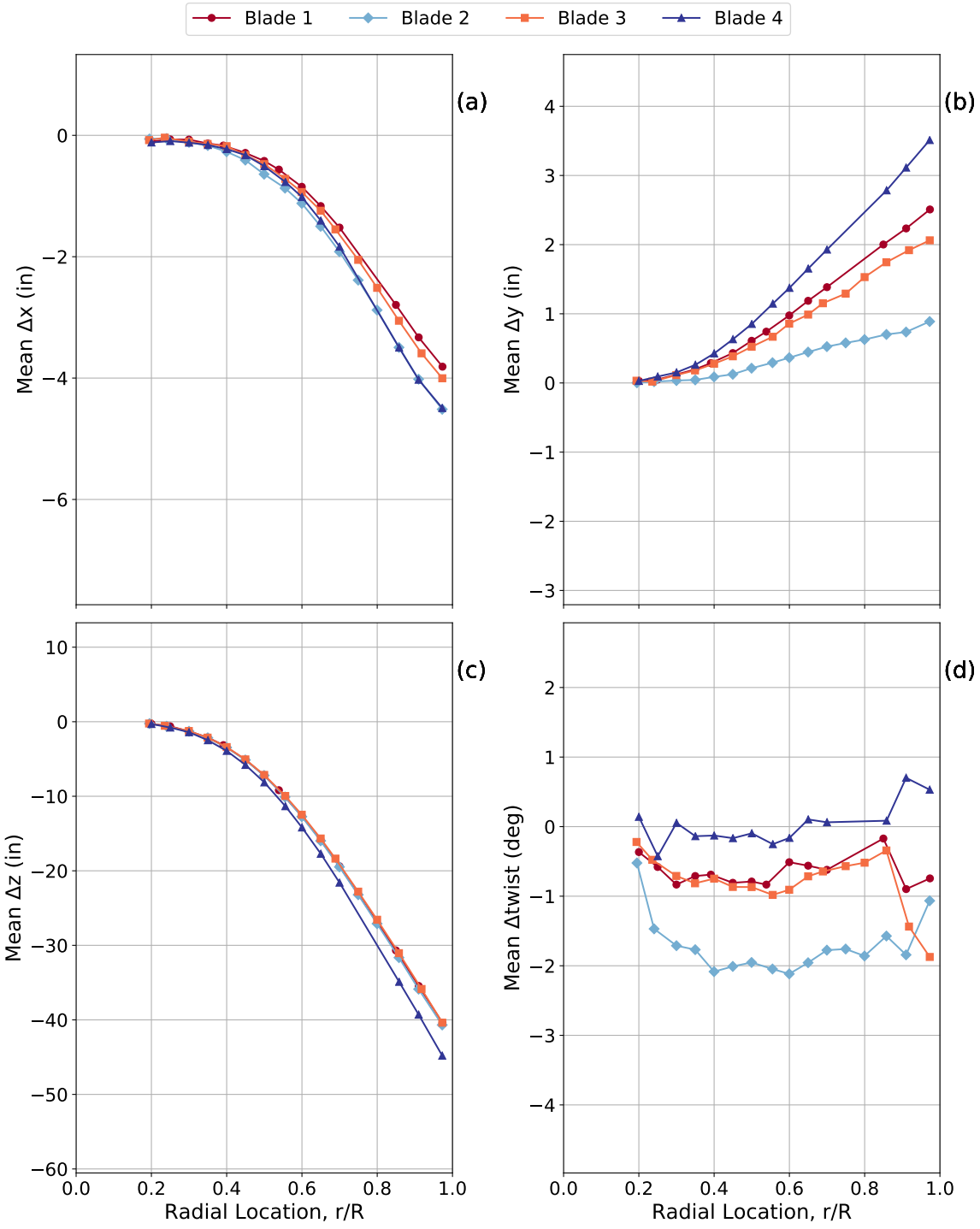


Figure 2.24-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.1012	0.0064	0.0296	0.0022	-0.2822	0.0149	-0.3656	0.0351
1	99.84	0.2499	-0.0670	0.0069	0.0494	0.0044	-0.6166	0.0347	-0.5798	0.0635
1	99.84	0.2998	-0.0705	0.0086	0.1206	0.0090	-1.2728	0.0674	-0.8330	0.0804
1	99.84	0.3498	-0.1342	0.0118	0.1977	0.0155	-2.1112	0.1155	-0.7100	0.0781
1	99.84	0.3913	-0.1680	0.0164	0.2870	0.0224	-3.1403	0.1702	-0.6899	0.0831
1	99.84	0.4496	-0.2894	0.0278	0.4321	0.0335	-5.1008	0.2667	-0.8074	0.0875
1	99.84	0.4997	-0.4217	0.0418	0.6097	0.0446	-7.2292	0.3706	-0.7891	0.0885
1	99.84	0.5387	-0.5643	0.0562	0.7418	0.0533	-9.1867	0.4604	-0.8332	0.0833
1	99.84	0.5996	-0.8477	0.0844	0.9762	0.0679	-12.6560	0.6156	-0.5113	0.0858
1	99.84	0.6498	-1.1653	0.1125	1.1879	0.0801	-15.9095	0.7531	-0.5616	0.0929
1	99.84	0.6998	-1.5198	0.1444	1.3849	0.0925	-19.3927	0.8966	-0.6208	0.0968
1	99.84	0.8497	-2.7940	0.2542	2.0016	0.1313	-30.6822	1.3428	-0.1711	0.1011
1	99.84	0.9102	-3.3291	0.2991	2.2341	0.1479	-35.4498	1.5249	-0.8977	0.1841
1	99.84	0.9734	-3.8119	0.3439	2.5085	0.1648	-40.3925	1.7251	-0.7440	0.1081
2	99.84	0.1949	-0.0599	0.0110	0.0026	0.0044	-0.2486	0.0188	-0.5224	0.0936
2	99.84	0.2405	-0.0533	0.0104	0.0188	0.0068	-0.6096	0.0362	-1.4696	0.2711
2	99.84	0.2999	-0.1153	0.0120	0.0348	0.0172	-1.2851	0.0824	-1.7113	0.2895
2	99.84	0.3498	-0.1677	0.0143	0.0441	0.0308	-2.1585	0.1428	-1.7687	0.2793
2	99.84	0.3998	-0.2699	0.0218	0.0876	0.0463	-3.4576	0.2214	-2.0844	0.2796
2	99.84	0.4496	-0.4078	0.0316	0.1254	0.0645	-5.1293	0.3187	-2.0093	0.2821
2	99.84	0.4995	-0.6406	0.0550	0.2131	0.0843	-7.2087	0.4311	-1.9525	0.3223
2	99.84	0.5551	-0.8698	0.0720	0.2929	0.1103	-10.0982	0.5939	-2.0467	0.2854
2	99.84	0.5996	-1.1203	0.0968	0.3652	0.1327	-12.7356	0.7312	-2.1168	0.2849
2	99.84	0.6497	-1.4993	0.1306	0.4466	0.1590	-15.9769	0.8965	-1.9560	0.2870
2	99.84	0.6996	-1.9170	0.1696	0.5253	0.1866	-19.4820	1.0674	-1.7756	0.2980
2	99.84	0.7495	-2.3863	0.2109	0.5793	0.2156	-23.2126	1.2416	-1.7594	0.2934
2	99.84	0.7996	-2.8791	0.2543	0.6277	0.2449	-27.0954	1.4179	-1.8593	0.2981
2	99.84	0.8578	-3.4948	0.3066	0.7014	0.2798	-31.6504	1.6224	-1.5724	0.2971
2	99.84	0.9100	-4.0180	0.3521	0.7366	0.3121	-35.8755	1.8077	-1.8429	0.3047
2	99.84	0.9727	-4.5144	0.3994	0.8886	0.3495	-40.6796	2.0288	-1.0660	0.3057
3	99.84	0.1938	-0.0791	0.0121	0.0323	0.0298	-0.2435	0.0772	-0.2206	0.3034
3	99.84	0.2357	-0.0382	0.0244	0.0196	0.0202	-0.5433	0.0233	-0.4771	1.1824
3	99.84	0.2995	-0.1064	0.0265	0.1133	0.1005	-1.2472	0.2295	-0.7090	1.1792
3	99.84	0.3493	-0.1420	0.0308	0.1814	0.1724	-2.1340	0.3974	-0.8143	1.1858
3	99.84	0.4000	-0.1785	0.0400	0.2784	0.2565	-3.4014	0.5738	-0.7476	1.1915
3	99.84	0.4497	-0.3262	0.0540	0.3856	0.3484	-5.0543	0.7501	-0.8669	1.1854
3	99.84	0.4997	-0.4743	0.0757	0.5233	0.4516	-7.1382	0.9302	-0.8687	1.1887
3	99.84	0.5556	-0.7172	0.1010	0.6680	0.5787	-9.9591	1.1369	-0.9815	1.1908
3	99.84	0.5995	-0.9340	0.1281	0.8576	0.6864	-12.4766	1.3004	-0.9077	1.1842
3	99.84	0.6498	-1.2421	0.1633	0.9884	0.8165	-15.6679	1.4907	-0.7142	1.1915
3	99.84	0.6890	-1.5495	0.1944	1.1527	0.9237	-18.3654	1.6368	-0.6444	1.2005
3	99.84	0.7495	-2.0519	0.2060	1.2915	1.0011	-22.7951	1.8644	-0.5683	0.9008
3	99.84	0.7998	-2.5130	0.2944	1.5305	1.2442	-26.5655	2.0649	-0.5183	1.1867
3	99.84	0.8577	-3.0553	0.3525	1.7450	1.4188	-31.0517	2.2898	-0.3425	1.2032
3	99.84	0.9178	-3.5919	0.4034	1.9200	1.7133	-35.8576	2.8645	-1.4366	4.7281
3	99.84	0.9729	-4.0030	0.4215	2.0622	1.8318	-40.3738	3.5693	-1.8733	5.1627
4	99.84	0.2001	-0.1176	0.0064	0.0288	0.0021	-0.3076	0.0131	0.1404	0.0330
4	99.84	0.2502	-0.0951	0.0074	0.0927	0.0046	-0.7831	0.0304	-0.4253	0.0618
4	99.84	0.3001	-0.1205	0.0088	0.1523	0.0089	-1.4132	0.0585	0.0531	0.0777
4	99.84	0.3502	-0.1593	0.0118	0.2622	0.0162	-2.4861	0.1017	-0.1374	0.0747
4	99.84	0.4002	-0.2266	0.0180	0.4268	0.0247	-3.9159	0.1597	-0.1281	0.0914
4	99.84	0.4500	-0.3271	0.0275	0.6320	0.0352	-5.7991	0.2322	-0.1660	0.1043
4	99.84	0.5001	-0.5082	0.0410	0.8531	0.0473	-8.1407	0.3194	-0.0963	0.1192
4	99.84	0.5560	-0.7691	0.0612	1.1464	0.0624	-11.3356	0.4325	-0.2523	0.1224
4	99.84	0.6001	-1.0168	0.0811	1.3744	0.0750	-14.1891	0.5285	-0.1620	0.1331
4	99.84	0.6501	-1.4052	0.1074	1.6538	0.0904	-17.7185	0.6450	0.1034	0.1393
4	99.84	0.6999	-1.8348	0.1375	1.9284	0.1063	-21.5921	0.7667	0.0625	0.1496
4	99.84	0.8582	-3.4978	0.2497	2.7846	0.1604	-34.8989	1.1763	0.0850	0.1420
4	99.84	0.9101	-4.0273	0.2879	3.1134	0.1776	-39.2979	1.3161	0.7017	0.1682
4	99.84	0.9728	-4.4941	0.3318	3.5118	0.2002	-44.8070	1.4877	0.5305	0.2332

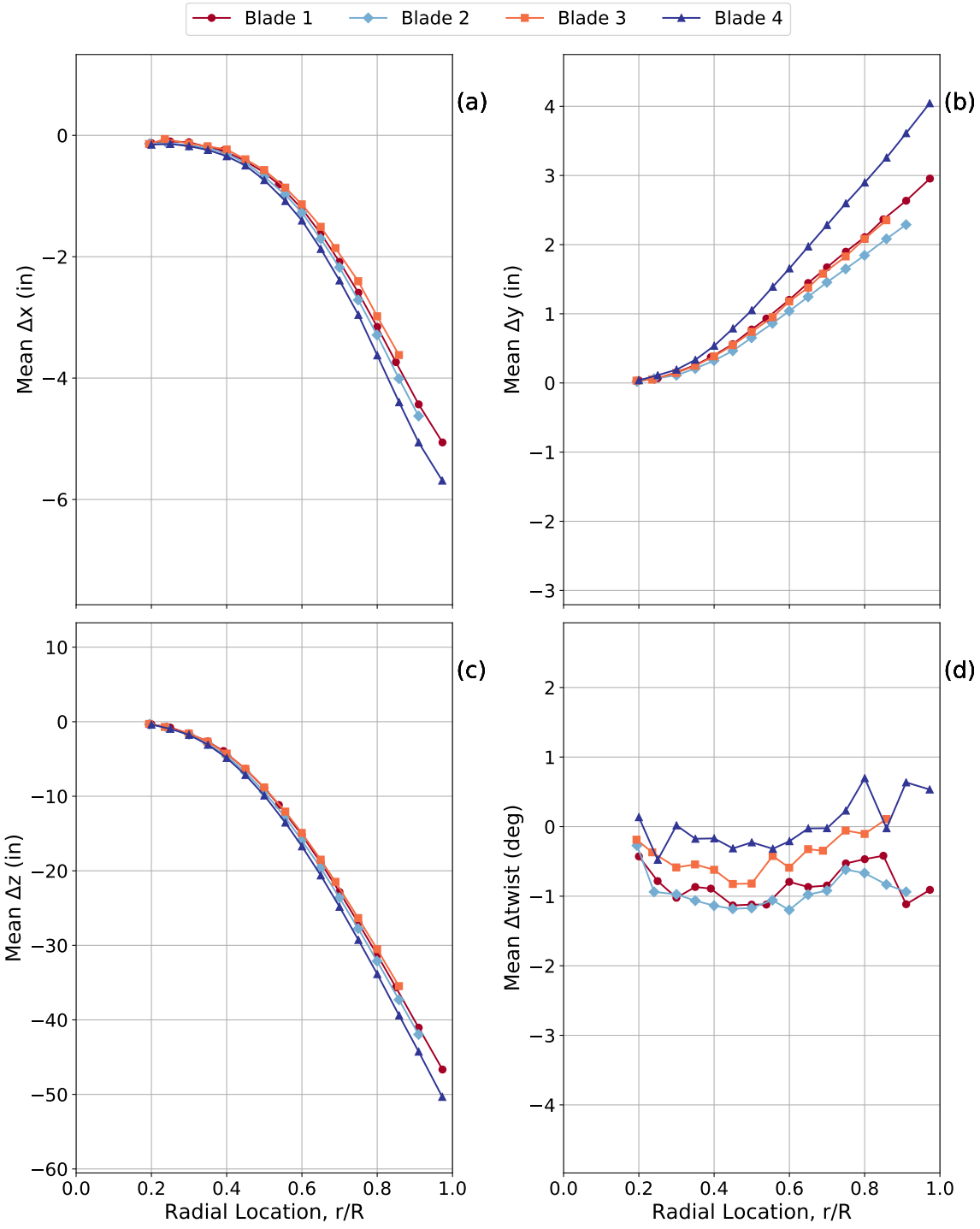


Figure 2.24-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.061, μ = 1.001, α = 4° NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.1279	0.0083	0.0372	0.0023	-0.3521	0.0165	-0.4278	0.0379
1	105.12	0.2499	-0.1010	0.0088	0.0675	0.0049	-0.7782	0.0381	-0.7826	0.0591
1	105.12	0.2998	-0.1134	0.0116	0.1529	0.0101	-1.5865	0.0733	-1.0223	0.0838
1	105.12	0.3498	-0.1941	0.0151	0.2584	0.0169	-2.6463	0.1276	-0.8673	0.0867
1	105.12	0.3913	-0.2510	0.0209	0.3727	0.0250	-3.9290	0.1863	-0.8909	0.0915
1	105.12	0.4496	-0.4226	0.0334	0.5602	0.0369	-6.3305	0.2833	-1.1328	0.0990
1	105.12	0.4997	-0.6129	0.0490	0.7727	0.0482	-8.8748	0.3812	-1.1205	0.1066
1	105.12	0.5387	-0.8110	0.0641	0.9311	0.0574	-11.1713	0.4651	-1.1207	0.1044
1	105.12	0.5996	-1.2066	0.0944	1.2018	0.0736	-15.1811	0.6114	-0.7936	0.1004
1	105.12	0.6498	-1.6176	0.1246	1.4452	0.0873	-18.9063	0.7431	-0.8676	0.1030
1	105.12	0.6998	-2.0850	0.1598	1.6719	0.1008	-22.8424	0.8825	-0.8471	0.1077
1	105.12	0.7500	-2.5939	0.1998	1.8977	0.1143	-27.0100	1.0310	-0.5291	0.1126
1	105.12	0.8001	-3.1570	0.2428	2.1079	0.1286	-31.2893	1.1855	-0.4677	0.1126
1	105.12	0.8497	-3.7371	0.2882	2.3655	0.1422	-35.6459	1.3471	-0.4185	0.1274
1	105.12	0.9102	-4.4337	0.3432	2.6347	0.1588	-41.0474	1.5487	-1.1154	0.1409
1	105.12	0.9734	-5.0605	0.3978	2.9550	0.1762	-46.6625	1.7654	-0.9088	0.1390
2	105.12	0.1949	-0.1371	0.0066	0.0206	0.0019	-0.3408	0.0125	-0.2715	0.0325
2	105.12	0.2405	-0.1245	0.0077	0.0613	0.0039	-0.7795	0.0276	-0.9379	0.0484
2	105.12	0.2999	-0.1642	0.0102	0.1111	0.0086	-1.6954	0.0616	-0.9735	0.0740
2	105.12	0.3498	-0.2095	0.0135	0.2083	0.0155	-2.9306	0.1063	-1.0640	0.0672
2	105.12	0.3998	-0.3057	0.0204	0.3229	0.0238	-4.6190	0.1675	-1.1363	0.0770
2	105.12	0.4496	-0.4517	0.0305	0.4656	0.0324	-6.7748	0.2413	-1.1815	0.0872
2	105.12	0.4995	-0.6816	0.0449	0.6530	0.0420	-9.3920	0.3250	-1.1696	0.0872
2	105.12	0.5551	-0.9735	0.0658	0.8619	0.0529	-12.7978	0.4326	-1.0571	0.0940
2	105.12	0.5996	-1.2730	0.0875	1.0397	0.0629	-15.8988	0.5302	-1.1984	0.0925
2	105.12	0.6497	-1.7045	0.1163	1.2455	0.0740	-19.6054	0.6493	-0.9769	0.0939
2	105.12	0.6996	-2.1760	0.1493	1.4547	0.0860	-23.6027	0.7766	-0.9197	0.0995
2	105.12	0.7495	-2.7125	0.1865	1.6489	0.0973	-27.7588	0.9130	-0.6183	0.0972
2	105.12	0.7996	-3.2895	0.2275	1.8450	0.1091	-32.1159	1.0567	-0.6674	0.1002
2	105.12	0.8578	-4.0099	0.2780	2.0829	0.1224	-37.2976	1.2283	-0.8321	0.1226
2	105.12	0.9100	-4.6255	0.3236	2.2885	0.1345	-41.9579	1.3877	-0.9371	0.1301
3	105.12	0.1938	-0.1433	0.0076	0.0336	0.0019	-0.2987	0.0150	-0.1875	0.0368
3	105.12	0.2357	-0.0612	0.0085	0.0489	0.0051	-0.7025	0.0303	-0.3695	0.0546
3	105.12	0.2995	-0.1341	0.0110	0.1448	0.0103	-1.5650	0.0718	-0.5866	0.0853
3	105.12	0.3493	-0.1801	0.0144	0.2470	0.0188	-2.6711	0.1262	-0.5434	0.0676
3	105.12	0.4000	-0.2333	0.0214	0.3847	0.0296	-4.2732	0.1975	-0.6203	0.0720
3	105.12	0.4497	-0.3945	0.0319	0.5469	0.0403	-6.3171	0.2777	-0.8242	0.0995
3	105.12	0.4997	-0.5714	0.0472	0.7395	0.0531	-8.8145	0.3711	-0.8182	0.1035
3	105.12	0.5556	-0.8610	0.0687	0.9523	0.0687	-12.0563	0.4898	-0.4219	0.0983
3	105.12	0.5995	-1.1369	0.0891	1.1784	0.0820	-14.9175	0.5905	-0.5900	0.0985
3	105.12	0.6498	-1.5069	0.1172	1.3778	0.0972	-18.5022	0.7138	-0.3241	0.1030
3	105.12	0.6890	-1.8575	0.1421	1.5793	0.1100	-21.4820	0.8162	-0.3460	0.1028
3	105.12	0.7495	-2.4042	0.1856	1.8293	0.1296	-26.3394	0.9822	-0.0558	0.1242
3	105.12	0.7998	-2.9819	0.2254	2.0834	0.1461	-30.5149	1.1311	-0.1047	0.1128
3	105.12	0.8577	-3.6199	0.2750	2.3524	0.1653	-35.4737	1.3070	0.1086	0.1250
4	105.12	0.2001	-0.1539	0.0100	0.0386	0.0027	-0.3885	0.0177	0.1351	0.0357
4	105.12	0.2502	-0.1418	0.0115	0.1121	0.0058	-0.9571	0.0419	-0.4774	0.0537
4	105.12	0.3001	-0.1793	0.0148	0.1925	0.0119	-1.7614	0.0804	0.0175	0.0763
4	105.12	0.3502	-0.2408	0.0195	0.3347	0.0205	-3.0945	0.1390	-0.1747	0.0759
4	105.12	0.4002	-0.3445	0.0283	0.5374	0.0322	-4.8621	0.2194	-0.1691	0.0865
4	105.12	0.4500	-0.4971	0.0426	0.7876	0.0441	-7.1493	0.3097	-0.3129	0.0991
4	105.12	0.5001	-0.7378	0.0617	1.0521	0.0580	-9.9041	0.4180	-0.2262	0.1194
4	105.12	0.5560	-1.0827	0.0895	1.3903	0.0757	-13.5385	0.5556	-0.3186	0.1258
4	105.12	0.6001	-1.4042	0.1164	1.6555	0.0899	-16.7230	0.6753	-0.2093	0.1282
4	105.12	0.6501	-1.8725	0.1521	1.9720	0.1072	-20.6238	0.8197	-0.0261	0.1330
4	105.12	0.6999	-2.3919	0.1929	2.2832	0.1248	-24.8395	0.9727	-0.0228	0.1405
4	105.12	0.7500	-2.9590	0.2384	2.5979	0.1422	-29.2768	1.1337	0.2297	0.1527
4	105.12	0.8002	-3.6259	0.2875	2.8974	0.1606	-33.8658	1.3003	0.6966	0.1574
4	105.12	0.8582	-4.3986	0.3479	3.2576	0.1823	-39.4057	1.4973	-0.0234	0.1732
4	105.12	0.9101	-5.0613	0.4009	3.6111	0.2019	-44.2656	1.6805	0.6359	0.1654
4	105.12	0.9728	-5.6894	0.4662	4.0444	0.2240	-50.3326	1.9092	0.5335	0.1927

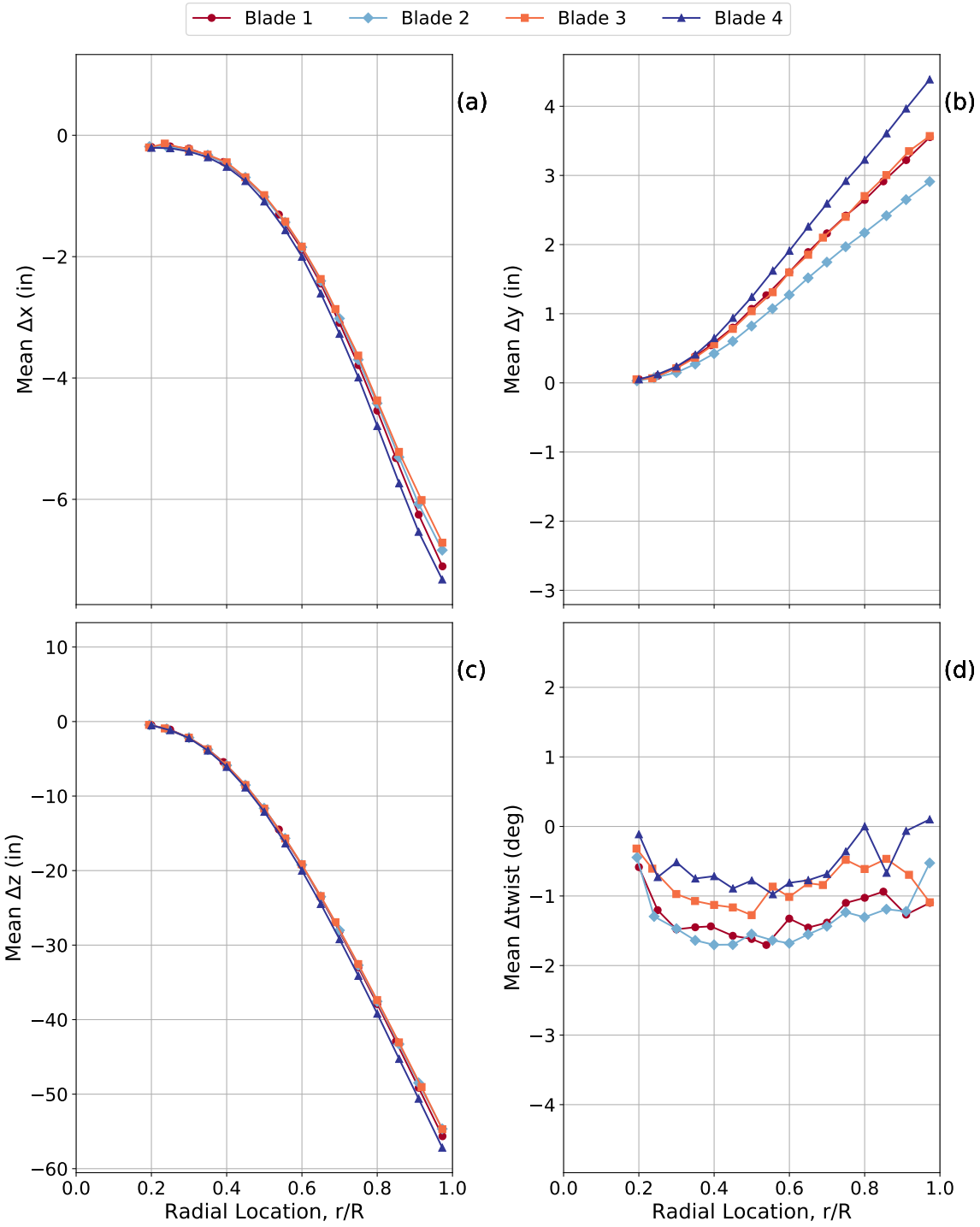


Figure 2.24-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.1921	0.0109	0.0535	0.0022	-0.4993	0.0168	-0.5846	0.0401
1	119.88	0.2499	-0.1829	0.0121	0.1016	0.0044	-1.0766	0.0389	-1.2037	0.0761
1	119.88	0.2998	-0.2176	0.0149	0.2173	0.0086	-2.1821	0.0739	-1.4790	0.0960
1	119.88	0.3498	-0.3303	0.0202	0.3849	0.0156	-3.7037	0.1284	-1.4496	0.1067
1	119.88	0.3913	-0.4399	0.0282	0.5451	0.0218	-5.4295	0.1873	-1.4364	0.1307
1	119.88	0.4496	-0.7098	0.0465	0.7987	0.0321	-8.5099	0.2895	-1.5727	0.1256
1	119.88	0.4997	-1.0113	0.0686	1.0704	0.0417	-11.6816	0.3999	-1.6178	0.1375
1	119.88	0.5387	-1.3066	0.0900	1.2670	0.0499	-14.4853	0.4940	-1.7042	0.1372
1	119.88	0.5996	-1.8821	0.1313	1.6013	0.0630	-19.2510	0.6537	-1.3254	0.1379
1	119.88	0.6498	-2.4431	0.1708	1.8915	0.0746	-23.6261	0.7960	-1.4547	0.1374
1	119.88	0.6998	-3.0920	0.2147	2.1625	0.0865	-28.1847	0.9418	-1.3837	0.1380
1	119.88	0.7500	-3.7883	0.2629	2.4183	0.0984	-32.9904	1.0911	-1.0997	0.1361
1	119.88	0.8001	-4.5382	0.3132	2.6455	0.1108	-37.9071	1.2443	-1.0262	0.1434
1	119.88	0.8497	-5.3196	0.3650	2.9142	0.1233	-42.9173	1.3975	-0.9375	0.1417
1	119.88	0.9102	-6.2527	0.4291	3.2216	0.1402	-49.1407	1.5884	-1.2676	0.1509
1	119.88	0.9734	-7.1042	0.4932	3.5540	0.1574	-55.6437	1.7914	-1.0982	0.1540
2	119.88	0.1949	-0.1854	0.0095	0.0294	0.0020	-0.4505	0.0151	-0.4452	0.0297
2	119.88	0.2405	-0.1830	0.0112	0.0742	0.0038	-0.9737	0.0314	-1.2946	0.0577
2	119.88	0.2999	-0.2461	0.0138	0.1493	0.0089	-2.1663	0.0719	-1.4702	0.0735
2	119.88	0.3498	-0.3258	0.0194	0.2722	0.0161	-3.7538	0.1237	-1.6384	0.0701
2	119.88	0.3998	-0.4763	0.0293	0.4225	0.0246	-5.8798	0.1941	-1.7020	0.0921
2	119.88	0.4496	-0.6943	0.0446	0.6009	0.0343	-8.5246	0.2794	-1.6991	0.0921
2	119.88	0.4995	-1.0165	0.0658	0.8217	0.0453	-11.6331	0.3867	-1.5481	0.0914
2	119.88	0.5551	-1.4333	0.0990	1.0728	0.0585	-15.6717	0.5299	-1.6373	0.1113
2	119.88	0.5996	-1.8438	0.1322	1.2716	0.0696	-19.2361	0.6600	-1.6802	0.1042
2	119.88	0.6497	-2.4003	0.1766	1.5178	0.0821	-23.5020	0.8226	-1.5522	0.1183
2	119.88	0.6996	-3.0190	0.2289	1.7459	0.0950	-28.0115	0.9996	-1.4348	0.1176
2	119.88	0.7495	-3.6981	0.2871	1.9683	0.1082	-32.7016	1.1891	-1.2335	0.1216
2	119.88	0.7996	-4.4168	0.3512	2.1705	0.1214	-37.5563	1.3883	-1.3050	0.1167
2	119.88	0.8578	-5.3058	0.4310	2.4175	0.1368	-43.2824	1.6343	-1.1901	0.1252
2	119.88	0.9100	-6.0749	0.5032	2.6496	0.1511	-48.4838	1.8615	-1.2225	0.1287
2	119.88	0.9727	-6.8375	0.5895	2.9106	0.1678	-54.6577	2.1386	-0.5256	0.1519
3	119.88	0.1938	-0.2003	0.0091	0.0512	0.0019	-0.4430	0.0138	-0.3182	0.0271
3	119.88	0.2357	-0.1367	0.0098	0.0666	0.0038	-0.9220	0.0276	-0.6072	0.0452
3	119.88	0.2995	-0.2348	0.0127	0.2098	0.0086	-2.1613	0.0647	-0.9719	0.0635
3	119.88	0.3493	-0.3190	0.0176	0.3633	0.0154	-3.7243	0.1126	-1.0725	0.0693
3	119.88	0.4000	-0.4459	0.0264	0.5584	0.0240	-5.8812	0.1764	-1.1289	0.0766
3	119.88	0.4497	-0.6923	0.0401	0.7808	0.0334	-8.5213	0.2532	-1.1646	0.0839
3	119.88	0.4997	-0.9861	0.0584	1.0365	0.0442	-11.6855	0.3441	-1.2751	0.0903
3	119.88	0.5556	-1.4228	0.0858	1.3105	0.0571	-15.6948	0.4597	-0.8658	0.0964
3	119.88	0.5995	-1.8348	0.1113	1.5974	0.0681	-19.1527	0.5604	-1.0135	0.1043
3	119.88	0.6498	-2.3692	0.1455	1.8529	0.0806	-23.4234	0.6851	-0.8164	0.1027
3	119.88	0.6890	-2.8639	0.1759	2.0997	0.0914	-26.9255	0.7878	-0.8425	0.1046
3	119.88	0.7495	-3.6310	0.2279	2.4010	0.1075	-32.5486	0.9563	-0.4801	0.1084
3	119.88	0.7998	-4.3702	0.2752	2.7015	0.1218	-37.3758	1.1033	-0.6122	0.1057
3	119.88	0.8577	-5.2183	0.3334	3.0051	0.1381	-43.0500	1.2821	-0.4663	0.1040
3	119.88	0.9178	-6.0124	0.3957	3.3505	0.1559	-49.0500	1.4743	-0.6954	0.1213
3	119.88	0.9729	-6.7142	0.4502	3.5695	0.1725	-54.6999	1.6573	-1.0905	0.1302
4	119.88	0.2001	-0.2059	0.0106	0.0507	0.0021	-0.5081	0.0156	-0.1128	0.0407
4	119.88	0.2502	-0.2133	0.0123	0.1246	0.0043	-1.1659	0.0357	-0.7289	0.0716
4	119.88	0.3001	-0.2679	0.0144	0.2360	0.0086	-2.2278	0.0686	-0.5155	0.0958
4	119.88	0.3502	-0.3624	0.0195	0.4080	0.0152	-3.9011	0.1189	-0.7492	0.1161
4	119.88	0.4002	-0.5197	0.0288	0.6470	0.0234	-6.0925	0.1865	-0.7153	0.1323
4	119.88	0.4500	-0.7541	0.0438	0.9393	0.0327	-8.8535	0.2710	-0.8922	0.1214
4	119.88	0.5001	-1.0908	0.0657	1.2424	0.0436	-12.1125	0.3793	-0.7767	0.1601
4	119.88	0.5560	-1.5635	0.0986	1.6216	0.0570	-16.3669	0.5163	-0.9758	0.1499
4	119.88	0.6001	-2.0023	0.1316	1.9103	0.0686	-20.0189	0.6414	-0.8108	0.1641
4	119.88	0.6501	-2.6067	0.1752	2.2599	0.0826	-24.4840	0.7954	-0.7732	0.1679
4	119.88	0.6999	-3.2725	0.2259	2.5927	0.0974	-29.2101	0.9597	-0.6841	0.1662
4	119.88	0.7500	-3.9913	0.2819	2.9201	0.1124	-34.1322	1.1338	-0.3591	0.1572
4	119.88	0.8002	-4.7919	0.3435	3.2267	0.1279	-39.2078	1.3176	0.0002	0.1690
4	119.88	0.8582	-5.7360	0.4188	3.6078	0.1467	-45.2721	1.5379	-0.6672	0.1668
4	119.88	0.9101	-6.5358	0.4859	3.9665	0.1641	-50.6168	1.7417	-0.0642	0.1692
4	119.88	0.9728	-7.3224	0.5657	4.3869	0.1850	-57.1845	1.9967	0.1004	0.1892

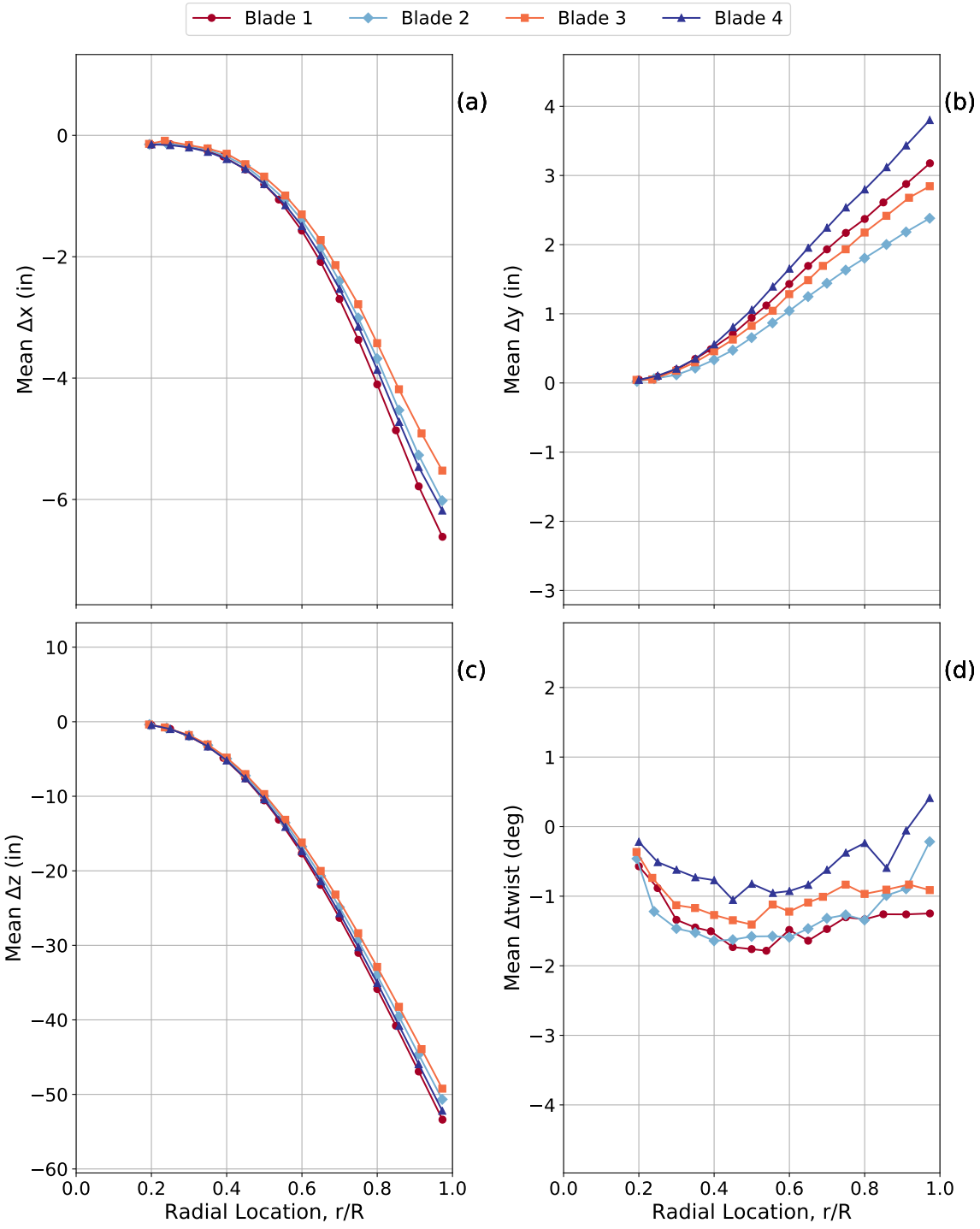


Figure 2.24-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.1567	0.0091	0.0482	0.0017	-0.4493	0.0148	-0.5699	0.0336
1	135	0.2499	-0.1453	0.0105	0.0901	0.0038	-0.9652	0.0335	-0.8833	0.0642
1	135	0.2998	-0.1803	0.0119	0.1927	0.0074	-1.9508	0.0633	-1.3397	0.0806
1	135	0.3498	-0.2616	0.0154	0.3470	0.0126	-3.3136	0.1114	-1.4500	0.0925
1	135	0.3913	-0.3474	0.0217	0.4868	0.0183	-4.8508	0.1608	-1.5041	0.0894
1	135	0.4496	-0.5618	0.0362	0.7049	0.0272	-7.6245	0.2550	-1.7318	0.1067
1	135	0.4997	-0.8075	0.0539	0.9424	0.0359	-10.5501	0.3509	-1.7608	0.1011
1	135	0.5387	-1.0582	0.0729	1.1207	0.0437	-13.1407	0.4414	-1.7838	0.1050
1	135	0.5996	-1.5701	0.1129	1.4311	0.0561	-17.6718	0.6083	-1.4848	0.1095
1	135	0.6498	-2.0859	0.1550	1.6923	0.0672	-21.8878	0.7673	-1.6401	0.1213
1	135	0.6998	-2.6984	0.2046	1.9315	0.0795	-26.3140	0.9389	-1.4715	0.1191
1	135	0.7500	-3.3704	0.2626	2.1699	0.0912	-31.0134	1.1295	-1.3030	0.1230
1	135	0.8001	-4.1041	0.3272	2.3709	0.1030	-35.8622	1.3327	-1.3323	0.1320
1	135	0.8497	-4.8601	0.3966	2.6104	0.1146	-40.7934	1.5429	-1.2596	0.1373
1	135	0.9102	-5.7840	0.4825	2.8764	0.1293	-46.9265	1.8096	-1.2610	0.1437
1	135	0.9734	-6.6152	0.5720	3.1767	0.1449	-53.3847	2.0957	-1.2481	0.1509
2	135	0.1949	-0.1488	0.0067	0.0222	0.0015	-0.3800	0.0132	-0.4598	0.0409
2	135	0.2405	-0.1327	0.0077	0.0612	0.0029	-0.8351	0.0282	-1.2197	0.0587
2	135	0.2999	-0.1773	0.0105	0.1174	0.0065	-1.8418	0.0628	-1.4648	0.0965
2	135	0.3498	-0.2366	0.0152	0.2146	0.0119	-3.1492	0.1087	-1.5235	0.1120
2	135	0.3998	-0.3490	0.0224	0.3348	0.0180	-4.9624	0.1701	-1.6410	0.1153
2	135	0.4496	-0.5022	0.0345	0.4740	0.0255	-7.2367	0.2492	-1.6254	0.1212
2	135	0.4995	-0.7488	0.0515	0.6551	0.0333	-9.9747	0.3448	-1.5787	0.1162
2	135	0.5551	-1.0617	0.0779	0.8675	0.0440	-13.5493	0.4763	-1.5754	0.1382
2	135	0.5996	-1.3942	0.1054	1.0422	0.0530	-16.7548	0.5966	-1.5902	0.1346
2	135	0.6497	-1.8562	0.1438	1.2486	0.0639	-20.6838	0.7492	-1.4662	0.1362
2	135	0.6996	-2.4022	0.1902	1.4416	0.0748	-24.8850	0.9173	-1.3181	0.1357
2	135	0.7495	-3.0081	0.2447	1.6319	0.0859	-29.3501	1.1033	-1.2680	0.1394
2	135	0.7996	-3.6789	0.3067	1.8038	0.0970	-34.0063	1.3067	-1.3424	0.1464
2	135	0.8578	-4.5287	0.3853	2.0018	0.1104	-39.5347	1.5568	-0.9894	0.1450
2	135	0.9100	-5.2691	0.4579	2.1835	0.1225	-44.6323	1.7898	-0.8945	0.1504
2	135	0.9727	-6.0202	0.5446	2.3809	0.1365	-50.6644	2.0770	-0.2164	0.1504
3	135	0.1938	-0.1407	0.0072	0.0449	0.0018	-0.3695	0.0133	-0.3639	0.0356
3	135	0.2357	-0.0894	0.0079	0.0495	0.0039	-0.7649	0.0267	-0.7370	0.0553
3	135	0.2995	-0.1615	0.0098	0.1760	0.0077	-1.7853	0.0619	-1.1297	0.0858
3	135	0.3493	-0.2157	0.0143	0.2981	0.0127	-3.0440	0.1082	-1.1699	0.1022
3	135	0.4000	-0.3033	0.0216	0.4581	0.0207	-4.8174	0.1689	-1.2706	0.0982
3	135	0.4497	-0.4748	0.0319	0.6274	0.0277	-7.0231	0.2464	-1.3454	0.1141
3	135	0.4997	-0.6799	0.0480	0.8258	0.0363	-9.7080	0.3358	-1.4078	0.1095
3	135	0.5556	-0.9915	0.0715	1.0436	0.0470	-13.1549	0.4550	-1.1200	0.1280
3	135	0.5995	-1.3030	0.0943	1.2840	0.0563	-16.2066	0.5594	-1.2223	0.1110
3	135	0.6498	-1.7258	0.1259	1.4864	0.0670	-20.0174	0.6908	-1.0913	0.1274
3	135	0.6890	-2.1378	0.1548	1.6925	0.0757	-23.1884	0.7984	-1.0087	0.1144
3	135	0.7495	-2.7835	0.2054	1.9326	0.0901	-28.3746	0.9791	-0.8339	0.1232
3	135	0.7998	-3.4244	0.2531	2.1745	0.1027	-32.8978	1.1407	-0.9672	0.1290
3	135	0.8577	-4.1843	0.3132	2.4164	0.1172	-38.2501	1.3369	-0.9058	0.1365
3	135	0.9178	-4.9120	0.3767	2.6779	0.1326	-43.9231	1.5451	-0.8322	0.1186
3	135	0.9729	-5.5241	0.4333	2.8446	0.1474	-49.2267	1.7435	-0.9123	0.1238
4	135	0.2001	-0.1488	0.0091	0.0440	0.0017	-0.4465	0.0155	-0.2188	0.0334
4	135	0.2502	-0.1619	0.0101	0.1056	0.0039	-0.9832	0.0342	-0.5109	0.0575
4	135	0.3001	-0.2004	0.0120	0.2055	0.0076	-1.9276	0.0657	-0.6205	0.0782
4	135	0.3502	-0.2724	0.0163	0.3496	0.0138	-3.3258	0.1157	-0.7278	0.0941
4	135	0.4002	-0.3915	0.0249	0.5574	0.0214	-5.2008	0.1792	-0.7703	0.0958
4	135	0.4500	-0.5554	0.0380	0.8067	0.0294	-7.5886	0.2615	-1.0541	0.0989
4	135	0.5001	-0.8034	0.0557	1.0573	0.0391	-10.4022	0.3603	-0.8220	0.0957
4	135	0.5560	-1.1516	0.0836	1.3929	0.0514	-14.1166	0.4979	-0.9536	0.1170
4	135	0.6001	-1.4957	0.1122	1.6520	0.0604	-17.3664	0.6205	-0.9262	0.1107
4	135	0.6501	-1.9791	0.1524	1.9545	0.0719	-21.3923	0.7770	-0.8365	0.1146
4	135	0.6999	-2.5309	0.1999	2.2446	0.0843	-25.6967	0.9473	-0.6210	0.1154
4	135	0.7500	-3.1528	0.2560	2.5369	0.0952	-30.2588	1.1381	-0.3740	0.1224
4	135	0.8002	-3.8641	0.3201	2.7976	0.1070	-35.0563	1.3413	-0.2352	0.1162
4	135	0.8582	-4.7221	0.4006	3.1189	0.1204	-40.7983	1.5917	-0.5936	0.1288
4	135	0.9101	-5.4649	0.4737	3.4332	0.1325	-45.9446	1.8219	-0.0558	0.1263
4	135	0.9728	-6.1833	0.5613	3.8006	0.1476	-52.1939	2.1097	0.4110	0.1252

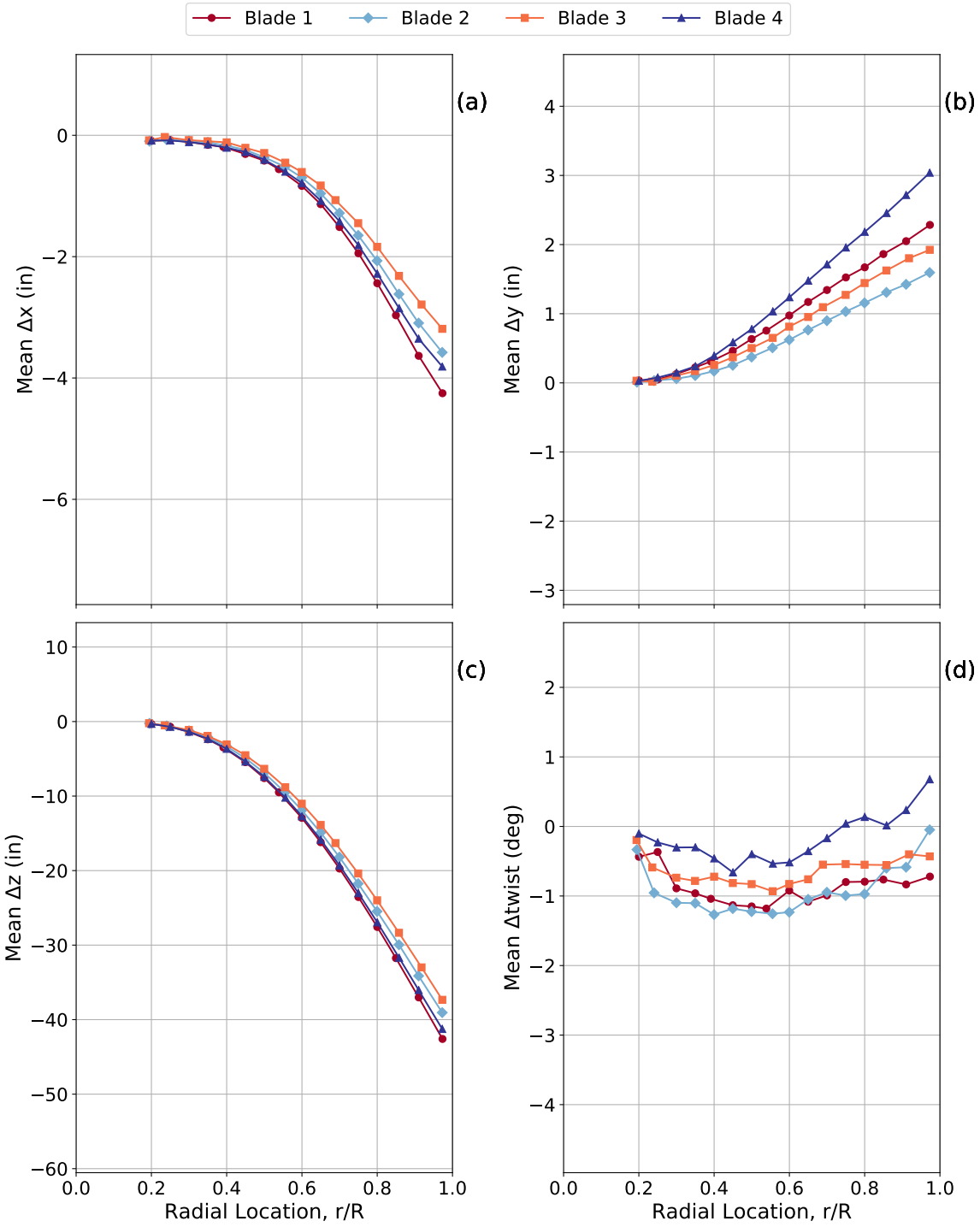


Figure 2.24-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0927	0.0068	0.0346	0.0024	-0.3253	0.0155	-0.4361	0.0366
1	150.12	0.2499	-0.0786	0.0076	0.0487	0.0044	-0.6900	0.0317	-0.3677	0.0581
1	150.12	0.2998	-0.1080	0.0091	0.1285	0.0101	-1.4009	0.0654	-0.8903	0.0822
1	150.12	0.3498	-0.1574	0.0118	0.2238	0.0165	-2.3817	0.1126	-0.9616	0.0885
1	150.12	0.3913	-0.1926	0.0161	0.3098	0.0242	-3.4790	0.1629	-1.0404	0.0948
1	150.12	0.4496	-0.3077	0.0264	0.4627	0.0365	-5.4491	0.2547	-1.1329	0.1065
1	150.12	0.4997	-0.4175	0.0398	0.6341	0.0479	-7.5873	0.3544	-1.1499	0.1156
1	150.12	0.5387	-0.5581	0.0537	0.7554	0.0578	-9.4946	0.4421	-1.1812	0.1198
1	150.12	0.5996	-0.8340	0.0821	0.9744	0.0750	-12.9213	0.6012	-0.9224	0.1254
1	150.12	0.6498	-1.1351	0.1134	1.1699	0.0896	-16.1924	0.7512	-1.0823	0.1394
1	150.12	0.6998	-1.5119	0.1500	1.3427	0.1054	-19.7289	0.9104	-0.9914	0.1392
1	150.12	0.7500	-1.9437	0.1920	1.5246	0.1217	-23.5480	1.0805	-0.7993	0.1442
1	150.12	0.8001	-2.4386	0.2396	1.6708	0.1368	-27.5666	1.2605	-0.7943	0.1445
1	150.12	0.8497	-2.9663	0.2898	1.8626	0.1533	-31.7489	1.4419	-0.7637	0.1559
1	150.12	0.9102	-3.6344	0.3525	2.0496	0.1735	-37.0175	1.6665	-0.8340	0.1504
1	150.12	0.9734	-4.2512	0.4146	2.2843	0.1953	-42.5916	1.9069	-0.7210	0.1599
2	150.12	0.1949	-0.0975	0.0054	0.0104	0.0022	-0.2477	0.0154	-0.3329	0.0300
2	150.12	0.2405	-0.0713	0.0061	0.0320	0.0052	-0.5824	0.0317	-0.9552	0.0491
2	150.12	0.2999	-0.0917	0.0080	0.0606	0.0104	-1.2429	0.0712	-1.0976	0.0736
2	150.12	0.3498	-0.1162	0.0111	0.1056	0.0191	-2.1006	0.1212	-1.1037	0.0738
2	150.12	0.3998	-0.1701	0.0170	0.1697	0.0293	-3.3422	0.1899	-1.2676	0.0814
2	150.12	0.4496	-0.2400	0.0255	0.2543	0.0412	-4.9101	0.2780	-1.1813	0.0904
2	150.12	0.4995	-0.3609	0.0384	0.3735	0.0530	-6.8727	0.3818	-1.2248	0.0914
2	150.12	0.5551	-0.5184	0.0583	0.5072	0.0682	-9.5047	0.5176	-1.2553	0.0937
2	150.12	0.5996	-0.6963	0.0783	0.6227	0.0809	-11.9054	0.6403	-1.2326	0.0955
2	150.12	0.6497	-0.9600	0.1060	0.7648	0.0955	-14.9001	0.7893	-1.0487	0.0991
2	150.12	0.6996	-1.2820	0.1388	0.8993	0.1103	-18.1933	0.9474	-0.9467	0.0981
2	150.12	0.7495	-1.6496	0.1759	1.0312	0.1262	-21.7519	1.1136	-0.9941	0.1035
2	150.12	0.7996	-2.0679	0.2174	1.1560	0.1414	-25.4751	1.2874	-0.9718	0.1085
2	150.12	0.8578	-2.6177	0.2683	1.3085	0.1594	-29.9523	1.4929	-0.5995	0.1161
2	150.12	0.9100	-3.0949	0.3140	1.4248	0.1760	-34.1321	1.6802	-0.5860	0.1071
2	150.12	0.9727	-3.5782	0.3650	1.5954	0.1961	-39.0557	1.9070	-0.0485	0.1207
3	150.12	0.1938	-0.0827	0.0068	0.0308	0.0023	-0.2268	0.0162	-0.1955	0.0467
3	150.12	0.2357	-0.0282	0.0074	0.0181	0.0042	-0.5153	0.0315	-0.5893	0.0782
3	150.12	0.2995	-0.0796	0.0086	0.1046	0.0075	-1.1311	0.0762	-0.7373	0.1230
3	150.12	0.3493	-0.0978	0.0119	0.1707	0.0136	-1.9297	0.1288	-0.7832	0.1283
3	150.12	0.4000	-0.1161	0.0184	0.2586	0.0208	-3.0651	0.2038	-0.7224	0.1388
3	150.12	0.4497	-0.2065	0.0268	0.3705	0.0296	-4.5171	0.2984	-0.8135	0.1621
3	150.12	0.4997	-0.2920	0.0398	0.5034	0.0399	-6.3440	0.4157	-0.8295	0.1713
3	150.12	0.5556	-0.4507	0.0599	0.6506	0.0524	-8.8104	0.5623	-0.9316	0.1686
3	150.12	0.5995	-0.6052	0.0800	0.8133	0.0631	-11.0234	0.6948	-0.8276	0.1701
3	150.12	0.6498	-0.8276	0.1105	0.9530	0.0760	-13.8747	0.8581	-0.7599	0.1705
3	150.12	0.6890	-1.0683	0.1364	1.0947	0.0863	-16.3057	0.9934	-0.5489	0.1840
3	150.12	0.7495	-1.4480	0.1810	1.2720	0.1027	-20.3852	1.2082	-0.5408	0.1899
3	150.12	0.7998	-1.8384	0.2244	1.4434	0.1165	-23.9890	1.3943	-0.5505	0.1933
3	150.12	0.8577	-2.3170	0.2773	1.6251	0.1324	-28.3441	1.6128	-0.5550	0.2039
3	150.12	0.9178	-2.7885	0.3303	1.8023	0.1499	-32.9893	1.8380	-0.4009	0.1868
3	150.12	0.9729	-3.1896	0.3765	1.9238	0.1659	-37.3426	2.0485	-0.4306	0.1989
4	150.12	0.2001	-0.0862	0.0063	0.0293	0.0026	-0.3113	0.0161	-0.1028	0.0287
4	150.12	0.2502	-0.0842	0.0076	0.0763	0.0048	-0.7132	0.0339	-0.2300	0.0506
4	150.12	0.3001	-0.1121	0.0095	0.1470	0.0110	-1.3637	0.0686	-0.3024	0.0659
4	150.12	0.3502	-0.1492	0.0126	0.2396	0.0187	-2.3260	0.1169	-0.3000	0.0686
4	150.12	0.4002	-0.2048	0.0185	0.3926	0.0292	-3.6645	0.1830	-0.4601	0.0731
4	150.12	0.4500	-0.2745	0.0284	0.5863	0.0411	-5.3735	0.2684	-0.6615	0.0863
4	150.12	0.5001	-0.4030	0.0412	0.7796	0.0537	-7.4157	0.3716	-0.3985	0.0920
4	150.12	0.5560	-0.6001	0.0614	1.0331	0.0701	-10.2171	0.5036	-0.5354	0.0998
4	150.12	0.6001	-0.7881	0.0822	1.2382	0.0839	-12.7142	0.6247	-0.5169	0.1023
4	150.12	0.6501	-1.0794	0.1122	1.4779	0.1008	-15.8645	0.7753	-0.3551	0.1138
4	150.12	0.6999	-1.4182	0.1468	1.7136	0.1174	-19.3170	0.9366	-0.1684	0.1125
4	150.12	0.7500	-1.8118	0.1867	1.9570	0.1357	-23.0242	1.1104	0.0401	0.1190
4	150.12	0.8002	-2.2812	0.2340	2.1838	0.1531	-26.9506	1.2958	0.1361	0.1230
4	150.12	0.8582	-2.8510	0.2916	2.4559	0.1737	-31.6998	1.5197	0.0137	0.1262
4	150.12	0.9101	-3.3523	0.3430	2.7165	0.1937	-36.0316	1.7196	0.2353	0.1315
4	150.12	0.9728	-3.8119	0.4029	3.0386	0.2165	-41.2567	1.9721	0.6772	0.1261

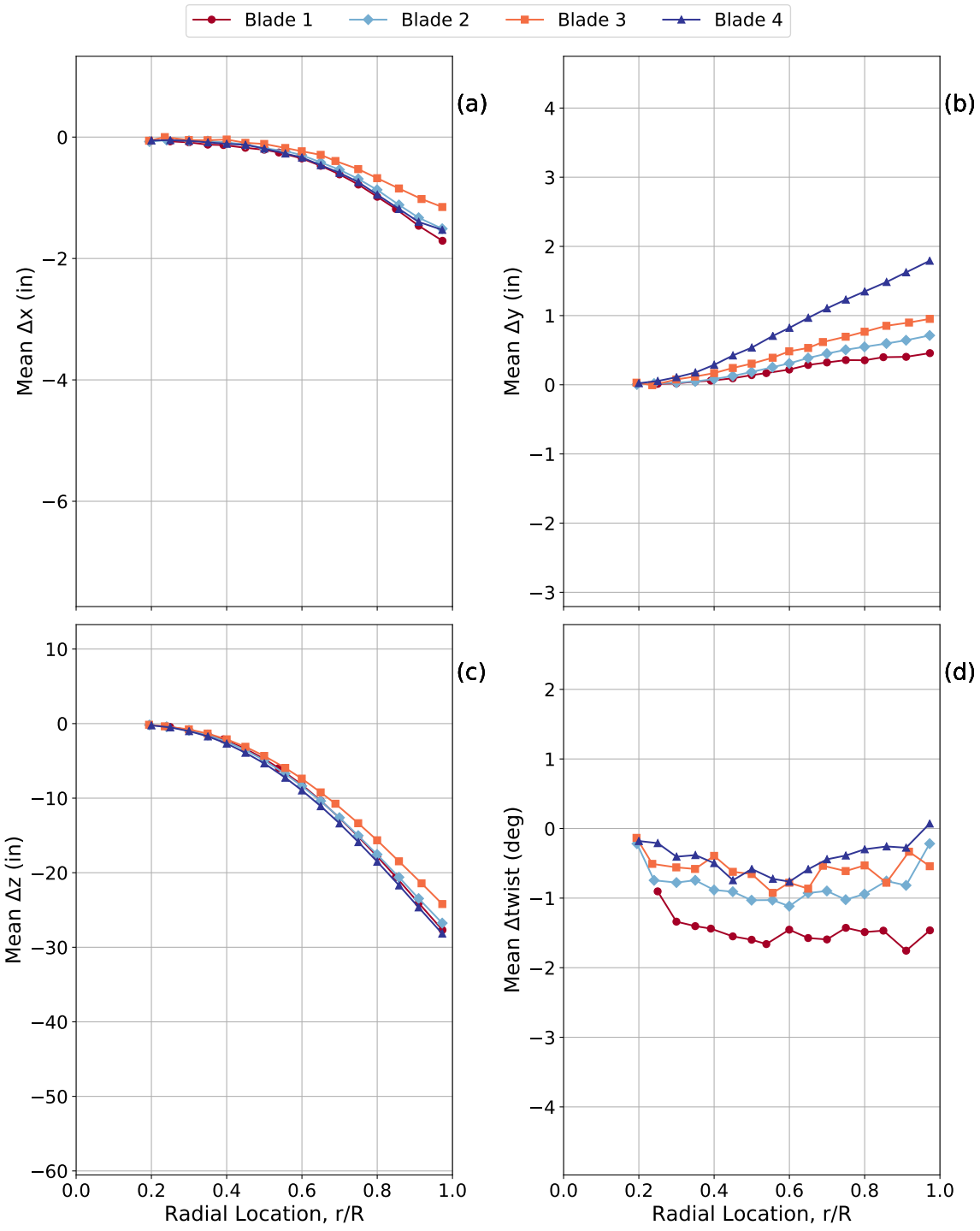


Figure 2.24-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.061, μ = 1.001, α = 4° NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2499	-0.0704	0.0087	0.0131	0.0052	-0.4565	0.0272	-0.9027	0.1129
1	164.88	0.2998	-0.0871	0.0097	0.0197	0.0094	-0.8635	0.0513	-1.3381	0.1622
1	164.88	0.3498	-0.1247	0.0102	0.0453	0.0172	-1.4497	0.0868	-1.4025	0.1771
1	164.88	0.3913	-0.1312	0.0120	0.0598	0.0245	-2.1202	0.1267	-1.4382	0.1971
1	164.88	0.4496	-0.1765	0.0166	0.0930	0.0351	-3.3610	0.1931	-1.5497	0.2100
1	164.88	0.4997	-0.2086	0.0230	0.1393	0.0460	-4.7368	0.2648	-1.5982	0.2104
1	164.88	0.5387	-0.2545	0.0287	0.1683	0.0543	-5.9665	0.3303	-1.6605	0.2259
1	164.88	0.5996	-0.3519	0.0420	0.2197	0.0701	-8.1952	0.4469	-1.4537	0.2353
1	164.88	0.6498	-0.4731	0.0559	0.2864	0.0829	-10.3353	0.5574	-1.5736	0.2435
1	164.88	0.6998	-0.6148	0.0744	0.3223	0.0973	-12.6599	0.6801	-1.5939	0.2436
1	164.88	0.7500	-0.7826	0.0959	0.3567	0.1141	-15.1713	0.8160	-1.4269	0.2503
1	164.88	0.8001	-0.9835	0.1208	0.3541	0.1304	-17.8173	0.9615	-1.4879	0.2591
1	164.88	0.8497	-1.1845	0.1462	0.3984	0.1460	-20.5735	1.1126	-1.4673	0.2611
1	164.88	0.9102	-1.4609	0.1813	0.4035	0.1700	-24.0659	1.3081	-1.7554	0.2599
1	164.88	0.9734	-1.7083	0.2150	0.4573	0.1949	-27.6822	1.5163	-1.4630	0.2536
2	164.88	0.1949	-0.0749	0.0042	0.0036	0.0019	-0.1794	0.0117	-0.2178	0.0437
2	164.88	0.2405	-0.0499	0.0046	0.0175	0.0037	-0.4233	0.0236	-0.7444	0.0728
2	164.88	0.2999	-0.0607	0.0054	0.0297	0.0084	-0.9010	0.0529	-0.7765	0.1068
2	164.88	0.3498	-0.0656	0.0072	0.0480	0.0139	-1.5277	0.0902	-0.7434	0.1318
2	164.88	0.3998	-0.0909	0.0099	0.0825	0.0220	-2.4282	0.1406	-0.8829	0.1543
2	164.88	0.4496	-0.1194	0.0134	0.1272	0.0304	-3.5459	0.1949	-0.9080	0.1781
2	164.88	0.4995	-0.1833	0.0188	0.1849	0.0406	-4.9225	0.2587	-1.0300	0.1852
2	164.88	0.5551	-0.2293	0.0270	0.2539	0.0525	-6.7250	0.3397	-1.0279	0.2129
2	164.88	0.5996	-0.2971	0.0347	0.3084	0.0635	-8.3744	0.4103	-1.1163	0.2180
2	164.88	0.6497	-0.4158	0.0459	0.3868	0.0768	-10.3840	0.4978	-0.9268	0.2239
2	164.88	0.6996	-0.5370	0.0595	0.4498	0.0915	-12.6121	0.5932	-0.8974	0.2372
2	164.88	0.7495	-0.6888	0.0753	0.5060	0.1073	-15.0262	0.6985	-1.0223	0.2325
2	164.88	0.7996	-0.8686	0.0943	0.5478	0.1245	-17.5489	0.8168	-0.9415	0.2517
2	164.88	0.8578	-1.1176	0.1190	0.5963	0.1420	-20.6068	0.9618	-0.7541	0.2452
2	164.88	0.9100	-1.3282	0.1408	0.6431	0.1637	-23.4636	1.0971	-0.8169	0.2460
2	164.88	0.9727	-1.5097	0.1666	0.7128	0.1877	-26.7600	1.2692	-0.2173	0.2356
3	164.88	0.1938	-0.0600	0.0051	0.0302	0.0027	-0.1538	0.0133	-0.1339	0.0355
3	164.88	0.2357	-0.0001	0.0042	-0.0059	0.0042	-0.3649	0.0267	-0.5079	0.0664
3	164.88	0.2995	-0.0494	0.0050	0.0761	0.0094	-0.7716	0.0607	-0.5582	0.0941
3	164.88	0.3493	-0.0517	0.0071	0.1188	0.0165	-1.3338	0.1050	-0.5808	0.1109
3	164.88	0.4000	-0.0404	0.0103	0.1685	0.0251	-2.1097	0.1641	-0.3929	0.1158
3	164.88	0.4497	-0.0944	0.0151	0.2426	0.0333	-3.1088	0.2386	-0.6223	0.1356
3	164.88	0.4997	-0.1130	0.0229	0.3051	0.0427	-4.3349	0.3299	-0.6534	0.1496
3	164.88	0.5556	-0.1794	0.0330	0.3907	0.0543	-5.9438	0.4514	-0.9242	0.1590
3	164.88	0.5995	-0.2339	0.0447	0.4836	0.0640	-7.3788	0.5622	-0.7788	0.1662
3	164.88	0.6498	-0.2925	0.0606	0.5320	0.0750	-9.2239	0.7033	-0.8641	0.1534
3	164.88	0.6890	-0.3939	0.0765	0.6174	0.0837	-10.7465	0.8256	-0.5348	0.1564
3	164.88	0.7495	-0.5279	0.1042	0.6943	0.0982	-13.3624	1.0334	-0.6111	0.1555
3	164.88	0.7998	-0.6771	0.1318	0.7664	0.1100	-15.6492	1.2236	-0.5301	0.1677
3	164.88	0.8577	-0.8465	0.1671	0.8520	0.1239	-18.4697	1.4563	-0.7790	0.1934
3	164.88	0.9178	-1.0201	0.2025	0.8993	0.1384	-21.4190	1.7042	-0.3328	0.1514
3	164.88	0.9729	-1.1521	0.2322	0.9522	0.1516	-24.2012	1.9388	-0.5412	0.1594
4	164.88	0.2001	-0.0561	0.0068	0.0224	0.0043	-0.2410	0.0311	-0.1796	0.1413
4	164.88	0.2502	-0.0509	0.0214	0.0543	0.0070	-0.5085	0.0434	-0.2099	0.2562
4	164.88	0.3001	-0.0624	0.0073	0.1092	0.0122	-1.0124	0.0843	-0.4051	0.1635
4	164.88	0.3502	-0.0874	0.0088	0.1769	0.0192	-1.7176	0.1269	-0.3816	0.1654
4	164.88	0.4002	-0.1108	0.0124	0.2886	0.0287	-2.6861	0.1860	-0.4973	0.1896
4	164.88	0.4500	-0.1272	0.0186	0.4231	0.0353	-3.9169	0.2604	-0.7431	0.2003
4	164.88	0.5001	-0.1894	0.0269	0.5369	0.0448	-5.3400	0.3515	-0.5816	0.1962
4	164.88	0.5560	-0.2715	0.0386	0.7060	0.0570	-7.2615	0.4786	-0.7229	0.2110
4	164.88	0.6001	-0.3366	0.0533	0.8225	0.0664	-8.9670	0.5946	-0.7630	0.2120
4	164.88	0.6501	-0.4628	0.0716	0.9672	0.0776	-11.0818	0.7447	-0.5848	0.2190
4	164.88	0.6999	-0.5892	0.0953	1.1044	0.0886	-13.3921	0.9121	-0.4423	0.2233
4	164.88	0.7500	-0.7426	0.1245	1.2305	0.1002	-15.8983	1.1021	-0.3879	0.2356
4	164.88	0.8002	-0.9497	0.1574	1.3489	0.1120	-18.5306	1.3045	-0.2980	0.2401
4	164.88	0.8582	-1.1848	0.2010	1.4855	0.1244	-21.7079	1.5557	-0.2575	0.2393
4	164.88	0.9101	-1.3978	0.2348	1.6250	0.1378	-24.6526	1.7810	-0.2755	0.2330
4	164.88	0.9728	-1.5283	0.2771	1.7921	0.1517	-28.1700	2.0669	0.0714	0.2524

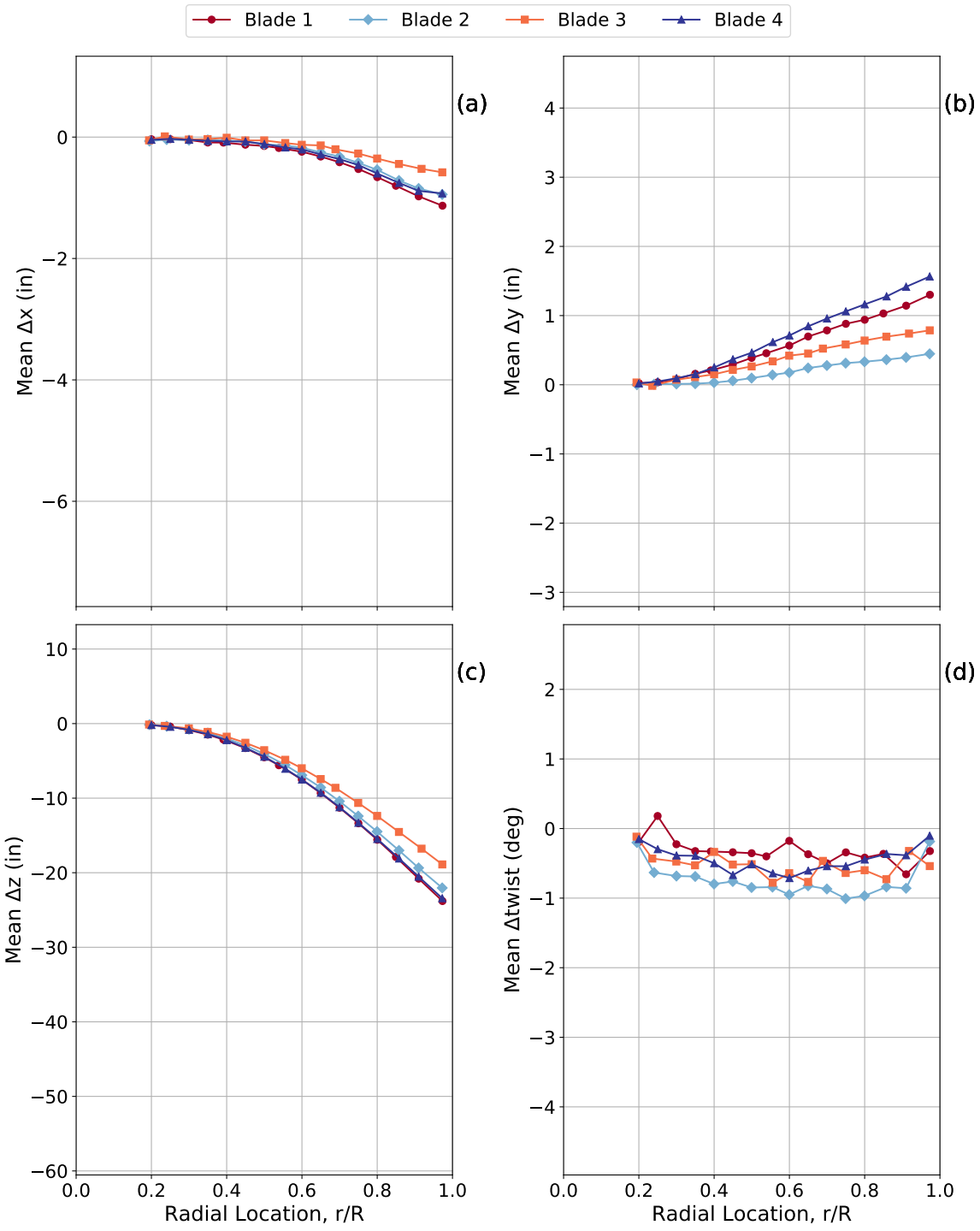


Figure 2.24-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.061, μ = 1.001, α = 4° NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0359	0.0039	0.0232	0.0022	-0.2099	0.0128	-0.1922	0.0471
1	170.16	0.2499	-0.0343	0.0062	0.0352	0.0046	-0.4022	0.0298	0.1804	0.1063
1	170.16	0.2998	-0.0490	0.0070	0.0806	0.0088	-0.8683	0.0575	-0.2259	0.1205
1	170.16	0.3498	-0.0892	0.0096	0.1577	0.0157	-1.4812	0.0995	-0.3243	0.1347
1	170.16	0.3913	-0.0906	0.0119	0.2073	0.0221	-2.1365	0.1460	-0.3295	0.1493
1	170.16	0.4496	-0.1253	0.0173	0.2927	0.0319	-3.2838	0.2216	-0.3408	0.1705
1	170.16	0.4997	-0.1464	0.0234	0.3886	0.0408	-4.5149	0.2978	-0.3545	0.1761
1	170.16	0.5387	-0.1794	0.0288	0.4556	0.0488	-5.5871	0.3639	-0.4003	0.1855
1	170.16	0.5996	-0.2408	0.0398	0.5664	0.0616	-7.5049	0.4763	-0.1770	0.1992
1	170.16	0.6498	-0.3209	0.0510	0.6974	0.0734	-9.3195	0.5783	-0.3693	0.2123
1	170.16	0.6998	-0.4140	0.0634	0.7859	0.0859	-11.2811	0.6845	-0.4998	0.2255
1	170.16	0.7500	-0.5261	0.0784	0.8810	0.0988	-13.3719	0.8020	-0.3425	0.2249
1	170.16	0.8001	-0.6600	0.0956	0.9398	0.1117	-15.5762	0.9244	-0.4183	0.2205
1	170.16	0.8497	-0.8022	0.1141	1.0304	0.1247	-17.8881	1.0509	-0.3639	0.2319
1	170.16	0.9102	-0.9765	0.1363	1.1433	0.1410	-20.7993	1.2101	-0.6573	0.2329
1	170.16	0.9734	-1.1305	0.1564	1.3007	0.1588	-23.8027	1.3808	-0.3237	0.2449
2	170.16	0.1949	-0.0660	0.0043	0.0006	0.0018	-0.1477	0.0119	-0.2011	0.0481
2	170.16	0.2405	-0.0413	0.0046	0.0072	0.0037	-0.3476	0.0236	-0.6325	0.0841
2	170.16	0.2999	-0.0507	0.0053	0.0119	0.0077	-0.7430	0.0533	-0.6827	0.1207
2	170.16	0.3498	-0.0463	0.0061	0.0154	0.0132	-1.2634	0.0917	-0.6890	0.1386
2	170.16	0.3998	-0.0585	0.0093	0.0309	0.0205	-2.0065	0.1425	-0.7973	0.1539
2	170.16	0.4496	-0.0732	0.0130	0.0585	0.0258	-2.9234	0.2035	-0.7609	0.1780
2	170.16	0.4995	-0.1190	0.0183	0.0965	0.0331	-4.0583	0.2797	-0.8475	0.1934
2	170.16	0.5551	-0.1378	0.0262	0.1425	0.0425	-5.5451	0.3777	-0.8417	0.2072
2	170.16	0.5996	-0.1758	0.0353	0.1761	0.0513	-6.9163	0.4711	-0.9500	0.2239
2	170.16	0.6497	-0.2515	0.0472	0.2421	0.0613	-8.5670	0.5891	-0.8227	0.2318
2	170.16	0.6996	-0.3213	0.0636	0.2780	0.0728	-10.4152	0.7244	-0.8688	0.2422
2	170.16	0.7495	-0.4239	0.0819	0.3124	0.0849	-12.4048	0.8762	-1.0071	0.2414
2	170.16	0.7996	-0.5389	0.1040	0.3328	0.0975	-14.4827	1.0436	-0.9674	0.2363
2	170.16	0.8578	-0.7153	0.1324	0.3627	0.1141	-17.0107	1.2501	-0.8389	0.2308
2	170.16	0.9100	-0.8464	0.1576	0.3951	0.1288	-19.3571	1.4462	-0.8582	0.2186
2	170.16	0.9727	-0.9452	0.1870	0.4470	0.1477	-22.0394	1.6893	-0.1859	0.2299
3	170.16	0.1938	-0.0539	0.0038	0.0329	0.0024	-0.1271	0.0138	-0.1167	0.0413
3	170.16	0.2357	0.0113	0.0048	-0.0153	0.0037	-0.3087	0.0241	-0.4314	0.0729
3	170.16	0.2995	-0.0402	0.0053	0.0728	0.0083	-0.6386	0.0591	-0.4741	0.1056
3	170.16	0.3493	-0.0337	0.0067	0.1111	0.0148	-1.1130	0.1021	-0.5284	0.1086
3	170.16	0.4000	-0.0108	0.0095	0.1515	0.0224	-1.7552	0.1581	-0.3365	0.1155
3	170.16	0.4497	-0.0550	0.0128	0.2147	0.0290	-2.5717	0.2221	-0.5178	0.1306
3	170.16	0.4997	-0.0548	0.0173	0.2652	0.0381	-3.5662	0.2999	-0.5127	0.1354
3	170.16	0.5556	-0.0979	0.0243	0.3386	0.0474	-4.8521	0.3971	-0.7788	0.1523
3	170.16	0.5995	-0.1269	0.0309	0.4208	0.0571	-5.9895	0.4814	-0.6419	0.1474
3	170.16	0.6498	-0.1375	0.0399	0.4517	0.0665	-7.4371	0.5895	-0.7672	0.1725
3	170.16	0.6890	-0.2013	0.0489	0.5228	0.0746	-8.6125	0.6803	-0.4650	0.1653
3	170.16	0.7495	-0.2712	0.0641	0.5826	0.0882	-10.6384	0.8314	-0.6386	0.1671
3	170.16	0.7998	-0.3536	0.0787	0.6394	0.0991	-12.3828	0.9708	-0.5988	0.1762
3	170.16	0.8577	-0.4428	0.0974	0.6952	0.1125	-14.5341	1.1387	-0.7281	0.2024
3	170.16	0.9178	-0.5234	0.1161	0.7400	0.1265	-16.7719	1.3176	-0.3227	0.1737
3	170.16	0.9729	-0.5808	0.1304	0.7866	0.1395	-18.8886	1.4881	-0.5397	0.1738
4	170.16	0.2001	-0.0453	0.0036	0.0193	0.0019	-0.1940	0.0119	-0.1523	0.0353
4	170.16	0.2502	-0.0301	0.0044	0.0477	0.0045	-0.4350	0.0258	-0.2971	0.0581
4	170.16	0.3001	-0.0447	0.0048	0.0941	0.0085	-0.8315	0.0490	-0.3879	0.0739
4	170.16	0.3502	-0.0632	0.0062	0.1539	0.0140	-1.4136	0.0843	-0.3916	0.0801
4	170.16	0.4002	-0.0718	0.0088	0.2504	0.0225	-2.2206	0.1310	-0.4983	0.1043
4	170.16	0.4500	-0.0735	0.0127	0.3678	0.0303	-3.2499	0.1883	-0.6686	0.1149
4	170.16	0.5001	-0.1162	0.0173	0.4645	0.0397	-4.4445	0.2542	-0.5149	0.1148
4	170.16	0.5560	-0.1714	0.0243	0.6165	0.0512	-6.0606	0.3396	-0.6446	0.1423
4	170.16	0.6001	-0.2037	0.0319	0.7123	0.0601	-7.5045	0.4156	-0.7125	0.1411
4	170.16	0.6501	-0.2863	0.0416	0.8454	0.0721	-9.2783	0.5096	-0.6045	0.1490
4	170.16	0.6999	-0.3642	0.0542	0.9572	0.0833	-11.2156	0.6148	-0.5412	0.1562
4	170.16	0.7500	-0.4606	0.0682	1.0605	0.0959	-13.3062	0.7269	-0.5415	0.1566
4	170.16	0.8002	-0.6007	0.0840	1.1622	0.1088	-15.4802	0.8454	-0.4459	0.1544
4	170.16	0.8582	-0.7555	0.1036	1.2770	0.1239	-18.1009	0.9875	-0.3657	0.1466
4	170.16	0.9101	-0.8862	0.1202	1.4162	0.1383	-20.5250	1.1201	-0.3845	0.1559
4	170.16	0.9728	-0.9286	0.1378	1.5647	0.1553	-23.4302	1.2817	-0.1032	0.1709

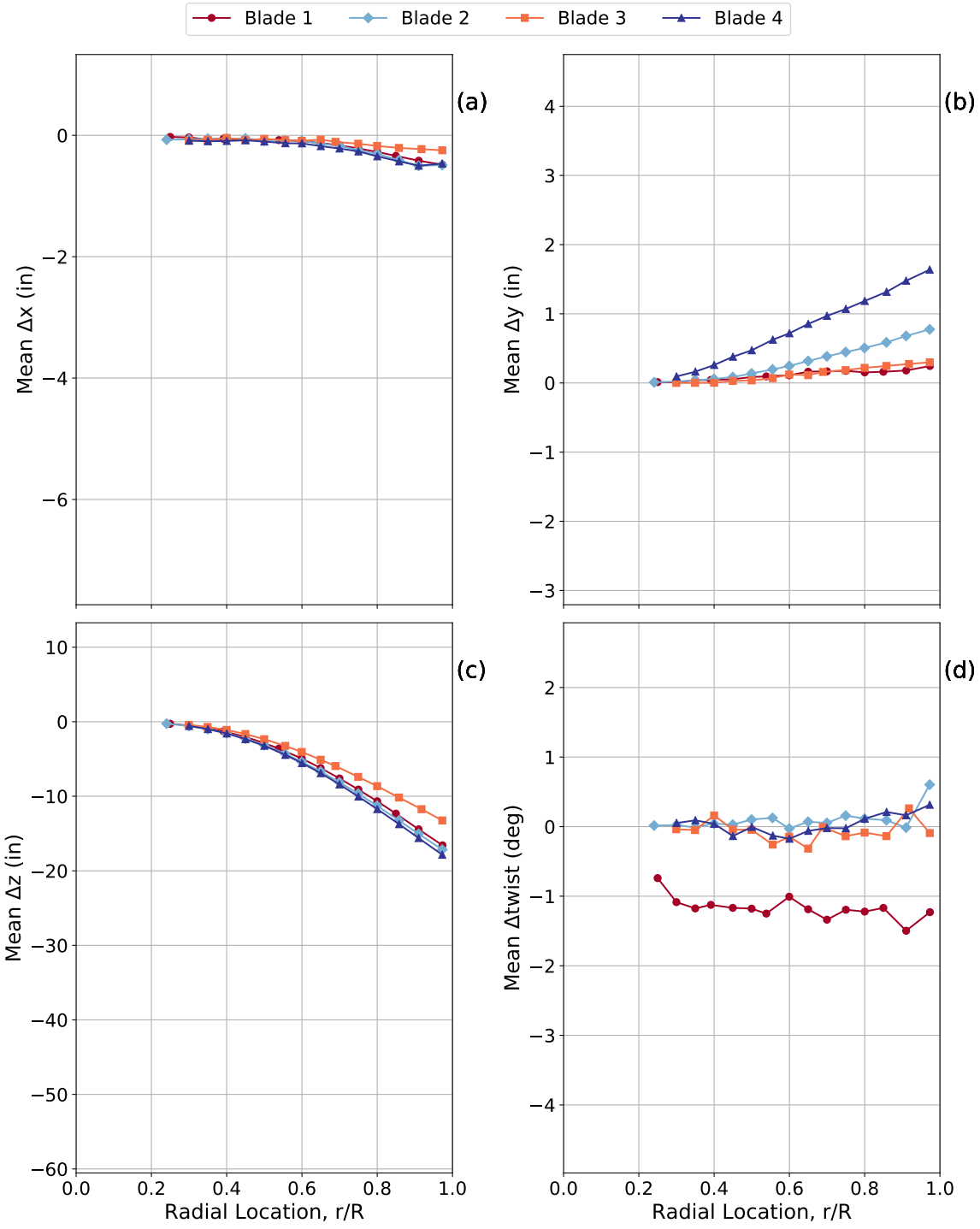


Figure 2.24-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.061, μ = 1.001, α = 4° NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2499	-0.0256	0.0079	0.0122	0.0060	-0.2765	0.0356	-0.7397	0.1151
1	175.08	0.2998	-0.0344	0.0084	0.0086	0.0127	-0.5192	0.0647	-1.0854	0.1644
1	175.08	0.3498	-0.0686	0.0090	0.0412	0.0204	-0.8747	0.1112	-1.1759	0.1634
1	175.08	0.3913	-0.0581	0.0102	0.0431	0.0309	-1.2755	0.1599	-1.1245	0.1771
1	175.08	0.4496	-0.0730	0.0137	0.0539	0.0424	-2.0284	0.2431	-1.1677	0.1840
1	175.08	0.4997	-0.0698	0.0176	0.0854	0.0541	-2.8655	0.3286	-1.1789	0.1907
1	175.08	0.5387	-0.0785	0.0207	0.0952	0.0639	-3.6026	0.4034	-1.2499	0.1913
1	175.08	0.5996	-0.0935	0.0286	0.1110	0.0801	-4.9369	0.5305	-1.0080	0.2037
1	175.08	0.6498	-0.1266	0.0367	0.1628	0.0936	-6.2129	0.6457	-1.1876	0.2110
1	175.08	0.6998	-0.1649	0.0463	0.1682	0.1081	-7.6121	0.7663	-1.3377	0.2032
1	175.08	0.7500	-0.2157	0.0574	0.1754	0.1219	-9.1008	0.8959	-1.1949	0.2153
1	175.08	0.8001	-0.2733	0.0698	0.1527	0.1367	-10.6686	1.0296	-1.2213	0.2227
1	175.08	0.8497	-0.3386	0.0833	0.1617	0.1516	-12.3306	1.1674	-1.1683	0.2249
1	175.08	0.9102	-0.4180	0.0989	0.1801	0.1702	-14.4361	1.3377	-1.4966	0.2286
1	175.08	0.9734	-0.4844	0.1115	0.2453	0.1891	-16.5801	1.5174	-1.2293	0.2384
2	175.08	0.2405	-0.0716	0.0070	0.0098	0.0045	-0.2592	0.0277	0.0155	0.0627
2	175.08	0.2999	-0.0658	0.0071	0.0207	0.0100	-0.5671	0.0603	0.0220	0.0977
2	175.08	0.3498	-0.0550	0.0081	0.0379	0.0172	-0.9774	0.1020	-0.0110	0.1150
2	175.08	0.3998	-0.0562	0.0100	0.0585	0.0270	-1.5344	0.1603	0.0437	0.1310
2	175.08	0.4496	-0.0512	0.0142	0.0847	0.0378	-2.2551	0.2287	0.0282	0.1606
2	175.08	0.4995	-0.0861	0.0182	0.1374	0.0511	-3.1208	0.3133	0.1019	0.1480
2	175.08	0.5551	-0.0842	0.0249	0.1953	0.0665	-4.2836	0.4185	0.1258	0.1642
2	175.08	0.5996	-0.0891	0.0313	0.2457	0.0810	-5.3810	0.5126	-0.0276	0.1832
2	175.08	0.6497	-0.1389	0.0395	0.3172	0.0971	-6.6788	0.6253	0.0699	0.2038
2	175.08	0.6996	-0.1728	0.0491	0.3847	0.1145	-8.1217	0.7473	0.0531	0.2089
2	175.08	0.7495	-0.2446	0.0611	0.4471	0.1321	-9.6473	0.8752	0.1584	0.2076
2	175.08	0.7996	-0.3054	0.0743	0.5059	0.1503	-11.2708	1.0123	0.1153	0.1910
2	175.08	0.8578	-0.4088	0.0917	0.5863	0.1720	-13.2466	1.1751	0.0920	0.2013
2	175.08	0.9100	-0.5020	0.1066	0.6797	0.1918	-15.0396	1.3284	-0.0145	0.2237
2	175.08	0.9727	-0.4894	0.1197	0.7750	0.2157	-17.1586	1.5143	0.6038	0.2174
3	175.08	0.2995	-0.0895	0.0128	0.0009	0.0171	-0.4185	0.0618	-0.0380	0.1523
3	175.08	0.3493	-0.0742	0.0141	0.0018	0.0295	-0.7021	0.1040	-0.0496	0.2019
3	175.08	0.4000	-0.0426	0.0150	0.0032	0.0471	-1.1032	0.1637	0.1607	0.1935
3	175.08	0.4497	-0.0769	0.0170	0.0290	0.0631	-1.6537	0.2299	-0.0429	0.1962
3	175.08	0.4997	-0.0584	0.0204	0.0373	0.0806	-2.3423	0.3119	-0.0453	0.2042
3	175.08	0.5556	-0.0784	0.0252	0.0699	0.1000	-3.2400	0.4213	-0.2582	0.2199
3	175.08	0.5995	-0.0901	0.0301	0.1222	0.1175	-4.0517	0.5225	-0.1443	0.2196
3	175.08	0.6498	-0.0696	0.0378	0.1127	0.1370	-5.1022	0.6529	-0.3155	0.2194
3	175.08	0.6890	-0.1073	0.0450	0.1594	0.1523	-5.9420	0.7642	-0.0066	0.2278
3	175.08	0.7495	-0.1383	0.0582	0.1856	0.1766	-7.4042	0.9547	-0.1378	0.2279
3	175.08	0.7998	-0.1744	0.0716	0.2182	0.1968	-8.6407	1.1286	-0.0854	0.2250
3	175.08	0.8577	-0.2073	0.0880	0.2458	0.2206	-10.1691	1.3384	-0.1363	0.2365
3	175.08	0.9178	-0.2276	0.1038	0.2744	0.2456	-11.7337	1.5659	0.2620	0.2294
3	175.08	0.9729	-0.2463	0.1136	0.2987	0.2681	-13.2468	1.7764	-0.0923	0.2335
4	175.08	0.3001	-0.0876	0.0158	0.0940	0.0289	-0.5707	0.0716	0.0519	0.1209
4	175.08	0.3502	-0.0976	0.0180	0.1633	0.0501	-0.9927	0.1241	0.0907	0.1614
4	175.08	0.4002	-0.0932	0.0201	0.2600	0.0796	-1.5809	0.1975	0.0399	0.1575
4	175.08	0.4500	-0.0817	0.0245	0.3791	0.1024	-2.3429	0.2839	-0.1353	0.1695
4	175.08	0.5001	-0.1028	0.0293	0.4725	0.1336	-3.2287	0.3836	-0.0051	0.1752
4	175.08	0.5560	-0.1304	0.0374	0.6252	0.1665	-4.4499	0.5140	-0.1297	0.1768
4	175.08	0.6001	-0.1324	0.0453	0.7185	0.1933	-5.5514	0.6302	-0.1741	0.1841
4	175.08	0.6501	-0.1787	0.0559	0.8536	0.2248	-6.9078	0.7753	-0.0612	0.1893
4	175.08	0.6999	-0.2167	0.0703	0.9694	0.2562	-8.4137	0.9300	-0.0208	0.1942
4	175.08	0.7500	-0.2655	0.0870	1.0698	0.2884	-10.0469	1.1014	-0.0233	0.1886
4	175.08	0.8002	-0.3459	0.1047	1.1849	0.3208	-11.7255	1.2798	0.1133	0.1989
4	175.08	0.8582	-0.4293	0.1271	1.3169	0.3594	-13.7468	1.4922	0.2102	0.1985
4	175.08	0.9101	-0.5009	0.1446	1.4779	0.3947	-15.6128	1.6895	0.1630	0.1984
4	175.08	0.9728	-0.4661	0.1602	1.6375	0.4353	-17.8478	1.9295	0.3140	0.2019

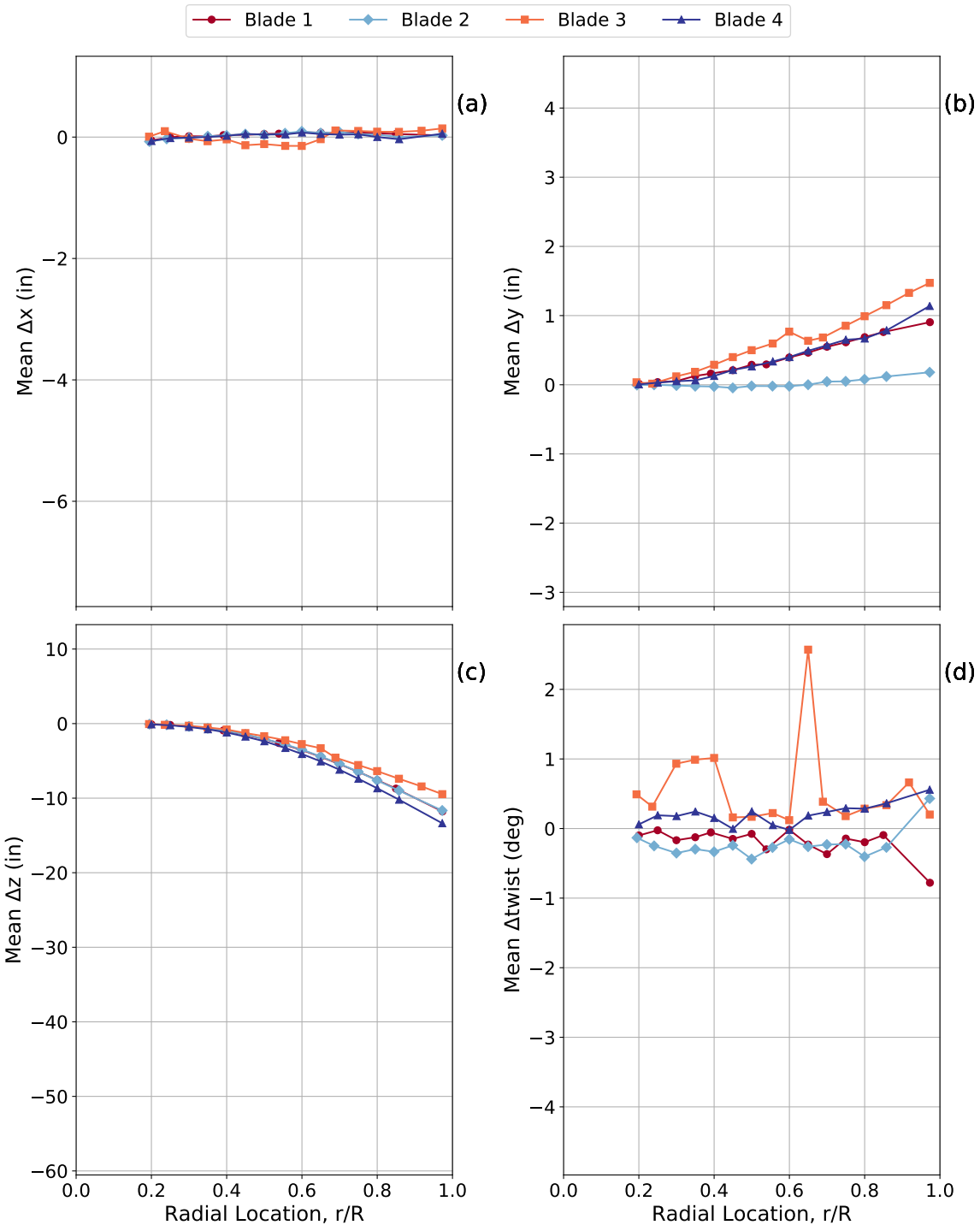


Figure 2.24-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.0555	0.0036	0.0149	0.0029	-0.0970	0.0177	-0.0994	0.0495
1	180	0.2499	-0.0016	0.0034	0.0384	0.0053	-0.1764	0.0380	-0.0250	0.0879
1	180	0.2998	0.0144	0.0042	0.0529	0.0112	-0.3854	0.0735	-0.1680	0.1128
1	180	0.3498	0.0110	0.0053	0.1275	0.0188	-0.6341	0.1246	-0.1252	0.1151
1	180	0.3913	0.0319	0.0069	0.1616	0.0270	-0.9198	0.1817	-0.0556	0.1169
1	180	0.4496	0.0357	0.0094	0.2104	0.0401	-1.4855	0.2816	-0.1491	0.1326
1	180	0.4997	0.0515	0.0129	0.2889	0.0540	-2.0655	0.3834	-0.0764	0.1404
1	180	0.5387	0.0564	0.0152	0.2942	0.0656	-2.6039	0.4685	-0.2989	0.1568
1	180	0.5996	0.0794	0.0218	0.3943	0.0836	-3.5368	0.6136	-0.0168	0.1729
1	180	0.6498	0.0741	0.0278	0.4640	0.1019	-4.4549	0.7446	-0.2301	0.1831
1	180	0.6998	0.0728	0.0345	0.5492	0.1199	-5.4376	0.8780	-0.3679	0.1915
1	180	0.7500	0.0781	0.0437	0.6135	0.1381	-6.4717	1.0229	-0.1442	0.2073
1	180	0.8001	0.0627	0.0534	0.6883	0.1551	-7.5857	1.1719	-0.1969	0.2284
1	180	0.8497	0.0514	0.0632	0.7618	0.1761	-8.7159	1.3221	-0.0939	0.2245
1	180	0.9734	0.0265	0.0825	0.9045	0.2261	-11.7786	1.7144	-0.7791	0.3169
2	180	0.1949	-0.0735	0.0032	-0.0046	0.0022	-0.0784	0.0139	-0.1328	0.0445
2	180	0.2405	-0.0293	0.0029	-0.0001	0.0052	-0.1573	0.0310	-0.2492	0.0732
2	180	0.2999	-0.0120	0.0037	-0.0104	0.0106	-0.3772	0.0654	-0.3529	0.1089
2	180	0.3498	0.0142	0.0044	-0.0207	0.0181	-0.6251	0.1099	-0.2960	0.1142
2	180	0.3998	0.0271	0.0063	-0.0258	0.0286	-0.9947	0.1737	-0.3340	0.1234
2	180	0.4496	0.0489	0.0085	-0.0453	0.0399	-1.4388	0.2526	-0.2414	0.1386
2	180	0.4995	0.0368	0.0116	-0.0177	0.0535	-2.0456	0.3490	-0.4388	0.1563
2	180	0.5551	0.0629	0.0162	-0.0195	0.0709	-2.7882	0.4706	-0.2726	0.1719
2	180	0.5996	0.0942	0.0206	-0.0207	0.0870	-3.4885	0.5761	-0.1545	0.2087
2	180	0.6497	0.0661	0.0273	0.0006	0.1058	-4.4016	0.7128	-0.2603	0.1984
2	180	0.6996	0.0810	0.0355	0.0453	0.1238	-5.3919	0.8561	-0.2300	0.2202
2	180	0.7495	0.0500	0.0449	0.0495	0.1449	-6.4556	1.0102	-0.2239	0.2298
2	180	0.7996	0.0392	0.0545	0.0785	0.1672	-7.6163	1.1723	-0.4047	0.2258
2	180	0.8578	0.0029	0.0695	0.1194	0.1907	-8.9802	1.3599	-0.2706	0.2639
2	180	0.9727	0.0276	0.0940	0.1803	0.2489	-11.6529	1.7524	0.4312	0.3739
3	180.35	0.1938	0.0068	0.0542	0.0355	0.0233	-0.0622	0.0135	0.4915	0.5167
3	180.35	0.2357	0.0971	0.0377	0.0158	0.0246	-0.1618	0.0318	0.3146	0.5077
3	180.35	0.2995	-0.0270	0.0352	0.1211	0.0479	-0.2849	0.0558	0.9316	1.0968
3	180.35	0.3493	-0.0681	0.1192	0.1868	0.1009	-0.5186	0.1127	0.9891	1.1746
3	180.35	0.4000	-0.0376	0.1539	0.2888	0.1319	-0.7928	0.1629	1.0145	1.2795
3	180.35	0.4497	-0.1342	0.2661	0.3993	0.1908	-1.2689	0.3279	0.1601	0.5010
3	180.35	0.4997	-0.1150	0.3061	0.4994	0.2374	-1.6891	0.3979	0.1684	0.4888
3	180.35	0.5556	-0.1450	0.3447	0.5961	0.2964	-2.2359	0.4844	0.2221	0.4896
3	180.35	0.5995	-0.1454	0.3721	0.7674	0.3462	-2.7513	0.5583	0.1200	0.4785
3	180.35	0.6498	-0.0342	0.2437	0.6355	0.6467	-3.3002	0.5748	2.5708	8.3393
3	180.35	0.6890	0.1089	0.0996	0.6833	1.1414	-4.5620	1.9979	0.3858	0.5843
3	180.35	0.7495	0.1013	0.0999	0.8529	1.2282	-5.5585	2.2286	0.1786	0.6041
3	180.35	0.7998	0.0888	0.1013	0.9906	1.3012	-6.3740	2.4321	0.2858	0.5937
3	180.35	0.8577	0.0862	0.1040	1.1504	1.3854	-7.3954	2.6720	0.3359	0.5929
3	180.35	0.9178	0.1040	0.1076	1.3282	1.4734	-8.4260	2.9252	0.6626	0.5874
3	180.35	0.9729	0.1426	0.1020	1.4726	1.5534	-9.4640	3.1629	0.2014	0.5919
4	180	0.2001	-0.0650	0.0034	0.0052	0.0031	-0.1077	0.0195	0.0598	0.0426
4	180	0.2502	-0.0169	0.0039	0.0301	0.0067	-0.2285	0.0400	0.1902	0.0746
4	180	0.3001	-0.0082	0.0051	0.0509	0.0123	-0.4525	0.0779	0.1783	0.0996
4	180	0.3502	0.0010	0.0065	0.0638	0.0217	-0.7632	0.1331	0.2440	0.1083
4	180	0.4002	0.0204	0.0085	0.1274	0.0335	-1.1962	0.2059	0.1520	0.1106
4	180	0.4500	0.0510	0.0112	0.2134	0.0462	-1.7468	0.2886	-0.0050	0.1293
4	180	0.5001	0.0428	0.0149	0.2641	0.0609	-2.3699	0.3857	0.2447	0.1335
4	180	0.5560	0.0440	0.0200	0.3360	0.0809	-3.2724	0.5094	0.0487	0.1459
4	180	0.6001	0.0742	0.0258	0.4002	0.0957	-4.0817	0.6108	-0.0200	0.1696
4	180	0.6501	0.0496	0.0325	0.4913	0.1161	-5.0754	0.7401	0.1851	0.1656
4	180	0.6999	0.0404	0.0412	0.5698	0.1367	-6.1885	0.8753	0.2379	0.1741
4	180	0.7500	0.0450	0.0504	0.6511	0.1575	-7.4012	1.0158	0.2924	0.2205
4	180	0.8002	0.0009	0.0620	0.6680	0.1813	-8.6801	1.1623	0.2852	0.2291
4	180	0.8582	-0.0356	0.0753	0.7861	0.2082	-10.2098	1.3355	0.3631	0.2723
4	180	0.9728	0.0551	0.0912	1.1385	0.2482	-13.3671	1.6695	0.5575	0.6328

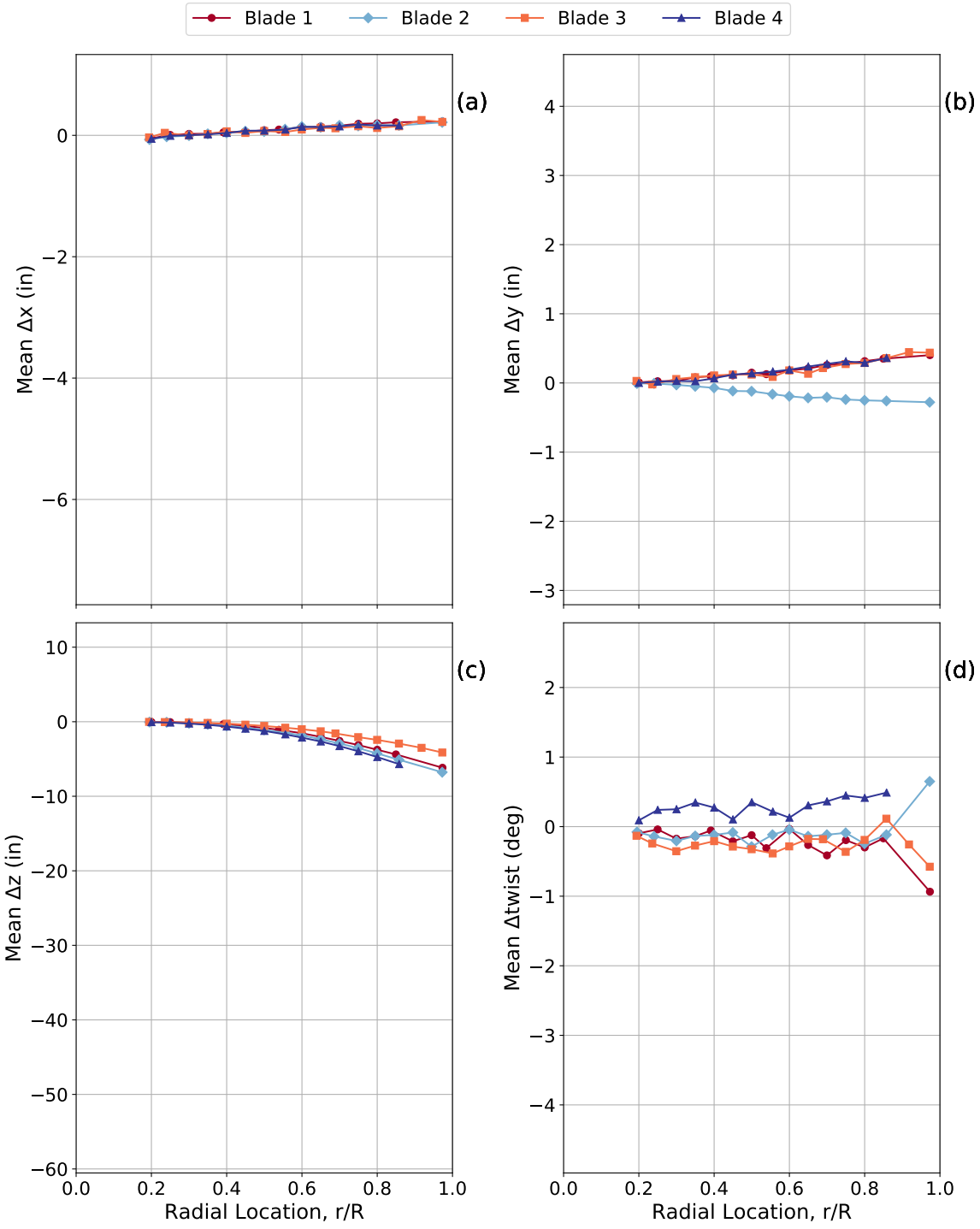


Figure 2.24-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.061, μ = 1.001, α = 4° NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0489	0.0022	0.0089	0.0035	-0.0413	0.0243	-0.0961	0.0461
1	184.92	0.2499	0.0069	0.0031	0.0251	0.0078	-0.0552	0.0511	-0.0400	0.0669
1	184.92	0.2998	0.0241	0.0035	0.0278	0.0153	-0.1494	0.0994	-0.1734	0.0983
1	184.92	0.3498	0.0263	0.0047	0.0818	0.0258	-0.2306	0.1685	-0.1373	0.0986
1	184.92	0.3913	0.0492	0.0053	0.0968	0.0379	-0.3321	0.2448	-0.0558	0.1125
1	184.92	0.4496	0.0604	0.0065	0.1092	0.0578	-0.5829	0.3736	-0.2109	0.1157
1	184.92	0.4997	0.0846	0.0080	0.1491	0.0761	-0.8343	0.5031	-0.1225	0.1170
1	184.92	0.5387	0.0950	0.0097	0.1272	0.0930	-1.0884	0.6164	-0.3095	0.1159
1	184.92	0.5996	0.1358	0.0137	0.1797	0.1196	-1.5419	0.8106	-0.0325	0.1804
1	184.92	0.6498	0.1459	0.0171	0.2087	0.1437	-2.0331	0.9859	-0.2641	0.1404
1	184.92	0.6998	0.1610	0.0224	0.2588	0.1685	-2.5737	1.1702	-0.4133	0.1505
1	184.92	0.7500	0.1906	0.0287	0.2799	0.1936	-3.1282	1.3662	-0.1943	0.1746
1	184.92	0.8001	0.1972	0.0365	0.3155	0.2176	-3.7596	1.5699	-0.2991	0.1956
1	184.92	0.8497	0.2150	0.0436	0.3501	0.2422	-4.3831	1.7756	-0.1681	0.1786
1	184.92	0.9734	0.2292	0.0535	0.4020	0.3091	-6.1738	2.2835	-0.9353	0.4426
2	184.92	0.1949	-0.0692	0.0030	-0.0082	0.0028	-0.0453	0.0234	-0.0776	0.0513
2	184.92	0.2405	-0.0230	0.0037	-0.0067	0.0053	-0.0753	0.0400	-0.1414	0.0762
2	184.92	0.2999	-0.0051	0.0056	-0.0278	0.0117	-0.2081	0.0924	-0.2051	0.1190
2	184.92	0.3498	0.0246	0.0064	-0.0487	0.0206	-0.3446	0.1627	-0.1347	0.1405
2	184.92	0.3998	0.0407	0.0079	-0.0709	0.0315	-0.5440	0.2460	-0.1190	0.1647
2	184.92	0.4496	0.0679	0.0088	-0.1161	0.0433	-0.7681	0.3347	-0.0846	0.1706
2	184.92	0.4995	0.0625	0.0100	-0.1199	0.0569	-1.0970	0.4283	-0.2881	0.1695
2	184.92	0.5551	0.1009	0.0114	-0.1623	0.0718	-1.4695	0.5392	-0.1165	0.1835
2	184.92	0.5996	0.1441	0.0132	-0.1923	0.0852	-1.8453	0.6337	-0.0435	0.1939
2	184.92	0.6497	0.1323	0.0156	-0.2162	0.1032	-2.3475	0.7450	-0.1387	0.2074
2	184.92	0.6996	0.1635	0.0196	-0.2063	0.1208	-2.9182	0.8661	-0.1163	0.2138
2	184.92	0.7495	0.1556	0.0242	-0.2393	0.1402	-3.5397	0.9957	-0.0895	0.2370
2	184.92	0.7996	0.1687	0.0301	-0.2513	0.1607	-4.2521	1.1302	-0.2462	0.2551
2	184.92	0.8578	0.1631	0.0371	-0.2599	0.1827	-5.1049	1.2918	-0.1164	0.3287
2	184.92	0.9727	0.2140	0.0518	-0.2786	0.2355	-6.7743	1.6284	0.6497	0.3387
3	184.92	0.1938	-0.0345	0.0061	0.0292	0.0028	-0.0222	0.0145	-0.1313	0.0700
3	184.92	0.2357	0.0414	0.0032	-0.0210	0.0049	-0.0496	0.0271	-0.2421	0.0816
3	184.92	0.2995	-0.0022	0.0028	0.0572	0.0109	-0.1000	0.0601	-0.3534	0.1498
3	184.92	0.3493	0.0216	0.0044	0.0832	0.0175	-0.1612	0.1014	-0.2727	0.1419
3	184.92	0.4000	0.0664	0.0047	0.1089	0.0278	-0.2567	0.1587	-0.2087	0.1683
3	184.92	0.4497	0.0395	0.0043	0.1218	0.0370	-0.3956	0.2239	-0.2867	0.1596
3	184.92	0.4997	0.0717	0.0048	0.1204	0.0497	-0.5661	0.3082	-0.3247	0.1580
3	184.92	0.5556	0.0550	0.0057	0.0866	0.0657	-0.8039	0.4145	-0.3855	0.1577
3	184.92	0.5995	0.0954	0.0071	0.1813	0.0796	-1.0084	0.5064	-0.2838	0.1605
3	184.92	0.6498	0.1233	0.0088	0.1332	0.0944	-1.2845	0.6129	-0.1770	0.1785
3	184.92	0.6890	0.1163	0.0099	0.2152	0.1078	-1.5692	0.7025	-0.1810	0.1789
3	184.92	0.7495	0.1500	0.0120	0.2734	0.1312	-2.0705	0.8416	-0.3621	0.2250
3	184.92	0.7998	0.1211	0.0143	0.2887	0.1454	-2.4340	0.9799	-0.1910	0.1927
3	184.92	0.8577	0.1497	0.0181	0.3590	0.1657	-2.9315	1.1331	0.1144	0.1918
3	184.92	0.9178	0.2525	0.0198	0.4458	0.1867	-3.5043	1.2940	-0.2563	0.2039
3	184.92	0.9729	0.2216	0.0193	0.4380	0.2066	-4.1305	1.4414	-0.5764	0.2168
4	184.92	0.2001	-0.0572	0.0032	0.0001	0.0033	-0.0604	0.0254	0.0906	0.0509
4	184.92	0.2502	-0.0081	0.0043	0.0188	0.0062	-0.1196	0.0464	0.2406	0.0823
4	184.92	0.3001	0.0026	0.0060	0.0287	0.0128	-0.2481	0.0953	0.2498	0.1171
4	184.92	0.3502	0.0158	0.0073	0.0251	0.0225	-0.4151	0.1665	0.3451	0.1215
4	184.92	0.4002	0.0394	0.0087	0.0671	0.0342	-0.6484	0.2523	0.2733	0.1451
4	184.92	0.4500	0.0761	0.0098	0.1221	0.0456	-0.9370	0.3426	0.1030	0.1493
4	184.92	0.5001	0.0781	0.0112	0.1372	0.0583	-1.2353	0.4391	0.3503	0.1517
4	184.92	0.5560	0.0943	0.0137	0.1647	0.0747	-1.7017	0.5552	0.2154	0.1524
4	184.92	0.6001	0.1408	0.0163	0.1915	0.0876	-2.1319	0.6530	0.1283	0.1542
4	184.92	0.6501	0.1357	0.0196	0.2373	0.1034	-2.6564	0.7730	0.3056	0.1644
4	184.92	0.6999	0.1474	0.0234	0.2755	0.1208	-3.2755	0.9038	0.3626	0.1688
4	184.92	0.7500	0.1798	0.0292	0.3119	0.1355	-3.9695	1.0455	0.4476	0.1893
4	184.92	0.8002	0.1624	0.0357	0.2914	0.1551	-4.7412	1.1957	0.4133	0.2150
4	184.92	0.8582	0.1628	0.0443	0.3608	0.1756	-5.6910	1.3704	0.4890	0.3132

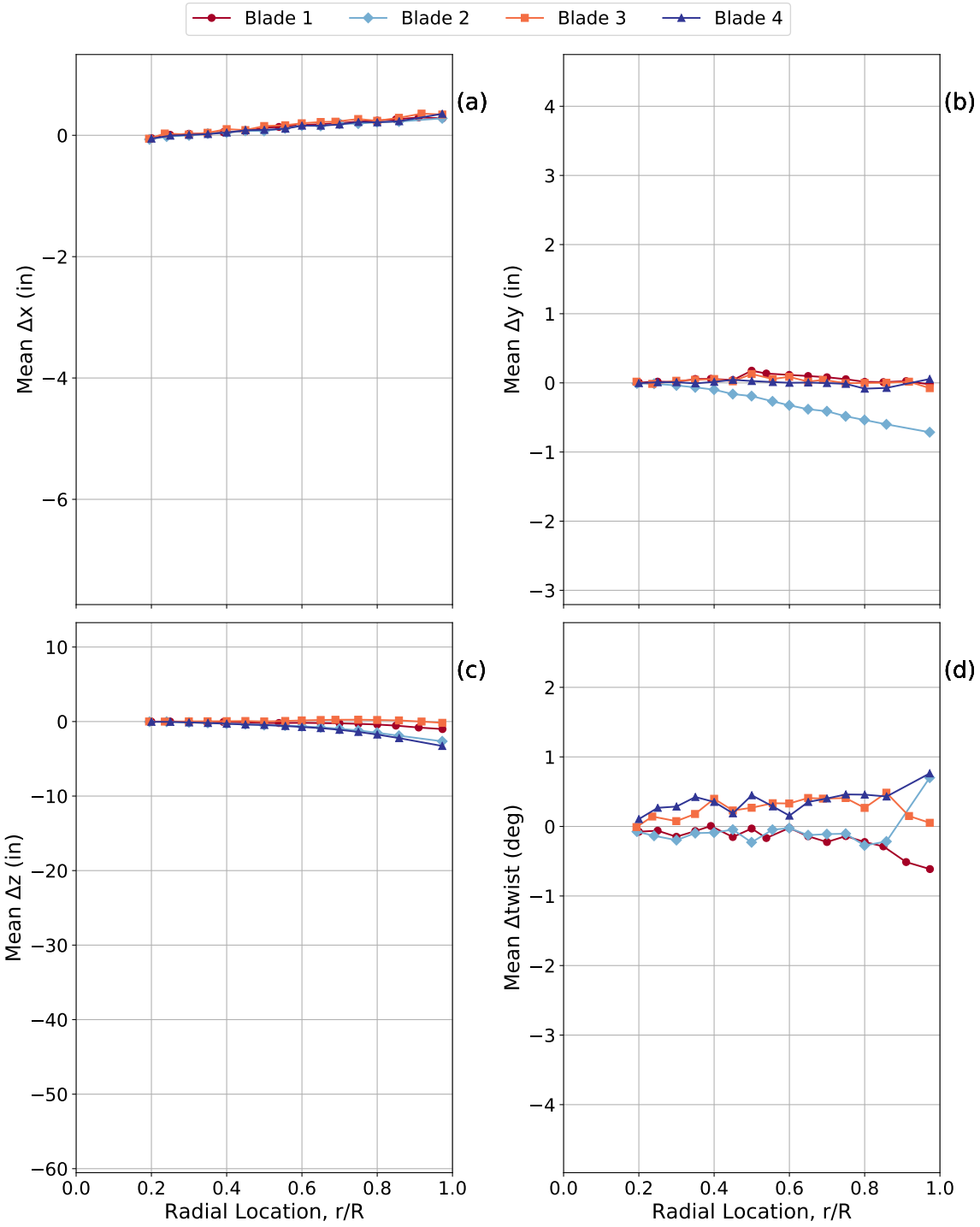


Figure 2.24-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0464	0.0030	0.0054	0.0049	-0.0189	0.0471	-0.0760	0.0450
1	189.84	0.2499	0.0073	0.0051	0.0176	0.0101	0.0064	0.0894	-0.0612	0.0639
1	189.84	0.2998	0.0254	0.0080	0.0124	0.0191	-0.0434	0.1832	-0.1483	0.0927
1	189.84	0.3498	0.0269	0.0104	0.0562	0.0364	-0.0547	0.3223	-0.0665	0.1026
1	189.84	0.3913	0.0516	0.0112	0.0588	0.0501	-0.0654	0.4547	0.0064	0.1166
1	189.84	0.4496	0.0637	0.0120	0.0401	0.0699	-0.1031	0.6495	-0.1524	0.1232
1	189.84	0.4997	0.1250	0.0143	0.1759	0.0875	-0.1893	0.8131	-0.0300	0.1249
1	189.84	0.5387	0.1375	0.0144	0.1351	0.0999	-0.1940	0.9317	-0.1666	0.1224
1	189.84	0.5996	0.1720	0.0138	0.1151	0.1178	-0.1727	1.1025	-0.0225	0.1233
1	189.84	0.6498	0.1820	0.0145	0.0992	0.1328	-0.2019	1.2371	-0.1412	0.1268
1	189.84	0.6998	0.2000	0.0141	0.0810	0.1478	-0.2385	1.3669	-0.2239	0.1423
1	189.84	0.7500	0.2268	0.0145	0.0530	0.1633	-0.3059	1.5013	-0.1389	0.1524
1	189.84	0.8001	0.2426	0.0156	0.0148	0.1779	-0.4002	1.6433	-0.2241	0.1590
1	189.84	0.8497	0.2623	0.0166	0.0107	0.1942	-0.5451	1.7990	-0.2868	0.1633
1	189.84	0.9102	0.2948	0.0185	0.0251	0.2147	-0.8022	2.0036	-0.5122	0.1694
1	189.84	0.9734	0.2797	0.0231	-0.0219	0.2342	-1.0089	2.2221	-0.6130	0.3518
2	189.84	0.1949	-0.0666	0.0025	-0.0095	0.0032	-0.0277	0.0334	-0.0749	0.0418
2	189.84	0.2405	-0.0205	0.0046	-0.0123	0.0050	-0.0235	0.0510	-0.1351	0.0756
2	189.84	0.2999	-0.0016	0.0074	-0.0374	0.0116	-0.1114	0.1282	-0.1966	0.1027
2	189.84	0.3498	0.0287	0.0092	-0.0650	0.0217	-0.1812	0.2280	-0.0968	0.1115
2	189.84	0.3998	0.0450	0.0104	-0.0980	0.0318	-0.2805	0.3404	-0.0890	0.1288
2	189.84	0.4496	0.0739	0.0110	-0.1620	0.0416	-0.3544	0.4519	-0.0461	0.1353
2	189.84	0.4995	0.0717	0.0116	-0.1911	0.0513	-0.4719	0.5587	-0.2285	0.1436
2	189.84	0.5551	0.1152	0.0114	-0.2667	0.0608	-0.5394	0.6498	-0.0470	0.1497
2	189.84	0.5996	0.1605	0.0113	-0.3247	0.0685	-0.6323	0.7167	-0.0243	0.1553
2	189.84	0.6497	0.1536	0.0119	-0.3811	0.0782	-0.7769	0.7874	-0.1249	0.1670
2	189.84	0.6996	0.1909	0.0125	-0.4102	0.0897	-0.9617	0.8626	-0.1104	0.1728
2	189.84	0.7495	0.1922	0.0139	-0.4835	0.1041	-1.1876	0.9481	-0.1044	0.1939
2	189.84	0.7996	0.2159	0.0155	-0.5367	0.1185	-1.5025	1.0493	-0.2737	0.2044
2	189.84	0.8578	0.2263	0.0187	-0.5997	0.1393	-1.8997	1.1841	-0.2162	0.2555
2	189.84	0.9727	0.2795	0.0374	-0.7137	0.1794	-2.6505	1.5096	0.7004	0.3706
3	189.84	0.1938	-0.0561	0.0030	0.0172	0.0034	0.0071	0.0296	-0.0090	0.0414
3	189.84	0.2357	0.0296	0.0029	-0.0144	0.0050	-0.0057	0.0452	0.1426	0.0525
3	189.84	0.2995	0.0128	0.0046	0.0304	0.0138	0.0221	0.1161	0.0763	0.0892
3	189.84	0.3493	0.0416	0.0056	0.0447	0.0233	0.0353	0.2032	0.1791	0.1000
3	189.84	0.4000	0.1015	0.0061	0.0554	0.0363	0.0534	0.3088	0.3976	0.1239
3	189.84	0.4497	0.0859	0.0061	0.0226	0.0483	0.0703	0.4179	0.2296	0.1345
3	189.84	0.4997	0.1528	0.0111	0.1276	0.0634	0.0126	0.5291	0.2687	0.1422
3	189.84	0.5556	0.1657	0.0109	0.0562	0.0753	0.0788	0.6397	0.3338	0.1277
3	189.84	0.5995	0.1984	0.0113	0.0873	0.0855	0.1524	0.7195	0.3302	0.1343
3	189.84	0.6498	0.2196	0.0115	0.0179	0.0974	0.2098	0.8088	0.4089	0.1415
3	189.84	0.6890	0.2245	0.0123	0.0430	0.1070	0.2389	0.8809	0.3999	0.1372
3	189.84	0.7495	0.2684	0.0141	-0.0044	0.1223	0.2473	1.0052	0.4082	0.1594
3	189.84	0.7998	0.2396	0.0146	-0.0010	0.1356	0.2105	1.1205	0.2667	0.1724
3	189.84	0.8577	0.2886	0.0159	0.0019	0.1518	0.1515	1.2639	0.4852	0.1828
3	189.84	0.9178	0.3573	0.0176	0.0170	0.1689	-0.0010	1.4276	0.1497	0.1931
3	189.84	0.9729	0.3426	0.0227	-0.0765	0.1857	-0.1716	1.5733	0.0522	0.2056
4	189.84	0.2001	-0.0542	0.0036	-0.0039	0.0043	-0.0311	0.0375	0.1056	0.0490
4	189.84	0.2502	-0.0058	0.0052	0.0085	0.0077	-0.0454	0.0658	0.2680	0.0797
4	189.84	0.3001	0.0071	0.0077	0.0093	0.0162	-0.1172	0.1392	0.2856	0.1108
4	189.84	0.3502	0.0208	0.0090	-0.0074	0.0293	-0.1933	0.2438	0.4234	0.1217
4	189.84	0.4002	0.0454	0.0105	0.0147	0.0440	-0.2959	0.3674	0.3523	0.1357
4	189.84	0.4500	0.0832	0.0108	0.0437	0.0593	-0.4020	0.4961	0.1886	0.1530
4	189.84	0.5001	0.0891	0.0115	0.0268	0.0751	-0.4573	0.6256	0.4480	0.1592
4	189.84	0.5560	0.1091	0.0114	0.0117	0.0933	-0.5946	0.7619	0.2879	0.1674
4	189.84	0.6001	0.1593	0.0112	0.0012	0.1069	-0.7302	0.8627	0.1547	0.1690
4	189.84	0.6501	0.1587	0.0116	0.0047	0.1228	-0.8811	0.9735	0.3521	0.1619
4	189.84	0.6999	0.1777	0.0113	-0.0028	0.1397	-1.1072	1.0825	0.4024	0.1746
4	189.84	0.7500	0.2190	0.0116	-0.0146	0.1575	-1.3935	1.1976	0.4601	0.1735
4	189.84	0.8002	0.2139	0.0146	-0.0839	0.1762	-1.7441	1.3196	0.4571	0.1952
4	189.84	0.8582	0.2316	0.0178	-0.0733	0.1936	-2.2241	1.4772	0.4303	0.2127
4	189.84	0.9728	0.3540	0.0207	0.0560	0.2345	-3.2776	1.8243	0.7628	0.2802

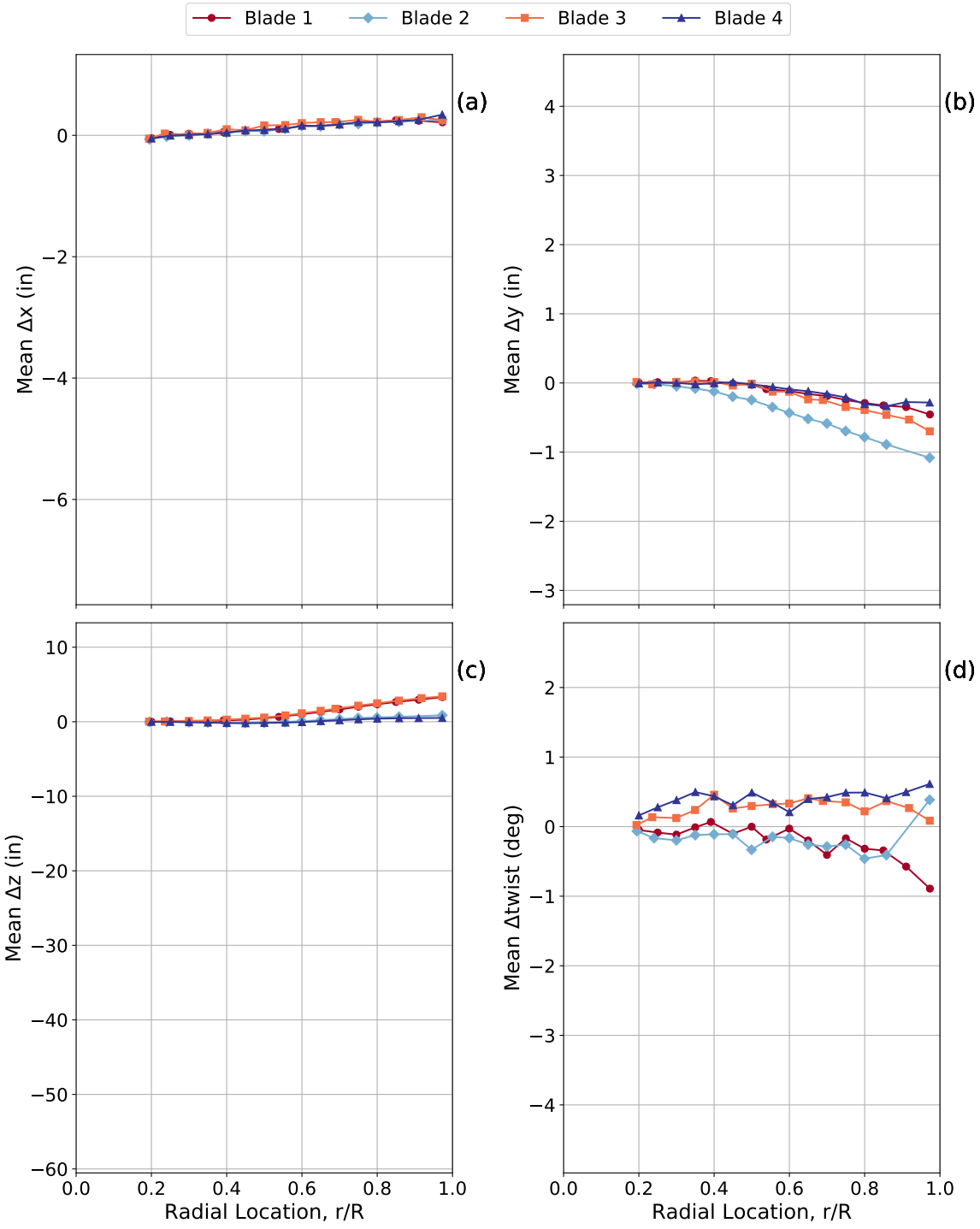


Figure 2.24-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0451	0.0023	0.0028	0.0048	0.0046	0.0504	-0.0484	0.0378
1	195.12	0.2499	0.0073	0.0046	0.0105	0.0104	0.0522	0.0989	-0.0854	0.0680
1	195.12	0.2998	0.0266	0.0069	-0.0003	0.0189	0.0507	0.1993	-0.1146	0.0839
1	195.12	0.3498	0.0296	0.0082	0.0342	0.0363	0.1064	0.3481	-0.0102	0.0948
1	195.12	0.3913	0.0534	0.0088	0.0262	0.0500	0.1657	0.4945	0.0678	0.1117
1	195.12	0.4496	0.0650	0.0084	-0.0094	0.0725	0.2764	0.7243	-0.1019	0.1224
1	195.12	0.4997	0.0928	0.0077	-0.0268	0.0913	0.4745	0.9231	-0.0012	0.1432
1	195.12	0.5387	0.1043	0.0078	-0.0893	0.1059	0.6481	1.0718	-0.1851	0.1559
1	195.12	0.5996	0.1509	0.0097	-0.1169	0.1287	1.0032	1.2829	-0.0284	0.1693
1	195.12	0.6498	0.1549	0.0126	-0.1597	0.1448	1.3162	1.4310	-0.1990	0.1830
1	195.12	0.6998	0.1781	0.0163	-0.1898	0.1637	1.6410	1.5652	-0.4060	0.2156
1	195.12	0.7500	0.2100	0.0197	-0.2458	0.1821	2.0202	1.6954	-0.1684	0.2116
1	195.12	0.8001	0.2255	0.0229	-0.2905	0.2007	2.3371	1.8217	-0.3176	0.2310
1	195.12	0.8497	0.2481	0.0259	-0.3248	0.2188	2.6508	1.9421	-0.3424	0.2245
1	195.12	0.9102	0.2404	0.0330	-0.3487	0.2450	2.9562	2.0869	-0.5742	0.4327
1	195.12	0.9734	0.2142	0.0441	-0.4557	0.2789	3.3010	2.2664	-0.8910	0.2567
2	195.12	0.1949	-0.0654	0.0029	-0.0117	0.0036	-0.0161	0.0420	-0.0642	0.0404
2	195.12	0.2405	-0.0197	0.0044	-0.0155	0.0063	-0.0001	0.0739	-0.1648	0.0666
2	195.12	0.2999	-0.0020	0.0073	-0.0468	0.0150	-0.0588	0.1738	-0.1971	0.0946
2	195.12	0.3498	0.0276	0.0090	-0.0806	0.0272	-0.0958	0.3034	-0.1214	0.1055
2	195.12	0.3998	0.0433	0.0101	-0.1225	0.0412	-0.1451	0.4623	-0.1103	0.1065
2	195.12	0.4496	0.0706	0.0107	-0.1985	0.0544	-0.1443	0.6384	-0.1078	0.1113
2	195.12	0.4995	0.0691	0.0104	-0.2455	0.0666	-0.1482	0.8168	-0.3326	0.1174
2	195.12	0.5551	0.1119	0.0087	-0.3499	0.0788	-0.0266	1.0087	-0.1461	0.1168
2	195.12	0.5996	0.1595	0.0080	-0.4320	0.0869	0.0758	1.1458	-0.1636	0.1387
2	195.12	0.6497	0.1495	0.0076	-0.5193	0.0968	0.2115	1.2818	-0.2583	0.1486
2	195.12	0.6996	0.1883	0.0086	-0.5852	0.1055	0.3544	1.4028	-0.2853	0.1802
2	195.12	0.7495	0.1880	0.0101	-0.6955	0.1151	0.5019	1.5205	-0.2585	0.1915
2	195.12	0.7996	0.2132	0.0117	-0.7835	0.1254	0.5784	1.6421	-0.4606	0.1822
2	195.12	0.8578	0.2222	0.0136	-0.8897	0.1400	0.6607	1.7935	-0.4087	0.2262
2	195.12	0.9727	0.2589	0.0214	-1.0817	0.1702	0.8567	2.1694	0.3857	0.3550
3	195.12	0.1938	-0.0548	0.0024	0.0141	0.0036	0.0259	0.0362	0.0234	0.0361
3	195.12	0.2357	0.0297	0.0027	-0.0204	0.0060	0.0312	0.0592	0.1356	0.0584
3	195.12	0.2995	0.0131	0.0055	0.0159	0.0150	0.1061	0.1495	0.1240	0.0821
3	195.12	0.3493	0.0397	0.0062	0.0184	0.0269	0.1785	0.2584	0.2391	0.0943
3	195.12	0.4000	0.1005	0.0066	0.0147	0.0413	0.2771	0.3973	0.4591	0.1113
3	195.12	0.4497	0.0828	0.0059	-0.0371	0.0556	0.4095	0.5429	0.2612	0.1216
3	195.12	0.4997	0.1632	0.2972	-0.0110	1.0424	0.5610	1.5505	0.2964	0.1799
3	195.12	0.5556	0.1692	0.3402	-0.1257	1.1898	0.8469	1.7577	0.3216	0.2051
3	195.12	0.5995	0.2013	0.3656	-0.1274	1.3134	1.1333	1.9128	0.3320	0.2245
3	195.12	0.6498	0.2171	0.3916	-0.2372	1.4617	1.4697	2.0819	0.4080	0.2501
3	195.12	0.6890	0.2182	0.4085	-0.2466	1.5814	1.7376	2.2090	0.3686	0.2835
3	195.12	0.7495	0.2558	0.4260	-0.3471	1.7695	2.1545	2.3999	0.3494	0.3319
3	195.12	0.7998	0.2231	0.4314	-0.3911	1.9237	2.4734	2.5588	0.2200	0.3759
3	195.12	0.8577	0.2523	0.2598	-0.4609	2.1380	2.8371	2.5165	0.3665	3.9692
3	195.12	0.9178	0.2985	0.2315	-0.5299	2.3580	3.1656	2.7145	0.2673	4.3006
3	195.12	0.9729	0.2495	0.0695	-0.6984	2.6969	3.4059	2.7840	0.0851	4.8063
4	195.12	0.2001	-0.0517	0.0028	-0.0058	0.0056	-0.0190	0.0487	0.1606	0.0665
4	195.12	0.2502	-0.0050	0.0073	0.0057	0.0106	-0.0258	0.0853	0.2779	0.1031
4	195.12	0.3001	0.0074	0.0082	0.0005	0.0210	-0.0687	0.1805	0.3814	0.1138
4	195.12	0.3502	0.0190	0.0091	-0.0188	0.0363	-0.1189	0.3133	0.4971	0.1377
4	195.12	0.4002	0.0445	0.0104	-0.0053	0.0558	-0.1775	0.4735	0.4356	0.1614
4	195.12	0.4500	0.0800	0.0103	0.0109	0.0751	-0.2075	0.6515	0.3072	0.1885
4	195.12	0.5001	0.0875	0.0093	-0.0207	0.0962	-0.1584	0.8358	0.4898	0.2184
4	195.12	0.5560	0.1070	0.0078	-0.0563	0.1200	-0.1141	1.0414	0.3415	0.2301
4	195.12	0.6001	0.1598	0.0075	-0.0933	0.1386	-0.0510	1.1951	0.2081	0.2458
4	195.12	0.6501	0.1561	0.0089	-0.1196	0.1584	0.0785	1.3586	0.3971	0.2682
4	195.12	0.6999	0.1781	0.0117	-0.1604	0.1810	0.1988	1.5139	0.4241	0.2850
4	195.12	0.7500	0.2185	0.0143	-0.2083	0.2031	0.3178	1.6596	0.4884	0.2968
4	195.12	0.8002	0.2142	0.0168	-0.3068	0.2273	0.4094	1.8073	0.4903	0.2880
4	195.12	0.8582	0.2317	0.0204	-0.3369	0.2561	0.4677	1.9808	0.4083	0.3007
4	195.12	0.9101	0.2570	0.0222	-0.2756	0.2711	0.4884	2.1457	0.4968	0.4029
4	195.12	0.9728	0.3408	0.0359	-0.2834	0.3073	0.5071	2.3617	0.6136	0.4431

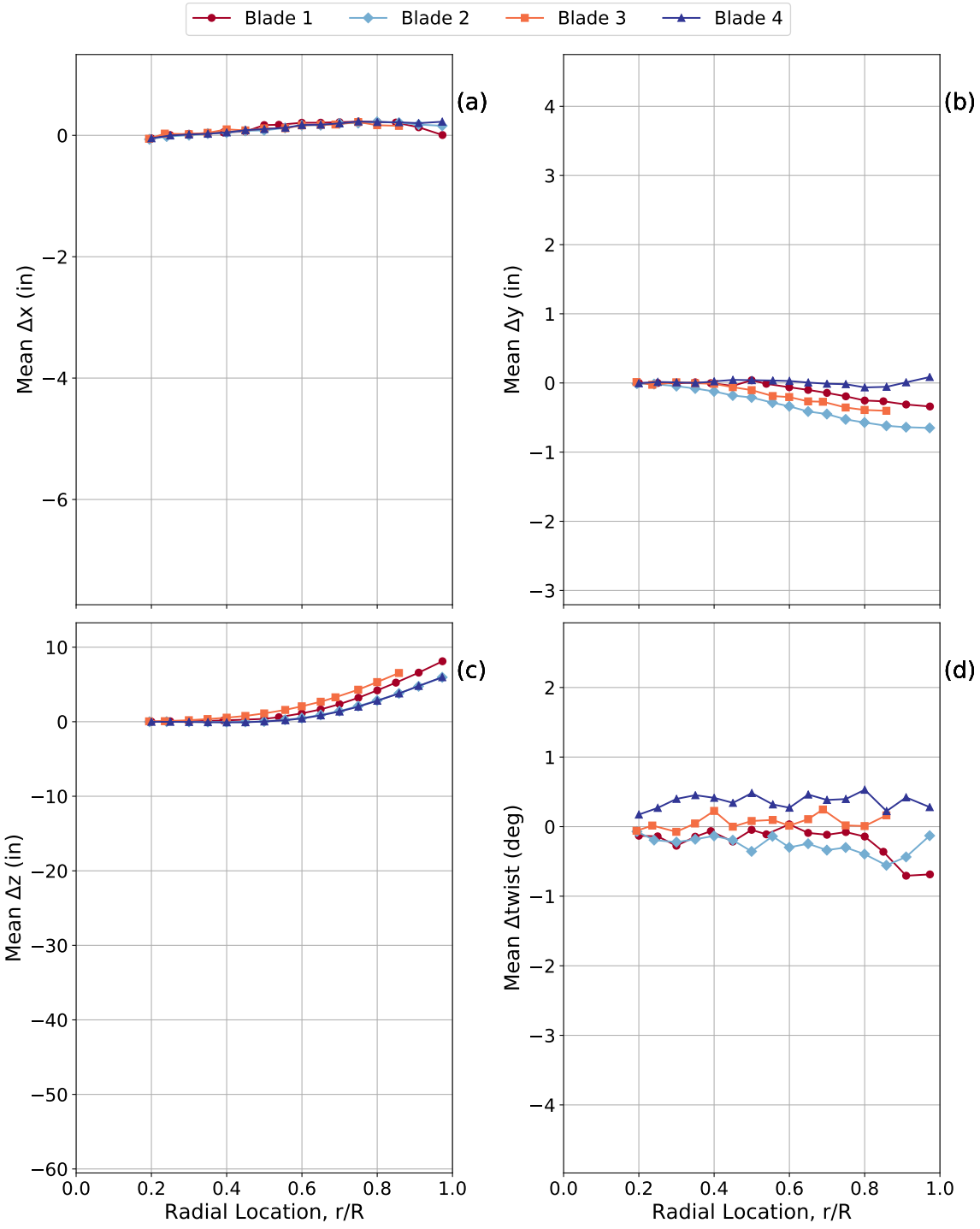


Figure 2.24-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0512	0.0027	0.0012	0.0069	0.0052	0.0592	-0.1308	0.0681
1	209.88	0.2499	0.0036	0.0035	0.0001	0.0165	0.0596	0.1224	-0.1399	0.1140
1	209.88	0.2998	0.0252	0.0053	-0.0062	0.0296	0.0501	0.2394	-0.2746	0.1544
1	209.88	0.3498	0.0266	0.0069	0.0092	0.0548	0.1122	0.4112	-0.1448	0.1725
1	209.88	0.3913	0.0490	0.0075	-0.0030	0.0778	0.1708	0.5918	-0.0645	0.1990
1	209.88	0.4496	0.0618	0.0087	-0.0419	0.1160	0.2830	0.8988	-0.2151	0.2254
1	209.88	0.4997	0.1691	0.0133	0.0390	0.1567	0.3831	1.2032	-0.0462	0.2474
1	209.88	0.5387	0.1740	0.0169	-0.0120	0.1856	0.6087	1.4535	-0.1106	0.2577
1	209.88	0.5996	0.2070	0.0283	-0.0620	0.2363	1.1218	1.8703	0.0331	0.2858
1	209.88	0.6498	0.2081	0.0427	-0.1006	0.2781	1.6523	2.2339	-0.0903	0.2881
1	209.88	0.6998	0.2170	0.0600	-0.1438	0.3226	2.3586	2.5996	-0.1169	0.3096
1	209.88	0.7500	0.2266	0.0805	-0.1935	0.3677	3.2140	2.9727	-0.0781	0.3254
1	209.88	0.8001	0.2215	0.1029	-0.2540	0.4135	4.2100	3.3241	-0.1425	0.3353
1	209.88	0.8497	0.2104	0.1253	-0.2649	0.4565	5.2426	3.6972	-0.3614	0.3291
1	209.88	0.9102	0.1331	0.1549	-0.3117	0.5133	6.5847	4.1168	-0.7058	0.4239
1	209.88	0.9734	0.0054	0.2051	-0.3401	0.5730	8.1130	4.6046	-0.6866	0.3311
2	209.88	0.1949	-0.0649	0.0026	-0.0111	0.0057	-0.0054	0.0499	-0.0703	0.0500
2	209.88	0.2405	-0.0200	0.0037	-0.0166	0.0115	0.0114	0.0997	-0.1937	0.0867
2	209.88	0.2999	0.0025	0.0057	-0.0462	0.0271	-0.0164	0.2202	-0.2221	0.1229
2	209.88	0.3498	0.0288	0.0072	-0.0803	0.0472	-0.0328	0.3775	-0.1817	0.1480
2	209.88	0.3998	0.0444	0.0079	-0.1225	0.0736	-0.0445	0.5851	-0.1337	0.1687
2	209.88	0.4496	0.0739	0.0088	-0.1815	0.1038	-0.0239	0.8358	-0.1947	0.1665
2	209.88	0.4995	0.0830	0.0080	-0.2100	0.1391	0.0315	1.1231	-0.3560	0.1831
2	209.88	0.5551	0.1209	0.0104	-0.2849	0.1793	0.2621	1.4596	-0.1388	0.1908
2	209.88	0.5996	0.1665	0.0179	-0.3374	0.2123	0.4897	1.7291	-0.2978	0.2006
2	209.88	0.6497	0.1666	0.0291	-0.4127	0.2505	0.9117	2.0224	-0.2455	0.2268
2	209.88	0.6996	0.1965	0.0411	-0.4496	0.2888	1.4243	2.2976	-0.3377	0.2427
2	209.88	0.7495	0.2021	0.0541	-0.5268	0.3282	2.0952	2.5583	-0.3002	0.2638
2	209.88	0.7996	0.2230	0.0669	-0.5718	0.3681	2.8435	2.7989	-0.3950	0.3204
2	209.88	0.8578	0.2095	0.0822	-0.6196	0.4176	3.7969	3.0764	-0.5559	0.3077
2	209.88	0.9100	0.1777	0.0994	-0.6396	0.4634	4.7536	3.3232	-0.4356	0.3150
2	209.88	0.9727	0.1575	0.1330	-0.6503	0.5184	5.9582	3.6162	-0.1303	0.3230
3	209.88	0.1938	-0.0563	0.0017	0.0125	0.0031	0.0510	0.0314	-0.0595	0.0392
3	209.88	0.2357	0.0285	0.0016	-0.0266	0.0079	0.0728	0.0602	0.0158	0.0642
3	209.88	0.2995	0.0189	0.0033	0.0096	0.0161	0.2042	0.1408	-0.0743	0.0978
3	209.88	0.3493	0.0413	0.0034	-0.0035	0.0279	0.3568	0.2380	0.0454	0.1157
3	209.88	0.4000	0.0982	0.0046	-0.0128	0.0449	0.5437	0.3735	0.2261	0.1346
3	209.88	0.4497	0.0814	0.0041	-0.0608	0.0636	0.7770	0.5324	-0.0008	0.1192
3	209.88	0.4997	0.1149	0.0067	-0.1038	0.0866	1.1154	0.7229	0.0811	0.1382
3	209.88	0.5556	0.1177	0.0135	-0.1890	0.1134	1.5841	0.9589	0.0963	0.1467
3	209.88	0.5995	0.1637	0.0214	-0.2039	0.1364	2.0670	1.1523	0.0139	0.1447
3	209.88	0.6498	0.1749	0.0322	-0.2662	0.1621	2.6838	1.3724	0.1071	0.1654
3	209.88	0.6890	0.1783	0.0415	-0.2716	0.1854	3.2767	1.5402	0.2464	0.1811
3	209.88	0.7495	0.2193	0.0576	-0.3548	0.2196	4.2981	1.7800	0.0174	0.2053
3	209.88	0.7998	0.1671	0.0712	-0.3906	0.2485	5.3147	1.9647	0.0082	0.2051
3	209.88	0.8577	0.1562	0.0852	-0.4026	0.2806	6.5402	2.1634	0.1620	0.2119
4	209.88	0.2001	-0.0485	0.0027	-0.0048	0.0046	-0.0104	0.0386	0.1731	0.0482
4	209.88	0.2502	-0.0023	0.0043	0.0144	0.0080	-0.0149	0.0766	0.2693	0.0749
4	209.88	0.3001	0.0137	0.0056	0.0084	0.0185	-0.0315	0.1543	0.3987	0.1088
4	209.88	0.3502	0.0257	0.0073	-0.0009	0.0311	-0.0634	0.2644	0.4520	0.1349
4	209.88	0.4002	0.0484	0.0077	0.0230	0.0482	-0.0873	0.4079	0.4138	0.1540
4	209.88	0.4500	0.0852	0.0083	0.0444	0.0686	-0.0696	0.5835	0.3415	0.1700
4	209.88	0.5001	0.1031	0.0075	0.0401	0.0914	0.0337	0.7818	0.4821	0.1846
4	209.88	0.5560	0.1250	0.0072	0.0353	0.1188	0.1981	1.0226	0.3187	0.2026
4	209.88	0.6001	0.1701	0.0100	0.0283	0.1404	0.4351	1.2181	0.2716	0.2159
4	209.88	0.6501	0.1755	0.0170	0.0057	0.1646	0.8512	1.4392	0.4609	0.2303
4	209.88	0.6999	0.1968	0.0254	-0.0114	0.1925	1.3651	1.6598	0.3835	0.2413
4	209.88	0.7500	0.2276	0.0367	-0.0179	0.2194	2.0195	1.8757	0.3966	0.2667
4	209.88	0.8002	0.2184	0.0469	-0.0645	0.2443	2.8139	2.0734	0.5298	0.2931
4	209.88	0.8582	0.2149	0.0607	-0.0562	0.2773	3.7959	2.3102	0.2230	0.2812
4	209.88	0.9101	0.2006	0.0742	0.0087	0.3104	4.8014	2.5178	0.4202	0.3074
4	209.88	0.9728	0.2244	0.1024	0.0855	0.3500	5.9712	2.7645	0.2802	0.2977

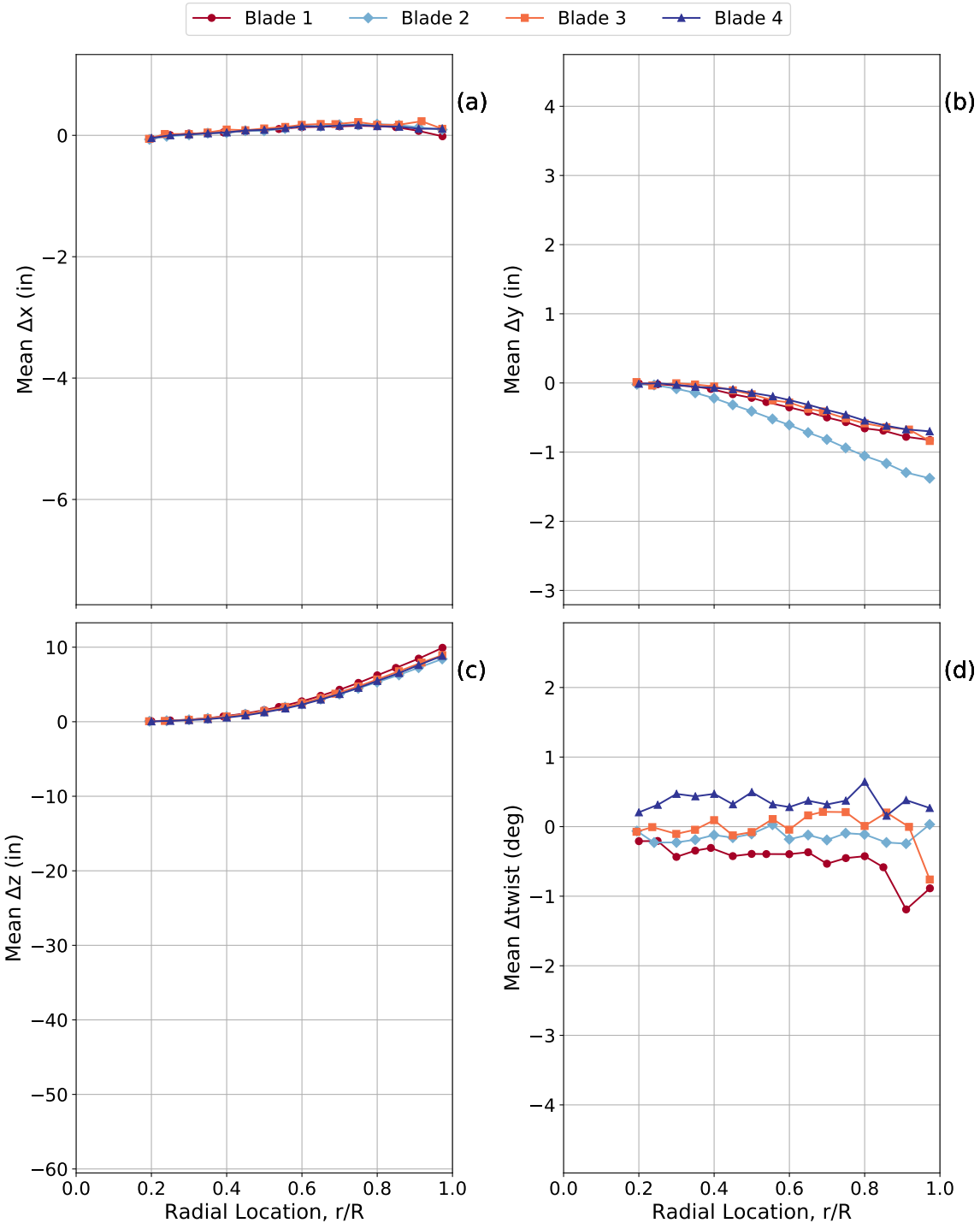


Figure 2.24-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.061, μ = 1.001, α = 4° NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0587	0.0022	-0.0062	0.0027	0.0608	0.0209	-0.2090	0.0722
1	225	0.2499	0.0035	0.0015	-0.0187	0.0063	0.1744	0.0414	-0.2062	0.1176
1	225	0.2998	0.0304	0.0019	-0.0361	0.0109	0.2682	0.0821	-0.4349	0.1665
1	225	0.3498	0.0334	0.0020	-0.0520	0.0204	0.4940	0.1404	-0.3449	0.2024
1	225	0.3913	0.0497	0.0030	-0.0863	0.0286	0.7134	0.2013	-0.3063	0.2261
1	225	0.4496	0.0655	0.0045	-0.1627	0.0405	1.1096	0.3014	-0.4238	0.2562
1	225	0.4997	0.0898	0.0067	-0.2153	0.0507	1.5617	0.4052	-0.3923	0.2832
1	225	0.5387	0.1044	0.0097	-0.2757	0.0599	1.9754	0.5051	-0.3942	0.3065
1	225	0.5996	0.1338	0.0163	-0.3529	0.0744	2.7381	0.7081	-0.3956	0.3460
1	225	0.6498	0.1407	0.0264	-0.4182	0.0868	3.4760	0.9365	-0.3682	0.3563
1	225	0.6998	0.1479	0.0391	-0.4987	0.1003	4.2917	1.2238	-0.5334	0.3957
1	225	0.7500	0.1578	0.0576	-0.5657	0.1129	5.2085	1.5709	-0.4523	0.4282
1	225	0.8001	0.1504	0.0810	-0.6568	0.1261	6.2236	1.9713	-0.4253	0.4622
1	225	0.8497	0.1352	0.1081	-0.6895	0.1386	7.2213	2.4100	-0.5838	0.4894
1	225	0.9102	0.0729	0.1500	-0.7788	0.1555	8.4655	2.9793	-1.1902	0.5380
1	225	0.9734	-0.0155	0.2077	-0.8243	0.1726	9.9187	3.6079	-0.8866	0.5540
2	225	0.1949	-0.0663	0.0023	-0.0198	0.0020	0.0633	0.0139	-0.0635	0.0481
2	225	0.2405	-0.0160	0.0015	-0.0298	0.0033	0.1293	0.0209	-0.2290	0.0851
2	225	0.2999	0.0075	0.0022	-0.0836	0.0085	0.2656	0.0518	-0.2268	0.1196
2	225	0.3498	0.0361	0.0019	-0.1432	0.0145	0.4492	0.0893	-0.1877	0.1512
2	225	0.3998	0.0435	0.0026	-0.2200	0.0223	0.6932	0.1344	-0.1208	0.1608
2	225	0.4496	0.0764	0.0039	-0.3161	0.0290	1.0061	0.1776	-0.1587	0.1812
2	225	0.4995	0.0751	0.0048	-0.4082	0.0366	1.4098	0.2289	-0.1053	0.2152
2	225	0.5551	0.1124	0.0078	-0.5208	0.0465	1.9499	0.3113	0.0278	0.2477
2	225	0.5996	0.1546	0.0092	-0.6072	0.0552	2.3940	0.4062	-0.1811	0.2614
2	225	0.6497	0.1507	0.0144	-0.7176	0.0659	3.0304	0.5562	-0.1204	0.2917
2	225	0.6996	0.1751	0.0228	-0.8168	0.0773	3.6977	0.7529	-0.1917	0.3255
2	225	0.7495	0.1721	0.0342	-0.9388	0.0902	4.4776	0.9975	-0.0946	0.3463
2	225	0.7996	0.1845	0.0482	-1.0548	0.1023	5.3058	1.2824	-0.1113	0.3756
2	225	0.8578	0.1689	0.0668	-1.1639	0.1172	6.2763	1.6572	-0.2281	0.4054
2	225	0.9100	0.1313	0.0917	-1.2954	0.1301	7.2481	2.0209	-0.2448	0.4296
2	225	0.9727	0.0937	0.1271	-1.3778	0.1443	8.4208	2.4658	0.0315	0.5037
3	225	0.1938	-0.0576	0.0028	0.0127	0.0022	0.0614	0.0126	-0.0735	0.0836
3	225	0.2357	0.0222	0.0019	-0.0365	0.0035	0.1051	0.0229	-0.0069	0.1076
3	225	0.2995	0.0211	0.0040	-0.0044	0.0085	0.2649	0.0495	-0.1046	0.1913
3	225	0.3493	0.0465	0.0024	-0.0218	0.0149	0.4540	0.0886	-0.0449	0.1414
3	225	0.4000	0.0953	0.0027	-0.0508	0.0227	0.7048	0.1330	0.0930	0.1741
3	225	0.4497	0.0841	0.0036	-0.1063	0.0311	1.0132	0.1870	-0.1258	0.1940
3	225	0.4997	0.1132	0.0050	-0.1644	0.0408	1.4304	0.2506	-0.0786	0.2115
3	225	0.5556	0.1384	0.0076	-0.2510	0.0527	1.9952	0.3386	0.1090	0.2237
3	225	0.5995	0.1733	0.0107	-0.2819	0.0636	2.5019	0.4222	-0.0436	0.2425
3	225	0.6498	0.1871	0.0153	-0.3741	0.0778	3.1775	0.5339	0.1620	0.2813
3	225	0.6890	0.1846	0.0200	-0.4118	0.0885	3.7615	0.6405	0.2127	0.2830
3	225	0.7495	0.2188	0.0302	-0.5112	0.1067	4.7369	0.8415	0.2087	0.2956
3	225	0.7998	0.1743	0.0416	-0.5840	0.1225	5.6674	1.0427	0.0091	0.3009
3	225	0.8577	0.1747	0.0587	-0.6406	0.1417	6.7732	1.3158	0.2026	0.3095
3	225	0.9178	0.2321	0.0832	-0.6738	0.1613	7.9339	1.6261	-0.0037	0.4120
3	225	0.9729	0.1076	0.1108	-0.8388	0.1797	8.9310	1.9356	-0.7602	0.3585
4	225	0.2001	-0.0451	0.0017	-0.0114	0.0025	0.0479	0.0172	0.2055	0.0538
4	225	0.2502	0.0011	0.0017	-0.0046	0.0047	0.1114	0.0315	0.3135	0.1048
4	225	0.3001	0.0163	0.0020	-0.0274	0.0099	0.2165	0.0662	0.4704	0.1300
4	225	0.3502	0.0326	0.0020	-0.0567	0.0164	0.3445	0.1118	0.4353	0.1643
4	225	0.4002	0.0482	0.0028	-0.0711	0.0256	0.5591	0.1718	0.4708	0.1873
4	225	0.4500	0.0806	0.0032	-0.0928	0.0351	0.8409	0.2412	0.3206	0.1978
4	225	0.5001	0.0904	0.0040	-0.1433	0.0440	1.2596	0.3246	0.4955	0.2360
4	225	0.5560	0.1185	0.0063	-0.1932	0.0569	1.7753	0.4442	0.3192	0.2511
4	225	0.6001	0.1501	0.0101	-0.2482	0.0673	2.2875	0.5593	0.2813	0.2770
4	225	0.6501	0.1446	0.0165	-0.3150	0.0800	2.9714	0.7254	0.3724	0.2920
4	225	0.6999	0.1583	0.0266	-0.3909	0.0939	3.7143	0.9293	0.3187	0.3275
4	225	0.7500	0.1708	0.0392	-0.4585	0.1069	4.5483	1.1748	0.3734	0.3576
4	225	0.8002	0.1512	0.0557	-0.5443	0.1207	5.4740	1.4577	0.6443	0.3847
4	225	0.8582	0.1418	0.0773	-0.6193	0.1389	6.5284	1.8281	0.1567	0.3924
4	225	0.9101	0.1092	0.1057	-0.6710	0.1521	7.6040	2.1778	0.3808	0.4149
4	225	0.9728	0.1078	0.1452	-0.6998	0.1689	8.8345	2.6090	0.2680	0.5106

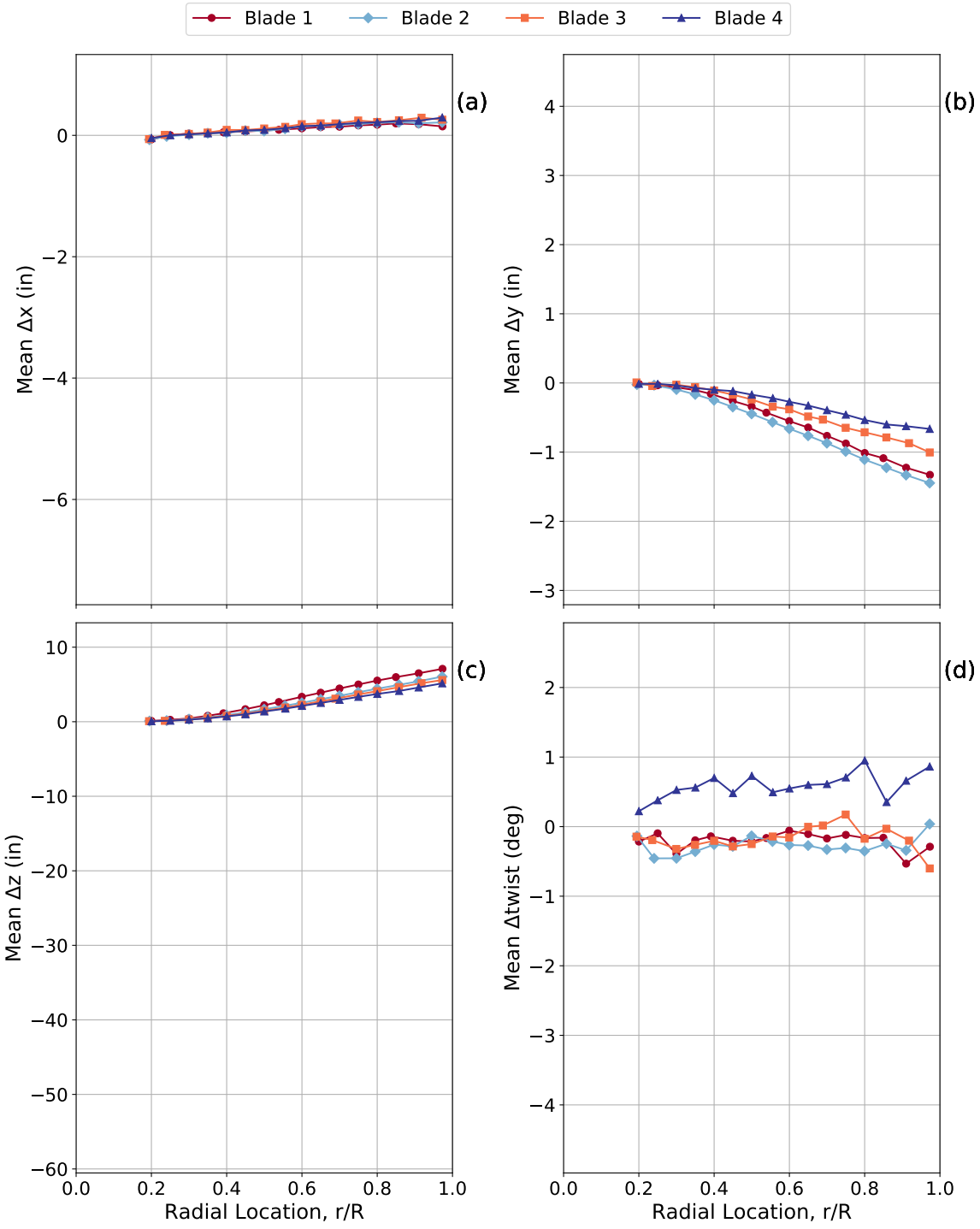


Figure 2.24-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0668	0.0021	-0.0130	0.0027	0.1083	0.0180	-0.2149	0.0418
1	240.12	0.2499	0.0024	0.0020	-0.0335	0.0060	0.2576	0.0374	-0.0961	0.0829
1	240.12	0.2998	0.0303	0.0019	-0.0635	0.0113	0.4393	0.0714	-0.3919	0.1018
1	240.12	0.3498	0.0317	0.0026	-0.1036	0.0200	0.7979	0.1225	-0.1967	0.1159
1	240.12	0.3913	0.0509	0.0037	-0.1582	0.0288	1.1332	0.1761	-0.1393	0.1191
1	240.12	0.4496	0.0630	0.0057	-0.2601	0.0428	1.6828	0.2686	-0.2028	0.1438
1	240.12	0.4997	0.0812	0.0081	-0.3409	0.0564	2.2065	0.3598	-0.2134	0.1630
1	240.12	0.5387	0.0916	0.0107	-0.4292	0.0677	2.6414	0.4404	-0.1632	0.1748
1	240.12	0.5996	0.1158	0.0153	-0.5519	0.0866	3.3451	0.5871	-0.0580	0.1940
1	240.12	0.6498	0.1348	0.0198	-0.6444	0.1024	3.8961	0.7313	-0.1063	0.2080
1	240.12	0.6998	0.1423	0.0255	-0.7648	0.1188	4.4581	0.8963	-0.1702	0.2208
1	240.12	0.7500	0.1641	0.0317	-0.8758	0.1361	4.9963	1.0887	-0.1185	0.2398
1	240.12	0.8001	0.1759	0.0393	-1.0125	0.1536	5.5192	1.3025	-0.1639	0.2502
1	240.12	0.8497	0.1961	0.0472	-1.0877	0.1703	5.9850	1.5301	-0.1597	0.2578
1	240.12	0.9102	0.1833	0.0608	-1.2253	0.1928	6.4982	1.8322	-0.5322	0.2793
1	240.12	0.9734	0.1472	0.0799	-1.3288	0.2158	7.0962	2.1606	-0.2887	0.2765
2	240.12	0.1949	-0.0724	0.0028	-0.0238	0.0023	0.0902	0.0206	-0.1359	0.0418
2	240.12	0.2405	-0.0171	0.0020	-0.0327	0.0051	0.1501	0.0398	-0.4563	0.0848
2	240.12	0.2999	0.0109	0.0016	-0.0948	0.0107	0.3474	0.0890	-0.4548	0.1124
2	240.12	0.3498	0.0349	0.0020	-0.1657	0.0189	0.5915	0.1519	-0.3587	0.1313
2	240.12	0.3998	0.0431	0.0031	-0.2501	0.0294	0.8950	0.2350	-0.2576	0.1504
2	240.12	0.4496	0.0782	0.0042	-0.3474	0.0398	1.2422	0.3308	-0.2840	0.1664
2	240.12	0.4995	0.0716	0.0069	-0.4468	0.0527	1.6769	0.4444	-0.1330	0.1926
2	240.12	0.5551	0.1073	0.0106	-0.5668	0.0670	2.1478	0.5862	-0.2135	0.2050
2	240.12	0.5996	0.1513	0.0139	-0.6619	0.0794	2.5371	0.7139	-0.2638	0.2257
2	240.12	0.6497	0.1570	0.0185	-0.7633	0.0938	3.0118	0.8743	-0.2720	0.2409
2	240.12	0.6996	0.1797	0.0240	-0.8702	0.1086	3.4763	1.0554	-0.3291	0.2623
2	240.12	0.7495	0.1858	0.0300	-0.9897	0.1239	3.9569	1.2636	-0.3071	0.2712
2	240.12	0.7996	0.2066	0.0368	-1.1082	0.1391	4.4236	1.4921	-0.3521	0.2819
2	240.12	0.8578	0.2150	0.0458	-1.2249	0.1573	4.9459	1.7750	-0.2455	0.2960
2	240.12	0.9100	0.1985	0.0578	-1.3317	0.1739	5.4232	2.0413	-0.3418	0.3138
2	240.12	0.9727	0.2136	0.0732	-1.4468	0.1938	6.0512	2.3349	0.0377	0.4572
3	240.12	0.1938	-0.0620	0.0022	0.0075	0.0030	0.0730	0.0209	-0.1440	0.0564
3	240.12	0.2357	0.0074	0.0018	-0.0442	0.0049	0.1175	0.0369	-0.1931	0.1022
3	240.12	0.2995	0.0239	0.0016	-0.0252	0.0123	0.2967	0.0875	-0.3210	0.1516
3	240.12	0.3493	0.0458	0.0020	-0.0607	0.0222	0.5114	0.1512	-0.2618	0.1812
3	240.12	0.4000	0.0898	0.0028	-0.1088	0.0337	0.7841	0.2330	-0.2037	0.2052
3	240.12	0.4497	0.0875	0.0046	-0.1692	0.0466	1.0942	0.3225	-0.2846	0.2297
3	240.12	0.4997	0.1129	0.0072	-0.2384	0.0596	1.4645	0.4141	-0.2503	0.2514
3	240.12	0.5556	0.1398	0.0100	-0.3421	0.0734	1.9053	0.5109	-0.1416	0.2710
3	240.12	0.5995	0.1841	0.0121	-0.3806	0.0844	2.2806	0.5803	-0.1559	0.2877
3	240.12	0.6498	0.1973	0.0152	-0.4847	0.0975	2.7387	0.6593	-0.0030	0.3093
3	240.12	0.6890	0.1960	0.0172	-0.5298	0.1079	3.0941	0.7243	0.0165	0.3320
3	240.12	0.7495	0.2444	0.0200	-0.6481	0.1232	3.6532	0.8504	0.1738	0.3642
3	240.12	0.7998	0.2201	0.0230	-0.7131	0.1363	4.0991	0.9857	-0.1738	0.3723
3	240.12	0.8577	0.2490	0.0281	-0.7878	0.1525	4.6373	1.1773	-0.0303	0.3702
3	240.12	0.9178	0.2906	0.0369	-0.8705	0.1678	5.1658	1.4049	-0.2016	0.3942
3	240.12	0.9729	0.2579	0.0488	-1.0049	0.1818	5.5920	1.6292	-0.6011	0.4133
4	240.12	0.2001	-0.0455	0.0018	-0.0123	0.0034	0.0664	0.0270	0.2215	0.0465
4	240.12	0.2502	0.0014	0.0018	-0.0131	0.0069	0.1347	0.0534	0.3789	0.0802
4	240.12	0.3001	0.0175	0.0023	-0.0352	0.0140	0.2779	0.1062	0.5273	0.1094
4	240.12	0.3502	0.0324	0.0023	-0.0740	0.0246	0.4519	0.1830	0.5614	0.1254
4	240.12	0.4002	0.0490	0.0028	-0.0989	0.0379	0.7157	0.2809	0.6996	0.1476
4	240.12	0.4500	0.0815	0.0041	-0.1180	0.0534	0.9924	0.3917	0.4811	0.1598
4	240.12	0.5001	0.0901	0.0064	-0.1697	0.0703	1.3749	0.5178	0.7294	0.1966
4	240.12	0.5560	0.1172	0.0102	-0.2207	0.0900	1.7571	0.6728	0.4937	0.2133
4	240.12	0.6001	0.1503	0.0138	-0.2723	0.1072	2.1208	0.8083	0.5483	0.2284
4	240.12	0.6501	0.1617	0.0186	-0.3272	0.1275	2.5210	0.9812	0.5998	0.2433
4	240.12	0.6999	0.1839	0.0249	-0.3939	0.1493	2.9284	1.1791	0.6112	0.2605
4	240.12	0.7500	0.2061	0.0314	-0.4587	0.1717	3.3325	1.3990	0.7069	0.2813
4	240.12	0.8002	0.2147	0.0385	-0.5357	0.1947	3.7277	1.6398	0.9507	0.2870
4	240.12	0.8582	0.2367	0.0469	-0.6002	0.2219	4.1228	1.9371	0.3526	0.2942
4	240.12	0.9101	0.2397	0.0602	-0.6247	0.2458	4.5939	2.2126	0.6601	0.2983
4	240.12	0.9728	0.2929	0.0814	-0.6645	0.2754	5.1442	2.5524	0.8630	0.3240

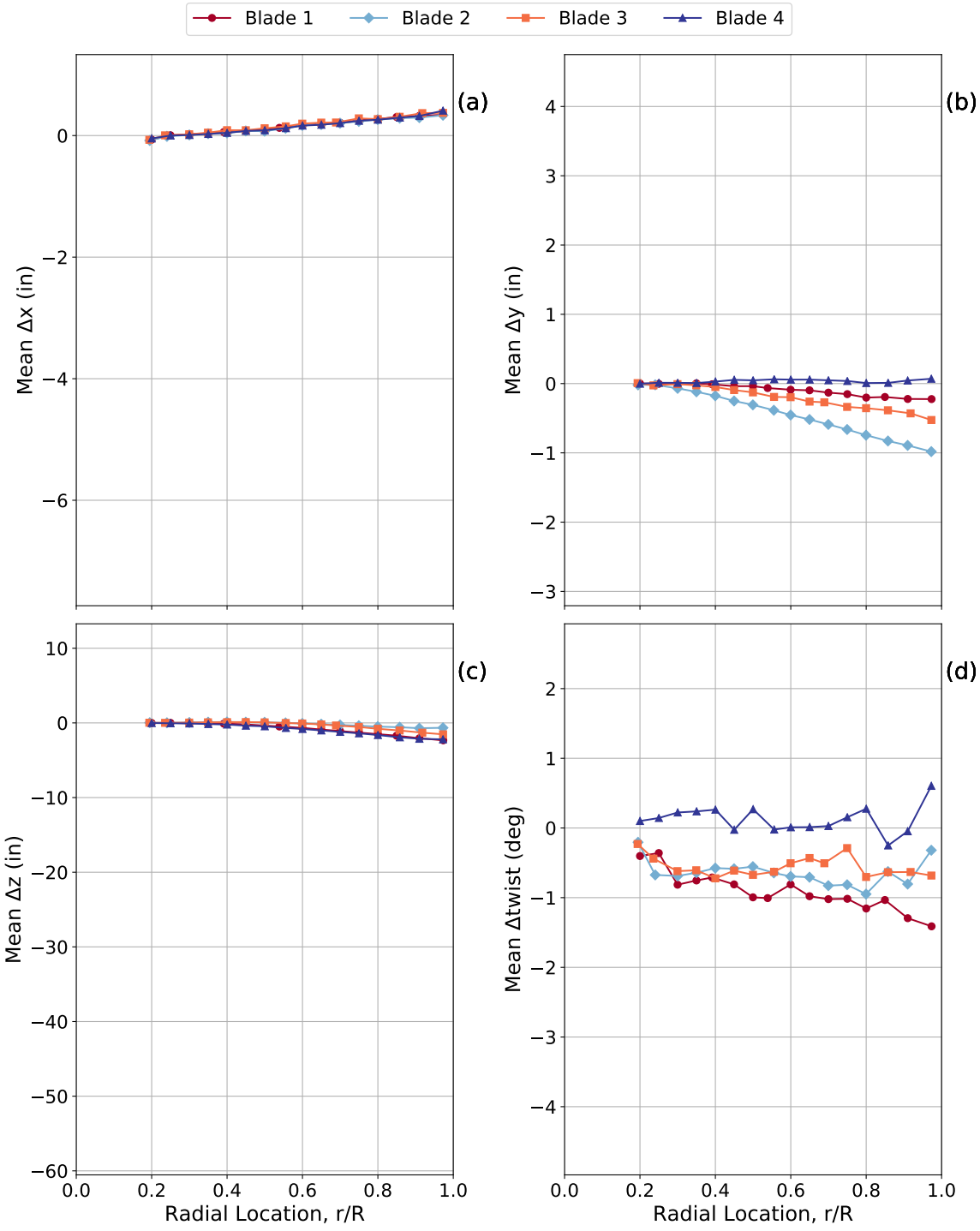


Figure 2.24-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0675	0.0213	0.0014	0.0086	-0.0162	0.0661	-0.4022	0.2222
1	254.88	0.2499	0.0049	0.0071	-0.0036	0.0100	0.0039	0.0881	-0.3600	0.6103
1	254.88	0.2998	0.0222	0.0103	-0.0066	0.0313	-0.0552	0.2006	-0.8139	0.5986
1	254.88	0.3498	0.0322	0.0138	0.0032	0.0532	-0.0660	0.3287	-0.7534	0.5912
1	254.88	0.3913	0.0580	0.0175	-0.0101	0.0733	-0.0974	0.4453	-0.7107	0.5896
1	254.88	0.4496	0.0717	0.0217	-0.0379	0.1023	-0.2049	0.6224	-0.8097	0.5726
1	254.88	0.4997	0.1007	0.0251	-0.0370	0.1287	-0.3588	0.7821	-0.9952	0.5583
1	254.88	0.5387	0.1270	0.0282	-0.0646	0.1498	-0.4805	0.9083	-1.0065	0.5526
1	254.88	0.5996	0.1664	0.0324	-0.0889	0.1827	-0.6670	1.1083	-0.8098	0.5392
1	254.88	0.6498	0.1924	0.0352	-0.0974	0.2118	-0.8910	1.2698	-0.9794	0.5412
1	254.88	0.6998	0.2113	0.0374	-0.1307	0.2398	-1.0931	1.4244	-1.0209	0.5247
1	254.88	0.7500	0.2507	0.0400	-0.1523	0.2688	-1.2994	1.5666	-1.0163	0.5250
1	254.88	0.8001	0.2727	0.0425	-0.2021	0.2983	-1.5084	1.6951	-1.1556	0.5206
1	254.88	0.8497	0.3053	0.0441	-0.1935	0.3286	-1.7119	1.8098	-1.0336	0.5193
1	254.88	0.9102	0.3247	0.0474	-0.2220	0.3675	-2.0504	1.9387	-1.2946	0.5111
1	254.88	0.9734	0.3419	0.0602	-0.2238	0.4082	-2.3330	2.0705	-1.4114	0.5011
2	254.88	0.1949	-0.0811	0.0035	-0.0195	0.0037	0.0255	0.0266	-0.2050	0.0681
2	254.88	0.2405	-0.0131	0.0016	-0.0182	0.0071	0.0148	0.0494	-0.6740	0.1071
2	254.88	0.2999	0.0107	0.0026	-0.0692	0.0165	0.0557	0.1110	-0.6884	0.1673
2	254.88	0.3498	0.0312	0.0029	-0.1190	0.0291	0.0930	0.1900	-0.6422	0.1772
2	254.88	0.3998	0.0426	0.0033	-0.1762	0.0447	0.1187	0.2918	-0.5757	0.1955
2	254.88	0.4496	0.0764	0.0038	-0.2514	0.0612	0.0962	0.4095	-0.5858	0.2107
2	254.88	0.4995	0.0720	0.0046	-0.3070	0.0778	0.0813	0.5373	-0.5548	0.2209
2	254.88	0.5551	0.1197	0.0056	-0.3850	0.0978	0.0020	0.6847	-0.6450	0.2519
2	254.88	0.5996	0.1672	0.0067	-0.4542	0.1133	-0.0754	0.7966	-0.6952	0.2655
2	254.88	0.6497	0.1815	0.0079	-0.5181	0.1314	-0.1674	0.9122	-0.7065	0.2824
2	254.88	0.6996	0.2040	0.0090	-0.5895	0.1485	-0.2777	1.0116	-0.8276	0.2924
2	254.88	0.7495	0.2332	0.0098	-0.6627	0.1663	-0.3806	1.0947	-0.8147	0.3026
2	254.88	0.7996	0.2629	0.0108	-0.7449	0.1850	-0.4954	1.1639	-0.9488	0.3248
2	254.88	0.8578	0.2865	0.0118	-0.8286	0.2077	-0.5806	1.2299	-0.6257	0.3274
2	254.88	0.9100	0.2951	0.0123	-0.8923	0.2288	-0.7102	1.2854	-0.8050	0.3434
2	254.88	0.9727	0.3340	0.0159	-0.9818	0.2568	-0.6548	1.3591	-0.3196	0.4336
3	254.88	0.1938	-0.0694	0.0039	0.0068	0.0032	0.0174	0.0238	-0.2297	0.0726
3	254.88	0.2357	0.0034	0.0024	-0.0260	0.0044	0.0063	0.0399	-0.4399	0.1395
3	254.88	0.2995	0.0207	0.0023	-0.0085	0.0126	0.0396	0.0972	-0.6192	0.1966
3	254.88	0.3493	0.0476	0.0031	-0.0254	0.0221	0.0763	0.1684	-0.6070	0.2280
3	254.88	0.4000	0.0883	0.0032	-0.0493	0.0338	0.0984	0.2583	-0.7227	0.2319
3	254.88	0.4497	0.0876	0.0035	-0.0937	0.0471	0.1076	0.3615	-0.6114	0.2667
3	254.88	0.4997	0.1198	0.0034	-0.1270	0.0616	0.0692	0.4736	-0.6726	0.2874
3	254.88	0.5556	0.1509	0.0039	-0.1928	0.0777	-0.0156	0.5985	-0.6287	0.2904
3	254.88	0.5995	0.1963	0.0039	-0.1966	0.0914	-0.0776	0.6939	-0.5061	0.3237
3	254.88	0.6498	0.2132	0.0047	-0.2603	0.1064	-0.2046	0.7930	-0.4315	0.3336
3	254.88	0.6890	0.2148	0.0045	-0.2701	0.1186	-0.3495	0.8595	-0.5061	0.3532
3	254.88	0.7495	0.2829	0.0061	-0.3368	0.1381	-0.5419	0.9415	-0.2888	0.3650
3	254.88	0.7998	0.2704	0.0079	-0.3553	0.1550	-0.7911	0.9970	-0.7029	0.3971
3	254.88	0.8577	0.3090	0.0121	-0.3858	0.1765	-1.0160	1.0530	-0.6344	0.4676
3	254.88	0.9178	0.3692	0.0104	-0.4298	0.1998	-1.3099	1.1274	-0.6318	0.4224
3	254.88	0.9729	0.3735	0.0169	-0.5259	0.2215	-1.5311	1.2029	-0.6827	0.5354
4	254.88	0.2001	-0.0473	0.0025	-0.0019	0.0026	-0.0197	0.0213	0.1000	0.0440
4	254.88	0.2502	0.0007	0.0027	0.0116	0.0056	-0.0489	0.0422	0.1435	0.0722
4	254.88	0.3001	0.0086	0.0028	0.0105	0.0108	-0.0746	0.0838	0.2224	0.1013
4	254.88	0.3502	0.0263	0.0036	0.0079	0.0195	-0.1517	0.1459	0.2380	0.1153
4	254.88	0.4002	0.0447	0.0046	0.0283	0.0298	-0.2217	0.2232	0.2629	0.1225
4	254.88	0.4500	0.0766	0.0041	0.0538	0.0422	-0.3726	0.3104	-0.0259	0.1300
4	254.88	0.5001	0.0865	0.0055	0.0468	0.0541	-0.4577	0.4033	0.2690	0.1494
4	254.88	0.5560	0.1215	0.0058	0.0622	0.0686	-0.6775	0.5081	-0.0229	0.1627
4	254.88	0.6001	0.1638	0.0060	0.0569	0.0796	-0.8170	0.5840	0.0098	0.1823
4	254.88	0.6501	0.1777	0.0069	0.0575	0.0918	-1.0087	0.6649	0.0120	0.1942
4	254.88	0.6999	0.2047	0.0071	0.0474	0.1042	-1.2038	0.7349	0.0277	0.2094
4	254.88	0.7500	0.2432	0.0076	0.0371	0.1170	-1.3987	0.7940	0.1543	0.2163
4	254.88	0.8002	0.2609	0.0084	0.0077	0.1300	-1.6286	0.8461	0.2760	0.2251
4	254.88	0.8582	0.2949	0.0098	0.0102	0.1448	-1.9322	0.9052	-0.2510	0.2377
4	254.88	0.9101	0.3216	0.0097	0.0441	0.1592	-2.1270	0.9643	-0.0472	0.2348
4	254.88	0.9728	0.4098	0.0110	0.0695	0.1762	-2.2035	1.0526	0.6045	0.2478

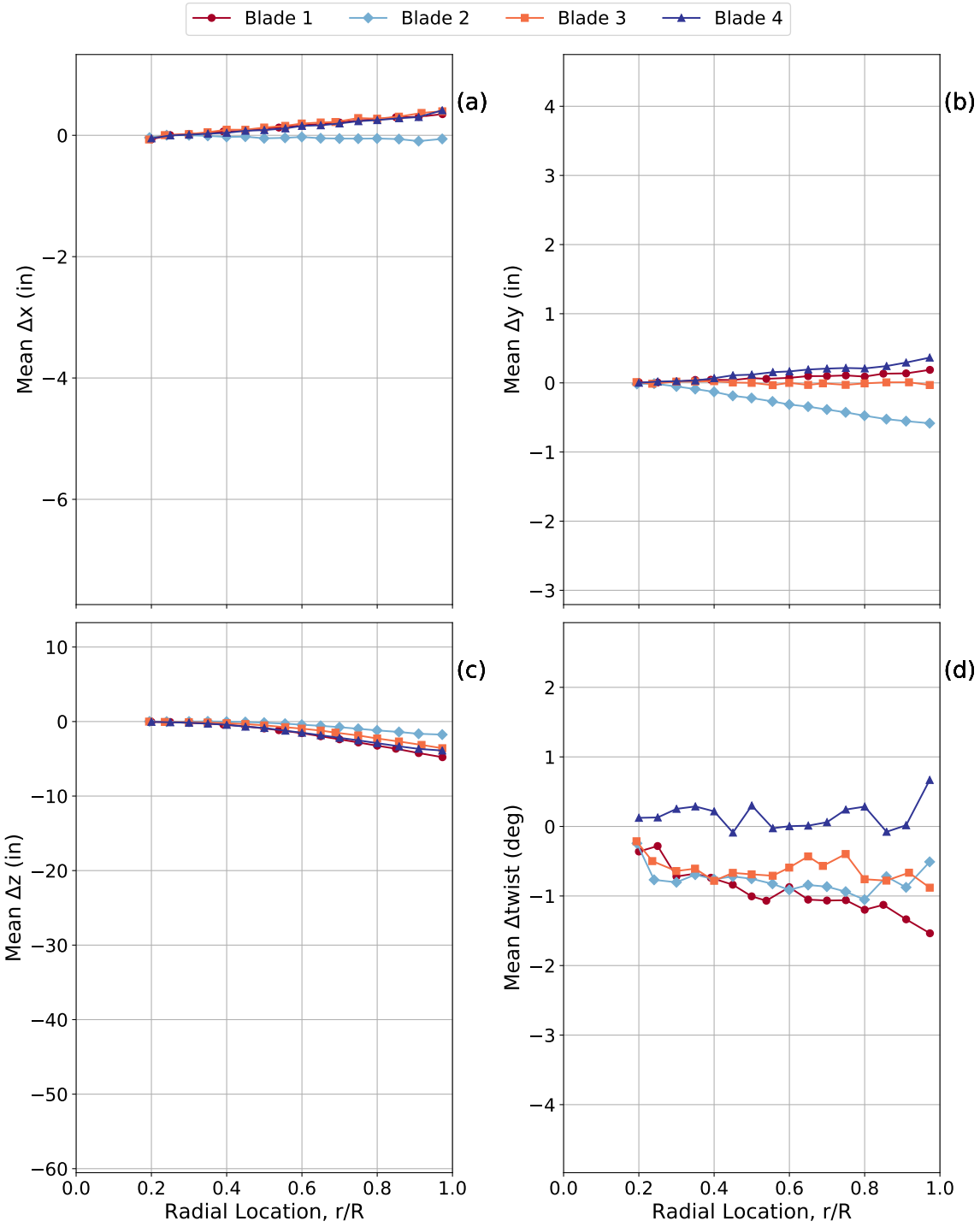


Figure 2.24-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.0652	0.0023	0.0071	0.0027	-0.0491	0.0197	-0.3606	0.0484
1	260.16	0.2499	0.0025	0.0029	0.0059	0.0059	-0.0628	0.0412	-0.2819	0.0937
1	260.16	0.2998	0.0228	0.0027	0.0159	0.0115	-0.1848	0.0807	-0.7199	0.1168
1	260.16	0.3498	0.0359	0.0036	0.0421	0.0201	-0.2798	0.1375	-0.6784	0.1324
1	260.16	0.3913	0.0626	0.0046	0.0449	0.0289	-0.4088	0.1992	-0.7378	0.1442
1	260.16	0.4496	0.0739	0.0057	0.0408	0.0427	-0.6427	0.3026	-0.8379	0.1537
1	260.16	0.4997	0.1107	0.0072	0.0690	0.0566	-0.9236	0.4080	-1.0052	0.1782
1	260.16	0.5387	0.1276	0.0080	0.0585	0.0675	-1.1602	0.4950	-1.0678	0.1786
1	260.16	0.5996	0.1640	0.0099	0.0725	0.0857	-1.5558	0.6369	-0.8733	0.1944
1	260.16	0.6498	0.1871	0.0113	0.0975	0.1009	-1.9747	0.7479	-1.0522	0.2039
1	260.16	0.6998	0.2109	0.0128	0.0982	0.1162	-2.3829	0.8481	-1.0653	0.2273
1	260.16	0.7500	0.2452	0.0148	0.1076	0.1325	-2.8081	0.9351	-1.0606	0.2368
1	260.16	0.8001	0.2677	0.0175	0.0907	0.1496	-3.2394	1.0108	-1.1978	0.2388
1	260.16	0.8497	0.2969	0.0205	0.1329	0.1675	-3.6477	1.0834	-1.1277	0.2349
1	260.16	0.9102	0.3053	0.0239	0.1372	0.1903	-4.2285	1.1811	-1.3355	0.2393
1	260.16	0.9734	0.3484	0.0261	0.1882	0.2149	-4.7841	1.3006	-1.5362	0.2422
2	260.16	0.1949	-0.0384	0.0032	-0.0157	0.0028	0.0166	0.0174	-0.2431	0.0588
2	260.16	0.2405	0.0018	0.0015	-0.0108	0.0062	-0.0115	0.0396	-0.7675	0.1116
2	260.16	0.2999	0.0007	0.0023	-0.0520	0.0131	-0.0001	0.0806	-0.8030	0.1539
2	260.16	0.3498	-0.0092	0.0022	-0.0894	0.0234	0.0233	0.1367	-0.6933	0.1744
2	260.16	0.3998	-0.0264	0.0030	-0.1300	0.0361	-0.0110	0.2151	-0.7598	0.1913
2	260.16	0.4496	-0.0223	0.0038	-0.1877	0.0506	-0.0626	0.3118	-0.7196	0.2035
2	260.16	0.4995	-0.0497	0.0044	-0.2192	0.0656	-0.1467	0.4234	-0.7523	0.2186
2	260.16	0.5551	-0.0413	0.0055	-0.2686	0.0829	-0.2835	0.5546	-0.8255	0.2272
2	260.16	0.5996	-0.0275	0.0066	-0.3129	0.0966	-0.4232	0.6581	-0.9121	0.2344
2	260.16	0.6497	-0.0485	0.0085	-0.3440	0.1118	-0.5745	0.7629	-0.8420	0.2420
2	260.16	0.6996	-0.0536	0.0107	-0.3852	0.1267	-0.7523	0.8539	-0.8657	0.2552
2	260.16	0.7495	-0.0554	0.0133	-0.4265	0.1418	-0.9684	0.9360	-0.9375	0.2628
2	260.16	0.7996	-0.0529	0.0165	-0.4748	0.1573	-1.1866	1.0194	-1.0527	0.2691
2	260.16	0.8578	-0.0622	0.0213	-0.5248	0.1763	-1.3975	1.1316	-0.7207	0.2831
2	260.16	0.9100	-0.0958	0.0240	-0.5536	0.1939	-1.6423	1.2526	-0.8761	0.2880
2	260.16	0.9727	-0.0596	0.0313	-0.5840	0.2100	-1.7498	1.3986	-0.5090	0.5596
3	260.16	0.1938	-0.0686	0.0077	0.0107	0.0049	-0.0078	0.0304	-0.2132	0.0923
3	260.16	0.2357	0.0032	0.0021	-0.0125	0.0074	-0.0518	0.0449	-0.4984	0.2732
3	260.16	0.2995	0.0193	0.0027	0.0180	0.0189	-0.0821	0.1122	-0.6413	0.2981
3	260.16	0.3493	0.0508	0.0025	0.0195	0.0342	-0.1263	0.1943	-0.6071	0.2971
3	260.16	0.4000	0.0925	0.0037	0.0249	0.0517	-0.2243	0.2939	-0.7814	0.3081
3	260.16	0.4497	0.0913	0.0045	0.0058	0.0702	-0.3393	0.4038	-0.6675	0.3275
3	260.16	0.4997	0.1282	0.0052	0.0002	0.0903	-0.5096	0.5200	-0.6886	0.3287
3	260.16	0.5556	0.1557	0.0059	-0.0326	0.1132	-0.7592	0.6464	-0.7090	0.3205
3	260.16	0.5995	0.1943	0.0072	-0.0002	0.1321	-0.9507	0.7384	-0.5915	0.3357
3	260.16	0.6498	0.2116	0.0086	-0.0293	0.1539	-1.2107	0.8302	-0.4311	0.3396
3	260.16	0.6890	0.2190	0.0099	-0.0066	0.1713	-1.4824	0.8880	-0.5675	0.3485
3	260.16	0.7495	0.2844	0.0125	-0.0286	0.1993	-1.8666	0.9578	-0.3966	0.3453
3	260.16	0.7998	0.2740	0.0154	-0.0073	0.2240	-2.2713	1.0135	-0.7591	0.3678
3	260.16	0.8577	0.3076	0.0194	0.0075	0.2536	-2.6761	1.0814	-0.7790	0.3738
3	260.16	0.9178	0.3687	0.0214	0.0084	0.2863	-3.1349	1.1725	-0.6650	0.3751
3	260.16	0.9729	0.3960	0.0257	-0.0310	0.3151	-3.5783	1.2766	-0.8805	0.3800
4	260.16	0.2001	-0.0497	0.0019	0.0016	0.0028	-0.0360	0.0204	0.1237	0.0369
4	260.16	0.2502	-0.0023	0.0033	0.0186	0.0055	-0.0970	0.0432	0.1291	0.0690
4	260.16	0.3001	0.0099	0.0037	0.0250	0.0115	-0.1581	0.0841	0.2526	0.0873
4	260.16	0.3502	0.0261	0.0044	0.0335	0.0199	-0.2813	0.1433	0.2872	0.1000
4	260.16	0.4002	0.0414	0.0059	0.0675	0.0308	-0.4397	0.2232	0.2168	0.1017
4	260.16	0.4500	0.0746	0.0077	0.1097	0.0437	-0.6852	0.3211	-0.0886	0.1124
4	260.16	0.5001	0.0863	0.0091	0.1189	0.0582	-0.8655	0.4337	0.3001	0.1184
4	260.16	0.5560	0.1144	0.0102	0.1548	0.0754	-1.2272	0.5726	-0.0261	0.1235
4	260.16	0.6001	0.1551	0.0115	0.1656	0.0889	-1.4979	0.6852	0.0037	0.1297
4	260.16	0.6501	0.1650	0.0134	0.1931	0.1046	-1.8365	0.8109	0.0112	0.1380
4	260.16	0.6999	0.1952	0.0147	0.2064	0.1204	-2.1824	0.9312	0.0609	0.1484
4	260.16	0.7500	0.2329	0.0166	0.2151	0.1361	-2.5216	1.0436	0.2429	0.1491
4	260.16	0.8002	0.2503	0.0190	0.2087	0.1527	-2.9018	1.1503	0.2847	0.1467
4	260.16	0.8582	0.2814	0.0210	0.2428	0.1719	-3.3247	1.2730	-0.0773	0.1658
4	260.16	0.9101	0.3010	0.0215	0.2937	0.1901	-3.6664	1.3819	0.0169	0.1526
4	260.16	0.9728	0.4116	0.0195	0.3652	0.2116	-3.8906	1.5216	0.6682	0.1605

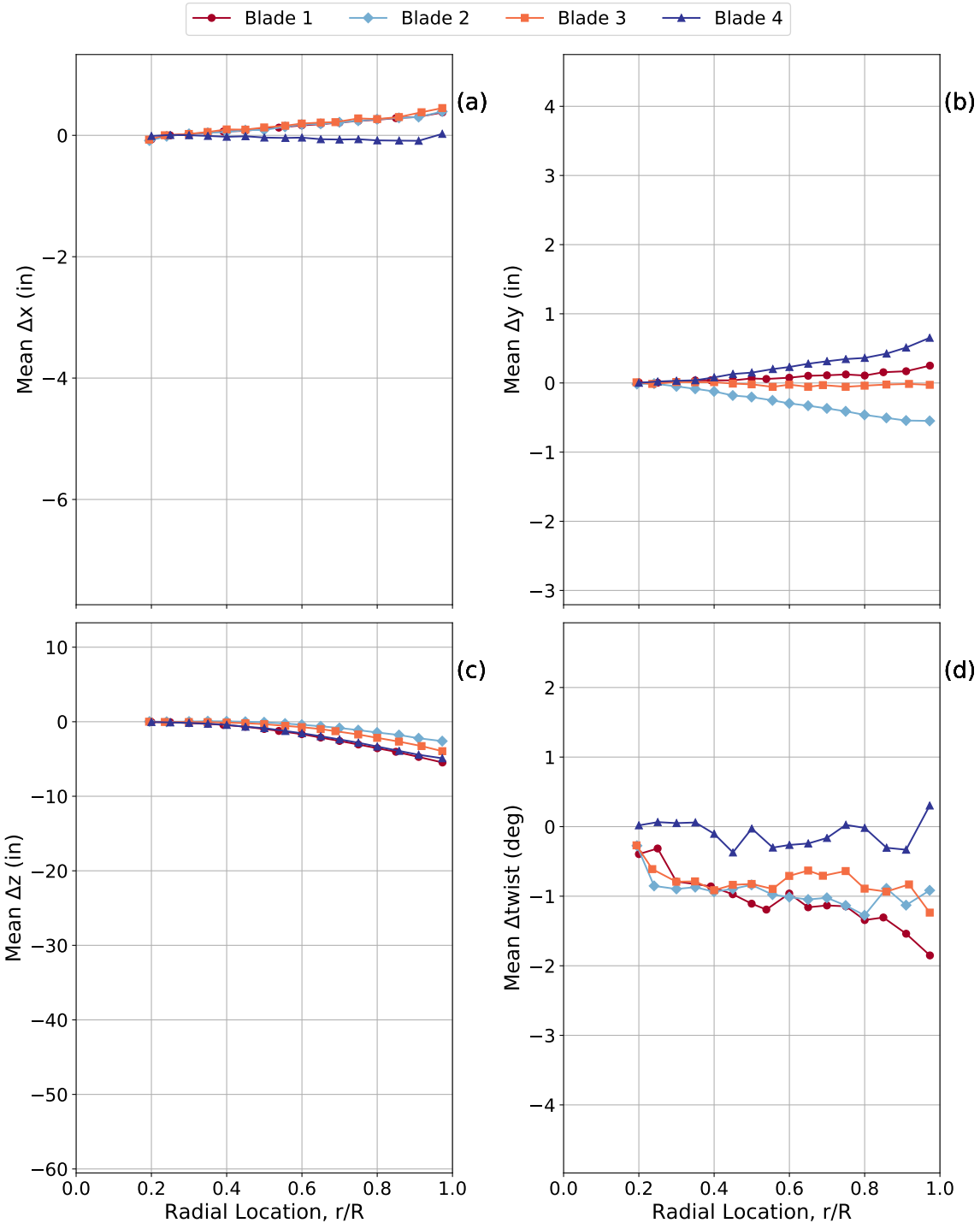


Figure 2.24-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.061, μ = 1.001, α = 4° NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	-0.0676	0.0028	0.0067	0.0026	-0.0501	0.0202	-0.3947	0.0463
1	265.08	0.2499	-0.0008	0.0034	0.0039	0.0056	-0.0650	0.0420	-0.3140	0.0865
1	265.08	0.2998	0.0246	0.0032	0.0140	0.0112	-0.1887	0.0826	-0.7901	0.1072
1	265.08	0.3498	0.0386	0.0039	0.0369	0.0190	-0.2898	0.1406	-0.8257	0.1155
1	265.08	0.3913	0.0633	0.0047	0.0381	0.0277	-0.4210	0.2036	-0.8591	0.1150
1	265.08	0.4496	0.0743	0.0064	0.0373	0.0410	-0.6722	0.3080	-0.9722	0.1196
1	265.08	0.4997	0.1114	0.0082	0.0652	0.0537	-0.9730	0.4147	-1.1073	0.1349
1	265.08	0.5387	0.1270	0.0095	0.0577	0.0643	-1.2348	0.5058	-1.1924	0.1472
1	265.08	0.5996	0.1644	0.0126	0.0760	0.0818	-1.6700	0.6572	-0.9617	0.1619
1	265.08	0.6498	0.1833	0.0152	0.1035	0.0969	-2.1277	0.7927	-1.1592	0.1655
1	265.08	0.6998	0.2102	0.0189	0.1106	0.1122	-2.5800	0.9357	-1.1330	0.1870
1	265.08	0.7500	0.2373	0.0237	0.1229	0.1291	-3.0575	1.0892	-1.1455	0.1851
1	265.08	0.8001	0.2571	0.0290	0.1075	0.1471	-3.5569	1.2553	-1.3431	0.1877
1	265.08	0.8497	0.2833	0.0352	0.1549	0.1655	-4.0344	1.4312	-1.3058	0.1881
1	265.08	0.9102	0.3050	0.0413	0.1695	0.1901	-4.7251	1.6606	-1.5395	0.1870
1	265.08	0.9734	0.3774	0.0474	0.2506	0.2166	-5.4687	1.9124	-1.8513	0.1907
2	265.08	0.1949	-0.0870	0.0039	-0.0156	0.0025	0.0248	0.0210	-0.2743	0.0564
2	265.08	0.2405	-0.0154	0.0024	-0.0092	0.0049	-0.0067	0.0422	-0.8521	0.1018
2	265.08	0.2999	0.0247	0.0027	-0.0495	0.0107	0.0237	0.0910	-0.8963	0.1422
2	265.08	0.3498	0.0425	0.0039	-0.0848	0.0192	0.0674	0.1561	-0.8702	0.1760
2	265.08	0.3998	0.0550	0.0050	-0.1222	0.0293	0.0498	0.2416	-0.9361	0.1691
2	265.08	0.4496	0.0859	0.0056	-0.1813	0.0412	-0.0004	0.3474	-0.8946	0.1767
2	265.08	0.4995	0.0887	0.0064	-0.2039	0.0547	-0.0689	0.4733	-0.8373	0.1996
2	265.08	0.5551	0.1406	0.0075	-0.2520	0.0704	-0.2450	0.6331	-0.9776	0.2230
2	265.08	0.5996	0.1787	0.0083	-0.2952	0.0835	-0.4022	0.7711	-1.0131	0.2274
2	265.08	0.6497	0.1898	0.0097	-0.3293	0.0983	-0.6108	0.9319	-1.0474	0.2319
2	265.08	0.6996	0.2151	0.0118	-0.3679	0.1132	-0.8352	1.0965	-1.0228	0.2429
2	265.08	0.7495	0.2400	0.0147	-0.4098	0.1289	-1.1268	1.2610	-1.1334	0.2527
2	265.08	0.7996	0.2659	0.0184	-0.4614	0.1451	-1.4437	1.4262	-1.2745	0.2679
2	265.08	0.8578	0.2881	0.0232	-0.5055	0.1651	-1.7789	1.6195	-0.8889	0.2668
2	265.08	0.9100	0.3012	0.0252	-0.5432	0.1833	-2.2169	1.7972	-1.1289	0.2734
2	265.08	0.9727	0.3927	0.0265	-0.5488	0.2054	-2.6017	2.0217	-0.9161	0.2680
3	265.08	0.1938	-0.0701	0.0041	0.0092	0.0026	0.0014	0.0174	-0.2689	0.0540
3	265.08	0.2357	0.0016	0.0018	-0.0137	0.0050	-0.0330	0.0369	-0.6106	0.0993
3	265.08	0.2995	0.0227	0.0022	0.0135	0.0113	-0.0424	0.0801	-0.7922	0.1398
3	265.08	0.3493	0.0552	0.0029	0.0100	0.0201	-0.0542	0.1358	-0.7869	0.1456
3	265.08	0.4000	0.0974	0.0038	0.0119	0.0313	-0.1148	0.2142	-0.9137	0.1653
3	265.08	0.4497	0.0942	0.0050	-0.0092	0.0440	-0.1960	0.3136	-0.8367	0.1790
3	265.08	0.4997	0.1304	0.0066	-0.0199	0.0589	-0.3290	0.4345	-0.8242	0.1760
3	265.08	0.5556	0.1579	0.0088	-0.0566	0.0765	-0.5546	0.5864	-0.8956	0.1693
3	265.08	0.5995	0.1944	0.0101	-0.0245	0.0915	-0.7261	0.7153	-0.7083	0.1860
3	265.08	0.6498	0.2109	0.0117	-0.0556	0.1082	-0.9860	0.8610	-0.6314	0.1773
3	265.08	0.6890	0.2173	0.0139	-0.0310	0.1219	-1.2685	0.9708	-0.7062	0.1966
3	265.08	0.7495	0.2788	0.0172	-0.0557	0.1443	-1.7100	1.1411	-0.6386	0.1993
3	265.08	0.7998	0.2689	0.0216	-0.0393	0.1637	-2.1627	1.2835	-0.8914	0.2104
3	265.08	0.8577	0.3013	0.0269	-0.0228	0.1872	-2.6657	1.4552	-0.9342	0.2200
3	265.08	0.9178	0.3806	0.0303	-0.0141	0.2127	-3.2683	1.6456	-0.8310	0.2133
3	265.08	0.9729	0.4492	0.0369	-0.0270	0.2385	-3.9510	1.8393	-1.2358	0.4447
4	265.08	0.2001	-0.0109	0.0021	0.0023	0.0027	-0.0353	0.0215	0.0185	0.0340
4	265.08	0.2502	0.0065	0.0036	0.0206	0.0054	-0.0893	0.0457	0.0649	0.0541
4	265.08	0.3001	0.0020	0.0036	0.0312	0.0114	-0.1595	0.0892	0.0506	0.0750
4	265.08	0.3502	-0.0096	0.0046	0.0390	0.0195	-0.2675	0.1531	0.0599	0.0766
4	265.08	0.4002	-0.0237	0.0055	0.0803	0.0303	-0.4273	0.2380	-0.1033	0.0838
4	265.08	0.4500	-0.0149	0.0080	0.1296	0.0427	-0.6692	0.3429	-0.3713	0.0903
4	265.08	0.5001	-0.0368	0.0086	0.1498	0.0578	-0.8579	0.4719	-0.0276	0.0991
4	265.08	0.5560	-0.0428	0.0107	0.2007	0.0758	-1.2458	0.6377	-0.3013	0.1017
4	265.08	0.6001	-0.0373	0.0131	0.2308	0.0910	-1.5467	0.7845	-0.2632	0.1082
4	265.08	0.6501	-0.0639	0.0163	0.2780	0.1091	-1.9453	0.9652	-0.2423	0.1146
4	265.08	0.6999	-0.0693	0.0199	0.3135	0.1277	-2.3742	1.1587	-0.1625	0.1215
4	265.08	0.7500	-0.0640	0.0243	0.3451	0.1468	-2.8169	1.3612	0.0249	0.1253
4	265.08	0.8002	-0.0831	0.0301	0.3621	0.1665	-3.3303	1.5691	-0.0183	0.1296
4	265.08	0.8582	-0.0872	0.0365	0.4241	0.1895	-3.9126	1.8112	-0.3040	0.1359
4	265.08	0.9101	-0.0898	0.0404	0.5112	0.2100	-4.4332	2.0268	-0.3319	0.1359
4	265.08	0.9728	0.0240	0.0401	0.6526	0.2350	-4.9032	2.2856	0.3035	0.1424

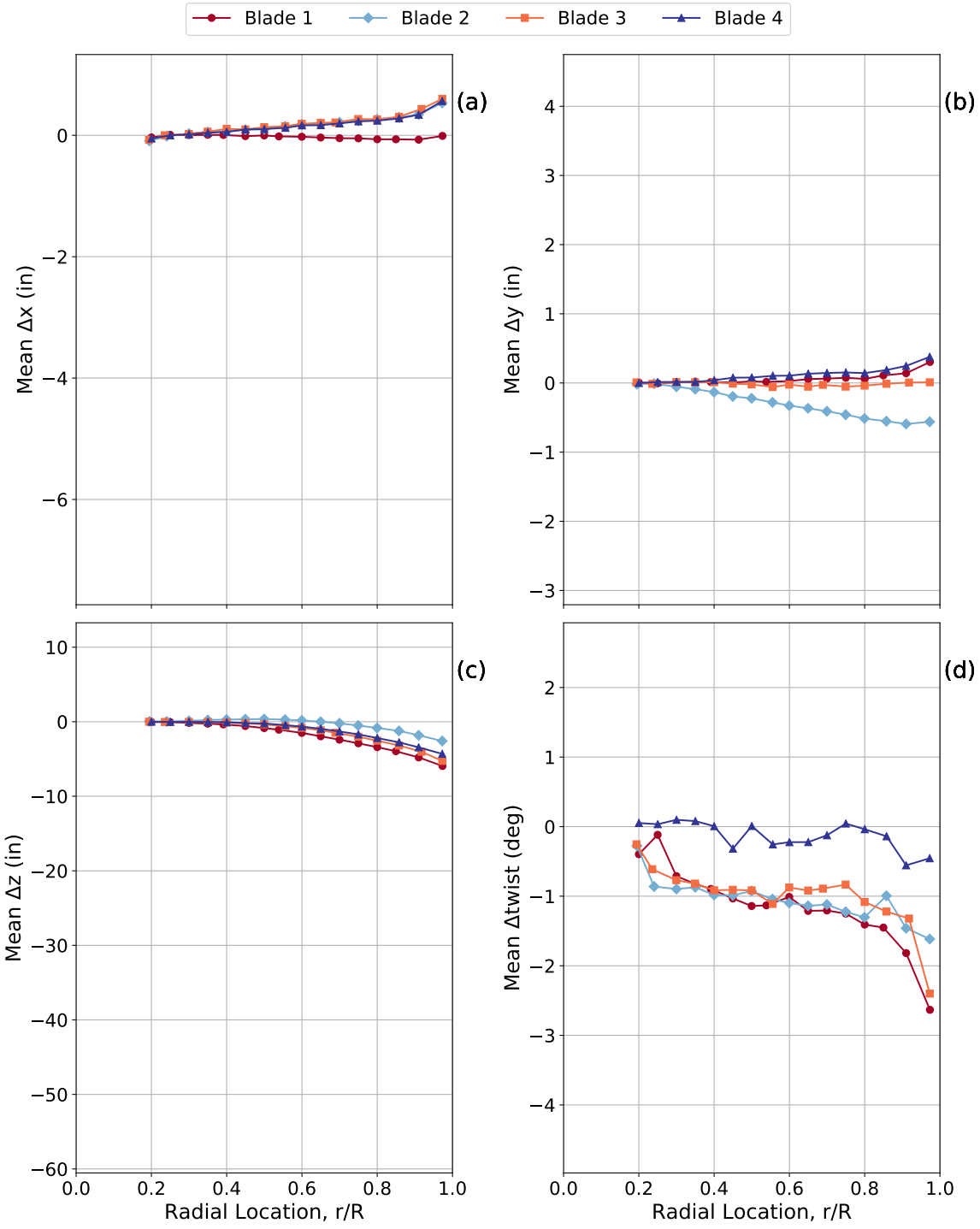


Figure 2.24-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.061, μ = 1.001, α = 4° NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	-0.0342	0.0037	0.0055	0.0035	-0.0467	0.0311	-0.3966	0.0642
1	270	0.2499	0.0088	0.0039	-0.0047	0.0064	-0.0477	0.0664	-0.1178	0.1291
1	270	0.2998	0.0030	0.0042	0.0077	0.0143	-0.1629	0.1308	-0.7115	0.1568
1	270	0.3498	0.0087	0.0058	0.0182	0.0239	-0.2608	0.2227	-0.8230	0.1652
1	270	0.3913	0.0058	0.0068	0.0135	0.0347	-0.3633	0.3244	-0.8960	0.1667
1	270	0.4496	-0.0133	0.0093	0.0057	0.0534	-0.5797	0.5128	-1.0325	0.1858
1	270	0.4997	-0.0024	0.0125	0.0240	0.0722	-0.8553	0.7088	-1.1414	0.1868
1	270	0.5387	-0.0173	0.0138	0.0156	0.0876	-1.0714	0.8780	-1.1318	0.1845
1	270	0.5996	-0.0234	0.0191	0.0269	0.1128	-1.5001	1.1678	-1.0102	0.1886
1	270	0.6498	-0.0359	0.0234	0.0558	0.1338	-1.9537	1.4200	-1.2112	0.1966
1	270	0.6998	-0.0470	0.0297	0.0633	0.1550	-2.4073	1.6762	-1.2053	0.1971
1	270	0.7500	-0.0497	0.0365	0.0744	0.1770	-2.8982	1.9405	-1.2507	0.2048
1	270	0.8001	-0.0650	0.0441	0.0590	0.1989	-3.4108	2.2084	-1.4080	0.2069
1	270	0.8497	-0.0654	0.0530	0.1086	0.2207	-3.9568	2.4775	-1.4509	0.2007
1	270	0.9102	-0.0712	0.0630	0.1405	0.2471	-4.7897	2.8116	-1.8178	0.1881
1	270	0.9734	-0.0094	0.0696	0.3030	0.2725	-5.9385	3.1661	-2.6334	0.1774
2	270.35	0.1949	-0.0915	0.0036	-0.0166	0.0028	0.0467	0.0260	-0.2755	0.0504
2	270.35	0.2405	-0.0147	0.0020	-0.0101	0.0050	0.0311	0.0505	-0.8609	0.0835
2	270.35	0.2999	0.0271	0.0030	-0.0546	0.0117	0.1151	0.1125	-0.8971	0.1234
2	270.35	0.3498	0.0545	0.0034	-0.0899	0.0207	0.2269	0.1920	-0.8710	0.1313
2	270.35	0.3998	0.0666	0.0044	-0.1323	0.0315	0.2931	0.2973	-0.9823	0.1413
2	270.35	0.4496	0.0934	0.0043	-0.1952	0.0438	0.3320	0.4251	-0.9880	0.1612
2	270.35	0.4995	0.0996	0.0048	-0.2224	0.0577	0.3601	0.5754	-0.9258	0.1691
2	270.35	0.5551	0.1476	0.0057	-0.2806	0.0742	0.2785	0.7652	-1.0416	0.1764
2	270.35	0.5996	0.1832	0.0067	-0.3281	0.0883	0.1751	0.9317	-1.0972	0.1815
2	270.35	0.6497	0.1912	0.0084	-0.3666	0.1042	-0.0001	1.1314	-1.1388	0.1944
2	270.35	0.6996	0.2158	0.0104	-0.4095	0.1208	-0.2145	1.3389	-1.1194	0.2021
2	270.35	0.7495	0.2394	0.0133	-0.4585	0.1375	-0.5101	1.5548	-1.2245	0.2184
2	270.35	0.7996	0.2657	0.0169	-0.5144	0.1550	-0.8371	1.7753	-1.3034	0.2167
2	270.35	0.8578	0.2955	0.0225	-0.5534	0.1752	-1.2322	2.0340	-0.9940	0.2112
2	270.35	0.9100	0.3431	0.0270	-0.5932	0.1942	-1.8158	2.2707	-1.4600	0.1953
2	270.35	0.9727	0.5339	0.0380	-0.5615	0.2169	-2.5868	2.5618	-1.6158	0.1890
3	270	0.1938	-0.0746	0.0034	0.0084	0.0017	0.0028	0.0152	-0.2540	0.0535
3	270	0.2357	0.0008	0.0024	-0.0126	0.0029	-0.0361	0.0302	-0.6119	0.0802
3	270	0.2995	0.0226	0.0029	0.0124	0.0067	-0.0392	0.0681	-0.7697	0.1261
3	270	0.3493	0.0605	0.0033	0.0086	0.0117	-0.0561	0.1157	-0.8189	0.1289
3	270	0.4000	0.1064	0.0046	0.0105	0.0180	-0.1150	0.1818	-0.9148	0.1450
3	270	0.4497	0.0976	0.0056	-0.0100	0.0255	-0.2112	0.2692	-0.9083	0.1426
3	270	0.4997	0.1345	0.0066	-0.0211	0.0344	-0.3575	0.3804	-0.9162	0.1595
3	270	0.5556	0.1500	0.0082	-0.0586	0.0451	-0.6159	0.5273	-1.1106	0.1453
3	270	0.5995	0.1904	0.0106	-0.0239	0.0543	-0.8229	0.6570	-0.8746	0.1623
3	270	0.6498	0.2052	0.0126	-0.0534	0.0650	-1.1520	0.8153	-0.9186	0.1627
3	270	0.6890	0.2114	0.0148	-0.0270	0.0739	-1.4785	0.9434	-0.8915	0.1769
3	270	0.7495	0.2690	0.0199	-0.0529	0.0879	-2.0134	1.1467	-0.8325	0.1848
3	270	0.7998	0.2629	0.0243	-0.0389	0.0998	-2.5472	1.3171	-1.0830	0.1927
3	270	0.8577	0.3063	0.0299	-0.0121	0.1148	-3.1877	1.5187	-1.2207	0.1901
3	270	0.9178	0.4339	0.0356	0.0067	0.1316	-4.0300	1.7382	-1.3209	0.1728
3	270	0.9729	0.6019	0.0465	0.0093	0.1484	-5.2575	1.9613	-2.3993	0.1919
4	270	0.2001	-0.0517	0.0019	-0.0008	0.0038	-0.0014	0.0318	0.0519	0.0433
4	270	0.2502	-0.0005	0.0040	0.0131	0.0074	-0.0280	0.0675	0.0347	0.0726
4	270	0.3001	0.0169	0.0040	0.0150	0.0158	-0.0212	0.1318	0.0979	0.0983
4	270	0.3502	0.0421	0.0044	0.0149	0.0269	-0.0415	0.2237	0.0794	0.0987
4	270	0.4002	0.0567	0.0055	0.0392	0.0419	-0.0729	0.3492	0.0058	0.1139
4	270	0.4500	0.0965	0.0067	0.0763	0.0586	-0.1892	0.5022	-0.3173	0.1226
4	270	0.5001	0.1031	0.0074	0.0779	0.0790	-0.2337	0.6834	0.0089	0.1295
4	270	0.5560	0.1239	0.0091	0.1034	0.1026	-0.4597	0.9096	-0.2559	0.1411
4	270	0.6001	0.1640	0.0108	0.1053	0.1223	-0.6542	1.1015	-0.2234	0.1506
4	270	0.6501	0.1679	0.0130	0.1336	0.1449	-0.9529	1.3269	-0.2226	0.1556
4	270	0.6999	0.1963	0.0172	0.1445	0.1681	-1.3056	1.5585	-0.1242	0.1665
4	270	0.7500	0.2301	0.0216	0.1512	0.1913	-1.7020	1.7947	0.0442	0.1708
4	270	0.8002	0.2414	0.0276	0.1428	0.2152	-2.1915	2.0356	-0.0380	0.1712
4	270	0.8582	0.2789	0.0355	0.1871	0.2419	-2.7668	2.3156	-0.1389	0.1770
4	270	0.9101	0.3394	0.0420	0.2463	0.2661	-3.4380	2.5668	-0.5564	0.1766
4	270	0.9728	0.5653	0.0481	0.3772	0.2942	-4.3118	2.8726	-0.4550	0.1795

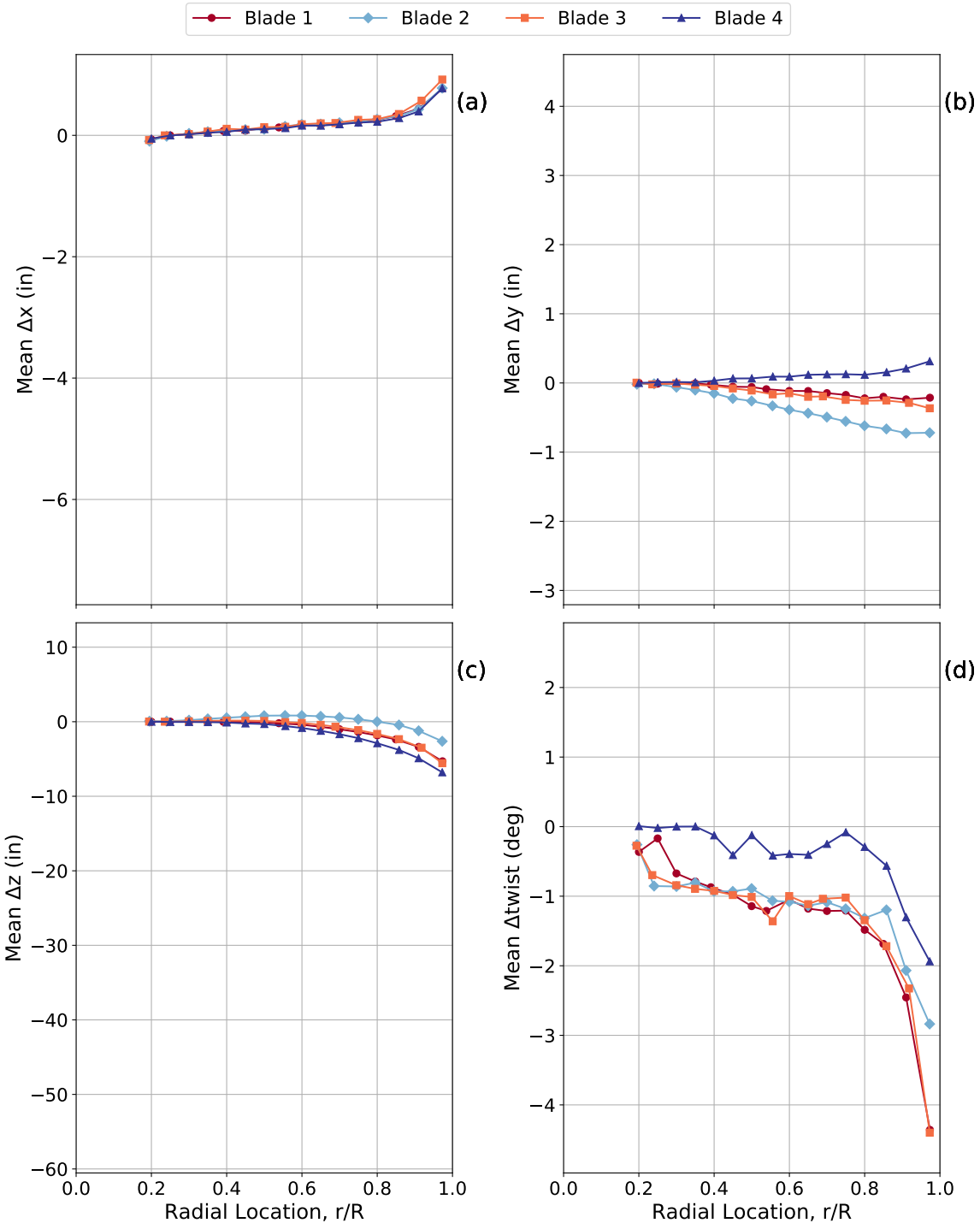


Figure 2.24-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	-0.0667	0.0097	0.0015	0.0047	-0.0109	0.0437	-0.3634	0.1115
1	274.92	0.2499	-0.0007	0.0047	-0.0104	0.0081	0.0202	0.0915	-0.1691	0.2952
1	274.92	0.2998	0.0214	0.0053	-0.0098	0.0187	-0.0208	0.1800	-0.6728	0.2977
1	274.92	0.3498	0.0478	0.0054	-0.0064	0.0311	-0.0148	0.3060	-0.7886	0.2950
1	274.92	0.3913	0.0727	0.0059	-0.0251	0.0449	-0.0129	0.4447	-0.8708	0.3023
1	274.92	0.4496	0.0764	0.0075	-0.0542	0.0678	-0.0306	0.6920	-0.9781	0.3127
1	274.92	0.4997	0.1219	0.0091	-0.0586	0.0907	-0.1189	0.9521	-1.1431	0.3188
1	274.92	0.5387	0.1301	0.0103	-0.0903	0.1090	-0.2013	1.1740	-1.2119	0.3180
1	274.92	0.5996	0.1653	0.0148	-0.1155	0.1390	-0.3980	1.5549	-1.0500	0.3247
1	274.92	0.6498	0.1784	0.0192	-0.1163	0.1649	-0.6845	1.8905	-1.1788	0.3318
1	274.92	0.6998	0.2030	0.0254	-0.1470	0.1904	-1.0096	2.2345	-1.2125	0.3309
1	274.92	0.7500	0.2264	0.0331	-0.1733	0.2163	-1.3889	2.5892	-1.2075	0.3337
1	274.92	0.8001	0.2561	0.0427	-0.2223	0.2415	-1.8397	2.9524	-1.4833	0.3379
1	274.92	0.8497	0.3161	0.0550	-0.2000	0.2668	-2.3769	3.3194	-1.6853	0.3358
1	274.92	0.9102	0.4398	0.0732	-0.2372	0.2986	-3.3776	3.7787	-2.4553	0.3383
1	274.92	0.9734	0.7676	0.1021	-0.2132	0.3328	-5.3052	4.2822	-4.3588	0.3576
2	274.92	0.1949	-0.0968	0.0051	-0.0185	0.0037	0.0686	0.0328	-0.2589	0.0444
2	274.92	0.2405	-0.0150	0.0023	-0.0125	0.0068	0.0699	0.0646	-0.8540	0.0835
2	274.92	0.2999	0.0311	0.0027	-0.0615	0.0160	0.2043	0.1427	-0.8605	0.1126
2	274.92	0.3498	0.0598	0.0027	-0.1025	0.0279	0.3861	0.2419	-0.8055	0.1176
2	274.92	0.3998	0.0731	0.0038	-0.1508	0.0430	0.5329	0.3756	-0.9299	0.1343
2	274.92	0.4496	0.0946	0.0048	-0.2242	0.0594	0.6724	0.5359	-0.9308	0.1270
2	274.92	0.4995	0.1003	0.0071	-0.2607	0.0788	0.8098	0.7273	-0.8902	0.1428
2	274.92	0.5551	0.1478	0.0090	-0.3311	0.1016	0.8339	0.9684	-1.0654	0.1441
2	274.92	0.5996	0.1807	0.0108	-0.3870	0.1204	0.8258	1.1787	-1.0798	0.1481
2	274.92	0.6497	0.1847	0.0130	-0.4371	0.1421	0.7265	1.4309	-1.1374	0.1566
2	274.92	0.6996	0.2078	0.0145	-0.4937	0.1643	0.5791	1.6932	-1.0858	0.1545
2	274.92	0.7495	0.2282	0.0162	-0.5549	0.1867	0.3300	1.9663	-1.1814	0.1557
2	274.92	0.7996	0.2638	0.0182	-0.6188	0.2088	0.0131	2.2473	-1.3159	0.1612
2	274.92	0.8578	0.3216	0.0232	-0.6651	0.2345	-0.4382	2.5780	-1.1971	0.1634
2	274.92	0.9100	0.4297	0.0316	-0.7257	0.2584	-1.2187	2.8819	-2.0677	0.1499
2	274.92	0.9727	0.7781	0.0542	-0.7200	0.2874	-2.6203	3.2715	-2.8370	0.2240
3	274.92	0.1938	-0.0774	0.0046	0.0041	0.0032	0.0277	0.0325	-0.2744	0.0489
3	274.92	0.2357	-0.0006	0.0023	-0.0203	0.0066	0.0046	0.0623	-0.6966	0.1145
3	274.92	0.2995	0.0211	0.0030	-0.0074	0.0150	0.0622	0.1433	-0.8420	0.1402
3	274.92	0.3493	0.0620	0.0039	-0.0259	0.0260	0.1142	0.2460	-0.8944	0.1499
3	274.92	0.4000	0.1080	0.0042	-0.0433	0.0411	0.1486	0.3829	-0.9233	0.1668
3	274.92	0.4497	0.0947	0.0048	-0.0791	0.0579	0.1465	0.5463	-0.9835	0.1755
3	274.92	0.4997	0.1340	0.0063	-0.1093	0.0771	0.1034	0.7361	-1.0111	0.1881
3	274.92	0.5556	0.1410	0.0076	-0.1651	0.1003	-0.0535	0.9720	-1.3605	0.1769
3	274.92	0.5995	0.1826	0.0091	-0.1486	0.1198	-0.1636	1.1703	-0.9982	0.1866
3	274.92	0.6498	0.1981	0.0111	-0.2001	0.1426	-0.4178	1.4013	-1.1144	0.1934
3	274.92	0.6890	0.2029	0.0132	-0.1938	0.1614	-0.6707	1.5845	-1.0371	0.1969
3	274.92	0.7495	0.2547	0.0178	-0.2445	0.1911	-1.1250	1.8665	-1.0202	0.1864
3	274.92	0.7998	0.2661	0.0227	-0.2569	0.2166	-1.6350	2.1004	-1.3452	0.2031
3	274.92	0.8577	0.3511	0.0317	-0.2534	0.2477	-2.3407	2.3688	-1.7180	0.2059
3	274.92	0.9178	0.5713	0.0531	-0.2873	0.2825	-3.4880	2.6598	-2.3268	0.2212
3	274.92	0.9729	0.9195	0.1022	-0.3661	0.3142	-5.5636	2.9740	-4.3993	0.4132
4	274.92	0.2001	-0.0544	0.0024	-0.0012	0.0037	-0.0025	0.0340	0.0065	0.0489
4	274.92	0.2502	-0.0019	0.0046	0.0111	0.0084	-0.0347	0.0769	-0.0191	0.0765
4	274.92	0.3001	0.0166	0.0053	0.0138	0.0164	-0.0364	0.1450	0.0000	0.1114
4	274.92	0.3502	0.0423	0.0051	0.0097	0.0282	-0.0559	0.2469	0.0013	0.1211
4	274.92	0.4002	0.0575	0.0064	0.0327	0.0443	-0.1067	0.3877	-0.1254	0.1329
4	274.92	0.4500	0.0952	0.0084	0.0647	0.0629	-0.2339	0.5598	-0.4092	0.1478
4	274.92	0.5001	0.1022	0.0090	0.0662	0.0853	-0.3092	0.7728	-0.1232	0.1623
4	274.92	0.5560	0.1190	0.0121	0.0915	0.1121	-0.5886	1.0371	-0.4168	0.1747
4	274.92	0.6001	0.1602	0.0148	0.0905	0.1342	-0.8367	1.2618	-0.3934	0.1701
4	274.92	0.6501	0.1589	0.0183	0.1178	0.1602	-1.2220	1.5303	-0.4055	0.1919
4	274.92	0.6999	0.1825	0.0240	0.1237	0.1862	-1.6723	1.8023	-0.2488	0.1907
4	274.92	0.7500	0.2094	0.0312	0.1262	0.2133	-2.2058	2.0805	-0.0812	0.1979
4	274.92	0.8002	0.2233	0.0407	0.1183	0.2397	-2.8890	2.3566	-0.2917	0.1939
4	274.92	0.8582	0.2845	0.0553	0.1550	0.2705	-3.7912	2.6753	-0.5637	0.1902
4	274.92	0.9101	0.3937	0.0702	0.2086	0.2982	-4.9035	2.9578	-1.3036	0.1909
4	274.92	0.9728	0.7756	0.0919	0.3127	0.3313	-6.7927	3.2892	-1.9368	0.1725

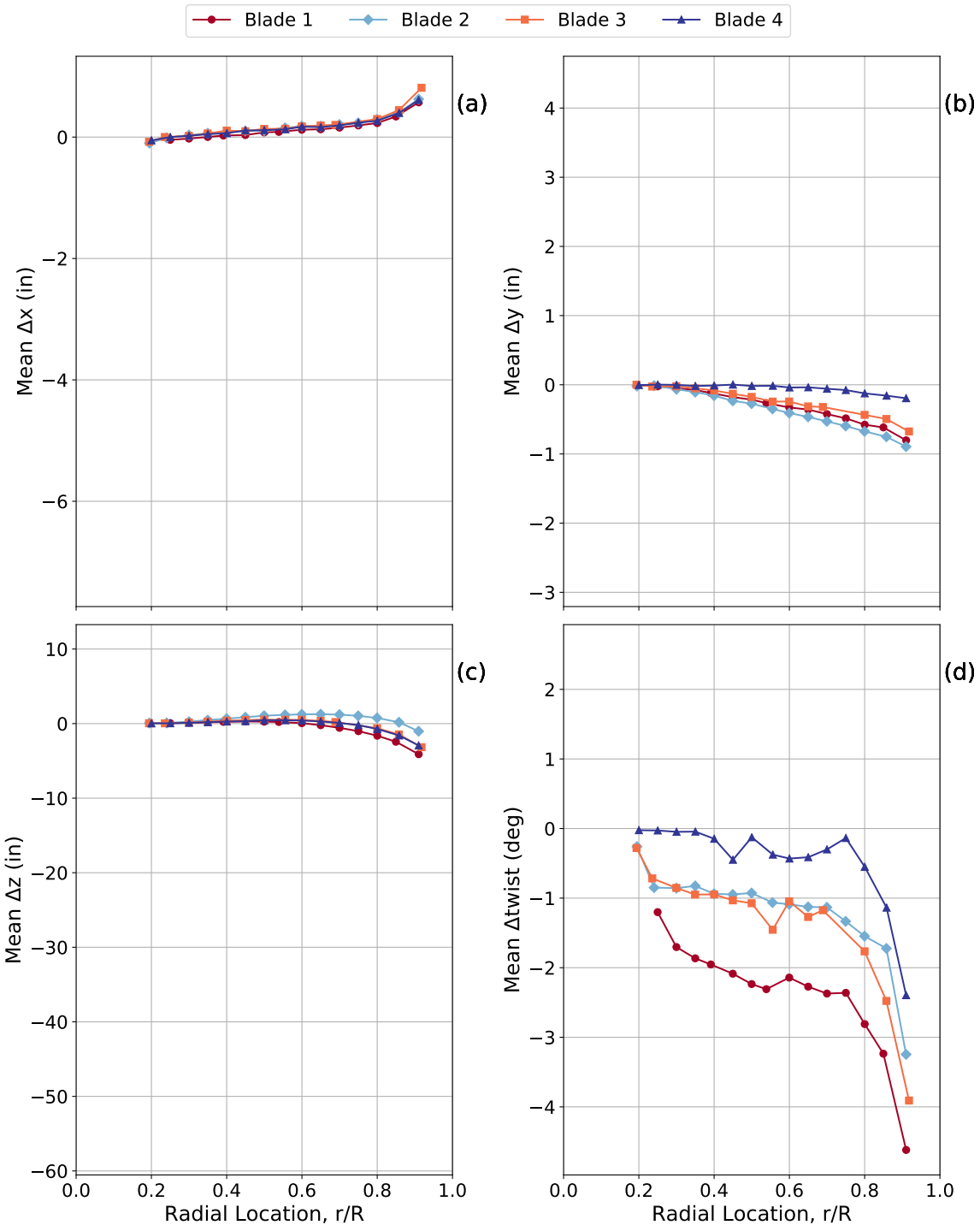


Figure 2.24-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2499	-0.0455	0.0034	-0.0227	0.0063	0.0622	0.0862	-1.2014	0.1429
1	279.84	0.2998	-0.0247	0.0041	-0.0493	0.0128	0.0990	0.1573	-1.7034	0.1998
1	279.84	0.3498	0.0017	0.0034	-0.0766	0.0213	0.1733	0.2649	-1.8652	0.1967
1	279.84	0.3913	0.0251	0.0044	-0.1187	0.0319	0.2356	0.3822	-1.9533	0.2056
1	279.84	0.4496	0.0332	0.0059	-0.1789	0.0480	0.2911	0.5850	-2.0863	0.2114
1	279.84	0.4997	0.0773	0.0075	-0.2147	0.0647	0.2627	0.7912	-2.2351	0.2191
1	279.84	0.5387	0.0858	0.0085	-0.2651	0.0779	0.2190	0.9722	-2.3087	0.2289
1	279.84	0.5996	0.1214	0.0114	-0.3279	0.1003	0.0586	1.2810	-2.1422	0.2356
1	279.84	0.6498	0.1284	0.0143	-0.3582	0.1195	-0.2123	1.5507	-2.2727	0.2436
1	279.84	0.6998	0.1561	0.0179	-0.4240	0.1392	-0.5684	1.8288	-2.3716	0.2400
1	279.84	0.7500	0.1921	0.0212	-0.4854	0.1626	-1.0128	2.0923	-2.3614	0.3107
1	279.84	0.8001	0.2312	0.0318	-0.5773	0.1811	-1.6223	2.3895	-2.8100	0.2616
1	279.84	0.8497	0.3392	0.0439	-0.6168	0.2029	-2.4359	2.6654	-3.2356	0.2391
1	279.84	0.9102	0.5717	0.0677	-0.8029	0.2333	-4.1041	2.9949	-4.6191	0.2224
2	279.84	0.1949	-0.1004	0.0046	-0.0191	0.0030	0.0806	0.0328	-0.2600	0.0503
2	279.84	0.2405	-0.0134	0.0022	-0.0136	0.0060	0.0896	0.0671	-0.8490	0.1096
2	279.84	0.2999	0.0324	0.0027	-0.0644	0.0136	0.2558	0.1461	-0.8564	0.1387
2	279.84	0.3498	0.0636	0.0031	-0.1064	0.0234	0.4724	0.2490	-0.8248	0.1566
2	279.84	0.3998	0.0764	0.0033	-0.1575	0.0364	0.6670	0.3876	-0.9387	0.1737
2	279.84	0.4496	0.1008	0.0037	-0.2328	0.0512	0.8591	0.5548	-0.9472	0.1863
2	279.84	0.4995	0.1059	0.0053	-0.2730	0.0679	1.0570	0.7527	-0.9267	0.1990
2	279.84	0.5551	0.1513	0.0077	-0.3495	0.0881	1.1728	0.9976	-1.0642	0.2124
2	279.84	0.5996	0.1804	0.0097	-0.4086	0.1046	1.2456	1.2080	-1.0881	0.2272
2	279.84	0.6497	0.1804	0.0122	-0.4650	0.1230	1.2586	1.4526	-1.1265	0.2330
2	279.84	0.6996	0.2070	0.0139	-0.5288	0.1417	1.2110	1.7019	-1.1319	0.2381
2	279.84	0.7495	0.2339	0.0150	-0.5959	0.1606	1.0414	1.9575	-1.3340	0.2598
2	279.84	0.7996	0.2903	0.0168	-0.6734	0.1797	0.7583	2.2168	-1.5464	0.2798
2	279.84	0.8578	0.4050	0.0235	-0.7519	0.2030	0.1788	2.5218	-1.7233	0.3028
2	279.84	0.9100	0.6245	0.0445	-0.8943	0.2245	-1.0293	2.8199	-3.2460	0.3765
3	279.84	0.1938	-0.0775	0.0069	0.0009	0.0042	0.0497	0.0378	-0.2797	0.0570
3	279.84	0.2357	0.0008	0.0034	-0.0257	0.0080	0.0400	0.0710	-0.7164	0.1155
3	279.84	0.2995	0.0196	0.0033	-0.0219	0.0194	0.1535	0.1664	-0.8530	0.1563
3	279.84	0.3493	0.0595	0.0034	-0.0509	0.0338	0.2665	0.2834	-0.9488	0.1624
3	279.84	0.4000	0.1068	0.0035	-0.0825	0.0529	0.3856	0.4423	-0.9469	0.1775
3	279.84	0.4497	0.0962	0.0053	-0.1307	0.0749	0.4728	0.6320	-1.0320	0.1891
3	279.84	0.4997	0.1347	0.0068	-0.1755	0.0987	0.5308	0.8446	-1.0736	0.2028
3	279.84	0.5556	0.1368	0.0101	-0.2431	0.1267	0.5100	1.1018	-1.4545	0.1948
3	279.84	0.5995	0.1758	0.0120	-0.2425	0.1507	0.5085	1.3161	-1.0457	0.2007
3	279.84	0.6498	0.1920	0.0145	-0.3133	0.1773	0.3656	1.5617	-1.2707	0.2114
3	279.84	0.6890	0.2008	0.0161	-0.3213	0.1991	0.2080	1.7543	-1.1737	0.2176
3	279.84	0.7998	0.2974	0.0237	-0.4353	0.2621	-0.6206	2.2901	-1.7648	0.2226
3	279.84	0.8577	0.4433	0.0357	-0.4949	0.2959	-1.4527	2.5774	-2.4773	0.2487
3	279.84	0.9178	0.8124	0.0705	-0.6755	0.3311	-3.1680	2.9068	-3.9092	0.3209
4	279.84	0.2001	-0.0542	0.0022	-0.0043	0.0039	0.0304	0.0340	-0.0237	0.0497
4	279.84	0.2502	0.0001	0.0037	0.0015	0.0083	0.0448	0.0732	-0.0281	0.0993
4	279.84	0.3001	0.0213	0.0035	-0.0014	0.0167	0.1062	0.1408	-0.0473	0.1201
4	279.84	0.3502	0.0478	0.0035	-0.0182	0.0286	0.1910	0.2418	-0.0445	0.1347
4	279.84	0.4002	0.0646	0.0043	-0.0112	0.0447	0.2805	0.3761	-0.1472	0.1479
4	279.84	0.4500	0.1081	0.0044	0.0020	0.0634	0.3222	0.5424	-0.4491	0.1571
4	279.84	0.5001	0.1134	0.0047	-0.0173	0.0851	0.4605	0.7389	-0.1250	0.1818
4	279.84	0.5560	0.1283	0.0063	-0.0154	0.1108	0.4500	0.9864	-0.3752	0.1847
4	279.84	0.6001	0.1710	0.0078	-0.0395	0.1326	0.4075	1.2040	-0.4314	0.2023
4	279.84	0.6501	0.1641	0.0100	-0.0370	0.1578	0.2891	1.4665	-0.4121	0.2057
4	279.84	0.6999	0.1933	0.0120	-0.0575	0.1836	0.0887	1.7444	-0.3000	0.2134
4	279.84	0.7500	0.2361	0.0194	-0.0770	0.2149	-0.2021	2.0106	-0.1362	0.3645
4	279.84	0.8002	0.2691	0.0181	-0.1245	0.2362	-0.7244	2.3301	-0.5511	0.2101
4	279.84	0.8582	0.3973	0.0275	-0.1581	0.2667	-1.5909	2.6762	-1.1373	0.2258
4	279.84	0.9101	0.6124	0.0420	-0.1946	0.2957	-2.9356	2.9809	-2.3951	0.2084

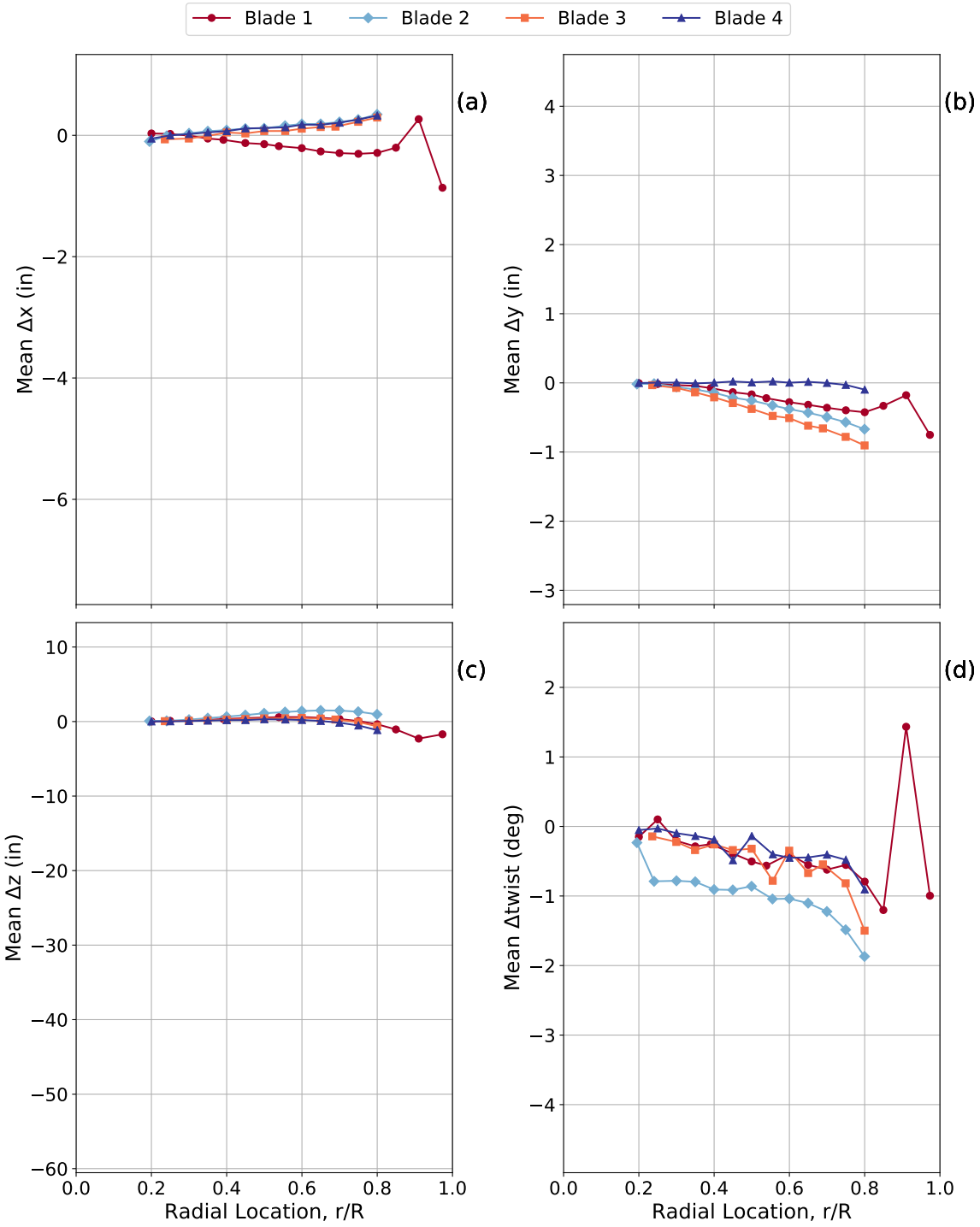


Figure 2.24-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0308	0.0212	-0.0048	0.0079	0.0220	0.0317	-0.1493	0.0919
1	285.12	0.2499	0.0229	0.0103	-0.0166	0.0187	0.0895	0.0758	0.1009	0.2169
1	285.12	0.2998	-0.0043	0.0066	-0.0321	0.0360	0.1176	0.1441	-0.2068	0.2366
1	285.12	0.3498	-0.0537	0.0103	-0.0432	0.0618	0.2285	0.2477	-0.2869	0.2523
1	285.12	0.3913	-0.0741	0.0149	-0.0756	0.0910	0.3364	0.3655	-0.2544	0.2675
1	285.12	0.4496	-0.1274	0.0192	-0.1347	0.1424	0.4640	0.5678	-0.3892	0.2898
1	285.12	0.4997	-0.1453	0.0234	-0.1665	0.1953	0.5408	0.7745	-0.5033	0.2989
1	285.12	0.5387	-0.1785	0.0264	-0.2212	0.2422	0.5870	0.9526	-0.5638	0.2954
1	285.12	0.5996	-0.2115	0.0311	-0.2796	0.3237	0.6078	1.2641	-0.3969	0.3140
1	285.12	0.6498	-0.2656	0.0368	-0.3177	0.3976	0.5070	1.5434	-0.5523	0.3194
1	285.12	0.6998	-0.2932	0.0426	-0.3601	0.4767	0.3417	1.8379	-0.6214	0.3301
1	285.12	0.7500	-0.3050	0.0494	-0.3966	0.5607	0.0665	2.1502	-0.5535	0.3394
1	285.12	0.8001	-0.2896	0.0569	-0.4249	0.6482	-0.3658	2.4683	-0.7934	0.3459
1	285.12	0.8497	-0.2041	0.0671	-0.3318	0.7383	-1.0583	2.7935	-1.2022	0.3524
1	285.12	0.9102	0.2655	0.0824	-0.1784	0.8459	-2.2885	3.2124	1.4332	1.6054
1	285.12	0.9734	-0.8641	0.0918	-0.7522	0.9193	-1.7094	3.6679	-0.9963	0.6789
2	285.12	0.1949	-0.1015	0.0053	-0.0173	0.0033	0.0767	0.0304	-0.2333	0.0784
2	285.12	0.2405	-0.0106	0.0025	-0.0122	0.0054	0.0898	0.0582	-0.7891	0.1369
2	285.12	0.2999	0.0332	0.0032	-0.0588	0.0138	0.2548	0.1325	-0.7816	0.1963
2	285.12	0.3498	0.0674	0.0031	-0.0957	0.0235	0.4600	0.2238	-0.7960	0.1938
2	285.12	0.3998	0.0860	0.0036	-0.1427	0.0362	0.6611	0.3481	-0.9073	0.2027
2	285.12	0.4496	0.1106	0.0039	-0.2137	0.0513	0.8700	0.5034	-0.9128	0.2254
2	285.12	0.4995	0.1151	0.0050	-0.2545	0.0683	1.1087	0.6878	-0.8601	0.2439
2	285.12	0.5551	0.1577	0.0075	-0.3258	0.0889	1.2798	0.9245	-1.0430	0.2398
2	285.12	0.5996	0.1866	0.0107	-0.3794	0.1063	1.4113	1.1379	-1.0386	0.2550
2	285.12	0.6497	0.1871	0.0143	-0.4311	0.1257	1.4934	1.3928	-1.1027	0.2522
2	285.12	0.6996	0.2197	0.0172	-0.4941	0.1455	1.4736	1.6649	-1.2236	0.2488
2	285.12	0.7495	0.2601	0.0200	-0.5685	0.1648	1.3221	1.9565	-1.4855	0.2732
2	285.12	0.7996	0.3448	0.0248	-0.6698	0.1847	0.9696	2.2563	-1.8693	0.2688
3	285.12	0.2357	-0.0666	0.0039	-0.0329	0.0078	0.0472	0.0637	-0.1427	0.1223
3	285.12	0.2995	-0.0529	0.0039	-0.0728	0.0184	0.1054	0.1458	-0.2227	0.1965
3	285.12	0.3493	-0.0109	0.0040	-0.1363	0.0322	0.1695	0.2511	-0.3396	0.2038
3	285.12	0.4000	0.0466	0.0040	-0.2096	0.0509	0.2666	0.3941	-0.2586	0.2147
3	285.12	0.4497	0.0312	0.0062	-0.2917	0.0720	0.3481	0.5607	-0.3398	0.2298
3	285.12	0.4997	0.0705	0.0077	-0.3763	0.0962	0.4281	0.7554	-0.3208	0.2584
3	285.12	0.5556	0.0712	0.0108	-0.4778	0.1239	0.4395	0.9874	-0.7812	0.2638
3	285.12	0.5995	0.1091	0.0137	-0.5092	0.1470	0.4890	1.1784	-0.3487	0.2702
3	285.12	0.6498	0.1369	0.0153	-0.6194	0.1738	0.3890	1.3927	-0.6700	0.2806
3	285.12	0.6890	0.1432	0.0170	-0.6583	0.1952	0.2715	1.5595	-0.5458	0.2794
3	285.12	0.7495	0.2229	0.0198	-0.7810	0.2282	-0.0676	1.8220	-0.8173	0.2834
3	285.12	0.7998	0.2934	0.0240	-0.9050	0.2533	-0.6325	2.0579	-1.4981	0.3451
4	285.12	0.2001	-0.0539	0.0023	-0.0023	0.0040	0.0182	0.0331	-0.0526	0.0668
4	285.12	0.2502	-0.0005	0.0045	0.0028	0.0085	0.0322	0.0727	-0.0285	0.1315
4	285.12	0.3001	0.0206	0.0044	0.0036	0.0170	0.0717	0.1396	-0.0972	0.1597
4	285.12	0.3502	0.0479	0.0042	-0.0076	0.0291	0.1223	0.2375	-0.1369	0.1772
4	285.12	0.4002	0.0697	0.0052	0.0024	0.0456	0.1876	0.3720	-0.1898	0.1917
4	285.12	0.4500	0.1129	0.0057	0.0196	0.0652	0.1976	0.5415	-0.4865	0.2358
4	285.12	0.5001	0.1205	0.0053	0.0067	0.0873	0.3062	0.7406	-0.1372	0.2431
4	285.12	0.5560	0.1321	0.0060	0.0205	0.1137	0.2717	0.9998	-0.4012	0.2535
4	285.12	0.6001	0.1757	0.0067	0.0030	0.1361	0.2095	1.2279	-0.4508	0.2772
4	285.12	0.6501	0.1731	0.0082	0.0144	0.1617	0.0803	1.5056	-0.4455	0.2647
4	285.12	0.6999	0.2081	0.0109	-0.0014	0.1876	-0.1588	1.8027	-0.4060	0.2774
4	285.12	0.7500	0.2604	0.0146	-0.0295	0.2142	-0.5284	2.1160	-0.4803	0.2919
4	285.12	0.8002	0.3249	0.0218	-0.0981	0.2409	-1.1500	2.4402	-0.9062	0.3051

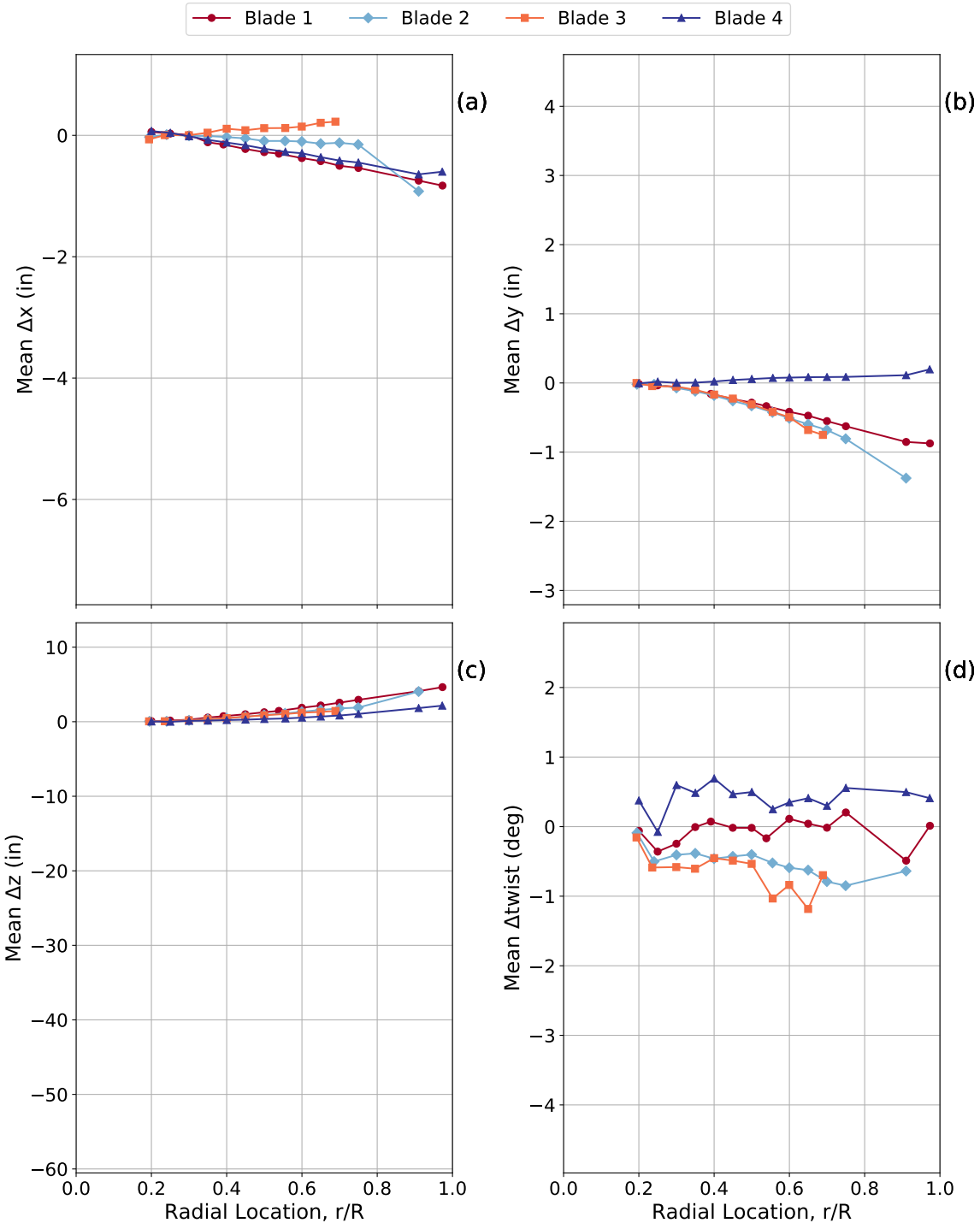


Figure 2.24-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0566	0.0023	-0.0141	0.0021	0.0746	0.0123	-0.0612	0.0484
1	299.88	0.2499	0.0295	0.0026	-0.0345	0.0055	0.1559	0.0275	-0.3588	0.0761
1	299.88	0.2998	0.0073	0.0021	-0.0577	0.0096	0.2732	0.0528	-0.2457	0.1051
1	299.88	0.3498	-0.1141	0.0031	-0.1149	0.0164	0.5583	0.0905	-0.0063	0.1061
1	299.88	0.3913	-0.1512	0.0043	-0.1580	0.0245	0.7419	0.1319	0.0726	0.1231
1	299.88	0.4496	-0.2244	0.0049	-0.2327	0.0359	1.0042	0.2033	-0.0167	0.1324
1	299.88	0.4997	-0.2766	0.0065	-0.2846	0.0493	1.2725	0.2850	-0.0176	0.1367
1	299.88	0.5387	-0.3026	0.0079	-0.3354	0.0604	1.4523	0.3620	-0.1678	0.1408
1	299.88	0.5996	-0.3747	0.0108	-0.4171	0.0801	1.8739	0.5125	0.1122	0.1473
1	299.88	0.6498	-0.4252	0.0137	-0.4732	0.0988	2.1788	0.6699	0.0417	0.1474
1	299.88	0.6998	-0.5014	0.0176	-0.5517	0.1180	2.5545	0.8566	-0.0152	0.1537
1	299.88	0.7500	-0.5375	0.0226	-0.6258	0.1382	2.9374	1.0762	0.2039	0.1545
1	299.88	0.9102	-0.7462	0.0459	-0.8527	0.2032	4.1021	1.9352	-0.4893	0.1714
1	299.88	0.9734	-0.8280	0.0664	-0.8737	0.2281	4.6393	2.3140	0.0122	0.1782
2	299.88	0.1949	-0.0275	0.0059	-0.0189	0.0030	0.0536	0.0169	-0.0902	0.0545
2	299.88	0.2405	0.0113	0.0026	-0.0203	0.0050	0.0625	0.0316	-0.5017	0.1269
2	299.88	0.2999	-0.0068	0.0033	-0.0721	0.0124	0.1847	0.0723	-0.4058	0.1478
2	299.88	0.3498	-0.0107	0.0031	-0.1192	0.0217	0.3316	0.1245	-0.3841	0.1553
2	299.88	0.3998	-0.0292	0.0035	-0.1817	0.0331	0.4812	0.1922	-0.4604	0.1692
2	299.88	0.4496	-0.0501	0.0041	-0.2595	0.0457	0.6749	0.2708	-0.4277	0.1797
2	299.88	0.4995	-0.0930	0.0058	-0.3308	0.0600	0.8978	0.3601	-0.4012	0.1862
2	299.88	0.5551	-0.0924	0.0072	-0.4250	0.0773	1.1251	0.4716	-0.5221	0.2051
2	299.88	0.5996	-0.1015	0.0089	-0.5103	0.0912	1.3346	0.5640	-0.5911	0.2097
2	299.88	0.6497	-0.1367	0.0123	-0.5973	0.1078	1.5833	0.6753	-0.6247	0.2154
2	299.88	0.6996	-0.1231	0.0149	-0.6789	0.1248	1.7876	0.7937	-0.7899	0.2162
2	299.88	0.7495	-0.1511	0.0170	-0.8074	0.1426	1.8971	0.9211	-0.8490	0.2313
2	299.88	0.9100	-0.9220	0.0381	-1.3761	0.1990	4.0507	1.4454	-0.6384	0.2275
3	299.88	0.1938	-0.0667	0.0148	-0.0008	0.0041	0.0511	0.0183	-0.1556	0.0837
3	299.88	0.2357	0.0034	0.0105	-0.0455	0.0033	0.0627	0.0224	-0.5876	0.1667
3	299.88	0.2995	0.0018	0.0089	-0.0519	0.0127	0.1902	0.0597	-0.5816	0.1879
3	299.88	0.3493	0.0438	0.0094	-0.0983	0.0209	0.3184	0.1010	-0.6051	0.1766
3	299.88	0.4000	0.1086	0.0092	-0.1680	0.0313	0.4853	0.1514	-0.4531	0.1742
3	299.88	0.4497	0.0841	0.0087	-0.2259	0.0417	0.6782	0.2032	-0.4881	0.2035
3	299.88	0.4997	0.1184	0.0091	-0.3096	0.0534	0.8655	0.2620	-0.5350	0.2163
3	299.88	0.5556	0.1205	0.0096	-0.4180	0.0657	1.0368	0.3233	-1.0331	0.2121
3	299.88	0.5995	0.1443	0.0092	-0.4948	0.0769	1.2105	0.3753	-0.8381	0.2282
3	299.88	0.6498	0.2069	0.0106	-0.6805	0.0900	1.3149	0.4397	-1.1836	0.2415
3	299.88	0.6890	0.2257	0.0107	-0.7512	0.1002	1.4428	0.4868	-0.6977	0.2332
4	299.88	0.2001	0.0703	0.0023	-0.0052	0.0024	0.0367	0.0109	0.3756	0.0405
4	299.88	0.2502	0.0401	0.0021	0.0174	0.0044	-0.0017	0.0221	-0.0756	0.0733
4	299.88	0.3001	-0.0161	0.0026	0.0014	0.0094	0.1146	0.0440	0.5970	0.0910
4	299.88	0.3502	-0.0744	0.0032	0.0046	0.0156	0.1462	0.0767	0.4845	0.0823
4	299.88	0.4002	-0.1186	0.0033	0.0209	0.0241	0.2236	0.1183	0.6916	0.0858
4	299.88	0.4500	-0.1633	0.0048	0.0424	0.0331	0.2769	0.1656	0.4668	0.0977
4	299.88	0.5001	-0.2203	0.0055	0.0567	0.0415	0.3637	0.2211	0.4968	0.1073
4	299.88	0.5560	-0.2719	0.0057	0.0722	0.0530	0.4370	0.2945	0.2499	0.1095
4	299.88	0.6001	-0.2953	0.0067	0.0773	0.0628	0.5517	0.3648	0.3494	0.1113
4	299.88	0.6501	-0.3600	0.0076	0.0835	0.0743	0.6910	0.4587	0.4091	0.1124
4	299.88	0.6999	-0.4157	0.0093	0.0853	0.0862	0.8349	0.5725	0.2995	0.1225
4	299.88	0.7500	-0.4485	0.0119	0.0875	0.0989	1.0471	0.7103	0.5558	0.1178
4	299.88	0.9101	-0.6427	0.0264	0.1124	0.1396	1.8301	1.3021	0.4965	0.1405
4	299.88	0.9728	-0.5996	0.0398	0.1962	0.1553	2.1541	1.5760	0.4089	0.1534

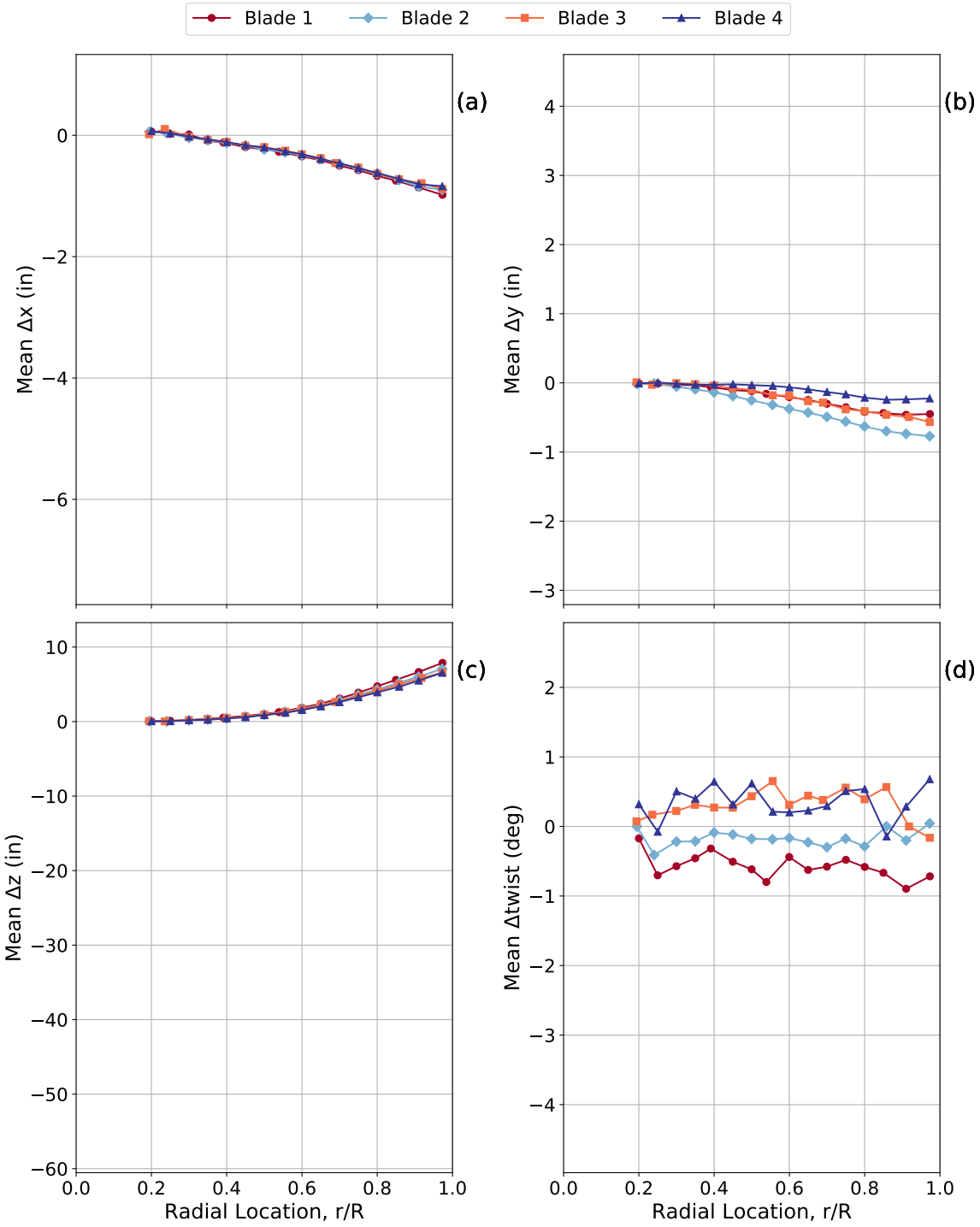


Figure 2.24-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0615	0.0031	-0.0051	0.0030	0.0480	0.0165	-0.1725	0.0462
1	315	0.2499	0.0228	0.0031	-0.0113	0.0066	0.1120	0.0369	-0.7028	0.0741
1	315	0.2998	0.0144	0.0031	-0.0276	0.0133	0.1948	0.0733	-0.5718	0.1033
1	315	0.3498	-0.0906	0.0034	-0.0366	0.0218	0.3805	0.1235	-0.4579	0.1098
1	315	0.3913	-0.1200	0.0048	-0.0616	0.0326	0.5248	0.1824	-0.3182	0.1228
1	315	0.4496	-0.1941	0.0068	-0.1031	0.0490	0.7513	0.2810	-0.5074	0.1336
1	315	0.4997	-0.2301	0.0093	-0.1207	0.0654	1.0168	0.3788	-0.6166	0.1433
1	315	0.5387	-0.2709	0.0116	-0.1580	0.0786	1.2636	0.4628	-0.7992	0.1499
1	315	0.5996	-0.3476	0.0178	-0.2064	0.1029	1.8521	0.5889	-0.4398	0.1663
1	315	0.6498	-0.4100	0.0234	-0.2471	0.1237	2.3934	0.6833	-0.6257	0.1570
1	315	0.6998	-0.5014	0.0282	-0.3020	0.1445	3.0965	0.7622	-0.5783	0.1633
1	315	0.7500	-0.5751	0.0336	-0.3520	0.1676	3.8758	0.8264	-0.4804	0.1843
1	315	0.8001	-0.6688	0.0382	-0.4188	0.1913	4.7326	0.8746	-0.5825	0.1851
1	315	0.8497	-0.7471	0.0418	-0.4362	0.2165	5.5945	0.9165	-0.6663	0.1925
1	315	0.9102	-0.8601	0.0465	-0.4610	0.2478	6.6506	0.9661	-0.8963	0.2013
1	315	0.9734	-0.9811	0.0585	-0.4503	0.2819	7.8763	1.0301	-0.7174	0.2147
2	315	0.1949	0.0596	0.0043	-0.0163	0.0027	0.0420	0.0111	-0.0009	0.0377
2	315	0.2405	0.0370	0.0033	-0.0111	0.0045	0.0456	0.0207	-0.4105	0.0585
2	315	0.2999	-0.0421	0.0025	-0.0555	0.0111	0.1696	0.0485	-0.2180	0.0863
2	315	0.3498	-0.0785	0.0036	-0.0930	0.0189	0.2638	0.0842	-0.2140	0.0856
2	315	0.3998	-0.1232	0.0062	-0.1375	0.0291	0.4153	0.1303	-0.0881	0.1149
2	315	0.4496	-0.1674	0.0056	-0.1910	0.0390	0.6190	0.1856	-0.1160	0.0985
2	315	0.4995	-0.2315	0.0070	-0.2525	0.0515	0.9052	0.2526	-0.1775	0.1104
2	315	0.5551	-0.2804	0.0096	-0.3173	0.0667	1.3067	0.3384	-0.1850	0.1267
2	315	0.5996	-0.3282	0.0115	-0.3767	0.0810	1.7069	0.4118	-0.1674	0.1201
2	315	0.6497	-0.3904	0.0154	-0.4298	0.0969	2.2306	0.4962	-0.2282	0.1394
2	315	0.6996	-0.4731	0.0196	-0.4923	0.1151	2.8524	0.5858	-0.2985	0.1455
2	315	0.7495	-0.5488	0.0249	-0.5594	0.1335	3.5499	0.6759	-0.1754	0.1463
2	315	0.7996	-0.6271	0.0302	-0.6313	0.1526	4.2993	0.7699	-0.2873	0.1505
2	315	0.8578	-0.7387	0.0366	-0.6989	0.1756	5.2203	0.8816	0.0019	0.1578
2	315	0.9100	-0.8423	0.0438	-0.7367	0.1962	6.0060	0.9869	-0.2004	0.1748
2	315	0.9727	-0.8999	0.0587	-0.7715	0.2213	7.0642	1.1212	0.0441	0.1969
3	315	0.1938	0.0169	0.0033	0.0090	0.0015	0.0627	0.0106	0.0725	0.0348
3	315	0.2357	0.1039	0.0036	-0.0267	0.0051	0.0243	0.0205	0.1682	0.0578
3	315	0.2995	-0.0231	0.0026	-0.0042	0.0090	0.1909	0.0482	0.2222	0.0767
3	315	0.3493	-0.0744	0.0033	-0.0172	0.0153	0.3145	0.0836	0.3110	0.0727
3	315	0.4000	-0.1077	0.0057	-0.0392	0.0252	0.4625	0.1309	0.2716	0.0941
3	315	0.4497	-0.1716	0.0054	-0.0767	0.0326	0.6583	0.1873	0.2698	0.0971
3	315	0.4997	-0.1940	0.0058	-0.1024	0.0416	0.9304	0.2535	0.4343	0.0997
3	315	0.5556	-0.2533	0.0083	-0.1794	0.0537	1.3185	0.3333	0.6520	0.1015
3	315	0.5995	-0.3133	0.0096	-0.1866	0.0631	1.6719	0.3976	0.3106	0.1204
3	315	0.6498	-0.3768	0.0136	-0.2646	0.0755	2.1923	0.4762	0.4423	0.1042
3	315	0.6890	-0.4582	0.0161	-0.2859	0.0853	2.6344	0.5384	0.3792	0.1101
3	315	0.7495	-0.5316	0.0210	-0.3817	0.1007	3.4197	0.6372	0.5578	0.1173
3	315	0.7998	-0.6338	0.0257	-0.4084	0.1137	4.1109	0.7264	0.3905	0.1203
3	315	0.8577	-0.7237	0.0319	-0.4618	0.1294	4.9753	0.8348	0.5662	0.1225
3	315	0.9178	-0.7892	0.0397	-0.4930	0.1457	5.8363	0.9550	-0.0006	0.1294
3	315	0.9729	-0.8850	0.0511	-0.5653	0.1614	6.5783	1.0732	-0.1636	0.1436
4	315	0.2001	0.0688	0.0028	-0.0084	0.0020	0.0441	0.0089	0.3186	0.0417
4	315	0.2502	0.0332	0.0033	0.0062	0.0046	0.0467	0.0199	-0.0762	0.0684
4	315	0.3001	-0.0217	0.0024	-0.0136	0.0087	0.1851	0.0390	0.5033	0.0925
4	315	0.3502	-0.0657	0.0036	-0.0270	0.0142	0.2461	0.0661	0.3992	0.0891
4	315	0.4002	-0.1130	0.0042	-0.0268	0.0226	0.4129	0.1044	0.6446	0.0973
4	315	0.4500	-0.1634	0.0049	-0.0211	0.0297	0.5802	0.1463	0.3156	0.1024
4	315	0.5001	-0.2006	0.0066	-0.0324	0.0393	0.8624	0.1994	0.6174	0.1109
4	315	0.5560	-0.2642	0.0074	-0.0439	0.0508	1.1769	0.2688	0.2109	0.1329
4	315	0.6001	-0.3113	0.0088	-0.0649	0.0596	1.5489	0.3245	0.2024	0.1326
4	315	0.6501	-0.3882	0.0119	-0.0941	0.0713	2.0347	0.3929	0.2280	0.1476
4	315	0.6999	-0.4639	0.0149	-0.1320	0.0833	2.6078	0.4665	0.2937	0.1414
4	315	0.7500	-0.5398	0.0186	-0.1668	0.0957	3.2615	0.5427	0.5090	0.1472
4	315	0.8002	-0.6216	0.0226	-0.2143	0.1081	3.9185	0.6262	0.5371	0.1380
4	315	0.8582	-0.7179	0.0279	-0.2443	0.1229	4.6722	0.7338	-0.1439	0.1543
4	315	0.9101	-0.8072	0.0348	-0.2392	0.1365	5.4901	0.8392	0.2850	0.1711
4	315	0.9728	-0.8392	0.0469	-0.2252	0.1536	6.5470	0.9790	0.6779	0.1824

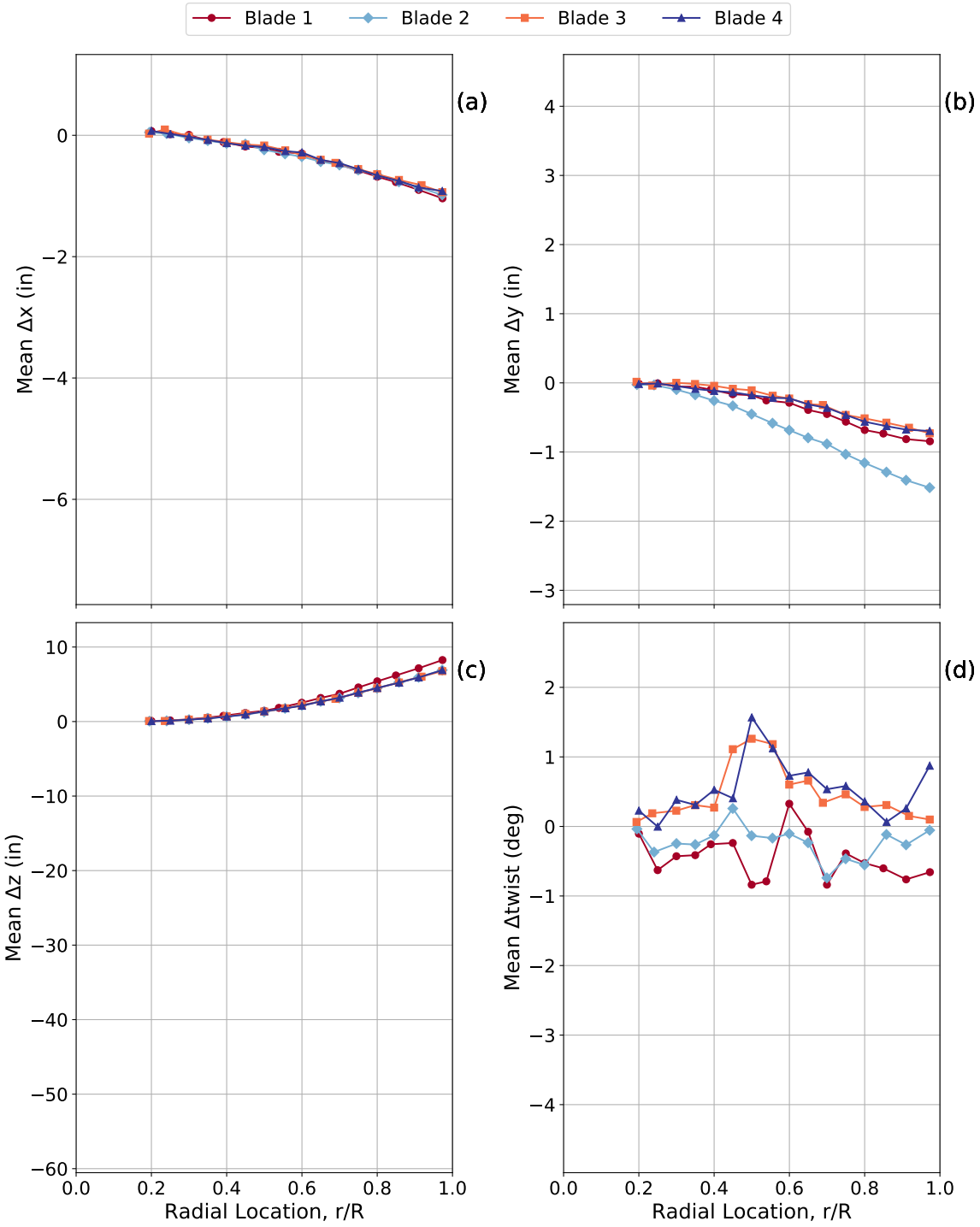


Figure 2.24-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0700	0.0031	-0.0121	0.0016	0.0691	0.0071	-0.1046	0.0410
1	330.12	0.2499	0.0179	0.0030	-0.0069	0.0041	0.1576	0.0177	-0.6286	0.0775
1	330.12	0.2998	0.0072	0.0042	-0.0527	0.0060	0.2940	0.0333	-0.4284	0.0956
1	330.12	0.3498	-0.0873	0.0036	-0.0559	0.0132	0.5435	0.0547	-0.4130	0.0889
1	330.12	0.3913	-0.1114	0.0051	-0.0969	0.0169	0.7694	0.0827	-0.2564	0.0994
1	330.12	0.4496	-0.1849	0.0064	-0.1645	0.0235	1.1618	0.1336	-0.2380	0.1050
1	330.12	0.4997	-0.2083	0.0086	-0.1790	0.0307	1.4457	0.1987	-0.8380	0.1320
1	330.12	0.5387	-0.2716	0.0095	-0.2537	0.0350	1.8383	0.2565	-0.7897	0.1391
1	330.12	0.5996	-0.2995	0.0116	-0.2876	0.0443	2.5283	0.3709	0.3260	0.1574
1	330.12	0.6498	-0.4196	0.0148	-0.3915	0.0517	3.1670	0.4961	-0.0763	0.1628
1	330.12	0.6998	-0.4853	0.0193	-0.4503	0.0602	3.7295	0.6484	-0.8374	0.1489
1	330.12	0.7500	-0.5807	0.0259	-0.5614	0.0683	4.5796	0.8424	-0.3882	0.1515
1	330.12	0.8001	-0.6829	0.0362	-0.6818	0.0764	5.4008	1.0653	-0.5278	0.1686
1	330.12	0.8497	-0.7712	0.0472	-0.7330	0.0877	6.1878	1.3099	-0.6023	0.1574
1	330.12	0.9102	-0.8998	0.0687	-0.8136	0.1015	7.1537	1.6491	-0.7614	0.1629
1	330.12	0.9734	-1.0392	0.0924	-0.8450	0.1181	8.2547	2.0188	-0.6573	0.1660
2	330.12	0.1949	0.0487	0.0029	-0.0254	0.0019	0.0576	0.0084	-0.0359	0.0444
2	330.12	0.2405	0.0290	0.0028	-0.0313	0.0043	0.0912	0.0197	-0.3685	0.0705
2	330.12	0.2999	-0.0438	0.0028	-0.0977	0.0089	0.2544	0.0420	-0.2461	0.1013
2	330.12	0.3498	-0.0876	0.0035	-0.1725	0.0151	0.4302	0.0713	-0.2604	0.0990
2	330.12	0.3998	-0.1336	0.0078	-0.2577	0.0239	0.6696	0.1135	-0.1290	0.0920
2	330.12	0.4496	-0.1448	0.0062	-0.3322	0.0325	0.9463	0.1674	0.2582	0.1109
2	330.12	0.4995	-0.2390	0.0071	-0.4515	0.0420	1.2934	0.2276	-0.1336	0.1037
2	330.12	0.5551	-0.3058	0.0085	-0.5833	0.0541	1.7687	0.3046	-0.1678	0.1015
2	330.12	0.5996	-0.3519	0.0101	-0.6839	0.0641	2.1943	0.3813	-0.1044	0.1184
2	330.12	0.6497	-0.4343	0.0141	-0.7949	0.0762	2.7047	0.4826	-0.2341	0.1145
2	330.12	0.6996	-0.4892	0.0156	-0.8829	0.0884	3.1666	0.6028	-0.7397	0.1409
2	330.12	0.7495	-0.5714	0.0202	-1.0322	0.1017	3.8375	0.7588	-0.4654	0.1406
2	330.12	0.7996	-0.6499	0.0268	-1.1573	0.1157	4.4699	0.9366	-0.5532	0.1423
2	330.12	0.8578	-0.7673	0.0356	-1.2905	0.1325	5.2852	1.1715	-0.1159	0.1512
2	330.12	0.9100	-0.8586	0.0467	-1.4080	0.1477	5.9400	1.4016	-0.2645	0.1513
2	330.12	0.9727	-0.9819	0.0636	-1.5154	0.1658	6.9043	1.6879	-0.0545	0.1584
3	330.12	0.1938	0.0283	0.0027	0.0154	0.0029	0.0747	0.0100	0.0644	0.0427
3	330.12	0.2357	0.0957	0.0030	-0.0394	0.0040	0.0740	0.0196	0.1888	0.0680
3	330.12	0.2995	-0.0182	0.0031	0.0008	0.0112	0.2703	0.0453	0.2266	0.1031
3	330.12	0.3493	-0.0705	0.0032	-0.0162	0.0194	0.4658	0.0813	0.3060	0.1115
3	330.12	0.4000	-0.1129	0.0052	-0.0430	0.0298	0.7007	0.1256	0.2709	0.1161
3	330.12	0.4497	-0.1516	0.0067	-0.0855	0.0393	1.0370	0.1764	1.1104	0.1435
3	330.12	0.4997	-0.1685	0.0079	-0.1076	0.0506	1.3452	0.2250	1.2608	0.1270
3	330.12	0.5556	-0.2478	0.0101	-0.1858	0.0617	1.7812	0.2747	1.1832	0.1494
3	330.12	0.5995	-0.3250	0.0099	-0.2264	0.0713	2.1739	0.3086	0.6015	0.1725
3	330.12	0.6498	-0.4021	0.0113	-0.3068	0.0811	2.6962	0.3519	0.6592	0.1627
3	330.12	0.6890	-0.4542	0.0116	-0.3203	0.0885	3.0446	0.3924	0.3399	0.1796
3	330.12	0.7495	-0.5568	0.0138	-0.4634	0.1005	3.8503	0.4941	0.4616	0.1866
3	330.12	0.7998	-0.6411	0.0176	-0.5131	0.1119	4.4676	0.6133	0.2799	0.2040
3	330.12	0.8577	-0.7357	0.0243	-0.5759	0.1252	5.2449	0.7903	0.3076	0.2027
3	330.12	0.9178	-0.8216	0.0346	-0.6488	0.1395	6.0262	1.0023	0.1509	0.2265
3	330.12	0.9729	-0.9372	0.0455	-0.7292	0.1527	6.7635	1.2162	0.0990	0.2136
4	330.12	0.2001	0.0733	0.0026	-0.0168	0.0019	0.0557	0.0092	0.2271	0.0463
4	330.12	0.2502	0.0219	0.0031	-0.0092	0.0043	0.1151	0.0189	-0.0037	0.0698
4	330.12	0.3001	-0.0235	0.0038	-0.0466	0.0078	0.2610	0.0364	0.3818	0.1014
4	330.12	0.3502	-0.0766	0.0029	-0.0870	0.0142	0.4079	0.0670	0.3090	0.0832
4	330.12	0.4002	-0.1293	0.0065	-0.1170	0.0217	0.6677	0.1011	0.5261	0.0932
4	330.12	0.4500	-0.1703	0.0056	-0.1358	0.0281	0.9414	0.1344	0.4051	0.0950
4	330.12	0.5001	-0.1936	0.0075	-0.1797	0.0358	1.3821	0.1758	1.5672	0.1119
4	330.12	0.5560	-0.2615	0.0089	-0.2161	0.0457	1.7792	0.2283	1.1232	0.1182
4	330.12	0.6001	-0.2830	0.0111	-0.2232	0.0533	2.1152	0.2759	0.7287	0.1242
4	330.12	0.6501	-0.4045	0.0118	-0.3114	0.0638	2.6986	0.3463	0.7768	0.1191
4	330.12	0.6999	-0.4586	0.0139	-0.3620	0.0727	3.2036	0.4385	0.5345	0.1293
4	330.12	0.7500	-0.5595	0.0166	-0.4645	0.0828	3.8807	0.5554	0.5816	0.1277
4	330.12	0.8002	-0.6607	0.0217	-0.5620	0.0920	4.5044	0.6920	0.3584	0.1363
4	330.12	0.8582	-0.7533	0.0282	-0.6265	0.1051	5.2134	0.8706	0.0646	0.1384
4	330.12	0.9101	-0.8582	0.0387	-0.6765	0.1166	5.9124	1.0446	0.2589	0.1378
4	330.12	0.9728	-0.9192	0.0524	-0.6956	0.1307	6.9033	1.2652	0.8728	0.1474

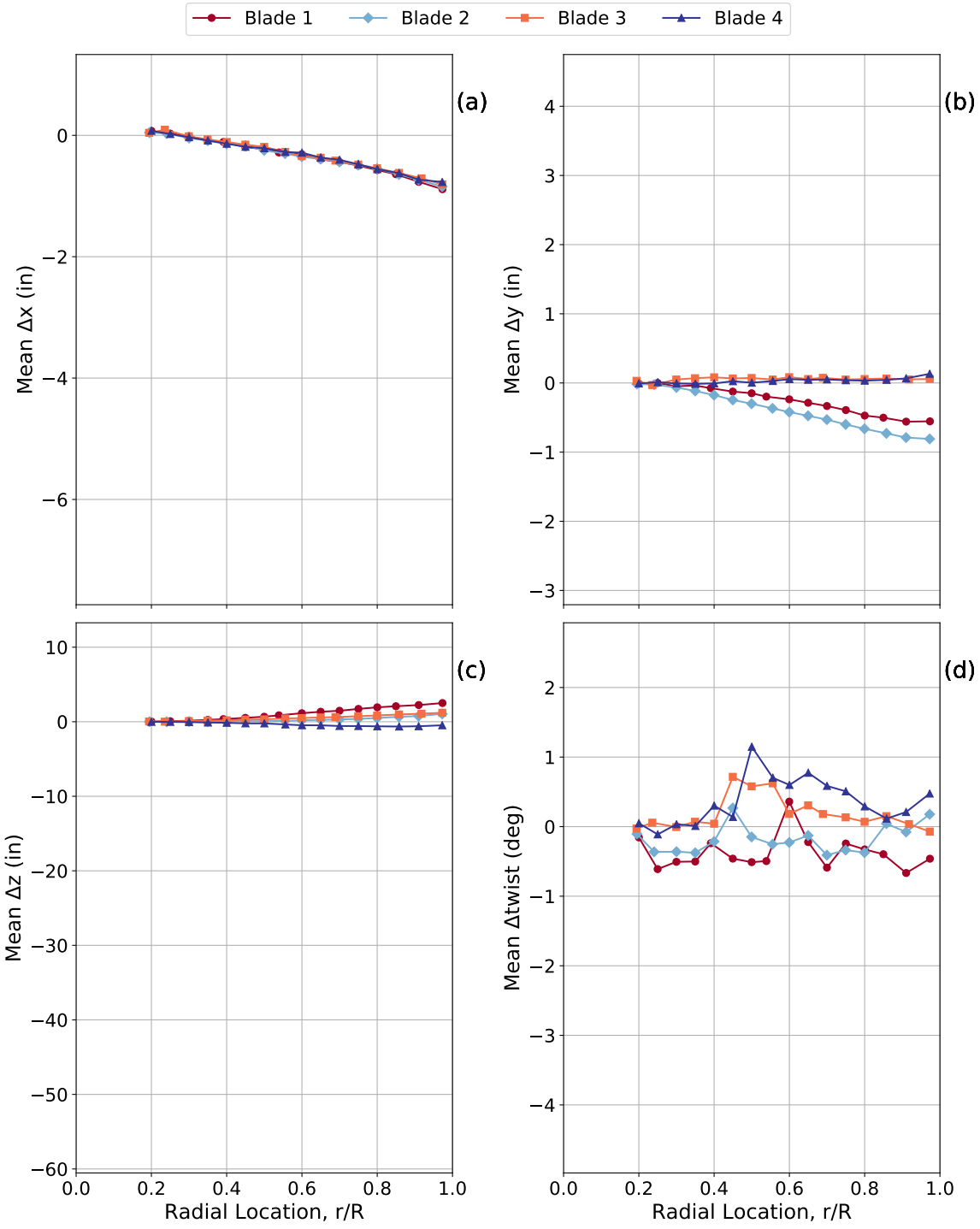


Figure 2.24-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0721	0.0029	-0.0103	0.0045	0.0305	0.0223	-0.1553	0.0597
1	344.88	0.2499	0.0294	0.0050	-0.0002	0.0063	0.0717	0.0439	-0.6106	0.1319
1	344.88	0.2998	-0.0124	0.0053	-0.0481	0.0177	0.1317	0.0943	-0.5054	0.1476
1	344.88	0.3498	-0.0908	0.0049	-0.0361	0.0274	0.2492	0.1625	-0.5017	0.1408
1	344.88	0.3913	-0.1089	0.0062	-0.0755	0.0401	0.3509	0.2347	-0.2384	0.1425
1	344.88	0.4496	-0.1940	0.0058	-0.1246	0.0582	0.5221	0.3760	-0.4601	0.1528
1	344.88	0.4997	-0.2280	0.0093	-0.1486	0.0783	0.6718	0.5255	-0.5105	0.1820
1	344.88	0.5387	-0.2821	0.0087	-0.1979	0.0931	0.8595	0.6445	-0.4953	0.1688
1	344.88	0.5996	-0.3116	0.0138	-0.2366	0.1200	1.1403	0.8675	0.3593	0.1875
1	344.88	0.6498	-0.3965	0.0172	-0.2864	0.1419	1.3395	1.0622	-0.2217	0.1815
1	344.88	0.6998	-0.4375	0.0190	-0.3333	0.1649	1.4695	1.2743	-0.5895	0.1850
1	344.88	0.7500	-0.4997	0.0213	-0.3921	0.1889	1.7190	1.4980	-0.2430	0.1939
1	344.88	0.8001	-0.5719	0.0244	-0.4718	0.2127	1.9313	1.7310	-0.3276	0.1953
1	344.88	0.8497	-0.6402	0.0277	-0.5020	0.2372	2.0780	1.9749	-0.3967	0.1984
1	344.88	0.9102	-0.7659	0.0349	-0.5592	0.2669	2.2384	2.2790	-0.6664	0.2061
1	344.88	0.9734	-0.8875	0.0488	-0.5549	0.2989	2.5037	2.5938	-0.4611	0.2064
2	344.88	0.1949	0.0440	0.0023	-0.0157	0.0023	0.0033	0.0158	-0.1045	0.0462
2	344.88	0.2405	0.0310	0.0025	-0.0240	0.0051	-0.0039	0.0344	-0.3631	0.0759
2	344.88	0.2999	-0.0450	0.0043	-0.0651	0.0101	0.0167	0.0770	-0.3602	0.1067
2	344.88	0.3498	-0.0882	0.0057	-0.1158	0.0182	0.0209	0.1324	-0.3761	0.0934
2	344.88	0.3998	-0.1398	0.0040	-0.1752	0.0280	0.0373	0.2087	-0.2145	0.1146
2	344.88	0.4496	-0.1718	0.0062	-0.2458	0.0400	0.0843	0.3011	0.2675	0.1424
2	344.88	0.4995	-0.2477	0.0065	-0.3000	0.0538	0.0664	0.4143	-0.1482	0.1349
2	344.88	0.5551	-0.3013	0.0068	-0.3677	0.0703	0.1213	0.5528	-0.2535	0.1521
2	344.88	0.5996	-0.3519	0.0075	-0.4206	0.0848	0.1849	0.6766	-0.2276	0.1412
2	344.88	0.6497	-0.3907	0.0092	-0.4753	0.1017	0.2566	0.8210	-0.1279	0.1537
2	344.88	0.6996	-0.4378	0.0100	-0.5298	0.1193	0.2974	0.9714	-0.4096	0.1797
2	344.88	0.7495	-0.4897	0.0117	-0.5995	0.1370	0.3829	1.1251	-0.3371	0.1739
2	344.88	0.7996	-0.5489	0.0142	-0.6631	0.1548	0.4976	1.2810	-0.3733	0.1857
2	344.88	0.8578	-0.6445	0.0162	-0.7288	0.1769	0.6598	1.4683	0.0434	0.1877
2	344.88	0.9100	-0.7309	0.0209	-0.7895	0.1961	0.7624	1.6403	-0.0776	0.1908
2	344.88	0.9727	-0.8453	0.0305	-0.8093	0.2192	1.0523	1.8458	0.1777	0.2067
3	344.88	0.1938	0.0414	0.0026	0.0303	0.0024	0.0334	0.0141	-0.0270	0.0476
3	344.88	0.2357	0.0925	0.0031	-0.0300	0.0046	0.0049	0.0246	0.0570	0.0769
3	344.88	0.2995	-0.0163	0.0034	0.0494	0.0094	0.0785	0.0623	-0.0059	0.1109
3	344.88	0.3493	-0.0668	0.0036	0.0686	0.0171	0.1387	0.1088	0.0703	0.0972
3	344.88	0.4000	-0.1093	0.0060	0.0816	0.0261	0.1851	0.1690	0.0419	0.1110
3	344.88	0.4497	-0.1530	0.0072	0.0653	0.0354	0.2818	0.2335	0.7158	0.1349
3	344.88	0.4997	-0.1906	0.0076	0.0718	0.0470	0.3173	0.3097	0.5790	0.1357
3	344.88	0.5556	-0.2725	0.0076	0.0496	0.0588	0.4347	0.4057	0.6223	0.1151
3	344.88	0.5995	-0.3410	0.0082	0.0837	0.0701	0.4902	0.4870	0.1827	0.1340
3	344.88	0.6498	-0.3691	0.0090	0.0570	0.0831	0.5754	0.5855	0.3054	0.1337
3	344.88	0.6890	-0.4165	0.0110	0.0738	0.0942	0.6151	0.6729	0.1810	0.1317
3	344.88	0.7495	-0.4820	0.0111	0.0491	0.1110	0.7386	0.8052	0.1332	0.1290
3	344.88	0.7998	-0.5436	0.0123	0.0565	0.1257	0.8380	0.9221	0.0695	0.1351
3	344.88	0.8577	-0.6190	0.0146	0.0645	0.1435	0.9728	1.0580	0.1509	0.1386
3	344.88	0.9178	-0.7086	0.0171	0.0510	0.1615	1.0770	1.2006	0.0367	0.1359
3	344.88	0.9729	-0.8088	0.0249	0.0580	0.1790	1.2023	1.3329	-0.0711	0.1460
4	344.88	0.2001	0.0739	0.0033	-0.0069	0.0039	-0.0176	0.0213	0.0479	0.0466
4	344.88	0.2502	0.0215	0.0027	0.0109	0.0072	-0.0212	0.0466	-0.1116	0.0753
4	344.88	0.3001	-0.0311	0.0039	-0.0072	0.0156	-0.0463	0.0940	0.0348	0.1028
4	344.88	0.3502	-0.0852	0.0051	-0.0132	0.0273	-0.1093	0.1630	0.0094	0.0938
4	344.88	0.4002	-0.1384	0.0048	-0.0065	0.0417	-0.1402	0.2551	0.3019	0.1098
4	344.88	0.4500	-0.1886	0.0064	0.0252	0.0562	-0.2200	0.3711	0.1386	0.1208
4	344.88	0.5001	-0.2126	0.0066	0.0035	0.0755	-0.2256	0.5023	1.1477	0.1336
4	344.88	0.5560	-0.2740	0.0080	0.0285	0.0990	-0.3671	0.6709	0.7021	0.1373
4	344.88	0.6001	-0.2866	0.0091	0.0554	0.1180	-0.4768	0.8162	0.5994	0.1409
4	344.88	0.6501	-0.3667	0.0106	0.0456	0.1391	-0.4816	0.9811	0.7738	0.1626
4	344.88	0.6999	-0.4027	0.0108	0.0506	0.1613	-0.5757	1.1537	0.5853	0.1558
4	344.88	0.7500	-0.4782	0.0113	0.0390	0.1841	-0.5847	1.3251	0.5070	0.1656
4	344.88	0.8002	-0.5566	0.0128	0.0328	0.2074	-0.6169	1.4986	0.2905	0.1588
4	344.88	0.8582	-0.6245	0.0145	0.0446	0.2347	-0.6451	1.6993	0.1152	0.1599
4	344.88	0.9101	-0.7292	0.0174	0.0661	0.2590	-0.6059	1.8715	0.2098	0.1614
4	344.88	0.9728	-0.7693	0.0267	0.1323	0.2908	-0.4801	2.0738	0.4754	0.1704

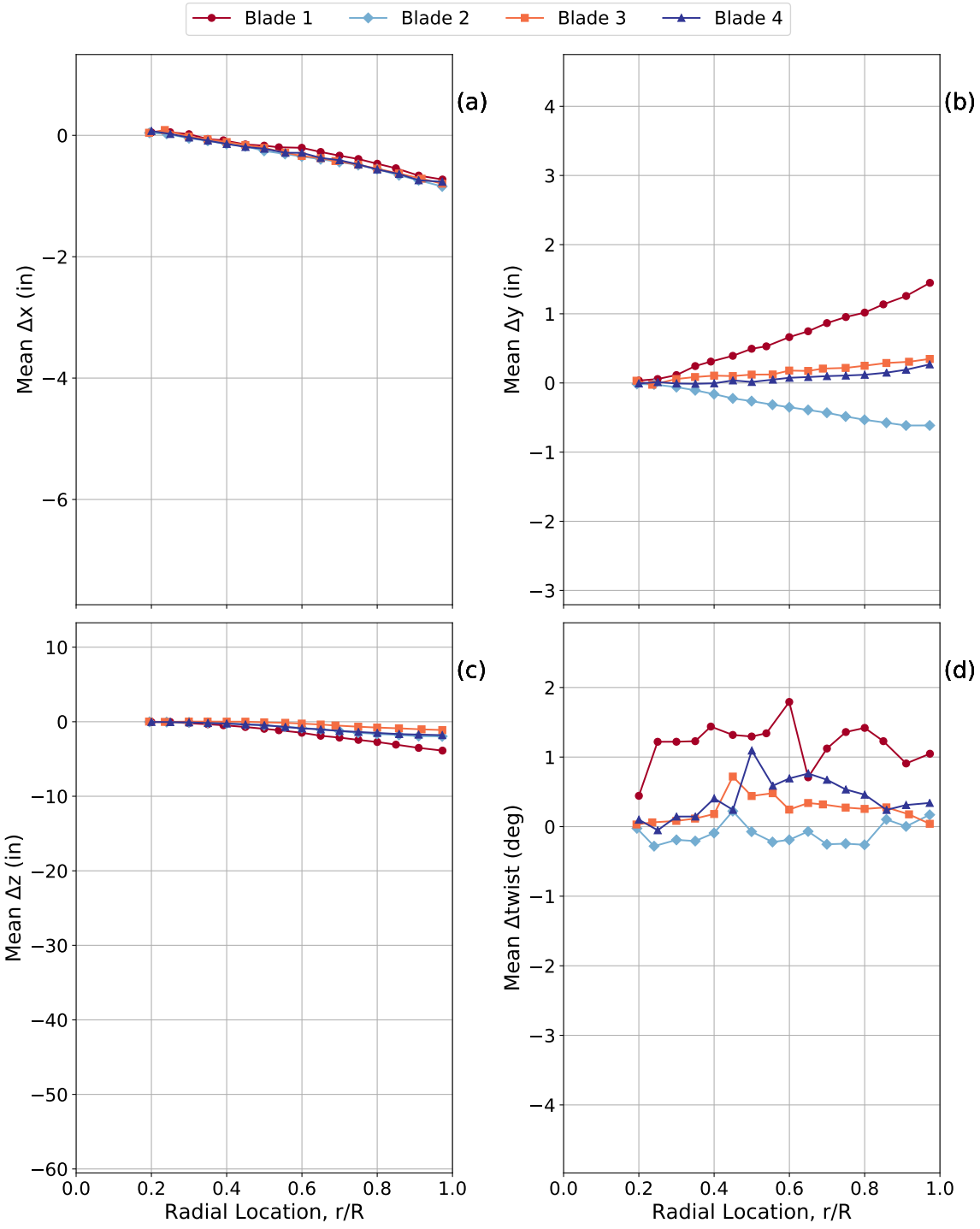


Figure 2.24-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.061$, $\mu = 1.001$, $\alpha = 4°$ NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0484	0.0144	0.0347	0.0201	-0.0534	0.0318	0.4431	0.2723
1	350.16	0.2499	0.0517	0.0074	0.0567	0.0259	-0.0281	0.0493	1.2197	0.7344
1	350.16	0.2998	0.0194	0.0133	0.1139	0.0741	-0.2068	0.1393	1.2204	0.7409
1	350.16	0.3498	-0.0599	0.0198	0.2442	0.1247	-0.3381	0.2451	1.2283	0.7560
1	350.16	0.3913	-0.0819	0.0254	0.3093	0.1739	-0.4702	0.3480	1.4386	0.7716
1	350.16	0.4496	-0.1497	0.0320	0.3921	0.2514	-0.7103	0.5135	1.3181	0.7789
1	350.16	0.4997	-0.1697	0.0348	0.4945	0.3284	-0.9505	0.6735	1.2957	0.7867
1	350.16	0.5387	-0.1970	0.0383	0.5294	0.3922	-1.1448	0.8082	1.3416	0.7891
1	350.16	0.5996	-0.2050	0.0400	0.6627	0.5044	-1.4792	1.0363	1.7926	0.7870
1	350.16	0.6498	-0.2740	0.0221	0.7471	0.7978	-1.8848	1.4826	0.7089	4.0786
1	350.16	0.6998	-0.3348	0.0582	0.8657	1.1770	-2.1313	1.0303	1.1229	0.6192
1	350.16	0.7500	-0.3903	0.0613	0.9533	1.2891	-2.4349	1.2046	1.3598	0.6424
1	350.16	0.8001	-0.4677	0.0631	1.0176	1.4014	-2.7198	1.3920	1.4194	0.6213
1	350.16	0.8497	-0.5425	0.0674	1.1361	1.5129	-3.0710	1.5780	1.2285	0.6180
1	350.16	0.9102	-0.6631	0.0700	1.2575	1.6491	-3.5103	1.8098	0.9081	0.6253
1	350.16	0.9734	-0.7279	0.0448	1.4476	1.7918	-3.8749	2.0470	1.0480	0.6278
2	350.16	0.1949	0.0409	0.0027	-0.0145	0.0032	-0.0165	0.0172	-0.0249	0.0381
2	350.16	0.2405	0.0248	0.0039	-0.0218	0.0060	-0.0497	0.0355	-0.2808	0.0902
2	350.16	0.2999	-0.0480	0.0040	-0.0604	0.0139	-0.0812	0.0810	-0.1904	0.1012
2	350.16	0.3498	-0.0902	0.0058	-0.1059	0.0239	-0.1472	0.1414	-0.2070	0.0943
2	350.16	0.3998	-0.1437	0.0054	-0.1613	0.0371	-0.2279	0.2208	-0.0919	0.1295
2	350.16	0.4496	-0.1805	0.0064	-0.2234	0.0501	-0.3219	0.3133	0.2234	0.1251
2	350.16	0.4995	-0.2559	0.0058	-0.2626	0.0661	-0.4847	0.4197	-0.0723	0.1486
2	350.16	0.5551	-0.3071	0.0068	-0.3146	0.0851	-0.6708	0.5511	-0.2209	0.1355
2	350.16	0.5996	-0.3483	0.0077	-0.3512	0.1001	-0.8321	0.6594	-0.1897	0.1360
2	350.16	0.6497	-0.3941	0.0088	-0.3903	0.1178	-1.0264	0.7851	-0.0688	0.1484
2	350.16	0.6996	-0.4400	0.0096	-0.4310	0.1353	-1.2642	0.9151	-0.2539	0.1663
2	350.16	0.7495	-0.4904	0.0112	-0.4848	0.1533	-1.4814	1.0430	-0.2448	0.1619
2	350.16	0.7996	-0.5567	0.0125	-0.5323	0.1713	-1.6421	1.1708	-0.2609	0.1741
2	350.16	0.8578	-0.6580	0.0138	-0.5757	0.1937	-1.7769	1.3150	0.1035	0.1690
2	350.16	0.9100	-0.7405	0.0145	-0.6151	0.2134	-1.9309	1.4396	0.0033	0.1736
2	350.16	0.9727	-0.8417	0.0136	-0.6144	0.2358	-1.9601	1.5924	0.1701	0.1753
3	350.16	0.1938	0.0427	0.0032	0.0321	0.0036	0.0206	0.0209	0.0309	0.0420
3	350.16	0.2357	0.0877	0.0039	-0.0261	0.0063	-0.0223	0.0393	0.0612	0.0729
3	350.16	0.2995	-0.0204	0.0043	0.0570	0.0155	0.0212	0.0974	0.0822	0.1010
3	350.16	0.3493	-0.0649	0.0047	0.0855	0.0268	0.0218	0.1705	0.1159	0.1001
3	350.16	0.4000	-0.1108	0.0052	0.1057	0.0418	0.0127	0.2663	0.1816	0.0949
3	350.16	0.4497	-0.1599	0.0074	0.0995	0.0558	0.0036	0.3752	0.7194	0.1247
3	350.16	0.4997	-0.2067	0.0074	0.1209	0.0730	-0.0830	0.5028	0.4403	0.1087
3	350.16	0.5556	-0.2841	0.0065	0.1226	0.0915	-0.1473	0.6510	0.4806	0.1236
3	350.16	0.5995	-0.3404	0.0068	0.1790	0.1105	-0.2495	0.7726	0.2451	0.1202
3	350.16	0.6498	-0.3759	0.0078	0.1738	0.1297	-0.3745	0.9090	0.3395	0.1197
3	350.16	0.6890	-0.4227	0.0084	0.2076	0.1455	-0.5045	1.0130	0.3195	0.1135
3	350.16	0.7495	-0.4832	0.0087	0.2175	0.1708	-0.6706	1.1603	0.2738	0.1075
3	350.16	0.7998	-0.5489	0.0099	0.2489	0.1909	-0.7828	1.2781	0.2549	0.1126
3	350.16	0.8577	-0.6293	0.0112	0.2884	0.2159	-0.8854	1.4082	0.2768	0.1198
3	350.16	0.9178	-0.7142	0.0114	0.3065	0.2425	-1.0221	1.5426	0.1767	0.1196
3	350.16	0.9729	-0.7967	0.0132	0.3473	0.2652	-1.1154	1.6731	0.0408	0.1248
4	350.16	0.2001	0.0715	0.0031	-0.0071	0.0037	-0.0250	0.0168	0.0998	0.0352
4	350.16	0.2502	0.0222	0.0032	0.0121	0.0070	-0.0444	0.0366	-0.0522	0.0676
4	350.16	0.3001	-0.0356	0.0045	-0.0079	0.0148	-0.0836	0.0761	0.1451	0.0798
4	350.16	0.3502	-0.0875	0.0050	-0.0120	0.0257	-0.1756	0.1290	0.1453	0.0834
4	350.16	0.4002	-0.1411	0.0054	-0.0054	0.0395	-0.2462	0.2044	0.4052	0.0847
4	350.16	0.4500	-0.1916	0.0077	0.0366	0.0532	-0.3768	0.2948	0.2411	0.0849
4	350.16	0.5001	-0.2206	0.0088	0.0145	0.0714	-0.4644	0.3969	1.0933	0.1070
4	350.16	0.5560	-0.2869	0.0105	0.0479	0.0918	-0.7078	0.5239	0.5876	0.1188
4	350.16	0.6001	-0.2882	0.0113	0.0749	0.1097	-0.8930	0.6350	0.6928	0.1026
4	350.16	0.6501	-0.3720	0.0116	0.0854	0.1296	-1.0304	0.7603	0.7635	0.1150
4	350.16	0.6999	-0.4095	0.0135	0.0989	0.1505	-1.2336	0.8837	0.6734	0.1442
4	350.16	0.7500	-0.4798	0.0135	0.1070	0.1712	-1.3771	1.0084	0.5338	0.1149
4	350.16	0.8002	-0.5623	0.0147	0.1186	0.1927	-1.5070	1.1249	0.4594	0.1164
4	350.16	0.8582	-0.6367	0.0167	0.1491	0.2182	-1.6555	1.2532	0.2403	0.1179
4	350.16	0.9101	-0.7402	0.0176	0.1911	0.2415	-1.7299	1.3638	0.3108	0.1160
4	350.16	0.9728	-0.7653	0.0219	0.2684	0.2721	-1.8013	1.4854	0.3407	0.1228

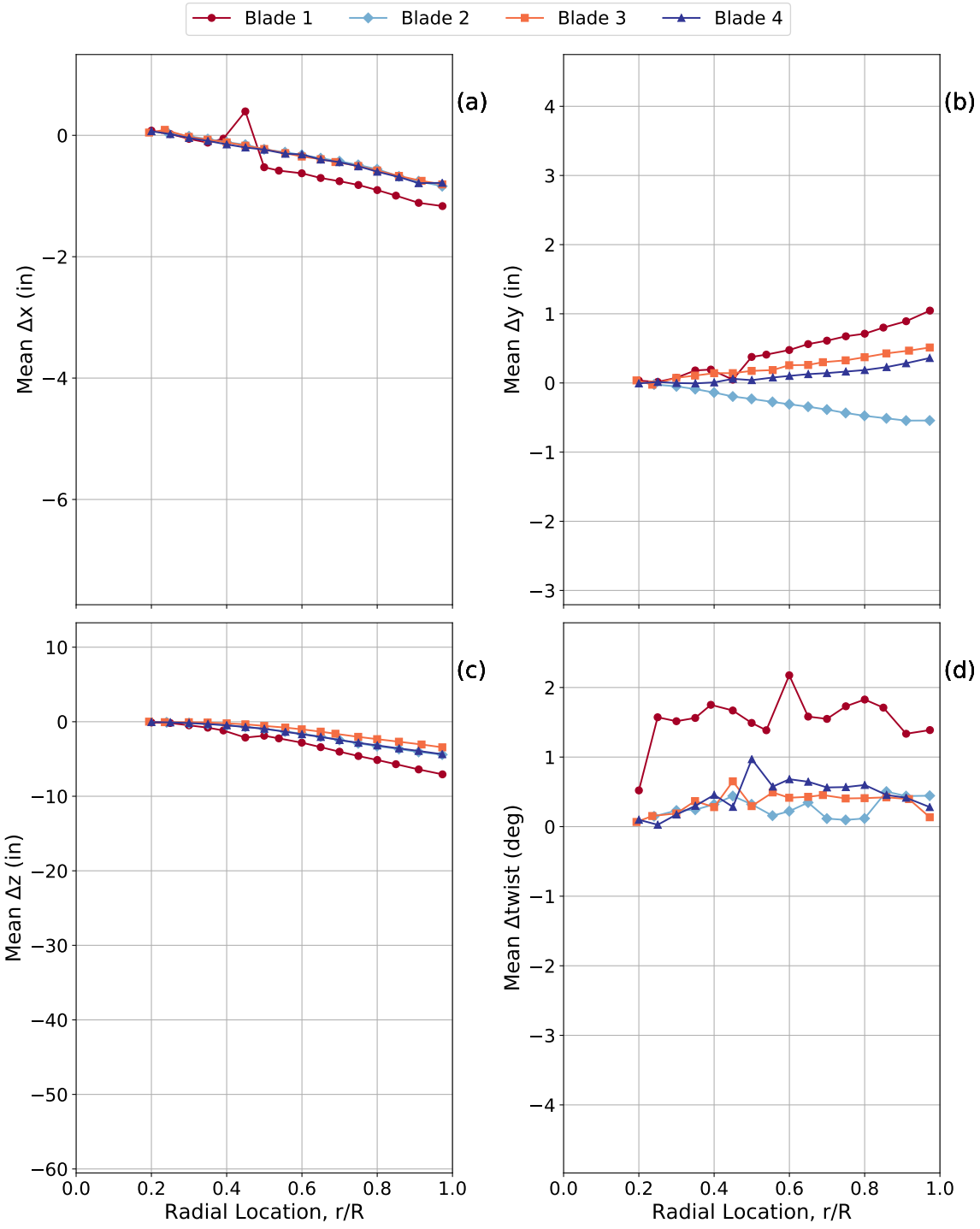


Figure 2.24-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.061, μ = 1.001, α = 4° NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Table 2.24-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.061, μ = 1.001, α = 4°
NFAC run 95, points 31 to 36. BD run 44, points 8177 to 8216.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0776	0.0783	0.0336	0.0209	-0.1054	0.0185	0.5208	0.1550
1	355.08	0.2499	0.0224	0.0298	0.0150	0.0359	-0.1734	0.0373	1.5721	0.3842
1	355.08	0.2998	-0.0579	0.0383	0.0755	0.0867	-0.4824	0.0951	1.5153	0.4095
1	355.08	0.3498	-0.1202	0.0962	0.1810	0.1478	-0.7977	0.1701	1.5623	0.4177
1	355.08	0.3913	-0.0547	0.1478	0.1934	0.2121	-1.1744	0.2486	1.7511	0.4249
1	355.08	0.4496	0.3944	0.2461	0.0477	0.3203	-2.1247	0.3763	1.6694	0.4497
1	355.08	0.4997	-0.5257	0.2627	0.3762	0.9232	-1.8785	0.7644	1.4908	0.2738
1	355.08	0.5387	-0.5814	0.2619	0.4098	1.0178	-2.2356	0.8488	1.3855	0.2818
1	355.08	0.5996	-0.6253	0.2617	0.4761	1.1646	-2.8073	0.9957	2.1759	0.3077
1	355.08	0.6498	-0.7030	0.2625	0.5618	1.2875	-3.4145	1.1270	1.5817	0.2960
1	355.08	0.6998	-0.7558	0.2628	0.6116	1.4098	-4.0222	1.2661	1.5488	0.3021
1	355.08	0.7500	-0.8182	0.2629	0.6746	1.5337	-4.6029	1.4092	1.7300	0.2873
1	355.08	0.8001	-0.9020	0.2607	0.7119	1.6572	-5.1343	1.5535	1.8268	0.2917
1	355.08	0.8497	-0.9934	0.2612	0.8005	1.7795	-5.6967	1.7002	1.7107	0.2924
1	355.08	0.9102	-1.1125	0.2624	0.8923	1.9287	-6.4012	1.8799	1.3350	0.2974
1	355.08	0.9734	-1.1660	0.2280	1.0462	2.0876	-7.0607	2.0652	1.3880	0.3257
2	355.08	0.2405	0.0610	0.0057	-0.0225	0.0056	-0.0825	0.0313	0.1478	0.0873
2	355.08	0.2999	-0.0155	0.0071	-0.0491	0.0126	-0.1763	0.0712	0.2317	0.1355
2	355.08	0.3498	-0.0617	0.0097	-0.0887	0.0218	-0.3026	0.1238	0.2429	0.1347
2	355.08	0.3998	-0.1126	0.0072	-0.1383	0.0343	-0.4717	0.1964	0.3201	0.1422
2	355.08	0.4496	-0.1543	0.0099	-0.1960	0.0450	-0.6855	0.2782	0.4402	0.1464
2	355.08	0.4995	-0.2295	0.0099	-0.2305	0.0581	-0.9429	0.3723	0.3214	0.1633
2	355.08	0.5551	-0.2784	0.0126	-0.2741	0.0727	-1.3038	0.4777	0.1572	0.1549
2	355.08	0.5996	-0.3223	0.0135	-0.3078	0.0850	-1.6100	0.5647	0.2215	0.1531
2	355.08	0.6497	-0.3773	0.0149	-0.3438	0.0992	-1.9901	0.6639	0.3460	0.1651
2	355.08	0.6996	-0.4271	0.0172	-0.3845	0.1130	-2.4492	0.7547	0.1155	0.1607
2	355.08	0.7495	-0.4868	0.0187	-0.4338	0.1275	-2.8959	0.8417	0.0965	0.1696
2	355.08	0.7996	-0.5587	0.0211	-0.4749	0.1421	-3.2776	0.9234	0.1174	0.1617
2	355.08	0.8578	-0.6755	0.0243	-0.5117	0.1593	-3.6678	1.0132	0.5038	0.1654
2	355.08	0.9100	-0.7572	0.0245	-0.5442	0.1748	-4.0562	1.0908	0.4393	0.1760
2	355.08	0.9727	-0.8380	0.0242	-0.5431	0.1948	-4.4143	1.1842	0.4443	0.1775
3	355.08	0.1938	0.0459	0.0030	0.0367	0.0046	0.0094	0.0191	0.0671	0.0486
3	355.08	0.2357	0.0902	0.0041	-0.0252	0.0053	-0.0616	0.0387	0.1528	0.0789
3	355.08	0.2995	-0.0247	0.0043	0.0735	0.0160	-0.0679	0.0919	0.1896	0.1117
3	355.08	0.3493	-0.0708	0.0049	0.1068	0.0281	-0.1081	0.1621	0.3671	0.1099
3	355.08	0.4000	-0.1155	0.0061	0.1413	0.0421	-0.2194	0.2536	0.2805	0.1205
3	355.08	0.4497	-0.1698	0.0078	0.1419	0.0577	-0.3482	0.3564	0.6513	0.1038
3	355.08	0.4997	-0.2252	0.0089	0.1743	0.0740	-0.5618	0.4749	0.2950	0.1114
3	355.08	0.5556	-0.2933	0.0084	0.1863	0.0918	-0.7872	0.6027	0.4916	0.1094
3	355.08	0.5995	-0.3492	0.0114	0.2564	0.1106	-1.0203	0.7016	0.4150	0.1172
3	355.08	0.6498	-0.3931	0.0119	0.2605	0.1293	-1.3317	0.8037	0.4284	0.1198
3	355.08	0.6890	-0.4398	0.0116	0.3000	0.1430	-1.6133	0.8766	0.4541	0.1215
3	355.08	0.7495	-0.5050	0.0136	0.3271	0.1669	-2.0294	0.9664	0.4050	0.1197
3	355.08	0.7998	-0.5793	0.0156	0.3721	0.1852	-2.3388	1.0384	0.4095	0.1148
3	355.08	0.8577	-0.6685	0.0174	0.4273	0.2073	-2.6809	1.1136	0.4213	0.1218
3	355.08	0.9178	-0.7501	0.0189	0.4673	0.2303	-3.0542	1.1935	0.3957	0.1285
3	355.08	0.9729	-0.8081	0.0153	0.5126	0.2490	-3.4356	1.2773	0.1350	0.1352
4	355.08	0.2001	0.0675	0.0028	-0.0063	0.0043	-0.0424	0.0172	0.0985	0.0433
4	355.08	0.2502	0.0201	0.0030	0.0144	0.0068	-0.0887	0.0405	0.0268	0.0774
4	355.08	0.3001	-0.0426	0.0037	-0.0013	0.0157	-0.1755	0.0777	0.1743	0.0983
4	355.08	0.3502	-0.0924	0.0060	-0.0061	0.0276	-0.3150	0.1375	0.2988	0.0970
4	355.08	0.4002	-0.1494	0.0053	0.0081	0.0413	-0.4822	0.2152	0.4562	0.0920
4	355.08	0.4500	-0.2003	0.0069	0.0597	0.0546	-0.7182	0.3075	0.2835	0.0990
4	355.08	0.5001	-0.2358	0.0062	0.0409	0.0711	-0.9448	0.4148	0.9695	0.1148
4	355.08	0.5560	-0.3036	0.0073	0.0786	0.0924	-1.3535	0.5454	0.5755	0.1279
4	355.08	0.6001	-0.3142	0.0098	0.1022	0.1093	-1.6798	0.6582	0.6814	0.1273
4	355.08	0.6501	-0.3989	0.0099	0.1275	0.1273	-2.0395	0.7856	0.6454	0.1392
4	355.08	0.6999	-0.4414	0.0116	0.1426	0.1464	-2.4565	0.9186	0.5634	0.1199
4	355.08	0.7500	-0.5107	0.0129	0.1642	0.1653	-2.8281	1.0514	0.5684	0.1383
4	355.08	0.8002	-0.5993	0.0141	0.1867	0.1859	-3.1804	1.1679	0.5989	0.1225
4	355.08	0.8582	-0.6882	0.0163	0.2292	0.2089	-3.5822	1.3000	0.4547	0.1368
4	355.08	0.9101	-0.7880	0.0171	0.2847	0.2314	-3.9192	1.4081	0.4156	0.1377
4	355.08	0.9728	-0.7827	0.0160	0.3605	0.2625	-4.3581	1.5285	0.2810	0.1393

2.25 Run 96, Points 9 to 13

2.25.1 Pitch, Flap, and Lag

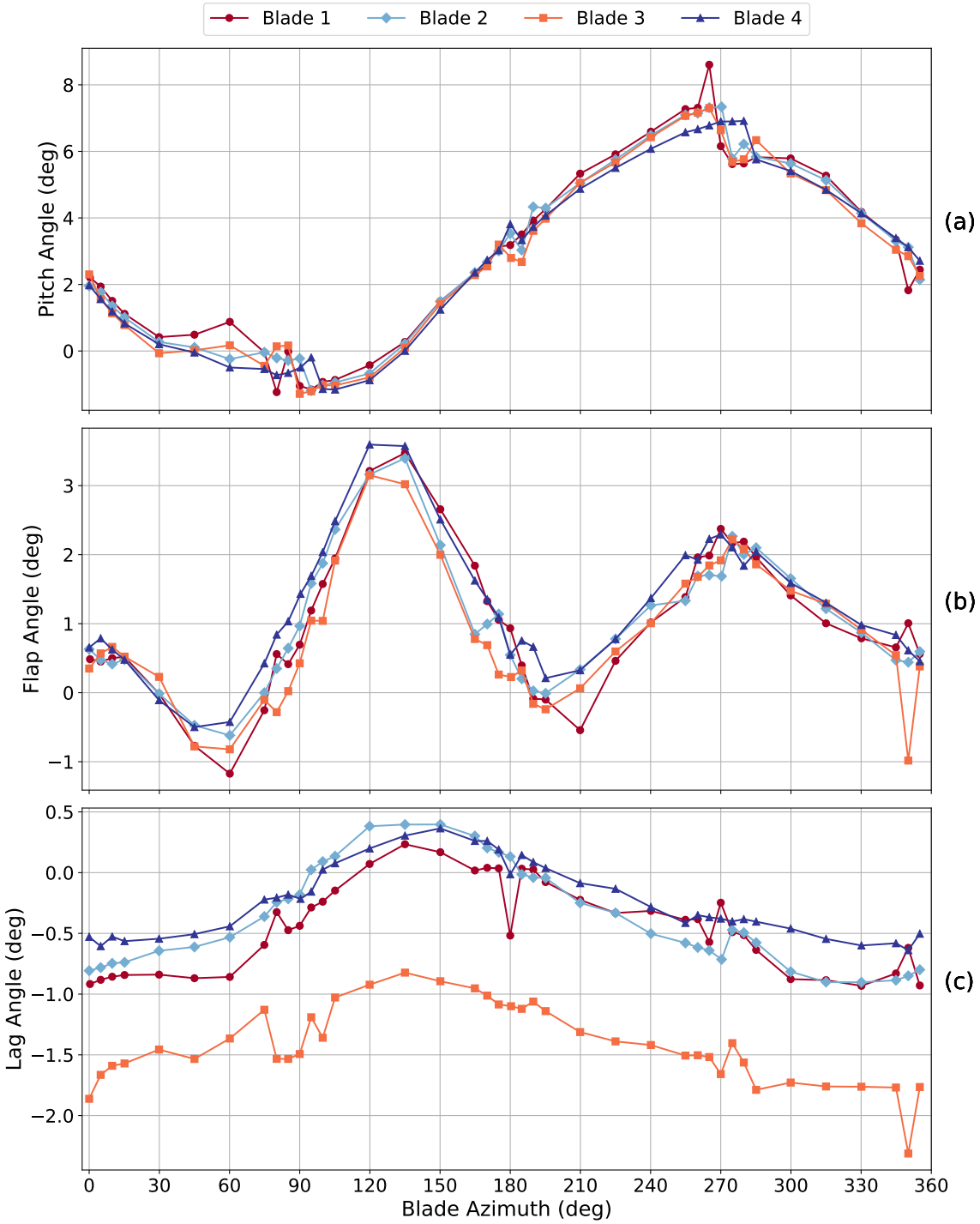


Figure 2.25-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-1. Pitch, flap, and lag vs azimuth for Blade 1.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	2.2085	0.4855	-0.9170	0.1376	0.4759	0.1298
4.92	1.9361	0.4499	-0.8824	0.1198	0.4022	0.0762
9.84	1.5059	0.5009	-0.8569	0.1088	0.2755	0.0493
15.12	1.1172	0.5197	-0.8427	0.1105	0.3713	0.0530
29.88	0.4175	-0.0147	-0.8396	0.1312	0.3137	0.0635
45	0.4892	-0.7690	-0.8692	0.1548	0.3243	0.0948
60.12	0.8759	-1.1732	-0.8586	0.3528	0.1918	0.1049
74.88	-0.0395	-0.2544	-0.5948	0.2831	0.1450	0.1222
80.16	-1.2364	0.5592	-0.3249	0.2478	0.1982	0.1146
85.08	-0.0151	0.4132	-0.4737	0.4354	0.2391	0.1193
90	-1.0495	0.6951	-0.4378	0.0496	0.1497	0.0550
94.92	-1.1574	1.1903	-0.2869	0.0417	0.2500	0.0641
99.84	-0.9291	1.5750	-0.2393	0.0449	0.1831	0.0651
105.12	-0.8694	1.9450	-0.1474	0.0626	0.4195	0.0601
119.88	-0.4270	3.2124	0.0714	0.0541	0.4184	0.0789
135	0.2730	3.4722	0.2338	0.0351	0.3182	0.0595
150.12	1.4999	2.6574	0.1684	0.0467	0.5260	0.0792
164.88	2.3375	1.8397	0.0177	0.0584	0.7188	0.0498
170.16	2.5706	1.3261	0.0397	0.0739	0.5137	0.0569
175.08	3.1355	1.0557	0.0353	0.0585	0.5286	0.0718
180	3.1828	0.9338	-0.5178	0.1146	0.4975	0.0977
184.92	3.5051	0.3946	0.0323	0.0510	0.4303	0.0733
189.84	3.9212	-0.0849	0.0253	0.0513	0.5014	0.0694
195.12	4.2661	-0.0999	-0.0775	0.0502	0.5017	0.0838
209.88	5.3314	-0.5434	-0.2242	0.0730	0.5975	0.0655
225	5.9120	0.4612	-0.3325	0.0670	0.5694	0.0806
240.12	6.5917	1.0174	-0.3151	0.2604	0.6358	0.1051
254.88	7.2709	1.3851	-0.3882	0.1138	0.3768	0.0828
260.16	7.3101	1.9610	-0.3827	0.1696	0.3605	0.1071
265.08	8.6047	1.9868	-0.5721	0.1625	0.3678	0.1056
270	6.1564	2.3736	-0.2476	0.0529	0.2816	0.0838
274.92	5.6189	2.1668	-0.4901	0.0656	0.3080	0.0831
279.84	5.6374	2.1885	-0.5145	0.0602	0.2126	0.0627
285.12	5.8263	1.9627	-0.6363	0.0464	0.3119	0.1097
299.88	5.7895	1.4091	-0.8768	0.0459	0.1862	0.1321
315	5.2694	1.0051	-0.8849	0.0501	0.1503	0.0785
330.12	4.1811	0.7879	-0.9319	0.0574	0.3169	0.0807
344.88	3.3455	0.6561	-0.8301	0.0503	0.1936	0.0895
350.16	1.8256	1.0064	-0.6190	0.1929	0.3518	0.0956
355.08	2.4461	0.5606	-0.9288	0.1615	0.5668	0.1126

Table 2.25-2. Pitch, flap, and lag vs azimuth for Blade 2.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	1.9537	0.6307	-0.8072	0.1519	0.3356	0.0632
4.92	1.7675	0.4740	-0.7818	0.1076	0.3784	0.0587
9.84	1.3553	0.4156	-0.7466	0.1161	0.3394	0.0636
15.12	1.0078	0.4790	-0.7382	0.1121	0.5510	0.0538
29.88	0.2717	-0.0153	-0.6432	0.1252	0.4114	0.0964
45	0.1092	-0.4731	-0.6120	0.0932	0.2026	0.0735
60.12	-0.2426	-0.6187	-0.5320	0.1203	0.1638	0.0777
74.88	-0.0392	-0.0011	-0.3616	0.1629	0.1351	0.0967
80.16	-0.2086	0.3502	-0.2435	0.2064	0.1275	0.0564
85.08	-0.2854	0.6443	-0.2155	0.2189	0.1803	0.0761
90	-0.2261	0.9667	-0.1810	0.2245	0.2023	0.0720
94.92	-1.1914	1.5837	0.0239	0.0320	0.2200	0.0654
99.84	-1.0278	1.8747	0.0907	0.4154	0.2561	0.0791
105.12	-0.9473	2.3654	0.1354	0.0414	0.3107	0.0710
119.88	-0.6753	3.1613	0.3820	0.0533	0.3471	0.0683
135	0.2180	3.3961	0.3961	0.0392	0.4391	0.0871
150.12	1.4900	2.1380	0.3964	0.0792	0.5731	0.0969
164.88	2.3598	0.8471	0.3013	0.0561	0.6409	0.1029
170.16	2.6718	0.9945	0.2033	0.0504	0.6462	0.0944
175.08	3.0073	1.1391	0.1677	0.0558	0.6690	0.1577
180	3.5311	0.5457	0.1320	0.0551	0.5602	0.0856
184.92	3.0306	0.2012	-0.0143	0.0546	0.8369	0.0880
189.84	4.3329	0.0259	-0.0400	0.1107	0.5749	0.0682
195.12	4.2968	-0.0091	-0.0436	0.0387	1.0685	0.1084
209.88	5.0504	0.3355	-0.2495	0.0395	0.7673	0.1574
225	5.7527	0.7789	-0.3312	0.0419	0.6024	0.0806
240.12	6.4810	1.2645	-0.5023	0.0483	0.5702	0.0884
254.88	7.0969	1.3328	-0.5787	0.0632	0.3335	0.0744
260.16	7.1485	1.6893	-0.6160	0.1237	0.3749	0.1020
265.08	7.3155	1.7035	-0.6405	0.1196	0.4715	0.0807
270.35	7.3387	1.6872	-0.7144	0.1599	0.4045	0.1442
274.92	5.7838	2.2661	-0.4714	0.0765	0.3005	0.0819
279.84	6.2201	2.0027	-0.4936	0.2871	0.1872	0.0576
285.12	5.8356	2.1004	-0.5766	0.0447	0.2237	0.0672
299.88	5.6374	1.6550	-0.8153	0.0604	0.1483	0.0679
315	5.1337	1.2167	-0.9008	0.0505	0.2272	0.0838
330.12	4.1446	0.8695	-0.9025	0.0448	0.2281	0.0814
344.88	3.3044	0.4715	-0.8858	0.0467	0.3426	0.1076
350.16	3.1202	0.4410	-0.8494	0.0548	0.3408	0.1217
355.08	2.1424	0.5953	-0.7990	0.1023	0.3862	0.0666

Table 2.25-3. Pitch, flap, and lag vs azimuth for Blade 3.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2.3024	0.3498	-1.8618	0.2214	0.3710	0.0874
4.92	1.5631	0.5689	-1.6646	0.0851	0.2853	0.0516
9.84	1.1335	0.6627	-1.5900	0.0952	0.3369	0.0414
15.12	0.7803	0.5228	-1.5710	0.1067	0.3085	0.0616
29.88	-0.0684	0.2289	-1.4564	0.1177	0.2920	0.0525
45	0.0195	-0.7790	-1.5339	0.1546	0.2255	0.0765
60.12	0.1715	-0.8207	-1.3656	0.1427	0.1278	0.0867
74.88	-0.4464	-0.1035	-1.1288	0.1501	0.1335	0.0806
80.16	0.1389	-0.2820	-1.5330	0.2874	0.1877	0.1056
85.08	0.1654	0.0219	-1.5333	0.5603	0.3316	0.1768
90	-1.2863	0.4263	-1.4931	0.0699	0.2391	0.1414
94.92	-1.2103	1.0445	-1.1907	0.0553	0.2243	0.0907
99.84	-1.0264	1.0407	-1.3593	0.0595	0.2982	0.1673
105.12	-1.0369	1.9137	-1.0280	0.0476	0.4481	0.1137
119.88	-0.7919	3.1503	-0.9224	0.0519	0.4208	0.1027
135	0.0954	3.0200	-0.8232	0.0949	0.4231	0.0745
150.12	1.4138	1.9986	-0.8941	0.1142	0.6266	0.0815
164.88	2.2826	0.7776	-0.9527	0.0585	0.4664	0.0552
170.16	2.5436	0.6890	-1.0124	0.0683	0.6448	0.0660
175.08	3.1987	0.2630	-1.0851	0.3108	0.9519	0.1049
180.35	2.7968	0.2261	-1.0996	0.0980	0.8601	0.1216
184.92	2.6764	0.3229	-1.1212	0.9786	0.7885	0.0773
189.84	3.6109	-0.1618	-1.0616	0.0466	0.4295	0.0493
195.12	3.9772	-0.2409	-1.1403	0.0427	0.6015	0.0484
209.88	5.0510	0.0632	-1.3124	0.0501	0.4925	0.0545
225	5.6694	0.5973	-1.3892	0.0381	0.6824	0.0709
240.12	6.4266	1.0064	-1.4191	0.0480	0.3827	0.0482
254.88	7.0679	1.5799	-1.5060	0.0579	0.4454	0.0993
260.16	7.1645	1.6780	-1.5032	0.0950	0.3856	0.0905
265.08	7.3023	1.8432	-1.5181	0.1314	0.2601	0.0897
270	6.6398	1.9175	-1.6584	0.1229	0.2374	0.0598
274.92	5.6812	2.2212	-1.4037	0.0652	0.2766	0.0732
279.84	5.7615	2.0828	-1.5632	0.0317	0.1738	0.0486
285.12	6.3370	1.8595	-1.7881	0.6282	0.3069	0.0658
299.88	5.3349	1.4774	-1.7282	0.0615	0.1377	0.0826
315	4.8379	1.2893	-1.7602	0.0461	0.1571	0.0638
330.12	3.8405	0.9110	-1.7625	0.0505	0.3019	0.0671
344.88	3.0445	0.5429	-1.7691	0.0764	0.4348	0.0858
350.16	2.8516	-0.9833	-2.3124	0.1836	0.5991	0.2987
355.08	2.2552	0.3802	-1.7651	0.1063	0.3082	0.0829

Table 2.25-4. Pitch, flap, and lag vs azimuth for Blade 4.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	1.9766	0.6541	-0.5291	0.0913	0.3160	0.0700
4.92	1.5603	0.7870	-0.6056	0.1036	0.4811	0.0915
9.84	1.1884	0.6241	-0.5266	0.0878	0.3344	0.0540
15.12	0.8285	0.4778	-0.5643	0.1073	0.5721	0.1147
29.88	0.2034	-0.1090	-0.5440	0.0987	0.3403	0.1121
45	-0.0475	-0.4987	-0.5067	0.0886	0.2406	0.0840
60.12	-0.4961	-0.4242	-0.4419	0.1013	0.1521	0.0937
74.88	-0.5424	0.4237	-0.2220	0.1095	0.0961	0.0562
80.16	-0.7265	0.8404	-0.2061	0.1168	0.1460	0.0850
85.08	-0.6592	1.0328	-0.1811	0.1019	0.1930	0.0944
90.35	-0.4976	1.4309	-0.2161	0.1385	0.2860	0.1381
94.92	-0.1949	1.6910	-0.1568	0.1799	0.2719	0.0741
99.84	-1.1426	2.0365	0.0243	0.0332	0.1761	0.0450
105.12	-1.1604	2.4850	0.0769	0.0419	0.2932	0.0521
119.88	-0.8784	3.5943	0.1987	0.0406	0.3256	0.0631
135	0.0031	3.5731	0.3045	0.0347	0.5731	0.0774
150.12	1.2424	2.5088	0.3643	0.0395	0.4121	0.0755
164.88	2.3563	1.6239	0.2608	0.0471	0.6559	0.0959
170.16	2.7340	1.3537	0.2606	0.0565	0.5428	0.1053
175.08	3.0273	1.0903	0.1900	0.0672	0.6121	0.0697
180	3.8102	0.5509	-0.0143	0.0770	0.5264	0.0649
184.92	3.3302	0.7535	0.1448	0.0452	0.5715	0.0713
189.84	3.7318	0.6635	0.0867	0.0456	0.5272	0.0757
195.12	4.0727	0.2109	0.0372	0.0498	0.9240	0.0831
209.88	4.8757	0.3252	-0.0868	0.0551	0.6754	0.1058
225	5.5022	0.7757	-0.1330	0.0411	0.4444	0.0786
240.12	6.0775	1.3692	-0.2830	0.0452	0.4213	0.0737
254.88	6.5731	1.9916	-0.4143	0.0595	0.4223	0.0779
260.16	6.6664	1.9261	-0.3498	0.0592	0.3072	0.0621
265.08	6.7798	2.2273	-0.3676	0.0771	0.3188	0.0995
270	6.8972	2.2920	-0.3789	0.2403	0.2203	0.0779
274.92	6.9007	2.1047	-0.4019	0.1589	0.2351	0.0741
279.84	6.9155	1.8387	-0.3833	0.2038	0.1922	0.0584
285.12	5.7592	2.0422	-0.4036	0.0878	0.1713	0.0805
299.88	5.4087	1.5896	-0.4609	0.0597	0.1172	0.0545
315	4.8449	1.3034	-0.5457	0.0527	0.1603	0.0740
330.12	4.1378	0.9802	-0.5998	0.0476	0.2718	0.0821
344.88	3.3924	0.8355	-0.5814	0.0656	0.4136	0.0739
350.16	3.1197	0.6126	-0.6386	0.0767	0.3940	0.0961
355.08	2.7107	0.4553	-0.5031	0.0657	0.4232	0.1182

2.25.2 Spanwise Elastic Deformations

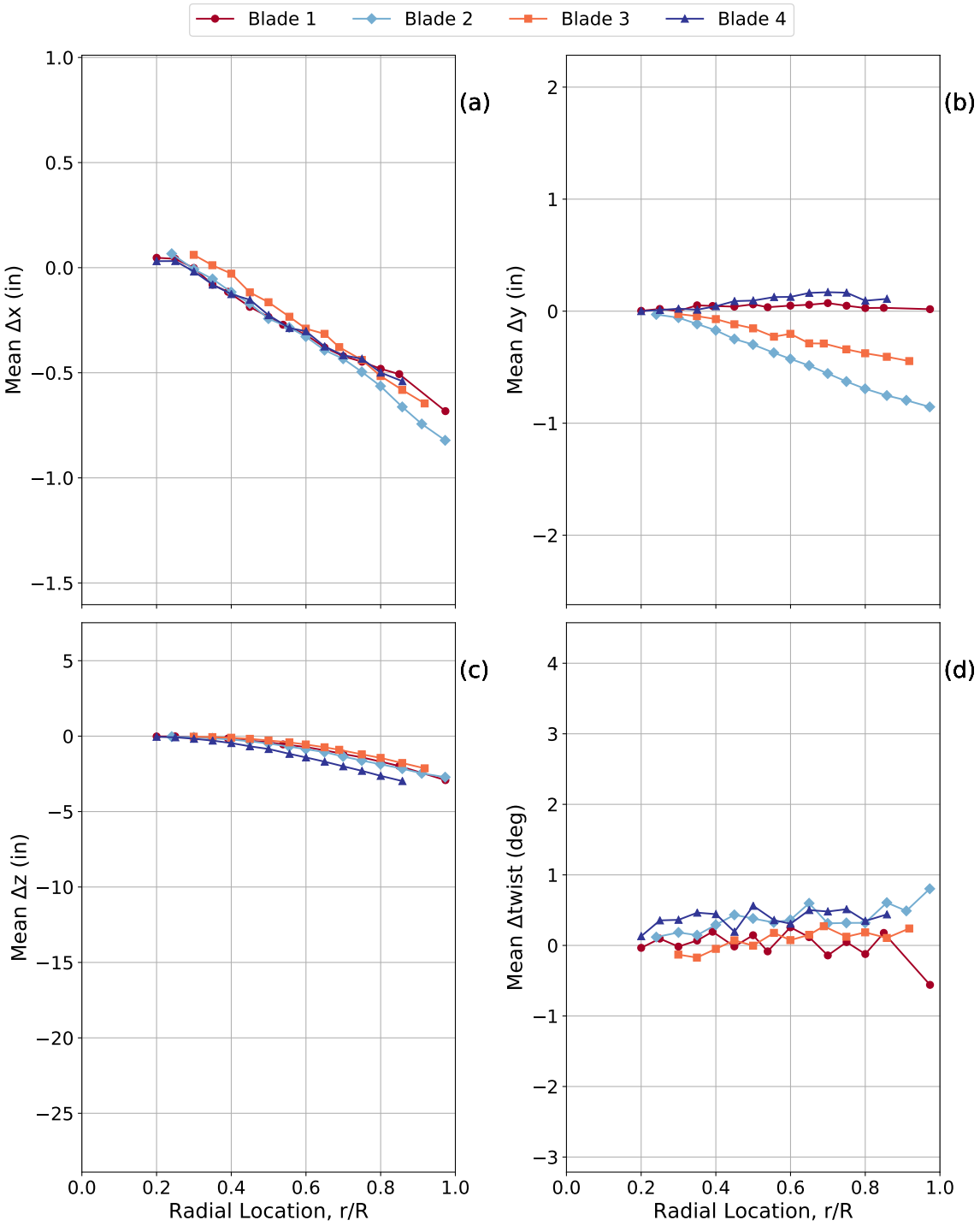


Figure 2.25-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-5. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0470	0.0050	0.0032	0.0036	-0.0215	0.0092	-0.0346	0.0608
1	0.35	0.2499	0.0421	0.0031	0.0197	0.0064	-0.0161	0.0167	0.0965	0.1199
1	0.35	0.2998	-0.0014	0.0023	0.0018	0.0127	-0.0757	0.0354	-0.0171	0.1362
1	0.35	0.3498	-0.0811	0.0026	0.0522	0.0233	-0.1082	0.0605	0.0692	0.1110
1	0.35	0.3913	-0.1149	0.0035	0.0463	0.0317	-0.1564	0.0858	0.1943	0.1133
1	0.35	0.4496	-0.1866	0.0039	0.0405	0.0431	-0.3008	0.1277	-0.0149	0.1200
1	0.35	0.4997	-0.2344	0.0038	0.0609	0.0527	-0.4051	0.1686	0.1445	0.1111
1	0.35	0.5387	-0.2715	0.0042	0.0353	0.0611	-0.5473	0.2034	-0.0842	0.1165
1	0.35	0.5996	-0.3183	0.0044	0.0495	0.0736	-0.7196	0.2623	0.2570	0.1101
1	0.35	0.6498	-0.3797	0.0053	0.0574	0.0827	-0.9397	0.3102	0.1171	0.1100
1	0.35	0.6998	-0.4212	0.0058	0.0720	0.0944	-1.1813	0.3600	-0.1418	0.1202
1	0.35	0.7500	-0.4475	0.0056	0.0485	0.1047	-1.4090	0.4106	0.0473	0.1250
1	0.35	0.8001	-0.4811	0.0086	0.0281	0.1153	-1.6906	0.4648	-0.1223	0.1376
1	0.35	0.8497	-0.5065	0.0092	0.0297	0.1244	-1.9808	0.5146	0.1771	0.1418
1	0.35	0.9734	-0.6826	0.0252	0.0177	0.1585	-2.9162	0.6674	-0.5593	0.2754
2	0	0.2405	0.0664	0.0042	-0.0296	0.0051	-0.0336	0.0119	0.1184	0.1071
2	0	0.2999	-0.0075	0.0055	-0.0582	0.0115	-0.0769	0.0235	0.1836	0.1659
2	0	0.3498	-0.0538	0.0063	-0.1142	0.0199	-0.1434	0.0446	0.1451	0.1520
2	0	0.3998	-0.1160	0.0043	-0.1712	0.0313	-0.2260	0.0668	0.2917	0.1507
2	0	0.4496	-0.1705	0.0055	-0.2484	0.0384	-0.3398	0.0894	0.4334	0.1516
2	0	0.4995	-0.2426	0.0051	-0.2980	0.0479	-0.4897	0.1167	0.3816	0.1524
2	0	0.5551	-0.2843	0.0055	-0.3713	0.0582	-0.6925	0.1436	0.3252	0.1667
2	0	0.5996	-0.3281	0.0050	-0.4262	0.0666	-0.8637	0.1694	0.3627	0.1570
2	0	0.6497	-0.3925	0.0063	-0.4854	0.0753	-1.0581	0.1962	0.5974	0.1672
2	0	0.6996	-0.4335	0.0070	-0.5567	0.0847	-1.3513	0.2278	0.3129	0.1649
2	0	0.7495	-0.4957	0.0080	-0.6278	0.0940	-1.6171	0.2584	0.3191	0.1634
2	0	0.7996	-0.5636	0.0092	-0.6928	0.1034	-1.8653	0.2895	0.3196	0.1678
2	0	0.8578	-0.6625	0.0095	-0.7531	0.1148	-2.1560	0.3320	0.6063	0.1646
2	0	0.9100	-0.7436	0.0104	-0.7957	0.1250	-2.4655	0.3711	0.4895	0.1685
2	0	0.9727	-0.8215	0.0111	-0.8547	0.1364	-2.7189	0.4206	0.8030	0.1703
3	0	0.2995	0.0609	0.0074	-0.0256	0.0173	-0.0369	0.0504	-0.1304	0.1773
3	0	0.3493	0.0116	0.0083	-0.0443	0.0300	-0.0652	0.0849	-0.1726	0.2346
3	0	0.4000	-0.0285	0.0072	-0.0708	0.0479	-0.1057	0.1338	-0.0489	0.2083
3	0	0.4497	-0.1176	0.0087	-0.1169	0.0615	-0.1778	0.1766	0.0723	0.2171
3	0	0.4997	-0.1645	0.0088	-0.1534	0.0765	-0.2884	0.2199	-0.0033	0.2192
3	0	0.5556	-0.2335	0.0096	-0.2277	0.0941	-0.4146	0.2716	0.1776	0.2098
3	0	0.5995	-0.2901	0.0083	-0.2023	0.1076	-0.5524	0.3134	0.0749	0.2084
3	0	0.6498	-0.3149	0.0088	-0.2874	0.1230	-0.7384	0.3585	0.1503	0.2038
3	0	0.6890	-0.3782	0.0097	-0.2888	0.1345	-0.9054	0.3929	0.2720	0.2125
3	0	0.7495	-0.4388	0.0095	-0.3407	0.1526	-1.2062	0.4479	0.1229	0.2168
3	0	0.7998	-0.5156	0.0100	-0.3758	0.1681	-1.4432	0.4965	0.1852	0.2006
3	0	0.8577	-0.5815	0.0111	-0.4074	0.1857	-1.7808	0.5489	0.1056	0.2087
3	0	0.9178	-0.6459	0.0109	-0.4454	0.2043	-2.1334	0.6058	0.2400	0.2104
4	0	0.2001	0.0310	0.0039	0.0003	0.0032	-0.0434	0.0077	0.1305	0.0511
4	0	0.2502	0.0314	0.0024	0.0105	0.0044	-0.0777	0.0126	0.3547	0.1038
4	0	0.3001	-0.0185	0.0022	0.0221	0.0099	-0.1757	0.0277	0.3627	0.1202
4	0	0.3502	-0.0807	0.0020	0.0132	0.0174	-0.2974	0.0477	0.4641	0.1028
4	0	0.4002	-0.1259	0.0030	0.0442	0.0249	-0.4603	0.0719	0.4433	0.1046
4	0	0.4500	-0.1530	0.0035	0.0897	0.0318	-0.6756	0.1001	0.1929	0.1030
4	0	0.5001	-0.2262	0.0034	0.0945	0.0399	-0.8526	0.1299	0.5616	0.1123
4	0	0.5560	-0.2873	0.0039	0.1259	0.0479	-1.1749	0.1661	0.3574	0.1160
4	0	0.6001	-0.3024	0.0040	0.1275	0.0561	-1.4122	0.1985	0.3074	0.1115
4	0	0.6501	-0.3751	0.0045	0.1629	0.0629	-1.6938	0.2334	0.5010	0.1203
4	0	0.6999	-0.4165	0.0044	0.1694	0.0717	-2.0005	0.2731	0.4807	0.1236
4	0	0.7500	-0.4337	0.0054	0.1652	0.0821	-2.3021	0.3137	0.5131	0.1227
4	0	0.8002	-0.4994	0.0078	0.0934	0.0893	-2.6344	0.3556	0.3471	0.1429
4	0	0.8582	-0.5403	0.0099	0.1097	0.0959	-2.9796	0.4048	0.4396	0.1712

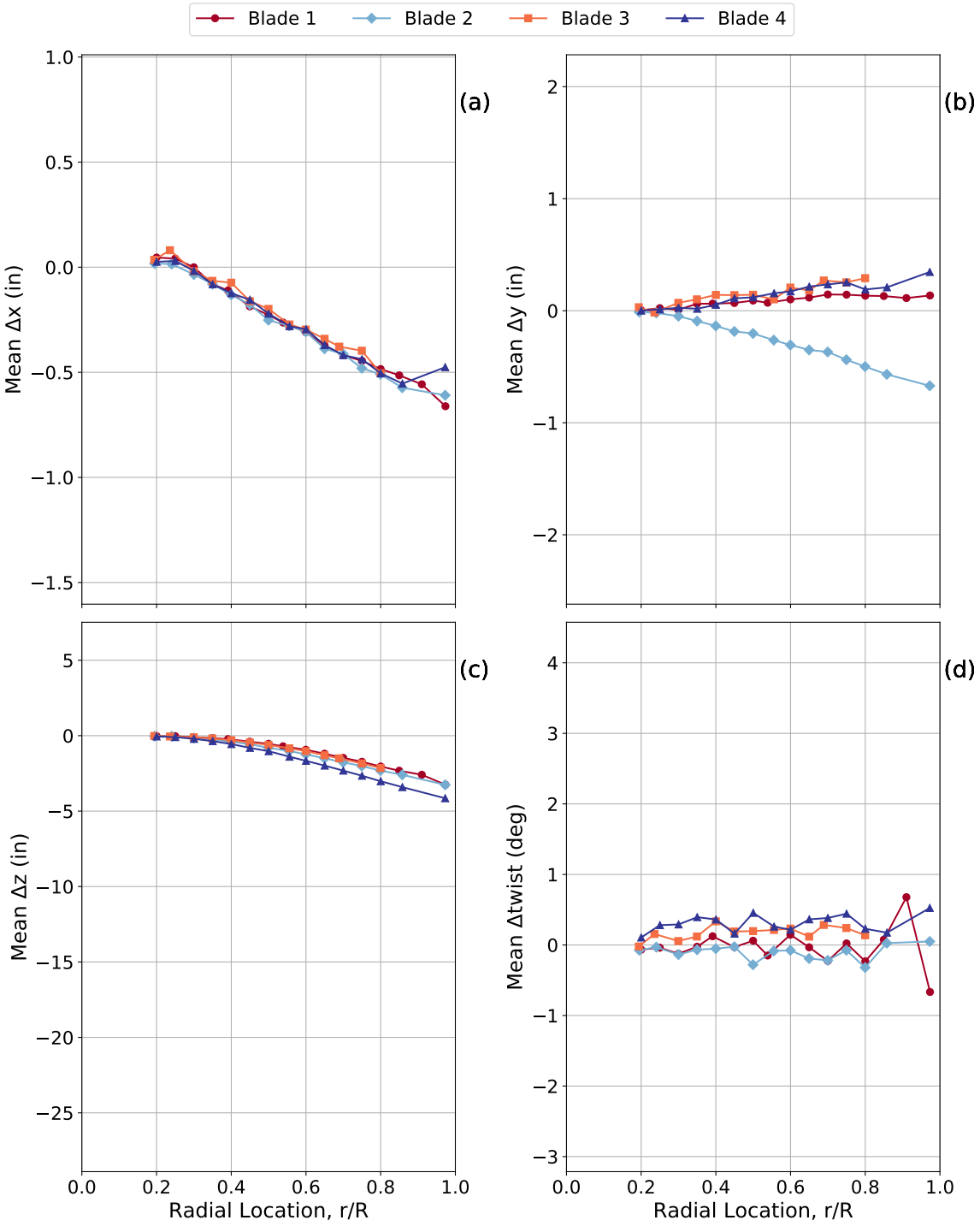


Figure 2.25-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-6. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0459	0.0047	0.0045	0.0029	-0.0276	0.0074	-0.0664	0.0584
1	4.92	0.2499	0.0410	0.0029	0.0230	0.0052	-0.0307	0.0155	-0.0388	0.1121
1	4.92	0.2998	-0.0002	0.0026	0.0092	0.0096	-0.1024	0.0295	-0.1246	0.1305
1	4.92	0.3498	-0.0805	0.0028	0.0620	0.0166	-0.1567	0.0515	-0.0251	0.1166
1	4.92	0.3913	-0.1107	0.0031	0.0630	0.0224	-0.2259	0.0736	0.1233	0.1144
1	4.92	0.4496	-0.1862	0.0037	0.0689	0.0301	-0.3980	0.1095	-0.0301	0.1171
1	4.92	0.4997	-0.2273	0.0034	0.0905	0.0373	-0.5390	0.1444	0.0602	0.1147
1	4.92	0.5387	-0.2632	0.0037	0.0713	0.0434	-0.7048	0.1729	-0.1496	0.1140
1	4.92	0.5996	-0.3093	0.0036	0.1011	0.0526	-0.9323	0.2180	0.1454	0.1154
1	4.92	0.6498	-0.3723	0.0044	0.1171	0.0600	-1.1942	0.2535	-0.0329	0.1232
1	4.92	0.6998	-0.4189	0.0049	0.1449	0.0676	-1.4676	0.2886	-0.2264	0.1224
1	4.92	0.7500	-0.4455	0.0049	0.1434	0.0762	-1.7298	0.3262	0.0220	0.1230
1	4.92	0.8001	-0.4847	0.0053	0.1341	0.0821	-2.0436	0.3648	-0.2319	0.1387
1	4.92	0.8497	-0.5145	0.0083	0.1310	0.0905	-2.3219	0.4018	0.0751	0.1405
1	4.92	0.9102	-0.5570	0.0188	0.1128	0.1007	-2.5907	0.4538	0.6774	0.2975
1	4.92	0.9734	-0.6614	0.0112	0.1360	0.1125	-3.2516	0.5104	-0.6663	0.1792
2	4.92	0.1949	0.0172	0.0051	-0.0123	0.0029	-0.0382	0.0075	-0.0743	0.0462
2	4.92	0.2405	0.0151	0.0023	-0.0196	0.0041	-0.0435	0.0125	-0.0308	0.0982
2	4.92	0.2999	-0.0347	0.0019	-0.0488	0.0096	-0.1585	0.0292	-0.1367	0.1210
2	4.92	0.3498	-0.0806	0.0027	-0.0923	0.0172	-0.2558	0.0518	-0.0669	0.1045
2	4.92	0.3998	-0.1316	0.0030	-0.1358	0.0252	-0.3999	0.0780	-0.0526	0.1097
2	4.92	0.4496	-0.1770	0.0032	-0.1853	0.0319	-0.5668	0.1080	-0.0252	0.1127
2	4.92	0.4995	-0.2518	0.0034	-0.2030	0.0401	-0.8022	0.1411	-0.2802	0.1090
2	4.92	0.5551	-0.2794	0.0040	-0.2626	0.0469	-1.0189	0.1740	-0.0852	0.1262
2	4.92	0.5996	-0.3068	0.0038	-0.3062	0.0547	-1.2323	0.2078	-0.0761	0.1186
2	4.92	0.6497	-0.3877	0.0049	-0.3497	0.0624	-1.4999	0.2403	-0.1923	0.1184
2	4.92	0.6996	-0.4125	0.0048	-0.3682	0.0680	-1.7677	0.2727	-0.2180	0.1230
2	4.92	0.7495	-0.4808	0.0056	-0.4374	0.0764	-2.0137	0.3113	-0.0748	0.1156
2	4.92	0.7996	-0.5095	0.0063	-0.4988	0.0849	-2.3159	0.3511	-0.3201	0.1268
2	4.92	0.8578	-0.5734	0.0101	-0.5680	0.0923	-2.5935	0.3971	0.0262	0.1381
2	4.92	0.9727	-0.6092	0.0148	-0.6703	0.1067	-3.2565	0.4917	0.0492	0.2119
3	4.92	0.1938	0.0350	0.0048	0.0311	0.0031	-0.0204	0.0071	-0.0215	0.0305
3	4.92	0.2357	0.0808	0.0019	-0.0156	0.0035	-0.0565	0.0117	0.1559	0.0878
3	4.92	0.2995	-0.0192	0.0020	0.0701	0.0095	-0.1076	0.0277	0.0552	0.0848
3	4.92	0.3493	-0.0649	0.0023	0.1014	0.0162	-0.1870	0.0491	0.1197	0.0798
3	4.92	0.4000	-0.0735	0.0032	0.1414	0.0240	-0.2967	0.0747	0.3348	0.0854
3	4.92	0.4497	-0.1614	0.0029	0.1393	0.0308	-0.4527	0.1031	0.1911	0.0863
3	4.92	0.4997	-0.1983	0.0035	0.1425	0.0374	-0.6159	0.1334	0.1961	0.0920
3	4.92	0.5556	-0.2723	0.0040	0.1017	0.0452	-0.8383	0.1671	0.2128	0.0912
3	4.92	0.5995	-0.2966	0.0041	0.2067	0.0508	-1.0224	0.1949	0.2327	0.0937
3	4.92	0.6498	-0.3405	0.0042	0.1812	0.0576	-1.2984	0.2256	0.1179	0.0966
3	4.92	0.6890	-0.3779	0.0042	0.2697	0.0637	-1.5029	0.2510	0.2843	0.0921
3	4.92	0.7495	-0.3973	0.0049	0.2531	0.0724	-1.8410	0.2889	0.2400	0.0929
3	4.92	0.7998	-0.5043	0.0050	0.2907	0.0789	-2.1408	0.3241	0.1376	0.1119
4	4.92	0.2001	0.0257	0.0042	0.0008	0.0030	-0.0521	0.0075	0.1053	0.0463
4	4.92	0.2502	0.0296	0.0023	0.0121	0.0042	-0.0951	0.0147	0.2808	0.1011
4	4.92	0.3001	-0.0176	0.0021	0.0262	0.0104	-0.2115	0.0292	0.2909	0.1117
4	4.92	0.3502	-0.0815	0.0025	0.0173	0.0168	-0.3611	0.0505	0.3939	0.1050
4	4.92	0.4002	-0.1236	0.0032	0.0530	0.0255	-0.5578	0.0777	0.3612	0.1007
4	4.92	0.4500	-0.1554	0.0029	0.1108	0.0325	-0.8082	0.1076	0.1603	0.1058
4	4.92	0.5001	-0.2212	0.0032	0.1193	0.0402	-1.0297	0.1393	0.4548	0.1047
4	4.92	0.5560	-0.2807	0.0046	0.1560	0.0493	-1.3946	0.1736	0.2601	0.1102
4	4.92	0.6001	-0.2953	0.0038	0.1724	0.0562	-1.6679	0.2018	0.2158	0.1096
4	4.92	0.6501	-0.3707	0.0046	0.2153	0.0637	-1.9856	0.2284	0.3629	0.1094
4	4.92	0.6999	-0.4184	0.0047	0.2350	0.0719	-2.3170	0.2554	0.3824	0.1137
4	4.92	0.7500	-0.4377	0.0047	0.2527	0.0805	-2.6557	0.2816	0.4432	0.1297
4	4.92	0.8002	-0.5051	0.0060	0.1899	0.0879	-3.0208	0.3091	0.2293	0.1272
4	4.92	0.8582	-0.5538	0.0097	0.2087	0.0951	-3.4115	0.3395	0.1744	0.1624
4	4.92	0.9728	-0.4758	0.0141	0.3456	0.1125	-4.1483	0.4190	0.5239	0.2181

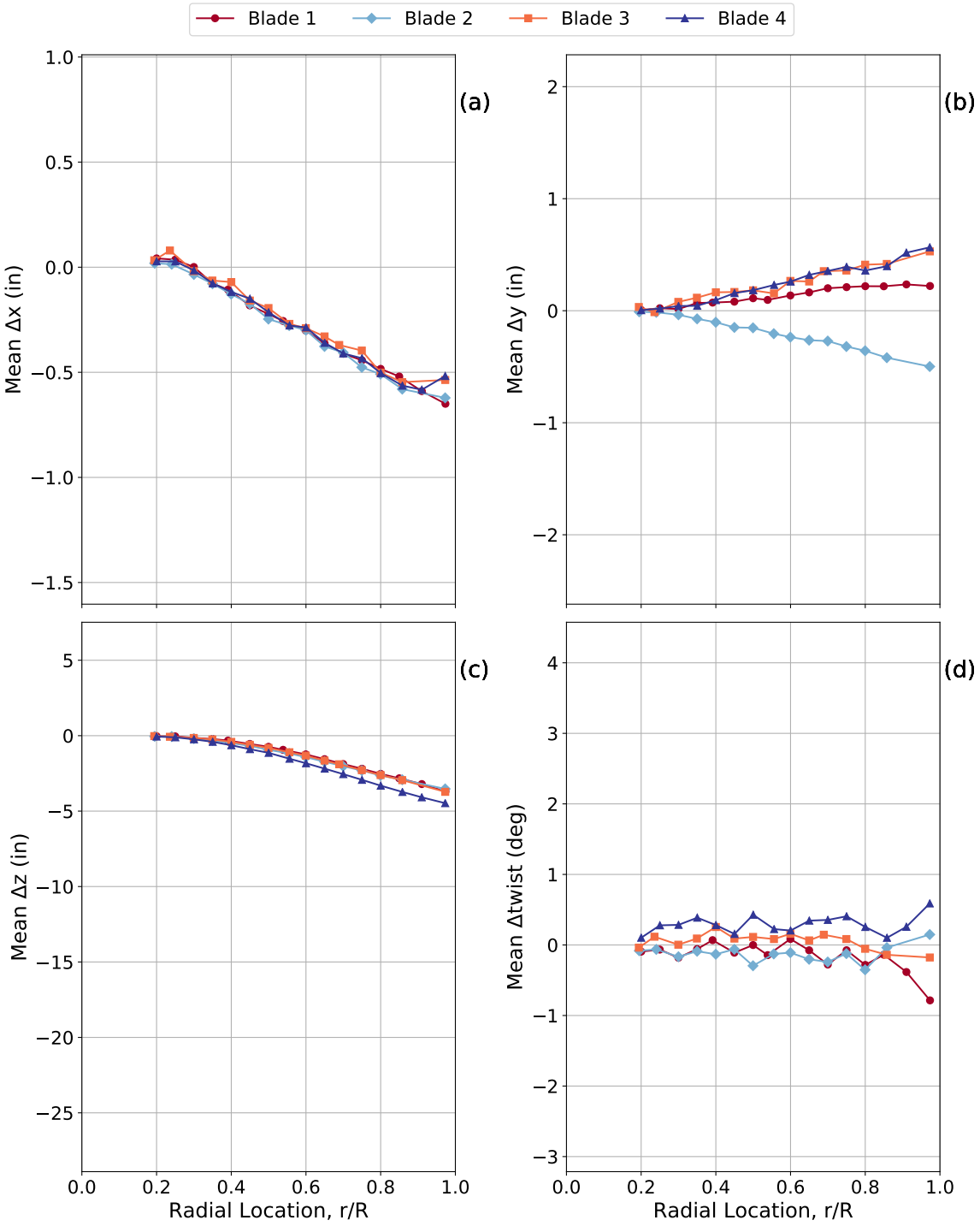


Figure 2.25-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-7. 10° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0419	0.0049	0.0065	0.0027	-0.0375	0.0075	-0.0943	0.0458
1	9.84	0.2499	0.0357	0.0024	0.0222	0.0049	-0.0455	0.0135	-0.0656	0.1010
1	9.84	0.2998	0.0010	0.0022	0.0151	0.0094	-0.1448	0.0281	-0.1814	0.1086
1	9.84	0.3498	-0.0771	0.0024	0.0689	0.0171	-0.2213	0.0499	-0.0583	0.1032
1	9.84	0.3913	-0.1068	0.0029	0.0725	0.0232	-0.3229	0.0695	0.0681	0.1023
1	9.84	0.4496	-0.1816	0.0029	0.0807	0.0318	-0.5468	0.1010	-0.1096	0.1012
1	9.84	0.4997	-0.2229	0.0031	0.1113	0.0393	-0.7367	0.1296	-0.0011	0.1066
1	9.84	0.5387	-0.2558	0.0034	0.0965	0.0451	-0.9372	0.1518	-0.1441	0.1053
1	9.84	0.5996	-0.3014	0.0038	0.1362	0.0542	-1.2389	0.1887	0.0844	0.1069
1	9.84	0.6498	-0.3624	0.0044	0.1635	0.0616	-1.5574	0.2177	-0.0755	0.1074
1	9.84	0.6998	-0.4114	0.0051	0.2008	0.0687	-1.8812	0.2480	-0.2775	0.1084
1	9.84	0.7500	-0.4430	0.0057	0.2105	0.0768	-2.1919	0.2815	-0.0747	0.1101
1	9.84	0.8001	-0.4837	0.0069	0.2188	0.0855	-2.5315	0.3164	-0.2832	0.1205
1	9.84	0.8497	-0.5199	0.0076	0.2180	0.0917	-2.8249	0.3525	-0.1382	0.1190
1	9.84	0.9102	-0.5895	0.0104	0.2348	0.1047	-3.2077	0.4004	-0.3834	0.1805
1	9.84	0.9734	-0.6498	0.0087	0.2207	0.1127	-3.6967	0.4523	-0.7856	0.1301
2	9.84	0.1949	0.0188	0.0047	-0.0102	0.0030	-0.0468	0.0077	-0.0817	0.0365
2	9.84	0.2405	0.0142	0.0021	-0.0141	0.0034	-0.0577	0.0119	-0.0631	0.1046
2	9.84	0.2999	-0.0345	0.0024	-0.0363	0.0093	-0.1965	0.0292	-0.1671	0.1072
2	9.84	0.3498	-0.0789	0.0024	-0.0726	0.0157	-0.3141	0.0515	-0.0888	0.0971
2	9.84	0.3998	-0.1280	0.0030	-0.1030	0.0231	-0.4939	0.0773	-0.1317	0.0938
2	9.84	0.4496	-0.1739	0.0029	-0.1490	0.0295	-0.6769	0.1049	-0.0614	0.0976
2	9.84	0.4995	-0.2466	0.0036	-0.1528	0.0363	-0.9374	0.1348	-0.2949	0.1031
2	9.84	0.5551	-0.2778	0.0036	-0.2051	0.0447	-1.1802	0.1689	-0.1269	0.0984
2	9.84	0.5996	-0.2993	0.0037	-0.2358	0.0506	-1.4233	0.1963	-0.1092	0.1055
2	9.84	0.6497	-0.3769	0.0043	-0.2631	0.0583	-1.7246	0.2258	-0.2030	0.1056
2	9.84	0.6996	-0.4059	0.0043	-0.2707	0.0651	-2.0232	0.2552	-0.2413	0.1114
2	9.84	0.7495	-0.4762	0.0053	-0.3196	0.0733	-2.3102	0.2874	-0.1230	0.1046
2	9.84	0.7996	-0.5087	0.0056	-0.3575	0.0803	-2.6394	0.3209	-0.3518	0.1157
2	9.84	0.8578	-0.5800	0.0077	-0.4195	0.0903	-2.9197	0.3606	-0.0375	0.1304
2	9.84	0.9727	-0.6215	0.0096	-0.4983	0.1073	-3.5273	0.4559	0.1479	0.1571
3	9.84	0.1938	0.0330	0.0054	0.0330	0.0028	-0.0277	0.0065	-0.0380	0.0351
3	9.84	0.2357	0.0795	0.0025	-0.0127	0.0028	-0.0736	0.0103	0.1169	0.0766
3	9.84	0.2995	-0.0189	0.0025	0.0787	0.0083	-0.1514	0.0251	0.0036	0.0894
3	9.84	0.3493	-0.0635	0.0026	0.1160	0.0149	-0.2528	0.0447	0.0913	0.0854
3	9.84	0.4000	-0.0707	0.0027	0.1642	0.0213	-0.4094	0.0680	0.2546	0.0899
3	9.84	0.4497	-0.1587	0.0025	0.1672	0.0269	-0.6063	0.0922	0.0902	0.0874
3	9.84	0.4997	-0.1943	0.0029	0.1819	0.0325	-0.8132	0.1157	0.1140	0.0890
3	9.84	0.5556	-0.2697	0.0030	0.1543	0.0394	-1.0980	0.1407	0.0835	0.0954
3	9.84	0.5995	-0.2900	0.0035	0.2661	0.0449	-1.3212	0.1588	0.1580	0.0939
3	9.84	0.6498	-0.3294	0.0037	0.2607	0.0511	-1.6509	0.1782	0.0646	0.1002
3	9.84	0.6890	-0.3701	0.0037	0.3530	0.0565	-1.8948	0.1935	0.1451	0.0971
3	9.84	0.7495	-0.3966	0.0044	0.3589	0.0636	-2.2854	0.2209	0.0836	0.0939
3	9.84	0.7998	-0.5015	0.0053	0.4108	0.0699	-2.6114	0.2476	-0.0543	0.1000
3	9.84	0.8577	-0.5467	0.0078	0.4176	0.0745	-2.9470	0.2827	-0.1394	0.1429
3	9.84	0.9729	-0.5365	0.0138	0.5296	0.0970	-3.7224	0.3777	-0.1775	0.3790
4	9.84	0.2001	0.0279	0.0037	0.0046	0.0021	-0.0587	0.0057	0.1023	0.0400
4	9.84	0.2502	0.0275	0.0021	0.0191	0.0039	-0.1086	0.0122	0.2783	0.0702
4	9.84	0.3001	-0.0153	0.0023	0.0419	0.0066	-0.2422	0.0224	0.2847	0.0890
4	9.84	0.3502	-0.0771	0.0022	0.0440	0.0123	-0.4073	0.0406	0.3866	0.0787
4	9.84	0.4002	-0.1176	0.0032	0.0944	0.0178	-0.6344	0.0616	0.2815	0.0796
4	9.84	0.4500	-0.1500	0.0031	0.1572	0.0216	-0.8933	0.0845	0.1559	0.0881
4	9.84	0.5001	-0.2149	0.0030	0.1830	0.0268	-1.1401	0.1091	0.4281	0.0925
4	9.84	0.5560	-0.2773	0.0035	0.2300	0.0324	-1.5285	0.1371	0.2246	0.0898
4	9.84	0.6001	-0.2865	0.0039	0.2599	0.0364	-1.8294	0.1620	0.2045	0.0876
4	9.84	0.6501	-0.3600	0.0049	0.3198	0.0409	-2.1852	0.1901	0.3447	0.0989
4	9.84	0.6999	-0.4103	0.0057	0.3547	0.0467	-2.5496	0.2218	0.3549	0.1003
4	9.84	0.7500	-0.4331	0.0065	0.3917	0.0511	-2.9268	0.2566	0.4064	0.0973
4	9.84	0.8002	-0.5040	0.0066	0.3586	0.0572	-3.3137	0.2953	0.2550	0.1161
4	9.84	0.8582	-0.5636	0.0091	0.3975	0.0623	-3.7306	0.3399	0.1015	0.1239
4	9.84	0.9101	-0.5830	0.0133	0.5179	0.0677	-4.0856	0.3808	0.2568	0.1526
4	9.84	0.9728	-0.5177	0.0109	0.5657	0.0760	-4.4736	0.4369	0.5886	0.1549

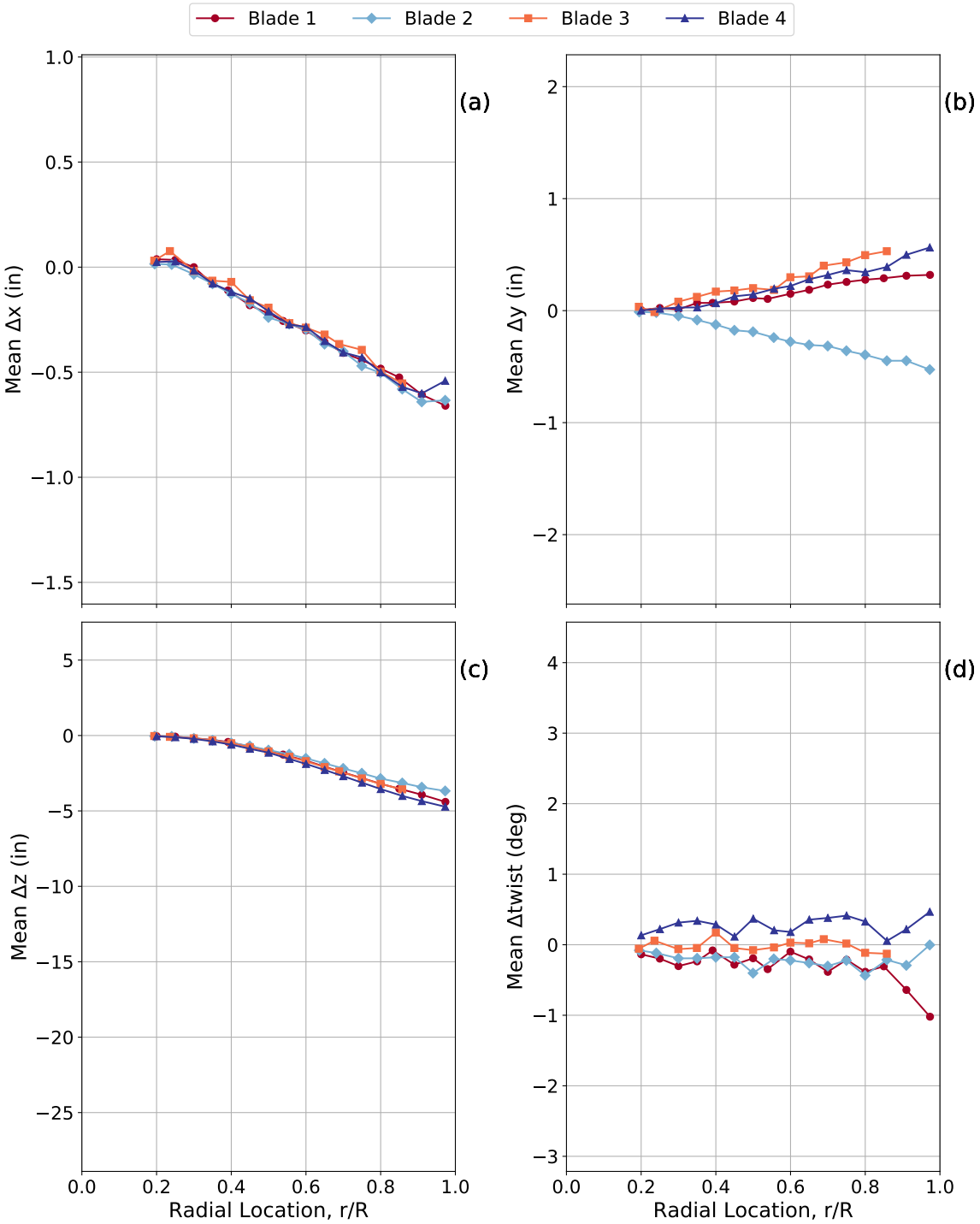


Figure 2.25-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-8. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0377	0.0046	0.0057	0.0025	-0.0431	0.0075	-0.1358	0.0428
1	15.12	0.2499	0.0343	0.0037	0.0237	0.0051	-0.0738	0.0137	-0.1968	0.0907
1	15.12	0.2998	-0.0001	0.0025	0.0111	0.0088	-0.1790	0.0292	-0.3027	0.0984
1	15.12	0.3498	-0.0800	0.0026	0.0689	0.0163	-0.2909	0.0506	-0.2360	0.0930
1	15.12	0.3913	-0.1107	0.0028	0.0692	0.0223	-0.4259	0.0718	-0.0808	0.0938
1	15.12	0.4496	-0.1814	0.0030	0.0812	0.0298	-0.7291	0.1022	-0.2827	0.0989
1	15.12	0.4997	-0.2209	0.0033	0.1127	0.0365	-0.9974	0.1307	-0.1919	0.0970
1	15.12	0.5387	-0.2561	0.0036	0.1048	0.0417	-1.2643	0.1532	-0.3460	0.0978
1	15.12	0.5996	-0.3014	0.0039	0.1508	0.0501	-1.6667	0.1908	-0.0982	0.1022
1	15.12	0.6498	-0.3567	0.0048	0.1860	0.0569	-2.0624	0.2247	-0.2087	0.0962
1	15.12	0.6998	-0.4081	0.0054	0.2322	0.0642	-2.4512	0.2607	-0.3842	0.1016
1	15.12	0.7500	-0.4419	0.0061	0.2562	0.0716	-2.8212	0.2993	-0.2127	0.1041
1	15.12	0.8001	-0.4829	0.0068	0.2759	0.0796	-3.2024	0.3374	-0.3834	0.1089
1	15.12	0.8497	-0.5248	0.0083	0.2893	0.0858	-3.5277	0.3758	-0.3065	0.1026
1	15.12	0.9102	-0.6067	0.0102	0.3115	0.0978	-3.9280	0.4228	-0.6411	0.1281
1	15.12	0.9734	-0.6594	0.0089	0.3192	0.1048	-4.3996	0.4721	-1.0206	0.1190
2	15.12	0.1949	0.0151	0.0046	-0.0119	0.0020	-0.0445	0.0069	-0.0796	0.0342
2	15.12	0.2405	0.0126	0.0023	-0.0165	0.0030	-0.0628	0.0109	-0.1176	0.0881
2	15.12	0.2999	-0.0341	0.0020	-0.0468	0.0068	-0.1907	0.0271	-0.1932	0.0944
2	15.12	0.3498	-0.0792	0.0028	-0.0834	0.0119	-0.3146	0.0472	-0.1922	0.0871
2	15.12	0.3998	-0.1273	0.0029	-0.1250	0.0177	-0.4912	0.0715	-0.1780	0.0877
2	15.12	0.4496	-0.1704	0.0029	-0.1755	0.0229	-0.6938	0.0978	-0.1771	0.0887
2	15.12	0.4995	-0.2394	0.0030	-0.1889	0.0284	-0.9695	0.1262	-0.4027	0.0915
2	15.12	0.5551	-0.2710	0.0039	-0.2405	0.0337	-1.2418	0.1580	-0.2014	0.0944
2	15.12	0.5996	-0.2953	0.0043	-0.2774	0.0397	-1.5141	0.1902	-0.2217	0.0996
2	15.12	0.6497	-0.3662	0.0048	-0.3065	0.0447	-1.8467	0.2282	-0.2592	0.1028
2	15.12	0.6996	-0.4007	0.0059	-0.3158	0.0501	-2.1811	0.2706	-0.3030	0.1014
2	15.12	0.7495	-0.4698	0.0070	-0.3585	0.0570	-2.5045	0.3219	-0.2222	0.1072
2	15.12	0.7996	-0.5029	0.0072	-0.3945	0.0644	-2.8516	0.3774	-0.4345	0.1081
2	15.12	0.8578	-0.5803	0.0117	-0.4474	0.0705	-3.1470	0.4378	-0.2139	0.1137
2	15.12	0.9100	-0.6411	0.0164	-0.4472	0.0751	-3.4262	0.4999	-0.2926	0.2122
2	15.12	0.9727	-0.6337	0.0134	-0.5263	0.0828	-3.6770	0.5746	-0.0029	0.1198
3	15.12	0.1938	0.0309	0.0039	0.0345	0.0022	-0.0348	0.0058	-0.0563	0.0402
3	15.12	0.2357	0.0763	0.0028	-0.0127	0.0028	-0.0903	0.0117	0.0576	0.0841
3	15.12	0.2995	-0.0179	0.0020	0.0798	0.0068	-0.1856	0.0252	-0.0624	0.1023
3	15.12	0.3493	-0.0644	0.0025	0.1229	0.0125	-0.3210	0.0440	-0.0461	0.0899
3	15.12	0.4000	-0.0703	0.0031	0.1700	0.0182	-0.5118	0.0688	0.1733	0.0869
3	15.12	0.4497	-0.1573	0.0035	0.1801	0.0229	-0.7713	0.0956	-0.0463	0.0901
3	15.12	0.4997	-0.1928	0.0038	0.2008	0.0286	-1.0517	0.1257	-0.0771	0.0945
3	15.12	0.5556	-0.2663	0.0042	0.1849	0.0336	-1.4127	0.1619	-0.0379	0.0945
3	15.12	0.5995	-0.2878	0.0049	0.2982	0.0390	-1.7014	0.1914	0.0301	0.0953
3	15.12	0.6498	-0.3207	0.0055	0.3061	0.0443	-2.0934	0.2240	0.0202	0.0909
3	15.12	0.6890	-0.3659	0.0063	0.4015	0.0484	-2.3834	0.2507	0.0787	0.1010
3	15.12	0.7495	-0.3937	0.0066	0.4313	0.0554	-2.8422	0.2961	0.0174	0.0979
3	15.12	0.7998	-0.4974	0.0068	0.4959	0.0628	-3.2093	0.3375	-0.1139	0.1025
3	15.12	0.8577	-0.5532	0.0094	0.5309	0.0666	-3.5707	0.3858	-0.1275	0.1221
4	15.12	0.2001	0.0243	0.0030	0.0013	0.0020	-0.0523	0.0071	0.1332	0.0443
4	15.12	0.2502	0.0274	0.0023	0.0174	0.0031	-0.1128	0.0133	0.2212	0.0777
4	15.12	0.3001	-0.0160	0.0024	0.0278	0.0063	-0.2245	0.0268	0.3139	0.1009
4	15.12	0.3502	-0.0782	0.0026	0.0286	0.0108	-0.3906	0.0484	0.3392	0.0869
4	15.12	0.4002	-0.1183	0.0031	0.0667	0.0157	-0.6081	0.0728	0.2863	0.0907
4	15.12	0.4500	-0.1490	0.0036	0.1278	0.0202	-0.8810	0.1017	0.1155	0.0899
4	15.12	0.5001	-0.2108	0.0037	0.1450	0.0246	-1.1411	0.1331	0.3693	0.0881
4	15.12	0.5560	-0.2726	0.0049	0.1953	0.0293	-1.5585	0.1691	0.2051	0.0969
4	15.12	0.6001	-0.2846	0.0053	0.2205	0.0337	-1.8859	0.2011	0.1806	0.0953
4	15.12	0.6501	-0.3517	0.0059	0.2807	0.0384	-2.2842	0.2395	0.3558	0.0979
4	15.12	0.6999	-0.4059	0.0064	0.3183	0.0434	-2.6969	0.2803	0.3803	0.1017
4	15.12	0.7500	-0.4296	0.0075	0.3616	0.0489	-3.1266	0.3265	0.4126	0.0981
4	15.12	0.8002	-0.5005	0.0082	0.3433	0.0552	-3.5511	0.3765	0.3282	0.1074
4	15.12	0.8582	-0.5697	0.0123	0.3902	0.0600	-4.0071	0.4346	0.0549	0.1112
4	15.12	0.9101	-0.6008	0.0154	0.4985	0.0672	-4.3481	0.4972	0.2186	0.1393
4	15.12	0.9728	-0.5409	0.0151	0.5637	0.0698	-4.7223	0.5609	0.4669	0.1295

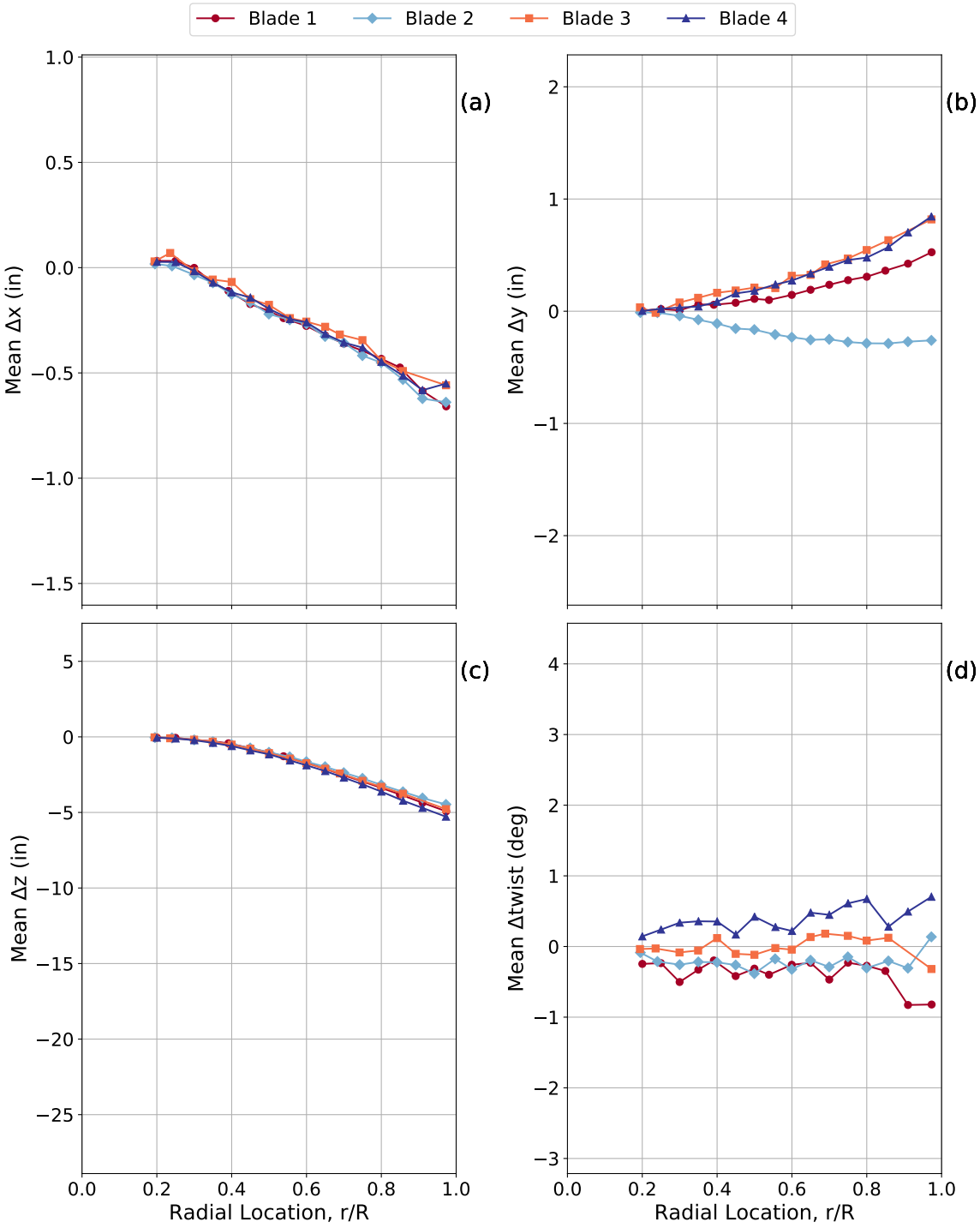


Figure 2.25-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-9. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0320	0.0041	0.0053	0.0020	-0.0475	0.0075	-0.2462	0.0446
1	29.88	0.2499	0.0318	0.0035	0.0199	0.0033	-0.0613	0.0135	-0.2354	0.0966
1	29.88	0.2998	-0.0011	0.0024	0.0076	0.0072	-0.1881	0.0304	-0.5025	0.1075
1	29.88	0.3498	-0.0718	0.0029	0.0610	0.0125	-0.2904	0.0512	-0.3278	0.1033
1	29.88	0.3913	-0.1107	0.0030	0.0574	0.0173	-0.4253	0.0738	-0.1975	0.1040
1	29.88	0.4496	-0.1729	0.0036	0.0753	0.0237	-0.7433	0.1105	-0.4184	0.1066
1	29.88	0.4997	-0.2063	0.0037	0.1101	0.0295	-1.0237	0.1470	-0.3131	0.1031
1	29.88	0.5387	-0.2397	0.0039	0.1000	0.0339	-1.2818	0.1767	-0.3995	0.1069
1	29.88	0.5996	-0.2768	0.0047	0.1455	0.0414	-1.7115	0.2271	-0.2583	0.1070
1	29.88	0.6498	-0.3218	0.0051	0.1910	0.0475	-2.1127	0.2688	-0.2310	0.1074
1	29.88	0.6998	-0.3611	0.0062	0.2359	0.0531	-2.5459	0.3112	-0.4680	0.1066
1	29.88	0.7500	-0.3950	0.0072	0.2770	0.0587	-2.9513	0.3555	-0.2294	0.1109
1	29.88	0.8001	-0.4332	0.0086	0.3073	0.0647	-3.3803	0.4008	-0.2733	0.1093
1	29.88	0.8497	-0.4743	0.0099	0.3615	0.0706	-3.8099	0.4471	-0.3461	0.1125
1	29.88	0.9102	-0.5861	0.0111	0.4239	0.0780	-4.3589	0.5051	-0.8275	0.1095
1	29.88	0.9734	-0.6590	0.0112	0.5258	0.0862	-4.9254	0.5698	-0.8210	0.1196
2	29.88	0.1949	0.0176	0.0047	-0.0119	0.0019	-0.0453	0.0070	-0.0862	0.0303
2	29.88	0.2405	0.0080	0.0025	-0.0124	0.0029	-0.0694	0.0140	-0.2128	0.0714
2	29.88	0.2999	-0.0341	0.0024	-0.0413	0.0058	-0.1983	0.0307	-0.2575	0.0797
2	29.88	0.3498	-0.0721	0.0031	-0.0761	0.0112	-0.3247	0.0540	-0.2184	0.0740
2	29.88	0.3998	-0.1266	0.0038	-0.1099	0.0158	-0.5104	0.0833	-0.2241	0.0750
2	29.88	0.4496	-0.1637	0.0043	-0.1543	0.0208	-0.7373	0.1170	-0.2622	0.0681
2	29.88	0.4995	-0.2205	0.0046	-0.1639	0.0256	-1.0242	0.1560	-0.3836	0.0738
2	29.88	0.5551	-0.2478	0.0048	-0.2077	0.0317	-1.3222	0.2035	-0.1749	0.0723
2	29.88	0.5996	-0.2670	0.0060	-0.2316	0.0366	-1.6379	0.2457	-0.3238	0.0724
2	29.88	0.6497	-0.3270	0.0061	-0.2549	0.0423	-1.9758	0.2959	-0.1941	0.0783
2	29.88	0.6996	-0.3567	0.0080	-0.2502	0.0480	-2.3712	0.3456	-0.2892	0.0874
2	29.88	0.7495	-0.4178	0.0073	-0.2744	0.0544	-2.7451	0.4039	-0.1469	0.0828
2	29.88	0.7996	-0.4512	0.0095	-0.2859	0.0607	-3.1747	0.4619	-0.3049	0.0783
2	29.88	0.8578	-0.5315	0.0123	-0.2873	0.0681	-3.6354	0.5334	-0.2048	0.0871
2	29.88	0.9100	-0.6220	0.0130	-0.2714	0.0738	-4.0470	0.6024	-0.3064	0.1053
2	29.88	0.9727	-0.6393	0.0154	-0.2599	0.0816	-4.4701	0.6832	0.1365	0.0947
3	29.88	0.1938	0.0296	0.0035	0.0343	0.0019	-0.0318	0.0077	-0.0362	0.0276
3	29.88	0.2357	0.0696	0.0028	-0.0139	0.0026	-0.0920	0.0122	-0.0279	0.0614
3	29.88	0.2995	-0.0170	0.0021	0.0778	0.0058	-0.1837	0.0313	-0.0840	0.0717
3	29.88	0.3493	-0.0566	0.0020	0.1195	0.0104	-0.3185	0.0546	-0.0563	0.0672
3	29.88	0.4000	-0.0680	0.0030	0.1642	0.0153	-0.5123	0.0840	0.1190	0.0680
3	29.88	0.4497	-0.1498	0.0031	0.1847	0.0199	-0.7831	0.1177	-0.1038	0.0697
3	29.88	0.4997	-0.1768	0.0036	0.2107	0.0254	-1.0749	0.1561	-0.1170	0.0698
3	29.88	0.5556	-0.2397	0.0042	0.2063	0.0312	-1.4370	0.2008	-0.0225	0.0729
3	29.88	0.5995	-0.2563	0.0052	0.3156	0.0370	-1.7437	0.2401	-0.0441	0.0704
3	29.88	0.6498	-0.2810	0.0052	0.3240	0.0413	-2.1069	0.2820	0.1337	0.0716
3	29.88	0.6890	-0.3177	0.0062	0.4170	0.0457	-2.4188	0.3174	0.1815	0.0727
3	29.88	0.7495	-0.3445	0.0068	0.4695	0.0532	-2.9093	0.3734	0.1510	0.0746
3	29.88	0.7998	-0.4409	0.0075	0.5448	0.0594	-3.3041	0.4247	0.0834	0.0707
3	29.88	0.8577	-0.4910	0.0098	0.6327	0.0652	-3.7607	0.4790	0.1235	0.0856
3	29.88	0.9729	-0.5586	0.0163	0.8183	0.0773	-4.7799	0.6069	-0.3185	0.1365
4	29.88	0.2001	0.0274	0.0031	0.0030	0.0019	-0.0552	0.0083	0.1433	0.0290
4	29.88	0.2502	0.0263	0.0024	0.0211	0.0040	-0.1087	0.0172	0.2395	0.0628
4	29.88	0.3001	-0.0165	0.0023	0.0328	0.0072	-0.2240	0.0340	0.3372	0.0688
4	29.88	0.3502	-0.0714	0.0024	0.0421	0.0130	-0.3988	0.0604	0.3570	0.0617
4	29.88	0.4002	-0.1175	0.0031	0.0842	0.0195	-0.6091	0.0926	0.3537	0.0669
4	29.88	0.4500	-0.1425	0.0041	0.1584	0.0262	-0.8951	0.1326	0.1687	0.0658
4	29.88	0.5001	-0.1960	0.0049	0.1823	0.0334	-1.1566	0.1787	0.4219	0.0662
4	29.88	0.5560	-0.2442	0.0053	0.2382	0.0423	-1.5640	0.2379	0.2756	0.0645
4	29.88	0.6001	-0.2600	0.0065	0.2731	0.0490	-1.8839	0.2872	0.2198	0.0658
4	29.88	0.6501	-0.3154	0.0069	0.3359	0.0577	-2.2635	0.3513	0.4789	0.0679
4	29.88	0.6999	-0.3560	0.0085	0.3966	0.0662	-2.7009	0.4148	0.4480	0.0651
4	29.88	0.7500	-0.3799	0.0083	0.4560	0.0755	-3.1432	0.4883	0.6106	0.0701
4	29.88	0.8002	-0.4475	0.0108	0.4781	0.0847	-3.6217	0.5645	0.6729	0.0697
4	29.88	0.8582	-0.5134	0.0146	0.5713	0.0946	-4.2259	0.6544	0.2804	0.0697
4	29.88	0.9101	-0.5821	0.0147	0.7023	0.1050	-4.7018	0.7425	0.4941	0.0724
4	29.88	0.9728	-0.5508	0.0166	0.8440	0.1148	-5.2824	0.8438	0.7034	0.0890

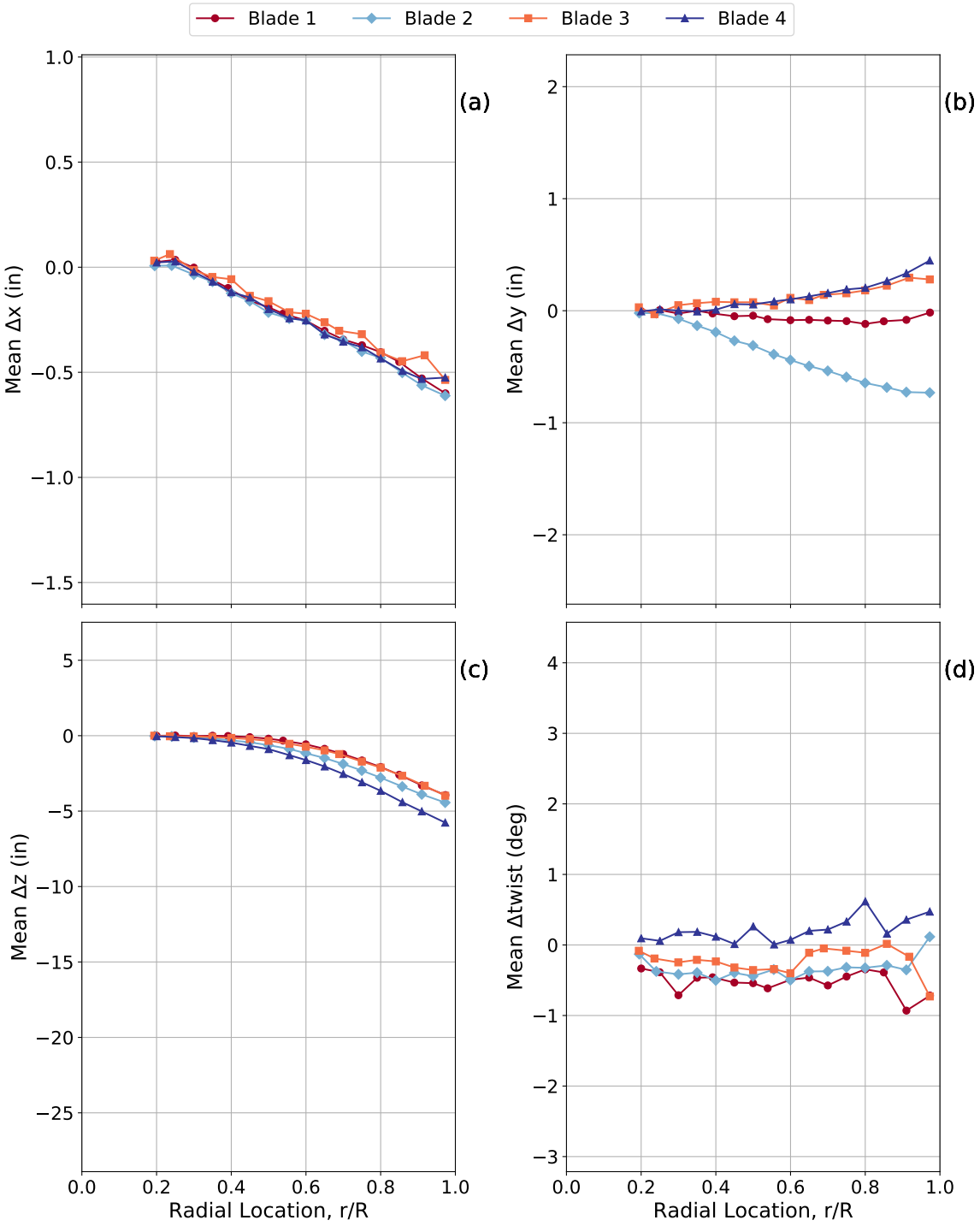


Figure 2.25-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-10. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0247	0.0047	-0.0039	0.0031	-0.0062	0.0087	-0.3335	0.0508
1	45	0.2499	0.0351	0.0026	0.0057	0.0041	0.0114	0.0138	-0.3868	0.1278
1	45	0.2998	-0.0020	0.0021	-0.0250	0.0103	-0.0267	0.0327	-0.7124	0.1322
1	45	0.3498	-0.0605	0.0030	0.0001	0.0182	-0.0018	0.0559	-0.4650	0.1279
1	45	0.3913	-0.0989	0.0032	-0.0245	0.0243	-0.0219	0.0786	-0.4584	0.1275
1	45	0.4496	-0.1595	0.0035	-0.0490	0.0331	-0.0965	0.1135	-0.5331	0.1262
1	45	0.4997	-0.1904	0.0035	-0.0442	0.0413	-0.1993	0.1476	-0.5415	0.1276
1	45	0.5387	-0.2208	0.0035	-0.0753	0.0475	-0.3271	0.1755	-0.6147	0.1280
1	45	0.5996	-0.2536	0.0037	-0.0844	0.0580	-0.5726	0.2203	-0.4929	0.1292
1	45	0.6498	-0.3027	0.0047	-0.0813	0.0668	-0.8718	0.2594	-0.4627	0.1308
1	45	0.6998	-0.3442	0.0044	-0.0878	0.0751	-1.2242	0.2982	-0.5740	0.1348
1	45	0.7500	-0.3712	0.0050	-0.0927	0.0842	-1.6420	0.3385	-0.4477	0.1308
1	45	0.8001	-0.4044	0.0067	-0.1178	0.0927	-2.0774	0.3794	-0.3457	0.1302
1	45	0.8497	-0.4504	0.0079	-0.0942	0.1018	-2.5908	0.4213	-0.3894	0.1352
1	45	0.9102	-0.5292	0.0094	-0.0816	0.1126	-3.2946	0.4727	-0.9305	0.1341
1	45	0.9734	-0.6001	0.0097	-0.0165	0.1243	-3.9377	0.5305	-0.7170	0.1345
2	45	0.1949	0.0067	0.0037	-0.0208	0.0023	-0.0227	0.0067	-0.1298	0.0383
2	45	0.2405	0.0079	0.0027	-0.0218	0.0024	-0.0506	0.0112	-0.3751	0.0875
2	45	0.2999	-0.0350	0.0021	-0.0713	0.0071	-0.1224	0.0263	-0.4162	0.1019
2	45	0.3498	-0.0690	0.0021	-0.1332	0.0123	-0.1905	0.0465	-0.3921	0.0972
2	45	0.3998	-0.1237	0.0030	-0.1910	0.0179	-0.3157	0.0704	-0.5026	0.0955
2	45	0.4496	-0.1610	0.0032	-0.2684	0.0232	-0.4379	0.0975	-0.3948	0.1005
2	45	0.4995	-0.2154	0.0035	-0.3107	0.0289	-0.6284	0.1282	-0.4428	0.1013
2	45	0.5551	-0.2445	0.0040	-0.3891	0.0350	-0.8784	0.1655	-0.3482	0.1005
2	45	0.5996	-0.2516	0.0046	-0.4401	0.0403	-1.1630	0.1985	-0.4984	0.0997
2	45	0.6497	-0.3208	0.0051	-0.4948	0.0461	-1.4818	0.2385	-0.3757	0.0992
2	45	0.6996	-0.3486	0.0063	-0.5371	0.0527	-1.8760	0.2811	-0.3729	0.1041
2	45	0.7495	-0.4011	0.0072	-0.5920	0.0583	-2.3096	0.3266	-0.3172	0.0991
2	45	0.7996	-0.4308	0.0082	-0.6449	0.0645	-2.7818	0.3754	-0.3241	0.0969
2	45	0.8578	-0.5021	0.0096	-0.6847	0.0712	-3.3714	0.4316	-0.2888	0.1032
2	45	0.9100	-0.5617	0.0107	-0.7266	0.0779	-3.8888	0.4843	-0.3531	0.0990
2	45	0.9727	-0.6114	0.0105	-0.7317	0.0853	-4.4337	0.5457	0.1163	0.1005
3	45	0.1938	0.0309	0.0036	0.0304	0.0023	-0.0015	0.0060	-0.0823	0.0395
3	45	0.2357	0.0623	0.0027	-0.0308	0.0023	-0.0391	0.0100	-0.1922	0.0864
3	45	0.2995	-0.0140	0.0023	0.0491	0.0068	-0.0509	0.0230	-0.2469	0.1009
3	45	0.3493	-0.0465	0.0027	0.0671	0.0114	-0.0838	0.0410	-0.2107	0.0906
3	45	0.4000	-0.0573	0.0032	0.0795	0.0168	-0.1507	0.0623	-0.2337	0.0922
3	45	0.4497	-0.1363	0.0030	0.0752	0.0214	-0.2277	0.0863	-0.3197	0.0923
3	45	0.4997	-0.1617	0.0027	0.0757	0.0264	-0.3423	0.1130	-0.3561	0.0917
3	45	0.5556	-0.2144	0.0032	0.0468	0.0319	-0.5387	0.1449	-0.3423	0.0935
3	45	0.5995	-0.2213	0.0035	0.1145	0.0372	-0.7302	0.1716	-0.4004	0.0970
3	45	0.6498	-0.2620	0.0035	0.0951	0.0417	-0.9732	0.2042	-0.1101	0.0946
3	45	0.6890	-0.3025	0.0042	0.1414	0.0467	-1.2202	0.2312	-0.0485	0.0951
3	45	0.7495	-0.3186	0.0048	0.1558	0.0537	-1.7143	0.2775	-0.0813	0.0998
3	45	0.7998	-0.4066	0.0054	0.1814	0.0590	-2.1155	0.3198	-0.1108	0.1005
3	45	0.8577	-0.4473	0.0063	0.2237	0.0655	-2.6590	0.3690	0.0155	0.1042
3	45	0.9178	-0.4189	0.0162	0.2951	0.0745	-3.3219	0.4233	-0.1671	0.1107
3	45	0.9729	-0.5361	0.0077	0.2793	0.0786	-3.9794	0.4696	-0.7299	0.1221
4	45	0.2001	0.0226	0.0029	-0.0055	0.0015	-0.0362	0.0055	0.0945	0.0326
4	45	0.2502	0.0275	0.0026	0.0122	0.0025	-0.0935	0.0114	0.0583	0.0604
4	45	0.3001	-0.0221	0.0020	0.0015	0.0050	-0.1614	0.0223	0.1813	0.0738
4	45	0.3502	-0.0685	0.0018	-0.0066	0.0088	-0.2961	0.0389	0.1855	0.0576
4	45	0.4002	-0.1190	0.0025	0.0092	0.0128	-0.4582	0.0600	0.1175	0.0632
4	45	0.4500	-0.1442	0.0026	0.0588	0.0171	-0.6776	0.0850	0.0129	0.0659
4	45	0.5001	-0.1991	0.0034	0.0559	0.0220	-0.8907	0.1138	0.2630	0.0643
4	45	0.5560	-0.2431	0.0041	0.0832	0.0276	-1.2960	0.1496	0.0067	0.0636
4	45	0.6001	-0.2532	0.0054	0.1012	0.0323	-1.6175	0.1820	0.0730	0.0675
4	45	0.6501	-0.3199	0.0055	0.1285	0.0375	-2.0416	0.2193	0.1995	0.0636
4	45	0.6999	-0.3541	0.0068	0.1572	0.0434	-2.5379	0.2618	0.2183	0.0637
4	45	0.7500	-0.3810	0.0082	0.1900	0.0494	-3.0897	0.3079	0.3314	0.0630
4	45	0.8002	-0.4341	0.0094	0.2042	0.0548	-3.6563	0.3561	0.6169	0.0676
4	45	0.8582	-0.4934	0.0112	0.2647	0.0614	-4.4095	0.4115	0.1600	0.0693
4	45	0.9101	-0.5316	0.0126	0.3339	0.0681	-5.0196	0.4638	0.3582	0.0716
4	45	0.9728	-0.5252	0.0119	0.4477	0.0753	-5.7642	0.5266	0.4723	0.0711

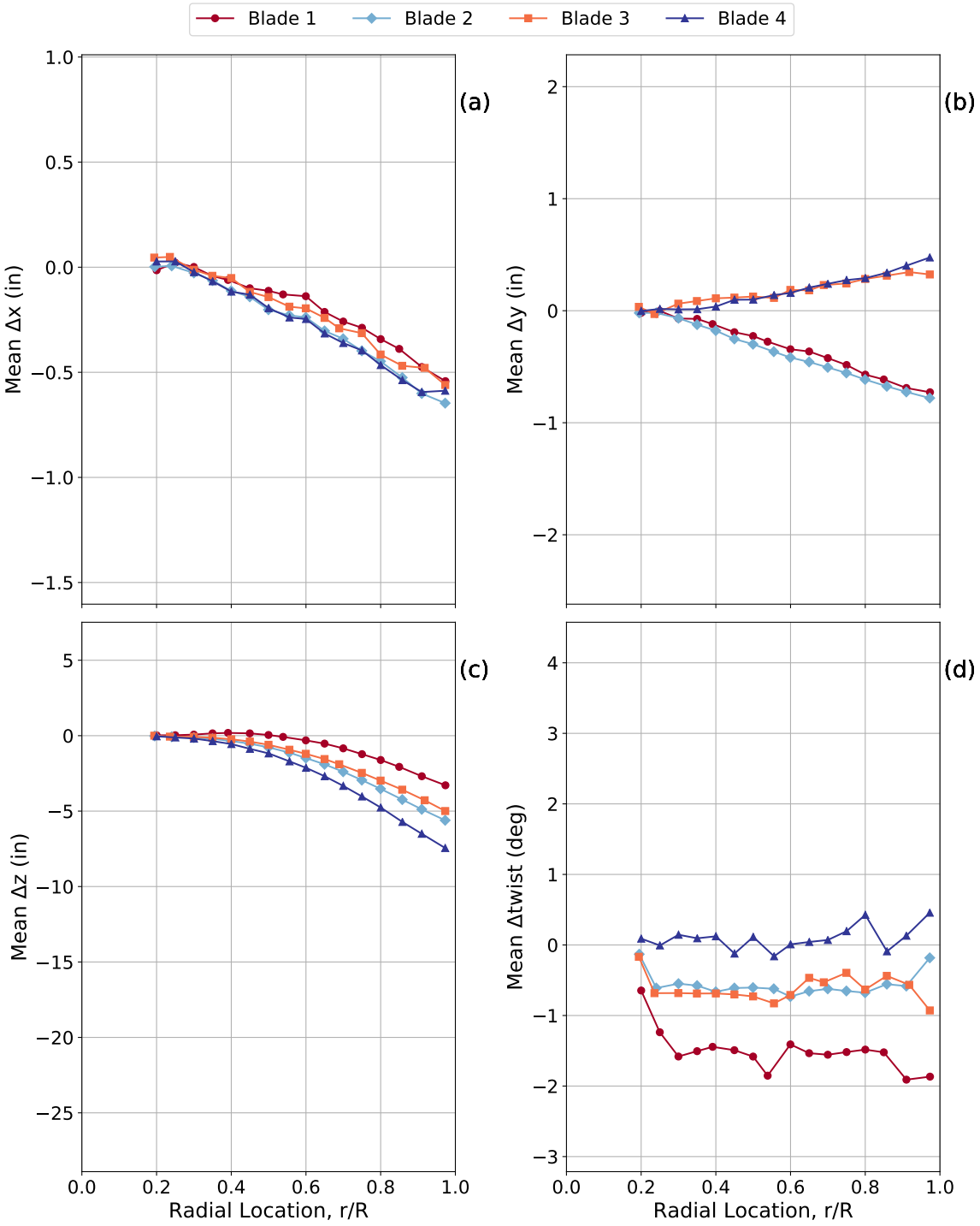


Figure 2.25-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-11. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0145	0.0106	-0.0187	0.0075	0.0258	0.0187	-0.6459	0.1210
1	60.12	0.2499	0.0215	0.0040	-0.0015	0.0087	0.0291	0.0214	-1.2373	0.3362
1	60.12	0.2998	0.0012	0.0097	-0.0697	0.0261	0.0715	0.0631	-1.5812	0.3382
1	60.12	0.3498	-0.0421	0.0174	-0.0728	0.0442	0.1538	0.1062	-1.5055	0.3354
1	60.12	0.3913	-0.0605	0.0240	-0.1195	0.0605	0.1845	0.1448	-1.4440	0.3381
1	60.12	0.4496	-0.1001	0.0319	-0.1916	0.0841	0.1532	0.1993	-1.4917	0.3426
1	60.12	0.4997	-0.1123	0.0384	-0.2261	0.1052	0.0466	0.2485	-1.5820	0.3437
1	60.12	0.5387	-0.1295	0.0189	-0.2762	0.1397	-0.0804	0.3374	-1.8531	0.5056
1	60.12	0.5996	-0.1380	0.0516	-0.3441	0.1508	-0.3101	0.3518	-1.4097	0.3408
1	60.12	0.6498	-0.2128	0.0355	-0.3638	0.1976	-0.5262	0.2699	-1.5342	0.3199
1	60.12	0.6998	-0.2585	0.0361	-0.4230	0.2209	-0.8396	0.3132	-1.5560	0.3193
1	60.12	0.7500	-0.2882	0.0363	-0.4844	0.2449	-1.2245	0.3581	-1.5183	0.3154
1	60.12	0.8001	-0.3421	0.0368	-0.5706	0.2686	-1.6124	0.4042	-1.4834	0.3143
1	60.12	0.8497	-0.3886	0.0374	-0.6136	0.2923	-2.0666	0.4481	-1.5219	0.3211
1	60.12	0.9102	-0.4748	0.0380	-0.6898	0.3219	-2.6887	0.5044	-1.9096	0.3230
1	60.12	0.9734	-0.5421	0.0320	-0.7279	0.3529	-3.2885	0.5658	-1.8669	0.3224
2	60.12	0.1949	0.0020	0.0039	-0.0198	0.0023	-0.0183	0.0073	-0.1308	0.0417
2	60.12	0.2405	0.0063	0.0027	-0.0194	0.0027	-0.0724	0.0117	-0.6109	0.1025
2	60.12	0.2999	-0.0273	0.0024	-0.0669	0.0071	-0.1288	0.0282	-0.5486	0.1137
2	60.12	0.3498	-0.0635	0.0027	-0.1242	0.0123	-0.2086	0.0480	-0.5761	0.1059
2	60.12	0.3998	-0.1125	0.0032	-0.1777	0.0179	-0.3524	0.0734	-0.6637	0.1039
2	60.12	0.4496	-0.1409	0.0038	-0.2521	0.0232	-0.5330	0.0995	-0.6104	0.1086
2	60.12	0.4995	-0.2023	0.0044	-0.2988	0.0289	-0.7702	0.1289	-0.6041	0.1110
2	60.12	0.5551	-0.2290	0.0040	-0.3656	0.0355	-1.1199	0.1613	-0.6214	0.1107
2	60.12	0.5996	-0.2384	0.0042	-0.4182	0.0411	-1.4807	0.1880	-0.7324	0.1097
2	60.12	0.6497	-0.3030	0.0042	-0.4573	0.0474	-1.8974	0.2172	-0.6550	0.1110
2	60.12	0.6996	-0.3405	0.0041	-0.5059	0.0539	-2.3912	0.2467	-0.6223	0.1103
2	60.12	0.7495	-0.3979	0.0049	-0.5555	0.0605	-2.9443	0.2749	-0.6521	0.1095
2	60.12	0.7996	-0.4477	0.0059	-0.6142	0.0670	-3.5224	0.3036	-0.6771	0.1110
2	60.12	0.8578	-0.5250	0.0071	-0.6749	0.0746	-4.2359	0.3358	-0.5559	0.1157
2	60.12	0.9100	-0.6009	0.0079	-0.7249	0.0823	-4.8813	0.3655	-0.5829	0.1107
2	60.12	0.9727	-0.6467	0.0082	-0.7796	0.0913	-5.6087	0.4020	-0.1827	0.1123
3	60.12	0.1938	0.0458	0.0071	0.0343	0.0038	-0.0019	0.0088	-0.1678	0.0395
3	60.12	0.2357	0.0488	0.0030	-0.0295	0.0024	-0.0637	0.0097	-0.6833	0.1360
3	60.12	0.2995	-0.0123	0.0022	0.0629	0.0111	-0.0773	0.0294	-0.6821	0.1319
3	60.12	0.3493	-0.0410	0.0022	0.0863	0.0189	-0.1345	0.0505	-0.6881	0.1311
3	60.12	0.4000	-0.0516	0.0029	0.1107	0.0274	-0.2370	0.0756	-0.6872	0.1352
3	60.12	0.4497	-0.1177	0.0035	0.1172	0.0352	-0.3891	0.1022	-0.7014	0.1303
3	60.12	0.4997	-0.1421	0.0034	0.1263	0.0436	-0.6045	0.1318	-0.7294	0.1344
3	60.12	0.5556	-0.1878	0.0037	0.1145	0.0529	-0.9307	0.1649	-0.8280	0.1373
3	60.12	0.5995	-0.1957	0.0037	0.1856	0.0606	-1.2010	0.1910	-0.7090	0.1331
3	60.12	0.6498	-0.2411	0.0041	0.1821	0.0694	-1.5493	0.2212	-0.4661	0.1349
3	60.12	0.6890	-0.2906	0.0044	0.2293	0.0764	-1.8946	0.2448	-0.5294	0.1353
3	60.12	0.7495	-0.3137	0.0051	0.2432	0.0876	-2.4656	0.2829	-0.3950	0.1325
3	60.12	0.7998	-0.4154	0.0057	0.2835	0.0967	-2.9771	0.3159	-0.6320	0.1347
3	60.12	0.8577	-0.4691	0.0070	0.3130	0.1077	-3.5794	0.3553	-0.4379	0.1374
3	60.12	0.9178	-0.4790	0.0078	0.3451	0.1190	-4.2812	0.3982	-0.5650	0.1408
3	60.12	0.9729	-0.5603	0.0079	0.3235	0.1294	-4.9942	0.4375	-0.9280	0.1446
4	60.12	0.2001	0.0271	0.0033	-0.0024	0.0018	-0.0423	0.0063	0.0894	0.0414
4	60.12	0.2502	0.0276	0.0023	0.0163	0.0032	-0.1179	0.0118	-0.0069	0.0850
4	60.12	0.3001	-0.0236	0.0023	0.0117	0.0062	-0.1910	0.0241	0.1446	0.0983
4	60.12	0.3502	-0.0671	0.0026	0.0132	0.0111	-0.3606	0.0435	0.0946	0.0887
4	60.12	0.4002	-0.1160	0.0030	0.0371	0.0165	-0.5551	0.0654	0.1226	0.0866
4	60.12	0.4500	-0.1308	0.0031	0.0978	0.0213	-0.8726	0.0895	-0.1224	0.0844
4	60.12	0.5001	-0.1949	0.0040	0.0991	0.0267	-1.1756	0.1150	0.1141	0.0874
4	60.12	0.5560	-0.2392	0.0039	0.1396	0.0332	-1.7028	0.1446	-0.1608	0.0906
4	60.12	0.6001	-0.2465	0.0042	0.1588	0.0383	-2.1290	0.1686	0.0090	0.0885
4	60.12	0.6501	-0.3153	0.0046	0.2068	0.0441	-2.6889	0.1961	0.0425	0.0879
4	60.12	0.6999	-0.3608	0.0058	0.2404	0.0503	-3.3295	0.2245	0.0706	0.0887
4	60.12	0.7500	-0.3960	0.0070	0.2734	0.0565	-4.0299	0.2551	0.1951	0.0896
4	60.12	0.8002	-0.4657	0.0083	0.2908	0.0631	-4.7634	0.2878	0.4265	0.0902
4	60.12	0.8582	-0.5373	0.0104	0.3393	0.0704	-5.7170	0.3297	-0.0906	0.0946
4	60.12	0.9101	-0.5939	0.0120	0.4019	0.0769	-6.5035	0.3707	0.1308	0.0919
4	60.12	0.9728	-0.5877	0.0131	0.4752	0.0849	-7.4478	0.4239	0.4572	0.0979

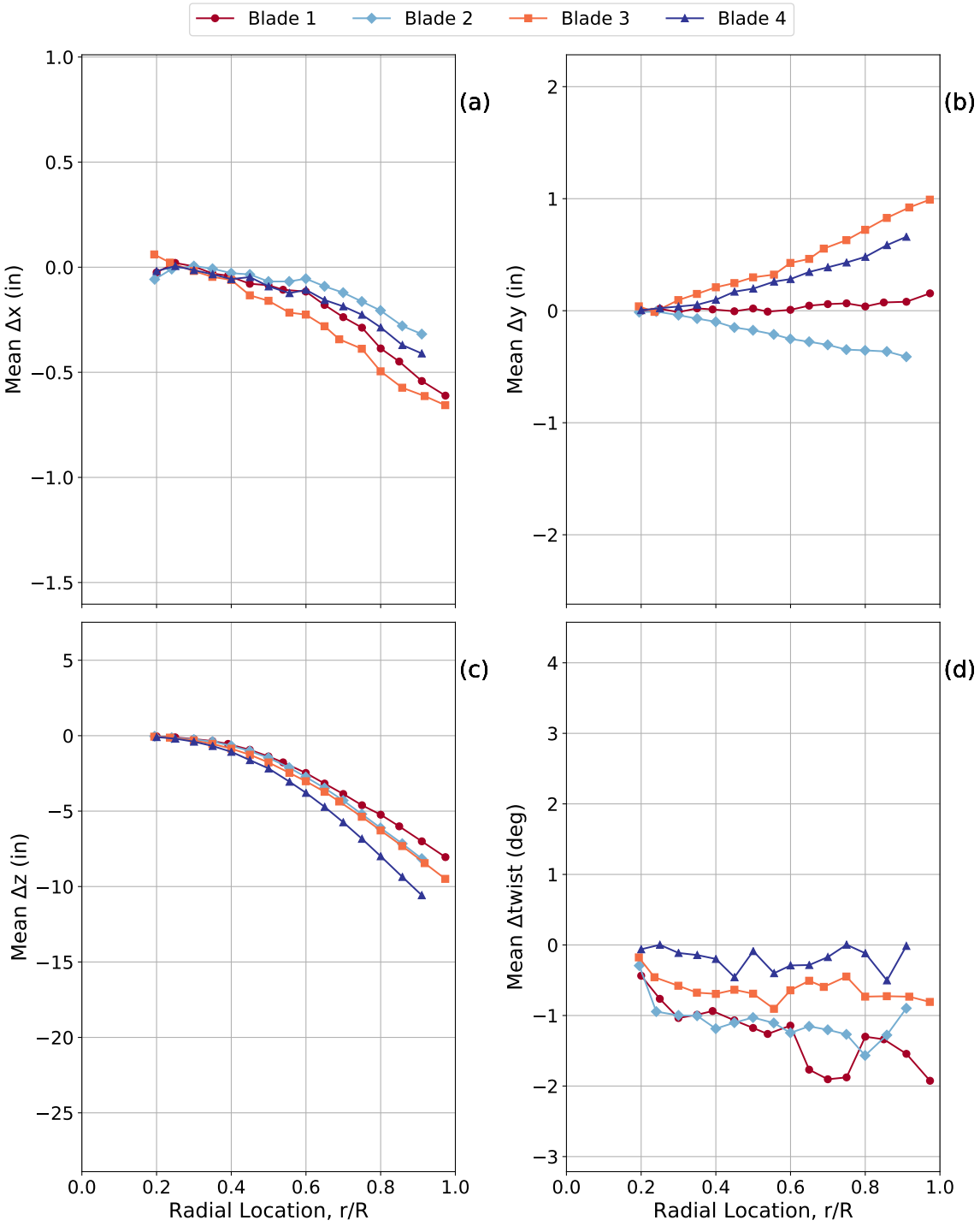


Figure 2.25-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-12. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0246	0.0079	-0.0028	0.0063	-0.0458	0.0139	-0.4363	0.1100
1	74.88	0.2499	0.0204	0.0046	0.0171	0.0085	-0.1111	0.0204	-0.7635	0.2652
1	74.88	0.2998	0.0039	0.0054	-0.0125	0.0223	-0.2229	0.0499	-1.0356	0.2880
1	74.88	0.3498	-0.0300	0.0107	0.0208	0.0380	-0.3559	0.0877	-0.9894	0.2787
1	74.88	0.3913	-0.0405	0.0153	0.0116	0.0524	-0.5465	0.1204	-0.9367	0.2808
1	74.88	0.4496	-0.0788	0.0230	-0.0048	0.0736	-0.9356	0.1690	-1.0684	0.2803
1	74.88	0.4997	-0.0857	0.0286	0.0197	0.0928	-1.3780	0.2124	-1.1764	0.2838
1	74.88	0.5387	-0.1072	0.0332	-0.0082	0.1090	-1.7687	0.2472	-1.2614	0.2812
1	74.88	0.5996	-0.1159	0.0379	0.0078	0.1348	-2.4724	0.2999	-1.1438	0.2866
1	74.88	0.6498	-0.1796	0.0254	0.0452	0.1744	-3.1738	0.3850	-1.7677	0.6730
1	74.88	0.6998	-0.2376	0.0209	0.0589	0.2103	-3.8645	0.3918	-1.9040	0.7345
1	74.88	0.7500	-0.2876	0.0234	0.0659	0.2320	-4.6108	0.4379	-1.8771	0.8046
1	74.88	0.8001	-0.3865	0.0320	0.0379	0.2682	-5.2375	0.3919	-1.3004	0.2939
1	74.88	0.8497	-0.4488	0.0337	0.0737	0.2916	-6.0087	0.4329	-1.3377	0.2909
1	74.88	0.9102	-0.5415	0.0357	0.0800	0.3203	-7.0026	0.4831	-1.5435	0.2931
1	74.88	0.9734	-0.6110	0.0319	0.1550	0.3496	-8.0492	0.5360	-1.9254	0.3011
2	74.88	0.1949	-0.0577	0.0205	-0.0133	0.0029	-0.0378	0.0104	-0.2934	0.0518
2	74.88	0.2405	-0.0089	0.0062	-0.0068	0.0028	-0.1321	0.0101	-0.9447	0.1584
2	74.88	0.2999	0.0054	0.0084	-0.0397	0.0088	-0.2517	0.0328	-0.9981	0.1595
2	74.88	0.3498	-0.0072	0.0159	-0.0704	0.0153	-0.3945	0.0563	-1.0038	0.1511
2	74.88	0.3998	-0.0282	0.0223	-0.0987	0.0219	-0.6711	0.0816	-1.1868	0.1530
2	74.88	0.4496	-0.0344	0.0267	-0.1497	0.0289	-1.0197	0.1088	-1.1014	0.1559
2	74.88	0.4995	-0.0681	0.0296	-0.1745	0.0365	-1.4665	0.1379	-1.0284	0.1530
2	74.88	0.5551	-0.0678	0.0307	-0.2114	0.0453	-2.1185	0.1716	-1.1060	0.1590
2	74.88	0.5996	-0.0545	0.0321	-0.2519	0.0525	-2.7398	0.1987	-1.2457	0.1623
2	74.88	0.6497	-0.0910	0.0323	-0.2770	0.0605	-3.4724	0.2312	-1.1535	0.1625
2	74.88	0.6996	-0.1211	0.0326	-0.3046	0.0693	-4.2937	0.2648	-1.2025	0.1632
2	74.88	0.7495	-0.1632	0.0333	-0.3473	0.0791	-5.2003	0.3003	-1.2673	0.1645
2	74.88	0.7996	-0.2060	0.0345	-0.3541	0.0898	-6.1130	0.3376	-1.5669	0.1700
2	74.88	0.8578	-0.2794	0.0387	-0.3639	0.1035	-7.1580	0.3847	-1.2777	0.1742
2	74.88	0.9100	-0.3182	0.0456	-0.4108	0.1176	-8.1509	0.4293	-0.8973	0.1890
3	74.88	0.1938	0.0607	0.0169	0.0391	0.0053	-0.0663	0.0098	-0.1763	0.0466
3	74.88	0.2357	0.0218	0.0043	-0.0100	0.0029	-0.1297	0.0100	-0.4577	0.1573
3	74.88	0.2995	-0.0178	0.0039	0.0948	0.0152	-0.3186	0.0303	-0.5782	0.1528
3	74.88	0.3493	-0.0460	0.0038	0.1498	0.0263	-0.5444	0.0520	-0.6760	0.1509
3	74.88	0.4000	-0.0606	0.0055	0.2092	0.0378	-0.8608	0.0771	-0.6934	0.1517
3	74.88	0.4497	-0.1338	0.0049	0.2467	0.0484	-1.2644	0.1057	-0.6349	0.1502
3	74.88	0.4997	-0.1598	0.0060	0.2980	0.0594	-1.7737	0.1358	-0.6909	0.1532
3	74.88	0.5556	-0.2160	0.0071	0.3221	0.0721	-2.4665	0.1737	-0.9051	0.1527
3	74.88	0.5995	-0.2254	0.0078	0.4264	0.0818	-3.0196	0.2047	-0.6428	0.1544
3	74.88	0.6498	-0.2810	0.0087	0.4626	0.0934	-3.7190	0.2436	-0.5073	0.1515
3	74.88	0.6890	-0.3429	0.0100	0.5544	0.1026	-4.3632	0.2736	-0.5946	0.1534
3	74.88	0.7495	-0.3880	0.0125	0.6300	0.1168	-5.3754	0.3234	-0.4479	0.1550
3	74.88	0.7998	-0.4953	0.0148	0.7224	0.1292	-6.2802	0.3662	-0.7326	0.1563
3	74.88	0.8577	-0.5733	0.0175	0.8284	0.1425	-7.3170	0.4177	-0.7266	0.1549
3	74.88	0.9178	-0.6131	0.0201	0.9218	0.1564	-8.4488	0.4730	-0.7331	0.1589
3	74.88	0.9729	-0.6563	0.0214	0.9916	0.1698	-9.4907	0.5267	-0.8074	0.1769
4	74.88	0.2001	-0.0183	0.0147	0.0050	0.0018	-0.0926	0.0065	-0.0612	0.0511
4	74.88	0.2502	0.0054	0.0050	0.0227	0.0027	-0.1983	0.0098	0.0021	0.1199
4	74.88	0.3001	-0.0141	0.0052	0.0375	0.0057	-0.3976	0.0211	-0.1135	0.1255
4	74.88	0.3502	-0.0338	0.0126	0.0530	0.0098	-0.6857	0.0368	-0.1431	0.1149
4	74.88	0.4002	-0.0565	0.0182	0.0977	0.0144	-1.0705	0.0540	-0.1984	0.1187
4	74.88	0.4500	-0.0471	0.0224	0.1700	0.0194	-1.6212	0.0761	-0.4575	0.1204
4	74.88	0.5001	-0.0914	0.0245	0.1971	0.0246	-2.1756	0.0991	-0.0870	0.1151
4	74.88	0.5560	-0.1234	0.0248	0.2597	0.0307	-3.0519	0.1272	-0.4004	0.1194
4	74.88	0.6001	-0.1078	0.0251	0.2826	0.0358	-3.7899	0.1513	-0.2901	0.1234
4	74.88	0.6501	-0.1563	0.0238	0.3462	0.0423	-4.7219	0.1799	-0.2845	0.1245
4	74.88	0.6999	-0.1863	0.0222	0.3873	0.0496	-5.7415	0.2105	-0.1715	0.1286
4	74.88	0.7500	-0.2262	0.0217	0.4304	0.0577	-6.8364	0.2411	0.0036	0.1334
4	74.88	0.8002	-0.2865	0.0232	0.4808	0.0668	-7.9922	0.2723	-0.1179	0.1379
4	74.88	0.8582	-0.3705	0.0303	0.5855	0.0784	-9.3638	0.3077	-0.5023	0.1415
4	74.88	0.9101	-0.4104	0.0411	0.6599	0.0897	-10.5782	0.3379	-0.0136	0.1462

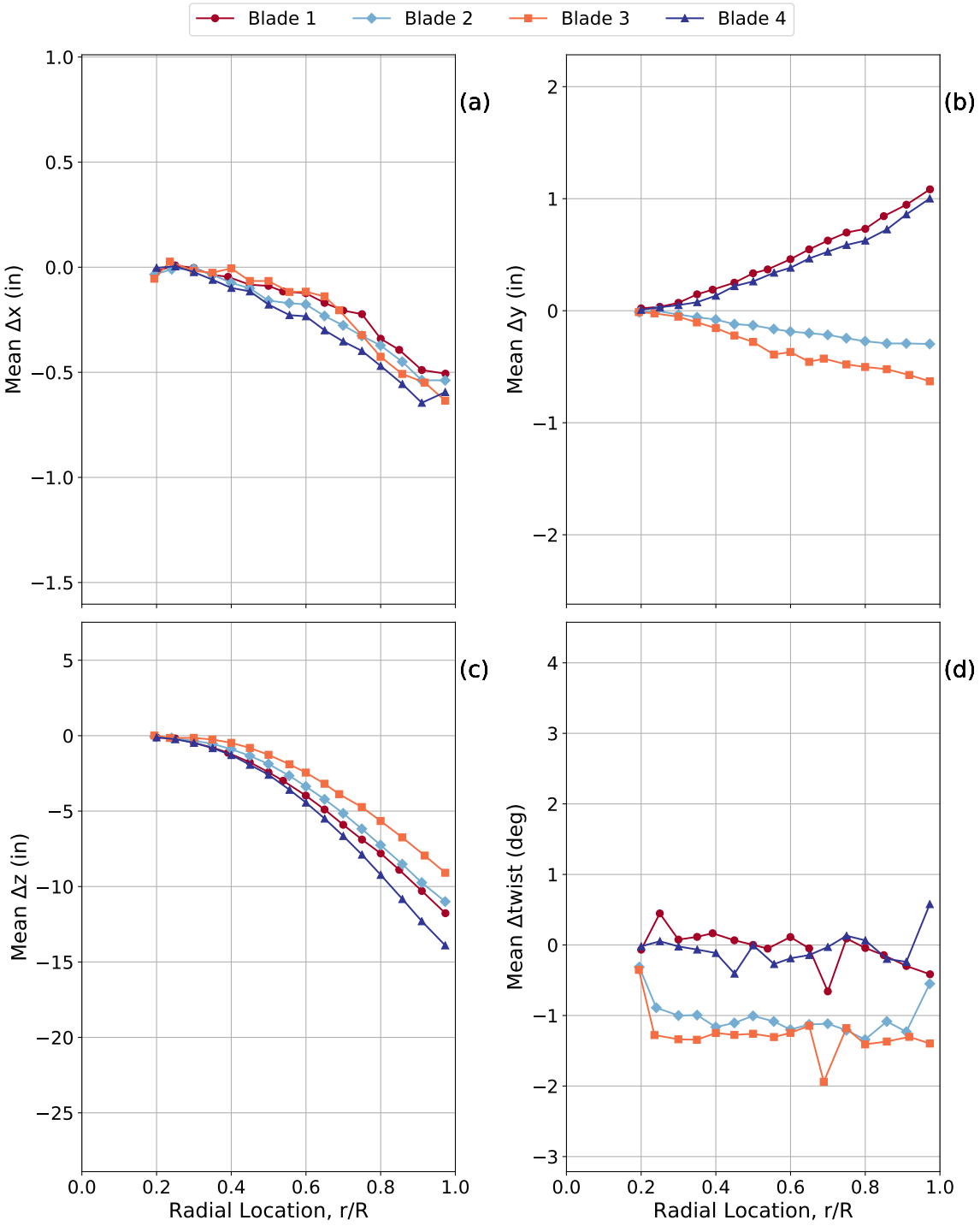


Figure 2.25-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-13. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0179	0.0062	0.0212	0.0058	-0.1158	0.0123	-0.0666	0.0873
1	80.16	0.2499	0.0083	0.0034	0.0349	0.0072	-0.1842	0.0140	0.4472	0.2522
1	80.16	0.2998	-0.0035	0.0027	0.0703	0.0206	-0.4745	0.0464	0.0757	0.2447
1	80.16	0.3498	-0.0366	0.0045	0.1465	0.0347	-0.7865	0.0789	0.1147	0.2491
1	80.16	0.3913	-0.0459	0.0064	0.1878	0.0479	-1.1357	0.1094	0.1659	0.2414
1	80.16	0.4496	-0.0834	0.0088	0.2502	0.0677	-1.7598	0.1551	0.0660	0.2405
1	80.16	0.4997	-0.0889	0.0111	0.3343	0.0860	-2.4236	0.1980	0.0013	0.2401
1	80.16	0.5387	-0.1154	0.0126	0.3686	0.1004	-2.9856	0.2331	-0.0519	0.2422
1	80.16	0.5996	-0.1237	0.0152	0.4596	0.1256	-3.9730	0.2940	0.1123	0.2425
1	80.16	0.6498	-0.1698	0.0180	0.5475	0.1472	-4.8943	0.3478	-0.0483	0.2611
1	80.16	0.6998	-0.2063	0.0226	0.6260	0.1738	-5.9071	0.4268	-0.6581	0.5801
1	80.16	0.7500	-0.2233	0.0264	0.6976	0.1927	-6.8837	0.4697	0.0917	0.2489
1	80.16	0.8001	-0.3403	0.0405	0.7309	0.2155	-7.8022	0.5238	-0.0431	0.2540
1	80.16	0.8497	-0.3933	0.0422	0.8442	0.2372	-8.8904	0.5993	-0.1445	0.2535
1	80.16	0.9102	-0.4893	0.0460	0.9462	0.2648	-10.2922	0.6943	-0.2983	0.2507
1	80.16	0.9734	-0.5064	0.0525	1.0836	0.2945	-11.7687	0.7965	-0.4152	0.2526
2	80.16	0.1949	-0.0343	0.0101	-0.0133	0.0029	-0.0611	0.0094	-0.3126	0.0725
2	80.16	0.2405	-0.0100	0.0055	-0.0003	0.0027	-0.1574	0.0102	-0.8899	0.2015
2	80.16	0.2999	-0.0076	0.0046	-0.0344	0.0092	-0.3379	0.0302	-1.0007	0.2187
2	80.16	0.3498	-0.0361	0.0088	-0.0581	0.0157	-0.5413	0.0519	-0.9941	0.2133
2	80.16	0.3998	-0.0745	0.0126	-0.0789	0.0229	-0.8911	0.0757	-1.1635	0.2087
2	80.16	0.4496	-0.1000	0.0161	-0.1201	0.0295	-1.3355	0.0994	-1.1054	0.2127
2	80.16	0.4995	-0.1590	0.0182	-0.1307	0.0367	-1.8773	0.1259	-1.0049	0.2107
2	80.16	0.5551	-0.1710	0.0202	-0.1635	0.0452	-2.6515	0.1574	-1.0840	0.2095
2	80.16	0.5996	-0.1771	0.0211	-0.1864	0.0525	-3.3622	0.1850	-1.1993	0.2121
2	80.16	0.6497	-0.2320	0.0218	-0.2001	0.0606	-4.2157	0.2167	-1.1263	0.2131
2	80.16	0.6996	-0.2769	0.0225	-0.2158	0.0691	-5.1487	0.2503	-1.1164	0.2109
2	80.16	0.7495	-0.3266	0.0234	-0.2453	0.0779	-6.1778	0.2842	-1.2091	0.2141
2	80.16	0.7996	-0.3720	0.0255	-0.2723	0.0870	-7.2493	0.3211	-1.3407	0.2118
2	80.16	0.8578	-0.4497	0.0292	-0.2924	0.0972	-8.5155	0.3667	-1.0844	0.2127
2	80.16	0.9100	-0.5376	0.0334	-0.2923	0.1070	-9.7366	0.4103	-1.2303	0.2117
2	80.16	0.9727	-0.5383	0.0406	-0.2968	0.1192	-10.9983	0.4658	-0.5503	0.2174
3	80.16	0.1938	-0.0547	0.0051	-0.0124	0.0095	0.0109	0.0215	-0.3527	0.0743
3	80.16	0.2357	0.0264	0.0030	-0.0239	0.0057	-0.1493	0.0130	-1.2773	0.2709
3	80.16	0.2995	-0.0174	0.0071	-0.0531	0.0296	-0.1456	0.0626	-1.3373	0.2746
3	80.16	0.3493	-0.0263	0.0114	-0.1046	0.0517	-0.2538	0.1073	-1.3441	0.2731
3	80.16	0.4000	-0.0054	0.0145	-0.1548	0.0752	-0.4730	0.1541	-1.2478	0.2757
3	80.16	0.4497	-0.0656	0.0169	-0.2214	0.1011	-0.8116	0.2034	-1.2748	0.2691
3	80.16	0.4997	-0.0656	0.0179	-0.2786	0.1287	-1.2663	0.2547	-1.2586	0.2710
3	80.16	0.5556	-0.1178	0.0194	-0.3912	0.1614	-1.8955	0.3137	-1.3056	0.2685
3	80.16	0.5995	-0.1164	0.0206	-0.3686	0.1882	-2.4454	0.3610	-1.2460	0.2631
3	80.16	0.6498	-0.1389	0.0224	-0.4566	0.2189	-3.1856	0.4159	-1.1455	0.2717
3	80.16	0.6890	-0.2045	0.0205	-0.4274	0.2681	-3.8769	0.5066	-1.9396	0.7307
3	80.16	0.7495	-0.3229	0.0321	-0.4792	0.3440	-4.7297	0.4290	-1.1793	0.2656
3	80.16	0.7998	-0.4261	0.0344	-0.5023	0.3769	-5.6545	0.4864	-1.4089	0.2623
3	80.16	0.8577	-0.5078	0.0378	-0.5220	0.4141	-6.7414	0.5549	-1.3690	0.2628
3	80.16	0.9178	-0.5488	0.0411	-0.5739	0.4539	-7.9452	0.6296	-1.3027	0.2621
3	80.16	0.9729	-0.6351	0.0376	-0.6301	0.4903	-9.0852	0.6987	-1.3969	0.2726
4	80.16	0.2001	-0.0028	0.0049	0.0076	0.0020	-0.1112	0.0072	-0.0198	0.0518
4	80.16	0.2502	0.0041	0.0042	0.0305	0.0029	-0.2359	0.0127	0.0526	0.1104
4	80.16	0.3001	-0.0235	0.0033	0.0500	0.0064	-0.4745	0.0272	-0.0216	0.1227
4	80.16	0.3502	-0.0599	0.0053	0.0762	0.0107	-0.8267	0.0468	-0.0654	0.1112
4	80.16	0.4002	-0.0985	0.0070	0.1340	0.0158	-1.2847	0.0713	-0.1145	0.1159
4	80.16	0.4500	-0.1151	0.0090	0.2195	0.0210	-1.9320	0.1002	-0.4067	0.1148
4	80.16	0.5001	-0.1780	0.0107	0.2617	0.0272	-2.5932	0.1351	-0.0055	0.1140
4	80.16	0.5560	-0.2280	0.0128	0.3394	0.0347	-3.5885	0.1777	-0.2710	0.1107
4	80.16	0.6001	-0.2336	0.0144	0.3838	0.0407	-4.4359	0.2140	-0.1889	0.1151
4	80.16	0.6501	-0.3004	0.0163	0.4666	0.0480	-5.4969	0.2571	-0.1426	0.1113
4	80.16	0.6999	-0.3532	0.0187	0.5269	0.0553	-6.6510	0.3005	-0.0288	0.1128
4	80.16	0.7500	-0.3984	0.0212	0.5867	0.0633	-7.8865	0.3469	0.1304	0.1103
4	80.16	0.8002	-0.4699	0.0243	0.6261	0.0714	-9.2274	0.3950	0.0648	0.1132
4	80.16	0.8582	-0.5560	0.0286	0.7262	0.0813	-10.8305	0.4547	-0.1974	0.1122
4	80.16	0.9101	-0.6451	0.0331	0.8600	0.0908	-12.2996	0.5103	-0.2397	0.1136
4	80.16	0.9728	-0.5943	0.0406	1.0016	0.1053	-13.9014	0.5825	0.5784	0.1178

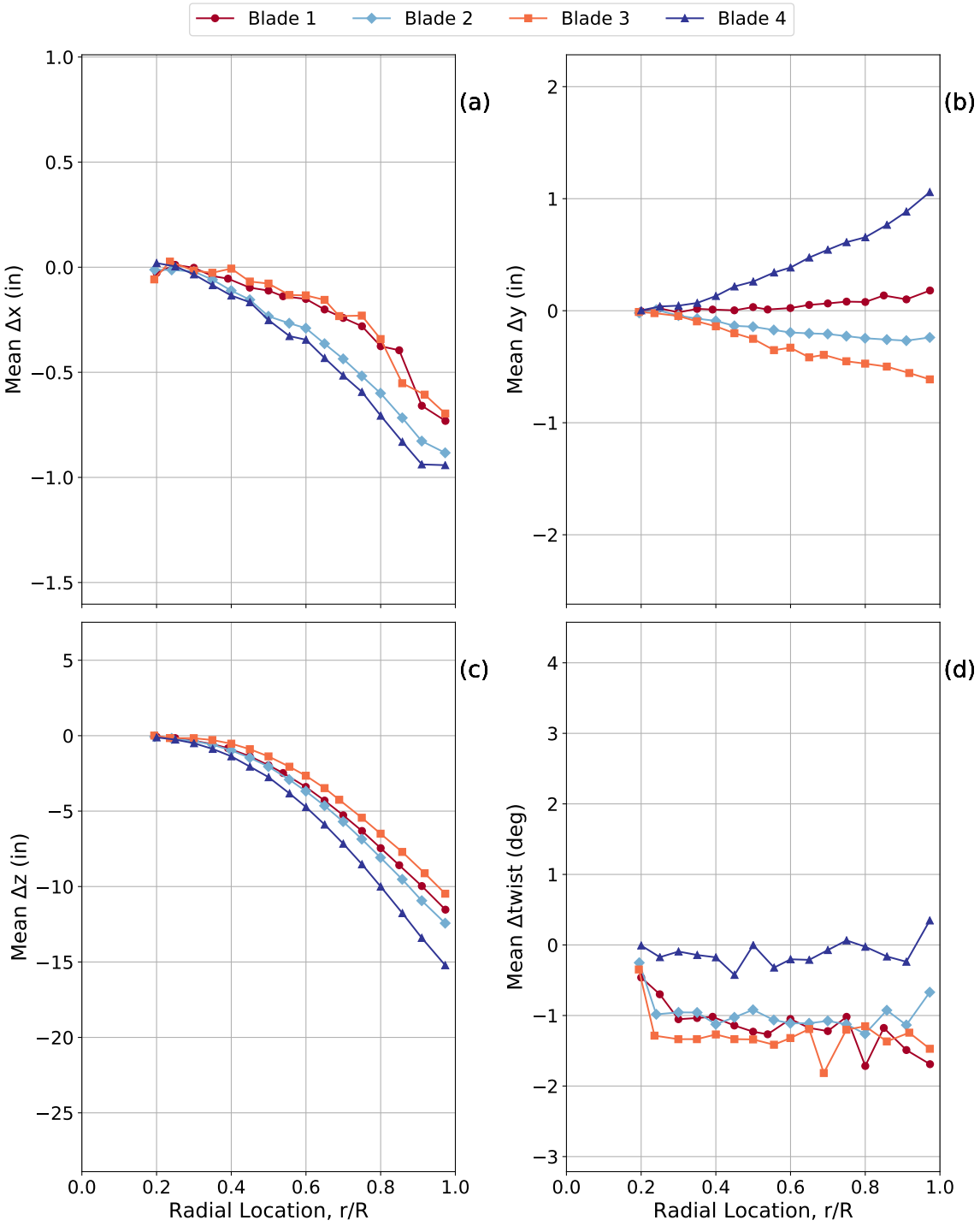


Figure 2.25-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-14. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0275	0.0094	-0.0051	0.0102	-0.0749	0.0237	-0.4612	0.1571
1	85.08	0.2499	0.0111	0.0048	0.0207	0.0140	-0.1613	0.0281	-0.6991	0.4262
1	85.08	0.2998	-0.0027	0.0061	-0.0146	0.0369	-0.3394	0.0834	-1.0526	0.4310
1	85.08	0.3498	-0.0421	0.0119	0.0164	0.0621	-0.5558	0.1411	-1.0358	0.4373
1	85.08	0.3913	-0.0545	0.0172	0.0104	0.0866	-0.8311	0.1940	-1.0181	0.4294
1	85.08	0.4496	-0.0973	0.0220	0.0034	0.1229	-1.3672	0.2679	-1.1419	0.4312
1	85.08	0.4997	-0.1113	0.0252	0.0325	0.1574	-1.9588	0.3333	-1.2294	0.4333
1	85.08	0.5387	-0.1383	0.0271	0.0108	0.1857	-2.4740	0.3859	-1.2663	0.4348
1	85.08	0.5996	-0.1510	0.0289	0.0237	0.2331	-3.3975	0.4690	-1.0497	0.4368
1	85.08	0.6498	-0.2011	0.0303	0.0518	0.2750	-4.3013	0.5385	-1.1764	0.4381
1	85.08	0.6998	-0.2414	0.0321	0.0650	0.3190	-5.2758	0.6110	-1.2209	0.4362
1	85.08	0.7500	-0.2809	0.0356	0.0812	0.3653	-6.3167	0.6843	-1.0187	0.4402
1	85.08	0.8001	-0.3759	0.0398	0.0779	0.4449	-7.4564	0.8363	-1.7156	1.0923
1	85.08	0.8497	-0.3952	0.0513	0.1361	0.4638	-8.5857	0.8389	-1.1765	0.4431
1	85.08	0.9102	-0.6590	0.0683	0.1013	0.5935	-9.9669	0.8070	-1.4898	0.4295
1	85.08	0.9734	-0.7313	0.0648	0.1805	0.6495	-11.5323	0.9279	-1.6902	0.4320
2	85.08	0.1949	-0.0120	0.0109	-0.0198	0.0039	-0.0646	0.0122	-0.2515	0.0783
2	85.08	0.2405	-0.0130	0.0047	0.0080	0.0034	-0.1784	0.0119	-0.9833	0.2093
2	85.08	0.2999	-0.0207	0.0047	-0.0436	0.0123	-0.3655	0.0394	-0.9555	0.2276
2	85.08	0.3498	-0.0595	0.0044	-0.0706	0.0213	-0.5952	0.0674	-0.9575	0.2159
2	85.08	0.3998	-0.1111	0.0049	-0.0907	0.0306	-0.9770	0.0982	-1.1241	0.2140
2	85.08	0.4496	-0.1548	0.0057	-0.1350	0.0400	-1.4614	0.1308	-1.0261	0.2164
2	85.08	0.4995	-0.2335	0.0074	-0.1430	0.0501	-2.0488	0.1670	-0.9190	0.2167
2	85.08	0.5551	-0.2666	0.0085	-0.1722	0.0619	-2.9089	0.2133	-1.0637	0.2184
2	85.08	0.5996	-0.2900	0.0098	-0.1944	0.0715	-3.6795	0.2532	-1.1108	0.2214
2	85.08	0.6497	-0.3639	0.0125	-0.2022	0.0829	-4.6442	0.3013	-1.1099	0.2222
2	85.08	0.6996	-0.4361	0.0156	-0.2077	0.0947	-5.6971	0.3530	-1.0768	0.2199
2	85.08	0.7495	-0.5177	0.0191	-0.2270	0.1065	-6.8570	0.4080	-1.1246	0.2240
2	85.08	0.7996	-0.5996	0.0238	-0.2457	0.1190	-8.0811	0.4685	-1.2598	0.2232
2	85.08	0.8578	-0.7166	0.0303	-0.2577	0.1334	-9.5234	0.5432	-0.9257	0.2251
2	85.08	0.9100	-0.8273	0.0350	-0.2672	0.1468	-10.9363	0.6140	-1.1352	0.2206
2	85.08	0.9727	-0.8830	0.0390	-0.2388	0.1618	-12.4293	0.6997	-0.6699	0.2248
3	85.08	0.1938	-0.0580	0.0079	-0.0112	0.0175	0.0076	0.0427	-0.3475	0.1469
3	85.08	0.2357	0.0267	0.0052	-0.0217	0.0094	-0.1587	0.0234	-1.2855	0.5334
3	85.08	0.2995	-0.0165	0.0111	-0.0471	0.0551	-0.1659	0.1252	-1.3356	0.5426
3	85.08	0.3493	-0.0264	0.0193	-0.0950	0.0940	-0.2885	0.2117	-1.3352	0.5428
3	85.08	0.4000	-0.0066	0.0263	-0.1392	0.1380	-0.5294	0.3057	-1.2687	0.5420
3	85.08	0.4497	-0.0682	0.0303	-0.2009	0.1845	-0.8958	0.4011	-1.3353	0.5363
3	85.08	0.4997	-0.0779	0.0325	-0.2509	0.2350	-1.3740	0.4999	-1.3390	0.5403
3	85.08	0.5556	-0.1321	0.0325	-0.3519	0.2955	-2.0571	0.6152	-1.4142	0.5361
3	85.08	0.5995	-0.1340	0.0318	-0.3301	0.3456	-2.6519	0.7067	-1.3199	0.5376
3	85.08	0.6498	-0.1555	0.0310	-0.4161	0.4052	-3.4759	0.8157	-1.1923	0.5450
3	85.08	0.6890	-0.2326	0.0284	-0.3942	0.5145	-4.2471	1.0181	-1.8154	1.3511
3	85.08	0.7495	-0.2304	0.0387	-0.4511	0.5332	-5.4387	1.0387	-1.2014	0.5520
3	85.08	0.7998	-0.3419	0.0515	-0.4723	0.5982	-6.4967	1.1565	-1.1522	0.5593
3	85.08	0.8577	-0.5520	0.0800	-0.4989	0.8241	-7.7055	1.0118	-1.3674	0.5555
3	85.08	0.9178	-0.6063	0.0887	-0.5562	0.9040	-9.1186	1.1593	-1.2434	0.5549
3	85.08	0.9729	-0.6962	0.0800	-0.6129	0.9776	-10.4737	1.2976	-1.4719	0.5504
4	85.08	0.2001	0.0196	0.0053	0.0032	0.0022	-0.1140	0.0093	-0.0078	0.0531
4	85.08	0.2502	0.0037	0.0052	0.0380	0.0039	-0.2609	0.0167	-0.1732	0.1179
4	85.08	0.3001	-0.0343	0.0033	0.0450	0.0066	-0.5003	0.0327	-0.0931	0.1147
4	85.08	0.3502	-0.0856	0.0035	0.0695	0.0113	-0.8781	0.0551	-0.1425	0.1065
4	85.08	0.4002	-0.1350	0.0048	0.1313	0.0164	-1.3703	0.0840	-0.1755	0.1002
4	85.08	0.4500	-0.1668	0.0061	0.2164	0.0209	-2.0530	0.1146	-0.4245	0.1093
4	85.08	0.5001	-0.2520	0.0078	0.2603	0.0264	-2.7553	0.1531	-0.0020	0.1120
4	85.08	0.5560	-0.3279	0.0103	0.3411	0.0326	-3.8307	0.1968	-0.3214	0.1031
4	85.08	0.6001	-0.3452	0.0121	0.3857	0.0379	-4.7350	0.2366	-0.2032	0.1050
4	85.08	0.6501	-0.4323	0.0152	0.4747	0.0438	-5.8955	0.2825	-0.2110	0.1054
4	85.08	0.6999	-0.5157	0.0185	0.5443	0.0503	-7.1616	0.3332	-0.0722	0.1053
4	85.08	0.7500	-0.5936	0.0233	0.6116	0.0571	-8.5253	0.3892	0.0647	0.1046
4	85.08	0.8002	-0.7066	0.0284	0.6557	0.0637	-10.0053	0.4493	-0.0256	0.1061
4	85.08	0.8582	-0.8310	0.0355	0.7668	0.0713	-11.7653	0.5246	-0.1639	0.1099
4	85.08	0.9101	-0.9383	0.0416	0.8845	0.0781	-13.4063	0.5944	-0.2379	0.1054
4	85.08	0.9728	-0.9418	0.0475	1.0585	0.0865	-15.2184	0.6819	0.3473	0.1107

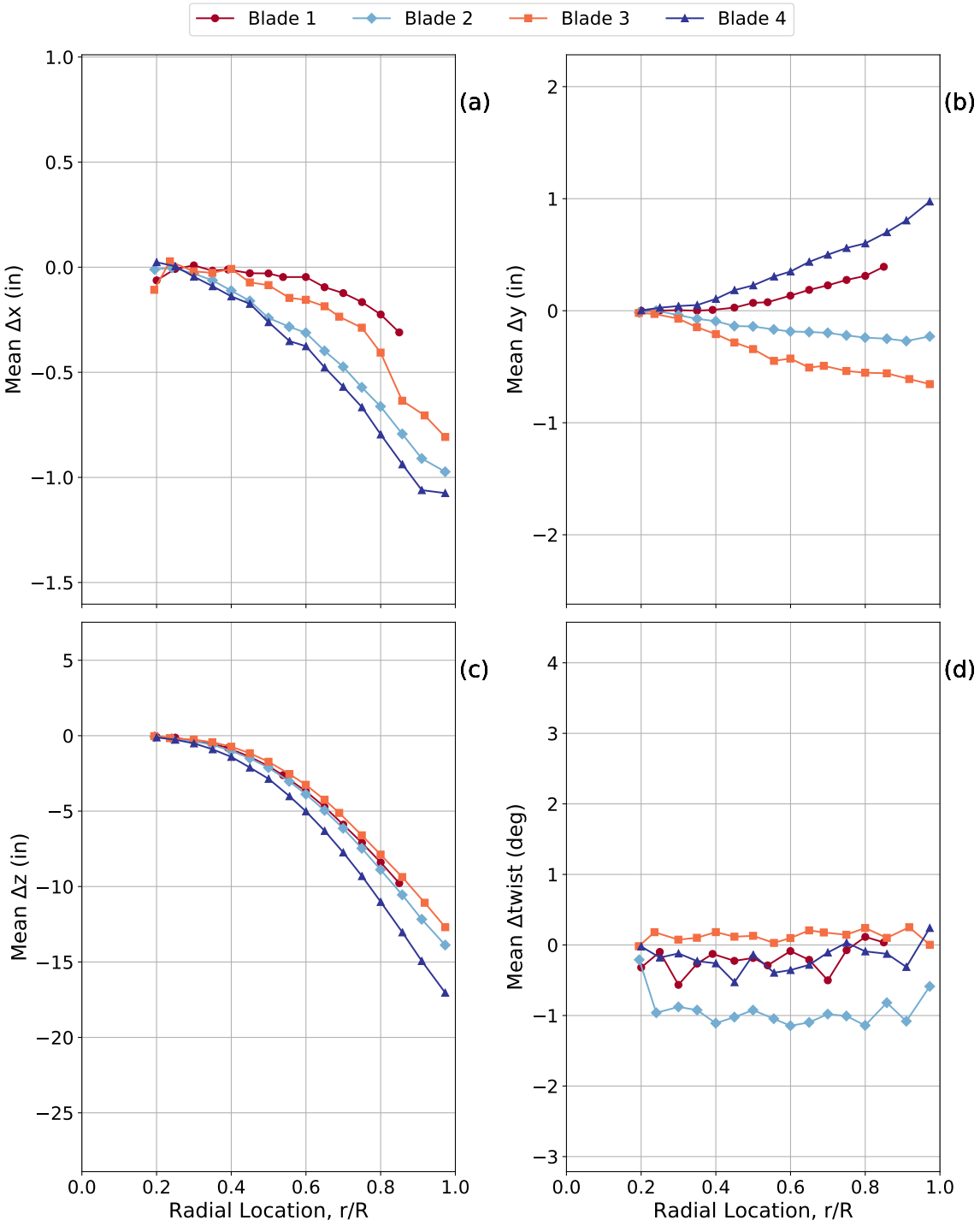


Figure 2.25-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-15. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0627	0.0115	-0.0001	0.0019	-0.0846	0.0051	-0.3193	0.0321
1	90	0.2499	-0.0080	0.0036	0.0014	0.0050	-0.1280	0.0116	-0.0989	0.0508
1	90	0.2998	0.0085	0.0055	0.0047	0.0088	-0.3645	0.0220	-0.5653	0.0708
1	90	0.3498	-0.0165	0.0120	0.0005	0.0149	-0.5315	0.0382	-0.2645	0.0615
1	90	0.3913	-0.0108	0.0169	0.0074	0.0222	-0.8149	0.0555	-0.1268	0.0689
1	90	0.4496	-0.0287	0.0221	0.0275	0.0321	-1.3983	0.0820	-0.2253	0.0612
1	90	0.4997	-0.0296	0.0254	0.0699	0.0416	-2.0244	0.1079	-0.1846	0.0662
1	90	0.5387	-0.0469	0.0261	0.0759	0.0497	-2.6162	0.1303	-0.2892	0.0704
1	90	0.5996	-0.0467	0.0264	0.1346	0.0637	-3.6826	0.1705	-0.0867	0.0633
1	90	0.6498	-0.0952	0.0250	0.1860	0.0759	-4.7245	0.2085	-0.2107	0.0897
1	90	0.6998	-0.1232	0.0248	0.2264	0.0888	-5.8956	0.2517	-0.5014	0.1002
1	90	0.7500	-0.1660	0.0249	0.2748	0.1012	-7.1052	0.3004	-0.0739	0.0976
1	90	0.8001	-0.2250	0.0302	0.3108	0.1144	-8.3990	0.3583	0.1144	0.1839
1	90	0.8497	-0.3101	0.0391	0.3920	0.1311	-9.7756	0.4176	0.0361	0.1718
2	90	0.1949	-0.0107	0.0090	-0.0166	0.0033	-0.0627	0.0128	-0.2099	0.0802
2	90	0.2405	-0.0028	0.0050	0.0004	0.0042	-0.1907	0.0171	-0.9618	0.2202
2	90	0.2999	-0.0303	0.0049	-0.0393	0.0108	-0.3691	0.0447	-0.8782	0.2311
2	90	0.3498	-0.0627	0.0053	-0.0726	0.0194	-0.6126	0.0772	-0.9229	0.2143
2	90	0.3998	-0.1113	0.0053	-0.0935	0.0282	-1.0040	0.1152	-1.1095	0.2147
2	90	0.4496	-0.1605	0.0068	-0.1368	0.0371	-1.5002	0.1525	-1.0227	0.2195
2	90	0.4995	-0.2413	0.0076	-0.1406	0.0466	-2.1154	0.1964	-0.9237	0.2203
2	90	0.5551	-0.2832	0.0100	-0.1671	0.0582	-3.0331	0.2499	-1.0455	0.2132
2	90	0.5996	-0.3118	0.0128	-0.1855	0.0675	-3.8784	0.2943	-1.1455	0.2206
2	90	0.6497	-0.3981	0.0160	-0.1900	0.0789	-4.9546	0.3482	-1.0983	0.2178
2	90	0.6996	-0.4738	0.0201	-0.1975	0.0907	-6.1393	0.4062	-0.9802	0.2213
2	90	0.7495	-0.5715	0.0253	-0.2205	0.1027	-7.4654	0.4679	-1.0071	0.2261
2	90	0.7996	-0.6624	0.0312	-0.2400	0.1148	-8.8855	0.5346	-1.1405	0.2254
2	90	0.8578	-0.7932	0.0392	-0.2500	0.1291	-10.5513	0.6158	-0.8190	0.2254
2	90	0.9100	-0.9101	0.0454	-0.2704	0.1426	-12.1697	0.6929	-1.0813	0.2270
2	90	0.9727	-0.9731	0.0513	-0.2293	0.1575	-13.8787	0.7851	-0.5874	0.2264
3	90	0.1938	-0.1075	0.0053	-0.0197	0.0135	-0.0303	0.0192	-0.0176	0.0337
3	90	0.2357	0.0281	0.0037	-0.0290	0.0061	-0.1636	0.0106	0.1813	0.0514
3	90	0.2995	-0.0199	0.0069	-0.0711	0.0397	-0.2582	0.0584	0.0751	0.0701
3	90	0.3493	-0.0268	0.0130	-0.1472	0.0683	-0.4330	0.1017	0.1017	0.0606
3	90	0.4000	-0.0083	0.0185	-0.2088	0.0984	-0.7307	0.1473	0.1821	0.0631
3	90	0.4497	-0.0723	0.0226	-0.2838	0.1292	-1.1641	0.1933	0.1169	0.0666
3	90	0.4997	-0.0854	0.0258	-0.3425	0.1619	-1.7285	0.2423	0.1292	0.0670
3	90	0.5556	-0.1461	0.0271	-0.4475	0.2021	-2.5403	0.3013	0.0290	0.0618
3	90	0.5995	-0.1550	0.0276	-0.4271	0.2354	-3.2568	0.3506	0.0978	0.0661
3	90	0.6498	-0.1860	0.0266	-0.5073	0.2765	-4.2446	0.4104	0.2069	0.0613
3	90	0.6890	-0.2354	0.0267	-0.4920	0.3099	-5.1179	0.4597	0.1770	0.0714
3	90	0.7495	-0.2878	0.0282	-0.5379	0.3658	-6.6032	0.5410	0.1449	0.0735
3	90	0.7998	-0.4063	0.0329	-0.5534	0.4131	-7.8817	0.6117	0.2412	0.0804
3	90	0.8577	-0.6351	0.0519	-0.5588	0.5701	-9.3711	0.5397	0.1006	0.0865
3	90	0.9178	-0.7052	0.0590	-0.6100	0.6210	-11.0720	0.6403	0.2512	0.0846
3	90	0.9729	-0.8075	0.0547	-0.6553	0.6683	-12.6948	0.7334	0.0023	0.1014
4	90.35	0.2001	0.0237	0.0060	0.0031	0.0031	-0.1166	0.0113	-0.0220	0.0686
4	90.35	0.2502	0.0043	0.0073	0.0269	0.0044	-0.2695	0.0197	-0.1785	0.1637
4	90.35	0.3001	-0.0451	0.0038	0.0417	0.0099	-0.5107	0.0377	-0.1205	0.1506
4	90.35	0.3502	-0.0906	0.0046	0.0506	0.0159	-0.9044	0.0624	-0.2294	0.1427
4	90.35	0.4002	-0.1388	0.0056	0.1056	0.0239	-1.4073	0.0951	-0.2605	0.1331
4	90.35	0.4500	-0.1744	0.0064	0.1835	0.0304	-2.1135	0.1306	-0.5280	0.1370
4	90.35	0.5001	-0.2615	0.0077	0.2264	0.0380	-2.8636	0.1745	-0.1386	0.1316
4	90.35	0.5560	-0.3517	0.0111	0.3053	0.0472	-4.0139	0.2283	-0.3935	0.1387
4	90.35	0.6001	-0.3760	0.0150	0.3502	0.0548	-5.0208	0.2769	-0.3558	0.1357
4	90.35	0.6501	-0.4772	0.0199	0.4366	0.0640	-6.3149	0.3376	-0.2812	0.1357
4	90.35	0.6999	-0.5691	0.0248	0.5000	0.0733	-7.7446	0.4017	-0.1071	0.1386
4	90.35	0.7500	-0.6664	0.0315	0.5597	0.0828	-9.3086	0.4716	0.0318	0.1412
4	90.35	0.8002	-0.7958	0.0394	0.6011	0.0924	-11.0196	0.5440	-0.0911	0.1381
4	90.35	0.8582	-0.9378	0.0484	0.7011	0.1036	-13.0384	0.6302	-0.1259	0.1396
4	90.35	0.9101	-1.0607	0.0564	0.8060	0.1140	-14.9384	0.7083	-0.3118	0.1451
4	90.35	0.9728	-1.0747	0.0632	0.9751	0.1263	-17.0377	0.8052	0.2409	0.1472

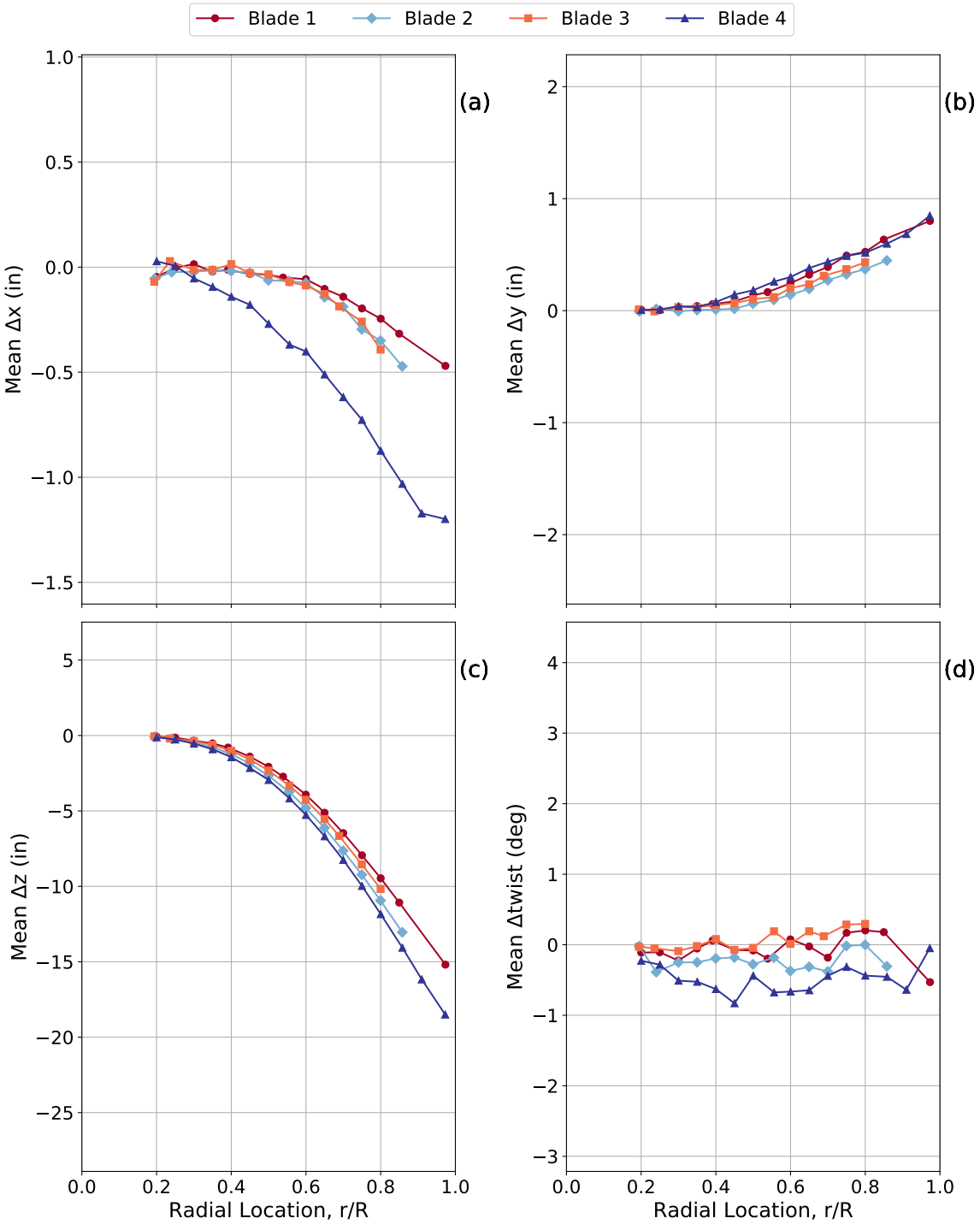


Figure 2.25-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-16. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0465	0.0016	0.0086	0.0010	-0.0772	0.0059	-0.1113	0.0227
1	94.92	0.2499	-0.0027	0.0015	0.0041	0.0022	-0.1384	0.0126	-0.1067	0.0360
1	94.92	0.2998	0.0142	0.0019	0.0295	0.0042	-0.3441	0.0252	-0.2242	0.0499
1	94.92	0.3498	-0.0211	0.0022	0.0407	0.0071	-0.5231	0.0442	-0.0538	0.0424
1	94.92	0.3913	-0.0125	0.0026	0.0586	0.0104	-0.7982	0.0638	0.0598	0.0419
1	94.92	0.4496	-0.0324	0.0037	0.0824	0.0144	-1.3986	0.0974	-0.0732	0.0498
1	94.92	0.4997	-0.0361	0.0054	0.1361	0.0187	-2.0731	0.1330	-0.0821	0.0493
1	94.92	0.5387	-0.0496	0.0073	0.1657	0.0225	-2.7282	0.1654	-0.1978	0.0508
1	94.92	0.5996	-0.0570	0.0107	0.2439	0.0288	-3.9203	0.2274	0.0755	0.0547
1	94.92	0.6498	-0.1037	0.0159	0.3217	0.0345	-5.1205	0.2879	-0.0245	0.0694
1	94.92	0.6998	-0.1410	0.0214	0.3902	0.0404	-6.4692	0.3580	-0.1832	0.0672
1	94.92	0.7500	-0.1965	0.0281	0.4913	0.0463	-7.9417	0.4353	0.1693	0.0588
1	94.92	0.8001	-0.2452	0.0381	0.5250	0.0520	-9.4639	0.5193	0.2030	0.0830
1	94.92	0.8497	-0.3167	0.0459	0.6345	0.0583	-11.0761	0.6073	0.1792	0.0866
1	94.92	0.9734	-0.4699	0.0654	0.8011	0.0739	-15.1930	0.8251	-0.5305	0.1792
2	94.92	0.1949	-0.0547	0.0013	-0.0056	0.0009	-0.0870	0.0050	-0.0201	0.0163
2	94.92	0.2405	-0.0238	0.0015	0.0146	0.0018	-0.2207	0.0112	-0.3875	0.0310
2	94.92	0.2999	-0.0218	0.0020	-0.0056	0.0037	-0.4506	0.0239	-0.2499	0.0368
2	94.92	0.3498	-0.0158	0.0022	0.0053	0.0067	-0.7825	0.0421	-0.2491	0.0302
2	94.92	0.3998	-0.0191	0.0026	0.0095	0.0102	-1.2388	0.0657	-0.1943	0.0383
2	94.92	0.4496	-0.0262	0.0039	0.0168	0.0136	-1.8519	0.0936	-0.1812	0.0372
2	94.92	0.4995	-0.0624	0.0058	0.0624	0.0182	-2.6638	0.1284	-0.2773	0.0403
2	94.92	0.5551	-0.0664	0.0089	0.0965	0.0238	-3.7404	0.1744	-0.1832	0.0388
2	94.92	0.5996	-0.0750	0.0124	0.1422	0.0281	-4.8125	0.2174	-0.3719	0.0510
2	94.92	0.6497	-0.1428	0.0167	0.1948	0.0335	-6.1266	0.2720	-0.3139	0.0556
2	94.92	0.6996	-0.1883	0.0227	0.2721	0.0387	-7.6412	0.3358	-0.3794	0.0596
2	94.92	0.7495	-0.2962	0.0296	0.3248	0.0460	-9.2294	0.4083	-0.0160	0.0570
2	94.92	0.7996	-0.3498	0.0388	0.3705	0.0492	-10.9410	0.4833	-0.0014	0.0898
2	94.92	0.8578	-0.4720	0.0497	0.4477	0.0550	-13.0458	0.5819	-0.3065	0.1172
3	94.92	0.1938	-0.0696	0.0141	0.0105	0.0014	-0.0538	0.0050	-0.0286	0.0165
3	94.92	0.2357	0.0286	0.0062	-0.0065	0.0040	-0.1974	0.0096	-0.0501	0.0281
3	94.92	0.2995	-0.0130	0.0067	0.0307	0.0087	-0.3669	0.0230	-0.0908	0.0385
3	94.92	0.3493	-0.0132	0.0147	0.0281	0.0132	-0.6147	0.0388	-0.0194	0.0378
3	94.92	0.4000	0.0143	0.0236	0.0514	0.0228	-1.0195	0.0614	0.0799	0.0446
3	94.92	0.4497	-0.0279	0.0294	0.0672	0.0248	-1.5909	0.0868	-0.0733	0.0394
3	94.92	0.4997	-0.0348	0.0351	0.1022	0.0321	-2.3217	0.1189	-0.0443	0.0437
3	94.92	0.5556	-0.0710	0.0386	0.1212	0.0407	-3.3269	0.1589	0.1899	0.0460
3	94.92	0.5995	-0.0874	0.0399	0.2009	0.0478	-4.2607	0.1957	0.0126	0.0557
3	94.92	0.6498	-0.1280	0.0398	0.2356	0.0568	-5.5446	0.2448	0.1905	0.0555
3	94.92	0.6890	-0.1868	0.0382	0.3107	0.0640	-6.6581	0.2869	0.1209	0.0584
3	94.92	0.7495	-0.2594	0.0340	0.3701	0.0759	-8.5452	0.3602	0.2860	0.1007
3	94.92	0.7998	-0.3925	0.0315	0.4312	0.0848	-10.1752	0.4300	0.2953	0.0775
4	94.92	0.2001	0.0280	0.0066	0.0051	0.0035	-0.1218	0.0164	-0.2267	0.1018
4	94.92	0.2502	0.0055	0.0116	0.0106	0.0048	-0.2659	0.0237	-0.2834	0.2023
4	94.92	0.3001	-0.0535	0.0061	0.0398	0.0093	-0.5345	0.0448	-0.5097	0.1883
4	94.92	0.3502	-0.0941	0.0065	0.0321	0.0134	-0.9150	0.0686	-0.5253	0.1723
4	94.92	0.4002	-0.1408	0.0065	0.0769	0.0196	-1.4378	0.1006	-0.6285	0.1955
4	94.92	0.4500	-0.1793	0.0079	0.1438	0.0250	-2.1559	0.1307	-0.8301	0.1839
4	94.92	0.5001	-0.2700	0.0095	0.1824	0.0318	-2.9498	0.1749	-0.4391	0.1794
4	94.92	0.5560	-0.3690	0.0132	0.2593	0.0406	-4.1721	0.2308	-0.6756	0.1755
4	94.92	0.6001	-0.4014	0.0163	0.3005	0.0480	-5.2684	0.2827	-0.6649	0.1727
4	94.92	0.6501	-0.5111	0.0220	0.3805	0.0562	-6.6836	0.3508	-0.6453	0.1800
4	94.92	0.6999	-0.6188	0.0298	0.4365	0.0646	-8.2493	0.4264	-0.4409	0.1787
4	94.92	0.7500	-0.7270	0.0387	0.4890	0.0735	-9.9748	0.5149	-0.3142	0.1776
4	94.92	0.8002	-0.8739	0.0500	0.5167	0.0827	-11.8465	0.6089	-0.4380	0.1825
4	94.92	0.8582	-1.0313	0.0642	0.5977	0.0939	-14.0713	0.7220	-0.4547	0.1947
4	94.92	0.9101	-1.1720	0.0750	0.6844	0.1042	-16.1741	0.8342	-0.6386	0.1855
4	94.92	0.9728	-1.1986	0.0872	0.8472	0.1160	-18.5014	0.9694	-0.0488	0.1832

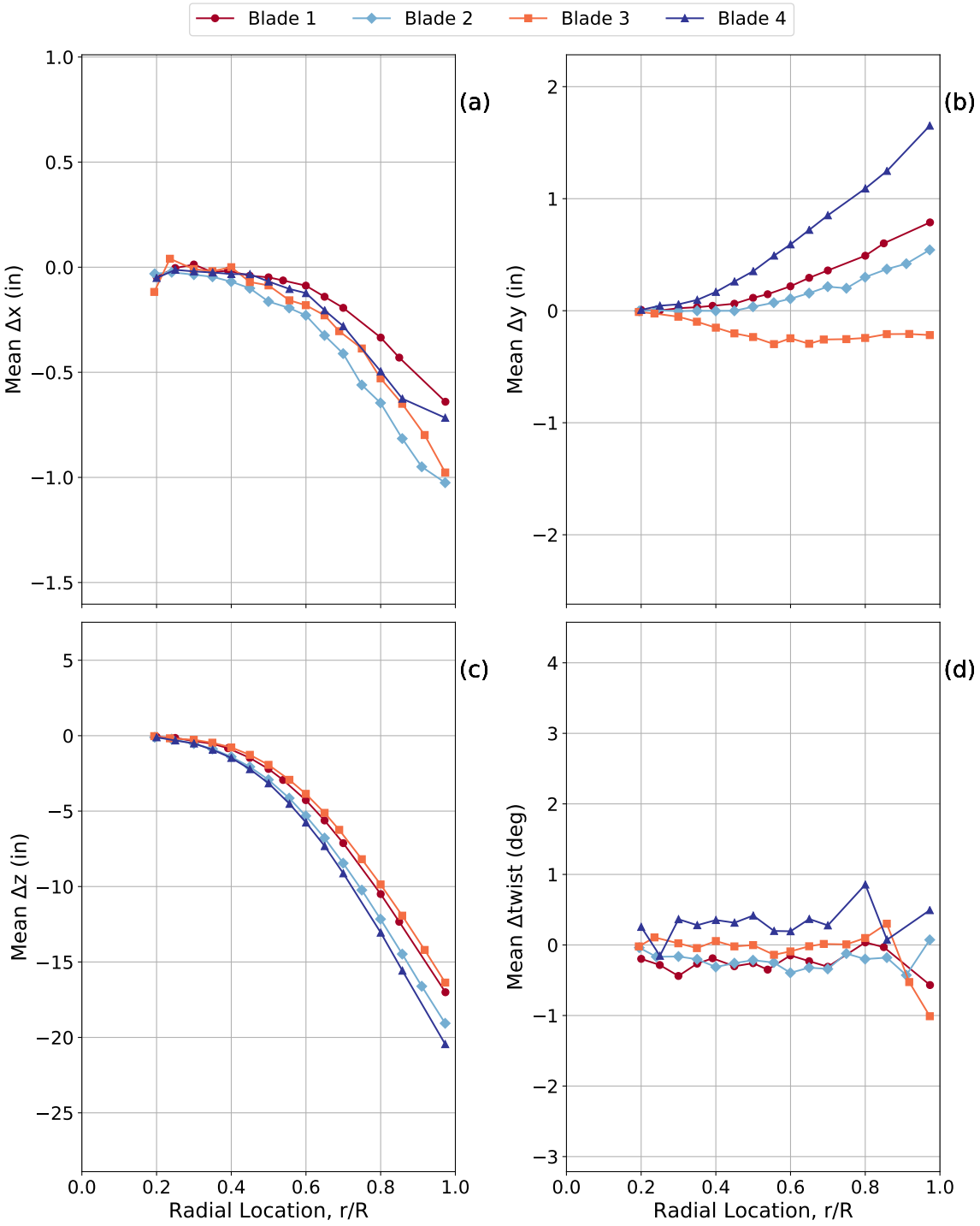


Figure 2.25-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-17. 100° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0460	0.0013	0.0070	0.0009	-0.0773	0.0058	-0.1969	0.0228
1	99.84	0.2499	-0.0040	0.0015	0.0017	0.0021	-0.1496	0.0134	-0.2843	0.0390
1	99.84	0.2998	0.0128	0.0017	0.0227	0.0041	-0.3562	0.0263	-0.4393	0.0509
1	99.84	0.3498	-0.0237	0.0023	0.0310	0.0067	-0.5368	0.0443	-0.2650	0.0468
1	99.84	0.3913	-0.0165	0.0028	0.0436	0.0099	-0.8295	0.0657	-0.1889	0.0494
1	99.84	0.4496	-0.0407	0.0042	0.0624	0.0143	-1.4728	0.1050	-0.3023	0.0452
1	99.84	0.4997	-0.0481	0.0067	0.1149	0.0196	-2.2042	0.1502	-0.2584	0.0491
1	99.84	0.5387	-0.0631	0.0090	0.1472	0.0239	-2.9341	0.1931	-0.3498	0.0495
1	99.84	0.5996	-0.0877	0.0143	0.2178	0.0312	-4.2720	0.2726	-0.1481	0.0516
1	99.84	0.6498	-0.1406	0.0210	0.2937	0.0376	-5.6191	0.3492	-0.2300	0.0520
1	99.84	0.6998	-0.1934	0.0289	0.3594	0.0440	-7.1229	0.4345	-0.3090	0.0453
1	99.84	0.8001	-0.3347	0.0494	0.4909	0.0567	-10.4991	0.6233	0.0360	0.0584
1	99.84	0.8497	-0.4300	0.0605	0.6014	0.0630	-12.3347	0.7207	-0.0309	0.0520
1	99.84	0.9734	-0.6401	0.0845	0.7884	0.0796	-17.0064	0.9710	-0.5684	0.0915
2	99.84	0.1949	-0.0312	0.0078	-0.0021	0.0074	-0.1066	0.0208	-0.0384	0.1286
2	99.84	0.2405	-0.0241	0.0042	0.0040	0.0070	-0.2265	0.0148	-0.1674	0.4095
2	99.84	0.2999	-0.0356	0.0049	-0.0036	0.0258	-0.5231	0.0680	-0.1637	0.4257
2	99.84	0.3498	-0.0457	0.0043	-0.0009	0.0450	-0.8796	0.1193	-0.2027	0.4165
2	99.84	0.3998	-0.0688	0.0049	-0.0014	0.0660	-1.3969	0.1722	-0.3125	0.4132
2	99.84	0.4496	-0.1002	0.0060	-0.0007	0.0891	-2.0649	0.2264	-0.2583	0.4189
2	99.84	0.4995	-0.1632	0.0075	0.0353	0.1151	-2.9206	0.2843	-0.2158	0.4285
2	99.84	0.5551	-0.1939	0.0104	0.0715	0.1474	-4.1415	0.3560	-0.2495	0.4170
2	99.84	0.5996	-0.2291	0.0137	0.1070	0.1754	-5.3181	0.4154	-0.3949	0.4203
2	99.84	0.6497	-0.3246	0.0195	0.1568	0.2093	-6.7852	0.4864	-0.3214	0.4226
2	99.84	0.6996	-0.4111	0.0263	0.2146	0.2457	-8.4528	0.5620	-0.3399	0.4130
2	99.84	0.7495	-0.5603	0.0304	0.2005	0.2495	-10.2340	0.6382	-0.1222	0.3226
2	99.84	0.7996	-0.6456	0.0453	0.2992	0.3226	-12.1594	0.7240	-0.2002	0.4164
2	99.84	0.8578	-0.8153	0.0576	0.3714	0.3692	-14.4746	0.8233	-0.1798	0.4270
2	99.84	0.9100	-0.9496	0.0716	0.4195	0.4132	-16.6097	0.9193	-0.4280	0.4265
2	99.84	0.9727	-1.0252	0.0768	0.5430	0.4620	-19.0662	1.0307	0.0727	0.4303
3	99.84	0.1938	-0.1176	0.0147	-0.0110	0.0162	-0.0312	0.0269	-0.0206	0.0401
3	99.84	0.2357	0.0403	0.0064	-0.0250	0.0070	-0.1747	0.0144	0.1072	0.0500
3	99.84	0.2995	-0.0091	0.0044	-0.0535	0.0477	-0.2722	0.0803	0.0237	0.0690
3	99.84	0.3493	-0.0189	0.0095	-0.0982	0.0811	-0.4639	0.1385	-0.0444	0.0605
3	99.84	0.4000	0.0000	0.0143	-0.1514	0.1171	-0.7794	0.2005	0.0554	0.0523
3	99.84	0.4497	-0.0705	0.0168	-0.2024	0.1534	-1.2694	0.2648	-0.0203	0.0559
3	99.84	0.4997	-0.0865	0.0180	-0.2350	0.1919	-1.9335	0.3321	-0.0020	0.0667
3	99.84	0.5556	-0.1575	0.0189	-0.2981	0.2366	-2.9265	0.4100	-0.1395	0.0670
3	99.84	0.5995	-0.1807	0.0186	-0.2461	0.2726	-3.8560	0.4753	-0.0916	0.0620
3	99.84	0.6498	-0.2290	0.0189	-0.2950	0.3151	-5.1171	0.5506	-0.0184	0.0627
3	99.84	0.6890	-0.3043	0.0201	-0.2571	0.3490	-6.2425	0.6100	0.0143	0.0673
3	99.84	0.7495	-0.3867	0.0267	-0.2537	0.4038	-8.1889	0.7048	0.0079	0.0661
3	99.84	0.7998	-0.5287	0.0359	-0.2432	0.4520	-9.8622	0.7857	0.0981	0.0664
3	99.84	0.8577	-0.6499	0.0504	-0.2090	0.5108	-11.9298	0.8791	0.3013	0.0855
3	99.84	0.9178	-0.7984	0.0671	-0.2076	0.6514	-14.2031	1.1745	-0.5261	3.3199
3	99.84	0.9729	-0.9766	0.0674	-0.2174	0.7723	-16.3662	1.3764	-1.0103	3.6180
4	99.84	0.2001	-0.0512	0.0014	0.0072	0.0007	-0.1075	0.0044	0.2559	0.0202
4	99.84	0.2502	-0.0125	0.0015	0.0446	0.0022	-0.3173	0.0106	-0.1536	0.0281
4	99.84	0.3001	-0.0200	0.0019	0.0571	0.0034	-0.5160	0.0199	0.3644	0.0417
4	99.84	0.3502	-0.0253	0.0022	0.0966	0.0056	-0.9364	0.0336	0.2799	0.0364
4	99.84	0.4002	-0.0324	0.0031	0.1679	0.0093	-1.4752	0.0537	0.3533	0.0431
4	99.84	0.4500	-0.0334	0.0048	0.2608	0.0127	-2.2209	0.0799	0.3153	0.0415
4	99.84	0.5001	-0.0683	0.0072	0.3528	0.0172	-3.1589	0.1154	0.4167	0.0449
4	99.84	0.5560	-0.1036	0.0106	0.4918	0.0228	-4.5196	0.1642	0.1983	0.0421
4	99.84	0.6001	-0.1233	0.0149	0.5921	0.0272	-5.7589	0.2106	0.1942	0.0444
4	99.84	0.6501	-0.2052	0.0205	0.7217	0.0329	-7.3212	0.2693	0.3680	0.0444
4	99.84	0.6999	-0.2806	0.0275	0.8518	0.0384	-9.1241	0.3351	0.2773	0.0434
4	99.84	0.8002	-0.4957	0.0450	1.0911	0.0500	-13.0563	0.4769	0.8564	0.0651
4	99.84	0.8582	-0.6257	0.0560	1.2479	0.0568	-15.5779	0.5643	0.0734	0.0828
4	99.84	0.9728	-0.7165	0.0774	1.6519	0.0702	-20.4485	0.7412	0.4935	0.1304

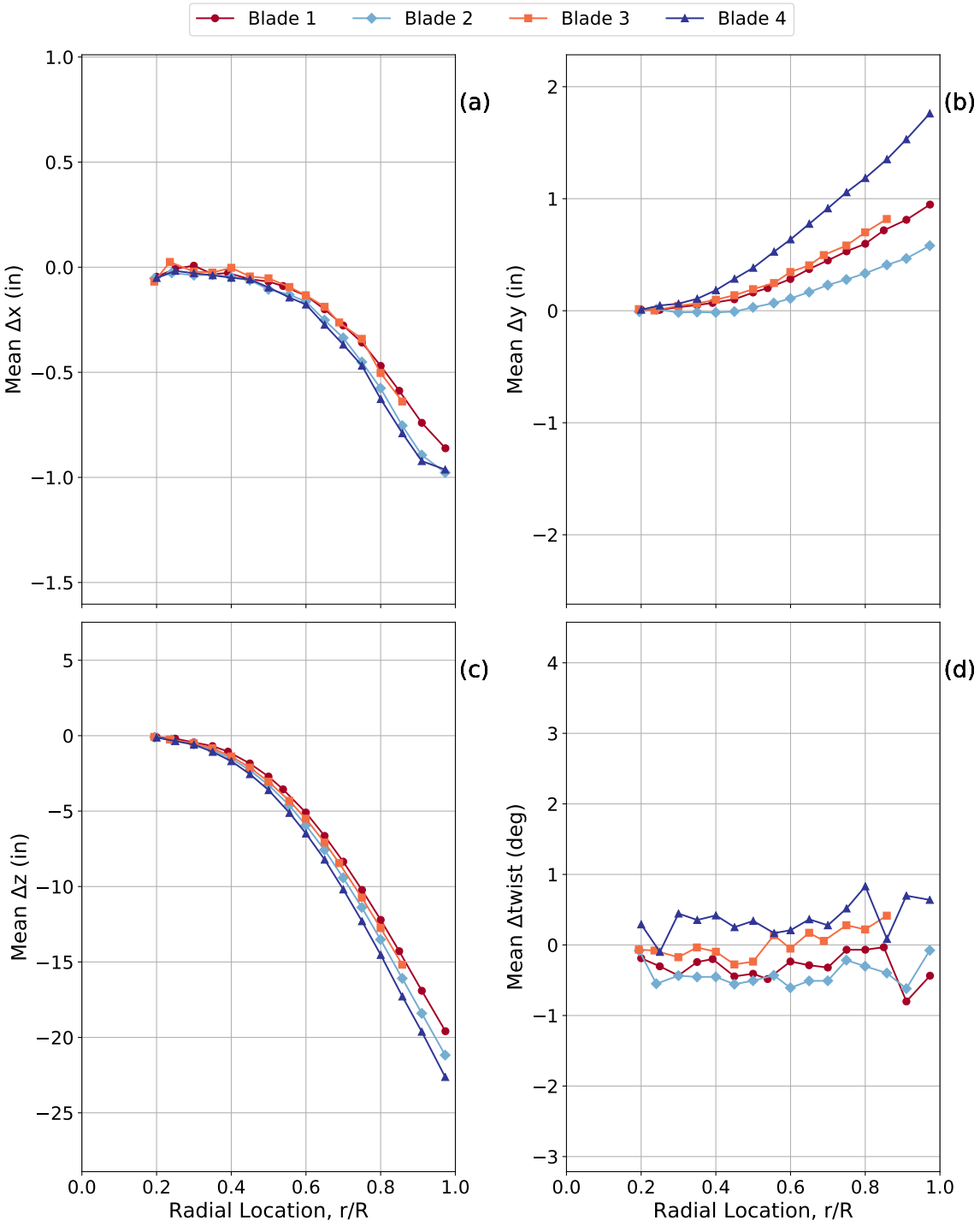


Figure 2.25-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-18. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0452	0.0025	0.0093	0.0011	-0.0966	0.0074	-0.1884	0.0220
1	105.12	0.2499	-0.0072	0.0024	0.0079	0.0022	-0.1962	0.0183	-0.3032	0.0556
1	105.12	0.2998	0.0072	0.0031	0.0316	0.0046	-0.4468	0.0349	-0.4334	0.0568
1	105.12	0.3498	-0.0328	0.0035	0.0505	0.0076	-0.6876	0.0589	-0.2420	0.0609
1	105.12	0.3913	-0.0275	0.0044	0.0695	0.0112	-1.0558	0.0880	-0.2000	0.0607
1	105.12	0.4496	-0.0568	0.0063	0.1018	0.0170	-1.8423	0.1353	-0.4455	0.0590
1	105.12	0.4997	-0.0685	0.0093	0.1626	0.0226	-2.7075	0.1857	-0.4083	0.0634
1	105.12	0.5387	-0.0895	0.0127	0.2017	0.0276	-3.5572	0.2335	-0.4834	0.0663
1	105.12	0.5996	-0.1349	0.0203	0.2833	0.0367	-5.0942	0.3199	-0.2348	0.0655
1	105.12	0.6498	-0.2001	0.0281	0.3720	0.0436	-6.6433	0.4047	-0.2874	0.0731
1	105.12	0.6998	-0.2773	0.0390	0.4491	0.0513	-8.3511	0.5005	-0.3200	0.0586
1	105.12	0.7500	-0.3584	0.0516	0.5299	0.0589	-10.2273	0.6057	-0.0678	0.0643
1	105.12	0.8001	-0.4697	0.0660	0.5974	0.0663	-12.2104	0.7199	-0.0674	0.0683
1	105.12	0.8497	-0.5879	0.0812	0.7176	0.0733	-14.2850	0.8378	-0.0322	0.0723
1	105.12	0.9102	-0.7403	0.1002	0.8116	0.0822	-16.9083	0.9877	-0.8008	0.0938
1	105.12	0.9734	-0.8613	0.1180	0.9477	0.0913	-19.5899	1.1481	-0.4362	0.0814
2	105.12	0.1949	-0.0532	0.0018	-0.0084	0.0011	-0.1037	0.0062	-0.0795	0.0217
2	105.12	0.2405	-0.0271	0.0018	0.0120	0.0027	-0.2737	0.0152	-0.5501	0.0313
2	105.12	0.2999	-0.0382	0.0022	-0.0152	0.0052	-0.5515	0.0320	-0.4354	0.0493
2	105.12	0.3498	-0.0357	0.0031	-0.0121	0.0093	-0.9524	0.0548	-0.4537	0.0397
2	105.12	0.3998	-0.0480	0.0041	-0.0157	0.0145	-1.5167	0.0874	-0.4523	0.0417
2	105.12	0.4496	-0.0617	0.0060	-0.0073	0.0196	-2.2912	0.1268	-0.5567	0.0398
2	105.12	0.4995	-0.1054	0.0091	0.0298	0.0260	-3.2636	0.1772	-0.5069	0.0442
2	105.12	0.5551	-0.1307	0.0144	0.0682	0.0340	-4.6105	0.2466	-0.4306	0.0428
2	105.12	0.5996	-0.1631	0.0203	0.1090	0.0414	-5.9342	0.3130	-0.6075	0.0466
2	105.12	0.6497	-0.2516	0.0290	0.1662	0.0493	-7.5697	0.3956	-0.5095	0.0533
2	105.12	0.6996	-0.3360	0.0389	0.2291	0.0576	-9.4190	0.4870	-0.5080	0.0501
2	105.12	0.7495	-0.4511	0.0512	0.2784	0.0661	-11.3818	0.5848	-0.2156	0.0471
2	105.12	0.7996	-0.5757	0.0645	0.3333	0.0747	-13.5153	0.6883	-0.3020	0.0568
2	105.12	0.8578	-0.7537	0.0817	0.4091	0.0845	-16.0873	0.8106	-0.3983	0.0685
2	105.12	0.9100	-0.8936	0.0957	0.4662	0.0933	-18.4039	0.9219	-0.6188	0.0745
2	105.12	0.9727	-0.9770	0.1108	0.5806	0.1039	-21.1724	1.0546	-0.0764	0.0984
3	105.12	0.1938	-0.0686	0.0018	0.0142	0.0010	-0.0792	0.0065	-0.0656	0.0229
3	105.12	0.2357	0.0250	0.0019	0.0022	0.0024	-0.2537	0.0130	-0.0790	0.0419
3	105.12	0.2995	-0.0209	0.0025	0.0435	0.0038	-0.5012	0.0305	-0.1739	0.0565
3	105.12	0.3493	-0.0253	0.0032	0.0645	0.0065	-0.8356	0.0526	-0.0352	0.0525
3	105.12	0.4000	-0.0028	0.0044	0.0985	0.0104	-1.3783	0.0828	-0.0960	0.0441
3	105.12	0.4497	-0.0441	0.0064	0.1383	0.0140	-2.1159	0.1170	-0.2759	0.0533
3	105.12	0.4997	-0.0528	0.0089	0.1923	0.0188	-3.0463	0.1622	-0.2359	0.0614
3	105.12	0.5556	-0.0942	0.0136	0.2471	0.0246	-4.3202	0.2236	0.1390	0.0496
3	105.12	0.5995	-0.1336	0.0185	0.3455	0.0298	-5.5019	0.2809	-0.0517	0.0556
3	105.12	0.6498	-0.1882	0.0256	0.4048	0.0354	-7.0790	0.3552	0.1727	0.0668
3	105.12	0.6890	-0.2629	0.0327	0.4970	0.0406	-8.4471	0.4201	0.0579	0.0549
3	105.12	0.7495	-0.3408	0.0458	0.5818	0.0484	-10.7349	0.5307	0.2799	0.0573
3	105.12	0.7998	-0.5032	0.0584	0.6996	0.0544	-12.7489	0.6287	0.2201	0.0558
3	105.12	0.8577	-0.6388	0.0738	0.8187	0.0615	-15.1810	0.7481	0.4153	0.0723
4	105.12	0.2001	-0.0512	0.0018	0.0089	0.0011	-0.1253	0.0061	0.2916	0.0219
4	105.12	0.2502	-0.0175	0.0023	0.0466	0.0026	-0.3578	0.0154	-0.0981	0.0380
4	105.12	0.3001	-0.0287	0.0024	0.0630	0.0046	-0.5957	0.0283	0.4449	0.0495
4	105.12	0.3502	-0.0385	0.0031	0.1070	0.0081	-1.0732	0.0490	0.3538	0.0407
4	105.12	0.4002	-0.0500	0.0042	0.1831	0.0126	-1.6909	0.0777	0.4186	0.0387
4	105.12	0.4500	-0.0580	0.0063	0.2852	0.0170	-2.5511	0.1099	0.2523	0.0425
4	105.12	0.5001	-0.0964	0.0092	0.3830	0.0222	-3.6113	0.1507	0.3409	0.0484
4	105.12	0.5560	-0.1442	0.0137	0.5268	0.0295	-5.1183	0.2086	0.1675	0.0411
4	105.12	0.6001	-0.1777	0.0189	0.6367	0.0357	-6.4846	0.2609	0.2094	0.0432
4	105.12	0.6501	-0.2739	0.0258	0.7756	0.0427	-8.2171	0.3284	0.3635	0.0508
4	105.12	0.6999	-0.3683	0.0349	0.9141	0.0504	-10.1925	0.4041	0.2786	0.0436
4	105.12	0.7500	-0.4686	0.0452	1.0577	0.0579	-12.2987	0.4863	0.5175	0.0444
4	105.12	0.8002	-0.6273	0.0575	1.1846	0.0656	-14.5311	0.5732	0.8311	0.0453
4	105.12	0.8582	-0.7900	0.0726	1.3518	0.0747	-17.2888	0.6760	0.0850	0.0642
4	105.12	0.9101	-0.9224	0.0846	1.5302	0.0829	-19.6261	0.7716	0.6983	0.0621
4	105.12	0.9728	-0.9627	0.0985	1.7607	0.0932	-22.6235	0.8882	0.6392	0.0875

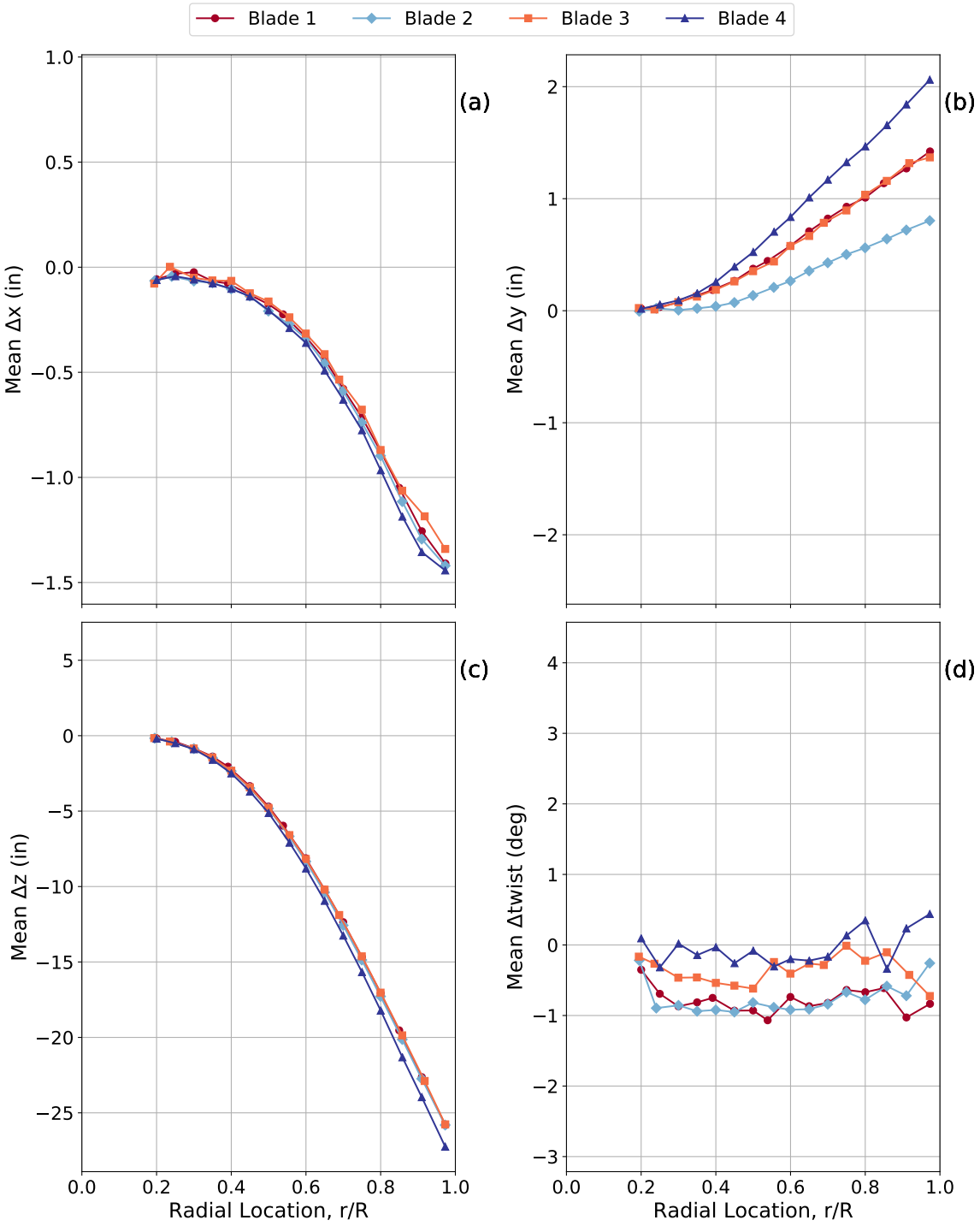


Figure 2.25-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-19. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0572	0.0021	0.0196	0.0012	-0.1891	0.0074	-0.3517	0.0176
1	119.88	0.2499	-0.0310	0.0023	0.0339	0.0024	-0.4009	0.0163	-0.6926	0.0340
1	119.88	0.2998	-0.0238	0.0030	0.0730	0.0049	-0.8375	0.0323	-0.8703	0.0413
1	119.88	0.3498	-0.0666	0.0039	0.1357	0.0086	-1.3849	0.0557	-0.8133	0.0379
1	119.88	0.3913	-0.0776	0.0054	0.1851	0.0122	-2.0542	0.0811	-0.7503	0.0406
1	119.88	0.4496	-0.1314	0.0084	0.2663	0.0176	-3.3389	0.1246	-0.9311	0.0432
1	119.88	0.4997	-0.1762	0.0119	0.3750	0.0235	-4.6976	0.1702	-0.9287	0.0412
1	119.88	0.5387	-0.2242	0.0159	0.4441	0.0274	-5.9654	0.2080	-1.0677	0.0423
1	119.88	0.5996	-0.3322	0.0234	0.5795	0.0354	-8.1226	0.2771	-0.7374	0.0419
1	119.88	0.6498	-0.4368	0.0314	0.7089	0.0414	-10.1966	0.3404	-0.8682	0.0443
1	119.88	0.6998	-0.5787	0.0407	0.8223	0.0478	-12.3606	0.4080	-0.8215	0.0493
1	119.88	0.7500	-0.7152	0.0521	0.9280	0.0546	-14.6768	0.4845	-0.6378	0.0450
1	119.88	0.8001	-0.8764	0.0649	1.0093	0.0610	-17.0683	0.5663	-0.6696	0.0481
1	119.88	0.8497	-1.0497	0.0790	1.1378	0.0671	-19.5323	0.6538	-0.6118	0.0533
1	119.88	0.9102	-1.2561	0.0960	1.2698	0.0749	-22.6311	0.7667	-1.0278	0.0547
1	119.88	0.9734	-1.4094	0.1126	1.4222	0.0829	-25.8182	0.8894	-0.8345	0.0595
2	119.88	0.1949	-0.0646	0.0024	-0.0047	0.0009	-0.1684	0.0073	-0.2181	0.0168
2	119.88	0.2405	-0.0438	0.0024	0.0214	0.0022	-0.4106	0.0146	-0.8950	0.0248
2	119.88	0.2999	-0.0659	0.0034	0.0055	0.0045	-0.8573	0.0336	-0.8562	0.0364
2	119.88	0.3498	-0.0749	0.0043	0.0210	0.0079	-1.4845	0.0582	-0.9392	0.0382
2	119.88	0.3998	-0.1035	0.0065	0.0391	0.0123	-2.3466	0.0906	-0.9211	0.0383
2	119.88	0.4496	-0.1369	0.0097	0.0729	0.0169	-3.4735	0.1305	-0.9506	0.0365
2	119.88	0.4995	-0.2089	0.0139	0.1359	0.0225	-4.8255	0.1788	-0.8174	0.0418
2	119.88	0.5551	-0.2712	0.0203	0.2084	0.0287	-6.6710	0.2415	-0.8842	0.0396
2	119.88	0.5996	-0.3396	0.0268	0.2650	0.0345	-8.3400	0.2990	-0.9184	0.0412
2	119.88	0.6497	-0.4575	0.0359	0.3553	0.0411	-10.3861	0.3700	-0.9103	0.0434
2	119.88	0.6996	-0.5891	0.0467	0.4278	0.0475	-12.5717	0.4490	-0.8395	0.0444
2	119.88	0.7495	-0.7388	0.0596	0.5025	0.0541	-14.8690	0.5339	-0.6682	0.0457
2	119.88	0.7996	-0.8970	0.0738	0.5611	0.0607	-17.2802	0.6254	-0.7776	0.0494
2	119.88	0.8578	-1.1150	0.0914	0.6407	0.0684	-20.1329	0.7375	-0.5838	0.0498
2	119.88	0.9100	-1.2935	0.1068	0.7203	0.0759	-22.7420	0.8415	-0.7197	0.0500
2	119.88	0.9727	-1.4201	0.1239	0.8039	0.0837	-25.8087	0.9686	-0.2580	0.0594
3	119.88	0.1938	-0.0779	0.0032	0.0238	0.0016	-0.1611	0.0107	-0.1654	0.0165
3	119.88	0.2357	0.0018	0.0035	0.0112	0.0029	-0.3862	0.0211	-0.2660	0.0295
3	119.88	0.2995	-0.0504	0.0047	0.0764	0.0068	-0.8489	0.0509	-0.4637	0.0402
3	119.88	0.3493	-0.0629	0.0065	0.1258	0.0118	-1.4493	0.0873	-0.4604	0.0350
3	119.88	0.4000	-0.0650	0.0095	0.1874	0.0184	-2.3197	0.1377	-0.5376	0.0375
3	119.88	0.4497	-0.1240	0.0141	0.2614	0.0260	-3.4264	0.1998	-0.5767	0.0411
3	119.88	0.4997	-0.1632	0.0210	0.3530	0.0345	-4.7924	0.2762	-0.6184	0.0417
3	119.88	0.5556	-0.2385	0.0309	0.4394	0.0451	-6.5891	0.3760	-0.2420	0.0413
3	119.88	0.5995	-0.3157	0.0416	0.5778	0.0544	-8.1759	0.4662	-0.4063	0.0448
3	119.88	0.6498	-0.4138	0.0559	0.6671	0.0648	-10.2043	0.5781	-0.2632	0.0501
3	119.88	0.6890	-0.5347	0.0691	0.7847	0.0729	-11.8869	0.6771	-0.2844	0.0487
3	119.88	0.7495	-0.6779	0.0932	0.8950	0.0858	-14.6258	0.8444	-0.0112	0.0534
3	119.88	0.7998	-0.8696	0.1162	1.0353	0.0971	-17.0319	0.9930	-0.2237	0.0651
3	119.88	0.8577	-1.0632	0.1446	1.1590	0.1089	-19.8639	1.1763	-0.1033	0.0744
3	119.88	0.9178	-1.1851	0.1749	1.3172	0.1218	-22.8889	1.3769	-0.4246	0.0739
3	119.88	0.9729	-1.3403	0.1998	1.3687	0.1328	-25.7635	1.5673	-0.7240	0.0716
4	119.88	0.2001	-0.0609	0.0026	0.0176	0.0011	-0.2015	0.0079	0.0936	0.0172
4	119.88	0.2502	-0.0430	0.0034	0.0548	0.0022	-0.4983	0.0176	-0.3176	0.0250
4	119.88	0.3001	-0.0587	0.0037	0.0930	0.0043	-0.9016	0.0351	0.0182	0.0369
4	119.88	0.3502	-0.0772	0.0048	0.1565	0.0076	-1.6028	0.0598	-0.1435	0.0339
4	119.88	0.4002	-0.1028	0.0069	0.2568	0.0116	-2.5038	0.0943	-0.0324	0.0382
4	119.88	0.4500	-0.1395	0.0105	0.3934	0.0162	-3.7054	0.1346	-0.2585	0.0370
4	119.88	0.5001	-0.2047	0.0155	0.5239	0.0218	-5.1270	0.1865	-0.0809	0.0365
4	119.88	0.5560	-0.2895	0.0225	0.7050	0.0286	-7.0973	0.2525	-0.3045	0.0390
4	119.88	0.6001	-0.3602	0.0299	0.8365	0.0343	-8.8049	0.3133	-0.1998	0.0358
4	119.88	0.6501	-0.4918	0.0400	1.0107	0.0407	-10.9502	0.3900	-0.2219	0.0374
4	119.88	0.6999	-0.6305	0.0522	1.1696	0.0478	-13.2542	0.4739	-0.1658	0.0428
4	119.88	0.7500	-0.7760	0.0661	1.3257	0.0547	-15.6753	0.5645	0.1341	0.0429
4	119.88	0.8002	-0.9661	0.0822	1.4666	0.0615	-18.2248	0.6617	0.3490	0.0425
4	119.88	0.8582	-1.1868	0.1015	1.6561	0.0691	-21.3206	0.7797	-0.3382	0.0472
4	119.88	0.9101	-1.3554	0.1179	1.8409	0.0762	-23.9636	0.8888	0.2347	0.0503
4	119.88	0.9728	-1.4427	0.1371	2.0617	0.0846	-27.2440	1.0235	0.4385	0.0568

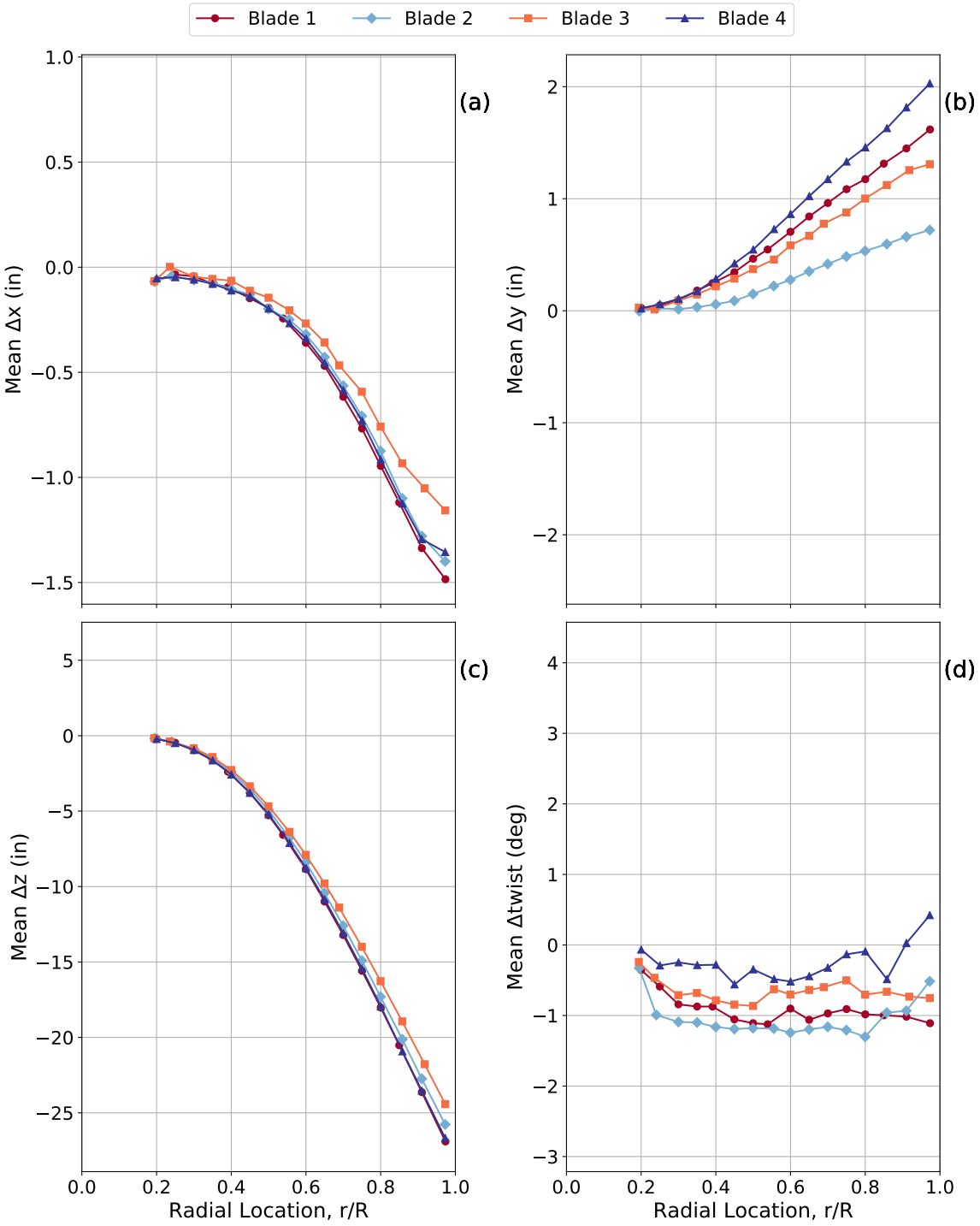


Figure 2.25-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-20. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0593	0.0027	0.0248	0.0011	-0.2192	0.0083	-0.3561	0.0163
1	135	0.2499	-0.0350	0.0031	0.0478	0.0026	-0.4705	0.0195	-0.5896	0.0307
1	135	0.2998	-0.0433	0.0038	0.0947	0.0049	-0.9660	0.0373	-0.8422	0.0382
1	135	0.3498	-0.0786	0.0054	0.1798	0.0084	-1.6208	0.0641	-0.8729	0.0389
1	135	0.3913	-0.0945	0.0069	0.2458	0.0123	-2.3894	0.0943	-0.8732	0.0381
1	135	0.4496	-0.1478	0.0111	0.3435	0.0184	-3.7898	0.1475	-1.0550	0.0467
1	135	0.4997	-0.1931	0.0163	0.4643	0.0244	-5.2769	0.2053	-1.1090	0.0413
1	135	0.5387	-0.2437	0.0213	0.5464	0.0294	-6.5790	0.2560	-1.1246	0.0433
1	135	0.5996	-0.3594	0.0315	0.7044	0.0377	-8.8478	0.3450	-0.9021	0.0446
1	135	0.6498	-0.4694	0.0425	0.8411	0.0451	-10.9901	0.4288	-1.0615	0.0466
1	135	0.6998	-0.6165	0.0550	0.9611	0.0523	-13.2143	0.5178	-0.9704	0.0512
1	135	0.7500	-0.7676	0.0691	1.0849	0.0598	-15.5830	0.6130	-0.9092	0.0540
1	135	0.8001	-0.9454	0.0850	1.1741	0.0673	-18.0224	0.7121	-0.9838	0.0517
1	135	0.8497	-1.1192	0.1023	1.3127	0.0743	-20.5170	0.8161	-0.9973	0.0565
1	135	0.9102	-1.3366	0.1234	1.4488	0.0832	-23.6283	0.9478	-1.0164	0.0586
1	135	0.9734	-1.4844	0.1435	1.6179	0.0928	-26.8986	1.0908	-1.1095	0.0621
2	135	0.1949	-0.0686	0.0024	-0.0026	0.0009	-0.1721	0.0071	-0.3271	0.0252
2	135	0.2405	-0.0420	0.0027	0.0223	0.0022	-0.4182	0.0146	-0.9927	0.0354
2	135	0.2999	-0.0607	0.0034	0.0138	0.0046	-0.8869	0.0334	-1.0910	0.0579
2	135	0.3498	-0.0733	0.0043	0.0318	0.0074	-1.5041	0.0564	-1.0987	0.0470
2	135	0.3998	-0.1047	0.0062	0.0569	0.0120	-2.3998	0.0888	-1.1629	0.0596
2	135	0.4496	-0.1298	0.0086	0.0886	0.0158	-3.5415	0.1232	-1.1912	0.0463
2	135	0.4995	-0.1983	0.0124	0.1491	0.0204	-4.9307	0.1653	-1.1797	0.0578
2	135	0.5551	-0.2490	0.0175	0.2205	0.0257	-6.7513	0.2164	-1.1849	0.0534
2	135	0.5996	-0.3197	0.0227	0.2757	0.0304	-8.4003	0.2616	-1.2430	0.0578
2	135	0.6497	-0.4281	0.0294	0.3511	0.0358	-10.4310	0.3173	-1.1968	0.0613
2	135	0.6996	-0.5639	0.0385	0.4170	0.0412	-12.5944	0.3790	-1.1615	0.0616
2	135	0.7495	-0.7079	0.0488	0.4842	0.0467	-14.9067	0.4464	-1.2076	0.0587
2	135	0.7996	-0.8748	0.0609	0.5332	0.0524	-17.3013	0.5215	-1.3015	0.0613
2	135	0.8578	-1.0997	0.0763	0.5951	0.0588	-20.1250	0.6164	-0.9596	0.0636
2	135	0.9100	-1.2792	0.0900	0.6599	0.0644	-22.7393	0.7073	-0.9336	0.0738
2	135	0.9727	-1.3996	0.1056	0.7201	0.0712	-25.7678	0.8210	-0.5159	0.0760
3	135	0.1938	-0.0670	0.0031	0.0282	0.0024	-0.1608	0.0106	-0.2414	0.0309
3	135	0.2357	0.0016	0.0028	0.0116	0.0021	-0.3778	0.0183	-0.4655	0.0821
3	135	0.2995	-0.0449	0.0041	0.0904	0.0082	-0.8387	0.0473	-0.7117	0.0952
3	135	0.3493	-0.0557	0.0059	0.1450	0.0139	-1.4171	0.0794	-0.6809	0.0871
3	135	0.4000	-0.0645	0.0080	0.2178	0.0208	-2.2736	0.1251	-0.7852	0.0900
3	135	0.4497	-0.1121	0.0119	0.2865	0.0280	-3.3533	0.1759	-0.8443	0.0926
3	135	0.4997	-0.1453	0.0167	0.3717	0.0355	-4.6764	0.2395	-0.8650	0.0976
3	135	0.5556	-0.2054	0.0239	0.4564	0.0439	-6.3757	0.3164	-0.6269	0.0857
3	135	0.5995	-0.2677	0.0318	0.5831	0.0529	-7.8932	0.3841	-0.7021	0.0922
3	135	0.6498	-0.3577	0.0409	0.6684	0.0608	-9.8039	0.4675	-0.6380	0.0910
3	135	0.6890	-0.4670	0.0501	0.7765	0.0679	-11.3971	0.5354	-0.5988	0.0893
3	135	0.7495	-0.5926	0.0655	0.8777	0.0788	-13.9932	0.6479	-0.5021	0.0922
3	135	0.7998	-0.7586	0.0800	1.0015	0.0883	-16.2736	0.7466	-0.7043	0.0929
3	135	0.8577	-0.9332	0.0979	1.1223	0.0984	-18.9413	0.8668	-0.6628	0.0884
3	135	0.9178	-1.0520	0.1164	1.2546	0.1098	-21.7793	0.9954	-0.7333	0.0876
3	135	0.9729	-1.1569	0.1311	1.3076	0.1195	-24.4204	1.1202	-0.7529	0.0919
4	135	0.2001	-0.0531	0.0018	0.0202	0.0009	-0.2163	0.0053	-0.0660	0.0243
4	135	0.2502	-0.0477	0.0020	0.0585	0.0025	-0.4922	0.0125	-0.2911	0.0332
4	135	0.3001	-0.0589	0.0028	0.1059	0.0041	-0.9503	0.0231	-0.2468	0.0504
4	135	0.3502	-0.0794	0.0037	0.1726	0.0073	-1.6411	0.0407	-0.2858	0.0415
4	135	0.4002	-0.1108	0.0053	0.2854	0.0114	-2.5751	0.0634	-0.2807	0.0449
4	135	0.4500	-0.1383	0.0076	0.4218	0.0147	-3.7915	0.0920	-0.5596	0.0460
4	135	0.5001	-0.1968	0.0106	0.5457	0.0192	-5.2086	0.1255	-0.3467	0.0465
4	135	0.5560	-0.2666	0.0159	0.7281	0.0256	-7.1133	0.1757	-0.4837	0.0533
4	135	0.6001	-0.3394	0.0213	0.8629	0.0301	-8.7817	0.2212	-0.5187	0.0498
4	135	0.6501	-0.4566	0.0294	1.0225	0.0357	-10.8611	0.2851	-0.4427	0.0489
4	135	0.6999	-0.5852	0.0398	1.1745	0.0416	-13.0880	0.3582	-0.3230	0.0554
4	135	0.7500	-0.7306	0.0525	1.3310	0.0473	-15.4414	0.4430	-0.1332	0.0561
4	135	0.8002	-0.9149	0.0668	1.4579	0.0532	-17.9379	0.5357	-0.0911	0.0547
4	135	0.8582	-1.1248	0.0851	1.6298	0.0599	-20.9270	0.6503	-0.4854	0.0560
4	135	0.9101	-1.2943	0.1006	1.8147	0.0663	-23.5295	0.7556	0.0252	0.0539
4	135	0.9728	-1.3551	0.1183	2.0281	0.0735	-26.6735	0.8877	0.4226	0.0587

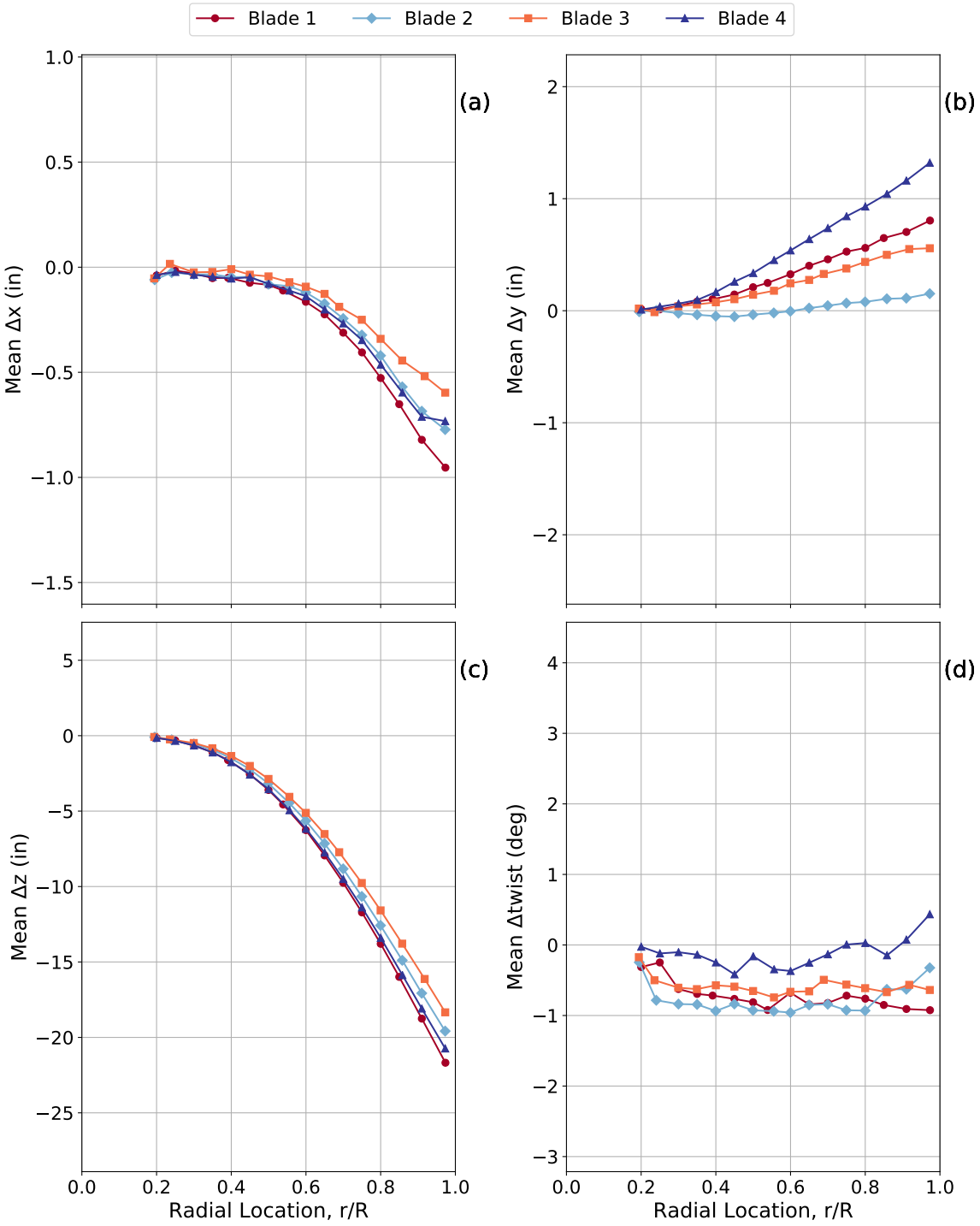


Figure 2.25-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-21. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0391	0.0015	0.0144	0.0009	-0.1506	0.0051	-0.3126	0.0199
1	150.12	0.2499	-0.0162	0.0019	0.0123	0.0021	-0.3146	0.0115	-0.2485	0.0350
1	150.12	0.2998	-0.0293	0.0024	0.0430	0.0033	-0.6540	0.0224	-0.6246	0.0436
1	150.12	0.3498	-0.0520	0.0025	0.0814	0.0055	-1.1038	0.0387	-0.6938	0.0448
1	150.12	0.3913	-0.0505	0.0034	0.1025	0.0080	-1.6177	0.0565	-0.7172	0.0438
1	150.12	0.4496	-0.0741	0.0051	0.1445	0.0115	-2.5508	0.0874	-0.7646	0.0481
1	150.12	0.4997	-0.0841	0.0075	0.2100	0.0141	-3.5995	0.1203	-0.8119	0.0511
1	150.12	0.5387	-0.1109	0.0098	0.2481	0.0164	-4.5583	0.1500	-0.9220	0.0511
1	150.12	0.5996	-0.1645	0.0148	0.3256	0.0206	-6.2582	0.2036	-0.6768	0.0584
1	150.12	0.6498	-0.2242	0.0202	0.4015	0.0235	-7.9370	0.2567	-0.8425	0.0528
1	150.12	0.6998	-0.3115	0.0273	0.4590	0.0271	-9.7528	0.3173	-0.8230	0.0651
1	150.12	0.7500	-0.4054	0.0364	0.5276	0.0303	-11.7172	0.3879	-0.7185	0.0651
1	150.12	0.8001	-0.5272	0.0478	0.5606	0.0335	-13.7958	0.4685	-0.7619	0.0637
1	150.12	0.8497	-0.6517	0.0606	0.6486	0.0366	-15.9887	0.5580	-0.8506	0.0696
1	150.12	0.9102	-0.8212	0.0770	0.7030	0.0406	-18.7543	0.6750	-0.9078	0.0615
1	150.12	0.9734	-0.9535	0.0939	0.8049	0.0446	-21.6803	0.8058	-0.9243	0.0709
2	150.12	0.1949	-0.0596	0.0022	-0.0091	0.0014	-0.0999	0.0059	-0.2463	0.0272
2	150.12	0.2405	-0.0257	0.0021	0.0018	0.0027	-0.2721	0.0106	-0.7841	0.0802
2	150.12	0.2999	-0.0338	0.0025	-0.0222	0.0060	-0.5522	0.0242	-0.8379	0.0846
2	150.12	0.3498	-0.0343	0.0029	-0.0360	0.0099	-0.9275	0.0418	-0.8433	0.0857
2	150.12	0.3998	-0.0474	0.0037	-0.0484	0.0157	-1.5002	0.0642	-0.9358	0.0907
2	150.12	0.4496	-0.0461	0.0052	-0.0530	0.0203	-2.2264	0.0927	-0.8364	0.1032
2	150.12	0.4995	-0.0807	0.0067	-0.0353	0.0238	-3.1697	0.1276	-0.9262	0.0950
2	150.12	0.5551	-0.0903	0.0097	-0.0195	0.0295	-4.4593	0.1728	-0.9393	0.0903
2	150.12	0.5996	-0.1202	0.0130	-0.0047	0.0345	-5.6441	0.2153	-0.9586	0.0915
2	150.12	0.6497	-0.1737	0.0184	0.0231	0.0395	-7.1481	0.2693	-0.8503	0.0951
2	150.12	0.6996	-0.2441	0.0245	0.0448	0.0447	-8.8258	0.3277	-0.8400	0.0930
2	150.12	0.7495	-0.3226	0.0316	0.0677	0.0502	-10.6560	0.3931	-0.9253	0.1065
2	150.12	0.7996	-0.4205	0.0410	0.0788	0.0552	-12.5762	0.4636	-0.9307	0.1030
2	150.12	0.8578	-0.5692	0.0525	0.1062	0.0609	-14.8898	0.5501	-0.6298	0.1010
2	150.12	0.9100	-0.6852	0.0624	0.1121	0.0665	-17.0703	0.6305	-0.6275	0.0954
2	150.12	0.9727	-0.7723	0.0729	0.1521	0.0724	-19.5810	0.7315	-0.3240	0.1016
3	150.12	0.1938	-0.0533	0.0032	0.0193	0.0021	-0.0851	0.0077	-0.1736	0.0305
3	150.12	0.2357	0.0158	0.0024	-0.0128	0.0023	-0.2458	0.0097	-0.5003	0.1154
3	150.12	0.2995	-0.0244	0.0024	0.0394	0.0068	-0.4866	0.0275	-0.6058	0.1153
3	150.12	0.3493	-0.0227	0.0031	0.0559	0.0119	-0.8346	0.0468	-0.6259	0.1166
3	150.12	0.4000	-0.0093	0.0037	0.0751	0.0177	-1.3461	0.0714	-0.5718	0.1161
3	150.12	0.4497	-0.0357	0.0048	0.1027	0.0222	-2.0070	0.0994	-0.5903	0.1182
3	150.12	0.4997	-0.0437	0.0067	0.1428	0.0283	-2.8684	0.1331	-0.6530	0.1207
3	150.12	0.5556	-0.0715	0.0091	0.1782	0.0350	-4.0547	0.1756	-0.7440	0.1227
3	150.12	0.5995	-0.0927	0.0120	0.2448	0.0414	-5.1169	0.2136	-0.6637	0.1212
3	150.12	0.6498	-0.1269	0.0165	0.2748	0.0483	-6.5205	0.2616	-0.6575	0.1253
3	150.12	0.6890	-0.1884	0.0201	0.3284	0.0538	-7.7252	0.3029	-0.4939	0.1217
3	150.12	0.7495	-0.2501	0.0276	0.3769	0.0634	-9.7647	0.3722	-0.5618	0.1268
3	150.12	0.7998	-0.3408	0.0349	0.4356	0.0711	-11.5804	0.4372	-0.6124	0.1254
3	150.12	0.8577	-0.4439	0.0447	0.4988	0.0805	-13.7851	0.5173	-0.6688	0.1254
3	150.12	0.9178	-0.5186	0.0546	0.5504	0.0901	-16.1258	0.6046	-0.5652	0.1263
3	150.12	0.9729	-0.5970	0.0629	0.5577	0.0992	-18.3373	0.6880	-0.6383	0.1255
4	150.12	0.2001	-0.0370	0.0016	0.0102	0.0009	-0.1446	0.0046	-0.0250	0.0171
4	150.12	0.2502	-0.0226	0.0018	0.0362	0.0021	-0.3450	0.0099	-0.1201	0.0308
4	150.12	0.3001	-0.0357	0.0020	0.0628	0.0037	-0.6485	0.0190	-0.1025	0.0359
4	150.12	0.3502	-0.0458	0.0024	0.0959	0.0058	-1.1131	0.0330	-0.1380	0.0342
4	150.12	0.4002	-0.0540	0.0031	0.1667	0.0095	-1.7585	0.0513	-0.2481	0.0440
4	150.12	0.4500	-0.0480	0.0045	0.2590	0.0116	-2.5845	0.0753	-0.4168	0.0461
4	150.12	0.5001	-0.0788	0.0064	0.3361	0.0146	-3.5483	0.1044	-0.1607	0.0433
4	150.12	0.5560	-0.1112	0.0091	0.4521	0.0183	-4.9435	0.1434	-0.3453	0.0491
4	150.12	0.6001	-0.1381	0.0127	0.5384	0.0211	-6.1733	0.1818	-0.3691	0.0464
4	150.12	0.6501	-0.2013	0.0176	0.6391	0.0250	-7.7513	0.2307	-0.2518	0.0544
4	150.12	0.6999	-0.2677	0.0241	0.7371	0.0286	-9.4995	0.2882	-0.1325	0.0570
4	150.12	0.7500	-0.3468	0.0313	0.8433	0.0324	-11.3811	0.3554	0.0057	0.0629
4	150.12	0.8002	-0.4635	0.0413	0.9301	0.0361	-13.4035	0.4283	0.0274	0.0583
4	150.12	0.8582	-0.5964	0.0538	1.0425	0.0398	-15.8676	0.5228	-0.1470	0.0601
4	150.12	0.9101	-0.7117	0.0645	1.1614	0.0440	-18.0895	0.6108	0.0740	0.0591
4	150.12	0.9728	-0.7323	0.0779	1.3207	0.0484	-20.7345	0.7233	0.4348	0.0638

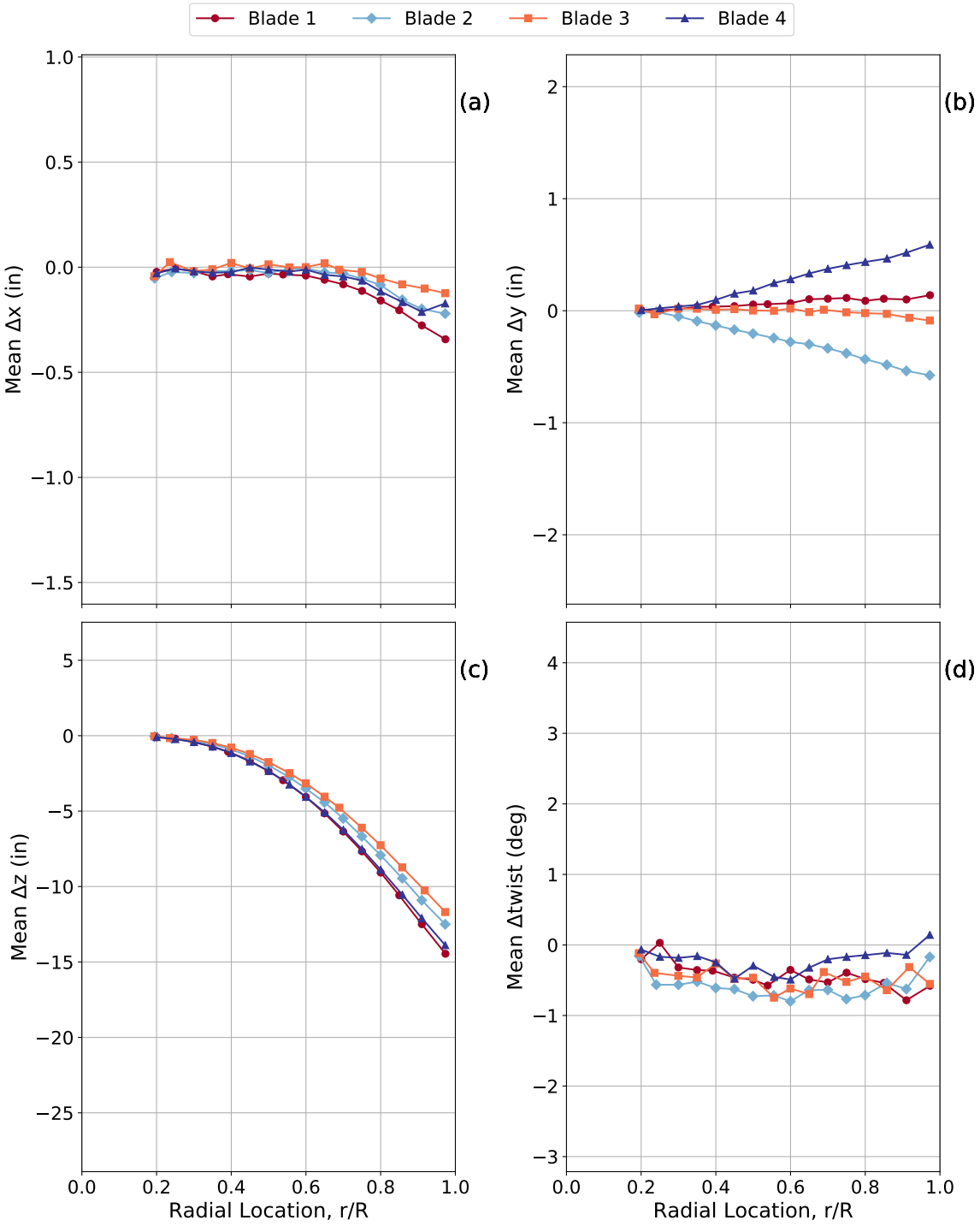


Figure 2.25-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-22. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0221	0.0024	0.0069	0.0013	-0.1021	0.0067	-0.2023	0.0289
1	164.88	0.2499	-0.0063	0.0023	0.0020	0.0023	-0.1948	0.0145	0.0303	0.0465
1	164.88	0.2998	-0.0193	0.0025	0.0142	0.0057	-0.4318	0.0292	-0.3193	0.0640
1	164.88	0.3498	-0.0440	0.0029	0.0350	0.0079	-0.7281	0.0493	-0.3558	0.0594
1	164.88	0.3913	-0.0333	0.0034	0.0357	0.0123	-1.0585	0.0724	-0.3648	0.0773
1	164.88	0.4496	-0.0445	0.0048	0.0409	0.0157	-1.6655	0.1120	-0.4620	0.0834
1	164.88	0.4997	-0.0302	0.0063	0.0555	0.0199	-2.3508	0.1549	-0.4936	0.0884
1	164.88	0.5387	-0.0349	0.0081	0.0583	0.0235	-2.9544	0.1955	-0.5748	0.0881
1	164.88	0.5996	-0.0397	0.0119	0.0671	0.0293	-4.0575	0.2673	-0.3536	0.0825
1	164.88	0.6498	-0.0597	0.0161	0.1028	0.0346	-5.1516	0.3359	-0.4897	0.0856
1	164.88	0.6998	-0.0815	0.0218	0.1070	0.0385	-6.3557	0.4114	-0.5298	0.0990
1	164.88	0.7500	-0.1127	0.0280	0.1141	0.0434	-7.6678	0.4908	-0.3927	0.0886
1	164.88	0.8001	-0.1586	0.0352	0.0886	0.0482	-9.0763	0.5750	-0.4842	0.1064
1	164.88	0.8497	-0.2045	0.0434	0.1069	0.0530	-10.5823	0.6610	-0.5379	0.1024
1	164.88	0.9102	-0.2769	0.0524	0.1004	0.0587	-12.4979	0.7674	-0.7835	0.0993
1	164.88	0.9734	-0.3429	0.0603	0.1388	0.0644	-14.4552	0.8822	-0.5781	0.0983
2	164.88	0.1949	-0.0526	0.0017	-0.0161	0.0013	-0.0543	0.0067	-0.1555	0.0222
2	164.88	0.2405	-0.0227	0.0018	-0.0116	0.0027	-0.1693	0.0143	-0.5638	0.0505
2	164.88	0.2999	-0.0278	0.0026	-0.0510	0.0058	-0.3333	0.0311	-0.5639	0.0594
2	164.88	0.3498	-0.0183	0.0028	-0.0928	0.0099	-0.5572	0.0530	-0.5205	0.0624
2	164.88	0.3998	-0.0186	0.0037	-0.1315	0.0154	-0.9153	0.0832	-0.6100	0.0698
2	164.88	0.4496	-0.0134	0.0048	-0.1696	0.0201	-1.3699	0.1205	-0.6261	0.0775
2	164.88	0.4995	-0.0279	0.0064	-0.2046	0.0251	-1.9603	0.1642	-0.7266	0.0733
2	164.88	0.5551	-0.0075	0.0091	-0.2434	0.0321	-2.7477	0.2245	-0.7157	0.0838
2	164.88	0.5996	-0.0054	0.0115	-0.2785	0.0369	-3.4994	0.2809	-0.7988	0.0801
2	164.88	0.6497	-0.0247	0.0155	-0.2993	0.0436	-4.4191	0.3494	-0.6396	0.0769
2	164.88	0.6996	-0.0304	0.0207	-0.3358	0.0497	-5.4844	0.4258	-0.6361	0.0770
2	164.88	0.7495	-0.0541	0.0271	-0.3797	0.0555	-6.6741	0.5099	-0.7670	0.0753
2	164.88	0.7996	-0.0847	0.0343	-0.4332	0.0613	-7.9218	0.5998	-0.7134	0.0866
2	164.88	0.8578	-0.1551	0.0434	-0.4833	0.0687	-9.4529	0.7073	-0.5382	0.0766
2	164.88	0.9100	-0.1987	0.0513	-0.5373	0.0746	-10.9082	0.8083	-0.6246	0.0815
2	164.88	0.9727	-0.2209	0.0588	-0.5765	0.0825	-12.5000	0.9317	-0.1704	0.0760
3	164.88	0.1938	-0.0434	0.0017	0.0193	0.0013	-0.0411	0.0056	-0.1169	0.0195
3	164.88	0.2357	0.0240	0.0017	-0.0315	0.0018	-0.1591	0.0094	-0.3954	0.0554
3	164.88	0.2995	-0.0195	0.0019	0.0190	0.0042	-0.2746	0.0229	-0.4379	0.0575
3	164.88	0.3493	-0.0099	0.0019	0.0173	0.0074	-0.4865	0.0393	-0.4606	0.0561
3	164.88	0.4000	0.0202	0.0026	0.0085	0.0110	-0.7876	0.0607	-0.2629	0.0552
3	164.88	0.4497	-0.0066	0.0033	0.0143	0.0137	-1.2131	0.0853	-0.4817	0.0591
3	164.88	0.4997	0.0136	0.0043	0.0018	0.0185	-1.7499	0.1154	-0.4639	0.0598
3	164.88	0.5556	-0.0008	0.0058	-0.0005	0.0230	-2.4820	0.1548	-0.7470	0.0601
3	164.88	0.5995	0.0003	0.0074	0.0198	0.0275	-3.1528	0.1904	-0.6173	0.0650
3	164.88	0.6498	0.0188	0.0101	-0.0121	0.0321	-4.0417	0.2357	-0.6965	0.0631
3	164.88	0.6890	-0.0122	0.0119	0.0087	0.0361	-4.7728	0.2735	-0.3834	0.0675
3	164.88	0.7495	-0.0225	0.0161	-0.0139	0.0422	-6.1021	0.3354	-0.5231	0.0618
3	164.88	0.7998	-0.0535	0.0197	-0.0214	0.0471	-7.2609	0.3906	-0.4484	0.0604
3	164.88	0.8577	-0.0815	0.0248	-0.0283	0.0530	-8.7294	0.4583	-0.6413	0.0612
3	164.88	0.9178	-0.1014	0.0297	-0.0634	0.0594	-10.2551	0.5316	-0.3137	0.0601
3	164.88	0.9729	-0.1236	0.0328	-0.0873	0.0651	-11.6907	0.6012	-0.5523	0.0576
4	164.88	0.2001	-0.0293	0.0016	0.0050	0.0012	-0.0935	0.0065	-0.0654	0.0250
4	164.88	0.2502	-0.0059	0.0021	0.0216	0.0026	-0.2288	0.0127	-0.1673	0.0490
4	164.88	0.3001	-0.0199	0.0022	0.0382	0.0053	-0.4245	0.0265	-0.1830	0.0579
4	164.88	0.3502	-0.0266	0.0024	0.0515	0.0079	-0.7236	0.0444	-0.1573	0.0491
4	164.88	0.4002	-0.0232	0.0032	0.0970	0.0131	-1.1488	0.0693	-0.2471	0.0531
4	164.88	0.4500	-0.0020	0.0043	0.1526	0.0164	-1.7101	0.0987	-0.4763	0.0559
4	164.88	0.5001	-0.0110	0.0055	0.1801	0.0204	-2.3380	0.1361	-0.2938	0.0635
4	164.88	0.5560	-0.0206	0.0079	0.2477	0.0251	-3.2419	0.1847	-0.4538	0.0655
4	164.88	0.6001	-0.0118	0.0104	0.2813	0.0291	-4.0580	0.2296	-0.4907	0.0653
4	164.88	0.6501	-0.0364	0.0136	0.3326	0.0342	-5.0852	0.2865	-0.3216	0.0617
4	164.88	0.6999	-0.0439	0.0180	0.3739	0.0386	-6.2419	0.3486	-0.2030	0.0641
4	164.88	0.7500	-0.0638	0.0234	0.4066	0.0436	-7.5228	0.4178	-0.1692	0.0662
4	164.88	0.8002	-0.1158	0.0295	0.4355	0.0485	-8.8868	0.4908	-0.1441	0.0706
4	164.88	0.8582	-0.1661	0.0368	0.4653	0.0532	-10.5443	0.5794	-0.1130	0.0640
4	164.88	0.9101	-0.2127	0.0432	0.5175	0.0582	-12.0932	0.6612	-0.1401	0.0641
4	164.88	0.9728	-0.1723	0.0494	0.5894	0.0644	-13.8877	0.7638	0.1427	0.0674

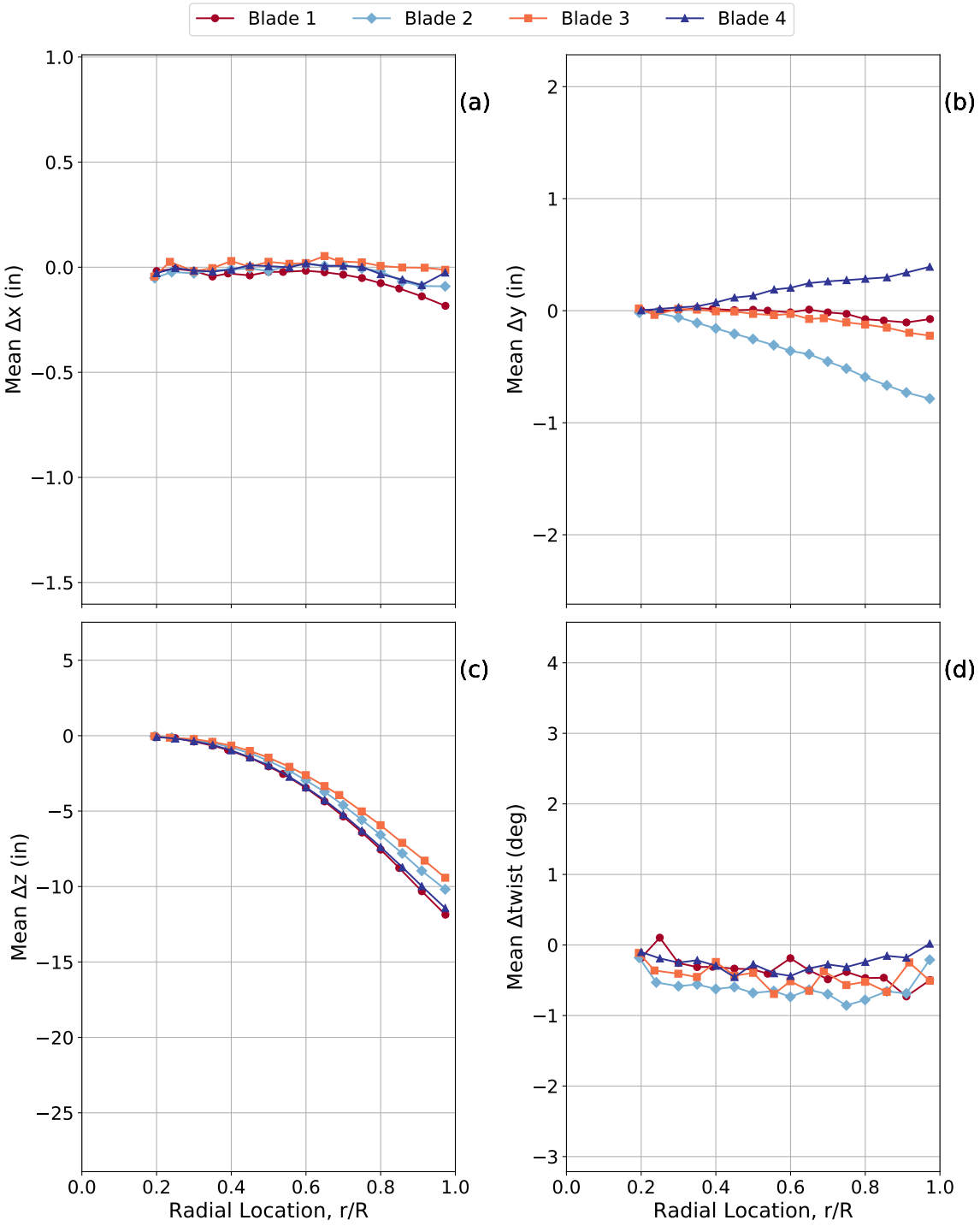


Figure 2.25-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-23. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0184	0.0024	0.0047	0.0013	-0.0953	0.0074	-0.1833	0.0324
1	170.16	0.2499	-0.0074	0.0024	-0.0002	0.0027	-0.1645	0.0148	0.1033	0.0608
1	170.16	0.2998	-0.0180	0.0033	0.0041	0.0056	-0.3890	0.0306	-0.2557	0.0758
1	170.16	0.3498	-0.0442	0.0033	0.0232	0.0092	-0.6588	0.0533	-0.3136	0.0729
1	170.16	0.3913	-0.0297	0.0036	0.0157	0.0132	-0.9459	0.0764	-0.3095	0.0788
1	170.16	0.4496	-0.0389	0.0048	0.0052	0.0184	-1.4567	0.1146	-0.3355	0.0755
1	170.16	0.4997	-0.0219	0.0063	0.0084	0.0228	-2.0346	0.1548	-0.3460	0.0769
1	170.16	0.5387	-0.0224	0.0076	0.0005	0.0271	-2.5349	0.1896	-0.4079	0.0818
1	170.16	0.5996	-0.0167	0.0106	-0.0146	0.0329	-3.4553	0.2511	-0.1879	0.0754
1	170.16	0.6498	-0.0240	0.0134	0.0100	0.0381	-4.3586	0.3080	-0.3593	0.0848
1	170.16	0.6998	-0.0354	0.0173	-0.0150	0.0435	-5.3562	0.3710	-0.4865	0.0847
1	170.16	0.7500	-0.0515	0.0219	-0.0285	0.0482	-6.4213	0.4403	-0.3829	0.0807
1	170.16	0.8001	-0.0760	0.0273	-0.0759	0.0541	-7.5526	0.5157	-0.4695	0.0749
1	170.16	0.8497	-0.1012	0.0332	-0.0876	0.0597	-8.7704	0.5938	-0.4647	0.0776
1	170.16	0.9102	-0.1387	0.0400	-0.1048	0.0663	-10.3127	0.6931	-0.7294	0.0757
1	170.16	0.9734	-0.1838	0.0456	-0.0744	0.0734	-11.8653	0.7993	-0.4973	0.0933
2	170.16	0.1949	-0.0518	0.0019	-0.0170	0.0012	-0.0474	0.0074	-0.1810	0.0222
2	170.16	0.2405	-0.0230	0.0021	-0.0180	0.0035	-0.1391	0.0146	-0.5312	0.0487
2	170.16	0.2999	-0.0288	0.0028	-0.0597	0.0070	-0.2837	0.0332	-0.5844	0.0570
2	170.16	0.3498	-0.0145	0.0030	-0.1091	0.0107	-0.4788	0.0564	-0.5585	0.0523
2	170.16	0.3998	-0.0105	0.0047	-0.1582	0.0182	-0.7812	0.0881	-0.6245	0.0623
2	170.16	0.4496	-0.0057	0.0049	-0.2067	0.0208	-1.1613	0.1253	-0.5966	0.0663
2	170.16	0.4995	-0.0179	0.0064	-0.2527	0.0264	-1.6590	0.1697	-0.6802	0.0668
2	170.16	0.5551	0.0074	0.0080	-0.3074	0.0324	-2.3207	0.2279	-0.6531	0.0644
2	170.16	0.5996	0.0149	0.0101	-0.3590	0.0370	-2.9567	0.2824	-0.7355	0.0685
2	170.16	0.6497	0.0062	0.0131	-0.3880	0.0437	-3.7142	0.3500	-0.6361	0.0841
2	170.16	0.6996	0.0091	0.0170	-0.4536	0.0490	-4.6059	0.4256	-0.6977	0.0725
2	170.16	0.7495	-0.0055	0.0215	-0.5160	0.0547	-5.5777	0.5096	-0.8560	0.0719
2	170.16	0.7996	-0.0191	0.0270	-0.5918	0.0604	-6.5745	0.6006	-0.7790	0.0614
2	170.16	0.8578	-0.0686	0.0337	-0.6665	0.0674	-7.8041	0.7100	-0.6574	0.0642
2	170.16	0.9100	-0.0895	0.0391	-0.7305	0.0736	-8.9559	0.8095	-0.6874	0.0648
2	170.16	0.9727	-0.0911	0.0434	-0.7850	0.0807	-10.1831	0.9324	-0.2101	0.0812
3	170.16	0.1938	-0.0441	0.0019	0.0203	0.0015	-0.0336	0.0067	-0.1126	0.0288
3	170.16	0.2357	0.0255	0.0020	-0.0372	0.0026	-0.1352	0.0103	-0.3617	0.0590
3	170.16	0.2995	-0.0190	0.0019	0.0159	0.0061	-0.2243	0.0270	-0.4076	0.0737
3	170.16	0.3493	-0.0045	0.0025	0.0095	0.0097	-0.4106	0.0452	-0.4540	0.0716
3	170.16	0.4000	0.0293	0.0028	-0.0054	0.0156	-0.6565	0.0703	-0.2415	0.0708
3	170.16	0.4497	0.0018	0.0033	-0.0069	0.0195	-1.0107	0.1009	-0.4359	0.0808
3	170.16	0.4997	0.0257	0.0047	-0.0284	0.0244	-1.4556	0.1389	-0.3957	0.0822
3	170.16	0.5556	0.0162	0.0062	-0.0394	0.0304	-2.0647	0.1892	-0.6950	0.0812
3	170.16	0.5995	0.0196	0.0077	-0.0287	0.0354	-2.6125	0.2339	-0.5144	0.0804
3	170.16	0.6498	0.0530	0.0102	-0.0736	0.0409	-3.3425	0.2923	-0.6494	0.0911
3	170.16	0.6890	0.0277	0.0129	-0.0670	0.0455	-3.9368	0.3421	-0.3715	0.0873
3	170.16	0.7495	0.0231	0.0173	-0.1039	0.0532	-5.0186	0.4254	-0.5689	0.0801
3	170.16	0.7998	0.0060	0.0214	-0.1234	0.0592	-5.9337	0.5026	-0.5223	0.0919
3	170.16	0.8577	-0.0014	0.0267	-0.1509	0.0663	-7.0997	0.5953	-0.6658	0.0904
3	170.16	0.9178	-0.0025	0.0314	-0.1965	0.0742	-8.2841	0.6946	-0.2487	0.0806
3	170.16	0.9729	-0.0125	0.0341	-0.2231	0.0807	-9.4166	0.7890	-0.5074	0.0943
4	170.16	0.2001	-0.0283	0.0015	0.0039	0.0012	-0.0806	0.0065	-0.1006	0.0258
4	170.16	0.2502	-0.0034	0.0023	0.0161	0.0034	-0.1906	0.0149	-0.1908	0.0470
4	170.16	0.3001	-0.0159	0.0025	0.0298	0.0056	-0.3614	0.0274	-0.2500	0.0579
4	170.16	0.3502	-0.0208	0.0027	0.0390	0.0096	-0.6128	0.0474	-0.2167	0.0522
4	170.16	0.4002	-0.0112	0.0036	0.0741	0.0153	-0.9720	0.0741	-0.2950	0.0545
4	170.16	0.4500	0.0093	0.0045	0.1173	0.0191	-1.4433	0.1074	-0.4553	0.0541
4	170.16	0.5001	0.0049	0.0062	0.1338	0.0235	-1.9699	0.1477	-0.2727	0.0606
4	170.16	0.5560	-0.0005	0.0083	0.1886	0.0292	-2.7291	0.2018	-0.4015	0.0568
4	170.16	0.6001	0.0183	0.0103	0.2045	0.0338	-3.4191	0.2485	-0.4392	0.0563
4	170.16	0.6501	0.0059	0.0132	0.2465	0.0393	-4.2733	0.3112	-0.3324	0.0628
4	170.16	0.6999	0.0063	0.0169	0.2620	0.0448	-5.2344	0.3778	-0.2764	0.0608
4	170.16	0.7500	0.0010	0.0210	0.2728	0.0502	-6.2918	0.4517	-0.3124	0.0598
4	170.16	0.8002	-0.0332	0.0263	0.2849	0.0560	-7.3886	0.5300	-0.2407	0.0601
4	170.16	0.8582	-0.0590	0.0329	0.2977	0.0626	-8.7218	0.6272	-0.1544	0.0668
4	170.16	0.9101	-0.0853	0.0380	0.3403	0.0685	-9.9725	0.7165	-0.1799	0.0645
4	170.16	0.9728	-0.0256	0.0426	0.3921	0.0759	-11.4300	0.8272	0.0178	0.0570

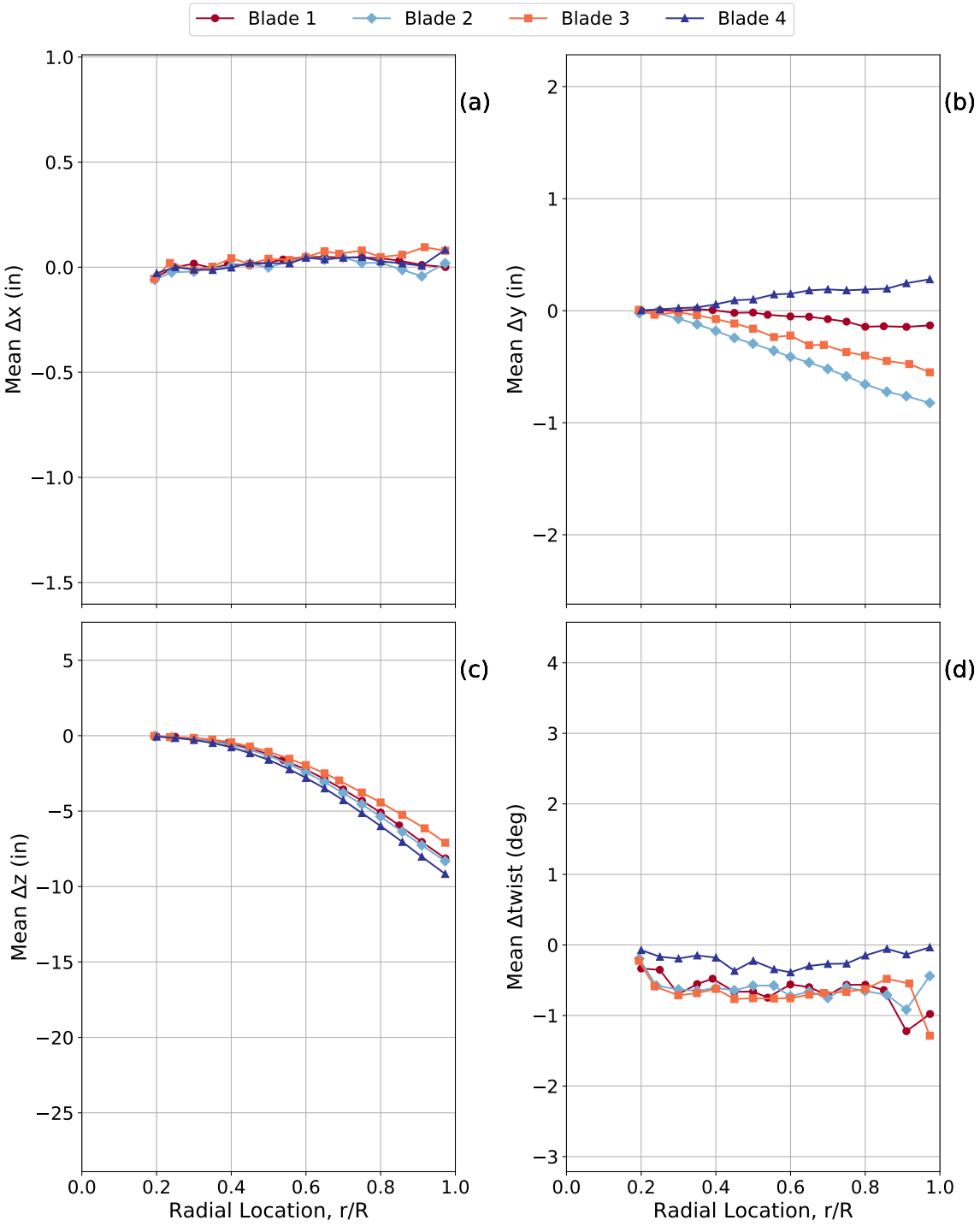


Figure 2.25-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-24. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	-0.0447	0.0017	0.0018	0.0011	-0.0526	0.0072	-0.3336	0.0226
1	175.08	0.2499	-0.0004	0.0014	0.0018	0.0025	-0.0726	0.0162	-0.3528	0.0391
1	175.08	0.2998	0.0169	0.0019	-0.0018	0.0051	-0.2170	0.0307	-0.6979	0.0498
1	175.08	0.3498	-0.0047	0.0022	0.0135	0.0081	-0.3195	0.0527	-0.5548	0.0486
1	175.08	0.3913	0.0137	0.0026	0.0059	0.0122	-0.4823	0.0768	-0.4788	0.0443
1	175.08	0.4496	0.0093	0.0039	-0.0191	0.0160	-0.8469	0.1166	-0.6636	0.0492
1	175.08	0.4997	0.0222	0.0044	-0.0161	0.0202	-1.2300	0.1567	-0.6610	0.0453
1	175.08	0.5387	0.0367	0.0053	-0.0365	0.0235	-1.6042	0.1918	-0.7472	0.0524
1	175.08	0.5996	0.0483	0.0073	-0.0511	0.0291	-2.2421	0.2518	-0.5598	0.0462
1	175.08	0.6498	0.0488	0.0096	-0.0539	0.0331	-2.8769	0.3068	-0.5988	0.0505
1	175.08	0.6998	0.0464	0.0112	-0.0747	0.0377	-3.5640	0.3663	-0.7117	0.0540
1	175.08	0.7500	0.0467	0.0145	-0.0977	0.0428	-4.3171	0.4302	-0.5656	0.0572
1	175.08	0.8001	0.0424	0.0179	-0.1431	0.0474	-5.0937	0.4976	-0.5645	0.0604
1	175.08	0.8497	0.0314	0.0212	-0.1387	0.0522	-5.9467	0.5655	-0.6396	0.0602
1	175.08	0.9102	0.0107	0.0261	-0.1444	0.0576	-7.0450	0.6518	-1.2221	0.1238
1	175.08	0.9734	0.0007	0.0270	-0.1310	0.0637	-8.1331	0.7468	-0.9785	0.0992
2	175.08	0.1949	-0.0595	0.0258	-0.0206	0.0030	-0.0360	0.0051	-0.1955	0.0214
2	175.08	0.2405	-0.0242	0.0125	-0.0169	0.0062	-0.1069	0.0099	-0.5773	0.0405
2	175.08	0.2999	-0.0207	0.0084	-0.0721	0.0137	-0.2174	0.0217	-0.6307	0.0546
2	175.08	0.3498	-0.0047	0.0272	-0.1210	0.0245	-0.3776	0.0371	-0.6496	0.0634
2	175.08	0.3998	0.0039	0.0479	-0.1800	0.0376	-0.6102	0.0575	-0.6098	0.0733
2	175.08	0.4496	0.0154	0.0680	-0.2431	0.0520	-0.9335	0.0806	-0.6421	0.0866
2	175.08	0.4995	-0.0007	0.0896	-0.2940	0.0695	-1.3297	0.1088	-0.5778	0.0994
2	175.08	0.5551	0.0269	0.1137	-0.3573	0.0908	-1.8895	0.1439	-0.5749	0.1090
2	175.08	0.5996	0.0500	0.1330	-0.4114	0.1088	-2.4413	0.1745	-0.7278	0.1192
2	175.08	0.6497	0.0364	0.1534	-0.4623	0.1304	-3.0739	0.2127	-0.6609	0.1303
2	175.08	0.6996	0.0463	0.1712	-0.5196	0.1534	-3.8005	0.2562	-0.7508	0.1404
2	175.08	0.7495	0.0202	0.1878	-0.5853	0.1772	-4.5499	0.3024	-0.6024	0.1413
2	175.08	0.7996	0.0210	0.2003	-0.6566	0.2022	-5.3645	0.3547	-0.6528	0.1672
2	175.08	0.8578	-0.0125	0.2104	-0.7240	0.2309	-6.3652	0.4227	-0.7073	0.1755
2	175.08	0.9100	-0.0427	0.2119	-0.7626	0.2563	-7.2628	0.4902	-0.9163	0.1972
2	175.08	0.9727	0.0189	0.2086	-0.8226	0.2727	-8.3109	0.5711	-0.4403	0.2511
3	175.08	0.1938	-0.0552	0.0070	0.0085	0.0114	-0.0122	0.0205	-0.2239	0.0723
3	175.08	0.2357	0.0202	0.0047	-0.0364	0.0040	-0.0986	0.0159	-0.5857	0.2732
3	175.08	0.2995	-0.0135	0.0043	-0.0138	0.0330	-0.1491	0.0580	-0.7139	0.2766
3	175.08	0.3493	0.0026	0.0042	-0.0401	0.0580	-0.2570	0.0988	-0.6835	0.2571
3	175.08	0.4000	0.0424	0.0047	-0.0744	0.0825	-0.4394	0.1414	-0.6222	0.2674
3	175.08	0.4497	0.0157	0.0046	-0.1140	0.1069	-0.7166	0.1915	-0.7669	0.2527
3	175.08	0.4997	0.0404	0.0048	-0.1604	0.1330	-1.0592	0.2470	-0.7555	0.2480
3	175.08	0.5556	0.0345	0.0052	-0.2352	0.1622	-1.5308	0.3167	-0.7591	0.2446
3	175.08	0.5995	0.0479	0.0061	-0.2219	0.1846	-1.9503	0.3743	-0.7548	0.2500
3	175.08	0.6498	0.0761	0.0077	-0.3071	0.2114	-2.4974	0.4485	-0.7047	0.2470
3	175.08	0.6890	0.0644	0.0094	-0.3056	0.2324	-2.9670	0.5118	-0.6815	0.2352
3	175.08	0.7495	0.0794	0.0134	-0.3686	0.2658	-3.7661	0.6156	-0.6645	0.2396
3	175.08	0.7998	0.0482	0.0167	-0.4012	0.2925	-4.4269	0.7046	-0.6263	0.2611
3	175.08	0.8577	0.0592	0.0213	-0.4486	0.3241	-5.2550	0.8183	-0.4807	0.2452
3	175.08	0.9178	0.0951	0.0244	-0.4756	0.3559	-6.1399	0.9356	-0.5460	0.2517
3	175.08	0.9729	0.0782	0.0223	-0.5498	0.3855	-7.0960	1.0414	-1.2862	0.2709
4	175.08	0.2001	-0.0286	0.0016	0.0029	0.0015	-0.0635	0.0079	-0.0728	0.0252
4	175.08	0.2502	0.0003	0.0027	0.0125	0.0029	-0.1529	0.0146	-0.1674	0.0576
4	175.08	0.3001	-0.0112	0.0022	0.0233	0.0061	-0.2854	0.0299	-0.1925	0.0595
4	175.08	0.3502	-0.0131	0.0024	0.0295	0.0100	-0.4864	0.0518	-0.1488	0.0612
4	175.08	0.4002	-0.0016	0.0033	0.0573	0.0157	-0.7708	0.0787	-0.1795	0.0620
4	175.08	0.4500	0.0204	0.0039	0.0933	0.0200	-1.1649	0.1117	-0.3673	0.0617
4	175.08	0.5001	0.0192	0.0050	0.1004	0.0250	-1.5998	0.1532	-0.2249	0.0613
4	175.08	0.5560	0.0185	0.0062	0.1460	0.0316	-2.2325	0.2044	-0.3442	0.0650
4	175.08	0.6001	0.0450	0.0080	0.1514	0.0363	-2.8013	0.2498	-0.3879	0.0631
4	175.08	0.6501	0.0373	0.0102	0.1817	0.0424	-3.4954	0.3088	-0.2973	0.0644
4	175.08	0.6999	0.0453	0.0131	0.1905	0.0488	-4.2783	0.3736	-0.2682	0.0649
4	175.08	0.7500	0.0483	0.0167	0.1819	0.0552	-5.1322	0.4442	-0.2642	0.0643
4	175.08	0.8002	0.0279	0.0204	0.1891	0.0615	-5.9950	0.5202	-0.1489	0.0669
4	175.08	0.8582	0.0183	0.0253	0.1970	0.0690	-7.0442	0.6116	-0.0552	0.0680
4	175.08	0.9101	0.0064	0.0287	0.2455	0.0757	-8.0230	0.6963	-0.1336	0.0735
4	175.08	0.9728	0.0832	0.0310	0.2806	0.0839	-9.1651	0.8013	-0.0341	0.0686

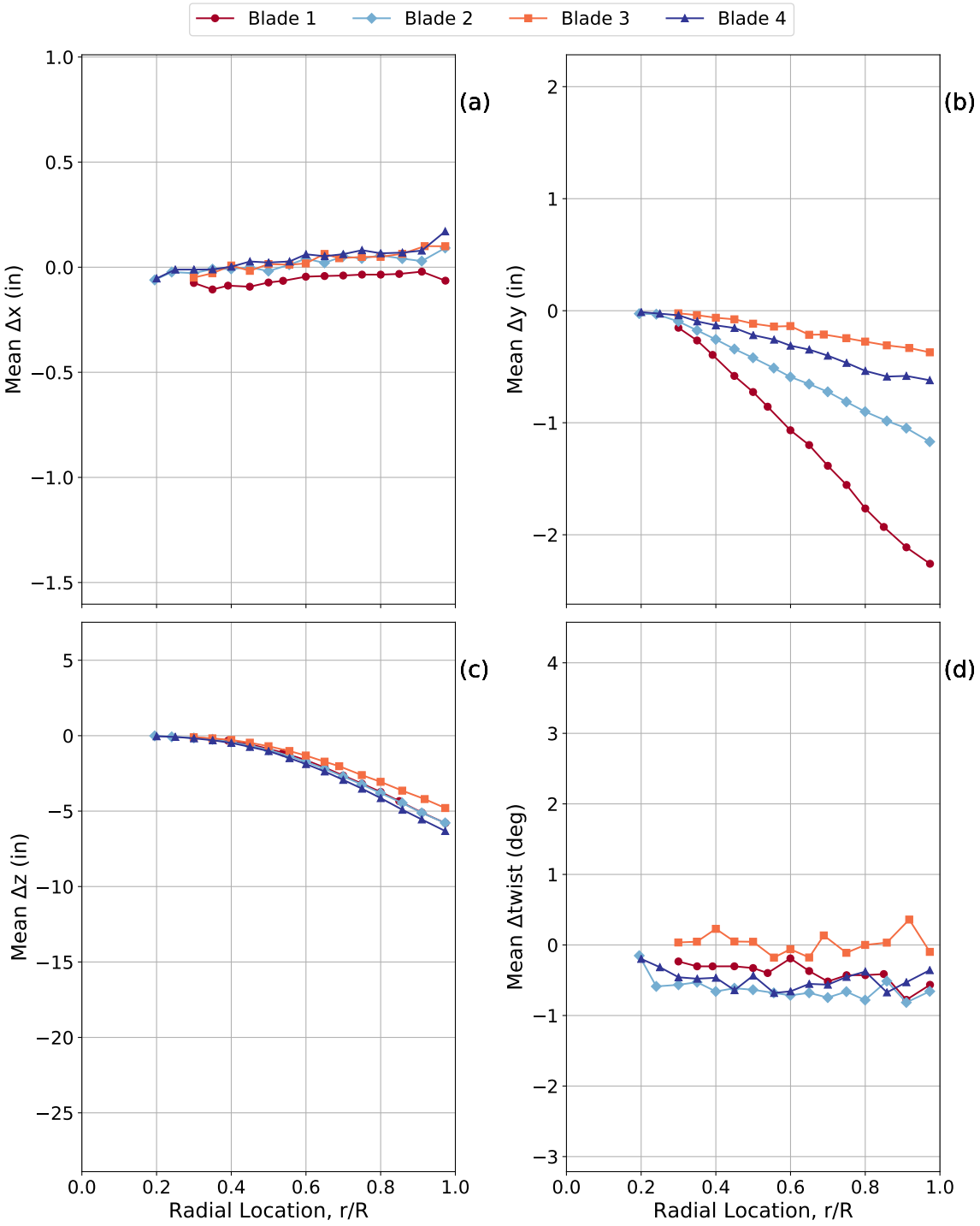


Figure 2.25-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-25. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2998	-0.0749	0.0094	-0.1520	0.0204	-0.1029	0.0377	-0.2341	0.0905
1	180	0.3498	-0.1059	0.0108	-0.2658	0.0357	-0.2078	0.0663	-0.3031	0.1208
1	180	0.3913	-0.0877	0.0108	-0.3945	0.0531	-0.3296	0.0988	-0.3032	0.1184
1	180	0.4496	-0.0928	0.0110	-0.5822	0.0733	-0.5706	0.1453	-0.3025	0.1205
1	180	0.4997	-0.0727	0.0120	-0.7258	0.0908	-0.8733	0.1893	-0.3274	0.1185
1	180	0.5387	-0.0648	0.0124	-0.8569	0.1051	-1.1275	0.2263	-0.3980	0.1229
1	180	0.5996	-0.0451	0.0129	-1.0670	0.1282	-1.6202	0.2876	-0.1907	0.1215
1	180	0.6498	-0.0420	0.0142	-1.1990	0.1468	-2.1090	0.3412	-0.3697	0.1309
1	180	0.6998	-0.0396	0.0151	-1.3844	0.1654	-2.6419	0.3984	-0.5181	0.1194
1	180	0.7500	-0.0352	0.0158	-1.5554	0.1839	-3.1782	0.4573	-0.4288	0.1250
1	180	0.8001	-0.0353	0.0170	-1.7655	0.2029	-3.7305	0.5202	-0.4279	0.1217
1	180	0.8497	-0.0320	0.0185	-1.9303	0.2217	-4.3349	0.5841	-0.4127	0.1214
1	180	0.9102	-0.0212	0.0206	-2.1122	0.2437	-5.0957	0.6654	-0.7777	0.1242
1	180	0.9734	-0.0641	0.0241	-2.2589	0.2672	-5.7936	0.7548	-0.5648	0.1251
2	180	0.1949	-0.0608	0.0025	-0.0264	0.0015	-0.0140	0.0066	-0.1515	0.0224
2	180	0.2405	-0.0231	0.0014	-0.0310	0.0025	-0.0770	0.0122	-0.5877	0.0520
2	180	0.2999	-0.0284	0.0018	-0.0961	0.0056	-0.1519	0.0277	-0.5645	0.0606
2	180	0.3498	-0.0089	0.0018	-0.1753	0.0097	-0.2417	0.0472	-0.5283	0.0559
2	180	0.3998	-0.0083	0.0027	-0.2563	0.0147	-0.4269	0.0729	-0.6591	0.0592
2	180	0.4496	-0.0005	0.0029	-0.3420	0.0188	-0.6518	0.1039	-0.6133	0.0586
2	180	0.4995	-0.0186	0.0035	-0.4200	0.0240	-0.9399	0.1401	-0.6351	0.0595
2	180	0.5551	0.0116	0.0041	-0.5121	0.0296	-1.3485	0.1851	-0.6795	0.0629
2	180	0.5996	0.0406	0.0053	-0.5914	0.0341	-1.7251	0.2257	-0.7143	0.0614
2	180	0.6497	0.0205	0.0065	-0.6546	0.0397	-2.1926	0.2735	-0.6789	0.0632
2	180	0.6996	0.0520	0.0081	-0.7238	0.0449	-2.7044	0.3260	-0.7462	0.0666
2	180	0.7495	0.0416	0.0098	-0.8135	0.0511	-3.2360	0.3820	-0.6618	0.0675
2	180	0.7996	0.0564	0.0122	-0.9009	0.0567	-3.8067	0.4432	-0.7813	0.0723
2	180	0.8578	0.0409	0.0147	-0.9842	0.0638	-4.4631	0.5155	-0.5129	0.0712
2	180	0.9100	0.0291	0.0165	-1.0483	0.0697	-5.1195	0.5838	-0.8152	0.0763
2	180	0.9727	0.0915	0.0172	-1.1692	0.0777	-5.7813	0.6679	-0.6574	0.0873
3	180.35	0.2995	-0.0493	0.0069	-0.0230	0.0148	-0.1045	0.0374	0.0354	0.0942
3	180.35	0.3493	-0.0289	0.0082	-0.0395	0.0255	-0.1779	0.0632	0.0466	0.1248
3	180.35	0.4000	0.0080	0.0073	-0.0630	0.0406	-0.2821	0.0998	0.2286	0.1150
3	180.35	0.4497	-0.0172	0.0078	-0.0767	0.0535	-0.4645	0.1384	0.0489	0.1171
3	180.35	0.4997	0.0148	0.0083	-0.1157	0.0674	-0.6996	0.1814	0.0452	0.1147
3	180.35	0.5556	0.0120	0.0085	-0.1414	0.0835	-1.0170	0.2375	-0.1789	0.1184
3	180.35	0.5995	0.0179	0.0090	-0.1371	0.0954	-1.3146	0.2875	-0.0597	0.1166
3	180.35	0.6498	0.0631	0.0104	-0.2146	0.1105	-1.7216	0.3471	-0.1775	0.1257
3	180.35	0.6890	0.0428	0.0109	-0.2125	0.1212	-2.0240	0.3991	0.1349	0.1219
3	180.35	0.7495	0.0489	0.0134	-0.2452	0.1392	-2.6127	0.4861	-0.1110	0.1199
3	180.35	0.7998	0.0492	0.0151	-0.2755	0.1539	-3.0583	0.5657	0.0006	0.1200
3	180.35	0.8577	0.0637	0.0177	-0.3092	0.1706	-3.6433	0.6620	0.0328	0.1275
3	180.35	0.9178	0.1001	0.0192	-0.3327	0.1887	-4.2023	0.7649	0.3600	0.1272
3	180.35	0.9729	0.0997	0.0206	-0.3715	0.2044	-4.7961	0.8650	-0.0979	0.1238
4	180	0.2001	-0.0535	0.0025	-0.0123	0.0022	-0.0385	0.0072	-0.1972	0.0330
4	180	0.2502	-0.0112	0.0022	-0.0262	0.0026	-0.0816	0.0128	-0.3157	0.0690
4	180	0.3001	-0.0112	0.0016	-0.0407	0.0067	-0.1761	0.0261	-0.4580	0.0789
4	180	0.3502	-0.0104	0.0017	-0.0952	0.0117	-0.3049	0.0443	-0.4785	0.0757
4	180	0.4002	0.0024	0.0020	-0.1304	0.0168	-0.4798	0.0674	-0.4650	0.0804
4	180	0.4500	0.0272	0.0027	-0.1541	0.0219	-0.7446	0.0944	-0.6412	0.0825
4	180	0.5001	0.0223	0.0030	-0.2180	0.0275	-1.0220	0.1262	-0.4338	0.0843
4	180	0.5560	0.0272	0.0036	-0.2582	0.0339	-1.4904	0.1673	-0.6801	0.0877
4	180	0.6001	0.0615	0.0045	-0.3122	0.0389	-1.8823	0.2032	-0.6573	0.0850
4	180	0.6501	0.0524	0.0056	-0.3471	0.0452	-2.3714	0.2477	-0.5520	0.0872
4	180	0.6999	0.0621	0.0073	-0.4013	0.0511	-2.9297	0.2971	-0.5627	0.0863
4	180	0.7500	0.0809	0.0092	-0.4656	0.0573	-3.5127	0.3513	-0.4533	0.0885
4	180	0.8002	0.0661	0.0114	-0.5373	0.0635	-4.1389	0.4096	-0.3772	0.0998
4	180	0.8582	0.0694	0.0141	-0.5879	0.0710	-4.9104	0.4818	-0.6723	0.0959
4	180	0.9101	0.0790	0.0153	-0.5821	0.0774	-5.5532	0.5494	-0.5285	0.1007
4	180	0.9728	0.1705	0.0182	-0.6207	0.0853	-6.3196	0.6346	-0.3572	0.1045

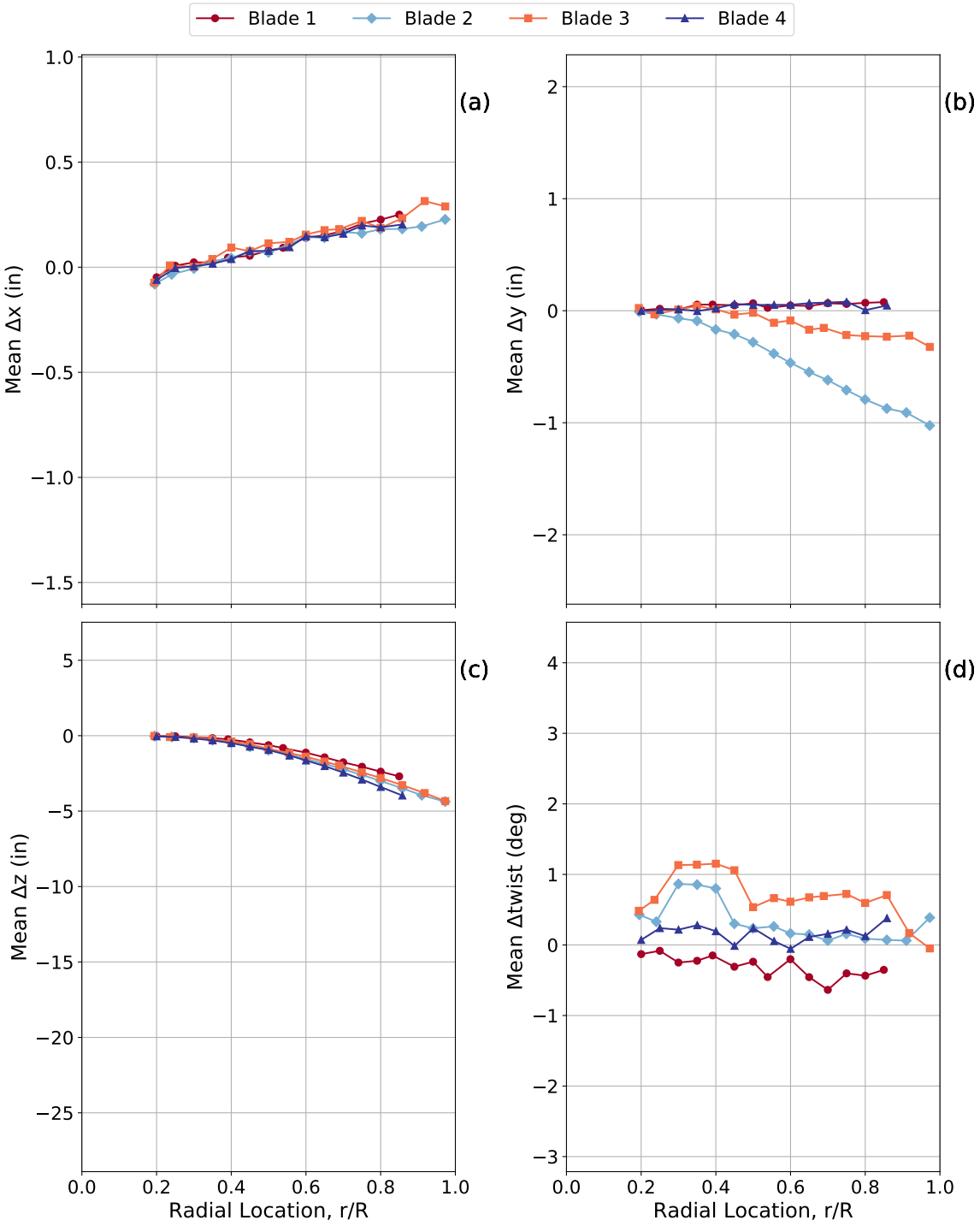


Figure 2.25-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-26. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0479	0.0017	0.0052	0.0017	-0.0298	0.0086	-0.1300	0.0242
1	184.92	0.2499	0.0073	0.0016	0.0172	0.0039	-0.0346	0.0187	-0.0829	0.0411
1	184.92	0.2998	0.0230	0.0018	0.0104	0.0070	-0.1090	0.0352	-0.2492	0.0522
1	184.92	0.3498	0.0222	0.0019	0.0544	0.0119	-0.1646	0.0620	-0.2243	0.0457
1	184.92	0.3913	0.0453	0.0027	0.0550	0.0174	-0.2381	0.0888	-0.1489	0.0486
1	184.92	0.4496	0.0544	0.0030	0.0479	0.0232	-0.4411	0.1367	-0.3089	0.0551
1	184.92	0.4997	0.0798	0.0034	0.0663	0.0299	-0.6282	0.1851	-0.2374	0.0582
1	184.92	0.5387	0.0924	0.0039	0.0258	0.0352	-0.8191	0.2276	-0.4545	0.0568
1	184.92	0.5996	0.1396	0.0048	0.0468	0.0445	-1.1222	0.3038	-0.2019	0.0580
1	184.92	0.6498	0.1520	0.0058	0.0426	0.0527	-1.4352	0.3729	-0.4561	0.0555
1	184.92	0.6998	0.1725	0.0069	0.0666	0.0600	-1.7645	0.4472	-0.6364	0.0745
1	184.92	0.7500	0.2076	0.0080	0.0606	0.0703	-2.0583	0.5307	-0.4027	0.0929
1	184.92	0.8001	0.2261	0.0100	0.0703	0.0777	-2.3849	0.6171	-0.4354	0.2522
1	184.92	0.8497	0.2502	0.0120	0.0766	0.0846	-2.6961	0.7064	-0.3529	0.1273
2	184.92	0.1949	-0.0803	0.0016	-0.0081	0.0015	-0.0315	0.0069	0.4288	0.0343
2	184.92	0.2405	-0.0340	0.0018	-0.0318	0.0026	-0.0791	0.0150	0.3297	0.0531
2	184.92	0.2999	-0.0063	0.0017	-0.0671	0.0059	-0.1571	0.0320	0.8651	0.0799
2	184.92	0.3498	0.0277	0.0021	-0.0906	0.0099	-0.3001	0.0543	0.8550	0.0790
2	184.92	0.3998	0.0434	0.0026	-0.1681	0.0153	-0.4574	0.0854	0.8008	0.0801
2	184.92	0.4496	0.0749	0.0035	-0.2090	0.0201	-0.7299	0.1221	0.3004	0.0736
2	184.92	0.4995	0.0701	0.0041	-0.2812	0.0261	-0.9597	0.1666	0.2363	0.0750
2	184.92	0.5551	0.1080	0.0047	-0.3830	0.0336	-1.2471	0.2248	0.2627	0.0654
2	184.92	0.5996	0.1439	0.0055	-0.4649	0.0393	-1.5353	0.2757	0.1632	0.0610
2	184.92	0.6497	0.1399	0.0058	-0.5480	0.0462	-1.8616	0.3371	0.1475	0.0720
2	184.92	0.6996	0.1670	0.0079	-0.6193	0.0540	-2.2278	0.4036	0.0617	0.0763
2	184.92	0.7495	0.1614	0.0090	-0.7084	0.0608	-2.5950	0.4732	0.1571	0.0742
2	184.92	0.7996	0.1808	0.0106	-0.7926	0.0679	-2.9985	0.5449	0.0890	0.0784
2	184.92	0.8578	0.1823	0.0155	-0.8729	0.0769	-3.4834	0.6256	0.0713	0.1521
2	184.92	0.9100	0.1938	0.0138	-0.9093	0.0854	-3.9474	0.7123	0.0615	0.0772
2	184.92	0.9727	0.2275	0.0142	-1.0248	0.0939	-4.3691	0.8112	0.3873	0.1243
3	184.92	0.1938	-0.0736	0.0260	0.0240	0.0160	-0.0152	0.0210	0.4840	0.9748
3	184.92	0.2357	0.0085	0.0258	-0.0325	0.0180	-0.0942	0.0738	0.6394	0.9633
3	184.92	0.2995	0.0020	0.0090	0.0102	0.0397	-0.1220	0.0827	1.1327	2.0928
3	184.92	0.3493	0.0389	0.0387	0.0418	0.1122	-0.2478	0.2097	1.1381	2.3343
3	184.92	0.4000	0.0935	0.0525	0.0121	0.1376	-0.3865	0.2823	1.1521	2.5183
3	184.92	0.4497	0.0764	0.0664	-0.0350	0.1655	-0.5668	0.3615	1.0594	2.6635
3	184.92	0.4997	0.1135	0.1329	-0.0181	0.3317	-0.8705	0.7737	0.5356	0.9018
3	184.92	0.5556	0.1207	0.1558	-0.1071	0.3804	-1.1490	0.8927	0.6642	0.8943
3	184.92	0.5995	0.1551	0.1726	-0.0873	0.4200	-1.3899	0.9866	0.6128	0.8852
3	184.92	0.6498	0.1762	0.1903	-0.1694	0.4660	-1.7168	1.0946	0.6744	0.8860
3	184.92	0.6890	0.1811	0.2027	-0.1533	0.5025	-1.9835	1.1796	0.6932	0.8844
3	184.92	0.7495	0.2201	0.2182	-0.2166	0.5593	-2.4239	1.3151	0.7236	0.8615
3	184.92	0.7998	0.1865	0.2276	-0.2270	0.6057	-2.8034	1.4252	0.5955	0.8535
3	184.92	0.8577	0.2330	0.1244	-0.2321	0.7534	-3.2794	1.7315	0.7072	0.7794
3	184.92	0.9178	0.3147	0.1222	-0.2224	0.8328	-3.8022	1.8741	0.1691	0.7744
3	184.92	0.9729	0.2892	0.1150	-0.3232	0.8951	-4.3374	2.0066	-0.0489	0.7596
4	184.92	0.2001	-0.0603	0.0015	-0.0025	0.0016	-0.0442	0.0094	0.0715	0.0204
4	184.92	0.2502	-0.0041	0.0016	0.0078	0.0035	-0.0880	0.0198	0.2388	0.0334
4	184.92	0.3001	0.0041	0.0021	0.0128	0.0062	-0.1869	0.0378	0.2166	0.0442
4	184.92	0.3502	0.0164	0.0025	-0.0029	0.0110	-0.3121	0.0664	0.2798	0.0403
4	184.92	0.4002	0.0387	0.0032	0.0208	0.0167	-0.4903	0.1020	0.1946	0.0515
4	184.92	0.4500	0.0769	0.0039	0.0606	0.0216	-0.7250	0.1443	-0.0127	0.0581
4	184.92	0.5001	0.0777	0.0047	0.0518	0.0280	-0.9474	0.1959	0.2371	0.0499
4	184.92	0.5560	0.0951	0.0052	0.0520	0.0354	-1.3165	0.2590	0.0554	0.0466
4	184.92	0.6001	0.1470	0.0061	0.0528	0.0407	-1.6430	0.3123	-0.0550	0.0487
4	184.92	0.6501	0.1429	0.0072	0.0675	0.0491	-2.0147	0.3782	0.1138	0.0486
4	184.92	0.6999	0.1593	0.0082	0.0733	0.0564	-2.4459	0.4470	0.1573	0.0686
4	184.92	0.7500	0.1981	0.0102	0.0796	0.0613	-2.9093	0.5191	0.2164	0.1018
4	184.92	0.8002	0.1900	0.0120	0.0052	0.0753	-3.3999	0.5955	0.1251	0.2310
4	184.92	0.8582	0.2032	0.0149	0.0464	0.0808	-3.9666	0.6940	0.3797	0.3119

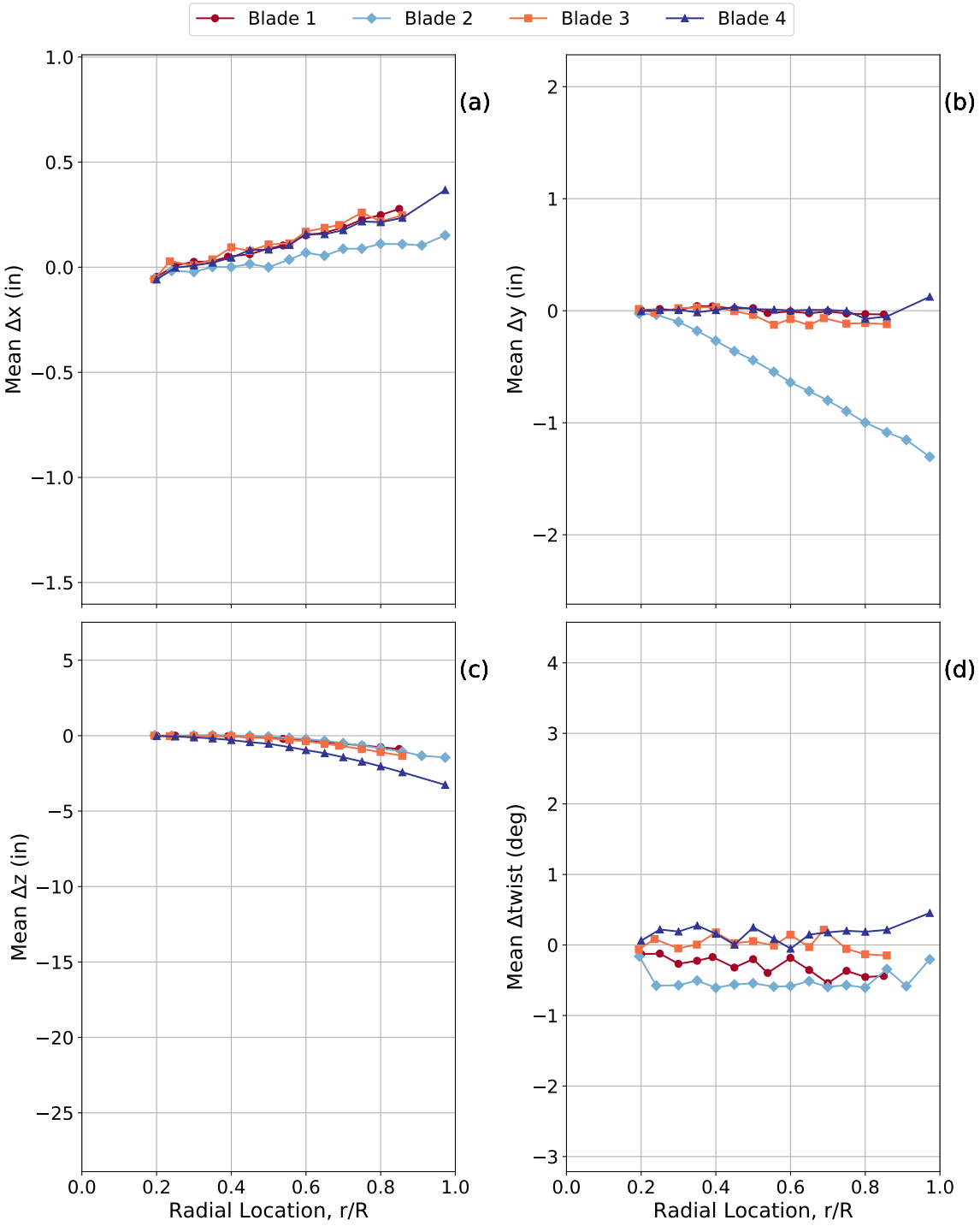


Figure 2.25-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-27. 190° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0459	0.0015	0.0032	0.0015	-0.0089	0.0082	-0.1306	0.0219
1	189.84	0.2499	0.0086	0.0014	0.0147	0.0032	0.0061	0.0177	-0.1223	0.0455
1	189.84	0.2998	0.0257	0.0013	0.0046	0.0056	-0.0246	0.0335	-0.2669	0.0510
1	189.84	0.3498	0.0275	0.0015	0.0416	0.0100	-0.0169	0.0586	-0.2243	0.0456
1	189.84	0.3913	0.0503	0.0019	0.0396	0.0140	-0.0280	0.0841	-0.1717	0.0430
1	189.84	0.4496	0.0616	0.0021	0.0185	0.0201	-0.1007	0.1308	-0.3203	0.0489
1	189.84	0.4997	0.0884	0.0023	0.0230	0.0256	-0.1419	0.1780	-0.2019	0.0527
1	189.84	0.5387	0.1033	0.0023	-0.0209	0.0311	-0.2099	0.2199	-0.3963	0.0529
1	189.84	0.5996	0.1515	0.0030	-0.0068	0.0387	-0.3052	0.2903	-0.1839	0.0498
1	189.84	0.6498	0.1644	0.0030	-0.0228	0.0447	-0.4138	0.3549	-0.3554	0.0550
1	189.84	0.6998	0.1893	0.0035	-0.0064	0.0530	-0.5484	0.4230	-0.5407	0.0627
1	189.84	0.7500	0.2267	0.0039	-0.0250	0.0606	-0.6410	0.4950	-0.3667	0.0698
1	189.84	0.8001	0.2481	0.0046	-0.0302	0.0681	-0.7668	0.5705	-0.4543	0.1137
1	189.84	0.8497	0.2775	0.0049	-0.0336	0.0748	-0.8808	0.6485	-0.4399	0.1015
2	189.84	0.1949	-0.0543	0.0038	-0.0253	0.0025	0.0203	0.0101	-0.1604	0.0400
2	189.84	0.2405	-0.0173	0.0023	-0.0359	0.0031	0.0042	0.0147	-0.5763	0.1146
2	189.84	0.2999	-0.0226	0.0023	-0.0995	0.0086	0.0153	0.0372	-0.5709	0.1194
2	189.84	0.3498	0.0011	0.0023	-0.1805	0.0140	0.0399	0.0613	-0.5053	0.1197
2	189.84	0.3998	0.0006	0.0027	-0.2685	0.0212	0.0197	0.0936	-0.6064	0.1182
2	189.84	0.4496	0.0157	0.0029	-0.3612	0.0269	-0.0090	0.1246	-0.5606	0.1195
2	189.84	0.4995	-0.0001	0.0032	-0.4420	0.0335	-0.0525	0.1615	-0.5433	0.1164
2	189.84	0.5551	0.0362	0.0032	-0.5455	0.0406	-0.1453	0.2069	-0.5909	0.1218
2	189.84	0.5996	0.0690	0.0032	-0.6396	0.0466	-0.2268	0.2459	-0.5826	0.1184
2	189.84	0.6497	0.0546	0.0037	-0.7182	0.0540	-0.3390	0.2949	-0.5131	0.1262
2	189.84	0.6996	0.0876	0.0039	-0.8006	0.0613	-0.4958	0.3469	-0.5958	0.1182
2	189.84	0.7495	0.0883	0.0043	-0.8970	0.0684	-0.6587	0.4013	-0.5701	0.1258
2	189.84	0.7996	0.1113	0.0046	-0.9979	0.0751	-0.8415	0.4605	-0.6046	0.1257
2	189.84	0.8578	0.1098	0.0053	-1.0863	0.0832	-1.0568	0.5300	-0.3421	0.1201
2	189.84	0.9100	0.1040	0.0054	-1.1530	0.0924	-1.3275	0.5967	-0.5830	0.1380
2	189.84	0.9727	0.1519	0.0064	-1.3043	0.1011	-1.4453	0.6799	-0.2048	0.1289
3	189.84	0.1938	-0.0575	0.0019	0.0152	0.0016	0.0057	0.0079	-0.0641	0.0192
3	189.84	0.2357	0.0279	0.0014	-0.0176	0.0026	-0.0274	0.0148	0.0836	0.0363
3	189.84	0.2995	0.0091	0.0014	0.0223	0.0062	-0.0128	0.0348	-0.0483	0.0461
3	189.84	0.3493	0.0368	0.0018	0.0285	0.0110	-0.0207	0.0594	0.0059	0.0441
3	189.84	0.4000	0.0946	0.0023	0.0317	0.0167	-0.0481	0.0929	0.1781	0.0415
3	189.84	0.4497	0.0774	0.0026	-0.0045	0.0211	-0.1106	0.1330	0.0244	0.0452
3	189.84	0.4997	0.1083	0.0031	-0.0374	0.0267	-0.1750	0.1806	0.0542	0.0450
3	189.84	0.5556	0.1134	0.0034	-0.1260	0.0340	-0.2881	0.2411	-0.0083	0.0536
3	189.84	0.5995	0.1689	0.0037	-0.0742	0.0407	-0.3590	0.2953	0.1456	0.0451
3	189.84	0.6498	0.1875	0.0037	-0.1300	0.0467	-0.5362	0.3590	-0.0304	0.0678
3	189.84	0.6890	0.2008	0.0039	-0.0664	0.0533	-0.6588	0.4117	0.2148	0.0629
3	189.84	0.7495	0.2599	0.0045	-0.1150	0.0618	-0.8918	0.4966	-0.0554	0.0685
3	189.84	0.7998	0.2178	0.0050	-0.1105	0.0669	-1.0828	0.5670	-0.1319	0.0752
3	189.84	0.8577	0.2470	0.0103	-0.1200	0.0823	-1.3391	0.6617	-0.1486	0.4451
4	189.84	0.2001	-0.0580	0.0015	-0.0046	0.0013	-0.0254	0.0074	0.0606	0.0181
4	189.84	0.2502	-0.0021	0.0013	0.0064	0.0028	-0.0521	0.0159	0.2194	0.0326
4	189.84	0.3001	0.0080	0.0017	0.0066	0.0052	-0.1138	0.0304	0.1902	0.0393
4	189.84	0.3502	0.0216	0.0019	-0.0140	0.0086	-0.1819	0.0525	0.2751	0.0375
4	189.84	0.4002	0.0455	0.0024	0.0054	0.0135	-0.2931	0.0815	0.1585	0.0362
4	189.84	0.4500	0.0818	0.0026	0.0342	0.0179	-0.4297	0.1185	0.0041	0.0397
4	189.84	0.5001	0.0838	0.0034	0.0143	0.0230	-0.5363	0.1621	0.2494	0.0417
4	189.84	0.5560	0.1057	0.0036	0.0105	0.0290	-0.7588	0.2201	0.0844	0.0416
4	189.84	0.6001	0.1581	0.0041	0.0023	0.0345	-0.9565	0.2697	-0.0521	0.0431
4	189.84	0.6501	0.1569	0.0043	0.0068	0.0416	-1.1624	0.3316	0.1472	0.0431
4	189.84	0.6999	0.1763	0.0051	0.0075	0.0485	-1.4301	0.3974	0.1783	0.0620
4	189.84	0.7500	0.2176	0.0055	-0.0025	0.0557	-1.7194	0.4678	0.2017	0.0592
4	189.84	0.8002	0.2141	0.0066	-0.0727	0.0632	-2.0331	0.5397	0.1874	0.1208
4	189.84	0.8582	0.2348	0.0081	-0.0511	0.0710	-2.4281	0.6204	0.2141	0.1826
4	189.84	0.9728	0.3675	0.0083	0.1246	0.0898	-3.2629	0.7949	0.4532	0.3427

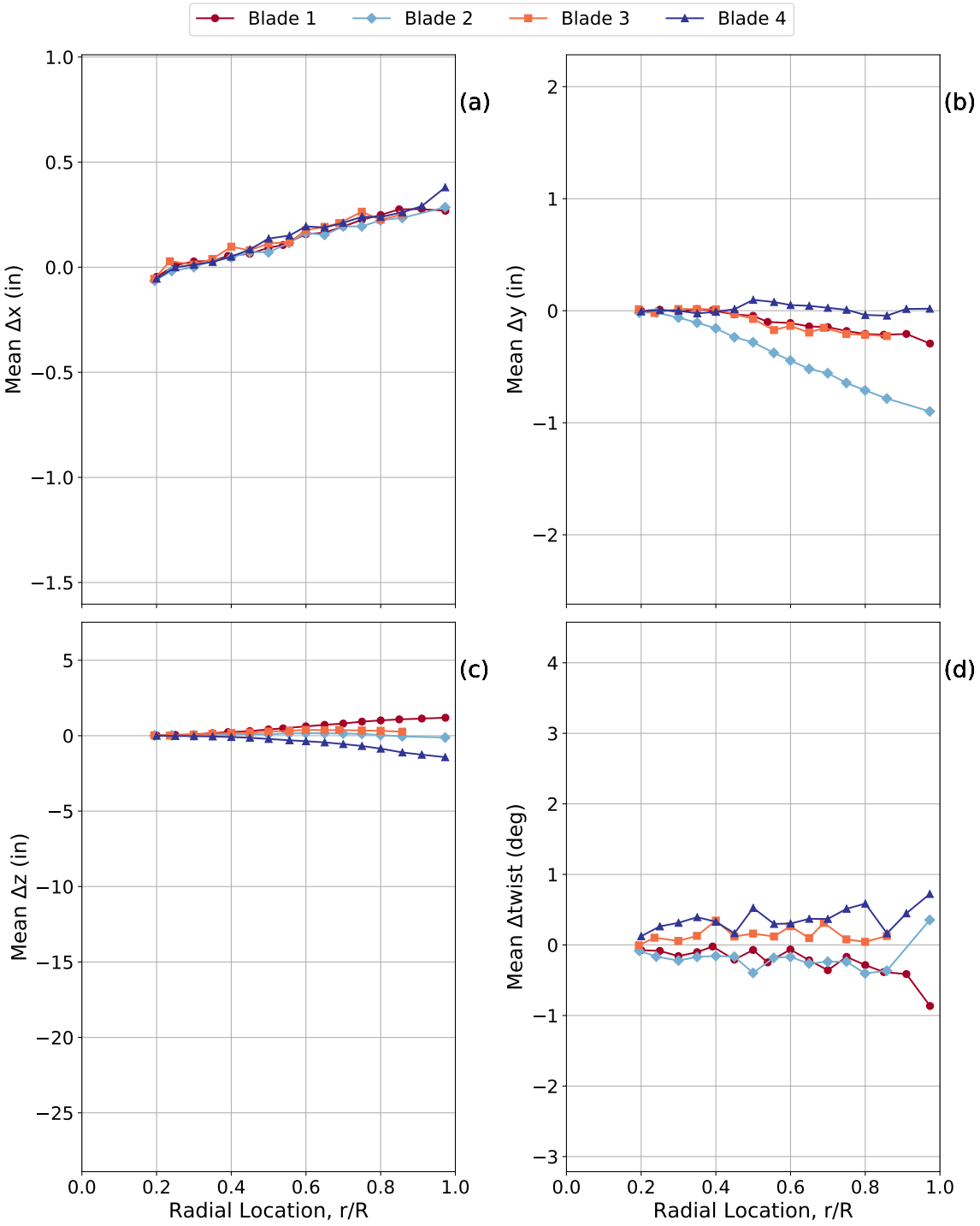


Figure 2.25-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-28. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0458	0.0016	-0.0011	0.0014	0.0192	0.0076	-0.0738	0.0238
1	195.12	0.2499	0.0092	0.0013	0.0088	0.0027	0.0559	0.0156	-0.0842	0.0393
1	195.12	0.2998	0.0276	0.0013	-0.0104	0.0054	0.0850	0.0311	-0.1582	0.0514
1	195.12	0.3498	0.0300	0.0017	0.0144	0.0092	0.1690	0.0529	-0.1019	0.0437
1	195.12	0.3913	0.0539	0.0020	0.0029	0.0131	0.2371	0.0765	-0.0219	0.0465
1	195.12	0.4496	0.0639	0.0018	-0.0331	0.0179	0.3046	0.1177	-0.2084	0.0447
1	195.12	0.4997	0.0927	0.0021	-0.0456	0.0233	0.4181	0.1607	-0.0710	0.0479
1	195.12	0.5387	0.1058	0.0023	-0.1000	0.0272	0.4834	0.1979	-0.2470	0.0501
1	195.12	0.5996	0.1571	0.0025	-0.1098	0.0342	0.6185	0.2624	-0.0646	0.0461
1	195.12	0.6498	0.1644	0.0028	-0.1404	0.0404	0.7183	0.3219	-0.2172	0.0503
1	195.12	0.6998	0.1931	0.0038	-0.1464	0.0475	0.8055	0.3854	-0.3583	0.0729
1	195.12	0.7500	0.2262	0.0038	-0.1812	0.0525	0.9311	0.4547	-0.1685	0.0702
1	195.12	0.8001	0.2484	0.0043	-0.2077	0.0580	1.0134	0.5251	-0.2854	0.1101
1	195.12	0.8497	0.2754	0.0131	-0.2146	0.0818	1.0792	0.5923	-0.3843	0.5420
1	195.12	0.9102	0.2763	0.0079	-0.2073	0.0797	1.1348	0.6864	-0.4125	0.2551
1	195.12	0.9734	0.2685	0.0108	-0.2931	0.0825	1.1901	0.7758	-0.8649	0.1736
2	195.12	0.1949	-0.0642	0.0013	-0.0178	0.0012	0.0115	0.0070	-0.0822	0.0165
2	195.12	0.2405	-0.0181	0.0013	-0.0155	0.0023	0.0234	0.0124	-0.1655	0.0325
2	195.12	0.2999	0.0006	0.0013	-0.0620	0.0042	0.0274	0.0285	-0.2212	0.0351
2	195.12	0.3498	0.0310	0.0018	-0.1069	0.0072	0.0616	0.0486	-0.1694	0.0452
2	195.12	0.3998	0.0463	0.0017	-0.1575	0.0110	0.0770	0.0747	-0.1559	0.0369
2	195.12	0.4496	0.0722	0.0018	-0.2366	0.0148	0.1075	0.1043	-0.1663	0.0470
2	195.12	0.4995	0.0710	0.0019	-0.2816	0.0194	0.0953	0.1389	-0.3964	0.0477
2	195.12	0.5551	0.1155	0.0021	-0.3762	0.0252	0.1519	0.1841	-0.1819	0.0551
2	195.12	0.5996	0.1635	0.0028	-0.4448	0.0296	0.1621	0.2223	-0.1700	0.0633
2	195.12	0.6497	0.1535	0.0024	-0.5193	0.0355	0.1614	0.2727	-0.2632	0.0734
2	195.12	0.6996	0.1943	0.0028	-0.5582	0.0421	0.1410	0.3269	-0.2375	0.0860
2	195.12	0.7495	0.1941	0.0029	-0.6443	0.0482	0.1170	0.3857	-0.2363	0.0685
2	195.12	0.7996	0.2232	0.0028	-0.7111	0.0543	0.0409	0.4477	-0.4034	0.0875
2	195.12	0.8578	0.2346	0.0034	-0.7837	0.0635	-0.0460	0.5251	-0.3655	0.1064
2	195.12	0.9727	0.2851	0.0230	-0.8987	0.0837	-0.1215	0.6833	0.3549	0.2544
3	195.12	0.1938	-0.0553	0.0017	0.0131	0.0016	0.0262	0.0062	-0.0056	0.0190
3	195.12	0.2357	0.0284	0.0011	-0.0199	0.0024	0.0053	0.0111	0.1029	0.0346
3	195.12	0.2995	0.0125	0.0009	0.0154	0.0053	0.0733	0.0258	0.0576	0.0467
3	195.12	0.3493	0.0390	0.0013	0.0146	0.0091	0.1273	0.0438	0.1287	0.0398
3	195.12	0.4000	0.0977	0.0016	0.0120	0.0139	0.1806	0.0683	0.3455	0.0452
3	195.12	0.4497	0.0799	0.0018	-0.0304	0.0174	0.2119	0.0983	0.1190	0.0414
3	195.12	0.4997	0.1133	0.0017	-0.0734	0.0217	0.2743	0.1332	0.1619	0.0451
3	195.12	0.5556	0.1185	0.0017	-0.1726	0.0275	0.3207	0.1784	0.1200	0.0499
3	195.12	0.5995	0.1762	0.0027	-0.1351	0.0315	0.3862	0.2175	0.2657	0.0534
3	195.12	0.6498	0.1917	0.0022	-0.1950	0.0372	0.3661	0.2641	0.0974	0.0593
3	195.12	0.6890	0.2098	0.0019	-0.1526	0.0405	0.3769	0.3031	0.3136	0.0592
3	195.12	0.7495	0.2640	0.0023	-0.2072	0.0484	0.3439	0.3656	0.0792	0.0576
3	195.12	0.7998	0.2260	0.0023	-0.2157	0.0534	0.3219	0.4172	0.0444	0.0713
3	195.12	0.8577	0.2507	0.0048	-0.2260	0.0599	0.2644	0.4811	0.1268	0.2380
4	195.12	0.2001	-0.0546	0.0014	-0.0066	0.0015	-0.0057	0.0079	0.1242	0.0218
4	195.12	0.2502	-0.0005	0.0011	0.0052	0.0029	-0.0176	0.0173	0.2635	0.0314
4	195.12	0.3001	0.0116	0.0015	-0.0003	0.0055	-0.0342	0.0325	0.3141	0.0454
4	195.12	0.3502	0.0250	0.0016	-0.0237	0.0097	-0.0514	0.0551	0.3941	0.0408
4	195.12	0.4002	0.0502	0.0017	-0.0098	0.0147	-0.0893	0.0862	0.3285	0.0405
4	195.12	0.4500	0.0845	0.0019	0.0137	0.0198	-0.1404	0.1252	0.1656	0.0445
4	195.12	0.5001	0.1362	0.0034	0.0969	0.0259	-0.2160	0.1715	0.5250	0.0447
4	195.12	0.5560	0.1507	0.0033	0.0775	0.0334	-0.3076	0.2330	0.2983	0.0446
4	195.12	0.6001	0.1942	0.0033	0.0504	0.0395	-0.3652	0.2875	0.3038	0.0460
4	195.12	0.6501	0.1888	0.0031	0.0436	0.0469	-0.4437	0.3548	0.3705	0.0520
4	195.12	0.6999	0.2110	0.0037	0.0258	0.0548	-0.5579	0.4274	0.3687	0.0542
4	195.12	0.7500	0.2401	0.0044	0.0083	0.0626	-0.6835	0.5059	0.5131	0.0571
4	195.12	0.8002	0.2391	0.0047	-0.0382	0.0709	-0.8596	0.5884	0.5861	0.0536
4	195.12	0.8582	0.2609	0.0051	-0.0442	0.0797	-1.1111	0.6861	0.1641	0.0702
4	195.12	0.9101	0.2908	0.0075	0.0159	0.0890	-1.2602	0.7769	0.4482	0.1046
4	195.12	0.9728	0.3800	0.0059	0.0179	0.0985	-1.4258	0.8850	0.7227	0.1226

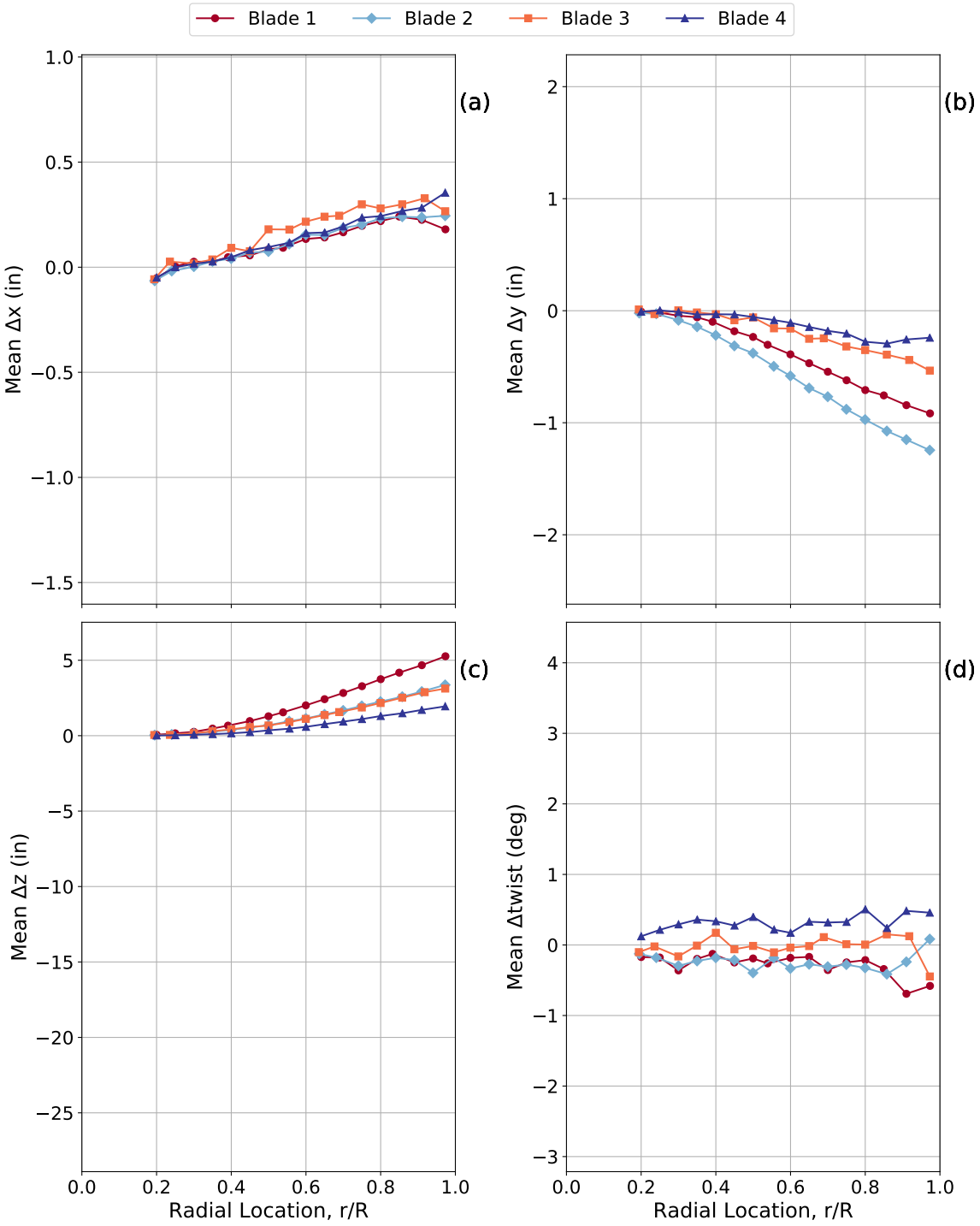


Figure 2.25-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-29. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0521	0.0015	-0.0084	0.0013	0.0627	0.0071	-0.1712	0.0201
1	209.88	0.2499	0.0041	0.0007	-0.0176	0.0031	0.1553	0.0141	-0.1780	0.0381
1	209.88	0.2998	0.0260	0.0009	-0.0444	0.0053	0.2555	0.0272	-0.3608	0.0469
1	209.88	0.3498	0.0266	0.0012	-0.0587	0.0093	0.4717	0.0466	-0.1972	0.0396
1	209.88	0.3913	0.0476	0.0017	-0.0986	0.0133	0.6677	0.0665	-0.1264	0.0412
1	209.88	0.4496	0.0562	0.0019	-0.1830	0.0187	0.9668	0.1018	-0.2484	0.0467
1	209.88	0.4997	0.0847	0.0027	-0.2342	0.0247	1.2855	0.1367	-0.1913	0.0502
1	209.88	0.5387	0.0925	0.0036	-0.3042	0.0293	1.5481	0.1662	-0.2615	0.0517
1	209.88	0.5996	0.1344	0.0050	-0.3896	0.0374	2.0101	0.2174	-0.1826	0.0485
1	209.88	0.6498	0.1415	0.0066	-0.4687	0.0445	2.4196	0.2616	-0.1692	0.0630
1	209.88	0.6998	0.1662	0.0076	-0.5446	0.0519	2.8304	0.3102	-0.3555	0.0550
1	209.88	0.7500	0.1967	0.0093	-0.6209	0.0590	3.2793	0.3589	-0.2471	0.0607
1	209.88	0.8001	0.2193	0.0111	-0.7085	0.0669	3.7452	0.4105	-0.2147	0.0636
1	209.88	0.8497	0.2410	0.0127	-0.7559	0.0745	4.1778	0.4600	-0.3415	0.0611
1	209.88	0.9102	0.2254	0.0154	-0.8432	0.0847	4.6722	0.5269	-0.6920	0.0849
1	209.88	0.9734	0.1801	0.0208	-0.9165	0.0952	5.2643	0.5956	-0.5803	0.0768
2	209.88	0.1949	-0.0646	0.0015	-0.0211	0.0010	0.0381	0.0050	-0.1259	0.0146
2	209.88	0.2405	-0.0181	0.0013	-0.0271	0.0028	0.0806	0.0101	-0.1796	0.0318
2	209.88	0.2999	0.0027	0.0017	-0.0851	0.0048	0.1471	0.0229	-0.2957	0.0358
2	209.88	0.3498	0.0276	0.0017	-0.1432	0.0085	0.2582	0.0376	-0.2268	0.0448
2	209.88	0.3998	0.0410	0.0018	-0.2195	0.0133	0.3873	0.0597	-0.1813	0.0334
2	209.88	0.4496	0.0694	0.0021	-0.3139	0.0160	0.5437	0.0836	-0.2143	0.0376
2	209.88	0.4995	0.0747	0.0020	-0.3790	0.0204	0.6909	0.1113	-0.3951	0.0411
2	209.88	0.5551	0.1100	0.0023	-0.4965	0.0240	0.9576	0.1464	-0.1843	0.0384
2	209.88	0.5996	0.1546	0.0024	-0.5819	0.0282	1.1391	0.1774	-0.3331	0.0407
2	209.88	0.6497	0.1530	0.0032	-0.6907	0.0332	1.4124	0.2162	-0.2733	0.0454
2	209.88	0.6996	0.1869	0.0038	-0.7676	0.0380	1.6734	0.2593	-0.3078	0.0493
2	209.88	0.7495	0.2023	0.0044	-0.8798	0.0432	1.9704	0.3064	-0.2786	0.0511
2	209.88	0.7996	0.2326	0.0052	-0.9717	0.0486	2.2577	0.3589	-0.3250	0.0494
2	209.88	0.8578	0.2402	0.0063	-1.0739	0.0548	2.5831	0.4211	-0.4135	0.0738
2	209.88	0.9100	0.2370	0.0081	-1.1507	0.0610	2.9225	0.4825	-0.2393	0.1026
2	209.88	0.9727	0.2447	0.0117	-1.2448	0.0678	3.3660	0.5564	0.0832	0.0799
3	209.88	0.1938	-0.0574	0.0017	0.0112	0.0015	0.0456	0.0050	-0.1018	0.0206
3	209.88	0.2357	0.0266	0.0012	-0.0297	0.0018	0.0514	0.0092	-0.0211	0.0369
3	209.88	0.2995	0.0177	0.0010	0.0032	0.0049	0.1600	0.0210	-0.1629	0.0500
3	209.88	0.3493	0.0369	0.0011	-0.0157	0.0082	0.2900	0.0354	-0.0089	0.0516
3	209.88	0.4000	0.0919	0.0016	-0.0314	0.0124	0.4260	0.0552	0.1726	0.0503
3	209.88	0.4497	0.0758	0.0018	-0.0848	0.0155	0.5707	0.0775	-0.0610	0.0531
3	209.88	0.4997	0.1802	0.0041	-0.0596	0.0206	0.6767	0.1059	-0.0134	0.0515
3	209.88	0.5556	0.1792	0.0041	-0.1573	0.0242	0.8999	0.1390	-0.1050	0.0621
3	209.88	0.5995	0.2167	0.0037	-0.1594	0.0285	1.1148	0.1710	-0.0376	0.0544
3	209.88	0.6498	0.2404	0.0042	-0.2505	0.0321	1.3675	0.2091	-0.0161	0.0755
3	209.88	0.6890	0.2451	0.0051	-0.2462	0.0361	1.5644	0.2424	0.1107	0.0595
3	209.88	0.7495	0.2990	0.0057	-0.3194	0.0417	1.8700	0.2985	0.0110	0.0686
3	209.88	0.7998	0.2796	0.0069	-0.3512	0.0469	2.1672	0.3503	0.0057	0.0664
3	209.88	0.8577	0.2991	0.0075	-0.3923	0.0515	2.5189	0.4106	0.1501	0.0784
3	209.88	0.9178	0.3280	0.0098	-0.4398	0.0580	2.8840	0.4791	0.1241	0.0706
3	209.88	0.9729	0.2663	0.0121	-0.5346	0.0630	3.1235	0.5418	-0.4467	0.0841
4	209.88	0.2001	-0.0494	0.0013	-0.0085	0.0012	0.0162	0.0065	0.1225	0.0280
4	209.88	0.2502	-0.0002	0.0010	0.0027	0.0030	0.0292	0.0133	0.2147	0.0334
4	209.88	0.3001	0.0158	0.0012	-0.0112	0.0058	0.0614	0.0269	0.2916	0.0576
4	209.88	0.3502	0.0271	0.0013	-0.0345	0.0091	0.1017	0.0430	0.3595	0.0411
4	209.88	0.4002	0.0478	0.0016	-0.0316	0.0149	0.1567	0.0683	0.3356	0.0500
4	209.88	0.4500	0.0808	0.0015	-0.0333	0.0189	0.2338	0.0972	0.2747	0.0481
4	209.88	0.5001	0.0959	0.0016	-0.0565	0.0246	0.3550	0.1317	0.3971	0.0603
4	209.88	0.5560	0.1168	0.0018	-0.0838	0.0318	0.4664	0.1762	0.2170	0.0558
4	209.88	0.6001	0.1621	0.0025	-0.1077	0.0375	0.5858	0.2131	0.1719	0.0547
4	209.88	0.6501	0.1652	0.0032	-0.1452	0.0445	0.7657	0.2606	0.3290	0.0745
4	209.88	0.6999	0.1940	0.0039	-0.1798	0.0519	0.9312	0.3112	0.3182	0.0573
4	209.88	0.7500	0.2358	0.0046	-0.2039	0.0588	1.1005	0.3647	0.3266	0.0674
4	209.88	0.8002	0.2431	0.0057	-0.2771	0.0663	1.3018	0.4227	0.5053	0.0706
4	209.88	0.8582	0.2675	0.0068	-0.2940	0.0747	1.4869	0.4902	0.2402	0.0755
4	209.88	0.9101	0.2828	0.0084	-0.2568	0.0826	1.7074	0.5547	0.4833	0.0883
4	209.88	0.9728	0.3544	0.0132	-0.2411	0.0923	1.9450	0.6314	0.4577	0.0947

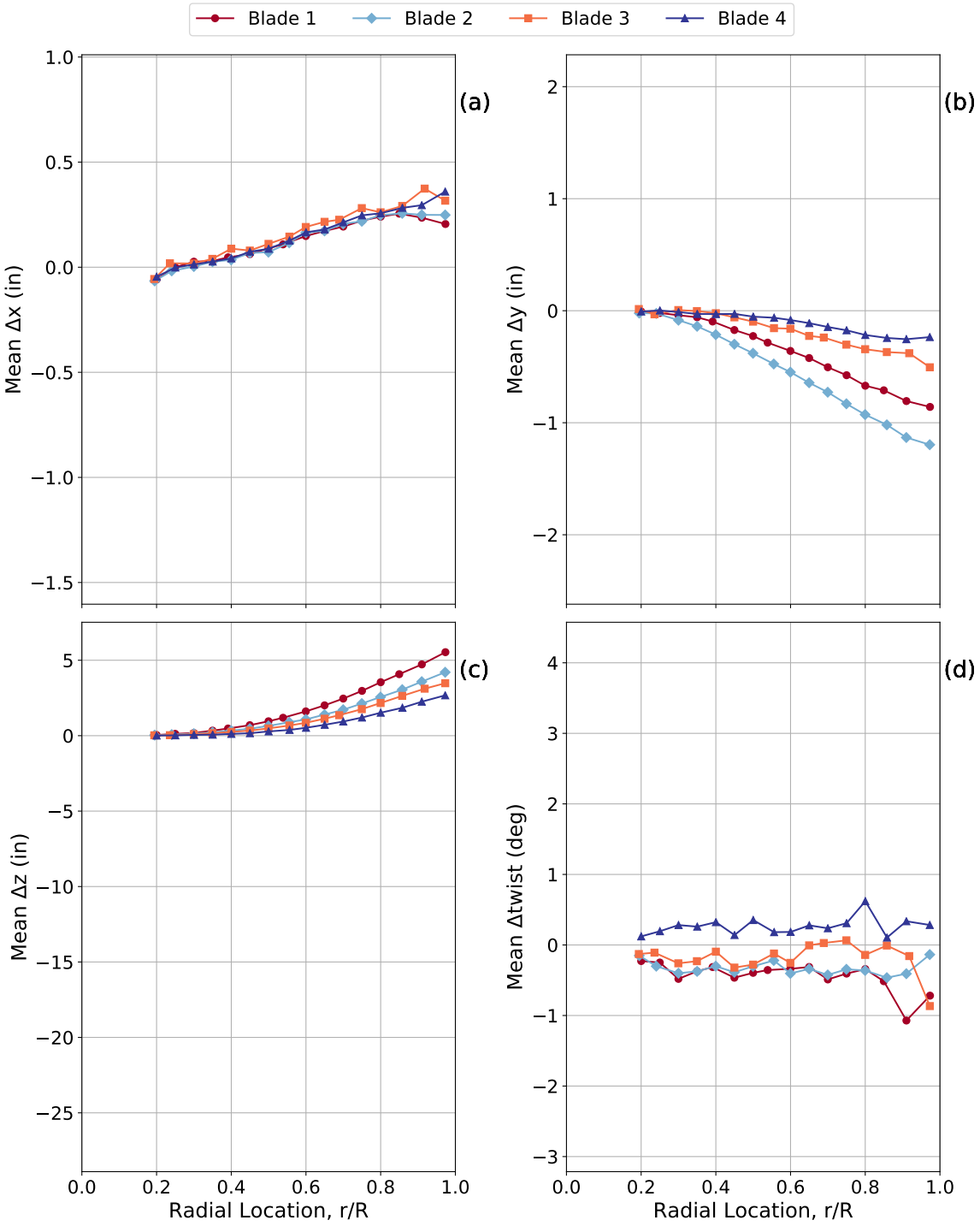


Figure 2.25-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-30. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0585	0.0017	-0.0071	0.0014	0.0436	0.0079	-0.2280	0.0198
1	225	0.2499	-0.0004	0.0013	-0.0202	0.0039	0.1207	0.0157	-0.2490	0.0318
1	225	0.2998	0.0263	0.0013	-0.0402	0.0068	0.1777	0.0310	-0.4807	0.0424
1	225	0.3498	0.0294	0.0013	-0.0584	0.0109	0.3360	0.0514	-0.3733	0.0422
1	225	0.3913	0.0470	0.0017	-0.0962	0.0167	0.4747	0.0746	-0.3134	0.0374
1	225	0.4496	0.0621	0.0019	-0.1724	0.0216	0.6957	0.1118	-0.4642	0.0458
1	225	0.4997	0.0899	0.0025	-0.2264	0.0267	0.9549	0.1501	-0.3951	0.0506
1	225	0.5387	0.1086	0.0030	-0.2849	0.0320	1.1878	0.1812	-0.3556	0.0454
1	225	0.5996	0.1483	0.0041	-0.3590	0.0394	1.6097	0.2314	-0.3380	0.0505
1	225	0.6498	0.1724	0.0057	-0.4224	0.0459	2.0115	0.2791	-0.3124	0.0480
1	225	0.6998	0.1933	0.0072	-0.5048	0.0525	2.4592	0.3276	-0.4888	0.0495
1	225	0.7500	0.2215	0.0085	-0.5757	0.0591	2.9696	0.3795	-0.4058	0.0513
1	225	0.8001	0.2404	0.0104	-0.6696	0.0656	3.5437	0.4357	-0.3420	0.0461
1	225	0.8497	0.2549	0.0125	-0.7104	0.0724	4.0761	0.4935	-0.5139	0.0492
1	225	0.9102	0.2356	0.0164	-0.8065	0.0812	4.7246	0.5687	-1.0712	0.0577
1	225	0.9734	0.2055	0.0221	-0.8588	0.0896	5.5345	0.6506	-0.7185	0.0588
2	225	0.1949	-0.0653	0.0018	-0.0214	0.0011	0.0364	0.0078	-0.1512	0.0184
2	225	0.2405	-0.0175	0.0012	-0.0242	0.0026	0.0708	0.0153	-0.3009	0.0309
2	225	0.2999	0.0032	0.0015	-0.0845	0.0054	0.1337	0.0350	-0.4008	0.0433
2	225	0.3498	0.0263	0.0018	-0.1391	0.0091	0.2232	0.0583	-0.3745	0.0451
2	225	0.3998	0.0348	0.0027	-0.2139	0.0144	0.3366	0.0916	-0.3010	0.0471
2	225	0.4496	0.0678	0.0026	-0.2990	0.0182	0.4615	0.1292	-0.3872	0.0468
2	225	0.4995	0.0716	0.0023	-0.3798	0.0225	0.6489	0.1747	-0.3031	0.0480
2	225	0.5551	0.1161	0.0024	-0.4755	0.0285	0.8894	0.2329	-0.2199	0.0558
2	225	0.5996	0.1644	0.0029	-0.5484	0.0329	1.0776	0.2858	-0.4039	0.0498
2	225	0.6497	0.1728	0.0039	-0.6430	0.0393	1.3963	0.3488	-0.3394	0.0617
2	225	0.6996	0.2061	0.0061	-0.7275	0.0454	1.7195	0.4198	-0.4249	0.0658
2	225	0.7495	0.2185	0.0074	-0.8309	0.0518	2.1301	0.4936	-0.3453	0.0625
2	225	0.7996	0.2475	0.0099	-0.9274	0.0582	2.5606	0.5724	-0.3615	0.0621
2	225	0.8578	0.2564	0.0134	-1.0186	0.0660	3.0530	0.6659	-0.4638	0.0649
2	225	0.9100	0.2491	0.0174	-1.1318	0.0731	3.5819	0.7523	-0.4077	0.0676
2	225	0.9727	0.2485	0.0242	-1.1962	0.0814	4.2041	0.8561	-0.1362	0.0782
3	225	0.1938	-0.0561	0.0016	0.0149	0.0017	0.0251	0.0084	-0.1287	0.0211
3	225	0.2357	0.0186	0.0011	-0.0322	0.0018	0.0316	0.0141	-0.1087	0.0301
3	225	0.2995	0.0177	0.0013	0.0059	0.0056	0.0962	0.0352	-0.2601	0.0455
3	225	0.3493	0.0397	0.0015	-0.0032	0.0092	0.1648	0.0575	-0.2300	0.0441
3	225	0.4000	0.0882	0.0018	-0.0221	0.0139	0.2510	0.0903	-0.0950	0.0410
3	225	0.4497	0.0792	0.0018	-0.0592	0.0185	0.3377	0.1259	-0.3207	0.0458
3	225	0.4997	0.1110	0.0017	-0.0974	0.0227	0.4817	0.1683	-0.2788	0.0519
3	225	0.5556	0.1455	0.0020	-0.1556	0.0277	0.6741	0.2216	-0.1213	0.0449
3	225	0.5995	0.1913	0.0023	-0.1604	0.0330	0.8524	0.2684	-0.2538	0.0530
3	225	0.6498	0.2160	0.0033	-0.2249	0.0377	1.1259	0.3259	-0.0059	0.0516
3	225	0.6890	0.2257	0.0047	-0.2394	0.0420	1.3568	0.3767	0.0275	0.0510
3	225	0.7495	0.2811	0.0062	-0.3028	0.0475	1.7585	0.4579	0.0658	0.0579
3	225	0.7998	0.2613	0.0081	-0.3435	0.0530	2.1672	0.5340	-0.1410	0.0547
3	225	0.8577	0.2913	0.0109	-0.3692	0.0593	2.6366	0.6232	-0.0079	0.0571
3	225	0.9178	0.3739	0.0270	-0.3794	0.0685	3.1145	0.7210	-0.1575	0.1217
3	225	0.9729	0.3165	0.0204	-0.5049	0.0712	3.4777	0.8112	-0.8664	0.0796
4	225	0.2001	-0.0454	0.0012	-0.0071	0.0011	0.0108	0.0065	0.1213	0.0247
4	225	0.2502	-0.0015	0.0012	0.0017	0.0028	0.0228	0.0126	0.1946	0.0421
4	225	0.3001	0.0130	0.0012	-0.0118	0.0047	0.0512	0.0251	0.2819	0.0538
4	225	0.3502	0.0268	0.0012	-0.0293	0.0070	0.0669	0.0419	0.2596	0.0513
4	225	0.4002	0.0418	0.0020	-0.0302	0.0118	0.1178	0.0648	0.3232	0.0480
4	225	0.4500	0.0737	0.0022	-0.0285	0.0144	0.1621	0.0911	0.1407	0.0473
4	225	0.5001	0.0878	0.0016	-0.0531	0.0184	0.2832	0.1232	0.3530	0.0439
4	225	0.5560	0.1267	0.0018	-0.0628	0.0235	0.3809	0.1661	0.1814	0.0498
4	225	0.6001	0.1658	0.0018	-0.0832	0.0279	0.5235	0.2023	0.1842	0.0503
4	225	0.6501	0.1797	0.0024	-0.1112	0.0327	0.7211	0.2511	0.2779	0.0596
4	225	0.6999	0.2133	0.0033	-0.1453	0.0389	0.9377	0.3031	0.2364	0.0566
4	225	0.7500	0.2467	0.0044	-0.1748	0.0438	1.2030	0.3610	0.3086	0.0573
4	225	0.8002	0.2566	0.0055	-0.2167	0.0493	1.5229	0.4237	0.6203	0.0576
4	225	0.8582	0.2823	0.0068	-0.2433	0.0562	1.8495	0.5005	0.1044	0.0645
4	225	0.9101	0.2951	0.0098	-0.2544	0.0622	2.2525	0.5717	0.3362	0.0608
4	225	0.9728	0.3596	0.0143	-0.2355	0.0692	2.6751	0.6589	0.2830	0.0705

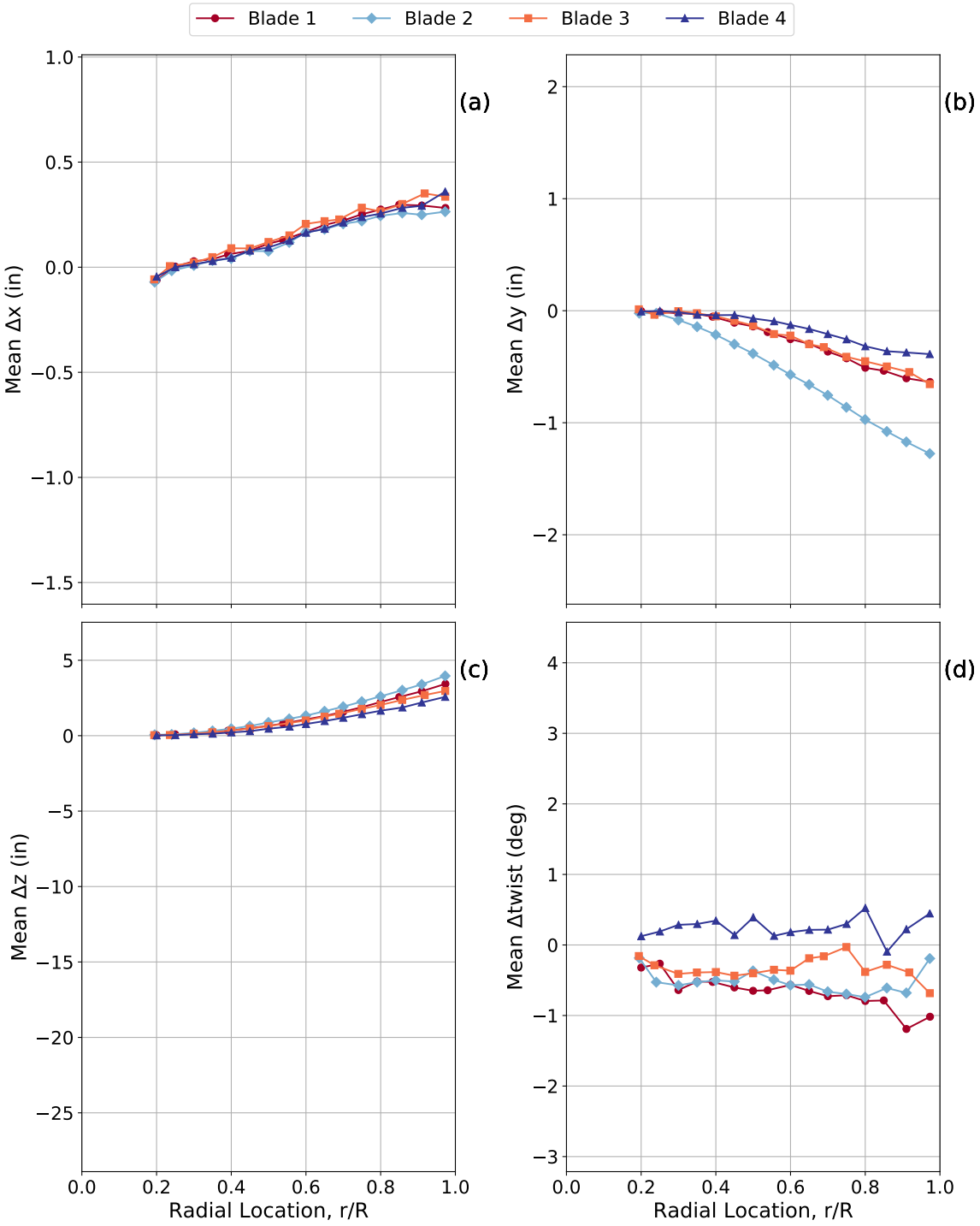


Figure 2.25-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-31. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0614	0.0036	-0.0028	0.0048	0.0280	0.0172	-0.3206	0.0998
1	240.12	0.2499	0.0031	0.0014	-0.0124	0.0050	0.0896	0.0233	-0.2653	0.2477
1	240.12	0.2998	0.0284	0.0010	-0.0229	0.0165	0.1171	0.0567	-0.6392	0.2628
1	240.12	0.3498	0.0380	0.0011	-0.0290	0.0279	0.2357	0.0949	-0.5182	0.2587
1	240.12	0.3913	0.0606	0.0018	-0.0538	0.0380	0.3295	0.1301	-0.5241	0.2634
1	240.12	0.4496	0.0783	0.0022	-0.1070	0.0525	0.4936	0.1860	-0.6026	0.2582
1	240.12	0.4997	0.1118	0.0023	-0.1402	0.0652	0.6518	0.2394	-0.6496	0.2570
1	240.12	0.5387	0.1293	0.0021	-0.1906	0.0750	0.8022	0.2859	-0.6422	0.2673
1	240.12	0.5996	0.1675	0.0030	-0.2536	0.0908	1.0771	0.3658	-0.5656	0.2608
1	240.12	0.6498	0.2009	0.0039	-0.2952	0.1045	1.3014	0.4377	-0.6519	0.2640
1	240.12	0.6998	0.2219	0.0055	-0.3649	0.1177	1.5840	0.5172	-0.7266	0.2681
1	240.12	0.7500	0.2521	0.0067	-0.4248	0.1314	1.8909	0.6013	-0.7128	0.2664
1	240.12	0.8001	0.2745	0.0086	-0.5092	0.1445	2.2315	0.6906	-0.7944	0.2638
1	240.12	0.8497	0.2974	0.0104	-0.5359	0.1579	2.5619	0.7828	-0.7866	0.2679
1	240.12	0.9102	0.2936	0.0137	-0.6031	0.1740	2.9433	0.8988	-1.1908	0.2695
1	240.12	0.9734	0.2818	0.0216	-0.6362	0.1905	3.4328	1.0229	-1.0175	0.2701
2	240.12	0.1949	-0.0707	0.0017	-0.0222	0.0009	0.0576	0.0061	-0.1848	0.0178
2	240.12	0.2405	-0.0166	0.0015	-0.0235	0.0026	0.0802	0.0130	-0.5274	0.0344
2	240.12	0.2999	0.0086	0.0010	-0.0832	0.0047	0.1887	0.0281	-0.5730	0.0451
2	240.12	0.3498	0.0315	0.0015	-0.1431	0.0080	0.3172	0.0463	-0.5271	0.0477
2	240.12	0.3998	0.0413	0.0028	-0.2145	0.0129	0.4643	0.0733	-0.5014	0.0559
2	240.12	0.4496	0.0771	0.0025	-0.2987	0.0149	0.6367	0.1018	-0.5191	0.0490
2	240.12	0.4995	0.0763	0.0022	-0.3821	0.0187	0.8748	0.1417	-0.3677	0.0551
2	240.12	0.5551	0.1178	0.0024	-0.4860	0.0231	1.1147	0.1949	-0.4933	0.0546
2	240.12	0.5996	0.1659	0.0029	-0.5703	0.0270	1.3270	0.2419	-0.5712	0.0622
2	240.12	0.6497	0.1807	0.0039	-0.6597	0.0316	1.6201	0.3030	-0.5607	0.0594
2	240.12	0.6996	0.2063	0.0055	-0.7548	0.0359	1.9218	0.3710	-0.6626	0.0573
2	240.12	0.7495	0.2199	0.0070	-0.8620	0.0403	2.2573	0.4475	-0.6956	0.0618
2	240.12	0.7996	0.2445	0.0090	-0.9712	0.0449	2.6060	0.5297	-0.7403	0.0589
2	240.12	0.8578	0.2579	0.0112	-1.0781	0.0503	3.0147	0.6337	-0.6096	0.0624
2	240.12	0.9100	0.2496	0.0147	-1.1710	0.0548	3.3989	0.7287	-0.6797	0.0637
2	240.12	0.9727	0.2642	0.0208	-1.2756	0.0606	3.9609	0.8459	-0.1920	0.0668
3	240.12	0.1938	-0.0578	0.0015	0.0124	0.0011	0.0363	0.0053	-0.1574	0.0226
3	240.12	0.2357	0.0050	0.0011	-0.0359	0.0016	0.0446	0.0102	-0.2877	0.0435
3	240.12	0.2995	0.0219	0.0009	-0.0042	0.0045	0.1324	0.0229	-0.4101	0.0579
3	240.12	0.3493	0.0477	0.0011	-0.0224	0.0072	0.2259	0.0376	-0.3904	0.0504
3	240.12	0.4000	0.0901	0.0017	-0.0505	0.0114	0.3406	0.0592	-0.3840	0.0546
3	240.12	0.4497	0.0892	0.0029	-0.0897	0.0143	0.4757	0.0823	-0.4358	0.0586
3	240.12	0.4997	0.1199	0.0020	-0.1325	0.0192	0.6400	0.1127	-0.4012	0.0574
3	240.12	0.5556	0.1512	0.0020	-0.2085	0.0243	0.8349	0.1519	-0.3521	0.0565
3	240.12	0.5995	0.2059	0.0027	-0.2222	0.0292	1.0102	0.1873	-0.3643	0.0576
3	240.12	0.6498	0.2190	0.0029	-0.2989	0.0342	1.2637	0.2310	-0.1887	0.0585
3	240.12	0.6890	0.2271	0.0040	-0.3251	0.0391	1.4518	0.2706	-0.1607	0.0572
3	240.12	0.7495	0.2829	0.0055	-0.4115	0.0457	1.7754	0.3361	-0.0294	0.0681
3	240.12	0.7998	0.2659	0.0063	-0.4514	0.0517	2.0352	0.3953	-0.3815	0.0618
3	240.12	0.8577	0.3006	0.0077	-0.4981	0.0580	2.3692	0.4694	-0.2809	0.0655
3	240.12	0.9178	0.3510	0.0103	-0.5482	0.0652	2.6918	0.5501	-0.3891	0.0654
3	240.12	0.9729	0.3355	0.0143	-0.6554	0.0715	2.9643	0.6253	-0.6836	0.0695
4	240.12	0.2001	-0.0450	0.0014	-0.0069	0.0010	0.0217	0.0065	0.1237	0.0202
4	240.12	0.2502	0.0001	0.0012	-0.0026	0.0021	0.0379	0.0132	0.1908	0.0336
4	240.12	0.3001	0.0141	0.0012	-0.0131	0.0042	0.0906	0.0259	0.2853	0.0433
4	240.12	0.3502	0.0296	0.0012	-0.0358	0.0068	0.1318	0.0431	0.2971	0.0391
4	240.12	0.4002	0.0448	0.0021	-0.0399	0.0110	0.2162	0.0672	0.3445	0.0446
4	240.12	0.4500	0.0790	0.0022	-0.0384	0.0138	0.2973	0.0953	0.1400	0.0442
4	240.12	0.5001	0.0942	0.0017	-0.0693	0.0176	0.4642	0.1269	0.3906	0.0481
4	240.12	0.5560	0.1269	0.0022	-0.0942	0.0227	0.5985	0.1711	0.1290	0.0431
4	240.12	0.6001	0.1641	0.0026	-0.1270	0.0266	0.7747	0.2066	0.1816	0.0480
4	240.12	0.6501	0.1828	0.0026	-0.1631	0.0319	0.9681	0.2537	0.2143	0.0491
4	240.12	0.6999	0.2125	0.0032	-0.2090	0.0369	1.1878	0.3069	0.2170	0.0524
4	240.12	0.7500	0.2385	0.0044	-0.2554	0.0417	1.4235	0.3637	0.2978	0.0537
4	240.12	0.8002	0.2553	0.0051	-0.3176	0.0469	1.6562	0.4268	0.5235	0.0505
4	240.12	0.8582	0.2825	0.0065	-0.3617	0.0527	1.8683	0.5072	-0.0950	0.0528
4	240.12	0.9101	0.2920	0.0091	-0.3727	0.0584	2.1981	0.5827	0.2225	0.0530
4	240.12	0.9728	0.3596	0.0133	-0.3876	0.0646	2.5728	0.6771	0.4467	0.0528

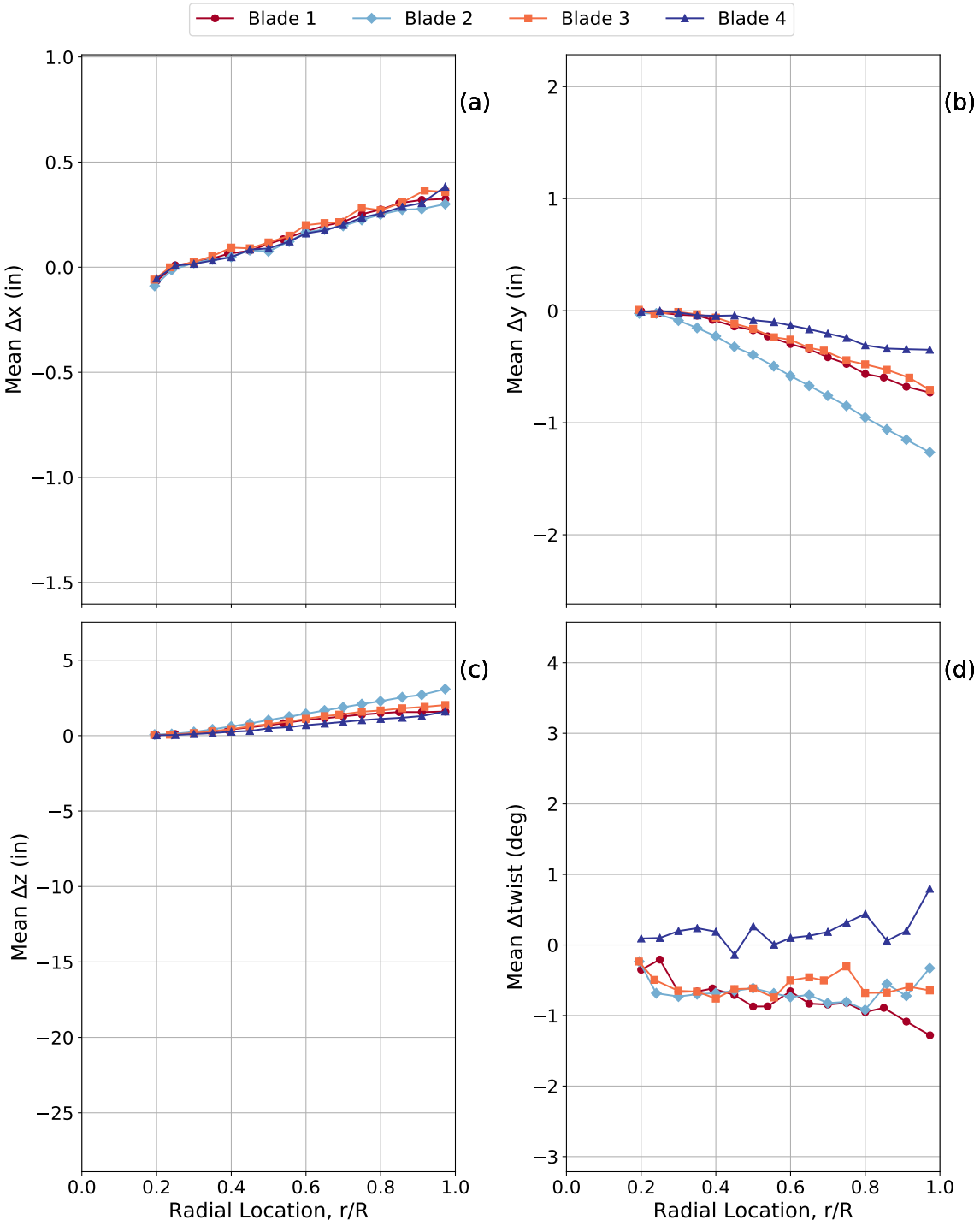


Figure 2.25-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-32. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0651	0.0046	-0.0047	0.0021	0.0283	0.0095	-0.3515	0.0497
1	254.88	0.2499	0.0091	0.0014	-0.0173	0.0028	0.1072	0.0172	-0.2076	0.1262
1	254.88	0.2998	0.0223	0.0013	-0.0355	0.0071	0.1419	0.0343	-0.6647	0.1300
1	254.88	0.3498	0.0412	0.0015	-0.0434	0.0127	0.2520	0.0563	-0.6595	0.1273
1	254.88	0.3913	0.0639	0.0021	-0.0808	0.0171	0.3816	0.0808	-0.6172	0.1289
1	254.88	0.4496	0.0784	0.0020	-0.1397	0.0236	0.5572	0.1200	-0.7099	0.1322
1	254.88	0.4997	0.1109	0.0020	-0.1735	0.0293	0.6946	0.1618	-0.8724	0.1309
1	254.88	0.5387	0.1330	0.0022	-0.2287	0.0337	0.8244	0.1983	-0.8711	0.1341
1	254.88	0.5996	0.1698	0.0026	-0.2969	0.0412	1.0451	0.2638	-0.6579	0.1317
1	254.88	0.6498	0.1970	0.0031	-0.3446	0.0472	1.1547	0.3262	-0.8312	0.1326
1	254.88	0.6998	0.2157	0.0036	-0.4152	0.0538	1.2849	0.3936	-0.8453	0.1372
1	254.88	0.7500	0.2521	0.0041	-0.4746	0.0602	1.3995	0.4672	-0.8211	0.1373
1	254.88	0.8001	0.2741	0.0046	-0.5644	0.0665	1.4932	0.5468	-0.9503	0.1347
1	254.88	0.8497	0.3044	0.0052	-0.5963	0.0727	1.5696	0.6295	-0.8910	0.1354
1	254.88	0.9102	0.3201	0.0059	-0.6783	0.0804	1.5651	0.7335	-1.0859	0.1377
1	254.88	0.9734	0.3246	0.0095	-0.7308	0.0883	1.5996	0.8474	-1.2805	0.1418
2	254.88	0.1949	-0.0892	0.0026	-0.0241	0.0011	0.0738	0.0062	-0.2346	0.0231
2	254.88	0.2405	-0.0134	0.0014	-0.0243	0.0013	0.1094	0.0099	-0.6847	0.0598
2	254.88	0.2999	0.0203	0.0010	-0.0879	0.0039	0.2448	0.0229	-0.7314	0.0648
2	254.88	0.3498	0.0379	0.0012	-0.1534	0.0066	0.4200	0.0384	-0.6981	0.0614
2	254.88	0.3998	0.0487	0.0016	-0.2274	0.0097	0.6130	0.0584	-0.6816	0.0589
2	254.88	0.4496	0.0809	0.0018	-0.3223	0.0127	0.8086	0.0809	-0.6508	0.0701
2	254.88	0.4995	0.0752	0.0018	-0.3946	0.0159	1.0376	0.1083	-0.6125	0.0588
2	254.88	0.5551	0.1221	0.0019	-0.4956	0.0197	1.2641	0.1440	-0.6862	0.0632
2	254.88	0.5996	0.1658	0.0022	-0.5822	0.0229	1.4529	0.1768	-0.7382	0.0620
2	254.88	0.6497	0.1794	0.0028	-0.6693	0.0268	1.6737	0.2166	-0.7084	0.0632
2	254.88	0.6996	0.1963	0.0035	-0.7583	0.0310	1.8841	0.2607	-0.8241	0.0657
2	254.88	0.7495	0.2245	0.0045	-0.8494	0.0351	2.0949	0.3086	-0.8064	0.0645
2	254.88	0.7996	0.2508	0.0054	-0.9529	0.0396	2.2893	0.3602	-0.9195	0.0665
2	254.88	0.8578	0.2735	0.0061	-1.0598	0.0447	2.5497	0.4234	-0.5527	0.0648
2	254.88	0.9100	0.2766	0.0074	-1.1515	0.0491	2.7060	0.4806	-0.7223	0.0695
2	254.88	0.9727	0.3002	0.0109	-1.2640	0.0549	3.0914	0.5512	-0.3295	0.0716
3	254.88	0.1938	-0.0592	0.0036	0.0079	0.0014	0.0445	0.0067	-0.2351	0.0263
3	254.88	0.2357	-0.0004	0.0021	-0.0309	0.0017	0.0653	0.0105	-0.4954	0.0594
3	254.88	0.2995	0.0245	0.0013	-0.0111	0.0043	0.1685	0.0247	-0.6504	0.0687
3	254.88	0.3493	0.0527	0.0013	-0.0320	0.0073	0.2889	0.0424	-0.6609	0.0635
3	254.88	0.4000	0.0933	0.0019	-0.0615	0.0110	0.4378	0.0643	-0.7596	0.0634
3	254.88	0.4497	0.0899	0.0022	-0.1155	0.0145	0.6064	0.0911	-0.6255	0.0671
3	254.88	0.4997	0.1177	0.0022	-0.1620	0.0184	0.7774	0.1236	-0.6175	0.0695
3	254.88	0.5556	0.1497	0.0028	-0.2372	0.0230	0.9421	0.1647	-0.7438	0.0648
3	254.88	0.5995	0.1999	0.0029	-0.2582	0.0270	1.1204	0.2012	-0.5017	0.0709
3	254.88	0.6498	0.2098	0.0032	-0.3320	0.0317	1.2978	0.2472	-0.4590	0.0725
3	254.88	0.6890	0.2142	0.0037	-0.3566	0.0354	1.3943	0.2866	-0.5029	0.0707
3	254.88	0.7495	0.2831	0.0043	-0.4423	0.0414	1.5899	0.3528	-0.3043	0.0726
3	254.88	0.7998	0.2706	0.0048	-0.4790	0.0463	1.6709	0.4121	-0.6805	0.0753
3	254.88	0.8577	0.3080	0.0055	-0.5270	0.0523	1.8148	0.4860	-0.6758	0.0713
3	254.88	0.9178	0.3645	0.0069	-0.5979	0.0586	1.9126	0.5653	-0.5932	0.0766
3	254.88	0.9729	0.3578	0.0100	-0.7070	0.0647	2.0345	0.6413	-0.6445	0.0746
4	254.88	0.2001	-0.0538	0.0022	-0.0085	0.0011	0.0283	0.0060	0.0922	0.0221
4	254.88	0.2502	0.0076	0.0011	-0.0015	0.0017	0.0447	0.0117	0.0999	0.0464
4	254.88	0.3001	0.0159	0.0012	-0.0159	0.0039	0.1085	0.0226	0.1973	0.0530
4	254.88	0.3502	0.0321	0.0011	-0.0410	0.0066	0.1675	0.0383	0.2385	0.0553
4	254.88	0.4002	0.0480	0.0016	-0.0454	0.0098	0.2636	0.0588	0.1881	0.0523
4	254.88	0.4500	0.0842	0.0016	-0.0422	0.0131	0.3109	0.0811	-0.1397	0.0550
4	254.88	0.5001	0.0893	0.0021	-0.0837	0.0170	0.4874	0.1085	0.2648	0.0578
4	254.88	0.5560	0.1229	0.0020	-0.1019	0.0219	0.5710	0.1424	0.0034	0.0542
4	254.88	0.6001	0.1606	0.0026	-0.1312	0.0255	0.6968	0.1714	0.1004	0.0609
4	254.88	0.6501	0.1751	0.0027	-0.1655	0.0302	0.8012	0.2076	0.1300	0.0596
4	254.88	0.6999	0.2009	0.0027	-0.2039	0.0349	0.9147	0.2469	0.1859	0.0618
4	254.88	0.7500	0.2361	0.0033	-0.2423	0.0397	1.0326	0.2895	0.3157	0.0592
4	254.88	0.8002	0.2552	0.0037	-0.3084	0.0445	1.1137	0.3354	0.4403	0.0590
4	254.88	0.8582	0.2871	0.0040	-0.3379	0.0504	1.1921	0.3930	0.0600	0.0601
4	254.88	0.9101	0.3049	0.0053	-0.3435	0.0556	1.3033	0.4467	0.1993	0.0641
4	254.88	0.9728	0.3824	0.0083	-0.3485	0.0619	1.6035	0.5145	0.7964	0.0668

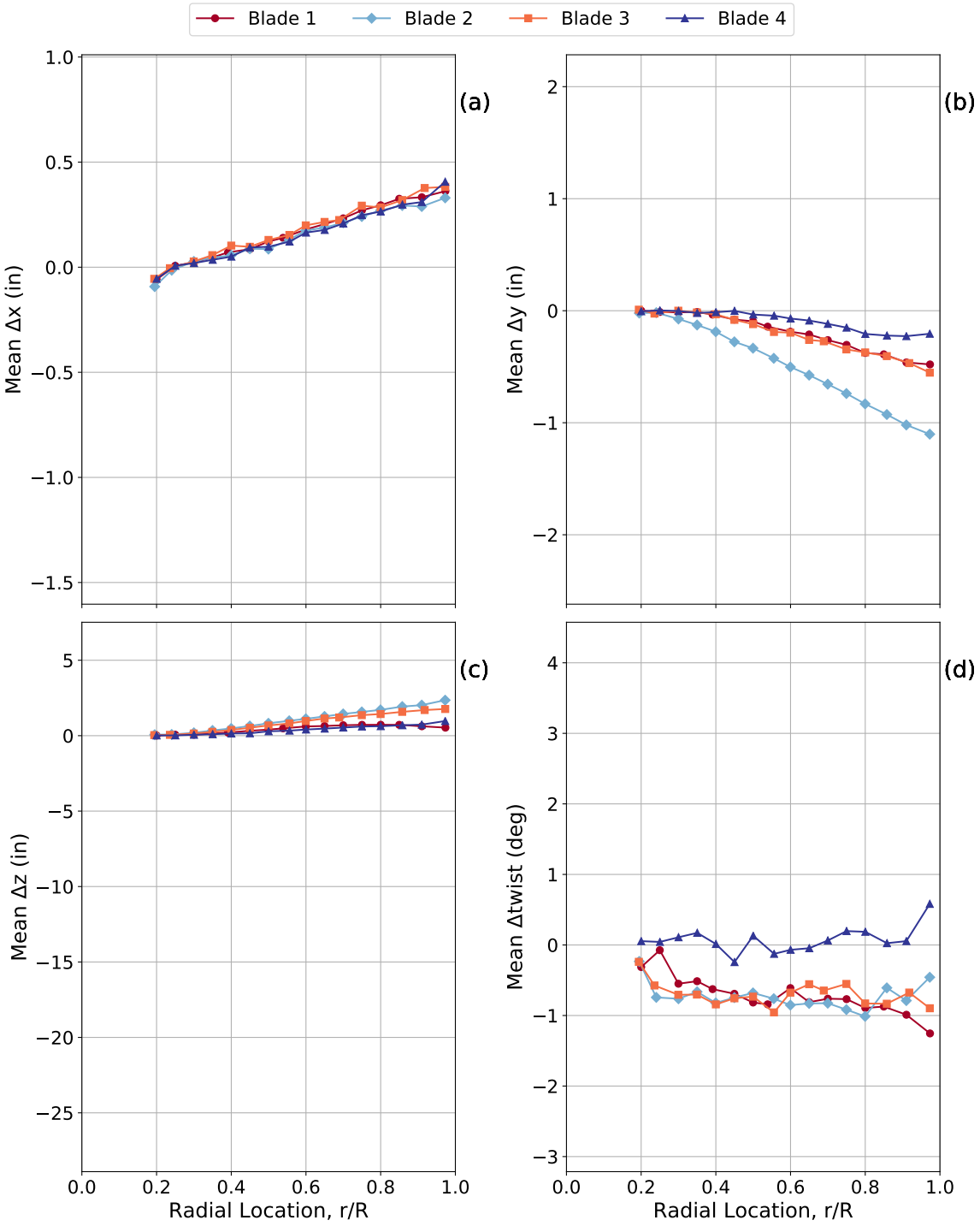


Figure 2.25-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-33. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.0586	0.0046	0.0007	0.0025	0.0090	0.0116	-0.3133	0.0646
1	260.16	0.2499	0.0068	0.0020	-0.0113	0.0026	0.0665	0.0140	-0.0740	0.1823
1	260.16	0.2998	0.0231	0.0015	-0.0148	0.0082	0.0657	0.0353	-0.5495	0.1772
1	260.16	0.3498	0.0464	0.0018	-0.0114	0.0142	0.1355	0.0579	-0.5138	0.1785
1	260.16	0.3913	0.0708	0.0018	-0.0345	0.0189	0.2061	0.0781	-0.6261	0.1782
1	260.16	0.4496	0.0854	0.0017	-0.0792	0.0252	0.3246	0.1080	-0.6921	0.1783
1	260.16	0.4997	0.1222	0.0018	-0.0946	0.0308	0.4029	0.1383	-0.8160	0.1758
1	260.16	0.5387	0.1398	0.0021	-0.1423	0.0350	0.4845	0.1627	-0.8415	0.1792
1	260.16	0.5996	0.1796	0.0023	-0.1873	0.0422	0.6123	0.2078	-0.6114	0.1739
1	260.16	0.6498	0.2052	0.0025	-0.2122	0.0481	0.6409	0.2486	-0.8111	0.1803
1	260.16	0.6998	0.2324	0.0028	-0.2627	0.0541	0.6923	0.2933	-0.7620	0.1793
1	260.16	0.7500	0.2709	0.0031	-0.3051	0.0601	0.7181	0.3422	-0.7680	0.1810
1	260.16	0.8001	0.2946	0.0032	-0.3768	0.0663	0.7230	0.3943	-0.8929	0.1805
1	260.16	0.8497	0.3255	0.0031	-0.3893	0.0722	0.7190	0.4490	-0.8735	0.1823
1	260.16	0.9102	0.3328	0.0035	-0.4615	0.0797	0.6237	0.5197	-0.9893	0.1820
1	260.16	0.9734	0.3620	0.0062	-0.4795	0.0875	0.5327	0.5969	-1.2541	0.1832
2	260.16	0.1949	-0.0923	0.0046	-0.0211	0.0019	0.0644	0.0094	-0.2333	0.0423
2	260.16	0.2405	-0.0143	0.0016	-0.0176	0.0018	0.0796	0.0109	-0.7434	0.1233
2	260.16	0.2999	0.0274	0.0013	-0.0737	0.0061	0.1902	0.0293	-0.7627	0.1290
2	260.16	0.3498	0.0454	0.0014	-0.1273	0.0106	0.3450	0.0487	-0.6642	0.1203
2	260.16	0.3998	0.0564	0.0019	-0.1873	0.0154	0.4806	0.0711	-0.8222	0.1206
2	260.16	0.4496	0.0877	0.0018	-0.2777	0.0197	0.6391	0.0961	-0.7466	0.1207
2	260.16	0.4995	0.0863	0.0021	-0.3345	0.0245	0.8207	0.1250	-0.6797	0.1234
2	260.16	0.5551	0.1313	0.0021	-0.4247	0.0302	0.9863	0.1614	-0.7615	0.1245
2	260.16	0.5996	0.1744	0.0024	-0.5026	0.0347	1.1180	0.1934	-0.8525	0.1237
2	260.16	0.6497	0.1885	0.0028	-0.5752	0.0400	1.2763	0.2326	-0.8289	0.1228
2	260.16	0.6996	0.2111	0.0033	-0.6557	0.0453	1.4421	0.2756	-0.8255	0.1228
2	260.16	0.7495	0.2411	0.0037	-0.7392	0.0507	1.5738	0.3214	-0.9167	0.1223
2	260.16	0.7996	0.2700	0.0040	-0.8317	0.0562	1.7118	0.3715	-1.0125	0.1220
2	260.16	0.8578	0.2935	0.0046	-0.9266	0.0624	1.9292	0.4329	-0.6080	0.1225
2	260.16	0.9100	0.2888	0.0055	-1.0197	0.0682	2.0257	0.4902	-0.7888	0.1261
2	260.16	0.9727	0.3299	0.0095	-1.1021	0.0751	2.3539	0.5606	-0.4579	0.1267
3	260.16	0.1938	-0.0553	0.0058	0.0093	0.0021	0.0385	0.0079	-0.2391	0.0324
3	260.16	0.2357	-0.0048	0.0015	-0.0256	0.0015	0.0538	0.0102	-0.5742	0.0920
3	260.16	0.2995	0.0273	0.0014	0.0001	0.0061	0.1436	0.0260	-0.7063	0.1003
3	260.16	0.3493	0.0573	0.0014	-0.0156	0.0104	0.2515	0.0439	-0.7032	0.0936
3	260.16	0.4000	0.1028	0.0018	-0.0321	0.0150	0.3776	0.0655	-0.8424	0.0954
3	260.16	0.4497	0.0971	0.0016	-0.0815	0.0188	0.5257	0.0895	-0.7562	0.0923
3	260.16	0.4997	0.1296	0.0021	-0.1198	0.0230	0.6781	0.1172	-0.7322	0.0963
3	260.16	0.5556	0.1534	0.0023	-0.1897	0.0279	0.8123	0.1530	-0.9560	0.0917
3	260.16	0.5995	0.1990	0.0024	-0.1960	0.0320	0.9724	0.1846	-0.6760	0.0912
3	260.16	0.6498	0.2154	0.0028	-0.2608	0.0365	1.1379	0.2228	-0.5566	0.0954
3	260.16	0.6890	0.2244	0.0031	-0.2728	0.0402	1.2064	0.2555	-0.6465	0.0956
3	260.16	0.7495	0.2927	0.0037	-0.3454	0.0460	1.3611	0.3101	-0.5524	0.0935
3	260.16	0.7998	0.2844	0.0040	-0.3724	0.0511	1.4359	0.3585	-0.8293	0.0937
3	260.16	0.8577	0.3193	0.0045	-0.4051	0.0567	1.5802	0.4178	-0.8331	0.1003
3	260.16	0.9178	0.3767	0.0058	-0.4676	0.0629	1.6997	0.4832	-0.6747	0.0976
3	260.16	0.9729	0.3821	0.0085	-0.5528	0.0687	1.7698	0.5453	-0.8973	0.1031
4	260.16	0.2001	-0.0551	0.0020	-0.0051	0.0012	0.0169	0.0074	0.0541	0.0294
4	260.16	0.2502	0.0069	0.0014	0.0027	0.0019	0.0198	0.0131	0.0431	0.0572
4	260.16	0.3001	0.0196	0.0013	-0.0028	0.0043	0.0596	0.0272	0.1091	0.0685
4	260.16	0.3502	0.0352	0.0014	-0.0202	0.0072	0.0953	0.0454	0.1718	0.0650
4	260.16	0.4002	0.0503	0.0017	-0.0130	0.0110	0.1445	0.0694	0.0134	0.0637
4	260.16	0.4500	0.0936	0.0019	-0.0018	0.0148	0.1577	0.0990	-0.2430	0.0643
4	260.16	0.5001	0.0974	0.0019	-0.0342	0.0193	0.2913	0.1345	0.1306	0.0666
4	260.16	0.5560	0.1218	0.0022	-0.0445	0.0248	0.3339	0.1808	-0.1261	0.0665
4	260.16	0.6001	0.1647	0.0018	-0.0699	0.0289	0.4085	0.2211	-0.0686	0.0674
4	260.16	0.6501	0.1772	0.0018	-0.0878	0.0343	0.4681	0.2697	-0.0462	0.0706
4	260.16	0.6999	0.2077	0.0025	-0.1176	0.0395	0.5393	0.3221	0.0638	0.0673
4	260.16	0.7500	0.2476	0.0028	-0.1511	0.0446	0.6075	0.3767	0.1967	0.0717
4	260.16	0.8002	0.2649	0.0034	-0.2074	0.0503	0.6295	0.4333	0.1866	0.0726
4	260.16	0.8582	0.2977	0.0040	-0.2219	0.0570	0.6912	0.5012	0.0250	0.0714
4	260.16	0.9101	0.3099	0.0052	-0.2271	0.0626	0.7344	0.5619	0.0545	0.0739
4	260.16	0.9728	0.4064	0.0088	-0.2057	0.0703	0.9702	0.6380	0.5821	0.0744

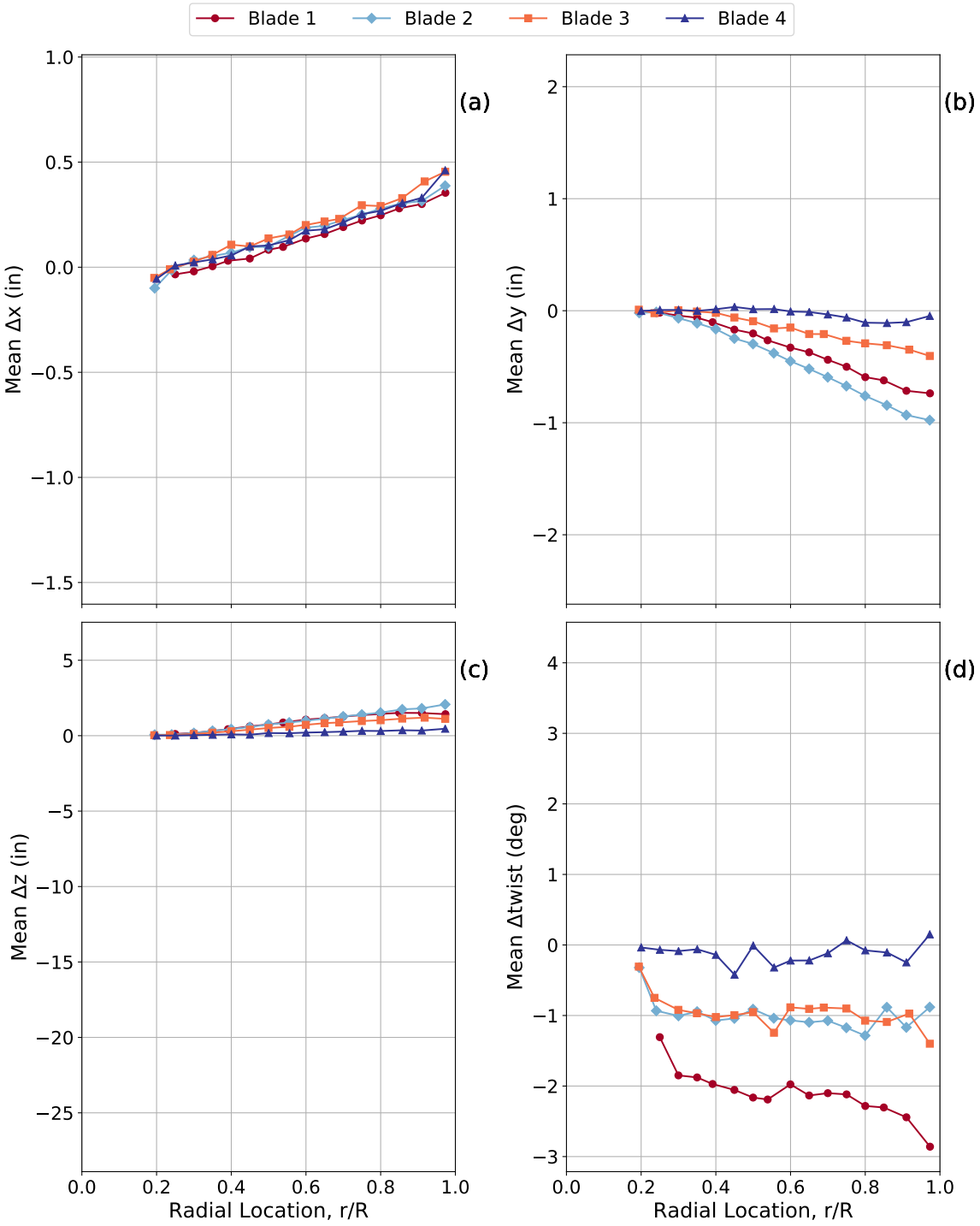


Figure 2.25-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-34. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2499	-0.0340	0.0039	-0.0176	0.0032	0.1120	0.0232	-1.3070	0.1267
1	265.08	0.2998	-0.0198	0.0019	-0.0435	0.0059	0.1823	0.0399	-1.8489	0.1784
1	265.08	0.3498	0.0046	0.0020	-0.0628	0.0110	0.3133	0.0667	-1.8779	0.1652
1	265.08	0.3913	0.0307	0.0024	-0.1025	0.0159	0.4306	0.0940	-1.9711	0.1609
1	265.08	0.4496	0.0413	0.0030	-0.1686	0.0213	0.6151	0.1370	-2.0551	0.1651
1	265.08	0.4997	0.0829	0.0033	-0.2032	0.0263	0.7482	0.1809	-2.1632	0.1647
1	265.08	0.5387	0.0964	0.0036	-0.2641	0.0301	0.8728	0.2188	-2.1908	0.1642
1	265.08	0.5996	0.1363	0.0042	-0.3290	0.0363	1.0635	0.2856	-1.9763	0.1665
1	265.08	0.6498	0.1578	0.0048	-0.3712	0.0419	1.1589	0.3470	-2.1337	0.1663
1	265.08	0.6998	0.1909	0.0055	-0.4380	0.0474	1.2679	0.4111	-2.1009	0.1701
1	265.08	0.7500	0.2222	0.0060	-0.5006	0.0529	1.3630	0.4802	-2.1182	0.1704
1	265.08	0.8001	0.2470	0.0065	-0.5930	0.0587	1.4421	0.5523	-2.2825	0.1734
1	265.08	0.8497	0.2799	0.0073	-0.6218	0.0641	1.5124	0.6262	-2.3039	0.1723
1	265.08	0.9102	0.3005	0.0088	-0.7147	0.0717	1.5041	0.7203	-2.4430	0.1706
1	265.08	0.9734	0.3539	0.0142	-0.7375	0.0799	1.4257	0.8230	-2.8598	0.1714
2	265.08	0.1949	-0.0998	0.0055	-0.0199	0.0017	0.0624	0.0097	-0.3214	0.0449
2	265.08	0.2405	-0.0141	0.0020	-0.0123	0.0019	0.0696	0.0130	-0.9328	0.1107
2	265.08	0.2999	0.0340	0.0018	-0.0667	0.0055	0.1724	0.0316	-1.0056	0.1214
2	265.08	0.3498	0.0526	0.0017	-0.1113	0.0097	0.3209	0.0530	-0.9452	0.1147
2	265.08	0.3998	0.0692	0.0020	-0.1638	0.0140	0.4355	0.0781	-1.0710	0.1151
2	265.08	0.4496	0.0954	0.0022	-0.2479	0.0181	0.5722	0.1070	-1.0414	0.1170
2	265.08	0.4995	0.0975	0.0019	-0.2963	0.0224	0.7431	0.1396	-0.9105	0.1128
2	265.08	0.5551	0.1493	0.0023	-0.3786	0.0274	0.8713	0.1794	-1.0388	0.1161
2	265.08	0.5996	0.1881	0.0024	-0.4506	0.0315	0.9899	0.2156	-1.0689	0.1158
2	265.08	0.6497	0.1971	0.0030	-0.5194	0.0361	1.1259	0.2574	-1.0959	0.1143
2	265.08	0.6996	0.2248	0.0033	-0.5934	0.0406	1.2758	0.3025	-1.0730	0.1173
2	265.08	0.7495	0.2497	0.0039	-0.6725	0.0454	1.3985	0.3505	-1.1736	0.1168
2	265.08	0.7996	0.2785	0.0042	-0.7604	0.0499	1.5285	0.4009	-1.2848	0.1197
2	265.08	0.8578	0.3044	0.0051	-0.8440	0.0553	1.7445	0.4619	-0.8831	0.1191
2	265.08	0.9100	0.3148	0.0067	-0.9315	0.0601	1.8071	0.5186	-1.1686	0.1187
2	265.08	0.9727	0.3875	0.0116	-0.9767	0.0658	2.0740	0.5895	-0.8813	0.1255
3	265.08	0.1938	-0.0509	0.0084	0.0093	0.0025	0.0311	0.0118	-0.3070	0.0397
3	265.08	0.2357	-0.0098	0.0027	-0.0220	0.0013	0.0413	0.0106	-0.7497	0.1324
3	265.08	0.2995	0.0265	0.0024	0.0042	0.0070	0.1119	0.0337	-0.9200	0.1344
3	265.08	0.3493	0.0586	0.0024	-0.0077	0.0122	0.1973	0.0562	-0.9680	0.1280
3	265.08	0.4000	0.1071	0.0023	-0.0188	0.0174	0.2934	0.0815	-1.0218	0.1310
3	265.08	0.4497	0.0988	0.0021	-0.0606	0.0227	0.3984	0.1119	-0.9950	0.1312
3	265.08	0.4997	0.1369	0.0020	-0.0938	0.0282	0.5109	0.1469	-0.9525	0.1270
3	265.08	0.5556	0.1556	0.0020	-0.1582	0.0342	0.5900	0.1900	-1.2443	0.1280
3	265.08	0.5995	0.2007	0.0020	-0.1501	0.0392	0.7190	0.2279	-0.8842	0.1296
3	265.08	0.6498	0.2175	0.0023	-0.2082	0.0448	0.8301	0.2740	-0.9063	0.1294
3	265.08	0.6890	0.2298	0.0026	-0.2085	0.0491	0.8763	0.3114	-0.8878	0.1300
3	265.08	0.7495	0.2947	0.0033	-0.2685	0.0561	0.9696	0.3731	-0.9011	0.1304
3	265.08	0.7998	0.2909	0.0032	-0.2911	0.0618	1.0251	0.4262	-1.0726	0.1311
3	265.08	0.8577	0.3287	0.0039	-0.3079	0.0684	1.1315	0.4913	-1.0914	0.1303
3	265.08	0.9178	0.4082	0.0059	-0.3474	0.0757	1.1949	0.5621	-0.9728	0.1290
3	265.08	0.9729	0.4541	0.0112	-0.4039	0.0826	1.1161	0.6330	-1.4000	0.1277
4	265.08	0.2001	-0.0554	0.0027	-0.0022	0.0011	0.0099	0.0064	-0.0357	0.0343
4	265.08	0.2502	0.0079	0.0018	0.0065	0.0019	0.0092	0.0122	-0.0688	0.0740
4	265.08	0.3001	0.0228	0.0015	0.0069	0.0037	0.0333	0.0227	-0.0868	0.0812
4	265.08	0.3502	0.0376	0.0015	-0.0016	0.0065	0.0583	0.0384	-0.0612	0.0777
4	265.08	0.4002	0.0562	0.0017	0.0134	0.0096	0.0846	0.0586	-0.1400	0.0761
4	265.08	0.4500	0.0988	0.0018	0.0338	0.0127	0.0669	0.0806	-0.4215	0.0757
4	265.08	0.5001	0.1035	0.0017	0.0133	0.0160	0.1742	0.1076	-0.0094	0.0776
4	265.08	0.5560	0.1289	0.0019	0.0148	0.0199	0.1626	0.1412	-0.3198	0.0806
4	265.08	0.6001	0.1737	0.0018	-0.0070	0.0230	0.2050	0.1705	-0.2210	0.0804
4	265.08	0.6501	0.1805	0.0018	-0.0114	0.0269	0.2336	0.2065	-0.2199	0.0829
4	265.08	0.6999	0.2135	0.0021	-0.0334	0.0309	0.2700	0.2448	-0.1173	0.0830
4	265.08	0.7500	0.2519	0.0025	-0.0605	0.0350	0.3208	0.2862	0.0654	0.0811
4	265.08	0.8002	0.2683	0.0025	-0.1070	0.0392	0.3094	0.3286	-0.0768	0.0858
4	265.08	0.8582	0.3051	0.0028	-0.1101	0.0439	0.3590	0.3803	-0.1067	0.0893
4	265.08	0.9101	0.3302	0.0036	-0.1023	0.0481	0.3402	0.4284	-0.2472	0.0842
4	265.08	0.9728	0.4609	0.0062	-0.0467	0.0536	0.4598	0.4878	0.1497	0.0894

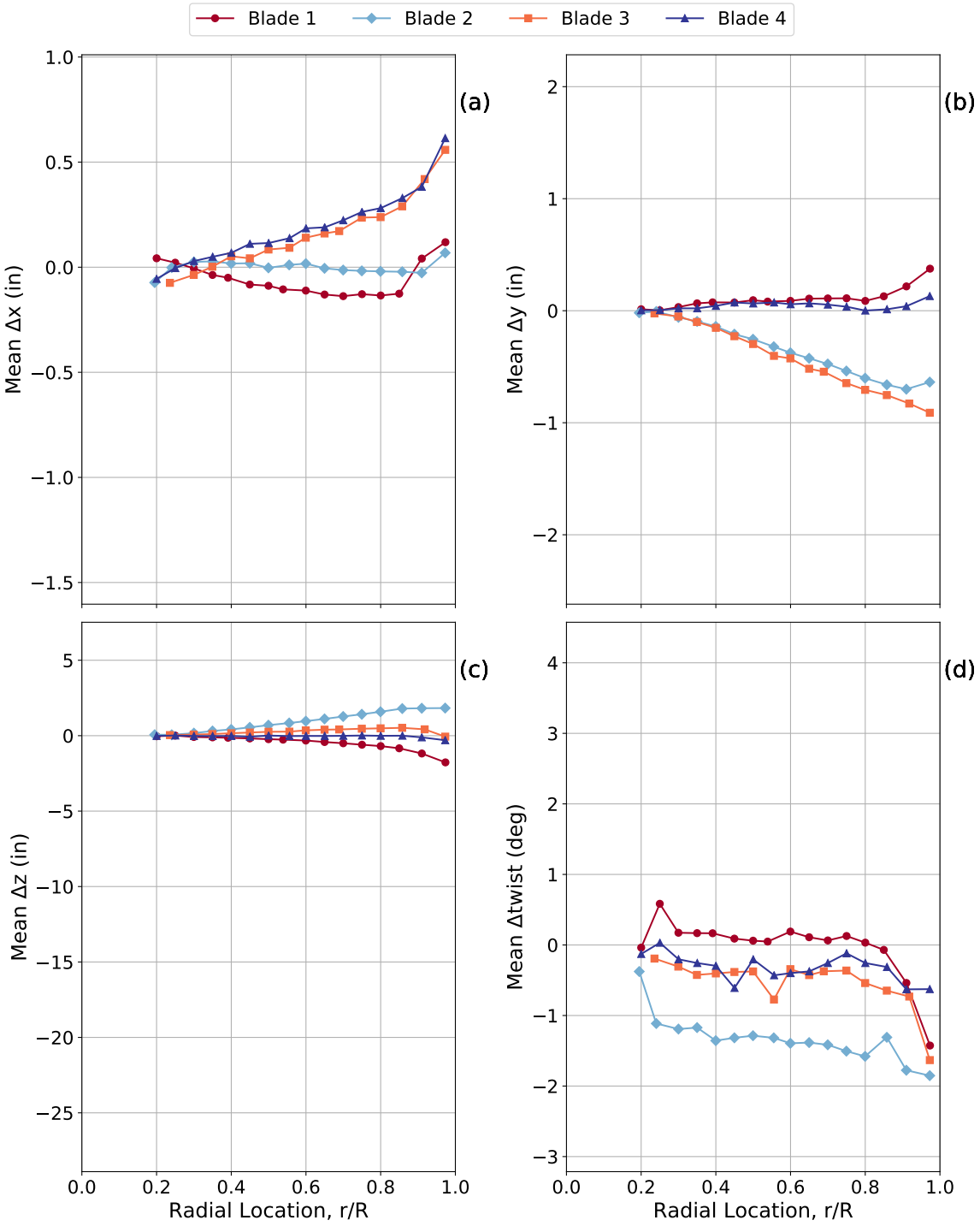


Figure 2.25-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-35. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	0.0425	0.0022	0.0130	0.0020	-0.0359	0.0073	-0.0375	0.0299
1	270	0.2499	0.0215	0.0020	0.0035	0.0024	0.0073	0.0127	0.5835	0.0602
1	270	0.2998	-0.0055	0.0019	0.0323	0.0062	-0.0863	0.0259	0.1731	0.0607
1	270	0.3498	-0.0369	0.0018	0.0658	0.0099	-0.1112	0.0432	0.1676	0.0524
1	270	0.3913	-0.0502	0.0026	0.0747	0.0133	-0.1370	0.0613	0.1660	0.0508
1	270	0.4496	-0.0825	0.0023	0.0733	0.0180	-0.1832	0.0922	0.0897	0.0544
1	270	0.4997	-0.0883	0.0028	0.0938	0.0226	-0.2310	0.1239	0.0606	0.0561
1	270	0.5387	-0.1055	0.0025	0.0815	0.0265	-0.2619	0.1513	0.0479	0.0537
1	270	0.5996	-0.1112	0.0027	0.0879	0.0326	-0.3212	0.1979	0.1898	0.0549
1	270	0.6498	-0.1300	0.0032	0.1077	0.0381	-0.4194	0.2410	0.1096	0.0508
1	270	0.6998	-0.1377	0.0034	0.1097	0.0434	-0.5022	0.2862	0.0643	0.0602
1	270	0.7500	-0.1283	0.0036	0.1110	0.0493	-0.5992	0.3345	0.1270	0.0647
1	270	0.8001	-0.1346	0.0041	0.0877	0.0549	-0.6906	0.3853	0.0329	0.0579
1	270	0.8497	-0.1259	0.0045	0.1287	0.0605	-0.8361	0.4377	-0.0698	0.0685
1	270	0.9102	0.0412	0.0039	0.2170	0.0681	-1.1805	0.5047	-0.5386	0.0633
1	270	0.9734	0.1189	0.0061	0.3753	0.0767	-1.7697	0.5802	-1.4258	0.0713
2	270.35	0.1949	-0.0731	0.0072	-0.0186	0.0023	0.0640	0.0118	-0.3764	0.0566
2	270.35	0.2405	-0.0017	0.0028	-0.0072	0.0024	0.0582	0.0134	-1.1136	0.1698
2	270.35	0.2999	0.0251	0.0028	-0.0591	0.0071	0.1675	0.0355	-1.1922	0.1709
2	270.35	0.3498	0.0278	0.0032	-0.0957	0.0123	0.3117	0.0588	-1.1715	0.1699
2	270.35	0.3998	0.0175	0.0026	-0.1403	0.0178	0.4159	0.0853	-1.3564	0.1616
2	270.35	0.4496	0.0188	0.0028	-0.2096	0.0224	0.5518	0.1107	-1.3163	0.1707
2	270.35	0.4995	-0.0031	0.0026	-0.2547	0.0278	0.6971	0.1398	-1.2864	0.1696
2	270.35	0.5551	0.0109	0.0031	-0.3212	0.0338	0.8396	0.1753	-1.3169	0.1698
2	270.35	0.5996	0.0171	0.0034	-0.3752	0.0386	0.9629	0.2051	-1.3942	0.1680
2	270.35	0.6497	-0.0053	0.0035	-0.4246	0.0445	1.1127	0.2413	-1.3839	0.1665
2	270.35	0.6996	-0.0136	0.0037	-0.4757	0.0501	1.2710	0.2781	-1.4153	0.1751
2	270.35	0.7495	-0.0175	0.0042	-0.5382	0.0562	1.4190	0.3187	-1.5055	0.1678
2	270.35	0.7996	-0.0199	0.0047	-0.6021	0.0622	1.5871	0.3607	-1.5795	0.1696
2	270.35	0.8578	-0.0217	0.0053	-0.6609	0.0689	1.7972	0.4140	-1.3091	0.1690
2	270.35	0.9100	-0.0268	0.0067	-0.7005	0.0743	1.8188	0.4628	-1.7762	0.1742
2	270.35	0.9727	0.0684	0.0115	-0.6370	0.0809	1.8296	0.5305	-1.8526	0.1847
3	270	0.2357	-0.0744	0.0027	-0.0241	0.0017	0.0381	0.0127	-0.1929	0.0812
3	270	0.2995	-0.0367	0.0016	-0.0515	0.0041	0.0732	0.0276	-0.3067	0.1304
3	270	0.3493	0.0023	0.0017	-0.1008	0.0073	0.1082	0.0462	-0.4247	0.1288
3	270	0.4000	0.0519	0.0016	-0.1526	0.0115	0.1619	0.0714	-0.4035	0.1252
3	270	0.4497	0.0422	0.0017	-0.2277	0.0153	0.2087	0.0989	-0.3832	0.1298
3	270	0.4997	0.0842	0.0016	-0.2972	0.0192	0.2575	0.1284	-0.3754	0.1287
3	270	0.5556	0.0924	0.0019	-0.4031	0.0243	0.2677	0.1679	-0.7734	0.1289
3	270	0.5995	0.1404	0.0019	-0.4257	0.0282	0.3529	0.1999	-0.3432	0.1275
3	270	0.6498	0.1605	0.0023	-0.5179	0.0326	0.3985	0.2386	-0.4273	0.1286
3	270	0.6890	0.1719	0.0025	-0.5446	0.0363	0.4131	0.2708	-0.3733	0.1327
3	270	0.7495	0.2360	0.0029	-0.6463	0.0421	0.4626	0.3206	-0.3630	0.1328
3	270	0.7998	0.2382	0.0030	-0.7064	0.0471	0.4874	0.3632	-0.5399	0.1281
3	270	0.8577	0.2895	0.0040	-0.7532	0.0527	0.5214	0.4149	-0.6475	0.1294
3	270	0.9178	0.4193	0.0074	-0.8286	0.0590	0.4204	0.4732	-0.7316	0.1281
3	270	0.9729	0.5583	0.0158	-0.9109	0.0657	-0.0633	0.5345	-1.6323	0.1318
4	270	0.2001	-0.0555	0.0108	0.0037	0.0099	-0.0146	0.0432	-0.1278	0.2062
4	270	0.2502	-0.0043	0.0264	0.0049	0.0105	0.0128	0.0392	0.0311	0.3507
4	270	0.3001	0.0291	0.0112	0.0212	0.0211	-0.0204	0.0882	-0.2031	0.2309
4	270	0.3502	0.0496	0.0113	0.0213	0.0270	-0.0251	0.1129	-0.2564	0.2269
4	270	0.4002	0.0685	0.0118	0.0431	0.0332	-0.0193	0.1395	-0.2960	0.2306
4	270	0.4500	0.1112	0.0119	0.0735	0.0387	-0.0690	0.1687	-0.6094	0.2253
4	270	0.5001	0.1150	0.0124	0.0646	0.0450	0.0089	0.2016	-0.2047	0.2311
4	270	0.5560	0.1381	0.0124	0.0735	0.0515	-0.0255	0.2405	-0.4300	0.2302
4	270	0.6001	0.1848	0.0125	0.0576	0.0571	-0.0180	0.2730	-0.3993	0.2327
4	270	0.6501	0.1898	0.0124	0.0658	0.0630	-0.0196	0.3117	-0.3744	0.2346
4	270	0.6999	0.2233	0.0125	0.0544	0.0690	-0.0097	0.3515	-0.2559	0.2323
4	270	0.7500	0.2631	0.0126	0.0357	0.0752	0.0114	0.3922	-0.1186	0.2330
4	270	0.8002	0.2811	0.0128	0.0014	0.0813	-0.0082	0.4347	-0.2562	0.2374
4	270	0.8582	0.3290	0.0127	0.0127	0.0883	-0.0008	0.4828	-0.3127	0.2350
4	270	0.9101	0.3823	0.0129	0.0400	0.0945	-0.1110	0.5276	-0.6293	0.2343
4	270	0.9728	0.6139	0.0160	0.1305	0.1016	-0.3013	0.5846	-0.6263	0.2307

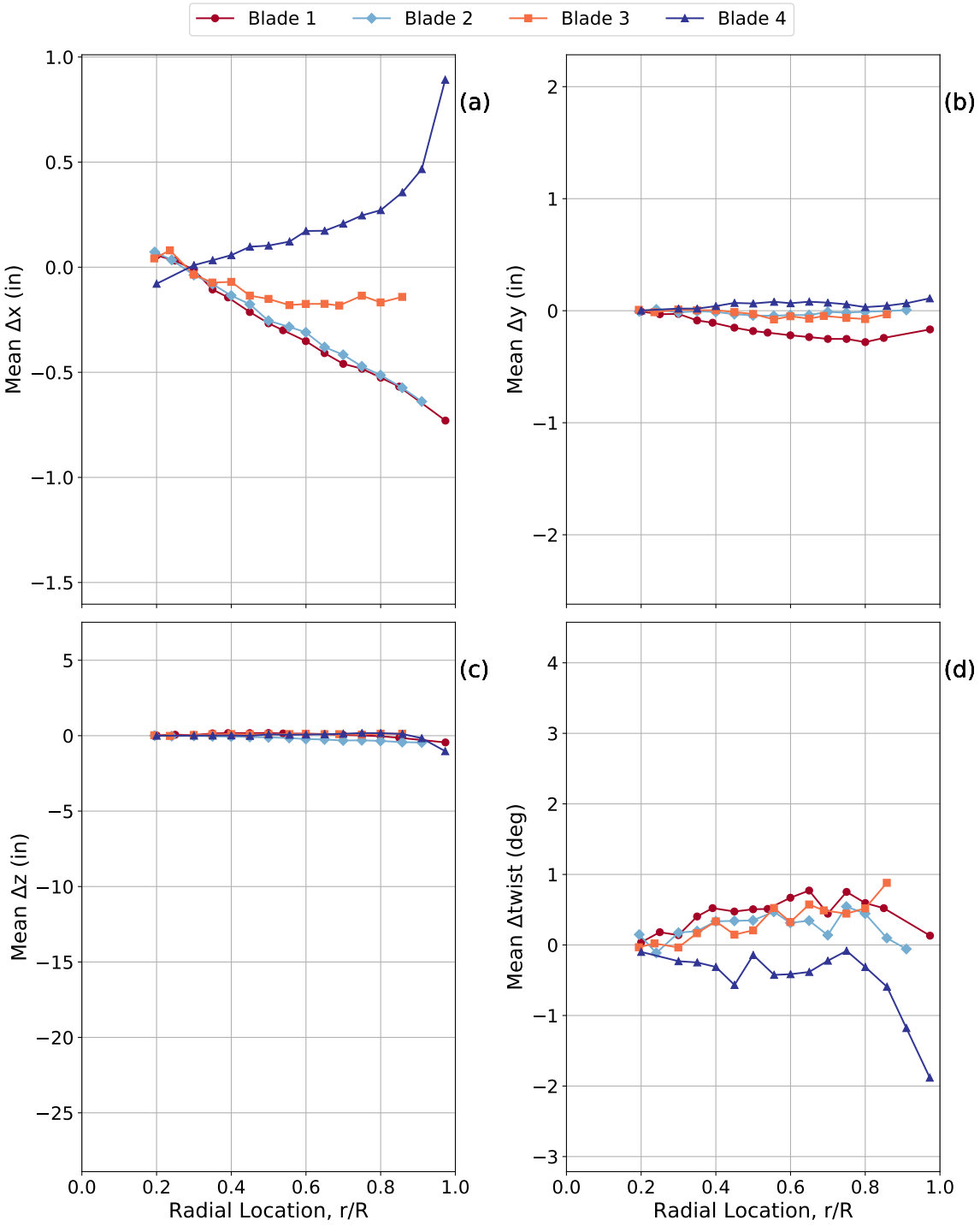


Figure 2.25-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-36. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0560	0.0025	-0.0074	0.0026	0.0167	0.0078	0.0379	0.0436
1	274.92	0.2499	0.0316	0.0017	-0.0311	0.0036	0.0631	0.0163	0.1811	0.0564
1	274.92	0.2998	-0.0128	0.0016	-0.0285	0.0089	0.0412	0.0314	0.1390	0.0913
1	274.92	0.3498	-0.1060	0.0021	-0.0868	0.0137	0.1520	0.0510	0.4036	0.0852
1	274.92	0.3913	-0.1437	0.0038	-0.1070	0.0196	0.1701	0.0751	0.5221	0.0936
1	274.92	0.4496	-0.2132	0.0031	-0.1514	0.0257	0.1685	0.1069	0.4741	0.0754
1	274.92	0.4997	-0.2669	0.0036	-0.1815	0.0315	0.1773	0.1405	0.5062	0.0810
1	274.92	0.5387	-0.3000	0.0030	-0.1955	0.0367	0.1452	0.1717	0.5107	0.0779
1	274.92	0.5996	-0.3516	0.0033	-0.2194	0.0453	0.1309	0.2266	0.6696	0.0791
1	274.92	0.6498	-0.4088	0.0039	-0.2352	0.0518	0.1074	0.2723	0.7714	0.0867
1	274.92	0.6998	-0.4597	0.0044	-0.2517	0.0582	0.0494	0.3212	0.4430	0.0904
1	274.92	0.7500	-0.4829	0.0052	-0.2519	0.0650	0.0173	0.3750	0.7523	0.0878
1	274.92	0.8001	-0.5255	0.0055	-0.2803	0.0735	-0.0376	0.4309	0.5937	0.0903
1	274.92	0.8497	-0.5682	0.0053	-0.2430	0.0797	-0.1389	0.4855	0.5215	0.1200
1	274.92	0.9734	-0.7297	0.0106	-0.1669	0.0971	-0.4471	0.6280	0.1320	0.2276
2	274.92	0.1949	0.0724	0.0021	-0.0067	0.0017	0.0035	0.0059	0.1476	0.0530
2	274.92	0.2405	0.0348	0.0034	0.0116	0.0037	-0.0266	0.0132	-0.1132	0.0839
2	274.92	0.2999	-0.0370	0.0025	-0.0150	0.0058	-0.0119	0.0241	0.1738	0.1248
2	274.92	0.3498	-0.0802	0.0026	-0.0045	0.0116	-0.0397	0.0434	0.1965	0.0953
2	274.92	0.3998	-0.1348	0.0032	-0.0110	0.0167	-0.0643	0.0655	0.3353	0.0812
2	274.92	0.4496	-0.1763	0.0033	-0.0309	0.0210	-0.0880	0.0892	0.3415	0.0888
2	274.92	0.4995	-0.2545	0.0039	-0.0425	0.0259	-0.1144	0.1164	0.3483	0.0809
2	274.92	0.5551	-0.2838	0.0047	-0.0458	0.0312	-0.1530	0.1516	0.4702	0.0889
2	274.92	0.5996	-0.3099	0.0042	-0.0385	0.0359	-0.2255	0.1851	0.3130	0.0775
2	274.92	0.6497	-0.3801	0.0045	-0.0391	0.0404	-0.2501	0.2219	0.3448	0.0975
2	274.92	0.6996	-0.4166	0.0054	-0.0105	0.0461	-0.3204	0.2625	0.1394	0.1001
2	274.92	0.7495	-0.4717	0.0050	-0.0173	0.0510	-0.3051	0.3066	0.5441	0.0885
2	274.92	0.7996	-0.5134	0.0064	-0.0086	0.0578	-0.3476	0.3522	0.4441	0.1008
2	274.92	0.8578	-0.5737	0.0085	-0.0039	0.0635	-0.4276	0.4079	0.0978	0.1371
2	274.92	0.9100	-0.6390	0.0168	0.0064	0.0732	-0.4525	0.4642	-0.0573	0.3495
3	274.92	0.1938	0.0418	0.0032	0.0078	0.0010	0.0278	0.0056	-0.0326	0.0382
3	274.92	0.2357	0.0802	0.0020	-0.0135	0.0019	-0.0165	0.0108	0.0216	0.0624
3	274.92	0.2995	-0.0351	0.0032	0.0105	0.0041	0.0474	0.0235	-0.0358	0.0882
3	274.92	0.3493	-0.0732	0.0029	0.0041	0.0070	0.0918	0.0400	0.1661	0.0853
3	274.92	0.4000	-0.0698	0.0029	0.0045	0.0109	0.1065	0.0620	0.3338	0.0822
3	274.92	0.4497	-0.1352	0.0038	-0.0121	0.0138	0.0880	0.0851	0.1466	0.0904
3	274.92	0.4997	-0.1510	0.0038	-0.0293	0.0176	0.0969	0.1143	0.2072	0.0723
3	274.92	0.5556	-0.1802	0.0038	-0.0780	0.0227	0.1065	0.1547	0.5238	0.0720
3	274.92	0.5995	-0.1748	0.0049	-0.0490	0.0266	0.1235	0.1867	0.3246	0.0679
3	274.92	0.6498	-0.1743	0.0039	-0.0712	0.0312	0.0986	0.2303	0.5738	0.0682
3	274.92	0.6890	-0.1823	0.0049	-0.0466	0.0350	0.0996	0.2656	0.4899	0.0840
3	274.92	0.7495	-0.1355	0.0042	-0.0641	0.0409	0.0736	0.3228	0.4447	0.0885
3	274.92	0.7998	-0.1675	0.0053	-0.0742	0.0458	0.1327	0.3752	0.5187	0.0844
3	274.92	0.8577	-0.1413	0.0120	-0.0320	0.0518	0.1311	0.4362	0.8806	0.3608
4	274.92	0.2001	-0.0787	0.0045	0.0022	0.0011	-0.0013	0.0085	-0.0986	0.0743
4	274.92	0.3001	0.0097	0.0028	0.0191	0.0045	0.0043	0.0318	-0.2303	0.1714
4	274.92	0.3502	0.0331	0.0020	0.0188	0.0084	0.0091	0.0551	-0.2479	0.1568
4	274.92	0.4002	0.0574	0.0024	0.0413	0.0128	0.0178	0.0838	-0.3122	0.1565
4	274.92	0.4500	0.0974	0.0029	0.0696	0.0168	-0.0129	0.1137	-0.5676	0.1600
4	274.92	0.5001	0.1028	0.0030	0.0645	0.0211	0.0845	0.1492	-0.1429	0.1577
4	274.92	0.5560	0.1219	0.0026	0.0797	0.0262	0.0591	0.1953	-0.4243	0.1597
4	274.92	0.6001	0.1724	0.0025	0.0667	0.0303	0.0747	0.2338	-0.4143	0.1578
4	274.92	0.6501	0.1733	0.0027	0.0805	0.0353	0.0911	0.2827	-0.3827	0.1614
4	274.92	0.6999	0.2070	0.0028	0.0718	0.0399	0.1278	0.3348	-0.2231	0.1633
4	274.92	0.7500	0.2463	0.0029	0.0570	0.0447	0.1762	0.3897	-0.0836	0.1622
4	274.92	0.8002	0.2715	0.0030	0.0318	0.0493	0.1680	0.4490	-0.3127	0.1679
4	274.92	0.8582	0.3563	0.0038	0.0446	0.0551	0.1139	0.5208	-0.5935	0.1611
4	274.92	0.9101	0.4665	0.0080	0.0664	0.0602	-0.1689	0.5859	-1.1781	0.1529
4	274.92	0.9728	0.8918	0.0222	0.1105	0.0678	-1.0275	0.6801	-1.8813	0.1849

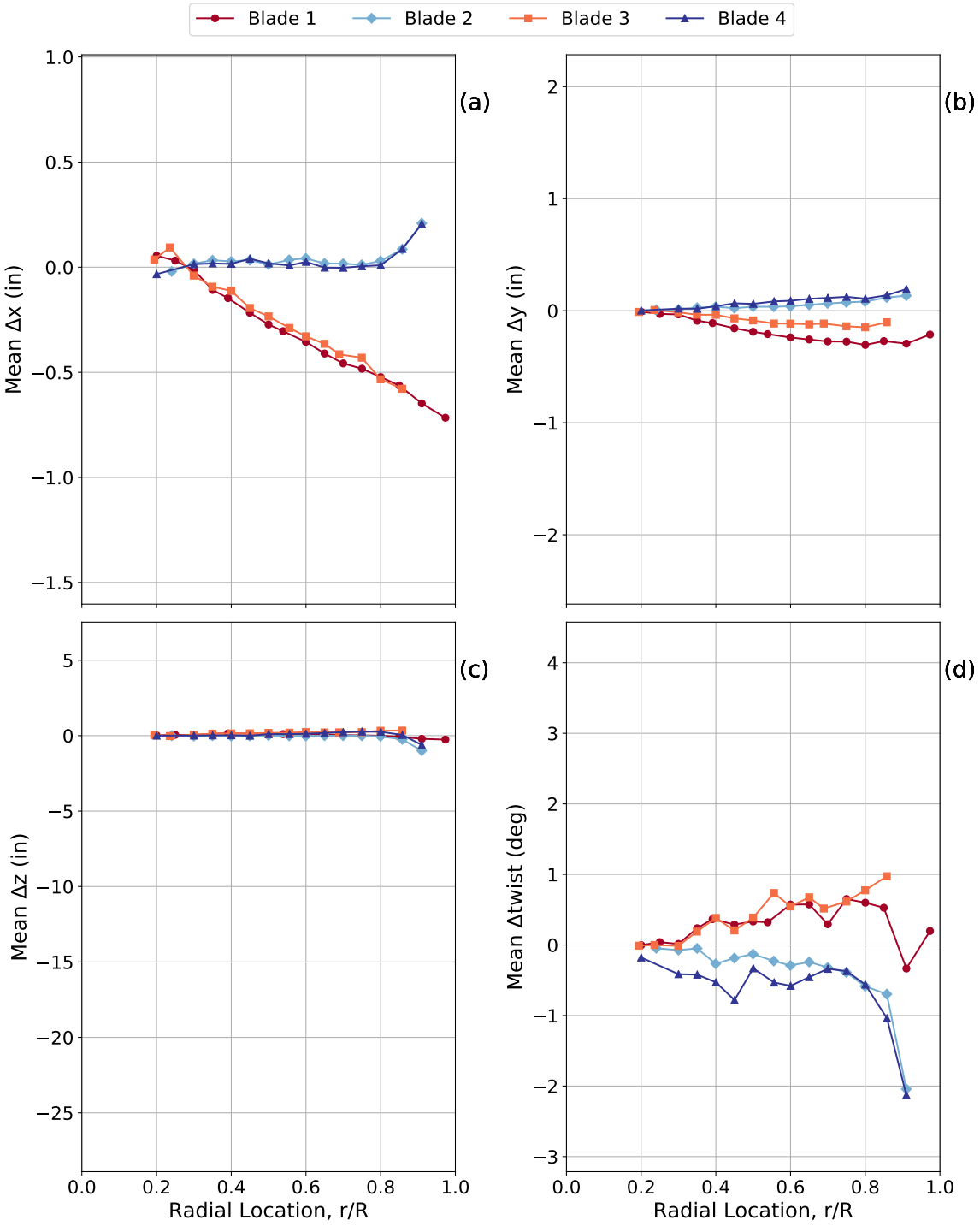


Figure 2.25-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-37. 280° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0547	0.0022	-0.0090	0.0018	0.0175	0.0068	-0.0026	0.0326
1	279.84	0.2499	0.0316	0.0017	-0.0285	0.0038	0.0531	0.0148	0.0401	0.0525
1	279.84	0.2998	-0.0133	0.0026	-0.0325	0.0063	0.0380	0.0278	0.0148	0.0708
1	279.84	0.3498	-0.1081	0.0025	-0.0889	0.0108	0.1357	0.0472	0.2368	0.0643
1	279.84	0.3913	-0.1469	0.0036	-0.1102	0.0147	0.1471	0.0685	0.3666	0.0839
1	279.84	0.4496	-0.2166	0.0031	-0.1568	0.0193	0.1311	0.1013	0.2894	0.0645
1	279.84	0.4997	-0.2725	0.0034	-0.1879	0.0232	0.1360	0.1351	0.3327	0.0668
1	279.84	0.5387	-0.3041	0.0032	-0.2084	0.0269	0.1005	0.1642	0.3213	0.0765
1	279.84	0.5996	-0.3549	0.0033	-0.2384	0.0328	0.1073	0.2143	0.5721	0.0701
1	279.84	0.6498	-0.4108	0.0033	-0.2566	0.0377	0.0829	0.2598	0.5746	0.0710
1	279.84	0.6998	-0.4577	0.0034	-0.2741	0.0426	0.0364	0.3055	0.2939	0.0960
1	279.84	0.7500	-0.4830	0.0037	-0.2755	0.0475	0.0177	0.3547	0.6508	0.0730
1	279.84	0.8001	-0.5227	0.0039	-0.3055	0.0525	-0.0020	0.4033	0.5991	0.0814
1	279.84	0.8497	-0.5625	0.0041	-0.2707	0.0580	-0.0698	0.4548	0.5271	0.0800
1	279.84	0.9102	-0.6479	0.0080	-0.2938	0.0638	-0.2123	0.5198	-0.3341	0.2318
1	279.84	0.9734	-0.7161	0.0067	-0.2124	0.0715	-0.2617	0.5829	0.1979	0.1276
2	279.84	0.2405	-0.0204	0.0063	0.0071	0.0037	-0.0013	0.0216	-0.0469	0.2093
2	279.84	0.2999	0.0165	0.0055	0.0103	0.0074	-0.0232	0.0400	-0.0727	0.3229
2	279.84	0.3498	0.0333	0.0051	0.0268	0.0141	-0.0037	0.0753	-0.0488	0.2887
2	279.84	0.3998	0.0277	0.0052	0.0359	0.0213	-0.0300	0.1102	-0.2663	0.2933
2	279.84	0.4496	0.0337	0.0052	0.0232	0.0278	-0.0183	0.1459	-0.1858	0.2892
2	279.84	0.4995	0.0126	0.0056	0.0355	0.0344	0.0066	0.1860	-0.1285	0.2823
2	279.84	0.5551	0.0350	0.0053	0.0356	0.0416	-0.0182	0.2336	-0.2280	0.2873
2	279.84	0.5996	0.0422	0.0057	0.0395	0.0476	-0.0236	0.2748	-0.2909	0.2867
2	279.84	0.6497	0.0181	0.0056	0.0527	0.0544	-0.0032	0.3233	-0.2416	0.2899
2	279.84	0.6996	0.0170	0.0055	0.0650	0.0611	-0.0041	0.3748	-0.3197	0.2903
2	279.84	0.7495	0.0115	0.0055	0.0745	0.0681	-0.0034	0.4309	-0.3902	0.2831
2	279.84	0.7996	0.0299	0.0058	0.0819	0.0751	-0.0497	0.4901	-0.5857	0.2963
2	279.84	0.8578	0.0856	0.0068	0.1175	0.0844	-0.2514	0.5608	-0.6970	0.2904
2	279.84	0.9100	0.2090	0.0106	0.1346	0.0945	-0.9946	0.6267	-2.0421	0.3052
3	279.84	0.1938	0.0364	0.0025	-0.0106	0.0015	0.0456	0.0069	-0.0107	0.0278
3	279.84	0.2357	0.0941	0.0024	0.0065	0.0043	-0.0280	0.0135	-0.0001	0.0497
3	279.84	0.2995	-0.0399	0.0040	-0.0141	0.0080	0.0706	0.0291	-0.0128	0.0615
3	279.84	0.3493	-0.0928	0.0036	-0.0356	0.0133	0.1289	0.0489	0.1897	0.0574
3	279.84	0.4000	-0.1126	0.0042	-0.0359	0.0216	0.1425	0.0759	0.3821	0.0554
3	279.84	0.4497	-0.1941	0.0033	-0.0683	0.0249	0.1496	0.1020	0.2062	0.0617
3	279.84	0.4997	-0.2340	0.0030	-0.0866	0.0308	0.1814	0.1344	0.3870	0.0587
3	279.84	0.5556	-0.2890	0.0029	-0.1142	0.0370	0.1963	0.1762	0.7358	0.0473
3	279.84	0.5995	-0.3286	0.0032	-0.1151	0.0426	0.2372	0.2133	0.5464	0.0562
3	279.84	0.6498	-0.3644	0.0027	-0.1211	0.0489	0.2121	0.2573	0.6748	0.0620
3	279.84	0.6890	-0.4145	0.0032	-0.1144	0.0539	0.2196	0.2940	0.5159	0.0606
3	279.84	0.7495	-0.4306	0.0037	-0.1390	0.0619	0.2297	0.3542	0.6154	0.0662
3	279.84	0.7998	-0.5332	0.0040	-0.1480	0.0685	0.3239	0.4077	0.7742	0.0710
3	279.84	0.8577	-0.5782	0.0058	-0.1029	0.0757	0.3347	0.4672	0.9736	0.1506
4	279.84	0.2001	-0.0332	0.0103	0.0021	0.0014	0.0009	0.0098	-0.1780	0.0981
4	279.84	0.3001	0.0146	0.0043	0.0187	0.0054	0.0054	0.0355	-0.4143	0.2262
4	279.84	0.3502	0.0179	0.0054	0.0178	0.0110	0.0179	0.0638	-0.4215	0.2069
4	279.84	0.4002	0.0162	0.0065	0.0398	0.0160	0.0242	0.0949	-0.5300	0.2157
4	279.84	0.4500	0.0406	0.0086	0.0661	0.0212	-0.0039	0.1310	-0.7810	0.2069
4	279.84	0.5001	0.0183	0.0106	0.0614	0.0264	0.1012	0.1713	-0.3315	0.2103
4	279.84	0.5560	0.0083	0.0126	0.0833	0.0331	0.1034	0.2236	-0.5327	0.2092
4	279.84	0.6001	0.0256	0.0142	0.0889	0.0383	0.1247	0.2695	-0.5797	0.2095
4	279.84	0.6501	-0.0021	0.0156	0.1062	0.0446	0.1775	0.3237	-0.4562	0.2032
4	279.84	0.6999	-0.0028	0.0169	0.1148	0.0507	0.2308	0.3807	-0.3383	0.2133
4	279.84	0.7500	0.0046	0.0170	0.1239	0.0570	0.2717	0.4416	-0.3709	0.2110
4	279.84	0.8002	0.0094	0.0175	0.1076	0.0638	0.2520	0.5054	-0.5624	0.2181
4	279.84	0.8582	0.0870	0.0168	0.1387	0.0719	0.0455	0.5819	-1.0388	0.2221
4	279.84	0.9101	0.2057	0.0200	0.1931	0.0807	-0.6165	0.6602	-2.1275	0.2547

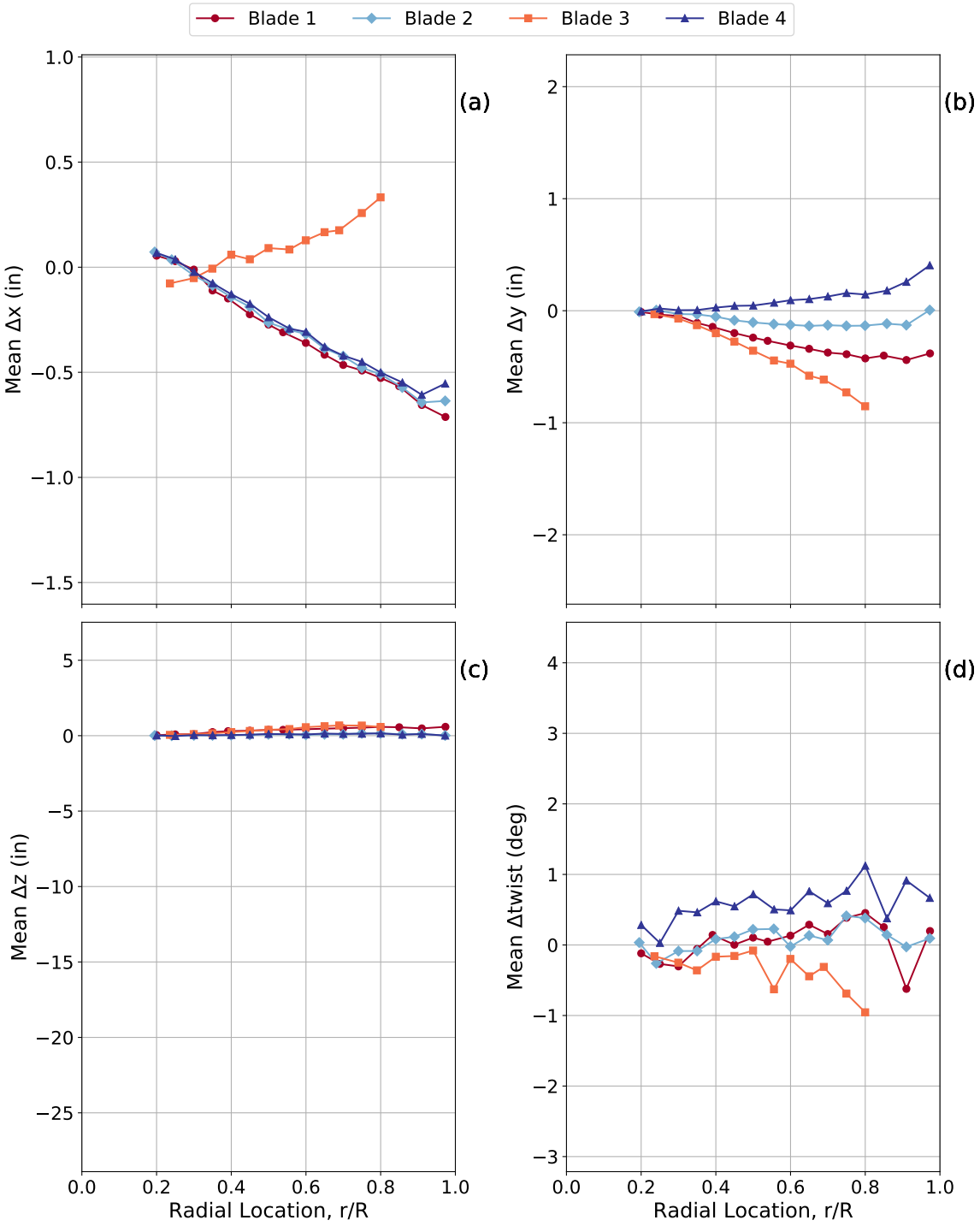


Figure 2.25-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-38. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0549	0.0025	-0.0115	0.0016	0.0341	0.0084	-0.1188	0.0332
1	285.12	0.2499	0.0289	0.0023	-0.0348	0.0052	0.0846	0.0206	-0.2685	0.0558
1	285.12	0.2998	-0.0113	0.0024	-0.0472	0.0082	0.1031	0.0371	-0.3037	0.0697
1	285.12	0.3498	-0.1107	0.0021	-0.1091	0.0145	0.2392	0.0597	-0.0572	0.0643
1	285.12	0.3913	-0.1487	0.0036	-0.1442	0.0215	0.2993	0.0901	0.1421	0.0704
1	285.12	0.4496	-0.2239	0.0037	-0.1996	0.0272	0.3336	0.1295	0.0037	0.0658
1	285.12	0.4997	-0.2731	0.0037	-0.2399	0.0341	0.3882	0.1744	0.1041	0.0581
1	285.12	0.5387	-0.3096	0.0038	-0.2688	0.0400	0.3893	0.2140	0.0466	0.0507
1	285.12	0.5996	-0.3601	0.0041	-0.3108	0.0493	0.4274	0.2794	0.1324	0.0717
1	285.12	0.6498	-0.4161	0.0054	-0.3400	0.0578	0.4643	0.3415	0.2871	0.0720
1	285.12	0.6998	-0.4649	0.0054	-0.3736	0.0656	0.4972	0.4069	0.1547	0.0578
1	285.12	0.7500	-0.4915	0.0055	-0.3883	0.0746	0.5319	0.4753	0.3853	0.0652
1	285.12	0.8001	-0.5268	0.0065	-0.4258	0.0832	0.5827	0.5447	0.4528	0.0727
1	285.12	0.8497	-0.5662	0.0071	-0.4005	0.0917	0.5591	0.6210	0.2527	0.0794
1	285.12	0.9102	-0.6556	0.0086	-0.4401	0.1017	0.4833	0.7095	-0.6225	0.1150
1	285.12	0.9734	-0.7125	0.0120	-0.3811	0.1118	0.5874	0.8093	0.1975	0.1126
2	285.12	0.1949	0.0723	0.0023	-0.0098	0.0014	0.0101	0.0076	0.0339	0.0255
2	285.12	0.2405	0.0356	0.0023	0.0048	0.0032	-0.0015	0.0143	-0.2611	0.0710
2	285.12	0.2999	-0.0391	0.0024	-0.0295	0.0068	0.0216	0.0325	-0.0867	0.0680
2	285.12	0.3498	-0.0869	0.0023	-0.0325	0.0107	0.0220	0.0523	-0.0853	0.0631
2	285.12	0.3998	-0.1421	0.0029	-0.0532	0.0176	0.0314	0.0830	0.0834	0.0567
2	285.12	0.4496	-0.1886	0.0032	-0.0856	0.0216	0.0583	0.1120	0.1161	0.0617
2	285.12	0.4995	-0.2630	0.0037	-0.1045	0.0274	0.0904	0.1489	0.2208	0.0604
2	285.12	0.5551	-0.2978	0.0030	-0.1194	0.0335	0.0965	0.1951	0.2269	0.0667
2	285.12	0.5996	-0.3180	0.0033	-0.1263	0.0386	0.0556	0.2339	-0.0229	0.0675
2	285.12	0.6497	-0.3869	0.0037	-0.1355	0.0447	0.0949	0.2817	0.1337	0.0619
2	285.12	0.6996	-0.4230	0.0039	-0.1292	0.0510	0.0956	0.3342	0.0685	0.0788
2	285.12	0.7495	-0.4785	0.0045	-0.1353	0.0570	0.1543	0.3862	0.4121	0.0587
2	285.12	0.7996	-0.5088	0.0042	-0.1331	0.0632	0.1464	0.4439	0.3811	0.0758
2	285.12	0.8578	-0.5721	0.0047	-0.1157	0.0704	0.1015	0.5123	0.1432	0.0806
2	285.12	0.9100	-0.6434	0.0058	-0.1283	0.0767	0.1056	0.5763	-0.0271	0.0990
2	285.12	0.9727	-0.6362	0.0075	0.0061	0.0841	0.0165	0.6492	0.0936	0.1311
3	285.12	0.2357	-0.0771	0.0149	-0.0306	0.0032	0.0528	0.0410	-0.1595	0.4051
3	285.12	0.2995	-0.0519	0.0091	-0.0697	0.0075	0.1055	0.0815	-0.2506	0.6510
3	285.12	0.3493	-0.0069	0.0092	-0.1291	0.0139	0.1562	0.1493	-0.3601	0.6372
3	285.12	0.4000	0.0594	0.0078	-0.2005	0.0217	0.2378	0.2220	-0.1672	0.6344
3	285.12	0.4497	0.0377	0.0080	-0.2757	0.0281	0.3102	0.2899	-0.1562	0.6380
3	285.12	0.4997	0.0909	0.0072	-0.3568	0.0353	0.3906	0.3627	-0.0788	0.6331
3	285.12	0.5556	0.0843	0.0068	-0.4442	0.0437	0.4395	0.4446	-0.6285	0.6247
3	285.12	0.5995	0.1279	0.0063	-0.4729	0.0496	0.5624	0.5115	-0.1980	0.6237
3	285.12	0.6498	0.1666	0.0062	-0.5796	0.0574	0.6280	0.5882	-0.4443	0.6334
3	285.12	0.6890	0.1758	0.0071	-0.6152	0.0631	0.6783	0.6495	-0.3111	0.6285
3	285.12	0.7495	0.2577	0.0082	-0.7291	0.0732	0.6717	0.7476	-0.6888	0.6255
3	285.12	0.7998	0.3324	0.0097	-0.8530	0.0818	0.5792	0.8335	-0.9546	0.6269
4	285.12	0.2001	0.0682	0.0030	-0.0056	0.0015	0.0158	0.0061	0.2833	0.0562
4	285.12	0.2502	0.0370	0.0025	0.0197	0.0043	-0.0249	0.0151	0.0286	0.0764
4	285.12	0.3001	-0.0228	0.0026	0.0047	0.0075	0.0423	0.0251	0.4847	0.1177
4	285.12	0.3502	-0.0765	0.0026	0.0057	0.0104	0.0274	0.0440	0.4624	0.0829
4	285.12	0.4002	-0.1287	0.0041	0.0277	0.0184	0.0460	0.0679	0.6184	0.0856
4	285.12	0.4500	-0.1740	0.0050	0.0432	0.0210	0.0652	0.0920	0.5471	0.0962
4	285.12	0.5001	-0.2381	0.0049	0.0459	0.0256	0.1146	0.1246	0.7187	0.1023
4	285.12	0.5560	-0.2922	0.0034	0.0715	0.0322	0.0932	0.1683	0.5041	0.0885
4	285.12	0.6001	-0.3077	0.0034	0.0939	0.0365	0.0847	0.2041	0.4908	0.0964
4	285.12	0.6501	-0.3792	0.0036	0.1035	0.0419	0.1385	0.2525	0.7617	0.0943
4	285.12	0.6999	-0.4207	0.0035	0.1268	0.0475	0.1167	0.3029	0.5917	0.0883
4	285.12	0.7500	-0.4503	0.0045	0.1578	0.0533	0.1317	0.3594	0.7676	0.0896
4	285.12	0.8002	-0.5011	0.0046	0.1446	0.0590	0.1549	0.4171	1.1235	0.0910
4	285.12	0.8582	-0.5485	0.0051	0.1796	0.0659	0.0663	0.4893	0.3773	0.1043
4	285.12	0.9101	-0.6072	0.0059	0.2576	0.0717	0.1162	0.5556	0.9140	0.0976
4	285.12	0.9728	-0.5538	0.0076	0.4052	0.0789	0.0067	0.6389	0.6669	0.1335

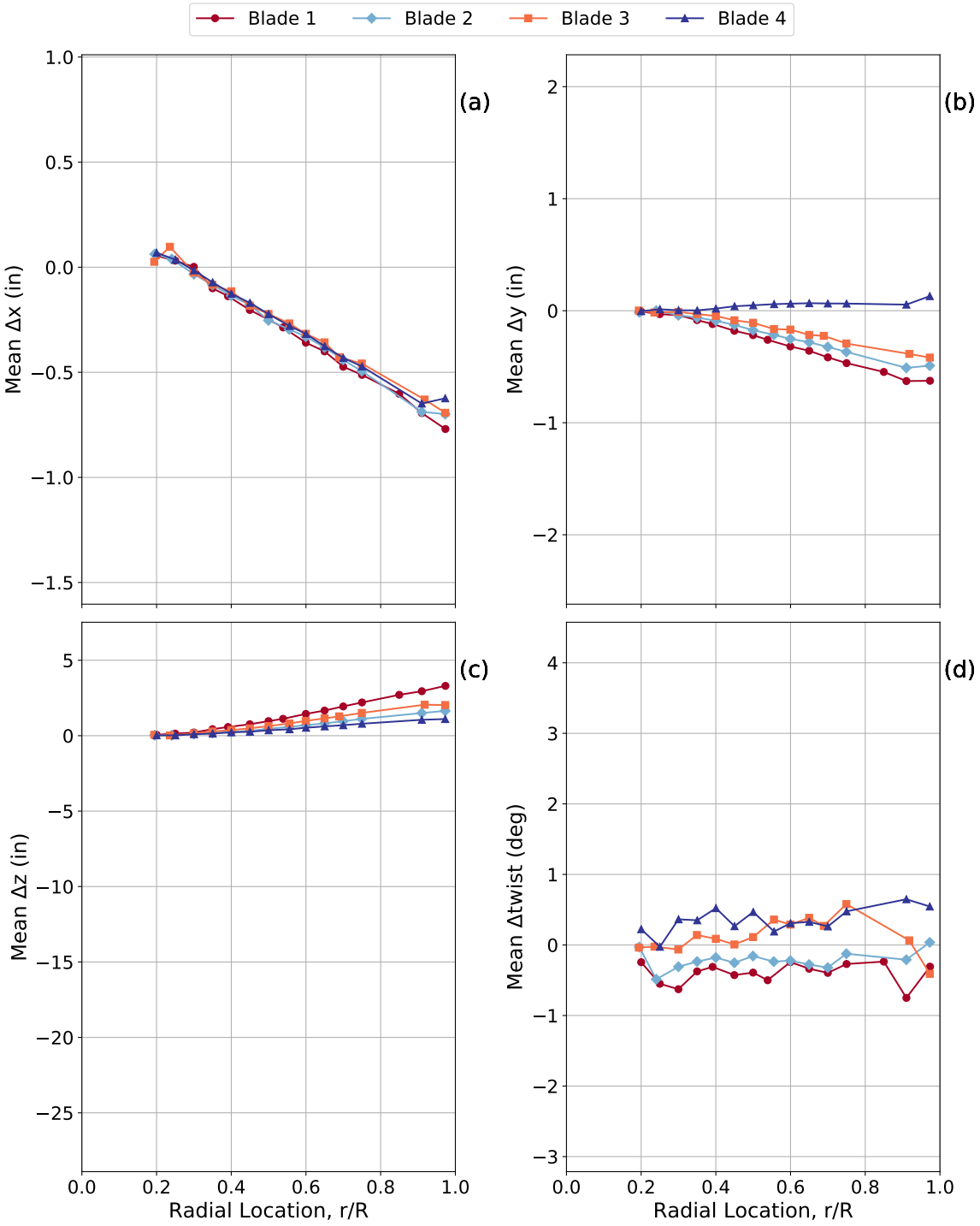


Figure 2.25-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-39. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0542	0.0035	-0.0078	0.0018	0.0600	0.0093	-0.2441	0.0291
1	299.88	0.2499	0.0311	0.0026	-0.0305	0.0047	0.1378	0.0218	-0.5501	0.0409
1	299.88	0.2998	0.0017	0.0025	-0.0400	0.0082	0.2105	0.0400	-0.6271	0.0617
1	299.88	0.3498	-0.1002	0.0025	-0.0837	0.0136	0.4323	0.0647	-0.3750	0.0669
1	299.88	0.3913	-0.1378	0.0041	-0.1191	0.0207	0.5733	0.0970	-0.3106	0.0583
1	299.88	0.4496	-0.2034	0.0039	-0.1791	0.0274	0.7575	0.1432	-0.4270	0.0588
1	299.88	0.4997	-0.2495	0.0046	-0.2180	0.0347	0.9639	0.1955	-0.3919	0.0707
1	299.88	0.5387	-0.2864	0.0049	-0.2600	0.0409	1.1175	0.2404	-0.4999	0.0610
1	299.88	0.5996	-0.3589	0.0065	-0.3191	0.0513	1.4425	0.3237	-0.2424	0.0643
1	299.88	0.6498	-0.4004	0.0079	-0.3574	0.0598	1.6652	0.4040	-0.3368	0.0743
1	299.88	0.6998	-0.4735	0.0095	-0.4164	0.0690	1.9386	0.4916	-0.3955	0.0681
1	299.88	0.7500	-0.5122	0.0113	-0.4677	0.0784	2.2030	0.5884	-0.2698	0.0626
1	299.88	0.8497	-0.6024	0.0152	-0.5466	0.0958	2.7073	0.7979	-0.2359	0.0689
1	299.88	0.9102	-0.6940	0.0195	-0.6278	0.1071	2.9474	0.9356	-0.7505	0.0680
1	299.88	0.9734	-0.7698	0.0274	-0.6255	0.1178	3.3023	1.0837	-0.3077	0.0728
2	299.88	0.1949	0.0622	0.0031	-0.0141	0.0014	0.0358	0.0050	-0.0299	0.0437
2	299.88	0.2405	0.0387	0.0034	0.0008	0.0030	0.0269	0.0123	-0.4866	0.0475
2	299.88	0.2999	-0.0332	0.0025	-0.0406	0.0060	0.1011	0.0219	-0.3090	0.0857
2	299.88	0.3498	-0.0846	0.0044	-0.0613	0.0098	0.1779	0.0380	-0.2356	0.0857
2	299.88	0.3998	-0.1358	0.0046	-0.0891	0.0156	0.2464	0.0588	-0.1785	0.0664
2	299.88	0.4496	-0.1790	0.0058	-0.1263	0.0208	0.3166	0.0810	-0.2525	0.0732
2	299.88	0.4995	-0.2529	0.0039	-0.1738	0.0242	0.4572	0.1066	-0.1571	0.0653
2	299.88	0.5551	-0.2955	0.0042	-0.2151	0.0292	0.5798	0.1416	-0.2360	0.0687
2	299.88	0.5996	-0.3304	0.0043	-0.2516	0.0336	0.6920	0.1715	-0.2223	0.0757
2	299.88	0.6497	-0.3818	0.0045	-0.2808	0.0382	0.8175	0.2074	-0.2773	0.0684
2	299.88	0.6996	-0.4408	0.0046	-0.3234	0.0433	0.9556	0.2469	-0.3219	0.0735
2	299.88	0.7495	-0.4944	0.0046	-0.3673	0.0485	1.1117	0.2861	-0.1242	0.0681
2	299.88	0.9100	-0.6881	0.0065	-0.5101	0.0666	1.5014	0.4247	-0.2091	0.0732
2	299.88	0.9727	-0.6988	0.0090	-0.4905	0.0731	1.6437	0.4810	0.0365	0.0753
3	299.88	0.1938	0.0257	0.0016	0.0013	0.0008	0.0582	0.0051	-0.0369	0.0502
3	299.88	0.2357	0.0971	0.0022	-0.0159	0.0036	0.0180	0.0150	-0.0241	0.0436
3	299.88	0.2995	-0.0258	0.0034	-0.0111	0.0045	0.1478	0.0251	-0.0643	0.0988
3	299.88	0.3493	-0.0835	0.0039	-0.0296	0.0089	0.2769	0.0457	0.1408	0.0546
3	299.88	0.4000	-0.1146	0.0026	-0.0471	0.0140	0.3735	0.0710	0.0871	0.0561
3	299.88	0.4497	-0.1828	0.0047	-0.0855	0.0178	0.4855	0.0939	0.0069	0.0709
3	299.88	0.4997	-0.2224	0.0038	-0.1077	0.0216	0.6358	0.1260	0.1114	0.0680
3	299.88	0.5556	-0.2676	0.0039	-0.1637	0.0264	0.8132	0.1639	0.3598	0.0682
3	299.88	0.5995	-0.3170	0.0038	-0.1683	0.0307	0.9822	0.2006	0.2890	0.0599
3	299.88	0.6498	-0.3574	0.0041	-0.2161	0.0357	1.1451	0.2463	0.3849	0.0587
3	299.88	0.6890	-0.4280	0.0050	-0.2244	0.0396	1.2789	0.2859	0.2706	0.0719
3	299.88	0.7495	-0.4583	0.0049	-0.2928	0.0459	1.5083	0.3523	0.5795	0.0623
3	299.88	0.9178	-0.6297	0.0081	-0.3854	0.0635	2.0531	0.5669	0.0650	0.0703
3	299.88	0.9729	-0.6928	0.0117	-0.4182	0.0693	2.0304	0.6445	-0.4093	0.0781
4	299.88	0.2001	0.0690	0.0024	-0.0037	0.0016	0.0260	0.0063	0.2236	0.0499
4	299.88	0.2502	0.0360	0.0018	0.0129	0.0039	0.0215	0.0159	-0.0255	0.0694
4	299.88	0.3001	-0.0152	0.0027	0.0040	0.0088	0.0992	0.0280	0.3638	0.1030
4	299.88	0.3502	-0.0721	0.0045	0.0033	0.0119	0.1400	0.0438	0.3498	0.0843
4	299.88	0.4002	-0.1261	0.0035	0.0189	0.0211	0.2239	0.0712	0.5220	0.0663
4	299.88	0.4500	-0.1698	0.0049	0.0398	0.0248	0.2622	0.0985	0.2661	0.0784
4	299.88	0.5001	-0.2233	0.0045	0.0483	0.0305	0.3588	0.1306	0.4679	0.0599
4	299.88	0.5560	-0.2796	0.0041	0.0586	0.0369	0.4234	0.1704	0.1907	0.0792
4	299.88	0.6001	-0.3175	0.0039	0.0628	0.0422	0.5278	0.2076	0.3082	0.0744
4	299.88	0.6501	-0.3759	0.0041	0.0672	0.0495	0.6164	0.2525	0.3278	0.0734
4	299.88	0.6999	-0.4315	0.0044	0.0647	0.0561	0.6937	0.3007	0.2624	0.0661
4	299.88	0.7500	-0.4722	0.0049	0.0637	0.0632	0.7932	0.3523	0.4762	0.0587
4	299.88	0.9101	-0.6486	0.0069	0.0544	0.0864	1.0523	0.5309	0.6482	0.0656
4	299.88	0.9728	-0.6236	0.0101	0.1302	0.0954	1.1029	0.6051	0.5451	0.0716

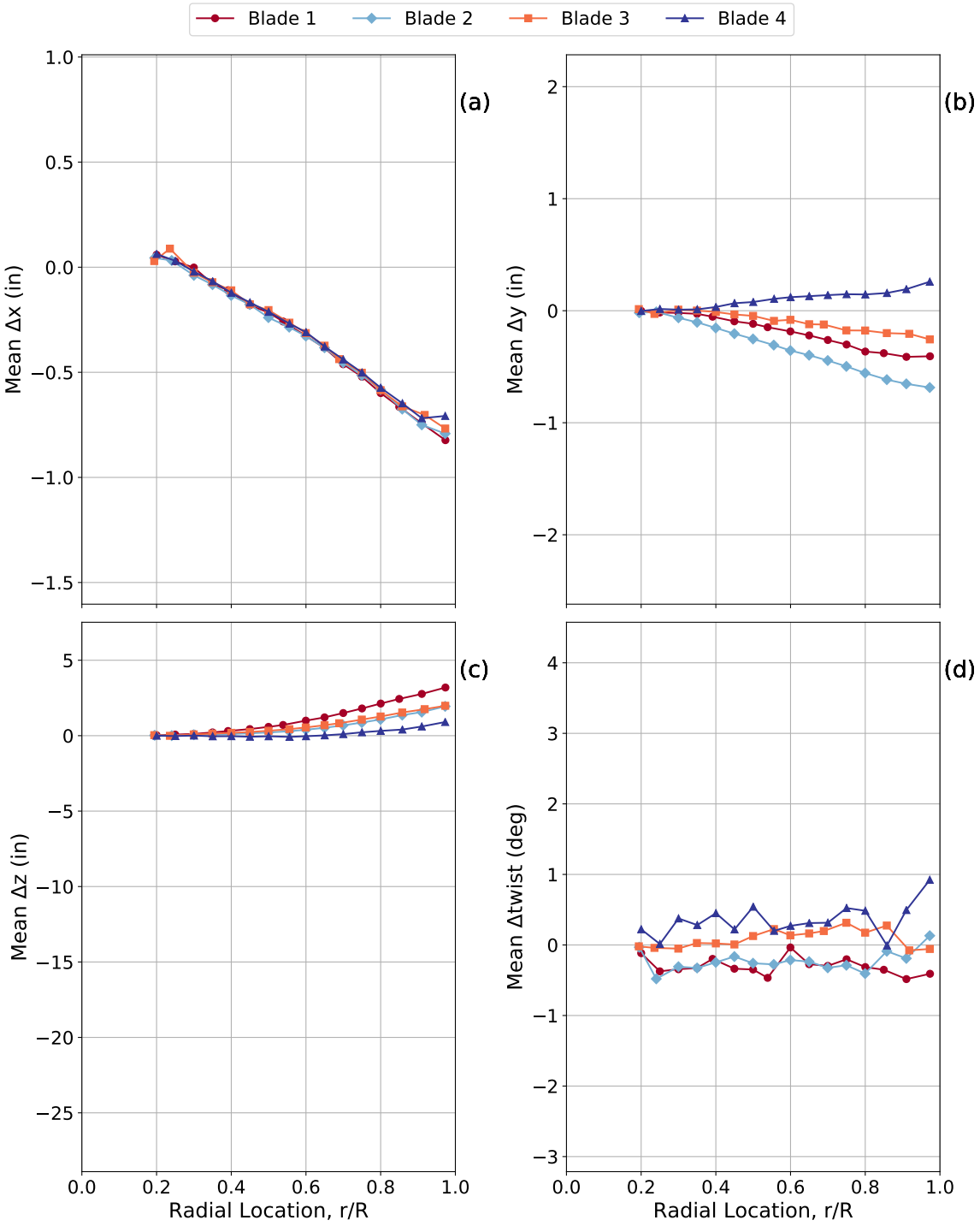


Figure 2.25-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-40. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0592	0.0026	-0.0010	0.0013	0.0277	0.0071	-0.1163	0.0316
1	315	0.2499	0.0276	0.0025	-0.0162	0.0040	0.0729	0.0144	-0.3737	0.0483
1	315	0.2998	-0.0016	0.0029	-0.0197	0.0064	0.1171	0.0276	-0.3440	0.0674
1	315	0.3498	-0.0789	0.0031	-0.0279	0.0112	0.2168	0.0481	-0.3265	0.0647
1	315	0.3913	-0.1098	0.0029	-0.0533	0.0167	0.3092	0.0681	-0.1975	0.0653
1	315	0.4496	-0.1807	0.0041	-0.0947	0.0215	0.4379	0.1004	-0.3368	0.0608
1	315	0.4997	-0.2158	0.0044	-0.1168	0.0275	0.5846	0.1335	-0.3481	0.0717
1	315	0.5387	-0.2583	0.0034	-0.1473	0.0307	0.7091	0.1611	-0.4662	0.0588
1	315	0.5996	-0.3267	0.0041	-0.1847	0.0387	0.9963	0.2096	-0.0351	0.0698
1	315	0.6498	-0.3843	0.0045	-0.2205	0.0448	1.2141	0.2521	-0.2727	0.0747
1	315	0.6998	-0.4616	0.0039	-0.2615	0.0513	1.5008	0.2977	-0.2964	0.0716
1	315	0.7500	-0.5210	0.0047	-0.3020	0.0581	1.8045	0.3440	-0.2030	0.0728
1	315	0.8001	-0.5989	0.0057	-0.3645	0.0650	2.1301	0.3942	-0.3135	0.0647
1	315	0.8497	-0.6644	0.0059	-0.3791	0.0718	2.4368	0.4441	-0.3515	0.0729
1	315	0.9102	-0.7432	0.0071	-0.4119	0.0804	2.7681	0.5084	-0.4839	0.0700
1	315	0.9734	-0.8229	0.0108	-0.4067	0.0893	3.1928	0.5783	-0.4085	0.0672
2	315	0.1949	0.0443	0.0022	-0.0186	0.0007	0.0263	0.0043	-0.0314	0.0352
2	315	0.2405	0.0319	0.0023	-0.0108	0.0025	0.0044	0.0091	-0.4803	0.0460
2	315	0.2999	-0.0387	0.0028	-0.0633	0.0040	0.0635	0.0181	-0.3082	0.0772
2	315	0.3498	-0.0830	0.0032	-0.1035	0.0066	0.0778	0.0323	-0.3263	0.0470
2	315	0.3998	-0.1345	0.0032	-0.1539	0.0108	0.1121	0.0486	-0.2464	0.0667
2	315	0.4496	-0.1776	0.0038	-0.2051	0.0125	0.1575	0.0645	-0.1645	0.0628
2	315	0.4995	-0.2398	0.0043	-0.2522	0.0155	0.2123	0.0825	-0.2592	0.0562
2	315	0.5551	-0.2853	0.0046	-0.3067	0.0190	0.2947	0.1070	-0.2758	0.0511
2	315	0.5996	-0.3277	0.0036	-0.3556	0.0216	0.3938	0.1301	-0.2139	0.0583
2	315	0.6497	-0.3829	0.0038	-0.3970	0.0249	0.5215	0.1571	-0.2364	0.0554
2	315	0.6996	-0.4539	0.0039	-0.4446	0.0289	0.6848	0.1895	-0.3243	0.0566
2	315	0.7495	-0.5144	0.0040	-0.4970	0.0324	0.8688	0.2230	-0.2876	0.0557
2	315	0.7996	-0.5818	0.0048	-0.5565	0.0361	1.0774	0.2613	-0.4057	0.0542
2	315	0.8578	-0.6751	0.0052	-0.6153	0.0407	1.3646	0.3067	-0.0886	0.0553
2	315	0.9100	-0.7500	0.0057	-0.6528	0.0448	1.5622	0.3495	-0.1905	0.0537
2	315	0.9727	-0.7917	0.0073	-0.6856	0.0492	1.9433	0.4015	0.1310	0.0568
3	315	0.1938	0.0293	0.0022	0.0143	0.0009	0.0356	0.0044	-0.0197	0.0296
3	315	0.2357	0.0883	0.0022	-0.0286	0.0026	-0.0087	0.0096	-0.0415	0.0343
3	315	0.2995	-0.0262	0.0025	0.0096	0.0051	0.0858	0.0203	-0.0519	0.0578
3	315	0.3493	-0.0715	0.0024	0.0012	0.0066	0.1347	0.0338	0.0276	0.0448
3	315	0.4000	-0.1101	0.0030	-0.0113	0.0124	0.1880	0.0534	0.0217	0.0714
3	315	0.4497	-0.1761	0.0032	-0.0333	0.0158	0.2441	0.0682	0.0068	0.0530
3	315	0.4997	-0.2040	0.0040	-0.0460	0.0199	0.3250	0.0907	0.1266	0.0591
3	315	0.5556	-0.2639	0.0034	-0.0907	0.0242	0.4320	0.1219	0.2252	0.0581
3	315	0.5995	-0.3135	0.0037	-0.0812	0.0284	0.5451	0.1478	0.1363	0.0671
3	315	0.6498	-0.3732	0.0038	-0.1206	0.0331	0.6942	0.1824	0.1634	0.0574
3	315	0.6890	-0.4373	0.0045	-0.1231	0.0367	0.8238	0.2114	0.1973	0.0522
3	315	0.7495	-0.5020	0.0046	-0.1757	0.0429	1.0675	0.2616	0.3148	0.0639
3	315	0.7998	-0.5849	0.0051	-0.1768	0.0484	1.2715	0.3076	0.1744	0.0532
3	315	0.8577	-0.6621	0.0056	-0.1999	0.0542	1.5366	0.3637	0.2753	0.0512
3	315	0.9178	-0.7028	0.0069	-0.2061	0.0606	1.7577	0.4247	-0.0762	0.0520
3	315	0.9729	-0.7675	0.0097	-0.2560	0.0660	1.9831	0.4826	-0.0567	0.0531
4	315	0.2001	0.0628	0.0023	-0.0026	0.0010	-0.0012	0.0043	0.2221	0.0378
4	315	0.2502	0.0300	0.0020	0.0155	0.0028	-0.0234	0.0117	0.0133	0.0439
4	315	0.3001	-0.0210	0.0033	0.0095	0.0046	0.0075	0.0191	0.3757	0.0757
4	315	0.3502	-0.0671	0.0029	0.0119	0.0072	-0.0410	0.0324	0.2821	0.0610
4	315	0.4002	-0.1217	0.0035	0.0333	0.0119	-0.0338	0.0516	0.4508	0.0718
4	315	0.4500	-0.1681	0.0040	0.0669	0.0149	-0.0712	0.0691	0.2205	0.0686
4	315	0.5001	-0.2125	0.0048	0.0778	0.0186	-0.0397	0.0924	0.5420	0.0575
4	315	0.5560	-0.2686	0.0037	0.1060	0.0223	-0.0794	0.1227	0.2000	0.0610
4	315	0.6001	-0.3092	0.0032	0.1208	0.0255	-0.0364	0.1479	0.2709	0.0681
4	315	0.6501	-0.3775	0.0040	0.1299	0.0297	0.0220	0.1809	0.3105	0.0623
4	315	0.6999	-0.4390	0.0040	0.1393	0.0330	0.1024	0.2156	0.3151	0.0635
4	315	0.7500	-0.5011	0.0044	0.1473	0.0377	0.2252	0.2543	0.5234	0.0639
4	315	0.8002	-0.5739	0.0043	0.1451	0.0417	0.3175	0.2949	0.4847	0.0541
4	315	0.8582	-0.6477	0.0044	0.1581	0.0464	0.4063	0.3428	-0.0080	0.0616
4	315	0.9101	-0.7185	0.0050	0.1922	0.0507	0.6085	0.3884	0.4951	0.0573
4	315	0.9728	-0.7076	0.0068	0.2590	0.0559	0.9062	0.4458	0.9231	0.0642

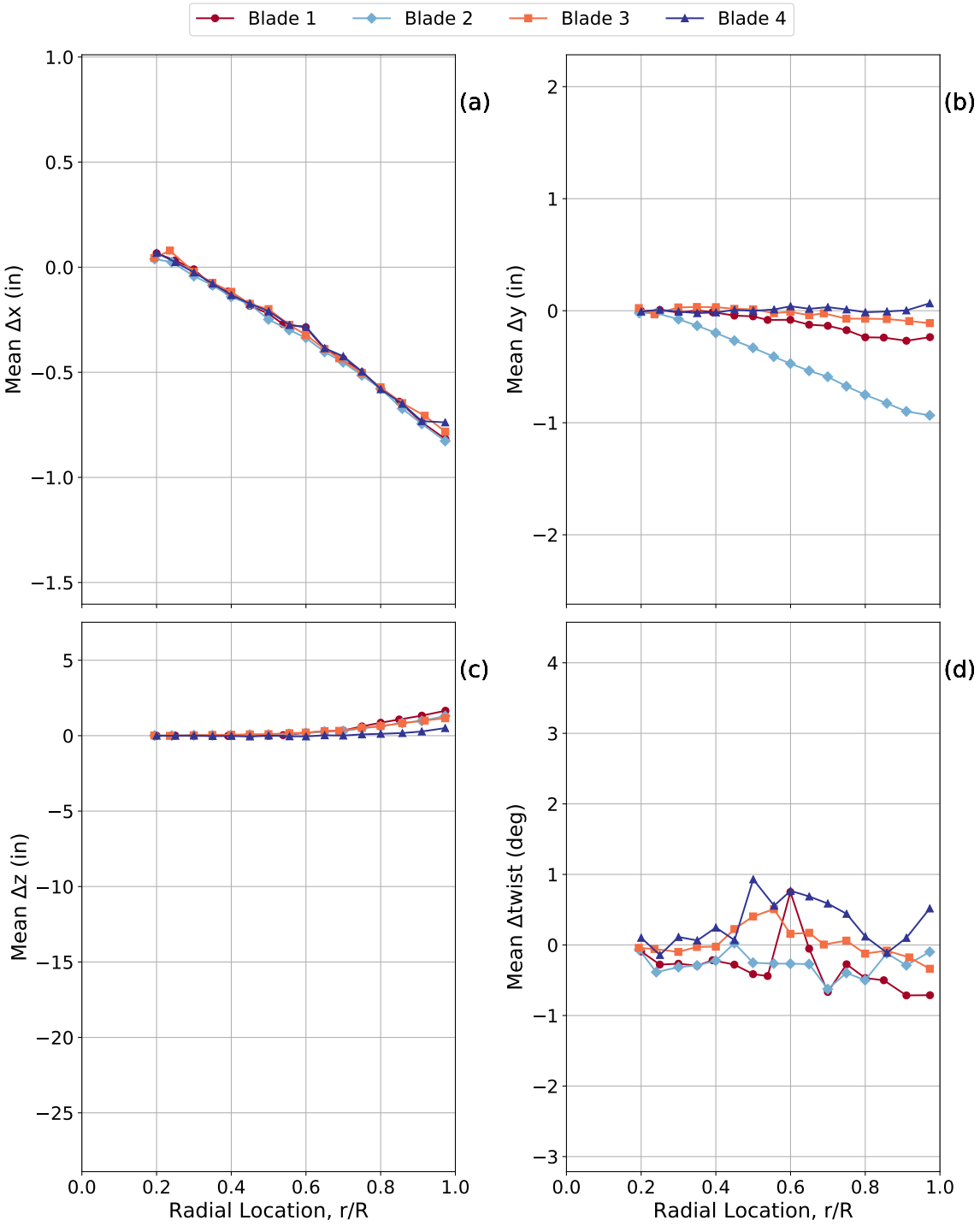


Figure 2.25-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-41. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0663	0.0021	-0.0029	0.0008	-0.0059	0.0055	-0.0920	0.0274
1	330.12	0.2499	0.0324	0.0022	0.0058	0.0028	0.0071	0.0112	-0.2779	0.0525
1	330.12	0.2998	-0.0101	0.0022	-0.0157	0.0031	-0.0157	0.0224	-0.2659	0.0625
1	330.12	0.3498	-0.0877	0.0028	0.0016	0.0068	-0.0118	0.0383	-0.2933	0.0612
1	330.12	0.3913	-0.1155	0.0031	-0.0124	0.0090	-0.0175	0.0552	-0.2159	0.0619
1	330.12	0.4496	-0.1836	0.0046	-0.0435	0.0120	-0.0174	0.0811	-0.2790	0.0622
1	330.12	0.4997	-0.2208	0.0050	-0.0501	0.0167	-0.0176	0.1106	-0.4136	0.0716
1	330.12	0.5387	-0.2706	0.0052	-0.0822	0.0181	0.0352	0.1343	-0.4403	0.0740
1	330.12	0.5996	-0.2858	0.0056	-0.0811	0.0223	0.1840	0.1778	0.7508	0.0739
1	330.12	0.6498	-0.3888	0.0049	-0.1248	0.0256	0.2970	0.2169	-0.0527	0.0781
1	330.12	0.6998	-0.4357	0.0057	-0.1346	0.0297	0.3446	0.2605	-0.6665	0.0781
1	330.12	0.7500	-0.4992	0.0045	-0.1737	0.0343	0.6162	0.3041	-0.2738	0.0911
1	330.12	0.8001	-0.5755	0.0053	-0.2374	0.0368	0.8589	0.3541	-0.4698	0.0648
1	330.12	0.8497	-0.6400	0.0056	-0.2398	0.0399	1.0755	0.4039	-0.5002	0.0639
1	330.12	0.9102	-0.7378	0.0072	-0.2681	0.0452	1.3285	0.4691	-0.7152	0.0691
1	330.12	0.9734	-0.8173	0.0089	-0.2359	0.0498	1.6539	0.5407	-0.7120	0.0649
2	330.12	0.1949	0.0390	0.0024	-0.0207	0.0010	0.0132	0.0036	-0.0668	0.0278
2	330.12	0.2405	0.0242	0.0024	-0.0216	0.0032	0.0084	0.0075	-0.3855	0.0418
2	330.12	0.2999	-0.0421	0.0027	-0.0756	0.0059	0.0277	0.0153	-0.3144	0.0636
2	330.12	0.3498	-0.0861	0.0035	-0.1342	0.0093	0.0317	0.0268	-0.2905	0.0506
2	330.12	0.3998	-0.1412	0.0037	-0.1979	0.0159	0.0432	0.0408	-0.2228	0.0567
2	330.12	0.4496	-0.1761	0.0047	-0.2671	0.0173	0.0644	0.0576	0.0257	0.0792
2	330.12	0.4995	-0.2484	0.0041	-0.3312	0.0210	0.0671	0.0772	-0.2521	0.0555
2	330.12	0.5551	-0.2986	0.0036	-0.4102	0.0261	0.1172	0.1055	-0.2638	0.0550
2	330.12	0.5996	-0.3359	0.0044	-0.4722	0.0302	0.1750	0.1317	-0.2661	0.0631
2	330.12	0.6497	-0.4030	0.0046	-0.5364	0.0336	0.2709	0.1638	-0.2713	0.0590
2	330.12	0.6996	-0.4522	0.0053	-0.5895	0.0393	0.3062	0.2028	-0.6258	0.0819
2	330.12	0.7495	-0.5142	0.0049	-0.6741	0.0431	0.4798	0.2449	-0.3968	0.0648
2	330.12	0.7996	-0.5780	0.0042	-0.7504	0.0475	0.6208	0.2897	-0.4985	0.0664
2	330.12	0.8578	-0.6728	0.0048	-0.8266	0.0528	0.8414	0.3486	-0.1178	0.0553
2	330.12	0.9100	-0.7452	0.0056	-0.8987	0.0574	0.9796	0.4007	-0.2886	0.0558
2	330.12	0.9727	-0.8267	0.0079	-0.9340	0.0637	1.3022	0.4664	-0.0980	0.0561
3	330.12	0.1938	0.0435	0.0020	0.0233	0.0014	0.0143	0.0039	-0.0412	0.0215
3	330.12	0.2357	0.0793	0.0020	-0.0322	0.0018	-0.0119	0.0070	-0.0572	0.0343
3	330.12	0.2995	-0.0216	0.0032	0.0295	0.0052	0.0285	0.0169	-0.0981	0.0503
3	330.12	0.3493	-0.0741	0.0035	0.0333	0.0082	0.0485	0.0274	-0.0282	0.0486
3	330.12	0.4000	-0.1170	0.0028	0.0317	0.0130	0.0621	0.0434	-0.0244	0.0548
3	330.12	0.4497	-0.1746	0.0040	0.0168	0.0162	0.0853	0.0581	0.2253	0.0677
3	330.12	0.4997	-0.1993	0.0054	0.0128	0.0189	0.1001	0.0764	0.4047	0.0695
3	330.12	0.5556	-0.2740	0.0048	-0.0220	0.0222	0.1616	0.0994	0.5085	0.0647
3	330.12	0.5995	-0.3223	0.0054	-0.0097	0.0259	0.2069	0.1189	0.1578	0.0701
3	330.12	0.6498	-0.3888	0.0057	-0.0403	0.0293	0.3021	0.1434	0.1726	0.0772
3	330.12	0.6890	-0.4333	0.0059	-0.0234	0.0331	0.3210	0.1630	0.0061	0.0594
3	330.12	0.7495	-0.5029	0.0057	-0.0711	0.0375	0.5135	0.1969	0.0614	0.0886
3	330.12	0.7998	-0.5712	0.0056	-0.0711	0.0415	0.6358	0.2289	-0.1227	0.0502
3	330.12	0.8577	-0.6464	0.0058	-0.0740	0.0456	0.8307	0.2708	-0.0804	0.0538
3	330.12	0.9178	-0.7067	0.0067	-0.0924	0.0510	1.0033	0.3149	-0.1764	0.0517
3	330.12	0.9729	-0.7821	0.0085	-0.1106	0.0557	1.1562	0.3576	-0.3376	0.0525
4	330.12	0.2001	0.0678	0.0022	-0.0078	0.0009	-0.0013	0.0041	0.1015	0.0294
4	330.12	0.2502	0.0243	0.0022	0.0084	0.0034	-0.0063	0.0094	-0.1417	0.0426
4	330.12	0.3001	-0.0250	0.0029	-0.0082	0.0059	0.0079	0.0177	0.1126	0.0635
4	330.12	0.3502	-0.0778	0.0036	-0.0218	0.0082	-0.0245	0.0296	0.0643	0.0549
4	330.12	0.4002	-0.1328	0.0031	-0.0151	0.0151	-0.0131	0.0467	0.2464	0.0747
4	330.12	0.4500	-0.1739	0.0054	0.0067	0.0162	-0.0528	0.0633	0.0685	0.0510
4	330.12	0.5001	-0.2098	0.0050	-0.0009	0.0207	0.0093	0.0867	0.9303	0.0707
4	330.12	0.5560	-0.2750	0.0054	0.0113	0.0242	-0.0415	0.1159	0.5567	0.0801
4	330.12	0.6001	-0.2835	0.0067	0.0397	0.0284	-0.0491	0.1416	0.7677	0.0860
4	330.12	0.6501	-0.3852	0.0055	0.0172	0.0322	0.0278	0.1778	0.6874	0.0863
4	330.12	0.6999	-0.4239	0.0062	0.0317	0.0370	0.0074	0.2165	0.5868	0.0800
4	330.12	0.7500	-0.4965	0.0051	0.0114	0.0408	0.0881	0.2623	0.4415	0.0760
4	330.12	0.8002	-0.5805	0.0052	-0.0137	0.0449	0.1239	0.3124	0.1195	0.0603
4	330.12	0.8582	-0.6497	0.0054	-0.0069	0.0500	0.1743	0.3752	-0.1112	0.0584
4	330.12	0.9101	-0.7322	0.0064	0.0029	0.0547	0.2783	0.4324	0.1005	0.0579
4	330.12	0.9728	-0.7382	0.0080	0.0662	0.0606	0.5030	0.5071	0.5173	0.0528

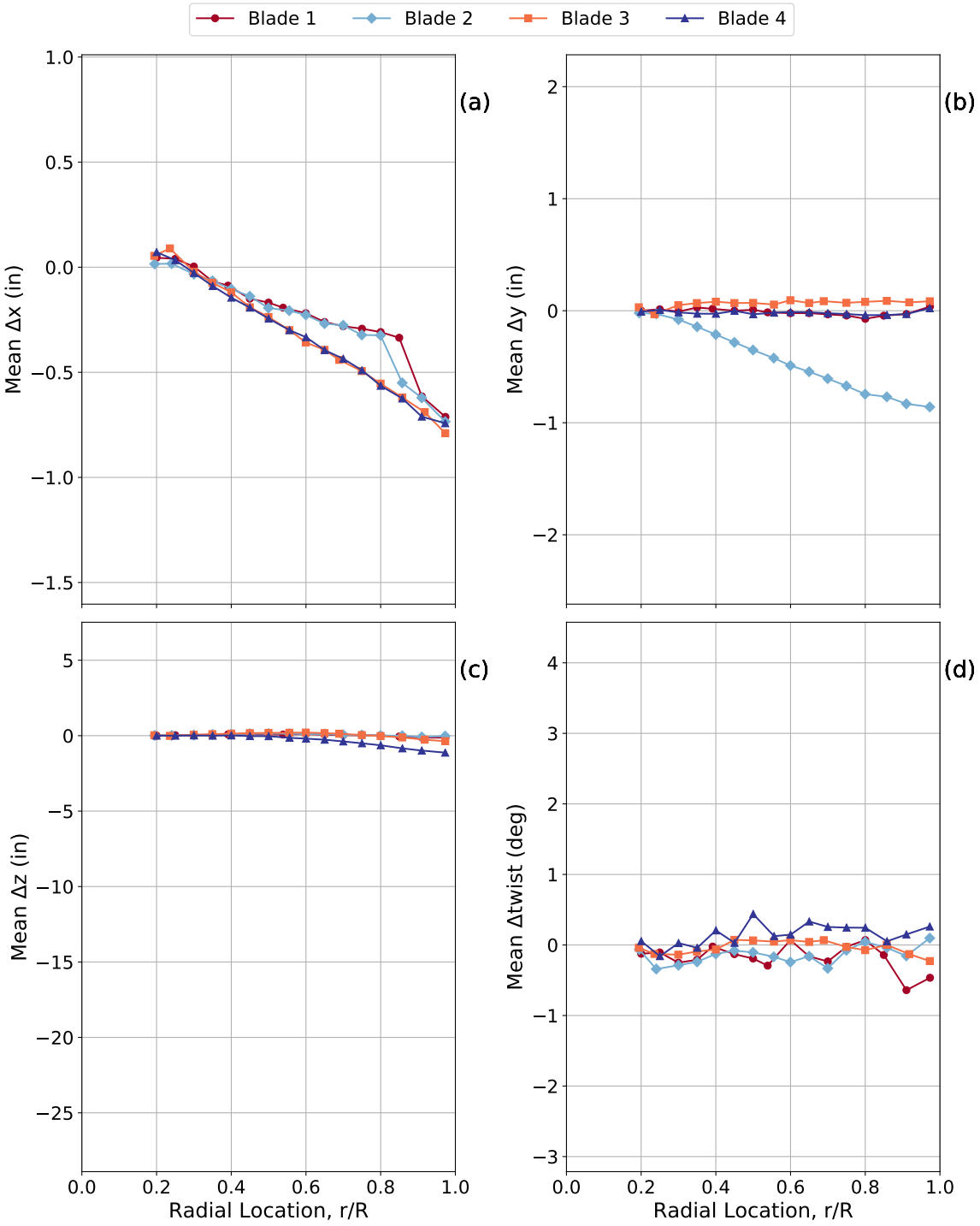


Figure 2.25-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-42. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0453	0.0118	0.0004	0.0025	0.0001	0.0045	-0.1246	0.0227
1	344.88	0.2499	0.0396	0.0055	0.0128	0.0053	0.0328	0.0097	-0.1062	0.0431
1	344.88	0.2998	0.0033	0.0031	-0.0076	0.0105	0.0183	0.0183	-0.2511	0.0523
1	344.88	0.3498	-0.0673	0.0095	0.0287	0.0183	0.0604	0.0313	-0.2095	0.0550
1	344.88	0.3913	-0.0876	0.0153	0.0171	0.0264	0.0857	0.0456	-0.0227	0.0563
1	344.88	0.4496	-0.1496	0.0223	0.0001	0.0384	0.0939	0.0678	-0.1306	0.0563
1	344.88	0.4997	-0.1683	0.0289	0.0083	0.0492	0.0840	0.0887	-0.1924	0.0584
1	344.88	0.5387	-0.1925	0.0334	-0.0144	0.0601	0.0761	0.1080	-0.2930	0.0645
1	344.88	0.5996	-0.2189	0.0411	-0.0220	0.0776	0.1037	0.1402	0.0700	0.0806
1	344.88	0.6498	-0.2606	0.0468	-0.0217	0.0928	0.0624	0.1701	-0.1623	0.0895
1	344.88	0.6998	-0.2808	0.0516	-0.0328	0.1105	0.0374	0.2050	-0.2335	0.0822
1	344.88	0.7500	-0.2926	0.0572	-0.0429	0.1275	0.0199	0.2391	-0.0249	0.1044
1	344.88	0.8001	-0.3086	0.0635	-0.0723	0.1468	0.0221	0.2802	0.0693	0.1468
1	344.88	0.8497	-0.3356	0.0710	-0.0443	0.1662	-0.0541	0.3201	-0.1418	0.2482
1	344.88	0.9102	-0.6142	0.0299	-0.0299	0.3580	-0.1251	0.6132	-0.6408	0.0556
1	344.88	0.9734	-0.7122	0.0240	0.0371	0.3855	-0.1302	0.6816	-0.4652	0.0600
2	344.88	0.1949	0.0154	0.0078	-0.0202	0.0017	0.0178	0.0037	-0.0649	0.0195
2	344.88	0.2405	0.0169	0.0039	-0.0279	0.0033	0.0187	0.0075	-0.3415	0.0398
2	344.88	0.2999	-0.0329	0.0028	-0.0789	0.0072	0.0447	0.0161	-0.2876	0.0487
2	344.88	0.3498	-0.0648	0.0071	-0.1432	0.0125	0.0789	0.0275	-0.2399	0.0435
2	344.88	0.3998	-0.1039	0.0117	-0.2127	0.0195	0.1053	0.0429	-0.1268	0.0543
2	344.88	0.4496	-0.1382	0.0152	-0.2829	0.0255	0.1289	0.0599	-0.0816	0.0503
2	344.88	0.4995	-0.1941	0.0192	-0.3510	0.0334	0.1383	0.0804	-0.1045	0.0498
2	344.88	0.5551	-0.2064	0.0232	-0.4229	0.0436	0.1310	0.1064	-0.1680	0.0535
2	344.88	0.5996	-0.2269	0.0259	-0.4894	0.0532	0.1162	0.1321	-0.2426	0.0607
2	344.88	0.6497	-0.2685	0.0294	-0.5444	0.0645	0.1059	0.1638	-0.1598	0.0760
2	344.88	0.6996	-0.2762	0.0325	-0.6061	0.0776	0.0579	0.1986	-0.3313	0.0893
2	344.88	0.7495	-0.3224	0.0339	-0.6716	0.0916	0.0400	0.2353	-0.0756	0.0845
2	344.88	0.7996	-0.3238	0.0467	-0.7449	0.1071	0.0080	0.2712	0.0441	0.2082
2	344.88	0.8578	-0.5504	0.0213	-0.7686	0.2285	-0.0024	0.4935	-0.0390	0.0569
2	344.88	0.9100	-0.6216	0.0216	-0.8310	0.2441	-0.0839	0.5482	-0.1554	0.0586
2	344.88	0.9727	-0.7345	0.0200	-0.8591	0.2631	-0.0221	0.6155	0.0968	0.0541
3	344.88	0.1938	0.0541	0.0029	0.0308	0.0019	0.0262	0.0060	-0.0401	0.0239
3	344.88	0.2357	0.0894	0.0023	-0.0313	0.0023	-0.0125	0.0105	-0.1277	0.0523
3	344.88	0.2995	-0.0214	0.0023	0.0494	0.0066	0.0602	0.0253	-0.1378	0.0612
3	344.88	0.3493	-0.0739	0.0029	0.0681	0.0103	0.1010	0.0425	-0.0928	0.0619
3	344.88	0.4000	-0.1197	0.0043	0.0803	0.0163	0.1366	0.0665	-0.0644	0.0645
3	344.88	0.4497	-0.1904	0.0051	0.0684	0.0195	0.1695	0.0916	0.0720	0.0668
3	344.88	0.4997	-0.2370	0.0040	0.0700	0.0242	0.1856	0.1245	0.0642	0.0710
3	344.88	0.5556	-0.2994	0.0046	0.0546	0.0285	0.1948	0.1605	0.0476	0.0856
3	344.88	0.5995	-0.3580	0.0050	0.0933	0.0341	0.2073	0.1944	0.0687	0.0743
3	344.88	0.6498	-0.3933	0.0046	0.0687	0.0387	0.1709	0.2351	0.0429	0.0720
3	344.88	0.6890	-0.4409	0.0048	0.0851	0.0435	0.1300	0.2700	0.0679	0.0671
3	344.88	0.7495	-0.4941	0.0053	0.0706	0.0492	0.0434	0.3268	-0.0283	0.0648
3	344.88	0.7998	-0.5539	0.0053	0.0791	0.0554	-0.0274	0.3784	-0.0733	0.0682
3	344.88	0.8577	-0.6196	0.0061	0.0881	0.0611	-0.1159	0.4388	0.0012	0.0714
3	344.88	0.9178	-0.6896	0.0080	0.0745	0.0685	-0.2660	0.5076	-0.1295	0.0669
3	344.88	0.9729	-0.7899	0.0103	0.0844	0.0740	-0.3635	0.5688	-0.2290	0.0641
4	344.88	0.2001	0.0717	0.0016	-0.0087	0.0013	0.0026	0.0050	0.0537	0.0221
4	344.88	0.2502	0.0334	0.0021	0.0072	0.0031	-0.0006	0.0124	-0.1583	0.0447
4	344.88	0.3001	-0.0276	0.0021	-0.0149	0.0054	0.0156	0.0227	0.0264	0.0511
4	344.88	0.3502	-0.0896	0.0024	-0.0266	0.0090	0.0004	0.0370	-0.0402	0.0495
4	344.88	0.4002	-0.1449	0.0034	-0.0273	0.0144	0.0155	0.0597	0.2062	0.0530
4	344.88	0.4500	-0.1925	0.0044	-0.0011	0.0153	-0.0273	0.0849	0.0296	0.0526
4	344.88	0.5001	-0.2446	0.0043	-0.0314	0.0210	-0.0325	0.1148	0.4378	0.0663
4	344.88	0.5560	-0.2996	0.0048	-0.0176	0.0252	-0.1419	0.1562	0.1246	0.0634
4	344.88	0.6001	-0.3330	0.0054	-0.0118	0.0293	-0.1964	0.1930	0.1463	0.0713
4	344.88	0.6501	-0.3946	0.0058	-0.0139	0.0342	-0.2669	0.2385	0.3325	0.0831
4	344.88	0.6999	-0.4355	0.0058	-0.0227	0.0391	-0.3812	0.2909	0.2553	0.0812
4	344.88	0.7500	-0.4904	0.0054	-0.0295	0.0445	-0.5058	0.3505	0.2459	0.0719
4	344.88	0.8002	-0.5643	0.0056	-0.0398	0.0496	-0.6365	0.4123	0.2441	0.0640
4	344.88	0.8582	-0.6247	0.0061	-0.0386	0.0558	-0.8408	0.4888	0.0515	0.0642
4	344.88	0.9101	-0.7110	0.0075	-0.0298	0.0614	-0.9870	0.5597	0.1487	0.0620
4	344.88	0.9728	-0.7424	0.0101	0.0217	0.0683	-1.1242	0.6476	0.2608	0.0579

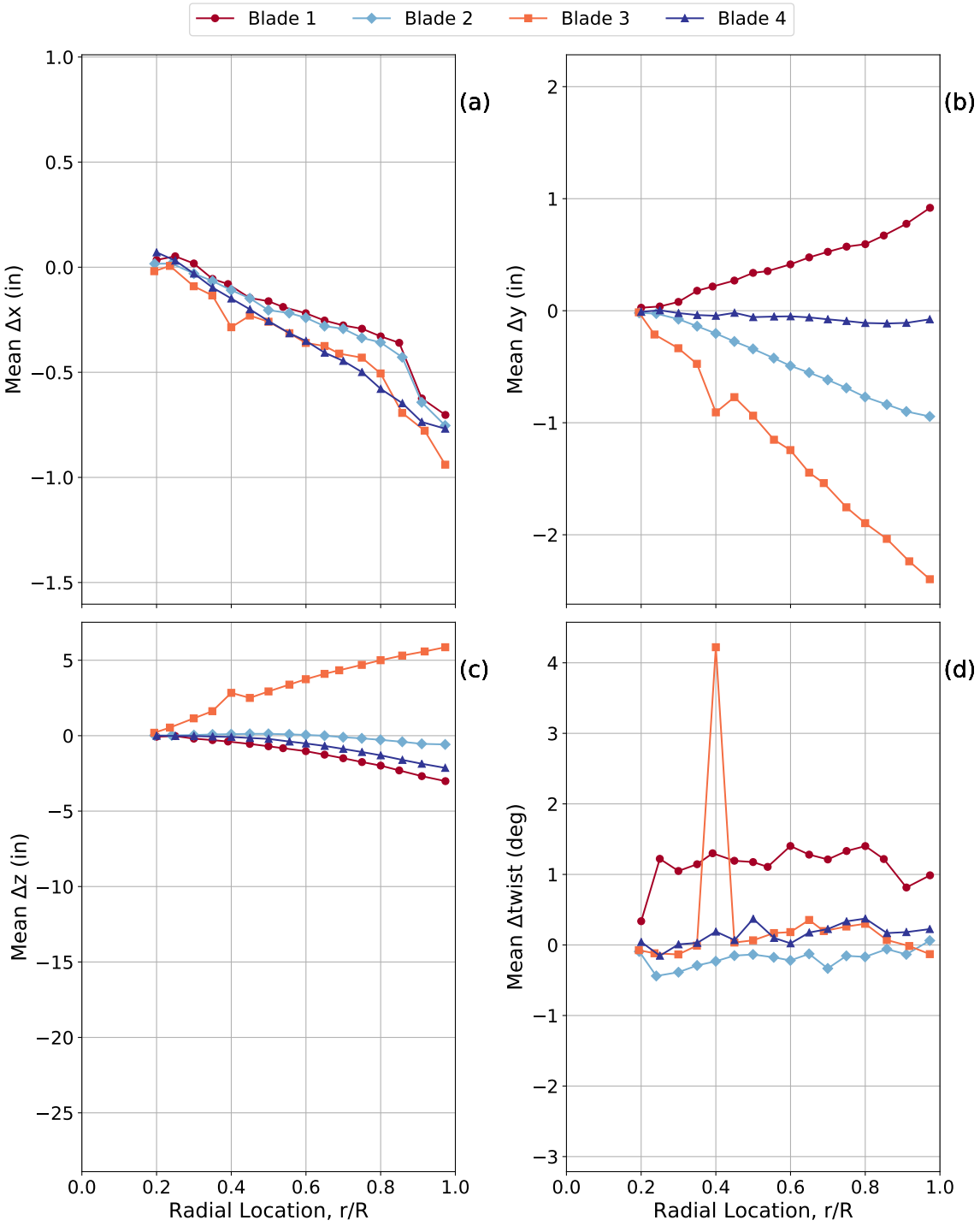


Figure 2.25-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-43. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0346	0.0058	0.0267	0.0037	-0.0672	0.0103	0.3370	0.0719
1	350.16	0.2499	0.0519	0.0031	0.0378	0.0054	-0.0255	0.0150	1.2212	0.1856
1	350.16	0.2998	0.0178	0.0025	0.0787	0.0127	-0.1958	0.0371	1.0487	0.1924
1	350.16	0.3498	-0.0556	0.0042	0.1783	0.0223	-0.2933	0.0644	1.1444	0.1878
1	350.16	0.3913	-0.0803	0.0066	0.2159	0.0303	-0.3873	0.0890	1.2997	0.1964
1	350.16	0.4496	-0.1464	0.0093	0.2692	0.0425	-0.5464	0.1265	1.1936	0.1987
1	350.16	0.4997	-0.1618	0.0112	0.3378	0.0554	-0.7030	0.1625	1.1752	0.2007
1	350.16	0.5387	-0.1892	0.0123	0.3536	0.0657	-0.8302	0.1929	1.1069	0.2017
1	350.16	0.5996	-0.2190	0.0144	0.4138	0.0848	-1.0262	0.2451	1.4028	0.2003
1	350.16	0.6498	-0.2537	0.0167	0.4760	0.1021	-1.2587	0.2893	1.2806	0.2096
1	350.16	0.6998	-0.2768	0.0188	0.5257	0.1222	-1.4956	0.3374	1.2124	0.2048
1	350.16	0.7500	-0.2927	0.0217	0.5720	0.1423	-1.7479	0.3845	1.3319	0.2206
1	350.16	0.8001	-0.3291	0.0250	0.5939	0.1644	-1.9847	0.4355	1.4018	0.2162
1	350.16	0.8497	-0.3597	0.0272	0.6714	0.1862	-2.3024	0.4856	1.2180	0.2216
1	350.16	0.9102	-0.6244	0.0203	0.7761	0.3361	-2.6826	0.5106	0.8147	0.1884
1	350.16	0.9734	-0.7029	0.0172	0.9185	0.3643	-3.0129	0.5823	0.9875	0.1785
2	350.16	0.1949	0.0164	0.0053	-0.0200	0.0019	0.0187	0.0050	-0.0930	0.0203
2	350.16	0.2405	0.0172	0.0027	-0.0256	0.0035	0.0160	0.0101	-0.4398	0.0411
2	350.16	0.2999	-0.0304	0.0027	-0.0754	0.0081	0.0407	0.0218	-0.3862	0.0491
2	350.16	0.3498	-0.0657	0.0045	-0.1381	0.0140	0.0819	0.0371	-0.2906	0.0484
2	350.16	0.3998	-0.1091	0.0070	-0.2030	0.0217	0.1009	0.0576	-0.2310	0.0506
2	350.16	0.4496	-0.1479	0.0092	-0.2748	0.0299	0.1214	0.0817	-0.1510	0.0591
2	350.16	0.4995	-0.2043	0.0113	-0.3411	0.0407	0.1225	0.1099	-0.1352	0.0640
2	350.16	0.5551	-0.2181	0.0136	-0.4232	0.0548	0.0896	0.1479	-0.1755	0.0611
2	350.16	0.5996	-0.2403	0.0151	-0.4921	0.0665	0.0485	0.1801	-0.2194	0.0547
2	350.16	0.6497	-0.2803	0.0170	-0.5524	0.0812	-0.0020	0.2185	-0.1262	0.0672
2	350.16	0.6996	-0.2926	0.0199	-0.6173	0.0976	-0.1014	0.2601	-0.3329	0.0649
2	350.16	0.7495	-0.3361	0.0203	-0.6893	0.1141	-0.1772	0.3052	-0.1545	0.0678
2	350.16	0.7996	-0.3577	0.0249	-0.7702	0.1328	-0.2760	0.3541	-0.1689	0.0945
2	350.16	0.8578	-0.4282	0.0342	-0.8374	0.1566	-0.4048	0.4130	-0.0583	0.2369
2	350.16	0.9100	-0.6427	0.0141	-0.8996	0.2599	-0.5409	0.6237	-0.1338	0.0565
2	350.16	0.9727	-0.7532	0.0125	-0.9439	0.2803	-0.5803	0.7068	0.0620	0.0717
3	350.16	0.1938	-0.0190	0.0164	-0.0143	0.0237	0.1930	0.0570	-0.0739	0.1148
3	350.16	0.2357	0.0063	0.0095	-0.2124	0.0592	0.5363	0.1237	-0.1182	0.3779
3	350.16	0.2995	-0.0906	0.0209	-0.3349	0.1535	1.1483	0.3011	-0.1341	0.3964
3	350.16	0.3493	-0.1343	0.0369	-0.4739	0.2245	1.6233	0.4339	-0.0097	0.4503
3	350.16	0.4000	-0.2856	0.0986	-0.9073	0.3926	2.8386	0.7417	4.2207	0.4034
3	350.16	0.4497	-0.2300	0.1232	-0.7715	0.5054	2.5031	0.9008	0.0346	0.1960
3	350.16	0.4997	-0.2594	0.1248	-0.9370	0.5792	2.9340	1.0462	0.0655	0.1919
3	350.16	0.5556	-0.3140	0.1262	-1.1517	0.6610	3.3849	1.2081	0.1684	0.1894
3	350.16	0.5995	-0.3603	0.1269	-1.2442	0.7263	3.7432	1.3355	0.1822	0.1931
3	350.16	0.6498	-0.3750	0.1272	-1.4454	0.8022	4.0984	1.4854	0.3540	0.1972
3	350.16	0.6890	-0.4112	0.1279	-1.5387	0.8618	4.3347	1.6003	0.1970	0.2111
3	350.16	0.7495	-0.4302	0.1266	-1.7548	0.9540	4.6943	1.7820	0.2613	0.2049
3	350.16	0.7998	-0.5055	0.1291	-1.8964	1.0315	5.0028	1.9350	0.3000	0.2053
3	350.16	0.8577	-0.6931	0.1192	-2.0367	1.2089	5.3097	2.0818	0.0702	0.1790
3	350.16	0.9178	-0.7778	0.1195	-2.2369	1.3051	5.5830	2.2630	-0.0150	0.1816
3	350.16	0.9729	-0.9394	0.1432	-2.3968	1.3939	5.8629	2.4319	-0.1302	0.1710
4	350.16	0.2001	0.0706	0.0016	-0.0102	0.0016	-0.0053	0.0062	0.0421	0.0269
4	350.16	0.2502	0.0312	0.0026	0.0037	0.0027	-0.0166	0.0133	-0.1524	0.0609
4	350.16	0.3001	-0.0303	0.0024	-0.0211	0.0058	-0.0270	0.0250	0.0088	0.0662
4	350.16	0.3502	-0.0972	0.0031	-0.0387	0.0088	-0.0557	0.0440	0.0294	0.0626
4	350.16	0.4002	-0.1491	0.0041	-0.0453	0.0140	-0.0849	0.0677	0.1893	0.0593
4	350.16	0.4500	-0.2005	0.0063	-0.0187	0.0163	-0.1529	0.0939	0.0686	0.0744
4	350.16	0.5001	-0.2567	0.0061	-0.0573	0.0217	-0.2137	0.1243	0.3708	0.0709
4	350.16	0.5560	-0.3145	0.0056	-0.0522	0.0264	-0.3902	0.1646	0.0993	0.0723
4	350.16	0.6001	-0.3509	0.0052	-0.0501	0.0303	-0.5178	0.1963	0.0230	0.0798
4	350.16	0.6501	-0.4068	0.0063	-0.0597	0.0357	-0.6799	0.2331	0.1765	0.0852
4	350.16	0.6999	-0.4458	0.0062	-0.0768	0.0402	-0.8776	0.2731	0.2256	0.0951
4	350.16	0.7500	-0.4990	0.0061	-0.0919	0.0447	-1.0834	0.3167	0.3350	0.0762
4	350.16	0.8002	-0.5790	0.0063	-0.1096	0.0500	-1.3032	0.3620	0.3741	0.0761
4	350.16	0.8582	-0.6473	0.0081	-0.1139	0.0553	-1.6060	0.4153	0.1684	0.0741
4	350.16	0.9101	-0.7363	0.0091	-0.1087	0.0602	-1.8609	0.4651	0.1822	0.0681
4	350.16	0.9728	-0.7683	0.0098	-0.0768	0.0663	-2.1341	0.5324	0.2252	0.0691

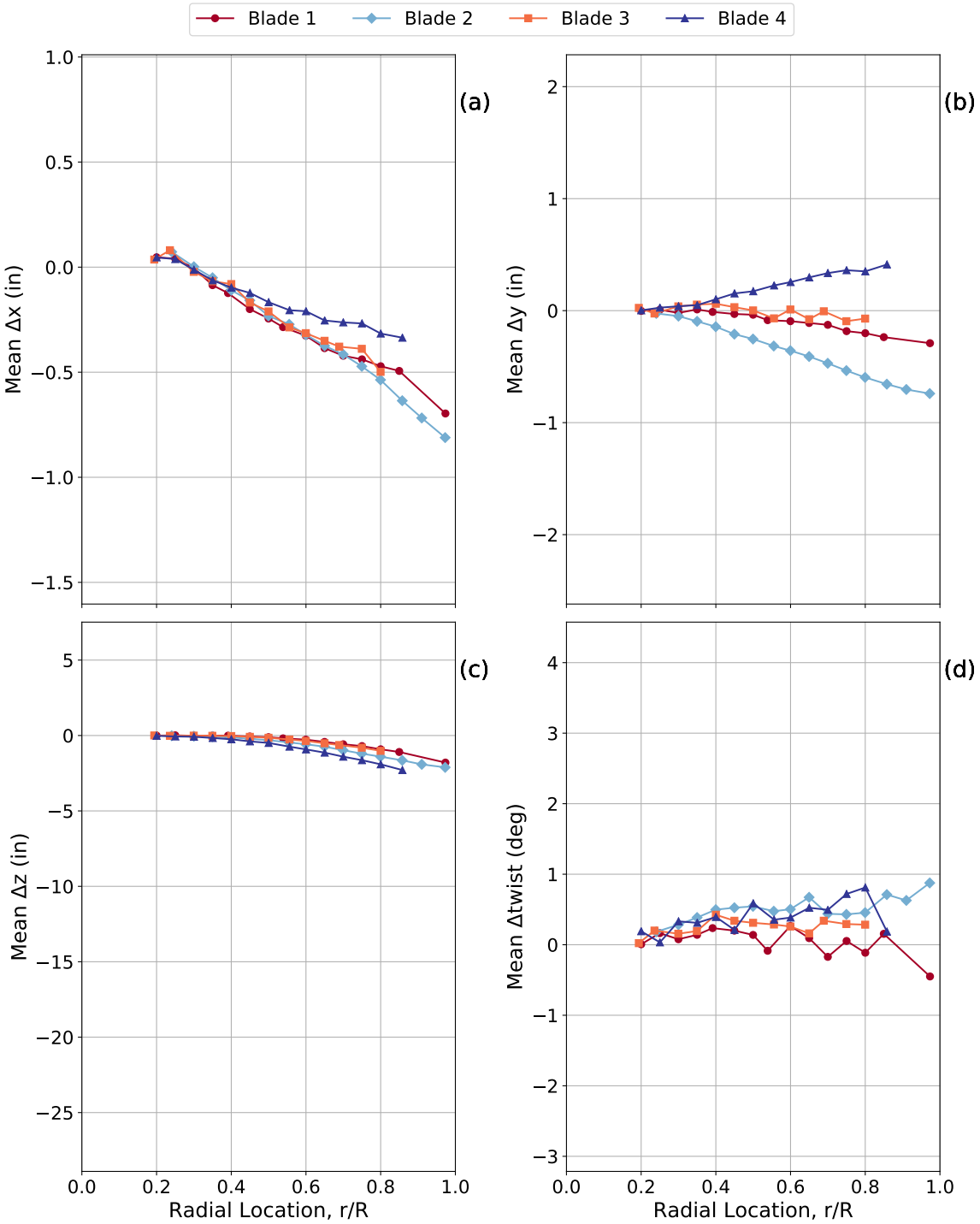


Figure 2.25-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$ NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Table 2.25-44. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.046$, $\mu = 0.6$, $\alpha = 2°$
NFAC run 96, points 9 to 13. BD run 45, points 8283 to 8322.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0469	0.0091	-0.0022	0.0059	-0.0073	0.0078	0.0066	0.0817
1	355.08	0.2499	0.0405	0.0076	0.0079	0.0180	0.0132	0.0145	0.1643	0.1364
1	355.08	0.2998	-0.0044	0.0034	-0.0203	0.0222	-0.0166	0.0283	0.0777	0.1823
1	355.08	0.3498	-0.0857	0.0072	0.0109	0.0504	-0.0087	0.0497	0.1406	0.1653
1	355.08	0.3913	-0.1234	0.0074	-0.0114	0.0660	-0.0113	0.0692	0.2360	0.1532
1	355.08	0.4496	-0.1996	0.0071	-0.0298	0.0886	-0.0646	0.0993	0.2000	0.1590
1	355.08	0.4997	-0.2446	0.0091	-0.0366	0.1039	-0.1115	0.1279	0.1392	0.1565
1	355.08	0.5387	-0.2854	0.0088	-0.0849	0.1153	-0.1880	0.1531	-0.0855	0.1570
1	355.08	0.5996	-0.3263	0.0093	-0.0942	0.1393	-0.2745	0.1947	0.2656	0.1580
1	355.08	0.6498	-0.3855	0.0106	-0.1103	0.1561	-0.4242	0.2309	0.0936	0.1511
1	355.08	0.6998	-0.4217	0.0100	-0.1267	0.1769	-0.5803	0.2712	-0.1717	0.1608
1	355.08	0.7500	-0.4387	0.0103	-0.1831	0.1947	-0.7014	0.3126	0.0536	0.1613
1	355.08	0.8001	-0.4716	0.0129	-0.2013	0.2174	-0.9147	0.3592	-0.1136	0.1918
1	355.08	0.8497	-0.4938	0.0128	-0.2367	0.2293	-1.0920	0.4087	0.1547	0.1660
1	355.08	0.9734	-0.6964	0.0456	-0.2905	0.2852	-1.7947	0.5500	-0.4497	0.4263
2	355.08	0.2405	0.0728	0.0033	-0.0247	0.0031	-0.0153	0.0116	0.1831	0.0722
2	355.08	0.2999	0.0019	0.0040	-0.0491	0.0064	-0.0493	0.0253	0.2840	0.1119
2	355.08	0.3498	-0.0505	0.0044	-0.0954	0.0121	-0.0728	0.0447	0.3859	0.0992
2	355.08	0.3998	-0.1100	0.0032	-0.1436	0.0183	-0.1301	0.0698	0.4975	0.1028
2	355.08	0.4496	-0.1582	0.0040	-0.2098	0.0231	-0.2188	0.0963	0.5248	0.1144
2	355.08	0.4995	-0.2322	0.0048	-0.2535	0.0291	-0.3088	0.1289	0.5439	0.1133
2	355.08	0.5551	-0.2721	0.0048	-0.3159	0.0350	-0.4610	0.1702	0.4754	0.1093
2	355.08	0.5996	-0.3217	0.0048	-0.3573	0.0404	-0.5816	0.2082	0.5032	0.1190
2	355.08	0.6497	-0.3743	0.0050	-0.4095	0.0461	-0.7399	0.2546	0.6725	0.1273
2	355.08	0.6996	-0.4150	0.0057	-0.4700	0.0525	-0.9743	0.3060	0.4387	0.1179
2	355.08	0.7495	-0.4721	0.0066	-0.5353	0.0581	-1.2018	0.3623	0.4305	0.1118
2	355.08	0.7996	-0.5364	0.0066	-0.5961	0.0640	-1.4013	0.4233	0.4551	0.1351
2	355.08	0.8578	-0.6356	0.0076	-0.6565	0.0714	-1.6482	0.4969	0.7111	0.1222
2	355.08	0.9100	-0.7178	0.0084	-0.7039	0.0783	-1.9134	0.5628	0.6282	0.1309
2	355.08	0.9727	-0.8112	0.0086	-0.7405	0.0853	-2.1122	0.6443	0.8763	0.1262
3	355.08	0.1938	0.0362	0.0060	0.0247	0.0041	0.0031	0.0071	0.0224	0.0513
3	355.08	0.2357	0.0805	0.0030	-0.0256	0.0044	-0.0216	0.0114	0.2008	0.0928
3	355.08	0.2995	-0.0225	0.0023	0.0381	0.0114	-0.0083	0.0267	0.1563	0.1166
3	355.08	0.3493	-0.0673	0.0029	0.0540	0.0205	-0.0210	0.0473	0.1935	0.1039
3	355.08	0.4000	-0.0805	0.0043	0.0616	0.0293	-0.0374	0.0716	0.4251	0.0985
3	355.08	0.4497	-0.1685	0.0033	0.0310	0.0361	-0.0898	0.0991	0.3402	0.1106
3	355.08	0.4997	-0.2107	0.0035	0.0021	0.0437	-0.1502	0.1330	0.3112	0.1084
3	355.08	0.5556	-0.2867	0.0041	-0.0688	0.0519	-0.2643	0.1732	0.2869	0.1184
3	355.08	0.5995	-0.3142	0.0046	0.0103	0.0597	-0.3608	0.2073	0.2586	0.1125
3	355.08	0.6498	-0.3505	0.0051	-0.0765	0.0666	-0.5153	0.2439	0.1611	0.1338
3	355.08	0.6890	-0.3783	0.0048	-0.0057	0.0744	-0.6320	0.2775	0.3404	0.1147
3	355.08	0.7495	-0.3887	0.0063	-0.0943	0.0839	-0.8075	0.3252	0.2933	0.1501
3	355.08	0.7998	-0.4983	0.0064	-0.0709	0.0917	-1.0176	0.3662	0.2845	0.1313
4	355.08	0.2001	0.0463	0.0113	0.0027	0.0052	-0.0183	0.0050	0.1913	0.0303
4	355.08	0.2502	0.0382	0.0048	0.0267	0.0118	-0.0636	0.0119	0.0336	0.0525
4	355.08	0.3001	-0.0127	0.0066	0.0391	0.0230	-0.0824	0.0214	0.3318	0.0671
4	355.08	0.3502	-0.0628	0.0158	0.0492	0.0394	-0.1648	0.0340	0.3107	0.0676
4	355.08	0.4002	-0.0976	0.0263	0.1015	0.0622	-0.2511	0.0555	0.3933	0.0747
4	355.08	0.4500	-0.1229	0.0383	0.1536	0.0899	-0.3899	0.0792	0.2101	0.0745
4	355.08	0.5001	-0.1669	0.0514	0.1730	0.1220	-0.4930	0.1055	0.5868	0.0830
4	355.08	0.5560	-0.2050	0.0668	0.2249	0.1625	-0.7402	0.1394	0.3551	0.0923
4	355.08	0.6001	-0.2098	0.0793	0.2549	0.1978	-0.9222	0.1701	0.3851	0.0974
4	355.08	0.6501	-0.2538	0.0932	0.2968	0.2397	-1.1359	0.2055	0.5241	0.1118
4	355.08	0.6999	-0.2629	0.1062	0.3352	0.2835	-1.4041	0.2464	0.4949	0.1075
4	355.08	0.7500	-0.2679	0.1184	0.3610	0.3263	-1.6363	0.2873	0.7199	0.1120
4	355.08	0.8002	-0.3161	0.1289	0.3507	0.3679	-1.9108	0.3285	0.8113	0.1280
4	355.08	0.8582	-0.3358	0.1392	0.4119	0.4146	-2.2911	0.3782	0.1856	0.1613

2.26 Run 96, Points 17 to 21

2.26.1 Pitch, Flap, and Lag

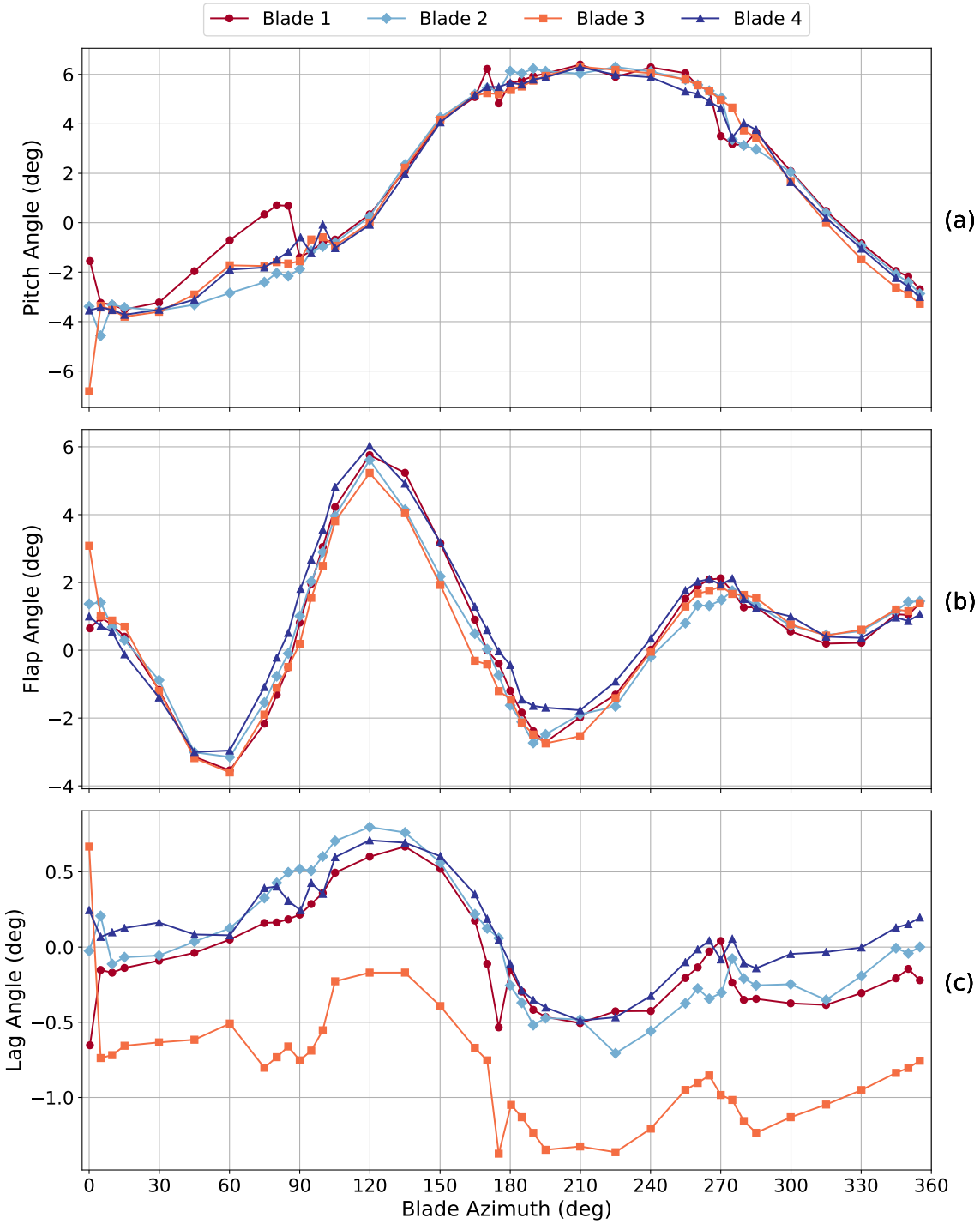


Figure 2.26-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-1. Pitch, flap, and lag vs azimuth for Blade 1.
$C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	-1.5509	0.6474	-0.6526	0.4766	0.6098	0.1749
4.92	-3.2441	0.9630	-0.1520	0.2740	0.4115	0.0970
9.84	-3.3214	0.7554	-0.1703	0.2215	0.5096	0.1104
15.12	-3.5097	0.3985	-0.1386	0.2347	0.6635	0.1195
29.88	-3.2290	-1.1693	-0.0903	0.2519	0.5986	0.1120
45	-1.9613	-3.1424	-0.0382	0.2523	0.3084	0.1221
60.12	-0.7090	-3.5415	0.0501	0.3011	0.1991	0.1087
74.88	0.3417	-2.1640	0.1605	0.5186	0.3389	0.0858
80.16	0.7039	-1.3129	0.1639	0.5550	0.3175	0.0764
85.08	0.6874	-0.5060	0.1847	0.5352	0.4168	0.0931
90	-1.4016	0.8140	0.2161	0.3031	0.4450	0.0963
94.92	-1.1423	1.9581	0.2860	0.0985	0.5665	0.0969
99.84	-0.8054	3.0487	0.3594	0.0966	0.6090	0.0814
105.12	-0.6844	4.2226	0.4947	0.1071	0.5995	0.0676
119.88	0.3408	5.7540	0.6007	0.2580	0.8681	0.0864
135	2.1068	5.2318	0.6681	0.6011	0.8088	0.1315
150.12	4.1326	3.1584	0.5207	0.0900	1.0024	0.1040
164.88	5.0833	0.9013	0.1766	0.2451	0.8023	0.1003
170.16	6.2216	-0.0077	-0.1115	0.2285	1.1469	0.1636
175.08	4.8297	-0.3930	-0.5340	0.2821	1.1767	0.2185
180	5.6187	-1.1960	-0.1526	0.3189	1.0580	0.1758
184.92	5.7587	-1.8401	-0.2959	0.2755	0.8620	0.1678
189.84	5.9227	-2.3861	-0.4173	1.4788	1.2298	0.3363
195.12	6.0326	-2.7085	-0.4646	2.1786	1.4875	0.4869
209.88	6.3965	-1.9775	-0.5054	0.2012	1.2278	0.2726
225	5.8990	-1.3090	-0.4269	0.2240	1.1593	0.2085
240.12	6.2860	0.0126	-0.4251	0.2157	0.7691	0.1437
254.88	6.0490	1.5186	-0.2059	0.2526	0.7852	0.1201
260.16	5.5520	1.8977	-0.1347	0.2426	0.7553	0.1481
265.08	5.3307	2.0855	-0.0299	0.2886	0.7574	0.1555
270	3.5058	2.1221	0.0408	0.1507	0.6632	0.1452
274.92	3.1845	1.7408	-0.2363	0.1549	0.8513	0.1828
279.84	3.1210	1.2647	-0.3509	0.1981	0.4991	0.1545
285.12	3.6507	1.2685	-0.3441	0.2197	0.5142	0.0943
299.88	2.0889	0.5528	-0.3741	0.1101	0.3471	0.1036
315	0.4794	0.1951	-0.3847	0.1383	0.3775	0.1341
330.12	-0.8358	0.2192	-0.3054	0.1185	0.3803	0.0908
344.88	-1.9502	1.0640	-0.2078	0.3073	0.5355	0.0986
350.16	-2.1778	1.0384	-0.1452	0.5688	0.6865	0.1160
355.08	-2.6929	1.3911	-0.2204	0.2883	0.5966	0.1109

Table 2.26-2. Pitch, flap, and lag vs azimuth for Blade 2.
$C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-3.3874	1.3675	-0.0255	0.1830	0.5101	0.0935
4.92	-4.5717	1.4090	0.2070	0.6368	0.4754	0.2154
9.84	-3.3200	0.6814	-0.1125	0.1787	0.5422	0.1203
15.12	-3.4268	0.2966	-0.0671	0.1812	0.5850	0.0834
29.88	-3.5498	-0.8839	-0.0560	0.1654	0.5473	0.0949
45	-3.3179	-3.0099	0.0361	0.2013	0.2565	0.1137
60.12	-2.8466	-3.1502	0.1253	0.2852	0.2141	0.0901
74.88	-2.4087	-1.5449	0.3263	0.2995	0.2262	0.0727
80.16	-2.0389	-0.7664	0.4268	0.3029	0.3947	0.1118
85.08	-2.1607	-0.0943	0.4969	0.2341	0.4102	0.0827
90	-1.8740	1.0086	0.5192	0.2098	0.5527	0.1009
94.92	-1.1473	2.0299	0.5082	0.2147	0.5470	0.0829
99.84	-0.9663	2.8970	0.6020	0.0833	0.6059	0.1177
105.12	-0.8085	3.9616	0.7055	0.0743	0.6652	0.0636
119.88	0.2521	5.6086	0.7981	0.1844	0.8660	0.1390
135	2.3510	4.1453	0.7617	0.3919	0.9809	0.1668
150.12	4.2642	2.1799	0.5614	0.3732	0.8197	0.1044
164.88	5.1945	0.4888	0.2188	0.1836	0.8746	0.1394
170.16	5.4521	0.0316	0.1241	0.1743	0.9513	0.1639
175.08	5.3241	-0.7365	0.0599	0.1577	1.0811	0.1891
180	6.1278	-1.6250	-0.2544	0.1409	0.9590	0.1706
184.92	6.0422	-2.1160	-0.3704	0.6608	1.3967	0.2905
189.84	6.2289	-2.7331	-0.5188	1.1031	1.1984	0.3335
195.12	6.1244	-2.4820	-0.4721	0.6773	1.0350	0.1931
209.88	6.0288	-1.8900	-0.4816	2.1667	1.7329	0.5221
225	6.2998	-1.6591	-0.7062	0.1995	0.9763	0.1558
240.12	6.1178	-0.1959	-0.5582	0.8296	0.8123	0.2292
254.88	5.7902	0.7997	-0.3741	1.1016	0.9647	0.2552
260.16	5.5775	1.3227	-0.2757	0.5245	0.7842	0.1337
265.08	5.3368	1.3135	-0.3436	0.1941	0.6162	0.1311
270.35	5.0471	1.4880	-0.3026	0.1691	0.5649	0.1653
274.92	3.3638	1.7546	-0.0769	0.1304	0.3937	0.1253
279.84	3.1269	1.5262	-0.2095	0.1513	0.4226	0.1492
285.12	2.9689	1.3295	-0.2545	0.1543	0.4310	0.1159
299.88	2.0511	0.7252	-0.2472	0.1229	0.3958	0.1486
315	0.4028	0.4518	-0.3514	0.1068	0.2799	0.1180
330.12	-0.9351	0.5631	-0.1918	0.1089	0.4372	0.1140
344.88	-2.0811	1.1593	-0.0067	0.3249	0.5952	0.1037
350.16	-2.4103	1.4250	-0.0413	0.2399	0.5751	0.1089
355.08	-2.8689	1.4455	0.0011	0.2336	0.5451	0.0891

Table 2.26-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-6.8165	3.0821	0.6681	2.2863	1.0609	0.7477
4.92	-3.3629	1.0096	-0.7376	0.2173	0.5818	0.0880
9.84	-3.5346	0.8775	-0.7182	0.2112	0.6693	0.1076
15.12	-3.8031	0.6945	-0.6560	0.1562	0.6190	0.0766
29.88	-3.6020	-1.2015	-0.6336	0.1641	0.6195	0.1212
45	-2.9046	-3.1816	-0.6159	0.2473	0.3555	0.0861
60.12	-1.7240	-3.6041	-0.5085	0.3375	0.2079	0.1548
74.88	-1.7519	-1.8987	-0.8023	0.2513	0.2661	0.0922
80.16	-1.5957	-1.1032	-0.7320	0.3023	0.3221	0.0976
85.08	-1.6520	-0.4947	-0.6608	0.3335	0.4115	0.1019
90	-1.5577	0.1887	-0.7535	0.1792	0.4910	0.3210
94.92	-0.6797	1.5469	-0.6883	0.2557	0.6413	0.0970
99.84	-0.5880	2.4872	-0.5534	0.2578	0.5952	0.0813
105.12	-0.9322	3.8051	-0.2275	0.0839	0.6467	0.0868
119.88	0.0032	5.2277	-0.1700	0.2208	0.9453	0.0999
135	2.2279	4.0466	-0.1697	0.2942	0.9890	0.0792
150.12	4.1684	1.9271	-0.3923	0.0798	0.6616	0.0960
164.88	5.1462	-0.3114	-0.6700	0.1826	0.9923	0.0894
170.16	5.2422	-0.4180	-0.7535	0.1407	0.9293	0.0922
175.08	5.1984	-1.2055	-1.3734	0.1783	0.8952	0.1151
180.35	5.3690	-1.4564	-1.0495	0.0836	0.8692	0.1225
184.92	5.5074	-2.1300	-1.1314	0.1116	0.7127	0.1049
189.84	5.7459	-2.4860	-1.2353	0.1240	0.7882	0.0999
195.12	5.9397	-2.7476	-1.3478	0.9080	1.1261	0.2404
209.88	6.3121	-2.5333	-1.3256	0.6023	1.1902	0.2219
225	6.1819	-1.4152	-1.3636	0.1575	0.9755	0.0834
240.12	6.0441	-0.0447	-1.2070	1.3643	1.1702	0.2513
254.88	5.7958	1.2872	-0.9499	0.2443	0.7973	0.0842
260.16	5.5588	1.6711	-0.9033	0.2530	0.7504	0.0761
265.08	5.3296	1.7548	-0.8532	0.2084	0.6738	0.0857
270	4.9681	1.8833	-0.9834	0.1765	0.5833	0.0931
274.92	4.6599	1.6604	-1.0165	0.1676	0.4654	0.1236
279.84	3.7327	1.6312	-1.1570	0.1856	0.3480	0.1050
285.12	3.4453	1.5431	-1.2346	0.2431	0.3902	0.1171
299.88	1.6836	0.7614	-1.1314	0.1604	0.4485	0.0816
315	-0.0105	0.4318	-1.0472	0.1103	0.2574	0.0668
330.12	-1.4786	0.6067	-0.9508	0.1407	0.3416	0.0892
344.88	-2.6249	1.2015	-0.8365	0.2475	0.4099	0.0666
350.16	-2.8997	1.1538	-0.8036	0.3607	0.7560	0.0765
355.08	-3.2822	1.3865	-0.7557	0.3174	0.6412	0.0634

Table 2.26-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	-3.5490	0.9966	0.2455	0.2086	0.6449	0.0876
4.92	-3.4265	0.7144	0.0680	0.2576	0.7920	0.0701
9.84	-3.5265	0.5395	0.0982	0.1589	0.6708	0.0792
15.12	-3.7251	-0.1221	0.1269	0.1471	0.5673	0.0646
29.88	-3.5204	-1.3937	0.1632	0.1876	0.5623	0.0776
45	-3.1093	-3.0012	0.0840	0.2246	0.2797	0.0854
60.12	-1.8970	-2.9587	0.0783	0.2215	0.2049	0.1146
74.88	-1.8106	-1.0863	0.3920	0.3266	0.2659	0.0915
80.16	-1.4917	-0.2186	0.4025	0.3608	0.2592	0.0989
85.08	-1.1831	0.5109	0.3068	0.3029	0.3811	0.0838
90.35	-0.5956	1.8117	0.2451	0.2297	0.3837	0.0832
94.92	-1.2333	2.6750	0.4262	0.1712	0.5853	0.0765
99.84	-0.0780	3.5590	0.3539	0.2079	0.6126	0.0879
105.12	-1.0287	4.8171	0.5976	0.1223	0.7006	0.0868
119.88	-0.0808	6.0295	0.7097	0.2007	0.7431	0.1087
135	1.9698	4.9153	0.6938	0.1851	1.0172	0.0985
150.12	4.0620	3.1831	0.6040	0.2621	0.9926	0.1060
164.88	5.1553	1.2830	0.3510	0.1480	1.0524	0.0987
170.16	5.4939	0.5949	0.1879	0.1583	1.0314	0.1334
175.08	5.4897	-0.0318	0.0485	0.4106	1.1034	0.1605
180	5.6589	-0.4364	-0.1108	0.1971	1.0513	0.1458
184.92	5.5917	-1.4552	-0.2880	0.1473	1.0427	0.1499
189.84	5.7952	-1.6410	-0.3519	0.1291	0.7474	0.1236
195.12	5.8773	-1.6927	-0.4020	0.1522	0.7062	0.0844
209.88	6.2972	-1.7686	-0.4881	1.9969	1.6916	0.5225
225	5.9829	-0.9245	-0.4667	0.4205	0.7462	0.1365
240.12	5.8829	0.3447	-0.3244	0.7109	0.8766	0.1982
254.88	5.3116	1.7666	-0.1001	0.2128	0.7168	0.0831
260.16	5.2124	2.0269	-0.0149	0.5879	0.9457	0.1679
265.08	4.9042	2.0987	0.0428	0.2064	0.8982	0.1213
270	4.6322	1.9384	-0.0819	0.2802	0.7828	0.1139
274.92	3.4515	2.1135	0.0547	0.1468	0.7055	0.1372
279.84	4.0315	1.5130	-0.1073	0.2095	0.5822	0.1288
285.12	3.7566	1.2430	-0.1405	0.2552	0.4469	0.1200
299.88	1.6453	0.9970	-0.0457	0.0909	0.2793	0.0933
315	0.1942	0.4006	-0.0327	0.1048	0.3814	0.0989
330.12	-1.0477	0.3643	-0.0027	0.2087	0.6179	0.0735
344.88	-2.2372	0.9655	0.1291	0.2703	0.6689	0.0701
350.16	-2.5997	0.8627	0.1528	0.3213	0.8162	0.0918
355.08	-3.0049	1.0592	0.1966	0.5038	0.8017	0.0801

2.26.2 Spanwise Elastic Deformations

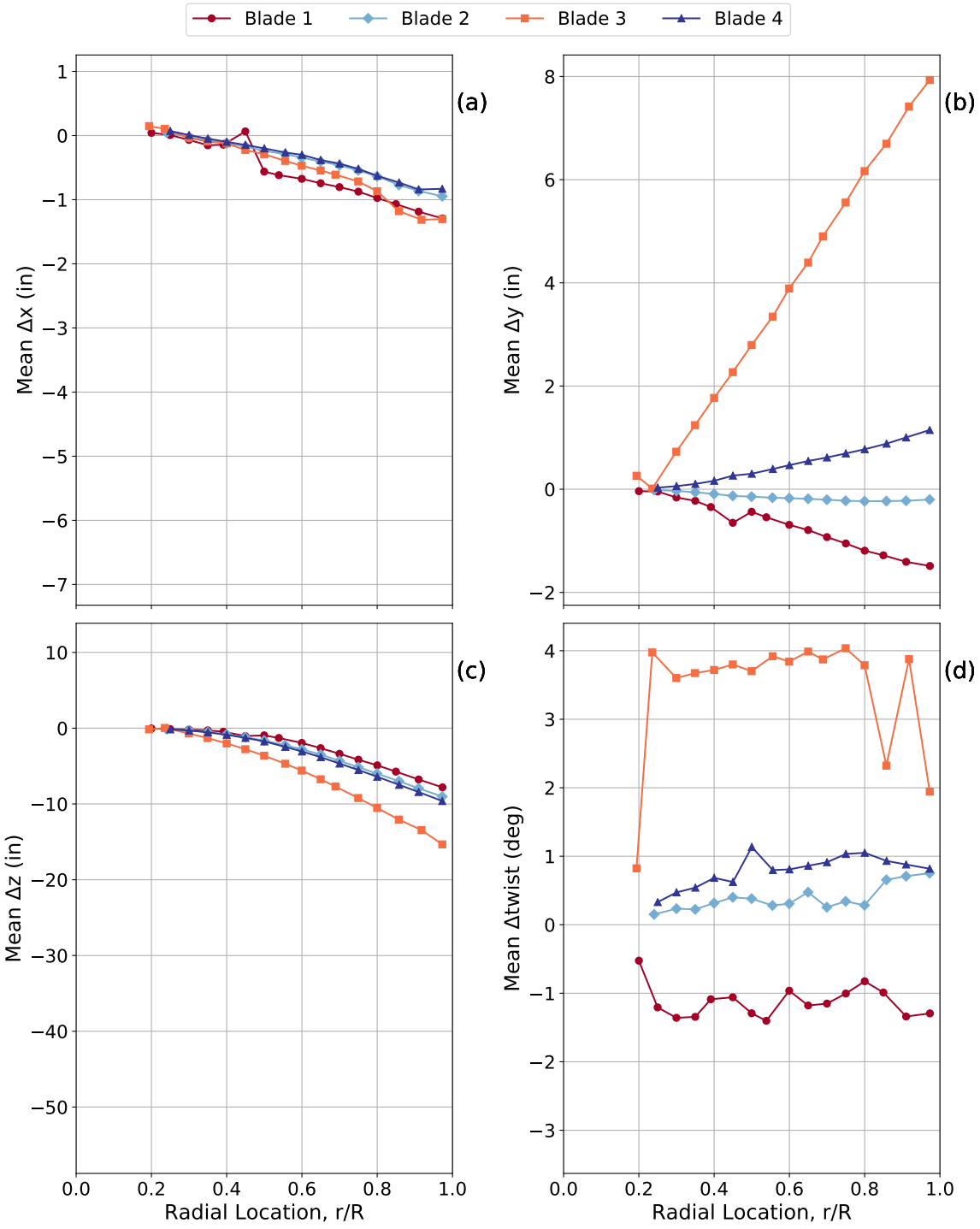


Figure 2.26-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0421	0.0595	-0.0380	0.0152	-0.0343	0.0290	-0.5247	0.1540
1	0.35	0.2499	0.0074	0.0243	-0.0444	0.0269	-0.1150	0.0430	-1.2065	0.4273
1	0.35	0.2998	-0.0681	0.0181	-0.1600	0.0603	-0.1871	0.1104	-1.3587	0.4319
1	0.35	0.3498	-0.1514	0.0415	-0.2246	0.1042	-0.2857	0.1900	-1.3449	0.4410
1	0.35	0.3913	-0.1426	0.0656	-0.3452	0.1486	-0.4621	0.2666	-1.0872	0.4480
1	0.35	0.4496	0.0647	0.1101	-0.6511	0.2209	-1.0412	0.3870	-1.0589	0.4592
1	0.35	0.4997	-0.5625	0.1382	-0.4369	0.4227	-0.9423	0.5288	-1.2919	0.3727
1	0.35	0.5387	-0.6174	0.1369	-0.5431	0.4571	-1.2926	0.6135	-1.4021	0.3899
1	0.35	0.5996	-0.6749	0.1374	-0.6902	0.5134	-1.9437	0.7375	-0.9630	0.4018
1	0.35	0.6498	-0.7437	0.1367	-0.7913	0.5596	-2.6325	0.8499	-1.1787	0.3707
1	0.35	0.6998	-0.8036	0.1367	-0.9278	0.6076	-3.3804	0.9532	-1.1511	0.3892
1	0.35	0.7500	-0.8744	0.1360	-1.0508	0.6558	-4.1570	1.0570	-1.0040	0.3629
1	0.35	0.8001	-0.9738	0.1369	-1.1908	0.7054	-4.9013	1.1505	-0.8253	0.3926
1	0.35	0.8497	-1.0685	0.1376	-1.2807	0.7545	-5.7318	1.2414	-0.9887	0.3850
1	0.35	0.9102	-1.1867	0.1391	-1.4073	0.8149	-6.7701	1.3495	-1.3396	0.3912
1	0.35	0.9734	-1.2919	0.1288	-1.4877	0.8793	-7.8066	1.4639	-1.2938	0.3979
2	0	0.2405	0.0476	0.0051	-0.0147	0.0049	-0.1363	0.0240	0.1514	0.0977
2	0	0.2999	-0.0228	0.0064	-0.0330	0.0104	-0.3002	0.0549	0.2347	0.1516
2	0	0.3498	-0.0694	0.0080	-0.0583	0.0191	-0.5165	0.0960	0.2243	0.1341
2	0	0.3998	-0.1185	0.0077	-0.0919	0.0294	-0.8127	0.1522	0.3162	0.1405
2	0	0.4496	-0.1688	0.0106	-0.1294	0.0392	-1.1804	0.2175	0.4003	0.1479
2	0	0.4995	-0.2404	0.0131	-0.1441	0.0484	-1.6257	0.2905	0.3804	0.1445
2	0	0.5551	-0.2887	0.0157	-0.1648	0.0629	-2.2370	0.3752	0.2810	0.1502
2	0	0.5996	-0.3443	0.0179	-0.1740	0.0723	-2.7828	0.4460	0.3081	0.1543
2	0	0.6497	-0.4052	0.0195	-0.1861	0.0855	-3.4789	0.5213	0.4748	0.1523
2	0	0.6996	-0.4637	0.0218	-0.2033	0.0982	-4.3031	0.5946	0.2558	0.1583
2	0	0.7495	-0.5433	0.0260	-0.2236	0.1109	-5.1396	0.6612	0.3416	0.1746
2	0	0.7996	-0.6350	0.0299	-0.2327	0.1245	-5.9978	0.7324	0.2844	0.1481
2	0	0.8578	-0.7705	0.0350	-0.2299	0.1399	-6.9895	0.8187	0.6555	0.1715
2	0	0.9100	-0.8633	0.0398	-0.2242	0.1544	-7.9394	0.9041	0.7085	0.1492
2	0	0.9727	-0.9464	0.0434	-0.2003	0.1713	-9.0237	1.0236	0.7534	0.1571
3	0	0.1938	0.1468	0.0696	0.2610	0.0876	-0.1552	0.0406	0.8228	0.7894
3	0	0.2357	0.1048	0.0240	0.0123	0.0166	0.0316	0.0521	3.9755	1.9905
3	0	0.2995	-0.0354	0.0200	0.7277	0.2581	-0.6994	0.2138	3.6012	2.3593
3	0	0.3493	-0.0927	0.0286	1.2410	0.4473	-1.3001	0.4528	3.6738	2.3741
3	0	0.4000	-0.1234	0.0378	1.7697	0.6447	-2.0065	0.7052	3.7190	2.3894
3	0	0.4497	-0.2253	0.0468	2.2691	0.8398	-2.7710	0.9553	3.7998	2.4179
3	0	0.4997	-0.2905	0.0561	2.7942	1.0432	-3.6353	1.2162	3.7018	2.4160
3	0	0.5556	-0.3954	0.0671	3.3452	1.2756	-4.6895	1.5081	3.9198	2.4332
3	0	0.5995	-0.4707	0.0746	3.8913	1.4618	-5.5905	1.7363	3.8415	2.4381
3	0	0.6498	-0.5450	0.0832	4.3928	1.6849	-6.7424	2.0010	3.9874	2.4455
3	0	0.6890	-0.6096	0.0924	4.9023	1.8598	-7.6976	2.2029	3.8731	2.4550
3	0	0.7495	-0.7154	0.1055	5.5563	2.1399	-9.2162	2.5179	4.0364	2.4815
3	0	0.7998	-0.8680	0.1371	6.1661	2.3992	-10.5227	2.8422	3.7880	1.4950
3	0	0.8577	-1.1783	0.1508	6.6967	3.1965	-12.0626	2.9141	2.3228	6.5652
3	0	0.9178	-1.3137	0.1844	7.4163	3.4587	-13.4523	2.2462	3.8770	2.2187
3	0	0.9729	-1.3027	0.1639	7.9318	3.7396	-15.3382	4.2974	1.9437	7.8903
4	0	0.2502	0.0710	0.0060	0.0304	0.0066	-0.1572	0.0262	0.3307	0.1505
4	0	0.3001	0.0078	0.0072	0.0603	0.0125	-0.3075	0.0503	0.4723	0.2161
4	0	0.3502	-0.0487	0.0087	0.1024	0.0223	-0.5506	0.0900	0.5416	0.2031
4	0	0.4002	-0.0981	0.0085	0.1635	0.0348	-0.8724	0.1416	0.6847	0.1990
4	0	0.4500	-0.1468	0.0107	0.2637	0.0462	-1.2832	0.2013	0.6237	0.2188
4	0	0.5001	-0.2004	0.0150	0.3002	0.0587	-1.7464	0.2748	1.1347	0.2027
4	0	0.5560	-0.2648	0.0172	0.3920	0.0728	-2.4696	0.3675	0.7976	0.2155
4	0	0.6001	-0.3008	0.0193	0.4667	0.0844	-3.0740	0.4421	0.8082	0.2311
4	0	0.6501	-0.3824	0.0239	0.5468	0.0986	-3.8266	0.5251	0.8609	0.2490
4	0	0.6999	-0.4380	0.0260	0.6154	0.1119	-4.6680	0.6085	0.9126	0.2495
4	0	0.7500	-0.5204	0.0309	0.6938	0.1258	-5.5188	0.6785	1.0334	0.2888
4	0	0.8002	-0.6276	0.0359	0.7747	0.1406	-6.4106	0.7476	1.0504	0.2676
4	0	0.8582	-0.7331	0.0402	0.8829	0.1579	-7.4752	0.8182	0.9318	0.2722
4	0	0.9101	-0.8410	0.0431	1.0034	0.1730	-8.4267	0.8859	0.8794	0.2157
4	0	0.9728	-0.8303	0.0438	1.1478	0.1892	-9.6123	0.9702	0.8178	0.2293

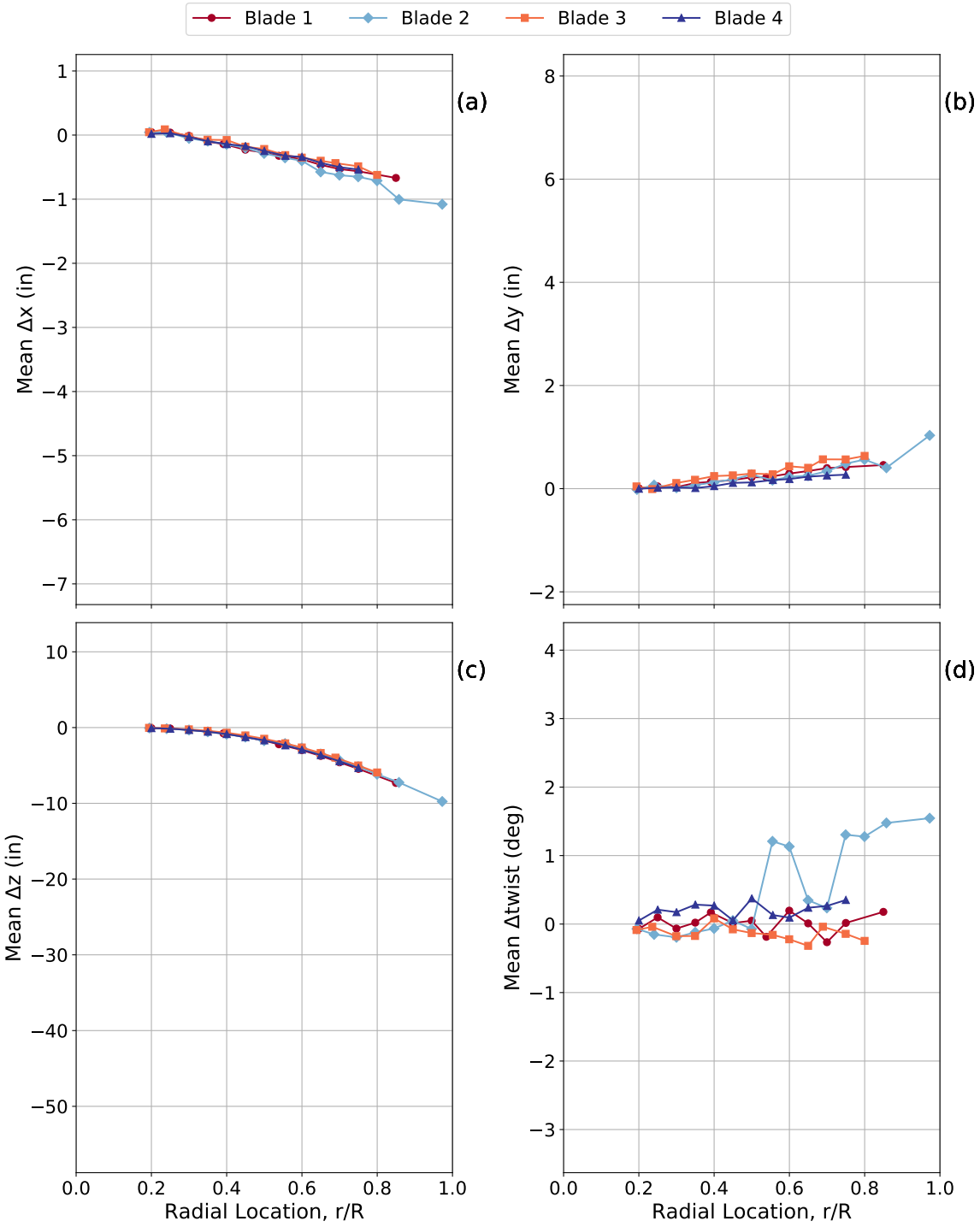


Figure 2.26-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0457	0.0103	0.0077	0.0069	-0.0715	0.0241	-0.0691	0.0954
1	4.92	0.2499	0.0388	0.0067	0.0442	0.0139	-0.1256	0.0513	0.0973	0.2002
1	4.92	0.2998	-0.0117	0.0060	0.0295	0.0258	-0.3148	0.1081	-0.0659	0.2272
1	4.92	0.3498	-0.1032	0.0077	0.1097	0.0468	-0.5206	0.1895	0.0211	0.2230
1	4.92	0.3913	-0.1397	0.0082	0.1311	0.0651	-0.7642	0.2752	0.1707	0.2215
1	4.92	0.4496	-0.2285	0.0119	0.1666	0.0925	-1.2520	0.4145	0.0139	0.2237
1	4.92	0.4997	-0.2747	0.0137	0.2213	0.1178	-1.7382	0.5438	0.0488	0.2378
1	4.92	0.5387	-0.3233	0.0162	0.2204	0.1392	-2.2086	0.6475	-0.1859	0.2413
1	4.92	0.5996	-0.3761	0.0206	0.2920	0.1688	-2.9767	0.7987	0.1960	0.2298
1	4.92	0.6498	-0.4650	0.0258	0.3419	0.1944	-3.7467	0.9099	0.0101	0.2348
1	4.92	0.6998	-0.5299	0.0298	0.3980	0.2205	-4.5905	1.0072	-0.2648	0.2570
1	4.92	0.7500	-0.5649	0.0325	0.4188	0.2459	-5.4548	1.0927	0.0164	0.2415
1	4.92	0.8497	-0.6685	0.0421	0.4581	0.2942	-7.3092	1.2417	0.1782	0.2909
2	4.92	0.1949	0.0426	0.0372	-0.0162	0.0100	-0.0599	0.0140	-0.0697	0.4487
2	4.92	0.2405	0.0434	0.0272	0.0703	0.0358	-0.1532	0.0568	-0.1512	0.7503
2	4.92	0.2999	-0.0519	0.0337	0.0157	0.0161	-0.3154	0.0614	-0.1933	1.1301
2	4.92	0.3498	-0.0953	0.0581	0.0662	0.0411	-0.5563	0.1258	-0.1200	1.4628
2	4.92	0.3998	-0.1454	0.0836	0.1236	0.0695	-0.8779	0.1997	-0.0646	1.7582
2	4.92	0.4496	-0.2001	0.1106	0.1814	0.0987	-1.2538	0.2818	0.0519	2.0447
2	4.92	0.4995	-0.2867	0.1386	0.2706	0.1264	-1.7355	0.3754	-0.0716	2.3509
2	4.92	0.5551	-0.3557	0.2868	0.1627	0.1993	-2.1147	0.4091	1.2085	0.7159
2	4.92	0.5996	-0.3998	0.3245	0.2286	0.2235	-2.7036	0.4430	1.1321	0.7215
2	4.92	0.6497	-0.5743	0.3030	0.2517	0.2386	-3.4907	0.4445	0.3477	1.1559
2	4.92	0.6996	-0.6253	0.3341	0.3376	0.2748	-4.3385	0.4973	0.2359	1.3211
2	4.92	0.7495	-0.6511	0.4334	0.4846	0.3109	-5.1662	0.5747	1.3042	0.7629
2	4.92	0.7996	-0.7122	0.4585	0.5639	0.3445	-6.1608	0.6199	1.2768	0.7703
2	4.92	0.8578	-1.0032	0.2715	0.4039	0.4903	-7.2447	0.8714	1.4767	0.8893
2	4.92	0.9727	-1.0793	1.2752	1.0326	0.8056	-9.7587	0.8120	1.5458	0.8317
3	4.92	0.1938	0.0449	0.0083	0.0434	0.0058	-0.0379	0.0122	-0.0867	0.0702
3	4.92	0.2357	0.0889	0.0043	-0.0084	0.0071	-0.1122	0.0229	-0.0393	0.1815
3	4.92	0.2995	-0.0269	0.0038	0.1091	0.0172	-0.2369	0.0535	-0.1769	0.2040
3	4.92	0.3493	-0.0729	0.0047	0.1723	0.0303	-0.4234	0.0965	-0.1733	0.2050
3	4.92	0.4000	-0.0777	0.0057	0.2435	0.0445	-0.6807	0.1487	0.0829	0.2040
3	4.92	0.4497	-0.1812	0.0057	0.2575	0.0571	-1.0398	0.2093	-0.0769	0.1970
3	4.92	0.4997	-0.2173	0.0072	0.2927	0.0709	-1.4787	0.2785	-0.1311	0.1986
3	4.92	0.5556	-0.3128	0.0094	0.2783	0.0877	-2.0819	0.3574	-0.1570	0.2277
3	4.92	0.5995	-0.3517	0.0115	0.4337	0.1036	-2.6301	0.4210	-0.2220	0.2093
3	4.92	0.6498	-0.4005	0.0126	0.4041	0.1202	-3.3569	0.4899	-0.3177	0.2263
3	4.92	0.6890	-0.4374	0.0166	0.5682	0.1293	-3.9688	0.5422	-0.0386	0.2229
3	4.92	0.7495	-0.4871	0.0193	0.5665	0.1549	-5.0064	0.6221	-0.1424	0.2073
3	4.92	0.7998	-0.6215	0.0266	0.6351	0.1748	-5.9282	0.6852	-0.2455	0.2369
4	4.92	0.2001	0.0187	0.0067	-0.0018	0.0043	-0.0756	0.0128	0.0510	0.0786
4	4.92	0.2502	0.0280	0.0043	0.0159	0.0076	-0.1526	0.0292	0.2104	0.1445
4	4.92	0.3001	-0.0289	0.0042	0.0226	0.0144	-0.3227	0.0556	0.1738	0.1812
4	4.92	0.3502	-0.0969	0.0048	0.0119	0.0254	-0.5503	0.0987	0.2841	0.1601
4	4.92	0.4002	-0.1415	0.0068	0.0490	0.0375	-0.8600	0.1536	0.2695	0.1612
4	4.92	0.4500	-0.1720	0.0080	0.1112	0.0474	-1.2651	0.2229	0.0546	0.1688
4	4.92	0.5001	-0.2483	0.0094	0.1220	0.0582	-1.6874	0.3007	0.3751	0.1620
4	4.92	0.5560	-0.3240	0.0133	0.1666	0.0707	-2.3514	0.3897	0.1318	0.1805
4	4.92	0.6001	-0.3410	0.0138	0.1867	0.0819	-2.9211	0.4636	0.0943	0.1802
4	4.92	0.6501	-0.4337	0.0173	0.2326	0.0950	-3.6367	0.5424	0.2384	0.1859
4	4.92	0.6999	-0.5008	0.0206	0.2548	0.1033	-4.4494	0.6116	0.2651	0.1764
4	4.92	0.7500	-0.5373	0.0246	0.2708	0.1178	-5.3334	0.6776	0.3517	0.2128

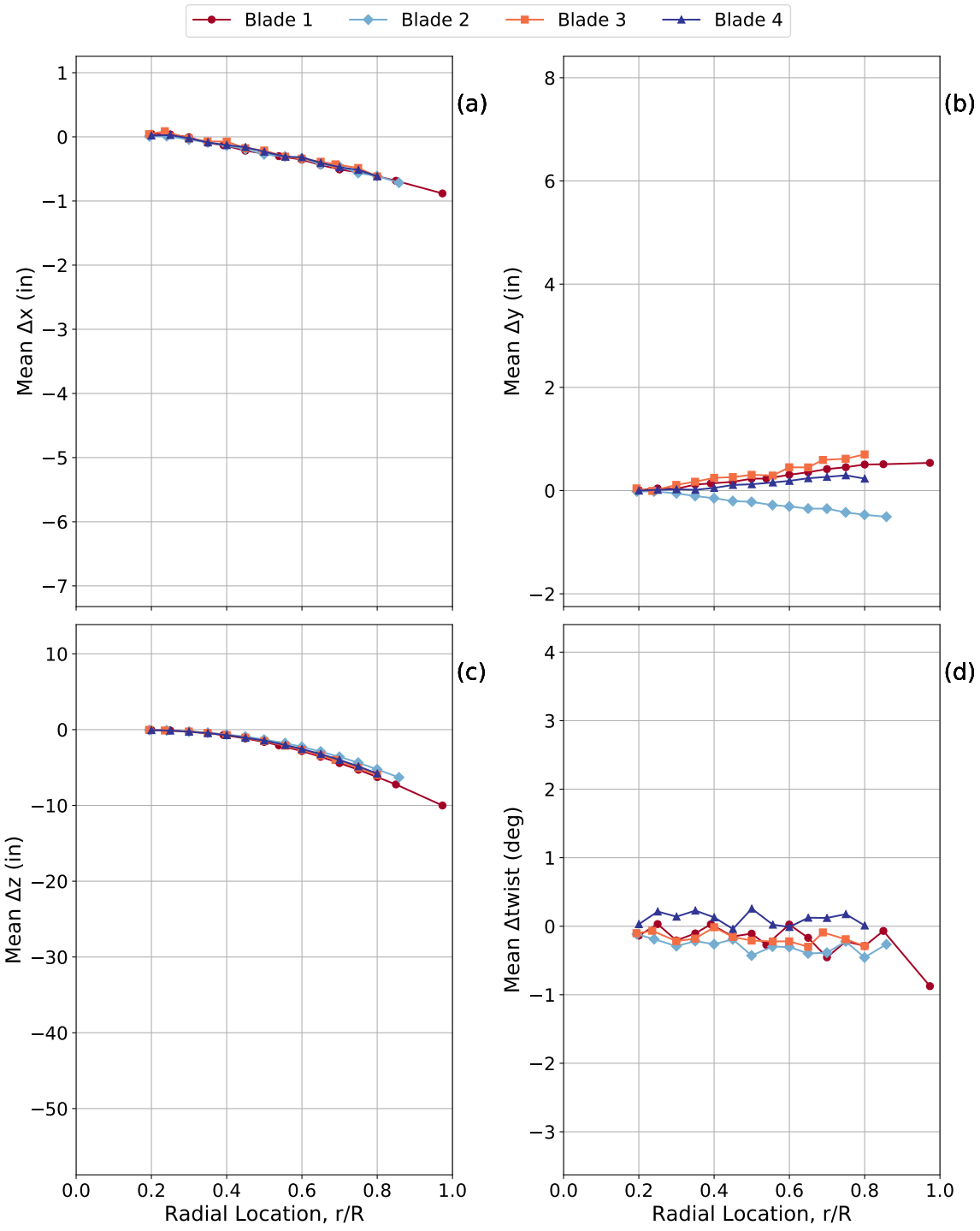


Figure 2.26-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0470	0.0079	0.0103	0.0058	-0.0684	0.0132	-0.1369	0.0819
1	9.84	0.2499	0.0383	0.0048	0.0417	0.0095	-0.1090	0.0275	0.0312	0.1792
1	9.84	0.2998	-0.0058	0.0046	0.0357	0.0209	-0.2974	0.0587	-0.2071	0.1977
1	9.84	0.3498	-0.0961	0.0048	0.1168	0.0368	-0.4812	0.1041	-0.1051	0.1874
1	9.84	0.3913	-0.1297	0.0055	0.1394	0.0507	-0.7084	0.1501	0.0280	0.1836
1	9.84	0.4496	-0.2157	0.0062	0.1699	0.0678	-1.1657	0.2226	-0.1494	0.1926
1	9.84	0.4997	-0.2616	0.0072	0.2307	0.0854	-1.6290	0.2900	-0.1084	0.2009
1	9.84	0.5387	-0.3009	0.0095	0.2328	0.0983	-2.0765	0.3452	-0.2718	0.1931
1	9.84	0.5996	-0.3559	0.0111	0.3060	0.1208	-2.8291	0.4314	0.0244	0.2151
1	9.84	0.6498	-0.4398	0.0139	0.3558	0.1395	-3.5837	0.5015	-0.1693	0.2039
1	9.84	0.6998	-0.5083	0.0161	0.4169	0.1590	-4.4155	0.5702	-0.4537	0.2267
1	9.84	0.7500	-0.5531	0.0198	0.4532	0.1788	-5.2931	0.6345	-0.2219	0.2394
1	9.84	0.8001	-0.6135	0.0255	0.5049	0.1967	-6.2651	0.6952	-0.2878	0.2524
1	9.84	0.8497	-0.6847	0.0278	0.5109	0.2183	-7.2346	0.7565	-0.0685	0.2387
1	9.84	0.9734	-0.8819	0.0406	0.5369	0.2688	-10.0116	0.8946	-0.8747	0.3178
2	9.84	0.1949	0.0090	0.0075	-0.0161	0.0037	-0.0598	0.0122	-0.1163	0.0600
2	9.84	0.2405	0.0113	0.0040	-0.0169	0.0052	-0.0981	0.0224	-0.1887	0.1349
2	9.84	0.2999	-0.0427	0.0034	-0.0538	0.0125	-0.2573	0.0527	-0.2909	0.1601
2	9.84	0.3498	-0.0881	0.0039	-0.1055	0.0203	-0.4080	0.0920	-0.2168	0.1586
2	9.84	0.3998	-0.1367	0.0054	-0.1482	0.0308	-0.6466	0.1417	-0.2627	0.1600
2	9.84	0.4496	-0.1883	0.0057	-0.2019	0.0395	-0.9215	0.2018	-0.1917	0.1676
2	9.84	0.4995	-0.2726	0.0066	-0.2186	0.0517	-1.3153	0.2672	-0.4275	0.1822
2	9.84	0.5551	-0.3059	0.0085	-0.2812	0.0625	-1.7847	0.3462	-0.2973	0.1842
2	9.84	0.5996	-0.3342	0.0096	-0.3073	0.0747	-2.2694	0.4126	-0.3035	0.1771
2	9.84	0.6497	-0.4288	0.0123	-0.3486	0.0870	-2.8916	0.4906	-0.3974	0.1877
2	9.84	0.6996	-0.4610	0.0151	-0.3504	0.1014	-3.5968	0.5677	-0.3861	0.1984
2	9.84	0.7495	-0.5641	0.0184	-0.4217	0.1170	-4.3486	0.6452	-0.2225	0.1865
2	9.84	0.7996	-0.6099	0.0229	-0.4693	0.1332	-5.2438	0.7230	-0.4559	0.2152
2	9.84	0.8578	-0.7152	0.0290	-0.5065	0.1551	-6.3045	0.8277	-0.2640	0.3093
3	9.84	0.1938	0.0420	0.0102	0.0424	0.0042	-0.0387	0.0102	-0.1020	0.0603
3	9.84	0.2357	0.0874	0.0041	-0.0062	0.0058	-0.1158	0.0175	-0.0663	0.1715
3	9.84	0.2995	-0.0261	0.0029	0.1104	0.0140	-0.2510	0.0439	-0.2172	0.1879
3	9.84	0.3493	-0.0707	0.0039	0.1723	0.0247	-0.4334	0.0772	-0.1810	0.1850
3	9.84	0.4000	-0.0740	0.0046	0.2470	0.0370	-0.7085	0.1195	-0.0150	0.1826
3	9.84	0.4497	-0.1763	0.0055	0.2611	0.0476	-1.0682	0.1646	-0.1568	0.1923
3	9.84	0.4997	-0.2128	0.0075	0.3057	0.0595	-1.5162	0.2162	-0.2092	0.2026
3	9.84	0.5556	-0.3090	0.0088	0.2917	0.0731	-2.1228	0.2814	-0.2220	0.2098
3	9.84	0.5995	-0.3398	0.0107	0.4519	0.0841	-2.6745	0.3368	-0.2206	0.2049
3	9.84	0.6498	-0.3879	0.0135	0.4495	0.0966	-3.4039	0.4141	-0.3002	0.2225
3	9.84	0.6890	-0.4285	0.0171	0.5941	0.1090	-4.0023	0.4757	-0.0906	0.2208
3	9.84	0.7495	-0.4851	0.0212	0.6172	0.1241	-5.0384	0.5776	-0.1899	0.2238
3	9.84	0.7998	-0.6172	0.0271	0.7010	0.1402	-5.9768	0.6603	-0.2898	0.2295
4	9.84	0.2001	0.0204	0.0066	-0.0004	0.0032	-0.0643	0.0160	0.0301	0.0650
4	9.84	0.2502	0.0272	0.0043	0.0142	0.0069	-0.1268	0.0329	0.2144	0.1195
4	9.84	0.3001	-0.0220	0.0042	0.0246	0.0115	-0.2771	0.0681	0.1395	0.1501
4	9.84	0.3502	-0.0870	0.0050	0.0154	0.0214	-0.4634	0.1195	0.2281	0.1340
4	9.84	0.4002	-0.1286	0.0067	0.0518	0.0317	-0.7297	0.1849	0.1290	0.1513
4	9.84	0.4500	-0.1605	0.0075	0.1093	0.0422	-1.0711	0.2625	-0.0398	0.1574
4	9.84	0.5001	-0.2326	0.0092	0.1232	0.0561	-1.4405	0.3530	0.2568	0.1651
4	9.84	0.5560	-0.3093	0.0121	0.1574	0.0688	-2.0353	0.4593	0.0226	0.1674
4	9.84	0.6001	-0.3187	0.0137	0.1888	0.0805	-2.5658	0.5500	-0.0115	0.1781
4	9.84	0.6501	-0.4059	0.0173	0.2395	0.0944	-3.2306	0.6595	0.1241	0.1777
4	9.84	0.6999	-0.4733	0.0215	0.2657	0.1085	-3.9930	0.7660	0.1209	0.1955
4	9.84	0.7500	-0.5157	0.0265	0.2957	0.1217	-4.8486	0.8760	0.1761	0.1943
4	9.84	0.8002	-0.6151	0.0325	0.2321	0.1390	-5.8034	0.9829	0.0103	0.2322

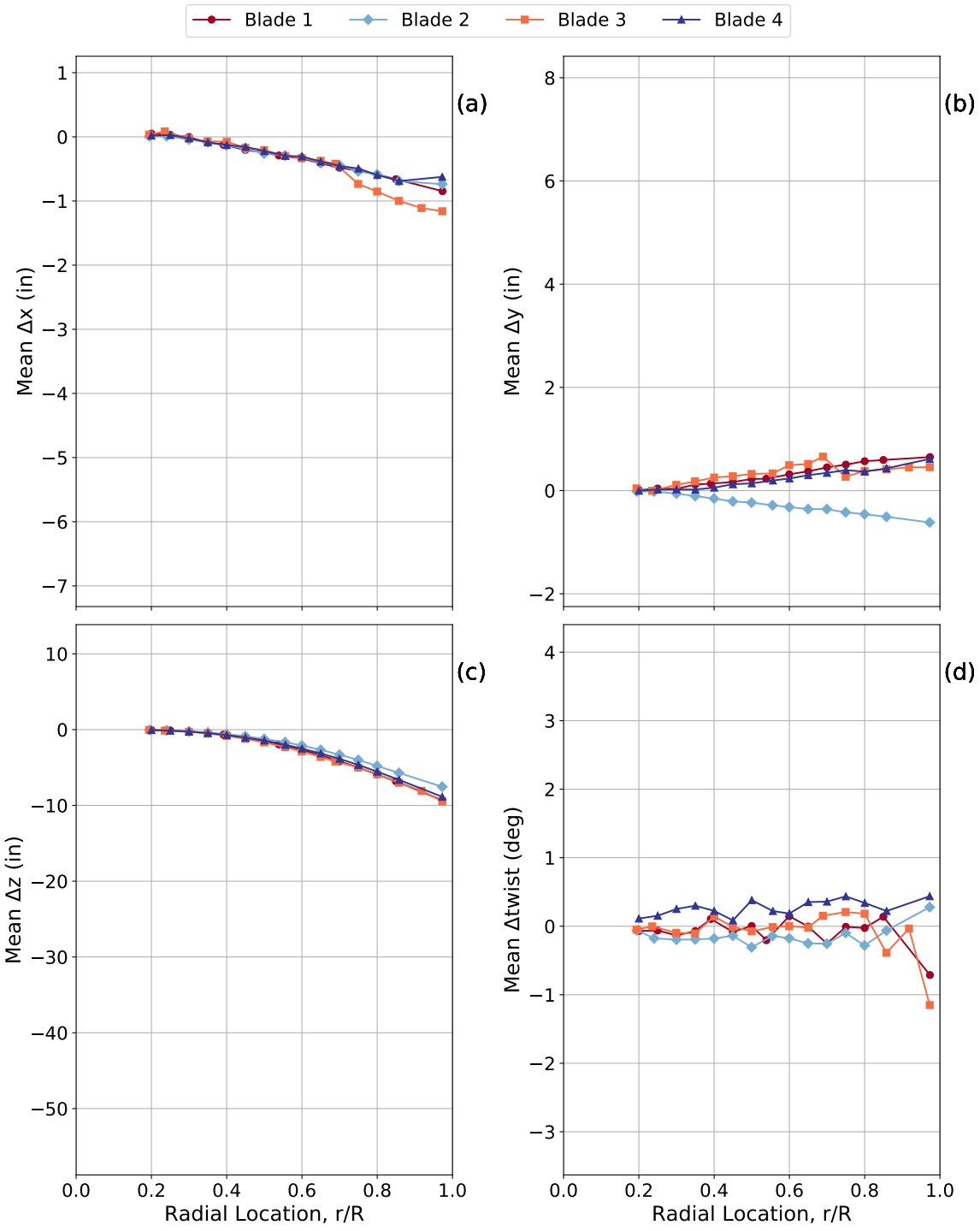


Figure 2.26-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0506	0.0078	0.0108	0.0056	-0.0598	0.0164	-0.0699	0.0736
1	15.12	0.2499	0.0305	0.0050	0.0400	0.0093	-0.1097	0.0331	-0.0622	0.1886
1	15.12	0.2998	-0.0025	0.0042	0.0331	0.0208	-0.2683	0.0736	-0.1339	0.1921
1	15.12	0.3498	-0.0906	0.0044	0.1175	0.0357	-0.4460	0.1271	-0.0708	0.1881
1	15.12	0.3913	-0.1236	0.0051	0.1350	0.0500	-0.6566	0.1849	0.1060	0.1961
1	15.12	0.4496	-0.2040	0.0064	0.1664	0.0702	-1.0946	0.2782	-0.0817	0.2090
1	15.12	0.4997	-0.2447	0.0080	0.2242	0.0891	-1.5251	0.3712	0.0025	0.2144
1	15.12	0.5387	-0.2905	0.0102	0.2301	0.1038	-1.9504	0.4475	-0.2043	0.2255
1	15.12	0.5996	-0.3371	0.0138	0.3156	0.1289	-2.6595	0.5794	0.1469	0.2279
1	15.12	0.6498	-0.4131	0.0183	0.3731	0.1505	-3.3781	0.6920	-0.0049	0.2330
1	15.12	0.6998	-0.4811	0.0225	0.4497	0.1728	-4.1749	0.8089	-0.2522	0.2413
1	15.12	0.7500	-0.5283	0.0296	0.5031	0.1938	-5.0112	0.9298	-0.0091	0.2486
1	15.12	0.8001	-0.5863	0.0403	0.5692	0.2166	-5.9197	1.0541	-0.0251	0.2957
1	15.12	0.8497	-0.6608	0.0442	0.5933	0.2396	-6.8204	1.1841	0.1386	0.2556
1	15.12	0.9734	-0.8464	0.0602	0.6493	0.2902	-9.3239	1.5025	-0.7120	0.2865
2	15.12	0.1949	0.0089	0.0082	-0.0167	0.0041	-0.0538	0.0148	-0.0606	0.0619
2	15.12	0.2405	0.0098	0.0035	-0.0167	0.0065	-0.0972	0.0291	-0.1763	0.1283
2	15.12	0.2999	-0.0405	0.0041	-0.0579	0.0146	-0.2348	0.0676	-0.1960	0.1611
2	15.12	0.3498	-0.0854	0.0045	-0.1064	0.0267	-0.3808	0.1197	-0.1923	0.1483
2	15.12	0.3998	-0.1343	0.0055	-0.1537	0.0392	-0.6004	0.1849	-0.1801	0.1601
2	15.12	0.4496	-0.1822	0.0063	-0.2098	0.0521	-0.8619	0.2614	-0.1383	0.1652
2	15.12	0.4995	-0.2607	0.0085	-0.2326	0.0664	-1.2247	0.3482	-0.3073	0.1642
2	15.12	0.5551	-0.2912	0.0102	-0.2845	0.0826	-1.6586	0.4534	-0.1416	0.1791
2	15.12	0.5996	-0.3204	0.0124	-0.3188	0.0972	-2.1030	0.5423	-0.1760	0.1799
2	15.12	0.6497	-0.4063	0.0147	-0.3580	0.1125	-2.6711	0.6421	-0.2511	0.1799
2	15.12	0.6996	-0.4420	0.0176	-0.3596	0.1305	-3.3148	0.7399	-0.2549	0.1966
2	15.12	0.7495	-0.5374	0.0216	-0.4204	0.1456	-3.9992	0.8315	-0.0987	0.1893
2	15.12	0.7996	-0.5846	0.0257	-0.4574	0.1621	-4.8006	0.9219	-0.2813	0.2080
2	15.12	0.8578	-0.6894	0.0315	-0.5075	0.1833	-5.7113	1.0226	-0.0633	0.2817
2	15.12	0.9727	-0.7384	0.0382	-0.6165	0.2223	-7.5377	1.2327	0.2783	0.2181
3	15.12	0.1938	0.0342	0.0083	0.0428	0.0035	-0.0463	0.0143	-0.0484	0.0470
3	15.12	0.2357	0.0843	0.0038	-0.0043	0.0048	-0.1335	0.0277	-0.0029	0.1287
3	15.12	0.2995	-0.0247	0.0036	0.1112	0.0124	-0.2852	0.0659	-0.0963	0.1371
3	15.12	0.3493	-0.0706	0.0051	0.1781	0.0207	-0.5067	0.1149	-0.1052	0.1480
3	15.12	0.4000	-0.0738	0.0050	0.2535	0.0319	-0.8150	0.1798	0.1432	0.1485
3	15.12	0.4497	-0.1718	0.0069	0.2777	0.0409	-1.2160	0.2540	-0.0091	0.1577
3	15.12	0.4997	-0.2062	0.0094	0.3233	0.0513	-1.6903	0.3357	-0.0746	0.1610
3	15.12	0.5556	-0.2986	0.0112	0.3330	0.0647	-2.3121	0.4318	-0.0119	0.1665
3	15.12	0.5995	-0.3314	0.0140	0.4919	0.0733	-2.8661	0.5053	-0.0001	0.1647
3	15.12	0.6498	-0.3734	0.0167	0.5156	0.0865	-3.6032	0.5879	-0.0195	0.1823
3	15.12	0.6890	-0.4194	0.0191	0.6575	0.0973	-4.2051	0.6481	0.1525	0.1748
3	15.12	0.7495	-0.7341	0.2199	0.2689	0.7293	-4.9930	0.9440	0.2074	0.1911
3	15.12	0.7998	-0.8532	0.2331	0.3797	0.7984	-5.8985	1.0034	0.1828	0.1935
3	15.12	0.8577	-0.9991	0.1673	0.4130	0.9000	-7.0183	0.9888	-0.3878	2.1989
3	15.12	0.9178	-1.1098	0.1025	0.4505	1.0648	-8.0753	1.3639	-0.0343	0.3029
3	15.12	0.9729	-1.1597	0.1068	0.4536	1.2155	-9.4609	1.0848	-1.1510	2.7464
4	15.12	0.2001	0.0200	0.0052	-0.0017	0.0045	-0.0569	0.0203	0.1119	0.0504
4	15.12	0.2502	0.0279	0.0044	0.0202	0.0089	-0.1396	0.0415	0.1531	0.0988
4	15.12	0.3001	-0.0223	0.0043	0.0223	0.0177	-0.2630	0.0878	0.2517	0.1178
4	15.12	0.3502	-0.0850	0.0058	0.0203	0.0306	-0.4533	0.1534	0.2994	0.1160
4	15.12	0.4002	-0.1269	0.0070	0.0577	0.0470	-0.7188	0.2385	0.2234	0.1291
4	15.12	0.4500	-0.1564	0.0084	0.1225	0.0639	-1.0608	0.3353	0.0854	0.1218
4	15.12	0.5001	-0.2220	0.0103	0.1403	0.0830	-1.4266	0.4470	0.3805	0.1289
4	15.12	0.5560	-0.2971	0.0141	0.1958	0.1048	-2.0046	0.5744	0.2214	0.1360
4	15.12	0.6001	-0.3061	0.0155	0.2342	0.1237	-2.5107	0.6848	0.1849	0.1295
4	15.12	0.6501	-0.3861	0.0206	0.2990	0.1430	-3.1386	0.8092	0.3525	0.1343
4	15.12	0.6999	-0.4534	0.0248	0.3439	0.1661	-3.8565	0.9420	0.3592	0.1394
4	15.12	0.7500	-0.4944	0.0309	0.3963	0.1877	-4.6587	1.0749	0.4359	0.1440
4	15.12	0.8002	-0.5944	0.0374	0.3672	0.2092	-5.5461	1.2130	0.3398	0.1587
4	15.12	0.8582	-0.6891	0.0481	0.4309	0.2369	-6.6316	1.3726	0.2217	0.1692
4	15.12	0.9728	-0.6243	0.0539	0.6139	0.2667	-8.8630	1.6959	0.4380	0.2731

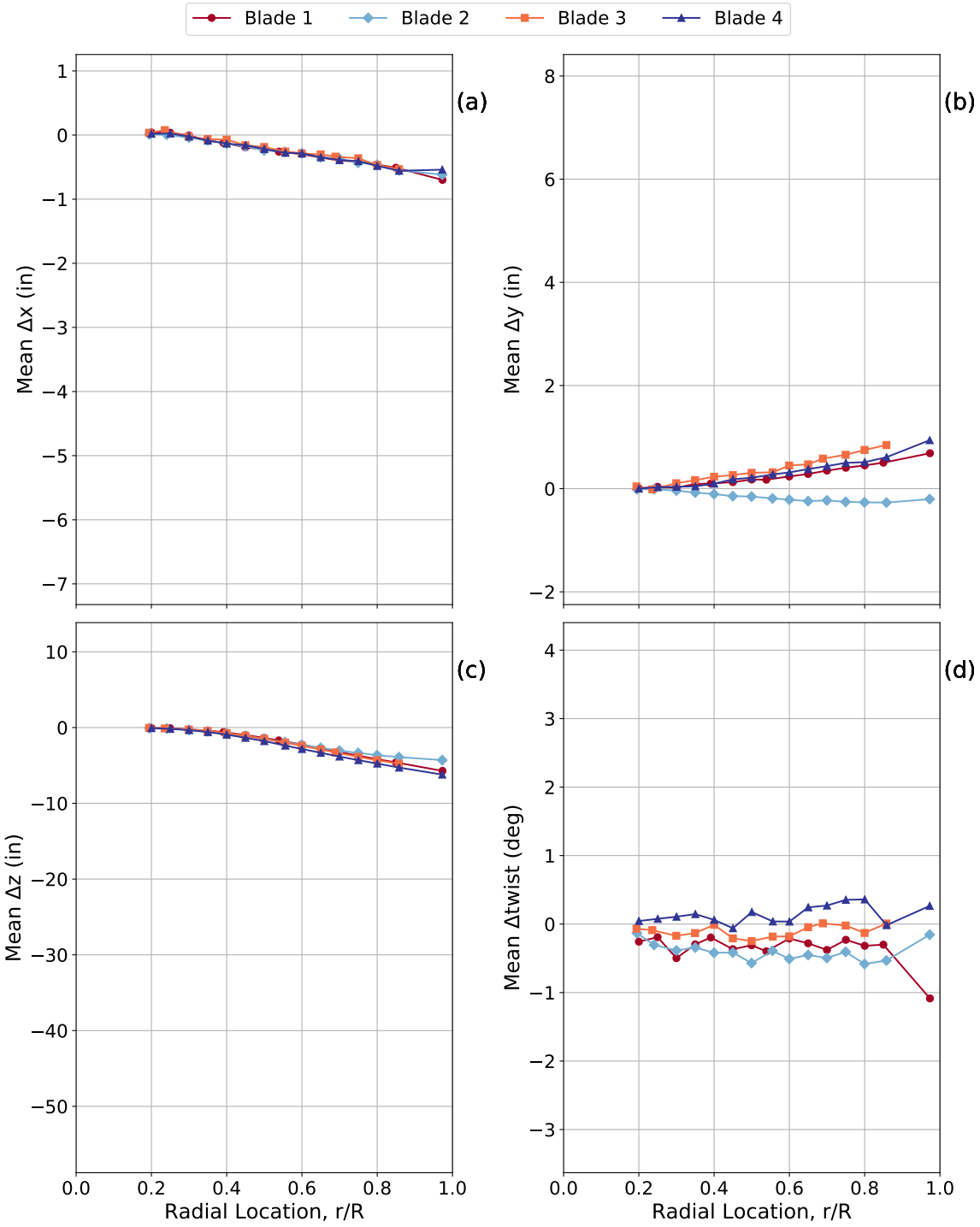


Figure 2.26-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0401	0.0068	0.0061	0.0046	-0.0591	0.0193	-0.2567	0.0579
1	29.88	0.2499	0.0365	0.0057	0.0357	0.0070	-0.0911	0.0380	-0.1910	0.1471
1	29.88	0.2998	-0.0052	0.0046	0.0179	0.0167	-0.2549	0.0836	-0.4980	0.1497
1	29.88	0.3498	-0.0859	0.0051	0.0905	0.0286	-0.4037	0.1448	-0.2960	0.1436
1	29.88	0.3913	-0.1212	0.0067	0.0996	0.0396	-0.5980	0.2092	-0.1960	0.1419
1	29.88	0.4496	-0.1914	0.0093	0.1261	0.0568	-0.9872	0.3262	-0.3665	0.1478
1	29.88	0.4997	-0.2234	0.0111	0.1772	0.0734	-1.3619	0.4416	-0.3095	0.1514
1	29.88	0.5387	-0.2591	0.0131	0.1735	0.0872	-1.6976	0.5392	-0.3977	0.1560
1	29.88	0.5996	-0.2972	0.0164	0.2363	0.1092	-2.2412	0.7043	-0.2110	0.1583
1	29.88	0.6498	-0.3522	0.0192	0.2847	0.1279	-2.7431	0.8453	-0.2808	0.1661
1	29.88	0.6998	-0.3935	0.0232	0.3502	0.1470	-3.2358	0.9911	-0.3779	0.1745
1	29.88	0.7500	-0.4196	0.0260	0.4046	0.1665	-3.7136	1.1367	-0.2296	0.1768
1	29.88	0.8001	-0.4602	0.0302	0.4510	0.1862	-4.1776	1.2918	-0.3171	0.1918
1	29.88	0.8497	-0.5094	0.0341	0.5037	0.2062	-4.5995	1.4471	-0.3007	0.1942
1	29.88	0.9734	-0.6992	0.0390	0.6866	0.2542	-5.7192	1.8472	-1.0855	0.2251
2	29.88	0.1949	0.0114	0.0055	-0.0121	0.0039	-0.0709	0.0112	-0.1323	0.0465
2	29.88	0.2405	0.0040	0.0032	-0.0109	0.0045	-0.1206	0.0215	-0.3045	0.1156
2	29.88	0.2999	-0.0399	0.0031	-0.0381	0.0128	-0.3081	0.0504	-0.3851	0.1273
2	29.88	0.3498	-0.0826	0.0039	-0.0762	0.0230	-0.5040	0.0891	-0.3425	0.1331
2	29.88	0.3998	-0.1333	0.0050	-0.1051	0.0333	-0.7916	0.1376	-0.4194	0.1299
2	29.88	0.4496	-0.1755	0.0053	-0.1452	0.0448	-1.1117	0.1960	-0.4158	0.1379
2	29.88	0.4995	-0.2386	0.0070	-0.1528	0.0581	-1.5079	0.2624	-0.5692	0.1435
2	29.88	0.5551	-0.2609	0.0091	-0.1900	0.0731	-1.9237	0.3456	-0.3893	0.1415
2	29.88	0.5996	-0.2849	0.0100	-0.2131	0.0865	-2.2961	0.4213	-0.5087	0.1507
2	29.88	0.6497	-0.3476	0.0125	-0.2411	0.1021	-2.6770	0.5147	-0.4512	0.1471
2	29.88	0.6996	-0.3671	0.0147	-0.2280	0.1181	-3.0443	0.6188	-0.4951	0.1542
2	29.88	0.7495	-0.4319	0.0164	-0.2552	0.1348	-3.3455	0.7341	-0.4056	0.1457
2	29.88	0.7996	-0.4635	0.0177	-0.2649	0.1527	-3.6434	0.8610	-0.5829	0.1518
2	29.88	0.8578	-0.5487	0.0222	-0.2700	0.1741	-3.9004	1.0176	-0.5317	0.1722
2	29.88	0.9727	-0.6175	0.0269	-0.2030	0.2168	-4.2939	1.3451	-0.1548	0.1910
3	29.88	0.1938	0.0347	0.0066	0.0436	0.0039	-0.0416	0.0122	-0.0676	0.0438
3	29.88	0.2357	0.0775	0.0047	-0.0123	0.0053	-0.1182	0.0226	-0.0887	0.0900
3	29.88	0.2995	-0.0216	0.0033	0.1055	0.0116	-0.2570	0.0545	-0.1715	0.1098
3	29.88	0.3493	-0.0631	0.0043	0.1645	0.0198	-0.4512	0.0970	-0.1314	0.1067
3	29.88	0.4000	-0.0713	0.0054	0.2306	0.0297	-0.7293	0.1503	-0.0107	0.1021
3	29.88	0.4497	-0.1588	0.0062	0.2636	0.0389	-1.0887	0.2102	-0.2085	0.1197
3	29.88	0.4997	-0.1865	0.0076	0.3072	0.0496	-1.4918	0.2788	-0.2485	0.1203
3	29.88	0.5556	-0.2568	0.0094	0.3169	0.0616	-1.9939	0.3614	-0.1826	0.1217
3	29.88	0.5995	-0.2852	0.0108	0.4485	0.0728	-2.4002	0.4314	-0.1794	0.1347
3	29.88	0.6498	-0.3033	0.0126	0.4717	0.0842	-2.8978	0.5175	-0.0452	0.1372
3	29.88	0.6890	-0.3363	0.0155	0.5823	0.0942	-3.2814	0.5902	0.0106	0.1548
3	29.88	0.7495	-0.3619	0.0172	0.6560	0.1105	-3.8645	0.7126	-0.0216	0.1552
3	29.88	0.7998	-0.4678	0.0203	0.7501	0.1230	-4.3103	0.8215	-0.1293	0.1618
3	29.88	0.8577	-0.5314	0.0265	0.8460	0.1368	-4.7714	0.9573	0.0083	0.1995
4	29.88	0.2001	0.0206	0.0043	0.0018	0.0029	-0.0776	0.0101	0.0447	0.0454
4	29.88	0.2502	0.0240	0.0035	0.0274	0.0048	-0.1719	0.0215	0.0766	0.0828
4	29.88	0.3001	-0.0237	0.0033	0.0366	0.0104	-0.3427	0.0438	0.1076	0.1037
4	29.88	0.3502	-0.0862	0.0042	0.0463	0.0176	-0.5957	0.0765	0.1454	0.0970
4	29.88	0.4002	-0.1328	0.0051	0.0973	0.0266	-0.9327	0.1194	0.0611	0.1013
4	29.88	0.4500	-0.1583	0.0067	0.1813	0.0355	-1.3554	0.1670	-0.0610	0.1070
4	29.88	0.5001	-0.2169	0.0080	0.2121	0.0453	-1.7865	0.2236	0.1762	0.1118
4	29.88	0.5560	-0.2769	0.0109	0.2760	0.0571	-2.3857	0.2962	0.0382	0.1115
4	29.88	0.6001	-0.2865	0.0120	0.3156	0.0669	-2.8300	0.3618	0.0367	0.1203
4	29.88	0.6501	-0.3457	0.0153	0.3795	0.0784	-3.3331	0.4536	0.2447	0.1134
4	29.88	0.6999	-0.3900	0.0187	0.4373	0.0895	-3.8299	0.5646	0.2705	0.1160
4	29.88	0.7500	-0.4061	0.0225	0.5005	0.1022	-4.3006	0.6967	0.3540	0.1357
4	29.88	0.8002	-0.4814	0.0246	0.5135	0.1157	-4.7542	0.8552	0.3601	0.1422
4	29.88	0.8582	-0.5576	0.0319	0.6099	0.1321	-5.2828	1.0636	-0.0158	0.1479
4	29.88	0.9728	-0.5394	0.0519	0.9394	0.1517	-6.2069	1.4832	0.2654	0.1888

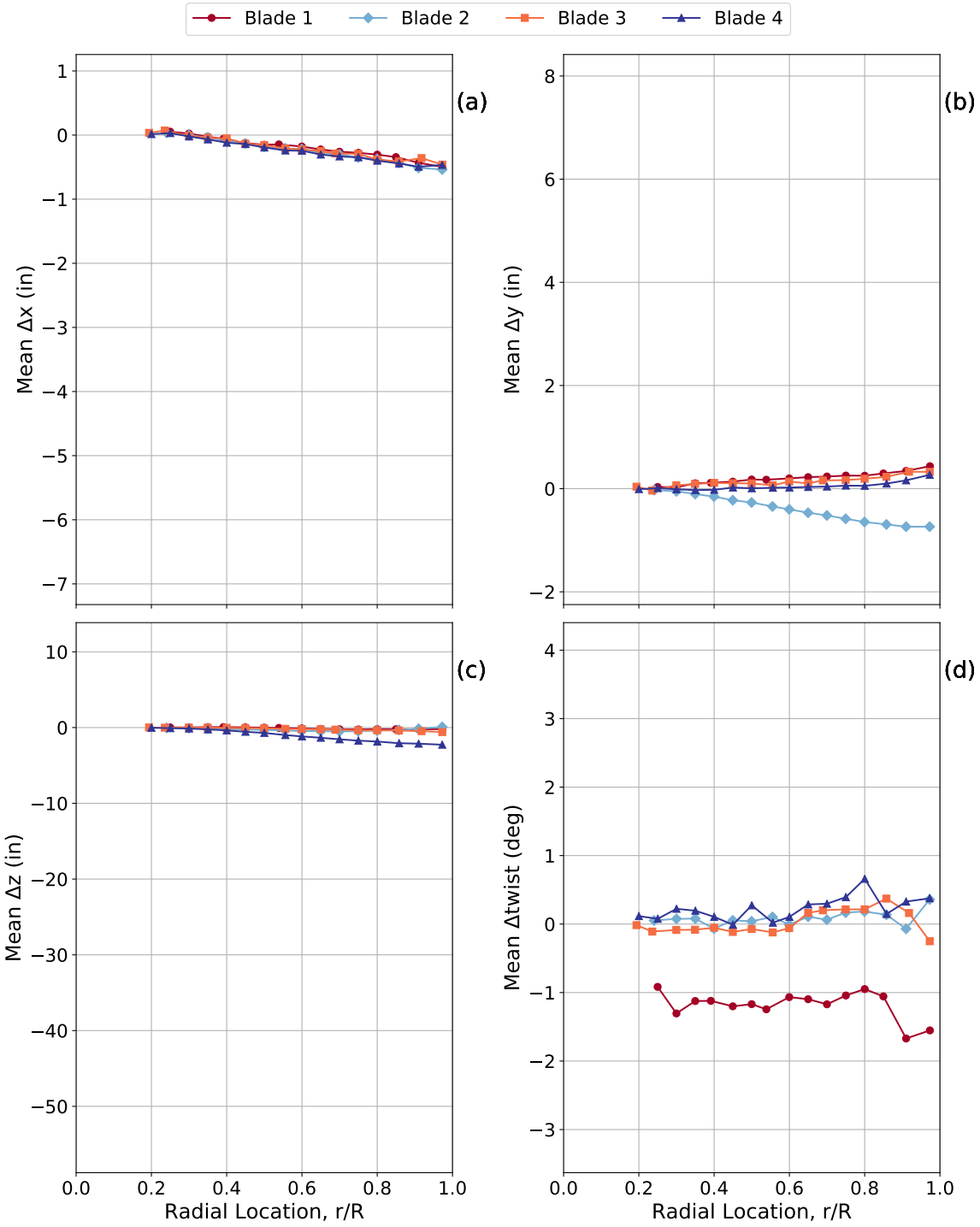


Figure 2.26-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2499	0.0534	0.0091	0.0318	0.0088	0.0208	0.0234	-0.9168	0.1775
1	45	0.2998	0.0232	0.0041	0.0274	0.0159	0.0193	0.0434	-1.3049	0.2526
1	45	0.3498	-0.0253	0.0085	0.1041	0.0293	0.0583	0.0762	-1.1235	0.2439
1	45	0.3913	-0.0586	0.0177	0.1139	0.0417	0.0633	0.1099	-1.1209	0.2522
1	45	0.4496	-0.1240	0.0357	0.1359	0.0599	0.0296	0.1669	-1.2009	0.2582
1	45	0.4997	-0.1515	0.0566	0.1772	0.0781	-0.0084	0.2247	-1.1695	0.2634
1	45	0.5387	-0.1453	0.0369	0.1731	0.1972	-0.0476	0.3842	-1.2444	0.2456
1	45	0.5996	-0.1784	0.0381	0.1991	0.2251	-0.1110	0.4551	-1.0665	0.2508
1	45	0.6498	-0.2242	0.0385	0.2236	0.2486	-0.1782	0.5141	-1.0969	0.2527
1	45	0.6998	-0.2597	0.0386	0.2350	0.2719	-0.2217	0.5753	-1.1713	0.2586
1	45	0.7500	-0.2769	0.0389	0.2533	0.2952	-0.2449	0.6400	-1.0431	0.2629
1	45	0.8001	-0.3049	0.0388	0.2508	0.3184	-0.2111	0.7168	-0.9488	0.2674
1	45	0.8497	-0.3436	0.0389	0.2948	0.3409	-0.2194	0.8101	-1.0563	0.2670
1	45	0.9102	-0.4318	0.0384	0.3435	0.3683	-0.2388	0.9472	-1.6708	0.2767
1	45	0.9734	-0.4977	0.0391	0.4354	0.3978	-0.1909	1.1157	-1.5526	0.2758
2	45	0.2405	0.0357	0.0048	-0.0270	0.0063	-0.0370	0.0206	0.0524	0.1020
2	45	0.2999	-0.0039	0.0029	-0.0512	0.0131	-0.0826	0.0462	0.0761	0.1583
2	45	0.3498	-0.0369	0.0037	-0.1040	0.0243	-0.1216	0.0821	0.0792	0.1502
2	45	0.3998	-0.0898	0.0038	-0.1537	0.0371	-0.1960	0.1294	-0.0661	0.1562
2	45	0.4496	-0.1299	0.0041	-0.2242	0.0514	-0.2433	0.1860	0.0544	0.1575
2	45	0.4995	-0.1848	0.0047	-0.2681	0.0666	-0.3127	0.2487	0.0404	0.1591
2	45	0.5551	-0.2075	0.0049	-0.3457	0.0848	-0.3822	0.3237	0.1046	0.1598
2	45	0.5996	-0.2182	0.0057	-0.4012	0.1010	-0.4607	0.3852	-0.0086	0.1582
2	45	0.6497	-0.2814	0.0062	-0.4668	0.1193	-0.4762	0.4502	0.1076	0.1604
2	45	0.6996	-0.3010	0.0068	-0.5193	0.1394	-0.5048	0.5133	0.0638	0.1647
2	45	0.7495	-0.3500	0.0078	-0.5841	0.1591	-0.4763	0.5707	0.1676	0.1678
2	45	0.7996	-0.3728	0.0084	-0.6460	0.1798	-0.4058	0.6301	0.1835	0.1688
2	45	0.8578	-0.4352	0.0100	-0.6935	0.2052	-0.3124	0.7046	0.1362	0.1674
2	45	0.9100	-0.5105	0.0087	-0.7375	0.2284	-0.1573	0.7785	-0.0696	0.1823
2	45	0.9727	-0.5373	0.0167	-0.7375	0.2568	0.0828	0.8754	0.3597	0.1891
3	45	0.1938	0.0345	0.0070	0.0381	0.0054	0.0133	0.0114	-0.0159	0.0482
3	45	0.2357	0.0719	0.0038	-0.0359	0.0047	-0.0213	0.0216	-0.1095	0.1465
3	45	0.2995	-0.0109	0.0031	0.0647	0.0155	0.0021	0.0494	-0.0853	0.1491
3	45	0.3493	-0.0427	0.0038	0.0911	0.0269	-0.0095	0.0860	-0.0831	0.1566
3	45	0.4000	-0.0511	0.0041	0.1111	0.0391	-0.0316	0.1345	-0.0530	0.1626
3	45	0.4497	-0.1335	0.0043	0.1052	0.0515	-0.0674	0.1938	-0.1146	0.1676
3	45	0.4997	-0.1549	0.0048	0.1024	0.0650	-0.0942	0.2621	-0.0716	0.1665
3	45	0.5556	-0.2090	0.0049	0.0648	0.0798	-0.1678	0.3444	-0.1220	0.1765
3	45	0.5995	-0.2253	0.0051	0.1382	0.0929	-0.1996	0.4102	-0.0594	0.1698
3	45	0.6498	-0.2483	0.0060	0.1013	0.1061	-0.2208	0.4824	0.1627	0.1734
3	45	0.6890	-0.2874	0.0063	0.1593	0.1186	-0.2739	0.5380	0.2014	0.1698
3	45	0.7495	-0.2928	0.0063	0.1660	0.1366	-0.3559	0.6242	0.2151	0.1798
3	45	0.7998	-0.3813	0.0069	0.1915	0.1523	-0.3569	0.6964	0.2147	0.1785
3	45	0.8577	-0.4126	0.0071	0.2291	0.1699	-0.3937	0.7886	0.3719	0.1834
3	45	0.9178	-0.3591	0.0076	0.3272	0.1894	-0.4734	0.8908	0.1616	0.2085
3	45	0.9729	-0.4610	0.0163	0.3265	0.2078	-0.5939	0.9934	-0.2505	0.2195
4	45	0.2001	0.0148	0.0051	-0.0095	0.0034	-0.0302	0.0095	0.1161	0.0536
4	45	0.2502	0.0308	0.0036	0.0093	0.0054	-0.0804	0.0229	0.0771	0.1077
4	45	0.3001	-0.0217	0.0039	-0.0121	0.0114	-0.1289	0.0426	0.2230	0.1289
4	45	0.3502	-0.0681	0.0038	-0.0278	0.0206	-0.2461	0.0755	0.1951	0.1136
4	45	0.4002	-0.1188	0.0048	-0.0225	0.0300	-0.3741	0.1181	0.1052	0.1180
4	45	0.4500	-0.1405	0.0044	0.0219	0.0408	-0.5610	0.1699	-0.0095	0.1237
4	45	0.5001	-0.1934	0.0052	0.0069	0.0524	-0.7062	0.2317	0.2740	0.1215
4	45	0.5560	-0.2407	0.0063	0.0181	0.0666	-0.9924	0.3114	0.0199	0.1280
4	45	0.6001	-0.2444	0.0060	0.0217	0.0783	-1.1679	0.3808	0.1051	0.1255
4	45	0.6501	-0.3037	0.0069	0.0322	0.0923	-1.3487	0.4668	0.2866	0.1292
4	45	0.6999	-0.3334	0.0073	0.0405	0.1070	-1.5515	0.5603	0.2969	0.1327
4	45	0.7500	-0.3471	0.0075	0.0586	0.1222	-1.7250	0.6589	0.3929	0.1396
4	45	0.8002	-0.3997	0.0083	0.0554	0.1374	-1.8496	0.7641	0.6609	0.1429
4	45	0.8582	-0.4425	0.0090	0.0985	0.1558	-2.0643	0.8922	0.1475	0.1431
4	45	0.9101	-0.4948	0.0117	0.1609	0.1726	-2.1274	1.0110	0.3281	0.1479
4	45	0.9728	-0.4656	0.0113	0.2682	0.1923	-2.2665	1.1568	0.3768	0.1695

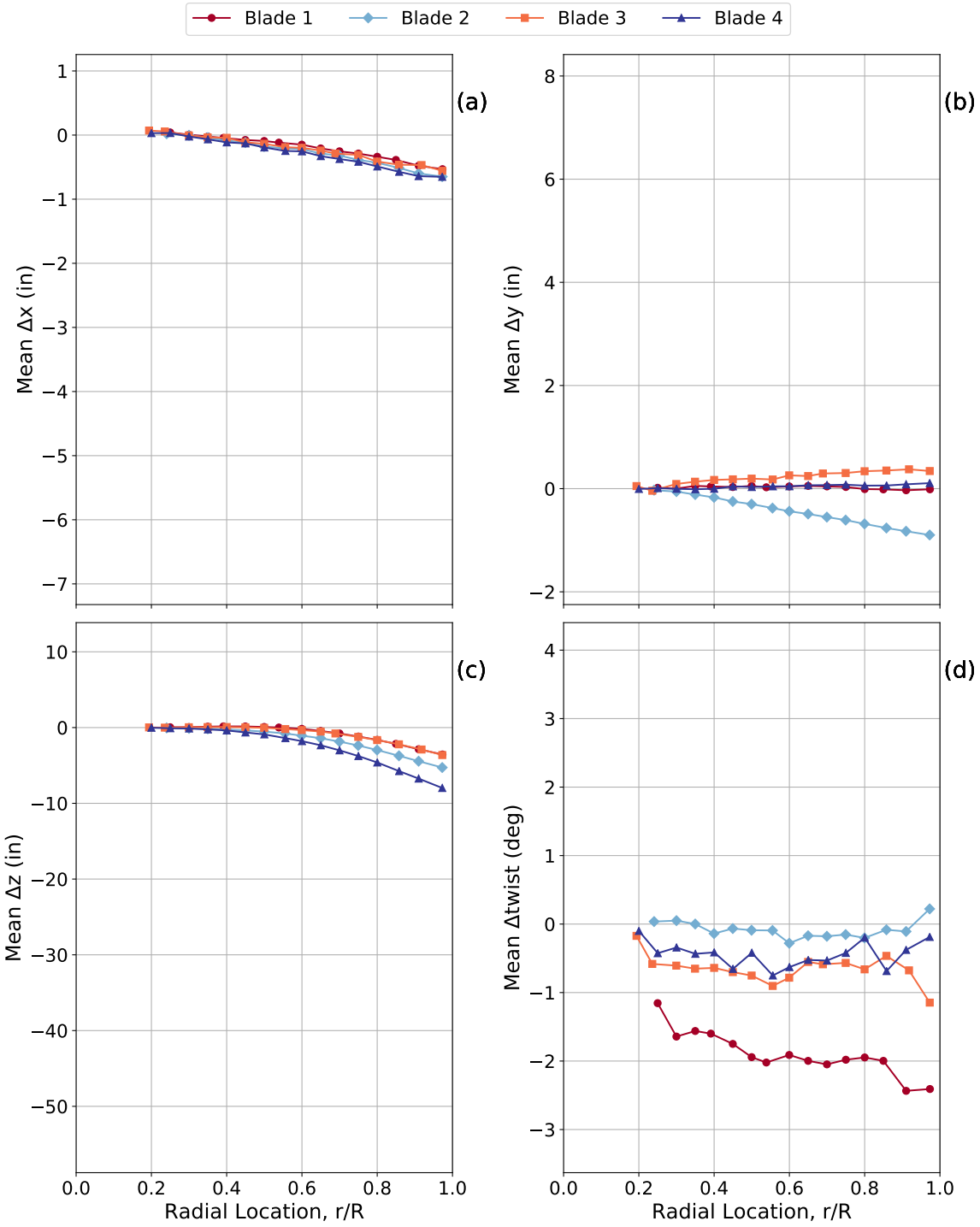


Figure 2.26-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2499	0.0409	0.0106	0.0167	0.0121	0.0392	0.0381	-1.1547	0.2139
1	60.12	0.2998	0.0061	0.0043	0.0008	0.0223	0.0547	0.0700	-1.6426	0.3028
1	60.12	0.3498	-0.0229	0.0100	0.0537	0.0407	0.1211	0.1223	-1.5612	0.2961
1	60.12	0.3913	-0.0448	0.0159	0.0429	0.0584	0.1551	0.1762	-1.5995	0.2892
1	60.12	0.4496	-0.0766	0.0233	0.0317	0.0857	0.1464	0.2604	-1.7497	0.2922
1	60.12	0.4997	-0.0922	0.0290	0.0521	0.1127	0.0786	0.3429	-1.9429	0.2945
1	60.12	0.5387	-0.1180	0.0324	0.0266	0.1353	0.0067	0.4096	-2.0213	0.2937
1	60.12	0.5996	-0.1491	0.0362	0.0433	0.1729	-0.1682	0.5158	-1.9112	0.2973
1	60.12	0.6498	-0.2081	0.0542	0.0536	0.1957	-0.4503	0.6610	-1.9972	0.3035
1	60.12	0.6998	-0.2533	0.0546	0.0432	0.2171	-0.7770	0.7519	-2.0485	0.3045
1	60.12	0.7500	-0.2884	0.0546	0.0327	0.2389	-1.1852	0.8404	-1.9809	0.3087
1	60.12	0.8001	-0.3382	0.0540	-0.0084	0.2612	-1.6270	0.9296	-1.9476	0.3091
1	60.12	0.8497	-0.3875	0.0538	-0.0139	0.2835	-2.1520	1.0195	-1.9971	0.3093
1	60.12	0.9102	-0.4780	0.0541	-0.0310	0.3112	-2.8563	1.1329	-2.4351	0.3210
1	60.12	0.9734	-0.5319	0.0558	-0.0125	0.3404	-3.5543	1.2542	-2.4084	0.3243
2	60.12	0.2405	0.0206	0.0067	-0.0298	0.0074	-0.0469	0.0261	0.0365	0.1622
2	60.12	0.2999	-0.0038	0.0034	-0.0570	0.0150	-0.1080	0.0566	0.0504	0.2519
2	60.12	0.3498	-0.0398	0.0040	-0.1144	0.0281	-0.1614	0.1022	0.0009	0.2416
2	60.12	0.3998	-0.0856	0.0041	-0.1695	0.0426	-0.2626	0.1591	-0.1388	0.2454
2	60.12	0.4496	-0.1170	0.0050	-0.2485	0.0572	-0.3738	0.2249	-0.0652	0.2470
2	60.12	0.4995	-0.1791	0.0053	-0.2996	0.0724	-0.5301	0.2984	-0.0899	0.2537
2	60.12	0.5551	-0.2080	0.0062	-0.3768	0.0906	-0.7794	0.3881	-0.0929	0.2572
2	60.12	0.5996	-0.2182	0.0069	-0.4384	0.1056	-1.0675	0.4642	-0.2797	0.2609
2	60.12	0.6497	-0.2881	0.0084	-0.4910	0.1226	-1.4063	0.5510	-0.1702	0.2640
2	60.12	0.6996	-0.3202	0.0109	-0.5513	0.1398	-1.8513	0.6397	-0.1781	0.2750
2	60.12	0.7495	-0.3857	0.0137	-0.6095	0.1577	-2.3661	0.7333	-0.1533	0.2833
2	60.12	0.7996	-0.4317	0.0177	-0.6828	0.1759	-2.9611	0.8336	-0.2022	0.2863
2	60.12	0.8578	-0.5129	0.0232	-0.7631	0.1976	-3.7293	0.9601	-0.0831	0.2932
2	60.12	0.9100	-0.5979	0.0274	-0.8253	0.2169	-4.4389	1.0817	-0.1076	0.2984
2	60.12	0.9727	-0.6482	0.0323	-0.8981	0.2406	-5.2756	1.2343	0.2217	0.3181
3	60.12	0.1938	0.0708	0.0326	0.0499	0.0159	0.0238	0.0192	-0.1723	0.0938
3	60.12	0.2357	0.0561	0.0042	-0.0408	0.0060	-0.0096	0.0221	-0.5820	0.3107
3	60.12	0.2995	-0.0056	0.0034	0.0907	0.0455	0.0395	0.0670	-0.6067	0.3147
3	60.12	0.3493	-0.0360	0.0036	0.1347	0.0787	0.0587	0.1146	-0.6512	0.3119
3	60.12	0.4000	-0.0432	0.0033	0.1690	0.1125	0.0688	0.1739	-0.6399	0.3137
3	60.12	0.4497	-0.1139	0.0031	0.1805	0.1459	0.0338	0.2377	-0.7014	0.3158
3	60.12	0.4997	-0.1364	0.0035	0.1946	0.1804	-0.0334	0.3084	-0.7516	0.3229
3	60.12	0.5556	-0.1891	0.0038	0.1776	0.2192	-0.1959	0.3914	-0.9032	0.3232
3	60.12	0.5995	-0.1991	0.0043	0.2580	0.2512	-0.3327	0.4574	-0.7829	0.3235
3	60.12	0.6498	-0.2408	0.0049	0.2445	0.2865	-0.5324	0.5351	-0.5532	0.3269
3	60.12	0.6890	-0.2881	0.0059	0.2942	0.3159	-0.7778	0.5998	-0.5874	0.3297
3	60.12	0.7495	-0.3097	0.0076	0.3032	0.3610	-1.2351	0.7074	-0.5669	0.3372
3	60.12	0.7998	-0.4126	0.0101	0.3380	0.3979	-1.6525	0.8066	-0.6610	0.3368
3	60.12	0.8577	-0.4626	0.0139	0.3515	0.4411	-2.2120	0.9348	-0.4643	0.3396
3	60.12	0.9178	-0.4675	0.0170	0.3751	0.4856	-2.8964	1.0799	-0.6759	0.3417
3	60.12	0.9729	-0.5572	0.0199	0.3417	0.5275	-3.6276	1.2184	-1.1467	0.3431
4	60.12	0.2001	0.0304	0.0080	-0.0058	0.0037	-0.0249	0.0123	-0.1002	0.0748
4	60.12	0.2502	0.0315	0.0037	0.0093	0.0051	-0.0909	0.0242	-0.4254	0.1750
4	60.12	0.3001	-0.0228	0.0029	-0.0030	0.0118	-0.1252	0.0503	-0.3423	0.1899
4	60.12	0.3502	-0.0666	0.0034	-0.0115	0.0203	-0.2441	0.0859	-0.4344	0.1873
4	60.12	0.4002	-0.1140	0.0036	-0.0019	0.0297	-0.3802	0.1334	-0.4138	0.1835
4	60.12	0.4500	-0.1299	0.0038	0.0442	0.0399	-0.6463	0.1875	-0.6546	0.1969
4	60.12	0.5001	-0.1932	0.0044	0.0316	0.0510	-0.9030	0.2479	-0.4198	0.1966
4	60.12	0.5560	-0.2477	0.0051	0.0447	0.0641	-1.3936	0.3175	-0.7508	0.1997
4	60.12	0.6001	-0.2540	0.0063	0.0459	0.0748	-1.7947	0.3719	-0.6284	0.2065
4	60.12	0.6501	-0.3289	0.0074	0.0652	0.0875	-2.3406	0.4314	-0.5241	0.2090
4	60.12	0.6999	-0.3735	0.0089	0.0692	0.1003	-3.0076	0.4876	-0.5326	0.2166
4	60.12	0.7500	-0.4160	0.0113	0.0765	0.1140	-3.7638	0.5413	-0.4215	0.2247
4	60.12	0.8002	-0.4898	0.0146	0.0587	0.1281	-4.6107	0.5933	-0.1979	0.2242
4	60.12	0.8582	-0.5732	0.0180	0.0608	0.1453	-5.7533	0.6545	-0.6862	0.2283
4	60.12	0.9101	-0.6407	0.0213	0.0842	0.1611	-6.7368	0.7135	-0.3773	0.2234
4	60.12	0.9728	-0.6517	0.0249	0.1071	0.1802	-7.9762	0.7894	-0.1881	0.2268

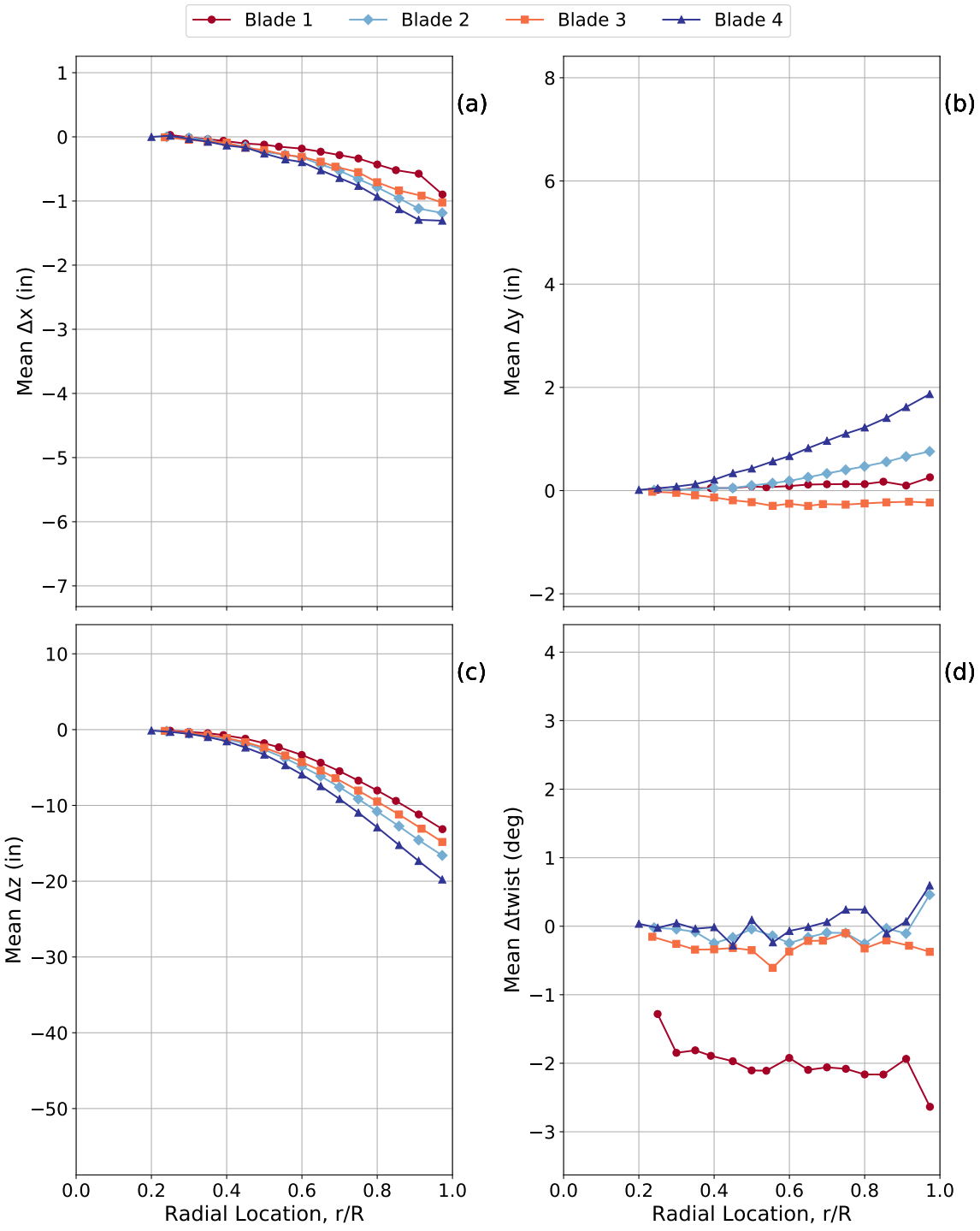


Figure 2.26-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2499	0.0287	0.0113	0.0152	0.0118	-0.1469	0.0407	-1.2812	0.3706
1	74.88	0.2998	-0.0075	0.0054	0.0081	0.0208	-0.2974	0.0706	-1.8476	0.5258
1	74.88	0.3498	-0.0374	0.0130	0.0493	0.0394	-0.4758	0.1317	-1.8113	0.5032
1	74.88	0.3913	-0.0618	0.0198	0.0481	0.0555	-0.7170	0.1847	-1.8914	0.4959
1	74.88	0.4496	-0.1048	0.0277	0.0491	0.0788	-1.1958	0.2618	-1.9700	0.4964
1	74.88	0.4997	-0.1217	0.0313	0.0808	0.1008	-1.7940	0.3319	-2.1044	0.4987
1	74.88	0.5387	-0.1533	0.0334	0.0650	0.1183	-2.3277	0.3902	-2.1091	0.4984
1	74.88	0.5996	-0.1837	0.0363	0.0876	0.1473	-3.3418	0.4872	-1.9223	0.4990
1	74.88	0.6498	-0.2318	0.0389	0.1171	0.1731	-4.3695	0.5743	-2.0966	0.5022
1	74.88	0.6998	-0.2842	0.0424	0.1232	0.2000	-5.4836	0.6705	-2.0598	0.5023
1	74.88	0.7500	-0.3374	0.0475	0.1266	0.2297	-6.7325	0.7783	-2.0813	0.5077
1	74.88	0.8001	-0.4307	0.0553	0.1260	0.2620	-8.0340	0.8971	-2.1635	0.5115
1	74.88	0.8497	-0.5193	0.0685	0.1732	0.2981	-9.4051	1.0259	-2.1645	0.5209
1	74.88	0.9102	-0.5752	0.0995	0.0989	0.3517	-11.1916	1.1941	-1.9359	0.5426
1	74.88	0.9734	-0.8989	0.0973	0.2574	0.4932	-13.1351	1.4191	-2.6355	0.5047
2	74.88	0.2405	0.0014	0.0060	0.0071	0.0052	-0.2026	0.0193	-0.0220	0.1218
2	74.88	0.2999	-0.0160	0.0059	0.0199	0.0105	-0.4711	0.0421	-0.0420	0.1903
2	74.88	0.3498	-0.0506	0.0060	0.0274	0.0197	-0.7782	0.0753	-0.0832	0.1814
2	74.88	0.3998	-0.1081	0.0072	0.0481	0.0298	-1.2517	0.1176	-0.2475	0.1752
2	74.88	0.4496	-0.1484	0.0095	0.0500	0.0407	-1.8639	0.1682	-0.1637	0.1751
2	74.88	0.4995	-0.2357	0.0119	0.0985	0.0527	-2.6369	0.2276	-0.0411	0.1801
2	74.88	0.5551	-0.2788	0.0167	0.1443	0.0678	-3.7691	0.3054	-0.1393	0.1827
2	74.88	0.5996	-0.3206	0.0214	0.1877	0.0807	-4.8450	0.3781	-0.2474	0.1776
2	74.88	0.6497	-0.4304	0.0290	0.2584	0.0958	-6.1458	0.4688	-0.1624	0.1805
2	74.88	0.6996	-0.5279	0.0380	0.3311	0.1122	-7.5864	0.5718	-0.0944	0.1794
2	74.88	0.7495	-0.6583	0.0501	0.4017	0.1283	-9.1450	0.6882	-0.0992	0.1823
2	74.88	0.7996	-0.7851	0.0640	0.4691	0.1454	-10.7916	0.8165	-0.2567	0.1826
2	74.88	0.8578	-0.9580	0.0820	0.5576	0.1656	-12.7410	0.9771	-0.0316	0.1855
2	74.88	0.9100	-1.1186	0.0968	0.6599	0.1839	-14.5654	1.1264	-0.1066	0.1856
2	74.88	0.9727	-1.1867	0.1119	0.7586	0.2056	-16.6014	1.3104	0.4600	0.2056
3	74.88	0.2357	-0.0069	0.0058	-0.0219	0.0051	-0.1743	0.0174	-0.1537	0.0987
3	74.88	0.2995	-0.0457	0.0050	-0.0425	0.0113	-0.4123	0.0426	-0.2580	0.1603
3	74.88	0.3493	-0.0739	0.0054	-0.0904	0.0210	-0.6985	0.0729	-0.3416	0.1472
3	74.88	0.4000	-0.0907	0.0066	-0.1318	0.0321	-1.1100	0.1165	-0.3376	0.1577
3	74.88	0.4497	-0.1708	0.0081	-0.1879	0.0428	-1.6598	0.1672	-0.3175	0.1635
3	74.88	0.4997	-0.2069	0.0112	-0.2244	0.0550	-2.3840	0.2267	-0.3489	0.1705
3	74.88	0.5556	-0.2820	0.0151	-0.2955	0.0701	-3.4053	0.3033	-0.6077	0.1826
3	74.88	0.5995	-0.3118	0.0195	-0.2537	0.0822	-4.2848	0.3709	-0.3690	0.1926
3	74.88	0.6498	-0.3873	0.0250	-0.2969	0.0964	-5.4032	0.4572	-0.2145	0.1989
3	74.88	0.6890	-0.4659	0.0314	-0.2615	0.1084	-6.3982	0.5337	-0.2103	0.2065
3	74.88	0.7495	-0.5514	0.0430	-0.2718	0.1270	-8.0384	0.6685	-0.1011	0.2126
3	74.88	0.7998	-0.7082	0.0541	-0.2485	0.1429	-9.4837	0.7938	-0.3245	0.2148
3	74.88	0.8577	-0.8365	0.0695	-0.2275	0.1609	-11.1920	0.9502	-0.2057	0.2155
3	74.88	0.9178	-0.9181	0.0850	-0.2156	0.1807	-13.0712	1.1209	-0.2841	0.2226
3	74.88	0.9729	-1.0247	0.0955	-0.2310	0.1994	-14.8239	1.2830	-0.3737	0.2328
4	74.88	0.2001	-0.0016	0.0054	0.0140	0.0031	-0.1222	0.0112	0.0356	0.0553
4	74.88	0.2502	0.0175	0.0050	0.0450	0.0060	-0.3022	0.0267	-0.0234	0.1200
4	74.88	0.3001	-0.0321	0.0050	0.0789	0.0114	-0.5589	0.0500	0.0446	0.1338
4	74.88	0.3502	-0.0763	0.0056	0.1250	0.0200	-0.9819	0.0882	-0.0364	0.1351
4	74.88	0.4002	-0.1348	0.0070	0.2115	0.0304	-1.5447	0.1384	-0.0143	0.1381
4	74.88	0.4500	-0.1675	0.0104	0.3382	0.0416	-2.3677	0.1980	-0.2819	0.1489
4	74.88	0.5001	-0.2609	0.0143	0.4277	0.0545	-3.2992	0.2688	0.0915	0.1519
4	74.88	0.5560	-0.3513	0.0204	0.5668	0.0703	-4.7031	0.3577	-0.2354	0.1537
4	74.88	0.6001	-0.3945	0.0268	0.6699	0.0835	-5.9287	0.4333	-0.0691	0.1636
4	74.88	0.6501	-0.5215	0.0355	0.8231	0.0987	-7.4641	0.5258	-0.0111	0.1655
4	74.88	0.6999	-0.6418	0.0454	0.9639	0.1148	-9.1564	0.6245	0.0624	0.1656
4	74.88	0.7500	-0.7644	0.0574	1.1029	0.1318	-10.9627	0.7306	0.2420	0.1679
4	74.88	0.8002	-0.9319	0.0711	1.2234	0.1489	-12.8984	0.8419	0.2421	0.1736
4	74.88	0.8582	-1.1278	0.0873	1.4085	0.1695	-15.2346	0.9761	-0.1033	0.1815
4	74.88	0.9101	-1.2935	0.1018	1.6182	0.1879	-17.3331	1.1006	0.0694	0.1850
4	74.88	0.9728	-1.3071	0.1168	1.8701	0.2096	-19.7817	1.2553	0.5950	0.2017

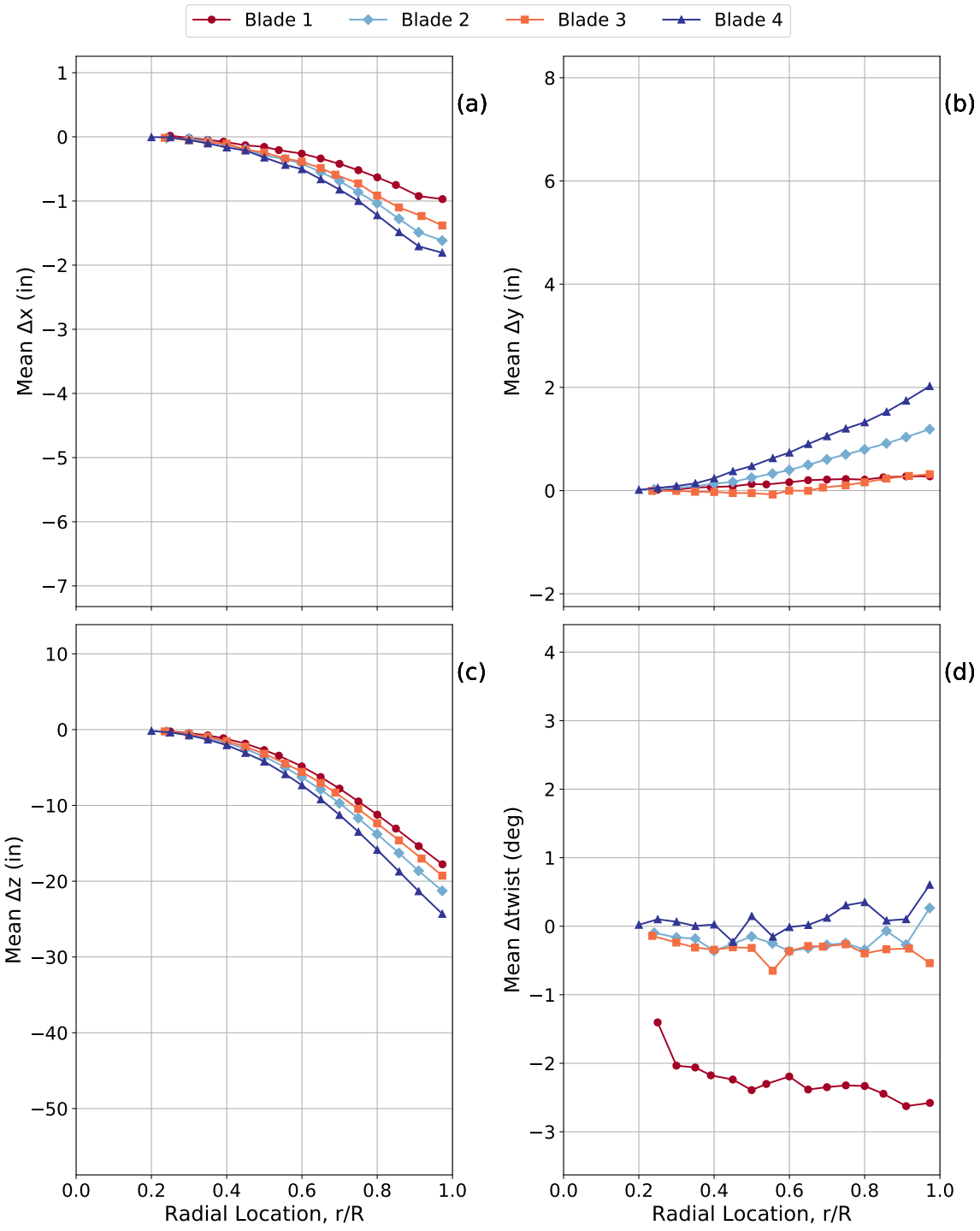


Figure 2.26-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2499	0.0167	0.0138	0.0185	0.0110	-0.2372	0.0387	-1.4034	0.3105
1	80.16	0.2998	-0.0170	0.0063	0.0176	0.0194	-0.4680	0.0682	-2.0349	0.4411
1	80.16	0.3498	-0.0475	0.0150	0.0604	0.0366	-0.7624	0.1243	-2.0617	0.4075
1	80.16	0.3913	-0.0755	0.0235	0.0682	0.0516	-1.1359	0.1753	-2.1763	0.4140
1	80.16	0.4496	-0.1317	0.0317	0.0829	0.0737	-1.8451	0.2561	-2.2377	0.4167
1	80.16	0.4997	-0.1564	0.0383	0.1271	0.0949	-2.6980	0.3327	-2.3918	0.4221
1	80.16	0.5387	-0.2071	0.0410	0.1199	0.1124	-3.4416	0.3978	-2.3022	0.4169
1	80.16	0.5996	-0.2618	0.0468	0.1609	0.1409	-4.8484	0.5085	-2.1933	0.4235
1	80.16	0.6498	-0.3372	0.0518	0.2015	0.1664	-6.2575	0.6115	-2.3834	0.4237
1	80.16	0.6998	-0.4208	0.0579	0.2145	0.1927	-7.7807	0.7222	-2.3489	0.4286
1	80.16	0.7500	-0.5200	0.0654	0.2238	0.2205	-9.4731	0.8470	-2.3227	0.4312
1	80.16	0.8001	-0.6310	0.0745	0.2124	0.2495	-11.2243	0.9846	-2.3322	0.4381
1	80.16	0.8497	-0.7505	0.0861	0.2568	0.2797	-13.0564	1.1328	-2.4452	0.4423
1	80.16	0.9102	-0.9231	0.1065	0.2770	0.3195	-15.3735	1.3260	-2.6258	0.4576
1	80.16	0.9734	-0.9707	0.1475	0.2762	0.3708	-17.7719	1.5409	-2.5786	0.4927
2	80.16	0.2405	-0.0202	0.0075	0.0220	0.0062	-0.2807	0.0273	-0.0966	0.1428
2	80.16	0.2999	-0.0299	0.0094	0.0503	0.0123	-0.6471	0.0595	-0.1641	0.2234
2	80.16	0.3498	-0.0685	0.0107	0.0841	0.0236	-1.0757	0.1060	-0.1811	0.1972
2	80.16	0.3998	-0.1315	0.0126	0.1344	0.0353	-1.7244	0.1653	-0.3602	0.2064
2	80.16	0.4496	-0.1876	0.0168	0.1683	0.0486	-2.5446	0.2377	-0.2563	0.2087
2	80.16	0.4995	-0.2876	0.0222	0.2500	0.0628	-3.5508	0.3215	-0.1500	0.2185
2	80.16	0.5551	-0.3500	0.0300	0.3291	0.0807	-4.9667	0.4249	-0.2517	0.2166
2	80.16	0.5996	-0.4156	0.0377	0.3983	0.0962	-6.2809	0.5159	-0.3625	0.2157
2	80.16	0.6497	-0.5506	0.0485	0.4996	0.1138	-7.9091	0.6217	-0.3210	0.2208
2	80.16	0.6996	-0.6863	0.0612	0.6047	0.1325	-9.7093	0.7353	-0.2711	0.2192
2	80.16	0.7495	-0.8616	0.0765	0.7004	0.1515	-11.6851	0.8576	-0.2470	0.2259
2	80.16	0.7996	-1.0369	0.0944	0.7964	0.1710	-13.7869	0.9893	-0.3433	0.2301
2	80.16	0.8578	-1.2784	0.1176	0.9142	0.1943	-16.2884	1.1548	-0.0677	0.2270
2	80.16	0.9100	-1.4880	0.1383	1.0368	0.2154	-18.6400	1.3109	-0.2691	0.2303
2	80.16	0.9727	-1.6166	0.1607	1.1902	0.2403	-21.2676	1.5045	0.2657	0.2302
3	80.16	0.2357	-0.0152	0.0061	-0.0056	0.0044	-0.2356	0.0197	-0.1409	0.1058
3	80.16	0.2995	-0.0523	0.0071	-0.0056	0.0101	-0.5617	0.0478	-0.2380	0.1725
3	80.16	0.3493	-0.0838	0.0073	-0.0228	0.0182	-0.9540	0.0818	-0.3110	0.1590
3	80.16	0.4000	-0.1078	0.0089	-0.0269	0.0282	-1.5190	0.1306	-0.3431	0.1622
3	80.16	0.4497	-0.1992	0.0124	-0.0468	0.0379	-2.2466	0.1896	-0.3073	0.1705
3	80.16	0.4997	-0.2428	0.0157	-0.0473	0.0475	-3.1782	0.2586	-0.3171	0.1690
3	80.16	0.5556	-0.3390	0.0217	-0.0759	0.0601	-4.4688	0.3453	-0.6498	0.1703
3	80.16	0.5995	-0.3872	0.0277	-0.0006	0.0696	-5.5750	0.4205	-0.3646	0.1731
3	80.16	0.6498	-0.4865	0.0362	-0.0046	0.0805	-7.0274	0.5120	-0.2895	0.1752
3	80.16	0.6890	-0.5902	0.0440	0.0600	0.0896	-8.3141	0.5889	-0.2978	0.1793
3	80.16	0.7495	-0.7256	0.0580	0.1016	0.1040	-10.4639	0.7171	-0.2619	0.1802
3	80.16	0.7998	-0.9164	0.0717	0.1605	0.1166	-12.3569	0.8303	-0.3973	0.1856
3	80.16	0.8577	-1.1008	0.0891	0.2328	0.1311	-14.6046	0.9703	-0.3366	0.1904
3	80.16	0.9178	-1.2342	0.1074	0.2827	0.1470	-17.0166	1.1233	-0.3261	0.1880
3	80.16	0.9729	-1.3820	0.1230	0.3176	0.1614	-19.2668	1.2714	-0.5388	0.2015
4	80.16	0.2001	-0.0058	0.0055	0.0152	0.0033	-0.1725	0.0144	0.0208	0.0632
4	80.16	0.2502	-0.0066	0.0061	0.0519	0.0054	-0.3796	0.0300	0.1011	0.1195
4	80.16	0.3001	-0.0506	0.0064	0.0877	0.0117	-0.7543	0.0602	0.0651	0.1480
4	80.16	0.3502	-0.1025	0.0078	0.1407	0.0207	-1.3121	0.1068	0.0031	0.1410
4	80.16	0.4002	-0.1658	0.0104	0.2379	0.0308	-2.0502	0.1646	0.0247	0.1424
4	80.16	0.4500	-0.2126	0.0145	0.3753	0.0431	-3.0712	0.2293	-0.2287	0.1519
4	80.16	0.5001	-0.3221	0.0191	0.4759	0.0559	-4.2177	0.3023	0.1483	0.1525
4	80.16	0.5560	-0.4372	0.0263	0.6282	0.0719	-5.8824	0.3854	-0.1531	0.1564
4	80.16	0.6001	-0.5045	0.0328	0.7364	0.0856	-7.3429	0.4526	-0.0124	0.1607
4	80.16	0.6501	-0.6613	0.0414	0.9023	0.1020	-9.2050	0.5317	0.0174	0.1610
4	80.16	0.6999	-0.8225	0.0515	1.0537	0.1189	-11.2616	0.6111	0.1236	0.1645
4	80.16	0.7500	-0.9999	0.0631	1.2018	0.1366	-13.4899	0.6948	0.3051	0.1686
4	80.16	0.8002	-1.2221	0.0766	1.3233	0.1551	-15.8716	0.7811	0.3515	0.1665
4	80.16	0.8582	-1.4868	0.0932	1.5267	0.1771	-18.7316	0.8847	0.0825	0.1759
4	80.16	0.9101	-1.7065	0.1079	1.7440	0.1977	-21.3222	0.9814	0.1027	0.1750
4	80.16	0.9728	-1.8071	0.1227	2.0242	0.2223	-24.3136	1.1037	0.6047	0.1765

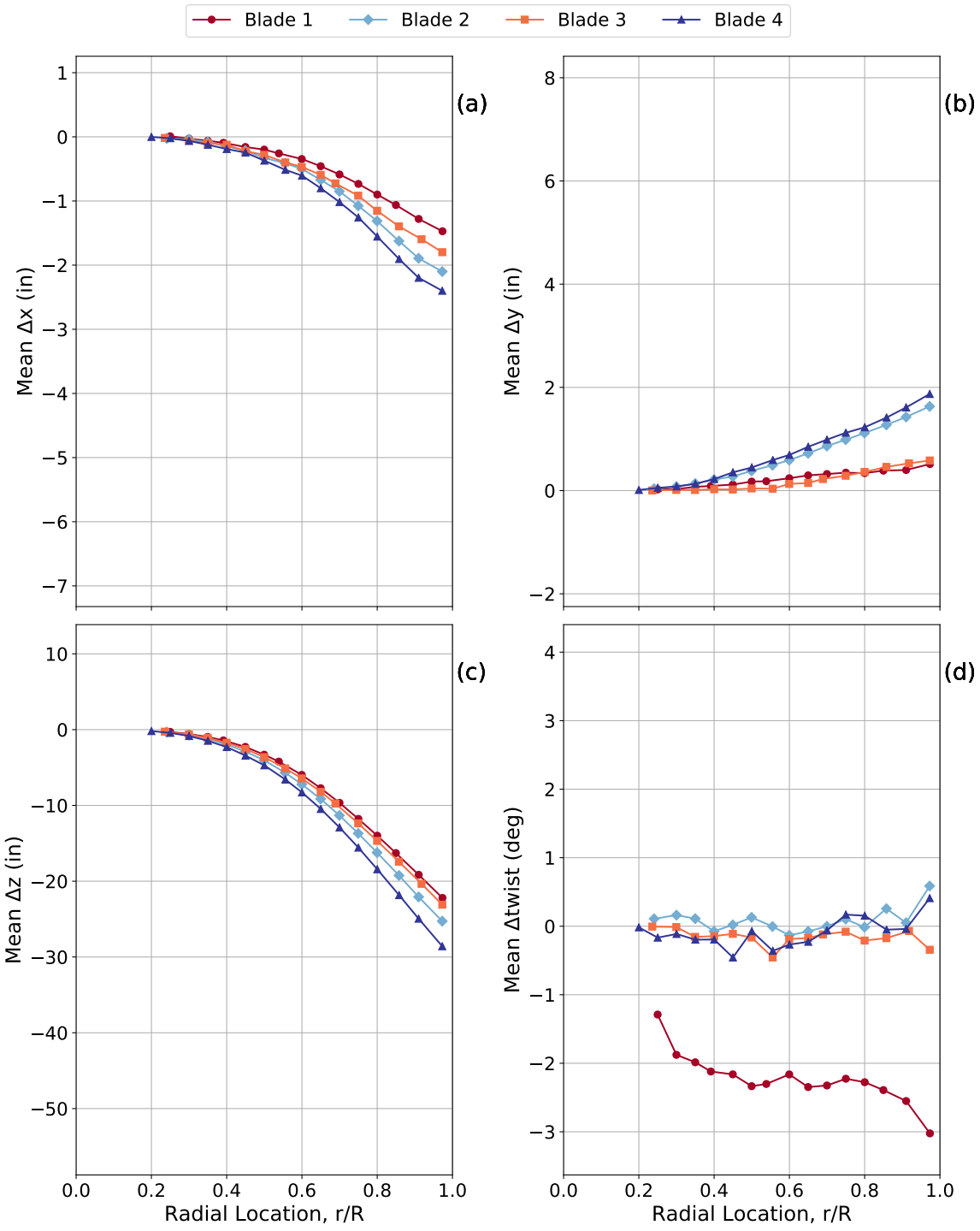


Figure 2.26-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2499	0.0088	0.0125	0.0220	0.0096	-0.2994	0.0405	-1.2893	0.3319
1	85.08	0.2998	-0.0278	0.0084	0.0278	0.0173	-0.5784	0.0736	-1.8768	0.4718
1	85.08	0.3498	-0.0606	0.0173	0.0725	0.0320	-0.9645	0.1328	-1.9860	0.4583
1	85.08	0.3913	-0.0927	0.0251	0.0897	0.0454	-1.4224	0.1896	-2.1204	0.4537
1	85.08	0.4496	-0.1585	0.0365	0.1169	0.0656	-2.2790	0.2730	-2.1620	0.4600
1	85.08	0.4997	-0.1987	0.0461	0.1740	0.0853	-3.3087	0.3532	-2.3347	0.4595
1	85.08	0.5387	-0.2583	0.0521	0.1815	0.1017	-4.2242	0.4223	-2.3023	0.4643
1	85.08	0.5996	-0.3456	0.0618	0.2392	0.1306	-5.9735	0.5442	-2.1627	0.4634
1	85.08	0.6498	-0.4578	0.0699	0.2951	0.1567	-7.7312	0.6562	-2.3472	0.4660
1	85.08	0.6998	-0.5865	0.0793	0.3210	0.1843	-9.6598	0.7784	-2.3244	0.4753
1	85.08	0.7500	-0.7337	0.0889	0.3472	0.2138	-11.7814	0.9152	-2.2259	0.4774
1	85.08	0.8001	-0.8997	0.1009	0.3382	0.2444	-13.9950	1.0627	-2.2765	0.4829
1	85.08	0.8497	-1.0633	0.1153	0.3870	0.2761	-16.2878	1.2220	-2.3914	0.4877
1	85.08	0.9102	-1.2799	0.1371	0.3987	0.3165	-19.1549	1.4280	-2.5513	0.4896
1	85.08	0.9734	-1.4716	0.1681	0.5147	0.3645	-22.2049	1.6515	-3.0235	0.5080
2	85.08	0.2405	-0.0253	0.0077	0.0359	0.0060	-0.3168	0.0249	0.1081	0.1165
2	85.08	0.2999	-0.0387	0.0098	0.0770	0.0129	-0.7262	0.0551	0.1619	0.1818
2	85.08	0.3498	-0.0820	0.0111	0.1368	0.0228	-1.2314	0.0984	0.1108	0.1622
2	85.08	0.3998	-0.1492	0.0137	0.2126	0.0354	-1.9655	0.1543	-0.0741	0.1711
2	85.08	0.4496	-0.2131	0.0182	0.2736	0.0480	-2.8927	0.2227	0.0195	0.1768
2	85.08	0.4995	-0.3284	0.0238	0.3822	0.0618	-4.0366	0.3006	0.1292	0.1963
2	85.08	0.5551	-0.4107	0.0329	0.4916	0.0795	-5.6726	0.3974	-0.0043	0.1936
2	85.08	0.5996	-0.4989	0.0404	0.5903	0.0947	-7.2105	0.4810	-0.1327	0.1992
2	85.08	0.6497	-0.6706	0.0524	0.7228	0.1123	-9.1499	0.5798	-0.0761	0.2025
2	85.08	0.6996	-0.8500	0.0679	0.8624	0.1313	-11.3174	0.6889	-0.0019	0.2222
2	85.08	0.7495	-1.0748	0.0856	0.9868	0.1506	-13.6925	0.8091	0.1030	0.2272
2	85.08	0.7996	-1.3119	0.1071	1.1147	0.1709	-16.2280	0.9375	-0.0138	0.2395
2	85.08	0.8578	-1.6244	0.1350	1.2734	0.1942	-19.2434	1.0981	0.2566	0.2447
2	85.08	0.9100	-1.8934	0.1590	1.4262	0.2153	-22.0711	1.2491	0.0504	0.2491
2	85.08	0.9727	-2.1002	0.1861	1.6316	0.2414	-25.2738	1.4345	0.5868	0.2555
3	85.08	0.2357	-0.0173	0.0067	0.0027	0.0045	-0.2684	0.0235	-0.0050	0.1254
3	85.08	0.2995	-0.0607	0.0081	0.0129	0.0100	-0.6312	0.0544	-0.0123	0.2042
3	85.08	0.3493	-0.0955	0.0098	0.0116	0.0185	-1.0961	0.0980	-0.1556	0.1839
3	85.08	0.4000	-0.1230	0.0117	0.0260	0.0283	-1.7326	0.1532	-0.1446	0.1959
3	85.08	0.4497	-0.2232	0.0158	0.0210	0.0382	-2.5565	0.2203	-0.1115	0.1933
3	85.08	0.4997	-0.2806	0.0209	0.0420	0.0493	-3.6290	0.2976	-0.1643	0.2054
3	85.08	0.5556	-0.3993	0.0287	0.0370	0.0638	-5.1163	0.3966	-0.4558	0.2084
3	85.08	0.5995	-0.4679	0.0361	0.1295	0.0754	-6.4363	0.4796	-0.1879	0.2099
3	85.08	0.6498	-0.5924	0.0466	0.1474	0.0900	-8.2011	0.5806	-0.1725	0.2159
3	85.08	0.6890	-0.7256	0.0570	0.2243	0.1017	-9.7525	0.6628	-0.1197	0.2233
3	85.08	0.7495	-0.9171	0.0755	0.2880	0.1210	-12.3693	0.8005	-0.0800	0.2320
3	85.08	0.7998	-1.1526	0.0925	0.3616	0.1376	-14.6775	0.9196	-0.2090	0.2386
3	85.08	0.8577	-1.3952	0.1147	0.4596	0.1570	-17.4234	1.0648	-0.1741	0.2469
3	85.08	0.9178	-1.5961	0.1370	0.5286	0.1776	-20.3471	1.2194	-0.0705	0.2537
3	85.08	0.9729	-1.7986	0.1555	0.5830	0.1970	-23.0986	1.3668	-0.3436	0.2459
4	85.08	0.2001	-0.0020	0.0066	0.0123	0.0032	-0.1946	0.0161	-0.0170	0.0663
4	85.08	0.2502	-0.0213	0.0074	0.0531	0.0069	-0.4300	0.0372	-0.1667	0.1205
4	85.08	0.3001	-0.0636	0.0087	0.0801	0.0123	-0.8460	0.0697	-0.1129	0.1453
4	85.08	0.3502	-0.1235	0.0095	0.1310	0.0219	-1.4764	0.1218	-0.1959	0.1401
4	85.08	0.4002	-0.1901	0.0128	0.2244	0.0334	-2.3026	0.1909	-0.1943	0.1502
4	85.08	0.4500	-0.2452	0.0179	0.3539	0.0470	-3.4297	0.2690	-0.4567	0.1491
4	85.08	0.5001	-0.3710	0.0251	0.4481	0.0611	-4.7129	0.3568	-0.0727	0.1511
4	85.08	0.5560	-0.5147	0.0357	0.5925	0.0787	-6.5908	0.4630	-0.3593	0.1630
4	85.08	0.6001	-0.6044	0.0458	0.6917	0.0936	-8.2861	0.5527	-0.2674	0.1659
4	85.08	0.6501	-0.8014	0.0596	0.8490	0.1114	-10.4720	0.6595	-0.2276	0.1671
4	85.08	0.6999	-1.0172	0.0771	0.9877	0.1303	-12.9132	0.7728	-0.0605	0.1737
4	85.08	0.7500	-1.2572	0.0965	1.1207	0.1503	-15.5744	0.8925	0.1694	0.1766
4	85.08	0.8002	-1.5553	0.1194	1.2267	0.1707	-18.4286	1.0159	0.1532	0.1813
4	85.08	0.8582	-1.9051	0.1472	1.4158	0.1948	-21.8406	1.1665	-0.0510	0.1855
4	85.08	0.9101	-2.1978	0.1713	1.6112	0.2164	-24.9509	1.3054	-0.0394	0.1839
4	85.08	0.9728	-2.4000	0.1972	1.8719	0.2428	-28.5859	1.4795	0.4092	0.1881

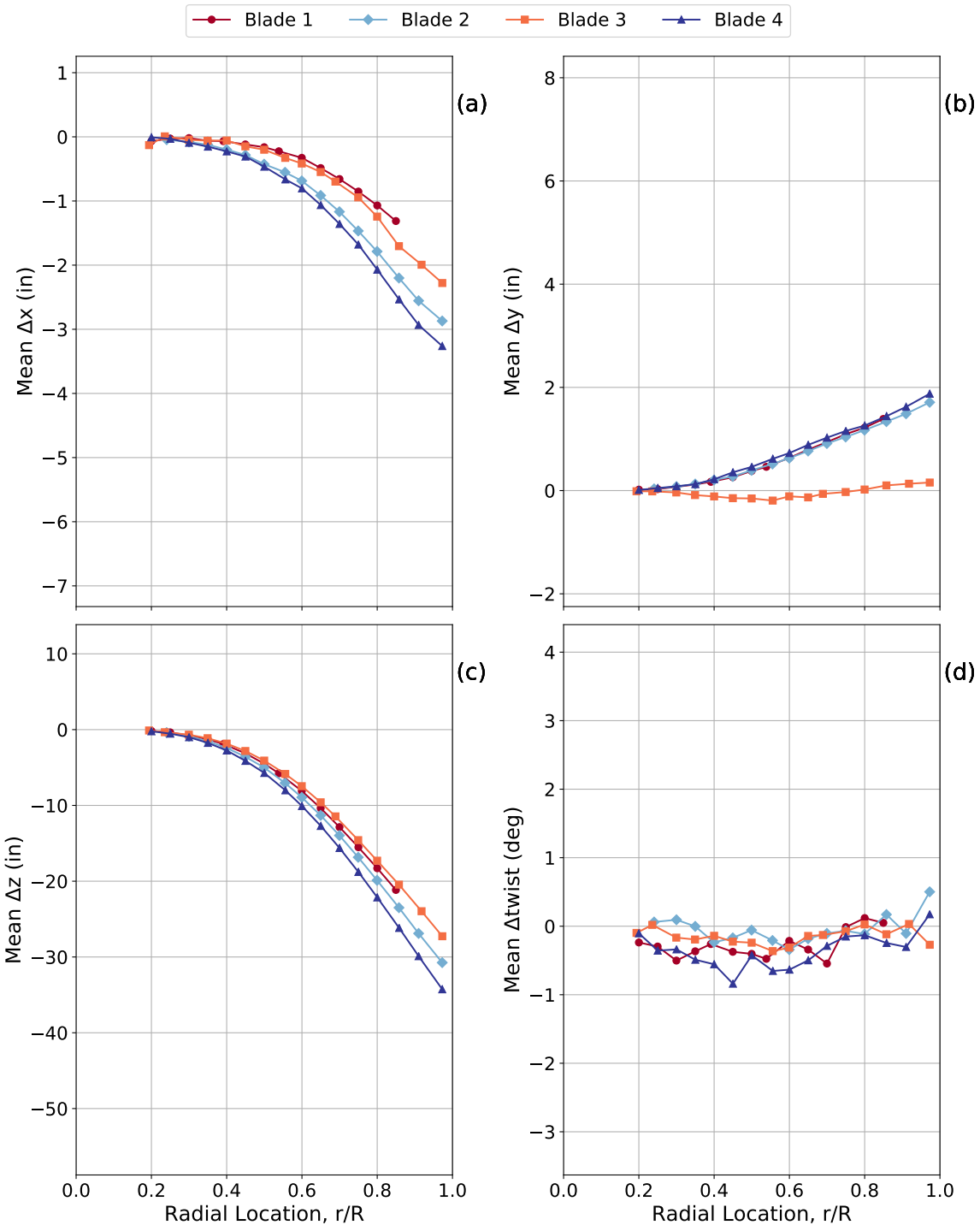


Figure 2.26-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0675	0.0061	0.0184	0.0075	-0.1737	0.0171	-0.2371	0.0898
1	90	0.2499	-0.0264	0.0048	0.0281	0.0092	-0.3627	0.0327	-0.2965	0.2316
1	90	0.2998	-0.0196	0.0058	0.0718	0.0265	-0.7798	0.0700	-0.5014	0.2430
1	90	0.3498	-0.0611	0.0076	0.1186	0.0448	-1.2749	0.1215	-0.3661	0.2421
1	90	0.3913	-0.0674	0.0098	0.1697	0.0616	-1.9021	0.1740	-0.2600	0.2417
1	90	0.4496	-0.1182	0.0158	0.2592	0.0867	-3.1285	0.2610	-0.3734	0.2531
1	90	0.4997	-0.1617	0.0232	0.3798	0.1100	-4.4911	0.3503	-0.4035	0.2537
1	90	0.5387	-0.2249	0.0309	0.4606	0.1290	-5.7644	0.4268	-0.4759	0.2516
1	90	0.5996	-0.3271	0.0467	0.6336	0.1610	-8.0927	0.5586	-0.2139	0.2701
1	90	0.6498	-0.4871	0.0623	0.7928	0.1891	-10.3588	0.6827	-0.3407	0.2696
1	90	0.6998	-0.6581	0.0833	0.9400	0.2180	-12.8633	0.8146	-0.5450	0.2779
1	90	0.7500	-0.8532	0.1081	1.0941	0.2475	-15.5173	0.9572	-0.0127	0.2695
1	90	0.8001	-1.0701	0.1366	1.2195	0.2780	-18.2897	1.1130	0.1187	0.3006
1	90	0.8497	-1.3124	0.1642	1.3886	0.3078	-21.1532	1.2642	0.0492	0.2774
2	90	0.2405	-0.0440	0.0094	0.0332	0.0074	-0.3878	0.0295	0.0616	0.1346
2	90	0.2999	-0.0798	0.0126	0.0776	0.0154	-0.8882	0.0655	0.0941	0.2120
2	90	0.3498	-0.1238	0.0144	0.1276	0.0285	-1.5178	0.1181	-0.0022	0.2004
2	90	0.3998	-0.1980	0.0185	0.2057	0.0435	-2.4195	0.1853	-0.2354	0.2155
2	90	0.4496	-0.2834	0.0245	0.2738	0.0603	-3.5755	0.2696	-0.1698	0.2151
2	90	0.4995	-0.4260	0.0324	0.3930	0.0792	-5.0049	0.3688	-0.0562	0.2192
2	90	0.5551	-0.5527	0.0472	0.5158	0.1023	-7.0374	0.4902	-0.2080	0.2294
2	90	0.5996	-0.6867	0.0601	0.6283	0.1221	-8.9368	0.5982	-0.3417	0.2305
2	90	0.6497	-0.9136	0.0780	0.7664	0.1456	-11.3150	0.7264	-0.1825	0.2361
2	90	0.6996	-1.1676	0.1011	0.9122	0.1701	-13.9673	0.8591	-0.1045	0.2382
2	90	0.7495	-1.4666	0.1268	1.0393	0.1957	-16.8453	1.0011	-0.0670	0.2377
2	90	0.7996	-1.7866	0.1558	1.1715	0.2217	-19.8832	1.1477	-0.1140	0.2459
2	90	0.8578	-2.2008	0.1910	1.3369	0.2522	-23.4960	1.3274	0.1708	0.2492
2	90	0.9100	-2.5553	0.2237	1.4885	0.2799	-26.8910	1.4923	-0.1057	0.2500
2	90	0.9727	-2.8707	0.2584	1.7109	0.3129	-30.7420	1.6945	0.5023	0.2584
3	90	0.1938	-0.1289	0.0153	-0.0124	0.0325	-0.1139	0.0443	-0.0977	0.0471
3	90	0.2357	0.0075	0.0102	-0.0150	0.0154	-0.3434	0.0236	0.0198	0.1381
3	90	0.2995	-0.0460	0.0138	-0.0357	0.0981	-0.6713	0.1373	-0.1664	0.1483
3	90	0.3493	-0.0603	0.0251	-0.0869	0.1679	-1.1337	0.2381	-0.1939	0.1449
3	90	0.4000	-0.0571	0.0342	-0.1134	0.2438	-1.8452	0.3473	-0.1398	0.1480
3	90	0.4497	-0.1482	0.0397	-0.1469	0.3216	-2.8208	0.4608	-0.2248	0.1531
3	90	0.4997	-0.2009	0.0438	-0.1521	0.4056	-4.0848	0.5837	-0.2404	0.1492
3	90	0.5556	-0.3282	0.0481	-0.1932	0.5018	-5.8517	0.7237	-0.3633	0.1438
3	90	0.5995	-0.4155	0.0531	-0.1112	0.5801	-7.4623	0.8373	-0.3122	0.1452
3	90	0.6498	-0.5484	0.0633	-0.1314	0.6713	-9.5927	0.9658	-0.1419	0.1458
3	90	0.6890	-0.6976	0.0761	-0.0630	0.7434	-11.4506	1.0660	-0.1283	0.1564
3	90	0.7495	-0.9435	0.1012	-0.0272	0.8558	-14.5821	1.2224	-0.0737	0.1393
3	90	0.7998	-1.2434	0.1274	0.0208	0.9501	-17.2936	1.3510	0.0263	0.1399
3	90	0.8577	-1.7042	0.1808	0.1006	1.3295	-20.4512	1.0740	-0.1175	0.2856
3	90	0.9178	-1.9939	0.2055	0.1331	1.4497	-23.9602	1.2205	0.0326	0.2815
3	90	0.9729	-2.2788	0.2034	0.1563	1.5594	-27.2625	1.3579	-0.2707	0.2765
4	90.35	0.2001	-0.0079	0.0070	0.0126	0.0043	-0.2227	0.0156	-0.1040	0.0751
4	90.35	0.2502	-0.0307	0.0098	0.0490	0.0060	-0.5329	0.0262	-0.3561	0.1824
4	90.35	0.3001	-0.0928	0.0062	0.0833	0.0144	-1.0052	0.0593	-0.3380	0.1739
4	90.35	0.3502	-0.1529	0.0083	0.1245	0.0244	-1.7525	0.0991	-0.4897	0.1727
4	90.35	0.4002	-0.2271	0.0112	0.2205	0.0363	-2.7563	0.1527	-0.5556	0.1728
4	90.35	0.4500	-0.3074	0.0164	0.3543	0.0484	-4.1275	0.2130	-0.8390	0.2045
4	90.35	0.5001	-0.4655	0.0235	0.4606	0.0636	-5.7191	0.2890	-0.4249	0.2053
4	90.35	0.5560	-0.6636	0.0352	0.6163	0.0824	-8.0115	0.3800	-0.6528	0.2120
4	90.35	0.6001	-0.8037	0.0472	0.7278	0.0990	-10.0863	0.4601	-0.6340	0.2244
4	90.35	0.6501	-1.0640	0.0628	0.8869	0.1199	-12.7137	0.5569	-0.4975	0.2254
4	90.35	0.6999	-1.3584	0.0817	1.0256	0.1418	-15.6229	0.6555	-0.2870	0.2360
4	90.35	0.7500	-1.6799	0.1024	1.1560	0.1655	-18.7838	0.7582	-0.1506	0.2374
4	90.35	0.8002	-2.0708	0.1264	1.2604	0.1903	-22.1427	0.8674	-0.1316	0.2348
4	90.35	0.8582	-2.5350	0.1559	1.4426	0.2192	-26.1706	0.9949	-0.2448	0.2531
4	90.35	0.9101	-2.9334	0.1813	1.6232	0.2456	-29.8958	1.1152	-0.3032	0.2335
4	90.35	0.9728	-3.2620	0.2105	1.8774	0.2779	-34.2636	1.2620	0.1741	0.2439

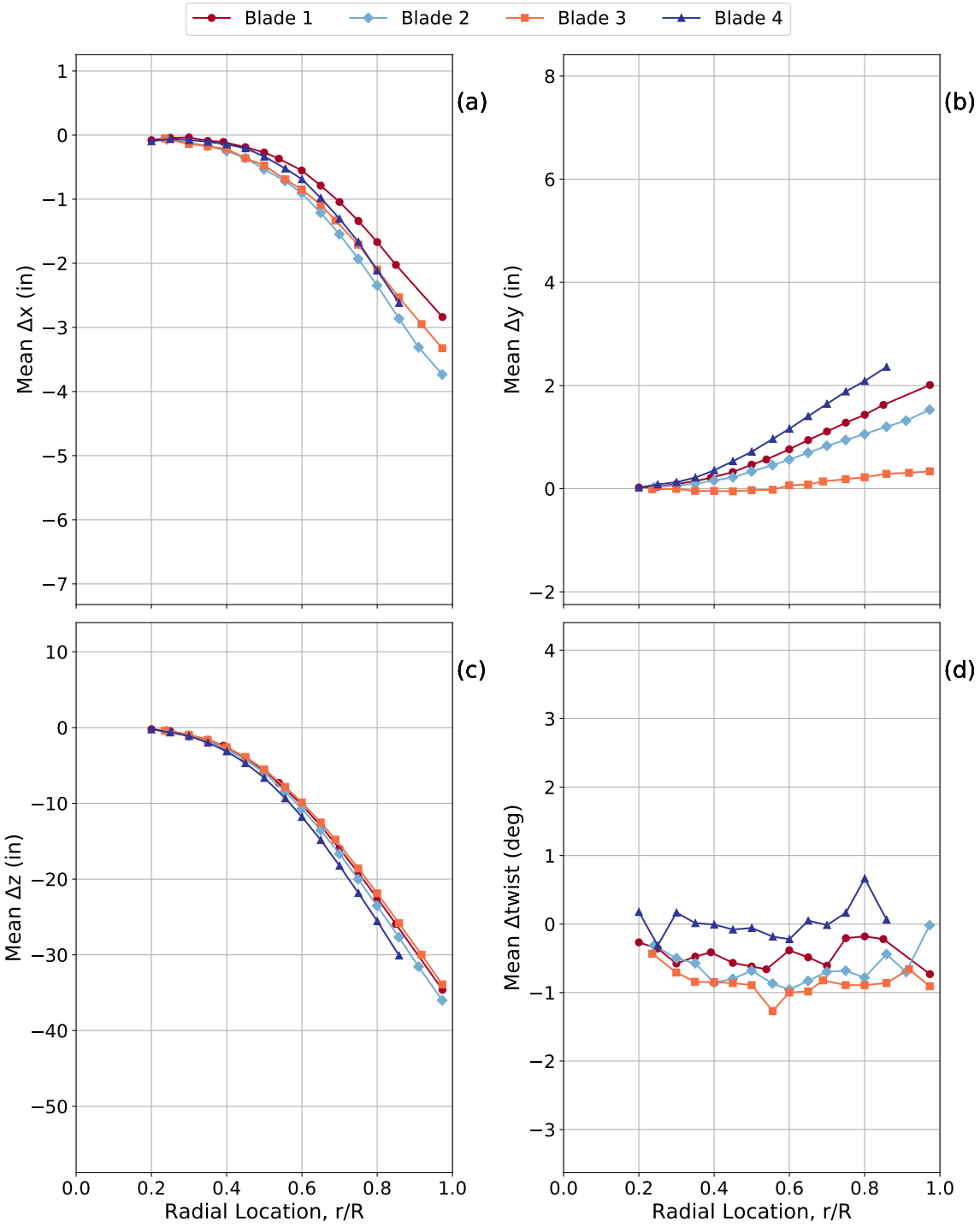


Figure 2.26-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0791	0.0060	0.0223	0.0037	-0.2169	0.0201	-0.2670	0.0353
1	94.92	0.2499	-0.0417	0.0072	0.0360	0.0075	-0.4670	0.0450	-0.3565	0.0570
1	94.92	0.2998	-0.0365	0.0089	0.0895	0.0157	-0.9781	0.0891	-0.5760	0.0785
1	94.92	0.3498	-0.0905	0.0116	0.1460	0.0265	-1.6086	0.1543	-0.4750	0.0811
1	94.92	0.3913	-0.1076	0.0155	0.2115	0.0386	-2.3994	0.2251	-0.4127	0.0888
1	94.92	0.4496	-0.1882	0.0266	0.3216	0.0580	-3.9608	0.3481	-0.5667	0.1069
1	94.92	0.4997	-0.2708	0.0396	0.4644	0.0778	-5.6923	0.4768	-0.6197	0.1085
1	94.92	0.5387	-0.3684	0.0529	0.5663	0.0945	-7.2953	0.5882	-0.6604	0.1129
1	94.92	0.5996	-0.5523	0.0802	0.7625	0.1230	-10.1995	0.7766	-0.3837	0.1109
1	94.92	0.6498	-0.7880	0.1072	0.9411	0.1476	-12.9741	0.9387	-0.4856	0.1284
1	94.92	0.6998	-1.0436	0.1373	1.1079	0.1733	-15.9925	1.1066	-0.6082	0.1393
1	94.92	0.7500	-1.3400	0.1713	1.2794	0.1997	-19.1906	1.2787	-0.2054	0.1525
1	94.92	0.8001	-1.6693	0.2084	1.4321	0.2260	-22.5230	1.4524	-0.1798	0.1553
1	94.92	0.8497	-2.0249	0.2463	1.6238	0.2532	-25.9419	1.6296	-0.2194	0.1594
1	94.92	0.9734	-2.8380	0.3314	2.0091	0.3229	-34.6052	2.0747	-0.7309	0.2003
2	94.92	0.2405	-0.0667	0.0112	0.0244	0.0075	-0.4598	0.0290	-0.3122	0.1755
2	94.92	0.2999	-0.1198	0.0137	0.0633	0.0154	-1.0571	0.0630	-0.5000	0.2767
2	94.92	0.3498	-0.1666	0.0157	0.0944	0.0287	-1.7791	0.1158	-0.5722	0.2470
2	94.92	0.3998	-0.2486	0.0203	0.1595	0.0438	-2.8449	0.1799	-0.8563	0.2575
2	94.92	0.4496	-0.3581	0.0263	0.2187	0.0601	-4.2262	0.2608	-0.8005	0.2610
2	94.92	0.4995	-0.5336	0.0353	0.3346	0.0790	-5.9597	0.3569	-0.6803	0.2597
2	94.92	0.5551	-0.7159	0.0522	0.4548	0.1026	-8.4283	0.4817	-0.8680	0.2545
2	94.92	0.5996	-0.9067	0.0693	0.5647	0.1224	-10.7135	0.5881	-0.9567	0.2592
2	94.92	0.6497	-1.2104	0.0919	0.6962	0.1462	-13.5525	0.7182	-0.8292	0.2608
2	94.92	0.6996	-1.5466	0.1178	0.8305	0.1716	-16.6662	0.8511	-0.6972	0.2736
2	94.92	0.7495	-1.9305	0.1465	0.9435	0.1975	-20.0160	0.9880	-0.6803	0.2753
2	94.92	0.7996	-2.3455	0.1761	1.0573	0.2240	-23.5251	1.1242	-0.7816	0.2808
2	94.92	0.8578	-2.8640	0.2128	1.2002	0.2562	-27.6808	1.2833	-0.4399	0.2767
2	94.92	0.9100	-3.3099	0.2449	1.3185	0.2851	-31.5703	1.4271	-0.6995	0.2771
2	94.92	0.9727	-3.7345	0.2779	1.5306	0.3199	-36.0081	1.5976	-0.0168	0.2854
3	94.92	0.2357	-0.0528	0.0109	-0.0108	0.0057	-0.3998	0.0262	-0.4313	0.1120
3	94.92	0.2995	-0.1402	0.0130	-0.0046	0.0134	-0.9545	0.0631	-0.7067	0.1846
3	94.92	0.3493	-0.1743	0.0143	-0.0436	0.0239	-1.6392	0.1116	-0.8428	0.1817
3	94.92	0.4000	-0.2166	0.0187	-0.0441	0.0375	-2.6069	0.1772	-0.8487	0.1805
3	94.92	0.4497	-0.3603	0.0251	-0.0518	0.0513	-3.8809	0.2513	-0.8620	0.1959
3	94.92	0.4997	-0.4735	0.0342	-0.0295	0.0687	-5.5376	0.3441	-0.8913	0.1901
3	94.92	0.5556	-0.6916	0.0492	-0.0222	0.0903	-7.8293	0.4620	-1.2697	0.2016
3	94.92	0.5995	-0.8489	0.0643	0.0661	0.1084	-9.8792	0.5683	-0.9994	0.1835
3	94.92	0.6498	-1.0864	0.0857	0.0787	0.1305	-12.5358	0.6950	-0.9843	0.1953
3	94.92	0.6890	-1.3333	0.1063	0.1394	0.1484	-14.8046	0.8032	-0.8224	0.2017
3	94.92	0.7495	-1.7093	0.1403	0.1838	0.1781	-18.5964	0.9726	-0.8912	0.2023
3	94.92	0.7998	-2.0979	0.1700	0.2206	0.2024	-21.8778	1.1190	-0.8918	0.2100
3	94.92	0.8577	-2.5324	0.2069	0.2875	0.2324	-25.8137	1.2872	-0.8608	0.2157
3	94.92	0.9178	-2.9492	0.2440	0.3072	0.2639	-29.9917	1.4619	-0.6598	0.2121
3	94.92	0.9729	-3.3247	0.2724	0.3358	0.2934	-33.9079	1.6207	-0.9076	0.2077
4	94.92	0.2001	-0.0960	0.0060	0.0223	0.0032	-0.2427	0.0135	0.1764	0.0637
4	94.92	0.2502	-0.0615	0.0054	0.0812	0.0061	-0.6402	0.0290	-0.3124	0.1395
4	94.92	0.3001	-0.0781	0.0075	0.1263	0.0128	-1.1303	0.0573	0.1677	0.1573
4	94.92	0.3502	-0.1050	0.0093	0.2152	0.0227	-1.9890	0.0995	0.0135	0.1527
4	94.92	0.4002	-0.1457	0.0141	0.3559	0.0345	-3.1422	0.1550	-0.0072	0.1646
4	94.92	0.4500	-0.2058	0.0220	0.5325	0.0488	-4.6919	0.2273	-0.0798	0.1790
4	94.92	0.5001	-0.3354	0.0327	0.7165	0.0662	-6.6437	0.3188	-0.0569	0.1878
4	94.92	0.5560	-0.5223	0.0502	0.9658	0.0886	-9.3397	0.4383	-0.1837	0.1934
4	94.92	0.6001	-0.6881	0.0689	1.1612	0.1080	-11.7955	0.5452	-0.2198	0.2035
4	94.92	0.6501	-0.9820	0.0947	1.4053	0.1320	-14.8504	0.6761	0.0504	0.2059
4	94.92	0.6999	-1.3055	0.1244	1.6432	0.1572	-18.2475	0.8145	-0.0142	0.2360
4	94.92	0.7500	-1.6672	0.1584	1.8835	0.1849	-21.8457	0.9640	0.1641	0.2348
4	94.92	0.8002	-2.1143	0.1940	2.0877	0.2127	-25.5626	1.1194	0.6658	0.2227
4	94.92	0.8582	-2.6180	0.2370	2.3602	0.2463	-30.0954	1.2991	0.0636	0.2494

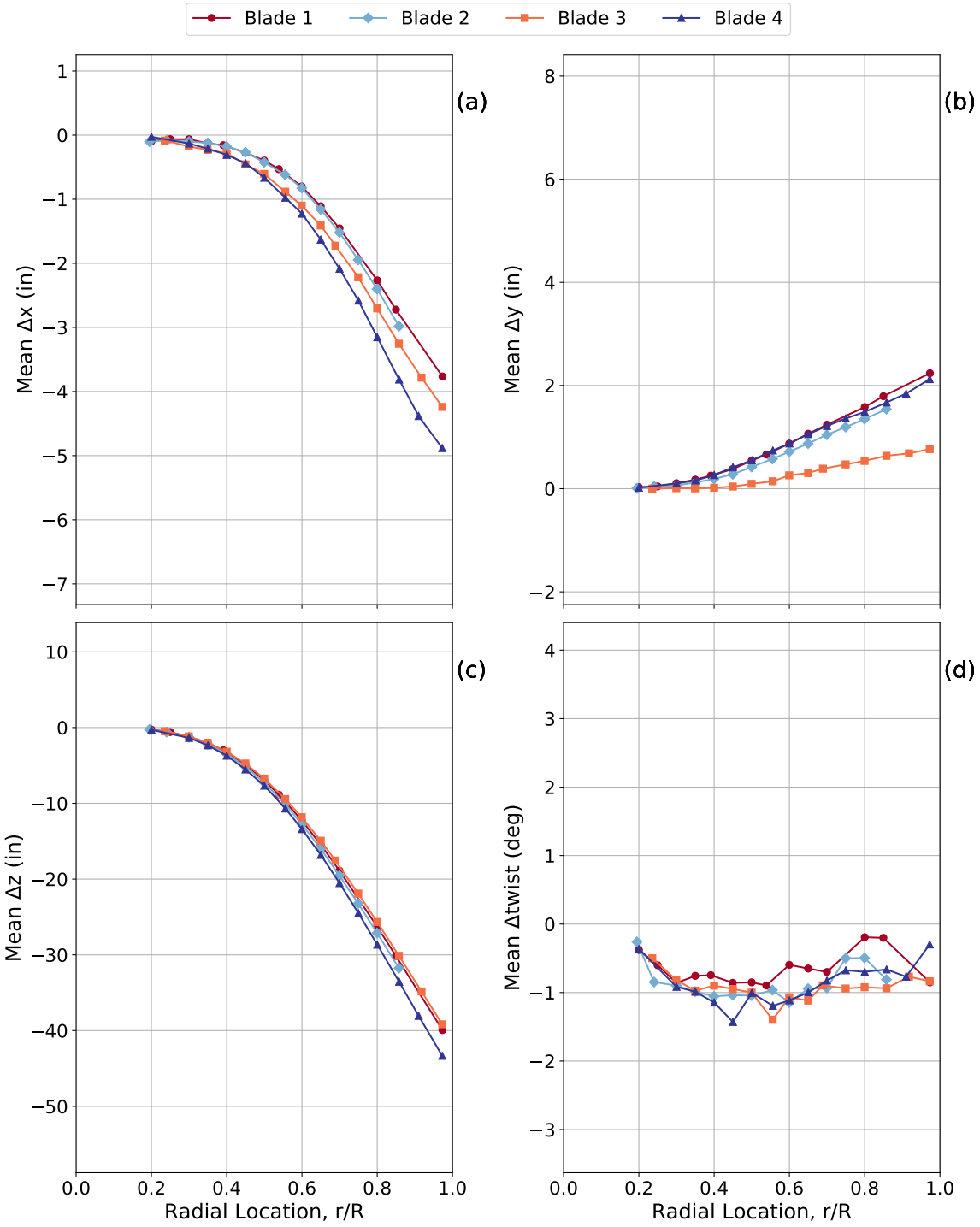


Figure 2.26-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0952	0.0080	0.0263	0.0032	-0.2715	0.0190	-0.3780	0.0381
1	99.84	0.2499	-0.0637	0.0080	0.0440	0.0059	-0.5904	0.0423	-0.6007	0.0644
1	99.84	0.2998	-0.0643	0.0107	0.1058	0.0133	-1.2202	0.0838	-0.8603	0.0897
1	99.84	0.3498	-0.1285	0.0142	0.1755	0.0221	-2.0195	0.1435	-0.7563	0.0801
1	99.84	0.3913	-0.1587	0.0198	0.2530	0.0321	-3.0045	0.2103	-0.7464	0.0946
1	99.84	0.4496	-0.2742	0.0324	0.3809	0.0486	-4.8916	0.3300	-0.8583	0.1076
1	99.84	0.4997	-0.3969	0.0480	0.5428	0.0655	-6.9542	0.4553	-0.8513	0.1065
1	99.84	0.5387	-0.5322	0.0643	0.6619	0.0794	-8.8602	0.5642	-0.8969	0.1111
1	99.84	0.5996	-0.8024	0.0979	0.8726	0.1034	-12.2578	0.7508	-0.5959	0.1095
1	99.84	0.6498	-1.1101	0.1305	1.0641	0.1240	-15.4590	0.9170	-0.6495	0.1138
1	99.84	0.6998	-1.4555	0.1673	1.2406	0.1448	-18.9013	1.0858	-0.7001	0.1208
1	99.84	0.8001	-2.2671	0.2484	1.5820	0.1894	-26.3047	1.4305	-0.1920	0.1302
1	99.84	0.8497	-2.7219	0.2890	1.7912	0.2111	-30.1546	1.5983	-0.2010	0.1142
1	99.84	0.9734	-3.7658	0.3815	2.2376	0.2686	-39.9324	2.0050	-0.8510	0.1782
2	99.84	0.1949	-0.1033	0.0052	0.0080	0.0018	-0.2525	0.0109	-0.2598	0.0285
2	99.84	0.2405	-0.0817	0.0051	0.0441	0.0043	-0.5983	0.0257	-0.8468	0.0612
2	99.84	0.2999	-0.1015	0.0066	0.0610	0.0088	-1.2770	0.0548	-0.8988	0.0756
2	99.84	0.3498	-0.1226	0.0087	0.1197	0.0157	-2.1941	0.0941	-0.9857	0.0767
2	99.84	0.3998	-0.1768	0.0137	0.1897	0.0245	-3.4744	0.1489	-1.0564	0.0884
2	99.84	0.4496	-0.2674	0.0215	0.2800	0.0347	-5.1453	0.2202	-1.0371	0.0958
2	99.84	0.4995	-0.4247	0.0334	0.4202	0.0471	-7.2592	0.3101	-1.0443	0.0932
2	99.84	0.5551	-0.6175	0.0522	0.5754	0.0614	-10.0942	0.4275	-0.9649	0.1061
2	99.84	0.5996	-0.8261	0.0727	0.7158	0.0741	-12.7572	0.5346	-1.1445	0.0978
2	99.84	0.6497	-1.1598	0.0990	0.8733	0.0882	-15.9885	0.6661	-0.9437	0.1081
2	99.84	0.6996	-1.5187	0.1312	1.0452	0.1033	-19.5412	0.8020	-0.9343	0.1155
2	99.84	0.7495	-1.9472	0.1645	1.1943	0.1189	-23.2221	0.9444	-0.4985	0.1178
2	99.84	0.7996	-2.4008	0.2004	1.3483	0.1347	-27.1183	1.0880	-0.4946	0.1037
2	99.84	0.8578	-2.9818	0.2423	1.5417	0.1530	-31.7630	1.2502	-0.8112	0.1571
3	99.84	0.2357	-0.0846	0.0106	0.0016	0.0061	-0.4877	0.0245	-0.4985	0.1540
3	99.84	0.2995	-0.1777	0.0162	0.0098	0.0153	-1.1683	0.0595	-0.8164	0.2560
3	99.84	0.3493	-0.2315	0.0172	0.0069	0.0257	-2.0053	0.1084	-0.9733	0.2255
3	99.84	0.4000	-0.2841	0.0210	0.0180	0.0413	-3.1925	0.1717	-0.8987	0.2285
3	99.84	0.4497	-0.4577	0.0292	0.0420	0.0567	-4.7438	0.2432	-0.9476	0.2422
3	99.84	0.4997	-0.6069	0.0398	0.0936	0.0759	-6.7319	0.3352	-1.0011	0.2294
3	99.84	0.5556	-0.8837	0.0575	0.1432	0.0993	-9.4362	0.4501	-1.3966	0.2249
3	99.84	0.5995	-1.1005	0.0747	0.2587	0.1187	-11.8374	0.5555	-1.0683	0.2443
3	99.84	0.6498	-1.4106	0.1007	0.3028	0.1426	-14.9362	0.6833	-1.1165	0.2456
3	99.84	0.6890	-1.7248	0.1244	0.3874	0.1625	-17.5567	0.7920	-0.8938	0.2377
3	99.84	0.7495	-2.2182	0.1645	0.4704	0.1938	-21.9078	0.9615	-0.9407	0.2335
3	99.84	0.7998	-2.7040	0.1990	0.5381	0.2210	-25.6650	1.1117	-0.9221	0.2358
3	99.84	0.8577	-3.2548	0.2413	0.6362	0.2529	-30.1317	1.2808	-0.9380	0.2334
3	99.84	0.9178	-3.7831	0.2832	0.6834	0.2869	-34.8408	1.4578	-0.7685	0.2317
3	99.84	0.9729	-4.2397	0.3161	0.7661	0.3184	-39.1709	1.6179	-0.8353	0.2338
4	99.84	0.2001	-0.0263	0.0088	0.0200	0.0023	-0.3042	0.0113	-0.3625	0.0783
4	99.84	0.3001	-0.1330	0.0119	0.1009	0.0110	-1.3729	0.0523	-0.9165	0.1929
4	99.84	0.3502	-0.2128	0.0128	0.1589	0.0186	-2.3512	0.0936	-0.9885	0.1843
4	99.84	0.4002	-0.3092	0.0178	0.2636	0.0296	-3.7179	0.1462	-1.1452	0.1942
4	99.84	0.4500	-0.4386	0.0253	0.4139	0.0413	-5.5332	0.2127	-1.4292	0.1960
4	99.84	0.5001	-0.6658	0.0342	0.5495	0.0559	-7.6690	0.2917	-1.0045	0.2060
4	99.84	0.5560	-0.9761	0.0525	0.7398	0.0745	-10.6883	0.3960	-1.1932	0.2037
4	99.84	0.6001	-1.2267	0.0702	0.8750	0.0906	-13.4064	0.4890	-1.1137	0.2063
4	99.84	0.6501	-1.6313	0.0952	1.0558	0.1099	-16.8139	0.6060	-0.9987	0.2033
4	99.84	0.6999	-2.0856	0.1245	1.2151	0.1302	-20.5339	0.7283	-0.8245	0.2292
4	99.84	0.7500	-2.5811	0.1574	1.3617	0.1520	-24.5000	0.8593	-0.6753	0.2245
4	99.84	0.8002	-3.1538	0.1928	1.4884	0.1750	-28.6570	0.9958	-0.6972	0.2279
4	99.84	0.8582	-3.8136	0.2365	1.6708	0.2011	-33.5585	1.1535	-0.6627	0.2477
4	99.84	0.9101	-4.3821	0.2751	1.8426	0.2250	-38.0600	1.2973	-0.7689	0.2411
4	99.84	0.9728	-4.8829	0.3175	2.1228	0.2540	-43.3349	1.4807	-0.2968	0.2369

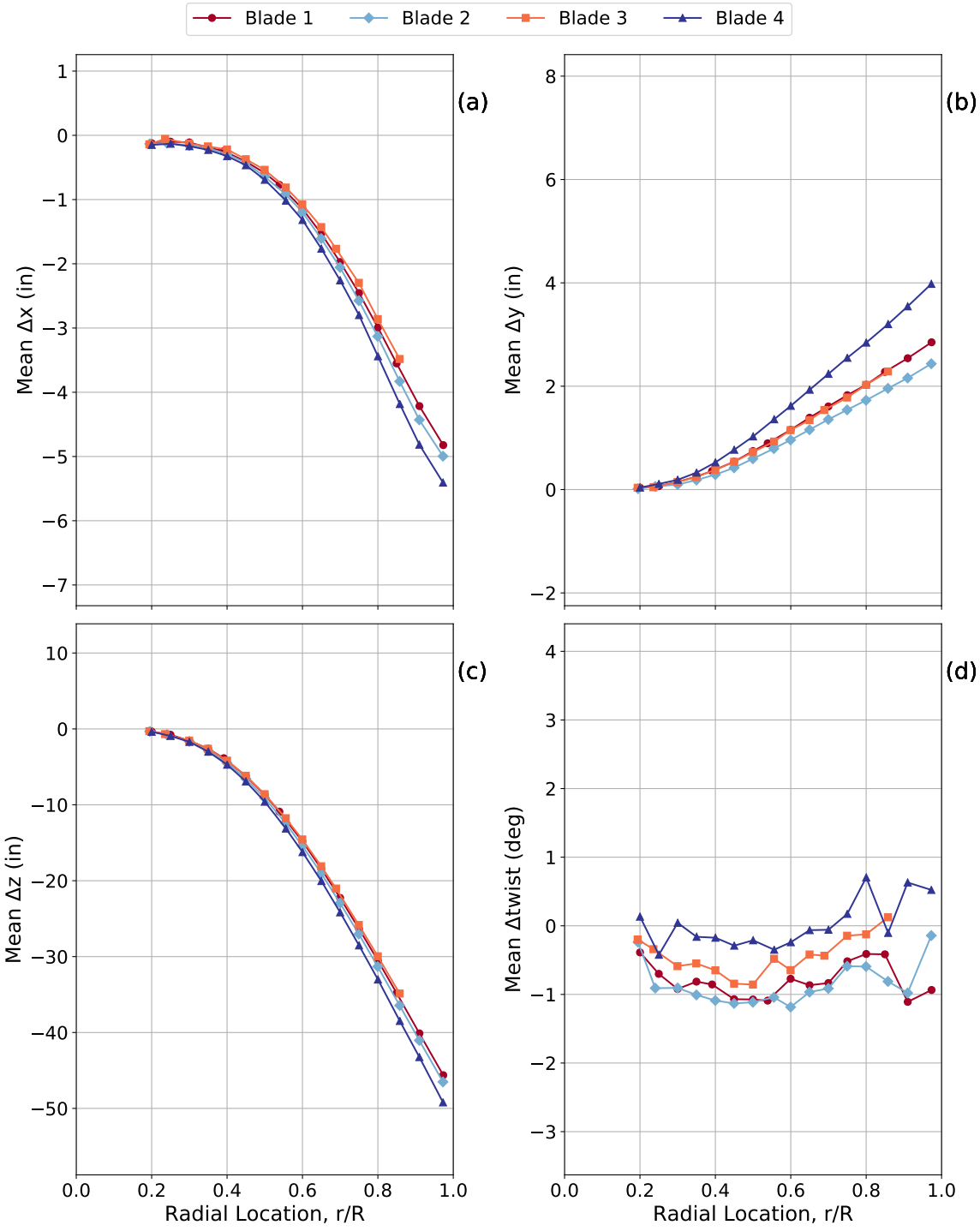


Figure 2.26-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.1234	0.0075	0.0360	0.0020	-0.3479	0.0153	-0.3877	0.0335
1	105.12	0.2499	-0.0990	0.0081	0.0660	0.0043	-0.7654	0.0358	-0.7003	0.0538
1	105.12	0.2998	-0.1105	0.0108	0.1469	0.0088	-1.5581	0.0689	-0.9206	0.0741
1	105.12	0.3498	-0.1913	0.0144	0.2506	0.0148	-2.6029	0.1186	-0.8138	0.0754
1	105.12	0.3913	-0.2443	0.0196	0.3598	0.0218	-3.8580	0.1744	-0.8550	0.0773
1	105.12	0.4496	-0.4081	0.0309	0.5393	0.0326	-6.1946	0.2677	-1.0696	0.0916
1	105.12	0.4997	-0.5848	0.0455	0.7437	0.0427	-8.6686	0.3609	-1.0739	0.1030
1	105.12	0.5387	-0.7714	0.0602	0.8959	0.0514	-10.8998	0.4404	-1.0903	0.1066
1	105.12	0.5996	-1.1409	0.0875	1.1551	0.0661	-14.7959	0.5803	-0.7721	0.1050
1	105.12	0.6498	-1.5299	0.1138	1.3909	0.0784	-18.4242	0.7016	-0.8659	0.1058
1	105.12	0.6998	-1.9733	0.1436	1.6090	0.0912	-22.2651	0.8220	-0.8344	0.1087
1	105.12	0.7500	-2.4555	0.1765	1.8271	0.1045	-26.3432	0.9470	-0.5174	0.1100
1	105.12	0.8001	-2.9929	0.2102	2.0281	0.1183	-30.5302	1.0710	-0.4105	0.1147
1	105.12	0.8497	-3.5505	0.2444	2.2781	0.1322	-34.8106	1.1910	-0.4156	0.1399
1	105.12	0.9102	-4.2152	0.2850	2.5416	0.1486	-40.1194	1.3408	-1.1085	0.1655
1	105.12	0.9734	-4.8227	0.3238	2.8501	0.1674	-45.6236	1.5012	-0.9354	0.1592
2	105.12	0.1949	-0.1328	0.0087	0.0161	0.0023	-0.3323	0.0153	-0.2376	0.0306
2	105.12	0.2405	-0.1191	0.0095	0.0594	0.0047	-0.7586	0.0355	-0.9086	0.0534
2	105.12	0.2999	-0.1594	0.0119	0.0974	0.0107	-1.6447	0.0767	-0.9055	0.0732
2	105.12	0.3498	-0.2019	0.0154	0.1845	0.0187	-2.8428	0.1327	-1.0073	0.0621
2	105.12	0.3998	-0.2907	0.0223	0.2892	0.0293	-4.4772	0.2095	-1.0886	0.0957
2	105.12	0.4496	-0.4272	0.0343	0.4216	0.0389	-6.5608	0.2973	-1.1314	0.0829
2	105.12	0.4995	-0.6434	0.0506	0.5962	0.0499	-9.0861	0.3986	-1.1139	0.0802
2	105.12	0.5551	-0.9149	0.0752	0.7926	0.0632	-12.3894	0.5320	-1.0427	0.0911
2	105.12	0.5996	-1.1954	0.0997	0.9603	0.0749	-15.4036	0.6493	-1.1846	0.0935
2	105.12	0.6497	-1.6070	0.1318	1.1577	0.0877	-19.0223	0.7898	-0.9664	0.0907
2	105.12	0.6996	-2.0559	0.1679	1.3568	0.1005	-22.9418	0.9321	-0.9134	0.0988
2	105.12	0.7495	-2.5739	0.2065	1.5428	0.1132	-27.0266	1.0824	-0.5890	0.0959
2	105.12	0.7996	-3.1301	0.2494	1.7275	0.1264	-31.3174	1.2358	-0.5936	0.1040
2	105.12	0.8578	-3.8309	0.2985	1.9578	0.1414	-36.4381	1.4154	-0.8111	0.1139
2	105.12	0.9100	-4.4297	0.3438	2.1588	0.1548	-41.0452	1.5798	-0.9783	0.1259
2	105.12	0.9727	-4.9951	0.3955	2.4348	0.1708	-46.5118	1.7769	-0.1425	0.1903
3	105.12	0.1938	-0.1401	0.0057	0.0358	0.0015	-0.2967	0.0101	-0.1998	0.0372
3	105.12	0.2357	-0.0549	0.0057	0.0445	0.0039	-0.6857	0.0216	-0.3406	0.0740
3	105.12	0.2995	-0.1286	0.0074	0.1459	0.0073	-1.5344	0.0481	-0.5887	0.0990
3	105.12	0.3493	-0.1725	0.0095	0.2460	0.0130	-2.6143	0.0830	-0.5486	0.0844
3	105.12	0.4000	-0.2203	0.0148	0.3812	0.0207	-4.1774	0.1311	-0.6486	0.0921
3	105.12	0.4497	-0.3722	0.0216	0.5374	0.0286	-6.1671	0.1862	-0.8433	0.1068
3	105.12	0.4997	-0.5366	0.0324	0.7242	0.0390	-8.5971	0.2571	-0.8563	0.1171
3	105.12	0.5556	-0.8124	0.0483	0.9290	0.0520	-11.7605	0.3455	-0.4802	0.1181
3	105.12	0.5995	-1.0765	0.0632	1.1507	0.0636	-14.5614	0.4248	-0.6460	0.1125
3	105.12	0.6498	-1.4286	0.0854	1.3441	0.0771	-18.0930	0.5220	-0.4178	0.1210
3	105.12	0.6890	-1.7668	0.1045	1.5393	0.0890	-21.0319	0.6009	-0.4360	0.1234
3	105.12	0.7495	-2.2963	0.1380	1.7805	0.1064	-25.8335	0.7317	-0.1446	0.1408
3	105.12	0.7998	-2.8610	0.1685	2.0255	0.1222	-29.9553	0.8469	-0.1246	0.1471
3	105.12	0.8577	-3.4823	0.2072	2.2852	0.1401	-34.8679	0.9852	0.1244	0.1315
4	105.12	0.2001	-0.1490	0.0109	0.0385	0.0028	-0.3800	0.0191	0.1329	0.0460
4	105.12	0.2502	-0.1314	0.0110	0.1091	0.0058	-0.9298	0.0409	-0.4221	0.1020
4	105.12	0.3001	-0.1694	0.0136	0.1892	0.0120	-1.7109	0.0807	0.0426	0.1111
4	105.12	0.3502	-0.2277	0.0190	0.3277	0.0210	-3.0033	0.1394	-0.1608	0.1122
4	105.12	0.4002	-0.3242	0.0279	0.5257	0.0324	-4.7144	0.2172	-0.1739	0.1215
4	105.12	0.4500	-0.4660	0.0409	0.7701	0.0449	-6.9254	0.3062	-0.2896	0.1275
4	105.12	0.5001	-0.6923	0.0585	1.0282	0.0600	-9.5940	0.4121	-0.2114	0.1364
4	105.12	0.5560	-1.0176	0.0847	1.3596	0.0781	-13.1318	0.5417	-0.3491	0.1405
4	105.12	0.6001	-1.3185	0.1094	1.6202	0.0935	-16.2352	0.6535	-0.2397	0.1335
4	105.12	0.6501	-1.7649	0.1406	1.9316	0.1111	-20.0452	0.7842	-0.0635	0.1456
4	105.12	0.6999	-2.2585	0.1763	2.2389	0.1297	-24.1731	0.9198	-0.0581	0.1504
4	105.12	0.7500	-2.7989	0.2157	2.5499	0.1486	-28.5258	1.0593	0.1737	0.1636
4	105.12	0.8002	-3.4405	0.2585	2.8434	0.1678	-33.0227	1.2036	0.7046	0.1539
4	105.12	0.8582	-4.1835	0.3095	3.2014	0.1904	-38.4824	1.3727	-0.1041	0.1882
4	105.12	0.9101	-4.8162	0.3547	3.5453	0.2110	-43.2441	1.5278	0.6308	0.1689
4	105.12	0.9728	-5.4070	0.4096	3.9796	0.2343	-49.2116	1.7213	0.5227	0.1899

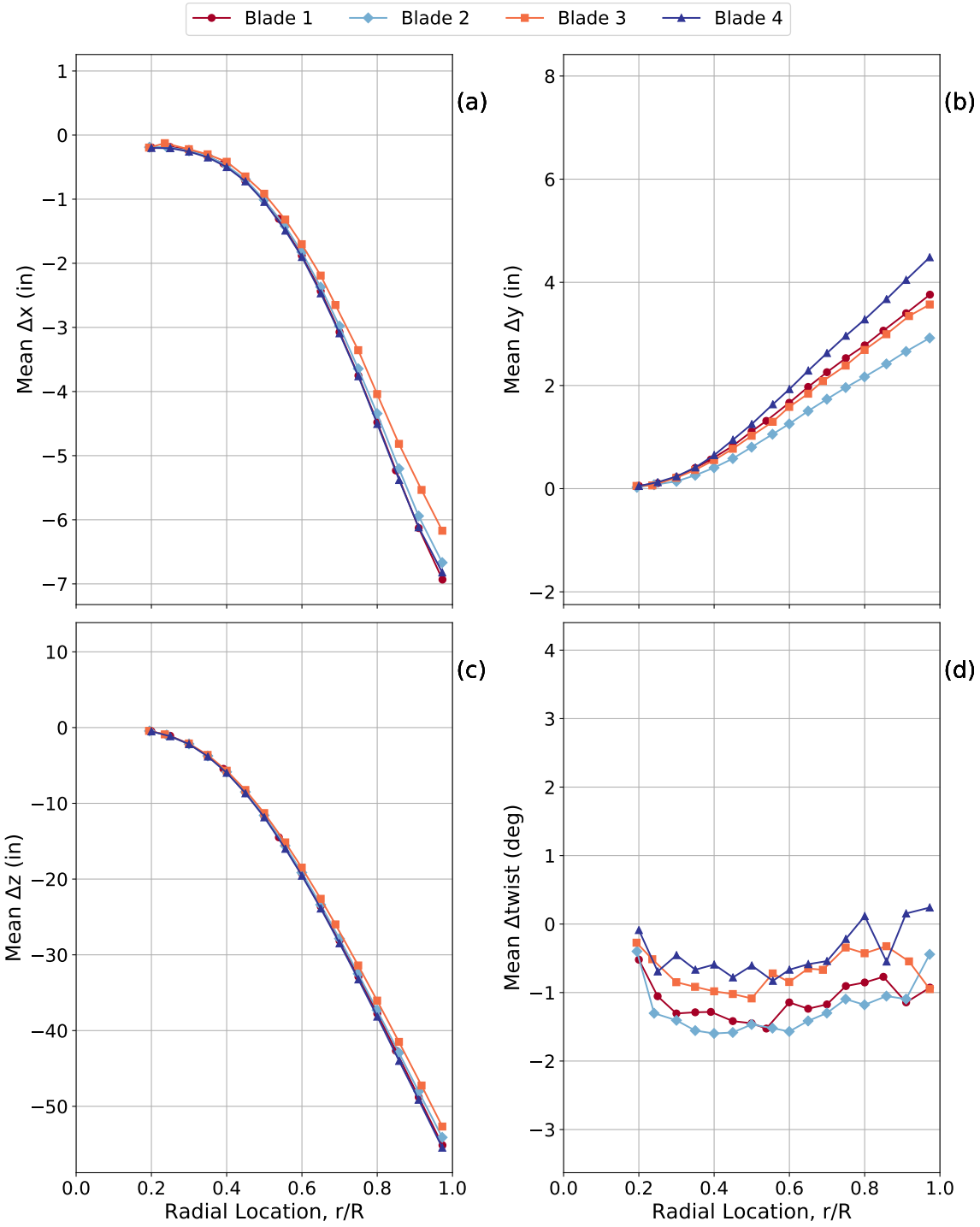


Figure 2.26-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.1932	0.0117	0.0557	0.0073	-0.5058	0.0170	-0.5199	0.0883
1	119.88	0.2499	-0.1865	0.0147	0.1069	0.0106	-1.0844	0.0357	-1.0537	0.2495
1	119.88	0.2998	-0.2200	0.0181	0.2238	0.0282	-2.1928	0.0764	-1.3054	0.2600
1	119.88	0.3498	-0.3358	0.0240	0.4004	0.0486	-3.7246	0.1336	-1.2881	0.2723
1	119.88	0.3913	-0.4443	0.0322	0.5644	0.0679	-5.4509	0.1940	-1.2825	0.2758
1	119.88	0.4496	-0.7149	0.0500	0.8280	0.0991	-8.5267	0.2948	-1.4169	0.2733
1	119.88	0.4997	-1.0135	0.0706	1.1093	0.1279	-11.6955	0.4000	-1.4485	0.3001
1	119.88	0.5387	-1.3066	0.0914	1.3139	0.1522	-14.4933	0.4905	-1.5256	0.3068
1	119.88	0.5996	-1.8794	0.1306	1.6644	0.1926	-19.2542	0.6443	-1.1440	0.3106
1	119.88	0.6498	-2.4335	0.1688	1.9715	0.2286	-23.6076	0.7866	-1.2362	0.3159
1	119.88	0.6998	-3.0717	0.2124	2.2578	0.2655	-28.1355	0.9337	-1.1729	0.3134
1	119.88	0.7500	-3.7520	0.2609	2.5296	0.3040	-32.8943	1.0894	-0.9053	0.3155
1	119.88	0.8001	-4.4798	0.3120	2.7775	0.3434	-37.7455	1.2503	-0.8527	0.3065
1	119.88	0.8497	-5.2312	0.3669	3.0631	0.3831	-42.6683	1.4170	-0.7702	0.3186
1	119.88	0.9102	-6.1291	0.4335	3.4006	0.4332	-48.7773	1.6266	-1.1434	0.3181
1	119.88	0.9734	-6.9328	0.5009	3.7615	0.4854	-55.1358	1.8525	-0.9276	0.3091
2	119.88	0.1949	-0.1889	0.0117	0.0257	0.0051	-0.4520	0.0175	-0.3985	0.0477
2	119.88	0.2405	-0.1839	0.0130	0.0762	0.0057	-0.9786	0.0357	-1.3019	0.1233
2	119.88	0.2999	-0.2460	0.0163	0.1409	0.0184	-2.1608	0.0828	-1.4054	0.1422
2	119.88	0.3498	-0.3254	0.0234	0.2594	0.0326	-3.7432	0.1449	-1.5553	0.1493
2	119.88	0.3998	-0.4741	0.0343	0.4056	0.0482	-5.8585	0.2258	-1.5969	0.1615
2	119.88	0.4496	-0.6895	0.0524	0.5835	0.0652	-8.4926	0.3247	-1.5829	0.1669
2	119.88	0.4995	-1.0095	0.0765	0.8041	0.0841	-11.5892	0.4498	-1.4659	0.1799
2	119.88	0.5551	-1.4196	0.1144	1.0550	0.1065	-15.6016	0.6095	-1.5196	0.1904
2	119.88	0.5996	-1.8249	0.1515	1.2554	0.1254	-19.1461	0.7545	-1.5688	0.1926
2	119.88	0.6497	-2.3707	0.2009	1.5047	0.1475	-23.3833	0.9351	-1.4141	0.2104
2	119.88	0.6996	-2.9790	0.2574	1.7346	0.1702	-27.8551	1.1273	-1.2990	0.2055
2	119.88	0.7495	-3.6437	0.3202	1.9599	0.1940	-32.4995	1.3315	-1.0958	0.2045
2	119.88	0.7996	-4.3430	0.3880	2.1670	0.2182	-37.2955	1.5443	-1.1789	0.2032
2	119.88	0.8578	-5.2028	0.4706	2.4182	0.2467	-42.9286	1.8030	-1.0516	0.2157
2	119.88	0.9100	-5.9419	0.5452	2.6597	0.2731	-48.0394	2.0405	-1.0948	0.2108
2	119.88	0.9727	-6.6680	0.6323	2.9207	0.3044	-54.1012	2.3292	-0.4418	0.2140
3	119.88	0.1938	-0.1953	0.0146	0.0533	0.0034	-0.4370	0.0183	-0.2717	0.0692
3	119.88	0.2357	-0.1265	0.0105	0.0630	0.0046	-0.8975	0.0301	-0.5133	0.1941
3	119.88	0.2995	-0.2206	0.0146	0.2104	0.0127	-2.1004	0.0749	-0.8486	0.2107
3	119.88	0.3493	-0.3001	0.0204	0.3622	0.0222	-3.6103	0.1299	-0.9165	0.2197
3	119.88	0.4000	-0.4167	0.0306	0.5543	0.0339	-5.6933	0.2010	-0.9818	0.2190
3	119.88	0.4497	-0.6458	0.0458	0.7734	0.0472	-8.2430	0.2878	-1.0214	0.2232
3	119.88	0.4997	-0.9150	0.0676	1.0250	0.0627	-11.2881	0.4001	-1.0857	0.2372
3	119.88	0.5556	-1.3177	0.0998	1.2958	0.0817	-15.1578	0.5396	-0.7204	0.2432
3	119.88	0.5995	-1.7022	0.1296	1.5844	0.0985	-18.4909	0.6641	-0.8455	0.2481
3	119.88	0.6498	-2.1913	0.1719	1.8405	0.1186	-22.6062	0.8232	-0.6493	0.2557
3	119.88	0.6890	-2.6501	0.2084	2.0857	0.1349	-25.9824	0.9548	-0.6678	0.2576
3	119.88	0.7495	-3.3552	0.2716	2.3859	0.1620	-31.4057	1.1722	-0.3419	0.2531
3	119.88	0.7998	-4.0399	0.3297	2.6893	0.1843	-36.0451	1.3640	-0.4263	0.2489
3	119.88	0.8577	-4.8162	0.4019	2.9937	0.2111	-41.4968	1.5987	-0.3234	0.2610
3	119.88	0.9178	-5.5346	0.4761	3.3462	0.2392	-47.2514	1.8464	-0.5447	0.2610
3	119.88	0.9729	-6.1711	0.5421	3.5700	0.2666	-52.6653	2.0815	-0.9493	0.2645
4	119.88	0.2001	-0.2012	0.0111	0.0517	0.0042	-0.5045	0.0169	-0.0873	0.0678
4	119.88	0.2502	-0.2047	0.0119	0.1254	0.0068	-1.1492	0.0332	-0.6920	0.1682
4	119.88	0.3001	-0.2580	0.0141	0.2376	0.0160	-2.1885	0.0687	-0.4540	0.1754
4	119.88	0.3502	-0.3493	0.0193	0.4112	0.0281	-3.8315	0.1191	-0.6662	0.1817
4	119.88	0.4002	-0.4995	0.0285	0.6502	0.0424	-5.9733	0.1838	-0.5913	0.1915
4	119.88	0.4500	-0.7225	0.0424	0.9472	0.0591	-8.6788	0.2632	-0.7792	0.1884
4	119.88	0.5001	-1.0428	0.0624	1.2519	0.0776	-11.8529	0.3637	-0.6058	0.2192
4	119.88	0.5560	-1.4909	0.0918	1.6353	0.1006	-16.0053	0.4901	-0.8292	0.2137
4	119.88	0.6001	-1.9018	0.1209	1.9291	0.1200	-19.5604	0.6055	-0.6660	0.2181
4	119.88	0.6501	-2.4690	0.1603	2.2882	0.1438	-23.8934	0.7493	-0.5856	0.2237
4	119.88	0.6999	-3.0923	0.2055	2.6293	0.1681	-28.4824	0.9059	-0.5404	0.2238
4	119.88	0.7500	-3.7620	0.2573	2.9642	0.1932	-33.2484	1.0744	-0.2173	0.2255
4	119.88	0.8002	-4.5067	0.3150	3.2807	0.2187	-38.1590	1.2550	0.1159	0.2249
4	119.88	0.8582	-5.3798	0.3858	3.6754	0.2491	-44.0061	1.4759	-0.5476	0.2349
4	119.88	0.9101	-6.1171	0.4496	4.0468	0.2764	-49.1321	1.6804	0.1543	0.2326
4	119.88	0.9728	-6.8221	0.5246	4.4857	0.3090	-55.4601	1.9367	0.2414	0.2388

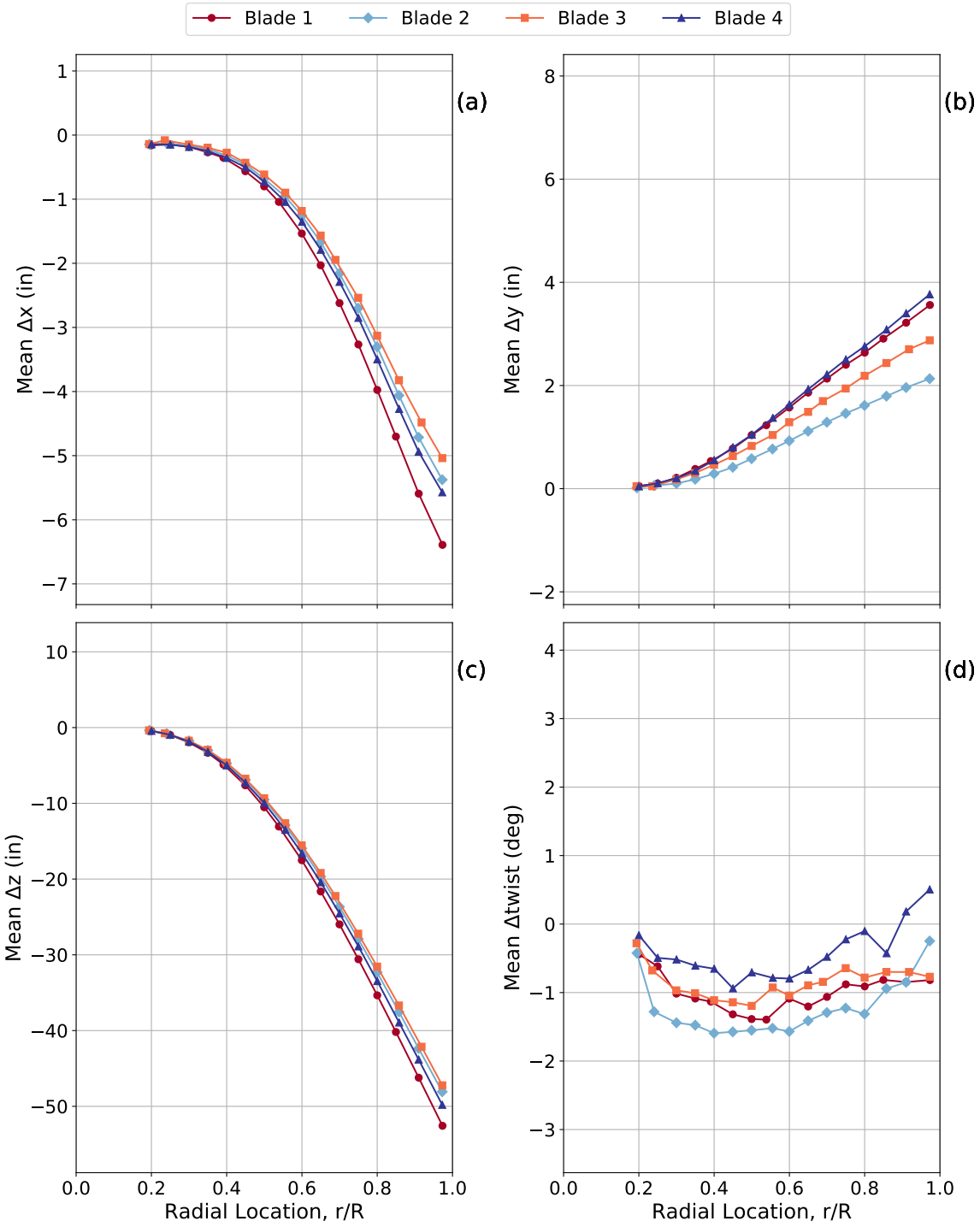


Figure 2.26-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.1602	0.0239	0.0529	0.0143	-0.4594	0.0336	-0.4409	0.2153
1	135	0.2499	-0.1468	0.0206	0.1004	0.0194	-0.9736	0.0460	-0.6170	0.5857
1	135	0.2998	-0.1841	0.0259	0.2105	0.0535	-1.9683	0.1198	-1.0153	0.5833
1	135	0.3498	-0.2693	0.0335	0.3816	0.0912	-3.3364	0.2068	-1.0871	0.5793
1	135	0.3913	-0.3527	0.0437	0.5340	0.1273	-4.8758	0.2860	-1.1320	0.5835
1	135	0.4496	-0.5643	0.0631	0.7765	0.1842	-7.6237	0.4133	-1.3177	0.5754
1	135	0.4997	-0.8001	0.0861	1.0383	0.2394	-10.5195	0.5331	-1.3869	0.5812
1	135	0.5387	-1.0423	0.1083	1.2302	0.2857	-13.0670	0.6333	-1.3953	0.5940
1	135	0.5996	-1.5357	0.1516	1.5731	0.3624	-17.5089	0.8114	-1.0883	0.5815
1	135	0.6498	-2.0309	0.1945	1.8624	0.4303	-21.6369	0.9703	-1.2036	0.5873
1	135	0.6998	-2.6207	0.2448	2.1331	0.5001	-25.9811	1.1406	-1.0636	0.5885
1	135	0.7500	-3.2664	0.3023	2.4023	0.5729	-30.5895	1.3252	-0.8799	0.5943
1	135	0.8001	-3.9753	0.3652	2.6372	0.6466	-35.3468	1.5207	-0.9102	0.5969
1	135	0.8497	-4.7025	0.4328	2.9081	0.7209	-40.1892	1.7227	-0.8155	0.6001
1	135	0.9102	-5.5927	0.5159	3.2172	0.8126	-46.2182	1.9781	-0.8465	0.6078
1	135	0.9734	-6.3915	0.5980	3.5605	0.9098	-52.5705	2.2504	-0.8176	0.6066
2	135	0.1949	-0.1454	0.0063	0.0163	0.0079	-0.3648	0.0210	-0.4238	0.1111
2	135	0.2405	-0.1241	0.0087	0.0581	0.0084	-0.8105	0.0244	-1.2802	0.3702
2	135	0.2999	-0.1664	0.0110	0.0997	0.0287	-1.7629	0.0721	-1.4412	0.3786
2	135	0.3498	-0.2176	0.0149	0.1820	0.0503	-3.0092	0.1255	-1.4763	0.3667
2	135	0.3998	-0.3208	0.0214	0.2894	0.0745	-4.7427	0.1854	-1.5933	0.3716
2	135	0.4496	-0.4571	0.0311	0.4141	0.1012	-6.9096	0.2567	-1.5734	0.3784
2	135	0.4995	-0.6796	0.0457	0.5803	0.1307	-9.5144	0.3417	-1.5505	0.3794
2	135	0.5551	-0.9571	0.0671	0.7687	0.1685	-12.9040	0.4527	-1.5214	0.3803
2	135	0.5996	-1.2552	0.0901	0.9274	0.2001	-15.9497	0.5583	-1.5679	0.3671
2	135	0.6497	-1.6686	0.1219	1.1135	0.2375	-19.6704	0.6887	-1.4116	0.3728
2	135	0.6996	-2.1580	0.1607	1.2888	0.2770	-23.6605	0.8332	-1.2921	0.3700
2	135	0.7495	-2.7004	0.2051	1.4594	0.3185	-27.8955	0.9925	-1.2273	0.3668
2	135	0.7996	-3.3020	0.2566	1.6131	0.3608	-32.3087	1.1643	-1.3130	0.3645
2	135	0.8578	-4.0609	0.3211	1.7934	0.4107	-37.5396	1.3752	-0.9421	0.3643
2	135	0.9100	-4.7138	0.3808	1.9605	0.4565	-42.3589	1.5713	-0.8502	0.3670
2	135	0.9727	-5.3752	0.4494	2.1315	0.5123	-48.0707	1.8110	-0.2475	0.3746
3	135	0.1938	-0.1417	0.0150	0.0478	0.0043	-0.3626	0.0218	-0.2799	0.0805
3	135	0.2357	-0.0804	0.0106	0.0465	0.0053	-0.7535	0.0305	-0.6765	0.2665
3	135	0.2995	-0.1477	0.0140	0.1801	0.0160	-1.7288	0.0815	-0.9677	0.2729
3	135	0.3493	-0.1965	0.0183	0.3031	0.0282	-2.9402	0.1418	-1.0097	0.2599
3	135	0.4000	-0.2745	0.0274	0.4635	0.0429	-4.6466	0.2158	-1.1119	0.2686
3	135	0.4497	-0.4322	0.0396	0.6317	0.0595	-6.7565	0.3109	-1.1417	0.2635
3	135	0.4997	-0.6148	0.0577	0.8282	0.0782	-9.3268	0.4201	-1.1943	0.2625
3	135	0.5556	-0.8982	0.0846	1.0396	0.1030	-12.6277	0.5618	-0.9259	0.2689
3	135	0.5995	-1.1840	0.1110	1.2880	0.1216	-15.5481	0.6902	-1.0440	0.2669
3	135	0.6498	-1.5671	0.1480	1.4886	0.1462	-19.1930	0.8502	-0.8941	0.2666
3	135	0.6890	-1.9470	0.1813	1.6979	0.1654	-22.2387	0.9824	-0.8440	0.2747
3	135	0.7495	-2.5380	0.2396	1.9417	0.1972	-27.2114	1.2074	-0.6436	0.2742
3	135	0.7998	-3.1292	0.2952	2.1882	0.2240	-31.5528	1.4068	-0.7813	0.2696
3	135	0.8577	-3.8240	0.3646	2.4359	0.2557	-36.6844	1.6482	-0.6991	0.2680
3	135	0.9178	-4.4821	0.4369	2.7028	0.2893	-42.1332	1.9056	-0.7000	0.2790
3	135	0.9729	-5.0387	0.5007	2.8757	0.3211	-47.2237	2.1481	-0.7699	0.2777
4	135	0.2001	-0.1449	0.0130	0.0431	0.0035	-0.4355	0.0185	-0.1628	0.0683
4	135	0.2502	-0.1486	0.0102	0.1062	0.0058	-0.9597	0.0361	-0.4942	0.1538
4	135	0.3001	-0.1857	0.0122	0.2037	0.0137	-1.8583	0.0712	-0.5175	0.1628
4	135	0.3502	-0.2494	0.0166	0.3446	0.0240	-3.1995	0.1232	-0.6074	0.1542
4	135	0.4002	-0.3568	0.0248	0.5517	0.0363	-4.9980	0.1888	-0.6520	0.1619
4	135	0.4500	-0.5016	0.0379	0.8011	0.0498	-7.2844	0.2769	-0.9390	0.1573
4	135	0.5001	-0.7267	0.0563	1.0461	0.0668	-9.9686	0.3845	-0.7055	0.1657
4	135	0.5560	-1.0426	0.0845	1.3728	0.0887	-13.5042	0.5310	-0.7857	0.1689
4	135	0.6001	-1.3524	0.1147	1.6295	0.1059	-16.6064	0.6676	-0.7957	0.1653
4	135	0.6501	-1.7902	0.1558	1.9277	0.1270	-20.4377	0.8404	-0.6683	0.1667
4	135	0.6999	-2.2905	0.2061	2.2157	0.1493	-24.5471	1.0296	-0.4778	0.1780
4	135	0.7500	-2.8514	0.2641	2.5042	0.1728	-28.8959	1.2406	-0.2232	0.1795
4	135	0.8002	-3.4979	0.3307	2.7605	0.1959	-33.4707	1.4663	-0.1022	0.1860
4	135	0.8582	-4.2718	0.4145	3.0845	0.2228	-38.9411	1.7434	-0.4263	0.1924
4	135	0.9101	-4.9403	0.4890	3.3992	0.2478	-43.8280	1.9970	0.1834	0.1973
4	135	0.9728	-5.5725	0.5770	3.7666	0.2781	-49.8066	2.3116	0.5045	0.2028

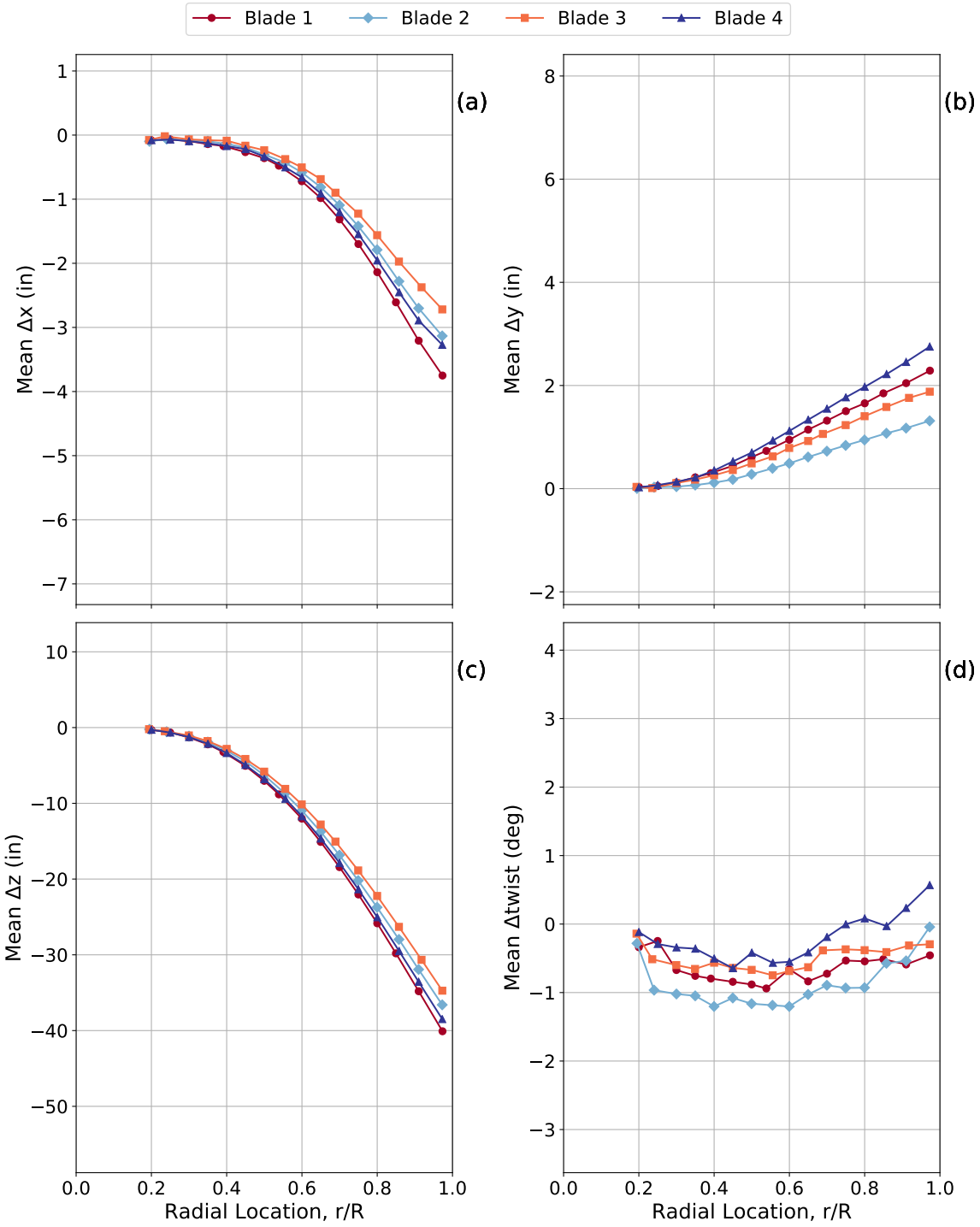


Figure 2.26-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0829	0.0064	0.0324	0.0019	-0.3087	0.0142	-0.3378	0.0399
1	150.12	0.2499	-0.0673	0.0074	0.0500	0.0041	-0.6469	0.0313	-0.2469	0.0652
1	150.12	0.2998	-0.0940	0.0095	0.1208	0.0080	-1.3044	0.0622	-0.6709	0.0928
1	150.12	0.3498	-0.1405	0.0114	0.2191	0.0130	-2.2151	0.1055	-0.7561	0.0984
1	150.12	0.3913	-0.1700	0.0153	0.3001	0.0190	-3.2261	0.1549	-0.7958	0.0978
1	150.12	0.4496	-0.2662	0.0243	0.4434	0.0281	-5.0473	0.2420	-0.8429	0.1046
1	150.12	0.4997	-0.3597	0.0371	0.6111	0.0365	-7.0307	0.3368	-0.8818	0.1218
1	150.12	0.5387	-0.4774	0.0498	0.7323	0.0442	-8.8183	0.4224	-0.9399	0.1288
1	150.12	0.5996	-0.7201	0.0759	0.9471	0.0577	-12.0169	0.5778	-0.6598	0.1365
1	150.12	0.6498	-0.9824	0.1051	1.1443	0.0701	-15.0916	0.7270	-0.8363	0.1448
1	150.12	0.6998	-1.3150	0.1412	1.3186	0.0830	-18.4222	0.8918	-0.7248	0.1541
1	150.12	0.7500	-1.6994	0.1829	1.5025	0.0973	-22.0320	1.0715	-0.5325	0.1632
1	150.12	0.8001	-2.1385	0.2323	1.6544	0.1108	-25.8395	1.2658	-0.5440	0.1712
1	150.12	0.8497	-2.6086	0.2851	1.8481	0.1248	-29.8061	1.4660	-0.5125	0.1806
1	150.12	0.9102	-3.2066	0.3519	2.0457	0.1428	-34.8051	1.7205	-0.5898	0.1884
1	150.12	0.9734	-3.7505	0.4215	2.2880	0.1614	-40.0899	1.9962	-0.4565	0.1925
2	150.12	0.1949	-0.0983	0.0093	0.0038	0.0062	-0.2260	0.0244	-0.2816	0.1089
2	150.12	0.2405	-0.0635	0.0076	0.0275	0.0070	-0.5409	0.0287	-0.9649	0.3702
2	150.12	0.2999	-0.0795	0.0091	0.0387	0.0230	-1.1326	0.0805	-1.0208	0.3739
2	150.12	0.3498	-0.0963	0.0114	0.0688	0.0396	-1.9123	0.1356	-1.0479	0.3734
2	150.12	0.3998	-0.1391	0.0162	0.1158	0.0593	-3.0433	0.2007	-1.2032	0.3762
2	150.12	0.4496	-0.1936	0.0225	0.1786	0.0810	-4.4684	0.2769	-1.0791	0.3748
2	150.12	0.4995	-0.3022	0.0324	0.2794	0.1045	-6.2698	0.3624	-1.1627	0.3792
2	150.12	0.5551	-0.4299	0.0477	0.3940	0.1346	-8.7105	0.4735	-1.1855	0.3775
2	150.12	0.5996	-0.5828	0.0636	0.4908	0.1601	-10.9476	0.5726	-1.2030	0.3822
2	150.12	0.6497	-0.8125	0.0859	0.6134	0.1914	-13.7482	0.6949	-1.0271	0.3796
2	150.12	0.6996	-1.0929	0.1130	0.7271	0.2246	-16.8412	0.8282	-0.8933	0.3844
2	150.12	0.7495	-1.4206	0.1433	0.8384	0.2599	-20.1985	0.9694	-0.9332	0.3778
2	150.12	0.7996	-1.7898	0.1799	0.9442	0.2958	-23.7269	1.1210	-0.9292	0.3781
2	150.12	0.8578	-2.2810	0.2256	1.0742	0.3390	-27.9694	1.3059	-0.5725	0.3755
2	150.12	0.9100	-2.7013	0.2677	1.1735	0.3792	-31.9322	1.4787	-0.5371	0.3808
2	150.12	0.9727	-3.1328	0.3155	1.3145	0.4271	-36.6008	1.6928	-0.0425	0.3828
3	150.12	0.1938	-0.0777	0.0050	0.0346	0.0019	-0.2139	0.0107	-0.1400	0.0304
3	150.12	0.2357	-0.0186	0.0048	0.0115	0.0030	-0.4846	0.0214	-0.5134	0.0475
3	150.12	0.2995	-0.0670	0.0059	0.1081	0.0069	-1.0435	0.0500	-0.5990	0.0705
3	150.12	0.3493	-0.0804	0.0079	0.1745	0.0124	-1.7794	0.0840	-0.6552	0.0686
3	150.12	0.4000	-0.0877	0.0111	0.2603	0.0188	-2.8168	0.1331	-0.5640	0.0785
3	150.12	0.4497	-0.1660	0.0167	0.3611	0.0249	-4.1452	0.1913	-0.6398	0.0884
3	150.12	0.4997	-0.2373	0.0252	0.4894	0.0325	-5.8191	0.2734	-0.6685	0.0933
3	150.12	0.5556	-0.3749	0.0391	0.6255	0.0426	-8.0943	0.3832	-0.7478	0.0981
3	150.12	0.5995	-0.5045	0.0539	0.7890	0.0525	-10.1473	0.4864	-0.6857	0.0997
3	150.12	0.6498	-0.6872	0.0765	0.9238	0.0635	-12.7964	0.6241	-0.6300	0.1060
3	150.12	0.6890	-0.8989	0.0978	1.0609	0.0729	-15.0511	0.7438	-0.3840	0.1108
3	150.12	0.7495	-1.2257	0.1373	1.2326	0.0882	-18.8587	0.9465	-0.3690	0.1205
3	150.12	0.7998	-1.5614	0.1759	1.4044	0.1012	-22.2275	1.1312	-0.3809	0.1250
3	150.12	0.8577	-1.9732	0.2251	1.5832	0.1171	-26.3069	1.3552	-0.4092	0.1259
3	150.12	0.9178	-2.3739	0.2758	1.7596	0.1336	-30.6606	1.5949	-0.3125	0.1351
3	150.12	0.9729	-2.7194	0.3208	1.8800	0.1485	-34.7310	1.8205	-0.2947	0.1337
4	150.12	0.2001	-0.0800	0.0162	0.0255	0.0041	-0.2924	0.0182	-0.1169	0.0784
4	150.12	0.2502	-0.0700	0.0096	0.0695	0.0060	-0.6644	0.0338	-0.2910	0.2101
4	150.12	0.3001	-0.0959	0.0111	0.1311	0.0153	-1.2580	0.0680	-0.3414	0.2154
4	150.12	0.3502	-0.1272	0.0128	0.2146	0.0261	-2.1424	0.1146	-0.3595	0.2118
4	150.12	0.4002	-0.1719	0.0174	0.3527	0.0395	-3.3670	0.1762	-0.5036	0.2100
4	150.12	0.4500	-0.2191	0.0249	0.5283	0.0549	-4.9328	0.2512	-0.6443	0.2141
4	150.12	0.5001	-0.3350	0.0349	0.6999	0.0705	-6.8047	0.3435	-0.4180	0.2096
4	150.12	0.5560	-0.5034	0.0511	0.9328	0.0907	-9.4022	0.4648	-0.5661	0.2166
4	150.12	0.6001	-0.6617	0.0698	1.1195	0.1085	-11.7176	0.5753	-0.5512	0.2144
4	150.12	0.6501	-0.9118	0.0961	1.3369	0.1291	-14.6547	0.7159	-0.4131	0.2130
4	150.12	0.6999	-1.2032	0.1276	1.5497	0.1513	-17.8785	0.8706	-0.1890	0.2254
4	150.12	0.7500	-1.5467	0.1631	1.7702	0.1746	-21.3548	1.0352	-0.0033	0.2209
4	150.12	0.8002	-1.9560	0.2054	1.9737	0.1975	-25.0429	1.2107	0.0821	0.2241
4	150.12	0.8582	-2.4524	0.2578	2.2199	0.2241	-29.5042	1.4226	-0.0301	0.2269
4	150.12	0.9101	-2.8913	0.3046	2.4554	0.2502	-33.5666	1.6138	0.2355	0.2334
4	150.12	0.9728	-3.2720	0.3580	2.7527	0.2810	-38.4863	1.8520	0.5684	0.2282

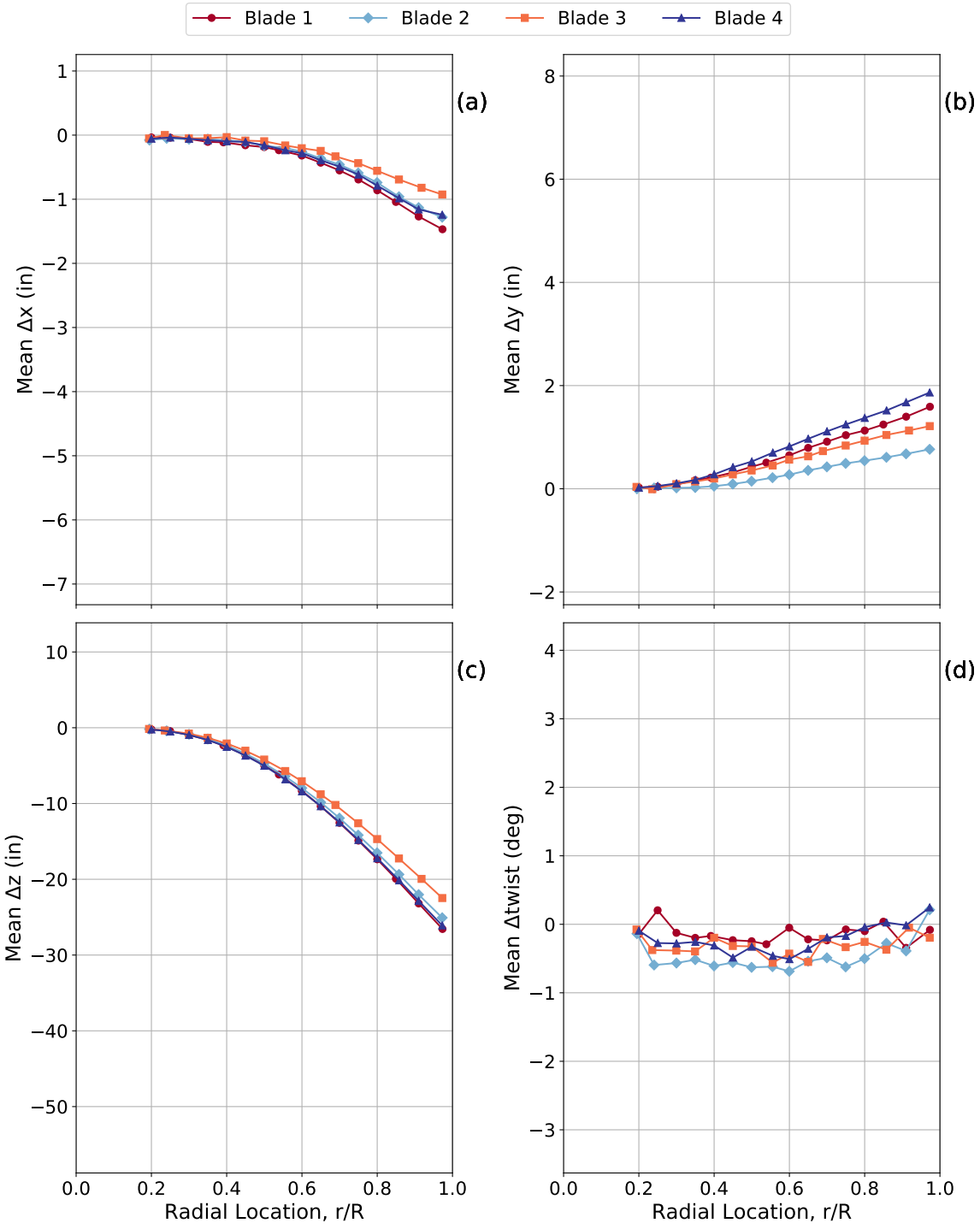


Figure 2.26-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0366	0.0057	0.0226	0.0024	-0.2263	0.0113	-0.1425	0.0747
1	164.88	0.2499	-0.0402	0.0068	0.0386	0.0046	-0.4505	0.0215	0.2045	0.1747
1	164.88	0.2998	-0.0606	0.0075	0.0807	0.0099	-0.9418	0.0466	-0.1247	0.1959
1	164.88	0.3498	-0.1054	0.0086	0.1640	0.0168	-1.6074	0.0809	-0.1980	0.2062
1	164.88	0.3913	-0.1128	0.0108	0.2151	0.0240	-2.3248	0.1157	-0.1702	0.2179
1	164.88	0.4496	-0.1583	0.0146	0.3155	0.0341	-3.5976	0.1772	-0.2319	0.2450
1	164.88	0.4997	-0.1869	0.0200	0.4265	0.0438	-4.9700	0.2408	-0.2471	0.2547
1	164.88	0.5387	-0.2357	0.0249	0.5067	0.0523	-6.1716	0.2962	-0.2913	0.2733
1	164.88	0.5996	-0.3189	0.0365	0.6471	0.0673	-8.3190	0.3975	-0.0507	0.2825
1	164.88	0.6498	-0.4302	0.0479	0.7928	0.0811	-10.3626	0.4926	-0.2196	0.2943
1	164.88	0.6998	-0.5509	0.0633	0.9131	0.0956	-12.5502	0.5998	-0.2343	0.2852
1	164.88	0.7500	-0.6921	0.0818	1.0391	0.1118	-14.8965	0.7213	-0.0751	0.2951
1	164.88	0.8001	-0.8606	0.1027	1.1288	0.1281	-17.3603	0.8525	-0.0998	0.2930
1	164.88	0.8497	-1.0420	0.1272	1.2448	0.1453	-19.9289	0.9922	0.0381	0.3101
1	164.88	0.9102	-1.2691	0.1557	1.3972	0.1679	-23.1927	1.1730	-0.3438	0.3101
1	164.88	0.9734	-1.4684	0.1842	1.5902	0.1921	-26.5592	1.3658	-0.0809	0.3113
2	164.88	0.1949	-0.0782	0.0038	-0.0007	0.0016	-0.1773	0.0096	-0.1375	0.0431
2	164.88	0.2405	-0.0510	0.0037	0.0146	0.0040	-0.4097	0.0196	-0.5946	0.0772
2	164.88	0.2999	-0.0639	0.0045	0.0173	0.0077	-0.8722	0.0430	-0.5655	0.1100
2	164.88	0.3498	-0.0623	0.0060	0.0245	0.0136	-1.4839	0.0726	-0.5168	0.1262
2	164.88	0.3998	-0.0821	0.0088	0.0504	0.0212	-2.3482	0.1137	-0.6084	0.1489
2	164.88	0.4496	-0.1067	0.0122	0.0914	0.0278	-3.4091	0.1633	-0.5589	0.1751
2	164.88	0.4995	-0.1638	0.0169	0.1467	0.0341	-4.7104	0.2242	-0.6283	0.2010
2	164.88	0.5551	-0.2020	0.0239	0.2151	0.0444	-6.4106	0.3025	-0.6187	0.2042
2	164.88	0.5996	-0.2566	0.0325	0.2730	0.0520	-7.9587	0.3783	-0.6867	0.2296
2	164.88	0.6497	-0.3629	0.0429	0.3569	0.0612	-9.8426	0.4696	-0.5393	0.2133
2	164.88	0.6996	-0.4594	0.0575	0.4249	0.0715	-11.9244	0.5756	-0.4893	0.2123
2	164.88	0.7495	-0.5905	0.0742	0.4922	0.0821	-14.1734	0.6954	-0.6220	0.2104
2	164.88	0.7996	-0.7399	0.0952	0.5443	0.0931	-16.5162	0.8261	-0.5012	0.2097
2	164.88	0.8578	-0.9609	0.1201	0.6095	0.1036	-19.3584	0.9913	-0.2764	0.2703
2	164.88	0.9100	-1.1305	0.1450	0.6768	0.1208	-22.0215	1.1441	-0.3890	0.2197
2	164.88	0.9727	-1.2803	0.1705	0.7653	0.1379	-25.0781	1.3346	0.2123	0.2369
3	164.88	0.1938	-0.0527	0.0062	0.0362	0.0020	-0.1608	0.0109	-0.0762	0.0401
3	164.88	0.2357	0.0017	0.0049	-0.0092	0.0032	-0.3625	0.0208	-0.3762	0.0819
3	164.88	0.2995	-0.0510	0.0046	0.0898	0.0069	-0.7681	0.0480	-0.3839	0.1100
3	164.88	0.3493	-0.0481	0.0064	0.1408	0.0116	-1.3245	0.0841	-0.3961	0.1251
3	164.88	0.4000	-0.0313	0.0094	0.1987	0.0181	-2.0814	0.1307	-0.1969	0.1332
3	164.88	0.4497	-0.0855	0.0122	0.2785	0.0232	-3.0307	0.1903	-0.3163	0.1588
3	164.88	0.4997	-0.0955	0.0177	0.3544	0.0313	-4.1963	0.2596	-0.3225	0.1612
3	164.88	0.5556	-0.1614	0.0240	0.4516	0.0393	-5.7139	0.3526	-0.5614	0.1905
3	164.88	0.5995	-0.2047	0.0327	0.5649	0.0480	-7.0600	0.4371	-0.4282	0.2040
3	164.88	0.6498	-0.2462	0.0450	0.6296	0.0570	-8.7864	0.5447	-0.5492	0.2035
3	164.88	0.6890	-0.3315	0.0561	0.7302	0.0653	-10.1915	0.6394	-0.2141	0.2120
3	164.88	0.7495	-0.4375	0.0772	0.8380	0.0799	-12.6039	0.8026	-0.3335	0.1941
3	164.88	0.7998	-0.5563	0.0973	0.9329	0.0916	-14.6930	0.9547	-0.2567	0.1910
3	164.88	0.8577	-0.6922	0.1239	1.0425	0.1036	-17.2540	1.1423	-0.3711	0.2391
3	164.88	0.9178	-0.8213	0.1498	1.1293	0.1194	-19.9481	1.3439	-0.0489	0.2125
3	164.88	0.9729	-0.9262	0.1713	1.2146	0.1342	-22.4766	1.5331	-0.1960	0.2213
4	164.88	0.2001	-0.0559	0.0049	0.0212	0.0021	-0.2265	0.0132	-0.0938	0.0339
4	164.88	0.2502	-0.0376	0.0048	0.0529	0.0053	-0.5017	0.0285	-0.2738	0.0609
4	164.88	0.3001	-0.0579	0.0058	0.1042	0.0097	-0.9495	0.0549	-0.2795	0.0780
4	164.88	0.3502	-0.0803	0.0077	0.1723	0.0162	-1.6197	0.0930	-0.2569	0.0792
4	164.88	0.4002	-0.0966	0.0105	0.2797	0.0261	-2.5314	0.1456	-0.3096	0.1145
4	164.88	0.4500	-0.1062	0.0159	0.4176	0.0316	-3.6849	0.2105	-0.4868	0.1423
4	164.88	0.5001	-0.1603	0.0219	0.5281	0.0416	-5.0198	0.2862	-0.3274	0.1417
4	164.88	0.5560	-0.2366	0.0313	0.6996	0.0520	-6.8103	0.3860	-0.4607	0.1615
4	164.88	0.6001	-0.2828	0.0420	0.8209	0.0604	-8.3970	0.4784	-0.5089	0.1643
4	164.88	0.6501	-0.3923	0.0556	0.9693	0.0719	-10.3607	0.5932	-0.3575	0.1534
4	164.88	0.6999	-0.4930	0.0728	1.1118	0.0820	-12.4937	0.7257	-0.1918	0.1563
4	164.88	0.7500	-0.6158	0.0941	1.2461	0.0918	-14.8087	0.8732	-0.1702	0.1605
4	164.88	0.8002	-0.7886	0.1177	1.3731	0.1026	-17.2271	1.0304	-0.0414	0.1583
4	164.88	0.8582	-0.9862	0.1476	1.5182	0.1160	-20.1466	1.2253	0.0256	0.1940
4	164.88	0.9101	-1.1593	0.1739	1.6756	0.1266	-22.8577	1.4004	-0.0146	0.1676
4	164.88	0.9728	-1.2421	0.2023	1.8658	0.1401	-26.0935	1.6186	0.2464	0.1793

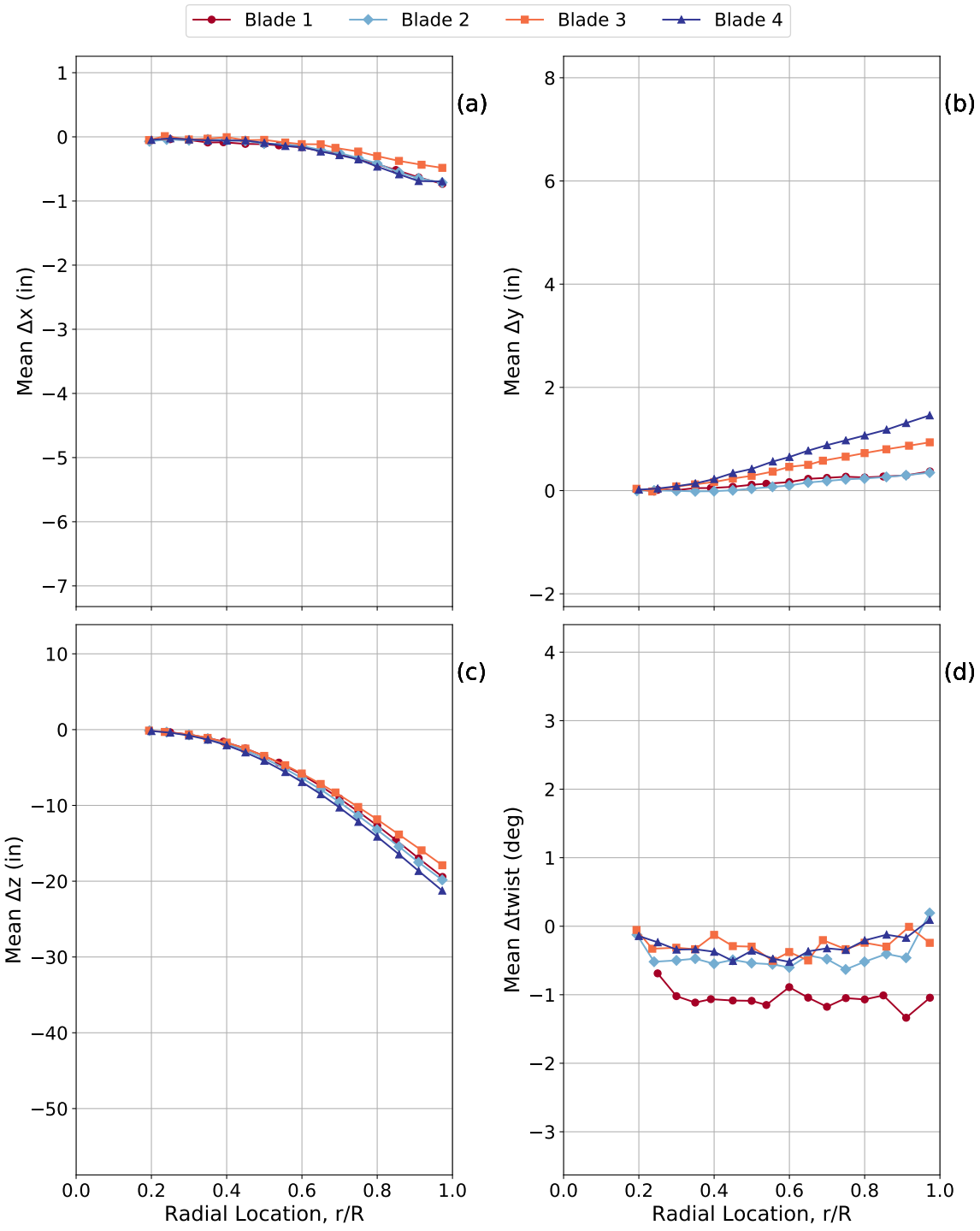


Figure 2.26-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2499	-0.0369	0.0061	0.0139	0.0051	-0.3475	0.0297	-0.6883	0.1754
1	170.16	0.2998	-0.0498	0.0084	0.0088	0.0114	-0.6473	0.0542	-1.0204	0.2527
1	170.16	0.3498	-0.0881	0.0083	0.0483	0.0174	-1.0875	0.0919	-1.1142	0.2356
1	170.16	0.3913	-0.0845	0.0086	0.0498	0.0269	-1.5815	0.1324	-1.0645	0.2630
1	170.16	0.4496	-0.1098	0.0124	0.0736	0.0355	-2.4776	0.2050	-1.0844	0.2699
1	170.16	0.4997	-0.1137	0.0165	0.1134	0.0444	-3.4768	0.2808	-1.0888	0.2752
1	170.16	0.5387	-0.1334	0.0205	0.1328	0.0530	-4.3544	0.3504	-1.1498	0.2897
1	170.16	0.5996	-0.1632	0.0308	0.1643	0.0656	-5.9353	0.4727	-0.8894	0.2881
1	170.16	0.6498	-0.2176	0.0404	0.2279	0.0773	-7.4446	0.5876	-1.0426	0.2923
1	170.16	0.6998	-0.2740	0.0541	0.2470	0.0887	-9.0861	0.7177	-1.1757	0.3014
1	170.16	0.7500	-0.3403	0.0708	0.2690	0.1005	-10.8330	0.8635	-1.0493	0.3229
1	170.16	0.8001	-0.4265	0.0883	0.2547	0.1142	-12.6568	1.0195	-1.0684	0.3242
1	170.16	0.8497	-0.5166	0.1081	0.2728	0.1264	-14.5719	1.1859	-1.0097	0.3290
1	170.16	0.9102	-0.6317	0.1306	0.2958	0.1427	-16.9838	1.3998	-1.3357	0.3318
1	170.16	0.9734	-0.7340	0.1517	0.3722	0.1593	-19.4362	1.6267	-1.0436	0.3086
2	170.16	0.1949	-0.0702	0.0047	-0.0044	0.0023	-0.1393	0.0127	-0.1250	0.0607
2	170.16	0.2405	-0.0414	0.0038	0.0027	0.0046	-0.3262	0.0260	-0.5186	0.1043
2	170.16	0.2999	-0.0530	0.0049	-0.0040	0.0100	-0.6941	0.0558	-0.4988	0.1495
2	170.16	0.3498	-0.0398	0.0065	-0.0145	0.0175	-1.1852	0.0949	-0.4735	0.1596
2	170.16	0.3998	-0.0500	0.0080	-0.0111	0.0270	-1.8767	0.1477	-0.5477	0.1892
2	170.16	0.4496	-0.0635	0.0118	0.0063	0.0367	-2.7250	0.2111	-0.4909	0.2022
2	170.16	0.4995	-0.1048	0.0164	0.0366	0.0464	-3.7736	0.2899	-0.5382	0.2184
2	170.16	0.5551	-0.1136	0.0236	0.0732	0.0600	-5.1512	0.3960	-0.5561	0.2201
2	170.16	0.5996	-0.1399	0.0316	0.0981	0.0707	-6.4011	0.4965	-0.6017	0.2324
2	170.16	0.6497	-0.2046	0.0426	0.1576	0.0841	-7.8954	0.6235	-0.4254	0.2432
2	170.16	0.6996	-0.2512	0.0586	0.1865	0.0973	-9.5727	0.7670	-0.4796	0.2465
2	170.16	0.7495	-0.3279	0.0764	0.2181	0.1109	-11.3627	0.9329	-0.6309	0.2761
2	170.16	0.7996	-0.4139	0.0970	0.2337	0.1249	-13.2039	1.1118	-0.5188	0.2836
2	170.16	0.8578	-0.5542	0.1235	0.2645	0.1417	-15.4363	1.3328	-0.4041	0.2867
2	170.16	0.9100	-0.6467	0.1470	0.2978	0.1568	-17.5061	1.5405	-0.4609	0.2699
2	170.16	0.9727	-0.7126	0.1707	0.3479	0.1746	-19.8280	1.7935	0.1932	0.2563
3	170.16	0.1938	-0.0504	0.0051	0.0357	0.0024	-0.1302	0.0129	-0.0547	0.0449
3	170.16	0.2357	0.0108	0.0050	-0.0174	0.0039	-0.3050	0.0221	-0.3286	0.0885
3	170.16	0.2995	-0.0409	0.0051	0.0807	0.0091	-0.6275	0.0536	-0.3136	0.1195
3	170.16	0.3493	-0.0287	0.0068	0.1206	0.0162	-1.0931	0.0926	-0.3357	0.1413
3	170.16	0.4000	-0.0055	0.0085	0.1668	0.0248	-1.7134	0.1428	-0.1263	0.1417
3	170.16	0.4497	-0.0523	0.0114	0.2334	0.0325	-2.5024	0.2005	-0.2906	0.1604
3	170.16	0.4997	-0.0473	0.0154	0.2866	0.0421	-3.4668	0.2683	-0.2976	0.1585
3	170.16	0.5556	-0.0882	0.0203	0.3687	0.0537	-4.6980	0.3557	-0.5045	0.1951
3	170.16	0.5995	-0.1138	0.0263	0.4602	0.0649	-5.7896	0.4288	-0.3768	0.1842
3	170.16	0.6498	-0.1166	0.0334	0.4997	0.0770	-7.1740	0.5186	-0.4993	0.1887
3	170.16	0.6890	-0.1722	0.0405	0.5797	0.0872	-8.2951	0.5941	-0.2029	0.1918
3	170.16	0.7495	-0.2289	0.0530	0.6570	0.1044	-10.2124	0.7207	-0.3350	0.2151
3	170.16	0.7998	-0.3002	0.0636	0.7268	0.1177	-11.8419	0.8330	-0.2413	0.2252
3	170.16	0.8577	-0.3752	0.0781	0.8005	0.1344	-13.8436	0.9694	-0.2977	0.2354
3	170.16	0.9178	-0.4350	0.0922	0.8697	0.1518	-15.9288	1.1175	-0.0089	0.2255
3	170.16	0.9729	-0.4835	0.1023	0.9356	0.1684	-17.8949	1.2543	-0.2423	0.2252
4	170.16	0.2001	-0.0475	0.0038	0.0180	0.0030	-0.1891	0.0183	-0.1431	0.0802
4	170.16	0.2502	-0.0238	0.0074	0.0403	0.0078	-0.4032	0.0337	-0.2349	0.1463
4	170.16	0.3001	-0.0410	0.0055	0.0838	0.0099	-0.7805	0.0555	-0.3412	0.1007
4	170.16	0.3502	-0.0553	0.0068	0.1395	0.0158	-1.3247	0.0914	-0.3363	0.0956
4	170.16	0.4002	-0.0594	0.0094	0.2236	0.0255	-2.0662	0.1384	-0.3729	0.1050
4	170.16	0.4500	-0.0569	0.0131	0.3401	0.0321	-3.0090	0.2003	-0.5072	0.1171
4	170.16	0.5001	-0.0946	0.0185	0.4198	0.0437	-4.1140	0.2734	-0.3564	0.1236
4	170.16	0.5560	-0.1430	0.0258	0.5633	0.0566	-5.6005	0.3720	-0.4742	0.1202
4	170.16	0.6001	-0.1593	0.0343	0.6512	0.0663	-6.9188	0.4610	-0.5208	0.1243
4	170.16	0.6501	-0.2289	0.0442	0.7747	0.0792	-8.5251	0.5721	-0.3665	0.1347
4	170.16	0.6999	-0.2857	0.0574	0.8804	0.0910	-10.2817	0.6942	-0.3227	0.1265
4	170.16	0.7500	-0.3519	0.0729	0.9740	0.1027	-12.1736	0.8307	-0.3472	0.1343
4	170.16	0.8002	-0.4643	0.0897	1.0682	0.1164	-14.1247	0.9736	-0.2068	0.1442
4	170.16	0.8582	-0.5845	0.1106	1.1798	0.1304	-16.4748	1.1467	-0.1236	0.1453
4	170.16	0.9101	-0.6893	0.1278	1.3087	0.1433	-18.6526	1.3065	-0.1694	0.1418
4	170.16	0.9728	-0.6957	0.1459	1.4575	0.1598	-21.2432	1.4984	0.0924	0.1415

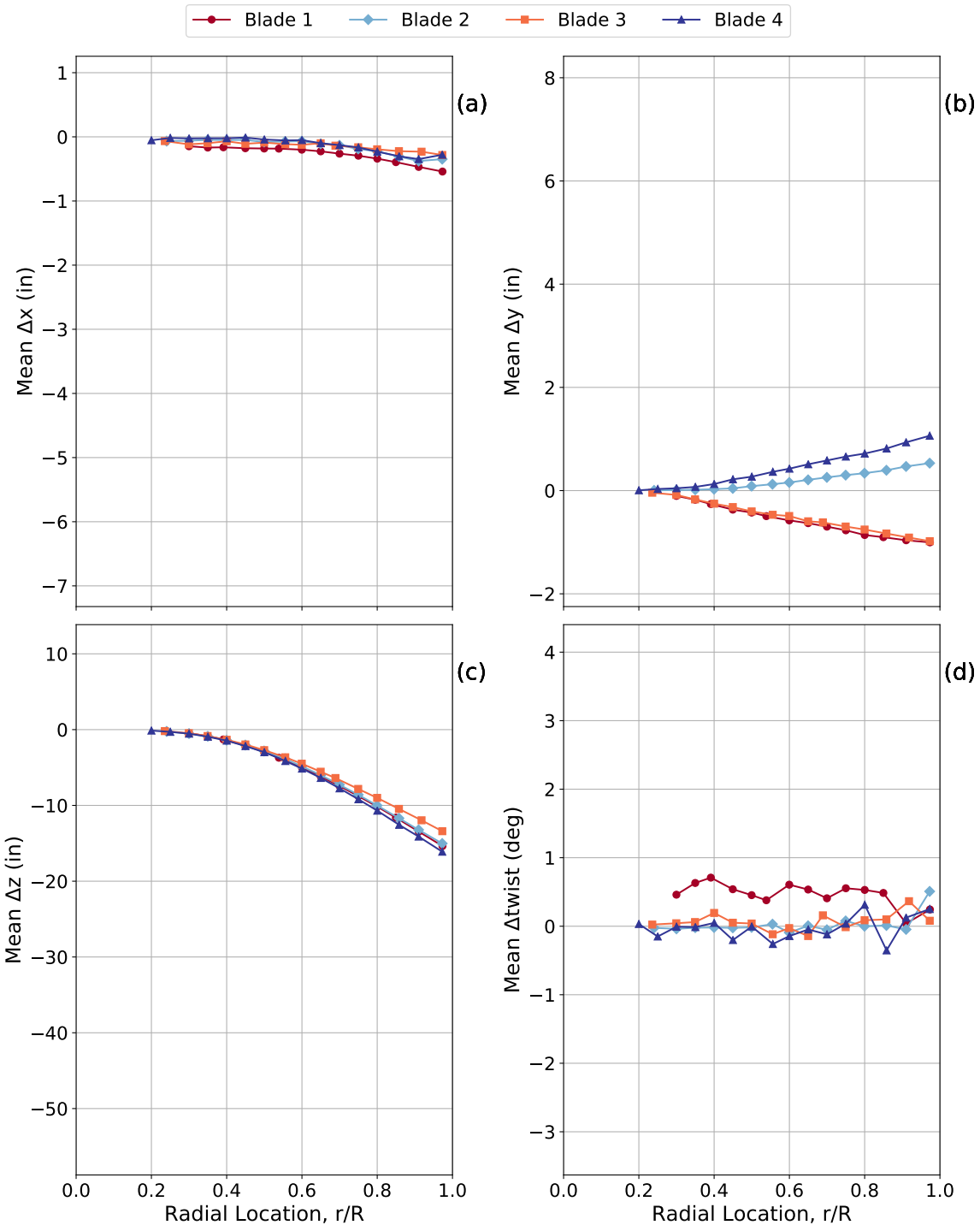


Figure 2.26-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2998	-0.1469	0.0145	-0.1026	0.0299	-0.4717	0.0781	0.4602	0.0933
1	175.08	0.3498	-0.1670	0.0169	-0.1771	0.0521	-0.8578	0.1339	0.6312	0.1256
1	175.08	0.3913	-0.1629	0.0178	-0.2612	0.0771	-1.2985	0.1968	0.7092	0.1229
1	175.08	0.4496	-0.1776	0.0222	-0.3687	0.1098	-2.1148	0.3025	0.5398	0.1268
1	175.08	0.4997	-0.1819	0.0269	-0.4257	0.1397	-2.9565	0.4069	0.4534	0.1385
1	175.08	0.5387	-0.1838	0.0312	-0.4952	0.1665	-3.7079	0.4988	0.3790	0.1388
1	175.08	0.5996	-0.2001	0.0410	-0.5773	0.2075	-4.9743	0.6551	0.6062	0.1447
1	175.08	0.6498	-0.2260	0.0502	-0.6307	0.2416	-6.1746	0.7947	0.5353	0.1520
1	175.08	0.6998	-0.2619	0.0612	-0.6980	0.2757	-7.4328	0.9478	0.4077	0.1646
1	175.08	0.7500	-0.2940	0.0750	-0.7694	0.3128	-8.7758	1.1135	0.5540	0.1504
1	175.08	0.8001	-0.3399	0.0898	-0.8608	0.3488	-10.1614	1.2867	0.5295	0.1442
1	175.08	0.8497	-0.3944	0.1048	-0.9031	0.3839	-11.6131	1.4641	0.4857	0.1577
1	175.08	0.9102	-0.4688	0.1226	-0.9623	0.4284	-13.4520	1.6878	0.0399	0.1750
1	175.08	0.9734	-0.5410	0.1329	-1.0031	0.4744	-15.3590	1.9227	0.2442	0.1815
2	175.08	0.2405	-0.0662	0.0056	0.0039	0.0043	-0.2356	0.0217	-0.0237	0.0780
2	175.08	0.2999	-0.0603	0.0055	0.0107	0.0091	-0.5195	0.0465	-0.0383	0.1215
2	175.08	0.3498	-0.0474	0.0060	0.0165	0.0167	-0.8828	0.0784	-0.0213	0.1248
2	175.08	0.3998	-0.0499	0.0085	0.0280	0.0256	-1.3918	0.1226	-0.0188	0.1274
2	175.08	0.4496	-0.0471	0.0110	0.0431	0.0358	-2.0363	0.1800	-0.0237	0.1503
2	175.08	0.4995	-0.0806	0.0139	0.0864	0.0478	-2.8224	0.2505	-0.0169	0.1417
2	175.08	0.5551	-0.0727	0.0191	0.1238	0.0634	-3.8639	0.3424	0.0303	0.1600
2	175.08	0.5996	-0.0682	0.0236	0.1571	0.0767	-4.8467	0.4223	-0.0928	0.1809
2	175.08	0.6497	-0.1096	0.0294	0.2085	0.0924	-6.0009	0.5221	0.0062	0.1789
2	175.08	0.6996	-0.1315	0.0373	0.2562	0.1091	-7.2719	0.6284	-0.0514	0.1850
2	175.08	0.7495	-0.1883	0.0467	0.2996	0.1284	-8.5955	0.7427	0.0773	0.1847
2	175.08	0.7996	-0.2270	0.0568	0.3371	0.1466	-10.0053	0.8667	-0.0001	0.1989
2	175.08	0.8578	-0.3069	0.0712	0.3940	0.1687	-11.6937	1.0171	0.0108	0.1995
2	175.08	0.9100	-0.3774	0.0816	0.4680	0.1902	-13.2192	1.1593	-0.0465	0.2173
2	175.08	0.9727	-0.3475	0.0916	0.5317	0.2151	-15.0236	1.3281	0.5084	0.2312
3	175.08	0.2357	-0.0664	0.0054	-0.0411	0.0044	-0.1938	0.0262	0.0239	0.0955
3	175.08	0.2995	-0.1166	0.0073	-0.0837	0.0105	-0.4701	0.0584	0.0432	0.1552
3	175.08	0.3493	-0.0991	0.0082	-0.1704	0.0190	-0.8443	0.1019	0.0606	0.1601
3	175.08	0.4000	-0.0690	0.0098	-0.2533	0.0298	-1.3400	0.1583	0.1938	0.1502
3	175.08	0.4497	-0.1087	0.0126	-0.3194	0.0400	-1.9570	0.2304	0.0511	0.1513
3	175.08	0.4997	-0.0900	0.0158	-0.4034	0.0532	-2.7088	0.3129	0.0392	0.1524
3	175.08	0.5556	-0.1140	0.0210	-0.4683	0.0677	-3.6497	0.4203	-0.1172	0.1581
3	175.08	0.5995	-0.1236	0.0269	-0.4923	0.0788	-4.4958	0.5154	-0.0274	0.1607
3	175.08	0.6498	-0.1003	0.0326	-0.5951	0.0945	-5.5559	0.6330	-0.1432	0.1733
3	175.08	0.6890	-0.1376	0.0388	-0.6158	0.1058	-6.3885	0.7291	0.1589	0.1672
3	175.08	0.7495	-0.1625	0.0498	-0.6964	0.1242	-7.8245	0.8875	-0.0138	0.1649
3	175.08	0.7998	-0.1942	0.0598	-0.7547	0.1406	-9.0052	1.0285	0.0874	0.1695
3	175.08	0.8577	-0.2234	0.0714	-0.8319	0.1602	-10.4597	1.1950	0.0995	0.1814
3	175.08	0.9178	-0.2315	0.0825	-0.9105	0.1811	-11.9643	1.3710	0.3652	0.1717
3	175.08	0.9729	-0.2830	0.0877	-0.9799	0.1996	-13.4014	1.5355	0.0797	0.1761
4	175.08	0.2001	-0.0532	0.0082	0.0058	0.0100	-0.1273	0.0304	0.0324	0.1252
4	175.08	0.2502	-0.0171	0.0038	0.0309	0.0116	-0.2966	0.0429	-0.1503	0.3581
4	175.08	0.3001	-0.0245	0.0042	0.0457	0.0344	-0.5348	0.0996	-0.0074	0.3553
4	175.08	0.3502	-0.0222	0.0061	0.0714	0.0605	-0.9395	0.1663	-0.0130	0.3664
4	175.08	0.4002	-0.0219	0.0078	0.1273	0.0887	-1.4570	0.2465	0.0484	0.3594
4	175.08	0.4500	-0.0113	0.0123	0.2186	0.1160	-2.1737	0.3408	-0.2016	0.3756
4	175.08	0.5001	-0.0420	0.0166	0.2696	0.1482	-2.9810	0.4470	-0.0045	0.3866
4	175.08	0.5560	-0.0559	0.0230	0.3636	0.1864	-4.1459	0.5823	-0.2597	0.3709
4	175.08	0.6001	-0.0511	0.0304	0.4251	0.2172	-5.1441	0.6989	-0.1436	0.3807
4	175.08	0.6501	-0.0989	0.0393	0.5104	0.2532	-6.3787	0.8384	-0.0473	0.3865
4	175.08	0.6999	-0.1289	0.0502	0.5839	0.2906	-7.7515	0.9883	-0.1191	0.3938
4	175.08	0.7500	-0.1657	0.0632	0.6590	0.3293	-9.1910	1.1489	0.0368	0.3771
4	175.08	0.8002	-0.2302	0.0775	0.7176	0.3686	-10.6966	1.3118	0.3132	0.3784
4	175.08	0.8582	-0.3031	0.0938	0.8155	0.4144	-12.5640	1.5089	-0.3530	0.3864
4	175.08	0.9101	-0.3476	0.1085	0.9352	0.4564	-14.1162	1.6894	0.1254	0.3840
4	175.08	0.9728	-0.2790	0.1195	1.0628	0.5081	-16.1090	1.9098	0.2506	0.4192

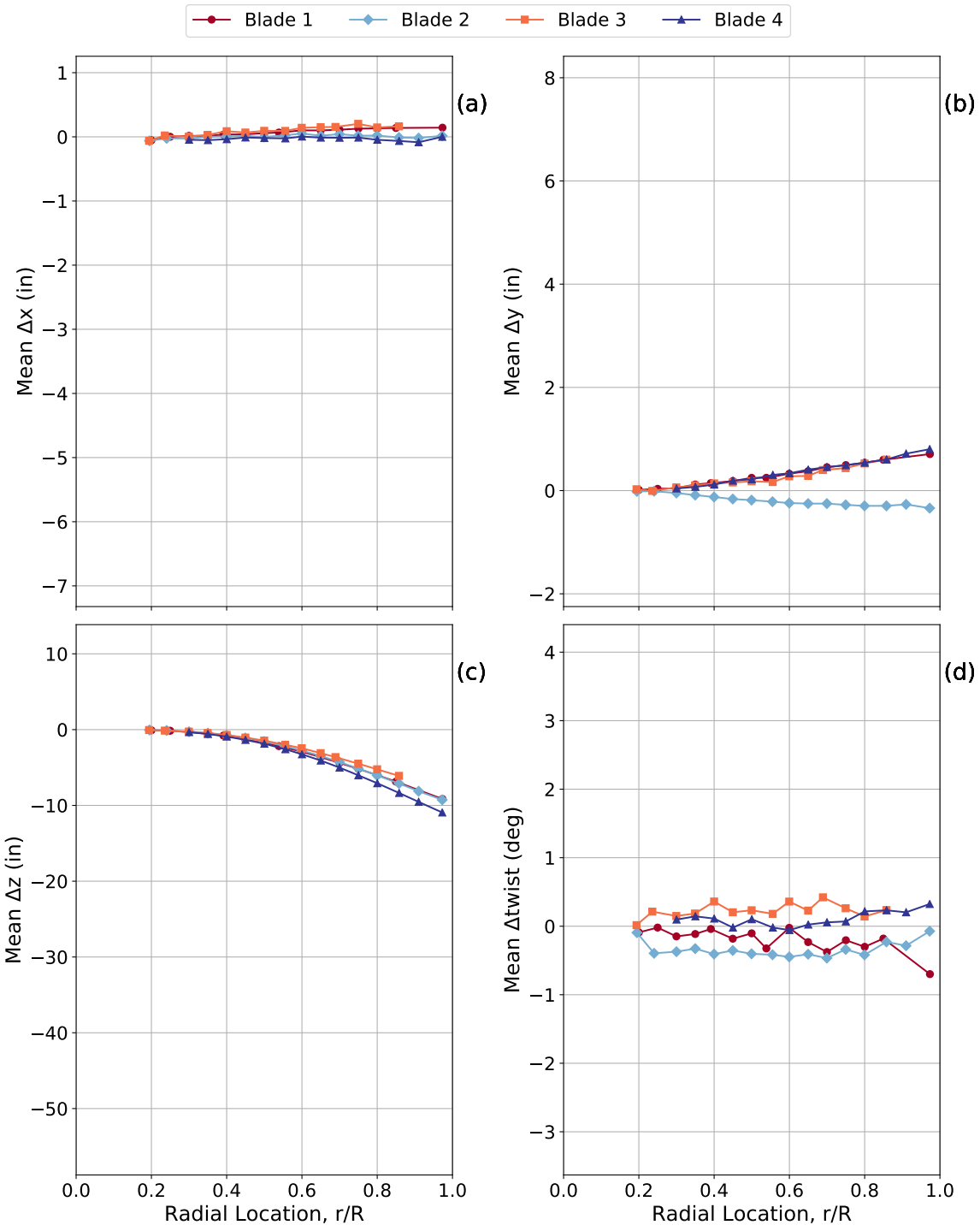


Figure 2.26-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.0533	0.0057	0.0139	0.0039	-0.0896	0.0220	-0.0899	0.1070
1	180	0.2499	0.0009	0.0038	0.0339	0.0067	-0.1493	0.0405	-0.0199	0.2945
1	180	0.2998	0.0157	0.0051	0.0460	0.0151	-0.3363	0.0836	-0.1486	0.2929
1	180	0.3498	0.0145	0.0063	0.1183	0.0252	-0.5525	0.1413	-0.1136	0.2922
1	180	0.3913	0.0351	0.0075	0.1452	0.0360	-0.7902	0.2018	-0.0403	0.2870
1	180	0.4496	0.0395	0.0096	0.1845	0.0523	-1.2709	0.3006	-0.1822	0.3046
1	180	0.4997	0.0579	0.0123	0.2476	0.0702	-1.7372	0.4003	-0.1039	0.3043
1	180	0.5387	0.0669	0.0145	0.2480	0.0851	-2.1738	0.4857	-0.3241	0.3080
1	180	0.5996	0.1007	0.0196	0.3267	0.1107	-2.9061	0.6276	-0.0233	0.3157
1	180	0.6498	0.1003	0.0239	0.3763	0.1320	-3.6243	0.7558	-0.2316	0.3209
1	180	0.6998	0.1110	0.0306	0.4526	0.1545	-4.3924	0.8910	-0.3764	0.3252
1	180	0.7500	0.1274	0.0370	0.4939	0.1785	-5.1750	1.0368	-0.2045	0.3248
1	180	0.8001	0.1326	0.0455	0.5414	0.2025	-6.0125	1.1900	-0.3004	0.3250
1	180	0.8497	0.1385	0.0534	0.5969	0.2266	-6.8598	1.3432	-0.1801	0.3430
1	180	0.9734	0.1430	0.0661	0.7076	0.2947	-9.1524	1.7408	-0.6991	0.3395
2	180	0.1949	-0.0622	0.0034	-0.0143	0.0027	-0.0507	0.0145	-0.0937	0.0470
2	180	0.2405	-0.0235	0.0029	-0.0121	0.0045	-0.1181	0.0331	-0.3952	0.1125
2	180	0.2999	-0.0246	0.0033	-0.0474	0.0100	-0.2798	0.0650	-0.3716	0.1282
2	180	0.3498	0.0005	0.0048	-0.0872	0.0174	-0.4639	0.1104	-0.3273	0.1307
2	180	0.3998	0.0060	0.0058	-0.1244	0.0266	-0.7535	0.1738	-0.4068	0.1372
2	180	0.4496	0.0137	0.0076	-0.1635	0.0363	-1.1132	0.2542	-0.3540	0.1366
2	180	0.4995	-0.0015	0.0099	-0.1850	0.0482	-1.5668	0.3508	-0.4025	0.1433
2	180	0.5551	0.0238	0.0137	-0.2146	0.0624	-2.1845	0.4735	-0.4164	0.1503
2	180	0.5996	0.0515	0.0176	-0.2415	0.0750	-2.7608	0.5830	-0.4475	0.1583
2	180	0.6497	0.0174	0.0224	-0.2519	0.0891	-3.4804	0.7139	-0.4088	0.1713
2	180	0.6996	0.0423	0.0295	-0.2518	0.1050	-4.2805	0.8556	-0.4650	0.1739
2	180	0.7495	0.0175	0.0366	-0.2763	0.1211	-5.1229	1.0050	-0.3385	0.1744
2	180	0.7996	0.0202	0.0452	-0.2963	0.1387	-6.0294	1.1565	-0.4183	0.1778
2	180	0.8578	-0.0097	0.0550	-0.2953	0.1577	-7.1089	1.3362	-0.2286	0.1761
2	180	0.9100	-0.0189	0.0630	-0.2670	0.1744	-8.1296	1.5029	-0.2847	0.1977
2	180	0.9727	0.0162	0.0669	-0.3401	0.2001	-9.2642	1.6970	-0.0723	0.2184
3	180.35	0.1938	-0.0612	0.0024	0.0259	0.0025	-0.0560	0.0111	0.0154	0.0406
3	180.35	0.2357	0.0215	0.0020	-0.0062	0.0035	-0.1308	0.0230	0.2131	0.0661
3	180.35	0.2995	0.0043	0.0028	0.0621	0.0089	-0.2613	0.0494	0.1494	0.0973
3	180.35	0.3493	0.0303	0.0035	0.1012	0.0154	-0.4464	0.0847	0.1852	0.0931
3	180.35	0.4000	0.0878	0.0046	0.1396	0.0235	-0.7005	0.1328	0.3601	0.0964
3	180.35	0.4497	0.0674	0.0056	0.1577	0.0325	-1.0487	0.1912	0.2036	0.0984
3	180.35	0.4997	0.0935	0.0075	0.1796	0.0437	-1.4477	0.2631	0.2330	0.1172
3	180.35	0.5556	0.0929	0.0099	0.1654	0.0578	-1.9971	0.3510	0.1804	0.1328
3	180.35	0.5995	0.1408	0.0125	0.2770	0.0712	-2.4533	0.4314	0.3595	0.1796
3	180.35	0.6498	0.1510	0.0155	0.2845	0.0867	-3.1017	0.5283	0.2283	0.1444
3	180.35	0.6890	0.1545	0.0192	0.3989	0.0993	-3.6261	0.6085	0.4216	0.1485
3	180.35	0.7495	0.2023	0.0249	0.4362	0.1194	-4.4911	0.7453	0.2619	0.1486
3	180.35	0.7998	0.1465	0.0293	0.5268	0.1385	-5.2368	0.8596	0.1417	0.1631
3	180.35	0.8577	0.1637	0.0365	0.5999	0.1604	-6.1025	1.0010	0.2359	0.2725
4	180	0.3001	-0.0457	0.0165	0.0409	0.0201	-0.3334	0.0821	0.0968	0.1408
4	180	0.3502	-0.0515	0.0202	0.0721	0.0348	-0.5786	0.1461	0.1443	0.1894
4	180	0.4002	-0.0367	0.0207	0.1159	0.0553	-0.9202	0.2359	0.1113	0.1633
4	180	0.4500	-0.0099	0.0231	0.1927	0.0722	-1.3587	0.3339	-0.0196	0.1697
4	180	0.5001	-0.0187	0.0266	0.2188	0.0934	-1.8644	0.4441	0.1018	0.1838
4	180	0.5560	-0.0243	0.0315	0.3039	0.1172	-2.5901	0.5790	-0.0195	0.1829
4	180	0.6001	0.0042	0.0361	0.3355	0.1364	-3.2565	0.6943	-0.0567	0.1993
4	180	0.6501	-0.0125	0.0415	0.4065	0.1590	-4.0808	0.8352	0.0238	0.1923
4	180	0.6999	-0.0143	0.0492	0.4563	0.1820	-5.0112	0.9788	0.0565	0.1994
4	180	0.7500	-0.0122	0.0582	0.4908	0.2053	-6.0312	1.1327	0.0695	0.2018
4	180	0.8002	-0.0460	0.0683	0.5407	0.2297	-7.0765	1.2897	0.2164	0.2132
4	180	0.8582	-0.0641	0.0806	0.6031	0.2585	-8.3607	1.4807	0.2323	0.2105
4	180	0.9101	-0.0845	0.0897	0.7155	0.2864	-9.5359	1.6533	0.2031	0.2104
4	180	0.9728	0.0006	0.0994	0.8028	0.3169	-10.9351	1.8690	0.3241	0.2064

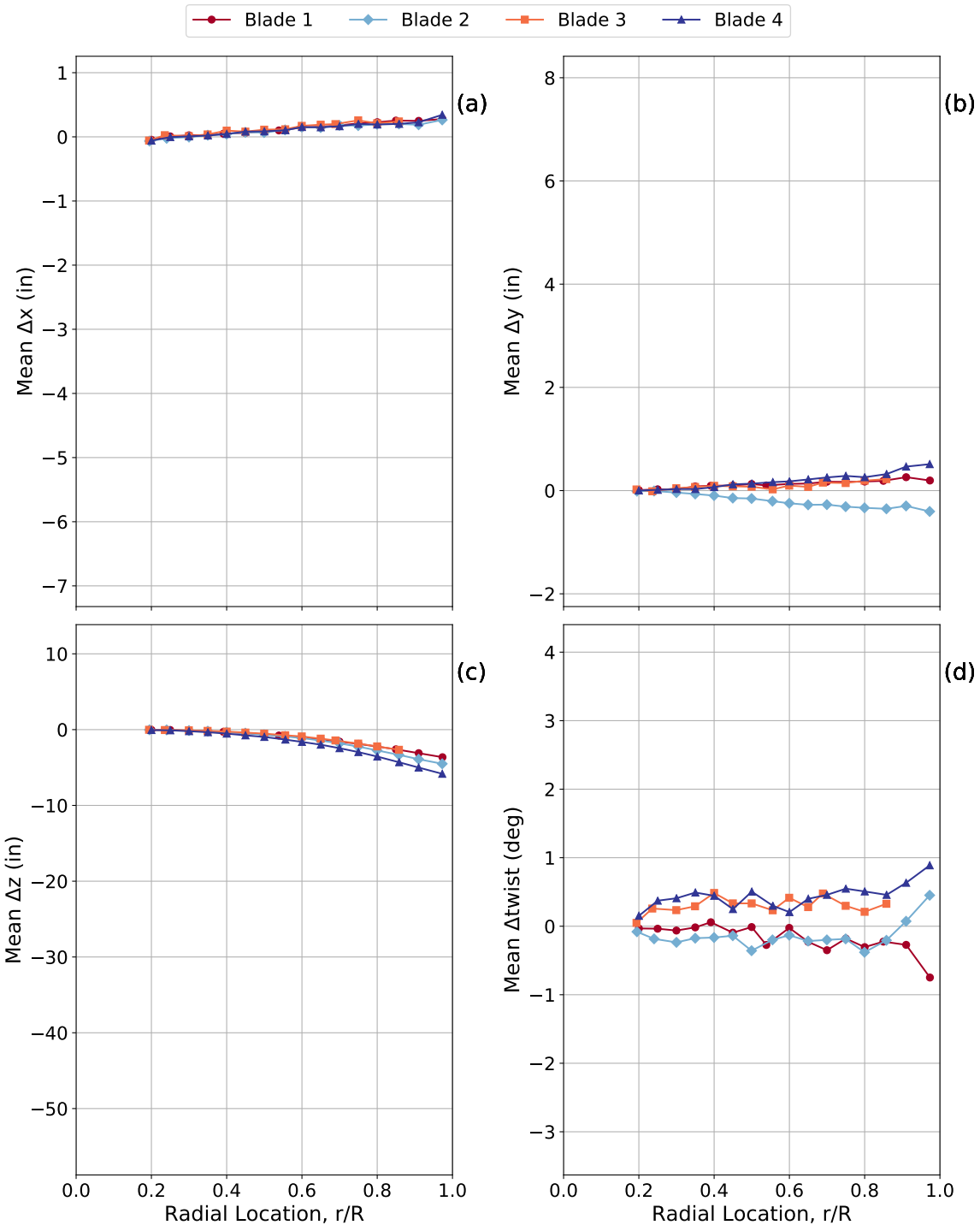


Figure 2.26-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0462	0.0033	0.0087	0.0057	-0.0409	0.0307	-0.0324	0.0948
1	184.92	0.2499	0.0070	0.0050	0.0245	0.0075	-0.0477	0.0557	-0.0361	0.2371
1	184.92	0.2998	0.0242	0.0065	0.0257	0.0201	-0.1337	0.1144	-0.0631	0.2494
1	184.92	0.3498	0.0245	0.0083	0.0812	0.0347	-0.2131	0.2006	-0.0171	0.2479
1	184.92	0.3913	0.0489	0.0086	0.0938	0.0476	-0.2943	0.2812	0.0582	0.2480
1	184.92	0.4496	0.0611	0.0096	0.0987	0.0662	-0.4759	0.3993	-0.0943	0.2471
1	184.92	0.4997	0.0864	0.0099	0.1278	0.0829	-0.6210	0.5018	-0.0122	0.2490
1	184.92	0.5387	0.1001	0.0100	0.0995	0.0974	-0.7767	0.5832	-0.2735	0.2495
1	184.92	0.5996	0.1446	0.0115	0.1302	0.1199	-1.0131	0.7214	-0.0239	0.2511
1	184.92	0.6498	0.1575	0.0131	0.1362	0.1404	-1.2772	0.8466	-0.2274	0.2490
1	184.92	0.6998	0.1786	0.0152	0.1723	0.1621	-1.5825	0.9842	-0.3501	0.2596
1	184.92	0.7500	0.2107	0.0187	0.1689	0.1838	-1.8812	1.1357	-0.1799	0.2578
1	184.92	0.8001	0.2282	0.0219	0.1750	0.2056	-2.2386	1.2936	-0.3048	0.2821
1	184.92	0.8497	0.2534	0.0257	0.1894	0.2291	-2.5979	1.4582	-0.2247	0.2839
1	184.92	0.9102	0.2490	0.0302	0.2598	0.2499	-3.1069	1.6655	-0.2719	0.3012
1	184.92	0.9734	0.2780	0.0288	0.1956	0.2881	-3.6402	1.8817	-0.7486	0.3039
2	184.92	0.1949	-0.0659	0.0023	-0.0111	0.0098	-0.0258	0.0517	-0.0806	0.1603
2	184.92	0.2405	-0.0228	0.0087	-0.0079	0.0049	-0.0370	0.0487	-0.1845	0.5876
2	184.92	0.2999	-0.0039	0.0097	-0.0385	0.0321	-0.1256	0.1540	-0.2355	0.5890
2	184.92	0.3498	0.0256	0.0116	-0.0654	0.0568	-0.2068	0.2559	-0.1744	0.5934
2	184.92	0.3998	0.0426	0.0130	-0.0965	0.0819	-0.3301	0.3677	-0.1652	0.5929
2	184.92	0.4496	0.0709	0.0144	-0.1451	0.1071	-0.4672	0.4886	-0.1386	0.5909
2	184.92	0.4995	0.0670	0.0154	-0.1533	0.1331	-0.6813	0.6186	-0.3574	0.5984
2	184.92	0.5551	0.1081	0.0173	-0.2048	0.1632	-0.8962	0.7830	-0.1992	0.5850
2	184.92	0.5996	0.1532	0.0181	-0.2457	0.1859	-1.1203	0.9242	-0.1311	0.5815
2	184.92	0.6497	0.1445	0.0198	-0.2757	0.2136	-1.4386	1.0938	-0.2166	0.5867
2	184.92	0.6996	0.1789	0.0223	-0.2718	0.2412	-1.8177	1.2729	-0.1993	0.6056
2	184.92	0.7495	0.1753	0.0246	-0.3113	0.2689	-2.2362	1.4608	-0.1849	0.6082
2	184.92	0.7996	0.1961	0.0271	-0.3340	0.2986	-2.7391	1.6539	-0.3803	0.5840
2	184.92	0.8578	0.2012	0.0309	-0.3530	0.3325	-3.3315	1.8829	-0.2056	0.5798
2	184.92	0.9100	0.1887	0.0336	-0.2973	0.3631	-3.9040	2.0841	0.0724	0.7174
2	184.92	0.9727	0.2639	0.0418	-0.4042	0.3990	-4.5063	2.3479	0.4519	0.5291
3	184.92	0.1938	-0.0574	0.0022	0.0220	0.0025	-0.0213	0.0198	0.0492	0.0435
3	184.92	0.2357	0.0262	0.0027	-0.0128	0.0041	-0.0562	0.0320	0.2581	0.0585
3	184.92	0.2995	0.0111	0.0037	0.0457	0.0105	-0.0958	0.0780	0.2348	0.0989
3	184.92	0.3493	0.0379	0.0046	0.0700	0.0184	-0.1670	0.1361	0.2909	0.1222
3	184.92	0.4000	0.0972	0.0049	0.0928	0.0284	-0.2580	0.2074	0.4855	0.1318
3	184.92	0.4497	0.0816	0.0057	0.0826	0.0380	-0.3890	0.2847	0.3334	0.1350
3	184.92	0.4997	0.1121	0.0064	0.0753	0.0497	-0.5292	0.3684	0.3332	0.1397
3	184.92	0.5556	0.1178	0.0072	0.0240	0.0636	-0.7450	0.4687	0.2324	0.1471
3	184.92	0.5995	0.1714	0.0085	0.0974	0.0736	-0.8987	0.5551	0.4153	0.1619
3	184.92	0.6498	0.1897	0.0101	0.0717	0.0872	-1.1900	0.6620	0.2791	0.1677
3	184.92	0.6890	0.1988	0.0117	0.1550	0.0972	-1.4271	0.7538	0.4777	0.1821
3	184.92	0.7495	0.2569	0.0142	0.1467	0.1147	-1.8416	0.9046	0.2977	0.1732
3	184.92	0.7998	0.2118	0.0164	0.1927	0.1292	-2.2131	1.0396	0.2102	0.1806
3	184.92	0.8577	0.2404	0.0191	0.2224	0.1475	-2.6612	1.1989	0.3275	0.2703
4	184.92	0.2001	-0.0590	0.0029	0.0025	0.0028	-0.0550	0.0219	0.1518	0.0394
4	184.92	0.2502	-0.0039	0.0035	0.0142	0.0057	-0.0925	0.0404	0.3727	0.0668
4	184.92	0.3001	0.0076	0.0047	0.0303	0.0113	-0.2062	0.0812	0.4081	0.0894
4	184.92	0.3502	0.0208	0.0055	0.0291	0.0191	-0.3466	0.1417	0.4917	0.0967
4	184.92	0.4002	0.0449	0.0064	0.0673	0.0298	-0.5292	0.2145	0.4440	0.1014
4	184.92	0.4500	0.0819	0.0078	0.1209	0.0391	-0.7583	0.2939	0.2500	0.1056
4	184.92	0.5001	0.0847	0.0089	0.1344	0.0496	-0.9655	0.3814	0.5047	0.1094
4	184.92	0.5560	0.1033	0.0108	0.1636	0.0636	-1.3188	0.4888	0.2984	0.1049
4	184.92	0.6001	0.1531	0.0120	0.1787	0.0734	-1.6242	0.5817	0.2059	0.1058
4	184.92	0.6501	0.1489	0.0141	0.2163	0.0857	-1.9887	0.6931	0.4003	0.1064
4	184.92	0.6999	0.1654	0.0172	0.2552	0.0983	-2.4502	0.8119	0.4577	0.1111
4	184.92	0.7500	0.2011	0.0210	0.2846	0.1114	-2.9650	0.9389	0.5480	0.1306
4	184.92	0.8002	0.1923	0.0255	0.2593	0.1240	-3.5561	1.0723	0.5072	0.1486
4	184.92	0.8582	0.2020	0.0313	0.3200	0.1386	-4.3079	1.2369	0.4575	0.1827
4	184.92	0.9101	0.2268	0.0360	0.4645	0.1490	-5.0071	1.3831	0.6337	0.2767
4	184.92	0.9728	0.3437	0.0394	0.5122	0.1671	-5.8303	1.5639	0.8886	0.2510

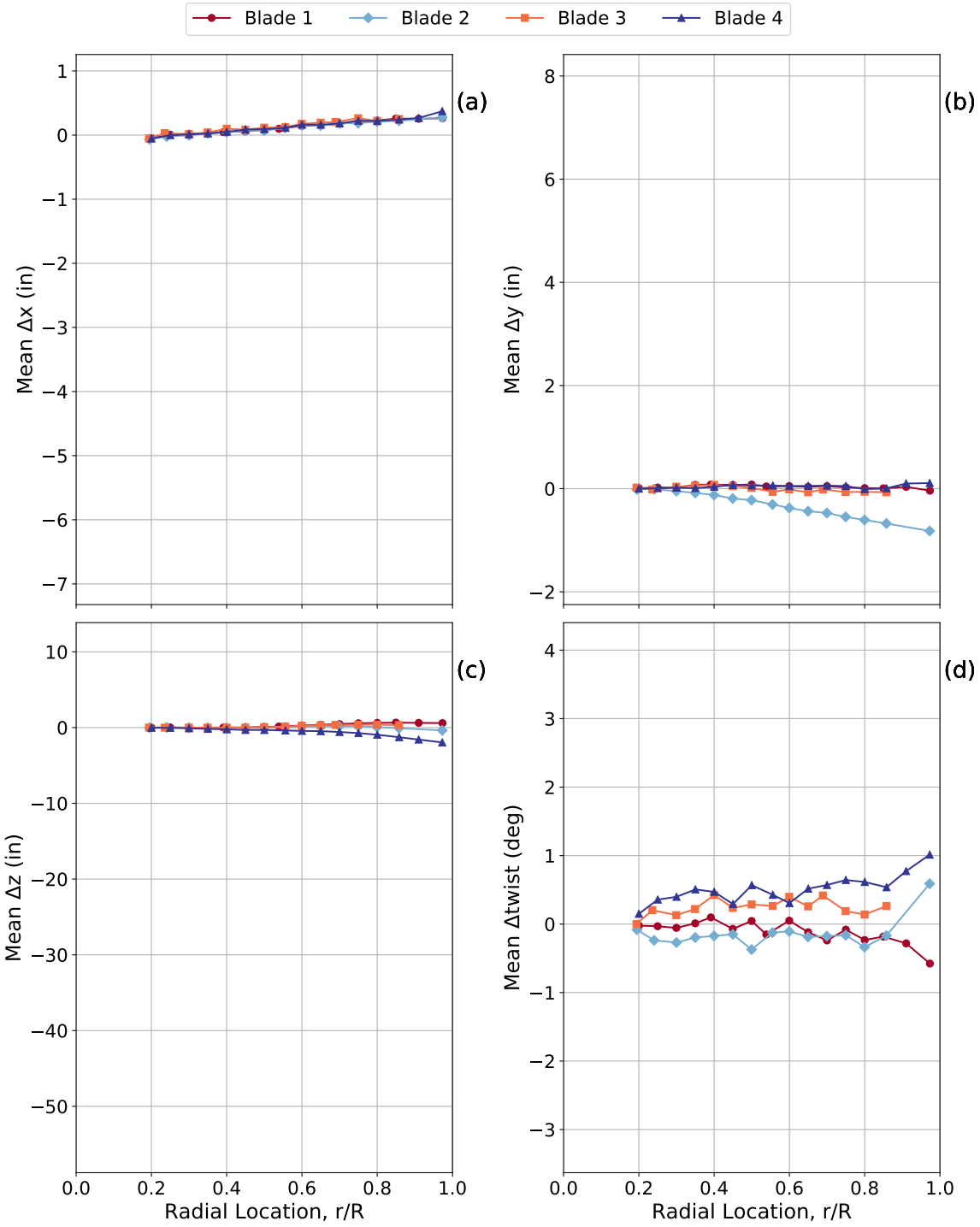


Figure 2.26-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0480	0.0222	0.0086	0.0311	-0.0103	0.0954	-0.0230	0.4952
1	189.84	0.2499	0.0049	0.0182	0.0215	0.0317	0.0200	0.1220	-0.0317	1.3865
1	189.84	0.2998	0.0215	0.0230	0.0215	0.1049	-0.0091	0.3176	-0.0556	1.3847
1	189.84	0.3498	0.0237	0.0287	0.0732	0.1793	-0.0059	0.5381	0.0107	1.3997
1	189.84	0.3913	0.0462	0.0329	0.0805	0.2417	0.0095	0.7338	0.0978	1.3966
1	189.84	0.4496	0.0580	0.0387	0.0712	0.3290	0.0137	1.0123	-0.0703	1.3965
1	189.84	0.4997	0.0843	0.0431	0.0804	0.4014	0.0858	1.2458	0.0448	1.3989
1	189.84	0.5387	0.0975	0.0465	0.0428	0.4569	0.1362	1.4194	-0.1519	1.3961
1	189.84	0.5996	0.1420	0.0516	0.0495	0.5405	0.2768	1.6733	0.0499	1.3959
1	189.84	0.6498	0.1526	0.0551	0.0355	0.6092	0.3726	1.8717	-0.1193	1.3876
1	189.84	0.6998	0.1762	0.0588	0.0486	0.6763	0.4579	2.0578	-0.2391	1.3734
1	189.84	0.7500	0.2109	0.0632	0.0244	0.7438	0.5683	2.2479	-0.0812	1.3693
1	189.84	0.8001	0.2282	0.0668	0.0105	0.8117	0.6148	2.4427	-0.2332	1.3677
1	189.84	0.8497	0.2573	0.0713	0.0056	0.8782	0.6520	2.6438	-0.1825	1.3687
1	189.84	0.9102	0.2538	0.0764	0.0352	0.9619	0.6201	2.9011	-0.2819	1.3818
1	189.84	0.9734	0.2631	0.0820	-0.0390	1.0503	0.5900	3.1876	-0.5771	1.3705
2	189.84	0.1949	-0.0655	0.0161	-0.0135	0.0145	-0.0010	0.0950	-0.0820	0.2639
2	189.84	0.2405	-0.0228	0.0167	-0.0100	0.0061	0.0153	0.0915	-0.2374	0.9898
2	189.84	0.2999	-0.0046	0.0214	-0.0488	0.0496	-0.0148	0.2759	-0.2699	0.9847
2	189.84	0.3498	0.0260	0.0254	-0.0826	0.0898	-0.0271	0.4577	-0.1961	0.9854
2	189.84	0.3998	0.0420	0.0296	-0.1234	0.1298	-0.0455	0.6536	-0.1727	0.9856
2	189.84	0.4496	0.0708	0.0337	-0.1908	0.1680	-0.0299	0.8522	-0.1495	0.9915
2	189.84	0.4995	0.0689	0.0381	-0.2233	0.2060	-0.0419	1.0471	-0.3723	0.9931
2	189.84	0.5551	0.1118	0.0440	-0.3061	0.2473	0.0533	1.2570	-0.1242	0.9931
2	189.84	0.5996	0.1549	0.0491	-0.3740	0.2798	0.1119	1.4238	-0.1077	0.9815
2	189.84	0.6497	0.1480	0.0542	-0.4373	0.3164	0.1576	1.6051	-0.1872	0.9809
2	189.84	0.6996	0.1836	0.0588	-0.4716	0.3542	0.1737	1.7873	-0.1763	0.9809
2	189.84	0.7495	0.1851	0.0633	-0.5474	0.3903	0.1593	1.9763	-0.1622	0.9729
2	189.84	0.7996	0.2095	0.0662	-0.6062	0.4295	0.0586	2.1766	-0.3366	0.9736
2	189.84	0.8578	0.2223	0.0705	-0.6757	0.4748	-0.0808	2.4218	-0.1687	0.9709
2	189.84	0.9727	0.2772	0.0994	-0.8200	0.5651	-0.3675	2.9367	0.5896	1.0282
3	189.84	0.1938	-0.0540	0.0030	0.0206	0.0034	-0.0030	0.0328	0.0015	0.0388
3	189.84	0.2357	0.0301	0.0032	-0.0159	0.0054	-0.0100	0.0501	0.2035	0.0698
3	189.84	0.2995	0.0128	0.0069	0.0380	0.0134	-0.0005	0.1284	0.1303	0.0936
3	189.84	0.3493	0.0404	0.0078	0.0573	0.0241	-0.0062	0.2260	0.2192	0.1074
3	189.84	0.4000	0.0985	0.0083	0.0722	0.0368	-0.0002	0.3422	0.4248	0.1094
3	189.84	0.4497	0.0842	0.0081	0.0461	0.0484	0.0052	0.4598	0.2356	0.1266
3	189.84	0.4997	0.1151	0.0079	0.0160	0.0608	0.0613	0.5705	0.2867	0.1477
3	189.84	0.5556	0.1227	0.0072	-0.0620	0.0743	0.1352	0.6875	0.2635	0.1547
3	189.84	0.5995	0.1758	0.0067	-0.0147	0.0855	0.2456	0.7751	0.3973	0.1617
3	189.84	0.6498	0.1934	0.0067	-0.0705	0.0976	0.2962	0.8676	0.2589	0.1540
3	189.84	0.6890	0.2045	0.0073	-0.0163	0.1084	0.3439	0.9421	0.4167	0.1712
3	189.84	0.7495	0.2625	0.0085	-0.0667	0.1252	0.3790	1.0621	0.1895	0.1736
3	189.84	0.7998	0.2197	0.0093	-0.0610	0.1415	0.3758	1.1756	0.1388	0.1783
3	189.84	0.8577	0.2496	0.0101	-0.0709	0.1609	0.3266	1.3222	0.2625	0.2359
4	189.84	0.2001	-0.0541	0.0026	-0.0000	0.0047	-0.0305	0.0388	0.1502	0.0445
4	189.84	0.2502	-0.0016	0.0049	0.0086	0.0082	-0.0321	0.0694	0.3571	0.0629
4	189.84	0.3001	0.0107	0.0068	0.0192	0.0177	-0.0968	0.1425	0.3977	0.0969
4	189.84	0.3502	0.0253	0.0080	0.0099	0.0323	-0.1644	0.2507	0.5059	0.1037
4	189.84	0.4002	0.0502	0.0088	0.0372	0.0482	-0.2381	0.3765	0.4699	0.1226
4	189.84	0.4500	0.0861	0.0091	0.0715	0.0640	-0.3138	0.5141	0.2917	0.1322
4	189.84	0.5001	0.0916	0.0090	0.0610	0.0809	-0.3208	0.6552	0.5674	0.1362
4	189.84	0.5560	0.1131	0.0082	0.0606	0.0978	-0.3898	0.7996	0.4268	0.1411
4	189.84	0.6001	0.1633	0.0078	0.0492	0.1094	-0.4391	0.9032	0.3061	0.1365
4	189.84	0.6501	0.1612	0.0073	0.0529	0.1237	-0.4759	1.0096	0.5171	0.1421
4	189.84	0.6999	0.1813	0.0070	0.0582	0.1367	-0.5849	1.1045	0.5702	0.1633
4	189.84	0.7500	0.2237	0.0074	0.0502	0.1492	-0.7301	1.2020	0.6432	0.1630
4	189.84	0.8002	0.2199	0.0087	-0.0094	0.1643	-0.9460	1.3104	0.6147	0.1758
4	189.84	0.8582	0.2415	0.0102	0.0059	0.1793	-1.2726	1.4484	0.5373	0.2156
4	189.84	0.9101	0.2663	0.0118	0.0996	0.1893	-1.5852	1.5840	0.7732	0.2007
4	189.84	0.9728	0.3722	0.0137	0.1078	0.2050	-1.9613	1.7582	1.0133	0.2254

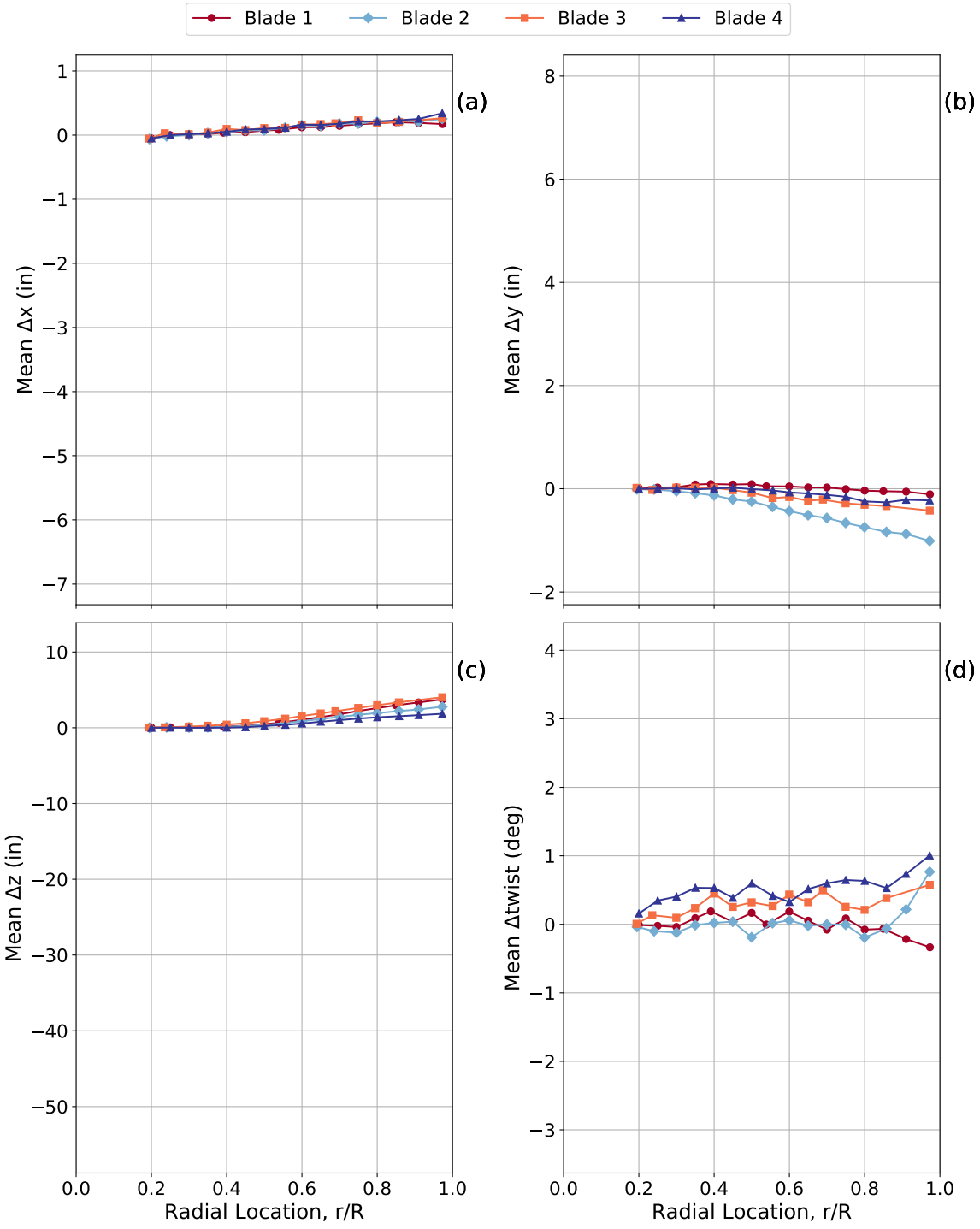


Figure 2.26-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0534	0.0271	0.0116	0.0366	0.0060	0.1568	-0.0096	0.6986
1	195.12	0.2499	-0.0002	0.0359	0.0235	0.0362	0.0552	0.1938	-0.0222	2.0168
1	195.12	0.2998	0.0155	0.0431	0.0278	0.1270	0.0511	0.4958	-0.0387	2.0163
1	195.12	0.3498	0.0161	0.0518	0.0823	0.2188	0.0958	0.8216	0.0897	2.0333
1	195.12	0.3913	0.0377	0.0600	0.0912	0.2961	0.1551	1.1141	0.1883	2.0242
1	195.12	0.4496	0.0457	0.0715	0.0822	0.4037	0.2640	1.5320	0.0360	2.0353
1	195.12	0.4997	0.0712	0.0835	0.0889	0.4921	0.4699	1.8905	0.1670	2.0299
1	195.12	0.5387	0.0824	0.0927	0.0484	0.5587	0.6523	2.1610	-0.0028	2.0440
1	195.12	0.5996	0.1219	0.1087	0.0444	0.6589	1.0490	2.5638	0.1846	2.0515
1	195.12	0.6498	0.1237	0.1214	0.0254	0.7388	1.4055	2.8721	0.0524	2.0494
1	195.12	0.6998	0.1445	0.1342	0.0242	0.8158	1.7825	3.1612	-0.0772	2.0455
1	195.12	0.7500	0.1689	0.1468	-0.0079	0.8915	2.2114	3.4395	0.0852	2.0478
1	195.12	0.8001	0.1827	0.1594	-0.0371	0.9680	2.5946	3.7125	-0.0771	2.0506
1	195.12	0.8497	0.2018	0.1707	-0.0476	1.0443	2.9619	3.9882	-0.0654	2.0694
1	195.12	0.9102	0.1903	0.1865	-0.0569	1.1385	3.3462	4.3386	-0.2155	2.0552
1	195.12	0.9734	0.1718	0.2261	-0.1083	1.2408	3.7424	4.7162	-0.3357	2.0660
2	195.12	0.1949	-0.0613	0.0038	-0.0128	0.0095	0.0059	0.0609	-0.0378	0.1736
2	195.12	0.2405	-0.0183	0.0063	-0.0147	0.0067	0.0501	0.0760	-0.0997	0.5842
2	195.12	0.2999	0.0006	0.0086	-0.0495	0.0316	0.0424	0.2089	-0.1209	0.6020
2	195.12	0.3498	0.0309	0.0100	-0.0862	0.0556	0.0760	0.3567	-0.0114	0.6078
2	195.12	0.3998	0.0466	0.0115	-0.1295	0.0805	0.1242	0.5274	0.0205	0.6083
2	195.12	0.4496	0.0739	0.0123	-0.2068	0.1042	0.2371	0.7055	0.0383	0.6066
2	195.12	0.4995	0.0742	0.0140	-0.2485	0.1270	0.3575	0.8821	-0.1893	0.6063
2	195.12	0.5551	0.1153	0.0163	-0.3510	0.1499	0.6329	1.0691	0.0171	0.6008
2	195.12	0.5996	0.1573	0.0186	-0.4333	0.1670	0.8701	1.2008	0.0581	0.6067
2	195.12	0.6497	0.1462	0.0210	-0.5127	0.1848	1.1458	1.3317	-0.0197	0.6031
2	195.12	0.6996	0.1809	0.0238	-0.5667	0.2031	1.4274	1.4491	-0.0026	0.6042
2	195.12	0.7495	0.1795	0.0265	-0.6624	0.2218	1.7083	1.5575	-0.0055	0.6153
2	195.12	0.7996	0.2057	0.0287	-0.7445	0.2405	1.9391	1.6713	-0.1935	0.6074
2	195.12	0.8578	0.2137	0.0308	-0.8368	0.2626	2.1993	1.8187	-0.0614	0.6127
2	195.12	0.9100	0.2107	0.0342	-0.8757	0.2835	2.4178	1.9628	0.2163	0.6275
2	195.12	0.9727	0.2537	0.0636	-1.0108	0.2960	2.7705	2.1451	0.7662	0.9263
3	195.12	0.1938	-0.0546	0.0076	0.0166	0.0177	0.0361	0.0793	0.0073	0.2113
3	195.12	0.2357	0.0287	0.0129	-0.0229	0.0059	0.0568	0.0725	0.1328	0.8180
3	195.12	0.2995	0.0139	0.0156	0.0208	0.0528	0.1558	0.2416	0.0956	0.8324
3	195.12	0.3493	0.0386	0.0187	0.0215	0.0922	0.2656	0.4091	0.2366	0.8264
3	195.12	0.4000	0.0960	0.0216	0.0200	0.1329	0.4136	0.5960	0.4484	0.8339
3	195.12	0.4497	0.0788	0.0254	-0.0272	0.1719	0.5959	0.7867	0.2534	0.8351
3	195.12	0.4997	0.1091	0.0297	-0.0763	0.2098	0.8667	0.9794	0.3211	0.8234
3	195.12	0.5556	0.1125	0.0357	-0.1815	0.2499	1.2018	1.1813	0.2653	0.8291
3	195.12	0.5995	0.1615	0.0411	-0.1603	0.2800	1.5504	1.3270	0.4339	0.8239
3	195.12	0.6498	0.1728	0.0469	-0.2333	0.3144	1.8884	1.4813	0.3221	0.8288
3	195.12	0.6890	0.1833	0.0514	-0.2102	0.3415	2.1860	1.5902	0.4963	0.8377
3	195.12	0.7495	0.2301	0.0587	-0.2827	0.3818	2.6159	1.7584	0.2548	0.8326
3	195.12	0.7998	0.1858	0.0642	-0.3104	0.4155	2.9772	1.9004	0.2104	0.8160
3	195.12	0.8577	0.2055	0.0702	-0.3364	0.4562	3.3538	2.0776	0.3825	0.8171
3	195.12	0.9729	0.2641	0.0988	-0.4232	0.5315	4.0272	2.4881	0.5756	0.8490
4	195.12	0.2001	-0.0515	0.0024	-0.0031	0.0039	-0.0071	0.0391	0.1579	0.0340
4	195.12	0.2502	-0.0001	0.0040	0.0028	0.0072	0.0206	0.0731	0.3463	0.0557
4	195.12	0.3001	0.0140	0.0064	0.0057	0.0157	0.0020	0.1501	0.4042	0.0751
4	195.12	0.3502	0.0278	0.0074	-0.0121	0.0269	0.0008	0.2582	0.5324	0.0871
4	195.12	0.4002	0.0530	0.0078	0.0022	0.0417	0.0226	0.3943	0.5294	0.0938
4	195.12	0.4500	0.0869	0.0081	0.0198	0.0563	0.0765	0.5412	0.3862	0.1153
4	195.12	0.5001	0.0950	0.0074	-0.0073	0.0710	0.2312	0.6938	0.5970	0.1248
4	195.12	0.5560	0.1153	0.0066	-0.0339	0.0872	0.3883	0.8575	0.4147	0.1234
4	195.12	0.6001	0.1640	0.0069	-0.0710	0.0973	0.5625	0.9663	0.3258	0.1448
4	195.12	0.6501	0.1571	0.0087	-0.0933	0.1094	0.7997	1.0771	0.5142	0.1447
4	195.12	0.6999	0.1775	0.0108	-0.1186	0.1207	1.0099	1.1676	0.5965	0.1433
4	195.12	0.7500	0.2147	0.0134	-0.1565	0.1328	1.2110	1.2467	0.6457	0.1570
4	195.12	0.8002	0.2133	0.0152	-0.2466	0.1462	1.3825	1.3222	0.6331	0.1708
4	195.12	0.8582	0.2316	0.0174	-0.2636	0.1605	1.5255	1.4250	0.5282	0.1813
4	195.12	0.9101	0.2523	0.0192	-0.2141	0.1738	1.6662	1.5230	0.7356	0.2169
4	195.12	0.9728	0.3398	0.0284	-0.2262	0.1892	1.8457	1.6583	1.0051	0.2475

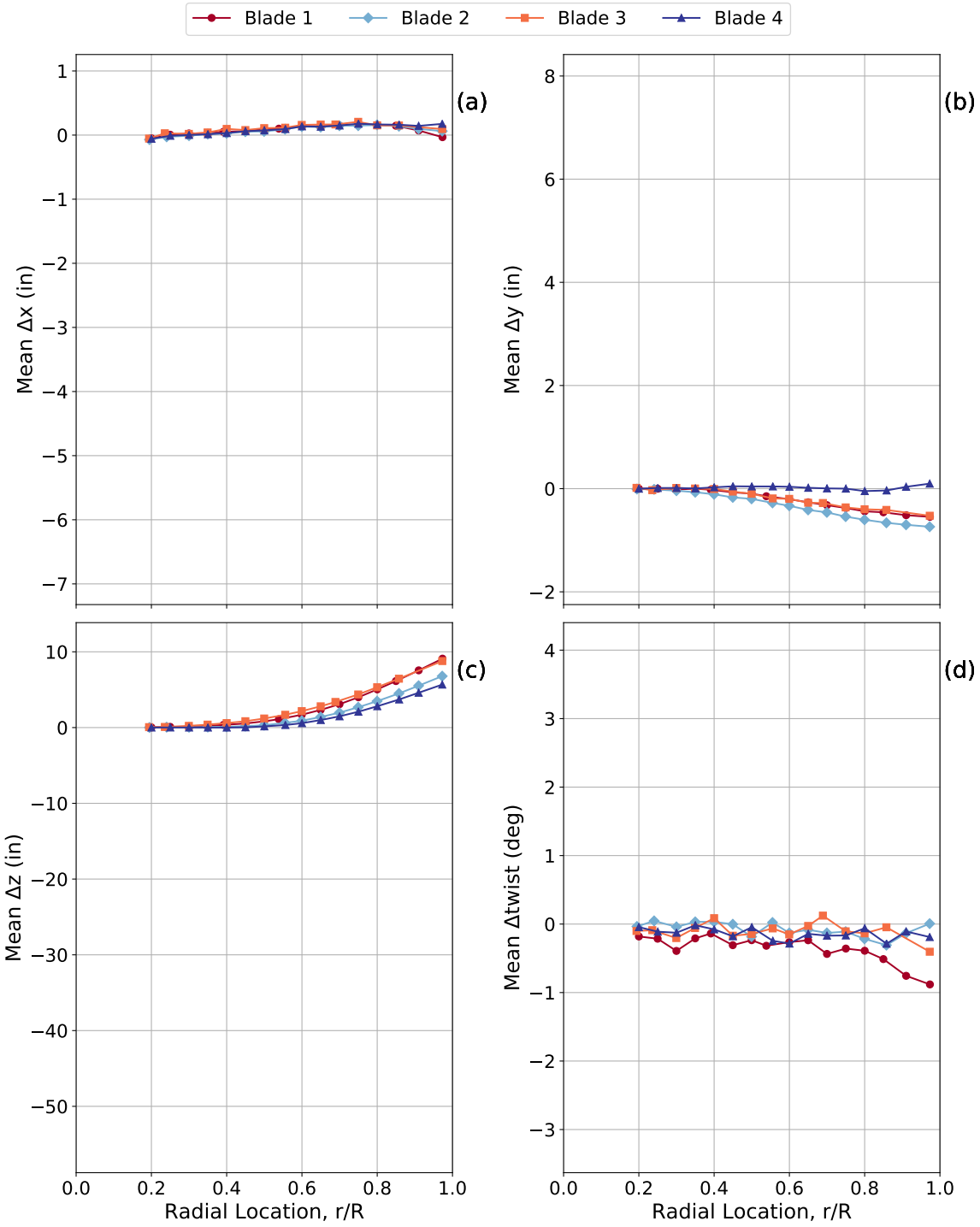


Figure 2.26-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0497	0.0026	-0.0009	0.0064	0.0254	0.0571	-0.1812	0.0662
1	209.88	0.2499	0.0053	0.0027	-0.0013	0.0134	0.0939	0.1174	-0.2138	0.1066
1	209.88	0.2998	0.0256	0.0038	-0.0151	0.0280	0.1240	0.2290	-0.3921	0.1498
1	209.88	0.3498	0.0289	0.0053	-0.0019	0.0485	0.2403	0.3873	-0.2089	0.1703
1	209.88	0.3913	0.0511	0.0060	-0.0208	0.0702	0.3494	0.5601	-0.1375	0.1895
1	209.88	0.4496	0.0611	0.0075	-0.0707	0.1067	0.5399	0.8542	-0.3081	0.2175
1	209.88	0.4997	0.0910	0.0121	-0.0972	0.1427	0.8255	1.1470	-0.2351	0.2210
1	209.88	0.5387	0.0999	0.0176	-0.1468	0.1700	1.1022	1.3895	-0.3168	0.2277
1	209.88	0.5996	0.1377	0.0315	-0.2042	0.2192	1.6935	1.7865	-0.2637	0.2593
1	209.88	0.6498	0.1377	0.0478	-0.2647	0.2595	2.3334	2.1101	-0.2364	0.2554
1	209.88	0.6998	0.1486	0.0651	-0.3201	0.3007	3.0841	2.4153	-0.4356	0.2832
1	209.88	0.7500	0.1609	0.0837	-0.3754	0.3433	4.0003	2.6975	-0.3578	0.2929
1	209.88	0.8001	0.1578	0.1023	-0.4395	0.3869	5.0403	2.9601	-0.3896	0.3089
1	209.88	0.8497	0.1453	0.1201	-0.4586	0.4309	6.1400	3.1934	-0.5113	0.3268
1	209.88	0.9102	0.0713	0.1461	-0.5144	0.4874	7.5525	3.4910	-0.7556	0.6618
1	209.88	0.9734	-0.0329	0.1868	-0.5463	0.5467	9.0966	3.8107	-0.8812	0.3234
2	209.88	0.1949	-0.0707	0.0301	-0.0076	0.0362	0.0112	0.1600	-0.0347	0.5609
2	209.88	0.2405	-0.0273	0.0310	-0.0141	0.0191	0.0540	0.1423	0.0463	2.0522
2	209.88	0.2999	-0.0096	0.0402	-0.0394	0.1166	0.0414	0.4720	-0.0405	2.0355
2	209.88	0.3498	0.0151	0.0492	-0.0691	0.2037	0.0665	0.7788	0.0321	2.0377
2	209.88	0.3998	0.0272	0.0586	-0.1089	0.2935	0.1023	1.1166	0.0329	2.0240
2	209.88	0.4496	0.0532	0.0690	-0.1694	0.3844	0.1873	1.4771	-0.0025	2.0414
2	209.88	0.4995	0.0569	0.0815	-0.1975	0.4759	0.3116	1.8671	-0.1840	2.0205
2	209.88	0.5551	0.0910	0.0966	-0.2762	0.5738	0.6203	2.3156	0.0232	2.0261
2	209.88	0.5996	0.1330	0.1111	-0.3320	0.6523	0.9074	2.6827	-0.1300	2.0151
2	209.88	0.6497	0.1240	0.1292	-0.4123	0.7351	1.3928	3.0905	-0.0829	2.0161
2	209.88	0.6996	0.1461	0.1483	-0.4599	0.8163	1.9642	3.4894	-0.1295	2.0182
2	209.88	0.7495	0.1467	0.1693	-0.5422	0.8931	2.6836	3.8794	-0.1105	2.0045
2	209.88	0.7996	0.1585	0.1901	-0.6027	0.9690	3.4837	4.2623	-0.2153	1.9917
2	209.88	0.8578	0.1379	0.2165	-0.6621	1.0551	4.5047	4.6953	-0.3081	1.9745
2	209.88	0.9100	0.0968	0.2423	-0.7006	1.1279	5.5274	5.0748	-0.1338	1.9793
2	209.88	0.9727	0.0617	0.3013	-0.7385	1.2270	6.7882	5.5377	0.0064	1.9596
3	209.88	0.1938	-0.0548	0.0080	0.0153	0.0109	0.0564	0.0566	-0.1011	0.1462
3	209.88	0.2357	0.0280	0.0084	-0.0291	0.0076	0.0806	0.0675	-0.0893	0.5705
3	209.88	0.2995	0.0186	0.0098	0.0136	0.0347	0.2230	0.1859	-0.2039	0.5750
3	209.88	0.3493	0.0409	0.0120	0.0026	0.0608	0.3895	0.3094	-0.0570	0.5817
3	209.88	0.4000	0.0960	0.0148	-0.0066	0.0896	0.5922	0.4632	0.0861	0.5948
3	209.88	0.4497	0.0781	0.0177	-0.0565	0.1183	0.8380	0.6411	-0.1700	0.5963
3	209.88	0.4997	0.1081	0.0222	-0.0990	0.1494	1.1951	0.8517	-0.1440	0.5914
3	209.88	0.5556	0.1150	0.0284	-0.1894	0.1826	1.6884	1.0976	-0.0632	0.6015
3	209.88	0.5995	0.1585	0.0353	-0.1979	0.2084	2.1691	1.2962	-0.1506	0.6022
3	209.88	0.6498	0.1647	0.0445	-0.2730	0.2386	2.8063	1.5223	-0.0273	0.6119
3	209.88	0.6890	0.1653	0.0526	-0.2785	0.2618	3.3823	1.6941	0.1234	0.6148
3	209.88	0.7495	0.2066	0.0674	-0.3634	0.2972	4.3692	1.9447	-0.1057	0.6193
3	209.88	0.7998	0.1517	0.0799	-0.3996	0.3258	5.3224	2.1384	-0.1355	0.6156
3	209.88	0.8577	0.1493	0.0959	-0.4124	0.3604	6.4505	2.3557	-0.0465	0.6660
3	209.88	0.9729	0.0935	0.1406	-0.5249	0.4244	8.7820	2.7938	-0.4039	0.8362
4	209.88	0.2001	-0.0574	0.0350	-0.0008	0.0283	0.0068	0.1599	-0.0440	0.6623
4	209.88	0.2502	-0.0110	0.0353	0.0126	0.0237	0.0117	0.1933	-0.1114	1.8890
4	209.88	0.3001	0.0020	0.0433	0.0135	0.0990	0.0070	0.4566	-0.1264	1.8979
4	209.88	0.3502	0.0129	0.0523	0.0037	0.1784	0.0041	0.7493	-0.0171	1.9065
4	209.88	0.4002	0.0312	0.0625	0.0256	0.2592	0.0010	1.0717	-0.0775	1.9175
4	209.88	0.4500	0.0605	0.0736	0.0457	0.3408	0.0315	1.4152	-0.1786	1.9162
4	209.88	0.5001	0.0728	0.0877	0.0429	0.4204	0.1589	1.7877	-0.0458	1.8900
4	209.88	0.5560	0.0933	0.1057	0.0427	0.5076	0.3351	2.2145	-0.2445	1.9072
4	209.88	0.6001	0.1358	0.1232	0.0363	0.5744	0.5809	2.5589	-0.2850	1.9139
4	209.88	0.6501	0.1310	0.1454	0.0165	0.6464	0.9928	2.9499	-0.1425	1.9094
4	209.88	0.6999	0.1493	0.1695	0.0048	0.7172	1.4831	3.3332	-0.1694	1.9110
4	209.88	0.7500	0.1768	0.1938	0.0004	0.7867	2.0927	3.7058	-0.1663	1.9064
4	209.88	0.8002	0.1659	0.2180	-0.0473	0.8557	2.8146	4.0673	-0.0610	1.9237
4	209.88	0.8582	0.1613	0.2525	-0.0350	0.9393	3.7081	4.4958	-0.2871	1.8024
4	209.88	0.9101	0.1431	0.2737	0.0356	1.0093	4.5964	4.8375	-0.1079	1.8947
4	209.88	0.9728	0.1748	0.3411	0.0970	1.0950	5.6742	5.2841	-0.1897	1.8735

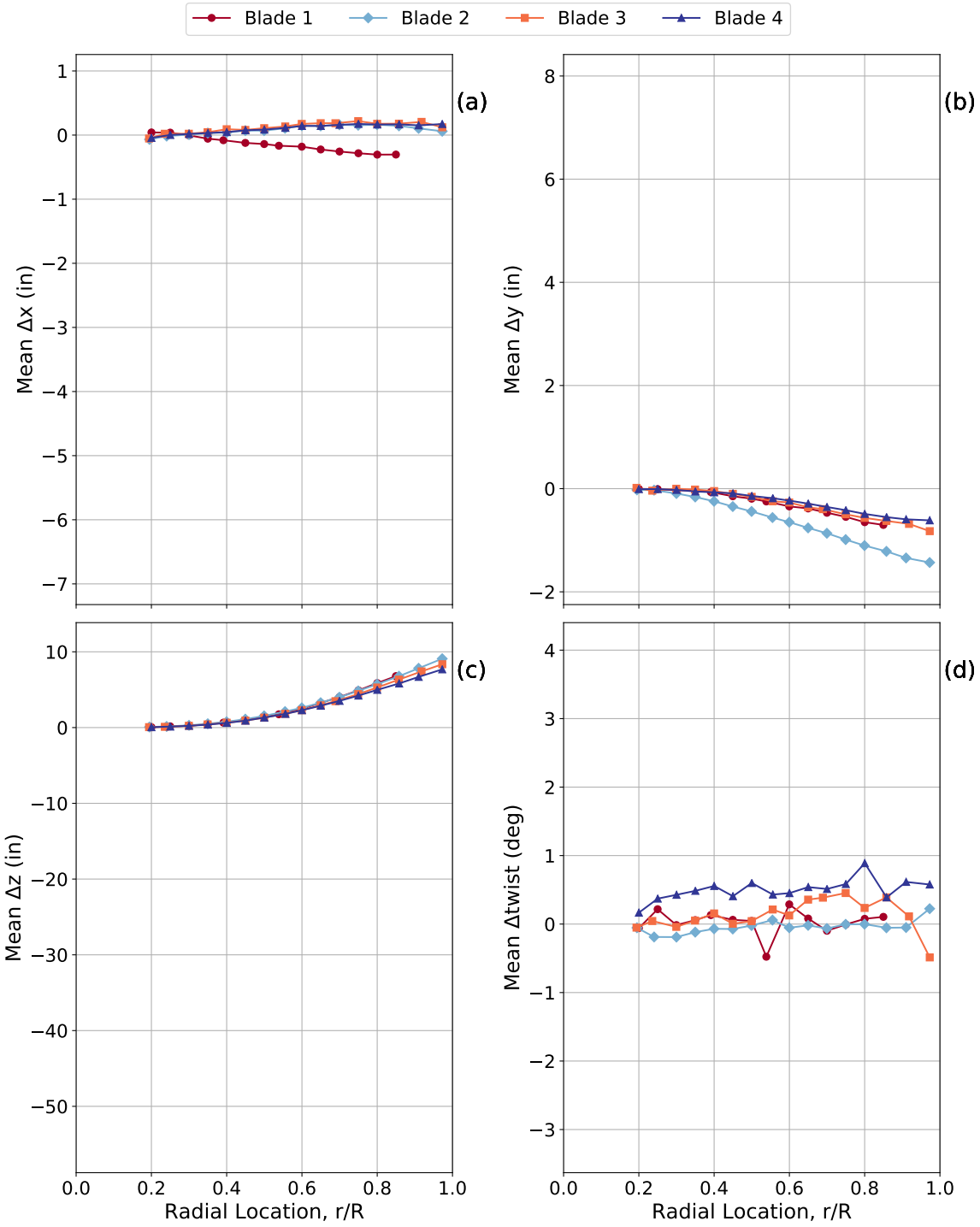


Figure 2.26-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	0.0410	0.0033	-0.0053	0.0026	0.0492	0.0153	-0.0589	0.0600
1	225	0.2499	0.0379	0.0021	-0.0094	0.0055	0.1623	0.0277	0.2169	0.1054
1	225	0.2998	-0.0046	0.0021	-0.0325	0.0110	0.2373	0.0567	-0.0150	0.1415
1	225	0.3498	-0.0564	0.0038	-0.0345	0.0194	0.4398	0.0976	0.0576	0.1557
1	225	0.3913	-0.0805	0.0055	-0.0657	0.0277	0.6454	0.1376	0.1316	0.1797
1	225	0.4496	-0.1221	0.0095	-0.1477	0.0388	1.0092	0.2032	0.0620	0.2037
1	225	0.4997	-0.1402	0.0120	-0.1943	0.0503	1.4169	0.2746	0.0454	0.2511
1	225	0.5387	-0.1663	0.0148	-0.2477	0.0585	1.7519	0.3527	-0.4767	0.2260
1	225	0.5996	-0.1810	0.0204	-0.3437	0.0748	2.4841	0.5206	0.2876	0.3219
1	225	0.6498	-0.2249	0.0328	-0.3833	0.0881	3.2595	0.7094	0.0809	0.2885
1	225	0.6998	-0.2568	0.0434	-0.4673	0.1031	4.0306	0.9573	-0.0975	0.3300
1	225	0.7500	-0.2835	0.0565	-0.5466	0.1193	4.9078	1.2614	-0.0055	0.3291
1	225	0.8001	-0.3051	0.0715	-0.6501	0.1357	5.8690	1.6096	0.0768	0.3574
1	225	0.8497	-0.3038	0.0882	-0.7029	0.1517	6.7883	1.9916	0.1053	0.4080
2	225	0.1949	-0.0677	0.0072	-0.0236	0.0021	0.0740	0.0156	-0.0538	0.0526
2	225	0.2405	-0.0161	0.0021	-0.0296	0.0035	0.1463	0.0214	-0.1882	0.1481
2	225	0.2999	0.0078	0.0026	-0.0940	0.0089	0.2938	0.0533	-0.1898	0.1579
2	225	0.3498	0.0317	0.0023	-0.1614	0.0158	0.5044	0.0897	-0.1178	0.1702
2	225	0.3998	0.0394	0.0038	-0.2449	0.0239	0.7662	0.1343	-0.0691	0.1822
2	225	0.4496	0.0701	0.0042	-0.3468	0.0309	1.1078	0.1789	-0.0720	0.1941
2	225	0.4995	0.0697	0.0049	-0.4417	0.0395	1.5397	0.2305	-0.0214	0.2027
2	225	0.5551	0.1058	0.0070	-0.5603	0.0503	2.1094	0.3008	0.0586	0.2148
2	225	0.5996	0.1466	0.0099	-0.6496	0.0599	2.6039	0.3773	-0.0539	0.2378
2	225	0.6497	0.1421	0.0149	-0.7610	0.0719	3.2805	0.5023	-0.0188	0.2508
2	225	0.6996	0.1606	0.0221	-0.8645	0.0838	4.0058	0.6691	-0.0644	0.2832
2	225	0.7495	0.1533	0.0321	-0.9876	0.0970	4.8355	0.8858	-0.0038	0.2897
2	225	0.7996	0.1622	0.0457	-1.1038	0.1099	5.7216	1.1473	-0.0009	0.3050
2	225	0.8578	0.1436	0.0653	-1.2157	0.1247	6.7792	1.4968	-0.0542	0.3373
2	225	0.9100	0.1043	0.0896	-1.3434	0.1372	7.8248	1.8432	-0.0508	0.3456
2	225	0.9727	0.0596	0.1269	-1.4317	0.1513	9.0906	2.2736	0.2246	0.4067
3	225	0.1938	-0.0534	0.0036	0.0150	0.0031	0.0559	0.0150	-0.0517	0.0372
3	225	0.2357	0.0205	0.0016	-0.0391	0.0030	0.0971	0.0247	0.0449	0.0793
3	225	0.2995	0.0209	0.0021	-0.0015	0.0113	0.2384	0.0598	-0.0409	0.0990
3	225	0.3493	0.0444	0.0020	-0.0177	0.0184	0.4160	0.1002	0.0516	0.1117
3	225	0.4000	0.0910	0.0032	-0.0470	0.0284	0.6406	0.1550	0.1552	0.1230
3	225	0.4497	0.0802	0.0036	-0.1008	0.0381	0.9236	0.2105	0.0046	0.1423
3	225	0.4997	0.1074	0.0056	-0.1587	0.0472	1.3030	0.2730	0.0431	0.1471
3	225	0.5556	0.1342	0.0069	-0.2447	0.0582	1.8184	0.3516	0.2127	0.1697
3	225	0.5995	0.1742	0.0096	-0.2687	0.0687	2.2919	0.4208	0.1263	0.1832
3	225	0.6498	0.1853	0.0126	-0.3616	0.0799	2.9369	0.5147	0.3572	0.1945
3	225	0.6890	0.1847	0.0163	-0.3974	0.0898	3.4826	0.6028	0.3855	0.2112
3	225	0.7495	0.2178	0.0248	-0.4973	0.1025	4.4149	0.7795	0.4533	0.2614
3	225	0.7998	0.1760	0.0344	-0.5669	0.1186	5.2886	0.9755	0.2356	0.2319
3	225	0.8577	0.1780	0.0493	-0.6258	0.1387	6.3347	1.2465	0.3895	0.2843
3	225	0.9178	0.2057	0.0709	-0.6832	0.1540	7.4162	1.5717	0.1123	0.2669
3	225	0.9729	0.1215	0.0973	-0.8236	0.1697	8.3581	1.8841	-0.4868	0.3066
4	225	0.2001	-0.0437	0.0079	-0.0092	0.0054	0.0522	0.0283	0.1664	0.1463
4	225	0.2502	0.0014	0.0047	-0.0089	0.0058	0.1313	0.0359	0.3717	0.3959
4	225	0.3001	0.0179	0.0055	-0.0246	0.0182	0.2316	0.0871	0.4274	0.4060
4	225	0.3502	0.0320	0.0060	-0.0551	0.0320	0.3869	0.1470	0.4854	0.4096
4	225	0.4002	0.0463	0.0073	-0.0714	0.0466	0.6171	0.2138	0.5562	0.4305
4	225	0.4500	0.0751	0.0088	-0.0921	0.0608	0.9075	0.2899	0.4068	0.4282
4	225	0.5001	0.0845	0.0103	-0.1419	0.0756	1.3213	0.3757	0.5996	0.4481
4	225	0.5560	0.1127	0.0124	-0.1852	0.0920	1.8054	0.4888	0.4308	0.4557
4	225	0.6001	0.1423	0.0149	-0.2321	0.1037	2.2874	0.5961	0.4517	0.4660
4	225	0.6501	0.1422	0.0193	-0.2904	0.1176	2.8846	0.7516	0.5399	0.4617
4	225	0.6999	0.1597	0.0254	-0.3557	0.1312	3.5244	0.9409	0.5124	0.4917
4	225	0.7500	0.1735	0.0344	-0.4174	0.1451	4.2204	1.1738	0.5844	0.4992
4	225	0.8002	0.1648	0.0461	-0.4899	0.1595	4.9764	1.4436	0.8891	0.5174
4	225	0.8582	0.1666	0.0624	-0.5523	0.1757	5.8199	1.7950	0.3894	0.5312
4	225	0.9101	0.1518	0.0846	-0.5946	0.1904	6.6898	2.1336	0.6156	0.5352
4	225	0.9728	0.1719	0.1142	-0.6144	0.2087	7.6856	2.5567	0.5774	0.5730

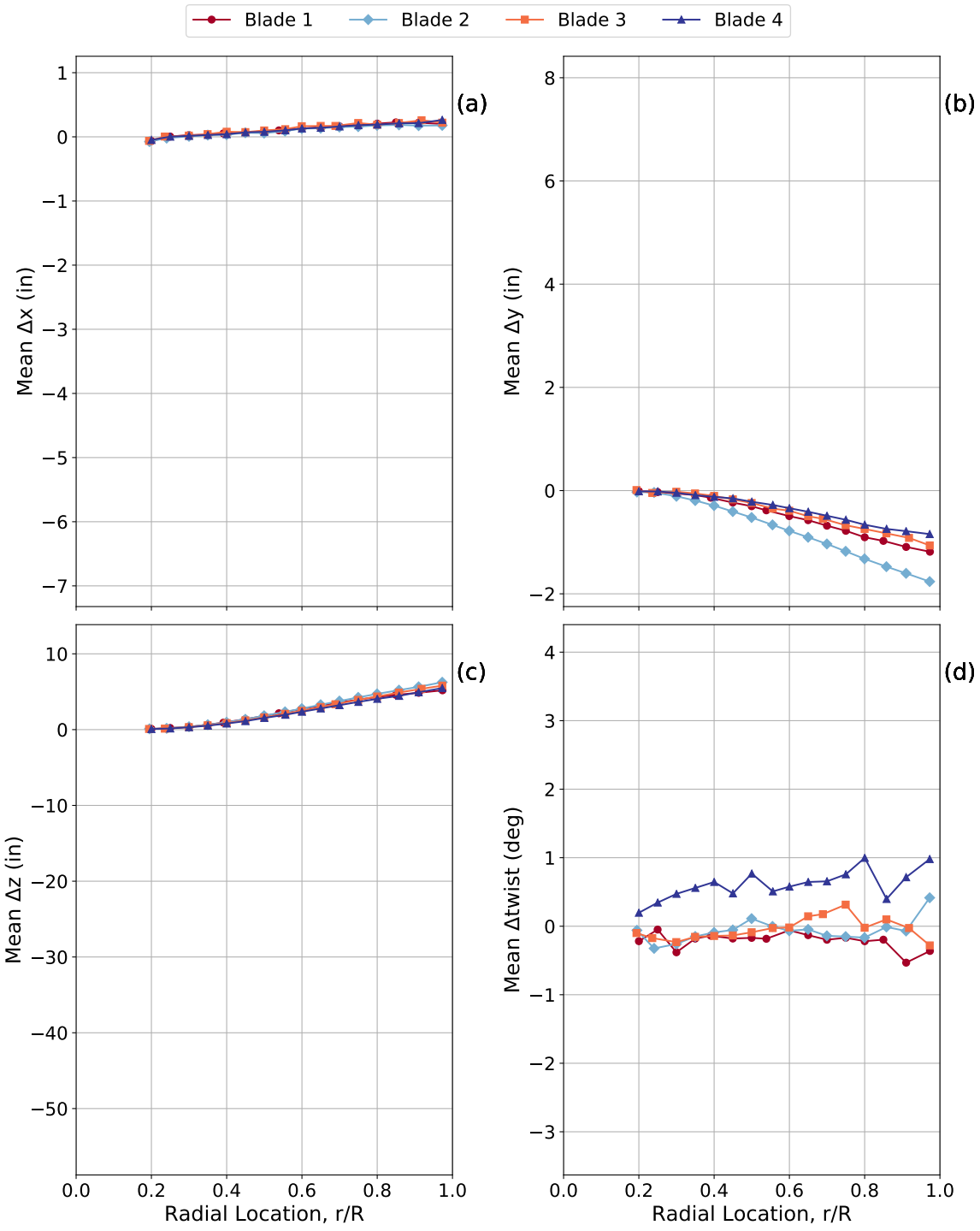


Figure 2.26-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0642	0.0029	-0.0106	0.0040	0.0888	0.0289	-0.2183	0.0763
1	240.12	0.2499	0.0050	0.0020	-0.0288	0.0080	0.2154	0.0546	-0.0491	0.1204
1	240.12	0.2998	0.0273	0.0018	-0.0569	0.0164	0.3580	0.1093	-0.3807	0.1753
1	240.12	0.3498	0.0345	0.0026	-0.0867	0.0294	0.6510	0.1860	-0.1805	0.1764
1	240.12	0.3913	0.0535	0.0035	-0.1382	0.0415	0.9246	0.2647	-0.1381	0.1929
1	240.12	0.4496	0.0643	0.0064	-0.2320	0.0609	1.3762	0.3883	-0.1798	0.2159
1	240.12	0.4997	0.0918	0.0114	-0.3028	0.0810	1.8057	0.5054	-0.1700	0.2453
1	240.12	0.5387	0.1006	0.0142	-0.3823	0.0974	2.1587	0.5987	-0.1831	0.2540
1	240.12	0.5996	0.1279	0.0196	-0.4940	0.1234	2.7335	0.7521	-0.0600	0.2774
1	240.12	0.6498	0.1521	0.0247	-0.5733	0.1464	3.1563	0.8940	-0.1303	0.2910
1	240.12	0.6998	0.1643	0.0295	-0.6801	0.1702	3.5780	1.0603	-0.1973	0.3157
1	240.12	0.7500	0.1883	0.0347	-0.7792	0.1954	3.9563	1.2579	-0.1684	0.3423
1	240.12	0.8001	0.2062	0.0400	-0.9042	0.2202	4.3034	1.4834	-0.2190	0.3478
1	240.12	0.8497	0.2256	0.0455	-0.9743	0.2447	4.5845	1.7319	-0.1961	0.3712
1	240.12	0.9102	0.2215	0.0559	-1.0918	0.2762	4.8583	2.0605	-0.5319	0.3918
1	240.12	0.9734	0.1993	0.0751	-1.1847	0.3087	5.1865	2.4275	-0.3611	0.3767
2	240.12	0.1949	-0.0748	0.0206	-0.0278	0.0142	0.1037	0.0604	-0.0592	0.2229
2	240.12	0.2405	-0.0201	0.0059	-0.0365	0.0066	0.1701	0.0527	-0.3237	0.7797
2	240.12	0.2999	0.0076	0.0081	-0.1103	0.0435	0.3804	0.1712	-0.2592	0.7744
2	240.12	0.3498	0.0275	0.0105	-0.1929	0.0751	0.6494	0.2827	-0.1495	0.7677
2	240.12	0.3998	0.0334	0.0135	-0.2908	0.1071	0.9719	0.4011	-0.0911	0.7781
2	240.12	0.4496	0.0640	0.0170	-0.4058	0.1383	1.3600	0.5281	-0.0543	0.7688
2	240.12	0.4995	0.0582	0.0212	-0.5213	0.1680	1.8341	0.6570	0.1110	0.7979
2	240.12	0.5551	0.0893	0.0274	-0.6641	0.2036	2.3472	0.8082	-0.0030	0.7814
2	240.12	0.5996	0.1287	0.0324	-0.7802	0.2310	2.7736	0.9296	-0.0672	0.7910
2	240.12	0.6497	0.1349	0.0381	-0.9044	0.2612	3.2836	1.0704	-0.0458	0.7940
2	240.12	0.6996	0.1525	0.0446	-1.0336	0.2914	3.7689	1.2216	-0.1404	0.8049
2	240.12	0.7495	0.1590	0.0512	-1.1762	0.3217	4.2515	1.3852	-0.1513	0.8095
2	240.12	0.7996	0.1783	0.0572	-1.3224	0.3527	4.7113	1.5665	-0.1666	0.8098
2	240.12	0.8578	0.1862	0.0657	-1.4739	0.3886	5.2091	1.7948	-0.0112	0.8134
2	240.12	0.9100	0.1745	0.0753	-1.6032	0.4204	5.6483	2.0131	-0.0698	0.8158
2	240.12	0.9727	0.1784	0.1002	-1.7626	0.4594	6.2517	2.2854	0.4153	0.7818
3	240.12	0.1938	-0.0629	0.0363	0.0099	0.0165	0.0872	0.1062	-0.0994	0.3652
3	240.12	0.2357	0.0045	0.0088	-0.0456	0.0063	0.1310	0.0693	-0.1728	1.3371
3	240.12	0.2995	0.0192	0.0137	-0.0223	0.0478	0.3320	0.2798	-0.2319	1.3438
3	240.12	0.3493	0.0421	0.0189	-0.0551	0.0831	0.5672	0.4583	-0.1551	1.3422
3	240.12	0.4000	0.0799	0.0246	-0.1036	0.1191	0.8611	0.6468	-0.1420	1.3609
3	240.12	0.4497	0.0738	0.0307	-0.1699	0.1544	1.2106	0.8402	-0.1348	1.3557
3	240.12	0.4997	0.0995	0.0380	-0.2401	0.1897	1.6109	1.0407	-0.0882	1.3486
3	240.12	0.5556	0.1195	0.0477	-0.3486	0.2282	2.0842	1.2655	-0.0268	1.3495
3	240.12	0.5995	0.1655	0.0553	-0.3895	0.2582	2.4833	1.4429	-0.0189	1.3570
3	240.12	0.6498	0.1703	0.0648	-0.4966	0.2916	2.9798	1.6478	0.1447	1.3707
3	240.12	0.6890	0.1700	0.0723	-0.5467	0.3184	3.3493	1.8108	0.1761	1.3757
3	240.12	0.7495	0.2156	0.0843	-0.6711	0.3591	3.9266	2.0724	0.3148	1.3904
3	240.12	0.7998	0.1896	0.0951	-0.7431	0.3934	4.3715	2.3020	-0.0221	1.3812
3	240.12	0.8577	0.2157	0.1069	-0.8284	0.4330	4.8916	2.5769	0.0995	1.3795
3	240.12	0.9178	0.2588	0.1223	-0.9167	0.4740	5.3816	2.8706	-0.0262	1.3936
3	240.12	0.9729	0.2211	0.1508	-1.0623	0.5123	5.8054	3.1481	-0.2800	1.3908
4	240.12	0.2001	-0.0488	0.0190	-0.0139	0.0087	0.0803	0.0571	0.1964	0.2504
4	240.12	0.2502	0.0029	0.0076	-0.0171	0.0092	0.1527	0.0740	0.3453	0.6697
4	240.12	0.3001	0.0150	0.0103	-0.0428	0.0299	0.3131	0.1654	0.4721	0.6795
4	240.12	0.3502	0.0291	0.0130	-0.0886	0.0532	0.5175	0.2742	0.5591	0.6679
4	240.12	0.4002	0.0407	0.0171	-0.1211	0.0776	0.8033	0.3961	0.6457	0.6874
4	240.12	0.4500	0.0697	0.0207	-0.1515	0.1027	1.1176	0.5218	0.4788	0.6789
4	240.12	0.5001	0.0785	0.0246	-0.2164	0.1274	1.5404	0.6503	0.7678	0.6923
4	240.12	0.5560	0.1009	0.0303	-0.2782	0.1582	1.9596	0.8025	0.5080	0.6821
4	240.12	0.6001	0.1304	0.0351	-0.3414	0.1813	2.3583	0.9208	0.5774	0.7007
4	240.12	0.6501	0.1411	0.0403	-0.4106	0.2088	2.7914	1.0616	0.6459	0.7007
4	240.12	0.6999	0.1617	0.0464	-0.4878	0.2373	3.2261	1.2185	0.6552	0.7045
4	240.12	0.7500	0.1808	0.0528	-0.5659	0.2664	3.6551	1.3892	0.7573	0.7139
4	240.12	0.8002	0.1916	0.0585	-0.6616	0.2959	4.0602	1.5779	0.9977	0.7260
4	240.12	0.8582	0.2109	0.0660	-0.7426	0.3313	4.4516	1.8155	0.3974	0.7315
4	240.12	0.9101	0.2133	0.0761	-0.7862	0.3626	4.9292	2.0383	0.7146	0.7322
4	240.12	0.9728	0.2638	0.0988	-0.8432	0.4000	5.4815	2.3185	0.9799	0.7306

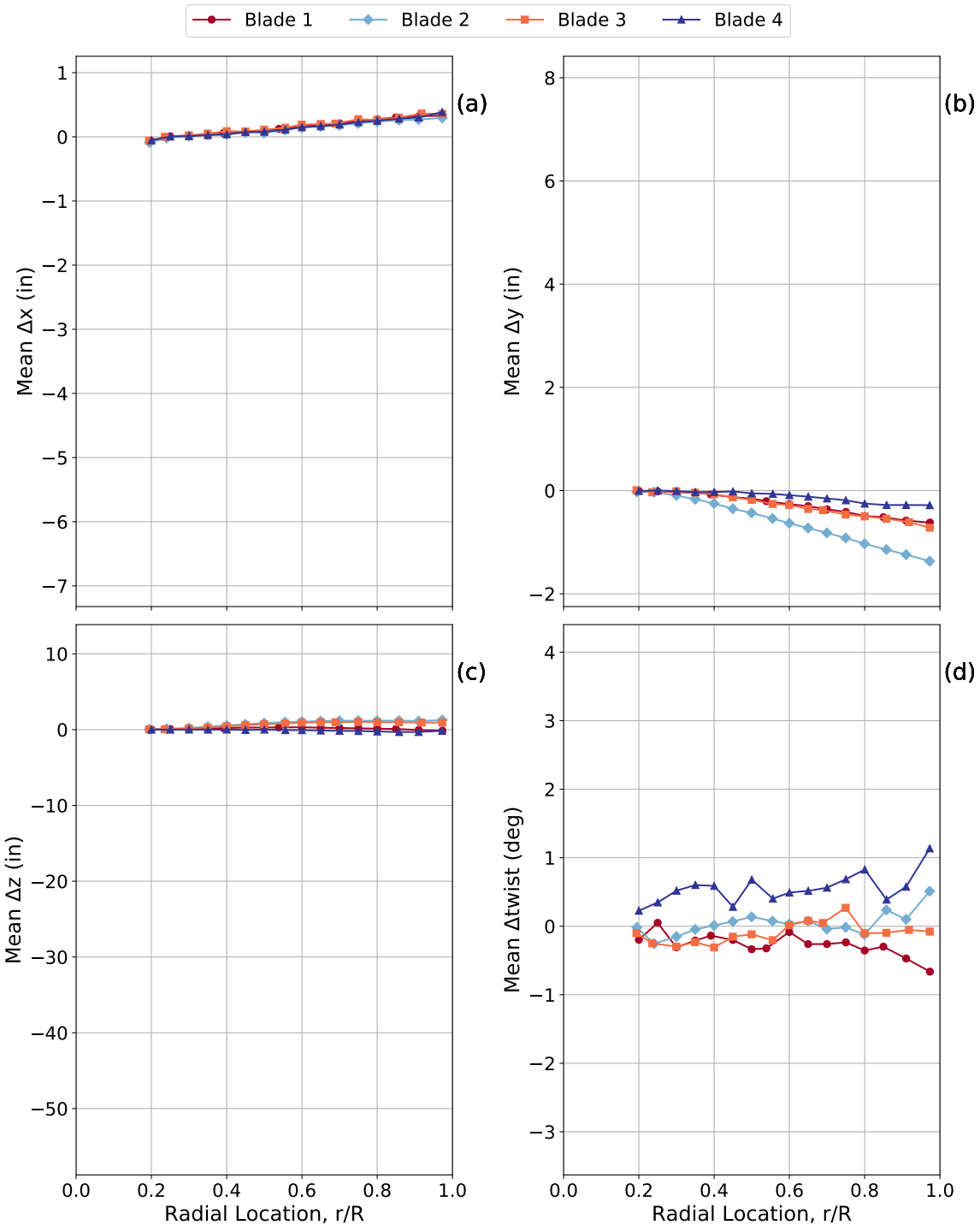


Figure 2.26-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0654	0.0037	-0.0046	0.0040	0.0118	0.0315	-0.1983	0.1046
1	254.88	0.2499	0.0075	0.0023	-0.0157	0.0081	0.0684	0.0624	0.0498	0.2184
1	254.88	0.2998	0.0211	0.0021	-0.0330	0.0173	0.0697	0.1234	-0.3080	0.2615
1	254.88	0.3498	0.0363	0.0026	-0.0396	0.0289	0.1397	0.2111	-0.2089	0.2755
1	254.88	0.3913	0.0576	0.0033	-0.0740	0.0424	0.2100	0.3023	-0.1373	0.2879
1	254.88	0.4496	0.0702	0.0040	-0.1285	0.0625	0.2703	0.4526	-0.2007	0.3195
1	254.88	0.4997	0.1024	0.0048	-0.1552	0.0815	0.2795	0.5910	-0.3353	0.3571
1	254.88	0.5387	0.1239	0.0068	-0.2044	0.0963	0.2915	0.6983	-0.3236	0.3714
1	254.88	0.5996	0.1627	0.0091	-0.2629	0.1188	0.3129	0.8521	-0.0839	0.4008
1	254.88	0.6498	0.1895	0.0098	-0.3014	0.1369	0.2496	0.9594	-0.2608	0.4066
1	254.88	0.6998	0.2101	0.0109	-0.3627	0.1542	0.2136	1.0482	-0.2604	0.4294
1	254.88	0.7500	0.2488	0.0118	-0.4134	0.1722	0.1713	1.1144	-0.2358	0.4434
1	254.88	0.8001	0.2721	0.0130	-0.4934	0.1907	0.1267	1.1621	-0.3548	0.4535
1	254.88	0.8497	0.3036	0.0138	-0.5153	0.2097	0.0819	1.1988	-0.2984	0.4564
1	254.88	0.9102	0.3212	0.0145	-0.5812	0.2335	-0.0481	1.2436	-0.4711	0.4848
1	254.88	0.9734	0.3304	0.0200	-0.6196	0.2582	-0.1415	1.3014	-0.6632	0.4950
2	254.88	0.1949	-0.0884	0.0251	-0.0258	0.0184	0.0671	0.0762	-0.0186	0.2618
2	254.88	0.2405	-0.0192	0.0073	-0.0290	0.0113	0.0994	0.0692	-0.2546	0.9426
2	254.88	0.2999	0.0130	0.0094	-0.0959	0.0587	0.2185	0.2329	-0.1526	0.9196
2	254.88	0.3498	0.0304	0.0105	-0.1680	0.1010	0.3784	0.3907	-0.0469	0.9174
2	254.88	0.3998	0.0362	0.0117	-0.2498	0.1458	0.5481	0.5627	0.0117	0.9110
2	254.88	0.4496	0.0669	0.0139	-0.3523	0.1927	0.7021	0.7492	0.0689	0.9094
2	254.88	0.4995	0.0593	0.0160	-0.4316	0.2398	0.8661	0.9392	0.1367	0.9085
2	254.88	0.5551	0.1057	0.0187	-0.5406	0.2935	0.9837	1.1488	0.0750	0.9099
2	254.88	0.5996	0.1478	0.0210	-0.6328	0.3366	1.0579	1.3103	0.0307	0.9038
2	254.88	0.6497	0.1613	0.0233	-0.7260	0.3849	1.1271	1.4751	0.0765	0.9017
2	254.88	0.6996	0.1799	0.0252	-0.8207	0.4321	1.1603	1.6216	-0.0421	0.9058
2	254.88	0.7495	0.2095	0.0269	-0.9183	0.4793	1.1789	1.7471	-0.0149	0.8997
2	254.88	0.7996	0.2369	0.0285	-1.0291	0.5270	1.1688	1.8549	-0.1231	0.8959
2	254.88	0.8578	0.2609	0.0299	-1.1439	0.5819	1.1879	1.9641	0.2369	0.8911
2	254.88	0.9100	0.2680	0.0310	-1.2397	0.6328	1.1345	2.0541	0.1002	0.8879
2	254.88	0.9727	0.2957	0.0392	-1.3667	0.6910	1.2591	2.1635	0.5110	0.8866
3	254.88	0.1938	-0.0601	0.0052	0.0070	0.0031	0.0464	0.0267	-0.1029	0.0574
3	254.88	0.2357	0.0007	0.0037	-0.0331	0.0056	0.0591	0.0441	-0.2494	0.1040
3	254.88	0.2995	0.0233	0.0021	-0.0145	0.0135	0.1668	0.1080	-0.2971	0.1518
3	254.88	0.3493	0.0505	0.0026	-0.0405	0.0239	0.2928	0.1835	-0.2324	0.1556
3	254.88	0.4000	0.0885	0.0023	-0.0729	0.0372	0.4363	0.2826	-0.3102	0.1836
3	254.88	0.4497	0.0842	0.0032	-0.1314	0.0514	0.5852	0.3869	-0.1529	0.1996
3	254.88	0.4997	0.1113	0.0045	-0.1811	0.0669	0.7154	0.4988	-0.1185	0.2336
3	254.88	0.5556	0.1422	0.0060	-0.2587	0.0839	0.8070	0.6189	-0.2036	0.2333
3	254.88	0.5995	0.1895	0.0073	-0.2792	0.0989	0.9034	0.7079	0.0151	0.2565
3	254.88	0.6498	0.2011	0.0098	-0.3551	0.1143	0.9711	0.8004	0.0797	0.2668
3	254.88	0.6890	0.2064	0.0100	-0.3787	0.1269	0.9761	0.8615	0.0471	0.2774
3	254.88	0.7495	0.2751	0.0111	-0.4643	0.1475	1.0191	0.9353	0.2684	0.2769
3	254.88	0.7998	0.2627	0.0125	-0.4986	0.1650	0.9737	0.9848	-0.1021	0.3098
3	254.88	0.8577	0.3004	0.0139	-0.5452	0.1859	0.9765	1.0327	-0.0964	0.3117
3	254.88	0.9178	0.3637	0.0134	-0.6095	0.2095	0.9310	1.0916	-0.0529	0.3388
3	254.88	0.9729	0.3570	0.0192	-0.7196	0.2308	0.9274	1.1612	-0.0782	0.3491
4	254.88	0.2001	-0.0538	0.0026	-0.0067	0.0033	0.0020	0.0231	0.2266	0.0496
4	254.88	0.2502	0.0050	0.0026	0.0009	0.0067	-0.0037	0.0477	0.3471	0.0972
4	254.88	0.3001	0.0108	0.0030	-0.0093	0.0138	0.0106	0.0914	0.5185	0.1210
4	254.88	0.3502	0.0268	0.0029	-0.0290	0.0238	-0.0012	0.1568	0.6017	0.1329
4	254.88	0.4002	0.0398	0.0033	-0.0276	0.0371	0.0079	0.2418	0.5885	0.1475
4	254.88	0.4500	0.0753	0.0038	-0.0172	0.0507	-0.0487	0.3412	0.2826	0.1627
4	254.88	0.5001	0.0794	0.0039	-0.0526	0.0667	0.0044	0.4511	0.6789	0.1883
4	254.88	0.5560	0.1125	0.0045	-0.0639	0.0842	-0.0645	0.5744	0.4026	0.1943
4	254.88	0.6001	0.1505	0.0058	-0.0888	0.0978	-0.0698	0.6680	0.4912	0.2169
4	254.88	0.6501	0.1652	0.0061	-0.1177	0.1133	-0.1177	0.7628	0.5161	0.2221
4	254.88	0.6999	0.1918	0.0065	-0.1525	0.1276	-0.1564	0.8429	0.5621	0.2340
4	254.88	0.7500	0.2298	0.0072	-0.1880	0.1423	-0.1868	0.9087	0.6858	0.2348
4	254.88	0.8002	0.2499	0.0080	-0.2523	0.1580	-0.2437	0.9640	0.8269	0.2453
4	254.88	0.8582	0.2822	0.0086	-0.2798	0.1757	-0.3176	1.0246	0.3882	0.2656
4	254.88	0.9101	0.3032	0.0085	-0.2790	0.1925	-0.3145	1.0794	0.5766	0.2626
4	254.88	0.9728	0.3855	0.0129	-0.2826	0.2129	-0.1590	1.1573	1.1355	0.2716

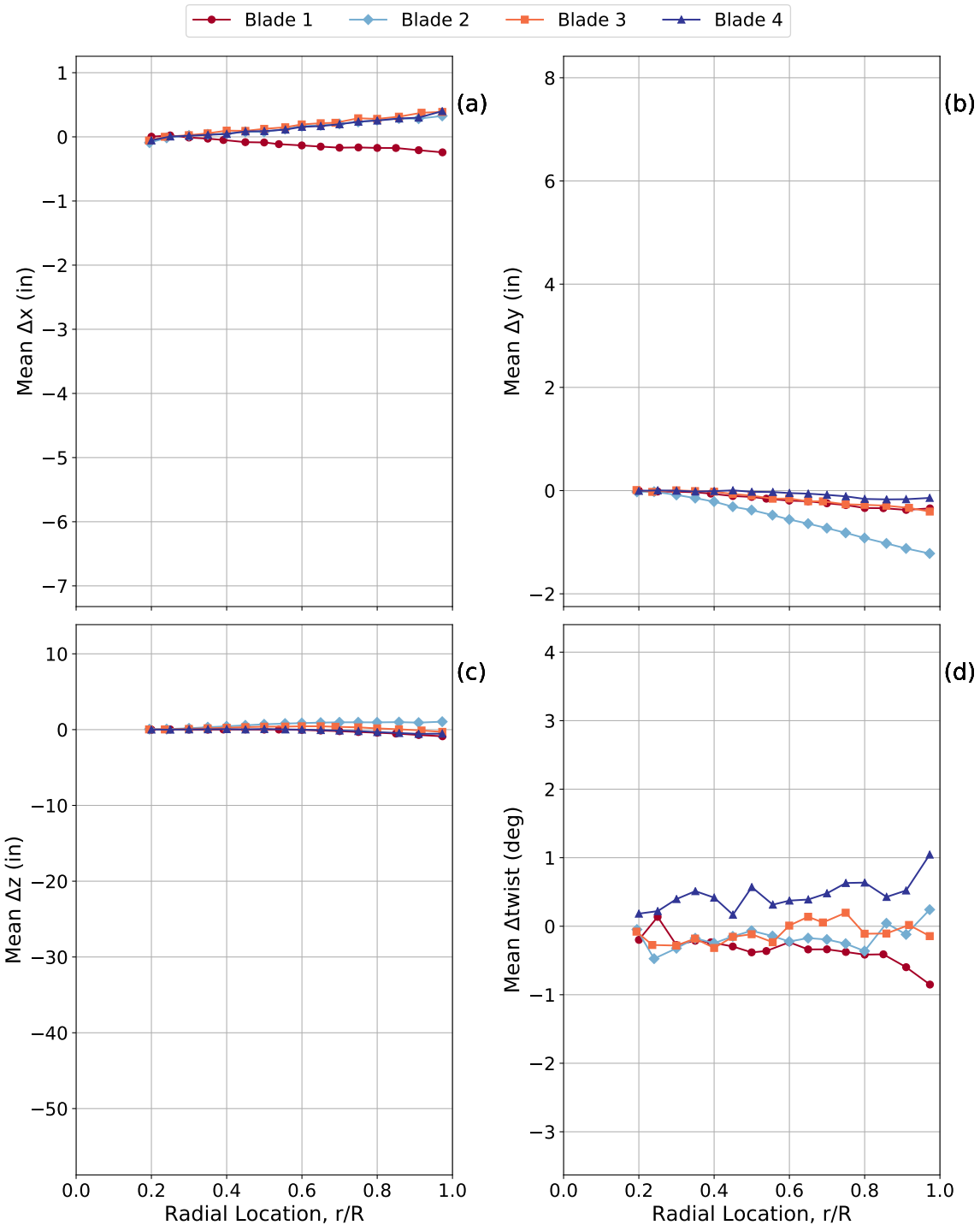


Figure 2.26-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	0.0025	0.0056	-0.0015	0.0039	-0.0095	0.0258	-0.1987	0.1232
1	260.16	0.2499	0.0222	0.0038	-0.0177	0.0071	0.0289	0.0531	0.1363	0.2423
1	260.16	0.2998	-0.0108	0.0026	-0.0216	0.0157	-0.0070	0.1048	-0.2745	0.3010
1	260.16	0.3498	-0.0278	0.0026	-0.0318	0.0271	-0.0074	0.1784	-0.2121	0.3200
1	260.16	0.3913	-0.0492	0.0029	-0.0586	0.0387	0.0118	0.2581	-0.2350	0.3450
1	260.16	0.4496	-0.0828	0.0037	-0.1057	0.0574	0.0271	0.3884	-0.2958	0.3667
1	260.16	0.4997	-0.0874	0.0044	-0.1225	0.0751	0.0019	0.5122	-0.3815	0.3929
1	260.16	0.5387	-0.1137	0.0054	-0.1568	0.0899	0.0099	0.6137	-0.3621	0.4162
1	260.16	0.5996	-0.1338	0.0061	-0.1939	0.1121	-0.0296	0.7626	-0.2334	0.4281
1	260.16	0.6498	-0.1523	0.0079	-0.2076	0.1315	-0.1186	0.8738	-0.3386	0.4296
1	260.16	0.6998	-0.1690	0.0091	-0.2459	0.1500	-0.2030	0.9684	-0.3371	0.4567
1	260.16	0.7500	-0.1651	0.0110	-0.2804	0.1691	-0.3111	1.0445	-0.3757	0.4740
1	260.16	0.8001	-0.1728	0.0135	-0.3375	0.1884	-0.4073	1.1052	-0.4147	0.4863
1	260.16	0.8497	-0.1739	0.0160	-0.3409	0.2085	-0.5182	1.1603	-0.4101	0.4844
1	260.16	0.9102	-0.2080	0.0192	-0.3740	0.2338	-0.7074	1.2375	-0.5980	0.5043
1	260.16	0.9734	-0.2417	0.0256	-0.3446	0.2579	-0.8772	1.3465	-0.8515	0.5092
2	260.16	0.1949	-0.0911	0.0151	-0.0245	0.0066	0.0605	0.0372	-0.0480	0.1159
2	260.16	0.2405	-0.0157	0.0026	-0.0206	0.0064	0.0658	0.0478	-0.4738	0.3785
2	260.16	0.2999	0.0223	0.0032	-0.0843	0.0224	0.1755	0.1221	-0.3218	0.3804
2	260.16	0.3498	0.0393	0.0033	-0.1455	0.0390	0.3165	0.2039	-0.1757	0.3898
2	260.16	0.3998	0.0489	0.0040	-0.2136	0.0572	0.4392	0.3013	-0.2479	0.3886
2	260.16	0.4496	0.0798	0.0053	-0.3122	0.0768	0.5672	0.4111	-0.1483	0.3961
2	260.16	0.4995	0.0770	0.0069	-0.3769	0.0970	0.7036	0.5301	-0.0657	0.3981
2	260.16	0.5551	0.1217	0.0090	-0.4753	0.1195	0.7990	0.6646	-0.1435	0.4102
2	260.16	0.5996	0.1652	0.0110	-0.5597	0.1374	0.8602	0.7672	-0.2233	0.4166
2	260.16	0.6497	0.1795	0.0133	-0.6402	0.1582	0.9234	0.8726	-0.1735	0.4244
2	260.16	0.6996	0.2013	0.0154	-0.7272	0.1788	0.9684	0.9644	-0.1938	0.4365
2	260.16	0.7495	0.2318	0.0170	-0.8184	0.1997	0.9697	1.0447	-0.2548	0.4449
2	260.16	0.7996	0.2610	0.0180	-0.9184	0.2209	0.9581	1.1183	-0.3622	0.4508
2	260.16	0.8578	0.2849	0.0194	-1.0234	0.2462	0.9916	1.2053	0.0434	0.4559
2	260.16	0.9100	0.2831	0.0203	-1.1212	0.2699	0.9238	1.2920	-0.1201	0.4513
2	260.16	0.9727	0.3260	0.0274	-1.2187	0.2975	1.0478	1.4075	0.2420	0.5562
3	260.16	0.1938	-0.0581	0.0079	0.0101	0.0029	0.0291	0.0204	-0.0793	0.0721
3	260.16	0.2357	0.0005	0.0024	-0.0248	0.0055	0.0253	0.0379	-0.2738	0.1297
3	260.16	0.2995	0.0256	0.0019	0.0050	0.0118	0.0921	0.0879	-0.2823	0.1884
3	260.16	0.3493	0.0544	0.0021	-0.0095	0.0207	0.1729	0.1480	-0.1803	0.2035
3	260.16	0.4000	0.0970	0.0033	-0.0210	0.0323	0.2461	0.2315	-0.3170	0.2415
3	260.16	0.4497	0.0929	0.0028	-0.0661	0.0456	0.3290	0.3267	-0.1545	0.2445
3	260.16	0.4997	0.1246	0.0042	-0.0973	0.0599	0.3890	0.4295	-0.1167	0.2531
3	260.16	0.5556	0.1492	0.0056	-0.1575	0.0763	0.4014	0.5444	-0.2337	0.2409
3	260.16	0.5995	0.1934	0.0063	-0.1532	0.0902	0.4382	0.6299	0.0090	0.2646
3	260.16	0.6498	0.2123	0.0075	-0.2070	0.1054	0.4405	0.7197	0.1377	0.2836
3	260.16	0.6890	0.2191	0.0086	-0.2086	0.1177	0.3735	0.7820	0.0544	0.2989
3	260.16	0.7495	0.2894	0.0095	-0.2655	0.1369	0.3004	0.8734	0.1969	0.2978
3	260.16	0.7998	0.2803	0.0105	-0.2756	0.1539	0.1608	0.9614	-0.1097	0.3294
3	260.16	0.8577	0.3144	0.0114	-0.2924	0.1734	0.0491	1.0799	-0.1066	0.3475
3	260.16	0.9178	0.3756	0.0118	-0.3348	0.1948	-0.1161	1.2284	0.0181	0.3655
3	260.16	0.9729	0.3884	0.0169	-0.4061	0.2142	-0.2980	1.3876	-0.1443	0.3524
4	260.16	0.2001	-0.0556	0.0182	-0.0053	0.0075	0.0120	0.0435	0.1834	0.1743
4	260.16	0.2502	0.0057	0.0027	0.0041	0.0083	-0.0009	0.0596	0.2204	0.4709
4	260.16	0.3001	0.0163	0.0026	-0.0024	0.0251	0.0312	0.1348	0.3965	0.4669
4	260.16	0.3502	0.0312	0.0029	-0.0184	0.0437	0.0449	0.2221	0.5119	0.4749
4	260.16	0.4002	0.0449	0.0043	-0.0100	0.0636	0.0617	0.3262	0.4172	0.4725
4	260.16	0.4500	0.0844	0.0062	0.0041	0.0851	0.0220	0.4456	0.1682	0.4715
4	260.16	0.5001	0.0894	0.0082	-0.0233	0.1080	0.0832	0.5788	0.5710	0.4753
4	260.16	0.5560	0.1126	0.0113	-0.0276	0.1347	0.0231	0.7406	0.3143	0.4777
4	260.16	0.6001	0.1559	0.0134	-0.0479	0.1557	0.0025	0.8740	0.3739	0.4771
4	260.16	0.6501	0.1671	0.0163	-0.0596	0.1812	-0.0580	1.0211	0.3896	0.4803
4	260.16	0.6999	0.1968	0.0195	-0.0827	0.2064	-0.1211	1.1605	0.4802	0.4804
4	260.16	0.7500	0.2364	0.0218	-0.1112	0.2322	-0.1940	1.2911	0.6307	0.4827
4	260.16	0.8002	0.2538	0.0237	-0.1619	0.2604	-0.3229	1.4142	0.6367	0.4847
4	260.16	0.8582	0.2858	0.0254	-0.1705	0.2930	-0.4487	1.5512	0.4274	0.4850
4	260.16	0.9101	0.2995	0.0270	-0.1675	0.3234	-0.5618	1.6729	0.5215	0.4766
4	260.16	0.9728	0.4006	0.0366	-0.1417	0.3591	-0.5340	1.8257	1.0452	0.4738

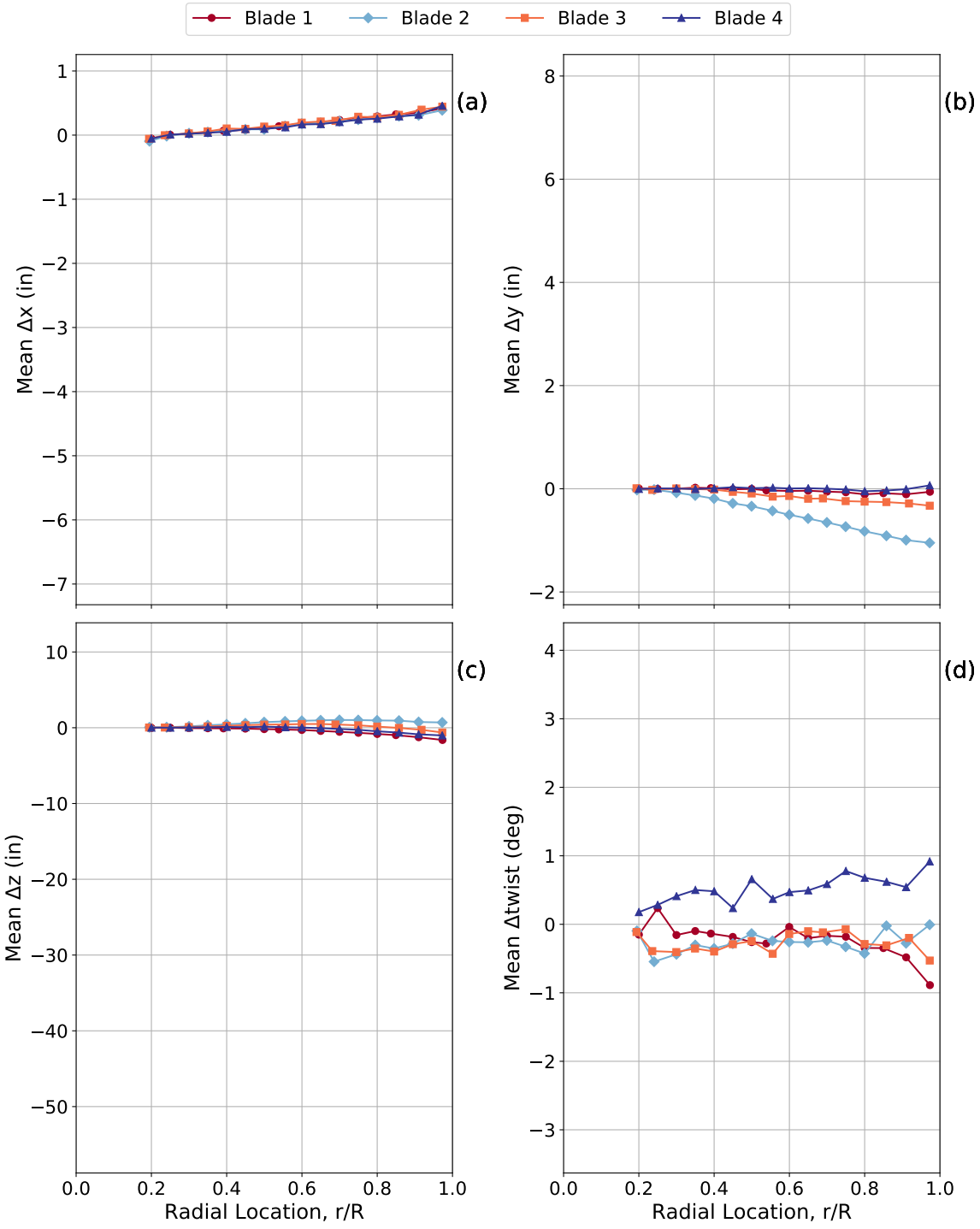


Figure 2.26-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	-0.0549	0.0113	0.0048	0.0041	-0.0220	0.0206	-0.1508	0.1339
1	265.08	0.2499	0.0047	0.0038	-0.0022	0.0062	0.0064	0.0419	0.2364	0.3237
1	265.08	0.2998	0.0215	0.0028	0.0035	0.0149	-0.0543	0.0819	-0.1567	0.3523
1	265.08	0.3498	0.0421	0.0035	0.0206	0.0263	-0.0669	0.1393	-0.0982	0.3612
1	265.08	0.3913	0.0681	0.0035	0.0120	0.0361	-0.0842	0.2015	-0.1356	0.3795
1	265.08	0.4496	0.0799	0.0044	-0.0102	0.0503	-0.1149	0.3109	-0.1843	0.4139
1	265.08	0.4997	0.1228	0.0051	-0.0030	0.0644	-0.1802	0.4202	-0.2604	0.4200
1	265.08	0.5387	0.1380	0.0059	-0.0315	0.0754	-0.2213	0.5132	-0.2808	0.4349
1	265.08	0.5996	0.1796	0.0074	-0.0421	0.0933	-0.2931	0.6653	-0.0386	0.4440
1	265.08	0.6498	0.2022	0.0089	-0.0376	0.1090	-0.4214	0.7983	-0.2018	0.4468
1	265.08	0.6998	0.2356	0.0105	-0.0552	0.1249	-0.5372	0.9401	-0.1681	0.4612
1	265.08	0.7500	0.2677	0.0118	-0.0678	0.1411	-0.6710	1.0937	-0.1816	0.4708
1	265.08	0.8001	0.2923	0.0135	-0.1077	0.1580	-0.8226	1.2632	-0.3454	0.4929
1	265.08	0.8497	0.3236	0.0153	-0.0863	0.1750	-0.9748	1.4439	-0.3474	0.4904
1	265.08	0.9102	0.3475	0.0181	-0.1070	0.1965	-1.2541	1.6856	-0.4824	0.4813
1	265.08	0.9734	0.4171	0.0188	-0.0587	0.2189	-1.6161	1.9590	-0.8879	0.4663
2	265.08	0.1949	-0.0948	0.0045	-0.0229	0.0025	0.0595	0.0166	-0.0961	0.0595
2	265.08	0.2405	-0.0153	0.0022	-0.0163	0.0047	0.0664	0.0344	-0.5458	0.1252
2	265.08	0.2999	0.0285	0.0021	-0.0765	0.0101	0.1747	0.0705	-0.4378	0.1551
2	265.08	0.3498	0.0476	0.0023	-0.1298	0.0186	0.3247	0.1199	-0.3035	0.1606
2	265.08	0.3998	0.0618	0.0032	-0.1901	0.0278	0.4484	0.1859	-0.3536	0.1807
2	265.08	0.4496	0.0894	0.0033	-0.2821	0.0393	0.5819	0.2716	-0.2828	0.1968
2	265.08	0.4995	0.0903	0.0039	-0.3383	0.0525	0.7396	0.3757	-0.1364	0.2081
2	265.08	0.5551	0.1412	0.0054	-0.4281	0.0681	0.8380	0.5089	-0.2417	0.2266
2	265.08	0.5996	0.1799	0.0074	-0.5039	0.0809	0.9133	0.6229	-0.2581	0.2326
2	265.08	0.6497	0.1894	0.0100	-0.5767	0.0956	0.9786	0.7527	-0.2631	0.2371
2	265.08	0.6996	0.2156	0.0118	-0.6529	0.1105	1.0260	0.8822	-0.2361	0.2550
2	265.08	0.7495	0.2409	0.0137	-0.7344	0.1259	1.0100	1.0114	-0.3275	0.2591
2	265.08	0.7996	0.2688	0.0146	-0.8240	0.1416	0.9656	1.1425	-0.4260	0.2746
2	265.08	0.8578	0.2947	0.0157	-0.9115	0.1609	0.9351	1.3006	-0.0227	0.2682
2	265.08	0.9100	0.3088	0.0169	-0.9952	0.1784	0.7569	1.4496	-0.2764	0.2641
2	265.08	0.9727	0.3883	0.0254	-1.0477	0.1996	0.6965	1.6423	-0.0060	0.2672
3	265.08	0.1938	-0.0583	0.0067	0.0096	0.0024	0.0287	0.0130	-0.1131	0.0582
3	265.08	0.2357	-0.0015	0.0023	-0.0222	0.0034	0.0279	0.0274	-0.3912	0.1082
3	265.08	0.2995	0.0270	0.0023	0.0060	0.0074	0.0952	0.0596	-0.4054	0.1490
3	265.08	0.3493	0.0573	0.0028	-0.0065	0.0123	0.1742	0.0986	-0.3538	0.1449
3	265.08	0.4000	0.1033	0.0036	-0.0155	0.0190	0.2524	0.1573	-0.3976	0.1834
3	265.08	0.4497	0.0965	0.0033	-0.0593	0.0265	0.3375	0.2323	-0.2905	0.1961
3	265.08	0.4997	0.1329	0.0033	-0.0912	0.0354	0.4113	0.3278	-0.2456	0.2062
3	265.08	0.5556	0.1536	0.0044	-0.1520	0.0465	0.4353	0.4478	-0.4301	0.1936
3	265.08	0.5995	0.1946	0.0049	-0.1394	0.0563	0.4893	0.5491	-0.1417	0.2242
3	265.08	0.6498	0.2125	0.0062	-0.1930	0.0675	0.4953	0.6646	-0.1013	0.2206
3	265.08	0.6890	0.2229	0.0073	-0.1873	0.0766	0.4305	0.7523	-0.1176	0.2425
3	265.08	0.7495	0.2862	0.0088	-0.2393	0.0911	0.3198	0.8824	-0.0724	0.2345
3	265.08	0.7998	0.2798	0.0099	-0.2491	0.1040	0.1518	0.9888	-0.2880	0.2581
3	265.08	0.8577	0.3161	0.0112	-0.2580	0.1193	-0.0231	1.1168	-0.3074	0.2639
3	265.08	0.9178	0.3970	0.0121	-0.2847	0.1362	-0.2747	1.2591	-0.1992	0.2636
3	265.08	0.9729	0.4434	0.0231	-0.3280	0.1517	-0.6287	1.4107	-0.5291	0.4089
4	265.08	0.2001	-0.0535	0.0026	-0.0032	0.0029	0.0127	0.0207	0.1776	0.0486
4	265.08	0.2502	0.0081	0.0027	0.0068	0.0054	0.0080	0.0449	0.2835	0.0802
4	265.08	0.3001	0.0206	0.0027	0.0047	0.0113	0.0414	0.0853	0.4108	0.1102
4	265.08	0.3502	0.0357	0.0031	-0.0053	0.0198	0.0699	0.1444	0.5006	0.1177
4	265.08	0.4002	0.0521	0.0038	0.0088	0.0302	0.1011	0.2255	0.4819	0.1455
4	265.08	0.4500	0.0936	0.0048	0.0301	0.0434	0.0719	0.3285	0.2360	0.1621
4	265.08	0.5001	0.0979	0.0040	0.0118	0.0599	0.1408	0.4541	0.6587	0.1771
4	265.08	0.5560	0.1210	0.0043	0.0196	0.0783	0.0631	0.6159	0.3703	0.1952
4	265.08	0.6001	0.1658	0.0049	0.0058	0.0936	0.0254	0.7586	0.4696	0.1973
4	265.08	0.6501	0.1712	0.0056	0.0105	0.1119	-0.0568	0.9292	0.4942	0.2058
4	265.08	0.6999	0.2027	0.0069	0.0007	0.1303	-0.1620	1.1075	0.5872	0.2263
4	265.08	0.7500	0.2410	0.0083	-0.0145	0.1489	-0.2756	1.2861	0.7773	0.2187
4	265.08	0.8002	0.2559	0.0096	-0.0480	0.1674	-0.4672	1.4618	0.6784	0.2298
4	265.08	0.8582	0.2914	0.0112	-0.0340	0.1894	-0.6479	1.6578	0.6199	0.2257
4	265.08	0.9101	0.3191	0.0131	-0.0083	0.2085	-0.8689	1.8258	0.5421	0.2219
4	265.08	0.9728	0.4572	0.0190	0.0652	0.2318	-1.0160	2.0252	0.9172	0.2206

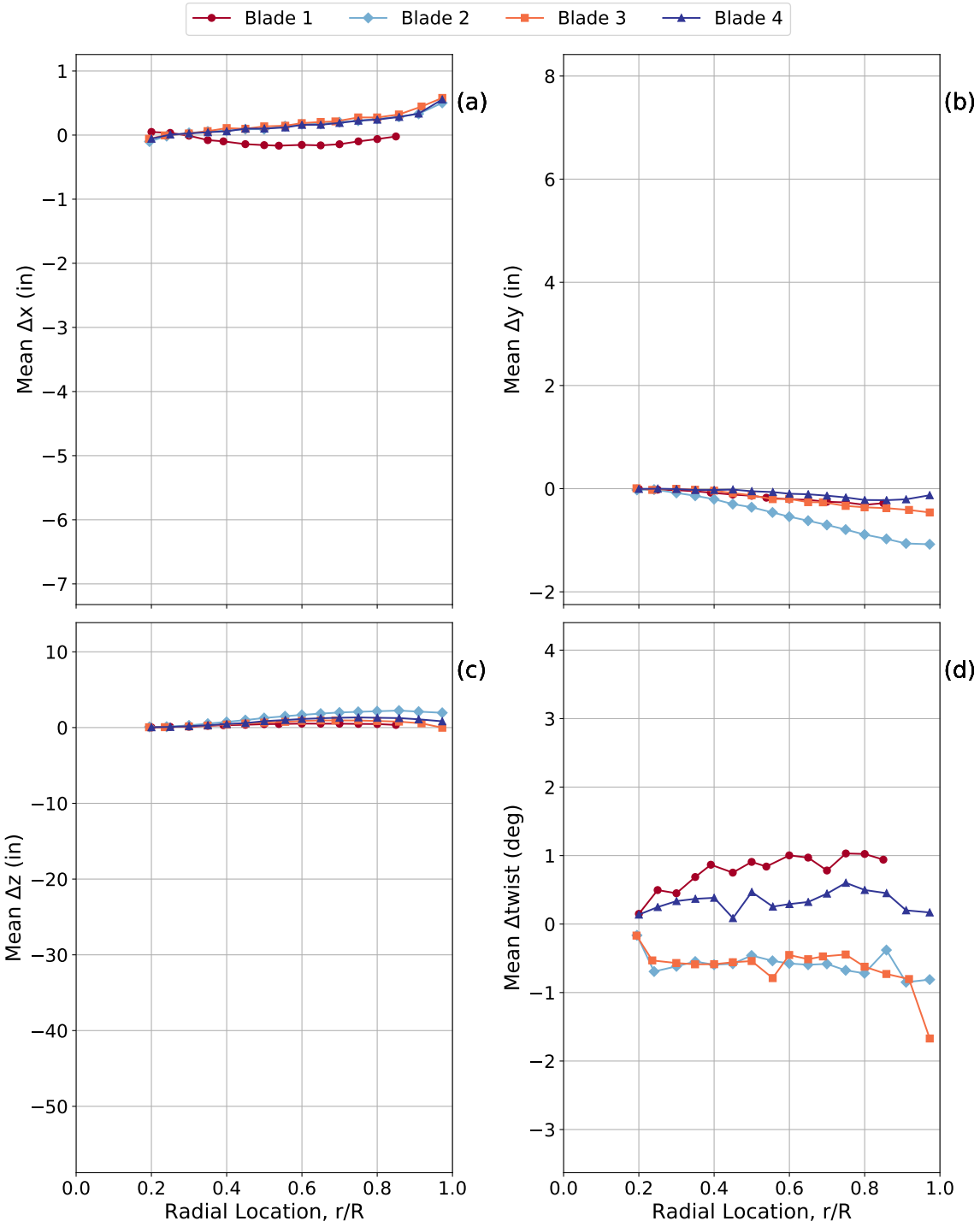


Figure 2.26-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	0.0485	0.0029	-0.0050	0.0036	0.0206	0.0248	0.1492	0.0407
1	270	0.2499	0.0338	0.0025	-0.0192	0.0083	0.0930	0.0559	0.4965	0.0723
1	270	0.2998	-0.0095	0.0024	-0.0290	0.0163	0.0967	0.1071	0.4499	0.0939
1	270	0.3498	-0.0787	0.0033	-0.0505	0.0281	0.2300	0.1835	0.6872	0.1074
1	270	0.3913	-0.0978	0.0044	-0.0779	0.0411	0.3132	0.2684	0.8666	0.1068
1	270	0.4496	-0.1415	0.0050	-0.1150	0.0611	0.3663	0.4126	0.7512	0.1422
1	270	0.4997	-0.1569	0.0074	-0.1376	0.0813	0.4520	0.5630	0.9078	0.1417
1	270	0.5387	-0.1656	0.0081	-0.1755	0.0974	0.4720	0.6939	0.8396	0.1670
1	270	0.5996	-0.1532	0.0103	-0.2043	0.1247	0.5206	0.9199	1.0032	0.1732
1	270	0.6498	-0.1607	0.0116	-0.2175	0.1479	0.5138	1.1197	0.9704	0.1746
1	270	0.6998	-0.1428	0.0142	-0.2540	0.1711	0.5088	1.3304	0.7823	0.2081
1	270	0.7500	-0.0984	0.0156	-0.2672	0.1932	0.4866	1.5399	1.0308	0.2097
1	270	0.8001	-0.0624	0.0198	-0.3137	0.2148	0.4647	1.7579	1.0237	0.2731
1	270	0.8497	-0.0218	0.0228	-0.2808	0.2396	0.3500	1.9763	0.9406	0.2612
2	270.35	0.1949	-0.1010	0.0054	-0.0244	0.0025	0.0868	0.0235	-0.1645	0.0527
2	270.35	0.2405	-0.0163	0.0023	-0.0177	0.0044	0.1149	0.0461	-0.6928	0.1181
2	270.35	0.2999	0.0333	0.0025	-0.0829	0.0104	0.2886	0.0996	-0.6171	0.1357
2	270.35	0.3498	0.0561	0.0028	-0.1378	0.0179	0.5188	0.1697	-0.5470	0.1379
2	270.35	0.3998	0.0684	0.0032	-0.2039	0.0275	0.7467	0.2623	-0.5935	0.1400
2	270.35	0.4496	0.0915	0.0041	-0.2992	0.0387	0.9873	0.3794	-0.5801	0.1496
2	270.35	0.4995	0.0918	0.0059	-0.3606	0.0514	1.2629	0.5168	-0.4585	0.1582
2	270.35	0.5551	0.1392	0.0088	-0.4612	0.0672	1.4962	0.6935	-0.5365	0.1587
2	270.35	0.5996	0.1706	0.0116	-0.5436	0.0807	1.6754	0.8488	-0.5758	0.1647
2	270.35	0.6497	0.1749	0.0146	-0.6213	0.0958	1.8436	1.0321	-0.5938	0.1737
2	270.35	0.6996	0.2008	0.0175	-0.7036	0.1118	1.9922	1.2252	-0.5817	0.1726
2	270.35	0.7495	0.2236	0.0203	-0.7933	0.1279	2.0813	1.4232	-0.6751	0.1780
2	270.35	0.7996	0.2523	0.0224	-0.8895	0.1445	2.1555	1.6244	-0.7188	0.1830
2	270.35	0.8578	0.2841	0.0253	-0.9745	0.1638	2.2439	1.8575	-0.3791	0.1767
2	270.35	0.9100	0.3309	0.0306	-1.0630	0.1814	2.1063	2.0673	-0.8489	0.1648
2	270.35	0.9727	0.5019	0.0479	-1.0781	0.2065	1.9504	2.3113	-0.8106	0.4884
3	270	0.1938	-0.0580	0.0097	0.0072	0.0025	0.0411	0.0183	-0.1680	0.0569
3	270	0.2357	-0.0054	0.0035	-0.0242	0.0033	0.0525	0.0364	-0.5307	0.1305
3	270	0.2995	0.0252	0.0030	-0.0034	0.0087	0.1513	0.0809	-0.5688	0.1544
3	270	0.3493	0.0612	0.0031	-0.0206	0.0148	0.2633	0.1359	-0.5876	0.1597
3	270	0.4000	0.1083	0.0035	-0.0383	0.0227	0.3953	0.2140	-0.5861	0.1743
3	270	0.4497	0.0979	0.0031	-0.0860	0.0315	0.5297	0.3144	-0.5574	0.1934
3	270	0.4997	0.1355	0.0036	-0.1275	0.0422	0.6617	0.4408	-0.5400	0.2007
3	270	0.5556	0.1456	0.0039	-0.2031	0.0553	0.7603	0.6064	-0.7891	0.1936
3	270	0.5995	0.1861	0.0050	-0.1981	0.0666	0.8785	0.7463	-0.4514	0.2140
3	270	0.6498	0.2045	0.0071	-0.2615	0.0789	0.9399	0.9108	-0.5129	0.2188
3	270	0.6890	0.2127	0.0088	-0.2648	0.0894	0.9412	1.0397	-0.4725	0.2288
3	270	0.7495	0.2750	0.0108	-0.3338	0.1052	0.9316	1.2329	-0.4444	0.2377
3	270	0.7998	0.2746	0.0120	-0.3616	0.1188	0.8676	1.3875	-0.6227	0.2426
3	270	0.8577	0.3208	0.0144	-0.3779	0.1357	0.7828	1.5665	-0.7287	0.2494
3	270	0.9178	0.4452	0.0220	-0.4129	0.1553	0.5584	1.7540	-0.8029	0.2291
3	270	0.9729	0.5793	0.0427	-0.4614	0.1756	-0.0222	1.9459	-1.6707	0.2266
4	270	0.2001	-0.0568	0.0043	-0.0054	0.0037	0.0438	0.0369	0.1380	0.0626
4	270	0.2502	0.0079	0.0036	-0.0009	0.0081	0.0846	0.0752	0.2483	0.1799
4	270	0.3001	0.0251	0.0042	-0.0077	0.0158	0.1779	0.1464	0.3355	0.1685
4	270	0.3502	0.0444	0.0035	-0.0264	0.0276	0.3008	0.2504	0.3685	0.1701
4	270	0.4002	0.0598	0.0037	-0.0259	0.0428	0.4670	0.3867	0.3836	0.1588
4	270	0.4500	0.1003	0.0048	-0.0180	0.0611	0.5934	0.5545	0.0866	0.1656
4	270	0.5001	0.1009	0.0072	-0.0502	0.0820	0.8479	0.7496	0.4678	0.1695
4	270	0.5560	0.1188	0.0112	-0.0659	0.1074	1.0001	0.9920	0.2545	0.1630
4	270	0.6001	0.1595	0.0148	-0.0990	0.1279	1.1308	1.1950	0.2918	0.1669
4	270	0.6501	0.1605	0.0192	-0.1089	0.1518	1.2301	1.4333	0.3227	0.1695
4	270	0.6999	0.1893	0.0230	-0.1361	0.1759	1.2968	1.6770	0.4450	0.1679
4	270	0.7500	0.2249	0.0261	-0.1702	0.2002	1.3338	1.9236	0.6022	0.1660
4	270	0.8002	0.2407	0.0286	-0.2200	0.2247	1.2900	2.1727	0.4973	0.1686
4	270	0.8582	0.2833	0.0314	-0.2231	0.2532	1.2502	2.4644	0.4509	0.1657
4	270	0.9101	0.3356	0.0365	-0.2069	0.2785	1.0918	2.7274	0.2006	0.1711
4	270	0.9728	0.5549	0.0523	-0.1271	0.3105	0.8253	3.0521	0.1695	0.1779

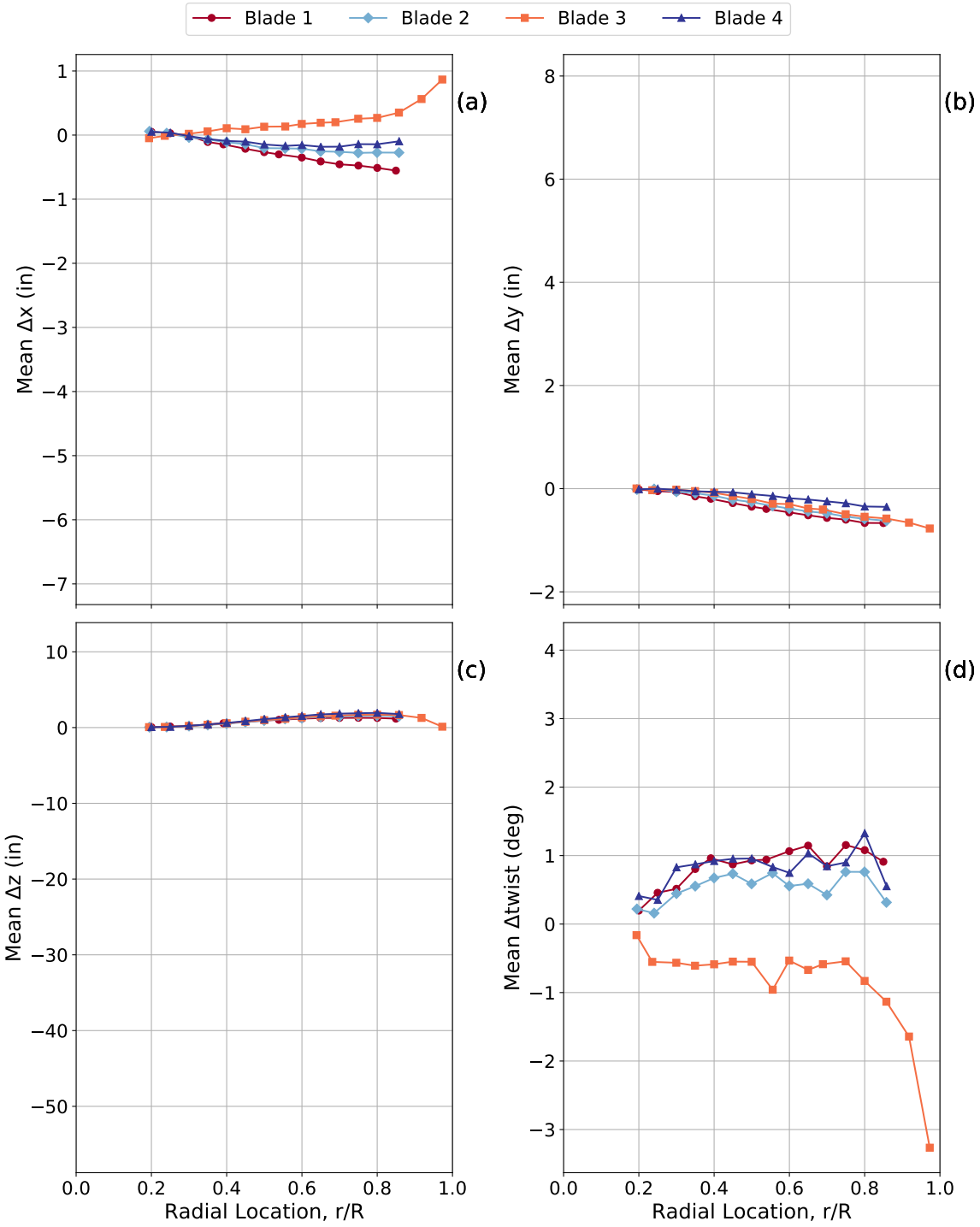


Figure 2.26-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0502	0.0035	-0.0162	0.0054	0.0530	0.0362	0.1975	0.0409
1	274.92	0.2499	0.0288	0.0031	-0.0483	0.0116	0.1403	0.0782	0.4567	0.0744
1	274.92	0.2998	-0.0124	0.0023	-0.0640	0.0230	0.1987	0.1533	0.5149	0.0931
1	274.92	0.3498	-0.1079	0.0040	-0.1497	0.0399	0.4255	0.2631	0.8046	0.1172
1	274.92	0.3913	-0.1451	0.0051	-0.1960	0.0578	0.5666	0.3824	0.9610	0.1185
1	274.92	0.4496	-0.2134	0.0065	-0.2800	0.0851	0.7439	0.5882	0.8713	0.1272
1	274.92	0.4997	-0.2665	0.0104	-0.3490	0.1138	0.9273	0.8012	0.9300	0.1478
1	274.92	0.5387	-0.3011	0.0131	-0.3922	0.1372	1.0220	0.9820	0.9406	0.1473
1	274.92	0.5996	-0.3503	0.0180	-0.4600	0.1754	1.1730	1.2877	1.0640	0.1454
1	274.92	0.6498	-0.4113	0.0238	-0.5160	0.2082	1.2593	1.5573	1.1455	0.1720
1	274.92	0.6998	-0.4561	0.0263	-0.5662	0.2406	1.2745	1.8270	0.8435	0.1731
1	274.92	0.7500	-0.4755	0.0298	-0.6007	0.2738	1.2876	2.1014	1.1537	0.1681
1	274.92	0.8001	-0.5121	0.0320	-0.6645	0.3059	1.2709	2.3802	1.0793	0.2157
1	274.92	0.8497	-0.5542	0.0348	-0.6668	0.3390	1.1788	2.6450	0.9103	0.2193
2	274.92	0.1949	0.0587	0.0026	-0.0170	0.0032	0.0506	0.0261	0.2203	0.0426
2	274.92	0.2405	0.0288	0.0026	-0.0077	0.0065	0.0745	0.0520	0.1595	0.0658
2	274.92	0.2999	-0.0373	0.0028	-0.0601	0.0151	0.2017	0.1173	0.4451	0.0932
2	274.92	0.3498	-0.0675	0.0033	-0.0885	0.0263	0.3400	0.2041	0.5539	0.0936
2	274.92	0.3998	-0.1112	0.0056	-0.1375	0.0410	0.5197	0.3157	0.6733	0.0904
2	274.92	0.4496	-0.1416	0.0061	-0.2131	0.0567	0.7301	0.4466	0.7353	0.0973
2	274.92	0.4995	-0.2032	0.0089	-0.2604	0.0750	0.9187	0.5990	0.5874	0.1362
2	274.92	0.5551	-0.2074	0.0110	-0.3350	0.0958	1.1420	0.7772	0.7441	0.1116
2	274.92	0.5996	-0.2122	0.0143	-0.3851	0.1139	1.2596	0.9317	0.5564	0.1323
2	274.92	0.6497	-0.2540	0.0173	-0.4418	0.1340	1.4036	1.1087	0.5888	0.1342
2	274.92	0.6996	-0.2609	0.0202	-0.4767	0.1540	1.4688	1.2788	0.4251	0.1422
2	274.92	0.7495	-0.2778	0.0230	-0.5411	0.1753	1.5680	1.4443	0.7629	0.1349
2	274.92	0.7996	-0.2726	0.0244	-0.5862	0.1947	1.5792	1.5988	0.7618	0.1801
2	274.92	0.8578	-0.2739	0.0293	-0.6219	0.2202	1.4903	1.7849	0.3165	0.3876
3	274.92	0.1938	-0.0490	0.0133	0.0042	0.0031	0.0566	0.0258	-0.1616	0.0631
3	274.92	0.2357	-0.0119	0.0045	-0.0304	0.0041	0.0811	0.0438	-0.5521	0.1508
3	274.92	0.2995	0.0201	0.0044	-0.0185	0.0117	0.2179	0.1043	-0.5648	0.1772
3	274.92	0.3493	0.0571	0.0045	-0.0471	0.0205	0.3741	0.1808	-0.6081	0.1773
3	274.92	0.4000	0.1068	0.0045	-0.0799	0.0312	0.5688	0.2770	-0.5874	0.1911
3	274.92	0.4497	0.0907	0.0056	-0.1421	0.0422	0.7759	0.3912	-0.5483	0.1920
3	274.92	0.4997	0.1306	0.0071	-0.2000	0.0550	0.9823	0.5205	-0.5504	0.2024
3	274.92	0.5556	0.1332	0.0096	-0.2900	0.0695	1.1541	0.6801	-0.9584	0.2071
3	274.92	0.5995	0.1738	0.0112	-0.3003	0.0819	1.3535	0.8142	-0.5328	0.2119
3	274.92	0.6498	0.1925	0.0143	-0.3844	0.0953	1.4869	0.9687	-0.6697	0.2169
3	274.92	0.6890	0.2004	0.0166	-0.4044	0.1067	1.5711	1.0886	-0.5857	0.2183
3	274.92	0.7495	0.2547	0.0203	-0.4957	0.1239	1.6879	1.2678	-0.5437	0.2198
3	274.92	0.7998	0.2676	0.0227	-0.5447	0.1390	1.7043	1.4050	-0.8303	0.2193
3	274.92	0.8577	0.3501	0.0285	-0.5792	0.1577	1.6552	1.5581	-1.1333	0.2278
3	274.92	0.9178	0.5621	0.0457	-0.6582	0.1802	1.2763	1.7199	-1.6426	0.2237
3	274.92	0.9729	0.8664	0.0862	-0.7717	0.2009	0.1110	1.9118	-3.2652	0.3280
4	274.92	0.2001	0.0514	0.0032	-0.0110	0.0048	0.0657	0.0360	0.4095	0.0430
4	274.92	0.2502	0.0363	0.0028	-0.0015	0.0106	0.0913	0.0773	0.3530	0.0722
4	274.92	0.3001	-0.0162	0.0025	-0.0237	0.0211	0.2458	0.1509	0.8286	0.0940
4	274.92	0.3502	-0.0614	0.0028	-0.0511	0.0365	0.4034	0.2588	0.8728	0.0946
4	274.92	0.4002	-0.0920	0.0042	-0.0609	0.0573	0.6170	0.4035	0.9207	0.1165
4	274.92	0.4500	-0.1025	0.0066	-0.0702	0.0815	0.8527	0.5749	0.9531	0.1258
4	274.92	0.5001	-0.1470	0.0101	-0.1074	0.1077	1.1135	0.7736	0.9575	0.1176
4	274.92	0.5560	-0.1690	0.0148	-0.1423	0.1404	1.3546	1.0211	0.8323	0.1342
4	274.92	0.6001	-0.1556	0.0188	-0.1859	0.1668	1.5366	1.2301	0.7475	0.1331
4	274.92	0.6501	-0.1827	0.0230	-0.2107	0.1981	1.7391	1.4759	1.0327	0.1337
4	274.92	0.6999	-0.1814	0.0285	-0.2465	0.2306	1.8339	1.7357	0.8448	0.1515
4	274.92	0.7500	-0.1417	0.0325	-0.2830	0.2633	1.8909	1.9985	0.8997	0.1625
4	274.92	0.8002	-0.1433	0.0348	-0.3462	0.2965	1.9374	2.2652	1.3263	0.1785
4	274.92	0.8582	-0.0969	0.0428	-0.3532	0.3373	1.7794	2.5668	0.5524	0.4823

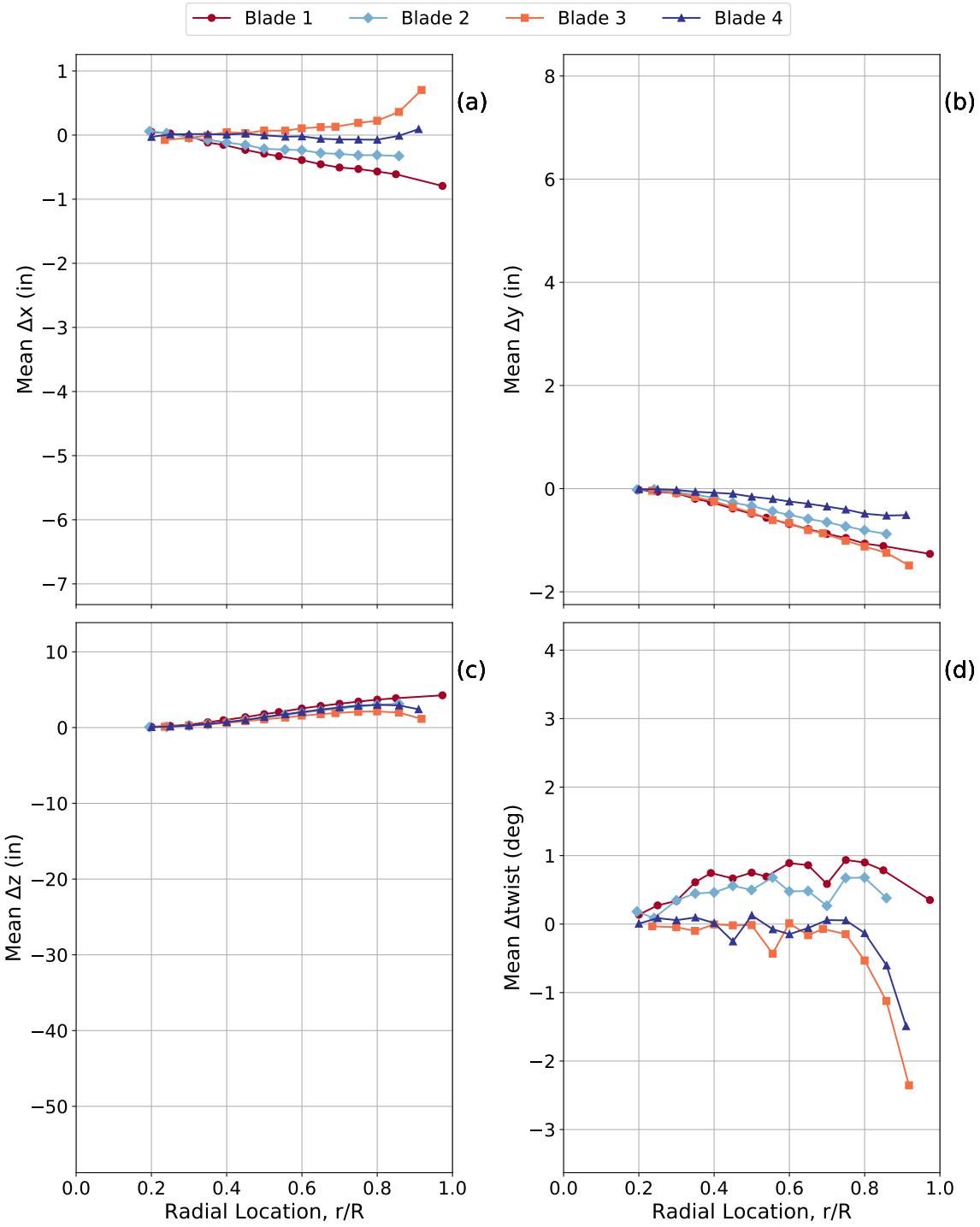


Figure 2.26-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0497	0.0050	-0.0230	0.0065	0.0944	0.0490	0.1375	0.0629
1	279.84	0.2499	0.0252	0.0034	-0.0594	0.0146	0.2178	0.1049	0.2728	0.1116
1	279.84	0.2998	-0.0123	0.0028	-0.0907	0.0280	0.3634	0.2059	0.3384	0.1430
1	279.84	0.3498	-0.1165	0.0053	-0.1958	0.0498	0.7096	0.3549	0.6106	0.1565
1	279.84	0.3913	-0.1532	0.0077	-0.2610	0.0717	0.9714	0.5141	0.7455	0.1691
1	279.84	0.4496	-0.2307	0.0122	-0.3854	0.1082	1.3744	0.7851	0.6664	0.1795
1	279.84	0.4997	-0.2900	0.0199	-0.4868	0.1422	1.7725	1.0516	0.7512	0.1881
1	279.84	0.5387	-0.3294	0.0261	-0.5636	0.1694	2.0436	1.2726	0.6930	0.2045
1	279.84	0.5996	-0.3899	0.0359	-0.6864	0.2130	2.5216	1.6285	0.8906	0.1974
1	279.84	0.6498	-0.4555	0.0451	-0.7828	0.2506	2.8564	1.9293	0.8593	0.2070
1	279.84	0.6998	-0.5061	0.0528	-0.8785	0.2877	3.1454	2.2203	0.5856	0.2121
1	279.84	0.7500	-0.5292	0.0606	-0.9557	0.3265	3.4267	2.5107	0.9352	0.2477
1	279.84	0.8001	-0.5691	0.0670	-1.0655	0.3643	3.6878	2.7883	0.8993	0.2517
1	279.84	0.8497	-0.6109	0.0739	-1.1128	0.4027	3.8755	3.0493	0.7849	0.2486
1	279.84	0.9734	-0.7935	0.1003	-1.2647	0.5009	4.2584	3.7132	0.3510	0.4407
2	279.84	0.1949	0.0590	0.0030	-0.0207	0.0040	0.0666	0.0321	0.1826	0.0497
2	279.84	0.2405	0.0292	0.0023	-0.0135	0.0072	0.1009	0.0644	0.0876	0.0758
2	279.84	0.2999	-0.0397	0.0030	-0.0743	0.0178	0.2619	0.1460	0.3471	0.1160
2	279.84	0.3498	-0.0742	0.0031	-0.1168	0.0314	0.4567	0.2534	0.4472	0.1313
2	279.84	0.3998	-0.1166	0.0048	-0.1782	0.0483	0.6884	0.3931	0.4615	0.1206
2	279.84	0.4496	-0.1537	0.0061	-0.2715	0.0695	0.9999	0.5663	0.5595	0.1307
2	279.84	0.4995	-0.2141	0.0091	-0.3367	0.0921	1.3063	0.7609	0.4987	0.1320
2	279.84	0.5551	-0.2268	0.0150	-0.4379	0.1210	1.6867	1.0050	0.6799	0.1484
2	279.84	0.5996	-0.2357	0.0199	-0.5079	0.1434	1.9408	1.2038	0.4772	0.1485
2	279.84	0.6497	-0.2802	0.0263	-0.5867	0.1693	2.2574	1.4301	0.4820	0.1490
2	279.84	0.6996	-0.2945	0.0317	-0.6497	0.1956	2.5005	1.6558	0.2666	0.1584
2	279.84	0.7495	-0.3144	0.0373	-0.7315	0.2226	2.7873	1.8794	0.6739	0.1742
2	279.84	0.7996	-0.3122	0.0418	-0.8057	0.2495	2.9918	2.0910	0.6787	0.1718
2	279.84	0.8578	-0.3265	0.0458	-0.8789	0.2810	3.1450	2.3305	0.3808	0.2181
3	279.84	0.2357	-0.0763	0.0051	-0.0396	0.0053	0.1091	0.0492	-0.0333	0.1052
3	279.84	0.2995	-0.0446	0.0032	-0.0862	0.0122	0.2375	0.1097	-0.0458	0.1692
3	279.84	0.3493	-0.0055	0.0031	-0.1631	0.0219	0.3980	0.1888	-0.0994	0.1678
3	279.84	0.4000	0.0449	0.0045	-0.2491	0.0342	0.6169	0.2939	-0.0058	0.1757
3	279.84	0.4497	0.0302	0.0071	-0.3582	0.0480	0.8456	0.4178	-0.0183	0.1768
3	279.84	0.4997	0.0696	0.0096	-0.4667	0.0630	1.0899	0.5549	-0.0150	0.1947
3	279.84	0.5556	0.0681	0.0139	-0.6084	0.0804	1.3217	0.7179	-0.4319	0.1961
3	279.84	0.5995	0.1049	0.0171	-0.6650	0.0950	1.5727	0.8505	0.0112	0.2020
3	279.84	0.6498	0.1244	0.0215	-0.8031	0.1113	1.7702	0.9981	-0.1631	0.1999
3	279.84	0.6890	0.1298	0.0242	-0.8647	0.1248	1.9099	1.1126	-0.0707	0.2036
3	279.84	0.7495	0.1895	0.0296	-1.0092	0.1451	2.0916	1.2770	-0.1469	0.2040
3	279.84	0.7998	0.2236	0.0336	-1.1209	0.1630	2.1350	1.4048	-0.5308	0.2158
3	279.84	0.8577	0.3610	0.0420	-1.2437	0.1848	1.9835	1.5477	-1.1231	0.2433
3	279.84	0.9178	0.7035	0.0622	-1.4878	0.2076	1.1455	1.7077	-2.3539	0.2955
4	279.84	0.2001	-0.0280	0.0208	-0.0100	0.0050	0.0693	0.0321	0.0067	0.0750
4	279.84	0.2502	0.0107	0.0072	-0.0107	0.0121	0.1398	0.0713	0.0871	0.1221
4	279.84	0.3001	0.0157	0.0077	-0.0270	0.0218	0.2752	0.1305	0.0565	0.1571
4	279.84	0.3502	0.0163	0.0155	-0.0605	0.0385	0.4792	0.2236	0.0965	0.1503
4	279.84	0.4002	0.0075	0.0257	-0.0785	0.0601	0.7350	0.3477	0.0149	0.1575
4	279.84	0.4500	0.0227	0.0392	-0.0997	0.0865	0.9930	0.4982	-0.2530	0.1649
4	279.84	0.5001	-0.0045	0.0562	-0.1569	0.1163	1.3987	0.6740	0.1269	0.1694
4	279.84	0.5560	-0.0247	0.0760	-0.2008	0.1533	1.7558	0.8942	-0.0759	0.1738
4	279.84	0.6001	-0.0200	0.0913	-0.2484	0.1844	2.0499	1.0804	-0.1482	0.1715
4	279.84	0.6501	-0.0570	0.1079	-0.2925	0.2222	2.3710	1.3129	-0.0571	0.1918
4	279.84	0.6999	-0.0687	0.1206	-0.3466	0.2603	2.6611	1.5518	0.0581	0.2010
4	279.84	0.7500	-0.0700	0.1302	-0.4045	0.2998	2.8914	1.8013	0.0542	0.2174
4	279.84	0.8002	-0.0731	0.1341	-0.4852	0.3408	3.0034	2.0587	-0.1325	0.2373
4	279.84	0.8582	-0.0106	0.1337	-0.5221	0.3894	2.9220	2.3633	-0.6034	0.2693
4	279.84	0.9101	0.0930	0.1331	-0.5126	0.4353	2.4125	2.6514	-1.4903	0.3406

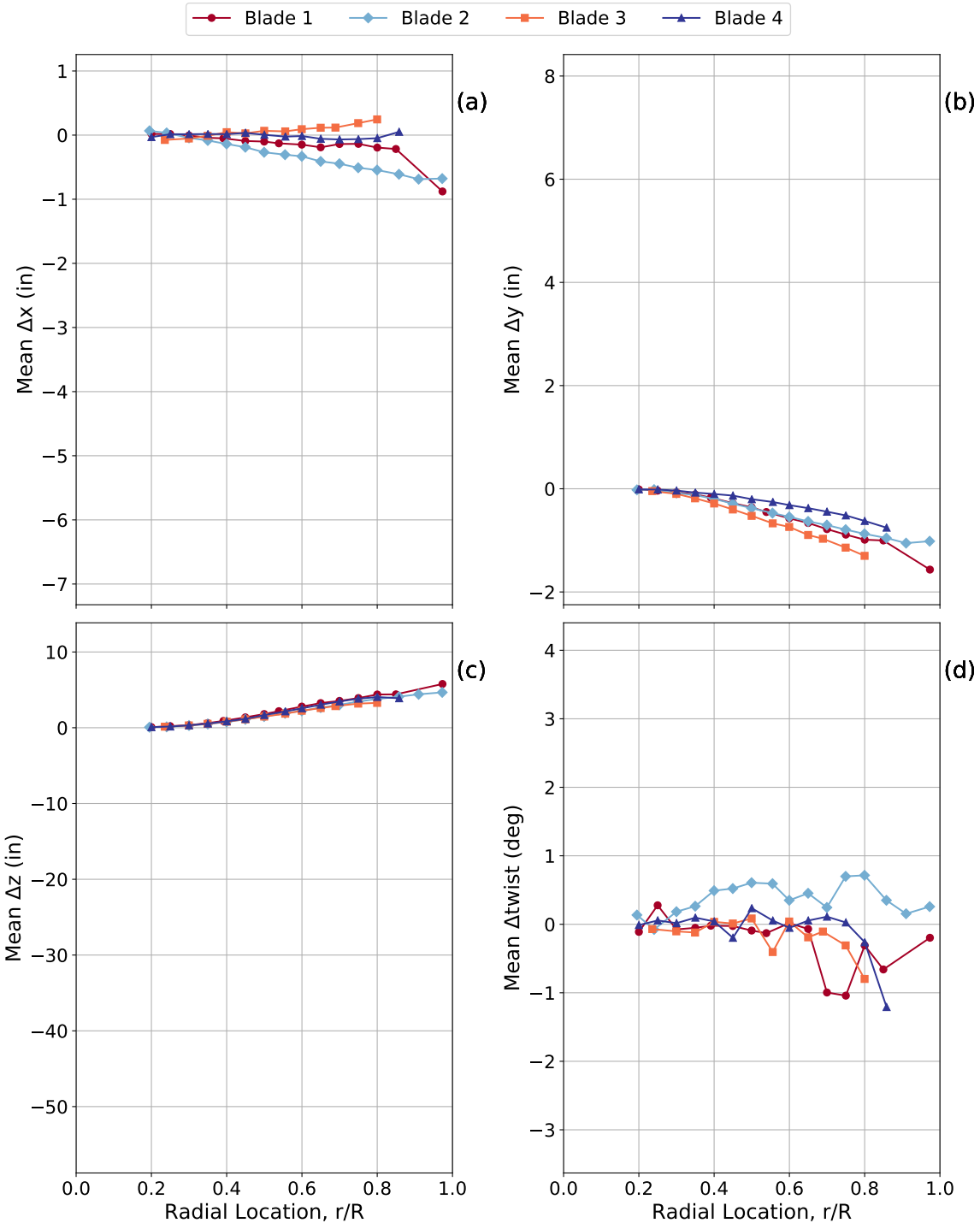


Figure 2.26-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0188	0.0072	-0.0130	0.0052	0.0738	0.0380	-0.1105	0.0731
1	285.12	0.2499	0.0170	0.0048	-0.0365	0.0101	0.2074	0.0817	0.2774	0.1366
1	285.12	0.2998	-0.0062	0.0035	-0.0685	0.0210	0.3398	0.1616	-0.0745	0.1614
1	285.12	0.3498	-0.0417	0.0041	-0.1094	0.0362	0.6144	0.2767	-0.0520	0.1583
1	285.12	0.3913	-0.0505	0.0047	-0.1708	0.0519	0.8972	0.4028	-0.0209	0.1717
1	285.12	0.4496	-0.0918	0.0079	-0.2789	0.0772	1.3706	0.6144	-0.0251	0.1881
1	285.12	0.4997	-0.1008	0.0138	-0.3586	0.1022	1.8079	0.8293	-0.0916	0.2019
1	285.12	0.5387	-0.1284	0.0196	-0.4505	0.1225	2.1849	1.0089	-0.1293	0.2099
1	285.12	0.5996	-0.1486	0.0297	-0.5726	0.1542	2.7886	1.3051	0.0168	0.2124
1	285.12	0.6498	-0.1908	0.0396	-0.6629	0.1816	3.2530	1.5683	-0.0683	0.2244
1	285.12	0.6998	-0.1391	0.0482	-0.7819	0.2088	3.5431	1.8322	-0.9957	0.2663
1	285.12	0.7500	-0.1365	0.0589	-0.8890	0.2359	3.9167	2.1123	-1.0416	0.2858
1	285.12	0.8001	-0.1946	0.0686	-0.9872	0.2644	4.3870	2.3922	-0.3087	0.2700
1	285.12	0.8497	-0.2167	0.0791	-1.0023	0.2973	4.4067	2.6793	-0.6592	0.2749
1	285.12	0.9734	-0.8788	0.1025	-1.5667	0.3503	5.7746	3.3681	-0.1967	0.3826
2	285.12	0.1949	0.0668	0.0035	-0.0213	0.0030	0.0693	0.0240	0.1355	0.0491
2	285.12	0.2405	0.0341	0.0028	-0.0166	0.0072	0.1164	0.0509	-0.0753	0.0748
2	285.12	0.2999	-0.0434	0.0028	-0.0822	0.0161	0.2955	0.1128	0.1838	0.1146
2	285.12	0.3498	-0.0837	0.0031	-0.1240	0.0257	0.4924	0.1929	0.2640	0.1200
2	285.12	0.3998	-0.1384	0.0046	-0.1954	0.0422	0.7656	0.3025	0.4908	0.1390
2	285.12	0.4496	-0.1887	0.0058	-0.2891	0.0574	1.1026	0.4301	0.5218	0.1334
2	285.12	0.4995	-0.2679	0.0100	-0.3758	0.0765	1.4811	0.5876	0.6070	0.1700
2	285.12	0.5551	-0.3056	0.0144	-0.4713	0.0976	1.9101	0.7771	0.5931	0.1692
2	285.12	0.5996	-0.3309	0.0211	-0.5443	0.1158	2.2233	0.9461	0.3503	0.1798
2	285.12	0.6497	-0.4103	0.0272	-0.6327	0.1357	2.6551	1.1417	0.4528	0.1859
2	285.12	0.6996	-0.4462	0.0349	-0.7038	0.1568	3.0229	1.3486	0.2454	0.1962
2	285.12	0.7495	-0.5094	0.0422	-0.7921	0.1777	3.4523	1.5542	0.6996	0.1966
2	285.12	0.7996	-0.5450	0.0487	-0.8732	0.1994	3.7937	1.7669	0.7150	0.2167
2	285.12	0.8578	-0.6107	0.0539	-0.9550	0.2223	4.1020	2.0024	0.3501	0.2239
2	285.12	0.9100	-0.6872	0.0624	-1.0533	0.2452	4.4119	2.2249	0.1543	0.2750
2	285.12	0.9727	-0.6780	0.0799	-1.0165	0.2719	4.6672	2.4688	0.2581	0.3400
3	285.12	0.2357	-0.0754	0.0058	-0.0448	0.0059	0.1380	0.0507	-0.0699	0.1723
3	285.12	0.2995	-0.0532	0.0043	-0.0993	0.0142	0.3063	0.1168	-0.1032	0.2772
3	285.12	0.3493	-0.0117	0.0041	-0.1853	0.0245	0.5137	0.1956	-0.1205	0.2519
3	285.12	0.4000	0.0454	0.0057	-0.2851	0.0390	0.8013	0.3088	0.0355	0.2681
3	285.12	0.4497	0.0271	0.0082	-0.4012	0.0553	1.1120	0.4390	0.0115	0.2781
3	285.12	0.4997	0.0669	0.0120	-0.5245	0.0732	1.4733	0.5868	0.0849	0.2672
3	285.12	0.5556	0.0579	0.0179	-0.6702	0.0940	1.8531	0.7625	-0.4048	0.2763
3	285.12	0.5995	0.0921	0.0232	-0.7395	0.1113	2.2415	0.9012	0.0404	0.2849
3	285.12	0.6498	0.1148	0.0284	-0.8955	0.1313	2.5975	1.0557	-0.1905	0.2904
3	285.12	0.6890	0.1171	0.0323	-0.9686	0.1465	2.8563	1.1690	-0.1062	0.2832
3	285.12	0.7495	0.1868	0.0394	-1.1409	0.1702	3.1836	1.3403	-0.3084	0.2845
3	285.12	0.7998	0.2450	0.0453	-1.3000	0.1903	3.2794	1.4854	-0.7976	0.3191
4	285.12	0.2001	-0.0311	0.0058	-0.0117	0.0036	0.0791	0.0286	-0.0111	0.1046
4	285.12	0.2502	0.0140	0.0115	-0.0153	0.0061	0.1607	0.0523	0.0557	0.2108
4	285.12	0.3001	0.0138	0.0060	-0.0353	0.0112	0.3181	0.0985	0.0165	0.1783
4	285.12	0.3502	0.0170	0.0061	-0.0743	0.0188	0.5488	0.1658	0.0967	0.1800
4	285.12	0.4002	0.0147	0.0083	-0.1011	0.0281	0.8462	0.2526	0.0413	0.1842
4	285.12	0.4500	0.0348	0.0087	-0.1327	0.0393	1.1674	0.3589	-0.1975	0.1925
4	285.12	0.5001	0.0048	0.0107	-0.2023	0.0525	1.6704	0.4891	0.2347	0.2101
4	285.12	0.5560	-0.0235	0.0140	-0.2563	0.0676	2.1613	0.6500	0.0539	0.2233
4	285.12	0.6001	-0.0144	0.0182	-0.3172	0.0804	2.5615	0.7895	-0.0523	0.2201
4	285.12	0.6501	-0.0580	0.0249	-0.3759	0.0952	3.0392	0.9635	0.0546	0.2285
4	285.12	0.6999	-0.0678	0.0311	-0.4443	0.1100	3.4679	1.1413	0.1111	0.2346
4	285.12	0.7500	-0.0627	0.0378	-0.5168	0.1251	3.8356	1.3335	0.0265	0.2410
4	285.12	0.8002	-0.0476	0.0463	-0.6238	0.1410	4.0515	1.5348	-0.2621	0.2487
4	285.12	0.8582	0.0508	0.0581	-0.7539	0.1615	3.8907	1.7796	-1.2080	0.2679

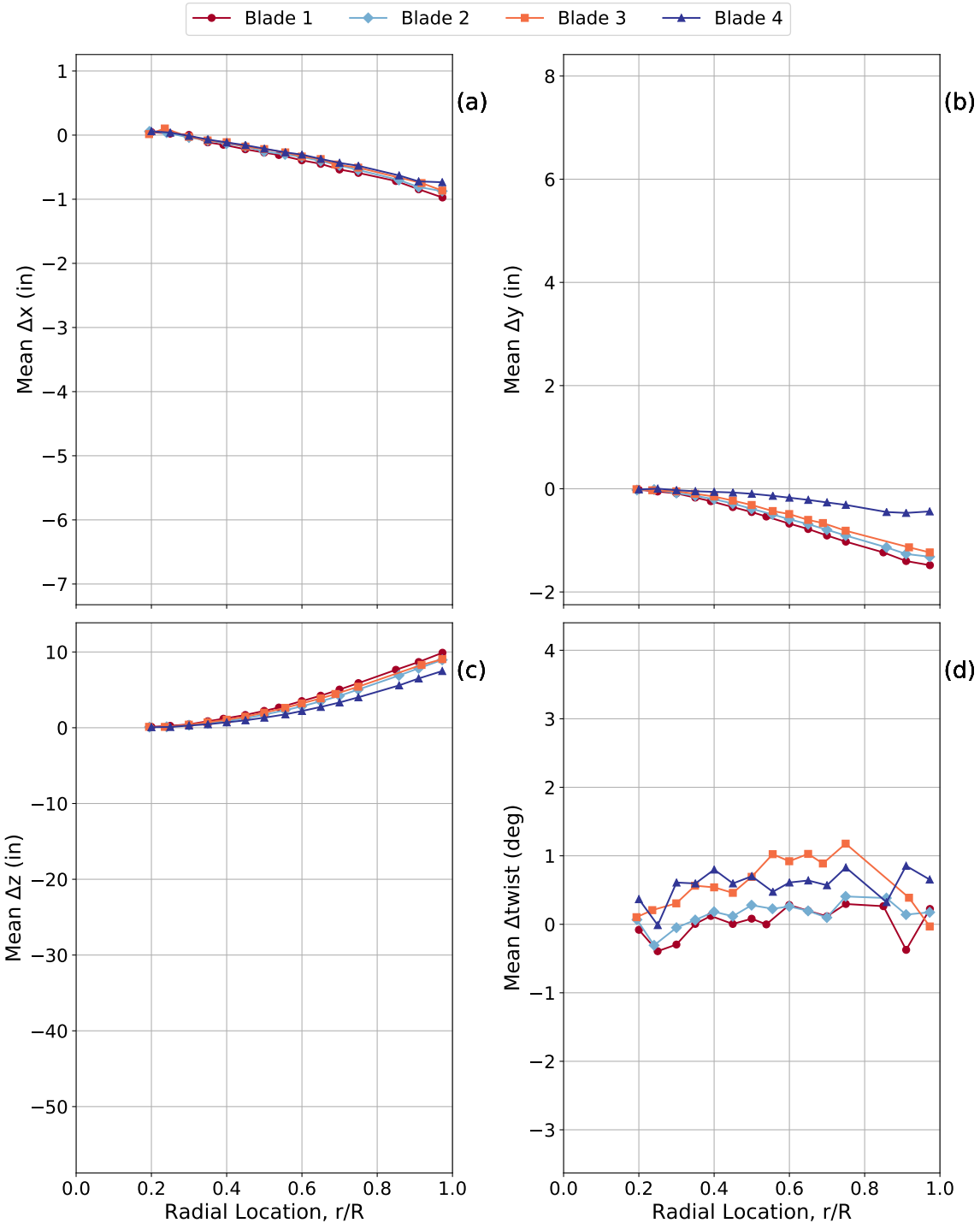


Figure 2.26-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0468	0.0027	-0.0209	0.0018	0.1155	0.0122	-0.0805	0.0471
1	299.88	0.2499	0.0227	0.0030	-0.0528	0.0042	0.2524	0.0255	-0.3929	0.0705
1	299.88	0.2998	0.0031	0.0028	-0.0897	0.0072	0.4524	0.0498	-0.2957	0.0993
1	299.88	0.3498	-0.1130	0.0029	-0.1709	0.0128	0.8588	0.0864	0.0055	0.1032
1	299.88	0.3913	-0.1506	0.0047	-0.2408	0.0184	1.1871	0.1243	0.1217	0.1049
1	299.88	0.4496	-0.2210	0.0063	-0.3553	0.0277	1.6852	0.1918	0.0048	0.1329
1	299.88	0.4997	-0.2730	0.0079	-0.4510	0.0366	2.2251	0.2562	0.0815	0.1437
1	299.88	0.5387	-0.3101	0.0107	-0.5383	0.0446	2.6663	0.3156	-0.0016	0.1610
1	299.88	0.5996	-0.3927	0.0156	-0.6753	0.0588	3.5189	0.4188	0.2818	0.1764
1	299.88	0.6498	-0.4483	0.0206	-0.7797	0.0717	4.2307	0.5186	0.1973	0.1755
1	299.88	0.6998	-0.5365	0.0264	-0.9058	0.0853	5.0400	0.6358	0.1163	0.1912
1	299.88	0.7500	-0.5893	0.0334	-1.0252	0.0999	5.8908	0.7732	0.2964	0.1890
1	299.88	0.8497	-0.7158	0.0520	-1.2336	0.1289	7.6448	1.1055	0.2642	0.2038
1	299.88	0.9102	-0.8449	0.0679	-1.4012	0.1468	8.6754	1.3386	-0.3732	0.2082
1	299.88	0.9734	-0.9729	0.0907	-1.4814	0.1736	9.8976	1.5864	0.2236	0.4196
2	299.88	0.1949	0.0571	0.0042	-0.0241	0.0028	0.0851	0.0185	0.0676	0.0413
2	299.88	0.2405	0.0380	0.0032	-0.0155	0.0063	0.1250	0.0372	-0.3064	0.0570
2	299.88	0.2999	-0.0378	0.0028	-0.0832	0.0129	0.3377	0.0839	-0.0495	0.0922
2	299.88	0.3498	-0.0840	0.0042	-0.1351	0.0231	0.5852	0.1448	0.0628	0.0992
2	299.88	0.3998	-0.1331	0.0053	-0.2022	0.0357	0.8853	0.2249	0.1832	0.1156
2	299.88	0.4496	-0.1777	0.0065	-0.2860	0.0470	1.2407	0.3137	0.1174	0.1337
2	299.88	0.4995	-0.2558	0.0089	-0.3883	0.0628	1.7246	0.4166	0.2790	0.1417
2	299.88	0.5551	-0.3013	0.0145	-0.4966	0.0796	2.2999	0.5361	0.2261	0.1458
2	299.88	0.5996	-0.3405	0.0194	-0.5908	0.0942	2.8276	0.6380	0.2606	0.1640
2	299.88	0.6497	-0.4052	0.0253	-0.6858	0.1098	3.4830	0.7533	0.1956	0.1679
2	299.88	0.6996	-0.4724	0.0321	-0.7942	0.1263	4.2080	0.8731	0.0982	0.1828
2	299.88	0.7495	-0.5432	0.0392	-0.9062	0.1431	5.0358	0.9996	0.4066	0.1781
2	299.88	0.8578	-0.7002	0.0577	-1.1358	0.1794	6.8947	1.3079	0.3830	0.1855
2	299.88	0.9100	-0.8096	0.0693	-1.2636	0.1973	7.8441	1.4716	0.1414	0.1921
2	299.88	0.9727	-0.8738	0.0899	-1.3174	0.2189	8.9523	1.6787	0.1752	0.2129
3	299.88	0.1938	0.0154	0.0028	-0.0083	0.0020	0.1180	0.0166	0.1036	0.0482
3	299.88	0.2357	0.1032	0.0024	-0.0287	0.0056	0.1108	0.0306	0.2067	0.0718
3	299.88	0.2995	-0.0266	0.0026	-0.0497	0.0107	0.4044	0.0732	0.3057	0.1127
3	299.88	0.3493	-0.0837	0.0035	-0.0971	0.0189	0.7180	0.1266	0.5635	0.1290
3	299.88	0.4000	-0.1105	0.0058	-0.1502	0.0300	1.0576	0.1969	0.5393	0.1474
3	299.88	0.4497	-0.1794	0.0064	-0.2298	0.0412	1.4603	0.2778	0.4591	0.1662
3	299.88	0.4997	-0.2183	0.0087	-0.3143	0.0543	1.9844	0.3742	0.6924	0.1798
3	299.88	0.5556	-0.2696	0.0138	-0.4317	0.0708	2.6236	0.4979	1.0236	0.1898
3	299.88	0.5995	-0.3340	0.0183	-0.4901	0.0855	3.2073	0.6050	0.9206	0.2167
3	299.88	0.6498	-0.3737	0.0253	-0.6033	0.1020	3.8766	0.7388	1.0275	0.2255
3	299.88	0.6890	-0.4586	0.0316	-0.6644	0.1155	4.4542	0.8486	0.8875	0.2347
3	299.88	0.7495	-0.5072	0.0414	-0.8130	0.1376	5.4199	1.0248	1.1772	0.2408
3	299.88	0.9178	-0.7475	0.0774	-1.1350	0.1998	8.2942	1.5609	0.3880	0.3106
3	299.88	0.9729	-0.8653	0.0948	-1.2333	0.2202	9.0551	1.7446	-0.0314	0.2867
4	299.88	0.2001	0.0602	0.0041	-0.0120	0.0028	0.0763	0.0109	0.3666	0.0433
4	299.88	0.2502	0.0390	0.0025	0.0020	0.0055	0.0977	0.0251	-0.0120	0.0712
4	299.88	0.3001	-0.0123	0.0024	-0.0276	0.0101	0.2914	0.0465	0.6097	0.0953
4	299.88	0.3502	-0.0686	0.0037	-0.0484	0.0175	0.4587	0.0802	0.5959	0.1027
4	299.88	0.4002	-0.1147	0.0048	-0.0603	0.0268	0.7129	0.1258	0.7990	0.1125
4	299.88	0.4500	-0.1571	0.0053	-0.0726	0.0351	0.9777	0.1770	0.5965	0.1375
4	299.88	0.5001	-0.2114	0.0062	-0.0972	0.0439	1.3313	0.2354	0.7012	0.1323
4	299.88	0.5560	-0.2688	0.0085	-0.1370	0.0574	1.7654	0.3147	0.4745	0.1473
4	299.88	0.6001	-0.3045	0.0107	-0.1730	0.0685	2.2088	0.3834	0.6101	0.1514
4	299.88	0.6501	-0.3712	0.0140	-0.2158	0.0809	2.7449	0.4691	0.6394	0.1618
4	299.88	0.6999	-0.4337	0.0182	-0.2649	0.0939	3.3324	0.5717	0.5699	0.1737
4	299.88	0.7500	-0.4787	0.0237	-0.3129	0.1077	4.0181	0.6950	0.8287	0.1733
4	299.88	0.8582	-0.6293	0.0423	-0.4506	0.1377	5.5893	1.0527	0.3236	0.1915
4	299.88	0.9101	-0.7219	0.0562	-0.4681	0.1524	6.5006	1.2602	0.8531	0.2100
4	299.88	0.9728	-0.7350	0.0777	-0.4391	0.1694	7.4825	1.5354	0.6528	0.2219

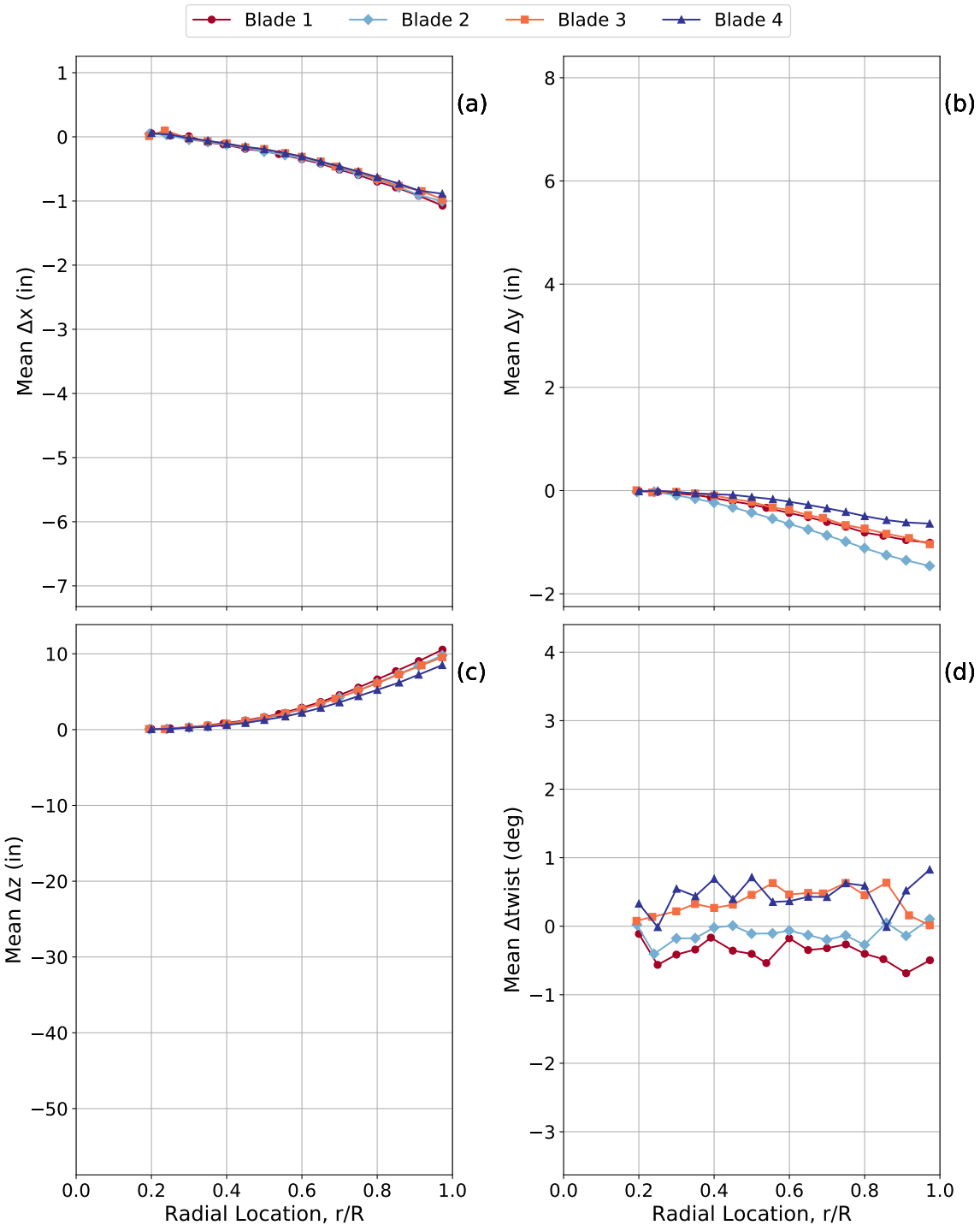


Figure 2.26-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0541	0.0039	-0.0110	0.0035	0.0750	0.0204	-0.1113	0.0446
1	315	0.2499	0.0194	0.0029	-0.0267	0.0080	0.1725	0.0444	-0.5640	0.0753
1	315	0.2998	0.0095	0.0033	-0.0551	0.0152	0.3166	0.0886	-0.4144	0.1018
1	315	0.3498	-0.0886	0.0036	-0.0848	0.0261	0.5807	0.1511	-0.3403	0.1009
1	315	0.3913	-0.1168	0.0068	-0.1328	0.0383	0.8244	0.2211	-0.1669	0.1114
1	315	0.4496	-0.1874	0.0072	-0.2102	0.0573	1.2166	0.3374	-0.3568	0.1161
1	315	0.4997	-0.2242	0.0116	-0.2673	0.0771	1.6585	0.4504	-0.4043	0.1414
1	315	0.5387	-0.2682	0.0154	-0.3335	0.0927	2.0615	0.5402	-0.5370	0.1268
1	315	0.5996	-0.3485	0.0227	-0.4331	0.1193	2.8921	0.6725	-0.1753	0.1297
1	315	0.6498	-0.4181	0.0288	-0.5147	0.1424	3.6455	0.7698	-0.3476	0.1362
1	315	0.6998	-0.5122	0.0361	-0.6077	0.1657	4.5537	0.8508	-0.3212	0.1442
1	315	0.7500	-0.5947	0.0418	-0.7009	0.1910	5.5469	0.9189	-0.2654	0.1485
1	315	0.8001	-0.6978	0.0468	-0.8124	0.2170	6.6219	0.9736	-0.4027	0.1403
1	315	0.8497	-0.7881	0.0517	-0.8749	0.2442	7.7128	1.0250	-0.4806	0.1441
1	315	0.9102	-0.9176	0.0575	-0.9592	0.2782	9.0396	1.0918	-0.6862	0.1557
1	315	0.9734	-1.0727	0.0723	-1.0097	0.3146	10.5511	1.1691	-0.4963	0.1438
2	315	0.1949	0.0479	0.0048	-0.0258	0.0024	0.0670	0.0115	0.0213	0.0425
2	315	0.2405	0.0313	0.0029	-0.0227	0.0056	0.0941	0.0243	-0.4039	0.0582
2	315	0.2999	-0.0448	0.0033	-0.0935	0.0120	0.2838	0.0541	-0.1771	0.0895
2	315	0.3498	-0.0781	0.0048	-0.1563	0.0202	0.4572	0.0921	-0.1753	0.0928
2	315	0.3998	-0.1223	0.0058	-0.2345	0.0323	0.7180	0.1450	-0.0190	0.1023
2	315	0.4496	-0.1660	0.0076	-0.3256	0.0449	1.0572	0.2054	0.0075	0.0986
2	315	0.4995	-0.2307	0.0097	-0.4266	0.0580	1.4899	0.2770	-0.1087	0.1265
2	315	0.5551	-0.2827	0.0136	-0.5437	0.0764	2.0899	0.3635	-0.1047	0.1217
2	315	0.5996	-0.3326	0.0163	-0.6473	0.0907	2.6666	0.4339	-0.0649	0.1186
2	315	0.6497	-0.4023	0.0205	-0.7527	0.1086	3.4017	0.5123	-0.1295	0.1301
2	315	0.6996	-0.4911	0.0255	-0.8674	0.1271	4.2462	0.5909	-0.1980	0.1285
2	315	0.7495	-0.5744	0.0309	-0.9881	0.1470	5.1677	0.6686	-0.1345	0.1364
2	315	0.7996	-0.6616	0.0367	-1.1157	0.1671	6.1522	0.7500	-0.2718	0.1444
2	315	0.8578	-0.7871	0.0435	-1.2502	0.1915	7.3654	0.8489	0.0477	0.1502
2	315	0.9100	-0.9046	0.0511	-1.3507	0.2138	8.4163	0.9452	-0.1395	0.1558
2	315	0.9727	-1.0038	0.0673	-1.4600	0.2407	9.7871	1.0688	0.1037	0.1696
3	315	0.1938	0.0128	0.0028	0.0052	0.0020	0.0889	0.0126	0.0776	0.0396
3	315	0.2357	0.0993	0.0027	-0.0365	0.0047	0.0721	0.0243	0.1358	0.0559
3	315	0.2995	-0.0243	0.0027	-0.0241	0.0098	0.3113	0.0583	0.2174	0.0900
3	315	0.3493	-0.0680	0.0033	-0.0543	0.0169	0.5197	0.1003	0.3252	0.0841
3	315	0.4000	-0.1014	0.0046	-0.0966	0.0269	0.7851	0.1573	0.2663	0.1149
3	315	0.4497	-0.1639	0.0064	-0.1608	0.0371	1.1300	0.2184	0.3151	0.1138
3	315	0.4997	-0.1891	0.0083	-0.2189	0.0503	1.5691	0.2937	0.4578	0.1277
3	315	0.5556	-0.2525	0.0116	-0.3312	0.0653	2.1701	0.3883	0.6300	0.1326
3	315	0.5995	-0.3112	0.0150	-0.3723	0.0791	2.7237	0.4674	0.4625	0.1396
3	315	0.6498	-0.3842	0.0199	-0.4758	0.0938	3.4514	0.5588	0.4860	0.1358
3	315	0.6890	-0.4646	0.0235	-0.5293	0.1067	4.0782	0.6321	0.4779	0.1484
3	315	0.7495	-0.5470	0.0307	-0.6691	0.1266	5.1629	0.7410	0.6310	0.1511
3	315	0.7998	-0.6585	0.0366	-0.7356	0.1441	6.1151	0.8295	0.4530	0.1532
3	315	0.8577	-0.7632	0.0431	-0.8372	0.1648	7.2939	0.9291	0.6350	0.1622
3	315	0.9178	-0.8456	0.0514	-0.9199	0.1871	8.4822	1.0325	0.1581	0.1746
3	315	0.9729	-0.9732	0.0636	-1.0389	0.2076	9.5427	1.1334	0.0146	0.1827
4	315	0.2001	0.0594	0.0041	-0.0117	0.0021	0.0613	0.0114	0.3291	0.0423
4	315	0.2502	0.0333	0.0036	-0.0024	0.0049	0.0869	0.0256	-0.0130	0.0696
4	315	0.3001	-0.0207	0.0024	-0.0291	0.0094	0.2612	0.0494	0.5468	0.0922
4	315	0.3502	-0.0611	0.0043	-0.0540	0.0155	0.3785	0.0849	0.4386	0.0927
4	315	0.4002	-0.1075	0.0051	-0.0697	0.0247	0.6205	0.1333	0.6919	0.1084
4	315	0.4500	-0.1554	0.0059	-0.0838	0.0336	0.8795	0.1911	0.3962	0.1125
4	315	0.5001	-0.1937	0.0082	-0.1239	0.0444	1.2760	0.2620	0.7140	0.1375
4	315	0.5560	-0.2560	0.0101	-0.1670	0.0566	1.7362	0.3451	0.3543	0.1443
4	315	0.6001	-0.3042	0.0127	-0.2160	0.0674	2.2351	0.4103	0.3656	0.1310
4	315	0.6501	-0.3850	0.0172	-0.2766	0.0802	2.8749	0.4873	0.4296	0.1448
4	315	0.6999	-0.4605	0.0220	-0.3435	0.0937	3.5939	0.5629	0.4264	0.1498
4	315	0.7500	-0.5405	0.0267	-0.4133	0.1078	4.4137	0.6381	0.6272	0.1640
4	315	0.8002	-0.6289	0.0323	-0.4955	0.1219	5.2416	0.7149	0.5915	0.1633
4	315	0.8582	-0.7305	0.0386	-0.5710	0.1390	6.2125	0.8082	-0.0103	0.1744
4	315	0.9101	-0.8371	0.0460	-0.6163	0.1544	7.2504	0.8967	0.5219	0.1724
4	315	0.9728	-0.8877	0.0584	-0.6400	0.1738	8.5169	1.0126	0.8259	0.1861

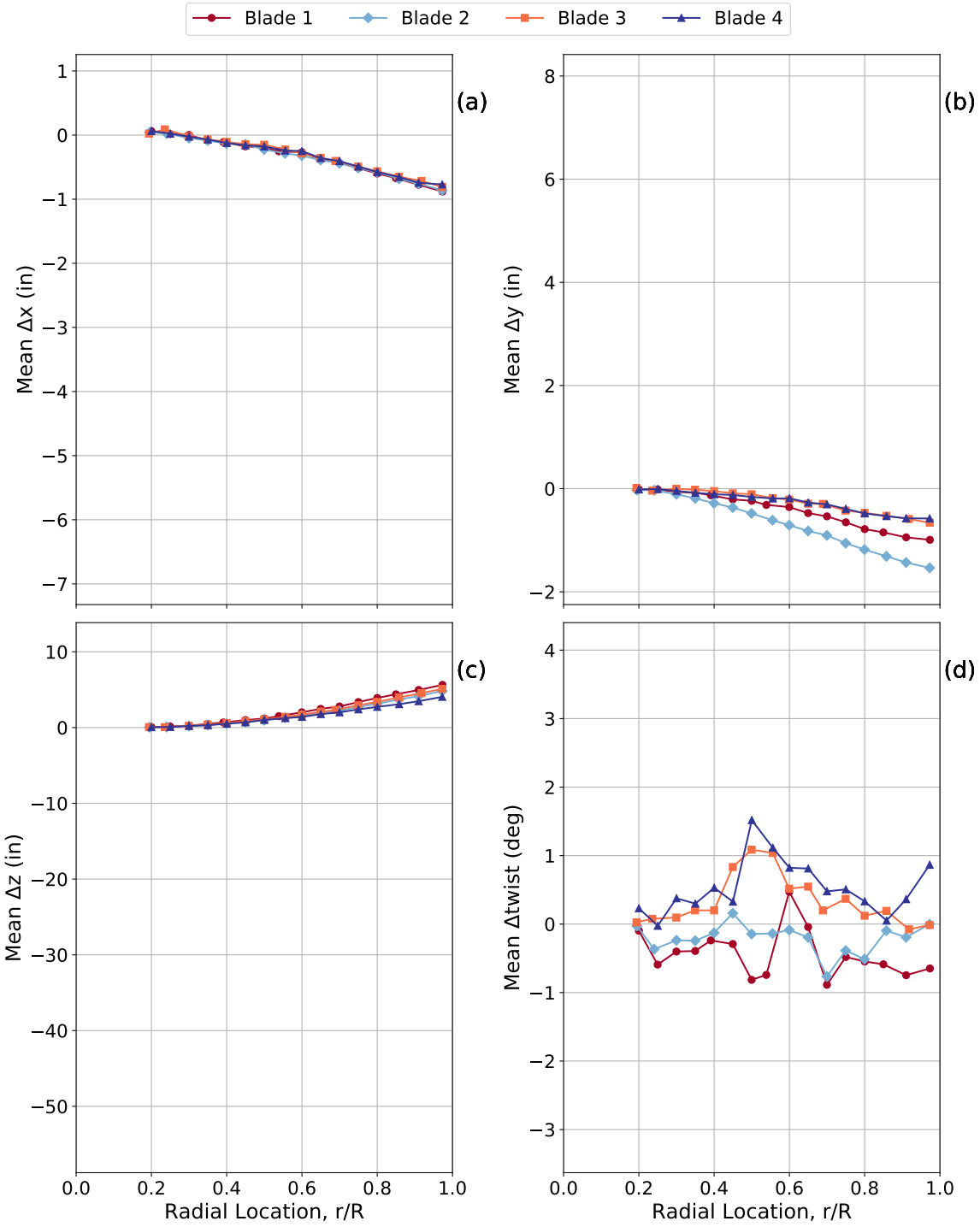


Figure 2.26-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0608	0.0026	-0.0144	0.0020	0.0614	0.0088	-0.0964	0.0424
1	330.12	0.2499	0.0156	0.0026	-0.0150	0.0050	0.1370	0.0175	-0.5920	0.0675
1	330.12	0.2998	0.0015	0.0035	-0.0626	0.0080	0.2595	0.0358	-0.4009	0.0944
1	330.12	0.3498	-0.0848	0.0033	-0.0788	0.0160	0.4794	0.0632	-0.3933	0.0980
1	330.12	0.3913	-0.1102	0.0049	-0.1276	0.0219	0.6776	0.0899	-0.2387	0.0974
1	330.12	0.4496	-0.1764	0.0052	-0.2084	0.0316	0.9896	0.1278	-0.2913	0.1040
1	330.12	0.4997	-0.1950	0.0063	-0.2357	0.0404	1.1954	0.1560	-0.8141	0.1351
1	330.12	0.5387	-0.2531	0.0075	-0.3151	0.0474	1.5042	0.1865	-0.7424	0.1332
1	330.12	0.5996	-0.2674	0.0096	-0.3568	0.0592	2.0160	0.2331	0.4718	0.1385
1	330.12	0.6498	-0.3783	0.0102	-0.4740	0.0681	2.4682	0.2903	-0.0425	0.1447
1	330.12	0.6998	-0.4344	0.0110	-0.5369	0.0791	2.7875	0.3685	-0.8864	0.1344
1	330.12	0.7500	-0.5146	0.0130	-0.6520	0.0909	3.3667	0.4729	-0.4802	0.1555
1	330.12	0.8001	-0.5998	0.0156	-0.7843	0.1031	3.9079	0.6031	-0.5463	0.1470
1	330.12	0.8497	-0.6717	0.0193	-0.8475	0.1166	4.3898	0.7492	-0.5869	0.1645
1	330.12	0.9102	-0.7749	0.0262	-0.9438	0.1334	4.9652	0.9447	-0.7463	0.1619
1	330.12	0.9734	-0.8811	0.0349	-0.9919	0.1521	5.6377	1.1648	-0.6478	0.1622
2	330.12	0.1949	0.0407	0.0024	-0.0289	0.0020	0.0468	0.0095	-0.0277	0.0431
2	330.12	0.2405	0.0233	0.0028	-0.0322	0.0037	0.0657	0.0190	-0.3671	0.0575
2	330.12	0.2999	-0.0465	0.0030	-0.1089	0.0095	0.2006	0.0423	-0.2367	0.0936
2	330.12	0.3498	-0.0856	0.0038	-0.1884	0.0147	0.3361	0.0754	-0.2431	0.0834
2	330.12	0.3998	-0.1332	0.0060	-0.2822	0.0238	0.5219	0.1157	-0.1280	0.1012
2	330.12	0.4496	-0.1461	0.0065	-0.3662	0.0317	0.7208	0.1576	0.1583	0.1199
2	330.12	0.4995	-0.2248	0.0071	-0.4796	0.0407	0.9640	0.2063	-0.1451	0.1081
2	330.12	0.5551	-0.2844	0.0092	-0.6120	0.0508	1.3091	0.2612	-0.1382	0.1167
2	330.12	0.5996	-0.3204	0.0099	-0.7087	0.0604	1.5985	0.3082	-0.0864	0.1239
2	330.12	0.6497	-0.3894	0.0114	-0.8203	0.0712	1.9523	0.3698	-0.1938	0.1335
2	330.12	0.6996	-0.4388	0.0122	-0.9049	0.0820	2.2229	0.4486	-0.7659	0.1483
2	330.12	0.7495	-0.5131	0.0143	-1.0563	0.0938	2.7208	0.5459	-0.3871	0.1450
2	330.12	0.7996	-0.5788	0.0163	-1.1808	0.1066	3.1406	0.6671	-0.5123	0.1559
2	330.12	0.8578	-0.6817	0.0195	-1.3117	0.1217	3.7051	0.8341	-0.0955	0.1551
2	330.12	0.9100	-0.7579	0.0242	-1.4313	0.1362	4.1489	1.0037	-0.1930	0.1574
2	330.12	0.9727	-0.8612	0.0332	-1.5355	0.1539	4.8317	1.2203	-0.0008	0.1719
3	330.12	0.1938	0.0228	0.0028	0.0141	0.0024	0.0666	0.0105	0.0246	0.0385
3	330.12	0.2357	0.0892	0.0029	-0.0386	0.0046	0.0558	0.0205	0.0771	0.0733
3	330.12	0.2995	-0.0178	0.0026	-0.0016	0.0108	0.2293	0.0478	0.0955	0.0995
3	330.12	0.3493	-0.0663	0.0036	-0.0206	0.0191	0.3949	0.0853	0.2004	0.1113
3	330.12	0.4000	-0.1061	0.0041	-0.0482	0.0295	0.5883	0.1321	0.2002	0.1240
3	330.12	0.4497	-0.1431	0.0068	-0.0901	0.0396	0.8430	0.1814	0.8332	0.1401
3	330.12	0.4997	-0.1506	0.0074	-0.1078	0.0514	1.0733	0.2325	1.0864	0.1319
3	330.12	0.5556	-0.2251	0.0097	-0.1844	0.0642	1.4044	0.2850	1.0389	0.1377
3	330.12	0.5995	-0.2864	0.0110	-0.2111	0.0747	1.6894	0.3214	0.5170	0.1598
3	330.12	0.6498	-0.3546	0.0123	-0.2915	0.0855	2.0863	0.3523	0.5468	0.1629
3	330.12	0.6890	-0.4037	0.0131	-0.2956	0.0951	2.3151	0.3795	0.1993	0.1690
3	330.12	0.7495	-0.4917	0.0141	-0.4259	0.1088	2.9420	0.4280	0.3697	0.1872
3	330.12	0.7998	-0.5650	0.0159	-0.4684	0.1202	3.3875	0.4912	0.1219	0.1825
3	330.12	0.8577	-0.6496	0.0190	-0.5264	0.1357	3.9789	0.5942	0.1924	0.1823
3	330.12	0.9178	-0.7147	0.0238	-0.5880	0.1513	4.5481	0.7299	-0.0761	0.2038
3	330.12	0.9729	-0.8101	0.0301	-0.6614	0.1671	5.1137	0.8748	-0.0142	0.2070
4	330.12	0.2001	0.0626	0.0068	-0.0157	0.0034	0.0449	0.0158	0.2303	0.0750
4	330.12	0.2502	0.0221	0.0038	-0.0084	0.0058	0.0822	0.0298	-0.0258	0.1898
4	330.12	0.3001	-0.0249	0.0042	-0.0437	0.0120	0.2074	0.0642	0.3765	0.1983
4	330.12	0.3502	-0.0701	0.0039	-0.0807	0.0223	0.3106	0.1092	0.2984	0.2025
4	330.12	0.4002	-0.1234	0.0050	-0.1088	0.0328	0.5135	0.1696	0.5298	0.2001
4	330.12	0.4500	-0.1592	0.0052	-0.1228	0.0441	0.6877	0.2352	0.3271	0.2037
4	330.12	0.5001	-0.1781	0.0064	-0.1605	0.0551	1.0112	0.3119	1.5184	0.2135
4	330.12	0.5560	-0.2415	0.0077	-0.1907	0.0696	1.2434	0.4066	1.1138	0.2036
4	330.12	0.6001	-0.2499	0.0095	-0.1865	0.0810	1.4113	0.4907	0.8213	0.2004
4	330.12	0.6501	-0.3588	0.0116	-0.2689	0.0942	1.7753	0.5960	0.8115	0.2135
4	330.12	0.6999	-0.4066	0.0133	-0.3046	0.1085	2.0130	0.7187	0.4782	0.2087
4	330.12	0.7500	-0.4911	0.0157	-0.3927	0.1228	2.4031	0.8607	0.5065	0.2210
4	330.12	0.8002	-0.5761	0.0209	-0.4805	0.1390	2.7308	1.0339	0.3316	0.2229
4	330.12	0.8582	-0.6546	0.0247	-0.5330	0.1575	3.0848	1.2482	0.0506	0.2359
4	330.12	0.9101	-0.7432	0.0327	-0.5751	0.1738	3.4803	1.4607	0.3632	0.2346
4	330.12	0.9728	-0.7705	0.0450	-0.5779	0.1939	4.0547	1.7281	0.8654	0.2386

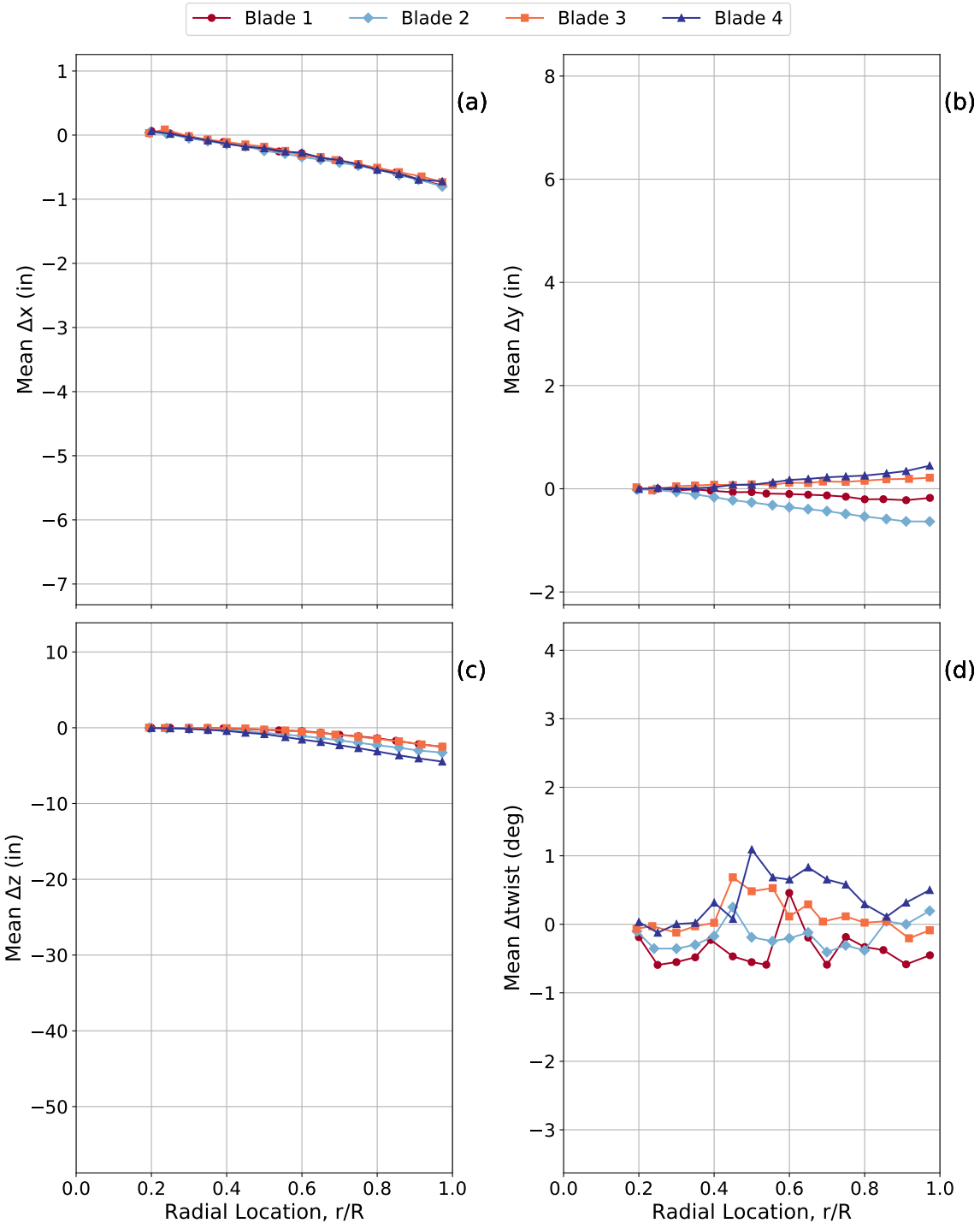


Figure 2.26-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0632	0.0028	-0.0056	0.0028	-0.0085	0.0152	-0.1874	0.0499
1	344.88	0.2499	0.0243	0.0028	0.0031	0.0045	-0.0082	0.0328	-0.5931	0.0896
1	344.88	0.2998	-0.0140	0.0031	-0.0287	0.0112	-0.0411	0.0677	-0.5521	0.1158
1	344.88	0.3498	-0.0888	0.0045	-0.0131	0.0176	-0.0394	0.1153	-0.4821	0.1076
1	344.88	0.3913	-0.1060	0.0060	-0.0379	0.0256	-0.0748	0.1693	-0.2285	0.1186
1	344.88	0.4496	-0.1831	0.0066	-0.0660	0.0381	-0.1620	0.2604	-0.4686	0.1338
1	344.88	0.4997	-0.2129	0.0090	-0.0642	0.0512	-0.2812	0.3534	-0.5523	0.1550
1	344.88	0.5387	-0.2550	0.0080	-0.0930	0.0605	-0.3419	0.4351	-0.5906	0.1473
1	344.88	0.5996	-0.2819	0.0118	-0.1010	0.0786	-0.4494	0.5845	0.4584	0.1597
1	344.88	0.6498	-0.3584	0.0133	-0.1151	0.0930	-0.6515	0.7252	-0.1937	0.1539
1	344.88	0.6998	-0.3986	0.0153	-0.1289	0.1092	-0.9355	0.8832	-0.5902	0.1718
1	344.88	0.7500	-0.4512	0.0173	-0.1537	0.1244	-1.1290	1.0584	-0.1858	0.1797
1	344.88	0.8001	-0.5213	0.0217	-0.2040	0.1407	-1.3856	1.2463	-0.3324	0.1842
1	344.88	0.8497	-0.5827	0.0265	-0.2016	0.1562	-1.7186	1.4483	-0.3758	0.1957
1	344.88	0.9102	-0.6888	0.0315	-0.2213	0.1769	-2.1597	1.7074	-0.5847	0.1881
1	344.88	0.9734	-0.7879	0.0353	-0.1770	0.1979	-2.5302	1.9874	-0.4521	0.2032
2	344.88	0.1949	0.0378	0.0142	-0.0169	0.0033	-0.0232	0.0191	-0.1015	0.0773
2	344.88	0.2405	0.0228	0.0097	-0.0185	0.0051	-0.0611	0.0287	-0.3544	0.2630
2	344.88	0.2999	-0.0490	0.0103	-0.0618	0.0132	-0.1184	0.0828	-0.3547	0.2716
2	344.88	0.3498	-0.0936	0.0125	-0.1110	0.0226	-0.1994	0.1417	-0.2997	0.2721
2	344.88	0.3998	-0.1424	0.0113	-0.1631	0.0345	-0.3185	0.2195	-0.1721	0.2776
2	344.88	0.4496	-0.1718	0.0138	-0.2220	0.0476	-0.4491	0.3068	0.2501	0.2803
2	344.88	0.4995	-0.2456	0.0150	-0.2641	0.0629	-0.6766	0.4075	-0.1896	0.2762
2	344.88	0.5551	-0.2892	0.0157	-0.3178	0.0801	-0.9046	0.5329	-0.2468	0.2848
2	344.88	0.5996	-0.3417	0.0169	-0.3583	0.0944	-1.0969	0.6397	-0.2043	0.2786
2	344.88	0.6497	-0.3808	0.0190	-0.3953	0.1115	-1.3601	0.7658	-0.1198	0.2941
2	344.88	0.6996	-0.4288	0.0205	-0.4323	0.1294	-1.6815	0.8960	-0.4060	0.3042
2	344.88	0.7495	-0.4764	0.0230	-0.4871	0.1477	-1.9825	1.0318	-0.3080	0.3055
2	344.88	0.7996	-0.5338	0.0258	-0.5374	0.1663	-2.2937	1.1730	-0.3802	0.3036
2	344.88	0.8578	-0.6255	0.0294	-0.5860	0.1882	-2.6385	1.3402	0.0435	0.2970
2	344.88	0.9100	-0.6940	0.0316	-0.6324	0.2083	-3.0033	1.4920	0.0002	0.3019
2	344.88	0.9727	-0.8006	0.0309	-0.6351	0.2312	-3.2826	1.6786	0.1954	0.3106
3	344.88	0.1938	0.0312	0.0027	0.0282	0.0028	0.0146	0.0137	-0.0656	0.0419
3	344.88	0.2357	0.0876	0.0030	-0.0277	0.0047	-0.0339	0.0256	-0.0274	0.0779
3	344.88	0.2995	-0.0190	0.0046	0.0475	0.0123	-0.0116	0.0620	-0.1210	0.1037
3	344.88	0.3493	-0.0676	0.0041	0.0639	0.0208	-0.0176	0.1110	-0.0288	0.0927
3	344.88	0.4000	-0.1091	0.0068	0.0780	0.0327	-0.0605	0.1713	0.0217	0.0982
3	344.88	0.4497	-0.1460	0.0071	0.0710	0.0428	-0.0980	0.2416	0.6855	0.1190
3	344.88	0.4997	-0.1813	0.0080	0.0862	0.0550	-0.2376	0.3242	0.4828	0.1156
3	344.88	0.5556	-0.2468	0.0095	0.0786	0.0685	-0.3580	0.4217	0.5281	0.1217
3	344.88	0.5995	-0.3191	0.0091	0.1190	0.0809	-0.5008	0.5038	0.1143	0.1255
3	344.88	0.6498	-0.3422	0.0105	0.1112	0.0947	-0.6969	0.6060	0.2908	0.1290
3	344.88	0.6890	-0.3901	0.0112	0.1408	0.1056	-0.9131	0.6917	0.0401	0.1457
3	344.88	0.7495	-0.4521	0.0123	0.1346	0.1226	-1.1817	0.8217	0.1156	0.1291
3	344.88	0.7998	-0.5090	0.0142	0.1568	0.1381	-1.4645	0.9377	0.0234	0.1304
3	344.88	0.8577	-0.5770	0.0159	0.1848	0.1549	-1.7964	1.0706	0.0441	0.1324
3	344.88	0.9178	-0.6451	0.0181	0.1921	0.1736	-2.2070	1.2061	-0.2042	0.1474
3	344.88	0.9729	-0.7331	0.0191	0.2136	0.1903	-2.4943	1.3318	-0.0872	0.1490
4	344.88	0.2001	0.0631	0.0030	-0.0029	0.0038	-0.0399	0.0175	0.0326	0.0498
4	344.88	0.2502	0.0196	0.0038	0.0155	0.0077	-0.0734	0.0379	-0.1225	0.0900
4	344.88	0.3001	-0.0315	0.0033	0.0073	0.0156	-0.1513	0.0793	0.0035	0.1143
4	344.88	0.3502	-0.0835	0.0055	0.0106	0.0273	-0.2841	0.1330	0.0204	0.1186
4	344.88	0.4002	-0.1351	0.0055	0.0296	0.0421	-0.4209	0.2116	0.3166	0.1141
4	344.88	0.4500	-0.1805	0.0069	0.0769	0.0563	-0.6563	0.3061	0.0791	0.1221
4	344.88	0.5001	-0.2046	0.0074	0.0773	0.0755	-0.8422	0.4121	1.0913	0.1352
4	344.88	0.5560	-0.2571	0.0103	0.1251	0.0982	-1.2359	0.5490	0.6852	0.1593
4	344.88	0.6001	-0.2753	0.0125	0.1705	0.1167	-1.5628	0.6679	0.6532	0.1589
4	344.88	0.6501	-0.3525	0.0144	0.1912	0.1389	-1.8804	0.8095	0.8302	0.1633
4	344.88	0.6999	-0.3909	0.0165	0.2224	0.1612	-2.3086	0.9513	0.6529	0.1838
4	344.88	0.7500	-0.4600	0.0193	0.2396	0.1841	-2.6891	1.1040	0.5798	0.1749
4	344.88	0.8002	-0.5404	0.0215	0.2554	0.2078	-3.1239	1.2510	0.2934	0.1729
4	344.88	0.8582	-0.6050	0.0257	0.2980	0.2361	-3.6436	1.4176	0.1104	0.1737
4	344.88	0.9101	-0.6949	0.0272	0.3434	0.2619	-4.0429	1.5671	0.3166	0.1858
4	344.88	0.9728	-0.7210	0.0246	0.4470	0.2925	-4.4675	1.7505	0.5004	0.1679

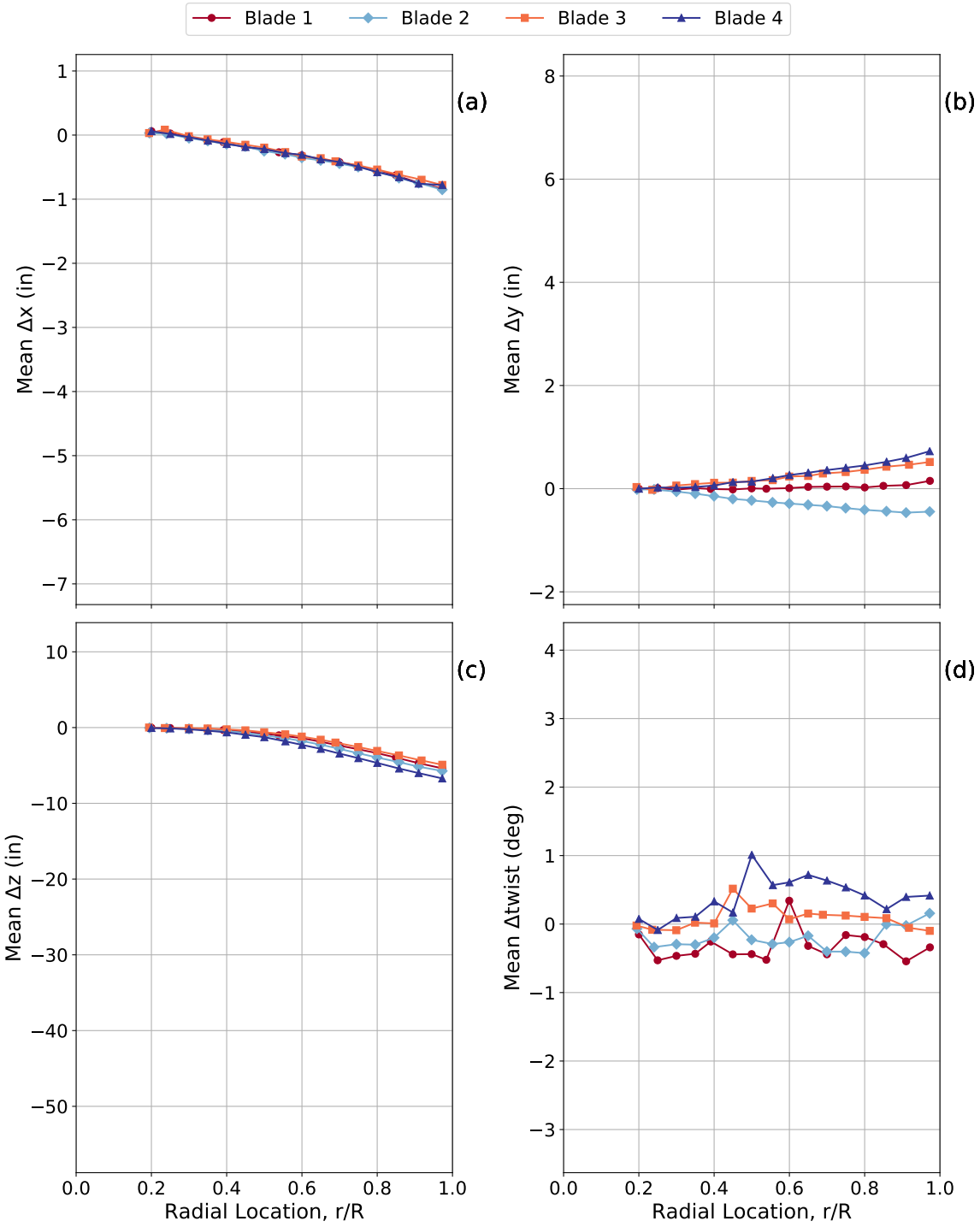


Figure 2.26-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0596	0.0147	-0.0029	0.0052	-0.0270	0.0308	-0.1514	0.1503
1	350.16	0.2499	0.0258	0.0087	0.0101	0.0084	-0.0646	0.0515	-0.5290	0.4273
1	350.16	0.2998	-0.0205	0.0096	-0.0182	0.0203	-0.1365	0.1211	-0.4641	0.4247
1	350.16	0.3498	-0.0924	0.0099	0.0104	0.0340	-0.2118	0.2120	-0.4335	0.4226
1	350.16	0.3913	-0.1116	0.0105	-0.0071	0.0485	-0.3306	0.2986	-0.2552	0.4298
1	350.16	0.4496	-0.1893	0.0119	-0.0150	0.0699	-0.5522	0.4406	-0.4420	0.4373
1	350.16	0.4997	-0.2254	0.0129	0.0047	0.0912	-0.8063	0.5794	-0.4386	0.4407
1	350.16	0.5387	-0.2684	0.0150	-0.0016	0.1091	-1.0244	0.6921	-0.5215	0.4398
1	350.16	0.5996	-0.3166	0.0170	0.0108	0.1364	-1.3923	0.8747	0.3410	0.4547
1	350.16	0.6498	-0.3802	0.0201	0.0340	0.1609	-1.8693	1.0325	-0.3186	0.4345
1	350.16	0.6998	-0.4226	0.0231	0.0385	0.1864	-2.3833	1.1943	-0.4416	0.4405
1	350.16	0.7500	-0.4777	0.0275	0.0422	0.2109	-2.8674	1.3500	-0.1603	0.4645
1	350.16	0.8001	-0.5538	0.0317	0.0233	0.2355	-3.3789	1.5113	-0.1892	0.4535
1	350.16	0.8497	-0.6272	0.0366	0.0543	0.2614	-3.9575	1.6716	-0.2932	0.4453
1	350.16	0.9102	-0.7446	0.0423	0.0688	0.2928	-4.7010	1.8616	-0.5437	0.4486
1	350.16	0.9734	-0.8357	0.0436	0.1508	0.3272	-5.3858	2.0615	-0.3400	0.4497
2	350.16	0.1949	0.0308	0.0028	-0.0153	0.0027	-0.0334	0.0170	-0.0684	0.0309
2	350.16	0.2405	0.0215	0.0036	-0.0157	0.0059	-0.0901	0.0329	-0.3365	0.0748
2	350.16	0.2999	-0.0480	0.0048	-0.0569	0.0128	-0.1712	0.0771	-0.2940	0.0804
2	350.16	0.3498	-0.0910	0.0057	-0.0974	0.0221	-0.2958	0.1364	-0.3009	0.0918
2	350.16	0.3998	-0.1420	0.0067	-0.1460	0.0346	-0.4685	0.2104	-0.1995	0.0973
2	350.16	0.4496	-0.1771	0.0095	-0.1983	0.0471	-0.6935	0.3054	0.0562	0.1105
2	350.16	0.4995	-0.2503	0.0110	-0.2276	0.0626	-1.0136	0.4136	-0.2294	0.0924
2	350.16	0.5551	-0.2969	0.0133	-0.2657	0.0802	-1.4093	0.5524	-0.2915	0.1079
2	350.16	0.5996	-0.3542	0.0164	-0.2887	0.0950	-1.7706	0.6701	-0.2640	0.1092
2	350.16	0.6497	-0.3946	0.0196	-0.3133	0.1132	-2.2510	0.8050	-0.1708	0.1174
2	350.16	0.6996	-0.4449	0.0233	-0.3385	0.1306	-2.8112	0.9393	-0.4012	0.1197
2	350.16	0.7495	-0.4986	0.0274	-0.3766	0.1490	-3.3876	1.0698	-0.4025	0.1271
2	350.16	0.7996	-0.5661	0.0318	-0.4110	0.1678	-3.9467	1.1966	-0.4240	0.1239
2	350.16	0.8578	-0.6703	0.0365	-0.4382	0.1899	-4.5629	1.3332	-0.0038	0.1168
2	350.16	0.9100	-0.7475	0.0402	-0.4650	0.2101	-5.1640	1.4564	-0.0214	0.1205
2	350.16	0.9727	-0.8518	0.0402	-0.4456	0.2338	-5.7281	1.6010	0.1573	0.1310
3	350.16	0.1938	0.0315	0.0048	0.0313	0.0037	0.0060	0.0192	-0.0212	0.0453
3	350.16	0.2357	0.0842	0.0049	-0.0226	0.0058	-0.0644	0.0299	-0.0827	0.1506
3	350.16	0.2995	-0.0180	0.0046	0.0601	0.0145	-0.0734	0.0816	-0.0896	0.1500
3	350.16	0.3493	-0.0660	0.0057	0.0884	0.0255	-0.1197	0.1415	0.0208	0.1466
3	350.16	0.4000	-0.1061	0.0069	0.1142	0.0391	-0.2320	0.2191	0.0096	0.1531
3	350.16	0.4497	-0.1511	0.0085	0.1171	0.0520	-0.3660	0.3088	0.5169	0.1769
3	350.16	0.4997	-0.1954	0.0092	0.1501	0.0675	-0.6143	0.4104	0.2267	0.1655
3	350.16	0.5556	-0.2656	0.0106	0.1649	0.0854	-0.8942	0.5331	0.3018	0.1701
3	350.16	0.5995	-0.3351	0.0126	0.2348	0.1026	-1.1904	0.6353	0.0705	0.1616
3	350.16	0.6498	-0.3606	0.0154	0.2462	0.1205	-1.6043	0.7547	0.1540	0.1589
3	350.16	0.6890	-0.4093	0.0171	0.2940	0.1352	-1.9802	0.8501	0.1355	0.1658
3	350.16	0.7495	-0.4719	0.0213	0.3223	0.1590	-2.5662	0.9945	0.1241	0.1689
3	350.16	0.7998	-0.5376	0.0243	0.3662	0.1781	-3.0823	1.1132	0.1046	0.1710
3	350.16	0.8577	-0.6179	0.0293	0.4259	0.2017	-3.6775	1.2493	0.0861	0.1680
3	350.16	0.9178	-0.6967	0.0322	0.4638	0.2267	-4.3439	1.3927	-0.0547	0.1643
3	350.16	0.9729	-0.7793	0.0308	0.5167	0.2485	-4.9086	1.5224	-0.0988	0.1753
4	350.16	0.2001	0.0599	0.0030	-0.0008	0.0039	-0.0556	0.0188	0.0750	0.0385
4	350.16	0.2502	0.0169	0.0039	0.0230	0.0076	-0.1146	0.0392	-0.0867	0.0753
4	350.16	0.3001	-0.0327	0.0050	0.0169	0.0151	-0.2287	0.0820	0.0884	0.0895
4	350.16	0.3502	-0.0868	0.0062	0.0320	0.0278	-0.4161	0.1423	0.1071	0.0938
4	350.16	0.4002	-0.1388	0.0063	0.0611	0.0416	-0.6334	0.2221	0.3311	0.0903
4	350.16	0.4500	-0.1862	0.0087	0.1260	0.0564	-0.9520	0.3206	0.1682	0.0933
4	350.16	0.5001	-0.2178	0.0100	0.1358	0.0755	-1.2697	0.4312	1.0107	0.1172
4	350.16	0.5560	-0.2818	0.0131	0.2039	0.0954	-1.8213	0.5656	0.5685	0.1355
4	350.16	0.6001	-0.3072	0.0151	0.2634	0.1128	-2.2833	0.6839	0.6100	0.1321
4	350.16	0.6501	-0.3790	0.0186	0.3092	0.1321	-2.8092	0.8156	0.7181	0.1224
4	350.16	0.6999	-0.4202	0.0220	0.3601	0.1524	-3.4352	0.9496	0.6350	0.1467
4	350.16	0.7500	-0.4928	0.0248	0.4046	0.1717	-4.0381	1.0734	0.5356	0.1346
4	350.16	0.8002	-0.5793	0.0289	0.4501	0.1923	-4.6679	1.2017	0.4173	0.1347
4	350.16	0.8582	-0.6566	0.0320	0.5209	0.2169	-5.4090	1.3362	0.2183	0.1239
4	350.16	0.9101	-0.7567	0.0339	0.5954	0.2378	-6.0103	1.4528	0.3962	0.1246
4	350.16	0.9728	-0.7794	0.0315	0.7258	0.2671	-6.7148	1.5838	0.4160	0.1311

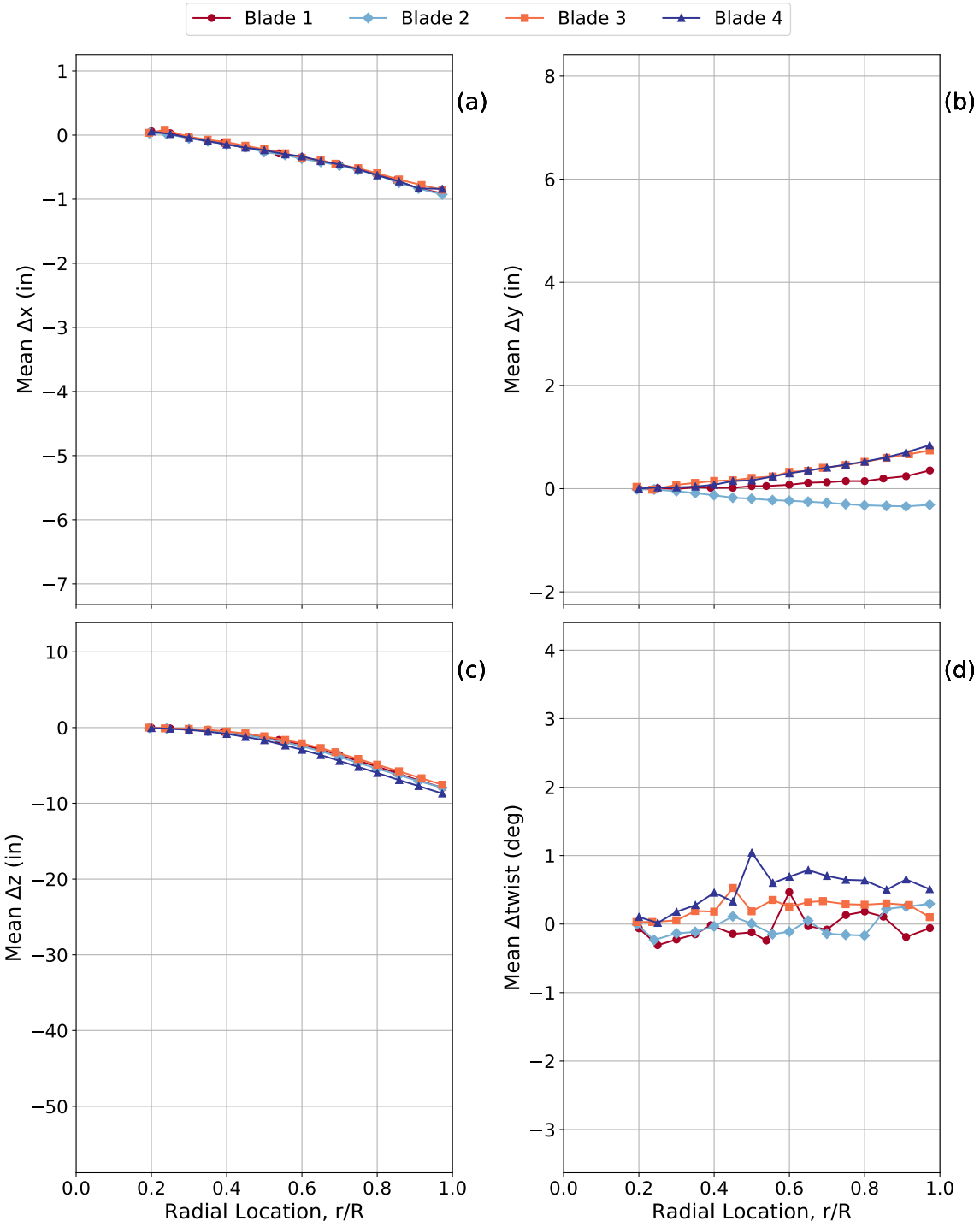


Figure 2.26-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.042$, $\mu = 1.001$, $\alpha = 2°$ NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Table 2.26-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.042, μ = 1.001, α = 2°
NFAC run 96, points 17 to 21. BD run 45, points 8356 to 8395.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0586	0.0044	0.0011	0.0041	-0.0458	0.0264	-0.0617	0.0535
1	355.08	0.2499	0.0291	0.0061	0.0104	0.0090	-0.1144	0.0565	-0.3082	0.1242
1	355.08	0.2998	-0.0285	0.0064	-0.0067	0.0172	-0.2287	0.1180	-0.2251	0.1336
1	355.08	0.3498	-0.1011	0.0079	0.0274	0.0303	-0.3687	0.2032	-0.1486	0.1380
1	355.08	0.3913	-0.1231	0.0104	0.0151	0.0434	-0.5664	0.2969	-0.0163	0.1372
1	355.08	0.4496	-0.2018	0.0142	0.0174	0.0627	-0.9041	0.4468	-0.1435	0.1484
1	355.08	0.4997	-0.2397	0.0164	0.0482	0.0833	-1.2861	0.5967	-0.1214	0.1592
1	355.08	0.5387	-0.2859	0.0185	0.0513	0.0993	-1.6308	0.7239	-0.2398	0.1584
1	355.08	0.5996	-0.3447	0.0233	0.0752	0.1252	-2.2286	0.9212	0.4664	0.1745
1	355.08	0.6498	-0.4088	0.0311	0.1149	0.1495	-2.9128	1.0858	-0.0300	0.1709
1	355.08	0.6998	-0.4649	0.0363	0.1257	0.1729	-3.6457	1.2518	-0.0805	0.1747
1	355.08	0.7500	-0.5289	0.0441	0.1476	0.1972	-4.4015	1.4107	0.1314	0.1859
1	355.08	0.8001	-0.6137	0.0511	0.1468	0.2215	-5.1567	1.5661	0.1824	0.1923
1	355.08	0.8497	-0.7043	0.0588	0.1968	0.2468	-5.9654	1.7183	0.1073	0.1914
1	355.08	0.9102	-0.8318	0.0676	0.2417	0.2783	-6.9741	1.9031	-0.1880	0.1892
1	355.08	0.9734	-0.9081	0.0677	0.3534	0.3107	-7.9375	2.0992	-0.0587	0.1939
2	355.08	0.1949	0.0300	0.0030	-0.0128	0.0029	-0.0480	0.0165	-0.0041	0.0363
2	355.08	0.2405	0.0175	0.0036	-0.0150	0.0052	-0.1238	0.0315	-0.2320	0.0922
2	355.08	0.2999	-0.0517	0.0047	-0.0490	0.0120	-0.2458	0.0755	-0.1353	0.0961
2	355.08	0.3498	-0.0964	0.0058	-0.0855	0.0216	-0.4207	0.1320	-0.1152	0.0976
2	355.08	0.3998	-0.1471	0.0089	-0.1282	0.0326	-0.6685	0.2047	-0.0340	0.0981
2	355.08	0.4496	-0.1897	0.0103	-0.1756	0.0444	-0.9891	0.2900	0.1117	0.1228
2	355.08	0.4995	-0.2655	0.0126	-0.1950	0.0561	-1.3962	0.3878	0.0056	0.1171
2	355.08	0.5551	-0.3099	0.0151	-0.2233	0.0717	-1.9698	0.5020	-0.1472	0.1008
2	355.08	0.5996	-0.3693	0.0175	-0.2352	0.0835	-2.4735	0.5967	-0.1119	0.1110
2	355.08	0.6497	-0.4191	0.0212	-0.2540	0.0980	-3.1222	0.7000	0.0505	0.1135
2	355.08	0.6996	-0.4775	0.0246	-0.2736	0.1117	-3.8739	0.7991	-0.1403	0.1212
2	355.08	0.7495	-0.5430	0.0280	-0.3016	0.1264	-4.6586	0.8939	-0.1571	0.1283
2	355.08	0.7996	-0.6214	0.0333	-0.3225	0.1409	-5.4189	0.9783	-0.1667	0.1194
2	355.08	0.8578	-0.7446	0.0377	-0.3355	0.1578	-6.2723	1.0716	0.2224	0.1312
2	355.08	0.9100	-0.8335	0.0414	-0.3442	0.1738	-7.0703	1.1547	0.2529	0.1360
2	355.08	0.9727	-0.9259	0.0403	-0.3142	0.1918	-7.9254	1.2549	0.2975	0.1373
3	355.08	0.1938	0.0349	0.0052	0.0354	0.0042	-0.0139	0.0175	0.0300	0.0398
3	355.08	0.2357	0.0815	0.0053	-0.0201	0.0058	-0.1063	0.0307	0.0304	0.1025
3	355.08	0.2995	-0.0255	0.0056	0.0743	0.0170	-0.1737	0.0801	0.0535	0.1102
3	355.08	0.3493	-0.0721	0.0064	0.1117	0.0285	-0.2946	0.1369	0.1903	0.1103
3	355.08	0.4000	-0.1108	0.0078	0.1496	0.0444	-0.5085	0.2155	0.1817	0.1126
3	355.08	0.4497	-0.1664	0.0094	0.1622	0.0587	-0.7727	0.3047	0.5275	0.1227
3	355.08	0.4997	-0.2214	0.0126	0.2085	0.0741	-1.1582	0.4025	0.1863	0.1084
3	355.08	0.5556	-0.2853	0.0138	0.2367	0.0906	-1.6314	0.5147	0.3528	0.1371
3	355.08	0.5995	-0.3537	0.0166	0.3258	0.1090	-2.0893	0.6035	0.2525	0.1268
3	355.08	0.6498	-0.3914	0.0199	0.3460	0.1268	-2.7100	0.6976	0.3209	0.1411
3	355.08	0.6890	-0.4475	0.0224	0.4042	0.1406	-3.2579	0.7690	0.3362	0.1365
3	355.08	0.7495	-0.5173	0.0258	0.4569	0.1644	-4.1507	0.8648	0.2912	0.1330
3	355.08	0.7998	-0.5960	0.0300	0.5189	0.1817	-4.9049	0.9420	0.2833	0.1435
3	355.08	0.8577	-0.6928	0.0343	0.5977	0.2037	-5.7706	1.0326	0.3024	0.1601
3	355.08	0.9178	-0.7798	0.0384	0.6654	0.2269	-6.6924	1.1336	0.2787	0.1426
3	355.08	0.9729	-0.8524	0.0388	0.7406	0.2464	-7.5380	1.2327	0.1007	0.1689
4	355.08	0.2001	0.0560	0.0070	0.0011	0.0049	-0.0702	0.0220	0.1032	0.1283
4	355.08	0.2502	0.0160	0.0103	0.0240	0.0066	-0.1535	0.0394	0.0172	0.3663
4	355.08	0.3001	-0.0409	0.0112	0.0238	0.0172	-0.3052	0.0931	0.1791	0.3724
4	355.08	0.3502	-0.0947	0.0123	0.0408	0.0306	-0.5399	0.1668	0.2771	0.3706
4	355.08	0.4002	-0.1468	0.0136	0.0755	0.0450	-0.8380	0.2550	0.4583	0.3710
4	355.08	0.4500	-0.1964	0.0174	0.1488	0.0610	-1.2386	0.3541	0.3308	0.3750
4	355.08	0.5001	-0.2357	0.0189	0.1616	0.0784	-1.6731	0.4698	1.0424	0.3784
4	355.08	0.5560	-0.3009	0.0226	0.2364	0.1003	-2.3686	0.6071	0.6016	0.3973
4	355.08	0.6001	-0.3316	0.0266	0.2973	0.1175	-2.9414	0.7211	0.6915	0.3898
4	355.08	0.6501	-0.4068	0.0310	0.3537	0.1373	-3.6267	0.8457	0.7878	0.3890
4	355.08	0.6999	-0.4575	0.0351	0.4076	0.1572	-4.4080	0.9705	0.7029	0.4074
4	355.08	0.7500	-0.5336	0.0408	0.4661	0.1782	-5.1918	1.0933	0.6469	0.3797
4	355.08	0.8002	-0.6277	0.0460	0.5235	0.1987	-5.9895	1.2082	0.6384	0.3970
4	355.08	0.8582	-0.7221	0.0510	0.6082	0.2227	-6.9275	1.3398	0.5014	0.3844
4	355.08	0.9101	-0.8320	0.0552	0.7034	0.2439	-7.7127	1.4521	0.6523	0.3918
4	355.08	0.9728	-0.8381	0.0562	0.8424	0.2715	-8.6991	1.5884	0.5111	0.3988

2.27 Run 98, Points 16 to 19

2.27.1 Pitch, Flap, and Lag

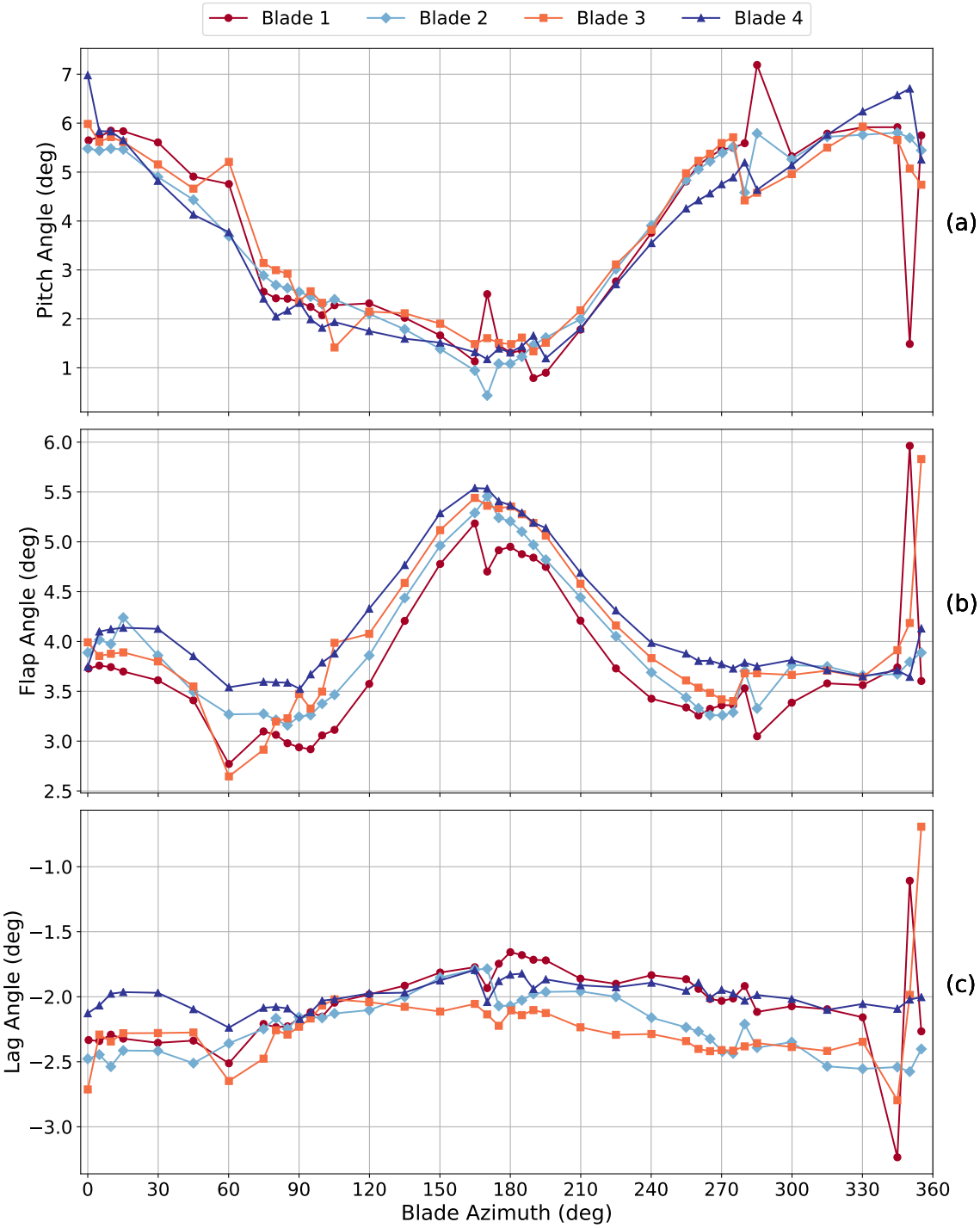


Figure 2.27-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-1. Pitch, flap, and lag vs azimuth for Blade 1.
C_T/σ = 0.08, μ = 0.149, α = 8°
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	5.6488	3.7282	-2.3332	0.0883	0.0457	0.0510
4.92	5.7184	3.7582	-2.3408	0.0881	0.0471	0.0802
9.84	5.8466	3.7428	-2.2915	0.0581	0.0432	0.0609
15.12	5.8347	3.6985	-2.3225	0.0711	0.0404	0.0526
29.88	5.6069	3.6107	-2.3545	0.0660	0.0444	0.0549
45	4.9082	3.4096	-2.3376	0.1657	0.0764	0.0744
60.12	4.7562	2.7708	-2.5121	0.1324	0.0670	0.0598
74.88	2.5534	3.0975	-2.2094	0.0416	0.0320	0.0428
80.16	2.4199	3.0631	-2.2340	0.0369	0.0268	0.0499
85.08	2.4112	2.9790	-2.2275	0.0484	0.0295	0.0393
90	2.3518	2.9380	-2.1668	0.0380	0.0274	0.0427
94.92	2.2438	2.9187	-2.1191	0.0390	0.0260	0.0488
99.84	2.0763	3.0578	-2.1528	0.0383	0.0283	0.0419
105.12	2.2791	3.1132	-2.0458	0.0344	0.0222	0.0464
119.88	2.3172	3.5741	-1.9824	0.0364	0.0289	0.0444
135	2.0224	4.2066	-1.9149	0.0286	0.0267	0.0427
150.12	1.6619	4.7774	-1.8138	0.0388	0.0342	0.0395
164.88	1.1304	5.1843	-1.7729	0.0420	0.0355	0.0407
170.16	2.5060	4.7015	-1.9336	0.0817	0.0450	0.0330
175.08	1.4636	4.9156	-1.7462	0.2837	0.1186	0.0685
180	1.3103	4.9501	-1.6574	0.0581	0.0327	0.0387
184.92	1.3497	4.8763	-1.6797	0.0832	0.0353	0.0338
189.84	0.7899	4.8413	-1.7159	0.0609	0.0271	0.0611
195.12	0.8981	4.7479	-1.7202	0.0578	0.0249	0.0468
209.88	1.7806	4.2089	-1.8612	0.0302	0.0323	0.0441
225	2.7657	3.7292	-1.9009	0.0406	0.0358	0.0388
240.12	3.7585	3.4256	-1.8345	0.0413	0.0267	0.0460
254.88	4.8069	3.3379	-1.8649	0.0372	0.0248	0.0354
260.16	5.1474	3.2574	-1.9397	0.0462	0.0316	0.0340
265.08	5.3133	3.3240	-2.0169	0.0591	0.0361	0.0327
270	5.4637	3.3590	-2.0322	0.0581	0.0335	0.0468
274.92	5.4958	3.3617	-2.0134	0.0969	0.0503	0.0475
279.84	5.5899	3.5298	-1.9177	0.1785	0.0790	0.0447
285.12	7.1893	3.0484	-2.1167	0.2107	0.0940	0.0512
299.88	5.3232	3.3859	-2.0733	0.0433	0.0351	0.0588
315	5.7855	3.5797	-2.0961	0.0450	0.0273	0.0489
330.12	5.9162	3.5624	-2.1583	0.0444	0.0572	0.0315
344.88	5.9180	3.7400	-3.2346	0.1162	0.1153	0.0614
350.16	1.4870	5.9630	-1.1081	0.1526	0.0738	0.0656
355.08	5.7508	3.6031	-2.2661	0.1077	0.0683	0.0526

Table 2.27-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.08, μ = 0.149, α = 8°
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	5.4793	3.8879	-2.4775	0.0836	0.0375	0.0434
4.92	5.4405	4.0177	-2.4452	0.0789	0.0534	0.0507
9.84	5.4797	3.9744	-2.5377	0.0800	0.0381	0.0410
15.12	5.4642	4.2396	-2.4136	0.0595	0.0362	0.0454
29.88	4.9015	3.8595	-2.4166	0.0677	0.0446	0.0461
45	4.4335	3.4969	-2.5111	0.1041	0.0514	0.0475
60.12	3.6900	3.2685	-2.3585	0.1376	0.0647	0.0445
74.88	2.8862	3.2743	-2.2480	0.0381	0.0317	0.0380
80.16	2.6915	3.2132	-2.1650	0.0364	0.0305	0.0340
85.08	2.6299	3.1596	-2.2471	0.0716	0.0440	0.0519
90	2.5523	3.2454	-2.1558	0.0372	0.0329	0.0392
94.92	2.4569	3.2619	-2.1563	0.0353	0.0282	0.0371
99.84	2.3015	3.3753	-2.1631	0.0235	0.0287	0.0541
105.12	2.3995	3.4656	-2.1286	0.0376	0.0264	0.0438
119.88	2.1044	3.8594	-2.1030	0.0226	0.0275	0.0471
135	1.7867	4.4366	-2.0014	0.0238	0.0321	0.0322
150.12	1.3854	4.9614	-1.8526	0.0361	0.0180	0.0386
164.88	0.9453	5.2903	-1.7915	0.0383	0.0260	0.0384
170.16	0.4333	5.4569	-1.7852	0.0471	0.0241	0.0225
175.08	1.0844	5.2412	-2.0711	0.0397	0.0204	0.0268
180	1.0826	5.2059	-2.0697	0.0466	0.0307	0.0451
184.92	1.2270	5.1021	-2.0273	0.0519	0.0311	0.0493
189.84	1.4639	4.9697	-1.9786	0.0749	0.0367	0.0520
195.12	1.6172	4.8202	-1.9629	0.0934	0.0469	0.0315
209.88	1.9936	4.4416	-1.9589	0.0368	0.0347	0.0541
225	3.0187	4.0516	-1.9998	0.0400	0.0239	0.0390
240.12	3.9073	3.6894	-2.1608	0.0365	0.0282	0.0376
254.88	4.8305	3.4379	-2.2354	0.0340	0.0241	0.0468
260.16	5.0566	3.3296	-2.2666	0.0319	0.0337	0.0387
265.08	5.2190	3.2600	-2.3242	0.0502	0.0373	0.0447
270.35	5.3933	3.2593	-2.4204	0.0552	0.0400	0.0437
274.92	5.5203	3.2889	-2.4357	0.0655	0.0408	0.0815
279.84	4.5825	3.7028	-2.2102	0.0638	0.0321	0.0663
285.12	5.7898	3.3283	-2.3916	0.1563	0.0683	0.0474
299.88	5.2621	3.7637	-2.3486	0.0312	0.0429	0.0502
315	5.7214	3.7486	-2.5355	0.0496	0.0283	0.0650
330.12	5.7623	3.6607	-2.5545	0.0375	0.0523	0.0526
344.88	5.8058	3.6723	-2.5409	0.0422	0.0227	0.0414
350.16	5.7004	3.7954	-2.5759	0.0708	0.0384	0.0445
355.08	5.4446	3.8879	-2.4021	0.1116	0.0589	0.0574

Table 2.27-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.08, μ = 0.149, α = 8°
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	5.9843	3.9914	-2.7129	0.1832	0.0649	0.0512
4.92	5.6179	3.8543	-2.2910	0.0606	0.0297	0.0435
9.84	5.7151	3.8761	-2.3444	0.0634	0.0322	0.0600
15.12	5.6160	3.8905	-2.2806	0.0527	0.0363	0.0496
29.88	5.1571	3.8001	-2.2794	0.0614	0.0463	0.0448
45	4.6609	3.5484	-2.2750	0.0939	0.0486	0.0383
60.12	5.2083	2.6461	-2.6480	0.1148	0.0535	0.0467
74.88	3.1420	2.9142	-2.4762	0.1113	0.0363	0.0315
80.16	2.9955	3.1964	-2.2575	0.0338	0.0250	0.0396
85.08	2.9237	3.2293	-2.2911	0.0340	0.0256	0.0302
90	2.3533	3.4739	-2.2305	0.1227	0.0477	0.0514
94.92	2.5640	3.3264	-2.1674	0.0335	0.0220	0.0497
99.84	2.3271	3.4965	-2.0676	0.0272	0.0241	0.0505
105.12	1.4147	3.9864	-2.0205	0.1677	0.0856	0.0270
119.88	2.1477	4.0768	-2.0414	0.0296	0.0362	0.0515
135	2.1148	4.5870	-2.0774	0.0857	0.0493	0.0419
150.12	1.9019	5.1172	-2.1140	0.0467	0.0252	0.0264
164.88	1.4858	5.4409	-2.0553	0.0352	0.0236	0.0457
170.16	1.6064	5.3622	-2.1360	0.1108	0.0221	0.0379
175.08	1.5091	5.3373	-2.2235	0.0717	0.0320	0.0577
180.35	1.4840	5.3544	-2.1048	0.0386	0.0274	0.0463
184.92	1.6183	5.2761	-2.1414	0.0483	0.0404	0.0743
189.84	1.3360	5.1898	-2.1030	0.0478	0.0392	0.0665
195.12	1.5128	5.0624	-2.1254	0.0424	0.0355	0.0487
209.88	2.1741	4.5790	-2.2351	0.0509	0.0364	0.0510
225	3.1132	4.1603	-2.2928	0.0573	0.0299	0.0621
240.12	3.8192	3.8331	-2.2867	0.0393	0.0340	0.0653
254.88	4.9762	3.6086	-2.3413	0.0415	0.0304	0.0470
260.16	5.2309	3.5364	-2.4014	0.0531	0.0260	0.0476
265.08	5.3749	3.4840	-2.4186	0.0665	0.0294	0.0502
270	5.5933	3.4187	-2.4105	0.0560	0.0232	0.0455
274.92	5.7110	3.4018	-2.4148	0.0700	0.0390	0.0500
279.84	4.4213	3.6805	-2.3818	0.0389	0.0312	0.0478
285.12	4.5777	3.6807	-2.3567	0.0345	0.0293	0.0405
299.88	4.9595	3.6649	-2.3866	0.0568	0.0490	0.0451
315	5.5004	3.7066	-2.4170	0.0326	0.0270	0.0402
330.12	5.9307	3.6417	-2.3465	0.0447	0.0302	0.0249
344.88	5.6552	3.9126	-2.7964	0.1258	0.0505	0.0390
350.16	5.0717	4.1854	-1.9861	0.1391	0.0717	0.0476
355.08	4.7417	5.8301	-0.6927	0.0833	0.0799	0.1209

Table 2.27-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.08, μ = 0.149, α = 8°
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	6.9784	3.7465	-2.1273	0.3080	0.1278	0.0836
4.92	5.8375	4.0996	-2.0674	0.0695	0.0354	0.0540
9.84	5.8312	4.1226	-1.9771	0.0727	0.0319	0.0492
15.12	5.6520	4.1374	-1.9646	0.0557	0.0334	0.0352
29.88	4.8212	4.1267	-1.9700	0.0516	0.0434	0.0521
45	4.1297	3.8526	-2.0958	0.0726	0.0376	0.0402
60.12	3.7710	3.5404	-2.2378	0.1610	0.0656	0.0431
74.88	2.4142	3.5952	-2.0850	0.0355	0.0266	0.0440
80.16	2.0483	3.5898	-2.0784	0.0651	0.0360	0.0412
85.08	2.1687	3.5865	-2.0901	0.0376	0.0335	0.0489
90.35	2.3260	3.5240	-2.1714	0.0591	0.0523	0.0459
94.92	1.9914	3.6701	-2.1200	0.0417	0.0205	0.0766
99.84	1.8182	3.7887	-2.0302	0.0317	0.0225	0.0593
105.12	1.9359	3.8786	-2.0197	0.0311	0.0240	0.0423
119.88	1.7502	4.3287	-1.9742	0.0280	0.0350	0.0511
135	1.5945	4.7667	-1.9688	0.0319	0.0205	0.0713
150.12	1.5149	5.2873	-1.8751	0.0360	0.0340	0.0604
164.88	1.3196	5.5387	-1.7945	0.0350	0.0170	0.0423
170.16	1.1765	5.5340	-2.0406	0.0420	0.0285	0.0625
175.08	1.3930	5.4072	-1.8799	0.0346	0.0310	0.0385
180	1.3136	5.3666	-1.8303	0.0422	0.0297	0.0420
184.92	1.4424	5.2924	-1.8223	0.0541	0.0439	0.0400
189.84	1.6569	5.1923	-1.9407	0.0610	0.0255	0.0374
195.12	1.1939	5.1385	-1.8663	0.0428	0.0219	0.0479
209.88	1.8048	4.6892	-1.9120	0.0310	0.0263	0.0417
225	2.7066	4.3109	-1.9270	0.0382	0.0245	0.0401
240.12	3.5485	3.9860	-1.8925	0.0410	0.0239	0.0331
254.88	4.2565	3.8783	-1.9535	0.0347	0.0292	0.0380
260.16	4.4227	3.8048	-1.8919	0.0308	0.0245	0.0325
265.08	4.5641	3.8064	-2.0078	0.0436	0.0290	0.0534
270	4.7515	3.7725	-1.9465	0.0448	0.0355	0.0340
274.92	4.8910	3.7282	-1.9756	0.0493	0.0308	0.0316
279.84	5.1959	3.7873	-2.0302	0.0697	0.0283	0.0590
285.12	4.6381	3.7499	-1.9865	0.0392	0.0323	0.0332
299.88	5.1396	3.8141	-2.0170	0.0332	0.0390	0.0352
315	5.7615	3.7130	-2.1006	0.0374	0.0350	0.0264
330.12	6.2397	3.6499	-2.0555	0.0297	0.0296	0.0397
344.88	6.5716	3.7107	-2.0930	0.0857	0.0389	0.0436
350.16	6.7060	3.6447	-2.0220	0.1398	0.1016	0.0501
355.08	5.2550	4.1302	-2.0034	0.1716	0.0588	0.0424

2.27.2 Spanwise Elastic Deformations

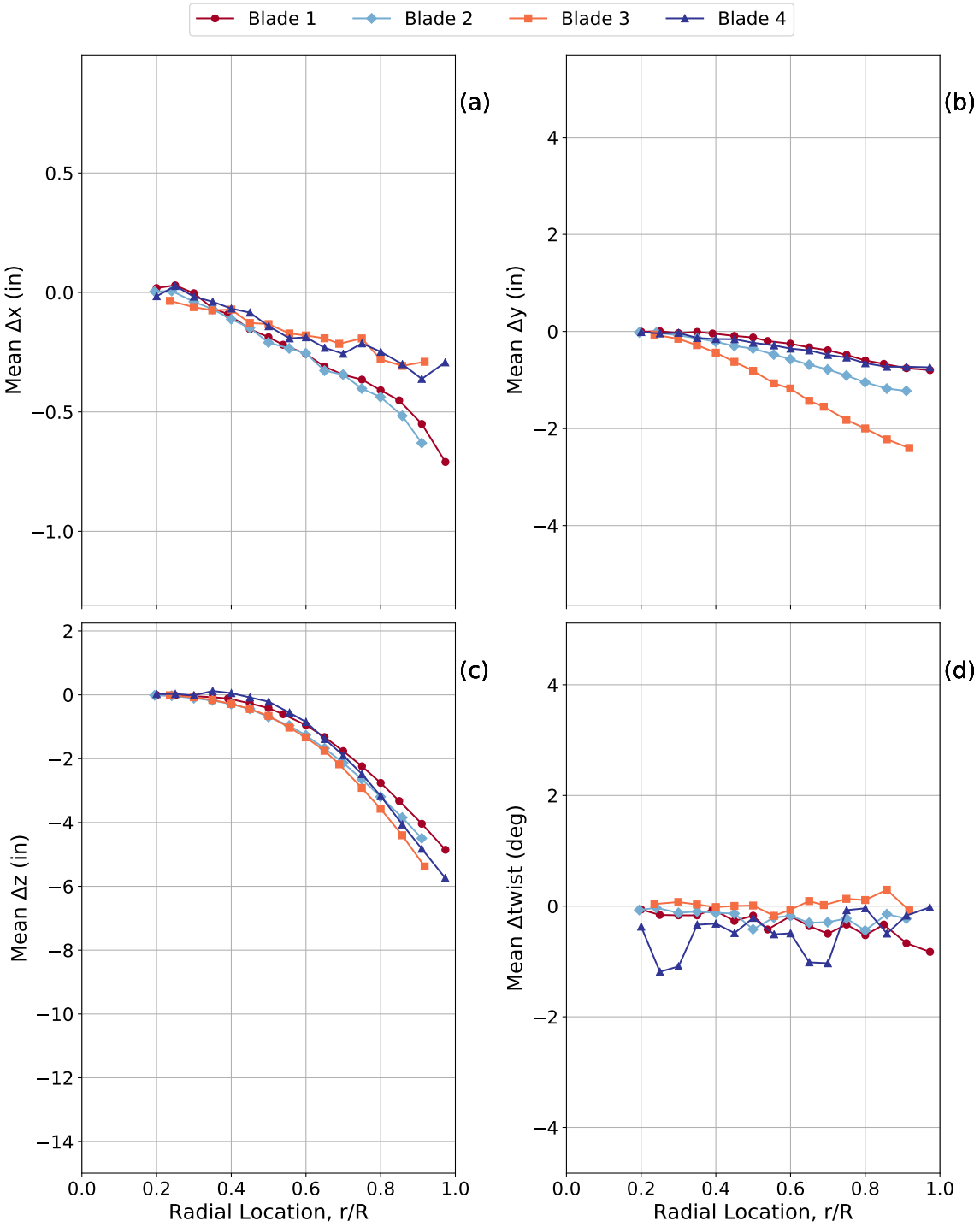


Figure 2.27-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-5. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0183	0.0030	-0.0061	0.0022	-0.0077	0.0054	-0.0623	0.0421
1	0.35	0.2499	0.0296	0.0018	0.0050	0.0034	-0.0221	0.0062	-0.1601	0.0869
1	0.35	0.2998	-0.0033	0.0017	-0.0345	0.0075	-0.0444	0.0165	-0.1667	0.0974
1	0.35	0.3498	-0.0656	0.0019	-0.0101	0.0131	-0.0740	0.0261	-0.1675	0.0840
1	0.35	0.3913	-0.0912	0.0023	-0.0417	0.0178	-0.1145	0.0352	-0.0566	0.0833
1	0.35	0.4496	-0.1538	0.0026	-0.0920	0.0237	-0.2674	0.0468	-0.2685	0.0877
1	0.35	0.4997	-0.1874	0.0025	-0.1245	0.0287	-0.4154	0.0578	-0.1738	0.0891
1	0.35	0.5387	-0.2192	0.0029	-0.1975	0.0326	-0.6075	0.0664	-0.4228	0.0885
1	0.35	0.5996	-0.2572	0.0028	-0.2520	0.0389	-0.9459	0.0816	-0.1823	0.0898
1	0.35	0.6498	-0.3107	0.0027	-0.3280	0.0442	-1.3240	0.0926	-0.3611	0.0887
1	0.35	0.6998	-0.3447	0.0028	-0.3863	0.0495	-1.7629	0.1042	-0.4993	0.0834
1	0.35	0.7500	-0.3650	0.0029	-0.4817	0.0545	-2.2392	0.1157	-0.3346	0.0868
1	0.35	0.8001	-0.4099	0.0036	-0.5970	0.0599	-2.7592	0.1271	-0.5257	0.0958
1	0.35	0.8497	-0.4521	0.0040	-0.6667	0.0659	-3.3264	0.1375	-0.3339	0.1011
1	0.35	0.9102	-0.5504	0.0115	-0.7571	0.0752	-4.0402	0.1542	-0.6701	0.1452
1	0.35	0.9734	-0.7099	0.0095	-0.7957	0.0805	-4.8555	0.1654	-0.8273	0.1175
2	0	0.1949	0.0040	0.0025	-0.0206	0.0019	-0.0164	0.0047	-0.0710	0.0330
2	0	0.2405	0.0060	0.0015	-0.0248	0.0024	-0.0283	0.0061	-0.0312	0.0787
2	0	0.2999	-0.0391	0.0013	-0.0810	0.0060	-0.1066	0.0146	-0.1217	0.0892
2	0	0.3498	-0.0700	0.0020	-0.1405	0.0113	-0.1752	0.0251	-0.0986	0.0827
2	0	0.3998	-0.1123	0.0022	-0.2121	0.0160	-0.2913	0.0365	-0.1233	0.0812
2	0	0.4496	-0.1487	0.0024	-0.3002	0.0202	-0.4373	0.0463	-0.1347	0.0842
2	0	0.4995	-0.2099	0.0027	-0.3525	0.0245	-0.6946	0.0565	-0.4197	0.0848
2	0	0.5551	-0.2345	0.0027	-0.4757	0.0295	-0.9625	0.0681	-0.2076	0.0853
2	0	0.5996	-0.2546	0.0028	-0.5700	0.0337	-1.2690	0.0771	-0.1765	0.0841
2	0	0.6497	-0.3276	0.0031	-0.6841	0.0380	-1.6770	0.0861	-0.3012	0.0855
2	0	0.6996	-0.3440	0.0039	-0.7830	0.0424	-2.1325	0.0971	-0.2913	0.0905
2	0	0.7495	-0.4025	0.0039	-0.9071	0.0472	-2.6407	0.1074	-0.2240	0.0884
2	0	0.7996	-0.4379	0.0048	-1.0485	0.0517	-3.1949	0.1193	-0.4405	0.0920
2	0	0.8578	-0.5162	0.0068	-1.1777	0.0586	-3.8449	0.1308	-0.1456	0.1197
2	0	0.9100	-0.6305	0.0072	-1.2243	0.0646	-4.4954	0.1458	-0.2272	0.1395
3	0	0.2357	-0.0353	0.0122	-0.0665	0.0054	-0.0136	0.0137	0.0372	0.1207
3	0	0.2995	-0.0614	0.0030	-0.1516	0.0121	-0.0758	0.0260	0.0742	0.1941
3	0	0.3493	-0.0749	0.0042	-0.2817	0.0226	-0.1614	0.0462	0.0295	0.1861
3	0	0.4000	-0.0716	0.0070	-0.4373	0.0346	-0.2841	0.0675	-0.0176	0.1828
3	0	0.4497	-0.1280	0.0092	-0.6249	0.0444	-0.4445	0.0864	0.0025	0.1804
3	0	0.4997	-0.1326	0.0108	-0.8102	0.0549	-0.6598	0.1054	0.0103	0.1836
3	0	0.5556	-0.1718	0.0114	-1.0704	0.0671	-1.0270	0.1274	-0.1762	0.1813
3	0	0.5995	-0.1802	0.0114	-1.1761	0.0767	-1.3335	0.1446	-0.0665	0.1772
3	0	0.6498	-0.1920	0.0108	-1.4285	0.0877	-1.7540	0.1643	0.0915	0.1778
3	0	0.6890	-0.2150	0.0103	-1.5505	0.0962	-2.1773	0.1807	0.0178	0.1772
3	0	0.7495	-0.1927	0.0091	-1.8207	0.1102	-2.9160	0.2060	0.1318	0.1819
3	0	0.7998	-0.2799	0.0082	-1.9974	0.1216	-3.5705	0.2280	0.1101	0.1804
3	0	0.8577	-0.3074	0.0094	-2.2238	0.1355	-4.4015	0.2524	0.2954	0.1902
3	0	0.9178	-0.2902	0.0152	-2.4020	0.1515	-5.3795	0.2769	-0.0780	0.1967
4	0	0.2001	-0.0159	0.0151	-0.0133	0.0067	0.0248	0.0204	-0.3716	0.1462
4	0	0.2502	0.0268	0.0075	-0.0418	0.0090	0.0270	0.0285	-1.1880	0.3562
4	0	0.3001	-0.0178	0.0105	-0.0289	0.0209	-0.0155	0.0540	-1.0907	0.3762
4	0	0.3502	-0.0390	0.0104	-0.1354	0.0380	0.1193	0.1046	-0.3371	0.3212
4	0	0.4002	-0.0676	0.0097	-0.1568	0.0540	0.0538	0.1403	-0.3177	0.3092
4	0	0.4500	-0.0845	0.0096	-0.1598	0.0693	-0.0830	0.1756	-0.4877	0.3068
4	0	0.5001	-0.1416	0.0089	-0.2336	0.0849	-0.2142	0.2080	-0.2129	0.3139
4	0	0.5560	-0.1924	0.0102	-0.2879	0.1026	-0.5589	0.2484	-0.5100	0.3113
4	0	0.6001	-0.1878	0.0109	-0.3533	0.1170	-0.8504	0.2795	-0.4927	0.3107
4	0	0.6501	-0.2319	0.0091	-0.3903	0.1331	-1.3848	0.2913	-1.0166	0.4445
4	0	0.6999	-0.2568	0.0077	-0.4830	0.1500	-1.9015	0.3255	-1.0331	0.4546
4	0	0.7500	-0.2133	0.0338	-0.5360	0.1666	-2.4836	0.3610	-0.0737	0.3143
4	0	0.8002	-0.2485	0.0302	-0.6543	0.1841	-3.1747	0.3959	-0.0400	0.3195
4	0	0.8582	-0.3003	0.0242	-0.7270	0.2050	-4.0628	0.4364	-0.4963	0.3232
4	0	0.9101	-0.3620	0.0190	-0.7261	0.2236	-4.8246	0.4736	-0.1718	0.3239
4	0	0.9728	-0.2926	0.0219	-0.7385	0.2471	-5.7387	0.5157	-0.0218	0.3546

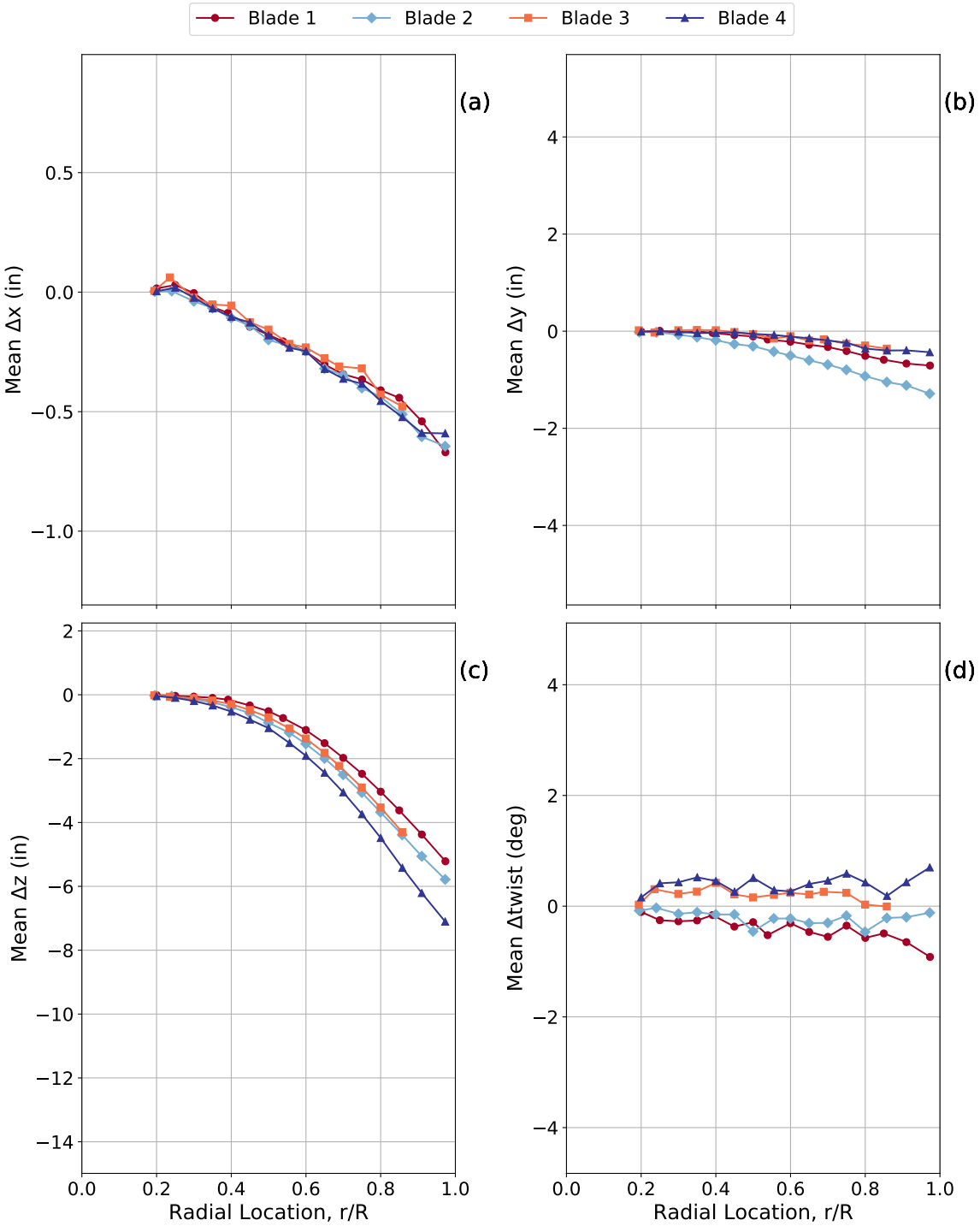


Figure 2.27-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-6. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0156	0.0033	-0.0062	0.0021	-0.0093	0.0054	-0.1035	0.0397
1	4.92	0.2499	0.0297	0.0020	0.0075	0.0032	-0.0341	0.0080	-0.2536	0.0804
1	4.92	0.2998	-0.0039	0.0014	-0.0324	0.0071	-0.0573	0.0173	-0.2736	0.0929
1	4.92	0.3498	-0.0624	0.0019	-0.0063	0.0124	-0.0974	0.0289	-0.2576	0.0793
1	4.92	0.3913	-0.0866	0.0021	-0.0347	0.0167	-0.1522	0.0395	-0.1611	0.0853
1	4.92	0.4496	-0.1446	0.0020	-0.0797	0.0225	-0.3343	0.0551	-0.3695	0.0893
1	4.92	0.4997	-0.1785	0.0027	-0.1076	0.0278	-0.5140	0.0692	-0.2888	0.0838
1	4.92	0.5387	-0.2061	0.0029	-0.1709	0.0320	-0.7294	0.0794	-0.5232	0.0906
1	4.92	0.5996	-0.2486	0.0029	-0.2170	0.0392	-1.1043	0.0950	-0.3075	0.0874
1	4.92	0.6498	-0.3031	0.0031	-0.2779	0.0447	-1.5152	0.1069	-0.4648	0.0833
1	4.92	0.6998	-0.3435	0.0030	-0.3262	0.0510	-1.9765	0.1191	-0.5539	0.0888
1	4.92	0.7500	-0.3653	0.0031	-0.4080	0.0567	-2.4755	0.1313	-0.3520	0.0894
1	4.92	0.8001	-0.4107	0.0038	-0.5082	0.0632	-3.0356	0.1446	-0.5730	0.0921
1	4.92	0.8497	-0.4419	0.0041	-0.5880	0.0700	-3.6200	0.1568	-0.4923	0.0966
1	4.92	0.9102	-0.5403	0.0054	-0.6668	0.0775	-4.3759	0.1696	-0.6490	0.1148
1	4.92	0.9734	-0.6699	0.0061	-0.7072	0.0860	-5.2150	0.1874	-0.9171	0.0960
2	4.92	0.1949	0.0029	0.0032	-0.0179	0.0015	-0.0257	0.0043	-0.0800	0.0271
2	4.92	0.2405	0.0046	0.0013	-0.0222	0.0022	-0.0452	0.0058	-0.0311	0.0656
2	4.92	0.2999	-0.0383	0.0015	-0.0709	0.0050	-0.1440	0.0141	-0.1381	0.0717
2	4.92	0.3498	-0.0668	0.0015	-0.1230	0.0092	-0.2388	0.0243	-0.1098	0.0695
2	4.92	0.3998	-0.1081	0.0019	-0.1860	0.0133	-0.3885	0.0355	-0.1492	0.0699
2	4.92	0.4496	-0.1407	0.0022	-0.2647	0.0170	-0.5740	0.0456	-0.1499	0.0698
2	4.92	0.4995	-0.1998	0.0025	-0.3084	0.0203	-0.8750	0.0550	-0.4561	0.0725
2	4.92	0.5551	-0.2244	0.0026	-0.4194	0.0243	-1.1882	0.0663	-0.2225	0.0673
2	4.92	0.5996	-0.2461	0.0025	-0.5023	0.0285	-1.5372	0.0747	-0.2228	0.0711
2	4.92	0.6497	-0.3201	0.0029	-0.6002	0.0321	-1.9949	0.0853	-0.3073	0.0682
2	4.92	0.6996	-0.3463	0.0031	-0.6883	0.0363	-2.5039	0.0954	-0.3017	0.0710
2	4.92	0.7495	-0.4011	0.0035	-0.7951	0.0404	-3.0633	0.1082	-0.1732	0.0726
2	4.92	0.7996	-0.4374	0.0039	-0.9256	0.0449	-3.6779	0.1211	-0.4639	0.0738
2	4.92	0.8578	-0.5112	0.0048	-1.0469	0.0496	-4.3881	0.1363	-0.2136	0.0815
2	4.92	0.9100	-0.6047	0.0060	-1.1163	0.0547	-5.0579	0.1508	-0.1989	0.0930
2	4.92	0.9727	-0.6447	0.0111	-1.2868	0.0619	-5.7832	0.1766	-0.1185	0.1065
3	4.92	0.1938	0.0051	0.0031	0.0179	0.0017	-0.0177	0.0035	0.0270	0.0265
3	4.92	0.2357	0.0616	0.0017	-0.0261	0.0024	-0.0622	0.0051	0.3064	0.0569
3	4.92	0.2995	-0.0221	0.0012	0.0198	0.0055	-0.1071	0.0110	0.2206	0.0674
3	4.92	0.3493	-0.0515	0.0015	0.0246	0.0095	-0.1810	0.0192	0.2636	0.0636
3	4.92	0.4000	-0.0563	0.0020	0.0195	0.0144	-0.2949	0.0284	0.4209	0.0611
3	4.92	0.4497	-0.1257	0.0025	-0.0172	0.0179	-0.4789	0.0376	0.2132	0.0603
3	4.92	0.4997	-0.1566	0.0029	-0.0628	0.0221	-0.7068	0.0463	0.1575	0.0636
3	4.92	0.5556	-0.2165	0.0028	-0.1519	0.0267	-1.0509	0.0563	0.2047	0.0629
3	4.92	0.5995	-0.2312	0.0030	-0.1030	0.0304	-1.3691	0.0630	0.2423	0.0718
3	4.92	0.6498	-0.2765	0.0028	-0.1919	0.0349	-1.8188	0.0712	0.2114	0.0624
3	4.92	0.6890	-0.3108	0.0032	-0.1680	0.0378	-2.2268	0.0776	0.2598	0.0644
3	4.92	0.7495	-0.3190	0.0034	-0.2607	0.0437	-2.9017	0.0884	0.2409	0.0691
3	4.92	0.7998	-0.4287	0.0040	-0.2952	0.0487	-3.5303	0.0985	0.0281	0.0652
3	4.92	0.8577	-0.4783	0.0045	-0.3587	0.0537	-4.3019	0.1112	-0.0058	0.0877
4	4.92	0.2001	0.0036	0.0026	-0.0084	0.0015	-0.0443	0.0041	0.1581	0.0303
4	4.92	0.2502	0.0187	0.0014	0.0000	0.0026	-0.0957	0.0071	0.4131	0.0603
4	4.92	0.3001	-0.0236	0.0013	-0.0107	0.0055	-0.1959	0.0136	0.4317	0.0701
4	4.92	0.3502	-0.0681	0.0017	-0.0386	0.0091	-0.3351	0.0237	0.5207	0.0634
4	4.92	0.4002	-0.1036	0.0022	-0.0358	0.0141	-0.5272	0.0352	0.4547	0.0580
4	4.92	0.4500	-0.1272	0.0023	-0.0232	0.0174	-0.7794	0.0461	0.2605	0.0609
4	4.92	0.5001	-0.1810	0.0027	-0.0560	0.0215	-1.0456	0.0582	0.5105	0.0586
4	4.92	0.5560	-0.2328	0.0027	-0.0777	0.0261	-1.5115	0.0704	0.2888	0.0622
4	4.92	0.6001	-0.2472	0.0030	-0.1116	0.0298	-1.9136	0.0801	0.2663	0.0615
4	4.92	0.6501	-0.3213	0.0031	-0.1449	0.0342	-2.4415	0.0893	0.4001	0.0608
4	4.92	0.6999	-0.3624	0.0030	-0.1910	0.0388	-3.0561	0.0993	0.4608	0.0678
4	4.92	0.7500	-0.3834	0.0031	-0.2379	0.0434	-3.7413	0.1094	0.5871	0.0647
4	4.92	0.8002	-0.4553	0.0037	-0.3582	0.0473	-4.4856	0.1199	0.4274	0.0718
4	4.92	0.8582	-0.5229	0.0041	-0.3978	0.0529	-5.4211	0.1319	0.1854	0.0816
4	4.92	0.9101	-0.5890	0.0040	-0.3943	0.0583	-6.2103	0.1445	0.4331	0.0866
4	4.92	0.9728	-0.5910	0.0149	-0.4336	0.0622	-7.1047	0.1585	0.6992	0.1662

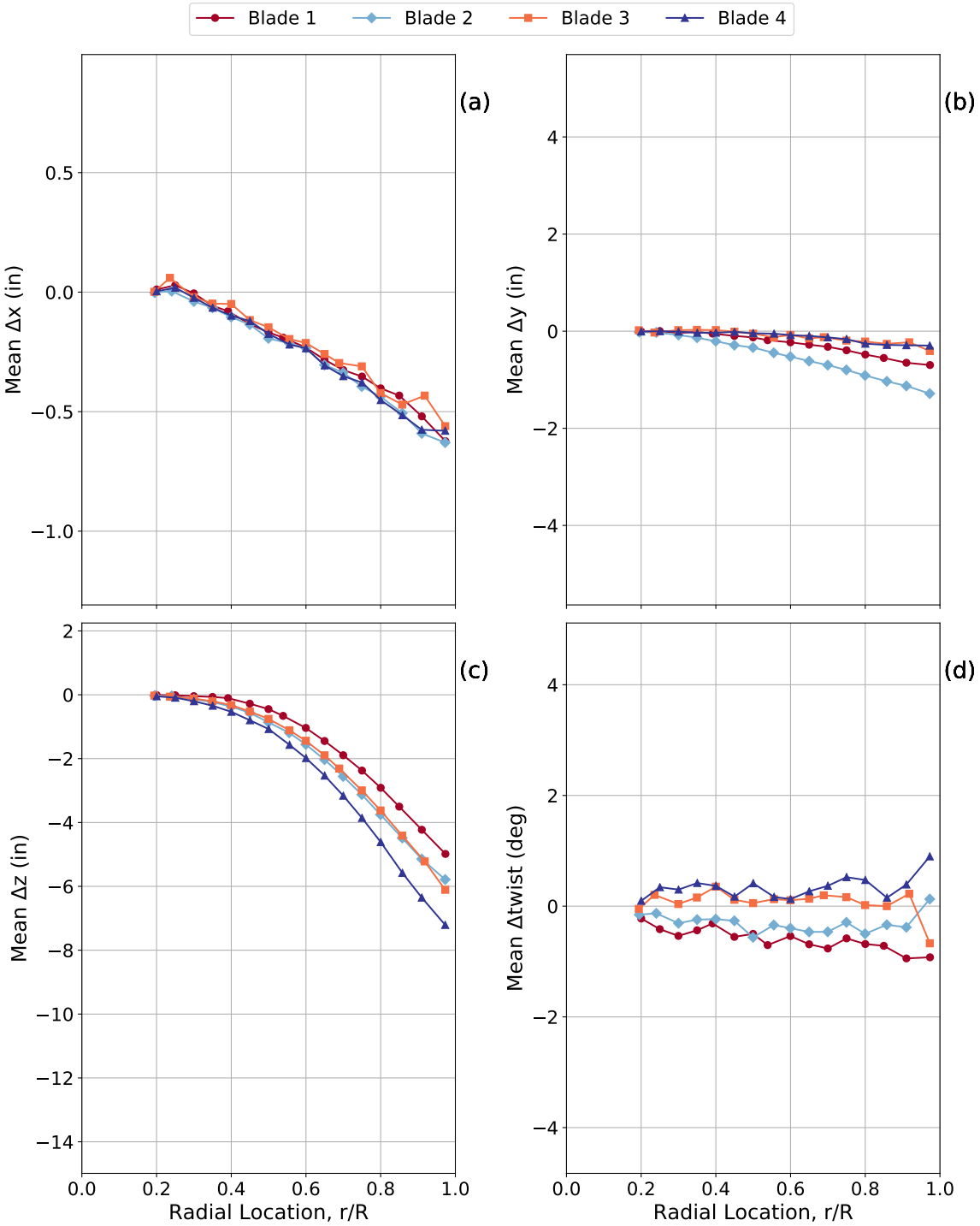


Figure 2.27-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-7. 10° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0111	0.0026	-0.0062	0.0018	-0.0076	0.0041	-0.2229	0.0290
1	9.84	0.2499	0.0288	0.0016	0.0021	0.0028	-0.0158	0.0077	-0.4154	0.0618
1	9.84	0.2998	-0.0052	0.0014	-0.0370	0.0062	-0.0428	0.0145	-0.5370	0.0681
1	9.84	0.3498	-0.0570	0.0024	-0.0149	0.0109	-0.0673	0.0246	-0.4358	0.0660
1	9.84	0.3913	-0.0797	0.0024	-0.0499	0.0148	-0.1050	0.0349	-0.3115	0.0628
1	9.84	0.4496	-0.1339	0.0027	-0.0973	0.0196	-0.2792	0.0488	-0.5544	0.0606
1	9.84	0.4997	-0.1681	0.0030	-0.1273	0.0237	-0.4490	0.0602	-0.5007	0.0622
1	9.84	0.5387	-0.1902	0.0032	-0.1850	0.0273	-0.6606	0.0691	-0.7031	0.0574
1	9.84	0.5996	-0.2318	0.0036	-0.2291	0.0327	-1.0388	0.0814	-0.5398	0.0641
1	9.84	0.6498	-0.2825	0.0033	-0.2783	0.0372	-1.4480	0.0902	-0.6883	0.0645
1	9.84	0.6998	-0.3259	0.0033	-0.3213	0.0419	-1.8933	0.0985	-0.7642	0.0767
1	9.84	0.7500	-0.3530	0.0035	-0.3936	0.0474	-2.3734	0.1085	-0.5822	0.0624
1	9.84	0.8001	-0.4024	0.0038	-0.4811	0.0528	-2.9124	0.1186	-0.6841	0.0643
1	9.84	0.8497	-0.4327	0.0045	-0.5514	0.0587	-3.5038	0.1303	-0.7163	0.0686
1	9.84	0.9102	-0.5196	0.0044	-0.6501	0.0658	-4.2275	0.1452	-0.9437	0.0829
1	9.84	0.9734	-0.6233	0.0070	-0.6969	0.0730	-4.9848	0.1611	-0.9236	0.0753
2	9.84	0.1949	-0.0020	0.0030	-0.0192	0.0015	-0.0261	0.0039	-0.1540	0.0266
2	9.84	0.2405	0.0041	0.0012	-0.0255	0.0019	-0.0356	0.0063	-0.1291	0.0583
2	9.84	0.2999	-0.0390	0.0014	-0.0785	0.0047	-0.1381	0.0139	-0.3085	0.0699
2	9.84	0.3498	-0.0654	0.0020	-0.1350	0.0081	-0.2292	0.0245	-0.2429	0.0658
2	9.84	0.3998	-0.1045	0.0025	-0.2060	0.0119	-0.3695	0.0364	-0.2347	0.0688
2	9.84	0.4496	-0.1356	0.0025	-0.2874	0.0154	-0.5639	0.0481	-0.2643	0.0678
2	9.84	0.4995	-0.1935	0.0031	-0.3367	0.0187	-0.8627	0.0591	-0.5633	0.0701
2	9.84	0.5551	-0.2140	0.0033	-0.4449	0.0224	-1.1905	0.0713	-0.3407	0.0717
2	9.84	0.5996	-0.2340	0.0034	-0.5243	0.0260	-1.5558	0.0797	-0.3980	0.0735
2	9.84	0.6497	-0.3048	0.0034	-0.6155	0.0297	-2.0315	0.0892	-0.4652	0.0762
2	9.84	0.6996	-0.3368	0.0035	-0.6979	0.0340	-2.5587	0.0977	-0.4634	0.0760
2	9.84	0.7495	-0.3948	0.0034	-0.7975	0.0382	-3.1258	0.1053	-0.2921	0.0780
2	9.84	0.7996	-0.4373	0.0038	-0.9120	0.0423	-3.7540	0.1143	-0.4991	0.0715
2	9.84	0.8578	-0.5060	0.0044	-1.0330	0.0476	-4.4864	0.1270	-0.3360	0.0789
2	9.84	0.9100	-0.5910	0.0046	-1.1261	0.0528	-5.1443	0.1401	-0.3814	0.0977
2	9.84	0.9727	-0.6294	0.0066	-1.2853	0.0585	-5.7865	0.1576	0.1286	0.1104
3	9.84	0.1938	0.0014	0.0024	0.0191	0.0015	-0.0249	0.0035	-0.0491	0.0245
3	9.84	0.2357	0.0598	0.0015	-0.0274	0.0021	-0.0585	0.0050	0.2041	0.0526
3	9.84	0.2995	-0.0208	0.0012	0.0215	0.0042	-0.1217	0.0115	0.0392	0.0627
3	9.84	0.3493	-0.0478	0.0013	0.0274	0.0080	-0.2025	0.0199	0.1564	0.0592
3	9.84	0.4000	-0.0496	0.0016	0.0224	0.0114	-0.3232	0.0297	0.3532	0.0574
3	9.84	0.4497	-0.1168	0.0018	-0.0092	0.0142	-0.5242	0.0391	0.1157	0.0593
3	9.84	0.4997	-0.1470	0.0020	-0.0503	0.0176	-0.7561	0.0486	0.0551	0.0598
3	9.84	0.5556	-0.1961	0.0017	-0.1255	0.0210	-1.1106	0.0592	0.1269	0.0609
3	9.84	0.5995	-0.2127	0.0021	-0.0770	0.0242	-1.4401	0.0669	0.1074	0.0641
3	9.84	0.6498	-0.2587	0.0024	-0.1488	0.0279	-1.8964	0.0767	0.1341	0.0634
3	9.84	0.6890	-0.2965	0.0024	-0.1229	0.0306	-2.3100	0.0840	0.1969	0.0626
3	9.84	0.7495	-0.3105	0.0027	-0.1939	0.0345	-2.9941	0.0951	0.1631	0.0634
3	9.84	0.7998	-0.4223	0.0030	-0.2130	0.0385	-3.6236	0.1038	0.0192	0.0711
3	9.84	0.8577	-0.4703	0.0033	-0.2610	0.0428	-4.4103	0.1134	0.0005	0.0733
3	9.84	0.9178	-0.4328	0.0097	-0.2281	0.0584	-5.2197	0.1233	0.2234	0.2025
3	9.84	0.9729	-0.5606	0.0072	-0.4077	0.0521	-6.1082	0.1356	-0.6710	0.1193
4	9.84	0.2001	0.0034	0.0023	-0.0069	0.0014	-0.0482	0.0038	0.0961	0.0285
4	9.84	0.2502	0.0184	0.0015	-0.0009	0.0025	-0.0915	0.0063	0.3425	0.0577
4	9.84	0.3001	-0.0237	0.0013	-0.0090	0.0046	-0.2017	0.0128	0.2991	0.0675
4	9.84	0.3502	-0.0652	0.0015	-0.0330	0.0085	-0.3436	0.0219	0.4181	0.0623
4	9.84	0.4002	-0.0984	0.0018	-0.0313	0.0124	-0.5344	0.0326	0.3659	0.0634
4	9.84	0.4500	-0.1212	0.0020	-0.0141	0.0160	-0.7991	0.0429	0.1719	0.0654
4	9.84	0.5001	-0.1749	0.0021	-0.0429	0.0199	-1.0734	0.0532	0.4133	0.0661
4	9.84	0.5560	-0.2192	0.0027	-0.0509	0.0246	-1.5685	0.0649	0.1664	0.0643
4	9.84	0.6001	-0.2349	0.0024	-0.0809	0.0283	-1.9837	0.0731	0.1281	0.0730
4	9.84	0.6501	-0.3067	0.0025	-0.0974	0.0325	-2.5323	0.0821	0.2690	0.0691
4	9.84	0.6999	-0.3516	0.0028	-0.1277	0.0373	-3.1619	0.0908	0.3676	0.0695
4	9.84	0.7500	-0.3781	0.0034	-0.1631	0.0420	-3.8576	0.0974	0.5236	0.0611
4	9.84	0.8002	-0.4516	0.0036	-0.2577	0.0477	-4.6153	0.1045	0.4725	0.0702
4	9.84	0.8582	-0.5150	0.0041	-0.2830	0.0537	-5.5790	0.1151	0.1528	0.0692
4	9.84	0.9101	-0.5758	0.0048	-0.2891	0.0596	-6.3533	0.1262	0.3906	0.0735
4	9.84	0.9728	-0.5800	0.0068	-0.2964	0.0666	-7.2085	0.1419	0.8982	0.0875

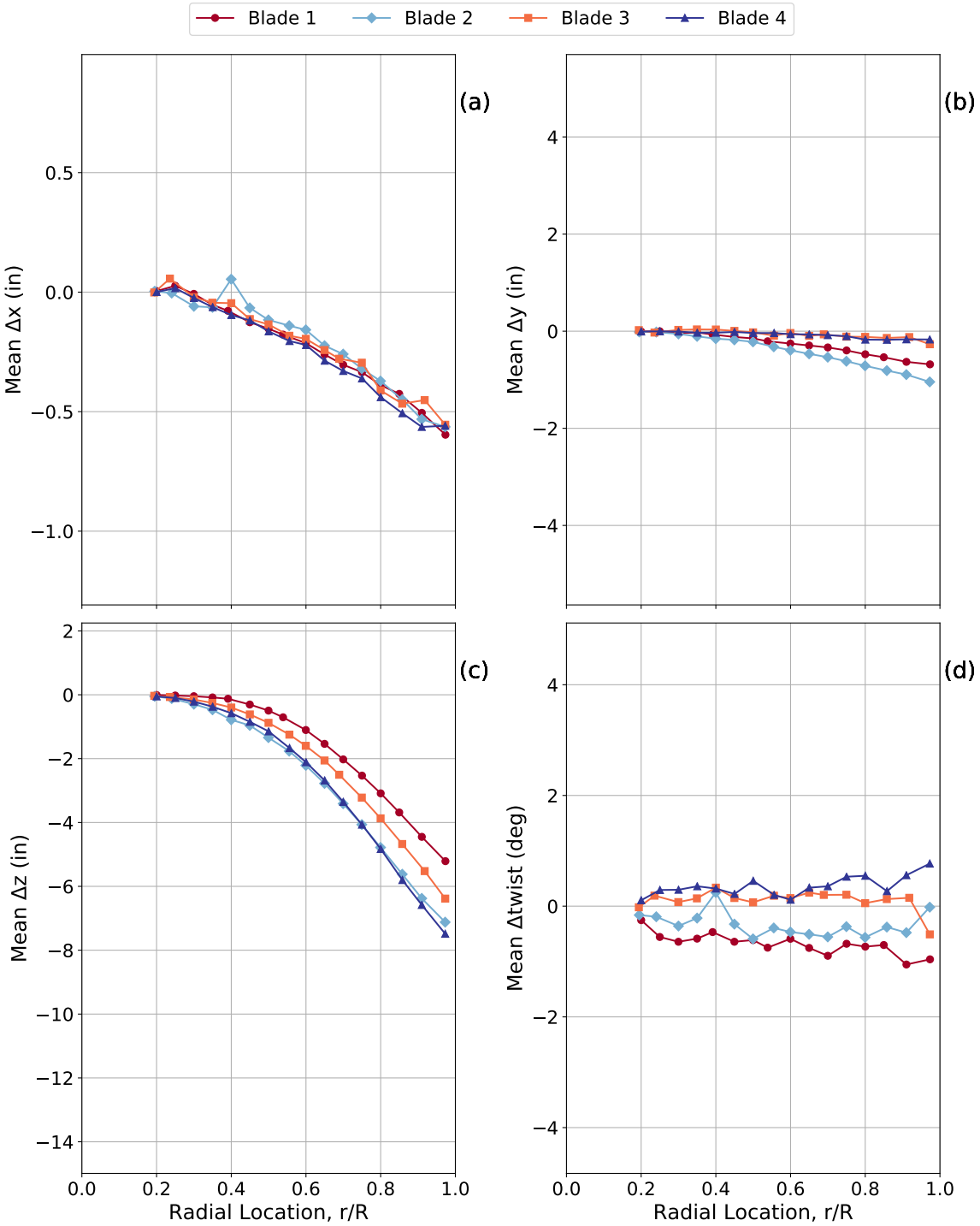


Figure 2.27-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-8. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0045	0.0029	-0.0071	0.0016	-0.0071	0.0051	-0.2527	0.0296
1	15.12	0.2499	0.0266	0.0019	-0.0026	0.0030	-0.0234	0.0084	-0.5565	0.0667
1	15.12	0.2998	-0.0073	0.0013	-0.0438	0.0057	-0.0451	0.0173	-0.6431	0.0718
1	15.12	0.3498	-0.0530	0.0019	-0.0257	0.0102	-0.0834	0.0297	-0.5865	0.0640
1	15.12	0.3913	-0.0783	0.0022	-0.0678	0.0143	-0.1250	0.0411	-0.4682	0.0660
1	15.12	0.4496	-0.1260	0.0023	-0.1191	0.0192	-0.3054	0.0575	-0.6428	0.0617
1	15.12	0.4997	-0.1529	0.0023	-0.1481	0.0238	-0.4956	0.0719	-0.6123	0.0635
1	15.12	0.5387	-0.1777	0.0024	-0.2074	0.0275	-0.7054	0.0814	-0.7497	0.0629
1	15.12	0.5996	-0.2133	0.0028	-0.2547	0.0337	-1.1041	0.0965	-0.5889	0.0729
1	15.12	0.6498	-0.2607	0.0033	-0.2943	0.0392	-1.5372	0.1089	-0.7543	0.0682
1	15.12	0.6998	-0.3039	0.0030	-0.3348	0.0446	-2.0238	0.1199	-0.8964	0.0773
1	15.12	0.7500	-0.3349	0.0035	-0.3960	0.0505	-2.5318	0.1306	-0.6791	0.0712
1	15.12	0.8001	-0.3891	0.0036	-0.4750	0.0560	-3.0879	0.1430	-0.7312	0.0703
1	15.12	0.8497	-0.4257	0.0039	-0.5363	0.0622	-3.6852	0.1563	-0.7018	0.0762
1	15.12	0.9102	-0.5049	0.0053	-0.6309	0.0700	-4.4494	0.1756	-1.0539	0.0908
1	15.12	0.9734	-0.5965	0.0056	-0.6827	0.0769	-5.2110	0.1957	-0.9603	0.0845
2	15.12	0.1949	0.0037	0.0023	-0.0154	0.0012	-0.0488	0.0031	-0.1606	0.0227
2	15.12	0.2405	-0.0039	0.0014	-0.0178	0.0019	-0.1185	0.0048	-0.1913	0.0449
2	15.12	0.2999	-0.0592	0.0016	-0.0563	0.0043	-0.2941	0.0109	-0.3585	0.0556
2	15.12	0.3498	-0.0636	0.0035	-0.1063	0.0075	-0.4706	0.0185	-0.2156	0.0505
2	15.12	0.3998	0.0542	0.0061	-0.1540	0.0113	-0.7839	0.0278	0.2473	0.0483
2	15.12	0.4496	-0.0659	0.0043	-0.1784	0.0227	-0.9597	0.0510	-0.3244	0.0574
2	15.12	0.4995	-0.1162	0.0043	-0.2199	0.0263	-1.3416	0.0610	-0.5909	0.0541
2	15.12	0.5551	-0.1403	0.0043	-0.3210	0.0303	-1.7649	0.0722	-0.3934	0.0540
2	15.12	0.5996	-0.1577	0.0042	-0.3924	0.0332	-2.2120	0.0812	-0.4669	0.0551
2	15.12	0.6497	-0.2240	0.0048	-0.4667	0.0372	-2.7766	0.0902	-0.5080	0.0604
2	15.12	0.6996	-0.2593	0.0046	-0.5351	0.0416	-3.4106	0.0989	-0.5552	0.0575
2	15.12	0.7495	-0.3201	0.0047	-0.6185	0.0454	-4.0652	0.1064	-0.3696	0.0595
2	15.12	0.7996	-0.3720	0.0048	-0.7132	0.0495	-4.7816	0.1137	-0.5644	0.0669
2	15.12	0.8578	-0.4495	0.0051	-0.8112	0.0545	-5.6204	0.1227	-0.3778	0.0617
2	15.12	0.9100	-0.5315	0.0056	-0.8938	0.0594	-6.3769	0.1301	-0.4783	0.0780
2	15.12	0.9727	-0.5636	0.0057	-1.0436	0.0646	-7.1216	0.1403	-0.0179	0.0717
3	15.12	0.1938	-0.0014	0.0027	0.0214	0.0014	-0.0328	0.0033	-0.0199	0.0207
3	15.12	0.2357	0.0567	0.0015	-0.0281	0.0020	-0.0700	0.0054	0.1899	0.0419
3	15.12	0.2995	-0.0208	0.0013	0.0266	0.0049	-0.1485	0.0118	0.0735	0.0499
3	15.12	0.3493	-0.0442	0.0015	0.0364	0.0080	-0.2563	0.0200	0.1409	0.0512
3	15.12	0.4000	-0.0462	0.0018	0.0342	0.0124	-0.3993	0.0305	0.3346	0.0533
3	15.12	0.4497	-0.1127	0.0020	0.0058	0.0158	-0.6155	0.0421	0.1474	0.0553
3	15.12	0.4997	-0.1351	0.0024	-0.0241	0.0190	-0.8786	0.0538	0.0688	0.0535
3	15.12	0.5556	-0.1826	0.0024	-0.0907	0.0233	-1.2485	0.0676	0.1884	0.0558
3	15.12	0.5995	-0.1952	0.0028	-0.0374	0.0264	-1.5986	0.0777	0.1453	0.0550
3	15.12	0.6498	-0.2422	0.0028	-0.0972	0.0301	-2.0585	0.0897	0.2449	0.0539
3	15.12	0.6890	-0.2787	0.0030	-0.0652	0.0333	-2.5046	0.0987	0.2036	0.0517
3	15.12	0.7495	-0.2952	0.0032	-0.1122	0.0380	-3.2205	0.1099	0.2063	0.0537
3	15.12	0.7998	-0.4113	0.0037	-0.1173	0.0417	-3.8705	0.1193	0.0547	0.0546
3	15.12	0.8577	-0.4665	0.0043	-0.1392	0.0460	-4.6738	0.1309	0.1282	0.0632
3	15.12	0.9178	-0.4517	0.0049	-0.1209	0.0510	-5.5218	0.1453	0.1507	0.0774
3	15.12	0.9729	-0.5546	0.0053	-0.2686	0.0550	-6.3836	0.1630	-0.5096	0.0664
4	15.12	0.2001	0.0006	0.0020	-0.0057	0.0013	-0.0518	0.0036	0.1067	0.0237
4	15.12	0.2502	0.0165	0.0015	-0.0032	0.0021	-0.1016	0.0059	0.2923	0.0501
4	15.12	0.3001	-0.0246	0.0012	-0.0081	0.0046	-0.2145	0.0125	0.2963	0.0572
4	15.12	0.3502	-0.0628	0.0021	-0.0314	0.0078	-0.3745	0.0210	0.3594	0.0544
4	15.12	0.4002	-0.0959	0.0027	-0.0315	0.0116	-0.5773	0.0317	0.3179	0.0573
4	15.12	0.4500	-0.1184	0.0033	-0.0152	0.0150	-0.8470	0.0419	0.2208	0.0580
4	15.12	0.5001	-0.1641	0.0038	-0.0380	0.0188	-1.1467	0.0528	0.4576	0.0628
4	15.12	0.5560	-0.2046	0.0035	-0.0377	0.0230	-1.6699	0.0653	0.2034	0.0648
4	15.12	0.6001	-0.2212	0.0039	-0.0622	0.0263	-2.1115	0.0744	0.1159	0.0706
4	15.12	0.6501	-0.2868	0.0040	-0.0657	0.0305	-2.6843	0.0845	0.3337	0.0711
4	15.12	0.6999	-0.3298	0.0041	-0.0815	0.0346	-3.3553	0.0943	0.3591	0.0669
4	15.12	0.7500	-0.3610	0.0047	-0.1029	0.0396	-4.0680	0.1029	0.5320	0.0762
4	15.12	0.8002	-0.4394	0.0049	-0.1739	0.0443	-4.8301	0.1117	0.5491	0.0759
4	15.12	0.8582	-0.5067	0.0056	-0.1769	0.0505	-5.8030	0.1226	0.2709	0.0744
4	15.12	0.9101	-0.5639	0.0068	-0.1677	0.0554	-6.5822	0.1336	0.5590	0.0718
4	15.12	0.9728	-0.5590	0.0078	-0.1703	0.0625	-7.4857	0.1484	0.7691	0.0863

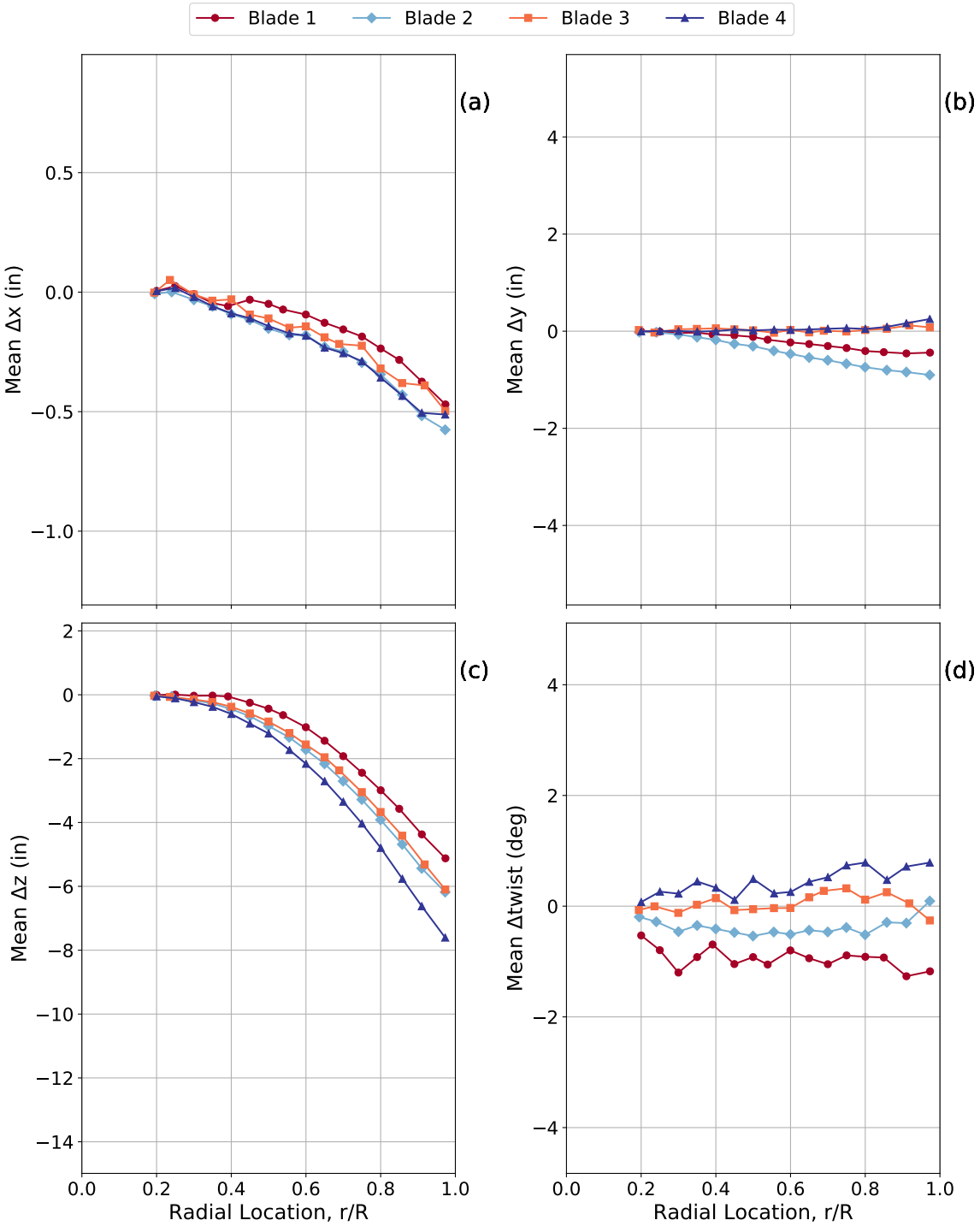


Figure 2.27-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-9. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0051	0.0033	-0.0048	0.0014	-0.0041	0.0041	-0.5292	0.0305
1	29.88	0.2499	0.0253	0.0016	-0.0090	0.0020	0.0044	0.0063	-0.7945	0.0583
1	29.88	0.2998	-0.0084	0.0014	-0.0381	0.0048	-0.0301	0.0130	-1.1993	0.0694
1	29.88	0.3498	-0.0455	0.0023	-0.0277	0.0082	-0.0259	0.0220	-0.9198	0.0661
1	29.88	0.3913	-0.0586	0.0036	-0.0684	0.0111	-0.0535	0.0298	-0.6929	0.0699
1	29.88	0.4496	-0.0315	0.0124	-0.0860	0.0274	-0.2498	0.0555	-1.0456	0.0724
1	29.88	0.4997	-0.0491	0.0124	-0.1184	0.0317	-0.4368	0.0640	-0.9199	0.0771
1	29.88	0.5387	-0.0727	0.0124	-0.1754	0.0350	-0.6370	0.0719	-1.0546	0.0767
1	29.88	0.5996	-0.0937	0.0130	-0.2310	0.0404	-1.0164	0.0821	-0.7993	0.0784
1	29.88	0.6498	-0.1282	0.0119	-0.2641	0.0451	-1.4403	0.0921	-0.9410	0.0820
1	29.88	0.6998	-0.1560	0.0118	-0.3055	0.0492	-1.9232	0.1018	-1.0486	0.0869
1	29.88	0.7500	-0.1858	0.0120	-0.3466	0.0536	-2.4423	0.1137	-0.8892	0.0794
1	29.88	0.8001	-0.2358	0.0120	-0.4078	0.0584	-2.9906	0.1249	-0.9147	0.0801
1	29.88	0.8497	-0.2835	0.0121	-0.4310	0.0633	-3.5711	0.1384	-0.9275	0.0812
1	29.88	0.9102	-0.3744	0.0123	-0.4579	0.0690	-4.3720	0.1551	-1.2659	0.0801
1	29.88	0.9734	-0.4697	0.0118	-0.4409	0.0758	-5.1225	0.1741	-1.1768	0.0858
2	29.88	0.1949	-0.0069	0.0022	-0.0179	0.0012	-0.0309	0.0036	-0.1948	0.0267
2	29.88	0.2405	0.0007	0.0019	-0.0219	0.0017	-0.0548	0.0059	-0.2813	0.0595
2	29.88	0.2999	-0.0321	0.0016	-0.0660	0.0040	-0.1726	0.0124	-0.4600	0.0687
2	29.88	0.3498	-0.0594	0.0021	-0.1235	0.0071	-0.2710	0.0209	-0.3486	0.0664
2	29.88	0.3998	-0.0920	0.0026	-0.1796	0.0104	-0.4500	0.0316	-0.4115	0.0654
2	29.88	0.4496	-0.1157	0.0026	-0.2602	0.0137	-0.6718	0.0425	-0.4750	0.0681
2	29.88	0.4995	-0.1520	0.0027	-0.3081	0.0170	-0.9778	0.0550	-0.5396	0.0725
2	29.88	0.5551	-0.1792	0.0032	-0.4037	0.0213	-1.3326	0.0703	-0.4669	0.0683
2	29.88	0.5996	-0.1804	0.0034	-0.4681	0.0250	-1.7186	0.0818	-0.5084	0.0703
2	29.88	0.6497	-0.2286	0.0032	-0.5425	0.0292	-2.1624	0.0947	-0.4349	0.0746
2	29.88	0.6996	-0.2489	0.0036	-0.5986	0.0337	-2.7038	0.1076	-0.4658	0.0772
2	29.88	0.7495	-0.2951	0.0040	-0.6699	0.0384	-3.2810	0.1198	-0.3856	0.0708
2	29.88	0.7996	-0.3442	0.0044	-0.7419	0.0432	-3.9174	0.1293	-0.5166	0.0729
2	29.88	0.8578	-0.4296	0.0044	-0.8019	0.0495	-4.6850	0.1394	-0.2927	0.0742
2	29.88	0.9100	-0.5173	0.0048	-0.8414	0.0551	-5.4365	0.1472	-0.3060	0.0724
2	29.88	0.9727	-0.5758	0.0061	-0.9014	0.0618	-6.1799	0.1561	0.0921	0.0724
3	29.88	0.1938	-0.0020	0.0023	0.0243	0.0013	-0.0291	0.0035	-0.0683	0.0246
3	29.88	0.2357	0.0509	0.0015	-0.0278	0.0016	-0.0675	0.0051	-0.0027	0.0556
3	29.88	0.2995	-0.0095	0.0014	0.0402	0.0040	-0.1480	0.0118	-0.1211	0.0671
3	29.88	0.3493	-0.0357	0.0016	0.0476	0.0072	-0.2268	0.0210	0.0262	0.0624
3	29.88	0.4000	-0.0303	0.0020	0.0589	0.0104	-0.3758	0.0311	0.1457	0.0625
3	29.88	0.4497	-0.0938	0.0020	0.0385	0.0132	-0.5862	0.0412	-0.0720	0.0665
3	29.88	0.4997	-0.1100	0.0023	0.0171	0.0166	-0.8387	0.0522	-0.0544	0.0701
3	29.88	0.5556	-0.1489	0.0029	-0.0318	0.0204	-1.1974	0.0658	-0.0353	0.0685
3	29.88	0.5995	-0.1432	0.0033	0.0259	0.0236	-1.5557	0.0760	-0.0332	0.0711
3	29.88	0.6498	-0.1889	0.0034	-0.0248	0.0274	-1.9571	0.0885	0.1600	0.0684
3	29.88	0.6890	-0.2168	0.0038	0.0093	0.0306	-2.3666	0.0980	0.2764	0.0725
3	29.88	0.7495	-0.2240	0.0036	-0.0061	0.0355	-3.0491	0.1124	0.3221	0.0709
3	29.88	0.7998	-0.3193	0.0043	0.0238	0.0397	-3.6721	0.1237	0.1180	0.0715
3	29.88	0.8577	-0.3805	0.0043	0.0501	0.0449	-4.4127	0.1371	0.2517	0.0785
3	29.88	0.9178	-0.3903	0.0048	0.1204	0.0503	-5.3132	0.1512	0.0500	0.0749
3	29.88	0.9729	-0.4970	0.0058	0.0791	0.0557	-6.0974	0.1655	-0.2582	0.0768
4	29.88	0.2001	0.0045	0.0023	-0.0033	0.0012	-0.0525	0.0037	0.0738	0.0264
4	29.88	0.2502	0.0172	0.0015	0.0043	0.0018	-0.1103	0.0064	0.2620	0.0485
4	29.88	0.3001	-0.0204	0.0012	0.0030	0.0039	-0.2309	0.0127	0.2257	0.0598
4	29.88	0.3502	-0.0592	0.0015	-0.0090	0.0071	-0.3775	0.0218	0.4455	0.0585
4	29.88	0.4002	-0.0887	0.0017	0.0026	0.0102	-0.6023	0.0327	0.3327	0.0562
4	29.88	0.4500	-0.1093	0.0025	0.0342	0.0132	-0.9043	0.0436	0.1130	0.0570
4	29.88	0.5001	-0.1423	0.0028	0.0163	0.0167	-1.2137	0.0563	0.4907	0.0629
4	29.88	0.5560	-0.1728	0.0028	0.0305	0.0207	-1.7307	0.0703	0.2304	0.0630
4	29.88	0.6001	-0.1820	0.0032	0.0269	0.0244	-2.1626	0.0821	0.2566	0.0612
4	29.88	0.6501	-0.2320	0.0035	0.0362	0.0282	-2.7084	0.0948	0.4395	0.0637
4	29.88	0.6999	-0.2557	0.0035	0.0498	0.0320	-3.3505	0.1059	0.5225	0.0631
4	29.88	0.7500	-0.2891	0.0036	0.0624	0.0359	-4.0348	0.1168	0.7358	0.0671
4	29.88	0.8002	-0.3578	0.0038	0.0467	0.0404	-4.7968	0.1275	0.7876	0.0639
4	29.88	0.8582	-0.4340	0.0043	0.0893	0.0458	-5.7654	0.1388	0.4740	0.0665
4	29.88	0.9101	-0.5052	0.0046	0.1647	0.0507	-6.6232	0.1481	0.7154	0.0627
4	29.88	0.9728	-0.5122	0.0052	0.2508	0.0568	-7.6062	0.1615	0.7866	0.0632

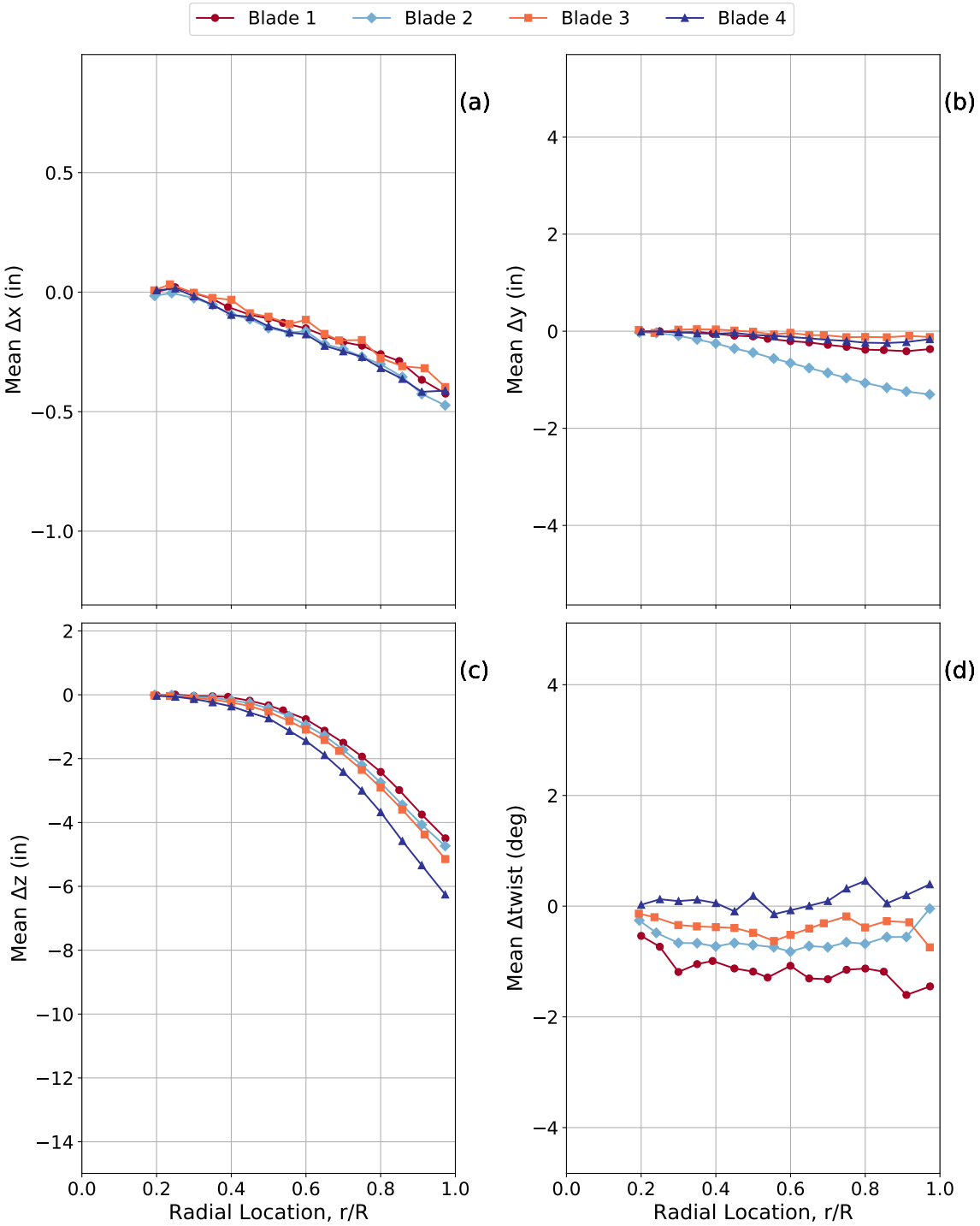


Figure 2.27-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-10. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0012	0.0057	-0.0041	0.0041	-0.0108	0.0109	-0.5366	0.0640
1	45	0.2499	0.0205	0.0023	-0.0024	0.0044	0.0046	0.0123	-0.7334	0.1685
1	45	0.2998	-0.0038	0.0019	-0.0308	0.0138	-0.0370	0.0328	-1.1886	0.1691
1	45	0.3498	-0.0279	0.0024	-0.0140	0.0235	-0.0457	0.0544	-1.0464	0.1667
1	45	0.3913	-0.0624	0.0026	-0.0462	0.0318	-0.0660	0.0724	-0.9903	0.1670
1	45	0.4496	-0.0943	0.0028	-0.0914	0.0430	-0.1861	0.0976	-1.1253	0.1652
1	45	0.4997	-0.1105	0.0030	-0.1077	0.0530	-0.3311	0.1198	-1.1825	0.1657
1	45	0.5387	-0.1286	0.0030	-0.1561	0.0610	-0.4880	0.1373	-1.2890	0.1643
1	45	0.5996	-0.1513	0.0032	-0.2043	0.0738	-0.7641	0.1644	-1.0773	0.1644
1	45	0.6498	-0.1821	0.0033	-0.2315	0.0843	-1.1237	0.1873	-1.3051	0.1622
1	45	0.6998	-0.2092	0.0037	-0.2808	0.0952	-1.5026	0.2088	-1.3193	0.1650
1	45	0.7500	-0.2240	0.0038	-0.3219	0.1061	-1.9361	0.2316	-1.1491	0.1604
1	45	0.8001	-0.2594	0.0044	-0.3803	0.1171	-2.4168	0.2544	-1.1268	0.1623
1	45	0.8497	-0.2883	0.0049	-0.3889	0.1283	-2.9852	0.2769	-1.1832	0.1650
1	45	0.9102	-0.3668	0.0055	-0.4121	0.1424	-3.7508	0.3051	-1.6039	0.1654
1	45	0.9734	-0.4246	0.0066	-0.3683	0.1570	-4.4956	0.3367	-1.4489	0.1685
2	45	0.1949	-0.0153	0.0037	-0.0239	0.0030	-0.0057	0.0075	-0.2576	0.0333
2	45	0.2405	-0.0038	0.0018	-0.0329	0.0024	-0.0100	0.0052	-0.4817	0.1136
2	45	0.2999	-0.0247	0.0018	-0.0928	0.0086	-0.0630	0.0192	-0.6639	0.1042
2	45	0.3498	-0.0528	0.0018	-0.1705	0.0146	-0.0939	0.0302	-0.6691	0.1059
2	45	0.3998	-0.0940	0.0026	-0.2520	0.0207	-0.1704	0.0421	-0.7263	0.1047
2	45	0.4496	-0.1124	0.0029	-0.3569	0.0266	-0.2634	0.0534	-0.6655	0.1068
2	45	0.4995	-0.1501	0.0029	-0.4404	0.0328	-0.4229	0.0650	-0.7011	0.1095
2	45	0.5551	-0.1692	0.0029	-0.5620	0.0398	-0.6710	0.0790	-0.7410	0.1054
2	45	0.5996	-0.1637	0.0032	-0.6551	0.0457	-0.9501	0.0903	-0.8210	0.1058
2	45	0.6497	-0.2167	0.0028	-0.7578	0.0523	-1.2822	0.1026	-0.7204	0.1113
2	45	0.6996	-0.2379	0.0028	-0.8582	0.0592	-1.7193	0.1155	-0.7415	0.1065
2	45	0.7495	-0.2700	0.0029	-0.9645	0.0658	-2.2024	0.1274	-0.6520	0.1097
2	45	0.7996	-0.3013	0.0029	-1.0660	0.0730	-2.7472	0.1399	-0.6793	0.1063
2	45	0.8578	-0.3546	0.0031	-1.1630	0.0810	-3.4479	0.1548	-0.5581	0.1080
2	45	0.9100	-0.4259	0.0032	-1.2423	0.0884	-4.0689	0.1693	-0.5558	0.1076
2	45	0.9727	-0.4735	0.0039	-1.3017	0.0971	-4.7337	0.1873	-0.0443	0.1092
3	45	0.1938	0.0074	0.0035	0.0265	0.0026	-0.0219	0.0068	-0.1356	0.0337
3	45	0.2357	0.0327	0.0019	-0.0363	0.0023	-0.0389	0.0061	-0.1991	0.0986
3	45	0.2995	-0.0026	0.0015	0.0317	0.0075	-0.0939	0.0191	-0.3409	0.1022
3	45	0.3493	-0.0240	0.0018	0.0402	0.0133	-0.1512	0.0326	-0.3663	0.0949
3	45	0.4000	-0.0319	0.0025	0.0358	0.0191	-0.2394	0.0467	-0.3789	0.0961
3	45	0.4497	-0.0882	0.0027	0.0126	0.0247	-0.3558	0.0603	-0.3928	0.0975
3	45	0.4997	-0.1028	0.0029	-0.0116	0.0306	-0.5317	0.0743	-0.4811	0.0971
3	45	0.5556	-0.1336	0.0027	-0.0664	0.0373	-0.8251	0.0891	-0.6290	0.1022
3	45	0.5995	-0.1157	0.0030	-0.0329	0.0427	-1.0902	0.1012	-0.5185	0.0989
3	45	0.6498	-0.1747	0.0032	-0.0814	0.0491	-1.4184	0.1139	-0.4045	0.1029
3	45	0.6890	-0.2019	0.0031	-0.0819	0.0540	-1.7573	0.1249	-0.3091	0.1015
3	45	0.7495	-0.2004	0.0035	-0.1226	0.0617	-2.3521	0.1417	-0.1860	0.1016
3	45	0.7998	-0.2758	0.0036	-0.1187	0.0683	-2.9052	0.1574	-0.3848	0.1031
3	45	0.8577	-0.3098	0.0039	-0.1245	0.0765	-3.5938	0.1764	-0.2707	0.1055
3	45	0.9178	-0.3183	0.0043	-0.0966	0.0850	-4.3770	0.1984	-0.2913	0.1048
3	45	0.9729	-0.3969	0.0050	-0.1203	0.0930	-5.1440	0.2212	-0.7446	0.1042
4	45	0.2001	0.0078	0.0028	-0.0085	0.0014	-0.0322	0.0030	0.0246	0.0311
4	45	0.2502	0.0148	0.0016	-0.0037	0.0018	-0.0627	0.0058	0.1252	0.0691
4	45	0.3001	-0.0175	0.0018	-0.0200	0.0046	-0.1344	0.0103	0.0916	0.0768
4	45	0.3502	-0.0537	0.0022	-0.0431	0.0075	-0.2370	0.0181	0.1168	0.0758
4	45	0.4002	-0.0948	0.0024	-0.0533	0.0111	-0.3644	0.0272	0.0557	0.0744
4	45	0.4500	-0.1043	0.0029	-0.0347	0.0140	-0.5572	0.0362	-0.0941	0.0748
4	45	0.5001	-0.1433	0.0028	-0.0768	0.0175	-0.7392	0.0464	0.1864	0.0774
4	45	0.5560	-0.1690	0.0032	-0.0952	0.0215	-1.1324	0.0568	-0.1449	0.0787
4	45	0.6001	-0.1767	0.0035	-0.1197	0.0246	-1.4455	0.0654	-0.0739	0.0806
4	45	0.6501	-0.2245	0.0038	-0.1472	0.0283	-1.8898	0.0755	0.0067	0.0800
4	45	0.6999	-0.2477	0.0034	-0.1784	0.0325	-2.4146	0.0853	0.0923	0.0863
4	45	0.7500	-0.2712	0.0036	-0.2003	0.0362	-3.0015	0.0961	0.3189	0.0837
4	45	0.8002	-0.3176	0.0035	-0.2369	0.0407	-3.6785	0.1071	0.4585	0.0863
4	45	0.8582	-0.3630	0.0038	-0.2437	0.0458	-4.5814	0.1205	0.0514	0.0857
4	45	0.9101	-0.4170	0.0040	-0.2241	0.0501	-5.3412	0.1321	0.1994	0.0874
4	45	0.9728	-0.4122	0.0050	-0.1647	0.0555	-6.2571	0.1473	0.3944	0.0903

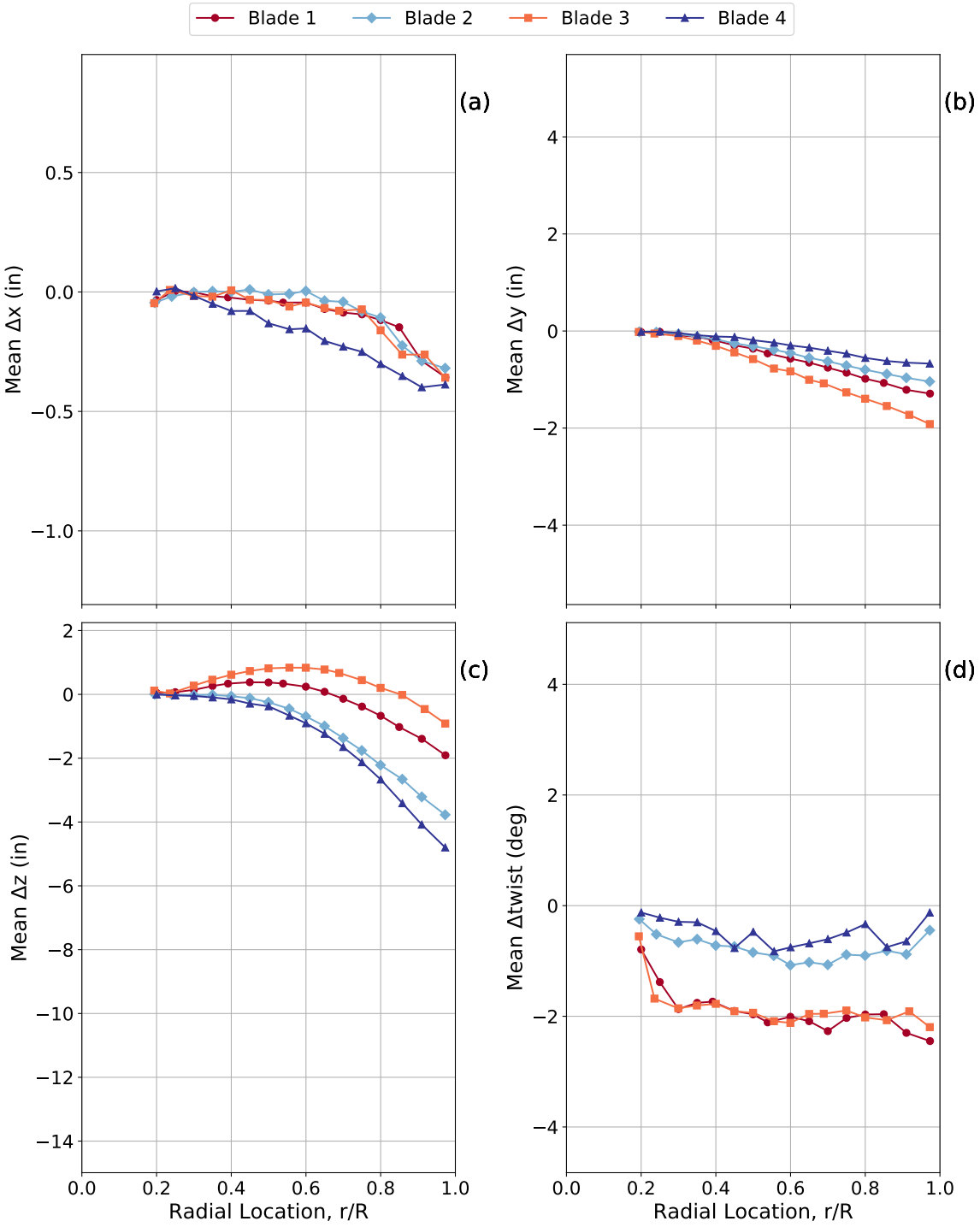


Figure 2.27-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-11. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0337	0.0032	-0.0228	0.0034	0.0481	0.0093	-0.7923	0.0476
1	60.12	0.2499	0.0034	0.0025	-0.0179	0.0041	0.0694	0.0110	-1.3813	0.1304
1	60.12	0.2998	-0.0008	0.0034	-0.0903	0.0107	0.1407	0.0286	-1.8695	0.1220
1	60.12	0.3498	-0.0178	0.0053	-0.1189	0.0171	0.2618	0.0460	-1.7569	0.1257
1	60.12	0.3913	-0.0225	0.0073	-0.1832	0.0233	0.3370	0.0622	-1.7352	0.1224
1	60.12	0.4496	-0.0329	0.0100	-0.2951	0.0318	0.3798	0.0836	-1.9038	0.1225
1	60.12	0.4997	-0.0362	0.0129	-0.3644	0.0392	0.3738	0.1030	-1.9645	0.1162
1	60.12	0.5387	-0.0444	0.0152	-0.4610	0.0454	0.3386	0.1182	-2.1094	0.1102
1	60.12	0.5996	-0.0440	0.0183	-0.5688	0.0546	0.2411	0.1412	-2.0086	0.1183
1	60.12	0.6498	-0.0710	0.0203	-0.6508	0.0624	0.0813	0.1607	-2.0887	0.1196
1	60.12	0.6998	-0.0864	0.0223	-0.7554	0.0707	-0.1387	0.1802	-2.2678	0.1391
1	60.12	0.7500	-0.0939	0.0253	-0.8595	0.0786	-0.3822	0.2019	-2.0296	0.1313
1	60.12	0.8001	-0.1179	0.0309	-0.9835	0.0911	-0.6716	0.2243	-1.9677	0.2697
1	60.12	0.8497	-0.1477	0.0280	-1.0699	0.0965	-1.0240	0.2370	-1.9621	0.1682
1	60.12	0.9102	-0.2888	0.0105	-1.2118	0.1281	-1.3929	0.2169	-2.2995	0.1286
1	60.12	0.9734	-0.3569	0.0107	-1.2902	0.1391	-1.9088	0.2390	-2.4477	0.1299
2	60.12	0.1949	-0.0448	0.0052	-0.0155	0.0038	0.0055	0.0093	-0.2435	0.0484
2	60.12	0.2405	-0.0188	0.0017	-0.0249	0.0027	-0.0049	0.0080	-0.5174	0.1410
2	60.12	0.2999	-0.0011	0.0013	-0.0615	0.0112	-0.0234	0.0261	-0.6637	0.1452
2	60.12	0.3498	0.0030	0.0022	-0.1170	0.0193	-0.0133	0.0441	-0.6065	0.1418
2	60.12	0.3998	0.0008	0.0034	-0.1718	0.0274	-0.0571	0.0621	-0.7211	0.1433
2	60.12	0.4496	0.0101	0.0043	-0.2557	0.0357	-0.1182	0.0798	-0.7391	0.1436
2	60.12	0.4995	-0.0104	0.0055	-0.3136	0.0445	-0.2468	0.0979	-0.8459	0.1425
2	60.12	0.5551	-0.0080	0.0065	-0.3875	0.0540	-0.4515	0.1178	-0.9037	0.1466
2	60.12	0.5996	0.0040	0.0072	-0.4535	0.0622	-0.6888	0.1349	-1.0755	0.1393
2	60.12	0.6497	-0.0369	0.0188	-0.5538	0.0445	-0.9931	0.1526	-1.0236	0.1513
2	60.12	0.6996	-0.0414	0.0205	-0.6249	0.0521	-1.3697	0.1728	-1.0688	0.1519
2	60.12	0.7495	-0.0815	0.0217	-0.7123	0.0594	-1.7597	0.1907	-0.8855	0.1554
2	60.12	0.7996	-0.1070	0.0213	-0.7979	0.0663	-2.2168	0.2118	-0.9021	0.1459
2	60.12	0.8578	-0.2244	0.0052	-0.8864	0.0764	-2.6585	0.2537	-0.8138	0.1417
2	60.12	0.9100	-0.2887	0.0053	-0.9639	0.0831	-3.2119	0.2755	-0.8805	0.1448
2	60.12	0.9727	-0.3190	0.0051	-1.0417	0.0917	-3.7733	0.3051	-0.4445	0.1443
3	60.12	0.1938	-0.0469	0.0033	-0.0195	0.0031	0.1182	0.0083	-0.5547	0.0366
3	60.12	0.2357	0.0084	0.0024	-0.0512	0.0028	0.0284	0.0070	-1.6803	0.1115
3	60.12	0.2995	-0.0167	0.0034	-0.1048	0.0095	0.2743	0.0226	-1.8559	0.1169
3	60.12	0.3493	-0.0197	0.0061	-0.1972	0.0172	0.4590	0.0379	-1.8048	0.1148
3	60.12	0.4000	0.0068	0.0086	-0.3056	0.0250	0.6162	0.0535	-1.7745	0.1093
3	60.12	0.4497	-0.0324	0.0108	-0.4407	0.0319	0.7317	0.0673	-1.9085	0.1164
3	60.12	0.4997	-0.0336	0.0132	-0.5787	0.0399	0.8159	0.0826	-1.9363	0.1124
3	60.12	0.5556	-0.0609	0.0154	-0.7730	0.0490	0.8370	0.0990	-2.0888	0.1136
3	60.12	0.5995	-0.0444	0.0172	-0.8308	0.0559	0.8343	0.1112	-2.1191	0.1170
3	60.12	0.6498	-0.0672	0.0183	-1.0042	0.0645	0.7790	0.1249	-1.9576	0.1252
3	60.12	0.6890	-0.0787	0.0186	-1.0791	0.0708	0.6714	0.1369	-1.9538	0.1279
3	60.12	0.7495	-0.0729	0.0212	-1.2641	0.0807	0.4450	0.1540	-1.8953	0.1184
3	60.12	0.7998	-0.1605	0.0228	-1.3955	0.0907	0.2034	0.1711	-2.0207	0.1283
3	60.12	0.8577	-0.2622	0.0084	-1.5455	0.1055	-0.0172	0.1592	-2.0708	0.1082
3	60.12	0.9178	-0.2621	0.0085	-1.7267	0.1156	-0.4611	0.1778	-1.9107	0.1076
3	60.12	0.9729	-0.3590	0.0076	-1.9178	0.1248	-0.9144	0.1959	-2.1959	0.1139
4	60.12	0.2001	0.0024	0.0057	-0.0158	0.0031	-0.0064	0.0091	-0.1246	0.0656
4	60.12	0.2502	0.0157	0.0027	-0.0114	0.0035	-0.0330	0.0102	-0.2179	0.1668
4	60.12	0.3001	-0.0161	0.0024	-0.0419	0.0095	-0.0497	0.0265	-0.2922	0.1683
4	60.12	0.3502	-0.0496	0.0025	-0.0872	0.0165	-0.0957	0.0455	-0.3008	0.1639
4	60.12	0.4002	-0.0797	0.0022	-0.1136	0.0236	-0.1567	0.0643	-0.4601	0.1636
4	60.12	0.4500	-0.0794	0.0020	-0.1237	0.0301	-0.2900	0.0826	-0.7661	0.1613
4	60.12	0.5001	-0.1313	0.0020	-0.1897	0.0370	-0.3744	0.1015	-0.4728	0.1616
4	60.12	0.5560	-0.1561	0.0020	-0.2405	0.0449	-0.6681	0.1219	-0.8256	0.1618
4	60.12	0.6001	-0.1527	0.0023	-0.2976	0.0511	-0.9062	0.1377	-0.7529	0.1623
4	60.12	0.6501	-0.2051	0.0028	-0.3428	0.0583	-1.2360	0.1557	-0.6817	0.1647
4	60.12	0.6999	-0.2288	0.0028	-0.4069	0.0657	-1.6494	0.1738	-0.6063	0.1641
4	60.12	0.7500	-0.2507	0.0028	-0.4673	0.0734	-2.1266	0.1916	-0.4860	0.1623
4	60.12	0.8002	-0.3014	0.0032	-0.5540	0.0807	-2.6685	0.2108	-0.3334	0.1606
4	60.12	0.8582	-0.3517	0.0036	-0.6187	0.0900	-3.4112	0.2322	-0.7496	0.1620
4	60.12	0.9101	-0.3990	0.0039	-0.6517	0.0984	-4.0820	0.2506	-0.6445	0.1638
4	60.12	0.9728	-0.3875	0.0050	-0.6716	0.1086	-4.7980	0.2733	-0.1264	0.1628

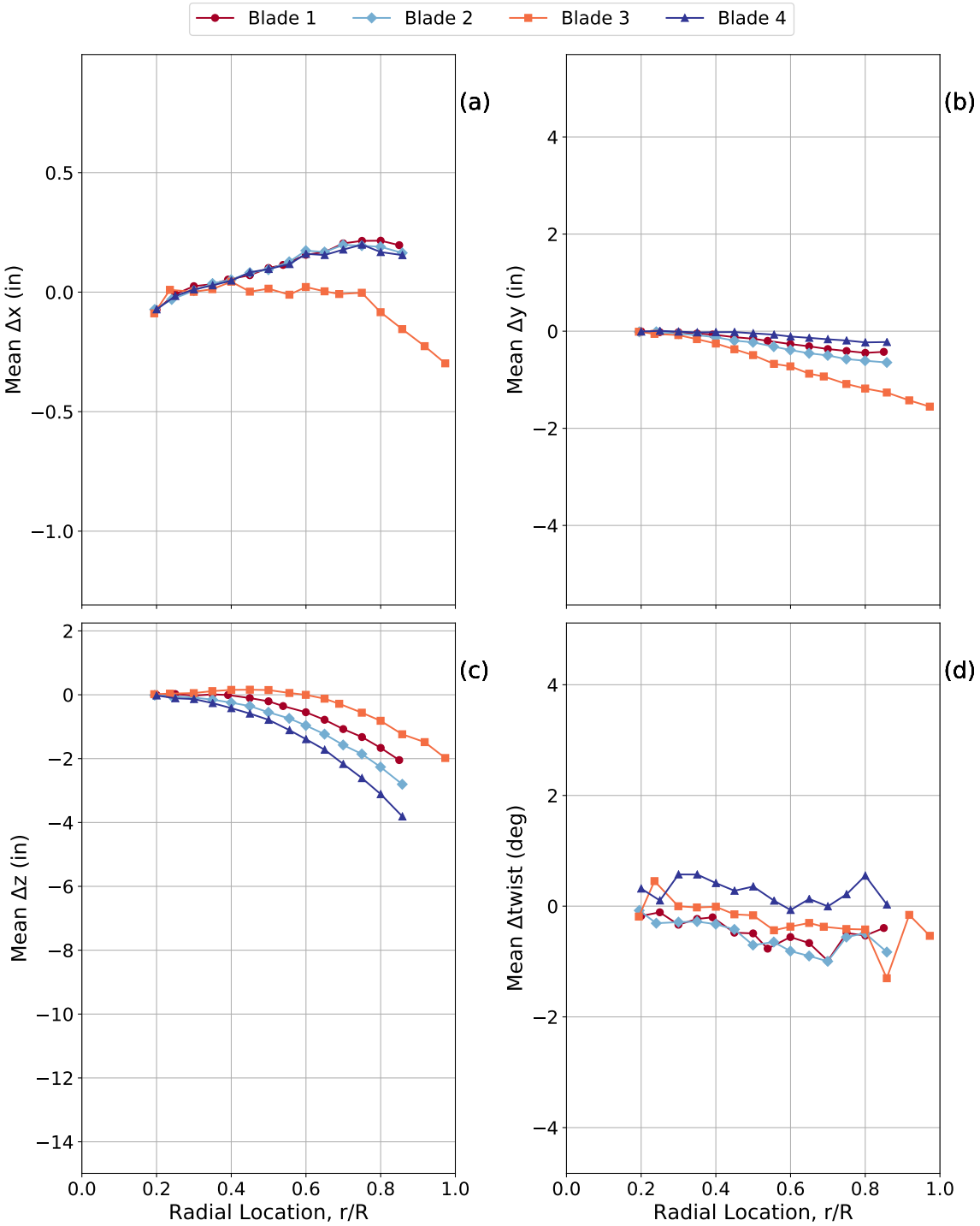


Figure 2.27-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-12. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0734	0.0011	-0.0040	0.0006	-0.0058	0.0023	-0.1759	0.0200
1	74.88	0.2499	-0.0087	0.0013	-0.0198	0.0015	0.0231	0.0051	-0.1109	0.0337
1	74.88	0.2998	0.0249	0.0008	-0.0222	0.0025	-0.0262	0.0087	-0.3348	0.0430
1	74.88	0.3498	0.0335	0.0010	-0.0475	0.0045	0.0116	0.0155	-0.2310	0.0375
1	74.88	0.3913	0.0525	0.0013	-0.0684	0.0064	-0.0074	0.0217	-0.2017	0.0394
1	74.88	0.4496	0.0709	0.0020	-0.1228	0.0093	-0.1033	0.0297	-0.4791	0.0413
1	74.88	0.4997	0.1010	0.0020	-0.1551	0.0117	-0.2036	0.0382	-0.4920	0.0458
1	74.88	0.5387	0.1139	0.0021	-0.1993	0.0142	-0.3542	0.0446	-0.7674	0.0446
1	74.88	0.5996	0.1563	0.0022	-0.2647	0.0179	-0.5471	0.0548	-0.5576	0.0455
1	74.88	0.6498	0.1676	0.0024	-0.3117	0.0216	-0.7831	0.0633	-0.6665	0.0507
1	74.88	0.6998	0.2040	0.0026	-0.3676	0.0255	-1.0745	0.0721	-0.9869	0.0592
1	74.88	0.7500	0.2145	0.0027	-0.4073	0.0301	-1.3244	0.0796	-0.4854	0.0678
1	74.88	0.8001	0.2152	0.0036	-0.4464	0.0337	-1.6638	0.0878	-0.5308	0.0998
1	74.88	0.8497	0.1965	0.0037	-0.4253	0.0386	-2.0458	0.0970	-0.3947	0.1017
2	74.88	0.1949	-0.0725	0.0011	-0.0135	0.0006	-0.0141	0.0019	-0.0777	0.0163
2	74.88	0.2405	-0.0306	0.0010	-0.0126	0.0014	-0.0404	0.0038	-0.3082	0.0281
2	74.88	0.2999	0.0063	0.0009	-0.0500	0.0027	-0.0881	0.0077	-0.2885	0.0371
2	74.88	0.3498	0.0360	0.0010	-0.0819	0.0045	-0.1518	0.0131	-0.2779	0.0301
2	74.88	0.3998	0.0520	0.0015	-0.1243	0.0071	-0.2471	0.0201	-0.3256	0.0347
2	74.88	0.4496	0.0817	0.0015	-0.1935	0.0091	-0.3538	0.0260	-0.4197	0.0427
2	74.88	0.4995	0.0938	0.0022	-0.2290	0.0114	-0.5481	0.0340	-0.7031	0.0407
2	74.88	0.5551	0.1269	0.0022	-0.3180	0.0141	-0.7400	0.0423	-0.6479	0.0478
2	74.88	0.5996	0.1736	0.0024	-0.3875	0.0165	-0.9624	0.0484	-0.8124	0.0553
2	74.88	0.6497	0.1678	0.0025	-0.4548	0.0193	-1.2328	0.0552	-0.8999	0.0565
2	74.88	0.6996	0.1975	0.0028	-0.4989	0.0223	-1.5726	0.0650	-0.9965	0.0692
2	74.88	0.7495	0.1944	0.0033	-0.5740	0.0255	-1.8550	0.0729	-0.5587	0.0666
2	74.88	0.7996	0.1897	0.0036	-0.6083	0.0291	-2.2622	0.0853	-0.4893	0.0880
2	74.88	0.8578	0.1641	0.0055	-0.6442	0.0338	-2.8032	0.0982	-0.8288	0.1026
3	74.88	0.1938	-0.0888	0.0032	-0.0108	0.0021	0.0174	0.0036	-0.1884	0.0710
3	74.88	0.2357	0.0097	0.0028	-0.0553	0.0051	0.0354	0.0126	0.4524	0.0653
3	74.88	0.2995	0.0014	0.0021	-0.0802	0.0066	0.0528	0.0128	-0.0015	0.1219
3	74.88	0.3493	0.0124	0.0039	-0.1638	0.0140	0.1141	0.0261	-0.0228	0.1008
3	74.88	0.4000	0.0437	0.0054	-0.2541	0.0204	0.1532	0.0390	-0.0104	0.1002
3	74.88	0.4497	0.0020	0.0070	-0.3720	0.0256	0.1585	0.0494	-0.1479	0.1049
3	74.88	0.4997	0.0145	0.0080	-0.4924	0.0318	0.1477	0.0609	-0.1653	0.1021
3	74.88	0.5556	-0.0107	0.0098	-0.6732	0.0390	0.0564	0.0734	-0.4355	0.1007
3	74.88	0.5995	0.0214	0.0109	-0.7239	0.0447	-0.0024	0.0825	-0.3705	0.1036
3	74.88	0.6498	0.0034	0.0123	-0.8750	0.0514	-0.1225	0.0939	-0.3030	0.1037
3	74.88	0.6890	-0.0079	0.0135	-0.9325	0.0569	-0.2818	0.1018	-0.3721	0.1021
3	74.88	0.7495	-0.0026	0.0152	-1.0871	0.0653	-0.5610	0.1143	-0.4130	0.1082
3	74.88	0.7998	-0.0839	0.0166	-1.1808	0.0729	-0.8145	0.1265	-0.4214	0.1048
3	74.88	0.8577	-0.1547	0.0123	-1.2632	0.0915	-1.2366	0.1587	-1.3020	0.2954
3	74.88	0.9178	-0.2260	0.0062	-1.4243	0.1241	-1.4831	0.1178	-0.1580	0.1204
3	74.88	0.9729	-0.2979	0.0089	-1.5535	0.1335	-1.9806	0.1305	-0.5358	0.1404
4	74.88	0.2001	-0.0721	0.0010	-0.0080	0.0007	-0.0225	0.0021	0.3177	0.0174
4	74.88	0.2502	-0.0161	0.0009	0.0068	0.0015	-0.1097	0.0043	0.1022	0.0255
4	74.88	0.3001	0.0112	0.0009	-0.0096	0.0026	-0.1349	0.0081	0.5728	0.0374
4	74.88	0.3502	0.0284	0.0011	-0.0252	0.0044	-0.2615	0.0135	0.5717	0.0381
4	74.88	0.4002	0.0484	0.0016	-0.0202	0.0068	-0.4196	0.0210	0.4165	0.0377
4	74.88	0.4500	0.0828	0.0015	-0.0177	0.0088	-0.5900	0.0264	0.2783	0.0375
4	74.88	0.5001	0.0969	0.0018	-0.0440	0.0111	-0.7854	0.0334	0.3549	0.0411
4	74.88	0.5560	0.1173	0.0019	-0.0709	0.0136	-1.1100	0.0400	0.0988	0.0469
4	74.88	0.6001	0.1600	0.0021	-0.1102	0.0159	-1.3916	0.0478	-0.0687	0.0497
4	74.88	0.6501	0.1552	0.0022	-0.1370	0.0188	-1.7225	0.0521	0.1306	0.0476
4	74.88	0.6999	0.1780	0.0024	-0.1666	0.0222	-2.1688	0.0588	-0.0039	0.0634
4	74.88	0.7500	0.1985	0.0030	-0.1917	0.0258	-2.6113	0.0671	0.2149	0.0612
4	74.88	0.8002	0.1676	0.0028	-0.2307	0.0294	-3.1137	0.0754	0.5506	0.1103
4	74.88	0.8582	0.1547	0.0052	-0.2230	0.0354	-3.8117	0.0824	0.0279	0.1650

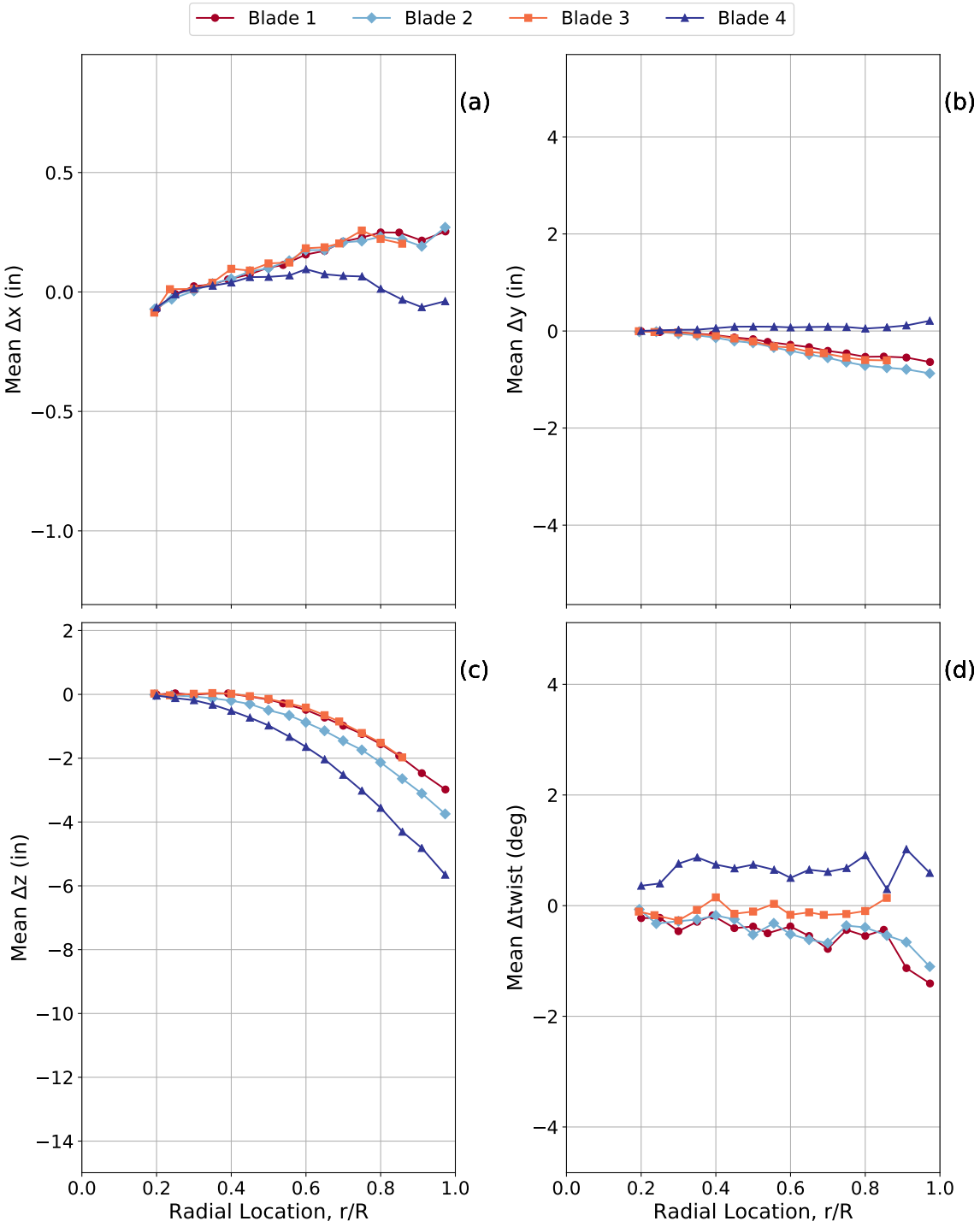


Figure 2.27-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-13. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0724	0.0011	-0.0049	0.0006	-0.0029	0.0022	-0.2255	0.0184
1	80.16	0.2499	-0.0085	0.0009	-0.0217	0.0013	0.0328	0.0043	-0.2208	0.0298
1	80.16	0.2998	0.0240	0.0010	-0.0256	0.0023	-0.0121	0.0080	-0.4616	0.0405
1	80.16	0.3498	0.0315	0.0010	-0.0543	0.0039	0.0372	0.0137	-0.2914	0.0352
1	80.16	0.3913	0.0525	0.0014	-0.0775	0.0057	0.0306	0.0195	-0.1763	0.0381
1	80.16	0.4496	0.0740	0.0015	-0.1333	0.0079	-0.0704	0.0273	-0.4063	0.0398
1	80.16	0.4997	0.1020	0.0016	-0.1679	0.0101	-0.1622	0.0332	-0.3777	0.0462
1	80.16	0.5387	0.1128	0.0019	-0.2246	0.0121	-0.2829	0.0396	-0.4992	0.0417
1	80.16	0.5996	0.1566	0.0021	-0.2833	0.0156	-0.4840	0.0495	-0.3758	0.0404
1	80.16	0.6498	0.1718	0.0022	-0.3324	0.0189	-0.7276	0.0569	-0.5492	0.0431
1	80.16	0.6998	0.2109	0.0026	-0.4093	0.0225	-0.9822	0.0657	-0.7809	0.0525
1	80.16	0.7500	0.2277	0.0027	-0.4615	0.0263	-1.2411	0.0754	-0.4386	0.0589
1	80.16	0.8001	0.2493	0.0034	-0.5321	0.0306	-1.5612	0.0863	-0.5469	0.0703
1	80.16	0.8497	0.2487	0.0040	-0.5266	0.0351	-1.9272	0.0973	-0.4369	0.0672
1	80.16	0.9102	0.2152	0.0064	-0.5467	0.0423	-2.4692	0.1116	-1.1292	0.1616
1	80.16	0.9734	0.2533	0.0154	-0.6391	0.0500	-2.9808	0.1397	-1.4066	0.2229
2	80.16	0.1949	-0.0715	0.0008	-0.0148	0.0006	-0.0102	0.0018	-0.0684	0.0142
2	80.16	0.2405	-0.0300	0.0008	-0.0140	0.0010	-0.0331	0.0033	-0.3238	0.0259
2	80.16	0.2999	0.0045	0.0010	-0.0565	0.0024	-0.0675	0.0070	-0.2815	0.0334
2	80.16	0.3498	0.0351	0.0010	-0.0895	0.0041	-0.1235	0.0119	-0.2512	0.0300
2	80.16	0.3998	0.0551	0.0013	-0.1384	0.0062	-0.1978	0.0182	-0.1775	0.0337
2	80.16	0.4496	0.0856	0.0017	-0.2067	0.0083	-0.3033	0.0241	-0.2474	0.0314
2	80.16	0.4995	0.0993	0.0019	-0.2444	0.0108	-0.4961	0.0306	-0.5246	0.0417
2	80.16	0.5551	0.1306	0.0019	-0.3386	0.0136	-0.6597	0.0372	-0.3204	0.0443
2	80.16	0.5996	0.1750	0.0023	-0.4080	0.0163	-0.8776	0.0429	-0.5164	0.0461
2	80.16	0.6497	0.1755	0.0021	-0.4841	0.0197	-1.1413	0.0501	-0.6147	0.0446
2	80.16	0.6996	0.2076	0.0025	-0.5514	0.0237	-1.4537	0.0552	-0.6763	0.0581
2	80.16	0.7495	0.2132	0.0028	-0.6409	0.0270	-1.7422	0.0625	-0.3614	0.0576
2	80.16	0.7996	0.2313	0.0034	-0.7126	0.0312	-2.1311	0.0673	-0.3927	0.0636
2	80.16	0.8578	0.2199	0.0037	-0.7565	0.0364	-2.6439	0.0773	-0.5389	0.0802
2	80.16	0.9100	0.1912	0.0056	-0.7890	0.0408	-3.1055	0.0842	-0.6600	0.1717
2	80.16	0.9727	0.2706	0.0059	-0.8727	0.0456	-3.7460	0.0935	-1.1016	0.1220
3	80.16	0.1938	-0.0864	0.0010	-0.0043	0.0007	0.0255	0.0020	-0.1076	0.0191
3	80.16	0.2357	0.0117	0.0010	-0.0212	0.0012	-0.0291	0.0035	-0.1724	0.0297
3	80.16	0.2995	0.0126	0.0008	-0.0294	0.0026	0.0186	0.0076	-0.2679	0.0421
3	80.16	0.3493	0.0389	0.0010	-0.0642	0.0044	0.0400	0.0124	-0.0778	0.0309
3	80.16	0.4000	0.0968	0.0015	-0.0967	0.0070	0.0187	0.0194	0.1491	0.0416
3	80.16	0.4497	0.0897	0.0014	-0.1533	0.0093	-0.0568	0.0262	-0.1472	0.0337
3	80.16	0.4997	0.1196	0.0018	-0.2139	0.0121	-0.1438	0.0335	-0.1065	0.0426
3	80.16	0.5556	0.1232	0.0020	-0.3179	0.0158	-0.2892	0.0420	0.0320	0.0435
3	80.16	0.5995	0.1829	0.0026	-0.3382	0.0189	-0.4140	0.0499	-0.1658	0.0508
3	80.16	0.6498	0.1870	0.0026	-0.4282	0.0229	-0.6524	0.0574	-0.1211	0.0436
3	80.16	0.6890	0.2031	0.0025	-0.4570	0.0264	-0.8499	0.0647	-0.1677	0.0468
3	80.16	0.7495	0.2572	0.0032	-0.5468	0.0317	-1.2107	0.0726	-0.1506	0.0501
3	80.16	0.7998	0.2222	0.0029	-0.5978	0.0363	-1.5156	0.0782	-0.0970	0.0705
3	80.16	0.8577	0.2020	0.0048	-0.6049	0.0426	-1.9755	0.0867	0.1400	0.1320
4	80.16	0.2001	-0.0650	0.0024	0.0019	0.0017	-0.0383	0.0032	0.3593	0.0299
4	80.16	0.2502	-0.0097	0.0014	0.0143	0.0041	-0.1160	0.0074	0.4007	0.0501
4	80.16	0.3001	0.0143	0.0017	0.0246	0.0069	-0.1832	0.0129	0.7587	0.0660
4	80.16	0.3502	0.0261	0.0033	0.0268	0.0119	-0.3247	0.0210	0.8719	0.0551
4	80.16	0.4002	0.0396	0.0058	0.0588	0.0186	-0.5162	0.0333	0.7419	0.0524
4	80.16	0.4500	0.0622	0.0087	0.0882	0.0224	-0.7300	0.0406	0.6740	0.0584
4	80.16	0.5001	0.0631	0.0117	0.0906	0.0286	-0.9759	0.0509	0.7413	0.0569
4	80.16	0.5560	0.0693	0.0163	0.0880	0.0347	-1.3297	0.0615	0.6481	0.0604
4	80.16	0.6001	0.0954	0.0205	0.0745	0.0398	-1.6466	0.0689	0.5022	0.0600
4	80.16	0.6501	0.0741	0.0257	0.0821	0.0462	-2.0373	0.0802	0.6496	0.0623
4	80.16	0.6999	0.0673	0.0317	0.0871	0.0520	-2.5207	0.0897	0.6106	0.0729
4	80.16	0.7500	0.0649	0.0385	0.0822	0.0589	-3.0178	0.1008	0.6797	0.0799
4	80.16	0.8002	0.0133	0.0470	0.0503	0.0655	-3.5562	0.1097	0.9093	0.1105
4	80.16	0.8582	-0.0323	0.0582	0.0775	0.0747	-4.3044	0.1249	0.2981	0.1076
4	80.16	0.9101	-0.0636	0.0689	0.1140	0.0837	-4.8151	0.1375	1.0187	0.1435
4	80.16	0.9728	-0.0387	0.0856	0.2104	0.0944	-5.6523	0.1593	0.5914	0.2047

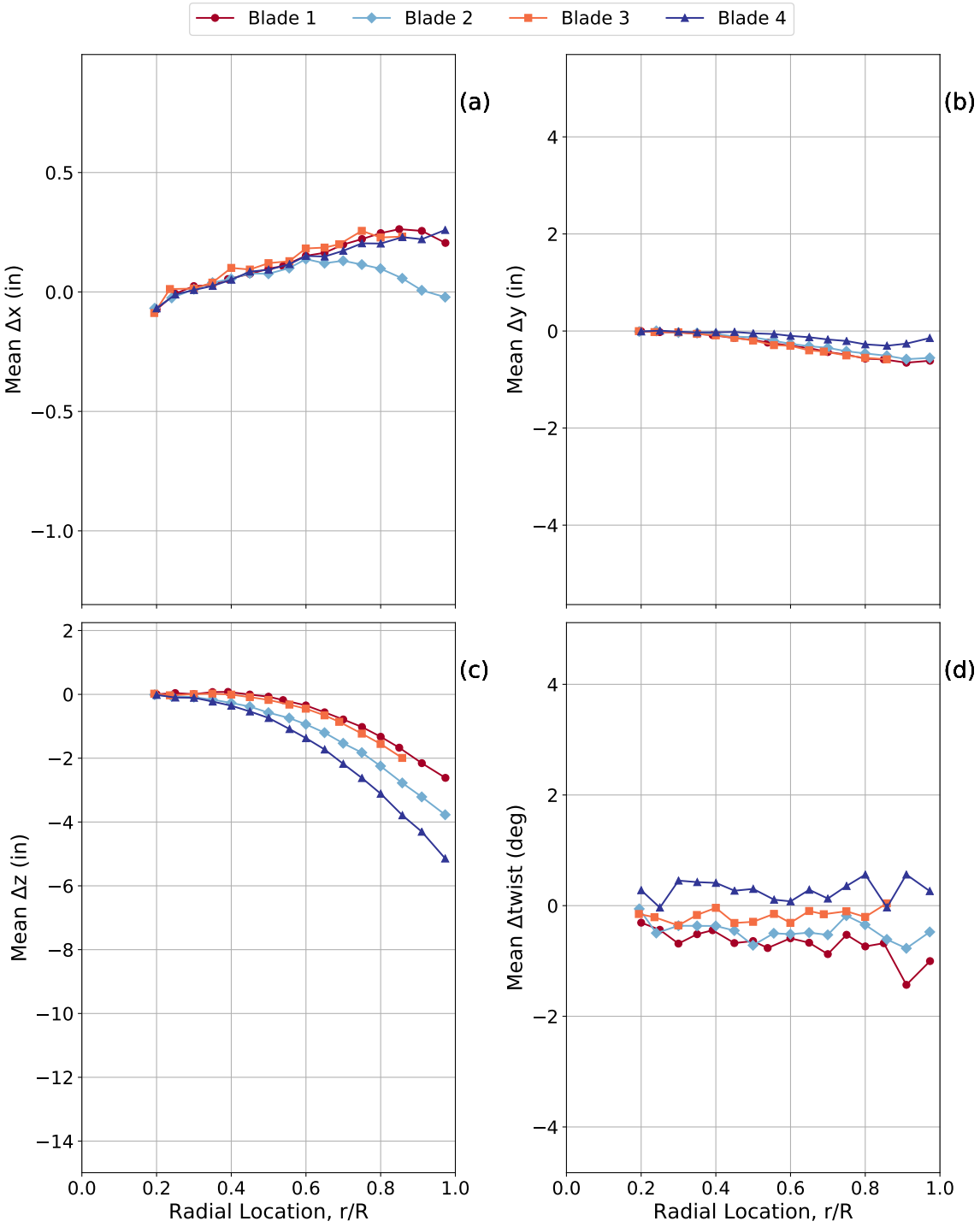


Figure 2.27-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.149, α = 8°
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0730	0.0009	-0.0059	0.0007	0.0032	0.0024	-0.3081	0.0187
1	85.08	0.2499	-0.0072	0.0010	-0.0229	0.0017	0.0405	0.0048	-0.4366	0.0351
1	85.08	0.2998	0.0245	0.0009	-0.0283	0.0029	0.0076	0.0090	-0.6861	0.0432
1	85.08	0.3498	0.0293	0.0011	-0.0604	0.0051	0.0723	0.0155	-0.5160	0.0372
1	85.08	0.3913	0.0541	0.0013	-0.0848	0.0073	0.0772	0.0221	-0.4446	0.0403
1	85.08	0.4496	0.0751	0.0016	-0.1454	0.0101	-0.0049	0.0308	-0.6766	0.0419
1	85.08	0.4997	0.0978	0.0016	-0.1828	0.0132	-0.0726	0.0392	-0.6403	0.0395
1	85.08	0.5387	0.1082	0.0017	-0.2388	0.0155	-0.1797	0.0458	-0.7659	0.0427
1	85.08	0.5996	0.1514	0.0020	-0.3023	0.0198	-0.3465	0.0566	-0.5898	0.0476
1	85.08	0.6498	0.1640	0.0022	-0.3516	0.0238	-0.5623	0.0646	-0.6704	0.0457
1	85.08	0.6998	0.1986	0.0025	-0.4333	0.0280	-0.7861	0.0724	-0.8761	0.0560
1	85.08	0.7500	0.2215	0.0025	-0.4879	0.0323	-1.0226	0.0808	-0.5270	0.0509
1	85.08	0.8001	0.2463	0.0023	-0.5693	0.0371	-1.3281	0.0906	-0.7371	0.0604
1	85.08	0.8497	0.2629	0.0028	-0.5858	0.0422	-1.6706	0.1022	-0.6788	0.0608
1	85.08	0.9102	0.2557	0.0038	-0.6527	0.0476	-2.1555	0.1153	-1.4316	0.1025
1	85.08	0.9734	0.2053	0.0048	-0.6126	0.0550	-2.6161	0.1291	-1.0023	0.0761
2	85.08	0.1949	-0.0681	0.0034	-0.0107	0.0010	-0.0103	0.0020	-0.0586	0.0287
2	85.08	0.2405	-0.0250	0.0016	0.0024	0.0025	-0.0596	0.0056	-0.4955	0.0325
2	85.08	0.2999	0.0114	0.0019	-0.0310	0.0039	-0.0873	0.0093	-0.3632	0.0589
2	85.08	0.3498	0.0390	0.0034	-0.0403	0.0070	-0.1657	0.0148	-0.3660	0.0516
2	85.08	0.3998	0.0551	0.0051	-0.0613	0.0108	-0.2682	0.0240	-0.3671	0.0533
2	85.08	0.4496	0.0777	0.0077	-0.1141	0.0134	-0.3829	0.0290	-0.4508	0.0568
2	85.08	0.4995	0.0760	0.0109	-0.1288	0.0174	-0.5725	0.0362	-0.7164	0.0586
2	85.08	0.5551	0.0999	0.0161	-0.2021	0.0217	-0.7416	0.0464	-0.4996	0.0550
2	85.08	0.5996	0.1376	0.0214	-0.2624	0.0248	-0.9377	0.0532	-0.5157	0.0609
2	85.08	0.6497	0.1203	0.0284	-0.3134	0.0298	-1.2006	0.0610	-0.4883	0.0737
2	85.08	0.6996	0.1306	0.0367	-0.3458	0.0349	-1.5323	0.0720	-0.5279	0.0785
2	85.08	0.7495	0.1147	0.0466	-0.4166	0.0403	-1.8254	0.0814	-0.1809	0.0729
2	85.08	0.7996	0.0976	0.0577	-0.4617	0.0467	-2.2472	0.0931	-0.3452	0.0829
2	85.08	0.8578	0.0571	0.0735	-0.5094	0.0542	-2.7759	0.1087	-0.6101	0.0951
2	85.08	0.9100	0.0070	0.0895	-0.5804	0.0609	-3.2131	0.1246	-0.7715	0.1285
2	85.08	0.9727	-0.0217	0.1130	-0.5538	0.0737	-3.7723	0.1448	-0.4755	0.1249
3	85.08	0.1938	-0.0881	0.0010	-0.0027	0.0006	0.0213	0.0017	-0.1512	0.0150
3	85.08	0.2357	0.0123	0.0009	-0.0220	0.0013	-0.0290	0.0034	-0.2087	0.0247
3	85.08	0.2995	0.0140	0.0011	-0.0260	0.0028	0.0056	0.0065	-0.3581	0.0349
3	85.08	0.3493	0.0391	0.0012	-0.0589	0.0048	0.0241	0.0118	-0.1688	0.0285
3	85.08	0.4000	0.1007	0.0018	-0.0897	0.0076	-0.0072	0.0178	-0.0395	0.0304
3	85.08	0.4497	0.0939	0.0017	-0.1404	0.0103	-0.0859	0.0243	-0.3135	0.0350
3	85.08	0.4997	0.1206	0.0020	-0.1964	0.0132	-0.1736	0.0308	-0.2923	0.0360
3	85.08	0.5556	0.1289	0.0019	-0.2906	0.0171	-0.3207	0.0392	-0.1491	0.0381
3	85.08	0.5995	0.1821	0.0021	-0.3049	0.0203	-0.4481	0.0455	-0.3117	0.0425
3	85.08	0.6498	0.1858	0.0023	-0.3985	0.0247	-0.6571	0.0540	-0.0968	0.0408
3	85.08	0.6890	0.1996	0.0025	-0.4235	0.0280	-0.8598	0.0597	-0.1552	0.0456
3	85.08	0.7495	0.2558	0.0028	-0.5030	0.0339	-1.2294	0.0695	-0.1014	0.0540
3	85.08	0.7998	0.2281	0.0029	-0.5522	0.0384	-1.5530	0.0796	-0.2043	0.0466
3	85.08	0.8577	0.2318	0.0039	-0.5829	0.0436	-1.9917	0.0940	0.0413	0.0680
4	85.08	0.2001	-0.0685	0.0009	-0.0090	0.0007	-0.0169	0.0022	0.2786	0.0178
4	85.08	0.2502	-0.0105	0.0008	0.0069	0.0016	-0.0993	0.0052	-0.0353	0.0306
4	85.08	0.3001	0.0082	0.0009	-0.0136	0.0028	-0.1069	0.0090	0.4525	0.0393
4	85.08	0.3502	0.0253	0.0010	-0.0284	0.0048	-0.2257	0.0153	0.4252	0.0391
4	85.08	0.4002	0.0514	0.0013	-0.0268	0.0075	-0.3558	0.0240	0.4110	0.0408
4	85.08	0.4500	0.0852	0.0014	-0.0194	0.0104	-0.5360	0.0320	0.2700	0.0441
4	85.08	0.5001	0.0929	0.0016	-0.0476	0.0140	-0.7400	0.0421	0.3023	0.0422
4	85.08	0.5560	0.1165	0.0018	-0.0625	0.0185	-1.0869	0.0522	0.1074	0.0447
4	85.08	0.6001	0.1509	0.0018	-0.1002	0.0221	-1.3721	0.0606	0.0777	0.0465
4	85.08	0.6501	0.1483	0.0021	-0.1284	0.0267	-1.7283	0.0701	0.2870	0.0424
4	85.08	0.6999	0.1725	0.0023	-0.1747	0.0316	-2.1783	0.0785	0.1280	0.0451
4	85.08	0.7500	0.2036	0.0026	-0.2060	0.0370	-2.6227	0.0866	0.3556	0.0453
4	85.08	0.8002	0.2027	0.0029	-0.2748	0.0423	-3.1136	0.0945	0.5609	0.0615
4	85.08	0.8582	0.2295	0.0036	-0.3038	0.0488	-3.7894	0.1048	-0.0326	0.0792
4	85.08	0.9101	0.2207	0.0044	-0.2603	0.0555	-4.3041	0.1106	0.5620	0.0870
4	85.08	0.9728	0.2595	0.0056	-0.1454	0.0622	-5.1434	0.1288	0.2626	0.1389

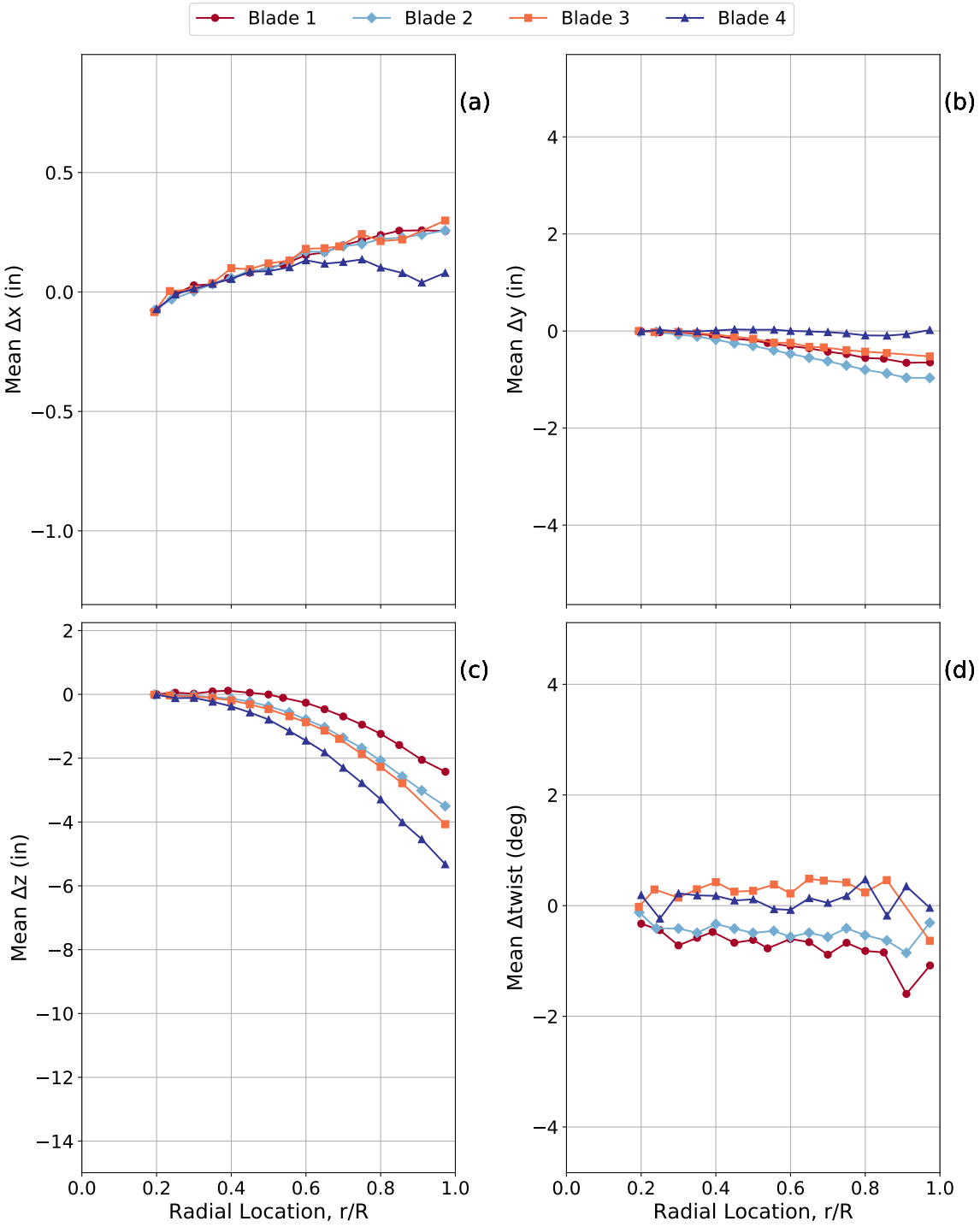


Figure 2.27-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-15. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0766	0.0011	-0.0052	0.0007	0.0043	0.0021	-0.3264	0.0181
1	90	0.2499	-0.0088	0.0010	-0.0258	0.0013	0.0522	0.0044	-0.4428	0.0311
1	90	0.2998	0.0278	0.0008	-0.0292	0.0026	0.0223	0.0082	-0.7189	0.0408
1	90	0.3498	0.0324	0.0012	-0.0619	0.0043	0.0925	0.0137	-0.5816	0.0357
1	90	0.3913	0.0582	0.0014	-0.0894	0.0063	0.1156	0.0198	-0.4756	0.0421
1	90	0.4496	0.0805	0.0013	-0.1567	0.0085	0.0518	0.0270	-0.6707	0.0410
1	90	0.4997	0.1014	0.0014	-0.1945	0.0108	-0.0035	0.0345	-0.6201	0.0410
1	90	0.5387	0.1143	0.0017	-0.2477	0.0129	-0.1083	0.0410	-0.7725	0.0463
1	90	0.5996	0.1544	0.0017	-0.3116	0.0162	-0.2626	0.0506	-0.6019	0.0495
1	90	0.6498	0.1659	0.0022	-0.3558	0.0191	-0.4662	0.0578	-0.6593	0.0530
1	90	0.6998	0.1955	0.0021	-0.4266	0.0223	-0.6932	0.0664	-0.8860	0.0504
1	90	0.7500	0.2163	0.0027	-0.4754	0.0258	-0.9488	0.0740	-0.6717	0.0517
1	90	0.8001	0.2381	0.0030	-0.5547	0.0296	-1.2377	0.0822	-0.8185	0.0591
1	90	0.8497	0.2563	0.0031	-0.5714	0.0332	-1.5875	0.0916	-0.8452	0.0587
1	90	0.9102	0.2579	0.0042	-0.6551	0.0379	-2.0515	0.1033	-1.5957	0.0761
1	90	0.9734	0.2551	0.0047	-0.6473	0.0430	-2.4256	0.1218	-1.0813	0.0682
2	90	0.1949	-0.0764	0.0033	-0.0178	0.0005	-0.0067	0.0016	-0.1232	0.0189
2	90	0.2405	-0.0303	0.0014	-0.0199	0.0012	-0.0197	0.0033	-0.4099	0.0255
2	90	0.2999	0.0029	0.0017	-0.0734	0.0022	-0.0367	0.0064	-0.4135	0.0411
2	90	0.3498	0.0331	0.0029	-0.1127	0.0036	-0.0919	0.0108	-0.4914	0.0377
2	90	0.3998	0.0583	0.0044	-0.1790	0.0058	-0.1304	0.0166	-0.3324	0.0352
2	90	0.4496	0.0894	0.0055	-0.2534	0.0078	-0.2284	0.0217	-0.4152	0.0391
2	90	0.4995	0.0940	0.0072	-0.3054	0.0099	-0.3723	0.0268	-0.4930	0.0449
2	90	0.5551	0.1285	0.0094	-0.3984	0.0127	-0.5646	0.0334	-0.4565	0.0418
2	90	0.5996	0.1693	0.0119	-0.4706	0.0153	-0.7839	0.0386	-0.5642	0.0418
2	90	0.6497	0.1674	0.0153	-0.5516	0.0179	-1.0306	0.0430	-0.4896	0.0453
2	90	0.6996	0.1913	0.0196	-0.6213	0.0207	-1.3614	0.0481	-0.5663	0.0420
2	90	0.7495	0.2006	0.0249	-0.7093	0.0237	-1.6833	0.0545	-0.4096	0.0434
2	90	0.7996	0.2214	0.0312	-0.7991	0.0270	-2.0712	0.0585	-0.5343	0.0495
2	90	0.8578	0.2279	0.0391	-0.8740	0.0308	-2.5737	0.0677	-0.6313	0.0519
2	90	0.9100	0.2400	0.0478	-0.9631	0.0344	-3.0152	0.0757	-0.8536	0.0630
2	90	0.9727	0.2575	0.0600	-0.9668	0.0394	-3.5005	0.0877	-0.3080	0.0780
3	90	0.1938	-0.0843	0.0018	0.0009	0.0007	-0.0094	0.0064	-0.0213	0.0404
3	90	0.2357	0.0039	0.0017	-0.0231	0.0012	-0.0347	0.0051	0.2922	0.1117
3	90	0.2995	0.0108	0.0021	-0.0196	0.0024	-0.0703	0.0192	0.1455	0.1284
3	90	0.3493	0.0369	0.0021	-0.0455	0.0041	-0.1103	0.0342	0.2962	0.1199
3	90	0.4000	0.0996	0.0020	-0.0738	0.0064	-0.1896	0.0490	0.4253	0.1250
3	90	0.4497	0.0952	0.0021	-0.1161	0.0085	-0.3143	0.0636	0.2527	0.1200
3	90	0.4997	0.1197	0.0020	-0.1604	0.0111	-0.4630	0.0776	0.2672	0.1259
3	90	0.5556	0.1313	0.0024	-0.2411	0.0145	-0.6871	0.0927	0.3815	0.1258
3	90	0.5995	0.1806	0.0026	-0.2426	0.0172	-0.8740	0.1050	0.2200	0.1252
3	90	0.6498	0.1832	0.0027	-0.3264	0.0207	-1.1326	0.1185	0.4863	0.1256
3	90	0.6890	0.1909	0.0029	-0.3371	0.0235	-1.3939	0.1287	0.4520	0.1266
3	90	0.7495	0.2422	0.0034	-0.3953	0.0283	-1.8683	0.1462	0.4199	0.1221
3	90	0.7998	0.2128	0.0035	-0.4256	0.0322	-2.2739	0.1592	0.2382	0.1255
3	90	0.8577	0.2198	0.0038	-0.4534	0.0369	-2.7845	0.1761	0.4609	0.1279
3	90	0.9729	0.2990	0.0067	-0.5240	0.0467	-4.0698	0.2121	-0.6343	0.1769
4	90.35	0.2001	-0.0717	0.0043	-0.0092	0.0012	-0.0121	0.0025	0.1901	0.0263
4	90.35	0.2502	-0.0102	0.0013	0.0208	0.0023	-0.1173	0.0056	-0.2355	0.0429
4	90.35	0.3001	0.0139	0.0020	-0.0036	0.0043	-0.1092	0.0094	0.2222	0.0552
4	90.35	0.3502	0.0341	0.0035	-0.0082	0.0078	-0.2294	0.0157	0.1855	0.0461
4	90.35	0.4002	0.0546	0.0048	0.0102	0.0115	-0.3762	0.0242	0.1768	0.0514
4	90.35	0.4500	0.0846	0.0061	0.0320	0.0141	-0.5664	0.0292	0.0936	0.0489
4	90.35	0.5001	0.0870	0.0082	0.0258	0.0181	-0.7921	0.0386	0.1138	0.0430
4	90.35	0.5560	0.1034	0.0128	0.0260	0.0223	-1.1545	0.0462	-0.0628	0.0538
4	90.35	0.6001	0.1327	0.0175	0.0018	0.0254	-1.4491	0.0531	-0.0766	0.0527
4	90.35	0.6501	0.1184	0.0248	-0.0092	0.0294	-1.8178	0.0620	0.1355	0.0532
4	90.35	0.6999	0.1254	0.0333	-0.0231	0.0333	-2.2985	0.0701	0.0499	0.0584
4	90.35	0.7500	0.1361	0.0438	-0.0481	0.0374	-2.7793	0.0793	0.1744	0.0627
4	90.35	0.8002	0.1022	0.0556	-0.0900	0.0416	-3.2912	0.0885	0.4749	0.0699
4	90.35	0.8582	0.0793	0.0714	-0.0961	0.0468	-4.0083	0.1001	-0.1806	0.0824
4	90.35	0.9101	0.0393	0.0883	-0.0651	0.0520	-4.5403	0.1117	0.3490	0.0894
4	90.35	0.9728	0.0800	0.1134	0.0194	0.0619	-5.3242	0.1336	-0.0391	0.1031

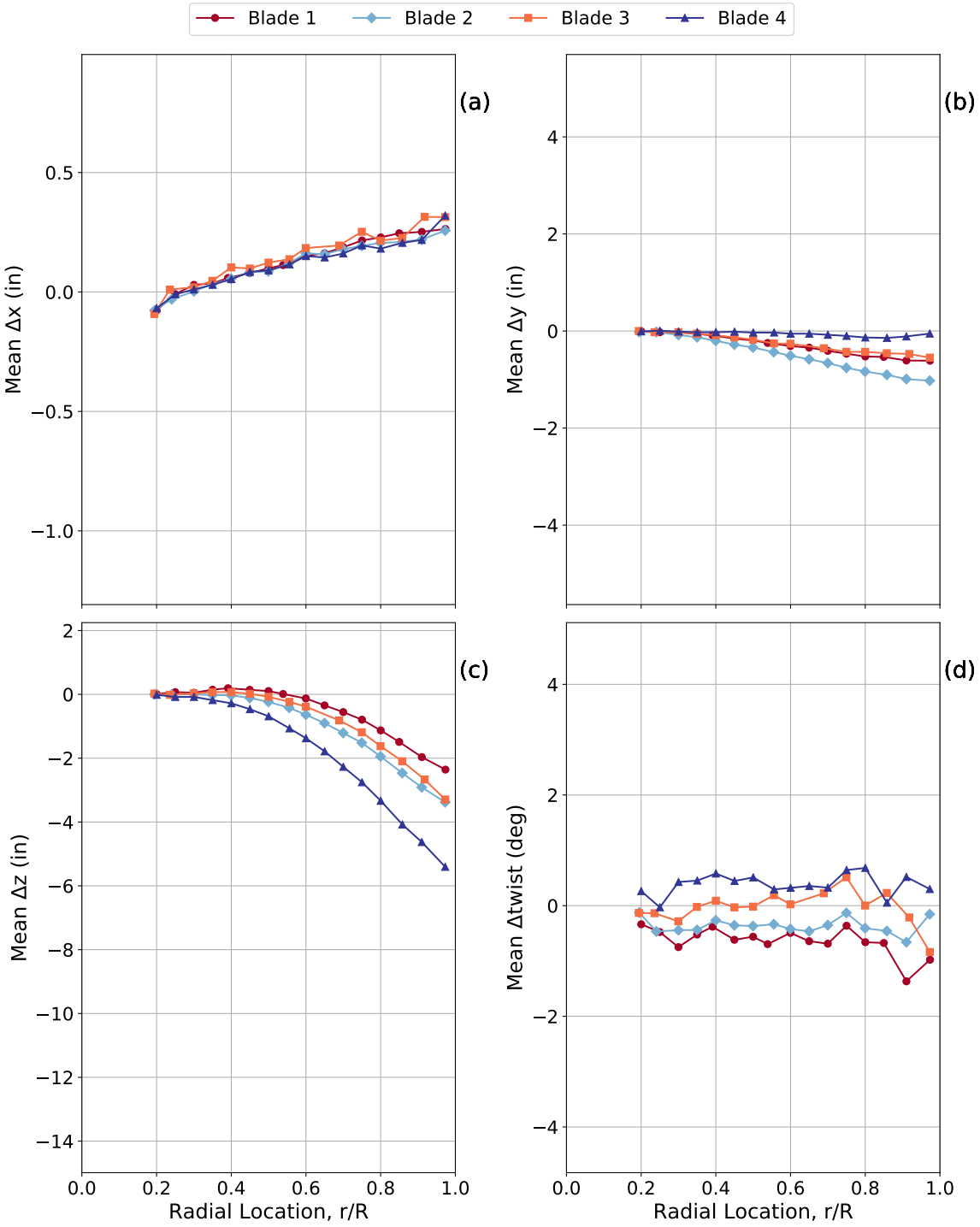


Figure 2.27-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.149, α = 8°
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0765	0.0010	-0.0052	0.0006	0.0103	0.0019	-0.3364	0.0158
1	94.92	0.2499	-0.0092	0.0011	-0.0260	0.0014	0.0706	0.0037	-0.4774	0.0289
1	94.92	0.2998	0.0298	0.0009	-0.0291	0.0025	0.0510	0.0076	-0.7496	0.0360
1	94.92	0.3498	0.0358	0.0011	-0.0621	0.0041	0.1457	0.0122	-0.5227	0.0342
1	94.92	0.3913	0.0587	0.0012	-0.0895	0.0061	0.1932	0.0178	-0.3809	0.0352
1	94.92	0.4496	0.0791	0.0015	-0.1568	0.0080	0.1427	0.0240	-0.6170	0.0348
1	94.92	0.4997	0.0989	0.0016	-0.1942	0.0103	0.1041	0.0313	-0.5620	0.0364
1	94.92	0.5387	0.1125	0.0019	-0.2459	0.0123	0.0111	0.0371	-0.6954	0.0386
1	94.92	0.5996	0.1513	0.0020	-0.3097	0.0155	-0.1271	0.0461	-0.4924	0.0381
1	94.92	0.6498	0.1621	0.0022	-0.3422	0.0185	-0.3454	0.0539	-0.6426	0.0397
1	94.92	0.6998	0.1872	0.0024	-0.4089	0.0216	-0.5556	0.0616	-0.6875	0.0408
1	94.92	0.7500	0.2155	0.0025	-0.4680	0.0246	-0.7931	0.0681	-0.3625	0.0527
1	94.92	0.8001	0.2286	0.0028	-0.5253	0.0283	-1.1285	0.0789	-0.6606	0.0437
1	94.92	0.8497	0.2457	0.0029	-0.5342	0.0320	-1.4899	0.0876	-0.6755	0.0474
1	94.92	0.9102	0.2516	0.0038	-0.6077	0.0366	-1.9652	0.1022	-1.3679	0.0580
1	94.92	0.9734	0.2638	0.0043	-0.6124	0.0416	-2.3576	0.1193	-0.9776	0.0549
2	94.92	0.1949	-0.0767	0.0009	-0.0209	0.0005	0.0046	0.0019	-0.1240	0.0161
2	94.92	0.2405	-0.0304	0.0007	-0.0212	0.0011	-0.0071	0.0039	-0.4657	0.0304
2	94.92	0.2999	0.0025	0.0010	-0.0819	0.0020	0.0013	0.0075	-0.4436	0.0374
2	94.92	0.3498	0.0335	0.0007	-0.1288	0.0034	-0.0212	0.0133	-0.4388	0.0354
2	94.92	0.3998	0.0553	0.0012	-0.2007	0.0053	-0.0293	0.0201	-0.2650	0.0382
2	94.92	0.4496	0.0831	0.0012	-0.2796	0.0070	-0.1125	0.0270	-0.3559	0.0358
2	94.92	0.4995	0.0862	0.0013	-0.3393	0.0091	-0.2336	0.0339	-0.3692	0.0379
2	94.92	0.5551	0.1206	0.0013	-0.4338	0.0114	-0.4211	0.0414	-0.3363	0.0405
2	94.92	0.5996	0.1619	0.0016	-0.5096	0.0135	-0.6380	0.0470	-0.4233	0.0393
2	94.92	0.6497	0.1577	0.0017	-0.5827	0.0158	-0.9002	0.0521	-0.4634	0.0371
2	94.92	0.6996	0.1791	0.0019	-0.6599	0.0184	-1.2081	0.0577	-0.3523	0.0382
2	94.92	0.7495	0.1928	0.0020	-0.7582	0.0211	-1.5173	0.0628	-0.1309	0.0475
2	94.92	0.7996	0.2052	0.0021	-0.8346	0.0241	-1.9450	0.0664	-0.4079	0.0431
2	94.92	0.8578	0.2094	0.0023	-0.9030	0.0278	-2.4667	0.0731	-0.4585	0.0532
2	94.92	0.9100	0.2194	0.0028	-0.9901	0.0311	-2.9122	0.0792	-0.6601	0.0471
2	94.92	0.9727	0.2569	0.0032	-1.0244	0.0350	-3.3796	0.0860	-0.1548	0.0568
3	94.92	0.1938	-0.0923	0.0010	-0.0008	0.0006	0.0239	0.0018	-0.1319	0.0157
3	94.92	0.2357	0.0102	0.0009	-0.0244	0.0009	-0.0117	0.0035	-0.1371	0.0246
3	94.92	0.2995	0.0196	0.0007	-0.0249	0.0019	0.0311	0.0074	-0.2836	0.0351
3	94.92	0.3493	0.0466	0.0011	-0.0553	0.0031	0.0727	0.0122	-0.0224	0.0326
3	94.92	0.4000	0.1027	0.0011	-0.0879	0.0048	0.0715	0.0194	0.0884	0.0318
3	94.92	0.4497	0.0983	0.0014	-0.1318	0.0061	0.0183	0.0244	-0.0308	0.0303
3	94.92	0.4997	0.1230	0.0015	-0.1780	0.0076	-0.0758	0.0304	-0.0179	0.0373
3	94.92	0.5556	0.1370	0.0016	-0.2567	0.0094	-0.2338	0.0367	0.1885	0.0332
3	94.92	0.5995	0.1839	0.0018	-0.2618	0.0115	-0.3840	0.0411	0.0245	0.0371
3	94.92	0.6890	0.1945	0.0019	-0.3549	0.0154	-0.8153	0.0499	0.2239	0.0455
3	94.92	0.7495	0.2520	0.0025	-0.4289	0.0184	-1.1875	0.0571	0.5134	0.0521
3	94.92	0.7998	0.2149	0.0023	-0.4299	0.0211	-1.6222	0.0619	0.0019	0.0454
3	94.92	0.8577	0.2259	0.0030	-0.4576	0.0243	-2.0947	0.0681	0.2295	0.0561
3	94.92	0.9178	0.3145	0.0037	-0.4737	0.0283	-2.6673	0.0745	-0.2139	0.0657
3	94.92	0.9729	0.3133	0.0048	-0.5492	0.0317	-3.2939	0.0847	-0.8387	0.0826
4	94.92	0.2001	-0.0682	0.0008	-0.0080	0.0006	-0.0129	0.0019	0.2624	0.0202
4	94.92	0.2502	-0.0097	0.0007	0.0057	0.0015	-0.0810	0.0040	-0.0301	0.0297
4	94.92	0.3001	0.0106	0.0009	-0.0119	0.0026	-0.0805	0.0071	0.4271	0.0440
4	94.92	0.3502	0.0301	0.0009	-0.0262	0.0046	-0.1809	0.0122	0.4524	0.0403
4	94.92	0.4002	0.0537	0.0013	-0.0246	0.0071	-0.2799	0.0187	0.5806	0.0370
4	94.92	0.4500	0.0840	0.0014	-0.0150	0.0093	-0.4648	0.0241	0.4461	0.0417
4	94.92	0.5001	0.0905	0.0016	-0.0328	0.0121	-0.6883	0.0309	0.5095	0.0415
4	94.92	0.5560	0.1156	0.0018	-0.0317	0.0151	-1.0670	0.0371	0.2926	0.0418
4	94.92	0.6001	0.1501	0.0016	-0.0558	0.0177	-1.3752	0.0423	0.3219	0.0463
4	94.92	0.6501	0.1445	0.0022	-0.0553	0.0208	-1.7863	0.0494	0.3553	0.0403
4	94.92	0.6999	0.1610	0.0022	-0.0784	0.0242	-2.2712	0.0553	0.3246	0.0518
4	94.92	0.7500	0.1950	0.0033	-0.1011	0.0278	-2.7541	0.0630	0.6432	0.0398
4	94.92	0.8002	0.1814	0.0027	-0.1338	0.0312	-3.3363	0.0690	0.6817	0.0472
4	94.92	0.8582	0.2057	0.0033	-0.1425	0.0356	-4.0783	0.0790	0.0535	0.0463
4	94.92	0.9101	0.2178	0.0035	-0.1120	0.0395	-4.6288	0.0870	0.5181	0.0594
4	94.92	0.9728	0.3198	0.0051	-0.0534	0.0447	-5.4050	0.0991	0.2995	0.0738

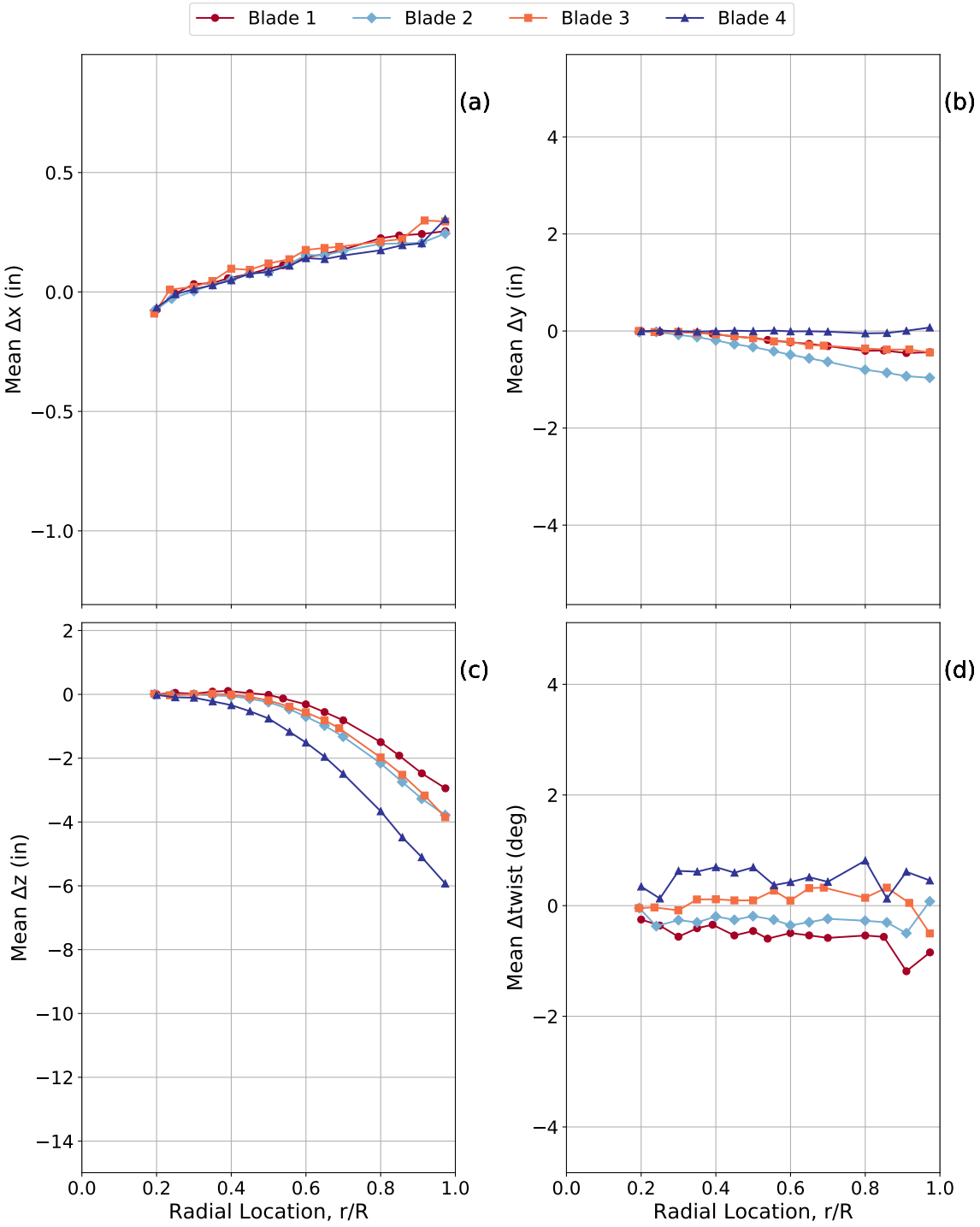


Figure 2.27-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.149, α = 8°
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0743	0.0010	-0.0025	0.0007	0.0029	0.0020	-0.2514	0.0156
1	99.84	0.2499	-0.0070	0.0008	-0.0183	0.0014	0.0486	0.0039	-0.3596	0.0282
1	99.84	0.2998	0.0329	0.0009	-0.0172	0.0026	0.0175	0.0077	-0.5617	0.0347
1	99.84	0.3498	0.0369	0.0010	-0.0388	0.0046	0.0872	0.0128	-0.4086	0.0316
1	99.84	0.3913	0.0574	0.0011	-0.0569	0.0065	0.1064	0.0184	-0.3451	0.0370
1	99.84	0.4496	0.0759	0.0014	-0.1162	0.0091	0.0372	0.0250	-0.5390	0.0331
1	99.84	0.4997	0.0974	0.0015	-0.1419	0.0114	-0.0147	0.0318	-0.4583	0.0363
1	99.84	0.5387	0.1120	0.0017	-0.1836	0.0136	-0.1298	0.0379	-0.5968	0.0337
1	99.84	0.5996	0.1446	0.0018	-0.2333	0.0169	-0.3117	0.0461	-0.4956	0.0391
1	99.84	0.6498	0.1592	0.0020	-0.2641	0.0200	-0.5547	0.0528	-0.5374	0.0394
1	99.84	0.6998	0.1776	0.0019	-0.3118	0.0230	-0.8130	0.0588	-0.5829	0.0446
1	99.84	0.8001	0.2251	0.0023	-0.4087	0.0299	-1.4960	0.0721	-0.5399	0.0480
1	99.84	0.8497	0.2366	0.0025	-0.4021	0.0333	-1.9196	0.0796	-0.5643	0.0465
1	99.84	0.9102	0.2426	0.0028	-0.4535	0.0379	-2.4758	0.0912	-1.1858	0.0480
1	99.84	0.9734	0.2545	0.0039	-0.4377	0.0428	-2.9437	0.1028	-0.8450	0.0509
2	99.84	0.1949	-0.0771	0.0009	-0.0211	0.0005	0.0054	0.0019	-0.0423	0.0150
2	99.84	0.2405	-0.0278	0.0009	-0.0185	0.0011	-0.0174	0.0035	-0.3698	0.0229
2	99.84	0.2999	0.0038	0.0008	-0.0797	0.0021	-0.0061	0.0075	-0.2611	0.0335
2	99.84	0.3498	0.0320	0.0010	-0.1244	0.0034	-0.0332	0.0125	-0.3030	0.0306
2	99.84	0.3998	0.0510	0.0010	-0.1928	0.0055	-0.0536	0.0193	-0.1965	0.0306
2	99.84	0.4496	0.0773	0.0011	-0.2715	0.0070	-0.1355	0.0255	-0.2568	0.0309
2	99.84	0.4995	0.0812	0.0014	-0.3299	0.0089	-0.2440	0.0316	-0.1901	0.0316
2	99.84	0.5551	0.1162	0.0015	-0.4165	0.0115	-0.4614	0.0383	-0.2542	0.0364
2	99.84	0.5996	0.1544	0.0016	-0.4890	0.0137	-0.6979	0.0429	-0.3563	0.0381
2	99.84	0.6497	0.1537	0.0019	-0.5632	0.0162	-0.9785	0.0490	-0.2996	0.0366
2	99.84	0.6996	0.1719	0.0020	-0.6343	0.0190	-1.3249	0.0546	-0.2383	0.0394
2	99.84	0.7996	0.2014	0.0027	-0.7984	0.0252	-2.1597	0.0685	-0.2723	0.0389
2	99.84	0.8578	0.2033	0.0029	-0.8598	0.0290	-2.7452	0.0778	-0.3032	0.0437
2	99.84	0.9100	0.2054	0.0032	-0.9311	0.0326	-3.2693	0.0850	-0.4979	0.0435
2	99.84	0.9727	0.2447	0.0041	-0.9636	0.0373	-3.7834	0.0969	0.0767	0.0487
3	99.84	0.1938	-0.0904	0.0010	0.0008	0.0005	0.0176	0.0023	-0.0439	0.0147
3	99.84	0.2357	0.0099	0.0010	-0.0214	0.0012	-0.0274	0.0042	-0.0318	0.0240
3	99.84	0.2995	0.0213	0.0008	-0.0181	0.0019	-0.0004	0.0089	-0.0855	0.0315
3	99.84	0.3493	0.0456	0.0008	-0.0418	0.0034	0.0198	0.0151	0.1118	0.0324
3	99.84	0.4000	0.0974	0.0014	-0.0681	0.0054	-0.0128	0.0236	0.1148	0.0332
3	99.84	0.4497	0.0928	0.0015	-0.1095	0.0069	-0.0751	0.0308	0.0950	0.0310
3	99.84	0.4997	0.1194	0.0017	-0.1481	0.0085	-0.1877	0.0387	0.0953	0.0344
3	99.84	0.5556	0.1370	0.0018	-0.2146	0.0108	-0.3862	0.0478	0.2716	0.0337
3	99.84	0.5995	0.1759	0.0021	-0.2194	0.0127	-0.5623	0.0540	0.0918	0.0349
3	99.84	0.6498	0.1842	0.0021	-0.2941	0.0151	-0.8123	0.0595	0.3168	0.0361
3	99.84	0.6890	0.1890	0.0021	-0.3001	0.0170	-1.0618	0.0640	0.3254	0.0396
3	99.84	0.7998	0.2115	0.0025	-0.3603	0.0231	-1.9776	0.0777	0.1414	0.0371
3	99.84	0.8577	0.2217	0.0028	-0.3824	0.0266	-2.5192	0.0849	0.3255	0.0469
3	99.84	0.9178	0.2993	0.0033	-0.3807	0.0302	-3.1699	0.0952	0.0497	0.0469
3	99.84	0.9729	0.2951	0.0046	-0.4426	0.0337	-3.8509	0.1044	-0.5019	0.0703
4	99.84	0.2001	-0.0654	0.0008	-0.0061	0.0005	-0.0188	0.0016	0.3447	0.0168
4	99.84	0.2502	-0.0093	0.0008	0.0091	0.0011	-0.0913	0.0035	0.1293	0.0264
4	99.84	0.3001	0.0115	0.0009	-0.0043	0.0020	-0.1036	0.0058	0.6276	0.0363
4	99.84	0.3502	0.0282	0.0009	-0.0130	0.0033	-0.2184	0.0102	0.6137	0.0310
4	99.84	0.4002	0.0491	0.0011	-0.0044	0.0051	-0.3383	0.0156	0.6960	0.0383
4	99.84	0.4500	0.0766	0.0013	0.0070	0.0068	-0.5290	0.0198	0.5956	0.0328
4	99.84	0.5001	0.0846	0.0014	-0.0027	0.0089	-0.7570	0.0257	0.6921	0.0369
4	99.84	0.5560	0.1101	0.0017	0.0084	0.0114	-1.1735	0.0310	0.3695	0.0390
4	99.84	0.6001	0.1414	0.0017	-0.0074	0.0133	-1.5113	0.0353	0.4265	0.0381
4	99.84	0.6501	0.1378	0.0018	-0.0063	0.0161	-1.9560	0.0401	0.5144	0.0402
4	99.84	0.6999	0.1525	0.0020	-0.0136	0.0185	-2.4908	0.0445	0.4303	0.0388
4	99.84	0.8002	0.1747	0.0024	-0.0485	0.0241	-3.6634	0.0561	0.8143	0.0381
4	99.84	0.8582	0.1958	0.0029	-0.0416	0.0271	-4.4818	0.0656	0.1272	0.0431
4	99.84	0.9101	0.2036	0.0031	0.0048	0.0305	-5.1032	0.0762	0.6122	0.0395
4	99.84	0.9728	0.3051	0.0042	0.0720	0.0343	-5.9283	0.0889	0.4553	0.0635

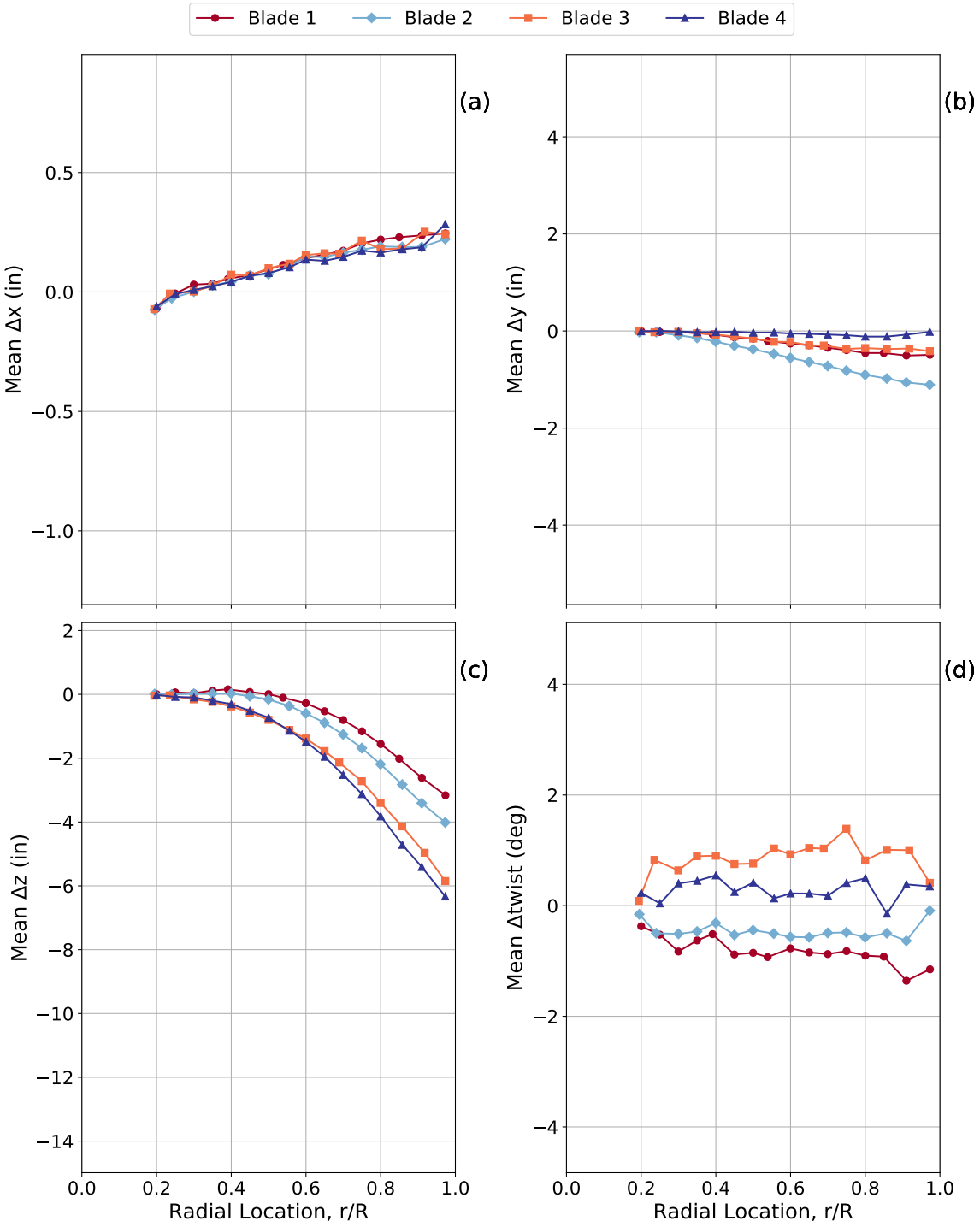


Figure 2.27-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-18. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0696	0.0010	-0.0031	0.0006	0.0068	0.0016	-0.3721	0.0173
1	105.12	0.2499	-0.0064	0.0010	-0.0211	0.0016	0.0619	0.0038	-0.5243	0.0272
1	105.12	0.2998	0.0308	0.0010	-0.0225	0.0027	0.0356	0.0060	-0.8283	0.0377
1	105.12	0.3498	0.0347	0.0011	-0.0450	0.0046	0.1213	0.0113	-0.6284	0.0306
1	105.12	0.3913	0.0548	0.0012	-0.0689	0.0068	0.1561	0.0155	-0.5153	0.0299
1	105.12	0.4496	0.0709	0.0013	-0.1288	0.0091	0.0719	0.0210	-0.8823	0.0322
1	105.12	0.4997	0.0950	0.0015	-0.1577	0.0116	0.0075	0.0260	-0.8528	0.0338
1	105.12	0.5387	0.1132	0.0017	-0.2045	0.0137	-0.1049	0.0305	-0.9295	0.0309
1	105.12	0.5996	0.1412	0.0018	-0.2586	0.0175	-0.2764	0.0367	-0.7723	0.0342
1	105.12	0.6498	0.1569	0.0022	-0.2948	0.0211	-0.5293	0.0422	-0.8458	0.0331
1	105.12	0.6998	0.1727	0.0025	-0.3444	0.0248	-0.8042	0.0466	-0.8749	0.0345
1	105.12	0.7500	0.2037	0.0027	-0.3935	0.0287	-1.1583	0.0518	-0.8221	0.0337
1	105.12	0.8001	0.2194	0.0026	-0.4532	0.0329	-1.5577	0.0567	-0.9029	0.0370
1	105.12	0.8497	0.2291	0.0027	-0.4534	0.0370	-2.0168	0.0627	-0.9214	0.0402
1	105.12	0.9102	0.2371	0.0027	-0.5054	0.0419	-2.6138	0.0721	-1.3581	0.0406
1	105.12	0.9734	0.2453	0.0040	-0.4911	0.0474	-3.1635	0.0842	-1.1513	0.0404
2	105.12	0.1949	-0.0743	0.0010	-0.0229	0.0006	0.0122	0.0023	-0.1559	0.0170
2	105.12	0.2405	-0.0261	0.0009	-0.0237	0.0013	-0.0006	0.0038	-0.4984	0.0295
2	105.12	0.2999	0.0013	0.0011	-0.0886	0.0028	0.0204	0.0083	-0.5104	0.0398
2	105.12	0.3498	0.0275	0.0010	-0.1427	0.0045	0.0243	0.0151	-0.4673	0.0379
2	105.12	0.3998	0.0428	0.0012	-0.2201	0.0072	0.0276	0.0222	-0.3133	0.0364
2	105.12	0.4496	0.0687	0.0014	-0.3041	0.0090	-0.0617	0.0294	-0.5299	0.0386
2	105.12	0.4995	0.0744	0.0013	-0.3757	0.0117	-0.1572	0.0376	-0.4420	0.0427
2	105.12	0.5551	0.1092	0.0015	-0.4708	0.0147	-0.3650	0.0463	-0.5055	0.0397
2	105.12	0.5996	0.1474	0.0016	-0.5535	0.0174	-0.5931	0.0534	-0.5655	0.0430
2	105.12	0.6497	0.1464	0.0016	-0.6377	0.0207	-0.8901	0.0609	-0.5720	0.0412
2	105.12	0.6996	0.1643	0.0018	-0.7209	0.0242	-1.2574	0.0667	-0.4931	0.0434
2	105.12	0.7495	0.1770	0.0022	-0.8152	0.0281	-1.6842	0.0723	-0.4837	0.0478
2	105.12	0.7996	0.1907	0.0022	-0.9033	0.0322	-2.1884	0.0780	-0.5742	0.0489
2	105.12	0.8578	0.1884	0.0029	-0.9796	0.0370	-2.8261	0.0858	-0.4988	0.0512
2	105.12	0.9100	0.1881	0.0030	-1.0595	0.0415	-3.4090	0.0933	-0.6355	0.0538
2	105.12	0.9727	0.2218	0.0043	-1.1087	0.0470	-4.0130	0.1042	-0.0908	0.0515
3	105.12	0.1938	-0.0719	0.0021	0.0020	0.0006	-0.0410	0.0097	0.0864	0.0500
3	105.12	0.2357	-0.0069	0.0029	-0.0250	0.0015	-0.0341	0.0054	0.8258	0.1625
3	105.12	0.2995	0.0018	0.0037	-0.0188	0.0031	-0.1572	0.0285	0.6371	0.1755
3	105.12	0.3493	0.0253	0.0030	-0.0443	0.0049	-0.2365	0.0511	0.8936	0.1585
3	105.12	0.4000	0.0722	0.0037	-0.0736	0.0082	-0.3777	0.0727	0.9023	0.1478
3	105.12	0.4497	0.0681	0.0036	-0.1133	0.0099	-0.5697	0.0916	0.7514	0.1675
3	105.12	0.4997	0.0995	0.0038	-0.1550	0.0128	-0.7991	0.1122	0.7607	0.1683
3	105.12	0.5556	0.1184	0.0040	-0.2223	0.0164	-1.1156	0.1360	1.0325	0.1603
3	105.12	0.5995	0.1543	0.0043	-0.2254	0.0192	-1.3851	0.1544	0.9263	0.1648
3	105.12	0.6498	0.1620	0.0049	-0.2942	0.0230	-1.7773	0.1753	1.0409	0.1653
3	105.12	0.6890	0.1605	0.0054	-0.3001	0.0258	-2.1339	0.1921	1.0307	0.1648
3	105.12	0.7495	0.2151	0.0059	-0.3690	0.0308	-2.7219	0.2181	1.3893	0.1666
3	105.12	0.7998	0.1794	0.0067	-0.3524	0.0355	-3.4025	0.2406	0.8160	0.1627
3	105.12	0.8577	0.1819	0.0076	-0.3708	0.0409	-4.1347	0.2661	1.0089	0.1665
3	105.12	0.9178	0.2521	0.0085	-0.3613	0.0470	-4.9648	0.2935	1.0024	0.1665
3	105.12	0.9729	0.2417	0.0094	-0.4153	0.0527	-5.8502	0.3174	0.4116	0.1827
4	105.12	0.2001	-0.0600	0.0009	-0.0063	0.0005	-0.0180	0.0015	0.2315	0.0191
4	105.12	0.2502	-0.0089	0.0010	0.0024	0.0010	-0.0796	0.0032	0.0412	0.0268
4	105.12	0.3001	0.0087	0.0009	-0.0094	0.0017	-0.0964	0.0057	0.4032	0.0409
4	105.12	0.3502	0.0241	0.0009	-0.0244	0.0031	-0.1980	0.0098	0.4494	0.0330
4	105.12	0.4002	0.0421	0.0011	-0.0237	0.0044	-0.3075	0.0150	0.5474	0.0338
4	105.12	0.4500	0.0675	0.0013	-0.0153	0.0055	-0.5160	0.0193	0.2487	0.0393
4	105.12	0.5001	0.0795	0.0016	-0.0342	0.0071	-0.7320	0.0240	0.4169	0.0383
4	105.12	0.5560	0.1034	0.0018	-0.0317	0.0091	-1.1407	0.0291	0.1314	0.0394
4	105.12	0.6001	0.1354	0.0019	-0.0521	0.0107	-1.4837	0.0326	0.2211	0.0391
4	105.12	0.6501	0.1303	0.0021	-0.0591	0.0128	-1.9560	0.0372	0.2197	0.0407
4	105.12	0.6999	0.1469	0.0023	-0.0728	0.0147	-2.5234	0.0414	0.1806	0.0430
4	105.12	0.7500	0.1729	0.0026	-0.0865	0.0175	-3.1259	0.0472	0.4113	0.0412
4	105.12	0.8002	0.1655	0.0027	-0.1154	0.0202	-3.8228	0.0547	0.4945	0.0419
4	105.12	0.8582	0.1787	0.0031	-0.1149	0.0234	-4.7155	0.0626	-0.1449	0.0429
4	105.12	0.9101	0.1873	0.0035	-0.0752	0.0267	-5.4082	0.0722	0.3845	0.0440
4	105.12	0.9728	0.2833	0.0044	-0.0172	0.0311	-6.3317	0.0846	0.3481	0.0406

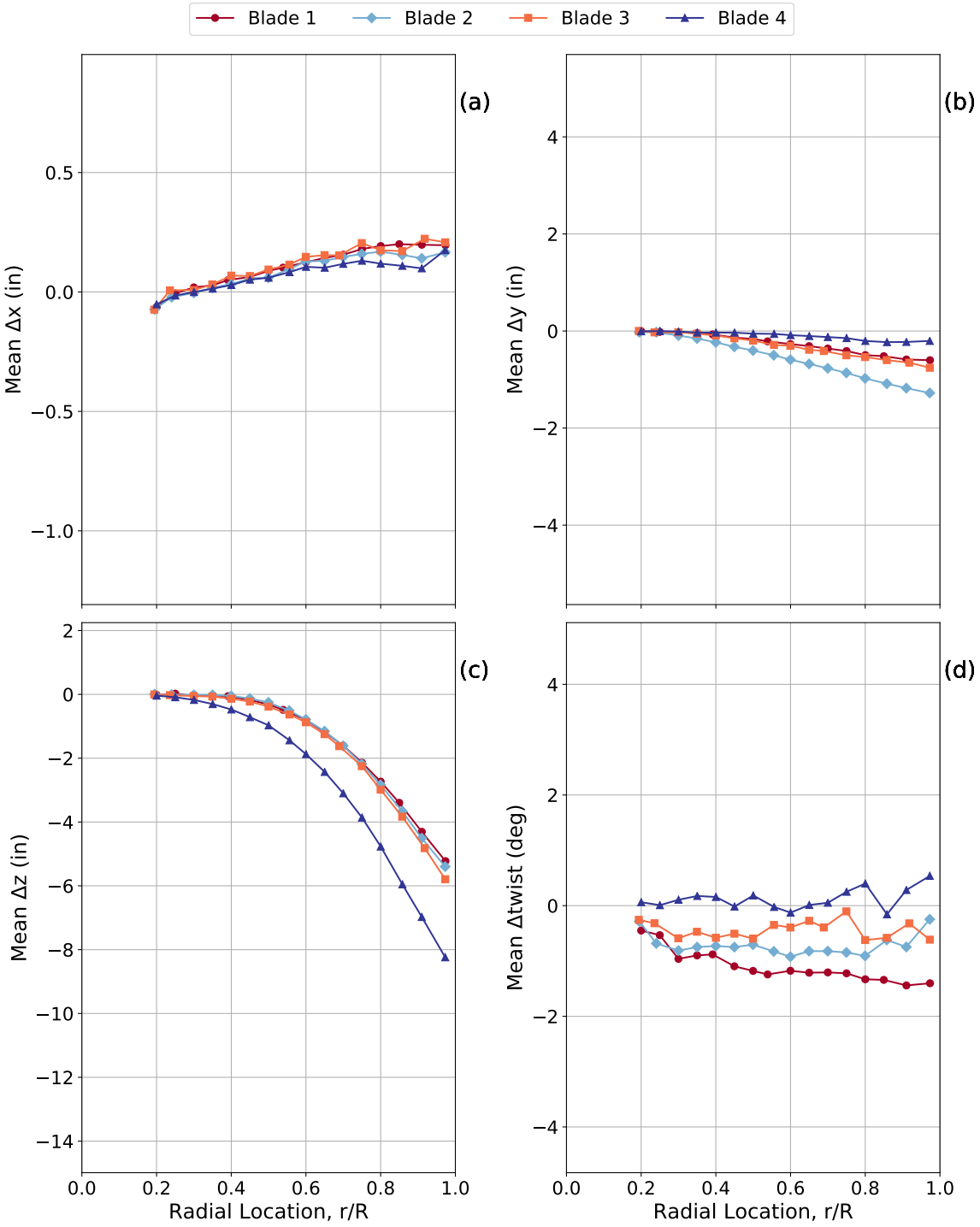


Figure 2.27-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-19. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0628	0.0010	-0.0040	0.0006	-0.0158	0.0018	-0.4500	0.0155
1	119.88	0.2499	-0.0062	0.0010	-0.0183	0.0012	0.0224	0.0038	-0.5333	0.0267
1	119.88	0.2998	0.0192	0.0009	-0.0257	0.0024	-0.0482	0.0070	-0.9617	0.0348
1	119.88	0.3498	0.0277	0.0009	-0.0437	0.0040	-0.0335	0.0119	-0.8994	0.0341
1	119.88	0.3913	0.0498	0.0014	-0.0695	0.0058	-0.0556	0.0171	-0.8813	0.0350
1	119.88	0.4496	0.0629	0.0015	-0.1359	0.0078	-0.1731	0.0250	-1.0960	0.0350
1	119.88	0.4997	0.0884	0.0015	-0.1639	0.0101	-0.3160	0.0319	-1.1797	0.0347
1	119.88	0.5387	0.1018	0.0016	-0.2129	0.0123	-0.4839	0.0381	-1.2434	0.0373
1	119.88	0.5996	0.1242	0.0019	-0.2689	0.0157	-0.7985	0.0478	-1.1774	0.0384
1	119.88	0.6498	0.1425	0.0020	-0.3112	0.0187	-1.1806	0.0567	-1.2120	0.0408
1	119.88	0.6998	0.1559	0.0026	-0.3610	0.0223	-1.6090	0.0655	-1.2068	0.0401
1	119.88	0.7500	0.1799	0.0027	-0.4123	0.0264	-2.1378	0.0751	-1.2234	0.0427
1	119.88	0.8001	0.1923	0.0031	-0.4971	0.0306	-2.7352	0.0870	-1.3312	0.0430
1	119.88	0.8497	0.2000	0.0037	-0.5185	0.0351	-3.3981	0.1003	-1.3420	0.0431
1	119.88	0.9102	0.1976	0.0044	-0.5869	0.0408	-4.3069	0.1180	-1.4420	0.0463
1	119.88	0.9734	0.1956	0.0055	-0.6014	0.0466	-5.2249	0.1380	-1.4029	0.0439
2	119.88	0.1949	-0.0728	0.0009	-0.0250	0.0005	0.0056	0.0016	-0.2825	0.0131
2	119.88	0.2405	-0.0218	0.0009	-0.0248	0.0009	-0.0094	0.0029	-0.6832	0.0219
2	119.88	0.2999	-0.0039	0.0008	-0.0926	0.0020	-0.0156	0.0063	-0.8120	0.0303
2	119.88	0.3498	0.0181	0.0014	-0.1549	0.0032	-0.0155	0.0108	-0.7493	0.0256
2	119.88	0.3998	0.0325	0.0013	-0.2336	0.0051	-0.0489	0.0166	-0.7295	0.0284
2	119.88	0.4496	0.0572	0.0013	-0.3254	0.0061	-0.1311	0.0224	-0.7493	0.0266
2	119.88	0.4995	0.0599	0.0015	-0.4022	0.0080	-0.2510	0.0292	-0.7050	0.0281
2	119.88	0.5551	0.0955	0.0020	-0.4993	0.0102	-0.5098	0.0384	-0.8277	0.0254
2	119.88	0.5996	0.1279	0.0019	-0.5914	0.0125	-0.7877	0.0456	-0.9240	0.0262
2	119.88	0.6497	0.1304	0.0021	-0.6784	0.0150	-1.1539	0.0539	-0.8219	0.0289
2	119.88	0.6996	0.1468	0.0025	-0.7680	0.0177	-1.6118	0.0626	-0.8224	0.0305
2	119.88	0.7495	0.1592	0.0028	-0.8624	0.0208	-2.1807	0.0712	-0.8459	0.0294
2	119.88	0.7996	0.1685	0.0033	-0.9760	0.0240	-2.8352	0.0796	-0.9080	0.0333
2	119.88	0.8578	0.1552	0.0037	-1.0854	0.0281	-3.6641	0.0893	-0.6213	0.0341
2	119.88	0.9100	0.1408	0.0041	-1.1774	0.0318	-4.5064	0.0978	-0.7469	0.0353
2	119.88	0.9727	0.1662	0.0053	-1.2770	0.0363	-5.3981	0.1101	-0.2466	0.0321
3	119.88	0.1938	-0.0741	0.0009	0.0006	0.0005	-0.0036	0.0018	-0.2564	0.0148
3	119.88	0.2357	0.0068	0.0013	-0.0277	0.0015	-0.0254	0.0034	-0.3182	0.0262
3	119.88	0.2995	0.0081	0.0008	-0.0257	0.0026	-0.0537	0.0075	-0.5899	0.0359
3	119.88	0.3493	0.0315	0.0010	-0.0560	0.0044	-0.0692	0.0124	-0.4717	0.0413
3	119.88	0.4000	0.0683	0.0016	-0.0923	0.0072	-0.1367	0.0196	-0.5806	0.0317
3	119.88	0.4497	0.0667	0.0022	-0.1499	0.0084	-0.2255	0.0258	-0.5073	0.0285
3	119.88	0.4997	0.0939	0.0014	-0.1985	0.0101	-0.3837	0.0332	-0.5953	0.0300
3	119.88	0.5556	0.1144	0.0022	-0.2864	0.0124	-0.6311	0.0411	-0.3483	0.0250
3	119.88	0.5995	0.1470	0.0021	-0.3048	0.0148	-0.8740	0.0470	-0.3951	0.0272
3	119.88	0.6498	0.1542	0.0022	-0.3864	0.0174	-1.2478	0.0526	-0.2743	0.0341
3	119.88	0.6890	0.1530	0.0025	-0.4116	0.0195	-1.6222	0.0577	-0.3945	0.0349
3	119.88	0.7495	0.2046	0.0027	-0.5010	0.0234	-2.2490	0.0649	-0.1038	0.0296
3	119.88	0.7998	0.1745	0.0030	-0.5369	0.0269	-2.9852	0.0704	-0.6216	0.0314
3	119.88	0.8577	0.1710	0.0035	-0.5996	0.0311	-3.8330	0.0785	-0.5819	0.0318
3	119.88	0.9178	0.2227	0.0038	-0.6519	0.0359	-4.8189	0.0875	-0.3208	0.0424
3	119.88	0.9729	0.2078	0.0051	-0.7571	0.0402	-5.7932	0.0983	-0.6149	0.0350
4	119.88	0.2001	-0.0518	0.0010	-0.0063	0.0004	-0.0403	0.0014	0.0622	0.0153
4	119.88	0.2502	-0.0148	0.0009	-0.0020	0.0013	-0.0902	0.0044	0.0083	0.0193
4	119.88	0.3001	-0.0004	0.0008	-0.0098	0.0021	-0.1737	0.0070	0.1063	0.0309
4	119.88	0.3502	0.0138	0.0013	-0.0321	0.0034	-0.3048	0.0110	0.1748	0.0307
4	119.88	0.4002	0.0290	0.0016	-0.0329	0.0056	-0.4740	0.0185	0.1566	0.0230
4	119.88	0.4500	0.0516	0.0016	-0.0340	0.0075	-0.7155	0.0245	-0.0166	0.0256
4	119.88	0.5001	0.0597	0.0016	-0.0542	0.0097	-0.9720	0.0316	0.1838	0.0293
4	119.88	0.5560	0.0829	0.0022	-0.0595	0.0127	-1.4404	0.0400	-0.0236	0.0328
4	119.88	0.6001	0.1052	0.0019	-0.0855	0.0153	-1.8747	0.0461	-0.1264	0.0279
4	119.88	0.6501	0.1015	0.0022	-0.1040	0.0187	-2.4307	0.0530	0.0119	0.0261
4	119.88	0.6999	0.1176	0.0022	-0.1248	0.0221	-3.1014	0.0594	0.0520	0.0278
4	119.88	0.7500	0.1307	0.0025	-0.1466	0.0261	-3.8609	0.0655	0.2505	0.0271
4	119.88	0.8002	0.1185	0.0028	-0.2049	0.0302	-4.7699	0.0717	0.3991	0.0289
4	119.88	0.8582	0.1093	0.0032	-0.2296	0.0355	-5.9555	0.0795	-0.1575	0.0286
4	119.88	0.9101	0.0989	0.0037	-0.2255	0.0403	-6.9772	0.0869	0.2823	0.0277
4	119.88	0.9728	0.1750	0.0050	-0.2045	0.0466	-8.2396	0.0975	0.5376	0.0308

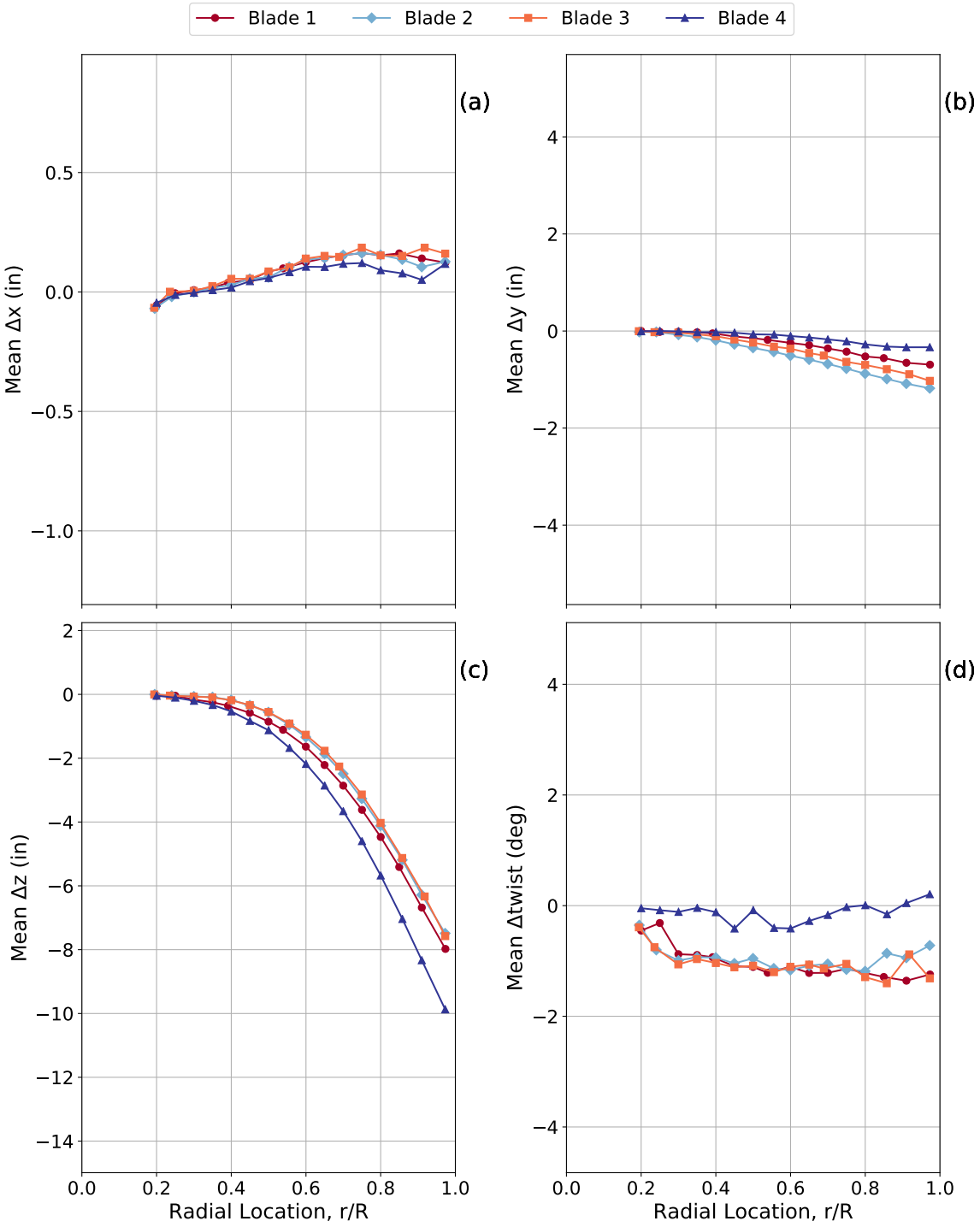


Figure 2.27-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-20. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0556	0.0011	0.0002	0.0007	-0.0444	0.0018	-0.4510	0.0136
1	135	0.2499	-0.0053	0.0009	-0.0184	0.0016	-0.0410	0.0043	-0.3140	0.0242
1	135	0.2998	0.0077	0.0011	-0.0149	0.0028	-0.1669	0.0075	-0.8774	0.0300
1	135	0.3498	0.0180	0.0011	-0.0263	0.0050	-0.2456	0.0130	-0.8919	0.0255
1	135	0.3913	0.0382	0.0013	-0.0485	0.0072	-0.3584	0.0190	-0.9316	0.0262
1	135	0.4496	0.0507	0.0015	-0.1123	0.0093	-0.5784	0.0246	-1.0952	0.0292
1	135	0.4997	0.0853	0.0016	-0.1480	0.0125	-0.8540	0.0317	-1.1077	0.0292
1	135	0.5387	0.0988	0.0018	-0.1823	0.0144	-1.1104	0.0354	-1.2124	0.0352
1	135	0.5996	0.1246	0.0021	-0.2451	0.0182	-1.6377	0.0424	-1.1040	0.0427
1	135	0.6498	0.1416	0.0023	-0.2906	0.0218	-2.2142	0.0479	-1.2166	0.0406
1	135	0.6998	0.1538	0.0026	-0.3596	0.0258	-2.8603	0.0522	-1.2150	0.0461
1	135	0.7500	0.1627	0.0020	-0.4258	0.0298	-3.6195	0.0570	-1.1412	0.0397
1	135	0.8001	0.1537	0.0025	-0.5247	0.0341	-4.4692	0.0629	-1.2166	0.0413
1	135	0.8497	0.1614	0.0027	-0.5580	0.0385	-5.4100	0.0683	-1.2890	0.0410
1	135	0.9102	0.1403	0.0031	-0.6549	0.0442	-6.6810	0.0756	-1.3568	0.0407
1	135	0.9734	0.1230	0.0046	-0.6932	0.0503	-7.9765	0.0844	-1.2435	0.0436
2	135	0.1949	-0.0693	0.0011	-0.0203	0.0004	-0.0005	0.0012	-0.3532	0.0161
2	135	0.2405	-0.0197	0.0006	-0.0196	0.0012	-0.0389	0.0032	-0.8009	0.0221
2	135	0.2999	-0.0004	0.0009	-0.0770	0.0021	-0.0656	0.0061	-0.9912	0.0362
2	135	0.3498	0.0179	0.0011	-0.1245	0.0035	-0.0869	0.0097	-0.9324	0.0344
2	135	0.3998	0.0286	0.0013	-0.1908	0.0057	-0.1780	0.0160	-0.9386	0.0319
2	135	0.4496	0.0551	0.0017	-0.2741	0.0067	-0.3423	0.0200	-1.0437	0.0472
2	135	0.4995	0.0613	0.0018	-0.3478	0.0083	-0.5584	0.0257	-0.9535	0.0297
2	135	0.5551	0.1046	0.0014	-0.4284	0.0108	-0.9510	0.0313	-1.1345	0.0313
2	135	0.5996	0.1351	0.0014	-0.5084	0.0130	-1.3410	0.0356	-1.1649	0.0304
2	135	0.6497	0.1423	0.0017	-0.5887	0.0156	-1.8666	0.0399	-1.0853	0.0329
2	135	0.6996	0.1545	0.0019	-0.6778	0.0184	-2.4879	0.0443	-1.0535	0.0364
2	135	0.7495	0.1626	0.0021	-0.7745	0.0214	-3.2688	0.0490	-1.1540	0.0355
2	135	0.7996	0.1550	0.0024	-0.8788	0.0246	-4.1170	0.0538	-1.1844	0.0364
2	135	0.8578	0.1357	0.0029	-0.9874	0.0287	-5.1887	0.0611	-0.8613	0.0356
2	135	0.9100	0.1049	0.0033	-1.0847	0.0322	-6.2828	0.0680	-0.9429	0.0393
2	135	0.9727	0.1270	0.0043	-1.1801	0.0366	-7.4881	0.0778	-0.7193	0.0395
3	135	0.1938	-0.0661	0.0017	-0.0040	0.0013	-0.0023	0.0053	-0.3912	0.0306
3	135	0.2357	0.0010	0.0010	-0.0239	0.0015	-0.0385	0.0044	-0.7511	0.0835
3	135	0.2995	0.0043	0.0010	-0.0337	0.0043	-0.0687	0.0161	-1.0617	0.0938
3	135	0.3493	0.0243	0.0012	-0.0685	0.0073	-0.0940	0.0275	-0.9653	0.0810
3	135	0.4000	0.0551	0.0014	-0.1074	0.0110	-0.1846	0.0398	-1.0365	0.0826
3	135	0.4497	0.0552	0.0018	-0.1746	0.0141	-0.3378	0.0513	-1.1147	0.0836
3	135	0.4997	0.0858	0.0017	-0.2390	0.0170	-0.5531	0.0637	-1.0855	0.0812
3	135	0.5556	0.1032	0.0018	-0.3225	0.0213	-0.9151	0.0769	-1.2022	0.0886
3	135	0.5995	0.1398	0.0019	-0.3636	0.0247	-1.2653	0.0878	-1.1050	0.0861
3	135	0.6498	0.1510	0.0019	-0.4540	0.0290	-1.7668	0.1000	-1.0652	0.0867
3	135	0.6890	0.1466	0.0022	-0.5054	0.0329	-2.2619	0.1092	-1.1366	0.0878
3	135	0.7495	0.1855	0.0028	-0.6351	0.0383	-3.1379	0.1239	-1.0525	0.0847
3	135	0.7998	0.1534	0.0033	-0.6990	0.0433	-4.0288	0.1350	-1.2921	0.0851
3	135	0.8577	0.1511	0.0039	-0.7877	0.0492	-5.1285	0.1478	-1.4033	0.0848
3	135	0.9178	0.1853	0.0045	-0.8909	0.0555	-6.3338	0.1612	-0.8809	0.0875
3	135	0.9729	0.1605	0.0051	-1.0269	0.0613	-7.5754	0.1747	-1.3144	0.0863
4	135	0.2001	-0.0452	0.0011	-0.0055	0.0008	-0.0436	0.0015	-0.0466	0.0174
4	135	0.2502	-0.0124	0.0012	0.0003	0.0021	-0.1027	0.0028	-0.0824	0.0287
4	135	0.3001	-0.0035	0.0013	-0.0079	0.0036	-0.2016	0.0056	-0.1134	0.0388
4	135	0.3502	0.0077	0.0012	-0.0248	0.0061	-0.3334	0.0091	-0.0405	0.0459
4	135	0.4002	0.0184	0.0015	-0.0241	0.0097	-0.5358	0.0140	-0.1190	0.0362
4	135	0.4500	0.0451	0.0016	-0.0348	0.0108	-0.8319	0.0178	-0.4138	0.0415
4	135	0.5001	0.0585	0.0017	-0.0677	0.0138	-1.1246	0.0227	-0.0816	0.0329
4	135	0.5560	0.0831	0.0021	-0.0750	0.0173	-1.6784	0.0279	-0.4027	0.0441
4	135	0.6001	0.1055	0.0018	-0.1032	0.0200	-2.1810	0.0331	-0.4122	0.0310
4	135	0.6501	0.1047	0.0020	-0.1331	0.0235	-2.8582	0.0377	-0.2762	0.0412
4	135	0.6999	0.1179	0.0022	-0.1730	0.0271	-3.6600	0.0434	-0.1684	0.0314
4	135	0.7500	0.1212	0.0025	-0.2126	0.0310	-4.5994	0.0481	-0.0267	0.0348
4	135	0.8002	0.0910	0.0027	-0.2758	0.0350	-5.6766	0.0534	0.0077	0.0360
4	135	0.8582	0.0777	0.0032	-0.3214	0.0402	-7.0392	0.0609	-0.1555	0.0351
4	135	0.9101	0.0508	0.0038	-0.3351	0.0449	-8.3323	0.0688	0.0464	0.0364
4	135	0.9728	0.1175	0.0052	-0.3347	0.0507	-9.8719	0.0800	0.2062	0.0373

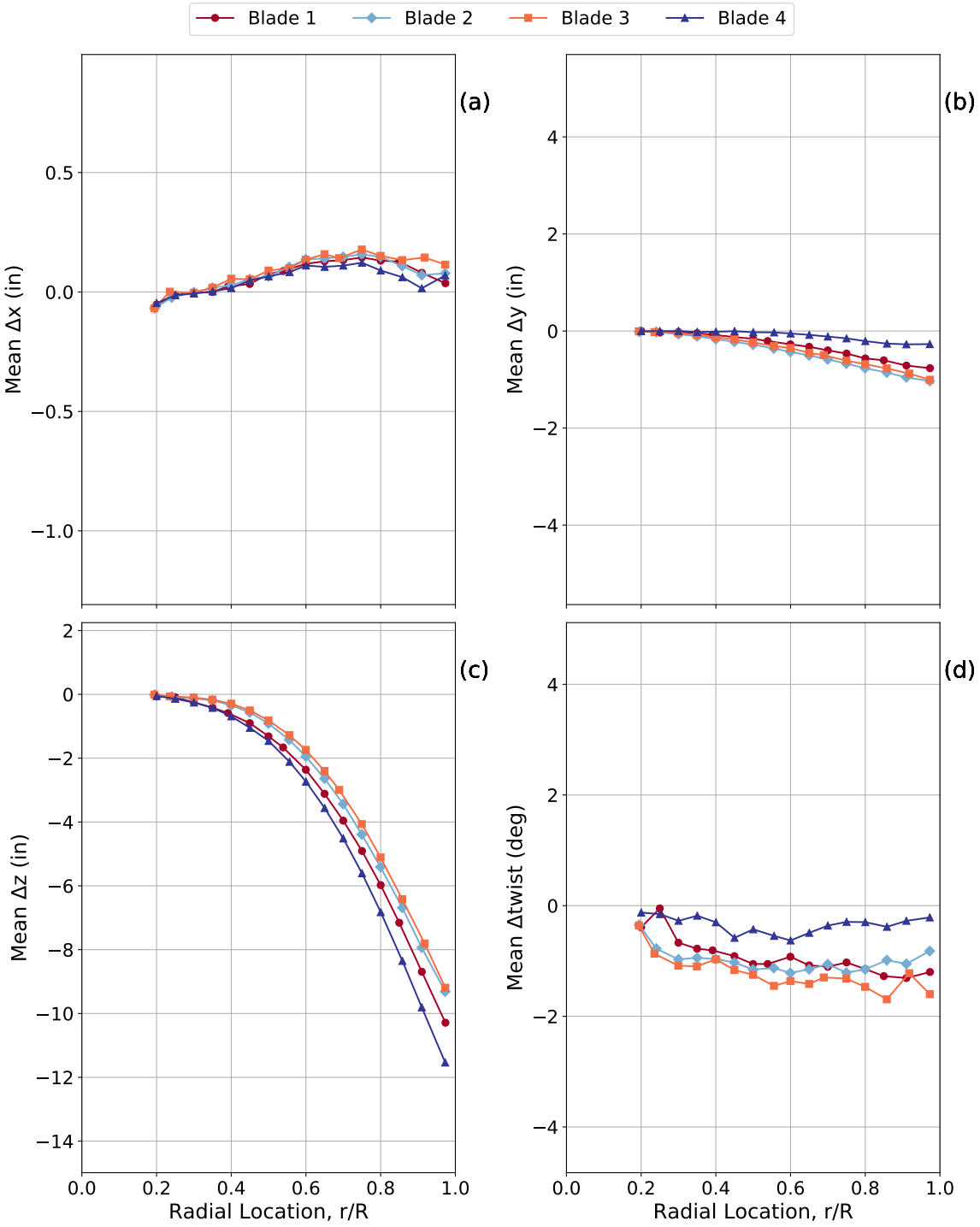


Figure 2.27-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-21. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0526	0.0008	0.0014	0.0007	-0.0654	0.0023	-0.3917	0.0189
1	150.12	0.2499	-0.0125	0.0010	-0.0330	0.0017	-0.0889	0.0036	-0.0502	0.0391
1	150.12	0.2998	-0.0037	0.0011	-0.0196	0.0031	-0.2497	0.0082	-0.6695	0.0455
1	150.12	0.3498	-0.0003	0.0013	-0.0444	0.0054	-0.4137	0.0145	-0.7782	0.0361
1	150.12	0.3913	0.0232	0.0014	-0.0771	0.0076	-0.5860	0.0196	-0.8083	0.0401
1	150.12	0.4496	0.0334	0.0019	-0.1245	0.0102	-0.9012	0.0259	-0.9127	0.0434
1	150.12	0.4997	0.0751	0.0020	-0.1613	0.0133	-1.3144	0.0326	-1.0545	0.0455
1	150.12	0.5387	0.0874	0.0023	-0.2065	0.0153	-1.6619	0.0384	-1.0547	0.0464
1	150.12	0.5996	0.1177	0.0029	-0.2746	0.0186	-2.3613	0.0465	-0.9237	0.0477
1	150.12	0.6498	0.1285	0.0027	-0.3251	0.0230	-3.1153	0.0535	-1.0793	0.0481
1	150.12	0.6998	0.1332	0.0032	-0.3987	0.0265	-3.9568	0.0617	-1.1046	0.0502
1	150.12	0.7500	0.1445	0.0038	-0.4653	0.0306	-4.9077	0.0708	-1.0269	0.0482
1	150.12	0.8001	0.1311	0.0041	-0.5644	0.0344	-5.9780	0.0792	-1.1460	0.0492
1	150.12	0.8497	0.1269	0.0048	-0.6040	0.0386	-7.1558	0.0885	-1.2740	0.0483
1	150.12	0.9102	0.0803	0.0057	-0.7116	0.0439	-8.6927	0.0999	-1.3086	0.0463
1	150.12	0.9734	0.0364	0.0072	-0.7663	0.0492	-10.2897	0.1120	-1.1996	0.0464
2	150.12	0.1949	-0.0683	0.0010	-0.0167	0.0006	-0.0119	0.0015	-0.3474	0.0280
2	150.12	0.2405	-0.0233	0.0013	-0.0191	0.0015	-0.0712	0.0046	-0.7776	0.0309
2	150.12	0.2999	-0.0013	0.0008	-0.0666	0.0029	-0.1269	0.0076	-0.9711	0.0598
2	150.12	0.3498	0.0176	0.0010	-0.1081	0.0040	-0.1892	0.0134	-0.9424	0.0436
2	150.12	0.3998	0.0277	0.0013	-0.1674	0.0065	-0.3434	0.0213	-0.9652	0.0346
2	150.12	0.4496	0.0539	0.0016	-0.2228	0.0087	-0.5676	0.0263	-1.0271	0.0379
2	150.12	0.4995	0.0652	0.0016	-0.2817	0.0098	-0.9123	0.0318	-1.1549	0.0369
2	150.12	0.5551	0.1046	0.0021	-0.3606	0.0125	-1.4234	0.0369	-1.1269	0.0360
2	150.12	0.5996	0.1361	0.0018	-0.4303	0.0138	-1.9455	0.0413	-1.2159	0.0410
2	150.12	0.6497	0.1403	0.0019	-0.5023	0.0163	-2.6361	0.0469	-1.1508	0.0340
2	150.12	0.6996	0.1468	0.0021	-0.5852	0.0189	-3.4365	0.0521	-1.0588	0.0305
2	150.12	0.7495	0.1573	0.0024	-0.6720	0.0214	-4.3895	0.0564	-1.2110	0.0344
2	150.12	0.7996	0.1469	0.0028	-0.7660	0.0243	-5.4088	0.0618	-1.1524	0.0306
2	150.12	0.8578	0.1088	0.0035	-0.8558	0.0276	-6.6848	0.0687	-0.9863	0.0335
2	150.12	0.9100	0.0705	0.0040	-0.9559	0.0306	-7.9352	0.0755	-1.0522	0.0335
2	150.12	0.9727	0.0782	0.0051	-1.0306	0.0344	-9.3123	0.0854	-0.8208	0.0377
3	150.12	0.1938	-0.0683	0.0012	-0.0080	0.0006	-0.0057	0.0029	-0.3593	0.0246
3	150.12	0.2357	0.0010	0.0011	-0.0225	0.0015	-0.0655	0.0030	-0.8696	0.0496
3	150.12	0.2995	-0.0035	0.0011	-0.0444	0.0031	-0.0981	0.0083	-1.0842	0.0641
3	150.12	0.3493	0.0181	0.0016	-0.0828	0.0049	-0.1669	0.0150	-1.0977	0.0541
3	150.12	0.4000	0.0553	0.0017	-0.1291	0.0078	-0.2914	0.0212	-0.9689	0.0575
3	150.12	0.4497	0.0528	0.0020	-0.1741	0.0094	-0.5036	0.0274	-1.1633	0.0555
3	150.12	0.4997	0.0896	0.0020	-0.2338	0.0125	-0.8145	0.0340	-1.2499	0.0567
3	150.12	0.5556	0.0993	0.0023	-0.3100	0.0167	-1.2788	0.0417	-1.4501	0.0524
3	150.12	0.5995	0.1353	0.0021	-0.3502	0.0192	-1.7410	0.0473	-1.3634	0.0560
3	150.12	0.6498	0.1581	0.0021	-0.4511	0.0222	-2.4017	0.0539	-1.4157	0.0563
3	150.12	0.6890	0.1417	0.0023	-0.4973	0.0255	-2.9954	0.0590	-1.2978	0.0574
3	150.12	0.7495	0.1776	0.0026	-0.6127	0.0307	-4.0651	0.0664	-1.3188	0.0558
3	150.12	0.7998	0.1509	0.0028	-0.6833	0.0356	-5.1117	0.0722	-1.4680	0.0569
3	150.12	0.8577	0.1335	0.0032	-0.7690	0.0411	-6.4188	0.0795	-1.6941	0.0593
3	150.12	0.9178	0.1442	0.0039	-0.8774	0.0472	-7.8071	0.0885	-1.2207	0.0589
3	150.12	0.9729	0.1144	0.0049	-1.0055	0.0532	-9.1934	0.0971	-1.5995	0.0607
4	150.12	0.2001	-0.0464	0.0013	-0.0033	0.0009	-0.0519	0.0018	-0.1254	0.0239
4	150.12	0.2502	-0.0137	0.0014	-0.0021	0.0024	-0.1397	0.0039	-0.1532	0.0311
4	150.12	0.3001	-0.0066	0.0014	-0.0008	0.0036	-0.2561	0.0063	-0.2744	0.0504
4	150.12	0.3502	0.0024	0.0015	-0.0203	0.0063	-0.4229	0.0121	-0.1824	0.0371
4	150.12	0.4002	0.0161	0.0014	-0.0152	0.0098	-0.6890	0.0177	-0.3010	0.0383
4	150.12	0.4500	0.0486	0.0016	-0.0043	0.0118	-1.0508	0.0226	-0.5821	0.0405
4	150.12	0.5001	0.0651	0.0020	-0.0256	0.0146	-1.4604	0.0293	-0.4279	0.0410
4	150.12	0.5560	0.0831	0.0020	-0.0292	0.0178	-2.1142	0.0364	-0.5466	0.0568
4	150.12	0.6001	0.1106	0.0023	-0.0513	0.0204	-2.7363	0.0435	-0.6299	0.0411
4	150.12	0.6501	0.1050	0.0025	-0.0798	0.0235	-3.5627	0.0512	-0.4919	0.0413
4	150.12	0.6999	0.1104	0.0028	-0.1148	0.0265	-4.5156	0.0591	-0.3607	0.0469
4	150.12	0.7500	0.1224	0.0036	-0.1520	0.0298	-5.6062	0.0688	-0.2934	0.0434
4	150.12	0.8002	0.0898	0.0045	-0.2084	0.0337	-6.8255	0.0793	-0.2987	0.0423
4	150.12	0.8582	0.0617	0.0057	-0.2603	0.0380	-8.3532	0.0935	-0.3832	0.0445
4	150.12	0.9101	0.0154	0.0068	-0.2745	0.0420	-9.8076	0.1073	-0.2747	0.0455
4	150.12	0.9728	0.0691	0.0087	-0.2705	0.0472	-11.5374	0.1264	-0.2134	0.0462

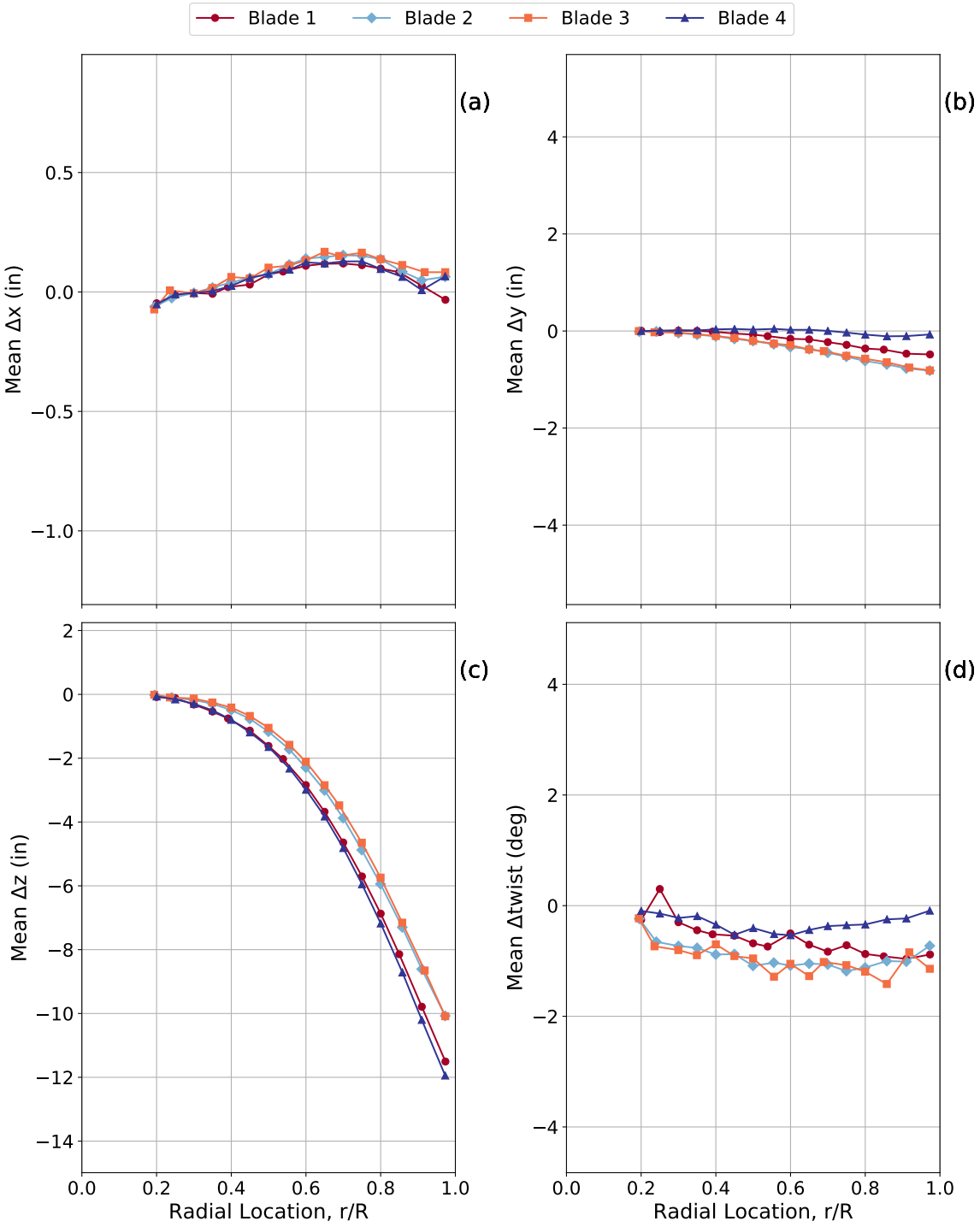


Figure 2.27-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-22. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0471	0.0014	0.0088	0.0010	-0.0844	0.0024	-0.2557	0.0182
1	164.88	0.2499	-0.0134	0.0016	-0.0231	0.0022	-0.1175	0.0040	0.3007	0.0400
1	164.88	0.2998	-0.0043	0.0016	0.0076	0.0039	-0.3180	0.0088	-0.2999	0.0432
1	164.88	0.3498	-0.0078	0.0016	0.0019	0.0067	-0.5382	0.0150	-0.4445	0.0470
1	164.88	0.3913	0.0205	0.0016	-0.0126	0.0097	-0.7549	0.0210	-0.5182	0.0392
1	164.88	0.4496	0.0310	0.0019	-0.0510	0.0124	-1.1352	0.0279	-0.5431	0.0476
1	164.88	0.4997	0.0734	0.0021	-0.0750	0.0165	-1.6154	0.0344	-0.6806	0.0480
1	164.88	0.5387	0.0855	0.0020	-0.1059	0.0189	-2.0266	0.0399	-0.7396	0.0450
1	164.88	0.5996	0.1096	0.0022	-0.1608	0.0233	-2.8418	0.0492	-0.5020	0.0454
1	164.88	0.6498	0.1180	0.0027	-0.1719	0.0272	-3.6793	0.0565	-0.7054	0.0399
1	164.88	0.6998	0.1191	0.0031	-0.2291	0.0313	-4.6413	0.0633	-0.8318	0.0504
1	164.88	0.7500	0.1122	0.0038	-0.2853	0.0361	-5.7050	0.0717	-0.7155	0.0455
1	164.88	0.8001	0.0978	0.0048	-0.3612	0.0412	-6.8716	0.0800	-0.8737	0.0438
1	164.88	0.8497	0.0828	0.0055	-0.3834	0.0462	-8.1427	0.0887	-0.9167	0.0456
1	164.88	0.9102	0.0260	0.0064	-0.4672	0.0523	-9.7889	0.1004	-0.9625	0.0469
1	164.88	0.9734	-0.0328	0.0083	-0.4826	0.0592	-11.5062	0.1147	-0.8831	0.0471
2	164.88	0.1949	-0.0617	0.0015	-0.0128	0.0005	-0.0248	0.0018	-0.2368	0.0219
2	164.88	0.2405	-0.0253	0.0013	-0.0097	0.0022	-0.0996	0.0034	-0.6532	0.0344
2	164.88	0.2999	-0.0041	0.0010	-0.0430	0.0032	-0.1758	0.0068	-0.7301	0.0502
2	164.88	0.3498	0.0182	0.0011	-0.0753	0.0056	-0.2954	0.0113	-0.7638	0.0432
2	164.88	0.3998	0.0400	0.0014	-0.1094	0.0093	-0.4923	0.0176	-0.8840	0.0403
2	164.88	0.4496	0.0584	0.0016	-0.1625	0.0106	-0.7660	0.0212	-0.8759	0.0522
2	164.88	0.4995	0.0738	0.0016	-0.2065	0.0146	-1.1658	0.0258	-1.0881	0.0426
2	164.88	0.5551	0.1144	0.0020	-0.2720	0.0164	-1.7187	0.0317	-1.0309	0.0434
2	164.88	0.5996	0.1397	0.0019	-0.3313	0.0186	-2.2937	0.0357	-1.0833	0.0444
2	164.88	0.6497	0.1461	0.0023	-0.3725	0.0214	-3.0082	0.0409	-1.0476	0.0430
2	164.88	0.6996	0.1540	0.0024	-0.4479	0.0246	-3.8770	0.0458	-1.0632	0.0467
2	164.88	0.7495	0.1512	0.0027	-0.5289	0.0279	-4.8765	0.0518	-1.1831	0.0492
2	164.88	0.7996	0.1374	0.0031	-0.6172	0.0312	-5.9436	0.0581	-1.1200	0.0475
2	164.88	0.8578	0.0853	0.0037	-0.6882	0.0352	-7.2990	0.0657	-1.0014	0.0451
2	164.88	0.9100	0.0490	0.0041	-0.7712	0.0391	-8.6103	0.0723	-1.0116	0.0474
2	164.88	0.9727	0.0638	0.0053	-0.8164	0.0437	-10.0748	0.0818	-0.7265	0.0452
3	164.88	0.1938	-0.0731	0.0014	-0.0017	0.0011	-0.0125	0.0018	-0.2282	0.0218
3	164.88	0.2357	0.0068	0.0015	-0.0263	0.0027	-0.0957	0.0041	-0.7353	0.0321
3	164.88	0.2995	-0.0058	0.0014	-0.0311	0.0040	-0.1317	0.0054	-0.8030	0.0485
3	164.88	0.3493	0.0166	0.0014	-0.0638	0.0066	-0.2548	0.0102	-0.8953	0.0366
3	164.88	0.4000	0.0628	0.0015	-0.1033	0.0102	-0.4125	0.0148	-0.6994	0.0420
3	164.88	0.4497	0.0567	0.0021	-0.1442	0.0123	-0.6780	0.0183	-0.9110	0.0420
3	164.88	0.4997	0.1018	0.0020	-0.2033	0.0162	-1.0480	0.0245	-0.9547	0.0379
3	164.88	0.5556	0.1107	0.0019	-0.2593	0.0187	-1.5813	0.0305	-1.2840	0.0417
3	164.88	0.5995	0.1322	0.0019	-0.2906	0.0207	-2.1076	0.0364	-1.0517	0.0399
3	164.88	0.6498	0.1681	0.0020	-0.3791	0.0240	-2.8469	0.0418	-1.2735	0.0432
3	164.88	0.6890	0.1506	0.0023	-0.4141	0.0261	-3.4781	0.0466	-1.0183	0.0440
3	164.88	0.7495	0.1644	0.0026	-0.5106	0.0301	-4.6489	0.0546	-1.0762	0.0463
3	164.88	0.7998	0.1372	0.0031	-0.5714	0.0333	-5.7431	0.0607	-1.1927	0.0479
3	164.88	0.8577	0.1127	0.0039	-0.6442	0.0373	-7.1539	0.0694	-1.4162	0.0482
3	164.88	0.9178	0.0828	0.0044	-0.7536	0.0419	-8.6528	0.0790	-0.8446	0.0477
3	164.88	0.9729	0.0828	0.0057	-0.8122	0.0457	-10.0867	0.0890	-1.1416	0.0522
4	164.88	0.2001	-0.0518	0.0014	0.0010	0.0009	-0.0643	0.0018	-0.0953	0.0235
4	164.88	0.2502	-0.0099	0.0017	0.0068	0.0032	-0.1578	0.0041	-0.1430	0.0268
4	164.88	0.3001	-0.0044	0.0014	0.0162	0.0038	-0.2956	0.0068	-0.2223	0.0460
4	164.88	0.3502	0.0038	0.0018	0.0124	0.0078	-0.5007	0.0108	-0.1895	0.0336
4	164.88	0.4002	0.0255	0.0016	0.0332	0.0117	-0.7981	0.0171	-0.3432	0.0316
4	164.88	0.4500	0.0586	0.0019	0.0422	0.0109	-1.1918	0.0212	-0.5271	0.0391
4	164.88	0.5001	0.0764	0.0019	0.0288	0.0149	-1.6490	0.0255	-0.4056	0.0316
4	164.88	0.5560	0.0932	0.0019	0.0436	0.0177	-2.3260	0.0321	-0.5132	0.0348
4	164.88	0.6001	0.1237	0.0023	0.0239	0.0203	-2.9882	0.0376	-0.5347	0.0296
4	164.88	0.6501	0.1194	0.0026	0.0249	0.0223	-3.8280	0.0437	-0.4389	0.0318
4	164.88	0.6999	0.1278	0.0032	0.0026	0.0254	-4.8155	0.0497	-0.3703	0.0350
4	164.88	0.7500	0.1282	0.0033	-0.0318	0.0287	-5.9502	0.0564	-0.3532	0.0345
4	164.88	0.8002	0.0962	0.0039	-0.0744	0.0320	-7.1797	0.0638	-0.3407	0.0353
4	164.88	0.8582	0.0632	0.0047	-0.1092	0.0365	-8.7141	0.0727	-0.2481	0.0353
4	164.88	0.9101	0.0076	0.0054	-0.1049	0.0403	-10.2008	0.0801	-0.2317	0.0409
4	164.88	0.9728	0.0655	0.0070	-0.0712	0.0452	-11.9451	0.0923	-0.0908	0.0410

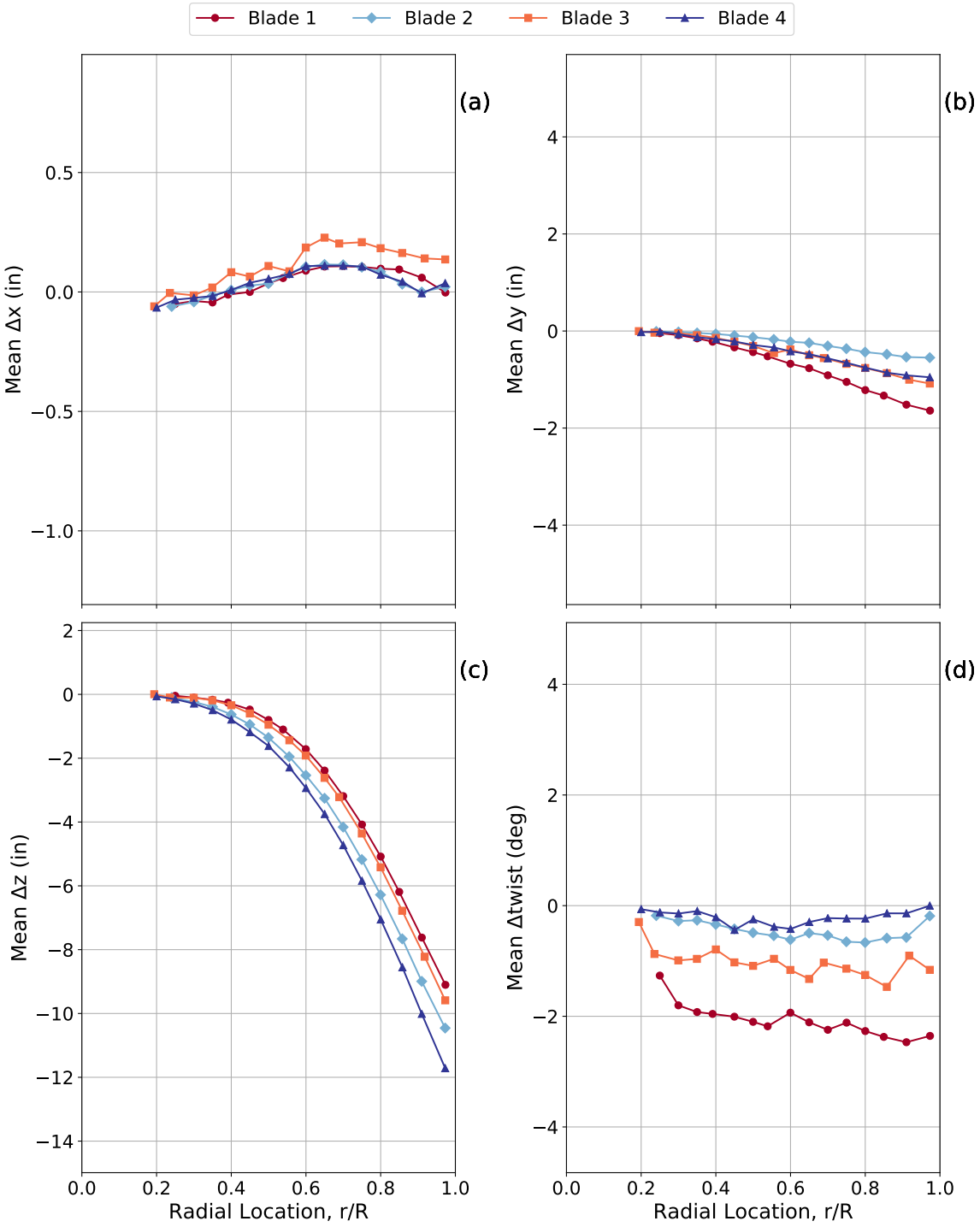


Figure 2.27-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-23. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2499	-0.0502	0.0024	-0.0449	0.0037	-0.0454	0.0073	-1.2641	0.0611
1	170.16	0.2998	-0.0377	0.0032	-0.0848	0.0072	-0.1002	0.0138	-1.8020	0.0869
1	170.16	0.3498	-0.0440	0.0029	-0.1515	0.0124	-0.1698	0.0233	-1.9232	0.0806
1	170.16	0.3913	-0.0112	0.0031	-0.2201	0.0182	-0.2609	0.0338	-1.9572	0.0791
1	170.16	0.4496	0.0000	0.0034	-0.3370	0.0234	-0.4767	0.0457	-2.0073	0.0847
1	170.16	0.4997	0.0361	0.0036	-0.4346	0.0291	-0.8027	0.0574	-2.1004	0.0801
1	170.16	0.5387	0.0582	0.0042	-0.5217	0.0340	-1.1014	0.0663	-2.1809	0.0879
1	170.16	0.5996	0.0891	0.0042	-0.6751	0.0402	-1.7167	0.0813	-1.9347	0.0817
1	170.16	0.6498	0.1064	0.0046	-0.7660	0.0458	-2.3876	0.0937	-2.1085	0.0831
1	170.16	0.6998	0.1078	0.0044	-0.9127	0.0516	-3.1887	0.1053	-2.2443	0.0836
1	170.16	0.7500	0.1048	0.0048	-1.0494	0.0576	-4.0804	0.1181	-2.1148	0.0822
1	170.16	0.8001	0.0974	0.0059	-1.2172	0.0638	-5.0831	0.1309	-2.2670	0.0827
1	170.16	0.8497	0.0941	0.0066	-1.3307	0.0697	-6.1892	0.1441	-2.3724	0.0813
1	170.16	0.9102	0.0598	0.0076	-1.5179	0.0778	-7.6213	0.1611	-2.4684	0.0839
1	170.16	0.9734	-0.0024	0.0096	-1.6404	0.0862	-9.1026	0.1793	-2.3545	0.0845
2	170.16	0.2405	-0.0606	0.0026	-0.0104	0.0034	-0.1024	0.0038	-0.1803	0.0352
2	170.16	0.2999	-0.0416	0.0024	-0.0205	0.0061	-0.2352	0.0090	-0.2785	0.0545
2	170.16	0.3498	-0.0148	0.0028	-0.0401	0.0130	-0.3931	0.0147	-0.2638	0.0516
2	170.16	0.3998	0.0079	0.0028	-0.0601	0.0187	-0.6290	0.0234	-0.3402	0.0488
2	170.16	0.4496	0.0264	0.0029	-0.0936	0.0234	-0.9451	0.0277	-0.4205	0.0525
2	170.16	0.4995	0.0350	0.0029	-0.1280	0.0276	-1.3540	0.0364	-0.4896	0.0461
2	170.16	0.5551	0.0780	0.0031	-0.1735	0.0332	-1.9514	0.0425	-0.5429	0.0508
2	170.16	0.5996	0.1054	0.0033	-0.2213	0.0378	-2.5370	0.0493	-0.6151	0.0533
2	170.16	0.6497	0.1152	0.0033	-0.2440	0.0429	-3.2566	0.0575	-0.4959	0.0524
2	170.16	0.6996	0.1138	0.0036	-0.3077	0.0485	-4.1585	0.0636	-0.5369	0.0507
2	170.16	0.7495	0.1037	0.0041	-0.3643	0.0539	-5.1759	0.0711	-0.6524	0.0507
2	170.16	0.7996	0.0847	0.0046	-0.4345	0.0596	-6.2803	0.0780	-0.6668	0.0542
2	170.16	0.8578	0.0327	0.0051	-0.4793	0.0663	-7.6612	0.0864	-0.5877	0.0545
2	170.16	0.9100	-0.0002	0.0055	-0.5366	0.0722	-8.9932	0.0942	-0.5744	0.0582
2	170.16	0.9727	0.0215	0.0075	-0.5489	0.0795	-10.4569	0.1052	-0.1873	0.0550
3	170.16	0.1938	-0.0602	0.0049	-0.0025	0.0018	0.0048	0.0038	-0.2965	0.0313
3	170.16	0.2357	-0.0040	0.0023	-0.0351	0.0030	-0.0985	0.0033	-0.8739	0.0988
3	170.16	0.2995	-0.0142	0.0026	-0.0444	0.0068	-0.1057	0.0104	-0.9899	0.1036
3	170.16	0.3493	0.0186	0.0046	-0.0860	0.0106	-0.1876	0.0176	-0.9624	0.1021
3	170.16	0.4000	0.0826	0.0083	-0.1423	0.0171	-0.3413	0.0252	-0.7923	0.1167
3	170.16	0.4497	0.0643	0.0108	-0.2221	0.0208	-0.5990	0.0321	-1.0253	0.1067
3	170.16	0.4997	0.1087	0.0131	-0.3084	0.0238	-0.9510	0.0402	-1.0883	0.1235
3	170.16	0.5556	0.0864	0.0180	-0.4566	0.0304	-1.4399	0.0464	-0.9615	0.1601
3	170.16	0.5995	0.1860	0.0112	-0.3800	0.0633	-1.9162	0.0414	-1.1624	0.1128
3	170.16	0.6498	0.2273	0.0112	-0.4990	0.0709	-2.6167	0.0484	-1.3251	0.1169
3	170.16	0.6890	0.2029	0.0115	-0.5575	0.0762	-3.2203	0.0544	-1.0300	0.1168
3	170.16	0.7495	0.2083	0.0114	-0.6772	0.0847	-4.3600	0.0642	-1.1390	0.1145
3	170.16	0.7998	0.1831	0.0114	-0.7622	0.0924	-5.4189	0.0726	-1.2537	0.1159
3	170.16	0.8577	0.1631	0.0115	-0.8690	0.1013	-6.7815	0.0830	-1.4686	0.1216
3	170.16	0.9178	0.1404	0.0115	-1.0033	0.1108	-8.2211	0.0942	-0.9038	0.1186
3	170.16	0.9729	0.1361	0.0133	-1.0826	0.1195	-9.5880	0.1062	-1.1609	0.1120
4	170.16	0.2001	-0.0654	0.0016	-0.0239	0.0019	-0.0610	0.0025	-0.0642	0.0235
4	170.16	0.2502	-0.0325	0.0026	-0.0145	0.0034	-0.1540	0.0064	-0.1224	0.0330
4	170.16	0.3001	-0.0249	0.0022	-0.0640	0.0070	-0.2891	0.0093	-0.1428	0.0476
4	170.16	0.3502	-0.0167	0.0025	-0.1272	0.0122	-0.4956	0.0164	-0.0983	0.0374
4	170.16	0.4002	0.0085	0.0026	-0.1673	0.0181	-0.7909	0.0255	-0.2098	0.0432
4	170.16	0.4500	0.0386	0.0027	-0.2158	0.0231	-1.1851	0.0302	-0.4391	0.0443
4	170.16	0.5001	0.0550	0.0027	-0.2886	0.0283	-1.6190	0.0375	-0.2467	0.0397
4	170.16	0.5560	0.0753	0.0030	-0.3398	0.0343	-2.2905	0.0459	-0.3822	0.0452
4	170.16	0.6001	0.1082	0.0032	-0.4187	0.0388	-2.9361	0.0520	-0.4209	0.0393
4	170.16	0.6501	0.1099	0.0034	-0.4768	0.0441	-3.7528	0.0586	-0.2962	0.0424
4	170.16	0.6999	0.1101	0.0035	-0.5637	0.0495	-4.7270	0.0665	-0.2254	0.0451
4	170.16	0.7500	0.1064	0.0043	-0.6551	0.0551	-5.8425	0.0740	-0.2333	0.0475
4	170.16	0.8002	0.0721	0.0049	-0.7549	0.0606	-7.0555	0.0816	-0.2344	0.0444
4	170.16	0.8582	0.0428	0.0057	-0.8589	0.0671	-8.5543	0.0924	-0.1388	0.0447
4	170.16	0.9101	-0.0057	0.0067	-0.9128	0.0728	-10.0133	0.1033	-0.1398	0.0531
4	170.16	0.9728	0.0368	0.0089	-0.9540	0.0803	-11.7160	0.1174	-0.0010	0.0486

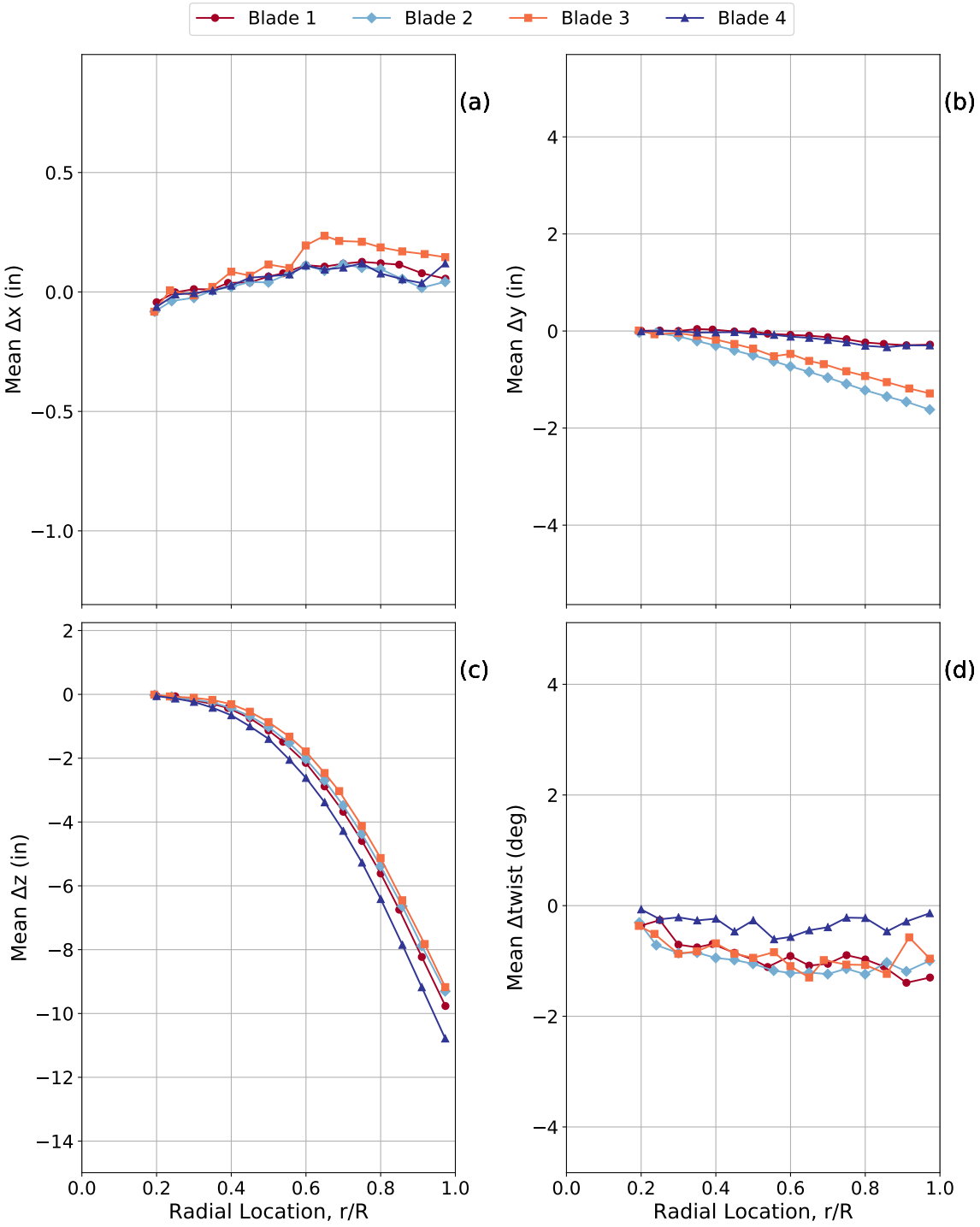


Figure 2.27-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-24. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2001	-0.0430	0.0053	0.0041	0.0082	-0.0498	0.0133	-0.3601	0.1084
1	175.08	0.2499	-0.0016	0.0037	0.0102	0.0083	-0.0607	0.0131	-0.2618	0.2908
1	175.08	0.2998	0.0118	0.0033	0.0009	0.0277	-0.1864	0.0443	-0.7051	0.2914
1	175.08	0.3498	0.0106	0.0056	0.0401	0.0472	-0.3004	0.0761	-0.7542	0.2870
1	175.08	0.3913	0.0380	0.0079	0.0301	0.0637	-0.4266	0.1020	-0.6927	0.2906
1	175.08	0.4496	0.0400	0.0123	-0.0092	0.0873	-0.7459	0.1394	-0.8525	0.2883
1	175.08	0.4997	0.0647	0.0167	-0.0089	0.1082	-1.1290	0.1713	-0.9752	0.2882
1	175.08	0.5387	0.0781	0.0209	-0.0552	0.1246	-1.4861	0.1969	-1.1089	0.2875
1	175.08	0.5996	0.1122	0.0273	-0.0792	0.1515	-2.1465	0.2362	-0.9104	0.2898
1	175.08	0.6498	0.1061	0.0331	-0.0957	0.1743	-2.8833	0.2691	-1.0836	0.2908
1	175.08	0.6998	0.1184	0.0388	-0.1282	0.1975	-3.6780	0.3030	-1.0513	0.2840
1	175.08	0.7500	0.1261	0.0458	-0.1685	0.2218	-4.5948	0.3364	-0.8956	0.2871
1	175.08	0.8001	0.1201	0.0528	-0.2364	0.2464	-5.6127	0.3696	-0.9723	0.2864
1	175.08	0.8497	0.1144	0.0602	-0.2652	0.2713	-6.7467	0.4019	-1.1007	0.2913
1	175.08	0.9102	0.0785	0.0709	-0.2931	0.3019	-8.2288	0.4403	-1.3938	0.3032
1	175.08	0.9734	0.0556	0.0823	-0.2807	0.3347	-9.7655	0.4836	-1.2995	0.2875
2	175.08	0.1949	-0.0821	0.0027	-0.0295	0.0011	-0.0237	0.0022	-0.3060	0.0147
2	175.08	0.2405	-0.0377	0.0019	-0.0389	0.0019	-0.0747	0.0025	-0.7129	0.0355
2	175.08	0.2999	-0.0244	0.0015	-0.1109	0.0041	-0.1615	0.0067	-0.8578	0.0395
2	175.08	0.3498	0.0063	0.0029	-0.2061	0.0076	-0.2526	0.0116	-0.8498	0.0351
2	175.08	0.3998	0.0212	0.0050	-0.3018	0.0112	-0.4311	0.0169	-0.9453	0.0363
2	175.08	0.4496	0.0417	0.0072	-0.3993	0.0148	-0.6797	0.0214	-0.9816	0.0362
2	175.08	0.4995	0.0400	0.0097	-0.5012	0.0190	-1.0172	0.0284	-1.0512	0.0356
2	175.08	0.5551	0.0776	0.0130	-0.6235	0.0240	-1.5257	0.0353	-1.1742	0.0354
2	175.08	0.5996	0.1106	0.0161	-0.7296	0.0275	-2.0266	0.0422	-1.2187	0.0339
2	175.08	0.6497	0.0889	0.0196	-0.8416	0.0321	-2.6979	0.0500	-1.2095	0.0357
2	175.08	0.6996	0.1160	0.0230	-0.9607	0.0362	-3.4809	0.0600	-1.2370	0.0345
2	175.08	0.7495	0.1017	0.0277	-1.0897	0.0401	-4.3710	0.0706	-1.1391	0.0371
2	175.08	0.7996	0.0962	0.0320	-1.2205	0.0446	-5.3817	0.0815	-1.2398	0.0410
2	175.08	0.8578	0.0539	0.0376	-1.3508	0.0498	-6.6402	0.0976	-1.0270	0.0413
2	175.08	0.9100	0.0178	0.0429	-1.4585	0.0555	-7.8830	0.1109	-1.1883	0.0465
2	175.08	0.9727	0.0426	0.0504	-1.6194	0.0626	-9.3028	0.1285	-0.9954	0.0584
3	175.08	0.1938	-0.0825	0.0026	0.0097	0.0023	-0.0071	0.0022	-0.3658	0.0322
3	175.08	0.2357	0.0070	0.0025	-0.0671	0.0037	-0.0669	0.0057	-0.5110	0.0367
3	175.08	0.2995	-0.0145	0.0025	-0.0422	0.0091	-0.1069	0.0082	-0.8708	0.0647
3	175.08	0.3493	0.0211	0.0048	-0.1014	0.0161	-0.1740	0.0140	-0.8259	0.0615
3	175.08	0.4000	0.0848	0.0082	-0.1766	0.0246	-0.3081	0.0224	-0.6815	0.0613
3	175.08	0.4497	0.0684	0.0113	-0.2669	0.0316	-0.5433	0.0286	-0.8669	0.0632
3	175.08	0.4997	0.1151	0.0144	-0.3632	0.0386	-0.8684	0.0361	-0.9432	0.0733
3	175.08	0.5556	0.1002	0.0173	-0.5193	0.0460	-1.3251	0.0444	-0.8415	0.0798
3	175.08	0.5995	0.1947	0.0131	-0.4719	0.0326	-1.7900	0.0537	-1.0934	0.0741
3	175.08	0.6498	0.2351	0.0131	-0.6161	0.0363	-2.4643	0.0637	-1.2984	0.0752
3	175.08	0.6890	0.2136	0.0130	-0.6834	0.0397	-3.0318	0.0691	-0.9850	0.0763
3	175.08	0.7495	0.2100	0.0130	-0.8291	0.0446	-4.1243	0.0787	-1.0655	0.0740
3	175.08	0.7998	0.1866	0.0131	-0.9281	0.0488	-5.1301	0.0888	-1.0724	0.0751
3	175.08	0.8577	0.1699	0.0131	-1.0536	0.0539	-6.4526	0.1003	-1.2330	0.0700
3	175.08	0.9178	0.1586	0.0135	-1.1844	0.0599	-7.8236	0.1139	-0.5732	0.0761
3	175.08	0.9729	0.1456	0.0136	-1.2859	0.0652	-9.1740	0.1251	-0.9583	0.0776
4	175.08	0.2001	-0.0623	0.0032	-0.0065	0.0015	-0.0529	0.0024	-0.0678	0.0188
4	175.08	0.2502	-0.0105	0.0020	-0.0005	0.0020	-0.1303	0.0034	-0.2464	0.0350
4	175.08	0.3001	-0.0051	0.0014	-0.0074	0.0048	-0.2352	0.0071	-0.2110	0.0397
4	175.08	0.3502	0.0056	0.0034	-0.0316	0.0077	-0.4198	0.0113	-0.2670	0.0309
4	175.08	0.4002	0.0267	0.0068	-0.0284	0.0116	-0.6542	0.0162	-0.2360	0.0357
4	175.08	0.4500	0.0598	0.0103	-0.0223	0.0154	-1.0020	0.0205	-0.4668	0.0361
4	175.08	0.5001	0.0655	0.0147	-0.0623	0.0197	-1.3954	0.0259	-0.2661	0.0361
4	175.08	0.5560	0.0734	0.0199	-0.0796	0.0247	-2.0504	0.0325	-0.6080	0.0397
4	175.08	0.6001	0.1104	0.0246	-0.1160	0.0296	-2.6184	0.0376	-0.5655	0.0378
4	175.08	0.6501	0.0940	0.0310	-0.1405	0.0343	-3.3833	0.0434	-0.4456	0.0400
4	175.08	0.6999	0.1020	0.0373	-0.1844	0.0398	-4.2769	0.0500	-0.3896	0.0373
4	175.08	0.7500	0.1195	0.0445	-0.2334	0.0452	-5.2716	0.0564	-0.2173	0.0413
4	175.08	0.8002	0.0773	0.0522	-0.3042	0.0508	-6.4137	0.0627	-0.2228	0.0414
4	175.08	0.8582	0.0531	0.0623	-0.3338	0.0571	-7.8497	0.0696	-0.4641	0.0435
4	175.08	0.9101	0.0374	0.0719	-0.2956	0.0636	-9.1784	0.0778	-0.2871	0.0487
4	175.08	0.9728	0.1196	0.0858	-0.2970	0.0714	-10.7843	0.0878	-0.1367	0.0489

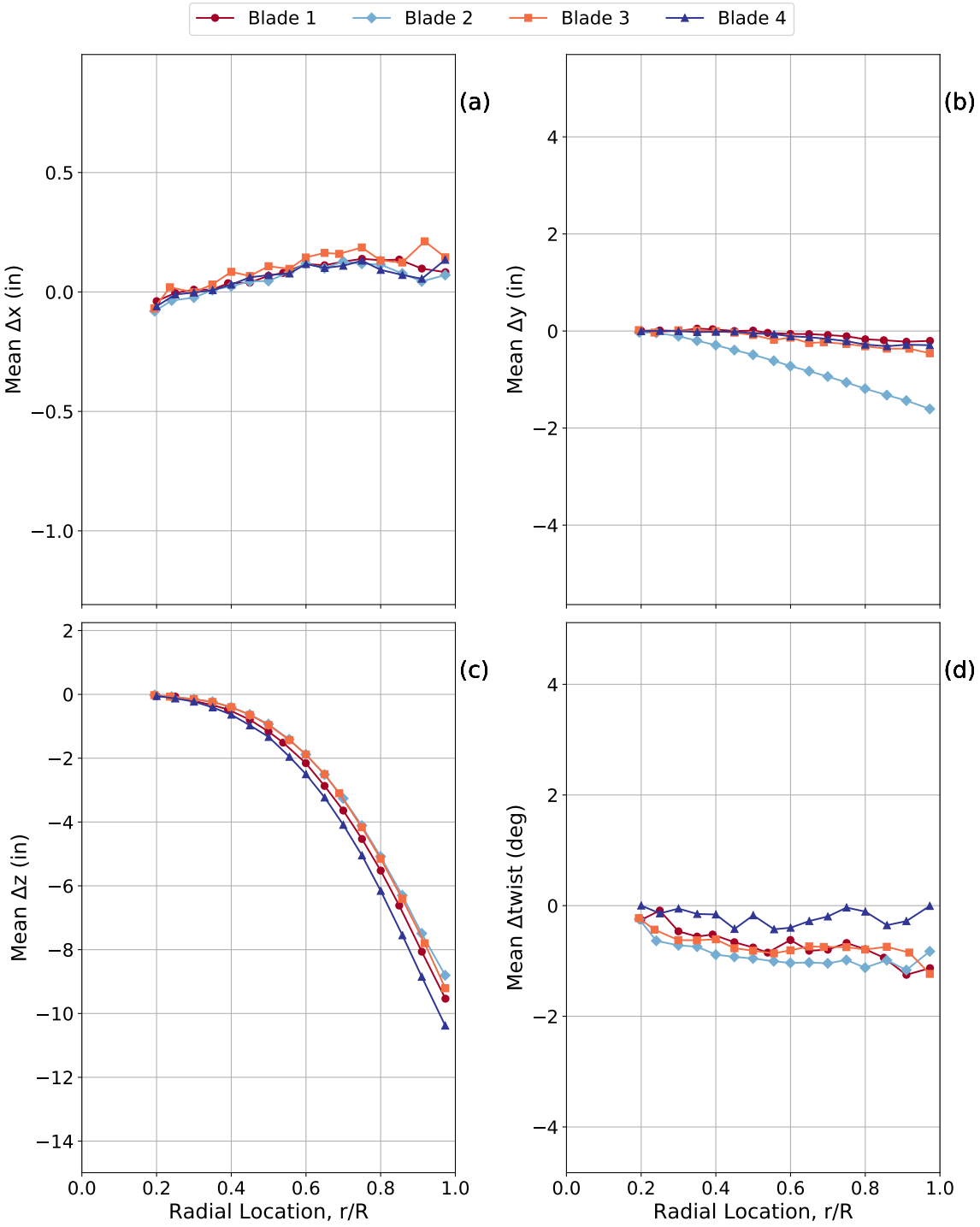


Figure 2.27-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-25. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.0385	0.0044	0.0052	0.0019	-0.0549	0.0033	-0.2575	0.0270
1	180	0.2499	-0.0043	0.0026	0.0117	0.0035	-0.0696	0.0057	-0.0891	0.0573
1	180	0.2998	0.0097	0.0016	0.0020	0.0069	-0.2046	0.0114	-0.4639	0.0639
1	180	0.3498	0.0097	0.0037	0.0488	0.0122	-0.3367	0.0200	-0.5590	0.0574
1	180	0.3913	0.0367	0.0060	0.0370	0.0170	-0.4745	0.0276	-0.5219	0.0569
1	180	0.4496	0.0390	0.0091	-0.0004	0.0237	-0.7949	0.0362	-0.6610	0.0570
1	180	0.4997	0.0679	0.0127	0.0086	0.0300	-1.1665	0.0443	-0.7564	0.0552
1	180	0.5387	0.0797	0.0151	-0.0376	0.0355	-1.5113	0.0507	-0.8486	0.0586
1	180	0.5996	0.1171	0.0200	-0.0598	0.0444	-2.1548	0.0601	-0.6210	0.0560
1	180	0.6498	0.1119	0.0244	-0.0634	0.0525	-2.8690	0.0679	-0.8150	0.0580
1	180	0.6998	0.1270	0.0290	-0.0834	0.0605	-3.6405	0.0761	-0.7959	0.0586
1	180	0.7500	0.1387	0.0346	-0.1089	0.0692	-4.5324	0.0837	-0.6754	0.0576
1	180	0.8001	0.1329	0.0408	-0.1701	0.0780	-5.5225	0.0915	-0.7879	0.0581
1	180	0.8497	0.1355	0.0480	-0.1901	0.0872	-6.6179	0.0991	-0.9404	0.0649
1	180	0.9102	0.0979	0.0565	-0.2207	0.0983	-8.0640	0.1103	-1.2501	0.0620
1	180	0.9734	0.0828	0.0666	-0.2034	0.1111	-9.5366	0.1232	-1.1294	0.0589
2	180	0.1949	-0.0806	0.0036	-0.0286	0.0014	-0.0208	0.0023	-0.2446	0.0201
2	180	0.2405	-0.0356	0.0021	-0.0374	0.0018	-0.0707	0.0030	-0.6357	0.0393
2	180	0.2999	-0.0237	0.0015	-0.1073	0.0045	-0.1506	0.0079	-0.7183	0.0499
2	180	0.3498	0.0080	0.0035	-0.1994	0.0073	-0.2319	0.0129	-0.7417	0.0453
2	180	0.3998	0.0238	0.0064	-0.2918	0.0111	-0.4008	0.0194	-0.8858	0.0470
2	180	0.4496	0.0442	0.0094	-0.3925	0.0145	-0.6300	0.0255	-0.9263	0.0430
2	180	0.4995	0.0461	0.0128	-0.4891	0.0185	-0.9329	0.0312	-0.9552	0.0448
2	180	0.5551	0.0825	0.0167	-0.6129	0.0230	-1.4087	0.0389	-1.0048	0.0463
2	180	0.5996	0.1189	0.0205	-0.7240	0.0268	-1.8800	0.0452	-1.0348	0.0486
2	180	0.6497	0.0994	0.0248	-0.8278	0.0316	-2.5140	0.0530	-1.0283	0.0482
2	180	0.6996	0.1274	0.0298	-0.9382	0.0368	-3.2602	0.0587	-1.0428	0.0503
2	180	0.7495	0.1179	0.0349	-1.0595	0.0420	-4.1122	0.0664	-0.9821	0.0490
2	180	0.7996	0.1147	0.0415	-1.1890	0.0474	-5.0827	0.0726	-1.1214	0.0515
2	180	0.8578	0.0775	0.0487	-1.3206	0.0538	-6.2958	0.0802	-0.9868	0.0522
2	180	0.9100	0.0441	0.0566	-1.4337	0.0598	-7.4921	0.0869	-1.1642	0.0563
2	180	0.9727	0.0708	0.0680	-1.6056	0.0673	-8.8028	0.0964	-0.8264	0.0577
3	180.35	0.1938	-0.0684	0.0036	0.0182	0.0014	-0.0233	0.0029	-0.2262	0.0186
3	180.35	0.2357	0.0198	0.0025	-0.0332	0.0019	-0.0722	0.0036	-0.4339	0.0365
3	180.35	0.2995	-0.0012	0.0015	0.0148	0.0044	-0.1484	0.0080	-0.6235	0.0398
3	180.35	0.3493	0.0312	0.0043	0.0086	0.0068	-0.2384	0.0133	-0.6258	0.0385
3	180.35	0.4000	0.0843	0.0069	-0.0039	0.0107	-0.3992	0.0196	-0.6086	0.0393
3	180.35	0.4497	0.0668	0.0106	-0.0341	0.0134	-0.6427	0.0246	-0.7700	0.0427
3	180.35	0.4997	0.1077	0.0143	-0.0826	0.0172	-0.9586	0.0313	-0.8142	0.0382
3	180.35	0.5556	0.0968	0.0186	-0.1820	0.0218	-1.4318	0.0392	-0.8621	0.0403
3	180.35	0.5995	0.1444	0.0227	-0.1375	0.0251	-1.8828	0.0454	-0.8081	0.0425
3	180.35	0.6498	0.1636	0.0278	-0.2480	0.0301	-2.5018	0.0533	-0.7373	0.0486
3	180.35	0.6890	0.1594	0.0316	-0.2313	0.0330	-3.0988	0.0590	-0.7472	0.0393
3	180.35	0.7495	0.1863	0.0386	-0.2665	0.0384	-4.1663	0.0681	-0.7499	0.0467
3	180.35	0.7998	0.1319	0.0450	-0.3149	0.0430	-5.1480	0.0764	-0.7933	0.0442
3	180.35	0.8577	0.1233	0.0530	-0.3641	0.0483	-6.4060	0.0850	-0.7441	0.0434
3	180.35	0.9178	0.2119	0.0625	-0.3643	0.0543	-7.7997	0.0950	-0.8478	0.0503
3	180.35	0.9729	0.1451	0.0734	-0.4581	0.0598	-9.2086	0.1068	-1.2336	0.0703
4	180	0.2001	-0.0600	0.0042	-0.0047	0.0014	-0.0511	0.0027	0.0014	0.0229
4	180	0.2502	-0.0105	0.0024	0.0009	0.0033	-0.1285	0.0045	-0.1399	0.0424
4	180	0.3001	-0.0026	0.0017	-0.0032	0.0055	-0.2277	0.0082	-0.0536	0.0497
4	180	0.3502	0.0074	0.0038	-0.0213	0.0096	-0.4086	0.0143	-0.1508	0.0417
4	180	0.4002	0.0310	0.0065	-0.0159	0.0148	-0.6363	0.0204	-0.1597	0.0402
4	180	0.4500	0.0614	0.0102	-0.0111	0.0188	-0.9716	0.0250	-0.4208	0.0433
4	180	0.5001	0.0705	0.0142	-0.0484	0.0237	-1.3346	0.0315	-0.1750	0.0435
4	180	0.5560	0.0775	0.0191	-0.0658	0.0296	-1.9567	0.0382	-0.4276	0.0437
4	180	0.6001	0.1169	0.0239	-0.1084	0.0343	-2.5032	0.0435	-0.3993	0.0455
4	180	0.6501	0.1006	0.0291	-0.1279	0.0395	-3.2323	0.0508	-0.2787	0.0450
4	180	0.6999	0.1097	0.0352	-0.1638	0.0451	-4.0883	0.0603	-0.1956	0.0458
4	180	0.7500	0.1312	0.0414	-0.2097	0.0510	-5.0469	0.0706	-0.0349	0.0452
4	180	0.8002	0.0925	0.0485	-0.2798	0.0573	-6.1574	0.0819	-0.1080	0.0503
4	180	0.8582	0.0712	0.0569	-0.3138	0.0646	-7.5488	0.0968	-0.3541	0.0508
4	180	0.9101	0.0554	0.0647	-0.2823	0.0709	-8.8504	0.1132	-0.2798	0.0481
4	180	0.9728	0.1347	0.0769	-0.2926	0.0788	-10.3808	0.1310	-0.0053	0.0555

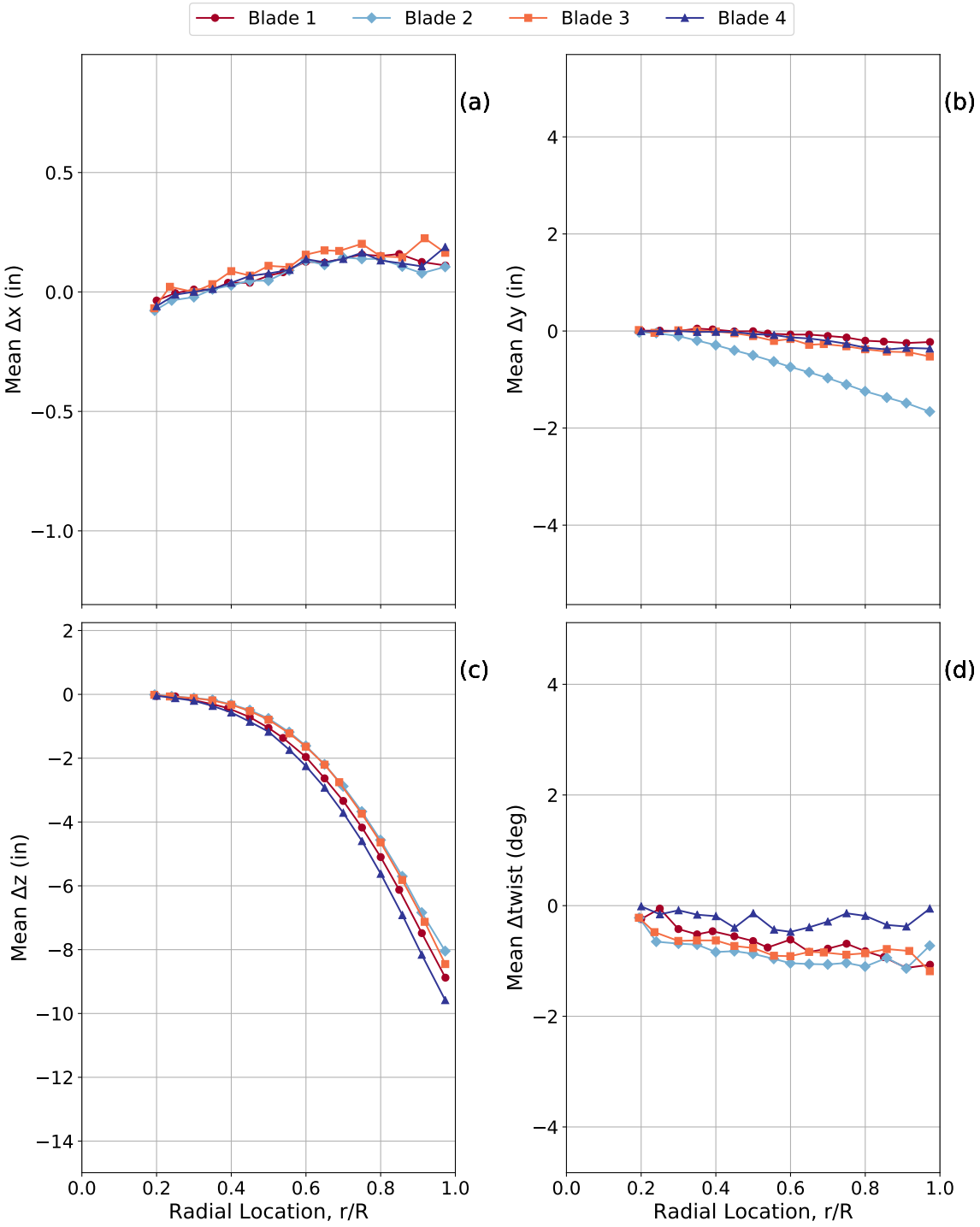


Figure 2.27-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-26. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0358	0.0039	0.0066	0.0022	-0.0502	0.0045	-0.2420	0.0399
1	184.92	0.2499	-0.0050	0.0028	0.0077	0.0038	-0.0633	0.0068	-0.0529	0.0861
1	184.92	0.2998	0.0103	0.0020	0.0018	0.0078	-0.1843	0.0153	-0.4232	0.0966
1	184.92	0.3498	0.0103	0.0035	0.0488	0.0138	-0.3090	0.0266	-0.5190	0.0859
1	184.92	0.3913	0.0383	0.0050	0.0330	0.0191	-0.4308	0.0363	-0.4629	0.0903
1	184.92	0.4496	0.0386	0.0079	-0.0081	0.0250	-0.7137	0.0468	-0.5537	0.0951
1	184.92	0.4997	0.0680	0.0107	-0.0046	0.0316	-1.0508	0.0590	-0.6401	0.0876
1	184.92	0.5387	0.0826	0.0130	-0.0520	0.0366	-1.3655	0.0657	-0.7569	0.0961
1	184.92	0.5996	0.1266	0.0165	-0.0729	0.0450	-1.9611	0.0801	-0.6135	0.0891
1	184.92	0.6498	0.1227	0.0202	-0.0741	0.0519	-2.6318	0.0912	-0.8366	0.0907
1	184.92	0.6998	0.1409	0.0244	-0.1022	0.0588	-3.3394	0.1019	-0.7780	0.0952
1	184.92	0.7500	0.1566	0.0295	-0.1341	0.0661	-4.1747	0.1151	-0.6884	0.0889
1	184.92	0.8001	0.1509	0.0350	-0.1999	0.0729	-5.0995	0.1272	-0.8233	0.0931
1	184.92	0.8497	0.1590	0.0409	-0.2173	0.0797	-6.1256	0.1394	-0.9300	0.0958
1	184.92	0.9102	0.1255	0.0493	-0.2482	0.0888	-7.4826	0.1556	-1.1259	0.0937
1	184.92	0.9734	0.1109	0.0585	-0.2270	0.0992	-8.8775	0.1737	-1.0678	0.0904
2	184.92	0.1949	-0.0779	0.0037	-0.0263	0.0014	-0.0103	0.0029	-0.2196	0.0221
2	184.92	0.2405	-0.0353	0.0021	-0.0411	0.0021	-0.0621	0.0035	-0.6509	0.0524
2	184.92	0.2999	-0.0216	0.0016	-0.1053	0.0046	-0.1140	0.0090	-0.6869	0.0591
2	184.92	0.3498	0.0112	0.0035	-0.1963	0.0082	-0.1732	0.0155	-0.7045	0.0571
2	184.92	0.3998	0.0278	0.0062	-0.2906	0.0120	-0.3124	0.0224	-0.8383	0.0597
2	184.92	0.4496	0.0470	0.0088	-0.3985	0.0154	-0.4934	0.0279	-0.8225	0.0612
2	184.92	0.4995	0.0473	0.0111	-0.5011	0.0194	-0.7544	0.0350	-0.8705	0.0552
2	184.92	0.5551	0.0902	0.0142	-0.6283	0.0243	-1.1819	0.0421	-0.9615	0.0561
2	184.92	0.5996	0.1318	0.0169	-0.7417	0.0275	-1.6128	0.0473	-1.0405	0.0604
2	184.92	0.6497	0.1136	0.0200	-0.8497	0.0326	-2.1933	0.0547	-1.0550	0.0584
2	184.92	0.6996	0.1444	0.0231	-0.9693	0.0372	-2.8810	0.0616	-1.0623	0.0594
2	184.92	0.7495	0.1386	0.0268	-1.1024	0.0423	-3.6721	0.0694	-1.0352	0.0601
2	184.92	0.7996	0.1381	0.0310	-1.2421	0.0474	-4.5645	0.0780	-1.1012	0.0583
2	184.92	0.8578	0.1068	0.0358	-1.3711	0.0536	-5.7017	0.0874	-0.9438	0.0613
2	184.92	0.9100	0.0785	0.0406	-1.4856	0.0598	-6.8378	0.0947	-1.1346	0.0629
2	184.92	0.9727	0.1051	0.0481	-1.6612	0.0683	-8.0437	0.1028	-0.7243	0.0679
3	184.92	0.1938	-0.0682	0.0036	0.0199	0.0016	-0.0143	0.0029	-0.2187	0.0244
3	184.92	0.2357	0.0216	0.0031	-0.0375	0.0025	-0.0664	0.0047	-0.4788	0.0399
3	184.92	0.2995	0.0002	0.0017	0.0147	0.0051	-0.1182	0.0086	-0.6377	0.0513
3	184.92	0.3493	0.0326	0.0040	0.0069	0.0086	-0.1897	0.0132	-0.6283	0.0506
3	184.92	0.4000	0.0871	0.0065	-0.0087	0.0132	-0.3257	0.0206	-0.6290	0.0513
3	184.92	0.4497	0.0687	0.0092	-0.0462	0.0158	-0.5250	0.0256	-0.7293	0.0458
3	184.92	0.4997	0.1094	0.0124	-0.1044	0.0189	-0.7945	0.0309	-0.7658	0.0539
3	184.92	0.5556	0.1040	0.0161	-0.2038	0.0231	-1.2232	0.0378	-0.9058	0.0509
3	184.92	0.5995	0.1560	0.0195	-0.1644	0.0265	-1.6382	0.0433	-0.9135	0.0530
3	184.92	0.6498	0.1741	0.0234	-0.2840	0.0309	-2.2021	0.0496	-0.8359	0.0575
3	184.92	0.6890	0.1717	0.0272	-0.2692	0.0343	-2.7525	0.0542	-0.8459	0.0521
3	184.92	0.7495	0.2016	0.0329	-0.3150	0.0399	-3.7417	0.0632	-0.8870	0.0546
3	184.92	0.7998	0.1492	0.0378	-0.3766	0.0450	-4.6394	0.0705	-0.8600	0.0574
3	184.92	0.8577	0.1448	0.0445	-0.4243	0.0508	-5.8167	0.0799	-0.7850	0.0533
3	184.92	0.9178	0.2249	0.0533	-0.4373	0.0571	-7.1279	0.0895	-0.8190	0.0559
3	184.92	0.9729	0.1640	0.0602	-0.5258	0.0638	-8.4515	0.0983	-1.1851	0.0632
4	184.92	0.2001	-0.0596	0.0047	-0.0027	0.0019	-0.0437	0.0036	-0.0124	0.0272
4	184.92	0.2502	-0.0114	0.0023	-0.0034	0.0033	-0.1189	0.0054	-0.1573	0.0546
4	184.92	0.3001	0.0007	0.0020	-0.0015	0.0061	-0.2017	0.0105	-0.0845	0.0615
4	184.92	0.3502	0.0125	0.0039	-0.0194	0.0111	-0.3628	0.0185	-0.1636	0.0491
4	184.92	0.4002	0.0385	0.0074	-0.0167	0.0159	-0.5688	0.0261	-0.1909	0.0494
4	184.92	0.4500	0.0672	0.0109	-0.0188	0.0199	-0.8589	0.0318	-0.3993	0.0535
4	184.92	0.5001	0.0776	0.0152	-0.0639	0.0242	-1.1724	0.0397	-0.1381	0.0529
4	184.92	0.5560	0.0924	0.0197	-0.0830	0.0300	-1.7420	0.0482	-0.4335	0.0513
4	184.92	0.6001	0.1373	0.0240	-0.1314	0.0347	-2.2494	0.0552	-0.4735	0.0553
4	184.92	0.6501	0.1243	0.0288	-0.1543	0.0405	-2.9257	0.0637	-0.3912	0.0489
4	184.92	0.6999	0.1380	0.0338	-0.2008	0.0457	-3.7126	0.0715	-0.2877	0.0554
4	184.92	0.7500	0.1642	0.0396	-0.2635	0.0519	-4.5983	0.0810	-0.1380	0.0580
4	184.92	0.8002	0.1319	0.0460	-0.3430	0.0568	-5.6233	0.0904	-0.1847	0.0564
4	184.92	0.8582	0.1194	0.0536	-0.3796	0.0638	-6.9181	0.1042	-0.3493	0.0561
4	184.92	0.9101	0.1073	0.0619	-0.3475	0.0701	-8.1597	0.1132	-0.3778	0.0715
4	184.92	0.9728	0.1884	0.0739	-0.3626	0.0782	-9.5818	0.1285	-0.0540	0.0644

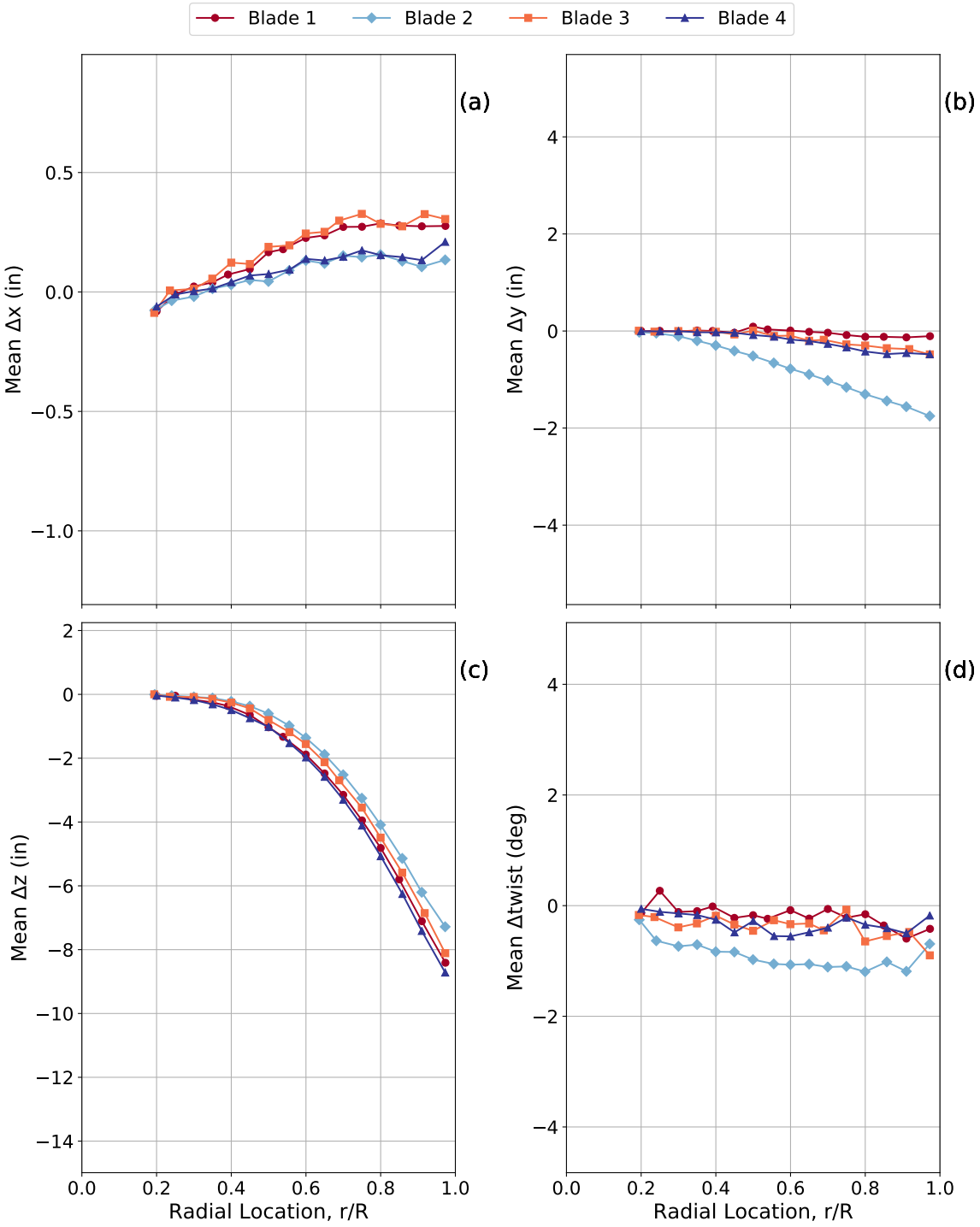


Figure 2.27-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-27. 190° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0808	0.0015	0.0002	0.0013	-0.0459	0.0028	-0.1353	0.0310
1	189.84	0.2499	-0.0106	0.0015	0.0037	0.0028	-0.0426	0.0054	0.2689	0.0673
1	189.84	0.2998	0.0229	0.0015	-0.0060	0.0046	-0.1696	0.0099	-0.1154	0.0748
1	189.84	0.3498	0.0402	0.0017	0.0102	0.0077	-0.2508	0.0166	-0.0988	0.0652
1	189.84	0.3913	0.0730	0.0019	0.0012	0.0108	-0.3639	0.0235	-0.0149	0.0677
1	189.84	0.4496	0.0958	0.0021	-0.0351	0.0148	-0.6462	0.0299	-0.2212	0.0759
1	189.84	0.4997	0.1663	0.0089	0.0896	0.0651	-1.0319	0.0659	-0.1724	0.0615
1	189.84	0.5387	0.1788	0.0121	0.0320	0.0729	-1.3299	0.0752	-0.2376	0.0968
1	189.84	0.5996	0.2262	0.0071	0.0091	0.0775	-1.8852	0.0858	-0.0820	0.0659
1	189.84	0.6498	0.2369	0.0072	-0.0169	0.0835	-2.4791	0.0956	-0.2332	0.0737
1	189.84	0.6998	0.2722	0.0077	-0.0357	0.0939	-3.1484	0.0935	-0.0606	0.2639
1	189.84	0.7500	0.2729	0.0112	-0.0837	0.0983	-3.9504	0.1152	-0.2172	0.1104
1	189.84	0.8001	0.2873	0.0080	-0.1190	0.1094	-4.8142	0.1128	-0.1551	0.2896
1	189.84	0.8497	0.2778	0.0200	-0.1197	0.1124	-5.7994	0.1356	-0.3580	0.1444
1	189.84	0.9102	0.2749	0.0081	-0.1311	0.1399	-7.1097	0.1941	-0.5960	0.0636
1	189.84	0.9734	0.2763	0.0180	-0.1062	0.1530	-8.4107	0.2090	-0.4193	0.0651
2	189.84	0.1949	-0.0772	0.0043	-0.0259	0.0020	-0.0046	0.0046	-0.2558	0.0239
2	189.84	0.2405	-0.0363	0.0022	-0.0442	0.0026	-0.0416	0.0038	-0.6343	0.0786
2	189.84	0.2999	-0.0193	0.0024	-0.1066	0.0068	-0.0816	0.0136	-0.7351	0.0769
2	189.84	0.3498	0.0135	0.0043	-0.2000	0.0110	-0.1141	0.0221	-0.7044	0.0712
2	189.84	0.3998	0.0303	0.0063	-0.2972	0.0168	-0.2194	0.0318	-0.8327	0.0776
2	189.84	0.4496	0.0502	0.0093	-0.4102	0.0210	-0.3689	0.0403	-0.8376	0.0726
2	189.84	0.4995	0.0439	0.0118	-0.5142	0.0260	-0.6027	0.0483	-0.9755	0.0765
2	189.84	0.5551	0.0900	0.0146	-0.6581	0.0320	-0.9818	0.0586	-1.0533	0.0724
2	189.84	0.5996	0.1314	0.0171	-0.7793	0.0369	-1.3611	0.0666	-1.0680	0.0796
2	189.84	0.6497	0.1196	0.0200	-0.8942	0.0426	-1.8821	0.0755	-1.0571	0.0791
2	189.84	0.6996	0.1518	0.0230	-1.0197	0.0481	-2.5209	0.0856	-1.1098	0.0761
2	189.84	0.7495	0.1458	0.0264	-1.1595	0.0536	-3.2538	0.0955	-1.0986	0.0810
2	189.84	0.7996	0.1564	0.0307	-1.3022	0.0602	-4.0880	0.1081	-1.1941	0.0809
2	189.84	0.8578	0.1290	0.0361	-1.4402	0.0672	-5.1406	0.1202	-1.0161	0.0836
2	189.84	0.9100	0.1054	0.0408	-1.5593	0.0738	-6.2018	0.1339	-1.1874	0.0794
2	189.84	0.9727	0.1343	0.0483	-1.7520	0.0813	-7.2825	0.1465	-0.6918	0.0861
3	189.84	0.1938	-0.0875	0.0017	0.0055	0.0013	0.0025	0.0022	-0.1691	0.0231
3	189.84	0.2357	0.0063	0.0013	-0.0134	0.0023	-0.0766	0.0035	-0.2067	0.0408
3	189.84	0.2995	0.0129	0.0011	-0.0009	0.0045	-0.0828	0.0077	-0.3925	0.0552
3	189.84	0.3493	0.0558	0.0013	-0.0039	0.0078	-0.1406	0.0135	-0.3215	0.0474
3	189.84	0.4000	0.1229	0.0021	-0.0150	0.0120	-0.2584	0.0201	-0.1821	0.0514
3	189.84	0.4497	0.1169	0.0021	-0.0706	0.0147	-0.4398	0.0255	-0.3415	0.0459
3	189.84	0.4997	0.1887	0.0068	0.0070	0.0775	-0.8040	0.0763	-0.4539	0.0494
3	189.84	0.5556	0.1951	0.0060	-0.1019	0.0869	-1.1834	0.0880	-0.2632	0.0475
3	189.84	0.5995	0.2447	0.0057	-0.0955	0.0935	-1.5556	0.0965	-0.3355	0.0591
3	189.84	0.6498	0.2518	0.0081	-0.1996	0.1030	-2.1261	0.1074	-0.3226	0.0856
3	189.84	0.6890	0.2987	0.0254	-0.1805	0.1260	-2.6929	0.1645	-0.4471	0.0569
3	189.84	0.7495	0.3269	0.0178	-0.2757	0.1377	-3.5493	0.1795	-0.0729	0.0491
3	189.84	0.7998	0.2853	0.0112	-0.2991	0.1475	-4.4892	0.1913	-0.6470	0.0549
3	189.84	0.8577	0.2747	0.0038	-0.3541	0.1585	-5.5866	0.2051	-0.5485	0.0533
3	189.84	0.9178	0.3259	0.0101	-0.3730	0.1703	-6.8550	0.2195	-0.4763	0.0558
3	189.84	0.9729	0.3053	0.0189	-0.4818	0.1840	-8.1097	0.2351	-0.8981	0.0662
4	189.84	0.2001	-0.0611	0.0040	-0.0023	0.0019	-0.0392	0.0038	-0.0579	0.0368
4	189.84	0.2502	-0.0105	0.0031	-0.0083	0.0037	-0.0983	0.0068	-0.1119	0.0564
4	189.84	0.3001	0.0033	0.0024	-0.0041	0.0056	-0.1784	0.0107	-0.1408	0.0750
4	189.84	0.3502	0.0143	0.0039	-0.0253	0.0098	-0.3129	0.0174	-0.1703	0.0617
4	189.84	0.4002	0.0411	0.0066	-0.0280	0.0143	-0.4924	0.0252	-0.2543	0.0630
4	189.84	0.4500	0.0688	0.0092	-0.0355	0.0175	-0.7482	0.0299	-0.4828	0.0661
4	189.84	0.5001	0.0751	0.0123	-0.0826	0.0221	-1.0200	0.0361	-0.2768	0.0712
4	189.84	0.5560	0.0933	0.0160	-0.1175	0.0267	-1.5282	0.0433	-0.5503	0.0691
4	189.84	0.6001	0.1384	0.0187	-0.1759	0.0313	-1.9761	0.0505	-0.5554	0.0677
4	189.84	0.6501	0.1319	0.0228	-0.2077	0.0360	-2.5839	0.0564	-0.4805	0.0655
4	189.84	0.6999	0.1474	0.0271	-0.2644	0.0409	-3.3029	0.0633	-0.3974	0.0678
4	189.84	0.7500	0.1741	0.0317	-0.3368	0.0456	-4.1123	0.0711	-0.2155	0.0746
4	189.84	0.8002	0.1540	0.0365	-0.4223	0.0505	-5.0722	0.0772	-0.3450	0.0755
4	189.84	0.8582	0.1458	0.0425	-0.4754	0.0572	-6.2551	0.0877	-0.4068	0.0792
4	189.84	0.9101	0.1331	0.0486	-0.4539	0.0636	-7.4143	0.0936	-0.4997	0.1057
4	189.84	0.9728	0.2097	0.0563	-0.4796	0.0727	-8.7169	0.1034	-0.1787	0.0838

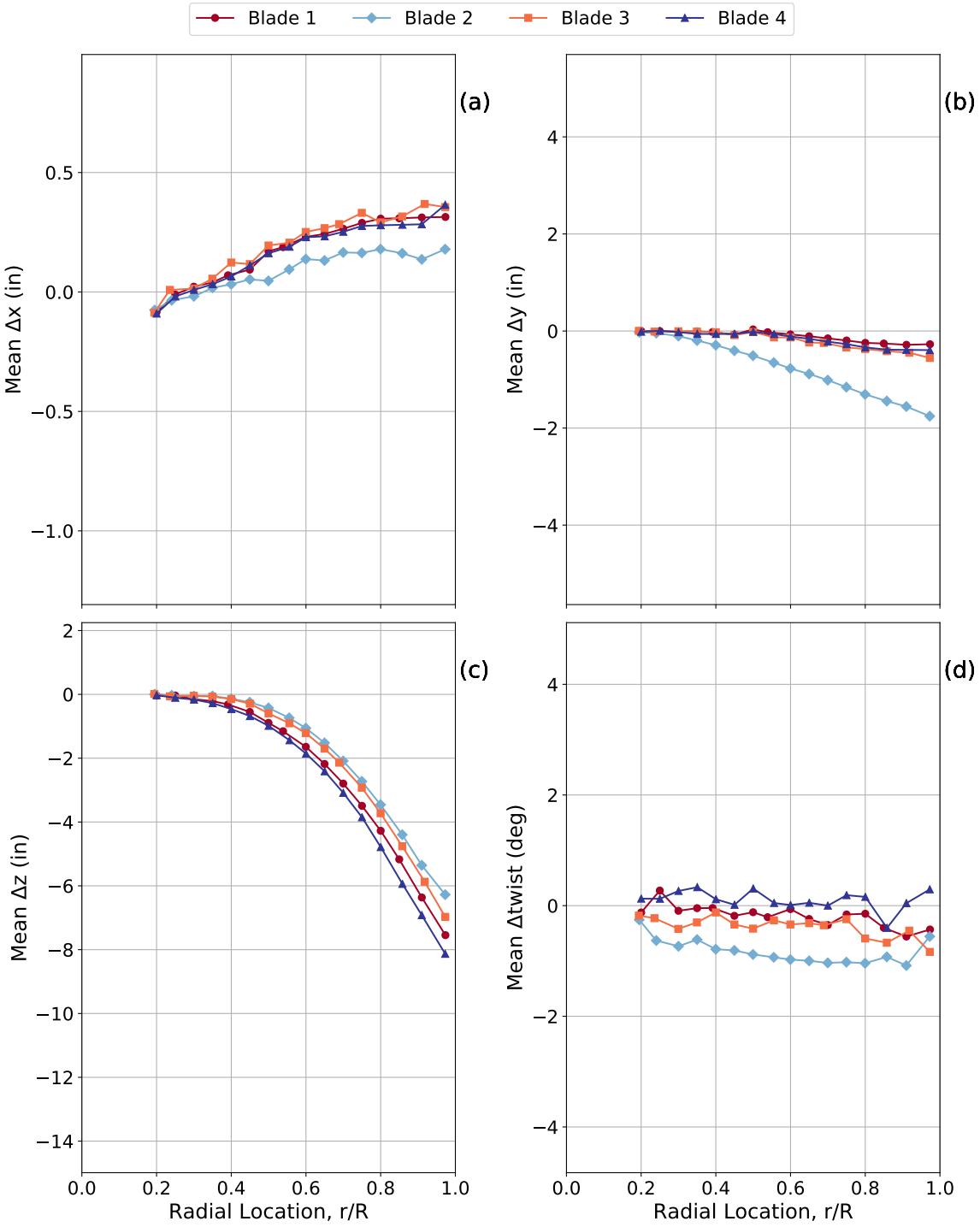


Figure 2.27-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-28. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0835	0.0018	-0.0015	0.0015	-0.0397	0.0023	-0.1234	0.0298
1	195.12	0.2499	-0.0104	0.0012	-0.0025	0.0028	-0.0343	0.0048	0.2726	0.0497
1	195.12	0.2998	0.0221	0.0011	-0.0127	0.0050	-0.1518	0.0080	-0.0928	0.0655
1	195.12	0.3498	0.0401	0.0015	-0.0074	0.0094	-0.2107	0.0141	-0.0457	0.0608
1	195.12	0.3913	0.0699	0.0017	-0.0213	0.0126	-0.3157	0.0196	-0.0428	0.0643
1	195.12	0.4496	0.0935	0.0018	-0.0721	0.0157	-0.5503	0.0258	-0.1838	0.0633
1	195.12	0.4997	0.1701	0.0079	0.0329	0.0652	-0.8923	0.0665	-0.1189	0.0616
1	195.12	0.5387	0.1876	0.0076	-0.0243	0.0706	-1.1547	0.0734	-0.2089	0.0641
1	195.12	0.5996	0.2306	0.0068	-0.0694	0.0796	-1.6438	0.0849	-0.0621	0.0563
1	195.12	0.6498	0.2428	0.0064	-0.1080	0.0865	-2.1807	0.0936	-0.2417	0.0638
1	195.12	0.6998	0.2646	0.0081	-0.1523	0.0934	-2.7950	0.1028	-0.3499	0.0820
1	195.12	0.7500	0.2893	0.0113	-0.1954	0.1007	-3.4932	0.1128	-0.1596	0.0794
1	195.12	0.8001	0.3069	0.0076	-0.2446	0.1097	-4.2753	0.1079	-0.1464	0.2873
1	195.12	0.8497	0.3084	0.0196	-0.2579	0.1151	-5.1697	0.1312	-0.4006	0.0992
1	195.12	0.9102	0.3119	0.0073	-0.2843	0.1363	-6.3652	0.1933	-0.5587	0.0612
1	195.12	0.9734	0.3139	0.0159	-0.2724	0.1483	-7.5452	0.2095	-0.4310	0.0649
2	195.12	0.1949	-0.0758	0.0044	-0.0253	0.0023	0.0039	0.0054	-0.2561	0.0393
2	195.12	0.2405	-0.0347	0.0031	-0.0436	0.0028	-0.0283	0.0058	-0.6309	0.0930
2	195.12	0.2999	-0.0182	0.0025	-0.1043	0.0072	-0.0544	0.0161	-0.7342	0.1055
2	195.12	0.3498	0.0172	0.0039	-0.1966	0.0120	-0.0522	0.0265	-0.6131	0.0984
2	195.12	0.3998	0.0324	0.0057	-0.2917	0.0178	-0.1363	0.0386	-0.7879	0.1051
2	195.12	0.4496	0.0526	0.0073	-0.4056	0.0230	-0.2481	0.0484	-0.8087	0.1026
2	195.12	0.4995	0.0465	0.0084	-0.5084	0.0286	-0.4250	0.0589	-0.8819	0.1107
2	195.12	0.5551	0.0946	0.0110	-0.6514	0.0347	-0.7359	0.0709	-0.9335	0.1021
2	195.12	0.5996	0.1376	0.0124	-0.7726	0.0402	-1.0576	0.0808	-0.9753	0.1021
2	195.12	0.6497	0.1318	0.0152	-0.8854	0.0459	-1.5210	0.0920	-0.9978	0.1096
2	195.12	0.6996	0.1655	0.0173	-1.0127	0.0511	-2.0864	0.1011	-1.0343	0.1065
2	195.12	0.7495	0.1635	0.0205	-1.1565	0.0563	-2.7266	0.1097	-1.0220	0.1214
2	195.12	0.7996	0.1792	0.0237	-1.3052	0.0647	-3.4569	0.1232	-1.0413	0.1146
2	195.12	0.8578	0.1619	0.0275	-1.4439	0.0710	-4.3976	0.1345	-0.9259	0.1092
2	195.12	0.9100	0.1365	0.0315	-1.5559	0.0789	-5.3556	0.1467	-1.0828	0.1225
2	195.12	0.9727	0.1790	0.0375	-1.7546	0.0872	-6.2758	0.1577	-0.5565	0.1167
3	195.12	0.1938	-0.0867	0.0016	0.0031	0.0011	0.0118	0.0022	-0.1804	0.0190
3	195.12	0.2357	0.0087	0.0013	-0.0120	0.0025	-0.0598	0.0039	-0.2267	0.0386
3	195.12	0.2995	0.0141	0.0012	-0.0057	0.0050	-0.0426	0.0081	-0.4195	0.0482
3	195.12	0.3493	0.0556	0.0012	-0.0114	0.0083	-0.0688	0.0132	-0.3035	0.0422
3	195.12	0.4000	0.1233	0.0017	-0.0247	0.0134	-0.1486	0.0208	-0.1225	0.0427
3	195.12	0.4497	0.1167	0.0015	-0.0860	0.0165	-0.2903	0.0259	-0.3411	0.0438
3	195.12	0.4997	0.1946	0.0055	-0.0193	0.0523	-0.5945	0.0578	-0.4153	0.0435
3	195.12	0.5556	0.2063	0.0046	-0.1312	0.0586	-0.9072	0.0670	-0.2652	0.0412
3	195.12	0.5995	0.2513	0.0040	-0.1321	0.0635	-1.2154	0.0745	-0.3405	0.0462
3	195.12	0.6498	0.2671	0.0040	-0.2371	0.0685	-1.7004	0.0838	-0.3169	0.0409
3	195.12	0.6890	0.2840	0.0052	-0.2455	0.0731	-2.1394	0.0886	-0.3544	0.0758
3	195.12	0.7495	0.3311	0.0087	-0.3384	0.0806	-2.9245	0.1025	-0.2451	0.0601
3	195.12	0.7998	0.2913	0.0113	-0.3714	0.0868	-3.7252	0.1086	-0.5937	0.0776
3	195.12	0.8577	0.3161	0.0040	-0.4154	0.1009	-4.7588	0.1534	-0.6698	0.0469
3	195.12	0.9178	0.3684	0.0078	-0.4469	0.1089	-5.8716	0.1665	-0.4514	0.0478
3	195.12	0.9729	0.3553	0.0137	-0.5544	0.1178	-6.9725	0.1797	-0.8359	0.0507
4	195.12	0.2001	-0.0904	0.0012	-0.0151	0.0011	-0.0276	0.0021	0.1259	0.0215
4	195.12	0.2502	-0.0190	0.0011	0.0046	0.0022	-0.1072	0.0046	0.1240	0.0375
4	195.12	0.3001	0.0087	0.0010	-0.0245	0.0040	-0.1636	0.0074	0.2651	0.0469
4	195.12	0.3502	0.0326	0.0011	-0.0598	0.0063	-0.2761	0.0131	0.3333	0.0430
4	195.12	0.4002	0.0650	0.0015	-0.0610	0.0100	-0.4613	0.0199	0.1156	0.0431
4	195.12	0.4500	0.1114	0.0016	-0.0598	0.0124	-0.6810	0.0245	0.0154	0.0424
4	195.12	0.5001	0.1621	0.0093	-0.0175	0.0789	-0.9866	0.0773	0.3089	0.0415
4	195.12	0.5560	0.1893	0.0075	-0.0634	0.0870	-1.4386	0.0875	0.0473	0.0443
4	195.12	0.6001	0.2292	0.0061	-0.1128	0.0929	-1.8573	0.0952	0.0105	0.0435
4	195.12	0.6501	0.2328	0.0056	-0.1620	0.1003	-2.4117	0.1064	0.0514	0.0434
4	195.12	0.6999	0.2519	0.0081	-0.2194	0.1072	-3.0870	0.1158	0.0001	0.0555
4	195.12	0.7500	0.2762	0.0126	-0.2701	0.1152	-3.8515	0.1240	0.1891	0.0762
4	195.12	0.8002	0.2792	0.0137	-0.3381	0.1377	-4.7859	0.1983	0.1580	0.0500
4	195.12	0.8582	0.2812	0.0043	-0.3845	0.1481	-5.9393	0.2128	-0.4027	0.0515
4	195.12	0.9101	0.2834	0.0105	-0.3893	0.1578	-6.9198	0.2263	0.0442	0.0529
4	195.12	0.9728	0.3648	0.0234	-0.3932	0.1731	-8.1309	0.2457	0.2939	0.0545

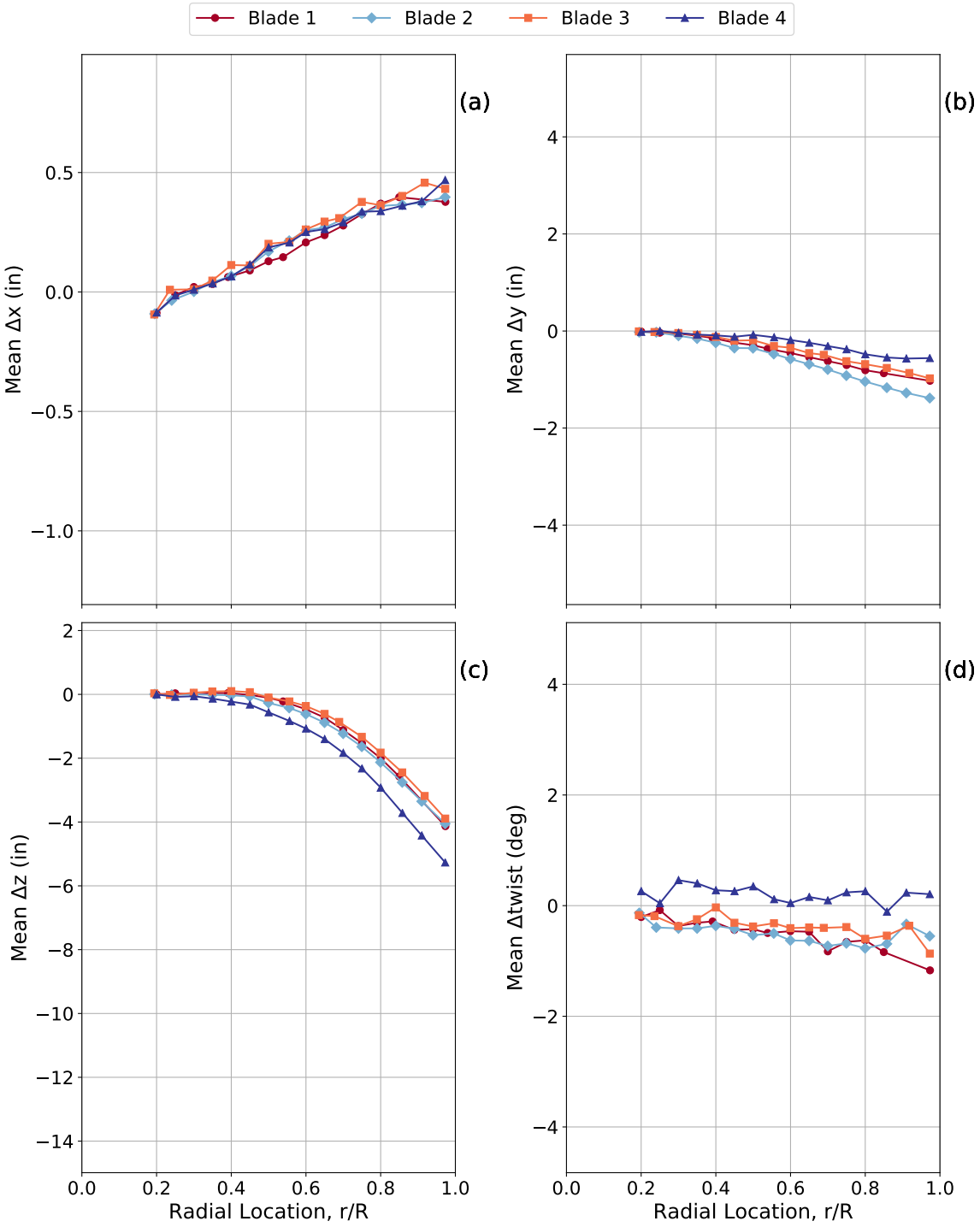


Figure 2.27-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-29. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0879	0.0015	-0.0105	0.0012	-0.0010	0.0025	-0.2064	0.0172
1	209.88	0.2499	-0.0134	0.0012	-0.0349	0.0026	0.0338	0.0051	-0.0814	0.0287
1	209.88	0.2998	0.0209	0.0010	-0.0530	0.0049	-0.0052	0.0086	-0.3685	0.0362
1	209.88	0.3498	0.0331	0.0015	-0.0970	0.0086	0.0432	0.0164	-0.3092	0.0350
1	209.88	0.3913	0.0624	0.0014	-0.1436	0.0122	0.0416	0.0219	-0.2858	0.0328
1	209.88	0.4496	0.0900	0.0014	-0.2391	0.0143	-0.0172	0.0295	-0.4377	0.0319
1	209.88	0.4997	0.1286	0.0019	-0.2919	0.0183	-0.1077	0.0382	-0.4259	0.0328
1	209.88	0.5387	0.1457	0.0018	-0.3654	0.0204	-0.2208	0.0435	-0.4941	0.0356
1	209.88	0.5996	0.2074	0.0018	-0.4525	0.0248	-0.4660	0.0541	-0.4623	0.0371
1	209.88	0.6498	0.2378	0.0019	-0.5390	0.0281	-0.7281	0.0631	-0.4717	0.0353
1	209.88	0.6998	0.2781	0.0026	-0.6198	0.0317	-1.1180	0.0721	-0.8263	0.0430
1	209.88	0.7500	0.3265	0.0024	-0.7018	0.0354	-1.5337	0.0804	-0.6552	0.0499
1	209.88	0.8001	0.3699	0.0036	-0.8081	0.0393	-2.0025	0.0891	-0.6269	0.0829
1	209.88	0.8497	0.3967	0.0034	-0.8700	0.0432	-2.5722	0.0999	-0.8391	0.0685
1	209.88	0.9734	0.3771	0.0065	-1.0263	0.0582	-4.1309	0.1257	-1.1694	0.1462
2	209.88	0.1949	-0.0915	0.0011	-0.0252	0.0008	0.0067	0.0023	-0.1322	0.0229
2	209.88	0.2405	-0.0353	0.0008	-0.0254	0.0020	-0.0093	0.0055	-0.3941	0.0352
2	209.88	0.2999	0.0015	0.0008	-0.0987	0.0037	-0.0017	0.0093	-0.4116	0.0520
2	209.88	0.3498	0.0408	0.0010	-0.1555	0.0067	-0.0131	0.0176	-0.4112	0.0370
2	209.88	0.3998	0.0670	0.0012	-0.2421	0.0099	-0.0295	0.0263	-0.3644	0.0397
2	209.88	0.4496	0.1079	0.0018	-0.3509	0.0109	-0.0647	0.0290	-0.4177	0.0418
2	209.88	0.4995	0.1693	0.0107	-0.3541	0.0529	-0.2675	0.0676	-0.5329	0.0459
2	209.88	0.5551	0.2145	0.0084	-0.4732	0.0595	-0.4250	0.0783	-0.5022	0.0420
2	209.88	0.5996	0.2580	0.0061	-0.5769	0.0636	-0.6168	0.0860	-0.6286	0.0391
2	209.88	0.6497	0.2694	0.0035	-0.6842	0.0686	-0.8850	0.0946	-0.6358	0.0430
2	209.88	0.6996	0.3047	0.0030	-0.7932	0.0739	-1.2307	0.1041	-0.7290	0.0403
2	209.88	0.7495	0.3280	0.0074	-0.9189	0.0792	-1.6398	0.1123	-0.6807	0.0442
2	209.88	0.7996	0.3599	0.0124	-1.0413	0.0848	-2.1289	0.1224	-0.7703	0.0449
2	209.88	0.8578	0.3657	0.0199	-1.1679	0.0916	-2.7575	0.1348	-0.6898	0.0592
2	209.88	0.9100	0.3730	0.0227	-1.2761	0.0957	-3.3520	0.1315	-0.3331	0.2939
2	209.88	0.9727	0.3971	0.0351	-1.3824	0.1066	-4.0541	0.1565	-0.5511	0.0819
3	209.88	0.1938	-0.0943	0.0011	-0.0083	0.0010	0.0321	0.0022	-0.1710	0.0340
3	209.88	0.2357	0.0093	0.0010	-0.0203	0.0017	-0.0166	0.0036	-0.1897	0.0439
3	209.88	0.2995	0.0111	0.0010	-0.0417	0.0038	0.0514	0.0063	-0.3711	0.0764
3	209.88	0.3493	0.0475	0.0010	-0.0793	0.0057	0.0902	0.0132	-0.2462	0.0541
3	209.88	0.4000	0.1127	0.0013	-0.1214	0.0093	0.1019	0.0178	-0.0318	0.0574
3	209.88	0.4497	0.1110	0.0013	-0.1988	0.0107	0.0685	0.0216	-0.3094	0.0572
3	209.88	0.4997	0.2016	0.0104	-0.1897	0.0473	-0.0988	0.0548	-0.3763	0.0517
3	209.88	0.5556	0.2098	0.0077	-0.3112	0.0523	-0.2214	0.0615	-0.3179	0.0558
3	209.88	0.5995	0.2615	0.0056	-0.3438	0.0563	-0.3647	0.0669	-0.4070	0.0529
3	209.88	0.6498	0.2946	0.0028	-0.4553	0.0607	-0.6117	0.0740	-0.3943	0.0553
3	209.88	0.6890	0.3090	0.0025	-0.4910	0.0642	-0.8636	0.0788	-0.4015	0.0574
3	209.88	0.7495	0.3769	0.0074	-0.6219	0.0697	-1.3313	0.0876	-0.3871	0.0555
3	209.88	0.7998	0.3631	0.0123	-0.6834	0.0751	-1.8251	0.0924	-0.5994	0.0569
3	209.88	0.8577	0.4020	0.0147	-0.7618	0.0781	-2.4458	0.0885	-0.5413	0.2495
3	209.88	0.9178	0.4575	0.0174	-0.8656	0.0823	-3.1838	0.1479	-0.3631	0.0579
3	209.88	0.9729	0.4316	0.0257	-0.9759	0.0917	-3.8925	0.1586	-0.8663	0.0598
4	209.88	0.2001	-0.0863	0.0012	-0.0176	0.0008	-0.0016	0.0018	0.2616	0.0205
4	209.88	0.2502	-0.0147	0.0010	0.0011	0.0030	-0.0782	0.0044	0.0430	0.0306
4	209.88	0.3001	0.0095	0.0009	-0.0391	0.0045	-0.0583	0.0075	0.4604	0.0433
4	209.88	0.3502	0.0356	0.0013	-0.0741	0.0075	-0.1342	0.0115	0.4024	0.0321
4	209.88	0.4002	0.0654	0.0013	-0.0901	0.0125	-0.2262	0.0190	0.2779	0.0411
4	209.88	0.4500	0.1143	0.0014	-0.1185	0.0130	-0.3206	0.0228	0.2615	0.0383
4	209.88	0.5001	0.1864	0.0080	-0.0788	0.0420	-0.5640	0.0490	0.3479	0.0355
4	209.88	0.5560	0.2070	0.0066	-0.1306	0.0472	-0.8341	0.0578	0.1158	0.0355
4	209.88	0.6001	0.2509	0.0048	-0.1854	0.0515	-1.0720	0.0633	0.0474	0.0368
4	209.88	0.6501	0.2631	0.0024	-0.2422	0.0565	-1.4025	0.0697	0.1573	0.0435
4	209.88	0.6999	0.2914	0.0031	-0.3106	0.0619	-1.8348	0.0792	0.0952	0.0370
4	209.88	0.7500	0.3358	0.0057	-0.3771	0.0676	-2.3223	0.0881	0.2401	0.0374
4	209.88	0.8002	0.3383	0.0095	-0.4797	0.0736	-2.9245	0.0960	0.2603	0.0489
4	209.88	0.8582	0.3611	0.0147	-0.5458	0.0814	-3.7164	0.1078	-0.1096	0.0470
4	209.88	0.9101	0.3797	0.0188	-0.5677	0.0851	-4.4232	0.1218	0.2351	0.1246
4	209.88	0.9728	0.4683	0.0275	-0.5583	0.0967	-5.2683	0.1302	0.2069	0.1093

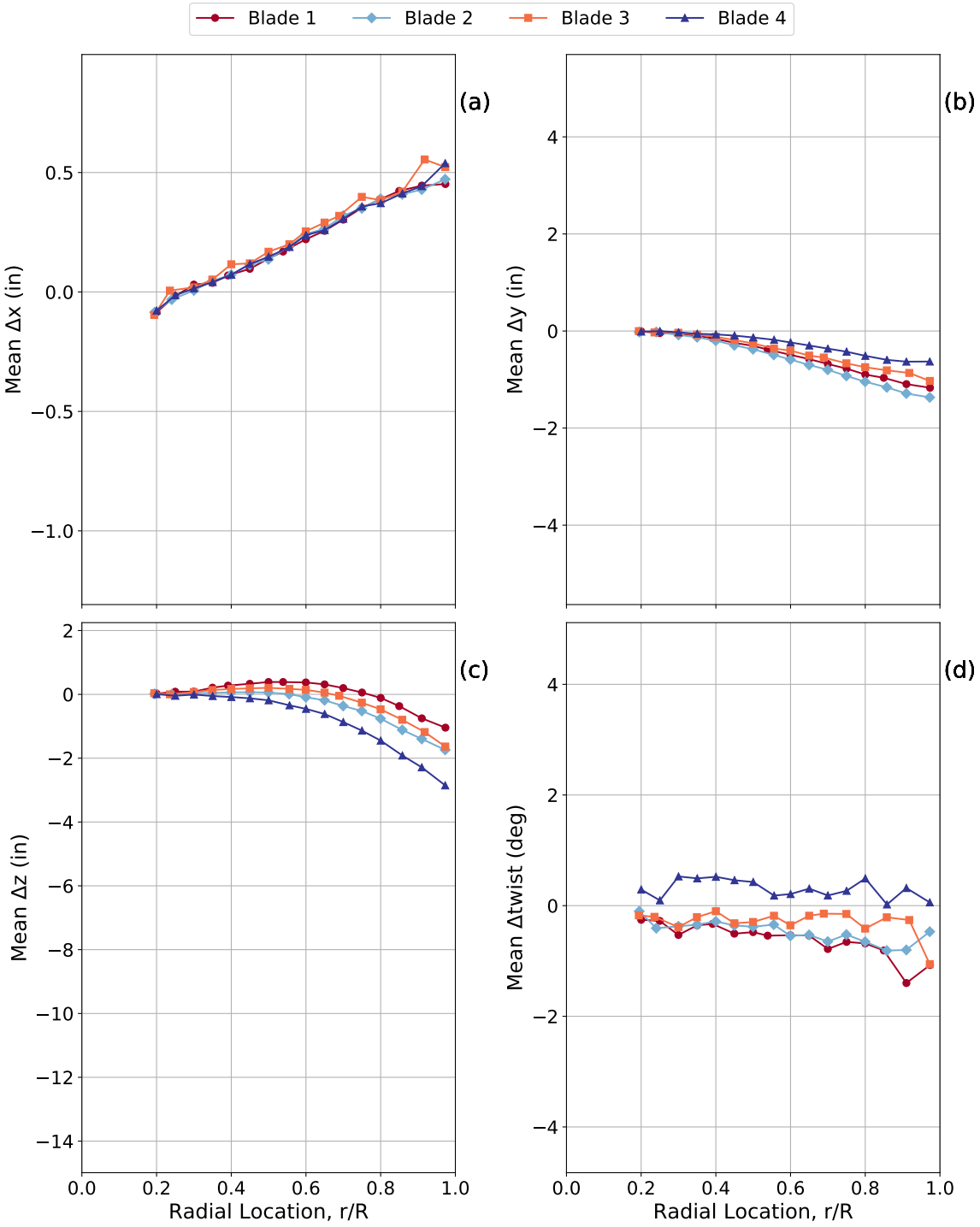


Figure 2.27-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-30. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0853	0.0012	-0.0082	0.0008	0.0227	0.0027	-0.2557	0.0199
1	225	0.2499	-0.0174	0.0012	-0.0427	0.0028	0.0837	0.0050	-0.2759	0.0374
1	225	0.2998	0.0309	0.0010	-0.0488	0.0041	0.0867	0.0101	-0.5300	0.0442
1	225	0.3498	0.0381	0.0011	-0.1001	0.0065	0.2100	0.0159	-0.3556	0.0434
1	225	0.3913	0.0690	0.0013	-0.1477	0.0105	0.2752	0.0233	-0.3299	0.0390
1	225	0.4496	0.0969	0.0018	-0.2438	0.0131	0.3315	0.0286	-0.5065	0.0463
1	225	0.4997	0.1397	0.0016	-0.3063	0.0156	0.3874	0.0352	-0.4787	0.0435
1	225	0.5387	0.1691	0.0015	-0.3810	0.0179	0.3868	0.0410	-0.5424	0.0415
1	225	0.5996	0.2207	0.0020	-0.4911	0.0215	0.3737	0.0479	-0.5353	0.0499
1	225	0.6498	0.2558	0.0017	-0.5790	0.0257	0.3128	0.0559	-0.5399	0.0440
1	225	0.6998	0.3028	0.0019	-0.6796	0.0294	0.1971	0.0633	-0.7835	0.0440
1	225	0.7500	0.3524	0.0021	-0.7750	0.0330	0.0580	0.0699	-0.6549	0.0502
1	225	0.8001	0.3889	0.0023	-0.8975	0.0370	-0.1107	0.0777	-0.6831	0.0501
1	225	0.8497	0.4229	0.0026	-0.9647	0.0415	-0.3680	0.0858	-0.8103	0.0496
1	225	0.9102	0.4453	0.0032	-1.0943	0.0466	-0.7505	0.0952	-1.3991	0.0662
1	225	0.9734	0.4518	0.0038	-1.1694	0.0519	-1.0428	0.1056	-1.0727	0.0517
2	225	0.1949	-0.0848	0.0014	-0.0207	0.0008	0.0163	0.0018	-0.1018	0.0303
2	225	0.2405	-0.0318	0.0010	-0.0211	0.0022	0.0037	0.0036	-0.4076	0.0379
2	225	0.2999	0.0063	0.0009	-0.0811	0.0035	0.0353	0.0071	-0.3735	0.0669
2	225	0.3498	0.0465	0.0011	-0.1283	0.0066	0.0458	0.0120	-0.3437	0.0331
2	225	0.3998	0.0726	0.0014	-0.1996	0.0101	0.0613	0.0173	-0.2860	0.0484
2	225	0.4496	0.1136	0.0017	-0.2943	0.0141	0.0666	0.0221	-0.3570	0.0389
2	225	0.4995	0.1366	0.0015	-0.3759	0.0150	0.0584	0.0281	-0.3823	0.0415
2	225	0.5551	0.1905	0.0017	-0.4920	0.0182	0.0084	0.0335	-0.3428	0.0565
2	225	0.5996	0.2423	0.0021	-0.5875	0.0211	-0.0895	0.0395	-0.5467	0.0503
2	225	0.6497	0.2649	0.0020	-0.7000	0.0238	-0.1849	0.0457	-0.5290	0.0568
2	225	0.6996	0.3193	0.0019	-0.7984	0.0269	-0.3630	0.0534	-0.6499	0.0485
2	225	0.7495	0.3501	0.0021	-0.9253	0.0299	-0.5198	0.0602	-0.5233	0.0497
2	225	0.7996	0.3898	0.0022	-1.0446	0.0340	-0.7600	0.0668	-0.6523	0.0514
2	225	0.8578	0.4087	0.0026	-1.1605	0.0383	-1.1144	0.0744	-0.8124	0.0512
2	225	0.9100	0.4287	0.0027	-1.2877	0.0415	-1.3969	0.0812	-0.8007	0.0600
2	225	0.9727	0.4718	0.0039	-1.3673	0.0467	-1.7387	0.0904	-0.4707	0.0587
3	225	0.1938	-0.0963	0.0013	-0.0026	0.0011	0.0355	0.0026	-0.1765	0.0346
3	225	0.2357	0.0057	0.0011	-0.0297	0.0019	0.0005	0.0044	-0.2025	0.0446
3	225	0.2995	0.0193	0.0010	-0.0359	0.0034	0.0714	0.0088	-0.3871	0.0772
3	225	0.3493	0.0518	0.0016	-0.0744	0.0078	0.1365	0.0158	-0.2089	0.0685
3	225	0.4000	0.1159	0.0013	-0.1189	0.0103	0.1690	0.0233	-0.1003	0.0658
3	225	0.4497	0.1197	0.0013	-0.1869	0.0112	0.1889	0.0308	-0.3191	0.0508
3	225	0.4997	0.1684	0.0017	-0.2550	0.0155	0.2051	0.0393	-0.2955	0.0538
3	225	0.5556	0.1999	0.0014	-0.3612	0.0191	0.1718	0.0465	-0.1827	0.0591
3	225	0.5995	0.2538	0.0018	-0.4027	0.0215	0.1420	0.0528	-0.3551	0.0613
3	225	0.6498	0.2904	0.0019	-0.5064	0.0247	0.0545	0.0589	-0.1825	0.0690
3	225	0.6890	0.3186	0.0020	-0.5468	0.0286	-0.0447	0.0667	-0.1450	0.0571
3	225	0.7495	0.3980	0.0022	-0.6658	0.0335	-0.2605	0.0738	-0.1505	0.0663
3	225	0.7998	0.3845	0.0023	-0.7459	0.0374	-0.4693	0.0825	-0.4152	0.0579
3	225	0.8577	0.4198	0.0029	-0.8108	0.0428	-0.7962	0.0922	-0.2110	0.0626
3	225	0.9178	0.5546	0.0084	-0.8639	0.0492	-1.1808	0.1018	-0.2604	0.1126
3	225	0.9729	0.5226	0.0062	-1.0290	0.0545	-1.6351	0.1152	-1.0585	0.1291
4	225	0.2001	-0.0780	0.0017	-0.0118	0.0008	0.0065	0.0021	0.2903	0.0184
4	225	0.2502	-0.0138	0.0015	-0.0036	0.0031	-0.0449	0.0039	0.0949	0.0296
4	225	0.3001	0.0147	0.0010	-0.0273	0.0038	-0.0056	0.0082	0.5273	0.0405
4	225	0.3502	0.0415	0.0012	-0.0569	0.0079	-0.0527	0.0127	0.4928	0.0349
4	225	0.4002	0.0724	0.0016	-0.0702	0.0114	-0.0837	0.0198	0.5208	0.0357
4	225	0.4500	0.1172	0.0015	-0.0947	0.0142	-0.1235	0.0244	0.4594	0.0394
4	225	0.5001	0.1474	0.0015	-0.1330	0.0163	-0.1869	0.0295	0.4267	0.0403
4	225	0.5560	0.1883	0.0018	-0.1820	0.0195	-0.3437	0.0339	0.1818	0.0404
4	225	0.6001	0.2378	0.0017	-0.2361	0.0222	-0.4548	0.0387	0.2091	0.0491
4	225	0.6501	0.2591	0.0019	-0.2990	0.0250	-0.6160	0.0428	0.3076	0.0399
4	225	0.6999	0.3065	0.0018	-0.3630	0.0285	-0.8685	0.0476	0.1834	0.0427
4	225	0.7500	0.3577	0.0017	-0.4264	0.0313	-1.1373	0.0519	0.2674	0.0430
4	225	0.8002	0.3716	0.0020	-0.5117	0.0350	-1.4495	0.0566	0.4913	0.0398
4	225	0.8582	0.4123	0.0022	-0.5949	0.0391	-1.9165	0.0643	0.0210	0.0495
4	225	0.9101	0.4429	0.0028	-0.6314	0.0427	-2.2872	0.0706	0.3184	0.0451
4	225	0.9728	0.5390	0.0031	-0.6295	0.0473	-2.8531	0.0803	0.0581	0.0604

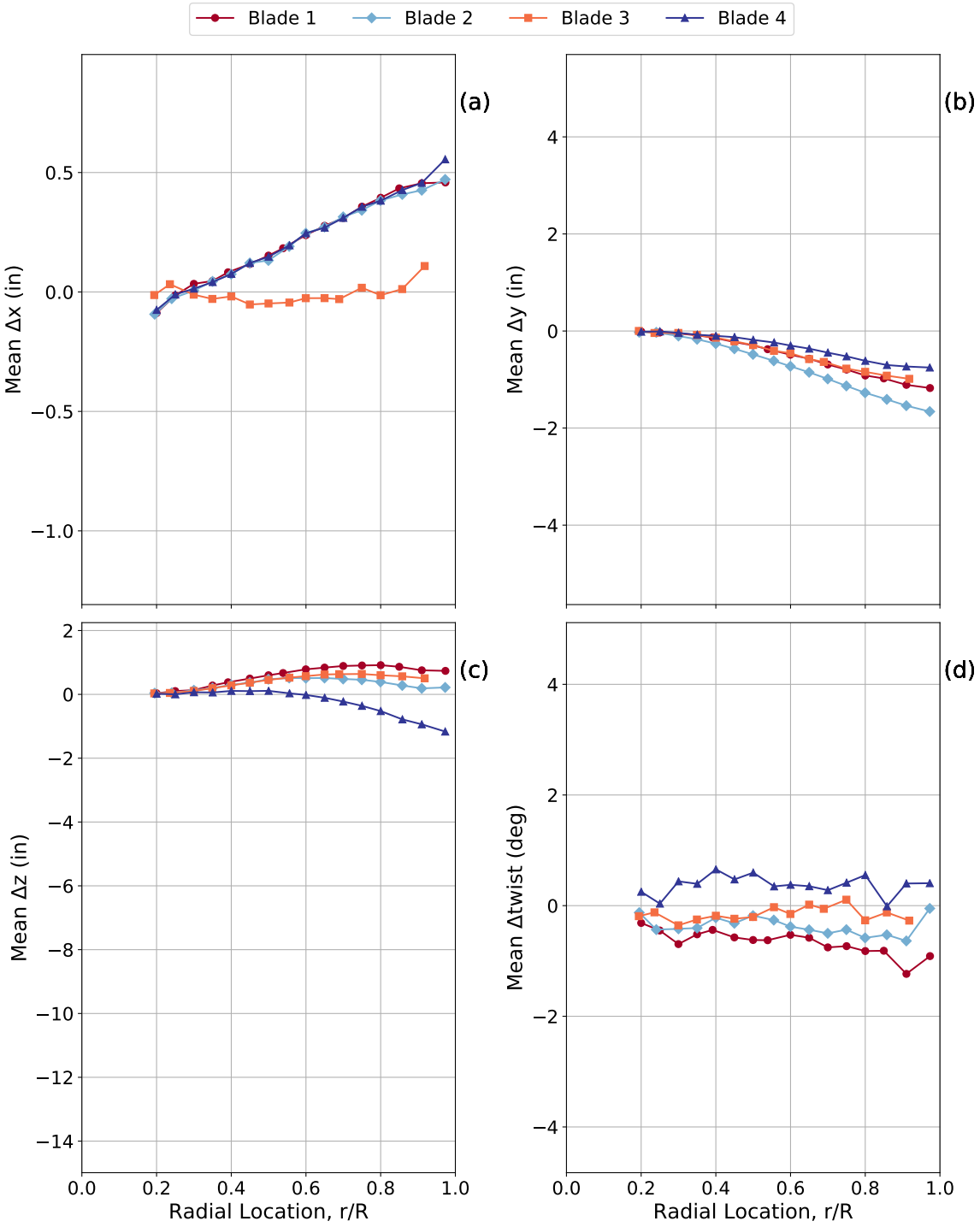


Figure 2.27-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-31. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0883	0.0012	-0.0102	0.0007	0.0342	0.0026	-0.3128	0.0222
1	240.12	0.2499	-0.0142	0.0010	-0.0312	0.0016	0.1031	0.0052	-0.4494	0.0337
1	240.12	0.2998	0.0340	0.0008	-0.0498	0.0029	0.1336	0.0091	-0.6950	0.0463
1	240.12	0.3498	0.0461	0.0015	-0.0899	0.0041	0.2774	0.0157	-0.5183	0.0392
1	240.12	0.3913	0.0824	0.0016	-0.1329	0.0065	0.3789	0.0222	-0.4384	0.0403
1	240.12	0.4496	0.1169	0.0017	-0.2270	0.0084	0.4953	0.0309	-0.5744	0.0438
1	240.12	0.4997	0.1523	0.0019	-0.2961	0.0110	0.5988	0.0388	-0.6213	0.0593
1	240.12	0.5387	0.1830	0.0020	-0.3752	0.0131	0.6688	0.0473	-0.6252	0.0408
1	240.12	0.5996	0.2379	0.0019	-0.4878	0.0157	0.7846	0.0575	-0.5270	0.0493
1	240.12	0.6498	0.2770	0.0023	-0.5718	0.0189	0.8388	0.0680	-0.5798	0.0418
1	240.12	0.6998	0.3094	0.0018	-0.6903	0.0217	0.8894	0.0761	-0.7547	0.0480
1	240.12	0.7500	0.3571	0.0021	-0.7943	0.0244	0.9056	0.0845	-0.7322	0.0443
1	240.12	0.8001	0.3943	0.0022	-0.9170	0.0278	0.9153	0.0936	-0.8208	0.0448
1	240.12	0.8497	0.4337	0.0025	-0.9771	0.0310	0.8645	0.1024	-0.8153	0.0424
1	240.12	0.9102	0.4552	0.0025	-1.1096	0.0356	0.7541	0.1132	-1.2333	0.0452
1	240.12	0.9734	0.4583	0.0037	-1.1750	0.0403	0.7366	0.1242	-0.9119	0.0438
2	240.12	0.1949	-0.0932	0.0015	-0.0270	0.0010	0.0378	0.0023	-0.1251	0.0155
2	240.12	0.2405	-0.0281	0.0011	-0.0284	0.0025	0.0482	0.0053	-0.4336	0.0264
2	240.12	0.2999	0.0061	0.0009	-0.1030	0.0051	0.1282	0.0095	-0.4195	0.0340
2	240.12	0.3498	0.0443	0.0017	-0.1707	0.0087	0.1965	0.0148	-0.4042	0.0371
2	240.12	0.3998	0.0744	0.0025	-0.2598	0.0139	0.2986	0.0237	-0.2187	0.0394
2	240.12	0.4496	0.1213	0.0015	-0.3661	0.0133	0.3670	0.0298	-0.3189	0.0481
2	240.12	0.4995	0.1319	0.0017	-0.4818	0.0182	0.4742	0.0374	-0.1808	0.0356
2	240.12	0.5551	0.1908	0.0018	-0.6140	0.0228	0.5138	0.0467	-0.2611	0.0307
2	240.12	0.5996	0.2461	0.0019	-0.7269	0.0255	0.5073	0.0530	-0.3796	0.0372
2	240.12	0.6497	0.2716	0.0023	-0.8509	0.0293	0.5132	0.0597	-0.4354	0.0360
2	240.12	0.6996	0.3144	0.0021	-0.9872	0.0339	0.4822	0.0675	-0.5008	0.0356
2	240.12	0.7495	0.3420	0.0022	-1.1313	0.0379	0.4580	0.0740	-0.4340	0.0339
2	240.12	0.7996	0.3828	0.0026	-1.2726	0.0422	0.3899	0.0812	-0.5824	0.0379
2	240.12	0.8578	0.4083	0.0026	-1.4091	0.0475	0.2789	0.0903	-0.5270	0.0386
2	240.12	0.9100	0.4259	0.0029	-1.5387	0.0529	0.1880	0.0984	-0.6377	0.0380
2	240.12	0.9727	0.4710	0.0045	-1.6597	0.0591	0.2170	0.1073	-0.0506	0.0432
3	240.12	0.1938	-0.0129	0.0020	0.0013	0.0014	0.0301	0.0028	-0.1902	0.0210
3	240.12	0.2357	0.0324	0.0016	-0.0407	0.0032	0.0436	0.0056	-0.1214	0.0290
3	240.12	0.2995	-0.0113	0.0017	-0.0399	0.0062	0.1057	0.0116	-0.3558	0.0468
3	240.12	0.3493	-0.0291	0.0029	-0.0813	0.0127	0.1927	0.0173	-0.2507	0.0379
3	240.12	0.4000	-0.0186	0.0030	-0.1384	0.0186	0.2819	0.0284	-0.1824	0.0434
3	240.12	0.4497	-0.0524	0.0027	-0.2114	0.0210	0.3650	0.0337	-0.2368	0.0381
3	240.12	0.4997	-0.0482	0.0032	-0.2890	0.0253	0.4539	0.0416	-0.2056	0.0461
3	240.12	0.5556	-0.0443	0.0035	-0.4092	0.0300	0.5237	0.0476	-0.0278	0.0454
3	240.12	0.5995	-0.0260	0.0031	-0.4565	0.0337	0.5712	0.0543	-0.1512	0.0444
3	240.12	0.6498	-0.0258	0.0035	-0.5787	0.0377	0.6233	0.0604	0.0182	0.0415
3	240.12	0.6890	-0.0299	0.0031	-0.6372	0.0414	0.6326	0.0659	-0.0578	0.0516
3	240.12	0.7495	0.0176	0.0033	-0.7750	0.0468	0.6395	0.0740	0.1079	0.0527
3	240.12	0.7998	-0.0135	0.0035	-0.8414	0.0513	0.5998	0.0811	-0.2654	0.0487
3	240.12	0.8577	0.0121	0.0051	-0.9199	0.0570	0.5651	0.0914	-0.1228	0.0714
3	240.12	0.9178	0.1086	0.0110	-0.9854	0.0638	0.5031	0.1016	-0.2705	0.1626
4	240.12	0.2001	-0.0752	0.0012	-0.0144	0.0008	0.0193	0.0019	0.2507	0.0196
4	240.12	0.2502	-0.0106	0.0011	-0.0091	0.0022	0.0013	0.0049	0.0363	0.0302
4	240.12	0.3001	0.0139	0.0010	-0.0381	0.0041	0.0664	0.0084	0.4390	0.0422
4	240.12	0.3502	0.0414	0.0015	-0.0766	0.0058	0.0595	0.0124	0.3944	0.0364
4	240.12	0.4002	0.0755	0.0019	-0.1001	0.0101	0.1083	0.0203	0.6557	0.0334
4	240.12	0.4500	0.1214	0.0015	-0.1268	0.0100	0.1020	0.0249	0.4739	0.0335
4	240.12	0.5001	0.1476	0.0016	-0.1829	0.0126	0.1099	0.0328	0.5964	0.0369
4	240.12	0.5560	0.1951	0.0019	-0.2371	0.0168	0.0326	0.0395	0.3479	0.0360
4	240.12	0.6001	0.2460	0.0018	-0.3004	0.0191	-0.0184	0.0452	0.3765	0.0353
4	240.12	0.6501	0.2692	0.0020	-0.3637	0.0226	-0.1072	0.0513	0.3509	0.0381
4	240.12	0.6999	0.3101	0.0019	-0.4463	0.0261	-0.2257	0.0571	0.2793	0.0403
4	240.12	0.7500	0.3566	0.0024	-0.5224	0.0300	-0.3599	0.0634	0.4144	0.0395
4	240.12	0.8002	0.3822	0.0023	-0.6144	0.0340	-0.5243	0.0689	0.5523	0.0429
4	240.12	0.8582	0.4267	0.0024	-0.7012	0.0387	-0.7844	0.0759	-0.0121	0.0402
4	240.12	0.9101	0.4565	0.0026	-0.7313	0.0432	-0.9390	0.0822	0.4003	0.0439
4	240.12	0.9728	0.5552	0.0042	-0.7526	0.0490	-1.1659	0.0900	0.4058	0.0456

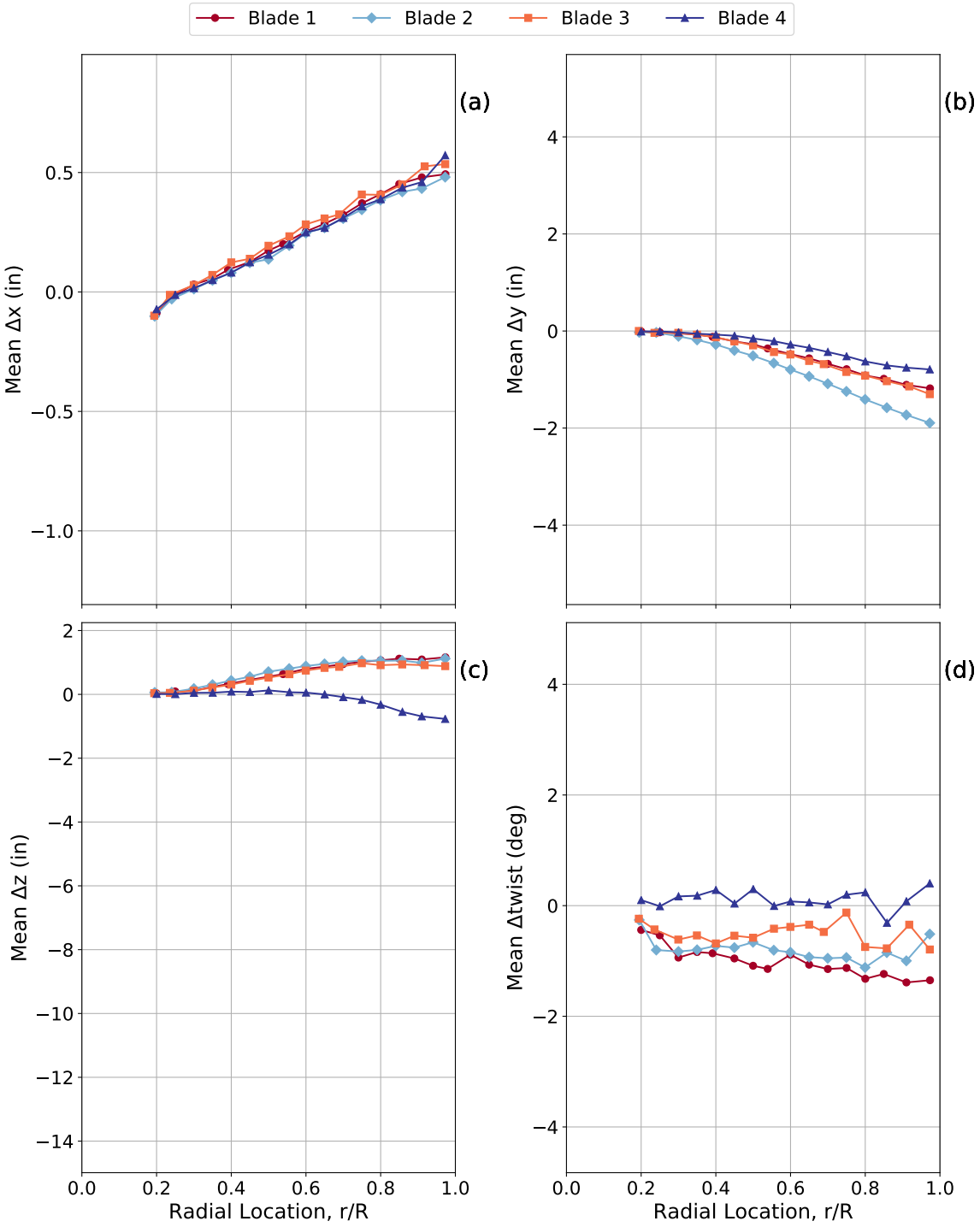


Figure 2.27-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-32. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0885	0.0016	-0.0087	0.0010	0.0290	0.0030	-0.4392	0.0175
1	254.88	0.2499	-0.0129	0.0013	-0.0264	0.0019	0.0922	0.0049	-0.5365	0.0387
1	254.88	0.2998	0.0314	0.0011	-0.0484	0.0040	0.1125	0.0105	-0.9389	0.0408
1	254.88	0.3498	0.0562	0.0013	-0.0747	0.0066	0.2360	0.0162	-0.8384	0.0415
1	254.88	0.3913	0.0929	0.0021	-0.1196	0.0096	0.3221	0.0233	-0.8606	0.0393
1	254.88	0.4496	0.1255	0.0023	-0.2138	0.0120	0.4530	0.0298	-0.9548	0.0436
1	254.88	0.4997	0.1732	0.0025	-0.2738	0.0151	0.5559	0.0395	-1.0868	0.0437
1	254.88	0.5387	0.2009	0.0024	-0.3595	0.0168	0.6344	0.0431	-1.1435	0.0377
1	254.88	0.5996	0.2530	0.0021	-0.4754	0.0200	0.8002	0.0532	-0.8855	0.0442
1	254.88	0.6498	0.2854	0.0025	-0.5631	0.0235	0.8660	0.0605	-1.0668	0.0443
1	254.88	0.6998	0.3229	0.0024	-0.6771	0.0266	0.9501	0.0679	-1.1455	0.0433
1	254.88	0.7500	0.3715	0.0025	-0.7867	0.0296	1.0218	0.0767	-1.1265	0.0431
1	254.88	0.8001	0.4096	0.0026	-0.9168	0.0333	1.0689	0.0848	-1.3218	0.0443
1	254.88	0.8497	0.4518	0.0027	-0.9844	0.0369	1.1182	0.0935	-1.2348	0.0445
1	254.88	0.9102	0.4797	0.0029	-1.1095	0.0416	1.0936	0.1035	-1.3880	0.0444
1	254.88	0.9734	0.4929	0.0041	-1.1818	0.0469	1.1623	0.1143	-1.3483	0.0470
2	254.88	0.1949	-0.1016	0.0015	-0.0287	0.0008	0.0600	0.0023	-0.2593	0.0166
2	254.88	0.2405	-0.0295	0.0011	-0.0310	0.0012	0.0660	0.0037	-0.8019	0.0311
2	254.88	0.2999	0.0125	0.0012	-0.1090	0.0030	0.1814	0.0074	-0.8298	0.0392
2	254.88	0.3498	0.0485	0.0015	-0.1839	0.0048	0.3042	0.0130	-0.7986	0.0404
2	254.88	0.3998	0.0803	0.0023	-0.2779	0.0074	0.4359	0.0190	-0.7276	0.0442
2	254.88	0.4496	0.1224	0.0024	-0.3999	0.0092	0.5531	0.0232	-0.7584	0.0384
2	254.88	0.4995	0.1370	0.0025	-0.5105	0.0109	0.7106	0.0284	-0.6617	0.0409
2	254.88	0.5551	0.1946	0.0024	-0.6616	0.0133	0.8071	0.0342	-0.8057	0.0424
2	254.88	0.5996	0.2464	0.0023	-0.7944	0.0155	0.8870	0.0386	-0.8422	0.0411
2	254.88	0.6497	0.2685	0.0024	-0.9347	0.0178	0.9565	0.0431	-0.9301	0.0398
2	254.88	0.6996	0.3073	0.0025	-1.0860	0.0203	1.0218	0.0479	-0.9516	0.0401
2	254.88	0.7495	0.3444	0.0028	-1.2445	0.0230	1.0573	0.0518	-0.9377	0.0425
2	254.88	0.7996	0.3843	0.0027	-1.4093	0.0260	1.0523	0.0570	-1.1182	0.0422
2	254.88	0.8578	0.4193	0.0029	-1.5802	0.0296	1.0587	0.0640	-0.8483	0.0429
2	254.88	0.9100	0.4331	0.0027	-1.7293	0.0330	0.9883	0.0713	-0.9975	0.0479
2	254.88	0.9727	0.4809	0.0039	-1.8942	0.0372	1.1209	0.0817	-0.5140	0.0472
3	254.88	0.1938	-0.0993	0.0015	0.0008	0.0007	0.0364	0.0026	-0.2366	0.0210
3	254.88	0.2357	-0.0122	0.0011	-0.0379	0.0013	0.0452	0.0040	-0.4300	0.0400
3	254.88	0.2995	0.0289	0.0012	-0.0374	0.0022	0.1154	0.0075	-0.6135	0.0517
3	254.88	0.3493	0.0712	0.0012	-0.0763	0.0039	0.2136	0.0137	-0.5384	0.0338
3	254.88	0.4000	0.1238	0.0017	-0.1291	0.0059	0.3042	0.0196	-0.6833	0.0414
3	254.88	0.4497	0.1389	0.0017	-0.2131	0.0073	0.4253	0.0247	-0.5430	0.0447
3	254.88	0.4997	0.1934	0.0016	-0.2962	0.0094	0.5250	0.0312	-0.5800	0.0498
3	254.88	0.5556	0.2330	0.0018	-0.4332	0.0119	0.6329	0.0379	-0.4165	0.0478
3	254.88	0.5995	0.2828	0.0019	-0.4840	0.0139	0.7464	0.0434	-0.3844	0.0412
3	254.88	0.6498	0.3077	0.0018	-0.6164	0.0168	0.8305	0.0502	-0.3445	0.0430
3	254.88	0.6890	0.3247	0.0019	-0.6831	0.0191	0.8632	0.0548	-0.4753	0.0428
3	254.88	0.7495	0.4079	0.0020	-0.8434	0.0230	0.9764	0.0633	-0.1253	0.0446
3	254.88	0.7998	0.4066	0.0022	-0.9192	0.0266	0.9157	0.0709	-0.7467	0.0435
3	254.88	0.8577	0.4497	0.0023	-1.0339	0.0308	0.9380	0.0792	-0.7726	0.0483
3	254.88	0.9178	0.5259	0.0024	-1.1420	0.0354	0.9151	0.0892	-0.3447	0.0480
3	254.88	0.9729	0.5351	0.0038	-1.3017	0.0397	0.8849	0.0979	-0.7929	0.0521
4	254.88	0.2001	-0.0724	0.0012	-0.0095	0.0006	0.0138	0.0024	0.1003	0.0153
4	254.88	0.2502	-0.0125	0.0012	-0.0090	0.0014	0.0069	0.0047	-0.0113	0.0303
4	254.88	0.3001	0.0158	0.0008	-0.0279	0.0023	0.0472	0.0086	0.1670	0.0355
4	254.88	0.3502	0.0498	0.0010	-0.0553	0.0039	0.0510	0.0145	0.1798	0.0420
4	254.88	0.4002	0.0812	0.0015	-0.0751	0.0061	0.0867	0.0222	0.2831	0.0400
4	254.88	0.4500	0.1242	0.0016	-0.0979	0.0082	0.0734	0.0303	0.0372	0.0395
4	254.88	0.5001	0.1558	0.0017	-0.1545	0.0106	0.1252	0.0403	0.2989	0.0406
4	254.88	0.5560	0.1994	0.0019	-0.2106	0.0136	0.0660	0.0531	-0.0057	0.0396
4	254.88	0.6001	0.2495	0.0020	-0.2792	0.0161	0.0550	0.0653	0.0758	0.0399
4	254.88	0.6501	0.2682	0.0020	-0.3471	0.0191	-0.0024	0.0795	0.0579	0.0392
4	254.88	0.6999	0.3101	0.0019	-0.4321	0.0224	-0.0864	0.0931	0.0227	0.0381
4	254.88	0.7500	0.3590	0.0023	-0.5206	0.0258	-0.1720	0.1073	0.1978	0.0352
4	254.88	0.8002	0.3882	0.0024	-0.6271	0.0293	-0.3226	0.1207	0.2397	0.0357
4	254.88	0.8582	0.4366	0.0024	-0.7091	0.0335	-0.5497	0.1362	-0.3105	0.0386
4	254.88	0.9101	0.4598	0.0024	-0.7549	0.0375	-0.6895	0.1501	0.0781	0.0362
4	254.88	0.9728	0.5720	0.0037	-0.7921	0.0422	-0.7697	0.1664	0.4019	0.0400

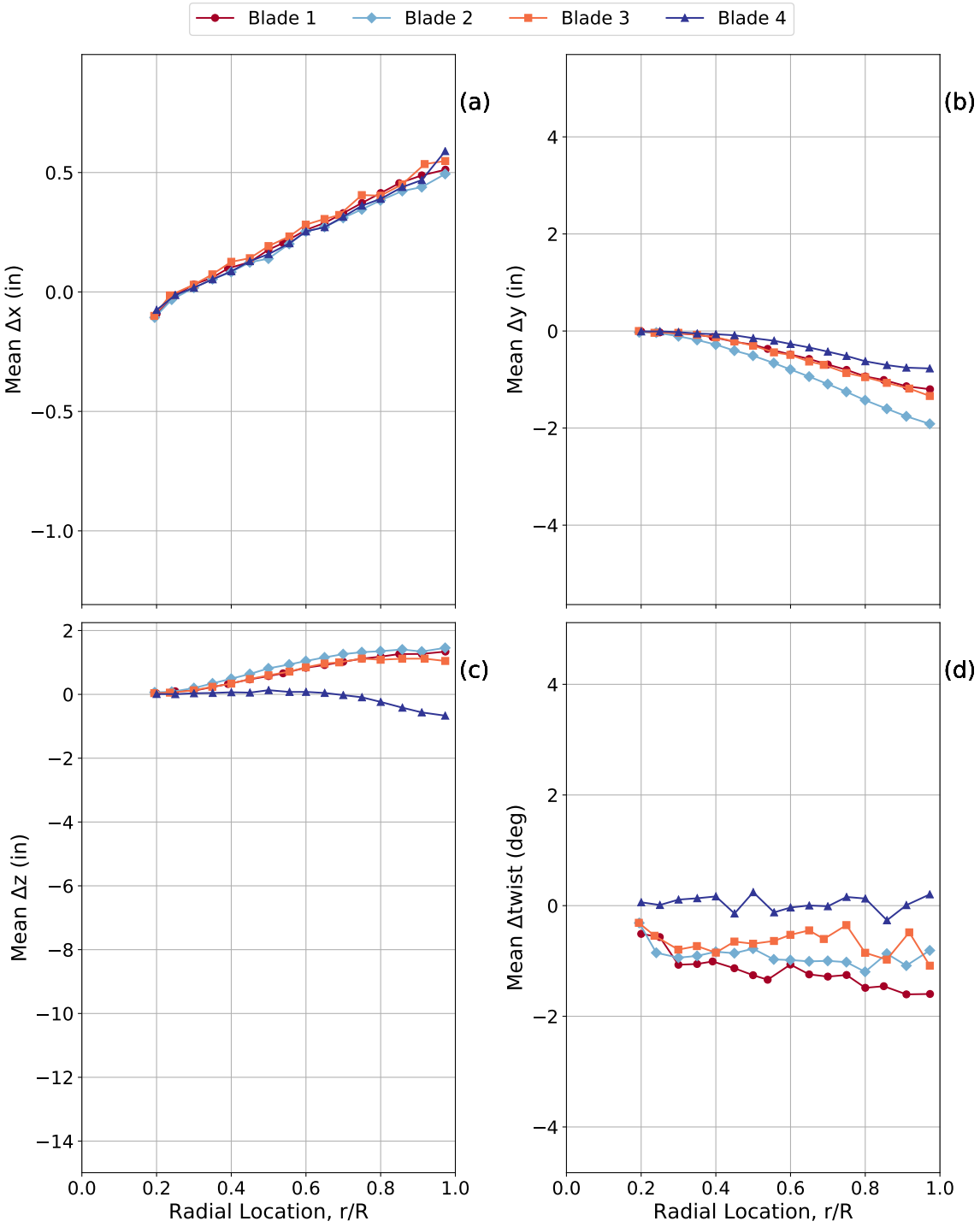


Figure 2.27-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-33. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.0917	0.0020	-0.0087	0.0010	0.0272	0.0036	-0.5102	0.0217
1	260.16	0.2499	-0.0142	0.0012	-0.0282	0.0018	0.0974	0.0054	-0.5679	0.0495
1	260.16	0.2998	0.0314	0.0010	-0.0505	0.0040	0.1145	0.0119	-1.0684	0.0513
1	260.16	0.3498	0.0604	0.0012	-0.0769	0.0065	0.2300	0.0186	-1.0546	0.0485
1	260.16	0.3913	0.0986	0.0018	-0.1249	0.0093	0.3249	0.0264	-1.0087	0.0467
1	260.16	0.4496	0.1251	0.0020	-0.2221	0.0120	0.4695	0.0351	-1.1317	0.0532
1	260.16	0.4997	0.1768	0.0021	-0.2809	0.0153	0.5721	0.0439	-1.2571	0.0518
1	260.16	0.5387	0.2050	0.0020	-0.3680	0.0178	0.6593	0.0508	-1.3393	0.0517
1	260.16	0.5996	0.2595	0.0024	-0.4832	0.0221	0.8351	0.0620	-1.0644	0.0528
1	260.16	0.6498	0.2887	0.0026	-0.5762	0.0258	0.9195	0.0706	-1.2426	0.0529
1	260.16	0.6998	0.3300	0.0029	-0.6905	0.0298	1.0217	0.0788	-1.2826	0.0506
1	260.16	0.7500	0.3727	0.0030	-0.8011	0.0338	1.1184	0.0872	-1.2535	0.0492
1	260.16	0.8001	0.4141	0.0031	-0.9359	0.0382	1.1831	0.0943	-1.4853	0.0520
1	260.16	0.8497	0.4553	0.0032	-1.0093	0.0425	1.2632	0.1018	-1.4562	0.0533
1	260.16	0.9102	0.4881	0.0037	-1.1385	0.0481	1.2671	0.1107	-1.6035	0.0585
1	260.16	0.9734	0.5120	0.0052	-1.2002	0.0543	1.3405	0.1210	-1.5967	0.0552
2	260.16	0.1949	-0.1069	0.0015	-0.0282	0.0007	0.0637	0.0026	-0.3130	0.0185
2	260.16	0.2405	-0.0320	0.0011	-0.0329	0.0012	0.0814	0.0038	-0.8520	0.0332
2	260.16	0.2999	0.0175	0.0009	-0.1083	0.0025	0.1976	0.0086	-0.9406	0.0412
2	260.16	0.3498	0.0536	0.0014	-0.1854	0.0037	0.3439	0.0138	-0.9085	0.0372
2	260.16	0.3998	0.0834	0.0017	-0.2795	0.0059	0.4910	0.0208	-0.8337	0.0379
2	260.16	0.4496	0.1242	0.0025	-0.4046	0.0076	0.6381	0.0267	-0.8595	0.0395
2	260.16	0.4995	0.1396	0.0022	-0.5089	0.0097	0.8149	0.0327	-0.7781	0.0382
2	260.16	0.5551	0.2012	0.0025	-0.6596	0.0120	0.9360	0.0417	-0.9719	0.0379
2	260.16	0.5996	0.2531	0.0026	-0.7927	0.0142	1.0455	0.0490	-0.9832	0.0377
2	260.16	0.6497	0.2719	0.0026	-0.9394	0.0165	1.1577	0.0579	-1.0070	0.0362
2	260.16	0.6996	0.3099	0.0027	-1.0934	0.0192	1.2606	0.0671	-0.9980	0.0395
2	260.16	0.7495	0.3457	0.0026	-1.2535	0.0220	1.3216	0.0771	-1.0210	0.0373
2	260.16	0.7996	0.3834	0.0029	-1.4257	0.0249	1.3528	0.0872	-1.1959	0.0373
2	260.16	0.8578	0.4225	0.0029	-1.6025	0.0287	1.4062	0.0992	-0.8675	0.0409
2	260.16	0.9100	0.4388	0.0029	-1.7579	0.0321	1.3420	0.1116	-1.0843	0.0401
2	260.16	0.9727	0.4939	0.0043	-1.9130	0.0365	1.4571	0.1270	-0.8094	0.0416
3	260.16	0.1938	-0.1002	0.0021	-0.0002	0.0010	0.0392	0.0036	-0.3103	0.0246
3	260.16	0.2357	-0.0143	0.0012	-0.0368	0.0012	0.0535	0.0045	-0.5444	0.0530
3	260.16	0.2995	0.0303	0.0011	-0.0373	0.0034	0.1267	0.0102	-0.7946	0.0626
3	260.16	0.3493	0.0737	0.0012	-0.0789	0.0055	0.2369	0.0166	-0.7313	0.0535
3	260.16	0.4000	0.1263	0.0019	-0.1296	0.0085	0.3377	0.0246	-0.8493	0.0557
3	260.16	0.4497	0.1413	0.0020	-0.2156	0.0111	0.4811	0.0312	-0.6493	0.0615
3	260.16	0.4997	0.1921	0.0017	-0.3016	0.0136	0.5966	0.0370	-0.6886	0.0621
3	260.16	0.5556	0.2325	0.0022	-0.4399	0.0172	0.7132	0.0448	-0.6388	0.0605
3	260.16	0.5995	0.2818	0.0022	-0.4920	0.0197	0.8466	0.0523	-0.5279	0.0590
3	260.16	0.6498	0.3055	0.0021	-0.6294	0.0229	0.9658	0.0574	-0.4473	0.0615
3	260.16	0.6890	0.3222	0.0021	-0.6978	0.0257	1.0029	0.0629	-0.6029	0.0559
3	260.16	0.7495	0.4055	0.0021	-0.8649	0.0298	1.1213	0.0714	-0.3517	0.0599
3	260.16	0.7998	0.4031	0.0023	-0.9507	0.0336	1.0856	0.0791	-0.8521	0.0583
3	260.16	0.8577	0.4505	0.0023	-1.0686	0.0380	1.1180	0.0890	-0.9753	0.0593
3	260.16	0.9178	0.5354	0.0026	-1.1862	0.0425	1.1190	0.1002	-0.4830	0.0600
3	260.16	0.9729	0.5481	0.0037	-1.3387	0.0469	1.0468	0.1110	-1.0854	0.0579
4	260.16	0.2001	-0.0751	0.0011	-0.0089	0.0006	0.0115	0.0023	0.0605	0.0160
4	260.16	0.2502	-0.0128	0.0009	-0.0079	0.0013	0.0061	0.0043	0.0114	0.0313
4	260.16	0.3001	0.0178	0.0012	-0.0233	0.0023	0.0336	0.0082	0.1092	0.0357
4	260.16	0.3502	0.0530	0.0012	-0.0518	0.0037	0.0437	0.0138	0.1334	0.0375
4	260.16	0.4002	0.0868	0.0018	-0.0664	0.0058	0.0659	0.0208	0.1666	0.0352
4	260.16	0.4500	0.1290	0.0019	-0.0878	0.0074	0.0554	0.0269	-0.1426	0.0380
4	260.16	0.5001	0.1585	0.0019	-0.1475	0.0096	0.1315	0.0343	0.2425	0.0362
4	260.16	0.5560	0.2038	0.0018	-0.2008	0.0120	0.0760	0.0429	-0.1217	0.0352
4	260.16	0.6001	0.2535	0.0018	-0.2678	0.0142	0.0775	0.0495	-0.0338	0.0385
4	260.16	0.6501	0.2712	0.0018	-0.3401	0.0166	0.0444	0.0571	0.0025	0.0373
4	260.16	0.6999	0.3147	0.0018	-0.4254	0.0194	-0.0235	0.0649	-0.0114	0.0363
4	260.16	0.7500	0.3613	0.0020	-0.5149	0.0223	-0.0919	0.0736	0.1567	0.0355
4	260.16	0.8002	0.3900	0.0021	-0.6237	0.0256	-0.2368	0.0816	0.1283	0.0387
4	260.16	0.8582	0.4393	0.0020	-0.7030	0.0292	-0.4174	0.0922	-0.2648	0.0383
4	260.16	0.9101	0.4683	0.0022	-0.7551	0.0329	-0.5655	0.1024	0.0089	0.0380
4	260.16	0.9728	0.5895	0.0028	-0.7714	0.0375	-0.6674	0.1142	0.2036	0.0404

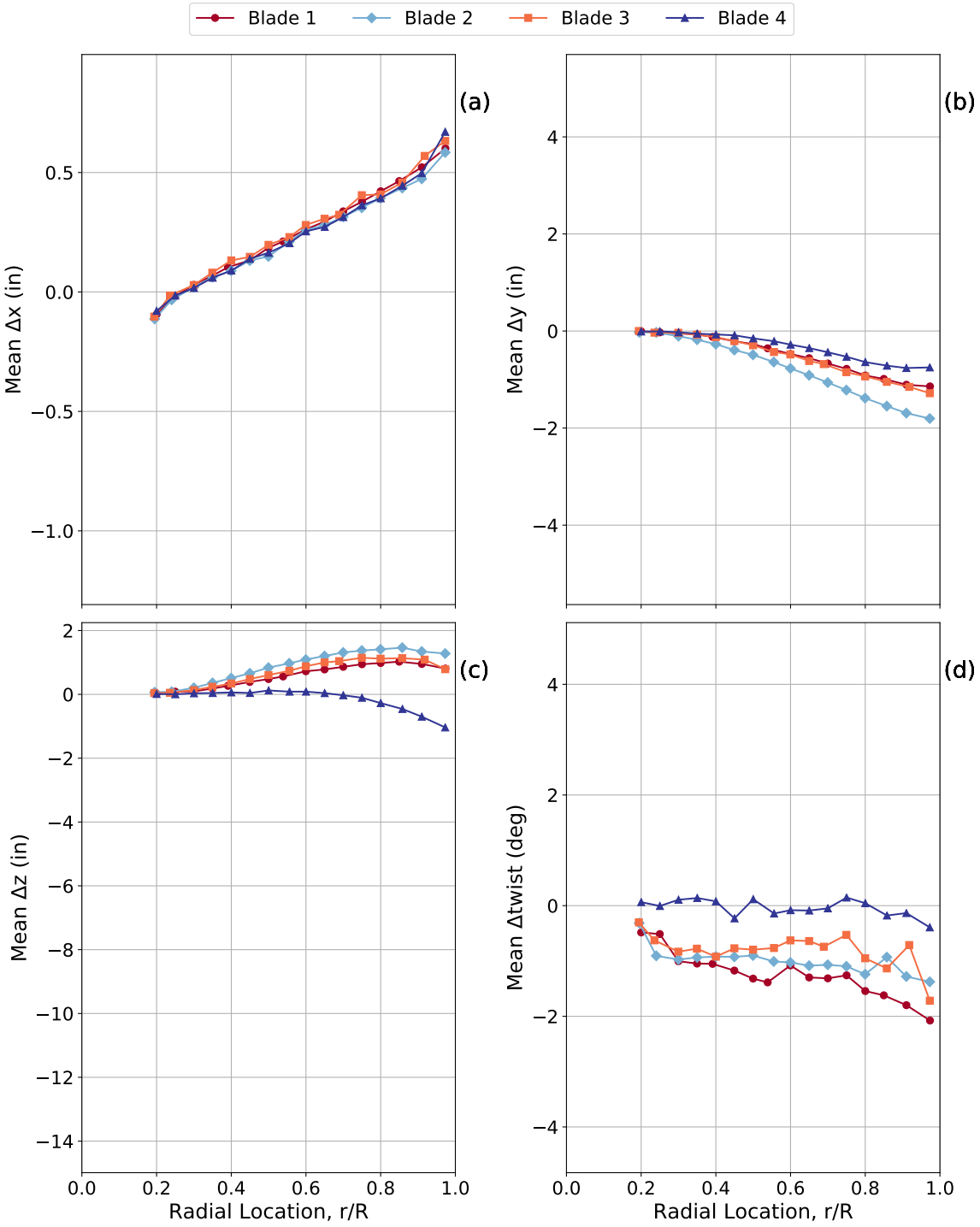


Figure 2.27-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-34. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	-0.0937	0.0020	-0.0079	0.0010	0.0201	0.0043	-0.4844	0.0230
1	265.08	0.2499	-0.0176	0.0013	-0.0276	0.0016	0.0849	0.0058	-0.5141	0.0570
1	265.08	0.2998	0.0298	0.0013	-0.0498	0.0035	0.0938	0.0137	-1.0047	0.0568
1	265.08	0.3498	0.0685	0.0014	-0.0721	0.0060	0.1827	0.0221	-1.0470	0.0554
1	265.08	0.3913	0.1035	0.0017	-0.1213	0.0083	0.2671	0.0304	-1.0518	0.0557
1	265.08	0.4496	0.1324	0.0019	-0.2105	0.0112	0.3894	0.0412	-1.1735	0.0568
1	265.08	0.4997	0.1850	0.0019	-0.2696	0.0140	0.4802	0.0519	-1.3189	0.0583
1	265.08	0.5387	0.2114	0.0021	-0.3567	0.0161	0.5602	0.0607	-1.3872	0.0593
1	265.08	0.5996	0.2620	0.0023	-0.4731	0.0198	0.7243	0.0746	-1.0802	0.0634
1	265.08	0.6498	0.2946	0.0025	-0.5600	0.0232	0.7810	0.0864	-1.2980	0.0598
1	265.08	0.6998	0.3375	0.0026	-0.6694	0.0265	0.8630	0.0979	-1.3139	0.0599
1	265.08	0.7500	0.3780	0.0026	-0.7804	0.0305	0.9439	0.1089	-1.2594	0.0626
1	265.08	0.8001	0.4215	0.0025	-0.9169	0.0344	0.9831	0.1196	-1.5436	0.0610
1	265.08	0.8497	0.4643	0.0028	-0.9867	0.0383	1.0244	0.1299	-1.6209	0.0609
1	265.08	0.9102	0.5219	0.0029	-1.1071	0.0436	0.9538	0.1423	-1.7991	0.0641
1	265.08	0.9734	0.6009	0.0045	-1.1416	0.0491	0.8083	0.1561	-2.0763	0.0691
2	265.08	0.1949	-0.1130	0.0017	-0.0282	0.0008	0.0672	0.0033	-0.3151	0.0216
2	265.08	0.2405	-0.0329	0.0012	-0.0302	0.0012	0.0822	0.0043	-0.9072	0.0511
2	265.08	0.2999	0.0203	0.0011	-0.1067	0.0028	0.2055	0.0101	-0.9738	0.0581
2	265.08	0.3498	0.0623	0.0012	-0.1793	0.0049	0.3587	0.0175	-0.9362	0.0533
2	265.08	0.3998	0.0888	0.0020	-0.2712	0.0074	0.5097	0.0251	-0.9215	0.0506
2	265.08	0.4496	0.1314	0.0020	-0.3924	0.0097	0.6606	0.0316	-0.9254	0.0521
2	265.08	0.4995	0.1488	0.0021	-0.4900	0.0124	0.8369	0.0391	-0.9014	0.0537
2	265.08	0.5551	0.2104	0.0023	-0.6390	0.0160	0.9729	0.0483	-1.0092	0.0518
2	265.08	0.5996	0.2605	0.0024	-0.7709	0.0189	1.0910	0.0567	-1.0269	0.0524
2	265.08	0.6497	0.2792	0.0025	-0.9116	0.0225	1.2019	0.0651	-1.0851	0.0568
2	265.08	0.6996	0.3148	0.0027	-1.0616	0.0266	1.3126	0.0749	-1.0689	0.0547
2	265.08	0.7495	0.3524	0.0026	-1.2179	0.0308	1.3739	0.0850	-1.0967	0.0518
2	265.08	0.7996	0.3927	0.0028	-1.3836	0.0354	1.4110	0.0963	-1.2403	0.0521
2	265.08	0.8578	0.4350	0.0031	-1.5475	0.0408	1.4644	0.1093	-0.9308	0.0547
2	265.08	0.9100	0.4736	0.0032	-1.6917	0.0457	1.3424	0.1224	-1.2809	0.0572
2	265.08	0.9727	0.5841	0.0045	-1.8035	0.0512	1.2797	0.1386	-1.3765	0.0618
3	265.08	0.1938	-0.1033	0.0023	-0.0009	0.0010	0.0422	0.0040	-0.3020	0.0286
3	265.08	0.2357	-0.0149	0.0015	-0.0343	0.0014	0.0487	0.0057	-0.6271	0.0591
3	265.08	0.2995	0.0288	0.0012	-0.0370	0.0034	0.1322	0.0119	-0.8320	0.0741
3	265.08	0.3493	0.0808	0.0018	-0.0765	0.0062	0.2378	0.0212	-0.7778	0.0630
3	265.08	0.4000	0.1321	0.0023	-0.1257	0.0093	0.3407	0.0306	-0.9223	0.0669
3	265.08	0.4497	0.1469	0.0027	-0.2080	0.0121	0.4794	0.0395	-0.7711	0.0555
3	265.08	0.4997	0.1971	0.0026	-0.2942	0.0153	0.6058	0.0490	-0.7958	0.0539
3	265.08	0.5556	0.2297	0.0024	-0.4327	0.0186	0.7389	0.0568	-0.7662	0.0656
3	265.08	0.5995	0.2804	0.0023	-0.4829	0.0216	0.8798	0.0649	-0.6280	0.0643
3	265.08	0.6498	0.3067	0.0025	-0.6176	0.0253	1.0010	0.0735	-0.6398	0.0633
3	265.08	0.6890	0.3231	0.0024	-0.6820	0.0284	1.0412	0.0795	-0.7426	0.0650
3	265.08	0.7495	0.4051	0.0025	-0.8482	0.0333	1.1469	0.0893	-0.5285	0.0618
3	265.08	0.7998	0.4085	0.0029	-0.9355	0.0379	1.1189	0.0967	-0.9513	0.0637
3	265.08	0.8577	0.4580	0.0032	-1.0469	0.0435	1.1347	0.1057	-1.1348	0.0679
3	265.08	0.9178	0.5695	0.0033	-1.1517	0.0492	1.0871	0.1169	-0.7127	0.0639
3	265.08	0.9729	0.6323	0.0046	-1.2813	0.0549	0.7881	0.1254	-1.7181	0.0763
4	265.08	0.2001	-0.0793	0.0015	-0.0095	0.0006	0.0125	0.0026	0.0632	0.0201
4	265.08	0.2502	-0.0149	0.0012	-0.0083	0.0014	0.0030	0.0048	-0.0062	0.0412
4	265.08	0.3001	0.0169	0.0010	-0.0260	0.0024	0.0327	0.0096	0.1065	0.0460
4	265.08	0.3502	0.0596	0.0014	-0.0542	0.0040	0.0427	0.0149	0.1379	0.0451
4	265.08	0.4002	0.0896	0.0015	-0.0715	0.0062	0.0611	0.0232	0.0774	0.0469
4	265.08	0.4500	0.1388	0.0016	-0.0886	0.0082	0.0434	0.0298	-0.2304	0.0427
4	265.08	0.5001	0.1644	0.0018	-0.1517	0.0103	0.1225	0.0373	0.1160	0.0493
4	265.08	0.5560	0.2042	0.0020	-0.2107	0.0131	0.0848	0.0468	-0.1420	0.0471
4	265.08	0.6001	0.2539	0.0020	-0.2813	0.0157	0.0852	0.0540	-0.0822	0.0477
4	265.08	0.6501	0.2723	0.0023	-0.3522	0.0189	0.0388	0.0630	-0.0885	0.0470
4	265.08	0.6999	0.3135	0.0022	-0.4382	0.0219	-0.0285	0.0710	-0.0489	0.0498
4	265.08	0.7500	0.3627	0.0023	-0.5306	0.0253	-0.1065	0.0794	0.1462	0.0505
4	265.08	0.8002	0.3923	0.0024	-0.6406	0.0286	-0.2739	0.0881	0.0439	0.0516
4	265.08	0.8582	0.4448	0.0024	-0.7144	0.0326	-0.4582	0.0979	-0.1785	0.0518
4	265.08	0.9101	0.4974	0.0027	-0.7627	0.0363	-0.6987	0.1074	-0.1344	0.0560
4	265.08	0.9728	0.6703	0.0041	-0.7504	0.0409	-1.0356	0.1199	-0.3928	0.0597

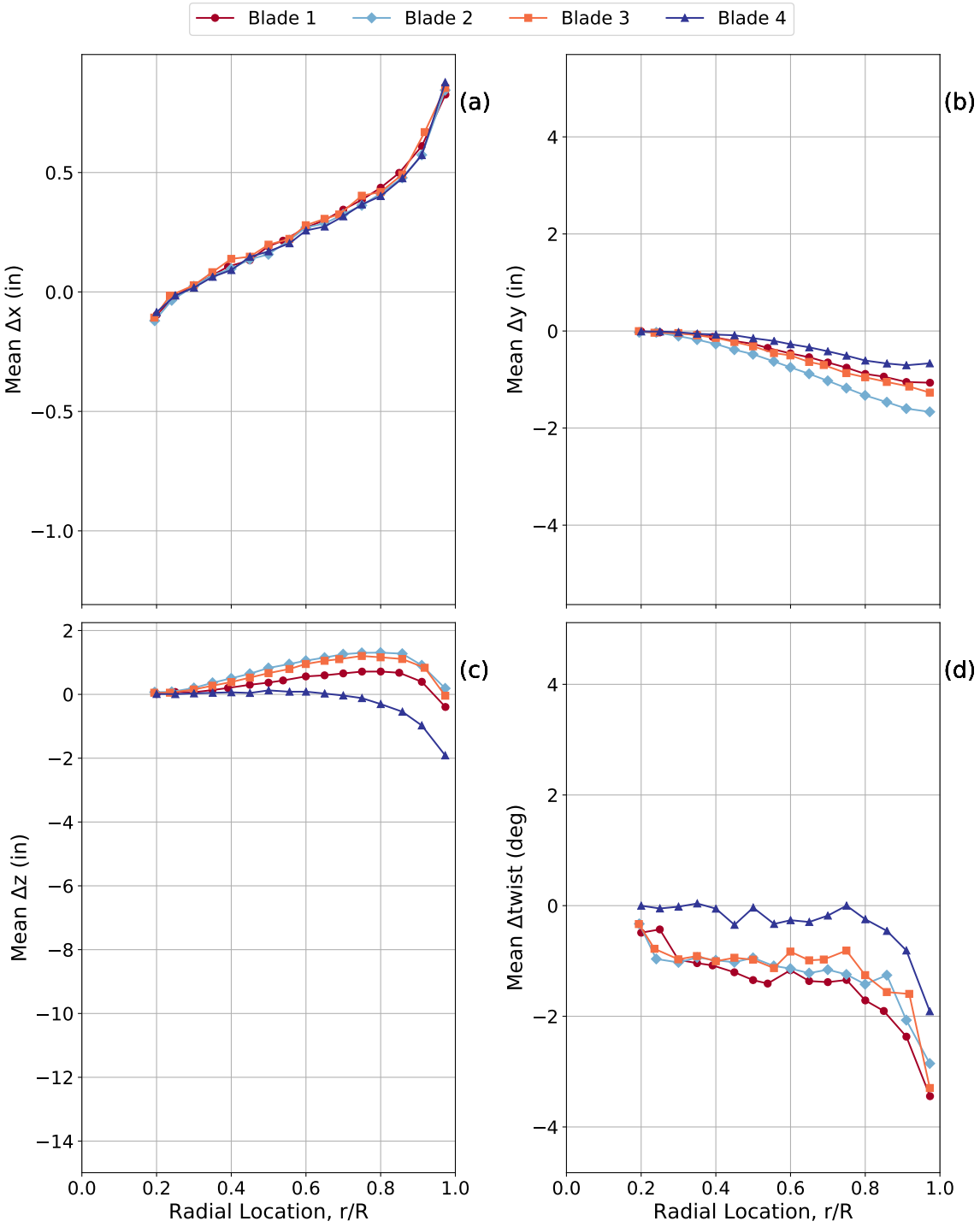


Figure 2.27-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-35. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	-0.0961	0.0023	-0.0073	0.0010	0.0124	0.0037	-0.4887	0.0263
1	270	0.2499	-0.0169	0.0016	-0.0293	0.0014	0.0737	0.0058	-0.4299	0.0597
1	270	0.2998	0.0276	0.0013	-0.0482	0.0035	0.0659	0.0121	-0.9787	0.0649
1	270	0.3498	0.0701	0.0014	-0.0727	0.0061	0.1353	0.0204	-1.0395	0.0563
1	270	0.3913	0.1061	0.0019	-0.1214	0.0082	0.2011	0.0280	-1.0801	0.0596
1	270	0.4496	0.1327	0.0024	-0.2069	0.0108	0.3006	0.0384	-1.2046	0.0576
1	270	0.4997	0.1916	0.0024	-0.2647	0.0133	0.3682	0.0483	-1.3457	0.0595
1	270	0.5387	0.2147	0.0026	-0.3489	0.0155	0.4363	0.0570	-1.4084	0.0588
1	270	0.5996	0.2689	0.0029	-0.4615	0.0191	0.5629	0.0704	-1.1669	0.0610
1	270	0.6498	0.3007	0.0027	-0.5408	0.0223	0.5965	0.0832	-1.3626	0.0583
1	270	0.6998	0.3445	0.0028	-0.6486	0.0258	0.6570	0.0959	-1.3823	0.0599
1	270	0.7500	0.3860	0.0029	-0.7561	0.0296	0.7134	0.1084	-1.3433	0.0558
1	270	0.8001	0.4365	0.0030	-0.8850	0.0339	0.7155	0.1212	-1.7128	0.0595
1	270	0.8497	0.4985	0.0032	-0.9400	0.0383	0.6771	0.1348	-1.9041	0.0596
1	270	0.9102	0.6106	0.0035	-1.0508	0.0437	0.3939	0.1496	-2.3683	0.0666
1	270	0.9734	0.8263	0.0058	-1.0656	0.0498	-0.3948	0.1700	-3.4442	0.0673
2	270.35	0.1949	-0.1204	0.0021	-0.0283	0.0008	0.0698	0.0034	-0.3291	0.0270
2	270.35	0.2405	-0.0351	0.0015	-0.0292	0.0013	0.0790	0.0064	-0.9640	0.0490
2	270.35	0.2999	0.0242	0.0016	-0.1052	0.0026	0.2011	0.0114	-1.0266	0.0642
2	270.35	0.3498	0.0701	0.0014	-0.1781	0.0048	0.3638	0.0201	-0.9371	0.0579
2	270.35	0.3998	0.0970	0.0020	-0.2676	0.0070	0.5034	0.0297	-0.9872	0.0540
2	270.35	0.4496	0.1367	0.0023	-0.3854	0.0088	0.6460	0.0373	-1.0233	0.0636
2	270.35	0.4995	0.1574	0.0020	-0.4792	0.0109	0.8274	0.0469	-0.9431	0.0582
2	270.35	0.5551	0.2167	0.0024	-0.6253	0.0132	0.9492	0.0578	-1.0894	0.0589
2	270.35	0.5996	0.2699	0.0026	-0.7489	0.0155	1.0562	0.0681	-1.1377	0.0583
2	270.35	0.6497	0.2864	0.0025	-0.8820	0.0180	1.1523	0.0794	-1.2197	0.0586
2	270.35	0.6996	0.3250	0.0025	-1.0260	0.0204	1.2593	0.0909	-1.1576	0.0600
2	270.35	0.7495	0.3625	0.0025	-1.1760	0.0233	1.3008	0.1045	-1.2434	0.0612
2	270.35	0.7996	0.4119	0.0031	-1.3267	0.0263	1.3087	0.1193	-1.4207	0.0626
2	270.35	0.8578	0.4778	0.0032	-1.4661	0.0299	1.2750	0.1369	-1.2568	0.0650
2	270.35	0.9100	0.5736	0.0035	-1.5985	0.0331	0.9113	0.1548	-2.0692	0.0679
2	270.35	0.9727	0.8448	0.0062	-1.6657	0.0380	0.1883	0.1846	-2.8531	0.1795
3	270	0.1938	-0.1074	0.0023	-0.0029	0.0009	0.0510	0.0037	-0.3331	0.0268
3	270	0.2357	-0.0156	0.0015	-0.0355	0.0013	0.0517	0.0046	-0.7797	0.0549
3	270	0.2995	0.0279	0.0014	-0.0427	0.0031	0.1524	0.0103	-0.9700	0.0681
3	270	0.3493	0.0827	0.0017	-0.0884	0.0053	0.2715	0.0181	-0.9112	0.0595
3	270	0.4000	0.1385	0.0021	-0.1417	0.0081	0.3857	0.0257	-1.0047	0.0635
3	270	0.4497	0.1476	0.0020	-0.2259	0.0102	0.5250	0.0327	-0.9419	0.0575
3	270	0.4997	0.1980	0.0020	-0.3159	0.0128	0.6652	0.0389	-0.9760	0.0607
3	270	0.5556	0.2221	0.0025	-0.4546	0.0155	0.7946	0.0460	-1.1288	0.0620
3	270	0.5995	0.2793	0.0026	-0.5026	0.0181	0.9514	0.0517	-0.8303	0.0589
3	270	0.6498	0.3061	0.0028	-0.6372	0.0210	1.0517	0.0587	-0.9885	0.0591
3	270	0.6890	0.3243	0.0028	-0.7009	0.0234	1.1034	0.0633	-0.9739	0.0603
3	270	0.7495	0.4028	0.0028	-0.8678	0.0273	1.2037	0.0723	-0.8122	0.0575
3	270	0.7998	0.4185	0.0026	-0.9531	0.0305	1.1618	0.0785	-1.2561	0.0632
3	270	0.8577	0.4915	0.0029	-1.0495	0.0346	1.1091	0.0860	-1.5624	0.0586
3	270	0.9178	0.6691	0.0030	-1.1441	0.0392	0.8339	0.0951	-1.5954	0.0646
3	270	0.9729	0.8539	0.0043	-1.2689	0.0432	-0.0418	0.1028	-3.2965	0.0807
4	270	0.2001	-0.0844	0.0046	-0.0092	0.0007	0.0123	0.0033	-0.0014	0.0240
4	270	0.2502	-0.0148	0.0017	-0.0105	0.0017	0.0073	0.0070	-0.0512	0.0416
4	270	0.3001	0.0180	0.0023	-0.0255	0.0028	0.0302	0.0118	-0.0192	0.0530
4	270	0.3502	0.0634	0.0042	-0.0568	0.0049	0.0485	0.0208	0.0389	0.0431
4	270	0.4002	0.0917	0.0055	-0.0745	0.0075	0.0648	0.0314	-0.0543	0.0414
4	270	0.4500	0.1471	0.0060	-0.0880	0.0096	0.0441	0.0391	-0.3472	0.0389
4	270	0.5001	0.1700	0.0062	-0.1493	0.0123	0.1250	0.0483	-0.0358	0.0474
4	270	0.5560	0.2038	0.0051	-0.2047	0.0157	0.0829	0.0599	-0.3309	0.0423
4	270	0.6001	0.2572	0.0045	-0.2725	0.0188	0.0846	0.0692	-0.2632	0.0457
4	270	0.6501	0.2738	0.0054	-0.3364	0.0218	0.0258	0.0792	-0.2953	0.0455
4	270	0.6999	0.3166	0.0079	-0.4183	0.0256	-0.0366	0.0900	-0.1797	0.0483
4	270	0.7500	0.3663	0.0122	-0.5084	0.0295	-0.1177	0.1003	-0.0004	0.0404
4	270	0.8002	0.4013	0.0178	-0.6089	0.0337	-0.3046	0.1109	-0.2462	0.0454
4	270	0.8582	0.4758	0.0253	-0.6696	0.0386	-0.5446	0.1208	-0.4572	0.0492
4	270	0.9101	0.5728	0.0332	-0.7059	0.0436	-0.9746	0.1311	-0.8106	0.0562
4	270	0.9728	0.8776	0.0436	-0.6660	0.0505	-1.9129	0.1454	-1.9097	0.0550

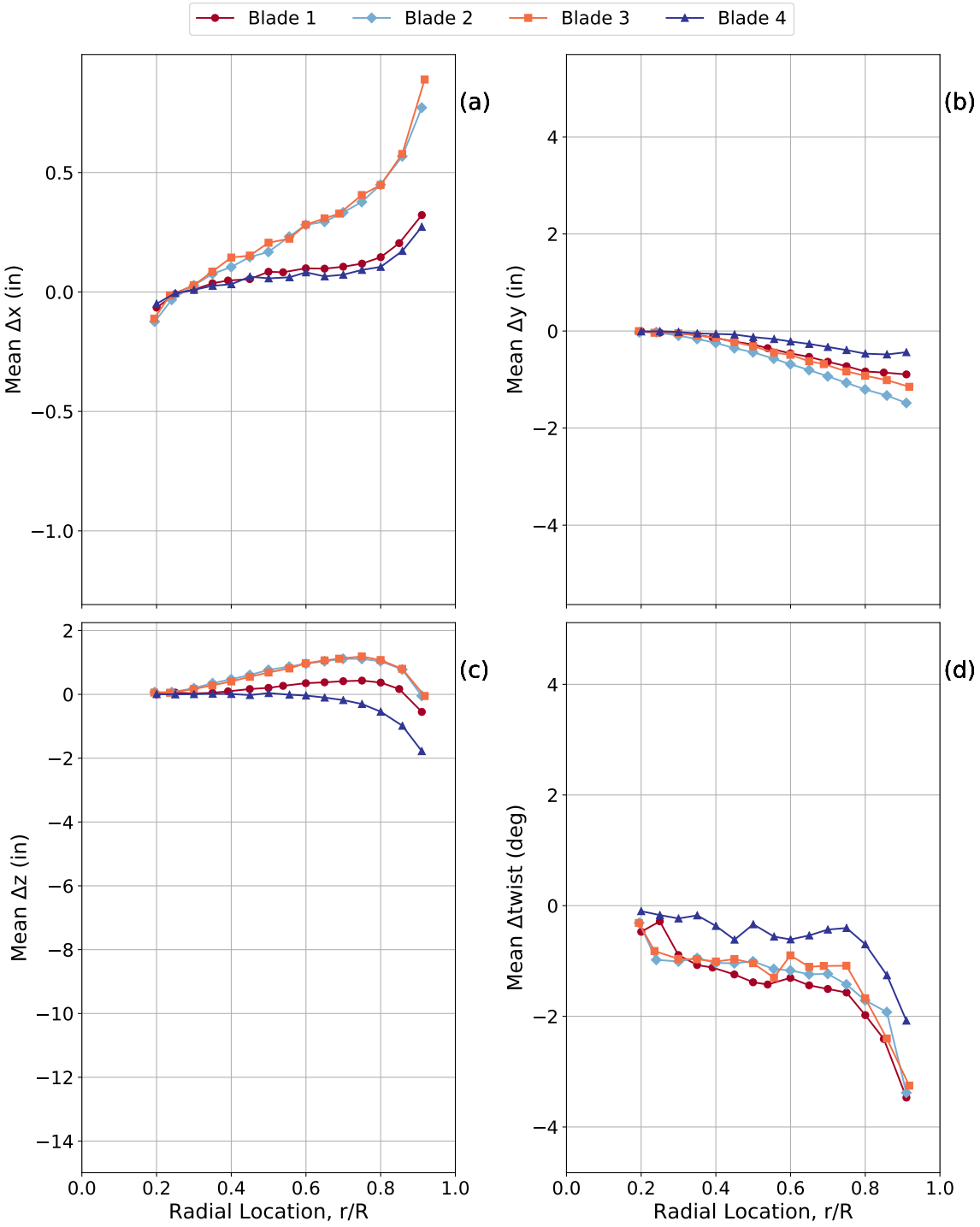


Figure 2.27-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.149, α = 8°
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	-0.0655	0.0040	-0.0074	0.0013	-0.0004	0.0061	-0.4721	0.0382
1	274.92	0.2499	-0.0089	0.0020	-0.0345	0.0020	0.0557	0.0085	-0.2840	0.0964
1	274.92	0.2998	0.0096	0.0018	-0.0482	0.0049	0.0275	0.0198	-0.8929	0.0966
1	274.92	0.3498	0.0363	0.0023	-0.0837	0.0078	0.0477	0.0317	-1.0731	0.0983
1	274.92	0.3913	0.0479	0.0028	-0.1320	0.0111	0.0950	0.0438	-1.1197	0.0953
1	274.92	0.4496	0.0538	0.0030	-0.2180	0.0141	0.1667	0.0566	-1.2436	0.0987
1	274.92	0.4997	0.0845	0.0030	-0.2790	0.0174	0.2042	0.0694	-1.3851	0.0952
1	274.92	0.5387	0.0824	0.0035	-0.3532	0.0195	0.2662	0.0791	-1.4253	0.0978
1	274.92	0.5996	0.0990	0.0046	-0.4598	0.0228	0.3510	0.0941	-1.3060	0.1021
1	274.92	0.6498	0.0976	0.0056	-0.5341	0.0258	0.3768	0.1075	-1.4404	0.0985
1	274.92	0.6998	0.1056	0.0076	-0.6334	0.0290	0.4127	0.1209	-1.5060	0.0953
1	274.92	0.7500	0.1186	0.0102	-0.7255	0.0322	0.4313	0.1336	-1.5709	0.0924
1	274.92	0.8001	0.1455	0.0134	-0.8339	0.0355	0.3698	0.1452	-1.9790	0.0980
1	274.92	0.8497	0.2043	0.0172	-0.8559	0.0391	0.1674	0.1581	-2.4103	0.0964
1	274.92	0.9102	0.3220	0.0226	-0.8941	0.0437	-0.5492	0.1754	-3.4691	0.1026
2	274.92	0.1949	-0.1241	0.0030	-0.0272	0.0009	0.0700	0.0047	-0.3121	0.0299
2	274.92	0.2405	-0.0327	0.0018	-0.0245	0.0012	0.0682	0.0062	-0.9800	0.0711
2	274.92	0.2999	0.0276	0.0019	-0.0968	0.0027	0.1920	0.0141	-1.0091	0.0812
2	274.92	0.3498	0.0756	0.0016	-0.1643	0.0049	0.3488	0.0248	-0.9473	0.0698
2	274.92	0.3998	0.1044	0.0020	-0.2444	0.0071	0.4751	0.0354	-1.0355	0.0734
2	274.92	0.4496	0.1465	0.0023	-0.3546	0.0091	0.6076	0.0439	-1.0423	0.0722
2	274.92	0.4995	0.1675	0.0025	-0.4378	0.0111	0.7668	0.0542	-1.0076	0.0730
2	274.92	0.5551	0.2315	0.0029	-0.5701	0.0135	0.8685	0.0663	-1.1450	0.0652
2	274.92	0.5996	0.2812	0.0024	-0.6845	0.0154	0.9602	0.0744	-1.1713	0.0735
2	274.92	0.6497	0.2938	0.0026	-0.8044	0.0177	1.0381	0.0857	-1.2406	0.0736
2	274.92	0.6996	0.3331	0.0023	-0.9341	0.0201	1.1152	0.0953	-1.2332	0.0737
2	274.92	0.7495	0.3767	0.0027	-1.0663	0.0230	1.1120	0.1066	-1.4238	0.0732
2	274.92	0.7996	0.4489	0.0030	-1.2045	0.0255	1.0390	0.1192	-1.7111	0.0776
2	274.92	0.8578	0.5679	0.0044	-1.3293	0.0290	0.7795	0.1334	-1.9239	0.0866
2	274.92	0.9100	0.7714	0.0066	-1.4832	0.0322	-0.0467	0.1478	-3.3821	0.0991
3	274.92	0.1938	-0.1117	0.0038	-0.0031	0.0011	0.0553	0.0051	-0.3134	0.0292
3	274.92	0.2357	-0.0139	0.0019	-0.0359	0.0014	0.0502	0.0052	-0.8194	0.0703
3	274.92	0.2995	0.0284	0.0017	-0.0431	0.0035	0.1651	0.0135	-0.9621	0.0770
3	274.92	0.3493	0.0853	0.0019	-0.0902	0.0058	0.2816	0.0222	-0.9684	0.0775
3	274.92	0.4000	0.1442	0.0023	-0.1437	0.0089	0.4051	0.0319	-1.0105	0.0795
3	274.92	0.4497	0.1523	0.0026	-0.2278	0.0114	0.5500	0.0400	-0.9665	0.0791
3	274.92	0.4997	0.2061	0.0025	-0.3146	0.0139	0.6851	0.0493	-1.0408	0.0771
3	274.92	0.5556	0.2230	0.0025	-0.4445	0.0174	0.8132	0.0609	-1.3031	0.0797
3	274.92	0.5995	0.2816	0.0023	-0.4906	0.0204	0.9742	0.0697	-0.8988	0.0816
3	274.92	0.6498	0.3082	0.0024	-0.6230	0.0242	1.0648	0.0809	-1.1060	0.0784
3	274.92	0.6890	0.3279	0.0027	-0.6822	0.0269	1.1184	0.0887	-1.0901	0.0837
3	274.92	0.7495	0.4058	0.0029	-0.8319	0.0321	1.1879	0.1045	-1.0865	0.0850
3	274.92	0.7998	0.4478	0.0031	-0.9215	0.0362	1.0749	0.1170	-1.6747	0.0848
3	274.92	0.8577	0.5777	0.0029	-1.0122	0.0416	0.8006	0.1330	-2.4014	0.0933
3	274.92	0.9178	0.8893	0.0041	-1.1487	0.0473	-0.0511	0.1532	-3.2533	0.1043
4	274.92	0.2001	-0.0494	0.0030	-0.0091	0.0007	0.0080	0.0032	-0.0996	0.0275
4	274.92	0.2502	-0.0046	0.0016	-0.0060	0.0020	-0.0009	0.0071	-0.1712	0.0519
4	274.92	0.3001	0.0088	0.0017	-0.0194	0.0034	0.0068	0.0112	-0.2319	0.0628
4	274.92	0.3502	0.0258	0.0023	-0.0504	0.0051	0.0197	0.0197	-0.1764	0.0487
4	274.92	0.4002	0.0324	0.0035	-0.0593	0.0087	0.0118	0.0299	-0.3670	0.0544
4	274.92	0.4500	0.0640	0.0037	-0.0730	0.0096	-0.0224	0.0353	-0.6152	0.0524
4	274.92	0.5001	0.0569	0.0042	-0.1249	0.0125	0.0405	0.0419	-0.3372	0.0527
4	274.92	0.5560	0.0615	0.0041	-0.1659	0.0147	-0.0108	0.0509	-0.5600	0.0549
4	274.92	0.6001	0.0821	0.0039	-0.2160	0.0171	-0.0376	0.0565	-0.6110	0.0547
4	274.92	0.6501	0.0652	0.0038	-0.2666	0.0195	-0.1005	0.0651	-0.5385	0.0493
4	274.92	0.6999	0.0722	0.0038	-0.3291	0.0219	-0.1793	0.0738	-0.4325	0.0569
4	274.92	0.7500	0.0923	0.0045	-0.3933	0.0245	-0.3026	0.0825	-0.4043	0.0541
4	274.92	0.8002	0.1050	0.0059	-0.4671	0.0268	-0.5434	0.0913	-0.6990	0.0575
4	274.92	0.8582	0.1717	0.0086	-0.4831	0.0300	-0.9842	0.1029	-1.2589	0.0570
4	274.92	0.9101	0.2727	0.0111	-0.4372	0.0329	-1.7794	0.1172	-2.0790	0.0722

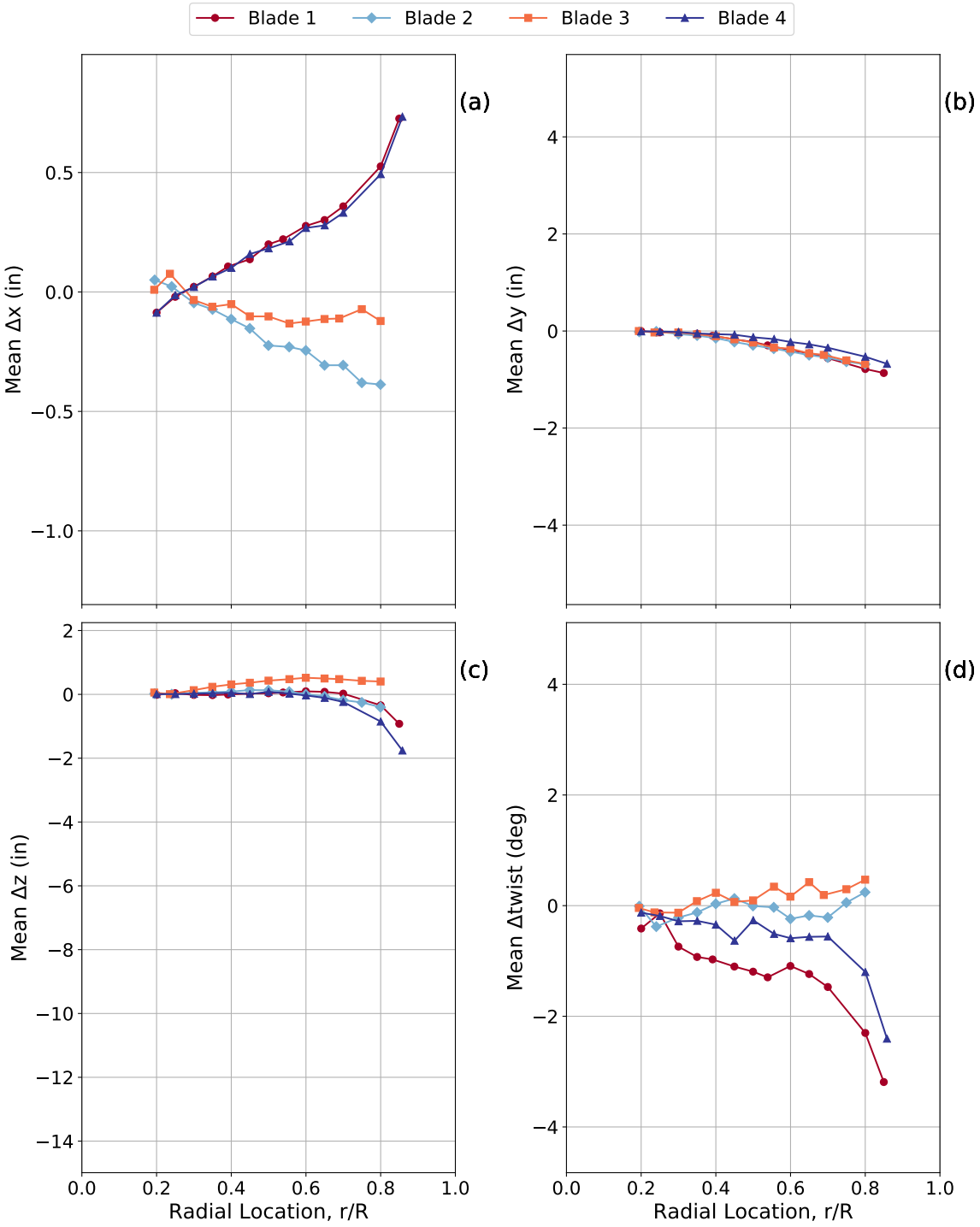


Figure 2.27-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.149, α = 8°
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	-0.0863	0.0062	-0.0036	0.0019	-0.0139	0.0114	-0.4138	0.0672
1	279.84	0.2499	-0.0203	0.0037	-0.0281	0.0023	0.0373	0.0124	-0.1389	0.1892
1	279.84	0.2998	0.0215	0.0029	-0.0373	0.0064	-0.0172	0.0352	-0.7406	0.1811
1	279.84	0.3498	0.0653	0.0031	-0.0554	0.0109	-0.0236	0.0579	-0.9275	0.1825
1	279.84	0.3913	0.1066	0.0032	-0.0989	0.0147	-0.0045	0.0775	-0.9719	0.1804
1	279.84	0.4496	0.1369	0.0034	-0.1718	0.0193	0.0260	0.1042	-1.1010	0.1788
1	279.84	0.4997	0.1994	0.0032	-0.2261	0.0238	0.0345	0.1257	-1.1934	0.1824
1	279.84	0.5387	0.2206	0.0034	-0.2958	0.0274	0.0590	0.1442	-1.2958	0.1751
1	279.84	0.5996	0.2764	0.0032	-0.3957	0.0332	0.0950	0.1719	-1.0907	0.1767
1	279.84	0.6498	0.3011	0.0032	-0.4583	0.0378	0.0795	0.1944	-1.2359	0.1779
1	279.84	0.6998	0.3584	0.0030	-0.5586	0.0433	0.0225	0.2156	-1.4707	0.1851
1	279.84	0.8001	0.5259	0.0031	-0.7828	0.0544	-0.3433	0.2641	-2.3012	0.1792
1	279.84	0.8497	0.7257	0.0041	-0.8653	0.0620	-0.9224	0.2879	-3.1882	0.1917
2	279.84	0.1949	0.0503	0.0025	-0.0171	0.0017	0.0214	0.0037	-0.0101	0.0566
2	279.84	0.2405	0.0227	0.0013	-0.0093	0.0023	0.0039	0.0095	-0.3793	0.0534
2	279.84	0.2999	-0.0457	0.0012	-0.0638	0.0046	0.0472	0.0111	-0.2151	0.1072
2	279.84	0.3498	-0.0731	0.0022	-0.0933	0.0086	0.0659	0.0203	-0.1229	0.0669
2	279.84	0.3998	-0.1137	0.0031	-0.1473	0.0115	0.0877	0.0315	0.0330	0.0704
2	279.84	0.4496	-0.1527	0.0029	-0.2256	0.0131	0.1333	0.0423	0.1283	0.0669
2	279.84	0.4995	-0.2240	0.0034	-0.2937	0.0168	0.1296	0.0520	-0.0066	0.0860
2	279.84	0.5551	-0.2301	0.0030	-0.3641	0.0193	0.0853	0.0629	-0.0301	0.0560
2	279.84	0.5996	-0.2449	0.0045	-0.4239	0.0227	0.0011	0.0694	-0.2380	0.0993
2	279.84	0.6497	-0.3068	0.0048	-0.4977	0.0255	-0.0624	0.0802	-0.1772	0.0859
2	279.84	0.6996	-0.3066	0.0090	-0.5467	0.0297	-0.1800	0.0926	-0.2137	0.1494
2	279.84	0.7495	-0.3800	0.0078	-0.6333	0.0339	-0.2521	0.1010	0.0548	0.1184
2	279.84	0.7996	-0.3873	0.0217	-0.6846	0.0391	-0.4021	0.1227	0.2424	0.3910
3	279.84	0.1938	0.0092	0.0035	-0.0004	0.0009	0.0569	0.0030	-0.0417	0.0185
3	279.84	0.2357	0.0762	0.0023	-0.0300	0.0014	0.0066	0.0044	-0.1225	0.0355
3	279.84	0.2995	-0.0337	0.0017	-0.0305	0.0034	0.1312	0.0111	-0.1279	0.0438
3	279.84	0.3493	-0.0619	0.0031	-0.0675	0.0054	0.2363	0.0172	0.0813	0.0440
3	279.84	0.4000	-0.0510	0.0039	-0.1086	0.0086	0.3121	0.0272	0.2325	0.0382
3	279.84	0.4497	-0.1022	0.0045	-0.1707	0.0105	0.3639	0.0330	0.0667	0.0429
3	279.84	0.4997	-0.1024	0.0053	-0.2376	0.0132	0.4304	0.0407	0.0948	0.0387
3	279.84	0.5556	-0.1320	0.0066	-0.3411	0.0161	0.4765	0.0490	0.3427	0.0427
3	279.84	0.5995	-0.1238	0.0093	-0.3634	0.0190	0.5205	0.0593	0.1629	0.0539
3	279.84	0.6498	-0.1132	0.0113	-0.4592	0.0219	0.4973	0.0661	0.4245	0.0806
3	279.84	0.6890	-0.1111	0.0157	-0.4912	0.0246	0.4777	0.0722	0.1923	0.0886
3	279.84	0.7495	-0.0720	0.0206	-0.6057	0.0288	0.4243	0.0817	0.2967	0.0803
3	279.84	0.7998	-0.1216	0.0275	-0.6779	0.0327	0.4029	0.0941	0.4694	0.1583
4	279.84	0.2001	-0.0868	0.0022	-0.0076	0.0009	0.0091	0.0046	-0.1264	0.0338
4	279.84	0.2502	-0.0138	0.0025	-0.0105	0.0016	0.0082	0.0073	-0.1870	0.0637
4	279.84	0.3001	0.0208	0.0018	-0.0208	0.0032	0.0206	0.0130	-0.2826	0.0718
4	279.84	0.3502	0.0646	0.0020	-0.0503	0.0049	0.0354	0.0212	-0.2750	0.0705
4	279.84	0.4002	0.1007	0.0024	-0.0650	0.0077	0.0456	0.0311	-0.3440	0.0684
4	279.84	0.4500	0.1588	0.0027	-0.0764	0.0097	0.0104	0.0379	-0.6337	0.0678
4	279.84	0.5001	0.1826	0.0029	-0.1287	0.0124	0.0805	0.0466	-0.2645	0.0633
4	279.84	0.5560	0.2117	0.0028	-0.1669	0.0153	0.0219	0.0558	-0.5112	0.0711
4	279.84	0.6001	0.2680	0.0033	-0.2266	0.0183	-0.0338	0.0628	-0.5885	0.0682
4	279.84	0.6501	0.2788	0.0031	-0.2745	0.0214	-0.1096	0.0713	-0.5637	0.0724
4	279.84	0.6999	0.3316	0.0030	-0.3444	0.0253	-0.2379	0.0792	-0.5581	0.0707
4	279.84	0.8002	0.4931	0.0038	-0.5299	0.0333	-0.8521	0.0943	-1.1997	0.0821
4	279.84	0.8582	0.7333	0.0052	-0.6762	0.0403	-1.7600	0.1005	-2.4043	0.1603

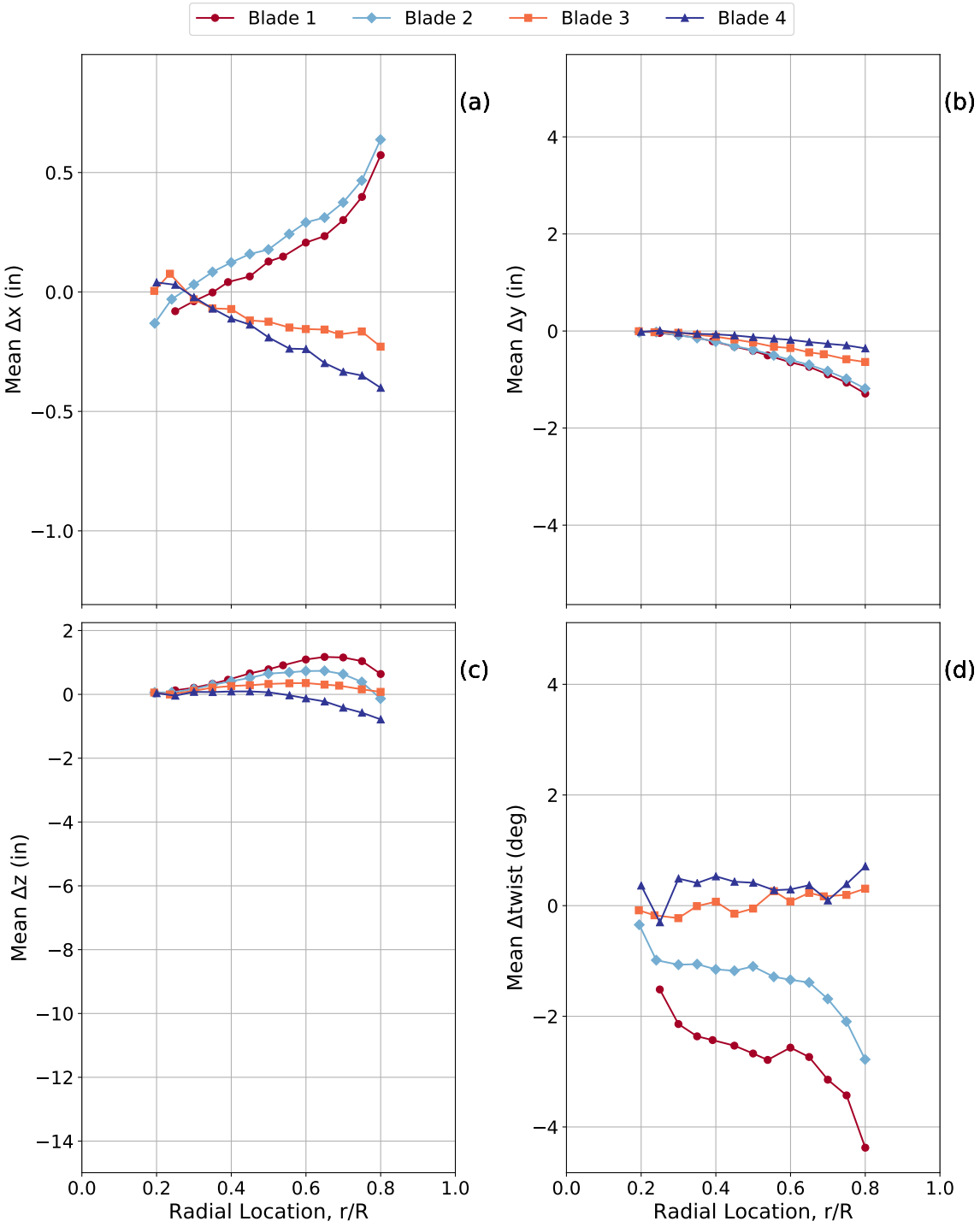


Figure 2.27-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-38. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2499	-0.0804	0.0036	-0.0404	0.0031	0.1257	0.0198	-1.5150	0.1587
1	285.12	0.2998	-0.0386	0.0038	-0.0853	0.0058	0.2063	0.0333	-2.1399	0.2237
1	285.12	0.3498	-0.0021	0.0033	-0.1383	0.0108	0.3310	0.0559	-2.3623	0.2133
1	285.12	0.3913	0.0414	0.0036	-0.2109	0.0155	0.4582	0.0777	-2.4302	0.2090
1	285.12	0.4496	0.0651	0.0041	-0.3202	0.0212	0.6568	0.1034	-2.5309	0.2116
1	285.12	0.4997	0.1274	0.0048	-0.4092	0.0264	0.7852	0.1285	-2.6726	0.2085
1	285.12	0.5387	0.1481	0.0047	-0.5033	0.0307	0.9106	0.1460	-2.7886	0.2131
1	285.12	0.5996	0.2066	0.0053	-0.6441	0.0374	1.0930	0.1752	-2.5660	0.2138
1	285.12	0.6498	0.2339	0.0058	-0.7391	0.0432	1.1731	0.1994	-2.7360	0.2178
1	285.12	0.6998	0.3010	0.0062	-0.8940	0.0493	1.1556	0.2234	-3.1462	0.2123
1	285.12	0.7500	0.3979	0.0057	-1.0638	0.0563	1.0412	0.2452	-3.4295	0.2336
1	285.12	0.8001	0.5728	0.0079	-1.2895	0.0643	0.6383	0.2685	-4.3751	0.2604
2	285.12	0.1949	-0.1312	0.0048	-0.0242	0.0012	0.0605	0.0091	-0.3457	0.0610
2	285.12	0.2405	-0.0303	0.0028	-0.0217	0.0017	0.0620	0.0103	-0.9859	0.1573
2	285.12	0.2999	0.0312	0.0030	-0.0875	0.0037	0.1672	0.0267	-1.0677	0.1734
2	285.12	0.3498	0.0838	0.0024	-0.1458	0.0068	0.2997	0.0446	-1.0572	0.1614
2	285.12	0.3998	0.1236	0.0028	-0.2188	0.0098	0.4107	0.0640	-1.1522	0.1613
2	285.12	0.4496	0.1588	0.0032	-0.3125	0.0123	0.5180	0.0807	-1.1768	0.1521
2	285.12	0.4995	0.1776	0.0038	-0.3863	0.0154	0.6501	0.0968	-1.0986	0.1590
2	285.12	0.5551	0.2425	0.0036	-0.5014	0.0187	0.6904	0.1151	-1.2865	0.1639
2	285.12	0.5996	0.2912	0.0035	-0.5960	0.0217	0.7305	0.1307	-1.3400	0.1580
2	285.12	0.6497	0.3114	0.0034	-0.6963	0.0249	0.7372	0.1490	-1.3891	0.1596
2	285.12	0.6996	0.3748	0.0040	-0.8268	0.0288	0.6340	0.1645	-1.6855	0.1673
2	285.12	0.7495	0.4666	0.0048	-0.9847	0.0331	0.3887	0.1851	-2.0951	0.1597
2	285.12	0.7996	0.6377	0.0070	-1.1847	0.0379	-0.1332	0.2030	-2.7797	0.1895
3	285.12	0.1938	0.0045	0.0048	-0.0048	0.0010	0.0561	0.0022	-0.0844	0.0191
3	285.12	0.2357	0.0763	0.0021	-0.0249	0.0020	-0.0034	0.0039	-0.1741	0.0373
3	285.12	0.2995	-0.0308	0.0020	-0.0362	0.0041	0.1130	0.0071	-0.2261	0.0462
3	285.12	0.3493	-0.0686	0.0042	-0.0764	0.0078	0.2094	0.0113	-0.0088	0.0403
3	285.12	0.4000	-0.0715	0.0061	-0.1173	0.0117	0.2614	0.0176	0.0708	0.0418
3	285.12	0.4497	-0.1193	0.0068	-0.1740	0.0142	0.2867	0.0211	-0.1455	0.0484
3	285.12	0.4997	-0.1243	0.0076	-0.2366	0.0170	0.3257	0.0275	-0.0527	0.0455
3	285.12	0.5556	-0.1488	0.0078	-0.3253	0.0197	0.3481	0.0335	0.2616	0.0478
3	285.12	0.5995	-0.1553	0.0067	-0.3503	0.0227	0.3550	0.0388	0.0755	0.0516
3	285.12	0.6498	-0.1574	0.0061	-0.4401	0.0254	0.3048	0.0463	0.2303	0.0553
3	285.12	0.6890	-0.1775	0.0110	-0.4780	0.0316	0.2736	0.0557	0.1680	0.1942
3	285.12	0.7495	-0.1655	0.0054	-0.5818	0.0318	0.1582	0.0601	0.1942	0.0689
3	285.12	0.7998	-0.2289	0.0070	-0.6384	0.0358	0.0776	0.0704	0.3068	0.0919
4	285.12	0.2001	0.0399	0.0019	-0.0165	0.0014	0.0372	0.0036	0.3626	0.0234
4	285.12	0.2502	0.0300	0.0024	0.0084	0.0056	-0.0403	0.0070	-0.3006	0.0506
4	285.12	0.3001	-0.0220	0.0015	-0.0345	0.0068	0.0784	0.0101	0.4889	0.0544
4	285.12	0.3502	-0.0697	0.0019	-0.0584	0.0143	0.0722	0.0202	0.4090	0.0420
4	285.12	0.4002	-0.1113	0.0030	-0.0691	0.0216	0.0914	0.0279	0.5292	0.0541
4	285.12	0.4500	-0.1367	0.0021	-0.0916	0.0241	0.0923	0.0353	0.4323	0.0468
4	285.12	0.5001	-0.1905	0.0029	-0.1278	0.0303	0.0657	0.0435	0.4139	0.0473
4	285.12	0.5560	-0.2373	0.0036	-0.1575	0.0339	-0.0299	0.0491	0.2793	0.0522
4	285.12	0.6001	-0.2390	0.0027	-0.1822	0.0386	-0.1245	0.0579	0.2931	0.0504
4	285.12	0.6501	-0.2978	0.0027	-0.2271	0.0438	-0.2230	0.0668	0.3698	0.0539
4	285.12	0.6999	-0.3341	0.0031	-0.2636	0.0492	-0.4164	0.0750	0.0935	0.0518
4	285.12	0.7500	-0.3499	0.0038	-0.2960	0.0545	-0.5741	0.0828	0.3914	0.0908
4	285.12	0.8002	-0.4012	0.0054	-0.3579	0.0599	-0.7857	0.0904	0.7109	0.1261

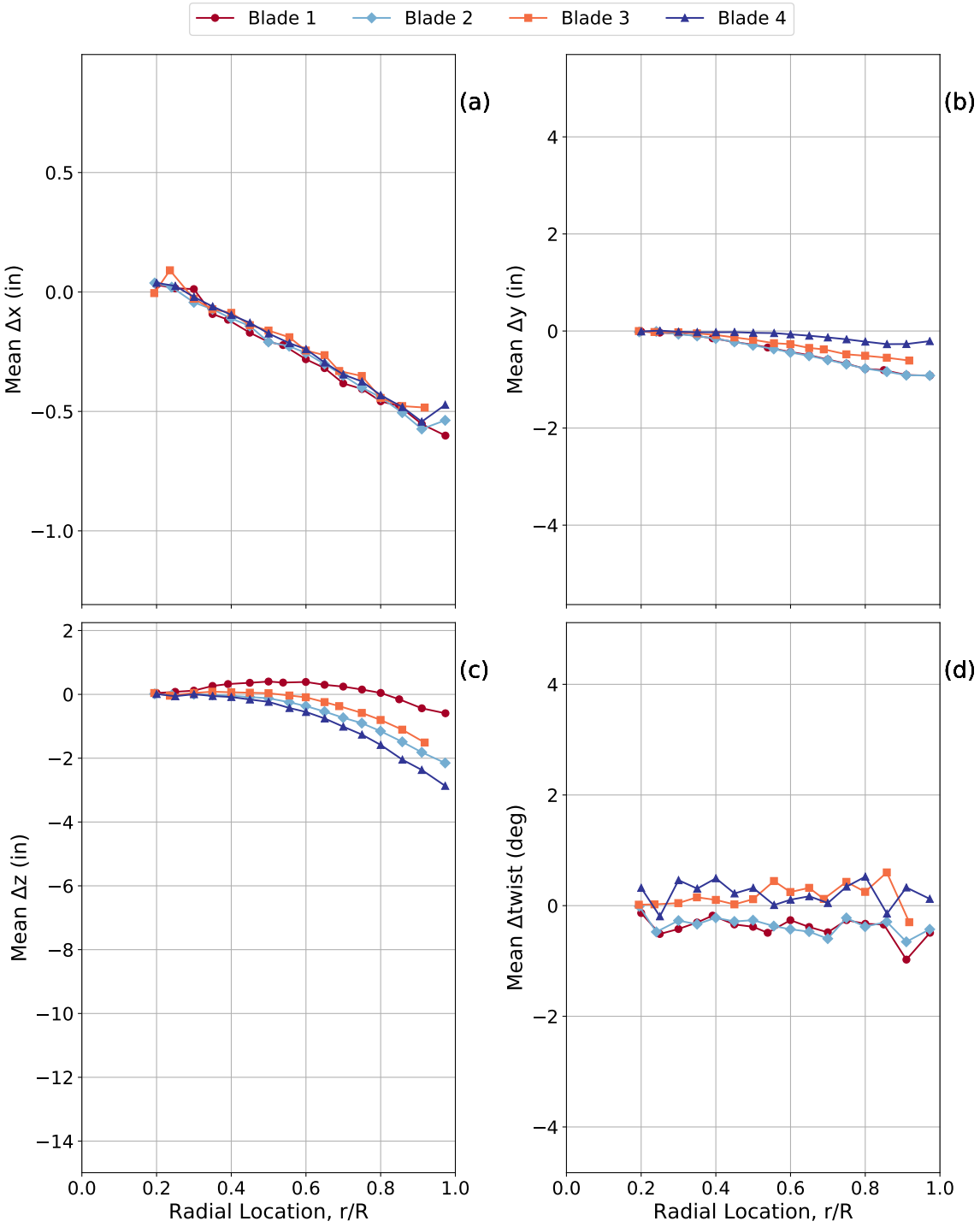


Figure 2.27-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-39. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0297	0.0025	-0.0115	0.0014	0.0415	0.0030	-0.1333	0.0262
1	299.88	0.2499	0.0155	0.0017	-0.0336	0.0026	0.0791	0.0067	-0.5123	0.0505
1	299.88	0.2998	0.0120	0.0016	-0.0553	0.0049	0.1174	0.0104	-0.4223	0.0569
1	299.88	0.3498	-0.0923	0.0035	-0.1028	0.0090	0.2639	0.0186	-0.3045	0.0455
1	299.88	0.3913	-0.1161	0.0031	-0.1494	0.0119	0.3234	0.0256	-0.1806	0.0429
1	299.88	0.4496	-0.1705	0.0029	-0.2267	0.0143	0.3628	0.0338	-0.3400	0.0432
1	299.88	0.4997	-0.2091	0.0030	-0.2827	0.0176	0.4015	0.0451	-0.3823	0.0489
1	299.88	0.5387	-0.2222	0.0029	-0.3400	0.0202	0.3699	0.0513	-0.4906	0.0465
1	299.88	0.5996	-0.2815	0.0028	-0.4310	0.0240	0.3892	0.0638	-0.2628	0.0436
1	299.88	0.6498	-0.3187	0.0028	-0.4979	0.0288	0.2997	0.0768	-0.3860	0.0481
1	299.88	0.6998	-0.3826	0.0033	-0.5872	0.0329	0.2434	0.0894	-0.4818	0.0456
1	299.88	0.7500	-0.4061	0.0033	-0.6746	0.0373	0.1511	0.1033	-0.2614	0.0443
1	299.88	0.8001	-0.4576	0.0033	-0.7787	0.0416	0.0451	0.1181	-0.3285	0.0418
1	299.88	0.8497	-0.4775	0.0036	-0.8056	0.0461	-0.1548	0.1336	-0.3413	0.0508
1	299.88	0.9102	-0.5530	0.0042	-0.9063	0.0521	-0.4365	0.1541	-0.9756	0.0556
1	299.88	0.9734	-0.6012	0.0050	-0.9192	0.0582	-0.5923	0.1750	-0.4899	0.0497
2	299.88	0.1949	0.0376	0.0017	-0.0186	0.0009	0.0160	0.0023	-0.0123	0.0185
2	299.88	0.2405	0.0201	0.0023	-0.0103	0.0029	-0.0222	0.0062	-0.4750	0.0348
2	299.88	0.2999	-0.0437	0.0018	-0.0664	0.0052	0.0037	0.0122	-0.2708	0.0446
2	299.88	0.3498	-0.0725	0.0027	-0.1025	0.0063	-0.0166	0.0173	-0.3351	0.0427
2	299.88	0.3998	-0.1107	0.0024	-0.1573	0.0124	-0.0452	0.0297	-0.2197	0.0391
2	299.88	0.4496	-0.1426	0.0027	-0.2253	0.0158	-0.0838	0.0368	-0.2857	0.0451
2	299.88	0.4995	-0.2093	0.0028	-0.2953	0.0180	-0.1213	0.0469	-0.2628	0.0388
2	299.88	0.5551	-0.2271	0.0028	-0.3705	0.0222	-0.2462	0.0581	-0.3694	0.0401
2	299.88	0.5996	-0.2554	0.0031	-0.4429	0.0254	-0.3661	0.0679	-0.4277	0.0336
2	299.88	0.6497	-0.3018	0.0033	-0.5115	0.0290	-0.5387	0.0794	-0.4702	0.0331
2	299.88	0.6996	-0.3496	0.0032	-0.5956	0.0329	-0.7322	0.0905	-0.5970	0.0325
2	299.88	0.7495	-0.3996	0.0033	-0.6841	0.0373	-0.9019	0.1020	-0.2216	0.0339
2	299.88	0.7996	-0.4410	0.0034	-0.7749	0.0416	-1.1525	0.1143	-0.3810	0.0341
2	299.88	0.8578	-0.5053	0.0037	-0.8391	0.0468	-1.4873	0.1274	-0.2922	0.0346
2	299.88	0.9100	-0.5736	0.0039	-0.9110	0.0514	-1.8159	0.1420	-0.6536	0.0345
2	299.88	0.9727	-0.5374	0.0055	-0.9178	0.0571	-2.1496	0.1589	-0.4277	0.0641
3	299.88	0.1938	-0.0048	0.0028	-0.0012	0.0009	0.0420	0.0029	0.0168	0.0362
3	299.88	0.2357	0.0907	0.0023	-0.0207	0.0033	-0.0411	0.0071	0.0232	0.0577
3	299.88	0.2995	-0.0283	0.0019	-0.0256	0.0056	0.0438	0.0146	0.0454	0.0875
3	299.88	0.3493	-0.0725	0.0031	-0.0496	0.0086	0.0837	0.0211	0.1506	0.0805
3	299.88	0.4000	-0.0874	0.0037	-0.0826	0.0149	0.0668	0.0361	0.1035	0.0720
3	299.88	0.4497	-0.1389	0.0030	-0.1319	0.0177	0.0513	0.0432	0.0227	0.0740
3	299.88	0.4997	-0.1615	0.0030	-0.1814	0.0221	0.0361	0.0535	0.1169	0.0674
3	299.88	0.5556	-0.1895	0.0031	-0.2511	0.0274	-0.0360	0.0639	0.4447	0.0701
3	299.88	0.5995	-0.2450	0.0034	-0.2706	0.0314	-0.0911	0.0741	0.2459	0.0649
3	299.88	0.6498	-0.2646	0.0037	-0.3493	0.0362	-0.2420	0.0855	0.3213	0.0630
3	299.88	0.6890	-0.3308	0.0034	-0.3780	0.0406	-0.3691	0.0952	0.1211	0.0637
3	299.88	0.7495	-0.3518	0.0030	-0.4806	0.0474	-0.5812	0.1103	0.4295	0.0639
3	299.88	0.7998	-0.4436	0.0033	-0.5097	0.0534	-0.8021	0.1231	0.2492	0.0677
3	299.88	0.8577	-0.4777	0.0034	-0.5509	0.0605	-1.1058	0.1389	0.6001	0.0654
3	299.88	0.9178	-0.4838	0.0078	-0.6082	0.0682	-1.5095	0.1565	-0.2991	0.1219
4	299.88	0.2001	0.0382	0.0024	-0.0086	0.0012	0.0117	0.0045	0.3212	0.0207
4	299.88	0.2502	0.0251	0.0015	0.0078	0.0031	-0.0582	0.0074	-0.1931	0.0586
4	299.88	0.3001	-0.0209	0.0013	-0.0150	0.0068	0.0051	0.0188	0.4599	0.0489
4	299.88	0.3502	-0.0608	0.0020	-0.0250	0.0092	-0.0522	0.0249	0.3077	0.0472
4	299.88	0.4002	-0.0960	0.0034	-0.0258	0.0165	-0.0826	0.0422	0.4945	0.0441
4	299.88	0.4500	-0.1292	0.0031	-0.0232	0.0201	-0.1613	0.0483	0.2207	0.0367
4	299.88	0.5001	-0.1740	0.0030	-0.0371	0.0233	-0.2344	0.0551	0.3203	0.0536
4	299.88	0.5560	-0.2144	0.0027	-0.0429	0.0275	-0.4278	0.0678	0.0110	0.0395
4	299.88	0.6001	-0.2396	0.0029	-0.0689	0.0306	-0.5515	0.0763	0.1074	0.0372
4	299.88	0.6501	-0.2954	0.0029	-0.0969	0.0345	-0.7556	0.0879	0.1698	0.0416
4	299.88	0.6999	-0.3456	0.0028	-0.1327	0.0382	-1.0120	0.0986	0.0469	0.0373
4	299.88	0.7500	-0.3748	0.0027	-0.1713	0.0420	-1.2613	0.1103	0.3439	0.0362
4	299.88	0.8002	-0.4323	0.0027	-0.2193	0.0459	-1.5846	0.1223	0.5238	0.0384
4	299.88	0.8582	-0.4818	0.0030	-0.2708	0.0504	-2.0464	0.1371	-0.1444	0.0418
4	299.88	0.9101	-0.5429	0.0034	-0.2686	0.0540	-2.3687	0.1519	0.3280	0.0462
4	299.88	0.9728	-0.4724	0.0049	-0.2090	0.0594	-2.8673	0.1691	0.1220	0.0532

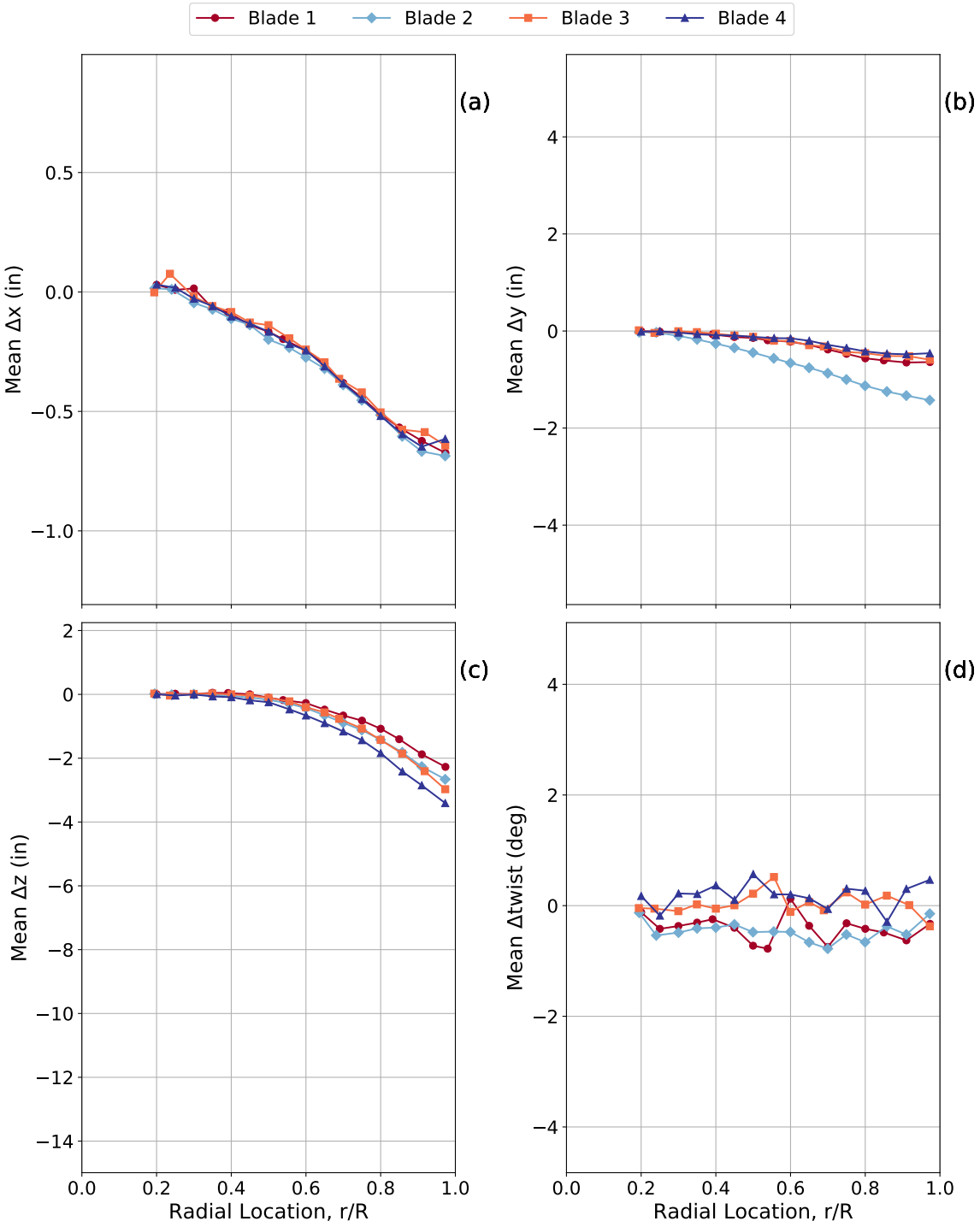


Figure 2.27-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.149, α = 8° NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-40. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0300	0.0029	-0.0039	0.0007	0.0065	0.0025	-0.1207	0.0283
1	315	0.2499	0.0090	0.0017	-0.0141	0.0025	0.0203	0.0057	-0.4197	0.0445
1	315	0.2998	0.0147	0.0016	-0.0306	0.0039	0.0055	0.0100	-0.3681	0.0630
1	315	0.3498	-0.0684	0.0017	-0.0349	0.0068	0.0501	0.0157	-0.3069	0.0497
1	315	0.3913	-0.0853	0.0025	-0.0677	0.0103	0.0428	0.0236	-0.2457	0.0620
1	315	0.4496	-0.1383	0.0024	-0.1240	0.0134	0.0021	0.0298	-0.3994	0.0512
1	315	0.4997	-0.1665	0.0039	-0.1431	0.0165	-0.1008	0.0347	-0.7241	0.0617
1	315	0.5387	-0.1970	0.0030	-0.1907	0.0185	-0.1784	0.0392	-0.7780	0.0576
1	315	0.5996	-0.2445	0.0043	-0.2199	0.0226	-0.2713	0.0471	0.1257	0.0554
1	315	0.6498	-0.3014	0.0039	-0.2881	0.0266	-0.4767	0.0538	-0.3642	0.0798
1	315	0.6998	-0.3808	0.0030	-0.3806	0.0290	-0.6627	0.0593	-0.7463	0.0737
1	315	0.7500	-0.4424	0.0039	-0.4706	0.0326	-0.8225	0.0638	-0.3182	0.0552
1	315	0.8001	-0.5126	0.0028	-0.5634	0.0361	-1.0774	0.0696	-0.4192	0.0546
1	315	0.8497	-0.5672	0.0030	-0.6056	0.0397	-1.4050	0.0758	-0.4848	0.0544
1	315	0.9102	-0.6233	0.0031	-0.6491	0.0445	-1.8781	0.0837	-0.6276	0.0564
1	315	0.9734	-0.6735	0.0040	-0.6406	0.0493	-2.2716	0.0919	-0.3288	0.0575
2	315	0.1949	0.0156	0.0023	-0.0256	0.0007	0.0186	0.0027	-0.1292	0.0405
2	315	0.2405	0.0109	0.0018	-0.0293	0.0024	-0.0116	0.0087	-0.5378	0.0404
2	315	0.2999	-0.0457	0.0017	-0.1000	0.0046	0.0047	0.0113	-0.4871	0.0814
2	315	0.3498	-0.0730	0.0025	-0.1728	0.0064	-0.0138	0.0209	-0.4102	0.0769
2	315	0.3998	-0.1122	0.0034	-0.2607	0.0115	-0.0463	0.0327	-0.3966	0.0465
2	315	0.4496	-0.1378	0.0038	-0.3469	0.0141	-0.0989	0.0416	-0.3402	0.0664
2	315	0.4995	-0.1986	0.0028	-0.4454	0.0153	-0.1689	0.0468	-0.4785	0.0552
2	315	0.5551	-0.2328	0.0028	-0.5633	0.0193	-0.2927	0.0572	-0.4694	0.0551
2	315	0.5996	-0.2738	0.0026	-0.6589	0.0222	-0.4295	0.0637	-0.4761	0.0598
2	315	0.6497	-0.3208	0.0023	-0.7577	0.0252	-0.6538	0.0709	-0.6623	0.0631
2	315	0.6996	-0.3889	0.0029	-0.8698	0.0288	-0.8904	0.0771	-0.7781	0.0714
2	315	0.7495	-0.4532	0.0028	-0.9995	0.0325	-1.1192	0.0858	-0.5217	0.0528
2	315	0.7996	-0.5151	0.0026	-1.1290	0.0367	-1.4228	0.0924	-0.6590	0.0523
2	315	0.8578	-0.6044	0.0027	-1.2479	0.0414	-1.8180	0.1017	-0.3749	0.0492
2	315	0.9100	-0.6675	0.0026	-1.3307	0.0457	-2.2634	0.1098	-0.5221	0.0489
2	315	0.9727	-0.6863	0.0037	-1.4260	0.0508	-2.6616	0.1206	-0.1465	0.0531
3	315	0.1938	-0.0017	0.0022	0.0140	0.0008	0.0241	0.0025	-0.0439	0.0163
3	315	0.2357	0.0762	0.0020	-0.0397	0.0014	-0.0368	0.0044	-0.0539	0.0289
3	315	0.2995	-0.0192	0.0018	-0.0046	0.0027	0.0141	0.0082	-0.0996	0.0373
3	315	0.3493	-0.0589	0.0036	-0.0228	0.0056	0.0255	0.0150	0.0224	0.0307
3	315	0.4000	-0.0839	0.0036	-0.0544	0.0079	0.0009	0.0217	-0.0547	0.0396
3	315	0.4497	-0.1278	0.0041	-0.0947	0.0094	-0.0378	0.0263	0.0063	0.0623
3	315	0.4997	-0.1390	0.0042	-0.1185	0.0123	-0.1087	0.0318	0.2165	0.0432
3	315	0.5556	-0.1938	0.0049	-0.2007	0.0148	-0.2176	0.0389	0.5180	0.0341
3	315	0.5995	-0.2409	0.0038	-0.2058	0.0171	-0.4026	0.0454	-0.1129	0.0591
3	315	0.6498	-0.2943	0.0043	-0.2921	0.0210	-0.5641	0.0534	0.0667	0.0351
3	315	0.6890	-0.3635	0.0039	-0.3170	0.0234	-0.7667	0.0584	-0.0841	0.0513
3	315	0.7495	-0.4203	0.0037	-0.4309	0.0269	-1.0712	0.0665	0.2397	0.0354
3	315	0.7998	-0.5039	0.0039	-0.4557	0.0304	-1.4242	0.0735	0.0192	0.0332
3	315	0.8577	-0.5764	0.0037	-0.5142	0.0347	-1.8566	0.0815	0.1810	0.0312
3	315	0.9178	-0.5867	0.0037	-0.5204	0.0396	-2.4080	0.0903	0.0095	0.0293
3	315	0.9729	-0.6429	0.0045	-0.5929	0.0440	-2.9727	0.0976	-0.3737	0.0376
4	315	0.2001	0.0308	0.0015	-0.0130	0.0006	0.0047	0.0020	0.1736	0.0207
4	315	0.2502	0.0175	0.0017	-0.0055	0.0019	-0.0378	0.0056	-0.1813	0.0285
4	315	0.3001	-0.0284	0.0021	-0.0349	0.0036	-0.0045	0.0080	0.2201	0.0430
4	315	0.3502	-0.0595	0.0027	-0.0655	0.0049	-0.0645	0.0142	0.2098	0.0379
4	315	0.4002	-0.1027	0.0023	-0.0870	0.0088	-0.0893	0.0218	0.3651	0.0319
4	315	0.4500	-0.1325	0.0032	-0.0918	0.0112	-0.1872	0.0283	0.1034	0.0461
4	315	0.5001	-0.1665	0.0042	-0.1217	0.0116	-0.2465	0.0338	0.5684	0.0562
4	315	0.5560	-0.2175	0.0040	-0.1472	0.0153	-0.4710	0.0415	0.2041	0.0467
4	315	0.6001	-0.2450	0.0033	-0.1510	0.0186	-0.6616	0.0495	0.2019	0.0467
4	315	0.6501	-0.3119	0.0034	-0.2012	0.0206	-0.9019	0.0574	0.1330	0.0606
4	315	0.6999	-0.3830	0.0028	-0.2849	0.0235	-1.1631	0.0625	-0.0605	0.0609
4	315	0.7500	-0.4480	0.0033	-0.3478	0.0273	-1.4359	0.0702	0.3067	0.0416
4	315	0.8002	-0.5191	0.0030	-0.4205	0.0306	-1.8419	0.0780	0.2688	0.0381
4	315	0.8582	-0.5953	0.0029	-0.4671	0.0346	-2.4168	0.0884	-0.2922	0.0364
4	315	0.9101	-0.6475	0.0030	-0.4801	0.0385	-2.8516	0.0974	0.3023	0.0373
4	315	0.9728	-0.6152	0.0037	-0.4583	0.0435	-3.4073	0.1104	0.4665	0.0392

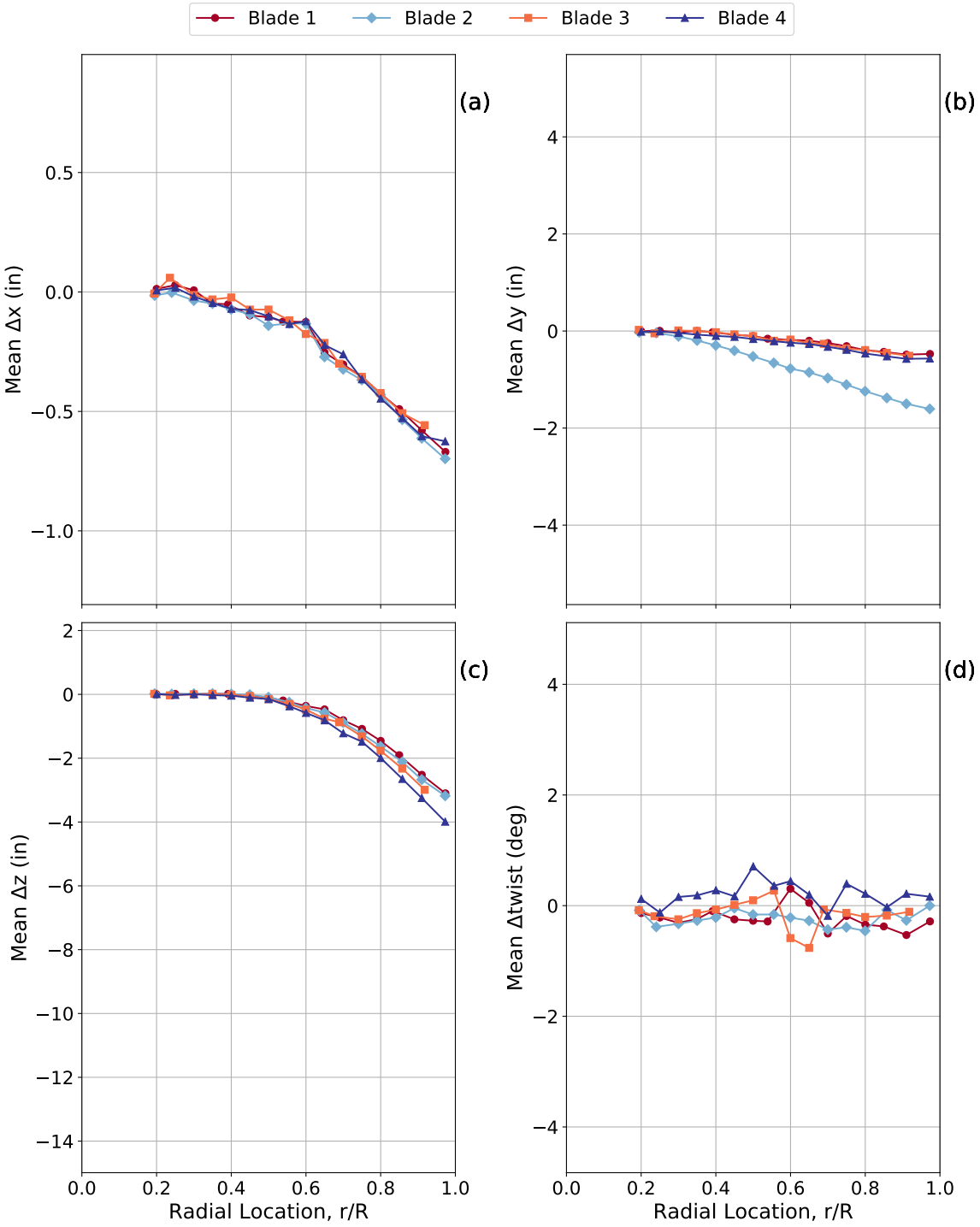


Figure 2.27-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-41. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0130	0.0024	-0.0028	0.0010	-0.0016	0.0025	-0.1347	0.0247
1	330.12	0.2499	0.0287	0.0019	0.0037	0.0023	0.0155	0.0051	-0.2149	0.0445
1	330.12	0.2998	0.0071	0.0024	-0.0235	0.0036	-0.0067	0.0094	-0.3108	0.0555
1	330.12	0.3498	-0.0483	0.0026	0.0015	0.0067	0.0199	0.0152	-0.2431	0.0493
1	330.12	0.3913	-0.0516	0.0038	-0.0241	0.0093	0.0154	0.0222	-0.0973	0.0522
1	330.12	0.4496	-0.0984	0.0062	-0.0784	0.0127	-0.0307	0.0305	-0.2480	0.0504
1	330.12	0.4997	-0.1052	0.0063	-0.1034	0.0155	-0.1056	0.0364	-0.2735	0.0551
1	330.12	0.5387	-0.1239	0.0119	-0.1588	0.0175	-0.1919	0.0424	-0.2863	0.1006
1	330.12	0.5996	-0.1254	0.0111	-0.1830	0.0221	-0.3622	0.0481	0.3050	0.0808
1	330.12	0.6498	-0.2533	0.0084	-0.2005	0.0360	-0.4701	0.0727	0.0512	0.0847
1	330.12	0.6998	-0.3035	0.0078	-0.2486	0.0403	-0.8099	0.0796	-0.5043	0.0653
1	330.12	0.7500	-0.3558	0.0074	-0.3116	0.0437	-1.0812	0.0912	-0.1873	0.0513
1	330.12	0.8001	-0.4256	0.0073	-0.3940	0.0483	-1.4576	0.1013	-0.3426	0.0503
1	330.12	0.8497	-0.4903	0.0071	-0.4294	0.0525	-1.9049	0.1118	-0.3759	0.0459
1	330.12	0.9102	-0.5793	0.0070	-0.4862	0.0579	-2.5205	0.1266	-0.5310	0.0463
1	330.12	0.9734	-0.6695	0.0071	-0.4726	0.0634	-3.1012	0.1413	-0.2850	0.0458
2	330.12	0.1949	-0.0147	0.0023	-0.0268	0.0011	0.0205	0.0021	-0.0836	0.0168
2	330.12	0.2405	-0.0024	0.0019	-0.0385	0.0021	0.0087	0.0035	-0.3835	0.0369
2	330.12	0.2999	-0.0359	0.0023	-0.1103	0.0052	0.0194	0.0067	-0.3279	0.0435
2	330.12	0.3498	-0.0484	0.0019	-0.1958	0.0074	0.0246	0.0115	-0.2696	0.0411
2	330.12	0.3998	-0.0731	0.0032	-0.2960	0.0125	0.0096	0.0168	-0.2150	0.0416
2	330.12	0.4496	-0.0925	0.0033	-0.4045	0.0148	-0.0093	0.0217	-0.0442	0.0423
2	330.12	0.4995	-0.1406	0.0068	-0.5246	0.0191	-0.0891	0.0262	-0.1610	0.0584
2	330.12	0.5551	-0.1312	0.0128	-0.6573	0.0222	-0.2457	0.0311	-0.1593	0.0941
2	330.12	0.5996	-0.1327	0.0206	-0.7757	0.0278	-0.4271	0.0363	-0.2163	0.1875
2	330.12	0.6497	-0.2718	0.0098	-0.8522	0.0458	-0.5703	0.0652	-0.2722	0.0584
2	330.12	0.6996	-0.3236	0.0102	-0.9700	0.0507	-0.8836	0.0737	-0.4332	0.0790
2	330.12	0.7495	-0.3683	0.0096	-1.1056	0.0558	-1.2316	0.0785	-0.3908	0.0405
2	330.12	0.7996	-0.4299	0.0094	-1.2412	0.0601	-1.6320	0.0846	-0.4561	0.0489
2	330.12	0.8578	-0.5345	0.0088	-1.3791	0.0663	-2.1146	0.0918	-0.0776	0.0440
2	330.12	0.9100	-0.6123	0.0089	-1.5001	0.0716	-2.6699	0.1001	-0.2662	0.0423
2	330.12	0.9727	-0.6981	0.0083	-1.6053	0.0782	-3.1794	0.1102	-0.0001	0.0457
3	330.12	0.1938	-0.0066	0.0028	0.0235	0.0008	0.0171	0.0020	-0.0834	0.0205
3	330.12	0.2357	0.0594	0.0020	-0.0479	0.0016	-0.0316	0.0037	-0.1911	0.0313
3	330.12	0.2995	-0.0129	0.0017	0.0117	0.0032	0.0038	0.0075	-0.2468	0.0467
3	330.12	0.3493	-0.0313	0.0028	0.0018	0.0056	0.0160	0.0122	-0.1363	0.0413
3	330.12	0.4000	-0.0229	0.0045	-0.0246	0.0087	-0.0096	0.0191	-0.0706	0.0433
3	330.12	0.4497	-0.0738	0.0041	-0.0704	0.0109	-0.0538	0.0247	0.0151	0.0432
3	330.12	0.4997	-0.0737	0.0059	-0.1070	0.0151	-0.1484	0.0312	0.0967	0.0521
3	330.12	0.5556	-0.1187	0.0086	-0.2006	0.0185	-0.2996	0.0375	0.2717	0.0626
3	330.12	0.5995	-0.1758	0.0082	-0.1768	0.0343	-0.4777	0.0487	-0.5866	0.3090
3	330.12	0.6498	-0.2134	0.0101	-0.2509	0.0379	-0.7596	0.0538	-0.7631	0.3149
3	330.12	0.6890	-0.2999	0.0105	-0.2641	0.0489	-0.8735	0.0843	-0.0684	0.0463
3	330.12	0.7495	-0.3549	0.0098	-0.3586	0.0551	-1.3145	0.0942	-0.1309	0.0420
3	330.12	0.7998	-0.4231	0.0092	-0.3937	0.0606	-1.7667	0.1050	-0.2052	0.0457
3	330.12	0.8577	-0.5075	0.0090	-0.4520	0.0673	-2.3251	0.1187	-0.1794	0.0431
3	330.12	0.9178	-0.5577	0.0095	-0.5095	0.0742	-2.9908	0.1329	-0.1107	0.0387
4	330.12	0.2001	0.0064	0.0017	-0.0140	0.0008	0.0080	0.0019	0.1218	0.0183
4	330.12	0.2502	0.0176	0.0015	-0.0087	0.0021	-0.0185	0.0041	-0.1256	0.0274
4	330.12	0.3001	-0.0193	0.0019	-0.0392	0.0035	0.0046	0.0065	0.1572	0.0395
4	330.12	0.3502	-0.0462	0.0023	-0.0752	0.0061	-0.0251	0.0110	0.1858	0.0370
4	330.12	0.4002	-0.0704	0.0034	-0.1011	0.0097	-0.0404	0.0169	0.2784	0.0318
4	330.12	0.4500	-0.0760	0.0051	-0.1213	0.0123	-0.1042	0.0209	0.1686	0.0350
4	330.12	0.5001	-0.1023	0.0062	-0.1645	0.0142	-0.1496	0.0249	0.7077	0.0524
4	330.12	0.5560	-0.1343	0.0089	-0.2112	0.0174	-0.3745	0.0309	0.3594	0.0737
4	330.12	0.6001	-0.1224	0.0113	-0.2407	0.0197	-0.5814	0.0346	0.4430	0.0788
4	330.12	0.6501	-0.2222	0.0085	-0.2686	0.0281	-0.8140	0.0402	0.1959	0.2153
4	330.12	0.6999	-0.2612	0.0099	-0.3261	0.0309	-1.2201	0.0471	-0.1846	0.2164
4	330.12	0.7500	-0.3655	0.0070	-0.3874	0.0396	-1.4839	0.0665	0.3949	0.0604
4	330.12	0.8002	-0.4463	0.0067	-0.4642	0.0434	-1.9955	0.0729	0.2144	0.0406
4	330.12	0.8582	-0.5280	0.0072	-0.5231	0.0476	-2.6505	0.0803	-0.0277	0.0347
4	330.12	0.9101	-0.6038	0.0075	-0.5727	0.0519	-3.2488	0.0893	0.2145	0.0312
4	330.12	0.9728	-0.6252	0.0074	-0.5673	0.0569	-3.9912	0.0988	0.1617	0.0354

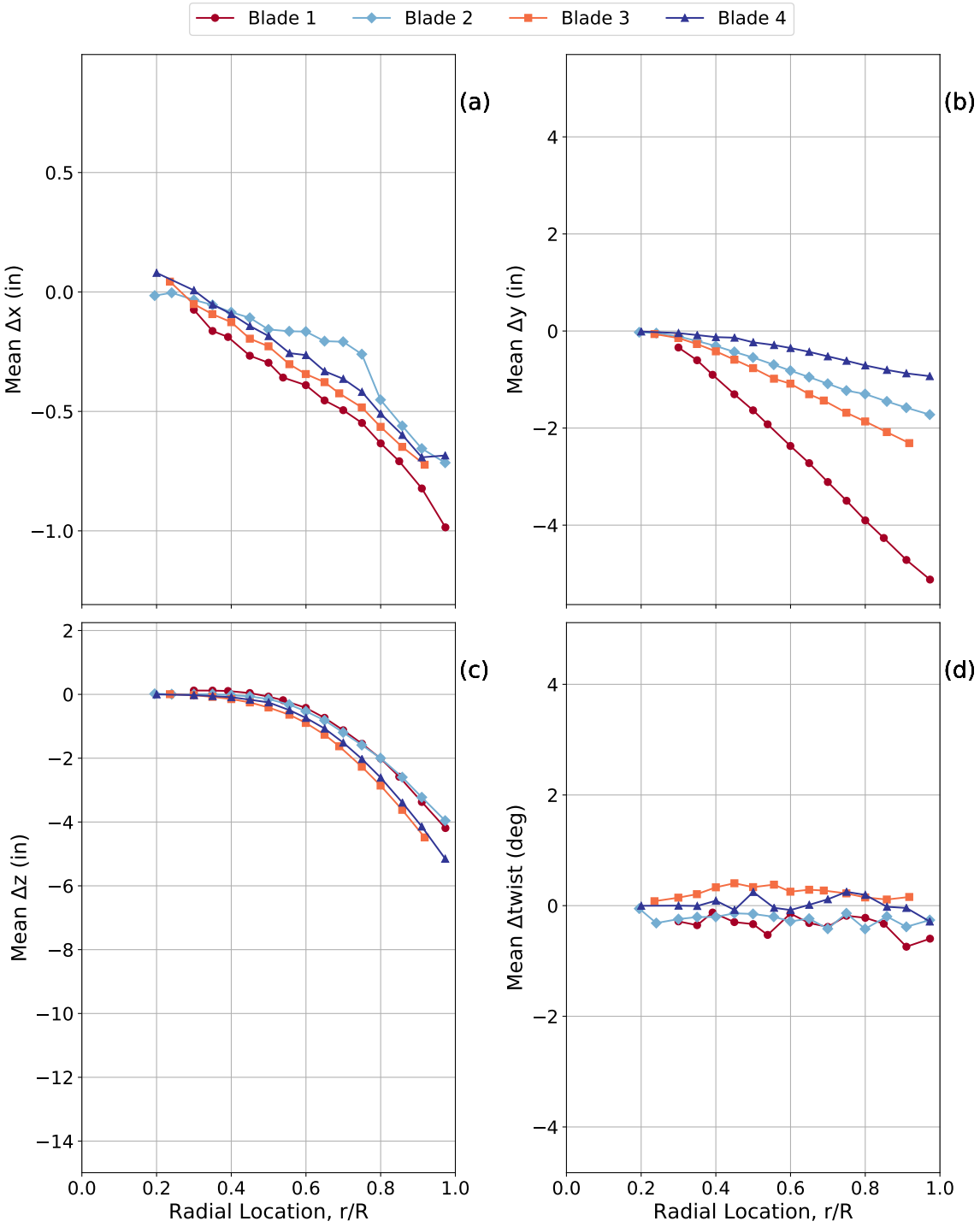


Figure 2.27-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-42. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2998	-0.0743	0.0077	-0.3399	0.0123	0.1207	0.0354	-0.2844	0.0882
1	344.88	0.3498	-0.1632	0.0088	-0.6031	0.0221	0.1187	0.0613	-0.3532	0.1175
1	344.88	0.3913	-0.1885	0.0083	-0.9020	0.0332	0.1064	0.0906	-0.1246	0.1094
1	344.88	0.4496	-0.2669	0.0091	-1.3035	0.0466	0.0418	0.1270	-0.2975	0.1117
1	344.88	0.4997	-0.2962	0.0094	-1.6340	0.0577	-0.0697	0.1598	-0.3340	0.1092
1	344.88	0.5387	-0.3583	0.0094	-1.9221	0.0670	-0.1830	0.1836	-0.5292	0.1178
1	344.88	0.5996	-0.3901	0.0100	-2.3685	0.0808	-0.4235	0.2250	-0.1435	0.1213
1	344.88	0.6498	-0.4540	0.0104	-2.7224	0.0920	-0.7346	0.2579	-0.3138	0.1123
1	344.88	0.6998	-0.4949	0.0105	-3.1115	0.1036	-1.1238	0.2908	-0.3845	0.1141
1	344.88	0.7500	-0.5483	0.0116	-3.4973	0.1145	-1.5463	0.3250	-0.1833	0.1222
1	344.88	0.8001	-0.6338	0.0122	-3.9026	0.1261	-2.0129	0.3574	-0.2202	0.1158
1	344.88	0.8497	-0.7086	0.0131	-4.2647	0.1370	-2.5808	0.3914	-0.3266	0.1163
1	344.88	0.9102	-0.8224	0.0137	-4.7176	0.1512	-3.3718	0.4309	-0.7426	0.1203
1	344.88	0.9734	-0.9854	0.0178	-5.1217	0.1652	-4.1894	0.4738	-0.5973	0.1129
2	344.88	0.1949	-0.0152	0.0032	-0.0266	0.0017	0.0178	0.0029	-0.0537	0.0170
2	344.88	0.2405	-0.0034	0.0019	-0.0442	0.0021	0.0049	0.0038	-0.3150	0.0389
2	344.88	0.2999	-0.0331	0.0019	-0.1111	0.0059	0.0044	0.0084	-0.2428	0.0429
2	344.88	0.3498	-0.0542	0.0027	-0.2067	0.0103	0.0061	0.0141	-0.2070	0.0425
2	344.88	0.3998	-0.0847	0.0035	-0.3087	0.0153	-0.0245	0.0204	-0.2035	0.0397
2	344.88	0.4496	-0.1082	0.0033	-0.4305	0.0195	-0.0640	0.0266	-0.1382	0.0407
2	344.88	0.4995	-0.1569	0.0037	-0.5460	0.0244	-0.1472	0.0319	-0.1504	0.0450
2	344.88	0.5551	-0.1645	0.0033	-0.6945	0.0292	-0.3199	0.0390	-0.2011	0.0441
2	344.88	0.5996	-0.1657	0.0039	-0.8169	0.0330	-0.5301	0.0448	-0.2843	0.0475
2	344.88	0.6497	-0.2059	0.0061	-0.9501	0.0380	-0.8125	0.0521	-0.2352	0.0546
2	344.88	0.6996	-0.2084	0.0088	-1.0863	0.0418	-1.1945	0.0574	-0.4184	0.0970
2	344.88	0.7495	-0.2604	0.0134	-1.2273	0.0476	-1.5890	0.0663	-0.1381	0.0688
2	344.88	0.7996	-0.4514	0.0154	-1.2984	0.0708	-1.9981	0.0937	-0.4215	0.0482
2	344.88	0.8578	-0.5606	0.0150	-1.4510	0.0774	-2.5967	0.1050	-0.1954	0.0485
2	344.88	0.9100	-0.6555	0.0147	-1.5799	0.0831	-3.2245	0.1169	-0.3828	0.0465
2	344.88	0.9727	-0.7148	0.0138	-1.7228	0.0903	-3.9575	0.1323	-0.2606	0.0462
3	344.88	0.2357	0.0433	0.0023	-0.0624	0.0020	0.0052	0.0079	0.0801	0.0810
3	344.88	0.2995	-0.0507	0.0027	-0.1450	0.0045	-0.0258	0.0157	0.1443	0.1307
3	344.88	0.3493	-0.0927	0.0028	-0.2682	0.0089	-0.0788	0.0295	0.2071	0.1215
3	344.88	0.4000	-0.1265	0.0029	-0.4189	0.0135	-0.1477	0.0438	0.3313	0.1262
3	344.88	0.4497	-0.1955	0.0029	-0.5908	0.0173	-0.2524	0.0570	0.4049	0.1290
3	344.88	0.4997	-0.2275	0.0035	-0.7651	0.0216	-0.4111	0.0720	0.3345	0.1345
3	344.88	0.5556	-0.3024	0.0033	-0.9831	0.0266	-0.6377	0.0884	0.3794	0.1332
3	344.88	0.5995	-0.3436	0.0038	-1.0852	0.0302	-0.8950	0.1017	0.2521	0.1212
3	344.88	0.6498	-0.3776	0.0042	-1.3026	0.0349	-1.2635	0.1152	0.2874	0.1201
3	344.88	0.6890	-0.4243	0.0042	-1.4327	0.0385	-1.6267	0.1258	0.2731	0.1257
3	344.88	0.7495	-0.4832	0.0048	-1.6838	0.0448	-2.2677	0.1435	0.2214	0.1252
3	344.88	0.7998	-0.5646	0.0050	-1.8639	0.0502	-2.8579	0.1581	0.1486	0.1316
3	344.88	0.8577	-0.6484	0.0054	-2.0831	0.0562	-3.6182	0.1765	0.1108	0.1272
3	344.88	0.9178	-0.7231	0.0063	-2.3097	0.0629	-4.4829	0.1962	0.1567	0.1279
4	344.88	0.2001	0.0799	0.0029	-0.0104	0.0011	-0.0003	0.0032	-0.0028	0.0394
4	344.88	0.3001	0.0068	0.0030	-0.0433	0.0050	-0.0247	0.0122	-0.0004	0.0912
4	344.88	0.3502	-0.0526	0.0027	-0.0842	0.0094	-0.0539	0.0224	-0.0062	0.0861
4	344.88	0.4002	-0.0924	0.0028	-0.1262	0.0142	-0.0895	0.0335	0.0893	0.0847
4	344.88	0.4500	-0.1426	0.0036	-0.1375	0.0183	-0.1668	0.0431	-0.0776	0.0879
4	344.88	0.5001	-0.1847	0.0042	-0.2336	0.0228	-0.2524	0.0523	0.2467	0.0911
4	344.88	0.5560	-0.2561	0.0043	-0.2898	0.0283	-0.4967	0.0642	-0.0394	0.0884
4	344.88	0.6001	-0.2643	0.0045	-0.3513	0.0323	-0.7377	0.0733	-0.0794	0.0878
4	344.88	0.6501	-0.3320	0.0047	-0.4299	0.0372	-1.0724	0.0822	0.0150	0.0893
4	344.88	0.6999	-0.3638	0.0035	-0.5225	0.0427	-1.5136	0.0920	0.1149	0.0926
4	344.88	0.7500	-0.4185	0.0034	-0.6139	0.0474	-2.0259	0.1018	0.2497	0.0854
4	344.88	0.8002	-0.5100	0.0037	-0.7095	0.0527	-2.6119	0.1115	0.1939	0.0928
4	344.88	0.8582	-0.5986	0.0045	-0.8022	0.0584	-3.3928	0.1232	-0.0209	0.0885
4	344.88	0.9101	-0.6922	0.0043	-0.8728	0.0641	-4.1423	0.1357	-0.0416	0.0842
4	344.88	0.9728	-0.6844	0.0060	-0.9310	0.0711	-5.1512	0.1505	-0.2871	0.0880

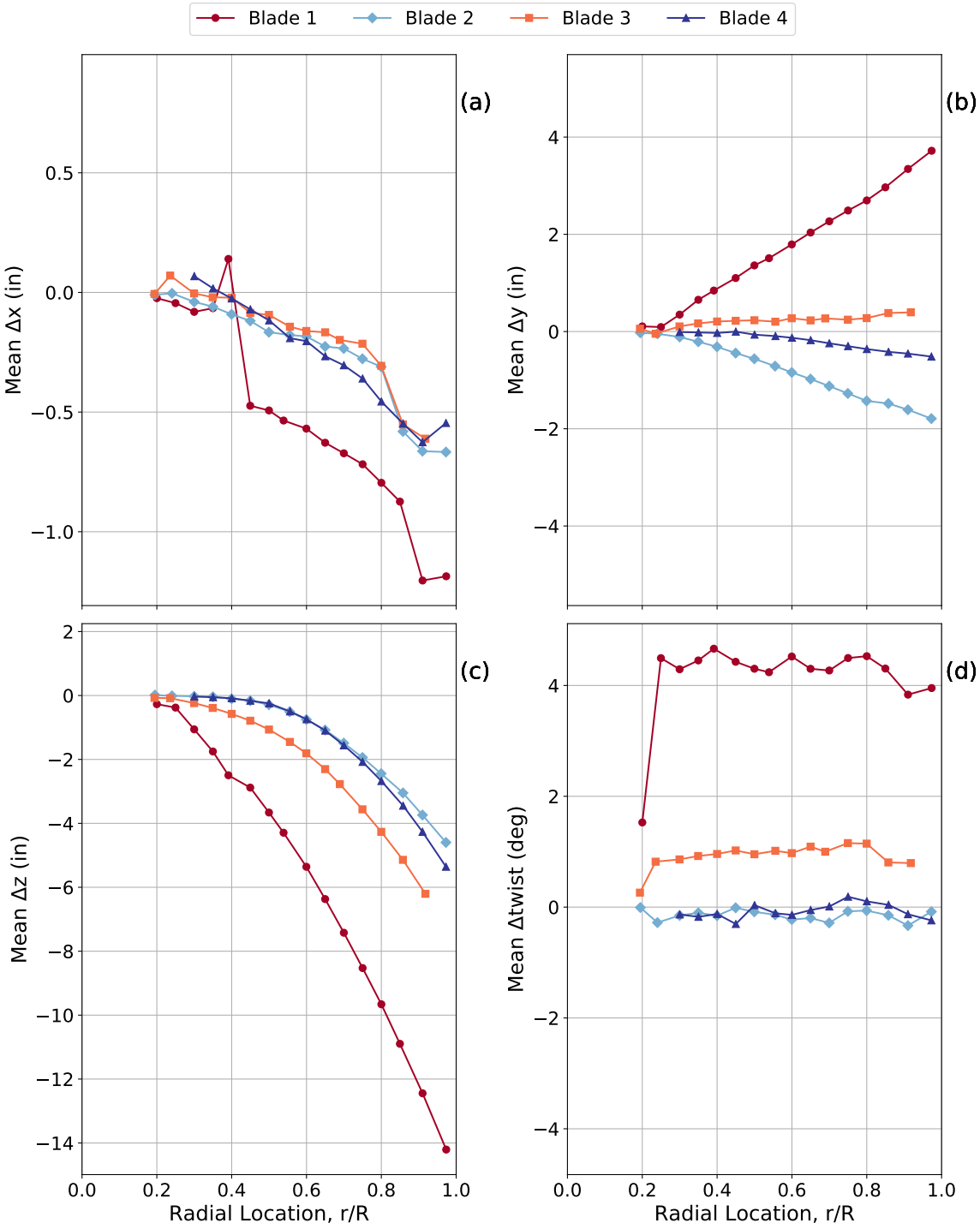


Figure 2.27-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-43. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	-0.0240	0.0035	0.1058	0.0056	-0.2708	0.0059	1.5279	0.0582
1	350.16	0.2499	-0.0447	0.0026	0.0924	0.0063	-0.3778	0.0063	4.4931	0.1576
1	350.16	0.2998	-0.0812	0.0024	0.3480	0.0205	-1.0590	0.0232	4.2921	0.1551
1	350.16	0.3498	-0.0658	0.0041	0.6532	0.0347	-1.7513	0.0392	4.4515	0.1612
1	350.16	0.3913	0.1400	0.0058	0.8433	0.0481	-2.4959	0.0551	4.6634	0.1611
1	350.16	0.4496	-0.4735	0.0182	1.1007	0.0583	-2.8811	0.0717	4.4271	0.1578
1	350.16	0.4997	-0.4931	0.0184	1.3604	0.0717	-3.6612	0.0888	4.3016	0.1570
1	350.16	0.5387	-0.5353	0.0182	1.5086	0.0823	-4.2935	0.1016	4.2389	0.1591
1	350.16	0.5996	-0.5691	0.0182	1.7919	0.0992	-5.3591	0.1218	4.5222	0.1636
1	350.16	0.6498	-0.6281	0.0185	2.0370	0.1126	-6.3686	0.1400	4.3007	0.1636
1	350.16	0.6998	-0.6722	0.0181	2.2677	0.1266	-7.4225	0.1575	4.2703	0.1617
1	350.16	0.7500	-0.7181	0.0165	2.4901	0.1409	-8.5275	0.1754	4.4950	0.1697
1	350.16	0.8001	-0.7955	0.0167	2.6974	0.1558	-9.6607	0.1920	4.5283	0.1769
1	350.16	0.8497	-0.8741	0.0181	2.9665	0.1721	-10.8974	0.2112	4.3053	0.1795
1	350.16	0.9102	-1.2039	0.0171	3.3448	0.1721	-12.4453	0.2571	3.8344	0.1594
1	350.16	0.9734	-1.1862	0.0166	3.7190	0.1914	-14.2058	0.2809	3.9533	0.1577
2	350.16	0.1949	-0.0097	0.0064	-0.0265	0.0025	0.0129	0.0043	-0.0077	0.0221
2	350.16	0.2405	-0.0036	0.0023	-0.0456	0.0024	-0.0109	0.0043	-0.2793	0.0634
2	350.16	0.2999	-0.0395	0.0028	-0.1127	0.0077	-0.0255	0.0128	-0.1506	0.0648
2	350.16	0.3498	-0.0593	0.0042	-0.2095	0.0132	-0.0413	0.0209	-0.1030	0.0656
2	350.16	0.3998	-0.0914	0.0052	-0.3138	0.0191	-0.1038	0.0306	-0.1541	0.0647
2	350.16	0.4496	-0.1188	0.0057	-0.4432	0.0245	-0.1622	0.0396	-0.0115	0.0648
2	350.16	0.4995	-0.1661	0.0061	-0.5611	0.0303	-0.2885	0.0490	-0.0854	0.0635
2	350.16	0.5551	-0.1779	0.0049	-0.7119	0.0373	-0.5059	0.0584	-0.1376	0.0630
2	350.16	0.5996	-0.1837	0.0045	-0.8415	0.0429	-0.7517	0.0653	-0.2251	0.0684
2	350.16	0.6497	-0.2260	0.0049	-0.9776	0.0492	-1.0792	0.0735	-0.1975	0.0731
2	350.16	0.6996	-0.2342	0.0058	-1.1225	0.0548	-1.4903	0.0823	-0.2849	0.0731
2	350.16	0.7495	-0.2773	0.0090	-1.2733	0.0615	-1.9394	0.0917	-0.0764	0.0814
2	350.16	0.7996	-0.3106	0.0132	-1.4263	0.0677	-2.4452	0.1040	-0.0623	0.0935
2	350.16	0.8578	-0.5809	0.0222	-1.4808	0.1250	-3.0483	0.1432	-0.1474	0.0746
2	350.16	0.9100	-0.6633	0.0216	-1.6082	0.1343	-3.7394	0.1565	-0.3333	0.0729
2	350.16	0.9727	-0.6670	0.0198	-1.7908	0.1453	-4.5974	0.1722	-0.0820	0.0786
3	350.16	0.1938	-0.0063	0.0090	0.0585	0.0061	-0.0748	0.0099	0.2611	0.0423
3	350.16	0.2357	0.0706	0.0030	-0.0444	0.0032	-0.0840	0.0071	0.8199	0.1363
3	350.16	0.2995	-0.0039	0.0016	0.1055	0.0182	-0.2379	0.0261	0.8609	0.1418
3	350.16	0.3493	-0.0202	0.0026	0.1674	0.0312	-0.3886	0.0435	0.9220	0.1412
3	350.16	0.4000	-0.0220	0.0033	0.2064	0.0454	-0.5748	0.0612	0.9592	0.1426
3	350.16	0.4497	-0.0855	0.0039	0.2212	0.0592	-0.7885	0.0781	1.0225	0.1425
3	350.16	0.4997	-0.0937	0.0040	0.2321	0.0727	-1.0652	0.0956	0.9539	0.1404
3	350.16	0.5556	-0.1432	0.0041	0.2027	0.0892	-1.4522	0.1150	1.0159	0.1393
3	350.16	0.5995	-0.1611	0.0047	0.2735	0.1013	-1.8080	0.1294	0.9744	0.1429
3	350.16	0.6498	-0.1666	0.0060	0.2294	0.1160	-2.3031	0.1470	1.0915	0.1388
3	350.16	0.6890	-0.1985	0.0070	0.2701	0.1276	-2.7716	0.1597	0.9995	0.1445
3	350.16	0.7495	-0.2143	0.0094	0.2440	0.1451	-3.5611	0.1804	1.1550	0.1468
3	350.16	0.7998	-0.3067	0.0140	0.2762	0.1617	-4.2657	0.1985	1.1455	0.1562
3	350.16	0.8577	-0.5514	0.0187	0.3807	0.2072	-5.1417	0.2081	0.8063	0.1503
3	350.16	0.9178	-0.6111	0.0187	0.3958	0.2269	-6.2044	0.2275	0.7944	0.1462
4	350.16	0.3001	0.0678	0.0059	-0.0109	0.0113	-0.0312	0.0282	-0.1327	0.1085
4	350.16	0.3502	0.0169	0.0071	-0.0185	0.0197	-0.0540	0.0502	-0.1757	0.1440
4	350.16	0.4002	-0.0252	0.0060	-0.0291	0.0314	-0.0858	0.0812	-0.1248	0.1387
4	350.16	0.4500	-0.0709	0.0066	-0.0029	0.0414	-0.1627	0.1069	-0.3045	0.1380
4	350.16	0.5001	-0.1170	0.0072	-0.0640	0.0520	-0.2471	0.1347	0.0349	0.1370
4	350.16	0.5560	-0.1912	0.0073	-0.0939	0.0636	-0.4973	0.1664	-0.1114	0.1307
4	350.16	0.6001	-0.2037	0.0078	-0.1283	0.0729	-0.7428	0.1898	-0.1403	0.1459
4	350.16	0.6501	-0.2669	0.0074	-0.1778	0.0840	-1.0981	0.2168	-0.0533	0.1452
4	350.16	0.6999	-0.3045	0.0077	-0.2422	0.0939	-1.5606	0.2437	0.0110	0.1388
4	350.16	0.7500	-0.3599	0.0082	-0.3014	0.1051	-2.0778	0.2704	0.1871	0.1358
4	350.16	0.8002	-0.4560	0.0090	-0.3607	0.1159	-2.6774	0.2964	0.1037	0.1395
4	350.16	0.8582	-0.5482	0.0099	-0.4177	0.1279	-3.4479	0.3254	0.0403	0.1461
4	350.16	0.9101	-0.6260	0.0107	-0.4540	0.1390	-4.2663	0.3532	-0.1286	0.1382
4	350.16	0.9728	-0.5457	0.0146	-0.5157	0.1526	-5.3587	0.3871	-0.2395	0.1349

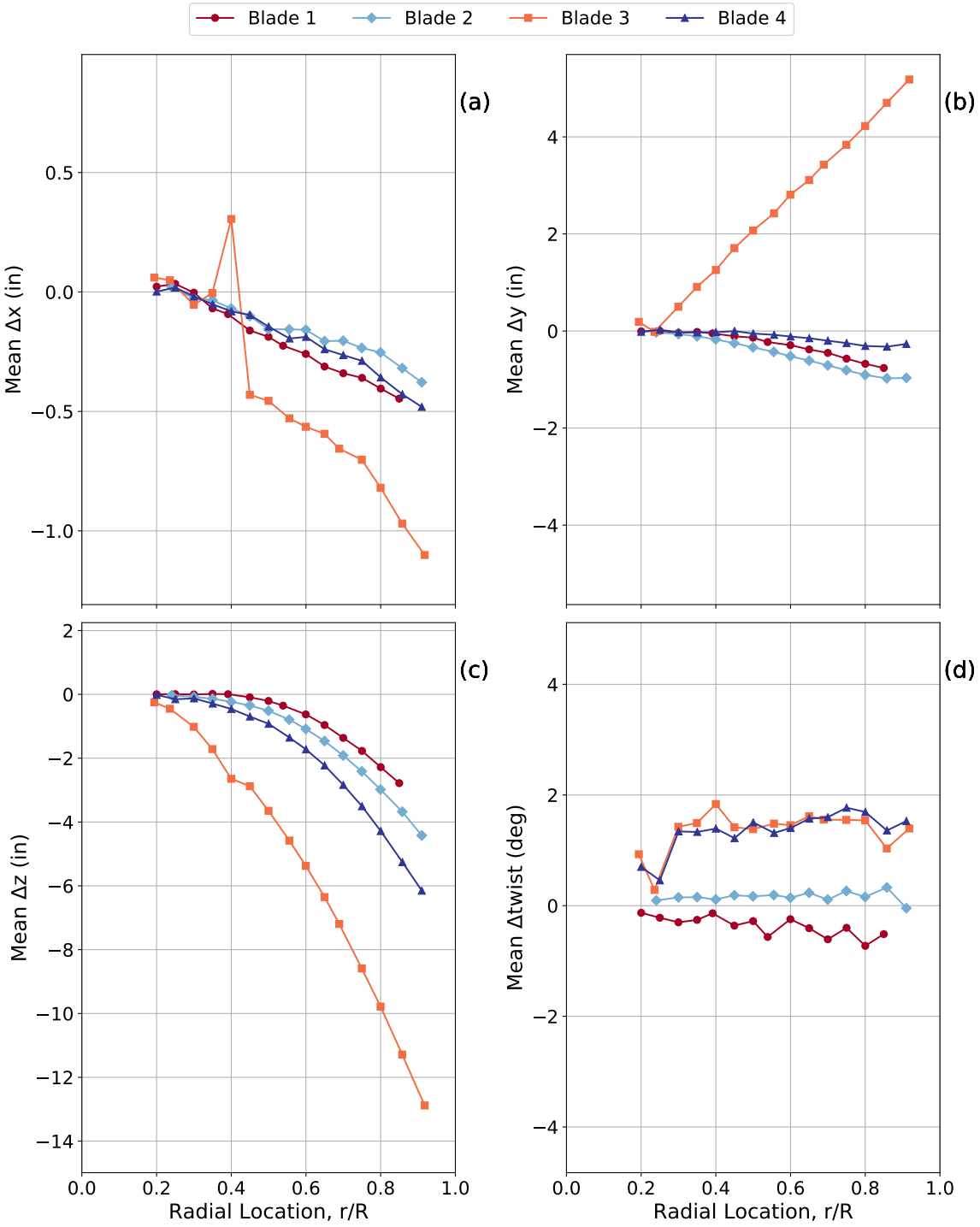


Figure 2.27-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.149$, $\alpha = 8°$ NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Table 2.27-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.149, α = 8°
NFAC run 98, points 16 to 19. BD run 46, points 8440 to 8479.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2001	0.0224	0.0039	-0.0074	0.0027	0.0031	0.0067	-0.1293	0.0544
1	355.08	0.2499	0.0340	0.0022	0.0038	0.0041	0.0074	0.0103	-0.2186	0.1144
1	355.08	0.2998	-0.0028	0.0021	-0.0366	0.0092	-0.0018	0.0218	-0.3014	0.1307
1	355.08	0.3498	-0.0688	0.0021	-0.0185	0.0154	0.0144	0.0373	-0.2575	0.1144
1	355.08	0.3913	-0.0928	0.0026	-0.0495	0.0211	0.0055	0.0509	-0.1382	0.1116
1	355.08	0.4496	-0.1613	0.0024	-0.1079	0.0281	-0.0908	0.0701	-0.3611	0.1127
1	355.08	0.4997	-0.1879	0.0026	-0.1374	0.0339	-0.2059	0.0854	-0.2792	0.1135
1	355.08	0.5387	-0.2251	0.0027	-0.2270	0.0398	-0.3536	0.0981	-0.5664	0.1094
1	355.08	0.5996	-0.2594	0.0030	-0.2914	0.0468	-0.6263	0.1154	-0.2448	0.1131
1	355.08	0.6498	-0.3122	0.0034	-0.3798	0.0533	-0.9603	0.1286	-0.4079	0.1131
1	355.08	0.6998	-0.3402	0.0032	-0.4507	0.0603	-1.3638	0.1437	-0.6090	0.1206
1	355.08	0.7500	-0.3595	0.0040	-0.5704	0.0660	-1.7716	0.1572	-0.4007	0.1158
1	355.08	0.8001	-0.4044	0.0049	-0.6765	0.0738	-2.2804	0.1725	-0.7267	0.1196
1	355.08	0.8497	-0.4465	0.0085	-0.7615	0.0792	-2.7810	0.1856	-0.5150	0.1273
2	355.08	0.2405	0.0206	0.0049	-0.0277	0.0048	-0.0264	0.0116	0.0938	0.0777
2	355.08	0.2999	-0.0266	0.0024	-0.0629	0.0103	-0.0787	0.0229	0.1490	0.1195
2	355.08	0.3498	-0.0346	0.0029	-0.1091	0.0191	-0.1375	0.0387	0.1536	0.1113
2	355.08	0.3998	-0.0691	0.0037	-0.1731	0.0293	-0.2336	0.0588	0.1115	0.1050
2	355.08	0.4496	-0.1007	0.0049	-0.2515	0.0393	-0.3475	0.0752	0.1880	0.1083
2	355.08	0.4995	-0.1561	0.0069	-0.3368	0.0486	-0.5127	0.0875	0.1683	0.1204
2	355.08	0.5551	-0.1565	0.0100	-0.4302	0.0606	-0.7911	0.1068	0.1926	0.1142
2	355.08	0.5996	-0.1582	0.0130	-0.5185	0.0701	-1.0844	0.1187	0.1425	0.1114
2	355.08	0.6497	-0.2057	0.0175	-0.6102	0.0810	-1.4620	0.1343	0.2317	0.1197
2	355.08	0.6996	-0.2043	0.0215	-0.7078	0.0917	-1.9154	0.1494	0.1093	0.1245
2	355.08	0.7495	-0.2344	0.0265	-0.8069	0.1023	-2.4132	0.1673	0.2647	0.1107
2	355.08	0.7996	-0.2531	0.0320	-0.9051	0.1124	-2.9811	0.1822	0.1571	0.1180
2	355.08	0.8578	-0.3189	0.0394	-0.9759	0.1227	-3.6760	0.2029	0.3290	0.1301
2	355.08	0.9100	-0.3779	0.0457	-0.9659	0.1325	-4.4211	0.2217	-0.0456	0.1578
3	355.08	0.1938	0.0604	0.0075	0.1894	0.0106	-0.2496	0.0115	0.9293	0.0371
3	355.08	0.2357	0.0491	0.0031	-0.0172	0.0041	-0.4508	0.0102	0.2839	0.0765
3	355.08	0.2995	-0.0536	0.0020	0.5004	0.0335	-1.0178	0.0312	1.4254	0.0841
3	355.08	0.3493	-0.0046	0.0034	0.9088	0.0598	-1.7145	0.0531	1.4926	0.0775
3	355.08	0.4000	0.3056	0.0062	1.2566	0.0870	-2.6458	0.0750	1.8357	0.0799
3	355.08	0.4497	-0.4304	0.0210	1.7082	0.1118	-2.8787	0.0811	1.4167	0.0923
3	355.08	0.4997	-0.4558	0.0228	2.0714	0.1366	-3.6476	0.0993	1.3820	0.0988
3	355.08	0.5556	-0.5288	0.0233	2.4245	0.1645	-4.5830	0.1215	1.4825	0.1040
3	355.08	0.5995	-0.5642	0.0233	2.8084	0.1864	-5.3723	0.1393	1.4542	0.0998
3	355.08	0.6498	-0.5940	0.0227	3.1110	0.2120	-6.3521	0.1597	1.6159	0.0992
3	355.08	0.6890	-0.6561	0.0223	3.4275	0.2312	-7.1937	0.1750	1.5553	0.0965
3	355.08	0.7495	-0.7023	0.0213	3.8368	0.2604	-8.5900	0.1984	1.5492	0.1101
3	355.08	0.7998	-0.8196	0.0189	4.2229	0.2843	-9.7844	0.2197	1.5417	0.1048
3	355.08	0.8577	-0.9693	0.0158	4.7018	0.2929	-11.2856	0.2231	1.0343	0.4732
3	355.08	0.9178	-1.1009	0.0142	5.1818	0.3048	-12.8826	0.2990	1.3943	0.1050
4	355.08	0.2001	0.0016	0.0064	-0.0164	0.0049	-0.0155	0.0094	0.7001	0.0694
4	355.08	0.2502	0.0183	0.0033	0.0242	0.0059	-0.1521	0.0110	0.4572	0.1540
4	355.08	0.3001	-0.0188	0.0024	-0.0245	0.0158	-0.1260	0.0260	1.3418	0.1690
4	355.08	0.3502	-0.0516	0.0022	-0.0303	0.0273	-0.2886	0.0432	1.3315	0.1624
4	355.08	0.4002	-0.0813	0.0026	-0.0242	0.0398	-0.4582	0.0607	1.3921	0.1686
4	355.08	0.4500	-0.0964	0.0029	-0.0019	0.0511	-0.6953	0.0772	1.2194	0.1711
4	355.08	0.5001	-0.1451	0.0032	-0.0527	0.0624	-0.9227	0.0949	1.5043	0.1702
4	355.08	0.5560	-0.1949	0.0042	-0.0793	0.0757	-1.3559	0.1147	1.3138	0.1665
4	355.08	0.6001	-0.1881	0.0047	-0.1141	0.0870	-1.7244	0.1306	1.4034	0.1636
4	355.08	0.6501	-0.2399	0.0048	-0.1490	0.0987	-2.2278	0.1482	1.5719	0.1661
4	355.08	0.6999	-0.2645	0.0060	-0.2003	0.1114	-2.8383	0.1663	1.5989	0.1670
4	355.08	0.7500	-0.2883	0.0077	-0.2487	0.1250	-3.5056	0.1850	1.7701	0.1647
4	355.08	0.8002	-0.3579	0.0100	-0.3081	0.1386	-4.2848	0.2025	1.6927	0.1707
4	355.08	0.8582	-0.4284	0.0150	-0.3238	0.1551	-5.2586	0.2234	1.3584	0.1716
4	355.08	0.9101	-0.4811	0.0193	-0.2671	0.1694	-6.1517	0.2449	1.5280	0.1803

2.28 Run 98, Points 41 to 44

2.28.1 Pitch, Flap, and Lag

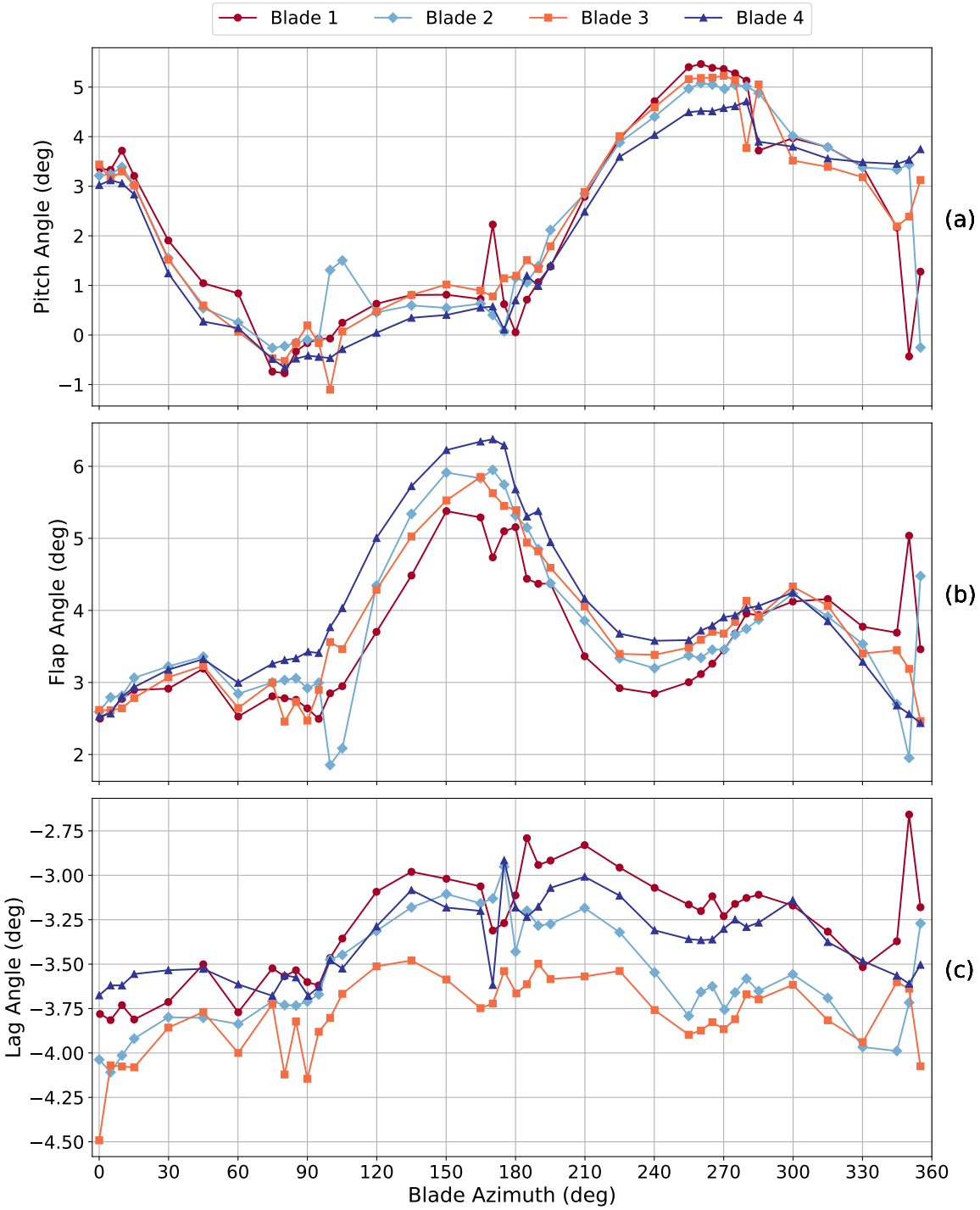


Figure 2.28-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-1. Pitch, flap, and lag vs azimuth for Blade 1.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	3.3524	2.4975	-3.7807	0.0962	0.0949	0.1069
4.92	3.3296	2.6049	-3.8149	0.1233	0.1190	0.0647
9.84	3.7169	2.7723	-3.7311	0.1004	0.1341	0.0517
15.12	3.2087	2.8952	-3.8115	0.0940	0.1097	0.1195
29.88	1.9064	2.9136	-3.7131	0.1369	0.1001	0.0738
45	1.0444	3.1916	-3.5008	0.1482	0.1006	0.0581
60.12	0.8390	2.5265	-3.7710	0.2993	0.1403	0.0853
74.88	-0.7390	2.8078	-3.5237	0.0923	0.0610	0.0834
80.16	-0.7715	2.7801	-3.5682	0.4464	0.1323	0.0752
85.08	-0.3317	2.7590	-3.5347	0.0774	0.1264	0.0878
90	-0.1621	2.6401	-3.6011	0.0588	0.1035	0.0978
94.92	-0.0804	2.4944	-3.6196	0.0614	0.1266	0.0622
99.84	-0.0720	2.8486	-3.4651	0.0510	0.1753	0.0562
105.12	0.2469	2.9479	-3.3560	0.0500	0.1415	0.0559
119.88	0.6298	3.7024	-3.0927	0.0440	0.1395	0.0950
135	0.8063	4.4837	-2.9803	0.0567	0.2683	0.0727
150.12	0.8121	5.3783	-3.0195	0.0587	0.2043	0.0573
164.88	0.7250	5.2905	-3.0623	0.0625	0.1709	0.0580
170.16	2.2270	4.7363	-3.3109	0.0880	0.2438	0.0876
175.08	0.6215	5.0990	-3.2691	0.1158	0.1994	0.1428
180	0.0537	5.1554	-3.1129	0.3284	0.3399	0.0999
184.92	0.7122	4.4394	-2.7911	0.0952	0.2096	0.1087
189.84	1.0633	4.3699	-2.9419	0.0857	0.2103	0.0599
195.12	1.3805	4.3715	-2.9171	0.0750	0.2735	0.1013
209.88	2.7875	3.3624	-2.8303	0.0593	0.2252	0.0752
225	3.9630	2.9207	-2.9565	0.0823	0.1585	0.0687
240.12	4.7158	2.8454	-3.0705	0.0805	0.1972	0.0815
254.88	5.4034	3.0035	-3.1648	0.0707	0.1308	0.0970
260.16	5.4654	3.1162	-3.2012	0.0689	0.0811	0.0726
265.08	5.3878	3.2601	-3.1181	0.0747	0.1277	0.0867
270	5.3649	3.4465	-3.2302	0.0801	0.0975	0.0786
274.92	5.2780	3.6772	-3.1611	0.1040	0.1084	0.0741
279.84	5.1300	3.9555	-3.1275	0.1260	0.0960	0.0715
285.12	3.7199	3.9351	-3.1093	0.0676	0.0807	0.0598
299.88	3.9710	4.1236	-3.1703	0.0838	0.0933	0.0785
315	3.7881	4.1582	-3.3171	0.0507	0.0963	0.0912
330.12	3.3975	3.7734	-3.5170	0.0690	0.1720	0.1113
344.88	2.1678	3.6907	-3.3714	0.2784	0.1275	0.1362
350.16	-0.4320	5.0369	-2.6584	0.4728	0.2168	0.1587
355.08	1.2772	3.4605	-3.1799	0.5818	0.2038	0.1485

Table 2.28-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	3.2162	2.5928	-4.0370	0.0945	0.0900	0.0996
4.92	3.2433	2.7926	-4.1080	0.0866	0.1137	0.0703
9.84	3.3870	2.8138	-4.0136	0.0823	0.1357	0.0682
15.12	3.0302	3.0640	-3.9193	0.0893	0.1145	0.0604
29.88	1.5484	3.2225	-3.7988	0.1281	0.0991	0.0827
45	0.5401	3.3574	-3.8023	0.1014	0.1035	0.0549
60.12	0.2493	2.8429	-3.8369	0.2323	0.1201	0.0613
74.88	-0.2625	3.0000	-3.7090	0.0639	0.0600	0.0443
80.16	-0.2260	3.0324	-3.7304	0.0543	0.0824	0.0879
85.08	-0.1561	3.0583	-3.7332	0.0652	0.0867	0.1317
90	-0.0984	2.9205	-3.7104	0.0517	0.1129	0.0866
94.92	-0.1013	2.9960	-3.6706	0.0522	0.1208	0.0728
99.84	1.3097	1.8536	-3.4749	0.6428	0.0977	0.0619
105.12	1.5018	2.0855	-3.4479	1.1248	0.1485	0.0591
119.88	0.4536	4.3457	-3.3131	0.0506	0.1954	0.0595
135	0.5957	5.3392	-3.1807	0.0681	0.1422	0.0540
150.12	0.5453	5.9131	-3.1056	0.0655	0.2409	0.0661
164.88	0.6316	5.8351	-3.1575	0.0674	0.2107	0.0837
170.16	0.4013	5.9504	-3.1307	0.0855	0.1762	0.0577
175.08	0.0745	5.7465	-2.9522	0.2030	0.1993	0.0871
180	1.1556	5.3180	-3.4300	0.0875	0.2274	0.1218
184.92	1.0604	5.1492	-3.1991	0.0711	0.1849	0.0636
189.84	1.3867	4.8505	-3.2830	0.0593	0.1670	0.0656
195.12	2.1179	4.3756	-3.2743	0.1188	0.0903	0.0767
209.88	2.8503	3.8565	-3.1845	0.0636	0.1605	0.0603
225	3.8813	3.3368	-3.3208	0.0715	0.1923	0.0882
240.12	4.4021	3.1979	-3.5469	0.0686	0.2109	0.1106
254.88	4.9720	3.3743	-3.7917	0.0756	0.1183	0.1139
260.16	5.0777	3.3412	-3.6565	0.0650	0.0617	0.0956
265.08	5.0509	3.4545	-3.6250	0.0783	0.0792	0.1185
270.35	4.9634	3.4576	-3.7563	0.0687	0.0862	0.0840
274.92	5.0466	3.6625	-3.6597	0.0771	0.0754	0.0500
279.84	5.0130	3.7448	-3.5817	0.0858	0.0667	0.0561
285.12	4.8791	3.8723	-3.6517	0.1185	0.0908	0.1184
299.88	4.0126	4.2327	-3.5572	0.0676	0.0832	0.0968
315	3.7869	3.9144	-3.6906	0.0452	0.0855	0.0546
330.12	3.3793	3.5328	-3.9668	0.0677	0.1052	0.0632
344.88	3.3377	2.6989	-3.9886	0.0743	0.1085	0.0762
350.16	3.4351	1.9524	-3.7164	0.1064	0.1577	0.1282
355.08	-0.2516	4.4766	-3.2707	0.4705	0.2345	0.1578

Table 2.28-3. Pitch, flap, and lag vs azimuth for Blade 3.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	3.4379	2.6185	-4.4915	0.2124	0.1359	0.1189
4.92	3.1520	2.6138	-4.0696	0.0866	0.0843	0.0813
9.84	3.2995	2.6407	-4.0763	0.0822	0.0857	0.0762
15.12	3.0134	2.7837	-4.0808	0.0889	0.1249	0.0888
29.88	1.5197	3.0724	-3.8573	0.0907	0.1047	0.0767
45	0.5961	3.2297	-3.7693	0.1216	0.0814	0.0653
60.12	0.0675	2.6445	-3.9996	0.1463	0.0776	0.0853
74.88	-0.4705	2.9977	-3.7245	0.1110	0.1270	0.1140
80.16	-0.5267	2.4563	-4.1209	0.1053	0.1338	0.0885
85.08	-0.1598	2.7289	-3.8224	0.0515	0.1145	0.0874
90	0.1929	2.4700	-4.1448	0.2328	0.1328	0.0876
94.92	-0.1594	2.8962	-3.8811	0.0550	0.1134	0.0586
99.84	-1.1044	3.5610	-3.8026	0.4734	0.2743	0.0651
105.12	0.0707	3.4624	-3.6671	0.0782	0.1451	0.0463
119.88	0.4747	4.2863	-3.5124	0.0740	0.1682	0.0718
135	0.8076	5.0250	-3.4793	0.0763	0.1897	0.1134
150.12	1.0181	5.5269	-3.5863	0.0659	0.2063	0.1071
164.88	0.8948	5.8525	-3.7479	0.0563	0.1743	0.1198
170.16	0.7776	5.6266	-3.7217	0.1185	0.1551	0.0938
175.08	1.1442	5.4500	-3.5392	0.0818	0.2133	0.1460
180.35	1.1946	5.3907	-3.6645	0.0584	0.1315	0.1146
184.92	1.5089	4.9407	-3.6135	0.0655	0.1949	0.0817
189.84	1.3330	4.8211	-3.4981	0.0725	0.2003	0.0562
195.12	1.7891	4.5916	-3.5844	0.0936	0.2249	0.1107
209.88	2.8850	4.0558	-3.5693	0.0701	0.1868	0.1041
225	4.0080	3.3964	-3.5386	0.0596	0.1332	0.0677
240.12	4.5942	3.3834	-3.7585	0.0634	0.1265	0.0741
254.88	5.1611	3.4826	-3.8970	0.0793	0.1123	0.0970
260.16	5.1833	3.5940	-3.8736	0.1000	0.1374	0.0564
265.08	5.1910	3.7031	-3.8266	0.0966	0.1152	0.1037
270	5.2289	3.6782	-3.8659	0.0754	0.0849	0.1119
274.92	5.1415	3.8407	-3.8099	0.0947	0.1040	0.0886
279.84	3.7735	4.1328	-3.6701	0.0559	0.0861	0.0792
285.12	5.0535	3.9151	-3.6975	0.1339	0.0977	0.0759
299.88	3.5179	4.3314	-3.6162	0.0883	0.0809	0.1247
315	3.3907	4.0640	-3.8157	0.0711	0.1202	0.0888
330.12	3.1821	3.4021	-3.9389	0.0795	0.1406	0.0763
344.88	2.1904	3.4472	-3.6007	0.1349	0.1087	0.0864
350.16	2.3874	3.1878	-3.6380	0.2043	0.1651	0.1068
355.08	3.1262	2.4628	-4.0747	0.1301	0.1056	0.1698

Table 2.28-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	3.0253	2.5285	-3.6756	0.0852	0.1205	0.0659
4.92	3.1200	2.5672	-3.6195	0.0788	0.0908	0.0643
9.84	3.0588	2.8020	-3.6197	0.0800	0.1086	0.0658
15.12	2.8328	2.9363	-3.5557	0.0756	0.0996	0.0440
29.88	1.2430	3.1768	-3.5340	0.1009	0.0680	0.0533
45	0.2709	3.3241	-3.5265	0.0835	0.0841	0.0749
60.12	0.1382	2.9955	-3.6140	0.1416	0.0800	0.0869
74.88	-0.4850	3.2590	-3.6783	0.0451	0.0666	0.1154
80.16	-0.6564	3.3099	-3.5623	0.0784	0.0697	0.0916
85.08	-0.4766	3.3353	-3.5747	0.1287	0.1369	0.0881
90.35	-0.4174	3.4248	-3.6783	0.0424	0.1070	0.0739
94.92	-0.4424	3.4091	-3.6278	0.0429	0.1029	0.0477
99.84	-0.4645	3.7665	-3.4779	0.0466	0.1146	0.0425
105.12	-0.2854	4.0315	-3.5248	0.0514	0.1995	0.1009
119.88	0.0425	5.0049	-3.2880	0.0582	0.1888	0.0693
135	0.3459	5.7242	-3.0833	0.0509	0.1530	0.0468
150.12	0.4036	6.2257	-3.1817	0.0657	0.1448	0.0605
164.88	0.5507	6.3431	-3.2004	0.0634	0.2023	0.0778
170.16	0.5722	6.3750	-3.6173	0.0774	0.1425	0.0813
175.08	0.1080	6.2906	-2.9159	0.1516	0.2580	0.1001
180	0.6990	5.6811	-3.1812	0.0754	0.1664	0.0972
184.92	1.1958	5.3028	-3.2349	0.0688	0.2081	0.1151
189.84	0.9878	5.3787	-3.1772	0.0814	0.2210	0.0502
195.12	1.4038	4.9469	-3.0709	0.0542	0.1473	0.0588
209.88	2.4856	4.1617	-3.0081	0.0923	0.1729	0.1053
225	3.5934	3.6767	-3.1145	0.0619	0.1872	0.0714
240.12	4.0351	3.5782	-3.3095	0.0806	0.1317	0.0780
254.88	4.4934	3.5879	-3.3592	0.0589	0.0953	0.0557
260.16	4.5176	3.7191	-3.3650	0.0510	0.1130	0.0823
265.08	4.5109	3.7889	-3.3614	0.0938	0.1470	0.1237
270	4.5768	3.9039	-3.3018	0.0762	0.1251	0.1149
274.92	4.6145	3.9314	-3.2490	0.0731	0.0973	0.0889
279.84	4.7105	4.0290	-3.2910	0.0788	0.1065	0.0795
285.12	3.8992	4.0619	-3.2664	0.0912	0.1116	0.1150
299.88	3.7987	4.2469	-3.1402	0.0654	0.0957	0.0830
315	3.5588	3.8498	-3.3756	0.0613	0.0847	0.0517
330.12	3.4847	3.2871	-3.4820	0.0836	0.1341	0.0798
344.88	3.4506	2.6811	-3.5644	0.1098	0.1200	0.0932
350.16	3.5333	2.5617	-3.6106	0.1538	0.1197	0.0797
355.08	3.7462	2.4352	-3.5040	0.0878	0.0997	0.0906

2.28.2 Spanwise Elastic Deformations

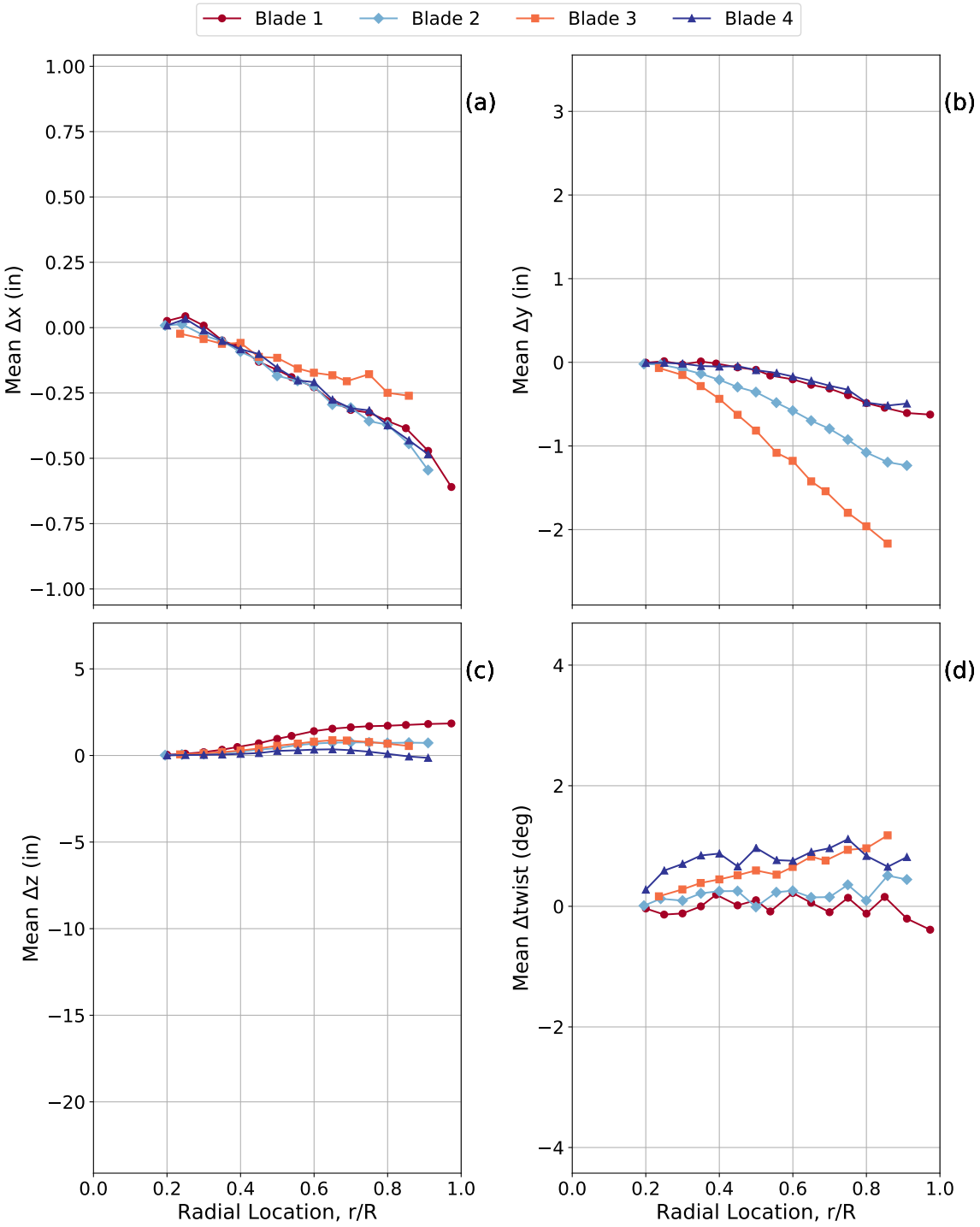


Figure 2.28-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0256	0.0040	-0.0046	0.0032	0.0426	0.0060	-0.0362	0.0424
1	0.35	0.2499	0.0437	0.0030	0.0132	0.0050	0.1006	0.0100	-0.1368	0.0863
1	0.35	0.2998	0.0077	0.0025	-0.0268	0.0111	0.1925	0.0227	-0.1182	0.0963
1	0.35	0.3498	-0.0488	0.0029	0.0101	0.0180	0.3320	0.0348	-0.0010	0.1070
1	0.35	0.3913	-0.0713	0.0029	-0.0146	0.0252	0.4880	0.0512	0.1934	0.0991
1	0.35	0.4496	-0.1309	0.0037	-0.0607	0.0326	0.7001	0.0751	0.0157	0.1036
1	0.35	0.4997	-0.1617	0.0037	-0.0897	0.0403	0.9592	0.0989	0.1012	0.1069
1	0.35	0.5387	-0.1893	0.0046	-0.1580	0.0466	1.1292	0.1195	-0.0856	0.1008
1	0.35	0.5996	-0.2282	0.0049	-0.2033	0.0568	1.4056	0.1509	0.2208	0.1043
1	0.35	0.6498	-0.2835	0.0051	-0.2685	0.0664	1.5470	0.1771	0.0589	0.1036
1	0.35	0.6998	-0.3150	0.0058	-0.3138	0.0763	1.6281	0.2013	-0.0975	0.1232
1	0.35	0.7500	-0.3255	0.0057	-0.3927	0.0873	1.6899	0.2287	0.1417	0.1167
1	0.35	0.8001	-0.3575	0.0064	-0.4874	0.0982	1.7161	0.2589	-0.1209	0.1189
1	0.35	0.8497	-0.3849	0.0077	-0.5432	0.1084	1.7617	0.2901	0.1562	0.1273
1	0.35	0.9102	-0.4716	0.0167	-0.6060	0.1221	1.8175	0.3355	-0.2046	0.1972
1	0.35	0.9734	-0.6098	0.0147	-0.6249	0.1391	1.8481	0.3796	-0.3879	0.1695
2	0	0.1949	0.0084	0.0037	-0.0195	0.0024	0.0161	0.0048	0.0107	0.0353
2	0	0.2405	0.0131	0.0019	-0.0269	0.0042	0.0567	0.0111	0.1258	0.0836
2	0	0.2999	-0.0296	0.0018	-0.0794	0.0084	0.0789	0.0199	0.0946	0.0912
2	0	0.3498	-0.0525	0.0026	-0.1371	0.0152	0.1456	0.0348	0.2154	0.0898
2	0	0.3998	-0.0919	0.0031	-0.2088	0.0229	0.2243	0.0538	0.2508	0.0941
2	0	0.4496	-0.1240	0.0038	-0.2958	0.0295	0.3355	0.0721	0.2534	0.0978
2	0	0.4995	-0.1843	0.0044	-0.3559	0.0365	0.4205	0.0918	-0.0110	0.0938
2	0	0.5551	-0.2036	0.0050	-0.4823	0.0454	0.5980	0.1113	0.2342	0.0976
2	0	0.5996	-0.2240	0.0053	-0.5784	0.0518	0.6844	0.1282	0.2586	0.0989
2	0	0.6497	-0.2943	0.0058	-0.6977	0.0604	0.7394	0.1477	0.1482	0.0939
2	0	0.6996	-0.3063	0.0062	-0.7947	0.0689	0.7550	0.1693	0.1531	0.1015
2	0	0.7495	-0.3575	0.0063	-0.9248	0.0782	0.7546	0.1930	0.3565	0.0960
2	0	0.7996	-0.3726	0.0065	-1.0778	0.0895	0.7225	0.2190	0.0957	0.1000
2	0	0.8578	-0.4446	0.0088	-1.1937	0.0999	0.7400	0.2493	0.5091	0.1377
2	0	0.9100	-0.5451	0.0099	-1.2338	0.1106	0.7243	0.2786	0.4446	0.2395
3	0	0.2357	-0.0231	0.0271	-0.0683	0.0081	0.0621	0.0151	0.1660	0.1365
3	0	0.2995	-0.0436	0.0065	-0.1514	0.0167	0.1209	0.0290	0.2802	0.2191
3	0	0.3493	-0.0619	0.0095	-0.2841	0.0329	0.1907	0.0528	0.3872	0.2058
3	0	0.4000	-0.0584	0.0185	-0.4369	0.0489	0.2854	0.0774	0.4468	0.2059
3	0	0.4497	-0.1119	0.0250	-0.6274	0.0641	0.4050	0.0996	0.5156	0.2049
3	0	0.4997	-0.1156	0.0297	-0.8162	0.0804	0.5590	0.1238	0.5951	0.2059
3	0	0.5556	-0.1563	0.0318	-1.0816	0.0985	0.6857	0.1508	0.5255	0.2082
3	0	0.5995	-0.1726	0.0328	-1.1780	0.1137	0.7993	0.1726	0.6529	0.2069
3	0	0.6498	-0.1823	0.0314	-1.4233	0.1315	0.8795	0.1961	0.8244	0.2144
3	0	0.6890	-0.2052	0.0301	-1.5414	0.1457	0.8621	0.2159	0.7588	0.2168
3	0	0.7495	-0.1781	0.0290	-1.7988	0.1707	0.7734	0.2491	0.9370	0.2204
3	0	0.7998	-0.2494	0.0315	-1.9602	0.1936	0.6792	0.2771	0.9617	0.2227
3	0	0.8577	-0.2607	0.0408	-2.1672	0.2226	0.5472	0.3123	1.1773	0.2283
4	0	0.2001	0.0082	0.0029	-0.0077	0.0019	0.0049	0.0045	0.2764	0.0329
4	0	0.2502	0.0333	0.0023	-0.0058	0.0041	0.0259	0.0087	0.5935	0.0677
4	0	0.3001	-0.0099	0.0015	-0.0157	0.0074	0.0351	0.0174	0.7031	0.0768
4	0	0.3502	-0.0511	0.0025	-0.0443	0.0122	0.0525	0.0279	0.8434	0.0742
4	0	0.4002	-0.0827	0.0031	-0.0509	0.0192	0.0947	0.0440	0.8750	0.0737
4	0	0.4500	-0.1010	0.0037	-0.0457	0.0252	0.1393	0.0619	0.6610	0.0799
4	0	0.5001	-0.1539	0.0038	-0.0938	0.0324	0.2633	0.0811	0.9684	0.0806
4	0	0.5560	-0.2020	0.0043	-0.1273	0.0407	0.2992	0.1032	0.7663	0.0839
4	0	0.6001	-0.2087	0.0048	-0.1702	0.0489	0.3385	0.1219	0.7551	0.0810
4	0	0.6501	-0.2759	0.0056	-0.2216	0.0588	0.3550	0.1441	0.9022	0.0792
4	0	0.6999	-0.3084	0.0060	-0.2802	0.0692	0.3039	0.1699	0.9641	0.0866
4	0	0.7500	-0.3167	0.0066	-0.3276	0.0804	0.2158	0.1993	1.1148	0.0904
4	0	0.8002	-0.3740	0.0084	-0.4808	0.0904	0.0915	0.2310	0.8361	0.1021
4	0	0.8582	-0.4313	0.0088	-0.5167	0.1053	-0.0586	0.2679	0.6559	0.1045
4	0	0.9101	-0.4846	0.0153	-0.4933	0.1192	-0.1389	0.2964	0.8168	0.1555

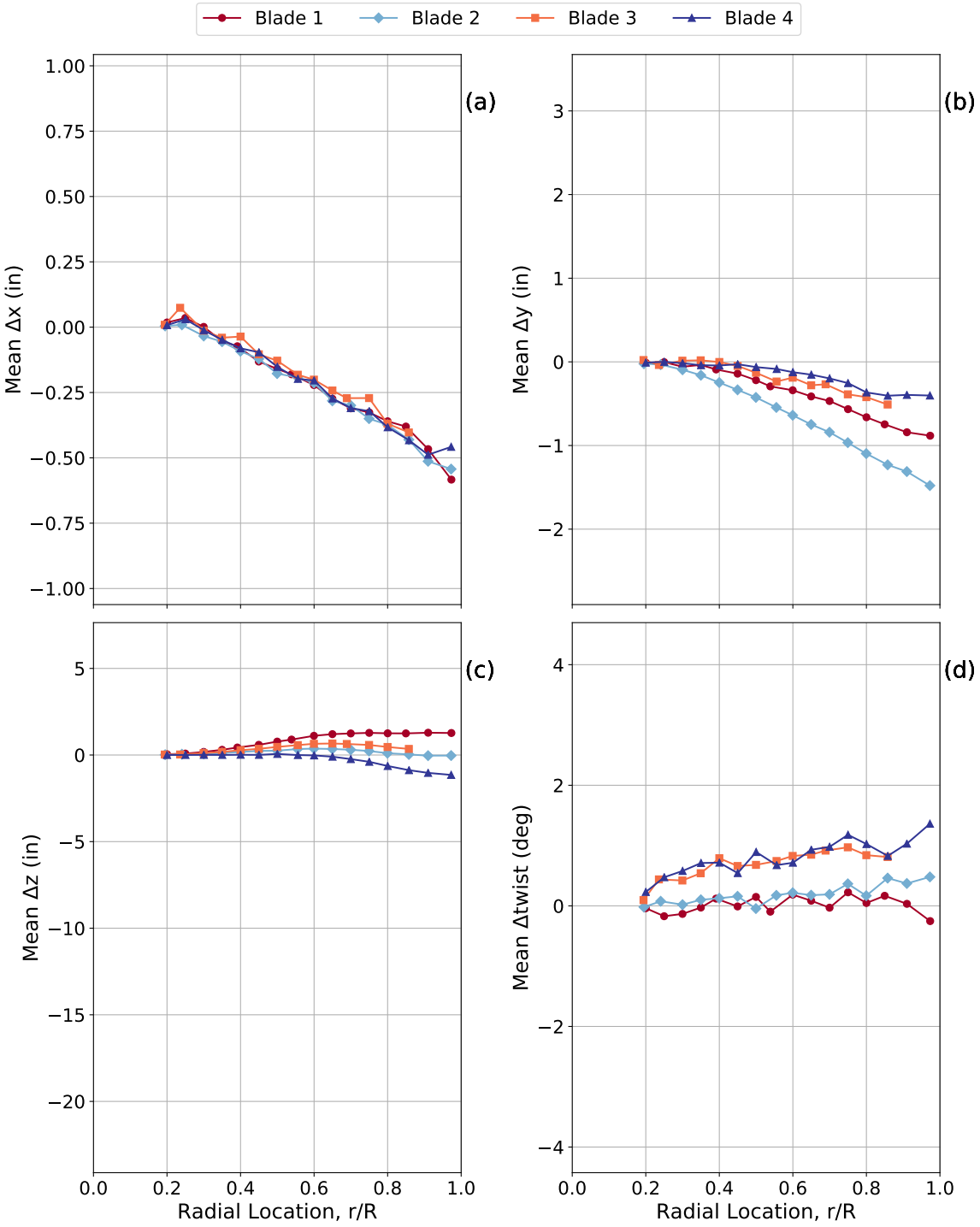


Figure 2.28-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-6. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0179	0.0043	-0.0102	0.0026	0.0446	0.0067	-0.0387	0.0500
1	4.92	0.2499	0.0352	0.0024	-0.0033	0.0055	0.0819	0.0129	-0.1717	0.1063
1	4.92	0.2998	0.0010	0.0021	-0.0581	0.0102	0.1785	0.0254	-0.1335	0.1206
1	4.92	0.3498	-0.0536	0.0030	-0.0369	0.0172	0.3009	0.0440	-0.0281	0.1129
1	4.92	0.3913	-0.0730	0.0036	-0.0909	0.0251	0.4329	0.0622	0.1201	0.1153
1	4.92	0.4496	-0.1315	0.0038	-0.1409	0.0321	0.5874	0.0894	-0.0096	0.1213
1	4.92	0.4997	-0.1597	0.0045	-0.2190	0.0391	0.7739	0.1137	0.1481	0.1249
1	4.92	0.5387	-0.1802	0.0051	-0.2931	0.0454	0.8913	0.1347	-0.0961	0.1238
1	4.92	0.5996	-0.2214	0.0055	-0.3395	0.0568	1.1091	0.1657	0.1863	0.1158
1	4.92	0.6498	-0.2739	0.0057	-0.4133	0.0662	1.2044	0.1911	0.0850	0.1265
1	4.92	0.6998	-0.3105	0.0062	-0.4682	0.0768	1.2465	0.2189	-0.0302	0.1340
1	4.92	0.7500	-0.3263	0.0065	-0.5655	0.0871	1.2791	0.2461	0.2247	0.1259
1	4.92	0.8001	-0.3602	0.0065	-0.6624	0.0974	1.2532	0.2726	0.0473	0.1347
1	4.92	0.8497	-0.3803	0.0069	-0.7469	0.1088	1.2482	0.2988	0.1670	0.1381
1	4.92	0.9102	-0.4667	0.0086	-0.8416	0.1241	1.2868	0.3342	0.0337	0.1591
1	4.92	0.9734	-0.5833	0.0123	-0.8829	0.1383	1.2704	0.3771	-0.2526	0.1636
2	4.92	0.1949	0.0047	0.0032	-0.0221	0.0022	0.0164	0.0058	-0.0203	0.0319
2	4.92	0.2405	0.0089	0.0025	-0.0329	0.0046	0.0445	0.0109	0.0763	0.0767
2	4.92	0.2999	-0.0338	0.0024	-0.0945	0.0090	0.0651	0.0229	0.0198	0.0865
2	4.92	0.3498	-0.0557	0.0030	-0.1598	0.0148	0.1178	0.0402	0.1011	0.0917
2	4.92	0.3998	-0.0921	0.0037	-0.2473	0.0237	0.1760	0.0615	0.1261	0.0943
2	4.92	0.4496	-0.1214	0.0043	-0.3345	0.0274	0.2371	0.0845	0.1587	0.1021
2	4.92	0.4995	-0.1776	0.0047	-0.4250	0.0349	0.2501	0.1074	-0.0449	0.1034
2	4.92	0.5551	-0.1922	0.0047	-0.5449	0.0424	0.3449	0.1340	0.1743	0.1075
2	4.92	0.5996	-0.2134	0.0051	-0.6385	0.0500	0.3689	0.1556	0.2174	0.1124
2	4.92	0.6497	-0.2820	0.0056	-0.7484	0.0587	0.3482	0.1788	0.1773	0.1149
2	4.92	0.6996	-0.2994	0.0060	-0.8411	0.0667	0.3036	0.2032	0.1905	0.1180
2	4.92	0.7495	-0.3501	0.0067	-0.9659	0.0770	0.2306	0.2308	0.3656	0.1303
2	4.92	0.7996	-0.3734	0.0070	-1.0968	0.0872	0.1061	0.2626	0.1683	0.1358
2	4.92	0.8578	-0.4305	0.0087	-1.2308	0.1003	0.0329	0.3026	0.4606	0.1328
2	4.92	0.9100	-0.5132	0.0094	-1.3117	0.1125	-0.0373	0.3370	0.3716	0.1888
2	4.92	0.9727	-0.5430	0.0150	-1.4793	0.1284	-0.0326	0.3892	0.4799	0.1834
3	4.92	0.1938	0.0091	0.0042	0.0217	0.0033	0.0265	0.0061	0.0961	0.0286
3	4.92	0.2357	0.0741	0.0025	-0.0370	0.0046	0.0302	0.0090	0.4389	0.0628
3	4.92	0.2995	-0.0132	0.0026	0.0140	0.0112	0.1086	0.0213	0.4208	0.0703
3	4.92	0.3493	-0.0403	0.0028	0.0184	0.0176	0.1786	0.0372	0.5409	0.0705
3	4.92	0.4000	-0.0360	0.0031	-0.0017	0.0279	0.2796	0.0561	0.7903	0.0691
3	4.92	0.4497	-0.1038	0.0040	-0.0488	0.0336	0.3575	0.0751	0.6609	0.0767
3	4.92	0.4997	-0.1282	0.0040	-0.1301	0.0427	0.4677	0.0920	0.6796	0.0803
3	4.92	0.5556	-0.1820	0.0056	-0.2352	0.0518	0.5715	0.1113	0.7438	0.0758
3	4.92	0.5995	-0.2008	0.0054	-0.1889	0.0613	0.6485	0.1254	0.8281	0.0829
3	4.92	0.6498	-0.2424	0.0053	-0.2800	0.0726	0.6646	0.1442	0.8485	0.0733
3	4.92	0.6890	-0.2716	0.0064	-0.2682	0.0808	0.6365	0.1588	0.9168	0.0801
3	4.92	0.7495	-0.2713	0.0067	-0.3883	0.0933	0.5805	0.1820	0.9709	0.0875
3	4.92	0.7998	-0.3693	0.0072	-0.4216	0.1057	0.4639	0.2047	0.8409	0.0908
3	4.92	0.8577	-0.4029	0.0079	-0.5099	0.1201	0.3518	0.2313	0.8104	0.1194
4	4.92	0.2001	0.0077	0.0027	-0.0090	0.0019	0.0016	0.0050	0.2308	0.0343
4	4.92	0.2502	0.0302	0.0017	0.0001	0.0040	0.0038	0.0088	0.4747	0.0683
4	4.92	0.3001	-0.0116	0.0020	-0.0163	0.0073	0.0090	0.0174	0.5789	0.0823
4	4.92	0.3502	-0.0488	0.0023	-0.0400	0.0121	0.0055	0.0312	0.7104	0.0743
4	4.92	0.4002	-0.0809	0.0028	-0.0436	0.0190	0.0149	0.0463	0.7167	0.0798
4	4.92	0.4500	-0.0963	0.0030	-0.0285	0.0239	0.0092	0.0615	0.5436	0.0818
4	4.92	0.5001	-0.1519	0.0035	-0.0626	0.0294	0.0621	0.0772	0.8935	0.0828
4	4.92	0.5560	-0.1978	0.0038	-0.0855	0.0362	-0.0020	0.0940	0.6755	0.0754
4	4.92	0.6001	-0.2040	0.0042	-0.1235	0.0428	-0.0231	0.1089	0.7155	0.0849
4	4.92	0.6501	-0.2728	0.0048	-0.1532	0.0503	-0.0974	0.1250	0.9304	0.0794
4	4.92	0.6999	-0.3096	0.0053	-0.1981	0.0571	-0.2362	0.1440	0.9791	0.0859
4	4.92	0.7500	-0.3213	0.0057	-0.2542	0.0655	-0.3919	0.1634	1.1784	0.0790
4	4.92	0.8002	-0.3830	0.0189	-0.3655	0.0808	-0.6345	0.1906	1.0251	0.0761
4	4.92	0.8582	-0.4327	0.0082	-0.4047	0.0858	-0.8751	0.2221	0.8283	0.0950
4	4.92	0.9101	-0.4882	0.0092	-0.3950	0.0946	-1.0322	0.2620	1.0317	0.1139
4	4.92	0.9728	-0.4580	0.0144	-0.4026	0.1087	-1.1492	0.3093	1.3616	0.1504

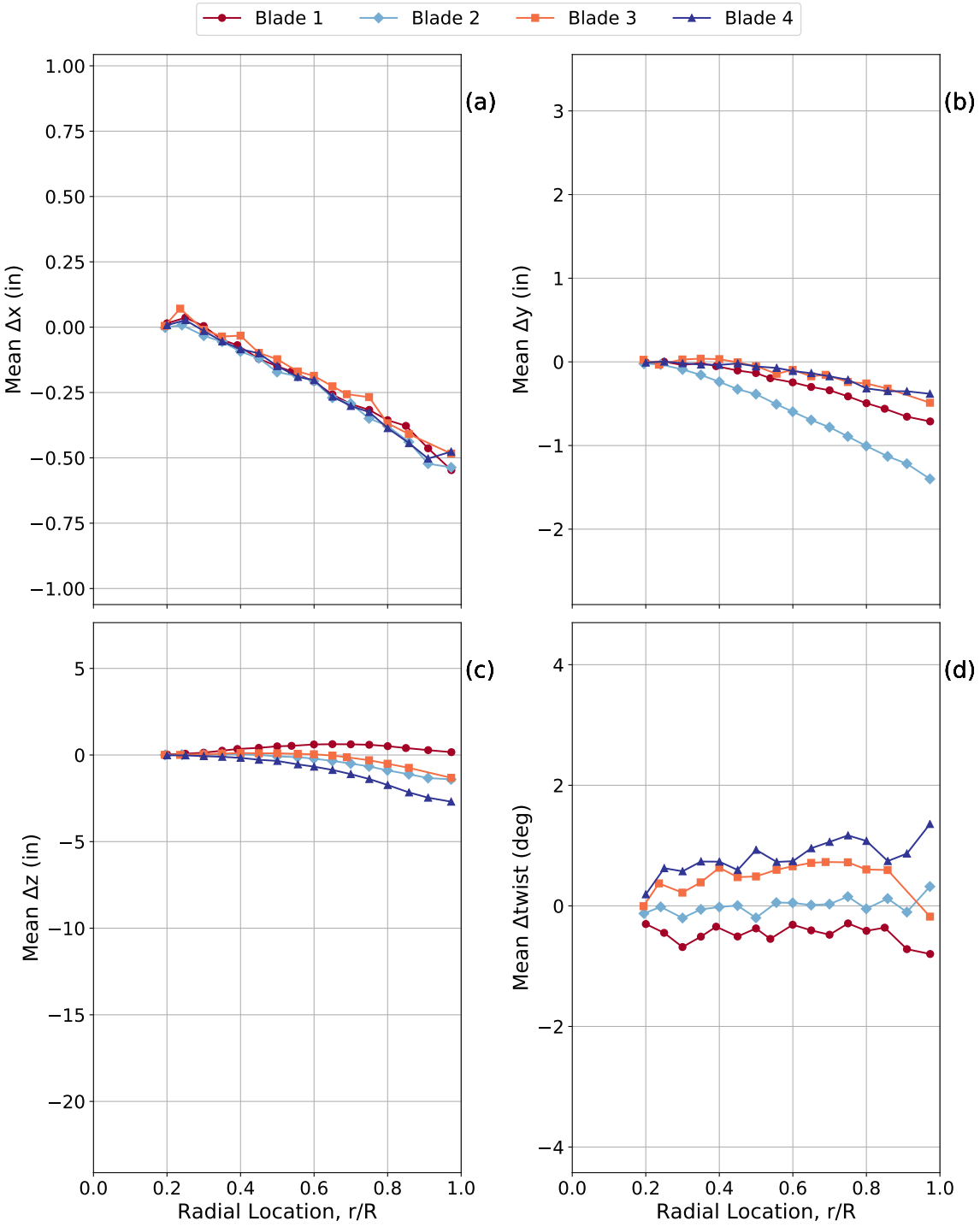


Figure 2.28-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0148	0.0036	-0.0056	0.0026	0.0339	0.0071	-0.3013	0.0388
1	9.84	0.2499	0.0365	0.0022	0.0008	0.0044	0.0736	0.0130	-0.4477	0.0919
1	9.84	0.2998	0.0043	0.0018	-0.0377	0.0094	0.1344	0.0272	-0.6833	0.0945
1	9.84	0.3498	-0.0485	0.0028	-0.0135	0.0156	0.2489	0.0453	-0.5102	0.0867
1	9.84	0.3913	-0.0688	0.0035	-0.0512	0.0222	0.3479	0.0652	-0.3456	0.0870
1	9.84	0.4496	-0.1207	0.0040	-0.1034	0.0307	0.4134	0.0944	-0.5076	0.0910
1	9.84	0.4997	-0.1498	0.0045	-0.1342	0.0396	0.5015	0.1200	-0.3741	0.0928
1	9.84	0.5387	-0.1690	0.0051	-0.1956	0.0460	0.5296	0.1394	-0.5477	0.0950
1	9.84	0.5996	-0.2084	0.0058	-0.2453	0.0577	0.6091	0.1689	-0.3130	0.0981
1	9.84	0.6498	-0.2571	0.0065	-0.2999	0.0684	0.6259	0.1931	-0.4062	0.1055
1	9.84	0.6998	-0.2943	0.0068	-0.3400	0.0789	0.6182	0.2172	-0.4787	0.1035
1	9.84	0.7500	-0.3166	0.0076	-0.4130	0.0909	0.5918	0.2450	-0.2908	0.1081
1	9.84	0.8001	-0.3559	0.0080	-0.4943	0.1030	0.5112	0.2748	-0.4142	0.1124
1	9.84	0.8497	-0.3776	0.0083	-0.5606	0.1160	0.4028	0.3063	-0.3614	0.1255
1	9.84	0.9102	-0.4636	0.0086	-0.6555	0.1325	0.2817	0.3448	-0.7176	0.1235
1	9.84	0.9734	-0.5470	0.0129	-0.7121	0.1477	0.1644	0.3905	-0.7982	0.1236
2	9.84	0.1949	-0.0017	0.0031	-0.0223	0.0023	0.0067	0.0074	-0.1263	0.0386
2	9.84	0.2405	0.0080	0.0015	-0.0304	0.0040	0.0235	0.0118	-0.0169	0.1018
2	9.84	0.2999	-0.0328	0.0018	-0.0909	0.0076	0.0102	0.0280	-0.2014	0.1093
2	9.84	0.3498	-0.0558	0.0024	-0.1562	0.0143	0.0382	0.0486	-0.0580	0.1126
2	9.84	0.3998	-0.0932	0.0028	-0.2382	0.0207	0.0394	0.0734	-0.0188	0.1077
2	9.84	0.4496	-0.1187	0.0031	-0.3272	0.0276	0.0083	0.0999	0.0049	0.1085
2	9.84	0.4995	-0.1717	0.0033	-0.3858	0.0345	-0.0821	0.1284	-0.1986	0.1013
2	9.84	0.5551	-0.1876	0.0034	-0.5065	0.0422	-0.1232	0.1592	0.0546	0.1059
2	9.84	0.5996	-0.2061	0.0036	-0.5959	0.0488	-0.2100	0.1822	0.0498	0.1145
2	9.84	0.6497	-0.2701	0.0039	-0.6954	0.0572	-0.3392	0.2109	0.0127	0.1195
2	9.84	0.6996	-0.2924	0.0045	-0.7808	0.0657	-0.4918	0.2377	0.0292	0.1263
2	9.84	0.7495	-0.3491	0.0046	-0.8920	0.0738	-0.6595	0.2643	0.1532	0.1276
2	9.84	0.7996	-0.3776	0.0051	-1.0057	0.0843	-0.8864	0.2963	-0.0493	0.1309
2	9.84	0.8578	-0.4392	0.0061	-1.1299	0.0944	-1.1102	0.3311	0.1212	0.1312
2	9.84	0.9100	-0.5223	0.0074	-1.2177	0.1059	-1.3290	0.3694	-0.1031	0.1402
2	9.84	0.9727	-0.5366	0.0089	-1.3993	0.1187	-1.4063	0.4154	0.3205	0.1417
3	9.84	0.1938	0.0048	0.0039	0.0246	0.0023	0.0120	0.0058	-0.0054	0.0307
3	9.84	0.2357	0.0708	0.0018	-0.0333	0.0029	0.0075	0.0086	0.3730	0.0707
3	9.84	0.2995	-0.0100	0.0020	0.0286	0.0073	0.0414	0.0214	0.2192	0.0796
3	9.84	0.3493	-0.0358	0.0026	0.0378	0.0123	0.0791	0.0358	0.3893	0.0756
3	9.84	0.4000	-0.0324	0.0032	0.0325	0.0185	0.1146	0.0553	0.6324	0.0689
3	9.84	0.4497	-0.0984	0.0038	-0.0056	0.0241	0.0996	0.0762	0.4764	0.0774
3	9.84	0.4997	-0.1227	0.0042	-0.0518	0.0304	0.0995	0.0996	0.4876	0.0799
3	9.84	0.5556	-0.1696	0.0046	-0.1425	0.0381	0.0663	0.1267	0.5988	0.0832
3	9.84	0.5995	-0.1863	0.0050	-0.0964	0.0447	0.0434	0.1481	0.6565	0.0902
3	9.84	0.6498	-0.2264	0.0050	-0.1725	0.0530	-0.0323	0.1716	0.7131	0.0858
3	9.84	0.6890	-0.2565	0.0055	-0.1553	0.0603	-0.1274	0.1879	0.7273	0.0869
3	9.84	0.7495	-0.2677	0.0058	-0.2409	0.0726	-0.3008	0.2118	0.7225	0.0960
3	9.84	0.7998	-0.3676	0.0064	-0.2582	0.0828	-0.5030	0.2352	0.6034	0.0976
3	9.84	0.8577	-0.4090	0.0078	-0.3196	0.0961	-0.7411	0.2667	0.5944	0.1171
3	9.84	0.9729	-0.4838	0.0130	-0.4888	0.1226	-1.3171	0.3543	-0.1783	0.1409
4	9.84	0.2001	0.0076	0.0031	-0.0087	0.0021	-0.0158	0.0060	0.1914	0.0464
4	9.84	0.2502	0.0270	0.0020	0.0032	0.0041	-0.0233	0.0131	0.6243	0.0734
4	9.84	0.3001	-0.0147	0.0019	-0.0166	0.0075	-0.0648	0.0241	0.5732	0.1035
4	9.84	0.3502	-0.0543	0.0024	-0.0326	0.0133	-0.1044	0.0415	0.7353	0.0895
4	9.84	0.4002	-0.0844	0.0029	-0.0365	0.0200	-0.1638	0.0644	0.7329	0.0887
4	9.84	0.4500	-0.1002	0.0031	-0.0195	0.0261	-0.2743	0.0885	0.5946	0.0843
4	9.84	0.5001	-0.1492	0.0030	-0.0550	0.0330	-0.3427	0.1124	0.9294	0.0864
4	9.84	0.5560	-0.1905	0.0034	-0.0728	0.0409	-0.5418	0.1381	0.7285	0.0891
4	9.84	0.6001	-0.2023	0.0038	-0.1096	0.0471	-0.6729	0.1575	0.7410	0.0938
4	9.84	0.6501	-0.2657	0.0040	-0.1357	0.0548	-0.8620	0.1800	0.9553	0.0964
4	9.84	0.6999	-0.3016	0.0046	-0.1727	0.0625	-1.1051	0.2025	1.0609	0.1057
4	9.84	0.7500	-0.3250	0.0046	-0.2141	0.0700	-1.3859	0.2258	1.1682	0.1157
4	9.84	0.8002	-0.3864	0.0050	-0.3177	0.0792	-1.7333	0.2498	1.0763	0.1129
4	9.84	0.8582	-0.4437	0.0058	-0.3505	0.0874	-2.1605	0.2758	0.7428	0.1197
4	9.84	0.9101	-0.5028	0.0057	-0.3518	0.0971	-2.4646	0.2977	0.8671	0.1346
4	9.84	0.9728	-0.4763	0.0088	-0.3818	0.1061	-2.6940	0.3306	1.3577	0.1434

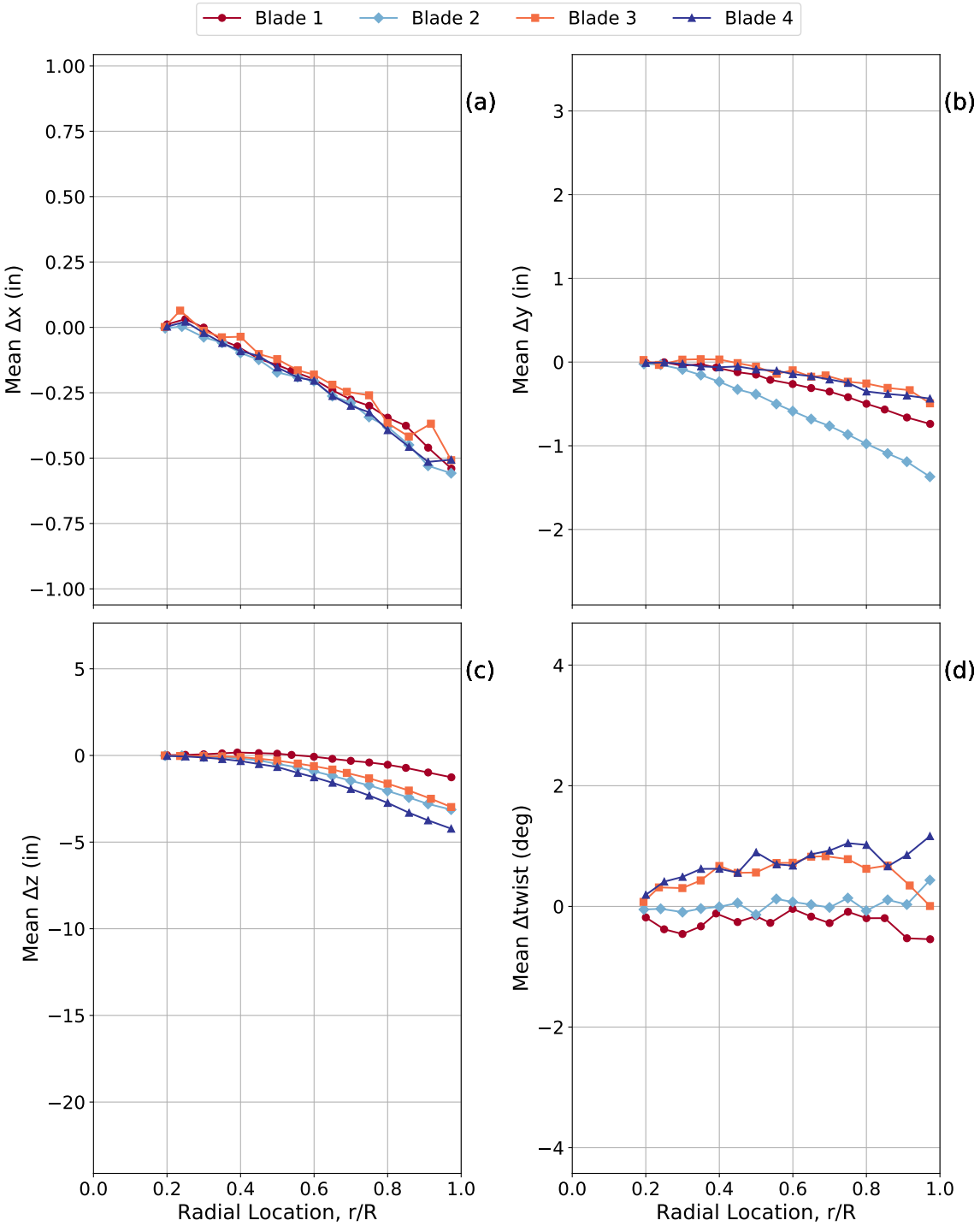


Figure 2.28-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0114	0.0040	-0.0071	0.0023	0.0181	0.0060	-0.1832	0.0322
1	15.12	0.2499	0.0316	0.0019	-0.0023	0.0038	0.0352	0.0120	-0.3794	0.0695
1	15.12	0.2998	-0.0008	0.0022	-0.0432	0.0087	0.0678	0.0232	-0.4572	0.0752
1	15.12	0.3498	-0.0496	0.0030	-0.0246	0.0141	0.1220	0.0400	-0.3310	0.0726
1	15.12	0.3913	-0.0726	0.0036	-0.0660	0.0202	0.1698	0.0573	-0.1180	0.0808
1	15.12	0.4496	-0.1204	0.0044	-0.1207	0.0293	0.1354	0.0844	-0.2593	0.0899
1	15.12	0.4997	-0.1438	0.0048	-0.1496	0.0378	0.1006	0.1085	-0.1617	0.0954
1	15.12	0.5387	-0.1655	0.0054	-0.2125	0.0449	0.0320	0.1266	-0.2735	0.0968
1	15.12	0.5996	-0.1983	0.0060	-0.2624	0.0567	-0.0743	0.1562	-0.0414	0.1109
1	15.12	0.6498	-0.2403	0.0068	-0.3107	0.0676	-0.1965	0.1823	-0.1696	0.1006
1	15.12	0.6998	-0.2759	0.0073	-0.3527	0.0791	-0.3106	0.2091	-0.2766	0.1100
1	15.12	0.7500	-0.3001	0.0077	-0.4197	0.0917	-0.4050	0.2372	-0.0898	0.1063
1	15.12	0.8001	-0.3454	0.0082	-0.4987	0.1046	-0.5366	0.2654	-0.1958	0.1071
1	15.12	0.8497	-0.3761	0.0085	-0.5670	0.1176	-0.7173	0.2919	-0.1951	0.1045
1	15.12	0.9102	-0.4601	0.0086	-0.6623	0.1358	-0.9834	0.3256	-0.5283	0.1385
1	15.12	0.9734	-0.5400	0.0134	-0.7389	0.1522	-1.2610	0.3602	-0.5444	0.1310
2	15.12	0.1949	-0.0032	0.0031	-0.0216	0.0018	-0.0111	0.0057	-0.0513	0.0321
2	15.12	0.2405	0.0030	0.0022	-0.0311	0.0029	-0.0152	0.0104	-0.0399	0.0595
2	15.12	0.2999	-0.0376	0.0018	-0.0881	0.0059	-0.0666	0.0231	-0.0951	0.0763
2	15.12	0.3498	-0.0588	0.0026	-0.1549	0.0099	-0.1080	0.0401	-0.0363	0.0741
2	15.12	0.3998	-0.0978	0.0032	-0.2346	0.0150	-0.1787	0.0614	-0.0070	0.0762
2	15.12	0.4496	-0.1237	0.0038	-0.3266	0.0199	-0.2854	0.0837	0.0561	0.0780
2	15.12	0.4995	-0.1720	0.0040	-0.3838	0.0250	-0.4860	0.1065	-0.1377	0.0780
2	15.12	0.5551	-0.1904	0.0042	-0.5008	0.0319	-0.6857	0.1323	0.1232	0.0801
2	15.12	0.5996	-0.2056	0.0050	-0.5864	0.0370	-0.9119	0.1534	0.0736	0.0838
2	15.12	0.6497	-0.2628	0.0053	-0.6810	0.0430	-1.1777	0.1769	0.0294	0.0847
2	15.12	0.6996	-0.2881	0.0057	-0.7635	0.0496	-1.4583	0.2013	-0.0174	0.0849
2	15.12	0.7495	-0.3429	0.0067	-0.8661	0.0570	-1.7276	0.2259	0.1380	0.0958
2	15.12	0.7996	-0.3801	0.0073	-0.9765	0.0639	-2.0499	0.2526	-0.0719	0.1063
2	15.12	0.8578	-0.4496	0.0088	-1.0927	0.0730	-2.4298	0.2891	0.1085	0.1134
2	15.12	0.9100	-0.5294	0.0099	-1.1907	0.0825	-2.7985	0.3283	0.0308	0.1143
2	15.12	0.9727	-0.5577	0.0127	-1.3700	0.0926	-3.1242	0.3843	0.4352	0.1246
3	15.12	0.1938	0.0015	0.0033	0.0242	0.0017	-0.0010	0.0051	0.0748	0.0297
3	15.12	0.2357	0.0641	0.0022	-0.0339	0.0028	-0.0308	0.0098	0.3147	0.0571
3	15.12	0.2995	-0.0133	0.0020	0.0291	0.0056	-0.0312	0.0216	0.3033	0.0692
3	15.12	0.3493	-0.0379	0.0025	0.0343	0.0102	-0.0534	0.0378	0.4302	0.0684
3	15.12	0.4000	-0.0359	0.0032	0.0305	0.0152	-0.0937	0.0584	0.6697	0.0739
3	15.12	0.4497	-0.1020	0.0033	-0.0126	0.0200	-0.1848	0.0791	0.5563	0.0749
3	15.12	0.4997	-0.1215	0.0038	-0.0549	0.0255	-0.2970	0.1015	0.5612	0.0790
3	15.12	0.5556	-0.1643	0.0043	-0.1405	0.0320	-0.4692	0.1294	0.7194	0.0831
3	15.12	0.5995	-0.1805	0.0046	-0.0988	0.0380	-0.6160	0.1532	0.7227	0.0876
3	15.12	0.6498	-0.2193	0.0048	-0.1752	0.0457	-0.8123	0.1829	0.8232	0.0892
3	15.12	0.6890	-0.2464	0.0052	-0.1598	0.0525	-1.0095	0.2065	0.8317	0.0888
3	15.12	0.7495	-0.2598	0.0061	-0.2345	0.0633	-1.3224	0.2441	0.7824	0.0994
3	15.12	0.7998	-0.3661	0.0071	-0.2562	0.0725	-1.6258	0.2782	0.6231	0.1028
3	15.12	0.8577	-0.4175	0.0082	-0.3088	0.0846	-2.0255	0.3211	0.6783	0.1152
3	15.12	0.9178	-0.3684	0.0123	-0.3359	0.0996	-2.4987	0.3692	0.3462	0.1557
3	15.12	0.9729	-0.5079	0.0134	-0.4933	0.1105	-2.9776	0.4143	0.0060	0.1289
4	15.12	0.2001	0.0027	0.0026	-0.0097	0.0019	-0.0266	0.0057	0.1923	0.0301
4	15.12	0.2502	0.0216	0.0019	-0.0055	0.0036	-0.0587	0.0116	0.4101	0.0580
4	15.12	0.3001	-0.0214	0.0019	-0.0211	0.0069	-0.1184	0.0224	0.4891	0.0692
4	15.12	0.3502	-0.0598	0.0022	-0.0519	0.0124	-0.2073	0.0386	0.6216	0.0670
4	15.12	0.4002	-0.0909	0.0031	-0.0616	0.0186	-0.3241	0.0595	0.6234	0.0762
4	15.12	0.4500	-0.1095	0.0031	-0.0525	0.0241	-0.4971	0.0814	0.5571	0.0829
4	15.12	0.5001	-0.1535	0.0033	-0.0877	0.0305	-0.6657	0.1051	0.8957	0.0851
4	15.12	0.5560	-0.1915	0.0040	-0.1037	0.0378	-1.0087	0.1321	0.6968	0.0860
4	15.12	0.6001	-0.2040	0.0038	-0.1432	0.0442	-1.2584	0.1541	0.6764	0.0882
4	15.12	0.6501	-0.2624	0.0041	-0.1694	0.0517	-1.5761	0.1782	0.8628	0.0871
4	15.12	0.6999	-0.2999	0.0045	-0.2079	0.0605	-1.9344	0.2028	0.9251	0.0882
4	15.12	0.7500	-0.3248	0.0048	-0.2489	0.0693	-2.3144	0.2270	1.0481	0.0985
4	15.12	0.8002	-0.3932	0.0055	-0.3514	0.0782	-2.7385	0.2506	1.0192	0.1069
4	15.12	0.8582	-0.4570	0.0069	-0.3805	0.0893	-3.3088	0.2793	0.6642	0.1108
4	15.12	0.9101	-0.5144	0.0073	-0.4004	0.0994	-3.7462	0.3061	0.8520	0.1117
4	15.12	0.9728	-0.5061	0.0105	-0.4359	0.1127	-4.2260	0.3402	1.1645	0.1164

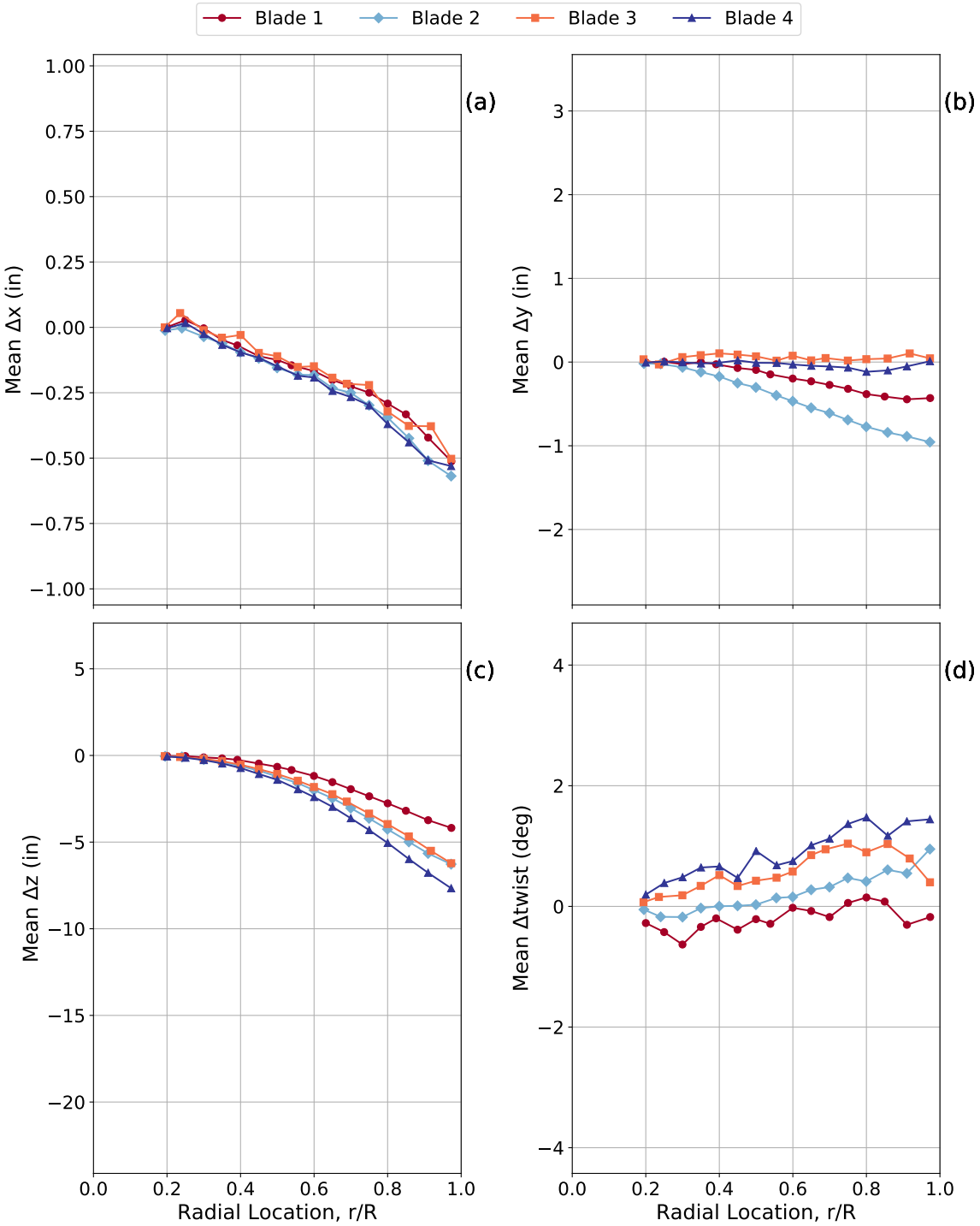


Figure 2.28-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0008	0.0030	-0.0035	0.0022	-0.0269	0.0059	-0.2764	0.0493
1	29.88	0.2499	0.0277	0.0024	0.0043	0.0029	-0.0369	0.0102	-0.4260	0.1014
1	29.88	0.2998	-0.0036	0.0023	-0.0258	0.0076	-0.1126	0.0226	-0.6321	0.1190
1	29.88	0.3498	-0.0482	0.0028	-0.0002	0.0122	-0.1660	0.0369	-0.3401	0.1254
1	29.88	0.3913	-0.0690	0.0030	-0.0269	0.0170	-0.2509	0.0534	-0.1983	0.1238
1	29.88	0.4496	-0.1102	0.0035	-0.0707	0.0231	-0.4686	0.0766	-0.3862	0.1227
1	29.88	0.4997	-0.1246	0.0036	-0.0936	0.0291	-0.6571	0.0988	-0.2118	0.1267
1	29.88	0.5387	-0.1451	0.0030	-0.1471	0.0338	-0.8417	0.1160	-0.2890	0.1283
1	29.88	0.5996	-0.1670	0.0039	-0.1968	0.0418	-1.1815	0.1416	-0.0230	0.1306
1	29.88	0.6498	-0.2016	0.0036	-0.2298	0.0492	-1.5393	0.1624	-0.0767	0.1294
1	29.88	0.6998	-0.2254	0.0046	-0.2728	0.0572	-1.9459	0.1851	-0.1769	0.1354
1	29.88	0.7500	-0.2499	0.0051	-0.3198	0.0650	-2.3567	0.2086	0.0572	0.1384
1	29.88	0.8001	-0.2915	0.0061	-0.3831	0.0731	-2.7639	0.2354	0.1480	0.1452
1	29.88	0.8497	-0.3326	0.0068	-0.4120	0.0815	-3.1918	0.2637	0.0788	0.1419
1	29.88	0.9102	-0.4215	0.0073	-0.4449	0.0920	-3.7368	0.3018	-0.3052	0.1563
1	29.88	0.9734	-0.5125	0.0093	-0.4303	0.1035	-4.1810	0.3453	-0.1762	0.1655
2	29.88	0.1949	-0.0120	0.0038	-0.0174	0.0025	-0.0497	0.0054	-0.0529	0.0347
2	29.88	0.2405	-0.0030	0.0021	-0.0219	0.0034	-0.0856	0.0095	-0.1732	0.0825
2	29.88	0.2999	-0.0359	0.0020	-0.0633	0.0084	-0.2336	0.0205	-0.1767	0.0934
2	29.88	0.3498	-0.0616	0.0028	-0.1193	0.0152	-0.3836	0.0355	-0.0283	0.0958
2	29.88	0.3998	-0.0951	0.0033	-0.1728	0.0222	-0.6098	0.0542	0.0028	0.1051
2	29.88	0.4496	-0.1184	0.0046	-0.2509	0.0302	-0.8790	0.0750	0.0091	0.1079
2	29.88	0.4995	-0.1548	0.0058	-0.3026	0.0391	-1.2104	0.0980	0.0283	0.1131
2	29.88	0.5551	-0.1806	0.0064	-0.3982	0.0496	-1.5955	0.1262	0.1406	0.1180
2	29.88	0.5996	-0.1827	0.0069	-0.4677	0.0589	-1.9992	0.1498	0.1566	0.1199
2	29.88	0.6497	-0.2323	0.0080	-0.5468	0.0700	-2.4708	0.1774	0.2757	0.1291
2	29.88	0.6996	-0.2501	0.0095	-0.6096	0.0822	-3.0388	0.2064	0.3203	0.1273
2	29.88	0.7495	-0.2980	0.0109	-0.6913	0.0949	-3.6304	0.2399	0.4714	0.1215
2	29.88	0.7996	-0.3445	0.0126	-0.7728	0.1086	-4.2588	0.2755	0.4133	0.1226
2	29.88	0.8578	-0.4241	0.0145	-0.8409	0.1253	-4.9880	0.3230	0.6061	0.1295
2	29.88	0.9100	-0.5098	0.0160	-0.8876	0.1405	-5.6555	0.3724	0.5471	0.1282
2	29.88	0.9727	-0.5687	0.0216	-0.9556	0.1603	-6.2732	0.4396	0.9495	0.1401
3	29.88	0.1938	0.0001	0.0027	0.0328	0.0019	-0.0400	0.0050	0.0698	0.0350
3	29.88	0.2357	0.0545	0.0022	-0.0285	0.0025	-0.0903	0.0076	0.1560	0.0669
3	29.88	0.2995	-0.0110	0.0016	0.0590	0.0057	-0.1989	0.0179	0.1842	0.0830
3	29.88	0.3493	-0.0395	0.0023	0.0824	0.0099	-0.3337	0.0309	0.3398	0.0833
3	29.88	0.4000	-0.0292	0.0024	0.1041	0.0146	-0.5330	0.0472	0.5185	0.0920
3	29.88	0.4497	-0.0978	0.0026	0.0894	0.0190	-0.7890	0.0641	0.3379	0.0980
3	29.88	0.4997	-0.1103	0.0030	0.0686	0.0244	-1.0699	0.0822	0.4253	0.0986
3	29.88	0.5556	-0.1515	0.0034	0.0169	0.0306	-1.4584	0.1031	0.4756	0.1009
3	29.88	0.5995	-0.1488	0.0038	0.0754	0.0362	-1.8202	0.1184	0.5771	0.1026
3	29.88	0.6498	-0.1925	0.0041	0.0200	0.0427	-2.2361	0.1379	0.8505	0.0977
3	29.88	0.6890	-0.2157	0.0044	0.0477	0.0481	-2.6600	0.1534	0.9457	0.1017
3	29.88	0.7495	-0.2207	0.0055	0.0180	0.0572	-3.3548	0.1787	1.0400	0.1005
3	29.88	0.7998	-0.3215	0.0064	0.0345	0.0653	-3.9587	0.2027	0.8970	0.1026
3	29.88	0.8577	-0.3770	0.0075	0.0425	0.0746	-4.6703	0.2334	1.0343	0.1062
3	29.88	0.9178	-0.3781	0.0085	0.1032	0.0847	-5.5026	0.2689	0.7937	0.1055
3	29.88	0.9729	-0.5026	0.0117	0.0446	0.0938	-6.2193	0.3036	0.3996	0.0957
4	29.88	0.2001	-0.0033	0.0023	-0.0059	0.0018	-0.0631	0.0044	0.1955	0.0368
4	29.88	0.2502	0.0166	0.0022	0.0062	0.0031	-0.1328	0.0090	0.3875	0.0681
4	29.88	0.3001	-0.0255	0.0020	-0.0026	0.0063	-0.2689	0.0172	0.4831	0.0847
4	29.88	0.3502	-0.0670	0.0024	-0.0178	0.0112	-0.4659	0.0302	0.6443	0.0837
4	29.88	0.4002	-0.0958	0.0033	-0.0080	0.0166	-0.7251	0.0462	0.6620	0.0894
4	29.88	0.4500	-0.1163	0.0038	0.0199	0.0223	-1.0726	0.0634	0.4705	0.0949
4	29.88	0.5001	-0.1490	0.0040	-0.0091	0.0294	-1.4063	0.0815	0.9178	0.1007
4	29.88	0.5560	-0.1850	0.0044	-0.0103	0.0387	-1.9521	0.1003	0.6821	0.1029
4	29.88	0.6001	-0.1919	0.0052	-0.0292	0.0465	-2.4030	0.1150	0.7514	0.1107
4	29.88	0.6501	-0.2432	0.0057	-0.0444	0.0572	-2.9654	0.1334	1.0130	0.1174
4	29.88	0.6999	-0.2666	0.0065	-0.0532	0.0685	-3.6243	0.1551	1.1232	0.1214
4	29.88	0.7500	-0.2985	0.0071	-0.0666	0.0810	-4.3102	0.1786	1.3662	0.1165
4	29.88	0.8002	-0.3701	0.0076	-0.1160	0.0943	-5.0500	0.2046	1.4745	0.1200
4	29.88	0.8582	-0.4400	0.0086	-0.0997	0.1106	-5.9815	0.2355	1.1706	0.1286
4	29.88	0.9101	-0.5086	0.0092	-0.0514	0.1250	-6.7735	0.2622	1.4099	0.1294
4	29.88	0.9728	-0.5306	0.0126	0.0098	0.1435	-7.6645	0.2942	1.4433	0.1205

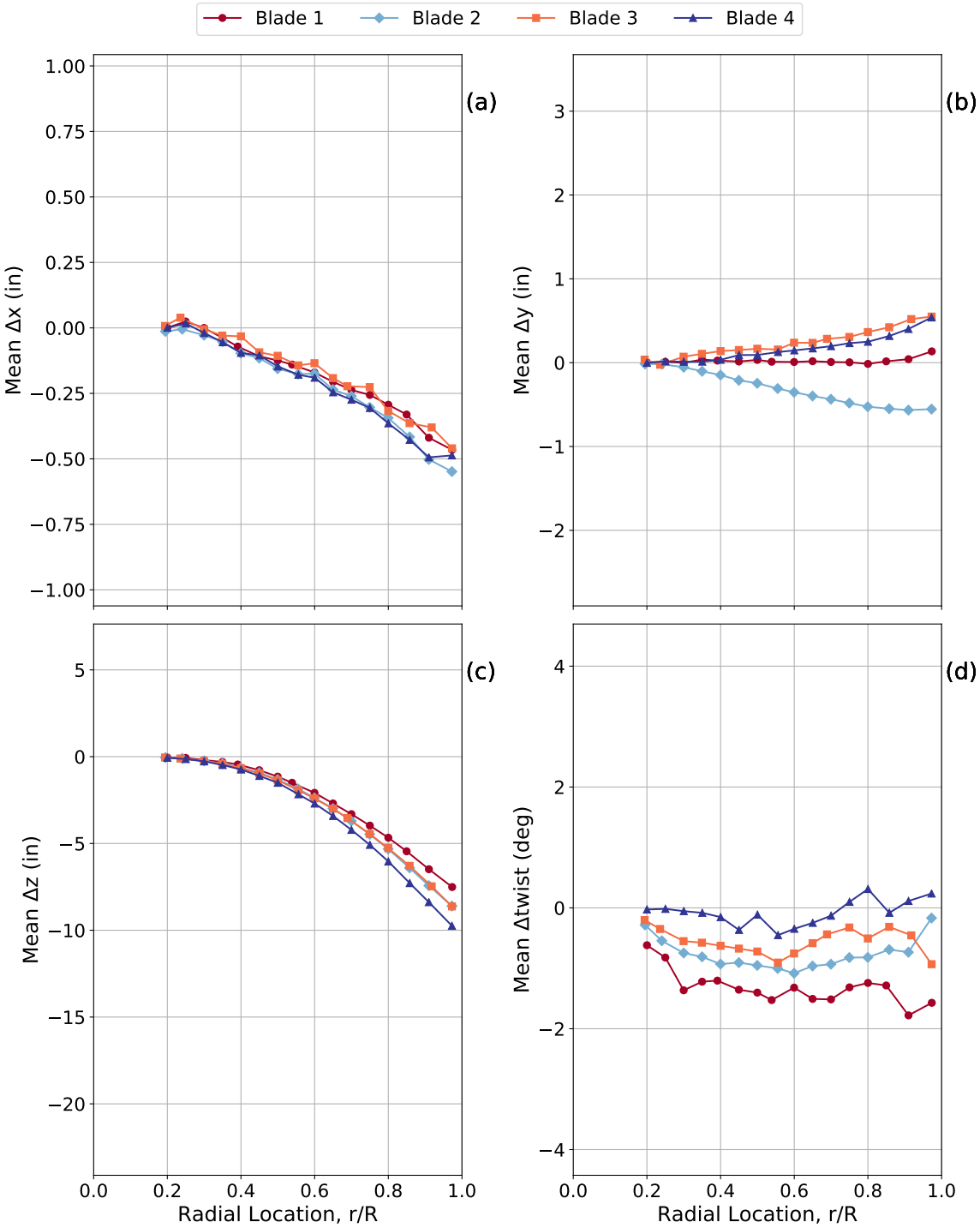


Figure 2.28-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0007	0.0052	0.0035	0.0034	-0.0481	0.0075	-0.6183	0.0502
1	45	0.2499	0.0244	0.0028	0.0097	0.0038	-0.0708	0.0113	-0.8218	0.1270
1	45	0.2998	-0.0003	0.0021	-0.0017	0.0114	-0.1973	0.0263	-1.3641	0.1296
1	45	0.3498	-0.0380	0.0034	0.0367	0.0192	-0.3027	0.0455	-1.2216	0.1296
1	45	0.3913	-0.0713	0.0040	0.0248	0.0259	-0.4498	0.0628	-1.2043	0.1326
1	45	0.4496	-0.1084	0.0040	0.0136	0.0360	-0.7796	0.0897	-1.3545	0.1319
1	45	0.4997	-0.1245	0.0041	0.0328	0.0449	-1.1492	0.1128	-1.4021	0.1345
1	45	0.5387	-0.1401	0.0036	0.0111	0.0522	-1.5030	0.1304	-1.5257	0.1345
1	45	0.5996	-0.1701	0.0047	0.0078	0.0641	-2.0826	0.1567	-1.3200	0.1358
1	45	0.6498	-0.2059	0.0048	0.0174	0.0746	-2.6924	0.1779	-1.5065	0.1391
1	45	0.6998	-0.2369	0.0059	0.0078	0.0851	-3.3104	0.1978	-1.5148	0.1407
1	45	0.7500	-0.2560	0.0059	0.0041	0.0960	-3.9716	0.2196	-1.3155	0.1401
1	45	0.8001	-0.2935	0.0069	-0.0147	0.1073	-4.6680	0.2425	-1.2425	0.1424
1	45	0.8497	-0.3308	0.0079	0.0156	0.1186	-5.4497	0.2685	-1.2843	0.1402
1	45	0.9102	-0.4194	0.0093	0.0416	0.1323	-6.4836	0.3043	-1.7788	0.1397
1	45	0.9734	-0.4656	0.0107	0.1345	0.1467	-7.5097	0.3440	-1.5709	0.1337
2	45	0.1949	-0.0135	0.0040	-0.0155	0.0031	-0.0517	0.0062	-0.2828	0.0388
2	45	0.2405	-0.0051	0.0025	-0.0178	0.0027	-0.0955	0.0081	-0.5445	0.0977
2	45	0.2999	-0.0280	0.0027	-0.0546	0.0092	-0.2452	0.0218	-0.7467	0.1092
2	45	0.3498	-0.0527	0.0027	-0.1028	0.0157	-0.4022	0.0377	-0.8103	0.1035
2	45	0.3998	-0.0968	0.0045	-0.1479	0.0225	-0.6408	0.0562	-0.9299	0.1052
2	45	0.4496	-0.1155	0.0046	-0.2107	0.0292	-0.9282	0.0766	-0.9059	0.1118
2	45	0.4995	-0.1558	0.0046	-0.2459	0.0363	-1.3157	0.0994	-0.9523	0.1127
2	45	0.5551	-0.1762	0.0053	-0.3087	0.0442	-1.8534	0.1253	-1.0030	0.1175
2	45	0.5996	-0.1749	0.0060	-0.3527	0.0509	-2.3733	0.1457	-1.0815	0.1198
2	45	0.6497	-0.2354	0.0061	-0.3980	0.0590	-2.9879	0.1672	-0.9626	0.1233
2	45	0.6996	-0.2604	0.0074	-0.4361	0.0669	-3.7064	0.1875	-0.9321	0.1285
2	45	0.7495	-0.3033	0.0081	-0.4819	0.0752	-4.4713	0.2098	-0.8224	0.1274
2	45	0.7996	-0.3437	0.0094	-0.5255	0.0839	-5.3179	0.2362	-0.8197	0.1316
2	45	0.8578	-0.4162	0.0113	-0.5493	0.0940	-6.4062	0.2697	-0.6905	0.1299
2	45	0.9100	-0.5023	0.0131	-0.5660	0.1037	-7.4265	0.3027	-0.7338	0.1333
2	45	0.9727	-0.5485	0.0153	-0.5542	0.1149	-8.6018	0.3434	-0.1684	0.1371
3	45	0.1938	0.0075	0.0043	0.0361	0.0025	-0.0493	0.0066	-0.2024	0.0383
3	45	0.2357	0.0392	0.0033	-0.0244	0.0029	-0.1073	0.0085	-0.3494	0.1007
3	45	0.2995	-0.0050	0.0020	0.0710	0.0073	-0.2472	0.0213	-0.5505	0.1072
3	45	0.3493	-0.0293	0.0029	0.1054	0.0133	-0.4151	0.0373	-0.5759	0.1013
3	45	0.4000	-0.0324	0.0033	0.1376	0.0193	-0.6641	0.0556	-0.6273	0.1114
3	45	0.4497	-0.0931	0.0038	0.1507	0.0260	-0.9652	0.0783	-0.6741	0.1092
3	45	0.4997	-0.1066	0.0041	0.1663	0.0330	-1.3584	0.1043	-0.7223	0.1145
3	45	0.5556	-0.1431	0.0048	0.1564	0.0418	-1.9287	0.1362	-0.9056	0.1118
3	45	0.5995	-0.1349	0.0053	0.2380	0.0494	-2.4060	0.1616	-0.7547	0.1125
3	45	0.6498	-0.1915	0.0062	0.2364	0.0584	-2.9958	0.1920	-0.5838	0.1123
3	45	0.6890	-0.2227	0.0069	0.2839	0.0663	-3.5330	0.2173	-0.4388	0.1154
3	45	0.7495	-0.2261	0.0088	0.3068	0.0787	-4.4525	0.2616	-0.3249	0.1198
3	45	0.7998	-0.3169	0.0111	0.3650	0.0890	-5.2690	0.3034	-0.5062	0.1243
3	45	0.8577	-0.3636	0.0145	0.4218	0.1023	-6.2899	0.3591	-0.3140	0.1272
3	45	0.9178	-0.3800	0.0176	0.5196	0.1163	-7.4681	0.4198	-0.4549	0.1332
3	45	0.9729	-0.4598	0.0197	0.5497	0.1286	-8.6274	0.4813	-0.9321	0.1393
4	45	0.2001	0.0004	0.0034	-0.0024	0.0021	-0.0644	0.0048	-0.0273	0.0360
4	45	0.2502	0.0170	0.0024	0.0154	0.0033	-0.1382	0.0092	-0.0171	0.0764
4	45	0.3001	-0.0196	0.0019	0.0106	0.0072	-0.2707	0.0178	-0.0544	0.0858
4	45	0.3502	-0.0548	0.0025	0.0118	0.0130	-0.4804	0.0316	-0.0820	0.0853
4	45	0.4002	-0.0953	0.0033	0.0342	0.0191	-0.7406	0.0477	-0.1533	0.0906
4	45	0.4500	-0.1052	0.0038	0.0906	0.0261	-1.1090	0.0654	-0.3654	0.0908
4	45	0.5001	-0.1471	0.0043	0.0919	0.0339	-1.5035	0.0853	-0.1129	0.0912
4	45	0.5560	-0.1791	0.0047	0.1264	0.0433	-2.1671	0.1063	-0.4518	0.0885
4	45	0.6001	-0.1902	0.0052	0.1463	0.0514	-2.7012	0.1229	-0.3467	0.0907
4	45	0.6501	-0.2460	0.0060	0.1701	0.0616	-3.4176	0.1417	-0.2483	0.0922
4	45	0.6999	-0.2742	0.0068	0.1964	0.0718	-4.2170	0.1612	-0.1298	0.0876
4	45	0.7500	-0.3058	0.0078	0.2326	0.0830	-5.0823	0.1822	0.0992	0.0915
4	45	0.8002	-0.3645	0.0090	0.2493	0.0950	-6.0368	0.2065	0.3117	0.0896
4	45	0.8582	-0.4276	0.0107	0.3183	0.1085	-7.2858	0.2373	-0.0820	0.0969
4	45	0.9101	-0.4942	0.0123	0.4018	0.1215	-8.3816	0.2667	0.1136	0.0965
4	45	0.9728	-0.4869	0.0151	0.5394	0.1374	-9.7445	0.3037	0.2369	0.1079

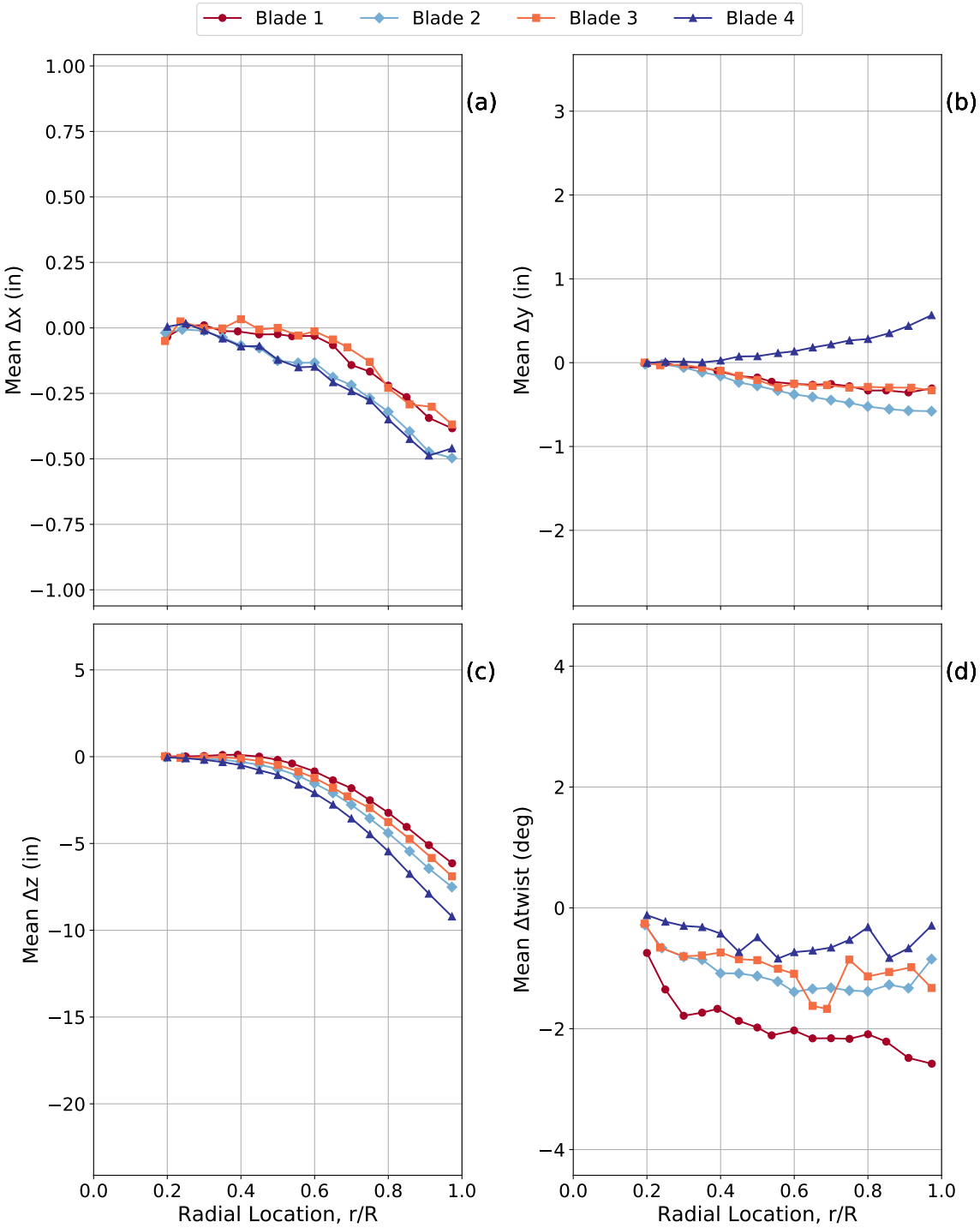


Figure 2.28-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0342	0.0061	-0.0138	0.0065	0.0180	0.0154	-0.7456	0.1038
1	60.12	0.2499	0.0087	0.0028	-0.0043	0.0064	0.0165	0.0163	-1.3509	0.2870
1	60.12	0.2998	0.0101	0.0073	-0.0559	0.0215	0.0412	0.0511	-1.7852	0.2861
1	60.12	0.3498	-0.0122	0.0117	-0.0579	0.0362	0.1021	0.0850	-1.7342	0.2889
1	60.12	0.3913	-0.0134	0.0165	-0.0986	0.0488	0.1112	0.1154	-1.6706	0.2914
1	60.12	0.4496	-0.0250	0.0224	-0.1611	0.0672	0.0055	0.1585	-1.8703	0.2903
1	60.12	0.4997	-0.0243	0.0269	-0.1764	0.0834	-0.1839	0.1956	-1.9799	0.2958
1	60.12	0.5387	-0.0317	0.0297	-0.2280	0.0968	-0.3943	0.2262	-2.1094	0.2920
1	60.12	0.5996	-0.0305	0.0350	-0.2527	0.1178	-0.8462	0.2742	-2.0287	0.2911
1	60.12	0.6498	-0.0661	0.0388	-0.2636	0.1356	-1.3582	0.3154	-2.1598	0.3008
1	60.12	0.6998	-0.1418	0.0283	-0.2550	0.1670	-1.8161	0.2700	-2.1576	0.2852
1	60.12	0.7500	-0.1669	0.0297	-0.2813	0.1841	-2.5116	0.3092	-2.1677	0.2864
1	60.12	0.8001	-0.2203	0.0313	-0.3323	0.2010	-3.2318	0.3500	-2.0914	0.2909
1	60.12	0.8497	-0.2645	0.0332	-0.3315	0.2182	-4.0449	0.3914	-2.2135	0.2855
1	60.12	0.9102	-0.3438	0.0348	-0.3553	0.2397	-5.0937	0.4401	-2.4832	0.2880
1	60.12	0.9734	-0.3834	0.0328	-0.3070	0.2620	-6.1411	0.4890	-2.5787	0.2843
2	60.12	0.1949	-0.0188	0.0080	-0.0173	0.0048	-0.0177	0.0114	-0.2829	0.0713
2	60.12	0.2405	-0.0058	0.0030	-0.0193	0.0035	-0.0533	0.0089	-0.6640	0.2182
2	60.12	0.2999	-0.0109	0.0023	-0.0580	0.0136	-0.1175	0.0342	-0.8107	0.2239
2	60.12	0.3498	-0.0362	0.0024	-0.1137	0.0232	-0.1730	0.0577	-0.8582	0.2227
2	60.12	0.3998	-0.0667	0.0027	-0.1601	0.0327	-0.3019	0.0827	-1.0822	0.2254
2	60.12	0.4496	-0.0768	0.0034	-0.2357	0.0429	-0.4625	0.1087	-1.0847	0.2280
2	60.12	0.4995	-0.1252	0.0038	-0.2769	0.0537	-0.7006	0.1355	-1.1285	0.2309
2	60.12	0.5551	-0.1335	0.0041	-0.3330	0.0664	-1.0999	0.1654	-1.2180	0.2354
2	60.12	0.5996	-0.1327	0.0038	-0.3789	0.0777	-1.5416	0.1907	-1.3906	0.2350
2	60.12	0.6497	-0.1884	0.0042	-0.4091	0.0902	-2.0921	0.2209	-1.3401	0.2324
2	60.12	0.6996	-0.2183	0.0049	-0.4463	0.1044	-2.7684	0.2516	-1.3220	0.2351
2	60.12	0.7495	-0.2686	0.0058	-0.4794	0.1189	-3.5526	0.2850	-1.3685	0.2374
2	60.12	0.7996	-0.3202	0.0072	-0.5234	0.1342	-4.3941	0.3192	-1.3816	0.2420
2	60.12	0.8578	-0.3956	0.0092	-0.5547	0.1523	-5.4502	0.3612	-1.2727	0.2419
2	60.12	0.9100	-0.4729	0.0107	-0.5730	0.1690	-6.4393	0.4003	-1.3284	0.2450
2	60.12	0.9727	-0.4966	0.0120	-0.5791	0.1890	-7.5091	0.4484	-0.8479	0.2527
3	60.12	0.1938	-0.0501	0.0072	0.0012	0.0060	0.0232	0.0079	-0.2613	0.0441
3	60.12	0.2357	0.0247	0.0035	-0.0306	0.0039	-0.0665	0.0057	-0.6554	0.1255
3	60.12	0.2995	-0.0011	0.0062	-0.0251	0.0183	-0.0232	0.0222	-0.8025	0.1381
3	60.12	0.3493	-0.0022	0.0103	-0.0603	0.0316	-0.0360	0.0383	-0.7877	0.1246
3	60.12	0.4000	0.0332	0.0141	-0.0967	0.0459	-0.1100	0.0548	-0.7382	0.1331
3	60.12	0.4497	-0.0061	0.0172	-0.1563	0.0614	-0.2509	0.0736	-0.8485	0.1355
3	60.12	0.4997	-0.0002	0.0204	-0.2059	0.0775	-0.4751	0.0950	-0.8654	0.1368
3	60.12	0.5556	-0.0294	0.0242	-0.2927	0.0961	-0.8519	0.1190	-1.0076	0.1339
3	60.12	0.5995	-0.0130	0.0268	-0.2511	0.1101	-1.2206	0.1369	-1.0905	0.1408
3	60.12	0.6498	-0.0443	0.0141	-0.2775	0.1247	-1.7864	0.1665	-1.6219	0.6495
3	60.12	0.6890	-0.0741	0.0147	-0.2677	0.1374	-2.2832	0.1796	-1.6713	0.6826
3	60.12	0.7495	-0.1297	0.0263	-0.2979	0.1535	-2.9587	0.2161	-0.8566	0.1465
3	60.12	0.7998	-0.2290	0.0267	-0.2889	0.1694	-3.7649	0.2341	-1.1349	0.1463
3	60.12	0.8577	-0.2922	0.0274	-0.2966	0.1877	-4.7368	0.2557	-1.0608	0.1495
3	60.12	0.9178	-0.3011	0.0284	-0.2986	0.2071	-5.8364	0.2854	-0.9828	0.1547
3	60.12	0.9729	-0.3686	0.0266	-0.3294	0.2251	-6.8920	0.3170	-1.3257	0.1655
4	60.12	0.2001	0.0045	0.0056	-0.0025	0.0028	-0.0402	0.0068	-0.1210	0.0509
4	60.12	0.2502	0.0169	0.0028	0.0112	0.0040	-0.0960	0.0109	-0.2284	0.1276
4	60.12	0.3001	-0.0101	0.0026	0.0109	0.0093	-0.1770	0.0239	-0.2982	0.1301
4	60.12	0.3502	-0.0404	0.0026	0.0039	0.0165	-0.3134	0.0415	-0.3183	0.1272
4	60.12	0.4002	-0.0706	0.0030	0.0259	0.0240	-0.4885	0.0620	-0.4263	0.1271
4	60.12	0.4500	-0.0691	0.0033	0.0740	0.0321	-0.7784	0.0837	-0.7300	0.1250
4	60.12	0.5001	-0.1216	0.0037	0.0768	0.0408	-1.0598	0.1073	-0.4861	0.1259
4	60.12	0.5560	-0.1505	0.0041	0.1147	0.0518	-1.6127	0.1334	-0.8389	0.1318
4	60.12	0.6001	-0.1483	0.0043	0.1350	0.0608	-2.0973	0.1539	-0.7324	0.1337
4	60.12	0.6501	-0.2074	0.0049	0.1809	0.0717	-2.7638	0.1774	-0.7057	0.1357
4	60.12	0.6999	-0.2416	0.0052	0.2185	0.0832	-3.5605	0.2020	-0.6567	0.1392
4	60.12	0.7500	-0.2766	0.0061	0.2650	0.0951	-4.4679	0.2278	-0.5285	0.1410
4	60.12	0.8002	-0.3494	0.0076	0.2822	0.1074	-5.4570	0.2569	-0.3194	0.1422
4	60.12	0.8582	-0.4241	0.0098	0.3522	0.1216	-6.7498	0.2938	-0.8279	0.1475
4	60.12	0.9101	-0.4876	0.0121	0.4382	0.1349	-7.8925	0.3319	-0.6686	0.1534
4	60.12	0.9728	-0.4599	0.0128	0.5666	0.1502	-9.2060	0.3829	-0.2933	0.1610

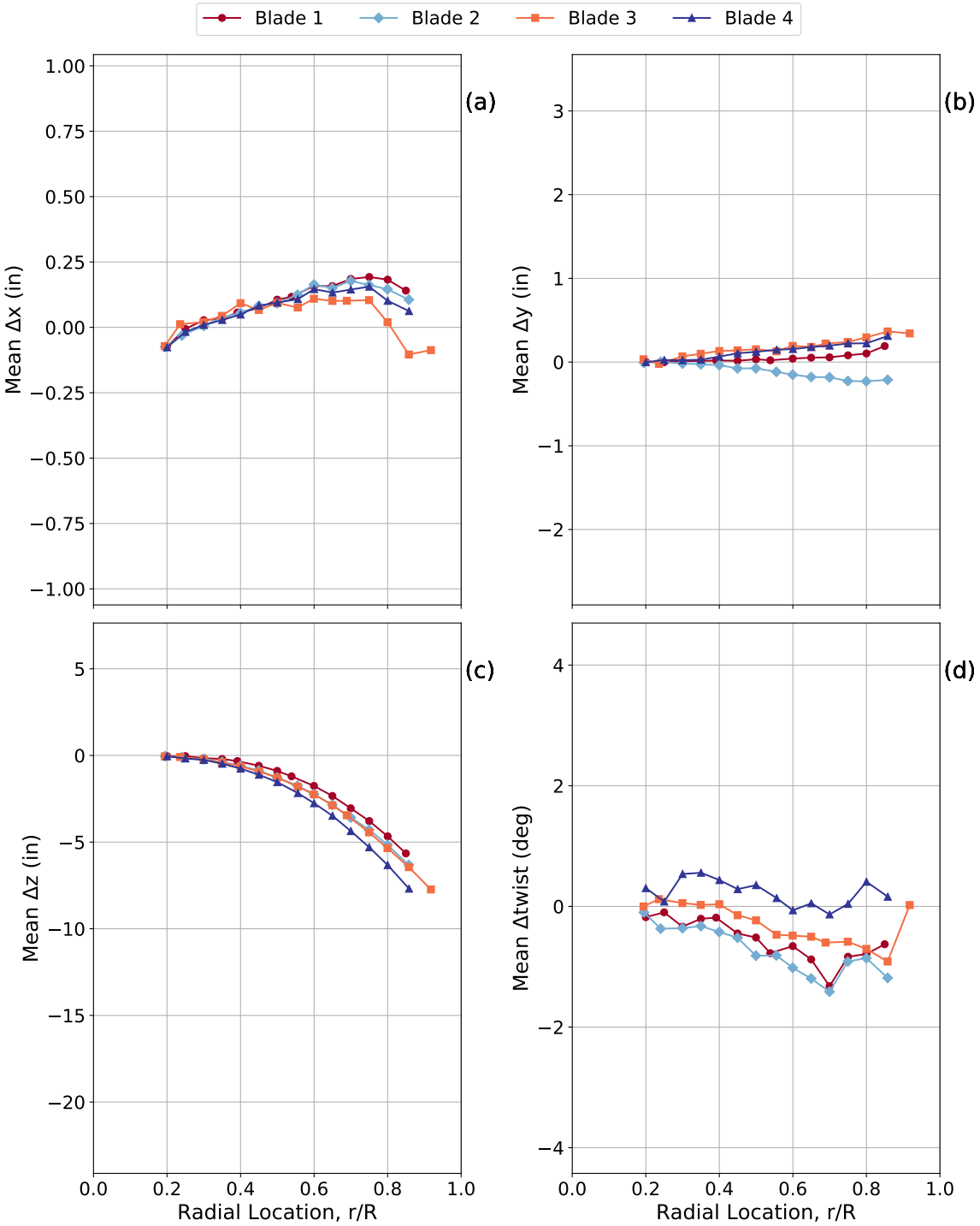


Figure 2.28-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0733	0.0016	0.0040	0.0010	-0.0366	0.0036	-0.1785	0.0266
1	74.88	0.2499	-0.0057	0.0017	-0.0014	0.0023	-0.0406	0.0089	-0.0986	0.0458
1	74.88	0.2998	0.0274	0.0019	0.0115	0.0041	-0.1558	0.0156	-0.3361	0.0592
1	74.88	0.3498	0.0336	0.0021	0.0139	0.0073	-0.2042	0.0276	-0.2050	0.0573
1	74.88	0.3913	0.0568	0.0025	0.0190	0.0104	-0.3238	0.0401	-0.1870	0.0635
1	74.88	0.4496	0.0730	0.0029	0.0156	0.0152	-0.5937	0.0598	-0.4491	0.0631
1	74.88	0.4997	0.1059	0.0030	0.0332	0.0204	-0.8908	0.0800	-0.5161	0.0770
1	74.88	0.5387	0.1167	0.0037	0.0218	0.0246	-1.2073	0.0968	-0.7752	0.0798
1	74.88	0.5996	0.1582	0.0045	0.0412	0.0333	-1.7565	0.1254	-0.6581	0.0817
1	74.88	0.6498	0.1579	0.0054	0.0527	0.0409	-2.3393	0.1484	-0.8791	0.0897
1	74.88	0.6998	0.1851	0.0065	0.0566	0.0490	-3.0488	0.1696	-1.3220	0.1024
1	74.88	0.7500	0.1926	0.0073	0.0807	0.0577	-3.7857	0.1872	-0.8349	0.0975
1	74.88	0.8001	0.1824	0.0087	0.1025	0.0666	-4.6667	0.2072	-0.7897	0.1754
1	74.88	0.8497	0.1404	0.0107	0.1910	0.0757	-5.6527	0.2263	-0.6273	0.1523
2	74.88	0.1949	-0.0749	0.0016	-0.0072	0.0007	-0.0414	0.0035	-0.0992	0.0258
2	74.88	0.2405	-0.0311	0.0014	0.0021	0.0015	-0.1067	0.0075	-0.3699	0.0440
2	74.88	0.2999	0.0060	0.0015	-0.0175	0.0031	-0.2228	0.0165	-0.3613	0.0611
2	74.88	0.3498	0.0381	0.0018	-0.0268	0.0050	-0.3730	0.0274	-0.3259	0.0610
2	74.88	0.3998	0.0552	0.0024	-0.0364	0.0079	-0.6018	0.0434	-0.4247	0.0624
2	74.88	0.4496	0.0827	0.0029	-0.0758	0.0104	-0.8694	0.0601	-0.5198	0.0675
2	74.88	0.4995	0.0925	0.0034	-0.0745	0.0136	-1.2697	0.0762	-0.8170	0.0687
2	74.88	0.5551	0.1246	0.0037	-0.1169	0.0171	-1.7479	0.0936	-0.8128	0.0740
2	74.88	0.5996	0.1639	0.0045	-0.1509	0.0205	-2.2342	0.1065	-1.0175	0.0823
2	74.88	0.6497	0.1503	0.0053	-0.1779	0.0249	-2.8500	0.1174	-1.1966	0.0867
2	74.88	0.6996	0.1776	0.0066	-0.1817	0.0288	-3.5827	0.1280	-1.4137	0.1028
2	74.88	0.7495	0.1620	0.0071	-0.2263	0.0339	-4.2834	0.1397	-0.9150	0.1000
2	74.88	0.7996	0.1457	0.0089	-0.2301	0.0391	-5.1628	0.1510	-0.8565	0.1479
2	74.88	0.8578	0.1059	0.0118	-0.2121	0.0452	-6.3263	0.1722	-1.1853	0.2121
3	74.88	0.1938	-0.0719	0.0255	0.0333	0.0100	-0.0548	0.0153	-0.0004	0.0411
3	74.88	0.2357	0.0122	0.0033	-0.0209	0.0047	-0.0875	0.0090	0.1199	0.0859
3	74.88	0.2995	0.0203	0.0066	0.0680	0.0293	-0.2374	0.0449	0.0550	0.1072
3	74.88	0.3493	0.0438	0.0102	0.0989	0.0500	-0.4067	0.0770	0.0247	0.1060
3	74.88	0.4000	0.0924	0.0140	0.1320	0.0723	-0.6325	0.1113	0.0357	0.1054
3	74.88	0.4497	0.0664	0.0177	0.1398	0.0942	-0.9240	0.1450	-0.1459	0.1069
3	74.88	0.4997	0.0933	0.0207	0.1529	0.1174	-1.2806	0.1793	-0.2313	0.1068
3	74.88	0.5556	0.0759	0.0229	0.1287	0.1433	-1.8008	0.2180	-0.4699	0.1154
3	74.88	0.5995	0.1095	0.0247	0.1934	0.1634	-2.2458	0.2483	-0.4844	0.1144
3	74.88	0.6498	0.1010	0.0253	0.1808	0.1868	-2.8711	0.2825	-0.5027	0.1102
3	74.88	0.6890	0.1016	0.0259	0.2214	0.2055	-3.4496	0.3083	-0.5998	0.1237
3	74.88	0.7495	0.1040	0.0260	0.2401	0.2346	-4.4402	0.3493	-0.5858	0.1127
3	74.88	0.7998	0.0198	0.0255	0.2954	0.2589	-5.3489	0.3821	-0.7046	0.1165
3	74.88	0.8577	-0.1039	0.0297	0.3654	0.2933	-6.4470	0.3524	-0.9135	0.1415
3	74.88	0.9178	-0.0870	0.0252	0.3429	0.3231	-7.7327	0.3968	0.0219	0.1456
4	74.88	0.2001	-0.0763	0.0014	-0.0014	0.0010	-0.0508	0.0036	0.3023	0.0253
4	74.88	0.2502	-0.0174	0.0013	0.0242	0.0023	-0.1759	0.0079	0.0801	0.0365
4	74.88	0.3001	0.0092	0.0016	0.0220	0.0041	-0.2614	0.0151	0.5369	0.0548
4	74.88	0.3502	0.0281	0.0018	0.0285	0.0071	-0.4784	0.0262	0.5576	0.0611
4	74.88	0.4002	0.0490	0.0027	0.0659	0.0111	-0.7620	0.0406	0.4361	0.0704
4	74.88	0.4500	0.0830	0.0028	0.1049	0.0152	-1.1126	0.0558	0.2856	0.0785
4	74.88	0.5001	0.0946	0.0037	0.1225	0.0197	-1.5396	0.0723	0.3524	0.0844
4	74.88	0.5560	0.1080	0.0045	0.1474	0.0262	-2.1740	0.0931	0.1375	0.0838
4	74.88	0.6001	0.1462	0.0053	0.1559	0.0317	-2.7584	0.1100	-0.0652	0.0964
4	74.88	0.6501	0.1330	0.0059	0.1787	0.0387	-3.4828	0.1297	0.0511	0.0993
4	74.88	0.6999	0.1446	0.0073	0.1965	0.0469	-4.3652	0.1492	-0.1336	0.1101
4	74.88	0.7500	0.1556	0.0086	0.2225	0.0548	-5.2996	0.1678	0.0410	0.1163
4	74.88	0.8002	0.1015	0.0099	0.2241	0.0649	-6.3275	0.1900	0.4083	0.1490
4	74.88	0.8582	0.0622	0.0160	0.3122	0.0732	-7.6879	0.2172	0.1597	0.2655

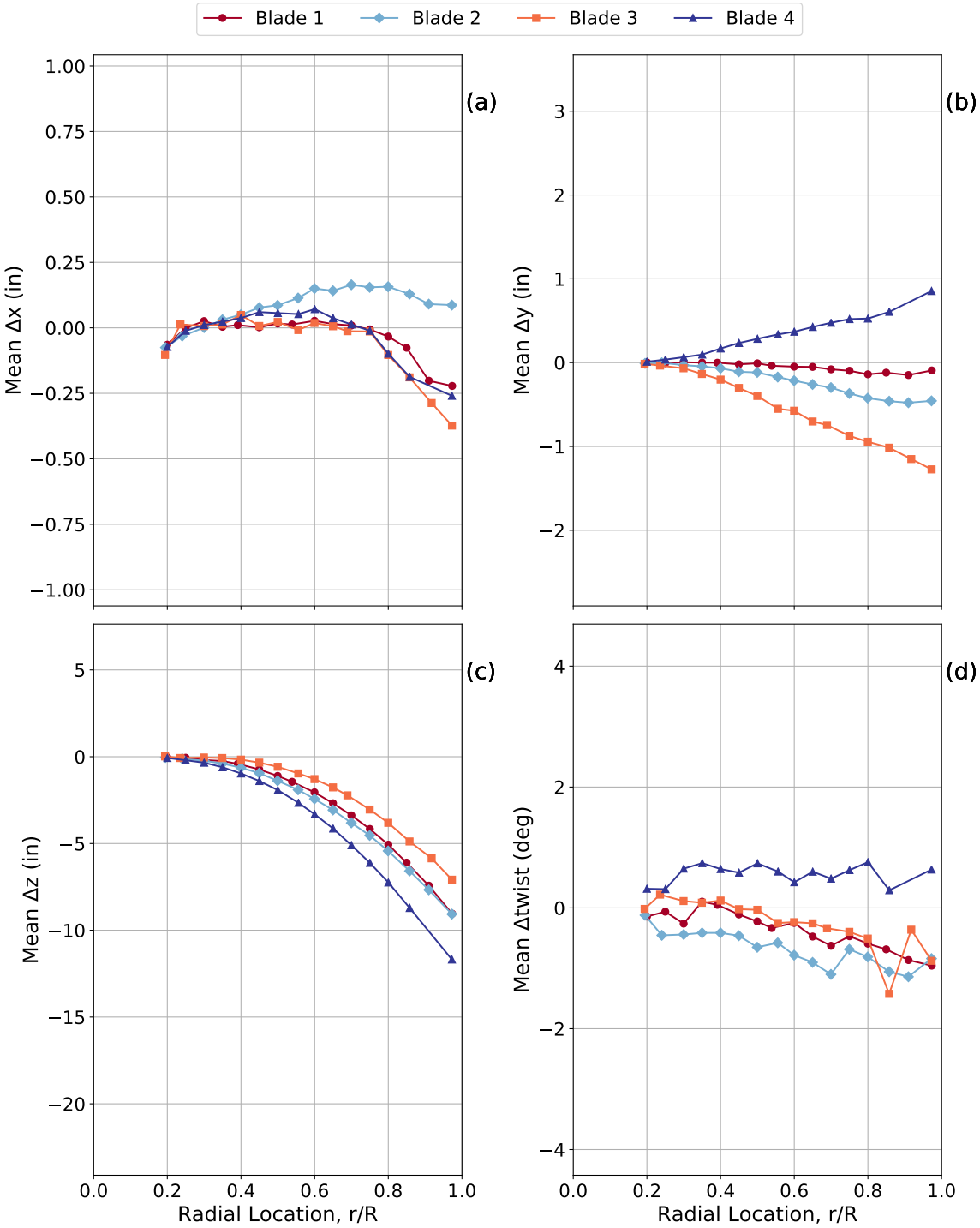


Figure 2.28-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0645	0.0108	0.0027	0.0087	-0.0403	0.0224	-0.1431	0.4043
1	80.16	0.2499	-0.0006	0.0127	-0.0068	0.0075	-0.0617	0.0472	-0.0629	0.4073
1	80.16	0.2998	0.0256	0.0054	0.0043	0.0200	-0.1915	0.0656	-0.2610	0.8377
1	80.16	0.3498	0.0041	0.0154	0.0000	0.0487	-0.2477	0.1794	0.1029	0.4310
1	80.16	0.3913	0.0105	0.0140	-0.0016	0.0533	-0.4080	0.2104	0.0505	0.4380
1	80.16	0.4496	0.0020	0.0131	-0.0205	0.0616	-0.7323	0.2565	-0.1089	0.4410
1	80.16	0.4997	0.0165	0.0118	-0.0085	0.0695	-1.1076	0.2970	-0.2245	0.4399
1	80.16	0.5387	0.0127	0.0118	-0.0375	0.0754	-1.4450	0.3273	-0.3341	0.4455
1	80.16	0.5996	0.0268	0.0111	-0.0483	0.0861	-2.0516	0.3758	-0.2493	0.4492
1	80.16	0.6498	0.0143	0.0114	-0.0511	0.0952	-2.6839	0.4144	-0.4748	0.4588
1	80.16	0.6998	0.0090	0.0126	-0.0802	0.1049	-3.3821	0.4534	-0.6280	0.4623
1	80.16	0.7500	-0.0061	0.0154	-0.0976	0.1149	-4.1648	0.4912	-0.4693	0.4654
1	80.16	0.8001	-0.0333	0.0189	-0.1397	0.1256	-5.0687	0.5318	-0.5929	0.4645
1	80.16	0.8497	-0.0760	0.0225	-0.1201	0.1371	-6.1029	0.5706	-0.6865	0.4766
1	80.16	0.9102	-0.2020	0.0211	-0.1485	0.1318	-7.4299	0.7906	-0.8640	0.4708
1	80.16	0.9734	-0.2219	0.0356	-0.0936	0.1709	-9.0447	0.6755	-0.9571	0.4850
2	80.16	0.1949	-0.0752	0.0016	-0.0097	0.0007	-0.0428	0.0036	-0.1210	0.0258
2	80.16	0.2405	-0.0316	0.0017	-0.0021	0.0014	-0.1151	0.0083	-0.4543	0.0452
2	80.16	0.2999	0.0009	0.0014	-0.0307	0.0027	-0.2317	0.0170	-0.4412	0.0596
2	80.16	0.3498	0.0310	0.0022	-0.0448	0.0049	-0.3953	0.0288	-0.4143	0.0594
2	80.16	0.3998	0.0502	0.0022	-0.0678	0.0074	-0.6338	0.0457	-0.4143	0.0599
2	80.16	0.4496	0.0773	0.0026	-0.1094	0.0101	-0.9457	0.0633	-0.4609	0.0680
2	80.16	0.4995	0.0864	0.0038	-0.1173	0.0134	-1.3862	0.0817	-0.6526	0.0777
2	80.16	0.5551	0.1139	0.0046	-0.1726	0.0172	-1.9065	0.1047	-0.5788	0.0762
2	80.16	0.5996	0.1503	0.0057	-0.2155	0.0209	-2.4305	0.1209	-0.7829	0.0921
2	80.16	0.6497	0.1418	0.0061	-0.2607	0.0252	-3.0721	0.1384	-0.9024	0.0869
2	80.16	0.6996	0.1646	0.0075	-0.2980	0.0298	-3.8120	0.1547	-1.1011	0.0957
2	80.16	0.7495	0.1548	0.0079	-0.3686	0.0353	-4.5352	0.1714	-0.6860	0.1050
2	80.16	0.7996	0.1571	0.0092	-0.4241	0.0402	-5.4277	0.1896	-0.8121	0.1206
2	80.16	0.8578	0.1292	0.0109	-0.4602	0.0468	-6.5833	0.2077	-1.0575	0.1290
2	80.16	0.9100	0.0907	0.0268	-0.4783	0.0569	-7.6689	0.2255	-1.1406	0.4872
2	80.16	0.9727	0.0869	0.0159	-0.4565	0.0604	-9.0664	0.2496	-0.8397	0.2577
3	80.16	0.1938	-0.1033	0.0059	-0.0141	0.0112	0.0160	0.0194	-0.0168	0.0451
3	80.16	0.2357	0.0131	0.0042	-0.0356	0.0058	-0.0751	0.0109	0.2193	0.1036
3	80.16	0.2995	0.0069	0.0072	-0.0678	0.0320	-0.0455	0.0547	0.1130	0.1020
3	80.16	0.3493	0.0125	0.0123	-0.1358	0.0542	-0.0757	0.0929	0.0857	0.1011
3	80.16	0.4000	0.0490	0.0165	-0.2031	0.0781	-0.1667	0.1333	0.1209	0.0974
3	80.16	0.4497	0.0070	0.0205	-0.3024	0.1008	-0.3415	0.1713	-0.0210	0.1037
3	80.16	0.4997	0.0224	0.0240	-0.3977	0.1237	-0.5789	0.2106	-0.0311	0.1028
3	80.16	0.5556	-0.0084	0.0270	-0.5510	0.1497	-0.9622	0.2553	-0.2507	0.1040
3	80.16	0.5995	0.0185	0.0287	-0.5741	0.1703	-1.2885	0.2904	-0.2363	0.1057
3	80.16	0.6498	0.0060	0.0300	-0.7024	0.1946	-1.7672	0.3316	-0.2555	0.1010
3	80.16	0.6890	-0.0129	0.0300	-0.7445	0.2138	-2.2254	0.3622	-0.3382	0.1042
3	80.16	0.7495	-0.0138	0.0313	-0.8739	0.2442	-3.0426	0.4101	-0.3967	0.1075
3	80.16	0.7998	-0.1037	0.0323	-0.9443	0.2702	-3.8081	0.4514	-0.5076	0.1025
3	80.16	0.8577	-0.1891	0.0262	-1.0148	0.3529	-4.8822	0.6036	-1.4233	1.5813
3	80.16	0.9178	-0.2870	0.0244	-1.1504	0.4913	-5.8539	0.2892	-0.3619	0.1512
3	80.16	0.9729	-0.3732	0.0170	-1.2735	0.5288	-7.0849	0.3167	-0.8762	0.1597
4	80.16	0.2001	-0.0727	0.0077	0.0108	0.0020	-0.0726	0.0038	0.3166	0.0348
4	80.16	0.2502	-0.0112	0.0029	0.0359	0.0049	-0.2026	0.0087	0.3106	0.0532
4	80.16	0.3001	0.0107	0.0037	0.0651	0.0085	-0.3454	0.0163	0.6500	0.0759
4	80.16	0.3502	0.0236	0.0082	0.0961	0.0147	-0.6087	0.0271	0.7408	0.0761
4	80.16	0.4002	0.0374	0.0130	0.1687	0.0229	-0.9657	0.0430	0.6426	0.0828
4	80.16	0.4500	0.0601	0.0169	0.2338	0.0302	-1.4010	0.0576	0.5832	0.0894
4	80.16	0.5001	0.0564	0.0205	0.2839	0.0396	-1.9241	0.0743	0.7375	0.0995
4	80.16	0.5560	0.0524	0.0245	0.3364	0.0526	-2.6557	0.0996	0.6012	0.1044
4	80.16	0.6001	0.0714	0.0285	0.3684	0.0636	-3.3195	0.1175	0.4246	0.1227
4	80.16	0.6501	0.0368	0.0338	0.4253	0.0778	-4.1374	0.1423	0.5989	0.1259
4	80.16	0.6999	0.0128	0.0427	0.4755	0.0942	-5.1001	0.1666	0.4839	0.1413
4	80.16	0.7500	-0.0112	0.0540	0.5190	0.1116	-6.1160	0.1941	0.6252	0.1552
4	80.16	0.8002	-0.0988	0.0693	0.5255	0.1292	-7.2453	0.2230	0.7571	0.1701
4	80.16	0.8582	-0.1873	0.0905	0.6057	0.1501	-8.7155	0.2555	0.2920	0.2007
4	80.16	0.9728	-0.2595	0.1548	0.8544	0.2083	-11.6871	0.3326	0.6345	0.3334

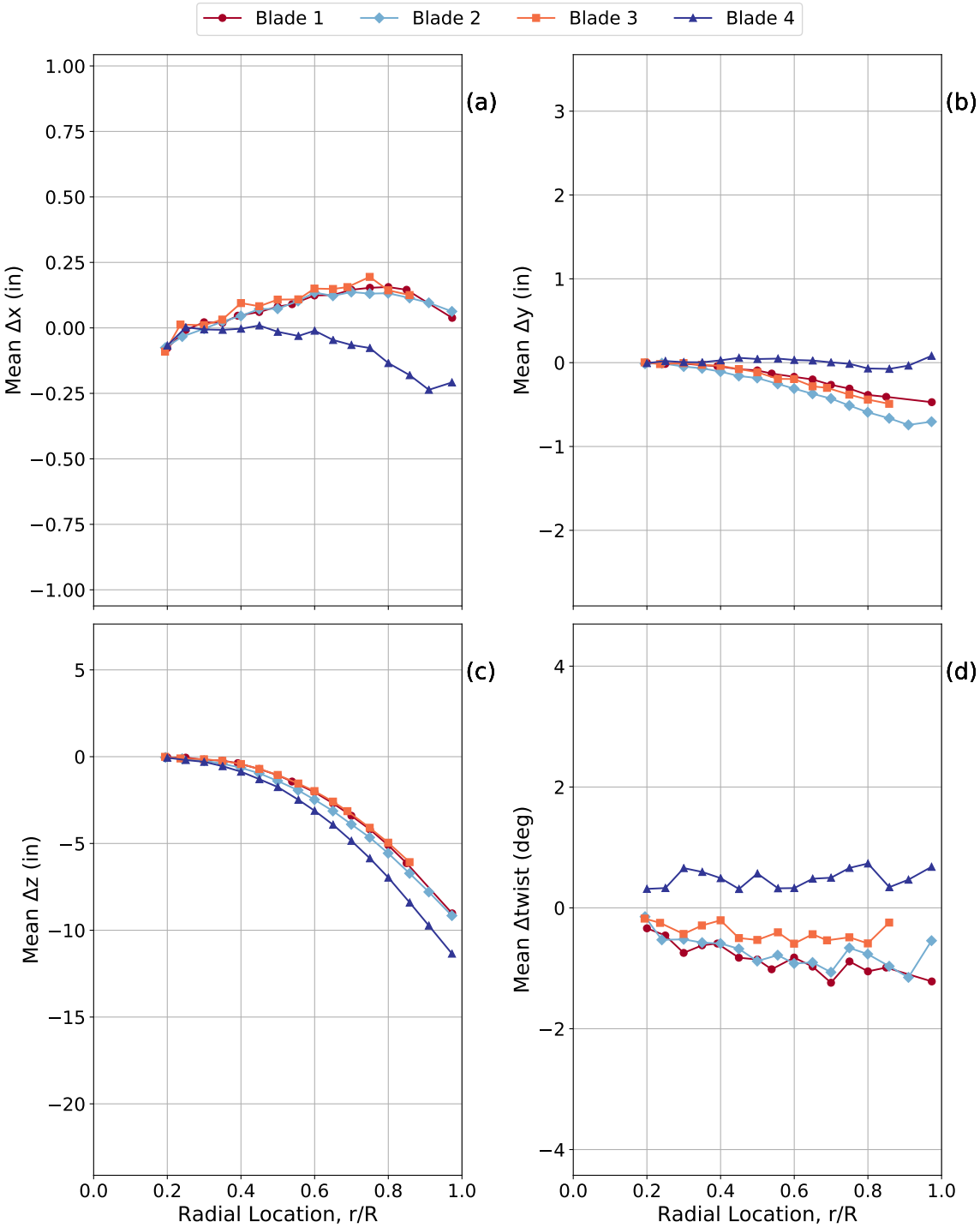


Figure 2.28-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0771	0.0015	-0.0015	0.0011	-0.0387	0.0039	-0.3384	0.0253
1	85.08	0.2499	-0.0081	0.0014	-0.0148	0.0022	-0.0548	0.0077	-0.4567	0.0498
1	85.08	0.2998	0.0216	0.0015	-0.0109	0.0044	-0.1747	0.0155	-0.7452	0.0594
1	85.08	0.3498	0.0191	0.0018	-0.0299	0.0076	-0.2304	0.0269	-0.6197	0.0579
1	85.08	0.3913	0.0465	0.0024	-0.0415	0.0109	-0.3717	0.0382	-0.5905	0.0626
1	85.08	0.4496	0.0607	0.0031	-0.0782	0.0159	-0.7103	0.0538	-0.8248	0.0676
1	85.08	0.4997	0.0811	0.0037	-0.0924	0.0208	-1.0665	0.0685	-0.8543	0.0693
1	85.08	0.5387	0.0904	0.0041	-0.1302	0.0252	-1.4319	0.0809	-1.0164	0.0810
1	85.08	0.5996	0.1238	0.0048	-0.1689	0.0325	-2.0436	0.1007	-0.8221	0.0789
1	85.08	0.6498	0.1254	0.0053	-0.2005	0.0395	-2.6882	0.1184	-0.9722	0.0897
1	85.08	0.6998	0.1455	0.0065	-0.2648	0.0469	-3.4039	0.1394	-1.2389	0.0981
1	85.08	0.7500	0.1532	0.0074	-0.3097	0.0546	-4.1920	0.1608	-0.8868	0.1041
1	85.08	0.8001	0.1559	0.0096	-0.3854	0.0627	-5.1101	0.1876	-1.0511	0.1101
1	85.08	0.8497	0.1455	0.0110	-0.4077	0.0710	-6.1340	0.2135	-0.9877	0.1037
1	85.08	0.9734	0.0383	0.0202	-0.4715	0.0954	-9.0265	0.2886	-1.2175	0.2525
2	85.08	0.1949	-0.0755	0.0013	-0.0129	0.0007	-0.0439	0.0033	-0.1460	0.0203
2	85.08	0.2405	-0.0331	0.0011	-0.0076	0.0015	-0.1164	0.0071	-0.5295	0.0348
2	85.08	0.2999	-0.0034	0.0016	-0.0464	0.0031	-0.2307	0.0155	-0.5207	0.0465
2	85.08	0.3498	0.0244	0.0019	-0.0681	0.0052	-0.4043	0.0260	-0.5753	0.0504
2	85.08	0.3998	0.0457	0.0028	-0.1067	0.0082	-0.6395	0.0412	-0.5892	0.0586
2	85.08	0.4496	0.0718	0.0031	-0.1596	0.0111	-0.9587	0.0574	-0.6776	0.0613
2	85.08	0.4995	0.0730	0.0042	-0.1829	0.0146	-1.3959	0.0755	-0.8810	0.0701
2	85.08	0.5551	0.1026	0.0045	-0.2532	0.0191	-1.9342	0.0962	-0.7826	0.0661
2	85.08	0.5996	0.1350	0.0052	-0.3095	0.0228	-2.4757	0.1116	-0.9206	0.0751
2	85.08	0.6497	0.1225	0.0055	-0.3718	0.0277	-3.1289	0.1295	-0.9039	0.0843
2	85.08	0.6996	0.1369	0.0068	-0.4280	0.0325	-3.8962	0.1457	-1.0651	0.0785
2	85.08	0.7495	0.1309	0.0075	-0.5115	0.0379	-4.6533	0.1606	-0.6621	0.0815
2	85.08	0.7996	0.1323	0.0094	-0.5917	0.0438	-5.5627	0.1759	-0.7652	0.0984
2	85.08	0.8578	0.1143	0.0110	-0.6638	0.0508	-6.7230	0.1960	-0.9660	0.1137
2	85.08	0.9100	0.0958	0.0133	-0.7425	0.0569	-7.7936	0.2149	-1.1509	0.1862
2	85.08	0.9727	0.0629	0.0154	-0.7041	0.0650	-9.1586	0.2408	-0.5431	0.1701
3	85.08	0.1938	-0.0906	0.0017	0.0028	0.0008	-0.0094	0.0035	-0.1773	0.0250
3	85.08	0.2357	0.0128	0.0014	-0.0171	0.0021	-0.1020	0.0069	-0.2482	0.0395
3	85.08	0.2995	0.0103	0.0018	-0.0055	0.0039	-0.1484	0.0157	-0.4318	0.0594
3	85.08	0.3493	0.0317	0.0019	-0.0253	0.0068	-0.2373	0.0269	-0.2914	0.0594
3	85.08	0.4000	0.0947	0.0024	-0.0378	0.0108	-0.4234	0.0422	-0.2058	0.0697
3	85.08	0.4497	0.0826	0.0032	-0.0760	0.0148	-0.7048	0.0577	-0.4999	0.0707
3	85.08	0.4997	0.1080	0.0036	-0.1143	0.0197	-1.0536	0.0761	-0.5308	0.0843
3	85.08	0.5556	0.1089	0.0040	-0.1936	0.0255	-1.5477	0.0971	-0.4047	0.0866
3	85.08	0.5995	0.1501	0.0047	-0.1952	0.0306	-1.9820	0.1141	-0.5921	0.0981
3	85.08	0.6498	0.1486	0.0054	-0.2824	0.0366	-2.5882	0.1307	-0.4363	0.1017
3	85.08	0.6890	0.1557	0.0060	-0.3004	0.0416	-3.1377	0.1445	-0.5372	0.1049
3	85.08	0.7495	0.1947	0.0071	-0.3813	0.0497	-4.0945	0.1643	-0.4876	0.1091
3	85.08	0.7998	0.1436	0.0079	-0.4403	0.0562	-4.9549	0.1789	-0.5881	0.1169
3	85.08	0.8577	0.1254	0.0095	-0.4906	0.0644	-6.0755	0.2027	-0.2432	0.1446
4	85.08	0.2001	-0.0673	0.0131	-0.0056	0.0022	-0.0604	0.0056	0.3140	0.1107
4	85.08	0.2502	0.0021	0.0029	0.0194	0.0096	-0.1934	0.0290	0.3279	0.1542
4	85.08	0.3001	-0.0059	0.0046	0.0058	0.0094	-0.2983	0.0140	0.6577	0.1482
4	85.08	0.3502	-0.0075	0.0059	0.0046	0.0203	-0.5477	0.0339	0.5945	0.1248
4	85.08	0.4002	-0.0031	0.0076	0.0278	0.0313	-0.8650	0.0588	0.4914	0.1169
4	85.08	0.4500	0.0091	0.0089	0.0574	0.0425	-1.2972	0.0787	0.3119	0.1205
4	85.08	0.5001	-0.0150	0.0096	0.0434	0.0549	-1.7522	0.1010	0.5677	0.1190
4	85.08	0.5560	-0.0308	0.0106	0.0483	0.0694	-2.4848	0.1260	0.3236	0.1201
4	85.08	0.6001	-0.0107	0.0108	0.0320	0.0810	-3.1169	0.1455	0.3273	0.1242
4	85.08	0.6501	-0.0462	0.0111	0.0254	0.0950	-3.9205	0.1690	0.4824	0.1217
4	85.08	0.6999	-0.0653	0.0107	0.0037	0.1090	-4.8498	0.1908	0.4986	0.1305
4	85.08	0.7500	-0.0769	0.0110	-0.0141	0.1237	-5.8568	0.2149	0.6609	0.1290
4	85.08	0.8002	-0.1344	0.0112	-0.0695	0.1389	-6.9682	0.2385	0.7341	0.1250
4	85.08	0.8582	-0.1806	0.0122	-0.0743	0.1564	-8.4061	0.2665	0.3423	0.1255
4	85.08	0.9101	-0.2364	0.0146	-0.0352	0.1725	-9.7325	0.2920	0.4663	0.1333
4	85.08	0.9728	-0.2082	0.0246	0.0810	0.1971	-11.3474	0.3246	0.6789	0.1437

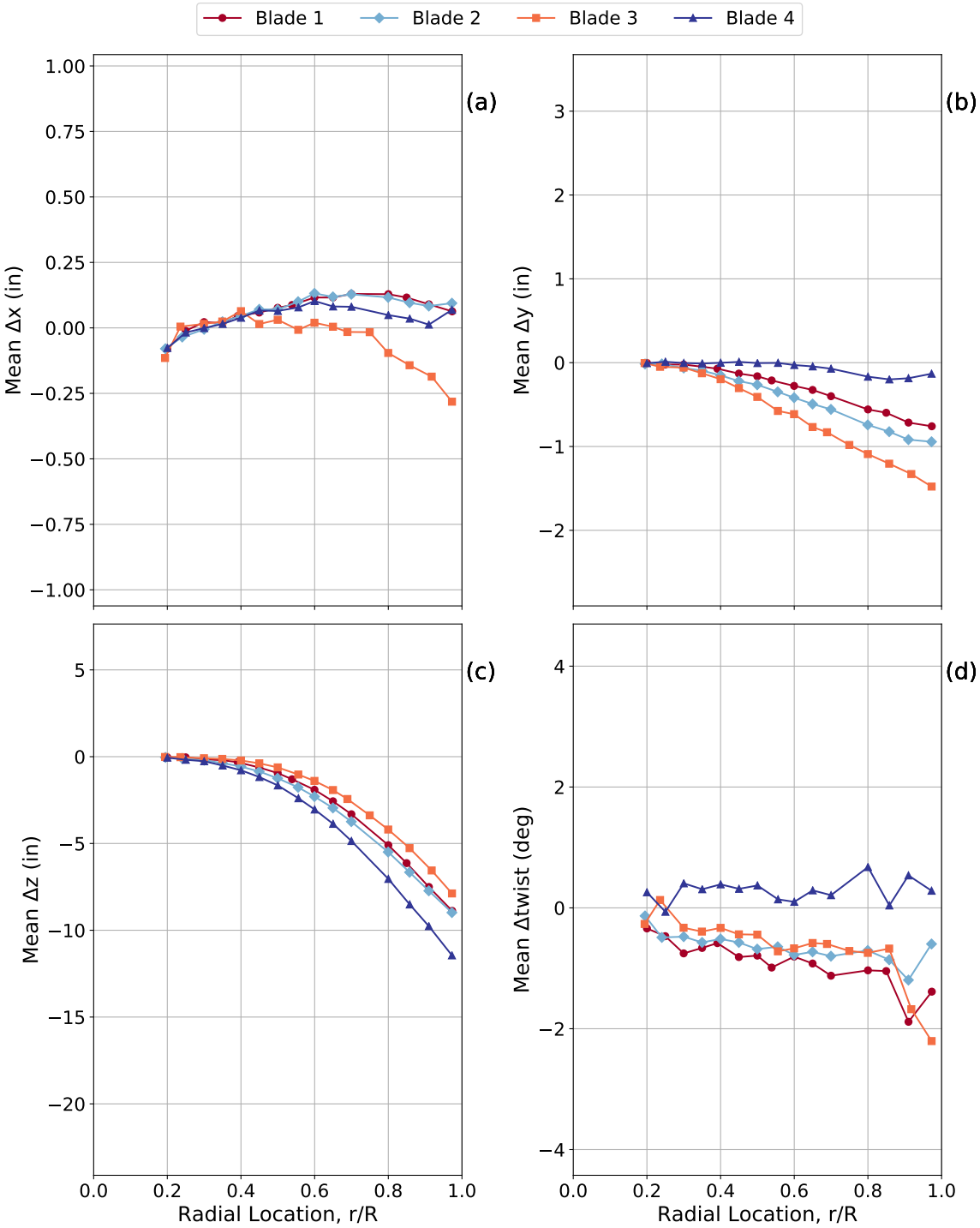


Figure 2.28-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0800	0.0017	-0.0033	0.0010	-0.0376	0.0039	-0.3404	0.0284
1	90	0.2499	-0.0111	0.0015	-0.0227	0.0021	-0.0380	0.0084	-0.4686	0.0463
1	90	0.2998	0.0221	0.0016	-0.0228	0.0039	-0.1538	0.0160	-0.7531	0.0640
1	90	0.3498	0.0185	0.0020	-0.0484	0.0068	-0.2031	0.0279	-0.6634	0.0612
1	90	0.3913	0.0454	0.0023	-0.0722	0.0097	-0.3173	0.0401	-0.5834	0.0614
1	90	0.4496	0.0586	0.0033	-0.1300	0.0140	-0.6217	0.0579	-0.8139	0.0674
1	90	0.4997	0.0767	0.0038	-0.1625	0.0187	-0.9451	0.0754	-0.7900	0.0706
1	90	0.5387	0.0874	0.0043	-0.2121	0.0223	-1.2999	0.0884	-0.9878	0.0792
1	90	0.5996	0.1160	0.0052	-0.2773	0.0290	-1.9059	0.1095	-0.8066	0.0830
1	90	0.6498	0.1159	0.0061	-0.3254	0.0349	-2.5684	0.1252	-0.9208	0.0843
1	90	0.6998	0.1296	0.0068	-0.4003	0.0409	-3.3155	0.1417	-1.1226	0.0888
1	90	0.8001	0.1287	0.0092	-0.5581	0.0545	-5.0976	0.1744	-1.0338	0.0905
1	90	0.8497	0.1160	0.0108	-0.5976	0.0617	-6.1324	0.1913	-1.0458	0.1029
1	90	0.9102	0.0901	0.0136	-0.7149	0.0700	-7.5061	0.2154	-1.8852	0.1256
1	90	0.9734	0.0631	0.0157	-0.7588	0.0801	-8.8815	0.2436	-1.3867	0.1094
2	90	0.1949	-0.0795	0.0015	-0.0157	0.0008	-0.0426	0.0028	-0.1331	0.0197
2	90	0.2405	-0.0350	0.0012	-0.0154	0.0016	-0.0995	0.0054	-0.4893	0.0365
2	90	0.2999	-0.0054	0.0013	-0.0639	0.0036	-0.2033	0.0115	-0.4766	0.0458
2	90	0.3498	0.0236	0.0018	-0.0945	0.0062	-0.3699	0.0206	-0.5722	0.0518
2	90	0.3998	0.0453	0.0022	-0.1516	0.0097	-0.5693	0.0313	-0.5143	0.0465
2	90	0.4496	0.0709	0.0029	-0.2200	0.0134	-0.8525	0.0453	-0.5728	0.0527
2	90	0.4995	0.0700	0.0033	-0.2635	0.0179	-1.2430	0.0616	-0.6823	0.0570
2	90	0.5551	0.1000	0.0037	-0.3483	0.0233	-1.7642	0.0815	-0.6437	0.0560
2	90	0.5996	0.1318	0.0046	-0.4178	0.0281	-2.2975	0.0976	-0.7787	0.0644
2	90	0.6497	0.1184	0.0054	-0.4933	0.0340	-2.9535	0.1145	-0.7277	0.0715
2	90	0.6996	0.1283	0.0064	-0.5573	0.0399	-3.7423	0.1295	-0.7995	0.0699
2	90	0.7996	0.1165	0.0090	-0.7424	0.0533	-5.4917	0.1611	-0.7048	0.0639
2	90	0.8578	0.0960	0.0113	-0.8236	0.0613	-6.6595	0.1843	-0.8590	0.0676
2	90	0.9100	0.0833	0.0131	-0.9182	0.0687	-7.7282	0.2137	-1.1948	0.0958
2	90	0.9727	0.0943	0.0162	-0.9434	0.0774	-8.9818	0.2593	-0.5977	0.0952
3	90	0.1938	-0.1149	0.0063	-0.0053	0.0034	-0.0179	0.0129	-0.2664	0.1968
3	90	0.2357	0.0049	0.0069	-0.0495	0.0189	-0.0278	0.0472	0.1300	0.1231
3	90	0.2995	0.0153	0.0043	-0.0588	0.0137	-0.0904	0.0206	-0.3290	0.2663
3	90	0.3493	0.0243	0.0061	-0.1265	0.0339	-0.1283	0.0574	-0.3925	0.2291
3	90	0.4000	0.0639	0.0091	-0.1973	0.0533	-0.2199	0.0925	-0.3310	0.2309
3	90	0.4497	0.0147	0.0122	-0.3039	0.0734	-0.3823	0.1272	-0.4380	0.2228
3	90	0.4997	0.0310	0.0136	-0.4086	0.0932	-0.6171	0.1600	-0.4434	0.2304
3	90	0.5556	-0.0074	0.0156	-0.5761	0.1169	-1.0272	0.1999	-0.7191	0.2274
3	90	0.5995	0.0197	0.0166	-0.6145	0.1362	-1.3958	0.2315	-0.6702	0.2281
3	90	0.6498	0.0044	0.0171	-0.7681	0.1582	-1.9227	0.2667	-0.5815	0.2403
3	90	0.6890	-0.0156	0.0186	-0.8302	0.1772	-2.4397	0.2972	-0.5975	0.2266
3	90	0.7495	-0.0163	0.0220	-0.9820	0.2070	-3.3797	0.3420	-0.7135	0.2346
3	90	0.7998	-0.0957	0.0260	-1.0905	0.2338	-4.1970	0.3809	-0.7446	0.2301
3	90	0.8577	-0.1426	0.0344	-1.2051	0.2664	-5.2679	0.4261	-0.6738	0.2335
3	90	0.9178	-0.1861	0.0365	-1.3287	0.3478	-6.5549	0.5742	-1.6767	1.5014
3	90	0.9729	-0.2817	0.0386	-1.4780	0.3713	-7.8785	0.7623	-2.2043	1.6212
4	90.35	0.2001	-0.0767	0.0016	-0.0060	0.0009	-0.0565	0.0032	0.2576	0.0204
4	90.35	0.2502	-0.0177	0.0014	0.0105	0.0021	-0.1789	0.0074	-0.0653	0.0319
4	90.35	0.3001	-0.0008	0.0018	-0.0047	0.0040	-0.2633	0.0137	0.4055	0.0446
4	90.35	0.3502	0.0151	0.0018	-0.0100	0.0066	-0.5087	0.0233	0.3081	0.0417
4	90.35	0.4002	0.0387	0.0028	-0.0018	0.0106	-0.7840	0.0368	0.3887	0.0421
4	90.35	0.4500	0.0663	0.0033	0.0093	0.0147	-1.1738	0.0515	0.3149	0.0495
4	90.35	0.5001	0.0647	0.0033	-0.0050	0.0200	-1.6567	0.0691	0.3704	0.0476
4	90.35	0.5560	0.0783	0.0046	-0.0031	0.0267	-2.3954	0.0892	0.1406	0.0470
4	90.35	0.6001	0.1024	0.0058	-0.0285	0.0325	-3.0433	0.1058	0.0998	0.0501
4	90.35	0.6501	0.0818	0.0063	-0.0448	0.0396	-3.8702	0.1248	0.2894	0.0508
4	90.35	0.6999	0.0806	0.0076	-0.0719	0.0472	-4.8587	0.1436	0.2098	0.0611
4	90.35	0.8002	0.0489	0.0109	-0.1674	0.0637	-7.0427	0.1844	0.6748	0.0739
4	90.35	0.8582	0.0353	0.0134	-0.1997	0.0744	-8.5149	0.2145	0.0397	0.0782
4	90.35	0.9101	0.0124	0.0156	-0.1859	0.0842	-9.7654	0.2462	0.5369	0.0876
4	90.35	0.9728	0.0690	0.0192	-0.1319	0.0943	-11.4469	0.2926	0.2833	0.0862

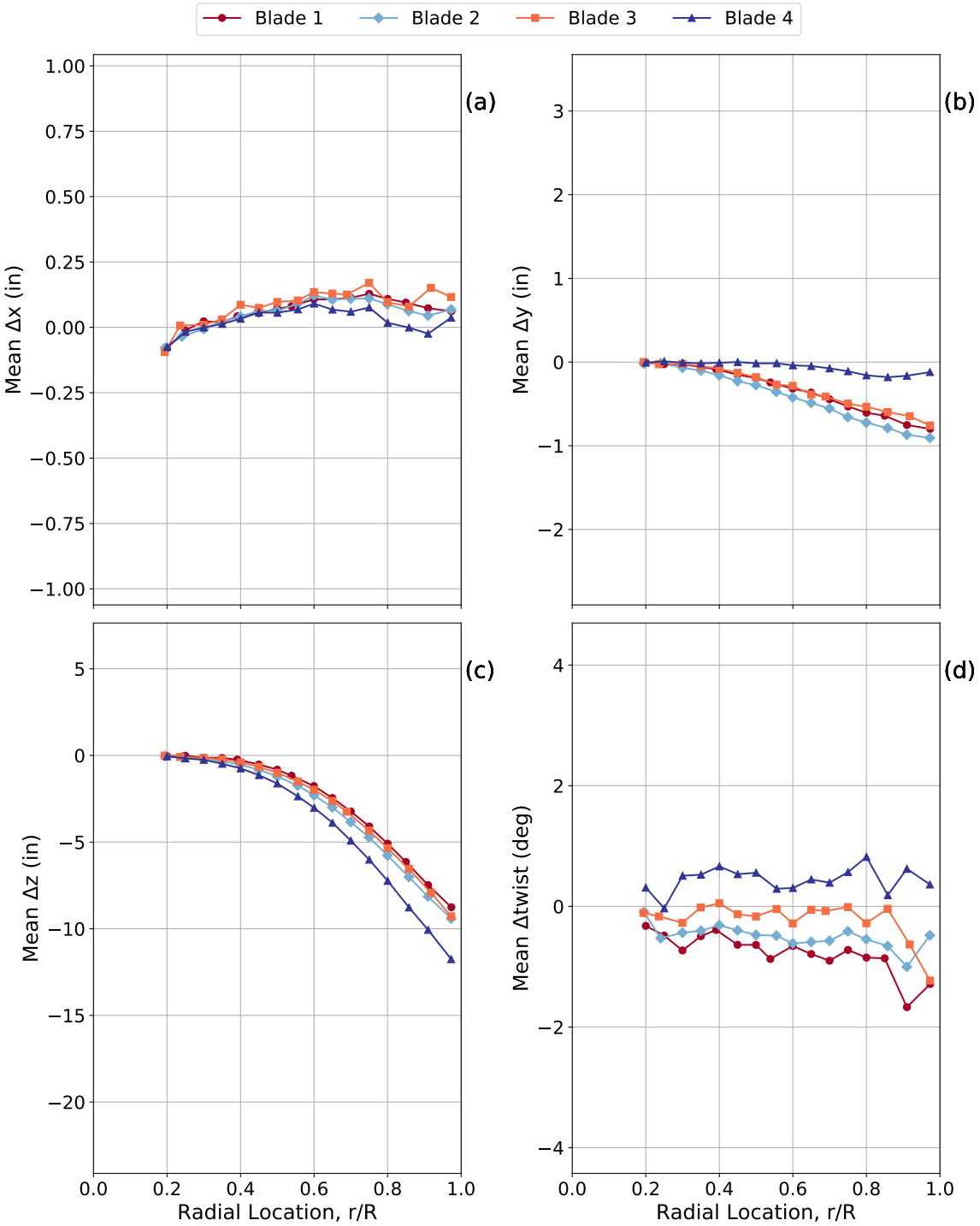


Figure 2.28-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0797	0.0015	-0.0047	0.0009	-0.0311	0.0034	-0.3231	0.0262
1	94.92	0.2499	-0.0115	0.0014	-0.0254	0.0020	-0.0198	0.0077	-0.4829	0.0440
1	94.92	0.2998	0.0232	0.0017	-0.0278	0.0036	-0.1258	0.0144	-0.7302	0.0600
1	94.92	0.3498	0.0190	0.0018	-0.0586	0.0062	-0.1471	0.0247	-0.4943	0.0660
1	94.92	0.3913	0.0424	0.0020	-0.0856	0.0091	-0.2393	0.0360	-0.3906	0.0709
1	94.92	0.4496	0.0542	0.0023	-0.1513	0.0136	-0.5199	0.0530	-0.6361	0.0807
1	94.92	0.4997	0.0711	0.0028	-0.1902	0.0180	-0.8201	0.0695	-0.6381	0.0871
1	94.92	0.5387	0.0810	0.0035	-0.2431	0.0223	-1.1661	0.0833	-0.8716	0.0857
1	94.92	0.5996	0.1074	0.0041	-0.3173	0.0294	-1.7649	0.1038	-0.6562	0.0956
1	94.92	0.6498	0.1068	0.0051	-0.3644	0.0364	-2.4531	0.1203	-0.7888	0.0996
1	94.92	0.6998	0.1133	0.0059	-0.4450	0.0433	-3.2278	0.1374	-0.9003	0.1095
1	94.92	0.7500	0.1283	0.0072	-0.5306	0.0527	-4.0997	0.1559	-0.7222	0.1050
1	94.92	0.8001	0.1088	0.0083	-0.6050	0.0592	-5.0940	0.1759	-0.8486	0.1102
1	94.92	0.8497	0.0948	0.0103	-0.6410	0.0676	-6.1439	0.1995	-0.8605	0.1210
1	94.92	0.9102	0.0732	0.0126	-0.7519	0.0779	-7.4821	0.2324	-1.6701	0.1217
1	94.92	0.9734	0.0617	0.0152	-0.7982	0.0885	-8.7606	0.2748	-1.2867	0.1212
2	94.92	0.1949	-0.0784	0.0013	-0.0177	0.0008	-0.0374	0.0032	-0.0946	0.0178
2	94.92	0.2405	-0.0348	0.0012	-0.0145	0.0019	-0.0975	0.0060	-0.5275	0.0283
2	94.92	0.2999	-0.0060	0.0014	-0.0670	0.0039	-0.1905	0.0132	-0.4358	0.0390
2	94.92	0.3498	0.0226	0.0018	-0.1019	0.0068	-0.3424	0.0231	-0.4046	0.0430
2	94.92	0.3998	0.0409	0.0023	-0.1592	0.0106	-0.5343	0.0354	-0.3104	0.0436
2	94.92	0.4496	0.0639	0.0026	-0.2282	0.0152	-0.8205	0.0497	-0.3972	0.0440
2	94.92	0.4995	0.0629	0.0032	-0.2751	0.0208	-1.2012	0.0649	-0.4728	0.0488
2	94.92	0.5551	0.0902	0.0037	-0.3557	0.0279	-1.7345	0.0827	-0.4852	0.0525
2	94.92	0.5996	0.1216	0.0044	-0.4227	0.0341	-2.2925	0.0952	-0.6138	0.0505
2	94.92	0.6497	0.1066	0.0051	-0.4873	0.0422	-2.9957	0.1090	-0.5907	0.0578
2	94.92	0.6996	0.1093	0.0055	-0.5547	0.0505	-3.8381	0.1205	-0.5704	0.0633
2	94.92	0.7495	0.1110	0.0065	-0.6577	0.0605	-4.7227	0.1335	-0.4141	0.0591
2	94.92	0.7996	0.0882	0.0073	-0.7229	0.0687	-5.7652	0.1467	-0.5451	0.0642
2	94.92	0.8578	0.0623	0.0091	-0.7894	0.0803	-7.0149	0.1649	-0.6570	0.0713
2	94.92	0.9100	0.0448	0.0105	-0.8681	0.0906	-8.1415	0.1873	-1.0012	0.0788
2	94.92	0.9727	0.0683	0.0137	-0.9060	0.1041	-9.4072	0.2187	-0.4795	0.1011
3	94.92	0.1938	-0.0944	0.0015	0.0010	0.0009	-0.0132	0.0030	-0.1079	0.0229
3	94.92	0.2357	0.0069	0.0011	-0.0254	0.0018	-0.0885	0.0073	-0.1654	0.0382
3	94.92	0.2995	0.0099	0.0011	-0.0213	0.0038	-0.1430	0.0145	-0.2727	0.0558
3	94.92	0.3493	0.0303	0.0016	-0.0493	0.0065	-0.2242	0.0254	-0.0185	0.0563
3	94.92	0.4000	0.0864	0.0019	-0.0802	0.0102	-0.3961	0.0399	0.0512	0.0603
3	94.92	0.4497	0.0743	0.0024	-0.1281	0.0140	-0.6538	0.0541	-0.1301	0.0657
3	94.92	0.4997	0.0971	0.0027	-0.1806	0.0187	-0.9973	0.0712	-0.1668	0.0724
3	94.92	0.5556	0.1025	0.0035	-0.2695	0.0245	-1.5013	0.0895	-0.0437	0.0814
3	94.92	0.5995	0.1349	0.0043	-0.2831	0.0295	-1.9816	0.1047	-0.2831	0.0899
3	94.92	0.6498	0.1293	0.0051	-0.3873	0.0358	-2.6218	0.1218	-0.0556	0.0962
3	94.92	0.6890	0.1254	0.0055	-0.4120	0.0412	-3.2434	0.1359	-0.0768	0.0911
3	94.92	0.7495	0.1701	0.0069	-0.4967	0.0507	-4.3360	0.1571	-0.0117	0.1099
3	94.92	0.7998	0.0968	0.0082	-0.5339	0.0578	-5.3460	0.1763	-0.2787	0.1007
3	94.92	0.8577	0.0792	0.0099	-0.5967	0.0671	-6.5485	0.2006	-0.0393	0.1105
3	94.92	0.9178	0.1512	0.0127	-0.6469	0.0774	-7.9215	0.2291	-0.6313	0.1181
3	94.92	0.9729	0.1160	0.0162	-0.7574	0.0865	-9.2841	0.2602	-1.2297	0.1538
4	94.92	0.2001	-0.0752	0.0016	-0.0069	0.0009	-0.0529	0.0037	0.3109	0.0236
4	94.92	0.2502	-0.0173	0.0013	0.0092	0.0019	-0.1720	0.0073	-0.0326	0.0366
4	94.92	0.3001	-0.0005	0.0016	-0.0069	0.0037	-0.2518	0.0149	0.5076	0.0509
4	94.92	0.3502	0.0133	0.0019	-0.0157	0.0062	-0.4813	0.0251	0.5256	0.0470
4	94.92	0.4002	0.0328	0.0028	-0.0089	0.0097	-0.7471	0.0391	0.6632	0.0450
4	94.92	0.4500	0.0568	0.0032	0.0001	0.0139	-1.1378	0.0560	0.5335	0.0491
4	94.92	0.5001	0.0557	0.0038	-0.0161	0.0188	-1.6207	0.0736	0.5578	0.0482
4	94.92	0.5560	0.0687	0.0046	-0.0147	0.0253	-2.3620	0.0960	0.2921	0.0469
4	94.92	0.6001	0.0908	0.0054	-0.0393	0.0310	-3.0201	0.1149	0.3049	0.0566
4	94.92	0.6501	0.0680	0.0064	-0.0473	0.0382	-3.8837	0.1333	0.4464	0.0500
4	94.92	0.6999	0.0596	0.0075	-0.0753	0.0456	-4.9174	0.1550	0.3926	0.0550
4	94.92	0.7500	0.0760	0.0091	-0.1099	0.0543	-6.0156	0.1764	0.5679	0.0588
4	94.92	0.8002	0.0173	0.0113	-0.1584	0.0624	-7.2376	0.2009	0.8197	0.0628
4	94.92	0.8582	-0.0010	0.0140	-0.1806	0.0728	-8.7728	0.2337	0.1855	0.0703
4	94.92	0.9101	-0.0243	0.0167	-0.1639	0.0823	-10.0650	0.2656	0.6229	0.0696
4	94.92	0.9728	0.0371	0.0202	-0.1194	0.0942	-11.7540	0.3081	0.3633	0.0801

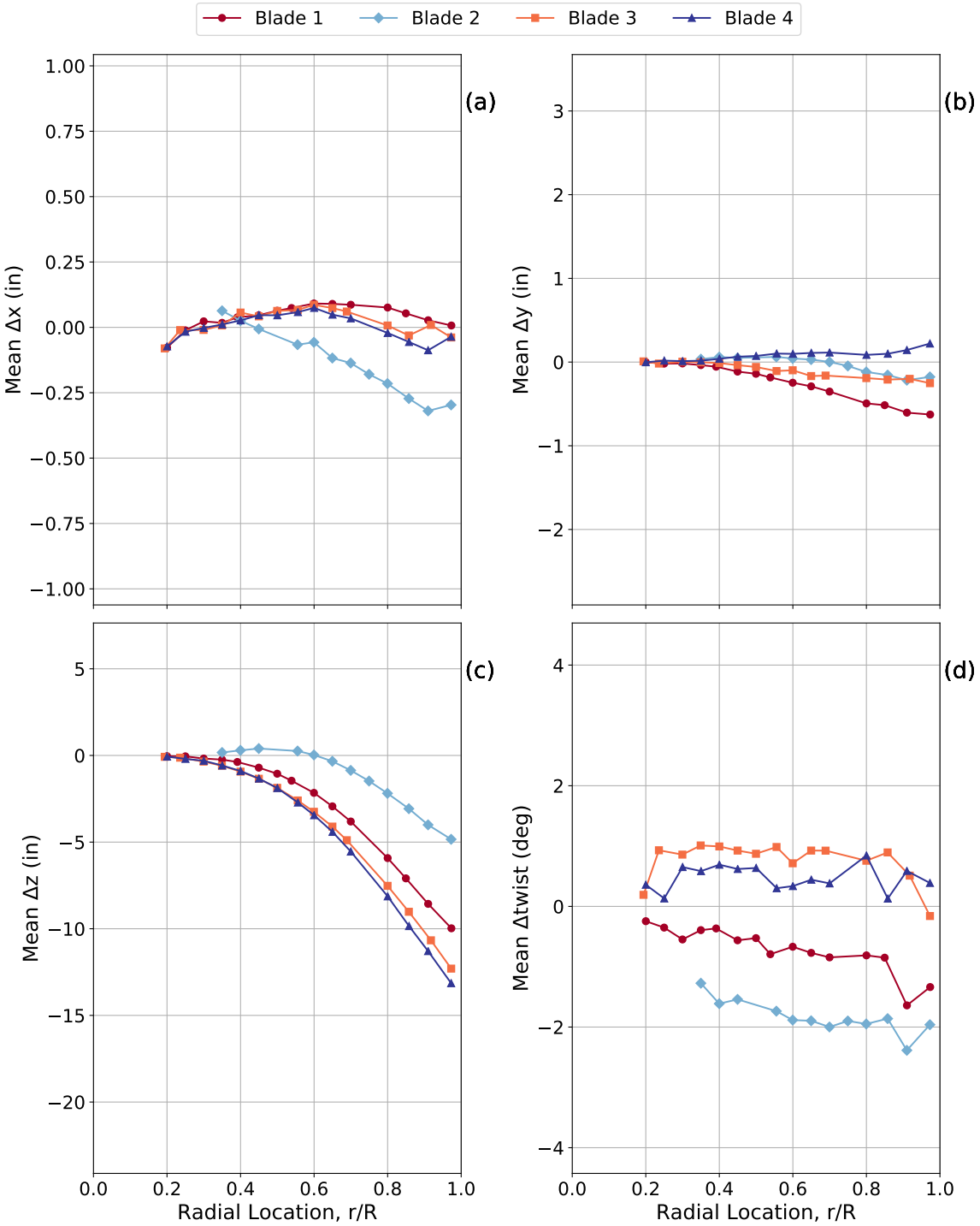


Figure 2.28-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.299, α = 8° NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0776	0.0014	-0.0019	0.0009	-0.0425	0.0036	-0.2452	0.0260
1	99.84	0.2499	-0.0113	0.0013	-0.0186	0.0017	-0.0504	0.0082	-0.3514	0.0388
1	99.84	0.2998	0.0230	0.0015	-0.0165	0.0033	-0.1782	0.0151	-0.5481	0.0566
1	99.84	0.3498	0.0173	0.0014	-0.0364	0.0059	-0.2407	0.0264	-0.3935	0.0538
1	99.84	0.3913	0.0383	0.0017	-0.0551	0.0082	-0.3764	0.0381	-0.3657	0.0563
1	99.84	0.4496	0.0463	0.0025	-0.1139	0.0116	-0.7050	0.0566	-0.5622	0.0641
1	99.84	0.4997	0.0636	0.0028	-0.1400	0.0155	-1.0543	0.0752	-0.5259	0.0719
1	99.84	0.5387	0.0739	0.0033	-0.1836	0.0187	-1.4577	0.0919	-0.7926	0.0747
1	99.84	0.5996	0.0913	0.0045	-0.2468	0.0247	-2.1581	0.1179	-0.6689	0.0803
1	99.84	0.6498	0.0897	0.0055	-0.2901	0.0301	-2.9371	0.1416	-0.7705	0.0874
1	99.84	0.6998	0.0864	0.0072	-0.3528	0.0359	-3.8119	0.1675	-0.8450	0.0945
1	99.84	0.8001	0.0758	0.0118	-0.4940	0.0491	-5.9226	0.2283	-0.8121	0.0934
1	99.84	0.8497	0.0535	0.0147	-0.5151	0.0558	-7.0923	0.2643	-0.8501	0.1024
1	99.84	0.9102	0.0271	0.0179	-0.6044	0.0650	-8.5641	0.3167	-1.6408	0.1123
1	99.84	0.9734	0.0071	0.0224	-0.6269	0.0746	-9.9738	0.3757	-1.3369	0.1074
2	99.84	0.3498	0.0634	0.0072	0.0349	0.0079	0.1701	0.0540	-1.2734	0.5824
2	99.84	0.3998	0.0255	0.0094	0.0596	0.0136	0.2956	0.0929	-1.6124	0.7378
2	99.84	0.4496	-0.0062	0.0059	0.0498	0.0151	0.3986	0.0858	-1.5411	0.6629
2	99.84	0.5551	-0.0662	0.0055	0.0614	0.0155	0.2561	0.0991	-1.7365	0.6414
2	99.84	0.5996	-0.0571	0.0059	0.0429	0.0134	0.0293	0.1056	-1.8844	0.6426
2	99.84	0.6497	-0.1174	0.0061	0.0300	0.0112	-0.3360	0.1174	-1.8959	0.6490
2	99.84	0.6996	-0.1364	0.0057	0.0018	0.0097	-0.8617	0.1253	-1.9989	0.6320
2	99.84	0.7495	-0.1795	0.0062	-0.0464	0.0126	-1.4757	0.1415	-1.8990	0.6377
2	99.84	0.7996	-0.2150	0.0075	-0.1178	0.0192	-2.1876	0.1615	-1.9487	0.6463
2	99.84	0.8578	-0.2723	0.0088	-0.1553	0.0292	-3.0725	0.1894	-1.8602	0.6373
2	99.84	0.9100	-0.3195	0.0107	-0.2166	0.0401	-4.0042	0.2213	-2.3862	0.6458
2	99.84	0.9727	-0.2966	0.0123	-0.1772	0.0516	-4.8382	0.2728	-1.9611	0.6545
3	99.84	0.1938	-0.0805	0.0050	0.0082	0.0019	-0.0796	0.0247	0.1915	0.1141
3	99.84	0.2357	-0.0105	0.0091	-0.0180	0.0018	-0.1284	0.0069	0.9301	0.4556
3	99.84	0.2995	-0.0098	0.0102	0.0042	0.0064	-0.3544	0.0710	0.8583	0.4571
3	99.84	0.3493	0.0073	0.0115	-0.0025	0.0106	-0.5928	0.1219	1.0101	0.4581
3	99.84	0.4000	0.0566	0.0125	-0.0115	0.0161	-0.9341	0.1749	0.9934	0.4549
3	99.84	0.4497	0.0420	0.0136	-0.0370	0.0215	-1.3441	0.2254	0.9254	0.4599
3	99.84	0.4997	0.0628	0.0151	-0.0586	0.0281	-1.8689	0.2788	0.8721	0.4491
3	99.84	0.5556	0.0666	0.0171	-0.1069	0.0364	-2.5966	0.3380	0.9845	0.4544
3	99.84	0.5995	0.0862	0.0189	-0.0981	0.0435	-3.2510	0.3845	0.7147	0.4592
3	99.84	0.6498	0.0738	0.0221	-0.1671	0.0528	-4.1045	0.4400	0.9255	0.4591
3	99.84	0.6890	0.0605	0.0246	-0.1614	0.0610	-4.8907	0.4847	0.9241	0.4551
3	99.84	0.7998	0.0071	0.0343	-0.1916	0.0877	-7.5237	0.6155	0.7567	0.4637
3	99.84	0.8577	-0.0311	0.0401	-0.2093	0.1025	-9.0209	0.6877	0.8943	0.4644
3	99.84	0.9178	0.0090	0.0454	-0.2007	0.1195	-10.6670	0.7627	0.5099	0.4721
3	99.84	0.9729	-0.0386	0.0509	-0.2520	0.1355	-12.2995	0.8349	-0.1595	0.4767
4	99.84	0.2001	-0.0728	0.0013	-0.0020	0.0009	-0.0668	0.0029	0.3589	0.0229
4	99.84	0.2502	-0.0167	0.0012	0.0169	0.0018	-0.1988	0.0064	0.1315	0.0397
4	99.84	0.3001	-0.0021	0.0016	0.0111	0.0033	-0.3074	0.0114	0.6518	0.0522
4	99.84	0.3502	0.0111	0.0018	0.0164	0.0062	-0.5813	0.0210	0.5842	0.0453
4	99.84	0.4002	0.0267	0.0022	0.0389	0.0092	-0.8987	0.0318	0.6909	0.0502
4	99.84	0.4500	0.0466	0.0030	0.0639	0.0132	-1.3355	0.0455	0.6198	0.0522
4	99.84	0.5001	0.0461	0.0033	0.0731	0.0177	-1.8831	0.0613	0.6366	0.0550
4	99.84	0.5560	0.0583	0.0040	0.1013	0.0242	-2.7184	0.0807	0.3009	0.0569
4	99.84	0.6001	0.0744	0.0048	0.0982	0.0295	-3.4493	0.0971	0.3365	0.0582
4	99.84	0.6501	0.0486	0.0060	0.1092	0.0363	-4.4118	0.1161	0.4420	0.0631
4	99.84	0.6999	0.0343	0.0075	0.1138	0.0435	-5.5476	0.1372	0.3811	0.0641
4	99.84	0.8002	-0.0215	0.0125	0.0858	0.0595	-8.1318	0.1892	0.8438	0.0626
4	99.84	0.8582	-0.0560	0.0161	0.0993	0.0692	-9.8473	0.2272	0.1292	0.0692
4	99.84	0.9101	-0.0876	0.0192	0.1437	0.0780	-11.2899	0.2633	0.5879	0.0625
4	99.84	0.9728	-0.0360	0.0240	0.2212	0.0889	-13.1422	0.3124	0.3882	0.0836

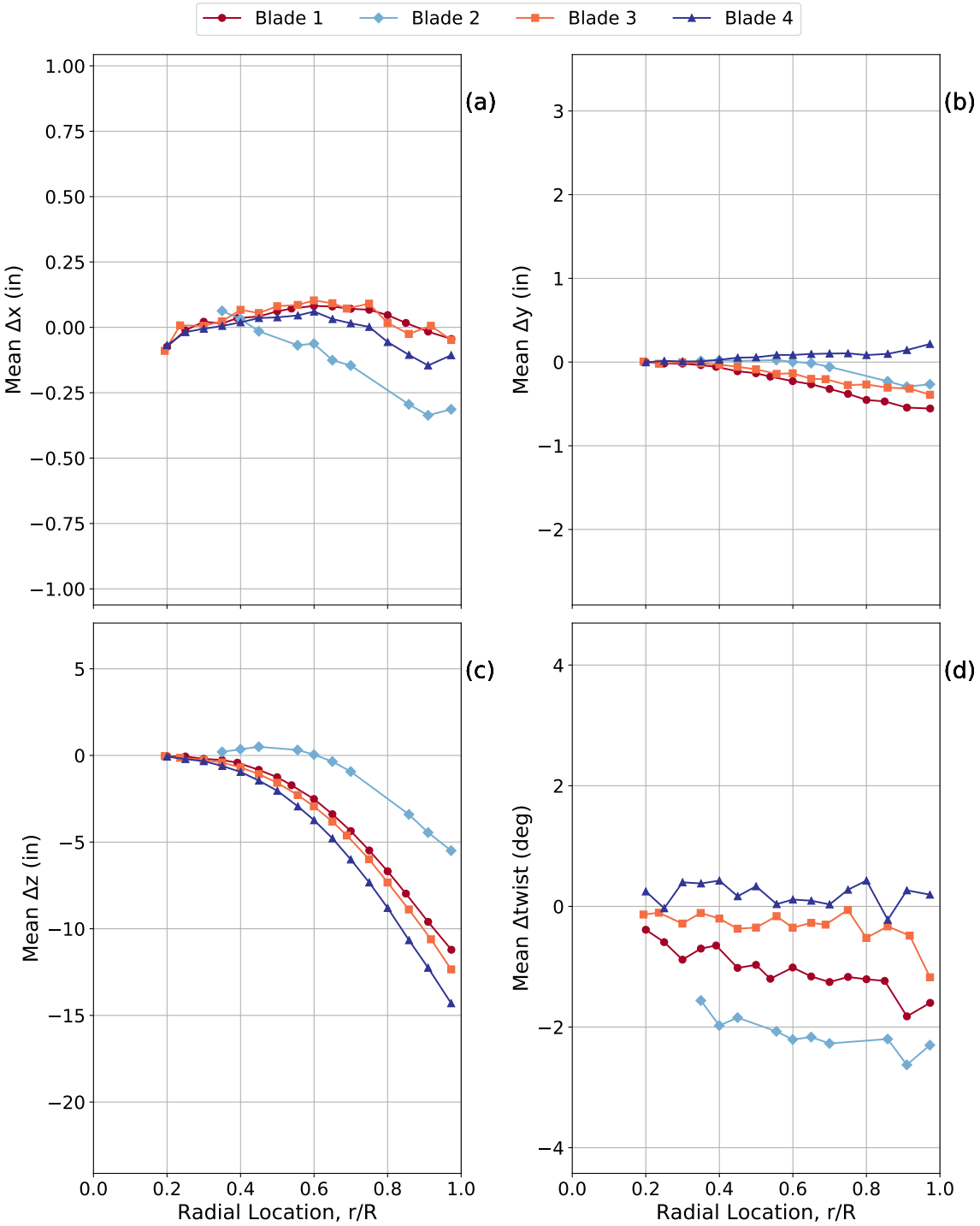


Figure 2.28-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0742	0.0016	-0.0022	0.0010	-0.0447	0.0033	-0.3874	0.0199
1	105.12	0.2499	-0.0114	0.0013	-0.0181	0.0024	-0.0606	0.0070	-0.5928	0.0389
1	105.12	0.2998	0.0215	0.0015	-0.0185	0.0045	-0.1953	0.0139	-0.8831	0.0458
1	105.12	0.3498	0.0149	0.0017	-0.0364	0.0075	-0.2645	0.0235	-0.6997	0.0454
1	105.12	0.3913	0.0353	0.0022	-0.0571	0.0111	-0.4185	0.0342	-0.6482	0.0547
1	105.12	0.4496	0.0416	0.0028	-0.1098	0.0156	-0.8309	0.0486	-1.0196	0.0530
1	105.12	0.4997	0.0613	0.0032	-0.1336	0.0210	-1.2560	0.0629	-0.9694	0.0588
1	105.12	0.5387	0.0719	0.0036	-0.1741	0.0257	-1.7189	0.0755	-1.1998	0.0690
1	105.12	0.5996	0.0820	0.0044	-0.2277	0.0342	-2.5138	0.0965	-1.0130	0.0709
1	105.12	0.6498	0.0797	0.0051	-0.2654	0.0426	-3.3895	0.1170	-1.1617	0.0765
1	105.12	0.6998	0.0709	0.0066	-0.3212	0.0519	-4.3632	0.1395	-1.2536	0.0735
1	105.12	0.7500	0.0673	0.0079	-0.3797	0.0621	-5.4821	0.1645	-1.1696	0.0833
1	105.12	0.8001	0.0469	0.0096	-0.4526	0.0732	-6.6850	0.1932	-1.2077	0.0886
1	105.12	0.8497	0.0169	0.0121	-0.4704	0.0845	-7.9729	0.2236	-1.2351	0.0878
1	105.12	0.9102	-0.0163	0.0151	-0.5441	0.0989	-9.6021	0.2650	-1.8228	0.1070
1	105.12	0.9734	-0.0446	0.0186	-0.5550	0.1139	-11.2119	0.3141	-1.5987	0.1112
2	105.12	0.3498	0.0629	0.0133	0.0138	0.0114	0.2047	0.0956	-1.5601	1.0340
2	105.12	0.3998	0.0319	0.0165	0.0232	0.0196	0.3562	0.1644	-1.9754	1.3101
2	105.12	0.4496	-0.0149	0.0101	0.0138	0.0214	0.4992	0.1445	-1.8440	1.1168
2	105.12	0.5551	-0.0684	0.0083	0.0242	0.0213	0.3162	0.1710	-2.0719	1.1174
2	105.12	0.5996	-0.0623	0.0084	0.0019	0.0188	0.0489	0.1806	-2.2070	1.0997
2	105.12	0.6497	-0.1256	0.0095	-0.0127	0.0183	-0.3508	0.1933	-2.1658	1.1082
2	105.12	0.6996	-0.1459	0.0089	-0.0571	0.0216	-0.9303	0.2085	-2.2720	1.1077
2	105.12	0.8578	-0.2946	0.0135	-0.2293	0.0622	-3.4022	0.2828	-2.1987	1.0891
2	105.12	0.9100	-0.3364	0.0152	-0.2938	0.0809	-4.4484	0.3140	-2.6268	1.1084
2	105.12	0.9727	-0.3135	0.0184	-0.2655	0.1007	-5.4919	0.3632	-2.2999	1.1254
3	105.12	0.1938	-0.0899	0.0014	0.0066	0.0007	-0.0362	0.0050	-0.1349	0.0302
3	105.12	0.2357	0.0074	0.0017	-0.0202	0.0015	-0.1321	0.0093	-0.1049	0.0618
3	105.12	0.2995	0.0059	0.0021	-0.0024	0.0028	-0.2534	0.0224	-0.2847	0.0805
3	105.12	0.3493	0.0231	0.0025	-0.0143	0.0050	-0.4071	0.0382	-0.1090	0.0766
3	105.12	0.4000	0.0670	0.0027	-0.0294	0.0076	-0.6883	0.0601	-0.2019	0.0706
3	105.12	0.4497	0.0547	0.0035	-0.0568	0.0101	-1.0765	0.0805	-0.3696	0.0814
3	105.12	0.4997	0.0809	0.0042	-0.0867	0.0135	-1.5757	0.1077	-0.3519	0.0848
3	105.12	0.5556	0.0857	0.0058	-0.1409	0.0177	-2.2875	0.1425	-0.1626	0.0831
3	105.12	0.5995	0.1030	0.0074	-0.1339	0.0213	-2.9361	0.1748	-0.3528	0.0900
3	105.12	0.6498	0.0923	0.0094	-0.2007	0.0257	-3.8169	0.2148	-0.2728	0.0937
3	105.12	0.6890	0.0720	0.0114	-0.2043	0.0299	-4.6174	0.2475	-0.3028	0.0939
3	105.12	0.7495	0.0907	0.0153	-0.2751	0.0362	-5.9862	0.3020	-0.0595	0.0978
3	105.12	0.7998	0.0173	0.0193	-0.2672	0.0423	-7.3290	0.3498	-0.5233	0.0972
3	105.12	0.8577	-0.0252	0.0242	-0.3053	0.0493	-8.8870	0.4070	-0.3313	0.1012
3	105.12	0.9178	0.0059	0.0287	-0.3165	0.0572	-10.6092	0.4670	-0.4848	0.1111
3	105.12	0.9729	-0.0483	0.0321	-0.3906	0.0648	-12.3441	0.5259	-1.1747	0.1198
4	105.12	0.2001	-0.0682	0.0014	-0.0028	0.0008	-0.0697	0.0029	0.2477	0.0295
4	105.12	0.2502	-0.0183	0.0013	0.0141	0.0021	-0.2092	0.0079	-0.0313	0.0448
4	105.12	0.3001	-0.0052	0.0020	0.0076	0.0036	-0.3317	0.0135	0.3992	0.0659
4	105.12	0.3502	0.0054	0.0021	0.0084	0.0062	-0.6059	0.0228	0.3800	0.0566
4	105.12	0.4002	0.0192	0.0027	0.0273	0.0097	-0.9521	0.0367	0.4271	0.0625
4	105.12	0.4500	0.0356	0.0032	0.0527	0.0134	-1.4537	0.0501	0.1683	0.0654
4	105.12	0.5001	0.0383	0.0044	0.0567	0.0182	-2.0414	0.0679	0.3330	0.0667
4	105.12	0.5560	0.0456	0.0055	0.0848	0.0243	-2.9413	0.0921	0.0372	0.0715
4	105.12	0.6001	0.0604	0.0066	0.0850	0.0297	-3.7375	0.1172	0.1134	0.0725
4	105.12	0.6501	0.0317	0.0088	0.0967	0.0366	-4.7895	0.1498	0.0941	0.0768
4	105.12	0.6999	0.0155	0.0110	0.1017	0.0441	-6.0062	0.1853	0.0324	0.0835
4	105.12	0.7500	0.0017	0.0146	0.1042	0.0524	-7.3304	0.2263	0.2759	0.0877
4	105.12	0.8002	-0.0563	0.0183	0.0834	0.0614	-8.8033	0.2703	0.4278	0.0800
4	105.12	0.8582	-0.1054	0.0236	0.0981	0.0719	-10.6618	0.3238	-0.2223	0.0945
4	105.12	0.9101	-0.1457	0.0275	0.1435	0.0821	-12.2531	0.3750	0.2659	0.0913
4	105.12	0.9728	-0.1066	0.0333	0.2161	0.0944	-14.3001	0.4407	0.1944	0.1050

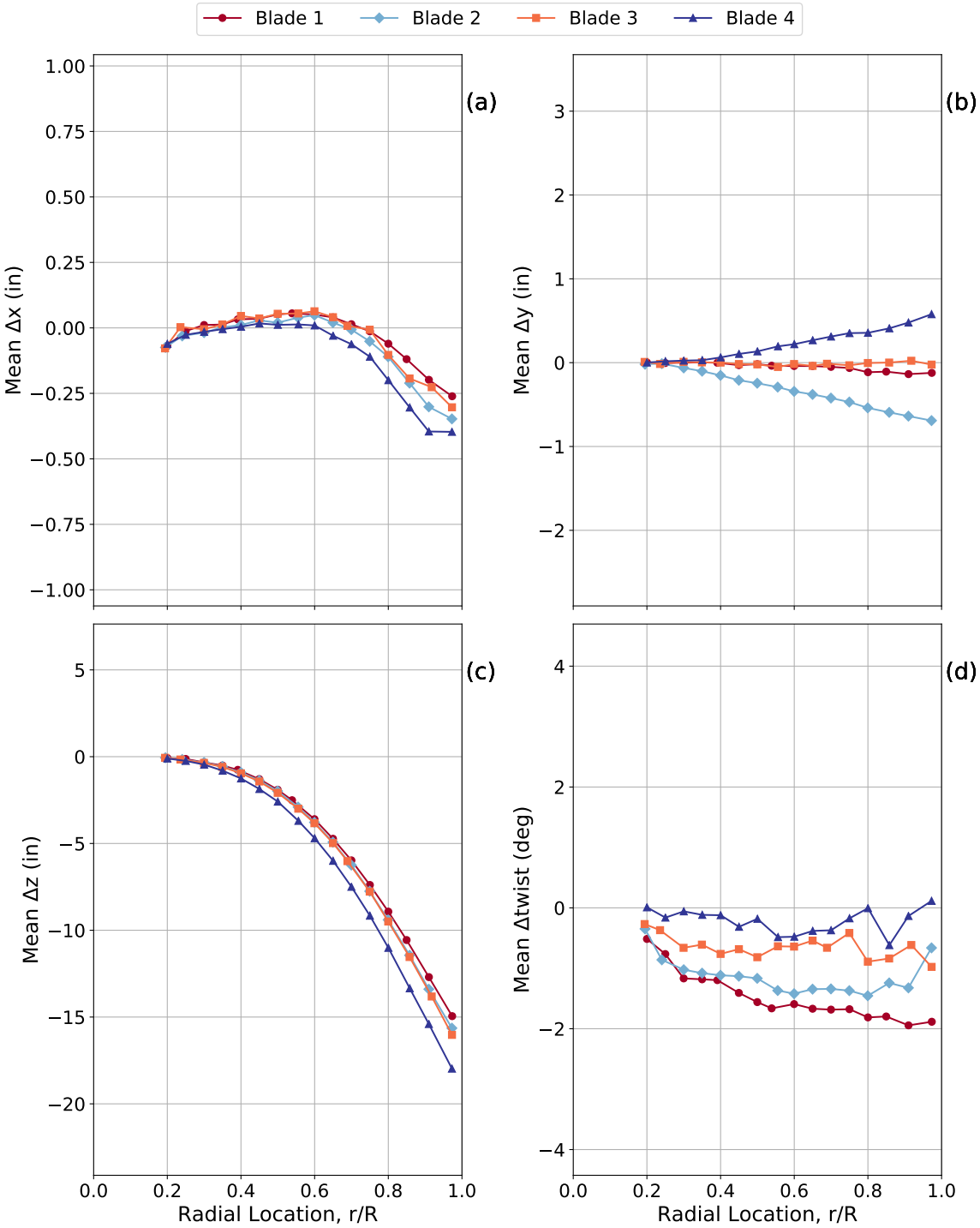


Figure 2.28-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-19. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0689	0.0017	0.0021	0.0009	-0.0773	0.0048	-0.5141	0.0249
1	119.88	0.2499	-0.0120	0.0014	-0.0039	0.0020	-0.1299	0.0113	-0.7645	0.0445
1	119.88	0.2998	0.0110	0.0015	0.0001	0.0036	-0.3265	0.0212	-1.1673	0.0577
1	119.88	0.3498	0.0128	0.0020	0.0041	0.0062	-0.5081	0.0358	-1.1823	0.0686
1	119.88	0.3913	0.0326	0.0025	-0.0018	0.0090	-0.7587	0.0532	-1.1961	0.0750
1	119.88	0.4496	0.0351	0.0037	-0.0296	0.0134	-1.2918	0.0824	-1.4070	0.0863
1	119.88	0.4997	0.0514	0.0048	-0.0179	0.0180	-1.9050	0.1153	-1.5594	0.0964
1	119.88	0.5387	0.0556	0.0061	-0.0365	0.0220	-2.5072	0.1455	-1.6628	0.1048
1	119.88	0.5996	0.0511	0.0085	-0.0398	0.0288	-3.6004	0.2003	-1.5923	0.1082
1	119.88	0.6498	0.0401	0.0116	-0.0403	0.0350	-4.7289	0.2516	-1.6691	0.1137
1	119.88	0.6998	0.0140	0.0158	-0.0503	0.0410	-5.9732	0.3076	-1.6836	0.1189
1	119.88	0.7500	-0.0131	0.0207	-0.0637	0.0474	-7.3908	0.3686	-1.6771	0.1254
1	119.88	0.8001	-0.0604	0.0268	-0.1142	0.0539	-8.9272	0.4343	-1.8126	0.1345
1	119.88	0.8497	-0.1194	0.0340	-0.1071	0.0604	-10.5637	0.5037	-1.7975	0.1388
1	119.88	0.9102	-0.1983	0.0426	-0.1367	0.0690	-12.6984	0.5913	-1.9444	0.1525
1	119.88	0.9734	-0.2610	0.0513	-0.1219	0.0783	-14.9477	0.6874	-1.8847	0.1513
2	119.88	0.1949	-0.0746	0.0018	-0.0184	0.0007	-0.0625	0.0032	-0.3476	0.0189
2	119.88	0.2405	-0.0307	0.0013	-0.0117	0.0017	-0.1595	0.0084	-0.8599	0.0309
2	119.88	0.2999	-0.0181	0.0014	-0.0628	0.0036	-0.3329	0.0170	-1.0233	0.0444
2	119.88	0.3498	0.0019	0.0017	-0.1016	0.0058	-0.5654	0.0277	-1.0802	0.0558
2	119.88	0.3998	0.0110	0.0024	-0.1519	0.0095	-0.9060	0.0453	-1.1157	0.0545
2	119.88	0.4496	0.0287	0.0031	-0.2099	0.0126	-1.3720	0.0646	-1.1307	0.0598
2	119.88	0.4995	0.0199	0.0042	-0.2452	0.0163	-1.9801	0.0879	-1.1662	0.0644
2	119.88	0.5551	0.0391	0.0057	-0.2914	0.0213	-2.9009	0.1209	-1.3677	0.0675
2	119.88	0.5996	0.0487	0.0073	-0.3428	0.0251	-3.7827	0.1498	-1.4200	0.0667
2	119.88	0.6497	0.0202	0.0096	-0.3788	0.0304	-4.9253	0.1860	-1.3450	0.0676
2	119.88	0.6996	-0.0066	0.0129	-0.4224	0.0358	-6.2452	0.2288	-1.3409	0.0719
2	119.88	0.7495	-0.0513	0.0173	-0.4695	0.0415	-7.7512	0.2773	-1.3700	0.0747
2	119.88	0.7996	-0.1102	0.0234	-0.5393	0.0474	-9.4012	0.3314	-1.4549	0.0761
2	119.88	0.8578	-0.2108	0.0316	-0.5931	0.0545	-11.4426	0.4041	-1.2424	0.0777
2	119.88	0.9100	-0.3014	0.0396	-0.6377	0.0606	-13.3946	0.4762	-1.3242	0.0795
2	119.88	0.9727	-0.3475	0.0491	-0.6912	0.0681	-15.6392	0.5702	-0.6618	0.0827
3	119.88	0.1938	-0.0781	0.0014	0.0087	0.0009	-0.0648	0.0036	-0.2683	0.0206
3	119.88	0.2357	0.0028	0.0015	-0.0158	0.0016	-0.1629	0.0061	-0.3691	0.0374
3	119.88	0.2995	-0.0050	0.0018	0.0096	0.0038	-0.3555	0.0156	-0.6610	0.0502
3	119.88	0.3493	0.0132	0.0020	0.0037	0.0064	-0.5902	0.0260	-0.6081	0.0526
3	119.88	0.4000	0.0456	0.0025	0.0010	0.0101	-0.9595	0.0409	-0.7618	0.0548
3	119.88	0.4497	0.0361	0.0032	-0.0164	0.0140	-1.4306	0.0587	-0.6834	0.0558
3	119.88	0.4997	0.0539	0.0042	-0.0206	0.0186	-2.0813	0.0794	-0.8167	0.0575
3	119.88	0.5556	0.0552	0.0053	-0.0513	0.0242	-2.9957	0.1061	-0.6358	0.0631
3	119.88	0.5995	0.0634	0.0065	-0.0164	0.0291	-3.8328	0.1304	-0.6408	0.0699
3	119.88	0.6498	0.0409	0.0085	-0.0384	0.0350	-4.9777	0.1613	-0.5418	0.0785
3	119.88	0.6890	0.0078	0.0106	-0.0132	0.0395	-6.0167	0.1880	-0.6602	0.0754
3	119.88	0.7495	-0.0068	0.0150	-0.0312	0.0470	-7.7734	0.2361	-0.4155	0.0819
3	119.88	0.7998	-0.1031	0.0198	-0.0042	0.0536	-9.4950	0.2811	-0.8903	0.0865
3	119.88	0.8577	-0.1931	0.0265	0.0011	0.0612	-11.5411	0.3400	-0.8375	0.0944
3	119.88	0.9178	-0.2265	0.0341	0.0227	0.0694	-13.8164	0.4072	-0.6146	0.1010
3	119.88	0.9729	-0.3031	0.0411	-0.0230	0.0767	-16.0258	0.4735	-0.9766	0.1118
4	119.88	0.2001	-0.0609	0.0014	0.0015	0.0009	-0.1060	0.0039	0.0087	0.0256
4	119.88	0.2502	-0.0264	0.0015	0.0165	0.0021	-0.2436	0.0096	-0.1611	0.0332
4	119.88	0.3001	-0.0151	0.0019	0.0244	0.0037	-0.4577	0.0170	-0.0578	0.0529
4	119.88	0.3502	-0.0048	0.0020	0.0294	0.0068	-0.8074	0.0297	-0.1160	0.0495
4	119.88	0.4002	0.0043	0.0026	0.0625	0.0103	-1.2551	0.0464	-0.1217	0.0544
4	119.88	0.4500	0.0171	0.0034	0.1041	0.0138	-1.8627	0.0648	-0.3134	0.0581
4	119.88	0.5001	0.0116	0.0048	0.1343	0.0178	-2.5900	0.0872	-0.1811	0.0691
4	119.88	0.5560	0.0132	0.0063	0.1948	0.0233	-3.6981	0.1177	-0.4844	0.0624
4	119.88	0.6001	0.0093	0.0084	0.2202	0.0278	-4.6997	0.1443	-0.4777	0.0702
4	119.88	0.6501	-0.0299	0.0108	0.2672	0.0335	-5.9998	0.1772	-0.3813	0.0714
4	119.88	0.6999	-0.0623	0.0143	0.3114	0.0392	-7.4969	0.2158	-0.3708	0.0740
4	119.88	0.7500	-0.1102	0.0191	0.3524	0.0451	-9.1603	0.2584	-0.1729	0.0746
4	119.88	0.8002	-0.1997	0.0246	0.3560	0.0510	-11.0132	0.3053	-0.0052	0.0809
4	119.88	0.8582	-0.3041	0.0323	0.4095	0.0581	-13.3449	0.3657	-0.6172	0.0796
4	119.88	0.9101	-0.3956	0.0389	0.4782	0.0648	-15.4023	0.4242	-0.1343	0.0787
4	119.88	0.9728	-0.3969	0.0473	0.5780	0.0724	-17.9727	0.4995	0.1153	0.0783

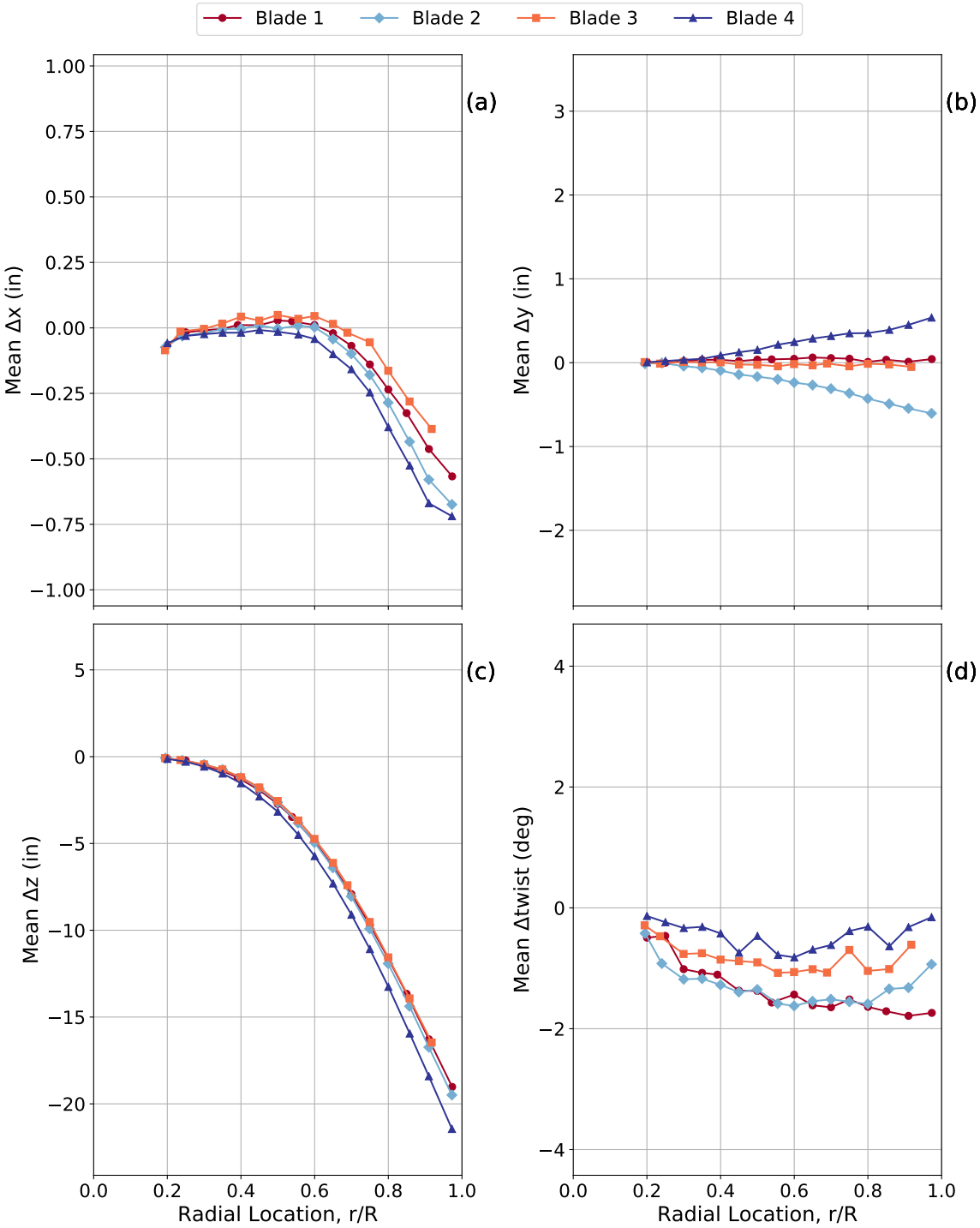


Figure 2.28-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0652	0.0017	0.0077	0.0013	-0.1216	0.0041	-0.4925	0.0210
1	135	0.2499	-0.0170	0.0014	-0.0009	0.0027	-0.2150	0.0092	-0.4637	0.0352
1	135	0.2998	-0.0091	0.0018	0.0177	0.0051	-0.5029	0.0177	-1.0142	0.0463
1	135	0.3498	-0.0039	0.0022	0.0323	0.0089	-0.8255	0.0300	-1.0752	0.0552
1	135	0.3913	0.0109	0.0030	0.0358	0.0128	-1.2044	0.0440	-1.1051	0.0668
1	135	0.4496	0.0101	0.0038	0.0190	0.0182	-1.9246	0.0633	-1.3692	0.0747
1	135	0.4997	0.0282	0.0050	0.0357	0.0236	-2.7220	0.0878	-1.3752	0.0714
1	135	0.5387	0.0254	0.0059	0.0394	0.0288	-3.4741	0.1070	-1.5673	0.0844
1	135	0.5996	0.0110	0.0084	0.0458	0.0384	-4.8871	0.1446	-1.4350	0.0899
1	135	0.6498	-0.0202	0.0116	0.0614	0.0464	-6.3199	0.1799	-1.6127	0.1040
1	135	0.6998	-0.0685	0.0158	0.0544	0.0557	-7.9157	0.2199	-1.6452	0.0997
1	135	0.7500	-0.1396	0.0207	0.0474	0.0660	-9.6943	0.2633	-1.5156	0.1082
1	135	0.8001	-0.2351	0.0272	0.0095	0.0765	-11.6277	0.3131	-1.6383	0.1064
1	135	0.8497	-0.3255	0.0349	0.0344	0.0870	-13.6598	0.3681	-1.7107	0.1132
1	135	0.9102	-0.4625	0.0451	0.0110	0.1008	-16.2809	0.4430	-1.7870	0.1180
1	135	0.9734	-0.5670	0.0564	0.0429	0.1164	-19.0242	0.5287	-1.7377	0.1264
2	135	0.1949	-0.0738	0.0016	-0.0127	0.0011	-0.0833	0.0053	-0.4218	0.0304
2	135	0.2405	-0.0314	0.0015	-0.0040	0.0025	-0.2100	0.0111	-0.9208	0.0355
2	135	0.2999	-0.0189	0.0016	-0.0416	0.0051	-0.4510	0.0229	-1.1812	0.0619
2	135	0.3498	-0.0051	0.0023	-0.0620	0.0087	-0.7417	0.0413	-1.1713	0.0540
2	135	0.3998	-0.0032	0.0029	-0.0941	0.0136	-1.2055	0.0629	-1.2746	0.0565
2	135	0.4496	0.0096	0.0038	-0.1414	0.0184	-1.8388	0.0847	-1.3932	0.0733
2	135	0.4995	-0.0027	0.0051	-0.1666	0.0238	-2.6339	0.1132	-1.3503	0.0626
2	135	0.5551	0.0085	0.0071	-0.1982	0.0305	-3.8216	0.1517	-1.5839	0.0650
2	135	0.5996	0.0028	0.0098	-0.2372	0.0365	-4.9481	0.1864	-1.6224	0.0714
2	135	0.6497	-0.0428	0.0134	-0.2670	0.0436	-6.3987	0.2319	-1.5459	0.0723
2	135	0.6996	-0.0989	0.0188	-0.3105	0.0514	-8.0461	0.2856	-1.5128	0.0774
2	135	0.7495	-0.1794	0.0256	-0.3645	0.0593	-9.9171	0.3464	-1.5540	0.0779
2	135	0.7996	-0.2855	0.0340	-0.4288	0.0680	-11.9181	0.4146	-1.5888	0.0783
2	135	0.8578	-0.4346	0.0455	-0.4911	0.0782	-14.3828	0.5011	-1.3415	0.0806
2	135	0.9100	-0.5794	0.0558	-0.5456	0.0879	-16.7365	0.5814	-1.3202	0.0813
2	135	0.9727	-0.6742	0.0678	-0.6048	0.1001	-19.4913	0.6820	-0.9332	0.0759
3	135	0.1938	-0.0854	0.0097	0.0067	0.0018	-0.0856	0.0052	-0.2885	0.0322
3	135	0.2357	-0.0136	0.0033	-0.0111	0.0029	-0.1923	0.0086	-0.4698	0.0609
3	135	0.2995	-0.0037	0.0053	0.0085	0.0075	-0.4423	0.0204	-0.7622	0.0814
3	135	0.3493	0.0163	0.0082	0.0049	0.0127	-0.7313	0.0363	-0.7509	0.0843
3	135	0.4000	0.0430	0.0112	0.0045	0.0198	-1.1815	0.0550	-0.8561	0.0912
3	135	0.4497	0.0277	0.0146	-0.0220	0.0276	-1.7733	0.0756	-0.8803	0.0967
3	135	0.4997	0.0493	0.0193	-0.0252	0.0364	-2.5523	0.0983	-0.9019	0.1068
3	135	0.5556	0.0346	0.0274	-0.0435	0.0486	-3.6761	0.1291	-1.0755	0.1142
3	135	0.5995	0.0453	0.0363	-0.0171	0.0594	-4.7375	0.1550	-1.0633	0.1183
3	135	0.6498	0.0154	0.0483	-0.0320	0.0739	-6.1175	0.1887	-1.0149	0.1331
3	135	0.6890	-0.0180	0.0592	-0.0100	0.0867	-7.4065	0.2168	-1.0709	0.1447
3	135	0.7495	-0.0549	0.0778	-0.0436	0.1092	-9.5234	0.2682	-0.6966	0.1521
3	135	0.7998	-0.1635	0.0944	-0.0132	0.1300	-11.5611	0.3132	-1.0429	0.1658
3	135	0.8577	-0.2811	0.1144	-0.0216	0.1559	-13.9251	0.3693	-1.0127	0.1739
3	135	0.9178	-0.3859	0.1354	-0.0509	0.1849	-16.4678	0.4307	-0.6102	0.1931
4	135	0.2001	-0.0580	0.0014	0.0040	0.0009	-0.1299	0.0038	-0.1349	0.0256
4	135	0.2502	-0.0306	0.0017	0.0204	0.0027	-0.2911	0.0092	-0.2378	0.0285
4	135	0.3001	-0.0239	0.0019	0.0332	0.0046	-0.5727	0.0169	-0.3343	0.0515
4	135	0.3502	-0.0185	0.0026	0.0466	0.0071	-0.9713	0.0284	-0.3145	0.0481
4	135	0.4002	-0.0184	0.0030	0.0870	0.0122	-1.5337	0.0453	-0.4238	0.0549
4	135	0.4500	-0.0081	0.0038	0.1238	0.0165	-2.2950	0.0619	-0.7430	0.0658
4	135	0.5001	-0.0148	0.0048	0.1530	0.0209	-3.1700	0.0838	-0.4644	0.0581
4	135	0.5560	-0.0255	0.0073	0.2147	0.0267	-4.5078	0.1128	-0.7795	0.0599
4	135	0.6001	-0.0423	0.0091	0.2465	0.0316	-5.7303	0.1400	-0.8190	0.0642
4	135	0.6501	-0.1004	0.0122	0.2875	0.0372	-7.3070	0.1745	-0.6902	0.0668
4	135	0.6999	-0.1580	0.0174	0.3174	0.0435	-9.1047	0.2177	-0.6141	0.0761
4	135	0.7500	-0.2465	0.0236	0.3504	0.0496	-11.0868	0.2676	-0.3829	0.0778
4	135	0.8002	-0.3792	0.0320	0.3524	0.0558	-13.2614	0.3264	-0.3116	0.0882
4	135	0.8582	-0.5255	0.0431	0.3914	0.0634	-15.9507	0.4029	-0.6359	0.0959
4	135	0.9101	-0.6695	0.0532	0.4506	0.0704	-18.4134	0.4752	-0.3184	0.1021
4	135	0.9728	-0.7190	0.0660	0.5374	0.0787	-21.4479	0.5665	-0.1548	0.1019

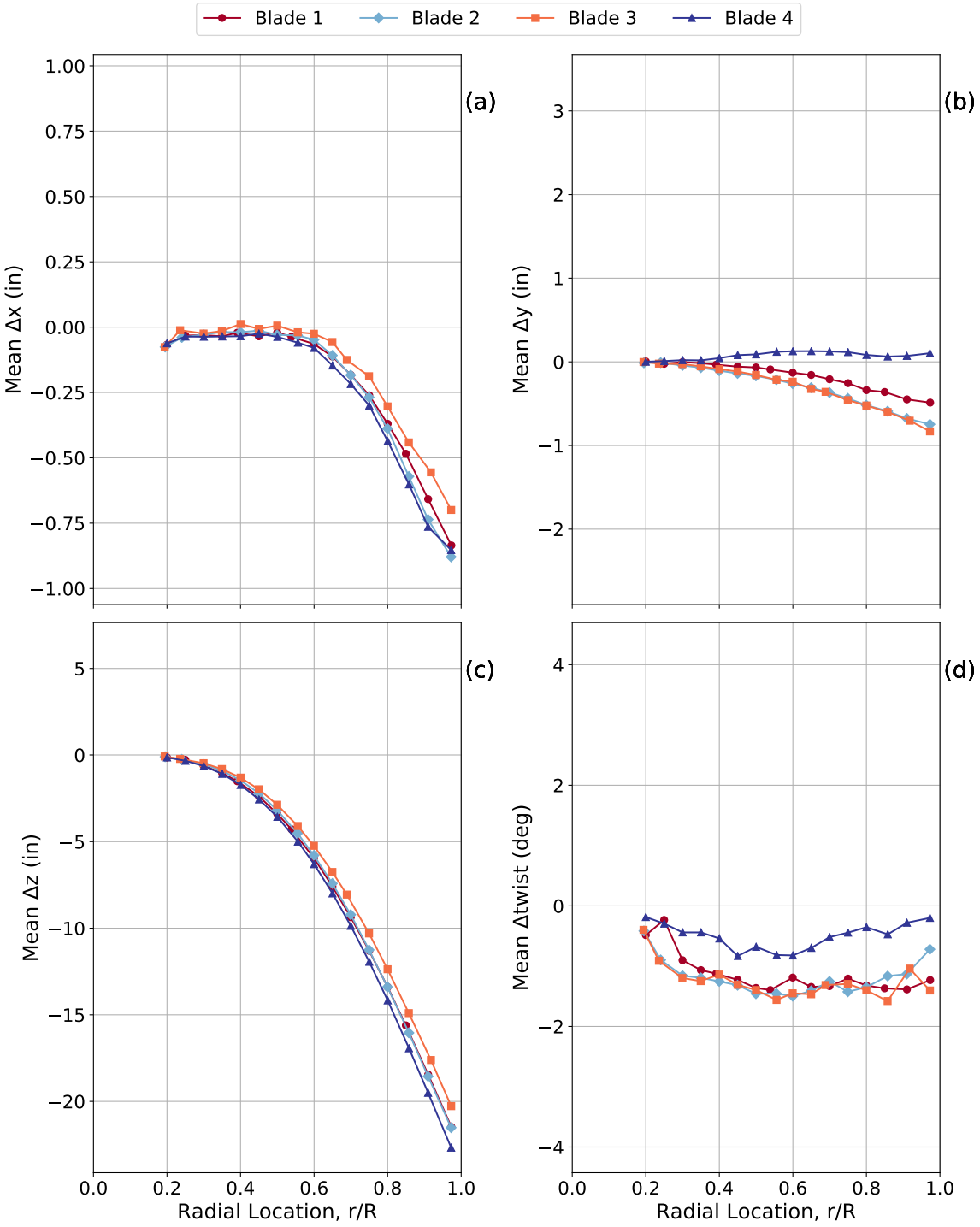


Figure 2.28-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-21. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0669	0.0018	0.0049	0.0009	-0.1476	0.0040	-0.4848	0.0253
1	150.12	0.2499	-0.0323	0.0017	-0.0233	0.0029	-0.2798	0.0091	-0.2342	0.0467
1	150.12	0.2998	-0.0308	0.0020	-0.0031	0.0039	-0.6187	0.0172	-0.9015	0.0583
1	150.12	0.3498	-0.0350	0.0023	-0.0151	0.0079	-1.0439	0.0301	-1.0660	0.0569
1	150.12	0.3913	-0.0215	0.0029	-0.0339	0.0109	-1.5146	0.0435	-1.1247	0.0649
1	150.12	0.4496	-0.0350	0.0042	-0.0568	0.0149	-2.3777	0.0668	-1.2266	0.0664
1	150.12	0.4997	-0.0203	0.0058	-0.0668	0.0196	-3.3929	0.0922	-1.3626	0.0753
1	150.12	0.5387	-0.0373	0.0074	-0.0907	0.0234	-4.2881	0.1154	-1.3966	0.0819
1	150.12	0.5996	-0.0644	0.0109	-0.1297	0.0297	-5.9476	0.1571	-1.1898	0.0763
1	150.12	0.6498	-0.1123	0.0149	-0.1567	0.0358	-7.5868	0.1965	-1.3448	0.0845
1	150.12	0.6998	-0.1827	0.0200	-0.2080	0.0425	-9.3652	0.2387	-1.3308	0.0872
1	150.12	0.7500	-0.2610	0.0255	-0.2549	0.0497	-11.3073	0.2830	-1.2070	0.0937
1	150.12	0.8001	-0.3698	0.0312	-0.3382	0.0576	-13.4001	0.3276	-1.3217	0.0957
1	150.12	0.8497	-0.4844	0.0373	-0.3604	0.0656	-15.6121	0.3710	-1.3682	0.0963
1	150.12	0.9102	-0.6580	0.0446	-0.4487	0.0762	-18.4535	0.4240	-1.3859	0.0958
1	150.12	0.9734	-0.8349	0.0518	-0.4874	0.0870	-21.4751	0.4800	-1.2315	0.1031
2	150.12	0.1949	-0.0759	0.0017	-0.0118	0.0013	-0.1013	0.0043	-0.4160	0.0259
2	150.12	0.2405	-0.0394	0.0016	-0.0094	0.0028	-0.2565	0.0094	-0.8966	0.0363
2	150.12	0.2999	-0.0286	0.0020	-0.0431	0.0054	-0.5426	0.0207	-1.1585	0.0564
2	150.12	0.3498	-0.0188	0.0024	-0.0693	0.0111	-0.9073	0.0338	-1.1945	0.0579
2	150.12	0.3998	-0.0195	0.0029	-0.1055	0.0160	-1.4633	0.0539	-1.2530	0.0509
2	150.12	0.4496	-0.0134	0.0046	-0.1384	0.0211	-2.2038	0.0761	-1.3164	0.0587
2	150.12	0.4995	-0.0295	0.0061	-0.1680	0.0265	-3.1806	0.1041	-1.4577	0.0650
2	150.12	0.5551	-0.0317	0.0089	-0.2146	0.0333	-4.5221	0.1409	-1.4547	0.0669
2	150.12	0.5996	-0.0482	0.0122	-0.2611	0.0389	-5.7963	0.1752	-1.4979	0.0700
2	150.12	0.6497	-0.1080	0.0169	-0.3086	0.0457	-7.4173	0.2188	-1.4101	0.0748
2	150.12	0.6996	-0.1834	0.0229	-0.3677	0.0528	-9.2182	0.2685	-1.2532	0.0759
2	150.12	0.7495	-0.2683	0.0304	-0.4367	0.0604	-11.2521	0.3249	-1.4254	0.0796
2	150.12	0.7996	-0.3879	0.0393	-0.5175	0.0680	-13.3957	0.3880	-1.3497	0.0855
2	150.12	0.8578	-0.5712	0.0515	-0.5902	0.0776	-16.0434	0.4675	-1.1641	0.0904
2	150.12	0.9100	-0.7359	0.0622	-0.6763	0.0865	-18.5568	0.5441	-1.1309	0.0856
2	150.12	0.9727	-0.8792	0.0755	-0.7462	0.0969	-21.5158	0.6378	-0.7197	0.0930
3	150.12	0.1938	-0.0764	0.0019	-0.0020	0.0013	-0.0862	0.0036	-0.3984	0.0218
3	150.12	0.2357	-0.0118	0.0019	-0.0211	0.0032	-0.2263	0.0056	-0.9115	0.0413
3	150.12	0.2995	-0.0245	0.0027	-0.0266	0.0054	-0.4751	0.0140	-1.1971	0.0517
3	150.12	0.3493	-0.0148	0.0021	-0.0538	0.0122	-0.8110	0.0234	-1.2482	0.0522
3	150.12	0.4000	0.0120	0.0027	-0.0866	0.0171	-1.3052	0.0361	-1.1399	0.0602
3	150.12	0.4497	-0.0068	0.0034	-0.1159	0.0213	-1.9802	0.0470	-1.3094	0.0721
3	150.12	0.4997	0.0057	0.0038	-0.1571	0.0255	-2.8741	0.0596	-1.3965	0.0695
3	150.12	0.5556	-0.0198	0.0052	-0.2152	0.0307	-4.0987	0.0728	-1.5598	0.0744
3	150.12	0.5995	-0.0253	0.0061	-0.2375	0.0359	-5.2408	0.0840	-1.4507	0.0716
3	150.12	0.6498	-0.0569	0.0080	-0.3241	0.0420	-6.7536	0.0982	-1.4662	0.0752
3	150.12	0.6890	-0.1254	0.0102	-0.3588	0.0468	-8.0573	0.1131	-1.3135	0.0757
3	150.12	0.7495	-0.1877	0.0148	-0.4577	0.0550	-10.3018	0.1420	-1.2950	0.0743
3	150.12	0.7998	-0.3033	0.0202	-0.5223	0.0621	-12.3714	0.1755	-1.4006	0.0798
3	150.12	0.8577	-0.4410	0.0282	-0.5996	0.0707	-14.9026	0.2265	-1.5785	0.0824
3	150.12	0.9178	-0.5554	0.0376	-0.7032	0.0802	-17.6111	0.2900	-1.0412	0.0940
3	150.12	0.9729	-0.6994	0.0481	-0.8312	0.0888	-20.2732	0.3541	-1.4036	0.0948
4	150.12	0.2001	-0.0617	0.0014	0.0014	0.0010	-0.1411	0.0033	-0.1857	0.0275
4	150.12	0.2502	-0.0361	0.0016	0.0096	0.0037	-0.3370	0.0076	-0.2949	0.0417
4	150.12	0.3001	-0.0368	0.0020	0.0206	0.0043	-0.6393	0.0139	-0.4401	0.0585
4	150.12	0.3502	-0.0358	0.0023	0.0181	0.0095	-1.0905	0.0240	-0.4402	0.0574
4	150.12	0.4002	-0.0348	0.0030	0.0447	0.0138	-1.7291	0.0371	-0.5411	0.0562
4	150.12	0.4500	-0.0248	0.0037	0.0804	0.0182	-2.5673	0.0519	-0.8313	0.0672
4	150.12	0.5001	-0.0374	0.0053	0.0895	0.0229	-3.5706	0.0680	-0.6795	0.0662
4	150.12	0.5560	-0.0595	0.0068	0.1204	0.0283	-4.9996	0.0885	-0.8154	0.0775
4	150.12	0.6001	-0.0795	0.0092	0.1271	0.0332	-6.3059	0.1057	-0.8220	0.0788
4	150.12	0.6501	-0.1466	0.0111	0.1281	0.0390	-7.9907	0.1270	-0.6967	0.0815
4	150.12	0.6999	-0.2177	0.0144	0.1250	0.0452	-9.8633	0.1512	-0.5177	0.0840
4	150.12	0.7500	-0.2999	0.0186	0.1165	0.0518	-11.9408	0.1800	-0.4438	0.0830
4	150.12	0.8002	-0.4362	0.0240	0.0827	0.0590	-14.1698	0.2132	-0.3537	0.0874
4	150.12	0.8582	-0.6017	0.0313	0.0633	0.0673	-16.9348	0.2583	-0.4723	0.0915
4	150.12	0.9101	-0.7639	0.0379	0.0709	0.0752	-19.5054	0.3017	-0.2799	0.0939
4	150.12	0.9728	-0.8528	0.0479	0.1034	0.0847	-22.6726	0.3600	-0.1996	0.0933

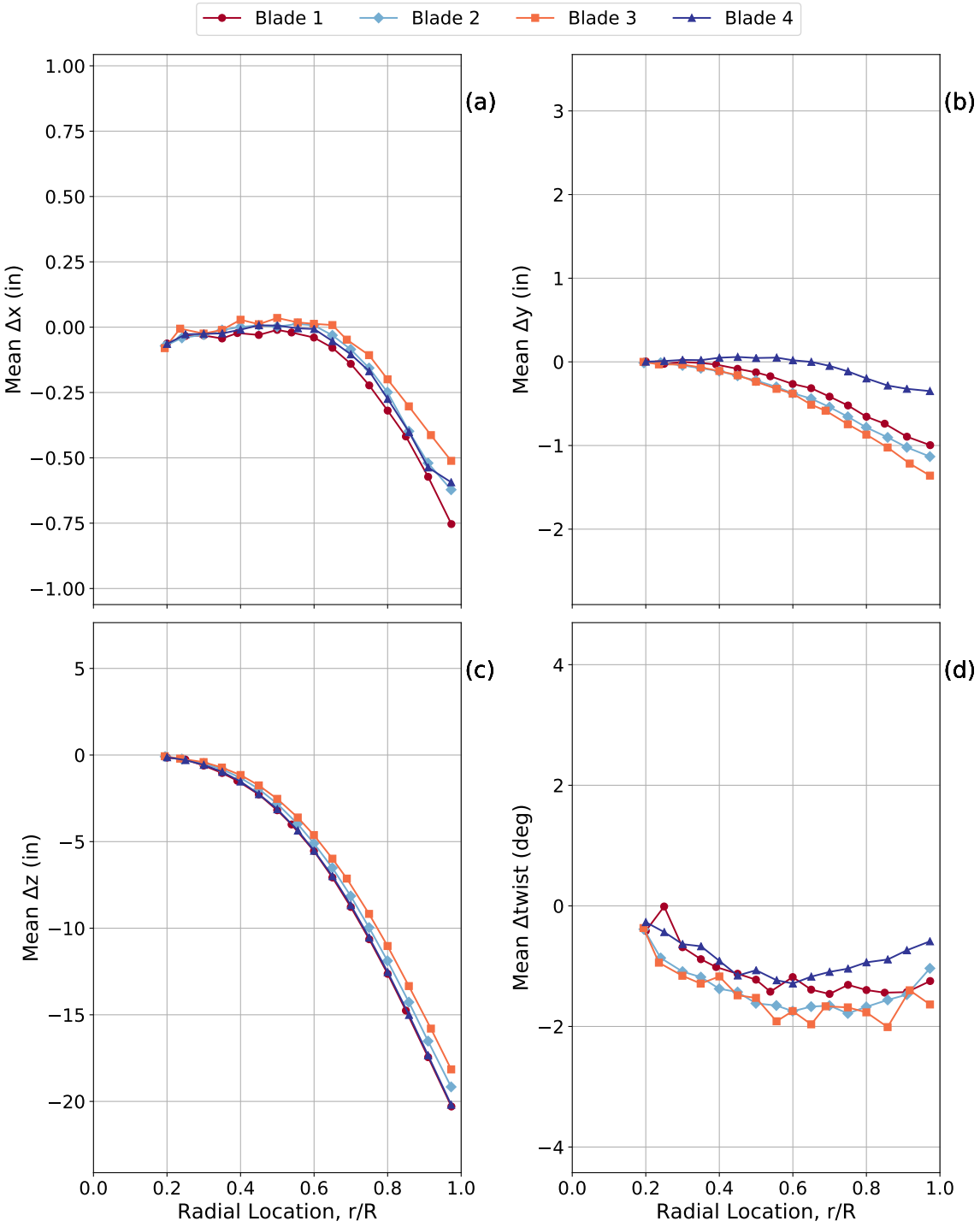


Figure 2.28-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0624	0.0016	0.0054	0.0011	-0.1507	0.0033	-0.4148	0.0279
1	164.88	0.2499	-0.0338	0.0019	-0.0236	0.0032	-0.2605	0.0059	-0.0104	0.0570
1	164.88	0.2998	-0.0318	0.0020	-0.0022	0.0053	-0.6096	0.0120	-0.6857	0.0653
1	164.88	0.3498	-0.0433	0.0022	-0.0132	0.0088	-1.0378	0.0215	-0.8845	0.0595
1	164.88	0.3913	-0.0225	0.0025	-0.0322	0.0133	-1.4851	0.0296	-1.0149	0.0616
1	164.88	0.4496	-0.0298	0.0032	-0.0833	0.0174	-2.2772	0.0424	-1.1257	0.0628
1	164.88	0.4997	-0.0104	0.0040	-0.1257	0.0224	-3.1893	0.0546	-1.2242	0.0670
1	164.88	0.5387	-0.0204	0.0040	-0.1724	0.0257	-4.0120	0.0638	-1.4235	0.0783
1	164.88	0.5996	-0.0397	0.0056	-0.2647	0.0326	-5.5435	0.0799	-1.1812	0.0650
1	164.88	0.6498	-0.0790	0.0073	-0.3151	0.0387	-7.0695	0.0920	-1.3892	0.0731
1	164.88	0.6998	-0.1404	0.0095	-0.4158	0.0450	-8.7738	0.1065	-1.4610	0.0726
1	164.88	0.7500	-0.2227	0.0122	-0.5216	0.0516	-10.6385	0.1225	-1.3102	0.0753
1	164.88	0.8001	-0.3192	0.0162	-0.6558	0.0588	-12.6344	0.1443	-1.3961	0.0767
1	164.88	0.8497	-0.4181	0.0202	-0.7392	0.0659	-14.7561	0.1704	-1.4398	0.0791
1	164.88	0.9102	-0.5726	0.0255	-0.8947	0.0750	-17.4487	0.2078	-1.4302	0.0849
1	164.88	0.9734	-0.7534	0.0323	-0.9958	0.0844	-20.2934	0.2510	-1.2468	0.0830
2	164.88	0.1949	-0.0717	0.0019	-0.0124	0.0012	-0.0915	0.0033	-0.3877	0.0345
2	164.88	0.2405	-0.0412	0.0021	-0.0108	0.0038	-0.2307	0.0068	-0.8640	0.0465
2	164.88	0.2999	-0.0287	0.0014	-0.0430	0.0063	-0.4856	0.0141	-1.0903	0.0763
2	164.88	0.3498	-0.0109	0.0019	-0.0764	0.0121	-0.8245	0.0246	-1.1815	0.0620
2	164.88	0.3998	0.0007	0.0030	-0.1113	0.0185	-1.3205	0.0379	-1.3753	0.0679
2	164.88	0.4496	0.0071	0.0035	-0.1670	0.0217	-1.9615	0.0521	-1.4289	0.0698
2	164.88	0.4995	0.0019	0.0039	-0.2228	0.0274	-2.8096	0.0684	-1.6167	0.0793
2	164.88	0.5551	0.0124	0.0053	-0.2995	0.0343	-3.9723	0.0885	-1.6525	0.0715
2	164.88	0.5996	0.0069	0.0067	-0.3749	0.0401	-5.1038	0.1052	-1.7471	0.0748
2	164.88	0.6497	-0.0311	0.0086	-0.4396	0.0464	-6.5123	0.1259	-1.6712	0.0758
2	164.88	0.6996	-0.0848	0.0111	-0.5405	0.0535	-8.1425	0.1489	-1.6542	0.0786
2	164.88	0.7495	-0.1562	0.0150	-0.6560	0.0609	-9.9625	0.1759	-1.7844	0.0802
2	164.88	0.7996	-0.2490	0.0197	-0.7833	0.0689	-11.8807	0.2090	-1.6750	0.0894
2	164.88	0.8578	-0.3982	0.0263	-0.9033	0.0787	-14.2698	0.2551	-1.5602	0.0904
2	164.88	0.9100	-0.5201	0.0328	-1.0218	0.0869	-16.5185	0.3013	-1.4721	0.0893
2	164.88	0.9727	-0.6220	0.0417	-1.1325	0.0977	-19.1608	0.3625	-1.0365	0.0942
3	164.88	0.1938	-0.0802	0.0017	-0.0002	0.0011	-0.0719	0.0035	-0.3679	0.0276
3	164.88	0.2357	-0.0057	0.0017	-0.0305	0.0028	-0.2096	0.0067	-0.9425	0.0405
3	164.88	0.2995	-0.0244	0.0019	-0.0314	0.0047	-0.4088	0.0150	-1.1592	0.0624
3	164.88	0.3493	-0.0107	0.0017	-0.0664	0.0089	-0.7258	0.0248	-1.2891	0.0589
3	164.88	0.4000	0.0284	0.0024	-0.1090	0.0135	-1.1552	0.0393	-1.1707	0.0588
3	164.88	0.4497	0.0113	0.0033	-0.1605	0.0180	-1.7559	0.0544	-1.4839	0.0661
3	164.88	0.4997	0.0352	0.0040	-0.2373	0.0207	-2.5315	0.0731	-1.5259	0.0697
3	164.88	0.5556	0.0183	0.0053	-0.3227	0.0275	-3.6074	0.0960	-1.9145	0.0737
3	164.88	0.5995	0.0127	0.0066	-0.3801	0.0329	-4.6215	0.1160	-1.7450	0.0726
3	164.88	0.6498	0.0081	0.0086	-0.5123	0.0391	-5.9846	0.1411	-1.9647	0.0802
3	164.88	0.6890	-0.0478	0.0101	-0.5836	0.0443	-7.1353	0.1603	-1.6660	0.0831
3	164.88	0.7495	-0.1071	0.0138	-0.7459	0.0533	-9.1737	0.1919	-1.6837	0.0930
3	164.88	0.7998	-0.1995	0.0176	-0.8695	0.0610	-11.0277	0.2211	-1.7660	0.0951
3	164.88	0.8577	-0.3030	0.0225	-1.0240	0.0709	-13.3408	0.2562	-2.0103	0.1056
3	164.88	0.9178	-0.4131	0.0274	-1.2158	0.0810	-15.7971	0.2989	-1.4002	0.1062
3	164.88	0.9729	-0.5115	0.0345	-1.3599	0.0908	-18.1540	0.3435	-1.6356	0.1047
4	164.88	0.2001	-0.0641	0.0017	0.0020	0.0011	-0.1271	0.0034	-0.2704	0.0408
4	164.88	0.2502	-0.0274	0.0017	0.0098	0.0031	-0.2956	0.0076	-0.4354	0.0527
4	164.88	0.3001	-0.0256	0.0019	0.0232	0.0049	-0.5676	0.0136	-0.6350	0.0872
4	164.88	0.3502	-0.0237	0.0020	0.0205	0.0085	-0.9702	0.0242	-0.6701	0.0664
4	164.88	0.4002	-0.0096	0.0025	0.0493	0.0133	-1.5326	0.0368	-0.9126	0.0730
4	164.88	0.4500	0.0072	0.0027	0.0586	0.0164	-2.2620	0.0508	-1.1554	0.0691
4	164.88	0.5001	0.0062	0.0036	0.0462	0.0207	-3.1314	0.0649	-1.0677	0.0780
4	164.88	0.5560	-0.0044	0.0047	0.0506	0.0268	-4.3657	0.0841	-1.2342	0.0745
4	164.88	0.6001	-0.0070	0.0061	0.0189	0.0317	-5.5284	0.1000	-1.2881	0.0764
4	164.88	0.6501	-0.0535	0.0076	-0.0005	0.0374	-6.9944	0.1186	-1.1738	0.0768
4	164.88	0.6999	-0.1041	0.0101	-0.0485	0.0437	-8.6721	0.1391	-1.0950	0.0864
4	164.88	0.7500	-0.1686	0.0137	-0.1146	0.0500	-10.5429	0.1638	-1.0410	0.0900
4	164.88	0.8002	-0.2746	0.0180	-0.1981	0.0570	-12.5340	0.1926	-0.9367	0.0948
4	164.88	0.8582	-0.4014	0.0242	-0.2835	0.0649	-15.0083	0.2344	-0.8890	0.0976
4	164.88	0.9101	-0.5368	0.0299	-0.3224	0.0724	-17.3392	0.2766	-0.7365	0.0987
4	164.88	0.9728	-0.5935	0.0380	-0.3496	0.0815	-20.1922	0.3337	-0.5878	0.1002

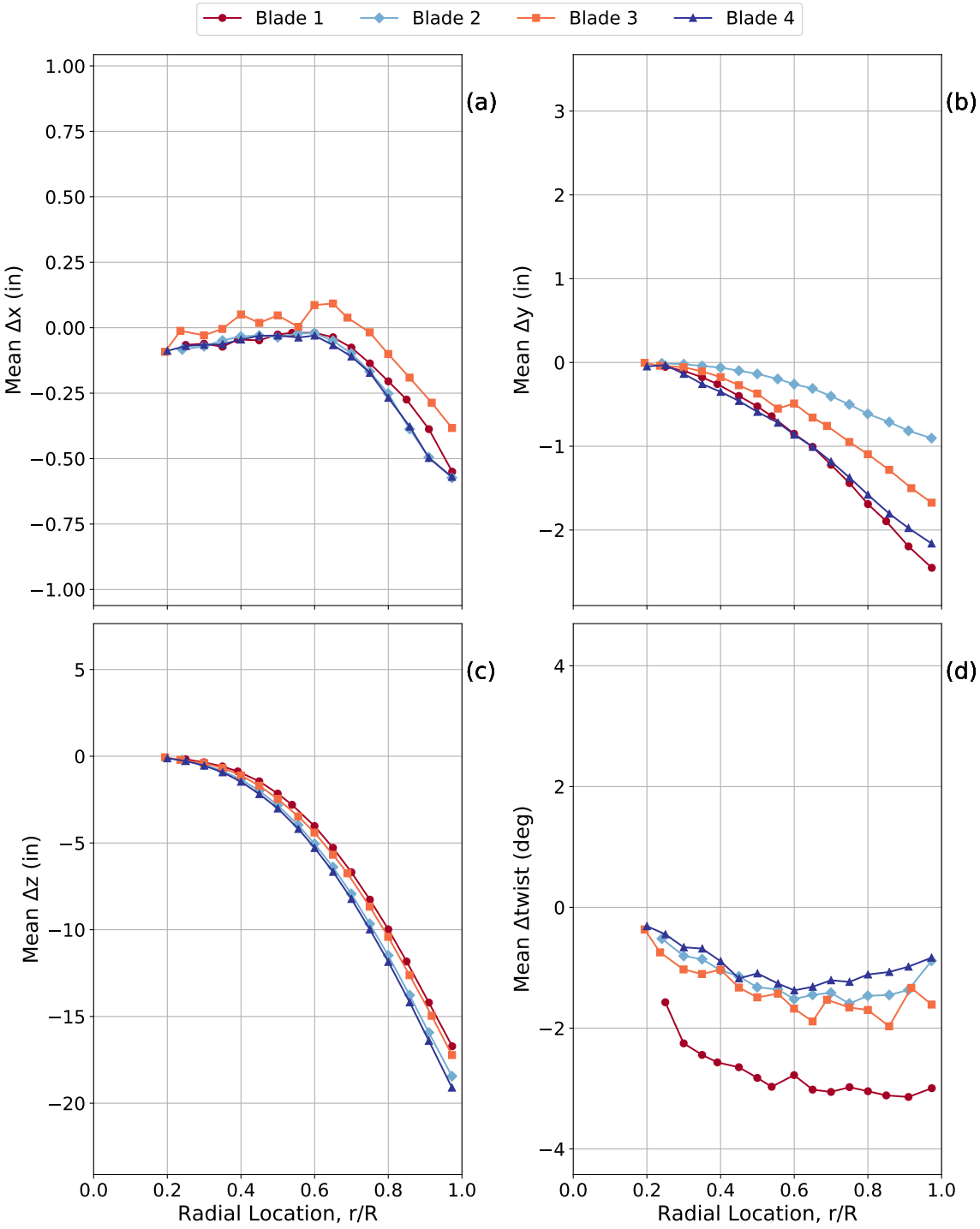


Figure 2.28-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.299, α = 8° NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2499	-0.0658	0.0031	-0.0524	0.0042	-0.1745	0.0107	-1.5717	0.0690
1	170.16	0.2998	-0.0610	0.0034	-0.0999	0.0078	-0.3483	0.0200	-2.2522	0.0977
1	170.16	0.3498	-0.0728	0.0035	-0.1768	0.0142	-0.5876	0.0336	-2.4429	0.0953
1	170.16	0.3913	-0.0454	0.0038	-0.2579	0.0204	-0.8753	0.0488	-2.5672	0.0945
1	170.16	0.4496	-0.0483	0.0043	-0.3998	0.0275	-1.4440	0.0681	-2.6473	0.1020
1	170.16	0.4997	-0.0260	0.0054	-0.5239	0.0340	-2.1517	0.0882	-2.8238	0.1103
1	170.16	0.5387	-0.0195	0.0058	-0.6418	0.0392	-2.7983	0.1054	-2.9712	0.1017
1	170.16	0.5996	-0.0193	0.0070	-0.8514	0.0490	-4.0256	0.1283	-2.7784	0.1108
1	170.16	0.6498	-0.0365	0.0084	-1.0073	0.0569	-5.2775	0.1497	-3.0183	0.1115
1	170.16	0.6998	-0.0759	0.0102	-1.2216	0.0655	-6.6875	0.1682	-3.0569	0.1157
1	170.16	0.7500	-0.1364	0.0122	-1.4400	0.0747	-8.2667	0.1876	-2.9773	0.1191
1	170.16	0.8001	-0.2048	0.0148	-1.6908	0.0838	-9.9773	0.2075	-3.0450	0.1244
1	170.16	0.8497	-0.2746	0.0177	-1.8953	0.0937	-11.8317	0.2285	-3.1139	0.1268
1	170.16	0.9102	-0.3875	0.0217	-2.1956	0.1062	-14.1996	0.2597	-3.1397	0.1261
1	170.16	0.9734	-0.5500	0.0267	-2.4511	0.1193	-16.7185	0.2956	-2.9949	0.1247
2	170.16	0.2405	-0.0833	0.0039	-0.0108	0.0044	-0.2191	0.0061	-0.5190	0.0558
2	170.16	0.2999	-0.0708	0.0034	-0.0206	0.0084	-0.4992	0.0149	-0.8051	0.0857
2	170.16	0.3498	-0.0491	0.0034	-0.0417	0.0170	-0.8395	0.0228	-0.8587	0.0729
2	170.16	0.3998	-0.0335	0.0040	-0.0618	0.0250	-1.3389	0.0375	-1.0411	0.0678
2	170.16	0.4496	-0.0298	0.0046	-0.0984	0.0311	-1.9905	0.0502	-1.1432	0.0847
2	170.16	0.4995	-0.0363	0.0048	-0.1369	0.0379	-2.8222	0.0646	-1.3239	0.0839
2	170.16	0.5551	-0.0218	0.0060	-0.1969	0.0456	-3.9596	0.0824	-1.3580	0.0861
2	170.16	0.5996	-0.0212	0.0069	-0.2591	0.0530	-5.0508	0.0972	-1.5194	0.0841
2	170.16	0.6497	-0.0501	0.0079	-0.3108	0.0608	-6.3873	0.1124	-1.4498	0.0864
2	170.16	0.6996	-0.0982	0.0095	-0.4032	0.0687	-7.9350	0.1287	-1.4142	0.0951
2	170.16	0.7495	-0.1677	0.0113	-0.5013	0.0772	-9.6618	0.1444	-1.5939	0.0970
2	170.16	0.7996	-0.2516	0.0143	-0.6137	0.0863	-11.4814	0.1634	-1.4643	0.0984
2	170.16	0.8578	-0.3870	0.0184	-0.7116	0.0966	-13.7714	0.1907	-1.4510	0.1035
2	170.16	0.9100	-0.4947	0.0226	-0.8154	0.1059	-15.9267	0.2186	-1.3680	0.1032
2	170.16	0.9727	-0.5733	0.0292	-0.9043	0.1179	-18.4436	0.2573	-0.8854	0.1041
3	170.16	0.1938	-0.0920	0.0125	-0.0050	0.0037	-0.0595	0.0078	-0.3662	0.0378
3	170.16	0.2357	-0.0120	0.0040	-0.0397	0.0043	-0.2106	0.0064	-0.7461	0.1094
3	170.16	0.2995	-0.0290	0.0039	-0.0567	0.0111	-0.3917	0.0234	-1.0285	0.1189
3	170.16	0.3493	-0.0047	0.0074	-0.1061	0.0195	-0.6730	0.0388	-1.1035	0.1269
3	170.16	0.4000	0.0505	0.0103	-0.1747	0.0287	-1.1016	0.0569	-1.0334	0.1256
3	170.16	0.4497	0.0184	0.0135	-0.2723	0.0364	-1.7002	0.0749	-1.3281	0.1351
3	170.16	0.4997	0.0470	0.0167	-0.3718	0.0442	-2.4583	0.0951	-1.4909	0.1353
3	170.16	0.5556	0.0032	0.0202	-0.5505	0.0563	-3.4717	0.1180	-1.4295	0.1456
3	170.16	0.5995	0.0863	0.0244	-0.4901	0.1641	-4.3989	0.2223	-1.6767	0.1125
3	170.16	0.6498	0.0923	0.0237	-0.6579	0.1794	-5.6760	0.2482	-1.8885	0.1107
3	170.16	0.6890	0.0383	0.0233	-0.7573	0.1919	-6.7453	0.2716	-1.5301	0.1126
3	170.16	0.7495	-0.0177	0.0235	-0.9491	0.2103	-8.6686	0.3106	-1.6581	0.1140
3	170.16	0.7998	-0.1004	0.0247	-1.0956	0.2262	-10.4125	0.3481	-1.6997	0.1164
3	170.16	0.8577	-0.1907	0.0278	-1.2817	0.2452	-12.6214	0.3957	-1.9696	0.1201
3	170.16	0.9178	-0.2866	0.0321	-1.5005	0.2648	-14.9608	0.4495	-1.3335	0.1183
3	170.16	0.9729	-0.3831	0.0372	-1.6734	0.2835	-17.2231	0.5022	-1.6096	0.1174
4	170.16	0.2001	-0.0883	0.0031	-0.0473	0.0040	-0.1186	0.0046	-0.3122	0.0339
4	170.16	0.2502	-0.0701	0.0045	-0.0321	0.0053	-0.2754	0.0091	-0.4464	0.0505
4	170.16	0.3001	-0.0655	0.0044	-0.1364	0.0135	-0.5426	0.0182	-0.6615	0.0731
4	170.16	0.3502	-0.0632	0.0052	-0.2580	0.0249	-0.9251	0.0303	-0.6834	0.0635
4	170.16	0.4002	-0.0453	0.0056	-0.3510	0.0358	-1.4677	0.0472	-0.8936	0.0906
4	170.16	0.4500	-0.0310	0.0065	-0.4599	0.0459	-2.1827	0.0642	-1.1773	0.0922
4	170.16	0.5001	-0.0298	0.0079	-0.5901	0.0566	-3.0113	0.0850	-1.0941	0.1001
4	170.16	0.5560	-0.0375	0.0092	-0.7198	0.0681	-4.1905	0.1063	-1.2624	0.1019
4	170.16	0.6001	-0.0301	0.0110	-0.8617	0.0777	-5.2880	0.1254	-1.3752	0.1059
4	170.16	0.6501	-0.0668	0.0133	-1.0074	0.0884	-6.6626	0.1480	-1.3149	0.1119
4	170.16	0.6999	-0.1101	0.0161	-1.1829	0.0990	-8.2272	0.1705	-1.2075	0.1230
4	170.16	0.7500	-0.1725	0.0204	-1.3737	0.1102	-9.9849	0.2001	-1.2344	0.1223
4	170.16	0.8002	-0.2678	0.0262	-1.5796	0.1212	-11.8539	0.2358	-1.1117	0.1319
4	170.16	0.8582	-0.3777	0.0345	-1.8055	0.1348	-14.1876	0.2896	-1.0707	0.1398
4	170.16	0.9101	-0.4974	0.0424	-1.9766	0.1467	-16.4034	0.3485	-0.9821	0.1466
4	170.16	0.9728	-0.5699	0.0552	-2.1611	0.1621	-19.1041	0.4279	-0.8334	0.1505

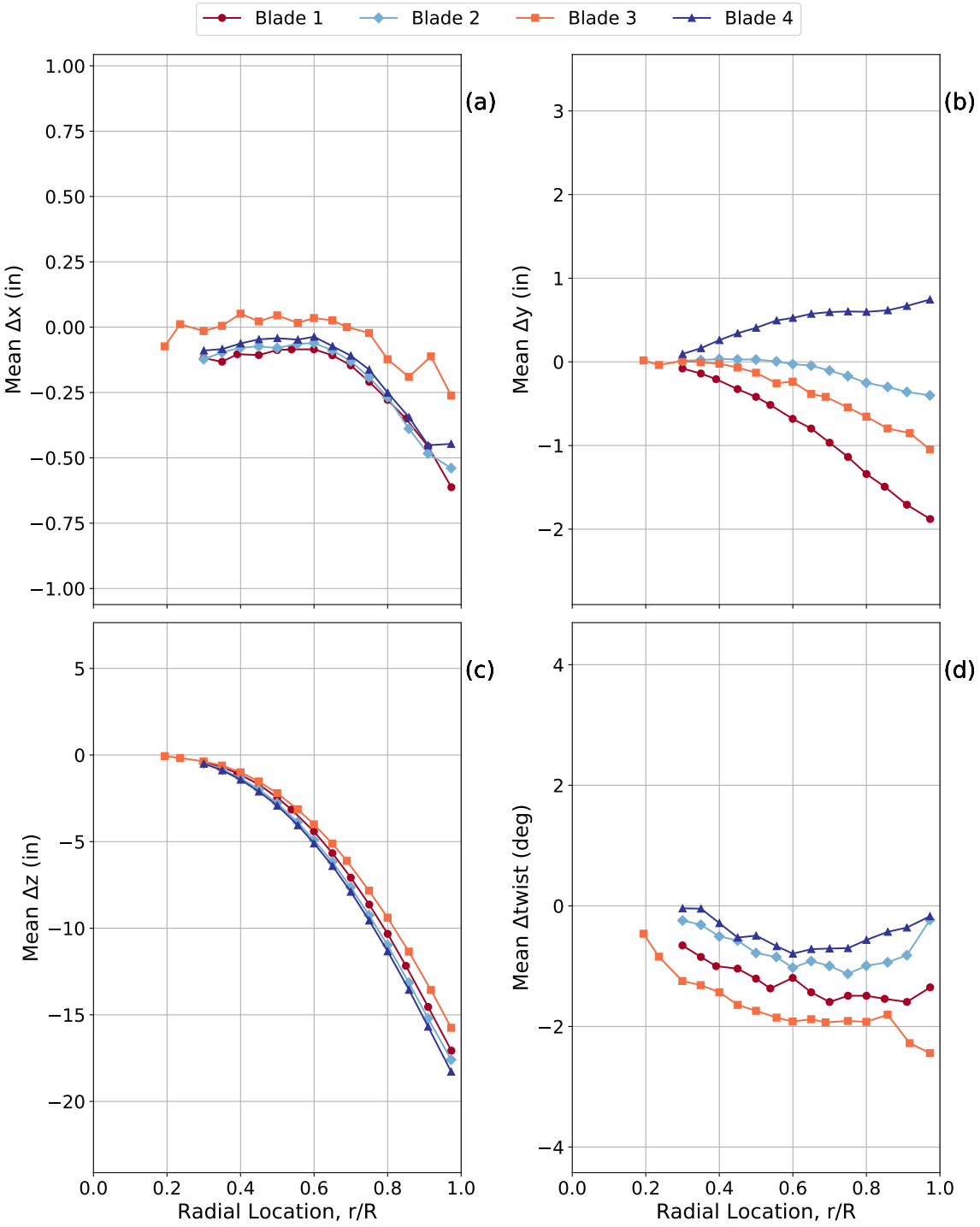


Figure 2.28-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2998	-0.1186	0.0113	-0.0794	0.0184	-0.3918	0.0354	-0.6561	0.0968
1	175.08	0.3498	-0.1323	0.0121	-0.1392	0.0322	-0.7009	0.0628	-0.8475	0.1285
1	175.08	0.3913	-0.1034	0.0125	-0.2070	0.0478	-1.0526	0.0941	-0.9998	0.1143
1	175.08	0.4496	-0.1067	0.0139	-0.3258	0.0676	-1.6954	0.1330	-1.0407	0.1069
1	175.08	0.4997	-0.0877	0.0151	-0.4187	0.0848	-2.4630	0.1678	-1.2073	0.1089
1	175.08	0.5387	-0.0849	0.0161	-0.5149	0.0982	-3.1507	0.1955	-1.3696	0.1129
1	175.08	0.5996	-0.0848	0.0187	-0.6815	0.1192	-4.4139	0.2374	-1.1948	0.1221
1	175.08	0.6498	-0.1077	0.0219	-0.7972	0.1376	-5.6679	0.2734	-1.4333	0.1258
1	175.08	0.6998	-0.1462	0.0253	-0.9660	0.1558	-7.0796	0.3133	-1.5939	0.1213
1	175.08	0.7500	-0.2090	0.0306	-1.1372	0.1749	-8.6358	0.3571	-1.4906	0.1289
1	175.08	0.8001	-0.2781	0.0373	-1.3409	0.1942	-10.3262	0.4090	-1.4908	0.1306
1	175.08	0.8497	-0.3502	0.0457	-1.4926	0.2138	-12.1718	0.4699	-1.5420	0.1306
1	175.08	0.9102	-0.4567	0.0572	-1.7082	0.2379	-14.5460	0.5574	-1.5933	0.1340
1	175.08	0.9734	-0.6126	0.0736	-1.8791	0.2642	-17.0696	0.6609	-1.3518	0.1352
2	175.08	0.2999	-0.1225	0.0091	0.0126	0.0169	-0.4837	0.0419	-0.2427	0.1707
2	175.08	0.3498	-0.0965	0.0096	0.0216	0.0291	-0.8415	0.0714	-0.3137	0.2247
2	175.08	0.3998	-0.0784	0.0108	0.0341	0.0461	-1.3402	0.1123	-0.5065	0.2018
2	175.08	0.4496	-0.0736	0.0122	0.0291	0.0617	-1.9749	0.1492	-0.5748	0.2057
2	175.08	0.4995	-0.0797	0.0139	0.0276	0.0784	-2.7835	0.1886	-0.7819	0.2007
2	175.08	0.5551	-0.0636	0.0159	0.0054	0.0975	-3.8763	0.2340	-0.8471	0.2002
2	175.08	0.5996	-0.0608	0.0185	-0.0265	0.1134	-4.9126	0.2721	-1.0260	0.1995
2	175.08	0.6497	-0.0887	0.0216	-0.0451	0.1313	-6.1661	0.3153	-0.9156	0.2022
2	175.08	0.6996	-0.1298	0.0253	-0.1044	0.1498	-7.6329	0.3603	-0.9972	0.2003
2	175.08	0.7495	-0.1917	0.0295	-0.1697	0.1692	-9.2507	0.4076	-1.1279	0.2019
2	175.08	0.7996	-0.2673	0.0344	-0.2503	0.1885	-10.9722	0.4562	-0.9928	0.2010
2	175.08	0.8578	-0.3885	0.0412	-0.3006	0.2121	-13.1444	0.5132	-0.9365	0.2035
2	175.08	0.9100	-0.4835	0.0466	-0.3592	0.2333	-15.2035	0.5653	-0.8186	0.1992
2	175.08	0.9727	-0.5392	0.0530	-0.4004	0.2592	-17.5927	0.6265	-0.2333	0.2054
3	175.08	0.1938	-0.0733	0.0131	0.0177	0.0023	-0.0643	0.0031	-0.4619	0.0205
3	175.08	0.2357	0.0114	0.0074	-0.0382	0.0042	-0.1720	0.0062	-0.8431	0.0376
3	175.08	0.2995	-0.0149	0.0039	0.0109	0.0106	-0.3687	0.0135	-1.2472	0.0501
3	175.08	0.3493	0.0050	0.0112	-0.0050	0.0179	-0.6089	0.0230	-1.3146	0.0517
3	175.08	0.4000	0.0515	0.0190	-0.0219	0.0284	-0.9972	0.0361	-1.4318	0.0578
3	175.08	0.4497	0.0221	0.0268	-0.0677	0.0392	-1.5279	0.0506	-1.6418	0.0614
3	175.08	0.4997	0.0449	0.0341	-0.1300	0.0521	-2.2034	0.0671	-1.7400	0.0648
3	175.08	0.5556	0.0165	0.0420	-0.2556	0.0669	-3.1404	0.0882	-1.8527	0.0687
3	175.08	0.5995	0.0349	0.0480	-0.2365	0.0800	-4.0016	0.1062	-1.9185	0.0759
3	175.08	0.6498	0.0260	0.0546	-0.3836	0.0952	-5.1149	0.1280	-1.8800	0.0804
3	175.08	0.6890	0.0005	0.0598	-0.4183	0.1086	-6.1121	0.1482	-1.9326	0.0828
3	175.08	0.7495	-0.0223	0.0680	-0.5446	0.1306	-7.8341	0.1813	-1.9088	0.0839
3	175.08	0.7998	-0.1227	0.0743	-0.6553	0.1514	-9.3945	0.2122	-1.9237	0.0862
3	175.08	0.8577	-0.1904	0.0838	-0.7963	0.1764	-11.3543	0.2514	-1.8042	0.1052
3	175.08	0.9178	-0.1119	0.0916	-0.8515	0.2056	-13.5674	0.2934	-2.2774	0.1285
3	175.08	0.9729	-0.2617	0.1021	-1.0480	0.2330	-15.7500	0.3357	-2.4414	0.1730
4	175.08	0.3001	-0.0894	0.0111	0.0943	0.0150	-0.5024	0.0344	-0.0409	0.1142
4	175.08	0.3502	-0.0839	0.0112	0.1637	0.0259	-0.8868	0.0606	-0.0465	0.1511
4	175.08	0.4002	-0.0622	0.0124	0.2603	0.0413	-1.4244	0.0973	-0.2865	0.1380
4	175.08	0.4500	-0.0466	0.0133	0.3424	0.0544	-2.1130	0.1290	-0.5259	0.1443
4	175.08	0.5001	-0.0421	0.0155	0.4072	0.0687	-2.9223	0.1625	-0.4938	0.1519
4	175.08	0.5560	-0.0477	0.0173	0.4957	0.0848	-4.0555	0.2028	-0.6695	0.1478
4	175.08	0.6001	-0.0368	0.0193	0.5253	0.0975	-5.1034	0.2350	-0.7930	0.1548
4	175.08	0.6501	-0.0727	0.0222	0.5745	0.1123	-6.4078	0.2717	-0.7170	0.1548
4	175.08	0.6999	-0.1092	0.0256	0.5953	0.1276	-7.8965	0.3093	-0.7081	0.1587
4	175.08	0.7500	-0.1627	0.0289	0.6027	0.1432	-9.5591	0.3482	-0.7017	0.1506
4	175.08	0.8002	-0.2511	0.0335	0.5983	0.1589	-11.3369	0.3886	-0.5650	0.1540
4	175.08	0.8582	-0.3446	0.0390	0.6163	0.1774	-13.5580	0.4357	-0.4304	0.1606
4	175.08	0.9101	-0.4517	0.0444	0.6686	0.1946	-15.6869	0.4817	-0.3601	0.1681
4	175.08	0.9728	-0.4467	0.0526	0.7444	0.2148	-18.2822	0.5420	-0.1725	0.1596

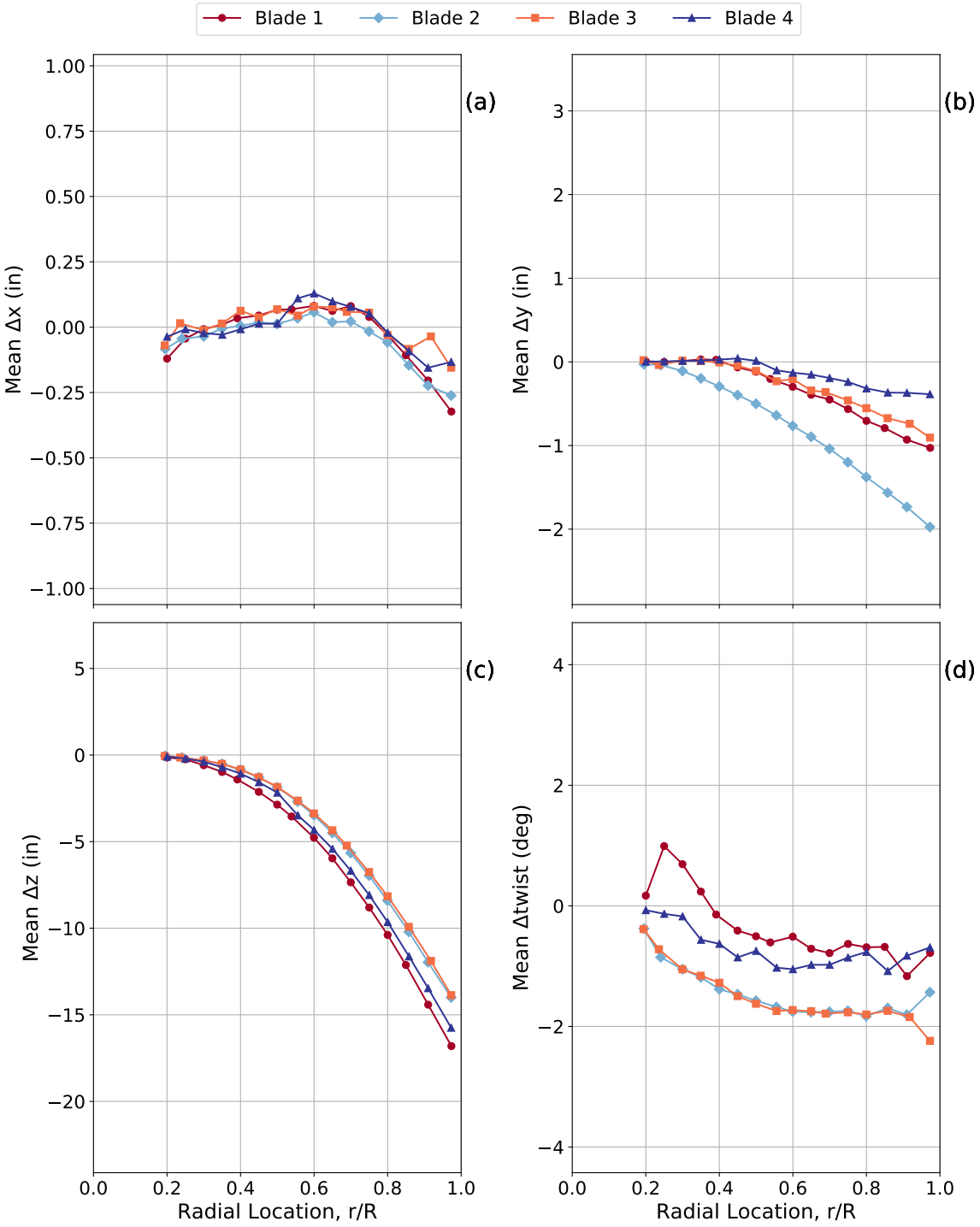


Figure 2.28-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2001	-0.1205	0.0279	0.0067	0.0123	-0.1452	0.0381	0.1691	0.2950
1	180	0.2499	-0.0438	0.0111	-0.0016	0.0183	-0.2473	0.0576	0.9912	0.7035
1	180	0.2998	-0.0076	0.0161	0.0097	0.0435	-0.5889	0.1261	0.6915	0.7701
1	180	0.3498	0.0097	0.0452	0.0292	0.0774	-0.9784	0.2477	0.2371	0.4382
1	180	0.3913	0.0341	0.0546	0.0240	0.1050	-1.4134	0.3215	-0.1441	0.2914
1	180	0.4496	0.0447	0.0665	-0.0660	0.1230	-2.1263	0.3925	-0.4104	0.2836
1	180	0.4997	0.0669	0.0768	-0.1180	0.1402	-2.8650	0.4539	-0.5046	0.2783
1	180	0.5387	0.0685	0.0830	-0.2043	0.1550	-3.5473	0.5006	-0.6065	0.2847
1	180	0.5996	0.0814	0.0919	-0.2985	0.1769	-4.7727	0.5768	-0.5107	0.2841
1	180	0.6498	0.0620	0.0981	-0.3932	0.1966	-5.9656	0.6426	-0.7110	0.2709
1	180	0.6998	0.0807	0.0953	-0.4505	0.2251	-7.3500	0.7809	-0.7830	0.2576
1	180	0.7500	0.0389	0.0935	-0.5644	0.2481	-8.8061	0.8516	-0.6312	0.2510
1	180	0.8001	-0.0303	0.0913	-0.7053	0.2717	-10.3919	0.9259	-0.6868	0.2386
1	180	0.8497	-0.1073	0.0894	-0.7918	0.2954	-12.1234	0.9995	-0.6807	0.2437
1	180	0.9102	-0.2042	0.0891	-0.9303	0.3243	-14.4149	1.0926	-1.1658	0.2610
1	180	0.9734	-0.3229	0.0964	-1.0285	0.3469	-16.8064	1.1936	-0.7805	0.2464
2	180	0.1949	-0.0836	0.0234	-0.0280	0.0027	-0.0542	0.0040	-0.3775	0.0263
2	180	0.2405	-0.0445	0.0106	-0.0382	0.0048	-0.1453	0.0062	-0.8527	0.0601
2	180	0.2999	-0.0352	0.0060	-0.1089	0.0110	-0.3146	0.0141	-1.0507	0.0697
2	180	0.3498	-0.0051	0.0186	-0.1977	0.0193	-0.5158	0.0244	-1.1843	0.0647
2	180	0.3998	0.0051	0.0303	-0.2935	0.0295	-0.8474	0.0365	-1.3825	0.0743
2	180	0.4496	0.0182	0.0414	-0.3965	0.0404	-1.2885	0.0491	-1.4668	0.0746
2	180	0.4995	0.0125	0.0515	-0.5011	0.0525	-1.8587	0.0625	-1.5735	0.0819
2	180	0.5551	0.0342	0.0611	-0.6399	0.0683	-2.6865	0.0790	-1.6768	0.0849
2	180	0.5996	0.0570	0.0675	-0.7653	0.0816	-3.4772	0.0947	-1.7531	0.0916
2	180	0.6497	0.0191	0.0740	-0.8958	0.0986	-4.4973	0.1090	-1.7638	0.0878
2	180	0.6996	0.0221	0.0794	-1.0394	0.1165	-5.6581	0.1272	-1.7564	0.0964
2	180	0.7495	-0.0164	0.0828	-1.1999	0.1355	-6.9597	0.1467	-1.7404	0.1011
2	180	0.7996	-0.0580	0.0848	-1.3770	0.1569	-8.4023	0.1678	-1.8302	0.1034
2	180	0.8578	-0.1456	0.0857	-1.5637	0.1834	-10.2092	0.1937	-1.6943	0.1032
2	180	0.9100	-0.2234	0.0850	-1.7348	0.2093	-11.9624	0.2194	-1.8059	0.1104
2	180	0.9727	-0.2614	0.0809	-1.9743	0.2422	-13.9966	0.2542	-1.4320	0.1106
3	180.35	0.1938	-0.0699	0.0130	0.0198	0.0022	-0.0540	0.0036	-0.3852	0.0243
3	180.35	0.2357	0.0150	0.0067	-0.0366	0.0031	-0.1448	0.0057	-0.7196	0.0470
3	180.35	0.2995	-0.0114	0.0045	0.0146	0.0087	-0.3090	0.0130	-1.0515	0.0592
3	180.35	0.3493	0.0139	0.0126	0.0086	0.0144	-0.5117	0.0218	-1.1580	0.0563
3	180.35	0.4000	0.0627	0.0211	-0.0071	0.0226	-0.8369	0.0336	-1.2754	0.0624
3	180.35	0.4497	0.0375	0.0290	-0.0467	0.0312	-1.2805	0.0458	-1.4977	0.0630
3	180.35	0.4997	0.0687	0.0360	-0.1086	0.0415	-1.8447	0.0610	-1.6237	0.0693
3	180.35	0.5556	0.0444	0.0434	-0.2318	0.0541	-2.6373	0.0794	-1.7435	0.0704
3	180.35	0.5995	0.0786	0.0486	-0.2058	0.0639	-3.3706	0.0948	-1.7287	0.0696
3	180.35	0.6498	0.0758	0.0546	-0.3418	0.0761	-4.3472	0.1128	-1.7481	0.0815
3	180.35	0.6890	0.0586	0.0583	-0.3617	0.0866	-5.2285	0.1288	-1.7872	0.0840
3	180.35	0.7495	0.0558	0.0641	-0.4608	0.1032	-6.7579	0.1545	-1.7653	0.0920
3	180.35	0.7998	-0.0303	0.0686	-0.5539	0.1180	-8.1539	0.1785	-1.8013	0.0869
3	180.35	0.8577	-0.0833	0.0733	-0.6733	0.1364	-9.9215	0.2084	-1.7406	0.0932
3	180.35	0.9178	-0.0355	0.0784	-0.7405	0.1570	-11.8885	0.2431	-1.8444	0.0987
3	180.35	0.9729	-0.1551	0.0871	-0.9064	0.1773	-13.8655	0.2779	-2.2389	0.1153
4	180	0.2001	-0.0366	0.0052	0.0021	0.0017	-0.0946	0.0034	-0.0714	0.0253
4	180	0.2502	-0.0081	0.0032	0.0046	0.0045	-0.2030	0.0063	-0.1328	0.0542
4	180	0.3001	-0.0227	0.0026	0.0114	0.0075	-0.3885	0.0132	-0.1748	0.0594
4	180	0.3502	-0.0291	0.0083	0.0150	0.0103	-0.7065	0.0203	-0.5631	0.0595
4	180	0.4002	-0.0079	0.0088	0.0269	0.0180	-1.0766	0.0323	-0.6301	0.0436
4	180	0.4500	0.0131	0.0103	0.0415	0.0254	-1.5726	0.0408	-0.8547	0.0518
4	180	0.5001	0.0135	0.0123	0.0119	0.0327	-2.1750	0.0504	-0.7473	0.0570
4	180	0.5560	0.1102	0.0124	-0.1014	0.0704	-3.4866	0.1138	-1.0258	0.0493
4	180	0.6001	0.1292	0.0133	-0.1300	0.0799	-4.3301	0.1257	-1.0510	0.0483
4	180	0.6501	0.0989	0.0163	-0.1520	0.0910	-5.4194	0.1398	-0.9780	0.0500
4	180	0.6999	0.0775	0.0207	-0.1934	0.1028	-6.6838	0.1547	-0.9769	0.0567
4	180	0.7500	0.0529	0.0263	-0.2396	0.1151	-8.0897	0.1693	-0.8576	0.0568
4	180	0.8002	-0.0212	0.0333	-0.3180	0.1274	-9.6493	0.1841	-0.7641	0.0618
4	180	0.8582	-0.0918	0.0420	-0.3670	0.1423	-11.6315	0.2020	-1.0815	0.0576
4	180	0.9101	-0.1553	0.0518	-0.3703	0.1558	-13.4636	0.2187	-0.8262	0.0641
4	180	0.9728	-0.1331	0.0665	-0.3870	0.1706	-15.7486	0.2408	-0.6896	0.0638

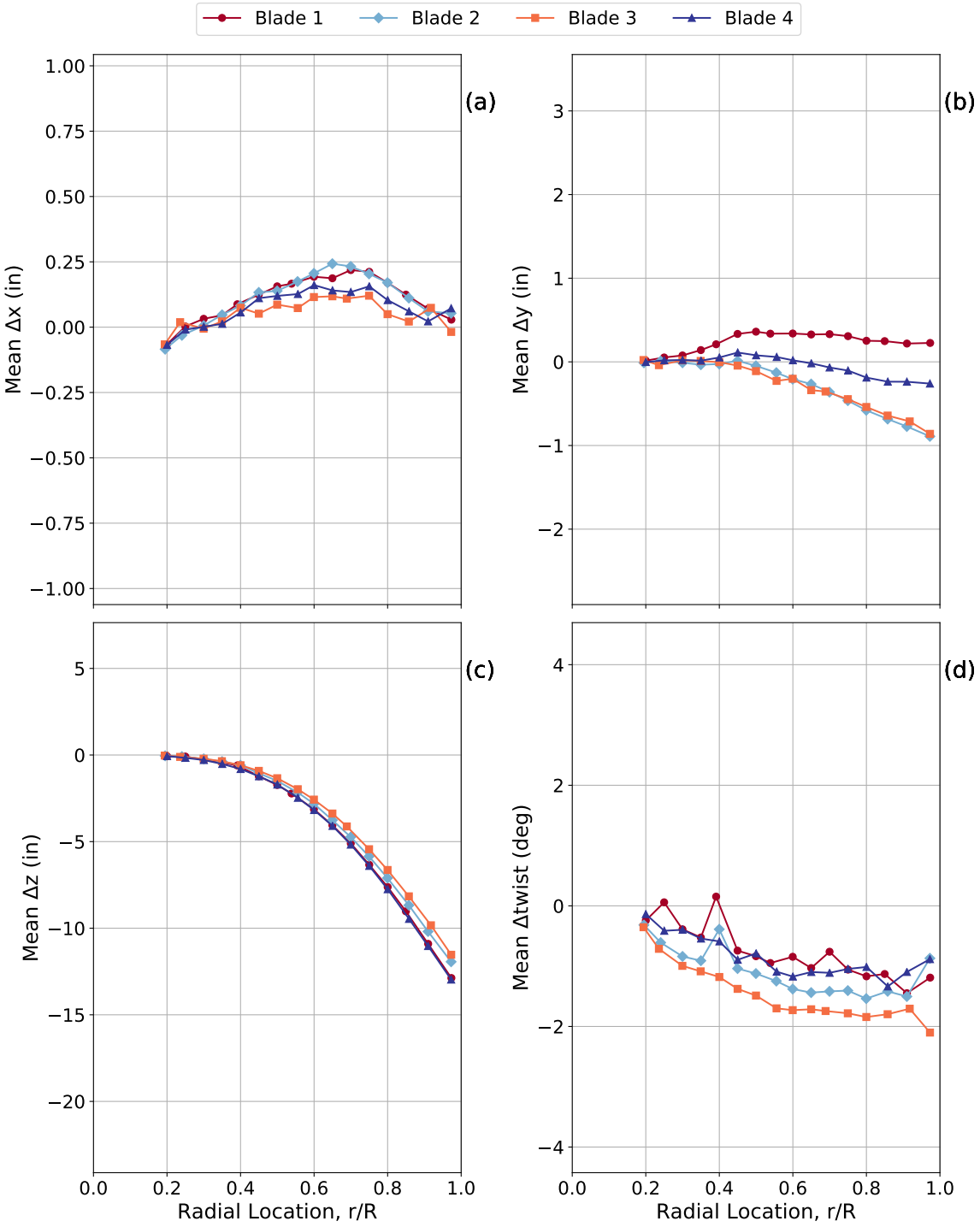


Figure 2.28-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-26. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0655	0.0107	0.0145	0.0063	-0.0732	0.0100	-0.2424	0.0360
1	184.92	0.2499	0.0027	0.0114	0.0525	0.0238	-0.0891	0.0372	0.0588	0.0626
1	184.92	0.2998	0.0320	0.0109	0.0767	0.0408	-0.2618	0.0654	-0.3887	0.0782
1	184.92	0.3498	0.0455	0.0114	0.1406	0.0590	-0.4353	0.0936	-0.5247	0.0682
1	184.92	0.3913	0.0877	0.0185	0.2102	0.1000	-0.6048	0.1597	0.1534	0.6650
1	184.92	0.4496	0.1245	0.0643	0.3340	0.2348	-1.2232	0.0615	-0.7426	0.0731
1	184.92	0.4997	0.1562	0.0699	0.3608	0.2696	-1.7302	0.0777	-0.8353	0.0877
1	184.92	0.5387	0.1663	0.0731	0.3370	0.2959	-2.2224	0.0932	-0.9482	0.0886
1	184.92	0.5996	0.1929	0.0768	0.3390	0.3374	-3.1302	0.1170	-0.8445	0.0803
1	184.92	0.6498	0.1871	0.0789	0.3273	0.3719	-4.0572	0.1397	-1.0312	0.0938
1	184.92	0.6998	0.2185	0.0719	0.3313	0.4262	-5.1009	0.1664	-0.7609	0.5379
1	184.92	0.7500	0.2119	0.0666	0.3073	0.4828	-6.3398	0.1658	-1.0573	0.1074
1	184.92	0.8001	0.1698	0.0573	0.2522	0.5215	-7.6209	0.1945	-1.1686	0.1080
1	184.92	0.8497	0.1245	0.0464	0.2480	0.5599	-9.0243	0.2283	-1.1301	0.1247
1	184.92	0.9102	0.0706	0.0320	0.2189	0.6055	-10.9032	0.2745	-1.4486	0.1373
1	184.92	0.9734	0.0288	0.0273	0.2261	0.6519	-12.8754	0.3263	-1.1902	0.1472
2	184.92	0.1949	-0.0843	0.0047	-0.0113	0.0027	-0.0473	0.0048	-0.3172	0.0322
2	184.92	0.2405	-0.0312	0.0048	0.0098	0.0089	-0.0933	0.0163	-0.6089	0.0542
2	184.92	0.2999	0.0060	0.0048	-0.0108	0.0184	-0.2206	0.0315	-0.8387	0.0735
2	184.92	0.3498	0.0473	0.0050	-0.0340	0.0265	-0.3782	0.0482	-0.9097	0.0653
2	184.92	0.3998	0.0824	0.0105	-0.0259	0.0470	-0.5916	0.0830	-0.3878	0.3225
2	184.92	0.4496	0.1330	0.0374	0.0130	0.1065	-1.0552	0.0476	-1.0398	0.0711
2	184.92	0.4995	0.1388	0.0399	-0.0475	0.1208	-1.4925	0.0612	-1.1224	0.0829
2	184.92	0.5551	0.1745	0.0430	-0.1292	0.1377	-2.1570	0.0795	-1.2475	0.1007
2	184.92	0.5996	0.2059	0.0443	-0.2070	0.1506	-2.8169	0.0926	-1.3793	0.1214
2	184.92	0.6497	0.2428	0.0412	-0.2652	0.1784	-3.7599	0.1154	-1.4386	0.1014
2	184.92	0.6996	0.2324	0.0377	-0.3618	0.1962	-4.7356	0.1326	-1.4179	0.1050
2	184.92	0.7495	0.2039	0.0336	-0.4636	0.2139	-5.8544	0.1524	-1.4055	0.1033
2	184.92	0.7996	0.1703	0.0285	-0.5788	0.2322	-7.1041	0.1732	-1.5379	0.1117
2	184.92	0.8578	0.1114	0.0224	-0.6838	0.2537	-8.6757	0.1999	-1.4173	0.1206
2	184.92	0.9100	0.0602	0.0177	-0.7727	0.2722	-10.1899	0.2251	-1.5032	0.1234
2	184.92	0.9727	0.0533	0.0180	-0.8904	0.2929	-11.9377	0.2580	-0.8697	0.1207
3	184.92	0.1938	-0.0658	0.0140	0.0218	0.0027	-0.0336	0.0045	-0.3542	0.0240
3	184.92	0.2357	0.0191	0.0073	-0.0396	0.0037	-0.1096	0.0073	-0.7125	0.0439
3	184.92	0.2995	-0.0057	0.0047	0.0181	0.0106	-0.2147	0.0170	-0.9949	0.0547
3	184.92	0.3493	0.0218	0.0133	0.0109	0.0177	-0.3577	0.0281	-1.0859	0.0557
3	184.92	0.4000	0.0743	0.0215	-0.0037	0.0276	-0.5909	0.0438	-1.1797	0.0603
3	184.92	0.4497	0.0516	0.0284	-0.0447	0.0376	-0.9158	0.0591	-1.3766	0.0618
3	184.92	0.4997	0.0863	0.0348	-0.1106	0.0487	-1.3400	0.0780	-1.4876	0.0623
3	184.92	0.5556	0.0730	0.0406	-0.2275	0.0617	-1.9739	0.0999	-1.6996	0.0667
3	184.92	0.5995	0.1152	0.0446	-0.2019	0.0715	-2.5742	0.1177	-1.7296	0.0698
3	184.92	0.6498	0.1181	0.0480	-0.3381	0.0843	-3.3786	0.1393	-1.7151	0.0724
3	184.92	0.6890	0.1093	0.0498	-0.3545	0.0945	-4.1229	0.1584	-1.7440	0.0736
3	184.92	0.7495	0.1204	0.0528	-0.4460	0.1105	-5.4389	0.1867	-1.7817	0.0766
3	184.92	0.7998	0.0497	0.0551	-0.5393	0.1251	-6.6386	0.2132	-1.8434	0.0745
3	184.92	0.8577	0.0214	0.0592	-0.6420	0.1444	-8.1600	0.2462	-1.7970	0.0838
3	184.92	0.9178	0.0740	0.0641	-0.7121	0.1659	-9.8306	0.2798	-1.7055	0.0881
3	184.92	0.9729	-0.0182	0.0704	-0.8606	0.1852	-11.5328	0.3073	-2.1014	0.1094
4	184.92	0.2001	-0.0679	0.0121	-0.0021	0.0042	-0.0647	0.0041	-0.1368	0.0269
4	184.92	0.2502	-0.0094	0.0073	0.0179	0.0122	-0.1649	0.0088	-0.4134	0.0465
4	184.92	0.3001	0.0015	0.0024	0.0224	0.0224	-0.2913	0.0159	-0.3964	0.0581
4	184.92	0.3502	0.0127	0.0055	0.0146	0.0352	-0.5176	0.0269	-0.5425	0.0507
4	184.92	0.4002	0.0562	0.0068	0.0523	0.0593	-0.8103	0.0416	-0.5896	0.0654
4	184.92	0.4500	0.1109	0.0294	0.1115	0.0931	-1.2300	0.0520	-0.8943	0.0591
4	184.92	0.5001	0.1197	0.0285	0.0783	0.1093	-1.7064	0.0697	-0.7883	0.0641
4	184.92	0.5560	0.1267	0.0276	0.0579	0.1278	-2.4719	0.0912	-1.0917	0.0747
4	184.92	0.6001	0.1609	0.0266	0.0188	0.1422	-3.1781	0.1106	-1.1729	0.0723
4	184.92	0.6501	0.1406	0.0262	-0.0177	0.1588	-4.0948	0.1330	-1.0971	0.0782
4	184.92	0.6999	0.1343	0.0278	-0.0674	0.1763	-5.1748	0.1577	-1.1105	0.0993
4	184.92	0.7500	0.1563	0.0233	-0.1042	0.2111	-6.4035	0.1973	-1.0456	0.0827
4	184.92	0.8002	0.1034	0.0283	-0.1881	0.2287	-7.7505	0.2264	-1.0135	0.0851
4	184.92	0.8582	0.0604	0.0352	-0.2370	0.2502	-9.4625	0.2633	-1.3364	0.0915
4	184.92	0.9101	0.0220	0.0428	-0.2378	0.2709	-11.0306	0.2983	-1.0962	0.0926
4	184.92	0.9728	0.0721	0.0484	-0.2598	0.2994	-12.9668	0.3449	-0.8837	0.0900

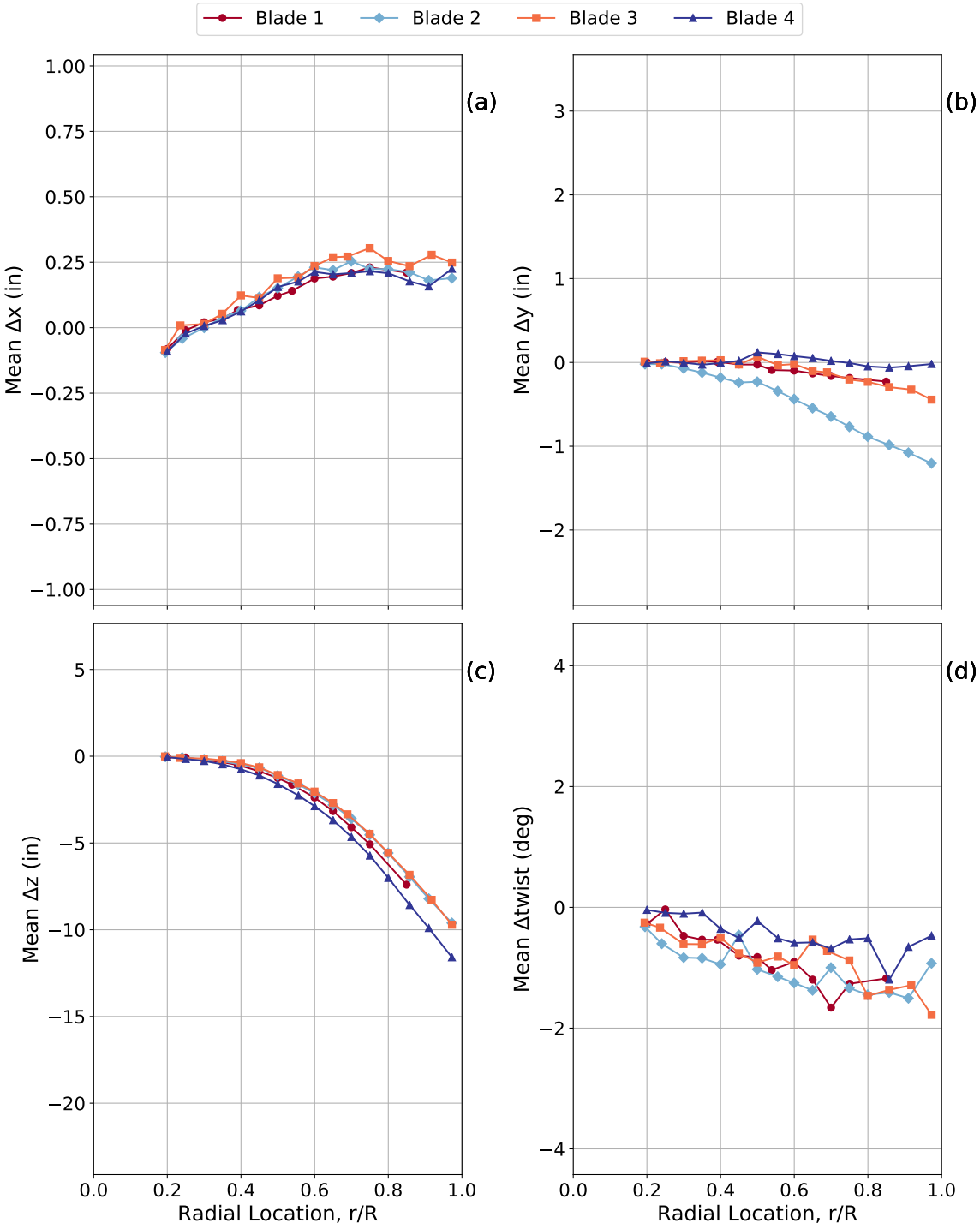


Figure 2.28-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0812	0.0019	0.0015	0.0016	-0.0572	0.0046	-0.2753	0.0360
1	189.84	0.2499	-0.0100	0.0017	0.0043	0.0040	-0.0730	0.0094	-0.0341	0.0521
1	189.84	0.2998	0.0206	0.0014	-0.0035	0.0061	-0.2217	0.0178	-0.4712	0.0764
1	189.84	0.3498	0.0350	0.0021	0.0173	0.0115	-0.3445	0.0317	-0.5351	0.0667
1	189.84	0.3913	0.0675	0.0022	0.0081	0.0160	-0.5007	0.0447	-0.5349	0.0689
1	189.84	0.4496	0.0853	0.0030	-0.0242	0.0219	-0.8662	0.0666	-0.7994	0.0762
1	189.84	0.4997	0.1218	0.0040	-0.0253	0.0279	-1.2518	0.0897	-0.8225	0.0844
1	189.84	0.5387	0.1406	0.0044	-0.0903	0.0327	-1.6390	0.1075	-1.0382	0.0974
1	189.84	0.5996	0.1877	0.0054	-0.0969	0.0412	-2.3825	0.1419	-0.9026	0.1002
1	189.84	0.6498	0.1948	0.0073	-0.1313	0.0497	-3.1639	0.1775	-1.1976	0.0876
1	189.84	0.6998	0.2087	0.0109	-0.1612	0.0618	-4.0942	0.2213	-1.6607	0.2703
1	189.84	0.7500	0.2302	0.0130	-0.1852	0.0739	-5.0794	0.2699	-1.2657	0.2497
1	189.84	0.8497	0.2104	0.0232	-0.2283	0.0907	-7.4024	0.3960	-1.1775	0.3208
2	189.84	0.1949	-0.0951	0.0018	-0.0196	0.0014	-0.0324	0.0035	-0.3207	0.0276
2	189.84	0.2405	-0.0420	0.0012	-0.0191	0.0029	-0.0766	0.0072	-0.6015	0.0429
2	189.84	0.2999	-0.0003	0.0014	-0.0714	0.0055	-0.1793	0.0144	-0.8311	0.0632
2	189.84	0.3498	0.0394	0.0014	-0.1214	0.0096	-0.2907	0.0259	-0.8407	0.0565
2	189.84	0.3998	0.0648	0.0016	-0.1814	0.0146	-0.4764	0.0392	-0.9442	0.0640
2	189.84	0.4496	0.1169	0.0122	-0.2395	0.0264	-0.6716	0.0645	-0.4585	0.4356
2	189.84	0.4995	0.1507	0.0397	-0.2303	0.0977	-1.1192	0.1067	-1.0268	0.0634
2	189.84	0.5551	0.1951	0.0414	-0.3423	0.1073	-1.6234	0.1238	-1.1498	0.0714
2	189.84	0.5996	0.2304	0.0422	-0.4373	0.1151	-2.1306	0.1380	-1.2527	0.0775
2	189.84	0.6497	0.2196	0.0430	-0.5450	0.1220	-2.8114	0.1558	-1.3743	0.1168
2	189.84	0.6996	0.2540	0.0345	-0.6453	0.1336	-3.5945	0.1639	-0.9986	0.3102
2	189.84	0.7495	0.2241	0.0415	-0.7674	0.1383	-4.5314	0.1960	-1.3366	0.1233
2	189.84	0.7996	0.2237	0.0368	-0.8850	0.1500	-5.5798	0.2148	-1.4484	0.1402
2	189.84	0.8578	0.2114	0.0148	-0.9852	0.1825	-6.9504	0.2777	-1.4099	0.0996
2	189.84	0.9100	0.1807	0.0143	-1.0773	0.1949	-8.2135	0.3018	-1.5060	0.0956
2	189.84	0.9727	0.1891	0.0220	-1.2045	0.2112	-9.6106	0.3347	-0.9269	0.1154
3	189.84	0.1938	-0.0851	0.0023	0.0094	0.0017	-0.0103	0.0037	-0.2534	0.0255
3	189.84	0.2357	0.0087	0.0013	-0.0090	0.0036	-0.0959	0.0067	-0.3365	0.0485
3	189.84	0.2995	0.0139	0.0015	0.0155	0.0077	-0.1334	0.0153	-0.6069	0.0634
3	189.84	0.3493	0.0530	0.0019	0.0220	0.0129	-0.2319	0.0261	-0.6100	0.0605
3	189.84	0.4000	0.1232	0.0025	0.0262	0.0206	-0.3958	0.0404	-0.5011	0.0607
3	189.84	0.4497	0.1131	0.0029	-0.0245	0.0252	-0.6394	0.0532	-0.7593	0.0591
3	189.84	0.4997	0.1885	0.0394	0.0692	0.1010	-1.0852	0.1180	-0.9161	0.0691
3	189.84	0.5556	0.1912	0.0423	-0.0329	0.1140	-1.5686	0.1380	-0.8143	0.0687
3	189.84	0.5995	0.2357	0.0436	-0.0190	0.1244	-2.0388	0.1549	-0.9563	0.0815
3	189.84	0.6498	0.2691	0.0385	-0.1015	0.1356	-2.6998	0.1617	-0.5337	0.3335
3	189.84	0.6890	0.2716	0.0335	-0.1178	0.1496	-3.3475	0.1939	-0.7219	0.3477
3	189.84	0.7495	0.3042	0.0277	-0.2042	0.1747	-4.4736	0.2741	-0.8786	0.1063
3	189.84	0.7998	0.2549	0.0226	-0.2312	0.1900	-5.5703	0.3023	-1.4662	0.1039
3	189.84	0.8577	0.2350	0.0175	-0.2941	0.2085	-6.8372	0.3377	-1.3667	0.1123
3	189.84	0.9178	0.2785	0.0184	-0.3242	0.2288	-8.2772	0.3755	-1.2894	0.1100
3	189.84	0.9729	0.2488	0.0260	-0.4437	0.2468	-9.7104	0.4139	-1.7801	0.1275
4	189.84	0.2001	-0.0907	0.0014	-0.0100	0.0012	-0.0562	0.0039	-0.0422	0.0273
4	189.84	0.2502	-0.0222	0.0014	0.0128	0.0034	-0.1572	0.0094	-0.0913	0.0479
4	189.84	0.3001	0.0065	0.0016	-0.0033	0.0050	-0.2758	0.0166	-0.1051	0.0607
4	189.84	0.3502	0.0286	0.0018	-0.0264	0.0088	-0.4683	0.0280	-0.0871	0.0617
4	189.84	0.4002	0.0621	0.0024	-0.0077	0.0139	-0.7557	0.0445	-0.3558	0.0633
4	189.84	0.4500	0.1049	0.0028	0.0200	0.0180	-1.1098	0.0622	-0.5076	0.0728
4	189.84	0.5001	0.1555	0.0451	0.1199	0.0983	-1.5979	0.1187	-0.2252	0.0677
4	189.84	0.5560	0.1762	0.0481	0.0995	0.1101	-2.2643	0.1419	-0.5133	0.0782
4	189.84	0.6001	0.2129	0.0492	0.0756	0.1193	-2.8812	0.1637	-0.5889	0.0855
4	189.84	0.6501	0.2034	0.0505	0.0515	0.1306	-3.6888	0.1898	-0.5804	0.0912
4	189.84	0.6999	0.2087	0.0508	0.0186	0.1421	-4.6530	0.2187	-0.6824	0.1019
4	189.84	0.7500	0.2154	0.0496	-0.0068	0.1565	-5.7299	0.2518	-0.5307	0.1504
4	189.84	0.8002	0.2077	0.0249	-0.0469	0.1910	-7.0145	0.3210	-0.5109	0.1209
4	189.84	0.8582	0.1767	0.0200	-0.0616	0.2135	-8.5754	0.3640	-1.1969	0.1377
4	189.84	0.9101	0.1575	0.0207	-0.0447	0.2354	-9.9033	0.4056	-0.6547	0.1407
4	189.84	0.9728	0.2248	0.0314	-0.0186	0.2608	-11.5895	0.4594	-0.4688	0.1416

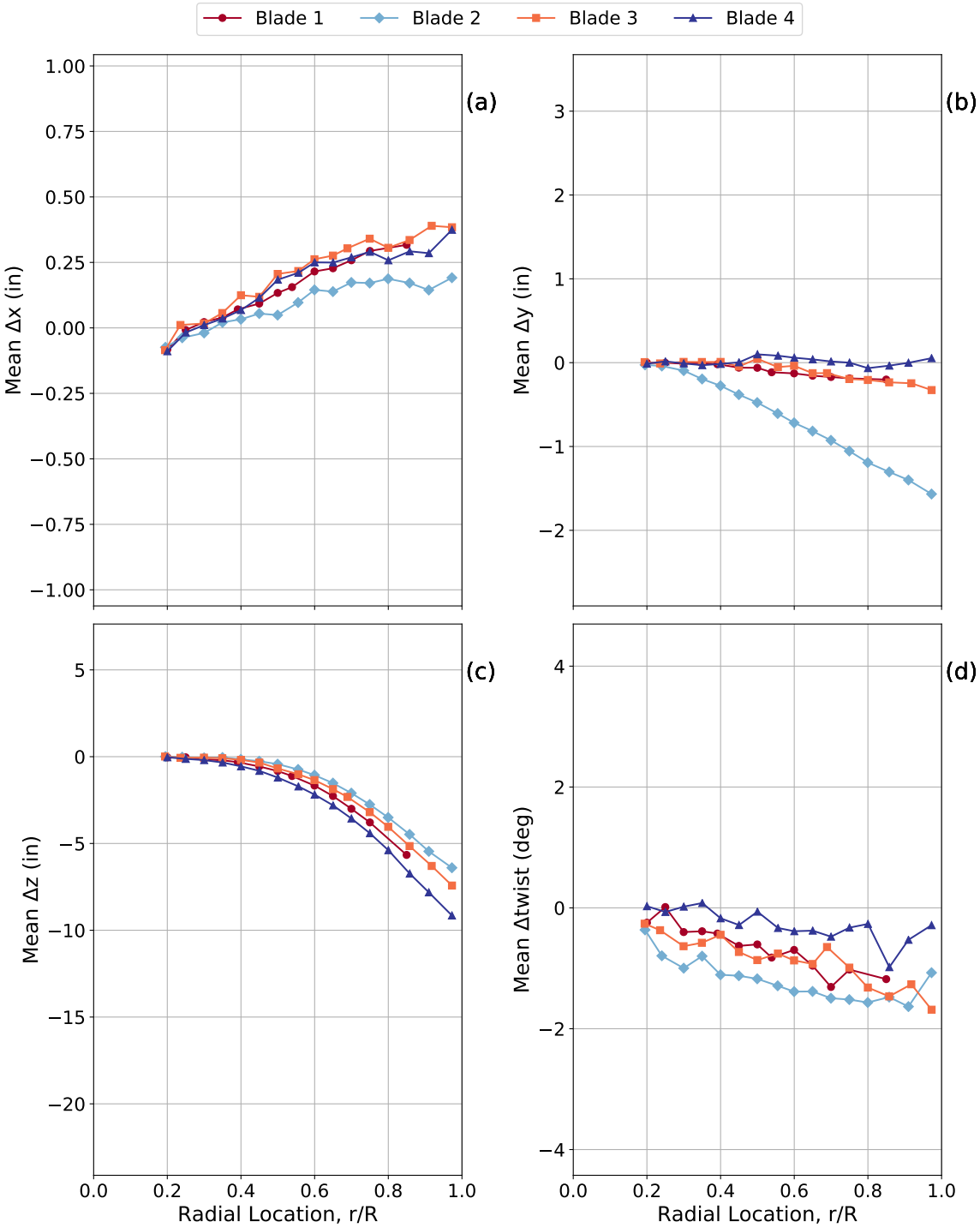


Figure 2.28-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0823	0.0016	-0.0011	0.0012	-0.0384	0.0040	-0.2450	0.0307
1	195.12	0.2499	-0.0080	0.0016	-0.0019	0.0033	-0.0364	0.0094	0.0134	0.0589
1	195.12	0.2998	0.0222	0.0014	-0.0121	0.0050	-0.1500	0.0168	-0.4004	0.0710
1	195.12	0.3498	0.0396	0.0019	-0.0041	0.0085	-0.2095	0.0293	-0.3873	0.0609
1	195.12	0.3913	0.0707	0.0023	-0.0184	0.0127	-0.3155	0.0425	-0.4252	0.0640
1	195.12	0.4496	0.0928	0.0029	-0.0597	0.0166	-0.5630	0.0608	-0.6292	0.0669
1	195.12	0.4997	0.1336	0.0027	-0.0613	0.0209	-0.8269	0.0811	-0.6050	0.0719
1	195.12	0.5387	0.1557	0.0035	-0.1147	0.0252	-1.1148	0.0976	-0.8223	0.0734
1	195.12	0.5996	0.2155	0.0045	-0.1280	0.0319	-1.6654	0.1278	-0.6960	0.0712
1	195.12	0.6498	0.2276	0.0068	-0.1557	0.0378	-2.2693	0.1557	-0.9567	0.0721
1	195.12	0.6998	0.2582	0.0082	-0.1711	0.0454	-3.0027	0.1867	-1.3089	0.1181
1	195.12	0.7500	0.2937	0.0111	-0.1875	0.0557	-3.7875	0.2218	-1.0215	0.1225
1	195.12	0.8497	0.3171	0.0167	-0.2015	0.0759	-5.6593	0.3076	-1.1792	0.1540
2	195.12	0.1949	-0.0741	0.0209	-0.0260	0.0031	0.0058	0.0076	-0.3643	0.0473
2	195.12	0.2405	-0.0378	0.0085	-0.0399	0.0078	-0.0289	0.0140	-0.7933	0.1284
2	195.12	0.2999	-0.0194	0.0074	-0.0950	0.0200	-0.0664	0.0384	-0.9980	0.1371
2	195.12	0.3498	0.0210	0.0204	-0.1950	0.0223	-0.0480	0.0447	-0.7991	0.1989
2	195.12	0.3998	0.0329	0.0290	-0.2756	0.0443	-0.1526	0.0831	-1.1072	0.1318
2	195.12	0.4496	0.0547	0.0385	-0.3813	0.0560	-0.2608	0.1045	-1.1233	0.1338
2	195.12	0.4995	0.0489	0.0475	-0.4760	0.0686	-0.4281	0.1260	-1.1742	0.1328
2	195.12	0.5551	0.0968	0.0563	-0.6068	0.0836	-0.7366	0.1530	-1.2895	0.1332
2	195.12	0.5996	0.1452	0.0620	-0.7176	0.0974	-1.0637	0.1741	-1.3858	0.1436
2	195.12	0.6497	0.1386	0.0677	-0.8166	0.1127	-1.5218	0.2039	-1.3828	0.1512
2	195.12	0.6996	0.1735	0.0715	-0.9265	0.1293	-2.0988	0.2335	-1.4952	0.1391
2	195.12	0.7495	0.1712	0.0757	-1.0545	0.1464	-2.7549	0.2677	-1.5175	0.1353
2	195.12	0.7996	0.1874	0.0778	-1.1917	0.1651	-3.5018	0.3076	-1.5658	0.1478
2	195.12	0.8578	0.1713	0.0805	-1.3036	0.1869	-4.4763	0.3591	-1.4765	0.1660
2	195.12	0.9100	0.1446	0.0818	-1.3998	0.2070	-5.4552	0.4059	-1.6340	0.1620
2	195.12	0.9727	0.1915	0.0835	-1.5670	0.2310	-6.4008	0.4850	-1.0728	0.1593
3	195.12	0.1938	-0.0850	0.0021	0.0064	0.0018	0.0093	0.0050	-0.2617	0.0314
3	195.12	0.2357	0.0111	0.0015	-0.0092	0.0035	-0.0655	0.0104	-0.3698	0.0482
3	195.12	0.2995	0.0169	0.0017	0.0091	0.0073	-0.0558	0.0223	-0.6347	0.0700
3	195.12	0.3493	0.0567	0.0021	0.0079	0.0139	-0.0896	0.0391	-0.5779	0.0585
3	195.12	0.4000	0.1247	0.0028	0.0088	0.0206	-0.1828	0.0605	-0.4459	0.0599
3	195.12	0.4497	0.1186	0.0033	-0.0452	0.0270	-0.3387	0.0850	-0.7302	0.0644
3	195.12	0.4997	0.2060	0.0420	0.0462	0.1174	-0.6770	0.1709	-0.8643	0.0643
3	195.12	0.5556	0.2171	0.0429	-0.0528	0.1299	-1.0132	0.2042	-0.7564	0.0646
3	195.12	0.5995	0.2621	0.0425	-0.0373	0.1398	-1.3498	0.2330	-0.8697	0.0684
3	195.12	0.6498	0.2760	0.0414	-0.1256	0.1510	-1.8686	0.2685	-0.9286	0.0788
3	195.12	0.6890	0.3038	0.0338	-0.1251	0.1594	-2.3193	0.2847	-0.6480	0.4093
3	195.12	0.7495	0.3406	0.0368	-0.1954	0.1756	-3.1951	0.3527	-0.9886	0.0963
3	195.12	0.7998	0.3057	0.0354	-0.2066	0.1880	-4.0417	0.4002	-1.3185	0.0949
3	195.12	0.8577	0.3355	0.0234	-0.2347	0.2182	-5.1508	0.5126	-1.4652	0.1064
3	195.12	0.9178	0.3898	0.0330	-0.2458	0.2370	-6.2950	0.5829	-1.2645	0.1175
3	195.12	0.9729	0.3842	0.0480	-0.3269	0.2559	-7.4238	0.6536	-1.6851	0.1245
4	195.12	0.2001	-0.0893	0.0015	-0.0120	0.0014	-0.0350	0.0040	0.0271	0.0283
4	195.12	0.2502	-0.0176	0.0015	0.0151	0.0033	-0.1277	0.0090	-0.0680	0.0502
4	195.12	0.3001	0.0107	0.0016	-0.0093	0.0064	-0.1986	0.0171	0.0199	0.0637
4	195.12	0.3502	0.0358	0.0016	-0.0303	0.0098	-0.3362	0.0284	0.0800	0.0628
4	195.12	0.4002	0.0680	0.0022	-0.0151	0.0161	-0.5574	0.0450	-0.1729	0.0574
4	195.12	0.4500	0.1150	0.0026	0.0038	0.0191	-0.8180	0.0615	-0.2846	0.0665
4	195.12	0.5001	0.1840	0.0301	0.0992	0.1017	-1.2048	0.1193	-0.0631	0.0637
4	195.12	0.5560	0.2103	0.0308	0.0829	0.1120	-1.7151	0.1401	-0.3331	0.0704
4	195.12	0.6001	0.2501	0.0309	0.0590	0.1203	-2.1854	0.1581	-0.3864	0.0722
4	195.12	0.6501	0.2495	0.0298	0.0390	0.1295	-2.8076	0.1809	-0.3773	0.0800
4	195.12	0.6999	0.2693	0.0295	0.0141	0.1377	-3.5625	0.2046	-0.4768	0.0820
4	195.12	0.7500	0.2906	0.0283	-0.0000	0.1468	-4.4115	0.2321	-0.3273	0.0937
4	195.12	0.8002	0.2580	0.0299	-0.0655	0.1571	-5.3894	0.2629	-0.2658	0.1691
4	195.12	0.8582	0.2924	0.0160	-0.0355	0.1829	-6.7375	0.3422	-0.9813	0.1085
4	195.12	0.9101	0.2852	0.0250	-0.0017	0.1948	-7.8172	0.3774	-0.5283	0.1055
4	195.12	0.9728	0.3745	0.0389	0.0535	0.2109	-9.1496	0.4231	-0.2867	0.1189

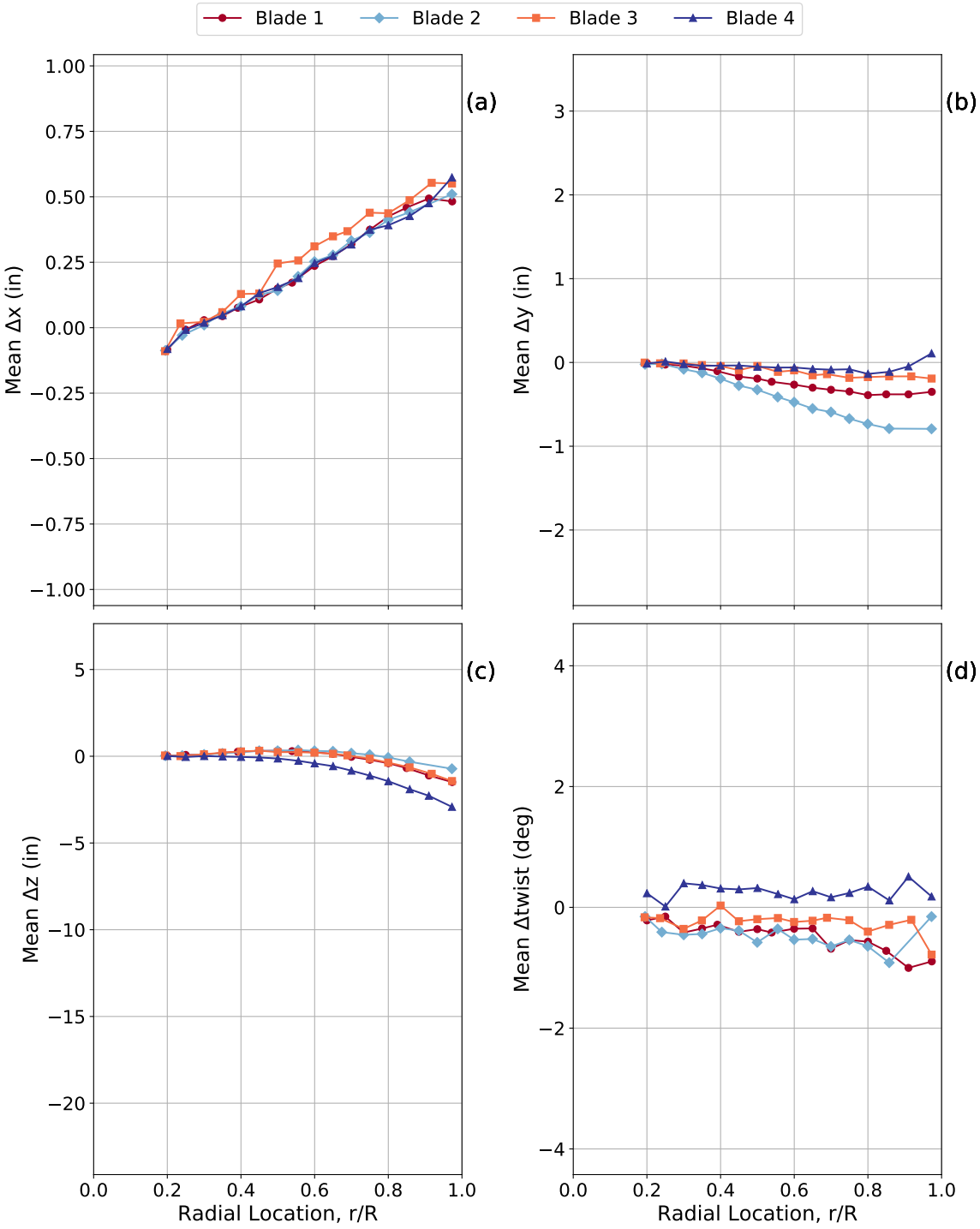


Figure 2.28-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0842	0.0015	-0.0078	0.0011	0.0215	0.0040	-0.2161	0.0241
1	209.88	0.2499	-0.0077	0.0015	-0.0252	0.0039	0.0752	0.0089	-0.1528	0.0487
1	209.88	0.2998	0.0288	0.0013	-0.0380	0.0060	0.0850	0.0162	-0.4176	0.0567
1	209.88	0.3498	0.0440	0.0018	-0.0709	0.0091	0.1962	0.0272	-0.3505	0.0494
1	209.88	0.3913	0.0761	0.0015	-0.1037	0.0150	0.2612	0.0397	-0.2876	0.0521
1	209.88	0.4496	0.1079	0.0020	-0.1688	0.0181	0.3052	0.0555	-0.4055	0.0566
1	209.88	0.4997	0.1499	0.0019	-0.1927	0.0234	0.3207	0.0726	-0.3609	0.0626
1	209.88	0.5387	0.1720	0.0020	-0.2302	0.0264	0.2939	0.0866	-0.4176	0.0609
1	209.88	0.5996	0.2361	0.0024	-0.2651	0.0312	0.2255	0.1102	-0.3540	0.0704
1	209.88	0.6498	0.2725	0.0030	-0.3012	0.0355	0.1394	0.1328	-0.3492	0.0742
1	209.88	0.6998	0.3194	0.0032	-0.3263	0.0402	-0.0335	0.1575	-0.6846	0.0725
1	209.88	0.7500	0.3744	0.0031	-0.3469	0.0461	-0.2031	0.1847	-0.5422	0.0752
1	209.88	0.8001	0.4250	0.0039	-0.3900	0.0519	-0.4020	0.2163	-0.5683	0.0851
1	209.88	0.8497	0.4588	0.0040	-0.3804	0.0564	-0.6798	0.2501	-0.7204	0.0882
1	209.88	0.9102	0.4935	0.0097	-0.3807	0.0638	-1.1088	0.2991	-1.0025	0.2734
1	209.88	0.9734	0.4824	0.0078	-0.3509	0.0729	-1.4896	0.3518	-0.8952	0.1316
2	209.88	0.1949	-0.0870	0.0014	-0.0218	0.0011	0.0299	0.0047	-0.1526	0.0272
2	209.88	0.2405	-0.0291	0.0011	-0.0168	0.0029	0.0349	0.0085	-0.4100	0.0443
2	209.88	0.2999	0.0103	0.0017	-0.0811	0.0051	0.1002	0.0193	-0.4552	0.0620
2	209.88	0.3498	0.0544	0.0018	-0.1240	0.0085	0.1635	0.0335	-0.4401	0.0549
2	209.88	0.3998	0.0819	0.0020	-0.1930	0.0135	0.2427	0.0511	-0.3454	0.0564
2	209.88	0.4496	0.1254	0.0022	-0.2759	0.0159	0.3121	0.0715	-0.3854	0.0645
2	209.88	0.4995	0.1418	0.0026	-0.3257	0.0191	0.3121	0.0964	-0.5801	0.0553
2	209.88	0.5551	0.1959	0.0025	-0.4125	0.0236	0.3548	0.1254	-0.3576	0.0666
2	209.88	0.5996	0.2526	0.0026	-0.4738	0.0267	0.3118	0.1508	-0.5355	0.0622
2	209.88	0.6497	0.2776	0.0029	-0.5507	0.0305	0.2850	0.1815	-0.5235	0.0690
2	209.88	0.6996	0.3321	0.0028	-0.5921	0.0352	0.1757	0.2133	-0.6485	0.0684
2	209.88	0.7495	0.3633	0.0037	-0.6709	0.0395	0.0900	0.2473	-0.5394	0.0709
2	209.88	0.7996	0.4116	0.0038	-0.7341	0.0440	-0.0694	0.2852	-0.6436	0.0866
2	209.88	0.8578	0.4410	0.0044	-0.7896	0.0499	-0.3164	0.3315	-0.9165	0.1106
2	209.88	0.9727	0.5101	0.0065	-0.7925	0.0628	-0.7214	0.4287	-0.1529	0.1270
3	209.88	0.1938	-0.0897	0.0015	-0.0017	0.0011	0.0465	0.0043	-0.1650	0.0237
3	209.88	0.2357	0.0165	0.0012	-0.0105	0.0035	0.0075	0.0081	-0.1794	0.0391
3	209.88	0.2995	0.0222	0.0016	-0.0118	0.0059	0.1152	0.0173	-0.3568	0.0558
3	209.88	0.3493	0.0593	0.0016	-0.0307	0.0100	0.2039	0.0311	-0.2170	0.0505
3	209.88	0.4000	0.1287	0.0019	-0.0439	0.0163	0.2770	0.0470	0.0296	0.0557
3	209.88	0.4497	0.1304	0.0021	-0.0919	0.0192	0.3190	0.0654	-0.2298	0.0627
3	209.88	0.4997	0.2452	0.0144	-0.0423	0.1165	0.2393	0.1786	-0.1960	0.0727
3	209.88	0.5556	0.2570	0.0118	-0.1120	0.1276	0.2331	0.2095	-0.1773	0.0747
3	209.88	0.5995	0.3108	0.0096	-0.0944	0.1353	0.2077	0.2332	-0.2425	0.0691
3	209.88	0.6498	0.3490	0.0118	-0.1526	0.1424	0.1432	0.2632	-0.2215	0.0833
3	209.88	0.6890	0.3686	0.0160	-0.1400	0.1481	0.0502	0.2859	-0.1723	0.0813
3	209.88	0.7495	0.4394	0.0253	-0.1835	0.1563	-0.1427	0.3233	-0.2130	0.0805
3	209.88	0.7998	0.4372	0.0354	-0.1747	0.1627	-0.3649	0.3559	-0.4014	0.0861
3	209.88	0.8577	0.4870	0.0627	-0.1664	0.1623	-0.6408	0.3641	-0.2899	0.6907
3	209.88	0.9178	0.5535	0.0931	-0.1661	0.1694	-1.0119	0.5114	-0.2065	0.1398
3	209.88	0.9729	0.5509	0.1195	-0.1923	0.1771	-1.4296	0.6012	-0.7825	0.1458
4	209.88	0.2001	-0.0814	0.0013	-0.0133	0.0013	0.0131	0.0066	0.2332	0.0285
4	209.88	0.2502	-0.0083	0.0012	0.0113	0.0039	-0.0420	0.0147	0.0131	0.0399
4	209.88	0.3001	0.0186	0.0017	-0.0198	0.0062	0.0087	0.0268	0.3978	0.0609
4	209.88	0.3502	0.0479	0.0018	-0.0404	0.0097	-0.0170	0.0471	0.3689	0.0552
4	209.88	0.4002	0.0817	0.0023	-0.0373	0.0162	-0.0416	0.0726	0.3113	0.0683
4	209.88	0.4500	0.1321	0.0027	-0.0360	0.0202	-0.0695	0.1011	0.2972	0.0631
4	209.88	0.5001	0.1555	0.0027	-0.0517	0.0248	-0.1308	0.1316	0.3198	0.0671
4	209.88	0.5560	0.1894	0.0032	-0.0610	0.0308	-0.2643	0.1693	0.2186	0.0635
4	209.88	0.6001	0.2471	0.0037	-0.0600	0.0360	-0.4110	0.1997	0.1337	0.0675
4	209.88	0.6501	0.2743	0.0045	-0.0778	0.0411	-0.5728	0.2360	0.2672	0.0704
4	209.88	0.6999	0.3177	0.0046	-0.0864	0.0472	-0.8311	0.2765	0.1667	0.0744
4	209.88	0.7500	0.3742	0.0057	-0.0813	0.0534	-1.1184	0.3233	0.2384	0.0772
4	209.88	0.8002	0.3913	0.0075	-0.1367	0.0593	-1.4419	0.3772	0.3434	0.1069
4	209.88	0.8582	0.4265	0.0098	-0.1116	0.0672	-1.9042	0.4515	0.1141	0.1144
4	209.88	0.9101	0.4754	0.0121	-0.0477	0.0753	-2.2792	0.5195	0.5080	0.1924
4	209.88	0.9728	0.5739	0.0132	0.1080	0.0867	-2.9180	0.6124	0.1796	0.1739

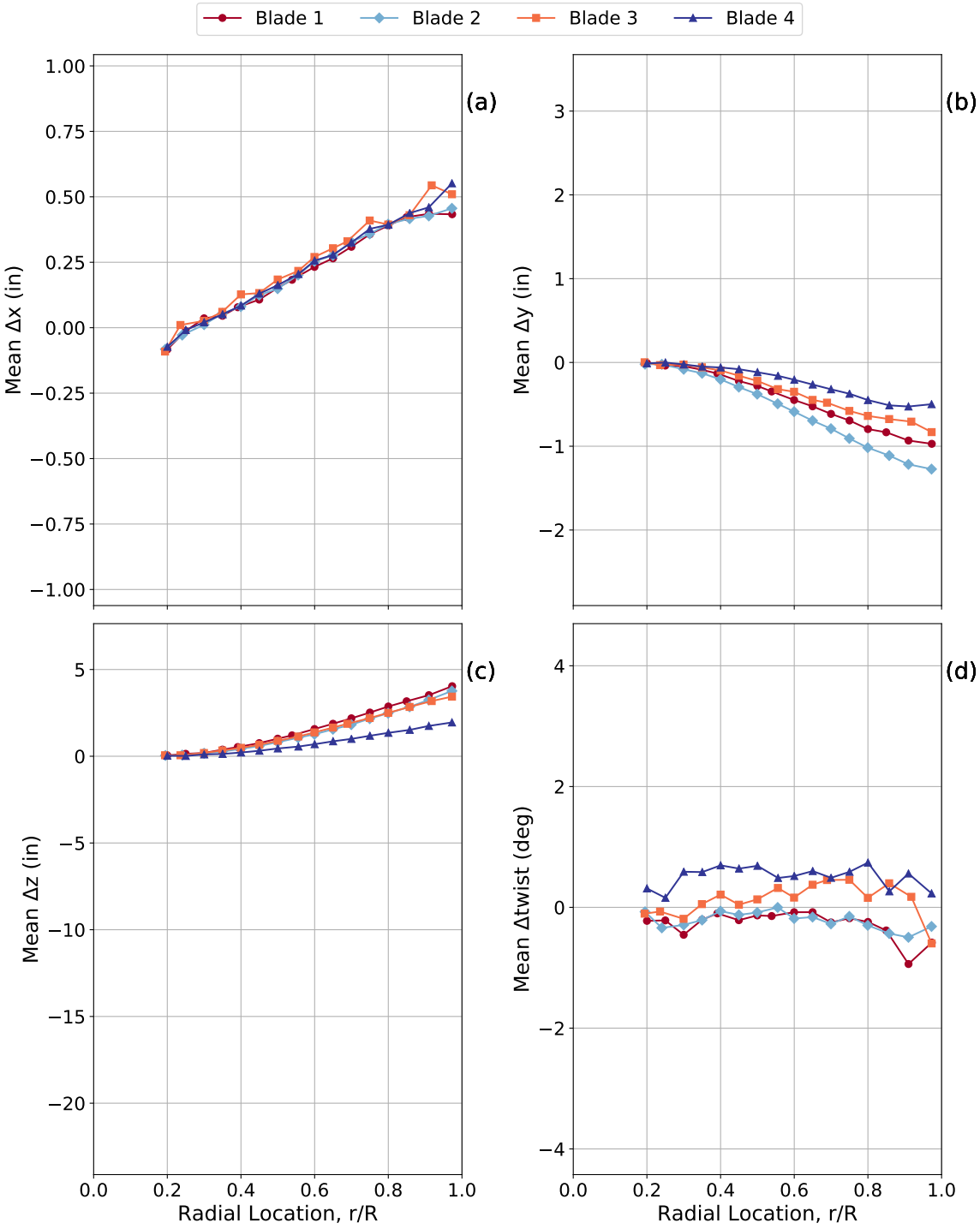


Figure 2.28-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0830	0.0017	-0.0075	0.0014	0.0458	0.0059	-0.2235	0.0250
1	225	0.2499	-0.0126	0.0014	-0.0372	0.0033	0.1398	0.0121	-0.2164	0.0401
1	225	0.2998	0.0359	0.0012	-0.0446	0.0063	0.1895	0.0237	-0.4545	0.0534
1	225	0.3498	0.0455	0.0018	-0.0884	0.0100	0.3818	0.0394	-0.2052	0.0516
1	225	0.3913	0.0782	0.0025	-0.1317	0.0151	0.5311	0.0573	-0.1004	0.0605
1	225	0.4496	0.1074	0.0028	-0.2215	0.0213	0.7566	0.0843	-0.2128	0.0635
1	225	0.4997	0.1522	0.0034	-0.2803	0.0272	1.0131	0.1115	-0.1336	0.0683
1	225	0.5387	0.1830	0.0037	-0.3465	0.0326	1.2042	0.1350	-0.1441	0.0737
1	225	0.5996	0.2323	0.0049	-0.4482	0.0409	1.5685	0.1744	-0.0804	0.0816
1	225	0.6498	0.2650	0.0051	-0.5239	0.0496	1.8729	0.2095	-0.0801	0.0892
1	225	0.6998	0.3091	0.0058	-0.6140	0.0584	2.1866	0.2463	-0.2494	0.0887
1	225	0.7500	0.3568	0.0065	-0.6933	0.0677	2.5188	0.2849	-0.1803	0.0925
1	225	0.8001	0.3903	0.0074	-0.7954	0.0770	2.8675	0.3254	-0.2420	0.0975
1	225	0.8497	0.4224	0.0079	-0.8335	0.0864	3.1690	0.3675	-0.3826	0.0999
1	225	0.9102	0.4350	0.0095	-0.9321	0.0986	3.5210	0.4224	-0.9383	0.1117
1	225	0.9734	0.4334	0.0136	-0.9713	0.1111	4.0382	0.4831	-0.5831	0.1020
2	225	0.1949	-0.0821	0.0015	-0.0202	0.0011	0.0434	0.0048	-0.0739	0.0384
2	225	0.2405	-0.0282	0.0015	-0.0227	0.0031	0.0697	0.0095	-0.3402	0.0474
2	225	0.2999	0.0117	0.0012	-0.0815	0.0049	0.1700	0.0205	-0.2909	0.0844
2	225	0.3498	0.0546	0.0017	-0.1292	0.0099	0.2725	0.0352	-0.2106	0.0542
2	225	0.3998	0.0805	0.0024	-0.2022	0.0145	0.4223	0.0541	-0.0632	0.0683
2	225	0.4496	0.1244	0.0027	-0.2943	0.0194	0.5901	0.0751	-0.1250	0.0643
2	225	0.4995	0.1489	0.0031	-0.3785	0.0245	0.8094	0.0985	-0.0853	0.0682
2	225	0.5551	0.2010	0.0034	-0.4932	0.0305	1.0673	0.1257	-0.0020	0.0666
2	225	0.5996	0.2534	0.0036	-0.5873	0.0360	1.2651	0.1508	-0.1851	0.0717
2	225	0.6497	0.2760	0.0043	-0.6948	0.0425	1.5540	0.1779	-0.1611	0.0721
2	225	0.6996	0.3280	0.0045	-0.7905	0.0498	1.8217	0.2041	-0.2743	0.0711
2	225	0.7495	0.3586	0.0050	-0.9073	0.0573	2.1658	0.2305	-0.1494	0.0710
2	225	0.7996	0.3956	0.0058	-1.0171	0.0654	2.4802	0.2565	-0.2982	0.0747
2	225	0.8578	0.4164	0.0065	-1.1114	0.0748	2.8474	0.2850	-0.4333	0.0781
2	225	0.9100	0.4270	0.0073	-1.2160	0.0837	3.2468	0.3095	-0.4965	0.0817
2	225	0.9727	0.4561	0.0104	-1.2730	0.0945	3.7640	0.3408	-0.3165	0.0892
3	225	0.1938	-0.0910	0.0017	0.0021	0.0013	0.0565	0.0042	-0.1045	0.0235
3	225	0.2357	0.0103	0.0014	-0.0316	0.0023	0.0557	0.0065	-0.0693	0.0421
3	225	0.2995	0.0262	0.0017	-0.0251	0.0049	0.1866	0.0166	-0.1903	0.0577
3	225	0.3493	0.0606	0.0019	-0.0581	0.0087	0.3332	0.0272	0.0533	0.0551
3	225	0.4000	0.1272	0.0025	-0.0963	0.0130	0.4854	0.0426	0.2107	0.0580
3	225	0.4497	0.1324	0.0023	-0.1582	0.0163	0.6601	0.0569	0.0438	0.0639
3	225	0.4997	0.1841	0.0025	-0.2203	0.0195	0.8851	0.0764	0.1319	0.0638
3	225	0.5556	0.2170	0.0025	-0.3187	0.0245	1.1382	0.0973	0.3210	0.0631
3	225	0.5995	0.2702	0.0028	-0.3502	0.0288	1.3744	0.1155	0.1615	0.0721
3	225	0.6498	0.3035	0.0032	-0.4470	0.0343	1.6534	0.1374	0.3745	0.0717
3	225	0.6890	0.3301	0.0032	-0.4800	0.0389	1.8711	0.1571	0.4524	0.0737
3	225	0.7495	0.4095	0.0033	-0.5785	0.0468	2.2036	0.1883	0.4568	0.0778
3	225	0.7998	0.3942	0.0038	-0.6381	0.0541	2.5023	0.2159	0.1573	0.0760
3	225	0.8577	0.4298	0.0040	-0.6758	0.0625	2.8424	0.2510	0.3982	0.0873
3	225	0.9178	0.5439	0.0139	-0.7064	0.0711	3.1819	0.2908	0.1742	0.1499
3	225	0.9729	0.5098	0.0074	-0.8315	0.0808	3.4367	0.3260	-0.5975	0.1061
4	225	0.2001	-0.0729	0.0016	-0.0109	0.0013	0.0292	0.0047	0.3127	0.0216
4	225	0.2502	-0.0089	0.0015	-0.0014	0.0039	0.0180	0.0089	0.1574	0.0324
4	225	0.3001	0.0206	0.0014	-0.0245	0.0059	0.1045	0.0188	0.5894	0.0433
4	225	0.3502	0.0511	0.0022	-0.0494	0.0112	0.1327	0.0304	0.5839	0.0374
4	225	0.4002	0.0846	0.0026	-0.0602	0.0171	0.2159	0.0477	0.6951	0.0480
4	225	0.4500	0.1302	0.0027	-0.0808	0.0218	0.3159	0.0666	0.6415	0.0477
4	225	0.5001	0.1626	0.0032	-0.1168	0.0278	0.4487	0.0881	0.6873	0.0576
4	225	0.5560	0.2049	0.0034	-0.1598	0.0358	0.5577	0.1138	0.4865	0.0574
4	225	0.6001	0.2563	0.0039	-0.2068	0.0424	0.6931	0.1362	0.5187	0.0531
4	225	0.6501	0.2783	0.0043	-0.2640	0.0509	0.8617	0.1617	0.6004	0.0542
4	225	0.6999	0.3255	0.0046	-0.3204	0.0602	0.9994	0.1888	0.4885	0.0549
4	225	0.7500	0.3776	0.0050	-0.3737	0.0701	1.1803	0.2187	0.5881	0.0564
4	225	0.8002	0.3934	0.0055	-0.4494	0.0805	1.3499	0.2500	0.7403	0.0604
4	225	0.8582	0.4379	0.0059	-0.5121	0.0926	1.5197	0.2901	0.2646	0.0574
4	225	0.9101	0.4599	0.0063	-0.5259	0.1042	1.7473	0.3281	0.5597	0.0659
4	225	0.9728	0.5515	0.0093	-0.4983	0.1184	1.9480	0.3780	0.2301	0.0795

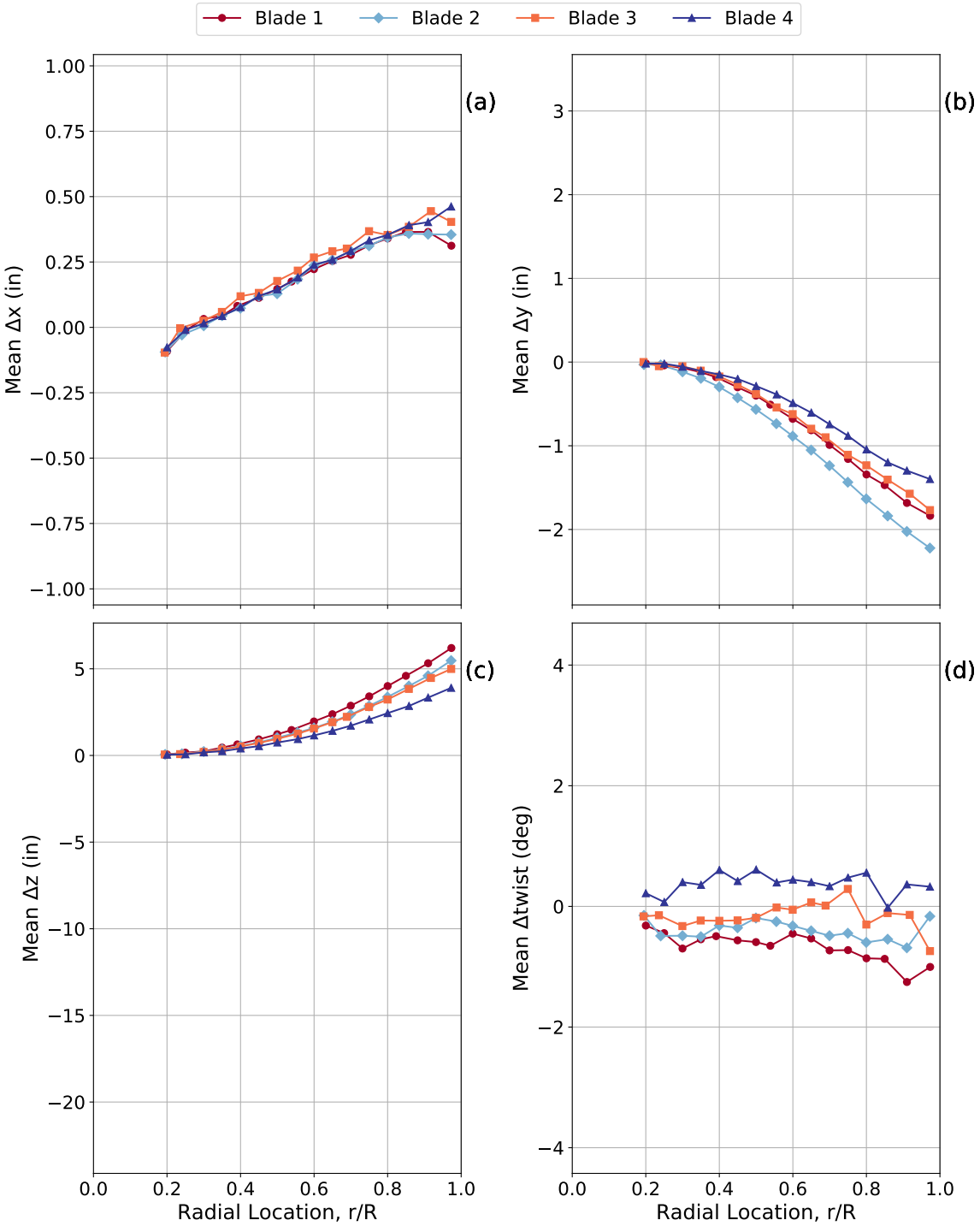


Figure 2.28-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0915	0.0013	-0.0148	0.0011	0.0613	0.0054	-0.3178	0.0227
1	240.12	0.2499	-0.0128	0.0014	-0.0393	0.0024	0.1600	0.0107	-0.4430	0.0403
1	240.12	0.2998	0.0322	0.0013	-0.0699	0.0045	0.2406	0.0211	-0.6983	0.0515
1	240.12	0.3498	0.0443	0.0018	-0.1210	0.0079	0.4548	0.0351	-0.5454	0.0490
1	240.12	0.3913	0.0820	0.0019	-0.1798	0.0113	0.6372	0.0508	-0.4935	0.0558
1	240.12	0.4496	0.1127	0.0024	-0.3013	0.0162	0.9271	0.0761	-0.5628	0.0486
1	240.12	0.4997	0.1467	0.0030	-0.4009	0.0221	1.2222	0.1004	-0.5917	0.0697
1	240.12	0.5387	0.1752	0.0035	-0.5088	0.0271	1.4666	0.1209	-0.6529	0.0645
1	240.12	0.5996	0.2226	0.0043	-0.6781	0.0363	1.9606	0.1554	-0.4513	0.0651
1	240.12	0.6498	0.2536	0.0055	-0.8145	0.0444	2.3802	0.1851	-0.5317	0.0611
1	240.12	0.6998	0.2772	0.0064	-0.9901	0.0533	2.8697	0.2138	-0.7296	0.0645
1	240.12	0.7500	0.3138	0.0074	-1.1575	0.0627	3.4094	0.2436	-0.7247	0.0673
1	240.12	0.8001	0.3401	0.0088	-1.3433	0.0726	4.0045	0.2749	-0.8605	0.0706
1	240.12	0.8497	0.3649	0.0097	-1.4705	0.0830	4.5935	0.3065	-0.8697	0.0753
1	240.12	0.9102	0.3650	0.0116	-1.6833	0.0960	5.3205	0.3485	-1.2534	0.0829
1	240.12	0.9734	0.3122	0.0158	-1.8370	0.1098	6.1996	0.3951	-1.0037	0.0771
2	240.12	0.1949	-0.0944	0.0014	-0.0294	0.0010	0.0595	0.0037	-0.1500	0.0238
2	240.12	0.2405	-0.0289	0.0013	-0.0353	0.0023	0.0940	0.0078	-0.4894	0.0377
2	240.12	0.2999	0.0061	0.0017	-0.1165	0.0055	0.2262	0.0161	-0.4866	0.0533
2	240.12	0.3498	0.0448	0.0018	-0.1940	0.0082	0.3551	0.0252	-0.5026	0.0561
2	240.12	0.3998	0.0732	0.0034	-0.2973	0.0137	0.5506	0.0404	-0.3168	0.0507
2	240.12	0.4496	0.1195	0.0033	-0.4262	0.0176	0.7478	0.0554	-0.3544	0.0598
2	240.12	0.4995	0.1286	0.0032	-0.5649	0.0224	1.0246	0.0739	-0.1924	0.0634
2	240.12	0.5551	0.1841	0.0041	-0.7364	0.0296	1.3206	0.0993	-0.2519	0.0576
2	240.12	0.5996	0.2364	0.0042	-0.8850	0.0354	1.5831	0.1224	-0.3235	0.0595
2	240.12	0.6497	0.2575	0.0050	-1.0514	0.0429	1.9477	0.1534	-0.4054	0.0607
2	240.12	0.6996	0.2918	0.0056	-1.2379	0.0510	2.3623	0.1867	-0.4858	0.0630
2	240.12	0.7495	0.3119	0.0065	-1.4356	0.0598	2.8570	0.2225	-0.4451	0.0663
2	240.12	0.7996	0.3437	0.0076	-1.6349	0.0688	3.3752	0.2613	-0.5966	0.0694
2	240.12	0.8578	0.3590	0.0088	-1.8385	0.0801	4.0056	0.3052	-0.5444	0.0726
2	240.12	0.9100	0.3561	0.0102	-2.0241	0.0904	4.5973	0.3462	-0.6868	0.0709
2	240.12	0.9727	0.3547	0.0139	-2.2224	0.1032	5.4741	0.3954	-0.1643	0.0767
3	240.12	0.1938	-0.0965	0.0013	0.0004	0.0010	0.0545	0.0047	-0.1660	0.0240
3	240.12	0.2357	-0.0032	0.0014	-0.0494	0.0020	0.0768	0.0091	-0.1468	0.0378
3	240.12	0.2995	0.0253	0.0015	-0.0506	0.0054	0.2000	0.0223	-0.3264	0.0546
3	240.12	0.3493	0.0590	0.0018	-0.1025	0.0075	0.3448	0.0328	-0.2342	0.0671
3	240.12	0.4000	0.1189	0.0024	-0.1724	0.0129	0.5182	0.0546	-0.2386	0.0531
3	240.12	0.4497	0.1318	0.0030	-0.2698	0.0167	0.7210	0.0728	-0.2321	0.0573
3	240.12	0.4997	0.1774	0.0034	-0.3796	0.0220	0.9569	0.0950	-0.1901	0.0652
3	240.12	0.5556	0.2170	0.0037	-0.5420	0.0296	1.2591	0.1251	-0.0185	0.0674
3	240.12	0.5995	0.2672	0.0043	-0.6219	0.0361	1.5516	0.1492	-0.0552	0.0731
3	240.12	0.6498	0.2910	0.0049	-0.7963	0.0442	1.9214	0.1771	0.0658	0.0766
3	240.12	0.6890	0.3013	0.0055	-0.8988	0.0510	2.2278	0.1999	0.0134	0.0803
3	240.12	0.7495	0.3678	0.0063	-1.1078	0.0622	2.7948	0.2345	0.2892	0.0875
3	240.12	0.7998	0.3534	0.0070	-1.2336	0.0719	3.2278	0.2633	-0.3009	0.0833
3	240.12	0.8577	0.3845	0.0078	-1.4045	0.0838	3.8403	0.2968	-0.1114	0.0871
3	240.12	0.9178	0.4444	0.0091	-1.5729	0.0965	4.4721	0.3303	-0.1415	0.0922
3	240.12	0.9729	0.4032	0.0124	-1.7686	0.1082	4.9912	0.3625	-0.7406	0.1015
4	240.12	0.2001	-0.0765	0.0016	-0.0176	0.0011	0.0436	0.0051	0.2180	0.0232
4	240.12	0.2502	-0.0098	0.0016	-0.0195	0.0041	0.0662	0.0108	0.0718	0.0388
4	240.12	0.3001	0.0153	0.0011	-0.0558	0.0057	0.1753	0.0203	0.4018	0.0525
4	240.12	0.3502	0.0433	0.0016	-0.1058	0.0100	0.2449	0.0335	0.3565	0.0538
4	240.12	0.4002	0.0773	0.0024	-0.1487	0.0165	0.4031	0.0524	0.6036	0.0468
4	240.12	0.4500	0.1201	0.0029	-0.2017	0.0204	0.5381	0.0732	0.4190	0.0463
4	240.12	0.5001	0.1453	0.0031	-0.2867	0.0257	0.7450	0.0952	0.6085	0.0519
4	240.12	0.5560	0.1910	0.0034	-0.3870	0.0318	0.9441	0.1216	0.3958	0.0582
4	240.12	0.6001	0.2394	0.0038	-0.4893	0.0373	1.1563	0.1444	0.4433	0.0576
4	240.12	0.6501	0.2585	0.0044	-0.6050	0.0434	1.4186	0.1713	0.4015	0.0598
4	240.12	0.6999	0.2920	0.0050	-0.7437	0.0501	1.7184	0.2006	0.3343	0.0584
4	240.12	0.7500	0.3326	0.0056	-0.8814	0.0571	2.0745	0.2306	0.4769	0.0618
4	240.12	0.8002	0.3537	0.0065	-1.0437	0.0642	2.4429	0.2609	0.5584	0.0679
4	240.12	0.8582	0.3907	0.0074	-1.1993	0.0722	2.8561	0.2979	-0.0211	0.0686
4	240.12	0.9101	0.4025	0.0086	-1.2971	0.0796	3.3374	0.3331	0.3644	0.0680
4	240.12	0.9728	0.4620	0.0119	-1.3980	0.0886	3.9005	0.3804	0.3263	0.0786

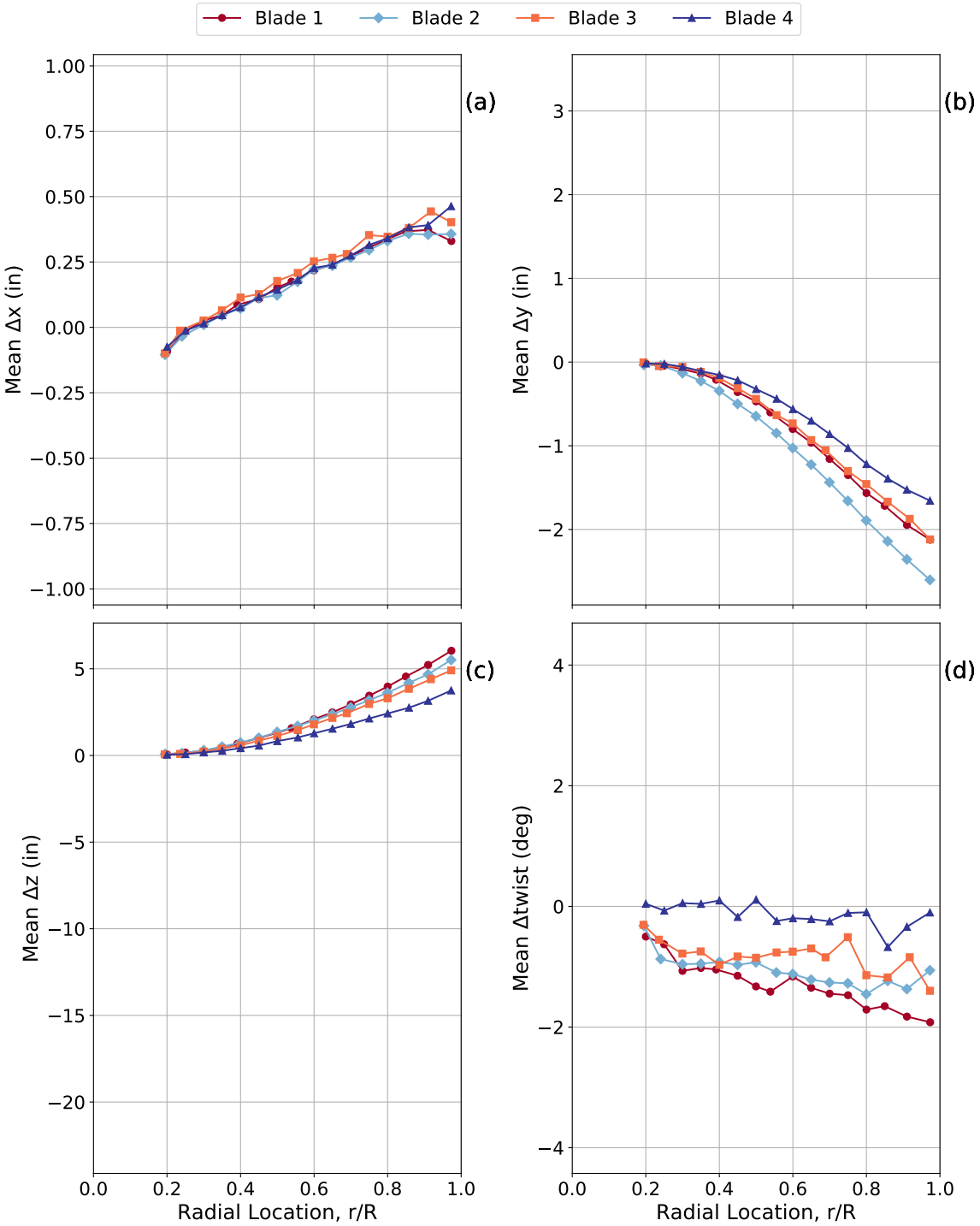


Figure 2.28-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0926	0.0017	-0.0176	0.0012	0.0678	0.0061	-0.5004	0.0278
1	254.88	0.2499	-0.0152	0.0015	-0.0434	0.0028	0.1691	0.0118	-0.6281	0.0546
1	254.88	0.2998	0.0264	0.0014	-0.0853	0.0052	0.2585	0.0231	-1.0689	0.0649
1	254.88	0.3498	0.0470	0.0016	-0.1381	0.0088	0.4789	0.0383	-1.0207	0.0584
1	254.88	0.3913	0.0860	0.0026	-0.2110	0.0130	0.6714	0.0551	-1.0460	0.0637
1	254.88	0.4496	0.1082	0.0025	-0.3580	0.0166	1.0038	0.0807	-1.1493	0.0688
1	254.88	0.4997	0.1525	0.0031	-0.4699	0.0221	1.3088	0.1077	-1.3272	0.0726
1	254.88	0.5387	0.1752	0.0035	-0.6020	0.0256	1.5736	0.1296	-1.4140	0.0722
1	254.88	0.5996	0.2176	0.0045	-0.7999	0.0325	2.0876	0.1702	-1.1622	0.0732
1	254.88	0.6498	0.2404	0.0057	-0.9631	0.0390	2.4868	0.2062	-1.3489	0.0735
1	254.88	0.6998	0.2716	0.0067	-1.1573	0.0451	2.9477	0.2433	-1.4461	0.0766
1	254.88	0.7500	0.3058	0.0083	-1.3503	0.0518	3.4492	0.2821	-1.4725	0.0808
1	254.88	0.8001	0.3371	0.0095	-1.5649	0.0590	3.9770	0.3226	-1.7106	0.0798
1	254.88	0.8497	0.3671	0.0108	-1.7173	0.0664	4.5539	0.3652	-1.6537	0.0853
1	254.88	0.9102	0.3726	0.0131	-1.9461	0.0757	5.2248	0.4202	-1.8265	0.0869
1	254.88	0.9734	0.3300	0.0182	-2.1230	0.0852	6.0434	0.4829	-1.9204	0.0896
2	254.88	0.1949	-0.1045	0.0016	-0.0337	0.0011	0.0868	0.0053	-0.3212	0.0306
2	254.88	0.2405	-0.0345	0.0012	-0.0418	0.0019	0.1258	0.0092	-0.8728	0.0487
2	254.88	0.2999	0.0101	0.0014	-0.1328	0.0047	0.2985	0.0207	-0.9581	0.0725
2	254.88	0.3498	0.0460	0.0014	-0.2263	0.0079	0.5056	0.0354	-0.9509	0.0788
2	254.88	0.3998	0.0725	0.0023	-0.3437	0.0122	0.7472	0.0540	-0.9216	0.0781
2	254.88	0.4496	0.1121	0.0028	-0.4993	0.0173	1.0132	0.0760	-0.9688	0.0799
2	254.88	0.4995	0.1227	0.0029	-0.6465	0.0231	1.3535	0.1021	-0.9266	0.0862
2	254.88	0.5551	0.1746	0.0038	-0.8483	0.0305	1.6993	0.1357	-1.0970	0.0888
2	254.88	0.5996	0.2216	0.0047	-1.0274	0.0373	2.0140	0.1636	-1.1210	0.0912
2	254.88	0.6497	0.2359	0.0055	-1.2247	0.0455	2.3764	0.1962	-1.2144	0.0922
2	254.88	0.6996	0.2675	0.0066	-1.4368	0.0548	2.7731	0.2288	-1.2619	0.1002
2	254.88	0.7495	0.2958	0.0077	-1.6585	0.0644	3.1863	0.2603	-1.2750	0.1003
2	254.88	0.7996	0.3305	0.0090	-1.8926	0.0747	3.6186	0.2902	-1.4546	0.1026
2	254.88	0.8578	0.3582	0.0101	-2.1411	0.0870	4.1895	0.3231	-1.2337	0.1064
2	254.88	0.9100	0.3545	0.0112	-2.3575	0.0984	4.6809	0.3517	-1.3695	0.1043
2	254.88	0.9727	0.3572	0.0161	-2.6028	0.1125	5.5138	0.3885	-1.0598	0.1055
3	254.88	0.1938	-0.0993	0.0020	-0.0033	0.0013	0.0633	0.0074	-0.3057	0.0292
3	254.88	0.2357	-0.0126	0.0012	-0.0485	0.0014	0.0921	0.0095	-0.5523	0.0719
3	254.88	0.2995	0.0263	0.0013	-0.0579	0.0045	0.2248	0.0259	-0.7821	0.0831
3	254.88	0.3493	0.0649	0.0015	-0.1173	0.0077	0.3956	0.0438	-0.7464	0.0800
3	254.88	0.4000	0.1140	0.0022	-0.1907	0.0115	0.5861	0.0659	-0.9709	0.0810
3	254.88	0.4497	0.1271	0.0024	-0.3120	0.0157	0.8455	0.0903	-0.8306	0.0829
3	254.88	0.4997	0.1773	0.0025	-0.4397	0.0199	1.1247	0.1182	-0.8522	0.0890
3	254.88	0.5556	0.2081	0.0038	-0.6343	0.0258	1.4637	0.1524	-0.7639	0.0851
3	254.88	0.5995	0.2526	0.0045	-0.7332	0.0308	1.7927	0.1806	-0.7503	0.0871
3	254.88	0.6498	0.2659	0.0059	-0.9320	0.0371	2.1667	0.2134	-0.6969	0.0879
3	254.88	0.6890	0.2806	0.0066	-1.0544	0.0422	2.4373	0.2396	-0.8441	0.0848
3	254.88	0.7495	0.3527	0.0081	-1.3035	0.0511	2.9699	0.2793	-0.5101	0.0890
3	254.88	0.7998	0.3469	0.0092	-1.4579	0.0591	3.3007	0.3113	-1.1414	0.0917
3	254.88	0.8577	0.3800	0.0105	-1.6688	0.0688	3.8475	0.3484	-1.1772	0.0899
3	254.88	0.9178	0.4434	0.0119	-1.8737	0.0792	4.4022	0.3861	-0.8433	0.0968
3	254.88	0.9729	0.4019	0.0162	-2.1190	0.0892	4.9113	0.4214	-1.3990	0.0930
4	254.88	0.2001	-0.0745	0.0011	-0.0168	0.0009	0.0464	0.0048	0.0429	0.0177
4	254.88	0.2502	-0.0130	0.0014	-0.0228	0.0022	0.0756	0.0100	-0.0701	0.0413
4	254.88	0.3001	0.0148	0.0011	-0.0567	0.0042	0.1738	0.0186	0.0542	0.0419
4	254.88	0.3502	0.0465	0.0013	-0.1078	0.0066	0.2688	0.0306	0.0414	0.0555
4	254.88	0.4002	0.0766	0.0020	-0.1543	0.0108	0.4213	0.0479	0.0979	0.0531
4	254.88	0.4500	0.1159	0.0022	-0.2180	0.0151	0.5676	0.0662	-0.1757	0.0531
4	254.88	0.5001	0.1438	0.0030	-0.3229	0.0200	0.8275	0.0871	0.1107	0.0626
4	254.88	0.5560	0.1816	0.0030	-0.4387	0.0266	1.0405	0.1132	-0.2425	0.0578
4	254.88	0.6001	0.2273	0.0036	-0.5620	0.0322	1.2793	0.1355	-0.1960	0.0576
4	254.88	0.6501	0.2394	0.0041	-0.7007	0.0394	1.5435	0.1618	-0.2107	0.0618
4	254.88	0.6999	0.2747	0.0050	-0.8605	0.0470	1.8191	0.1912	-0.2478	0.0641
4	254.88	0.7500	0.3153	0.0058	-1.0267	0.0556	2.1336	0.2233	-0.1089	0.0635
4	254.88	0.8002	0.3410	0.0065	-1.2190	0.0644	2.4233	0.2582	-0.0978	0.0642
4	254.88	0.8582	0.3826	0.0078	-1.3928	0.0751	2.7558	0.3037	-0.6745	0.0645
4	254.88	0.9101	0.3910	0.0093	-1.5253	0.0850	3.1527	0.3477	-0.3389	0.0628
4	254.88	0.9728	0.4633	0.0137	-1.6560	0.0969	3.7503	0.4041	-0.1014	0.0675

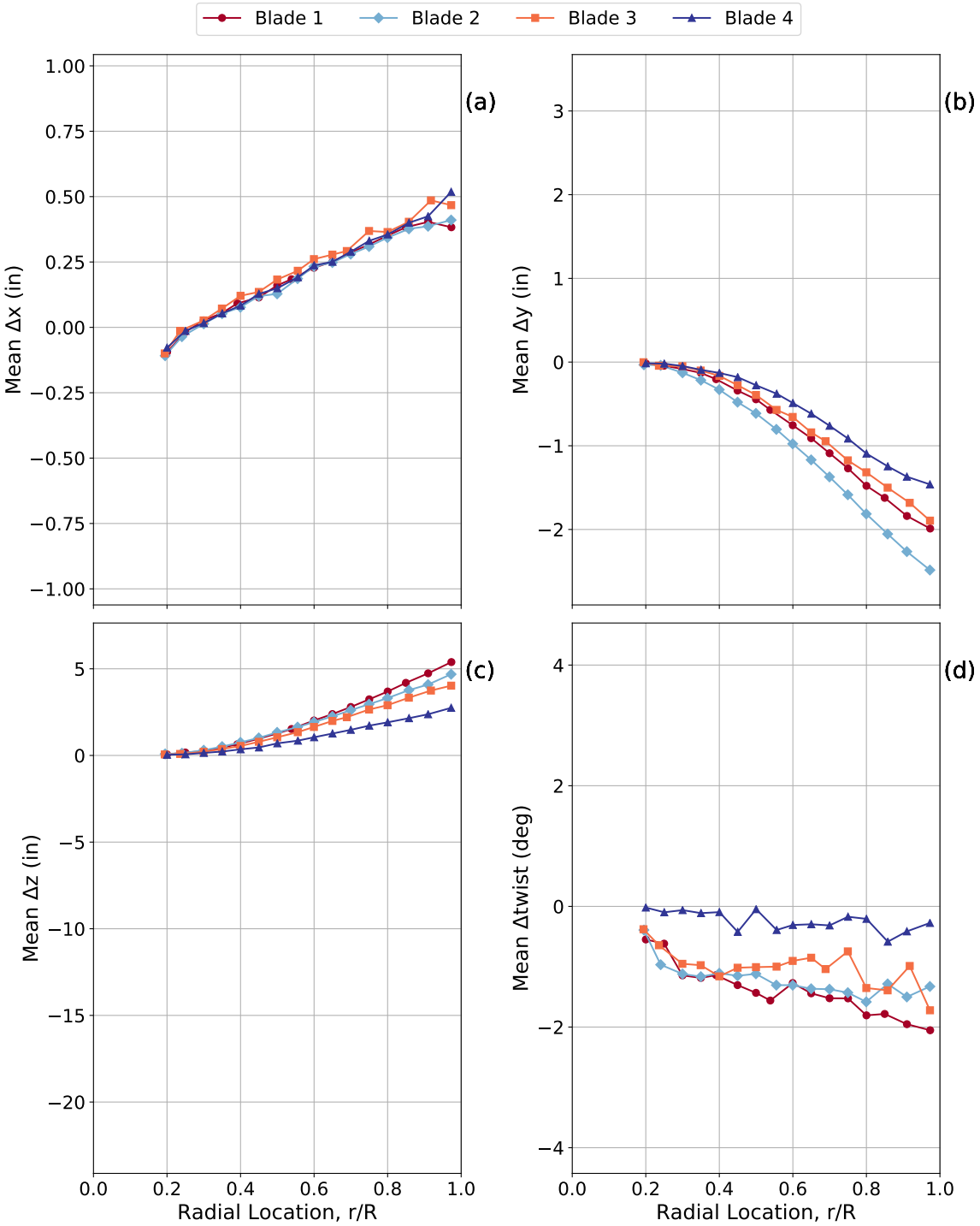


Figure 2.28-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.0949	0.0019	-0.0157	0.0011	0.0597	0.0048	-0.5482	0.0264
1	260.16	0.2499	-0.0176	0.0014	-0.0437	0.0030	0.1702	0.0095	-0.6177	0.0482
1	260.16	0.2998	0.0264	0.0013	-0.0828	0.0050	0.2468	0.0168	-1.1435	0.0594
1	260.16	0.3498	0.0551	0.0017	-0.1297	0.0089	0.4453	0.0293	-1.1856	0.0572
1	260.16	0.3913	0.0916	0.0023	-0.2043	0.0131	0.6435	0.0411	-1.1395	0.0602
1	260.16	0.4496	0.1143	0.0028	-0.3405	0.0188	0.9666	0.0586	-1.3047	0.0665
1	260.16	0.4997	0.1604	0.0035	-0.4448	0.0250	1.2690	0.0757	-1.4331	0.0681
1	260.16	0.5387	0.1840	0.0038	-0.5709	0.0299	1.5259	0.0899	-1.5603	0.0733
1	260.16	0.5996	0.2280	0.0043	-0.7548	0.0386	2.0164	0.1117	-1.2706	0.0657
1	260.16	0.6498	0.2510	0.0050	-0.9098	0.0461	2.3874	0.1308	-1.4411	0.0648
1	260.16	0.6998	0.2861	0.0056	-1.0894	0.0544	2.7962	0.1498	-1.5226	0.0689
1	260.16	0.7500	0.3171	0.0063	-1.2703	0.0631	3.2395	0.1689	-1.5249	0.0687
1	260.16	0.8001	0.3511	0.0070	-1.4787	0.0723	3.6894	0.1900	-1.8062	0.0702
1	260.16	0.8497	0.3827	0.0077	-1.6223	0.0815	4.1894	0.2110	-1.7826	0.0706
1	260.16	0.9102	0.4034	0.0087	-1.8389	0.0932	4.7388	0.2401	-1.9525	0.0706
1	260.16	0.9734	0.3828	0.0127	-1.9890	0.1054	5.3881	0.2727	-2.0531	0.0752
2	260.16	0.1949	-0.1085	0.0018	-0.0325	0.0010	0.0871	0.0046	-0.3917	0.0305
2	260.16	0.2405	-0.0357	0.0012	-0.0396	0.0016	0.1292	0.0069	-0.9666	0.0483
2	260.16	0.2999	0.0135	0.0014	-0.1281	0.0038	0.3009	0.0163	-1.1202	0.0698
2	260.16	0.3498	0.0521	0.0014	-0.2164	0.0064	0.5107	0.0270	-1.1647	0.0671
2	260.16	0.3998	0.0769	0.0027	-0.3296	0.0098	0.7550	0.0409	-1.1087	0.0724
2	260.16	0.4496	0.1194	0.0023	-0.4790	0.0129	1.0126	0.0545	-1.1504	0.0859
2	260.16	0.4995	0.1281	0.0028	-0.6131	0.0174	1.3307	0.0727	-1.1180	0.0804
2	260.16	0.5551	0.1862	0.0029	-0.8043	0.0227	1.6361	0.0928	-1.3053	0.0812
2	260.16	0.5996	0.2328	0.0035	-0.9767	0.0277	1.9244	0.1105	-1.3060	0.0815
2	260.16	0.6497	0.2478	0.0040	-1.1684	0.0334	2.2548	0.1285	-1.3653	0.0835
2	260.16	0.6996	0.2801	0.0043	-1.3722	0.0400	2.6110	0.1466	-1.3730	0.0880
2	260.16	0.7495	0.3091	0.0048	-1.5854	0.0468	2.9565	0.1645	-1.4299	0.0871
2	260.16	0.7996	0.3430	0.0052	-1.8143	0.0541	3.3086	0.1823	-1.5824	0.0888
2	260.16	0.8578	0.3767	0.0058	-2.0543	0.0629	3.7692	0.2029	-1.2847	0.0902
2	260.16	0.9100	0.3866	0.0066	-2.2647	0.0710	4.0912	0.2236	-1.5011	0.0903
2	260.16	0.9727	0.4104	0.0093	-2.4848	0.0805	4.6875	0.2484	-1.3274	0.0941
3	260.16	0.1938	-0.0997	0.0018	-0.0019	0.0013	0.0580	0.0069	-0.3789	0.0322
3	260.16	0.2357	-0.0135	0.0015	-0.0437	0.0024	0.0879	0.0125	-0.6443	0.0561
3	260.16	0.2995	0.0266	0.0014	-0.0494	0.0057	0.2114	0.0280	-0.9517	0.0789
3	260.16	0.3493	0.0719	0.0015	-0.1009	0.0099	0.3665	0.0480	-0.9747	0.0780
3	260.16	0.4000	0.1207	0.0022	-0.1652	0.0154	0.5485	0.0739	-1.1596	0.0846
3	260.16	0.4497	0.1355	0.0027	-0.2762	0.0216	0.7887	0.1040	-1.0166	0.0849
3	260.16	0.4997	0.1829	0.0036	-0.3932	0.0293	1.0484	0.1402	-1.0069	0.1067
3	260.16	0.5556	0.2164	0.0046	-0.5713	0.0388	1.3431	0.1838	-0.9989	0.1048
3	260.16	0.5995	0.2609	0.0055	-0.6557	0.0472	1.6445	0.2216	-0.9037	0.1033
3	260.16	0.6498	0.2782	0.0069	-0.8402	0.0577	1.9909	0.2665	-0.8509	0.1057
3	260.16	0.6890	0.2919	0.0080	-0.9458	0.0666	2.2070	0.3034	-1.0387	0.1081
3	260.16	0.7495	0.3686	0.0099	-1.1747	0.0814	2.6496	0.3616	-0.7459	0.1056
3	260.16	0.7998	0.3646	0.0117	-1.3171	0.0945	2.9005	0.4109	-1.3532	0.1154
3	260.16	0.8577	0.4038	0.0133	-1.5004	0.1105	3.3331	0.4688	-1.3915	0.1146
3	260.16	0.9178	0.4856	0.0154	-1.6819	0.1274	3.7450	0.5291	-0.9874	0.1204
3	260.16	0.9729	0.4673	0.0218	-1.8944	0.1431	4.0274	0.5854	-1.7222	0.1247
4	260.16	0.2001	-0.0778	0.0016	-0.0146	0.0013	0.0390	0.0055	-0.0194	0.0272
4	260.16	0.2502	-0.0135	0.0012	-0.0189	0.0024	0.0646	0.0100	-0.0979	0.0530
4	260.16	0.3001	0.0163	0.0012	-0.0477	0.0051	0.1456	0.0200	-0.0620	0.0636
4	260.16	0.3502	0.0535	0.0015	-0.0924	0.0088	0.2264	0.0334	-0.1119	0.0630
4	260.16	0.4002	0.0833	0.0022	-0.1305	0.0135	0.3541	0.0511	-0.0949	0.0643
4	260.16	0.4500	0.1279	0.0027	-0.1805	0.0195	0.4619	0.0705	-0.4234	0.0617
4	260.16	0.5001	0.1497	0.0033	-0.2775	0.0264	0.6983	0.0927	-0.0462	0.0724
4	260.16	0.5560	0.1915	0.0038	-0.3785	0.0344	0.8537	0.1206	-0.3917	0.0761
4	260.16	0.6001	0.2371	0.0045	-0.4894	0.0421	1.0502	0.1437	-0.3085	0.0682
4	260.16	0.6501	0.2507	0.0053	-0.6171	0.0511	1.2642	0.1702	-0.2963	0.0715
4	260.16	0.6999	0.2893	0.0062	-0.7612	0.0608	1.4778	0.1966	-0.3156	0.0736
4	260.16	0.7500	0.3309	0.0071	-0.9143	0.0712	1.7197	0.2227	-0.1719	0.0731
4	260.16	0.8002	0.3552	0.0078	-1.0937	0.0821	1.9117	0.2481	-0.2069	0.0712
4	260.16	0.8582	0.4001	0.0086	-1.2463	0.0951	2.1499	0.2783	-0.5850	0.0771
4	260.16	0.9101	0.4248	0.0093	-1.3698	0.1071	2.3769	0.3061	-0.4143	0.0764
4	260.16	0.9728	0.5182	0.0141	-1.4617	0.1215	2.7466	0.3425	-0.2745	0.0734

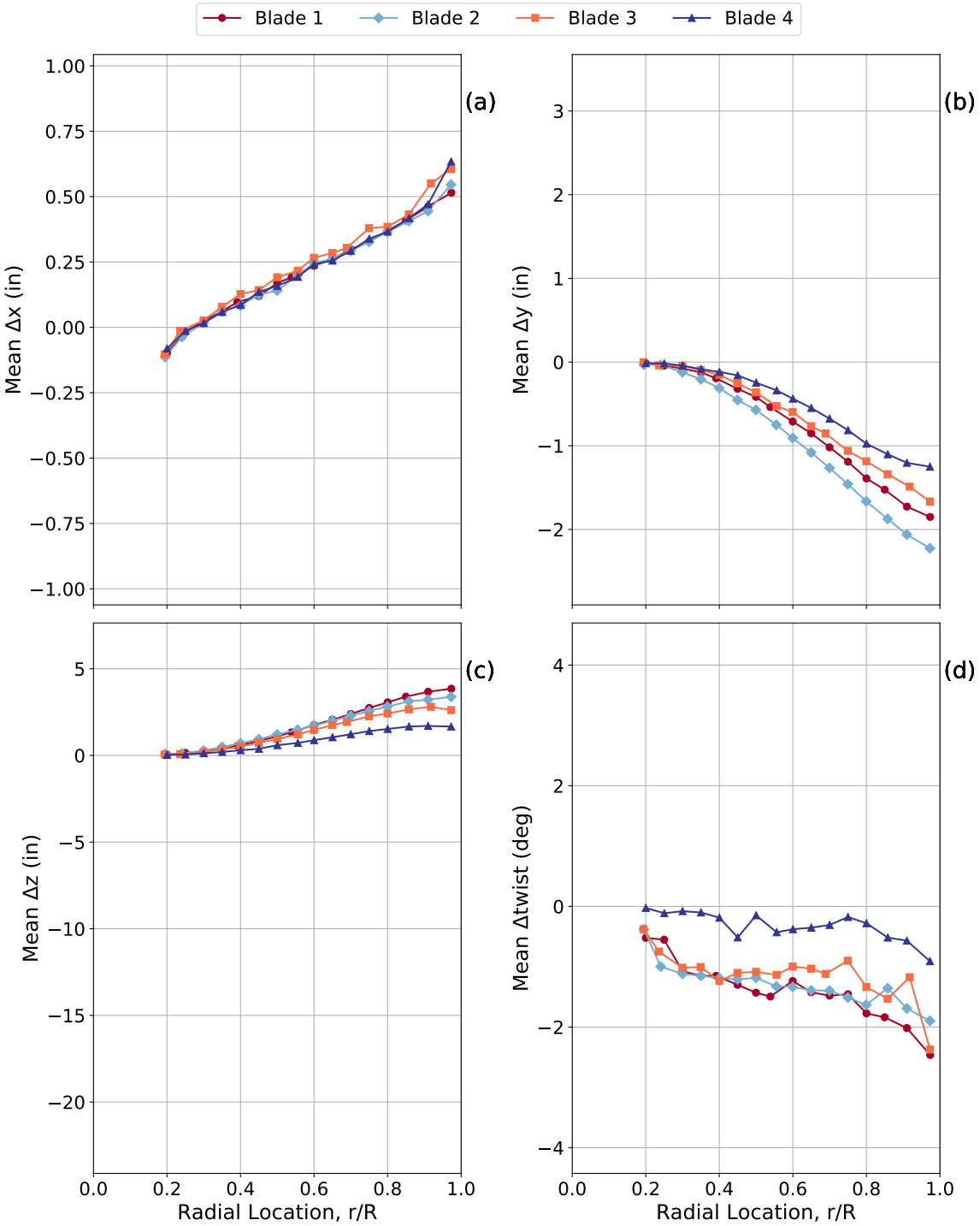


Figure 2.28-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2001	-0.0972	0.0019	-0.0145	0.0015	0.0504	0.0056	-0.5215	0.0275
1	265.08	0.2499	-0.0181	0.0015	-0.0423	0.0026	0.1502	0.0096	-0.5517	0.0538
1	265.08	0.2998	0.0257	0.0013	-0.0786	0.0060	0.2138	0.0193	-1.0737	0.0639
1	265.08	0.3498	0.0618	0.0021	-0.1223	0.0100	0.3826	0.0319	-1.1515	0.0680
1	265.08	0.3913	0.0965	0.0028	-0.1943	0.0143	0.5583	0.0450	-1.1509	0.0656
1	265.08	0.4496	0.1197	0.0033	-0.3193	0.0210	0.8398	0.0638	-1.2996	0.0697
1	265.08	0.4997	0.1697	0.0039	-0.4164	0.0280	1.1002	0.0816	-1.4310	0.0727
1	265.08	0.5387	0.1909	0.0046	-0.5382	0.0342	1.3342	0.0973	-1.4946	0.0725
1	265.08	0.5996	0.2354	0.0056	-0.7105	0.0456	1.7575	0.1243	-1.2361	0.0776
1	265.08	0.6498	0.2610	0.0062	-0.8514	0.0556	2.0618	0.1482	-1.4229	0.0776
1	265.08	0.6998	0.2981	0.0069	-1.0189	0.0665	2.3942	0.1754	-1.4797	0.0813
1	265.08	0.7500	0.3293	0.0080	-1.1906	0.0788	2.7424	0.2050	-1.4558	0.0852
1	265.08	0.8001	0.3701	0.0091	-1.3909	0.0912	3.0632	0.2379	-1.7733	0.0872
1	265.08	0.8497	0.4085	0.0096	-1.5245	0.1035	3.3917	0.2747	-1.8383	0.0892
1	265.08	0.9102	0.4623	0.0114	-1.7273	0.1188	3.6748	0.3223	-2.0171	0.0933
1	265.08	0.9734	0.5150	0.0175	-1.8508	0.1351	3.8533	0.3771	-2.4624	0.0915
2	265.08	0.1949	-0.1133	0.0020	-0.0316	0.0013	0.0856	0.0048	-0.3800	0.0262
2	265.08	0.2405	-0.0368	0.0016	-0.0361	0.0024	0.1155	0.0075	-0.9978	0.0453
2	265.08	0.2999	0.0172	0.0015	-0.1215	0.0055	0.2805	0.0171	-1.1196	0.0624
2	265.08	0.3498	0.0602	0.0021	-0.2053	0.0096	0.4859	0.0289	-1.1488	0.0590
2	265.08	0.3998	0.0828	0.0028	-0.3110	0.0148	0.7047	0.0432	-1.1906	0.0608
2	265.08	0.4496	0.1252	0.0036	-0.4530	0.0206	0.9372	0.0606	-1.2105	0.0651
2	265.08	0.4995	0.1405	0.0040	-0.5713	0.0276	1.2151	0.0811	-1.1836	0.0642
2	265.08	0.5551	0.1983	0.0045	-0.7497	0.0362	1.4767	0.1092	-1.3259	0.0687
2	265.08	0.5996	0.2469	0.0052	-0.9076	0.0441	1.7222	0.1358	-1.3345	0.0733
2	265.08	0.6497	0.2612	0.0057	-1.0805	0.0537	1.9976	0.1692	-1.3912	0.0723
2	265.08	0.6996	0.2929	0.0065	-1.2650	0.0638	2.2947	0.2064	-1.3967	0.0784
2	265.08	0.7495	0.3268	0.0073	-1.4585	0.0746	2.5566	0.2466	-1.5100	0.0879
2	265.08	0.7996	0.3651	0.0082	-1.6648	0.0862	2.8201	0.2884	-1.6318	0.0859
2	265.08	0.8578	0.4061	0.0090	-1.8735	0.1002	3.1244	0.3378	-1.3567	0.0887
2	265.08	0.9100	0.4446	0.0098	-2.0603	0.1127	3.2176	0.3816	-1.6921	0.0889
2	265.08	0.9727	0.5458	0.0149	-2.2246	0.1283	3.3824	0.4329	-1.8967	0.1008
3	265.08	0.1938	-0.1032	0.0024	-0.0024	0.0012	0.0604	0.0057	-0.3798	0.0320
3	265.08	0.2357	-0.0137	0.0018	-0.0397	0.0023	0.0741	0.0086	-0.7482	0.0614
3	265.08	0.2995	0.0266	0.0015	-0.0451	0.0051	0.1995	0.0201	-1.0170	0.0806
3	265.08	0.3493	0.0781	0.0019	-0.0955	0.0091	0.3522	0.0341	-1.0051	0.0794
3	265.08	0.4000	0.1273	0.0022	-0.1528	0.0141	0.5136	0.0515	-1.2348	0.0833
3	265.08	0.4497	0.1425	0.0029	-0.2546	0.0195	0.7258	0.0700	-1.1021	0.0869
3	265.08	0.4997	0.1915	0.0035	-0.3623	0.0266	0.9550	0.0932	-1.0847	0.0931
3	265.08	0.5556	0.2166	0.0041	-0.5272	0.0351	1.2104	0.1194	-1.1352	0.0906
3	265.08	0.5995	0.2659	0.0044	-0.5972	0.0427	1.4709	0.1438	-0.9971	0.0973
3	265.08	0.6498	0.2843	0.0050	-0.7658	0.0524	1.7562	0.1763	-1.0322	0.0941
3	265.08	0.6890	0.3039	0.0054	-0.8538	0.0604	1.9282	0.2047	-1.1186	0.0984
3	265.08	0.7495	0.3792	0.0064	-1.0609	0.0741	2.2575	0.2528	-0.9013	0.1000
3	265.08	0.7998	0.3848	0.0071	-1.1851	0.0858	2.4172	0.2990	-1.3358	0.1023
3	265.08	0.8577	0.4318	0.0077	-1.3397	0.1002	2.6590	0.3564	-1.5318	0.1028
3	265.08	0.9178	0.5507	0.0090	-1.4890	0.1157	2.8097	0.4199	-1.1742	0.1131
3	265.08	0.9729	0.6051	0.0136	-1.6668	0.1295	2.6160	0.4774	-2.3730	0.1248
4	265.08	0.2001	-0.0812	0.0015	-0.0135	0.0015	0.0359	0.0047	-0.0256	0.0317
4	265.08	0.2502	-0.0135	0.0013	-0.0171	0.0031	0.0516	0.0091	-0.1129	0.0595
4	265.08	0.3001	0.0166	0.0017	-0.0426	0.0064	0.1251	0.0172	-0.0794	0.0747
4	265.08	0.3502	0.0590	0.0021	-0.0852	0.0108	0.1988	0.0291	-0.1007	0.0798
4	265.08	0.4002	0.0863	0.0032	-0.1183	0.0168	0.3028	0.0443	-0.1872	0.0859
4	265.08	0.4500	0.1355	0.0037	-0.1588	0.0241	0.3834	0.0617	-0.5146	0.0910
4	265.08	0.5001	0.1583	0.0047	-0.2464	0.0337	0.5926	0.0834	-0.1486	0.1013
4	265.08	0.5560	0.1930	0.0053	-0.3383	0.0455	0.7234	0.1118	-0.4287	0.1073
4	265.08	0.6001	0.2415	0.0064	-0.4380	0.0563	0.8824	0.1382	-0.3788	0.1159
4	265.08	0.6501	0.2553	0.0072	-0.5492	0.0700	1.0497	0.1709	-0.3528	0.1192
4	265.08	0.6999	0.2926	0.0083	-0.6764	0.0851	1.2239	0.2087	-0.3079	0.1291
4	265.08	0.7500	0.3389	0.0096	-0.8144	0.1007	1.4066	0.2517	-0.1764	0.1331
4	265.08	0.8002	0.3661	0.0106	-0.9752	0.1178	1.5283	0.2988	-0.2795	0.1272
4	265.08	0.8582	0.4175	0.0120	-1.1024	0.1378	1.6706	0.3617	-0.5176	0.1376
4	265.08	0.9101	0.4708	0.0136	-1.2036	0.1556	1.7045	0.4229	-0.5679	0.1251
4	265.08	0.9728	0.6344	0.0224	-1.2502	0.1774	1.6662	0.5085	-0.9087	0.1357

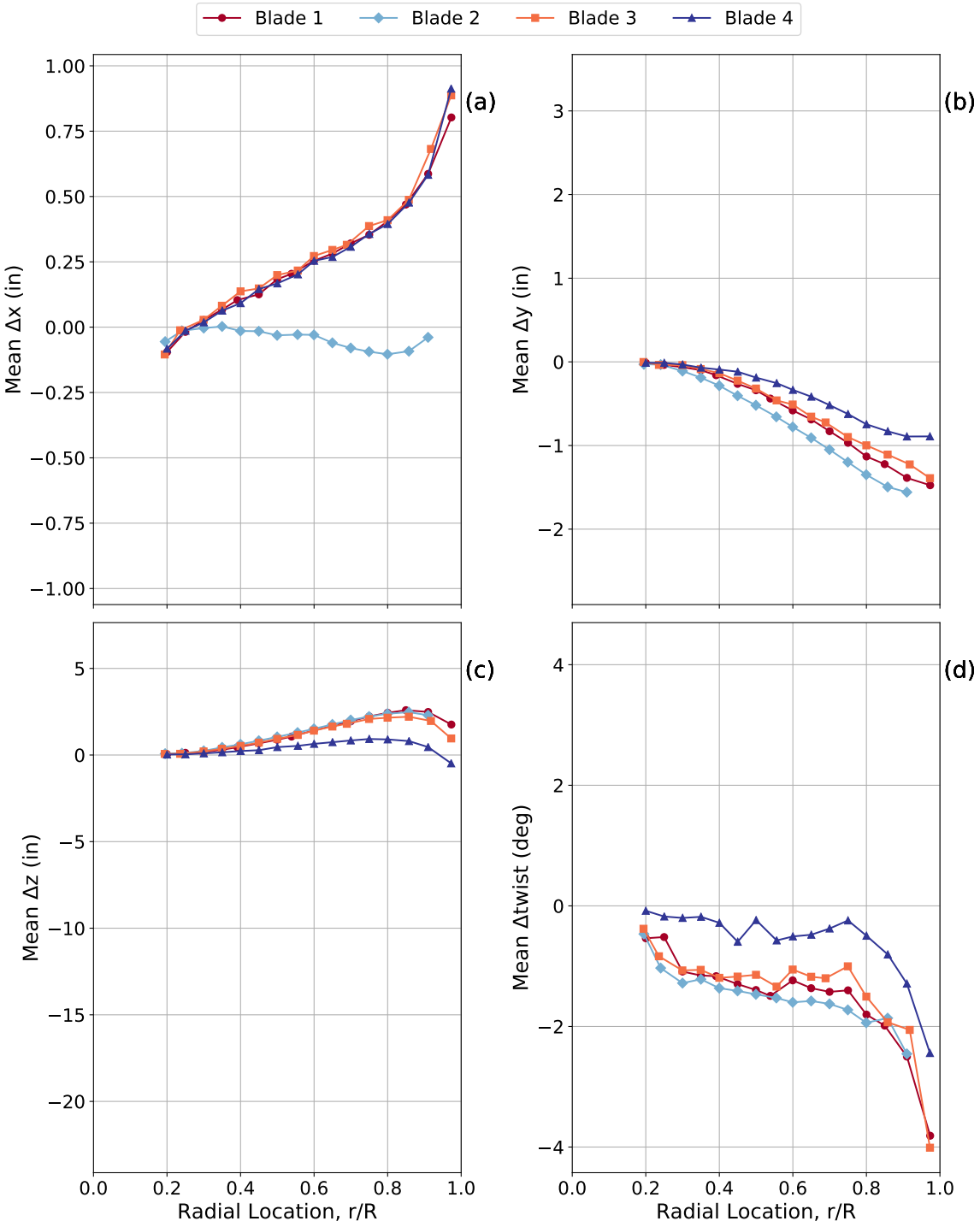


Figure 2.28-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2001	-0.0951	0.0024	-0.0111	0.0013	0.0375	0.0069	-0.5374	0.0308
1	270	0.2499	-0.0180	0.0015	-0.0361	0.0021	0.1266	0.0121	-0.5172	0.0619
1	270	0.2998	0.0271	0.0015	-0.0637	0.0046	0.1658	0.0247	-1.0895	0.0700
1	270	0.3498	0.0674	0.0018	-0.0991	0.0078	0.3058	0.0415	-1.1547	0.0706
1	270	0.3913	0.1036	0.0021	-0.1593	0.0110	0.4469	0.0588	-1.1660	0.0767
1	270	0.4496	0.1256	0.0023	-0.2631	0.0164	0.6730	0.0868	-1.2975	0.0756
1	270	0.4997	0.1831	0.0027	-0.3395	0.0215	0.8799	0.1157	-1.3958	0.0782
1	270	0.5387	0.2042	0.0030	-0.4388	0.0260	1.0649	0.1397	-1.4926	0.0801
1	270	0.5996	0.2540	0.0039	-0.5809	0.0337	1.4191	0.1821	-1.2356	0.0861
1	270	0.6498	0.2814	0.0046	-0.6885	0.0403	1.6712	0.2199	-1.3652	0.0868
1	270	0.6998	0.3208	0.0056	-0.8291	0.0477	1.9466	0.2575	-1.4259	0.0858
1	270	0.7500	0.3536	0.0059	-0.9680	0.0557	2.2283	0.2982	-1.4009	0.0870
1	270	0.8001	0.4058	0.0069	-1.1315	0.0639	2.4362	0.3390	-1.8032	0.0921
1	270	0.8497	0.4693	0.0078	-1.2230	0.0724	2.5897	0.3802	-1.9858	0.0924
1	270	0.9102	0.5865	0.0090	-1.3871	0.0832	2.4854	0.4326	-2.4996	0.0955
1	270	0.9734	0.8025	0.0127	-1.4753	0.0945	1.7591	0.4899	-3.8122	0.0938
2	270.35	0.1949	-0.0554	0.0070	-0.0286	0.0013	0.0776	0.0056	-0.4666	0.0312
2	270.35	0.2405	-0.0139	0.0029	-0.0330	0.0029	0.1002	0.0095	-1.0314	0.0567
2	270.35	0.2999	-0.0035	0.0035	-0.1100	0.0054	0.2391	0.0219	-1.2813	0.0755
2	270.35	0.3498	0.0027	0.0064	-0.1889	0.0097	0.4400	0.0373	-1.2167	0.0688
2	270.35	0.3998	-0.0145	0.0081	-0.2849	0.0150	0.6175	0.0564	-1.3652	0.0804
2	270.35	0.4496	-0.0156	0.0098	-0.4050	0.0210	0.8251	0.0769	-1.4101	0.0796
2	270.35	0.4995	-0.0312	0.0102	-0.5190	0.0278	1.0457	0.1012	-1.4668	0.0834
2	270.35	0.5551	-0.0284	0.0106	-0.6570	0.0374	1.2957	0.1330	-1.5274	0.0835
2	270.35	0.5996	-0.0295	0.0111	-0.7783	0.0456	1.5119	0.1595	-1.5994	0.0863
2	270.35	0.6497	-0.0600	0.0123	-0.9082	0.0563	1.7665	0.1917	-1.5773	0.0898
2	270.35	0.6996	-0.0798	0.0146	-1.0493	0.0673	2.0185	0.2253	-1.6262	0.0944
2	270.35	0.7495	-0.0937	0.0185	-1.1986	0.0791	2.2215	0.2606	-1.7253	0.1021
2	270.35	0.7996	-0.1037	0.0239	-1.3491	0.0918	2.3820	0.2973	-1.9387	0.0973
2	270.35	0.8578	-0.0920	0.0317	-1.4954	0.1076	2.4749	0.3396	-1.8616	0.1084
2	270.35	0.9100	-0.0390	0.0410	-1.5581	0.1224	2.2963	0.3785	-2.4546	0.1048
3	270	0.1938	-0.1045	0.0030	-0.0019	0.0014	0.0642	0.0064	-0.3797	0.0254
3	270	0.2357	-0.0119	0.0017	-0.0360	0.0018	0.0695	0.0084	-0.8360	0.0730
3	270	0.2995	0.0281	0.0019	-0.0388	0.0045	0.2058	0.0202	-1.0704	0.0757
3	270	0.3493	0.0820	0.0021	-0.0858	0.0082	0.3602	0.0339	-1.0609	0.0763
3	270	0.4000	0.1370	0.0023	-0.1354	0.0120	0.5236	0.0507	-1.1932	0.0815
3	270	0.4497	0.1482	0.0025	-0.2249	0.0169	0.7154	0.0691	-1.1729	0.0831
3	270	0.4997	0.1992	0.0031	-0.3190	0.0220	0.9339	0.0921	-1.1432	0.0851
3	270	0.5556	0.2167	0.0038	-0.4608	0.0293	1.1592	0.1213	-1.3392	0.0833
3	270	0.5995	0.2722	0.0044	-0.5098	0.0359	1.4091	0.1479	-1.0560	0.0838
3	270	0.6498	0.2955	0.0051	-0.6552	0.0440	1.6448	0.1801	-1.1760	0.0915
3	270	0.6890	0.3150	0.0056	-0.7248	0.0506	1.8028	0.2080	-1.2005	0.0891
3	270	0.7495	0.3869	0.0064	-0.8983	0.0620	2.0805	0.2537	-1.0026	0.0938
3	270	0.7998	0.4093	0.0072	-0.9980	0.0718	2.1542	0.2909	-1.5048	0.0982
3	270	0.8577	0.4873	0.0085	-1.1085	0.0840	2.2102	0.3373	-1.9300	0.0933
3	270	0.9178	0.6819	0.0102	-1.2263	0.0971	1.9661	0.3858	-2.0573	0.1003
3	270	0.9729	0.8870	0.0169	-1.3904	0.1085	0.9570	0.4379	-4.0107	0.1156
4	270	0.2001	-0.0824	0.0016	-0.0113	0.0015	0.0289	0.0058	-0.0816	0.0302
4	270	0.2502	-0.0137	0.0014	-0.0127	0.0032	0.0389	0.0112	-0.1767	0.0505
4	270	0.3001	0.0184	0.0017	-0.0322	0.0066	0.0940	0.0222	-0.2002	0.0660
4	270	0.3502	0.0633	0.0017	-0.0694	0.0109	0.1570	0.0361	-0.1819	0.0672
4	270	0.4002	0.0919	0.0025	-0.0923	0.0172	0.2314	0.0561	-0.2817	0.0749
4	270	0.4500	0.1458	0.0032	-0.1180	0.0243	0.2788	0.0813	-0.5958	0.0743
4	270	0.5001	0.1675	0.0039	-0.1884	0.0326	0.4565	0.1097	-0.2360	0.0830
4	270	0.5560	0.2020	0.0042	-0.2546	0.0437	0.5276	0.1508	-0.5736	0.0892
4	270	0.6001	0.2539	0.0050	-0.3352	0.0536	0.6443	0.1877	-0.5070	0.0891
4	270	0.6501	0.2686	0.0057	-0.4165	0.0657	0.7411	0.2338	-0.4790	0.0914
4	270	0.6999	0.3076	0.0066	-0.5173	0.0789	0.8398	0.2838	-0.3761	0.0990
4	270	0.7500	0.3567	0.0073	-0.6240	0.0928	0.9246	0.3396	-0.2420	0.0993
4	270	0.8002	0.3945	0.0077	-0.7464	0.1074	0.9004	0.4000	-0.4956	0.1024
4	270	0.8582	0.4766	0.0085	-0.8305	0.1248	0.8041	0.4769	-0.8067	0.1068
4	270	0.9101	0.5829	0.0100	-0.8923	0.1406	0.4577	0.5494	-1.2900	0.1176
4	270	0.9728	0.9127	0.0169	-0.8911	0.1592	-0.4810	0.6440	-2.4410	0.1262

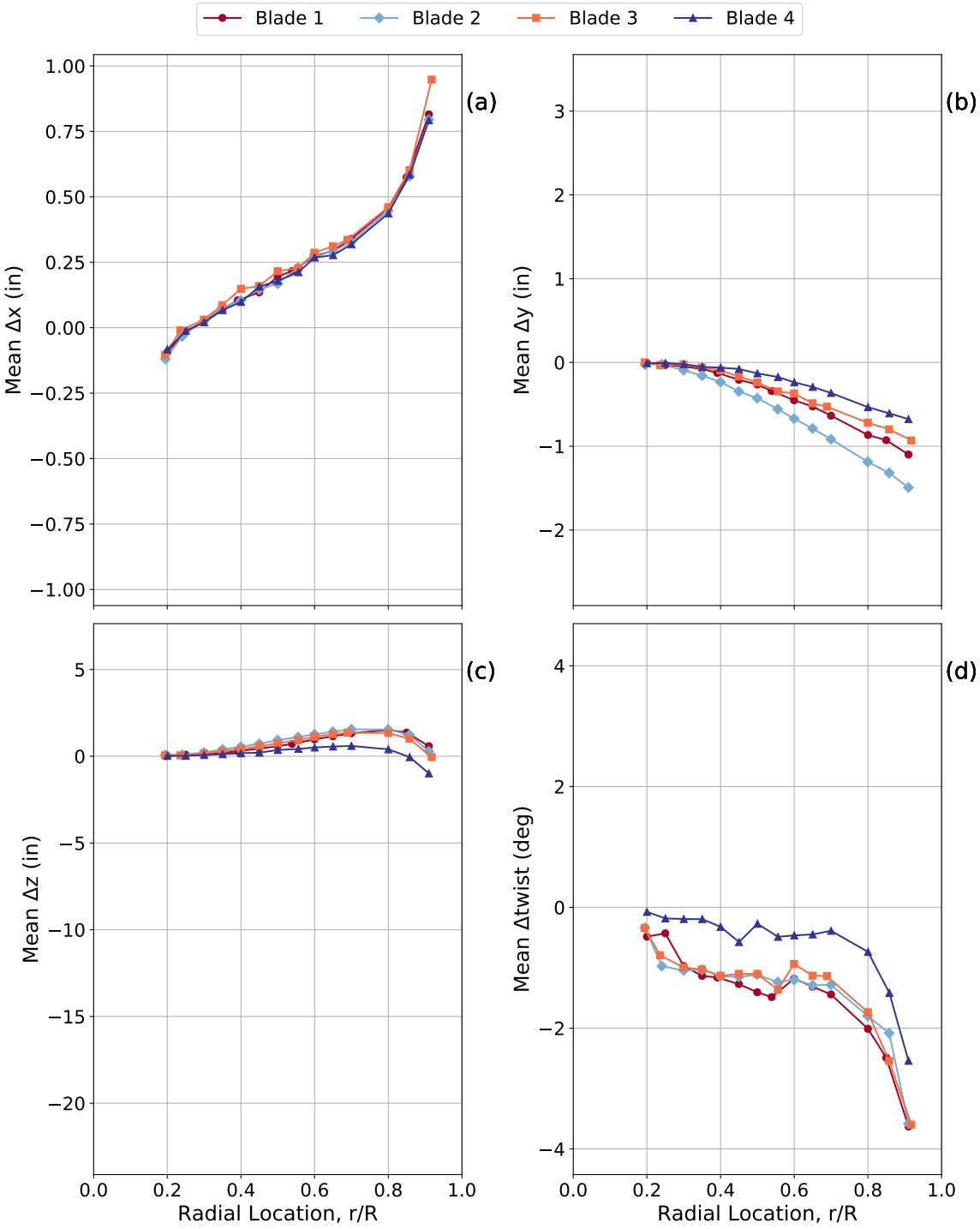


Figure 2.28-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	-0.0937	0.0038	-0.0079	0.0014	0.0207	0.0075	-0.4860	0.0433
1	274.92	0.2499	-0.0152	0.0021	-0.0297	0.0020	0.0893	0.0114	-0.4300	0.0990
1	274.92	0.2998	0.0258	0.0021	-0.0493	0.0051	0.1057	0.0253	-0.9724	0.1066
1	274.92	0.3498	0.0706	0.0019	-0.0762	0.0085	0.1898	0.0427	-1.1349	0.1087
1	274.92	0.3913	0.1050	0.0021	-0.1248	0.0118	0.2894	0.0588	-1.1616	0.1076
1	274.92	0.4496	0.1349	0.0023	-0.2065	0.0164	0.4447	0.0836	-1.2712	0.1070
1	274.92	0.4997	0.1956	0.0027	-0.2635	0.0212	0.5772	0.1056	-1.4060	0.1093
1	274.92	0.5387	0.2160	0.0028	-0.3409	0.0251	0.7120	0.1244	-1.4866	0.1103
1	274.92	0.5996	0.2724	0.0032	-0.4515	0.0319	0.9740	0.1566	-1.1811	0.1119
1	274.92	0.6498	0.2948	0.0038	-0.5255	0.0380	1.1498	0.1853	-1.3136	0.1117
1	274.92	0.6998	0.3394	0.0041	-0.6350	0.0449	1.3267	0.2148	-1.4430	0.1156
1	274.92	0.8001	0.4574	0.0051	-0.8660	0.0601	1.5155	0.2802	-2.0115	0.1201
1	274.92	0.8497	0.5749	0.0054	-0.9274	0.0684	1.3664	0.3134	-2.4905	0.1280
1	274.92	0.9102	0.8149	0.0071	-1.0994	0.0783	0.5788	0.3601	-3.6286	0.1233
2	274.92	0.1949	-0.1199	0.0029	-0.0267	0.0012	0.0730	0.0057	-0.3383	0.0325
2	274.92	0.2405	-0.0329	0.0016	-0.0222	0.0022	0.0812	0.0081	-0.9734	0.0703
2	274.92	0.2999	0.0270	0.0020	-0.0932	0.0050	0.2173	0.0199	-1.0458	0.0858
2	274.92	0.3498	0.0768	0.0022	-0.1577	0.0085	0.3927	0.0329	-1.0328	0.0908
2	274.92	0.3998	0.1042	0.0027	-0.2337	0.0132	0.5484	0.0494	-1.1401	0.0877
2	274.92	0.4496	0.1464	0.0031	-0.3454	0.0186	0.7181	0.0654	-1.1518	0.0909
2	274.92	0.4995	0.1684	0.0039	-0.4259	0.0253	0.9285	0.0847	-1.1151	0.0961
2	274.92	0.5551	0.2296	0.0047	-0.5569	0.0335	1.0997	0.1081	-1.2372	0.0987
2	274.92	0.5996	0.2791	0.0051	-0.6712	0.0412	1.2625	0.1270	-1.2003	0.1025
2	274.92	0.6497	0.2909	0.0057	-0.7884	0.0503	1.4107	0.1492	-1.2886	0.1040
2	274.92	0.6996	0.3281	0.0066	-0.9157	0.0606	1.5534	0.1723	-1.2841	0.1118
2	274.92	0.7996	0.4468	0.0080	-1.1863	0.0829	1.5404	0.2178	-1.7994	0.1192
2	274.92	0.8578	0.5785	0.0089	-1.3189	0.0967	1.2326	0.2465	-2.0844	0.1258
2	274.92	0.9100	0.7947	0.0103	-1.4928	0.1099	0.2862	0.2723	-3.5804	0.1276
3	274.92	0.1938	-0.1039	0.0035	0.0016	0.0013	0.0526	0.0058	-0.3437	0.0352
3	274.92	0.2357	-0.0101	0.0024	-0.0309	0.0023	0.0519	0.0087	-0.7938	0.0668
3	274.92	0.2995	0.0307	0.0021	-0.0233	0.0054	0.1652	0.0204	-0.9947	0.0893
3	274.92	0.3493	0.0864	0.0020	-0.0602	0.0094	0.2889	0.0340	-1.0282	0.0894
3	274.92	0.4000	0.1484	0.0025	-0.0950	0.0145	0.4182	0.0516	-1.1332	0.0871
3	274.92	0.4497	0.1591	0.0029	-0.1673	0.0201	0.5766	0.0702	-1.1016	0.0859
3	274.92	0.4997	0.2161	0.0030	-0.2389	0.0268	0.7481	0.0924	-1.1020	0.0967
3	274.92	0.5556	0.2277	0.0036	-0.3458	0.0354	0.9234	0.1210	-1.3644	0.0945
3	274.92	0.5995	0.2864	0.0037	-0.3708	0.0429	1.1262	0.1445	-0.9389	0.0979
3	274.92	0.6498	0.3112	0.0044	-0.4878	0.0526	1.2695	0.1760	-1.1310	0.1021
3	274.92	0.6890	0.3355	0.0048	-0.5283	0.0602	1.3555	0.2015	-1.1386	0.1055
3	274.92	0.7998	0.4604	0.0060	-0.7203	0.0846	1.3410	0.2799	-1.7375	0.1128
3	274.92	0.8577	0.6016	0.0072	-0.7981	0.0980	1.0057	0.3280	-2.5435	0.1184
3	274.92	0.9178	0.9476	0.0104	-0.9303	0.1114	-0.0484	0.3786	-3.5982	0.1577
4	274.92	0.2001	-0.0830	0.0020	-0.0090	0.0013	0.0231	0.0055	-0.0750	0.0296
4	274.92	0.2502	-0.0123	0.0020	-0.0072	0.0031	0.0254	0.0115	-0.1829	0.0545
4	274.92	0.3001	0.0206	0.0020	-0.0205	0.0055	0.0705	0.0203	-0.1936	0.0645
4	274.92	0.3502	0.0672	0.0022	-0.0515	0.0096	0.1193	0.0345	-0.1952	0.0664
4	274.92	0.4002	0.0984	0.0030	-0.0624	0.0150	0.1714	0.0531	-0.3234	0.0747
4	274.92	0.4500	0.1567	0.0030	-0.0782	0.0210	0.2072	0.0751	-0.5756	0.0755
4	274.92	0.5001	0.1790	0.0036	-0.1305	0.0284	0.3605	0.1015	-0.2715	0.0755
4	274.92	0.5560	0.2119	0.0041	-0.1742	0.0379	0.4252	0.1355	-0.4888	0.0813
4	274.92	0.6001	0.2681	0.0047	-0.2372	0.0463	0.5043	0.1647	-0.4640	0.0808
4	274.92	0.6501	0.2770	0.0051	-0.2924	0.0566	0.5611	0.2027	-0.4487	0.0825
4	274.92	0.6999	0.3189	0.0056	-0.3642	0.0681	0.5949	0.2402	-0.3881	0.0860
4	274.92	0.8002	0.4368	0.0067	-0.5341	0.0923	0.3977	0.3212	-0.7377	0.0970
4	274.92	0.8582	0.5848	0.0075	-0.6076	0.1078	-0.0520	0.3685	-1.4171	0.0998
4	274.92	0.9101	0.7926	0.0100	-0.6769	0.1201	-0.9902	0.4099	-2.5406	0.1311

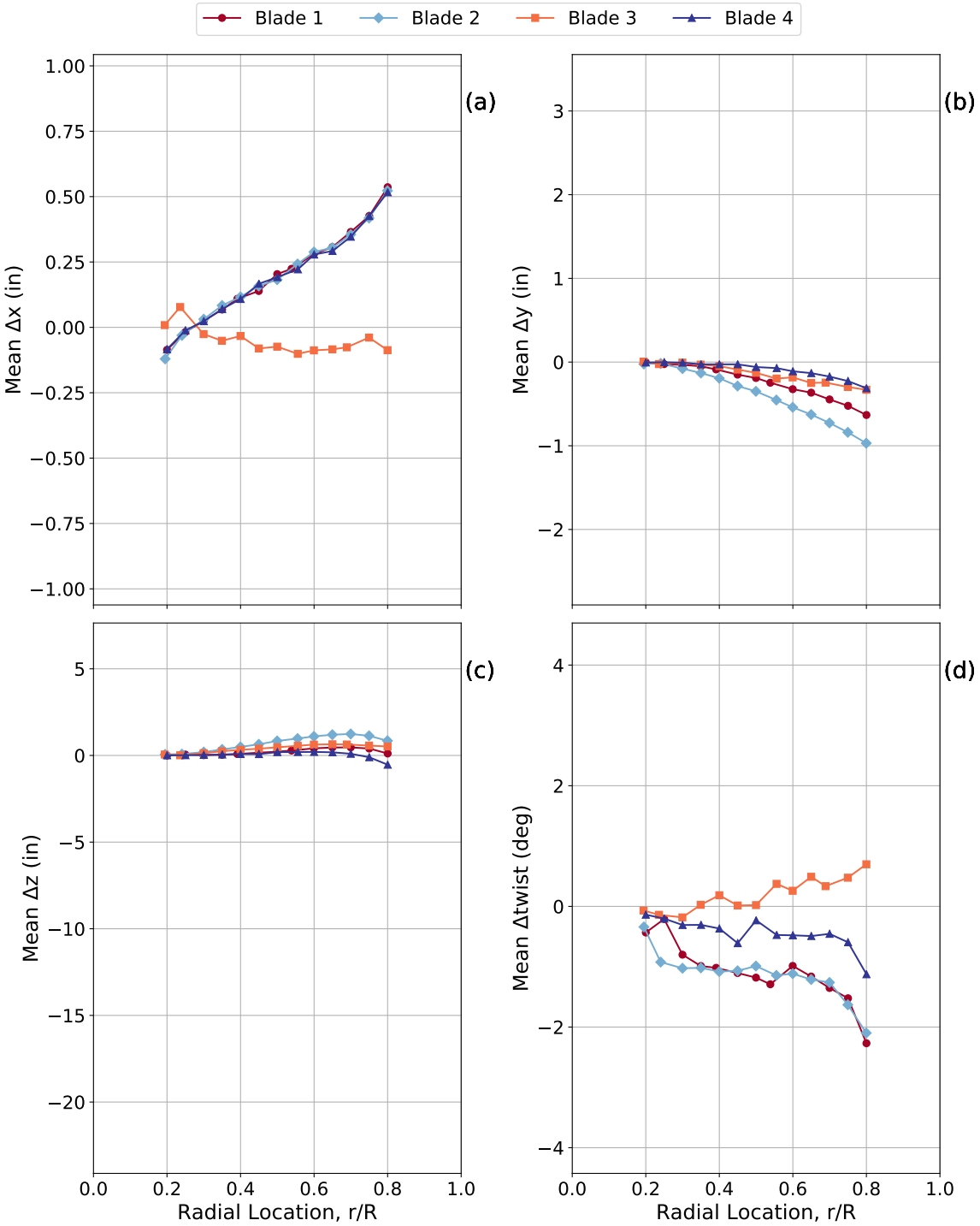


Figure 2.28-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	-0.0860	0.0048	-0.0036	0.0015	-0.0057	0.0079	-0.4331	0.0532
1	279.84	0.2499	-0.0180	0.0027	-0.0242	0.0025	0.0528	0.0112	-0.2096	0.1291
1	279.84	0.2998	0.0246	0.0026	-0.0335	0.0056	0.0173	0.0260	-0.8005	0.1340
1	279.84	0.3498	0.0681	0.0028	-0.0500	0.0092	0.0369	0.0436	-0.9887	0.1381
1	279.84	0.3913	0.1091	0.0027	-0.0880	0.0132	0.0819	0.0596	-1.0185	0.1365
1	279.84	0.4496	0.1391	0.0033	-0.1500	0.0187	0.1602	0.0839	-1.1042	0.1345
1	279.84	0.4997	0.2036	0.0034	-0.1902	0.0243	0.2167	0.1062	-1.1808	0.1376
1	279.84	0.5387	0.2239	0.0032	-0.2468	0.0291	0.2835	0.1248	-1.2911	0.1366
1	279.84	0.5996	0.2801	0.0038	-0.3239	0.0371	0.4103	0.1540	-0.9867	0.1385
1	279.84	0.6498	0.3070	0.0042	-0.3654	0.0450	0.4586	0.1803	-1.1626	0.1317
1	279.84	0.6998	0.3650	0.0053	-0.4465	0.0528	0.4640	0.2065	-1.3521	0.1428
1	279.84	0.7500	0.4260	0.0052	-0.5228	0.0615	0.3989	0.2349	-1.5228	0.1494
1	279.84	0.8001	0.5360	0.0062	-0.6323	0.0713	0.1131	0.2660	-2.2689	0.1419
2	279.84	0.1949	-0.1207	0.0033	-0.0228	0.0013	0.0621	0.0068	-0.3407	0.0356
2	279.84	0.2405	-0.0307	0.0023	-0.0169	0.0025	0.0762	0.0088	-0.9232	0.0923
2	279.84	0.2999	0.0311	0.0021	-0.0781	0.0052	0.1937	0.0222	-1.0252	0.0991
2	279.84	0.3498	0.0836	0.0024	-0.1307	0.0090	0.3469	0.0368	-1.0192	0.0965
2	279.84	0.3998	0.1166	0.0029	-0.1934	0.0139	0.4920	0.0546	-1.0799	0.0973
2	279.84	0.4496	0.1580	0.0029	-0.2863	0.0190	0.6436	0.0704	-1.0676	0.1014
2	279.84	0.4995	0.1823	0.0032	-0.3495	0.0251	0.8361	0.0890	-0.9890	0.1068
2	279.84	0.5551	0.2423	0.0039	-0.4536	0.0329	0.9753	0.1101	-1.1439	0.1105
2	279.84	0.5996	0.2884	0.0043	-0.5404	0.0404	1.0998	0.1275	-1.1155	0.1099
2	279.84	0.6497	0.3045	0.0046	-0.6271	0.0486	1.1968	0.1466	-1.2120	0.1131
2	279.84	0.6996	0.3548	0.0051	-0.7272	0.0582	1.2401	0.1677	-1.2610	0.1186
2	279.84	0.7495	0.4180	0.0057	-0.8394	0.0678	1.1339	0.1888	-1.6308	0.1286
2	279.84	0.7996	0.5225	0.0063	-0.9692	0.0791	0.8469	0.2132	-2.0986	0.1332
3	279.84	0.1938	0.0086	0.0017	0.0054	0.0014	0.0544	0.0049	-0.0686	0.0215
3	279.84	0.2357	0.0777	0.0017	-0.0242	0.0016	0.0085	0.0079	-0.1398	0.0427
3	279.84	0.2995	-0.0258	0.0015	-0.0062	0.0049	0.1323	0.0190	-0.1823	0.0518
3	279.84	0.3493	-0.0513	0.0018	-0.0301	0.0081	0.2425	0.0318	0.0264	0.0531
3	279.84	0.4000	-0.0330	0.0021	-0.0483	0.0126	0.3248	0.0493	0.1843	0.0591
3	279.84	0.4497	-0.0807	0.0026	-0.0897	0.0174	0.3894	0.0694	0.0150	0.0612
3	279.84	0.4997	-0.0739	0.0033	-0.1285	0.0230	0.4709	0.0911	0.0211	0.0613
3	279.84	0.5556	-0.1012	0.0033	-0.1969	0.0300	0.5556	0.1165	0.3736	0.0685
3	279.84	0.5995	-0.0880	0.0052	-0.1829	0.0364	0.6272	0.1359	0.2589	0.0836
3	279.84	0.6498	-0.0841	0.0053	-0.2491	0.0438	0.6449	0.1593	0.4909	0.0944
3	279.84	0.6890	-0.0763	0.0090	-0.2454	0.0498	0.6327	0.1764	0.3352	0.0983
3	279.84	0.7495	-0.0390	0.0067	-0.2976	0.0595	0.5692	0.2025	0.4755	0.0823
3	279.84	0.7998	-0.0873	0.0128	-0.3313	0.0685	0.5180	0.2257	0.6981	0.1532
4	279.84	0.2001	-0.0837	0.0018	-0.0050	0.0013	0.0092	0.0063	-0.1375	0.0301
4	279.84	0.2502	-0.0112	0.0021	-0.0024	0.0027	0.0152	0.0133	-0.2025	0.0668
4	279.84	0.3001	0.0235	0.0022	-0.0069	0.0055	0.0327	0.0237	-0.3086	0.0707
4	279.84	0.3502	0.0702	0.0020	-0.0272	0.0092	0.0532	0.0408	-0.3067	0.0718
4	279.84	0.4002	0.1085	0.0023	-0.0269	0.0145	0.0812	0.0625	-0.3674	0.0757
4	279.84	0.4500	0.1667	0.0029	-0.0269	0.0208	0.0779	0.0875	-0.6099	0.0762
4	279.84	0.5001	0.1920	0.0033	-0.0595	0.0281	0.1915	0.1148	-0.2307	0.0820
4	279.84	0.5560	0.2219	0.0042	-0.0721	0.0378	0.1966	0.1508	-0.4741	0.0821
4	279.84	0.6001	0.2784	0.0041	-0.1104	0.0460	0.2038	0.1800	-0.4793	0.0851
4	279.84	0.6501	0.2921	0.0043	-0.1321	0.0571	0.1812	0.2150	-0.4915	0.0993
4	279.84	0.6999	0.3466	0.0050	-0.1737	0.0686	0.0967	0.2508	-0.4551	0.0920
4	279.84	0.7500	0.4256	0.0052	-0.2271	0.0813	-0.1033	0.2894	-0.5947	0.1059
4	279.84	0.8002	0.5166	0.0064	-0.3126	0.0953	-0.5338	0.3260	-1.1250	0.1148

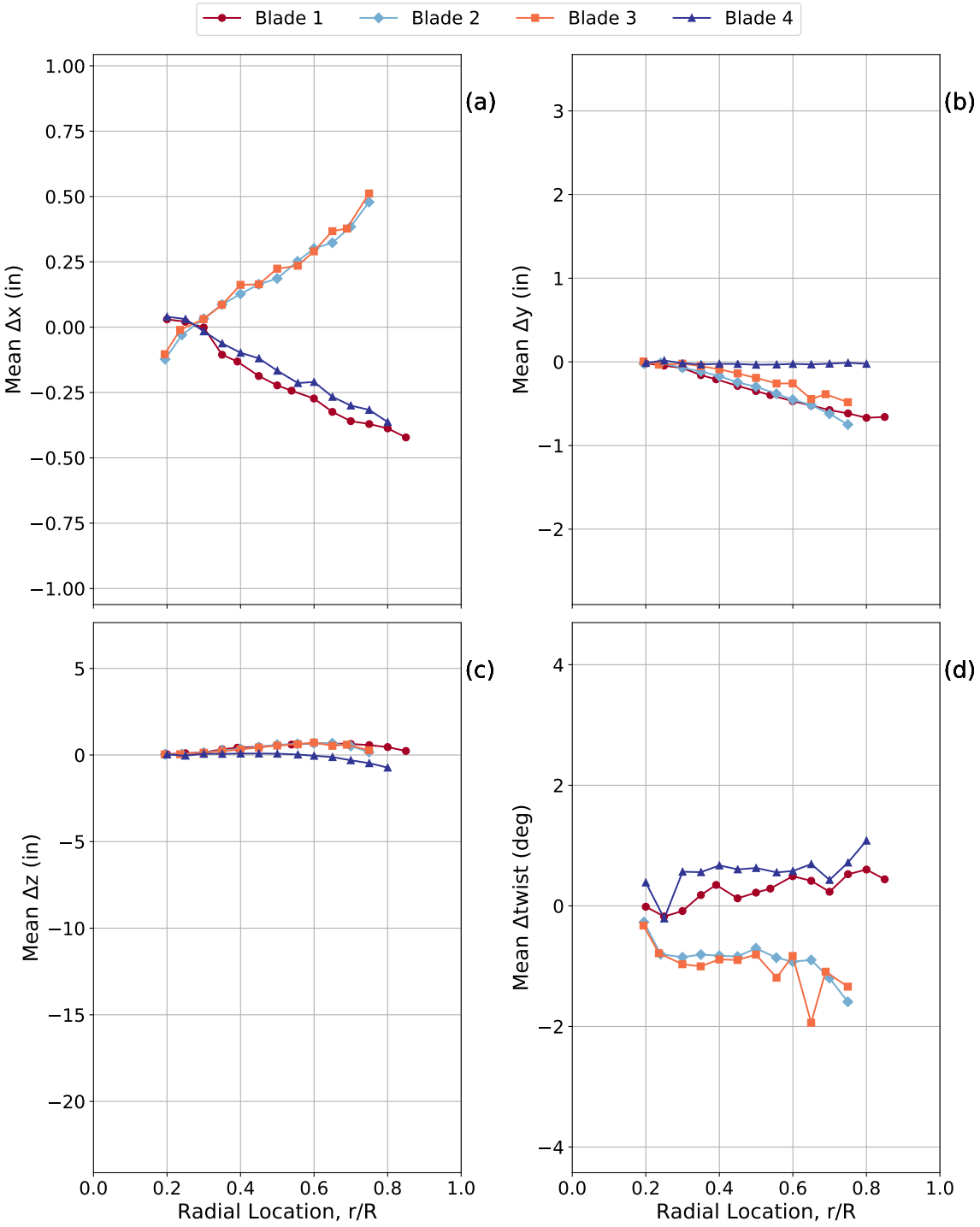


Figure 2.28-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0300	0.0027	-0.0196	0.0015	0.0477	0.0040	-0.0143	0.0289
1	285.12	0.2499	0.0207	0.0017	-0.0447	0.0040	0.1022	0.0103	-0.1759	0.0506
1	285.12	0.2998	-0.0010	0.0015	-0.0733	0.0068	0.1498	0.0165	-0.0858	0.0615
1	285.12	0.3498	-0.1055	0.0024	-0.1585	0.0117	0.3330	0.0278	0.1799	0.0623
1	285.12	0.3913	-0.1315	0.0025	-0.2083	0.0171	0.4206	0.0409	0.3472	0.0687
1	285.12	0.4496	-0.1869	0.0039	-0.2871	0.0239	0.4814	0.0574	0.1248	0.0676
1	285.12	0.4997	-0.2227	0.0033	-0.3491	0.0307	0.5706	0.0764	0.2196	0.0624
1	285.12	0.5387	-0.2430	0.0044	-0.3969	0.0367	0.6034	0.0925	0.2864	0.0785
1	285.12	0.5996	-0.2730	0.0046	-0.4700	0.0468	0.6683	0.1201	0.4916	0.0682
1	285.12	0.6498	-0.3242	0.0060	-0.5210	0.0564	0.6671	0.1434	0.4155	0.0885
1	285.12	0.6998	-0.3596	0.0069	-0.5765	0.0665	0.6377	0.1726	0.2335	0.0836
1	285.12	0.7500	-0.3706	0.0062	-0.6162	0.0768	0.5731	0.1997	0.5246	0.0892
1	285.12	0.8001	-0.3873	0.0084	-0.6686	0.0882	0.4584	0.2285	0.6015	0.0994
1	285.12	0.8497	-0.4218	0.0094	-0.6590	0.0999	0.2328	0.2551	0.4406	0.1321
2	285.12	0.1949	-0.1225	0.0041	-0.0203	0.0015	0.0467	0.0072	-0.2694	0.0445
2	285.12	0.2405	-0.0296	0.0027	-0.0143	0.0023	0.0570	0.0099	-0.8030	0.1170
2	285.12	0.2999	0.0324	0.0023	-0.0698	0.0053	0.1420	0.0222	-0.8511	0.1254
2	285.12	0.3498	0.0867	0.0026	-0.1146	0.0096	0.2579	0.0370	-0.8078	0.1173
2	285.12	0.3998	0.1271	0.0035	-0.1707	0.0141	0.3619	0.0548	-0.8270	0.1347
2	285.12	0.4496	0.1639	0.0029	-0.2452	0.0202	0.4574	0.0712	-0.8399	0.1204
2	285.12	0.4995	0.1861	0.0042	-0.2966	0.0266	0.5944	0.0893	-0.7028	0.1357
2	285.12	0.5551	0.2519	0.0044	-0.3813	0.0356	0.6428	0.1153	-0.8591	0.1324
2	285.12	0.5996	0.3011	0.0048	-0.4514	0.0434	0.6782	0.1352	-0.9257	0.1303
2	285.12	0.6497	0.3229	0.0046	-0.5158	0.0471	0.6805	0.1745	-0.8973	0.2238
2	285.12	0.6996	0.3843	0.0052	-0.6219	0.0648	0.5124	0.1897	-1.1988	0.1481
2	285.12	0.7495	0.4786	0.0071	-0.7493	0.0751	0.1708	0.2251	-1.5910	0.1548
3	285.12	0.1938	-0.1034	0.0055	0.0047	0.0016	0.0372	0.0094	-0.3259	0.0472
3	285.12	0.2357	-0.0105	0.0031	-0.0335	0.0017	0.0457	0.0118	-0.7866	0.1190
3	285.12	0.2995	0.0308	0.0034	-0.0212	0.0053	0.1303	0.0289	-0.9673	0.1316
3	285.12	0.3493	0.0857	0.0029	-0.0508	0.0091	0.2153	0.0502	-1.0034	0.1169
3	285.12	0.4000	0.1619	0.0033	-0.0884	0.0136	0.3251	0.0735	-0.8880	0.1179
3	285.12	0.4497	0.1640	0.0032	-0.1384	0.0176	0.4325	0.0983	-0.8980	0.1163
3	285.12	0.4997	0.2238	0.0032	-0.1914	0.0230	0.5460	0.1235	-0.8092	0.1210
3	285.12	0.5556	0.2352	0.0041	-0.2586	0.0293	0.6208	0.1555	-1.1919	0.1169
3	285.12	0.5995	0.2901	0.0043	-0.2575	0.0349	0.7204	0.1829	-0.8306	0.1218
3	285.12	0.6498	0.3672	0.0134	-0.4440	0.0625	0.5319	0.3048	-1.9382	0.7583
3	285.12	0.6890	0.3773	0.0052	-0.3866	0.0487	0.5966	0.2423	-1.0917	0.1270
3	285.12	0.7495	0.5115	0.0076	-0.4826	0.0584	0.2767	0.2859	-1.3397	0.1748
4	285.12	0.2001	0.0398	0.0022	-0.0127	0.0014	0.0323	0.0046	0.3882	0.0390
4	285.12	0.2502	0.0311	0.0018	0.0158	0.0037	-0.0385	0.0112	-0.2092	0.0686
4	285.12	0.3001	-0.0159	0.0015	-0.0167	0.0059	0.0682	0.0192	0.5661	0.0901
4	285.12	0.3502	-0.0622	0.0026	-0.0309	0.0106	0.0666	0.0332	0.5588	0.0764
4	285.12	0.4002	-0.0979	0.0031	-0.0239	0.0165	0.0830	0.0520	0.6709	0.0914
4	285.12	0.4500	-0.1195	0.0034	-0.0255	0.0196	0.0869	0.0697	0.6053	0.0927
4	285.12	0.5001	-0.1666	0.0040	-0.0345	0.0257	0.0760	0.0949	0.6279	0.0904
4	285.12	0.5560	-0.2139	0.0047	-0.0319	0.0335	0.0257	0.1251	0.5555	0.0954
4	285.12	0.6001	-0.2096	0.0049	-0.0248	0.0399	-0.0442	0.1517	0.5781	0.0971
4	285.12	0.6501	-0.2666	0.0049	-0.0305	0.0474	-0.1198	0.1821	0.6927	0.0997
4	285.12	0.6999	-0.3000	0.0061	-0.0220	0.0566	-0.3030	0.2153	0.4300	0.1107
4	285.12	0.7500	-0.3165	0.0052	-0.0113	0.0653	-0.4720	0.2469	0.7185	0.1024
4	285.12	0.8002	-0.3630	0.0094	-0.0235	0.0755	-0.7258	0.2807	1.0821	0.1221

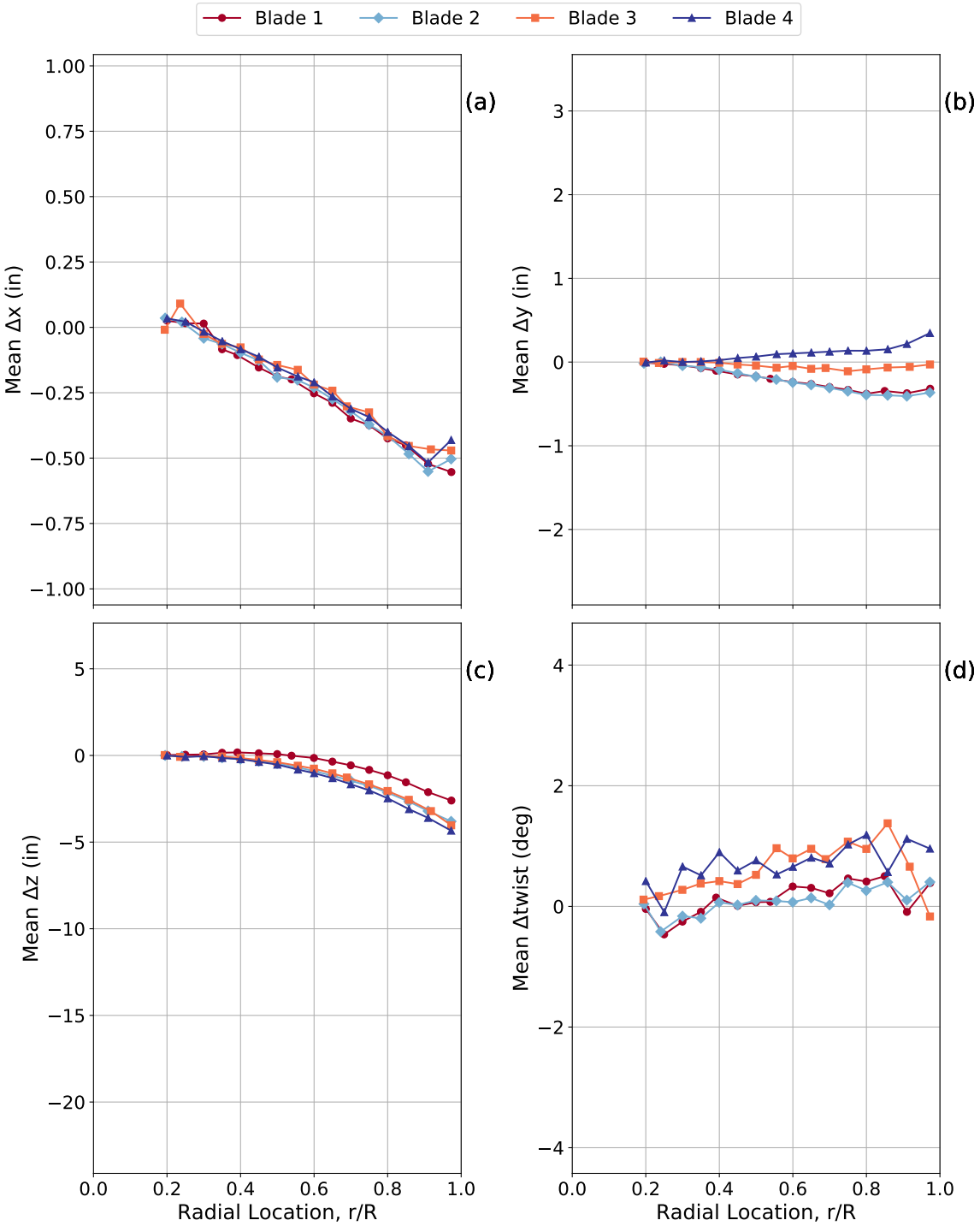


Figure 2.28-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0255	0.0024	-0.0091	0.0016	0.0249	0.0043	-0.0421	0.0263
1	299.88	0.2499	0.0160	0.0027	-0.0213	0.0034	0.0409	0.0077	-0.4646	0.0499
1	299.88	0.2998	0.0145	0.0023	-0.0396	0.0062	0.0600	0.0156	-0.2526	0.0580
1	299.88	0.3498	-0.0838	0.0022	-0.0723	0.0092	0.1559	0.0255	-0.0899	0.0491
1	299.88	0.3913	-0.1061	0.0029	-0.1034	0.0142	0.1758	0.0366	0.1461	0.0669
1	299.88	0.4496	-0.1536	0.0032	-0.1483	0.0201	0.1256	0.0530	0.0086	0.0576
1	299.88	0.4997	-0.1879	0.0045	-0.1708	0.0271	0.0793	0.0710	0.0692	0.0580
1	299.88	0.5387	-0.1987	0.0042	-0.1995	0.0325	-0.0151	0.0839	0.0758	0.0612
1	299.88	0.5996	-0.2522	0.0055	-0.2386	0.0431	-0.1447	0.1071	0.3300	0.0618
1	299.88	0.6498	-0.2887	0.0060	-0.2617	0.0528	-0.3555	0.1281	0.3072	0.0634
1	299.88	0.6998	-0.3485	0.0069	-0.2985	0.0635	-0.5694	0.1495	0.2173	0.0671
1	299.88	0.7500	-0.3743	0.0074	-0.3318	0.0747	-0.8333	0.1737	0.4628	0.0691
1	299.88	0.8001	-0.4249	0.0078	-0.3793	0.0867	-1.1433	0.1993	0.4119	0.0695
1	299.88	0.8497	-0.4511	0.0083	-0.3452	0.0995	-1.5474	0.2285	0.5008	0.0724
1	299.88	0.9102	-0.5224	0.0092	-0.3725	0.1148	-2.1164	0.2664	-0.0914	0.0736
1	299.88	0.9734	-0.5534	0.0126	-0.3186	0.1316	-2.6008	0.3110	0.3867	0.0754
2	299.88	0.1949	0.0354	0.0021	-0.0146	0.0014	-0.0012	0.0037	0.0401	0.0256
2	299.88	0.2405	0.0204	0.0032	0.0014	0.0046	-0.0563	0.0083	-0.4194	0.0315
2	299.88	0.2999	-0.0417	0.0022	-0.0429	0.0057	-0.0592	0.0154	-0.1614	0.0517
2	299.88	0.3498	-0.0637	0.0023	-0.0611	0.0116	-0.1336	0.0266	-0.1967	0.0472
2	299.88	0.3998	-0.0970	0.0038	-0.0910	0.0177	-0.2155	0.0409	0.0664	0.0620
2	299.88	0.4496	-0.1263	0.0032	-0.1329	0.0214	-0.3345	0.0539	0.0227	0.0474
2	299.88	0.4995	-0.1908	0.0035	-0.1738	0.0264	-0.4622	0.0702	0.0995	0.0535
2	299.88	0.5551	-0.2017	0.0035	-0.2078	0.0334	-0.6919	0.0908	0.0897	0.0499
2	299.88	0.5996	-0.2302	0.0039	-0.2444	0.0395	-0.9011	0.1091	0.0698	0.0557
2	299.88	0.6497	-0.2741	0.0042	-0.2726	0.0471	-1.1633	0.1324	0.1403	0.0529
2	299.88	0.6996	-0.3202	0.0050	-0.3090	0.0559	-1.4646	0.1581	0.0248	0.0548
2	299.88	0.7495	-0.3718	0.0058	-0.3484	0.0651	-1.7500	0.1878	0.3942	0.0589
2	299.88	0.7996	-0.4145	0.0066	-0.3927	0.0746	-2.1424	0.2225	0.2616	0.0586
2	299.88	0.8578	-0.4840	0.0077	-0.3969	0.0865	-2.6638	0.2676	0.4005	0.0660
2	299.88	0.9100	-0.5511	0.0088	-0.4075	0.0972	-3.2052	0.3113	0.1032	0.0659
2	299.88	0.9727	-0.5034	0.0108	-0.3646	0.1102	-3.8029	0.3696	0.4038	0.0992
3	299.88	0.1938	-0.0091	0.0021	0.0053	0.0014	0.0219	0.0042	0.1122	0.0370
3	299.88	0.2357	0.0909	0.0022	-0.0112	0.0026	-0.0805	0.0064	0.1699	0.0421
3	299.88	0.2995	-0.0254	0.0018	0.0010	0.0049	-0.0333	0.0134	0.2745	0.0700
3	299.88	0.3493	-0.0631	0.0023	0.0005	0.0094	-0.0642	0.0236	0.3782	0.0571
3	299.88	0.4000	-0.0766	0.0036	-0.0078	0.0139	-0.1492	0.0351	0.4195	0.0561
3	299.88	0.4497	-0.1230	0.0033	-0.0289	0.0192	-0.2605	0.0479	0.3695	0.0806
3	299.88	0.4997	-0.1438	0.0044	-0.0417	0.0249	-0.3879	0.0599	0.5231	0.0750
3	299.88	0.5556	-0.1625	0.0049	-0.0677	0.0316	-0.5934	0.0766	0.9644	0.0781
3	299.88	0.5995	-0.2189	0.0051	-0.0464	0.0382	-0.7621	0.0888	0.7955	0.0877
3	299.88	0.6498	-0.2421	0.0061	-0.0808	0.0474	-1.0335	0.1050	0.9547	0.0863
3	299.88	0.6890	-0.3021	0.0064	-0.0708	0.0547	-1.2742	0.1199	0.7832	0.0904
3	299.88	0.7495	-0.3251	0.0073	-0.1100	0.0675	-1.6683	0.1480	1.0731	0.0952
3	299.88	0.7998	-0.4162	0.0078	-0.0872	0.0790	-2.0527	0.1766	0.9529	0.0945
3	299.88	0.8577	-0.4536	0.0086	-0.0654	0.0933	-2.5608	0.2149	1.3769	0.1005
3	299.88	0.9178	-0.4666	0.0099	-0.0573	0.1078	-3.2104	0.2599	0.6578	0.1141
3	299.88	0.9729	-0.4709	0.0147	-0.0286	0.1225	-4.0293	0.3096	-0.1673	0.2047
4	299.88	0.2001	0.0340	0.0018	-0.0051	0.0014	-0.0023	0.0038	0.4193	0.0355
4	299.88	0.2502	0.0218	0.0031	0.0181	0.0041	-0.0873	0.0075	-0.0957	0.0563
4	299.88	0.3001	-0.0167	0.0018	0.0011	0.0052	-0.0408	0.0144	0.6601	0.0773
4	299.88	0.3502	-0.0530	0.0024	0.0072	0.0096	-0.1464	0.0231	0.5142	0.0634
4	299.88	0.4002	-0.0836	0.0034	0.0229	0.0147	-0.2155	0.0361	0.8979	0.0700
4	299.88	0.4500	-0.1124	0.0043	0.0481	0.0185	-0.3717	0.0475	0.5948	0.0758
4	299.88	0.5001	-0.1539	0.0041	0.0652	0.0244	-0.5289	0.0614	0.7632	0.0759
4	299.88	0.5560	-0.1880	0.0041	0.0943	0.0324	-0.8153	0.0825	0.5297	0.0742
4	299.88	0.6001	-0.2100	0.0042	0.1031	0.0388	-1.0227	0.1007	0.6562	0.0732
4	299.88	0.6501	-0.2644	0.0046	0.1134	0.0477	-1.3095	0.1253	0.8078	0.0789
4	299.88	0.6999	-0.3114	0.0048	0.1245	0.0565	-1.6629	0.1529	0.7098	0.0808
4	299.88	0.7500	-0.3435	0.0052	0.1361	0.0666	-2.0132	0.1833	1.0261	0.0788
4	299.88	0.8002	-0.3998	0.0053	0.1354	0.0767	-2.4738	0.2151	1.1852	0.0792
4	299.88	0.8582	-0.4544	0.0061	0.1526	0.0894	-3.1008	0.2539	0.5690	0.0831
4	299.88	0.9101	-0.5168	0.0067	0.2163	0.1008	-3.6038	0.2907	1.1199	0.0853
4	299.88	0.9728	-0.4309	0.0078	0.3462	0.1145	-4.3403	0.3395	0.9572	0.0977

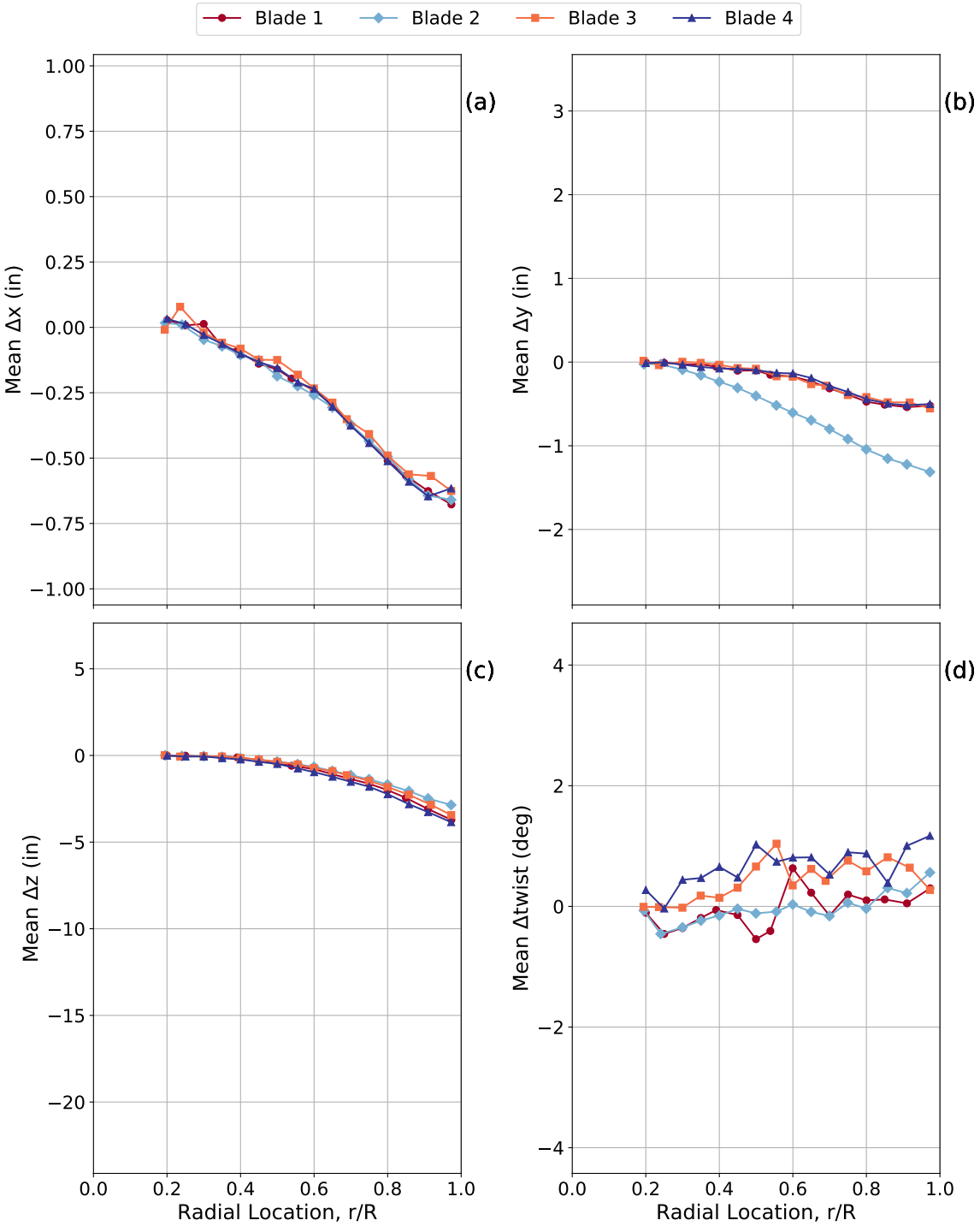


Figure 2.28-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0276	0.0028	-0.0040	0.0016	-0.0084	0.0052	-0.1053	0.0246
1	315	0.2499	0.0077	0.0029	-0.0095	0.0043	-0.0122	0.0113	-0.4567	0.0434
1	315	0.2998	0.0131	0.0023	-0.0269	0.0075	-0.0600	0.0212	-0.3581	0.0557
1	315	0.3498	-0.0723	0.0025	-0.0282	0.0130	-0.0516	0.0352	-0.1916	0.0571
1	315	0.3913	-0.0891	0.0036	-0.0552	0.0194	-0.1122	0.0515	-0.0604	0.0619
1	315	0.4496	-0.1391	0.0044	-0.1027	0.0275	-0.2486	0.0726	-0.1432	0.0655
1	315	0.4997	-0.1609	0.0059	-0.1005	0.0356	-0.4699	0.0946	-0.5427	0.0809
1	315	0.5387	-0.1958	0.0054	-0.1520	0.0438	-0.5951	0.1155	-0.4079	0.0773
1	315	0.5996	-0.2409	0.0060	-0.1729	0.0560	-0.7867	0.1474	0.6323	0.0889
1	315	0.6498	-0.2965	0.0058	-0.2309	0.0667	-1.0805	0.1783	0.2273	0.0926
1	315	0.6998	-0.3757	0.0057	-0.3146	0.0790	-1.3620	0.2161	-0.1525	0.0977
1	315	0.7500	-0.4392	0.0068	-0.3899	0.0919	-1.6330	0.2557	0.1962	0.0733
1	315	0.8001	-0.5096	0.0070	-0.4733	0.1049	-1.9993	0.2988	0.0996	0.0793
1	315	0.8497	-0.5673	0.0081	-0.5094	0.1178	-2.4488	0.3464	0.1156	0.0757
1	315	0.9102	-0.6260	0.0094	-0.5379	0.1342	-3.0941	0.4117	0.0505	0.0750
1	315	0.9734	-0.6771	0.0118	-0.5222	0.1513	-3.7149	0.4833	0.2994	0.0805
2	315	0.1949	0.0170	0.0025	-0.0241	0.0009	0.0039	0.0031	-0.0689	0.0293
2	315	0.2405	0.0100	0.0023	-0.0255	0.0024	-0.0341	0.0073	-0.4559	0.0393
2	315	0.2999	-0.0469	0.0023	-0.0911	0.0049	-0.0424	0.0161	-0.3488	0.0614
2	315	0.3498	-0.0722	0.0033	-0.1569	0.0076	-0.0890	0.0220	-0.2352	0.0584
2	315	0.3998	-0.1061	0.0037	-0.2353	0.0126	-0.1574	0.0382	-0.1522	0.0754
2	315	0.4496	-0.1258	0.0039	-0.3085	0.0168	-0.2560	0.0484	-0.0403	0.0857
2	315	0.4995	-0.1866	0.0050	-0.4043	0.0220	-0.3528	0.0606	-0.1157	0.0666
2	315	0.5551	-0.2245	0.0044	-0.5171	0.0290	-0.5081	0.0830	-0.0861	0.0733
2	315	0.5996	-0.2593	0.0052	-0.6049	0.0351	-0.6560	0.1025	0.0322	0.0743
2	315	0.6497	-0.3061	0.0058	-0.6949	0.0426	-0.8934	0.1284	-0.0903	0.0686
2	315	0.6996	-0.3709	0.0065	-0.8001	0.0509	-1.1367	0.1596	-0.1596	0.0759
2	315	0.7495	-0.4349	0.0070	-0.9198	0.0598	-1.3752	0.1951	0.0613	0.0748
2	315	0.7996	-0.4939	0.0077	-1.0430	0.0695	-1.6759	0.2325	-0.0367	0.0719
2	315	0.8578	-0.5805	0.0088	-1.1532	0.0804	-2.0570	0.2773	0.3062	0.0708
2	315	0.9100	-0.6431	0.0094	-1.2228	0.0911	-2.4832	0.3193	0.2190	0.0718
2	315	0.9727	-0.6595	0.0108	-1.3131	0.1037	-2.8564	0.3705	0.5621	0.0737
3	315	0.1938	-0.0089	0.0022	0.0153	0.0013	0.0137	0.0039	-0.0070	0.0350
3	315	0.2357	0.0786	0.0018	-0.0361	0.0021	-0.0639	0.0082	-0.0117	0.0538
3	315	0.2995	-0.0196	0.0028	0.0033	0.0052	-0.0416	0.0158	-0.0219	0.0782
3	315	0.3493	-0.0584	0.0027	-0.0095	0.0086	-0.0647	0.0273	0.1780	0.0560
3	315	0.4000	-0.0813	0.0030	-0.0327	0.0134	-0.1464	0.0424	0.1430	0.0580
3	315	0.4497	-0.1238	0.0036	-0.0710	0.0178	-0.2353	0.0581	0.3097	0.0591
3	315	0.4997	-0.1248	0.0042	-0.0799	0.0240	-0.3649	0.0741	0.6602	0.0922
3	315	0.5556	-0.1810	0.0050	-0.1702	0.0310	-0.5161	0.0960	1.0391	0.0999
3	315	0.5995	-0.2335	0.0048	-0.1740	0.0376	-0.7297	0.1186	0.3469	0.0783
3	315	0.6498	-0.2878	0.0054	-0.2638	0.0457	-0.9042	0.1481	0.6215	0.0766
3	315	0.6890	-0.3512	0.0065	-0.2826	0.0529	-1.1358	0.1747	0.4229	0.0894
3	315	0.7495	-0.4080	0.0070	-0.3942	0.0636	-1.4591	0.2235	0.7591	0.0762
3	315	0.7998	-0.4901	0.0080	-0.4179	0.0731	-1.8233	0.2679	0.5815	0.0727
3	315	0.8577	-0.5619	0.0092	-0.4805	0.0838	-2.2668	0.3231	0.8142	0.0718
3	315	0.9178	-0.5684	0.0106	-0.4825	0.0955	-2.8447	0.3819	0.6420	0.0779
3	315	0.9729	-0.6257	0.0113	-0.5537	0.1059	-3.4423	0.4393	0.2722	0.0697
4	315	0.2001	0.0324	0.0020	-0.0122	0.0014	-0.0101	0.0047	0.2712	0.0227
4	315	0.2502	0.0123	0.0023	-0.0038	0.0038	-0.0639	0.0107	-0.0355	0.0395
4	315	0.3001	-0.0292	0.0025	-0.0312	0.0054	-0.0607	0.0182	0.4406	0.0497
4	315	0.3502	-0.0636	0.0024	-0.0586	0.0108	-0.1548	0.0326	0.4710	0.0524
4	315	0.4002	-0.1018	0.0031	-0.0764	0.0160	-0.2296	0.0495	0.6545	0.0592
4	315	0.4500	-0.1328	0.0028	-0.0817	0.0218	-0.3679	0.0692	0.4776	0.0540
4	315	0.5001	-0.1554	0.0043	-0.0968	0.0304	-0.4919	0.0934	1.0248	0.0614
4	315	0.5560	-0.2103	0.0039	-0.1302	0.0398	-0.7498	0.1229	0.7410	0.0762
4	315	0.6001	-0.2355	0.0051	-0.1362	0.0481	-0.9643	0.1475	0.8087	0.0778
4	315	0.6501	-0.3030	0.0058	-0.1901	0.0589	-1.2287	0.1788	0.8131	0.0650
4	315	0.6999	-0.3757	0.0054	-0.2854	0.0702	-1.5208	0.2154	0.5268	0.0726
4	315	0.7500	-0.4424	0.0064	-0.3577	0.0828	-1.8061	0.2558	0.8962	0.0670
4	315	0.8002	-0.5118	0.0068	-0.4430	0.0955	-2.2336	0.2980	0.8749	0.0677
4	315	0.8582	-0.5902	0.0078	-0.4968	0.1107	-2.8166	0.3485	0.3897	0.0707
4	315	0.9101	-0.6461	0.0085	-0.5156	0.1244	-3.2677	0.3946	1.0042	0.0753
4	315	0.9728	-0.6158	0.0109	-0.5018	0.1413	-3.8499	0.4539	1.1703	0.0799

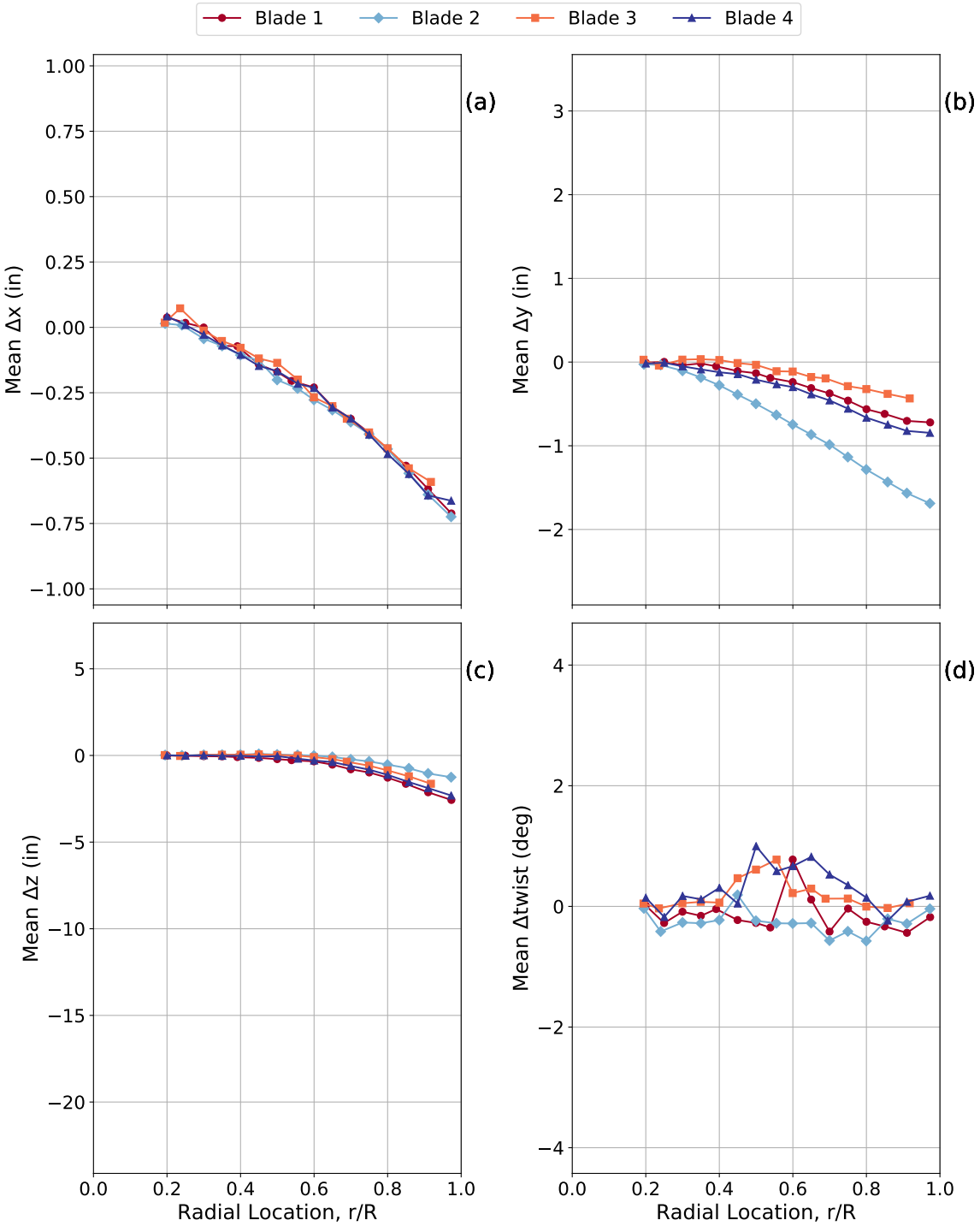


Figure 2.28-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0380	0.0020	-0.0067	0.0012	-0.0065	0.0043	0.0134	0.0274
1	330.12	0.2499	0.0173	0.0023	0.0026	0.0022	-0.0172	0.0087	-0.2757	0.0620
1	330.12	0.2998	-0.0005	0.0020	-0.0376	0.0046	-0.0430	0.0177	-0.0883	0.0665
1	330.12	0.3498	-0.0706	0.0028	-0.0160	0.0074	-0.0538	0.0289	-0.1569	0.0701
1	330.12	0.3913	-0.0721	0.0043	-0.0505	0.0108	-0.0965	0.0426	-0.0440	0.0745
1	330.12	0.4496	-0.1413	0.0048	-0.1073	0.0149	-0.1400	0.0622	-0.2263	0.0777
1	330.12	0.4997	-0.1704	0.0048	-0.1333	0.0210	-0.2128	0.0848	-0.2745	0.0839
1	330.12	0.5387	-0.2048	0.0047	-0.1897	0.0246	-0.2730	0.1014	-0.3499	0.0676
1	330.12	0.5996	-0.2297	0.0075	-0.2392	0.0341	-0.3409	0.1361	0.7769	0.1026
1	330.12	0.6498	-0.3028	0.0073	-0.3112	0.0412	-0.5309	0.1646	0.1131	0.1105
1	330.12	0.6998	-0.3497	0.0079	-0.3744	0.0505	-0.7993	0.1982	-0.4180	0.0920
1	330.12	0.7500	-0.4032	0.0076	-0.4604	0.0588	-0.9833	0.2250	-0.0366	0.0986
1	330.12	0.8001	-0.4660	0.0072	-0.5634	0.0681	-1.2831	0.2556	-0.2550	0.0819
1	330.12	0.8497	-0.5290	0.0077	-0.6193	0.0787	-1.6373	0.2859	-0.3323	0.0789
1	330.12	0.9102	-0.6185	0.0089	-0.7029	0.0925	-2.1259	0.3237	-0.4380	0.0804
1	330.12	0.9734	-0.7116	0.0121	-0.7209	0.1074	-2.5685	0.3652	-0.1780	0.0856
2	330.12	0.1949	0.0146	0.0020	-0.0260	0.0014	0.0202	0.0037	-0.0335	0.0239
2	330.12	0.2405	0.0086	0.0025	-0.0351	0.0026	-0.0005	0.0067	-0.4162	0.0541
2	330.12	0.2999	-0.0435	0.0023	-0.1042	0.0057	0.0339	0.0147	-0.2666	0.0597
2	330.12	0.3498	-0.0710	0.0031	-0.1840	0.0095	0.0407	0.0235	-0.2794	0.0626
2	330.12	0.3998	-0.1061	0.0052	-0.2771	0.0150	0.0462	0.0370	-0.2269	0.0706
2	330.12	0.4496	-0.1269	0.0063	-0.3883	0.0185	0.0870	0.0466	0.1901	0.0885
2	330.12	0.4995	-0.2008	0.0048	-0.4980	0.0218	0.0533	0.0597	-0.2389	0.0851
2	330.12	0.5551	-0.2335	0.0044	-0.6317	0.0282	0.0235	0.0782	-0.2793	0.0883
2	330.12	0.5996	-0.2773	0.0058	-0.7458	0.0335	-0.0070	0.0951	-0.2833	0.0799
2	330.12	0.6497	-0.3161	0.0056	-0.8659	0.0406	-0.0824	0.1169	-0.2767	0.0859
2	330.12	0.6996	-0.3621	0.0065	-0.9862	0.0484	-0.2246	0.1436	-0.5664	0.1046
2	330.12	0.7495	-0.4081	0.0057	-1.1346	0.0570	-0.3432	0.1702	-0.4138	0.0918
2	330.12	0.7996	-0.4652	0.0066	-1.2837	0.0669	-0.5285	0.2030	-0.5733	0.0892
2	330.12	0.8578	-0.5580	0.0069	-1.4329	0.0787	-0.7449	0.2386	-0.2062	0.0912
2	330.12	0.9100	-0.6395	0.0074	-1.5658	0.0892	-1.0400	0.2757	-0.2881	0.0931
2	330.12	0.9727	-0.7243	0.0101	-1.6885	0.1023	-1.2546	0.3211	-0.0405	0.1016
3	330.12	0.1938	0.0181	0.0027	0.0276	0.0013	0.0218	0.0042	0.0473	0.0310
3	330.12	0.2357	0.0727	0.0026	-0.0411	0.0016	-0.0294	0.0066	-0.0333	0.0561
3	330.12	0.2995	-0.0126	0.0029	0.0290	0.0042	0.0279	0.0146	0.0507	0.0747
3	330.12	0.3493	-0.0521	0.0025	0.0343	0.0071	0.0431	0.0274	0.0758	0.0549
3	330.12	0.4000	-0.0782	0.0035	0.0243	0.0107	0.0423	0.0399	0.0622	0.0665
3	330.12	0.4497	-0.1189	0.0047	-0.0119	0.0140	0.0631	0.0553	0.4672	0.0851
3	330.12	0.4997	-0.1358	0.0060	-0.0334	0.0181	0.0282	0.0712	0.6098	0.0987
3	330.12	0.5556	-0.1996	0.0065	-0.1096	0.0226	-0.0104	0.0902	0.7749	0.0955
3	330.12	0.5995	-0.2677	0.0059	-0.1131	0.0267	-0.0958	0.1099	0.2202	0.0871
3	330.12	0.6498	-0.3013	0.0072	-0.1786	0.0318	-0.2081	0.1291	0.2939	0.1018
3	330.12	0.6890	-0.3495	0.0073	-0.1947	0.0360	-0.3625	0.1463	0.1279	0.0923
3	330.12	0.7495	-0.4018	0.0068	-0.2880	0.0434	-0.5902	0.1724	0.1298	0.0874
3	330.12	0.7998	-0.4624	0.0074	-0.3227	0.0502	-0.8631	0.1918	-0.0028	0.0957
3	330.12	0.8577	-0.5389	0.0075	-0.3802	0.0587	-1.2049	0.2182	-0.0266	0.0860
3	330.12	0.9178	-0.5911	0.0087	-0.4347	0.0677	-1.6340	0.2466	0.0520	0.0895
4	330.12	0.2001	0.0420	0.0022	-0.0175	0.0013	0.0050	0.0049	0.1429	0.0250
4	330.12	0.2502	0.0089	0.0022	-0.0080	0.0024	-0.0127	0.0096	-0.1761	0.0500
4	330.12	0.3001	-0.0283	0.0025	-0.0509	0.0046	0.0113	0.0190	0.1728	0.0591
4	330.12	0.3502	-0.0692	0.0026	-0.0877	0.0079	-0.0225	0.0326	0.1170	0.0618
4	330.12	0.4002	-0.1051	0.0048	-0.1218	0.0120	-0.0211	0.0500	0.3076	0.0656
4	330.12	0.4500	-0.1477	0.0049	-0.1443	0.0164	-0.0656	0.0691	0.0469	0.0734
4	330.12	0.5001	-0.1675	0.0050	-0.2104	0.0218	-0.0407	0.0929	0.9975	0.0983
4	330.12	0.5560	-0.2158	0.0066	-0.2650	0.0280	-0.1870	0.1208	0.5856	0.1109
4	330.12	0.6001	-0.2312	0.0087	-0.2991	0.0337	-0.2932	0.1422	0.6671	0.1087
4	330.12	0.6501	-0.3063	0.0079	-0.3854	0.0416	-0.3834	0.1732	0.8208	0.1100
4	330.12	0.6999	-0.3485	0.0092	-0.4585	0.0492	-0.6093	0.2032	0.5272	0.1014
4	330.12	0.7500	-0.4103	0.0082	-0.5570	0.0579	-0.8219	0.2360	0.3510	0.1112
4	330.12	0.8002	-0.4845	0.0077	-0.6644	0.0666	-1.1218	0.2734	0.1438	0.0866
4	330.12	0.8582	-0.5608	0.0091	-0.7486	0.0770	-1.5375	0.3204	-0.2352	0.0919
4	330.12	0.9101	-0.6428	0.0095	-0.8225	0.0867	-1.8848	0.3676	0.0775	0.0959
4	330.12	0.9728	-0.6630	0.0121	-0.8458	0.0982	-2.3109	0.4272	0.1768	0.0966

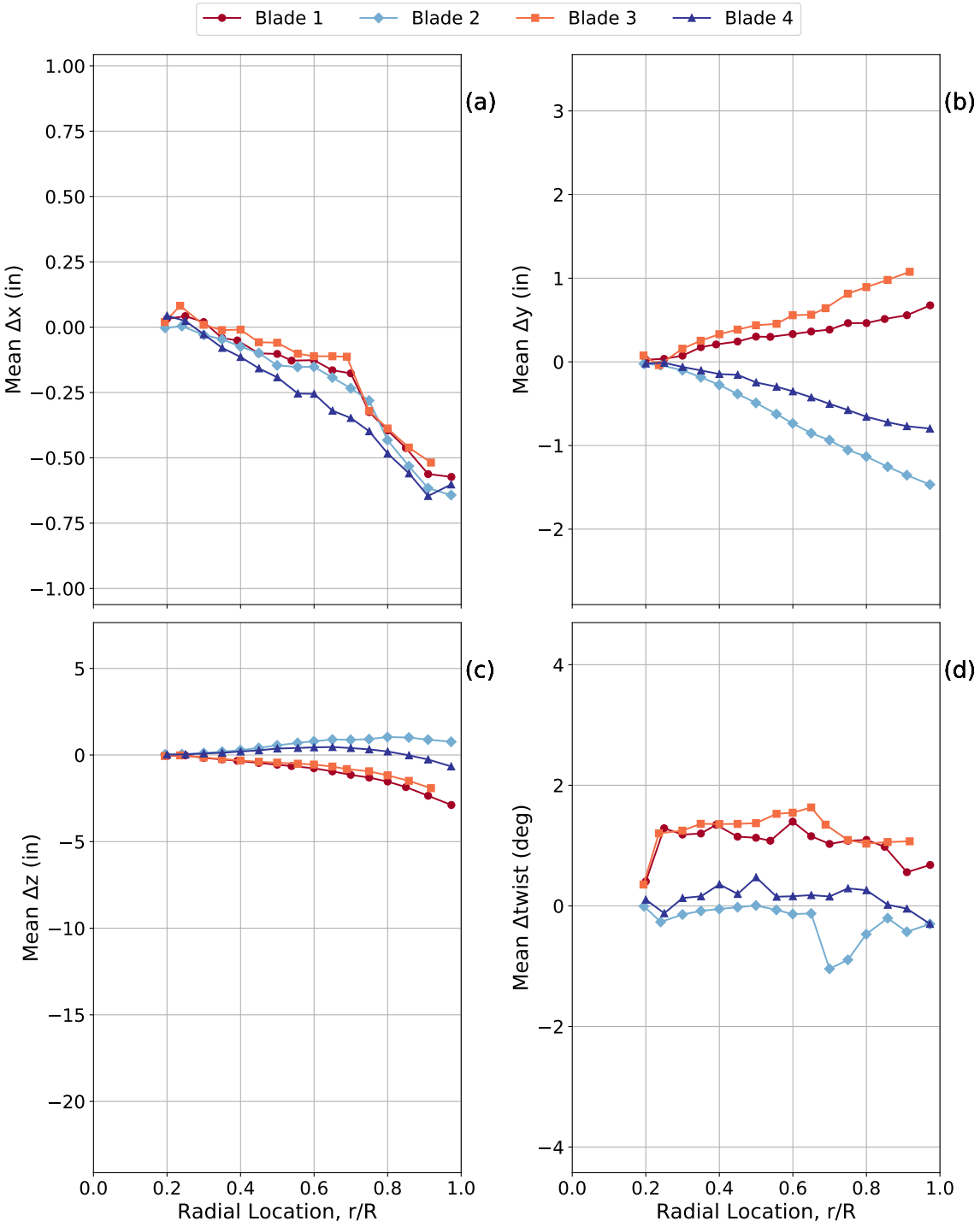


Figure 2.28-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0319	0.0105	0.0260	0.0086	-0.0586	0.0132	0.4053	0.0996
1	344.88	0.2499	0.0423	0.0030	0.0359	0.0086	-0.0212	0.0136	1.2870	0.2730
1	344.88	0.2998	0.0196	0.0032	0.0738	0.0290	-0.1675	0.0443	1.1821	0.2725
1	344.88	0.3498	-0.0412	0.0047	0.1757	0.0497	-0.2542	0.0753	1.1997	0.2699
1	344.88	0.3913	-0.0508	0.0069	0.2081	0.0668	-0.3318	0.1016	1.3443	0.2728
1	344.88	0.4496	-0.1001	0.0083	0.2430	0.0917	-0.4589	0.1388	1.1479	0.2681
1	344.88	0.4997	-0.1024	0.0101	0.3016	0.1129	-0.5608	0.1708	1.1295	0.2732
1	344.88	0.5387	-0.1279	0.0116	0.2987	0.1290	-0.6383	0.1967	1.0801	0.2855
1	344.88	0.5996	-0.1263	0.0141	0.3325	0.1564	-0.7662	0.2364	1.3972	0.2929
1	344.88	0.6498	-0.1650	0.0183	0.3624	0.1784	-0.9455	0.2712	1.1556	0.2832
1	344.88	0.6998	-0.1765	0.0241	0.3854	0.2002	-1.1462	0.3062	1.0271	0.2881
1	344.88	0.7500	-0.3250	0.0244	0.4632	0.2802	-1.3036	0.3253	1.0796	0.2703
1	344.88	0.8001	-0.3952	0.0247	0.4636	0.3062	-1.5319	0.3637	1.0943	0.2748
1	344.88	0.8497	-0.4625	0.0248	0.5125	0.3328	-1.8528	0.4051	0.9803	0.2720
1	344.88	0.9102	-0.5621	0.0245	0.5574	0.3659	-2.3524	0.4563	0.5582	0.2806
1	344.88	0.9734	-0.5729	0.0251	0.6756	0.4005	-2.8857	0.5168	0.6785	0.2816
2	344.88	0.1949	-0.0027	0.0066	-0.0239	0.0028	0.0334	0.0038	-0.0069	0.0252
2	344.88	0.2405	0.0039	0.0032	-0.0402	0.0034	0.0487	0.0057	-0.2667	0.0614
2	344.88	0.2999	-0.0296	0.0041	-0.1000	0.0096	0.1141	0.0127	-0.1435	0.0694
2	344.88	0.3498	-0.0465	0.0063	-0.1840	0.0165	0.1924	0.0216	-0.0840	0.0663
2	344.88	0.3998	-0.0744	0.0083	-0.2757	0.0246	0.2843	0.0325	-0.0522	0.0665
2	344.88	0.4496	-0.0989	0.0096	-0.3840	0.0326	0.4086	0.0415	-0.0228	0.0699
2	344.88	0.4995	-0.1461	0.0103	-0.4910	0.0414	0.5576	0.0530	0.0061	0.0688
2	344.88	0.5551	-0.1525	0.0112	-0.6238	0.0528	0.6984	0.0647	-0.0668	0.0759
2	344.88	0.5996	-0.1516	0.0129	-0.7357	0.0624	0.7955	0.0759	-0.1368	0.0831
2	344.88	0.6497	-0.1927	0.0158	-0.8527	0.0743	0.8947	0.0885	-0.1260	0.1092
2	344.88	0.6996	-0.2337	0.0143	-0.9361	0.0860	0.8767	0.1159	-1.0443	1.0296
2	344.88	0.7495	-0.2808	0.0213	-1.0539	0.0955	0.9168	0.1330	-0.8952	1.1094
2	344.88	0.7996	-0.4320	0.0258	-1.1320	0.1693	1.0385	0.2655	-0.4699	0.0777
2	344.88	0.8578	-0.5318	0.0251	-1.2541	0.1853	1.0101	0.2960	-0.2041	0.0786
2	344.88	0.9100	-0.6159	0.0259	-1.3548	0.2001	0.8858	0.3275	-0.4301	0.0831
2	344.88	0.9727	-0.6423	0.0247	-1.4675	0.2175	0.7666	0.3710	-0.3009	0.0902
3	344.88	0.1938	0.0195	0.0074	0.0759	0.0043	-0.0579	0.0075	0.3539	0.0446
3	344.88	0.2357	0.0819	0.0034	-0.0385	0.0033	-0.0212	0.0048	1.2033	0.1265
3	344.88	0.2995	0.0092	0.0033	0.1570	0.0125	-0.1420	0.0206	1.2471	0.1390
3	344.88	0.3493	-0.0112	0.0049	0.2524	0.0217	-0.2302	0.0347	1.3608	0.1351
3	344.88	0.4000	-0.0095	0.0071	0.3305	0.0315	-0.3174	0.0498	1.3569	0.1416
3	344.88	0.4497	-0.0577	0.0092	0.3856	0.0410	-0.3889	0.0644	1.3594	0.1439
3	344.88	0.4997	-0.0595	0.0104	0.4374	0.0508	-0.4395	0.0805	1.3721	0.1460
3	344.88	0.5556	-0.1015	0.0136	0.4548	0.0613	-0.5021	0.0997	1.5263	0.1436
3	344.88	0.5995	-0.1111	0.0167	0.5574	0.0711	-0.5502	0.1154	1.5452	0.1546
3	344.88	0.6498	-0.1114	0.0193	0.5638	0.0823	-0.6670	0.1339	1.6321	0.1603
3	344.88	0.6890	-0.1131	0.0219	0.6415	0.0937	-0.8131	0.1519	1.3468	0.1661
3	344.88	0.7495	-0.3206	0.0200	0.8149	0.1745	-0.9387	0.2103	1.0918	0.1444
3	344.88	0.7998	-0.3877	0.0205	0.8938	0.1887	-1.1737	0.2360	1.0331	0.1450
3	344.88	0.8577	-0.4606	0.0209	0.9793	0.2049	-1.4919	0.2677	1.0583	0.1417
3	344.88	0.9178	-0.5180	0.0212	1.0767	0.2223	-1.9133	0.3082	1.0705	0.1477
4	344.88	0.2001	0.0438	0.0019	-0.0200	0.0028	0.0240	0.0056	0.1033	0.0460
4	344.88	0.2502	0.0236	0.0035	-0.0111	0.0029	0.0349	0.0102	-0.1233	0.0983
4	344.88	0.3001	-0.0274	0.0030	-0.0609	0.0085	0.0879	0.0204	0.1294	0.1113
4	344.88	0.3502	-0.0793	0.0037	-0.1028	0.0140	0.1280	0.0356	0.1585	0.1070
4	344.88	0.4002	-0.1141	0.0035	-0.1459	0.0202	0.2032	0.0538	0.3558	0.1111
4	344.88	0.4500	-0.1578	0.0038	-0.1556	0.0256	0.2703	0.0735	0.1978	0.1135
4	344.88	0.5001	-0.1921	0.0039	-0.2460	0.0314	0.3738	0.0938	0.4734	0.1114
4	344.88	0.5560	-0.2540	0.0040	-0.2973	0.0383	0.4065	0.1160	0.1511	0.1144
4	344.88	0.6001	-0.2551	0.0055	-0.3527	0.0432	0.4431	0.1359	0.1597	0.1074
4	344.88	0.6501	-0.3198	0.0049	-0.4244	0.0497	0.4609	0.1596	0.1779	0.1218
4	344.88	0.6999	-0.3476	0.0055	-0.5027	0.0559	0.4023	0.1865	0.1551	0.1104
4	344.88	0.7500	-0.3984	0.0060	-0.5763	0.0625	0.3243	0.2141	0.2907	0.1172
4	344.88	0.8002	-0.4834	0.0065	-0.6567	0.0703	0.2035	0.2429	0.2591	0.1198
4	344.88	0.8582	-0.5596	0.0072	-0.7221	0.0790	-0.0190	0.2791	0.0179	0.1153
4	344.88	0.9101	-0.6460	0.0072	-0.7691	0.0871	-0.2591	0.3106	-0.0463	0.1101
4	344.88	0.9728	-0.6019	0.0088	-0.7977	0.0977	-0.6604	0.3544	-0.2996	0.1124

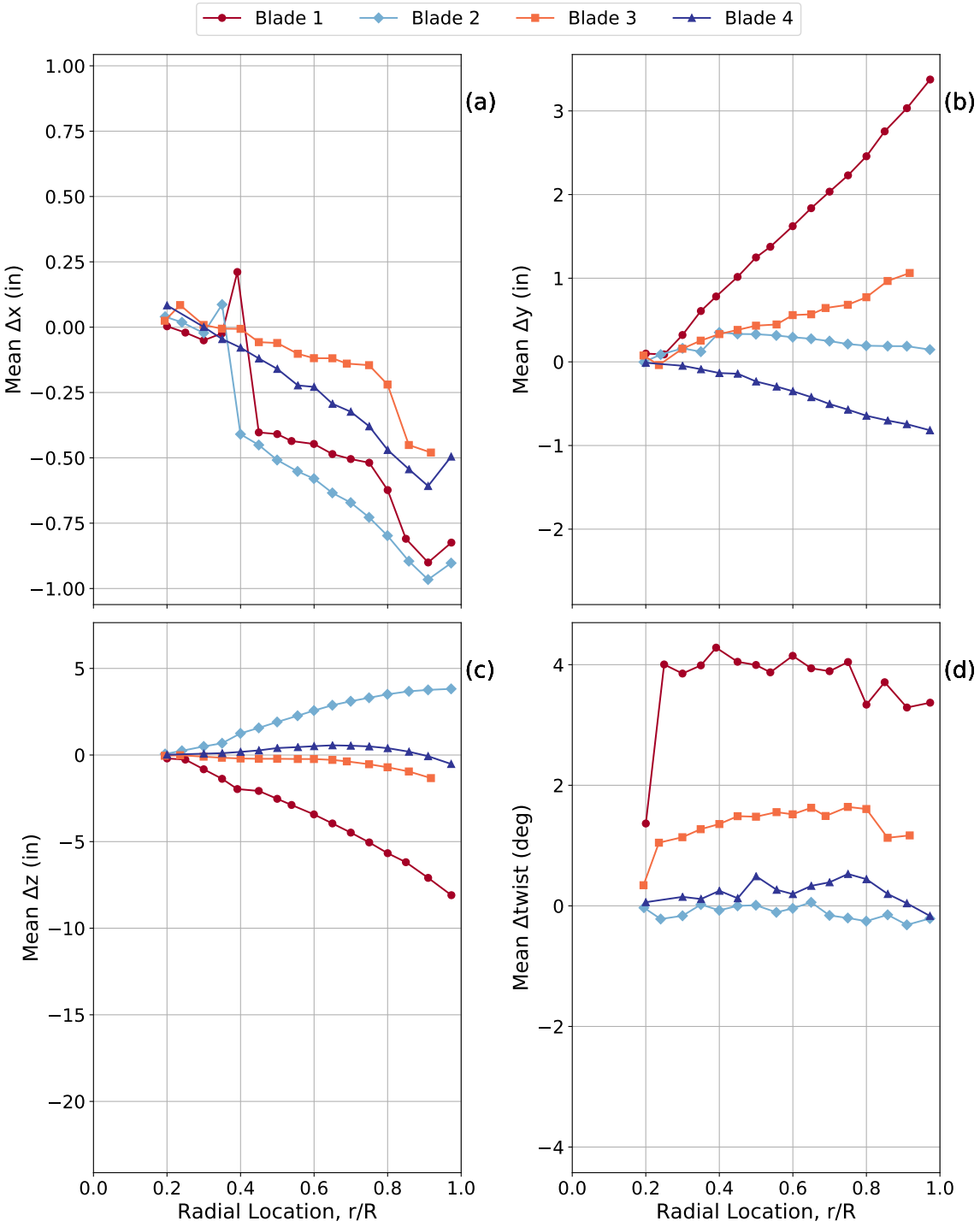


Figure 2.28-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0033	0.0117	0.0986	0.0122	-0.1996	0.0143	1.3659	0.1778
1	350.16	0.2499	-0.0208	0.0057	0.0891	0.0131	-0.2645	0.0132	4.0037	0.4758
1	350.16	0.2998	-0.0505	0.0062	0.3211	0.0443	-0.8236	0.0603	3.8530	0.4758
1	350.16	0.3498	-0.0234	0.0121	0.6077	0.0761	-1.3742	0.1088	3.9885	0.4714
1	350.16	0.3913	0.2111	0.0191	0.7816	0.1044	-1.9663	0.1500	4.2826	0.4743
1	350.16	0.4496	-0.4027	0.0323	1.0153	0.1191	-2.0741	0.2204	4.0476	0.4909
1	350.16	0.4997	-0.4091	0.0335	1.2485	0.1452	-2.5287	0.2723	3.9953	0.4883
1	350.16	0.5387	-0.4357	0.0342	1.3757	0.1659	-2.8843	0.3108	3.8728	0.4983
1	350.16	0.5996	-0.4469	0.0331	1.6219	0.1966	-3.4294	0.3760	4.1470	0.4910
1	350.16	0.6498	-0.4855	0.0324	1.8369	0.2235	-3.9509	0.4288	3.9396	0.5011
1	350.16	0.6998	-0.5046	0.0310	2.0349	0.2510	-4.4803	0.4839	3.8920	0.4931
1	350.16	0.7500	-0.5187	0.0309	2.2297	0.2793	-5.0468	0.5398	4.0440	0.5062
1	350.16	0.8001	-0.6233	0.0299	2.4579	0.3403	-5.6690	0.6556	3.3374	0.9523
1	350.16	0.8497	-0.8097	0.0314	2.7555	0.4277	-6.1889	0.5318	3.7089	0.4737
1	350.16	0.9102	-0.9004	0.0335	3.0325	0.4713	-7.0939	0.5971	3.2894	0.4683
1	350.16	0.9734	-0.8243	0.0306	3.3754	0.5185	-8.0934	0.6640	3.3698	0.4754
2	350.16	0.1949	0.0400	0.0099	-0.0023	0.0091	0.0605	0.0079	-0.0308	0.0302
2	350.16	0.2405	0.0187	0.0117	0.0871	0.0370	0.2447	0.0303	-0.2183	0.0887
2	350.16	0.2999	-0.0222	0.0148	0.1615	0.0696	0.4951	0.0634	-0.1647	0.0928
2	350.16	0.3498	0.0867	0.0205	0.1216	0.0986	0.6794	0.0923	0.0220	0.0922
2	350.16	0.3998	-0.4096	0.0165	0.3517	0.1783	1.2504	0.1682	-0.0735	0.0960
2	350.16	0.4496	-0.4508	0.0172	0.3336	0.2148	1.5653	0.2058	-0.0003	0.0949
2	350.16	0.4995	-0.5083	0.0166	0.3308	0.2525	1.9075	0.2412	0.0107	0.1083
2	350.16	0.5551	-0.5519	0.0186	0.3155	0.2941	2.2657	0.2865	-0.1073	0.1090
2	350.16	0.5996	-0.5795	0.0179	0.2945	0.3290	2.5652	0.3227	-0.0420	0.1014
2	350.16	0.6497	-0.6342	0.0177	0.2762	0.3673	2.8745	0.3625	0.0589	0.1078
2	350.16	0.6996	-0.6713	0.0183	0.2482	0.4064	3.1039	0.4021	-0.1585	0.1149
2	350.16	0.7495	-0.7277	0.0196	0.2134	0.4457	3.3046	0.4443	-0.2016	0.1128
2	350.16	0.7996	-0.7978	0.0197	0.1929	0.4853	3.5040	0.4867	-0.2538	0.1058
2	350.16	0.8578	-0.8954	0.0199	0.1885	0.5318	3.6779	0.5382	-0.1481	0.1101
2	350.16	0.9100	-0.9658	0.0206	0.1871	0.5734	3.7595	0.5864	-0.3155	0.1067
2	350.16	0.9727	-0.9026	0.0221	0.1465	0.6233	3.8186	0.6495	-0.2094	0.1160
3	350.16	0.1938	0.0246	0.0133	0.0760	0.0087	-0.0454	0.0115	0.3425	0.0658
3	350.16	0.2357	0.0845	0.0051	-0.0382	0.0047	-0.0115	0.0069	1.0475	0.1993
3	350.16	0.2995	0.0085	0.0027	0.1571	0.0256	-0.0951	0.0312	1.1386	0.2092
3	350.16	0.3493	-0.0058	0.0047	0.2537	0.0440	-0.1561	0.0536	1.2715	0.2083
3	350.16	0.4000	-0.0064	0.0060	0.3317	0.0637	-0.2016	0.0758	1.3568	0.2036
3	350.16	0.4497	-0.0573	0.0066	0.3818	0.0830	-0.2183	0.0969	1.4874	0.2019
3	350.16	0.4997	-0.0605	0.0070	0.4326	0.1030	-0.2180	0.1173	1.4787	0.2094
3	350.16	0.5556	-0.1019	0.0069	0.4470	0.1267	-0.2296	0.1416	1.5543	0.2043
3	350.16	0.5995	-0.1187	0.0066	0.5590	0.1463	-0.2321	0.1621	1.5184	0.1951
3	350.16	0.6498	-0.1190	0.0079	0.5686	0.1679	-0.2811	0.1813	1.6261	0.2020
3	350.16	0.6890	-0.1394	0.0097	0.6438	0.1850	-0.3676	0.1969	1.4904	0.2054
3	350.16	0.7495	-0.1454	0.0160	0.6821	0.2128	-0.5324	0.2206	1.6412	0.2028
3	350.16	0.7998	-0.2195	0.0248	0.7729	0.2373	-0.7080	0.2394	1.6063	0.2195
3	350.16	0.8577	-0.4509	0.0295	0.9671	0.2598	-0.9510	0.3117	1.1288	0.2044
3	350.16	0.9178	-0.4797	0.0298	1.0625	0.2838	-1.3331	0.3459	1.1685	0.2102
4	350.16	0.2001	0.0834	0.0028	-0.0111	0.0022	0.0176	0.0049	0.0608	0.0662
4	350.16	0.3001	0.0007	0.0047	-0.0467	0.0089	0.0765	0.0188	0.1495	0.1536
4	350.16	0.3502	-0.0457	0.0038	-0.0886	0.0176	0.1064	0.0360	0.1133	0.1469
4	350.16	0.4002	-0.0785	0.0037	-0.1339	0.0260	0.1802	0.0531	0.2499	0.1440
4	350.16	0.4500	-0.1200	0.0050	-0.1418	0.0332	0.2671	0.0701	0.1258	0.1513
4	350.16	0.5001	-0.1598	0.0048	-0.2348	0.0413	0.4035	0.0902	0.4912	0.1557
4	350.16	0.5560	-0.2229	0.0052	-0.2956	0.0500	0.4574	0.1106	0.2663	0.1593
4	350.16	0.6001	-0.2286	0.0052	-0.3513	0.0572	0.5104	0.1297	0.1949	0.1595
4	350.16	0.6501	-0.2933	0.0056	-0.4222	0.0652	0.5596	0.1522	0.3318	0.1669
4	350.16	0.6999	-0.3237	0.0058	-0.5044	0.0737	0.5379	0.1758	0.3913	0.1650
4	350.16	0.7500	-0.3795	0.0067	-0.5718	0.0821	0.4956	0.2023	0.5285	0.1728
4	350.16	0.8002	-0.4699	0.0071	-0.6441	0.0908	0.3954	0.2295	0.4422	0.1748
4	350.16	0.8582	-0.5438	0.0076	-0.7016	0.1014	0.1909	0.2618	0.1965	0.1668
4	350.16	0.9101	-0.6080	0.0072	-0.7450	0.1114	-0.0692	0.2924	0.0422	0.1616
4	350.16	0.9728	-0.4953	0.0104	-0.8179	0.1232	-0.5182	0.3316	-0.1669	0.1708

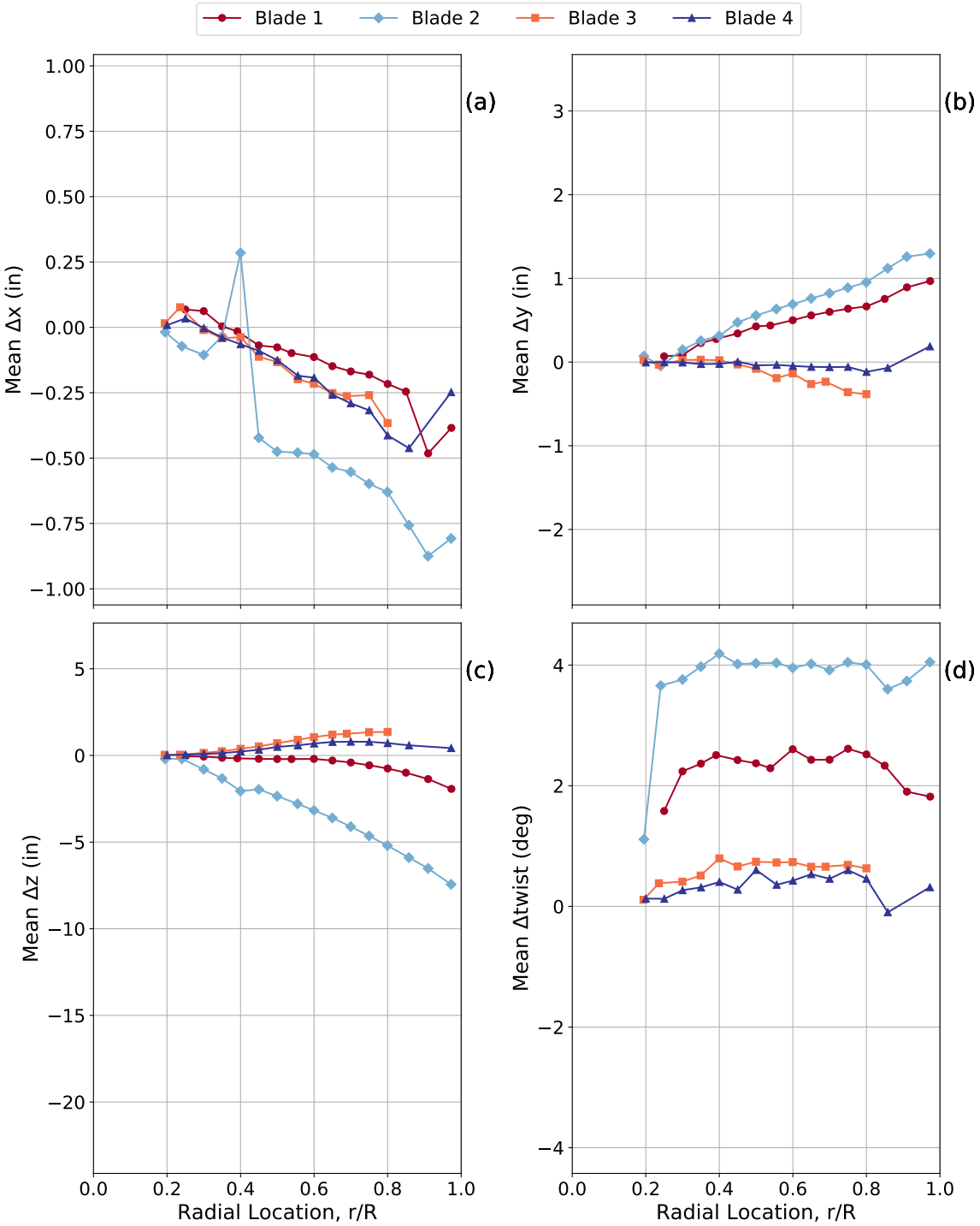


Figure 2.28-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Table 2.28-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, points 41 to 44. BD run 46, points 8712 to 8751.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2499	0.0683	0.0114	0.0690	0.0199	-0.0491	0.0386	1.5806	0.4179
1	355.08	0.2998	0.0622	0.0060	0.0828	0.0350	-0.0651	0.0676	2.2381	0.5877
1	355.08	0.3498	0.0039	0.0046	0.2271	0.0667	-0.1339	0.1221	2.3659	0.6007
1	355.08	0.3913	-0.0154	0.0053	0.2759	0.0938	-0.1672	0.1724	2.5074	0.5932
1	355.08	0.4496	-0.0690	0.0062	0.3418	0.1298	-0.1956	0.2391	2.4259	0.6029
1	355.08	0.4997	-0.0764	0.0069	0.4259	0.1614	-0.2075	0.2989	2.3715	0.6010
1	355.08	0.5387	-0.0984	0.0071	0.4368	0.1858	-0.2095	0.3445	2.2901	0.6050
1	355.08	0.5996	-0.1136	0.0084	0.5000	0.2235	-0.1996	0.4189	2.6054	0.6043
1	355.08	0.6498	-0.1483	0.0093	0.5579	0.2581	-0.2927	0.4803	2.4298	0.6009
1	355.08	0.6998	-0.1685	0.0104	0.5999	0.2921	-0.4064	0.5417	2.4313	0.6049
1	355.08	0.7500	-0.1809	0.0136	0.6372	0.3275	-0.5666	0.6051	2.6126	0.5999
1	355.08	0.8001	-0.2163	0.0177	0.6647	0.3632	-0.7506	0.6669	2.5196	0.6059
1	355.08	0.8497	-0.2456	0.0226	0.7545	0.3988	-0.9940	0.7297	2.3327	0.5982
1	355.08	0.9102	-0.4820	0.0343	0.8933	0.5431	-1.3629	0.7086	1.9016	0.5806
1	355.08	0.9734	-0.3844	0.0342	0.9681	0.5970	-1.9298	0.7947	1.8190	0.5715
2	355.08	0.1949	-0.0183	0.0082	0.0721	0.0134	-0.1937	0.0199	1.1121	0.1384
2	355.08	0.2405	-0.0721	0.0039	-0.0465	0.0070	-0.1960	0.0081	3.6583	0.4780
2	355.08	0.2999	-0.1054	0.0073	0.1476	0.0438	-0.8024	0.0671	3.7613	0.4712
2	355.08	0.3498	-0.0339	0.0136	0.2547	0.0748	-1.3270	0.1183	3.9729	0.4754
2	355.08	0.3998	0.2847	0.0227	0.3122	0.1088	-2.0555	0.1720	4.1892	0.4777
2	355.08	0.4496	-0.4225	0.0344	0.4745	0.1244	-1.9597	0.2349	4.0174	0.4995
2	355.08	0.4995	-0.4753	0.0358	0.5564	0.1532	-2.3470	0.2887	4.0292	0.5000
2	355.08	0.5551	-0.4791	0.0365	0.6343	0.1849	-2.7925	0.3508	4.0360	0.4977
2	355.08	0.5996	-0.4855	0.0361	0.6910	0.2093	-3.1699	0.4005	3.9529	0.5128
2	355.08	0.6497	-0.5360	0.0350	0.7604	0.2366	-3.6063	0.4575	4.0194	0.5179
2	355.08	0.6996	-0.5528	0.0334	0.8221	0.2643	-4.1082	0.5148	3.9178	0.5245
2	355.08	0.7495	-0.5981	0.0310	0.8882	0.2926	-4.6417	0.5738	4.0461	0.5157
2	355.08	0.7996	-0.6297	0.0277	0.9522	0.3214	-5.2029	0.6340	4.0072	0.5024
2	355.08	0.8578	-0.7565	0.0239	1.1202	0.3623	-5.8942	0.7515	3.6007	1.1876
2	355.08	0.9100	-0.8748	0.0236	1.2591	0.4119	-6.5187	0.7741	3.7360	1.3326
2	355.08	0.9727	-0.8071	0.0251	1.2964	0.4805	-7.4395	0.7596	4.0495	0.4659
3	355.08	0.1938	0.0157	0.0047	0.0213	0.0035	0.0352	0.0067	0.1098	0.0380
3	355.08	0.2357	0.0769	0.0024	-0.0309	0.0040	0.0436	0.0092	0.3838	0.1009
3	355.08	0.2995	-0.0100	0.0022	0.0236	0.0106	0.1464	0.0226	0.4101	0.1086
3	355.08	0.3493	-0.0413	0.0023	0.0279	0.0183	0.2439	0.0378	0.5128	0.1098
3	355.08	0.4000	-0.0377	0.0031	0.0218	0.0272	0.3810	0.0574	0.7965	0.1151
3	355.08	0.4497	-0.1124	0.0032	-0.0283	0.0357	0.5224	0.0794	0.6613	0.1156
3	355.08	0.4997	-0.1329	0.0042	-0.0799	0.0451	0.7073	0.1023	0.7400	0.1216
3	355.08	0.5556	-0.1985	0.0045	-0.1915	0.0567	0.9040	0.1274	0.7283	0.1252
3	355.08	0.5995	-0.2158	0.0054	-0.1366	0.0658	1.0569	0.1486	0.7337	0.1303
3	355.08	0.6498	-0.2514	0.0065	-0.2620	0.0767	1.1975	0.1707	0.6565	0.1261
3	355.08	0.6890	-0.2632	0.0062	-0.2342	0.0868	1.2500	0.1896	0.6579	0.1277
3	355.08	0.7495	-0.2592	0.0085	-0.3594	0.0993	1.3396	0.2201	0.6882	0.1233
3	355.08	0.7998	-0.3660	0.0102	-0.3834	0.1117	1.3583	0.2407	0.6307	0.1545
4	355.08	0.2001	0.0087	0.0109	-0.0044	0.0045	0.0177	0.0066	0.1291	0.0420
4	355.08	0.2502	0.0342	0.0063	-0.0015	0.0080	0.0451	0.0091	0.1261	0.0746
4	355.08	0.3001	-0.0029	0.0062	-0.0054	0.0169	0.0874	0.0188	0.2682	0.0856
4	355.08	0.3502	-0.0394	0.0126	-0.0232	0.0280	0.1340	0.0302	0.3149	0.0819
4	355.08	0.4002	-0.0646	0.0207	-0.0219	0.0435	0.2240	0.0438	0.4045	0.0857
4	355.08	0.4500	-0.0898	0.0285	0.0032	0.0584	0.3268	0.0584	0.2769	0.0942
4	355.08	0.5001	-0.1254	0.0373	-0.0403	0.0737	0.4942	0.0727	0.6038	0.1078
4	355.08	0.5560	-0.1850	0.0472	-0.0332	0.0905	0.5814	0.0892	0.3584	0.0997
4	355.08	0.6001	-0.1926	0.0560	-0.0464	0.1047	0.6898	0.1014	0.4265	0.0979
4	355.08	0.6501	-0.2580	0.0679	-0.0570	0.1212	0.7807	0.1158	0.5334	0.1067
4	355.08	0.6999	-0.2905	0.0803	-0.0601	0.1389	0.7920	0.1303	0.4573	0.1101
4	355.08	0.7500	-0.3173	0.0946	-0.0577	0.1595	0.7896	0.1453	0.6020	0.1052
4	355.08	0.8002	-0.4133	0.1110	-0.1175	0.1827	0.7109	0.1603	0.4576	0.1125
4	355.08	0.8582	-0.4620	0.1316	-0.0693	0.2104	0.5846	0.1835	-0.0974	0.1586
4	355.08	0.9728	-0.2480	0.1794	0.1876	0.2698	0.4244	0.2517	0.3171	0.1735

2.29 Run 98, Points 48 to 51

2.29.1 Pitch, Flap, and Lag

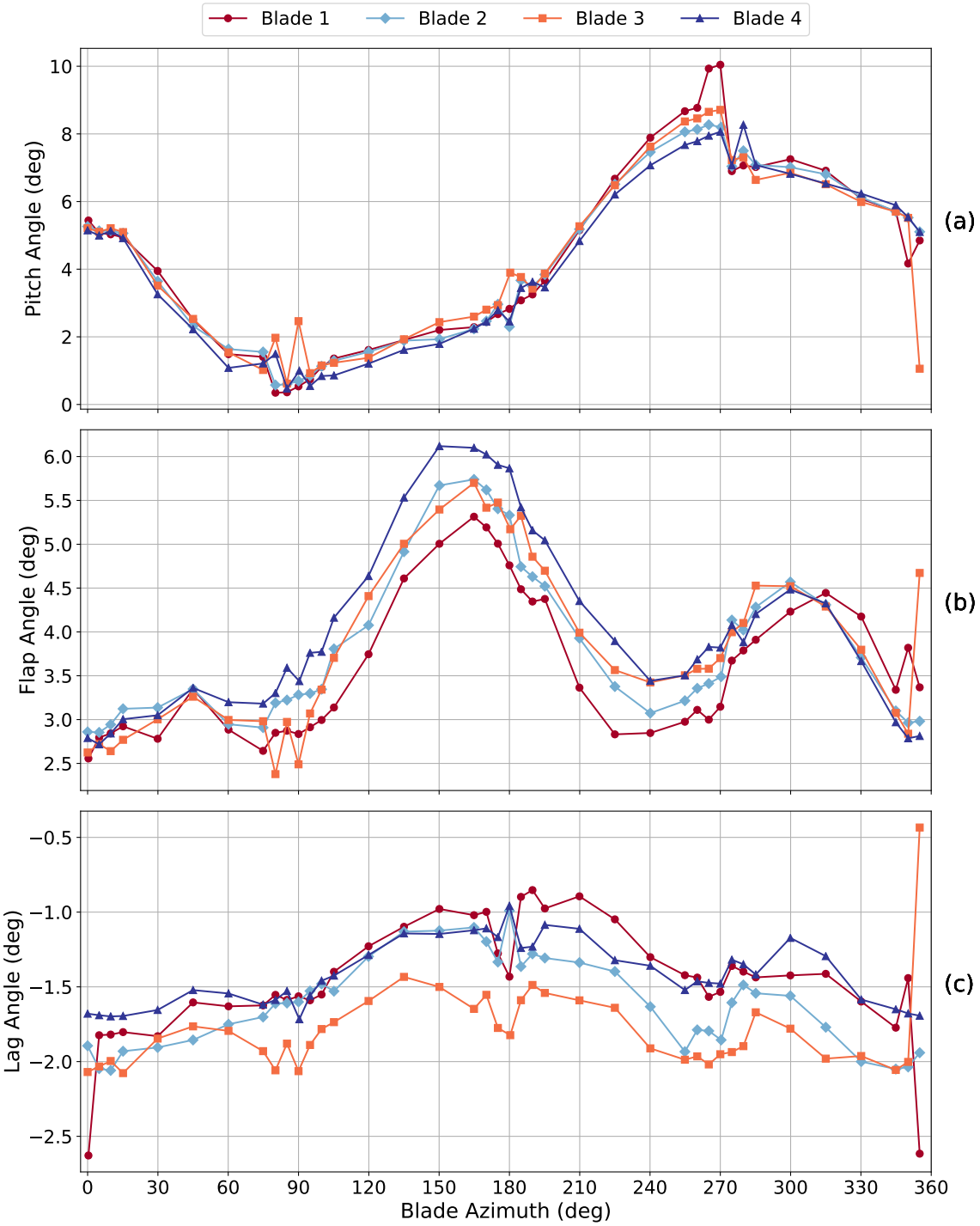


Figure 2.29-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-1. Pitch, flap, and lag vs azimuth for Blade 1.
$C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	5.4401	2.5566	-2.6283	0.1654	0.1942	0.1313
4.92	5.0707	2.7946	-1.8236	0.0716	0.1142	0.0851
9.84	5.0306	2.8423	-1.8193	0.1520	0.1309	0.0601
15.12	4.9407	2.9233	-1.8028	0.1125	0.1215	0.0893
29.88	3.9486	2.7812	-1.8301	0.0720	0.0868	0.0685
45	2.5099	3.3485	-1.6041	0.0726	0.0625	0.0701
60.12	1.4873	2.8855	-1.6304	0.0821	0.0608	0.0668
74.88	1.4059	2.6433	-1.6241	0.3174	0.1295	0.0632
80.16	0.3472	2.8491	-1.5535	0.0663	0.1021	0.0852
85.08	0.3597	2.8729	-1.5877	0.0685	0.0568	0.0591
90	0.5355	2.8357	-1.5634	0.0571	0.0693	0.0433
94.92	0.7418	2.9127	-1.5899	0.0815	0.0824	0.0378
99.84	1.1087	2.9953	-1.5514	0.0682	0.0913	0.0791
105.12	1.3584	3.1381	-1.3992	0.0642	0.1029	0.0628
119.88	1.6112	3.7453	-1.2286	0.0509	0.2026	0.0765
135	1.9047	4.6099	-1.0981	0.0638	0.2421	0.0586
150.12	2.2017	5.0055	-0.9789	0.0638	0.2091	0.0492
164.88	2.2865	5.3143	-1.0204	0.0694	0.2279	0.0750
170.16	2.4373	5.1923	-0.9982	0.0815	0.2615	0.0701
175.08	2.6716	5.0063	-1.2764	0.1218	0.2408	0.0718
180	2.8270	4.7597	-1.4319	0.1706	0.2249	0.1061
184.92	3.0788	4.4868	-0.8980	0.0815	0.2753	0.0739
189.84	3.2524	4.3465	-0.8526	0.0758	0.1900	0.0569
195.12	3.6616	4.3760	-0.9756	0.0776	0.2537	0.0937
209.88	5.1536	3.3644	-0.8943	0.0667	0.1975	0.0639
225	6.6743	2.8316	-1.0484	0.0592	0.1232	0.0560
240.12	7.8881	2.8471	-1.3013	0.0831	0.1955	0.0836
254.88	8.6708	2.9753	-1.4220	0.0828	0.0925	0.0687
260.16	8.7711	3.1105	-1.4380	0.1318	0.1331	0.0824
265.08	9.9311	2.9993	-1.5670	0.1351	0.1358	0.0694
270	10.0441	3.1466	-1.5337	0.2111	0.1007	0.0698
274.92	6.8988	3.6730	-1.3603	0.1328	0.0915	0.0717
279.84	7.0656	3.7882	-1.3981	0.0792	0.1094	0.0949
285.12	7.0202	3.9104	-1.4367	0.0828	0.1033	0.0742
299.88	7.2519	4.2316	-1.4234	0.0718	0.1079	0.1011
315	6.9114	4.4450	-1.4129	0.0777	0.0945	0.0772
330.12	6.0873	4.1752	-1.5983	0.0763	0.1002	0.0797
344.88	5.7061	3.3394	-1.7731	0.0502	0.1025	0.1290
350.16	4.1673	3.8191	-1.4413	0.1340	0.1244	0.0923
355.08	4.8489	3.3678	-2.6161	0.1953	0.1937	0.0934

Table 2.29-2. Pitch, flap, and lag vs azimuth for Blade 2.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	5.2632	2.8597	-1.8944	0.1381	0.0652	0.0754
4.92	5.1320	2.8539	-2.0470	0.0917	0.1400	0.0427
9.84	5.1359	2.9436	-2.0591	0.0744	0.1213	0.0877
15.12	5.0619	3.1229	-1.9307	0.1112	0.0915	0.0838
29.88	3.6431	3.1369	-1.9055	0.0699	0.1040	0.1011
45	2.3218	3.3479	-1.8554	0.0670	0.1052	0.0441
60.12	1.6380	2.9467	-1.7503	0.0969	0.0810	0.0611
74.88	1.5518	2.9084	-1.7018	0.2132	0.1112	0.0598
80.16	0.5743	3.1904	-1.6113	0.0695	0.0982	0.0636
85.08	0.5975	3.2229	-1.6083	0.0677	0.0776	0.0421
90	0.6948	3.2826	-1.6005	0.0729	0.0631	0.0556
94.92	0.8511	3.2979	-1.5278	0.0786	0.0782	0.0660
99.84	1.1307	3.3460	-1.4802	0.0551	0.1027	0.0440
105.12	1.2928	3.8066	-1.5290	0.0355	0.1463	0.0840
119.88	1.5560	4.0762	-1.2968	0.0427	0.1342	0.0617
135	1.8873	4.9150	-1.1306	0.0635	0.1242	0.0491
150.12	1.9290	5.6710	-1.1240	0.0783	0.2028	0.0678
164.88	2.2356	5.7395	-1.1024	0.0665	0.1849	0.0641
170.16	2.4644	5.6204	-1.1973	0.0605	0.1767	0.0699
175.08	2.9630	5.4049	-1.3340	0.0514	0.1926	0.1411
180	2.2985	5.3318	-0.9907	0.1123	0.2431	0.1099
184.92	3.6685	4.7441	-1.3640	0.1091	0.1413	0.1343
189.84	3.4937	4.6298	-1.2794	0.0902	0.2649	0.0807
195.12	3.8406	4.5222	-1.3071	0.0626	0.1887	0.0672
209.88	5.1818	3.9284	-1.3376	0.0756	0.2831	0.0886
225	6.5119	3.3770	-1.3973	0.0454	0.1621	0.0853
240.12	7.4643	3.0735	-1.6326	0.0729	0.1268	0.0923
254.88	8.0597	3.2152	-1.9337	0.0601	0.1472	0.1613
260.16	8.1351	3.3565	-1.7877	0.0879	0.0949	0.1080
265.08	8.2704	3.4114	-1.7948	0.1343	0.1197	0.0740
270.35	8.1983	3.4893	-1.8554	0.1398	0.1284	0.0758
274.92	7.0402	4.1355	-1.6058	0.0982	0.0891	0.0776
279.84	7.5002	4.0220	-1.4874	0.2506	0.1424	0.0992
285.12	7.0854	4.2827	-1.5429	0.0679	0.0581	0.1271
299.88	7.0140	4.5697	-1.5602	0.0630	0.1407	0.0598
315	6.8071	4.3088	-1.7703	0.0604	0.0735	0.1029
330.12	6.1229	3.7077	-2.0001	0.0699	0.1006	0.1066
344.88	5.7051	3.0993	-2.0500	0.0664	0.0851	0.0681
350.16	5.5243	2.9638	-2.0360	0.0786	0.0895	0.1054
355.08	5.1052	2.9816	-1.9407	0.1114	0.1007	0.0709

Table 2.29-3. Pitch, flap, and lag vs azimuth for Blade 3.
$C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	5.2119	2.6246	-2.0698	0.1120	0.1063	0.0641
4.92	5.1038	2.7206	-2.0327	0.1116	0.1528	0.0816
9.84	5.2119	2.6402	-1.9961	0.0983	0.0673	0.0510
15.12	5.0964	2.7694	-2.0771	0.0902	0.1041	0.0912
29.88	3.5144	3.0030	-1.8461	0.0819	0.0777	0.0707
45	2.5295	3.2608	-1.7644	0.0692	0.0725	0.0587
60.12	1.5388	2.9958	-1.7946	0.0944	0.0867	0.0739
74.88	1.0198	2.9813	-1.9301	0.1392	0.0843	0.0426
80.16	1.9718	2.3780	-2.0584	0.3069	0.1367	0.0944
85.08	0.6174	2.9734	-1.8799	0.0889	0.0838	0.0352
90	2.4630	2.4896	-2.0640	0.3736	0.1679	0.0942
94.92	0.9262	3.0698	-1.8889	0.1526	0.1359	0.0687
99.84	1.1533	3.3418	-1.7823	0.0786	0.1546	0.0624
105.12	1.2323	3.7039	-1.7361	0.0991	0.1359	0.0618
119.88	1.3803	4.4086	-1.5946	0.0698	0.2788	0.0671
135	1.9271	5.0054	-1.4333	0.0649	0.1373	0.0670
150.12	2.4340	5.3962	-1.5006	0.0822	0.1956	0.0701
164.88	2.5983	5.7002	-1.6474	0.0781	0.3606	0.1349
170.16	2.8028	5.4168	-1.5534	0.0674	0.2476	0.0790
175.08	2.9376	5.4754	-1.7750	0.0813	0.1997	0.0602
180.35	3.8965	5.1713	-1.8233	0.1277	0.2082	0.0605
184.92	3.7676	5.3242	-1.5894	0.0830	0.1329	0.1031
189.84	3.4245	4.8579	-1.4875	0.0829	0.3091	0.0679
195.12	3.8687	4.6985	-1.5407	0.0811	0.2633	0.0990
209.88	5.2687	3.9913	-1.5904	0.0498	0.1359	0.0550
225	6.4821	3.5646	-1.6401	0.0625	0.1831	0.0880
240.12	7.6238	3.4240	-1.9115	0.0803	0.1831	0.1038
254.88	8.3677	3.5054	-1.9875	0.1035	0.1250	0.0873
260.16	8.4575	3.5787	-1.9650	0.0798	0.1041	0.1211
265.08	8.6518	3.5805	-2.0191	0.0878	0.1001	0.0615
270	8.7104	3.7014	-1.9509	0.1672	0.0952	0.0491
274.92	7.2268	3.9969	-1.9363	0.1021	0.0893	0.0617
279.84	7.3070	4.1023	-1.8968	0.0598	0.0733	0.0884
285.12	6.6393	4.5281	-1.6703	0.1091	0.1253	0.1056
299.88	6.8491	4.5211	-1.7797	0.0738	0.1240	0.1236
315	6.5114	4.2896	-1.9802	0.0760	0.1143	0.0669
330.12	5.9870	3.7969	-1.9627	0.0750	0.0976	0.0837
344.88	5.7006	3.0758	-2.0560	0.0720	0.1036	0.0782
350.16	5.5161	2.8387	-2.0021	0.0966	0.1420	0.0657
355.08	1.0570	4.6727	-0.4341	0.4039	0.2259	0.1705

Table 2.29-4. Pitch, flap, and lag vs azimuth for Blade 4.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Azimuth (deg)	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	5.1478	2.7895	-1.6796	0.1048	0.1469	0.0640
4.92	4.9944	2.7173	-1.6899	0.1019	0.1368	0.0798
9.84	5.1309	2.8418	-1.6978	0.1061	0.1394	0.0779
15.12	4.9175	3.0042	-1.6950	0.0843	0.0945	0.0628
29.88	3.2573	3.0494	-1.6547	0.1155	0.1382	0.0677
45	2.2235	3.3611	-1.5216	0.0693	0.0710	0.0635
60.12	1.0813	3.1984	-1.5443	0.1027	0.1050	0.0654
74.88	1.2122	3.1819	-1.6190	0.1154	0.0899	0.1207
80.16	1.4956	3.3027	-1.5879	0.1658	0.0681	0.0549
85.08	0.4713	3.5909	-1.5278	0.0816	0.0837	0.0538
90.35	0.9963	3.4385	-1.7169	0.0860	0.0640	0.0489
94.92	0.5469	3.7614	-1.5592	0.0706	0.0819	0.0578
99.84	0.8409	3.7729	-1.4590	0.0738	0.1195	0.0526
105.12	0.8582	4.1618	-1.4250	0.0586	0.1670	0.0709
119.88	1.2076	4.6373	-1.2869	0.0450	0.1076	0.0476
135	1.6149	5.5325	-1.1426	0.0574	0.1835	0.0646
150.12	1.7907	6.1192	-1.1462	0.0673	0.2393	0.0819
164.88	2.2377	6.1001	-1.1212	0.0632	0.2365	0.0596
170.16	2.4484	6.0239	-1.1088	0.0652	0.2332	0.1039
175.08	2.7858	5.9057	-1.1671	0.0593	0.1257	0.0499
180	2.4542	5.8661	-0.9580	0.1378	0.1821	0.0551
184.92	3.4448	5.4205	-1.2400	0.1101	0.1040	0.0846
189.84	3.6265	5.1585	-1.2312	0.0892	0.1978	0.1112
195.12	3.4612	5.0455	-1.0854	0.0552	0.1546	0.0828
209.88	4.8323	4.3523	-1.1118	0.0534	0.2063	0.0940
225	6.2077	3.8963	-1.3218	0.0656	0.1354	0.0593
240.12	7.0705	3.4417	-1.3589	0.0474	0.1239	0.0772
254.88	7.6718	3.5042	-1.5215	0.0805	0.1358	0.0790
260.16	7.7842	3.6862	-1.4631	0.1076	0.1247	0.0773
265.08	7.9466	3.8290	-1.4736	0.0997	0.0840	0.0594
270	8.0632	3.8211	-1.4783	0.1009	0.0821	0.0779
274.92	7.0706	4.0782	-1.3179	0.1353	0.1041	0.0772
279.84	8.2674	3.8824	-1.3494	0.2382	0.1480	0.0823
285.12	7.0787	4.2039	-1.4177	0.0849	0.0661	0.1142
299.88	6.8182	4.4843	-1.1725	0.0868	0.0654	0.0812
315	6.5320	4.3253	-1.2946	0.0585	0.0733	0.0611
330.12	6.2354	3.6672	-1.5847	0.0657	0.1242	0.0755
344.88	5.8903	2.9696	-1.6499	0.0799	0.0904	0.0600
350.16	5.5378	2.7865	-1.6782	0.0782	0.1204	0.0663
355.08	5.1005	2.8129	-1.6933	0.1369	0.1535	0.0466

2.29.2 Spanwise Elastic Deformations

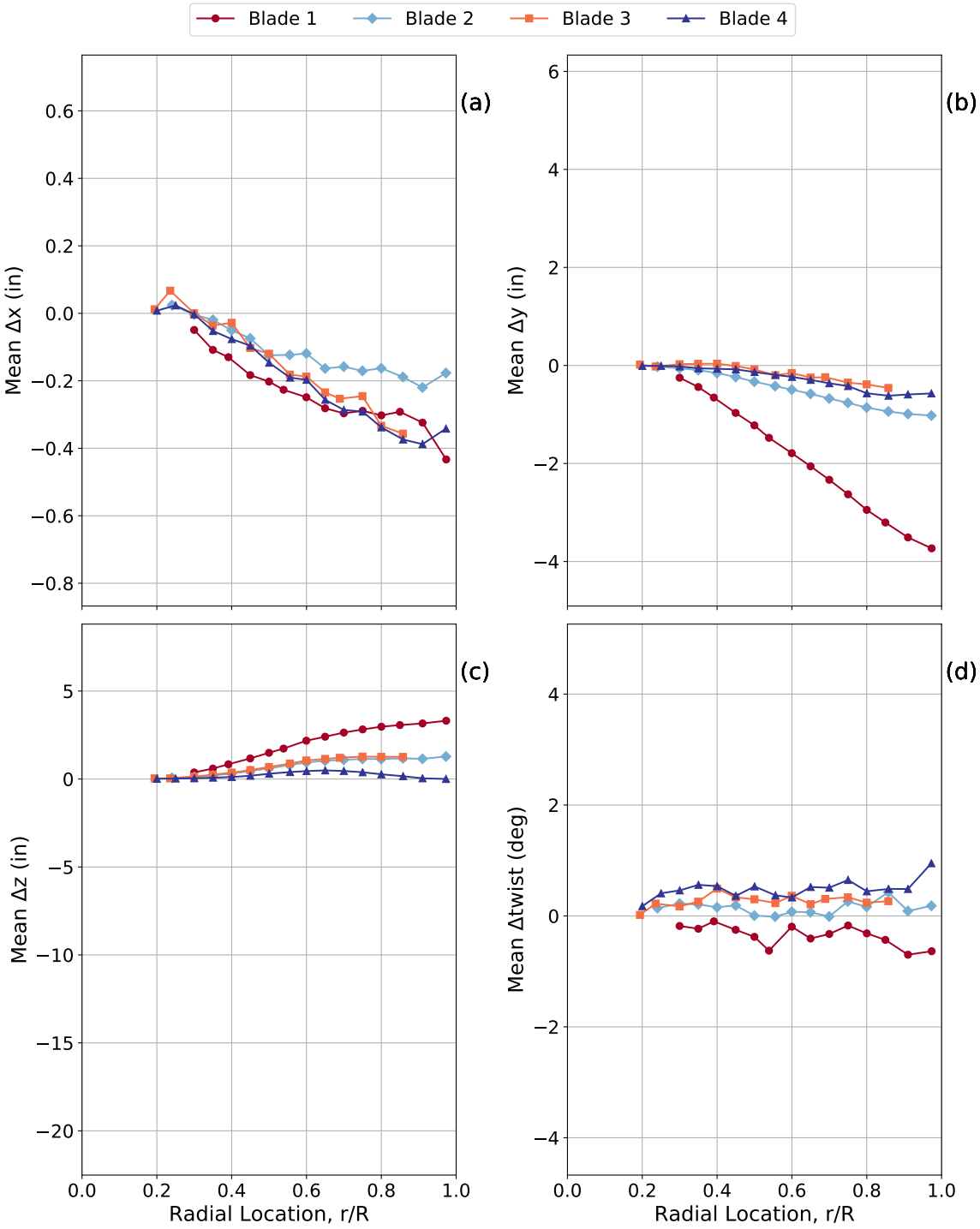


Figure 2.29-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-5. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2998	-0.0493	0.0195	-0.2500	0.0320	0.3747	0.0740	-0.1812	0.1383
1	0.35	0.3498	-0.1084	0.0167	-0.4398	0.0559	0.5944	0.1215	-0.2312	0.1830
1	0.35	0.3913	-0.1300	0.0186	-0.6549	0.0829	0.8366	0.1745	-0.0975	0.1614
1	0.35	0.4496	-0.1831	0.0236	-0.9684	0.1158	1.1710	0.2402	-0.2503	0.1638
1	0.35	0.4997	-0.2024	0.0304	-1.2221	0.1459	1.4899	0.3053	-0.3773	0.1609
1	0.35	0.5387	-0.2266	0.0351	-1.4763	0.1697	1.7305	0.3556	-0.6267	0.1811
1	0.35	0.5996	-0.2488	0.0440	-1.7898	0.2093	2.1783	0.4298	-0.1939	0.1738
1	0.35	0.6498	-0.2815	0.0503	-2.0576	0.2394	2.4044	0.4921	-0.4076	0.1859
1	0.35	0.6998	-0.2964	0.0553	-2.3332	0.2683	2.6400	0.5549	-0.3256	0.1773
1	0.35	0.7500	-0.2890	0.0605	-2.6293	0.3006	2.8195	0.6139	-0.1732	0.1763
1	0.35	0.8001	-0.3025	0.0645	-2.9469	0.3308	2.9727	0.6734	-0.3151	0.1886
1	0.35	0.8497	-0.2919	0.0664	-3.2043	0.3624	3.0673	0.7352	-0.4319	0.1765
1	0.35	0.9102	-0.3240	0.0676	-3.5083	0.3991	3.1583	0.8096	-0.6992	0.1888
1	0.35	0.9734	-0.4331	0.0697	-3.7315	0.4373	3.3132	0.8832	-0.6366	0.1996
2	0	0.2405	0.0244	0.0106	-0.0243	0.0083	0.0635	0.0116	0.1402	0.1014
2	0	0.2999	-0.0037	0.0054	-0.0574	0.0188	0.1171	0.0224	0.2232	0.1566
2	0	0.3498	-0.0195	0.0065	-0.0957	0.0323	0.2081	0.0381	0.2081	0.1504
2	0	0.3998	-0.0503	0.0111	-0.1544	0.0512	0.3069	0.0576	0.1566	0.1407
2	0	0.4496	-0.0745	0.0163	-0.2346	0.0724	0.4537	0.0774	0.1895	0.1334
2	0	0.4995	-0.1244	0.0227	-0.3315	0.0925	0.6054	0.0977	0.0049	0.1386
2	0	0.5551	-0.1233	0.0287	-0.4214	0.1135	0.7926	0.1220	-0.0124	0.1637
2	0	0.5996	-0.1190	0.0339	-0.4934	0.1313	0.9400	0.1458	0.0751	0.1407
2	0	0.6497	-0.1635	0.0397	-0.5790	0.1497	1.0374	0.1679	0.0655	0.1478
2	0	0.6996	-0.1581	0.0458	-0.6734	0.1690	1.0906	0.1932	-0.0103	0.1601
2	0	0.7495	-0.1706	0.0524	-0.7625	0.1907	1.1412	0.2215	0.2606	0.1480
2	0	0.7996	-0.1627	0.0582	-0.8590	0.2129	1.1361	0.2497	0.1636	0.1438
2	0	0.8578	-0.1886	0.0650	-0.9392	0.2401	1.1766	0.2858	0.4279	0.1385
2	0	0.9100	-0.2198	0.0694	-0.9896	0.2633	1.1479	0.3200	0.0894	0.1475
2	0	0.9727	-0.1769	0.0769	-1.0220	0.2895	1.2792	0.3623	0.1821	0.1758
3	0	0.1938	0.0120	0.0038	0.0183	0.0024	0.0362	0.0062	0.0190	0.0342
3	0	0.2357	0.0670	0.0021	-0.0219	0.0031	0.0368	0.0086	0.2218	0.0830
3	0	0.2995	0.0003	0.0021	0.0259	0.0068	0.1391	0.0211	0.1707	0.0906
3	0	0.3493	-0.0361	0.0019	0.0337	0.0114	0.2391	0.0369	0.2571	0.0880
3	0	0.4000	-0.0282	0.0018	0.0362	0.0170	0.3645	0.0550	0.4934	0.0919
3	0	0.4497	-0.1027	0.0024	-0.0117	0.0217	0.5053	0.0743	0.3354	0.0857
3	0	0.4997	-0.1198	0.0029	-0.0805	0.0266	0.6829	0.0963	0.2999	0.0851
3	0	0.5556	-0.1816	0.0033	-0.1982	0.0326	0.8778	0.1167	0.2314	0.0896
3	0	0.5995	-0.1874	0.0039	-0.1549	0.0379	1.0529	0.1362	0.3629	0.0924
3	0	0.6498	-0.2343	0.0042	-0.2472	0.0443	1.1442	0.1576	0.2112	0.0865
3	0	0.6890	-0.2532	0.0048	-0.2391	0.0505	1.2073	0.1723	0.3060	0.0960
3	0	0.7495	-0.2454	0.0061	-0.3502	0.0607	1.2725	0.1992	0.3361	0.1058
3	0	0.7998	-0.3333	0.0058	-0.3858	0.0677	1.2638	0.2244	0.2399	0.0983
3	0	0.8577	-0.3567	0.0084	-0.4596	0.0781	1.2559	0.2560	0.2662	0.1599
4	0	0.2001	0.0079	0.0036	-0.0097	0.0024	0.0120	0.0055	0.1755	0.0447
4	0	0.2502	0.0234	0.0025	-0.0087	0.0071	0.0278	0.0111	0.4071	0.0710
4	0	0.3001	-0.0031	0.0029	-0.0203	0.0114	0.0422	0.0196	0.4604	0.0975
4	0	0.3502	-0.0524	0.0031	-0.0585	0.0196	0.0758	0.0337	0.5605	0.0856
4	0	0.4002	-0.0764	0.0023	-0.0681	0.0317	0.1133	0.0516	0.5363	0.0924
4	0	0.4500	-0.0960	0.0024	-0.0801	0.0404	0.1843	0.0693	0.3616	0.0932
4	0	0.5001	-0.1464	0.0047	-0.1337	0.0407	0.3018	0.0867	0.5316	0.0981
4	0	0.5560	-0.1907	0.0033	-0.1932	0.0537	0.3951	0.1088	0.3713	0.0974
4	0	0.6001	-0.1971	0.0044	-0.2335	0.0585	0.4514	0.1272	0.3326	0.0983
4	0	0.6501	-0.2564	0.0039	-0.2942	0.0679	0.4890	0.1486	0.5212	0.0999
4	0	0.6999	-0.2864	0.0046	-0.3636	0.0755	0.4570	0.1719	0.5091	0.1003
4	0	0.7500	-0.2913	0.0053	-0.4208	0.0849	0.3845	0.1959	0.6484	0.1145
4	0	0.8002	-0.3381	0.0062	-0.5678	0.0927	0.2669	0.2205	0.4436	0.1249
4	0	0.8582	-0.3740	0.0086	-0.6174	0.1030	0.1595	0.2558	0.4874	0.1457
4	0	0.9101	-0.3878	0.0117	-0.5919	0.1113	0.0399	0.2848	0.4854	0.1898
4	0	0.9728	-0.3418	0.0188	-0.5708	0.1278	0.0045	0.3283	0.9497	0.1494

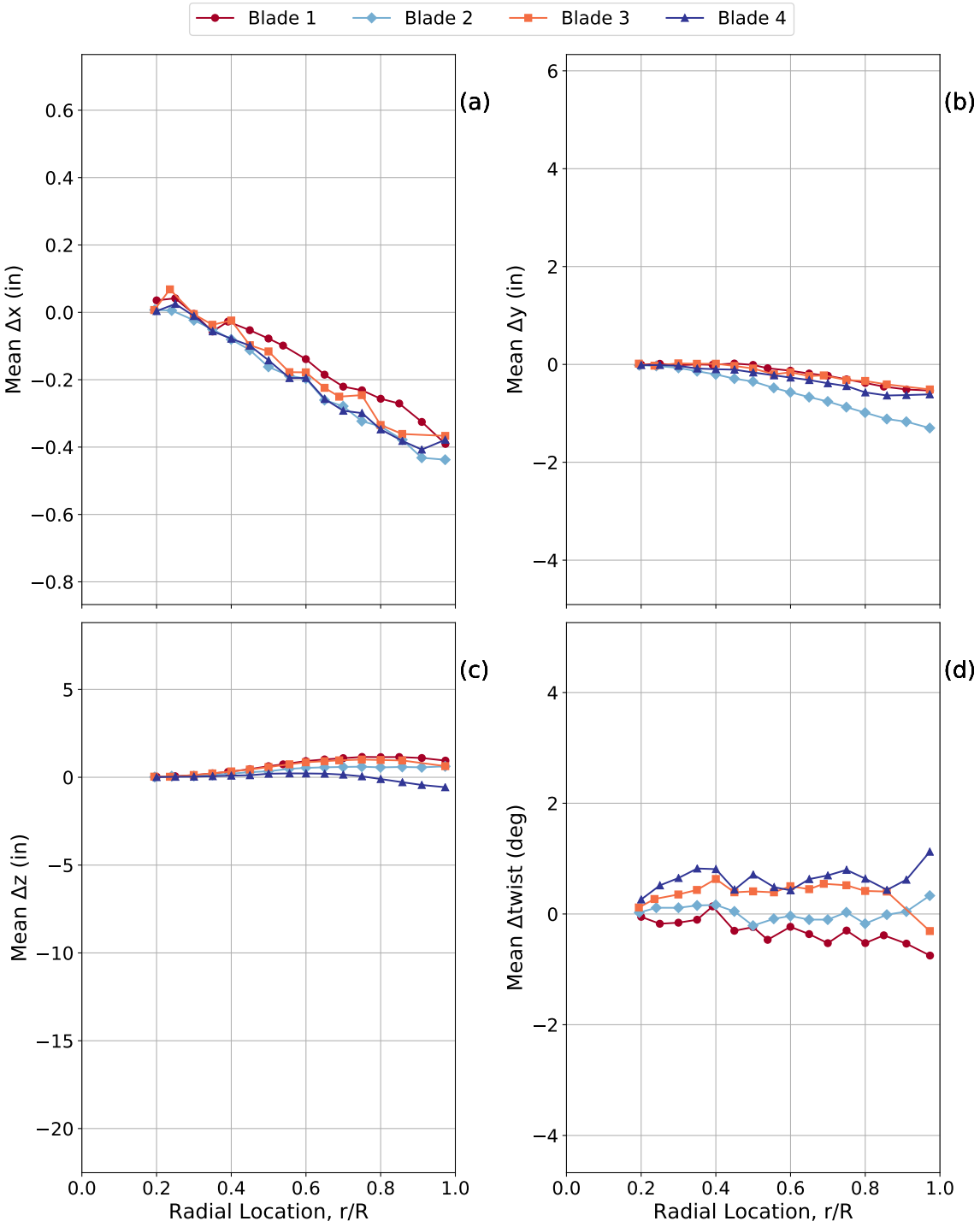


Figure 2.29-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-6. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0356	0.0085	-0.0054	0.0035	0.0319	0.0068	-0.0516	0.0439
1	4.92	0.2499	0.0417	0.0032	0.0127	0.0075	0.0596	0.0132	-0.1764	0.0707
1	4.92	0.2998	-0.0044	0.0059	-0.0163	0.0150	0.1190	0.0243	-0.1573	0.0971
1	4.92	0.3498	-0.0567	0.0130	-0.0001	0.0258	0.2254	0.0405	-0.1035	0.1040
1	4.92	0.3913	-0.0274	0.0197	-0.0077	0.0376	0.3067	0.0578	0.1373	0.1008
1	4.92	0.4496	-0.0530	0.0205	0.0187	0.0719	0.4631	0.1044	-0.3033	0.0899
1	4.92	0.4997	-0.0778	0.0204	-0.0103	0.0838	0.6332	0.1218	-0.2372	0.0816
1	4.92	0.5387	-0.0987	0.0205	-0.0783	0.0935	0.7366	0.1348	-0.4666	0.0924
1	4.92	0.5996	-0.1389	0.0207	-0.1284	0.1092	0.9241	0.1570	-0.2316	0.0869
1	4.92	0.6498	-0.1850	0.0209	-0.1863	0.1228	1.0165	0.1742	-0.3638	0.0943
1	4.92	0.6998	-0.2206	0.0208	-0.2313	0.1366	1.0894	0.1912	-0.5270	0.1013
1	4.92	0.7500	-0.2314	0.0205	-0.3062	0.1520	1.1593	0.2081	-0.2989	0.1112
1	4.92	0.8001	-0.2565	0.0215	-0.3788	0.1664	1.1488	0.2268	-0.5256	0.1162
1	4.92	0.8497	-0.2706	0.0213	-0.4535	0.1827	1.1525	0.2436	-0.3855	0.1050
1	4.92	0.9102	-0.3253	0.0228	-0.5123	0.2011	1.0974	0.2682	-0.5351	0.1462
1	4.92	0.9734	-0.3905	0.0239	-0.5337	0.2213	0.9497	0.2909	-0.7509	0.1434
2	4.92	0.1949	0.0074	0.0040	-0.0171	0.0024	0.0152	0.0057	0.0253	0.0421
2	4.92	0.2405	0.0055	0.0024	-0.0313	0.0056	0.0630	0.0102	0.1125	0.0900
2	4.92	0.2999	-0.0234	0.0029	-0.0711	0.0105	0.0718	0.0213	0.1118	0.1092
2	4.92	0.3498	-0.0505	0.0030	-0.1392	0.0188	0.1346	0.0358	0.1536	0.1215
2	4.92	0.3998	-0.0802	0.0036	-0.2045	0.0292	0.2051	0.0550	0.1637	0.1221
2	4.92	0.4496	-0.1118	0.0038	-0.2912	0.0338	0.2926	0.0763	0.0464	0.1138
2	4.92	0.4995	-0.1618	0.0040	-0.3488	0.0413	0.3416	0.0974	-0.2107	0.1214
2	4.92	0.5551	-0.1882	0.0042	-0.4799	0.0506	0.4800	0.1202	-0.0875	0.1212
2	4.92	0.5996	-0.1967	0.0049	-0.5699	0.0588	0.5356	0.1380	-0.0362	0.1077
2	4.92	0.6497	-0.2605	0.0053	-0.6684	0.0669	0.5672	0.1544	-0.1017	0.1176
2	4.92	0.6996	-0.2786	0.0059	-0.7576	0.0768	0.5888	0.1715	-0.1021	0.1196
2	4.92	0.7495	-0.3230	0.0061	-0.8731	0.0867	0.6024	0.1917	0.0300	0.1331
2	4.92	0.7996	-0.3385	0.0059	-0.9855	0.0964	0.5645	0.2151	-0.1756	0.1249
2	4.92	0.8578	-0.3780	0.0072	-1.1162	0.1088	0.5871	0.2480	-0.0127	0.1351
2	4.92	0.9100	-0.4317	0.0078	-1.1708	0.1205	0.5667	0.2811	0.0438	0.1452
2	4.92	0.9727	-0.4375	0.0117	-1.3005	0.1355	0.6229	0.3268	0.3312	0.1608
3	4.92	0.1938	0.0069	0.0034	0.0157	0.0020	0.0359	0.0052	0.1171	0.0408
3	4.92	0.2357	0.0682	0.0023	-0.0254	0.0044	0.0305	0.0099	0.2702	0.0819
3	4.92	0.2995	-0.0051	0.0022	0.0214	0.0083	0.1302	0.0203	0.3522	0.1028
3	4.92	0.3493	-0.0369	0.0023	0.0127	0.0151	0.2203	0.0338	0.4342	0.0984
3	4.92	0.4000	-0.0243	0.0025	0.0138	0.0232	0.3339	0.0530	0.6322	0.1039
3	4.92	0.4497	-0.0975	0.0029	-0.0309	0.0273	0.4416	0.0741	0.3916	0.0981
3	4.92	0.4997	-0.1160	0.0030	-0.0835	0.0330	0.5823	0.0956	0.4084	0.1072
3	4.92	0.5556	-0.1776	0.0032	-0.2024	0.0400	0.7395	0.1195	0.3908	0.1043
3	4.92	0.5995	-0.1781	0.0035	-0.1618	0.0448	0.8554	0.1380	0.5014	0.1115
3	4.92	0.6498	-0.2240	0.0037	-0.2375	0.0512	0.9173	0.1584	0.4481	0.1130
3	4.92	0.6890	-0.2503	0.0041	-0.2251	0.0571	0.9652	0.1739	0.5452	0.1198
3	4.92	0.7495	-0.2457	0.0044	-0.3198	0.0654	1.0084	0.1972	0.5186	0.1311
3	4.92	0.7998	-0.3344	0.0044	-0.3386	0.0723	0.9844	0.2171	0.4159	0.1220
3	4.92	0.8577	-0.3611	0.0053	-0.4085	0.0827	0.9583	0.2413	0.4047	0.1510
3	4.92	0.9729	-0.3668	0.0131	-0.5117	0.1045	0.6354	0.3000	-0.3084	0.2133
4	4.92	0.2001	0.0038	0.0026	-0.0137	0.0021	0.0093	0.0064	0.2618	0.0416
4	4.92	0.2502	0.0250	0.0022	-0.0131	0.0041	0.0284	0.0116	0.5164	0.0725
4	4.92	0.3001	-0.0109	0.0027	-0.0293	0.0075	0.0341	0.0231	0.6496	0.0909
4	4.92	0.3502	-0.0563	0.0026	-0.0841	0.0134	0.0609	0.0406	0.8213	0.0842
4	4.92	0.4002	-0.0782	0.0034	-0.0984	0.0200	0.0930	0.0611	0.8100	0.0864
4	4.92	0.4500	-0.0989	0.0041	-0.1074	0.0258	0.1174	0.0838	0.4392	0.0912
4	4.92	0.5001	-0.1426	0.0042	-0.1649	0.0325	0.2034	0.1083	0.7121	0.0945
4	4.92	0.5560	-0.1951	0.0048	-0.2240	0.0421	0.2217	0.1361	0.4841	0.0983
4	4.92	0.6001	-0.1948	0.0052	-0.2690	0.0501	0.2189	0.1562	0.4270	0.0968
4	4.92	0.6501	-0.2571	0.0057	-0.3197	0.0601	0.2057	0.1784	0.6295	0.1016
4	4.92	0.6999	-0.2921	0.0061	-0.3852	0.0707	0.1501	0.2018	0.6966	0.1058
4	4.92	0.7500	-0.2991	0.0066	-0.4429	0.0820	0.0546	0.2244	0.7962	0.0970
4	4.92	0.8002	-0.3475	0.0073	-0.5723	0.0939	-0.1003	0.2473	0.6373	0.1160
4	4.92	0.8582	-0.3817	0.0076	-0.6356	0.1087	-0.2800	0.2750	0.4349	0.1125
4	4.92	0.9101	-0.4074	0.0092	-0.6269	0.1225	-0.4377	0.3016	0.6187	0.1303
4	4.92	0.9728	-0.3784	0.0126	-0.6124	0.1407	-0.5656	0.3358	1.1246	0.1323

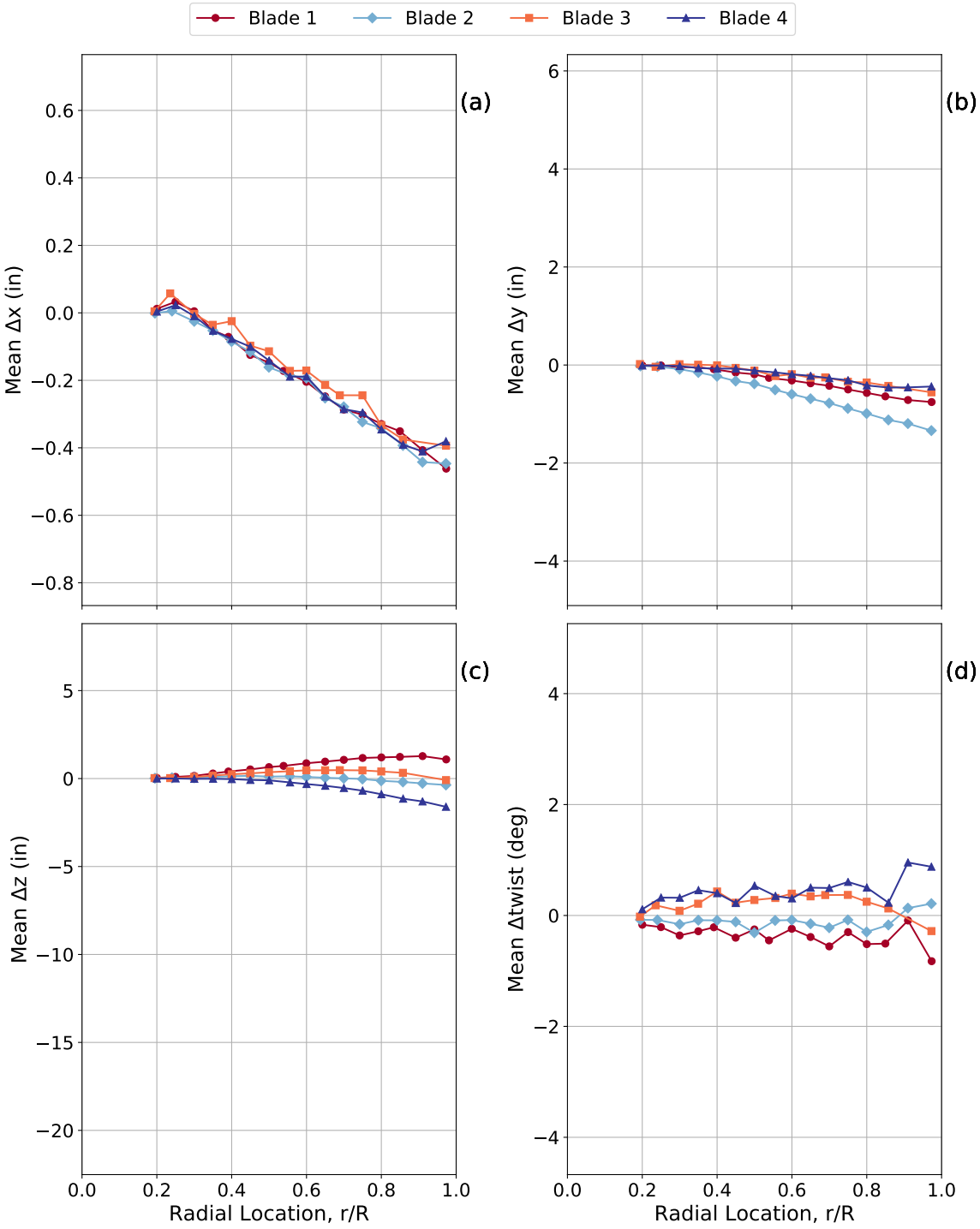


Figure 2.29-4. 10° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-7. 10° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	9.84	0.2001	0.0121	0.0041	-0.0087	0.0026	0.0383	0.0079	-0.1667	0.0510
1	9.84	0.2499	0.0328	0.0022	-0.0079	0.0044	0.0940	0.0133	-0.2102	0.1090
1	9.84	0.2998	0.0048	0.0020	-0.0470	0.0098	0.1518	0.0278	-0.3605	0.1220
1	9.84	0.3498	-0.0519	0.0028	-0.0430	0.0168	0.2872	0.0470	-0.2845	0.1114
1	9.84	0.3913	-0.0711	0.0040	-0.0853	0.0236	0.4011	0.0660	-0.2133	0.1134
1	9.84	0.4496	-0.1248	0.0047	-0.1538	0.0335	0.5191	0.0948	-0.4009	0.1171
1	9.84	0.4997	-0.1476	0.0051	-0.1890	0.0425	0.6501	0.1181	-0.2517	0.1194
1	9.84	0.5387	-0.1720	0.0054	-0.2622	0.0500	0.7199	0.1350	-0.4491	0.1205
1	9.84	0.5996	-0.2043	0.0056	-0.3160	0.0621	0.8690	0.1604	-0.2405	0.1191
1	9.84	0.6498	-0.2475	0.0063	-0.3731	0.0735	0.9628	0.1802	-0.3884	0.1227
1	9.84	0.6998	-0.2866	0.0069	-0.4244	0.0854	1.0631	0.2007	-0.5575	0.1314
1	9.84	0.7500	-0.3019	0.0076	-0.4984	0.0985	1.1705	0.2254	-0.3004	0.1260
1	9.84	0.8001	-0.3295	0.0079	-0.5691	0.1120	1.2029	0.2525	-0.5168	0.1278
1	9.84	0.8497	-0.3508	0.0084	-0.6397	0.1263	1.2314	0.2806	-0.5072	0.1340
1	9.84	0.9102	-0.4068	0.0093	-0.7142	0.1424	1.2760	0.3194	-0.0909	0.2471
1	9.84	0.9734	-0.4617	0.0133	-0.7558	0.1623	1.0870	0.3649	-0.8247	0.1449
2	9.84	0.1949	-0.0009	0.0033	-0.0201	0.0018	0.0168	0.0061	-0.0780	0.0325
2	9.84	0.2405	0.0054	0.0015	-0.0319	0.0023	0.0429	0.0106	-0.0810	0.0622
2	9.84	0.2999	-0.0252	0.0019	-0.0847	0.0055	0.0473	0.0239	-0.1582	0.0785
2	9.84	0.3498	-0.0525	0.0023	-0.1522	0.0103	0.0982	0.0412	-0.0854	0.0785
2	9.84	0.3998	-0.0851	0.0028	-0.2302	0.0146	0.1308	0.0629	-0.0883	0.0775
2	9.84	0.4496	-0.1155	0.0027	-0.3272	0.0191	0.1562	0.0862	-0.1153	0.0848
2	9.84	0.4995	-0.1612	0.0031	-0.3824	0.0239	0.1115	0.1111	-0.3119	0.0857
2	9.84	0.5551	-0.1853	0.0034	-0.5066	0.0307	0.1281	0.1380	-0.0900	0.0912
2	9.84	0.5996	-0.1934	0.0037	-0.5955	0.0361	0.0921	0.1605	-0.0821	0.0923
2	9.84	0.6497	-0.2525	0.0040	-0.6881	0.0440	0.0458	0.1872	-0.1495	0.0999
2	9.84	0.6996	-0.2784	0.0043	-0.7776	0.0514	0.0115	0.2133	-0.2213	0.0963
2	9.84	0.7495	-0.3233	0.0048	-0.8857	0.0594	-0.0260	0.2410	-0.0803	0.1020
2	9.84	0.7996	-0.3419	0.0053	-0.9899	0.0683	-0.1263	0.2693	-0.2966	0.1063
2	9.84	0.8578	-0.3930	0.0055	-1.1213	0.0781	-0.1934	0.3071	-0.1711	0.1014
2	9.84	0.9100	-0.4422	0.0069	-1.1954	0.0893	-0.2757	0.3473	0.1326	0.1686
2	9.84	0.9727	-0.4466	0.0094	-1.3384	0.1014	-0.3659	0.3919	0.2129	0.1083
3	9.84	0.1938	0.0046	0.0035	0.0191	0.0019	0.0262	0.0054	-0.0208	0.0357
3	9.84	0.2357	0.0576	0.0018	-0.0362	0.0029	0.0258	0.0098	0.1834	0.0636
3	9.84	0.2995	-0.0031	0.0023	0.0162	0.0068	0.0901	0.0210	0.0845	0.0831
3	9.84	0.3493	-0.0355	0.0028	0.0058	0.0114	0.1689	0.0355	0.2123	0.0841
3	9.84	0.4000	-0.0246	0.0038	-0.0065	0.0178	0.2450	0.0553	0.4323	0.0814
3	9.84	0.4497	-0.0972	0.0043	-0.0592	0.0238	0.2958	0.0771	0.2299	0.0813
3	9.84	0.4997	-0.1139	0.0052	-0.1126	0.0305	0.3601	0.0995	0.2787	0.0858
3	9.84	0.5556	-0.1719	0.0056	-0.2255	0.0388	0.4196	0.1260	0.3152	0.0857
3	9.84	0.5995	-0.1709	0.0059	-0.1880	0.0456	0.4698	0.1463	0.3935	0.0871
3	9.84	0.6498	-0.2136	0.0061	-0.2591	0.0544	0.4707	0.1683	0.3445	0.0893
3	9.84	0.6890	-0.2442	0.0065	-0.2530	0.0619	0.4773	0.1877	0.3680	0.0908
3	9.84	0.7495	-0.2443	0.0069	-0.3423	0.0742	0.4651	0.2212	0.3704	0.0911
3	9.84	0.7998	-0.3327	0.0071	-0.3568	0.0839	0.4026	0.2519	0.2478	0.0937
3	9.84	0.8577	-0.3754	0.0076	-0.4268	0.0978	0.3261	0.2927	0.1261	0.1038
3	9.84	0.9729	-0.3937	0.0131	-0.5577	0.1234	-0.0878	0.3808	-0.2817	0.1429
4	9.84	0.2001	0.0037	0.0026	-0.0105	0.0019	-0.0007	0.0061	0.1115	0.0365
4	9.84	0.2502	0.0229	0.0019	-0.0096	0.0034	0.0033	0.0123	0.3221	0.0652
4	9.84	0.3001	-0.0097	0.0019	-0.0210	0.0072	-0.0162	0.0230	0.3191	0.0814
4	9.84	0.3502	-0.0531	0.0024	-0.0642	0.0121	-0.0127	0.0391	0.4555	0.0728
4	9.84	0.4002	-0.0772	0.0029	-0.0731	0.0185	-0.0325	0.0602	0.4011	0.0702
4	9.84	0.4500	-0.1006	0.0030	-0.0745	0.0244	-0.0789	0.0805	0.2240	0.0705
4	9.84	0.5001	-0.1415	0.0032	-0.1133	0.0312	-0.0998	0.1023	0.5363	0.0747
4	9.84	0.5560	-0.1890	0.0037	-0.1513	0.0394	-0.2204	0.1246	0.3517	0.0766
4	9.84	0.6001	-0.1888	0.0039	-0.1890	0.0465	-0.3117	0.1408	0.3075	0.0795
4	9.84	0.6501	-0.2482	0.0041	-0.2208	0.0551	-0.4118	0.1579	0.5007	0.0845
4	9.84	0.6999	-0.2854	0.0048	-0.2699	0.0640	-0.5385	0.1754	0.4952	0.0802
4	9.84	0.7500	-0.2954	0.0050	-0.3111	0.0735	-0.6887	0.1949	0.6048	0.0894
4	9.84	0.8002	-0.3456	0.0057	-0.4170	0.0834	-0.8922	0.2142	0.5023	0.0930
4	9.84	0.8582	-0.3909	0.0064	-0.4611	0.0946	-1.1452	0.2418	0.2296	0.0971
4	9.84	0.9101	-0.4108	0.0086	-0.4563	0.1053	-1.3015	0.2739	0.9551	0.1636
4	9.84	0.9728	-0.3807	0.0107	-0.4393	0.1183	-1.6066	0.3096	0.8785	0.1206

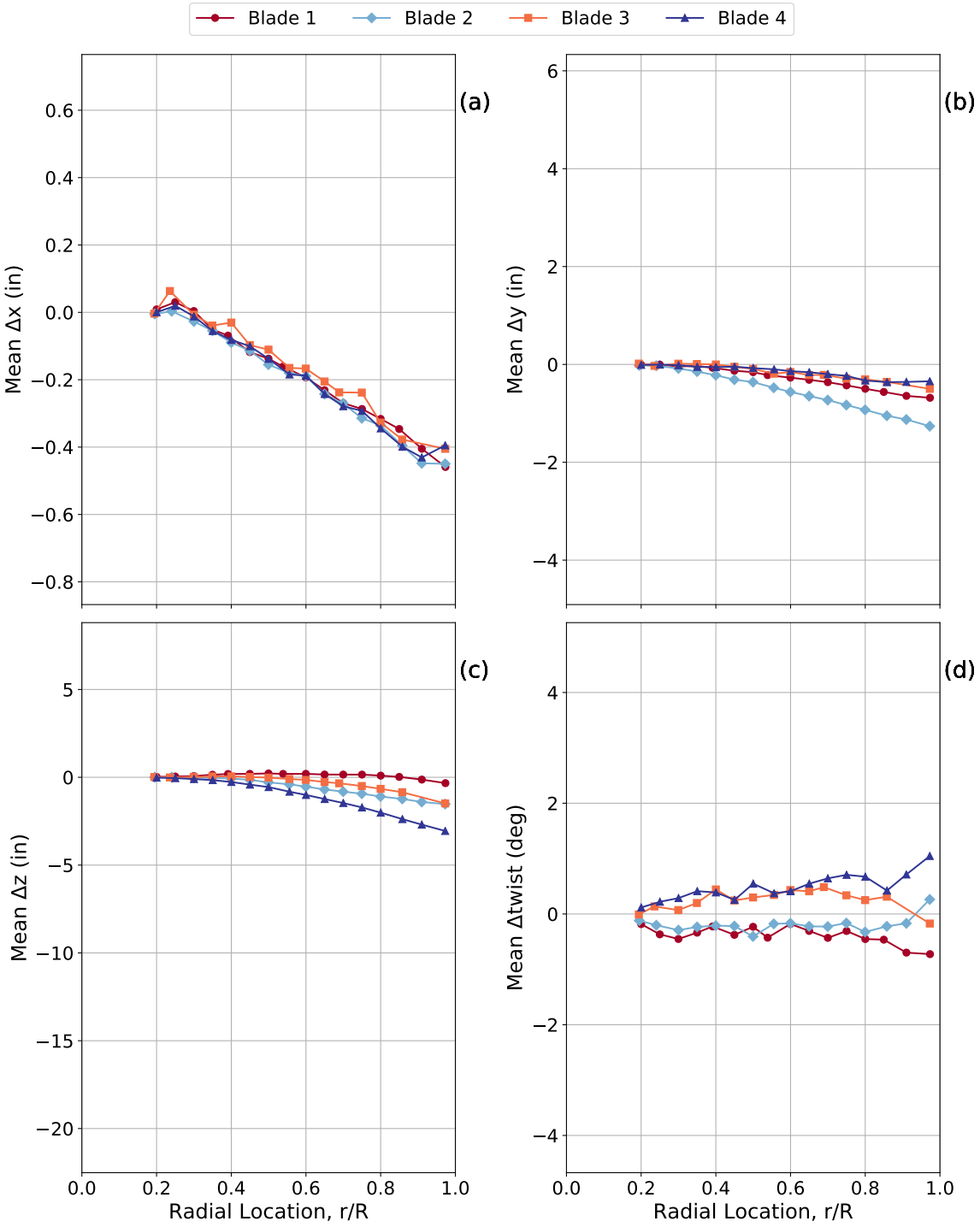


Figure 2.29-5. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-8. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0087	0.0037	-0.0074	0.0019	0.0216	0.0075	-0.1829	0.0360
1	15.12	0.2499	0.0303	0.0022	-0.0046	0.0036	0.0428	0.0142	-0.3679	0.0789
1	15.12	0.2998	0.0039	0.0018	-0.0408	0.0071	0.0702	0.0288	-0.4516	0.0842
1	15.12	0.3498	-0.0509	0.0023	-0.0320	0.0124	0.1448	0.0485	-0.3373	0.0847
1	15.12	0.3913	-0.0691	0.0027	-0.0692	0.0174	0.1875	0.0694	-0.2252	0.0834
1	15.12	0.4496	-0.1179	0.0031	-0.1297	0.0243	0.1958	0.1000	-0.3765	0.0843
1	15.12	0.4997	-0.1375	0.0032	-0.1582	0.0303	0.2188	0.1261	-0.2315	0.0868
1	15.12	0.5387	-0.1610	0.0038	-0.2189	0.0355	0.1938	0.1453	-0.4279	0.0879
1	15.12	0.5996	-0.1931	0.0039	-0.2706	0.0442	0.1968	0.1738	-0.1801	0.0902
1	15.12	0.6498	-0.2310	0.0039	-0.3146	0.0519	0.1564	0.1965	-0.3061	0.0881
1	15.12	0.6998	-0.2695	0.0042	-0.3632	0.0592	0.1538	0.2206	-0.4313	0.0930
1	15.12	0.7500	-0.2869	0.0046	-0.4288	0.0676	0.1523	0.2457	-0.3074	0.0963
1	15.12	0.8001	-0.3163	0.0050	-0.4977	0.0761	0.0941	0.2749	-0.4524	0.0933
1	15.12	0.8497	-0.3463	0.0058	-0.5629	0.0854	0.0226	0.3073	-0.4639	0.0997
1	15.12	0.9102	-0.4049	0.0059	-0.6432	0.0964	-0.1300	0.3540	-0.6980	0.1067
1	15.12	0.9734	-0.4590	0.0091	-0.6818	0.1085	-0.3329	0.4107	-0.7253	0.1232
2	15.12	0.1949	-0.0046	0.0035	-0.0207	0.0018	0.0033	0.0062	-0.1186	0.0312
2	15.12	0.2405	0.0032	0.0019	-0.0279	0.0025	0.0027	0.0090	-0.2029	0.0804
2	15.12	0.2999	-0.0270	0.0019	-0.0829	0.0061	-0.0277	0.0218	-0.2912	0.0883
2	15.12	0.3498	-0.0548	0.0018	-0.1465	0.0106	-0.0309	0.0376	-0.2346	0.0793
2	15.12	0.3998	-0.0895	0.0022	-0.2206	0.0157	-0.0763	0.0562	-0.2110	0.0853
2	15.12	0.4496	-0.1137	0.0028	-0.3117	0.0205	-0.1446	0.0747	-0.2183	0.0949
2	15.12	0.4995	-0.1552	0.0033	-0.3610	0.0256	-0.2912	0.0949	-0.4053	0.1000
2	15.12	0.5551	-0.1801	0.0031	-0.4771	0.0317	-0.3979	0.1181	-0.1783	0.0951
2	15.12	0.5996	-0.1890	0.0033	-0.5624	0.0372	-0.5313	0.1358	-0.1683	0.1013
2	15.12	0.6497	-0.2426	0.0037	-0.6474	0.0432	-0.6928	0.1563	-0.2238	0.1030
2	15.12	0.6996	-0.2703	0.0039	-0.7287	0.0503	-0.8164	0.1783	-0.2274	0.1077
2	15.12	0.7495	-0.3143	0.0041	-0.8304	0.0576	-0.9354	0.2029	-0.1635	0.1090
2	15.12	0.7996	-0.3354	0.0047	-0.9293	0.0658	-1.0940	0.2341	-0.3253	0.1127
2	15.12	0.8578	-0.3955	0.0056	-1.0492	0.0750	-1.2324	0.2758	-0.2233	0.1232
2	15.12	0.9100	-0.4481	0.0058	-1.1261	0.0832	-1.4057	0.3181	-0.1691	0.1419
2	15.12	0.9727	-0.4496	0.0082	-1.2621	0.0941	-1.5241	0.3768	0.2624	0.1395
3	15.12	0.1938	-0.0038	0.0029	0.0168	0.0016	0.0143	0.0062	-0.0081	0.0321
3	15.12	0.2357	0.0633	0.0021	-0.0305	0.0025	-0.0097	0.0119	0.1362	0.0630
3	15.12	0.2995	-0.0068	0.0019	0.0149	0.0052	0.0216	0.0259	0.0709	0.0807
3	15.12	0.3493	-0.0393	0.0023	0.0082	0.0091	0.0506	0.0445	0.1987	0.0874
3	15.12	0.4000	-0.0303	0.0030	-0.0015	0.0139	0.0546	0.0694	0.4428	0.0867
3	15.12	0.4497	-0.0974	0.0033	-0.0477	0.0182	0.0165	0.0946	0.2438	0.0929
3	15.12	0.4997	-0.1107	0.0034	-0.0934	0.0239	-0.0205	0.1225	0.2980	0.0915
3	15.12	0.5556	-0.1649	0.0040	-0.1899	0.0300	-0.0959	0.1516	0.3438	0.0956
3	15.12	0.5995	-0.1668	0.0042	-0.1546	0.0348	-0.1492	0.1743	0.4321	0.0948
3	15.12	0.6498	-0.2052	0.0048	-0.2180	0.0418	-0.2693	0.2008	0.4097	0.0957
3	15.12	0.6890	-0.2376	0.0049	-0.2144	0.0476	-0.3418	0.2218	0.4854	0.0952
3	15.12	0.7495	-0.2381	0.0061	-0.2903	0.0573	-0.4968	0.2568	0.3374	0.1019
3	15.12	0.7998	-0.3273	0.0064	-0.3049	0.0654	-0.6592	0.2911	0.2502	0.1008
3	15.12	0.8577	-0.3775	0.0072	-0.3565	0.0759	-0.8496	0.3349	0.3118	0.1060
3	15.12	0.9729	-0.4051	0.0117	-0.4993	0.0982	-1.4867	0.4358	-0.1727	0.1322
4	15.12	0.2001	0.0002	0.0026	-0.0094	0.0015	-0.0189	0.0064	0.1174	0.0362
4	15.12	0.2502	0.0195	0.0020	-0.0046	0.0029	-0.0489	0.0131	0.2203	0.0732
4	15.12	0.3001	-0.0122	0.0019	-0.0165	0.0052	-0.1008	0.0246	0.2868	0.0852
4	15.12	0.3502	-0.0554	0.0023	-0.0506	0.0092	-0.1613	0.0428	0.4117	0.0820
4	15.12	0.4002	-0.0818	0.0039	-0.0546	0.0139	-0.2681	0.0656	0.3895	0.0830
4	15.12	0.4500	-0.1006	0.0041	-0.0466	0.0184	-0.4185	0.0900	0.2543	0.0863
4	15.12	0.5001	-0.1381	0.0043	-0.0761	0.0232	-0.5588	0.1148	0.5471	0.0864
4	15.12	0.5560	-0.1844	0.0048	-0.1001	0.0293	-0.8217	0.1418	0.3735	0.0911
4	15.12	0.6001	-0.1879	0.0051	-0.1373	0.0345	-1.0066	0.1629	0.4108	0.0894
4	15.12	0.6501	-0.2425	0.0060	-0.1601	0.0412	-1.2380	0.1887	0.5470	0.0921
4	15.12	0.6999	-0.2787	0.0066	-0.1986	0.0478	-1.4649	0.2155	0.6434	0.0956
4	15.12	0.7500	-0.2925	0.0072	-0.2347	0.0556	-1.7177	0.2432	0.7070	0.1049
4	15.12	0.8002	-0.3445	0.0084	-0.3300	0.0639	-2.0134	0.2741	0.6731	0.1133
4	15.12	0.8582	-0.3989	0.0086	-0.3626	0.0737	-2.3821	0.3128	0.4223	0.1195
4	15.12	0.9101	-0.4308	0.0093	-0.3577	0.0828	-2.6961	0.3479	0.7133	0.1273
4	15.12	0.9728	-0.3948	0.0118	-0.3445	0.0950	-3.0560	0.3906	1.0473	0.1199

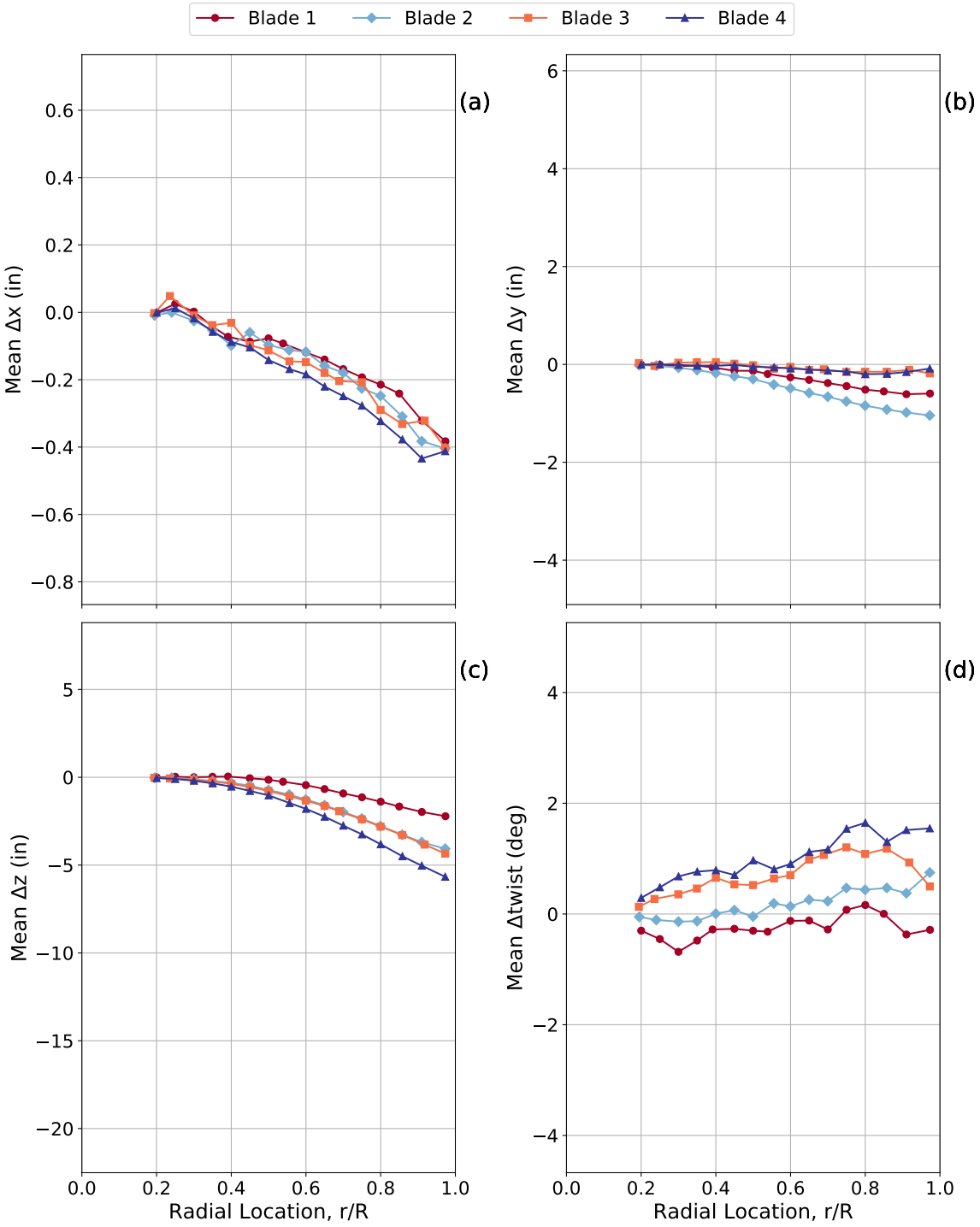


Figure 2.29-6. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-9. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0009	0.0058	-0.0047	0.0019	-0.0020	0.0052	-0.3017	0.0342
1	29.88	0.2499	0.0254	0.0025	-0.0078	0.0038	0.0305	0.0105	-0.4524	0.0678
1	29.88	0.2998	0.0022	0.0026	-0.0354	0.0073	0.0043	0.0198	-0.6834	0.0809
1	29.88	0.3498	-0.0421	0.0067	-0.0249	0.0131	0.0292	0.0332	-0.4796	0.0835
1	29.88	0.3913	-0.0724	0.0112	-0.0621	0.0184	0.0435	0.0479	-0.2798	0.0863
1	29.88	0.4496	-0.0869	0.0196	-0.1290	0.0259	-0.0533	0.0671	-0.2680	0.0889
1	29.88	0.4997	-0.0771	0.0123	-0.1309	0.0617	-0.1402	0.1347	-0.3025	0.0899
1	29.88	0.5387	-0.0924	0.0126	-0.1948	0.0690	-0.2533	0.1528	-0.3201	0.0992
1	29.88	0.5996	-0.1188	0.0118	-0.2643	0.0807	-0.4458	0.1823	-0.1243	0.0991
1	29.88	0.6498	-0.1400	0.0124	-0.3159	0.0909	-0.6711	0.2112	-0.1188	0.1016
1	29.88	0.6998	-0.1685	0.0120	-0.3809	0.1011	-0.9195	0.2389	-0.2798	0.1078
1	29.88	0.7500	-0.1928	0.0115	-0.4425	0.1122	-1.1392	0.2695	0.0759	0.1168
1	29.88	0.8001	-0.2146	0.0113	-0.5165	0.1238	-1.3893	0.3080	0.1617	0.1137
1	29.88	0.8497	-0.2411	0.0114	-0.5518	0.1355	-1.6656	0.3456	0.0030	0.1266
1	29.88	0.9102	-0.3214	0.0115	-0.6091	0.1493	-1.9737	0.4004	-0.3703	0.1263
1	29.88	0.9734	-0.3827	0.0120	-0.5954	0.1641	-2.2182	0.4583	-0.2862	0.1390
2	29.88	0.1949	-0.0091	0.0062	-0.0151	0.0019	-0.0291	0.0047	-0.0529	0.0252
2	29.88	0.2405	-0.0001	0.0031	-0.0258	0.0031	-0.0278	0.0079	-0.1078	0.0567
2	29.88	0.2999	-0.0253	0.0027	-0.0667	0.0073	-0.1202	0.0171	-0.1386	0.0646
2	29.88	0.3498	-0.0530	0.0078	-0.1153	0.0130	-0.2062	0.0295	-0.1293	0.0669
2	29.88	0.3998	-0.0983	0.0148	-0.1783	0.0196	-0.3151	0.0444	0.0060	0.0763
2	29.88	0.4496	-0.0596	0.0142	-0.2402	0.0545	-0.4780	0.0905	0.0684	0.0832
2	29.88	0.4995	-0.0968	0.0140	-0.2986	0.0634	-0.7246	0.1077	-0.0461	0.0875
2	29.88	0.5551	-0.1123	0.0141	-0.4117	0.0732	-0.9848	0.1279	0.1910	0.0887
2	29.88	0.5996	-0.1171	0.0139	-0.4882	0.0822	-1.2650	0.1443	0.1372	0.0937
2	29.88	0.6497	-0.1584	0.0146	-0.5830	0.0925	-1.5890	0.1645	0.2584	0.1001
2	29.88	0.6996	-0.1795	0.0140	-0.6599	0.1037	-1.9781	0.1832	0.2316	0.1005
2	29.88	0.7495	-0.2258	0.0147	-0.7559	0.1152	-2.3495	0.2078	0.4687	0.1060
2	29.88	0.7996	-0.2478	0.0155	-0.8432	0.1274	-2.7799	0.2382	0.4370	0.1057
2	29.88	0.8578	-0.3092	0.0159	-0.9220	0.1428	-3.2724	0.2769	0.4707	0.1226
2	29.88	0.9100	-0.3826	0.0165	-0.9830	0.1559	-3.6913	0.3160	0.3749	0.1202
2	29.88	0.9727	-0.4039	0.0179	-1.0426	0.1734	-4.0673	0.3599	0.7482	0.1282
3	29.88	0.1938	-0.0023	0.0024	0.0250	0.0012	-0.0284	0.0045	0.1307	0.0285
3	29.88	0.2357	0.0484	0.0022	-0.0307	0.0022	-0.0674	0.0081	0.2706	0.0556
3	29.88	0.2995	-0.0092	0.0019	0.0345	0.0044	-0.1380	0.0175	0.3547	0.0701
3	29.88	0.3493	-0.0380	0.0021	0.0446	0.0077	-0.2339	0.0316	0.4597	0.0726
3	29.88	0.4000	-0.0311	0.0036	0.0468	0.0119	-0.3706	0.0478	0.6541	0.0777
3	29.88	0.4497	-0.0973	0.0033	0.0152	0.0156	-0.5557	0.0658	0.5348	0.0820
3	29.88	0.4997	-0.1129	0.0035	-0.0167	0.0208	-0.7760	0.0860	0.5221	0.0777
3	29.88	0.5556	-0.1454	0.0040	-0.0889	0.0274	-1.0775	0.1082	0.6415	0.0837
3	29.88	0.5995	-0.1475	0.0044	-0.0504	0.0336	-1.3283	0.1258	0.7016	0.0799
3	29.88	0.6498	-0.1798	0.0051	-0.1137	0.0415	-1.6334	0.1465	0.9826	0.0808
3	29.88	0.6890	-0.2040	0.0050	-0.1009	0.0482	-1.9308	0.1634	1.0658	0.0817
3	29.88	0.7495	-0.2074	0.0053	-0.1538	0.0591	-2.3932	0.1897	1.2028	0.0880
3	29.88	0.7998	-0.2899	0.0056	-0.1497	0.0692	-2.8100	0.2134	1.0845	0.0877
3	29.88	0.8577	-0.3317	0.0063	-0.1504	0.0812	-3.2882	0.2421	1.1789	0.0932
3	29.88	0.9178	-0.3215	0.0072	-0.1106	0.0936	-3.8337	0.2742	0.9293	0.1046
3	29.88	0.9729	-0.4028	0.0096	-0.1831	0.1056	-4.3482	0.3063	0.4971	0.1144
4	29.88	0.2001	-0.0009	0.0025	-0.0065	0.0012	-0.0477	0.0053	0.2903	0.0325
4	29.88	0.2502	0.0124	0.0023	0.0007	0.0028	-0.0961	0.0111	0.4825	0.0624
4	29.88	0.3001	-0.0180	0.0021	-0.0103	0.0048	-0.1955	0.0211	0.6794	0.0750
4	29.88	0.3502	-0.0578	0.0029	-0.0278	0.0088	-0.3466	0.0371	0.7644	0.0795
4	29.88	0.4002	-0.0879	0.0039	-0.0284	0.0132	-0.5312	0.0569	0.7911	0.0846
4	29.88	0.4500	-0.1042	0.0046	-0.0122	0.0183	-0.7798	0.0787	0.7032	0.0863
4	29.88	0.5001	-0.1418	0.0054	-0.0476	0.0236	-1.0319	0.1023	0.9686	0.0869
4	29.88	0.5560	-0.1686	0.0057	-0.0599	0.0306	-1.4663	0.1266	0.8071	0.0916
4	29.88	0.6001	-0.1841	0.0061	-0.0843	0.0371	-1.7978	0.1462	0.9037	0.0929
4	29.88	0.6501	-0.2205	0.0071	-0.1058	0.0446	-2.2462	0.1692	1.1205	0.0913
4	29.88	0.6999	-0.2488	0.0077	-0.1271	0.0532	-2.7528	0.1953	1.1645	0.0909
4	29.88	0.7500	-0.2769	0.0083	-0.1458	0.0624	-3.2509	0.2265	1.5395	0.0945
4	29.88	0.8002	-0.3228	0.0096	-0.2004	0.0723	-3.8149	0.2609	1.6462	0.0956
4	29.88	0.8582	-0.3772	0.0116	-0.1929	0.0848	-4.4969	0.3080	1.3030	0.1001
4	29.88	0.9101	-0.4340	0.0125	-0.1552	0.0957	-5.0338	0.3548	1.5163	0.1098
4	29.88	0.9728	-0.4122	0.0171	-0.0851	0.1100	-5.6653	0.4124	1.5463	0.1248

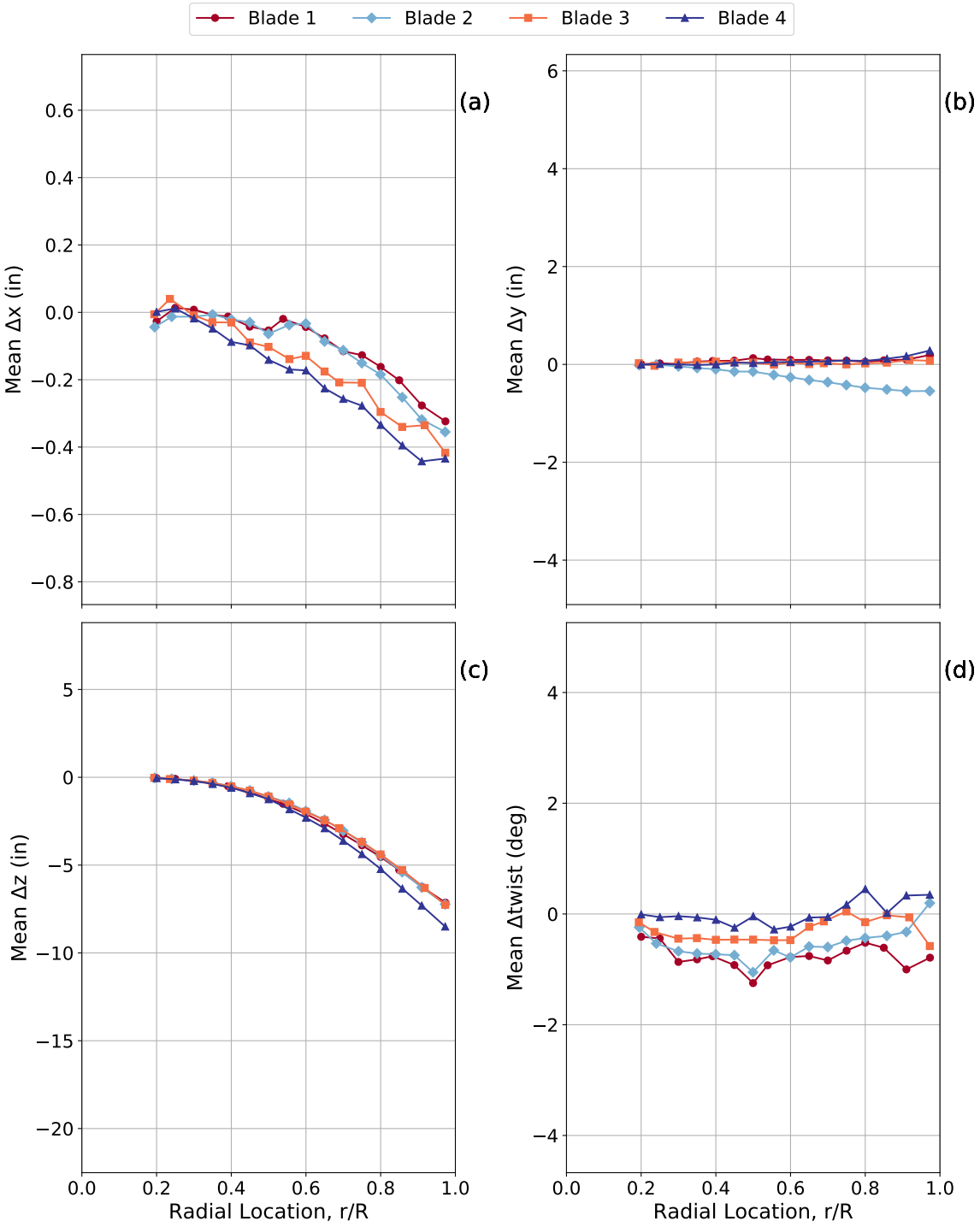


Figure 2.29-7. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-10. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0268	0.0059	0.0052	0.0015	-0.0526	0.0044	-0.4116	0.0395
1	45	0.2499	0.0133	0.0027	0.0208	0.0025	-0.0875	0.0087	-0.4419	0.0615
1	45	0.2998	0.0079	0.0026	0.0183	0.0055	-0.2197	0.0167	-0.8663	0.0864
1	45	0.3498	-0.0073	0.0061	0.0581	0.0093	-0.3403	0.0296	-0.8192	0.0762
1	45	0.3913	-0.0127	0.0090	0.0700	0.0131	-0.5080	0.0414	-0.7636	0.0760
1	45	0.4496	-0.0424	0.0128	0.0765	0.0176	-0.8499	0.0589	-0.9225	0.0867
1	45	0.4997	-0.0536	0.0148	0.1279	0.0240	-1.2341	0.0797	-1.2484	0.4031
1	45	0.5387	-0.0194	0.0169	0.1007	0.0792	-1.5100	0.1599	-0.9267	0.0872
1	45	0.5996	-0.0434	0.0172	0.0923	0.0887	-2.0826	0.1879	-0.7772	0.0840
1	45	0.6498	-0.0773	0.0163	0.0930	0.0970	-2.6351	0.2119	-0.7591	0.0871
1	45	0.6998	-0.1153	0.0161	0.0830	0.1053	-3.2369	0.2365	-0.8397	0.0879
1	45	0.7500	-0.1272	0.0159	0.0770	0.1136	-3.8746	0.2633	-0.6632	0.0862
1	45	0.8001	-0.1619	0.0158	0.0531	0.1223	-4.5357	0.2909	-0.5188	0.0872
1	45	0.8497	-0.2016	0.0159	0.0827	0.1307	-5.2799	0.3177	-0.6098	0.0900
1	45	0.9102	-0.2764	0.0162	0.0983	0.1412	-6.2339	0.3499	-1.0014	0.0906
1	45	0.9734	-0.3236	0.0176	0.1927	0.1522	-7.1358	0.3810	-0.7890	0.0939
2	45	0.1949	-0.0437	0.0074	-0.0144	0.0012	-0.0311	0.0036	-0.2411	0.0247
2	45	0.2405	-0.0128	0.0035	-0.0048	0.0022	-0.0879	0.0074	-0.5329	0.0492
2	45	0.2999	-0.0130	0.0035	-0.0398	0.0047	-0.1853	0.0153	-0.6741	0.0623
2	45	0.3498	-0.0065	0.0084	-0.0729	0.0082	-0.3089	0.0262	-0.7150	0.0567
2	45	0.3998	-0.0208	0.0136	-0.0992	0.0125	-0.5059	0.0407	-0.7279	0.0653
2	45	0.4496	-0.0296	0.0190	-0.1451	0.0169	-0.7536	0.0584	-0.7449	0.0690
2	45	0.4995	-0.0638	0.0176	-0.1474	0.0231	-1.0953	0.0937	-1.0522	0.5483
2	45	0.5551	-0.0374	0.0239	-0.2138	0.0860	-1.4658	0.1941	-0.6573	0.1032
2	45	0.5996	-0.0332	0.0239	-0.2629	0.0945	-1.9237	0.2142	-0.7846	0.1054
2	45	0.6497	-0.0864	0.0238	-0.3191	0.1047	-2.4259	0.2381	-0.5883	0.0982
2	45	0.6996	-0.1127	0.0238	-0.3631	0.1156	-3.0491	0.2658	-0.5978	0.1029
2	45	0.7495	-0.1506	0.0237	-0.4212	0.1262	-3.7060	0.2950	-0.4834	0.1099
2	45	0.7996	-0.1845	0.0242	-0.4768	0.1378	-4.4453	0.3251	-0.4336	0.1069
2	45	0.8578	-0.2521	0.0240	-0.5116	0.1520	-5.3995	0.3593	-0.3950	0.1020
2	45	0.9100	-0.3183	0.0241	-0.5461	0.1651	-6.2694	0.3920	-0.3239	0.1021
2	45	0.9727	-0.3549	0.0233	-0.5444	0.1805	-7.2293	0.4292	0.1966	0.1060
3	45	0.1938	-0.0057	0.0027	0.0242	0.0013	-0.0306	0.0048	-0.1495	0.0299
3	45	0.2357	0.0399	0.0025	-0.0274	0.0019	-0.1003	0.0083	-0.3246	0.0564
3	45	0.2995	-0.0090	0.0018	0.0386	0.0045	-0.1897	0.0185	-0.4457	0.0710
3	45	0.3493	-0.0294	0.0024	0.0471	0.0075	-0.3162	0.0328	-0.4357	0.0728
3	45	0.4000	-0.0301	0.0033	0.0563	0.0115	-0.5199	0.0500	-0.4665	0.0775
3	45	0.4497	-0.0894	0.0035	0.0443	0.0159	-0.7632	0.0688	-0.4622	0.0777
3	45	0.4997	-0.1025	0.0041	0.0365	0.0211	-1.0920	0.0884	-0.4631	0.0792
3	45	0.5556	-0.1387	0.0043	-0.0055	0.0279	-1.5519	0.1093	-0.4751	0.0822
3	45	0.5995	-0.1291	0.0046	0.0413	0.0339	-1.9554	0.1254	-0.4713	0.0827
3	45	0.6498	-0.1756	0.0051	0.0063	0.0412	-2.4399	0.1430	-0.2316	0.0836
3	45	0.6890	-0.2080	0.0056	0.0240	0.0477	-2.8962	0.1583	-0.1336	0.0856
3	45	0.7495	-0.2091	0.0061	0.0000	0.0583	-3.6785	0.1840	0.0464	0.0951
3	45	0.7998	-0.2957	0.0070	0.0203	0.0677	-4.3943	0.2071	-0.1473	0.0933
3	45	0.8577	-0.3402	0.0077	0.0364	0.0792	-5.2814	0.2320	-0.0238	0.0965
3	45	0.9178	-0.3349	0.0082	0.0884	0.0916	-6.3011	0.2584	-0.0611	0.1005
3	45	0.9729	-0.4168	0.0097	0.0741	0.1028	-7.2604	0.2841	-0.5793	0.0942
4	45	0.2001	0.0014	0.0023	-0.0057	0.0012	-0.0481	0.0035	-0.0088	0.0269
4	45	0.2502	0.0116	0.0018	0.0086	0.0027	-0.1185	0.0092	-0.0575	0.0531
4	45	0.3001	-0.0181	0.0016	-0.0010	0.0049	-0.2142	0.0150	-0.0395	0.0624
4	45	0.3502	-0.0482	0.0020	-0.0129	0.0084	-0.3823	0.0258	-0.0620	0.0567
4	45	0.4002	-0.0876	0.0023	-0.0009	0.0132	-0.5960	0.0409	-0.1047	0.0633
4	45	0.4500	-0.0981	0.0030	0.0382	0.0185	-0.9075	0.0600	-0.2473	0.0673
4	45	0.5001	-0.1409	0.0030	0.0269	0.0249	-1.2495	0.0807	-0.0418	0.0746
4	45	0.5560	-0.1695	0.0034	0.0430	0.0320	-1.8217	0.1028	-0.2797	0.0806
4	45	0.6001	-0.1723	0.0034	0.0507	0.0381	-2.3039	0.1187	-0.2280	0.0854
4	45	0.6501	-0.2257	0.0041	0.0554	0.0457	-2.9033	0.1350	-0.0653	0.0836
4	45	0.6999	-0.2569	0.0046	0.0662	0.0538	-3.6135	0.1497	-0.0537	0.0847
4	45	0.7500	-0.2773	0.0055	0.0799	0.0619	-4.3759	0.1650	0.1684	0.0936
4	45	0.8002	-0.3342	0.0062	0.0727	0.0708	-5.2234	0.1825	0.4507	0.0933
4	45	0.8582	-0.3951	0.0074	0.1159	0.0811	-6.3386	0.2062	0.0179	0.0899
4	45	0.9101	-0.4423	0.0082	0.1685	0.0907	-7.3053	0.2303	0.3334	0.0877
4	45	0.9728	-0.4341	0.0108	0.2836	0.1025	-8.5003	0.2636	0.3467	0.0934

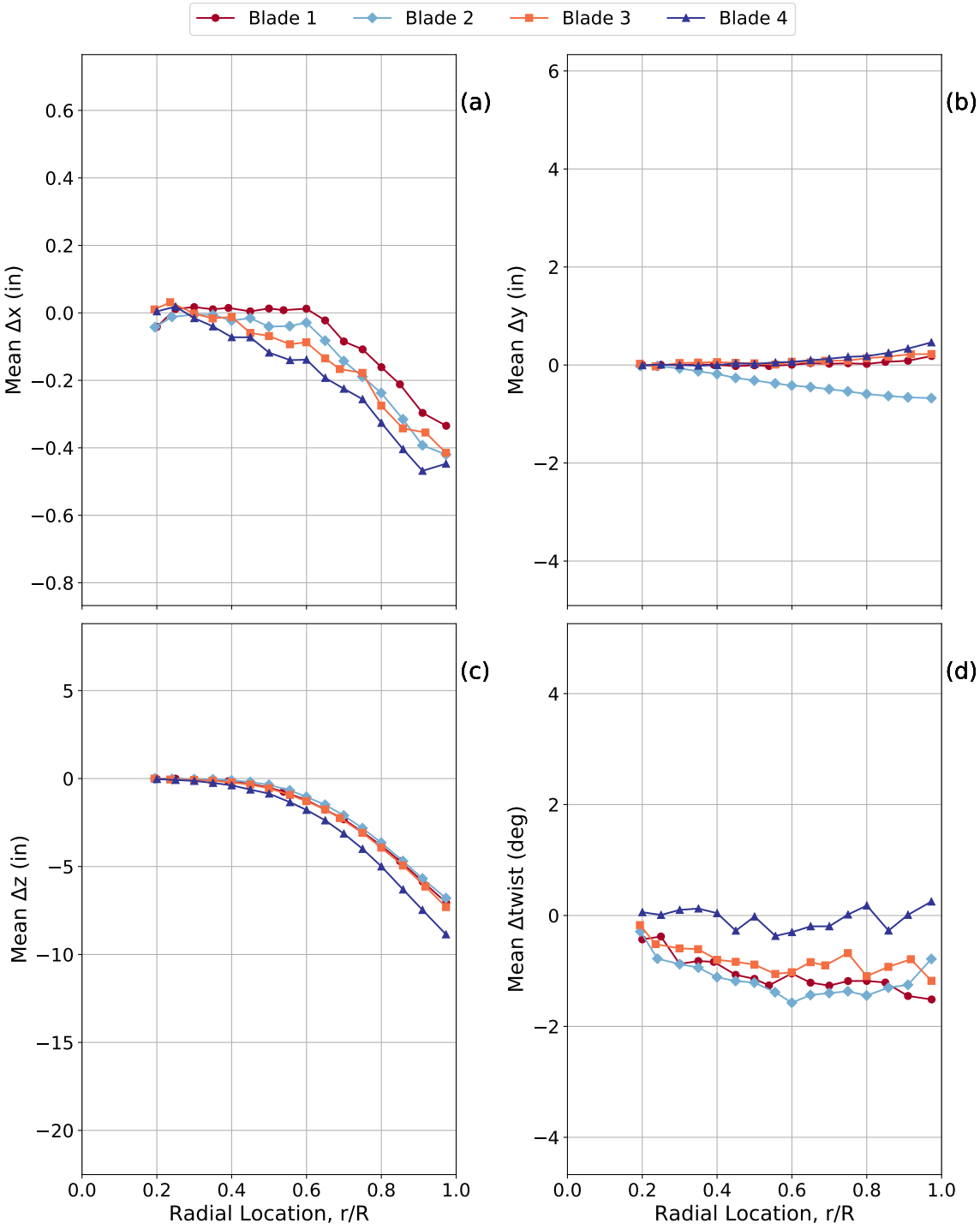


Figure 2.29-8. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-11. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0414	0.0057	0.0015	0.0023	-0.0235	0.0054	-0.4320	0.0328
1	60.12	0.2499	0.0116	0.0029	0.0021	0.0032	-0.0033	0.0096	-0.3794	0.0780
1	60.12	0.2998	0.0171	0.0024	-0.0032	0.0077	-0.0823	0.0198	-0.8732	0.0829
1	60.12	0.3498	0.0106	0.0050	0.0133	0.0137	-0.0975	0.0347	-0.8216	0.0802
1	60.12	0.3913	0.0146	0.0074	0.0045	0.0185	-0.1483	0.0485	-0.8370	0.0827
1	60.12	0.4496	0.0045	0.0106	-0.0212	0.0253	-0.3013	0.0687	-1.0704	0.0859
1	60.12	0.4997	0.0129	0.0134	-0.0070	0.0314	-0.5128	0.0879	-1.1426	0.0953
1	60.12	0.5387	0.0080	0.0152	-0.0213	0.0363	-0.7476	0.1033	-1.2610	0.1059
1	60.12	0.5996	0.0124	0.0170	0.0050	0.0447	-1.2211	0.1292	-1.0454	0.1081
1	60.12	0.6498	-0.0224	0.0186	0.0368	0.0526	-1.7635	0.1503	-1.2119	0.1345
1	60.12	0.6998	-0.0848	0.0168	0.0255	0.1559	-2.3166	0.2035	-1.2647	0.1110
1	60.12	0.7500	-0.1083	0.0171	0.0350	0.1700	-3.0408	0.2230	-1.1824	0.1152
1	60.12	0.8001	-0.1610	0.0172	0.0221	0.1844	-3.8224	0.2416	-1.1803	0.1180
1	60.12	0.8497	-0.2119	0.0179	0.0626	0.1986	-4.6907	0.2622	-1.2092	0.1237
1	60.12	0.9102	-0.2965	0.0188	0.0870	0.2165	-5.8519	0.2855	-1.4518	0.1287
1	60.12	0.9734	-0.3347	0.0195	0.1830	0.2353	-7.0514	0.3136	-1.5142	0.1254
2	60.12	0.1949	-0.0423	0.0102	-0.0200	0.0018	0.0028	0.0049	-0.2879	0.0315
2	60.12	0.2405	-0.0120	0.0030	-0.0208	0.0020	-0.0238	0.0064	-0.7790	0.0864
2	60.12	0.2999	-0.0050	0.0040	-0.0690	0.0057	-0.0353	0.0155	-0.8778	0.0916
2	60.12	0.3498	-0.0059	0.0079	-0.1275	0.0099	-0.0455	0.0278	-0.9399	0.0832
2	60.12	0.3998	-0.0229	0.0105	-0.1835	0.0143	-0.1011	0.0402	-1.1130	0.0898
2	60.12	0.4496	-0.0155	0.0120	-0.2635	0.0189	-0.1956	0.0547	-1.1818	0.0902
2	60.12	0.4995	-0.0408	0.0130	-0.3157	0.0240	-0.3554	0.0719	-1.2109	0.0943
2	60.12	0.5551	-0.0392	0.0133	-0.3755	0.0309	-0.6713	0.0940	-1.3839	0.0928
2	60.12	0.5996	-0.0290	0.0136	-0.4194	0.0365	-1.0378	0.1128	-1.5735	0.0901
2	60.12	0.6497	-0.0824	0.0146	-0.4497	0.0435	-1.4887	0.1345	-1.4346	0.0986
2	60.12	0.6996	-0.1429	0.0305	-0.4932	0.0809	-2.0986	0.1805	-1.3998	0.1051
2	60.12	0.7495	-0.1893	0.0304	-0.5382	0.0883	-2.8210	0.2060	-1.3670	0.1074
2	60.12	0.7996	-0.2373	0.0302	-0.5921	0.0952	-3.6459	0.2321	-1.4440	0.1079
2	60.12	0.8578	-0.3154	0.0302	-0.6318	0.1037	-4.6940	0.2630	-1.3017	0.1096
2	60.12	0.9100	-0.3925	0.0300	-0.6597	0.1115	-5.6845	0.2907	-1.2510	0.1082
2	60.12	0.9727	-0.4197	0.0294	-0.6762	0.1207	-6.7964	0.3272	-0.7846	0.1193
3	60.12	0.1938	0.0101	0.0041	0.0253	0.0023	-0.0053	0.0071	-0.1732	0.0300
3	60.12	0.2357	0.0315	0.0029	-0.0287	0.0021	-0.0548	0.0076	-0.5176	0.0946
3	60.12	0.2995	-0.0021	0.0019	0.0408	0.0068	-0.0767	0.0232	-0.5933	0.0925
3	60.12	0.3493	-0.0165	0.0025	0.0489	0.0121	-0.1248	0.0394	-0.6081	0.0846
3	60.12	0.4000	-0.0120	0.0028	0.0590	0.0174	-0.2200	0.0589	-0.7993	0.0860
3	60.12	0.4497	-0.0594	0.0036	0.0435	0.0234	-0.3440	0.0794	-0.8360	0.0848
3	60.12	0.4997	-0.0686	0.0038	0.0346	0.0303	-0.5543	0.1027	-0.8860	0.0863
3	60.12	0.5556	-0.0931	0.0043	0.0091	0.0387	-0.9303	0.1288	-1.0546	0.0926
3	60.12	0.5995	-0.0872	0.0045	0.0661	0.0458	-1.2822	0.1490	-1.0233	0.0963
3	60.12	0.6498	-0.1348	0.0048	0.0542	0.0547	-1.7544	0.1709	-0.8421	0.0944
3	60.12	0.6890	-0.1665	0.0049	0.0865	0.0620	-2.2428	0.1868	-0.8998	0.0912
3	60.12	0.7495	-0.1779	0.0053	0.0908	0.0737	-3.0861	0.2089	-0.6786	0.0930
3	60.12	0.7998	-0.2750	0.0058	0.1386	0.0840	-3.9288	0.2275	-1.0945	0.0979
3	60.12	0.8577	-0.3423	0.0069	0.1712	0.0965	-4.9457	0.2488	-0.9269	0.0993
3	60.12	0.9178	-0.3546	0.0082	0.2210	0.1093	-6.1381	0.2705	-0.7894	0.1040
3	60.12	0.9729	-0.4148	0.0098	0.2233	0.1213	-7.3037	0.2927	-1.1784	0.1117
4	60.12	0.2001	0.0044	0.0026	-0.0059	0.0016	-0.0294	0.0053	0.0587	0.0353
4	60.12	0.2502	0.0184	0.0025	0.0083	0.0030	-0.0822	0.0109	0.0095	0.0760
4	60.12	0.3001	-0.0158	0.0020	-0.0012	0.0059	-0.1349	0.0205	0.1004	0.0851
4	60.12	0.3502	-0.0402	0.0025	-0.0141	0.0101	-0.2492	0.0363	0.1245	0.0850
4	60.12	0.4002	-0.0722	0.0031	-0.0021	0.0154	-0.3872	0.0554	0.0404	0.0933
4	60.12	0.4500	-0.0726	0.0033	0.0349	0.0213	-0.6289	0.0773	-0.2746	0.0966
4	60.12	0.5001	-0.1179	0.0033	0.0223	0.0279	-0.8583	0.1029	-0.0196	0.1015
4	60.12	0.5560	-0.1401	0.0038	0.0508	0.0364	-1.3465	0.1336	-0.3699	0.1045
4	60.12	0.6001	-0.1389	0.0043	0.0637	0.0439	-1.7842	0.1587	-0.3010	0.1013
4	60.12	0.6501	-0.1928	0.0048	0.0966	0.0529	-2.3802	0.1885	-0.1960	0.1056
4	60.12	0.6999	-0.2250	0.0055	0.1282	0.0628	-3.1332	0.2185	-0.1959	0.1009
4	60.12	0.7500	-0.2560	0.0067	0.1664	0.0732	-4.0004	0.2504	0.0167	0.1056
4	60.12	0.8002	-0.3261	0.0086	0.1809	0.0840	-4.9982	0.2817	0.1787	0.1059
4	60.12	0.8582	-0.4042	0.0107	0.2480	0.0970	-6.3092	0.3188	-0.2730	0.1082
4	60.12	0.9101	-0.4683	0.0127	0.3338	0.1088	-7.4714	0.3511	0.0113	0.1066
4	60.12	0.9728	-0.4471	0.0146	0.4611	0.1237	-8.8586	0.3908	0.2510	0.1165

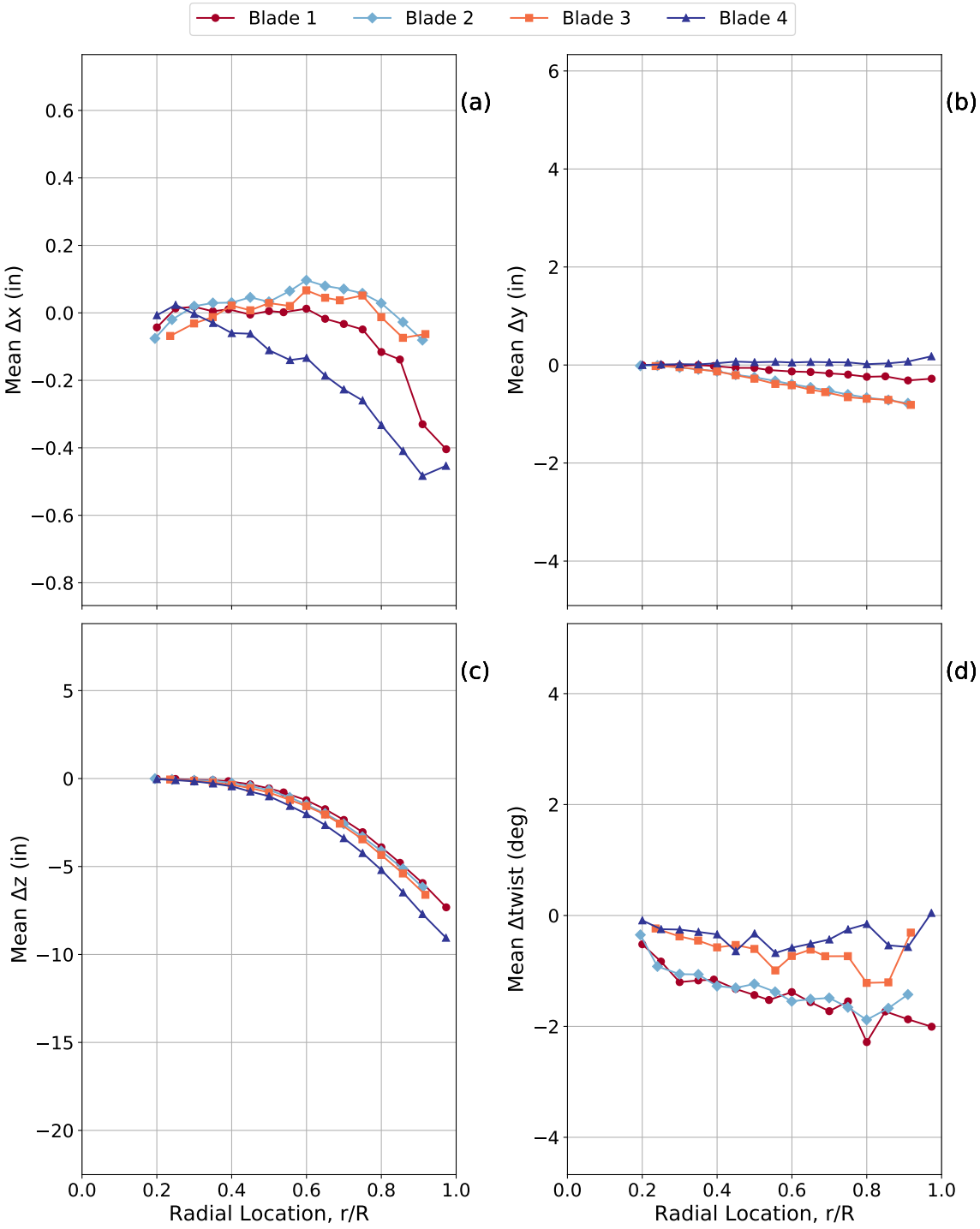


Figure 2.29-9. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-12. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0431	0.0067	-0.0027	0.0057	-0.0135	0.0156	-0.5197	0.1117
1	74.88	0.2499	0.0132	0.0037	0.0027	0.0072	-0.0233	0.0154	-0.8308	0.3064
1	74.88	0.2998	0.0181	0.0043	-0.0186	0.0199	-0.0695	0.0501	-1.2013	0.3050
1	74.88	0.3498	0.0046	0.0076	-0.0017	0.0336	-0.0879	0.0831	-1.1712	0.3084
1	74.88	0.3913	0.0107	0.0108	-0.0205	0.0461	-0.1491	0.1119	-1.1557	0.3072
1	74.88	0.4496	-0.0051	0.0151	-0.0585	0.0634	-0.3284	0.1525	-1.3242	0.3012
1	74.88	0.4997	0.0053	0.0189	-0.0590	0.0790	-0.5577	0.1870	-1.4349	0.3045
1	74.88	0.5387	0.0018	0.0220	-0.1028	0.0920	-0.7871	0.2146	-1.5244	0.3081
1	74.88	0.5996	0.0123	0.0254	-0.1323	0.1126	-1.2349	0.2564	-1.3813	0.3067
1	74.88	0.6498	-0.0176	0.0281	-0.1433	0.1303	-1.7432	0.2901	-1.5632	0.3085
1	74.88	0.6998	-0.0330	0.0303	-0.1708	0.1483	-2.3521	0.3254	-1.7257	0.3131
1	74.88	0.7500	-0.0492	0.0331	-0.1951	0.1667	-3.0471	0.3601	-1.5489	0.3102
1	74.88	0.8001	-0.1161	0.0266	-0.2409	0.2042	-3.9068	0.4518	-2.2834	0.9704
1	74.88	0.8497	-0.1383	0.0421	-0.2315	0.2055	-4.7905	0.4277	-1.7310	0.3254
1	74.88	0.9102	-0.3302	0.0257	-0.3148	0.2978	-5.9394	0.3795	-1.8723	0.3265
1	74.88	0.9734	-0.4042	0.0236	-0.2798	0.3283	-7.3206	0.4265	-2.0060	0.3353
2	74.88	0.1949	-0.0758	0.0179	-0.0157	0.0027	-0.0065	0.0111	-0.3494	0.0666
2	74.88	0.2405	-0.0199	0.0056	-0.0114	0.0026	-0.0524	0.0105	-0.9192	0.2102
2	74.88	0.2999	0.0199	0.0076	-0.0503	0.0086	-0.0971	0.0323	-1.0580	0.2103
2	74.88	0.3498	0.0293	0.0138	-0.0893	0.0141	-0.1279	0.0550	-1.0632	0.2150
2	74.88	0.3998	0.0304	0.0183	-0.1278	0.0207	-0.2508	0.0784	-1.2737	0.2180
2	74.88	0.4496	0.0459	0.0215	-0.1998	0.0274	-0.4310	0.1030	-1.3055	0.2162
2	74.88	0.4995	0.0328	0.0228	-0.2491	0.0344	-0.6560	0.1283	-1.2350	0.2140
2	74.88	0.5551	0.0647	0.0233	-0.3249	0.0433	-1.0673	0.1565	-1.3770	0.2144
2	74.88	0.5996	0.0967	0.0230	-0.3935	0.0508	-1.4754	0.1794	-1.5483	0.2156
2	74.88	0.6497	0.0797	0.0223	-0.4568	0.0597	-1.9820	0.2064	-1.5093	0.2120
2	74.88	0.6996	0.0707	0.0224	-0.5276	0.0691	-2.5778	0.2330	-1.4874	0.2135
2	74.88	0.7495	0.0580	0.0243	-0.6019	0.0790	-3.3114	0.2605	-1.6564	0.2141
2	74.88	0.7996	0.0288	0.0296	-0.6657	0.0896	-4.1132	0.2886	-1.8823	0.2113
2	74.88	0.8578	-0.0273	0.0389	-0.7146	0.1022	-5.1339	0.3224	-1.6729	0.2089
2	74.88	0.9100	-0.0808	0.0496	-0.7811	0.1147	-6.1738	0.3535	-1.4251	0.2070
3	74.88	0.2357	-0.0685	0.0098	-0.0219	0.0021	-0.0540	0.0106	-0.2345	0.0762
3	74.88	0.2995	-0.0314	0.0034	-0.0431	0.0047	-0.1330	0.0229	-0.3776	0.1226
3	74.88	0.3493	-0.0125	0.0041	-0.0892	0.0085	-0.2233	0.0419	-0.4520	0.1113
3	74.88	0.4000	0.0217	0.0078	-0.1309	0.0131	-0.3596	0.0639	-0.5749	0.1115
3	74.88	0.4497	0.0076	0.0110	-0.2081	0.0177	-0.5409	0.0860	-0.5331	0.1088
3	74.88	0.4997	0.0290	0.0134	-0.2789	0.0230	-0.7936	0.1094	-0.6033	0.1126
3	74.88	0.5556	0.0203	0.0156	-0.3861	0.0294	-1.2157	0.1364	-0.9911	0.1190
3	74.88	0.5995	0.0667	0.0165	-0.4127	0.0347	-1.5654	0.1557	-0.7299	0.1209
3	74.88	0.6498	0.0448	0.0184	-0.5048	0.0409	-2.0434	0.1777	-0.6154	0.1251
3	74.88	0.6890	0.0373	0.0202	-0.5529	0.0462	-2.5626	0.1942	-0.7351	0.1251
3	74.88	0.7495	0.0514	0.0243	-0.6563	0.0549	-3.4533	0.2206	-0.7340	0.1308
3	74.88	0.7998	-0.0128	0.0295	-0.6880	0.0627	-4.3430	0.2444	-1.2155	0.1278
3	74.88	0.8577	-0.0740	0.0371	-0.7109	0.0729	-5.3958	0.2744	-1.2062	0.1302
3	74.88	0.9178	-0.0629	0.0476	-0.8137	0.0863	-6.6084	0.3073	-0.3092	0.1370
4	74.88	0.2001	-0.0071	0.0044	-0.0000	0.0026	-0.0348	0.0077	-0.0885	0.0473
4	74.88	0.2502	0.0236	0.0031	0.0100	0.0042	-0.0928	0.0106	-0.2472	0.1120
4	74.88	0.3001	-0.0033	0.0029	0.0164	0.0088	-0.1574	0.0247	-0.2547	0.1134
4	74.88	0.3502	-0.0300	0.0024	0.0124	0.0145	-0.2816	0.0405	-0.2969	0.1178
4	74.88	0.4002	-0.0600	0.0023	0.0364	0.0220	-0.4408	0.0603	-0.3410	0.1224
4	74.88	0.4500	-0.0619	0.0029	0.0690	0.0293	-0.7404	0.0831	-0.6439	0.1183
4	74.88	0.5001	-0.1109	0.0030	0.0563	0.0369	-1.0068	0.1078	-0.3246	0.1285
4	74.88	0.5560	-0.1399	0.0034	0.0648	0.0465	-1.5554	0.1379	-0.6764	0.1326
4	74.88	0.6001	-0.1334	0.0040	0.0512	0.0556	-2.0185	0.1633	-0.5812	0.1358
4	74.88	0.6501	-0.1862	0.0047	0.0627	0.0662	-2.6444	0.1917	-0.5084	0.1370
4	74.88	0.6999	-0.2270	0.0051	0.0560	0.0778	-3.3889	0.2202	-0.4332	0.1397
4	74.88	0.7500	-0.2597	0.0063	0.0534	0.0909	-4.2367	0.2478	-0.2515	0.1461
4	74.88	0.8002	-0.3327	0.0076	0.0167	0.1044	-5.2005	0.2763	-0.1538	0.1454
4	74.88	0.8582	-0.4095	0.0094	0.0339	0.1208	-6.4738	0.3085	-0.5384	0.1520
4	74.88	0.9101	-0.4832	0.0114	0.0699	0.1367	-7.7031	0.3373	-0.5687	0.1497
4	74.88	0.9728	-0.4534	0.0131	0.1774	0.1561	-9.0512	0.3731	0.0454	0.1606

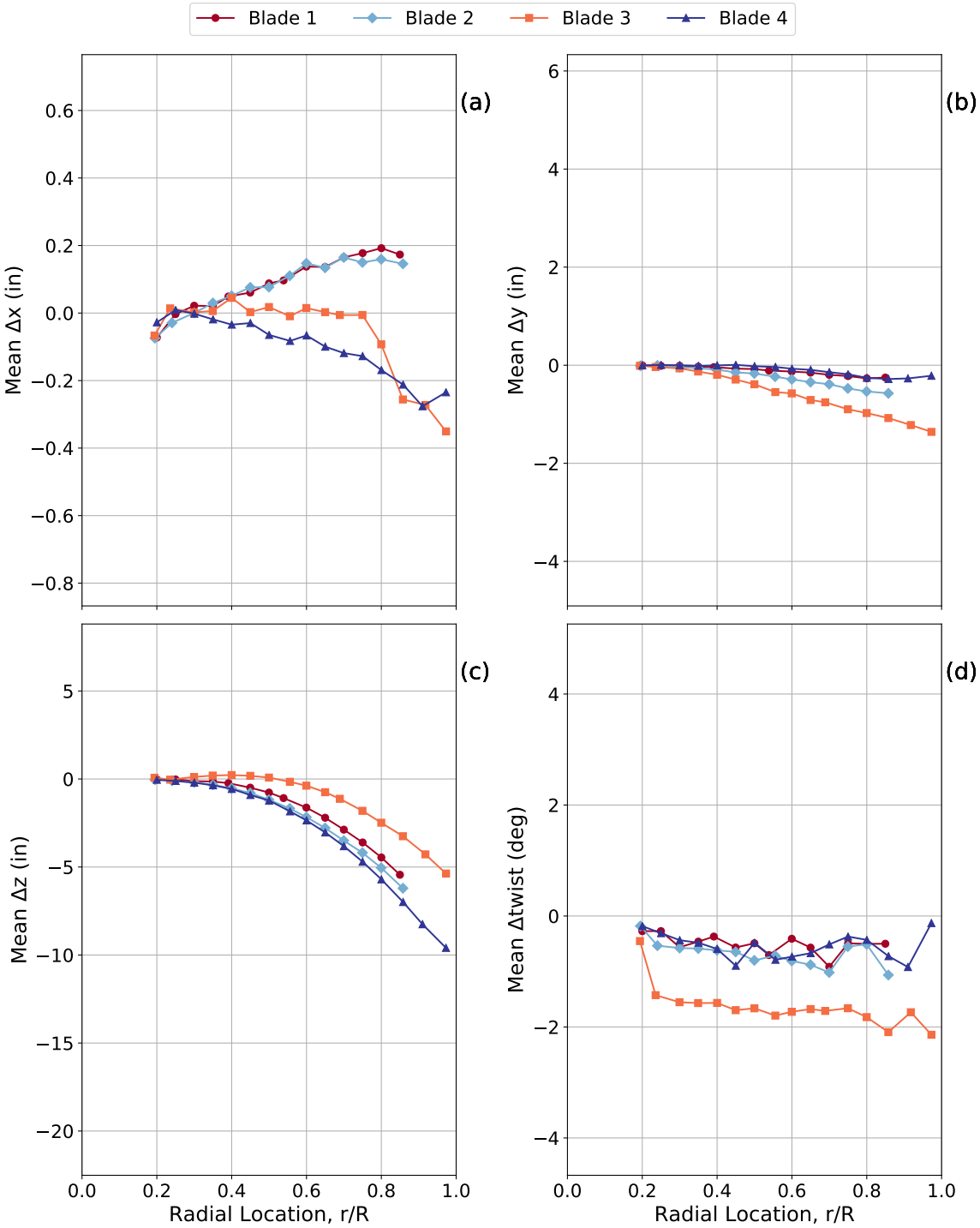


Figure 2.29-10. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-13. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0726	0.0018	-0.0019	0.0013	-0.0281	0.0052	-0.2735	0.0322
1	80.16	0.2499	-0.0033	0.0014	-0.0130	0.0032	-0.0234	0.0119	-0.2719	0.0475
1	80.16	0.2998	0.0217	0.0015	-0.0108	0.0054	-0.1218	0.0220	-0.5626	0.0693
1	80.16	0.3498	0.0208	0.0020	-0.0291	0.0100	-0.1424	0.0384	-0.4617	0.0727
1	80.16	0.3913	0.0490	0.0024	-0.0393	0.0142	-0.2370	0.0556	-0.3706	0.0804
1	80.16	0.4496	0.0606	0.0032	-0.0695	0.0210	-0.4917	0.0828	-0.5676	0.0989
1	80.16	0.4997	0.0879	0.0037	-0.0785	0.0282	-0.7696	0.1109	-0.4916	0.1089
1	80.16	0.5387	0.0966	0.0045	-0.1099	0.0342	-1.0839	0.1329	-0.7036	0.1078
1	80.16	0.5996	0.1376	0.0053	-0.1284	0.0456	-1.6239	0.1748	-0.4100	0.1137
1	80.16	0.6498	0.1364	0.0054	-0.1513	0.0557	-2.2008	0.2088	-0.5694	0.1221
1	80.16	0.6998	0.1649	0.0071	-0.1961	0.0668	-2.8782	0.2415	-0.9155	0.1385
1	80.16	0.7500	0.1775	0.0081	-0.2215	0.0786	-3.6045	0.2754	-0.4923	0.1450
1	80.16	0.8001	0.1922	0.0106	-0.2679	0.0907	-4.4577	0.3071	-0.5016	0.1638
1	80.16	0.8497	0.1732	0.0131	-0.2516	0.1040	-5.4401	0.3387	-0.5002	0.1828
2	80.16	0.1949	-0.0744	0.0016	-0.0120	0.0012	-0.0346	0.0046	-0.1797	0.0211
2	80.16	0.2405	-0.0290	0.0016	-0.0052	0.0023	-0.0966	0.0088	-0.5350	0.0364
2	80.16	0.2999	0.0004	0.0017	-0.0393	0.0056	-0.1951	0.0198	-0.5777	0.0498
2	80.16	0.3498	0.0296	0.0021	-0.0605	0.0093	-0.3295	0.0348	-0.5866	0.0498
2	80.16	0.3998	0.0512	0.0026	-0.0910	0.0146	-0.5332	0.0534	-0.6190	0.0485
2	80.16	0.4496	0.0760	0.0027	-0.1460	0.0199	-0.7924	0.0744	-0.6460	0.0592
2	80.16	0.4995	0.0770	0.0032	-0.1686	0.0266	-1.1783	0.0967	-0.7994	0.0658
2	80.16	0.5551	0.1103	0.0041	-0.2338	0.0344	-1.6721	0.1214	-0.7145	0.0690
2	80.16	0.5996	0.1473	0.0049	-0.2887	0.0410	-2.1645	0.1400	-0.8100	0.0780
2	80.16	0.6497	0.1341	0.0053	-0.3449	0.0495	-2.7821	0.1586	-0.8788	0.1018
2	80.16	0.6996	0.1647	0.0063	-0.3874	0.0581	-3.5005	0.1792	-1.0183	0.1188
2	80.16	0.7495	0.1500	0.0071	-0.4737	0.0668	-4.1882	0.1986	-0.5507	0.1136
2	80.16	0.7996	0.1592	0.0092	-0.5342	0.0778	-5.0446	0.2226	-0.5094	0.1437
2	80.16	0.8578	0.1458	0.0140	-0.5728	0.0909	-6.2061	0.2450	-1.0636	0.2963
3	80.16	0.1938	-0.0667	0.0057	-0.0115	0.0079	0.0714	0.0221	-0.4517	0.0748
3	80.16	0.2357	0.0138	0.0038	-0.0370	0.0044	-0.0374	0.0112	-1.4263	0.2823
3	80.16	0.2995	0.0021	0.0070	-0.0636	0.0244	0.1159	0.0602	-1.5536	0.2781
3	80.16	0.3493	0.0059	0.0115	-0.1286	0.0422	0.1959	0.0999	-1.5689	0.2782
3	80.16	0.4000	0.0450	0.0156	-0.1948	0.0615	0.2240	0.1419	-1.5668	0.2832
3	80.16	0.4497	0.0028	0.0194	-0.2925	0.0809	0.1799	0.1859	-1.6971	0.2785
3	80.16	0.4997	0.0177	0.0239	-0.3888	0.1008	0.0814	0.2290	-1.6635	0.2891
3	80.16	0.5556	-0.0095	0.0278	-0.5482	0.1238	-0.1593	0.2783	-1.7945	0.2860
3	80.16	0.5995	0.0148	0.0311	-0.5743	0.1413	-0.3789	0.3163	-1.7268	0.2876
3	80.16	0.6498	0.0026	0.0343	-0.7093	0.1617	-0.7497	0.3602	-1.6774	0.2827
3	80.16	0.6890	-0.0059	0.0363	-0.7563	0.1780	-1.1243	0.3923	-1.7105	0.2963
3	80.16	0.7495	-0.0058	0.0406	-0.8981	0.2049	-1.8076	0.4456	-1.6617	0.2826
3	80.16	0.7998	-0.0927	0.0427	-0.9755	0.2271	-2.4828	0.4866	-1.8226	0.2914
3	80.16	0.8577	-0.2560	0.0209	-1.0776	0.3565	-3.2513	0.3684	-2.0929	0.2863
3	80.16	0.9178	-0.2723	0.0222	-1.2202	0.3922	-4.2811	0.4085	-1.7344	0.2870
3	80.16	0.9729	-0.3506	0.0174	-1.3594	0.4251	-5.3716	0.4474	-2.1399	0.2819
4	80.16	0.2001	-0.0276	0.0071	-0.0043	0.0022	-0.0462	0.0088	-0.1821	0.0649
4	80.16	0.2502	0.0089	0.0039	0.0046	0.0031	-0.1116	0.0111	-0.3103	0.1481
4	80.16	0.3001	-0.0020	0.0030	-0.0003	0.0066	-0.2073	0.0253	-0.4359	0.1510
4	80.16	0.3502	-0.0188	0.0049	-0.0134	0.0111	-0.3582	0.0418	-0.4820	0.1562
4	80.16	0.4002	-0.0344	0.0061	-0.0041	0.0163	-0.5648	0.0601	-0.5945	0.1607
4	80.16	0.4500	-0.0297	0.0076	0.0075	0.0217	-0.9101	0.0789	-0.8973	0.1588
4	80.16	0.5001	-0.0649	0.0087	-0.0214	0.0279	-1.2261	0.0995	-0.4824	0.1600
4	80.16	0.5560	-0.0826	0.0094	-0.0361	0.0360	-1.8404	0.1231	-0.7895	0.1613
4	80.16	0.6001	-0.0664	0.0102	-0.0715	0.0430	-2.3532	0.1422	-0.7324	0.1662
4	80.16	0.6501	-0.0997	0.0116	-0.0945	0.0513	-3.0371	0.1638	-0.6701	0.1676
4	80.16	0.6999	-0.1187	0.0128	-0.1421	0.0607	-3.8184	0.1861	-0.5119	0.1656
4	80.16	0.7500	-0.1277	0.0142	-0.1843	0.0708	-4.7016	0.2093	-0.3706	0.1684
4	80.16	0.8002	-0.1690	0.0165	-0.2566	0.0819	-5.7044	0.2326	-0.4309	0.1723
4	80.16	0.8582	-0.2121	0.0200	-0.2816	0.0954	-6.9904	0.2600	-0.7244	0.1718
4	80.16	0.9101	-0.2762	0.0239	-0.2691	0.1083	-8.2528	0.2850	-0.9203	0.1708
4	80.16	0.9728	-0.2347	0.0309	-0.2154	0.1259	-9.5952	0.3140	-0.1284	0.1775

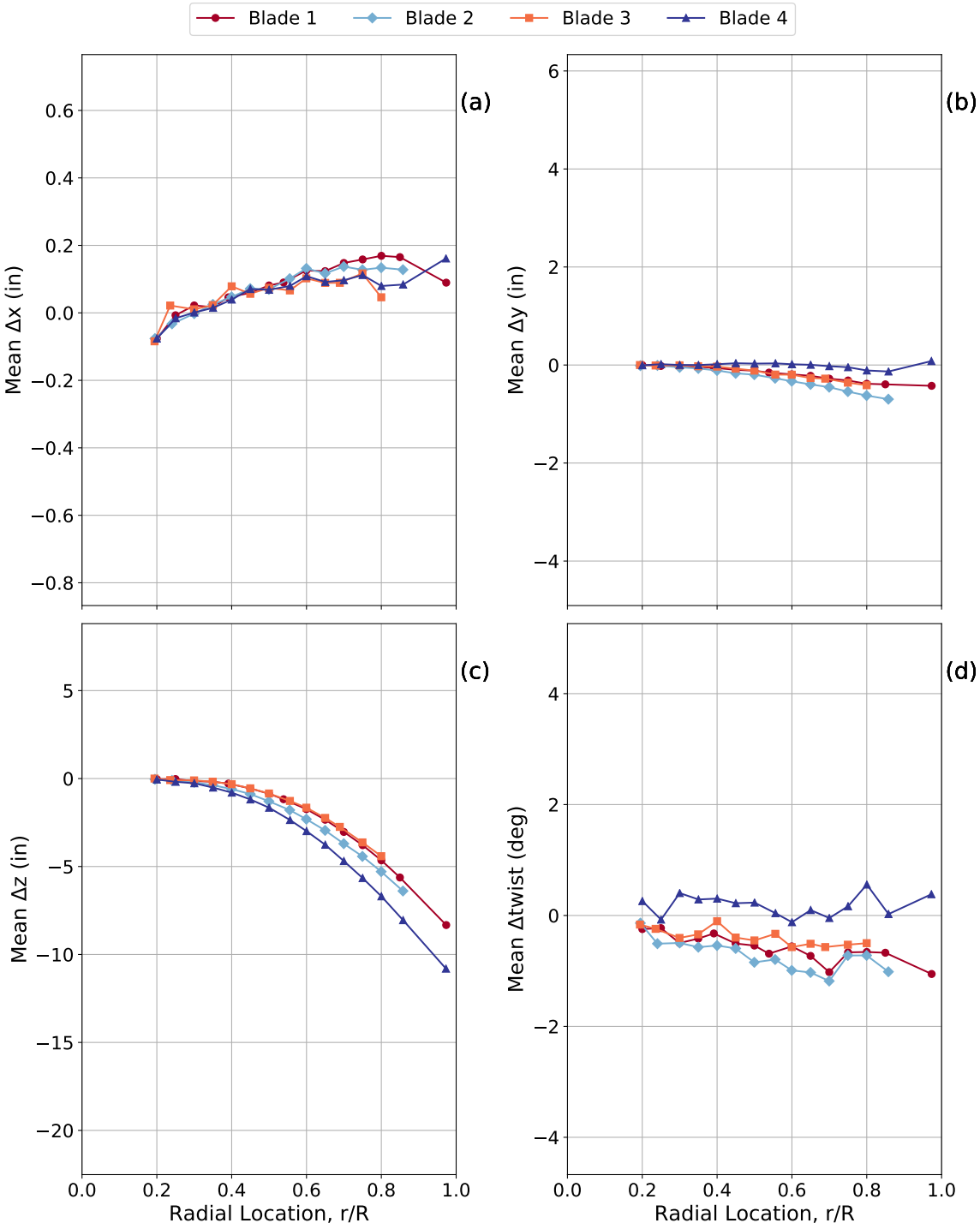


Figure 2.29-11. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-14. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0760	0.0017	-0.0023	0.0012	-0.0350	0.0036	-0.2453	0.0250
1	85.08	0.2499	-0.0071	0.0014	-0.0191	0.0024	-0.0297	0.0071	-0.2281	0.0513
1	85.08	0.2998	0.0220	0.0016	-0.0161	0.0047	-0.1427	0.0140	-0.4970	0.0588
1	85.08	0.3498	0.0170	0.0019	-0.0393	0.0082	-0.1819	0.0244	-0.4166	0.0572
1	85.08	0.3913	0.0460	0.0028	-0.0565	0.0117	-0.2869	0.0346	-0.3245	0.0621
1	85.08	0.4496	0.0592	0.0037	-0.0986	0.0175	-0.5621	0.0502	-0.5059	0.0611
1	85.08	0.4997	0.0812	0.0041	-0.1164	0.0236	-0.8617	0.0643	-0.5428	0.0743
1	85.08	0.5387	0.0900	0.0043	-0.1550	0.0288	-1.1757	0.0742	-0.6887	0.0842
1	85.08	0.5996	0.1256	0.0052	-0.1911	0.0379	-1.7378	0.0909	-0.5576	0.0841
1	85.08	0.6498	0.1237	0.0066	-0.2206	0.0461	-2.3413	0.1040	-0.7292	0.0907
1	85.08	0.6998	0.1479	0.0075	-0.2791	0.0552	-3.0352	0.1190	-1.0223	0.0977
1	85.08	0.7500	0.1583	0.0091	-0.3162	0.0652	-3.7887	0.1376	-0.6650	0.1128
1	85.08	0.8001	0.1691	0.0091	-0.3830	0.0759	-4.6495	0.1573	-0.6585	0.1353
1	85.08	0.8497	0.1652	0.0104	-0.3948	0.0872	-5.6237	0.1776	-0.6722	0.1140
1	85.08	0.9734	0.0895	0.0168	-0.4247	0.1161	-8.3270	0.2169	-1.0551	0.1916
2	85.08	0.1949	-0.0762	0.0017	-0.0129	0.0009	-0.0417	0.0034	-0.1381	0.0245
2	85.08	0.2405	-0.0326	0.0012	-0.0087	0.0017	-0.1060	0.0065	-0.5086	0.0445
2	85.08	0.2999	-0.0023	0.0014	-0.0484	0.0038	-0.2138	0.0145	-0.4962	0.0602
2	85.08	0.3498	0.0251	0.0019	-0.0706	0.0068	-0.3810	0.0252	-0.5716	0.0570
2	85.08	0.3998	0.0472	0.0028	-0.1117	0.0103	-0.5968	0.0387	-0.5419	0.0671
2	85.08	0.4496	0.0717	0.0035	-0.1697	0.0142	-0.8825	0.0530	-0.5947	0.0683
2	85.08	0.4995	0.0696	0.0043	-0.1972	0.0189	-1.2915	0.0680	-0.8449	0.0751
2	85.08	0.5551	0.1014	0.0053	-0.2706	0.0247	-1.7908	0.0843	-0.7940	0.0816
2	85.08	0.5996	0.1317	0.0059	-0.3312	0.0301	-2.3094	0.0984	-0.9905	0.0877
2	85.08	0.6497	0.1168	0.0067	-0.3959	0.0367	-2.9486	0.1111	-1.0276	0.0924
2	85.08	0.6996	0.1372	0.0075	-0.4524	0.0435	-3.7026	0.1241	-1.1824	0.1006
2	85.08	0.7495	0.1276	0.0091	-0.5424	0.0512	-4.4246	0.1416	-0.7216	0.1119
2	85.08	0.7996	0.1339	0.0101	-0.6234	0.0590	-5.2901	0.1580	-0.7202	0.1339
2	85.08	0.8578	0.1279	0.0134	-0.6976	0.0675	-6.3915	0.1788	-1.0148	0.1628
3	85.08	0.1938	-0.0843	0.0053	-0.0004	0.0009	-0.0009	0.0042	-0.1642	0.0216
3	85.08	0.2357	0.0217	0.0025	-0.0102	0.0017	-0.0880	0.0060	-0.2412	0.0457
3	85.08	0.2995	0.0105	0.0026	-0.0063	0.0042	-0.1052	0.0160	-0.4051	0.0554
3	85.08	0.3493	0.0230	0.0058	-0.0250	0.0070	-0.1778	0.0273	-0.3407	0.0573
3	85.08	0.4000	0.0787	0.0083	-0.0327	0.0111	-0.3203	0.0417	-0.1033	0.0582
3	85.08	0.4497	0.0565	0.0098	-0.0747	0.0146	-0.5560	0.0577	-0.3983	0.0634
3	85.08	0.4997	0.0741	0.0109	-0.1145	0.0192	-0.8491	0.0723	-0.4501	0.0689
3	85.08	0.5556	0.0665	0.0116	-0.1954	0.0249	-1.2722	0.0914	-0.3312	0.0726
3	85.08	0.5995	0.1023	0.0118	-0.1974	0.0297	-1.6557	0.1067	-0.5707	0.0741
3	85.08	0.6498	0.0888	0.0114	-0.2659	0.0363	-2.2373	0.1260	-0.5104	0.0870
3	85.08	0.6890	0.0891	0.0111	-0.2781	0.0416	-2.7487	0.1425	-0.5698	0.1098
3	85.08	0.7495	0.1168	0.0106	-0.3600	0.0510	-3.6297	0.1691	-0.5272	0.1008
3	85.08	0.7998	0.0462	0.0112	-0.4125	0.0589	-4.4124	0.1917	-0.4995	0.1129
4	85.08	0.2001	-0.0762	0.0015	-0.0058	0.0008	-0.0549	0.0033	0.2592	0.0219
4	85.08	0.2502	-0.0160	0.0013	0.0161	0.0019	-0.1863	0.0074	-0.0748	0.0324
4	85.08	0.3001	0.0010	0.0018	0.0010	0.0033	-0.2683	0.0141	0.4038	0.0459
4	85.08	0.3502	0.0149	0.0022	-0.0006	0.0058	-0.5132	0.0232	0.2888	0.0479
4	85.08	0.4002	0.0394	0.0028	0.0159	0.0089	-0.8000	0.0369	0.3038	0.0526
4	85.08	0.4500	0.0706	0.0032	0.0358	0.0127	-1.1880	0.0505	0.2209	0.0534
4	85.08	0.5001	0.0684	0.0039	0.0280	0.0172	-1.6595	0.0680	0.2317	0.0682
4	85.08	0.5560	0.0799	0.0049	0.0332	0.0228	-2.3574	0.0868	0.0411	0.0609
4	85.08	0.6001	0.1086	0.0057	0.0154	0.0280	-2.9892	0.1008	-0.1214	0.0665
4	85.08	0.6501	0.0917	0.0066	0.0042	0.0346	-3.7645	0.1187	0.0967	0.0695
4	85.08	0.6999	0.0966	0.0077	-0.0242	0.0415	-4.6921	0.1369	-0.0462	0.0743
4	85.08	0.7500	0.1121	0.0096	-0.0450	0.0495	-5.6556	0.1577	0.1659	0.0824
4	85.08	0.8002	0.0796	0.0109	-0.1117	0.0579	-6.6955	0.1775	0.5574	0.1109
4	85.08	0.8582	0.0839	0.0147	-0.1326	0.0676	-8.0514	0.2016	0.0250	0.1886
4	85.08	0.9728	0.1612	0.0229	0.0798	0.0901	-10.8073	0.2661	0.3825	0.3201

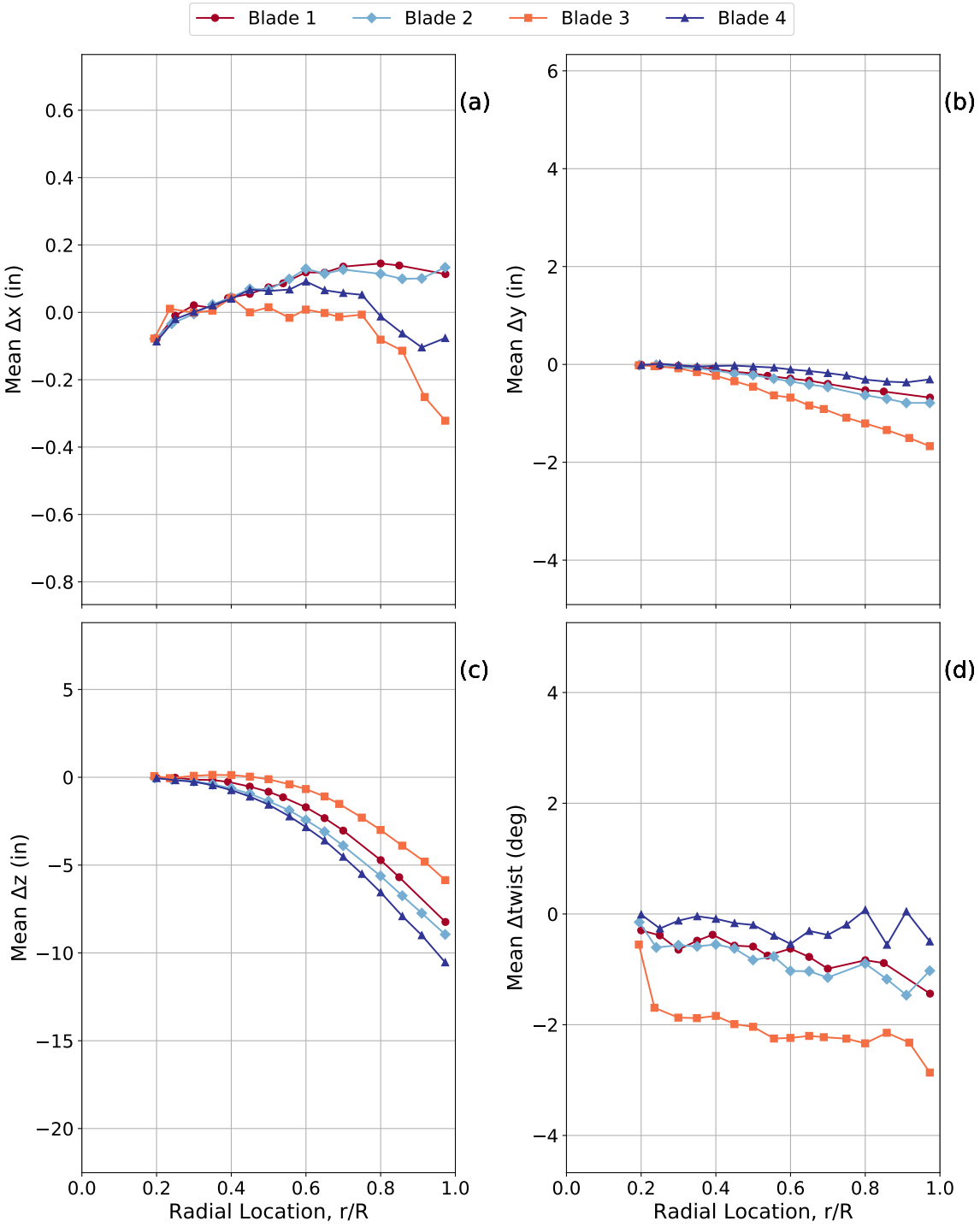


Figure 2.29-12. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-15. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0787	0.0016	-0.0054	0.0010	-0.0315	0.0038	-0.2956	0.0234
1	90	0.2499	-0.0097	0.0012	-0.0259	0.0022	-0.0243	0.0078	-0.3865	0.0405
1	90	0.2998	0.0211	0.0015	-0.0292	0.0041	-0.1322	0.0155	-0.6440	0.0522
1	90	0.3498	0.0132	0.0019	-0.0628	0.0071	-0.1589	0.0260	-0.4825	0.0548
1	90	0.3913	0.0422	0.0024	-0.0899	0.0103	-0.2587	0.0379	-0.3755	0.0547
1	90	0.4496	0.0548	0.0033	-0.1504	0.0151	-0.5316	0.0532	-0.5719	0.0615
1	90	0.4997	0.0743	0.0036	-0.1835	0.0203	-0.8239	0.0686	-0.5885	0.0672
1	90	0.5387	0.0861	0.0037	-0.2329	0.0247	-1.1386	0.0809	-0.7516	0.0688
1	90	0.5996	0.1187	0.0050	-0.2907	0.0324	-1.7053	0.0985	-0.6259	0.0766
1	90	0.6498	0.1180	0.0057	-0.3315	0.0399	-2.3258	0.1139	-0.7757	0.0762
1	90	0.6998	0.1357	0.0061	-0.3982	0.0477	-3.0354	0.1298	-0.9889	0.0799
1	90	0.8001	0.1451	0.0081	-0.5288	0.0651	-4.7183	0.1663	-0.8357	0.0965
1	90	0.8497	0.1392	0.0098	-0.5542	0.0739	-5.6899	0.1881	-0.8862	0.1093
1	90	0.9734	0.1135	0.0143	-0.6784	0.0975	-8.2391	0.2457	-1.4387	0.1312
2	90	0.1949	-0.0787	0.0014	-0.0151	0.0008	-0.0415	0.0026	-0.1477	0.0244
2	90	0.2405	-0.0338	0.0011	-0.0092	0.0015	-0.1156	0.0061	-0.6050	0.0354
2	90	0.2999	-0.0046	0.0014	-0.0552	0.0034	-0.2233	0.0121	-0.5636	0.0545
2	90	0.3498	0.0231	0.0015	-0.0808	0.0058	-0.3992	0.0214	-0.5856	0.0541
2	90	0.3998	0.0449	0.0021	-0.1269	0.0089	-0.6288	0.0332	-0.5505	0.0638
2	90	0.4496	0.0697	0.0024	-0.1860	0.0122	-0.9371	0.0436	-0.6217	0.0656
2	90	0.4995	0.0673	0.0031	-0.2169	0.0161	-1.3588	0.0551	-0.8311	0.0717
2	90	0.5551	0.0988	0.0041	-0.2903	0.0209	-1.8813	0.0684	-0.7682	0.0854
2	90	0.5996	0.1294	0.0045	-0.3485	0.0253	-2.4311	0.0784	-1.0292	0.0820
2	90	0.6497	0.1147	0.0048	-0.4117	0.0309	-3.0975	0.0905	-1.0341	0.0869
2	90	0.6996	0.1270	0.0055	-0.4624	0.0366	-3.8959	0.1012	-1.1476	0.1006
2	90	0.7996	0.1143	0.0077	-0.6297	0.0500	-5.6175	0.1260	-0.8950	0.1014
2	90	0.8578	0.0994	0.0093	-0.7024	0.0583	-6.7440	0.1424	-1.1771	0.1102
2	90	0.9100	0.1007	0.0154	-0.7867	0.0649	-7.7378	0.1584	-1.4662	0.2808
2	90	0.9727	0.1335	0.0136	-0.7866	0.0750	-8.9478	0.1808	-1.0248	0.2140
3	90	0.1938	-0.0777	0.0091	-0.0177	0.0094	0.0664	0.0273	-0.5531	0.0962
3	90	0.2357	0.0107	0.0039	-0.0375	0.0054	-0.0505	0.0157	-1.6937	0.3307
3	90	0.2995	-0.0009	0.0057	-0.0787	0.0283	0.0807	0.0735	-1.8718	0.3347
3	90	0.3493	0.0050	0.0093	-0.1566	0.0483	0.1360	0.1221	-1.8809	0.3267
3	90	0.4000	0.0436	0.0117	-0.2323	0.0703	0.1245	0.1728	-1.8409	0.3251
3	90	0.4497	0.0001	0.0137	-0.3436	0.0920	0.0366	0.2226	-1.9896	0.3255
3	90	0.4997	0.0151	0.0150	-0.4551	0.1161	-0.1117	0.2733	-2.0375	0.3269
3	90	0.5556	-0.0162	0.0167	-0.6321	0.1443	-0.3997	0.3302	-2.2496	0.3271
3	90	0.5995	0.0082	0.0182	-0.6777	0.1674	-0.6705	0.3746	-2.2387	0.3232
3	90	0.6498	-0.0019	0.0206	-0.8395	0.1937	-1.0922	0.4245	-2.2025	0.3219
3	90	0.6890	-0.0138	0.0234	-0.9121	0.2152	-1.5166	0.4618	-2.2251	0.3209
3	90	0.7495	-0.0068	0.0290	-1.0889	0.2496	-2.2949	0.5188	-2.2519	0.3236
3	90	0.7998	-0.0810	0.0355	-1.2057	0.2788	-2.9993	0.5668	-2.3359	0.3139
3	90	0.8577	-0.1138	0.0450	-1.3410	0.3133	-3.8930	0.6195	-2.1460	0.3327
3	90	0.9178	-0.2514	0.0246	-1.5038	0.4570	-4.8048	0.5298	-2.3227	0.3618
3	90	0.9729	-0.3217	0.0183	-1.6712	0.4943	-5.8558	0.5843	-2.8636	0.3575
4	90.35	0.2001	-0.0866	0.0087	-0.0142	0.0014	-0.0481	0.0034	-0.0100	0.0314
4	90.35	0.2502	-0.0200	0.0028	0.0131	0.0038	-0.1672	0.0086	-0.2626	0.0473
4	90.35	0.3001	0.0012	0.0034	-0.0153	0.0063	-0.2572	0.0147	-0.1200	0.0679
4	90.35	0.3502	0.0207	0.0082	-0.0426	0.0107	-0.4509	0.0249	-0.0415	0.0678
4	90.35	0.4002	0.0403	0.0124	-0.0315	0.0171	-0.7324	0.0393	-0.0875	0.0627
4	90.35	0.4500	0.0672	0.0156	-0.0243	0.0228	-1.1005	0.0534	-0.1653	0.0725
4	90.35	0.5001	0.0634	0.0181	-0.0437	0.0305	-1.5597	0.0703	-0.1981	0.0779
4	90.35	0.5560	0.0678	0.0200	-0.0657	0.0399	-2.2286	0.0924	-0.3931	0.0819
4	90.35	0.6001	0.0916	0.0213	-0.1032	0.0482	-2.8407	0.1111	-0.5416	0.0911
4	90.35	0.6501	0.0656	0.0229	-0.1354	0.0590	-3.5988	0.1338	-0.3061	0.1003
4	90.35	0.6999	0.0575	0.0265	-0.1774	0.0712	-4.5244	0.1601	-0.3788	0.1090
4	90.35	0.7500	0.0520	0.0342	-0.2271	0.0846	-5.5020	0.1879	-0.1930	0.1069
4	90.35	0.8002	-0.0123	0.0452	-0.3111	0.1002	-6.5534	0.2159	0.0738	0.1243
4	90.35	0.8582	-0.0627	0.0643	-0.3519	0.1180	-7.9097	0.2468	-0.5562	0.1579
4	90.35	0.9101	-0.1041	0.0876	-0.3668	0.1353	-8.9944	0.2762	0.0442	0.1707
4	90.35	0.9728	-0.0764	0.1217	-0.3066	0.1673	-10.5385	0.3080	-0.4966	0.2370

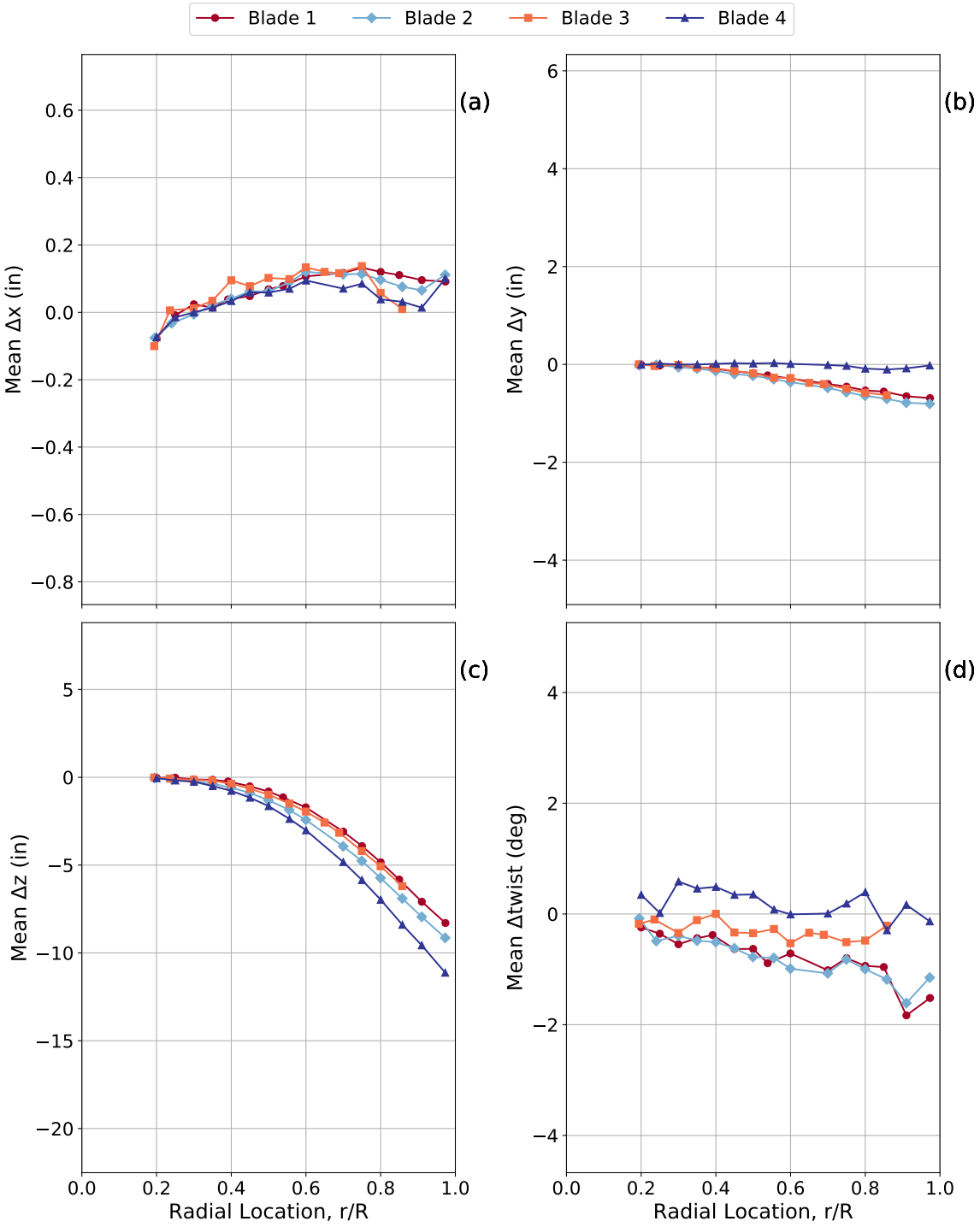


Figure 2.29-13. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-16. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0771	0.0015	-0.0049	0.0011	-0.0285	0.0037	-0.2437	0.0199
1	94.92	0.2499	-0.0087	0.0014	-0.0235	0.0026	-0.0217	0.0082	-0.3563	0.0357
1	94.92	0.2998	0.0240	0.0015	-0.0263	0.0048	-0.1216	0.0155	-0.5461	0.0448
1	94.92	0.3498	0.0139	0.0019	-0.0570	0.0084	-0.1432	0.0262	-0.4380	0.0408
1	94.92	0.3913	0.0384	0.0027	-0.0813	0.0121	-0.2362	0.0384	-0.3803	0.0504
1	94.92	0.4496	0.0481	0.0037	-0.1430	0.0179	-0.5143	0.0555	-0.6324	0.0491
1	94.92	0.4997	0.0685	0.0044	-0.1762	0.0239	-0.8088	0.0740	-0.6304	0.0534
1	94.92	0.5387	0.0781	0.0049	-0.2239	0.0291	-1.1422	0.0871	-0.8892	0.0560
1	94.92	0.5996	0.1067	0.0057	-0.2884	0.0382	-1.7133	0.1095	-0.7128	0.0575
1	94.92	0.6998	0.1171	0.0079	-0.3988	0.0547	-3.0916	0.1430	-1.0167	0.0706
1	94.92	0.7500	0.1325	0.0091	-0.4544	0.0646	-3.9176	0.1624	-0.7967	0.0641
1	94.92	0.8001	0.1200	0.0109	-0.5323	0.0744	-4.8387	0.1833	-0.9379	0.0752
1	94.92	0.8497	0.1107	0.0125	-0.5549	0.0845	-5.8238	0.2071	-0.9584	0.0766
1	94.92	0.9102	0.0957	0.0155	-0.6517	0.0975	-7.0858	0.2405	-1.8310	0.1326
1	94.92	0.9734	0.0912	0.0175	-0.6879	0.1107	-8.2968	0.2776	-1.5177	0.0917
2	94.92	0.1949	-0.0759	0.0016	-0.0161	0.0009	-0.0373	0.0032	-0.0798	0.0190
2	94.92	0.2405	-0.0323	0.0013	-0.0096	0.0018	-0.1093	0.0070	-0.4900	0.0333
2	94.92	0.2999	-0.0058	0.0014	-0.0580	0.0038	-0.2057	0.0146	-0.3920	0.0458
2	94.92	0.3498	0.0223	0.0020	-0.0857	0.0068	-0.3706	0.0250	-0.4828	0.0452
2	94.92	0.3998	0.0402	0.0023	-0.1338	0.0104	-0.5843	0.0392	-0.5078	0.0478
2	94.92	0.4496	0.0623	0.0030	-0.1955	0.0144	-0.8896	0.0548	-0.6206	0.0551
2	94.92	0.4995	0.0616	0.0035	-0.2304	0.0190	-1.3079	0.0732	-0.7775	0.0558
2	94.92	0.5551	0.0893	0.0042	-0.3021	0.0249	-1.8582	0.0943	-0.7943	0.0594
2	94.92	0.5996	0.1200	0.0049	-0.3617	0.0302	-2.4243	0.1112	-0.9881	0.0604
2	94.92	0.6996	0.1128	0.0066	-0.4789	0.0426	-3.9327	0.1429	-1.0724	0.0652
2	94.92	0.7495	0.1141	0.0074	-0.5668	0.0483	-4.7606	0.1558	-0.8218	0.0709
2	94.92	0.7996	0.0964	0.0091	-0.6410	0.0567	-5.7319	0.1707	-0.9966	0.0754
2	94.92	0.8578	0.0759	0.0104	-0.7034	0.0657	-6.8991	0.1882	-1.1813	0.0954
2	94.92	0.9100	0.0655	0.0132	-0.7825	0.0739	-7.9462	0.2085	-1.6097	0.1192
2	94.92	0.9727	0.1114	0.0153	-0.8055	0.0843	-9.1420	0.2393	-1.1484	0.1189
3	94.92	0.1938	-0.1004	0.0135	0.0020	0.0013	-0.0123	0.0086	-0.1800	0.0457
3	94.92	0.2357	0.0059	0.0054	-0.0315	0.0029	-0.0745	0.0070	-0.0999	0.1330
3	94.92	0.2995	0.0123	0.0067	-0.0100	0.0059	-0.1447	0.0261	-0.3421	0.1470
3	94.92	0.3493	0.0342	0.0128	-0.0628	0.0105	-0.1914	0.0452	-0.1106	0.1413
3	94.92	0.4000	0.0952	0.0185	-0.0799	0.0164	-0.3674	0.0657	0.0017	0.1487
3	94.92	0.4497	0.0776	0.0221	-0.1331	0.0220	-0.6474	0.0856	-0.3341	0.1501
3	94.92	0.4997	0.1022	0.0236	-0.1831	0.0284	-0.9906	0.1065	-0.3463	0.1528
3	94.92	0.5556	0.0988	0.0228	-0.2714	0.0368	-1.4914	0.1295	-0.2715	0.1565
3	94.92	0.5995	0.1338	0.0202	-0.2790	0.0435	-1.9503	0.1481	-0.5279	0.1652
3	94.92	0.6498	0.1202	0.0184	-0.3762	0.0517	-2.5756	0.1688	-0.3398	0.1713
3	94.92	0.6890	0.1162	0.0191	-0.4015	0.0588	-3.1596	0.1870	-0.3761	0.1751
3	94.92	0.7495	0.1373	0.0280	-0.4969	0.0706	-4.1994	0.2139	-0.5094	0.1755
3	94.92	0.7998	0.0573	0.0426	-0.5777	0.0809	-5.0661	0.2375	-0.4797	0.1828
3	94.92	0.8577	0.0099	0.0651	-0.6284	0.0943	-6.1973	0.2698	-0.2112	0.1977
4	94.92	0.2001	-0.0734	0.0016	-0.0058	0.0012	-0.0530	0.0034	0.3458	0.0235
4	94.92	0.2502	-0.0147	0.0010	0.0149	0.0023	-0.1810	0.0077	0.0180	0.0418
4	94.92	0.3001	-0.0003	0.0015	-0.0006	0.0046	-0.2561	0.0139	0.5856	0.0528
4	94.92	0.3502	0.0140	0.0017	-0.0024	0.0082	-0.4979	0.0240	0.4594	0.0545
4	94.92	0.4002	0.0336	0.0022	0.0117	0.0125	-0.7712	0.0374	0.4888	0.0606
4	94.92	0.4500	0.0592	0.0026	0.0254	0.0176	-1.1619	0.0529	0.3456	0.0627
4	94.92	0.5001	0.0589	0.0035	0.0181	0.0235	-1.6430	0.0706	0.3526	0.0718
4	94.92	0.5560	0.0700	0.0043	0.0280	0.0310	-2.3713	0.0915	0.0809	0.0770
4	94.92	0.6001	0.0944	0.0047	0.0110	0.0377	-3.0190	0.1097	-0.0070	0.0795
4	94.92	0.6999	0.0705	0.0068	-0.0131	0.0548	-4.8260	0.1508	0.0076	0.0854
4	94.92	0.7500	0.0850	0.0080	-0.0290	0.0644	-5.8525	0.1728	0.1883	0.0877
4	94.92	0.8002	0.0386	0.0088	-0.0863	0.0744	-6.9750	0.1951	0.3944	0.0932
4	94.92	0.8582	0.0312	0.0111	-0.1041	0.0863	-8.3978	0.2256	-0.2946	0.0973
4	94.92	0.9101	0.0139	0.0136	-0.0802	0.0974	-9.5707	0.2534	0.1657	0.1101
4	94.92	0.9728	0.1002	0.0162	-0.0214	0.1111	-11.1266	0.2915	-0.1332	0.1408

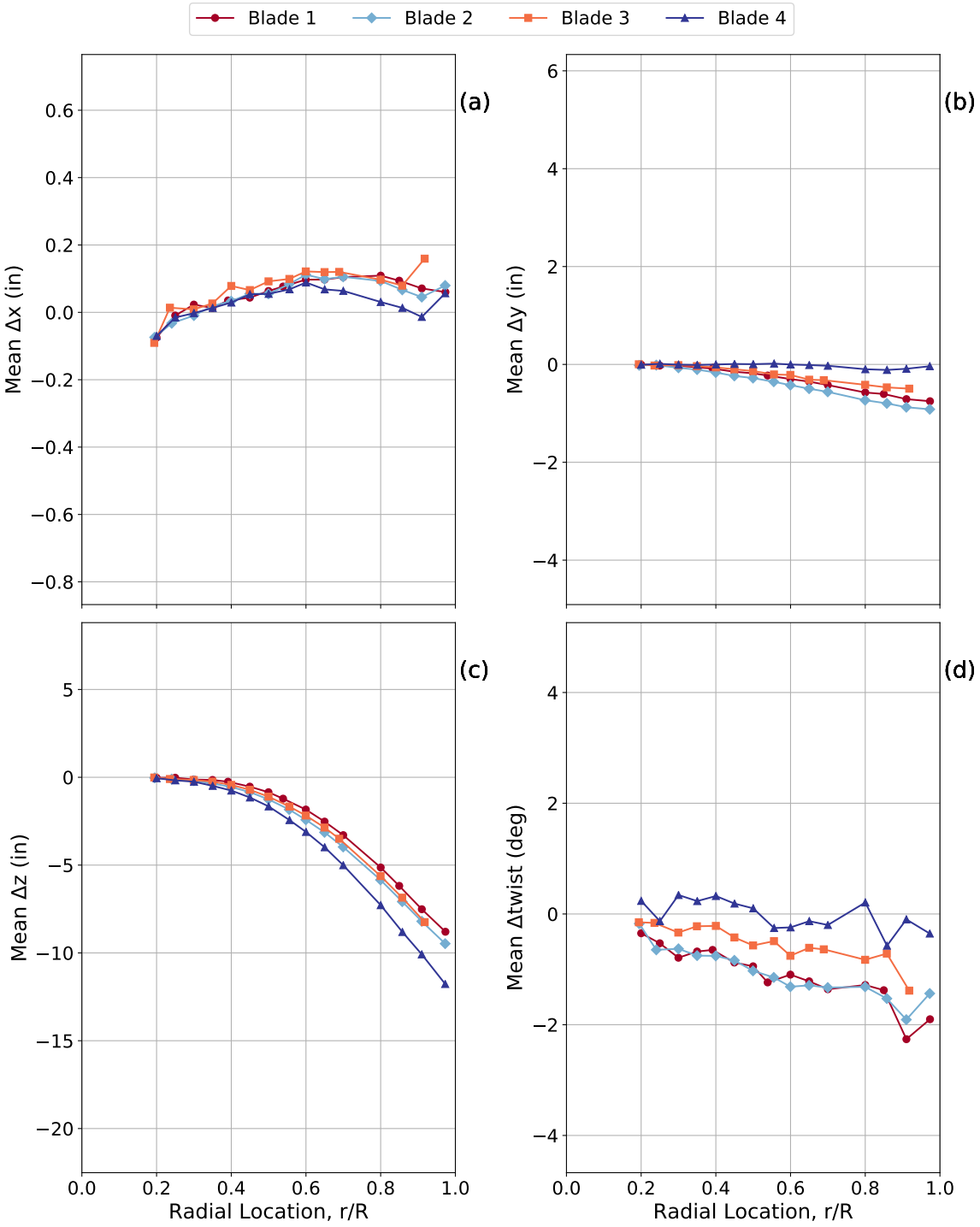


Figure 2.29-14. 100° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-17. 100° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	99.84	0.2001	-0.0749	0.0015	-0.0051	0.0009	-0.0290	0.0036	-0.3483	0.0302
1	99.84	0.2499	-0.0094	0.0015	-0.0242	0.0019	-0.0252	0.0080	-0.5293	0.0445
1	99.84	0.2998	0.0230	0.0013	-0.0284	0.0038	-0.1290	0.0148	-0.7903	0.0656
1	99.84	0.3498	0.0130	0.0018	-0.0582	0.0063	-0.1518	0.0253	-0.6777	0.0627
1	99.84	0.3913	0.0353	0.0024	-0.0851	0.0093	-0.2534	0.0368	-0.6492	0.0663
1	99.84	0.4496	0.0436	0.0029	-0.1500	0.0133	-0.5331	0.0554	-0.8769	0.0727
1	99.84	0.4997	0.0634	0.0035	-0.1817	0.0176	-0.8502	0.0745	-0.9452	0.0771
1	99.84	0.5387	0.0766	0.0042	-0.2276	0.0212	-1.2172	0.0897	-1.2359	0.0826
1	99.84	0.5996	0.0971	0.0053	-0.2989	0.0277	-1.8373	0.1153	-1.0952	0.0817
1	99.84	0.6498	0.0972	0.0062	-0.3517	0.0336	-2.5236	0.1357	-1.2165	0.0882
1	99.84	0.6998	0.1046	0.0073	-0.4224	0.0400	-3.2947	0.1547	-1.3588	0.0936
1	99.84	0.8001	0.1090	0.0103	-0.5744	0.0551	-5.1354	0.1955	-1.2831	0.0893
1	99.84	0.8497	0.0940	0.0122	-0.6047	0.0632	-6.1828	0.2188	-1.3767	0.1062
1	99.84	0.9102	0.0710	0.0140	-0.7098	0.0733	-7.5136	0.2531	-2.2615	0.1110
1	99.84	0.9734	0.0602	0.0185	-0.7522	0.0846	-8.7943	0.2963	-1.9010	0.1103
2	99.84	0.1949	-0.0741	0.0015	-0.0186	0.0007	-0.0340	0.0027	-0.1747	0.0248
2	99.84	0.2405	-0.0324	0.0013	-0.0146	0.0012	-0.1039	0.0056	-0.6477	0.0409
2	99.84	0.2999	-0.0096	0.0014	-0.0695	0.0028	-0.1929	0.0111	-0.6287	0.0585
2	99.84	0.3498	0.0190	0.0014	-0.1061	0.0047	-0.3509	0.0201	-0.7522	0.0532
2	99.84	0.3998	0.0333	0.0021	-0.1653	0.0073	-0.5532	0.0305	-0.7570	0.0514
2	99.84	0.4496	0.0552	0.0027	-0.2356	0.0098	-0.8435	0.0406	-0.8375	0.0634
2	99.84	0.4995	0.0549	0.0031	-0.2792	0.0130	-1.2552	0.0511	-1.0275	0.0693
2	99.84	0.5551	0.0838	0.0038	-0.3547	0.0173	-1.8372	0.0653	-1.1457	0.0714
2	99.84	0.5996	0.1118	0.0041	-0.4236	0.0214	-2.4193	0.0775	-1.3140	0.0736
2	99.84	0.6497	0.0987	0.0050	-0.4964	0.0264	-3.1341	0.0898	-1.2890	0.0842
2	99.84	0.6996	0.1054	0.0057	-0.5608	0.0321	-3.9678	0.1039	-1.3291	0.0808
2	99.84	0.7996	0.0933	0.0076	-0.7315	0.0453	-5.8438	0.1372	-1.3151	0.0883
2	99.84	0.8578	0.0668	0.0091	-0.7967	0.0536	-7.0800	0.1643	-1.5275	0.0860
2	99.84	0.9100	0.0453	0.0112	-0.8750	0.0613	-8.2004	0.1913	-1.9087	0.0963
2	99.84	0.9727	0.0797	0.0137	-0.9171	0.0707	-9.4730	0.2302	-1.4360	0.1104
3	99.84	0.1938	-0.0906	0.0014	0.0030	0.0010	-0.0131	0.0043	-0.1496	0.0269
3	99.84	0.2357	0.0138	0.0018	-0.0229	0.0020	-0.0980	0.0056	-0.1613	0.0699
3	99.84	0.2995	0.0088	0.0017	-0.0144	0.0045	-0.1529	0.0134	-0.3357	0.0794
3	99.84	0.3493	0.0263	0.0019	-0.0354	0.0077	-0.2471	0.0230	-0.2221	0.0781
3	99.84	0.4000	0.0784	0.0024	-0.0605	0.0121	-0.4328	0.0343	-0.2155	0.0827
3	99.84	0.4497	0.0661	0.0028	-0.0995	0.0168	-0.7126	0.0487	-0.4240	0.0865
3	99.84	0.4997	0.0920	0.0030	-0.1364	0.0227	-1.1009	0.0646	-0.5682	0.0872
3	99.84	0.5556	0.0992	0.0036	-0.2050	0.0294	-1.6652	0.0821	-0.4905	0.0909
3	99.84	0.5995	0.1215	0.0042	-0.2152	0.0356	-2.1770	0.0969	-0.7545	0.0880
3	99.84	0.6498	0.1195	0.0053	-0.3123	0.0430	-2.8620	0.1115	-0.6114	0.0948
3	99.84	0.6890	0.1201	0.0059	-0.3220	0.0489	-3.4991	0.1242	-0.6386	0.0968
3	99.84	0.7998	0.0970	0.0096	-0.4169	0.0665	-5.6234	0.1670	-0.8273	0.1041
3	99.84	0.8577	0.0793	0.0116	-0.4697	0.0764	-6.8539	0.2006	-0.7153	0.1138
3	99.84	0.9178	0.1594	0.0164	-0.4956	0.0865	-8.2459	0.2400	-1.3842	0.1569
4	99.84	0.2001	-0.0700	0.0013	-0.0063	0.0010	-0.0532	0.0030	0.2360	0.0224
4	99.84	0.2502	-0.0153	0.0012	0.0108	0.0024	-0.1746	0.0069	-0.1298	0.0384
4	99.84	0.3001	-0.0023	0.0013	-0.0048	0.0043	-0.2529	0.0131	0.3421	0.0507
4	99.84	0.3502	0.0131	0.0019	-0.0109	0.0074	-0.4888	0.0214	0.2326	0.0528
4	99.84	0.4002	0.0291	0.0022	-0.0022	0.0115	-0.7560	0.0343	0.3242	0.0540
4	99.84	0.4500	0.0536	0.0028	0.0089	0.0164	-1.1501	0.0467	0.1878	0.0614
4	99.84	0.5001	0.0549	0.0033	0.0050	0.0222	-1.6596	0.0619	0.1011	0.0623
4	99.84	0.5560	0.0684	0.0043	0.0163	0.0295	-2.4387	0.0809	-0.2539	0.0637
4	99.84	0.6001	0.0886	0.0051	-0.0022	0.0358	-3.1117	0.0972	-0.2421	0.0698
4	99.84	0.6501	0.0682	0.0064	-0.0134	0.0439	-3.9872	0.1185	-0.1300	0.0721
4	99.84	0.6999	0.0637	0.0078	-0.0280	0.0526	-5.0076	0.1403	-0.1989	0.0850
4	99.84	0.8002	0.0307	0.0119	-0.0985	0.0725	-7.2829	0.1962	0.2076	0.0951
4	99.84	0.8582	0.0132	0.0150	-0.1130	0.0848	-8.8098	0.2348	-0.5732	0.0983
4	99.84	0.9101	-0.0136	0.0177	-0.0893	0.0964	-10.0840	0.2741	-0.0981	0.1003
4	99.84	0.9728	0.0566	0.0223	-0.0370	0.1105	-11.7703	0.3226	-0.3539	0.1253

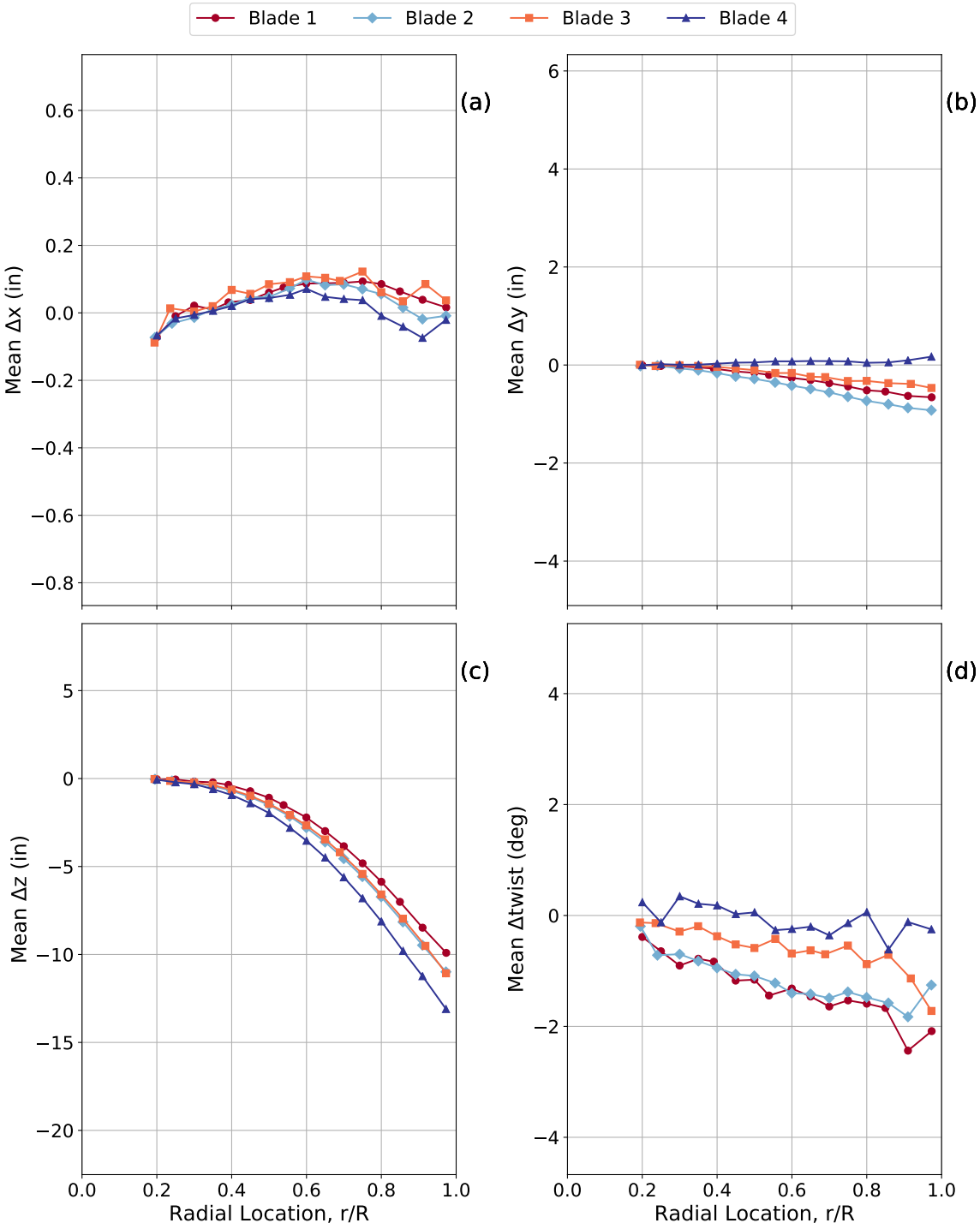


Figure 2.29-15. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-18. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	105.12	0.2001	-0.0719	0.0015	-0.0046	0.0009	-0.0352	0.0029	-0.3877	0.0213
1	105.12	0.2499	-0.0098	0.0010	-0.0194	0.0018	-0.0527	0.0068	-0.6448	0.0415
1	105.12	0.2998	0.0215	0.0014	-0.0262	0.0035	-0.1703	0.0130	-0.9034	0.0499
1	105.12	0.3498	0.0098	0.0017	-0.0486	0.0058	-0.2170	0.0207	-0.7804	0.0488
1	105.12	0.3913	0.0312	0.0022	-0.0733	0.0085	-0.3608	0.0314	-0.8326	0.0502
1	105.12	0.4496	0.0381	0.0029	-0.1311	0.0119	-0.7193	0.0470	-1.1748	0.0538
1	105.12	0.4997	0.0602	0.0036	-0.1598	0.0156	-1.0902	0.0640	-1.1575	0.0558
1	105.12	0.5387	0.0752	0.0039	-0.2027	0.0186	-1.5084	0.0773	-1.4435	0.0619
1	105.12	0.5996	0.0868	0.0054	-0.2633	0.0245	-2.2120	0.1019	-1.3170	0.0616
1	105.12	0.6498	0.0876	0.0062	-0.3078	0.0297	-2.9864	0.1232	-1.4611	0.0644
1	105.12	0.6998	0.0890	0.0073	-0.3707	0.0355	-3.8471	0.1433	-1.6411	0.0676
1	105.12	0.7500	0.0932	0.0086	-0.4381	0.0416	-4.8186	0.1658	-1.5312	0.0715
1	105.12	0.8001	0.0854	0.0104	-0.5163	0.0484	-5.8675	0.1904	-1.5899	0.0781
1	105.12	0.8497	0.0637	0.0124	-0.5412	0.0551	-7.0089	0.2187	-1.6680	0.0793
1	105.12	0.9102	0.0388	0.0150	-0.6306	0.0639	-8.4772	0.2578	-2.4376	0.0902
1	105.12	0.9734	0.0162	0.0181	-0.6586	0.0731	-9.9080	0.3007	-2.0857	0.0951
2	105.12	0.1949	-0.0729	0.0013	-0.0192	0.0008	-0.0400	0.0027	-0.1943	0.0225
2	105.12	0.2405	-0.0312	0.0011	-0.0128	0.0020	-0.1337	0.0065	-0.7167	0.0340
2	105.12	0.2999	-0.0138	0.0014	-0.0696	0.0037	-0.2445	0.0125	-0.6982	0.0508
2	105.12	0.3498	0.0106	0.0018	-0.1059	0.0066	-0.4314	0.0221	-0.8218	0.0511
2	105.12	0.3998	0.0235	0.0022	-0.1639	0.0103	-0.6942	0.0344	-0.9450	0.0560
2	105.12	0.4496	0.0456	0.0028	-0.2333	0.0141	-1.0526	0.0454	-1.0606	0.0632
2	105.12	0.4995	0.0468	0.0033	-0.2819	0.0187	-1.4985	0.0618	-1.0899	0.0680
2	105.12	0.5551	0.0726	0.0045	-0.3554	0.0248	-2.1466	0.0816	-1.2188	0.0721
2	105.12	0.5996	0.0985	0.0051	-0.4205	0.0303	-2.7941	0.1003	-1.4025	0.0799
2	105.12	0.6497	0.0822	0.0063	-0.4870	0.0371	-3.6058	0.1225	-1.4157	0.0799
2	105.12	0.6996	0.0846	0.0080	-0.5578	0.0440	-4.5558	0.1465	-1.4897	0.0840
2	105.12	0.7495	0.0705	0.0100	-0.6470	0.0519	-5.5759	0.1734	-1.3793	0.0840
2	105.12	0.7996	0.0557	0.0124	-0.7312	0.0600	-6.7226	0.2035	-1.4765	0.0856
2	105.12	0.8578	0.0156	0.0156	-0.8000	0.0694	-8.1535	0.2401	-1.5787	0.1024
2	105.12	0.9100	-0.0184	0.0182	-0.8746	0.0784	-9.4751	0.2759	-1.8281	0.0933
2	105.12	0.9727	-0.0087	0.0217	-0.9237	0.0894	-10.9886	0.3191	-1.2543	0.1138
3	105.12	0.1938	-0.0881	0.0018	0.0057	0.0010	-0.0272	0.0055	-0.1263	0.0394
3	105.12	0.2357	0.0134	0.0022	-0.0212	0.0018	-0.1329	0.0072	-0.1384	0.0894
3	105.12	0.2995	0.0039	0.0023	-0.0057	0.0040	-0.2302	0.0201	-0.2905	0.1106
3	105.12	0.3493	0.0198	0.0027	-0.0201	0.0065	-0.3732	0.0346	-0.1943	0.1082
3	105.12	0.4000	0.0680	0.0034	-0.0383	0.0104	-0.6391	0.0524	-0.3752	0.1100
3	105.12	0.4497	0.0564	0.0038	-0.0715	0.0145	-0.9828	0.0716	-0.5221	0.1188
3	105.12	0.4997	0.0848	0.0046	-0.1045	0.0197	-1.4345	0.0946	-0.5867	0.1204
3	105.12	0.5556	0.0910	0.0059	-0.1639	0.0264	-2.0719	0.1235	-0.4228	0.1271
3	105.12	0.5995	0.1082	0.0069	-0.1635	0.0324	-2.6615	0.1480	-0.6858	0.1357
3	105.12	0.6498	0.1038	0.0082	-0.2394	0.0399	-3.4585	0.1810	-0.6285	0.1397
3	105.12	0.6890	0.0947	0.0098	-0.2470	0.0464	-4.1894	0.2076	-0.6996	0.1436
3	105.12	0.7495	0.1224	0.0123	-0.3264	0.0571	-5.4237	0.2519	-0.5430	0.1562
3	105.12	0.7998	0.0612	0.0151	-0.3240	0.0666	-6.5885	0.2906	-0.8771	0.1547
3	105.12	0.8577	0.0343	0.0190	-0.3700	0.0775	-7.9658	0.3410	-0.7086	0.1602
3	105.12	0.9178	0.0854	0.0228	-0.3862	0.0896	-9.5133	0.3968	-1.1356	0.1708
3	105.12	0.9729	0.0370	0.0272	-0.4683	0.1006	-11.0693	0.4484	-1.7218	0.1847
4	105.12	0.2001	-0.0671	0.0014	-0.0039	0.0011	-0.0664	0.0036	0.2378	0.0212
4	105.12	0.2502	-0.0165	0.0012	0.0163	0.0023	-0.2136	0.0087	-0.1250	0.0377
4	105.12	0.3001	-0.0061	0.0014	0.0053	0.0047	-0.3210	0.0156	0.3450	0.0482
4	105.12	0.3502	0.0060	0.0017	0.0076	0.0079	-0.6007	0.0272	0.2107	0.0511
4	105.12	0.4002	0.0203	0.0022	0.0262	0.0124	-0.9403	0.0426	0.1806	0.0535
4	105.12	0.4500	0.0405	0.0026	0.0477	0.0169	-1.4044	0.0560	0.0247	0.0590
4	105.12	0.5001	0.0439	0.0032	0.0525	0.0228	-1.9648	0.0732	0.0554	0.0638
4	105.12	0.5560	0.0536	0.0038	0.0753	0.0294	-2.8011	0.0927	-0.2648	0.0744
4	105.12	0.6001	0.0712	0.0047	0.0748	0.0355	-3.5353	0.1123	-0.2428	0.0768
4	105.12	0.6501	0.0475	0.0060	0.0813	0.0424	-4.4913	0.1356	-0.2025	0.0773
4	105.12	0.6999	0.0412	0.0075	0.0789	0.0496	-5.6146	0.1604	-0.3584	0.0895
4	105.12	0.7500	0.0376	0.0096	0.0744	0.0576	-6.8071	0.1877	-0.1373	0.0882
4	105.12	0.8002	-0.0089	0.0120	0.0447	0.0656	-8.1241	0.2183	0.0605	0.0882
4	105.12	0.8582	-0.0411	0.0153	0.0533	0.0751	-9.8014	0.2555	-0.6128	0.0980
4	105.12	0.9101	-0.0741	0.0176	0.0961	0.0841	-11.2339	0.2925	-0.1186	0.1050
4	105.12	0.9728	-0.0208	0.0216	0.1697	0.0947	-13.1018	0.3423	-0.2501	0.1099

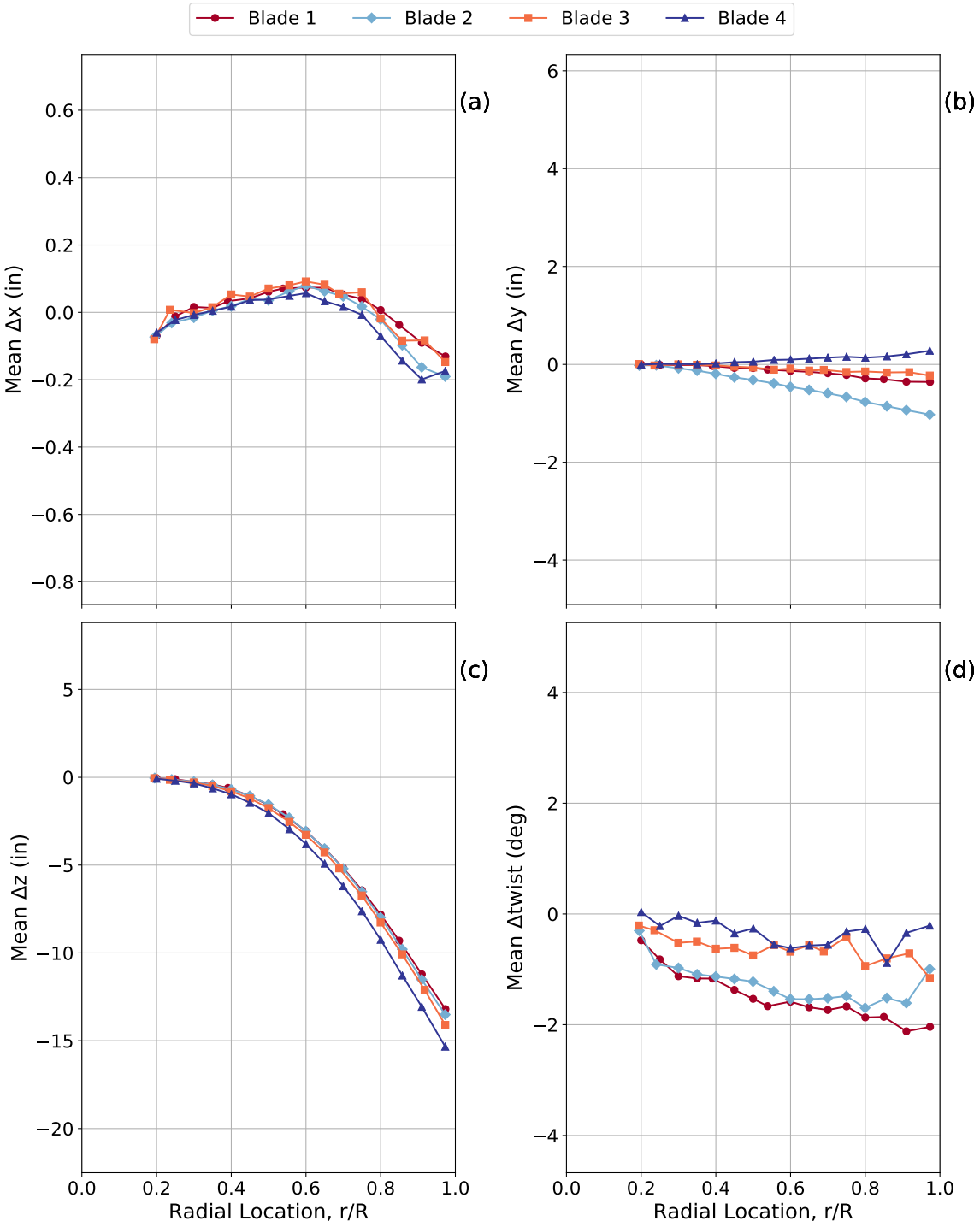


Figure 2.29-16. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-19. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	119.88	0.2001	-0.0698	0.0015	-0.0008	0.0008	-0.0598	0.0037	-0.4757	0.0227
1	119.88	0.2499	-0.0122	0.0012	-0.0087	0.0021	-0.1048	0.0086	-0.8204	0.0400
1	119.88	0.2998	0.0161	0.0016	-0.0125	0.0035	-0.2606	0.0160	-1.1243	0.0521
1	119.88	0.3498	0.0132	0.0018	-0.0150	0.0061	-0.3999	0.0272	-1.1654	0.0589
1	119.88	0.3913	0.0332	0.0026	-0.0307	0.0090	-0.6050	0.0401	-1.1668	0.0634
1	119.88	0.4496	0.0415	0.0031	-0.0722	0.0130	-1.0555	0.0611	-1.3706	0.0646
1	119.88	0.4997	0.0612	0.0047	-0.0749	0.0174	-1.5788	0.0859	-1.5326	0.0714
1	119.88	0.5387	0.0706	0.0056	-0.1061	0.0214	-2.1053	0.1098	-1.6650	0.0756
1	119.88	0.5996	0.0735	0.0079	-0.1319	0.0280	-3.0514	0.1548	-1.5827	0.0805
1	119.88	0.6498	0.0731	0.0103	-0.1526	0.0350	-4.0598	0.2005	-1.6845	0.0765
1	119.88	0.6998	0.0530	0.0141	-0.1804	0.0425	-5.1667	0.2541	-1.7337	0.0820
1	119.88	0.7500	0.0398	0.0195	-0.2164	0.0505	-6.4347	0.3183	-1.6691	0.0889
1	119.88	0.8001	0.0068	0.0259	-0.2868	0.0590	-7.8244	0.3926	-1.8682	0.0882
1	119.88	0.8497	-0.0375	0.0334	-0.3024	0.0680	-9.3043	0.4748	-1.8579	0.0898
1	119.88	0.9102	-0.0904	0.0431	-0.3545	0.0791	-11.2195	0.5853	-2.1193	0.0995
1	119.88	0.9734	-0.1309	0.0538	-0.3592	0.0916	-13.1978	0.7090	-2.0395	0.0980
2	119.88	0.1949	-0.0733	0.0014	-0.0219	0.0007	-0.0414	0.0020	-0.3019	0.0229
2	119.88	0.2405	-0.0315	0.0012	-0.0172	0.0014	-0.1280	0.0056	-0.9114	0.0288
2	119.88	0.2999	-0.0159	0.0015	-0.0788	0.0029	-0.2461	0.0095	-0.9755	0.0491
2	119.88	0.3498	0.0053	0.0017	-0.1267	0.0051	-0.4300	0.0172	-1.0906	0.0464
2	119.88	0.3998	0.0183	0.0022	-0.1923	0.0078	-0.6921	0.0263	-1.1303	0.0434
2	119.88	0.4496	0.0400	0.0026	-0.2653	0.0108	-1.0612	0.0372	-1.1744	0.0414
2	119.88	0.4995	0.0355	0.0032	-0.3178	0.0145	-1.5474	0.0493	-1.2227	0.0439
2	119.88	0.5551	0.0625	0.0042	-0.3873	0.0193	-2.3082	0.0658	-1.3961	0.0466
2	119.88	0.5996	0.0791	0.0048	-0.4591	0.0236	-3.0675	0.0826	-1.5371	0.0528
2	119.88	0.6497	0.0627	0.0064	-0.5210	0.0293	-4.0600	0.1034	-1.5398	0.0559
2	119.88	0.6996	0.0477	0.0081	-0.5910	0.0354	-5.2014	0.1289	-1.5209	0.0588
2	119.88	0.7495	0.0175	0.0106	-0.6648	0.0419	-6.5101	0.1600	-1.4822	0.0576
2	119.88	0.7996	-0.0209	0.0142	-0.7658	0.0491	-7.9808	0.1962	-1.6963	0.0613
2	119.88	0.8578	-0.0974	0.0194	-0.8547	0.0578	-9.7914	0.2459	-1.5177	0.0659
2	119.88	0.9100	-0.1630	0.0246	-0.9338	0.0659	-11.5209	0.2962	-1.6093	0.0718
2	119.88	0.9727	-0.1906	0.0313	-1.0259	0.0759	-13.5112	0.3615	-0.9948	0.0831
3	119.88	0.1938	-0.0797	0.0015	0.0087	0.0009	-0.0495	0.0042	-0.2098	0.0304
3	119.88	0.2357	0.0077	0.0016	-0.0214	0.0016	-0.1438	0.0079	-0.2934	0.0704
3	119.88	0.2995	-0.0020	0.0019	0.0019	0.0032	-0.2919	0.0182	-0.5203	0.0852
3	119.88	0.3493	0.0153	0.0020	-0.0076	0.0058	-0.4897	0.0296	-0.4979	0.0921
3	119.88	0.4000	0.0530	0.0026	-0.0208	0.0088	-0.7996	0.0474	-0.6275	0.0951
3	119.88	0.4497	0.0468	0.0032	-0.0450	0.0120	-1.2009	0.0642	-0.6115	0.1059
3	119.88	0.4997	0.0707	0.0039	-0.0622	0.0157	-1.7553	0.0874	-0.7479	0.1054
3	119.88	0.5556	0.0804	0.0050	-0.1078	0.0206	-2.5411	0.1215	-0.5591	0.1168
3	119.88	0.5995	0.0918	0.0064	-0.0846	0.0251	-3.2753	0.1508	-0.6806	0.1108
3	119.88	0.6498	0.0820	0.0085	-0.1251	0.0309	-4.2778	0.1902	-0.5648	0.1158
3	119.88	0.6890	0.0555	0.0106	-0.1117	0.0357	-5.1844	0.2252	-0.6775	0.1191
3	119.88	0.7495	0.0597	0.0147	-0.1542	0.0443	-6.7303	0.2846	-0.4154	0.1231
3	119.88	0.7998	-0.0182	0.0197	-0.1446	0.0519	-8.2684	0.3385	-0.9415	0.1218
3	119.88	0.8577	-0.0841	0.0266	-0.1642	0.0614	-10.0808	0.4081	-0.8020	0.1246
3	119.88	0.9178	-0.0833	0.0345	-0.1585	0.0715	-12.1069	0.4888	-0.7104	0.1302
3	119.88	0.9729	-0.1474	0.0412	-0.2280	0.0813	-14.1019	0.5687	-1.1589	0.1383
4	119.88	0.2001	-0.0602	0.0016	-0.0022	0.0008	-0.0803	0.0031	0.0354	0.0195
4	119.88	0.2502	-0.0228	0.0012	0.0093	0.0019	-0.1955	0.0067	-0.2180	0.0352
4	119.88	0.3001	-0.0076	0.0013	0.0076	0.0036	-0.3457	0.0129	-0.0334	0.0444
4	119.88	0.3502	0.0047	0.0019	0.0033	0.0058	-0.6293	0.0213	-0.1596	0.0462
4	119.88	0.4002	0.0170	0.0028	0.0198	0.0095	-0.9696	0.0337	-0.1198	0.0511
4	119.88	0.4500	0.0363	0.0037	0.0462	0.0127	-1.4564	0.0473	-0.3486	0.0461
4	119.88	0.5001	0.0381	0.0043	0.0563	0.0166	-2.0429	0.0647	-0.2614	0.0511
4	119.88	0.5560	0.0490	0.0054	0.0922	0.0216	-2.9573	0.0880	-0.5532	0.0481
4	119.88	0.6001	0.0570	0.0067	0.0985	0.0260	-3.8054	0.1091	-0.6180	0.0517
4	119.88	0.6501	0.0331	0.0084	0.1185	0.0317	-4.9184	0.1354	-0.5702	0.0525
4	119.88	0.6999	0.0164	0.0108	0.1390	0.0375	-6.1988	0.1667	-0.5545	0.0534
4	119.88	0.7500	-0.0076	0.0137	0.1563	0.0441	-7.6263	0.2015	-0.3179	0.0581
4	119.88	0.8002	-0.0709	0.0174	0.1378	0.0510	-9.2521	0.2411	-0.2692	0.0613
4	119.88	0.8582	-0.1432	0.0227	0.1636	0.0593	-11.2916	0.2918	-0.8837	0.0678
4	119.88	0.9101	-0.1991	0.0275	0.2077	0.0668	-13.0678	0.3416	-0.3412	0.0680
4	119.88	0.9728	-0.1740	0.0334	0.2793	0.0761	-15.3387	0.4079	-0.2099	0.0765

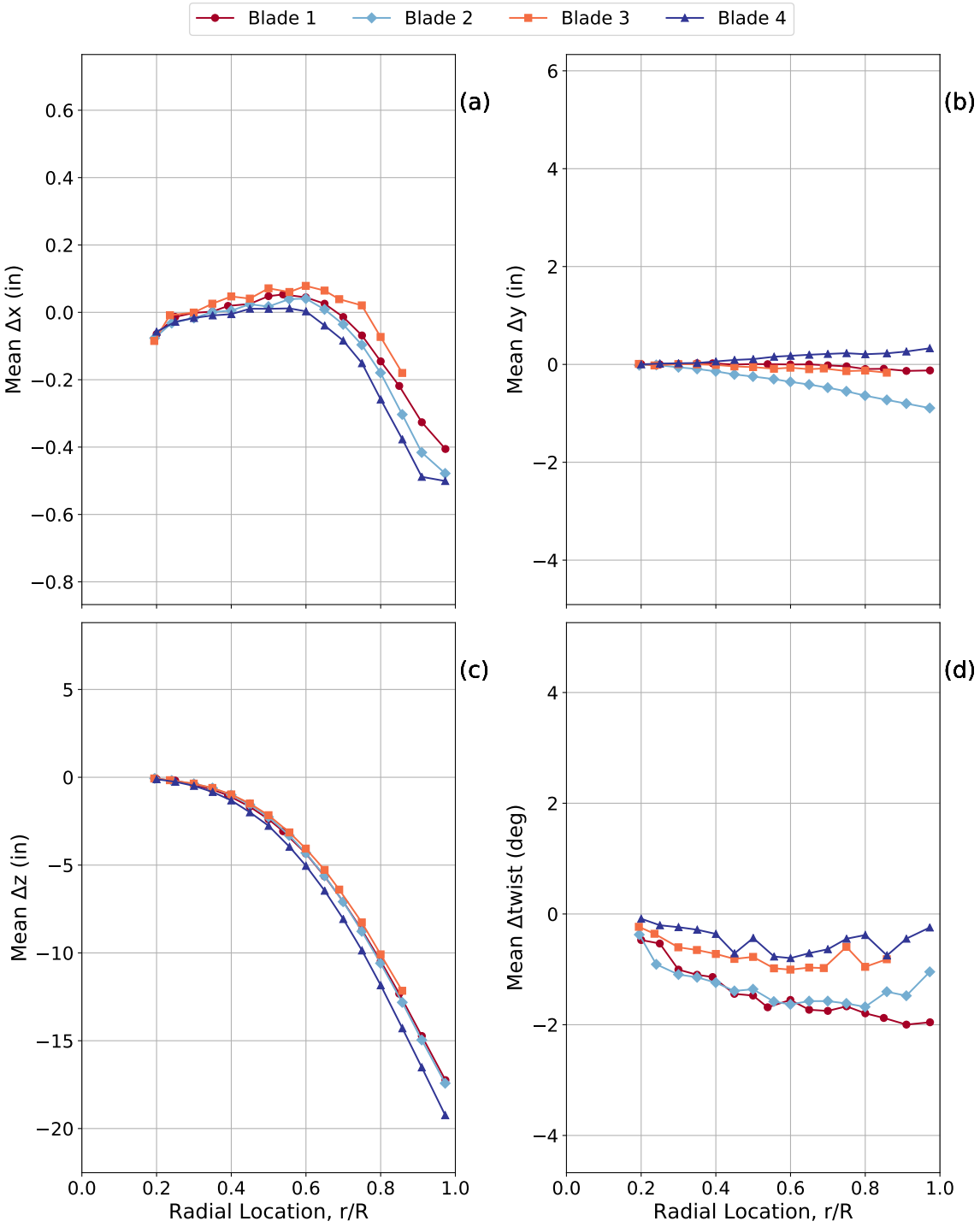


Figure 2.29-17. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-20. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	135	0.2001	-0.0646	0.0017	0.0052	0.0009	-0.1021	0.0045	-0.4703	0.0239
1	135	0.2499	-0.0135	0.0014	-0.0005	0.0020	-0.1871	0.0101	-0.5338	0.0319
1	135	0.2998	-0.0015	0.0018	0.0094	0.0037	-0.4302	0.0193	-1.0049	0.0512
1	135	0.3498	0.0023	0.0021	0.0232	0.0062	-0.6992	0.0329	-1.0982	0.0561
1	135	0.3913	0.0191	0.0030	0.0219	0.0091	-1.0291	0.0481	-1.1390	0.0589
1	135	0.4496	0.0251	0.0040	-0.0031	0.0129	-1.6764	0.0711	-1.4424	0.0671
1	135	0.4997	0.0481	0.0055	0.0077	0.0174	-2.3886	0.0979	-1.4737	0.0700
1	135	0.5387	0.0531	0.0066	0.0048	0.0212	-3.0714	0.1240	-1.6853	0.0780
1	135	0.5996	0.0446	0.0096	-0.0011	0.0287	-4.3373	0.1729	-1.5529	0.0888
1	135	0.6498	0.0256	0.0132	0.0006	0.0361	-5.6388	0.2202	-1.7298	0.0913
1	135	0.6998	-0.0139	0.0181	-0.0194	0.0444	-7.0810	0.2745	-1.7503	0.1027
1	135	0.7500	-0.0686	0.0241	-0.0397	0.0537	-8.7024	0.3364	-1.6681	0.1032
1	135	0.8001	-0.1455	0.0320	-0.0943	0.0634	-10.4657	0.4052	-1.7943	0.1028
1	135	0.8497	-0.2184	0.0406	-0.0897	0.0734	-12.3220	0.4807	-1.8778	0.1082
1	135	0.9102	-0.3263	0.0518	-0.1329	0.0861	-14.7306	0.5787	-1.9980	0.1114
1	135	0.9734	-0.4056	0.0623	-0.1231	0.0997	-17.2447	0.6866	-1.9560	0.1156
2	135	0.1949	-0.0762	0.0015	-0.0167	0.0009	-0.0626	0.0041	-0.3728	0.0266
2	135	0.2405	-0.0319	0.0015	-0.0113	0.0019	-0.1822	0.0082	-0.9094	0.0386
2	135	0.2999	-0.0169	0.0016	-0.0589	0.0044	-0.3698	0.0174	-1.0937	0.0615
2	135	0.3498	0.0008	0.0026	-0.0934	0.0069	-0.6124	0.0311	-1.1436	0.0428
2	135	0.3998	0.0051	0.0031	-0.1417	0.0111	-1.0047	0.0471	-1.2400	0.0591
2	135	0.4496	0.0240	0.0037	-0.2046	0.0140	-1.5605	0.0684	-1.3904	0.0602
2	135	0.4995	0.0172	0.0050	-0.2482	0.0181	-2.2599	0.0939	-1.3587	0.0610
2	135	0.5551	0.0393	0.0071	-0.3002	0.0227	-3.3110	0.1292	-1.5815	0.0634
2	135	0.5996	0.0408	0.0095	-0.3566	0.0268	-4.3091	0.1631	-1.6326	0.0661
2	135	0.6497	0.0088	0.0129	-0.4110	0.0311	-5.6088	0.2072	-1.5739	0.0737
2	135	0.6996	-0.0357	0.0178	-0.4753	0.0357	-7.0868	0.2580	-1.5734	0.0765
2	135	0.7495	-0.0964	0.0241	-0.5491	0.0403	-8.7725	0.3156	-1.6157	0.0794
2	135	0.7996	-0.1795	0.0319	-0.6382	0.0451	-10.5884	0.3815	-1.6776	0.0863
2	135	0.8578	-0.3032	0.0428	-0.7254	0.0508	-12.8154	0.4665	-1.4037	0.0909
2	135	0.9100	-0.4160	0.0526	-0.8006	0.0562	-14.9572	0.5486	-1.4769	0.1002
2	135	0.9727	-0.4782	0.0650	-0.8918	0.0628	-17.4220	0.6519	-1.0449	0.1134
3	135	0.1938	-0.0849	0.0077	0.0103	0.0012	-0.0684	0.0033	-0.2319	0.0243
3	135	0.2357	-0.0085	0.0027	-0.0207	0.0026	-0.1659	0.0059	-0.3573	0.0419
3	135	0.2995	-0.0006	0.0041	0.0051	0.0057	-0.3597	0.0127	-0.6019	0.0570
3	135	0.3493	0.0257	0.0065	0.0015	0.0092	-0.6075	0.0233	-0.6506	0.0570
3	135	0.4000	0.0472	0.0077	-0.0101	0.0151	-0.9756	0.0349	-0.7219	0.0550
3	135	0.4497	0.0408	0.0082	-0.0411	0.0211	-1.4918	0.0454	-0.8114	0.0663
3	135	0.4997	0.0713	0.0084	-0.0554	0.0290	-2.1598	0.0606	-0.7751	0.0641
3	135	0.5556	0.0604	0.0111	-0.0882	0.0391	-3.1392	0.0792	-0.9816	0.0735
3	135	0.5995	0.0786	0.0165	-0.0670	0.0483	-4.0610	0.0977	-1.0050	0.0685
3	135	0.6498	0.0646	0.0245	-0.0972	0.0612	-5.2713	0.1210	-0.9682	0.0708
3	135	0.6890	0.0391	0.0323	-0.0828	0.0722	-6.3949	0.1415	-0.9768	0.0719
3	135	0.7495	0.0207	0.0457	-0.1365	0.0921	-8.2638	0.1767	-0.5940	0.0794
3	135	0.7998	-0.0730	0.0582	-0.1253	0.1109	-10.0829	0.2083	-0.9547	0.0880
3	135	0.8577	-0.1799	0.0737	-0.1689	0.1363	-12.1557	0.2486	-0.8173	0.0947
4	135	0.2001	-0.0574	0.0016	0.0013	0.0010	-0.1105	0.0032	-0.0861	0.0286
4	135	0.2502	-0.0280	0.0013	0.0166	0.0023	-0.2566	0.0081	-0.2040	0.0312
4	135	0.3001	-0.0167	0.0018	0.0232	0.0043	-0.4888	0.0133	-0.2384	0.0576
4	135	0.3502	-0.0091	0.0022	0.0293	0.0072	-0.8370	0.0236	-0.2846	0.0495
4	135	0.4002	-0.0053	0.0026	0.0612	0.0113	-1.3193	0.0368	-0.3604	0.0578
4	135	0.4500	0.0108	0.0033	0.0911	0.0148	-1.9960	0.0525	-0.7117	0.0641
4	135	0.5001	0.0105	0.0040	0.1080	0.0187	-2.7655	0.0704	-0.4339	0.0618
4	135	0.5560	0.0118	0.0055	0.1567	0.0241	-3.9608	0.0932	-0.7685	0.0736
4	135	0.6001	0.0029	0.0071	0.1757	0.0293	-5.0427	0.1148	-0.7972	0.0695
4	135	0.6501	-0.0392	0.0090	0.1975	0.0350	-6.4594	0.1417	-0.7077	0.0737
4	135	0.6999	-0.0840	0.0123	0.2143	0.0420	-8.0712	0.1725	-0.6369	0.0777
4	135	0.7500	-0.1510	0.0160	0.2293	0.0491	-9.8624	0.2092	-0.4469	0.0783
4	135	0.8002	-0.2587	0.0216	0.2079	0.0565	-11.8447	0.2527	-0.3800	0.0805
4	135	0.8582	-0.3771	0.0297	0.2264	0.0650	-14.2919	0.3133	-0.7496	0.0873
4	135	0.9101	-0.4883	0.0378	0.2633	0.0729	-16.5170	0.3758	-0.4461	0.0910
4	135	0.9728	-0.5007	0.0482	0.3297	0.0822	-19.2402	0.4601	-0.2439	0.0919

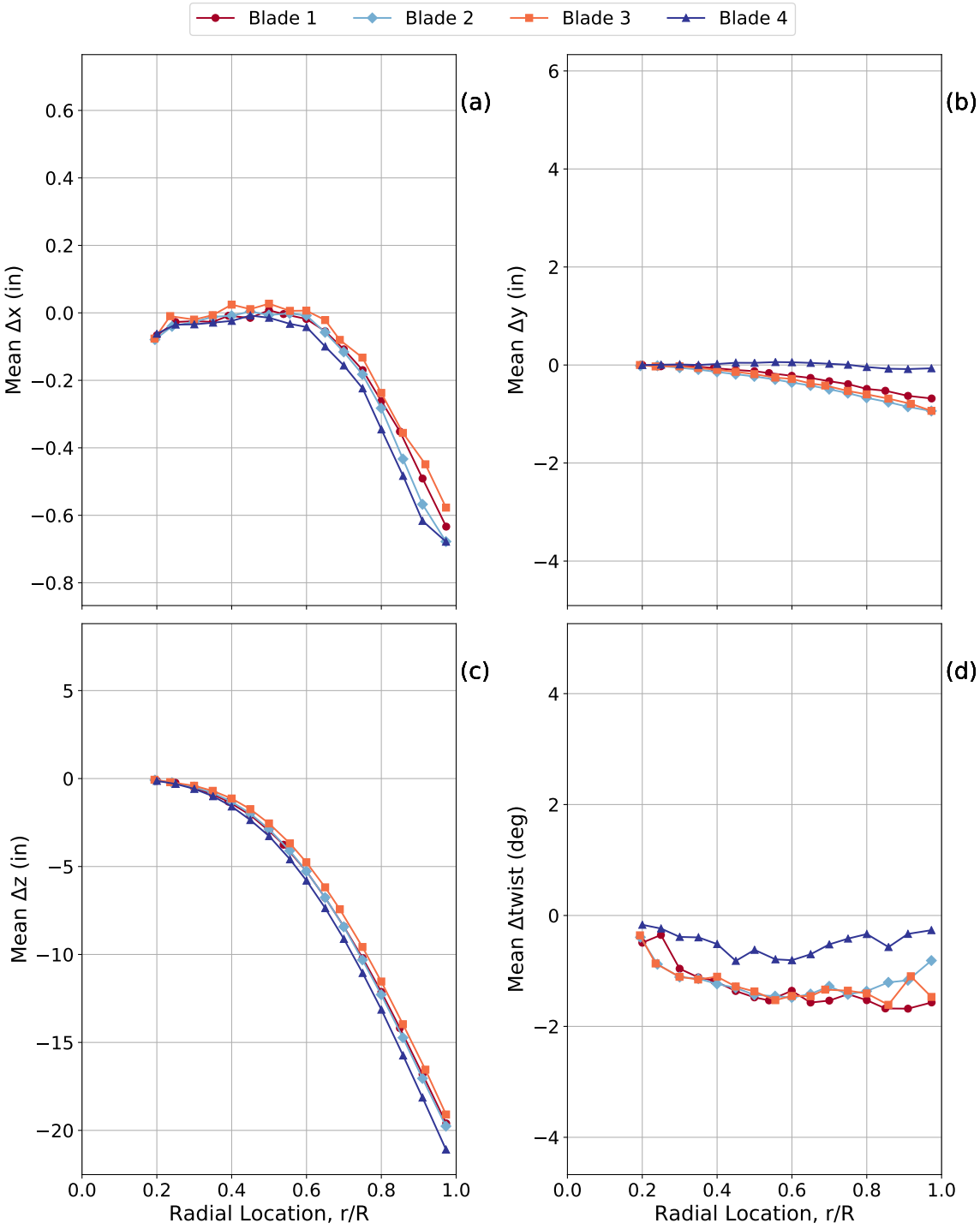


Figure 2.29-18. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-21. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	150.12	0.2001	-0.0664	0.0016	0.0013	0.0010	-0.1274	0.0034	-0.4910	0.0273
1	150.12	0.2499	-0.0271	0.0017	-0.0261	0.0026	-0.2407	0.0079	-0.3513	0.0396
1	150.12	0.2998	-0.0246	0.0020	-0.0172	0.0043	-0.5368	0.0145	-0.9599	0.0591
1	150.12	0.3498	-0.0267	0.0023	-0.0337	0.0074	-0.9028	0.0253	-1.1162	0.0581
1	150.12	0.3913	-0.0087	0.0028	-0.0623	0.0108	-1.3122	0.0367	-1.1742	0.0586
1	150.12	0.4496	-0.0149	0.0035	-0.1019	0.0145	-2.0718	0.0540	-1.3620	0.0585
1	150.12	0.4997	0.0077	0.0046	-0.1258	0.0187	-2.9664	0.0724	-1.4767	0.0640
1	150.12	0.5387	-0.0035	0.0056	-0.1644	0.0214	-3.7621	0.0872	-1.5310	0.0582
1	150.12	0.5996	-0.0181	0.0076	-0.2201	0.0271	-5.2664	0.1156	-1.3581	0.0651
1	150.12	0.6498	-0.0545	0.0100	-0.2639	0.0320	-6.7746	0.1408	-1.5702	0.0622
1	150.12	0.6998	-0.1081	0.0135	-0.3305	0.0374	-8.4121	0.1702	-1.5354	0.0627
1	150.12	0.7500	-0.1697	0.0174	-0.3902	0.0432	-10.2023	0.2048	-1.4182	0.0725
1	150.12	0.8001	-0.2615	0.0226	-0.4880	0.0492	-12.1319	0.2443	-1.5277	0.0696
1	150.12	0.8497	-0.3518	0.0291	-0.5254	0.0558	-14.1864	0.2892	-1.6768	0.0759
1	150.12	0.9102	-0.4910	0.0373	-0.6297	0.0636	-16.8103	0.3510	-1.6804	0.0750
1	150.12	0.9734	-0.6336	0.0469	-0.6829	0.0725	-19.6024	0.4218	-1.5684	0.0756
2	150.12	0.1949	-0.0793	0.0017	-0.0146	0.0011	-0.0879	0.0053	-0.3925	0.0258
2	150.12	0.2405	-0.0401	0.0015	-0.0153	0.0025	-0.2308	0.0101	-0.8795	0.0417
2	150.12	0.2999	-0.0266	0.0022	-0.0556	0.0052	-0.4856	0.0231	-1.1108	0.0610
2	150.12	0.3498	-0.0119	0.0023	-0.0932	0.0088	-0.8112	0.0393	-1.1396	0.0549
2	150.12	0.3998	-0.0084	0.0037	-0.1413	0.0137	-1.3144	0.0611	-1.2345	0.0571
2	150.12	0.4496	0.0038	0.0047	-0.1888	0.0175	-1.9855	0.0870	-1.3047	0.0621
2	150.12	0.4995	-0.0063	0.0060	-0.2331	0.0222	-2.8754	0.1160	-1.4315	0.0705
2	150.12	0.5551	-0.0017	0.0089	-0.2960	0.0282	-4.0999	0.1540	-1.4547	0.0775
2	150.12	0.5996	-0.0079	0.0116	-0.3566	0.0334	-5.2702	0.1870	-1.4804	0.0800
2	150.12	0.6497	-0.0577	0.0158	-0.4197	0.0400	-6.7637	0.2288	-1.4162	0.0895
2	150.12	0.6996	-0.1158	0.0210	-0.4940	0.0470	-8.4285	0.2760	-1.2763	0.0912
2	150.12	0.7495	-0.1823	0.0280	-0.5748	0.0548	-10.3060	0.3305	-1.4225	0.0967
2	150.12	0.7996	-0.2825	0.0365	-0.6697	0.0629	-12.2837	0.3934	-1.3651	0.1010
2	150.12	0.8578	-0.4331	0.0482	-0.7578	0.0726	-14.7316	0.4747	-1.2062	0.1068
2	150.12	0.9100	-0.5674	0.0590	-0.8534	0.0818	-17.0466	0.5552	-1.1694	0.1143
2	150.12	0.9727	-0.6778	0.0721	-0.9384	0.0934	-19.7614	0.6559	-0.8130	0.1228
3	150.12	0.1938	-0.0763	0.0022	0.0004	0.0013	-0.0683	0.0050	-0.3585	0.0266
3	150.12	0.2357	-0.0097	0.0018	-0.0293	0.0024	-0.2054	0.0105	-0.8656	0.0572
3	150.12	0.2995	-0.0200	0.0022	-0.0274	0.0050	-0.4086	0.0229	-1.1059	0.0698
3	150.12	0.3493	-0.0068	0.0024	-0.0610	0.0086	-0.6989	0.0383	-1.1541	0.0661
3	150.12	0.4000	0.0244	0.0035	-0.0992	0.0132	-1.1348	0.0610	-1.1047	0.0710
3	150.12	0.4497	0.0110	0.0044	-0.1382	0.0178	-1.7386	0.0854	-1.2807	0.0794
3	150.12	0.4997	0.0272	0.0059	-0.1865	0.0235	-2.5519	0.1157	-1.3698	0.0695
3	150.12	0.5556	0.0060	0.0085	-0.2561	0.0310	-3.6845	0.1524	-1.5272	0.0764
3	150.12	0.5995	0.0066	0.0108	-0.2840	0.0376	-4.7586	0.1864	-1.4523	0.0703
3	150.12	0.6498	-0.0213	0.0147	-0.3766	0.0457	-6.1831	0.2268	-1.4555	0.0753
3	150.12	0.6890	-0.0802	0.0181	-0.4182	0.0529	-7.4304	0.2614	-1.3370	0.0740
3	150.12	0.7495	-0.1326	0.0253	-0.5288	0.0642	-9.5751	0.3202	-1.3563	0.0778
3	150.12	0.7998	-0.2373	0.0319	-0.5986	0.0748	-11.5389	0.3733	-1.4058	0.0826
3	150.12	0.8577	-0.3558	0.0410	-0.6855	0.0875	-13.9644	0.4398	-1.6113	0.0843
3	150.12	0.9178	-0.4488	0.0504	-0.7920	0.1013	-16.5493	0.5128	-1.0965	0.0871
3	150.12	0.9729	-0.5772	0.0595	-0.9350	0.1139	-19.0950	0.5827	-1.4688	0.0866
4	150.12	0.2001	-0.0619	0.0017	-0.0015	0.0011	-0.1318	0.0038	-0.1680	0.0251
4	150.12	0.2502	-0.0348	0.0013	0.0063	0.0027	-0.3060	0.0084	-0.2357	0.0352
4	150.12	0.3001	-0.0341	0.0019	0.0112	0.0051	-0.5891	0.0154	-0.3871	0.0517
4	150.12	0.3502	-0.0291	0.0028	0.0010	0.0081	-1.0046	0.0270	-0.3951	0.0393
4	150.12	0.4002	-0.0238	0.0028	0.0201	0.0130	-1.5883	0.0416	-0.5158	0.0405
4	150.12	0.4500	-0.0079	0.0040	0.0456	0.0149	-2.3601	0.0591	-0.8189	0.0478
4	150.12	0.5001	-0.0146	0.0050	0.0439	0.0199	-3.2739	0.0793	-0.6203	0.0544
4	150.12	0.5560	-0.0326	0.0070	0.0599	0.0243	-4.5937	0.1046	-0.7912	0.0677
4	150.12	0.6001	-0.0422	0.0089	0.0558	0.0295	-5.8038	0.1281	-0.8068	0.0508
4	150.12	0.6501	-0.0999	0.0116	0.0430	0.0351	-7.3684	0.1569	-0.6994	0.0572
4	150.12	0.6999	-0.1561	0.0154	0.0250	0.0412	-9.1176	0.1909	-0.5215	0.0612
4	150.12	0.7500	-0.2239	0.0207	0.0053	0.0480	-11.0542	0.2327	-0.4172	0.0674
4	150.12	0.8002	-0.3455	0.0276	-0.0414	0.0554	-13.1392	0.2820	-0.3352	0.0664
4	150.12	0.8582	-0.4832	0.0374	-0.0760	0.0645	-15.7444	0.3478	-0.5697	0.0705
4	150.12	0.9101	-0.6166	0.0462	-0.0829	0.0731	-18.1374	0.4129	-0.3325	0.0721
4	150.12	0.9728	-0.6783	0.0580	-0.0674	0.0835	-21.0906	0.4963	-0.2653	0.0765

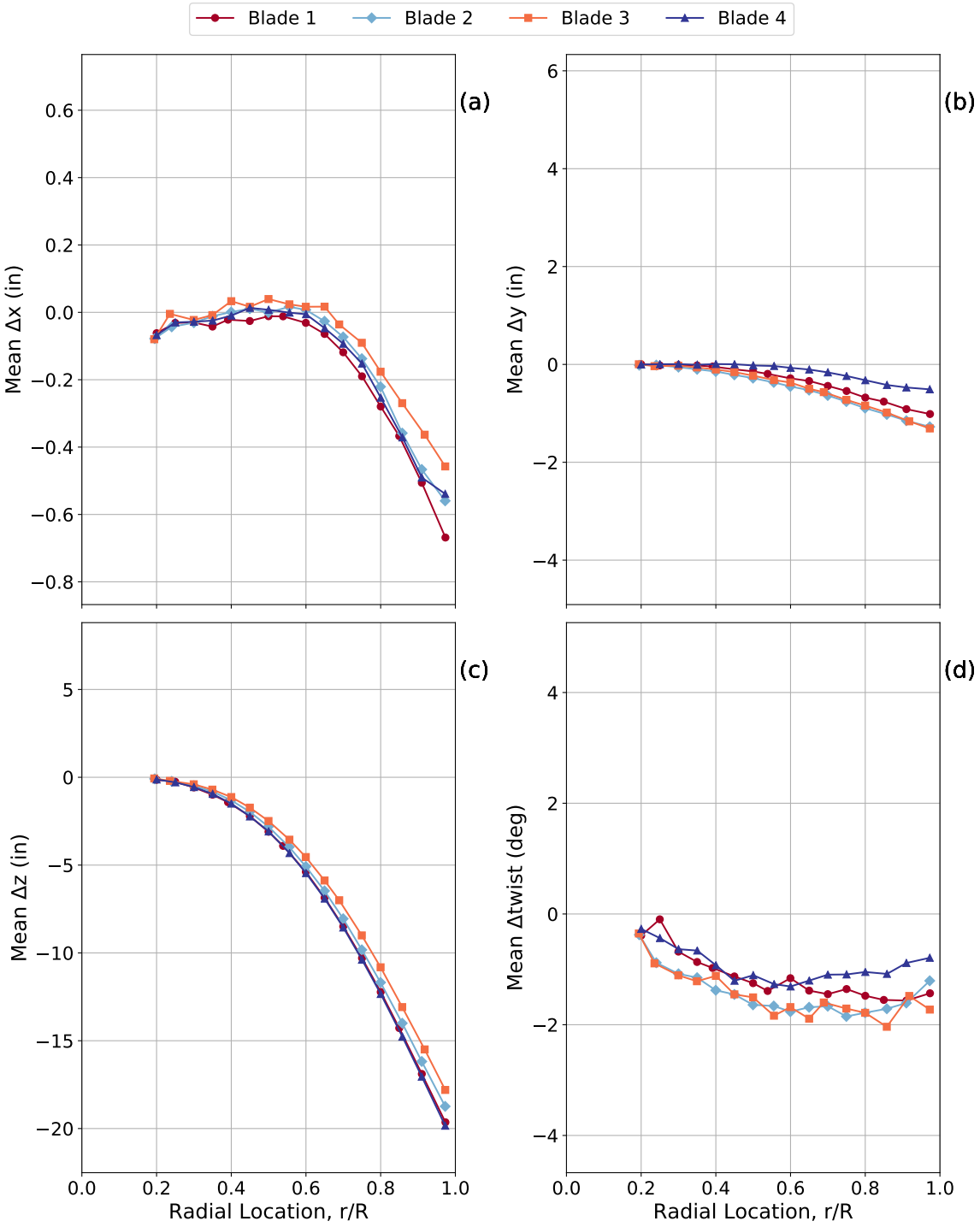


Figure 2.29-19. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-22. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	164.88	0.2001	-0.0618	0.0021	0.0021	0.0010	-0.1416	0.0036	-0.3894	0.0266
1	164.88	0.2499	-0.0312	0.0020	-0.0204	0.0027	-0.2523	0.0084	-0.0965	0.0507
1	164.88	0.2998	-0.0301	0.0020	-0.0110	0.0043	-0.5803	0.0163	-0.6799	0.0618
1	164.88	0.3498	-0.0423	0.0022	-0.0216	0.0075	-0.9908	0.0264	-0.8670	0.0697
1	164.88	0.3913	-0.0218	0.0028	-0.0435	0.0109	-1.4212	0.0397	-0.9751	0.0640
1	164.88	0.4496	-0.0257	0.0035	-0.1007	0.0146	-2.2111	0.0543	-1.1278	0.0775
1	164.88	0.4997	-0.0115	0.0047	-0.1429	0.0190	-3.1011	0.0722	-1.2496	0.0835
1	164.88	0.5387	-0.0119	0.0062	-0.1934	0.0220	-3.9045	0.0850	-1.3905	0.0778
1	164.88	0.5996	-0.0312	0.0076	-0.2850	0.0286	-5.3802	0.1058	-1.1597	0.0756
1	164.88	0.6498	-0.0641	0.0097	-0.3387	0.0348	-6.8573	0.1247	-1.3839	0.0793
1	164.88	0.6998	-0.1186	0.0122	-0.4397	0.0406	-8.4940	0.1450	-1.4479	0.0908
1	164.88	0.7500	-0.1899	0.0166	-0.5438	0.0482	-10.2939	0.1725	-1.3557	0.0852
1	164.88	0.8001	-0.2796	0.0213	-0.6776	0.0554	-12.2248	0.2055	-1.4772	0.0918
1	164.88	0.8497	-0.3673	0.0277	-0.7607	0.0636	-14.2794	0.2471	-1.5524	0.0903
1	164.88	0.9102	-0.5061	0.0357	-0.9140	0.0736	-16.8902	0.3058	-1.5639	0.0898
1	164.88	0.9734	-0.6685	0.0455	-1.0141	0.0841	-19.6432	0.3740	-1.4320	0.0951
2	164.88	0.1949	-0.0780	0.0018	-0.0164	0.0011	-0.0881	0.0032	-0.3752	0.0295
2	164.88	0.2405	-0.0431	0.0019	-0.0140	0.0025	-0.2284	0.0063	-0.8804	0.0449
2	164.88	0.2999	-0.0307	0.0019	-0.0561	0.0051	-0.4816	0.0144	-1.0804	0.0674
2	164.88	0.3498	-0.0115	0.0022	-0.0998	0.0082	-0.8151	0.0225	-1.1501	0.0701
2	164.88	0.3998	0.0009	0.0030	-0.1451	0.0132	-1.3125	0.0363	-1.3779	0.0691
2	164.88	0.4496	0.0109	0.0034	-0.2135	0.0164	-1.9650	0.0468	-1.4528	0.0770
2	164.88	0.4995	-0.0005	0.0043	-0.2803	0.0193	-2.8095	0.0630	-1.6410	0.0748
2	164.88	0.5551	0.0164	0.0055	-0.3677	0.0248	-3.9687	0.0807	-1.6621	0.0809
2	164.88	0.5996	0.0074	0.0065	-0.4507	0.0286	-5.0829	0.0954	-1.7643	0.0808
2	164.88	0.6497	-0.0264	0.0084	-0.5263	0.0336	-6.4686	0.1144	-1.6848	0.0820
2	164.88	0.6996	-0.0730	0.0106	-0.6351	0.0395	-8.0532	0.1355	-1.6656	0.0840
2	164.88	0.7495	-0.1374	0.0135	-0.7595	0.0453	-9.8234	0.1609	-1.8506	0.0823
2	164.88	0.7996	-0.2208	0.0172	-0.8930	0.0513	-11.6834	0.1888	-1.7839	0.0864
2	164.88	0.8578	-0.3585	0.0221	-1.0228	0.0587	-14.0040	0.2261	-1.7116	0.0914
2	164.88	0.9100	-0.4664	0.0268	-1.1501	0.0651	-16.1812	0.2635	-1.6082	0.0924
2	164.88	0.9727	-0.5596	0.0333	-1.2747	0.0732	-18.7378	0.3106	-1.2065	0.0962
3	164.88	0.1938	-0.0798	0.0021	0.0035	0.0015	-0.0675	0.0047	-0.3522	0.0357
3	164.88	0.2357	-0.0045	0.0021	-0.0357	0.0023	-0.2053	0.0080	-0.8922	0.0656
3	164.88	0.2995	-0.0226	0.0019	-0.0266	0.0056	-0.3982	0.0189	-1.1081	0.0899
3	164.88	0.3493	-0.0082	0.0022	-0.0612	0.0090	-0.7024	0.0309	-1.2146	0.0945
3	164.88	0.4000	0.0332	0.0031	-0.1039	0.0142	-1.1254	0.0486	-1.1177	0.1042
3	164.88	0.4497	0.0165	0.0036	-0.1561	0.0185	-1.7282	0.0651	-1.4517	0.1119
3	164.88	0.4997	0.0395	0.0043	-0.2301	0.0243	-2.4893	0.0841	-1.5065	0.1152
3	164.88	0.5556	0.0238	0.0057	-0.3188	0.0314	-3.5523	0.1080	-1.8370	0.1261
3	164.88	0.5995	0.0166	0.0071	-0.3698	0.0370	-4.5423	0.1279	-1.6822	0.1284
3	164.88	0.6498	0.0169	0.0086	-0.4982	0.0456	-5.8770	0.1518	-1.8911	0.1365
3	164.88	0.6890	-0.0359	0.0103	-0.5665	0.0522	-7.0016	0.1710	-1.5985	0.1406
3	164.88	0.7495	-0.0904	0.0139	-0.7246	0.0633	-9.0031	0.2077	-1.7085	0.1411
3	164.88	0.7998	-0.1763	0.0175	-0.8422	0.0738	-10.8180	0.2408	-1.7848	0.1436
3	164.88	0.8577	-0.2696	0.0230	-0.9838	0.0855	-13.0849	0.2855	-2.0377	0.1670
3	164.88	0.9178	-0.3632	0.0291	-1.1633	0.0985	-15.4948	0.3404	-1.4808	0.1627
3	164.88	0.9729	-0.4574	0.0357	-1.3085	0.1093	-17.8016	0.3949	-1.7269	0.1665
4	164.88	0.2001	-0.0677	0.0016	-0.0027	0.0010	-0.1243	0.0030	-0.2703	0.0306
4	164.88	0.2502	-0.0300	0.0017	0.0042	0.0034	-0.2888	0.0064	-0.4360	0.0420
4	164.88	0.3001	-0.0279	0.0018	0.0066	0.0048	-0.5573	0.0115	-0.6357	0.0636
4	164.88	0.3502	-0.0245	0.0022	-0.0078	0.0084	-0.9477	0.0196	-0.6609	0.0578
4	164.88	0.4002	-0.0096	0.0031	0.0072	0.0134	-1.5005	0.0301	-0.9264	0.0644
4	164.88	0.4500	0.0133	0.0039	0.0033	0.0161	-2.2312	0.0408	-1.2062	0.0665
4	164.88	0.5001	0.0076	0.0051	-0.0216	0.0196	-3.0843	0.0543	-1.1062	0.0766
4	164.88	0.5560	-0.0009	0.0060	-0.0329	0.0251	-4.3163	0.0712	-1.2674	0.0800
4	164.88	0.6001	-0.0056	0.0073	-0.0704	0.0292	-5.4574	0.0854	-1.3094	0.0911
4	164.88	0.6501	-0.0471	0.0086	-0.1047	0.0347	-6.9103	0.1022	-1.2024	0.0895
4	164.88	0.6999	-0.0934	0.0107	-0.1633	0.0402	-8.5542	0.1213	-1.0959	0.0936
4	164.88	0.7500	-0.1521	0.0138	-0.2367	0.0464	-10.3878	0.1453	-1.0923	0.0981
4	164.88	0.8002	-0.2534	0.0179	-0.3232	0.0530	-12.3389	0.1731	-1.0477	0.1007
4	164.88	0.8582	-0.3713	0.0237	-0.4205	0.0609	-14.7717	0.2142	-1.0824	0.1039
4	164.88	0.9101	-0.4904	0.0290	-0.4716	0.0681	-17.0460	0.2577	-0.8852	0.1152
4	164.88	0.9728	-0.5390	0.0378	-0.5096	0.0766	-19.8398	0.3194	-0.7916	0.1101

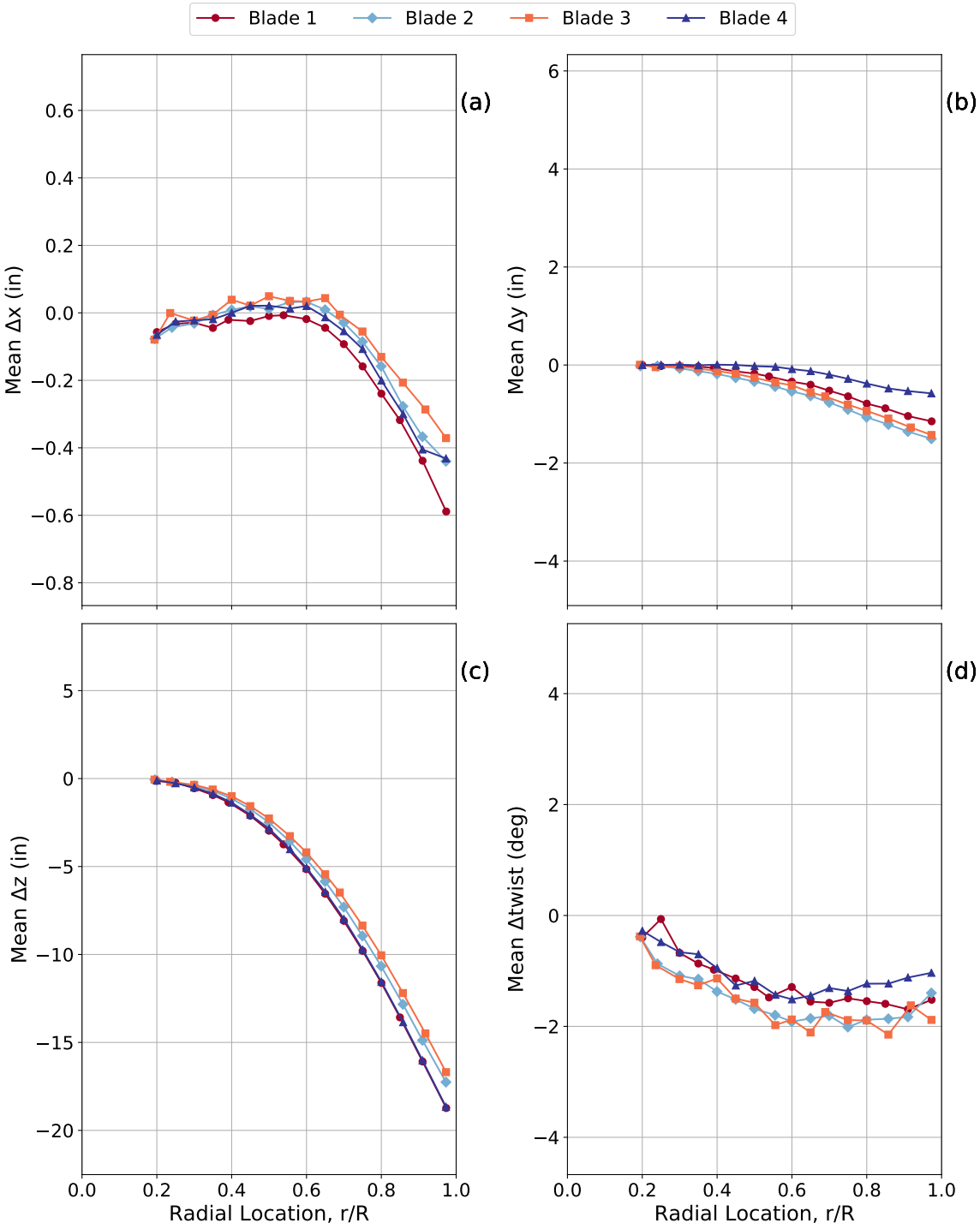


Figure 2.29-20. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-23. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	170.16	0.2001	-0.0570	0.0022	-0.0000	0.0013	-0.1344	0.0037	-0.3969	0.0298
1	170.16	0.2499	-0.0323	0.0026	-0.0222	0.0031	-0.2343	0.0063	-0.0647	0.0638
1	170.16	0.2998	-0.0292	0.0027	-0.0194	0.0057	-0.5521	0.0144	-0.6753	0.0727
1	170.16	0.3498	-0.0447	0.0030	-0.0327	0.0095	-0.9377	0.0243	-0.8670	0.0766
1	170.16	0.3913	-0.0205	0.0031	-0.0608	0.0140	-1.3469	0.0346	-0.9781	0.0801
1	170.16	0.4496	-0.0242	0.0038	-0.1292	0.0185	-2.1120	0.0510	-1.1368	0.0815
1	170.16	0.4997	-0.0092	0.0049	-0.1755	0.0240	-2.9653	0.0675	-1.2903	0.0948
1	170.16	0.5387	-0.0070	0.0056	-0.2328	0.0292	-3.7419	0.0799	-1.4789	0.0933
1	170.16	0.5996	-0.0185	0.0070	-0.3396	0.0365	-5.1511	0.1023	-1.2905	0.0895
1	170.16	0.6498	-0.0444	0.0092	-0.4030	0.0437	-6.5477	0.1228	-1.5532	0.0979
1	170.16	0.6998	-0.0927	0.0118	-0.5233	0.0512	-8.0879	0.1454	-1.5755	0.0989
1	170.16	0.7500	-0.1587	0.0153	-0.6398	0.0589	-9.7938	0.1749	-1.4940	0.1046
1	170.16	0.8001	-0.2396	0.0201	-0.7886	0.0678	-11.6168	0.2101	-1.5448	0.1017
1	170.16	0.8497	-0.3178	0.0258	-0.8842	0.0763	-13.5766	0.2497	-1.5932	0.1123
1	170.16	0.9102	-0.4383	0.0330	-1.0418	0.0880	-16.0855	0.3054	-1.6924	0.1098
1	170.16	0.9734	-0.5888	0.0415	-1.1494	0.0999	-18.7293	0.3678	-1.5200	0.1097
2	170.16	0.1949	-0.0767	0.0020	-0.0192	0.0012	-0.0738	0.0036	-0.3865	0.0280
2	170.16	0.2405	-0.0431	0.0015	-0.0202	0.0019	-0.1972	0.0054	-0.8709	0.0518
2	170.16	0.2999	-0.0311	0.0017	-0.0688	0.0044	-0.4188	0.0131	-1.0882	0.0675
2	170.16	0.3498	-0.0067	0.0019	-0.1246	0.0074	-0.7015	0.0219	-1.1486	0.0736
2	170.16	0.3998	0.0089	0.0023	-0.1820	0.0112	-1.1398	0.0332	-1.3716	0.0740
2	170.16	0.4496	0.0191	0.0030	-0.2599	0.0148	-1.7364	0.0442	-1.5136	0.0756
2	170.16	0.4995	0.0118	0.0035	-0.3363	0.0191	-2.4919	0.0561	-1.6807	0.0821
2	170.16	0.5551	0.0318	0.0041	-0.4403	0.0244	-3.5672	0.0700	-1.7982	0.0906
2	170.16	0.5996	0.0330	0.0051	-0.5379	0.0292	-4.5839	0.0834	-1.9141	0.0921
2	170.16	0.6497	0.0093	0.0063	-0.6296	0.0352	-5.8464	0.0988	-1.8574	0.0990
2	170.16	0.6996	-0.0293	0.0082	-0.7650	0.0416	-7.3033	0.1170	-1.8073	0.1049
2	170.16	0.7495	-0.0855	0.0109	-0.9082	0.0484	-8.9445	0.1392	-2.0128	0.1101
2	170.16	0.7996	-0.1583	0.0144	-1.0665	0.0559	-10.6658	0.1653	-1.8803	0.1102
2	170.16	0.8578	-0.2770	0.0198	-1.2136	0.0651	-12.8320	0.2020	-1.8623	0.1106
2	170.16	0.9100	-0.3670	0.0250	-1.3571	0.0742	-14.8793	0.2409	-1.8298	0.1166
2	170.16	0.9727	-0.4398	0.0325	-1.5054	0.0847	-17.2565	0.2928	-1.3976	0.1204
3	170.16	0.1938	-0.0793	0.0022	0.0053	0.0014	-0.0583	0.0041	-0.3784	0.0273
3	170.16	0.2357	-0.0006	0.0022	-0.0441	0.0025	-0.1835	0.0055	-0.8967	0.0554
3	170.16	0.2995	-0.0228	0.0018	-0.0312	0.0054	-0.3541	0.0140	-1.1468	0.0653
3	170.16	0.3493	-0.0057	0.0023	-0.0710	0.0085	-0.6244	0.0218	-1.2589	0.0632
3	170.16	0.4000	0.0389	0.0032	-0.1233	0.0136	-1.0039	0.0342	-1.1358	0.0712
3	170.16	0.4497	0.0215	0.0030	-0.1799	0.0178	-1.5689	0.0455	-1.4997	0.0717
3	170.16	0.4997	0.0492	0.0034	-0.2598	0.0217	-2.2705	0.0599	-1.5734	0.0827
3	170.16	0.5556	0.0355	0.0041	-0.3560	0.0271	-3.2728	0.0778	-1.9776	0.0822
3	170.16	0.5995	0.0334	0.0049	-0.4125	0.0314	-4.1948	0.0919	-1.8759	0.0856
3	170.16	0.6498	0.0437	0.0062	-0.5575	0.0371	-5.4412	0.1094	-2.1100	0.0848
3	170.16	0.6890	-0.0054	0.0075	-0.6401	0.0413	-6.4784	0.1233	-1.7406	0.0970
3	170.16	0.7495	-0.0553	0.0099	-0.8088	0.0488	-8.3591	0.1459	-1.8857	0.0974
3	170.16	0.7998	-0.1305	0.0124	-0.9357	0.0552	-10.0480	0.1685	-1.8945	0.0992
3	170.16	0.8577	-0.2068	0.0164	-1.0910	0.0629	-12.1940	0.2006	-2.1479	0.1047
3	170.16	0.9178	-0.2863	0.0210	-1.2747	0.0711	-14.4882	0.2399	-1.6216	0.1053
3	170.16	0.9729	-0.3712	0.0267	-1.4273	0.0791	-16.6904	0.2789	-1.8835	0.1117
4	170.16	0.2001	-0.0651	0.0019	-0.0019	0.0011	-0.1105	0.0040	-0.2767	0.0351
4	170.16	0.2502	-0.0259	0.0022	0.0027	0.0030	-0.2688	0.0079	-0.4795	0.0411
4	170.16	0.3001	-0.0223	0.0018	0.0064	0.0040	-0.5079	0.0154	-0.6625	0.0702
4	170.16	0.3502	-0.0189	0.0023	-0.0064	0.0084	-0.8597	0.0252	-0.6994	0.0581
4	170.16	0.4002	0.0003	0.0032	0.0065	0.0119	-1.3704	0.0393	-0.9512	0.0658
4	170.16	0.4500	0.0209	0.0035	0.0006	0.0145	-2.0606	0.0534	-1.2631	0.0709
4	170.16	0.5001	0.0213	0.0049	-0.0232	0.0180	-2.8493	0.0708	-1.1793	0.0822
4	170.16	0.5560	0.0128	0.0054	-0.0374	0.0221	-4.0164	0.0888	-1.4302	0.0820
4	170.16	0.6001	0.0203	0.0066	-0.0835	0.0255	-5.0860	0.1037	-1.5124	0.0864
4	170.16	0.6501	-0.0132	0.0081	-0.1250	0.0297	-6.4443	0.1218	-1.4463	0.0900
4	170.16	0.6999	-0.0545	0.0104	-0.1967	0.0345	-7.9814	0.1428	-1.3086	0.0961
4	170.16	0.7500	-0.1072	0.0138	-0.2820	0.0397	-9.7213	0.1717	-1.3632	0.1045
4	170.16	0.8002	-0.2006	0.0188	-0.3794	0.0447	-11.5583	0.2065	-1.2304	0.1082
4	170.16	0.8582	-0.3002	0.0261	-0.4786	0.0517	-13.8521	0.2602	-1.2285	0.1092
4	170.16	0.9101	-0.4051	0.0329	-0.5315	0.0584	-16.0200	0.3179	-1.1196	0.1205
4	170.16	0.9728	-0.4316	0.0436	-0.5786	0.0674	-18.6652	0.3963	-1.0342	0.1165

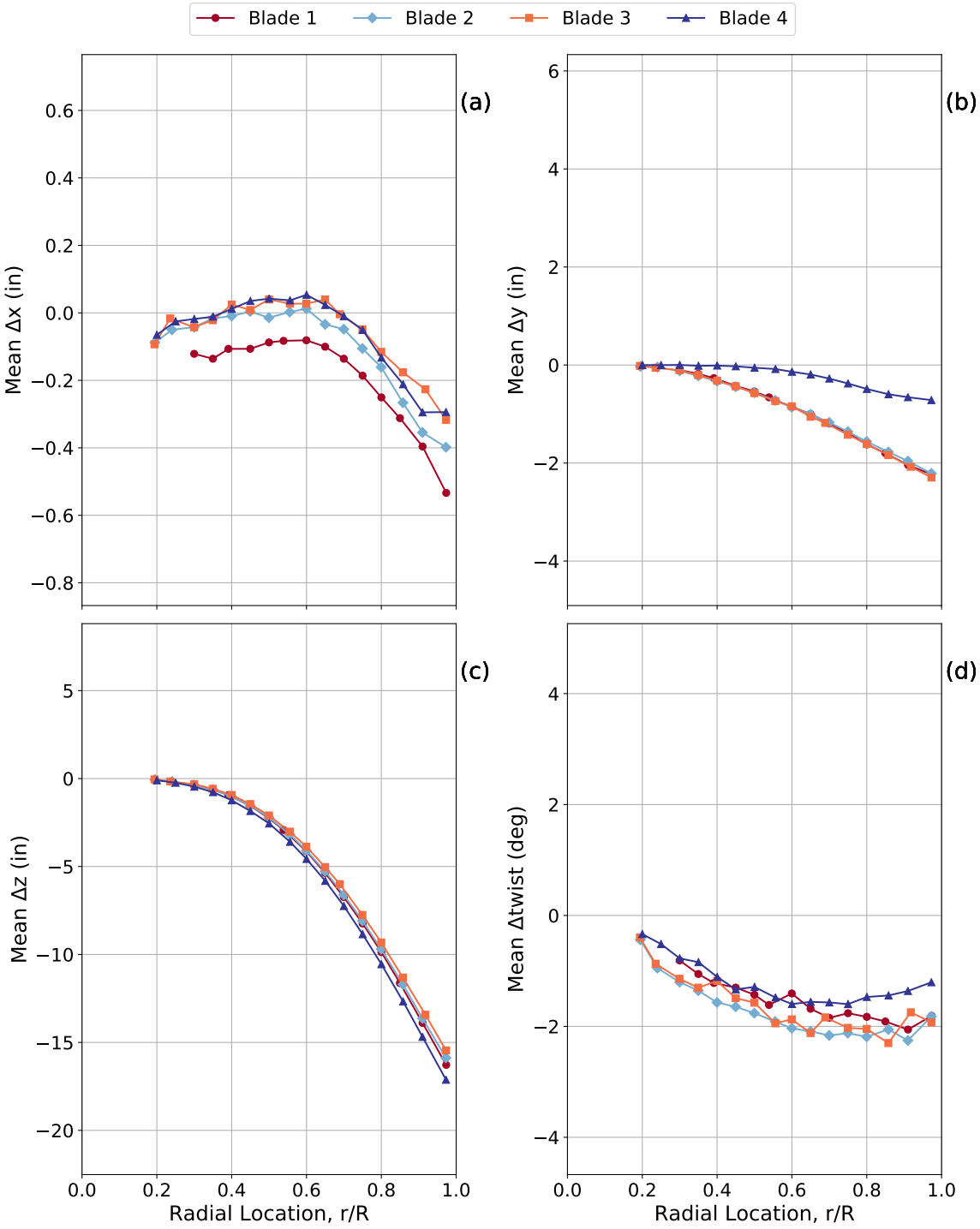


Figure 2.29-21. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-24. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	175.08	0.2998	-0.1214	0.0085	-0.1029	0.0154	-0.3414	0.0404	-0.8115	0.1034
1	175.08	0.3498	-0.1360	0.0093	-0.1803	0.0269	-0.6217	0.0704	-1.0551	0.1374
1	175.08	0.3913	-0.1068	0.0087	-0.2680	0.0400	-0.9417	0.1044	-1.2169	0.1143
1	175.08	0.4496	-0.1066	0.0103	-0.4245	0.0539	-1.5487	0.1442	-1.3001	0.1236
1	175.08	0.4997	-0.0876	0.0113	-0.5406	0.0677	-2.2580	0.1789	-1.4284	0.1282
1	175.08	0.5387	-0.0829	0.0126	-0.6596	0.0786	-2.9236	0.2084	-1.6133	0.1182
1	175.08	0.5996	-0.0813	0.0149	-0.8564	0.0959	-4.1354	0.2524	-1.4066	0.1235
1	175.08	0.6498	-0.1004	0.0169	-0.9994	0.1104	-5.3664	0.2888	-1.6819	0.1236
1	175.08	0.6998	-0.1359	0.0198	-1.1935	0.1254	-6.7356	0.3242	-1.8459	0.1295
1	175.08	0.7500	-0.1861	0.0233	-1.3904	0.1411	-8.2390	0.3609	-1.7627	0.1316
1	175.08	0.8001	-0.2506	0.0276	-1.6203	0.1572	-9.8638	0.3985	-1.8280	0.1268
1	175.08	0.8497	-0.3120	0.0323	-1.8000	0.1735	-11.6292	0.4364	-1.9114	0.1342
1	175.08	0.9102	-0.3961	0.0386	-2.0391	0.1944	-13.8941	0.4869	-2.0573	0.1336
1	175.08	0.9734	-0.5336	0.0464	-2.2351	0.2162	-16.2774	0.5453	-1.8104	0.1327
2	175.08	0.1949	-0.0879	0.0198	-0.0306	0.0023	-0.0616	0.0040	-0.4383	0.0265
2	175.08	0.2405	-0.0502	0.0086	-0.0440	0.0045	-0.1702	0.0064	-0.9493	0.0469
2	175.08	0.2999	-0.0424	0.0058	-0.1205	0.0103	-0.3730	0.0142	-1.2009	0.0626
2	175.08	0.3498	-0.0164	0.0171	-0.2218	0.0179	-0.6249	0.0257	-1.3558	0.0648
2	175.08	0.3998	-0.0096	0.0281	-0.3287	0.0276	-1.0236	0.0377	-1.5688	0.0785
2	175.08	0.4496	0.0041	0.0387	-0.4421	0.0397	-1.5437	0.0515	-1.6467	0.0864
2	175.08	0.4995	-0.0144	0.0480	-0.5652	0.0539	-2.2118	0.0651	-1.7614	0.0965
2	175.08	0.5551	0.0025	0.0570	-0.7212	0.0729	-3.1735	0.0839	-1.9138	0.1051
2	175.08	0.5996	0.0121	0.0635	-0.8616	0.0899	-4.0914	0.1011	-2.0345	0.1072
2	175.08	0.6497	-0.0340	0.0696	-1.0083	0.1111	-5.2738	0.1237	-2.0900	0.1217
2	175.08	0.6996	-0.0484	0.0744	-1.1720	0.1337	-6.6106	0.1502	-2.1631	0.1238
2	175.08	0.7495	-0.1057	0.0774	-1.3610	0.1587	-8.0865	0.1827	-2.1221	0.1298
2	175.08	0.7996	-0.1608	0.0796	-1.5617	0.1845	-9.6986	0.2210	-2.1877	0.1327
2	175.08	0.8578	-0.2664	0.0798	-1.7735	0.2158	-11.7028	0.2725	-2.0554	0.1368
2	175.08	0.9100	-0.3546	0.0802	-1.9607	0.2462	-13.6318	0.3223	-2.2541	0.1445
2	175.08	0.9727	-0.3982	0.0755	-2.2107	0.2838	-15.8777	0.3872	-1.8219	0.1477
3	175.08	0.1938	-0.0932	0.0027	-0.0187	0.0037	-0.0492	0.0057	-0.3983	0.0289
3	175.08	0.2357	-0.0165	0.0033	-0.0571	0.0028	-0.1641	0.0079	-0.8714	0.0565
3	175.08	0.2995	-0.0427	0.0034	-0.1075	0.0116	-0.3223	0.0187	-1.1422	0.0688
3	175.08	0.3493	-0.0218	0.0037	-0.2056	0.0207	-0.5807	0.0318	-1.3019	0.0659
3	175.08	0.4000	0.0246	0.0041	-0.3192	0.0299	-0.9344	0.0480	-1.1815	0.0706
3	175.08	0.4497	0.0085	0.0044	-0.4336	0.0389	-1.4510	0.0648	-1.4903	0.0772
3	175.08	0.4997	0.0398	0.0053	-0.5736	0.0487	-2.0987	0.0850	-1.5725	0.0802
3	175.08	0.5556	0.0273	0.0061	-0.7371	0.0599	-3.0196	0.1081	-1.9445	0.0833
3	175.08	0.5995	0.0273	0.0073	-0.8424	0.0686	-3.8708	0.1283	-1.8732	0.0805
3	175.08	0.6498	0.0398	0.0089	-1.0555	0.0787	-5.0340	0.1527	-2.1199	0.0857
3	175.08	0.6890	-0.0042	0.0106	-1.1818	0.0875	-6.0028	0.1722	-1.8375	0.0917
3	175.08	0.7495	-0.0488	0.0142	-1.4233	0.1010	-7.7528	0.2055	-2.0266	0.0980
3	175.08	0.7998	-0.1156	0.0180	-1.6106	0.1122	-9.3181	0.2395	-2.0454	0.0949
3	175.08	0.8577	-0.1761	0.0240	-1.8384	0.1255	-11.3142	0.2850	-2.3007	0.0936
3	175.08	0.9178	-0.2266	0.0302	-2.0768	0.1401	-13.4260	0.3409	-1.7464	0.0962
3	175.08	0.9729	-0.3171	0.0375	-2.2960	0.1539	-15.4553	0.3963	-1.9272	0.0986
4	175.08	0.2001	-0.0650	0.0016	-0.0020	0.0014	-0.1002	0.0040	-0.3358	0.0269
4	175.08	0.2502	-0.0253	0.0022	-0.0033	0.0033	-0.2393	0.0076	-0.5159	0.0481
4	175.08	0.3001	-0.0182	0.0020	0.0009	0.0056	-0.4609	0.0143	-0.7735	0.0575
4	175.08	0.3502	-0.0113	0.0021	-0.0161	0.0099	-0.7747	0.0235	-0.8424	0.0478
4	175.08	0.4002	0.0119	0.0028	-0.0116	0.0150	-1.2373	0.0364	-1.1083	0.0577
4	175.08	0.4500	0.0351	0.0032	-0.0269	0.0180	-1.8474	0.0495	-1.3327	0.0587
4	175.08	0.5001	0.0422	0.0038	-0.0563	0.0231	-2.5548	0.0622	-1.2891	0.0659
4	175.08	0.5560	0.0370	0.0047	-0.0822	0.0276	-3.5989	0.0795	-1.4795	0.0664
4	175.08	0.6001	0.0535	0.0057	-0.1383	0.0326	-4.5714	0.0922	-1.5970	0.0748
4	175.08	0.6501	0.0233	0.0071	-0.1936	0.0379	-5.8162	0.1060	-1.5578	0.0759
4	175.08	0.6999	-0.0100	0.0088	-0.2773	0.0436	-7.2478	0.1209	-1.5685	0.0799
4	175.08	0.7500	-0.0507	0.0109	-0.3774	0.0498	-8.8509	0.1361	-1.5989	0.0774
4	175.08	0.8002	-0.1329	0.0137	-0.4893	0.0565	-10.5541	0.1565	-1.4699	0.0760
4	175.08	0.8582	-0.2117	0.0182	-0.5971	0.0647	-12.6759	0.1861	-1.4425	0.0852
4	175.08	0.9101	-0.2949	0.0218	-0.6574	0.0725	-14.6857	0.2157	-1.3620	0.0887
4	175.08	0.9728	-0.2941	0.0278	-0.7167	0.0825	-17.1229	0.2582	-1.2048	0.0976

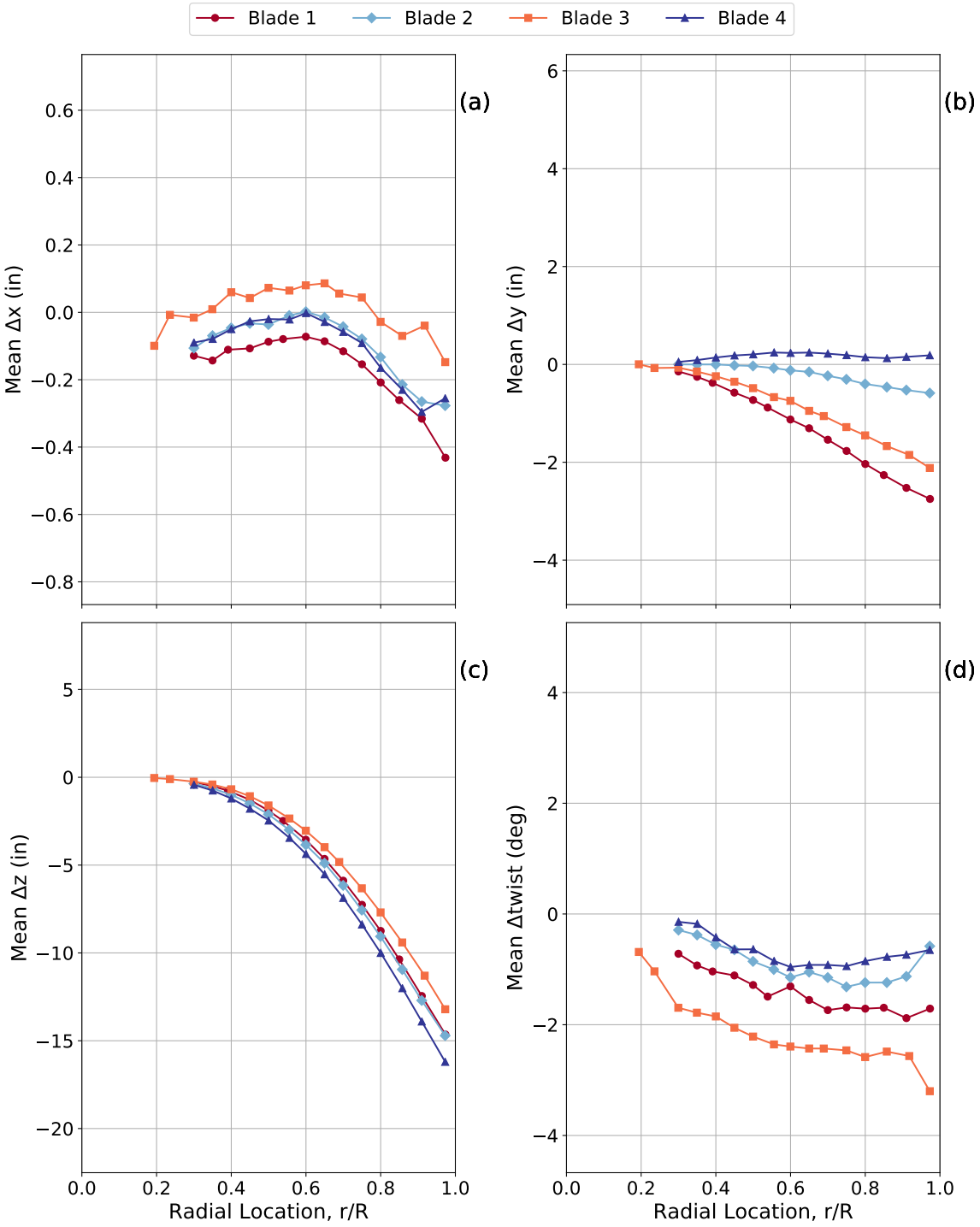


Figure 2.29-22. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.299, α = 4° NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-25. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	180	0.2998	-0.1287	0.0118	-0.1442	0.0247	-0.2688	0.0473	-0.7186	0.1414
1	180	0.3498	-0.1429	0.0127	-0.2529	0.0433	-0.4999	0.0823	-0.9296	0.1877
1	180	0.3913	-0.1109	0.0128	-0.3760	0.0645	-0.7648	0.1220	-1.0379	0.1691
1	180	0.4496	-0.1070	0.0140	-0.5767	0.0903	-1.2784	0.1689	-1.1104	0.1713
1	180	0.4997	-0.0872	0.0149	-0.7269	0.1121	-1.8975	0.2139	-1.2824	0.1852
1	180	0.5387	-0.0793	0.0158	-0.8817	0.1293	-2.4818	0.2504	-1.4921	0.1765
1	180	0.5996	-0.0723	0.0179	-1.1259	0.1570	-3.5551	0.3079	-1.3075	0.1816
1	180	0.6498	-0.0859	0.0196	-1.3048	0.1801	-4.6478	0.3577	-1.5533	0.1756
1	180	0.6998	-0.1155	0.0229	-1.5397	0.2026	-5.8872	0.4066	-1.7365	0.1813
1	180	0.7500	-0.1542	0.0259	-1.7686	0.2261	-7.2610	0.4559	-1.6881	0.1877
1	180	0.8001	-0.2082	0.0298	-2.0357	0.2488	-8.7485	0.5067	-1.7103	0.1924
1	180	0.8497	-0.2605	0.0347	-2.2616	0.2717	-10.3690	0.5590	-1.6933	0.2012
1	180	0.9102	-0.3158	0.0409	-2.5232	0.3003	-12.4532	0.6264	-1.8808	0.2073
1	180	0.9734	-0.4315	0.0472	-2.7493	0.3299	-14.6440	0.7022	-1.7090	0.1999
2	180	0.2999	-0.1061	0.0108	-0.0005	0.0207	-0.3610	0.0332	-0.2906	0.0968
2	180	0.3498	-0.0693	0.0106	-0.0008	0.0357	-0.6268	0.0575	-0.3788	0.1278
2	180	0.3998	-0.0462	0.0115	-0.0013	0.0564	-0.9973	0.0914	-0.5538	0.1182
2	180	0.4496	-0.0327	0.0125	-0.0199	0.0739	-1.4864	0.1208	-0.6472	0.1262
2	180	0.4995	-0.0361	0.0129	-0.0321	0.0909	-2.1078	0.1537	-0.8565	0.1252
2	180	0.5551	-0.0096	0.0141	-0.0755	0.1109	-2.9976	0.1927	-1.0025	0.1227
2	180	0.5996	0.0019	0.0152	-0.1212	0.1272	-3.8447	0.2233	-1.1464	0.1260
2	180	0.6497	-0.0150	0.0177	-0.1528	0.1455	-4.8910	0.2610	-1.0493	0.1269
2	180	0.6996	-0.0426	0.0203	-0.2330	0.1643	-6.1556	0.2965	-1.1481	0.1277
2	180	0.7495	-0.0790	0.0239	-0.3051	0.1830	-7.5621	0.3372	-1.3161	0.1294
2	180	0.7996	-0.1327	0.0281	-0.4000	0.2019	-9.0634	0.3784	-1.2391	0.1296
2	180	0.8578	-0.2145	0.0345	-0.4638	0.2249	-10.9449	0.4326	-1.2387	0.1267
2	180	0.9100	-0.2649	0.0403	-0.5249	0.2455	-12.7074	0.4879	-1.1274	0.1340
2	180	0.9727	-0.2769	0.0506	-0.5856	0.2704	-14.7083	0.5616	-0.5812	0.1407
3	180.35	0.1938	-0.0993	0.0130	0.0026	0.0038	-0.0398	0.0055	-0.6863	0.0525
3	180.35	0.2357	-0.0074	0.0073	-0.0733	0.0098	-0.1032	0.0090	-1.0365	0.0790
3	180.35	0.2995	-0.0156	0.0027	-0.0668	0.0180	-0.2496	0.0188	-1.6937	0.1227
3	180.35	0.3493	0.0093	0.0023	-0.1456	0.0356	-0.4109	0.0352	-1.7825	0.1210
3	180.35	0.4000	0.0597	0.0036	-0.2418	0.0537	-0.6825	0.0522	-1.8512	0.1268
3	180.35	0.4497	0.0425	0.0053	-0.3542	0.0708	-1.0776	0.0701	-2.0550	0.1308
3	180.35	0.4997	0.0728	0.0074	-0.4853	0.0883	-1.6034	0.0886	-2.2141	0.1320
3	180.35	0.5556	0.0647	0.0096	-0.6692	0.1068	-2.3470	0.1101	-2.3559	0.1361
3	180.35	0.5995	0.0803	0.0120	-0.7444	0.1214	-3.0407	0.1273	-2.3943	0.1396
3	180.35	0.6498	0.0861	0.0150	-0.9493	0.1383	-3.9795	0.1462	-2.4294	0.1473
3	180.35	0.6890	0.0558	0.0173	-1.0562	0.1514	-4.8245	0.1618	-2.4302	0.1456
3	180.35	0.7495	0.0442	0.0215	-1.2814	0.1715	-6.3218	0.1858	-2.4634	0.1555
3	180.35	0.7998	-0.0283	0.0257	-1.4507	0.1883	-7.6950	0.2070	-2.5845	0.1580
3	180.35	0.8577	-0.0699	0.0306	-1.6687	0.2071	-9.4046	0.2329	-2.4853	0.1588
3	180.35	0.9178	-0.0394	0.0363	-1.8504	0.2251	-11.2954	0.2611	-2.5659	0.1867
3	180.35	0.9729	-0.1478	0.0294	-2.1169	0.1917	-13.2084	0.5764	-3.2007	2.1137
4	180	0.3001	-0.0898	0.0136	0.0507	0.0176	-0.4291	0.0423	-0.1420	0.1174
4	180	0.3502	-0.0789	0.0142	0.0884	0.0305	-0.7539	0.0755	-0.1788	0.1569
4	180	0.4002	-0.0499	0.0144	0.1410	0.0485	-1.2078	0.1220	-0.4217	0.1400
4	180	0.4500	-0.0266	0.0158	0.1824	0.0629	-1.7899	0.1618	-0.6395	0.1397
4	180	0.5001	-0.0200	0.0176	0.2048	0.0789	-2.4653	0.2025	-0.6381	0.1475
4	180	0.5560	-0.0213	0.0192	0.2432	0.0964	-3.4516	0.2478	-0.8491	0.1480
4	180	0.6001	-0.0022	0.0209	0.2345	0.1104	-4.3667	0.2844	-0.9580	0.1519
4	180	0.6501	-0.0286	0.0236	0.2420	0.1260	-5.5270	0.3285	-0.9198	0.1473
4	180	0.6999	-0.0582	0.0265	0.2198	0.1413	-6.8696	0.3726	-0.9203	0.1470
4	180	0.7500	-0.0913	0.0305	0.1891	0.1574	-8.3819	0.4170	-0.9421	0.1495
4	180	0.8002	-0.1647	0.0354	0.1471	0.1737	-10.0037	0.4629	-0.8514	0.1524
4	180	0.8582	-0.2301	0.0408	0.1272	0.1925	-12.0100	0.5164	-0.7745	0.1528
4	180	0.9101	-0.2955	0.0458	0.1537	0.2098	-13.9063	0.5665	-0.7361	0.1566
4	180	0.9728	-0.2551	0.0543	0.1860	0.2306	-16.2041	0.6317	-0.6502	0.1541

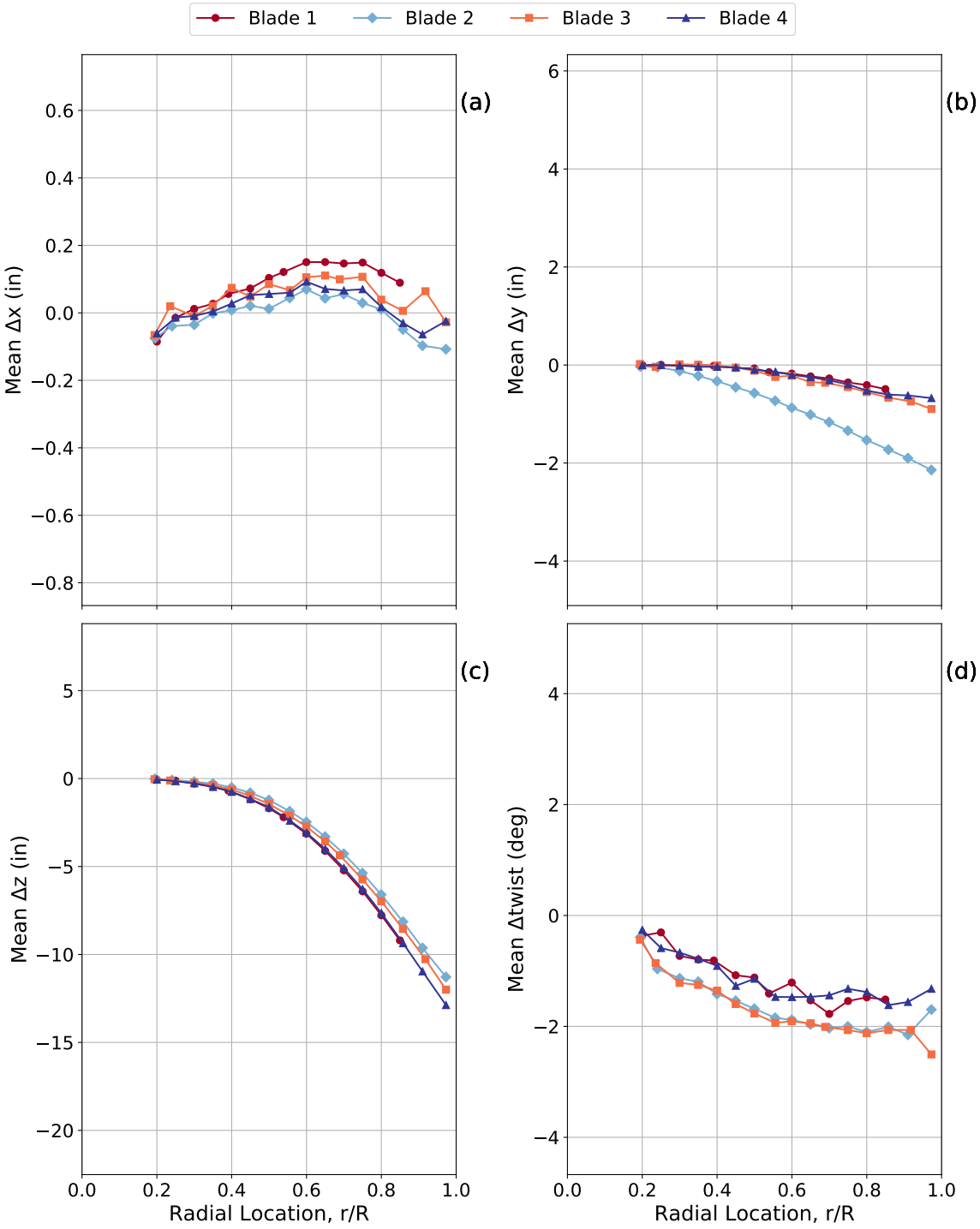


Figure 2.29-23. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-26. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	184.92	0.2001	-0.0852	0.0018	-0.0022	0.0020	-0.0700	0.0046	-0.3648	0.0329
1	184.92	0.2499	-0.0146	0.0017	0.0032	0.0044	-0.1173	0.0091	-0.3054	0.0531
1	184.92	0.2998	0.0118	0.0016	-0.0166	0.0080	-0.2923	0.0178	-0.7291	0.0726
1	184.92	0.3498	0.0269	0.0019	0.0008	0.0138	-0.4657	0.0295	-0.7945	0.0658
1	184.92	0.3913	0.0561	0.0023	-0.0165	0.0199	-0.6873	0.0426	-0.8114	0.0708
1	184.92	0.4496	0.0723	0.0027	-0.0599	0.0259	-1.1739	0.0611	-1.0779	0.0805
1	184.92	0.4997	0.1035	0.0033	-0.0702	0.0322	-1.6907	0.0803	-1.1194	0.0791
1	184.92	0.5387	0.1211	0.0040	-0.1465	0.0370	-2.1974	0.0967	-1.4084	0.0902
1	184.92	0.5996	0.1504	0.0055	-0.1757	0.0465	-3.1331	0.1251	-1.2094	0.0961
1	184.92	0.6498	0.1506	0.0065	-0.2322	0.0531	-4.1100	0.1533	-1.5300	0.0952
1	184.92	0.6998	0.1463	0.0090	-0.2740	0.0618	-5.2181	0.1829	-1.7750	0.1540
1	184.92	0.7500	0.1491	0.0111	-0.3563	0.0705	-6.4126	0.2164	-1.5425	0.1575
1	184.92	0.8001	0.1187	0.0145	-0.4093	0.0886	-7.7708	0.2502	-1.4765	0.3460
1	184.92	0.8497	0.0893	0.0183	-0.4916	0.0880	-9.2005	0.2984	-1.5154	0.1524
2	184.92	0.1949	-0.0753	0.0235	-0.0306	0.0033	-0.0167	0.0065	-0.3918	0.0317
2	184.92	0.2405	-0.0392	0.0106	-0.0437	0.0044	-0.0861	0.0075	-0.9638	0.0859
2	184.92	0.2999	-0.0351	0.0083	-0.1220	0.0122	-0.1788	0.0198	-1.1331	0.0906
2	184.92	0.3498	-0.0015	0.0223	-0.2208	0.0210	-0.2887	0.0335	-1.1944	0.0901
2	184.92	0.3998	0.0079	0.0372	-0.3298	0.0316	-0.5061	0.0489	-1.4170	0.0941
2	184.92	0.4496	0.0207	0.0509	-0.4547	0.0436	-0.8100	0.0641	-1.5376	0.0967
2	184.92	0.4995	0.0120	0.0633	-0.5721	0.0564	-1.2228	0.0824	-1.6814	0.0957
2	184.92	0.5551	0.0442	0.0754	-0.7299	0.0726	-1.8564	0.1051	-1.8446	0.0891
2	184.92	0.5996	0.0698	0.0841	-0.8734	0.0865	-2.4679	0.1240	-1.8827	0.0972
2	184.92	0.6497	0.0433	0.0920	-1.0134	0.1029	-3.3036	0.1497	-1.9632	0.0972
2	184.92	0.6996	0.0556	0.0982	-1.1656	0.1201	-4.2787	0.1788	-2.0324	0.1000
2	184.92	0.7495	0.0293	0.1022	-1.3401	0.1393	-5.3742	0.2133	-2.0015	0.1035
2	184.92	0.7996	0.0104	0.1039	-1.5323	0.1612	-6.5976	0.2515	-2.1012	0.1104
2	184.92	0.8578	-0.0493	0.1027	-1.7269	0.1889	-8.1388	0.3036	-2.0082	0.1083
2	184.92	0.9100	-0.0973	0.1000	-1.9002	0.2167	-9.6291	0.3549	-2.1515	0.1117
2	184.92	0.9727	-0.1078	0.0925	-2.1417	0.2515	-11.2791	0.4164	-1.6971	0.1279
3	184.92	0.1938	-0.0657	0.0152	0.0194	0.0033	-0.0365	0.0069	-0.4374	0.0351
3	184.92	0.2357	0.0197	0.0083	-0.0373	0.0048	-0.1135	0.0086	-0.8598	0.0799
3	184.92	0.2995	-0.0097	0.0051	0.0145	0.0120	-0.2316	0.0195	-1.2151	0.0850
3	184.92	0.3493	0.0208	0.0145	0.0053	0.0211	-0.3768	0.0335	-1.2514	0.0808
3	184.92	0.4000	0.0742	0.0242	-0.0099	0.0321	-0.6279	0.0487	-1.3548	0.0853
3	184.92	0.4497	0.0481	0.0330	-0.0549	0.0439	-0.9860	0.0628	-1.5964	0.0860
3	184.92	0.4997	0.0853	0.0404	-0.1161	0.0573	-1.4502	0.0787	-1.7675	0.0870
3	184.92	0.5556	0.0670	0.0481	-0.2423	0.0724	-2.1136	0.0953	-1.9365	0.0971
3	184.92	0.5995	0.1054	0.0528	-0.2185	0.0849	-2.7284	0.1090	-1.9083	0.0927
3	184.92	0.6498	0.1105	0.0571	-0.3507	0.0996	-3.5739	0.1249	-1.9451	0.0922
3	184.92	0.6890	0.0995	0.0594	-0.3626	0.1107	-4.3587	0.1345	-2.0088	0.0931
3	184.92	0.7495	0.1069	0.0620	-0.4503	0.1306	-5.7346	0.1498	-2.0660	0.1019
3	184.92	0.7998	0.0390	0.0634	-0.5514	0.1484	-6.9747	0.1635	-2.1228	0.1014
3	184.92	0.8577	0.0059	0.0641	-0.6660	0.1702	-8.5496	0.1809	-2.0654	0.1007
3	184.92	0.9178	0.0641	0.0639	-0.7432	0.1952	-10.2707	0.2015	-2.0636	0.1007
3	184.92	0.9729	-0.0279	0.0656	-0.8975	0.2184	-11.9999	0.2210	-2.5054	0.1051
4	184.92	0.2001	-0.0608	0.0186	-0.0068	0.0028	-0.0582	0.0063	-0.2593	0.0363
4	184.92	0.2502	-0.0139	0.0072	-0.0025	0.0053	-0.1516	0.0097	-0.5884	0.0740
4	184.92	0.3001	-0.0091	0.0065	-0.0122	0.0101	-0.2731	0.0199	-0.6699	0.0773
4	184.92	0.3502	0.0042	0.0184	-0.0350	0.0170	-0.4792	0.0323	-0.7819	0.0714
4	184.92	0.4002	0.0277	0.0311	-0.0381	0.0259	-0.7583	0.0482	-0.9091	0.0677
4	184.92	0.4500	0.0525	0.0424	-0.0497	0.0355	-1.1662	0.0637	-1.2686	0.0676
4	184.92	0.5001	0.0560	0.0539	-0.0967	0.0453	-1.6309	0.0805	-1.1412	0.0703
4	184.92	0.5560	0.0597	0.0636	-0.1385	0.0577	-2.3970	0.1006	-1.4687	0.0700
4	184.92	0.6001	0.0924	0.0702	-0.2013	0.0682	-3.0801	0.1177	-1.4715	0.0741
4	184.92	0.6501	0.0708	0.0758	-0.2499	0.0809	-4.0100	0.1380	-1.4679	0.0775
4	184.92	0.6999	0.0664	0.0799	-0.3135	0.0947	-5.0859	0.1604	-1.4403	0.0732
4	184.92	0.7500	0.0700	0.0823	-0.3960	0.1116	-6.2906	0.1866	-1.3225	0.0822
4	184.92	0.8002	0.0172	0.0835	-0.5220	0.1305	-7.6486	0.2190	-1.3819	0.0850
4	184.92	0.8582	-0.0303	0.0828	-0.6051	0.1551	-9.3628	0.2656	-1.6163	0.0863
4	184.92	0.9101	-0.0639	0.0817	-0.6206	0.1795	-10.9638	0.3119	-1.5600	0.0915
4	184.92	0.9728	-0.0242	0.0800	-0.6754	0.2101	-12.8775	0.3738	-1.3221	0.0928

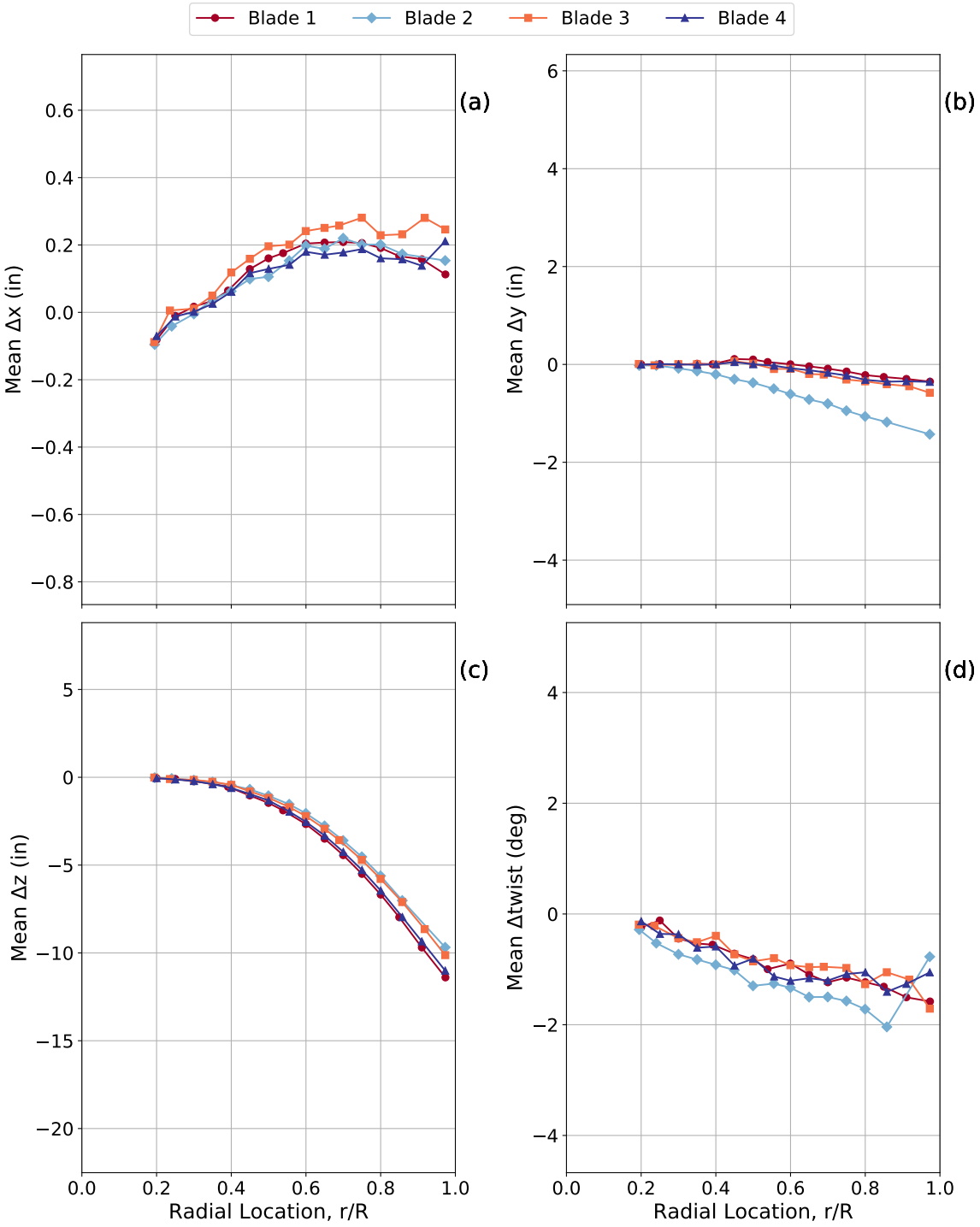


Figure 2.29-24. 190° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-27. 190° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	189.84	0.2001	-0.0813	0.0017	-0.0002	0.0015	-0.0567	0.0036	-0.2388	0.0305
1	189.84	0.2499	-0.0104	0.0014	0.0067	0.0034	-0.0916	0.0083	-0.1173	0.0487
1	189.84	0.2998	0.0168	0.0014	-0.0080	0.0056	-0.2320	0.0141	-0.4448	0.0671
1	189.84	0.3498	0.0342	0.0019	0.0144	0.0099	-0.3690	0.0251	-0.5333	0.0599
1	189.84	0.3913	0.0646	0.0021	0.0038	0.0140	-0.5422	0.0357	-0.5545	0.0639
1	189.84	0.4496	0.1285	0.0454	0.1105	0.0903	-1.0353	0.1085	-0.7162	0.0627
1	189.84	0.4997	0.1604	0.0504	0.1000	0.1029	-1.4612	0.1258	-0.8169	0.0676
1	189.84	0.5387	0.1758	0.0541	0.0489	0.1132	-1.8844	0.1397	-0.9970	0.0724
1	189.84	0.5996	0.2041	0.0589	0.0030	0.1299	-2.6633	0.1637	-0.8950	0.0724
1	189.84	0.6498	0.2073	0.0620	-0.0396	0.1448	-3.4967	0.1867	-1.0937	0.0756
1	189.84	0.6998	0.2086	0.0646	-0.0871	0.1613	-4.4348	0.2132	-1.2337	0.0821
1	189.84	0.7500	0.2058	0.0664	-0.1448	0.1784	-5.5027	0.2410	-1.1492	0.0877
1	189.84	0.8001	0.1911	0.0674	-0.2188	0.1969	-6.6799	0.2705	-1.2314	0.1058
1	189.84	0.8497	0.1667	0.0669	-0.2564	0.2165	-7.9665	0.3055	-1.3133	0.0982
1	189.84	0.9102	0.1576	0.0334	-0.2965	0.2763	-9.6918	0.3950	-1.5049	0.1188
1	189.84	0.9734	0.1126	0.0587	-0.3519	0.2661	-11.3969	0.4004	-1.5801	0.1267
2	189.84	0.1949	-0.0954	0.0016	-0.0219	0.0010	-0.0248	0.0048	-0.2822	0.0211
2	189.84	0.2405	-0.0411	0.0012	-0.0209	0.0025	-0.0712	0.0085	-0.5262	0.0398
2	189.84	0.2999	-0.0047	0.0013	-0.0793	0.0043	-0.1630	0.0192	-0.7280	0.0484
2	189.84	0.3498	0.0382	0.0016	-0.1355	0.0072	-0.2712	0.0333	-0.8229	0.0432
2	189.84	0.3998	0.0628	0.0020	-0.2019	0.0115	-0.4498	0.0507	-0.9181	0.0449
2	189.84	0.4496	0.0989	0.0025	-0.3028	0.0143	-0.6852	0.0705	-1.0139	0.0444
2	189.84	0.4995	0.1057	0.0029	-0.3748	0.0179	-1.0525	0.0934	-1.2976	0.0540
2	189.84	0.5551	0.1534	0.0038	-0.4977	0.0222	-1.5378	0.1215	-1.2576	0.0633
2	189.84	0.5996	0.1979	0.0044	-0.6060	0.0260	-2.0515	0.1487	-1.3321	0.0690
2	189.84	0.6497	0.1886	0.0059	-0.7167	0.0301	-2.7677	0.1802	-1.5009	0.0873
2	189.84	0.6996	0.2201	0.0075	-0.8018	0.0364	-3.6007	0.2126	-1.4987	0.1030
2	189.84	0.7495	0.2010	0.0096	-0.9464	0.0408	-4.5292	0.2474	-1.5716	0.0922
2	189.84	0.7996	0.2014	0.0120	-1.0639	0.0462	-5.6137	0.2904	-1.7192	0.1094
2	189.84	0.8578	0.1733	0.0154	-1.1786	0.0550	-7.0171	0.3275	-2.0394	0.2306
2	189.84	0.9727	0.1537	0.0223	-1.4273	0.0705	-9.6829	0.4259	-0.7715	0.2061
3	189.84	0.1938	-0.0882	0.0015	0.0094	0.0015	-0.0138	0.0050	-0.1918	0.0246
3	189.84	0.2357	0.0056	0.0015	-0.0177	0.0030	-0.0998	0.0078	-0.2149	0.0415
3	189.84	0.2995	0.0110	0.0013	0.0059	0.0060	-0.1453	0.0200	-0.4365	0.0564
3	189.84	0.3493	0.0497	0.0017	0.0040	0.0108	-0.2546	0.0334	-0.5105	0.0617
3	189.84	0.4000	0.1184	0.0024	-0.0049	0.0167	-0.4283	0.0518	-0.3945	0.0675
3	189.84	0.4497	0.1590	0.0678	0.0655	0.1045	-0.8011	0.1444	-0.7289	0.0761
3	189.84	0.4997	0.1961	0.0733	0.0141	0.1179	-1.1694	0.1663	-0.8559	0.0830
3	189.84	0.5556	0.2011	0.0787	-0.0936	0.1322	-1.6999	0.1920	-0.7977	0.0897
3	189.84	0.5995	0.2413	0.0816	-0.0903	0.1439	-2.2085	0.2158	-0.9254	0.0954
3	189.84	0.6498	0.2507	0.0841	-0.1956	0.1566	-2.9332	0.2442	-0.9599	0.1063
3	189.84	0.6890	0.2576	0.0839	-0.2071	0.1686	-3.5776	0.2688	-0.9538	0.1063
3	189.84	0.7495	0.2810	0.0825	-0.3092	0.1855	-4.7074	0.3158	-0.9750	0.1186
3	189.84	0.7998	0.2289	0.0804	-0.3464	0.1989	-5.7870	0.3565	-1.2677	0.1386
3	189.84	0.8577	0.2317	0.0631	-0.4054	0.2246	-7.1051	0.4011	-1.0523	0.3947
3	189.84	0.9178	0.2805	0.0349	-0.4460	0.2692	-8.6460	0.5176	-1.1845	0.1664
3	189.84	0.9729	0.2461	0.0314	-0.5795	0.2899	-10.1261	0.5755	-1.7101	0.1757
4	189.84	0.2001	-0.0704	0.0079	-0.0044	0.0041	-0.0483	0.0059	-0.1327	0.0489
4	189.84	0.2502	-0.0124	0.0047	0.0074	0.0072	-0.1247	0.0131	-0.3600	0.0683
4	189.84	0.3001	0.0016	0.0055	0.0026	0.0147	-0.2147	0.0197	-0.3666	0.0951
4	189.84	0.3502	0.0255	0.0057	-0.0099	0.0260	-0.3952	0.0279	-0.6097	0.1320
4	189.84	0.4002	0.0611	0.0058	0.0041	0.0369	-0.6106	0.0466	-0.5871	0.1065
4	189.84	0.4500	0.1164	0.0266	0.0476	0.0561	-0.9540	0.0611	-0.9327	0.0830
4	189.84	0.5001	0.1290	0.0263	0.0029	0.0671	-1.3233	0.0780	-0.8058	0.0839
4	189.84	0.5560	0.1412	0.0259	-0.0273	0.0807	-1.9587	0.1001	-1.1292	0.0813
4	189.84	0.6001	0.1798	0.0259	-0.0773	0.0922	-2.5419	0.1192	-1.2060	0.0858
4	189.84	0.6501	0.1710	0.0261	-0.1187	0.1055	-3.3221	0.1458	-1.1599	0.0881
4	189.84	0.6999	0.1777	0.0270	-0.1707	0.1195	-4.2486	0.1757	-1.2021	0.0861
4	189.84	0.7500	0.1877	0.0291	-0.2270	0.1345	-5.2800	0.2096	-1.0848	0.0884
4	189.84	0.8002	0.1605	0.0233	-0.3156	0.1525	-6.4548	0.2525	-1.0530	0.5783
4	189.84	0.8582	0.1576	0.0377	-0.3533	0.1782	-7.9625	0.3093	-1.4054	0.1000
4	189.84	0.9101	0.1384	0.0429	-0.3448	0.1957	-9.3435	0.3524	-1.2635	0.1019
4	189.84	0.9728	0.2112	0.0484	-0.3573	0.2189	-11.0089	0.4120	-1.0549	0.1080

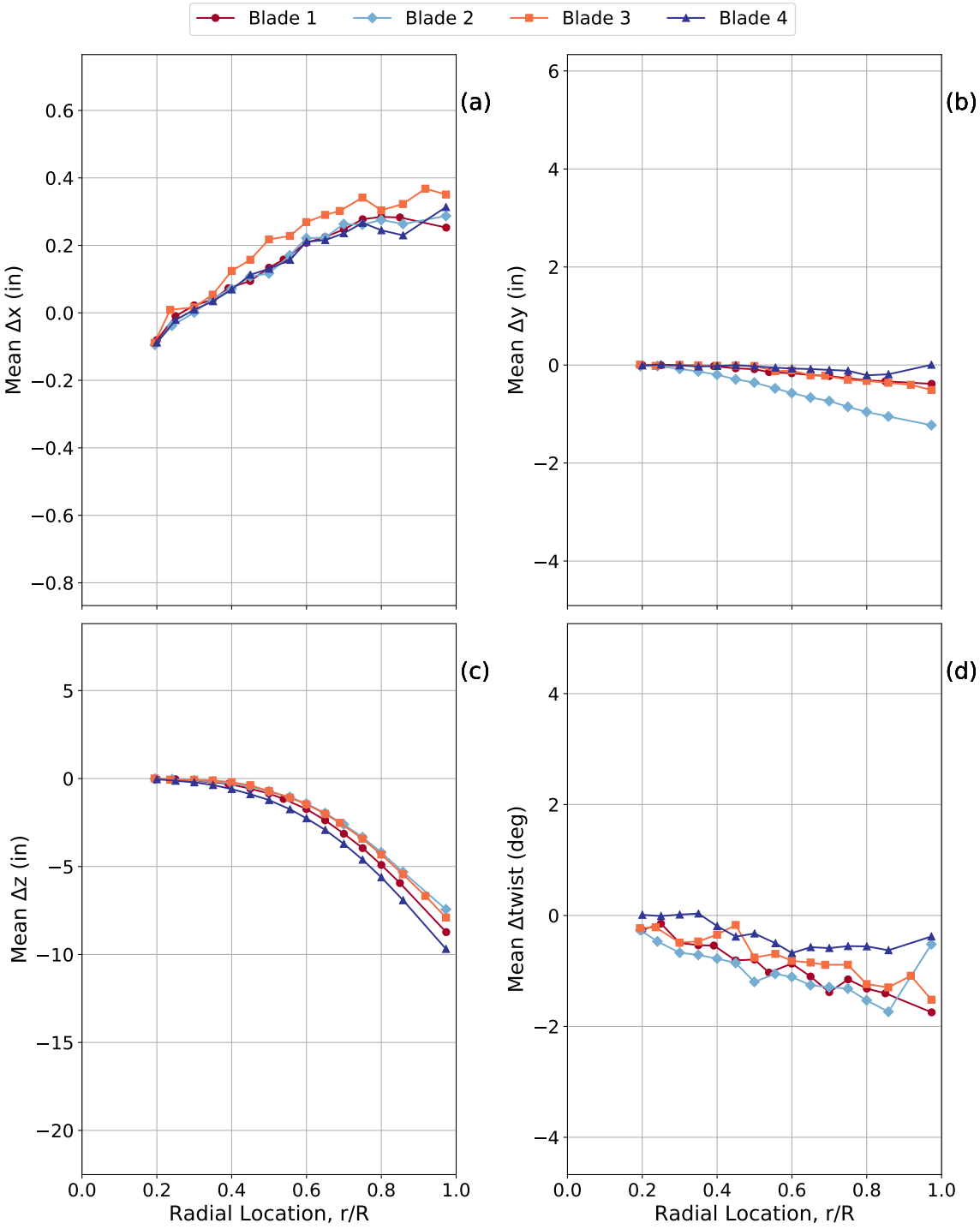


Figure 2.29-25. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-28. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	195.12	0.2001	-0.0807	0.0014	-0.0013	0.0014	-0.0348	0.0042	-0.2616	0.0241
1	195.12	0.2499	-0.0096	0.0011	-0.0031	0.0029	-0.0399	0.0076	-0.1460	0.0443
1	195.12	0.2998	0.0222	0.0013	-0.0149	0.0055	-0.1394	0.0155	-0.4929	0.0534
1	195.12	0.3498	0.0393	0.0019	-0.0065	0.0093	-0.2041	0.0264	-0.5368	0.0552
1	195.12	0.3913	0.0730	0.0024	-0.0241	0.0134	-0.3047	0.0372	-0.5419	0.0573
1	195.12	0.4496	0.0944	0.0027	-0.0679	0.0180	-0.5729	0.0548	-0.8106	0.0665
1	195.12	0.4997	0.1338	0.0029	-0.0845	0.0236	-0.8527	0.0720	-0.7937	0.0690
1	195.12	0.5387	0.1580	0.0039	-0.1445	0.0277	-1.1562	0.0851	-1.0301	0.0714
1	195.12	0.5996	0.2076	0.0046	-0.1688	0.0356	-1.7316	0.1075	-0.8678	0.0743
1	195.12	0.6498	0.2247	0.0056	-0.2028	0.0438	-2.3730	0.1270	-1.1011	0.0808
1	195.12	0.6998	0.2475	0.0068	-0.2253	0.0521	-3.1365	0.1484	-1.3826	0.1077
1	195.12	0.7500	0.2775	0.0078	-0.2724	0.0597	-3.9530	0.1704	-1.1530	0.0998
1	195.12	0.8001	0.2844	0.0105	-0.3113	0.0685	-4.9120	0.1947	-1.3185	0.1183
1	195.12	0.8497	0.2828	0.0125	-0.3330	0.0776	-5.9400	0.2239	-1.4036	0.1244
1	195.12	0.9734	0.2527	0.0197	-0.3845	0.1013	-8.7307	0.3005	-1.7463	0.2057
2	195.12	0.1949	-0.0947	0.0015	-0.0213	0.0012	-0.0120	0.0045	-0.2677	0.0271
2	195.12	0.2405	-0.0380	0.0013	-0.0201	0.0032	-0.0419	0.0085	-0.4674	0.0406
2	195.12	0.2999	0.0009	0.0015	-0.0785	0.0056	-0.1008	0.0185	-0.6720	0.0616
2	195.12	0.3498	0.0432	0.0021	-0.1316	0.0102	-0.1654	0.0318	-0.7113	0.0576
2	195.12	0.3998	0.0713	0.0024	-0.1979	0.0156	-0.2825	0.0488	-0.7777	0.0614
2	195.12	0.4496	0.1076	0.0029	-0.2923	0.0189	-0.4415	0.0681	-0.8567	0.0600
2	195.12	0.4995	0.1169	0.0036	-0.3582	0.0234	-0.7211	0.0922	-1.1970	0.0692
2	195.12	0.5551	0.1702	0.0041	-0.4771	0.0287	-1.0502	0.1251	-1.0530	0.0854
2	195.12	0.5996	0.2213	0.0053	-0.5728	0.0336	-1.4247	0.1559	-1.1086	0.0796
2	195.12	0.6497	0.2230	0.0064	-0.6650	0.0383	-1.9640	0.1975	-1.2577	0.0886
2	195.12	0.6996	0.2632	0.0080	-0.7344	0.0436	-2.6093	0.2433	-1.2925	0.0921
2	195.12	0.7495	0.2614	0.0108	-0.8540	0.0490	-3.3321	0.2952	-1.3192	0.0917
2	195.12	0.7996	0.2755	0.0137	-0.9576	0.0563	-4.1947	0.3514	-1.5294	0.1069
2	195.12	0.8578	0.2635	0.0174	-1.0509	0.0611	-5.3137	0.4154	-1.7364	0.1600
2	195.12	0.9727	0.2871	0.0378	-1.2277	0.0825	-7.4344	0.5590	-0.5197	0.4018
3	195.12	0.1938	-0.0889	0.0014	0.0073	0.0012	0.0036	0.0031	-0.2299	0.0258
3	195.12	0.2357	0.0089	0.0012	-0.0174	0.0025	-0.0625	0.0057	-0.2122	0.0418
3	195.12	0.2995	0.0164	0.0014	0.0042	0.0051	-0.0669	0.0126	-0.4883	0.0623
3	195.12	0.3493	0.0539	0.0016	-0.0062	0.0089	-0.1090	0.0208	-0.4693	0.0572
3	195.12	0.4000	0.1242	0.0023	-0.0135	0.0138	-0.2072	0.0324	-0.3465	0.0611
3	195.12	0.4497	0.1573	0.0329	-0.0116	0.0644	-0.3791	0.0438	-0.1712	0.6997
3	195.12	0.4997	0.2177	0.0526	-0.0195	0.1326	-0.7131	0.1492	-0.7587	0.0522
3	195.12	0.5556	0.2279	0.0561	-0.1280	0.1543	-1.0849	0.1667	-0.6925	0.0553
3	195.12	0.5995	0.2689	0.0575	-0.1119	0.1725	-1.4587	0.1805	-0.8184	0.0606
3	195.12	0.6498	0.2903	0.0588	-0.2110	0.1931	-2.0051	0.1969	-0.8489	0.0692
3	195.12	0.6890	0.3020	0.0585	-0.2169	0.2087	-2.5173	0.2081	-0.8893	0.0679
3	195.12	0.7495	0.3416	0.0562	-0.3039	0.2341	-3.4203	0.2294	-0.8882	0.0760
3	195.12	0.7998	0.3039	0.0534	-0.3244	0.2542	-4.3197	0.2477	-1.2376	0.0830
3	195.12	0.8577	0.3227	0.0159	-0.3627	0.3044	-5.4426	0.3690	-1.2974	0.1204
3	195.12	0.9178	0.3681	0.0195	-0.4038	0.3382	-6.6739	0.4006	-1.0872	0.1189
3	195.12	0.9729	0.3508	0.0311	-0.5093	0.3706	-7.9025	0.4331	-1.5189	0.1361
4	195.12	0.2001	-0.0880	0.0011	-0.0100	0.0012	-0.0423	0.0034	0.0114	0.0265
4	195.12	0.2502	-0.0211	0.0012	0.0093	0.0028	-0.1275	0.0067	-0.0108	0.0452
4	195.12	0.3001	0.0094	0.0011	-0.0073	0.0048	-0.2159	0.0126	0.0156	0.0593
4	195.12	0.3502	0.0345	0.0013	-0.0312	0.0082	-0.3689	0.0211	0.0341	0.0538
4	195.12	0.4002	0.0694	0.0016	-0.0187	0.0128	-0.5985	0.0325	-0.1920	0.0581
4	195.12	0.4500	0.1128	0.0017	-0.0023	0.0154	-0.8892	0.0415	-0.3818	0.0683
4	195.12	0.5001	0.1308	0.0019	-0.0269	0.0197	-1.2251	0.0546	-0.3256	0.0643
4	195.12	0.5560	0.1571	0.0025	-0.0545	0.0241	-1.7476	0.0706	-0.5009	0.0673
4	195.12	0.6001	0.2108	0.0029	-0.0721	0.0272	-2.2623	0.0842	-0.6780	0.0633
4	195.12	0.6501	0.2156	0.0038	-0.0821	0.0323	-2.9222	0.0994	-0.5719	0.0711
4	195.12	0.6999	0.2359	0.0046	-0.1011	0.0377	-3.7138	0.1161	-0.5881	0.0823
4	195.12	0.7500	0.2667	0.0059	-0.1169	0.0417	-4.6147	0.1351	-0.5533	0.0948
4	195.12	0.8002	0.2448	0.0082	-0.2101	0.0504	-5.6175	0.1570	-0.5574	0.1005
4	195.12	0.8582	0.2297	0.0106	-0.1895	0.0551	-6.9190	0.1863	-0.6276	0.1819
4	195.12	0.9728	0.3136	0.0177	0.0045	0.0785	-9.6863	0.2655	-0.3785	0.3115

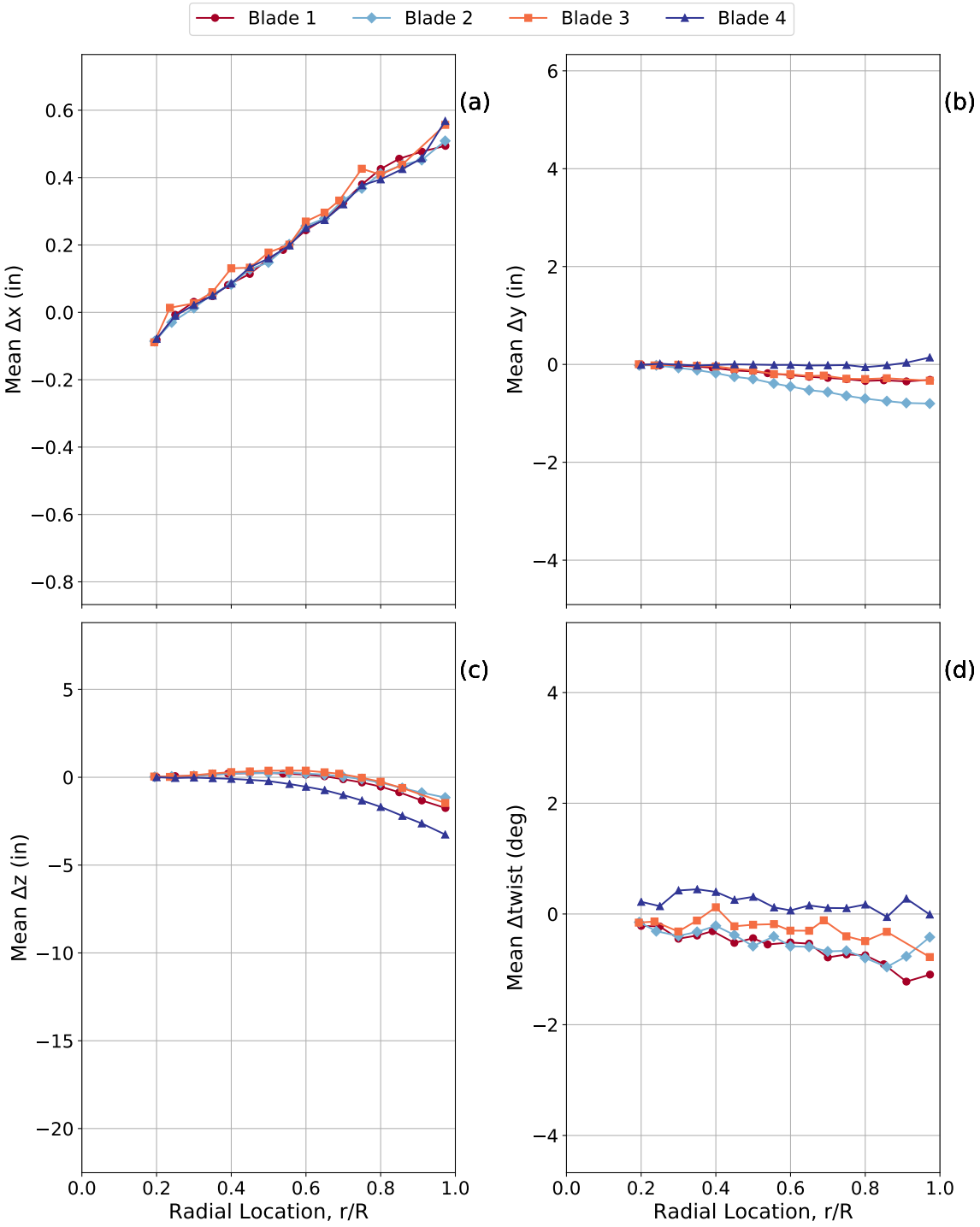


Figure 2.29-26. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-29. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	209.88	0.2001	-0.0813	0.0014	-0.0044	0.0012	0.0176	0.0042	-0.2154	0.0245
1	209.88	0.2499	-0.0072	0.0010	-0.0174	0.0029	0.0646	0.0086	-0.2256	0.0360
1	209.88	0.2998	0.0313	0.0012	-0.0256	0.0050	0.0692	0.0158	-0.4468	0.0524
1	209.88	0.3498	0.0480	0.0014	-0.0449	0.0083	0.1564	0.0277	-0.3890	0.0578
1	209.88	0.3913	0.0811	0.0018	-0.0693	0.0123	0.2105	0.0391	-0.3104	0.0502
1	209.88	0.4496	0.1142	0.0021	-0.1241	0.0168	0.2313	0.0586	-0.5216	0.0569
1	209.88	0.4997	0.1581	0.0023	-0.1427	0.0210	0.2470	0.0777	-0.4381	0.0574
1	209.88	0.5387	0.1854	0.0024	-0.1795	0.0254	0.2117	0.0932	-0.5507	0.0594
1	209.88	0.5996	0.2437	0.0026	-0.2203	0.0319	0.1491	0.1214	-0.5151	0.0665
1	209.88	0.6498	0.2777	0.0030	-0.2531	0.0379	0.0560	0.1467	-0.5359	0.0771
1	209.88	0.6998	0.3260	0.0035	-0.2757	0.0446	-0.1111	0.1721	-0.7844	0.0782
1	209.88	0.7500	0.3800	0.0035	-0.3015	0.0507	-0.2949	0.2002	-0.7307	0.0815
1	209.88	0.8001	0.4256	0.0041	-0.3380	0.0575	-0.5311	0.2298	-0.7464	0.0948
1	209.88	0.8497	0.4561	0.0046	-0.3246	0.0644	-0.8543	0.2609	-0.9069	0.0886
1	209.88	0.9102	0.4772	0.0056	-0.3472	0.0734	-1.3205	0.3033	-1.2215	0.1170
1	209.88	0.9734	0.4943	0.0071	-0.3156	0.0820	-1.7492	0.3467	-1.0945	0.1103
2	209.88	0.1949	-0.0855	0.0012	-0.0185	0.0010	0.0249	0.0042	-0.1485	0.0282
2	209.88	0.2405	-0.0299	0.0014	-0.0186	0.0038	0.0439	0.0097	-0.3113	0.0461
2	209.88	0.2999	0.0129	0.0015	-0.0712	0.0064	0.0843	0.0182	-0.3954	0.0670
2	209.88	0.3498	0.0544	0.0019	-0.1159	0.0108	0.1412	0.0312	-0.3233	0.0615
2	209.88	0.3998	0.0828	0.0020	-0.1780	0.0177	0.2087	0.0484	-0.2138	0.0616
2	209.88	0.4496	0.1276	0.0028	-0.2529	0.0217	0.2457	0.0673	-0.3796	0.0706
2	209.88	0.4995	0.1482	0.0025	-0.2967	0.0287	0.2367	0.0913	-0.5795	0.0720
2	209.88	0.5551	0.2018	0.0033	-0.3891	0.0364	0.2617	0.1195	-0.4074	0.0737
2	209.88	0.5996	0.2565	0.0038	-0.4518	0.0439	0.2083	0.1432	-0.5835	0.0608
2	209.88	0.6497	0.2788	0.0040	-0.5266	0.0527	0.1561	0.1744	-0.5931	0.0791
2	209.88	0.6996	0.3329	0.0050	-0.5649	0.0627	0.0284	0.2073	-0.6761	0.0829
2	209.88	0.7495	0.3680	0.0053	-0.6417	0.0722	-0.0984	0.2401	-0.6645	0.0774
2	209.88	0.7996	0.4122	0.0056	-0.6989	0.0818	-0.3098	0.2748	-0.7948	0.0832
2	209.88	0.8578	0.4375	0.0065	-0.7506	0.0944	-0.6120	0.3187	-0.9567	0.0750
2	209.88	0.9100	0.4521	0.0068	-0.7885	0.1057	-0.8761	0.3636	-0.7644	0.1260
2	209.88	0.9727	0.5090	0.0104	-0.8002	0.1220	-1.1525	0.4150	-0.4185	0.0917
3	209.88	0.1938	-0.0889	0.0014	0.0038	0.0009	0.0422	0.0045	-0.1563	0.0278
3	209.88	0.2357	0.0136	0.0013	-0.0200	0.0030	0.0223	0.0088	-0.1358	0.0420
3	209.88	0.2995	0.0267	0.0013	-0.0052	0.0056	0.1157	0.0184	-0.3166	0.0644
3	209.88	0.3493	0.0599	0.0016	-0.0278	0.0089	0.2129	0.0322	-0.1189	0.0574
3	209.88	0.4000	0.1308	0.0018	-0.0418	0.0151	0.2942	0.0494	0.1212	0.0579
3	209.88	0.4497	0.1326	0.0020	-0.0878	0.0177	0.3340	0.0667	-0.2225	0.0699
3	209.88	0.4997	0.1776	0.0021	-0.1216	0.0217	0.3758	0.0862	-0.1942	0.0716
3	209.88	0.5556	0.2010	0.0025	-0.1993	0.0269	0.3799	0.1118	-0.1830	0.0671
3	209.88	0.5995	0.2696	0.0025	-0.2001	0.0309	0.3782	0.1337	-0.3010	0.0736
3	209.88	0.6498	0.2960	0.0028	-0.2363	0.0363	0.2845	0.1602	-0.3023	0.0752
3	209.88	0.6890	0.3319	0.0030	-0.2282	0.0402	0.2018	0.1838	-0.1145	0.0784
3	209.88	0.7495	0.4263	0.0035	-0.2923	0.0461	-0.0258	0.2233	-0.4034	0.0791
3	209.88	0.7998	0.4088	0.0041	-0.2989	0.0518	-0.2527	0.2591	-0.4899	0.0881
3	209.88	0.8577	0.4384	0.0048	-0.2827	0.0579	-0.6100	0.3047	-0.3218	0.1007
3	209.88	0.9729	0.5566	0.0075	-0.3330	0.0718	-1.4625	0.4015	-0.7789	0.1915
4	209.88	0.2001	-0.0785	0.0014	-0.0094	0.0014	0.0027	0.0052	0.2197	0.0188
4	209.88	0.2502	-0.0101	0.0013	0.0127	0.0037	-0.0387	0.0100	0.1407	0.0371
4	209.88	0.3001	0.0215	0.0017	-0.0062	0.0065	-0.0175	0.0192	0.4245	0.0432
4	209.88	0.3502	0.0498	0.0020	-0.0225	0.0106	-0.0513	0.0337	0.4458	0.0379
4	209.88	0.4002	0.0856	0.0022	-0.0090	0.0173	-0.0888	0.0509	0.3988	0.0431
4	209.88	0.4500	0.1339	0.0027	0.0012	0.0214	-0.1460	0.0705	0.2555	0.0526
4	209.88	0.5001	0.1601	0.0028	-0.0039	0.0265	-0.2166	0.0936	0.3103	0.0532
4	209.88	0.5560	0.1985	0.0029	-0.0108	0.0332	-0.3837	0.1222	0.1186	0.0521
4	209.88	0.6001	0.2504	0.0032	-0.0098	0.0392	-0.5387	0.1464	0.0646	0.0579
4	209.88	0.6501	0.2740	0.0038	-0.0226	0.0459	-0.7332	0.1745	0.1550	0.0599
4	209.88	0.6999	0.3206	0.0044	-0.0188	0.0538	-1.0103	0.2062	0.1083	0.0673
4	209.88	0.7500	0.3772	0.0049	-0.0129	0.0605	-1.3239	0.2409	0.1050	0.0702
4	209.88	0.8002	0.3948	0.0061	-0.0555	0.0683	-1.6877	0.2795	0.1709	0.0761
4	209.88	0.8582	0.4255	0.0070	-0.0180	0.0773	-2.1969	0.3316	-0.0539	0.0805
4	209.88	0.9101	0.4574	0.0079	0.0356	0.0845	-2.6281	0.3856	0.2771	0.0904
4	209.88	0.9728	0.5680	0.0104	0.1419	0.0948	-3.2604	0.4520	-0.0099	0.0994

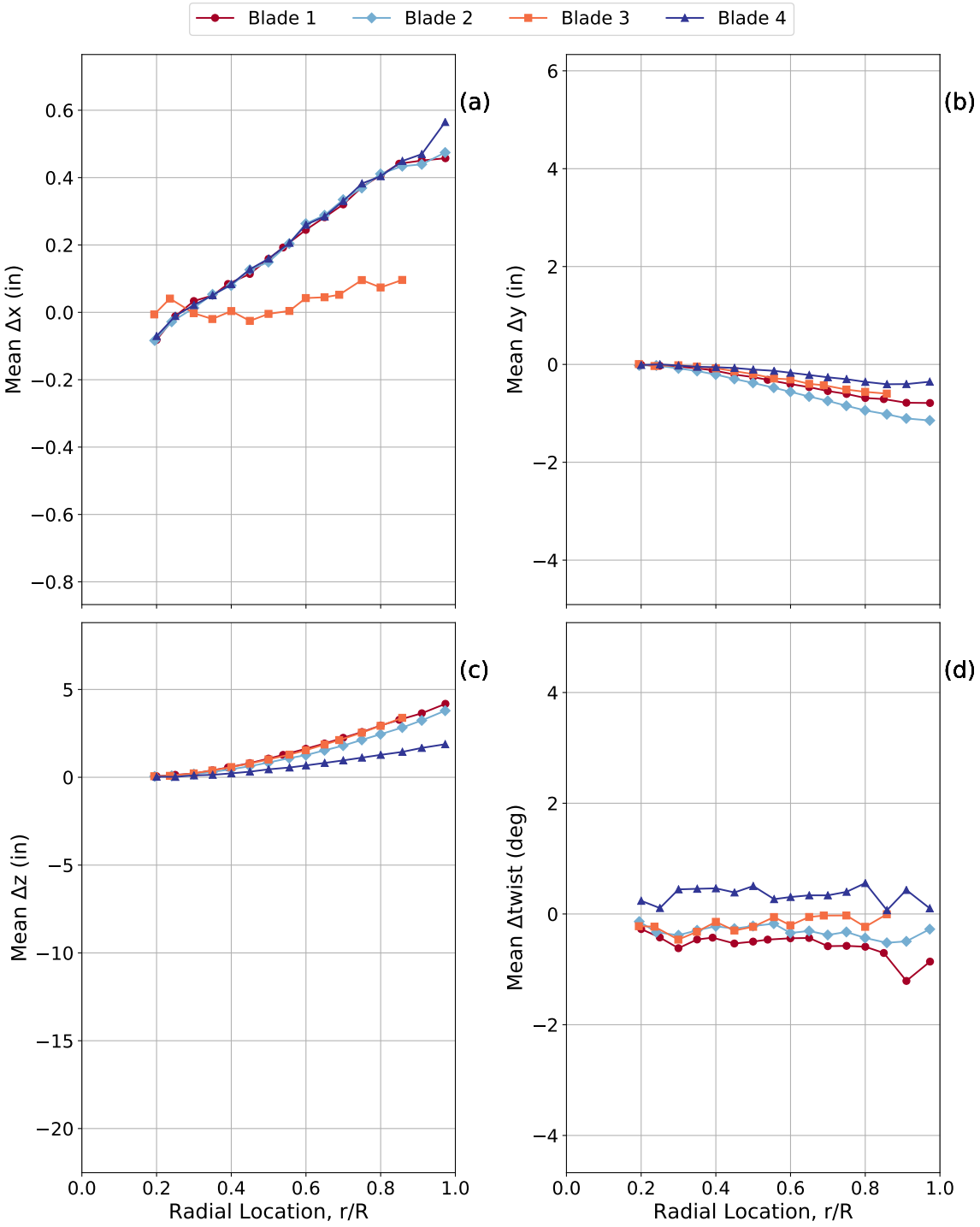


Figure 2.29-27. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-30. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	225	0.2001	-0.0818	0.0014	-0.0087	0.0009	0.0567	0.0042	-0.2723	0.0198
1	225	0.2499	-0.0119	0.0012	-0.0276	0.0026	0.1388	0.0083	-0.4237	0.0308
1	225	0.2998	0.0336	0.0011	-0.0444	0.0042	0.2156	0.0156	-0.6180	0.0431
1	225	0.3498	0.0501	0.0015	-0.0801	0.0072	0.4001	0.0270	-0.4605	0.0404
1	225	0.3913	0.0842	0.0021	-0.1192	0.0108	0.5596	0.0381	-0.4276	0.0392
1	225	0.4496	0.1140	0.0024	-0.2062	0.0148	0.8066	0.0570	-0.5334	0.0511
1	225	0.4997	0.1587	0.0028	-0.2592	0.0197	1.0628	0.0753	-0.4989	0.0430
1	225	0.5387	0.1925	0.0032	-0.3151	0.0242	1.2749	0.0912	-0.4630	0.0525
1	225	0.5996	0.2448	0.0039	-0.4021	0.0315	1.6234	0.1157	-0.4388	0.0588
1	225	0.6498	0.2822	0.0042	-0.4647	0.0394	1.9230	0.1380	-0.4334	0.0590
1	225	0.6998	0.3204	0.0051	-0.5440	0.0468	2.2481	0.1586	-0.5815	0.0597
1	225	0.7500	0.3718	0.0058	-0.6034	0.0553	2.5778	0.1794	-0.5760	0.0624
1	225	0.8001	0.4073	0.0063	-0.6864	0.0642	2.9470	0.1986	-0.5917	0.0599
1	225	0.8497	0.4413	0.0067	-0.7089	0.0735	3.2725	0.2180	-0.7043	0.0692
1	225	0.9102	0.4507	0.0074	-0.7837	0.0852	3.6453	0.2427	-1.2091	0.0644
1	225	0.9734	0.4575	0.0115	-0.7887	0.0979	4.1827	0.2711	-0.8600	0.0752
2	225	0.1949	-0.0836	0.0015	-0.0209	0.0009	0.0503	0.0032	-0.1371	0.0192
2	225	0.2405	-0.0280	0.0012	-0.0221	0.0026	0.0858	0.0071	-0.3287	0.0339
2	225	0.2999	0.0133	0.0013	-0.0821	0.0049	0.1850	0.0142	-0.3835	0.0462
2	225	0.3498	0.0535	0.0015	-0.1347	0.0083	0.3006	0.0221	-0.2947	0.0461
2	225	0.3998	0.0795	0.0021	-0.2071	0.0133	0.4575	0.0357	-0.2226	0.0699
2	225	0.4496	0.1265	0.0024	-0.2973	0.0153	0.6272	0.0454	-0.2644	0.0658
2	225	0.4995	0.1492	0.0024	-0.3777	0.0204	0.8399	0.0588	-0.2180	0.0555
2	225	0.5551	0.2043	0.0024	-0.4762	0.0260	1.0897	0.0759	-0.1754	0.0560
2	225	0.5996	0.2634	0.0029	-0.5603	0.0298	1.2605	0.0897	-0.3427	0.0618
2	225	0.6497	0.2882	0.0032	-0.6568	0.0353	1.5344	0.1063	-0.3067	0.0686
2	225	0.6996	0.3346	0.0036	-0.7443	0.0415	1.8017	0.1253	-0.3791	0.0667
2	225	0.7495	0.3691	0.0037	-0.8454	0.0472	2.1284	0.1449	-0.3245	0.0667
2	225	0.7996	0.4111	0.0040	-0.9397	0.0533	2.4505	0.1663	-0.4329	0.0678
2	225	0.8578	0.4339	0.0043	-1.0192	0.0606	2.8323	0.1933	-0.5203	0.0731
2	225	0.9100	0.4394	0.0051	-1.1044	0.0673	3.2381	0.2172	-0.4943	0.0689
2	225	0.9727	0.4745	0.0080	-1.1454	0.0754	3.7918	0.2470	-0.2743	0.0775
3	225	0.1938	-0.0061	0.0122	0.0064	0.0013	0.0601	0.0042	-0.2204	0.0341
3	225	0.2357	0.0409	0.0055	-0.0326	0.0030	0.0810	0.0080	-0.2286	0.0428
3	225	0.2995	-0.0025	0.0058	-0.0170	0.0056	0.2229	0.0165	-0.4630	0.0750
3	225	0.3493	-0.0198	0.0132	-0.0442	0.0112	0.3865	0.0273	-0.3211	0.0608
3	225	0.4000	0.0038	0.0209	-0.0792	0.0164	0.5815	0.0425	-0.1422	0.0594
3	225	0.4497	-0.0253	0.0279	-0.1377	0.0218	0.7803	0.0550	-0.2984	0.0754
3	225	0.4997	-0.0045	0.0338	-0.1980	0.0276	1.0150	0.0702	-0.2317	0.0731
3	225	0.5556	0.0042	0.0396	-0.2877	0.0348	1.2908	0.0886	-0.0558	0.0799
3	225	0.5995	0.0424	0.0428	-0.3062	0.0406	1.5409	0.1045	-0.2046	0.0889
3	225	0.6498	0.0448	0.0450	-0.3977	0.0476	1.8672	0.1217	-0.0545	0.0928
3	225	0.6890	0.0522	0.0465	-0.4254	0.0530	2.1191	0.1357	-0.0284	0.1058
3	225	0.7495	0.0958	0.0477	-0.5140	0.0624	2.5409	0.1605	-0.0272	0.1095
3	225	0.7998	0.0739	0.0471	-0.5606	0.0705	2.9285	0.1824	-0.2320	0.1313
3	225	0.8577	0.0962	0.0454	-0.5975	0.0803	3.3851	0.2068	-0.0056	0.1373
4	225	0.2001	-0.0704	0.0016	-0.0113	0.0013	0.0307	0.0080	0.2378	0.0227
4	225	0.2502	-0.0108	0.0014	0.0006	0.0038	0.0240	0.0159	0.1068	0.0379
4	225	0.3001	0.0216	0.0016	-0.0229	0.0060	0.1058	0.0304	0.4445	0.0481
4	225	0.3502	0.0507	0.0018	-0.0493	0.0107	0.1408	0.0522	0.4547	0.0444
4	225	0.4002	0.0837	0.0022	-0.0569	0.0170	0.2238	0.0798	0.4630	0.0526
4	225	0.4500	0.1279	0.0023	-0.0731	0.0212	0.3195	0.1104	0.3889	0.0545
4	225	0.5001	0.1594	0.0023	-0.1049	0.0272	0.4538	0.1429	0.5045	0.0527
4	225	0.5560	0.2064	0.0030	-0.1313	0.0338	0.5567	0.1800	0.2680	0.0608
4	225	0.6001	0.2601	0.0033	-0.1710	0.0395	0.6746	0.2102	0.3065	0.0499
4	225	0.6501	0.2847	0.0035	-0.2169	0.0463	0.8166	0.2435	0.3368	0.0563
4	225	0.6999	0.3305	0.0042	-0.2635	0.0536	0.9614	0.2769	0.3363	0.0668
4	225	0.7500	0.3825	0.0048	-0.3019	0.0611	1.1182	0.3114	0.4000	0.0664
4	225	0.8002	0.4041	0.0052	-0.3569	0.0690	1.2768	0.3456	0.5581	0.0742
4	225	0.8582	0.4494	0.0059	-0.4052	0.0782	1.4464	0.3865	0.0677	0.0813
4	225	0.9101	0.4696	0.0069	-0.4021	0.0866	1.6731	0.4254	0.4339	0.0778
4	225	0.9728	0.5651	0.0096	-0.3542	0.0973	1.8821	0.4742	0.1013	0.0854

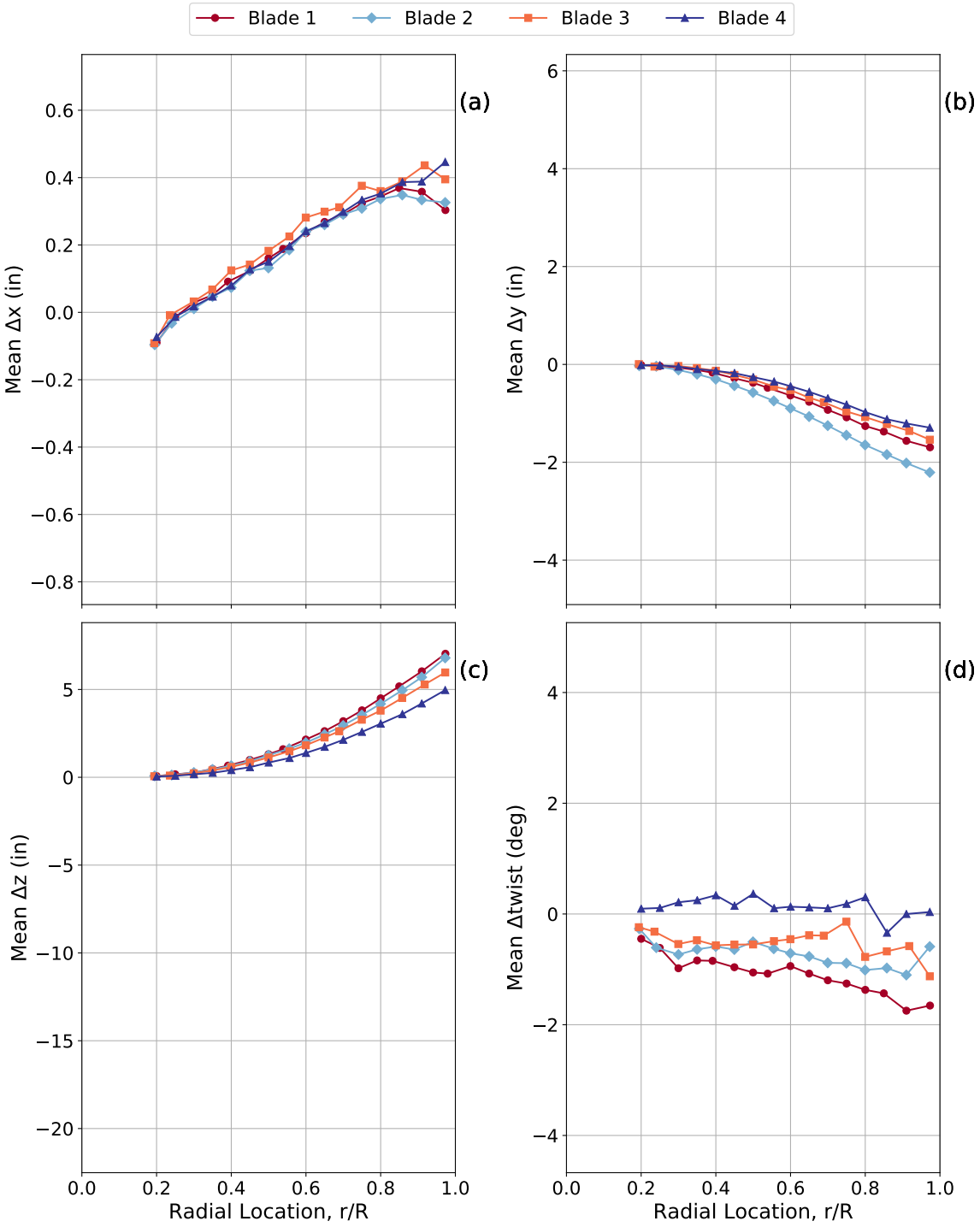


Figure 2.29-28. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-31. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	240.12	0.2001	-0.0900	0.0016	-0.0140	0.0012	0.0714	0.0076	-0.4484	0.0269
1	240.12	0.2499	-0.0143	0.0012	-0.0340	0.0031	0.1701	0.0149	-0.6131	0.0461
1	240.12	0.2998	0.0290	0.0015	-0.0666	0.0056	0.2596	0.0279	-0.9804	0.0600
1	240.12	0.3498	0.0515	0.0017	-0.1139	0.0097	0.4754	0.0466	-0.8391	0.0548
1	240.12	0.3913	0.0912	0.0022	-0.1694	0.0143	0.6628	0.0667	-0.8463	0.0610
1	240.12	0.4496	0.1226	0.0028	-0.2832	0.0193	0.9894	0.0970	-0.9619	0.0736
1	240.12	0.4997	0.1604	0.0036	-0.3752	0.0254	1.3121	0.1290	-1.0565	0.0675
1	240.12	0.5387	0.1882	0.0045	-0.4771	0.0306	1.6001	0.1550	-1.0776	0.0760
1	240.12	0.5996	0.2351	0.0059	-0.6340	0.0394	2.1495	0.1990	-0.9410	0.0811
1	240.12	0.6498	0.2685	0.0076	-0.7635	0.0477	2.6271	0.2364	-1.0765	0.0790
1	240.12	0.6998	0.2905	0.0094	-0.9285	0.0561	3.1950	0.2738	-1.1974	0.0831
1	240.12	0.7500	0.3244	0.0111	-1.0815	0.0656	3.8126	0.3113	-1.2566	0.0903
1	240.12	0.8001	0.3442	0.0130	-1.2593	0.0752	4.4966	0.3496	-1.3703	0.0927
1	240.12	0.8497	0.3689	0.0144	-1.3715	0.0853	5.1774	0.3876	-1.4333	0.0984
1	240.12	0.9102	0.3580	0.0172	-1.5615	0.0985	6.0331	0.4365	-1.7467	0.0996
1	240.12	0.9734	0.3036	0.0229	-1.6944	0.1121	7.0350	0.4895	-1.6540	0.0998
2	240.12	0.1949	-0.0961	0.0015	-0.0284	0.0009	0.0787	0.0050	-0.2660	0.0227
2	240.12	0.2405	-0.0324	0.0013	-0.0370	0.0021	0.1275	0.0113	-0.6077	0.0350
2	240.12	0.2999	0.0107	0.0013	-0.1145	0.0043	0.2704	0.0227	-0.7323	0.0516
2	240.12	0.3498	0.0470	0.0018	-0.1999	0.0070	0.4445	0.0380	-0.6386	0.0452
2	240.12	0.3998	0.0736	0.0024	-0.3026	0.0114	0.6631	0.0599	-0.5884	0.0655
2	240.12	0.4496	0.1237	0.0025	-0.4344	0.0149	0.9122	0.0849	-0.6419	0.0645
2	240.12	0.4995	0.1318	0.0027	-0.5738	0.0190	1.2545	0.1127	-0.5032	0.0653
2	240.12	0.5551	0.1854	0.0030	-0.7455	0.0245	1.6274	0.1498	-0.6283	0.0651
2	240.12	0.5996	0.2395	0.0033	-0.8968	0.0289	1.9701	0.1829	-0.7097	0.0728
2	240.12	0.6497	0.2600	0.0042	-1.0666	0.0350	2.4367	0.2218	-0.7666	0.0744
2	240.12	0.6996	0.2909	0.0055	-1.2514	0.0413	2.9493	0.2634	-0.8822	0.0854
2	240.12	0.7495	0.3088	0.0069	-1.4465	0.0477	3.5450	0.3048	-0.8891	0.0903
2	240.12	0.7996	0.3367	0.0085	-1.6460	0.0546	4.1787	0.3482	-1.0130	0.0941
2	240.12	0.8578	0.3485	0.0105	-1.8418	0.0625	4.9557	0.4005	-0.9767	0.1000
2	240.12	0.9100	0.3339	0.0131	-2.0168	0.0700	5.6981	0.4486	-1.1023	0.1002
2	240.12	0.9727	0.3260	0.0173	-2.2076	0.0795	6.7980	0.5097	-0.5892	0.1102
3	240.12	0.1938	-0.0916	0.0013	0.0055	0.0009	0.0596	0.0055	-0.2396	0.0252
3	240.12	0.2357	-0.0083	0.0012	-0.0453	0.0020	0.0970	0.0091	-0.3193	0.0393
3	240.12	0.2995	0.0323	0.0016	-0.0322	0.0044	0.2268	0.0216	-0.5428	0.0595
3	240.12	0.3493	0.0678	0.0016	-0.0749	0.0075	0.3874	0.0366	-0.4742	0.0598
3	240.12	0.4000	0.1246	0.0024	-0.1291	0.0117	0.5875	0.0562	-0.5667	0.0687
3	240.12	0.4497	0.1419	0.0023	-0.2150	0.0155	0.8374	0.0789	-0.5526	0.0738
3	240.12	0.4997	0.1827	0.0027	-0.3104	0.0206	1.1275	0.1060	-0.5504	0.0732
3	240.12	0.5556	0.2253	0.0034	-0.4527	0.0265	1.4821	0.1386	-0.4909	0.0716
3	240.12	0.5995	0.2814	0.0044	-0.5245	0.0324	1.8226	0.1653	-0.4556	0.0727
3	240.12	0.6498	0.2989	0.0047	-0.6809	0.0386	2.2651	0.1972	-0.3843	0.0769
3	240.12	0.6890	0.3119	0.0059	-0.7739	0.0451	2.6219	0.2222	-0.3911	0.0743
3	240.12	0.7495	0.3758	0.0072	-0.9606	0.0542	3.2791	0.2594	-0.1387	0.0810
3	240.12	0.7998	0.3599	0.0083	-1.0756	0.0626	3.7961	0.2913	-0.7748	0.0862
3	240.12	0.8577	0.3889	0.0097	-1.2201	0.0726	4.5167	0.3286	-0.6751	0.0850
3	240.12	0.9178	0.4365	0.0118	-1.3596	0.0833	5.2850	0.3697	-0.5801	0.0898
3	240.12	0.9729	0.3949	0.0154	-1.5385	0.0936	5.9681	0.4089	-1.1255	0.0956
4	240.12	0.2001	-0.0733	0.0014	-0.0147	0.0008	0.0425	0.0041	0.0951	0.0223
4	240.12	0.2502	-0.0134	0.0012	-0.0194	0.0023	0.0856	0.0080	0.1085	0.0315
4	240.12	0.3001	0.0179	0.0013	-0.0459	0.0036	0.1691	0.0160	0.2117	0.0466
4	240.12	0.3502	0.0468	0.0016	-0.0963	0.0063	0.2541	0.0264	0.2487	0.0465
4	240.12	0.4002	0.0797	0.0020	-0.1321	0.0100	0.4099	0.0410	0.3380	0.0515
4	240.12	0.4500	0.1277	0.0022	-0.1787	0.0124	0.5743	0.0571	0.1476	0.0612
4	240.12	0.5001	0.1505	0.0023	-0.2597	0.0157	0.8369	0.0759	0.3642	0.0611
4	240.12	0.5560	0.1968	0.0026	-0.3504	0.0194	1.0982	0.0978	0.1040	0.0584
4	240.12	0.6001	0.2410	0.0028	-0.4466	0.0236	1.3867	0.1181	0.1310	0.0592
4	240.12	0.6501	0.2650	0.0030	-0.5609	0.0269	1.7338	0.1419	0.1193	0.0617
4	240.12	0.6999	0.2982	0.0036	-0.6922	0.0317	2.1340	0.1663	0.1027	0.0624
4	240.12	0.7500	0.3341	0.0044	-0.8226	0.0366	2.5833	0.1908	0.1825	0.0689
4	240.12	0.8002	0.3527	0.0051	-0.9758	0.0418	3.0522	0.2147	0.3024	0.0695
4	240.12	0.8582	0.3866	0.0062	-1.1212	0.0484	3.5949	0.2408	-0.3393	0.0735
4	240.12	0.9101	0.3881	0.0073	-1.2066	0.0544	4.2025	0.2636	-0.0006	0.0729
4	240.12	0.9728	0.4463	0.0095	-1.2932	0.0618	4.9658	0.2907	0.0354	0.0780

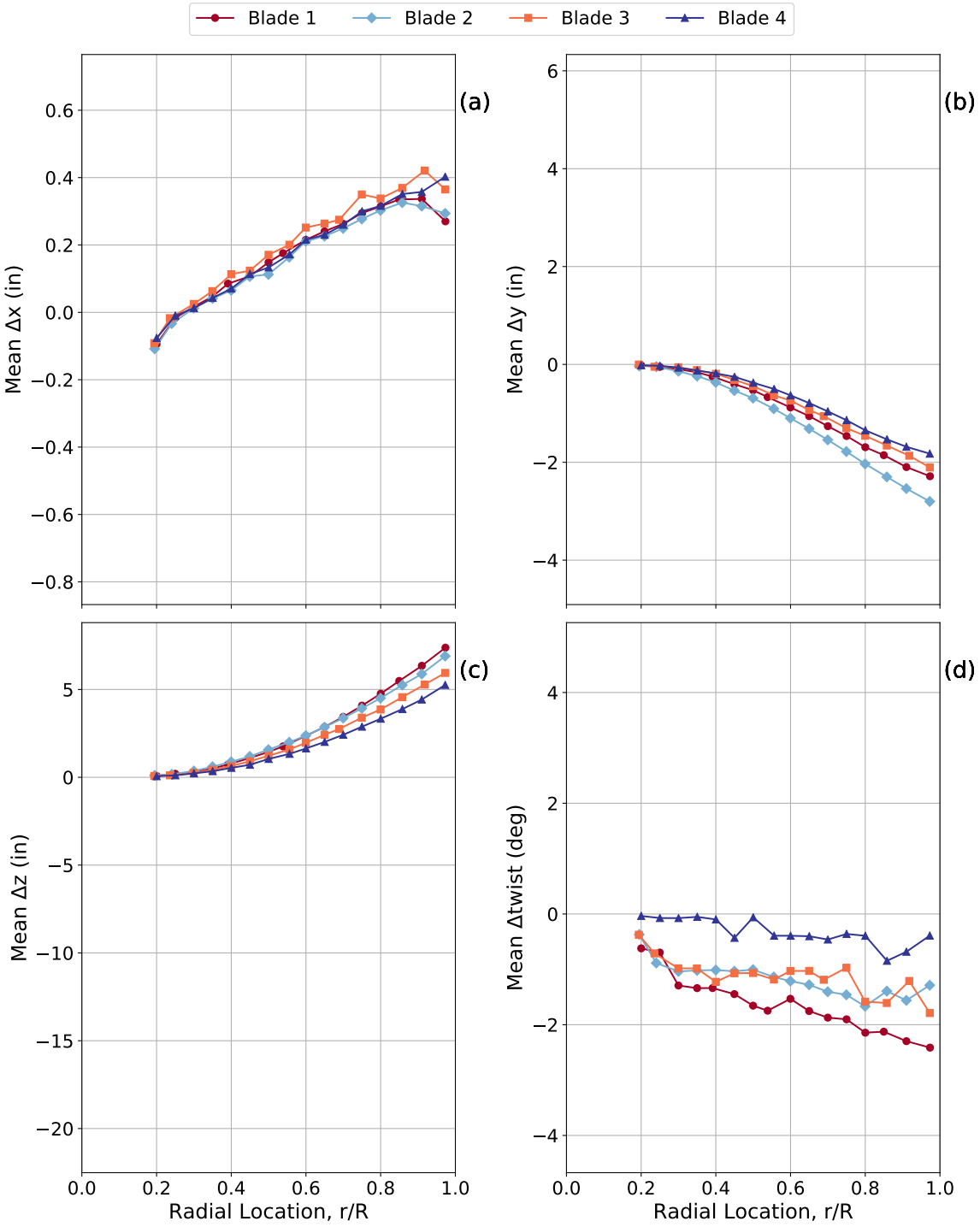


Figure 2.29-29. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-32. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	254.88	0.2001	-0.0941	0.0018	-0.0186	0.0011	0.0783	0.0060	-0.6209	0.0274
1	254.88	0.2499	-0.0165	0.0014	-0.0507	0.0019	0.1997	0.0090	-0.6969	0.0640
1	254.88	0.2998	0.0166	0.0010	-0.1001	0.0042	0.2953	0.0190	-1.2919	0.0666
1	254.88	0.3498	0.0470	0.0017	-0.1597	0.0075	0.5031	0.0314	-1.3394	0.0674
1	254.88	0.3913	0.0852	0.0020	-0.2496	0.0103	0.7291	0.0432	-1.3381	0.0691
1	254.88	0.4496	0.1070	0.0026	-0.4044	0.0148	1.0979	0.0603	-1.4470	0.0736
1	254.88	0.4997	0.1483	0.0031	-0.5280	0.0192	1.4436	0.0772	-1.6559	0.0759
1	254.88	0.5387	0.1756	0.0035	-0.6676	0.0230	1.7583	0.0912	-1.7467	0.0777
1	254.88	0.5996	0.2153	0.0044	-0.8794	0.0297	2.3634	0.1145	-1.5322	0.0846
1	254.88	0.6498	0.2405	0.0050	-1.0565	0.0356	2.8644	0.1358	-1.7532	0.0847
1	254.88	0.6998	0.2628	0.0058	-1.2628	0.0420	3.4401	0.1588	-1.8721	0.0815
1	254.88	0.7500	0.2948	0.0067	-1.4633	0.0489	4.0806	0.1850	-1.9027	0.0885
1	254.88	0.8001	0.3147	0.0076	-1.6921	0.0561	4.7587	0.2135	-2.1440	0.0884
1	254.88	0.8497	0.3352	0.0086	-1.8546	0.0635	5.4864	0.2444	-2.1258	0.0856
1	254.88	0.9102	0.3367	0.0107	-2.0978	0.0728	6.3486	0.2856	-2.2972	0.0937
1	254.88	0.9734	0.2702	0.0146	-2.2853	0.0824	7.3820	0.3332	-2.4137	0.0936
2	254.88	0.1949	-0.1083	0.0020	-0.0330	0.0011	0.1084	0.0050	-0.3706	0.0271
2	254.88	0.2405	-0.0332	0.0013	-0.0463	0.0019	0.1693	0.0088	-0.8862	0.0505
2	254.88	0.2999	0.0123	0.0014	-0.1393	0.0043	0.3594	0.0182	-1.0377	0.0656
2	254.88	0.3498	0.0415	0.0016	-0.2394	0.0076	0.6006	0.0316	-1.0196	0.0666
2	254.88	0.3998	0.0652	0.0025	-0.3675	0.0117	0.8835	0.0475	-1.0128	0.0719
2	254.88	0.4496	0.1066	0.0030	-0.5347	0.0161	1.1888	0.0656	-1.0343	0.0852
2	254.88	0.4995	0.1126	0.0032	-0.6899	0.0214	1.5729	0.0883	-1.0057	0.0797
2	254.88	0.5551	0.1637	0.0035	-0.9062	0.0276	1.9929	0.1179	-1.1374	0.0810
2	254.88	0.5996	0.2110	0.0040	-1.0992	0.0332	2.3746	0.1457	-1.2131	0.0809
2	254.88	0.6497	0.2262	0.0049	-1.3138	0.0404	2.8530	0.1794	-1.2786	0.0791
2	254.88	0.6996	0.2493	0.0061	-1.5426	0.0480	3.3711	0.2165	-1.4044	0.0807
2	254.88	0.7495	0.2772	0.0077	-1.7811	0.0563	3.9239	0.2565	-1.4595	0.0802
2	254.88	0.7996	0.3028	0.0090	-2.0329	0.0647	4.5040	0.2987	-1.6675	0.0809
2	254.88	0.8578	0.3257	0.0111	-2.2989	0.0756	5.2505	0.3496	-1.3935	0.0845
2	254.88	0.9100	0.3155	0.0134	-2.5366	0.0856	5.8796	0.3968	-1.5606	0.0835
2	254.88	0.9727	0.2937	0.0178	-2.8012	0.0985	6.9001	0.4551	-1.2868	0.0868
3	254.88	0.1938	-0.0914	0.0024	-0.0026	0.0011	0.0726	0.0076	-0.3758	0.0249
3	254.88	0.2357	-0.0172	0.0012	-0.0473	0.0021	0.1111	0.0120	-0.7119	0.0493
3	254.88	0.2995	0.0248	0.0012	-0.0583	0.0048	0.2535	0.0275	-0.9816	0.0629
3	254.88	0.3493	0.0630	0.0015	-0.1171	0.0089	0.4289	0.0470	-0.9827	0.0625
3	254.88	0.4000	0.1132	0.0023	-0.1924	0.0135	0.6402	0.0709	-1.2263	0.0688
3	254.88	0.4497	0.1239	0.0025	-0.3159	0.0186	0.9139	0.0980	-1.0701	0.0666
3	254.88	0.4997	0.1708	0.0034	-0.4434	0.0248	1.2223	0.1294	-1.0660	0.0720
3	254.88	0.5556	0.2008	0.0045	-0.6320	0.0323	1.5854	0.1670	-1.1835	0.0772
3	254.88	0.5995	0.2518	0.0054	-0.7378	0.0388	1.9609	0.1990	-1.0292	0.0695
3	254.88	0.6498	0.2636	0.0066	-0.9330	0.0467	2.4178	0.2361	-1.0286	0.0707
3	254.88	0.6890	0.2748	0.0076	-1.0572	0.0533	2.7514	0.2659	-1.1883	0.0716
3	254.88	0.7495	0.3499	0.0095	-1.3030	0.0640	3.3945	0.3128	-0.9711	0.0722
3	254.88	0.7998	0.3380	0.0111	-1.4584	0.0734	3.8604	0.3529	-1.5841	0.0794
3	254.88	0.8577	0.3693	0.0129	-1.6578	0.0847	4.5597	0.4008	-1.6074	0.0793
3	254.88	0.9178	0.4208	0.0153	-1.8663	0.0970	5.2823	0.4513	-1.2106	0.0828
3	254.88	0.9729	0.3649	0.0208	-2.1060	0.1080	5.9425	0.5015	-1.7888	0.0811
4	254.88	0.2001	-0.0764	0.0015	-0.0185	0.0009	0.0612	0.0049	-0.0356	0.0229
4	254.88	0.2502	-0.0100	0.0011	-0.0278	0.0019	0.1114	0.0094	-0.0734	0.0474
4	254.88	0.3001	0.0126	0.0010	-0.0661	0.0038	0.2200	0.0174	-0.0745	0.0546
4	254.88	0.3502	0.0428	0.0014	-0.1263	0.0064	0.3458	0.0297	-0.0524	0.0574
4	254.88	0.4002	0.0706	0.0018	-0.1831	0.0101	0.5364	0.0449	-0.0989	0.0620
4	254.88	0.4500	0.1136	0.0021	-0.2541	0.0137	0.7127	0.0624	-0.4314	0.0681
4	254.88	0.5001	0.1334	0.0027	-0.3753	0.0185	1.0443	0.0832	-0.0604	0.0692
4	254.88	0.5560	0.1721	0.0033	-0.5028	0.0240	1.3335	0.1087	-0.3931	0.0718
4	254.88	0.6001	0.2156	0.0038	-0.6328	0.0288	1.6419	0.1306	-0.3936	0.0709
4	254.88	0.6501	0.2302	0.0045	-0.7899	0.0355	2.0140	0.1570	-0.4021	0.0746
4	254.88	0.6999	0.2601	0.0058	-0.9610	0.0421	2.4203	0.1855	-0.4617	0.0751
4	254.88	0.7500	0.2998	0.0070	-1.1405	0.0496	2.8814	0.2151	-0.3607	0.0778
4	254.88	0.8002	0.3162	0.0079	-1.3466	0.0577	3.3348	0.2447	-0.3938	0.0768
4	254.88	0.8582	0.3512	0.0092	-1.5321	0.0675	3.8833	0.2820	-0.8459	0.0815
4	254.88	0.9101	0.3575	0.0105	-1.6833	0.0765	4.4261	0.3163	-0.6826	0.0799
4	254.88	0.9728	0.4026	0.0148	-1.8247	0.0878	5.2575	0.3586	-0.3909	0.0794

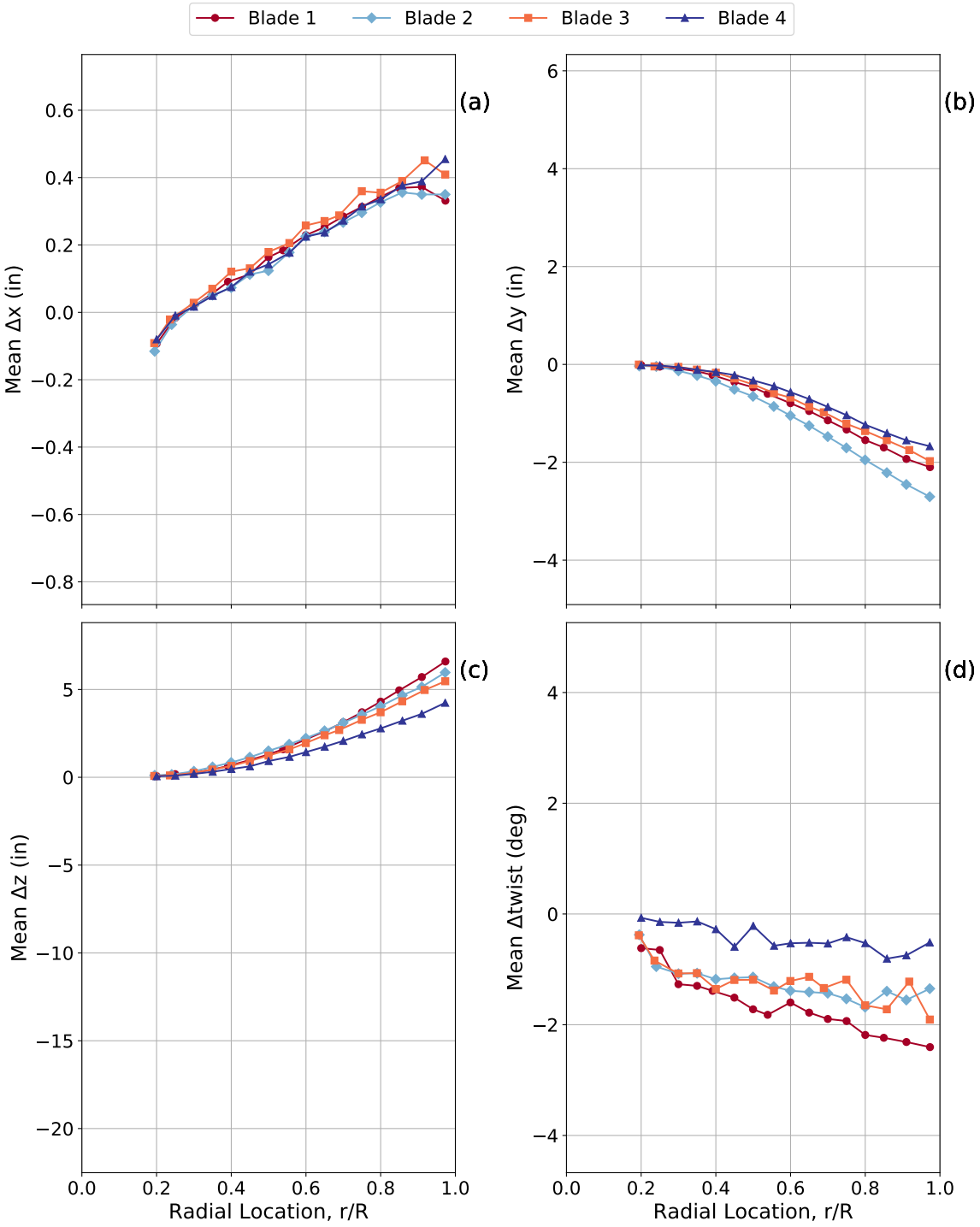


Figure 2.29-30. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-33. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	260.16	0.2001	-0.0933	0.0038	-0.0157	0.0014	0.0677	0.0100	-0.6172	0.0500
1	260.16	0.2499	-0.0163	0.0014	-0.0457	0.0023	0.1779	0.0154	-0.6506	0.1117
1	260.16	0.2998	0.0189	0.0015	-0.0866	0.0055	0.2562	0.0330	-1.2688	0.1236
1	260.16	0.3498	0.0562	0.0019	-0.1395	0.0097	0.4460	0.0538	-1.2983	0.1191
1	260.16	0.3913	0.0909	0.0023	-0.2184	0.0135	0.6426	0.0752	-1.3883	0.1174
1	260.16	0.4496	0.1129	0.0031	-0.3595	0.0189	0.9838	0.1075	-1.5111	0.1185
1	260.16	0.4997	0.1637	0.0037	-0.4685	0.0244	1.2991	0.1394	-1.7213	0.1215
1	260.16	0.5387	0.1841	0.0044	-0.6000	0.0288	1.5954	0.1663	-1.8212	0.1251
1	260.16	0.5996	0.2291	0.0061	-0.7926	0.0366	2.1550	0.2115	-1.5982	0.1267
1	260.16	0.6498	0.2529	0.0074	-0.9528	0.0435	2.6109	0.2510	-1.7819	0.1288
1	260.16	0.6998	0.2849	0.0088	-1.1431	0.0509	3.1304	0.2908	-1.8960	0.1286
1	260.16	0.7500	0.3133	0.0105	-1.3317	0.0592	3.7054	0.3329	-1.9332	0.1275
1	260.16	0.8001	0.3430	0.0120	-1.5475	0.0678	4.3075	0.3755	-2.1853	0.1265
1	260.16	0.8497	0.3693	0.0137	-1.6978	0.0770	4.9518	0.4190	-2.2360	0.1312
1	260.16	0.9102	0.3723	0.0160	-1.9323	0.0886	5.7076	0.4745	-2.3123	0.1360
1	260.16	0.9734	0.3315	0.0214	-2.1006	0.1009	6.5937	0.5349	-2.4044	0.1332
2	260.16	0.1949	-0.1156	0.0022	-0.0324	0.0009	0.1094	0.0059	-0.3753	0.0247
2	260.16	0.2405	-0.0362	0.0013	-0.0412	0.0017	0.1553	0.0103	-0.9501	0.0575
2	260.16	0.2999	0.0204	0.0012	-0.1312	0.0035	0.3424	0.0215	-1.0794	0.0655
2	260.16	0.3498	0.0514	0.0015	-0.2260	0.0065	0.5868	0.0361	-1.0700	0.0631
2	260.16	0.3998	0.0732	0.0020	-0.3440	0.0098	0.8438	0.0547	-1.1788	0.0659
2	260.16	0.4496	0.1125	0.0025	-0.5090	0.0130	1.1439	0.0764	-1.1543	0.0683
2	260.16	0.4995	0.1237	0.0029	-0.6524	0.0167	1.5036	0.1016	-1.1397	0.0666
2	260.16	0.5551	0.1778	0.0034	-0.8597	0.0213	1.8802	0.1361	-1.3119	0.0729
2	260.16	0.5996	0.2257	0.0037	-1.0465	0.0253	2.2258	0.1672	-1.3867	0.0774
2	260.16	0.6497	0.2389	0.0046	-1.2522	0.0300	2.6442	0.2056	-1.4099	0.0743
2	260.16	0.6996	0.2669	0.0056	-1.4760	0.0350	3.1029	0.2483	-1.4306	0.0797
2	260.16	0.7495	0.2958	0.0068	-1.7061	0.0403	3.5600	0.2955	-1.5330	0.0804
2	260.16	0.7996	0.3266	0.0080	-1.9521	0.0459	4.0470	0.3466	-1.6829	0.0838
2	260.16	0.8578	0.3560	0.0101	-2.2130	0.0525	4.6639	0.4113	-1.3955	0.0885
2	260.16	0.9100	0.3500	0.0124	-2.4533	0.0587	5.1441	0.4713	-1.5536	0.0912
2	260.16	0.9727	0.3500	0.0173	-2.7040	0.0664	5.9667	0.5496	-1.3488	0.0966
3	260.16	0.1938	-0.0912	0.0030	-0.0028	0.0012	0.0768	0.0061	-0.3852	0.0256
3	260.16	0.2357	-0.0212	0.0012	-0.0415	0.0019	0.1056	0.0105	-0.8415	0.0546
3	260.16	0.2995	0.0285	0.0018	-0.0503	0.0046	0.2556	0.0235	-1.0740	0.0655
3	260.16	0.3493	0.0700	0.0019	-0.1061	0.0080	0.4402	0.0386	-1.0687	0.0676
3	260.16	0.4000	0.1209	0.0026	-0.1702	0.0124	0.6469	0.0601	-1.3546	0.0701
3	260.16	0.4497	0.1306	0.0028	-0.2870	0.0174	0.9260	0.0832	-1.1913	0.0615
3	260.16	0.4997	0.1793	0.0032	-0.4092	0.0229	1.2367	0.1128	-1.1882	0.0750
3	260.16	0.5556	0.2058	0.0036	-0.5870	0.0303	1.5868	0.1499	-1.3826	0.0687
3	260.16	0.5995	0.2579	0.0045	-0.6789	0.0368	1.9489	0.1809	-1.2108	0.0692
3	260.16	0.6498	0.2711	0.0057	-0.8643	0.0454	2.3926	0.2189	-1.1355	0.0703
3	260.16	0.6890	0.2878	0.0067	-0.9784	0.0520	2.6919	0.2491	-1.3377	0.0734
3	260.16	0.7495	0.3596	0.0083	-1.2134	0.0635	3.2725	0.2968	-1.1874	0.0758
3	260.16	0.7998	0.3551	0.0099	-1.3610	0.0735	3.7014	0.3382	-1.6495	0.0795
3	260.16	0.8577	0.3900	0.0115	-1.5490	0.0855	4.3250	0.3880	-1.7216	0.0782
3	260.16	0.9178	0.4513	0.0137	-1.7498	0.0987	4.9697	0.4419	-1.2213	0.0796
3	260.16	0.9729	0.4091	0.0181	-1.9771	0.1109	5.4673	0.4932	-1.9065	0.0840
4	260.16	0.2001	-0.0801	0.0016	-0.0167	0.0012	0.0574	0.0064	-0.0690	0.0256
4	260.16	0.2502	-0.0095	0.0014	-0.0230	0.0022	0.0937	0.0125	-0.1433	0.0482
4	260.16	0.3001	0.0167	0.0012	-0.0552	0.0046	0.1928	0.0231	-0.1589	0.0567
4	260.16	0.3502	0.0488	0.0016	-0.1112	0.0081	0.3133	0.0392	-0.1350	0.0531
4	260.16	0.4002	0.0750	0.0022	-0.1562	0.0124	0.4720	0.0596	-0.2748	0.0576
4	260.16	0.4500	0.1207	0.0022	-0.2183	0.0174	0.6230	0.0839	-0.5916	0.0633
4	260.16	0.5001	0.1427	0.0029	-0.3272	0.0229	0.9236	0.1119	-0.2147	0.0579
4	260.16	0.5560	0.1771	0.0037	-0.4452	0.0303	1.1648	0.1468	-0.5741	0.0623
4	260.16	0.6001	0.2247	0.0044	-0.5673	0.0366	1.4344	0.1781	-0.5290	0.0638
4	260.16	0.6501	0.2370	0.0052	-0.7088	0.0446	1.7412	0.2153	-0.5196	0.0682
4	260.16	0.6999	0.2723	0.0063	-0.8703	0.0528	2.0718	0.2549	-0.5336	0.0686
4	260.16	0.7500	0.3143	0.0074	-1.0386	0.0620	2.4430	0.2968	-0.4197	0.0662
4	260.16	0.8002	0.3357	0.0086	-1.2339	0.0715	2.7851	0.3411	-0.5270	0.0663
4	260.16	0.8582	0.3766	0.0099	-1.4046	0.0832	3.2216	0.3943	-0.8068	0.0709
4	260.16	0.9101	0.3890	0.0120	-1.5516	0.0937	3.6098	0.4459	-0.7467	0.0718
4	260.16	0.9728	0.4550	0.0170	-1.6726	0.1066	4.2414	0.5110	-0.5143	0.0751

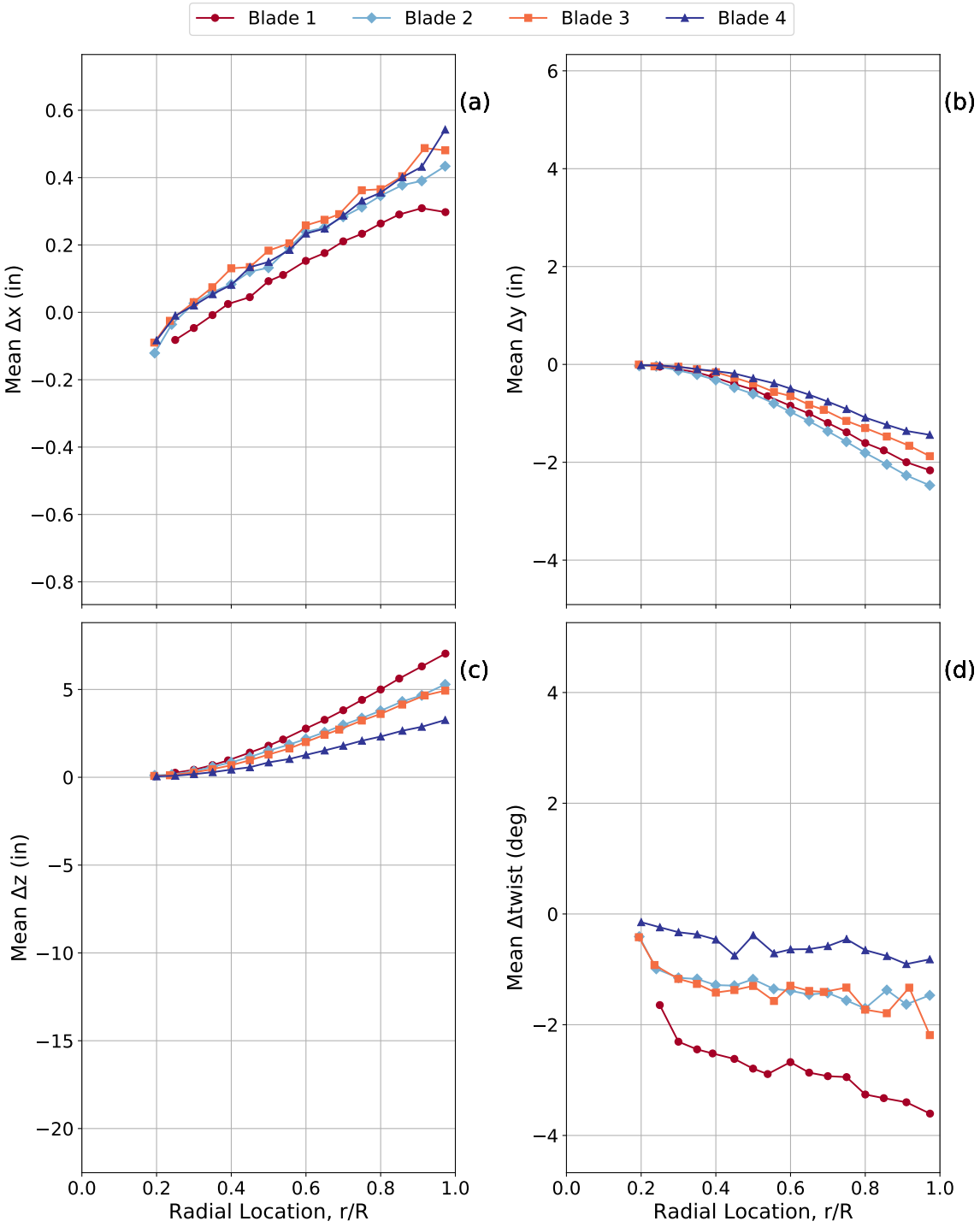


Figure 2.29-31. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-34. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	265.08	0.2499	-0.0819	0.0023	-0.0458	0.0022	0.2584	0.0169	-1.6454	0.0945
1	265.08	0.2998	-0.0465	0.0020	-0.0998	0.0043	0.4268	0.0286	-2.3070	0.1332
1	265.08	0.3498	-0.0081	0.0024	-0.1642	0.0077	0.6938	0.0476	-2.4454	0.1217
1	265.08	0.3913	0.0248	0.0029	-0.2525	0.0113	0.9627	0.0666	-2.5188	0.1283
1	265.08	0.4496	0.0451	0.0036	-0.3994	0.0158	1.4046	0.0957	-2.6177	0.1261
1	265.08	0.4997	0.0926	0.0044	-0.5160	0.0206	1.7983	0.1248	-2.7931	0.1340
1	265.08	0.5387	0.1110	0.0054	-0.6495	0.0243	2.1516	0.1495	-2.8912	0.1346
1	265.08	0.5996	0.1529	0.0070	-0.8454	0.0310	2.7731	0.1901	-2.6757	0.1355
1	265.08	0.6498	0.1760	0.0083	-1.0055	0.0370	3.2708	0.2254	-2.8655	0.1413
1	265.08	0.6998	0.2108	0.0098	-1.1966	0.0435	3.8163	0.2622	-2.9292	0.1447
1	265.08	0.7500	0.2333	0.0114	-1.3870	0.0508	4.4066	0.2987	-2.9460	0.1480
1	265.08	0.8001	0.2637	0.0132	-1.6068	0.0585	4.9988	0.3350	-3.2605	0.1485
1	265.08	0.8497	0.2905	0.0148	-1.7572	0.0667	5.6217	0.3706	-3.3264	0.1465
1	265.08	0.9102	0.3092	0.0170	-1.9992	0.0771	6.3148	0.4136	-3.4007	0.1436
1	265.08	0.9734	0.2975	0.0216	-2.1648	0.0883	7.0426	0.4594	-3.6057	0.1421
2	265.08	0.1949	-0.1209	0.0034	-0.0304	0.0013	0.1101	0.0081	-0.4086	0.0346
2	265.08	0.2405	-0.0358	0.0019	-0.0368	0.0019	0.1563	0.0119	-0.9915	0.0757
2	265.08	0.2999	0.0267	0.0014	-0.1231	0.0048	0.3439	0.0270	-1.1532	0.0885
2	265.08	0.3498	0.0597	0.0019	-0.2083	0.0083	0.5959	0.0442	-1.1739	0.0805
2	265.08	0.3998	0.0834	0.0020	-0.3188	0.0126	0.8538	0.0659	-1.2848	0.0820
2	265.08	0.4496	0.1208	0.0028	-0.4737	0.0167	1.1500	0.0887	-1.2941	0.0834
2	265.08	0.4995	0.1323	0.0032	-0.6034	0.0214	1.5122	0.1163	-1.1784	0.0826
2	265.08	0.5551	0.1922	0.0039	-0.7966	0.0274	1.8607	0.1533	-1.3533	0.0866
2	265.08	0.5996	0.2390	0.0047	-0.9692	0.0328	2.1842	0.1862	-1.3865	0.0907
2	265.08	0.6497	0.2519	0.0058	-1.1598	0.0391	2.5647	0.2269	-1.4537	0.0890
2	265.08	0.6996	0.2836	0.0070	-1.3659	0.0459	2.9796	0.2716	-1.4261	0.0940
2	265.08	0.7495	0.3123	0.0082	-1.5802	0.0531	3.3711	0.3198	-1.5620	0.0909
2	265.08	0.7996	0.3460	0.0096	-1.8075	0.0608	3.7861	0.3713	-1.7049	0.0943
2	265.08	0.8578	0.3777	0.0113	-2.0439	0.0702	4.3160	0.4337	-1.3734	0.0999
2	265.08	0.9100	0.3902	0.0135	-2.2683	0.0792	4.6627	0.4921	-1.6317	0.1027
2	265.08	0.9727	0.4339	0.0184	-2.4716	0.0893	5.2895	0.5660	-1.4686	0.1064
3	265.08	0.1938	-0.0897	0.0049	-0.0020	0.0013	0.0784	0.0072	-0.4199	0.0346
3	265.08	0.2357	-0.0251	0.0019	-0.0396	0.0020	0.1152	0.0101	-0.9218	0.0776
3	265.08	0.2995	0.0303	0.0020	-0.0465	0.0052	0.2729	0.0242	-1.1724	0.0922
3	265.08	0.3493	0.0745	0.0021	-0.0991	0.0090	0.4595	0.0392	-1.2630	0.0946
3	265.08	0.4000	0.1307	0.0024	-0.1595	0.0139	0.6868	0.0594	-1.4192	0.0925
3	265.08	0.4497	0.1343	0.0030	-0.2720	0.0195	0.9689	0.0809	-1.3738	0.0919
3	265.08	0.4997	0.1834	0.0038	-0.3897	0.0260	1.2928	0.1066	-1.2995	0.0933
3	265.08	0.5556	0.2049	0.0049	-0.5623	0.0347	1.6418	0.1409	-1.5711	0.0911
3	265.08	0.5995	0.2582	0.0057	-0.6456	0.0423	2.0075	0.1700	-1.2966	0.0977
3	265.08	0.6498	0.2748	0.0072	-0.8250	0.0521	2.4201	0.2070	-1.3902	0.0988
3	265.08	0.6890	0.2915	0.0082	-0.9287	0.0602	2.7172	0.2364	-1.4075	0.1029
3	265.08	0.7495	0.3624	0.0103	-1.1544	0.0739	3.2316	0.2832	-1.3288	0.1011
3	265.08	0.7998	0.3654	0.0118	-1.2999	0.0860	3.6059	0.3225	-1.7277	0.1033
3	265.08	0.8577	0.4041	0.0135	-1.4738	0.1006	4.1406	0.3669	-1.7924	0.1055
3	265.08	0.9178	0.4876	0.0158	-1.6627	0.1166	4.6608	0.4120	-1.3308	0.1050
3	265.08	0.9729	0.4811	0.0219	-1.8756	0.1308	4.9340	0.4544	-2.1874	0.1049
4	265.08	0.2001	-0.0832	0.0018	-0.0144	0.0010	0.0532	0.0055	-0.1481	0.0281
4	265.08	0.2502	-0.0098	0.0016	-0.0206	0.0024	0.0887	0.0104	-0.2410	0.0550
4	265.08	0.3001	0.0204	0.0014	-0.0483	0.0042	0.1785	0.0192	-0.3298	0.0616
4	265.08	0.3502	0.0539	0.0016	-0.0977	0.0073	0.2914	0.0310	-0.3691	0.0627
4	265.08	0.4002	0.0818	0.0019	-0.1376	0.0115	0.4385	0.0478	-0.4624	0.0629
4	265.08	0.4500	0.1341	0.0023	-0.1873	0.0158	0.5714	0.0652	-0.7527	0.0641
4	265.08	0.5001	0.1498	0.0027	-0.2834	0.0214	0.8472	0.0861	-0.3836	0.0697
4	265.08	0.5560	0.1853	0.0033	-0.3857	0.0283	1.0445	0.1125	-0.7104	0.0750
4	265.08	0.6001	0.2340	0.0038	-0.4956	0.0348	1.2739	0.1340	-0.6394	0.0787
4	265.08	0.6501	0.2486	0.0045	-0.6198	0.0426	1.5268	0.1579	-0.6349	0.0771
4	265.08	0.6999	0.2874	0.0050	-0.7615	0.0513	1.7941	0.1800	-0.5805	0.0799
4	265.08	0.7500	0.3315	0.0056	-0.9127	0.0607	2.0819	0.2005	-0.4546	0.0835
4	265.08	0.8002	0.3555	0.0062	-1.0877	0.0706	2.3186	0.2213	-0.6536	0.0870
4	265.08	0.8582	0.4013	0.0066	-1.2357	0.0828	2.6497	0.2450	-0.7598	0.0852
4	265.08	0.9101	0.4321	0.0070	-1.3594	0.0938	2.8742	0.2669	-0.9046	0.0837
4	265.08	0.9728	0.5424	0.0109	-1.4397	0.1073	3.2621	0.2960	-0.8193	0.0876

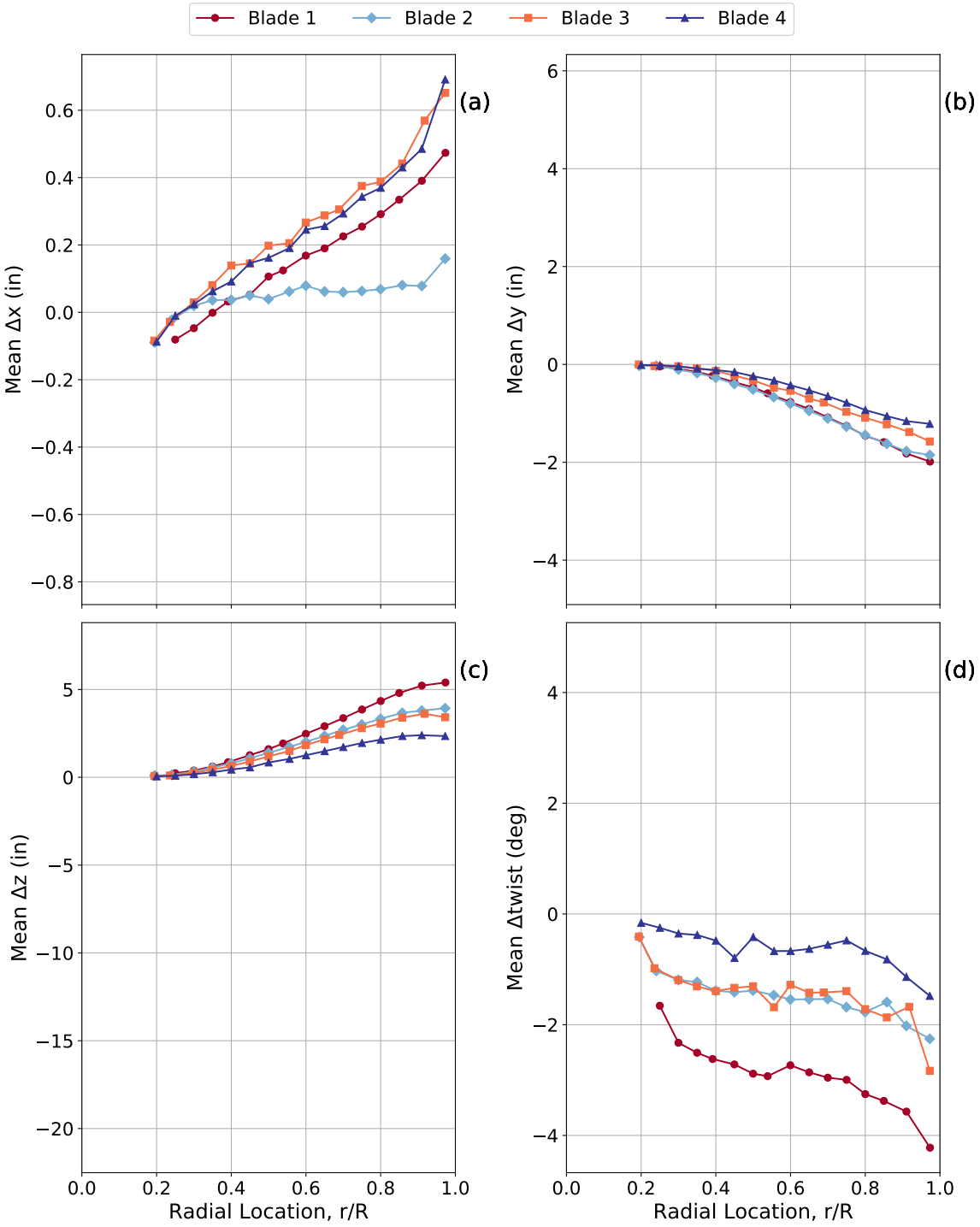


Figure 2.29-32. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-35. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	270	0.2499	-0.0809	0.0044	-0.0422	0.0029	0.2310	0.0224	-1.6572	0.1597
1	270	0.2998	-0.0471	0.0028	-0.0907	0.0055	0.3832	0.0351	-2.3264	0.2244
1	270	0.3498	-0.0012	0.0035	-0.1516	0.0106	0.6160	0.0598	-2.5066	0.2101
1	270	0.3913	0.0322	0.0038	-0.2316	0.0152	0.8570	0.0808	-2.6191	0.2149
1	270	0.4496	0.0521	0.0046	-0.3639	0.0214	1.2563	0.1111	-2.7173	0.2106
1	270	0.4997	0.1064	0.0060	-0.4686	0.0277	1.6027	0.1397	-2.8843	0.2089
1	270	0.5387	0.1246	0.0068	-0.5907	0.0328	1.9253	0.1618	-2.9290	0.2106
1	270	0.5996	0.1685	0.0081	-0.7689	0.0414	2.4739	0.1966	-2.7323	0.2143
1	270	0.6498	0.1899	0.0095	-0.9088	0.0494	2.9097	0.2257	-2.8598	0.2161
1	270	0.6998	0.2257	0.0105	-1.0838	0.0580	3.3710	0.2540	-2.9564	0.2139
1	270	0.7500	0.2546	0.0118	-1.2579	0.0672	3.8582	0.2813	-2.9955	0.2102
1	270	0.8001	0.2915	0.0129	-1.4579	0.0773	4.3431	0.3048	-3.2527	0.2170
1	270	0.8497	0.3344	0.0142	-1.5886	0.0878	4.8012	0.3288	-3.3758	0.2149
1	270	0.9102	0.3905	0.0155	-1.8205	0.1010	5.2195	0.3589	-3.5688	0.2061
1	270	0.9734	0.4736	0.0207	-1.9868	0.1157	5.3948	0.3912	-4.2211	0.2060
2	270.35	0.1949	-0.0889	0.0069	-0.0264	0.0015	0.1027	0.0083	-0.4187	0.0465
2	270.35	0.2405	-0.0224	0.0020	-0.0291	0.0020	0.1383	0.0087	-1.0267	0.1211
2	270.35	0.2999	0.0195	0.0024	-0.1054	0.0048	0.3199	0.0228	-1.1927	0.1320
2	270.35	0.3498	0.0361	0.0045	-0.1767	0.0084	0.5546	0.0378	-1.2290	0.1261
2	270.35	0.3998	0.0373	0.0056	-0.2704	0.0123	0.7938	0.0535	-1.3875	0.1262
2	270.35	0.4496	0.0501	0.0071	-0.4002	0.0161	1.0748	0.0688	-1.4125	0.1253
2	270.35	0.4995	0.0394	0.0073	-0.5123	0.0199	1.3926	0.0878	-1.3835	0.1252
2	270.35	0.5551	0.0617	0.0072	-0.6679	0.0251	1.7295	0.1083	-1.4659	0.1201
2	270.35	0.5996	0.0790	0.0073	-0.8023	0.0292	2.0152	0.1263	-1.5441	0.1225
2	270.35	0.6497	0.0619	0.0077	-0.9491	0.0344	2.3563	0.1475	-1.5398	0.1221
2	270.35	0.6996	0.0599	0.0087	-1.1046	0.0399	2.7034	0.1707	-1.5361	0.1233
2	270.35	0.7495	0.0632	0.0102	-1.2721	0.0458	3.0077	0.1957	-1.6826	0.1208
2	270.35	0.7996	0.0686	0.0124	-1.4446	0.0521	3.3309	0.2237	-1.7719	0.1178
2	270.35	0.8578	0.0807	0.0155	-1.6216	0.0597	3.6703	0.2578	-1.5921	0.1206
2	270.35	0.9100	0.0783	0.0187	-1.7733	0.0669	3.7955	0.2923	-2.0213	0.1174
2	270.35	0.9727	0.1593	0.0245	-1.8525	0.0748	3.9320	0.3349	-2.2549	0.1394
3	270	0.1938	-0.0839	0.0091	-0.0006	0.0020	0.0729	0.0119	-0.4090	0.0563
3	270	0.2357	-0.0284	0.0035	-0.0342	0.0020	0.1061	0.0104	-0.9803	0.1572
3	270	0.2995	0.0298	0.0026	-0.0373	0.0065	0.2568	0.0315	-1.1925	0.1731
3	270	0.3493	0.0808	0.0024	-0.0817	0.0116	0.4289	0.0529	-1.3077	0.1638
3	270	0.4000	0.1391	0.0028	-0.1319	0.0172	0.6448	0.0745	-1.3932	0.1626
3	270	0.4497	0.1452	0.0029	-0.2285	0.0230	0.9007	0.0973	-1.3347	0.1610
3	270	0.4997	0.1980	0.0031	-0.3279	0.0291	1.1883	0.1211	-1.3057	0.1674
3	270	0.5556	0.2054	0.0042	-0.4766	0.0371	1.4985	0.1489	-1.6841	0.1649
3	270	0.5995	0.2667	0.0048	-0.5387	0.0439	1.8301	0.1721	-1.2790	0.1656
3	270	0.6498	0.2878	0.0057	-0.6970	0.0518	2.1647	0.1993	-1.4215	0.1654
3	270	0.6890	0.3056	0.0065	-0.7776	0.0590	2.4070	0.2205	-1.4170	0.1672
3	270	0.7495	0.3751	0.0074	-0.9679	0.0698	2.7959	0.2541	-1.3930	0.1658
3	270	0.7998	0.3876	0.0082	-1.0898	0.0796	3.0595	0.2820	-1.7186	0.1663
3	270	0.8577	0.4418	0.0090	-1.2223	0.0912	3.3961	0.3156	-1.8676	0.1649
3	270	0.9178	0.5692	0.0101	-1.3816	0.1037	3.6187	0.3504	-1.6763	0.1686
3	270	0.9729	0.6516	0.0141	-1.5748	0.1157	3.4165	0.3813	-2.8323	0.1678
4	270	0.2001	-0.0873	0.0029	-0.0126	0.0014	0.0508	0.0070	-0.1597	0.0397
4	270	0.2502	-0.0099	0.0025	-0.0173	0.0029	0.0887	0.0100	-0.2501	0.0900
4	270	0.3001	0.0240	0.0016	-0.0397	0.0053	0.1755	0.0204	-0.3534	0.0951
4	270	0.3502	0.0626	0.0017	-0.0848	0.0096	0.2885	0.0343	-0.3797	0.0890
4	270	0.4002	0.0917	0.0022	-0.1162	0.0146	0.4365	0.0493	-0.4817	0.0932
4	270	0.4500	0.1460	0.0026	-0.1564	0.0209	0.5654	0.0675	-0.7943	0.0956
4	270	0.5001	0.1620	0.0028	-0.2404	0.0283	0.8427	0.0880	-0.4168	0.0965
4	270	0.5560	0.1909	0.0037	-0.3283	0.0380	1.0473	0.1148	-0.6698	0.1009
4	270	0.6001	0.2454	0.0043	-0.4259	0.0467	1.2557	0.1389	-0.6685	0.1025
4	270	0.6501	0.2562	0.0049	-0.5300	0.0572	1.4879	0.1688	-0.6304	0.1003
4	270	0.6999	0.2933	0.0058	-0.6505	0.0691	1.7222	0.2032	-0.5559	0.1072
4	270	0.7500	0.3432	0.0069	-0.7830	0.0813	1.9520	0.2435	-0.4778	0.1082
4	270	0.8002	0.3697	0.0075	-0.9321	0.0939	2.1420	0.2849	-0.6659	0.1077
4	270	0.8582	0.4302	0.0086	-1.0574	0.1092	2.3480	0.3382	-0.8205	0.1083
4	270	0.9101	0.4853	0.0098	-1.1584	0.1230	2.3955	0.3882	-1.1372	0.1000
4	270	0.9728	0.6912	0.0161	-1.2153	0.1398	2.3473	0.4543	-1.4795	0.1116

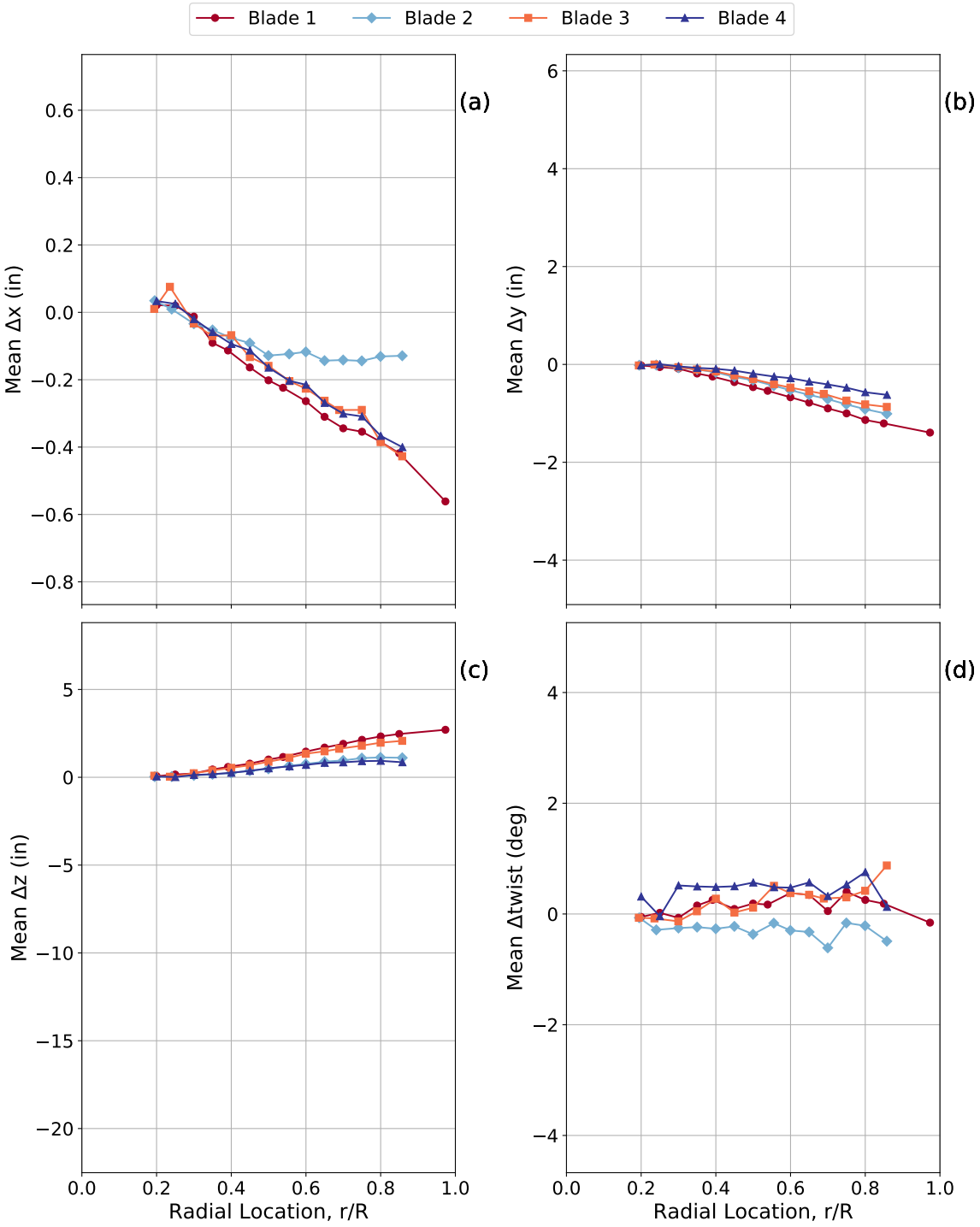


Figure 2.29-33. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-36. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	274.92	0.2001	0.0214	0.0019	-0.0212	0.0017	0.0673	0.0065	-0.0540	0.0392
1	274.92	0.2499	0.0200	0.0018	-0.0542	0.0045	0.1571	0.0136	0.0210	0.0658
1	274.92	0.2998	-0.0126	0.0021	-0.0857	0.0067	0.2208	0.0239	-0.0687	0.0888
1	274.92	0.3498	-0.0905	0.0024	-0.1861	0.0124	0.4454	0.0406	0.1529	0.0751
1	274.92	0.3913	-0.1132	0.0032	-0.2482	0.0175	0.5887	0.0579	0.2545	0.0773
1	274.92	0.4496	-0.1635	0.0040	-0.3611	0.0242	0.7770	0.0793	0.0905	0.0799
1	274.92	0.4997	-0.2018	0.0048	-0.4641	0.0319	1.0109	0.1063	0.1884	0.0846
1	274.92	0.5387	-0.2239	0.0051	-0.5397	0.0374	1.1561	0.1255	0.1697	0.0882
1	274.92	0.5996	-0.2636	0.0069	-0.6711	0.0489	1.4626	0.1608	0.3782	0.0888
1	274.92	0.6498	-0.3101	0.0079	-0.7809	0.0596	1.6924	0.1920	0.3449	0.0922
1	274.92	0.6998	-0.3443	0.0082	-0.8992	0.0706	1.9042	0.2234	0.0531	0.1119
1	274.92	0.7500	-0.3544	0.0097	-1.0010	0.0830	2.1332	0.2560	0.4001	0.1022
1	274.92	0.8001	-0.3845	0.0104	-1.1356	0.0956	2.3273	0.2900	0.2536	0.1026
1	274.92	0.8497	-0.4182	0.0118	-1.2054	0.1091	2.4653	0.3240	0.1858	0.1131
1	274.92	0.9734	-0.5613	0.0188	-1.3934	0.1447	2.7049	0.4009	-0.1564	0.1953
2	274.92	0.1949	0.0346	0.0017	-0.0173	0.0008	0.0353	0.0045	-0.0686	0.0405
2	274.92	0.2405	0.0097	0.0021	-0.0122	0.0023	0.0406	0.0118	-0.2872	0.0509
2	274.92	0.2999	-0.0339	0.0018	-0.0674	0.0042	0.1062	0.0220	-0.2541	0.0875
2	274.92	0.3498	-0.0523	0.0025	-0.1030	0.0065	0.1687	0.0348	-0.2377	0.0892
2	274.92	0.3998	-0.0758	0.0020	-0.1618	0.0111	0.2453	0.0570	-0.2670	0.0723
2	274.92	0.4496	-0.0912	0.0027	-0.2558	0.0151	0.3738	0.0778	-0.2237	0.0806
2	274.92	0.4995	-0.1283	0.0025	-0.3231	0.0198	0.4815	0.1016	-0.3671	0.0802
2	274.92	0.5551	-0.1235	0.0035	-0.4359	0.0254	0.6540	0.1329	-0.1658	0.0828
2	274.92	0.5996	-0.1173	0.0040	-0.5261	0.0308	0.7586	0.1597	-0.2975	0.0910
2	274.92	0.6497	-0.1434	0.0046	-0.6226	0.0367	0.8897	0.1892	-0.3254	0.0930
2	274.92	0.6996	-0.1415	0.0059	-0.7088	0.0435	0.9590	0.2217	-0.6121	0.0972
2	274.92	0.7495	-0.1441	0.0061	-0.8169	0.0507	1.0927	0.2514	-0.1622	0.1074
2	274.92	0.7996	-0.1309	0.0071	-0.9142	0.0580	1.1321	0.2827	-0.2127	0.1181
2	274.92	0.8578	-0.1289	0.0087	-1.0093	0.0681	1.1096	0.3216	-0.4916	0.1499
3	274.92	0.1938	0.0103	0.0024	-0.0211	0.0016	0.0901	0.0053	-0.0676	0.0403
3	274.92	0.2357	0.0758	0.0019	-0.0026	0.0039	0.0316	0.0116	-0.0803	0.0488
3	274.92	0.2995	-0.0332	0.0019	-0.0562	0.0074	0.2310	0.0235	-0.1327	0.0859
3	274.92	0.3493	-0.0705	0.0026	-0.1053	0.0125	0.3870	0.0347	0.0487	0.0734
3	274.92	0.4000	-0.0678	0.0042	-0.1445	0.0202	0.5376	0.0573	0.2765	0.0830
3	274.92	0.4497	-0.1328	0.0037	-0.2253	0.0273	0.6853	0.0742	0.0260	0.0836
3	274.92	0.4997	-0.1589	0.0046	-0.3016	0.0350	0.8850	0.0940	0.1135	0.0815
3	274.92	0.5556	-0.2040	0.0045	-0.4034	0.0452	1.1147	0.1214	0.5087	0.0870
3	274.92	0.5995	-0.2265	0.0062	-0.4737	0.0540	1.3414	0.1465	0.3768	0.0880
3	274.92	0.6498	-0.2623	0.0062	-0.5460	0.0657	1.4792	0.1766	0.3463	0.1057
3	274.92	0.6890	-0.2899	0.0064	-0.6025	0.0740	1.6233	0.2009	0.2785	0.1179
3	274.92	0.7495	-0.2896	0.0074	-0.7392	0.0901	1.8019	0.2411	0.3003	0.1013
3	274.92	0.7998	-0.3852	0.0089	-0.8169	0.1046	1.9705	0.2814	0.4191	0.1142
3	274.92	0.8577	-0.4275	0.0149	-0.8687	0.1202	2.0745	0.3278	0.8767	0.3043
4	274.92	0.2001	0.0335	0.0028	-0.0173	0.0022	0.0469	0.0077	0.3141	0.0591
4	274.92	0.2502	0.0251	0.0015	0.0035	0.0052	0.0115	0.0157	-0.0409	0.1065
4	274.92	0.3001	-0.0200	0.0023	-0.0401	0.0093	0.1314	0.0294	0.5151	0.1349
4	274.92	0.3502	-0.0585	0.0040	-0.0718	0.0162	0.1756	0.0451	0.4969	0.1386
4	274.92	0.4002	-0.0940	0.0038	-0.0894	0.0255	0.2565	0.0718	0.4872	0.1277
4	274.92	0.4500	-0.1133	0.0037	-0.1270	0.0329	0.3663	0.0929	0.5002	0.1118
4	274.92	0.5001	-0.1642	0.0046	-0.1886	0.0405	0.5121	0.1186	0.5675	0.1141
4	274.92	0.5560	-0.2033	0.0052	-0.2488	0.0510	0.6251	0.1484	0.4827	0.1114
4	274.92	0.6001	-0.2149	0.0060	-0.2818	0.0588	0.7075	0.1733	0.4755	0.1169
4	274.92	0.6501	-0.2688	0.0070	-0.3515	0.0696	0.8215	0.2036	0.5698	0.1224
4	274.92	0.6999	-0.3008	0.0077	-0.4094	0.0799	0.8512	0.2349	0.3224	0.1211
4	274.92	0.7500	-0.3090	0.0085	-0.4762	0.0915	0.9187	0.2654	0.5308	0.1352
4	274.92	0.8002	-0.3667	0.0093	-0.5686	0.1034	0.9366	0.2981	0.7565	0.1494
4	274.92	0.8582	-0.4002	0.0111	-0.6227	0.1183	0.8558	0.3346	0.1276	0.1885

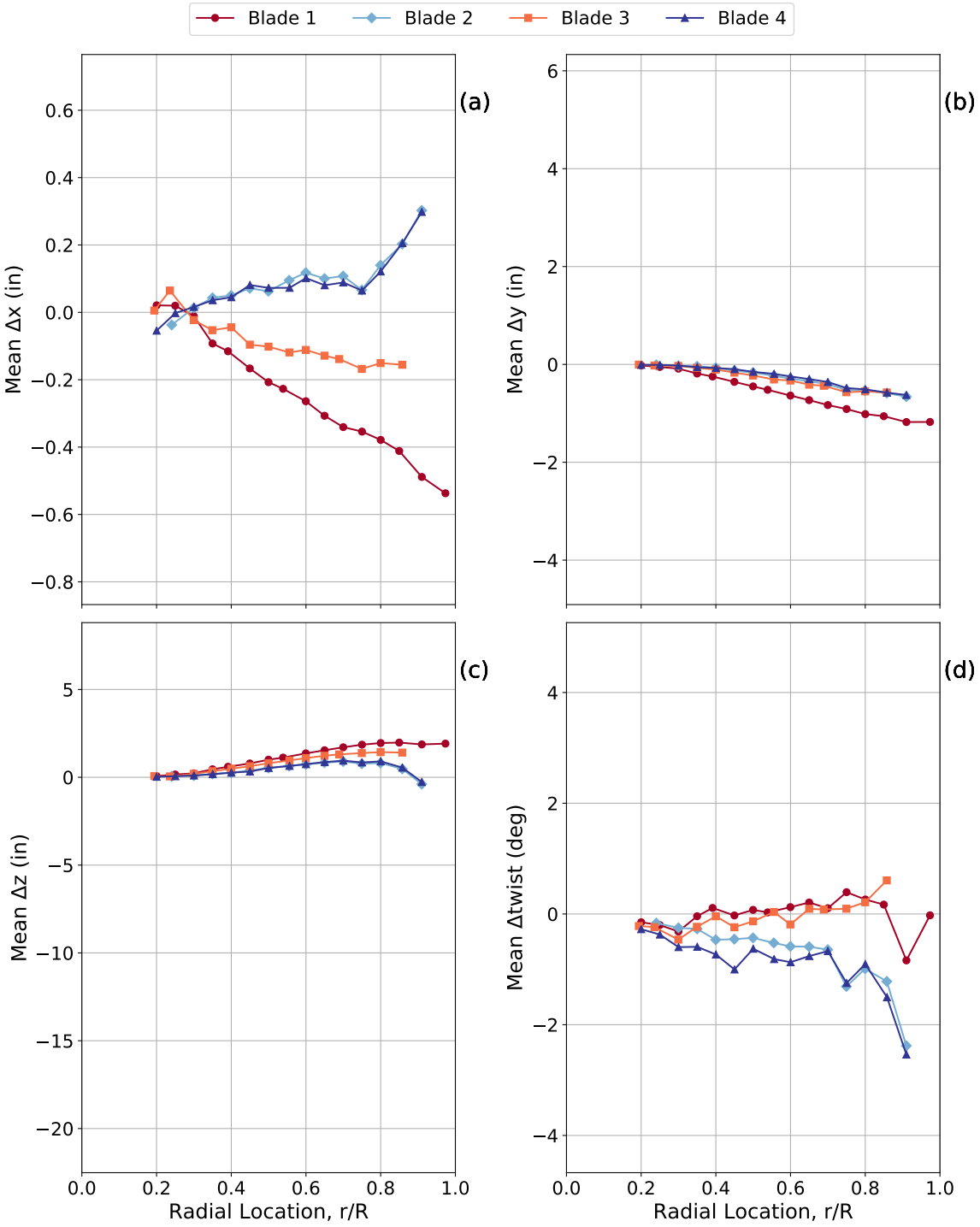


Figure 2.29-34. 280° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-37. 280° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	279.84	0.2001	0.0208	0.0032	-0.0221	0.0020	0.0707	0.0054	-0.1498	0.0494
1	279.84	0.2499	0.0198	0.0019	-0.0517	0.0053	0.1584	0.0140	-0.2004	0.0699
1	279.84	0.2998	-0.0115	0.0027	-0.0868	0.0082	0.2246	0.0209	-0.3167	0.1031
1	279.84	0.3498	-0.0925	0.0032	-0.1863	0.0166	0.4570	0.0355	-0.0406	0.0874
1	279.84	0.3913	-0.1155	0.0044	-0.2473	0.0228	0.5973	0.0513	0.1089	0.0904
1	279.84	0.4496	-0.1665	0.0041	-0.3569	0.0290	0.7866	0.0714	-0.0264	0.0992
1	279.84	0.4997	-0.2073	0.0045	-0.4492	0.0350	1.0013	0.0990	0.0738	0.1107
1	279.84	0.5387	-0.2270	0.0050	-0.5191	0.0403	1.1218	0.1188	0.0284	0.0993
1	279.84	0.5996	-0.2639	0.0056	-0.6369	0.0488	1.3606	0.1567	0.1233	0.0950
1	279.84	0.6498	-0.3070	0.0064	-0.7302	0.0566	1.5379	0.1902	0.2073	0.0988
1	279.84	0.6998	-0.3406	0.0071	-0.8310	0.0651	1.7069	0.2262	0.1037	0.1114
1	279.84	0.7500	-0.3540	0.0074	-0.9118	0.0742	1.8566	0.2618	0.3935	0.1175
1	279.84	0.8001	-0.3787	0.0086	-1.0155	0.0834	1.9505	0.3028	0.2613	0.1073
1	279.84	0.8497	-0.4115	0.0090	-1.0585	0.0935	1.9756	0.3462	0.1694	0.1252
1	279.84	0.9102	-0.4886	0.0115	-1.1778	0.1045	1.8716	0.4032	-0.8385	0.2323
1	279.84	0.9734	-0.5371	0.0141	-1.1763	0.1181	1.9166	0.4669	-0.0246	0.1405
2	279.84	0.2405	-0.0373	0.0042	-0.0098	0.0031	0.0570	0.0196	-0.1654	0.1520
2	279.84	0.2999	0.0133	0.0039	-0.0269	0.0063	0.0956	0.0352	-0.2505	0.2335
2	279.84	0.3498	0.0432	0.0034	-0.0394	0.0122	0.1882	0.0660	-0.2701	0.2130
2	279.84	0.3998	0.0503	0.0034	-0.0678	0.0185	0.2662	0.0958	-0.4653	0.2152
2	279.84	0.4496	0.0715	0.0037	-0.1274	0.0249	0.3803	0.1268	-0.4548	0.2188
2	279.84	0.4995	0.0627	0.0039	-0.1663	0.0318	0.5290	0.1597	-0.4312	0.2131
2	279.84	0.5551	0.0952	0.0043	-0.2312	0.0402	0.6390	0.2021	-0.5224	0.2100
2	279.84	0.5996	0.1177	0.0048	-0.2899	0.0481	0.7322	0.2374	-0.5859	0.2119
2	279.84	0.6497	0.1003	0.0052	-0.3446	0.0573	0.8352	0.2820	-0.5911	0.2133
2	279.84	0.6996	0.1077	0.0057	-0.4033	0.0673	0.8990	0.3280	-0.6445	0.2159
2	279.84	0.7495	0.0663	0.0064	-0.5214	0.0779	0.7710	0.3814	-1.3097	0.2212
2	279.84	0.7996	0.1398	0.0068	-0.5350	0.0887	0.8140	0.4414	-0.9892	0.2295
2	279.84	0.8578	0.2029	0.0080	-0.5859	0.1029	0.4767	0.5160	-1.2184	0.2305
2	279.84	0.9100	0.3026	0.0081	-0.6592	0.1173	-0.3886	0.5853	-2.3803	0.2236
3	279.84	0.1938	0.0054	0.0017	-0.0041	0.0012	0.0690	0.0049	-0.2175	0.0252
3	279.84	0.2357	0.0647	0.0021	-0.0218	0.0025	0.0499	0.0124	-0.2374	0.0497
3	279.84	0.2995	-0.0230	0.0016	-0.0306	0.0057	0.1960	0.0242	-0.4636	0.0586
3	279.84	0.3493	-0.0530	0.0024	-0.0709	0.0097	0.3481	0.0351	-0.2323	0.0604
3	279.84	0.4000	-0.0443	0.0034	-0.1055	0.0155	0.4896	0.0602	-0.0415	0.0694
3	279.84	0.4497	-0.0959	0.0047	-0.1677	0.0211	0.6299	0.0749	-0.2397	0.0548
3	279.84	0.4997	-0.1018	0.0038	-0.2268	0.0274	0.8008	0.0954	-0.1322	0.0643
3	279.84	0.5556	-0.1190	0.0045	-0.3078	0.0363	0.9576	0.1251	0.0366	0.0622
3	279.84	0.5995	-0.1116	0.0052	-0.3292	0.0437	1.0934	0.1494	-0.1890	0.0650
3	279.84	0.6498	-0.1286	0.0059	-0.4142	0.0534	1.2271	0.1796	0.0934	0.0652
3	279.84	0.6890	-0.1387	0.0062	-0.4361	0.0617	1.3027	0.2053	0.0808	0.0857
3	279.84	0.7495	-0.1679	0.0070	-0.5685	0.0750	1.3780	0.2436	0.0953	0.0717
3	279.84	0.7998	-0.1506	0.0075	-0.5514	0.0869	1.4346	0.2778	0.2124	0.0795
3	279.84	0.8577	-0.1555	0.0088	-0.5730	0.1009	1.4064	0.3189	0.6068	0.1234
4	279.84	0.2001	-0.0543	0.0080	-0.0090	0.0041	0.0294	0.0266	-0.2745	0.1480
4	279.84	0.2502	-0.0023	0.0147	-0.0092	0.0053	0.0600	0.0272	-0.3724	0.2312
4	279.84	0.3001	0.0161	0.0074	-0.0237	0.0094	0.1013	0.0609	-0.5985	0.2333
4	279.84	0.3502	0.0360	0.0062	-0.0573	0.0136	0.1760	0.0866	-0.5935	0.2332
4	279.84	0.4002	0.0449	0.0067	-0.0727	0.0186	0.2632	0.1160	-0.7325	0.2326
4	279.84	0.4500	0.0811	0.0071	-0.0975	0.0242	0.3286	0.1464	-1.0019	0.2436
4	279.84	0.5001	0.0726	0.0069	-0.1520	0.0305	0.5316	0.1813	-0.6281	0.2394
4	279.84	0.5560	0.0728	0.0075	-0.1937	0.0385	0.6494	0.2250	-0.8149	0.2414
4	279.84	0.6001	0.1017	0.0080	-0.2459	0.0456	0.7493	0.2625	-0.8711	0.2398
4	279.84	0.6501	0.0804	0.0085	-0.3003	0.0542	0.8650	0.3055	-0.7603	0.2436
4	279.84	0.6999	0.0887	0.0088	-0.3597	0.0637	0.9487	0.3522	-0.6711	0.2471
4	279.84	0.7500	0.0647	0.0093	-0.4834	0.0741	0.8460	0.4006	-1.2469	0.2429
4	279.84	0.8002	0.1214	0.0096	-0.5099	0.0845	0.9065	0.4527	-0.9057	0.2543
4	279.84	0.8582	0.2055	0.0100	-0.5772	0.0977	0.5507	0.5109	-1.5039	0.2621
4	279.84	0.9101	0.2980	0.0107	-0.6252	0.1098	-0.2670	0.5691	-2.5383	0.2690

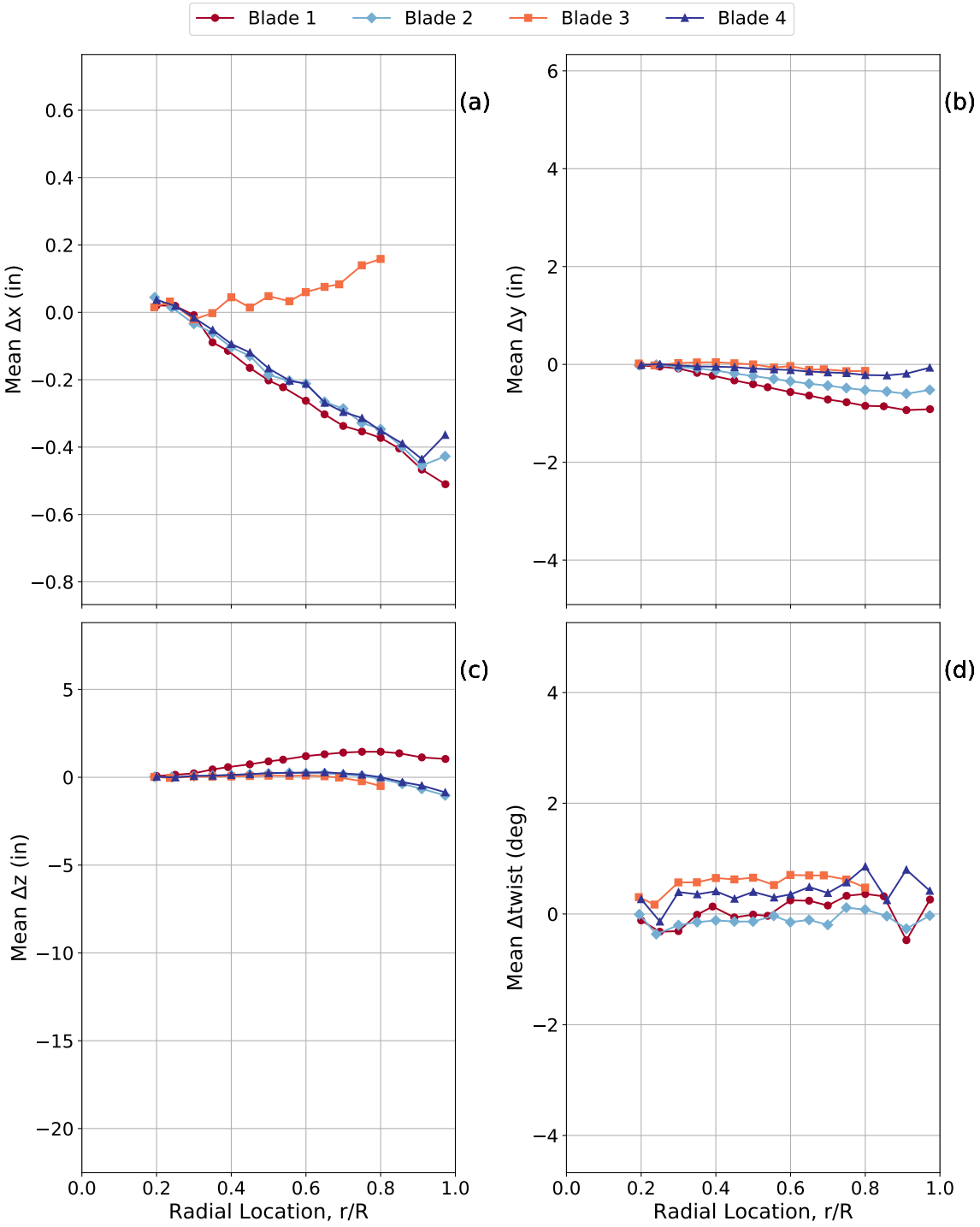


Figure 2.29-35. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-38. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	285.12	0.2001	0.0205	0.0020	-0.0216	0.0016	0.0733	0.0072	-0.1157	0.0392
1	285.12	0.2499	0.0193	0.0021	-0.0450	0.0042	0.1418	0.0141	-0.3208	0.0675
1	285.12	0.2998	-0.0084	0.0025	-0.0834	0.0077	0.2246	0.0240	-0.3091	0.0872
1	285.12	0.3498	-0.0891	0.0034	-0.1722	0.0129	0.4473	0.0445	-0.0147	0.0664
1	285.12	0.3913	-0.1140	0.0042	-0.2297	0.0192	0.5788	0.0599	0.1348	0.0846
1	285.12	0.4496	-0.1648	0.0038	-0.3272	0.0256	0.7382	0.0847	-0.0624	0.0792
1	285.12	0.4997	-0.2020	0.0043	-0.4042	0.0344	0.9067	0.1110	-0.0111	0.0905
1	285.12	0.5387	-0.2223	0.0049	-0.4669	0.0405	1.0032	0.1308	-0.0333	0.0812
1	285.12	0.5996	-0.2625	0.0059	-0.5650	0.0526	1.2045	0.1680	0.2464	0.0906
1	285.12	0.6498	-0.3029	0.0066	-0.6364	0.0627	1.3121	0.2027	0.2390	0.0976
1	285.12	0.6998	-0.3373	0.0077	-0.7165	0.0731	1.4071	0.2387	0.1526	0.0999
1	285.12	0.7500	-0.3534	0.0079	-0.7737	0.0852	1.4524	0.2791	0.3286	0.1040
1	285.12	0.8001	-0.3727	0.0086	-0.8464	0.0976	1.4551	0.3201	0.3613	0.1019
1	285.12	0.8497	-0.4042	0.0094	-0.8555	0.1103	1.3659	0.3658	0.3189	0.1023
1	285.12	0.9102	-0.4666	0.0109	-0.9343	0.1262	1.1320	0.4231	-0.4738	0.1303
1	285.12	0.9734	-0.5103	0.0146	-0.9149	0.1440	1.0436	0.4890	0.2607	0.1286
2	285.12	0.1949	0.0445	0.0038	-0.0149	0.0026	0.0272	0.0063	-0.0067	0.0358
2	285.12	0.2405	0.0145	0.0037	-0.0062	0.0047	0.0124	0.0110	-0.3646	0.0483
2	285.12	0.2999	-0.0340	0.0044	-0.0543	0.0099	0.0617	0.0219	-0.2009	0.0746
2	285.12	0.3498	-0.0608	0.0035	-0.0794	0.0154	0.0954	0.0344	-0.1480	0.0682
2	285.12	0.3998	-0.1037	0.0043	-0.1248	0.0250	0.1258	0.0528	-0.1162	0.0631
2	285.12	0.4496	-0.1294	0.0033	-0.1856	0.0309	0.1772	0.0676	-0.1360	0.0767
2	285.12	0.4995	-0.1854	0.0045	-0.2364	0.0376	0.2193	0.0837	-0.1375	0.0699
2	285.12	0.5551	-0.2030	0.0038	-0.2972	0.0461	0.2556	0.1067	-0.0330	0.0709
2	285.12	0.5996	-0.2117	0.0040	-0.3450	0.0531	0.2309	0.1263	-0.1477	0.0680
2	285.12	0.6497	-0.2657	0.0046	-0.3946	0.0615	0.2285	0.1494	-0.1065	0.0927
2	285.12	0.6996	-0.2858	0.0050	-0.4338	0.0707	0.1504	0.1798	-0.1964	0.0842
2	285.12	0.7495	-0.3282	0.0050	-0.4828	0.0793	0.0888	0.2103	0.1140	0.0938
2	285.12	0.7996	-0.3467	0.0059	-0.5256	0.0886	-0.0926	0.2463	0.0789	0.1064
2	285.12	0.8578	-0.3994	0.0067	-0.5539	0.0995	-0.3691	0.2953	-0.0376	0.1054
2	285.12	0.9100	-0.4550	0.0074	-0.6002	0.1098	-0.6576	0.3424	-0.2662	0.1102
2	285.12	0.9727	-0.4273	0.0102	-0.5210	0.1218	-1.0302	0.4075	-0.0290	0.1280
3	285.12	0.1938	0.0153	0.0080	0.0185	0.0016	0.0205	0.0059	0.3040	0.0856
3	285.12	0.2357	0.0321	0.0031	-0.0205	0.0065	-0.0347	0.0203	0.1693	0.0692
3	285.12	0.2995	-0.0210	0.0034	0.0272	0.0097	0.0342	0.0253	0.5699	0.1167
3	285.12	0.3493	-0.0023	0.0033	0.0405	0.0200	0.0387	0.0483	0.5719	0.1064
3	285.12	0.4000	0.0448	0.0032	0.0444	0.0310	0.0496	0.0735	0.6491	0.1147
3	285.12	0.4497	0.0144	0.0037	0.0230	0.0421	0.0713	0.1040	0.6242	0.1195
3	285.12	0.4997	0.0481	0.0044	0.0005	0.0547	0.0931	0.1365	0.6549	0.1112
3	285.12	0.5556	0.0331	0.0056	-0.0633	0.0688	0.0806	0.1783	0.5229	0.1062
3	285.12	0.5995	0.0600	0.0069	-0.0342	0.0808	0.0995	0.2149	0.7046	0.1087
3	285.12	0.6498	0.0756	0.0096	-0.1102	0.0951	0.0597	0.2607	0.6963	0.1129
3	285.12	0.6890	0.0832	0.0113	-0.0997	0.1069	-0.0155	0.2984	0.6965	0.1154
3	285.12	0.7495	0.1397	0.0145	-0.1380	0.1265	-0.2202	0.3620	0.6222	0.1224
3	285.12	0.7998	0.1585	0.0187	-0.1336	0.1421	-0.4953	0.4113	0.4760	0.1296
4	285.12	0.2001	0.0370	0.0036	-0.0120	0.0025	0.0308	0.0072	0.2676	0.0434
4	285.12	0.2502	0.0190	0.0031	0.0076	0.0041	-0.0079	0.0162	-0.1370	0.0686
4	285.12	0.3001	-0.0160	0.0029	-0.0223	0.0097	0.0817	0.0268	0.3958	0.0926
4	285.12	0.3502	-0.0523	0.0022	-0.0418	0.0150	0.0929	0.0457	0.3555	0.0936
4	285.12	0.4002	-0.0940	0.0031	-0.0455	0.0238	0.1366	0.0703	0.4097	0.0950
4	285.12	0.4500	-0.1192	0.0034	-0.0569	0.0299	0.1771	0.0918	0.2757	0.0945
4	285.12	0.5001	-0.1664	0.0038	-0.0858	0.0362	0.2417	0.1144	0.3988	0.1094
4	285.12	0.5560	-0.2028	0.0039	-0.1015	0.0450	0.2550	0.1406	0.2975	0.1055
4	285.12	0.6001	-0.2119	0.0037	-0.1156	0.0526	0.2665	0.1629	0.3540	0.1070
4	285.12	0.6501	-0.2683	0.0039	-0.1453	0.0604	0.2860	0.1854	0.4869	0.1198
4	285.12	0.6999	-0.2958	0.0051	-0.1631	0.0701	0.2192	0.2118	0.3789	0.1203
4	285.12	0.7500	-0.3137	0.0054	-0.1774	0.0800	0.1532	0.2328	0.5706	0.1283
4	285.12	0.8002	-0.3516	0.0057	-0.2174	0.0904	0.0041	0.2565	0.8564	0.1349
4	285.12	0.8582	-0.3893	0.0067	-0.2250	0.1032	-0.2739	0.2848	0.2492	0.1388
4	285.12	0.9101	-0.4354	0.0076	-0.1884	0.1144	-0.4702	0.3093	0.8001	0.1344
4	285.12	0.9728	-0.3638	0.0104	-0.0663	0.1290	-0.8570	0.3411	0.4190	0.1611

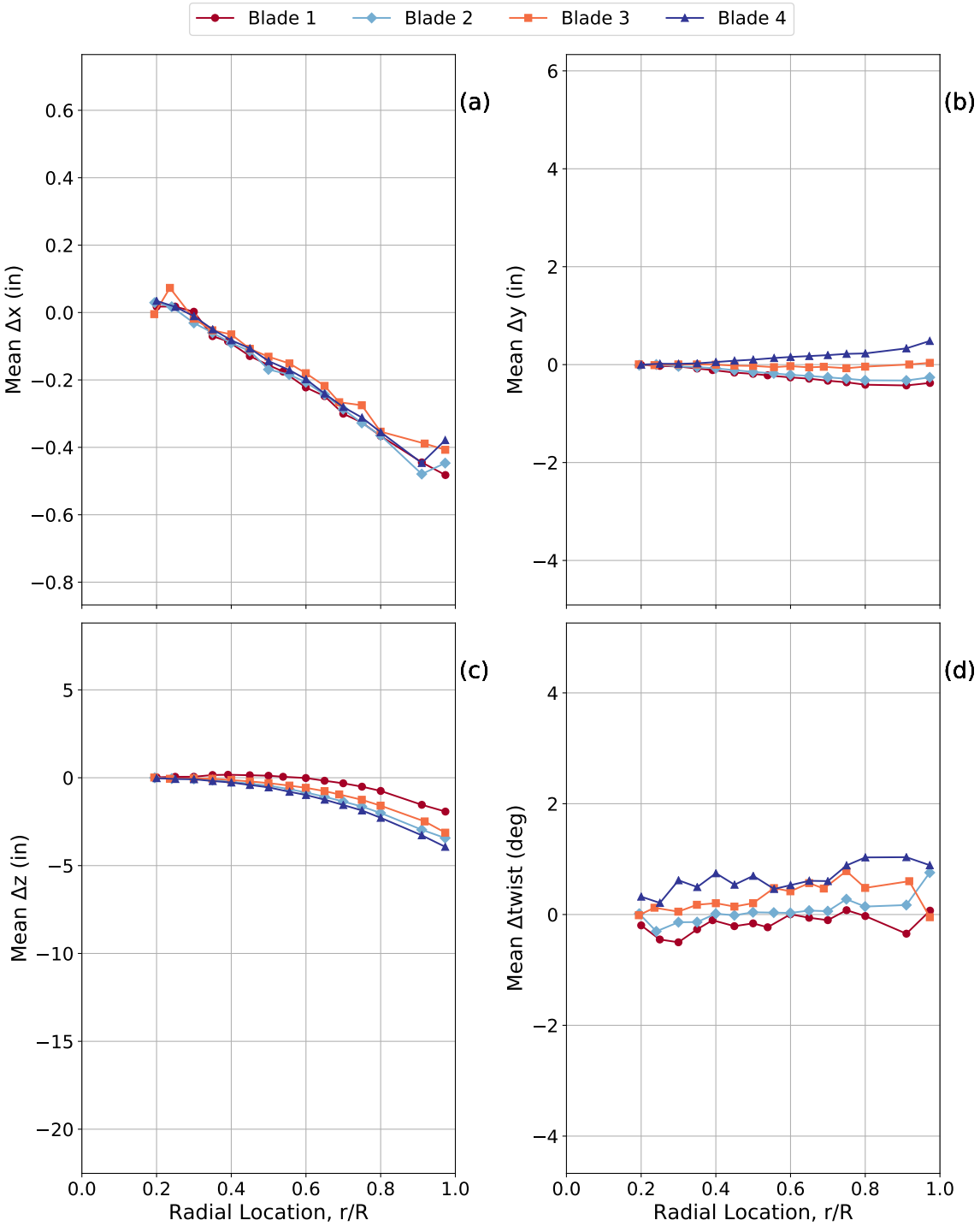


Figure 2.29-36. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-39. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	299.88	0.2001	0.0175	0.0027	-0.0081	0.0013	0.0256	0.0043	-0.1962	0.0365
1	299.88	0.2499	0.0177	0.0032	-0.0262	0.0041	0.0534	0.0110	-0.4508	0.0503
1	299.88	0.2998	0.0024	0.0020	-0.0381	0.0061	0.0556	0.0177	-0.5014	0.0705
1	299.88	0.3498	-0.0701	0.0034	-0.0803	0.0099	0.1539	0.0276	-0.2674	0.0628
1	299.88	0.3913	-0.0856	0.0042	-0.1115	0.0155	0.1700	0.0421	-0.1028	0.0756
1	299.88	0.4496	-0.1292	0.0039	-0.1630	0.0204	0.1424	0.0582	-0.2104	0.0815
1	299.88	0.4997	-0.1561	0.0052	-0.1887	0.0264	0.1153	0.0745	-0.1599	0.0848
1	299.88	0.5387	-0.1751	0.0051	-0.2197	0.0307	0.0547	0.0875	-0.2305	0.0814
1	299.88	0.5996	-0.2223	0.0060	-0.2613	0.0393	-0.0158	0.1112	0.0041	0.0926
1	299.88	0.6498	-0.2480	0.0065	-0.2873	0.0467	-0.1710	0.1314	-0.0587	0.0916
1	299.88	0.6998	-0.3002	0.0070	-0.3287	0.0547	-0.3161	0.1548	-0.1020	0.0971
1	299.88	0.7500	-0.3265	0.0073	-0.3612	0.0635	-0.5078	0.1798	0.0781	0.0869
1	299.88	0.8001	-0.3665	0.0080	-0.4107	0.0728	-0.7508	0.2075	-0.0280	0.0960
1	299.88	0.9102	-0.4446	0.0093	-0.4254	0.0941	-1.5402	0.2810	-0.3463	0.1083
1	299.88	0.9734	-0.4822	0.0122	-0.3745	0.1065	-1.9255	0.3305	0.0695	0.1145
2	299.88	0.1949	0.0294	0.0027	-0.0120	0.0012	-0.0034	0.0051	0.0155	0.0450
2	299.88	0.2405	0.0172	0.0026	0.0013	0.0037	-0.0500	0.0127	-0.3045	0.0562
2	299.88	0.2999	-0.0310	0.0025	-0.0359	0.0059	-0.0714	0.0189	-0.1392	0.0885
2	299.88	0.3498	-0.0599	0.0035	-0.0504	0.0111	-0.1336	0.0361	-0.1367	0.0701
2	299.88	0.3998	-0.0908	0.0051	-0.0757	0.0173	-0.2278	0.0531	0.0146	0.0690
2	299.88	0.4496	-0.1141	0.0042	-0.1135	0.0225	-0.3374	0.0735	-0.0143	0.0668
2	299.88	0.4995	-0.1689	0.0057	-0.1484	0.0277	-0.4487	0.0943	0.0399	0.0745
2	299.88	0.5551	-0.1841	0.0060	-0.1798	0.0361	-0.6473	0.1216	0.0339	0.0814
2	299.88	0.5996	-0.2068	0.0054	-0.2083	0.0415	-0.8364	0.1445	0.0286	0.0691
2	299.88	0.6497	-0.2431	0.0064	-0.2302	0.0494	-1.0812	0.1725	0.0705	0.0770
2	299.88	0.6996	-0.2867	0.0071	-0.2603	0.0575	-1.3528	0.2034	0.0602	0.0861
2	299.88	0.7495	-0.3277	0.0078	-0.2877	0.0667	-1.6379	0.2386	0.2764	0.0816
2	299.88	0.7996	-0.3644	0.0089	-0.3209	0.0757	-2.0034	0.2779	0.1433	0.0831
2	299.88	0.9100	-0.4792	0.0105	-0.3242	0.0969	-2.9581	0.3804	0.1709	0.0931
2	299.88	0.9727	-0.4467	0.0129	-0.2605	0.1104	-3.4304	0.4453	0.7563	0.2068
3	299.88	0.1938	-0.0048	0.0024	0.0056	0.0014	0.0119	0.0068	-0.0127	0.0415
3	299.88	0.2357	0.0731	0.0029	-0.0102	0.0041	-0.0590	0.0112	0.1223	0.0709
3	299.88	0.2995	-0.0183	0.0028	0.0039	0.0072	-0.0378	0.0274	0.0516	0.1016
3	299.88	0.3493	-0.0528	0.0045	0.0037	0.0137	-0.0574	0.0442	0.1757	0.0780
3	299.88	0.4000	-0.0649	0.0044	-0.0010	0.0207	-0.1303	0.0688	0.2043	0.0791
3	299.88	0.4497	-0.1077	0.0048	-0.0204	0.0247	-0.2098	0.0899	0.1431	0.0817
3	299.88	0.4997	-0.1311	0.0066	-0.0264	0.0328	-0.3045	0.1133	0.2046	0.0788
3	299.88	0.5556	-0.1510	0.0059	-0.0512	0.0420	-0.4479	0.1406	0.4769	0.0898
3	299.88	0.5995	-0.1800	0.0060	-0.0311	0.0501	-0.5728	0.1649	0.4190	0.0911
3	299.88	0.6498	-0.2176	0.0071	-0.0553	0.0605	-0.7607	0.1950	0.5666	0.0987
3	299.88	0.6890	-0.2661	0.0074	-0.0443	0.0685	-0.9487	0.2187	0.4688	0.1112
3	299.88	0.7495	-0.2751	0.0078	-0.0738	0.0815	-1.2545	0.2611	0.7838	0.1072
3	299.88	0.7998	-0.3534	0.0085	-0.0411	0.0932	-1.5881	0.3014	0.4799	0.1083
3	299.88	0.9178	-0.3888	0.0098	0.0031	0.1210	-2.4863	0.4107	0.6011	0.1200
3	299.88	0.9729	-0.4072	0.0123	0.0360	0.1342	-3.1256	0.4689	-0.0487	0.1213
4	299.88	0.2001	0.0346	0.0017	-0.0005	0.0016	-0.0232	0.0065	0.3222	0.0533
4	299.88	0.2502	0.0167	0.0022	0.0174	0.0029	-0.0708	0.0128	0.2091	0.0769
4	299.88	0.3001	-0.0109	0.0024	0.0159	0.0064	-0.0850	0.0217	0.6176	0.1153
4	299.88	0.3502	-0.0500	0.0033	0.0265	0.0098	-0.1899	0.0418	0.4953	0.0789
4	299.88	0.4002	-0.0825	0.0041	0.0525	0.0158	-0.2712	0.0599	0.7448	0.0790
4	299.88	0.4500	-0.1064	0.0036	0.0797	0.0198	-0.4114	0.0772	0.5379	0.0977
4	299.88	0.5001	-0.1442	0.0056	0.1014	0.0246	-0.5484	0.0955	0.6979	0.1207
4	299.88	0.5560	-0.1709	0.0056	0.1350	0.0330	-0.8000	0.1226	0.4608	0.0975
4	299.88	0.6001	-0.1980	0.0057	0.1563	0.0389	-0.9821	0.1422	0.5298	0.1027
4	299.88	0.6501	-0.2406	0.0060	0.1747	0.0463	-1.2490	0.1679	0.6085	0.0968
4	299.88	0.6999	-0.2804	0.0068	0.1940	0.0550	-1.5517	0.1908	0.6027	0.1086
4	299.88	0.7500	-0.3117	0.0074	0.2196	0.0636	-1.8629	0.2164	0.8860	0.1021
4	299.88	0.8002	-0.3552	0.0085	0.2288	0.0731	-2.2813	0.2419	1.0305	0.1002
4	299.88	0.9101	-0.4464	0.0096	0.3316	0.0952	-3.2755	0.2981	1.0348	0.1111
4	299.88	0.9728	-0.3786	0.0123	0.4829	0.1085	-3.9318	0.3349	0.8894	0.1146

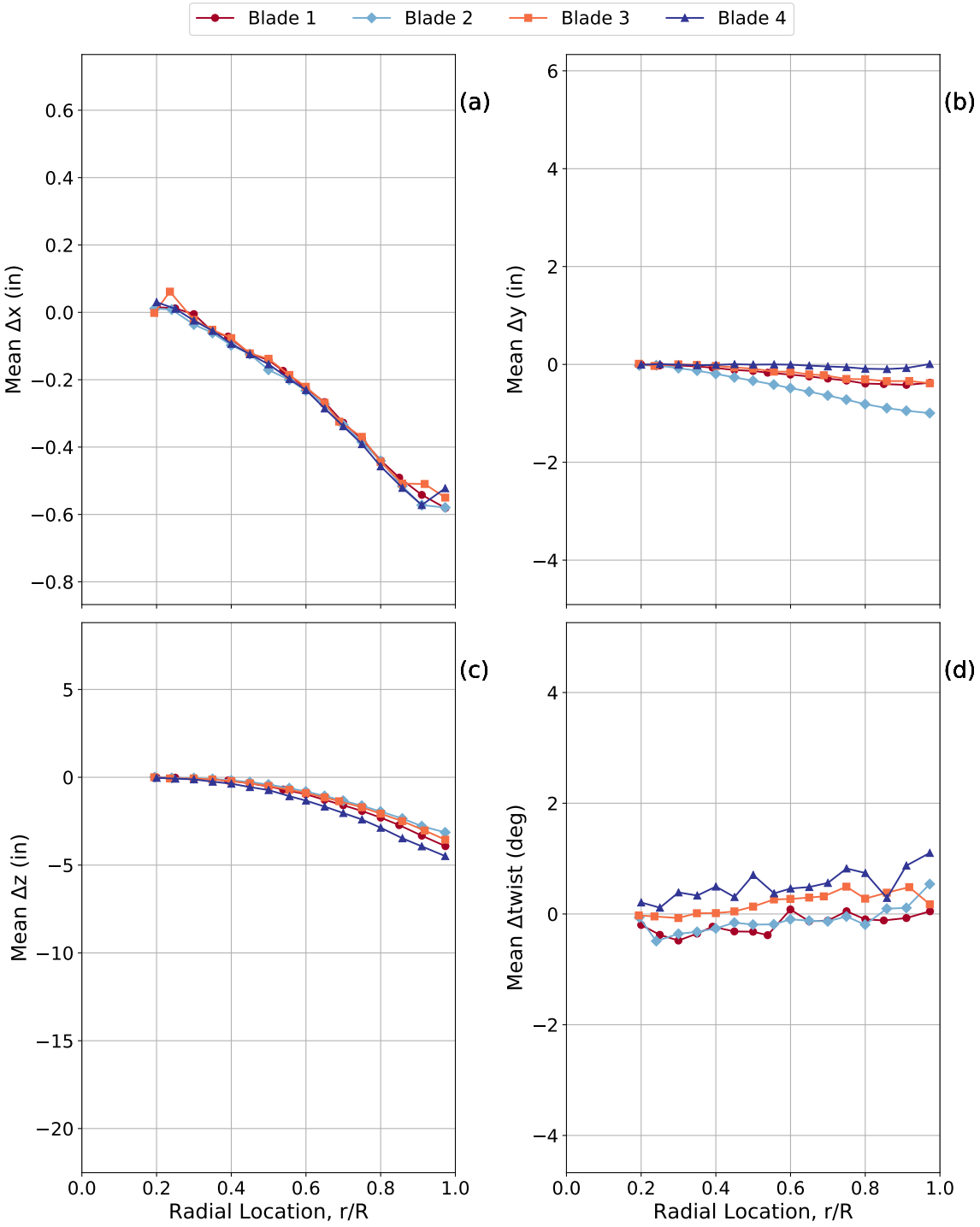


Figure 2.29-37. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.299, α = 4° NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-40. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	315	0.2001	0.0155	0.0021	-0.0022	0.0013	-0.0168	0.0047	-0.1981	0.0425
1	315	0.2499	0.0118	0.0028	-0.0204	0.0034	-0.0213	0.0103	-0.3765	0.0663
1	315	0.2998	-0.0052	0.0024	-0.0214	0.0058	-0.0847	0.0185	-0.4798	0.0944
1	315	0.3498	-0.0570	0.0036	-0.0416	0.0103	-0.1147	0.0301	-0.3544	0.0623
1	315	0.3913	-0.0718	0.0043	-0.0661	0.0152	-0.1853	0.0441	-0.2299	0.0740
1	315	0.4496	-0.1222	0.0036	-0.1138	0.0207	-0.3424	0.0586	-0.3152	0.0744
1	315	0.4997	-0.1417	0.0041	-0.1342	0.0269	-0.5224	0.0769	-0.3201	0.0799
1	315	0.5387	-0.1736	0.0049	-0.1692	0.0320	-0.6962	0.0884	-0.3826	0.0829
1	315	0.5996	-0.2255	0.0052	-0.2083	0.0404	-0.9649	0.1146	0.0816	0.0738
1	315	0.6498	-0.2664	0.0054	-0.2466	0.0487	-1.2842	0.1358	-0.1319	0.0795
1	315	0.6998	-0.3277	0.0056	-0.2895	0.0573	-1.5915	0.1599	-0.1199	0.0733
1	315	0.7500	-0.3766	0.0060	-0.3307	0.0669	-1.9189	0.1854	0.0494	0.0813
1	315	0.8001	-0.4395	0.0066	-0.3912	0.0772	-2.2972	0.2127	-0.0968	0.0801
1	315	0.8497	-0.4906	0.0073	-0.4015	0.0875	-2.7245	0.2414	-0.1167	0.0853
1	315	0.9102	-0.5419	0.0078	-0.4187	0.1006	-3.3246	0.2815	-0.0732	0.0840
1	315	0.9734	-0.5809	0.0097	-0.3751	0.1143	-3.9217	0.3266	0.0485	0.0898
2	315	0.1949	0.0112	0.0035	-0.0206	0.0009	0.0088	0.0037	-0.0618	0.0549
2	315	0.2405	0.0083	0.0017	-0.0177	0.0028	-0.0379	0.0095	-0.4900	0.0608
2	315	0.2999	-0.0361	0.0037	-0.0773	0.0056	-0.0408	0.0151	-0.3576	0.1128
2	315	0.3498	-0.0612	0.0033	-0.1277	0.0082	-0.0952	0.0267	-0.3231	0.0703
2	315	0.3998	-0.0979	0.0052	-0.1937	0.0142	-0.1716	0.0398	-0.2609	0.0885
2	315	0.4496	-0.1239	0.0047	-0.2648	0.0182	-0.2722	0.0490	-0.1561	0.0997
2	315	0.4995	-0.1706	0.0044	-0.3332	0.0239	-0.4086	0.0633	-0.1920	0.0849
2	315	0.5551	-0.2002	0.0055	-0.4126	0.0313	-0.6211	0.0786	-0.1871	0.0975
2	315	0.5996	-0.2324	0.0049	-0.4840	0.0372	-0.8075	0.0950	-0.0966	0.0910
2	315	0.6497	-0.2731	0.0057	-0.5569	0.0447	-1.0623	0.1139	-0.1205	0.0933
2	315	0.6996	-0.3340	0.0058	-0.6360	0.0531	-1.3298	0.1345	-0.1338	0.0944
2	315	0.7495	-0.3844	0.0064	-0.7196	0.0620	-1.6179	0.1559	-0.0454	0.0996
2	315	0.7996	-0.4409	0.0065	-0.8127	0.0714	-1.9485	0.1791	-0.1928	0.0950
2	315	0.8578	-0.5161	0.0070	-0.8930	0.0822	-2.3459	0.2075	0.0956	0.0906
2	315	0.9100	-0.5723	0.0076	-0.9473	0.0927	-2.7826	0.2337	0.1099	0.0857
2	315	0.9727	-0.5793	0.0091	-0.9951	0.1052	-3.1370	0.2672	0.5402	0.0823
3	315	0.1938	-0.0017	0.0023	0.0126	0.0013	0.0013	0.0040	-0.0261	0.0391
3	315	0.2357	0.0615	0.0019	-0.0311	0.0024	-0.0676	0.0086	-0.0441	0.0547
3	315	0.2995	-0.0223	0.0032	0.0017	0.0060	-0.0661	0.0167	-0.0734	0.0886
3	315	0.3493	-0.0516	0.0030	-0.0104	0.0103	-0.1263	0.0281	0.0138	0.0732
3	315	0.4000	-0.0765	0.0053	-0.0307	0.0159	-0.2189	0.0436	0.0155	0.0769
3	315	0.4497	-0.1218	0.0047	-0.0620	0.0209	-0.3428	0.0563	0.0460	0.0773
3	315	0.4997	-0.1378	0.0061	-0.0871	0.0293	-0.4993	0.0733	0.1340	0.0900
3	315	0.5556	-0.1859	0.0066	-0.1477	0.0386	-0.7134	0.0922	0.2624	0.0900
3	315	0.5995	-0.2210	0.0079	-0.1487	0.0464	-0.8961	0.1094	0.2709	0.0784
3	315	0.6498	-0.2688	0.0086	-0.2047	0.0564	-1.1445	0.1314	0.2963	0.0877
3	315	0.6890	-0.3243	0.0093	-0.2210	0.0655	-1.3643	0.1507	0.3181	0.0862
3	315	0.7495	-0.3697	0.0101	-0.2968	0.0800	-1.7086	0.1803	0.4933	0.0980
3	315	0.7998	-0.4440	0.0112	-0.3047	0.0929	-2.0709	0.2093	0.2768	0.0993
3	315	0.8577	-0.5083	0.0123	-0.3417	0.1084	-2.4972	0.2472	0.3845	0.0943
3	315	0.9178	-0.5095	0.0138	-0.3390	0.1251	-3.0295	0.2916	0.4843	0.1033
3	315	0.9729	-0.5499	0.0176	-0.3850	0.1401	-3.5548	0.3361	0.1750	0.1046
4	315	0.2001	0.0302	0.0019	-0.0061	0.0011	-0.0308	0.0044	0.2078	0.0384
4	315	0.2502	0.0106	0.0035	0.0061	0.0026	-0.0790	0.0120	0.1131	0.0539
4	315	0.3001	-0.0244	0.0033	-0.0059	0.0043	-0.1187	0.0184	0.3895	0.0834
4	315	0.3502	-0.0550	0.0042	-0.0166	0.0078	-0.2514	0.0329	0.3328	0.0563
4	315	0.4002	-0.0934	0.0044	-0.0109	0.0119	-0.3646	0.0510	0.4946	0.0719
4	315	0.4500	-0.1245	0.0044	0.0039	0.0158	-0.5577	0.0562	0.3060	0.0848
4	315	0.5001	-0.1542	0.0043	-0.0052	0.0204	-0.7299	0.0691	0.7044	0.0770
4	315	0.5560	-0.1978	0.0057	-0.0007	0.0267	-1.0771	0.0883	0.3726	0.0798
4	315	0.6001	-0.2306	0.0053	-0.0059	0.0313	-1.3291	0.1031	0.4600	0.0738
4	315	0.6501	-0.2853	0.0055	-0.0251	0.0379	-1.6695	0.1239	0.4864	0.0752
4	315	0.6999	-0.3381	0.0063	-0.0415	0.0454	-2.0365	0.1463	0.5609	0.0847
4	315	0.7500	-0.3913	0.0067	-0.0568	0.0530	-2.4049	0.1738	0.8216	0.0817
4	315	0.8002	-0.4572	0.0080	-0.0883	0.0617	-2.8740	0.2026	0.7395	0.0877
4	315	0.8582	-0.5211	0.0089	-0.0956	0.0716	-3.4737	0.2424	0.2897	0.0865
4	315	0.9101	-0.5720	0.0095	-0.0742	0.0806	-3.9326	0.2811	0.8735	0.0804
4	315	0.9728	-0.5223	0.0110	0.0072	0.0918	-4.4865	0.3304	1.1025	0.0808

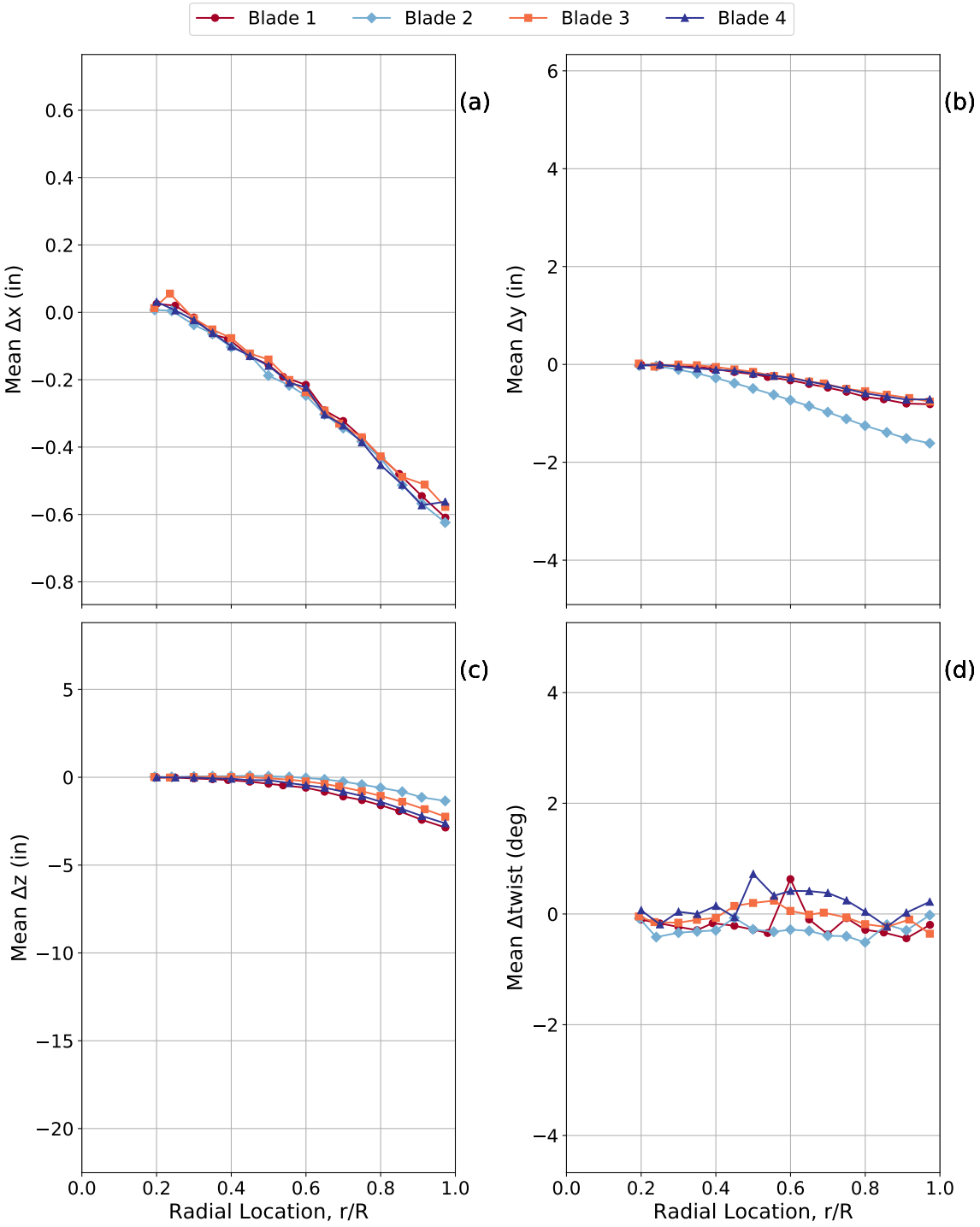


Figure 2.29-38. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-41. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	330.12	0.2001	0.0253	0.0018	-0.0064	0.0010	-0.0154	0.0045	-0.1011	0.0336
1	330.12	0.2499	0.0200	0.0019	-0.0165	0.0033	-0.0168	0.0107	-0.1699	0.0466
1	330.12	0.2998	-0.0152	0.0023	-0.0387	0.0052	-0.0670	0.0190	-0.2341	0.0717
1	330.12	0.3498	-0.0655	0.0027	-0.0495	0.0090	-0.1072	0.0329	-0.2916	0.0648
1	330.12	0.3913	-0.0778	0.0030	-0.0867	0.0135	-0.1565	0.0477	-0.1661	0.0784
1	330.12	0.4496	-0.1299	0.0045	-0.1564	0.0191	-0.2498	0.0692	-0.2132	0.0783
1	330.12	0.4997	-0.1553	0.0043	-0.1990	0.0242	-0.3680	0.0937	-0.2829	0.0758
1	330.12	0.5387	-0.1912	0.0051	-0.2563	0.0290	-0.4611	0.1171	-0.3435	0.0744
1	330.12	0.5996	-0.2151	0.0064	-0.3251	0.0375	-0.5928	0.1553	0.6294	0.1340
1	330.12	0.6498	-0.2909	0.0059	-0.4010	0.0453	-0.8215	0.1906	-0.0987	0.0925
1	330.12	0.6998	-0.3225	0.0076	-0.4747	0.0532	-1.0929	0.2283	-0.3663	0.1013
1	330.12	0.7500	-0.3718	0.0069	-0.5593	0.0625	-1.2990	0.2668	-0.0748	0.1074
1	330.12	0.8001	-0.4291	0.0082	-0.6629	0.0724	-1.5913	0.3088	-0.2861	0.0967
1	330.12	0.8497	-0.4796	0.0089	-0.7134	0.0826	-1.9273	0.3529	-0.3344	0.1009
1	330.12	0.9102	-0.5453	0.0100	-0.8010	0.0953	-2.4207	0.4081	-0.4387	0.1025
1	330.12	0.9734	-0.6093	0.0127	-0.8133	0.1090	-2.8606	0.4676	-0.1964	0.1042
2	330.12	0.1949	0.0072	0.0020	-0.0260	0.0009	0.0240	0.0040	-0.0784	0.0316
2	330.12	0.2405	0.0044	0.0017	-0.0334	0.0022	0.0182	0.0097	-0.4173	0.0441
2	330.12	0.2999	-0.0370	0.0024	-0.1053	0.0047	0.0416	0.0198	-0.3380	0.0702
2	330.12	0.3498	-0.0639	0.0027	-0.1826	0.0072	0.0573	0.0292	-0.3155	0.0701
2	330.12	0.3998	-0.1030	0.0044	-0.2772	0.0119	0.0661	0.0494	-0.2963	0.0860
2	330.12	0.4496	-0.1266	0.0055	-0.3840	0.0160	0.0835	0.0622	-0.0700	0.0761
2	330.12	0.4995	-0.1878	0.0051	-0.4926	0.0207	0.0649	0.0775	-0.2781	0.0518
2	330.12	0.5551	-0.2167	0.0045	-0.6205	0.0263	0.0178	0.1000	-0.3218	0.0613
2	330.12	0.5996	-0.2471	0.0057	-0.7306	0.0320	-0.0329	0.1204	-0.2828	0.0712
2	330.12	0.6497	-0.3028	0.0055	-0.8508	0.0388	-0.1201	0.1456	-0.3053	0.0637
2	330.12	0.6996	-0.3436	0.0063	-0.9766	0.0468	-0.2482	0.1741	-0.3924	0.0890
2	330.12	0.7495	-0.3830	0.0067	-1.1132	0.0550	-0.4143	0.2024	-0.4028	0.0680
2	330.12	0.7996	-0.4333	0.0071	-1.2537	0.0641	-0.5972	0.2333	-0.5121	0.0693
2	330.12	0.8578	-0.5128	0.0076	-1.3903	0.0749	-0.8222	0.2687	-0.1937	0.0729
2	330.12	0.9100	-0.5677	0.0079	-1.5128	0.0854	-1.1415	0.3009	-0.2971	0.0703
2	330.12	0.9727	-0.6240	0.0099	-1.6113	0.0980	-1.3456	0.3399	-0.0212	0.0764
3	330.12	0.1938	0.0125	0.0024	0.0178	0.0009	0.0146	0.0036	-0.0447	0.0201
3	330.12	0.2357	0.0556	0.0019	-0.0454	0.0022	-0.0181	0.0076	-0.1468	0.0432
3	330.12	0.2995	-0.0180	0.0030	-0.0021	0.0046	0.0135	0.0173	-0.1577	0.0518
3	330.12	0.3493	-0.0507	0.0026	-0.0178	0.0073	0.0222	0.0254	-0.1055	0.0570
3	330.12	0.4000	-0.0766	0.0028	-0.0528	0.0121	0.0142	0.0426	-0.0709	0.0681
3	330.12	0.4497	-0.1222	0.0045	-0.1022	0.0155	0.0024	0.0507	0.1444	0.0791
3	330.12	0.4997	-0.1400	0.0065	-0.1521	0.0200	-0.0560	0.0643	0.1988	0.0907
3	330.12	0.5556	-0.2008	0.0050	-0.2366	0.0263	-0.1343	0.0814	0.2407	0.1132
3	330.12	0.5995	-0.2370	0.0049	-0.2623	0.0318	-0.2333	0.0990	0.0550	0.0691
3	330.12	0.6498	-0.2917	0.0057	-0.3506	0.0384	-0.3774	0.1184	-0.0112	0.0785
3	330.12	0.6890	-0.3303	0.0070	-0.3898	0.0444	-0.5256	0.1353	0.0243	0.0691
3	330.12	0.7495	-0.3709	0.0074	-0.4992	0.0542	-0.7939	0.1645	-0.0631	0.0732
3	330.12	0.7998	-0.4276	0.0079	-0.5485	0.0628	-1.0618	0.1902	-0.1849	0.0700
3	330.12	0.8577	-0.4881	0.0085	-0.6192	0.0735	-1.3931	0.2204	-0.2356	0.0653
3	330.12	0.9178	-0.5114	0.0094	-0.6878	0.0848	-1.8197	0.2535	-0.1000	0.0702
3	330.12	0.9729	-0.5775	0.0120	-0.7607	0.0952	-2.2453	0.2871	-0.3567	0.0710
4	330.12	0.2001	0.0312	0.0017	-0.0170	0.0014	-0.0023	0.0036	0.0671	0.0213
4	330.12	0.2502	0.0057	0.0024	-0.0050	0.0041	-0.0122	0.0084	-0.1883	0.0355
4	330.12	0.3001	-0.0233	0.0035	-0.0454	0.0068	-0.0164	0.0156	0.0404	0.0472
4	330.12	0.3502	-0.0609	0.0029	-0.0824	0.0120	-0.0617	0.0233	-0.0017	0.0495
4	330.12	0.4002	-0.1007	0.0035	-0.1095	0.0189	-0.0827	0.0385	0.1460	0.0557
4	330.12	0.4500	-0.1297	0.0040	-0.1298	0.0246	-0.1621	0.0477	-0.0579	0.0510
4	330.12	0.5001	-0.1588	0.0049	-0.1867	0.0328	-0.1658	0.0656	0.7223	0.0773
4	330.12	0.5560	-0.2091	0.0043	-0.2348	0.0431	-0.3323	0.0894	0.3297	0.0988
4	330.12	0.6001	-0.2231	0.0062	-0.2748	0.0522	-0.4570	0.1100	0.4174	0.1099
4	330.12	0.6501	-0.3033	0.0053	-0.3527	0.0634	-0.5942	0.1374	0.4132	0.1110
4	330.12	0.6999	-0.3360	0.0070	-0.4202	0.0762	-0.8191	0.1651	0.3794	0.0802
4	330.12	0.7500	-0.3857	0.0063	-0.5014	0.0892	-1.0678	0.1971	0.2442	0.0775
4	330.12	0.8002	-0.4535	0.0063	-0.5913	0.1032	-1.3926	0.2264	0.0390	0.0606
4	330.12	0.8582	-0.5120	0.0067	-0.6584	0.1202	-1.8137	0.2630	-0.2284	0.0643
4	330.12	0.9101	-0.5728	0.0072	-0.7185	0.1360	-2.2005	0.2972	0.0236	0.0593
4	330.12	0.9728	-0.5621	0.0107	-0.7137	0.1554	-2.6226	0.3393	0.2203	0.0628

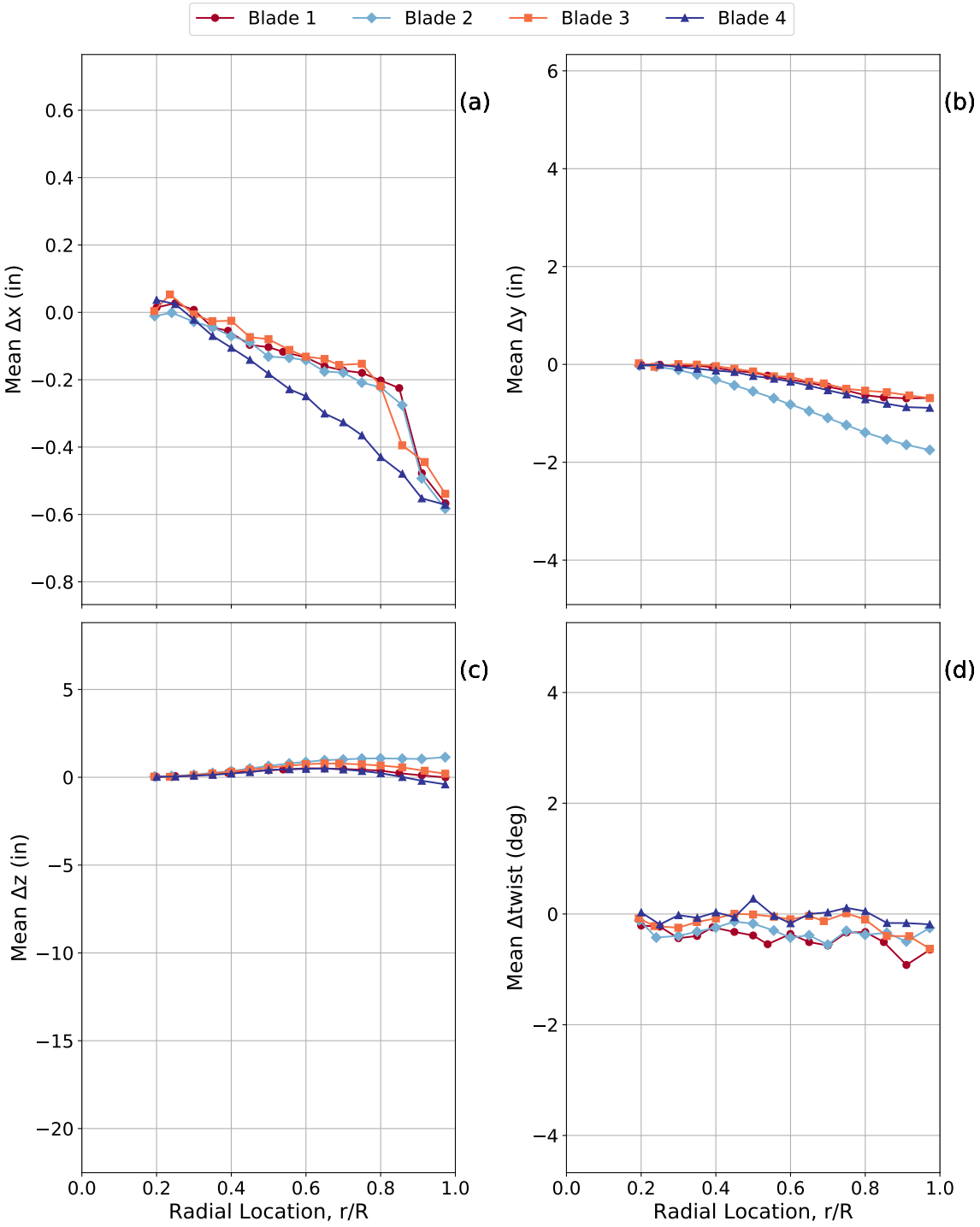


Figure 2.29-39. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.299, α = 4° NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-42. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	344.88	0.2001	0.0145	0.0053	-0.0052	0.0019	0.0188	0.0045	-0.2094	0.0212
1	344.88	0.2499	0.0271	0.0025	-0.0057	0.0038	0.0694	0.0079	-0.2277	0.0482
1	344.88	0.2998	0.0074	0.0025	-0.0356	0.0078	0.0868	0.0159	-0.4381	0.0520
1	344.88	0.3498	-0.0450	0.0049	-0.0248	0.0137	0.1756	0.0269	-0.3970	0.0516
1	344.88	0.3913	-0.0547	0.0075	-0.0607	0.0195	0.2497	0.0379	-0.2413	0.0516
1	344.88	0.4496	-0.0967	0.0110	-0.1313	0.0274	0.3362	0.0538	-0.3243	0.0596
1	344.88	0.4997	-0.1032	0.0149	-0.1651	0.0358	0.3986	0.0715	-0.3881	0.0556
1	344.88	0.5387	-0.1172	0.0173	-0.2299	0.0427	0.4416	0.0870	-0.5461	0.0591
1	344.88	0.5996	-0.1337	0.0217	-0.3105	0.0553	0.5127	0.1135	-0.3613	0.0741
1	344.88	0.6498	-0.1599	0.0253	-0.3765	0.0671	0.5028	0.1392	-0.5073	0.0669
1	344.88	0.6998	-0.1725	0.0297	-0.4541	0.0799	0.4727	0.1651	-0.5697	0.0728
1	344.88	0.7500	-0.1797	0.0350	-0.5339	0.0940	0.4302	0.1959	-0.3352	0.0748
1	344.88	0.8001	-0.2023	0.0398	-0.6289	0.1102	0.3778	0.2287	-0.3269	0.1008
1	344.88	0.8497	-0.2248	0.0450	-0.6737	0.1265	0.2368	0.2610	-0.5072	0.1278
1	344.88	0.9102	-0.4773	0.0140	-0.6938	0.2274	0.1064	0.4383	-0.9207	0.0854
1	344.88	0.9734	-0.5670	0.0133	-0.6861	0.2466	-0.0055	0.5035	-0.6445	0.0822
2	344.88	0.1949	-0.0109	0.0053	-0.0264	0.0016	0.0468	0.0035	-0.1137	0.0180
2	344.88	0.2405	-0.0011	0.0027	-0.0439	0.0029	0.0705	0.0060	-0.4259	0.0410
2	344.88	0.2999	-0.0279	0.0023	-0.1124	0.0069	0.1451	0.0133	-0.3959	0.0471
2	344.88	0.3498	-0.0445	0.0042	-0.2051	0.0114	0.2474	0.0215	-0.3189	0.0476
2	344.88	0.3998	-0.0706	0.0067	-0.3091	0.0181	0.3554	0.0336	-0.2459	0.0506
2	344.88	0.4496	-0.0884	0.0091	-0.4290	0.0236	0.4987	0.0463	-0.1377	0.0516
2	344.88	0.4995	-0.1314	0.0119	-0.5502	0.0304	0.6450	0.0596	-0.1736	0.0552
2	344.88	0.5551	-0.1349	0.0159	-0.6916	0.0387	0.7868	0.0768	-0.2988	0.0568
2	344.88	0.5996	-0.1420	0.0190	-0.8194	0.0461	0.8741	0.0925	-0.4272	0.0629
2	344.88	0.6497	-0.1757	0.0234	-0.9540	0.0542	0.9730	0.1114	-0.3845	0.0673
2	344.88	0.6996	-0.1789	0.0282	-1.0940	0.0624	1.0151	0.1331	-0.5538	0.0739
2	344.88	0.7495	-0.2087	0.0346	-1.2400	0.0710	1.0671	0.1580	-0.3037	0.0844
2	344.88	0.7996	-0.2220	0.0390	-1.3914	0.0799	1.0786	0.1859	-0.3762	0.0954
2	344.88	0.8578	-0.2755	0.0548	-1.5307	0.0929	1.0577	0.2221	-0.3401	0.2952
2	344.88	0.9100	-0.4930	0.0173	-1.6427	0.1584	1.0439	0.3738	-0.4973	0.0829
2	344.88	0.9727	-0.5828	0.0170	-1.7485	0.1734	1.1449	0.4260	-0.2517	0.0854
3	344.88	0.1938	0.0038	0.0044	0.0226	0.0015	0.0413	0.0033	-0.0801	0.0192
3	344.88	0.2357	0.0531	0.0017	-0.0489	0.0025	0.0252	0.0051	-0.2189	0.0422
3	344.88	0.2995	-0.0061	0.0027	0.0068	0.0060	0.1271	0.0111	-0.2485	0.0502
3	344.88	0.3493	-0.0263	0.0045	-0.0042	0.0104	0.2216	0.0189	-0.1451	0.0474
3	344.88	0.4000	-0.0250	0.0065	-0.0358	0.0161	0.3207	0.0283	-0.0806	0.0567
3	344.88	0.4497	-0.0734	0.0084	-0.0874	0.0214	0.4356	0.0388	0.0028	0.0582
3	344.88	0.4997	-0.0798	0.0106	-0.1437	0.0282	0.5494	0.0494	-0.0094	0.0604
3	344.88	0.5556	-0.1115	0.0146	-0.2429	0.0354	0.6560	0.0635	-0.0500	0.0641
3	344.88	0.5995	-0.1315	0.0176	-0.2514	0.0420	0.7445	0.0734	-0.0961	0.0721
3	344.88	0.6498	-0.1384	0.0223	-0.3555	0.0496	0.7887	0.0869	-0.0357	0.0748
3	344.88	0.6890	-0.1561	0.0267	-0.3892	0.0558	0.7803	0.1006	-0.1286	0.0787
3	344.88	0.7495	-0.1526	0.0338	-0.4982	0.0661	0.7337	0.1218	0.0133	0.0950
3	344.88	0.7998	-0.2187	0.0406	-0.5365	0.0749	0.6682	0.1446	-0.0998	0.0994
3	344.88	0.8577	-0.3948	0.0186	-0.5683	0.1643	0.5640	0.2349	-0.3972	0.0659
3	344.88	0.9178	-0.4444	0.0186	-0.6339	0.1772	0.3714	0.2643	-0.4007	0.0794
3	344.88	0.9729	-0.5385	0.0187	-0.6883	0.1894	0.2030	0.2955	-0.6289	0.0711
4	344.88	0.2001	0.0368	0.0024	-0.0168	0.0012	0.0276	0.0043	0.0285	0.0255
4	344.88	0.2502	0.0244	0.0023	-0.0101	0.0028	0.0402	0.0083	-0.1893	0.0461
4	344.88	0.3001	-0.0218	0.0021	-0.0525	0.0051	0.0918	0.0159	-0.0214	0.0565
4	344.88	0.3502	-0.0701	0.0031	-0.0890	0.0082	0.1383	0.0269	-0.0693	0.0516
4	344.88	0.4002	-0.1051	0.0029	-0.1272	0.0132	0.2123	0.0411	0.0297	0.0600
4	344.88	0.4500	-0.1410	0.0038	-0.1540	0.0149	0.2927	0.0577	-0.0583	0.0507
4	344.88	0.5001	-0.1826	0.0040	-0.2362	0.0207	0.4222	0.0762	0.2769	0.0641
4	344.88	0.5560	-0.2282	0.0049	-0.2923	0.0235	0.4577	0.0984	-0.0339	0.0616
4	344.88	0.6001	-0.2492	0.0053	-0.3514	0.0267	0.4813	0.1177	-0.1678	0.0615
4	344.88	0.6501	-0.3004	0.0053	-0.4356	0.0314	0.5001	0.1423	0.0008	0.0705
4	344.88	0.6999	-0.3264	0.0057	-0.5281	0.0358	0.4453	0.1697	0.0279	0.0704
4	344.88	0.7500	-0.3651	0.0071	-0.6143	0.0406	0.3583	0.1992	0.1103	0.0651
4	344.88	0.8002	-0.4296	0.0067	-0.7128	0.0464	0.2338	0.2325	0.0493	0.0608
4	344.88	0.8582	-0.4791	0.0066	-0.8045	0.0531	0.0150	0.2724	-0.1628	0.0675
4	344.88	0.9101	-0.5522	0.0072	-0.8728	0.0600	-0.1977	0.3085	-0.1643	0.0661
4	344.88	0.9728	-0.5711	0.0085	-0.8879	0.0682	-0.4006	0.3544	-0.1877	0.0612

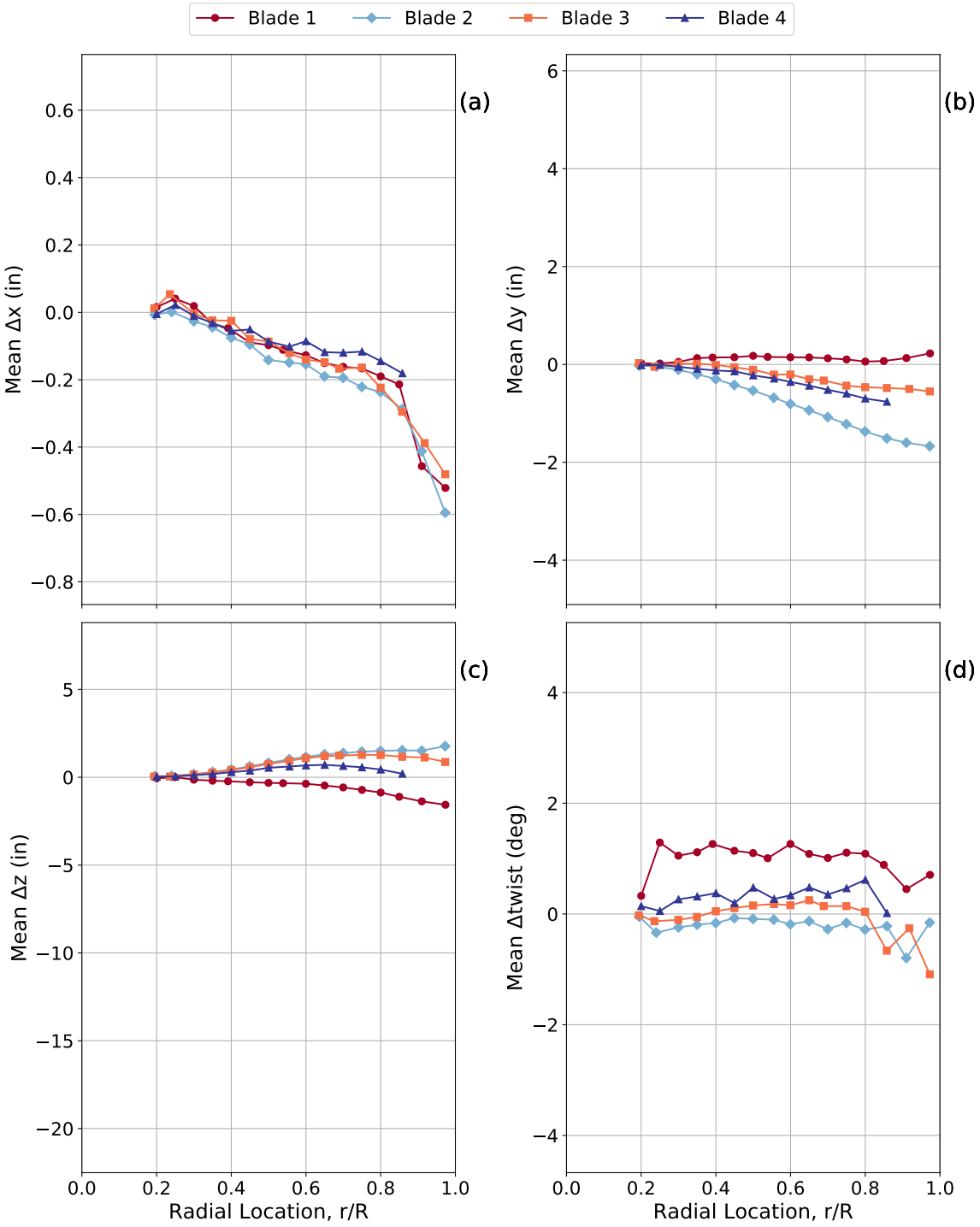


Figure 2.29-40. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-43. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	350.16	0.2001	0.0156	0.0045	0.0213	0.0035	-0.0588	0.0076	0.3274	0.0551
1	350.16	0.2499	0.0407	0.0023	0.0183	0.0055	0.0054	0.0102	1.2901	0.1360
1	350.16	0.2998	0.0188	0.0028	0.0506	0.0127	-0.1356	0.0246	1.0532	0.1429
1	350.16	0.3498	-0.0333	0.0042	0.1288	0.0220	-0.1932	0.0415	1.1148	0.1398
1	350.16	0.3913	-0.0467	0.0056	0.1408	0.0307	-0.2279	0.0565	1.2633	0.1414
1	350.16	0.4496	-0.0893	0.0066	0.1458	0.0431	-0.2826	0.0767	1.1418	0.1439
1	350.16	0.4997	-0.0974	0.0069	0.1755	0.0545	-0.3167	0.0958	1.1004	0.1432
1	350.16	0.5387	-0.1114	0.0080	0.1533	0.0625	-0.3368	0.1104	1.0074	0.1488
1	350.16	0.5996	-0.1272	0.0093	0.1460	0.0776	-0.3672	0.1353	1.2639	0.1457
1	350.16	0.6498	-0.1505	0.0120	0.1429	0.0913	-0.4676	0.1579	1.0860	0.1472
1	350.16	0.6998	-0.1616	0.0152	0.1249	0.1061	-0.5788	0.1852	1.0116	0.1459
1	350.16	0.7500	-0.1664	0.0200	0.1018	0.1216	-0.7185	0.2150	1.1074	0.1534
1	350.16	0.8001	-0.1901	0.0258	0.0577	0.1385	-0.8699	0.2477	1.0887	0.1401
1	350.16	0.8497	-0.2140	0.0320	0.0691	0.1561	-1.1099	0.2845	0.8874	0.1466
1	350.16	0.9102	-0.4566	0.0203	0.1297	0.2268	-1.3718	0.3873	0.4491	0.1588
1	350.16	0.9734	-0.5214	0.0192	0.2251	0.2458	-1.5665	0.4465	0.7072	0.1544
2	350.16	0.1949	-0.0073	0.0054	-0.0259	0.0018	0.0530	0.0042	-0.0486	0.0260
2	350.16	0.2405	0.0014	0.0024	-0.0426	0.0035	0.0822	0.0072	-0.3365	0.0480
2	350.16	0.2999	-0.0265	0.0034	-0.1096	0.0077	0.1765	0.0152	-0.2431	0.0626
2	350.16	0.3498	-0.0442	0.0046	-0.1995	0.0131	0.3005	0.0263	-0.1946	0.0572
2	350.16	0.3998	-0.0753	0.0059	-0.3008	0.0205	0.4400	0.0393	-0.1635	0.0585
2	350.16	0.4496	-0.0955	0.0070	-0.4210	0.0286	0.6237	0.0542	-0.0747	0.0641
2	350.16	0.4995	-0.1413	0.0074	-0.5350	0.0379	0.8183	0.0716	-0.0889	0.0711
2	350.16	0.5551	-0.1488	0.0099	-0.6823	0.0514	1.0268	0.0928	-0.1024	0.0714
2	350.16	0.5996	-0.1543	0.0117	-0.8065	0.0628	1.1605	0.1106	-0.1865	0.0744
2	350.16	0.6497	-0.1901	0.0159	-0.9366	0.0779	1.3016	0.1350	-0.1294	0.0798
2	350.16	0.6996	-0.1944	0.0205	-1.0765	0.0939	1.3818	0.1628	-0.2748	0.0802
2	350.16	0.7495	-0.2214	0.0282	-1.2205	0.1116	1.4585	0.1957	-0.1609	0.0819
2	350.16	0.7996	-0.2364	0.0354	-1.3711	0.1291	1.5028	0.2309	-0.2819	0.0977
2	350.16	0.8578	-0.2876	0.0469	-1.5106	0.1503	1.5354	0.2795	-0.2194	0.1080
2	350.16	0.9100	-0.4124	0.0435	-1.5997	0.1305	1.5141	0.3189	-0.7958	1.5954
2	350.16	0.9727	-0.5948	0.0239	-1.6711	0.1928	1.7729	0.5287	-0.1562	0.1000
3	350.16	0.1938	0.0120	0.0043	0.0256	0.0016	0.0448	0.0046	-0.0242	0.0217
3	350.16	0.2357	0.0538	0.0026	-0.0470	0.0035	0.0413	0.0066	-0.1306	0.0415
3	350.16	0.2995	-0.0042	0.0028	0.0156	0.0078	0.1640	0.0162	-0.1065	0.0536
3	350.16	0.3493	-0.0237	0.0043	0.0133	0.0129	0.2725	0.0282	-0.0535	0.0539
3	350.16	0.4000	-0.0249	0.0056	-0.0115	0.0210	0.4161	0.0421	0.0497	0.0604
3	350.16	0.4497	-0.0788	0.0064	-0.0582	0.0296	0.5726	0.0585	0.1059	0.0703
3	350.16	0.4997	-0.0867	0.0075	-0.1104	0.0389	0.7541	0.0762	0.1535	0.0748
3	350.16	0.5556	-0.1212	0.0087	-0.2079	0.0495	0.9407	0.0984	0.1796	0.0738
3	350.16	0.5995	-0.1403	0.0098	-0.2067	0.0575	1.0861	0.1161	0.1571	0.0815
3	350.16	0.6498	-0.1479	0.0125	-0.3033	0.0671	1.2020	0.1395	0.2483	0.0847
3	350.16	0.6890	-0.1672	0.0155	-0.3295	0.0762	1.2441	0.1600	0.1420	0.0894
3	350.16	0.7495	-0.1638	0.0211	-0.4337	0.0898	1.2743	0.1914	0.1415	0.0962
3	350.16	0.7998	-0.2235	0.0251	-0.4657	0.1007	1.2715	0.2182	0.0402	0.0869
3	350.16	0.8577	-0.2952	0.0253	-0.4827	0.1041	1.1660	0.2379	-0.6628	1.1100
3	350.16	0.9178	-0.3881	0.0241	-0.5019	0.1363	1.1259	0.3465	-0.2573	0.0984
3	350.16	0.9729	-0.4807	0.0276	-0.5522	0.1438	0.8729	0.3076	-1.0904	1.4156
4	350.16	0.2001	-0.0049	0.0114	-0.0167	0.0023	0.0343	0.0041	0.1417	0.0244
4	350.16	0.2502	0.0221	0.0041	-0.0116	0.0042	0.0518	0.0060	0.0536	0.0514
4	350.16	0.3001	-0.0106	0.0046	-0.0490	0.0092	0.1250	0.0125	0.2642	0.0580
4	350.16	0.3502	-0.0320	0.0106	-0.0908	0.0156	0.1869	0.0205	0.3158	0.0613
4	350.16	0.4002	-0.0549	0.0171	-0.1249	0.0241	0.2939	0.0304	0.3753	0.0698
4	350.16	0.4500	-0.0508	0.0240	-0.1400	0.0320	0.3778	0.0395	0.1962	0.0715
4	350.16	0.5001	-0.0868	0.0318	-0.2241	0.0399	0.5423	0.0493	0.4761	0.0785
4	350.16	0.5560	-0.1018	0.0414	-0.2892	0.0491	0.6130	0.0593	0.2716	0.0887
4	350.16	0.6001	-0.0856	0.0500	-0.3567	0.0574	0.6767	0.0714	0.3369	0.0889
4	350.16	0.6501	-0.1182	0.0609	-0.4344	0.0670	0.7069	0.0838	0.4795	0.0960
4	350.16	0.6999	-0.1199	0.0721	-0.5195	0.0780	0.6450	0.0990	0.3500	0.1022
4	350.16	0.7500	-0.1165	0.0850	-0.5963	0.0898	0.5695	0.1187	0.4645	0.1100
4	350.16	0.8002	-0.1446	0.1005	-0.6972	0.1024	0.4414	0.1373	0.6187	0.1194
4	350.16	0.8582	-0.1809	0.1172	-0.7629	0.1173	0.2018	0.1631	0.0152	0.1750

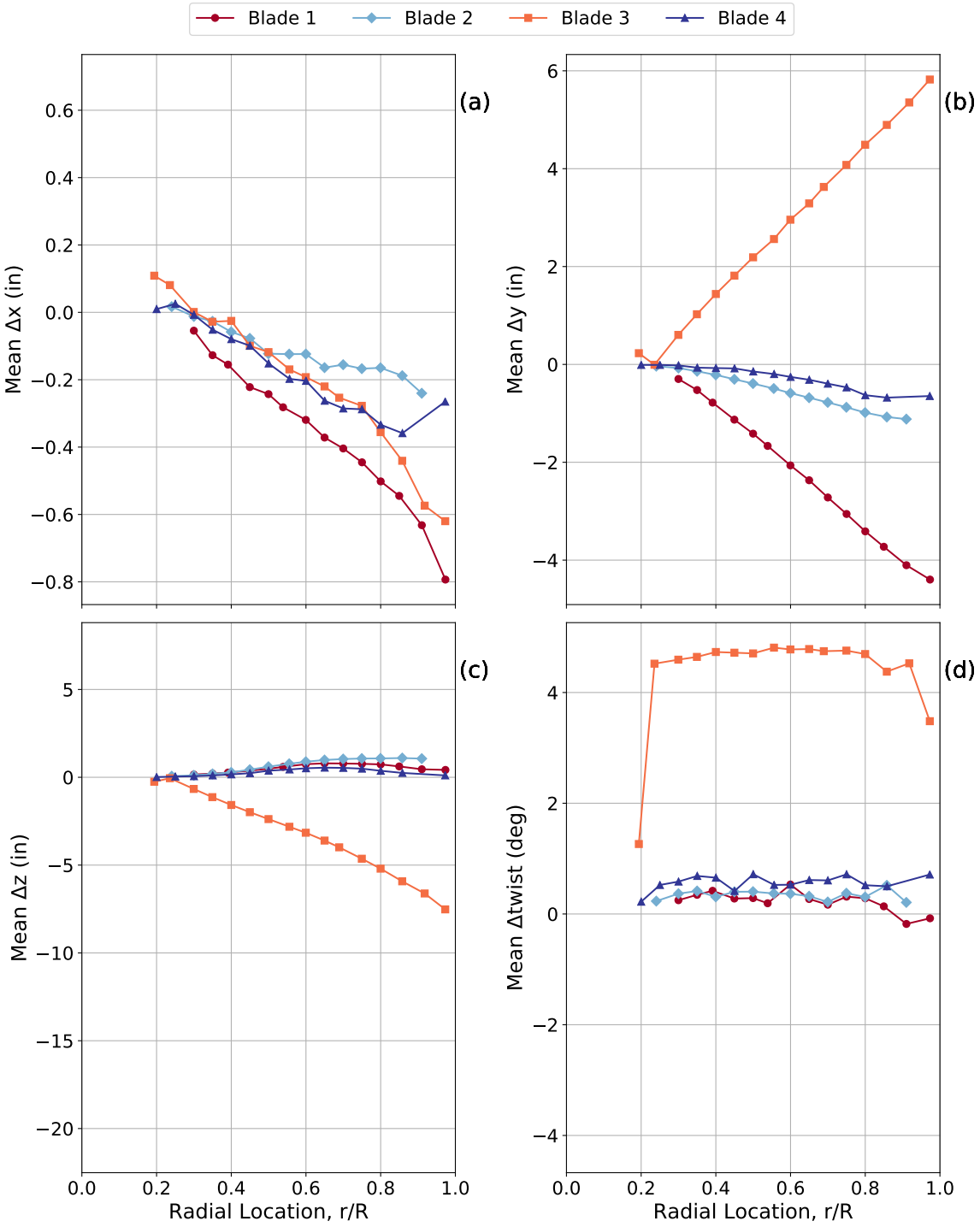


Figure 2.29-41. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.299$, $\alpha = 4°$ NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Table 2.29-44. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.299, α = 4°
NFAC run 98, points 48 to 51. BD run 46, points 8785 to 8824.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	355.08	0.2998	-0.0544	0.0089	-0.2979	0.0165	0.1573	0.0485	0.2485	0.1467
1	355.08	0.3498	-0.1272	0.0098	-0.5242	0.0291	0.2122	0.0833	0.3461	0.1953
1	355.08	0.3913	-0.1552	0.0089	-0.7807	0.0435	0.2677	0.1226	0.4184	0.1857
1	355.08	0.4496	-0.2219	0.0096	-1.1292	0.0603	0.3779	0.1719	0.2785	0.1909
1	355.08	0.4997	-0.2428	0.0103	-1.4152	0.0748	0.4878	0.2156	0.2865	0.1853
1	355.08	0.5387	-0.2818	0.0101	-1.6658	0.0872	0.5925	0.2489	0.1935	0.1764
1	355.08	0.5996	-0.3193	0.0117	-2.0637	0.1043	0.7458	0.2992	0.5320	0.1827
1	355.08	0.6498	-0.3717	0.0108	-2.3676	0.1200	0.7942	0.3418	0.2704	0.1889
1	355.08	0.6998	-0.4041	0.0107	-2.7197	0.1364	0.7858	0.3893	0.1677	0.1782
1	355.08	0.7500	-0.4452	0.0116	-3.0566	0.1520	0.7666	0.4357	0.3131	0.1793
1	355.08	0.8001	-0.5018	0.0130	-3.4121	0.1671	0.7340	0.4868	0.2838	0.1768
1	355.08	0.8497	-0.5448	0.0134	-3.7268	0.1839	0.6179	0.5381	0.1378	0.1729
1	355.08	0.9102	-0.6319	0.0139	-4.1039	0.2038	0.4574	0.6009	-0.1797	0.1782
1	355.08	0.9734	-0.7933	0.0196	-4.3974	0.2249	0.4191	0.6721	-0.0781	0.1782
2	355.08	0.2405	0.0169	0.0091	-0.0359	0.0074	0.0622	0.0129	0.2322	0.0749
2	355.08	0.2999	-0.0122	0.0044	-0.0744	0.0162	0.1119	0.0249	0.3672	0.1153
2	355.08	0.3498	-0.0267	0.0054	-0.1400	0.0287	0.1931	0.0420	0.4146	0.1102
2	355.08	0.3998	-0.0580	0.0087	-0.2142	0.0449	0.2823	0.0634	0.3091	0.1026
2	355.08	0.4496	-0.0772	0.0132	-0.3038	0.0613	0.4324	0.0831	0.4000	0.1002
2	355.08	0.4995	-0.1228	0.0178	-0.3911	0.0778	0.6031	0.1016	0.4035	0.1070
2	355.08	0.5551	-0.1240	0.0236	-0.4929	0.0971	0.7686	0.1228	0.3702	0.1099
2	355.08	0.5996	-0.1237	0.0288	-0.5864	0.1131	0.8866	0.1395	0.3650	0.1067
2	355.08	0.6497	-0.1641	0.0359	-0.6807	0.1338	0.9835	0.1587	0.3209	0.1086
2	355.08	0.6996	-0.1554	0.0416	-0.7766	0.1565	1.0391	0.1793	0.2174	0.1094
2	355.08	0.7495	-0.1672	0.0487	-0.8758	0.1796	1.0677	0.1988	0.3752	0.1191
2	355.08	0.7996	-0.1647	0.0549	-0.9849	0.2049	1.0739	0.2216	0.3070	0.1182
2	355.08	0.8578	-0.1880	0.0618	-1.0748	0.2392	1.0957	0.2493	0.5184	0.1160
2	355.08	0.9100	-0.2402	0.0701	-1.1180	0.2709	1.0621	0.2757	0.2089	0.1225
3	355.08	0.1938	0.1088	0.0128	0.2295	0.0197	-0.2535	0.0221	1.2636	0.1236
3	355.08	0.2357	0.0809	0.0036	-0.0072	0.0062	-0.0526	0.0065	4.5206	0.4388
3	355.08	0.2995	0.0011	0.0039	0.6034	0.0578	-0.6634	0.0690	4.5931	0.4401
3	355.08	0.3493	-0.0279	0.0050	1.0251	0.1002	-1.1302	0.1226	4.6429	0.4370
3	355.08	0.4000	-0.0253	0.0068	1.4389	0.1440	-1.5775	0.1783	4.7315	0.4373
3	355.08	0.4497	-0.0993	0.0080	1.8143	0.1853	-1.9865	0.2325	4.7190	0.4433
3	355.08	0.4997	-0.1181	0.0091	2.1887	0.2265	-2.3805	0.2871	4.7061	0.4430
3	355.08	0.5556	-0.1694	0.0100	2.5623	0.2710	-2.8176	0.3465	4.8103	0.4507
3	355.08	0.5995	-0.1923	0.0110	2.9572	0.3058	-3.1567	0.3932	4.7778	0.4512
3	355.08	0.6498	-0.2200	0.0135	3.2908	0.3465	-3.6029	0.4459	4.7849	0.4533
3	355.08	0.6890	-0.2533	0.0155	3.6274	0.3792	-3.9877	0.4859	4.7463	0.4547
3	355.08	0.7495	-0.2775	0.0188	4.0771	0.4311	-4.6367	0.5486	4.7566	0.4597
3	355.08	0.7998	-0.3556	0.0213	4.4896	0.4742	-5.2030	0.6008	4.6947	0.4558
3	355.08	0.8577	-0.4407	0.0195	4.8950	0.5168	-5.9233	0.6778	4.3763	0.2349
3	355.08	0.9178	-0.5739	0.0249	5.3531	0.5707	-6.6158	0.7093	4.5271	0.8567
3	355.08	0.9729	-0.6199	0.0220	5.8224	0.6455	-7.5210	0.8660	3.4819	1.2930
4	355.08	0.2001	0.0096	0.0036	-0.0106	0.0028	0.0145	0.0067	0.2217	0.0488
4	355.08	0.2502	0.0252	0.0021	-0.0106	0.0048	0.0416	0.0126	0.5235	0.0972
4	355.08	0.3001	-0.0073	0.0022	-0.0206	0.0094	0.0603	0.0235	0.5849	0.1156
4	355.08	0.3502	-0.0516	0.0028	-0.0667	0.0174	0.1058	0.0422	0.6869	0.1023
4	355.08	0.4002	-0.0795	0.0035	-0.0751	0.0255	0.1652	0.0627	0.6552	0.1049
4	355.08	0.4500	-0.0992	0.0033	-0.0815	0.0329	0.2338	0.0868	0.4145	0.1104
4	355.08	0.5001	-0.1518	0.0041	-0.1448	0.0425	0.3768	0.1125	0.7178	0.1095
4	355.08	0.5560	-0.1975	0.0043	-0.1972	0.0532	0.4454	0.1401	0.5248	0.1129
4	355.08	0.6001	-0.2034	0.0049	-0.2560	0.0632	0.5134	0.1610	0.5284	0.1161
4	355.08	0.6501	-0.2624	0.0053	-0.3142	0.0737	0.5486	0.1861	0.6131	0.1264
4	355.08	0.6999	-0.2853	0.0058	-0.3937	0.0867	0.5352	0.2107	0.6063	0.1323
4	355.08	0.7500	-0.2877	0.0062	-0.4700	0.1032	0.4909	0.2388	0.7156	0.1350
4	355.08	0.8002	-0.3337	0.0073	-0.6291	0.1131	0.3696	0.2624	0.5196	0.1423
4	355.08	0.8582	-0.3587	0.0095	-0.6788	0.1333	0.2483	0.2951	0.4998	0.1642
4	355.08	0.9728	-0.2651	0.0333	-0.6465	0.1606	0.1068	0.3644	0.7121	0.3539

3 Secondary Data Points

Table 3-1. List of blade displacement Secondary points.

Run	Start Point	End Point	CT/sigma	AdvRatio	Alpha (deg)	# Images
42	43	43	0.1	0.24	-0	12
42	44	44	0.11	0.24	-0	12
45	34	34	0.1	0.3	-0	12
45	51	51	0.1	0.241	-0	12
45	52	52	0.11	0.241	-0	12
47	9	9	0.087	0.305	-4.99	12
47	30	30	0.099	0.3	-4.5	12
52	20	20	0.09	0.2	-1.9	12
52	28	28	0.09	0.3	-4.5	12
52	29	29	0.091	0.3	-4.5	12
52	49	49	0.091	0.4	-8	12
52	50	50	0.092	0.4	-8	12
53	13	13	0.08	0.35	-6.9	12
53	14	14	0.079	0.35	-6.9	12
53	26	26	0.082	0.37	-8.4	12
53	32	32	0.08	0.401	-10	12
53	33	33	0.081	0.4	-10	12
53	40	40	0.079	0.4	-10	12
63	10	10	0.05	0.3	-8	12
63	11	11	0.02	0.299	-8	12
63	12	12	0.02	0.299	-8	12
63	13	13	0.04	0.3	-8	12
63	22	22	0.051	0.35	-8	12
63	23	23	0.019	0.35	-8	12
63	24	24	0.02	0.35	-8	12
66	20	20	0.101	0.301	-0	12
66	36	36	0.086	0.3	4	12
67	11	11	0.071	0.301	-0.6	12
67	13	13	0.071	0.3	-0.6	12
67	33	33	0.071	0.152	4.76	12
77	11	11	0.07	0.299	-0.6	12
77	14	14	0.087	0.304	-4.82	12
78	10	10	0.087	0.303	-4.82	12
78	32	32	0.087	0.304	-4.82	12
81	50	50	0.11	0.24	-0	60
83	33	33	0.081	0.35	-6.9	12
87	17	17	0.1	0.3	-0	12
87	42	42	0.025	0.6	-0	12
87	46	46	0.011	0.6	-0	12
91	18	18	0.102	0.3	-0	12
91	66	66	0.009	1	-0	12
91	67	67	0.019	0.999	-0	12
91	74	74	0.022	0.999	-0	12
93	8	8	0.075	0.298	4	12
93	11	11	0.087	0.3	4	12
93	14	14	0.077	0.3	4	12
95	30	30	0.059	1	4	12
95	37	37	0.055	0.999	4	12
96	14	14	0.044	0.7	2	12
98	39	39	0.081	0.3	8	12
98	40	40	0.079	0.299	8	12
98	45	45	0.079	0.299	8	12

3.1 Run 42, Point 43

3.1.1 Pitch, Flap, and Lag

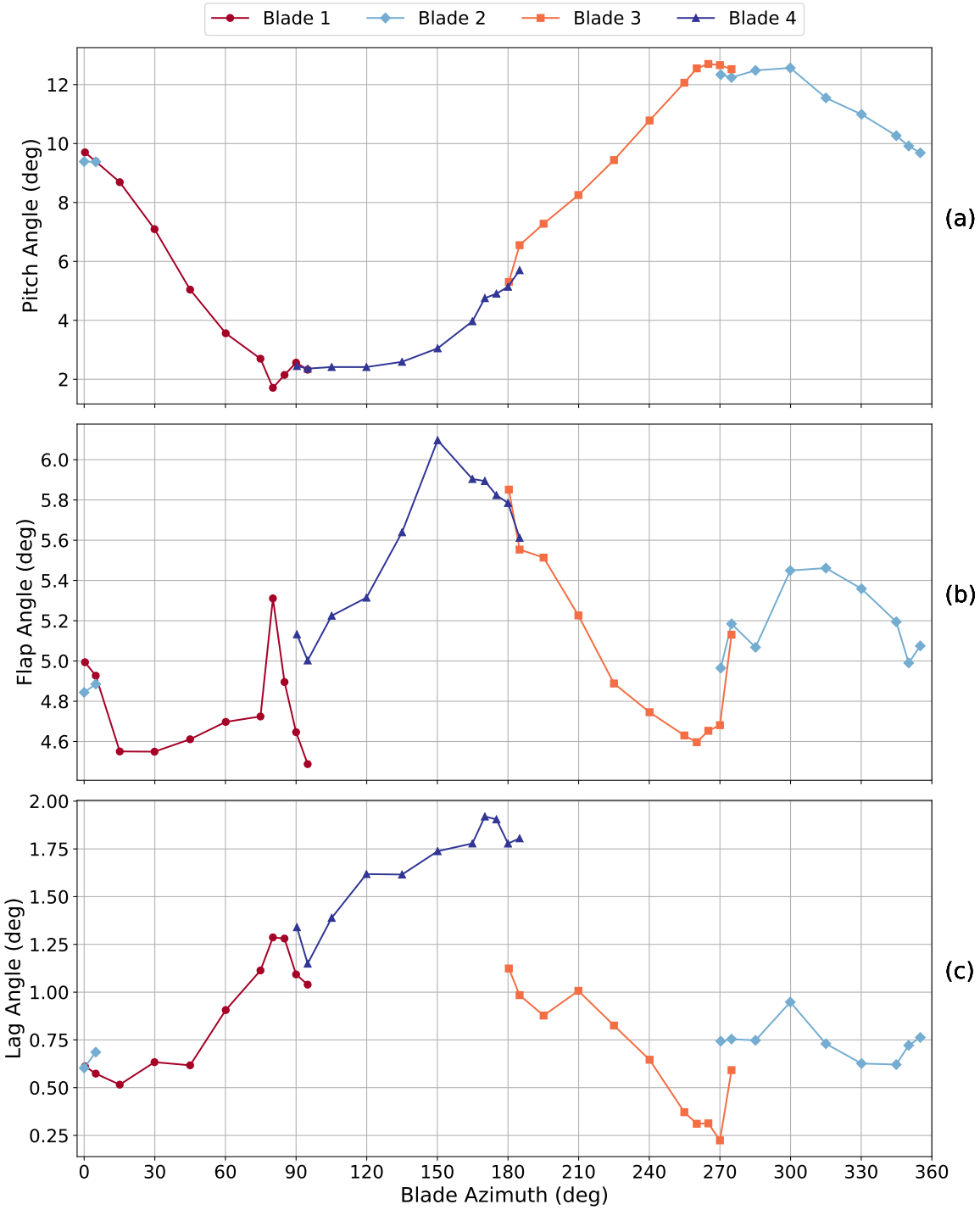


Figure 3.1-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	9.3872	4.8440	0.6030	0.0640	0.0505	0.0289
0.35	1	9.7003	4.9938	0.6118	0.0804	0.0677	0.0291
4.92	1	9.3933	4.9270	0.5736	0.0947	0.0573	0.0299
4.92	2	9.3789	4.8852	0.6860	0.1004	0.0494	0.0283
15.12	1	8.6887	4.5506	0.5158	0.1245	0.0438	0.0327
29.88	1	7.0944	4.5495	0.6335	0.0810	0.0464	0.0348
45	1	5.0417	4.6111	0.6171	0.0663	0.0433	0.0496
60.12	1	3.5604	4.6974	0.9062	0.0975	0.0912	0.0209
74.88	1	2.6971	4.7244	1.1137	0.0912	0.0532	0.0280
80.16	1	1.7104	5.3110	1.2866	0.1381	0.0976	0.0270
85.08	1	2.1465	4.8955	1.2806	0.1091	0.0859	0.0527
90	1	2.5631	4.6463	1.0929	0.1080	0.0848	0.0260
90.35	4	2.4480	5.1324	1.3399	0.0787	0.0569	0.0174
94.92	1	2.3248	4.4878	1.0393	0.0869	0.0666	0.0237
94.92	4	2.3611	5.0026	1.1492	0.0671	0.0363	0.0291
105.12	4	2.4150	5.2248	1.3889	0.0621	0.0593	0.0235
119.88	4	2.4138	5.3146	1.6181	0.0535	0.0734	0.0342
135	4	2.5909	5.6394	1.6157	0.0369	0.0801	0.0361
150.12	4	3.0499	6.0967	1.7379	0.1233	0.0961	0.0240
164.88	4	3.9669	5.9040	1.7783	0.0817	0.0558	0.0423
170.16	4	4.7525	5.8941	1.9193	0.1035	0.0574	0.0217
175.08	4	4.9042	5.8238	1.9046	0.0629	0.0693	0.0198
180	4	5.1395	5.7849	1.7779	0.0555	0.0977	0.0389
180.35	3	5.3034	5.8515	1.1240	0.0755	0.0754	0.0202
184.92	3	6.5512	5.5536	0.9843	0.3658	0.1009	0.0455
184.92	4	5.7019	5.6118	1.8053	0.0616	0.0914	0.0211
195.12	3	7.2780	5.5137	0.8775	0.1344	0.1111	0.0511
209.88	3	8.2519	5.2264	1.0071	0.0911	0.0941	0.0481
225	3	9.4379	4.8883	0.8253	0.0714	0.0182	0.0426
240.12	3	10.7830	4.7455	0.6462	0.0731	0.0538	0.0450
254.88	3	12.0631	4.6301	0.3717	0.0685	0.0781	0.0563
260.16	3	12.5521	4.5966	0.3110	0.0719	0.0838	0.0237
265.08	3	12.7024	4.6532	0.3131	0.2491	0.1096	0.0361
270	3	12.6613	4.6813	0.2239	0.2116	0.0730	0.0439
270.35	2	12.3382	4.9650	0.7432	0.2049	0.0586	0.0343
274.92	2	12.2414	5.1846	0.7542	0.5302	0.1864	0.1006
274.92	3	12.5244	5.1307	0.5918	0.4345	0.1790	0.0762
285.12	2	12.4828	5.0678	0.7476	0.0343	0.0214	0.0309
299.88	2	12.5664	5.4495	0.9482	0.1108	0.1017	0.0686
315	2	11.5491	5.4615	0.7300	0.1084	0.0616	0.0187
330.12	2	10.9915	5.3589	0.6265	0.0883	0.0640	0.0519
344.88	2	10.2659	5.1947	0.6210	0.0626	0.0489	0.0261
350.16	2	9.9171	4.9902	0.7215	0.1129	0.0650	0.0266
355.08	2	9.6837	5.0750	0.7627	0.0924	0.1129	0.0322

3.1.2 Spanwise Elastic Deformations

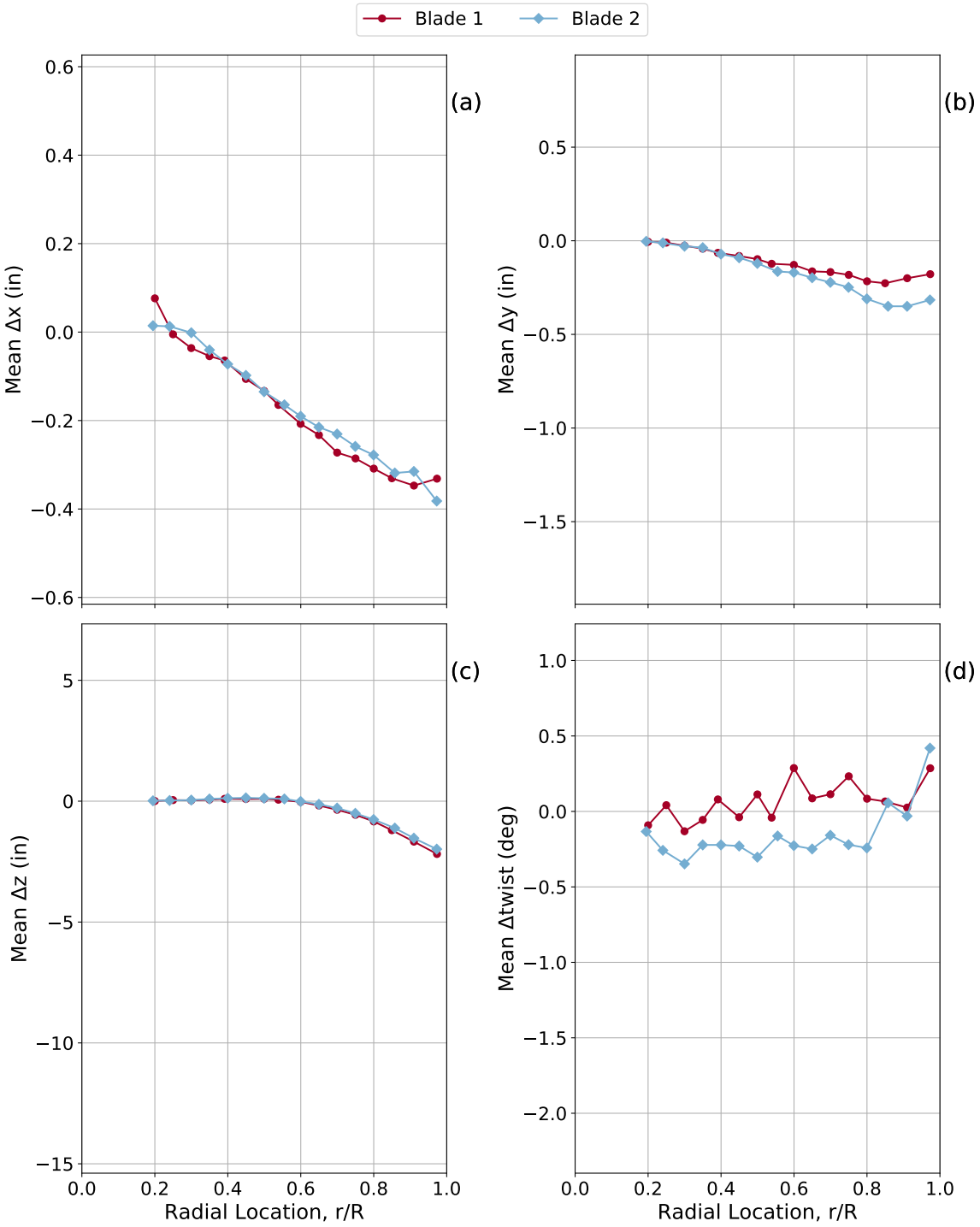


Figure 3.1-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0763	0.0029	-0.0054	0.0016	0.0062	0.0049	-0.0918	0.0404
1	0.35	0.2499	-0.0051	0.0015	-0.0101	0.0038	0.0454	0.0089	0.0415	0.0867
1	0.35	0.2998	-0.0362	0.0010	-0.0266	0.0062	0.0314	0.0160	-0.1314	0.0994
1	0.35	0.3498	-0.0545	0.0020	-0.0424	0.0131	0.0634	0.0255	-0.0562	0.0896
1	0.35	0.3913	-0.0642	0.0021	-0.0645	0.0174	0.0973	0.0362	0.0796	0.0805
1	0.35	0.4496	-0.1059	0.0017	-0.0814	0.0236	0.0920	0.0488	-0.0386	0.0850
1	0.35	0.4997	-0.1331	0.0021	-0.0983	0.0286	0.0969	0.0595	0.1128	0.0932
1	0.35	0.5387	-0.1647	0.0023	-0.1229	0.0326	0.0614	0.0676	-0.0413	0.1039
1	0.35	0.5996	-0.2074	0.0021	-0.1288	0.0388	-0.0285	0.0791	0.2873	0.1088
1	0.35	0.6498	-0.2328	0.0027	-0.1635	0.0438	-0.1805	0.0887	0.0865	0.1080
1	0.35	0.6998	-0.2725	0.0028	-0.1671	0.0498	-0.3560	0.0955	0.1138	0.1066
1	0.35	0.7500	-0.2857	0.0030	-0.1822	0.0549	-0.5648	0.1023	0.2329	0.1020
1	0.35	0.8001	-0.3087	0.0042	-0.2164	0.0603	-0.8385	0.1079	0.0842	0.0992
1	0.35	0.8497	-0.3305	0.0032	-0.2269	0.0656	-1.2017	0.1212	0.0659	0.0972
1	0.35	0.9102	-0.3471	0.0047	-0.2001	0.0727	-1.6736	0.1471	0.0255	0.0781
1	0.35	0.9734	-0.3314	0.0079	-0.1784	0.0801	-2.1840	0.1786	0.2862	0.1316
2	0	0.1949	0.0144	0.0016	-0.0031	0.0010	0.0165	0.0055	-0.1332	0.0350
2	0	0.2405	0.0129	0.0014	-0.0115	0.0017	0.0284	0.0113	-0.2579	0.0676
2	0	0.2999	-0.0015	0.0007	-0.0291	0.0037	0.0464	0.0235	-0.3476	0.0867
2	0	0.3498	-0.0404	0.0008	-0.0370	0.0052	0.0913	0.0365	-0.2219	0.0956
2	0	0.3998	-0.0725	0.0014	-0.0714	0.0091	0.1232	0.0585	-0.2220	0.0795
2	0	0.4496	-0.0979	0.0016	-0.0909	0.0120	0.1374	0.0727	-0.2294	0.0914
2	0	0.4995	-0.1349	0.0022	-0.1210	0.0152	0.1201	0.0899	-0.3030	0.0860
2	0	0.5551	-0.1645	0.0022	-0.1641	0.0174	0.0929	0.1039	-0.1627	0.1101
2	0	0.5996	-0.1903	0.0021	-0.1696	0.0209	-0.0112	0.1191	-0.2268	0.1003
2	0	0.6497	-0.2151	0.0027	-0.1976	0.0226	-0.1297	0.1349	-0.2487	0.0833
2	0	0.6996	-0.2305	0.0023	-0.2222	0.0274	-0.2849	0.1515	-0.1580	0.0953
2	0	0.7495	-0.2585	0.0031	-0.2486	0.0304	-0.5028	0.1675	-0.2204	0.1030
2	0	0.7996	-0.2779	0.0030	-0.3103	0.0358	-0.7579	0.1903	-0.2420	0.0806
2	0	0.8578	-0.3186	0.0049	-0.3498	0.0392	-1.1124	0.2083	0.0567	0.0944
2	0	0.9100	-0.3151	0.0043	-0.3500	0.0433	-1.5290	0.2263	-0.0308	0.0905
2	0	0.9727	-0.3820	0.0063	-0.3160	0.0483	-1.9836	0.2487	0.4195	0.1000

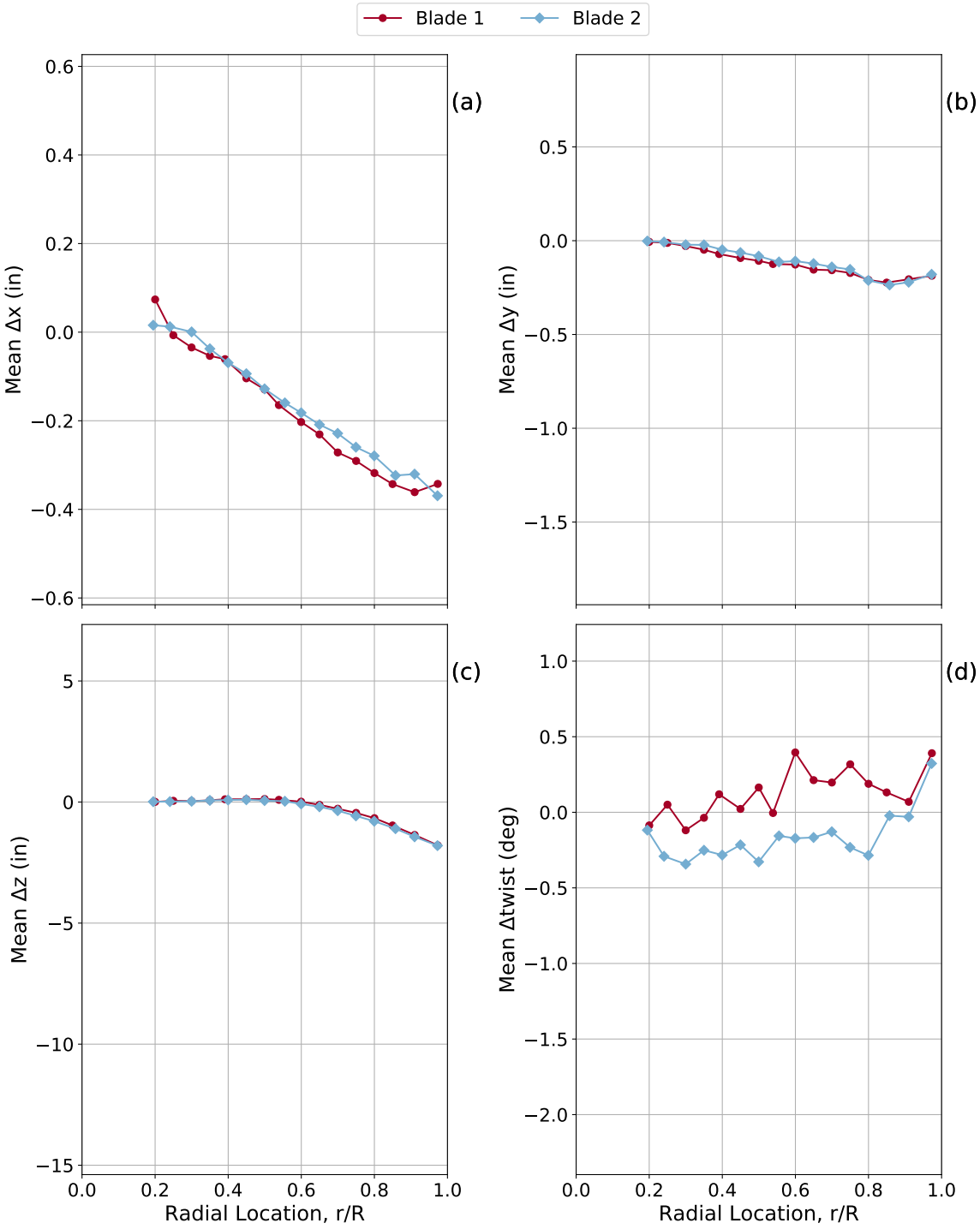


Figure 3.1-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0738	0.0026	-0.0060	0.0010	0.0069	0.0037	-0.0867	0.0335
1	4.92	0.2499	-0.0069	0.0014	-0.0117	0.0033	0.0505	0.0057	0.0505	0.0539
1	4.92	0.2998	-0.0345	0.0008	-0.0286	0.0040	0.0380	0.0122	-0.1189	0.0707
1	4.92	0.3498	-0.0535	0.0015	-0.0482	0.0089	0.0719	0.0188	-0.0364	0.0586
1	4.92	0.3913	-0.0609	0.0014	-0.0712	0.0119	0.1134	0.0265	0.1192	0.0515
1	4.92	0.4496	-0.1042	0.0013	-0.0924	0.0157	0.1154	0.0364	0.0222	0.0500
1	4.92	0.4997	-0.1293	0.0018	-0.1073	0.0191	0.1255	0.0454	0.1641	0.0547
1	4.92	0.5387	-0.1646	0.0019	-0.1243	0.0223	0.0911	0.0529	-0.0047	0.0518
1	4.92	0.5996	-0.2028	0.0028	-0.1273	0.0286	0.0151	0.0650	0.3959	0.0534
1	4.92	0.6498	-0.2308	0.0027	-0.1543	0.0326	-0.1160	0.0775	0.2126	0.0356
1	4.92	0.6998	-0.2716	0.0024	-0.1573	0.0366	-0.2771	0.0926	0.1970	0.0401
1	4.92	0.7500	-0.2907	0.0024	-0.1721	0.0417	-0.4488	0.1066	0.3174	0.0347
1	4.92	0.8001	-0.3180	0.0027	-0.2091	0.0473	-0.6662	0.1199	0.1884	0.0409
1	4.92	0.8497	-0.3429	0.0027	-0.2234	0.0522	-0.9674	0.1305	0.1315	0.0414
1	4.92	0.9102	-0.3612	0.0029	-0.2057	0.0603	-1.3588	0.1436	0.0693	0.0688
1	4.92	0.9734	-0.3425	0.0049	-0.1869	0.0650	-1.7879	0.1590	0.3908	0.0459
2	4.92	0.1949	0.0157	0.0021	-0.0019	0.0013	0.0133	0.0047	-0.1179	0.0334
2	4.92	0.2405	0.0124	0.0017	-0.0073	0.0032	0.0171	0.0097	-0.2911	0.0550
2	4.92	0.2999	0.0006	0.0009	-0.0214	0.0060	0.0317	0.0154	-0.3430	0.0757
2	4.92	0.3498	-0.0375	0.0017	-0.0223	0.0111	0.0671	0.0272	-0.2512	0.0814
2	4.92	0.3998	-0.0690	0.0017	-0.0483	0.0173	0.0845	0.0401	-0.2829	0.0702
2	4.92	0.4496	-0.0938	0.0017	-0.0635	0.0227	0.0951	0.0530	-0.2156	0.0728
2	4.92	0.4995	-0.1280	0.0024	-0.0825	0.0279	0.0611	0.0670	-0.3279	0.0711
2	4.92	0.5551	-0.1596	0.0031	-0.1133	0.0352	0.0315	0.0850	-0.1561	0.0679
2	4.92	0.5996	-0.1820	0.0023	-0.1089	0.0396	-0.0799	0.0964	-0.1720	0.0726
2	4.92	0.6497	-0.2087	0.0032	-0.1221	0.0464	-0.1966	0.1105	-0.1667	0.0699
2	4.92	0.6996	-0.2285	0.0028	-0.1400	0.0541	-0.3576	0.1234	-0.1288	0.0827
2	4.92	0.7495	-0.2596	0.0028	-0.1531	0.0625	-0.5730	0.1315	-0.2320	0.0869
2	4.92	0.7996	-0.2792	0.0035	-0.2118	0.0697	-0.7926	0.1436	-0.2852	0.0686
2	4.92	0.8578	-0.3235	0.0035	-0.2360	0.0779	-1.1005	0.1524	-0.0223	0.0866
2	4.92	0.9100	-0.3204	0.0035	-0.2214	0.0847	-1.4356	0.1626	-0.0301	0.0696
2	4.92	0.9727	-0.3693	0.0076	-0.1793	0.0972	-1.8001	0.1801	0.3228	0.0578

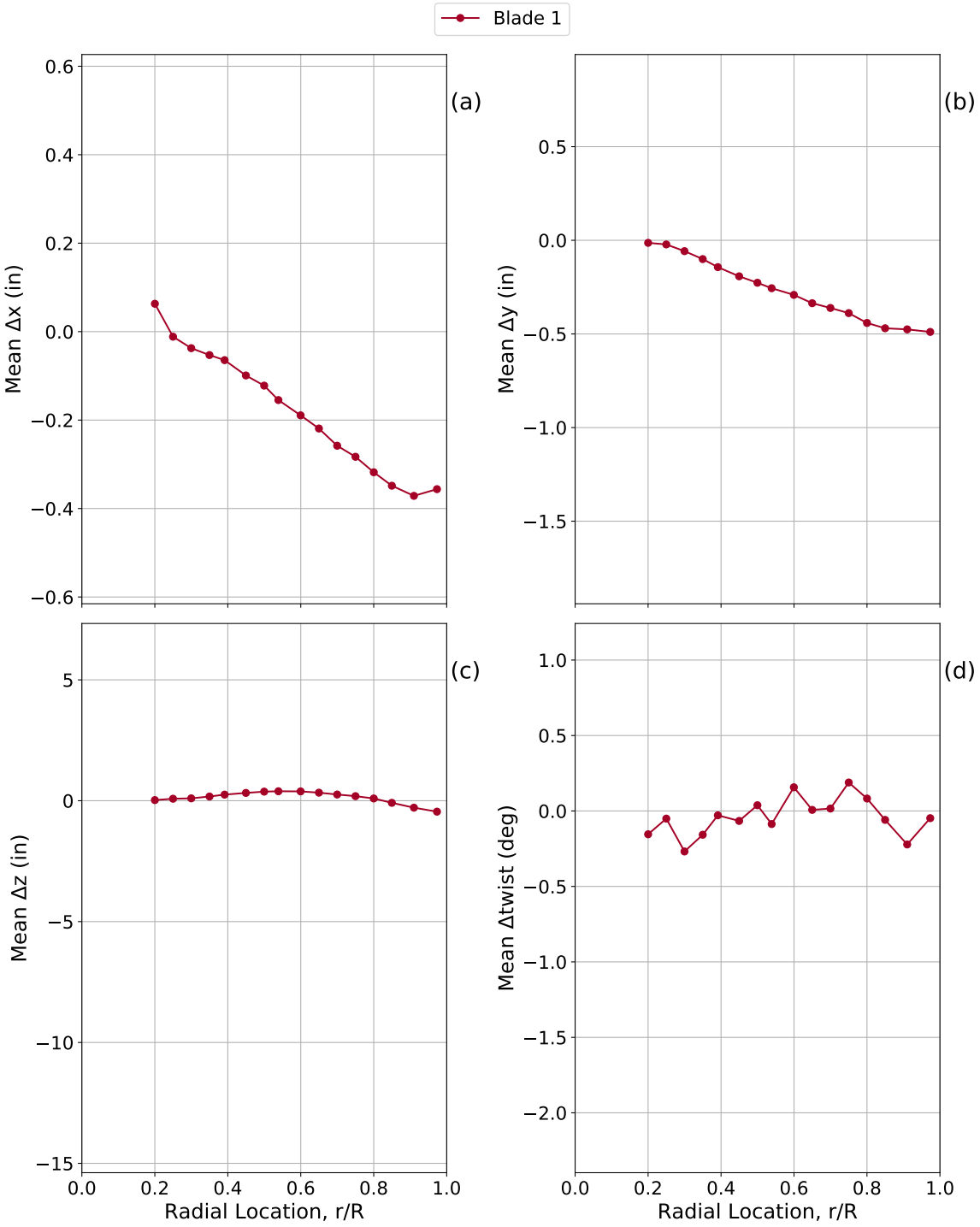


Figure 3.1-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0630	0.0016	-0.0136	0.0008	0.0263	0.0043	-0.1543	0.0184
1	15.12	0.2499	-0.0115	0.0018	-0.0221	0.0023	0.0826	0.0064	-0.0507	0.0509
1	15.12	0.2998	-0.0374	0.0009	-0.0579	0.0031	0.0986	0.0142	-0.2684	0.0436
1	15.12	0.3498	-0.0530	0.0015	-0.1003	0.0066	0.1742	0.0243	-0.1575	0.0510
1	15.12	0.3913	-0.0645	0.0015	-0.1434	0.0088	0.2529	0.0332	-0.0288	0.0456
1	15.12	0.4496	-0.0991	0.0014	-0.1923	0.0114	0.3228	0.0472	-0.0659	0.0567
1	15.12	0.4997	-0.1221	0.0016	-0.2267	0.0139	0.3763	0.0597	0.0381	0.0585
1	15.12	0.5387	-0.1547	0.0022	-0.2559	0.0176	0.3916	0.0723	-0.0866	0.0625
1	15.12	0.5996	-0.1893	0.0020	-0.2915	0.0214	0.3864	0.0930	0.1570	0.0617
1	15.12	0.6498	-0.2191	0.0021	-0.3359	0.0248	0.3336	0.1099	0.0072	0.0625
1	15.12	0.6998	-0.2580	0.0022	-0.3613	0.0283	0.2571	0.1265	0.0161	0.0674
1	15.12	0.7500	-0.2830	0.0027	-0.3888	0.0325	0.1895	0.1419	0.1887	0.0578
1	15.12	0.8001	-0.3180	0.0027	-0.4414	0.0356	0.0934	0.1602	0.0824	0.0494
1	15.12	0.8497	-0.3484	0.0028	-0.4698	0.0399	-0.0870	0.1756	-0.0590	0.0484
1	15.12	0.9102	-0.3713	0.0030	-0.4757	0.0436	-0.2872	0.1990	-0.2219	0.0401
1	15.12	0.9734	-0.3562	0.0034	-0.4893	0.0486	-0.4521	0.2268	-0.0477	0.0574

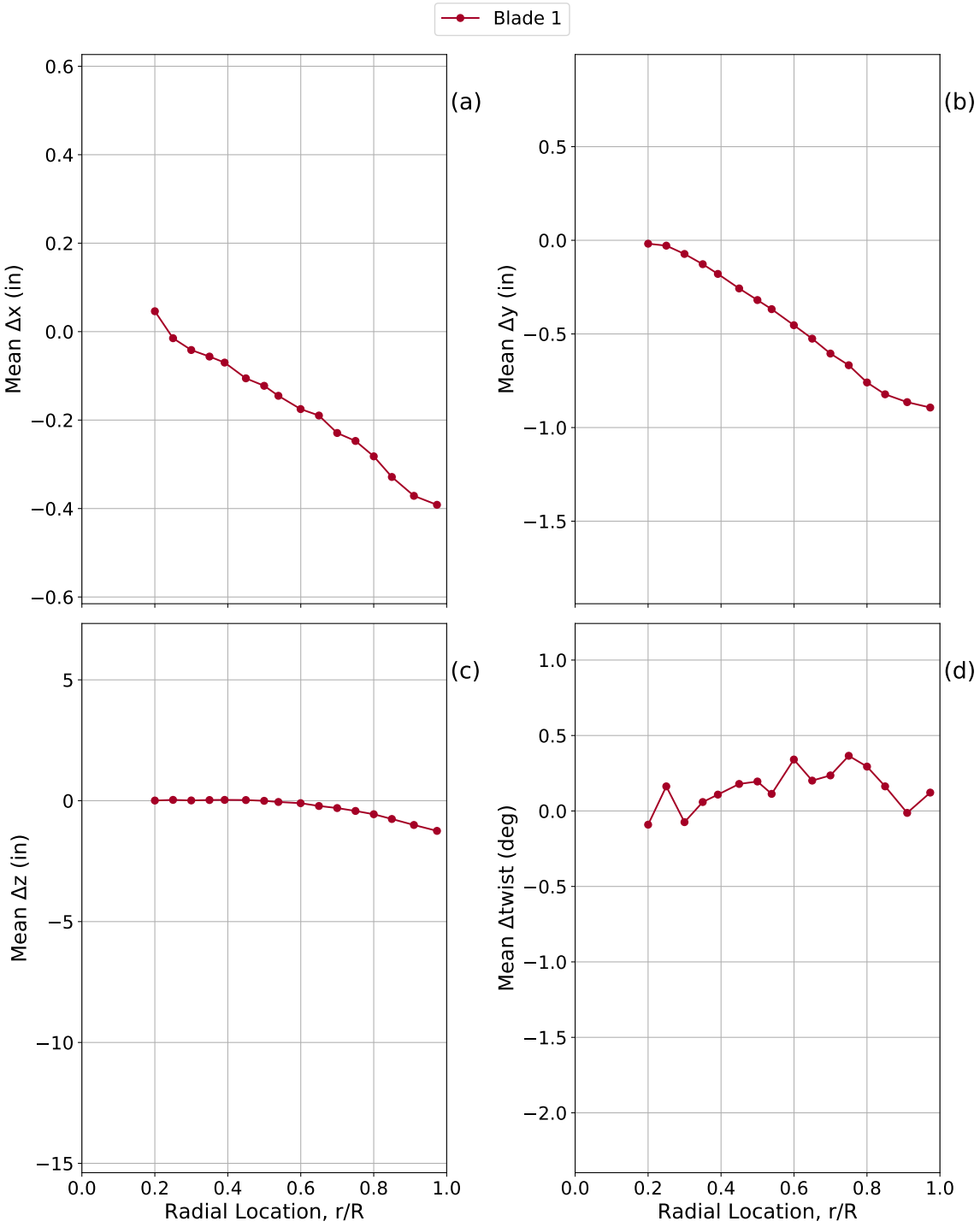


Figure 3.1-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0461	0.0021	-0.0182	0.0009	0.0079	0.0040	-0.0908	0.0412
1	29.88	0.2499	-0.0149	0.0012	-0.0286	0.0020	0.0345	0.0069	0.1630	0.0634
1	29.88	0.2998	-0.0416	0.0013	-0.0729	0.0042	0.0119	0.0134	-0.0740	0.0893
1	29.88	0.3498	-0.0564	0.0019	-0.1276	0.0066	0.0288	0.0237	0.0592	0.0835
1	29.88	0.3913	-0.0700	0.0025	-0.1795	0.0100	0.0342	0.0319	0.1084	0.0852
1	29.88	0.4496	-0.1056	0.0029	-0.2571	0.0129	0.0275	0.0450	0.1790	0.0840
1	29.88	0.4997	-0.1225	0.0026	-0.3191	0.0169	-0.0039	0.0559	0.1952	0.0988
1	29.88	0.5387	-0.1451	0.0028	-0.3677	0.0194	-0.0517	0.0652	0.1132	0.1018
1	29.88	0.5996	-0.1751	0.0034	-0.4534	0.0247	-0.1009	0.0806	0.3409	0.0767
1	29.88	0.6498	-0.1897	0.0035	-0.5253	0.0301	-0.2169	0.0948	0.2011	0.0833
1	29.88	0.6998	-0.2292	0.0030	-0.6048	0.0340	-0.3033	0.1123	0.2356	0.0742
1	29.88	0.7500	-0.2472	0.0034	-0.6671	0.0393	-0.4228	0.1295	0.3656	0.0725
1	29.88	0.8001	-0.2820	0.0037	-0.7592	0.0445	-0.5594	0.1478	0.2940	0.0714
1	29.88	0.8497	-0.3286	0.0035	-0.8224	0.0495	-0.7555	0.1682	0.1631	0.0771
1	29.88	0.9102	-0.3713	0.0035	-0.8643	0.0558	-1.0030	0.1939	-0.0127	0.0687
1	29.88	0.9734	-0.3916	0.0050	-0.8931	0.0622	-1.2472	0.2245	0.1218	0.0782

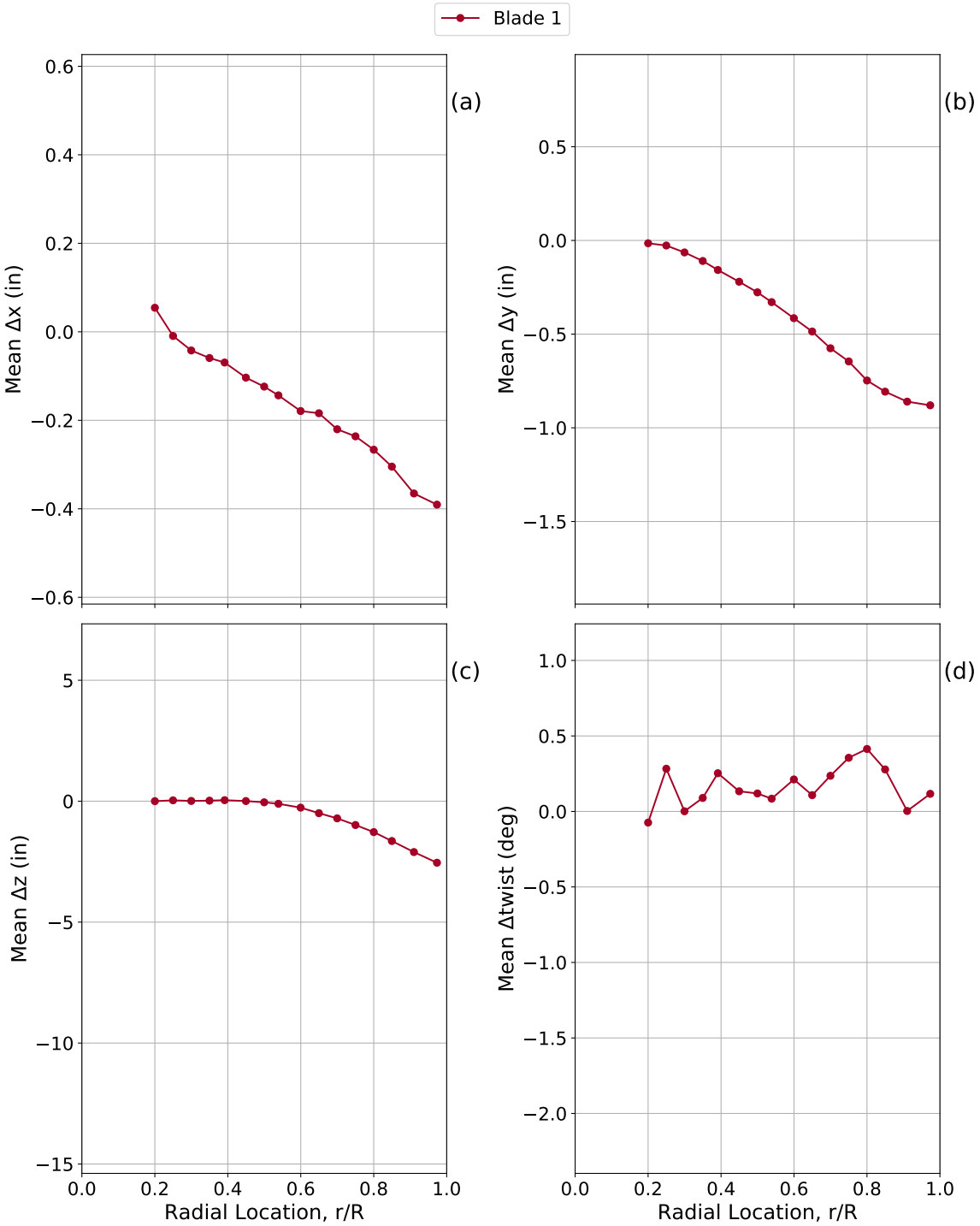


Figure 3.1-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0544	0.0016	-0.0152	0.0007	0.0011	0.0020	-0.0738	0.0375
1	45	0.2499	-0.0094	0.0019	-0.0271	0.0030	0.0355	0.0054	0.2829	0.0356
1	45	0.2998	-0.0421	0.0015	-0.0640	0.0045	0.0105	0.0088	0.0013	0.0743
1	45	0.3498	-0.0592	0.0014	-0.1096	0.0070	0.0229	0.0138	0.0893	0.0645
1	45	0.3913	-0.0694	0.0018	-0.1577	0.0116	0.0417	0.0208	0.2531	0.0686
1	45	0.4496	-0.1035	0.0030	-0.2204	0.0136	0.0062	0.0292	0.1335	0.0644
1	45	0.4997	-0.1238	0.0026	-0.2770	0.0171	-0.0464	0.0378	0.1191	0.0704
1	45	0.5387	-0.1436	0.0022	-0.3292	0.0199	-0.1072	0.0462	0.0845	0.0823
1	45	0.5996	-0.1790	0.0023	-0.4149	0.0242	-0.2665	0.0602	0.2119	0.0818
1	45	0.6498	-0.1840	0.0025	-0.4861	0.0300	-0.4954	0.0722	0.1078	0.0798
1	45	0.6998	-0.2202	0.0026	-0.5754	0.0337	-0.7094	0.0844	0.2361	0.0928
1	45	0.7500	-0.2362	0.0032	-0.6457	0.0389	-0.9850	0.0962	0.3554	0.0833
1	45	0.8001	-0.2664	0.0035	-0.7476	0.0439	-1.2774	0.1081	0.4136	0.0833
1	45	0.8497	-0.3046	0.0031	-0.8071	0.0485	-1.6460	0.1185	0.2781	0.0825
1	45	0.9102	-0.3653	0.0027	-0.8603	0.0550	-2.1034	0.1299	0.0031	0.0984
1	45	0.9734	-0.3905	0.0041	-0.8799	0.0619	-2.5438	0.1405	0.1167	0.0945

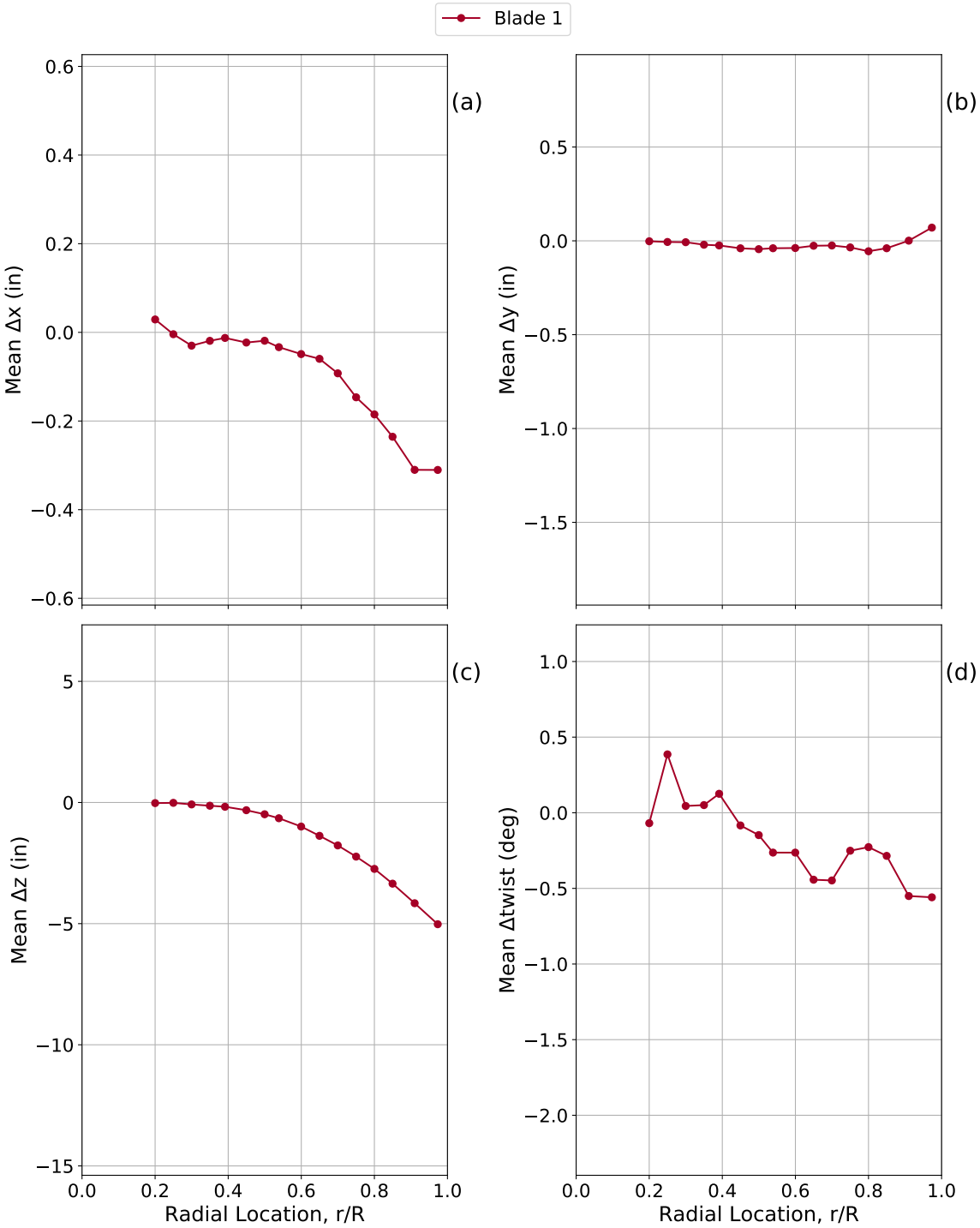


Figure 3.1-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0291	0.0016	-0.0023	0.0007	-0.0247	0.0045	-0.0689	0.0216
1	60.12	0.2499	-0.0042	0.0014	-0.0061	0.0013	-0.0144	0.0098	0.3860	0.0405
1	60.12	0.2998	-0.0300	0.0013	-0.0073	0.0030	-0.0797	0.0208	0.0448	0.0510
1	60.12	0.3498	-0.0191	0.0022	-0.0207	0.0045	-0.1329	0.0326	0.0507	0.0625
1	60.12	0.3913	-0.0126	0.0029	-0.0246	0.0068	-0.1759	0.0498	0.1255	0.0464
1	60.12	0.4496	-0.0230	0.0022	-0.0398	0.0093	-0.3183	0.0718	-0.0838	0.0489
1	60.12	0.4997	-0.0189	0.0028	-0.0443	0.0114	-0.4854	0.0904	-0.1477	0.0544
1	60.12	0.5387	-0.0334	0.0029	-0.0395	0.0131	-0.6497	0.1042	-0.2634	0.0610
1	60.12	0.5996	-0.0490	0.0032	-0.0384	0.0169	-0.9926	0.1298	-0.2635	0.0586
1	60.12	0.6498	-0.0597	0.0032	-0.0262	0.0201	-1.3756	0.1514	-0.4426	0.0647
1	60.12	0.6998	-0.0924	0.0034	-0.0249	0.0251	-1.7715	0.1761	-0.4475	0.0553
1	60.12	0.7500	-0.1465	0.0046	-0.0351	0.0287	-2.2332	0.1974	-0.2510	0.0590
1	60.12	0.8001	-0.1851	0.0049	-0.0555	0.0328	-2.7404	0.2199	-0.2271	0.0487
1	60.12	0.8497	-0.2355	0.0060	-0.0395	0.0376	-3.3499	0.2403	-0.2850	0.0583
1	60.12	0.9102	-0.3102	0.0062	0.0009	0.0436	-4.1574	0.2642	-0.5505	0.0552
1	60.12	0.9734	-0.3104	0.0084	0.0704	0.0503	-5.0242	0.2923	-0.5589	0.0646

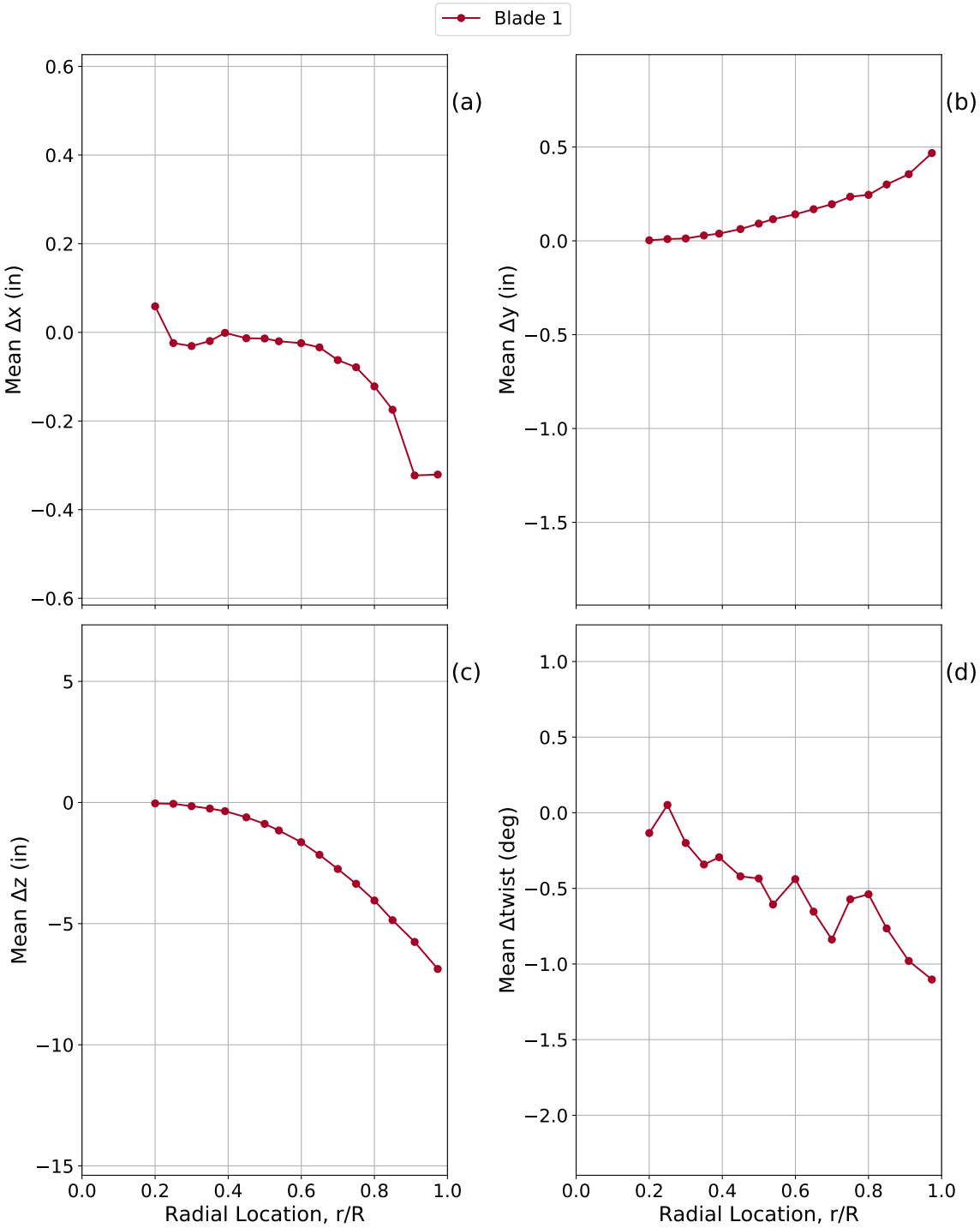


Figure 3.1-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$ NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0586	0.0027	0.0028	0.0017	-0.0386	0.0028	-0.1341	0.0260
1	74.88	0.2499	-0.0242	0.0009	0.0095	0.0022	-0.0548	0.0036	0.0517	0.0636
1	74.88	0.2998	-0.0309	0.0015	0.0125	0.0067	-0.1513	0.0098	-0.1998	0.0670
1	74.88	0.3498	-0.0196	0.0009	0.0284	0.0099	-0.2503	0.0151	-0.3422	0.0711
1	74.88	0.3913	-0.0011	0.0014	0.0383	0.0148	-0.3570	0.0217	-0.2942	0.0608
1	74.88	0.4496	-0.0133	0.0018	0.0626	0.0197	-0.6114	0.0325	-0.4205	0.0712
1	74.88	0.4997	-0.0138	0.0021	0.0918	0.0243	-0.8824	0.0450	-0.4346	0.0636
1	74.88	0.5387	-0.0201	0.0023	0.1152	0.0291	-1.1545	0.0540	-0.6064	0.0696
1	74.88	0.5996	-0.0244	0.0029	0.1413	0.0350	-1.6373	0.0635	-0.4385	0.0746
1	74.88	0.6498	-0.0339	0.0030	0.1685	0.0415	-2.1594	0.0729	-0.6537	0.0896
1	74.88	0.6998	-0.0625	0.0030	0.1952	0.0477	-2.7436	0.0789	-0.8380	0.0923
1	74.88	0.7500	-0.0788	0.0075	0.2349	0.0532	-3.3560	0.0858	-0.5719	0.0808
1	74.88	0.8001	-0.1219	0.0071	0.2449	0.0567	-4.0450	0.1008	-0.5389	0.2555
1	74.88	0.8497	-0.1746	0.0061	0.3002	0.0681	-4.8568	0.1081	-0.7647	0.1658
1	74.88	0.9102	-0.3228	0.0055	0.3552	0.0758	-5.7566	0.1188	-0.9796	0.0733
1	74.88	0.9734	-0.3208	0.0065	0.4676	0.0853	-6.8712	0.1347	-1.1026	0.0883

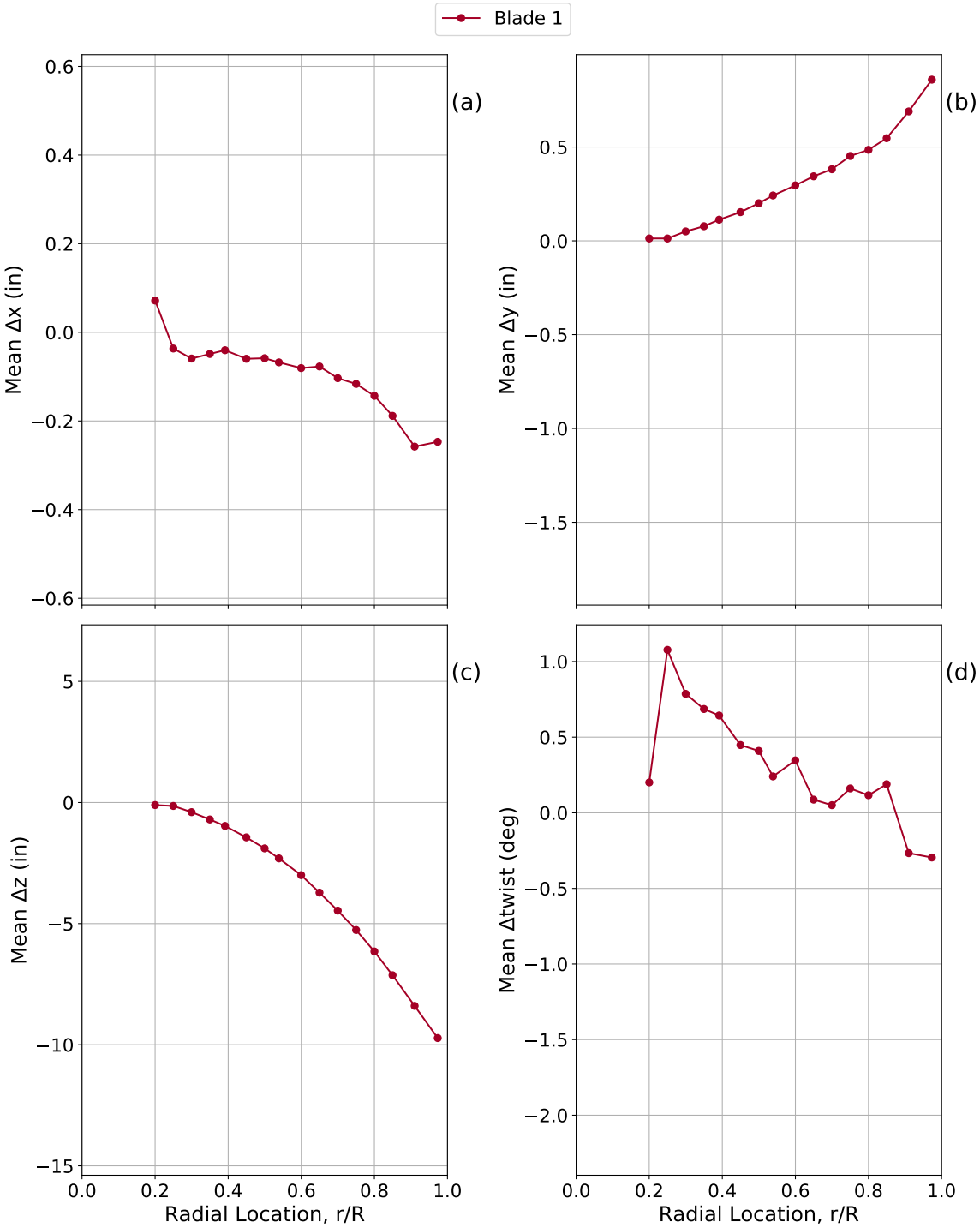


Figure 3.1-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0717	0.0035	0.0128	0.0025	-0.1041	0.0066	0.2009	0.0487
1	80.16	0.2499	-0.0366	0.0024	0.0127	0.0025	-0.1412	0.0086	1.0769	0.1211
1	80.16	0.2998	-0.0592	0.0026	0.0503	0.0085	-0.3970	0.0256	0.7863	0.1270
1	80.16	0.3498	-0.0488	0.0034	0.0779	0.0143	-0.6986	0.0428	0.6861	0.1320
1	80.16	0.3913	-0.0404	0.0027	0.1128	0.0195	-0.9663	0.0601	0.6431	0.1214
1	80.16	0.4496	-0.0597	0.0031	0.1530	0.0273	-1.4376	0.0830	0.4479	0.1230
1	80.16	0.4997	-0.0584	0.0029	0.2005	0.0338	-1.8922	0.1057	0.4091	0.1228
1	80.16	0.5387	-0.0678	0.0044	0.2419	0.0403	-2.3057	0.1245	0.2405	0.1150
1	80.16	0.5996	-0.0807	0.0045	0.2955	0.0486	-2.9967	0.1530	0.3463	0.1240
1	80.16	0.6498	-0.0771	0.0054	0.3440	0.0562	-3.7194	0.1792	0.0871	0.1215
1	80.16	0.6998	-0.1035	0.0064	0.3817	0.0639	-4.4623	0.2027	0.0504	0.1314
1	80.16	0.7500	-0.1165	0.0080	0.4521	0.0716	-5.2637	0.2286	0.1610	0.1183
1	80.16	0.8001	-0.1433	0.0094	0.4850	0.0789	-6.1503	0.2538	0.1160	0.1185
1	80.16	0.8497	-0.1885	0.0109	0.5468	0.0857	-7.1305	0.2784	0.1891	0.1241
1	80.16	0.9102	-0.2578	0.0129	0.6895	0.0942	-8.3974	0.3112	-0.2666	0.1246
1	80.16	0.9734	-0.2470	0.0146	0.8588	0.1030	-9.7252	0.3491	-0.2955	0.1251

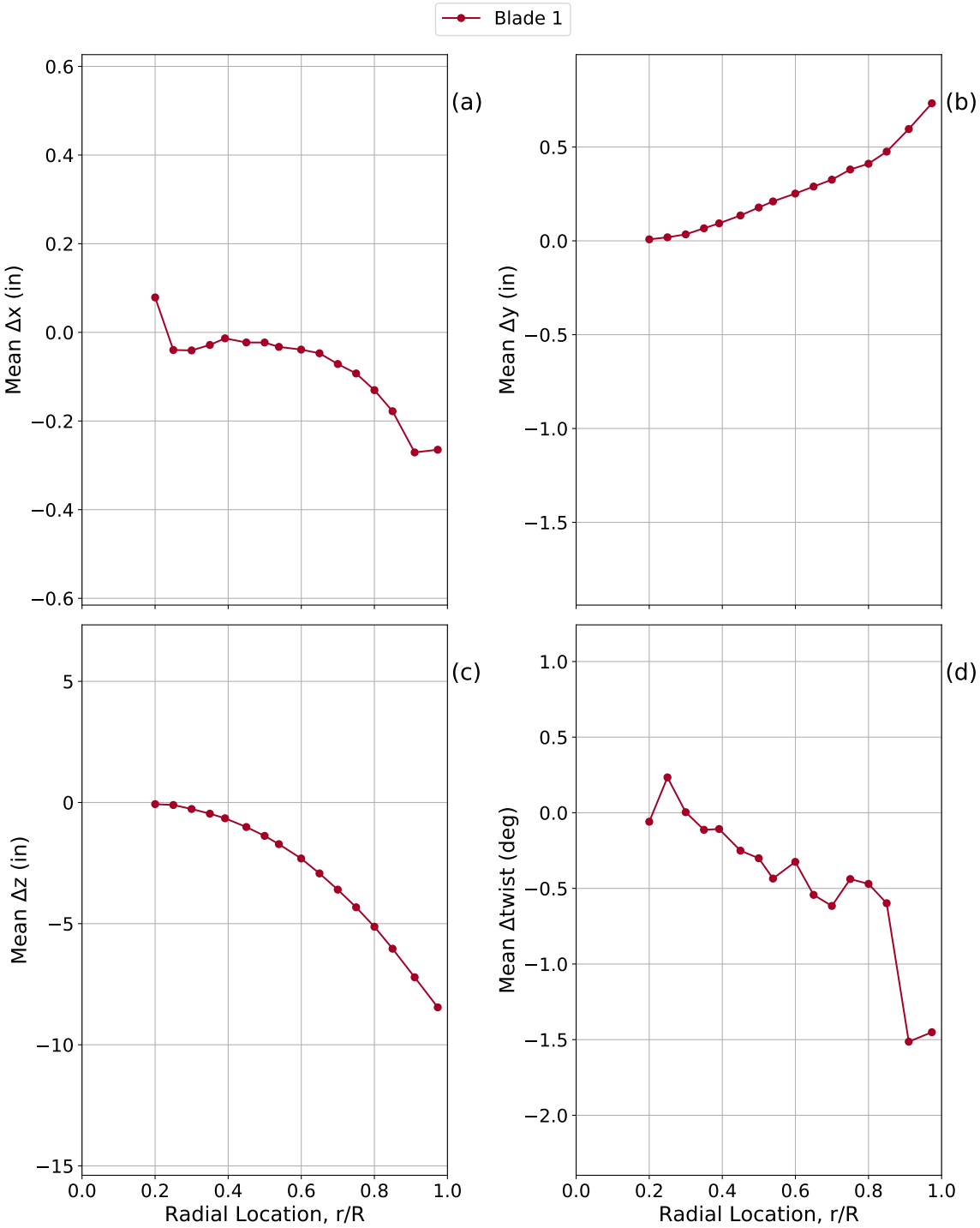


Figure 3.1-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0788	0.0049	0.0079	0.0023	-0.0678	0.0037	-0.0592	0.0456
1	85.08	0.2499	-0.0398	0.0011	0.0188	0.0034	-0.1033	0.0069	0.2339	0.0975
1	85.08	0.2998	-0.0407	0.0010	0.0345	0.0081	-0.2683	0.0137	0.0037	0.1133
1	85.08	0.3498	-0.0284	0.0014	0.0667	0.0155	-0.4611	0.0258	-0.1126	0.0972
1	85.08	0.3913	-0.0135	0.0015	0.0933	0.0205	-0.6511	0.0352	-0.1075	0.1052
1	85.08	0.4496	-0.0228	0.0018	0.1352	0.0269	-1.0121	0.0525	-0.2504	0.1028
1	85.08	0.4997	-0.0229	0.0019	0.1777	0.0342	-1.3778	0.0688	-0.3007	0.1023
1	85.08	0.5387	-0.0328	0.0020	0.2100	0.0392	-1.7191	0.0817	-0.4349	0.1001
1	85.08	0.5996	-0.0389	0.0026	0.2519	0.0487	-2.3108	0.1056	-0.3246	0.1042
1	85.08	0.6498	-0.0472	0.0035	0.2892	0.0560	-2.9274	0.1277	-0.5428	0.1108
1	85.08	0.6998	-0.0714	0.0028	0.3259	0.0635	-3.5963	0.1494	-0.6160	0.1055
1	85.08	0.7500	-0.0927	0.0050	0.3800	0.0716	-4.3249	0.1752	-0.4383	0.0984
1	85.08	0.8001	-0.1304	0.0070	0.4109	0.0801	-5.1270	0.2021	-0.4701	0.0954
1	85.08	0.8497	-0.1779	0.0080	0.4753	0.0888	-6.0353	0.2270	-0.5980	0.1149
1	85.08	0.9102	-0.2708	0.0107	0.5957	0.0992	-7.2134	0.2665	-1.5134	0.1054
1	85.08	0.9734	-0.2648	0.0104	0.7329	0.1083	-8.4550	0.3093	-1.4510	0.1270

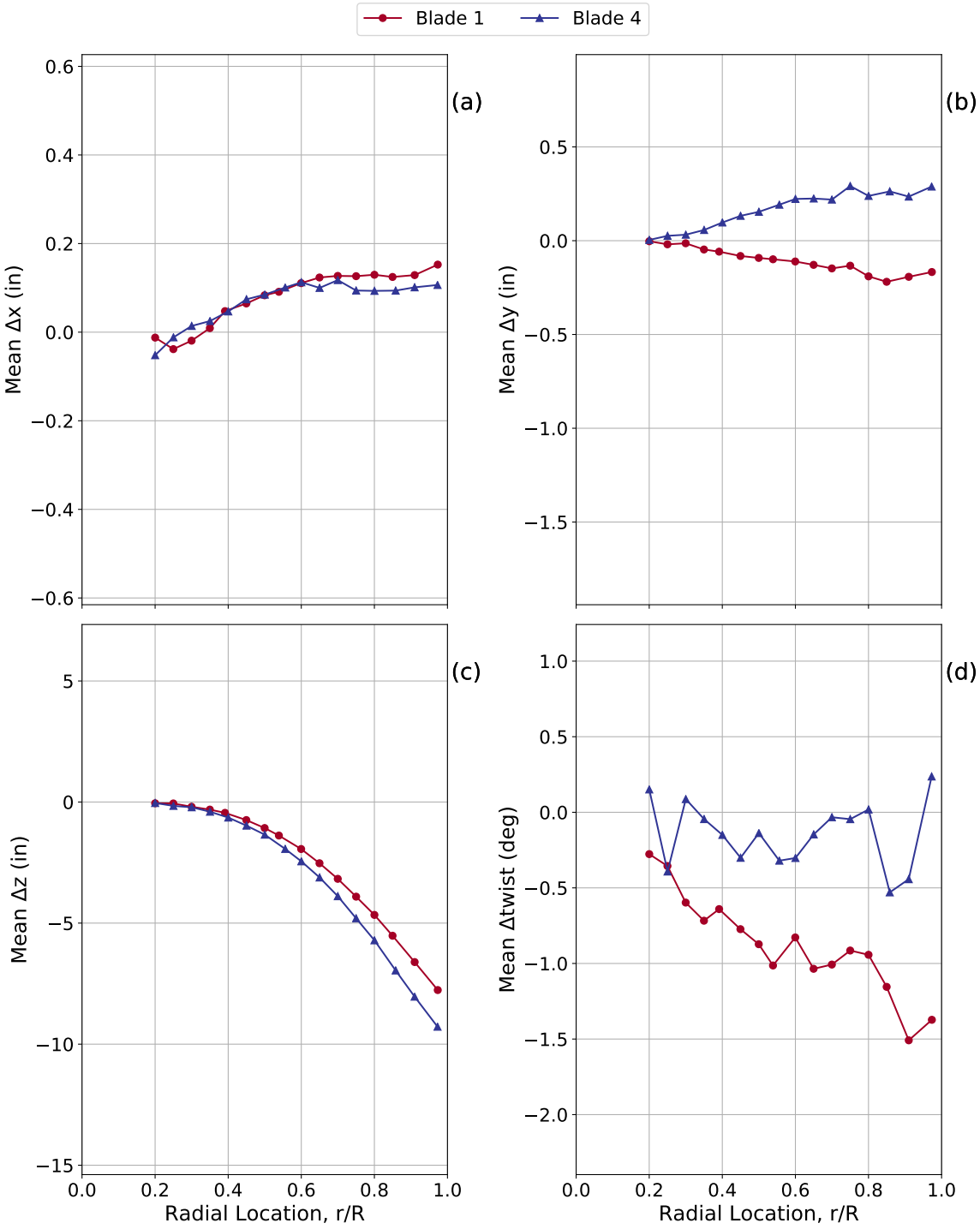


Figure 3.1-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$ NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0123	0.0013	-0.0030	0.0006	-0.0508	0.0029	-0.2767	0.0220
1	90	0.2499	-0.0383	0.0008	-0.0194	0.0016	-0.0582	0.0079	-0.3553	0.0272
1	90	0.2998	-0.0192	0.0009	-0.0138	0.0029	-0.1955	0.0137	-0.5973	0.0447
1	90	0.3498	0.0091	0.0011	-0.0470	0.0049	-0.3123	0.0227	-0.7172	0.0438
1	90	0.3913	0.0475	0.0011	-0.0584	0.0073	-0.4466	0.0344	-0.6404	0.0479
1	90	0.4496	0.0648	0.0022	-0.0816	0.0097	-0.7447	0.0481	-0.7731	0.0485
1	90	0.4997	0.0833	0.0023	-0.0918	0.0129	-1.0738	0.0635	-0.8727	0.0463
1	90	0.5387	0.0911	0.0023	-0.0991	0.0151	-1.3834	0.0743	-1.0135	0.0522
1	90	0.5996	0.1107	0.0027	-0.1109	0.0198	-1.9406	0.0949	-0.8279	0.0504
1	90	0.6498	0.1234	0.0030	-0.1288	0.0239	-2.5276	0.1119	-1.0353	0.0511
1	90	0.6998	0.1270	0.0036	-0.1478	0.0276	-3.1718	0.1268	-1.0073	0.0569
1	90	0.7500	0.1264	0.0049	-0.1333	0.0324	-3.9079	0.1422	-0.9145	0.0583
1	90	0.8001	0.1296	0.0052	-0.1902	0.0379	-4.6620	0.1632	-0.9427	0.0984
1	90	0.8497	0.1246	0.0079	-0.2191	0.0421	-5.5219	0.1710	-1.1548	0.0831
1	90	0.9102	0.1288	0.0097	-0.1926	0.0505	-6.6095	0.1979	-1.5085	0.2335
1	90	0.9734	0.1525	0.0101	-0.1670	0.0569	-7.7649	0.2396	-1.3727	0.1207
4	90.35	0.2001	-0.0520	0.0011	0.0041	0.0008	-0.0405	0.0040	0.1512	0.0230
4	90.35	0.2502	-0.0117	0.0011	0.0259	0.0017	-0.1592	0.0074	-0.3919	0.0377
4	90.35	0.3001	0.0140	0.0014	0.0319	0.0030	-0.2168	0.0154	0.0873	0.0518
4	90.35	0.3502	0.0251	0.0016	0.0571	0.0059	-0.4001	0.0263	-0.0451	0.0464
4	90.35	0.4002	0.0468	0.0015	0.0970	0.0086	-0.6413	0.0403	-0.1497	0.0548
4	90.35	0.4500	0.0742	0.0019	0.1325	0.0112	-0.9752	0.0553	-0.3011	0.0434
4	90.35	0.5001	0.0848	0.0027	0.1539	0.0141	-1.3478	0.0703	-0.1375	0.0473
4	90.35	0.5560	0.1008	0.0029	0.1918	0.0181	-1.9369	0.0897	-0.3201	0.0408
4	90.35	0.6001	0.1126	0.0035	0.2225	0.0213	-2.4493	0.1042	-0.3024	0.0450
4	90.35	0.6501	0.0999	0.0045	0.2248	0.0258	-3.1164	0.1223	-0.1465	0.0408
4	90.35	0.6999	0.1175	0.0050	0.2191	0.0297	-3.8899	0.1393	-0.0328	0.0423
4	90.35	0.7500	0.0940	0.0066	0.2915	0.0361	-4.8013	0.1596	-0.0455	0.0315
4	90.35	0.8002	0.0932	0.0083	0.2387	0.0406	-5.7120	0.1791	0.0185	0.0580
4	90.35	0.8582	0.0938	0.0097	0.2627	0.0474	-6.9566	0.2004	-0.5298	0.0900
4	90.35	0.9101	0.1012	0.0105	0.2350	0.0532	-8.0383	0.2306	-0.4426	0.0734
4	90.35	0.9728	0.1065	0.0116	0.2885	0.0628	-9.2800	0.2497	0.2369	0.0420

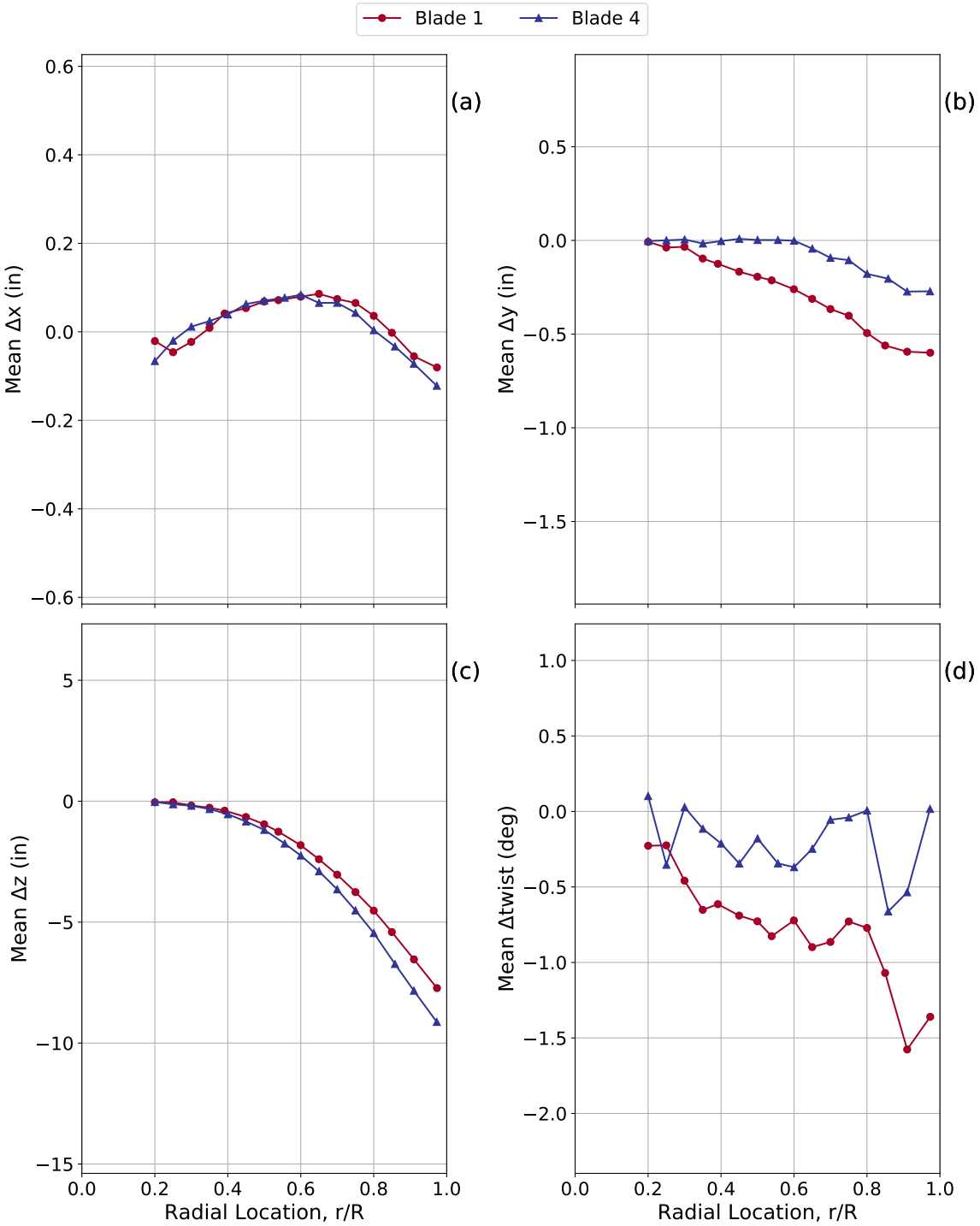


Figure 3.1-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$ NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0209	0.0008	-0.0075	0.0007	-0.0455	0.0028	-0.2273	0.0362
1	94.92	0.2499	-0.0461	0.0011	-0.0376	0.0022	-0.0425	0.0069	-0.2246	0.0517
1	94.92	0.2998	-0.0228	0.0012	-0.0341	0.0034	-0.1770	0.0124	-0.4585	0.0797
1	94.92	0.3498	0.0089	0.0015	-0.0968	0.0056	-0.2699	0.0215	-0.6514	0.0535
1	94.92	0.3913	0.0413	0.0018	-0.1247	0.0086	-0.3914	0.0314	-0.6140	0.0774
1	94.92	0.4496	0.0536	0.0023	-0.1668	0.0111	-0.6533	0.0408	-0.6898	0.0700
1	94.92	0.4997	0.0684	0.0026	-0.1936	0.0152	-0.9543	0.0492	-0.7275	0.0733
1	94.92	0.5387	0.0716	0.0024	-0.2130	0.0183	-1.2613	0.0541	-0.8262	0.0705
1	94.92	0.5996	0.0794	0.0026	-0.2603	0.0249	-1.8182	0.0650	-0.7218	0.0658
1	94.92	0.6498	0.0858	0.0029	-0.3119	0.0300	-2.4000	0.0724	-0.8985	0.0732
1	94.92	0.6998	0.0741	0.0036	-0.3663	0.0357	-3.0366	0.0808	-0.8642	0.0657
1	94.92	0.7500	0.0652	0.0032	-0.4018	0.0413	-3.7577	0.0910	-0.7287	0.0658
1	94.92	0.8001	0.0361	0.0042	-0.4942	0.0486	-4.5245	0.1018	-0.7715	0.0828
1	94.92	0.8497	-0.0021	0.0053	-0.5608	0.0542	-5.4111	0.1130	-1.0696	0.0764
1	94.92	0.9102	-0.0553	0.0068	-0.5938	0.0613	-6.5399	0.1250	-1.5762	0.1524
1	94.92	0.9734	-0.0806	0.0090	-0.5993	0.0735	-7.7267	0.1443	-1.3599	0.1632
4	94.92	0.2001	-0.0661	0.0014	-0.0031	0.0009	-0.0324	0.0027	0.1019	0.0237
4	94.92	0.2502	-0.0200	0.0010	0.0004	0.0021	-0.1278	0.0068	-0.3533	0.0376
4	94.92	0.3001	0.0117	0.0012	0.0050	0.0040	-0.1889	0.0111	0.0279	0.0494
4	94.92	0.3502	0.0243	0.0015	-0.0164	0.0062	-0.3258	0.0196	-0.1148	0.0483
4	94.92	0.4002	0.0392	0.0012	-0.0035	0.0100	-0.5396	0.0302	-0.2129	0.0422
4	94.92	0.4500	0.0626	0.0017	0.0085	0.0121	-0.8397	0.0376	-0.3448	0.0451
4	94.92	0.5001	0.0704	0.0023	0.0024	0.0160	-1.1867	0.0484	-0.1792	0.0535
4	94.92	0.5560	0.0770	0.0022	0.0023	0.0201	-1.7524	0.0588	-0.3443	0.0593
4	94.92	0.6001	0.0836	0.0021	-0.0013	0.0228	-2.2484	0.0673	-0.3691	0.0523
4	94.92	0.6501	0.0654	0.0025	-0.0437	0.0267	-2.8989	0.0773	-0.2475	0.0484
4	94.92	0.6999	0.0655	0.0030	-0.0928	0.0319	-3.6450	0.0838	-0.0551	0.0619
4	94.92	0.7500	0.0429	0.0032	-0.1053	0.0364	-4.5169	0.0917	-0.0400	0.0685
4	94.92	0.8002	0.0036	0.0038	-0.1782	0.0414	-5.4534	0.1002	0.0058	0.0608
4	94.92	0.8582	-0.0332	0.0053	-0.2044	0.0476	-6.7300	0.1070	-0.6627	0.1051
4	94.92	0.9101	-0.0722	0.0043	-0.2729	0.0521	-7.8366	0.1175	-0.5353	0.0797
4	94.92	0.9728	-0.1220	0.0058	-0.2715	0.0593	-9.1260	0.1356	0.0167	0.0722

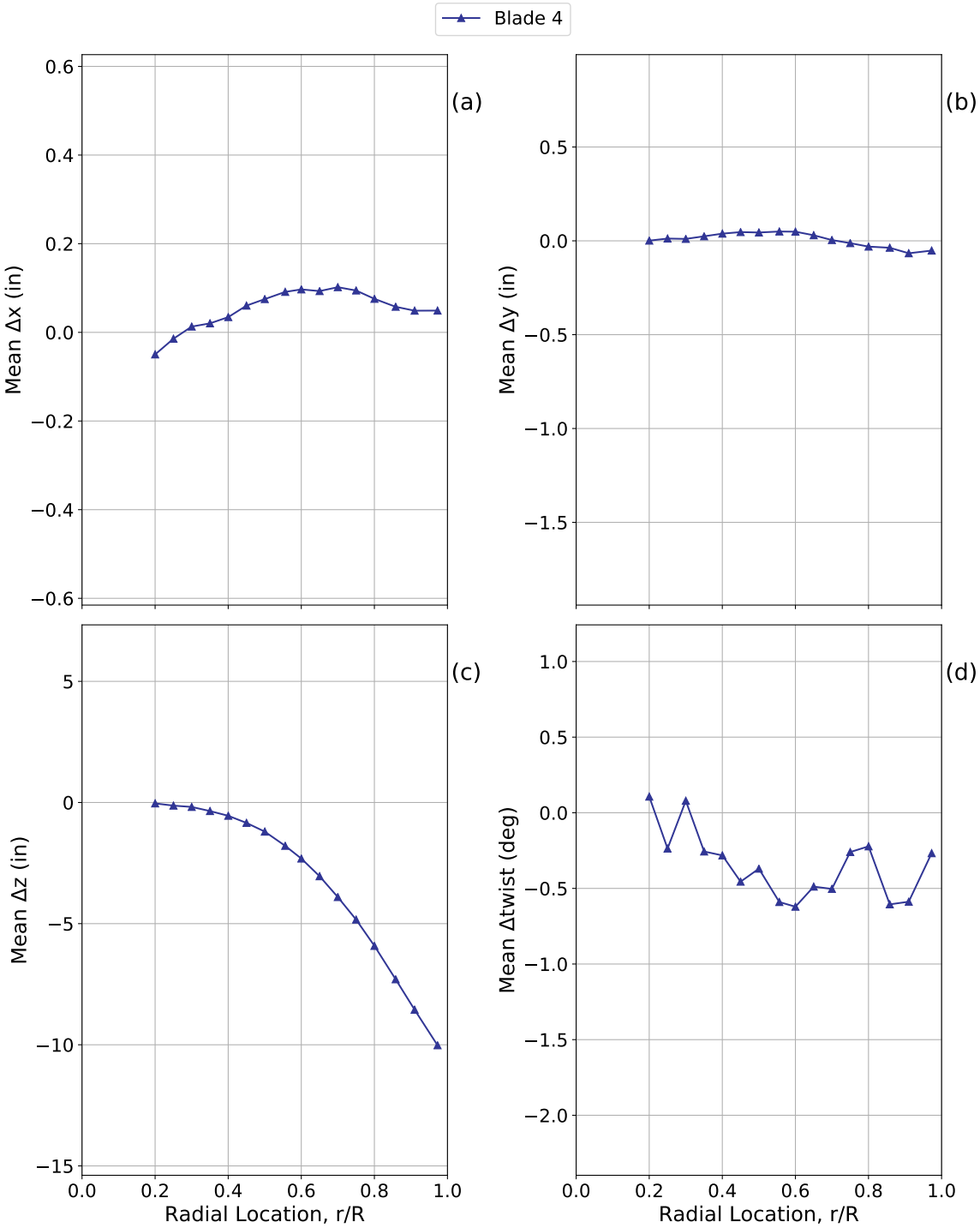


Figure 3.1-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0498	0.0009	0.0011	0.0007	-0.0382	0.0021	0.1067	0.0234
4	105.12	0.2502	-0.0144	0.0016	0.0121	0.0011	-0.1291	0.0062	-0.2367	0.0202
4	105.12	0.3001	0.0130	0.0012	0.0103	0.0021	-0.1834	0.0098	0.0793	0.0452
4	105.12	0.3502	0.0203	0.0012	0.0242	0.0036	-0.3538	0.0170	-0.2561	0.0447
4	105.12	0.4002	0.0344	0.0017	0.0383	0.0053	-0.5489	0.0273	-0.2820	0.0482
4	105.12	0.4500	0.0603	0.0012	0.0466	0.0077	-0.8421	0.0350	-0.4557	0.0381
4	105.12	0.5001	0.0750	0.0017	0.0444	0.0099	-1.2021	0.0427	-0.3696	0.0521
4	105.12	0.5560	0.0913	0.0022	0.0496	0.0138	-1.7891	0.0526	-0.5902	0.0519
4	105.12	0.6001	0.0969	0.0025	0.0487	0.0166	-2.3146	0.0594	-0.6212	0.0481
4	105.12	0.6501	0.0931	0.0023	0.0297	0.0198	-3.0441	0.0670	-0.4883	0.0570
4	105.12	0.6999	0.1019	0.0031	0.0041	0.0236	-3.9036	0.0745	-0.5034	0.0535
4	105.12	0.7500	0.0944	0.0040	-0.0123	0.0273	-4.8336	0.0837	-0.2598	0.0571
4	105.12	0.8002	0.0756	0.0048	-0.0308	0.0315	-5.9195	0.0924	-0.2220	0.0646
4	105.12	0.8582	0.0577	0.0059	-0.0369	0.0365	-7.2979	0.1025	-0.6056	0.0534
4	105.12	0.9101	0.0489	0.0069	-0.0663	0.0405	-8.5547	0.1113	-0.5882	0.0545
4	105.12	0.9728	0.0491	0.0085	-0.0520	0.0461	-10.0213	0.1258	-0.2673	0.0472

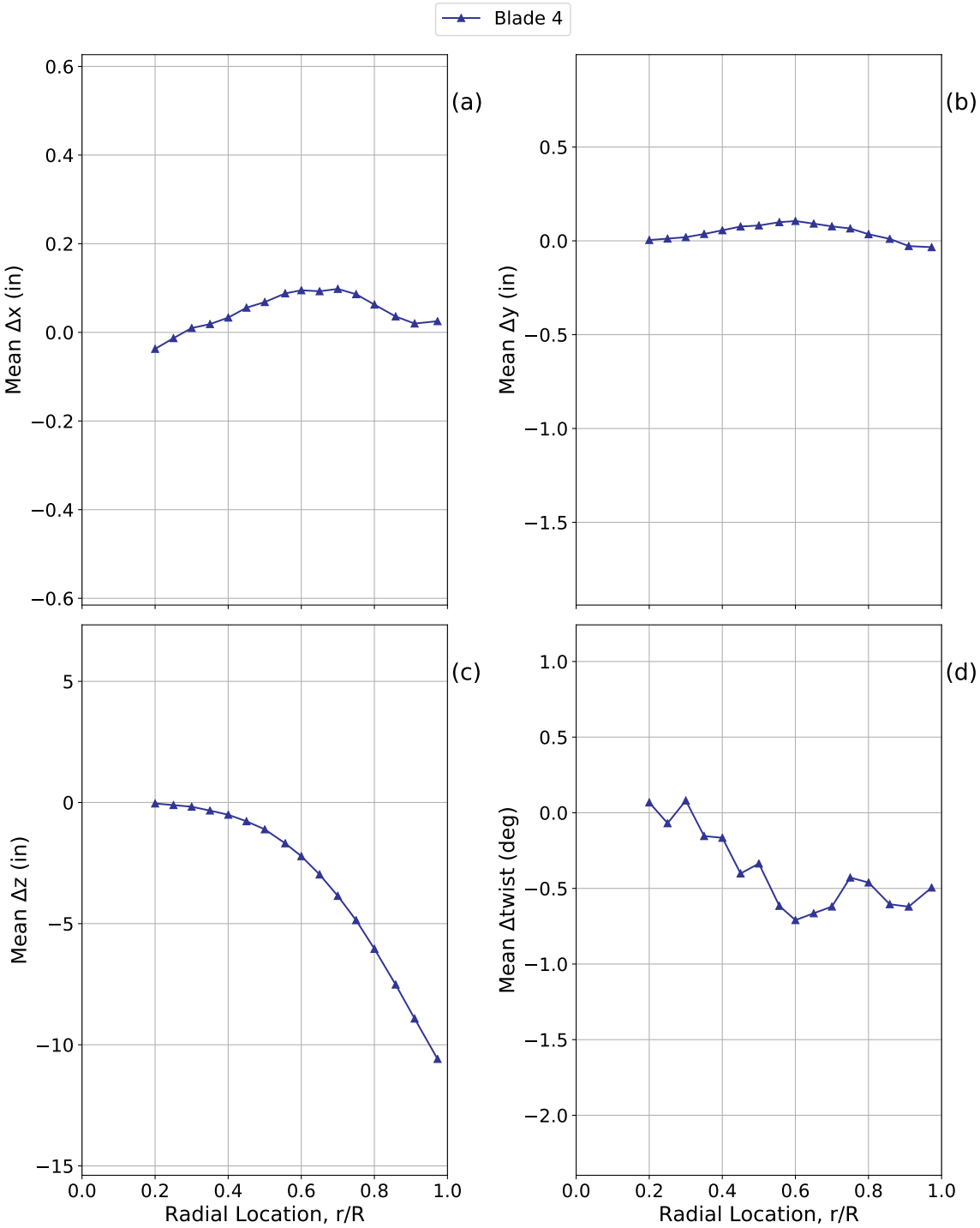


Figure 3.1-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0373	0.0011	0.0042	0.0004	-0.0416	0.0033	0.0681	0.0248
4	119.88	0.2502	-0.0131	0.0008	0.0117	0.0016	-0.1074	0.0031	-0.0694	0.0418
4	119.88	0.3001	0.0097	0.0009	0.0194	0.0027	-0.1753	0.0125	0.0809	0.0534
4	119.88	0.3502	0.0186	0.0017	0.0363	0.0039	-0.3339	0.0156	-0.1541	0.0394
4	119.88	0.4002	0.0333	0.0016	0.0562	0.0069	-0.5063	0.0257	-0.1656	0.0472
4	119.88	0.4500	0.0556	0.0014	0.0761	0.0084	-0.7759	0.0356	-0.4017	0.0438
4	119.88	0.5001	0.0683	0.0025	0.0818	0.0123	-1.1093	0.0468	-0.3357	0.0337
4	119.88	0.5560	0.0879	0.0022	0.0993	0.0162	-1.6858	0.0603	-0.6157	0.0452
4	119.88	0.6001	0.0949	0.0016	0.1055	0.0208	-2.2173	0.0724	-0.7098	0.0396
4	119.88	0.6501	0.0927	0.0023	0.0916	0.0246	-2.9722	0.0848	-0.6647	0.0641
4	119.88	0.6999	0.0980	0.0027	0.0770	0.0297	-3.8561	0.1018	-0.6202	0.0529
4	119.88	0.7500	0.0860	0.0037	0.0658	0.0354	-4.8591	0.1199	-0.4286	0.0612
4	119.88	0.8002	0.0626	0.0045	0.0352	0.0415	-6.0431	0.1378	-0.4614	0.0640
4	119.88	0.8582	0.0358	0.0059	0.0104	0.0492	-7.5180	0.1603	-0.6049	0.0617
4	119.88	0.9101	0.0199	0.0070	-0.0280	0.0559	-8.9198	0.1805	-0.6207	0.0728
4	119.88	0.9728	0.0252	0.0085	-0.0340	0.0645	-10.5854	0.2055	-0.4947	0.0768

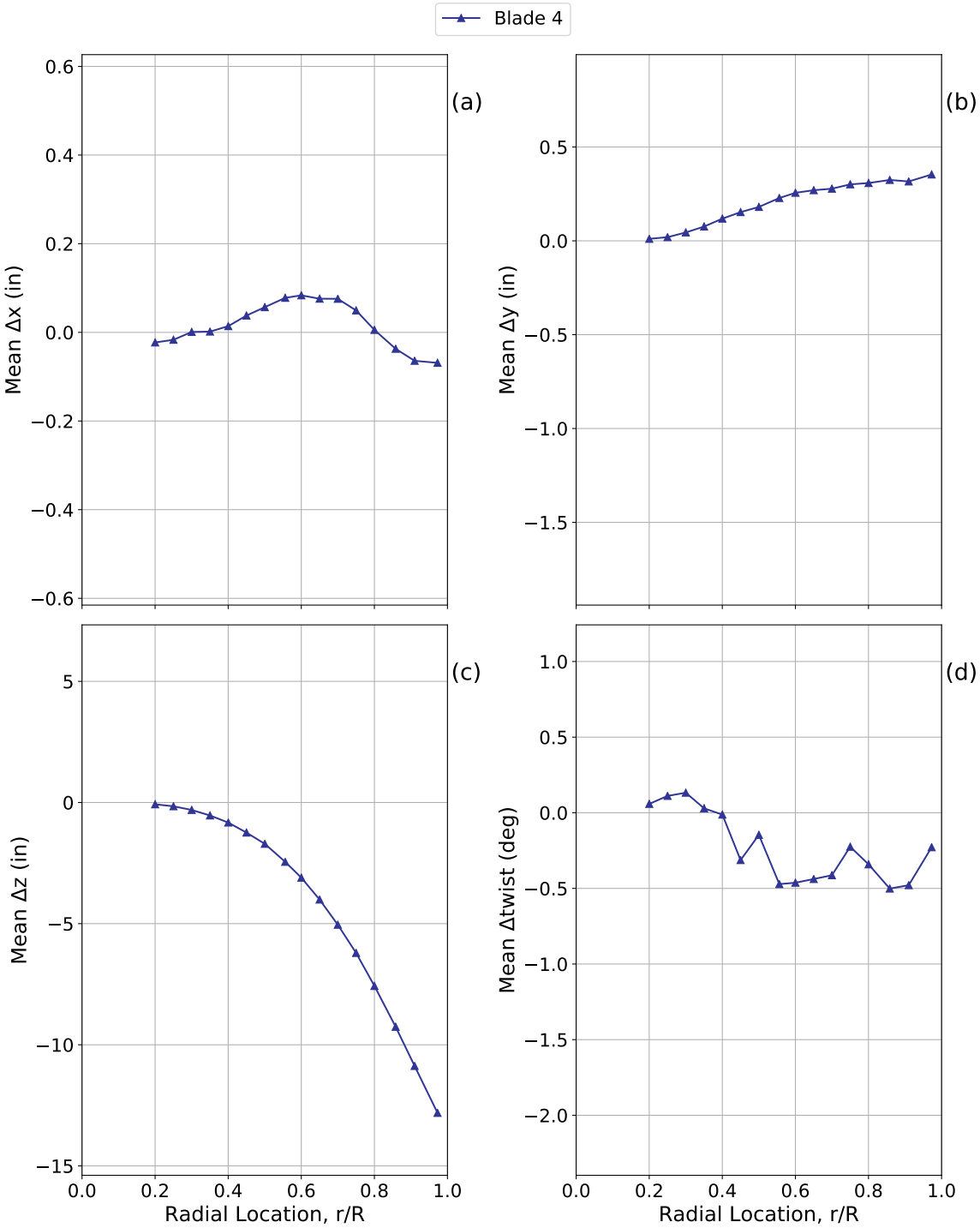


Figure 3.1-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0228	0.0012	0.0106	0.0007	-0.0747	0.0028	0.0586	0.0220
4	135	0.2502	-0.0168	0.0016	0.0195	0.0023	-0.1565	0.0039	0.1114	0.0542
4	135	0.3001	0.0009	0.0009	0.0446	0.0034	-0.3081	0.0082	0.1325	0.0574
4	135	0.3502	0.0017	0.0013	0.0761	0.0062	-0.5360	0.0153	0.0292	0.0293
4	135	0.4002	0.0140	0.0019	0.1182	0.0097	-0.8285	0.0214	-0.0123	0.0265
4	135	0.4500	0.0379	0.0022	0.1529	0.0110	-1.2427	0.0293	-0.3129	0.0392
4	135	0.5001	0.0568	0.0027	0.1806	0.0130	-1.7056	0.0371	-0.1462	0.0345
4	135	0.5560	0.0779	0.0027	0.2281	0.0159	-2.4494	0.0508	-0.4717	0.0288
4	135	0.6001	0.0835	0.0030	0.2559	0.0179	-3.1042	0.0603	-0.4625	0.0546
4	135	0.6501	0.0759	0.0040	0.2697	0.0211	-4.0070	0.0805	-0.4381	0.0330
4	135	0.6999	0.0757	0.0052	0.2778	0.0236	-5.0460	0.1018	-0.4132	0.0307
4	135	0.7500	0.0494	0.0067	0.3009	0.0273	-6.2111	0.1271	-0.2249	0.0381
4	135	0.8002	0.0055	0.0093	0.3080	0.0305	-7.5737	0.1590	-0.3410	0.0291
4	135	0.8582	-0.0371	0.0127	0.3244	0.0351	-9.2587	0.1975	-0.5014	0.0415
4	135	0.9101	-0.0642	0.0153	0.3163	0.0393	-10.8751	0.2336	-0.4789	0.0368
4	135	0.9728	-0.0688	0.0189	0.3535	0.0443	-12.8125	0.2778	-0.2279	0.0375

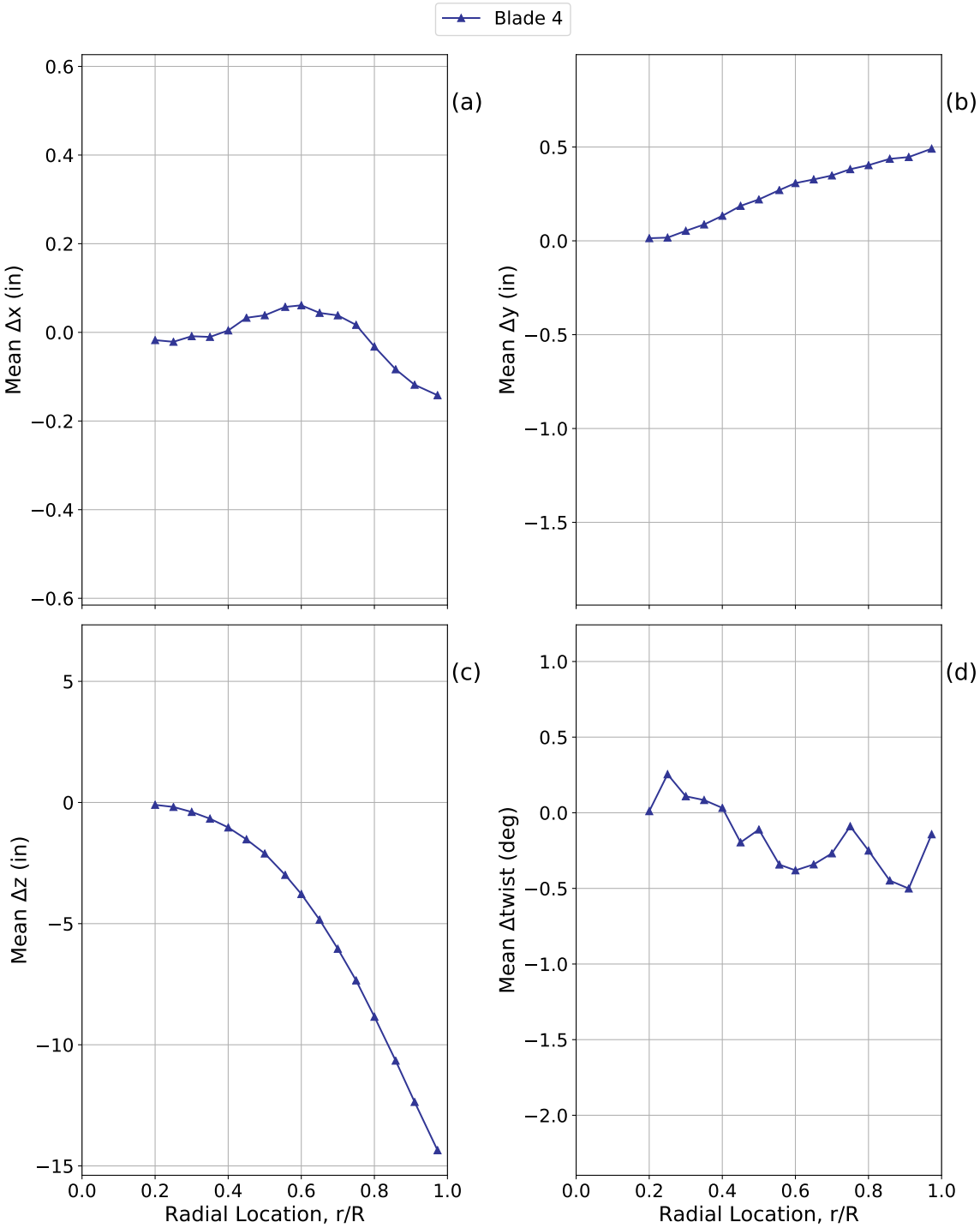


Figure 3.1-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0175	0.0011	0.0139	0.0014	-0.0970	0.0026	0.0104	0.0225
4	150.12	0.2502	-0.0213	0.0025	0.0171	0.0022	-0.1844	0.0074	0.2544	0.0489
4	150.12	0.3001	-0.0087	0.0008	0.0531	0.0055	-0.3910	0.0121	0.1089	0.0506
4	150.12	0.3502	-0.0103	0.0019	0.0871	0.0089	-0.6684	0.0158	0.0839	0.0528
4	150.12	0.4002	0.0043	0.0017	0.1334	0.0138	-1.0321	0.0293	0.0320	0.0318
4	150.12	0.4500	0.0329	0.0022	0.1862	0.0171	-1.5229	0.0313	-0.1959	0.0568
4	150.12	0.5001	0.0385	0.0027	0.2206	0.0210	-2.1070	0.0437	-0.1109	0.0385
4	150.12	0.5560	0.0574	0.0025	0.2703	0.0263	-2.9900	0.0536	-0.3427	0.0521
4	150.12	0.6001	0.0610	0.0022	0.3076	0.0309	-3.7810	0.0658	-0.3807	0.0482
4	150.12	0.6501	0.0439	0.0050	0.3271	0.0355	-4.8409	0.0780	-0.3416	0.0576
4	150.12	0.6999	0.0383	0.0061	0.3481	0.0398	-6.0398	0.0952	-0.2685	0.0493
4	150.12	0.7500	0.0168	0.0069	0.3816	0.0449	-7.3463	0.1147	-0.0895	0.0506
4	150.12	0.8002	-0.0322	0.0087	0.4031	0.0507	-8.8451	0.1325	-0.2503	0.0459
4	150.12	0.8582	-0.0834	0.0113	0.4369	0.0576	-10.6563	0.1572	-0.4483	0.0544
4	150.12	0.9101	-0.1183	0.0135	0.4463	0.0640	-12.3608	0.1785	-0.5009	0.0540
4	150.12	0.9728	-0.1419	0.0167	0.4909	0.0722	-14.3546	0.2058	-0.1425	0.0532

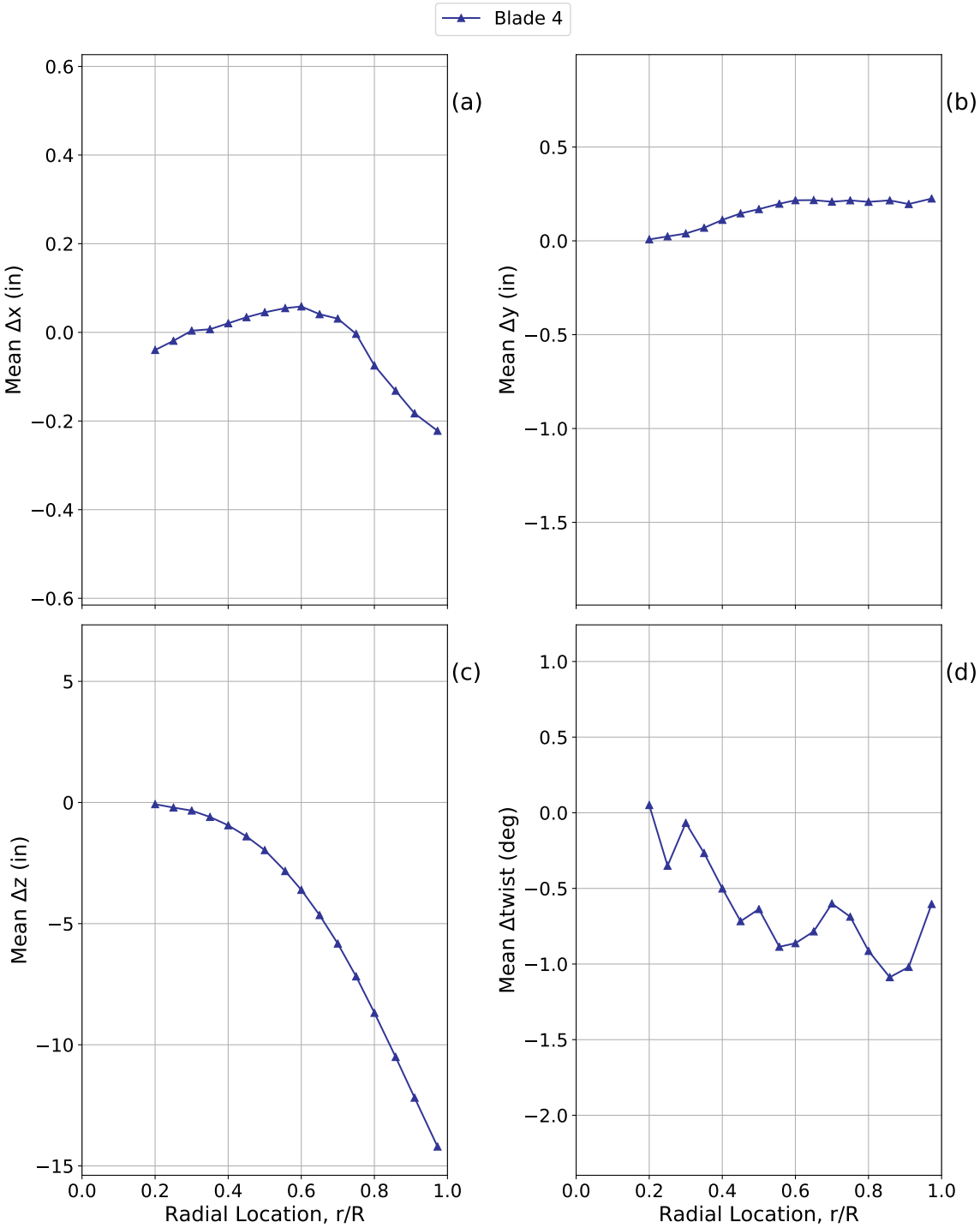


Figure 3.1-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0398	0.0007	0.0075	0.0006	-0.0716	0.0019	0.0509	0.0233
4	164.88	0.2502	-0.0191	0.0009	0.0234	0.0023	-0.2101	0.0086	-0.3506	0.0352
4	164.88	0.3001	0.0038	0.0016	0.0390	0.0039	-0.3345	0.0128	-0.0670	0.0480
4	164.88	0.3502	0.0070	0.0018	0.0695	0.0059	-0.5980	0.0182	-0.2667	0.0548
4	164.88	0.4002	0.0205	0.0020	0.1115	0.0103	-0.9437	0.0332	-0.5011	0.0521
4	164.88	0.4500	0.0341	0.0035	0.1462	0.0130	-1.3997	0.0447	-0.7172	0.0449
4	164.88	0.5001	0.0452	0.0027	0.1687	0.0167	-1.9678	0.0644	-0.6371	0.0467
4	164.88	0.5560	0.0546	0.0039	0.1974	0.0201	-2.8326	0.0850	-0.8863	0.0740
4	164.88	0.6001	0.0584	0.0040	0.2162	0.0241	-3.6083	0.1072	-0.8625	0.0665
4	164.88	0.6501	0.0409	0.0055	0.2168	0.0274	-4.6502	0.1251	-0.7847	0.0578
4	164.88	0.6999	0.0309	0.0062	0.2082	0.0310	-5.8257	0.1433	-0.6007	0.0574
4	164.88	0.7500	-0.0035	0.0068	0.2156	0.0370	-7.1802	0.1628	-0.6874	0.0609
4	164.88	0.8002	-0.0749	0.0096	0.2076	0.0404	-8.6838	0.1704	-0.9135	0.0699
4	164.88	0.8582	-0.1318	0.0114	0.2156	0.0464	-10.5059	0.1866	-1.0874	0.1004
4	164.88	0.9101	-0.1829	0.0143	0.1958	0.0506	-12.1867	0.2036	-1.0196	0.0646
4	164.88	0.9728	-0.2222	0.0125	0.2252	0.0595	-14.2045	0.2152	-0.6036	0.1128

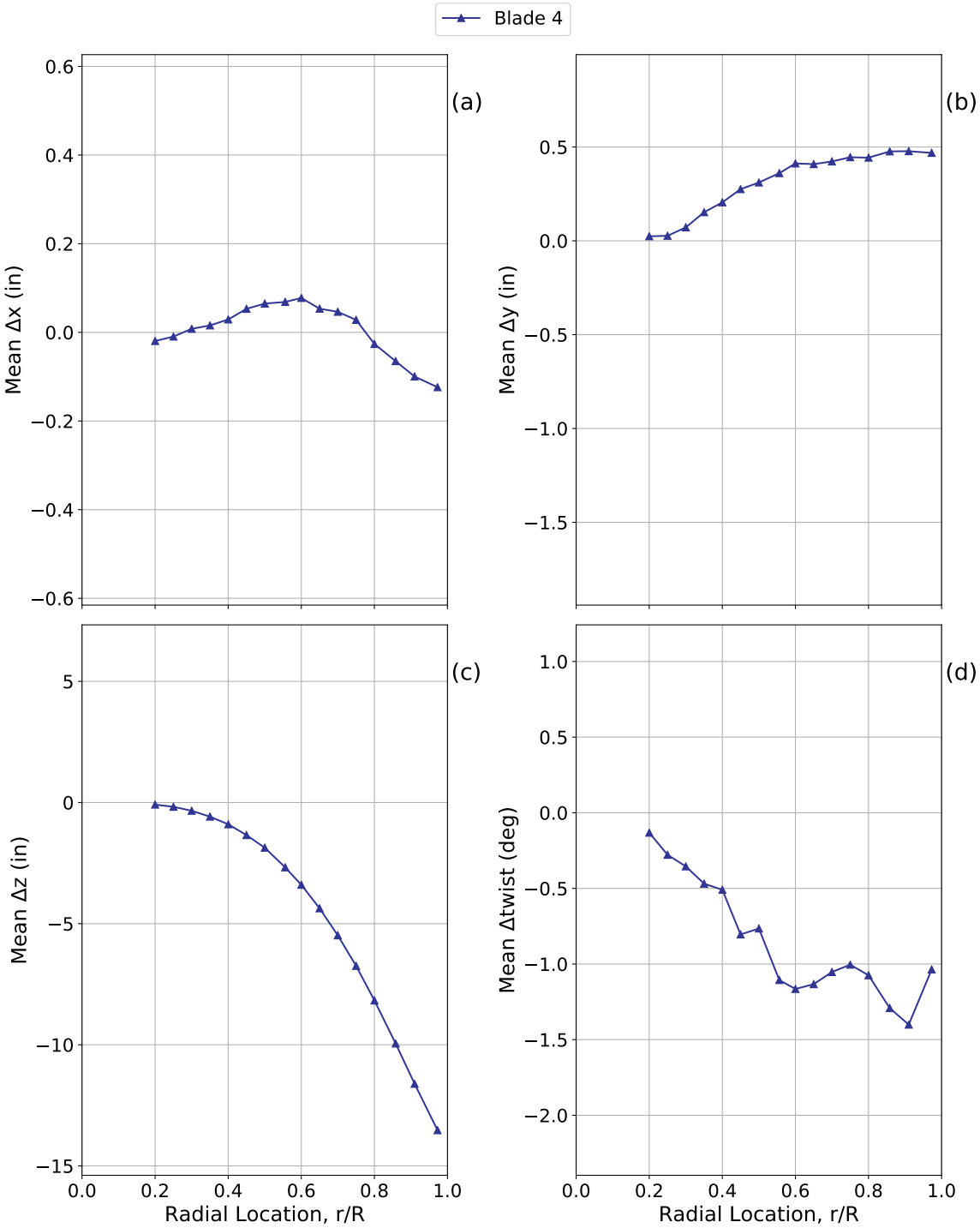


Figure 3.1-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0196	0.0006	0.0243	0.0010	-0.0874	0.0023	-0.1319	0.0202
4	170.16	0.2502	-0.0095	0.0012	0.0267	0.0018	-0.1777	0.0031	-0.2780	0.0312
4	170.16	0.3001	0.0080	0.0009	0.0718	0.0057	-0.3416	0.0077	-0.3546	0.0447
4	170.16	0.3502	0.0156	0.0014	0.1524	0.0055	-0.5855	0.0122	-0.4689	0.0396
4	170.16	0.4002	0.0291	0.0021	0.2050	0.0112	-0.9004	0.0183	-0.5092	0.0362
4	170.16	0.4500	0.0531	0.0017	0.2753	0.0116	-1.3449	0.0242	-0.8047	0.0428
4	170.16	0.5001	0.0649	0.0016	0.3107	0.0127	-1.8674	0.0305	-0.7653	0.0299
4	170.16	0.5560	0.0686	0.0015	0.3606	0.0169	-2.6789	0.0348	-1.1060	0.0432
4	170.16	0.6001	0.0776	0.0014	0.4123	0.0206	-3.3967	0.0413	-1.1651	0.0397
4	170.16	0.6501	0.0534	0.0023	0.4086	0.0247	-4.3692	0.0433	-1.1332	0.0372
4	170.16	0.6999	0.0463	0.0041	0.4229	0.0253	-5.4848	0.0485	-1.0530	0.0314
4	170.16	0.7500	0.0281	0.0046	0.4455	0.0332	-6.7443	0.0521	-1.0045	0.0621
4	170.16	0.8002	-0.0263	0.0046	0.4431	0.0353	-8.1734	0.0633	-1.0747	0.0914
4	170.16	0.8582	-0.0650	0.0089	0.4765	0.0412	-9.9483	0.0788	-1.2916	0.0587
4	170.16	0.9101	-0.0996	0.0101	0.4776	0.0435	-11.6114	0.0954	-1.4009	0.0609
4	170.16	0.9728	-0.1238	0.0146	0.4685	0.0534	-13.5275	0.1227	-1.0362	0.0665

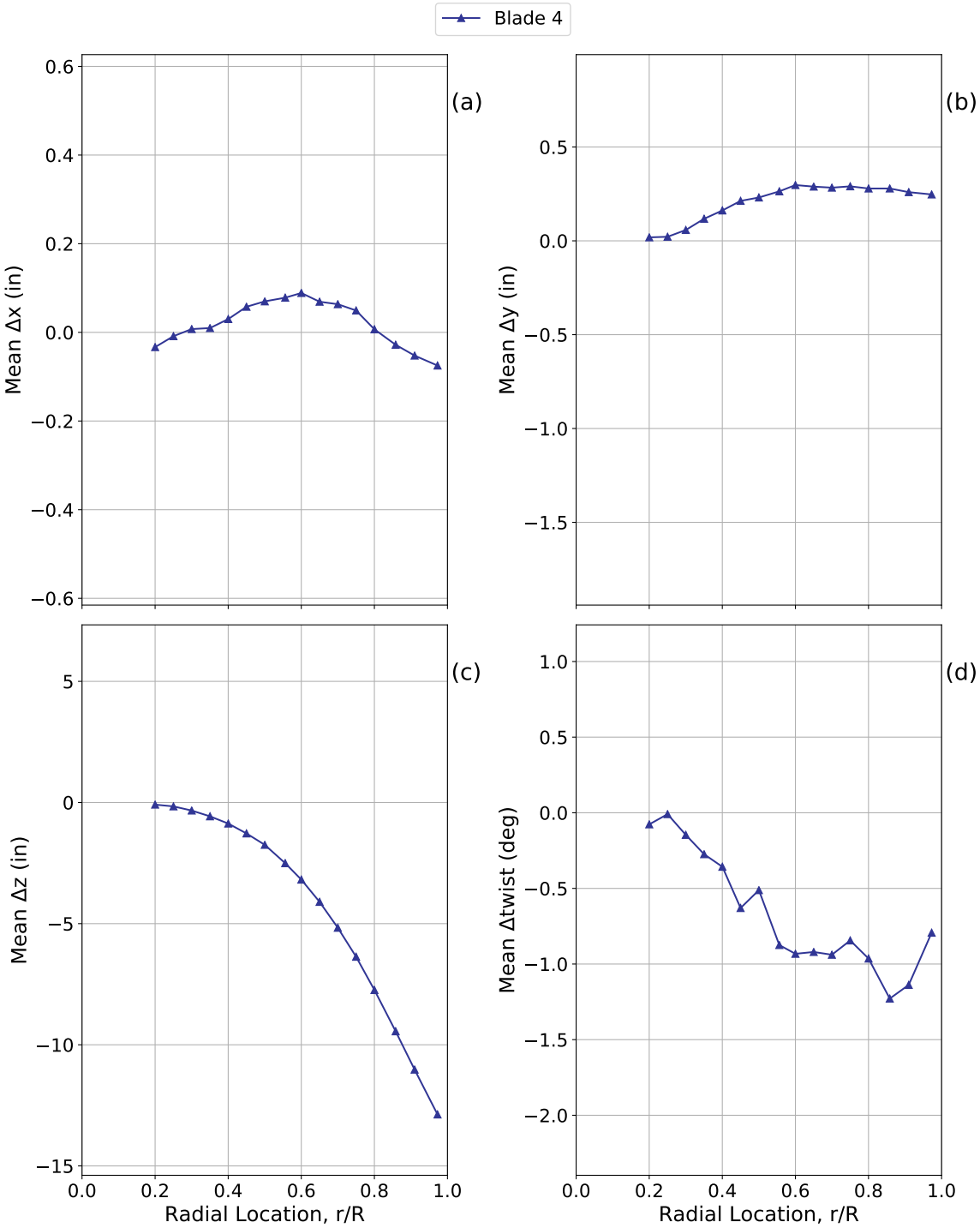


Figure 3.1-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$ NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0333	0.0009	0.0185	0.0007	-0.0876	0.0030	-0.0767	0.0239
4	175.08	0.2502	-0.0086	0.0010	0.0216	0.0018	-0.1607	0.0054	-0.0092	0.0229
4	175.08	0.3001	0.0074	0.0009	0.0577	0.0026	-0.3321	0.0112	-0.1463	0.0473
4	175.08	0.3502	0.0097	0.0016	0.1175	0.0036	-0.5712	0.0176	-0.2740	0.0402
4	175.08	0.4002	0.0300	0.0016	0.1618	0.0063	-0.8697	0.0275	-0.3572	0.0382
4	175.08	0.4500	0.0577	0.0016	0.2128	0.0080	-1.2772	0.0360	-0.6299	0.0355
4	175.08	0.5001	0.0699	0.0021	0.2309	0.0105	-1.7474	0.0471	-0.5115	0.0317
4	175.08	0.5560	0.0782	0.0031	0.2636	0.0126	-2.5059	0.0612	-0.8746	0.0406
4	175.08	0.6001	0.0888	0.0032	0.2972	0.0155	-3.1839	0.0732	-0.9325	0.0460
4	175.08	0.6501	0.0691	0.0044	0.2889	0.0175	-4.1026	0.0875	-0.9204	0.0416
4	175.08	0.6999	0.0635	0.0059	0.2833	0.0221	-5.1707	0.0999	-0.9387	0.0528
4	175.08	0.7500	0.0493	0.0061	0.2904	0.0262	-6.3676	0.1156	-0.8443	0.0492
4	175.08	0.8002	0.0068	0.0084	0.2788	0.0308	-7.7417	0.1292	-0.9639	0.0740
4	175.08	0.8582	-0.0280	0.0116	0.2789	0.0293	-9.4446	0.1509	-1.2286	0.0636
4	175.08	0.9101	-0.0524	0.0144	0.2594	0.0438	-11.0257	0.1726	-1.1381	0.0696
4	175.08	0.9728	-0.0749	0.0162	0.2471	0.0455	-12.8776	0.1990	-0.7932	0.0837

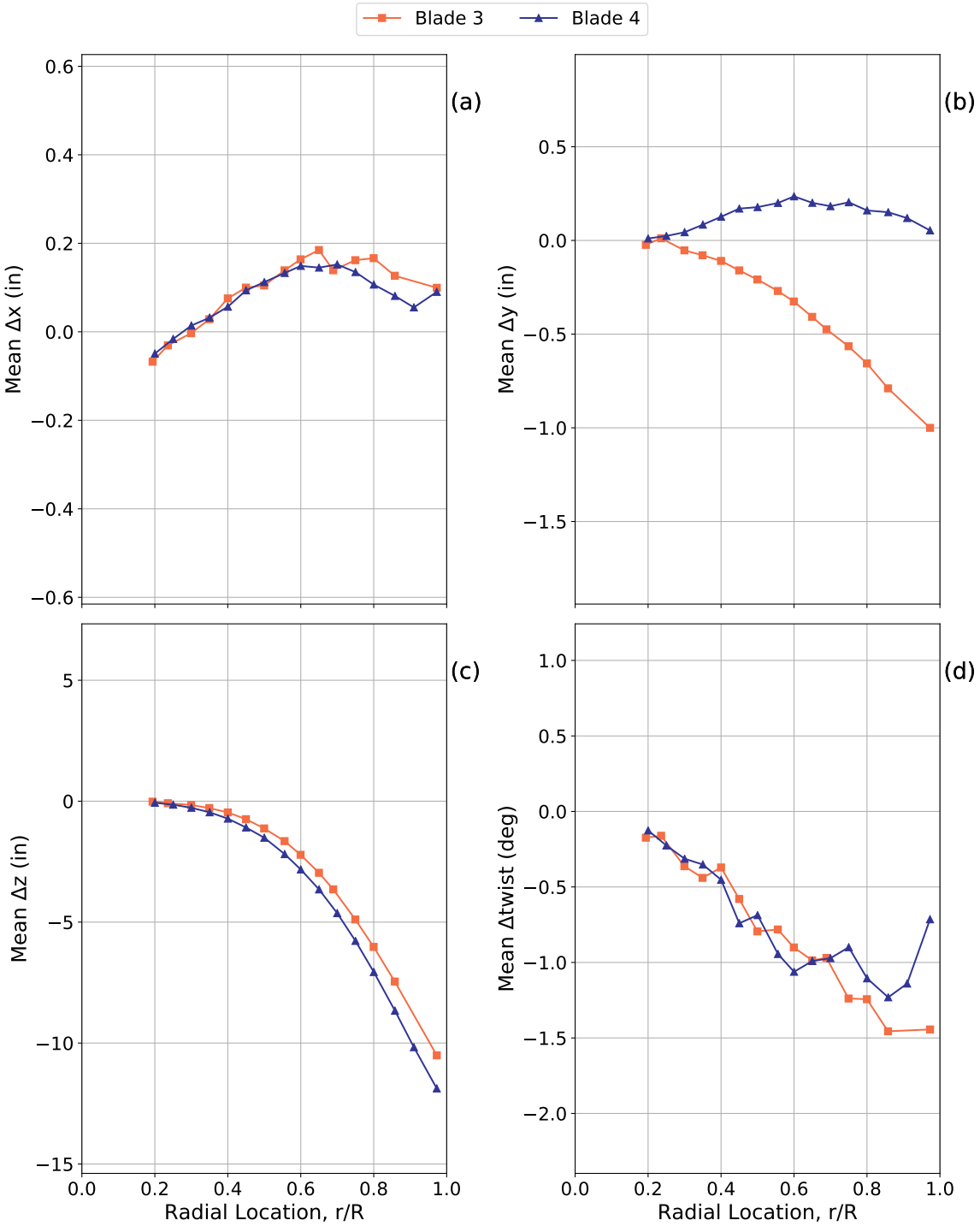


Figure 3.1-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0675	0.0011	-0.0235	0.0014	-0.0191	0.0026	-0.1738	0.0150
3	180.35	0.2357	-0.0307	0.0007	0.0114	0.0026	-0.0843	0.0037	-0.1611	0.0140
3	180.35	0.2995	-0.0031	0.0012	-0.0529	0.0040	-0.1561	0.0100	-0.3627	0.0258
3	180.35	0.3493	0.0285	0.0011	-0.0791	0.0073	-0.2837	0.0152	-0.4399	0.0287
3	180.35	0.4000	0.0755	0.0012	-0.1093	0.0110	-0.4642	0.0242	-0.3710	0.0307
3	180.35	0.4497	0.0999	0.0017	-0.1600	0.0144	-0.7439	0.0313	-0.5797	0.0278
3	180.35	0.4997	0.1047	0.0015	-0.2085	0.0179	-1.1261	0.0402	-0.7946	0.0329
3	180.35	0.5556	0.1389	0.0022	-0.2697	0.0189	-1.6505	0.0500	-0.7816	0.0455
3	180.35	0.5995	0.1638	0.0024	-0.3259	0.0230	-2.2153	0.0563	-0.9006	0.0424
3	180.35	0.6498	0.1848	0.0029	-0.4080	0.0259	-2.9598	0.0646	-0.9862	0.0506
3	180.35	0.6890	0.1391	0.0034	-0.4746	0.0309	-3.6439	0.0772	-0.9700	0.0466
3	180.35	0.7495	0.1619	0.0043	-0.5648	0.0353	-4.8905	0.0889	-1.2387	0.0793
3	180.35	0.7998	0.1664	0.0056	-0.6565	0.0405	-6.0241	0.0977	-1.2434	0.0620
3	180.35	0.8577	0.1267	0.0078	-0.7895	0.0488	-7.4565	0.1168	-1.4560	0.1068
3	180.35	0.9729	0.0995	0.0108	-1.0003	0.0544	-10.5071	0.1340	-1.4437	0.1117
4	180	0.2001	-0.0493	0.0012	0.0105	0.0010	-0.0654	0.0025	-0.1259	0.0188
4	180	0.2502	-0.0162	0.0015	0.0237	0.0025	-0.1451	0.0050	-0.2256	0.0306
4	180	0.3001	0.0141	0.0007	0.0438	0.0052	-0.2733	0.0093	-0.3131	0.0425
4	180	0.3502	0.0320	0.0015	0.0841	0.0076	-0.4602	0.0152	-0.3518	0.0318
4	180	0.4002	0.0567	0.0016	0.1265	0.0127	-0.7220	0.0238	-0.4529	0.0317
4	180	0.4500	0.0936	0.0015	0.1699	0.0159	-1.0879	0.0341	-0.7406	0.0417
4	180	0.5001	0.1124	0.0018	0.1777	0.0182	-1.5117	0.0430	-0.6868	0.0321
4	180	0.5560	0.1329	0.0019	0.1999	0.0219	-2.1898	0.0541	-0.9442	0.0430
4	180	0.6001	0.1489	0.0022	0.2352	0.0274	-2.8244	0.0643	-1.0619	0.0383
4	180	0.6501	0.1450	0.0027	0.2007	0.0316	-3.6484	0.0728	-0.9909	0.0640
4	180	0.6999	0.1522	0.0023	0.1826	0.0339	-4.6302	0.0827	-0.9718	0.0485
4	180	0.7500	0.1349	0.0037	0.2036	0.0397	-5.7771	0.1004	-0.8994	0.0844
4	180	0.8002	0.1067	0.0048	0.1600	0.0417	-7.0641	0.1044	-1.1054	0.0849
4	180	0.8582	0.0810	0.0060	0.1506	0.0501	-8.6633	0.1096	-1.2310	0.0824
4	180	0.9101	0.0551	0.0115	0.1193	0.0557	-10.1726	0.1259	-1.1400	0.2613
4	180	0.9728	0.0902	0.0075	0.0533	0.0569	-11.8779	0.1546	-0.7143	0.1073

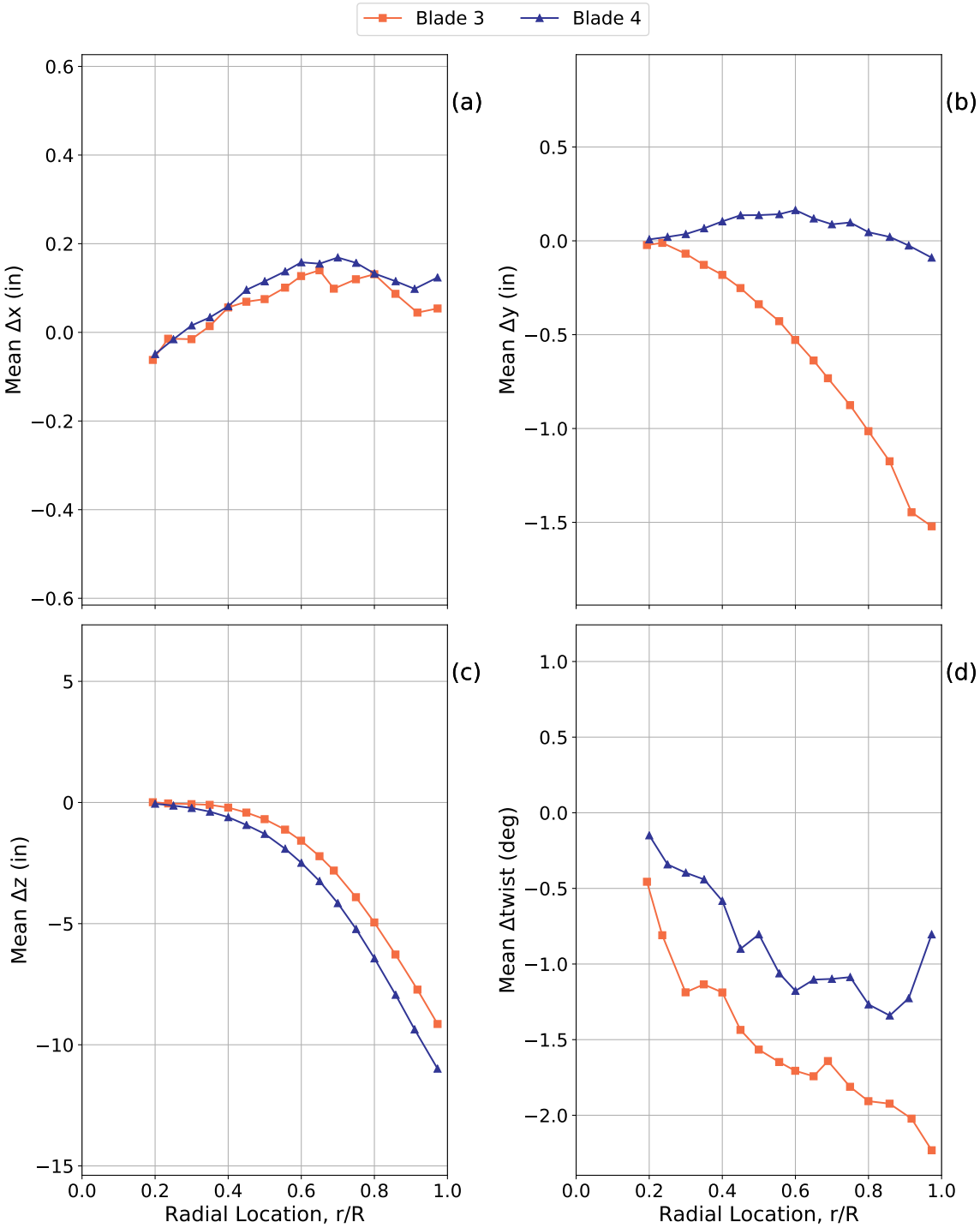


Figure 3.1-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0622	0.0101	-0.0224	0.0044	0.0108	0.0137	-0.4562	0.0943
3	184.92	0.2357	-0.0143	0.0078	-0.0110	0.0030	-0.0385	0.0058	-0.8097	0.4107
3	184.92	0.2995	-0.0154	0.0033	-0.0684	0.0131	-0.0668	0.0351	-1.1872	0.3931
3	184.92	0.3493	0.0140	0.0035	-0.1280	0.0206	-0.0962	0.0542	-1.1347	0.3889
3	184.92	0.4000	0.0562	0.0042	-0.1815	0.0307	-0.2102	0.0769	-1.1880	0.3957
3	184.92	0.4497	0.0691	0.0036	-0.2517	0.0398	-0.4145	0.0994	-1.4357	0.3861
3	184.92	0.4997	0.0750	0.0035	-0.3378	0.0469	-0.6877	0.1194	-1.5658	0.3906
3	184.92	0.5556	0.1009	0.0038	-0.4282	0.0567	-1.1189	0.1424	-1.6481	0.3850
3	184.92	0.5995	0.1270	0.0031	-0.5282	0.0644	-1.5765	0.1617	-1.7059	0.3860
3	184.92	0.6498	0.1400	0.0034	-0.6376	0.0725	-2.2166	0.1820	-1.7422	0.3839
3	184.92	0.6890	0.0985	0.0028	-0.7322	0.0798	-2.8093	0.1985	-1.6414	0.3838
3	184.92	0.7495	0.1198	0.0039	-0.8755	0.0891	-3.9084	0.2263	-1.8116	0.3848
3	184.92	0.7998	0.1311	0.0041	-1.0142	0.0980	-4.9518	0.2493	-1.9067	0.3952
3	184.92	0.8577	0.0869	0.0069	-1.1746	0.1082	-6.2750	0.2800	-1.9233	0.3918
3	184.92	0.9178	0.0446	0.0137	-1.4463	0.1286	-7.7235	0.3119	-2.0222	0.4444
3	184.92	0.9729	0.0539	0.0091	-1.5212	0.1301	-9.1429	0.3400	-2.2314	0.3844
4	184.92	0.2001	-0.0491	0.0010	0.0076	0.0010	-0.0509	0.0024	-0.1494	0.0244
4	184.92	0.2502	-0.0156	0.0010	0.0208	0.0020	-0.1290	0.0058	-0.3416	0.0360
4	184.92	0.3001	0.0156	0.0013	0.0359	0.0030	-0.2281	0.0092	-0.3966	0.0507
4	184.92	0.3502	0.0339	0.0016	0.0667	0.0042	-0.3788	0.0173	-0.4408	0.0449
4	184.92	0.4002	0.0590	0.0016	0.1036	0.0065	-0.6066	0.0262	-0.5830	0.0470
4	184.92	0.4500	0.0959	0.0020	0.1364	0.0091	-0.9291	0.0348	-0.8994	0.0444
4	184.92	0.5001	0.1151	0.0021	0.1370	0.0096	-1.2965	0.0469	-0.8043	0.0422
4	184.92	0.5560	0.1376	0.0019	0.1418	0.0116	-1.9108	0.0595	-1.0621	0.0424
4	184.92	0.6001	0.1580	0.0036	0.1637	0.0130	-2.4901	0.0689	-1.1774	0.0487
4	184.92	0.6501	0.1549	0.0033	0.1190	0.0163	-3.2460	0.0806	-1.1033	0.0740
4	184.92	0.6999	0.1688	0.0039	0.0880	0.0185	-4.1554	0.0930	-1.0985	0.0669
4	184.92	0.7500	0.1568	0.0049	0.0977	0.0203	-5.2243	0.1030	-1.0867	0.0678
4	184.92	0.8002	0.1327	0.0050	0.0459	0.0248	-6.4353	0.1135	-1.2673	0.0540
4	184.92	0.8582	0.1153	0.0063	0.0208	0.0296	-7.9392	0.1230	-1.3407	0.1039
4	184.92	0.9101	0.0981	0.0072	-0.0252	0.0328	-9.3675	0.1400	-1.2263	0.1256
4	184.92	0.9728	0.1238	0.0083	-0.0896	0.0345	-10.9869	0.1594	-0.8042	0.1147

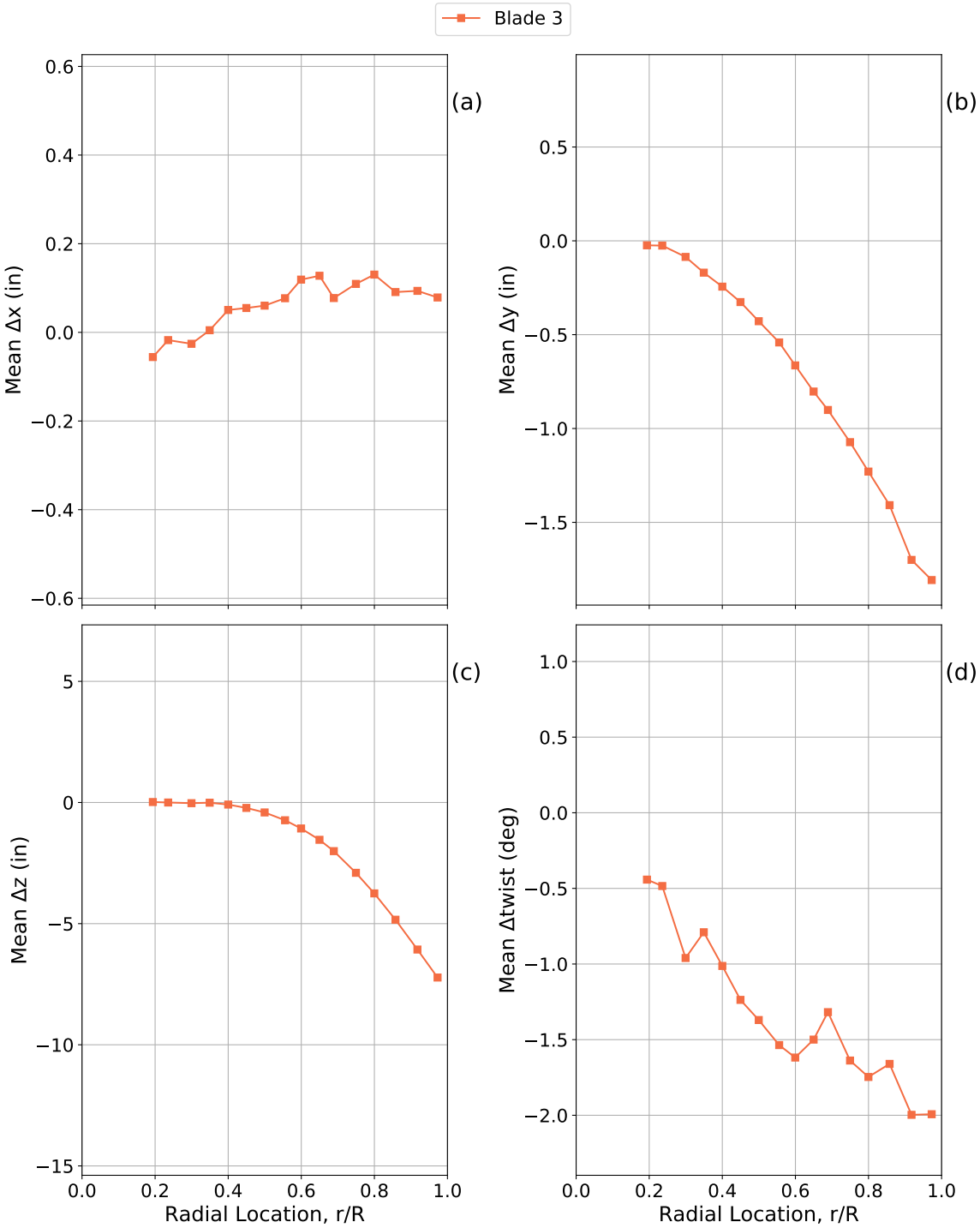


Figure 3.1-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0557	0.0032	-0.0239	0.0038	0.0191	0.0111	-0.4420	0.0915
3	195.12	0.2357	-0.0175	0.0069	-0.0254	0.0078	-0.0005	0.0155	-0.4844	0.1074
3	195.12	0.2995	-0.0258	0.0039	-0.0857	0.0148	-0.0279	0.0307	-0.9603	0.1512
3	195.12	0.3493	0.0048	0.0079	-0.1695	0.0200	-0.0086	0.0378	-0.7900	0.1177
3	195.12	0.4000	0.0505	0.0063	-0.2441	0.0363	-0.0857	0.0633	-1.0127	0.1347
3	195.12	0.4497	0.0549	0.0046	-0.3264	0.0446	-0.2238	0.0733	-1.2372	0.1180
3	195.12	0.4997	0.0603	0.0057	-0.4283	0.0537	-0.4105	0.0849	-1.3703	0.1425
3	195.12	0.5556	0.0770	0.0057	-0.5414	0.0641	-0.7331	0.1004	-1.5359	0.1268
3	195.12	0.5995	0.1190	0.0058	-0.6638	0.0729	-1.0728	0.1116	-1.6184	0.1284
3	195.12	0.6498	0.1277	0.0076	-0.8031	0.0824	-1.5401	0.1248	-1.4996	0.1560
3	195.12	0.6890	0.0774	0.0056	-0.9013	0.0909	-2.0073	0.1348	-1.3182	0.1249
3	195.12	0.7495	0.1093	0.0074	-1.0727	0.1037	-2.9026	0.1499	-1.6381	0.1256
3	195.12	0.7998	0.1303	0.0073	-1.2295	0.1155	-3.7518	0.1655	-1.7467	0.1129
3	195.12	0.8577	0.0909	0.0100	-1.4084	0.1275	-4.8378	0.1872	-1.6603	0.1359
3	195.12	0.9178	0.0936	0.0118	-1.7001	0.1434	-6.0689	0.2082	-1.9970	0.1041
3	195.12	0.9729	0.0787	0.0132	-1.8075	0.1601	-7.2244	0.2336	-1.9930	0.1073

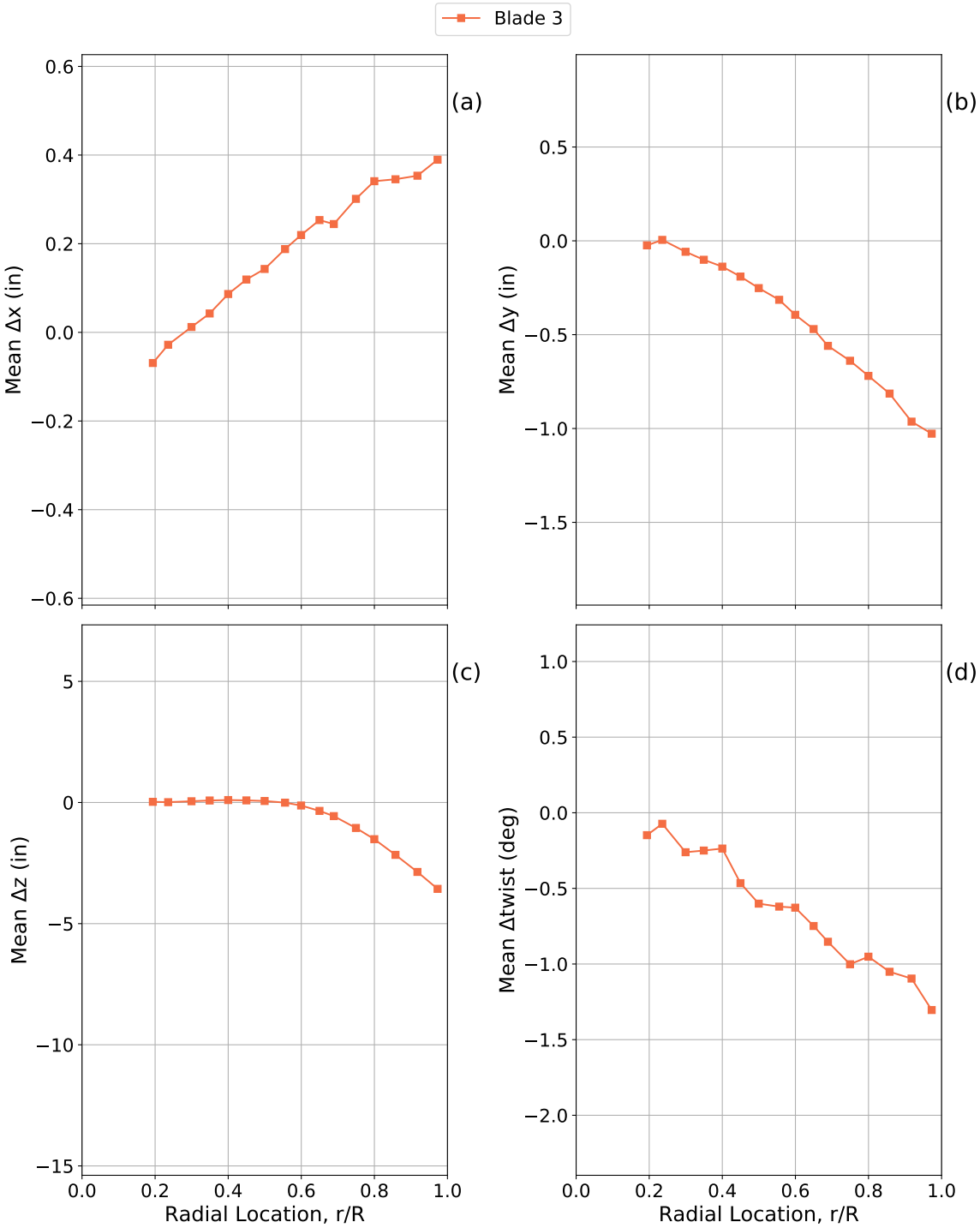


Figure 3.1-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0691	0.0012	-0.0242	0.0011	0.0277	0.0035	-0.1481	0.0394
3	209.88	0.2357	-0.0280	0.0012	0.0050	0.0033	0.0133	0.0078	-0.0728	0.0562
3	209.88	0.2995	0.0121	0.0016	-0.0584	0.0061	0.0514	0.0137	-0.2609	0.0931
3	209.88	0.3493	0.0426	0.0017	-0.1009	0.0118	0.0831	0.0236	-0.2498	0.0692
3	209.88	0.4000	0.0865	0.0013	-0.1375	0.0182	0.1008	0.0356	-0.2366	0.0862
3	209.88	0.4497	0.1192	0.0022	-0.1904	0.0201	0.0870	0.0447	-0.4655	0.0581
3	209.88	0.4997	0.1430	0.0023	-0.2519	0.0247	0.0619	0.0579	-0.6009	0.0576
3	209.88	0.5556	0.1879	0.0018	-0.3143	0.0323	-0.0065	0.0792	-0.6206	0.0652
3	209.88	0.5995	0.2196	0.0022	-0.3941	0.0375	-0.1241	0.0981	-0.6274	0.0732
3	209.88	0.6498	0.2533	0.0022	-0.4702	0.0432	-0.3464	0.1178	-0.7486	0.0794
3	209.88	0.6890	0.2443	0.0025	-0.5596	0.0480	-0.5627	0.1369	-0.8528	0.0821
3	209.88	0.7495	0.3012	0.0035	-0.6390	0.0552	-1.0513	0.1654	-1.0016	0.0778
3	209.88	0.7998	0.3410	0.0037	-0.7196	0.0619	-1.5145	0.1885	-0.9515	0.0853
3	209.88	0.8577	0.3454	0.0048	-0.8139	0.0687	-2.1616	0.2177	-1.0512	0.0784
3	209.88	0.9178	0.3534	0.0056	-0.9633	0.0778	-2.8662	0.2526	-1.0962	0.0912
3	209.88	0.9729	0.3895	0.0078	-1.0275	0.0844	-3.5648	0.2834	-1.3041	0.1011

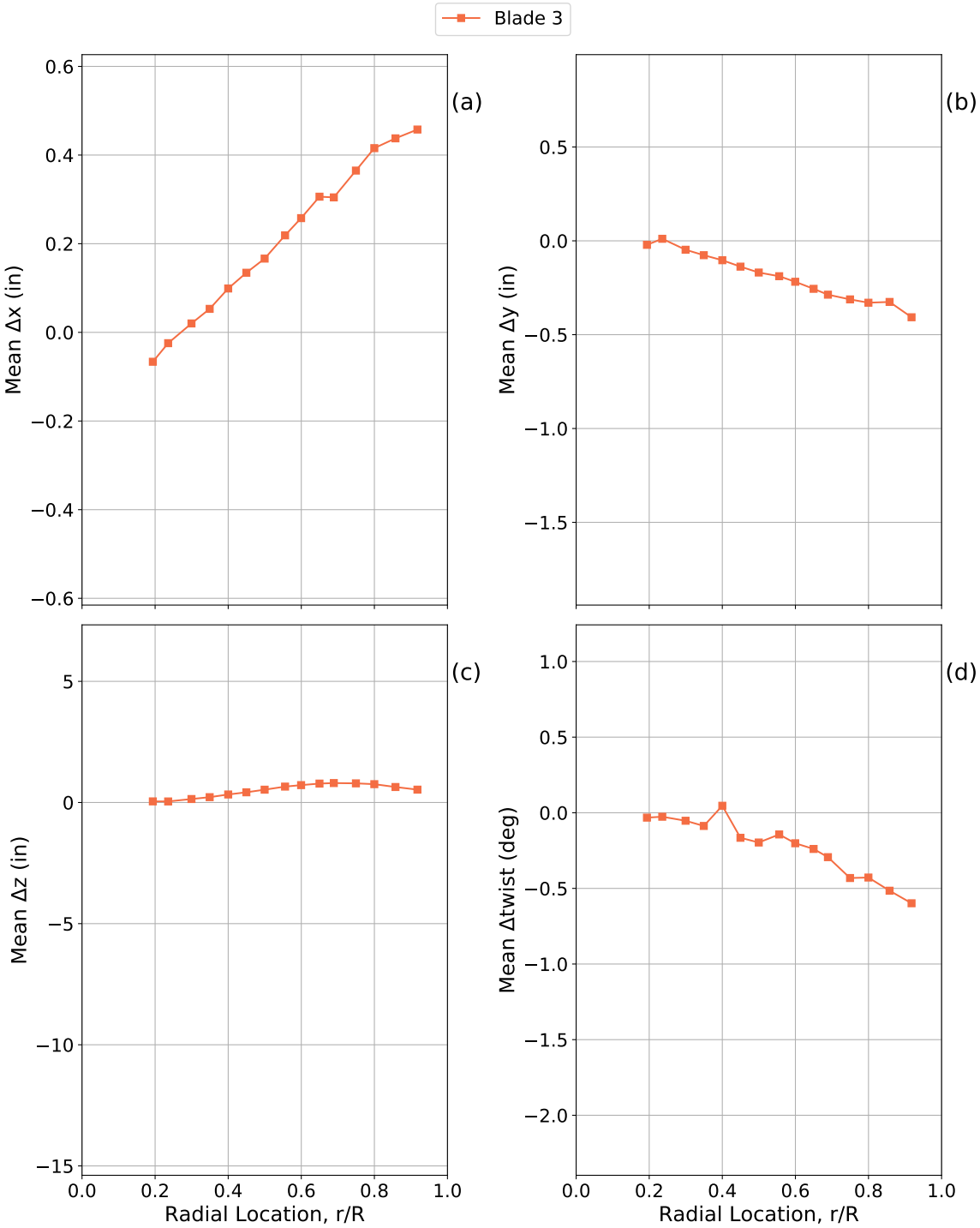


Figure 3.1-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0663	0.0010	-0.0213	0.0011	0.0459	0.0035	-0.0321	0.0230
3	225	0.2357	-0.0244	0.0013	0.0109	0.0020	0.0435	0.0068	-0.0262	0.0458
3	225	0.2995	0.0201	0.0014	-0.0475	0.0053	0.1435	0.0133	-0.0528	0.0605
3	225	0.3493	0.0530	0.0009	-0.0765	0.0063	0.2202	0.0218	-0.0872	0.0408
3	225	0.4000	0.0990	0.0024	-0.1033	0.0115	0.3311	0.0338	0.0463	0.0343
3	225	0.4497	0.1345	0.0025	-0.1375	0.0133	0.4213	0.0437	-0.1654	0.0730
3	225	0.4997	0.1664	0.0012	-0.1689	0.0161	0.5291	0.0499	-0.1966	0.0684
3	225	0.5556	0.2189	0.0019	-0.1886	0.0214	0.6560	0.0647	-0.1434	0.0480
3	225	0.5995	0.2577	0.0027	-0.2181	0.0237	0.7178	0.0709	-0.2016	0.0433
3	225	0.6498	0.3061	0.0025	-0.2557	0.0278	0.7807	0.0822	-0.2392	0.0497
3	225	0.6890	0.3045	0.0025	-0.2869	0.0313	0.8023	0.0891	-0.2935	0.0553
3	225	0.7495	0.3650	0.0032	-0.3121	0.0362	0.7904	0.0964	-0.4314	0.0621
3	225	0.7998	0.4156	0.0027	-0.3297	0.0417	0.7567	0.1039	-0.4282	0.0577
3	225	0.8577	0.4377	0.0035	-0.3256	0.0472	0.6392	0.1130	-0.5153	0.0480
3	225	0.9178	0.4576	0.0037	-0.4072	0.0537	0.5307	0.1207	-0.5983	0.0516

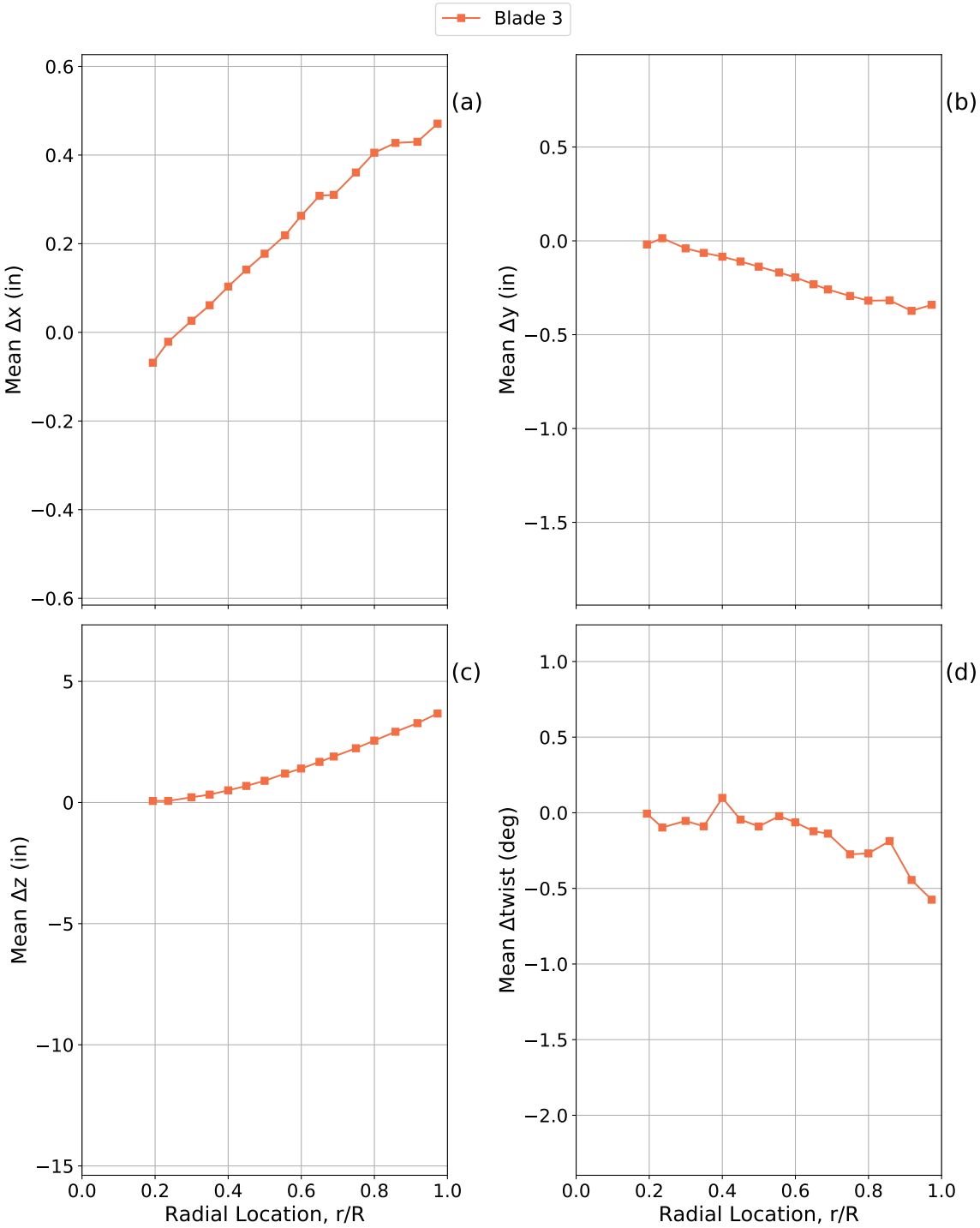


Figure 3.1-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.24$, $\alpha = -0°$ NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0685	0.0012	-0.0195	0.0010	0.0631	0.0030	-0.0059	0.0192
3	240.12	0.2357	-0.0213	0.0012	0.0140	0.0018	0.0650	0.0044	-0.0976	0.0328
3	240.12	0.2995	0.0262	0.0011	-0.0402	0.0039	0.2138	0.0086	-0.0538	0.0452
3	240.12	0.3493	0.0612	0.0018	-0.0643	0.0058	0.3258	0.0121	-0.0896	0.0490
3	240.12	0.4000	0.1033	0.0015	-0.0846	0.0095	0.5017	0.0190	0.0982	0.0405
3	240.12	0.4497	0.1416	0.0022	-0.1099	0.0101	0.6842	0.0239	-0.0449	0.0490
3	240.12	0.4997	0.1775	0.0012	-0.1377	0.0144	0.8964	0.0269	-0.0905	0.0545
3	240.12	0.5556	0.2190	0.0017	-0.1685	0.0177	1.1919	0.0367	-0.0221	0.0465
3	240.12	0.5995	0.2629	0.0023	-0.1949	0.0200	1.4013	0.0401	-0.0633	0.0631
3	240.12	0.6498	0.3082	0.0021	-0.2317	0.0239	1.6764	0.0461	-0.1221	0.0570
3	240.12	0.6890	0.3102	0.0019	-0.2592	0.0277	1.8971	0.0506	-0.1380	0.0464
3	240.12	0.7495	0.3607	0.0023	-0.2939	0.0329	2.2395	0.0583	-0.2746	0.0542
3	240.12	0.7998	0.4053	0.0023	-0.3187	0.0379	2.5545	0.0653	-0.2688	0.0498
3	240.12	0.8577	0.4274	0.0023	-0.3173	0.0439	2.9196	0.0753	-0.1871	0.0537
3	240.12	0.9178	0.4299	0.0026	-0.3730	0.0497	3.2742	0.0900	-0.4445	0.0523
3	240.12	0.9729	0.4709	0.0044	-0.3409	0.0554	3.6734	0.1055	-0.5749	0.0714

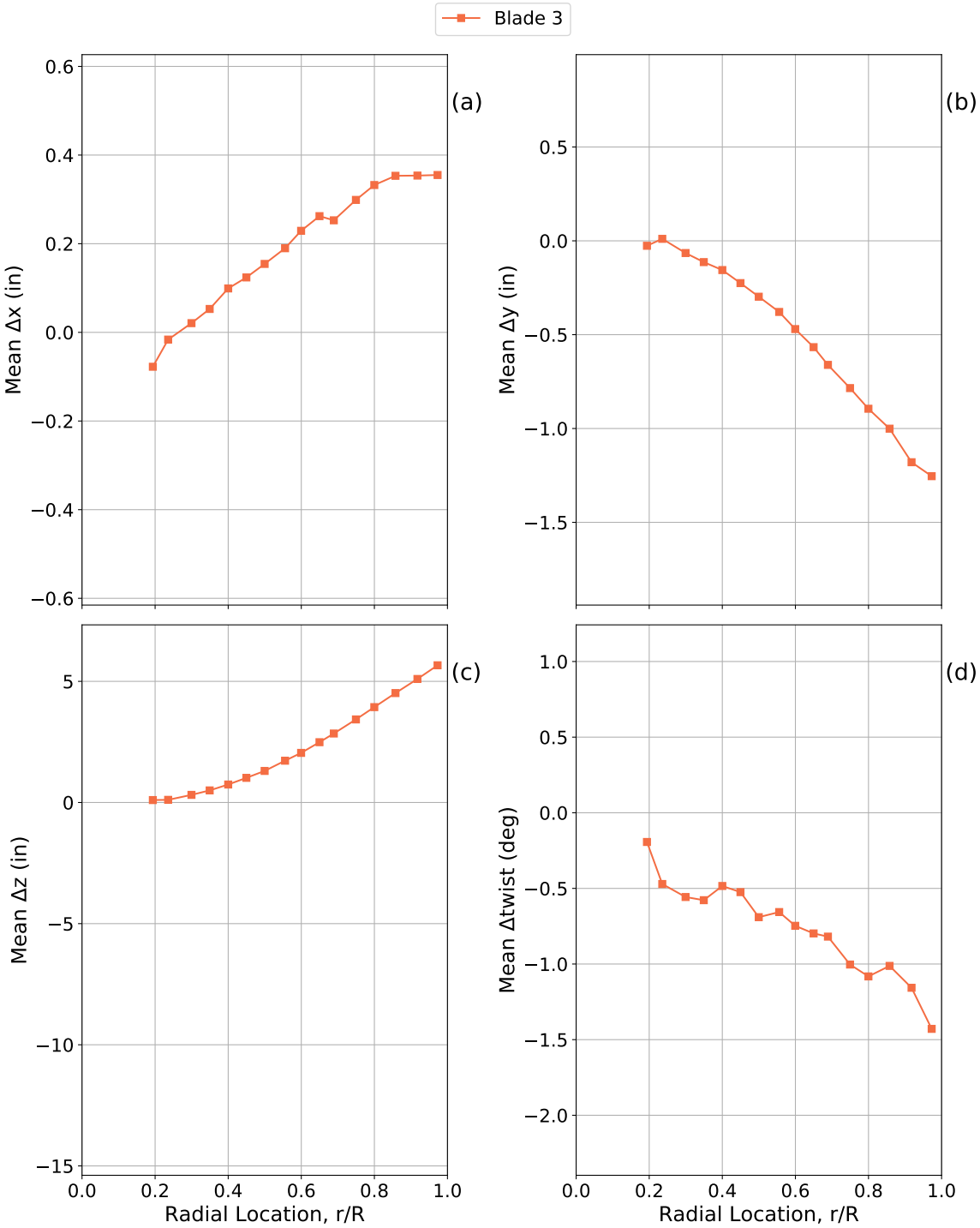


Figure 3.1-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0776	0.0021	-0.0264	0.0009	0.1006	0.0064	-0.1931	0.0186
3	254.88	0.2357	-0.0163	0.0010	0.0106	0.0011	0.1095	0.0090	-0.4710	0.0554
3	254.88	0.2995	0.0208	0.0007	-0.0650	0.0036	0.3150	0.0212	-0.5570	0.0589
3	254.88	0.3493	0.0528	0.0011	-0.1134	0.0059	0.4990	0.0353	-0.5780	0.0614
3	254.88	0.4000	0.0991	0.0014	-0.1557	0.0094	0.7422	0.0528	-0.4841	0.0596
3	254.88	0.4497	0.1239	0.0014	-0.2253	0.0129	1.0176	0.0745	-0.5247	0.0758
3	254.88	0.4997	0.1544	0.0020	-0.2977	0.0170	1.3032	0.0974	-0.6903	0.0766
3	254.88	0.5556	0.1898	0.0028	-0.3789	0.0223	1.7254	0.1278	-0.6565	0.0797
3	254.88	0.5995	0.2291	0.0032	-0.4702	0.0265	2.0479	0.1547	-0.7474	0.0813
3	254.88	0.6498	0.2622	0.0044	-0.5665	0.0318	2.4893	0.1791	-0.7977	0.0681
3	254.88	0.6890	0.2528	0.0050	-0.6610	0.0362	2.8473	0.2037	-0.8189	0.0746
3	254.88	0.7495	0.2988	0.0060	-0.7847	0.0429	3.4287	0.2358	-1.0034	0.0700
3	254.88	0.7998	0.3324	0.0070	-0.8947	0.0484	3.9369	0.2633	-1.0820	0.0800
3	254.88	0.8577	0.3532	0.0080	-1.0009	0.0552	4.5166	0.2937	-1.0124	0.0784
3	254.88	0.9178	0.3537	0.0095	-1.1797	0.0626	5.0986	0.3253	-1.1570	0.0681
3	254.88	0.9729	0.3550	0.0126	-1.2540	0.0691	5.6635	0.3538	-1.4287	0.0614

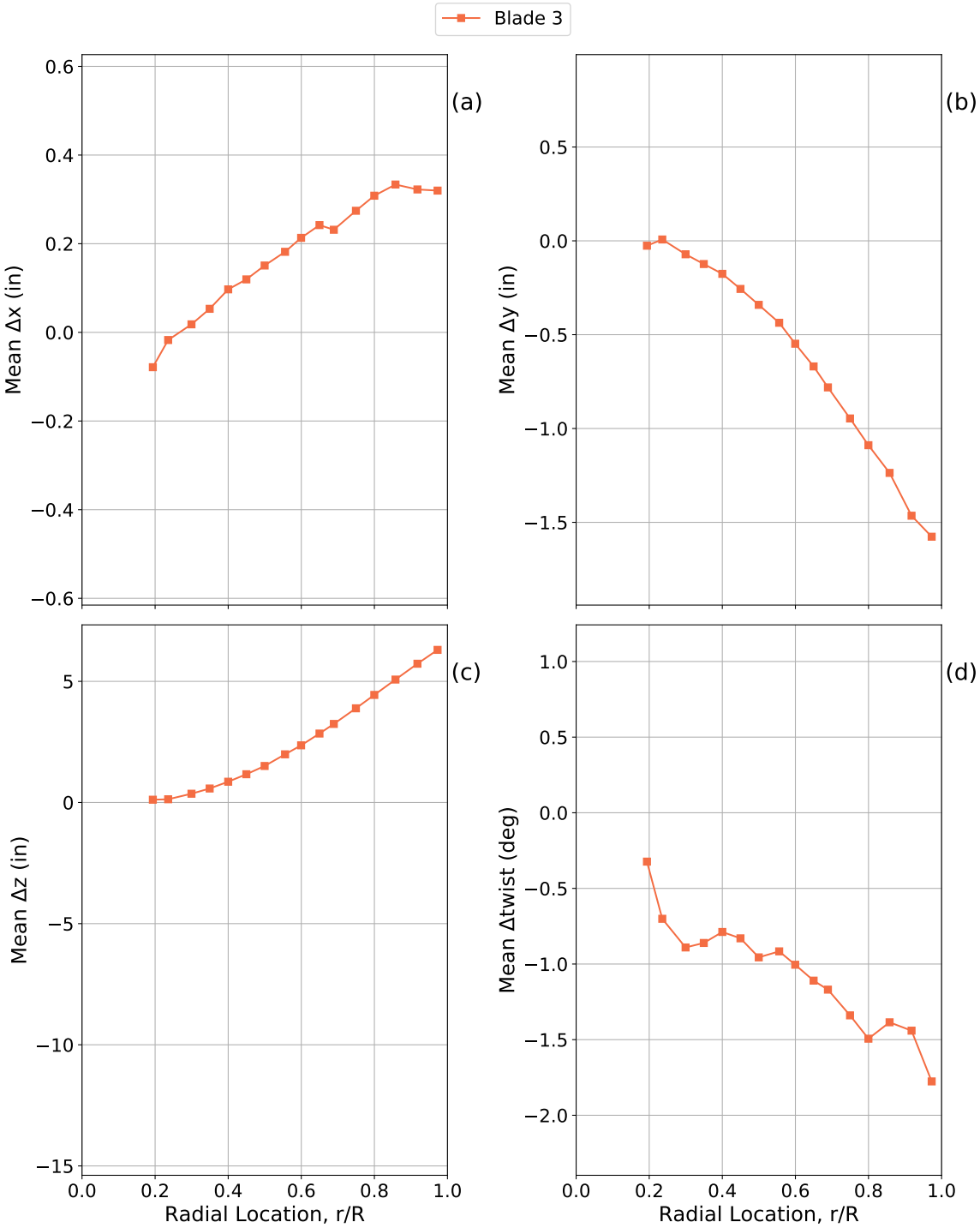


Figure 3.1-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0786	0.0020	-0.0260	0.0006	0.1155	0.0057	-0.3230	0.0318
3	260.16	0.2357	-0.0173	0.0012	0.0072	0.0012	0.1332	0.0065	-0.7009	0.0566
3	260.16	0.2995	0.0181	0.0011	-0.0717	0.0028	0.3624	0.0175	-0.8905	0.0774
3	260.16	0.3493	0.0531	0.0012	-0.1236	0.0050	0.5780	0.0291	-0.8608	0.0721
3	260.16	0.4000	0.0970	0.0012	-0.1759	0.0079	0.8579	0.0425	-0.7881	0.0833
3	260.16	0.4497	0.1195	0.0018	-0.2563	0.0111	1.1663	0.0574	-0.8302	0.0752
3	260.16	0.4997	0.1508	0.0023	-0.3411	0.0150	1.5070	0.0756	-0.9560	0.0696
3	260.16	0.5556	0.1817	0.0026	-0.4366	0.0193	1.9884	0.0967	-0.9163	0.0804
3	260.16	0.5995	0.2132	0.0035	-0.5482	0.0231	2.3595	0.1134	-1.0048	0.0948
3	260.16	0.6498	0.2420	0.0043	-0.6692	0.0286	2.8459	0.1347	-1.1098	0.1025
3	260.16	0.6890	0.2315	0.0046	-0.7810	0.0329	3.2426	0.1523	-1.1694	0.0954
3	260.16	0.7495	0.2743	0.0057	-0.9465	0.0397	3.8878	0.1820	-1.3395	0.0831
3	260.16	0.7998	0.3083	0.0063	-1.0890	0.0464	4.4402	0.2080	-1.4937	0.0830
3	260.16	0.8577	0.3335	0.0073	-1.2366	0.0545	5.0742	0.2366	-1.3853	0.0892
3	260.16	0.9178	0.3224	0.0086	-1.4647	0.0634	5.7279	0.2686	-1.4406	0.0981
3	260.16	0.9729	0.3198	0.0109	-1.5765	0.0717	6.2995	0.2981	-1.7762	0.0974

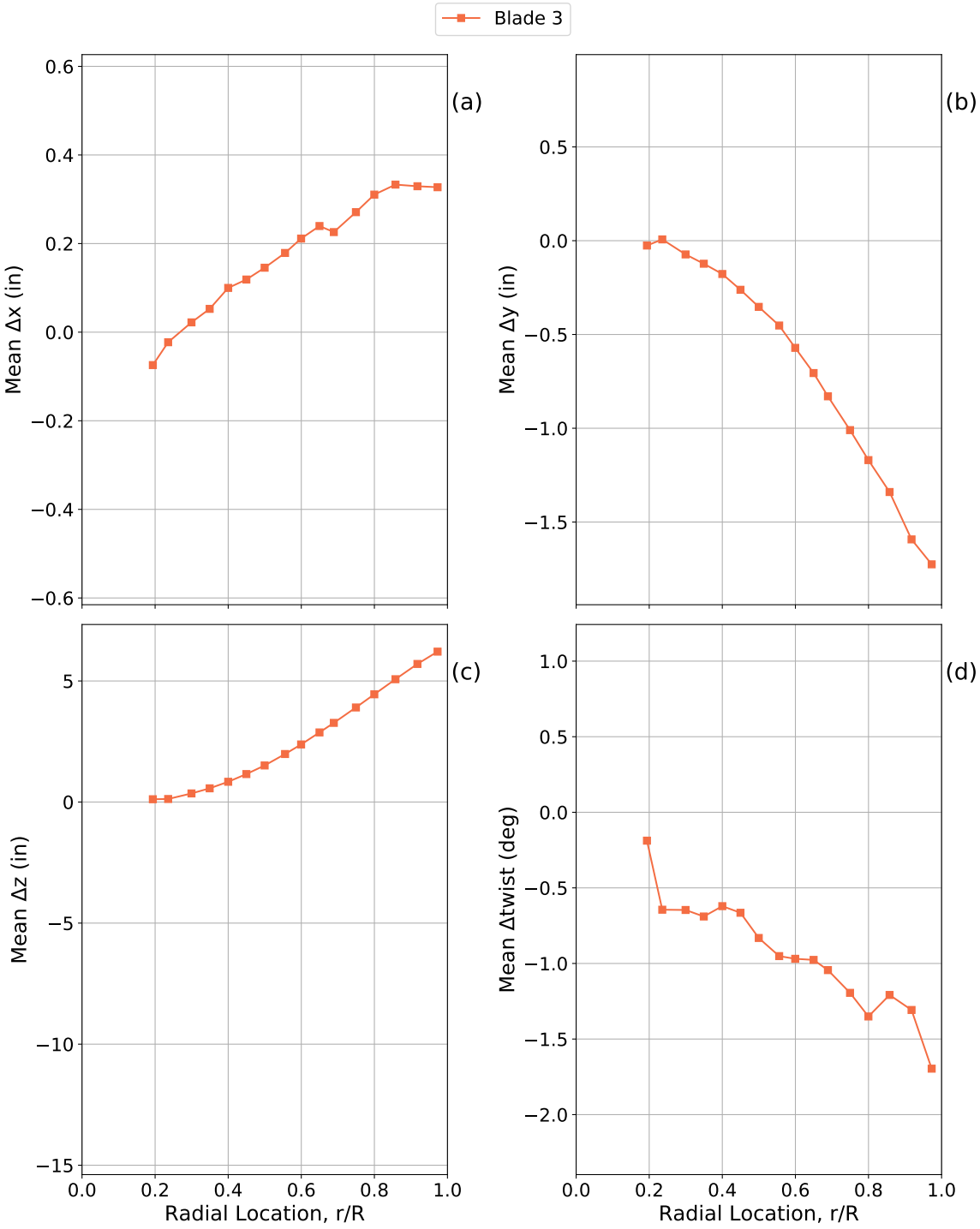


Figure 3.1-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0743	0.0060	-0.0258	0.0013	0.1156	0.0088	-0.1876	0.0604
3	265.08	0.2357	-0.0227	0.0022	0.0069	0.0010	0.1251	0.0078	-0.6444	0.1786
3	265.08	0.2995	0.0221	0.0023	-0.0732	0.0046	0.3552	0.0216	-0.6462	0.1968
3	265.08	0.3493	0.0526	0.0023	-0.1228	0.0083	0.5663	0.0336	-0.6893	0.2006
3	265.08	0.4000	0.0999	0.0023	-0.1776	0.0124	0.8365	0.0486	-0.6209	0.1992
3	265.08	0.4497	0.1188	0.0019	-0.2617	0.0160	1.1548	0.0660	-0.6647	0.2031
3	265.08	0.4997	0.1455	0.0021	-0.3529	0.0201	1.5101	0.0875	-0.8314	0.1998
3	265.08	0.5556	0.1788	0.0026	-0.4522	0.0250	1.9828	0.1143	-0.9514	0.1894
3	265.08	0.5995	0.2113	0.0026	-0.5713	0.0300	2.3778	0.1365	-0.9692	0.1866
3	265.08	0.6498	0.2396	0.0039	-0.7057	0.0359	2.8748	0.1666	-0.9765	0.1965
3	265.08	0.6890	0.2259	0.0042	-0.8298	0.0411	3.2692	0.1913	-1.0440	0.1914
3	265.08	0.7495	0.2709	0.0056	-1.0099	0.0504	3.9057	0.2303	-1.1944	0.2013
3	265.08	0.7998	0.3105	0.0072	-1.1698	0.0590	4.4490	0.2634	-1.3507	0.1892
3	265.08	0.8577	0.3331	0.0083	-1.3400	0.0695	5.0723	0.3008	-1.2084	0.1883
3	265.08	0.9178	0.3294	0.0102	-1.5926	0.0808	5.7029	0.3409	-1.3077	0.1907
3	265.08	0.9729	0.3272	0.0135	-1.7255	0.0915	6.2113	0.3802	-1.6959	0.2067

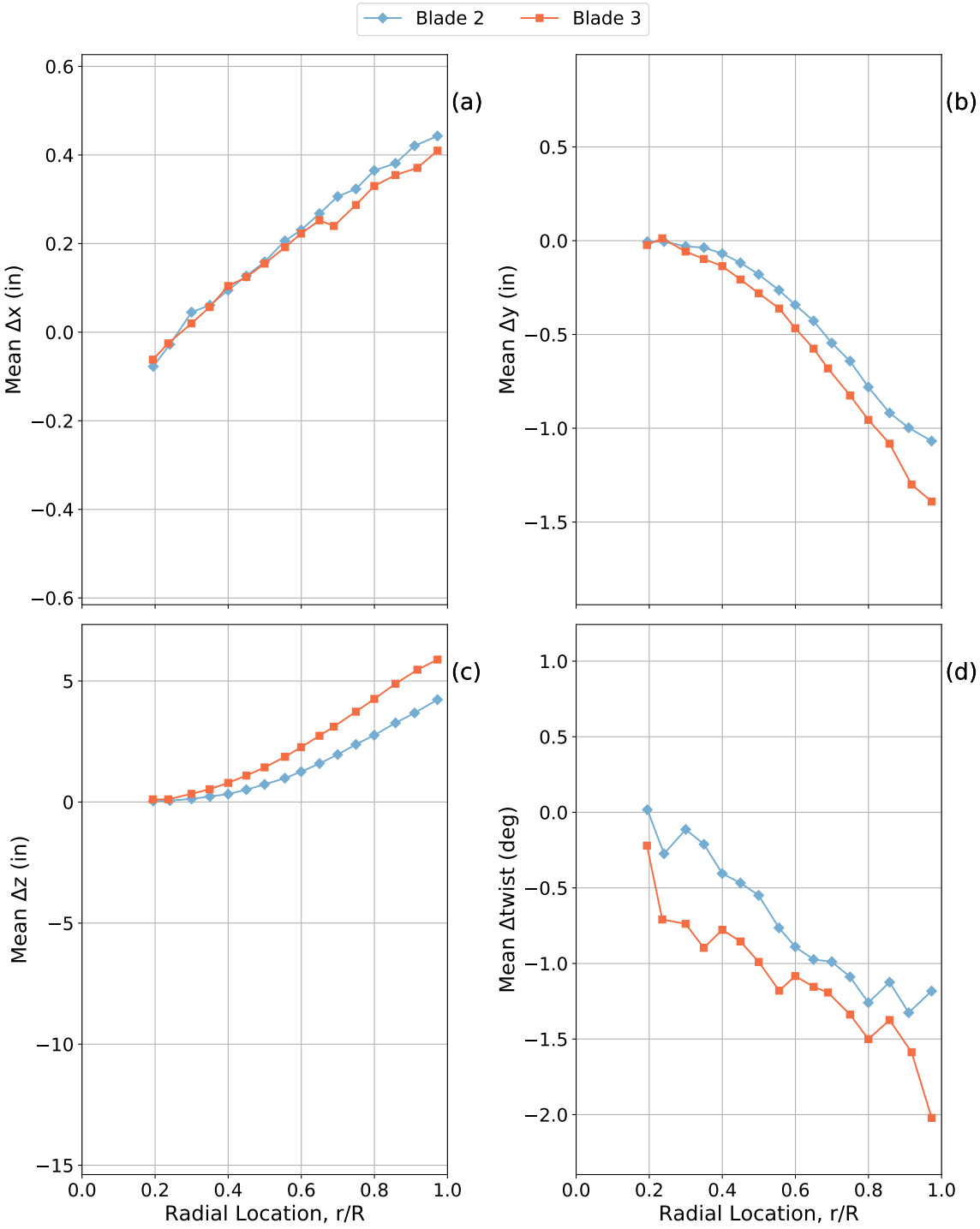


Figure 3.1-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0774	0.0087	-0.0052	0.0018	0.0406	0.0128	0.0170	0.1014
2	270.35	0.2405	-0.0276	0.0066	-0.0047	0.0030	0.0578	0.0198	-0.2742	0.1657
2	270.35	0.2999	0.0451	0.0024	-0.0302	0.0056	0.1304	0.0358	-0.1135	0.2341
2	270.35	0.3498	0.0608	0.0024	-0.0371	0.0105	0.2278	0.0610	-0.2114	0.2060
2	270.35	0.3998	0.0946	0.0042	-0.0686	0.0158	0.3279	0.0870	-0.4054	0.1826
2	270.35	0.4496	0.1270	0.0042	-0.1178	0.0207	0.5094	0.1089	-0.4675	0.1713
2	270.35	0.4995	0.1586	0.0038	-0.1797	0.0242	0.7278	0.1226	-0.5495	0.1974
2	270.35	0.5551	0.2061	0.0041	-0.2638	0.0303	0.9849	0.1455	-0.7647	0.1934
2	270.35	0.5996	0.2306	0.0048	-0.3424	0.0347	1.2522	0.1643	-0.8899	0.1955
2	270.35	0.6497	0.2677	0.0060	-0.4277	0.0401	1.5897	0.1880	-0.9740	0.1993
2	270.35	0.6996	0.3062	0.0070	-0.5456	0.0454	1.9614	0.2106	-0.9887	0.2023
2	270.35	0.7495	0.3233	0.0081	-0.6419	0.0508	2.3790	0.2366	-1.0888	0.1905
2	270.35	0.7996	0.3650	0.0085	-0.7806	0.0565	2.7605	0.2615	-1.2594	0.1946
2	270.35	0.8578	0.3811	0.0097	-0.9183	0.0630	3.2666	0.2895	-1.1242	0.2033
2	270.35	0.9100	0.4207	0.0105	-0.9975	0.0692	3.6799	0.3165	-1.3258	0.1943
2	270.35	0.9727	0.4428	0.0145	-1.0684	0.0764	4.2290	0.3508	-1.1827	0.1932
3	270	0.1938	-0.0620	0.0093	-0.0230	0.0012	0.1086	0.0121	-0.2206	0.0682
3	270	0.2357	-0.0253	0.0045	0.0125	0.0013	0.1106	0.0133	-0.7090	0.1686
3	270	0.2995	0.0198	0.0037	-0.0576	0.0041	0.3403	0.0334	-0.7381	0.1946
3	270	0.3493	0.0567	0.0030	-0.0975	0.0073	0.5283	0.0529	-0.8967	0.2027
3	270	0.4000	0.1042	0.0043	-0.1359	0.0114	0.7917	0.0767	-0.7774	0.1894
3	270	0.4497	0.1243	0.0032	-0.2070	0.0144	1.0937	0.0981	-0.8549	0.1833
3	270	0.4997	0.1548	0.0036	-0.2805	0.0181	1.4313	0.1189	-0.9902	0.1924
3	270	0.5556	0.1918	0.0047	-0.3615	0.0224	1.8661	0.1469	-1.1797	0.1858
3	270	0.5995	0.2226	0.0054	-0.4667	0.0257	2.2649	0.1683	-1.0836	0.1846
3	270	0.6498	0.2526	0.0060	-0.5754	0.0299	2.7366	0.1929	-1.1543	0.1820
3	270	0.6890	0.2396	0.0068	-0.6808	0.0329	3.1143	0.2107	-1.1921	0.2011
3	270	0.7495	0.2873	0.0085	-0.8254	0.0383	3.7312	0.2445	-1.3378	0.1987
3	270	0.7998	0.3300	0.0089	-0.9555	0.0431	4.2592	0.2717	-1.5007	0.1855
3	270	0.8577	0.3547	0.0099	-1.0821	0.0487	4.8848	0.3039	-1.3744	0.1901
3	270	0.9178	0.3709	0.0112	-1.3001	0.0552	5.4650	0.3383	-1.5870	0.1859
3	270	0.9729	0.4098	0.0145	-1.3907	0.0606	5.8835	0.3692	-2.0217	0.1905

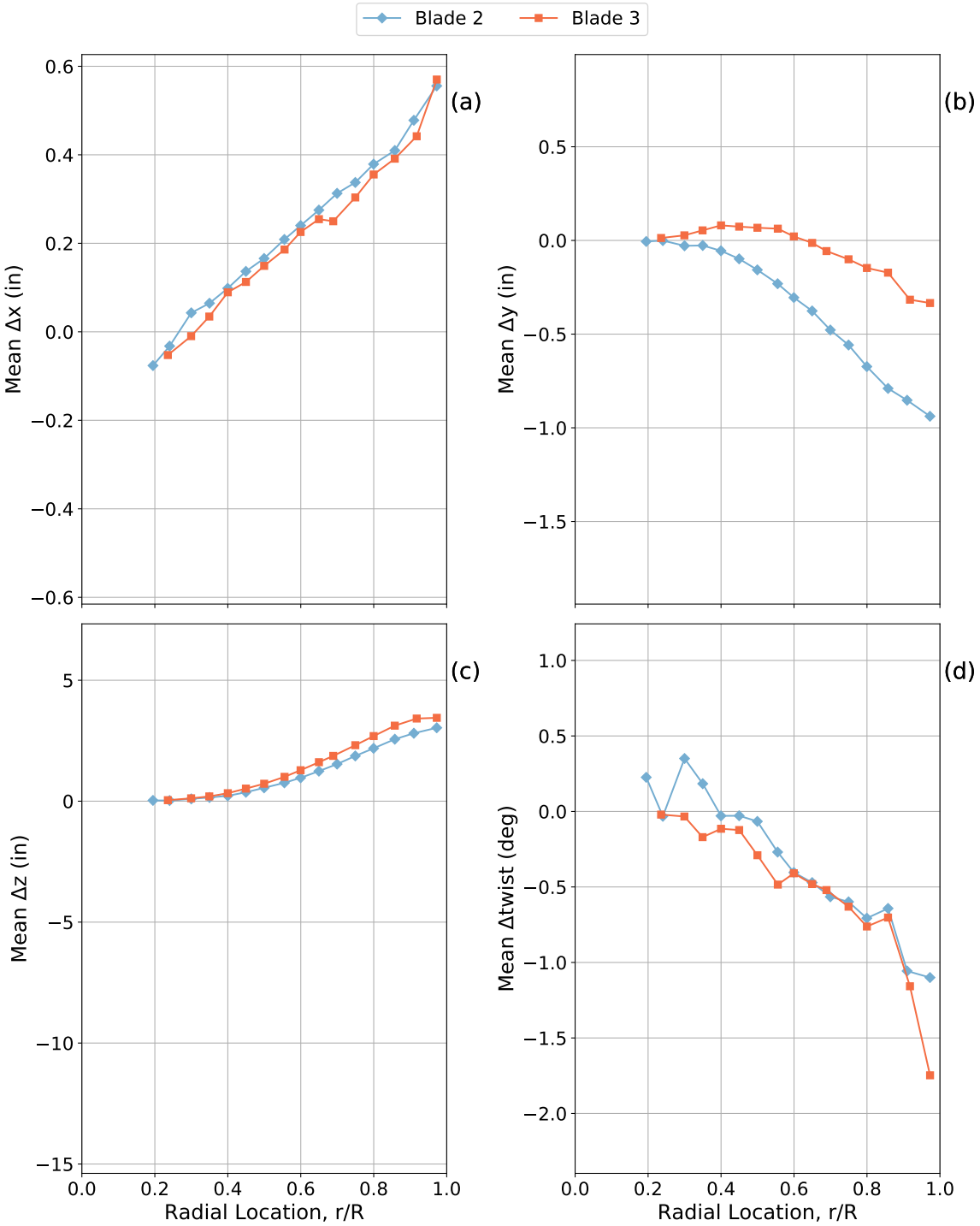


Figure 3.1-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	-0.0763	0.0210	-0.0055	0.0033	0.0327	0.0324	0.2259	0.1953
2	274.92	0.2405	-0.0323	0.0101	-0.0009	0.0031	0.0267	0.0323	-0.0320	0.5170
2	274.92	0.2999	0.0429	0.0093	-0.0286	0.0110	0.0958	0.0820	0.3505	0.5656
2	274.92	0.3498	0.0646	0.0080	-0.0269	0.0213	0.1538	0.1445	0.1837	0.4918
2	274.92	0.3998	0.0983	0.0075	-0.0554	0.0305	0.2211	0.1942	-0.0293	0.4985
2	274.92	0.4496	0.1366	0.0067	-0.0983	0.0391	0.3693	0.2463	-0.0285	0.4982
2	274.92	0.4995	0.1657	0.0070	-0.1571	0.0478	0.5526	0.3013	-0.0659	0.4769
2	274.92	0.5551	0.2087	0.0077	-0.2310	0.0572	0.7595	0.3567	-0.2691	0.4952
2	274.92	0.5996	0.2402	0.0082	-0.3050	0.0655	0.9672	0.4051	-0.4040	0.4963
2	274.92	0.6497	0.2751	0.0088	-0.3762	0.0742	1.2419	0.4557	-0.4712	0.5132
2	274.92	0.6996	0.3129	0.0099	-0.4780	0.0827	1.5342	0.5090	-0.5654	0.5017
2	274.92	0.7495	0.3375	0.0117	-0.5581	0.0910	1.8707	0.5622	-0.5987	0.4902
2	274.92	0.7996	0.3789	0.0119	-0.6733	0.0997	2.1857	0.6149	-0.7070	0.4956
2	274.92	0.8578	0.4097	0.0134	-0.7899	0.1098	2.5629	0.6772	-0.6422	0.5000
2	274.92	0.9100	0.4780	0.0150	-0.8529	0.1200	2.8085	0.7319	-1.0566	0.5112
2	274.92	0.9727	0.5557	0.0210	-0.9384	0.1330	3.0346	0.8015	-1.1000	0.5068
3	274.92	0.2357	-0.0525	0.0078	0.0131	0.0021	0.0424	0.0322	-0.0208	0.3008
3	274.92	0.2995	-0.0098	0.0043	0.0272	0.0059	0.1191	0.0598	-0.0335	0.4814
3	274.92	0.3493	0.0345	0.0035	0.0537	0.0119	0.1976	0.1097	-0.1703	0.4299
3	274.92	0.4000	0.0893	0.0030	0.0804	0.0192	0.3302	0.1586	-0.1147	0.4203
3	274.92	0.4497	0.1127	0.0050	0.0735	0.0253	0.5212	0.2081	-0.1232	0.4164
3	274.92	0.4997	0.1490	0.0043	0.0677	0.0321	0.7221	0.2592	-0.2900	0.4027
3	274.92	0.5556	0.1859	0.0052	0.0628	0.0395	1.0076	0.3134	-0.4845	0.4196
3	274.92	0.5995	0.2256	0.0064	0.0213	0.0463	1.2805	0.3636	-0.4095	0.4172
3	274.92	0.6498	0.2546	0.0076	-0.0132	0.0546	1.6118	0.4188	-0.4810	0.4129
3	274.92	0.6890	0.2498	0.0094	-0.0568	0.0613	1.8727	0.4621	-0.5208	0.4158
3	274.92	0.7495	0.3036	0.0108	-0.1006	0.0729	2.3153	0.5271	-0.6308	0.4181
3	274.92	0.7998	0.3555	0.0121	-0.1471	0.0832	2.6917	0.5830	-0.7620	0.4142
3	274.92	0.8577	0.3912	0.0137	-0.1720	0.0945	3.1226	0.6449	-0.7027	0.4007
3	274.92	0.9178	0.4419	0.0160	-0.3163	0.1079	3.4167	0.7027	-1.1578	0.4224
3	274.92	0.9729	0.5701	0.0202	-0.3340	0.1212	3.4466	0.7579	-1.7475	0.4097

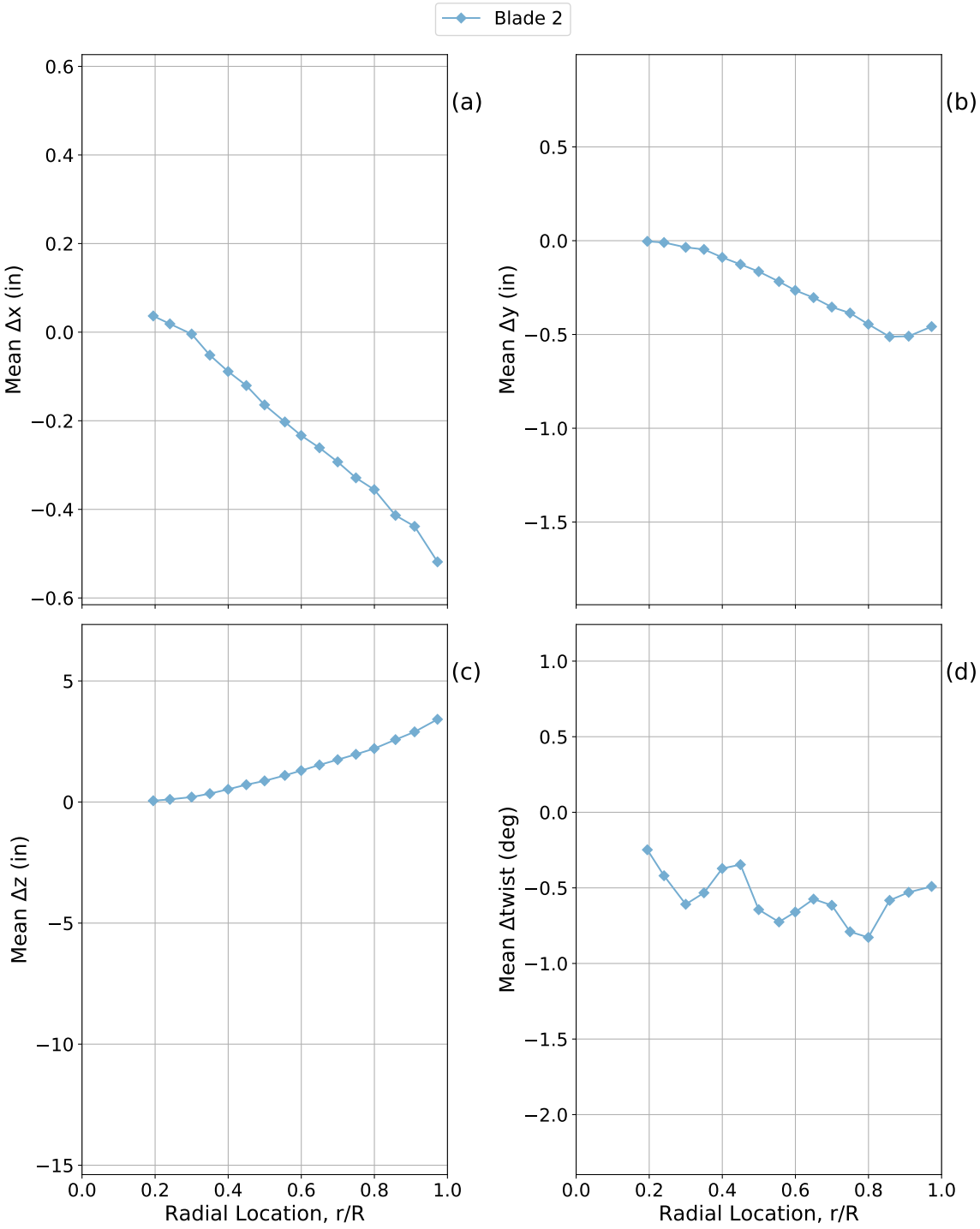


Figure 3.1-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0366	0.0019	-0.0034	0.0013	0.0531	0.0065	-0.2480	0.0297
2	285.12	0.2405	0.0187	0.0023	-0.0098	0.0012	0.1093	0.0128	-0.4197	0.0423
2	285.12	0.2999	-0.0042	0.0010	-0.0354	0.0029	0.2047	0.0280	-0.6086	0.0663
2	285.12	0.3498	-0.0519	0.0014	-0.0465	0.0068	0.3467	0.0414	-0.5329	0.0432
2	285.12	0.3998	-0.0888	0.0019	-0.0891	0.0076	0.5260	0.0669	-0.3719	0.0861
2	285.12	0.4496	-0.1205	0.0038	-0.1262	0.0099	0.7155	0.0820	-0.3462	0.0892
2	285.12	0.4995	-0.1642	0.0035	-0.1646	0.0127	0.8733	0.0920	-0.6440	0.0613
2	285.12	0.5551	-0.2027	0.0047	-0.2179	0.0148	1.0995	0.1051	-0.7255	0.0507
2	285.12	0.5996	-0.2333	0.0041	-0.2649	0.0186	1.2983	0.1279	-0.6597	0.0673
2	285.12	0.6497	-0.2610	0.0042	-0.3036	0.0206	1.5318	0.1401	-0.5744	0.0569
2	285.12	0.6996	-0.2929	0.0038	-0.3540	0.0243	1.7488	0.1504	-0.6153	0.0483
2	285.12	0.7495	-0.3289	0.0059	-0.3857	0.0274	1.9708	0.1641	-0.7902	0.0726
2	285.12	0.7996	-0.3554	0.0050	-0.4456	0.0308	2.2070	0.1813	-0.8277	0.0555
2	285.12	0.8578	-0.4136	0.0074	-0.5120	0.0355	2.5765	0.1956	-0.5826	0.0562
2	285.12	0.9100	-0.4384	0.0065	-0.5093	0.0391	2.8987	0.2089	-0.5293	0.0697
2	285.12	0.9727	-0.5185	0.0085	-0.4579	0.0442	3.4160	0.2236	-0.4906	0.0532

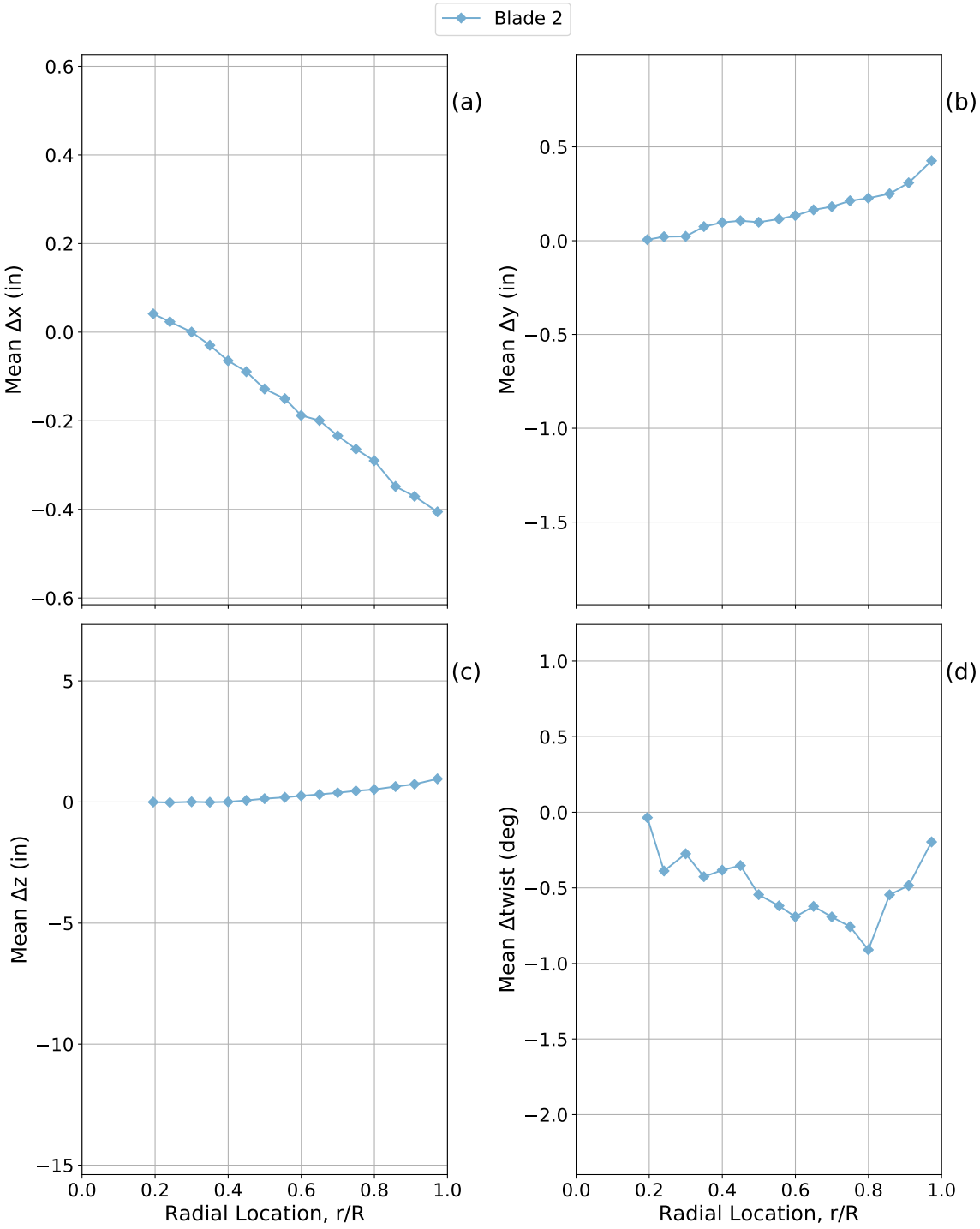


Figure 3.1-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0413	0.0023	0.0054	0.0008	-0.0037	0.0057	-0.0354	0.0616
2	299.88	0.2405	0.0235	0.0053	0.0215	0.0025	-0.0205	0.0128	-0.3882	0.0876
2	299.88	0.2999	0.0002	0.0028	0.0232	0.0037	0.0069	0.0214	-0.2744	0.1352
2	299.88	0.3498	-0.0297	0.0036	0.0752	0.0062	-0.0107	0.0388	-0.4262	0.1384
2	299.88	0.3998	-0.0645	0.0037	0.0974	0.0102	0.0058	0.0573	-0.3827	0.1198
2	299.88	0.4496	-0.0892	0.0022	0.1063	0.0122	0.0653	0.0774	-0.3521	0.0885
2	299.88	0.4995	-0.1282	0.0031	0.0987	0.0183	0.1365	0.1002	-0.5449	0.1231
2	299.88	0.5551	-0.1502	0.0053	0.1156	0.0254	0.1928	0.1335	-0.6187	0.0796
2	299.88	0.5996	-0.1879	0.0056	0.1341	0.0264	0.2555	0.1567	-0.6910	0.0936
2	299.88	0.6497	-0.1994	0.0053	0.1644	0.0329	0.3132	0.1885	-0.6223	0.1109
2	299.88	0.6996	-0.2339	0.0061	0.1813	0.0395	0.3804	0.2246	-0.6921	0.0928
2	299.88	0.7495	-0.2640	0.0069	0.2128	0.0467	0.4601	0.2605	-0.7562	0.1044
2	299.88	0.7996	-0.2903	0.0073	0.2265	0.0541	0.5158	0.2999	-0.9095	0.1008
2	299.88	0.8578	-0.3482	0.0082	0.2505	0.0632	0.6374	0.3503	-0.5458	0.1023
2	299.88	0.9100	-0.3707	0.0087	0.3086	0.0716	0.7345	0.3999	-0.4841	0.1067
2	299.88	0.9727	-0.4056	0.0128	0.4259	0.0812	0.9568	0.4630	-0.1961	0.1077

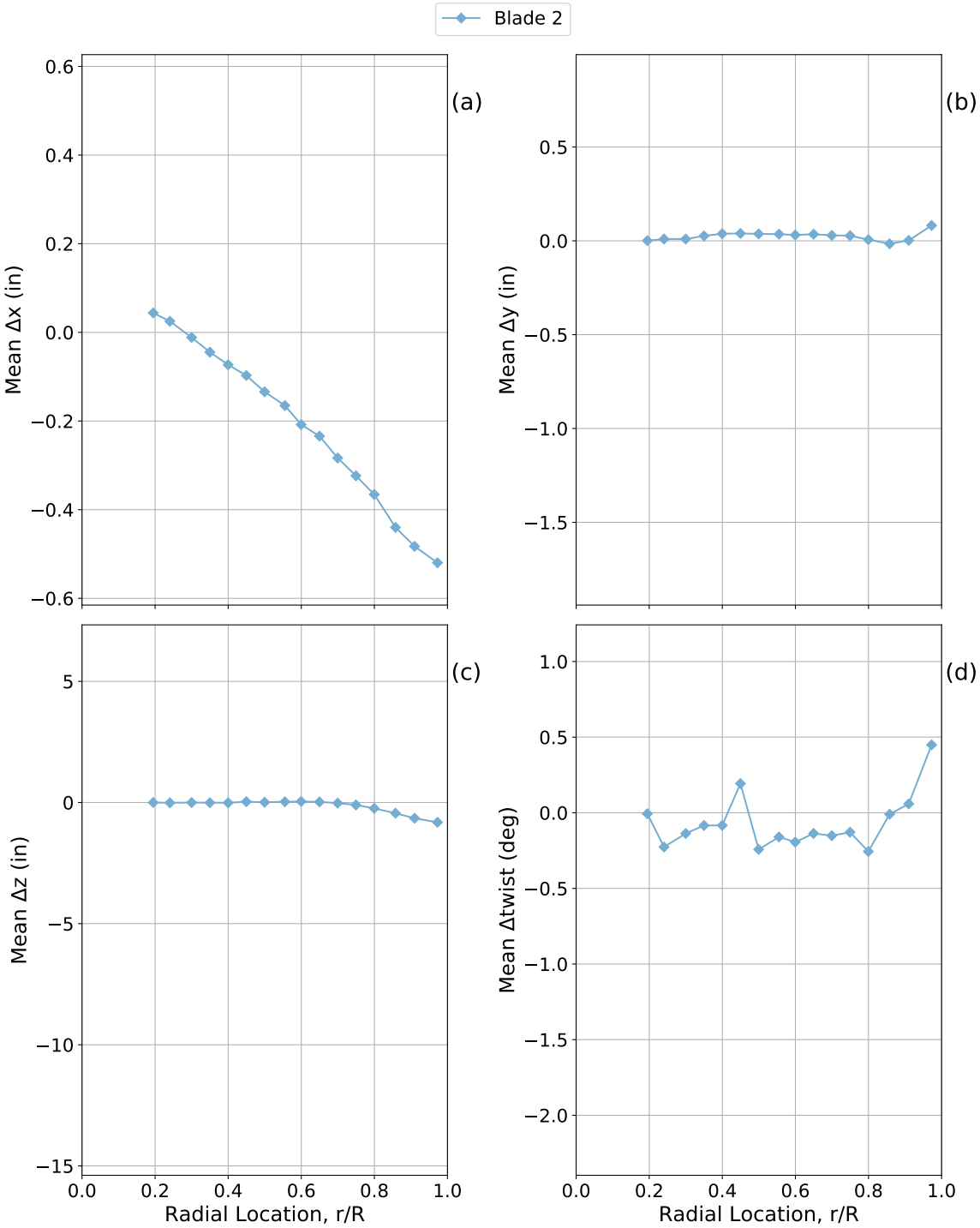


Figure 3.1-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0438	0.0017	0.0010	0.0011	-0.0004	0.0044	-0.0064	0.0722
2	315	0.2405	0.0250	0.0010	0.0096	0.0025	-0.0134	0.0100	-0.2266	0.0894
2	315	0.2999	-0.0115	0.0032	0.0096	0.0035	-0.0032	0.0149	-0.1370	0.1620
2	315	0.3498	-0.0446	0.0037	0.0262	0.0110	-0.0077	0.0284	-0.0839	0.1325
2	315	0.3998	-0.0731	0.0029	0.0380	0.0133	-0.0117	0.0415	-0.0837	0.1475
2	315	0.4496	-0.0972	0.0024	0.0393	0.0147	0.0334	0.0565	0.1929	0.1654
2	315	0.4995	-0.1341	0.0032	0.0369	0.0173	0.0102	0.0676	-0.2423	0.1301
2	315	0.5551	-0.1651	0.0034	0.0357	0.0214	0.0287	0.0825	-0.1600	0.1151
2	315	0.5996	-0.2080	0.0036	0.0309	0.0242	0.0421	0.0978	-0.1942	0.1252
2	315	0.6497	-0.2341	0.0024	0.0354	0.0270	0.0244	0.1174	-0.1367	0.1238
2	315	0.6996	-0.2834	0.0035	0.0291	0.0307	-0.0262	0.1404	-0.1515	0.1255
2	315	0.7495	-0.3235	0.0031	0.0273	0.0345	-0.1015	0.1625	-0.1286	0.1382
2	315	0.7996	-0.3657	0.0033	0.0064	0.0377	-0.2427	0.1932	-0.2560	0.1320
2	315	0.8578	-0.4400	0.0040	-0.0159	0.0426	-0.4431	0.2273	-0.0096	0.1327
2	315	0.9100	-0.4828	0.0041	0.0022	0.0469	-0.6500	0.2612	0.0586	0.1269
2	315	0.9727	-0.5198	0.0048	0.0819	0.0530	-0.8188	0.3018	0.4490	0.1236

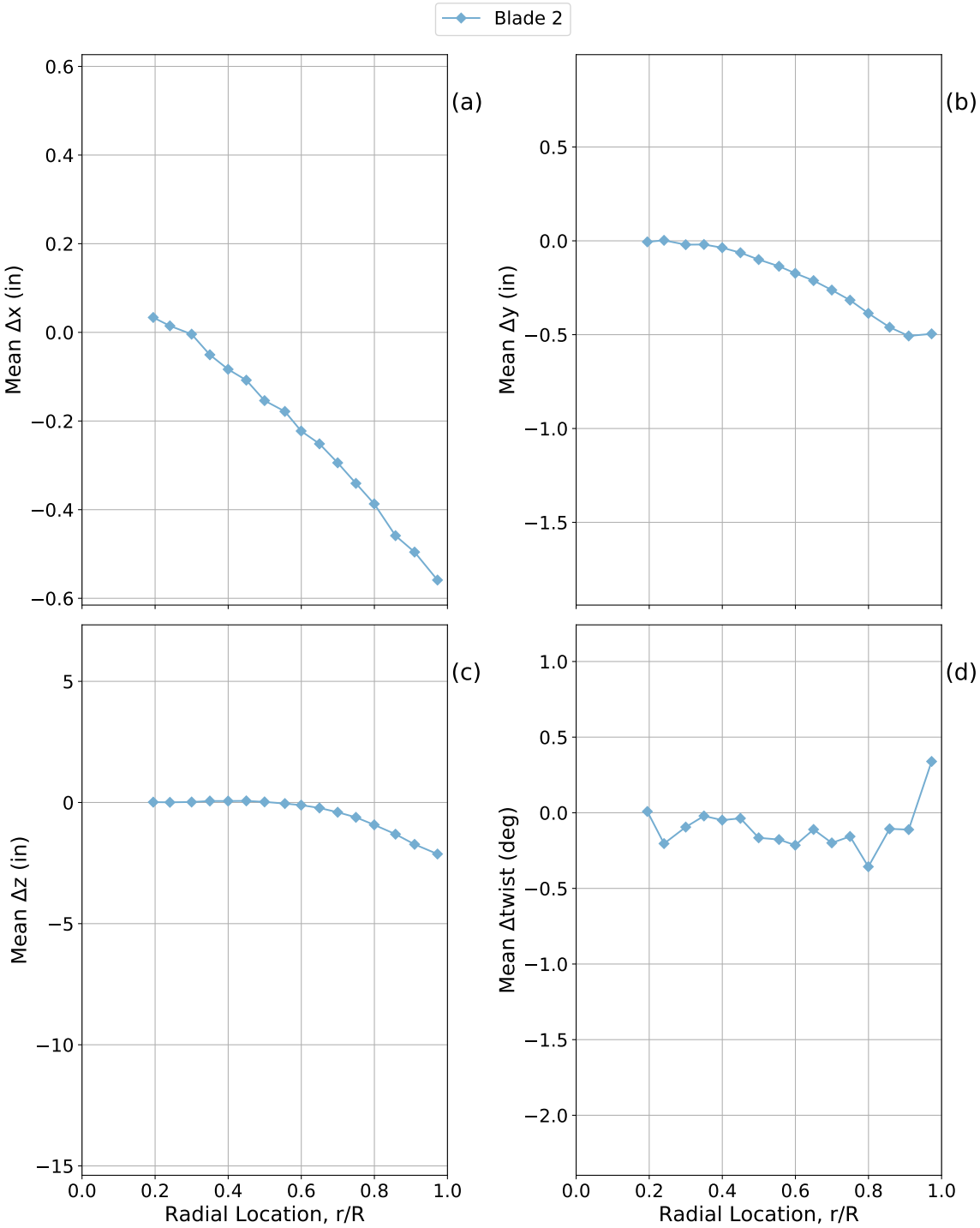


Figure 3.1-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0336	0.0022	-0.0055	0.0009	0.0143	0.0020	0.0084	0.0459
2	330.12	0.2405	0.0146	0.0018	0.0026	0.0014	0.0078	0.0104	-0.2039	0.0484
2	330.12	0.2999	-0.0041	0.0018	-0.0205	0.0042	0.0199	0.0138	-0.0946	0.0898
2	330.12	0.3498	-0.0506	0.0037	-0.0195	0.0059	0.0611	0.0189	-0.0212	0.0896
2	330.12	0.3998	-0.0834	0.0036	-0.0367	0.0100	0.0601	0.0349	-0.0487	0.1001
2	330.12	0.4496	-0.1079	0.0019	-0.0634	0.0142	0.0666	0.0421	-0.0369	0.0977
2	330.12	0.4995	-0.1540	0.0144	-0.0998	0.0145	0.0248	0.0549	-0.1657	0.0735
2	330.12	0.5551	-0.1784	0.0043	-0.1356	0.0206	-0.0444	0.0753	-0.1770	0.0749
2	330.12	0.5996	-0.2226	0.0034	-0.1729	0.0232	-0.1089	0.0841	-0.2145	0.0638
2	330.12	0.6497	-0.2515	0.0032	-0.2119	0.0263	-0.2250	0.1002	-0.1104	0.0789
2	330.12	0.6996	-0.2943	0.0034	-0.2623	0.0306	-0.4028	0.1137	-0.1994	0.0846
2	330.12	0.7495	-0.3407	0.0034	-0.3161	0.0349	-0.6126	0.1241	-0.1567	0.0684
2	330.12	0.7996	-0.3870	0.0032	-0.3864	0.0397	-0.9221	0.1420	-0.3567	0.0773
2	330.12	0.8578	-0.4587	0.0041	-0.4604	0.0455	-1.3080	0.1572	-0.1063	0.0708
2	330.12	0.9100	-0.4957	0.0044	-0.5069	0.0508	-1.7278	0.1754	-0.1114	0.0712
2	330.12	0.9727	-0.5588	0.0046	-0.4956	0.0575	-2.1267	0.1984	0.3392	0.0740

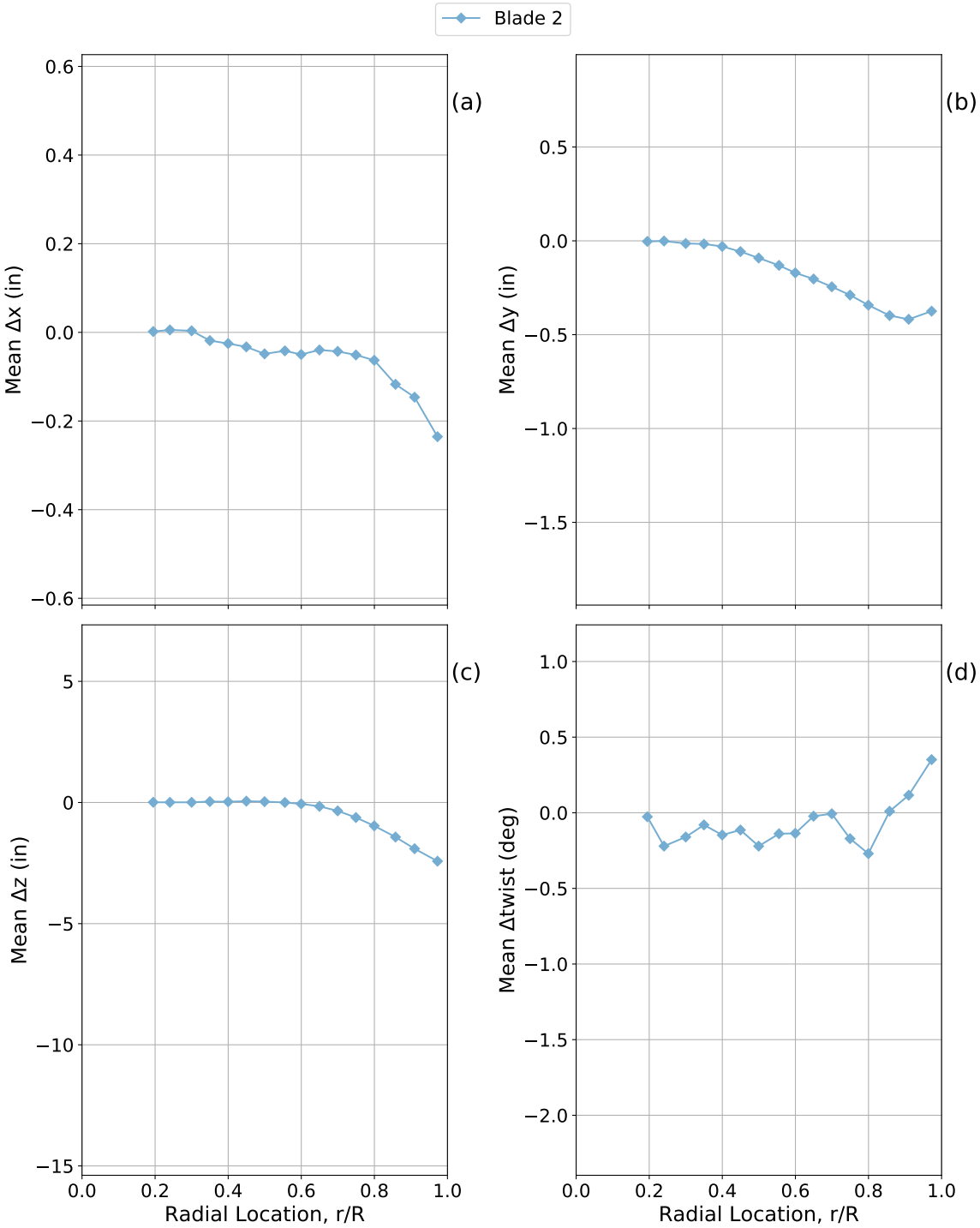


Figure 3.1-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0019	0.0014	-0.0032	0.0008	0.0087	0.0052	-0.0265	0.0214
2	344.88	0.2405	0.0055	0.0015	-0.0011	0.0027	0.0066	0.0128	-0.2206	0.0242
2	344.88	0.2999	0.0035	0.0011	-0.0142	0.0054	0.0081	0.0235	-0.1602	0.0446
2	344.88	0.3498	-0.0186	0.0014	-0.0167	0.0079	0.0371	0.0377	-0.0804	0.0518
2	344.88	0.3998	-0.0252	0.0015	-0.0300	0.0142	0.0310	0.0601	-0.1470	0.0426
2	344.88	0.4496	-0.0328	0.0020	-0.0573	0.0185	0.0548	0.0782	-0.1139	0.0376
2	344.88	0.4995	-0.0485	0.0024	-0.0915	0.0205	0.0353	0.0941	-0.2207	0.0513
2	344.88	0.5551	-0.0417	0.0020	-0.1309	0.0276	0.0009	0.1183	-0.1387	0.0582
2	344.88	0.5996	-0.0499	0.0015	-0.1706	0.0306	-0.0560	0.1315	-0.1361	0.0622
2	344.88	0.6497	-0.0397	0.0021	-0.2034	0.0356	-0.1591	0.1461	-0.0228	0.0676
2	344.88	0.6996	-0.0430	0.0036	-0.2449	0.0413	-0.3458	0.1677	-0.0065	0.0662
2	344.88	0.7495	-0.0510	0.0017	-0.2889	0.0465	-0.6205	0.1861	-0.1711	0.0581
2	344.88	0.7996	-0.0630	0.0031	-0.3427	0.0504	-0.9632	0.2026	-0.2701	0.0655
2	344.88	0.8578	-0.1172	0.0030	-0.3981	0.0561	-1.4266	0.2211	0.0099	0.0784
2	344.88	0.9100	-0.1463	0.0042	-0.4182	0.0615	-1.9082	0.2361	0.1160	0.1036
2	344.88	0.9727	-0.2354	0.0054	-0.3748	0.0678	-2.4232	0.2484	0.3513	0.1316

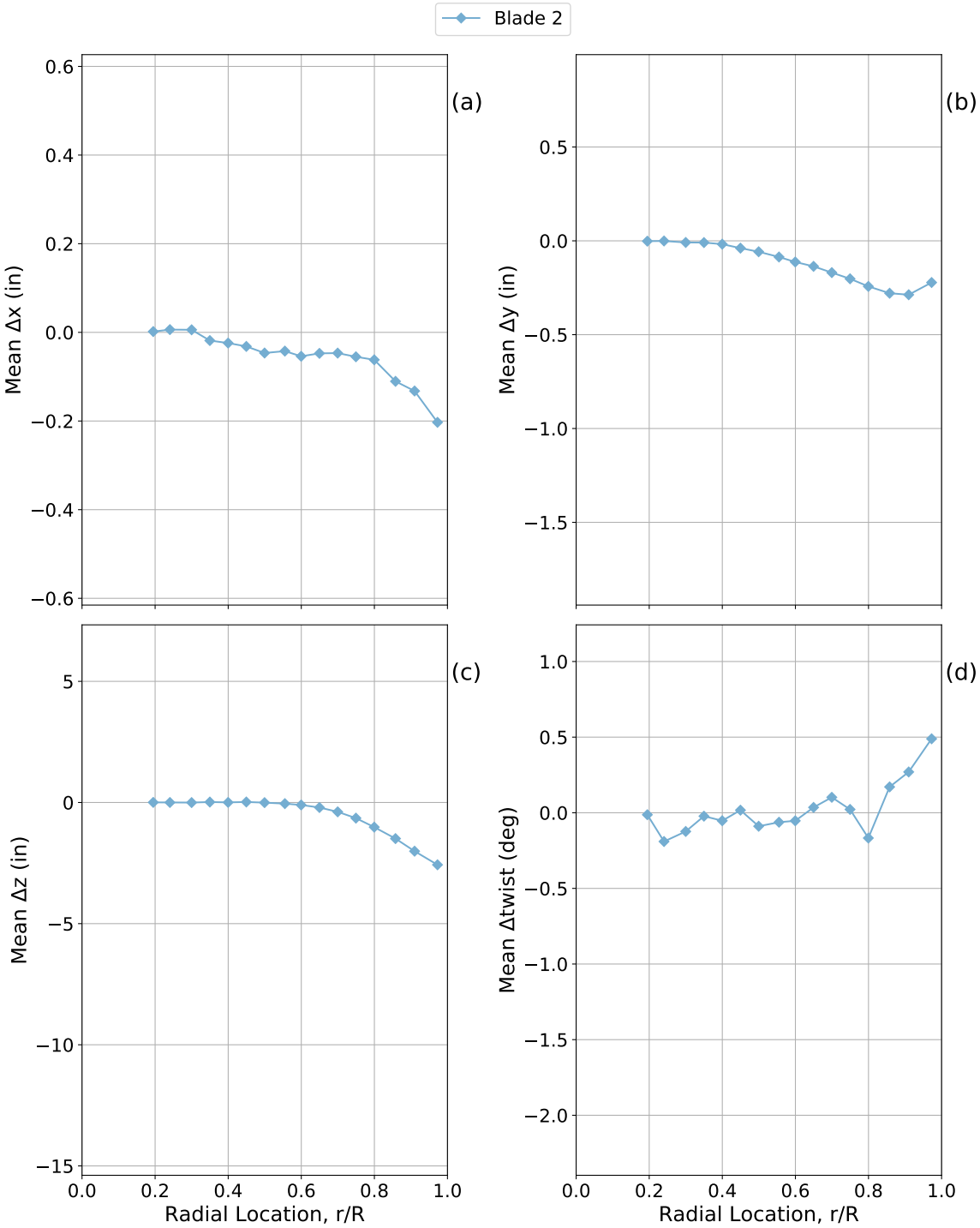


Figure 3.1-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0018	0.0011	-0.0018	0.0008	0.0047	0.0025	-0.0130	0.0223
2	350.16	0.2405	0.0062	0.0009	-0.0008	0.0016	0.0012	0.0058	-0.1901	0.0233
2	350.16	0.2999	0.0058	0.0010	-0.0087	0.0032	-0.0033	0.0093	-0.1235	0.0434
2	350.16	0.3498	-0.0185	0.0018	-0.0093	0.0056	0.0188	0.0176	-0.0225	0.0548
2	350.16	0.3998	-0.0241	0.0015	-0.0177	0.0080	0.0049	0.0263	-0.0527	0.0453
2	350.16	0.4496	-0.0317	0.0022	-0.0389	0.0105	0.0209	0.0292	0.0171	0.0579
2	350.16	0.4995	-0.0466	0.0018	-0.0582	0.0133	-0.0057	0.0373	-0.0891	0.0484
2	350.16	0.5551	-0.0423	0.0015	-0.0861	0.0175	-0.0473	0.0472	-0.0625	0.0720
2	350.16	0.5996	-0.0540	0.0021	-0.1127	0.0199	-0.1020	0.0562	-0.0532	0.0417
2	350.16	0.6497	-0.0474	0.0021	-0.1360	0.0237	-0.2073	0.0653	0.0354	0.0590
2	350.16	0.6996	-0.0468	0.0032	-0.1694	0.0283	-0.3853	0.0774	0.1022	0.0569
2	350.16	0.7495	-0.0551	0.0031	-0.2022	0.0310	-0.6459	0.0913	0.0221	0.0675
2	350.16	0.7996	-0.0619	0.0036	-0.2428	0.0362	-1.0166	0.1038	-0.1672	0.0656
2	350.16	0.8578	-0.1105	0.0032	-0.2792	0.0406	-1.4901	0.1224	0.1710	0.0519
2	350.16	0.9100	-0.1323	0.0038	-0.2872	0.0453	-2.0099	0.1332	0.2698	0.0629
2	350.16	0.9727	-0.2030	0.0057	-0.2221	0.0520	-2.5714	0.1574	0.4891	0.0812

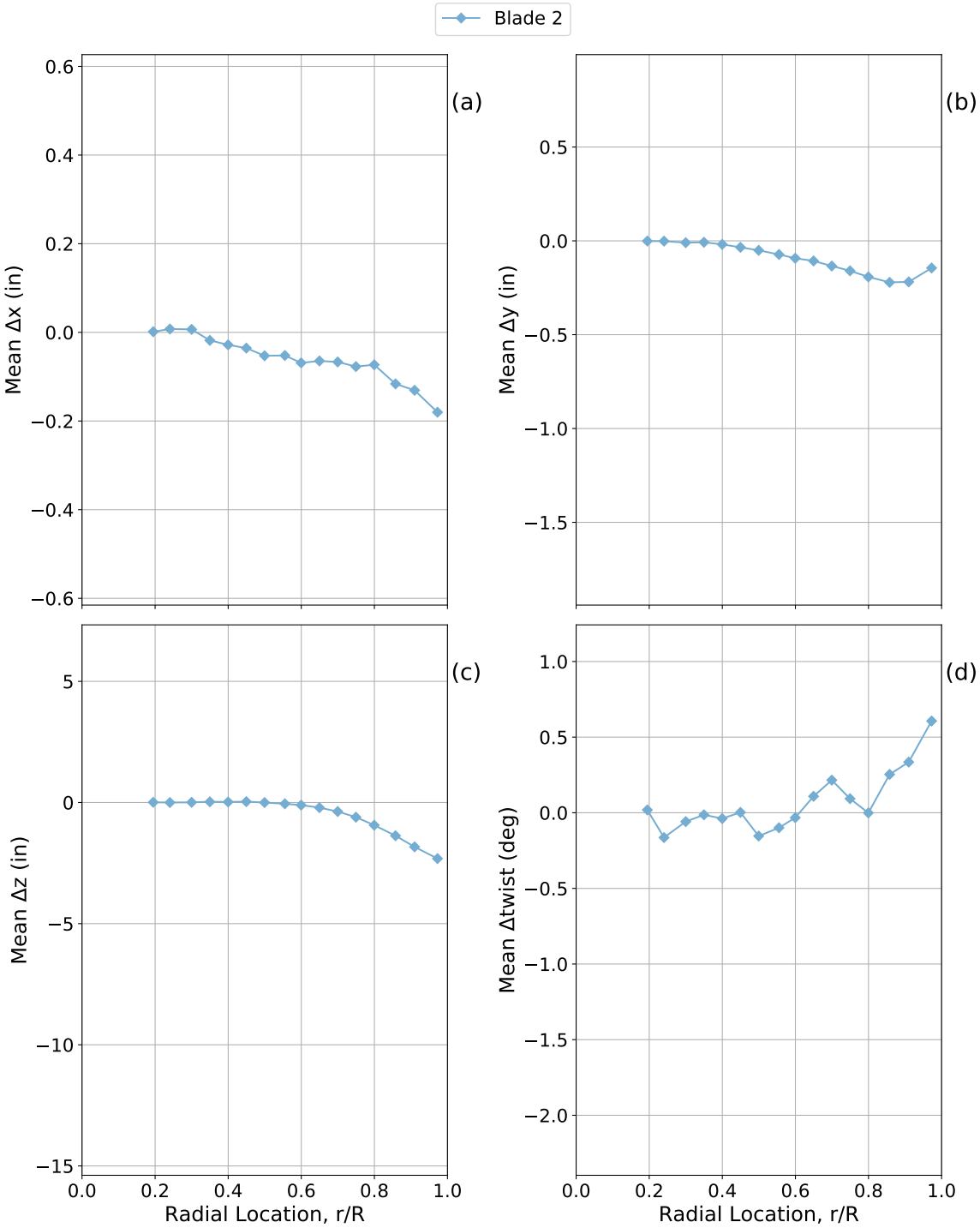


Figure 3.1-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.24, α = -0° NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Table 3.1-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.24, α = -0°
NFAC run 42, point 43. BD run 19, points 1079 to 1089.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0014	0.0013	-0.0012	0.0007	0.0080	0.0031	0.0186	0.0316
2	355.08	0.2405	0.0076	0.0010	-0.0017	0.0020	-0.0009	0.0062	-0.1638	0.0433
2	355.08	0.2999	0.0067	0.0016	-0.0098	0.0041	0.0070	0.0133	-0.0585	0.0737
2	355.08	0.3498	-0.0181	0.0018	-0.0077	0.0056	0.0288	0.0222	-0.0134	0.0717
2	355.08	0.3998	-0.0282	0.0020	-0.0189	0.0102	0.0223	0.0344	-0.0384	0.0733
2	355.08	0.4496	-0.0355	0.0021	-0.0346	0.0132	0.0362	0.0483	0.0026	0.0733
2	355.08	0.4995	-0.0528	0.0030	-0.0506	0.0179	-0.0020	0.0621	-0.1539	0.0854
2	355.08	0.5551	-0.0522	0.0037	-0.0727	0.0226	-0.0529	0.0724	-0.0990	0.0717
2	355.08	0.5996	-0.0688	0.0031	-0.0928	0.0282	-0.1085	0.0816	-0.0325	0.0734
2	355.08	0.6497	-0.0645	0.0042	-0.1071	0.0346	-0.2121	0.0956	0.1088	0.0808
2	355.08	0.6996	-0.0668	0.0046	-0.1342	0.0410	-0.3714	0.1082	0.2158	0.0778
2	355.08	0.7495	-0.0772	0.0041	-0.1598	0.0488	-0.6068	0.1237	0.0931	0.0575
2	355.08	0.7996	-0.0731	0.0043	-0.1922	0.0568	-0.9357	0.1461	-0.0008	0.0669
2	355.08	0.8578	-0.1162	0.0052	-0.2212	0.0660	-1.3718	0.1764	0.2537	0.0865
2	355.08	0.9100	-0.1307	0.0054	-0.2188	0.0749	-1.8315	0.2073	0.3350	0.0870
2	355.08	0.9727	-0.1802	0.0090	-0.1447	0.0845	-2.3150	0.2575	0.6067	0.1266

3.2 Run 42, Point 44

3.2.1 Pitch, Flap, and Lag

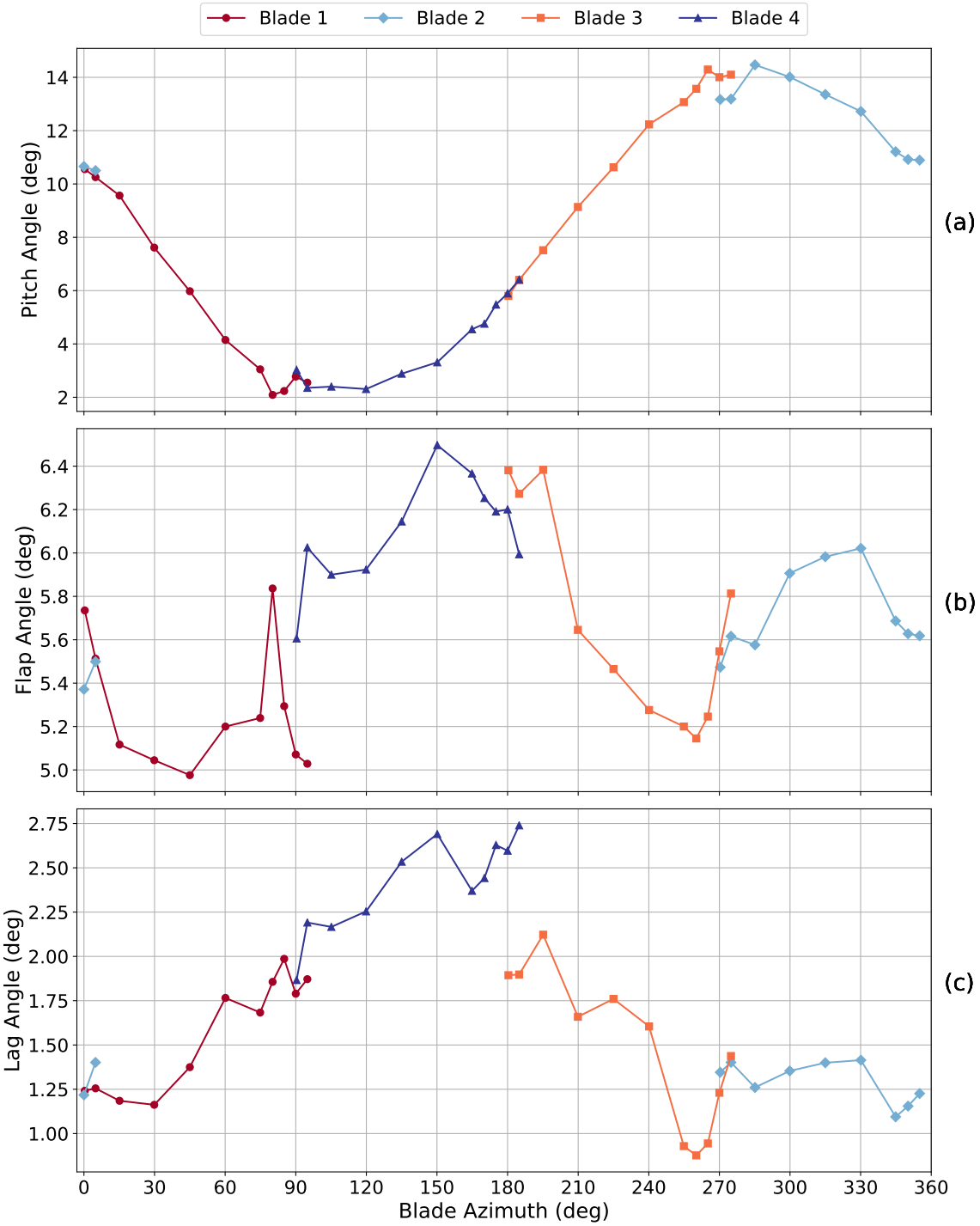


Figure 3.2-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	10.6577	5.3713	1.2177	0.1758	0.0646	0.0996
0.35	1	10.5547	5.7353	1.2415	0.1721	0.0947	0.0425
4.92	1	10.2549	5.5129	1.2552	0.1288	0.0594	0.0515
4.92	2	10.5026	5.4991	1.4016	0.1185	0.0598	0.0679
15.12	1	9.5652	5.1169	1.1850	0.1731	0.0609	0.0554
29.88	1	7.6134	5.0447	1.1622	0.1226	0.0685	0.0666
45	1	5.9780	4.9760	1.3747	0.1305	0.0818	0.0544
60.12	1	4.1492	5.1999	1.7657	0.0814	0.0890	0.0425
74.88	1	3.0479	5.2393	1.6831	0.1282	0.1111	0.0669
80.16	1	2.0892	5.8364	1.8563	0.1530	0.1183	0.0570
85.08	1	2.2349	5.2940	1.9862	0.1044	0.1384	0.0490
90	1	2.7753	5.0712	1.7895	0.0674	0.1137	0.0899
90.35	4	3.0254	5.6059	1.8664	0.0767	0.0759	0.0396
94.92	1	2.5500	5.0285	1.8715	0.0697	0.0712	0.0797
94.92	4	2.3528	6.0248	2.1911	0.0665	0.0813	0.0358
105.12	4	2.3985	5.8998	2.1663	0.1097	0.0639	0.0510
119.88	4	2.3076	5.9236	2.2541	0.0694	0.0670	0.0646
135	4	2.8828	6.1449	2.5343	0.1001	0.0918	0.0333
150.12	4	3.3103	6.4971	2.6907	0.0877	0.0963	0.0494
164.88	4	4.5499	6.3662	2.3701	0.1113	0.1761	0.0740
170.16	4	4.7571	6.2531	2.4421	0.1522	0.1150	0.0392
175.08	4	5.4741	6.1908	2.6286	0.0898	0.1106	0.0485
180	4	5.8938	6.2005	2.5966	0.1349	0.0854	0.0978
180.35	3	5.8004	6.3812	1.8939	0.0712	0.1010	0.0435
184.92	3	6.4021	6.2728	1.8979	0.1132	0.0864	0.0321
184.92	4	6.4078	5.9939	2.7396	0.1021	0.0889	0.0689
195.12	3	7.5146	6.3832	2.1225	0.0954	0.2209	0.1540
209.88	3	9.1363	5.6455	1.6592	0.0741	0.0819	0.0685
225	3	10.6249	5.4652	1.7601	0.0642	0.0718	0.0666
240.12	3	12.2348	5.2762	1.6048	0.0899	0.0919	0.0409
254.88	3	13.0684	5.2001	0.9291	0.0661	0.0725	0.1091
260.16	3	13.5681	5.1452	0.8767	0.1119	0.1021	0.0419
265.08	3	14.2918	5.2459	0.9441	0.1162	0.0947	0.0646
270	3	14.0032	5.5467	1.2303	0.2274	0.1121	0.0912
270.35	2	13.1664	5.4732	1.3459	0.3782	0.1406	0.0744
274.92	2	13.1859	5.6161	1.4018	0.8875	0.3139	0.1425
274.92	3	14.0989	5.8131	1.4376	0.7161	0.2003	0.1019
285.12	2	14.4667	5.5762	1.2600	0.1701	0.0820	0.0706
299.88	2	14.0122	5.9063	1.3536	0.1783	0.0668	0.0718
315	2	13.3570	5.9827	1.3996	0.0699	0.0606	0.0675
330.12	2	12.7211	6.0213	1.4144	0.0389	0.0600	0.0299
344.88	2	11.2099	5.6865	1.0944	0.0837	0.0929	0.1127
350.16	2	10.9198	5.6276	1.1548	0.0763	0.0794	0.0471
355.08	2	10.8928	5.6183	1.2259	0.0990	0.0487	0.0501

3.2.2 Spanwise Elastic Deformations

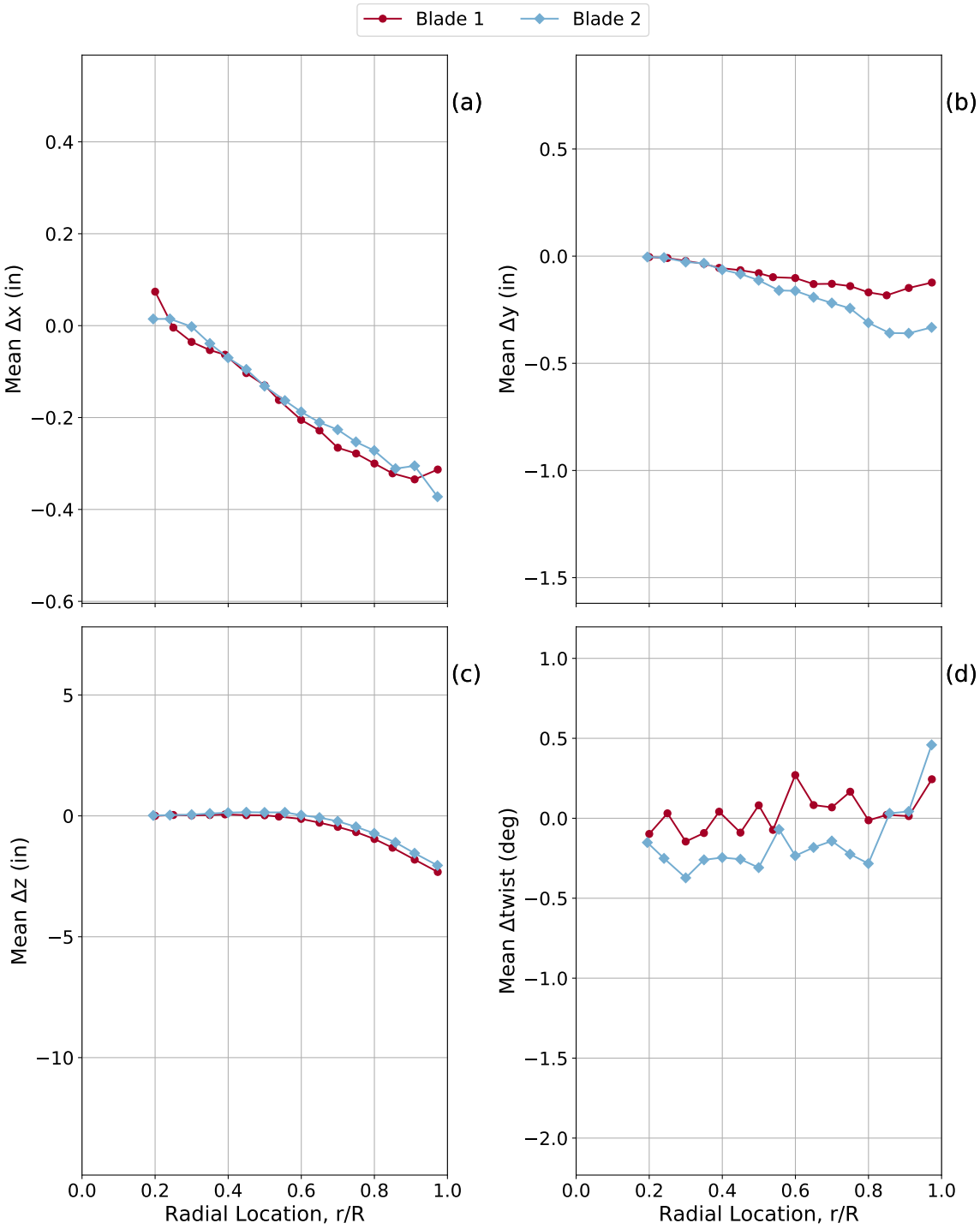


Figure 3.2-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0739	0.0023	-0.0043	0.0012	0.0024	0.0071	-0.0979	0.0680
1	0.35	0.2499	-0.0043	0.0016	-0.0088	0.0028	0.0371	0.0135	0.0309	0.1491
1	0.35	0.2998	-0.0355	0.0012	-0.0222	0.0047	0.0172	0.0235	-0.1455	0.1655
1	0.35	0.3498	-0.0532	0.0016	-0.0359	0.0089	0.0355	0.0400	-0.0924	0.1388
1	0.35	0.3913	-0.0633	0.0014	-0.0548	0.0124	0.0595	0.0556	0.0412	0.1336
1	0.35	0.4496	-0.1033	0.0019	-0.0655	0.0176	0.0296	0.0783	-0.0897	0.1331
1	0.35	0.4997	-0.1299	0.0025	-0.0794	0.0224	0.0223	0.0962	0.0811	0.1347
1	0.35	0.5387	-0.1619	0.0027	-0.0981	0.0253	-0.0292	0.1102	-0.0728	0.1284
1	0.35	0.5996	-0.2051	0.0036	-0.1021	0.0318	-0.1247	0.1319	0.2701	0.1236
1	0.35	0.6498	-0.2282	0.0032	-0.1301	0.0360	-0.2820	0.1458	0.0825	0.1309
1	0.35	0.6998	-0.2657	0.0035	-0.1290	0.0421	-0.4552	0.1617	0.0681	0.1405
1	0.35	0.7500	-0.2783	0.0034	-0.1397	0.0496	-0.6713	0.1776	0.1661	0.1401
1	0.35	0.8001	-0.3001	0.0041	-0.1690	0.0562	-0.9562	0.1981	-0.0128	0.1379
1	0.35	0.8497	-0.3215	0.0051	-0.1828	0.0624	-1.3177	0.2203	0.0210	0.1332
1	0.35	0.9102	-0.3346	0.0057	-0.1484	0.0705	-1.8097	0.2539	0.0136	0.1471
1	0.35	0.9734	-0.3131	0.0061	-0.1232	0.0789	-2.3206	0.3001	0.2439	0.1091
2	0	0.1949	0.0145	0.0022	-0.0041	0.0010	0.0177	0.0034	-0.1517	0.0472
2	0	0.2405	0.0147	0.0016	-0.0067	0.0032	0.0309	0.0066	-0.2509	0.0750
2	0	0.2999	-0.0022	0.0014	-0.0275	0.0047	0.0513	0.0087	-0.3726	0.1080
2	0	0.3498	-0.0389	0.0017	-0.0332	0.0091	0.0977	0.0163	-0.2598	0.0938
2	0	0.3998	-0.0700	0.0018	-0.0633	0.0142	0.1338	0.0222	-0.2459	0.0904
2	0	0.4496	-0.0953	0.0023	-0.0831	0.0179	0.1521	0.0248	-0.2563	0.1046
2	0	0.4995	-0.1316	0.0022	-0.1124	0.0228	0.1425	0.0314	-0.3087	0.0886
2	0	0.5551	-0.1631	0.0028	-0.1600	0.0274	0.1458	0.0387	-0.0691	0.1074
2	0	0.5996	-0.1876	0.0018	-0.1619	0.0324	0.0310	0.0484	-0.2346	0.0947
2	0	0.6497	-0.2106	0.0021	-0.1919	0.0382	-0.0702	0.0584	-0.1826	0.0904
2	0	0.6996	-0.2264	0.0026	-0.2186	0.0439	-0.2235	0.0714	-0.1422	0.0898
2	0	0.7495	-0.2530	0.0019	-0.2433	0.0486	-0.4522	0.0815	-0.2246	0.0853
2	0	0.7996	-0.2719	0.0024	-0.3107	0.0556	-0.7222	0.0902	-0.2833	0.0954
2	0	0.8578	-0.3112	0.0043	-0.3587	0.0643	-1.0989	0.0956	0.0308	0.0903
2	0	0.9100	-0.3051	0.0033	-0.3598	0.0721	-1.5456	0.1078	0.0426	0.1046
2	0	0.9727	-0.3723	0.0059	-0.3324	0.0807	-2.0491	0.1242	0.4589	0.1253

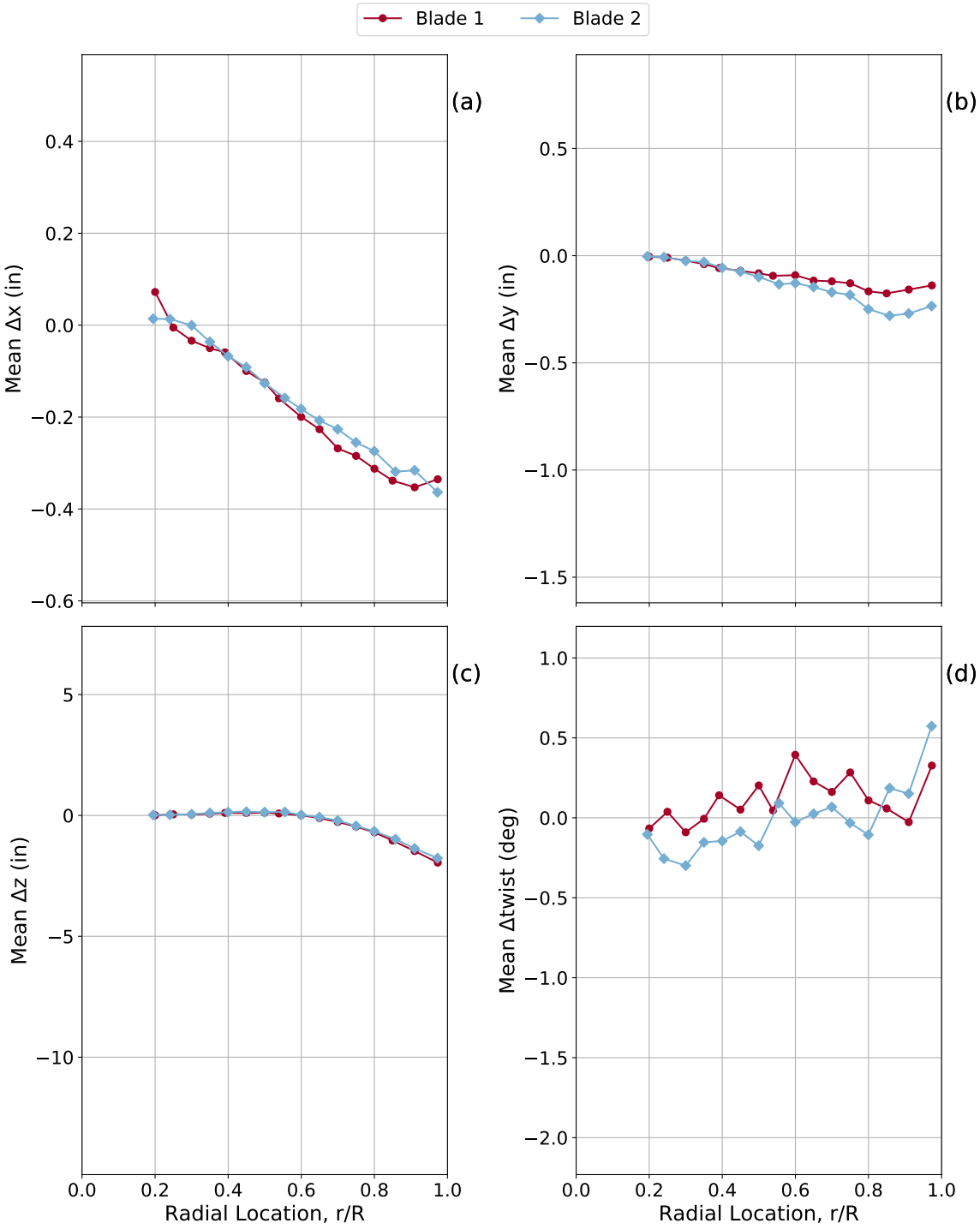


Figure 3.2-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0722	0.0030	-0.0048	0.0012	0.0071	0.0042	-0.0665	0.0225
1	4.92	0.2499	-0.0052	0.0013	-0.0094	0.0024	0.0449	0.0090	0.0376	0.0867
1	4.92	0.2998	-0.0338	0.0014	-0.0226	0.0051	0.0354	0.0147	-0.0907	0.0679
1	4.92	0.3498	-0.0500	0.0018	-0.0397	0.0086	0.0674	0.0227	-0.0060	0.0805
1	4.92	0.3913	-0.0591	0.0015	-0.0577	0.0125	0.1041	0.0332	0.1410	0.0710
1	4.92	0.4496	-0.0998	0.0019	-0.0704	0.0185	0.0994	0.0463	0.0512	0.0815
1	4.92	0.4997	-0.1244	0.0018	-0.0822	0.0226	0.1113	0.0566	0.2025	0.0908
1	4.92	0.5387	-0.1592	0.0021	-0.0938	0.0271	0.0796	0.0631	0.0456	0.0930
1	4.92	0.5996	-0.1995	0.0028	-0.0910	0.0334	0.0052	0.0676	0.3939	0.0878
1	4.92	0.6498	-0.2265	0.0025	-0.1161	0.0394	-0.1135	0.0701	0.2275	0.0936
1	4.92	0.6998	-0.2682	0.0035	-0.1196	0.0449	-0.2715	0.0754	0.1618	0.0794
1	4.92	0.7500	-0.2845	0.0041	-0.1286	0.0499	-0.4623	0.0850	0.2836	0.0865
1	4.92	0.8001	-0.3123	0.0038	-0.1664	0.0560	-0.7018	0.0996	0.1087	0.0940
1	4.92	0.8497	-0.3383	0.0047	-0.1759	0.0620	-1.0392	0.1177	0.0582	0.0866
1	4.92	0.9102	-0.3528	0.0056	-0.1580	0.0688	-1.4758	0.1359	-0.0269	0.1110
1	4.92	0.9734	-0.3353	0.0090	-0.1387	0.0766	-1.9522	0.1670	0.3268	0.0732
2	4.92	0.1949	0.0140	0.0006	-0.0032	0.0010	0.0189	0.0058	-0.1037	0.0306
2	4.92	0.2405	0.0133	0.0012	-0.0069	0.0015	0.0267	0.0094	-0.2556	0.0674
2	4.92	0.2999	-0.0003	0.0011	-0.0241	0.0040	0.0506	0.0187	-0.2991	0.0775
2	4.92	0.3498	-0.0363	0.0013	-0.0294	0.0073	0.1015	0.0340	-0.1534	0.0676
2	4.92	0.3998	-0.0676	0.0017	-0.0565	0.0108	0.1341	0.0486	-0.1447	0.0602
2	4.92	0.4496	-0.0916	0.0016	-0.0740	0.0134	0.1531	0.0611	-0.0866	0.0741
2	4.92	0.4995	-0.1263	0.0018	-0.0990	0.0158	0.1361	0.0746	-0.1745	0.0688
2	4.92	0.5551	-0.1586	0.0020	-0.1331	0.0212	0.1395	0.0908	0.0918	0.0602
2	4.92	0.5996	-0.1824	0.0023	-0.1284	0.0252	0.0220	0.0987	-0.0266	0.0825
2	4.92	0.6497	-0.2075	0.0022	-0.1460	0.0288	-0.0709	0.1096	0.0248	0.0761
2	4.92	0.6996	-0.2264	0.0022	-0.1705	0.0312	-0.2146	0.1205	0.0676	0.0712
2	4.92	0.7495	-0.2551	0.0028	-0.1829	0.0352	-0.4324	0.1299	-0.0315	0.0815
2	4.92	0.7996	-0.2742	0.0031	-0.2494	0.0396	-0.6534	0.1407	-0.1065	0.0798
2	4.92	0.8578	-0.3188	0.0039	-0.2802	0.0441	-0.9843	0.1544	0.1857	0.0987
2	4.92	0.9100	-0.3159	0.0042	-0.2701	0.0499	-1.3643	0.1697	0.1507	0.0994
2	4.92	0.9727	-0.3637	0.0053	-0.2348	0.0551	-1.7682	0.1861	0.5732	0.0842

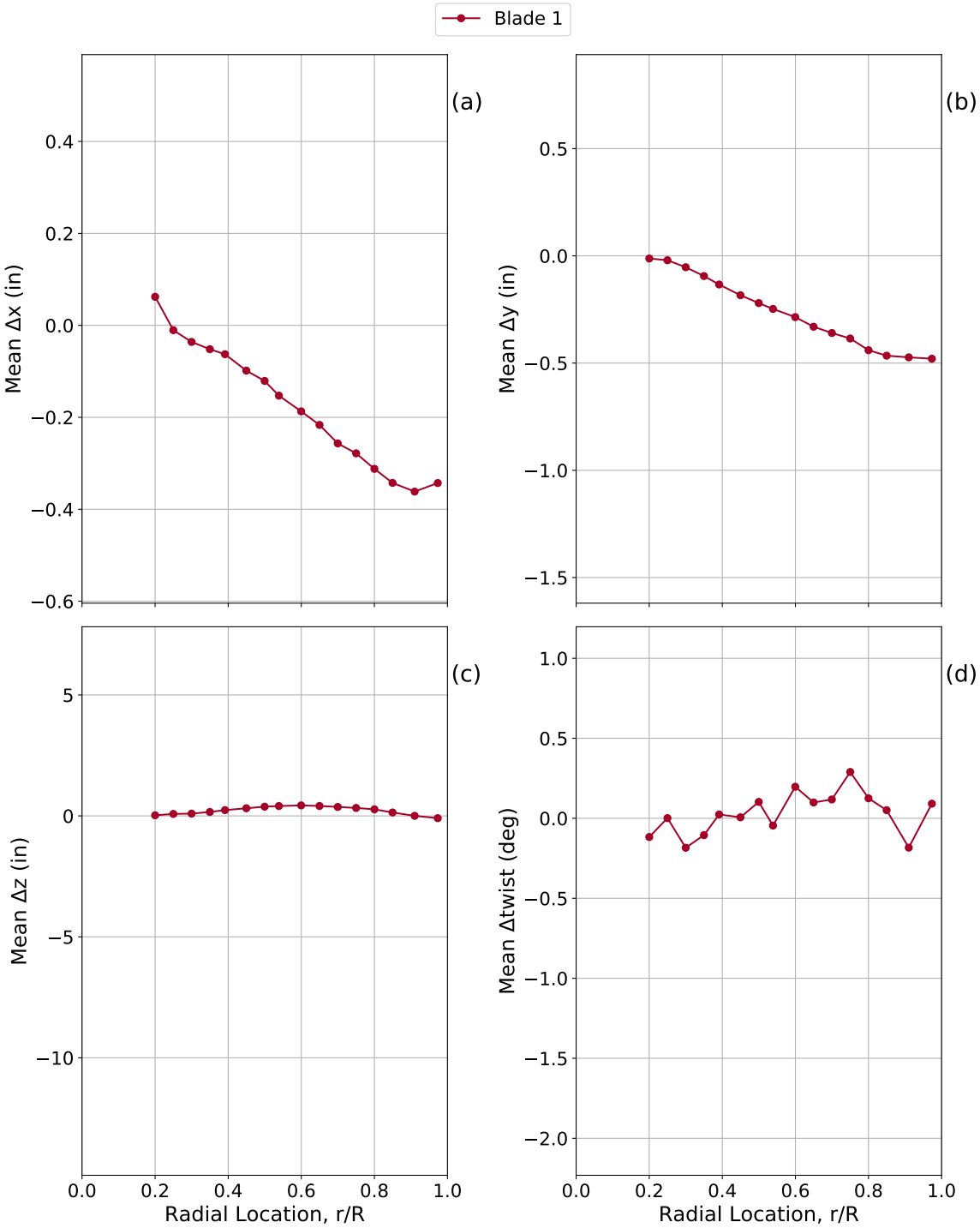


Figure 3.2-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0621	0.0024	-0.0124	0.0014	0.0249	0.0056	-0.1170	0.0398
1	15.12	0.2499	-0.0104	0.0020	-0.0205	0.0029	0.0811	0.0099	0.0013	0.0667
1	15.12	0.2998	-0.0360	0.0010	-0.0531	0.0055	0.0940	0.0200	-0.1841	0.0896
1	15.12	0.3498	-0.0518	0.0017	-0.0942	0.0101	0.1623	0.0333	-0.1054	0.0737
1	15.12	0.3913	-0.0628	0.0016	-0.1336	0.0141	0.2390	0.0472	0.0240	0.0822
1	15.12	0.4496	-0.0984	0.0020	-0.1837	0.0190	0.3152	0.0673	0.0060	0.0953
1	15.12	0.4997	-0.1208	0.0026	-0.2202	0.0230	0.3810	0.0863	0.1024	0.0942
1	15.12	0.5387	-0.1528	0.0025	-0.2475	0.0263	0.4079	0.0971	-0.0455	0.0906
1	15.12	0.5996	-0.1870	0.0024	-0.2857	0.0314	0.4338	0.1163	0.1971	0.0976
1	15.12	0.6498	-0.2165	0.0023	-0.3305	0.0363	0.4104	0.1336	0.0989	0.0876
1	15.12	0.6998	-0.2567	0.0028	-0.3597	0.0410	0.3699	0.1527	0.1177	0.0937
1	15.12	0.7500	-0.2783	0.0024	-0.3854	0.0450	0.3282	0.1741	0.2894	0.0900
1	15.12	0.8001	-0.3121	0.0028	-0.4400	0.0506	0.2713	0.1973	0.1249	0.0921
1	15.12	0.8497	-0.3426	0.0026	-0.4655	0.0552	0.1410	0.2196	0.0505	0.0927
1	15.12	0.9102	-0.3615	0.0031	-0.4733	0.0612	0.0030	0.2517	-0.1833	0.0817
1	15.12	0.9734	-0.3429	0.0040	-0.4797	0.0684	-0.0933	0.2856	0.0913	0.0825

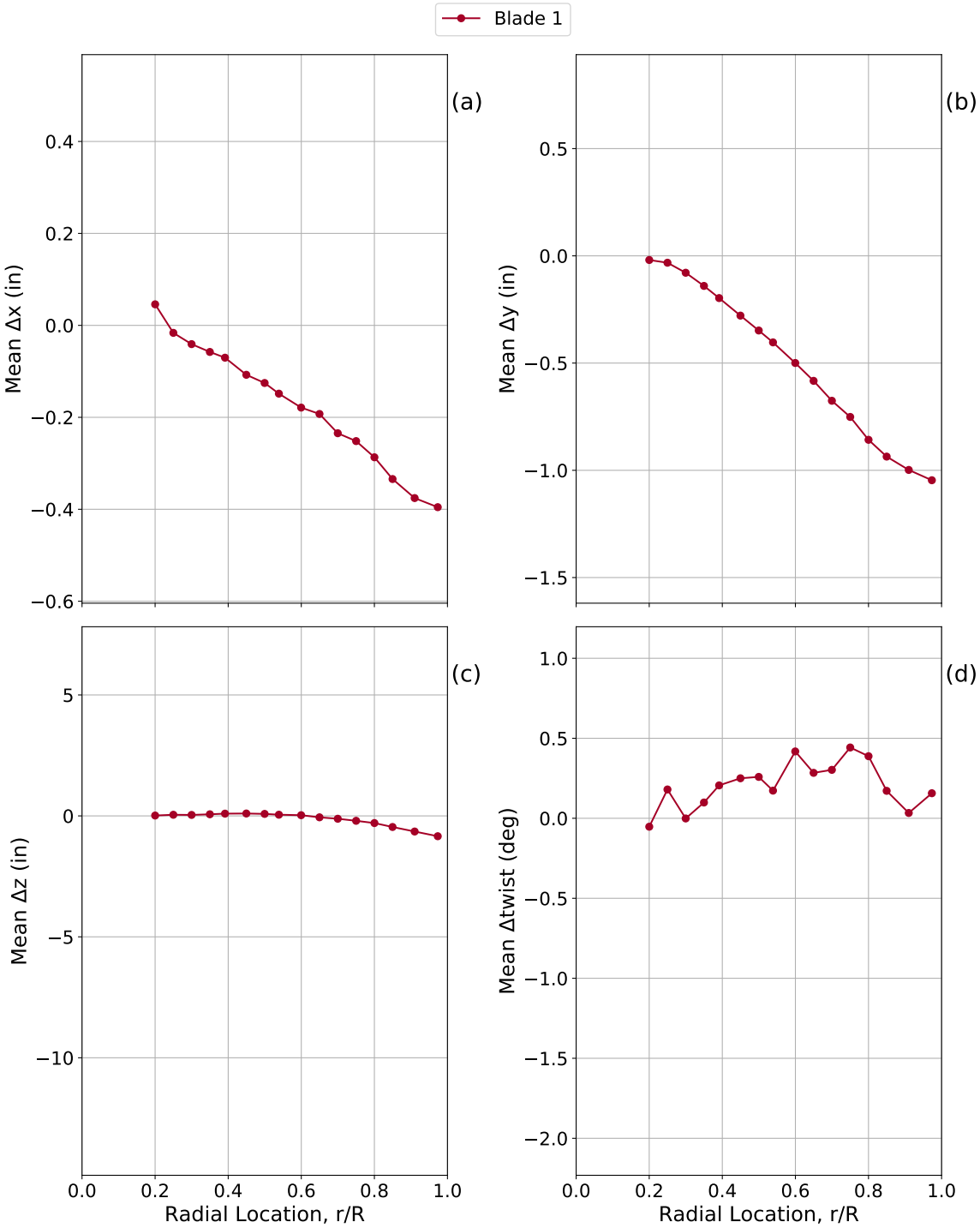


Figure 3.2-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0458	0.0014	-0.0194	0.0013	0.0154	0.0058	-0.0526	0.0281
1	29.88	0.2499	-0.0163	0.0021	-0.0321	0.0025	0.0467	0.0104	0.1801	0.0506
1	29.88	0.2998	-0.0408	0.0013	-0.0788	0.0054	0.0401	0.0208	-0.0011	0.0626
1	29.88	0.3498	-0.0578	0.0020	-0.1402	0.0083	0.0666	0.0354	0.0986	0.0500
1	29.88	0.3913	-0.0703	0.0011	-0.1969	0.0124	0.0932	0.0496	0.2057	0.0569
1	29.88	0.4496	-0.1075	0.0017	-0.2787	0.0155	0.0989	0.0691	0.2501	0.0673
1	29.88	0.4997	-0.1253	0.0020	-0.3481	0.0191	0.0827	0.0857	0.2587	0.0605
1	29.88	0.5387	-0.1485	0.0018	-0.4035	0.0215	0.0491	0.1007	0.1729	0.0653
1	29.88	0.5996	-0.1788	0.0023	-0.4996	0.0254	0.0290	0.1184	0.4178	0.0539
1	29.88	0.6498	-0.1927	0.0025	-0.5829	0.0282	-0.0587	0.1349	0.2840	0.0685
1	29.88	0.6998	-0.2346	0.0021	-0.6757	0.0301	-0.1179	0.1496	0.3027	0.0771
1	29.88	0.7500	-0.2517	0.0022	-0.7512	0.0338	-0.2028	0.1684	0.4425	0.0663
1	29.88	0.8001	-0.2869	0.0025	-0.8578	0.0357	-0.2964	0.1873	0.3880	0.0708
1	29.88	0.8497	-0.3342	0.0022	-0.9361	0.0379	-0.4588	0.2105	0.1716	0.0769
1	29.88	0.9102	-0.3756	0.0025	-0.9983	0.0411	-0.6460	0.2416	0.0333	0.0957
1	29.88	0.9734	-0.3954	0.0034	-1.0463	0.0435	-0.8405	0.2839	0.1566	0.0981

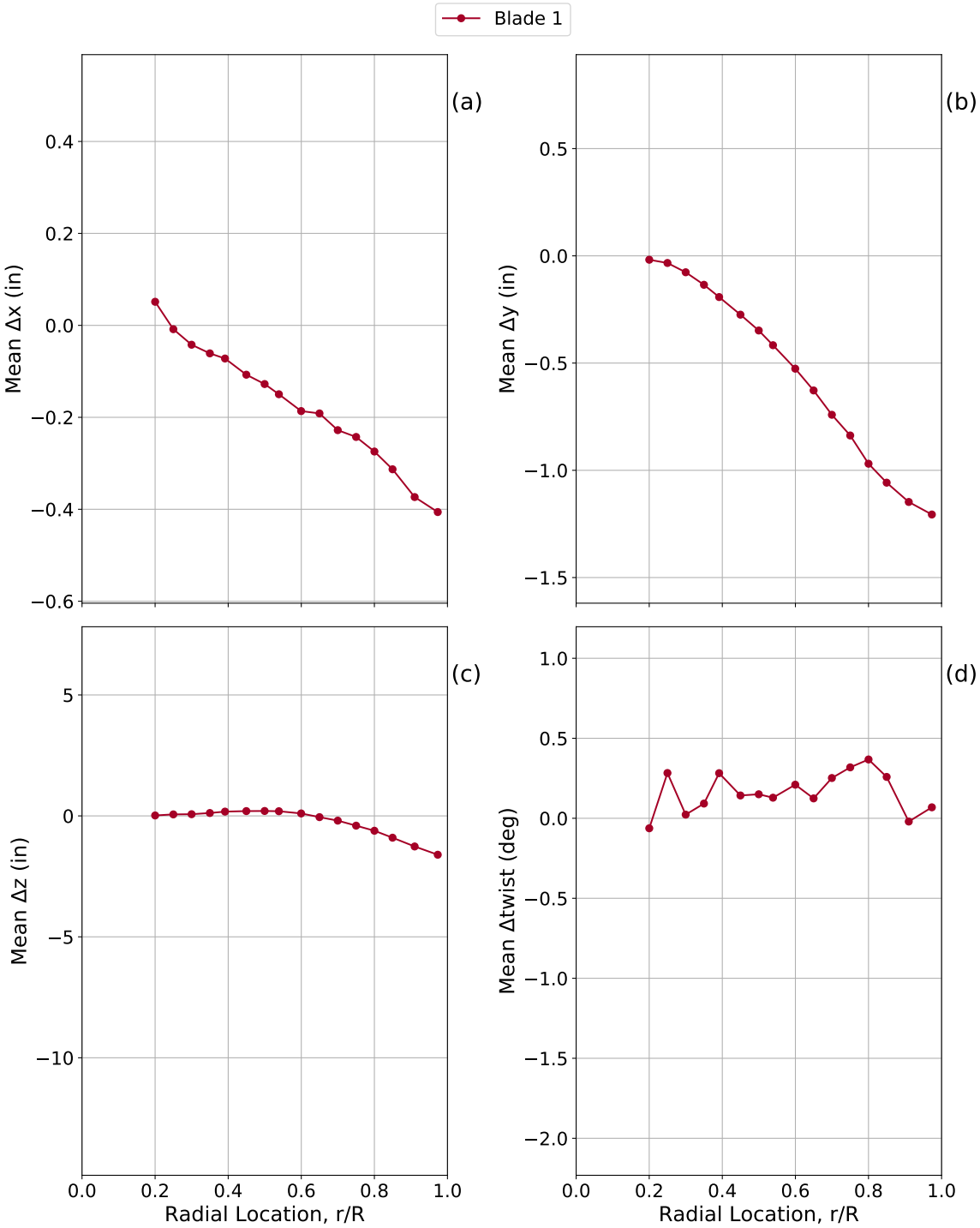


Figure 3.2-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0513	0.0019	-0.0182	0.0013	0.0183	0.0054	-0.0625	0.0319
1	45	0.2499	-0.0083	0.0013	-0.0333	0.0038	0.0618	0.0104	0.2830	0.0403
1	45	0.2998	-0.0421	0.0020	-0.0766	0.0070	0.0698	0.0203	0.0229	0.0661
1	45	0.3498	-0.0609	0.0022	-0.1350	0.0115	0.1192	0.0335	0.0920	0.0616
1	45	0.3913	-0.0721	0.0025	-0.1922	0.0178	0.1770	0.0480	0.2820	0.0539
1	45	0.4496	-0.1073	0.0023	-0.2743	0.0217	0.1983	0.0653	0.1426	0.0709
1	45	0.4997	-0.1276	0.0021	-0.3481	0.0268	0.2028	0.0835	0.1501	0.0774
1	45	0.5387	-0.1498	0.0018	-0.4167	0.0313	0.1929	0.0988	0.1287	0.0732
1	45	0.5996	-0.1864	0.0018	-0.5261	0.0399	0.1015	0.1193	0.2100	0.0801
1	45	0.6498	-0.1915	0.0025	-0.6276	0.0462	-0.0516	0.1349	0.1243	0.0842
1	45	0.6998	-0.2279	0.0029	-0.7411	0.0535	-0.1954	0.1519	0.2517	0.0880
1	45	0.7500	-0.2427	0.0029	-0.8376	0.0596	-0.4035	0.1713	0.3183	0.0737
1	45	0.8001	-0.2744	0.0040	-0.9693	0.0661	-0.6139	0.1914	0.3676	0.0771
1	45	0.8497	-0.3130	0.0042	-1.0576	0.0745	-0.9015	0.2144	0.2586	0.0813
1	45	0.9102	-0.3734	0.0047	-1.1476	0.0827	-1.2640	0.2434	-0.0203	0.0816
1	45	0.9734	-0.4060	0.0060	-1.2061	0.0913	-1.6054	0.2728	0.0686	0.0764

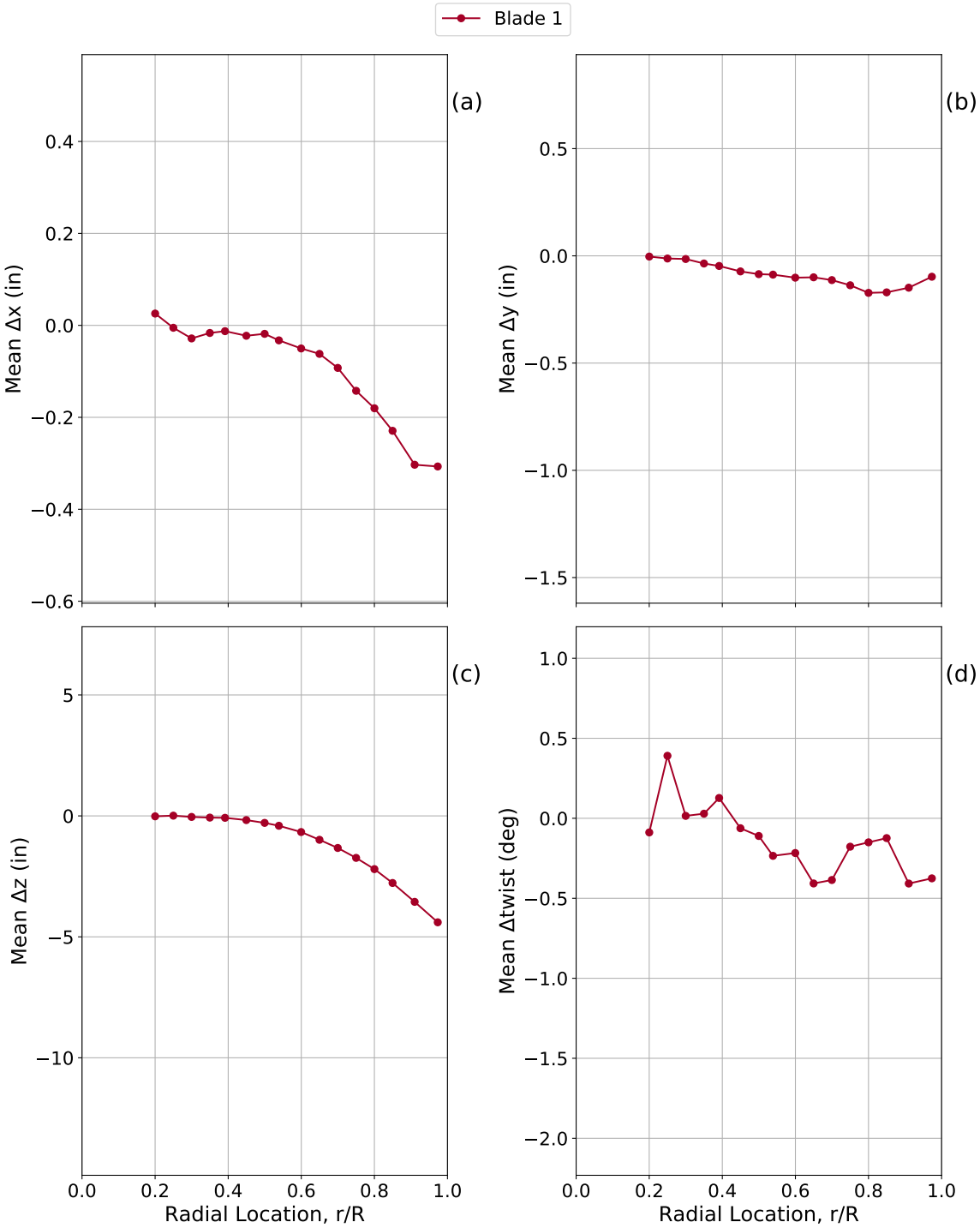


Figure 3.2-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0257	0.0014	-0.0034	0.0012	-0.0178	0.0033	-0.0884	0.0292
1	60.12	0.2499	-0.0052	0.0016	-0.0124	0.0027	0.0100	0.0058	0.3906	0.0492
1	60.12	0.2998	-0.0284	0.0012	-0.0147	0.0049	-0.0426	0.0104	0.0151	0.0658
1	60.12	0.3498	-0.0165	0.0012	-0.0357	0.0094	-0.0706	0.0198	0.0287	0.0605
1	60.12	0.3913	-0.0126	0.0017	-0.0472	0.0131	-0.0793	0.0260	0.1269	0.0658
1	60.12	0.4496	-0.0226	0.0023	-0.0726	0.0191	-0.1732	0.0399	-0.0622	0.0674
1	60.12	0.4997	-0.0184	0.0026	-0.0854	0.0241	-0.2888	0.0491	-0.1105	0.0810
1	60.12	0.5387	-0.0326	0.0025	-0.0876	0.0287	-0.4077	0.0581	-0.2347	0.0753
1	60.12	0.5996	-0.0502	0.0029	-0.1018	0.0358	-0.6674	0.0738	-0.2171	0.0740
1	60.12	0.6498	-0.0620	0.0037	-0.1001	0.0415	-0.9883	0.0867	-0.4073	0.0742
1	60.12	0.6998	-0.0925	0.0043	-0.1131	0.0482	-1.3259	0.1023	-0.3858	0.0676
1	60.12	0.7500	-0.1423	0.0058	-0.1372	0.0559	-1.7359	0.1232	-0.1775	0.0701
1	60.12	0.8001	-0.1803	0.0063	-0.1726	0.0630	-2.2005	0.1476	-0.1503	0.0794
1	60.12	0.8497	-0.2293	0.0065	-0.1703	0.0705	-2.7736	0.1743	-0.1238	0.0804
1	60.12	0.9102	-0.3031	0.0074	-0.1485	0.0789	-3.5540	0.2079	-0.4078	0.0821
1	60.12	0.9734	-0.3069	0.0090	-0.0974	0.0873	-4.3990	0.2469	-0.3754	0.0925

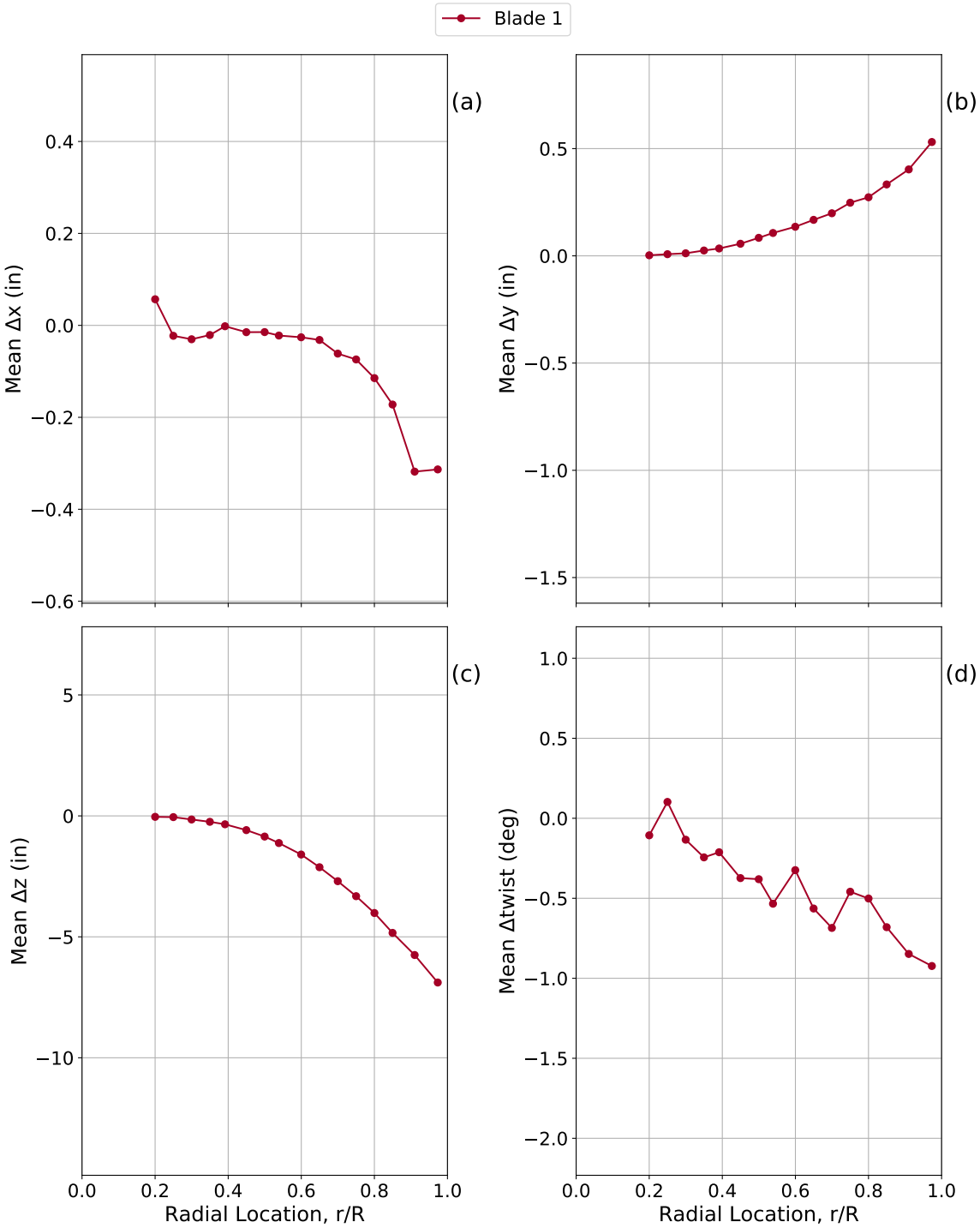


Figure 3.2-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0568	0.0018	0.0026	0.0013	-0.0392	0.0034	-0.1065	0.0295
1	74.88	0.2499	-0.0227	0.0011	0.0077	0.0021	-0.0503	0.0061	0.1023	0.0559
1	74.88	0.2998	-0.0302	0.0011	0.0119	0.0054	-0.1490	0.0127	-0.1339	0.0689
1	74.88	0.3498	-0.0210	0.0009	0.0249	0.0087	-0.2448	0.0217	-0.2442	0.0712
1	74.88	0.3913	-0.0019	0.0009	0.0343	0.0125	-0.3467	0.0308	-0.2122	0.0617
1	74.88	0.4496	-0.0148	0.0017	0.0564	0.0159	-0.5879	0.0477	-0.3738	0.0572
1	74.88	0.4997	-0.0146	0.0021	0.0840	0.0203	-0.8543	0.0639	-0.3806	0.0546
1	74.88	0.5387	-0.0221	0.0027	0.1066	0.0238	-1.1221	0.0800	-0.5339	0.0633
1	74.88	0.5996	-0.0259	0.0027	0.1356	0.0306	-1.5967	0.1041	-0.3241	0.0714
1	74.88	0.6498	-0.0317	0.0033	0.1678	0.0371	-2.1221	0.1289	-0.5639	0.0782
1	74.88	0.6998	-0.0614	0.0036	0.1986	0.0415	-2.6994	0.1488	-0.6852	0.1037
1	74.88	0.7500	-0.0741	0.0042	0.2477	0.0491	-3.3192	0.1704	-0.4589	0.0791
1	74.88	0.8001	-0.1147	0.0099	0.2731	0.0534	-4.0149	0.1898	-0.5013	0.0926
1	74.88	0.8497	-0.1722	0.0066	0.3329	0.0602	-4.8362	0.2154	-0.6806	0.0707
1	74.88	0.9102	-0.3181	0.0075	0.4030	0.0696	-5.7519	0.2486	-0.8478	0.0705
1	74.88	0.9734	-0.3133	0.0090	0.5308	0.0795	-6.8880	0.2824	-0.9232	0.0845

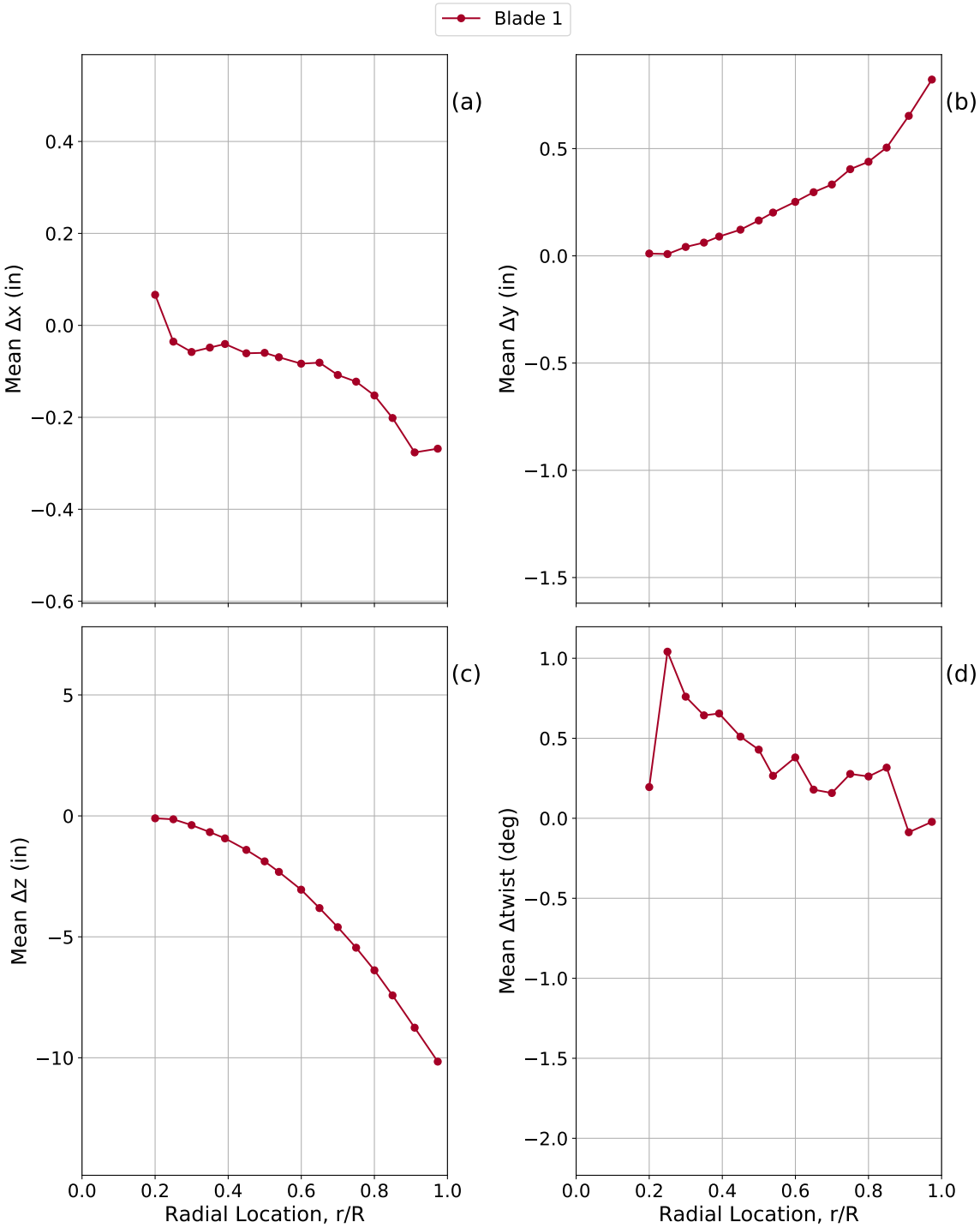


Figure 3.2-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0665	0.0041	0.0107	0.0027	-0.0994	0.0093	0.1950	0.0664
1	80.16	0.2499	-0.0354	0.0027	0.0083	0.0040	-0.1398	0.0152	1.0413	0.1637
1	80.16	0.2998	-0.0579	0.0039	0.0415	0.0104	-0.3807	0.0379	0.7599	0.1767
1	80.16	0.3498	-0.0483	0.0041	0.0617	0.0188	-0.6707	0.0668	0.6434	0.1791
1	80.16	0.3913	-0.0405	0.0045	0.0900	0.0259	-0.9295	0.0941	0.6549	0.1748
1	80.16	0.4496	-0.0607	0.0050	0.1219	0.0372	-1.4054	0.1362	0.5101	0.1900
1	80.16	0.4997	-0.0597	0.0057	0.1649	0.0483	-1.8803	0.1754	0.4290	0.1888
1	80.16	0.5387	-0.0693	0.0066	0.2018	0.0568	-2.3149	0.2039	0.2655	0.1859
1	80.16	0.5996	-0.0833	0.0079	0.2517	0.0715	-3.0508	0.2461	0.3803	0.1848
1	80.16	0.6498	-0.0811	0.0083	0.2967	0.0846	-3.8111	0.2751	0.1790	0.1891
1	80.16	0.6998	-0.1079	0.0092	0.3326	0.0981	-4.5999	0.2994	0.1580	0.1873
1	80.16	0.7500	-0.1224	0.0104	0.4040	0.1121	-5.4492	0.3142	0.2772	0.2030
1	80.16	0.8001	-0.1524	0.0119	0.4388	0.1277	-6.3830	0.3328	0.2614	0.1951
1	80.16	0.8497	-0.2015	0.0139	0.5048	0.1436	-7.4216	0.3512	0.3166	0.1971
1	80.16	0.9102	-0.2763	0.0157	0.6527	0.1635	-8.7563	0.3779	-0.0874	0.1960
1	80.16	0.9734	-0.2682	0.0184	0.8219	0.1847	-10.1582	0.4083	-0.0223	0.2081

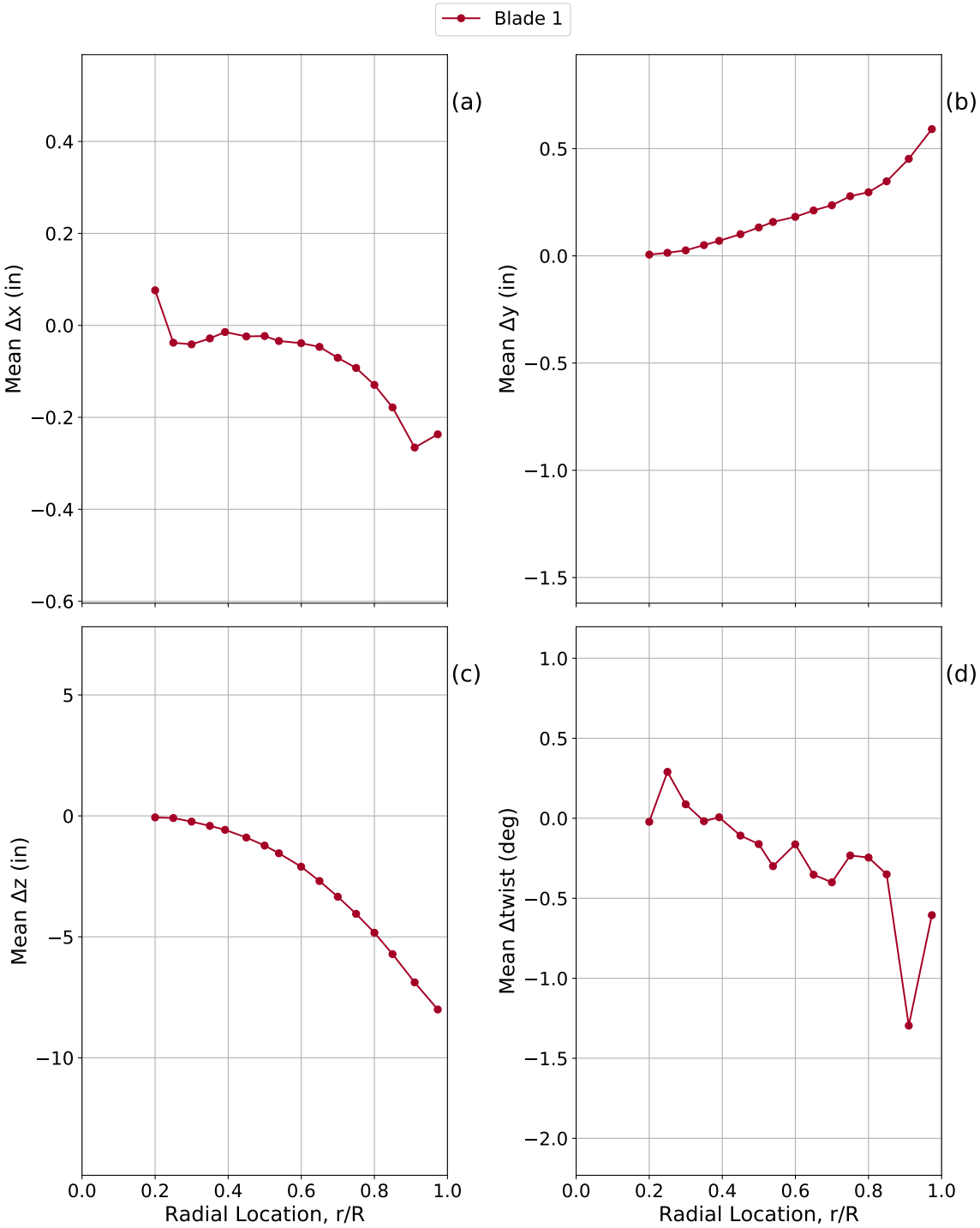


Figure 3.2-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0762	0.0039	0.0058	0.0021	-0.0617	0.0050	-0.0220	0.0422
1	85.08	0.2499	-0.0377	0.0014	0.0142	0.0030	-0.0885	0.0125	0.2900	0.0914
1	85.08	0.2998	-0.0413	0.0014	0.0256	0.0075	-0.2378	0.0223	0.0873	0.1057
1	85.08	0.3498	-0.0284	0.0017	0.0500	0.0139	-0.4118	0.0408	-0.0182	0.0978
1	85.08	0.3913	-0.0145	0.0021	0.0699	0.0186	-0.5756	0.0588	0.0063	0.0977
1	85.08	0.4496	-0.0241	0.0023	0.1009	0.0258	-0.8944	0.0874	-0.1081	0.1011
1	85.08	0.4997	-0.0232	0.0024	0.1323	0.0320	-1.2258	0.1136	-0.1613	0.1000
1	85.08	0.5387	-0.0340	0.0029	0.1580	0.0371	-1.5444	0.1335	-0.2992	0.1041
1	85.08	0.5996	-0.0387	0.0035	0.1818	0.0456	-2.1004	0.1656	-0.1629	0.1135
1	85.08	0.6498	-0.0468	0.0043	0.2116	0.0537	-2.6927	0.1929	-0.3526	0.1088
1	85.08	0.6998	-0.0705	0.0043	0.2358	0.0622	-3.3414	0.2205	-0.4001	0.1173
1	85.08	0.7500	-0.0926	0.0064	0.2781	0.0723	-4.0498	0.2450	-0.2324	0.1368
1	85.08	0.8001	-0.1295	0.0082	0.2966	0.0814	-4.8307	0.2721	-0.2454	0.1181
1	85.08	0.8497	-0.1784	0.0092	0.3474	0.0911	-5.7154	0.3020	-0.3503	0.1336
1	85.08	0.9102	-0.2657	0.0113	0.4523	0.1021	-6.8819	0.3388	-1.2959	0.1748
1	85.08	0.9734	-0.2370	0.0175	0.5909	0.1159	-8.0034	0.3760	-0.6054	0.1469

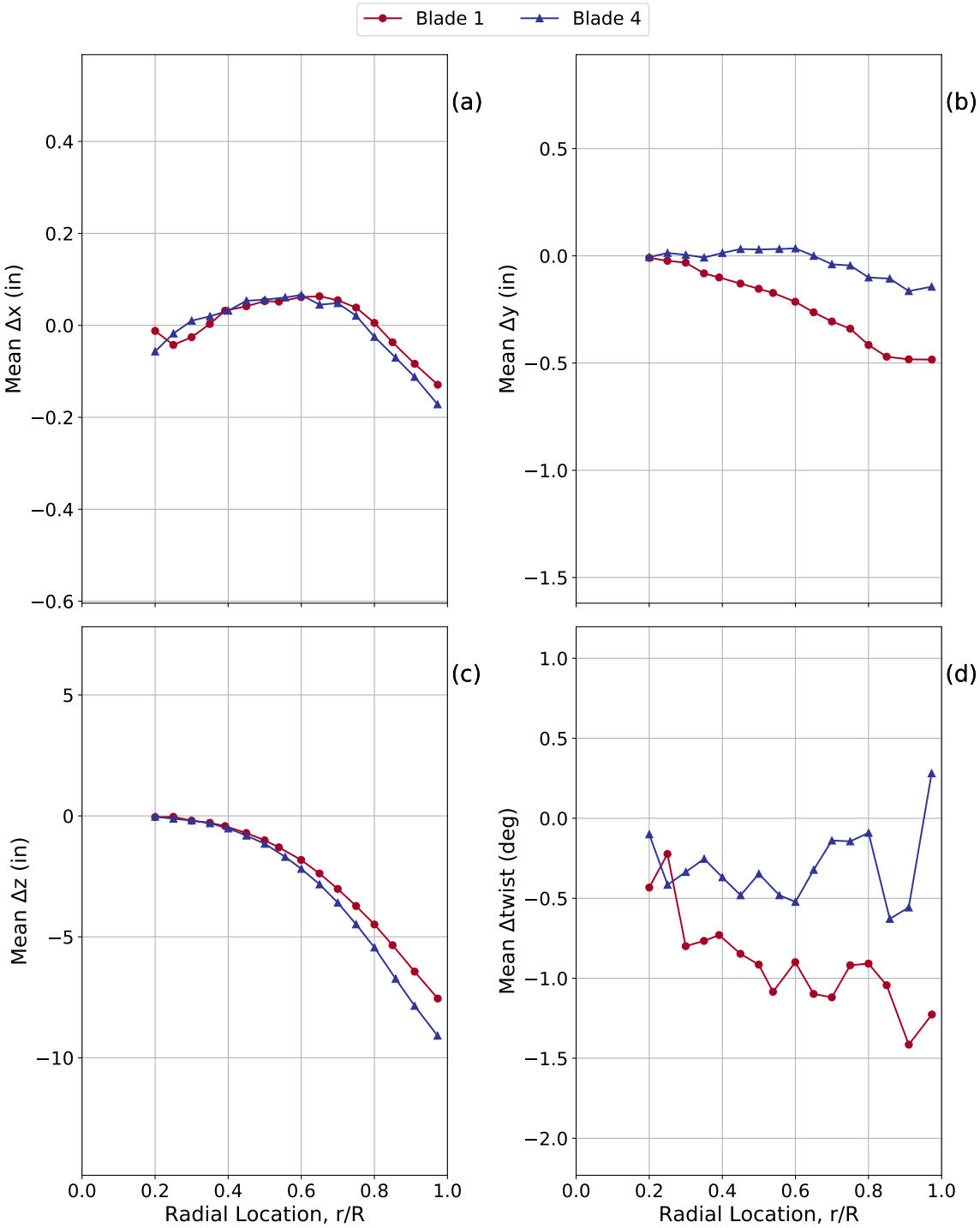


Figure 3.2-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0121	0.0018	-0.0094	0.0008	-0.0510	0.0036	-0.4327	0.0212
1	90	0.2499	-0.0425	0.0009	-0.0231	0.0032	-0.0381	0.0065	-0.2231	0.0472
1	90	0.2998	-0.0257	0.0012	-0.0318	0.0047	-0.1988	0.0145	-0.7992	0.0520
1	90	0.3498	0.0031	0.0014	-0.0817	0.0084	-0.2847	0.0236	-0.7664	0.0443
1	90	0.3913	0.0319	0.0018	-0.1008	0.0127	-0.4212	0.0343	-0.7298	0.0456
1	90	0.4496	0.0415	0.0023	-0.1293	0.0154	-0.7074	0.0471	-0.8470	0.0457
1	90	0.4997	0.0528	0.0020	-0.1536	0.0186	-1.0079	0.0586	-0.9145	0.0293
1	90	0.5387	0.0516	0.0028	-0.1730	0.0209	-1.2995	0.0679	-1.0845	0.0484
1	90	0.5996	0.0615	0.0025	-0.2139	0.0256	-1.8214	0.0850	-0.8994	0.0453
1	90	0.6498	0.0633	0.0031	-0.2632	0.0289	-2.3811	0.1003	-1.0976	0.0353
1	90	0.6998	0.0546	0.0037	-0.3061	0.0327	-3.0188	0.1148	-1.1191	0.0396
1	90	0.7500	0.0386	0.0041	-0.3395	0.0377	-3.7263	0.1314	-0.9185	0.0495
1	90	0.8001	0.0054	0.0062	-0.4156	0.0425	-4.4875	0.1480	-0.9082	0.0654
1	90	0.8497	-0.0368	0.0058	-0.4702	0.0488	-5.3460	0.1595	-1.0435	0.0680
1	90	0.9102	-0.0836	0.0063	-0.4826	0.0592	-6.4385	0.1698	-1.4145	0.2988
1	90	0.9734	-0.1291	0.0104	-0.4838	0.0612	-7.5500	0.2111	-1.2265	0.1353
4	90.35	0.2001	-0.0567	0.0010	-0.0061	0.0007	-0.0316	0.0025	-0.1002	0.0225
4	90.35	0.2502	-0.0176	0.0008	0.0136	0.0019	-0.1178	0.0073	-0.4155	0.0313
4	90.35	0.3001	0.0102	0.0017	0.0046	0.0038	-0.1897	0.0114	-0.3353	0.0460
4	90.35	0.3502	0.0197	0.0012	-0.0080	0.0050	-0.3046	0.0191	-0.2535	0.0404
4	90.35	0.4002	0.0319	0.0015	0.0134	0.0088	-0.5187	0.0305	-0.3688	0.0324
4	90.35	0.4500	0.0536	0.0014	0.0317	0.0127	-0.8137	0.0406	-0.4811	0.0427
4	90.35	0.5001	0.0558	0.0016	0.0296	0.0161	-1.1525	0.0510	-0.3469	0.0358
4	90.35	0.5560	0.0608	0.0023	0.0320	0.0201	-1.6955	0.0651	-0.4809	0.0274
4	90.35	0.6001	0.0660	0.0029	0.0346	0.0238	-2.1892	0.0719	-0.5226	0.0458
4	90.35	0.6501	0.0450	0.0028	-0.0001	0.0287	-2.8299	0.0828	-0.3219	0.0301
4	90.35	0.6999	0.0483	0.0023	-0.0394	0.0345	-3.5887	0.0921	-0.1389	0.0388
4	90.35	0.7500	0.0209	0.0034	-0.0451	0.0405	-4.4831	0.1045	-0.1442	0.0437
4	90.35	0.8002	-0.0250	0.0047	-0.1008	0.0456	-5.4407	0.1194	-0.0911	0.0652
4	90.35	0.8582	-0.0703	0.0061	-0.1062	0.0517	-6.7330	0.1341	-0.6286	0.0977
4	90.35	0.9101	-0.1121	0.0083	-0.1643	0.0561	-7.8527	0.1554	-0.5574	0.0991
4	90.35	0.9728	-0.1717	0.0092	-0.1439	0.0643	-9.0861	0.1955	0.2812	0.1248

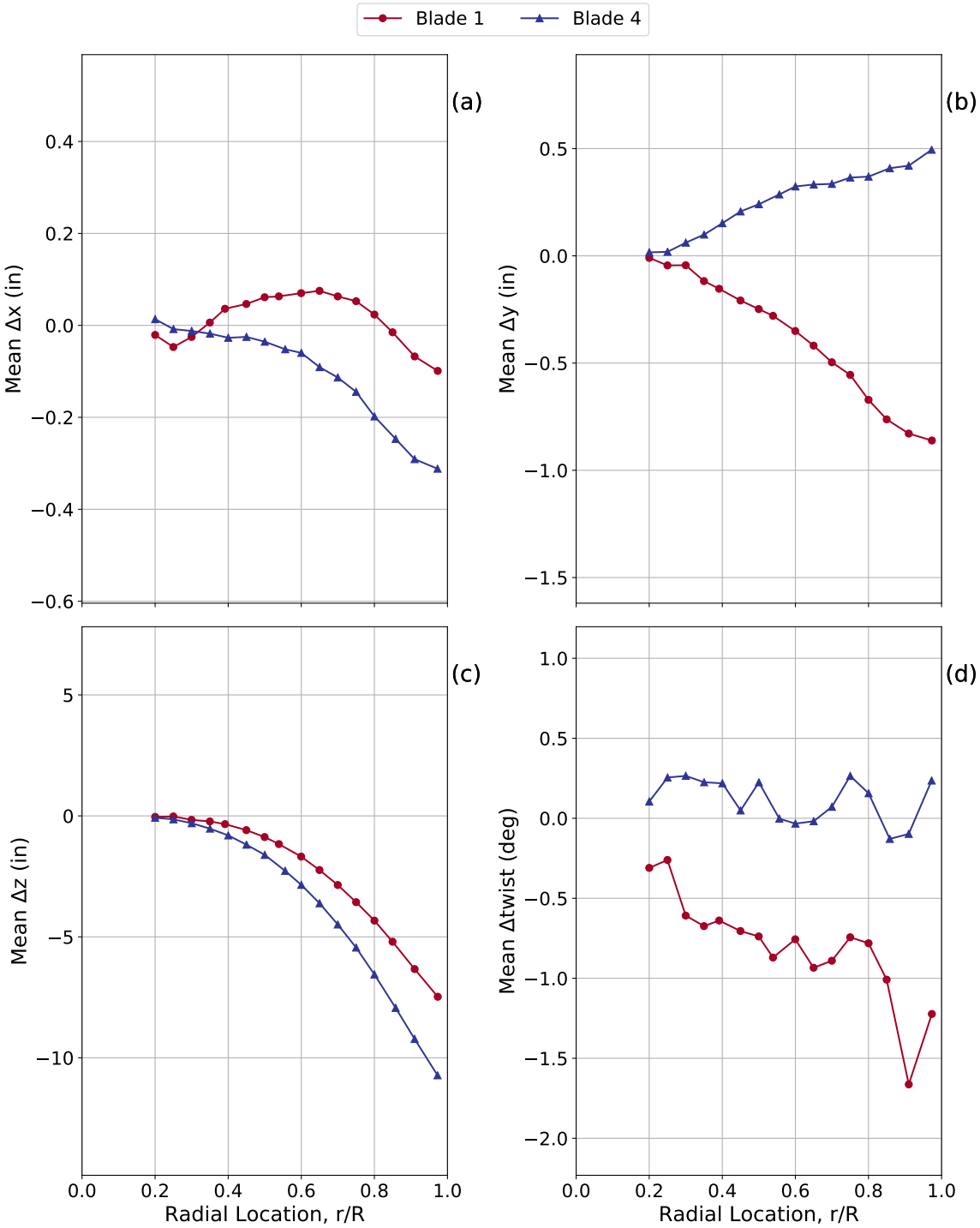


Figure 3.2-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0208	0.0010	-0.0095	0.0012	-0.0421	0.0031	-0.3100	0.0255
1	94.92	0.2499	-0.0471	0.0010	-0.0446	0.0024	-0.0237	0.0048	-0.2606	0.0521
1	94.92	0.2998	-0.0252	0.0012	-0.0437	0.0048	-0.1639	0.0101	-0.6081	0.0619
1	94.92	0.3498	0.0061	0.0018	-0.1176	0.0084	-0.2286	0.0187	-0.6739	0.0553
1	94.92	0.3913	0.0361	0.0018	-0.1535	0.0119	-0.3397	0.0249	-0.6390	0.0630
1	94.92	0.4496	0.0465	0.0019	-0.2081	0.0166	-0.5889	0.0376	-0.7046	0.0714
1	94.92	0.4997	0.0612	0.0020	-0.2481	0.0215	-0.8734	0.0479	-0.7384	0.0619
1	94.92	0.5387	0.0631	0.0028	-0.2796	0.0257	-1.1652	0.0585	-0.8704	0.0690
1	94.92	0.5996	0.0701	0.0030	-0.3504	0.0332	-1.6825	0.0762	-0.7563	0.0727
1	94.92	0.6498	0.0751	0.0033	-0.4187	0.0399	-2.2390	0.0961	-0.9340	0.0739
1	94.92	0.6998	0.0630	0.0035	-0.4962	0.0473	-2.8561	0.1154	-0.8903	0.0641
1	94.92	0.7500	0.0526	0.0040	-0.5551	0.0542	-3.5659	0.1365	-0.7435	0.0803
1	94.92	0.8001	0.0235	0.0054	-0.6715	0.0626	-4.3288	0.1566	-0.7810	0.0953
1	94.92	0.8497	-0.0150	0.0056	-0.7625	0.0696	-5.2022	0.1795	-1.0086	0.1070
1	94.92	0.9102	-0.0676	0.0078	-0.8287	0.0786	-6.3335	0.2018	-1.6631	0.1039
1	94.92	0.9734	-0.0990	0.0092	-0.8610	0.0907	-7.4769	0.2260	-1.2230	0.1054
4	94.92	0.2001	0.0134	0.0055	0.0162	0.0022	-0.0765	0.0043	0.1045	0.0267
4	94.92	0.2502	-0.0081	0.0016	0.0187	0.0027	-0.1438	0.0052	0.2548	0.0474
4	94.92	0.3001	-0.0122	0.0022	0.0614	0.0080	-0.3034	0.0142	0.2651	0.0564
4	94.92	0.3502	-0.0180	0.0049	0.0992	0.0131	-0.5277	0.0222	0.2251	0.0379
4	94.92	0.4002	-0.0270	0.0082	0.1522	0.0198	-0.8076	0.0333	0.2187	0.0527
4	94.92	0.4500	-0.0251	0.0114	0.2070	0.0257	-1.1901	0.0455	0.0489	0.0438
4	94.92	0.5001	-0.0355	0.0146	0.2407	0.0328	-1.6126	0.0602	0.2247	0.0424
4	94.92	0.5560	-0.0520	0.0180	0.2862	0.0407	-2.2749	0.0798	-0.0023	0.0408
4	94.92	0.6001	-0.0599	0.0206	0.3236	0.0474	-2.8518	0.0970	-0.0334	0.0478
4	94.92	0.6501	-0.0909	0.0239	0.3324	0.0548	-3.6155	0.1159	-0.0184	0.0591
4	94.92	0.6999	-0.1134	0.0263	0.3355	0.0620	-4.4904	0.1355	0.0717	0.0523
4	94.92	0.7500	-0.1446	0.0290	0.3650	0.0701	-5.4446	0.1535	0.2647	0.0598
4	94.92	0.8002	-0.1981	0.0321	0.3693	0.0780	-6.5583	0.1713	0.1565	0.0654
4	94.92	0.8582	-0.2470	0.0350	0.4086	0.0867	-7.9394	0.1856	-0.1290	0.0623
4	94.92	0.9101	-0.2910	0.0377	0.4203	0.0971	-9.2228	0.2016	-0.0976	0.0537
4	94.92	0.9728	-0.3118	0.0425	0.4946	0.1082	-10.7254	0.2160	0.2358	0.0729

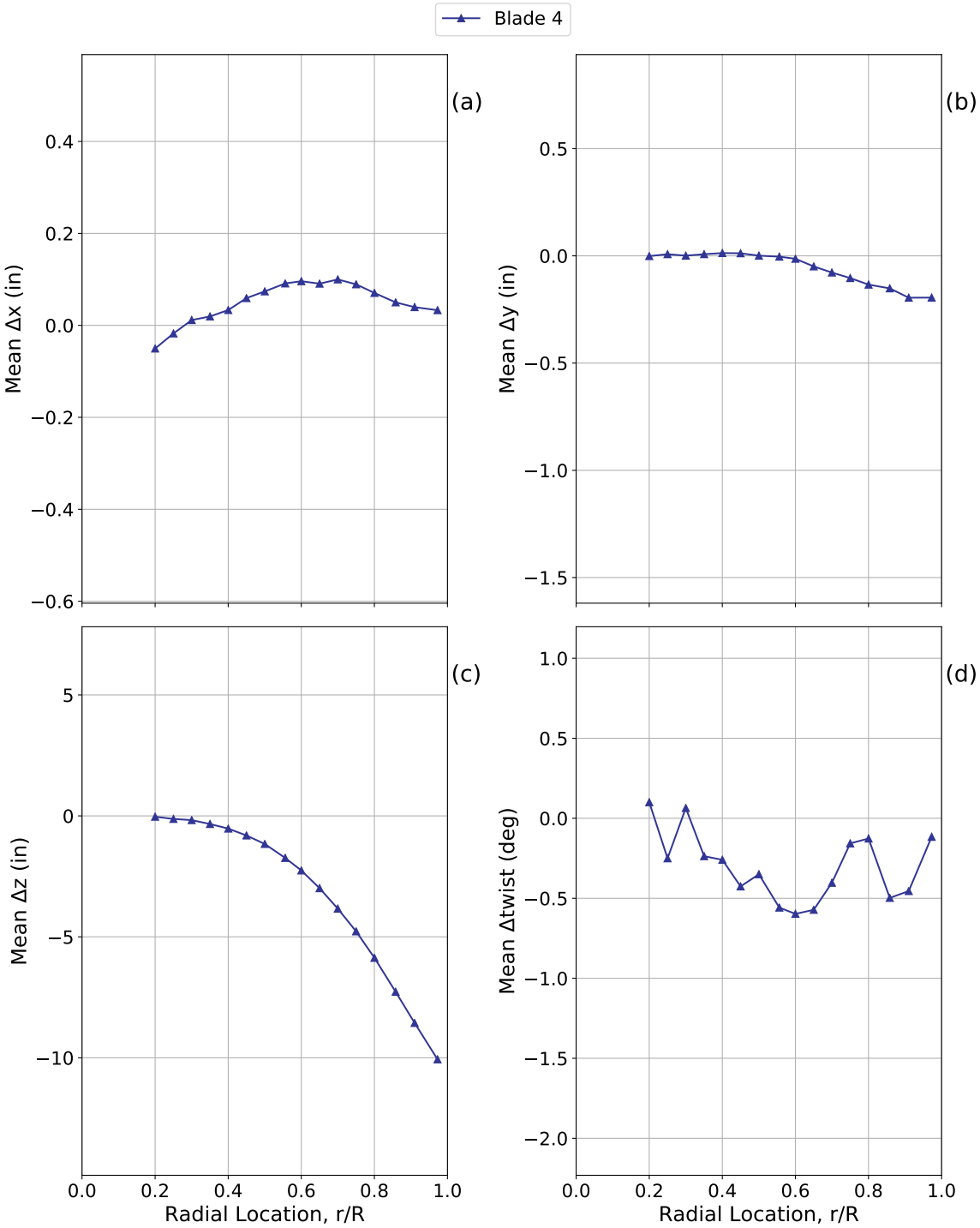


Figure 3.2-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0504	0.0009	-0.0012	0.0006	-0.0347	0.0023	0.1002	0.0130
4	105.12	0.2502	-0.0176	0.0011	0.0076	0.0014	-0.1255	0.0043	-0.2503	0.0272
4	105.12	0.3001	0.0115	0.0011	0.0008	0.0021	-0.1749	0.0069	0.0644	0.0285
4	105.12	0.3502	0.0194	0.0014	0.0077	0.0037	-0.3357	0.0139	-0.2370	0.0365
4	105.12	0.4002	0.0333	0.0014	0.0129	0.0058	-0.5259	0.0193	-0.2595	0.0332
4	105.12	0.4500	0.0593	0.0020	0.0119	0.0078	-0.8096	0.0294	-0.4259	0.0359
4	105.12	0.5001	0.0739	0.0023	0.0009	0.0102	-1.1607	0.0393	-0.3499	0.0413
4	105.12	0.5560	0.0912	0.0031	-0.0039	0.0133	-1.7384	0.0527	-0.5583	0.0468
4	105.12	0.6001	0.0960	0.0037	-0.0137	0.0165	-2.2565	0.0677	-0.5974	0.0405
4	105.12	0.6501	0.0907	0.0043	-0.0494	0.0198	-2.9905	0.0829	-0.5721	0.0526
4	105.12	0.6999	0.0999	0.0049	-0.0779	0.0235	-3.8359	0.0987	-0.4032	0.0451
4	105.12	0.7500	0.0893	0.0062	-0.1037	0.0281	-4.7737	0.1146	-0.1570	0.0540
4	105.12	0.8002	0.0705	0.0076	-0.1342	0.0326	-5.8691	0.1319	-0.1265	0.0570
4	105.12	0.8582	0.0500	0.0096	-0.1517	0.0378	-7.2745	0.1554	-0.4976	0.0551
4	105.12	0.9101	0.0396	0.0107	-0.1952	0.0432	-8.5604	0.1795	-0.4550	0.0521
4	105.12	0.9728	0.0330	0.0138	-0.1948	0.0491	-10.0660	0.2079	-0.1161	0.0558

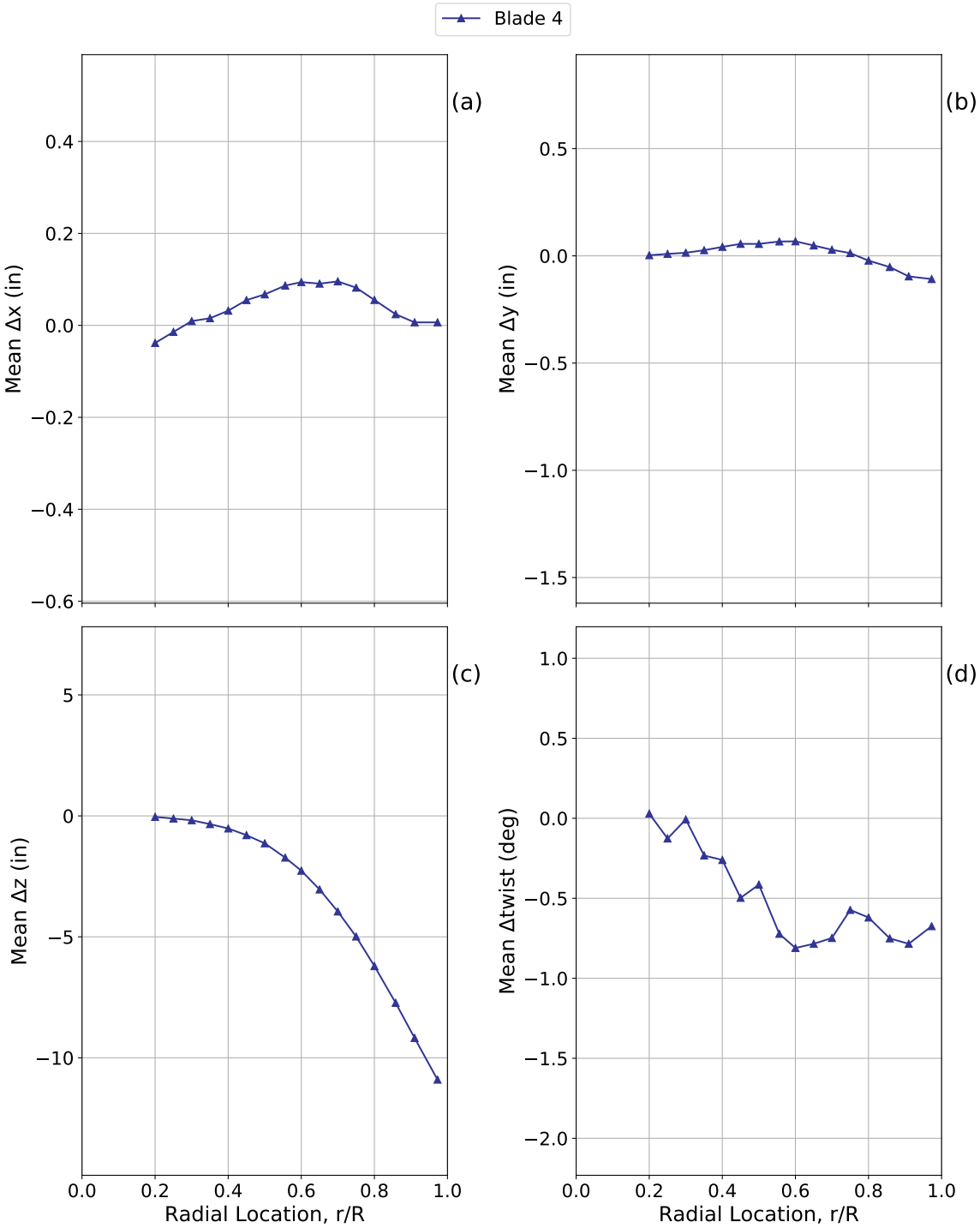


Figure 3.2-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0383	0.0018	0.0028	0.0007	-0.0419	0.0024	0.0288	0.0226
4	119.88	0.2502	-0.0143	0.0012	0.0090	0.0015	-0.1102	0.0060	-0.1265	0.0380
4	119.88	0.3001	0.0093	0.0015	0.0144	0.0029	-0.1810	0.0128	-0.0074	0.0499
4	119.88	0.3502	0.0155	0.0023	0.0262	0.0045	-0.3405	0.0177	-0.2327	0.0431
4	119.88	0.4002	0.0319	0.0018	0.0417	0.0071	-0.5207	0.0307	-0.2608	0.0355
4	119.88	0.4500	0.0549	0.0020	0.0558	0.0085	-0.7969	0.0375	-0.4973	0.0382
4	119.88	0.5001	0.0674	0.0015	0.0556	0.0108	-1.1358	0.0477	-0.4147	0.0540
4	119.88	0.5560	0.0865	0.0020	0.0668	0.0132	-1.7262	0.0600	-0.7223	0.0549
4	119.88	0.6001	0.0941	0.0027	0.0676	0.0157	-2.2672	0.0716	-0.8107	0.0547
4	119.88	0.6501	0.0907	0.0025	0.0482	0.0182	-3.0436	0.0857	-0.7844	0.0455
4	119.88	0.6999	0.0956	0.0038	0.0283	0.0216	-3.9536	0.0998	-0.7482	0.0576
4	119.88	0.7500	0.0820	0.0048	0.0127	0.0250	-4.9893	0.1183	-0.5728	0.0518
4	119.88	0.8002	0.0552	0.0061	-0.0224	0.0286	-6.2116	0.1379	-0.6202	0.0570
4	119.88	0.8582	0.0242	0.0082	-0.0523	0.0331	-7.7323	0.1635	-0.7507	0.0591
4	119.88	0.9101	0.0065	0.0100	-0.0959	0.0377	-9.1842	0.1866	-0.7845	0.0621
4	119.88	0.9728	0.0065	0.0118	-0.1083	0.0428	-10.9053	0.2185	-0.6744	0.0578

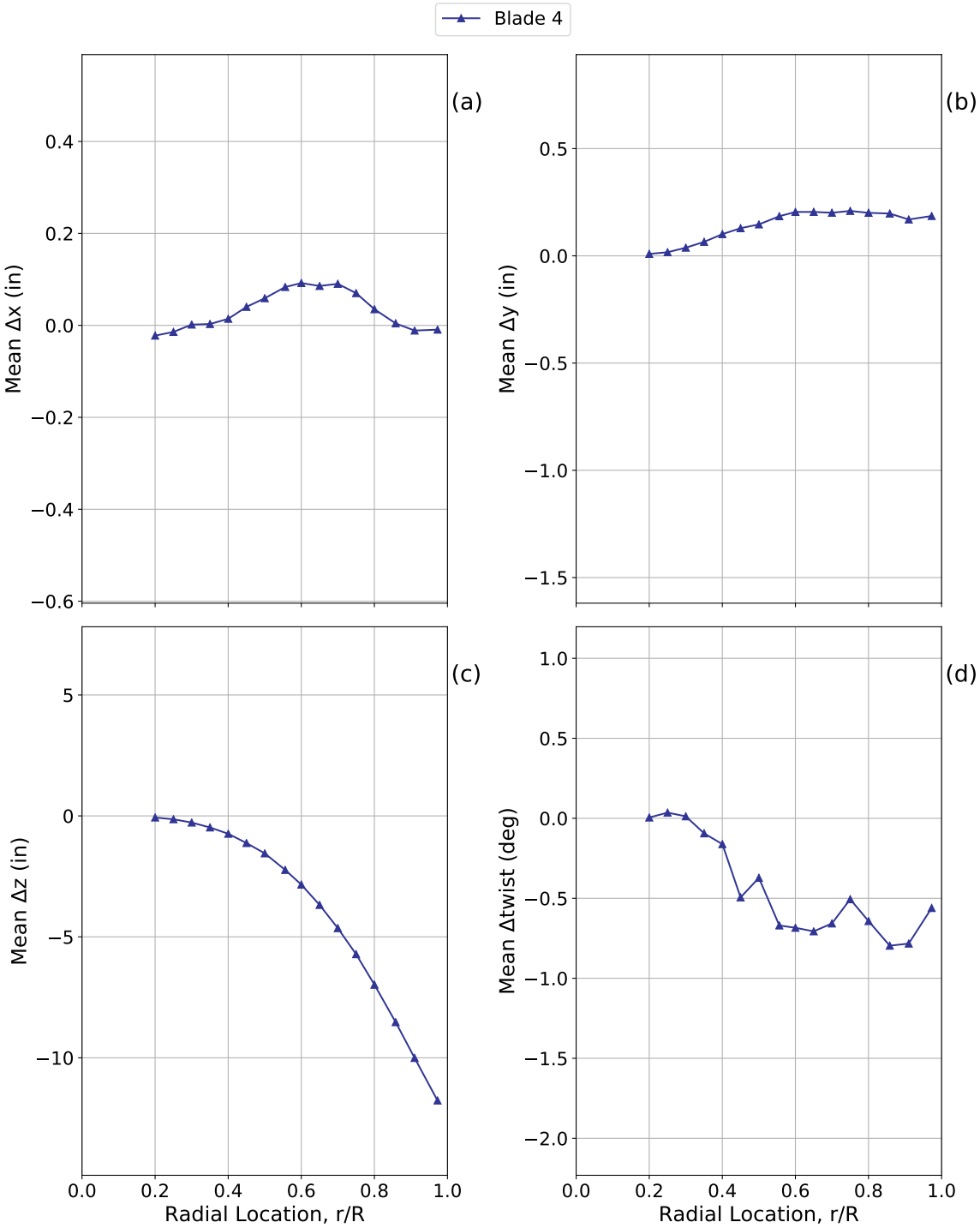


Figure 3.2-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0223	0.0014	0.0090	0.0012	-0.0671	0.0031	0.0047	0.0254
4	135	0.2502	-0.0143	0.0011	0.0168	0.0020	-0.1393	0.0068	0.0354	0.0472
4	135	0.3001	0.0017	0.0013	0.0380	0.0040	-0.2758	0.0151	0.0122	0.0566
4	135	0.3502	0.0029	0.0010	0.0651	0.0070	-0.4784	0.0206	-0.0941	0.0505
4	135	0.4002	0.0143	0.0022	0.1012	0.0104	-0.7397	0.0358	-0.1617	0.0416
4	135	0.4500	0.0402	0.0022	0.1289	0.0123	-1.1227	0.0407	-0.4945	0.0509
4	135	0.5001	0.0590	0.0014	0.1465	0.0153	-1.5497	0.0514	-0.3724	0.0590
4	135	0.5560	0.0834	0.0020	0.1847	0.0194	-2.2345	0.0639	-0.6699	0.0486
4	135	0.6001	0.0920	0.0020	0.2046	0.0218	-2.8411	0.0745	-0.6844	0.0556
4	135	0.6501	0.0857	0.0023	0.2048	0.0263	-3.6813	0.0835	-0.7066	0.0529
4	135	0.6999	0.0903	0.0032	0.2009	0.0296	-4.6414	0.0946	-0.6574	0.0540
4	135	0.7500	0.0701	0.0030	0.2094	0.0338	-5.7188	0.1065	-0.5060	0.0512
4	135	0.8002	0.0351	0.0052	0.2005	0.0382	-6.9809	0.1190	-0.6427	0.0482
4	135	0.8582	0.0043	0.0068	0.1971	0.0433	-8.5279	0.1361	-0.7963	0.0561
4	135	0.9101	-0.0113	0.0083	0.1696	0.0482	-10.0083	0.1553	-0.7831	0.0578
4	135	0.9728	-0.0093	0.0111	0.1857	0.0543	-11.7683	0.1830	-0.5608	0.0575

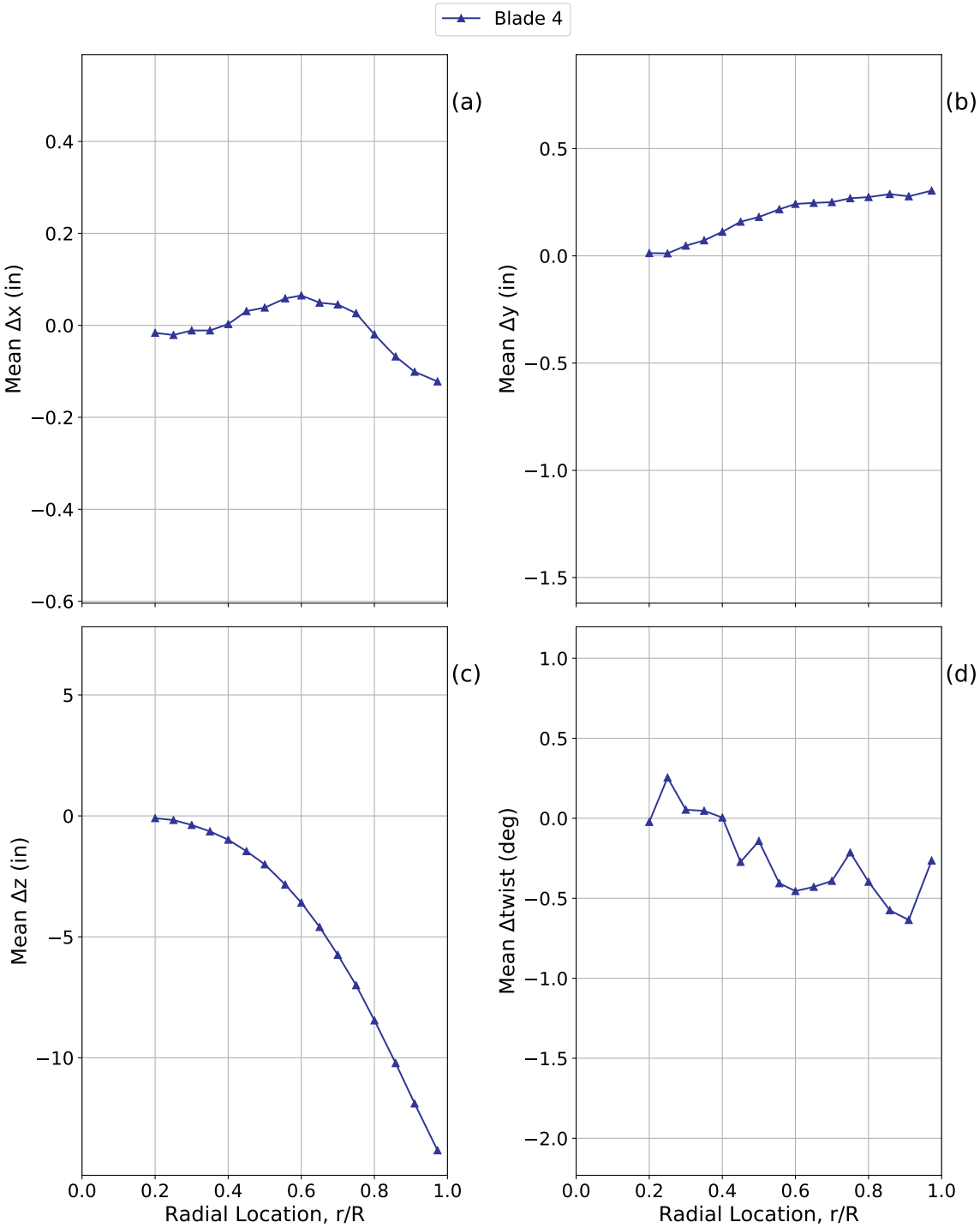


Figure 3.2-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0163	0.0007	0.0126	0.0011	-0.0948	0.0030	-0.0230	0.0408
4	150.12	0.2502	-0.0210	0.0016	0.0113	0.0026	-0.1719	0.0055	0.2541	0.0455
4	150.12	0.3001	-0.0111	0.0013	0.0472	0.0045	-0.3757	0.0102	0.0533	0.0817
4	150.12	0.3502	-0.0111	0.0009	0.0721	0.0077	-0.6417	0.0143	0.0467	0.0591
4	150.12	0.4002	0.0028	0.0012	0.1120	0.0119	-0.9868	0.0230	0.0046	0.0554
4	150.12	0.4500	0.0309	0.0024	0.1589	0.0149	-1.4604	0.0277	-0.2727	0.0608
4	150.12	0.5001	0.0386	0.0023	0.1810	0.0205	-2.0058	0.0381	-0.1422	0.0630
4	150.12	0.5560	0.0586	0.0024	0.2171	0.0246	-2.8420	0.0487	-0.4063	0.0596
4	150.12	0.6001	0.0650	0.0029	0.2420	0.0284	-3.5896	0.0587	-0.4548	0.0674
4	150.12	0.6501	0.0493	0.0042	0.2468	0.0347	-4.5951	0.0713	-0.4289	0.0771
4	150.12	0.6999	0.0453	0.0048	0.2502	0.0394	-5.7457	0.0840	-0.3914	0.0884
4	150.12	0.7500	0.0263	0.0068	0.2684	0.0455	-7.0013	0.1047	-0.2138	0.0734
4	150.12	0.8002	-0.0198	0.0086	0.2738	0.0516	-8.4574	0.1268	-0.3971	0.0680
4	150.12	0.8582	-0.0678	0.0119	0.2878	0.0597	-10.2224	0.1577	-0.5748	0.0762
4	150.12	0.9101	-0.1010	0.0143	0.2775	0.0672	-11.8908	0.1877	-0.6358	0.0797
4	150.12	0.9728	-0.1220	0.0180	0.3039	0.0753	-13.8275	0.2236	-0.2641	0.0736

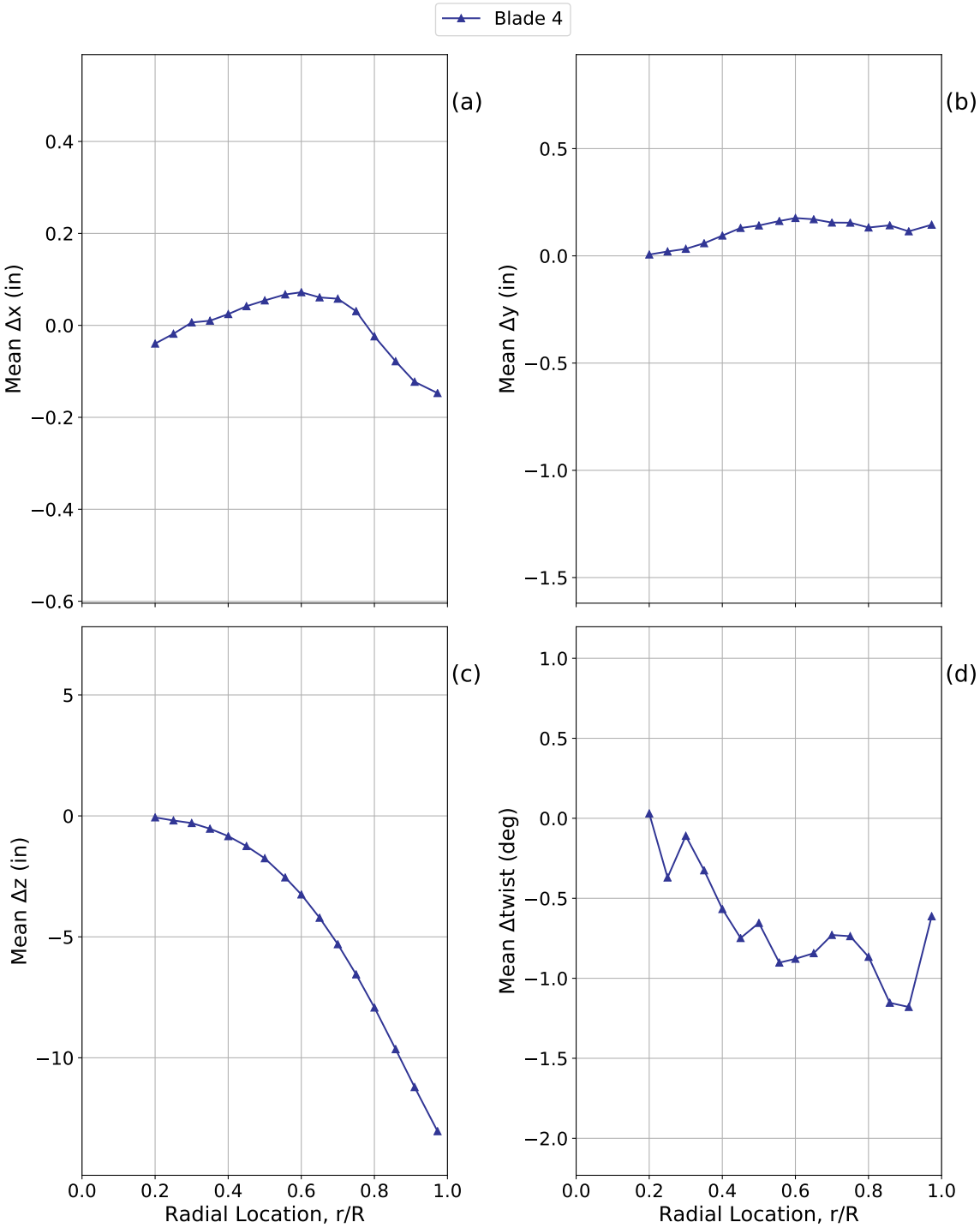


Figure 3.2-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0397	0.0013	0.0060	0.0010	-0.0628	0.0036	0.0299	0.0320
4	164.88	0.2502	-0.0183	0.0015	0.0202	0.0031	-0.1898	0.0097	-0.3705	0.0309
4	164.88	0.3001	0.0063	0.0012	0.0325	0.0038	-0.2966	0.0158	-0.1100	0.0633
4	164.88	0.3502	0.0101	0.0015	0.0587	0.0068	-0.5307	0.0264	-0.3255	0.0600
4	164.88	0.4002	0.0245	0.0017	0.0943	0.0110	-0.8392	0.0421	-0.5675	0.0408
4	164.88	0.4500	0.0416	0.0032	0.1299	0.0195	-1.2497	0.0648	-0.7486	0.1104
4	164.88	0.5001	0.0542	0.0017	0.1415	0.0165	-1.7535	0.0815	-0.6542	0.0597
4	164.88	0.5560	0.0672	0.0046	0.1623	0.0208	-2.5451	0.1069	-0.9023	0.0739
4	164.88	0.6001	0.0720	0.0053	0.1763	0.0233	-3.2503	0.1378	-0.8783	0.0648
4	164.88	0.6501	0.0608	0.0067	0.1705	0.0277	-4.2144	0.1724	-0.8434	0.0821
4	164.88	0.6999	0.0579	0.0090	0.1550	0.0319	-5.3073	0.2060	-0.7294	0.0894
4	164.88	0.7500	0.0308	0.0129	0.1545	0.0362	-6.5540	0.2468	-0.7371	0.0812
4	164.88	0.8002	-0.0240	0.0173	0.1320	0.0396	-7.9259	0.2912	-0.8661	0.0843
4	164.88	0.8582	-0.0782	0.0214	0.1422	0.0451	-9.6473	0.3470	-1.1531	0.1305
4	164.88	0.9101	-0.1228	0.0279	0.1142	0.0493	-11.2142	0.4032	-1.1795	0.1204
4	164.88	0.9728	-0.1473	0.0286	0.1449	0.0543	-13.0372	0.4865	-0.6123	0.1850

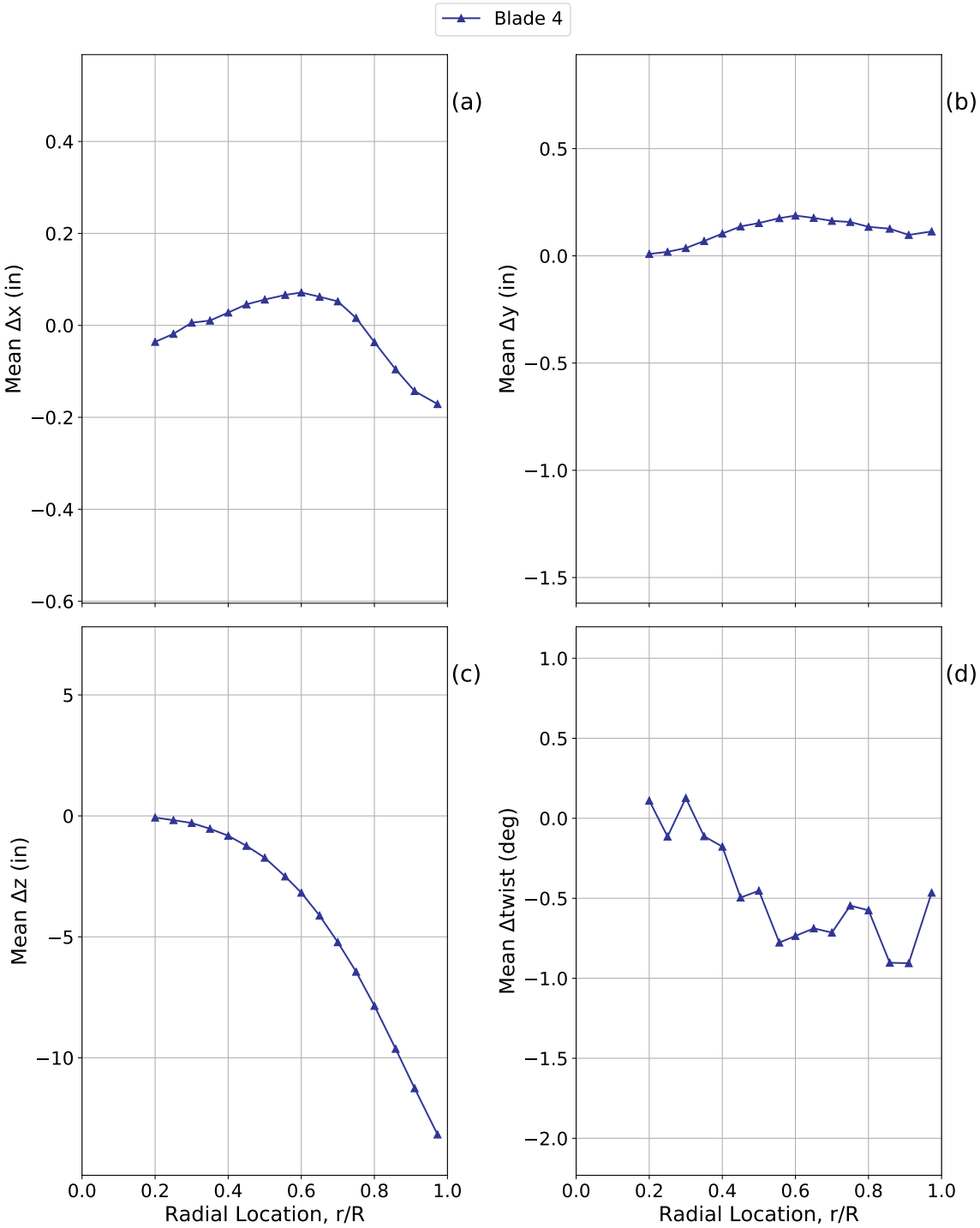


Figure 3.2-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0359	0.0011	0.0087	0.0010	-0.0693	0.0041	0.1106	0.0256
4	170.16	0.2502	-0.0185	0.0021	0.0187	0.0035	-0.1755	0.0100	-0.1143	0.0267
4	170.16	0.3001	0.0058	0.0016	0.0362	0.0070	-0.2933	0.0186	0.1268	0.0525
4	170.16	0.3502	0.0104	0.0015	0.0690	0.0089	-0.5329	0.0305	-0.1122	0.0371
4	170.16	0.4002	0.0279	0.0033	0.1038	0.0166	-0.8206	0.0487	-0.1775	0.0458
4	170.16	0.4500	0.0457	0.0030	0.1372	0.0174	-1.2387	0.0678	-0.4955	0.0473
4	170.16	0.5001	0.0561	0.0032	0.1528	0.0219	-1.7301	0.0932	-0.4528	0.0464
4	170.16	0.5560	0.0662	0.0056	0.1757	0.0268	-2.5036	0.1230	-0.7768	0.0380
4	170.16	0.6001	0.0714	0.0054	0.1877	0.0319	-3.1763	0.1482	-0.7353	0.0345
4	170.16	0.6501	0.0622	0.0071	0.1768	0.0361	-4.1220	0.1822	-0.6879	0.0453
4	170.16	0.6999	0.0522	0.0102	0.1630	0.0432	-5.2227	0.2204	-0.7144	0.0369
4	170.16	0.7500	0.0161	0.0142	0.1578	0.0483	-6.4436	0.2594	-0.5462	0.0536
4	170.16	0.8002	-0.0366	0.0160	0.1353	0.0551	-7.8546	0.3035	-0.5751	0.0354
4	170.16	0.8582	-0.0957	0.0212	0.1264	0.0619	-9.6302	0.3578	-0.9030	0.0471
4	170.16	0.9101	-0.1429	0.0257	0.0975	0.0691	-11.2612	0.4047	-0.9056	0.0423
4	170.16	0.9728	-0.1712	0.0286	0.1137	0.0775	-13.1726	0.4671	-0.4649	0.0691

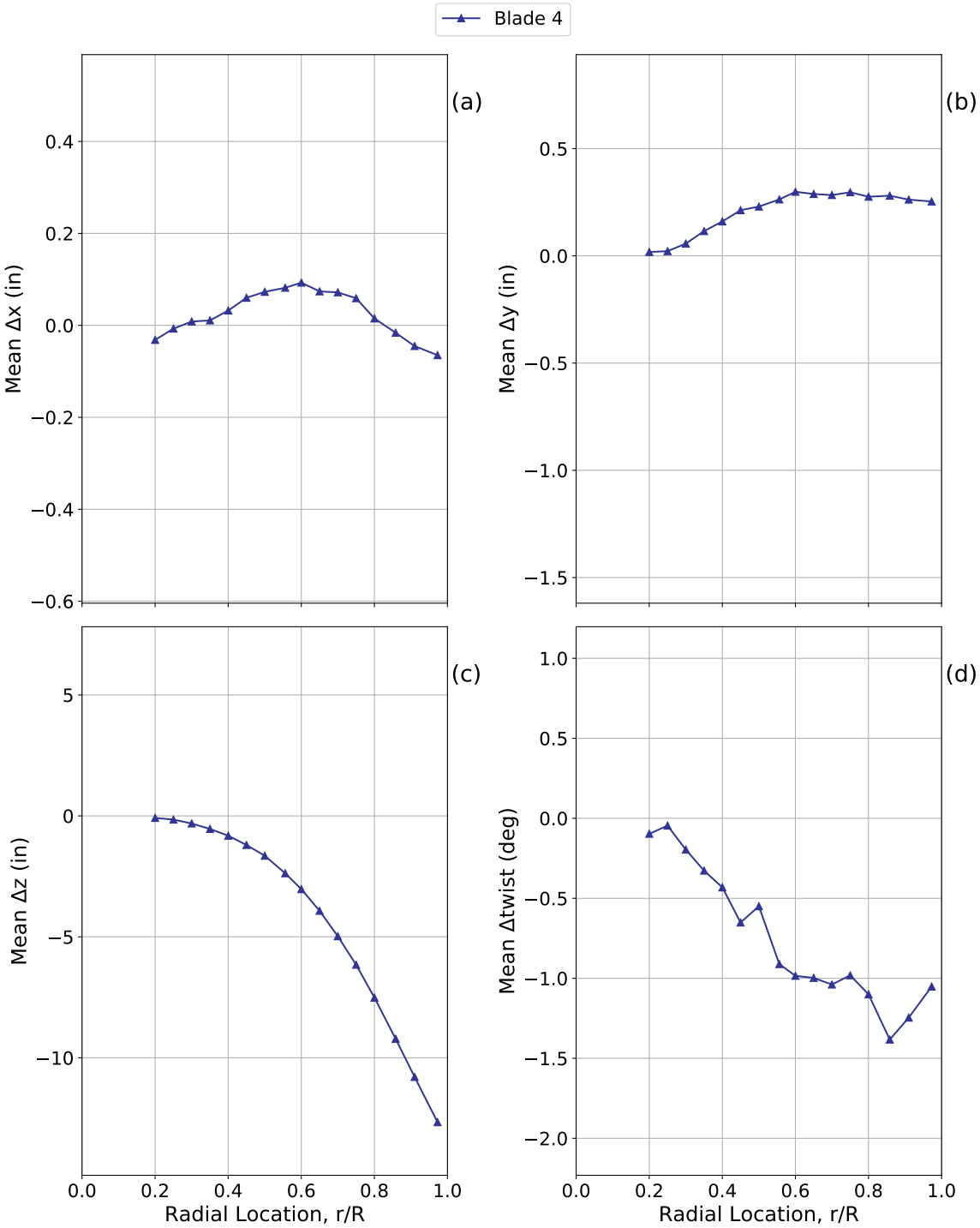


Figure 3.2-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0316	0.0015	0.0178	0.0009	-0.0838	0.0029	-0.0970	0.0247
4	175.08	0.2502	-0.0071	0.0012	0.0217	0.0024	-0.1528	0.0061	-0.0461	0.0442
4	175.08	0.3001	0.0083	0.0014	0.0571	0.0037	-0.3141	0.0105	-0.1960	0.0545
4	175.08	0.3502	0.0108	0.0013	0.1154	0.0053	-0.5398	0.0176	-0.3273	0.0465
4	175.08	0.4002	0.0322	0.0018	0.1603	0.0091	-0.8202	0.0274	-0.4322	0.0434
4	175.08	0.4500	0.0600	0.0024	0.2129	0.0104	-1.2026	0.0381	-0.6515	0.0501
4	175.08	0.5001	0.0729	0.0023	0.2295	0.0130	-1.6478	0.0494	-0.5497	0.0517
4	175.08	0.5560	0.0818	0.0025	0.2630	0.0157	-2.3728	0.0652	-0.9114	0.0477
4	175.08	0.6001	0.0929	0.0028	0.2985	0.0178	-3.0287	0.0781	-0.9847	0.0524
4	175.08	0.6501	0.0739	0.0039	0.2883	0.0208	-3.9258	0.0912	-0.9977	0.0593
4	175.08	0.6999	0.0718	0.0043	0.2834	0.0234	-4.9752	0.1070	-1.0391	0.0591
4	175.08	0.7500	0.0590	0.0045	0.2965	0.0270	-6.1545	0.1238	-0.9816	0.0501
4	175.08	0.8002	0.0150	0.0075	0.2755	0.0302	-7.5157	0.1437	-1.1004	0.0633
4	175.08	0.8582	-0.0161	0.0069	0.2804	0.0355	-9.2172	0.1660	-1.3832	0.0600
4	175.08	0.9101	-0.0450	0.0126	0.2621	0.0374	-10.7914	0.1906	-1.2460	0.0617
4	175.08	0.9728	-0.0649	0.0184	0.2535	0.0431	-12.6629	0.1879	-1.0518	0.3406

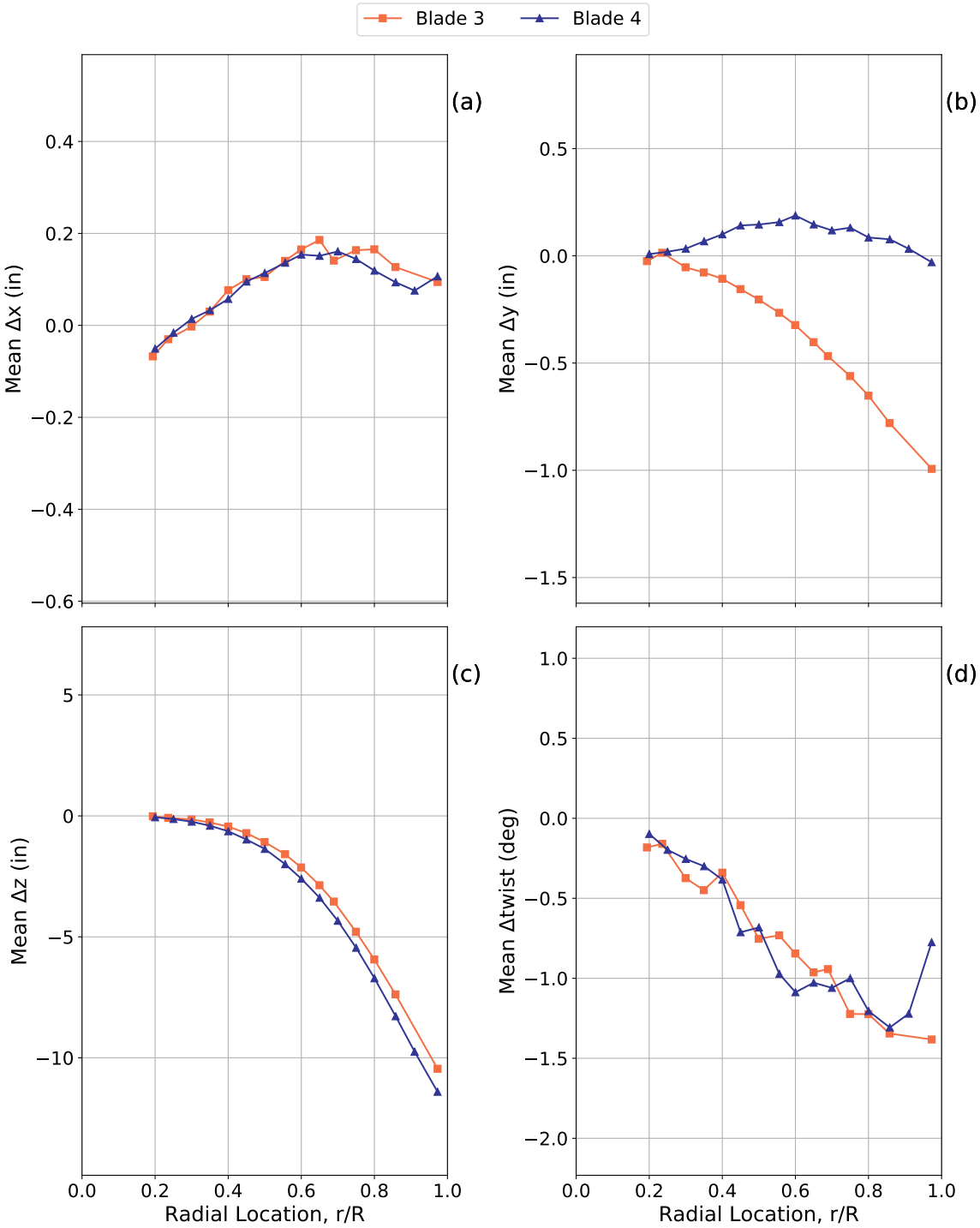


Figure 3.2-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0675	0.0012	-0.0245	0.0007	-0.0167	0.0020	-0.1822	0.0192
3	180.35	0.2357	-0.0302	0.0014	0.0143	0.0026	-0.0809	0.0053	-0.1598	0.0455
3	180.35	0.2995	-0.0026	0.0007	-0.0535	0.0040	-0.1459	0.0083	-0.3741	0.0472
3	180.35	0.3493	0.0299	0.0011	-0.0776	0.0071	-0.2690	0.0130	-0.4492	0.0346
3	180.35	0.4000	0.0766	0.0016	-0.1068	0.0115	-0.4399	0.0214	-0.3398	0.0312
3	180.35	0.4497	0.1004	0.0014	-0.1552	0.0126	-0.7116	0.0297	-0.5429	0.0373
3	180.35	0.4997	0.1052	0.0013	-0.2037	0.0163	-1.0812	0.0390	-0.7530	0.0231
3	180.35	0.5556	0.1403	0.0020	-0.2657	0.0206	-1.5837	0.0513	-0.7315	0.0401
3	180.35	0.5995	0.1651	0.0013	-0.3229	0.0237	-2.1310	0.0607	-0.8451	0.0314
3	180.35	0.6498	0.1858	0.0028	-0.4024	0.0287	-2.8663	0.0713	-0.9630	0.0657
3	180.35	0.6890	0.1409	0.0030	-0.4675	0.0348	-3.5422	0.0768	-0.9426	0.0771
3	180.35	0.7495	0.1635	0.0043	-0.5606	0.0388	-4.7891	0.0862	-1.2229	0.0554
3	180.35	0.7998	0.1654	0.0043	-0.6517	0.0449	-5.9354	0.0954	-1.2241	0.0566
3	180.35	0.8577	0.1268	0.0057	-0.7798	0.0542	-7.3785	0.1090	-1.3452	0.1472
3	180.35	0.9729	0.0943	0.0105	-0.9932	0.0746	-10.4538	0.1253	-1.3825	0.1243
4	180	0.2001	-0.0507	0.0011	0.0081	0.0011	-0.0578	0.0029	-0.0980	0.0298
4	180	0.2502	-0.0161	0.0007	0.0192	0.0036	-0.1294	0.0057	-0.1971	0.0536
4	180	0.3001	0.0140	0.0012	0.0335	0.0053	-0.2399	0.0093	-0.2542	0.0681
4	180	0.3502	0.0330	0.0012	0.0678	0.0094	-0.4068	0.0160	-0.2996	0.0634
4	180	0.4002	0.0575	0.0017	0.1003	0.0152	-0.6362	0.0239	-0.3836	0.0478
4	180	0.4500	0.0952	0.0021	0.1417	0.0192	-0.9770	0.0308	-0.7123	0.0545
4	180	0.5001	0.1138	0.0022	0.1458	0.0222	-1.3658	0.0361	-0.6823	0.0559
4	180	0.5560	0.1362	0.0025	0.1573	0.0270	-1.9976	0.0421	-0.9725	0.0489
4	180	0.6001	0.1539	0.0024	0.1880	0.0322	-2.5961	0.0481	-1.0872	0.0609
4	180	0.6501	0.1512	0.0030	0.1462	0.0374	-3.3848	0.0541	-1.0276	0.0751
4	180	0.6999	0.1608	0.0031	0.1186	0.0408	-4.3382	0.0623	-1.0600	0.0705
4	180	0.7500	0.1443	0.0037	0.1314	0.0494	-5.4518	0.0722	-0.9997	0.0736
4	180	0.8002	0.1190	0.0056	0.0854	0.0606	-6.7130	0.0761	-1.2047	0.1037
4	180	0.8582	0.0936	0.0080	0.0772	0.0632	-8.2837	0.0910	-1.3075	0.1187
4	180	0.9101	0.0756	0.0089	0.0329	0.0734	-9.7477	0.1117	-1.2214	0.2232
4	180	0.9728	0.1066	0.0109	-0.0297	0.0842	-11.4066	0.1352	-0.7747	0.1500

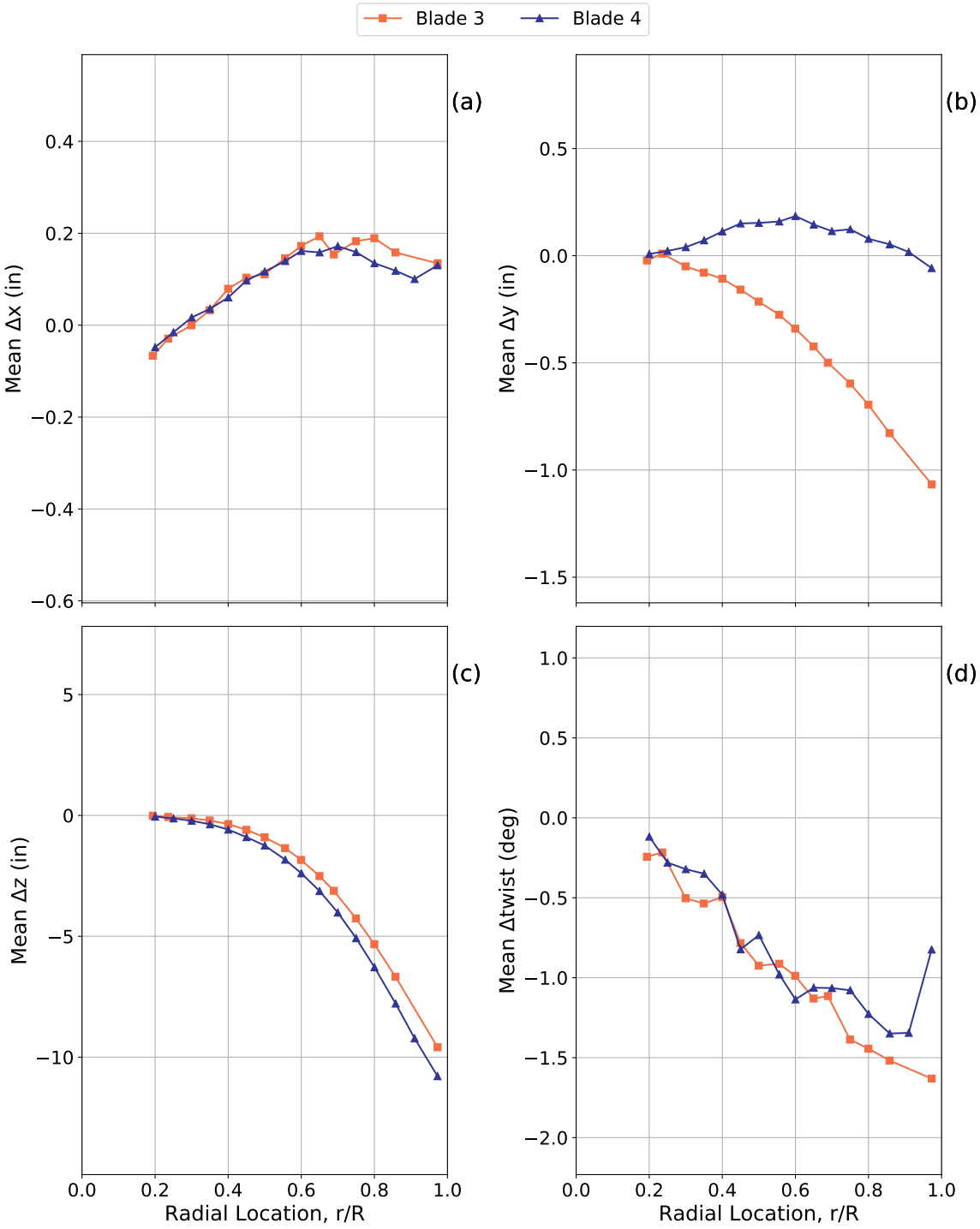


Figure 3.2-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0666	0.0017	-0.0222	0.0014	-0.0107	0.0019	-0.2436	0.0159
3	184.92	0.2357	-0.0292	0.0009	0.0095	0.0020	-0.0632	0.0034	-0.2166	0.0375
3	184.92	0.2995	-0.0002	0.0015	-0.0498	0.0049	-0.1201	0.0069	-0.5029	0.0453
3	184.92	0.3493	0.0326	0.0011	-0.0790	0.0078	-0.2099	0.0114	-0.5359	0.0303
3	184.92	0.4000	0.0792	0.0017	-0.1074	0.0121	-0.3566	0.0178	-0.4964	0.0411
3	184.92	0.4497	0.1035	0.0019	-0.1582	0.0150	-0.5961	0.0246	-0.7832	0.0416
3	184.92	0.4997	0.1107	0.0016	-0.2141	0.0181	-0.9038	0.0335	-0.9244	0.0379
3	184.92	0.5556	0.1456	0.0020	-0.2756	0.0227	-1.3519	0.0460	-0.9129	0.0428
3	184.92	0.5995	0.1724	0.0026	-0.3402	0.0260	-1.8412	0.0570	-0.9886	0.0514
3	184.92	0.6498	0.1934	0.0029	-0.4232	0.0303	-2.5094	0.0708	-1.1304	0.0578
3	184.92	0.6890	0.1540	0.0038	-0.4991	0.0356	-3.1178	0.0829	-1.1147	0.0640
3	184.92	0.7495	0.1827	0.0045	-0.5965	0.0412	-4.2608	0.1006	-1.3867	0.0667
3	184.92	0.7998	0.1893	0.0067	-0.6952	0.0448	-5.3279	0.1208	-1.4437	0.0631
3	184.92	0.8577	0.1582	0.0094	-0.8279	0.0516	-6.6718	0.1471	-1.5179	0.1015
3	184.92	0.9729	0.1346	0.0146	-1.0670	0.0690	-9.5898	0.2021	-1.6308	0.1303
4	184.92	0.2001	-0.0481	0.0012	0.0082	0.0012	-0.0514	0.0030	-0.1180	0.0192
4	184.92	0.2502	-0.0154	0.0010	0.0221	0.0023	-0.1251	0.0038	-0.2802	0.0400
4	184.92	0.3001	0.0168	0.0011	0.0398	0.0043	-0.2224	0.0073	-0.3212	0.0446
4	184.92	0.3502	0.0357	0.0006	0.0718	0.0067	-0.3681	0.0136	-0.3498	0.0438
4	184.92	0.4002	0.0603	0.0012	0.1132	0.0104	-0.5862	0.0178	-0.4815	0.0433
4	184.92	0.4500	0.0972	0.0011	0.1503	0.0125	-0.8992	0.0209	-0.8223	0.0499
4	184.92	0.5001	0.1168	0.0015	0.1530	0.0154	-1.2460	0.0275	-0.7338	0.0401
4	184.92	0.5560	0.1396	0.0016	0.1596	0.0182	-1.8316	0.0320	-0.9799	0.0435
4	184.92	0.6001	0.1615	0.0017	0.1848	0.0203	-2.3948	0.0378	-1.1357	0.0300
4	184.92	0.6501	0.1584	0.0019	0.1452	0.0229	-3.1295	0.0412	-1.0624	0.0476
4	184.92	0.6999	0.1719	0.0017	0.1146	0.0276	-4.0203	0.0510	-1.0647	0.0435
4	184.92	0.7500	0.1590	0.0029	0.1234	0.0305	-5.0794	0.0619	-1.0785	0.0513
4	184.92	0.8002	0.1349	0.0029	0.0788	0.0354	-6.2813	0.0700	-1.2266	0.0780
4	184.92	0.8582	0.1184	0.0042	0.0527	0.0392	-7.7842	0.0921	-1.3491	0.0878
4	184.92	0.9101	0.1004	0.0067	0.0171	0.0438	-9.2233	0.1050	-1.3447	0.1192
4	184.92	0.9728	0.1303	0.0072	-0.0579	0.0523	-10.7878	0.1258	-0.8237	0.1184

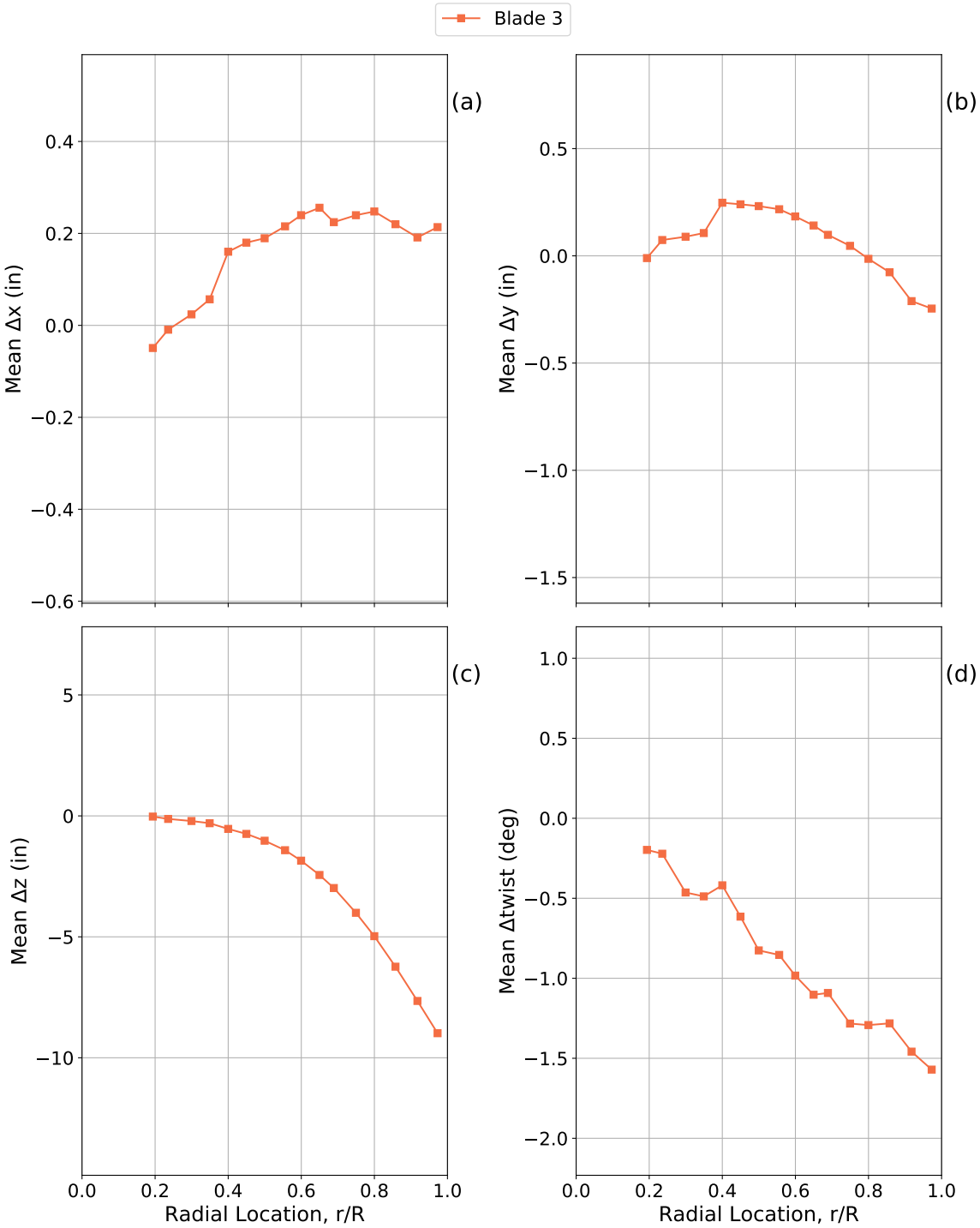


Figure 3.2-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0492	0.0089	-0.0104	0.0083	-0.0286	0.0269	-0.1976	0.0259
3	195.12	0.2357	-0.0094	0.0098	0.0738	0.0380	-0.1251	0.0694	-0.2214	0.0422
3	195.12	0.2995	0.0239	0.0100	0.0891	0.0838	-0.2114	0.1310	-0.4638	0.0573
3	195.12	0.3493	0.0567	0.0094	0.1063	0.1187	-0.3024	0.1797	-0.4880	0.0422
3	195.12	0.4000	0.1602	0.0204	0.2477	0.2190	-0.5378	0.3078	-0.4189	0.0449
3	195.12	0.4497	0.1799	0.0234	0.2403	0.2633	-0.7440	0.3670	-0.6146	0.0522
3	195.12	0.4997	0.1895	0.0261	0.2318	0.3074	-1.0261	0.4253	-0.8258	0.0478
3	195.12	0.5556	0.2154	0.0295	0.2173	0.3578	-1.4182	0.4921	-0.8540	0.0524
3	195.12	0.5995	0.2397	0.0319	0.1838	0.3970	-1.8512	0.5437	-0.9832	0.0508
3	195.12	0.6498	0.2558	0.0340	0.1415	0.4420	-2.4423	0.6030	-1.1027	0.0613
3	195.12	0.6890	0.2245	0.0363	0.0980	0.4774	-2.9819	0.6474	-1.0918	0.0615
3	195.12	0.7495	0.2396	0.0394	0.0466	0.5326	-4.0059	0.7128	-1.2830	0.0632
3	195.12	0.7998	0.2477	0.0416	-0.0139	0.5791	-4.9728	0.7670	-1.2924	0.0696
3	195.12	0.8577	0.2200	0.0444	-0.0766	0.6314	-6.2341	0.8285	-1.2817	0.0654
3	195.12	0.9178	0.1912	0.0477	-0.2111	0.6829	-7.6507	0.8904	-1.4583	0.0888
3	195.12	0.9729	0.2137	0.0368	-0.2458	0.7347	-8.9845	0.9510	-1.5707	0.0778

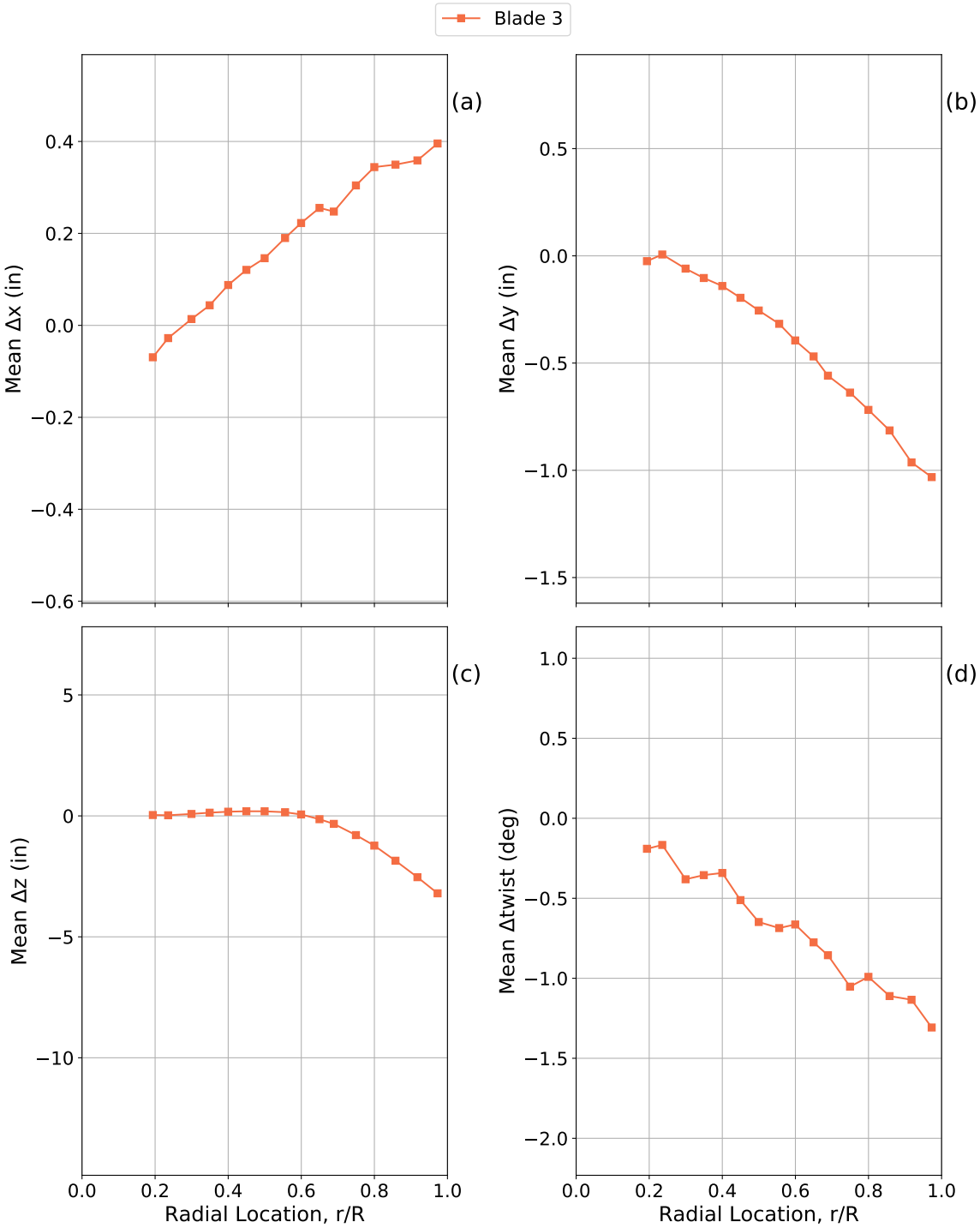


Figure 3.2-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0694	0.0011	-0.0248	0.0005	0.0365	0.0031	-0.1906	0.0239
3	209.88	0.2357	-0.0277	0.0007	0.0063	0.0035	0.0255	0.0089	-0.1666	0.0519
3	209.88	0.2995	0.0137	0.0019	-0.0596	0.0037	0.0801	0.0162	-0.3812	0.0636
3	209.88	0.3493	0.0437	0.0012	-0.1034	0.0082	0.1330	0.0234	-0.3552	0.0343
3	209.88	0.4000	0.0878	0.0012	-0.1406	0.0126	0.1736	0.0403	-0.3416	0.0645
3	209.88	0.4497	0.1207	0.0013	-0.1956	0.0161	0.1913	0.0533	-0.5115	0.0837
3	209.88	0.4997	0.1461	0.0014	-0.2549	0.0189	0.1898	0.0627	-0.6483	0.0413
3	209.88	0.5556	0.1900	0.0013	-0.3170	0.0230	0.1518	0.0804	-0.6861	0.0592
3	209.88	0.5995	0.2226	0.0014	-0.3945	0.0270	0.0593	0.0934	-0.6637	0.0567
3	209.88	0.6498	0.2555	0.0015	-0.4691	0.0305	-0.1372	0.1084	-0.7755	0.0560
3	209.88	0.6890	0.2475	0.0018	-0.5587	0.0340	-0.3299	0.1208	-0.8557	0.0695
3	209.88	0.7495	0.3044	0.0021	-0.6376	0.0382	-0.7941	0.1353	-1.0523	0.0571
3	209.88	0.7998	0.3442	0.0023	-0.7183	0.0421	-1.2285	0.1507	-0.9910	0.0621
3	209.88	0.8577	0.3496	0.0031	-0.8140	0.0463	-1.8528	0.1665	-1.1111	0.0759
3	209.88	0.9178	0.3588	0.0036	-0.9632	0.0507	-2.5336	0.1858	-1.1342	0.0759
3	209.88	0.9729	0.3956	0.0052	-1.0317	0.0550	-3.2012	0.2034	-1.3075	0.0872

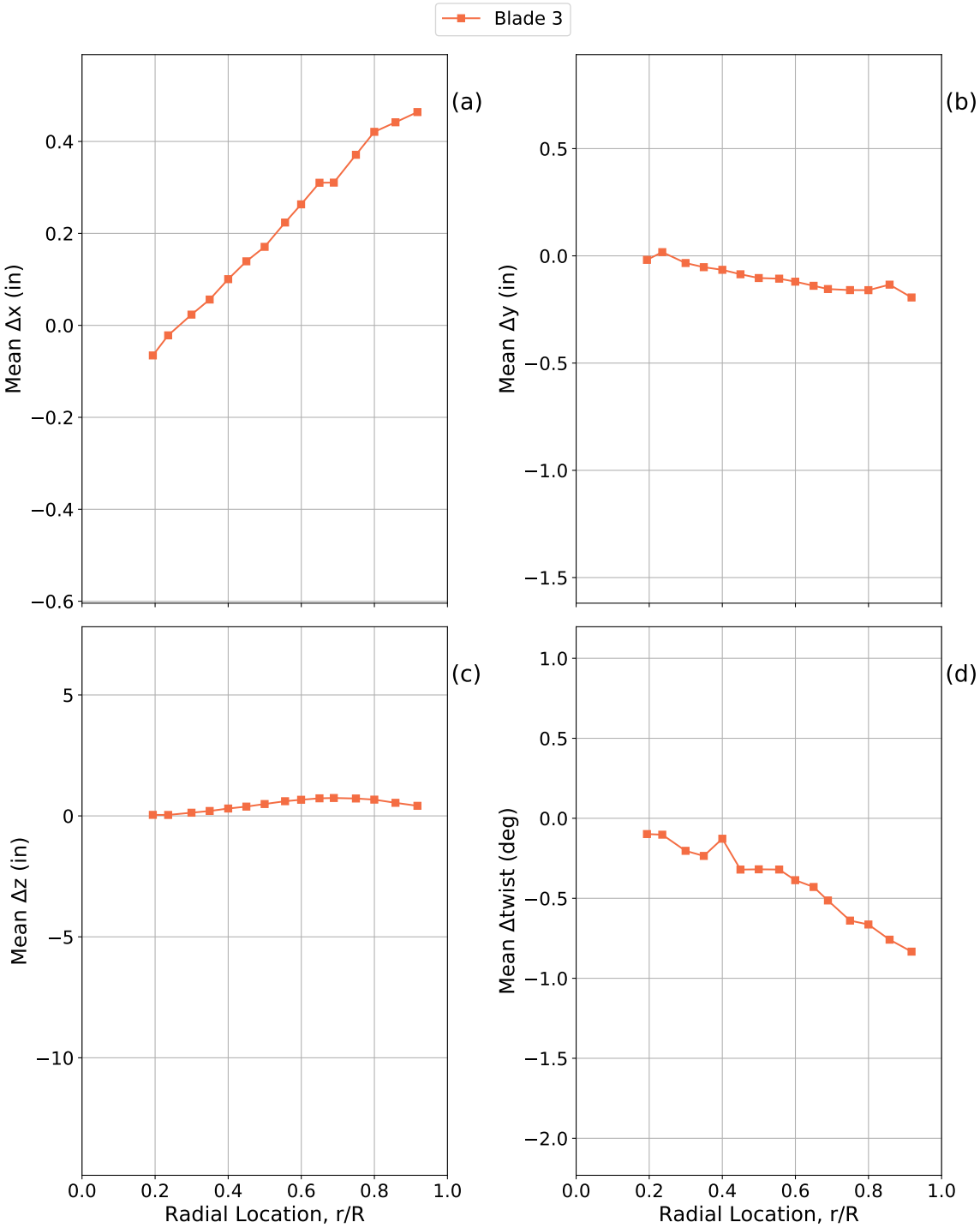


Figure 3.2-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0654	0.0011	-0.0187	0.0008	0.0424	0.0042	-0.0986	0.0443
3	225	0.2357	-0.0217	0.0017	0.0173	0.0031	0.0394	0.0102	-0.1024	0.0653
3	225	0.2995	0.0234	0.0016	-0.0335	0.0071	0.1321	0.0197	-0.2034	0.1033
3	225	0.3493	0.0562	0.0015	-0.0529	0.0091	0.2032	0.0279	-0.2352	0.0743
3	225	0.4000	0.1005	0.0032	-0.0652	0.0178	0.3051	0.0474	-0.1278	0.0546
3	225	0.4497	0.1393	0.0024	-0.0859	0.0181	0.3842	0.0539	-0.3206	0.0759
3	225	0.4997	0.1708	0.0019	-0.1035	0.0209	0.4911	0.0718	-0.3190	0.0893
3	225	0.5556	0.2237	0.0022	-0.1064	0.0264	0.6068	0.0828	-0.3202	0.0499
3	225	0.5995	0.2632	0.0025	-0.1204	0.0290	0.6674	0.0980	-0.3868	0.0757
3	225	0.6498	0.3102	0.0032	-0.1396	0.0321	0.7262	0.1091	-0.4293	0.0673
3	225	0.6890	0.3105	0.0026	-0.1548	0.0346	0.7401	0.1174	-0.5136	0.0607
3	225	0.7495	0.3710	0.0020	-0.1597	0.0381	0.7192	0.1348	-0.6394	0.0658
3	225	0.7998	0.4209	0.0020	-0.1600	0.0408	0.6729	0.1436	-0.6638	0.0670
3	225	0.8577	0.4417	0.0020	-0.1343	0.0439	0.5406	0.1556	-0.7586	0.0497
3	225	0.9178	0.4639	0.0018	-0.1941	0.0471	0.4166	0.1741	-0.8334	0.0499

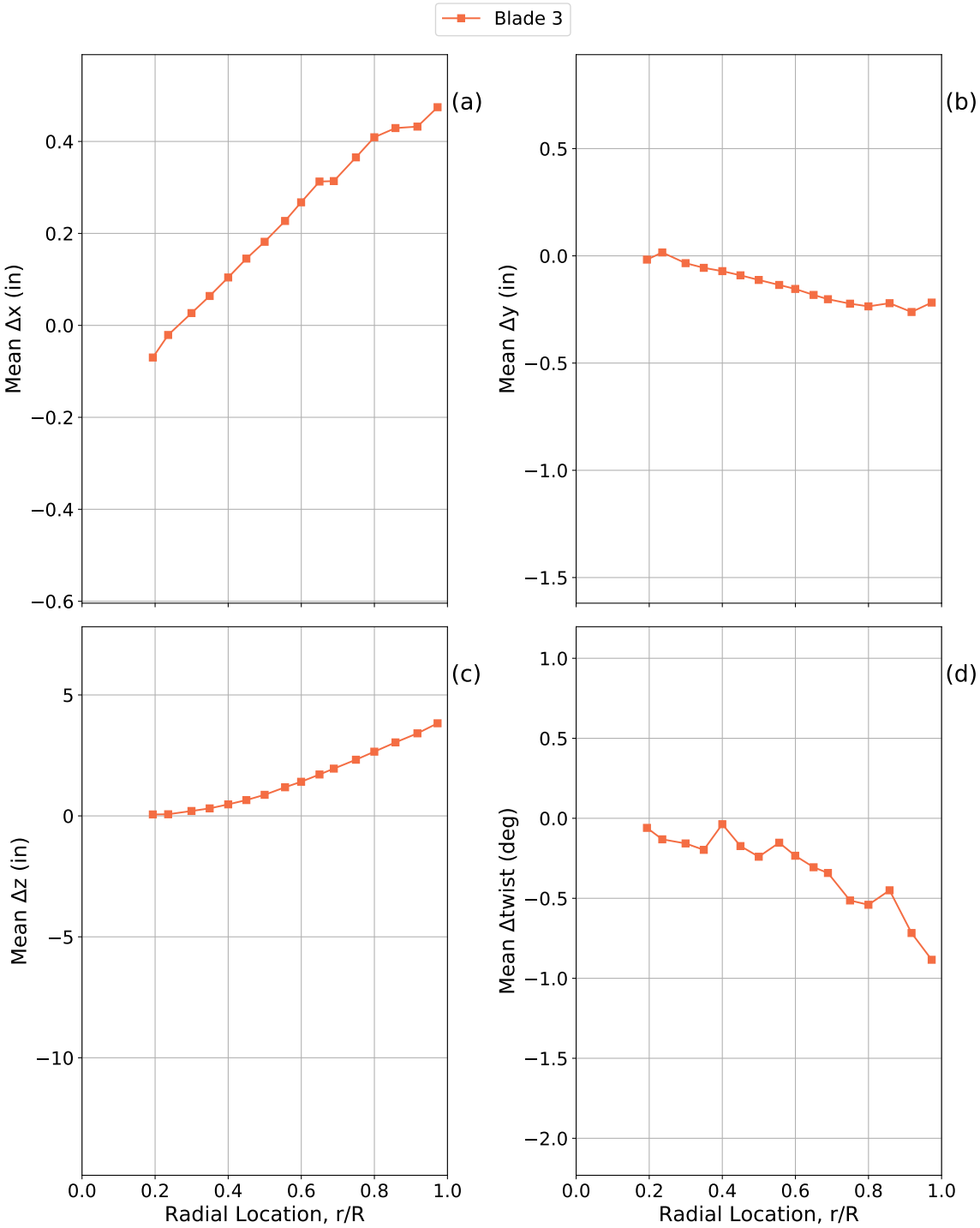


Figure 3.2-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0699	0.0007	-0.0176	0.0006	0.0598	0.0042	-0.0599	0.0208
3	240.12	0.2357	-0.0209	0.0008	0.0158	0.0015	0.0672	0.0058	-0.1315	0.0290
3	240.12	0.2995	0.0267	0.0009	-0.0341	0.0032	0.2025	0.0139	-0.1572	0.0450
3	240.12	0.3493	0.0639	0.0017	-0.0559	0.0058	0.3102	0.0217	-0.1972	0.0716
3	240.12	0.4000	0.1042	0.0018	-0.0713	0.0092	0.4763	0.0333	-0.0369	0.0533
3	240.12	0.4497	0.1452	0.0025	-0.0908	0.0102	0.6545	0.0436	-0.1737	0.0600
3	240.12	0.4997	0.1818	0.0023	-0.1124	0.0133	0.8717	0.0552	-0.2402	0.0674
3	240.12	0.5556	0.2271	0.0020	-0.1357	0.0161	1.1839	0.0702	-0.1526	0.0656
3	240.12	0.5995	0.2676	0.0018	-0.1543	0.0194	1.4114	0.0831	-0.2340	0.0842
3	240.12	0.6498	0.3128	0.0024	-0.1822	0.0222	1.7121	0.0953	-0.3060	0.0950
3	240.12	0.6890	0.3138	0.0025	-0.2022	0.0266	1.9545	0.1055	-0.3417	0.0886
3	240.12	0.7495	0.3654	0.0025	-0.2230	0.0309	2.3228	0.1207	-0.5136	0.0828
3	240.12	0.7998	0.4091	0.0035	-0.2356	0.0352	2.6557	0.1337	-0.5405	0.0868
3	240.12	0.8577	0.4291	0.0039	-0.2208	0.0406	3.0390	0.1473	-0.4501	0.0986
3	240.12	0.9178	0.4323	0.0046	-0.2618	0.0465	3.4135	0.1620	-0.7170	0.1014
3	240.12	0.9729	0.4745	0.0059	-0.2179	0.0521	3.8290	0.1770	-0.8842	0.0939

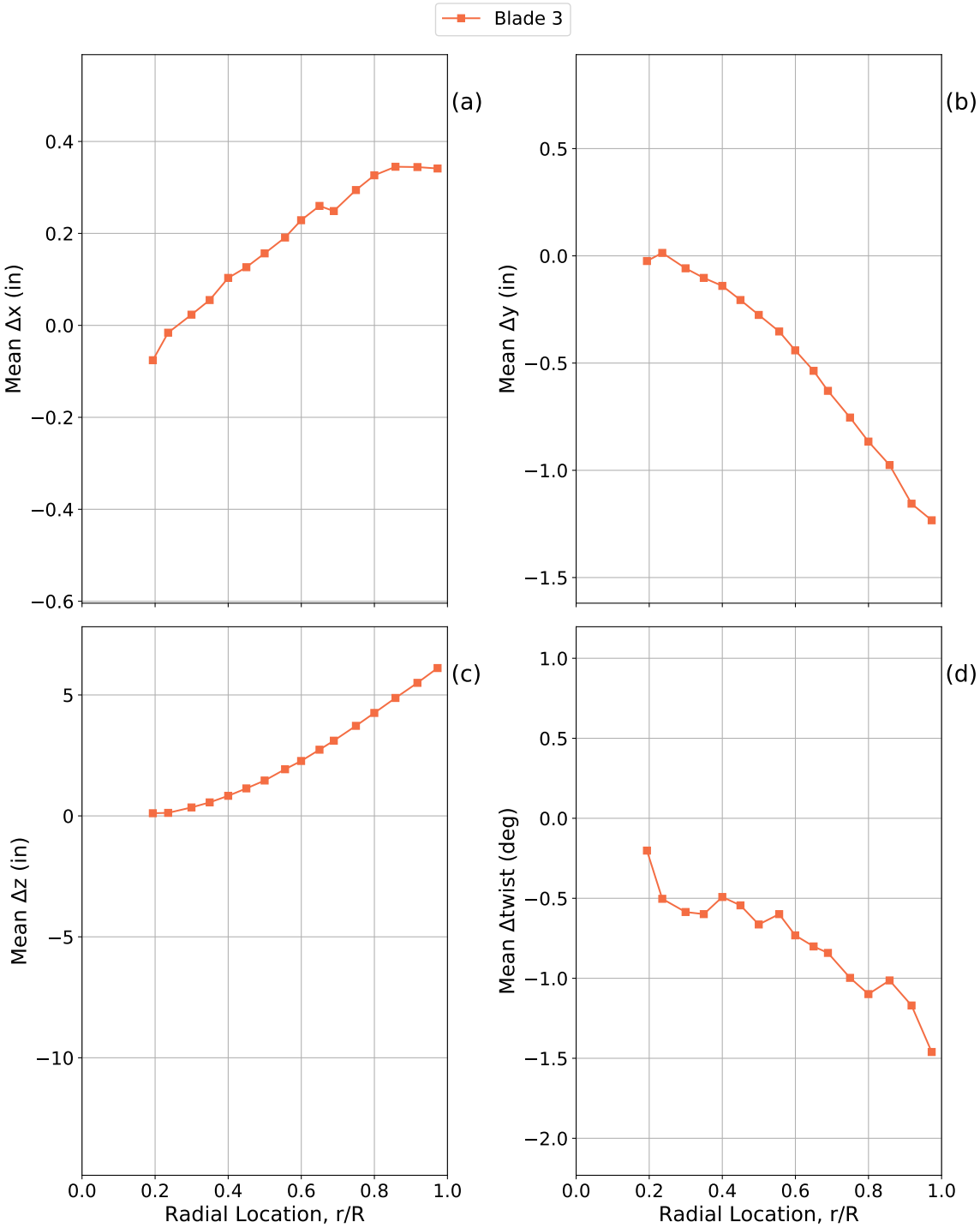


Figure 3.2-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0758	0.0016	-0.0241	0.0005	0.1104	0.0044	-0.2019	0.0270
3	254.88	0.2357	-0.0159	0.0009	0.0137	0.0009	0.1251	0.0077	-0.5033	0.0401
3	254.88	0.2995	0.0233	0.0008	-0.0581	0.0026	0.3496	0.0157	-0.5858	0.0582
3	254.88	0.3493	0.0551	0.0012	-0.1029	0.0041	0.5583	0.0244	-0.5990	0.0555
3	254.88	0.4000	0.1032	0.0015	-0.1401	0.0069	0.8306	0.0383	-0.4919	0.0493
3	254.88	0.4497	0.1265	0.0015	-0.2060	0.0090	1.1370	0.0499	-0.5442	0.0588
3	254.88	0.4997	0.1566	0.0014	-0.2755	0.0119	1.4625	0.0637	-0.6636	0.0527
3	254.88	0.5556	0.1911	0.0018	-0.3527	0.0149	1.9287	0.0821	-0.5990	0.0527
3	254.88	0.5995	0.2287	0.0026	-0.4407	0.0183	2.2706	0.0967	-0.7317	0.0761
3	254.88	0.6498	0.2598	0.0024	-0.5361	0.0211	2.7363	0.1121	-0.8009	0.0675
3	254.88	0.6890	0.2486	0.0034	-0.6294	0.0241	3.1097	0.1236	-0.8414	0.0589
3	254.88	0.7495	0.2943	0.0043	-0.7540	0.0290	3.7234	0.1443	-0.9973	0.0712
3	254.88	0.7998	0.3264	0.0051	-0.8660	0.0335	4.2565	0.1628	-1.0988	0.0747
3	254.88	0.8577	0.3450	0.0057	-0.9754	0.0388	4.8757	0.1846	-1.0133	0.0688
3	254.88	0.9178	0.3443	0.0065	-1.1556	0.0450	5.5002	0.2092	-1.1699	0.0665
3	254.88	0.9729	0.3412	0.0083	-1.2330	0.0508	6.1123	0.2322	-1.4606	0.0679

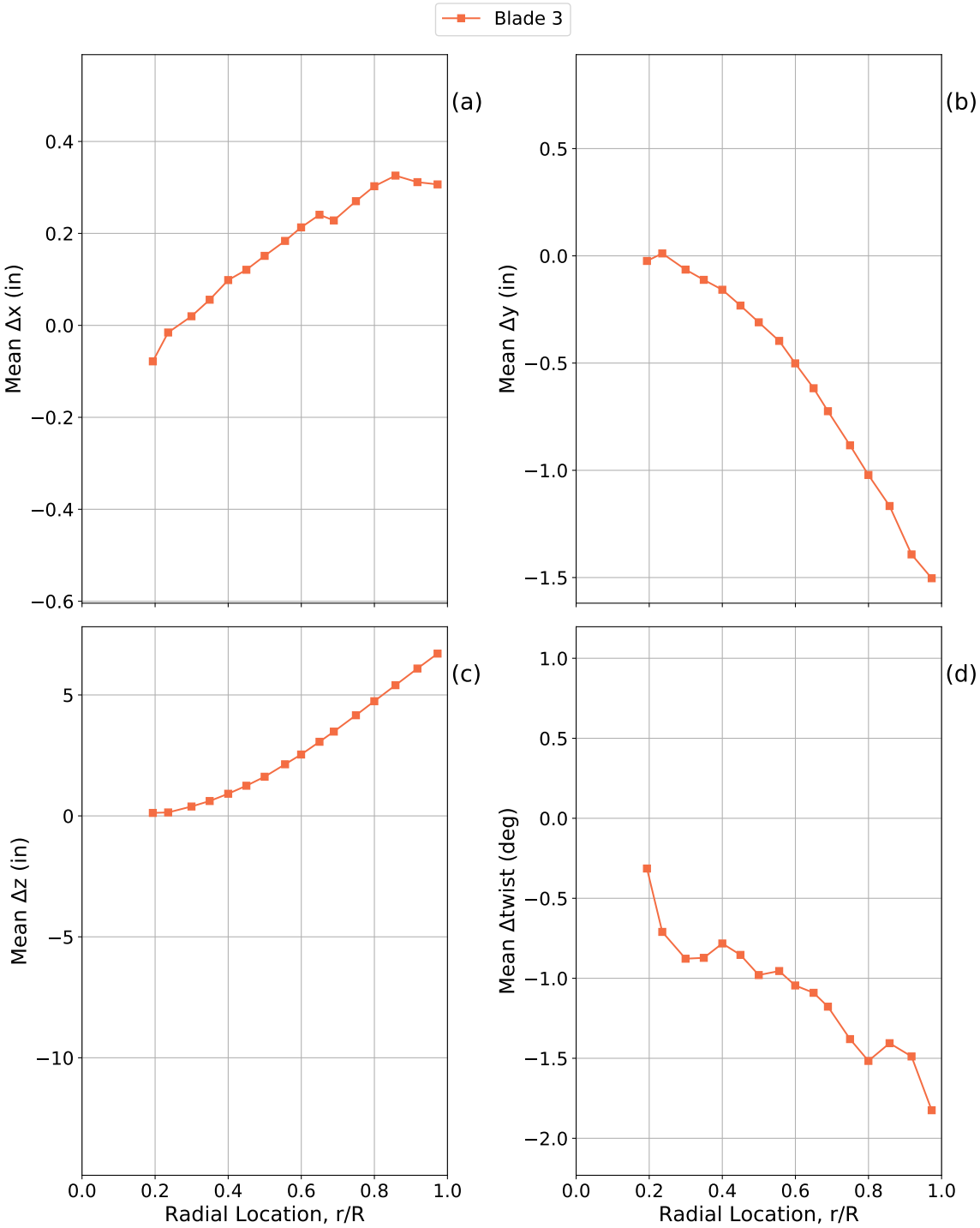


Figure 3.2-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0783	0.0038	-0.0238	0.0012	0.1230	0.0097	-0.3139	0.0302
3	260.16	0.2357	-0.0155	0.0011	0.0112	0.0014	0.1428	0.0080	-0.7101	0.1157
3	260.16	0.2995	0.0198	0.0013	-0.0641	0.0045	0.3882	0.0258	-0.8776	0.1090
3	260.16	0.3493	0.0558	0.0015	-0.1119	0.0079	0.6149	0.0386	-0.8722	0.1111
3	260.16	0.4000	0.0985	0.0016	-0.1581	0.0121	0.9158	0.0568	-0.7824	0.1042
3	260.16	0.4497	0.1209	0.0022	-0.2318	0.0157	1.2474	0.0774	-0.8539	0.1023
3	260.16	0.4997	0.1512	0.0029	-0.3099	0.0194	1.6191	0.0993	-0.9797	0.1187
3	260.16	0.5556	0.1837	0.0033	-0.3966	0.0237	2.1335	0.1326	-0.9546	0.1046
3	260.16	0.5995	0.2131	0.0044	-0.5014	0.0275	2.5375	0.1599	-1.0449	0.1126
3	260.16	0.6498	0.2406	0.0058	-0.6173	0.0319	3.0644	0.1971	-1.0907	0.1095
3	260.16	0.6890	0.2282	0.0071	-0.7244	0.0357	3.4848	0.2279	-1.1773	0.1075
3	260.16	0.7495	0.2701	0.0098	-0.8835	0.0421	4.1610	0.2763	-1.3801	0.1040
3	260.16	0.7998	0.3026	0.0112	-1.0218	0.0477	4.7413	0.3213	-1.5164	0.1069
3	260.16	0.8577	0.3257	0.0137	-1.1665	0.0551	5.4039	0.3741	-1.4057	0.1089
3	260.16	0.9178	0.3115	0.0167	-1.3922	0.0626	6.0928	0.4331	-1.4885	0.1128
3	260.16	0.9729	0.3066	0.0221	-1.5033	0.0695	6.7094	0.4930	-1.8246	0.1085

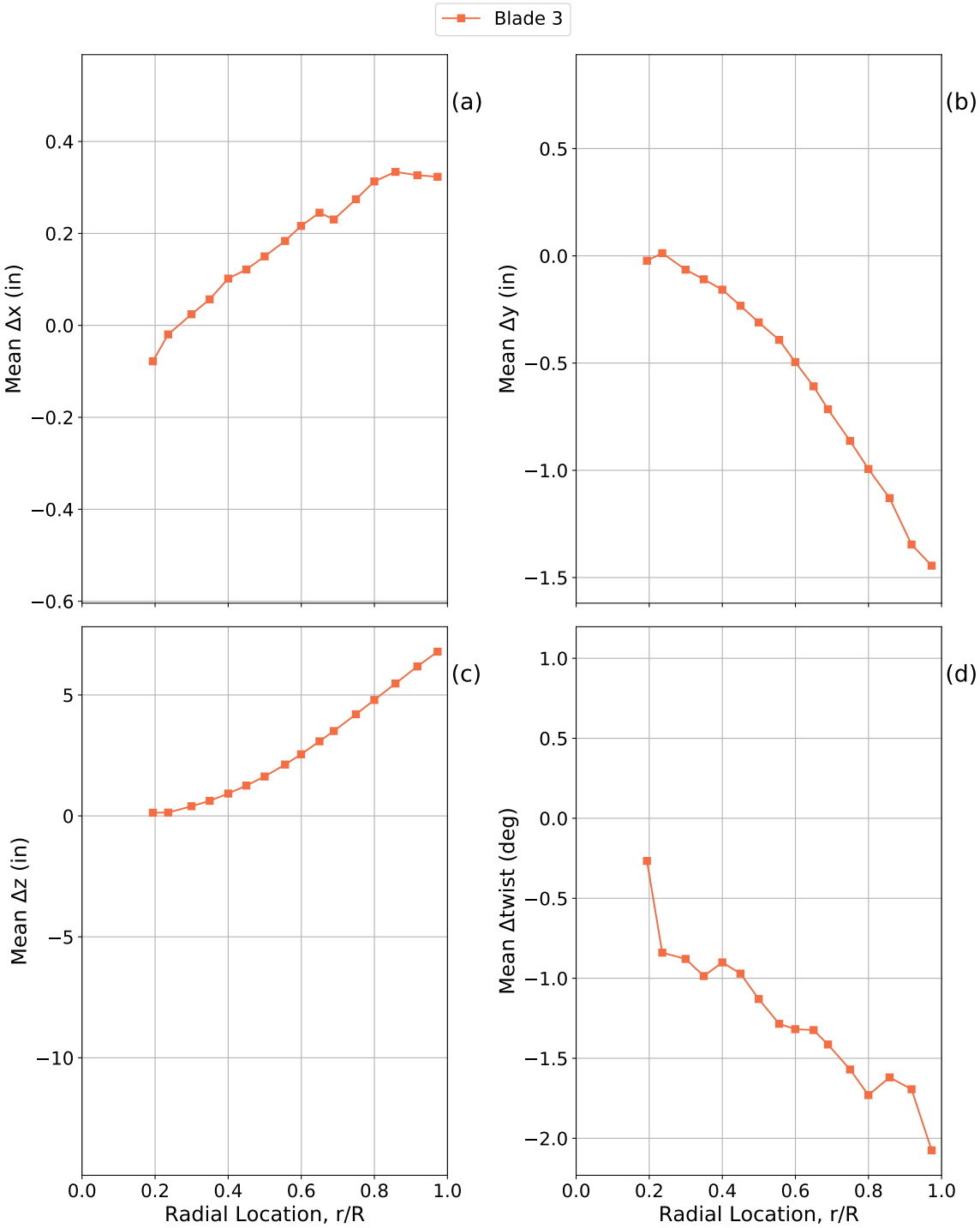


Figure 3.2-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0781	0.0106	-0.0228	0.0021	0.1321	0.0138	-0.2665	0.0462
3	265.08	0.2357	-0.0197	0.0046	0.0125	0.0013	0.1370	0.0121	-0.8397	0.1269
3	265.08	0.2995	0.0242	0.0014	-0.0644	0.0075	0.3998	0.0344	-0.8789	0.1333
3	265.08	0.3493	0.0566	0.0020	-0.1094	0.0124	0.6235	0.0538	-0.9860	0.1317
3	265.08	0.4000	0.1018	0.0017	-0.1578	0.0190	0.9232	0.0755	-0.9007	0.1397
3	265.08	0.4497	0.1215	0.0030	-0.2326	0.0250	1.2542	0.0966	-0.9705	0.1335
3	265.08	0.4997	0.1500	0.0029	-0.3104	0.0311	1.6283	0.1180	-1.1297	0.1416
3	265.08	0.5556	0.1836	0.0036	-0.3920	0.0392	2.1231	0.1461	-1.2845	0.1476
3	265.08	0.5995	0.2163	0.0051	-0.4953	0.0455	2.5464	0.1693	-1.3180	0.1394
3	265.08	0.6498	0.2451	0.0058	-0.6085	0.0528	3.0840	0.1955	-1.3236	0.1359
3	265.08	0.6890	0.2303	0.0065	-0.7152	0.0587	3.5091	0.2151	-1.4137	0.1477
3	265.08	0.7495	0.2743	0.0081	-0.8627	0.0687	4.2013	0.2468	-1.5699	0.1410
3	265.08	0.7998	0.3131	0.0095	-0.9939	0.0772	4.7927	0.2700	-1.7300	0.1495
3	265.08	0.8577	0.3339	0.0109	-1.1296	0.0875	5.4750	0.2973	-1.6193	0.1402
3	265.08	0.9178	0.3266	0.0122	-1.3461	0.0985	6.1815	0.3230	-1.6936	0.1438
3	265.08	0.9729	0.3232	0.0165	-1.4446	0.1089	6.7892	0.3454	-2.0754	0.1509

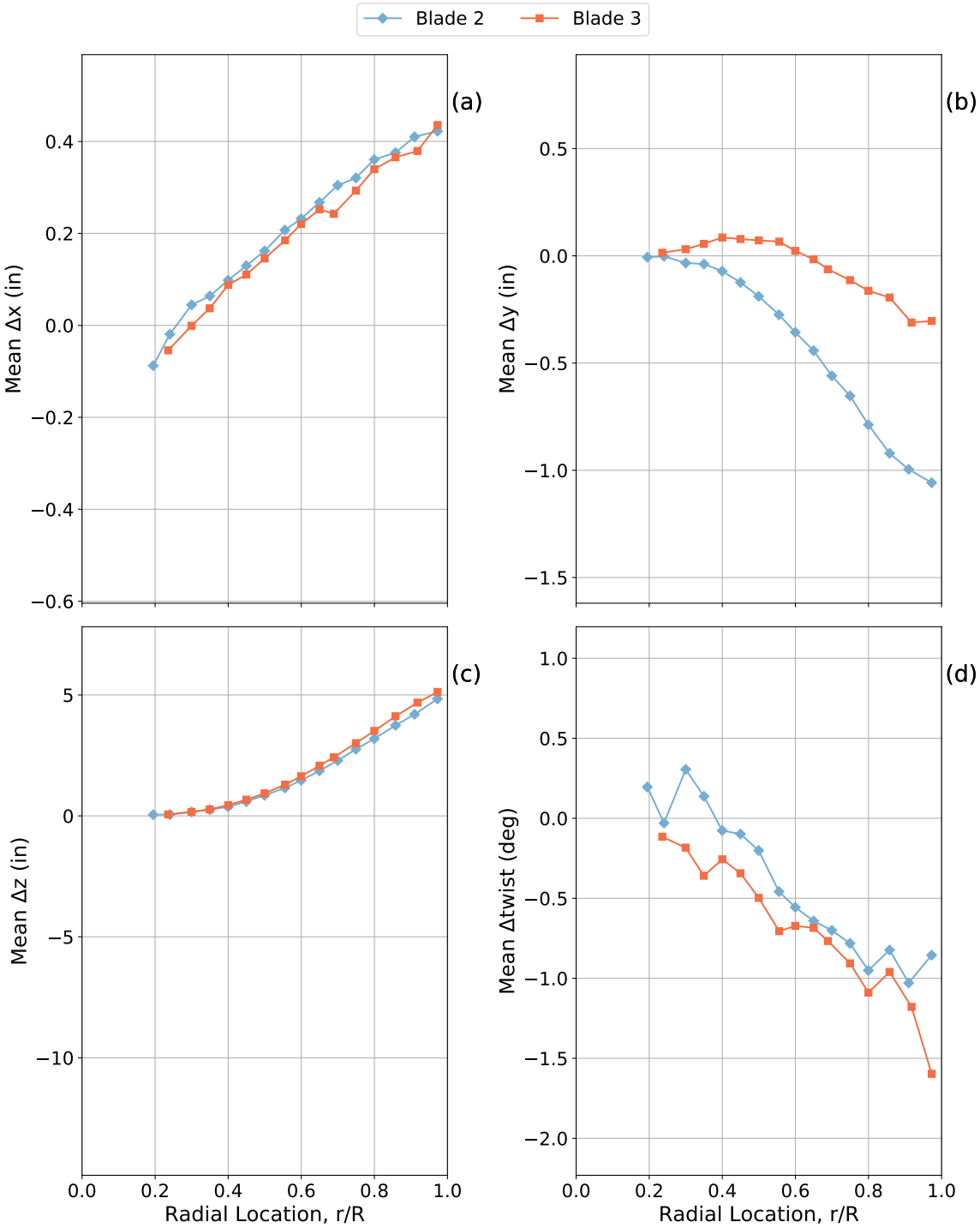


Figure 3.2-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0876	0.0129	-0.0064	0.0022	0.0498	0.0207	0.1953	0.1660
2	270.35	0.2405	-0.0192	0.0086	-0.0019	0.0040	0.0552	0.0280	-0.0296	0.2869
2	270.35	0.2999	0.0446	0.0065	-0.0333	0.0067	0.1605	0.0565	0.3055	0.3959
2	270.35	0.3498	0.0640	0.0041	-0.0382	0.0140	0.2550	0.0984	0.1372	0.3670
2	270.35	0.3998	0.0982	0.0041	-0.0713	0.0203	0.3780	0.1367	-0.0768	0.3559
2	270.35	0.4496	0.1298	0.0046	-0.1240	0.0255	0.5945	0.1742	-0.0982	0.3679
2	270.35	0.4995	0.1619	0.0031	-0.1888	0.0303	0.8505	0.2101	-0.2015	0.3555
2	270.35	0.5551	0.2072	0.0040	-0.2747	0.0372	1.1540	0.2549	-0.4583	0.3486
2	270.35	0.5996	0.2321	0.0040	-0.3564	0.0413	1.4721	0.2885	-0.5559	0.3609
2	270.35	0.6497	0.2675	0.0051	-0.4419	0.0479	1.8642	0.3286	-0.6415	0.3386
2	270.35	0.6996	0.3047	0.0060	-0.5593	0.0528	2.2874	0.3640	-0.7003	0.3464
2	270.35	0.7495	0.3206	0.0076	-0.6530	0.0583	2.7580	0.4011	-0.7819	0.3466
2	270.35	0.7996	0.3606	0.0078	-0.7877	0.0645	3.1891	0.4352	-0.9507	0.3602
2	270.35	0.8578	0.3757	0.0093	-0.9207	0.0716	3.7424	0.4751	-0.8232	0.3432
2	270.35	0.9100	0.4101	0.0105	-0.9955	0.0786	4.1997	0.5098	-1.0293	0.3559
2	270.35	0.9727	0.4223	0.0145	-1.0578	0.0865	4.8387	0.5512	-0.8556	0.3470
3	270	0.2357	-0.0543	0.0053	0.0143	0.0010	0.0614	0.0144	-0.1154	0.1255
3	270	0.2995	-0.0009	0.0027	0.0308	0.0030	0.1665	0.0279	-0.1832	0.2006
3	270	0.3493	0.0371	0.0023	0.0559	0.0056	0.2679	0.0484	-0.3592	0.1953
3	270	0.4000	0.0879	0.0026	0.0855	0.0092	0.4463	0.0713	-0.2564	0.2023
3	270	0.4497	0.1106	0.0032	0.0783	0.0122	0.6698	0.0913	-0.3437	0.2027
3	270	0.4997	0.1455	0.0022	0.0721	0.0156	0.9305	0.1151	-0.4975	0.2121
3	270	0.5556	0.1850	0.0028	0.0663	0.0199	1.2930	0.1417	-0.7055	0.2022
3	270	0.5995	0.2204	0.0039	0.0231	0.0237	1.6372	0.1646	-0.6725	0.1950
3	270	0.6498	0.2522	0.0038	-0.0158	0.0286	2.0762	0.1883	-0.6850	0.1923
3	270	0.6890	0.2427	0.0044	-0.0629	0.0318	2.4224	0.2074	-0.7672	0.1942
3	270	0.7495	0.2932	0.0053	-0.1133	0.0374	3.0093	0.2368	-0.9066	0.1980
3	270	0.7998	0.3398	0.0063	-0.1631	0.0429	3.5125	0.2600	-1.0893	0.1925
3	270	0.8577	0.3655	0.0073	-0.1943	0.0486	4.1180	0.2852	-0.9604	0.2014
3	270	0.9178	0.3793	0.0089	-0.3108	0.0557	4.6845	0.3142	-1.1787	0.1948
3	270	0.9729	0.4356	0.0113	-0.3038	0.0617	5.1247	0.3408	-1.5973	0.1888

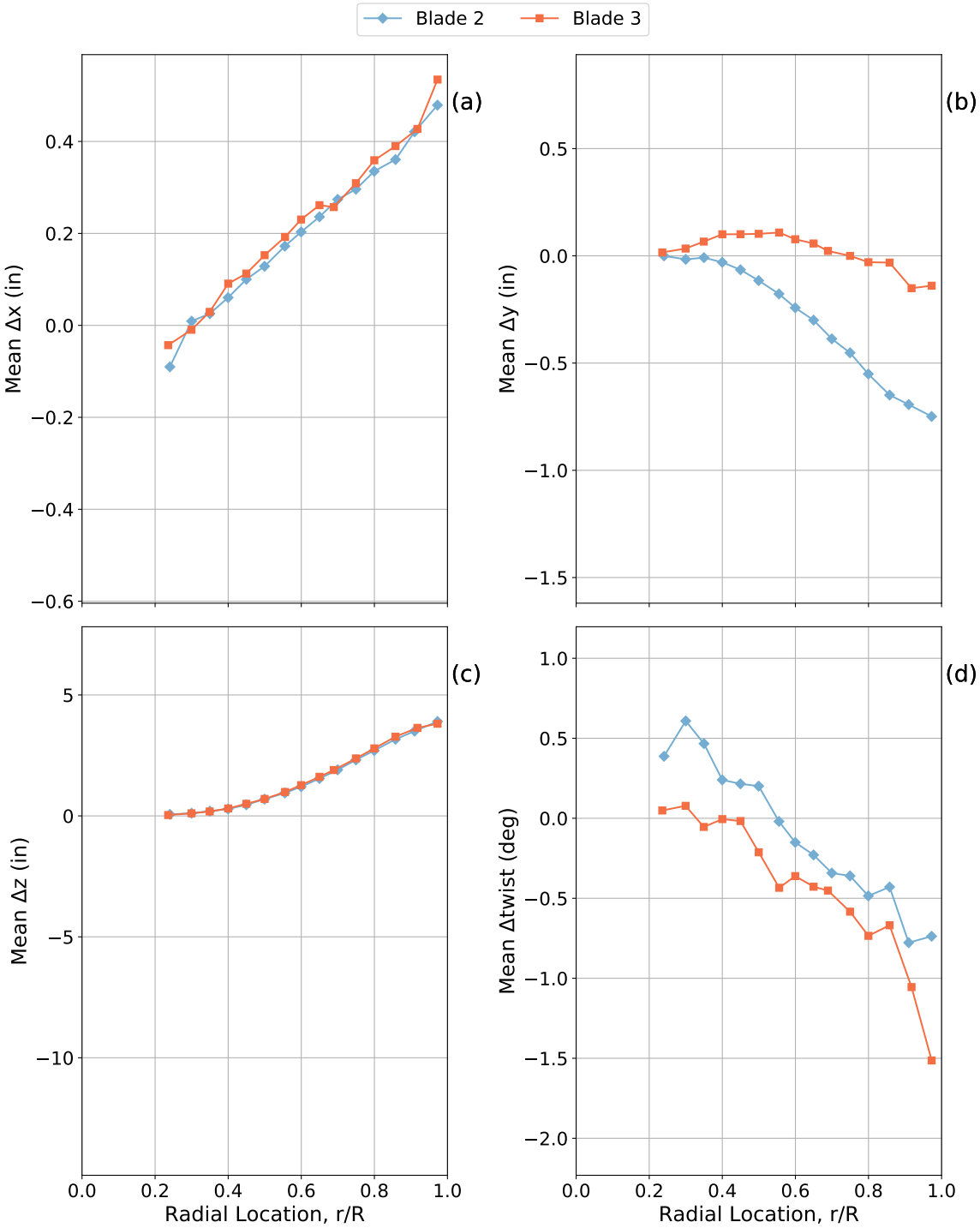


Figure 3.2-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.2405	-0.0902	0.0107	-0.0004	0.0065	0.0619	0.0746	0.3874	0.6563
2	274.92	0.2999	0.0091	0.0110	-0.0163	0.0126	0.1106	0.1192	0.6084	1.0074
2	274.92	0.3498	0.0255	0.0067	-0.0084	0.0311	0.1954	0.2306	0.4666	0.8738
2	274.92	0.3998	0.0604	0.0067	-0.0301	0.0455	0.2846	0.3194	0.2399	0.8896
2	274.92	0.4496	0.1001	0.0067	-0.0649	0.0582	0.4600	0.4074	0.2153	0.8948
2	274.92	0.4995	0.1285	0.0082	-0.1153	0.0715	0.6905	0.5011	0.2011	0.8647
2	274.92	0.5551	0.1723	0.0090	-0.1776	0.0858	0.9484	0.5948	-0.0199	0.8789
2	274.92	0.5996	0.2032	0.0103	-0.2422	0.0977	1.2066	0.6728	-0.1508	0.8800
2	274.92	0.6497	0.2361	0.0123	-0.2998	0.1110	1.5453	0.7605	-0.2289	0.8669
2	274.92	0.6996	0.2740	0.0142	-0.3870	0.1241	1.9048	0.8463	-0.3422	0.8736
2	274.92	0.7495	0.2960	0.0164	-0.4521	0.1375	2.3140	0.9335	-0.3601	0.8683
2	274.92	0.7996	0.3352	0.0186	-0.5509	0.1518	2.7035	1.0180	-0.4851	0.8612
2	274.92	0.8578	0.3606	0.0214	-0.6491	0.1676	3.1670	1.1185	-0.4293	0.8522
2	274.92	0.9100	0.4211	0.0240	-0.6934	0.1841	3.5042	1.2061	-0.7774	0.8535
2	274.92	0.9727	0.4790	0.0333	-0.7489	0.2042	3.9023	1.3122	-0.7372	0.8395
3	274.92	0.2357	-0.0430	0.0118	0.0160	0.0031	0.0356	0.0459	0.0488	0.4111
3	274.92	0.2995	-0.0096	0.0070	0.0340	0.0083	0.1063	0.0842	0.0779	0.6590
3	274.92	0.3493	0.0293	0.0048	0.0664	0.0196	0.1828	0.1567	-0.0540	0.6296
3	274.92	0.4000	0.0908	0.0041	0.1004	0.0305	0.3076	0.2257	-0.0052	0.6450
3	274.92	0.4497	0.1127	0.0034	0.1008	0.0399	0.5008	0.2840	-0.0172	0.6554
3	274.92	0.4997	0.1527	0.0041	0.1026	0.0500	0.7014	0.3521	-0.2124	0.6444
3	274.92	0.5556	0.1923	0.0040	0.1086	0.0609	0.9894	0.4162	-0.4342	0.6729
3	274.92	0.5995	0.2302	0.0048	0.0774	0.0696	1.2718	0.4736	-0.3614	0.6516
3	274.92	0.6498	0.2614	0.0056	0.0576	0.0790	1.6164	0.5315	-0.4277	0.6683
3	274.92	0.6890	0.2573	0.0069	0.0229	0.0861	1.8968	0.5785	-0.4516	0.6639
3	274.92	0.7495	0.3092	0.0092	-0.0001	0.0974	2.3767	0.6509	-0.5837	0.6812
3	274.92	0.7998	0.3591	0.0104	-0.0296	0.1068	2.7910	0.7128	-0.7346	0.6764
3	274.92	0.8577	0.3899	0.0130	-0.0315	0.1177	3.2747	0.7880	-0.6685	0.6604
3	274.92	0.9178	0.4272	0.0161	-0.1509	0.1301	3.6393	0.8646	-1.0550	0.6740
3	274.92	0.9729	0.5346	0.0214	-0.1393	0.1422	3.8110	0.9390	-1.5136	0.6647

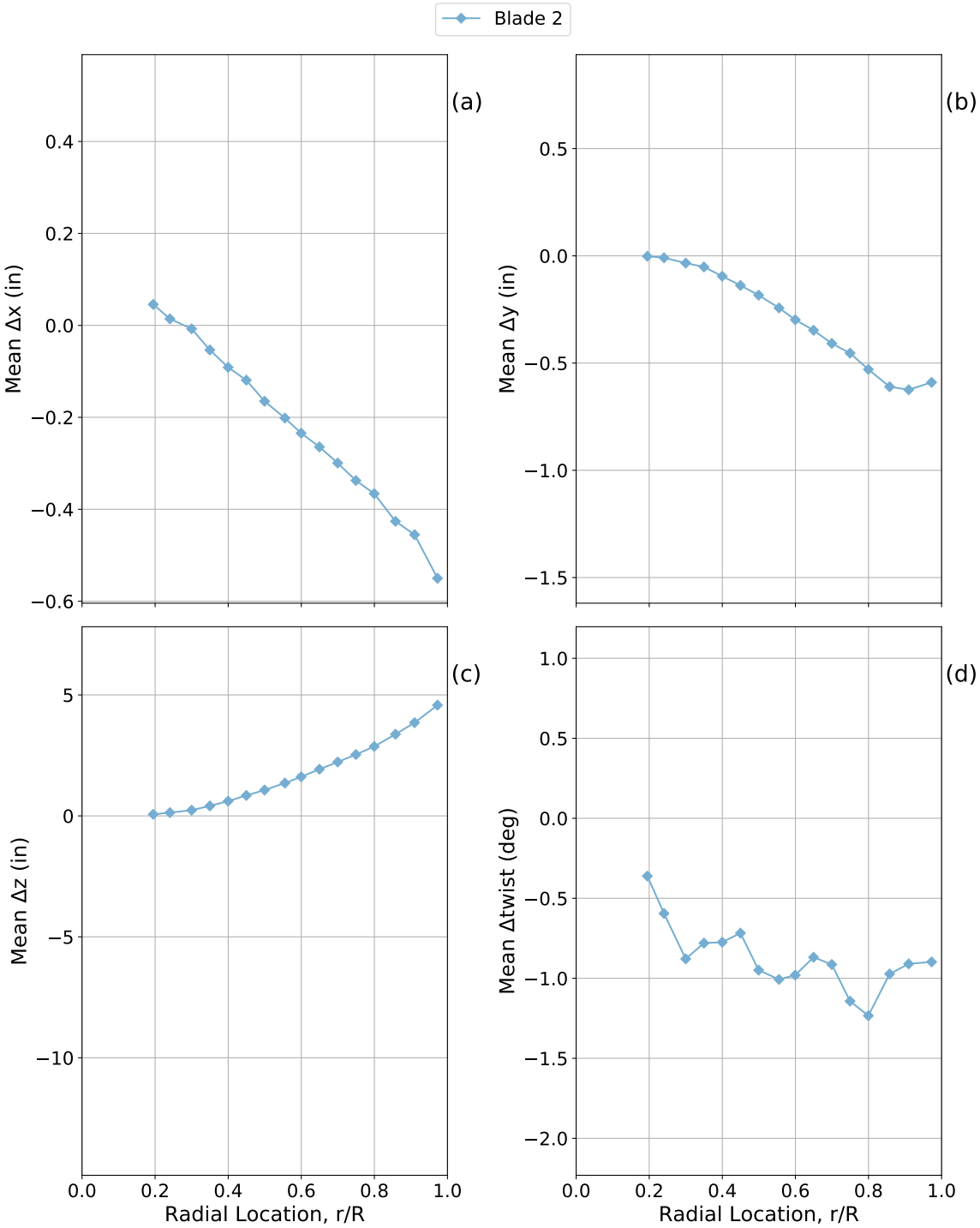


Figure 3.2-31. 285° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0456	0.0025	-0.0020	0.0007	0.0651	0.0094	-0.3613	0.1127
2	285.12	0.2405	0.0142	0.0029	-0.0091	0.0024	0.1345	0.0161	-0.5949	0.1497
2	285.12	0.2999	-0.0075	0.0028	-0.0338	0.0052	0.2355	0.0309	-0.8785	0.2509
2	285.12	0.3498	-0.0535	0.0025	-0.0517	0.0066	0.4126	0.0511	-0.7801	0.1620
2	285.12	0.3998	-0.0913	0.0024	-0.0950	0.0122	0.6110	0.0744	-0.7744	0.2277
2	285.12	0.4496	-0.1192	0.0037	-0.1379	0.0127	0.8461	0.0875	-0.7176	0.2276
2	285.12	0.4995	-0.1650	0.0047	-0.1833	0.0185	1.0686	0.1112	-0.9492	0.1641
2	285.12	0.5551	-0.2016	0.0042	-0.2428	0.0200	1.3558	0.1276	-1.0071	0.1822
2	285.12	0.5996	-0.2345	0.0048	-0.2980	0.0245	1.6169	0.1468	-0.9802	0.1367
2	285.12	0.6497	-0.2644	0.0041	-0.3470	0.0267	1.9297	0.1553	-0.8685	0.1842
2	285.12	0.6996	-0.2994	0.0052	-0.4085	0.0307	2.2280	0.1673	-0.9136	0.2089
2	285.12	0.7495	-0.3375	0.0055	-0.4537	0.0353	2.5368	0.1870	-1.1430	0.1906
2	285.12	0.7996	-0.3661	0.0060	-0.5294	0.0402	2.8694	0.2027	-1.2339	0.1602
2	285.12	0.8578	-0.4262	0.0068	-0.6104	0.0447	3.3765	0.2161	-0.9731	0.1847
2	285.12	0.9100	-0.4553	0.0070	-0.6244	0.0506	3.8541	0.2320	-0.9098	0.1839
2	285.12	0.9727	-0.5500	0.0094	-0.5898	0.0565	4.5781	0.2565	-0.8976	0.1766

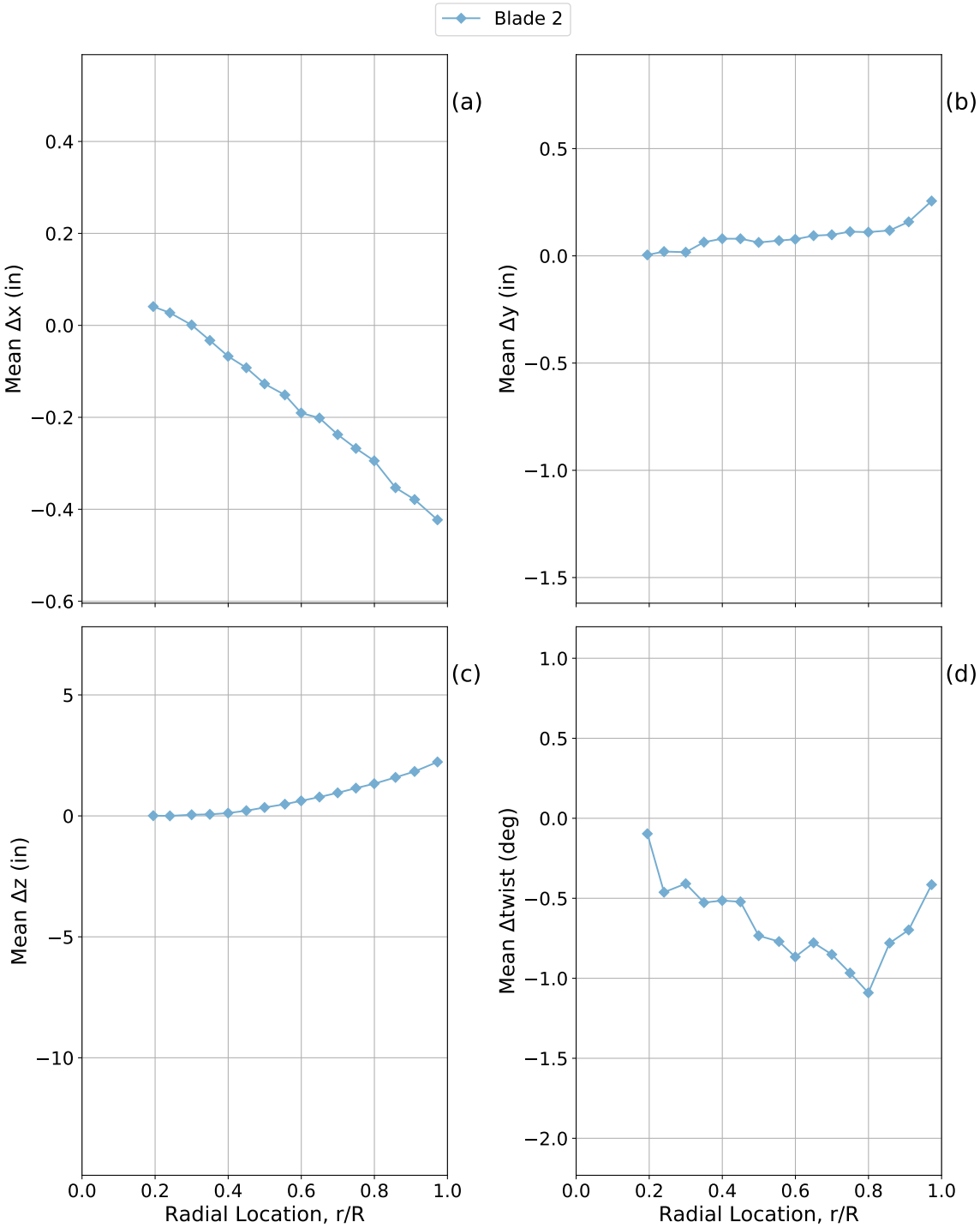


Figure 3.2-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0409	0.0012	0.0042	0.0006	0.0078	0.0056	-0.0965	0.1198
2	299.88	0.2405	0.0273	0.0020	0.0200	0.0037	0.0012	0.0166	-0.4623	0.1327
2	299.88	0.2999	0.0009	0.0040	0.0170	0.0054	0.0473	0.0208	-0.4086	0.2593
2	299.88	0.3498	-0.0328	0.0036	0.0638	0.0091	0.0645	0.0434	-0.5270	0.1287
2	299.88	0.3998	-0.0673	0.0023	0.0799	0.0155	0.1145	0.0588	-0.5141	0.1935
2	299.88	0.4496	-0.0922	0.0036	0.0797	0.0169	0.2157	0.0661	-0.5219	0.2035
2	299.88	0.4995	-0.1272	0.0032	0.0625	0.0235	0.3472	0.0760	-0.7340	0.1818
2	299.88	0.5551	-0.1513	0.0040	0.0712	0.0299	0.4831	0.0907	-0.7704	0.1755
2	299.88	0.5996	-0.1905	0.0041	0.0773	0.0349	0.6224	0.1022	-0.8662	0.1812
2	299.88	0.6497	-0.2015	0.0054	0.0940	0.0403	0.7797	0.1144	-0.7780	0.1817
2	299.88	0.6996	-0.2376	0.0062	0.0982	0.0487	0.9532	0.1292	-0.8510	0.1664
2	299.88	0.7495	-0.2676	0.0066	0.1127	0.0566	1.1478	0.1440	-0.9668	0.1786
2	299.88	0.7996	-0.2946	0.0071	0.1105	0.0652	1.3309	0.1609	-1.0906	0.1709
2	299.88	0.8578	-0.3531	0.0075	0.1185	0.0758	1.5914	0.1825	-0.7798	0.1808
2	299.88	0.9100	-0.3788	0.0083	0.1586	0.0853	1.8363	0.1998	-0.6979	0.1726
2	299.88	0.9727	-0.4230	0.0106	0.2557	0.0967	2.2305	0.2213	-0.4147	0.1734

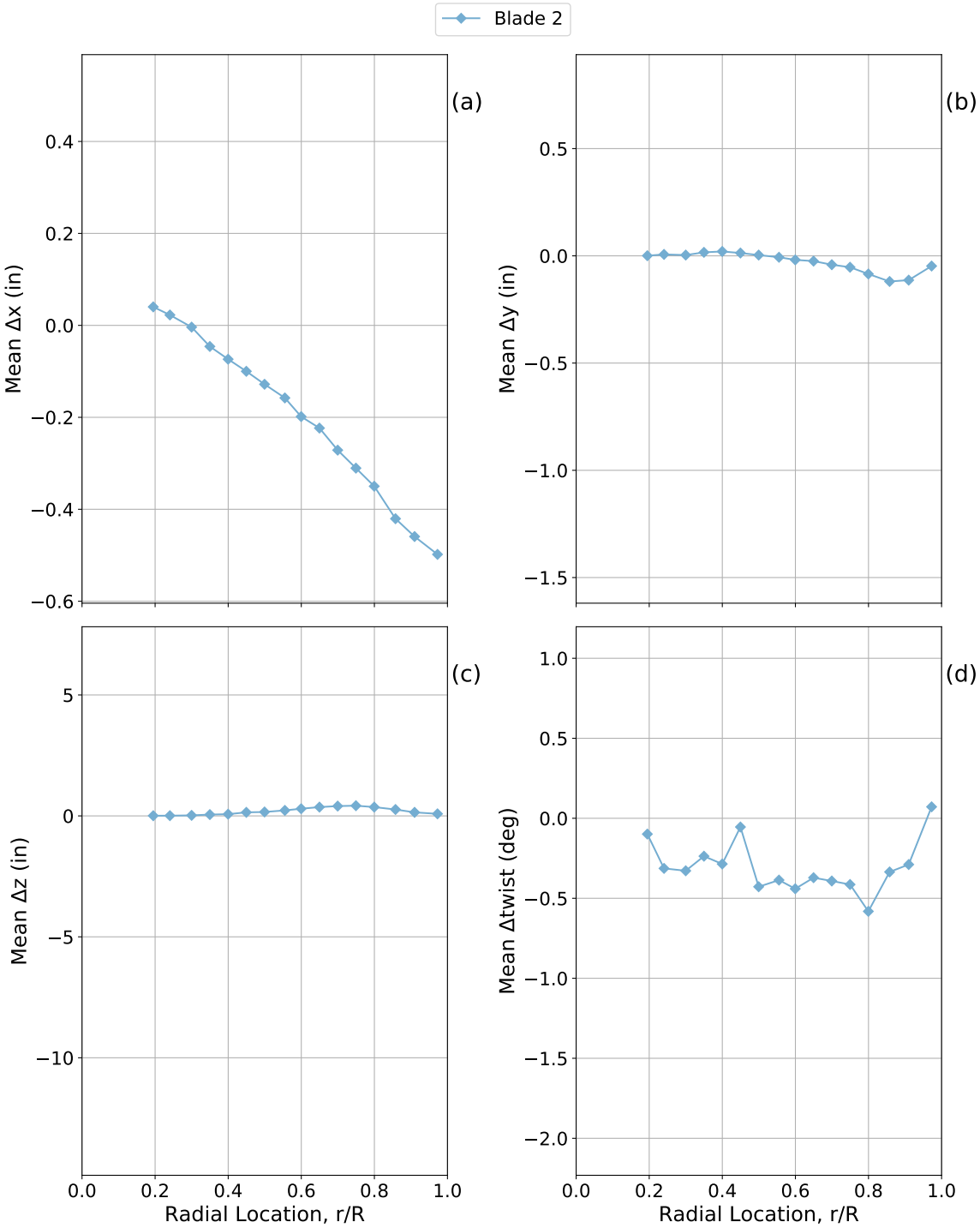


Figure 3.2-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0402	0.0033	0.0006	0.0010	0.0070	0.0068	-0.0986	0.0318
2	315	0.2405	0.0226	0.0019	0.0067	0.0054	0.0093	0.0158	-0.3132	0.0399
2	315	0.2999	-0.0038	0.0064	0.0036	0.0076	0.0222	0.0296	-0.3280	0.0649
2	315	0.3498	-0.0459	0.0052	0.0163	0.0133	0.0544	0.0393	-0.2369	0.0761
2	315	0.3998	-0.0736	0.0039	0.0204	0.0231	0.0715	0.0685	-0.2857	0.0576
2	315	0.4496	-0.0999	0.0036	0.0132	0.0257	0.1465	0.0747	-0.0544	0.0580
2	315	0.4995	-0.1281	0.0044	0.0036	0.0309	0.1618	0.0898	-0.4279	0.0757
2	315	0.5551	-0.1578	0.0049	-0.0066	0.0389	0.2275	0.1089	-0.3862	0.0532
2	315	0.5996	-0.1984	0.0063	-0.0187	0.0434	0.2966	0.1234	-0.4405	0.0677
2	315	0.6497	-0.2234	0.0064	-0.0246	0.0491	0.3638	0.1363	-0.3713	0.0835
2	315	0.6996	-0.2714	0.0057	-0.0413	0.0555	0.4057	0.1547	-0.3920	0.0722
2	315	0.7495	-0.3105	0.0053	-0.0531	0.0625	0.4219	0.1750	-0.4138	0.0611
2	315	0.7996	-0.3499	0.0060	-0.0846	0.0689	0.3643	0.1972	-0.5817	0.0614
2	315	0.8578	-0.4205	0.0063	-0.1195	0.0765	0.2644	0.2242	-0.3353	0.0523
2	315	0.9100	-0.4593	0.0065	-0.1133	0.0846	0.1463	0.2524	-0.2889	0.0538
2	315	0.9727	-0.4981	0.0091	-0.0475	0.0932	0.0850	0.2894	0.0716	0.0566

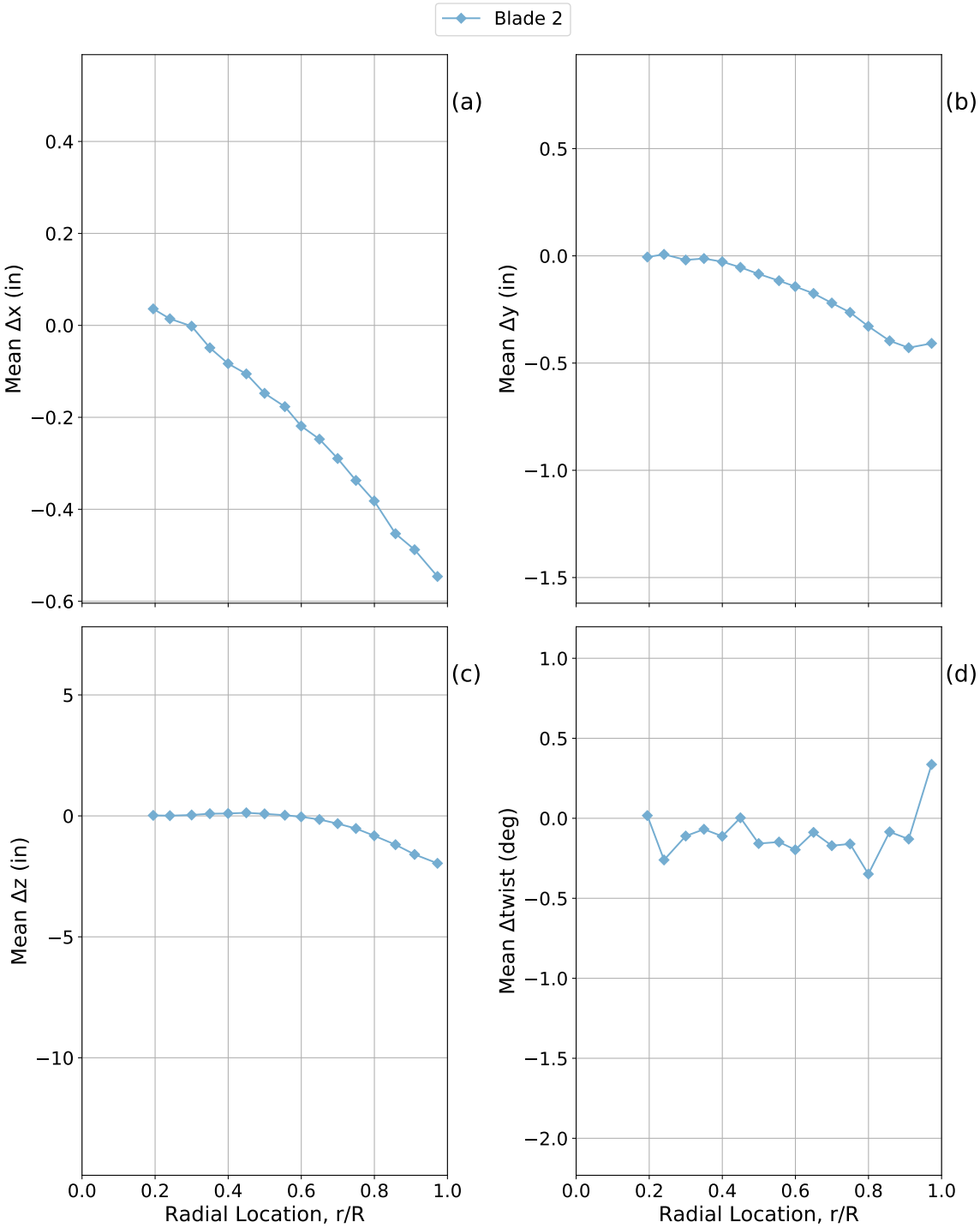


Figure 3.2-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0359	0.0015	-0.0056	0.0011	0.0209	0.0039	0.0169	0.0209
2	330.12	0.2405	0.0143	0.0018	0.0069	0.0047	0.0093	0.0116	-0.2604	0.0412
2	330.12	0.2999	-0.0018	0.0053	-0.0192	0.0066	0.0370	0.0179	-0.1110	0.0421
2	330.12	0.3498	-0.0488	0.0018	-0.0126	0.0153	0.0907	0.0269	-0.0686	0.0521
2	330.12	0.3998	-0.0832	0.0034	-0.0275	0.0225	0.1001	0.0450	-0.1124	0.0651
2	330.12	0.4496	-0.1055	0.0069	-0.0537	0.0257	0.1284	0.0599	0.0032	0.0612
2	330.12	0.4995	-0.1478	0.0034	-0.0847	0.0340	0.0853	0.0736	-0.1578	0.0366
2	330.12	0.5551	-0.1768	0.0054	-0.1160	0.0418	0.0284	0.0881	-0.1483	0.0544
2	330.12	0.5996	-0.2189	0.0064	-0.1433	0.0472	-0.0380	0.1057	-0.1969	0.0816
2	330.12	0.6497	-0.2475	0.0040	-0.1753	0.0551	-0.1489	0.1149	-0.0880	0.0638
2	330.12	0.6996	-0.2896	0.0057	-0.2199	0.0639	-0.3205	0.1292	-0.1713	0.0656
2	330.12	0.7495	-0.3373	0.0060	-0.2638	0.0728	-0.5212	0.1416	-0.1602	0.0611
2	330.12	0.7996	-0.3820	0.0064	-0.3286	0.0814	-0.8211	0.1525	-0.3486	0.0731
2	330.12	0.8578	-0.4531	0.0063	-0.3962	0.0930	-1.1907	0.1621	-0.0849	0.0617
2	330.12	0.9100	-0.4879	0.0067	-0.4284	0.1028	-1.5941	0.1704	-0.1299	0.0532
2	330.12	0.9727	-0.5462	0.0100	-0.4083	0.1145	-1.9610	0.1773	0.3365	0.0538

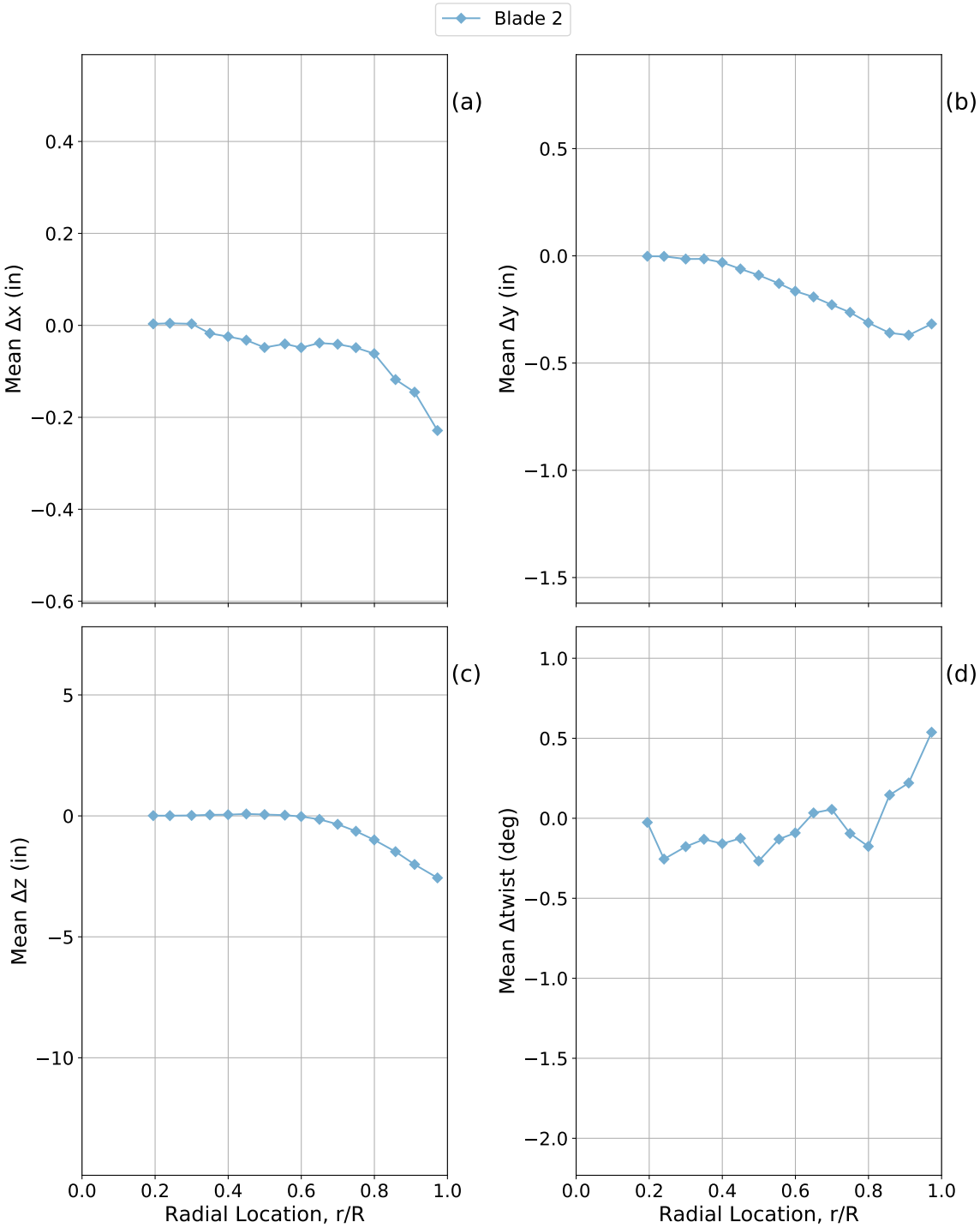


Figure 3.2-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0033	0.0020	-0.0019	0.0016	0.0101	0.0049	-0.0258	0.0362
2	344.88	0.2405	0.0045	0.0020	-0.0025	0.0031	0.0093	0.0073	-0.2549	0.0322
2	344.88	0.2999	0.0034	0.0016	-0.0148	0.0053	0.0189	0.0136	-0.1772	0.0640
2	344.88	0.3498	-0.0174	0.0020	-0.0142	0.0115	0.0437	0.0251	-0.1312	0.0405
2	344.88	0.3998	-0.0244	0.0021	-0.0309	0.0157	0.0496	0.0342	-0.1586	0.0695
2	344.88	0.4496	-0.0322	0.0014	-0.0611	0.0159	0.0808	0.0443	-0.1254	0.0692
2	344.88	0.4995	-0.0481	0.0018	-0.0901	0.0189	0.0560	0.0559	-0.2672	0.0728
2	344.88	0.5551	-0.0403	0.0022	-0.1289	0.0230	0.0302	0.0713	-0.1304	0.0851
2	344.88	0.5996	-0.0484	0.0028	-0.1648	0.0268	-0.0265	0.0836	-0.0913	0.0880
2	344.88	0.6497	-0.0384	0.0024	-0.1916	0.0294	-0.1438	0.1048	0.0336	0.0898
2	344.88	0.6996	-0.0410	0.0030	-0.2282	0.0343	-0.3465	0.1252	0.0555	0.0991
2	344.88	0.7495	-0.0485	0.0026	-0.2635	0.0357	-0.6341	0.1524	-0.0951	0.1618
2	344.88	0.7996	-0.0615	0.0027	-0.3122	0.0436	-0.9925	0.1757	-0.1760	0.1196
2	344.88	0.8578	-0.1179	0.0055	-0.3594	0.0483	-1.4791	0.2068	0.1456	0.1164
2	344.88	0.9100	-0.1452	0.0050	-0.3698	0.0533	-2.0077	0.2368	0.2206	0.0998
2	344.88	0.9727	-0.2287	0.0073	-0.3174	0.0597	-2.5632	0.2653	0.5378	0.1187

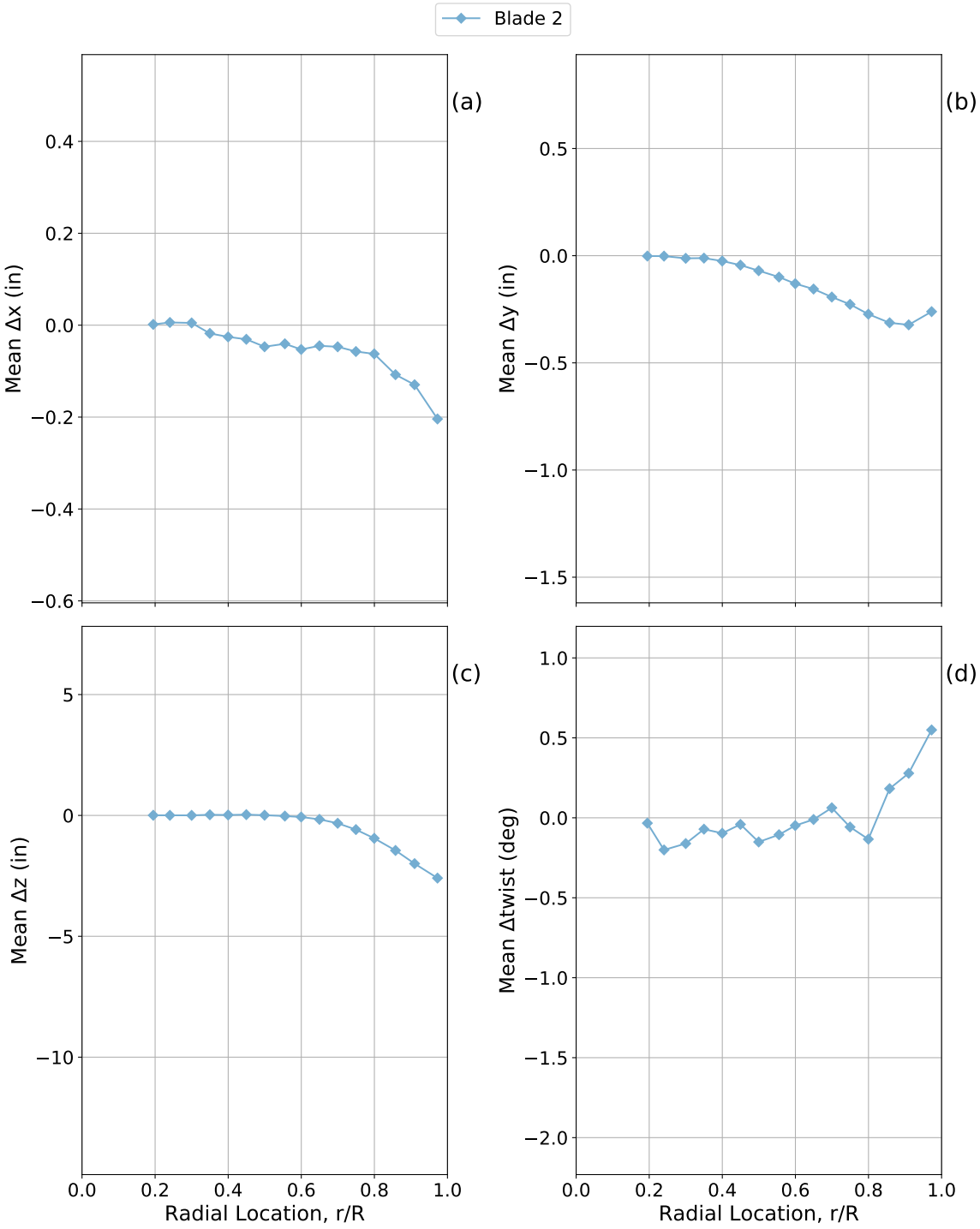


Figure 3.2-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0017	0.0014	-0.0017	0.0008	0.0065	0.0038	-0.0334	0.0268
2	350.16	0.2405	0.0059	0.0012	-0.0020	0.0016	0.0041	0.0081	-0.2009	0.0305
2	350.16	0.2999	0.0049	0.0017	-0.0123	0.0039	0.0030	0.0161	-0.1611	0.0547
2	350.16	0.3498	-0.0179	0.0022	-0.0113	0.0056	0.0269	0.0249	-0.0711	0.0654
2	350.16	0.3998	-0.0255	0.0025	-0.0249	0.0090	0.0181	0.0399	-0.0966	0.0616
2	350.16	0.4496	-0.0307	0.0027	-0.0440	0.0109	0.0328	0.0511	-0.0409	0.0588
2	350.16	0.4995	-0.0469	0.0027	-0.0700	0.0144	0.0091	0.0663	-0.1510	0.0648
2	350.16	0.5551	-0.0405	0.0034	-0.0997	0.0188	-0.0271	0.0856	-0.1056	0.0503
2	350.16	0.5996	-0.0528	0.0029	-0.1305	0.0231	-0.0649	0.1059	-0.0485	0.0559
2	350.16	0.6497	-0.0449	0.0033	-0.1556	0.0275	-0.1629	0.1267	-0.0105	0.0892
2	350.16	0.6996	-0.0470	0.0046	-0.1928	0.0315	-0.3248	0.1558	0.0626	0.0838
2	350.16	0.7495	-0.0573	0.0046	-0.2270	0.0367	-0.5859	0.1854	-0.0576	0.0633
2	350.16	0.7996	-0.0625	0.0041	-0.2728	0.0425	-0.9473	0.2148	-0.1337	0.0802
2	350.16	0.8578	-0.1077	0.0056	-0.3131	0.0469	-1.4490	0.2503	0.1825	0.0845
2	350.16	0.9100	-0.1296	0.0057	-0.3226	0.0519	-1.9939	0.2860	0.2785	0.0918
2	350.16	0.9727	-0.2041	0.0075	-0.2610	0.0582	-2.5921	0.3185	0.5496	0.1176

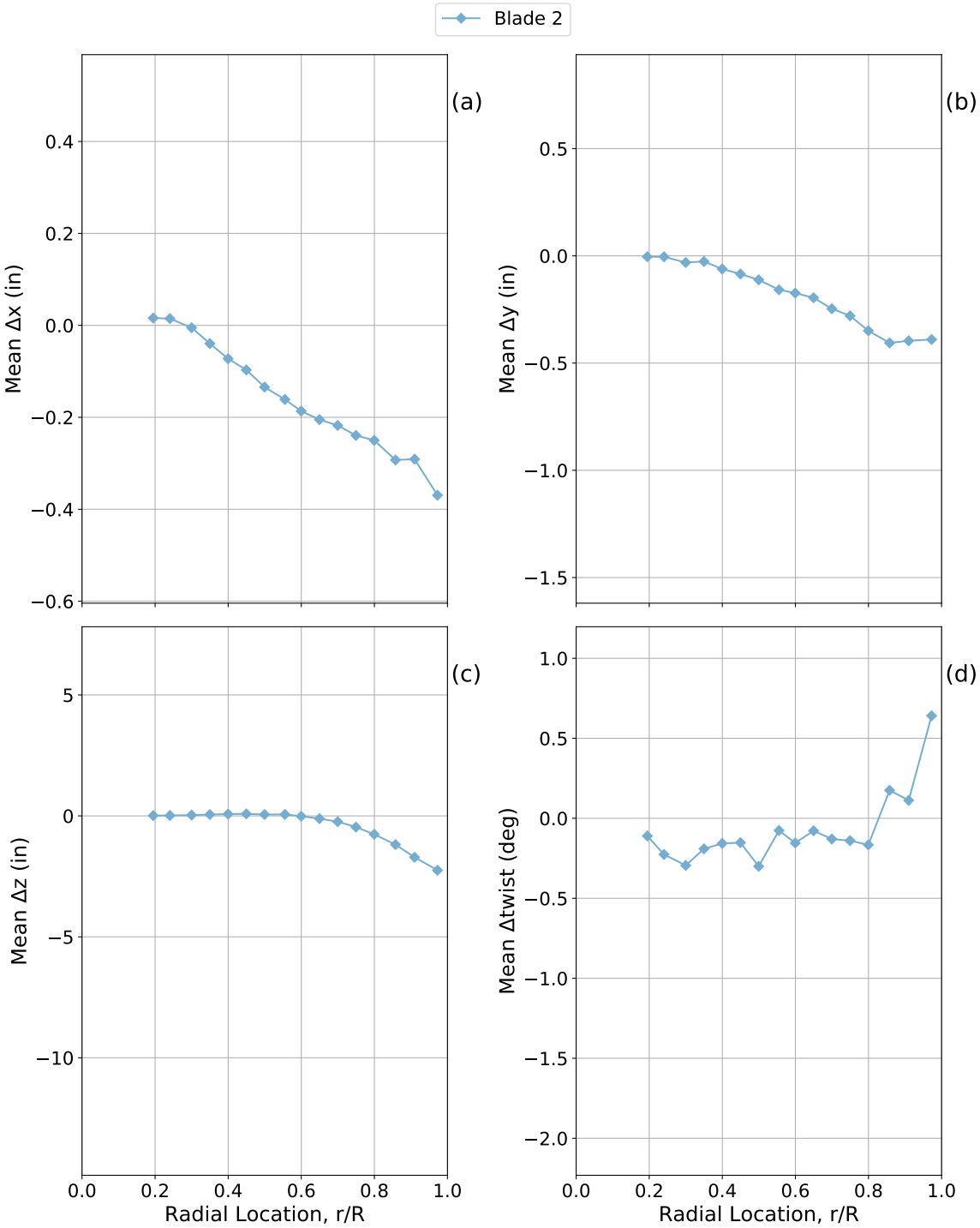


Figure 3.2-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Table 3.2-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 42, point 44. BD run 19, points 1090 to 1100.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0160	0.0020	-0.0041	0.0020	0.0134	0.0045	-0.1106	0.0395
2	355.08	0.2405	0.0147	0.0012	-0.0045	0.0034	0.0170	0.0095	-0.2261	0.0689
2	355.08	0.2999	-0.0051	0.0015	-0.0311	0.0044	0.0330	0.0149	-0.2946	0.0949
2	355.08	0.3498	-0.0395	0.0024	-0.0264	0.0112	0.0567	0.0268	-0.1909	0.0782
2	355.08	0.3998	-0.0726	0.0032	-0.0612	0.0141	0.0756	0.0401	-0.1571	0.0853
2	355.08	0.4496	-0.0969	0.0024	-0.0847	0.0178	0.0846	0.0525	-0.1522	0.0777
2	355.08	0.4995	-0.1343	0.0022	-0.1118	0.0198	0.0581	0.0641	-0.3002	0.0732
2	355.08	0.5551	-0.1612	0.0024	-0.1582	0.0260	0.0608	0.0809	-0.0763	0.0797
2	355.08	0.5996	-0.1864	0.0031	-0.1737	0.0301	-0.0134	0.0963	-0.1544	0.0775
2	355.08	0.6497	-0.2050	0.0033	-0.1953	0.0362	-0.1139	0.1115	-0.0779	0.0879
2	355.08	0.6996	-0.2176	0.0032	-0.2467	0.0402	-0.2397	0.1322	-0.1297	0.0838
2	355.08	0.7495	-0.2393	0.0038	-0.2796	0.0465	-0.4627	0.1483	-0.1399	0.0773
2	355.08	0.7996	-0.2501	0.0048	-0.3492	0.0537	-0.7615	0.1601	-0.1662	0.0774
2	355.08	0.8578	-0.2928	0.0045	-0.4061	0.0629	-1.1862	0.1772	0.1749	0.0821
2	355.08	0.9100	-0.2910	0.0065	-0.3960	0.0652	-1.7108	0.1905	0.1120	0.1369
2	355.08	0.9727	-0.3695	0.0050	-0.3901	0.0830	-2.2463	0.2081	0.6411	0.1009

3.3 Run 45, Point 34

3.3.1 Pitch, Flap, and Lag

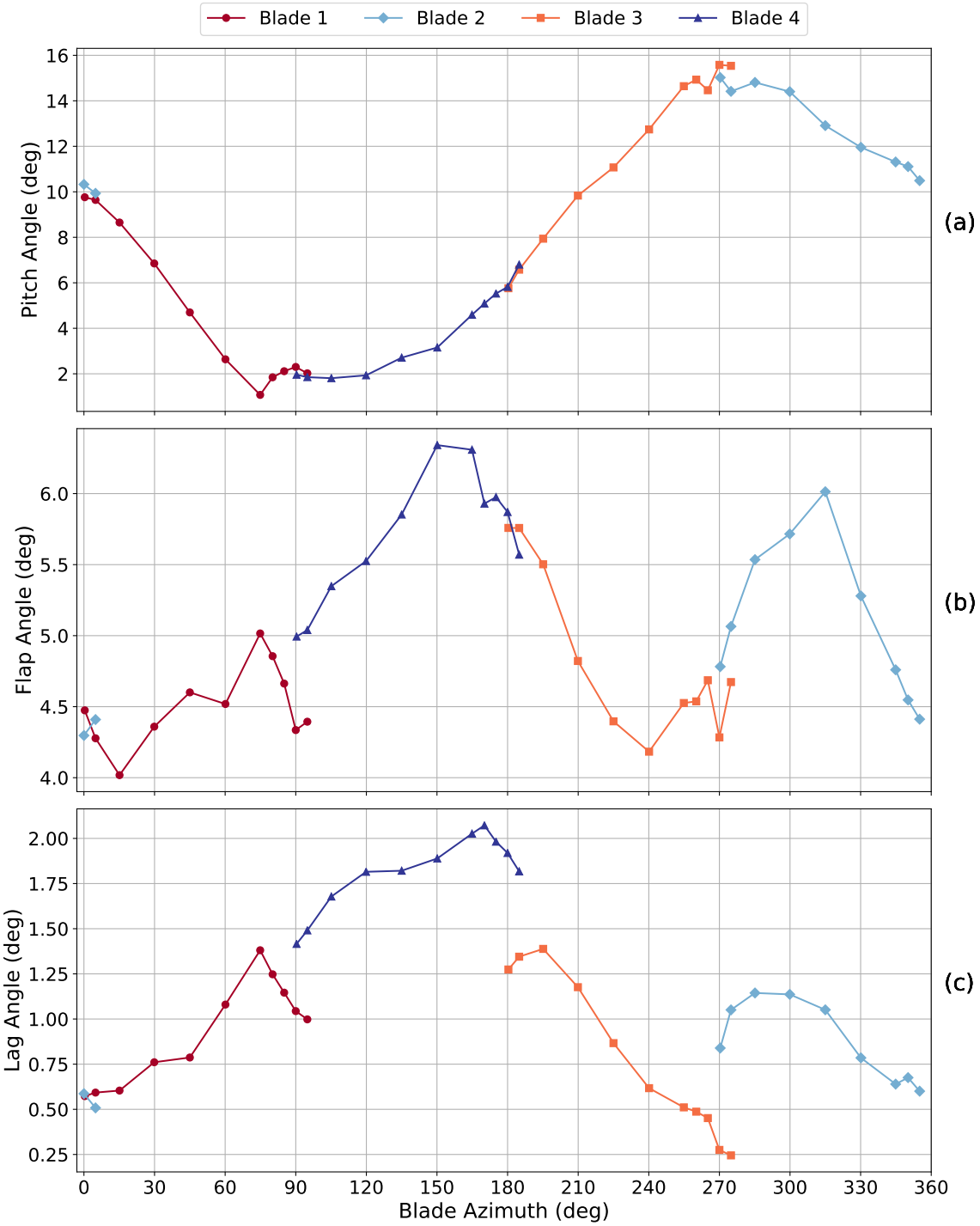


Figure 3.3-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	10.3265	4.2971	0.5867	0.1733	0.1480	0.0992
0.35	1	9.7617	4.4743	0.5731	0.1856	0.1113	0.0771
4.92	1	9.6425	4.2775	0.5927	0.2291	0.1053	0.0659
4.92	2	9.9329	4.4094	0.5079	0.2067	0.1290	0.0816
15.12	1	8.6501	4.0180	0.6038	0.2164	0.1257	0.0473
29.88	1	6.8506	4.3593	0.7606	0.3420	0.1922	0.0802
45	1	4.6978	4.6006	0.7869	0.1977	0.1718	0.0707
60.12	1	2.6371	4.5188	1.0801	0.1342	0.1224	0.0571
74.88	1	1.0730	5.0156	1.3808	0.1199	0.2131	0.0455
80.16	1	1.8461	4.8555	1.2476	0.3922	0.1850	0.1036
85.08	1	2.1138	4.6627	1.1460	0.0781	0.1476	0.0303
90	1	2.3012	4.3353	1.0439	0.1251	0.1693	0.0560
90.35	4	1.9594	4.9933	1.4158	0.0834	0.1551	0.0803
94.92	1	2.0218	4.3942	0.9981	0.1604	0.0832	0.0603
94.92	4	1.8526	5.0394	1.4907	0.1466	0.2013	0.0612
105.12	4	1.8074	5.3482	1.6781	0.1399	0.1433	0.0556
119.88	4	1.9330	5.5252	1.8151	0.2831	0.1588	0.0878
135	4	2.7092	5.8526	1.8210	0.1130	0.1422	0.0601
150.12	4	3.1552	6.3414	1.8889	0.1898	0.1133	0.0644
164.88	4	4.5935	6.3087	2.0261	0.1279	0.1316	0.0349
170.16	4	5.0871	5.9295	2.0722	0.1612	0.2906	0.1388
175.08	4	5.5269	5.9751	1.9819	0.2000	0.1536	0.0378
180	4	5.8189	5.8701	1.9193	0.1445	0.1647	0.0708
180.35	3	5.7615	5.7585	1.2742	0.1813	0.1026	0.0719
184.92	3	6.5776	5.7581	1.3451	0.1921	0.2218	0.0534
184.92	4	6.8006	5.5701	1.8175	0.1332	0.2367	0.0494
195.12	3	7.9391	5.5024	1.3883	0.1601	0.2344	0.0536
209.88	3	9.8349	4.8216	1.1763	0.0921	0.3822	0.1025
225	3	11.0715	4.3968	0.8665	0.1305	0.2073	0.0763
240.12	3	12.7430	4.1831	0.6172	0.0730	0.2898	0.0759
254.88	3	14.6430	4.5258	0.5108	0.2850	0.1456	0.0688
260.16	3	14.9309	4.5373	0.4870	0.1398	0.2483	0.1369
265.08	3	14.4652	4.6860	0.4514	0.2399	0.0862	0.0642
270	3	15.5803	4.2839	0.2752	0.2391	0.2389	0.0876
270.35	2	15.0237	4.7819	0.8391	0.6522	0.4612	0.1745
274.92	2	14.4155	5.0647	1.0505	0.1244	0.2274	0.1719
274.92	3	15.5379	4.6732	0.2449	0.7903	0.4361	0.1868
285.12	2	14.8082	5.5353	1.1443	0.0841	0.1560	0.0914
299.88	2	14.4028	5.7158	1.1364	0.1706	0.1264	0.1120
315	2	12.9099	6.0133	1.0510	0.1561	0.0926	0.1227
330.12	2	11.9564	5.2796	0.7850	0.1303	0.1188	0.0943
344.88	2	11.3118	4.7596	0.6396	0.2543	0.1011	0.0324
350.16	2	11.1086	4.5474	0.6755	0.1934	0.0993	0.1408
355.08	2	10.4912	4.4119	0.6004	0.1571	0.1079	0.0674

3.3.2 Spanwise Elastic Deformations

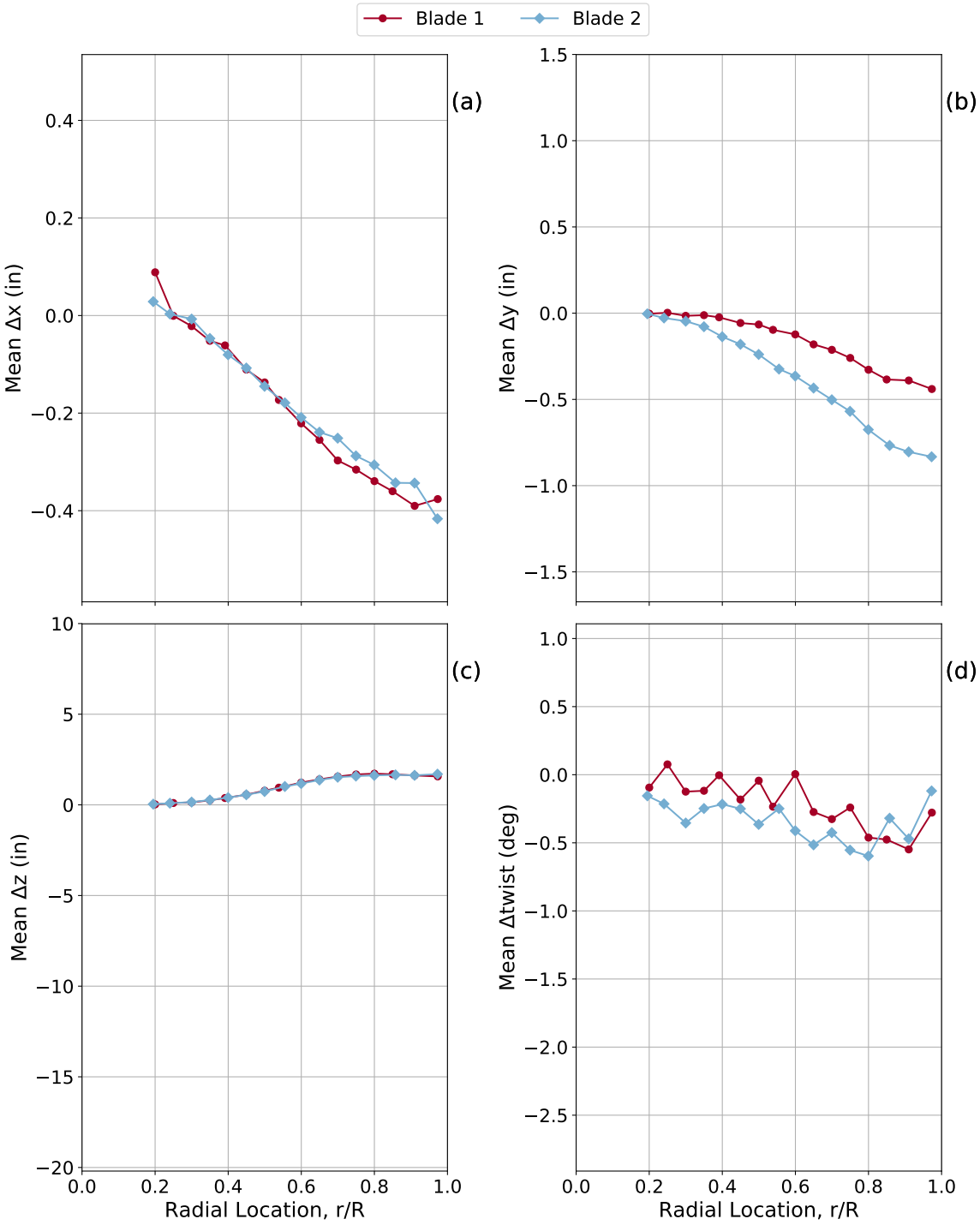


Figure 3.3-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0886	0.0026	-0.0029	0.0016	0.0270	0.0056	-0.0944	0.0333
1	0.35	0.2499	-0.0006	0.0013	0.0023	0.0027	0.1022	0.0102	0.0760	0.0847
1	0.35	0.2998	-0.0217	0.0017	-0.0152	0.0056	0.1394	0.0184	-0.1243	0.0863
1	0.35	0.3498	-0.0518	0.0025	-0.0116	0.0113	0.2502	0.0324	-0.1179	0.0883
1	0.35	0.3913	-0.0612	0.0025	-0.0241	0.0147	0.3780	0.0451	-0.0039	0.0832
1	0.35	0.4496	-0.1108	0.0025	-0.0570	0.0199	0.5609	0.0644	-0.1823	0.0907
1	0.35	0.4997	-0.1371	0.0020	-0.0658	0.0237	0.7809	0.0830	-0.0437	0.0932
1	0.35	0.5387	-0.1730	0.0021	-0.0966	0.0279	0.9485	0.0961	-0.2349	0.0933
1	0.35	0.5996	-0.2210	0.0030	-0.1232	0.0347	1.2274	0.1190	0.0046	0.0909
1	0.35	0.6498	-0.2548	0.0034	-0.1810	0.0393	1.4052	0.1350	-0.2738	0.0916
1	0.35	0.6998	-0.2971	0.0027	-0.2126	0.0442	1.5610	0.1599	-0.3259	0.1009
1	0.35	0.7500	-0.3158	0.0043	-0.2596	0.0475	1.6782	0.1922	-0.2410	0.1186
1	0.35	0.8001	-0.3394	0.0038	-0.3280	0.0527	1.7213	0.2347	-0.4619	0.1102
1	0.35	0.8497	-0.3601	0.0051	-0.3845	0.0573	1.6874	0.2796	-0.4760	0.0907
1	0.35	0.9102	-0.3901	0.0050	-0.3902	0.0642	1.6220	0.3421	-0.5484	0.1526
1	0.35	0.9734	-0.3762	0.0070	-0.4398	0.0687	1.5686	0.4112	-0.2783	0.1360
2	0	0.1949	0.0285	0.0036	-0.0037	0.0017	0.0401	0.0066	-0.1551	0.0417
2	0	0.2405	0.0032	0.0022	-0.0278	0.0043	0.0903	0.0115	-0.2141	0.0576
2	0	0.2999	-0.0072	0.0014	-0.0465	0.0071	0.1533	0.0229	-0.3547	0.0894
2	0	0.3498	-0.0470	0.0015	-0.0785	0.0130	0.2670	0.0413	-0.2481	0.0825
2	0	0.3998	-0.0804	0.0019	-0.1366	0.0204	0.4008	0.0605	-0.2166	0.0760
2	0	0.4496	-0.1076	0.0031	-0.1804	0.0248	0.5572	0.0775	-0.2499	0.0713
2	0	0.4995	-0.1450	0.0030	-0.2393	0.0309	0.7379	0.0955	-0.3648	0.0741
2	0	0.5551	-0.1790	0.0040	-0.3241	0.0378	1.0141	0.1133	-0.2487	0.0940
2	0	0.5996	-0.2089	0.0038	-0.3647	0.0421	1.1742	0.1281	-0.4117	0.0735
2	0	0.6497	-0.2391	0.0042	-0.4342	0.0511	1.3696	0.1529	-0.5150	0.0853
2	0	0.6996	-0.2514	0.0051	-0.5021	0.0589	1.5249	0.1795	-0.4255	0.0851
2	0	0.7495	-0.2877	0.0056	-0.5691	0.0654	1.5879	0.2073	-0.5535	0.0966
2	0	0.7996	-0.3061	0.0065	-0.6754	0.0757	1.6247	0.2357	-0.5972	0.0756
2	0	0.8578	-0.3429	0.0074	-0.7670	0.0865	1.6539	0.2682	-0.3194	0.1188
2	0	0.9100	-0.3434	0.0069	-0.8042	0.0965	1.6293	0.2923	-0.4709	0.1873
2	0	0.9727	-0.4166	0.0106	-0.8326	0.1065	1.6947	0.3302	-0.1190	0.1102

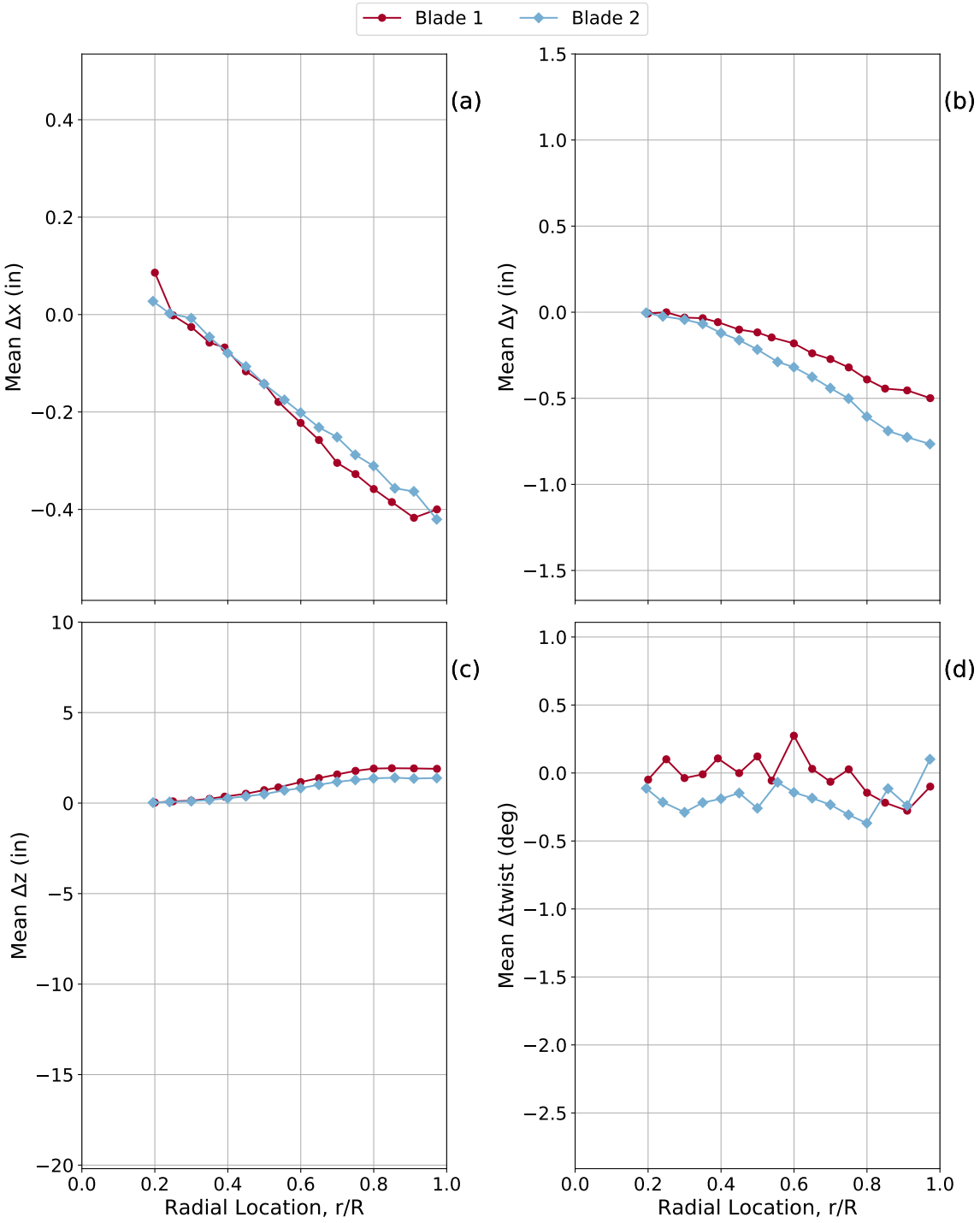


Figure 3.3-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0860	0.0039	-0.0072	0.0012	0.0294	0.0081	-0.0491	0.0489
1	4.92	0.2499	-0.0017	0.0013	-0.0006	0.0018	0.0962	0.0143	0.1009	0.1152
1	4.92	0.2998	-0.0255	0.0016	-0.0312	0.0046	0.1372	0.0286	-0.0372	0.1203
1	4.92	0.3498	-0.0576	0.0016	-0.0348	0.0074	0.2378	0.0502	-0.0097	0.1296
1	4.92	0.3913	-0.0676	0.0023	-0.0578	0.0105	0.3577	0.0696	0.1071	0.1218
1	4.92	0.4496	-0.1165	0.0028	-0.1010	0.0142	0.5177	0.1017	-0.0007	0.1270
1	4.92	0.4997	-0.1420	0.0024	-0.1173	0.0184	0.7155	0.1344	0.1218	0.1249
1	4.92	0.5387	-0.1794	0.0027	-0.1466	0.0206	0.8679	0.1612	-0.0561	0.1192
1	4.92	0.5996	-0.2225	0.0030	-0.1811	0.0234	1.1597	0.2016	0.2743	0.1234
1	4.92	0.6498	-0.2575	0.0034	-0.2387	0.0268	1.3805	0.2377	0.0305	0.1163
1	4.92	0.6998	-0.3045	0.0047	-0.2723	0.0298	1.5830	0.2768	-0.0645	0.1265
1	4.92	0.7500	-0.3275	0.0039	-0.3208	0.0331	1.7805	0.3202	0.0268	0.1162
1	4.92	0.8001	-0.3582	0.0042	-0.3907	0.0363	1.9081	0.3689	-0.1455	0.1180
1	4.92	0.8497	-0.3849	0.0047	-0.4436	0.0379	1.9263	0.4182	-0.2186	0.1191
1	4.92	0.9102	-0.4172	0.0050	-0.4541	0.0422	1.9165	0.4811	-0.2773	0.1226
1	4.92	0.9734	-0.4000	0.0059	-0.4992	0.0485	1.8942	0.5496	-0.1001	0.1257
2	4.92	0.1949	0.0273	0.0029	-0.0036	0.0015	0.0271	0.0063	-0.1128	0.0296
2	4.92	0.2405	0.0023	0.0015	-0.0241	0.0024	0.0645	0.0090	-0.2147	0.0806
2	4.92	0.2999	-0.0076	0.0011	-0.0430	0.0057	0.1049	0.0196	-0.2890	0.0773
2	4.92	0.3498	-0.0460	0.0018	-0.0677	0.0088	0.1753	0.0321	-0.2180	0.0647
2	4.92	0.3998	-0.0791	0.0019	-0.1210	0.0141	0.2675	0.0480	-0.1897	0.0785
2	4.92	0.4496	-0.1066	0.0028	-0.1621	0.0181	0.3767	0.0661	-0.1475	0.0849
2	4.92	0.4995	-0.1425	0.0034	-0.2167	0.0225	0.4938	0.0832	-0.2593	0.0865
2	4.92	0.5551	-0.1752	0.0039	-0.2886	0.0281	0.7036	0.1054	-0.0683	0.0703
2	4.92	0.5996	-0.2015	0.0039	-0.3193	0.0342	0.8242	0.1251	-0.1430	0.0942
2	4.92	0.6497	-0.2316	0.0042	-0.3763	0.0391	1.0143	0.1445	-0.1849	0.0929
2	4.92	0.6996	-0.2516	0.0037	-0.4408	0.0466	1.1717	0.1648	-0.2332	0.1057
2	4.92	0.7495	-0.2880	0.0043	-0.5016	0.0524	1.2816	0.1886	-0.3075	0.0822
2	4.92	0.7996	-0.3109	0.0055	-0.6066	0.0576	1.3682	0.2113	-0.3693	0.0937
2	4.92	0.8578	-0.3567	0.0051	-0.6895	0.0668	1.4014	0.2359	-0.1152	0.0763
2	4.92	0.9100	-0.3631	0.0062	-0.7262	0.0731	1.3569	0.2575	-0.2400	0.0986
2	4.92	0.9727	-0.4204	0.0085	-0.7655	0.0798	1.3843	0.2743	0.1013	0.1202

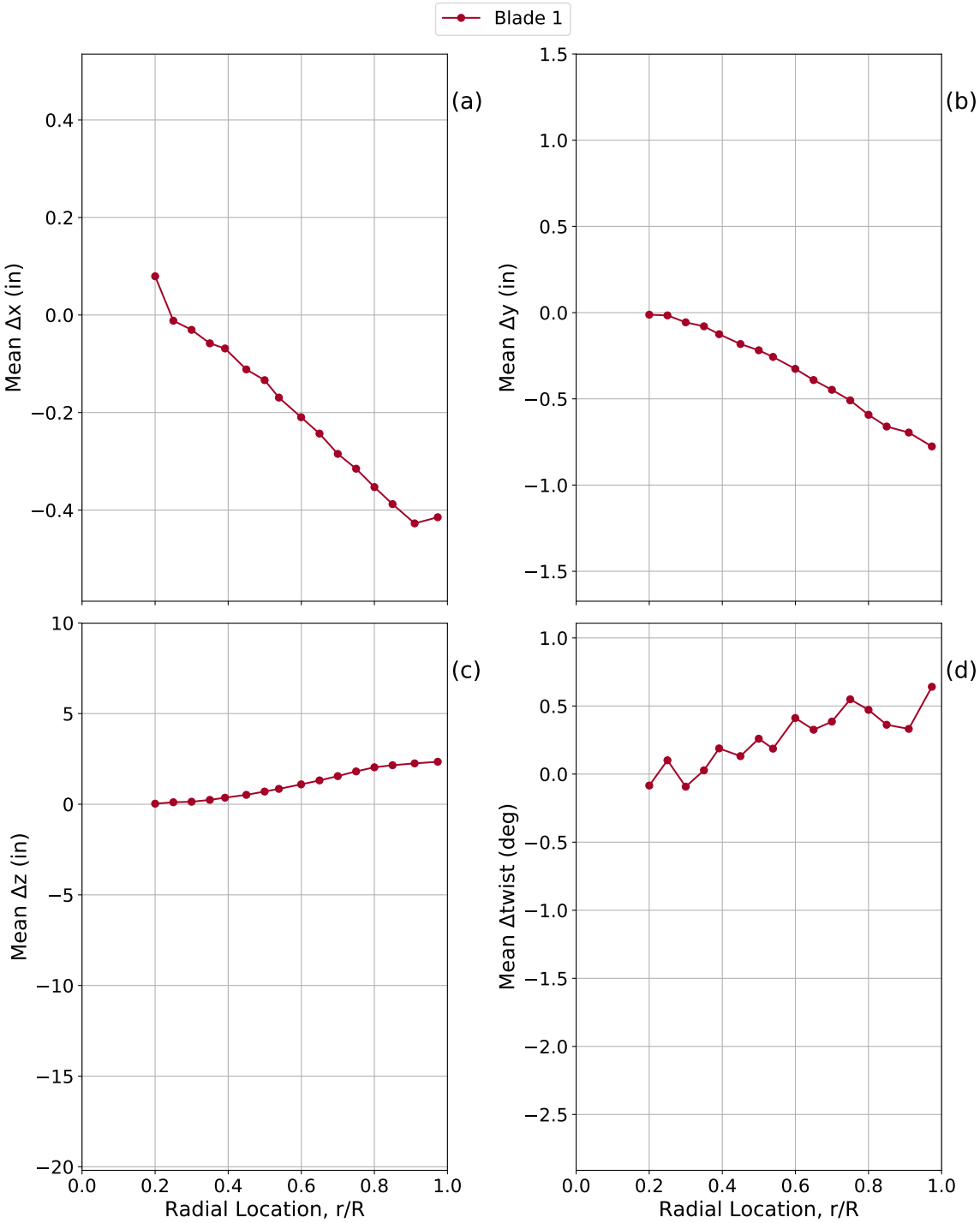


Figure 3.3-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0794	0.0044	-0.0119	0.0015	0.0295	0.0063	-0.0842	0.0473
1	15.12	0.2499	-0.0117	0.0019	-0.0160	0.0040	0.1082	0.0128	0.1013	0.0909
1	15.12	0.2998	-0.0304	0.0012	-0.0563	0.0072	0.1368	0.0211	-0.0926	0.1126
1	15.12	0.3498	-0.0581	0.0024	-0.0793	0.0130	0.2388	0.0381	0.0274	0.1090
1	15.12	0.3913	-0.0686	0.0020	-0.1250	0.0190	0.3611	0.0524	0.1886	0.1160
1	15.12	0.4496	-0.1116	0.0023	-0.1820	0.0243	0.5173	0.0746	0.1317	0.1146
1	15.12	0.4997	-0.1336	0.0023	-0.2183	0.0287	0.6996	0.0912	0.2598	0.1070
1	15.12	0.5387	-0.1693	0.0025	-0.2567	0.0327	0.8469	0.1036	0.1868	0.1090
1	15.12	0.5996	-0.2096	0.0034	-0.3260	0.0401	1.0949	0.1262	0.4117	0.1032
1	15.12	0.6498	-0.2431	0.0033	-0.3909	0.0435	1.3136	0.1449	0.3255	0.1168
1	15.12	0.6998	-0.2847	0.0034	-0.4475	0.0471	1.5500	0.1666	0.3853	0.1323
1	15.12	0.7500	-0.3151	0.0043	-0.5090	0.0511	1.8098	0.1913	0.5491	0.1209
1	15.12	0.8001	-0.3528	0.0043	-0.5925	0.0560	2.0373	0.2248	0.4714	0.1147
1	15.12	0.8497	-0.3877	0.0044	-0.6605	0.0617	2.1511	0.2575	0.3621	0.1198
1	15.12	0.9102	-0.4272	0.0045	-0.6954	0.0673	2.2523	0.3058	0.3319	0.1382
1	15.12	0.9734	-0.4146	0.0073	-0.7758	0.0747	2.3413	0.3560	0.6411	0.1180

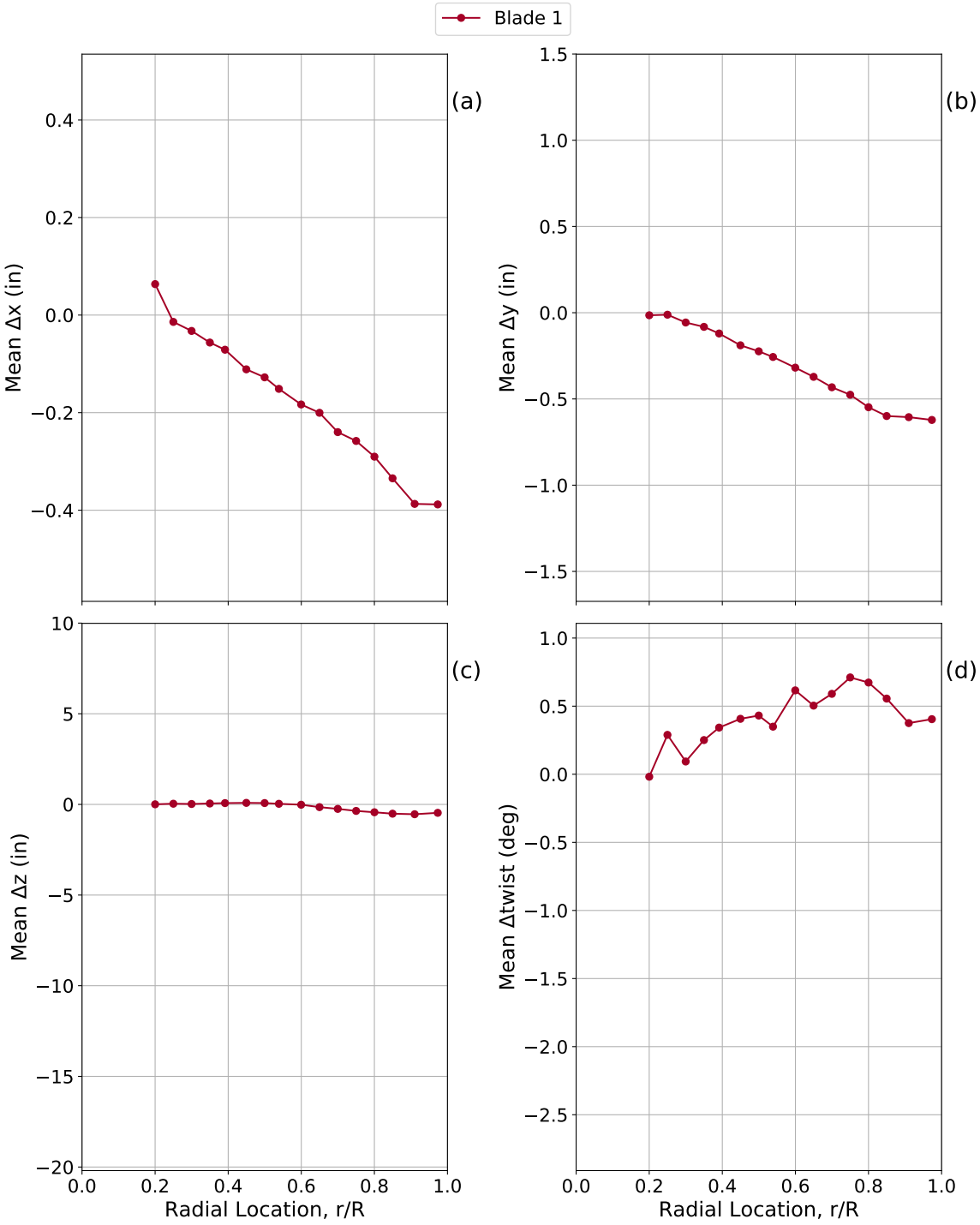


Figure 3.3-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0635	0.0036	-0.0148	0.0011	0.0061	0.0066	-0.0181	0.0491
1	29.88	0.2499	-0.0140	0.0022	-0.0115	0.0016	0.0379	0.0116	0.2892	0.0969
1	29.88	0.2998	-0.0325	0.0022	-0.0568	0.0038	0.0228	0.0234	0.0937	0.1155
1	29.88	0.3498	-0.0563	0.0017	-0.0820	0.0073	0.0499	0.0403	0.2510	0.1129
1	29.88	0.3913	-0.0710	0.0022	-0.1205	0.0095	0.0720	0.0562	0.3427	0.1021
1	29.88	0.4496	-0.1112	0.0029	-0.1889	0.0130	0.0847	0.0823	0.4071	0.1165
1	29.88	0.4997	-0.1276	0.0025	-0.2239	0.0159	0.0741	0.1051	0.4311	0.1094
1	29.88	0.5387	-0.1512	0.0024	-0.2566	0.0170	0.0336	0.1181	0.3495	0.1142
1	29.88	0.5996	-0.1832	0.0028	-0.3185	0.0217	-0.0177	0.1403	0.6159	0.1221
1	29.88	0.6498	-0.2003	0.0030	-0.3718	0.0243	-0.1501	0.1550	0.5040	0.1213
1	29.88	0.6998	-0.2399	0.0028	-0.4323	0.0278	-0.2466	0.1719	0.5905	0.1210
1	29.88	0.7500	-0.2580	0.0033	-0.4757	0.0311	-0.3587	0.1937	0.7110	0.1291
1	29.88	0.8001	-0.2902	0.0033	-0.5481	0.0352	-0.4332	0.2175	0.6735	0.1349
1	29.88	0.8497	-0.3346	0.0033	-0.5990	0.0396	-0.5116	0.2418	0.5557	0.1269
1	29.88	0.9102	-0.3870	0.0040	-0.6056	0.0482	-0.5418	0.2714	0.3757	0.1482
1	29.88	0.9734	-0.3881	0.0058	-0.6218	0.0517	-0.4648	0.2981	0.4046	0.1612

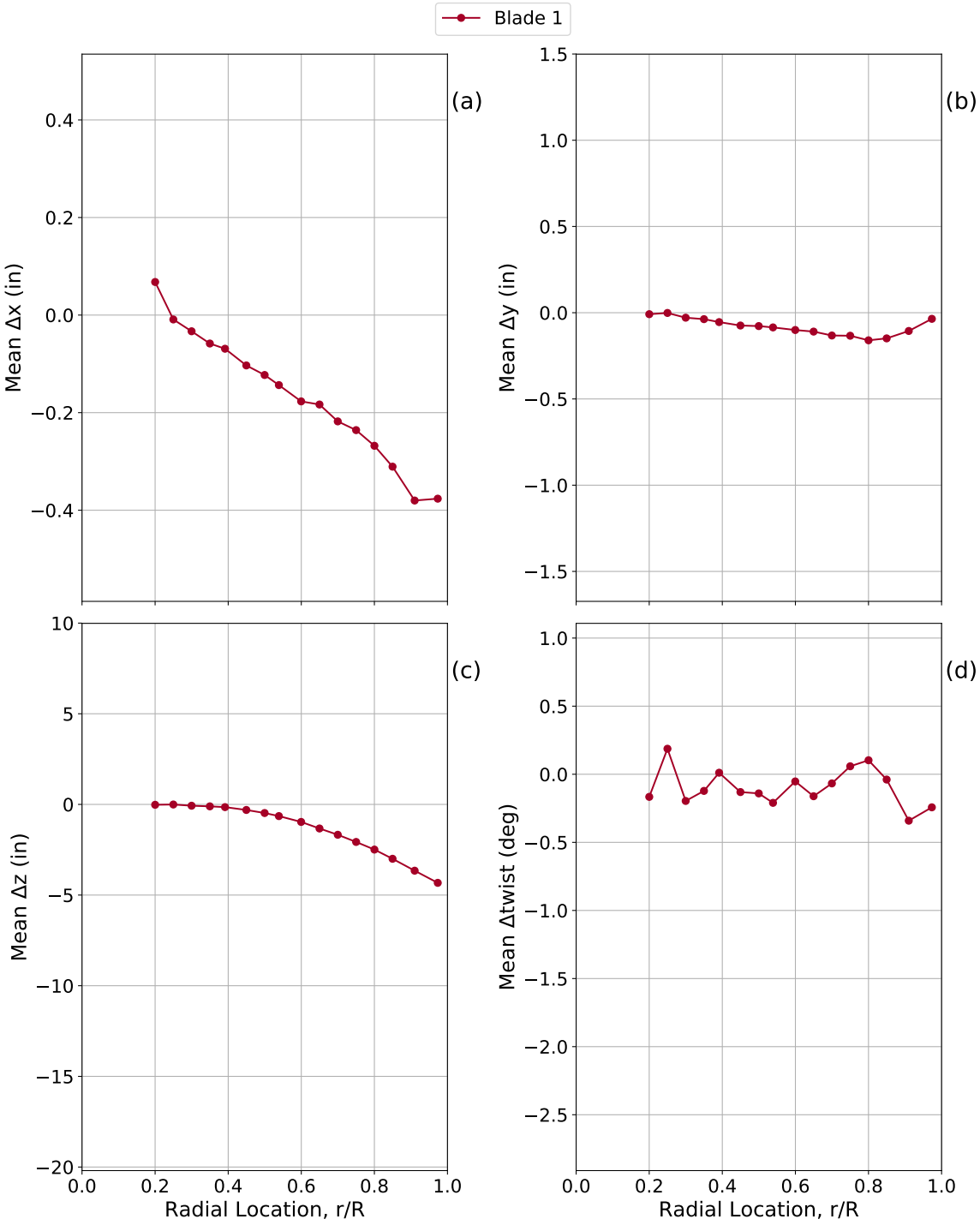


Figure 3.3-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0678	0.0027	-0.0085	0.0012	-0.0207	0.0057	-0.1660	0.0223
1	45	0.2499	-0.0090	0.0026	-0.0014	0.0019	-0.0051	0.0095	0.1873	0.0624
1	45	0.2998	-0.0332	0.0021	-0.0289	0.0049	-0.0724	0.0223	-0.1960	0.0564
1	45	0.3498	-0.0583	0.0018	-0.0373	0.0079	-0.1073	0.0367	-0.1222	0.0692
1	45	0.3913	-0.0690	0.0026	-0.0544	0.0114	-0.1496	0.0526	0.0113	0.0684
1	45	0.4496	-0.1032	0.0025	-0.0743	0.0149	-0.3061	0.0754	-0.1308	0.0716
1	45	0.4997	-0.1228	0.0029	-0.0775	0.0196	-0.4753	0.0974	-0.1406	0.0614
1	45	0.5387	-0.1435	0.0032	-0.0852	0.0236	-0.6442	0.1140	-0.2099	0.0672
1	45	0.5996	-0.1769	0.0034	-0.1003	0.0308	-0.9665	0.1437	-0.0527	0.0829
1	45	0.6498	-0.1833	0.0025	-0.1095	0.0352	-1.3277	0.1665	-0.1613	0.0872
1	45	0.6998	-0.2179	0.0036	-0.1321	0.0403	-1.6742	0.1886	-0.0672	0.0826
1	45	0.7500	-0.2358	0.0037	-0.1335	0.0459	-2.0707	0.2147	0.0586	0.0770
1	45	0.8001	-0.2679	0.0035	-0.1600	0.0524	-2.4912	0.2412	0.1028	0.0914
1	45	0.8497	-0.3107	0.0049	-0.1488	0.0581	-2.9989	0.2656	-0.0390	0.0916
1	45	0.9102	-0.3801	0.0052	-0.1059	0.0655	-3.6553	0.2956	-0.3410	0.0788
1	45	0.9734	-0.3763	0.0063	-0.0355	0.0740	-4.3259	0.3273	-0.2428	0.0874

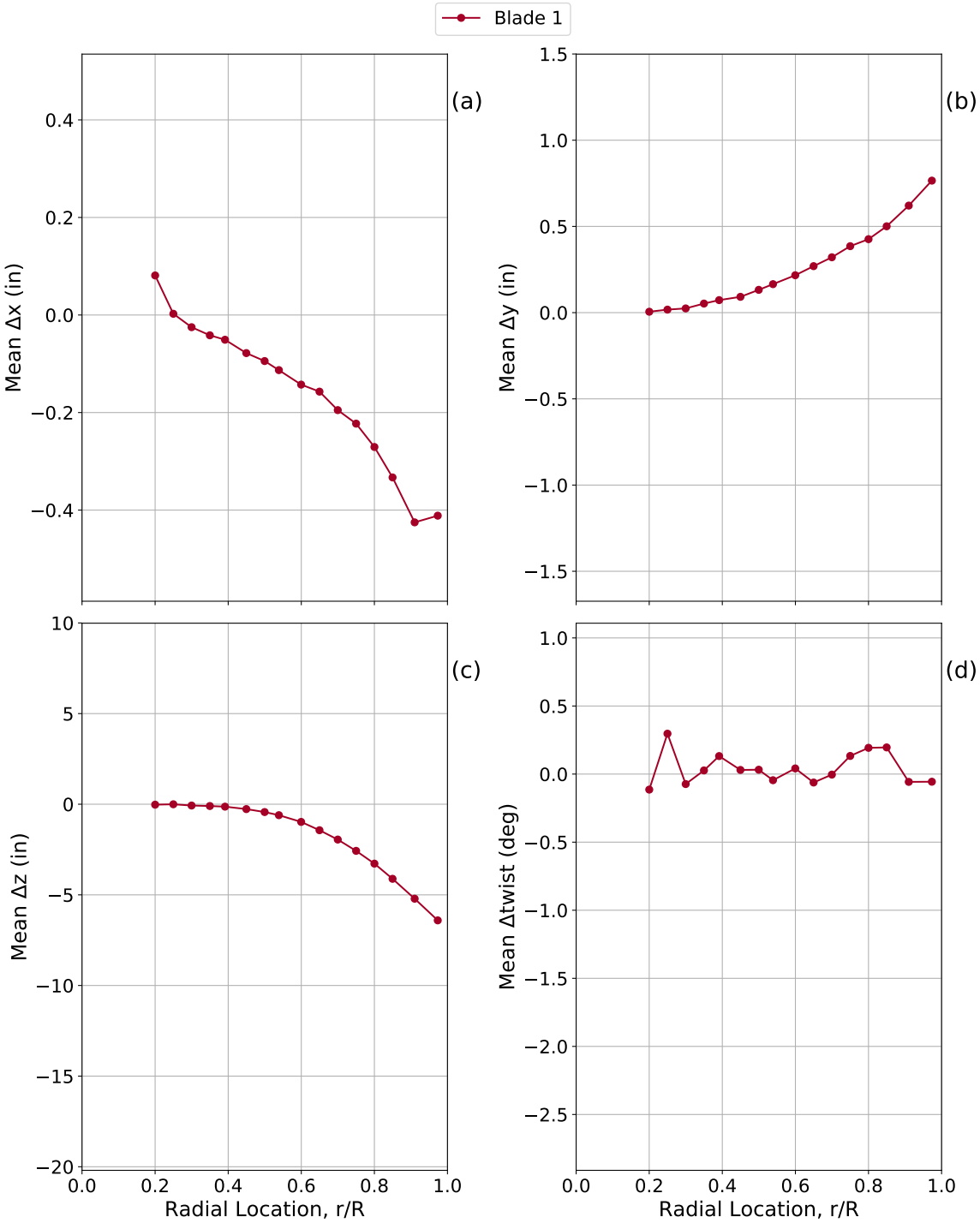


Figure 3.3-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0811	0.0023	0.0053	0.0011	-0.0245	0.0025	-0.1141	0.0351
1	60.12	0.2499	0.0025	0.0019	0.0175	0.0024	-0.0033	0.0080	0.2967	0.0460
1	60.12	0.2998	-0.0250	0.0024	0.0245	0.0047	-0.0722	0.0128	-0.0733	0.0733
1	60.12	0.3498	-0.0416	0.0020	0.0526	0.0084	-0.0992	0.0194	0.0268	0.0635
1	60.12	0.3913	-0.0507	0.0037	0.0726	0.0120	-0.1341	0.0312	0.1322	0.0662
1	60.12	0.4496	-0.0781	0.0035	0.0917	0.0168	-0.2683	0.0439	0.0303	0.0598
1	60.12	0.4997	-0.0944	0.0029	0.1322	0.0201	-0.4322	0.0551	0.0320	0.0570
1	60.12	0.5387	-0.1130	0.0037	0.1652	0.0252	-0.6047	0.0627	-0.0451	0.0621
1	60.12	0.5996	-0.1427	0.0035	0.2169	0.0319	-0.9759	0.0750	0.0414	0.0633
1	60.12	0.6498	-0.1571	0.0041	0.2696	0.0378	-1.4347	0.0873	-0.0620	0.0495
1	60.12	0.6998	-0.1950	0.0048	0.3211	0.0433	-1.9497	0.1012	-0.0039	0.0548
1	60.12	0.7500	-0.2227	0.0047	0.3855	0.0498	-2.5731	0.1135	0.1332	0.0563
1	60.12	0.8001	-0.2706	0.0046	0.4261	0.0558	-3.2777	0.1241	0.1928	0.0578
1	60.12	0.8497	-0.3330	0.0055	0.5008	0.0616	-4.1149	0.1398	0.1958	0.0562
1	60.12	0.9102	-0.4251	0.0065	0.6208	0.0700	-5.2124	0.1610	-0.0573	0.0448
1	60.12	0.9734	-0.4114	0.0093	0.7656	0.0782	-6.4077	0.1895	-0.0562	0.0653

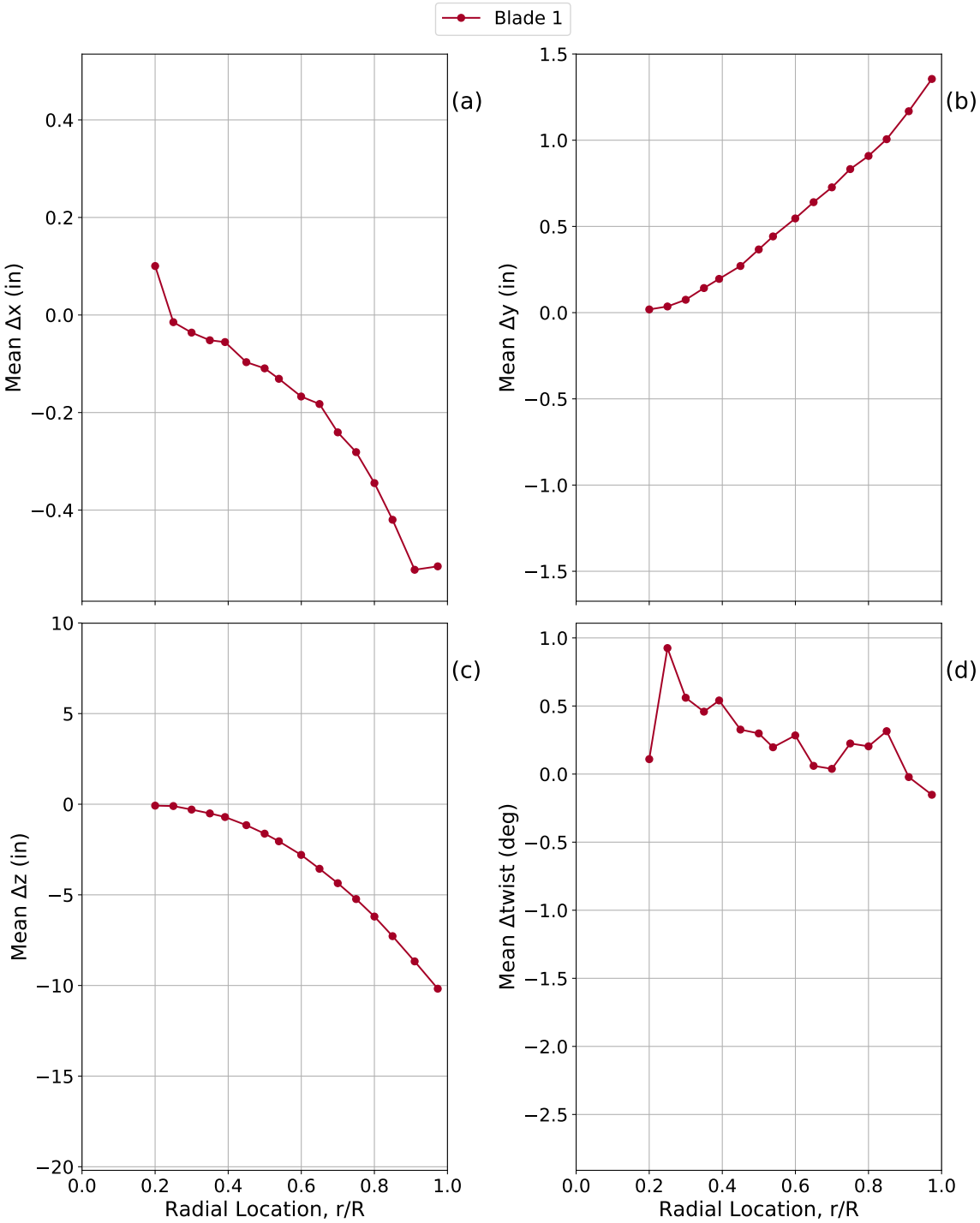


Figure 3.3-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.1004	0.0040	0.0186	0.0020	-0.0777	0.0047	0.1095	0.0520
1	74.88	0.2499	-0.0147	0.0018	0.0357	0.0022	-0.1007	0.0075	0.9254	0.1248
1	74.88	0.2998	-0.0361	0.0021	0.0747	0.0064	-0.2958	0.0183	0.5606	0.1334
1	74.88	0.3498	-0.0518	0.0024	0.1425	0.0113	-0.5071	0.0312	0.4584	0.1311
1	74.88	0.3913	-0.0555	0.0020	0.1958	0.0147	-0.7070	0.0439	0.5406	0.1247
1	74.88	0.4496	-0.0967	0.0025	0.2705	0.0206	-1.1555	0.0628	0.3267	0.1257
1	74.88	0.4997	-0.1094	0.0026	0.3665	0.0245	-1.6238	0.0845	0.2986	0.1270
1	74.88	0.5387	-0.1308	0.0027	0.4420	0.0291	-2.0451	0.1010	0.1968	0.1261
1	74.88	0.5996	-0.1671	0.0033	0.5463	0.0360	-2.7958	0.1295	0.2839	0.1266
1	74.88	0.6498	-0.1825	0.0055	0.6406	0.0421	-3.5616	0.1534	0.0603	0.1433
1	74.88	0.6998	-0.2406	0.0051	0.7266	0.0483	-4.3564	0.1783	0.0383	0.1515
1	74.88	0.7500	-0.2811	0.0053	0.8325	0.0551	-5.2309	0.2045	0.2248	0.1227
1	74.88	0.8001	-0.3446	0.0064	0.9088	0.0621	-6.1971	0.2237	0.2038	0.1350
1	74.88	0.8497	-0.4198	0.0081	1.0058	0.0686	-7.2783	0.2422	0.3151	0.1364
1	74.88	0.9102	-0.5223	0.0098	1.1681	0.0782	-8.6707	0.2663	-0.0220	0.1253
1	74.88	0.9734	-0.5153	0.0101	1.3552	0.0871	-10.1767	0.2947	-0.1521	0.1288

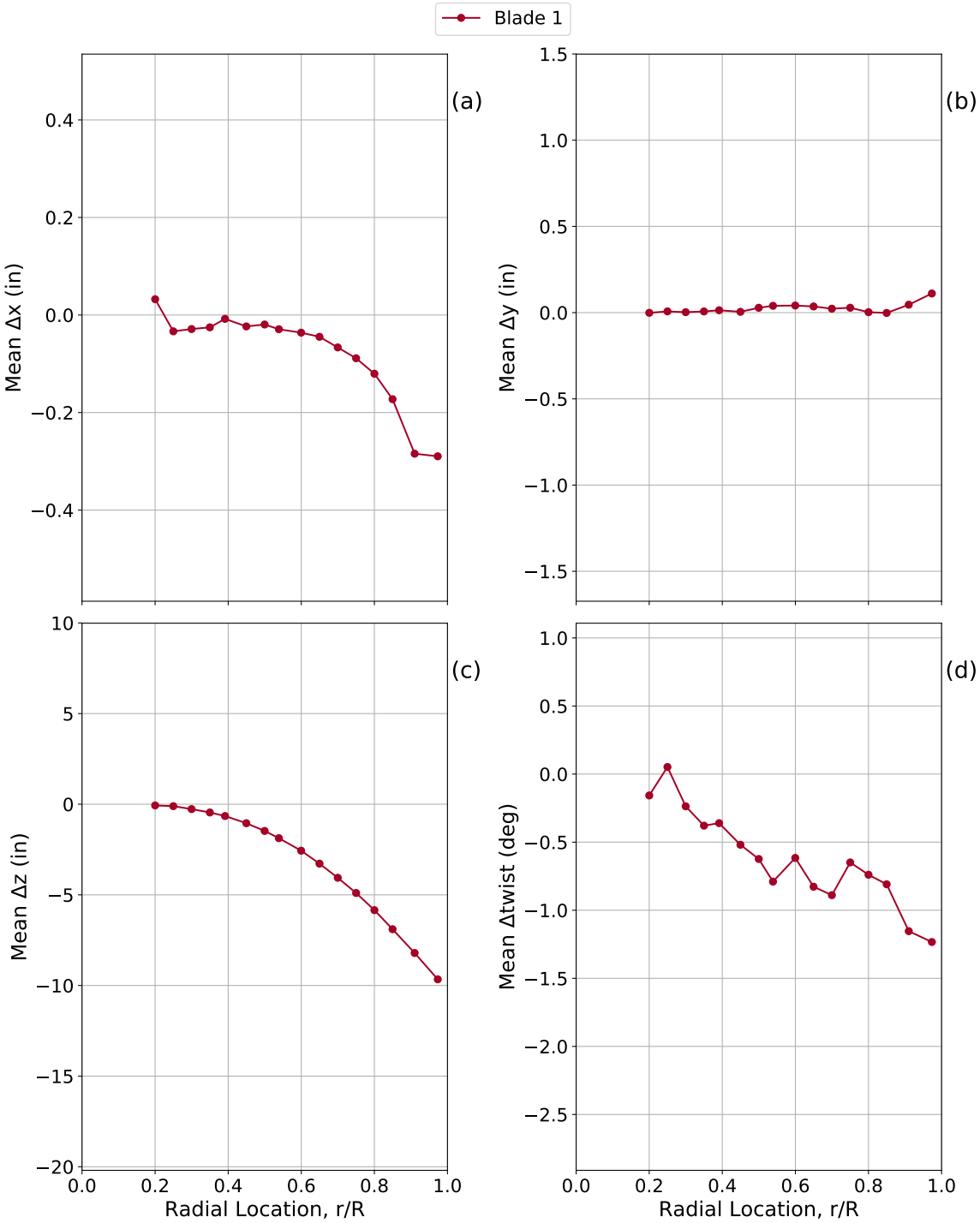


Figure 3.3-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0324	0.0042	-0.0011	0.0059	-0.0669	0.0162	-0.1570	0.1322
1	80.16	0.2499	-0.0335	0.0021	0.0072	0.0058	-0.1071	0.0142	0.0520	0.3636
1	80.16	0.2998	-0.0288	0.0018	0.0027	0.0202	-0.2696	0.0516	-0.2368	0.3649
1	80.16	0.3498	-0.0253	0.0045	0.0069	0.0347	-0.4556	0.0878	-0.3788	0.3686
1	80.16	0.3913	-0.0079	0.0068	0.0139	0.0469	-0.6510	0.1164	-0.3603	0.3726
1	80.16	0.4496	-0.0234	0.0100	0.0048	0.0667	-1.0474	0.1544	-0.5192	0.3782
1	80.16	0.4997	-0.0195	0.0118	0.0282	0.0839	-1.4737	0.1856	-0.6236	0.3802
1	80.16	0.5387	-0.0292	0.0130	0.0396	0.0977	-1.8735	0.2096	-0.7898	0.3788
1	80.16	0.5996	-0.0362	0.0149	0.0412	0.1209	-2.5640	0.2474	-0.6158	0.3789
1	80.16	0.6498	-0.0447	0.0163	0.0358	0.1402	-3.2780	0.2793	-0.8274	0.3856
1	80.16	0.6998	-0.0665	0.0171	0.0229	0.1600	-4.0581	0.3139	-0.8893	0.3813
1	80.16	0.7500	-0.0887	0.0175	0.0284	0.1792	-4.8973	0.3451	-0.6489	0.3756
1	80.16	0.8001	-0.1204	0.0165	0.0027	0.1974	-5.8433	0.3770	-0.7395	0.4118
1	80.16	0.8497	-0.1726	0.0175	-0.0018	0.2183	-6.8954	0.4120	-0.8093	0.4038
1	80.16	0.9102	-0.2843	0.0133	0.0460	0.2470	-8.2079	0.2654	-1.1537	0.4293
1	80.16	0.9734	-0.2897	0.0277	0.1111	0.2644	-9.6605	0.2943	-1.2333	0.4347

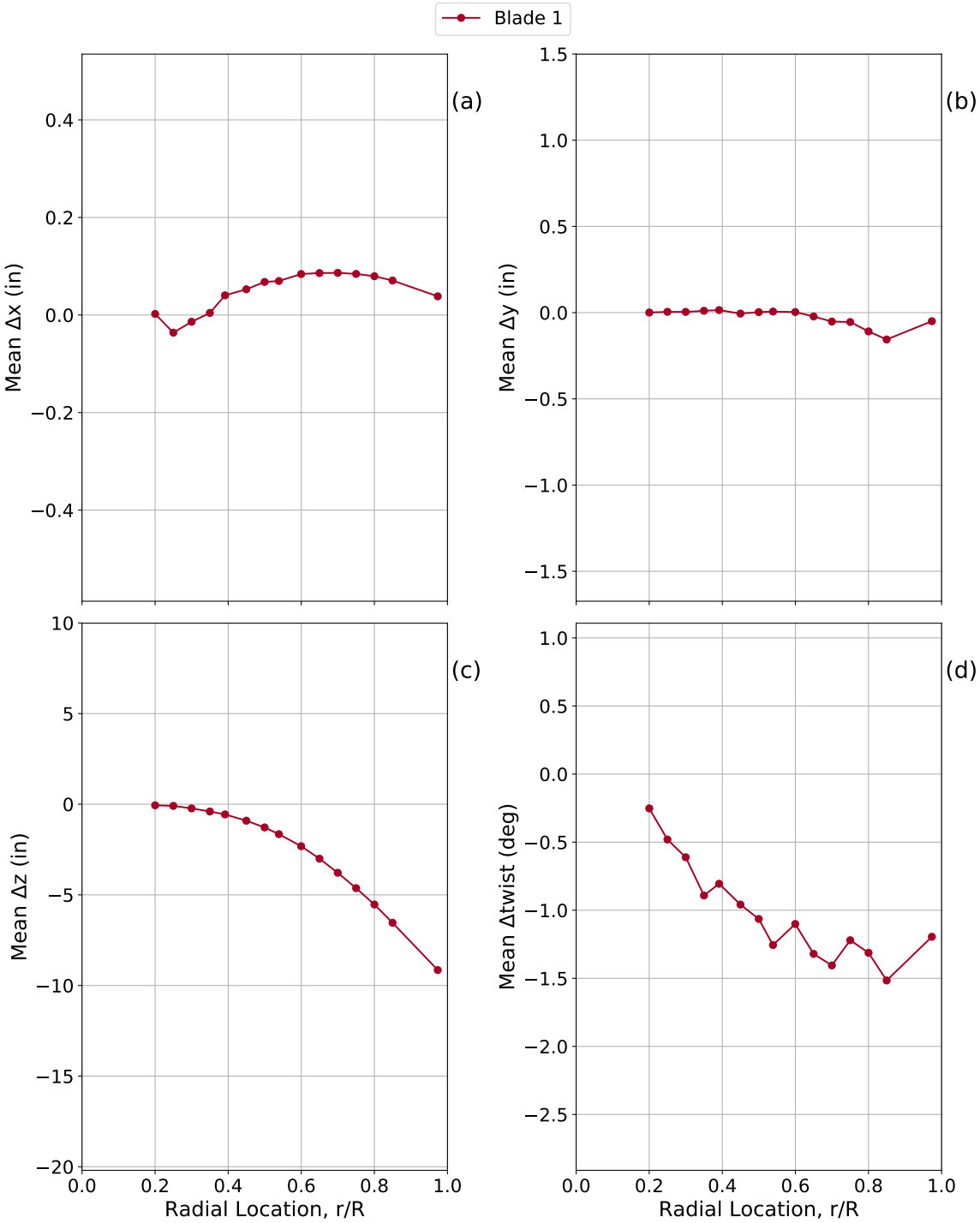


Figure 3.3-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0022	0.0013	0.0007	0.0009	-0.0600	0.0024	-0.2520	0.0217
1	85.08	0.2499	-0.0362	0.0012	0.0048	0.0016	-0.0928	0.0050	-0.4807	0.0381
1	85.08	0.2998	-0.0139	0.0015	0.0042	0.0035	-0.2307	0.0101	-0.6109	0.0447
1	85.08	0.3498	0.0042	0.0016	0.0107	0.0058	-0.4018	0.0146	-0.8914	0.0484
1	85.08	0.3913	0.0403	0.0016	0.0148	0.0083	-0.5621	0.0227	-0.8056	0.0527
1	85.08	0.4496	0.0527	0.0023	-0.0053	0.0127	-0.9092	0.0335	-0.9583	0.0457
1	85.08	0.4997	0.0678	0.0018	0.0029	0.0165	-1.2815	0.0436	-1.0641	0.0521
1	85.08	0.5387	0.0697	0.0025	0.0063	0.0208	-1.6518	0.0533	-1.2557	0.0612
1	85.08	0.5996	0.0840	0.0035	0.0034	0.0278	-2.3166	0.0680	-1.1011	0.0578
1	85.08	0.6498	0.0860	0.0038	-0.0222	0.0341	-3.0028	0.0808	-1.3206	0.0940
1	85.08	0.6998	0.0864	0.0051	-0.0517	0.0406	-3.7820	0.0918	-1.4052	0.0716
1	85.08	0.7500	0.0842	0.0060	-0.0544	0.0464	-4.6303	0.1035	-1.2203	0.0947
1	85.08	0.8001	0.0795	0.0054	-0.1088	0.0548	-5.5333	0.1179	-1.3124	0.1158
1	85.08	0.8497	0.0707	0.0053	-0.1558	0.0611	-6.5413	0.1283	-1.5157	0.0686
1	85.08	0.9734	0.0383	0.0198	-0.0497	0.0869	-9.1479	0.1819	-1.1949	0.3894

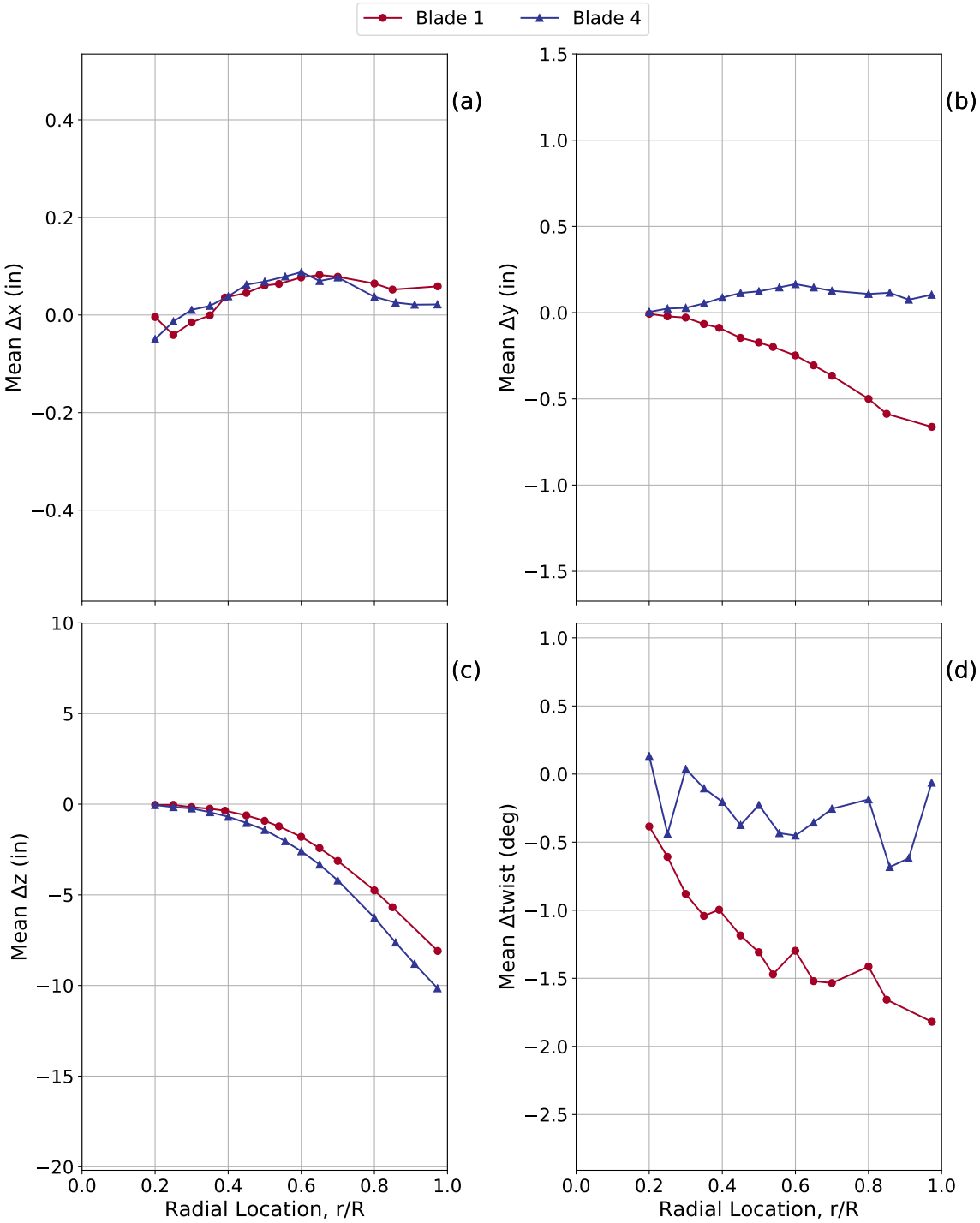


Figure 3.3-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -0° NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0042	0.0014	-0.0069	0.0006	-0.0435	0.0034	-0.3850	0.0397
1	90	0.2499	-0.0410	0.0015	-0.0216	0.0013	-0.0381	0.0073	-0.6080	0.0602
1	90	0.2998	-0.0152	0.0019	-0.0288	0.0025	-0.1629	0.0130	-0.8798	0.0892
1	90	0.3498	-0.0008	0.0013	-0.0662	0.0041	-0.2518	0.0249	-1.0416	0.0756
1	90	0.3913	0.0357	0.0018	-0.0880	0.0060	-0.3593	0.0342	-0.9963	0.0747
1	90	0.4496	0.0452	0.0014	-0.1462	0.0090	-0.6195	0.0484	-1.1849	0.0684
1	90	0.4997	0.0604	0.0028	-0.1732	0.0124	-0.9187	0.0650	-1.3078	0.0842
1	90	0.5387	0.0637	0.0034	-0.1992	0.0154	-1.2232	0.0764	-1.4709	0.1075
1	90	0.5996	0.0769	0.0031	-0.2481	0.0202	-1.7989	0.0945	-1.2975	0.1023
1	90	0.6498	0.0820	0.0034	-0.3058	0.0240	-2.4222	0.1103	-1.5209	0.1128
1	90	0.6998	0.0783	0.0045	-0.3655	0.0293	-3.1281	0.1260	-1.5349	0.1091
1	90	0.8001	0.0645	0.0069	-0.4998	0.0390	-4.7554	0.1544	-1.4138	0.1352
1	90	0.8497	0.0521	0.0082	-0.5867	0.0456	-5.6831	0.1758	-1.6569	0.1367
1	90	0.9734	0.0587	0.0157	-0.6623	0.0601	-8.0938	0.2408	-1.8193	0.1687
4	90.35	0.2001	-0.0494	0.0010	0.0039	0.0007	-0.0482	0.0040	0.1331	0.0163
4	90.35	0.2502	-0.0132	0.0007	0.0235	0.0011	-0.1637	0.0064	-0.4392	0.0452
4	90.35	0.3001	0.0105	0.0014	0.0275	0.0024	-0.2351	0.0155	0.0384	0.0436
4	90.35	0.3502	0.0187	0.0016	0.0532	0.0041	-0.4442	0.0244	-0.1057	0.0575
4	90.35	0.4002	0.0383	0.0022	0.0871	0.0059	-0.6951	0.0382	-0.2047	0.0476
4	90.35	0.4500	0.0621	0.0027	0.1134	0.0083	-1.0346	0.0502	-0.3744	0.0510
4	90.35	0.5001	0.0685	0.0034	0.1235	0.0106	-1.4189	0.0637	-0.2274	0.0480
4	90.35	0.5560	0.0789	0.0040	0.1463	0.0138	-2.0402	0.0798	-0.4338	0.0563
4	90.35	0.6001	0.0879	0.0043	0.1652	0.0166	-2.5951	0.0934	-0.4516	0.0682
4	90.35	0.6501	0.0697	0.0041	0.1459	0.0210	-3.3318	0.1098	-0.3559	0.0600
4	90.35	0.6999	0.0770	0.0063	0.1263	0.0252	-4.2047	0.1230	-0.2551	0.0483
4	90.35	0.8002	0.0372	0.0082	0.1084	0.0341	-6.2602	0.1468	-0.1866	0.0725
4	90.35	0.8582	0.0254	0.0094	0.1151	0.0401	-7.6255	0.1511	-0.6827	0.0972
4	90.35	0.9101	0.0211	0.0111	0.0749	0.0445	-8.8068	0.1522	-0.6184	0.0973
4	90.35	0.9728	0.0216	0.0124	0.1035	0.0526	-10.1557	0.1752	-0.0635	0.0785

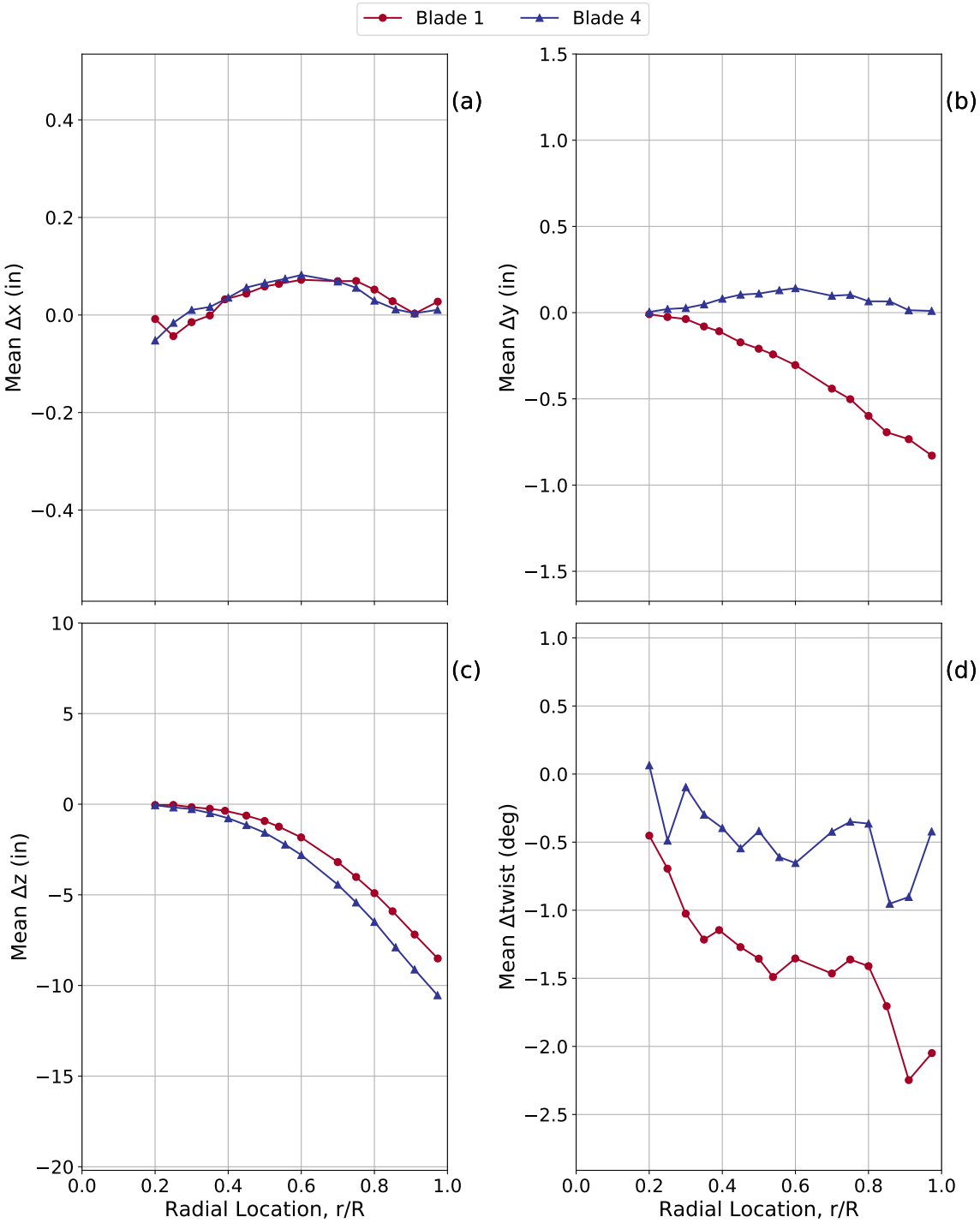


Figure 3.3-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0082	0.0013	-0.0088	0.0008	-0.0429	0.0025	-0.4520	0.0247
1	94.92	0.2499	-0.0433	0.0015	-0.0253	0.0013	-0.0396	0.0062	-0.6944	0.0427
1	94.92	0.2998	-0.0147	0.0013	-0.0368	0.0031	-0.1633	0.0099	-1.0253	0.0520
1	94.92	0.3498	-0.0009	0.0013	-0.0803	0.0054	-0.2509	0.0183	-1.2155	0.0490
1	94.92	0.3913	0.0321	0.0027	-0.1080	0.0075	-0.3610	0.0258	-1.1457	0.0598
1	94.92	0.4496	0.0439	0.0023	-0.1722	0.0110	-0.6274	0.0389	-1.2706	0.0461
1	94.92	0.4997	0.0585	0.0024	-0.2093	0.0137	-0.9255	0.0493	-1.3558	0.0428
1	94.92	0.5387	0.0637	0.0029	-0.2423	0.0166	-1.2389	0.0560	-1.4902	0.0482
1	94.92	0.5996	0.0722	0.0034	-0.3042	0.0213	-1.8300	0.0639	-1.3541	0.0601
1	94.92	0.6998	0.0694	0.0039	-0.4407	0.0314	-3.1894	0.0856	-1.4646	0.0551
1	94.92	0.7500	0.0698	0.0049	-0.5018	0.0380	-4.0149	0.0927	-1.3618	0.0656
1	94.92	0.8001	0.0521	0.0058	-0.5988	0.0446	-4.9066	0.1113	-1.4105	0.0653
1	94.92	0.8497	0.0283	0.0073	-0.6937	0.0521	-5.9046	0.1280	-1.7045	0.0373
1	94.92	0.9102	0.0029	0.0128	-0.7339	0.0634	-7.1895	0.1618	-2.2473	0.1184
1	94.92	0.9734	0.0273	0.0127	-0.8292	0.0737	-8.5088	0.1976	-2.0492	0.0781
4	94.92	0.2001	-0.0523	0.0010	0.0038	0.0010	-0.0542	0.0056	0.0643	0.0278
4	94.92	0.2502	-0.0160	0.0010	0.0209	0.0019	-0.1788	0.0095	-0.4890	0.0401
4	94.92	0.3001	0.0104	0.0016	0.0269	0.0035	-0.2674	0.0199	-0.0962	0.0599
4	94.92	0.3502	0.0166	0.0023	0.0480	0.0071	-0.4916	0.0365	-0.2981	0.0545
4	94.92	0.4002	0.0356	0.0031	0.0808	0.0101	-0.7767	0.0538	-0.3967	0.0607
4	94.92	0.4500	0.0564	0.0037	0.1043	0.0145	-1.1513	0.0768	-0.5451	0.0642
4	94.92	0.5001	0.0656	0.0049	0.1104	0.0185	-1.5728	0.0996	-0.4189	0.0774
4	94.92	0.5560	0.0743	0.0062	0.1301	0.0238	-2.2264	0.1275	-0.6099	0.0885
4	94.92	0.6001	0.0821	0.0067	0.1419	0.0286	-2.8027	0.1532	-0.6531	0.0815
4	94.92	0.6999	0.0687	0.0102	0.0976	0.0396	-4.4366	0.2175	-0.4232	0.0999
4	94.92	0.7500	0.0559	0.0117	0.1034	0.0462	-5.4215	0.2520	-0.3500	0.1079
4	94.92	0.8002	0.0295	0.0136	0.0658	0.0536	-6.4917	0.2823	-0.3638	0.1179
4	94.92	0.8582	0.0116	0.0165	0.0652	0.0623	-7.8966	0.3066	-0.9523	0.1234
4	94.92	0.9101	0.0035	0.0163	0.0140	0.0713	-9.1194	0.3215	-0.9027	0.1300
4	94.92	0.9728	0.0106	0.0159	0.0099	0.0825	-10.5392	0.3326	-0.4215	0.1180

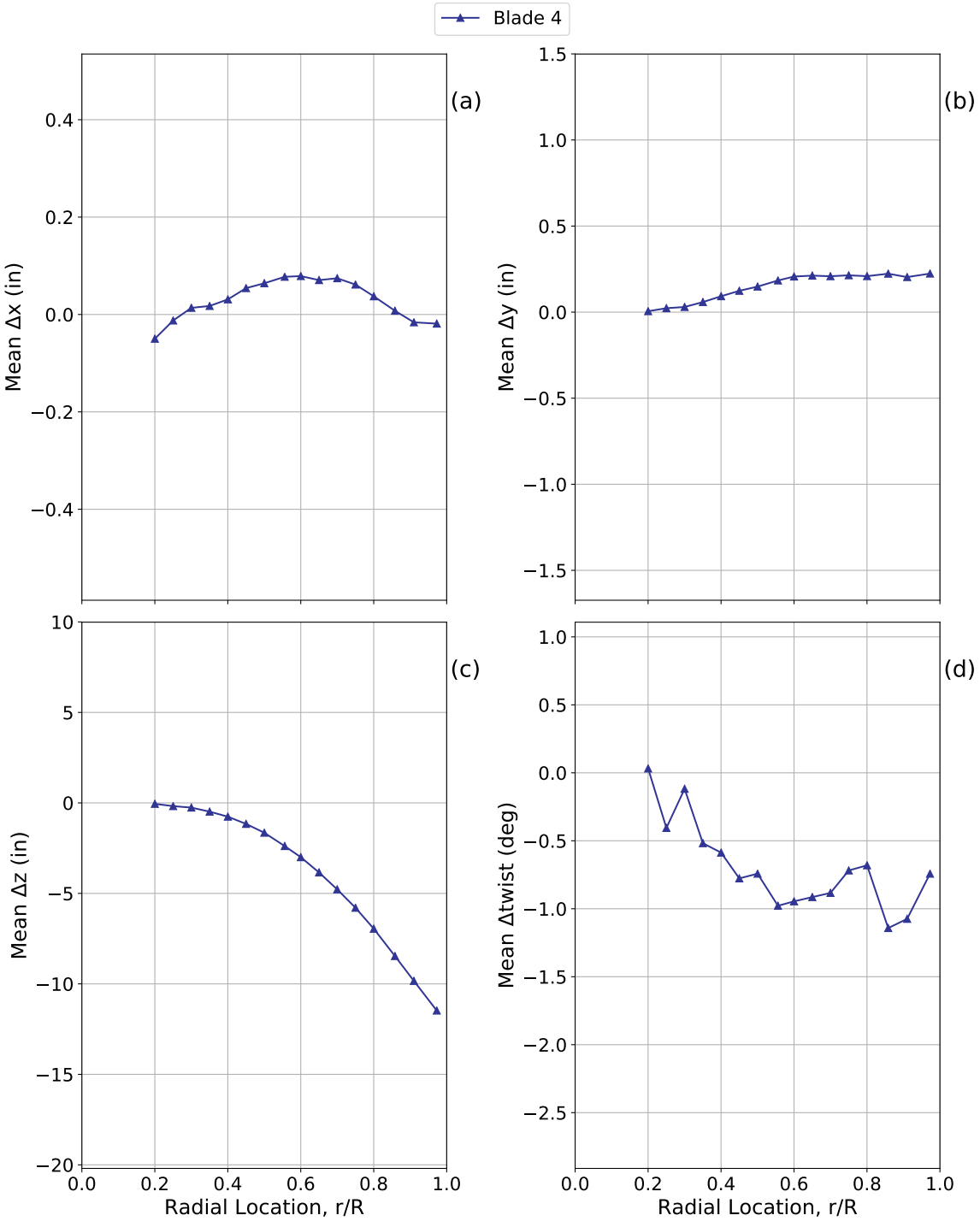


Figure 3.3-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0498	0.0014	0.0054	0.0007	-0.0524	0.0037	0.0319	0.0162
4	105.12	0.2502	-0.0124	0.0013	0.0227	0.0016	-0.1780	0.0075	-0.4058	0.0244
4	105.12	0.3001	0.0136	0.0016	0.0299	0.0029	-0.2592	0.0135	-0.1178	0.0313
4	105.12	0.3502	0.0175	0.0017	0.0584	0.0043	-0.4832	0.0239	-0.5179	0.0385
4	105.12	0.4002	0.0310	0.0019	0.0923	0.0071	-0.7610	0.0364	-0.5873	0.0320
4	105.12	0.4500	0.0541	0.0021	0.1238	0.0090	-1.1605	0.0521	-0.7768	0.0413
4	105.12	0.5001	0.0641	0.0029	0.1483	0.0111	-1.6487	0.0685	-0.7421	0.0416
4	105.12	0.5560	0.0774	0.0034	0.1838	0.0134	-2.3852	0.0865	-0.9782	0.0453
4	105.12	0.6001	0.0788	0.0039	0.2068	0.0160	-3.0012	0.1010	-0.9456	0.0452
4	105.12	0.6501	0.0706	0.0047	0.2120	0.0186	-3.8437	0.1171	-0.9144	0.0611
4	105.12	0.6999	0.0744	0.0055	0.2085	0.0218	-4.7793	0.1303	-0.8836	0.0597
4	105.12	0.7500	0.0614	0.0062	0.2139	0.0256	-5.7949	0.1421	-0.7185	0.0649
4	105.12	0.8002	0.0373	0.0071	0.2089	0.0290	-6.9559	0.1514	-0.6806	0.0691
4	105.12	0.8582	0.0076	0.0074	0.2233	0.0335	-8.4634	0.1618	-1.1422	0.0636
4	105.12	0.9101	-0.0161	0.0090	0.2035	0.0378	-9.8371	0.1679	-1.0745	0.0651
4	105.12	0.9728	-0.0188	0.0091	0.2239	0.0430	-11.4766	0.1805	-0.7422	0.0732

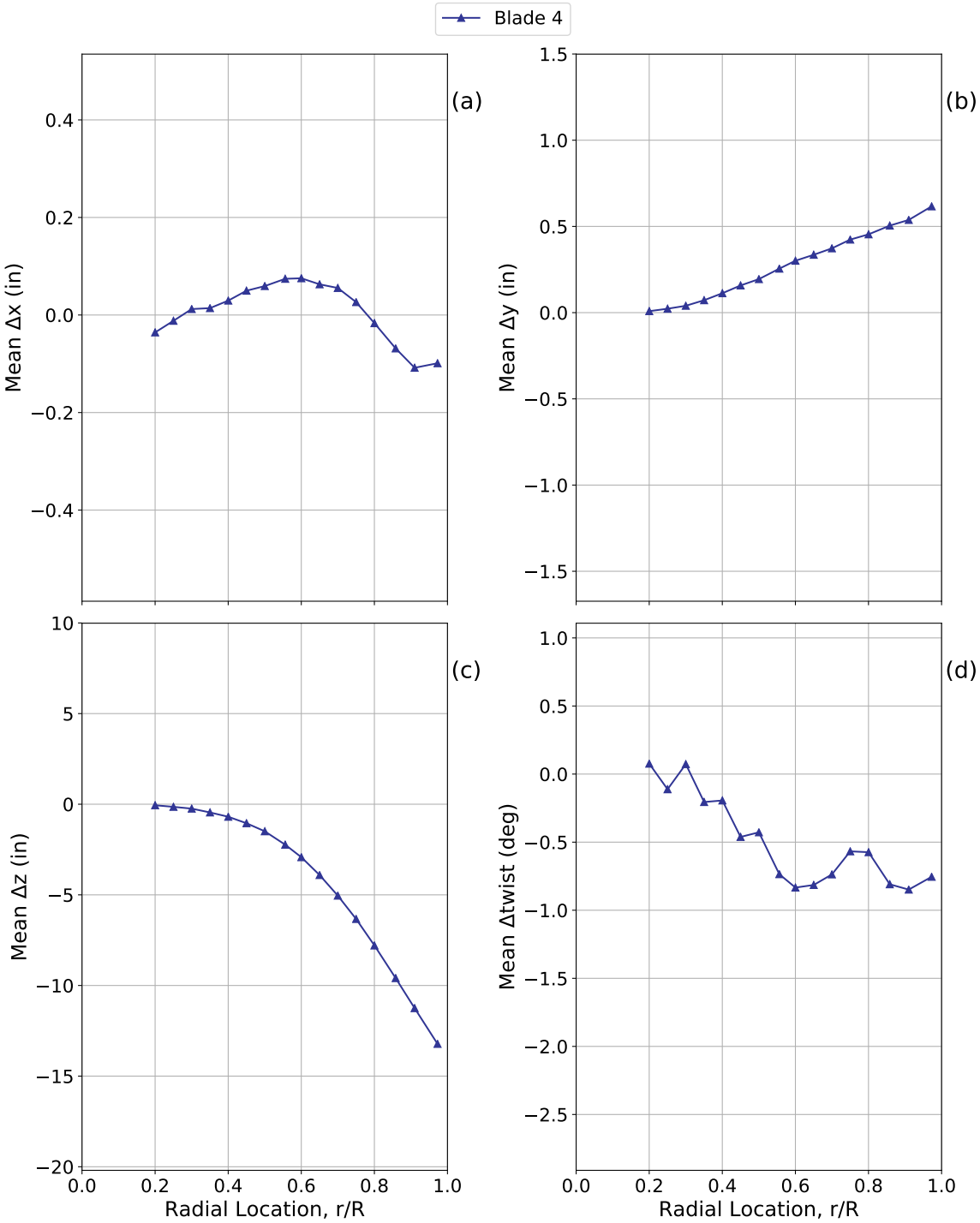


Figure 3.3-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0357	0.0013	0.0086	0.0011	-0.0577	0.0056	0.0764	0.0273
4	119.88	0.2502	-0.0119	0.0015	0.0227	0.0025	-0.1448	0.0148	-0.1117	0.0452
4	119.88	0.3001	0.0122	0.0018	0.0398	0.0046	-0.2431	0.0250	0.0730	0.0598
4	119.88	0.3502	0.0141	0.0019	0.0720	0.0081	-0.4540	0.0449	-0.2053	0.0476
4	119.88	0.4002	0.0295	0.0022	0.1126	0.0126	-0.6922	0.0702	-0.1939	0.0509
4	119.88	0.4500	0.0498	0.0033	0.1577	0.0175	-1.0491	0.1003	-0.4617	0.0646
4	119.88	0.5001	0.0593	0.0044	0.1944	0.0231	-1.4936	0.1384	-0.4277	0.0725
4	119.88	0.5560	0.0742	0.0058	0.2551	0.0302	-2.2332	0.1876	-0.7353	0.0827
4	119.88	0.6001	0.0753	0.0075	0.3010	0.0364	-2.9234	0.2306	-0.8336	0.0836
4	119.88	0.6501	0.0629	0.0108	0.3356	0.0429	-3.9077	0.2824	-0.8145	0.0866
4	119.88	0.6999	0.0554	0.0147	0.3729	0.0498	-5.0436	0.3421	-0.7369	0.0882
4	119.88	0.7500	0.0264	0.0205	0.4236	0.0565	-6.3311	0.4152	-0.5675	0.0862
4	119.88	0.8002	-0.0168	0.0282	0.4541	0.0626	-7.7942	0.4956	-0.5738	0.0975
4	119.88	0.8582	-0.0685	0.0375	0.5047	0.0694	-9.5940	0.6053	-0.8094	0.0957
4	119.88	0.9101	-0.1082	0.0460	0.5377	0.0749	-11.2511	0.7130	-0.8485	0.1037
4	119.88	0.9728	-0.0989	0.0562	0.6163	0.0802	-13.2224	0.8539	-0.7545	0.1160

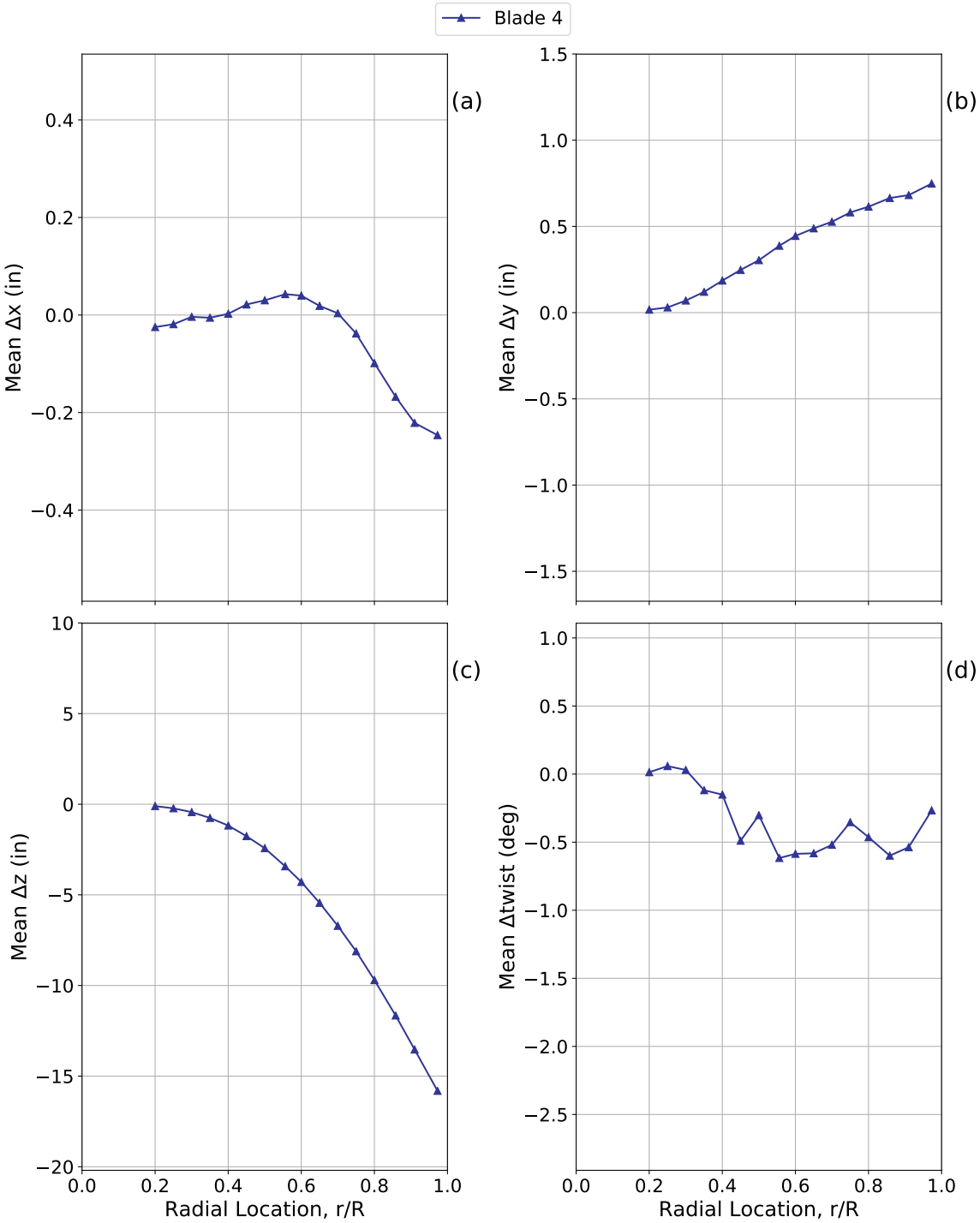


Figure 3.3-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0248	0.0018	0.0171	0.0008	-0.1048	0.0039	0.0137	0.0363
4	135	0.2502	-0.0189	0.0016	0.0301	0.0017	-0.2264	0.0083	0.0585	0.0379
4	135	0.3001	-0.0038	0.0026	0.0700	0.0032	-0.4380	0.0149	0.0301	0.0722
4	135	0.3502	-0.0056	0.0025	0.1205	0.0050	-0.7587	0.0257	-0.1186	0.0578
4	135	0.4002	0.0025	0.0033	0.1859	0.0080	-1.1783	0.0394	-0.1511	0.0555
4	135	0.4500	0.0215	0.0036	0.2476	0.0094	-1.7632	0.0506	-0.4897	0.0522
4	135	0.5001	0.0301	0.0050	0.3041	0.0142	-2.4273	0.0691	-0.3021	0.0549
4	135	0.5560	0.0427	0.0056	0.3877	0.0166	-3.4262	0.0912	-0.6164	0.0671
4	135	0.6001	0.0397	0.0078	0.4447	0.0202	-4.2914	0.1134	-0.5859	0.0781
4	135	0.6501	0.0186	0.0102	0.4887	0.0245	-5.4435	0.1452	-0.5818	0.0634
4	135	0.6999	0.0036	0.0129	0.5271	0.0283	-6.7120	0.1821	-0.5196	0.0702
4	135	0.7500	-0.0380	0.0161	0.5811	0.0340	-8.1129	0.2241	-0.3538	0.0671
4	135	0.8002	-0.0988	0.0212	0.6145	0.0395	-9.7045	0.2732	-0.4638	0.0733
4	135	0.8582	-0.1678	0.0269	0.6647	0.0475	-11.6592	0.3348	-0.5993	0.0843
4	135	0.9101	-0.2213	0.0334	0.6816	0.0542	-13.5350	0.3951	-0.5372	0.0945
4	135	0.9728	-0.2464	0.0420	0.7484	0.0631	-15.8144	0.4737	-0.2667	0.1044

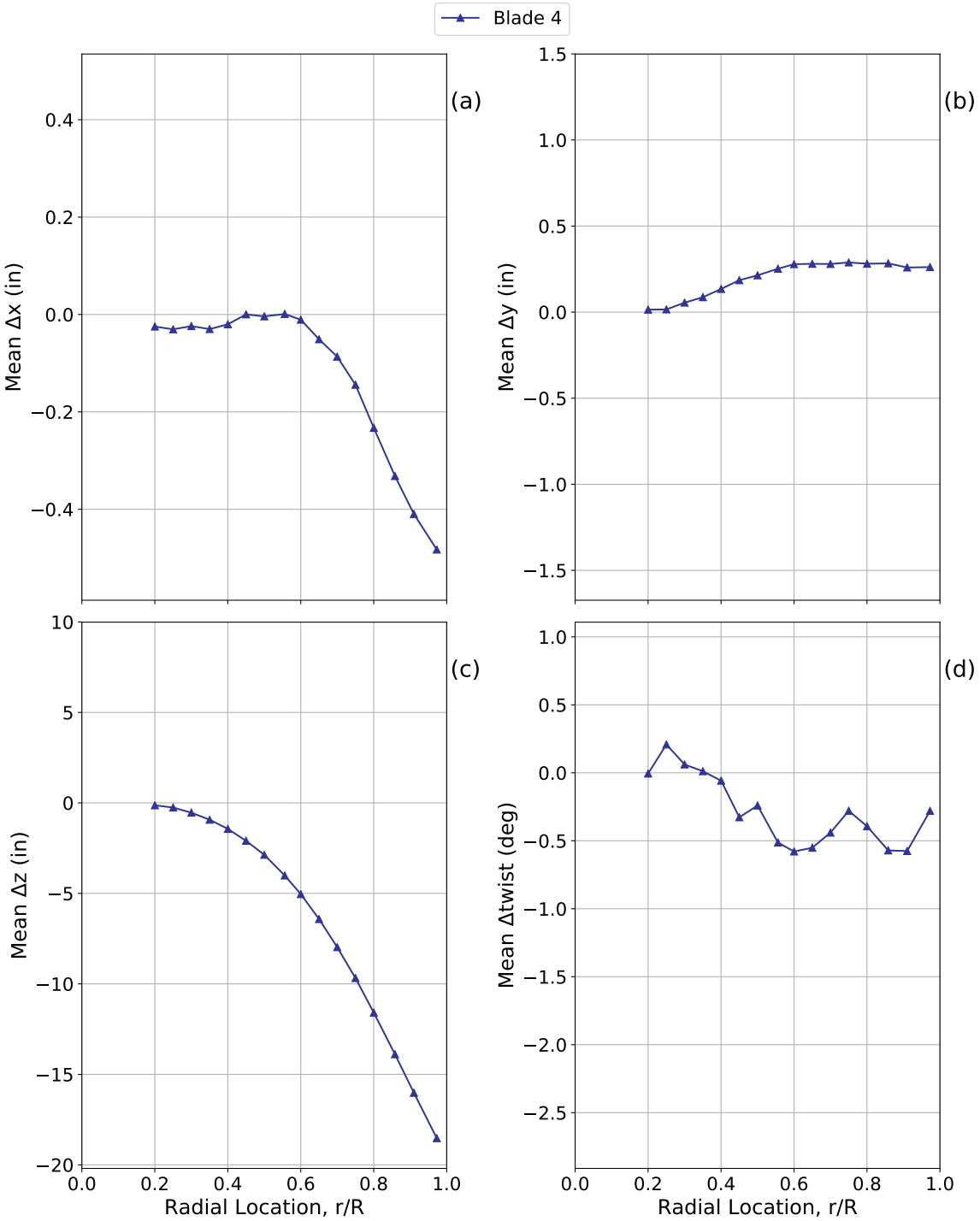


Figure 3.3-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0248	0.0017	0.0143	0.0009	-0.1329	0.0024	-0.0055	0.0193
4	150.12	0.2502	-0.0305	0.0014	0.0156	0.0041	-0.2580	0.0072	0.2084	0.0487
4	150.12	0.3001	-0.0239	0.0013	0.0551	0.0036	-0.5411	0.0124	0.0612	0.0478
4	150.12	0.3502	-0.0300	0.0019	0.0866	0.0070	-0.9303	0.0184	0.0115	0.0482
4	150.12	0.4002	-0.0201	0.0026	0.1345	0.0119	-1.4372	0.0316	-0.0580	0.0497
4	150.12	0.4500	0.0002	0.0031	0.1855	0.0161	-2.0955	0.0468	-0.3272	0.0539
4	150.12	0.5001	-0.0039	0.0048	0.2137	0.0208	-2.8686	0.0705	-0.2408	0.0486
4	150.12	0.5560	0.0010	0.0070	0.2521	0.0260	-4.0119	0.1051	-0.5132	0.0799
4	150.12	0.6001	-0.0108	0.0085	0.2786	0.0301	-5.0412	0.1348	-0.5789	0.0667
4	150.12	0.6501	-0.0509	0.0119	0.2805	0.0350	-6.4192	0.1739	-0.5512	0.0648
4	150.12	0.6999	-0.0867	0.0162	0.2796	0.0398	-7.9718	0.2172	-0.4403	0.0612
4	150.12	0.7500	-0.1444	0.0206	0.2886	0.0461	-9.6825	0.2599	-0.2795	0.0731
4	150.12	0.8002	-0.2329	0.0251	0.2812	0.0519	-11.5937	0.3039	-0.3934	0.0767
4	150.12	0.8582	-0.3318	0.0315	0.2832	0.0580	-13.8896	0.3520	-0.5711	0.0729
4	150.12	0.9101	-0.4098	0.0369	0.2593	0.0638	-16.0187	0.3979	-0.5756	0.0733
4	150.12	0.9728	-0.4828	0.0418	0.2614	0.0714	-18.5287	0.4556	-0.2802	0.0695

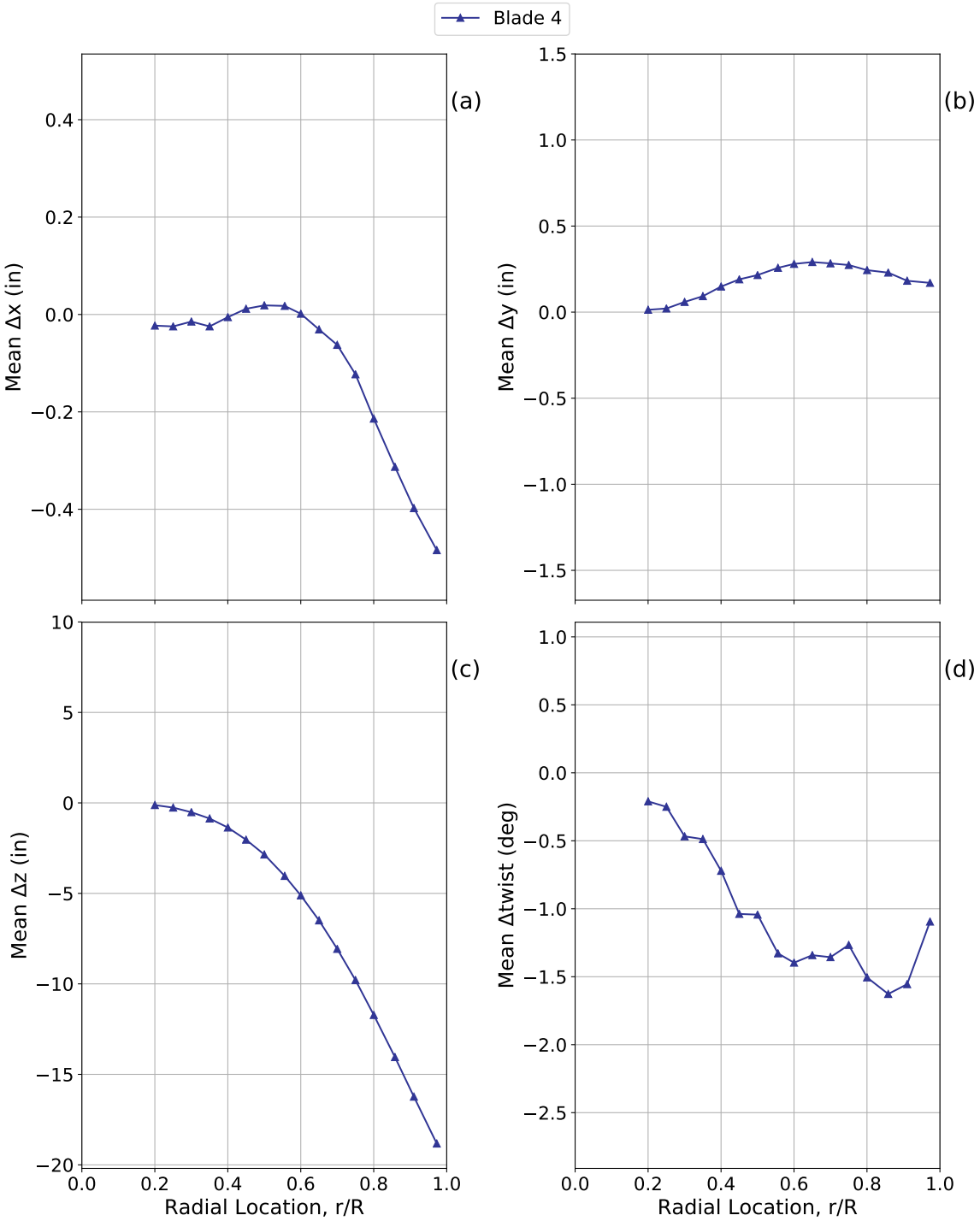


Figure 3.3-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0229	0.0018	0.0136	0.0011	-0.1201	0.0024	-0.2103	0.0328
4	164.88	0.2502	-0.0245	0.0015	0.0210	0.0032	-0.2606	0.0051	-0.2502	0.0392
4	164.88	0.3001	-0.0146	0.0011	0.0591	0.0049	-0.5150	0.0120	-0.4675	0.0682
4	164.88	0.3502	-0.0245	0.0016	0.0926	0.0094	-0.8639	0.0144	-0.4878	0.0426
4	164.88	0.4002	-0.0055	0.0019	0.1485	0.0146	-1.3619	0.0262	-0.7214	0.0625
4	164.88	0.4500	0.0117	0.0025	0.1904	0.0172	-2.0344	0.0339	-1.0382	0.0503
4	164.88	0.5001	0.0187	0.0028	0.2153	0.0218	-2.8529	0.0461	-1.0434	0.0366
4	164.88	0.5560	0.0176	0.0033	0.2572	0.0261	-4.0363	0.0601	-1.3285	0.0509
4	164.88	0.6001	0.0015	0.0039	0.2801	0.0307	-5.1127	0.0673	-1.3968	0.0455
4	164.88	0.6501	-0.0308	0.0047	0.2908	0.0345	-6.4944	0.0757	-1.3416	0.0633
4	164.88	0.6999	-0.0625	0.0040	0.2831	0.0390	-8.0677	0.0792	-1.3563	0.0479
4	164.88	0.7500	-0.1229	0.0050	0.2736	0.0436	-9.7935	0.0829	-1.2665	0.0549
4	164.88	0.8002	-0.2139	0.0064	0.2439	0.0477	-11.7213	0.0890	-1.5053	0.0531
4	164.88	0.8582	-0.3129	0.0071	0.2294	0.0530	-14.0481	0.0900	-1.6271	0.0488
4	164.88	0.9101	-0.3977	0.0084	0.1821	0.0577	-16.2344	0.0945	-1.5551	0.0427
4	164.88	0.9728	-0.4840	0.0112	0.1699	0.0639	-18.8251	0.1029	-1.0947	0.0395

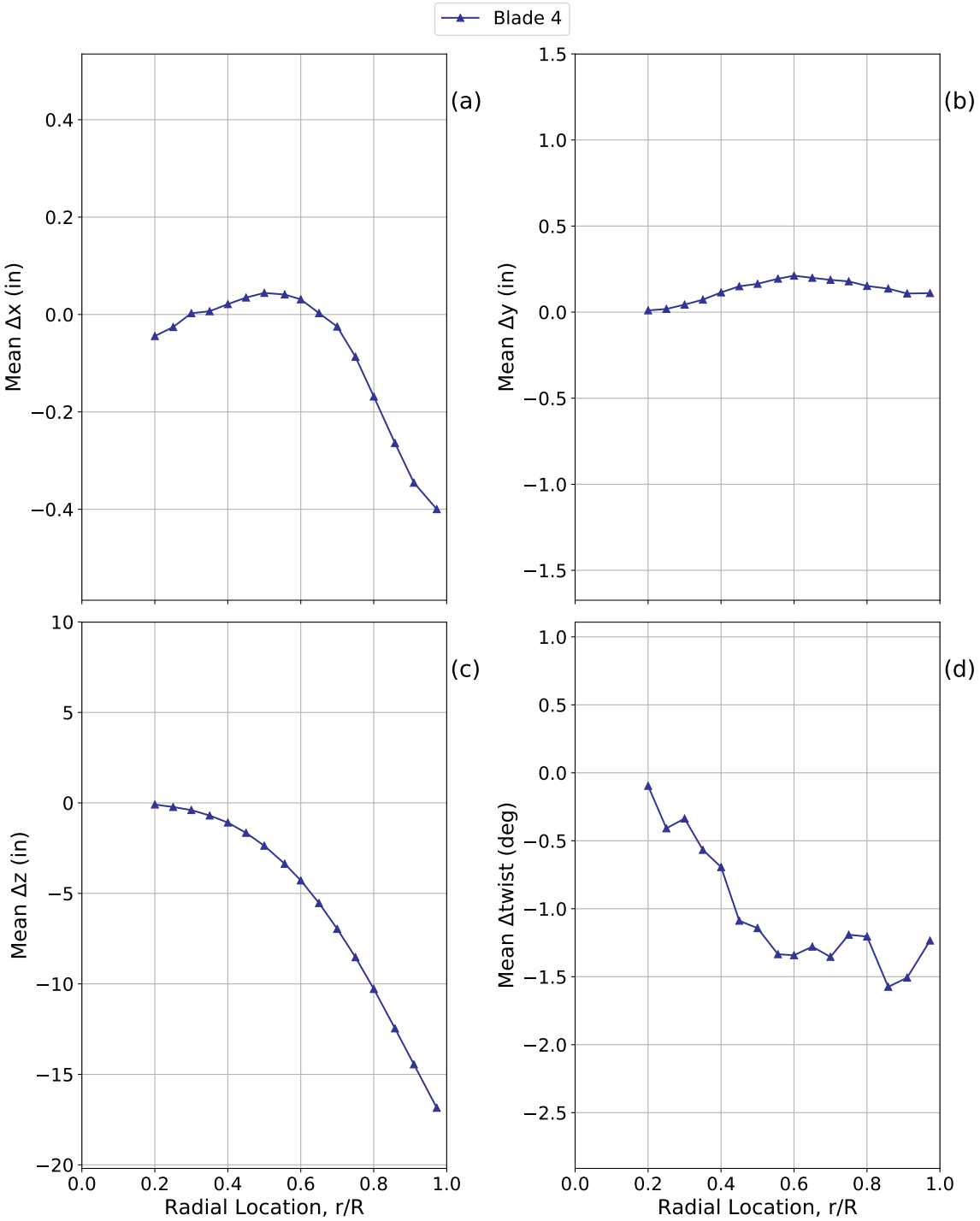


Figure 3.3-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0444	0.0035	0.0100	0.0017	-0.0912	0.0041	-0.0959	0.0394
4	170.16	0.2502	-0.0258	0.0028	0.0183	0.0047	-0.2266	0.0061	-0.4085	0.1124
4	170.16	0.3001	0.0026	0.0025	0.0436	0.0049	-0.3958	0.0125	-0.3364	0.0829
4	170.16	0.3502	0.0066	0.0020	0.0724	0.0080	-0.6966	0.0215	-0.5672	0.0877
4	170.16	0.4002	0.0212	0.0029	0.1144	0.0132	-1.0874	0.0302	-0.6938	0.1151
4	170.16	0.4500	0.0347	0.0033	0.1501	0.0165	-1.6561	0.0366	-1.0885	0.0929
4	170.16	0.5001	0.0443	0.0045	0.1643	0.0220	-2.3682	0.0579	-1.1428	0.2774
4	170.16	0.5560	0.0410	0.0034	0.1941	0.0251	-3.3654	0.0603	-1.3348	0.1060
4	170.16	0.6001	0.0310	0.0034	0.2114	0.0318	-4.2843	0.0684	-1.3420	0.1009
4	170.16	0.6501	0.0027	0.0047	0.1992	0.0368	-5.5376	0.0817	-1.2789	0.1160
4	170.16	0.6999	-0.0250	0.0057	0.1874	0.0431	-6.9630	0.0884	-1.3542	0.0975
4	170.16	0.7500	-0.0870	0.0053	0.1786	0.0482	-8.5307	0.0884	-1.1912	0.1025
4	170.16	0.8002	-0.1685	0.0048	0.1520	0.0549	-10.2817	0.0897	-1.2045	0.1222
4	170.16	0.8582	-0.2641	0.0066	0.1366	0.0625	-12.4595	0.0943	-1.5745	0.1314
4	170.16	0.9101	-0.3455	0.0079	0.1080	0.0690	-14.4482	0.1052	-1.5071	0.0923
4	170.16	0.9728	-0.3998	0.0105	0.1104	0.0789	-16.8495	0.1192	-1.2343	0.1117

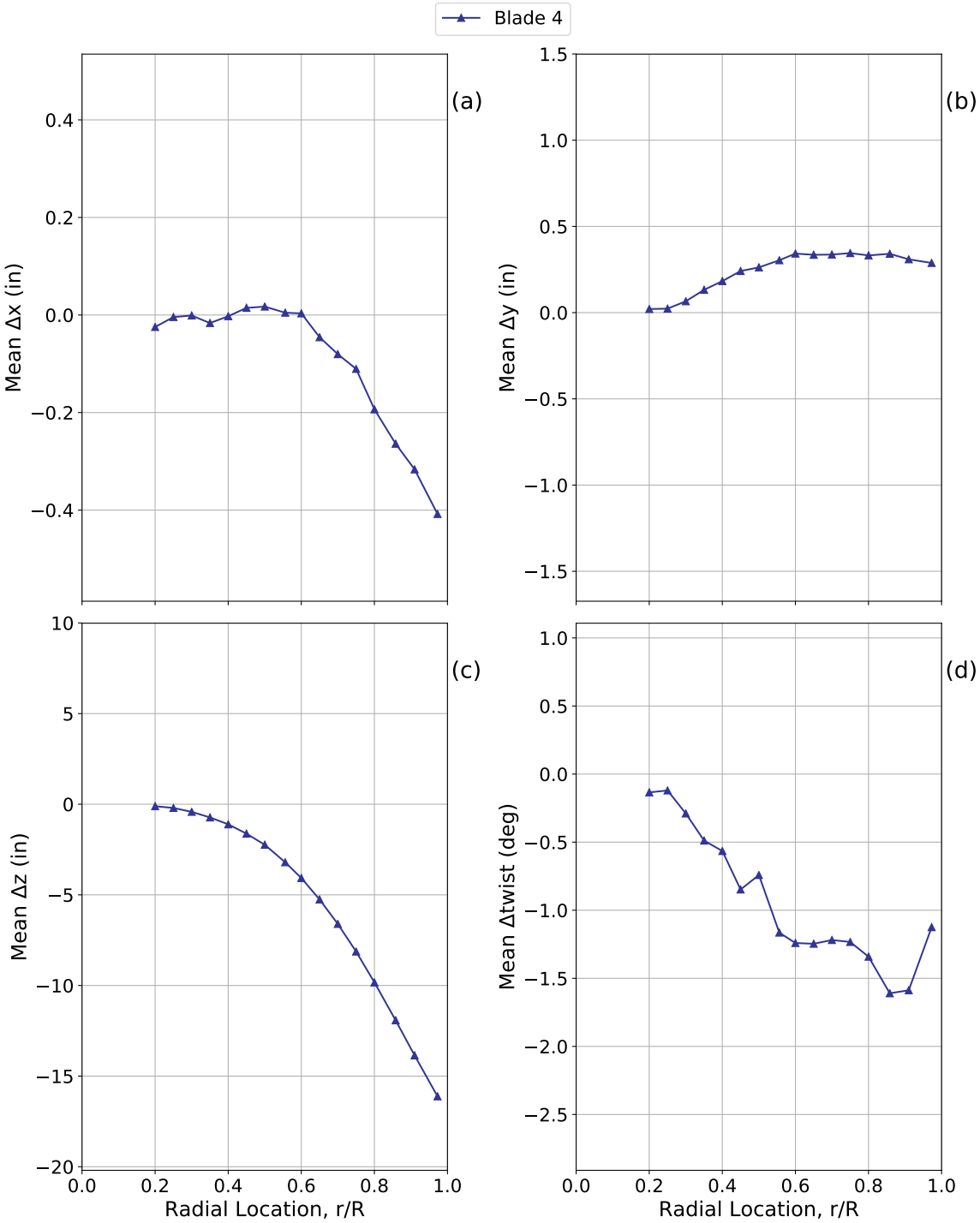


Figure 3.3-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0246	0.0016	0.0211	0.0019	-0.1110	0.0042	-0.1345	0.0382
4	175.08	0.2502	-0.0042	0.0023	0.0231	0.0038	-0.2069	0.0076	-0.1204	0.0571
4	175.08	0.3001	-0.0011	0.0015	0.0659	0.0059	-0.4209	0.0116	-0.2895	0.0763
4	175.08	0.3502	-0.0165	0.0018	0.1324	0.0094	-0.7302	0.0209	-0.4887	0.0649
4	175.08	0.4002	-0.0025	0.0023	0.1828	0.0148	-1.1094	0.0298	-0.5653	0.0717
4	175.08	0.4500	0.0146	0.0022	0.2413	0.0175	-1.6247	0.0393	-0.8478	0.0736
4	175.08	0.5001	0.0172	0.0027	0.2624	0.0218	-2.2370	0.0501	-0.7413	0.0629
4	175.08	0.5560	0.0047	0.0028	0.3039	0.0258	-3.2031	0.0597	-1.1645	0.0718
4	175.08	0.6001	0.0033	0.0029	0.3425	0.0309	-4.0731	0.0687	-1.2408	0.0682
4	175.08	0.6501	-0.0456	0.0052	0.3354	0.0346	-5.2556	0.0787	-1.2462	0.0746
4	175.08	0.6999	-0.0803	0.0060	0.3368	0.0396	-6.6045	0.0896	-1.2188	0.0644
4	175.08	0.7500	-0.1105	0.0077	0.3451	0.0486	-8.1297	0.1056	-1.2332	0.0734
4	175.08	0.8002	-0.1935	0.0114	0.3319	0.0544	-9.8338	0.1198	-1.3413	0.0867
4	175.08	0.8582	-0.2640	0.0159	0.3412	0.0577	-11.9239	0.1391	-1.6099	0.0818
4	175.08	0.9101	-0.3166	0.0252	0.3093	0.0693	-13.8580	0.1634	-1.5879	0.1392
4	175.08	0.9728	-0.4080	0.0214	0.2881	0.0737	-16.1181	0.1808	-1.1245	0.1000

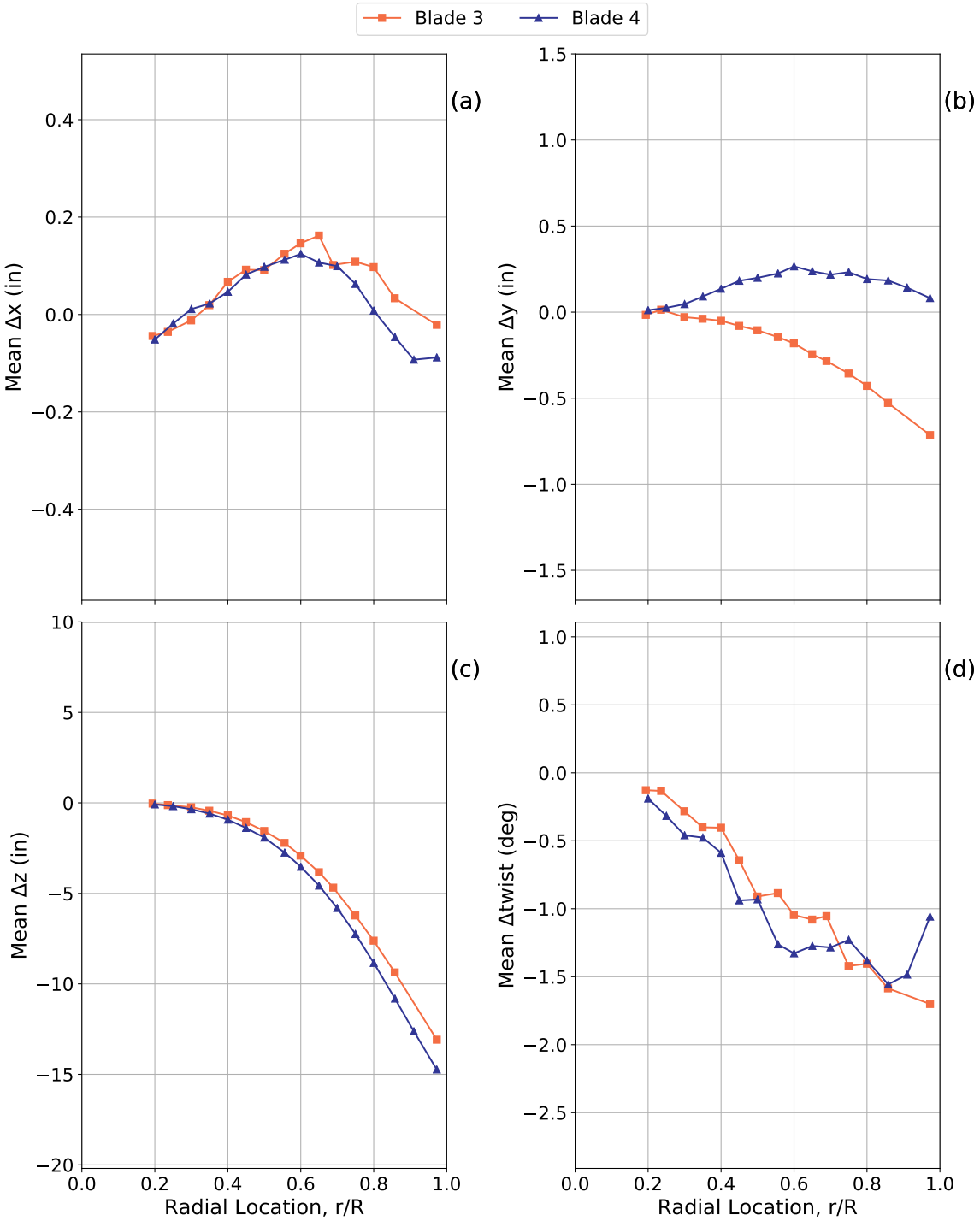


Figure 3.3-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -0° NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0442	0.0016	-0.0159	0.0014	-0.0387	0.0030	-0.1280	0.0258
3	180.35	0.2357	-0.0358	0.0010	0.0141	0.0018	-0.1233	0.0031	-0.1333	0.0463
3	180.35	0.2995	-0.0122	0.0026	-0.0291	0.0046	-0.2410	0.0090	-0.2828	0.0630
3	180.35	0.3493	0.0192	0.0008	-0.0386	0.0100	-0.4334	0.0160	-0.4006	0.0474
3	180.35	0.4000	0.0670	0.0020	-0.0500	0.0127	-0.6942	0.0233	-0.4039	0.0568
3	180.35	0.4497	0.0919	0.0018	-0.0802	0.0159	-1.0605	0.0319	-0.6436	0.0608
3	180.35	0.4997	0.0910	0.0020	-0.1054	0.0181	-1.5514	0.0420	-0.9098	0.0660
3	180.35	0.5556	0.1248	0.0023	-0.1447	0.0241	-2.2105	0.0563	-0.8847	0.0702
3	180.35	0.5995	0.1462	0.0030	-0.1814	0.0248	-2.9148	0.0689	-1.0459	0.0700
3	180.35	0.6498	0.1621	0.0040	-0.2444	0.0274	-3.8303	0.0856	-1.0797	0.0543
3	180.35	0.6890	0.1016	0.0049	-0.2836	0.0328	-4.6822	0.1002	-1.0543	0.0718
3	180.35	0.7495	0.1084	0.0060	-0.3564	0.0382	-6.2219	0.1221	-1.4214	0.0880
3	180.35	0.7998	0.0972	0.0085	-0.4289	0.0418	-7.6126	0.1400	-1.4047	0.0814
3	180.35	0.8577	0.0334	0.0126	-0.5276	0.0507	-9.3663	0.1699	-1.5859	0.1017
3	180.35	0.9729	-0.0214	0.0166	-0.7141	0.0612	-13.0857	0.2289	-1.7005	0.1590
4	180	0.2001	-0.0515	0.0011	0.0114	0.0009	-0.0865	0.0039	-0.1898	0.0341
4	180	0.2502	-0.0188	0.0007	0.0250	0.0018	-0.1819	0.0089	-0.3172	0.0410
4	180	0.3001	0.0111	0.0015	0.0466	0.0052	-0.3529	0.0161	-0.4597	0.0706
4	180	0.3502	0.0226	0.0017	0.0911	0.0052	-0.5941	0.0279	-0.4769	0.0572
4	180	0.4002	0.0465	0.0026	0.1358	0.0106	-0.9269	0.0434	-0.5891	0.0671
4	180	0.4500	0.0819	0.0028	0.1820	0.0121	-1.3850	0.0616	-0.9387	0.0676
4	180	0.5001	0.0978	0.0029	0.1991	0.0160	-1.9164	0.0808	-0.9314	0.0506
4	180	0.5560	0.1123	0.0036	0.2244	0.0186	-2.7503	0.1037	-1.2615	0.0500
4	180	0.6001	0.1243	0.0049	0.2655	0.0234	-3.5306	0.1259	-1.3278	0.0576
4	180	0.6501	0.1066	0.0061	0.2370	0.0261	-4.5711	0.1477	-1.2732	0.0887
4	180	0.6999	0.0991	0.0086	0.2172	0.0290	-5.8105	0.1678	-1.2846	0.0644
4	180	0.7500	0.0627	0.0095	0.2323	0.0323	-7.2463	0.1929	-1.2289	0.0604
4	180	0.8002	0.0079	0.0118	0.1919	0.0373	-8.8441	0.2171	-1.3818	0.0874
4	180	0.8582	-0.0465	0.0164	0.1836	0.0432	-10.8134	0.2473	-1.5561	0.1196
4	180	0.9101	-0.0928	0.0189	0.1420	0.0513	-12.6274	0.2763	-1.4847	0.1331
4	180	0.9728	-0.0882	0.0210	0.0817	0.0542	-14.7322	0.3034	-1.0581	0.1148

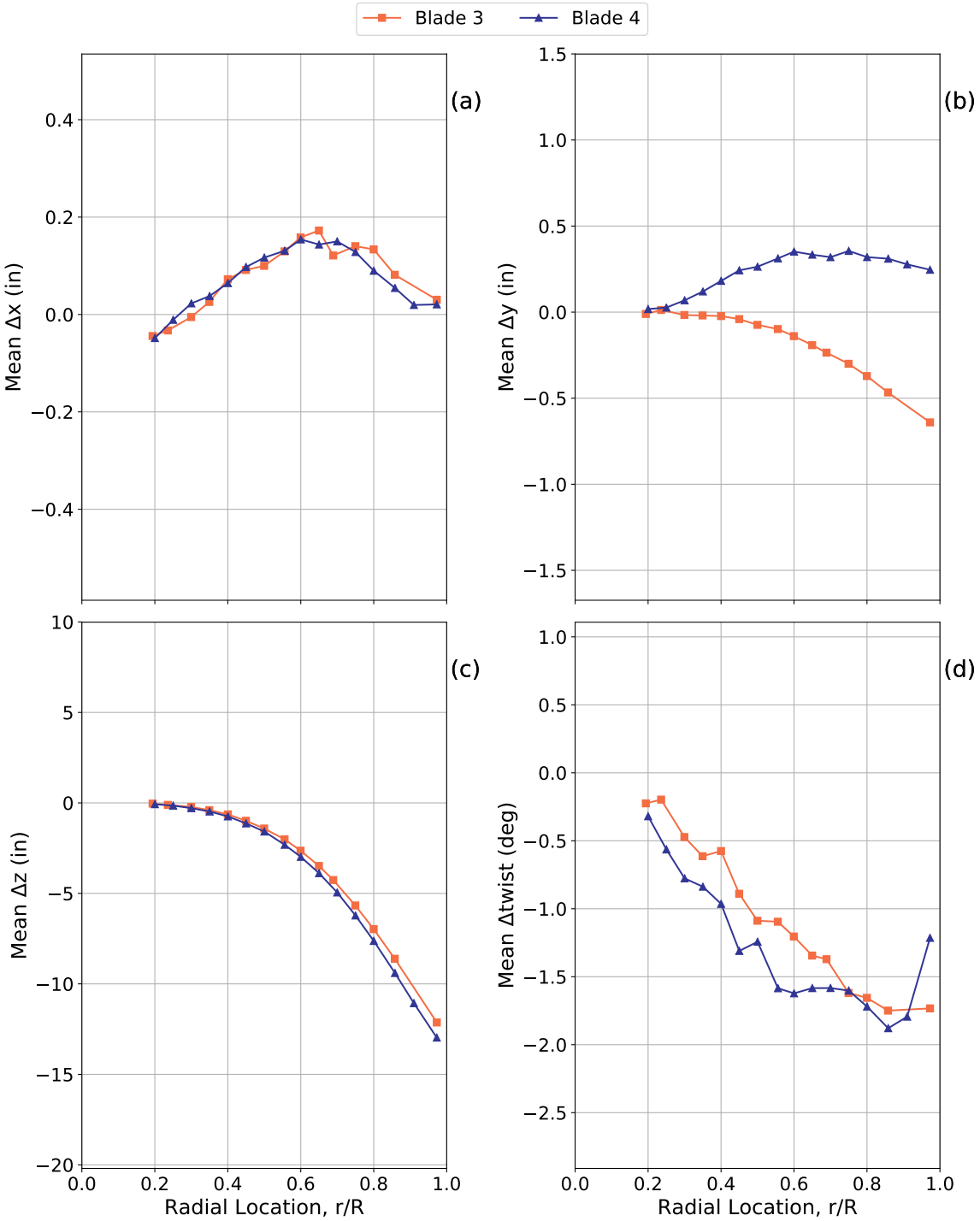


Figure 3.3-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -0° NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0442	0.0015	-0.0107	0.0017	-0.0388	0.0037	-0.2248	0.0273
3	184.92	0.2357	-0.0328	0.0014	0.0125	0.0020	-0.1090	0.0057	-0.1972	0.0496
3	184.92	0.2995	-0.0053	0.0010	-0.0168	0.0050	-0.2229	0.0119	-0.4725	0.0671
3	184.92	0.3493	0.0258	0.0011	-0.0194	0.0092	-0.3990	0.0213	-0.6133	0.0641
3	184.92	0.4000	0.0725	0.0015	-0.0230	0.0134	-0.6346	0.0313	-0.5755	0.0570
3	184.92	0.4497	0.0915	0.0021	-0.0404	0.0172	-0.9866	0.0409	-0.8896	0.0762
3	184.92	0.4997	0.0999	0.0017	-0.0739	0.0191	-1.4151	0.0542	-1.0883	0.0747
3	184.92	0.5556	0.1296	0.0018	-0.0985	0.0259	-2.0134	0.0671	-1.0953	0.0825
3	184.92	0.5995	0.1583	0.0026	-0.1394	0.0303	-2.6377	0.0778	-1.2045	0.0748
3	184.92	0.6498	0.1724	0.0035	-0.1918	0.0353	-3.4839	0.0886	-1.3443	0.0946
3	184.92	0.6890	0.1212	0.0044	-0.2353	0.0423	-4.2604	0.0989	-1.3711	0.0994
3	184.92	0.7495	0.1403	0.0071	-0.3001	0.0485	-5.6674	0.1195	-1.6192	0.0950
3	184.92	0.7998	0.1337	0.0099	-0.3714	0.0548	-6.9736	0.1392	-1.6555	0.1139
3	184.92	0.8577	0.0815	0.0127	-0.4668	0.0645	-8.6129	0.1719	-1.7493	0.0813
3	184.92	0.9729	0.0303	0.0206	-0.6405	0.0897	-12.1318	0.2491	-1.7330	0.1346
4	184.92	0.2001	-0.0485	0.0011	0.0177	0.0018	-0.0733	0.0028	-0.3197	0.0355
4	184.92	0.2502	-0.0110	0.0013	0.0265	0.0021	-0.1509	0.0054	-0.5638	0.0570
4	184.92	0.3001	0.0228	0.0023	0.0686	0.0067	-0.2914	0.0098	-0.7765	0.0778
4	184.92	0.3502	0.0379	0.0018	0.1200	0.0102	-0.4765	0.0173	-0.8378	0.0708
4	184.92	0.4002	0.0644	0.0023	0.1814	0.0159	-0.7469	0.0261	-0.9643	0.0680
4	184.92	0.4500	0.0975	0.0035	0.2427	0.0203	-1.1340	0.0376	-1.3104	0.0773
4	184.92	0.5001	0.1168	0.0025	0.2639	0.0250	-1.5820	0.0485	-1.2429	0.0829
4	184.92	0.5560	0.1309	0.0049	0.3121	0.0244	-2.3155	0.0608	-1.5850	0.0790
4	184.92	0.6001	0.1541	0.0030	0.3516	0.0290	-2.9821	0.0715	-1.6223	0.0799
4	184.92	0.6501	0.1436	0.0037	0.3337	0.0305	-3.8839	0.0879	-1.5839	0.1006
4	184.92	0.6999	0.1501	0.0040	0.3191	0.0333	-4.9497	0.0939	-1.5834	0.0970
4	184.92	0.7500	0.1282	0.0049	0.3554	0.0362	-6.2208	0.1077	-1.6020	0.0958
4	184.92	0.8002	0.0898	0.0061	0.3196	0.0398	-7.6293	0.1229	-1.7196	0.0872
4	184.92	0.8582	0.0544	0.0074	0.3103	0.0417	-9.4016	0.1317	-1.8790	0.1008
4	184.92	0.9101	0.0195	0.0080	0.2774	0.0458	-11.0691	0.1468	-1.7939	0.1150
4	184.92	0.9728	0.0207	0.0161	0.2459	0.0453	-12.9697	0.1608	-1.2143	0.1466

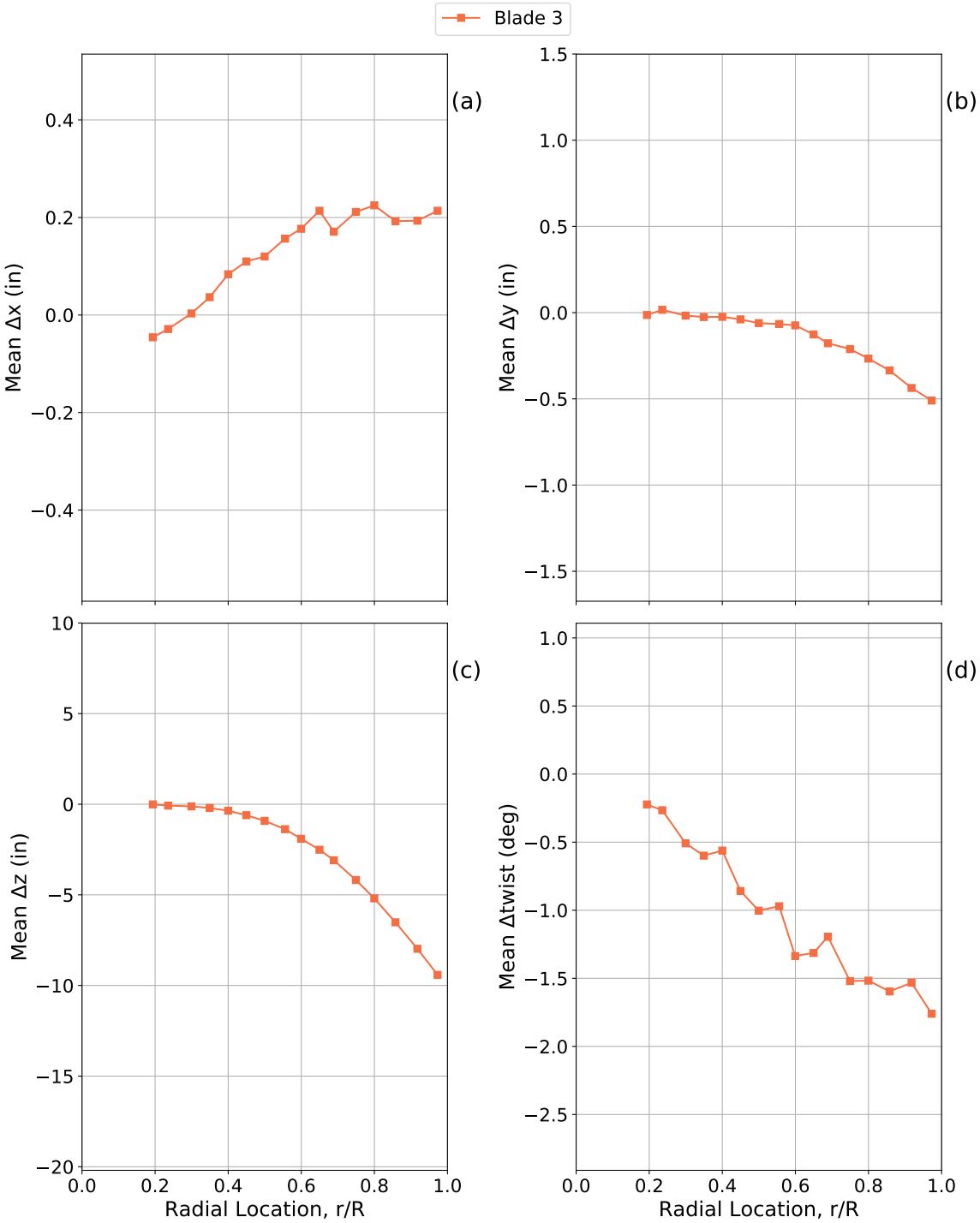


Figure 3.3-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -0° NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0457	0.0012	-0.0136	0.0008	-0.0094	0.0020	-0.2230	0.0241
3	195.12	0.2357	-0.0288	0.0011	0.0165	0.0027	-0.0757	0.0057	-0.2658	0.0205
3	195.12	0.2995	0.0032	0.0014	-0.0172	0.0049	-0.1198	0.0102	-0.5084	0.0477
3	195.12	0.3493	0.0365	0.0009	-0.0253	0.0060	-0.2086	0.0165	-0.5992	0.0551
3	195.12	0.4000	0.0835	0.0013	-0.0244	0.0120	-0.3563	0.0268	-0.5621	0.0333
3	195.12	0.4497	0.1098	0.0020	-0.0391	0.0147	-0.6055	0.0345	-0.8587	0.0342
3	195.12	0.4997	0.1199	0.0021	-0.0607	0.0193	-0.9184	0.0449	-1.0031	0.0248
3	195.12	0.5556	0.1566	0.0024	-0.0660	0.0245	-1.3769	0.0555	-0.9708	0.0359
3	195.12	0.5995	0.1768	0.0046	-0.0739	0.0241	-1.9084	0.0622	-1.3364	0.0559
3	195.12	0.6498	0.2137	0.0037	-0.1263	0.0331	-2.5104	0.0724	-1.3136	0.0658
3	195.12	0.6890	0.1709	0.0046	-0.1776	0.0357	-3.0906	0.0805	-1.1945	0.0393
3	195.12	0.7495	0.2113	0.0043	-0.2111	0.0421	-4.1814	0.0939	-1.5202	0.0502
3	195.12	0.7998	0.2248	0.0051	-0.2664	0.0505	-5.1943	0.1050	-1.5170	0.0382
3	195.12	0.8577	0.1923	0.0067	-0.3350	0.0576	-6.5151	0.1164	-1.5963	0.0655
3	195.12	0.9178	0.1934	0.0074	-0.4368	0.0717	-7.9751	0.1246	-1.5325	0.1074
3	195.12	0.9729	0.2137	0.0120	-0.5097	0.0701	-9.4130	0.1419	-1.7600	0.0895

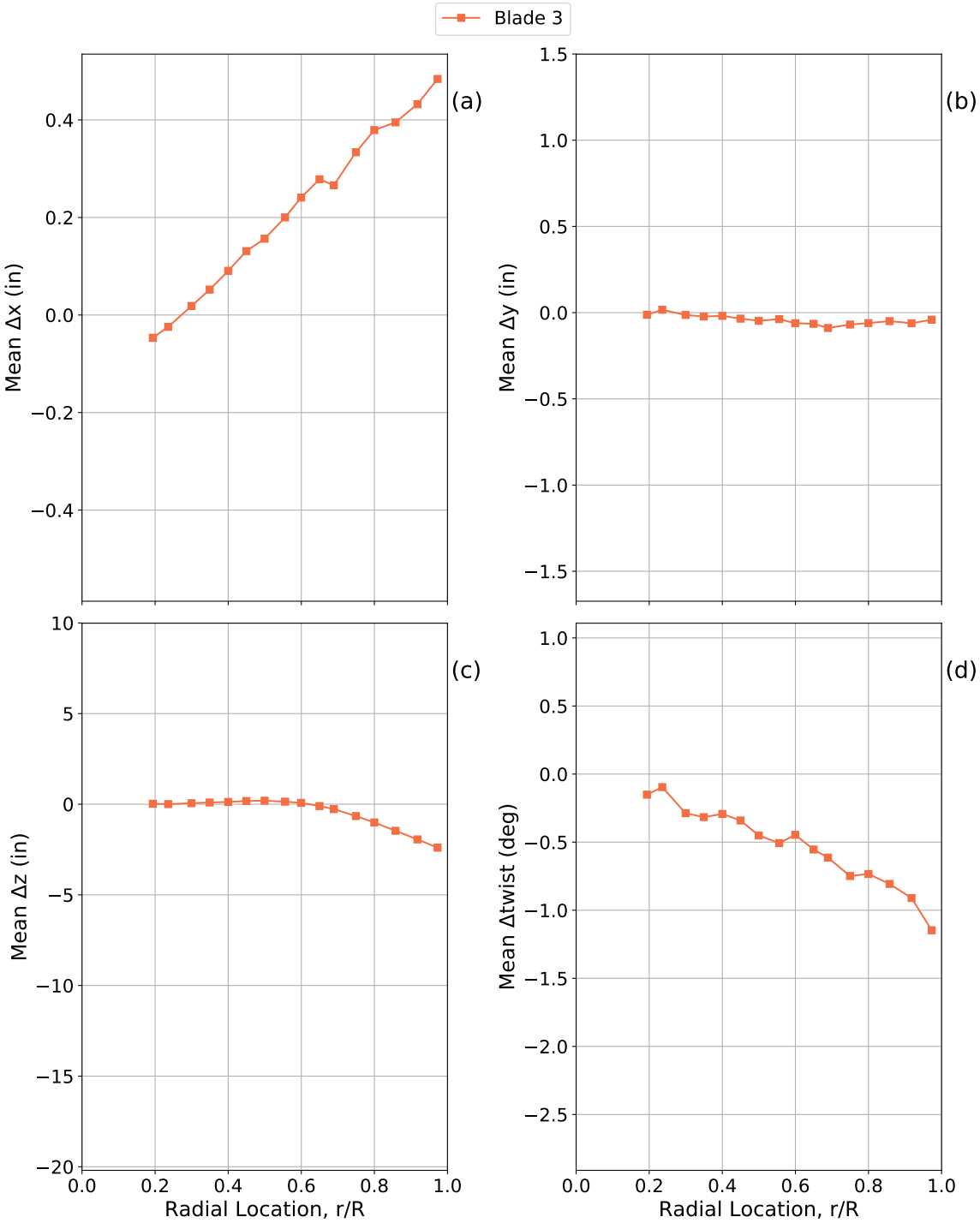


Figure 3.3-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0467	0.0039	-0.0123	0.0020	0.0253	0.0071	-0.1511	0.0400
3	209.88	0.2357	-0.0243	0.0031	0.0167	0.0063	0.0049	0.0139	-0.0958	0.0544
3	209.88	0.2995	0.0184	0.0031	-0.0135	0.0145	0.0564	0.0308	-0.2873	0.0918
3	209.88	0.3493	0.0521	0.0037	-0.0225	0.0223	0.0949	0.0354	-0.3161	0.1532
3	209.88	0.4000	0.0905	0.0052	-0.0188	0.0384	0.1253	0.0659	-0.2928	0.1007
3	209.88	0.4497	0.1310	0.0051	-0.0347	0.0375	0.1773	0.0802	-0.3408	0.0898
3	209.88	0.4997	0.1564	0.0060	-0.0473	0.0472	0.1938	0.0948	-0.4507	0.1104
3	209.88	0.5556	0.2001	0.0049	-0.0374	0.0518	0.1407	0.1187	-0.5072	0.0997
3	209.88	0.5995	0.2408	0.0056	-0.0614	0.0595	0.0742	0.1396	-0.4462	0.1042
3	209.88	0.6498	0.2782	0.0068	-0.0647	0.0703	-0.1018	0.1765	-0.5541	0.1118
3	209.88	0.6890	0.2659	0.0073	-0.0890	0.0770	-0.2700	0.2056	-0.6136	0.1032
3	209.88	0.7495	0.3337	0.0092	-0.0691	0.0891	-0.6538	0.2636	-0.7486	0.0959
3	209.88	0.7998	0.3791	0.0101	-0.0607	0.0998	-1.0062	0.3180	-0.7338	0.1010
3	209.88	0.8577	0.3949	0.0132	-0.0491	0.1102	-1.4665	0.3876	-0.8067	0.1040
3	209.88	0.9178	0.4322	0.0134	-0.0614	0.1241	-1.9409	0.4647	-0.9103	0.0876
3	209.88	0.9729	0.4839	0.0169	-0.0411	0.1367	-2.3944	0.5445	-1.1472	0.0894

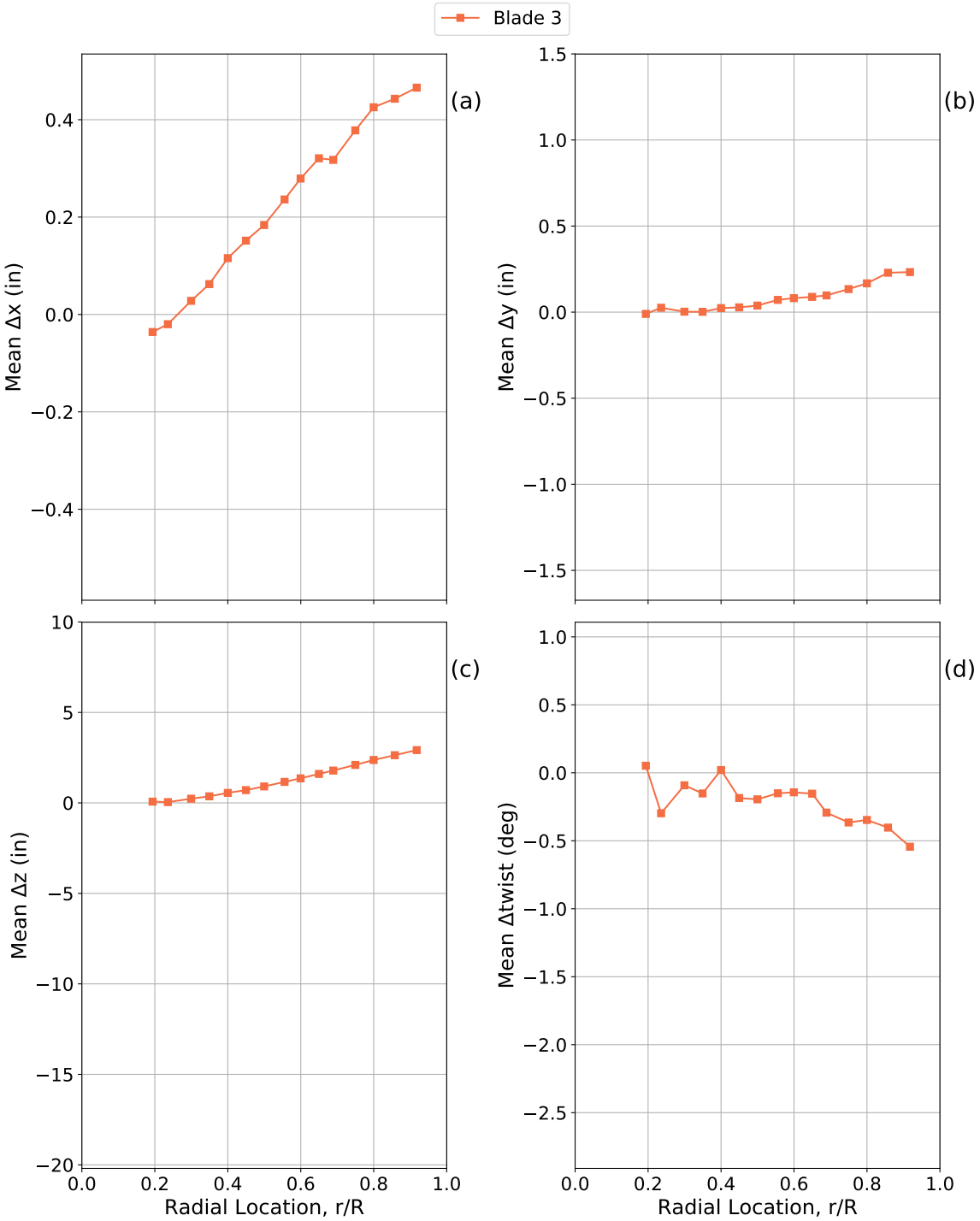


Figure 3.3-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -0° NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0360	0.0027	-0.0102	0.0064	0.0706	0.0099	0.0520	0.0689
3	225	0.2357	-0.0199	0.0031	0.0255	0.0099	0.0436	0.0190	-0.2974	0.0728
3	225	0.2995	0.0280	0.0024	0.0025	0.0079	0.2320	0.0207	-0.0919	0.1275
3	225	0.3493	0.0624	0.0025	0.0018	0.0102	0.3639	0.0330	-0.1519	0.0876
3	225	0.4000	0.1157	0.0032	0.0234	0.0126	0.5530	0.0535	0.0205	0.0810
3	225	0.4497	0.1516	0.0025	0.0276	0.0139	0.7076	0.0664	-0.1857	0.0845
3	225	0.4997	0.1838	0.0027	0.0380	0.0159	0.9101	0.0878	-0.1952	0.0890
3	225	0.5556	0.2362	0.0027	0.0711	0.0191	1.1612	0.1086	-0.1506	0.0971
3	225	0.5995	0.2791	0.0037	0.0812	0.0222	1.3577	0.1287	-0.1437	0.0985
3	225	0.6498	0.3208	0.0032	0.0886	0.0255	1.6016	0.1508	-0.1535	0.0927
3	225	0.6890	0.3175	0.0026	0.0971	0.0303	1.7873	0.1710	-0.2928	0.0852
3	225	0.7495	0.3781	0.0031	0.1339	0.0339	2.1000	0.2065	-0.3656	0.1007
3	225	0.7998	0.4255	0.0032	0.1672	0.0398	2.3701	0.2438	-0.3470	0.1058
3	225	0.8577	0.4430	0.0037	0.2288	0.0453	2.6353	0.2869	-0.4031	0.0964
3	225	0.9178	0.4658	0.0053	0.2327	0.0516	2.9191	0.3375	-0.5438	0.1037

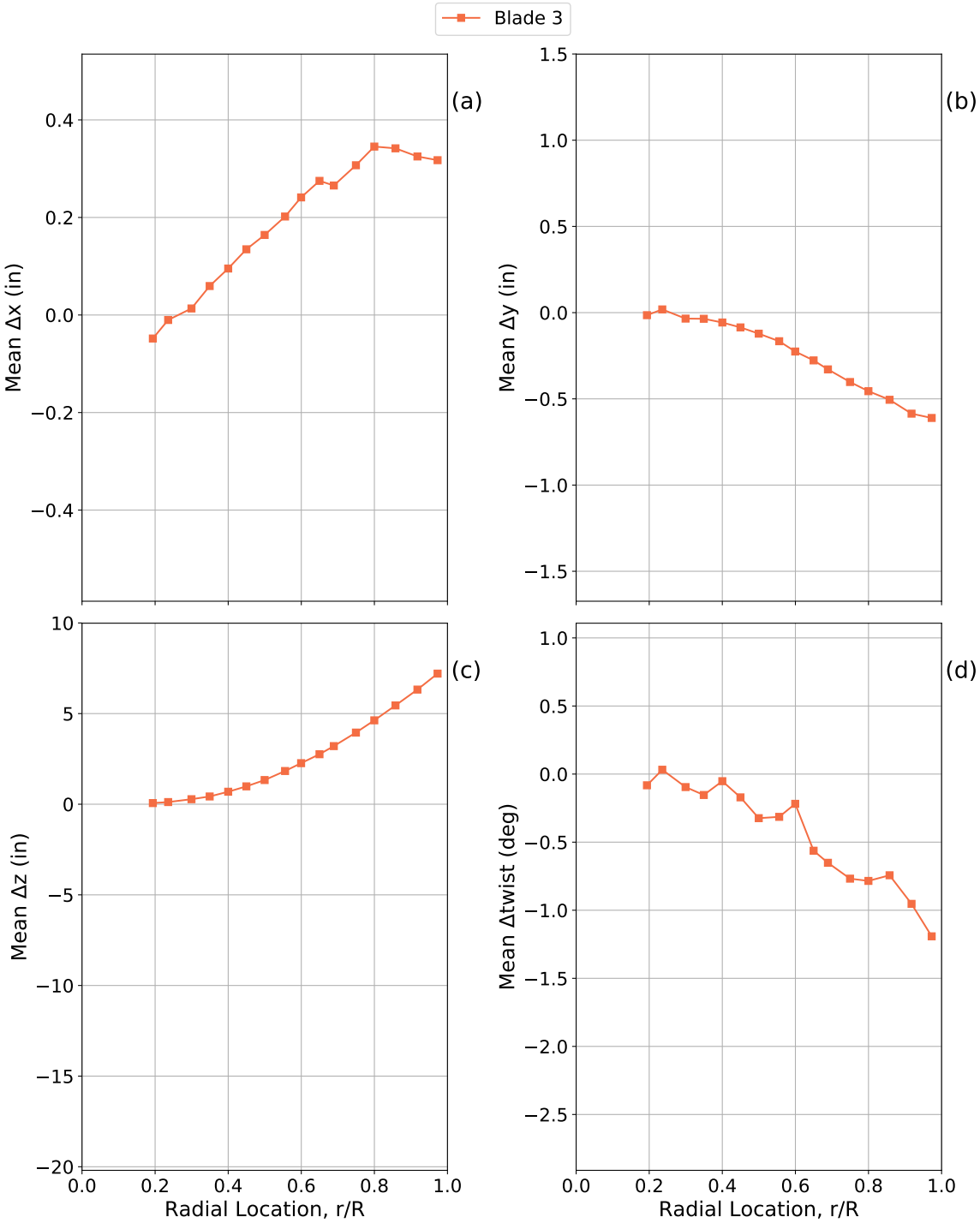


Figure 3.3-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0482	0.0121	-0.0147	0.0066	0.0632	0.0248	-0.0824	0.0342
3	240.12	0.2357	-0.0102	0.0039	0.0187	0.0057	0.1185	0.0146	0.0319	0.1885
3	240.12	0.2995	0.0134	0.0018	-0.0346	0.0273	0.2768	0.0593	-0.0955	0.0847
3	240.12	0.3493	0.0594	0.0028	-0.0356	0.0458	0.4274	0.0816	-0.1536	0.0983
3	240.12	0.4000	0.0953	0.0077	-0.0572	0.0715	0.6891	0.1161	-0.0521	0.0873
3	240.12	0.4497	0.1347	0.0086	-0.0856	0.0918	0.9848	0.1452	-0.1710	0.0902
3	240.12	0.4997	0.1641	0.0106	-0.1219	0.1150	1.3334	0.1897	-0.3238	0.0683
3	240.12	0.5556	0.2019	0.0110	-0.1658	0.1377	1.8323	0.2186	-0.3142	0.1000
3	240.12	0.5995	0.2411	0.0112	-0.2255	0.1561	2.2651	0.2509	-0.2185	0.1052
3	240.12	0.6498	0.2750	0.0122	-0.2770	0.1776	2.7578	0.2885	-0.5629	0.1148
3	240.12	0.6890	0.2655	0.0152	-0.3291	0.1958	3.2061	0.3155	-0.6516	0.1206
3	240.12	0.7495	0.3070	0.0175	-0.4023	0.2251	3.9519	0.3557	-0.7681	0.1179
3	240.12	0.7998	0.3453	0.0165	-0.4555	0.2476	4.6275	0.3900	-0.7846	0.0998
3	240.12	0.8577	0.3417	0.0188	-0.5054	0.2732	5.4507	0.4132	-0.7432	0.1136
3	240.12	0.9178	0.3250	0.0208	-0.5858	0.2996	6.3247	0.4402	-0.9532	0.1200
3	240.12	0.9729	0.3174	0.0291	-0.6108	0.3251	7.2056	0.4617	-1.1916	0.1286

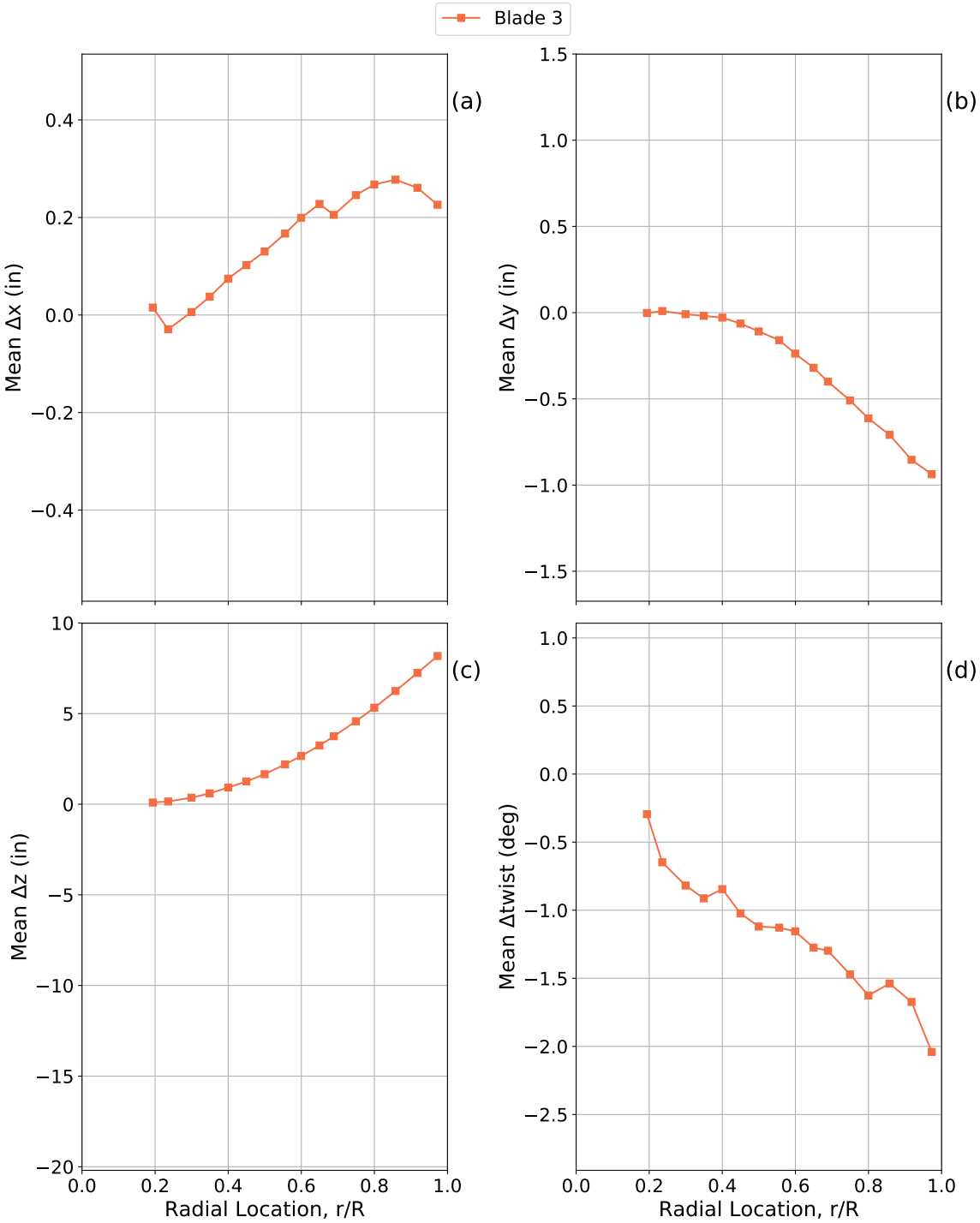


Figure 3.3-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	0.0152	0.0059	-0.0019	0.0020	0.0943	0.0138	-0.2942	0.1334
3	254.88	0.2357	-0.0294	0.0043	0.0093	0.0018	0.1518	0.0128	-0.6481	0.2410
3	254.88	0.2995	0.0060	0.0022	-0.0089	0.0056	0.3620	0.0327	-0.8184	0.3296
3	254.88	0.3493	0.0375	0.0051	-0.0188	0.0126	0.5991	0.0555	-0.9127	0.2911
3	254.88	0.4000	0.0744	0.0080	-0.0289	0.0169	0.9198	0.0746	-0.8452	0.3018
3	254.88	0.4497	0.1023	0.0045	-0.0633	0.0193	1.2597	0.0877	-1.0233	0.3601
3	254.88	0.4997	0.1302	0.0071	-0.1090	0.0248	1.6565	0.1089	-1.1199	0.3102
3	254.88	0.5556	0.1669	0.0072	-0.1596	0.0285	2.1981	0.1272	-1.1280	0.3190
3	254.88	0.5995	0.1991	0.0065	-0.2377	0.0319	2.6596	0.1456	-1.1552	0.3093
3	254.88	0.6498	0.2276	0.0073	-0.3201	0.0360	3.2417	0.1677	-1.2746	0.2980
3	254.88	0.6890	0.2053	0.0069	-0.4000	0.0384	3.7488	0.1856	-1.2973	0.3046
3	254.88	0.7495	0.2458	0.0080	-0.5094	0.0441	4.5760	0.2153	-1.4712	0.3091
3	254.88	0.7998	0.2676	0.0081	-0.6132	0.0493	5.3227	0.2391	-1.6259	0.3140
3	254.88	0.8577	0.2774	0.0107	-0.7086	0.0557	6.2470	0.2669	-1.5382	0.3096
3	254.88	0.9178	0.2608	0.0122	-0.8535	0.0630	7.2457	0.2940	-1.6736	0.3160
3	254.88	0.9729	0.2260	0.0146	-0.9369	0.0704	8.1763	0.3172	-2.0406	0.3106

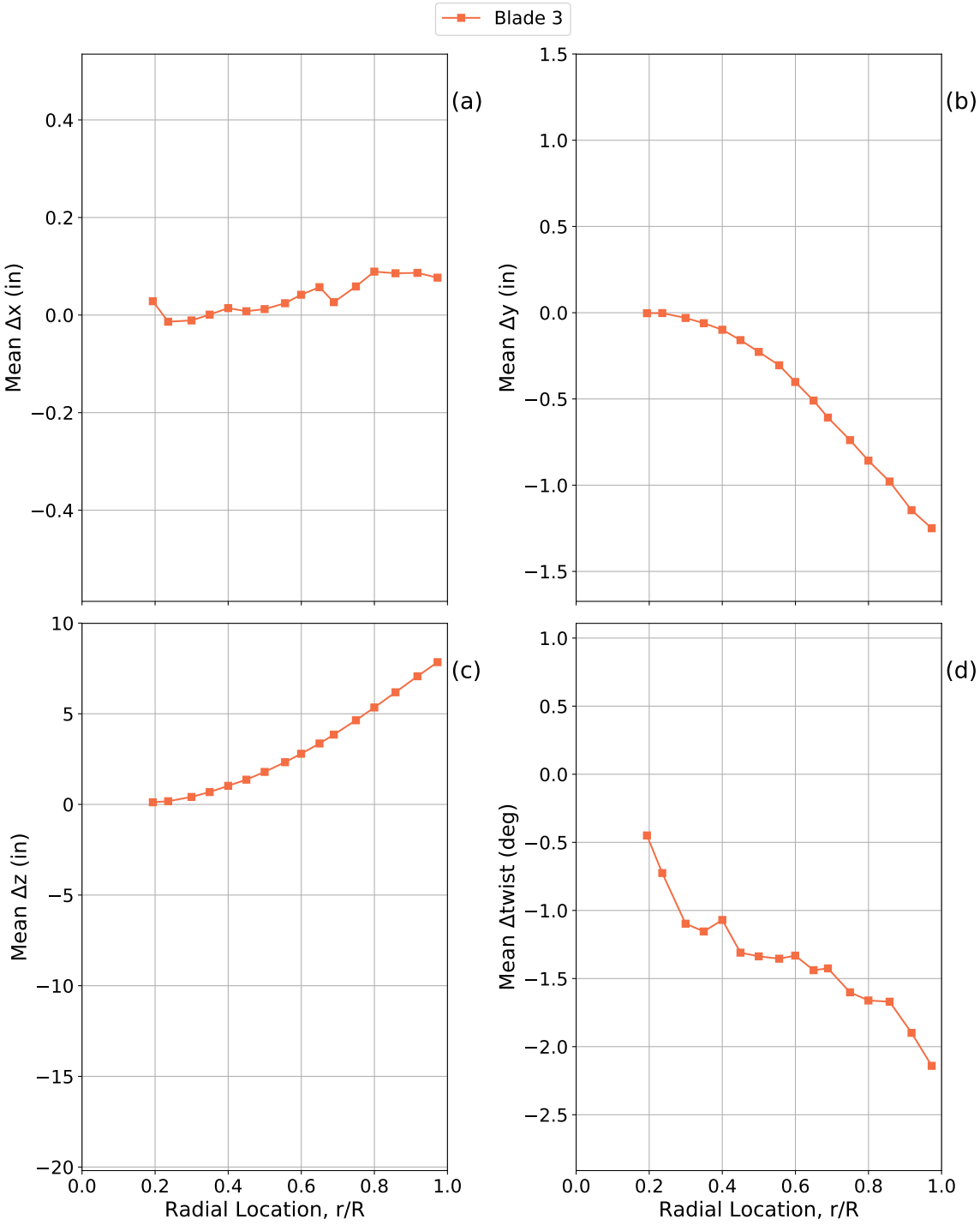


Figure 3.3-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0284	0.0097	-0.0029	0.0054	0.1179	0.0219	-0.4493	0.0676
3	260.16	0.2357	-0.0136	0.0051	-0.0022	0.0036	0.1751	0.0176	-0.7254	0.1347
3	260.16	0.2995	-0.0110	0.0061	-0.0303	0.0172	0.4114	0.0539	-1.0972	0.1636
3	260.16	0.3493	0.0009	0.0026	-0.0608	0.0297	0.6822	0.0818	-1.1543	0.1604
3	260.16	0.4000	0.0143	0.0050	-0.0988	0.0444	1.0250	0.1145	-1.0698	0.1505
3	260.16	0.4497	0.0079	0.0074	-0.1588	0.0585	1.3653	0.1501	-1.3098	0.1709
3	260.16	0.4997	0.0122	0.0066	-0.2273	0.0728	1.7936	0.1891	-1.3371	0.1418
3	260.16	0.5556	0.0243	0.0081	-0.3048	0.0904	2.3285	0.2417	-1.3542	0.1548
3	260.16	0.5995	0.0417	0.0093	-0.4017	0.1047	2.7934	0.2865	-1.3316	0.1583
3	260.16	0.6498	0.0572	0.0115	-0.5095	0.1209	3.3597	0.3438	-1.4386	0.1543
3	260.16	0.6890	0.0265	0.0139	-0.6080	0.1342	3.8500	0.3909	-1.4255	0.1452
3	260.16	0.7495	0.0587	0.0169	-0.7387	0.1549	4.6398	0.4680	-1.6012	0.1511
3	260.16	0.7998	0.0891	0.0205	-0.8577	0.1719	5.3467	0.5366	-1.6611	0.1480
3	260.16	0.8577	0.0857	0.0241	-0.9787	0.1915	6.1833	0.6159	-1.6700	0.1768
3	260.16	0.9178	0.0865	0.0285	-1.1450	0.2127	7.0671	0.7035	-1.8987	0.1539
3	260.16	0.9729	0.0767	0.0400	-1.2497	0.2315	7.8462	0.7922	-2.1408	0.1680

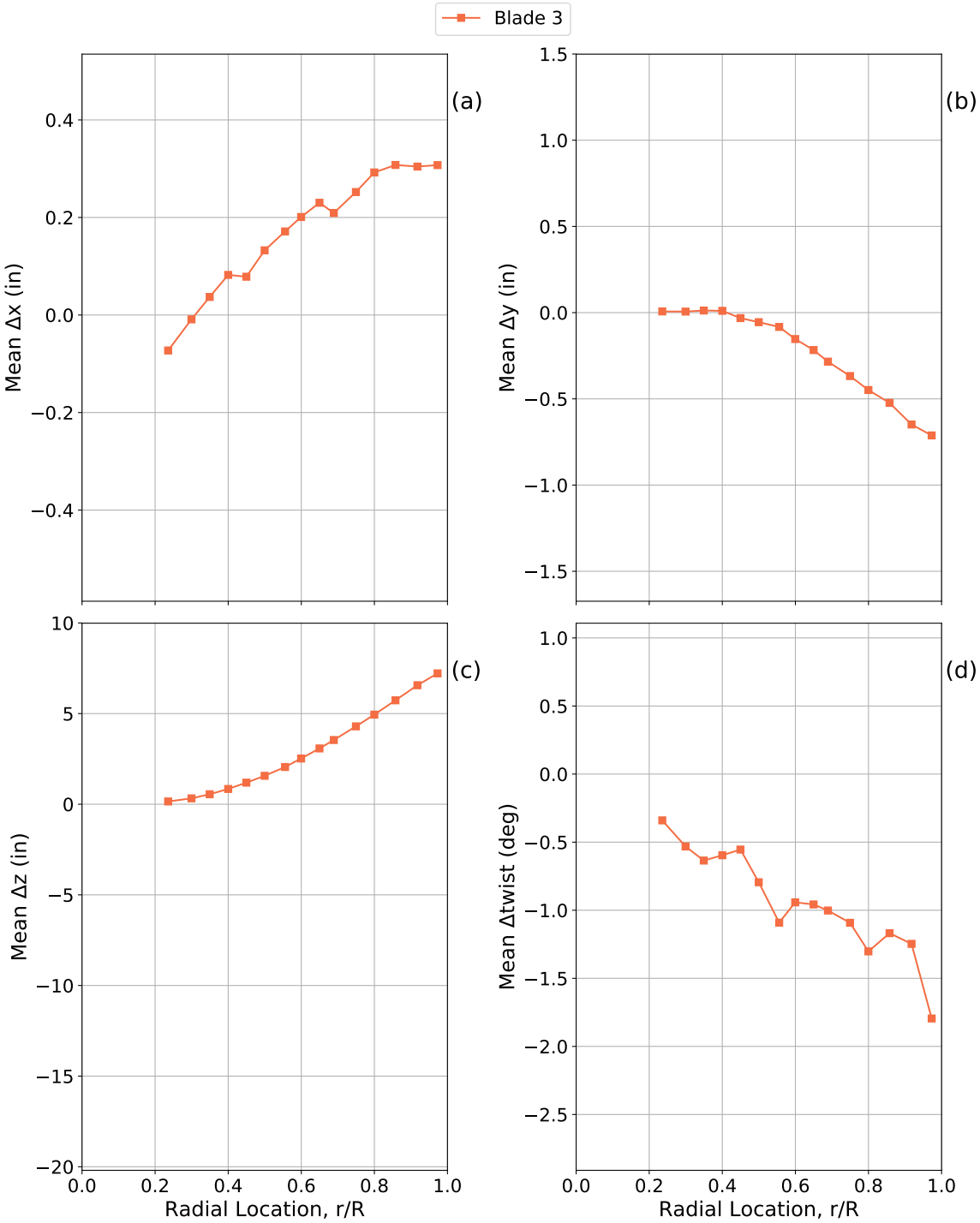


Figure 3.3-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0727	0.0049	0.0071	0.0017	0.1523	0.0170	-0.3401	0.1581
3	265.08	0.2995	-0.0089	0.0048	0.0060	0.0048	0.3226	0.0322	-0.5316	0.2521
3	265.08	0.3493	0.0370	0.0033	0.0123	0.0090	0.5493	0.0526	-0.6352	0.2092
3	265.08	0.4000	0.0822	0.0042	0.0104	0.0146	0.8420	0.0771	-0.5963	0.2190
3	265.08	0.4497	0.0785	0.0037	-0.0316	0.0196	1.1895	0.0991	-0.5544	0.2330
3	265.08	0.4997	0.1326	0.0056	-0.0553	0.0267	1.5670	0.1284	-0.7944	0.2347
3	265.08	0.5556	0.1713	0.0066	-0.0828	0.0350	2.0533	0.1625	-1.0911	0.2325
3	265.08	0.5995	0.2009	0.0083	-0.1531	0.0416	2.5224	0.1883	-0.9419	0.2337
3	265.08	0.6498	0.2301	0.0098	-0.2170	0.0493	3.0775	0.2227	-0.9574	0.2173
3	265.08	0.6890	0.2092	0.0104	-0.2842	0.0554	3.5419	0.2491	-1.0021	0.2309
3	265.08	0.7495	0.2521	0.0131	-0.3677	0.0654	4.2957	0.2930	-1.0923	0.2314
3	265.08	0.7998	0.2922	0.0143	-0.4488	0.0742	4.9426	0.3314	-1.3023	0.2247
3	265.08	0.8577	0.3076	0.0169	-0.5234	0.0842	5.7321	0.3759	-1.1685	0.2233
3	265.08	0.9178	0.3043	0.0196	-0.6486	0.0940	6.5652	0.4255	-1.2469	0.2228
3	265.08	0.9729	0.3073	0.0305	-0.7121	0.1020	7.2188	0.4837	-1.7949	0.2277

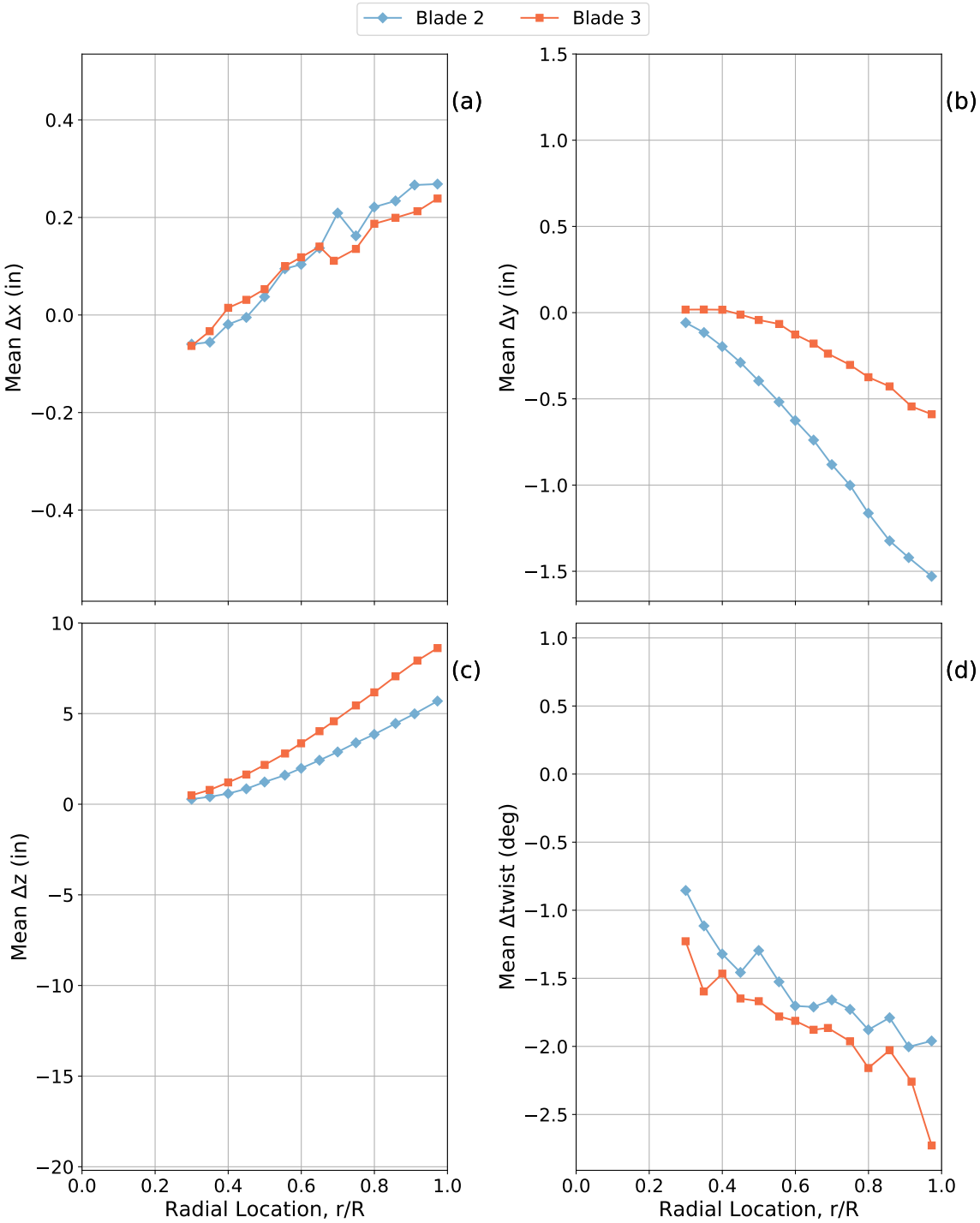


Figure 3.3-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2999	-0.0598	0.0160	-0.0584	0.0087	0.2788	0.1469	-0.8550	0.4686
2	270.35	0.3498	-0.0557	0.0061	-0.1153	0.0173	0.4111	0.2346	-1.1150	0.6144
2	270.35	0.3998	-0.0193	0.0079	-0.1966	0.0302	0.5849	0.3541	-1.3214	0.5876
2	270.35	0.4496	-0.0050	0.0154	-0.2891	0.0412	0.8496	0.4679	-1.4570	0.5950
2	270.35	0.4995	0.0373	0.0143	-0.3959	0.0538	1.2257	0.5838	-1.2957	0.5852
2	270.35	0.5551	0.0947	0.0198	-0.5176	0.0676	1.6024	0.7125	-1.5257	0.5942
2	270.35	0.5996	0.1037	0.0203	-0.6258	0.0774	1.9803	0.8161	-1.7029	0.5975
2	270.35	0.6497	0.1372	0.0238	-0.7391	0.0891	2.4268	0.9316	-1.7104	0.5950
2	270.35	0.6996	0.2090	0.0297	-0.8814	0.1018	2.8836	1.0488	-1.6588	0.5827
2	270.35	0.7495	0.1623	0.0309	-1.0015	0.1140	3.3889	1.1633	-1.7281	0.5951
2	270.35	0.7996	0.2213	0.0339	-1.1632	0.1270	3.8531	1.2835	-1.8781	0.5787
2	270.35	0.8578	0.2339	0.0388	-1.3236	0.1413	4.4543	1.4204	-1.7893	0.5756
2	270.35	0.9100	0.2665	0.0436	-1.4207	0.1545	4.9879	1.5383	-2.0030	0.5968
2	270.35	0.9727	0.2685	0.0556	-1.5294	0.1711	5.6899	1.6830	-1.9601	0.5778
3	270	0.2995	-0.0634	0.0114	0.0175	0.0068	0.4920	0.0848	-1.2278	0.1834
3	270	0.3493	-0.0332	0.0087	0.0180	0.0134	0.7888	0.1304	-1.5965	0.2380
3	270	0.4000	0.0147	0.0124	0.0169	0.0231	1.2028	0.1931	-1.4656	0.2392
3	270	0.4497	0.0311	0.0174	-0.0114	0.0302	1.6377	0.2411	-1.6483	0.2409
3	270	0.4997	0.0530	0.0160	-0.0425	0.0386	2.1698	0.2960	-1.6679	0.2300
3	270	0.5556	0.1003	0.0211	-0.0659	0.0474	2.7973	0.3545	-1.7804	0.2287
3	270	0.5995	0.1183	0.0210	-0.1270	0.0543	3.3596	0.3995	-1.8122	0.2206
3	270	0.6498	0.1403	0.0237	-0.1793	0.0626	4.0289	0.4508	-1.8777	0.2250
3	270	0.6890	0.1112	0.0257	-0.2377	0.0692	4.5777	0.4913	-1.8648	0.2228
3	270	0.7495	0.1355	0.0291	-0.3031	0.0796	5.4486	0.5529	-1.9623	0.2327
3	270	0.7998	0.1871	0.0313	-0.3746	0.0884	6.1712	0.6035	-2.1589	0.2380
3	270	0.8577	0.1993	0.0351	-0.4278	0.0988	7.0554	0.6627	-2.0281	0.2286
3	270	0.9178	0.2128	0.0387	-0.5442	0.1092	7.9257	0.7287	-2.2592	0.2270
3	270	0.9729	0.2388	0.0470	-0.5893	0.1197	8.6142	0.7913	-2.7275	0.2171

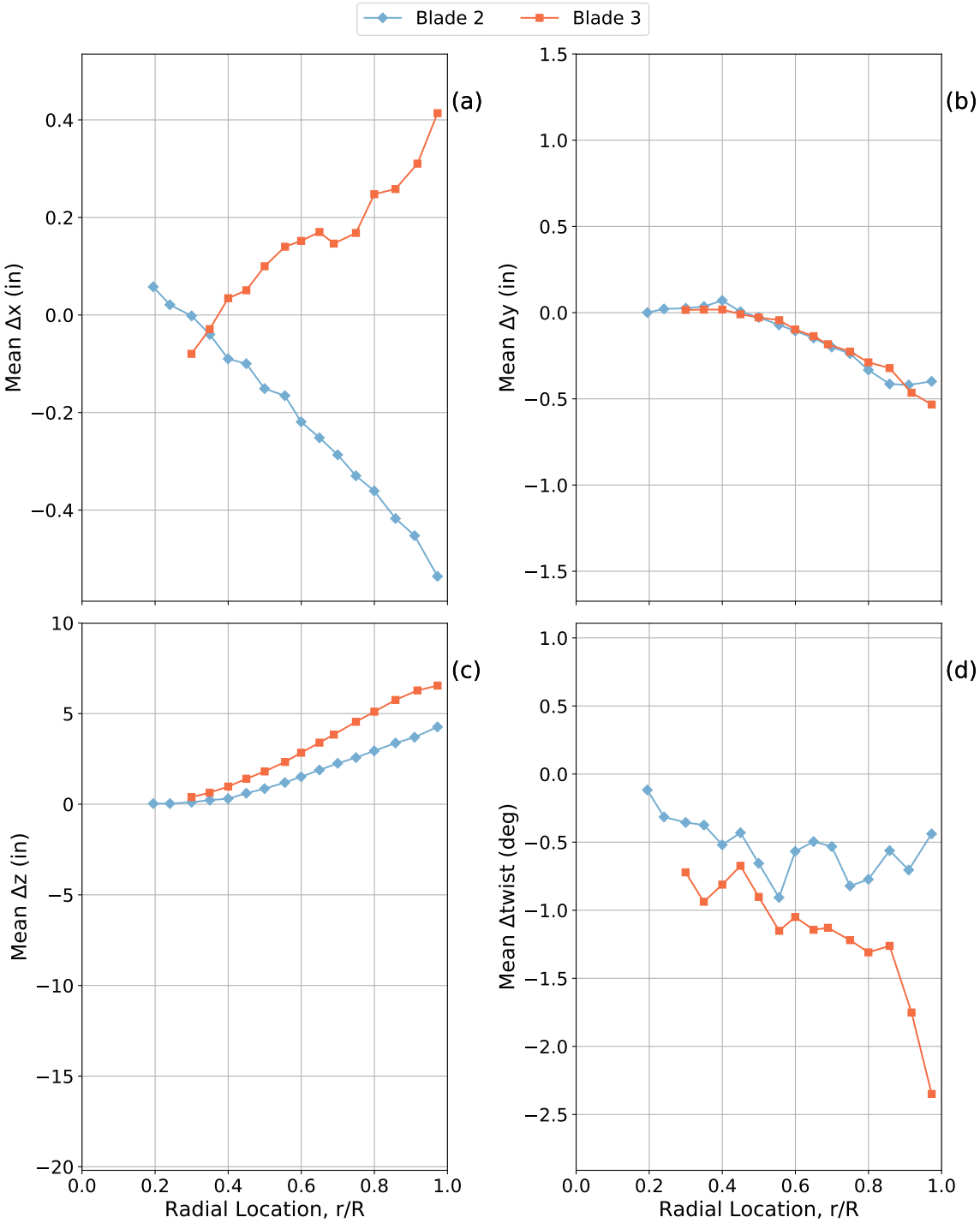


Figure 3.3-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -0° NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0577	0.0029	0.0004	0.0014	0.0344	0.0096	-0.1171	0.0707
2	274.92	0.2405	0.0210	0.0036	0.0215	0.0046	0.0372	0.0232	-0.3149	0.1058
2	274.92	0.2999	-0.0018	0.0029	0.0257	0.0088	0.1079	0.0359	-0.3554	0.1534
2	274.92	0.3498	-0.0399	0.0044	0.0353	0.0140	0.2240	0.0551	-0.3741	0.1305
2	274.92	0.3998	-0.0899	0.0116	0.0707	0.0246	0.3056	0.0875	-0.5197	0.1798
2	274.92	0.4496	-0.0998	0.0052	0.0056	0.0298	0.6030	0.1106	-0.4308	0.1488
2	274.92	0.4995	-0.1509	0.0054	-0.0272	0.0404	0.8576	0.1488	-0.6556	0.1532
2	274.92	0.5551	-0.1654	0.0069	-0.0713	0.0553	1.1965	0.2097	-0.9066	0.2104
2	274.92	0.5996	-0.2190	0.0082	-0.1060	0.0633	1.5145	0.2410	-0.5675	0.1364
2	274.92	0.6497	-0.2517	0.0096	-0.1473	0.0756	1.8884	0.2916	-0.4958	0.1393
2	274.92	0.6996	-0.2866	0.0114	-0.2000	0.0892	2.2560	0.3444	-0.5323	0.1314
2	274.92	0.7495	-0.3297	0.0140	-0.2376	0.1027	2.5712	0.4079	-0.8216	0.1381
2	274.92	0.7996	-0.3607	0.0161	-0.3325	0.1170	2.9439	0.4781	-0.7734	0.1409
2	274.92	0.8578	-0.4172	0.0186	-0.4138	0.1352	3.3761	0.5728	-0.5618	0.1342
2	274.92	0.9100	-0.4523	0.0217	-0.4194	0.1503	3.6959	0.6571	-0.7045	0.1157
2	274.92	0.9727	-0.5358	0.0319	-0.3986	0.1690	4.2647	0.7577	-0.4389	0.1691
3	274.92	0.2995	-0.0796	0.0182	0.0157	0.0091	0.3950	0.1757	-0.7217	0.6112
3	274.92	0.3493	-0.0290	0.0113	0.0174	0.0184	0.6372	0.2719	-0.9376	0.7971
3	274.92	0.4000	0.0344	0.0147	0.0182	0.0326	0.9757	0.4044	-0.8117	0.7981
3	274.92	0.4497	0.0507	0.0352	-0.0095	0.0457	1.4029	0.5510	-0.6737	0.7843
3	274.92	0.4997	0.0999	0.0212	-0.0279	0.0550	1.8069	0.6423	-0.9021	0.8375
3	274.92	0.5556	0.1400	0.0265	-0.0439	0.0676	2.3323	0.7813	-1.1513	0.8103
3	274.92	0.5995	0.1519	0.0313	-0.0981	0.0764	2.8414	0.8951	-1.0497	0.8047
3	274.92	0.6498	0.1701	0.0359	-0.1368	0.0873	3.3969	1.0221	-1.1434	0.8112
3	274.92	0.6890	0.1464	0.0400	-0.1833	0.0945	3.8419	1.1209	-1.1291	0.8101
3	274.92	0.7495	0.1682	0.0467	-0.2260	0.1066	4.5463	1.2777	-1.2196	0.8031
3	274.92	0.7998	0.2477	0.0514	-0.2883	0.1172	5.1055	1.4042	-1.3094	0.8249
3	274.92	0.8577	0.2582	0.0566	-0.3217	0.1283	5.7516	1.5553	-1.2618	0.8283
3	274.92	0.9178	0.3103	0.0636	-0.4643	0.1419	6.2774	1.7160	-1.7513	0.8119
3	274.92	0.9729	0.4138	0.0765	-0.5329	0.1568	6.5448	1.8625	-2.3492	0.8205

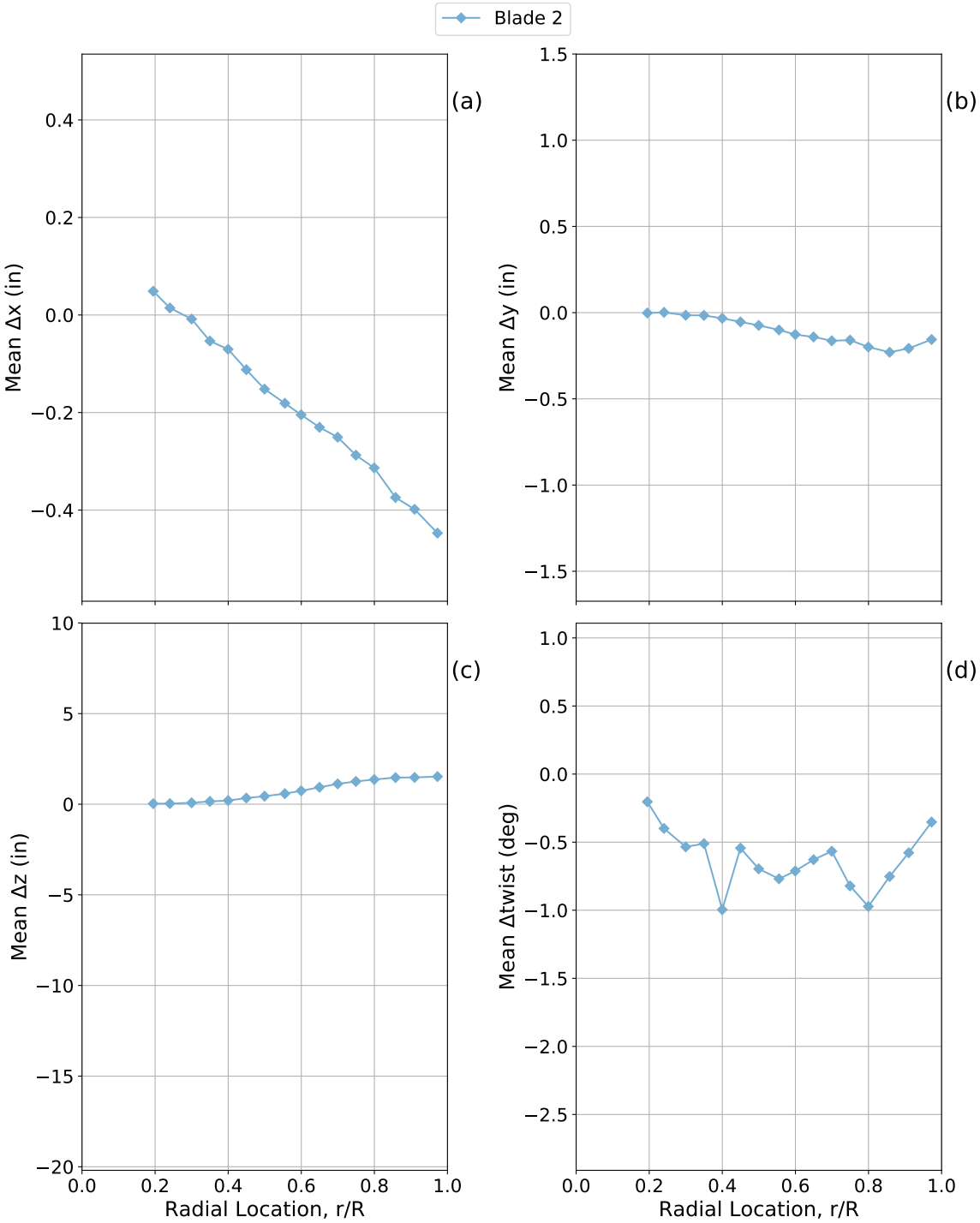


Figure 3.3-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -0° NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0488	0.0031	-0.0020	0.0017	0.0311	0.0105	-0.2034	0.0509
2	285.12	0.2405	0.0144	0.0045	0.0016	0.0030	0.0360	0.0193	-0.3994	0.1546
2	285.12	0.2999	-0.0082	0.0032	-0.0150	0.0057	0.0785	0.0366	-0.5348	0.0975
2	285.12	0.3498	-0.0533	0.0034	-0.0161	0.0087	0.1534	0.0497	-0.5109	0.1138
2	285.12	0.3998	-0.0703	0.0054	-0.0329	0.0143	0.2001	0.0837	-0.9960	0.1459
2	285.12	0.4496	-0.1121	0.0027	-0.0537	0.0177	0.3394	0.0996	-0.5435	0.1493
2	285.12	0.4995	-0.1520	0.0038	-0.0739	0.0220	0.4412	0.1241	-0.6961	0.1098
2	285.12	0.5551	-0.1810	0.0048	-0.1002	0.0285	0.5828	0.1510	-0.7691	0.0898
2	285.12	0.5996	-0.2046	0.0044	-0.1268	0.0354	0.7395	0.1728	-0.7119	0.0949
2	285.12	0.6497	-0.2302	0.0048	-0.1410	0.0415	0.9345	0.2008	-0.6288	0.1347
2	285.12	0.6996	-0.2506	0.0059	-0.1632	0.0500	1.1214	0.2338	-0.5668	0.1266
2	285.12	0.7495	-0.2874	0.0074	-0.1594	0.0574	1.2564	0.2661	-0.8216	0.1216
2	285.12	0.7996	-0.3135	0.0085	-0.1993	0.0654	1.3636	0.2953	-0.9724	0.1191
2	285.12	0.8578	-0.3741	0.0096	-0.2297	0.0755	1.4693	0.3331	-0.7523	0.1367
2	285.12	0.9100	-0.3983	0.0101	-0.2074	0.0846	1.4777	0.3615	-0.5781	0.1384
2	285.12	0.9727	-0.4471	0.0142	-0.1559	0.0960	1.5246	0.3944	-0.3524	0.1602

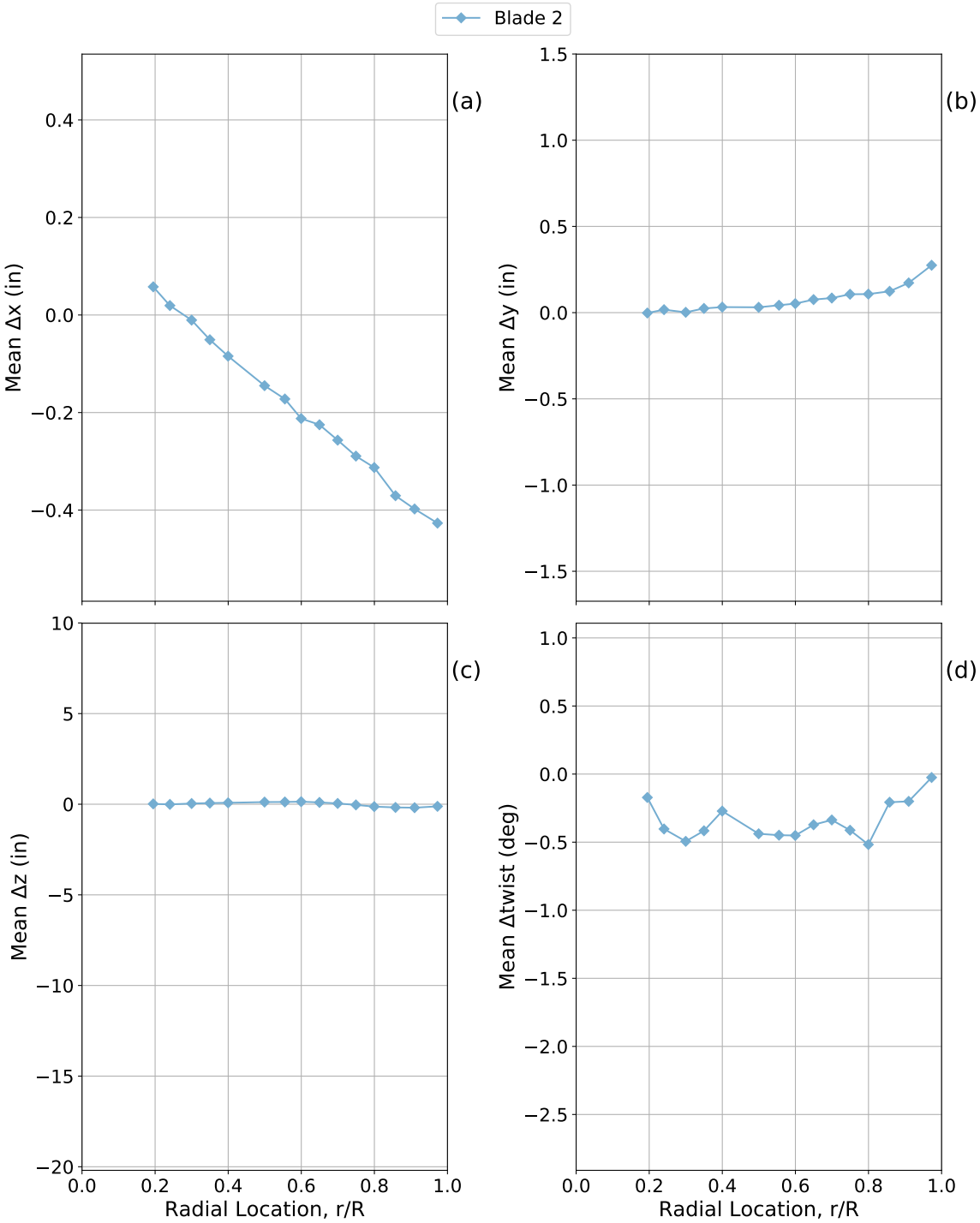


Figure 3.3-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0578	0.0027	-0.0021	0.0013	0.0180	0.0111	-0.1719	0.0688
2	299.88	0.2405	0.0193	0.0027	0.0172	0.0019	-0.0091	0.0156	-0.4032	0.1243
2	299.88	0.2999	-0.0105	0.0045	0.0019	0.0055	0.0383	0.0330	-0.4939	0.1497
2	299.88	0.3498	-0.0507	0.0033	0.0244	0.0100	0.0620	0.0570	-0.4165	0.1276
2	299.88	0.3998	-0.0844	0.0032	0.0321	0.0153	0.0785	0.0806	-0.2718	0.1108
2	299.88	0.4995	-0.1449	0.0052	0.0310	0.0254	0.1183	0.1136	-0.4385	0.1119
2	299.88	0.5551	-0.1722	0.0067	0.0429	0.0336	0.1242	0.1396	-0.4488	0.1344
2	299.88	0.5996	-0.2123	0.0051	0.0524	0.0390	0.1403	0.1590	-0.4510	0.1294
2	299.88	0.6497	-0.2250	0.0048	0.0757	0.0444	0.0991	0.1830	-0.3723	0.1322
2	299.88	0.6996	-0.2566	0.0063	0.0847	0.0495	0.0428	0.2195	-0.3371	0.1265
2	299.88	0.7495	-0.2893	0.0059	0.1066	0.0578	-0.0379	0.2551	-0.4123	0.1409
2	299.88	0.7996	-0.3127	0.0065	0.1075	0.0648	-0.1319	0.2983	-0.5174	0.1386
2	299.88	0.8578	-0.3705	0.0069	0.1237	0.0719	-0.1773	0.3451	-0.2069	0.1502
2	299.88	0.9100	-0.3977	0.0065	0.1725	0.0792	-0.1920	0.3928	-0.2004	0.1361
2	299.88	0.9727	-0.4267	0.0089	0.2748	0.0881	-0.1174	0.4508	-0.0251	0.1546

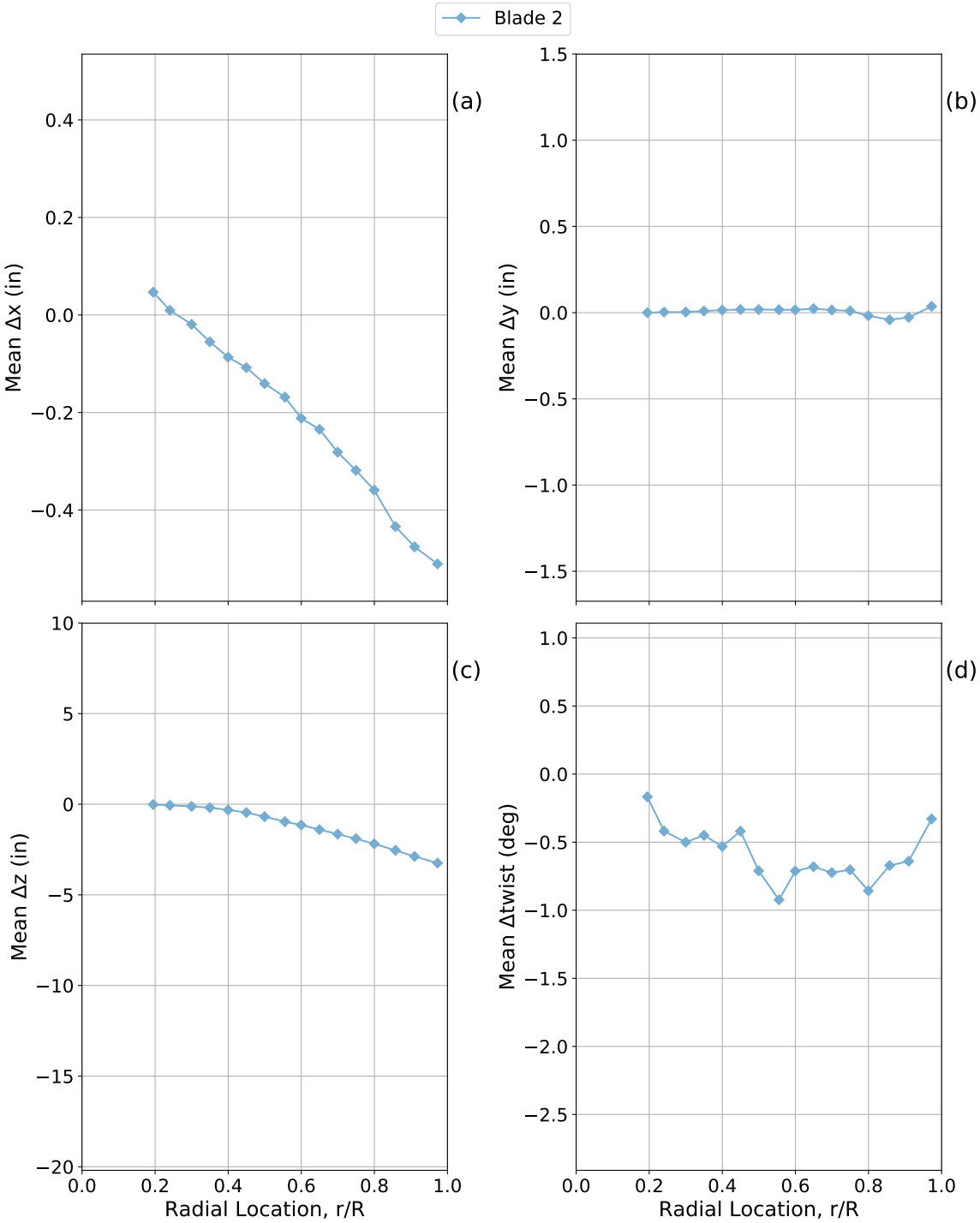


Figure 3.3-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0467	0.0023	-0.0003	0.0011	-0.0208	0.0057	-0.1671	0.0344
2	315	0.2405	0.0096	0.0032	0.0031	0.0030	-0.0609	0.0114	-0.4188	0.0403
2	315	0.2999	-0.0192	0.0048	0.0035	0.0051	-0.1211	0.0221	-0.5005	0.0707
2	315	0.3498	-0.0550	0.0059	0.0093	0.0105	-0.1893	0.0340	-0.4495	0.0846
2	315	0.3998	-0.0865	0.0035	0.0149	0.0157	-0.3170	0.0535	-0.5319	0.0619
2	315	0.4496	-0.1079	0.0031	0.0179	0.0177	-0.4586	0.0593	-0.4194	0.0919
2	315	0.4995	-0.1405	0.0047	0.0179	0.0196	-0.6858	0.0730	-0.7108	0.0680
2	315	0.5551	-0.1684	0.0054	0.0169	0.0259	-0.9602	0.0909	-0.9235	0.1691
2	315	0.5996	-0.2116	0.0057	0.0161	0.0289	-1.1490	0.1025	-0.7123	0.0611
2	315	0.6497	-0.2343	0.0053	0.0229	0.0350	-1.4007	0.1229	-0.6807	0.0791
2	315	0.6996	-0.2812	0.0056	0.0152	0.0415	-1.6502	0.1492	-0.7237	0.0662
2	315	0.7495	-0.3185	0.0064	0.0102	0.0470	-1.8967	0.1729	-0.7032	0.0615
2	315	0.7996	-0.3590	0.0066	-0.0177	0.0527	-2.1862	0.2002	-0.8567	0.0625
2	315	0.8578	-0.4338	0.0077	-0.0417	0.0604	-2.5471	0.2336	-0.6713	0.0693
2	315	0.9100	-0.4753	0.0071	-0.0275	0.0669	-2.8839	0.2665	-0.6403	0.0707
2	315	0.9727	-0.5103	0.0075	0.0364	0.0750	-3.2461	0.3049	-0.3297	0.0756

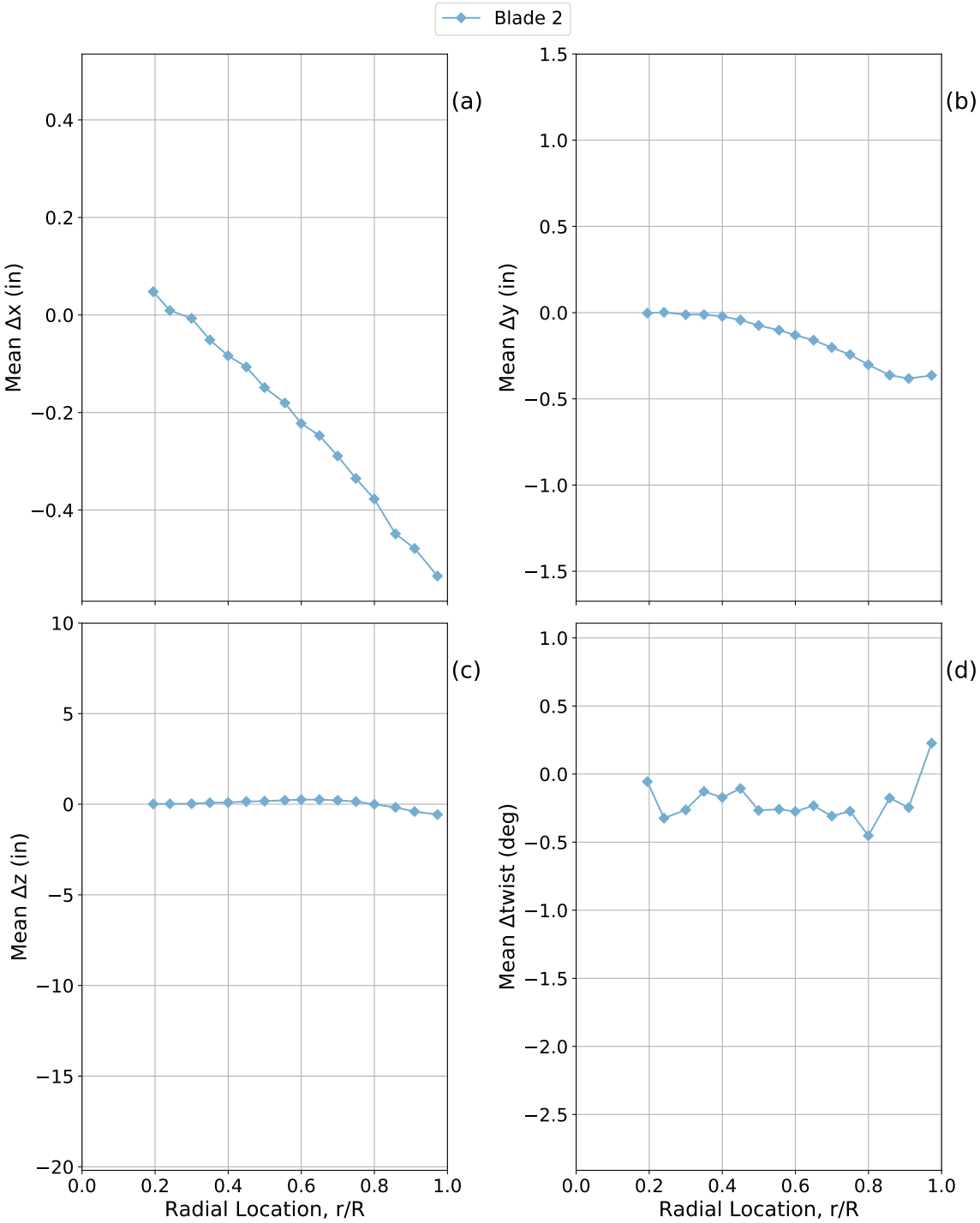


Figure 3.3-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0478	0.0022	-0.0028	0.0012	0.0132	0.0048	-0.0557	0.0592
2	330.12	0.2405	0.0092	0.0022	0.0016	0.0022	0.0205	0.0108	-0.3237	0.0808
2	330.12	0.2999	-0.0068	0.0025	-0.0116	0.0030	0.0282	0.0174	-0.2630	0.1353
2	330.12	0.3498	-0.0511	0.0022	-0.0112	0.0088	0.0822	0.0342	-0.1279	0.0948
2	330.12	0.3998	-0.0836	0.0044	-0.0216	0.0104	0.0954	0.0497	-0.1718	0.0950
2	330.12	0.4496	-0.1065	0.0030	-0.0428	0.0139	0.1505	0.0591	-0.1061	0.1059
2	330.12	0.4995	-0.1488	0.0045	-0.0743	0.0183	0.1696	0.0781	-0.2668	0.0840
2	330.12	0.5551	-0.1804	0.0073	-0.1017	0.0252	0.2186	0.0990	-0.2582	0.0804
2	330.12	0.5996	-0.2222	0.0046	-0.1306	0.0295	0.2538	0.1108	-0.2747	0.0935
2	330.12	0.6497	-0.2473	0.0049	-0.1597	0.0352	0.2530	0.1286	-0.2325	0.1034
2	330.12	0.6996	-0.2891	0.0052	-0.2024	0.0455	0.2139	0.1450	-0.3086	0.0937
2	330.12	0.7495	-0.3351	0.0058	-0.2434	0.0540	0.1453	0.1645	-0.2726	0.1212
2	330.12	0.7996	-0.3772	0.0069	-0.3022	0.0637	-0.0042	0.1874	-0.4526	0.1049
2	330.12	0.8578	-0.4487	0.0059	-0.3624	0.0798	-0.1742	0.2139	-0.1762	0.1119
2	330.12	0.9100	-0.4787	0.0081	-0.3821	0.0895	-0.4049	0.2524	-0.2457	0.1291
2	330.12	0.9727	-0.5352	0.0125	-0.3640	0.1037	-0.5715	0.2952	0.2269	0.1206

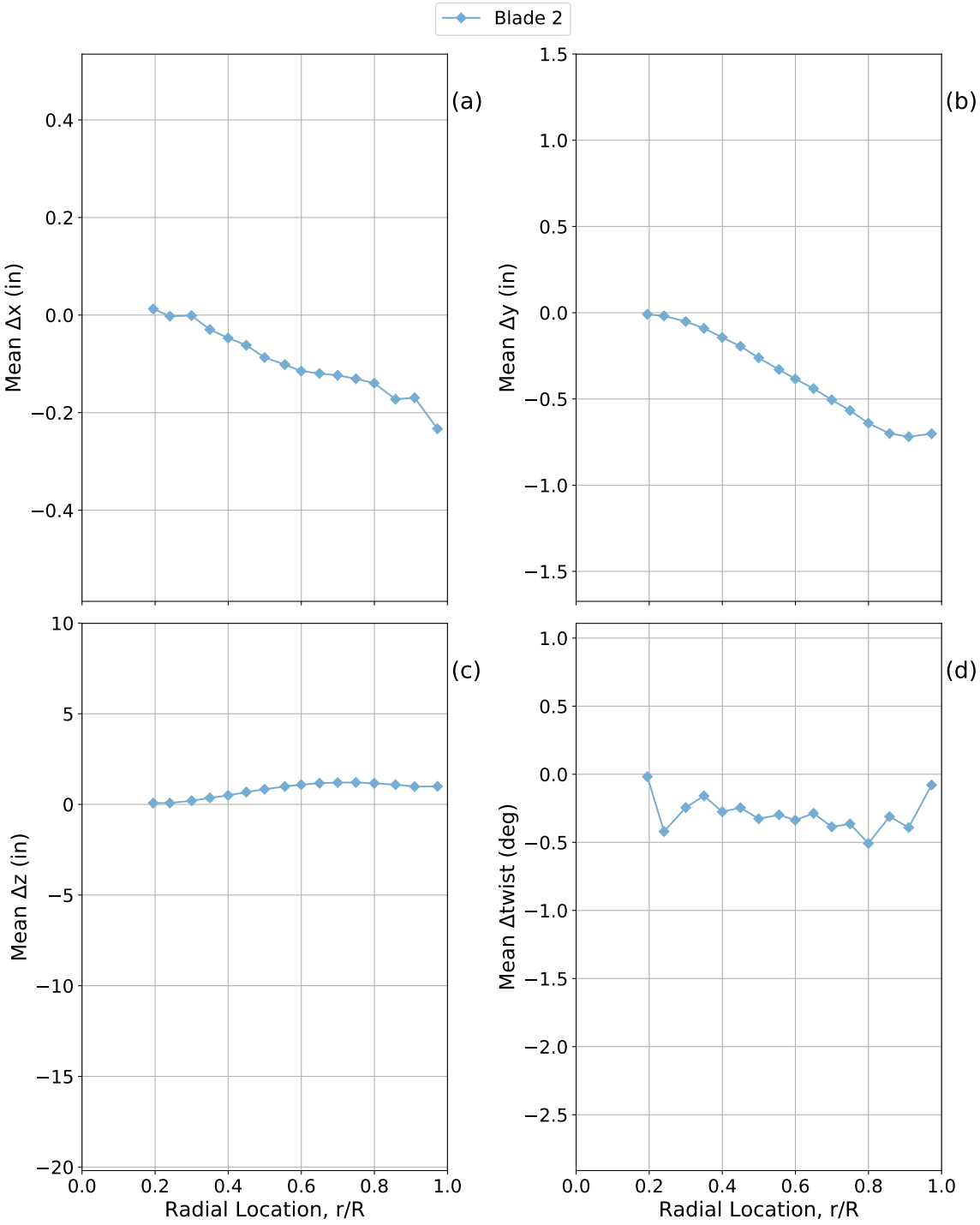


Figure 3.3-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0126	0.0014	-0.0092	0.0011	0.0713	0.0040	-0.0179	0.0246
2	344.88	0.2405	-0.0022	0.0014	-0.0187	0.0021	0.0771	0.0067	-0.4202	0.0546
2	344.88	0.2999	-0.0011	0.0011	-0.0508	0.0039	0.2030	0.0134	-0.2444	0.0619
2	344.88	0.3498	-0.0296	0.0010	-0.0907	0.0070	0.3596	0.0223	-0.1584	0.0604
2	344.88	0.3998	-0.0470	0.0013	-0.1434	0.0104	0.4986	0.0337	-0.2755	0.0595
2	344.88	0.4496	-0.0618	0.0015	-0.1945	0.0131	0.6785	0.0460	-0.2458	0.0645
2	344.88	0.4995	-0.0870	0.0021	-0.2616	0.0179	0.8349	0.0598	-0.3267	0.0730
2	344.88	0.5551	-0.1015	0.0021	-0.3295	0.0222	0.9881	0.0733	-0.2979	0.0703
2	344.88	0.5996	-0.1147	0.0021	-0.3840	0.0254	1.0881	0.0845	-0.3369	0.0671
2	344.88	0.6497	-0.1196	0.0023	-0.4399	0.0299	1.1689	0.0978	-0.2870	0.0807
2	344.88	0.6996	-0.1235	0.0022	-0.5049	0.0348	1.2030	0.1129	-0.3862	0.0775
2	344.88	0.7495	-0.1305	0.0023	-0.5671	0.0396	1.2092	0.1275	-0.3642	0.0742
2	344.88	0.7996	-0.1396	0.0034	-0.6408	0.0438	1.1626	0.1451	-0.5076	0.0787
2	344.88	0.8578	-0.1725	0.0043	-0.7004	0.0515	1.0896	0.1670	-0.3110	0.0847
2	344.88	0.9100	-0.1695	0.0037	-0.7189	0.0555	0.9812	0.1850	-0.3910	0.0903
2	344.88	0.9727	-0.2330	0.0059	-0.7015	0.0641	0.9966	0.2142	-0.0787	0.1189

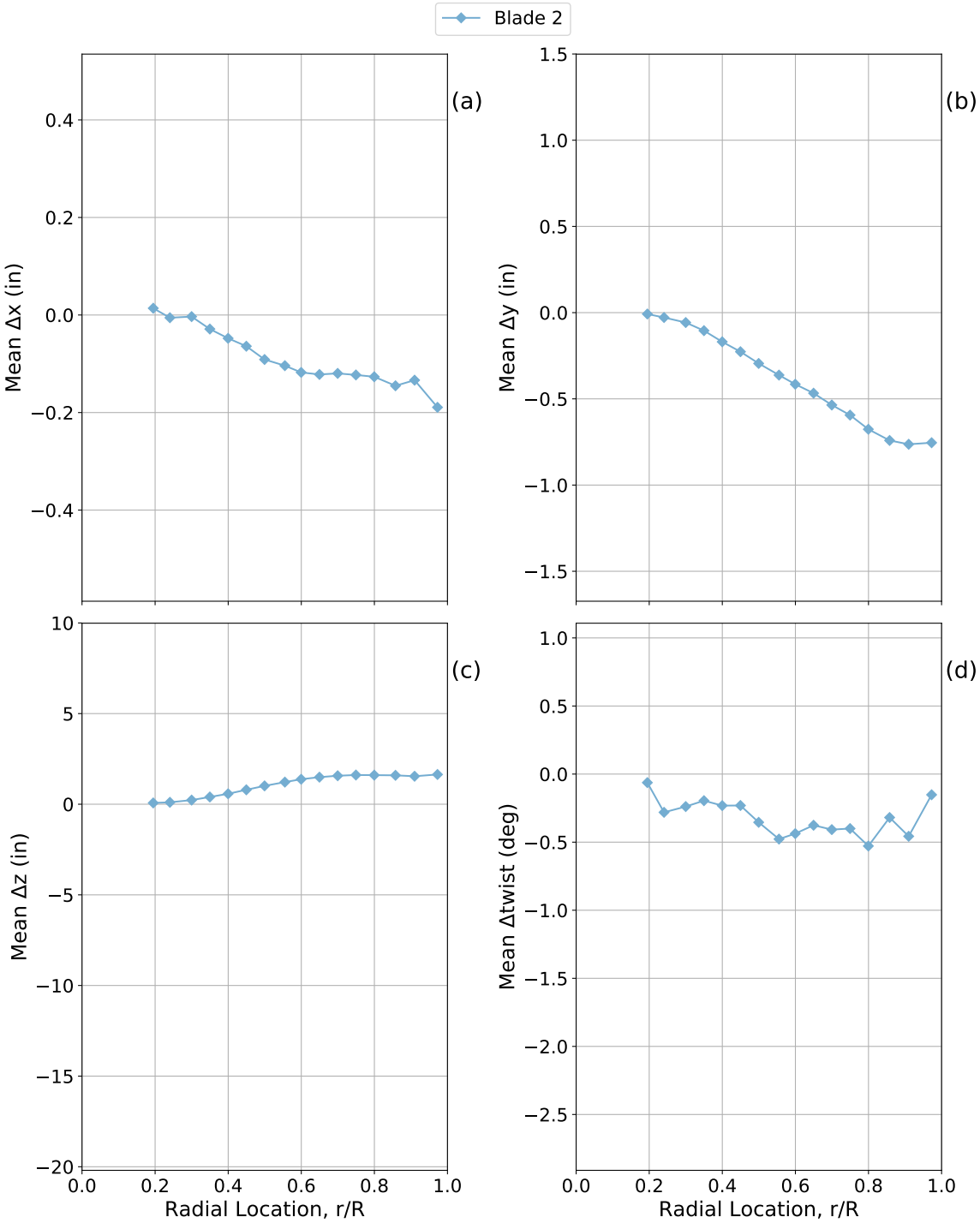


Figure 3.3-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0139	0.0058	-0.0079	0.0025	0.0707	0.0079	-0.0628	0.0311
2	350.16	0.2405	-0.0056	0.0023	-0.0282	0.0058	0.1054	0.0094	-0.2810	0.0883
2	350.16	0.2999	-0.0033	0.0028	-0.0574	0.0114	0.2283	0.0207	-0.2386	0.0903
2	350.16	0.3498	-0.0288	0.0049	-0.1045	0.0208	0.3996	0.0330	-0.1953	0.1000
2	350.16	0.3998	-0.0478	0.0060	-0.1692	0.0323	0.5758	0.0461	-0.2316	0.0992
2	350.16	0.4496	-0.0640	0.0074	-0.2266	0.0426	0.7958	0.0564	-0.2308	0.1091
2	350.16	0.4995	-0.0912	0.0095	-0.2946	0.0540	1.0120	0.0689	-0.3543	0.1115
2	350.16	0.5551	-0.1039	0.0118	-0.3622	0.0651	1.2202	0.0821	-0.4774	0.1110
2	350.16	0.5996	-0.1177	0.0150	-0.4152	0.0724	1.3774	0.0943	-0.4372	0.1162
2	350.16	0.6497	-0.1219	0.0186	-0.4672	0.0799	1.4928	0.1114	-0.3758	0.1390
2	350.16	0.6996	-0.1197	0.0219	-0.5356	0.0872	1.5708	0.1301	-0.4078	0.1270
2	350.16	0.7495	-0.1229	0.0282	-0.5942	0.0967	1.6108	0.1449	-0.4001	0.1304
2	350.16	0.7996	-0.1266	0.0345	-0.6763	0.1074	1.6040	0.1641	-0.5284	0.1337
2	350.16	0.8578	-0.1451	0.0462	-0.7413	0.1171	1.5942	0.1870	-0.3190	0.1349
2	350.16	0.9100	-0.1336	0.0543	-0.7634	0.1280	1.5429	0.2064	-0.4570	0.1549
2	350.16	0.9727	-0.1893	0.0684	-0.7544	0.1495	1.6407	0.2345	-0.1519	0.1651

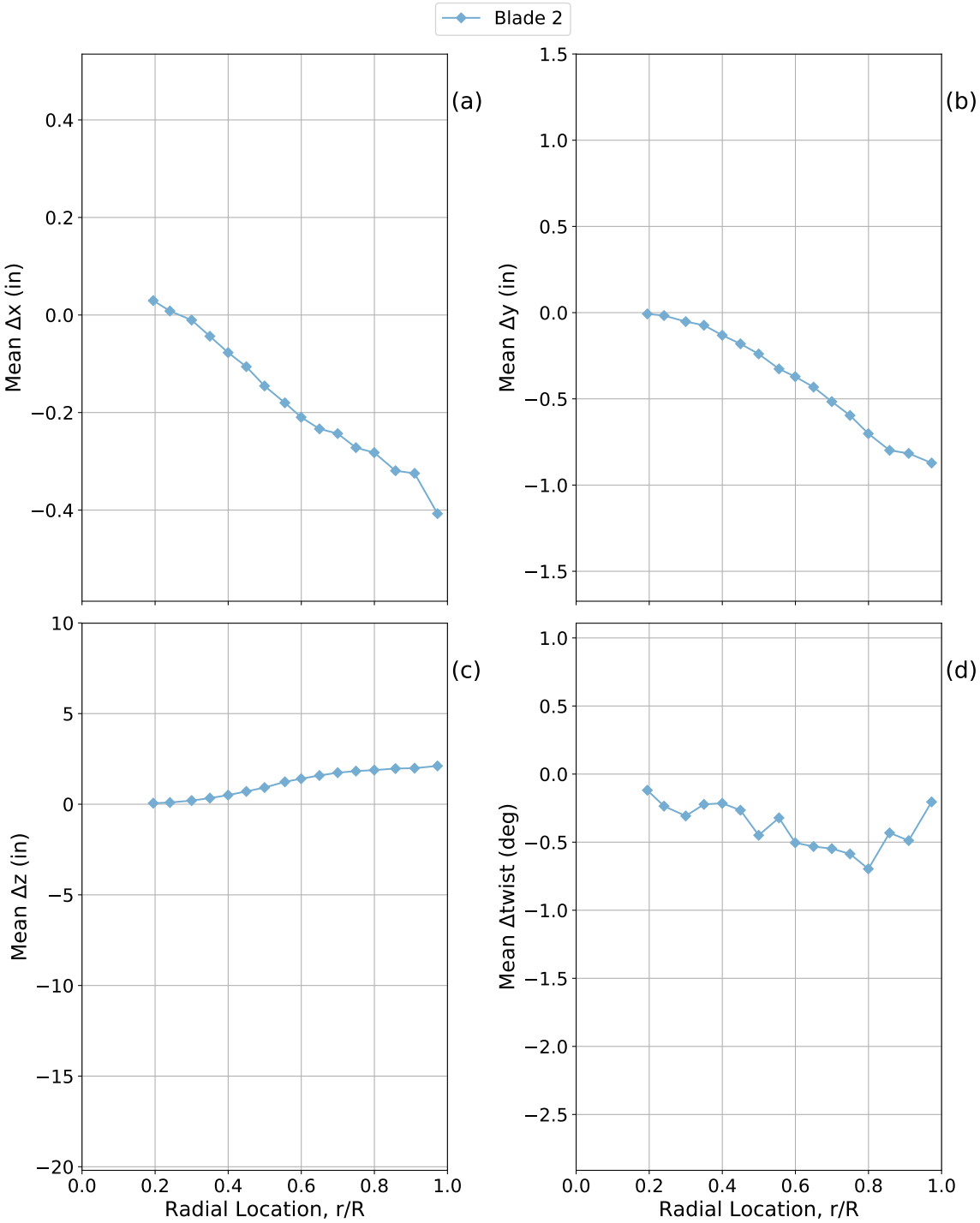


Figure 3.3-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Table 3.3-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 45, point 34. BD run 21, points 1917 to 1927.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0295	0.0030	-0.0073	0.0024	0.0558	0.0074	-0.1189	0.0601
2	355.08	0.2405	0.0082	0.0021	-0.0170	0.0036	0.0934	0.0086	-0.2355	0.0592
2	355.08	0.2999	-0.0104	0.0017	-0.0521	0.0085	0.2004	0.0221	-0.3078	0.1152
2	355.08	0.3498	-0.0435	0.0024	-0.0731	0.0144	0.3360	0.0329	-0.2225	0.0954
2	355.08	0.3998	-0.0771	0.0040	-0.1312	0.0218	0.5034	0.0497	-0.2147	0.1078
2	355.08	0.4496	-0.1059	0.0038	-0.1807	0.0284	0.7054	0.0654	-0.2653	0.1130
2	355.08	0.4995	-0.1455	0.0042	-0.2396	0.0350	0.9197	0.0804	-0.4494	0.1129
2	355.08	0.5551	-0.1800	0.0043	-0.3263	0.0408	1.2346	0.0973	-0.3216	0.1201
2	355.08	0.5996	-0.2096	0.0045	-0.3714	0.0473	1.4067	0.1131	-0.5046	0.1142
2	355.08	0.6497	-0.2335	0.0054	-0.4318	0.0543	1.5856	0.1245	-0.5321	0.1047
2	355.08	0.6996	-0.2431	0.0050	-0.5160	0.0610	1.7390	0.1397	-0.5479	0.1035
2	355.08	0.7495	-0.2720	0.0052	-0.5962	0.0699	1.8278	0.1549	-0.5863	0.1222
2	355.08	0.7996	-0.2821	0.0056	-0.7017	0.0804	1.8830	0.1769	-0.6963	0.0987
2	355.08	0.8578	-0.3193	0.0065	-0.7987	0.0893	1.9663	0.2001	-0.4319	0.1030
2	355.08	0.9100	-0.3246	0.0059	-0.8162	0.1103	1.9885	0.2321	-0.4883	0.1626
2	355.08	0.9727	-0.4073	0.0095	-0.8721	0.1096	2.1115	0.2594	-0.2044	0.1128

3.4 Run 45, Point 51

3.4.1 Pitch, Flap, and Lag

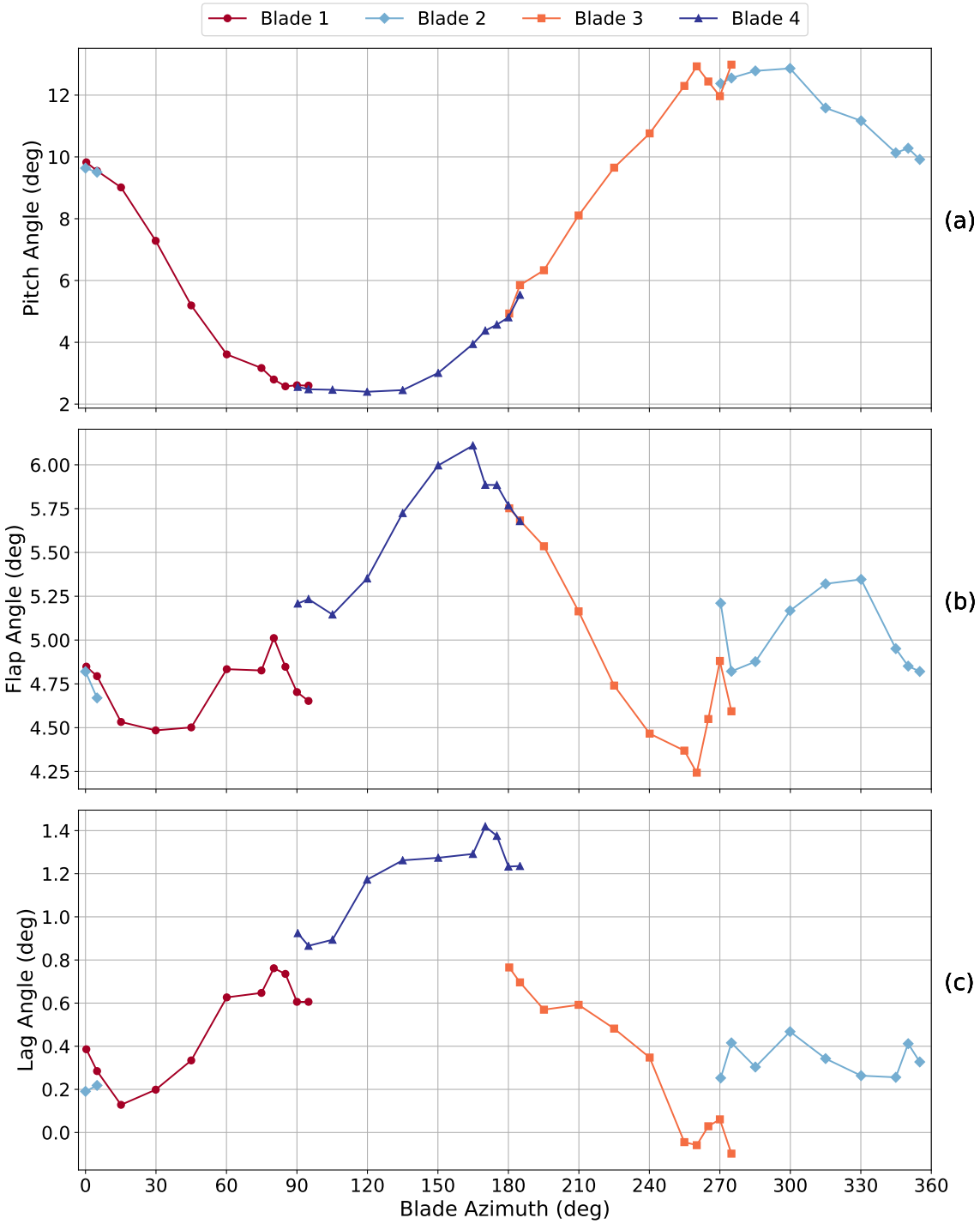


Figure 3.4-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	9.6378	4.8202	0.1907	0.1454	0.0665	0.0261
0.35	1	9.8258	4.8483	0.3860	0.1274	0.0812	0.0366
4.92	1	9.5488	4.7940	0.2848	0.2243	0.0727	0.0357
4.92	2	9.5044	4.6696	0.2183	0.1784	0.0899	0.0507
15.12	1	9.0138	4.5326	0.1283	0.1287	0.0626	0.0216
29.88	1	7.2844	4.4845	0.1986	0.1785	0.1408	0.0207
45	1	5.1943	4.5014	0.3343	0.1326	0.1133	0.0544
60.12	1	3.6095	4.8338	0.6266	0.1111	0.0781	0.0444
74.88	1	3.1682	4.8264	0.6473	0.0768	0.1277	0.0738
80.16	1	2.7961	5.0113	0.7617	0.0804	0.1234	0.0142
85.08	1	2.5758	4.8474	0.7354	0.0910	0.1583	0.0275
90	1	2.6099	4.7031	0.6059	0.0598	0.1031	0.0195
90.35	4	2.5565	5.2081	0.9243	0.0951	0.1289	0.0360
94.92	1	2.5988	4.6524	0.6059	0.0747	0.1293	0.0519
94.92	4	2.4798	5.2335	0.8657	0.0786	0.1665	0.0207
105.12	4	2.4632	5.1455	0.8938	0.0761	0.1077	0.0326
119.88	4	2.3992	5.3515	1.1727	0.1116	0.1277	0.0305
135	4	2.4532	5.7245	1.2622	0.0770	0.1034	0.0273
150.12	4	3.0084	5.9966	1.2740	0.1763	0.1126	0.0339
164.88	4	3.9430	6.1100	1.2917	0.1229	0.0917	0.0468
170.16	4	4.3772	5.8857	1.4191	0.1453	0.1311	0.0289
175.08	4	4.5719	5.8848	1.3756	0.1499	0.1195	0.0187
180	4	4.8070	5.7684	1.2332	0.1079	0.1098	0.0217
180.35	3	4.9313	5.7519	0.7653	0.1439	0.1445	0.0533
184.92	3	5.8498	5.6828	0.6962	0.1226	0.1263	0.0303
184.92	4	5.5361	5.6786	1.2357	0.1370	0.2129	0.0281
195.12	3	6.3326	5.5352	0.5696	0.1584	0.1049	0.0402
209.88	3	8.1058	5.1637	0.5920	0.0952	0.1740	0.0241
225	3	9.6524	4.7402	0.4819	0.0974	0.1377	0.0336
240.12	3	10.7610	4.4659	0.3476	0.0922	0.1536	0.0310
254.88	3	12.2967	4.3689	-0.0447	0.1350	0.1153	0.0917
260.16	3	12.9309	4.2429	-0.0588	0.1775	0.2014	0.0596
265.08	3	12.4410	4.5492	0.0290	0.2240	0.1826	0.0441
270	3	11.9667	4.8806	0.0609	0.0893	0.1224	0.0543
270.35	2	12.3740	5.2105	0.2527	0.3226	0.2933	0.1040
274.92	2	12.5537	4.8215	0.4157	0.2785	0.2211	0.0582
274.92	3	12.9863	4.5934	-0.0980	0.3270	0.2683	0.0820
285.12	2	12.7838	4.8768	0.3037	0.0713	0.0677	0.0326
299.88	2	12.8641	5.1676	0.4677	0.1023	0.0598	0.0872
315	2	11.5852	5.3210	0.3426	0.0527	0.0696	0.0560
330.12	2	11.1684	5.3462	0.2635	0.2101	0.1395	0.0253
344.88	2	10.1322	4.9508	0.2559	0.1847	0.0830	0.0576
350.16	2	10.2811	4.8512	0.4119	0.1235	0.0677	0.0387
355.08	2	9.9182	4.8206	0.3272	0.1408	0.1071	0.0552

3.4.2 Spanwise Elastic Deformations

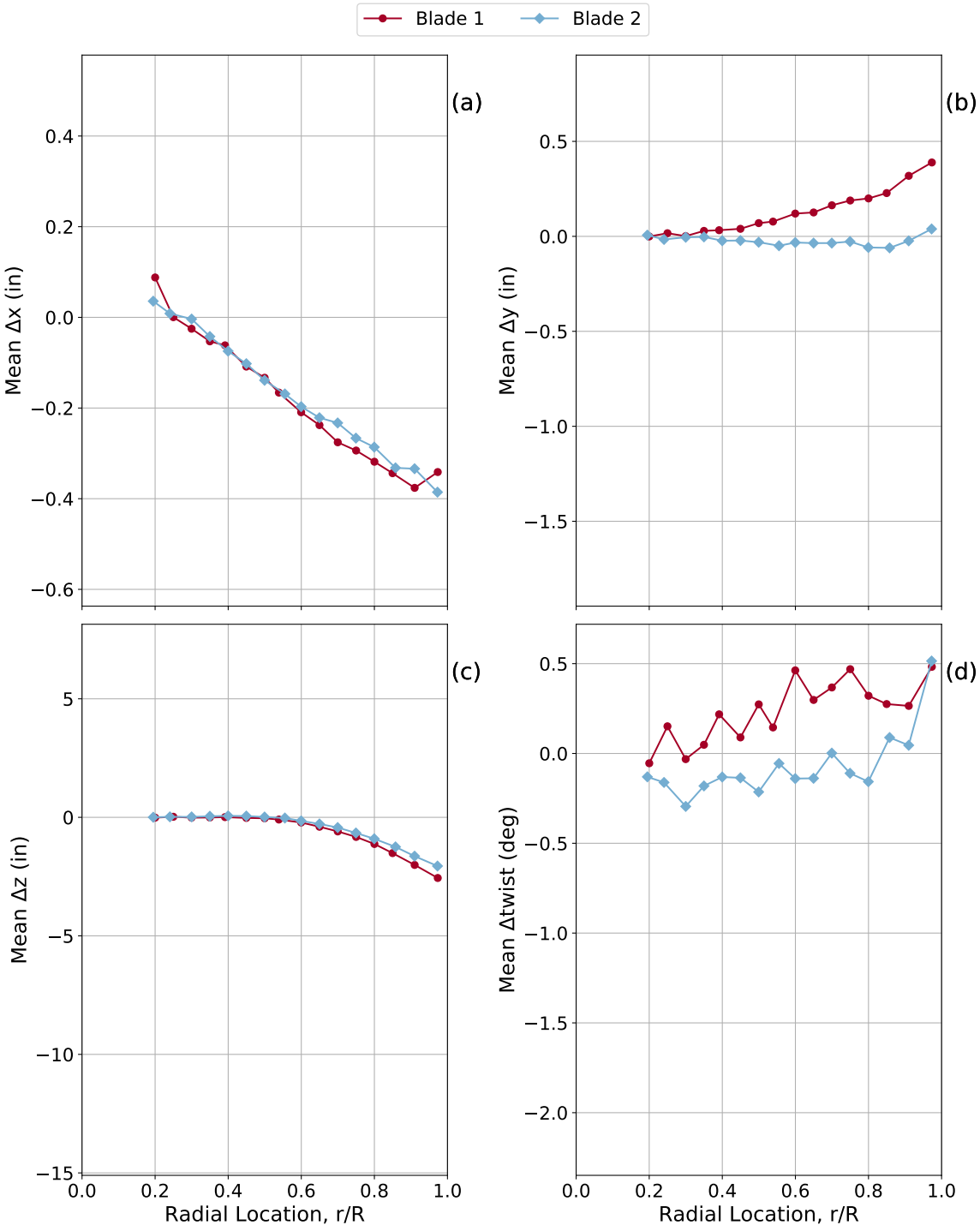


Figure 3.4-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.1$, $\mu = 0.241$, $\alpha = -0°$
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0880	0.0036	-0.0006	0.0021	-0.0135	0.0059	-0.0546	0.0370
1	0.35	0.2499	0.0004	0.0013	0.0165	0.0031	0.0229	0.0095	0.1511	0.1005
1	0.35	0.2998	-0.0251	0.0014	0.0013	0.0065	-0.0146	0.0160	-0.0316	0.0953
1	0.35	0.3498	-0.0529	0.0020	0.0288	0.0138	-0.0067	0.0289	0.0482	0.0944
1	0.35	0.3913	-0.0617	0.0021	0.0324	0.0172	0.0087	0.0369	0.2178	0.0989
1	0.35	0.4496	-0.1086	0.0024	0.0397	0.0228	-0.0248	0.0492	0.0892	0.0969
1	0.35	0.4997	-0.1332	0.0021	0.0697	0.0282	-0.0409	0.0600	0.2733	0.1037
1	0.35	0.5387	-0.1660	0.0026	0.0777	0.0327	-0.0934	0.0672	0.1448	0.1010
1	0.35	0.5996	-0.2093	0.0027	0.1199	0.0408	-0.2185	0.0818	0.4625	0.0802
1	0.35	0.6498	-0.2377	0.0027	0.1258	0.0471	-0.3974	0.0951	0.2979	0.0807
1	0.35	0.6998	-0.2756	0.0029	0.1636	0.0540	-0.5955	0.1071	0.3674	0.0858
1	0.35	0.7500	-0.2938	0.0032	0.1888	0.0613	-0.8275	0.1233	0.4692	0.0869
1	0.35	0.8001	-0.3185	0.0040	0.1997	0.0670	-1.1246	0.1345	0.3213	0.0913
1	0.35	0.8497	-0.3438	0.0051	0.2278	0.0742	-1.5096	0.1539	0.2750	0.0807
1	0.35	0.9102	-0.3761	0.0066	0.3187	0.0827	-2.0083	0.1764	0.2648	0.0915
1	0.35	0.9734	-0.3412	0.0074	0.3890	0.0921	-2.5589	0.2064	0.4823	0.0636
2	0	0.1949	0.0357	0.0026	0.0065	0.0021	0.0038	0.0038	-0.1303	0.0334
2	0	0.2405	0.0085	0.0017	-0.0163	0.0027	0.0200	0.0046	-0.1614	0.0567
2	0	0.2999	-0.0037	0.0015	-0.0047	0.0052	0.0173	0.0110	-0.2949	0.0655
2	0	0.3498	-0.0422	0.0011	-0.0029	0.0064	0.0449	0.0163	-0.1809	0.0678
2	0	0.3998	-0.0745	0.0015	-0.0230	0.0101	0.0619	0.0250	-0.1311	0.0618
2	0	0.4496	-0.1022	0.0013	-0.0219	0.0125	0.0540	0.0328	-0.1358	0.0685
2	0	0.4995	-0.1388	0.0016	-0.0309	0.0155	0.0134	0.0412	-0.2143	0.0756
2	0	0.5551	-0.1689	0.0022	-0.0494	0.0186	-0.0292	0.0483	-0.0557	0.0744
2	0	0.5996	-0.1970	0.0017	-0.0325	0.0195	-0.1508	0.0545	-0.1399	0.0646
2	0	0.6497	-0.2214	0.0019	-0.0355	0.0225	-0.2791	0.0609	-0.1384	0.0680
2	0	0.6996	-0.2329	0.0032	-0.0354	0.0248	-0.4312	0.0735	0.0018	0.0915
2	0	0.7495	-0.2664	0.0030	-0.0274	0.0258	-0.6593	0.0896	-0.1104	0.0753
2	0	0.7996	-0.2862	0.0041	-0.0585	0.0298	-0.9048	0.1080	-0.1571	0.0864
2	0	0.8578	-0.3320	0.0044	-0.0606	0.0322	-1.2472	0.1330	0.0886	0.0936
2	0	0.9100	-0.3339	0.0077	-0.0238	0.0327	-1.6380	0.1586	0.0455	0.0946
2	0	0.9727	-0.3856	0.0089	0.0390	0.0351	-2.0553	0.1993	0.5146	0.1210

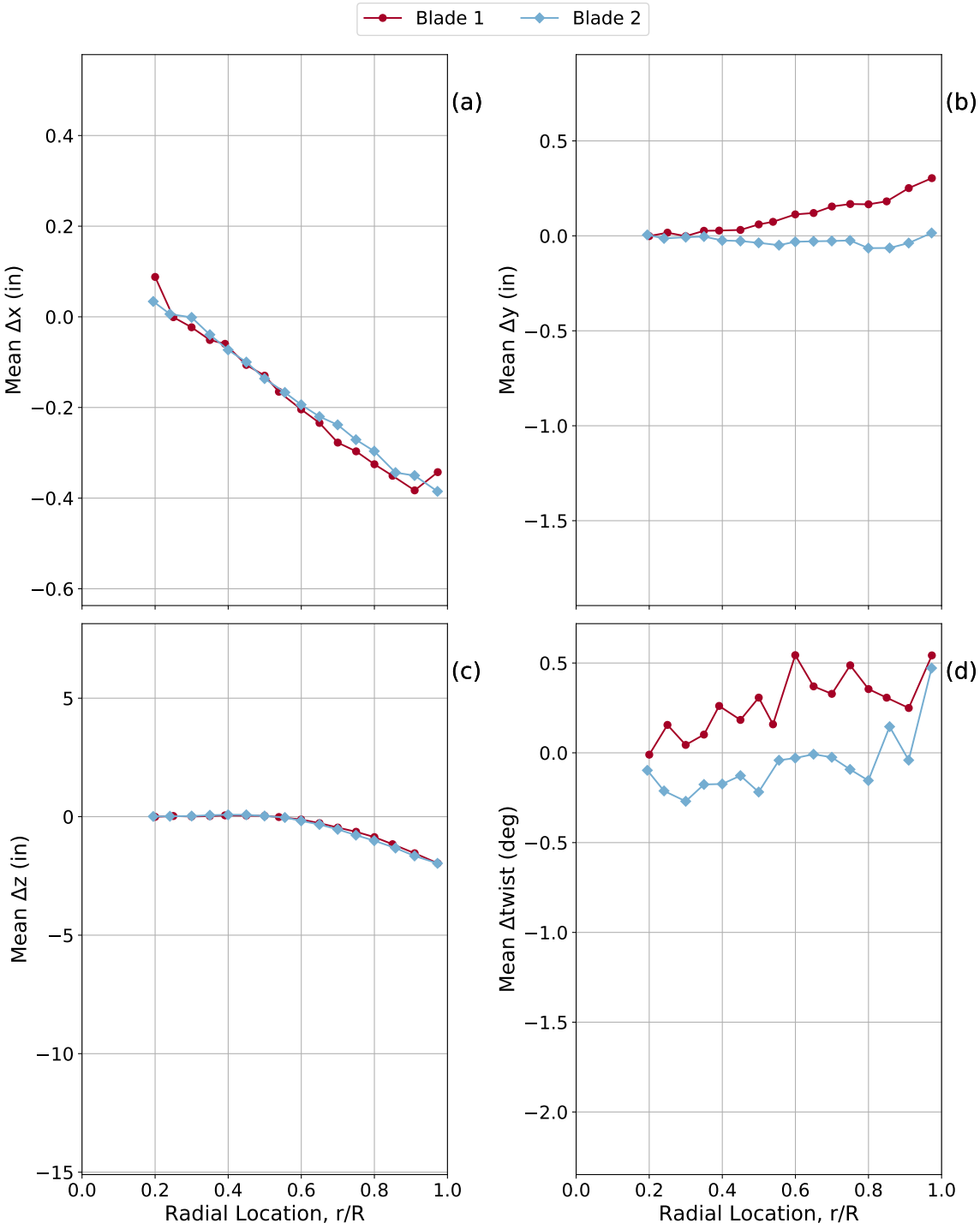


Figure 3.4-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0880	0.0044	-0.0013	0.0020	-0.0072	0.0076	-0.0103	0.0522
1	4.92	0.2499	-0.0008	0.0021	0.0168	0.0044	0.0281	0.0126	0.1554	0.1146
1	4.92	0.2998	-0.0231	0.0013	-0.0018	0.0079	0.0084	0.0233	0.0440	0.1305
1	4.92	0.3498	-0.0511	0.0021	0.0266	0.0153	0.0249	0.0425	0.1015	0.1113
1	4.92	0.3913	-0.0596	0.0021	0.0277	0.0212	0.0555	0.0563	0.2611	0.1225
1	4.92	0.4496	-0.1061	0.0023	0.0311	0.0287	0.0452	0.0752	0.1832	0.1227
1	4.92	0.4997	-0.1298	0.0028	0.0603	0.0367	0.0348	0.0935	0.3074	0.1239
1	4.92	0.5387	-0.1653	0.0023	0.0738	0.0418	-0.0154	0.1091	0.1586	0.1285
1	4.92	0.5996	-0.2042	0.0030	0.1130	0.0510	-0.1188	0.1345	0.5438	0.1336
1	4.92	0.6498	-0.2341	0.0028	0.1202	0.0586	-0.2736	0.1533	0.3700	0.1327
1	4.92	0.6998	-0.2775	0.0034	0.1545	0.0658	-0.4591	0.1799	0.3283	0.1091
1	4.92	0.7500	-0.2968	0.0032	0.1675	0.0734	-0.6376	0.2021	0.4872	0.1187
1	4.92	0.8001	-0.3253	0.0039	0.1661	0.0813	-0.8627	0.2238	0.3549	0.1378
1	4.92	0.8497	-0.3507	0.0033	0.1816	0.0887	-1.1612	0.2493	0.3070	0.1238
1	4.92	0.9102	-0.3829	0.0047	0.2514	0.0965	-1.5425	0.2785	0.2496	0.1316
1	4.92	0.9734	-0.3427	0.0062	0.3038	0.1069	-1.9653	0.3180	0.5425	0.1348
2	4.92	0.1949	0.0339	0.0031	0.0051	0.0014	0.0090	0.0046	-0.0974	0.0391
2	4.92	0.2405	0.0061	0.0014	-0.0137	0.0025	0.0168	0.0070	-0.2122	0.0791
2	4.92	0.2999	-0.0013	0.0014	-0.0071	0.0054	0.0267	0.0154	-0.2700	0.0990
2	4.92	0.3498	-0.0394	0.0018	-0.0037	0.0107	0.0607	0.0244	-0.1762	0.0883
2	4.92	0.3998	-0.0730	0.0018	-0.0242	0.0154	0.0802	0.0368	-0.1736	0.0855
2	4.92	0.4496	-0.0999	0.0021	-0.0273	0.0189	0.0781	0.0511	-0.1271	0.0839
2	4.92	0.4995	-0.1363	0.0017	-0.0368	0.0219	0.0296	0.0624	-0.2184	0.0840
2	4.92	0.5551	-0.1668	0.0021	-0.0491	0.0273	-0.0342	0.0746	-0.0414	0.0847
2	4.92	0.5996	-0.1939	0.0026	-0.0312	0.0308	-0.1755	0.0813	-0.0292	0.0820
2	4.92	0.6497	-0.2201	0.0023	-0.0288	0.0343	-0.3306	0.0900	-0.0079	0.0961
2	4.92	0.6996	-0.2383	0.0026	-0.0272	0.0367	-0.5354	0.0975	-0.0250	0.0923
2	4.92	0.7495	-0.2711	0.0026	-0.0243	0.0416	-0.7789	0.1108	-0.0923	0.1012
2	4.92	0.7996	-0.2964	0.0030	-0.0647	0.0434	-1.0131	0.1221	-0.1543	0.0829
2	4.92	0.8578	-0.3437	0.0040	-0.0639	0.0484	-1.3233	0.1404	0.1457	0.0834
2	4.92	0.9100	-0.3502	0.0038	-0.0378	0.0528	-1.6568	0.1583	-0.0411	0.0950
2	4.92	0.9727	-0.3852	0.0043	0.0151	0.0566	-1.9692	0.1834	0.4719	0.0969

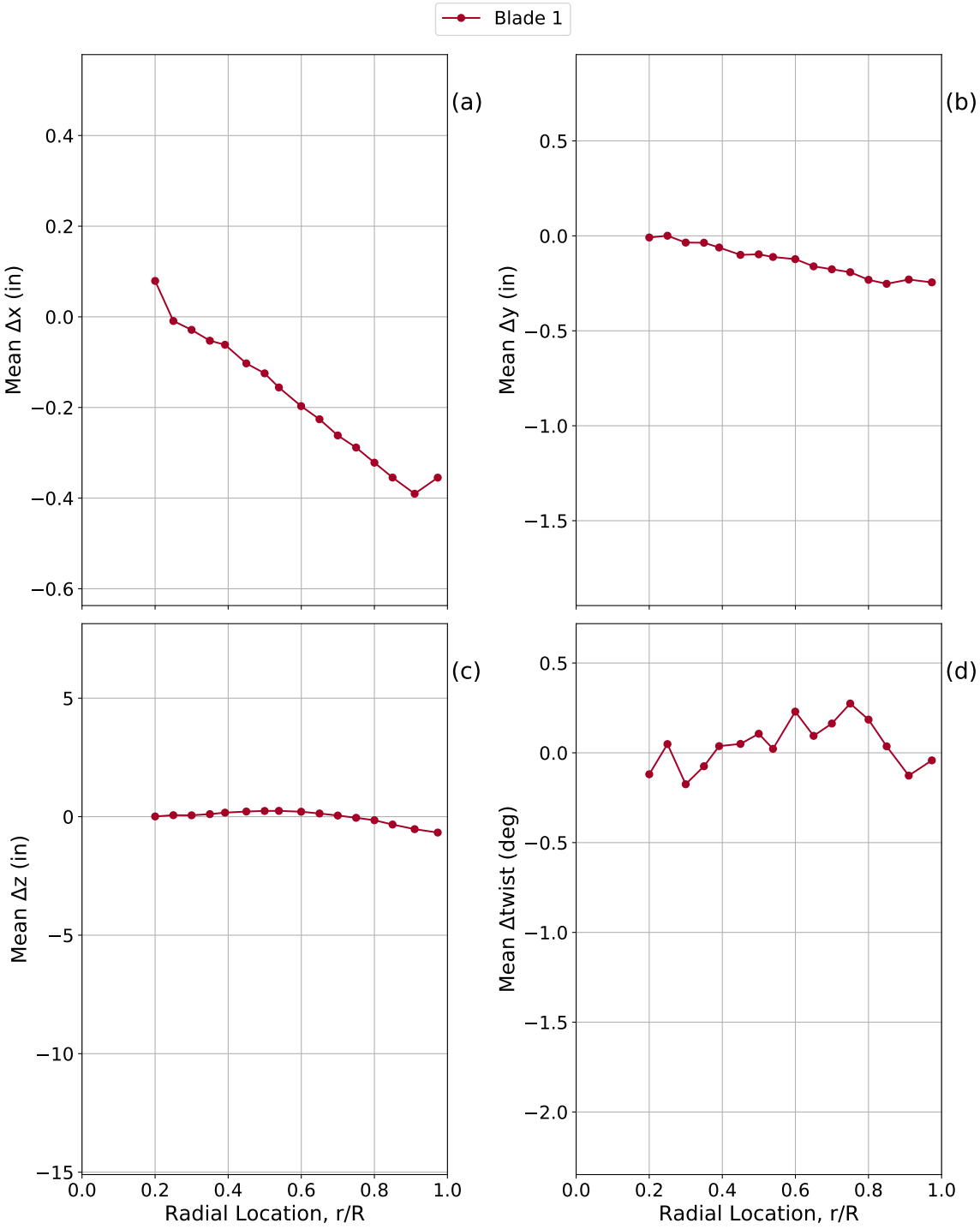


Figure 3.4-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.241$, $\alpha = -0°$ NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0792	0.0033	-0.0087	0.0017	0.0094	0.0068	-0.1194	0.0633
1	15.12	0.2499	-0.0091	0.0022	0.0006	0.0033	0.0630	0.0111	0.0487	0.1141
1	15.12	0.2998	-0.0287	0.0010	-0.0354	0.0068	0.0580	0.0200	-0.1751	0.1484
1	15.12	0.3498	-0.0527	0.0021	-0.0363	0.0130	0.1085	0.0372	-0.0748	0.1258
1	15.12	0.3913	-0.0616	0.0021	-0.0614	0.0179	0.1706	0.0486	0.0373	0.1234
1	15.12	0.4496	-0.1027	0.0024	-0.1002	0.0235	0.2170	0.0651	0.0496	0.1162
1	15.12	0.4997	-0.1247	0.0025	-0.0973	0.0284	0.2412	0.0761	0.1062	0.1185
1	15.12	0.5387	-0.1558	0.0025	-0.1113	0.0328	0.2453	0.0859	0.0221	0.1192
1	15.12	0.5996	-0.1970	0.0033	-0.1226	0.0397	0.2093	0.1040	0.2294	0.1165
1	15.12	0.6498	-0.2260	0.0028	-0.1607	0.0472	0.1349	0.1178	0.0945	0.1134
1	15.12	0.6998	-0.2617	0.0030	-0.1761	0.0525	0.0484	0.1318	0.1631	0.1133
1	15.12	0.7500	-0.2884	0.0035	-0.1914	0.0596	-0.0469	0.1488	0.2745	0.1150
1	15.12	0.8001	-0.3218	0.0033	-0.2314	0.0659	-0.1500	0.1683	0.1850	0.0970
1	15.12	0.8497	-0.3545	0.0034	-0.2526	0.0729	-0.3312	0.1842	0.0360	0.0922
1	15.12	0.9102	-0.3903	0.0037	-0.2300	0.0794	-0.5264	0.2075	-0.1268	0.0904
1	15.12	0.9734	-0.3548	0.0057	-0.2450	0.0882	-0.6695	0.2310	-0.0421	0.0697

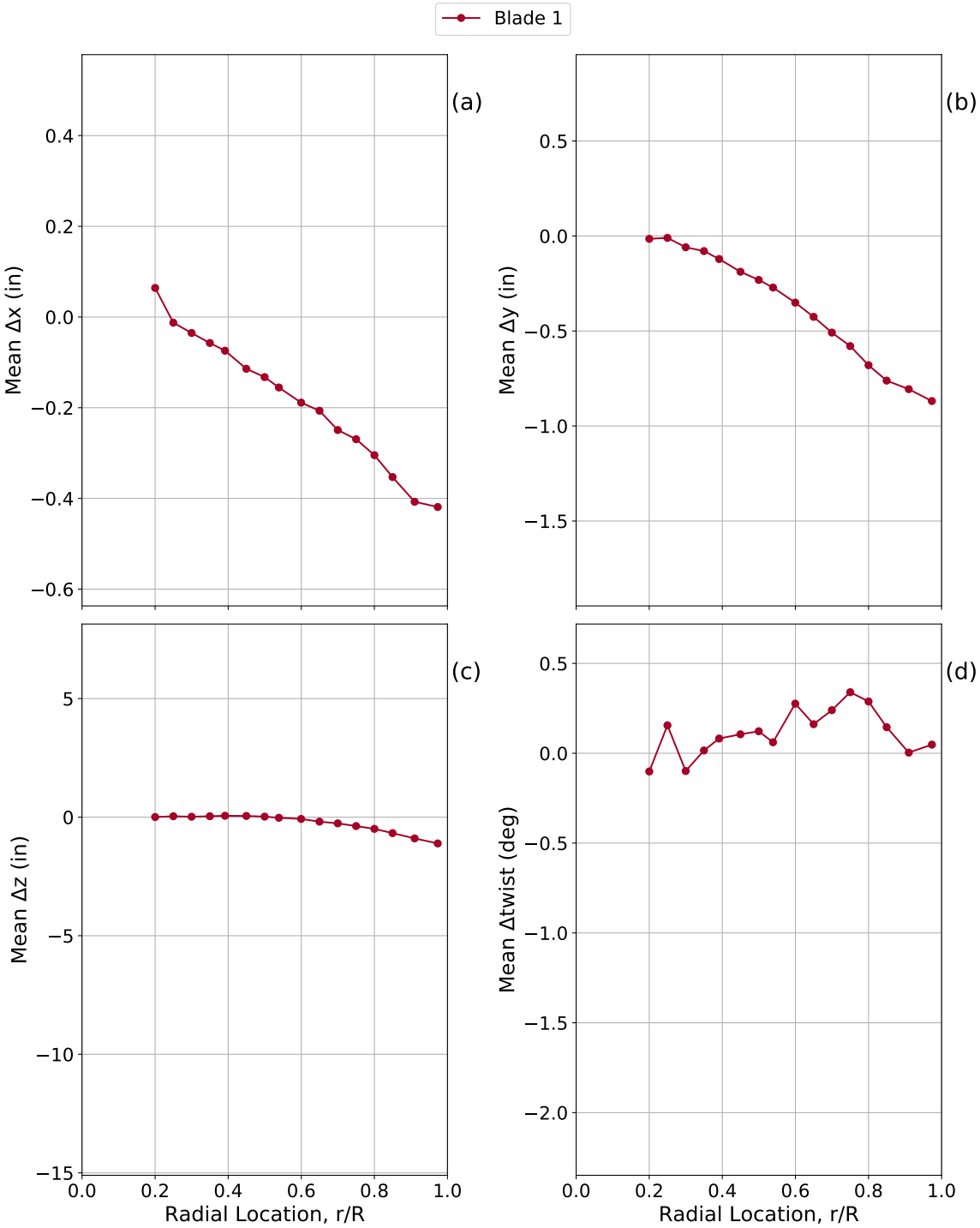


Figure 3.4-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.241$, $\alpha = -0°$
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0641	0.0036	-0.0149	0.0012	0.0048	0.0063	-0.1015	0.0460
1	29.88	0.2499	-0.0125	0.0014	-0.0099	0.0029	0.0377	0.0126	0.1555	0.0772
1	29.88	0.2998	-0.0352	0.0012	-0.0594	0.0052	0.0176	0.0226	-0.0988	0.1056
1	29.88	0.3498	-0.0573	0.0016	-0.0794	0.0101	0.0389	0.0400	0.0155	0.0943
1	29.88	0.3913	-0.0743	0.0019	-0.1212	0.0141	0.0581	0.0555	0.0818	0.0926
1	29.88	0.4496	-0.1141	0.0013	-0.1881	0.0190	0.0508	0.0788	0.1055	0.0984
1	29.88	0.4997	-0.1325	0.0022	-0.2313	0.0246	0.0220	0.1031	0.1223	0.0975
1	29.88	0.5387	-0.1554	0.0024	-0.2714	0.0288	-0.0260	0.1237	0.0611	0.0931
1	29.88	0.5996	-0.1888	0.0024	-0.3507	0.0335	-0.0755	0.1525	0.2759	0.0997
1	29.88	0.6498	-0.2067	0.0026	-0.4256	0.0396	-0.1893	0.1806	0.1618	0.0950
1	29.88	0.6998	-0.2492	0.0024	-0.5085	0.0447	-0.2623	0.2106	0.2398	0.0958
1	29.88	0.7500	-0.2694	0.0025	-0.5795	0.0502	-0.3761	0.2416	0.3398	0.0936
1	29.88	0.8001	-0.3047	0.0026	-0.6801	0.0548	-0.4945	0.2718	0.2881	0.0997
1	29.88	0.8497	-0.3529	0.0028	-0.7611	0.0604	-0.6731	0.2970	0.1450	0.0988
1	29.88	0.9102	-0.4074	0.0028	-0.8062	0.0669	-0.8969	0.3283	0.0036	0.0930
1	29.88	0.9734	-0.4189	0.0044	-0.8686	0.0736	-1.1083	0.3557	0.0480	0.0937

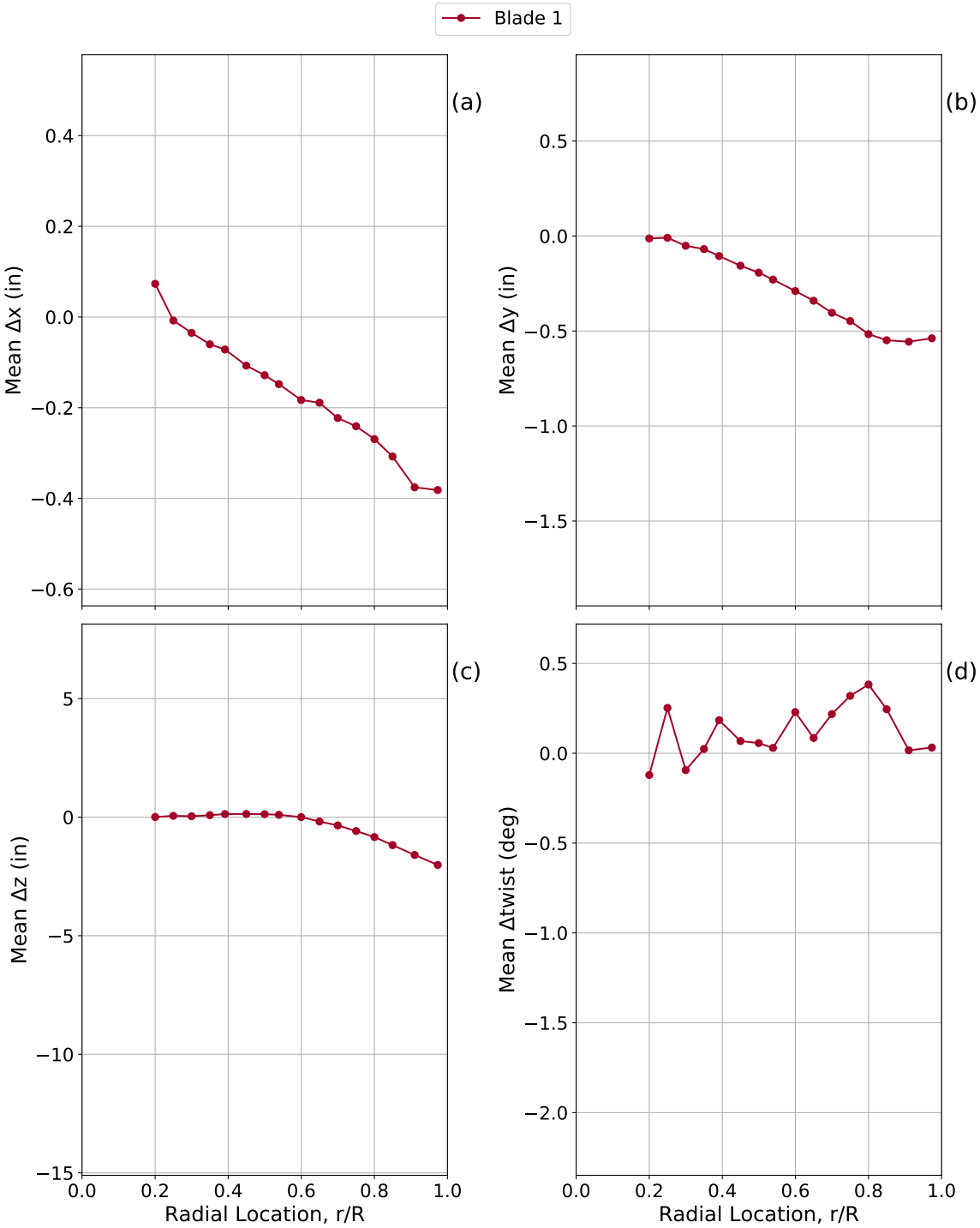


Figure 3.4-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0732	0.0027	-0.0129	0.0010	0.0050	0.0038	-0.1213	0.0285
1	45	0.2499	-0.0077	0.0020	-0.0094	0.0026	0.0551	0.0082	0.2524	0.0580
1	45	0.2998	-0.0349	0.0021	-0.0515	0.0044	0.0387	0.0146	-0.0939	0.0679
1	45	0.3498	-0.0601	0.0020	-0.0690	0.0076	0.0831	0.0254	0.0238	0.0528
1	45	0.3913	-0.0716	0.0021	-0.1056	0.0113	0.1293	0.0364	0.1842	0.0511
1	45	0.4496	-0.1072	0.0020	-0.1563	0.0131	0.1342	0.0470	0.0679	0.0559
1	45	0.4997	-0.1283	0.0021	-0.1930	0.0144	0.1261	0.0607	0.0565	0.0550
1	45	0.5387	-0.1480	0.0026	-0.2295	0.0170	0.0991	0.0707	0.0297	0.0577
1	45	0.5996	-0.1830	0.0029	-0.2896	0.0205	0.0030	0.0882	0.2289	0.0554
1	45	0.6498	-0.1890	0.0023	-0.3407	0.0223	-0.1830	0.1031	0.0851	0.0638
1	45	0.6998	-0.2228	0.0019	-0.4041	0.0252	-0.3496	0.1180	0.2180	0.0569
1	45	0.7500	-0.2410	0.0030	-0.4476	0.0283	-0.5848	0.1348	0.3195	0.0616
1	45	0.8001	-0.2692	0.0031	-0.5166	0.0311	-0.8393	0.1515	0.3822	0.0577
1	45	0.8497	-0.3076	0.0029	-0.5486	0.0337	-1.1798	0.1670	0.2450	0.0684
1	45	0.9102	-0.3756	0.0030	-0.5565	0.0369	-1.5929	0.1845	0.0164	0.0668
1	45	0.9734	-0.3815	0.0026	-0.5384	0.0399	-2.0169	0.1998	0.0317	0.0616

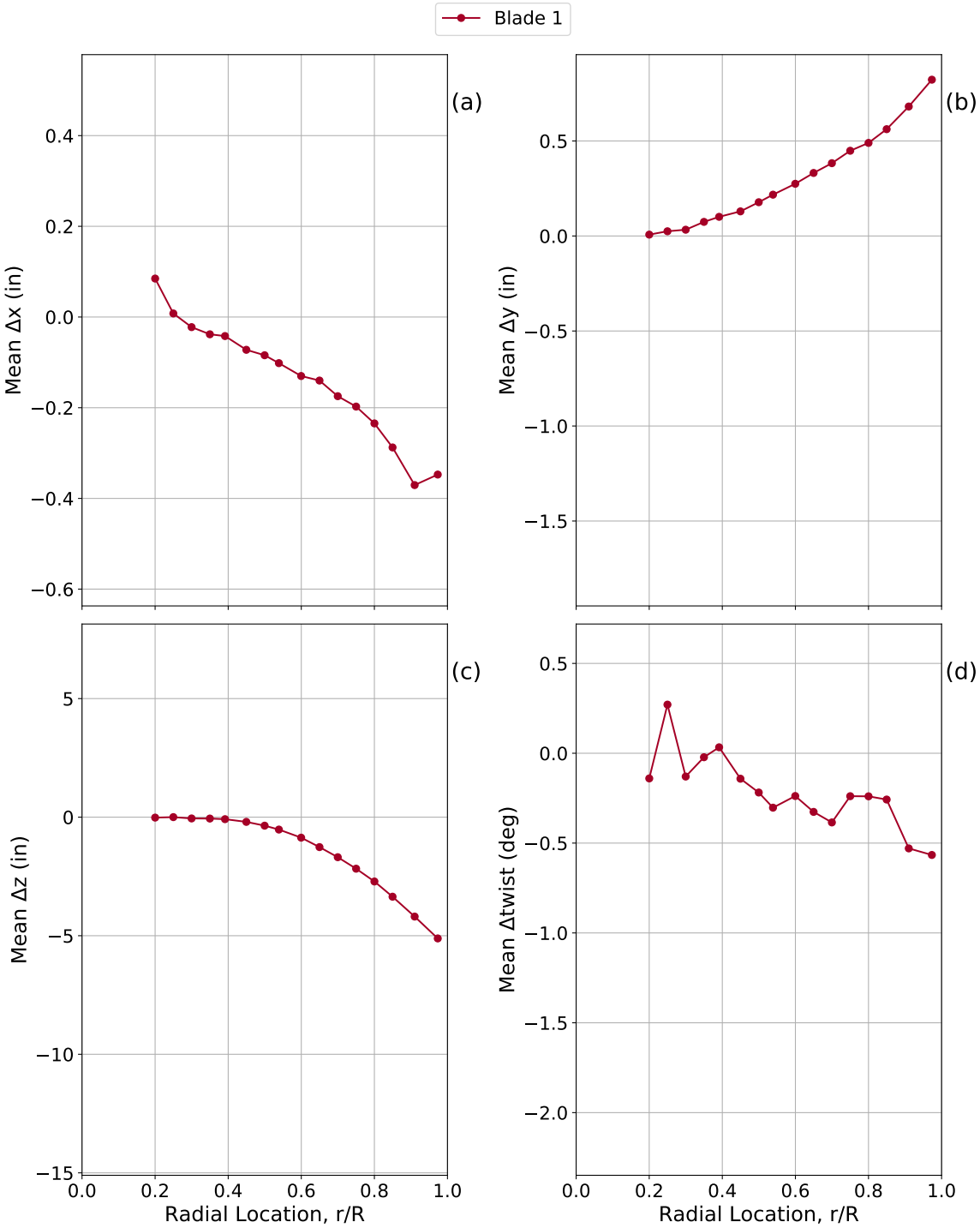


Figure 3.4-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.241$, $\alpha = -0°$ NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.1$, $\mu = 0.241$, $\alpha = -0°$
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0848	0.0022	0.0072	0.0009	-0.0192	0.0035	-0.1401	0.0254
1	60.12	0.2499	0.0078	0.0022	0.0248	0.0010	0.0012	0.0082	0.2707	0.0501
1	60.12	0.2998	-0.0223	0.0028	0.0330	0.0030	-0.0544	0.0139	-0.1296	0.0580
1	60.12	0.3498	-0.0381	0.0012	0.0742	0.0045	-0.0590	0.0252	-0.0221	0.0555
1	60.12	0.3913	-0.0420	0.0019	0.1008	0.0061	-0.0848	0.0359	0.0332	0.0756
1	60.12	0.4496	-0.0723	0.0015	0.1295	0.0082	-0.1995	0.0544	-0.1417	0.0577
1	60.12	0.4997	-0.0843	0.0020	0.1777	0.0099	-0.3591	0.0704	-0.2185	0.0618
1	60.12	0.5387	-0.1017	0.0025	0.2174	0.0111	-0.5236	0.0848	-0.3029	0.0718
1	60.12	0.5996	-0.1301	0.0030	0.2747	0.0156	-0.8645	0.1052	-0.2380	0.0702
1	60.12	0.6498	-0.1401	0.0034	0.3317	0.0168	-1.2631	0.1255	-0.3264	0.0784
1	60.12	0.6998	-0.1746	0.0038	0.3831	0.0194	-1.6889	0.1451	-0.3850	0.0793
1	60.12	0.7500	-0.1975	0.0041	0.4485	0.0244	-2.1734	0.1681	-0.2389	0.0686
1	60.12	0.8001	-0.2346	0.0050	0.4899	0.0276	-2.7131	0.1924	-0.2397	0.0841
1	60.12	0.8497	-0.2876	0.0054	0.5621	0.0322	-3.3545	0.2160	-0.2576	0.0795
1	60.12	0.9102	-0.3706	0.0064	0.6813	0.0365	-4.1923	0.2436	-0.5295	0.0804
1	60.12	0.9734	-0.3474	0.0077	0.8225	0.0422	-5.1142	0.2740	-0.5660	0.0854

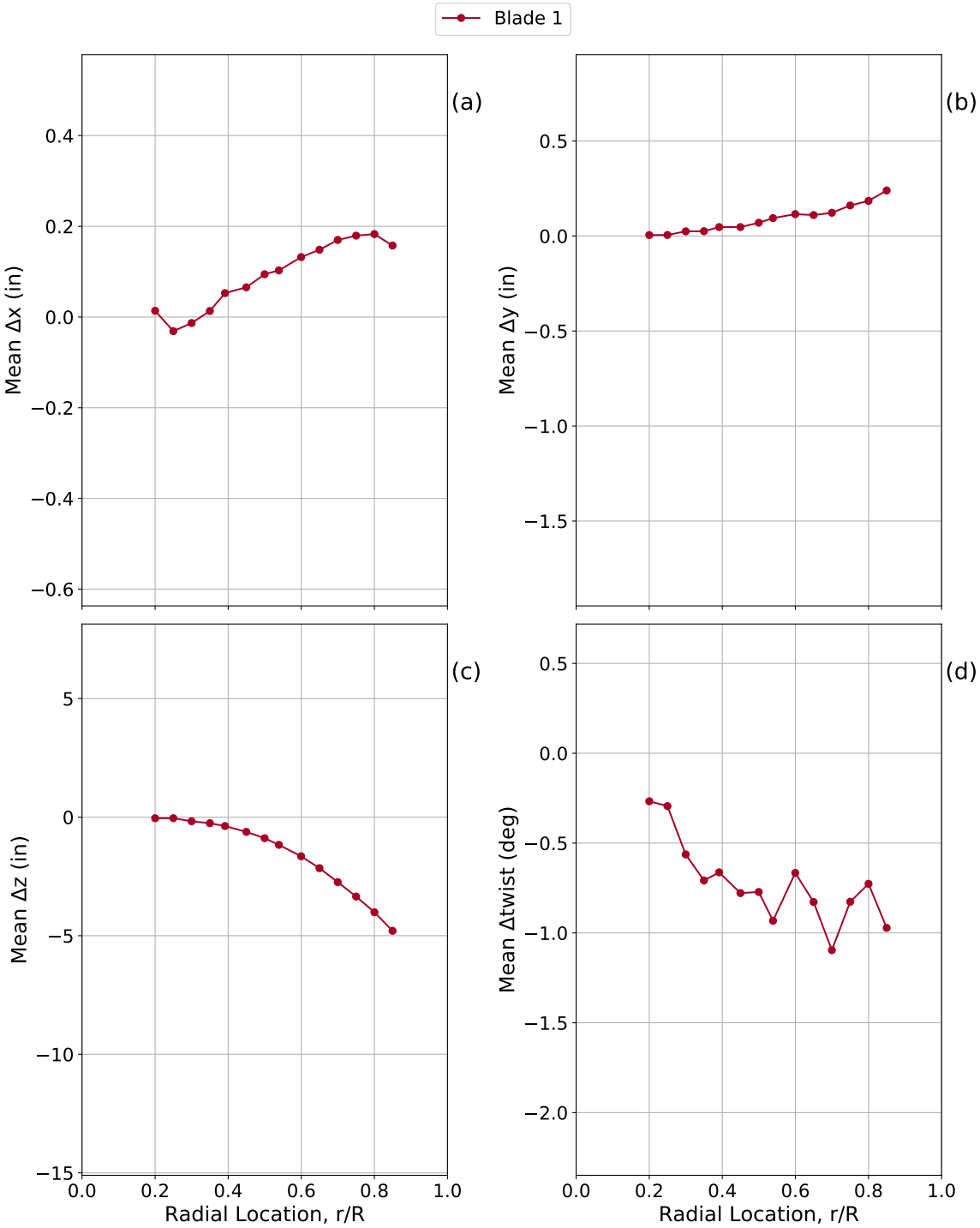


Figure 3.4-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0138	0.0010	0.0047	0.0009	-0.0459	0.0039	-0.2672	0.0154
1	74.88	0.2499	-0.0312	0.0017	0.0052	0.0020	-0.0439	0.0073	-0.2942	0.0288
1	74.88	0.2998	-0.0133	0.0009	0.0244	0.0040	-0.1746	0.0166	-0.5630	0.0296
1	74.88	0.3498	0.0133	0.0012	0.0252	0.0064	-0.2548	0.0259	-0.7081	0.0449
1	74.88	0.3913	0.0527	0.0017	0.0468	0.0096	-0.3746	0.0387	-0.6628	0.0436
1	74.88	0.4496	0.0655	0.0018	0.0468	0.0142	-0.6204	0.0564	-0.7782	0.0295
1	74.88	0.4997	0.0943	0.0020	0.0696	0.0175	-0.8872	0.0702	-0.7721	0.0530
1	74.88	0.5387	0.1028	0.0025	0.0940	0.0196	-1.1675	0.0798	-0.9321	0.0496
1	74.88	0.5996	0.1321	0.0014	0.1149	0.0232	-1.6503	0.0939	-0.6658	0.0708
1	74.88	0.6498	0.1484	0.0028	0.1100	0.0268	-2.1518	0.1058	-0.8280	0.0838
1	74.88	0.6998	0.1699	0.0043	0.1221	0.0301	-2.7401	0.1197	-1.0958	0.0876
1	74.88	0.7500	0.1794	0.0063	0.1606	0.0336	-3.3476	0.1333	-0.8266	0.2026
1	74.88	0.8001	0.1828	0.0132	0.1846	0.0465	-4.0094	0.1331	-0.7266	0.3459
1	74.88	0.8497	0.1576	0.0086	0.2394	0.0440	-4.7944	0.1637	-0.9717	0.2243

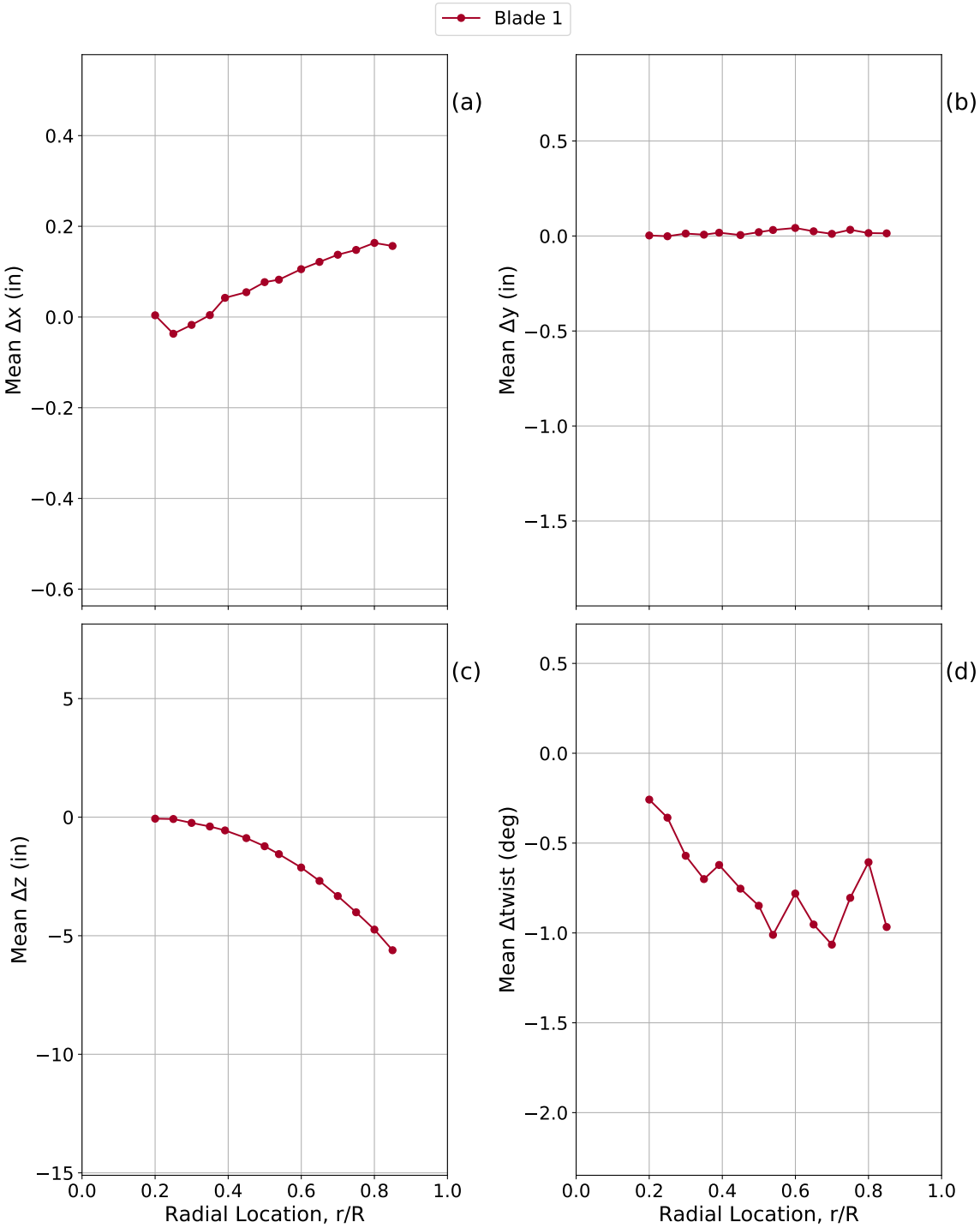


Figure 3.4-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0038	0.0018	0.0027	0.0006	-0.0642	0.0022	-0.2580	0.0276
1	80.16	0.2499	-0.0369	0.0012	-0.0014	0.0009	-0.0781	0.0049	-0.3585	0.0517
1	80.16	0.2998	-0.0174	0.0009	0.0127	0.0021	-0.2432	0.0083	-0.5706	0.0643
1	80.16	0.3498	0.0042	0.0012	0.0069	0.0039	-0.3935	0.0154	-0.7003	0.0526
1	80.16	0.3913	0.0423	0.0014	0.0173	0.0051	-0.5592	0.0217	-0.6218	0.0485
1	80.16	0.4496	0.0547	0.0022	0.0049	0.0068	-0.8838	0.0318	-0.7536	0.0478
1	80.16	0.4997	0.0769	0.0022	0.0201	0.0084	-1.2269	0.0451	-0.8485	0.0634
1	80.16	0.5387	0.0823	0.0028	0.0315	0.0100	-1.5588	0.0537	-1.0107	0.0797
1	80.16	0.5996	0.1055	0.0023	0.0422	0.0120	-2.1233	0.0722	-0.7807	0.0606
1	80.16	0.6498	0.1215	0.0033	0.0247	0.0129	-2.6889	0.0842	-0.9531	0.0690
1	80.16	0.6998	0.1373	0.0031	0.0112	0.0162	-3.3262	0.1026	-1.0651	0.0832
1	80.16	0.7500	0.1479	0.0048	0.0327	0.0184	-4.0120	0.1145	-0.8049	0.1010
1	80.16	0.8001	0.1634	0.0053	0.0153	0.0202	-4.7414	0.1267	-0.6063	0.1453
1	80.16	0.8497	0.1566	0.0080	0.0138	0.0247	-5.6116	0.1540	-0.9669	0.1626

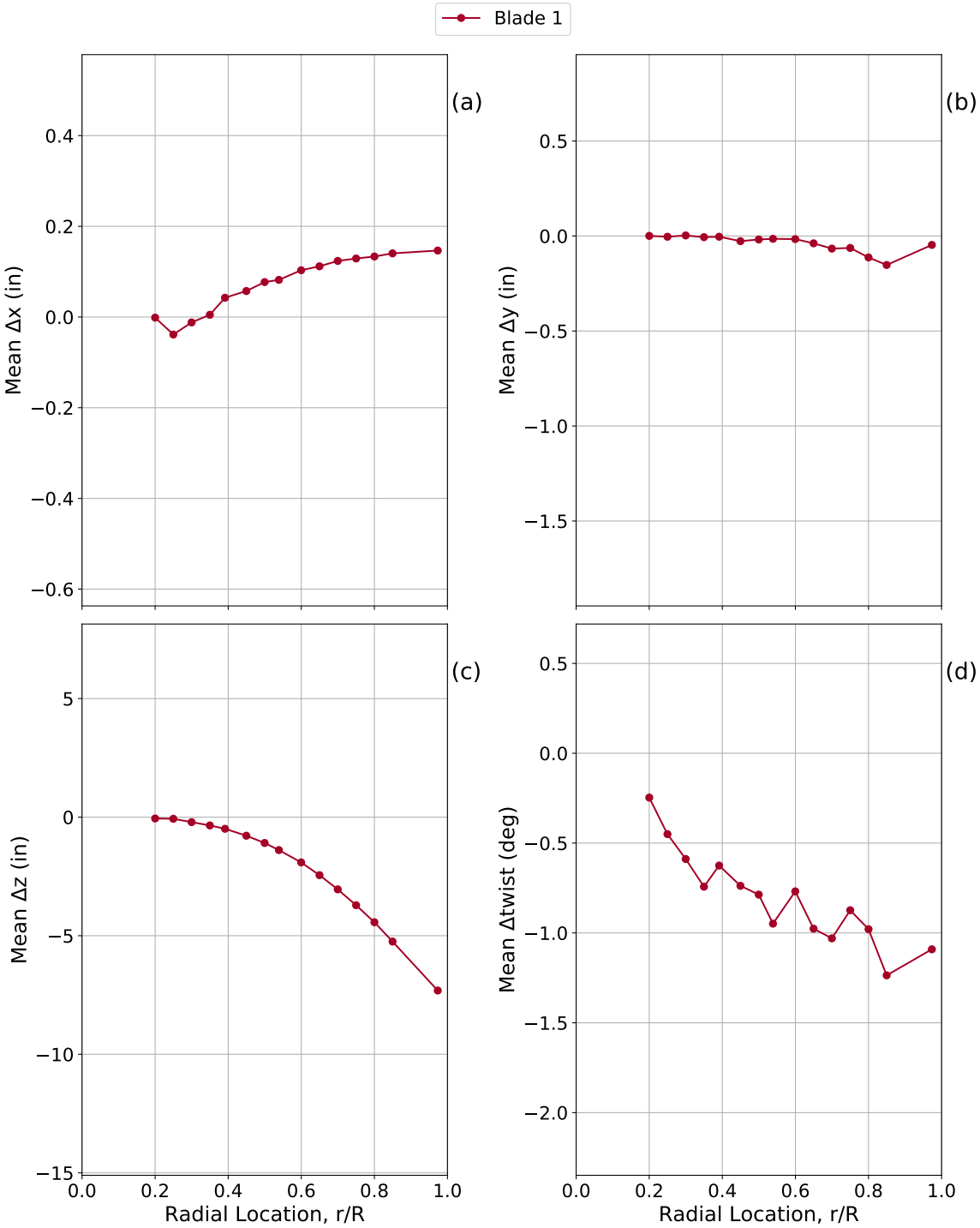


Figure 3.4-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0014	0.0014	0.0005	0.0007	-0.0564	0.0020	-0.2467	0.0353
1	85.08	0.2499	-0.0386	0.0011	-0.0040	0.0031	-0.0692	0.0058	-0.4501	0.0448
1	85.08	0.2998	-0.0119	0.0009	0.0027	0.0028	-0.2102	0.0084	-0.5884	0.0756
1	85.08	0.3498	0.0049	0.0013	-0.0062	0.0065	-0.3502	0.0159	-0.7427	0.0552
1	85.08	0.3913	0.0425	0.0022	-0.0038	0.0088	-0.4904	0.0222	-0.6249	0.0600
1	85.08	0.4496	0.0573	0.0020	-0.0272	0.0120	-0.7832	0.0354	-0.7376	0.0571
1	85.08	0.4997	0.0770	0.0024	-0.0185	0.0144	-1.0885	0.0471	-0.7868	0.0656
1	85.08	0.5387	0.0819	0.0022	-0.0150	0.0168	-1.3884	0.0576	-0.9483	0.0566
1	85.08	0.5996	0.1031	0.0024	-0.0163	0.0204	-1.9076	0.0741	-0.7687	0.0720
1	85.08	0.6498	0.1118	0.0035	-0.0386	0.0236	-2.4458	0.0907	-0.9764	0.0677
1	85.08	0.6998	0.1237	0.0033	-0.0664	0.0266	-3.0468	0.1033	-1.0301	0.0880
1	85.08	0.7500	0.1290	0.0062	-0.0630	0.0307	-3.7146	0.1232	-0.8736	0.0589
1	85.08	0.8001	0.1334	0.0065	-0.1130	0.0357	-4.4317	0.1407	-0.9793	0.1086
1	85.08	0.8497	0.1403	0.0067	-0.1526	0.0387	-5.2455	0.1530	-1.2360	0.0853
1	85.08	0.9734	0.1466	0.0120	-0.0470	0.0552	-7.3115	0.1996	-1.0911	0.2448

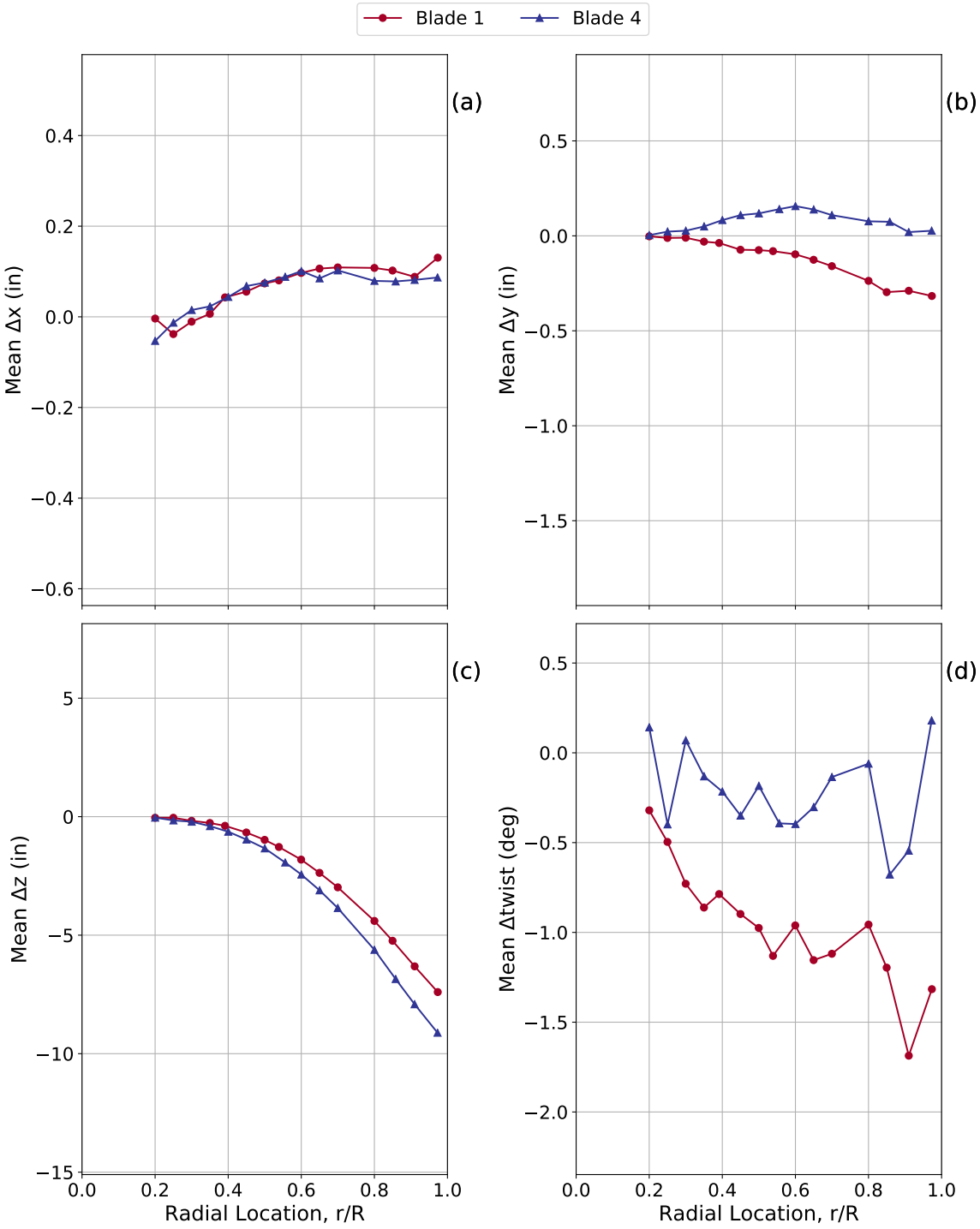


Figure 3.4-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0038	0.0007	-0.0025	0.0008	-0.0455	0.0026	-0.3203	0.0135
1	90	0.2499	-0.0381	0.0008	-0.0110	0.0015	-0.0455	0.0051	-0.4962	0.0216
1	90	0.2998	-0.0107	0.0009	-0.0099	0.0032	-0.1747	0.0102	-0.7291	0.0303
1	90	0.3498	0.0066	0.0013	-0.0306	0.0053	-0.2659	0.0179	-0.8617	0.0358
1	90	0.3913	0.0429	0.0011	-0.0376	0.0076	-0.3855	0.0252	-0.7866	0.0359
1	90	0.4496	0.0555	0.0014	-0.0732	0.0100	-0.6668	0.0333	-0.8976	0.0341
1	90	0.4997	0.0737	0.0020	-0.0751	0.0118	-0.9781	0.0413	-0.9750	0.0397
1	90	0.5387	0.0804	0.0024	-0.0805	0.0135	-1.2787	0.0494	-1.1308	0.0328
1	90	0.5996	0.0969	0.0023	-0.0972	0.0164	-1.8113	0.0607	-0.9611	0.0306
1	90	0.6498	0.1064	0.0030	-0.1261	0.0194	-2.3710	0.0728	-1.1544	0.0391
1	90	0.6998	0.1090	0.0029	-0.1595	0.0226	-2.9810	0.0802	-1.1190	0.0349
1	90	0.8001	0.1079	0.0046	-0.2370	0.0304	-4.3996	0.1015	-0.9567	0.0569
1	90	0.8497	0.1021	0.0049	-0.2964	0.0337	-5.2365	0.1134	-1.1962	0.0541
1	90	0.9102	0.0882	0.0094	-0.2892	0.0390	-6.3157	0.1304	-1.6865	0.1703
1	90	0.9734	0.1305	0.0084	-0.3167	0.0430	-7.4005	0.1372	-1.3161	0.1495
4	90.35	0.2001	-0.0531	0.0015	0.0035	0.0011	-0.0402	0.0012	0.1417	0.0211
4	90.35	0.2502	-0.0129	0.0010	0.0222	0.0018	-0.1581	0.0046	-0.3986	0.0271
4	90.35	0.3001	0.0150	0.0011	0.0269	0.0041	-0.2120	0.0068	0.0693	0.0435
4	90.35	0.3502	0.0231	0.0014	0.0494	0.0072	-0.3994	0.0109	-0.1312	0.0463
4	90.35	0.4002	0.0439	0.0019	0.0829	0.0109	-0.6347	0.0183	-0.2160	0.0292
4	90.35	0.4500	0.0678	0.0019	0.1091	0.0147	-0.9648	0.0243	-0.3497	0.0414
4	90.35	0.5001	0.0755	0.0020	0.1182	0.0185	-1.3375	0.0320	-0.1842	0.0397
4	90.35	0.5560	0.0882	0.0023	0.1406	0.0245	-1.9338	0.0384	-0.3928	0.0409
4	90.35	0.6001	0.1008	0.0032	0.1565	0.0292	-2.4422	0.0441	-0.3966	0.0464
4	90.35	0.6501	0.0848	0.0038	0.1387	0.0353	-3.1083	0.0505	-0.3026	0.0435
4	90.35	0.6999	0.1024	0.0042	0.1090	0.0412	-3.8554	0.0561	-0.1350	0.0443
4	90.35	0.8002	0.0793	0.0059	0.0765	0.0540	-5.6191	0.0697	-0.0605	0.0847
4	90.35	0.8582	0.0781	0.0072	0.0740	0.0616	-6.8509	0.0857	-0.6780	0.0842
4	90.35	0.9101	0.0814	0.0068	0.0198	0.0679	-7.9152	0.0964	-0.5450	0.0599
4	90.35	0.9728	0.0868	0.0088	0.0268	0.0758	-9.1171	0.1103	0.1802	0.1119

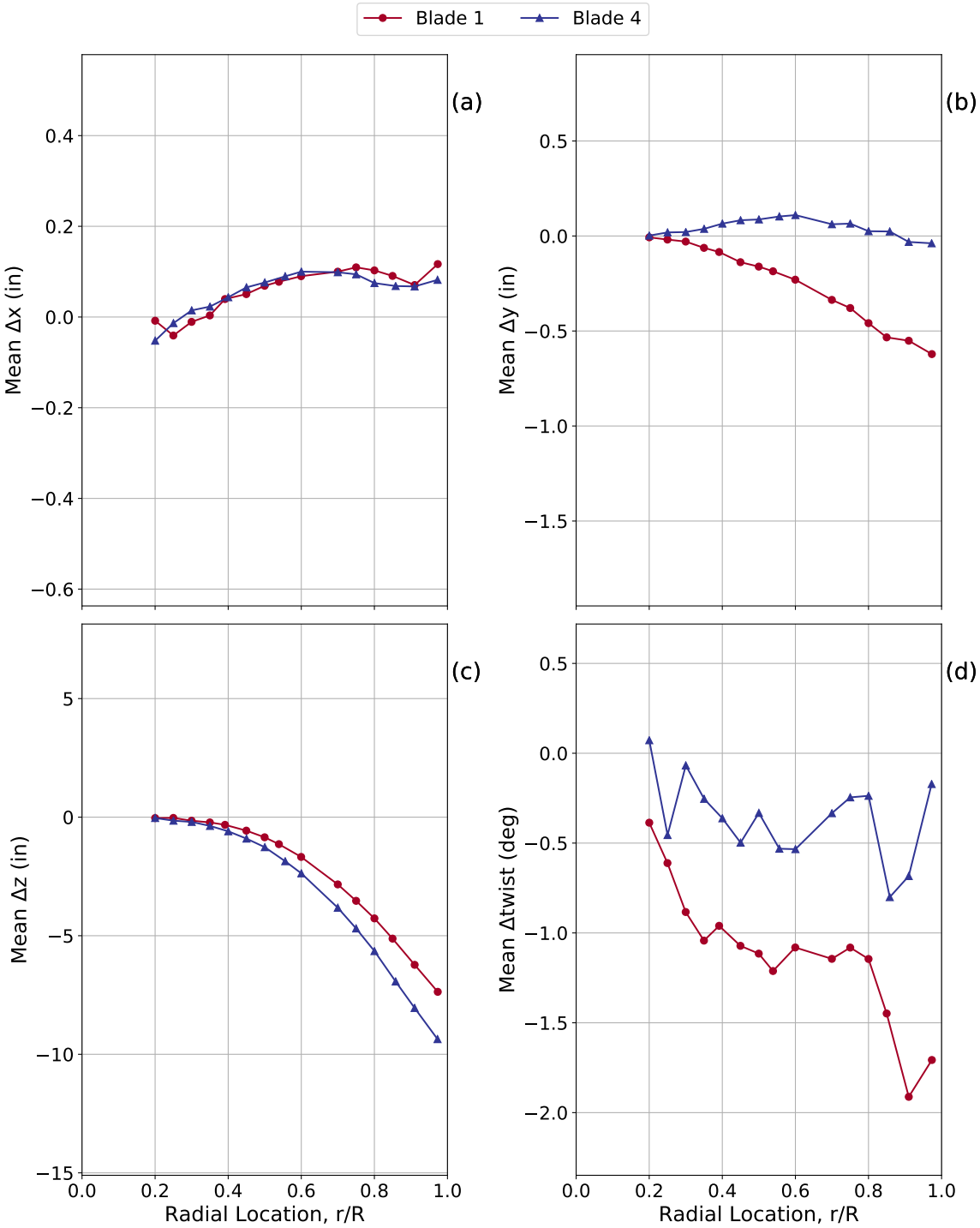


Figure 3.4-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0082	0.0010	-0.0072	0.0011	-0.0386	0.0031	-0.3865	0.0239
1	94.92	0.2499	-0.0408	0.0015	-0.0189	0.0018	-0.0326	0.0069	-0.6112	0.0311
1	94.92	0.2998	-0.0107	0.0012	-0.0294	0.0045	-0.1498	0.0131	-0.8836	0.0515
1	94.92	0.3498	0.0035	0.0016	-0.0625	0.0073	-0.2214	0.0216	-1.0426	0.0501
1	94.92	0.3913	0.0396	0.0017	-0.0843	0.0106	-0.3239	0.0321	-0.9604	0.0519
1	94.92	0.4496	0.0505	0.0027	-0.1379	0.0145	-0.5687	0.0454	-1.0717	0.0524
1	94.92	0.4997	0.0689	0.0023	-0.1612	0.0195	-0.8492	0.0593	-1.1151	0.0512
1	94.92	0.5387	0.0777	0.0029	-0.1857	0.0240	-1.1388	0.0721	-1.2119	0.0646
1	94.92	0.5996	0.0900	0.0033	-0.2300	0.0310	-1.6772	0.0886	-1.0809	0.0539
1	94.92	0.6998	0.1000	0.0040	-0.3363	0.0444	-2.8364	0.1178	-1.1442	0.0791
1	94.92	0.7500	0.1095	0.0052	-0.3792	0.0516	-3.5289	0.1322	-1.0815	0.0682
1	94.92	0.8001	0.1028	0.0044	-0.4587	0.0586	-4.2694	0.1465	-1.1449	0.0811
1	94.92	0.8497	0.0906	0.0051	-0.5336	0.0659	-5.1222	0.1596	-1.4483	0.0702
1	94.92	0.9102	0.0705	0.0109	-0.5512	0.0751	-6.2273	0.1675	-1.9121	0.0978
1	94.92	0.9734	0.1167	0.0087	-0.6216	0.0842	-7.3663	0.1909	-1.7071	0.0871
4	94.92	0.2001	-0.0522	0.0010	0.0021	0.0007	-0.0361	0.0022	0.0725	0.0110
4	94.92	0.2502	-0.0135	0.0006	0.0187	0.0015	-0.1493	0.0054	-0.4552	0.0347
4	94.92	0.3001	0.0146	0.0009	0.0207	0.0030	-0.2007	0.0088	-0.0677	0.0292
4	94.92	0.3502	0.0230	0.0013	0.0375	0.0050	-0.3705	0.0149	-0.2538	0.0284
4	94.92	0.4002	0.0436	0.0017	0.0650	0.0078	-0.5972	0.0235	-0.3621	0.0388
4	94.92	0.4500	0.0653	0.0018	0.0828	0.0103	-0.9051	0.0319	-0.4977	0.0270
4	94.92	0.5001	0.0761	0.0018	0.0870	0.0135	-1.2666	0.0413	-0.3322	0.0314
4	94.92	0.5560	0.0897	0.0026	0.1026	0.0174	-1.8597	0.0510	-0.5313	0.0272
4	94.92	0.6001	0.1000	0.0019	0.1099	0.0207	-2.3706	0.0581	-0.5338	0.0244
4	94.92	0.6999	0.0987	0.0023	0.0618	0.0280	-3.8207	0.0720	-0.3336	0.0336
4	94.92	0.7500	0.0941	0.0032	0.0650	0.0321	-4.6935	0.0788	-0.2455	0.0334
4	94.92	0.8002	0.0748	0.0040	0.0251	0.0356	-5.6498	0.0895	-0.2369	0.0529
4	94.92	0.8582	0.0683	0.0050	0.0237	0.0393	-6.9310	0.0991	-0.8008	0.0660
4	94.92	0.9101	0.0674	0.0067	-0.0314	0.0426	-8.0477	0.1110	-0.6836	0.0467
4	94.92	0.9728	0.0819	0.0055	-0.0385	0.0476	-9.3610	0.1274	-0.1713	0.0723

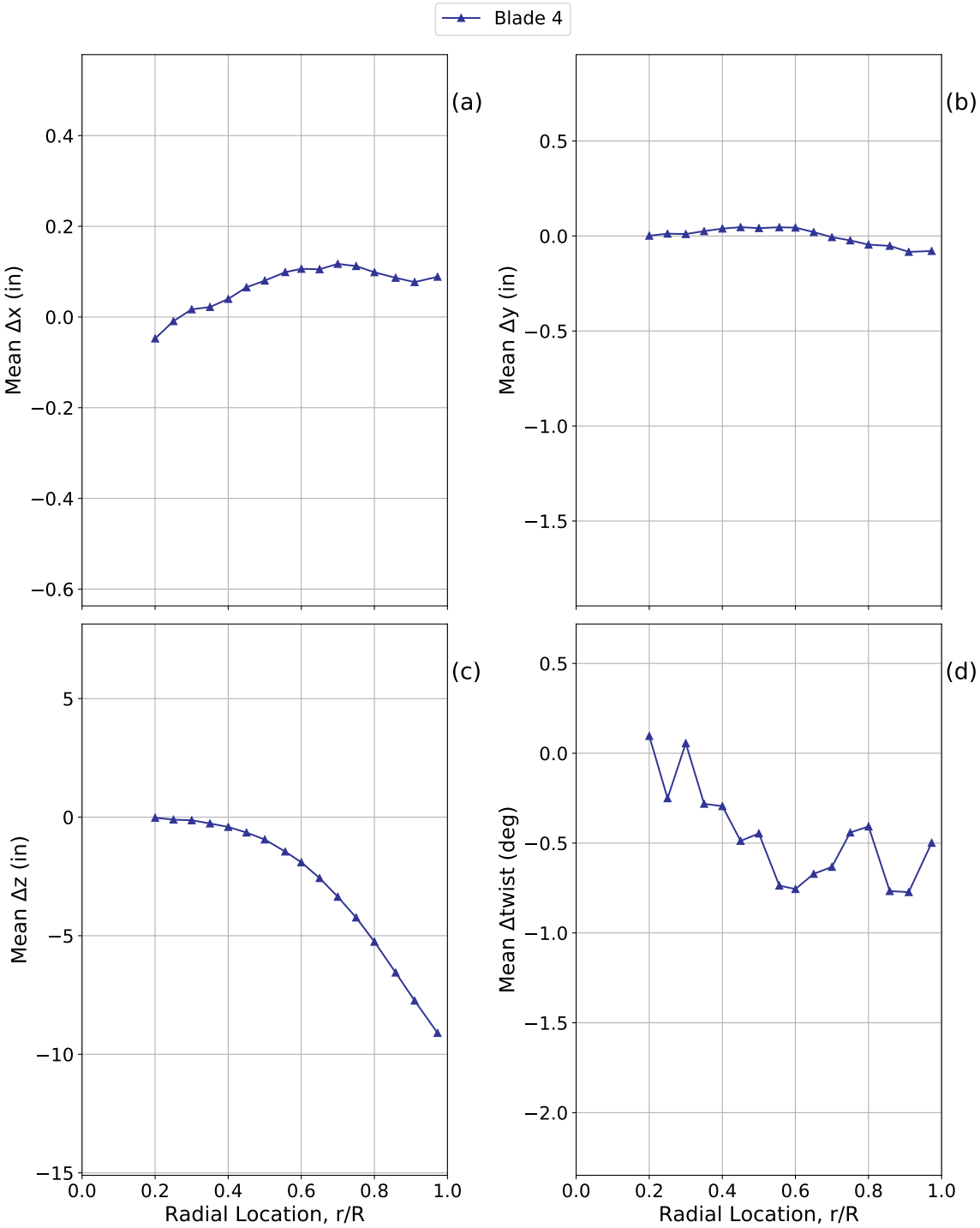


Figure 3.4-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0474	0.0010	0.0014	0.0009	-0.0259	0.0033	0.0960	0.0170
4	105.12	0.2502	-0.0092	0.0011	0.0122	0.0025	-0.1050	0.0066	-0.2506	0.0257
4	105.12	0.3001	0.0169	0.0009	0.0101	0.0053	-0.1323	0.0136	0.0560	0.0371
4	105.12	0.3502	0.0220	0.0007	0.0255	0.0068	-0.2668	0.0211	-0.2814	0.0341
4	105.12	0.4002	0.0399	0.0020	0.0390	0.0126	-0.4134	0.0340	-0.2944	0.0428
4	105.12	0.4500	0.0655	0.0019	0.0463	0.0161	-0.6496	0.0438	-0.4877	0.0296
4	105.12	0.5001	0.0802	0.0019	0.0413	0.0206	-0.9428	0.0557	-0.4464	0.0312
4	105.12	0.5560	0.0989	0.0021	0.0458	0.0264	-1.4513	0.0697	-0.7367	0.0349
4	105.12	0.6001	0.1062	0.0020	0.0440	0.0312	-1.9054	0.0809	-0.7557	0.0327
4	105.12	0.6501	0.1053	0.0027	0.0204	0.0368	-2.5695	0.0914	-0.6712	0.0335
4	105.12	0.6999	0.1171	0.0024	-0.0063	0.0426	-3.3588	0.1030	-0.6325	0.0353
4	105.12	0.7500	0.1123	0.0032	-0.0233	0.0487	-4.2323	0.1136	-0.4414	0.0381
4	105.12	0.8002	0.0987	0.0039	-0.0456	0.0557	-5.2545	0.1210	-0.4074	0.0297
4	105.12	0.8582	0.0864	0.0046	-0.0521	0.0637	-6.5549	0.1339	-0.7671	0.0448
4	105.12	0.9101	0.0769	0.0054	-0.0837	0.0706	-7.7379	0.1497	-0.7729	0.0492
4	105.12	0.9728	0.0887	0.0083	-0.0791	0.0799	-9.1007	0.1703	-0.4986	0.0544

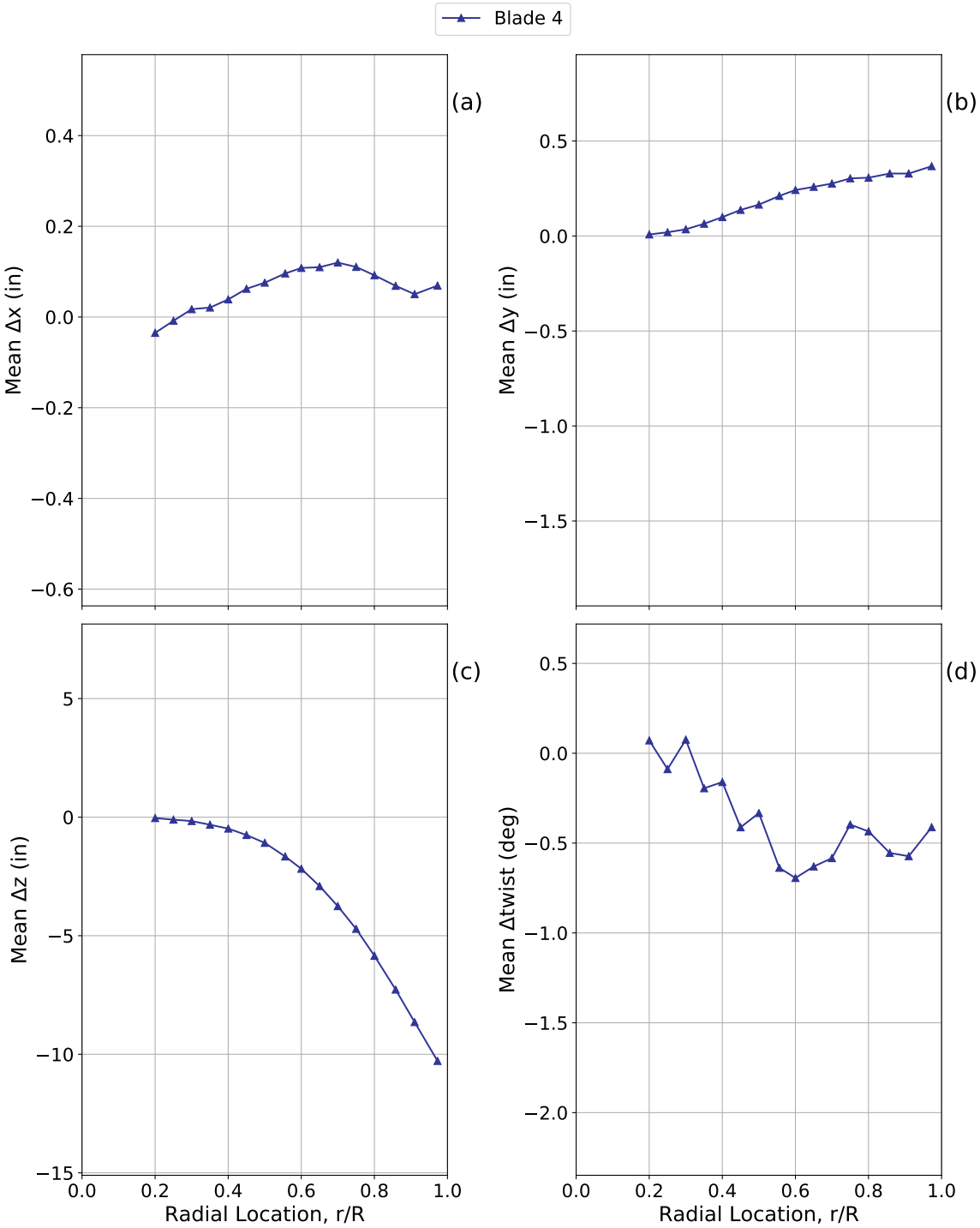


Figure 3.4-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0350	0.0012	0.0080	0.0005	-0.0395	0.0026	0.0712	0.0208
4	119.88	0.2502	-0.0083	0.0011	0.0195	0.0015	-0.1069	0.0058	-0.0886	0.0274
4	119.88	0.3001	0.0172	0.0012	0.0351	0.0024	-0.1654	0.0112	0.0755	0.0410
4	119.88	0.3502	0.0208	0.0015	0.0644	0.0039	-0.3205	0.0179	-0.1949	0.0275
4	119.88	0.4002	0.0388	0.0014	0.0993	0.0062	-0.4839	0.0286	-0.1603	0.0296
4	119.88	0.4500	0.0622	0.0014	0.1371	0.0078	-0.7543	0.0388	-0.4122	0.0363
4	119.88	0.5001	0.0757	0.0022	0.1648	0.0110	-1.0850	0.0515	-0.3329	0.0203
4	119.88	0.5560	0.0960	0.0028	0.2109	0.0139	-1.6597	0.0651	-0.6376	0.0312
4	119.88	0.6001	0.1082	0.0029	0.2419	0.0160	-2.1779	0.0746	-0.6942	0.0396
4	119.88	0.6501	0.1098	0.0035	0.2584	0.0198	-2.9090	0.0887	-0.6303	0.0412
4	119.88	0.6999	0.1200	0.0043	0.2757	0.0231	-3.7539	0.1048	-0.5838	0.0388
4	119.88	0.7500	0.1104	0.0053	0.3032	0.0270	-4.7120	0.1208	-0.3969	0.0501
4	119.88	0.8002	0.0920	0.0066	0.3067	0.0310	-5.8499	0.1435	-0.4350	0.0493
4	119.88	0.8582	0.0687	0.0086	0.3287	0.0362	-7.2735	0.1742	-0.5548	0.0457
4	119.88	0.9101	0.0503	0.0109	0.3284	0.0409	-8.6439	0.2055	-0.5731	0.0499
4	119.88	0.9728	0.0692	0.0133	0.3672	0.0470	-10.2824	0.2456	-0.4118	0.0651

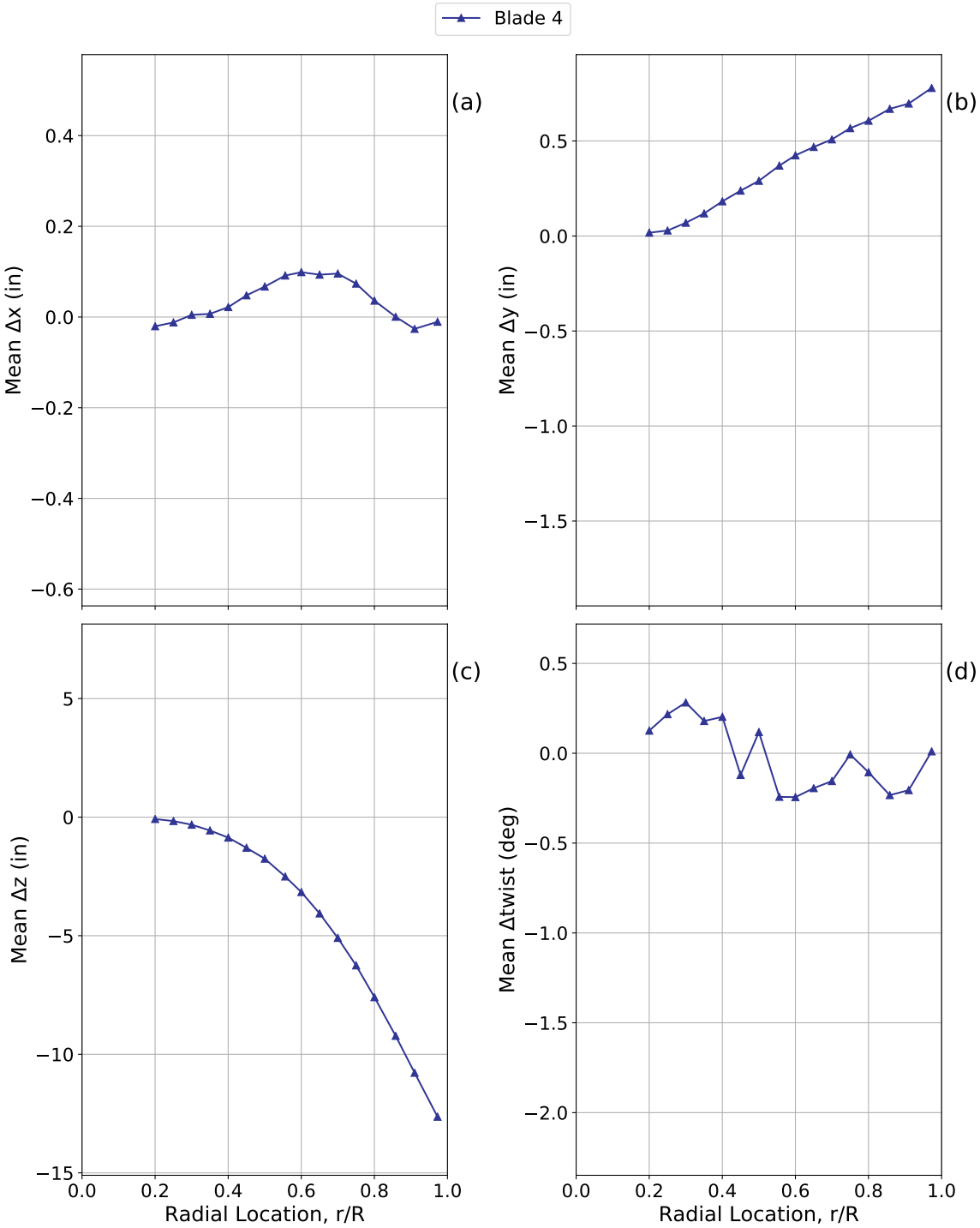


Figure 3.4-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0204	0.0007	0.0172	0.0007	-0.0789	0.0022	0.1256	0.0176
4	135	0.2502	-0.0120	0.0015	0.0286	0.0017	-0.1655	0.0053	0.2172	0.0322
4	135	0.3001	0.0047	0.0014	0.0693	0.0030	-0.3192	0.0095	0.2823	0.0408
4	135	0.3502	0.0069	0.0010	0.1186	0.0046	-0.5626	0.0163	0.1792	0.0515
4	135	0.4002	0.0218	0.0013	0.1822	0.0076	-0.8632	0.0257	0.2026	0.0327
4	135	0.4500	0.0477	0.0017	0.2384	0.0099	-1.2937	0.0315	-0.1210	0.0428
4	135	0.5001	0.0671	0.0018	0.2901	0.0137	-1.7530	0.0395	0.1177	0.0374
4	135	0.5560	0.0914	0.0019	0.3702	0.0161	-2.5042	0.0479	-0.2429	0.0356
4	135	0.6001	0.0988	0.0022	0.4244	0.0185	-3.1612	0.0557	-0.2442	0.0259
4	135	0.6501	0.0933	0.0030	0.4683	0.0215	-4.0628	0.0667	-0.1943	0.0318
4	135	0.6999	0.0957	0.0039	0.5083	0.0248	-5.0944	0.0776	-0.1550	0.0393
4	135	0.7500	0.0735	0.0046	0.5673	0.0283	-6.2535	0.0923	-0.0071	0.0362
4	135	0.8002	0.0360	0.0067	0.6063	0.0323	-7.5934	0.1087	-0.1061	0.0329
4	135	0.8582	0.0005	0.0089	0.6689	0.0375	-9.2241	0.1332	-0.2332	0.0314
4	135	0.9101	-0.0262	0.0111	0.6968	0.0424	-10.7810	0.1597	-0.2055	0.0354
4	135	0.9728	-0.0106	0.0143	0.7789	0.0480	-12.6353	0.1959	0.0103	0.0315

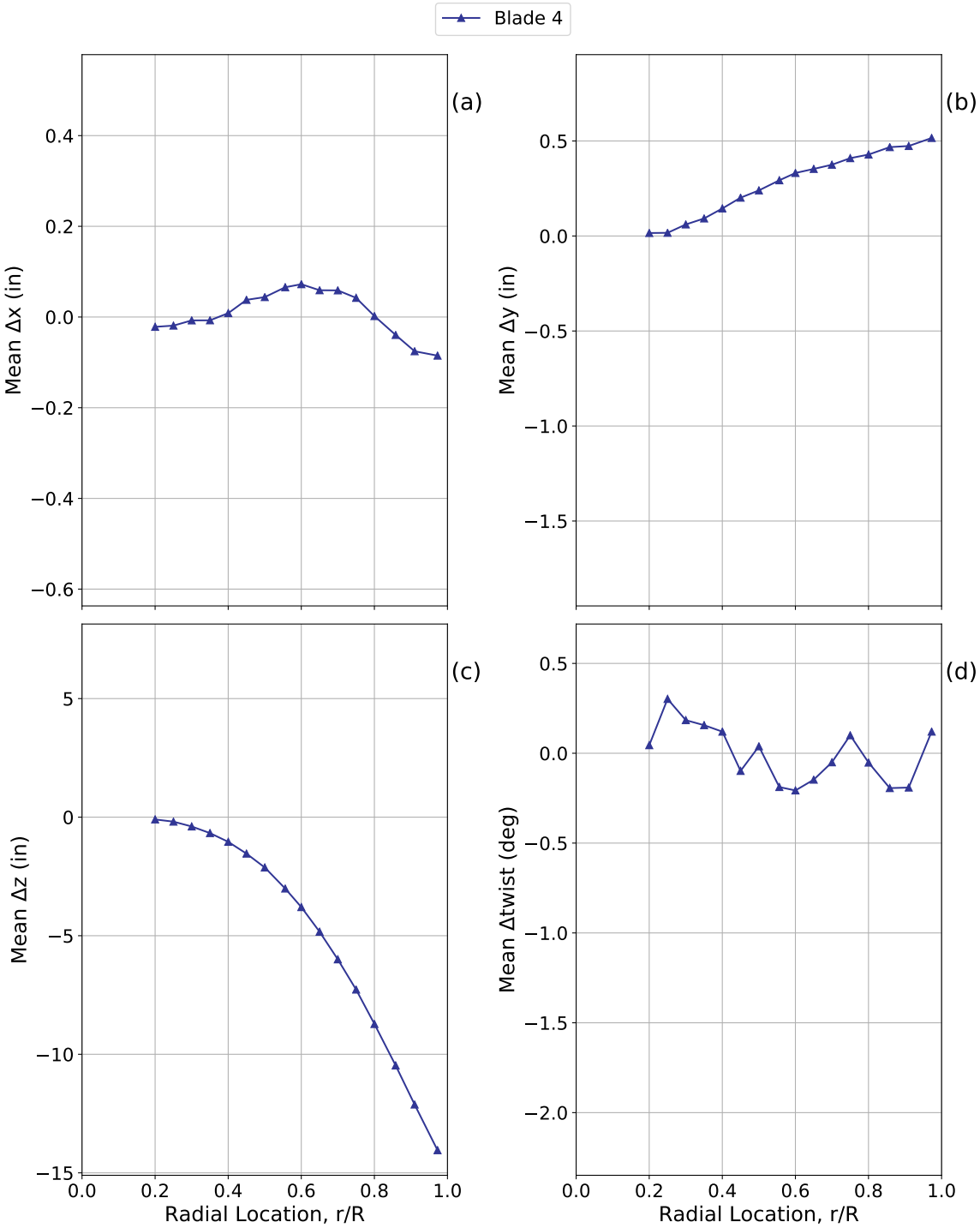


Figure 3.4-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0217	0.0011	0.0156	0.0006	-0.0967	0.0017	0.0448	0.0223
4	150.12	0.2502	-0.0190	0.0013	0.0166	0.0012	-0.1896	0.0066	0.3023	0.0287
4	150.12	0.3001	-0.0075	0.0014	0.0606	0.0034	-0.3934	0.0099	0.1841	0.0475
4	150.12	0.3502	-0.0073	0.0018	0.0922	0.0036	-0.6730	0.0153	0.1562	0.0544
4	150.12	0.4002	0.0085	0.0021	0.1449	0.0068	-1.0416	0.0268	0.1201	0.0457
4	150.12	0.4500	0.0378	0.0020	0.2015	0.0087	-1.5384	0.0346	-0.0984	0.0429
4	150.12	0.5001	0.0439	0.0026	0.2398	0.0110	-2.1229	0.0445	0.0384	0.0502
4	150.12	0.5560	0.0656	0.0024	0.2930	0.0124	-3.0110	0.0564	-0.1881	0.0580
4	150.12	0.6001	0.0723	0.0034	0.3315	0.0159	-3.7944	0.0673	-0.2070	0.0571
4	150.12	0.6501	0.0590	0.0043	0.3529	0.0186	-4.8340	0.0823	-0.1471	0.0630
4	150.12	0.6999	0.0587	0.0047	0.3749	0.0208	-5.9973	0.0971	-0.0504	0.0714
4	150.12	0.7500	0.0422	0.0064	0.4095	0.0239	-7.2722	0.1155	0.0999	0.0572
4	150.12	0.8002	0.0020	0.0077	0.4284	0.0272	-8.7244	0.1309	-0.0520	0.0681
4	150.12	0.8582	-0.0396	0.0104	0.4676	0.0316	-10.4720	0.1535	-0.1939	0.0606
4	150.12	0.9101	-0.0755	0.0115	0.4735	0.0354	-12.1194	0.1738	-0.1910	0.0620
4	150.12	0.9728	-0.0852	0.0129	0.5157	0.0405	-14.0461	0.1978	0.1203	0.0644

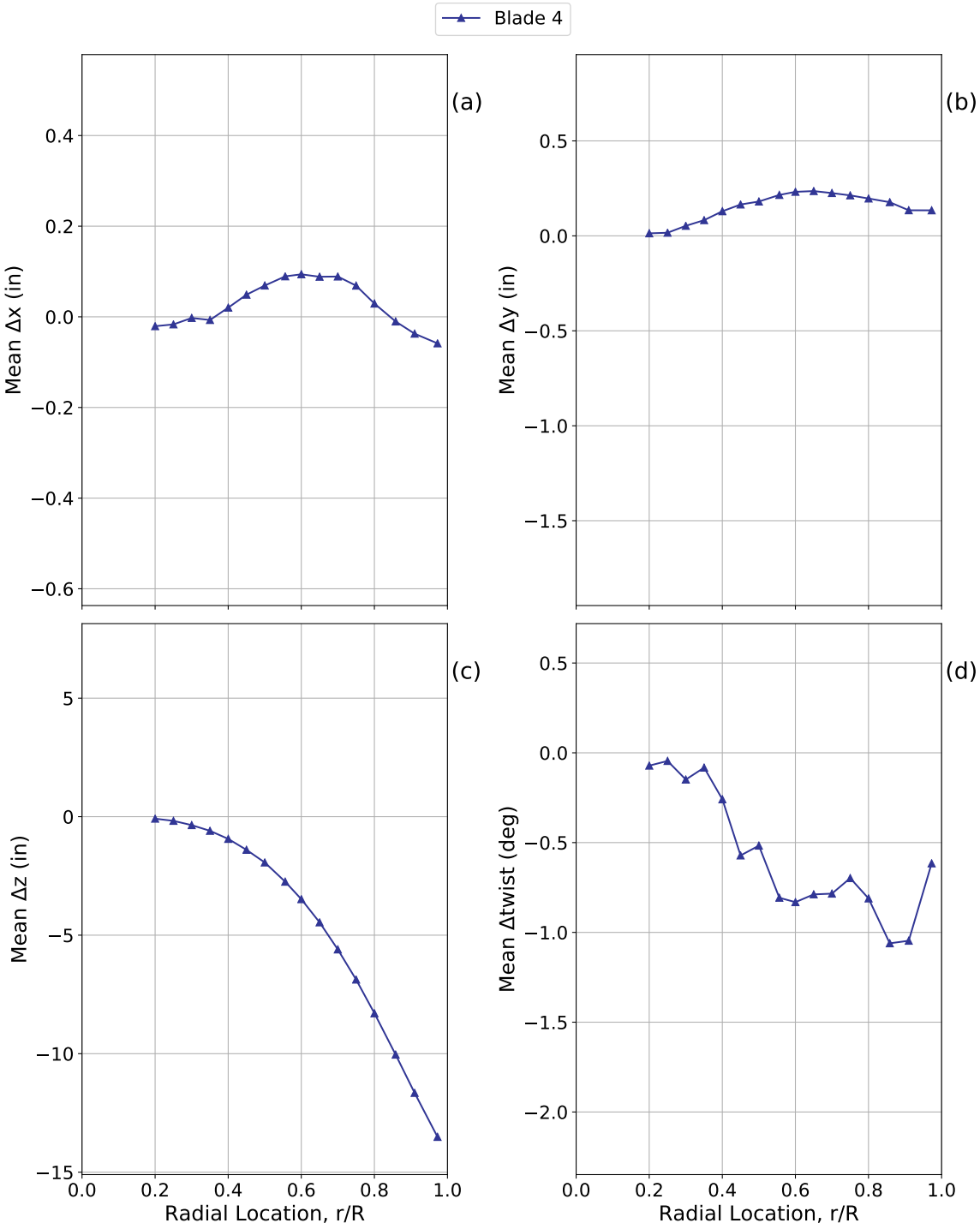


Figure 3.4-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0207	0.0024	0.0132	0.0009	-0.0848	0.0025	-0.0714	0.0321
4	164.88	0.2502	-0.0167	0.0017	0.0163	0.0033	-0.1763	0.0068	-0.0454	0.0565
4	164.88	0.3001	-0.0025	0.0016	0.0527	0.0042	-0.3570	0.0096	-0.1489	0.0742
4	164.88	0.3502	-0.0070	0.0010	0.0825	0.0078	-0.5974	0.0185	-0.0826	0.0590
4	164.88	0.4002	0.0203	0.0018	0.1295	0.0121	-0.9385	0.0279	-0.2590	0.0563
4	164.88	0.4500	0.0488	0.0014	0.1650	0.0133	-1.3991	0.0368	-0.5716	0.0583
4	164.88	0.5001	0.0690	0.0018	0.1807	0.0159	-1.9331	0.0458	-0.5169	0.0620
4	164.88	0.5560	0.0893	0.0028	0.2153	0.0189	-2.7446	0.0589	-0.8071	0.0620
4	164.88	0.6001	0.0938	0.0031	0.2318	0.0210	-3.4822	0.0678	-0.8316	0.0655
4	164.88	0.6501	0.0884	0.0038	0.2357	0.0242	-4.4604	0.0772	-0.7883	0.0608
4	164.88	0.6999	0.0889	0.0042	0.2253	0.0274	-5.6025	0.0852	-0.7842	0.0705
4	164.88	0.7500	0.0688	0.0043	0.2130	0.0305	-6.8740	0.0943	-0.6978	0.0659
4	164.88	0.8002	0.0292	0.0047	0.1966	0.0335	-8.2981	0.0983	-0.8110	0.0749
4	164.88	0.8582	-0.0103	0.0054	0.1771	0.0381	-10.0416	0.1049	-1.0608	0.0667
4	164.88	0.9101	-0.0372	0.0061	0.1346	0.0417	-11.6553	0.1106	-1.0465	0.0643
4	164.88	0.9728	-0.0586	0.0075	0.1343	0.0471	-13.5131	0.1234	-0.6157	0.0696

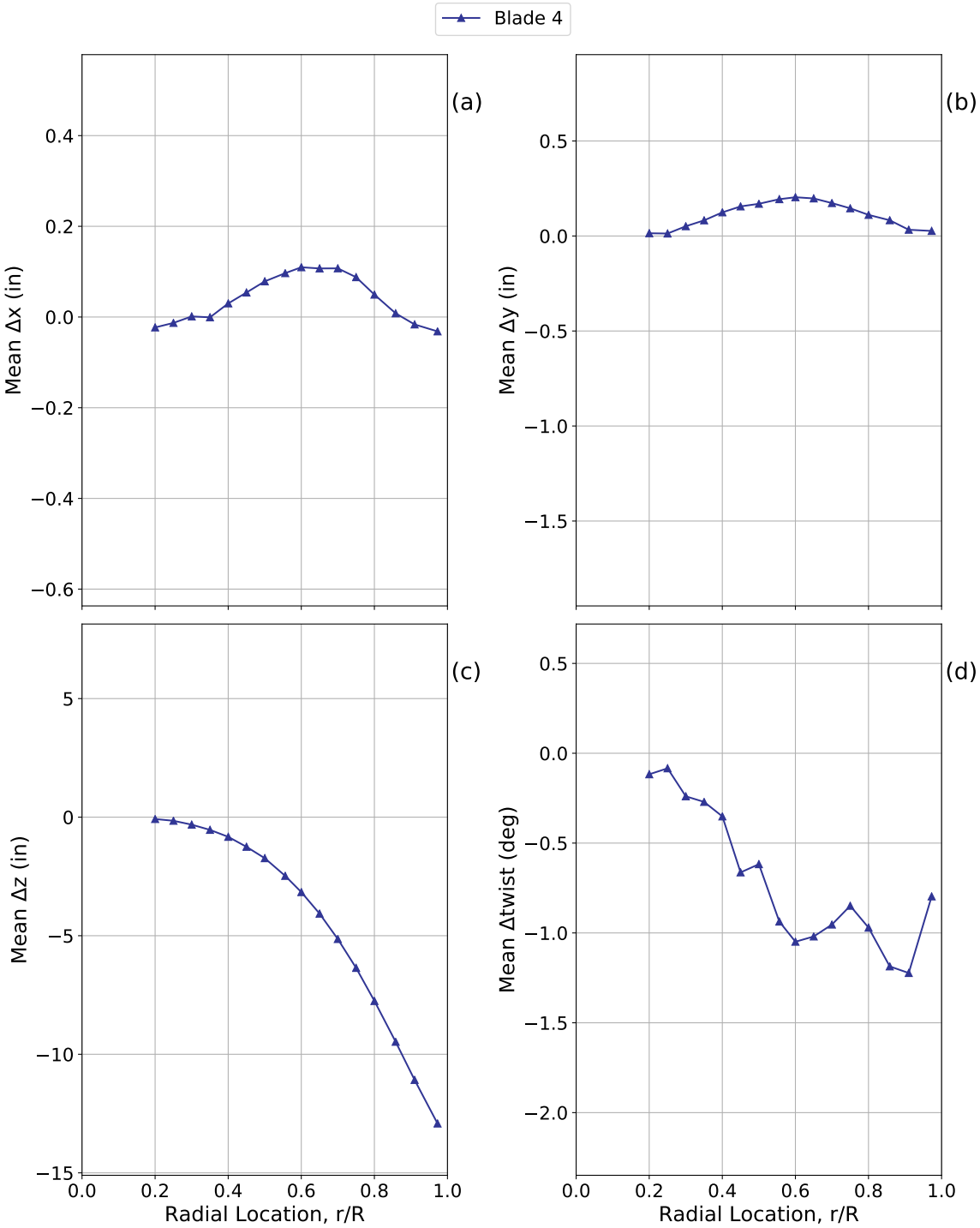


Figure 3.4-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.241$, $\alpha = -0°$ NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0230	0.0014	0.0143	0.0011	-0.0789	0.0034	-0.1171	0.0195
4	170.16	0.2502	-0.0130	0.0026	0.0129	0.0023	-0.1529	0.0043	-0.0839	0.0442
4	170.16	0.3001	0.0013	0.0024	0.0512	0.0048	-0.3164	0.0097	-0.2397	0.0466
4	170.16	0.3502	-0.0007	0.0012	0.0822	0.0073	-0.5370	0.0175	-0.2708	0.0322
4	170.16	0.4002	0.0300	0.0016	0.1243	0.0118	-0.8310	0.0242	-0.3516	0.0427
4	170.16	0.4500	0.0540	0.0017	0.1556	0.0134	-1.2508	0.0330	-0.6631	0.0444
4	170.16	0.5001	0.0786	0.0022	0.1694	0.0164	-1.7315	0.0439	-0.6174	0.0477
4	170.16	0.5560	0.0967	0.0021	0.1936	0.0214	-2.4770	0.0582	-0.9367	0.0353
4	170.16	0.6001	0.1097	0.0024	0.2039	0.0237	-3.1623	0.0675	-1.0490	0.0516
4	170.16	0.6501	0.1071	0.0033	0.1976	0.0274	-4.0702	0.0772	-1.0197	0.0483
4	170.16	0.6999	0.1073	0.0040	0.1731	0.0314	-5.1396	0.0880	-0.9535	0.0490
4	170.16	0.7500	0.0878	0.0043	0.1456	0.0360	-6.3581	0.0992	-0.8490	0.0553
4	170.16	0.8002	0.0493	0.0057	0.1110	0.0411	-7.7540	0.1090	-0.9706	0.0483
4	170.16	0.8582	0.0081	0.0075	0.0827	0.0471	-9.4730	0.1229	-1.1862	0.0496
4	170.16	0.9101	-0.0164	0.0088	0.0328	0.0529	-11.0826	0.1366	-1.2230	0.0466
4	170.16	0.9728	-0.0317	0.0112	0.0265	0.0604	-12.9201	0.1567	-0.7967	0.0588

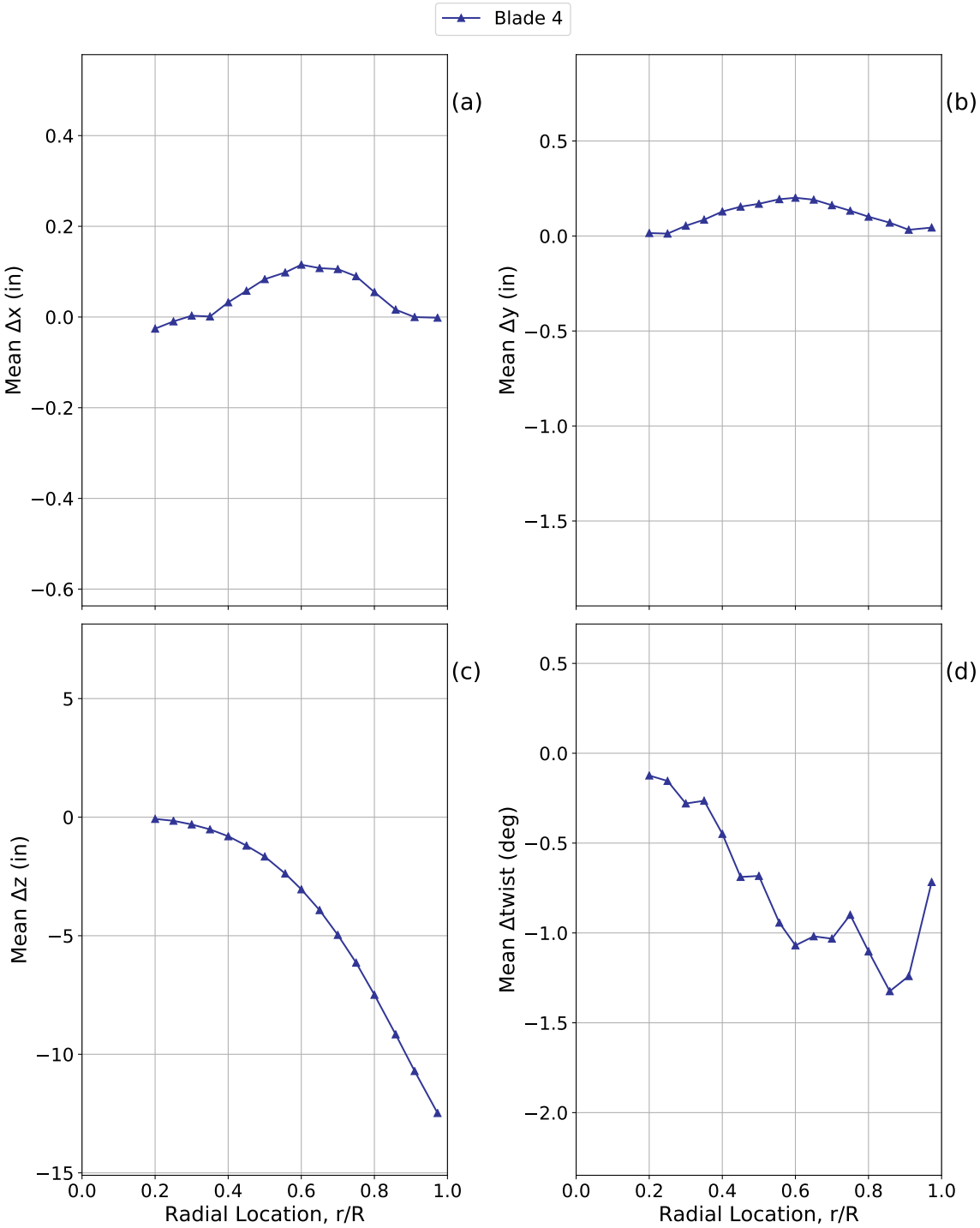


Figure 3.4-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0257	0.0016	0.0153	0.0022	-0.0747	0.0045	-0.1240	0.0345
4	175.08	0.2502	-0.0097	0.0066	0.0124	0.0030	-0.1531	0.0081	-0.1543	0.0532
4	175.08	0.3001	0.0029	0.0026	0.0537	0.0048	-0.3081	0.0133	-0.2796	0.0715
4	175.08	0.3502	0.0011	0.0032	0.0857	0.0086	-0.5160	0.0233	-0.2645	0.0535
4	175.08	0.4002	0.0324	0.0026	0.1288	0.0110	-0.8073	0.0342	-0.4489	0.0541
4	175.08	0.4500	0.0577	0.0021	0.1542	0.0129	-1.2019	0.0456	-0.6886	0.0669
4	175.08	0.5001	0.0835	0.0029	0.1693	0.0141	-1.6617	0.0596	-0.6828	0.0621
4	175.08	0.5560	0.0982	0.0029	0.1935	0.0195	-2.3810	0.0767	-0.9428	0.0498
4	175.08	0.6001	0.1153	0.0034	0.2011	0.0192	-3.0455	0.0903	-1.0693	0.0739
4	175.08	0.6501	0.1078	0.0042	0.1910	0.0235	-3.9222	0.1049	-1.0189	0.0608
4	175.08	0.6999	0.1056	0.0040	0.1617	0.0269	-4.9674	0.1206	-1.0319	0.0649
4	175.08	0.7500	0.0898	0.0052	0.1329	0.0303	-6.1388	0.1382	-0.8994	0.0626
4	175.08	0.8002	0.0548	0.0065	0.1013	0.0339	-7.4945	0.1514	-1.1029	0.0724
4	175.08	0.8582	0.0162	0.0076	0.0700	0.0394	-9.1615	0.1700	-1.3243	0.0764
4	175.08	0.9101	-0.0002	0.0092	0.0326	0.0441	-10.7072	0.1834	-1.2404	0.0785
4	175.08	0.9728	-0.0016	0.0105	0.0442	0.0490	-12.4783	0.2039	-0.7168	0.0755

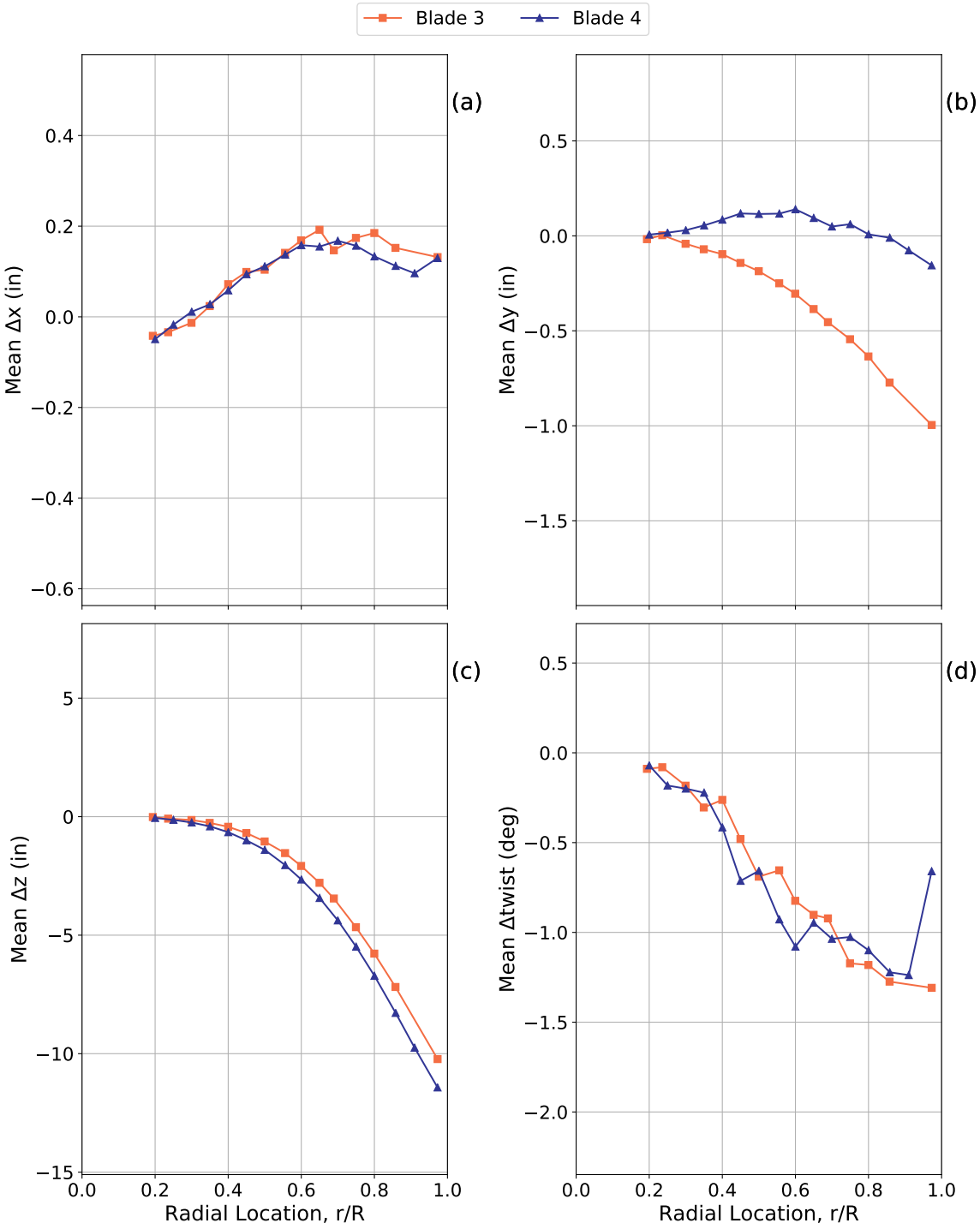


Figure 3.4-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0419	0.0015	-0.0174	0.0012	-0.0151	0.0020	-0.0892	0.0241
3	180.35	0.2357	-0.0340	0.0013	0.0034	0.0027	-0.0833	0.0048	-0.0803	0.0336
3	180.35	0.2995	-0.0132	0.0015	-0.0417	0.0046	-0.1395	0.0079	-0.1829	0.0554
3	180.35	0.3493	0.0237	0.0014	-0.0707	0.0088	-0.2618	0.0140	-0.3045	0.0522
3	180.35	0.4000	0.0720	0.0017	-0.0965	0.0130	-0.4266	0.0215	-0.2621	0.0410
3	180.35	0.4497	0.0990	0.0018	-0.1426	0.0173	-0.6893	0.0259	-0.4800	0.0501
3	180.35	0.4997	0.1039	0.0024	-0.1861	0.0218	-1.0464	0.0344	-0.6897	0.0563
3	180.35	0.5556	0.1412	0.0025	-0.2498	0.0258	-1.5364	0.0461	-0.6544	0.0684
3	180.35	0.5995	0.1687	0.0029	-0.3048	0.0290	-2.0782	0.0562	-0.8241	0.0721
3	180.35	0.6498	0.1921	0.0035	-0.3856	0.0340	-2.7908	0.0689	-0.9021	0.0767
3	180.35	0.6890	0.1468	0.0031	-0.4544	0.0359	-3.4522	0.0783	-0.9220	0.0799
3	180.35	0.7495	0.1741	0.0050	-0.5444	0.0419	-4.6627	0.0935	-1.1724	0.0747
3	180.35	0.7998	0.1849	0.0058	-0.6352	0.0457	-5.7781	0.1106	-1.1815	0.0740
3	180.35	0.8577	0.1521	0.0072	-0.7729	0.0543	-7.1859	0.1318	-1.2741	0.1633
3	180.35	0.9729	0.1318	0.0158	-0.9960	0.0648	-10.2276	0.1795	-1.3087	0.1455
4	180	0.2001	-0.0493	0.0012	0.0065	0.0015	-0.0547	0.0027	-0.0700	0.0328
4	180	0.2502	-0.0174	0.0011	0.0166	0.0021	-0.1349	0.0057	-0.1822	0.0511
4	180	0.3001	0.0112	0.0010	0.0298	0.0067	-0.2459	0.0102	-0.1994	0.0738
4	180	0.3502	0.0276	0.0016	0.0548	0.0080	-0.4098	0.0168	-0.2222	0.0572
4	180	0.4002	0.0583	0.0018	0.0851	0.0135	-0.6550	0.0261	-0.4155	0.0619
4	180	0.4500	0.0940	0.0022	0.1179	0.0152	-0.9984	0.0321	-0.7130	0.0656
4	180	0.5001	0.1115	0.0024	0.1151	0.0193	-1.4010	0.0420	-0.6571	0.0559
4	180	0.5560	0.1372	0.0022	0.1169	0.0217	-2.0441	0.0543	-0.9278	0.0608
4	180	0.6001	0.1581	0.0019	0.1398	0.0269	-2.6522	0.0651	-1.0794	0.0668
4	180	0.6501	0.1550	0.0037	0.0940	0.0317	-3.4311	0.0757	-0.9462	0.0665
4	180	0.6999	0.1677	0.0040	0.0491	0.0351	-4.3768	0.0838	-1.0357	0.0711
4	180	0.7500	0.1568	0.0047	0.0614	0.0382	-5.4863	0.0951	-1.0255	0.0839
4	180	0.8002	0.1333	0.0046	0.0078	0.0443	-6.7167	0.1036	-1.0996	0.1120
4	180	0.8582	0.1123	0.0066	-0.0100	0.0566	-8.2805	0.1115	-1.2221	0.1195
4	180	0.9101	0.0961	0.0103	-0.0766	0.0517	-9.7496	0.1184	-1.2378	0.2017
4	180	0.9728	0.1296	0.0098	-0.1555	0.0587	-11.4249	0.1290	-0.6595	0.1341

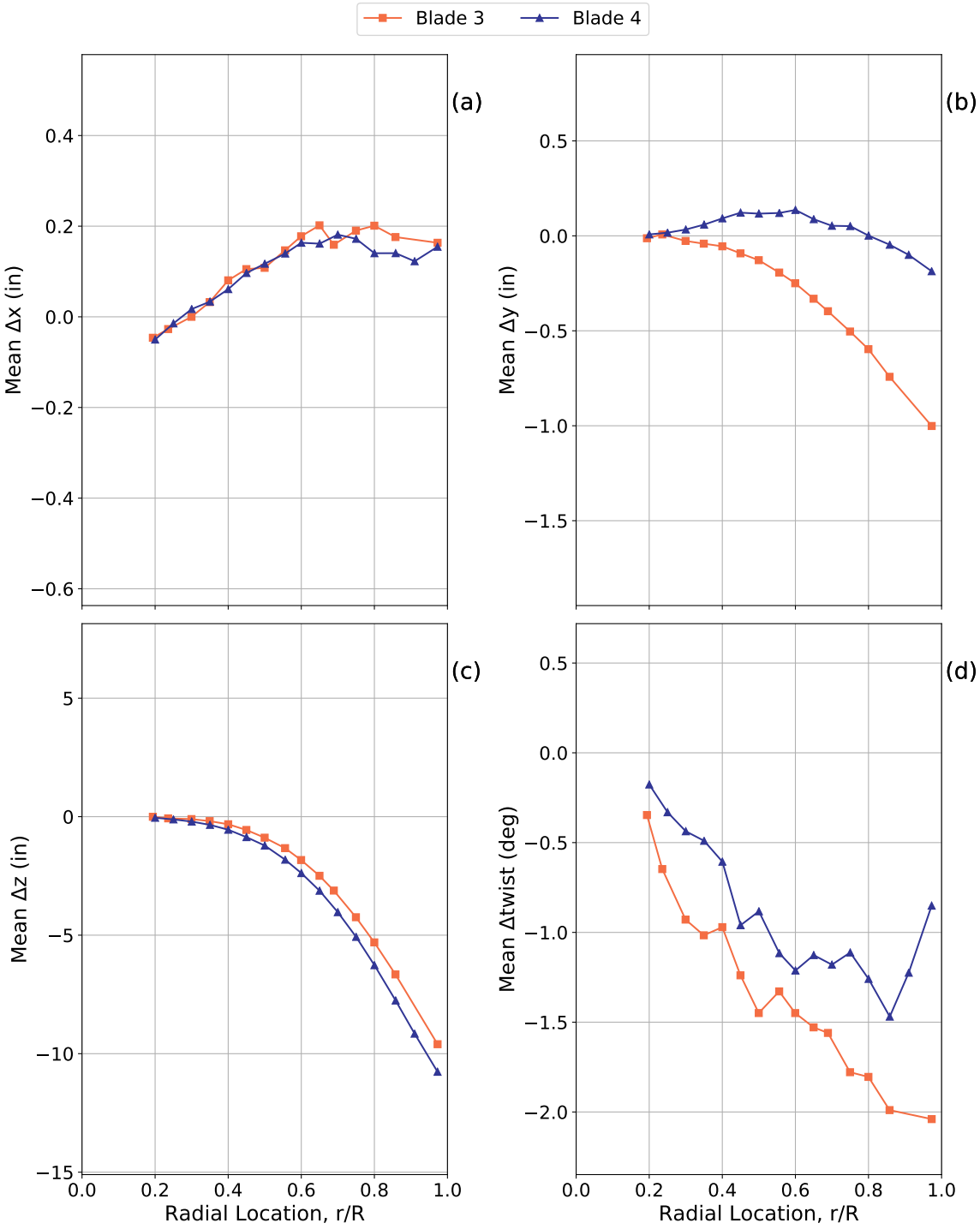


Figure 3.4-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0462	0.0018	-0.0126	0.0018	-0.0042	0.0026	-0.3464	0.0262
3	184.92	0.2357	-0.0270	0.0019	0.0073	0.0025	-0.0706	0.0043	-0.6473	0.0490
3	184.92	0.2995	-0.0000	0.0015	-0.0268	0.0072	-0.1019	0.0090	-0.9287	0.0688
3	184.92	0.3493	0.0325	0.0018	-0.0412	0.0120	-0.1870	0.0162	-1.0161	0.0541
3	184.92	0.4000	0.0805	0.0023	-0.0551	0.0188	-0.3200	0.0241	-0.9708	0.0633
3	184.92	0.4497	0.1053	0.0017	-0.0922	0.0224	-0.5605	0.0332	-1.2390	0.0537
3	184.92	0.4997	0.1081	0.0024	-0.1282	0.0325	-0.8862	0.0459	-1.4491	0.0538
3	184.92	0.5556	0.1467	0.0023	-0.1933	0.0361	-1.3279	0.0602	-1.3286	0.0489
3	184.92	0.5995	0.1777	0.0033	-0.2496	0.0424	-1.8291	0.0737	-1.4492	0.0492
3	184.92	0.6498	0.2019	0.0027	-0.3312	0.0474	-2.4941	0.0879	-1.5288	0.0607
3	184.92	0.6890	0.1590	0.0032	-0.3969	0.0512	-3.1179	0.0985	-1.5598	0.0606
3	184.92	0.7495	0.1902	0.0058	-0.5037	0.0576	-4.2429	0.1182	-1.7785	0.0593
3	184.92	0.7998	0.2011	0.0052	-0.5967	0.0640	-5.3045	0.1321	-1.8047	0.0689
3	184.92	0.8577	0.1760	0.0076	-0.7423	0.0741	-6.6562	0.1437	-1.9895	0.1043
3	184.92	0.9729	0.1634	0.0111	-1.0013	0.0918	-9.6003	0.1735	-2.0396	0.1558
4	184.92	0.2001	-0.0502	0.0012	0.0075	0.0012	-0.0468	0.0035	-0.1766	0.0229
4	184.92	0.2502	-0.0145	0.0009	0.0166	0.0030	-0.1155	0.0063	-0.3311	0.0597
4	184.92	0.3001	0.0171	0.0010	0.0333	0.0052	-0.2074	0.0119	-0.4370	0.0600
4	184.92	0.3502	0.0336	0.0009	0.0591	0.0085	-0.3461	0.0203	-0.4900	0.0493
4	184.92	0.4002	0.0611	0.0010	0.0919	0.0137	-0.5517	0.0305	-0.6064	0.0393
4	184.92	0.4500	0.0967	0.0019	0.1220	0.0184	-0.8636	0.0375	-0.9600	0.0437
4	184.92	0.5001	0.1171	0.0014	0.1169	0.0196	-1.2192	0.0467	-0.8827	0.0459
4	184.92	0.5560	0.1396	0.0019	0.1204	0.0242	-1.8159	0.0542	-1.1158	0.0790
4	184.92	0.6001	0.1634	0.0028	0.1363	0.0280	-2.3821	0.0653	-1.2124	0.0714
4	184.92	0.6501	0.1614	0.0028	0.0876	0.0308	-3.1258	0.0750	-1.1265	0.0598
4	184.92	0.6999	0.1813	0.0041	0.0529	0.0329	-4.0303	0.0847	-1.1798	0.0991
4	184.92	0.7500	0.1721	0.0047	0.0512	0.0392	-5.0729	0.1018	-1.1121	0.0535
4	184.92	0.8002	0.1403	0.0092	0.0011	0.0414	-6.2678	0.1102	-1.2591	0.0664
4	184.92	0.8582	0.1404	0.0074	-0.0469	0.0493	-7.7582	0.1305	-1.4692	0.0898
4	184.92	0.9101	0.1226	0.0123	-0.1003	0.0560	-9.1567	0.1483	-1.2246	0.2059
4	184.92	0.9728	0.1546	0.0130	-0.1864	0.0612	-10.7651	0.1652	-0.8512	0.1066

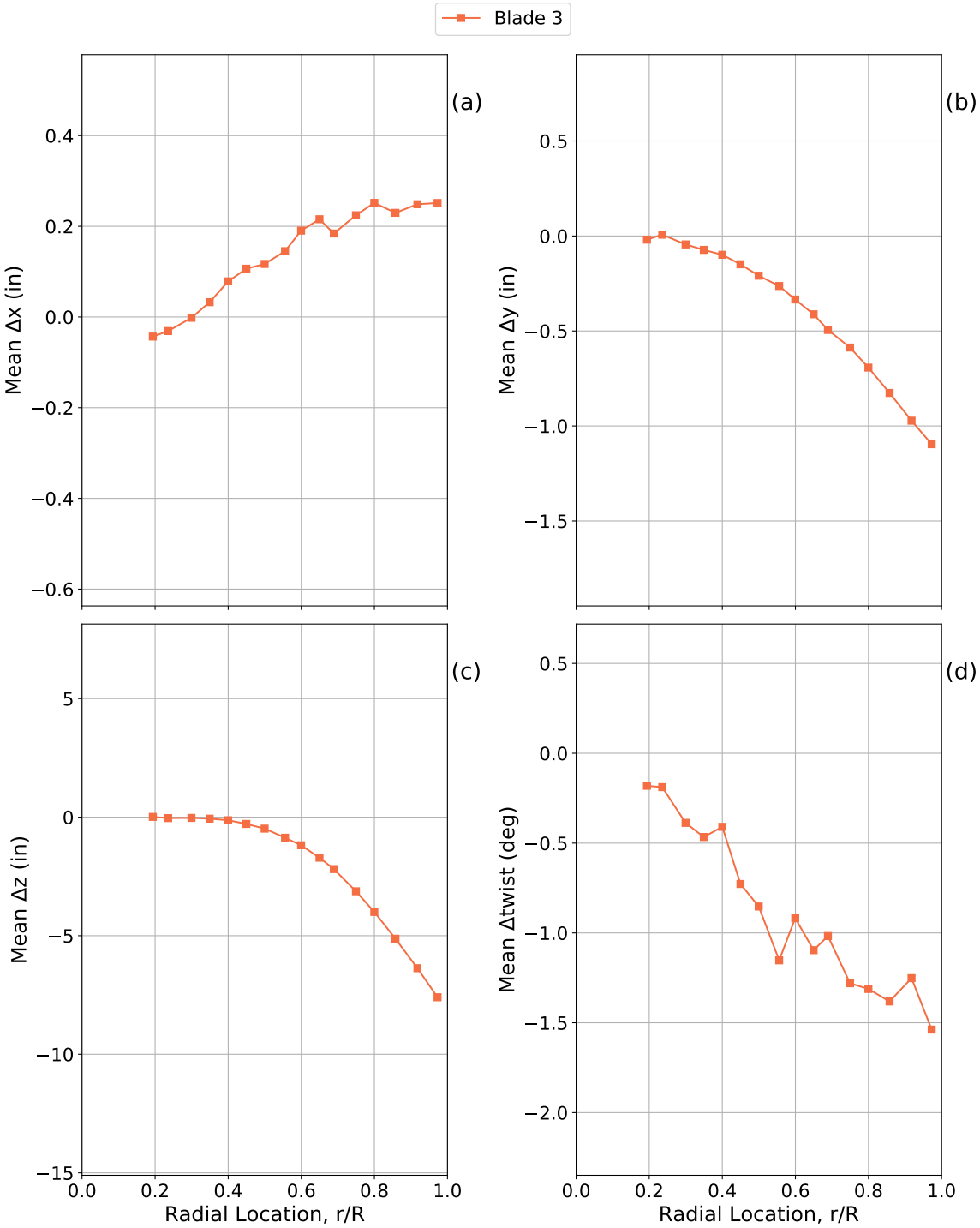


Figure 3.4-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0432	0.0011	-0.0193	0.0008	0.0119	0.0030	-0.1809	0.0249
3	195.12	0.2357	-0.0310	0.0011	0.0068	0.0029	-0.0389	0.0067	-0.1884	0.0408
3	195.12	0.2995	-0.0018	0.0010	-0.0443	0.0050	-0.0315	0.0125	-0.3873	0.0558
3	195.12	0.3493	0.0327	0.0010	-0.0731	0.0083	-0.0640	0.0204	-0.4660	0.0530
3	195.12	0.4000	0.0786	0.0012	-0.0990	0.0142	-0.1301	0.0323	-0.4094	0.0623
3	195.12	0.4497	0.1065	0.0008	-0.1490	0.0161	-0.2848	0.0399	-0.7275	0.0607
3	195.12	0.4997	0.1170	0.0012	-0.2091	0.0194	-0.4838	0.0515	-0.8529	0.0621
3	195.12	0.5556	0.1452	0.0037	-0.2632	0.0230	-0.8664	0.0562	-1.1526	0.1615
3	195.12	0.5995	0.1905	0.0017	-0.3343	0.0276	-1.1846	0.0774	-0.9179	0.0827
3	195.12	0.6498	0.2156	0.0027	-0.4123	0.0318	-1.7103	0.0928	-1.0960	0.1009
3	195.12	0.6890	0.1842	0.0021	-0.4945	0.0313	-2.1897	0.1023	-1.0174	0.1048
3	195.12	0.7495	0.2244	0.0028	-0.5871	0.0371	-3.1246	0.1283	-1.2802	0.0738
3	195.12	0.7998	0.2517	0.0035	-0.6928	0.0401	-3.9966	0.1458	-1.3120	0.0726
3	195.12	0.8577	0.2297	0.0057	-0.8262	0.0436	-5.1277	0.1755	-1.3814	0.1012
3	195.12	0.9178	0.2487	0.0078	-0.9722	0.0433	-6.3707	0.2003	-1.2517	0.1427
3	195.12	0.9729	0.2514	0.0093	-1.0961	0.0498	-7.5975	0.2412	-1.5380	0.0882

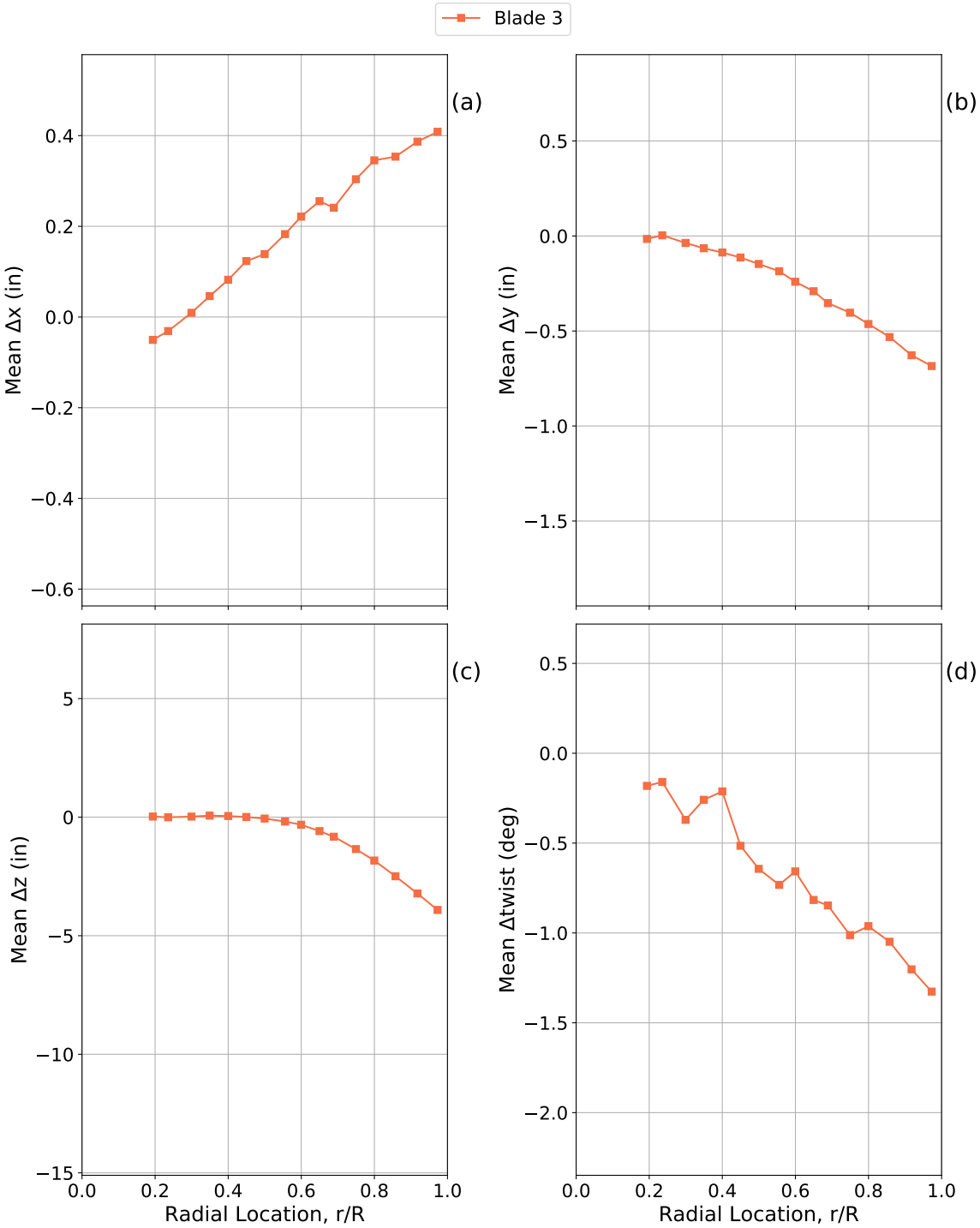


Figure 3.4-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0504	0.0022	-0.0155	0.0009	0.0254	0.0032	-0.1814	0.0252
3	209.88	0.2357	-0.0310	0.0018	0.0035	0.0060	-0.0046	0.0062	-0.1598	0.0417
3	209.88	0.2995	0.0093	0.0021	-0.0366	0.0133	0.0231	0.0146	-0.3706	0.0590
3	209.88	0.3493	0.0461	0.0023	-0.0645	0.0148	0.0648	0.0200	-0.2590	0.0478
3	209.88	0.4000	0.0821	0.0033	-0.0868	0.0315	0.0486	0.0342	-0.2123	0.0682
3	209.88	0.4497	0.1234	0.0027	-0.1134	0.0301	0.0070	0.0388	-0.5149	0.0659
3	209.88	0.4997	0.1387	0.0024	-0.1473	0.0391	-0.0583	0.0472	-0.6433	0.0553
3	209.88	0.5556	0.1828	0.0034	-0.1854	0.0477	-0.1857	0.0601	-0.7324	0.0519
3	209.88	0.5995	0.2214	0.0031	-0.2408	0.0591	-0.3200	0.0695	-0.6576	0.0671
3	209.88	0.6498	0.2554	0.0032	-0.2908	0.0616	-0.5880	0.0813	-0.8165	0.0708
3	209.88	0.6890	0.2409	0.0037	-0.3531	0.0680	-0.8253	0.0919	-0.8471	0.0725
3	209.88	0.7495	0.3039	0.0039	-0.4038	0.0756	-1.3468	0.1078	-1.0119	0.0701
3	209.88	0.7998	0.3455	0.0054	-0.4632	0.0860	-1.8287	0.1203	-0.9623	0.0732
3	209.88	0.8577	0.3536	0.0044	-0.5317	0.0896	-2.4925	0.1362	-1.0491	0.0686
3	209.88	0.9178	0.3868	0.0045	-0.6276	0.0991	-3.2186	0.1508	-1.2026	0.0624
3	209.88	0.9729	0.4085	0.0059	-0.6845	0.1058	-3.9139	0.1626	-1.3265	0.0624

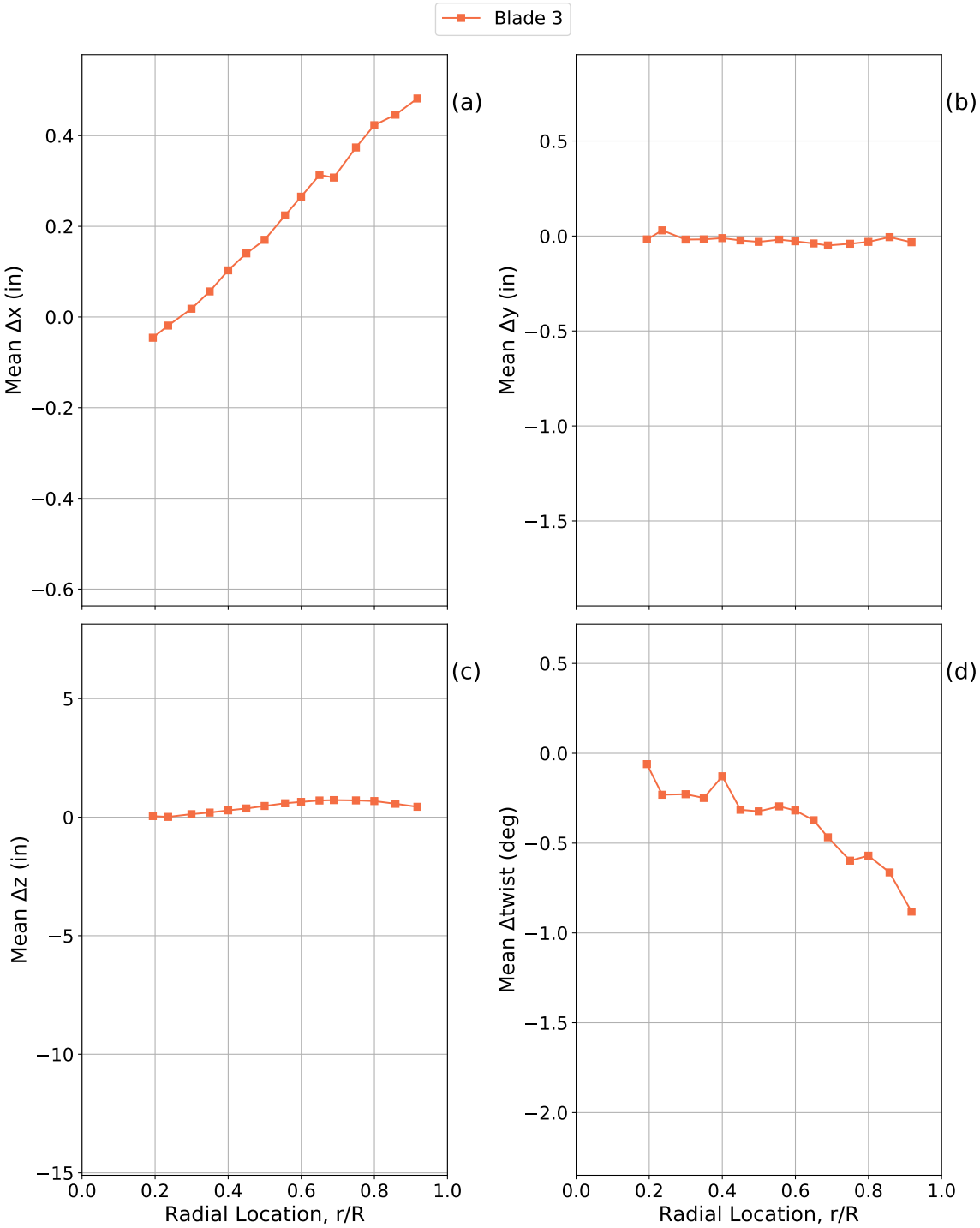


Figure 3.4-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0457	0.0035	-0.0178	0.0022	0.0461	0.0042	-0.0605	0.0330
3	225	0.2357	-0.0189	0.0020	0.0299	0.0040	0.0132	0.0095	-0.2307	0.0583
3	225	0.2995	0.0183	0.0018	-0.0185	0.0092	0.1292	0.0139	-0.2277	0.0804
3	225	0.3493	0.0565	0.0015	-0.0175	0.0125	0.1958	0.0215	-0.2486	0.0639
3	225	0.4000	0.1029	0.0040	-0.0109	0.0224	0.2883	0.0348	-0.1278	0.0597
3	225	0.4497	0.1403	0.0043	-0.0230	0.0265	0.3689	0.0455	-0.3143	0.0617
3	225	0.4997	0.1703	0.0035	-0.0306	0.0308	0.4728	0.0546	-0.3230	0.0648
3	225	0.5556	0.2241	0.0034	-0.0189	0.0359	0.5882	0.0618	-0.2955	0.0520
3	225	0.5995	0.2654	0.0043	-0.0277	0.0412	0.6450	0.0696	-0.3181	0.0647
3	225	0.6498	0.3133	0.0040	-0.0390	0.0461	0.7041	0.0773	-0.3723	0.0577
3	225	0.6890	0.3076	0.0044	-0.0495	0.0508	0.7204	0.0833	-0.4674	0.0569
3	225	0.7495	0.3739	0.0034	-0.0406	0.0573	0.7079	0.0926	-0.5975	0.0589
3	225	0.7998	0.4230	0.0038	-0.0307	0.0628	0.6800	0.1011	-0.5700	0.0603
3	225	0.8577	0.4461	0.0040	-0.0057	0.0697	0.5658	0.1126	-0.6630	0.0606
3	225	0.9178	0.4819	0.0053	-0.0327	0.0752	0.4393	0.1222	-0.8812	0.0552

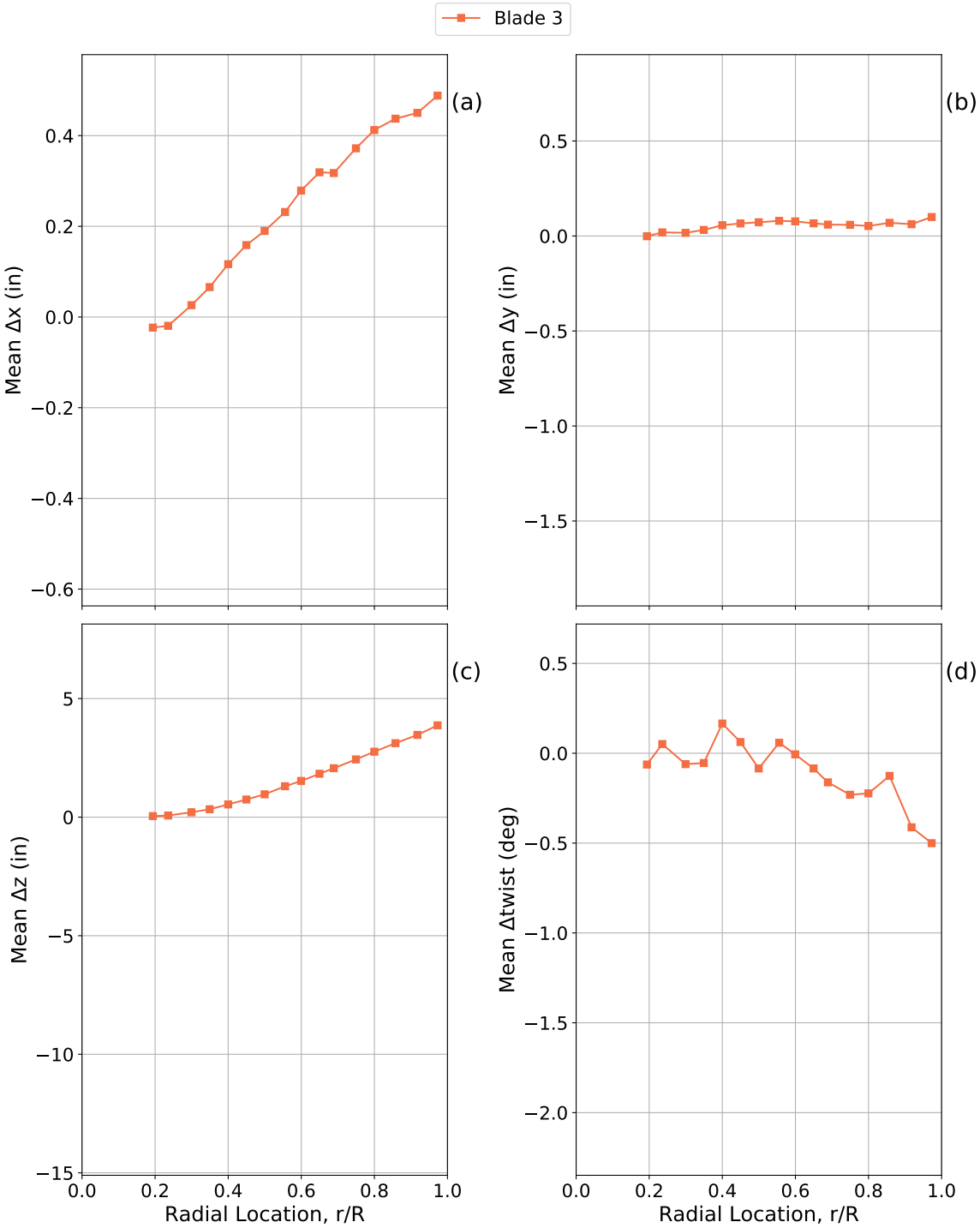


Figure 3.4-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0233	0.0034	-0.0013	0.0028	0.0441	0.0060	-0.0626	0.0256
3	240.12	0.2357	-0.0194	0.0025	0.0190	0.0019	0.0688	0.0086	0.0511	0.0592
3	240.12	0.2995	0.0261	0.0037	0.0165	0.0111	0.2061	0.0175	-0.0606	0.0696
3	240.12	0.3493	0.0660	0.0025	0.0318	0.0141	0.3342	0.0300	-0.0544	0.0592
3	240.12	0.4000	0.1165	0.0038	0.0566	0.0244	0.5371	0.0422	0.1652	0.0586
3	240.12	0.4497	0.1586	0.0051	0.0660	0.0310	0.7433	0.0558	0.0624	0.0806
3	240.12	0.4997	0.1898	0.0052	0.0721	0.0395	0.9626	0.0679	-0.0846	0.0488
3	240.12	0.5556	0.2315	0.0041	0.0797	0.0480	1.3028	0.0820	0.0585	0.0515
3	240.12	0.5995	0.2788	0.0056	0.0769	0.0565	1.5275	0.0918	-0.0062	0.0725
3	240.12	0.6498	0.3191	0.0053	0.0667	0.0633	1.8292	0.1004	-0.0848	0.0593
3	240.12	0.6890	0.3175	0.0058	0.0599	0.0703	2.0642	0.1132	-0.1618	0.0712
3	240.12	0.7495	0.3720	0.0051	0.0587	0.0798	2.4357	0.1242	-0.2310	0.0705
3	240.12	0.7998	0.4123	0.0039	0.0526	0.0887	2.7601	0.1407	-0.2234	0.0415
3	240.12	0.8577	0.4373	0.0109	0.0693	0.0984	3.1199	0.1634	-0.1259	0.1319
3	240.12	0.9178	0.4501	0.0055	0.0621	0.1078	3.4678	0.1916	-0.4121	0.0601
3	240.12	0.9729	0.4882	0.0082	0.0999	0.1170	3.8725	0.2212	-0.5004	0.0804

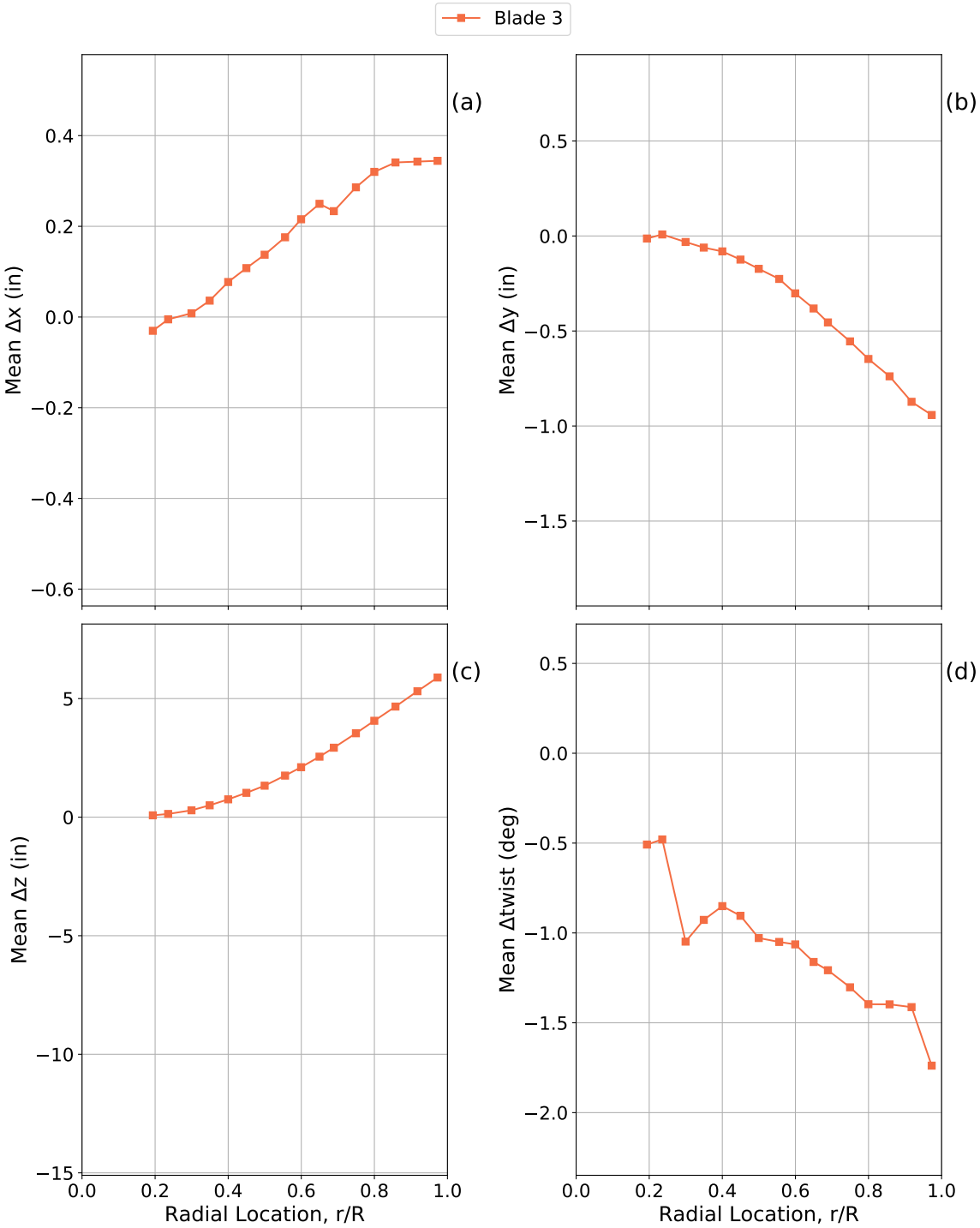


Figure 3.4-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0304	0.0064	-0.0134	0.0019	0.0769	0.0091	-0.5081	0.0446
3	254.88	0.2357	-0.0051	0.0015	0.0080	0.0029	0.1344	0.0130	-0.4796	0.0900
3	254.88	0.2995	0.0082	0.0014	-0.0317	0.0067	0.2889	0.0249	-1.0484	0.0852
3	254.88	0.3493	0.0361	0.0021	-0.0611	0.0147	0.4990	0.0443	-0.9274	0.0878
3	254.88	0.4000	0.0772	0.0040	-0.0811	0.0207	0.7510	0.0616	-0.8508	0.0843
3	254.88	0.4497	0.1078	0.0016	-0.1242	0.0240	1.0257	0.0788	-0.9045	0.0995
3	254.88	0.4997	0.1374	0.0039	-0.1729	0.0325	1.3266	0.1040	-1.0283	0.0839
3	254.88	0.5556	0.1758	0.0047	-0.2261	0.0402	1.7522	0.1288	-1.0501	0.0867
3	254.88	0.5995	0.2155	0.0055	-0.3020	0.0468	2.1057	0.1479	-1.0637	0.0920
3	254.88	0.6498	0.2496	0.0066	-0.3816	0.0546	2.5506	0.1708	-1.1616	0.0939
3	254.88	0.6890	0.2334	0.0076	-0.4549	0.0614	2.9284	0.1880	-1.2075	0.0921
3	254.88	0.7495	0.2860	0.0081	-0.5547	0.0720	3.5378	0.2140	-1.3025	0.1056
3	254.88	0.7998	0.3200	0.0097	-0.6473	0.0810	4.0642	0.2350	-1.3967	0.1074
3	254.88	0.8577	0.3408	0.0106	-0.7386	0.0923	4.6637	0.2619	-1.3974	0.0958
3	254.88	0.9178	0.3427	0.0118	-0.8727	0.1035	5.3109	0.2876	-1.4128	0.1079
3	254.88	0.9729	0.3444	0.0169	-0.9421	0.1140	5.8885	0.3154	-1.7385	0.1116

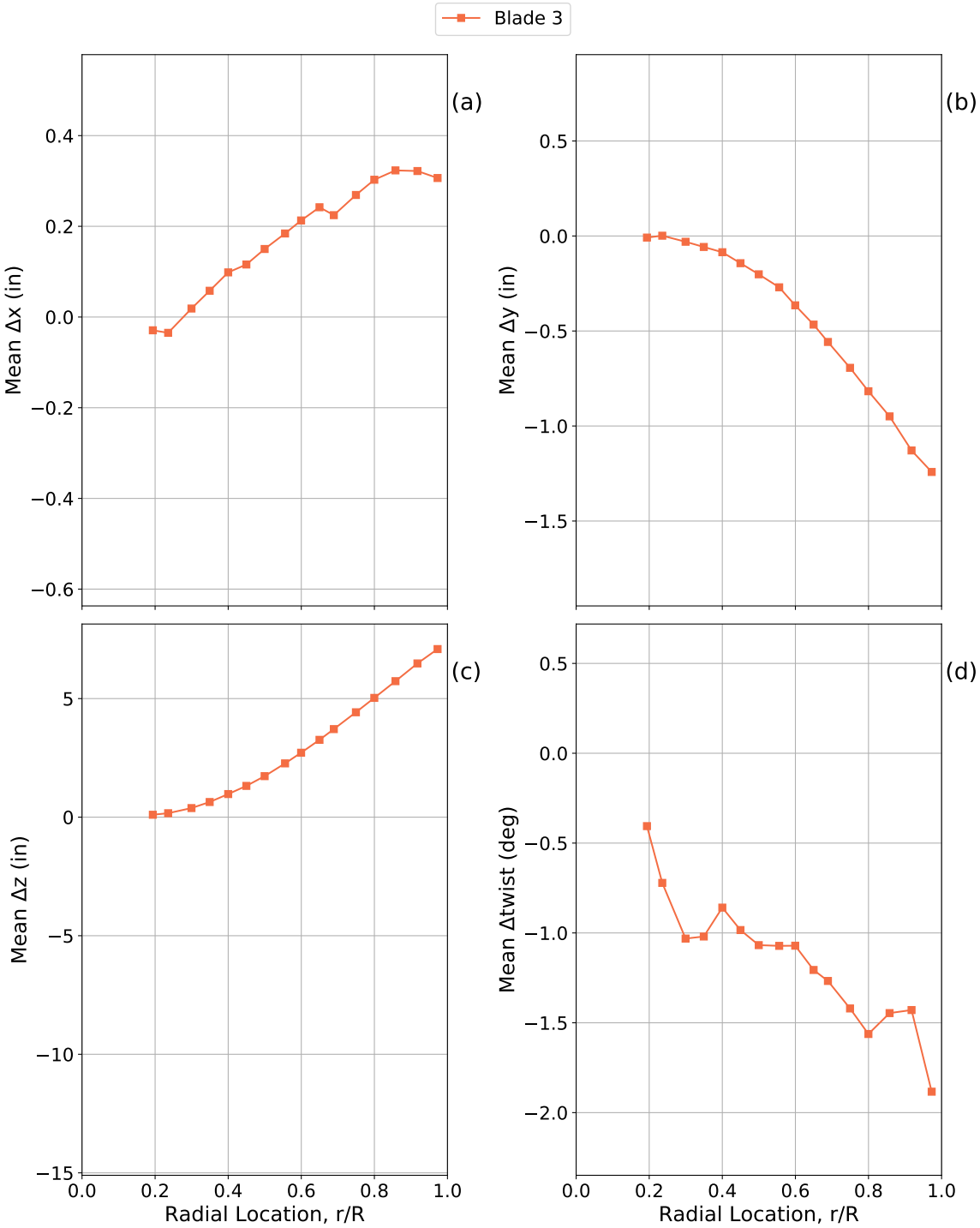


Figure 3.4-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0293	0.0095	-0.0083	0.0016	0.1013	0.0115	-0.4055	0.0653
3	260.16	0.2357	-0.0349	0.0022	0.0015	0.0015	0.1663	0.0115	-0.7215	0.1421
3	260.16	0.2995	0.0187	0.0042	-0.0304	0.0061	0.3829	0.0314	-1.0314	0.1793
3	260.16	0.3493	0.0579	0.0022	-0.0578	0.0106	0.6382	0.0513	-1.0199	0.1447
3	260.16	0.4000	0.0984	0.0033	-0.0855	0.0162	0.9739	0.0723	-0.8590	0.1493
3	260.16	0.4497	0.1158	0.0031	-0.1432	0.0194	1.3184	0.0904	-0.9840	0.1527
3	260.16	0.4997	0.1500	0.0040	-0.2017	0.0231	1.7290	0.1115	-1.0679	0.1486
3	260.16	0.5556	0.1842	0.0049	-0.2701	0.0272	2.2673	0.1353	-1.0719	0.1509
3	260.16	0.5995	0.2129	0.0039	-0.3650	0.0298	2.7170	0.1537	-1.0710	0.1553
3	260.16	0.6498	0.2420	0.0049	-0.4664	0.0338	3.2599	0.1763	-1.2061	0.1611
3	260.16	0.6890	0.2246	0.0055	-0.5577	0.0363	3.7129	0.1940	-1.2672	0.1600
3	260.16	0.7495	0.2691	0.0063	-0.6938	0.0409	4.4229	0.2228	-1.4203	0.1572
3	260.16	0.7998	0.3027	0.0072	-0.8171	0.0444	5.0295	0.2474	-1.5624	0.1474
3	260.16	0.8577	0.3233	0.0086	-0.9494	0.0492	5.7343	0.2743	-1.4461	0.1613
3	260.16	0.9178	0.3219	0.0088	-1.1287	0.0548	6.4823	0.3030	-1.4291	0.1483
3	260.16	0.9729	0.3065	0.0115	-1.2419	0.0593	7.0880	0.3293	-1.8835	0.1483

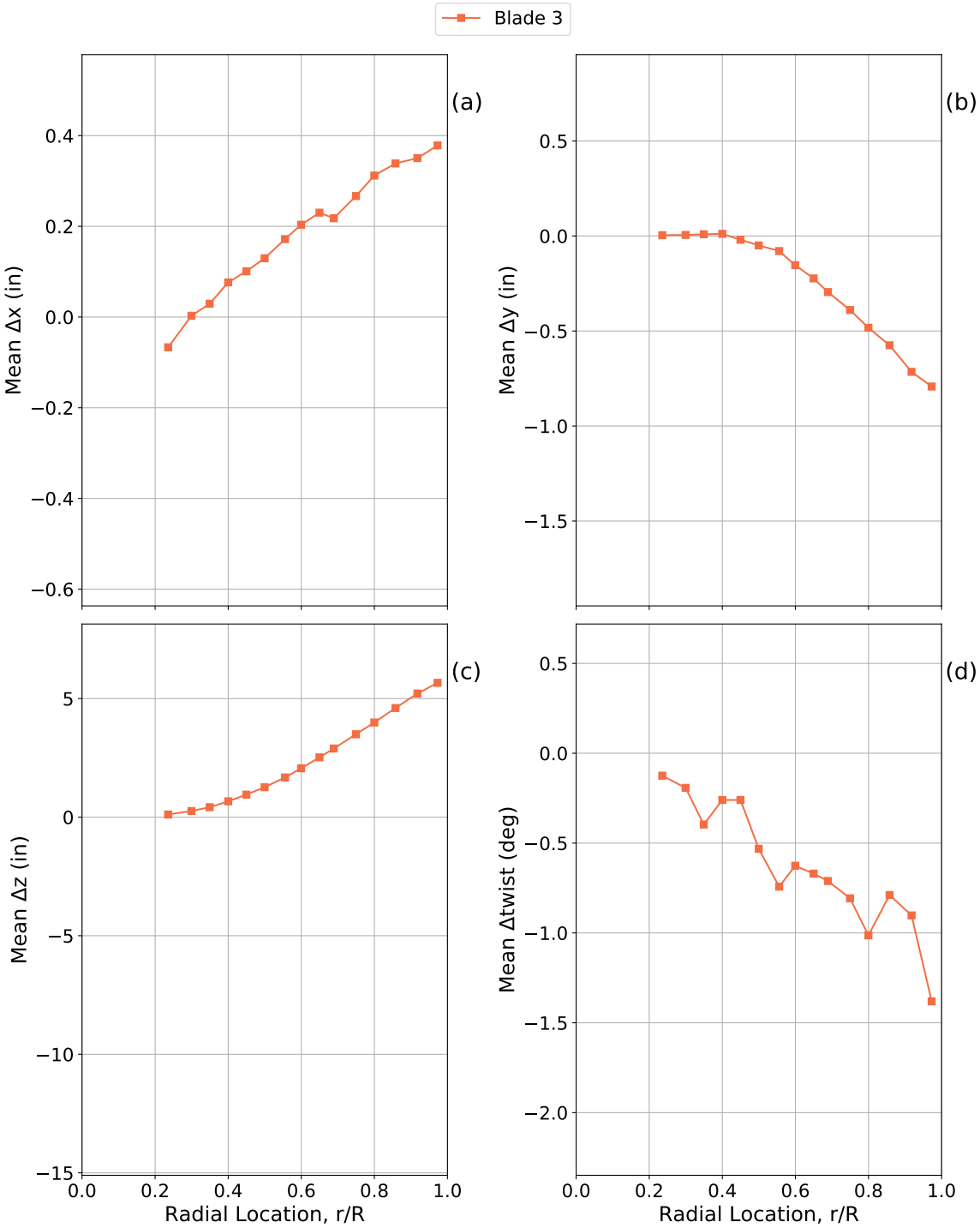


Figure 3.4-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0668	0.0036	0.0041	0.0016	0.1115	0.0185	-0.1248	0.1768
3	265.08	0.2995	0.0028	0.0038	0.0056	0.0041	0.2584	0.0340	-0.1926	0.2829
3	265.08	0.3493	0.0292	0.0019	0.0092	0.0077	0.4194	0.0630	-0.3966	0.1944
3	265.08	0.4000	0.0763	0.0031	0.0113	0.0123	0.6665	0.0907	-0.2601	0.1932
3	265.08	0.4497	0.1009	0.0029	-0.0196	0.0157	0.9494	0.1132	-0.2602	0.2010
3	265.08	0.4997	0.1296	0.0027	-0.0497	0.0199	1.2633	0.1394	-0.5321	0.1970
3	265.08	0.5556	0.1718	0.0036	-0.0793	0.0248	1.6744	0.1649	-0.7424	0.2050
3	265.08	0.5995	0.2035	0.0046	-0.1534	0.0283	2.0614	0.1855	-0.6262	0.1945
3	265.08	0.6498	0.2301	0.0053	-0.2233	0.0330	2.5202	0.2055	-0.6698	0.2017
3	265.08	0.6890	0.2178	0.0056	-0.2951	0.0362	2.8952	0.2203	-0.7109	0.1842
3	265.08	0.7495	0.2667	0.0070	-0.3897	0.0415	3.4950	0.2435	-0.8073	0.1758
3	265.08	0.7998	0.3119	0.0075	-0.4830	0.0469	3.9916	0.2615	-1.0136	0.1782
3	265.08	0.8577	0.3386	0.0083	-0.5753	0.0519	4.6024	0.2833	-0.7889	0.1776
3	265.08	0.9178	0.3504	0.0096	-0.7149	0.0595	5.2129	0.3053	-0.9024	0.1891
3	265.08	0.9729	0.3784	0.0123	-0.7922	0.0655	5.6636	0.3250	-1.3804	0.1879

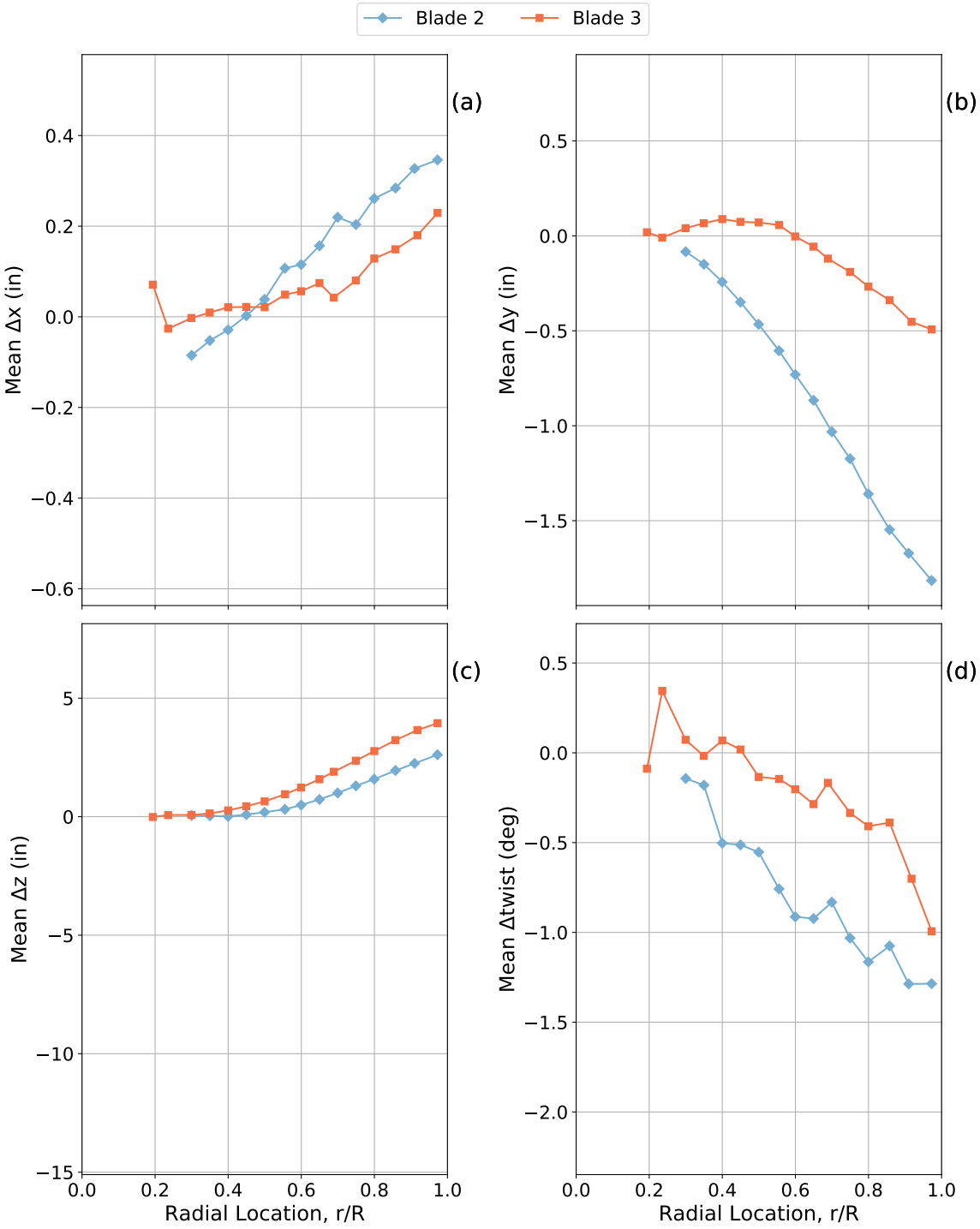


Figure 3.4-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2999	-0.0850	0.0068	-0.0837	0.0111	0.0515	0.0808	-0.1431	0.2494
2	270.35	0.3498	-0.0523	0.0042	-0.1498	0.0204	0.0380	0.1319	-0.1803	0.3293
2	270.35	0.3998	-0.0288	0.0036	-0.2426	0.0337	0.0117	0.2019	-0.5030	0.2994
2	270.35	0.4496	0.0024	0.0068	-0.3490	0.0453	0.0873	0.2687	-0.5126	0.3035
2	270.35	0.4995	0.0386	0.0052	-0.4658	0.0571	0.1892	0.3405	-0.5529	0.3048
2	270.35	0.5551	0.1072	0.0096	-0.6048	0.0699	0.3084	0.4197	-0.7577	0.3189
2	270.35	0.5996	0.1153	0.0065	-0.7306	0.0811	0.4910	0.4877	-0.9132	0.3193
2	270.35	0.6497	0.1567	0.0078	-0.8659	0.0929	0.7266	0.5663	-0.9230	0.3133
2	270.35	0.6996	0.2197	0.0102	-1.0320	0.1048	1.0009	0.6425	-0.8319	0.3156
2	270.35	0.7495	0.2036	0.0109	-1.1738	0.1174	1.3006	0.7208	-1.0315	0.3119
2	270.35	0.7996	0.2611	0.0125	-1.3593	0.1298	1.5819	0.7995	-1.1642	0.3077
2	270.35	0.8578	0.2840	0.0152	-1.5473	0.1446	1.9491	0.8878	-1.0754	0.3363
2	270.35	0.9100	0.3271	0.0166	-1.6717	0.1591	2.2488	0.9727	-1.2869	0.3189
2	270.35	0.9727	0.3462	0.0238	-1.8150	0.1769	2.6138	1.0689	-1.2855	0.3315
3	270	0.1938	0.0710	0.0048	0.0188	0.0028	-0.0127	0.0079	-0.0885	0.0666
3	270	0.2357	-0.0261	0.0032	-0.0095	0.0035	0.0689	0.0115	0.3446	0.0555
3	270	0.2995	-0.0027	0.0015	0.0402	0.0074	0.0744	0.0203	0.0721	0.1216
3	270	0.3493	0.0094	0.0027	0.0667	0.0130	0.1372	0.0318	-0.0169	0.0993
3	270	0.4000	0.0212	0.0039	0.0880	0.0189	0.2644	0.0469	0.0685	0.0867
3	270	0.4497	0.0217	0.0032	0.0735	0.0228	0.4382	0.0614	0.0185	0.0892
3	270	0.4997	0.0212	0.0028	0.0703	0.0276	0.6435	0.0802	-0.1344	0.0899
3	270	0.5556	0.0490	0.0038	0.0568	0.0333	0.9469	0.0975	-0.1456	0.0773
3	270	0.5995	0.0564	0.0032	-0.0031	0.0389	1.2296	0.1171	-0.2031	0.0939
3	270	0.6498	0.0745	0.0038	-0.0570	0.0459	1.5799	0.1417	-0.2859	0.0938
3	270	0.6890	0.0424	0.0038	-0.1199	0.0506	1.8956	0.1596	-0.1672	0.0873
3	270	0.7495	0.0802	0.0057	-0.1901	0.0586	2.3627	0.1861	-0.3346	0.0940
3	270	0.7998	0.1286	0.0059	-0.2676	0.0652	2.7680	0.2060	-0.4093	0.0976
3	270	0.8577	0.1489	0.0068	-0.3388	0.0740	3.2292	0.2277	-0.3883	0.0907
3	270	0.9178	0.1800	0.0070	-0.4528	0.0823	3.6531	0.2510	-0.7011	0.0901
3	270	0.9729	0.2293	0.0080	-0.4929	0.0907	3.9449	0.2737	-0.9940	0.0980

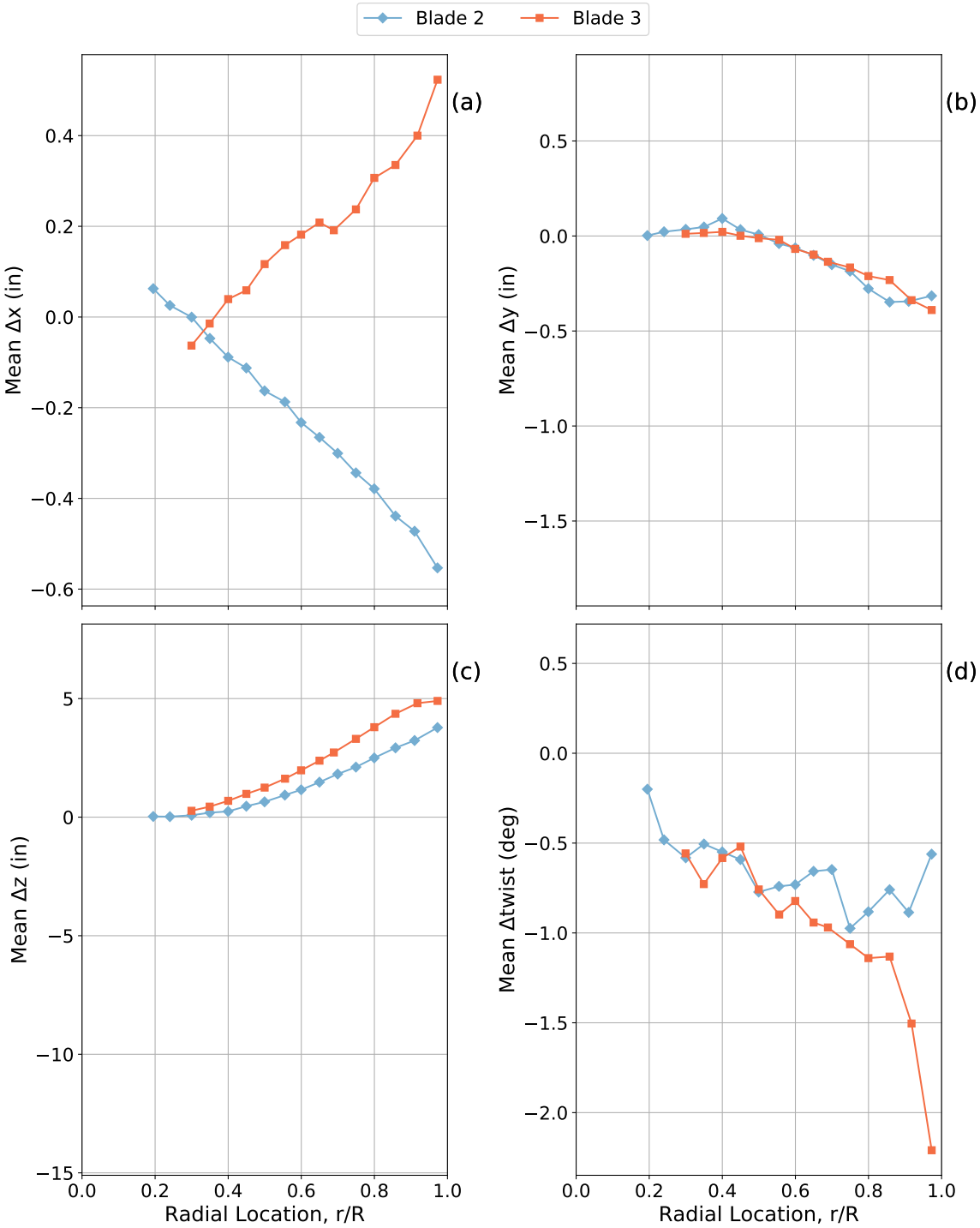


Figure 3.4-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0626	0.0030	0.0021	0.0030	0.0288	0.0173	-0.2001	0.1322
2	274.92	0.2405	0.0256	0.0030	0.0223	0.0052	0.0210	0.0280	-0.4820	0.2299
2	274.92	0.2999	-0.0003	0.0023	0.0349	0.0144	0.0799	0.0522	-0.5818	0.3297
2	274.92	0.3498	-0.0472	0.0040	0.0473	0.0278	0.1884	0.0939	-0.5051	0.2391
2	274.92	0.3998	-0.0885	0.0051	0.0921	0.0421	0.2422	0.1319	-0.5490	0.2560
2	274.92	0.4496	-0.1124	0.0051	0.0335	0.0465	0.4613	0.1500	-0.5915	0.2473
2	274.92	0.4995	-0.1629	0.0066	0.0072	0.0566	0.6458	0.1738	-0.7723	0.2671
2	274.92	0.5551	-0.1872	0.0055	-0.0399	0.0713	0.9304	0.2180	-0.7406	0.1815
2	274.92	0.5996	-0.2326	0.0084	-0.0626	0.0787	1.1541	0.2307	-0.7312	0.2325
2	274.92	0.6497	-0.2653	0.0090	-0.1016	0.0895	1.4756	0.2598	-0.6569	0.2108
2	274.92	0.6996	-0.3006	0.0094	-0.1510	0.1008	1.8178	0.2867	-0.6470	0.2371
2	274.92	0.7495	-0.3437	0.0107	-0.1851	0.1122	2.1116	0.3114	-0.9744	0.2580
2	274.92	0.7996	-0.3788	0.0124	-0.2771	0.1263	2.4982	0.3443	-0.8821	0.2647
2	274.92	0.8578	-0.4389	0.0134	-0.3476	0.1399	2.9228	0.3826	-0.7593	0.2240
2	274.92	0.9100	-0.4724	0.0162	-0.3441	0.1544	3.2325	0.4219	-0.8858	0.2300
2	274.92	0.9727	-0.5532	0.0222	-0.3149	0.1694	3.7772	0.4643	-0.5615	0.2414
3	274.92	0.2995	-0.0630	0.0077	0.0114	0.0074	0.2691	0.0802	-0.5574	0.2531
3	274.92	0.3493	-0.0144	0.0070	0.0159	0.0139	0.4434	0.1273	-0.7283	0.3314
3	274.92	0.4000	0.0395	0.0083	0.0217	0.0234	0.6886	0.1930	-0.5832	0.3171
3	274.92	0.4497	0.0589	0.0073	0.0012	0.0308	0.9807	0.2467	-0.5193	0.3494
3	274.92	0.4997	0.1167	0.0097	-0.0115	0.0394	1.2466	0.3098	-0.7579	0.3085
3	274.92	0.5556	0.1585	0.0178	-0.0205	0.0491	1.6219	0.3805	-0.8975	0.3067
3	274.92	0.5995	0.1816	0.0154	-0.0680	0.0569	1.9742	0.4354	-0.8223	0.2823
3	274.92	0.6498	0.2084	0.0171	-0.0981	0.0656	2.3823	0.4917	-0.9421	0.3049
3	274.92	0.6890	0.1913	0.0188	-0.1356	0.0722	2.7273	0.5382	-0.9695	0.3027
3	274.92	0.7495	0.2373	0.0225	-0.1659	0.0824	3.3017	0.6039	-1.0627	0.3218
3	274.92	0.7998	0.3068	0.0246	-0.2111	0.0909	3.7938	0.6590	-1.1401	0.3069
3	274.92	0.8577	0.3352	0.0264	-0.2320	0.1013	4.3588	0.7175	-1.1317	0.3204
3	274.92	0.9178	0.4000	0.0281	-0.3379	0.1114	4.8065	0.7802	-1.5042	0.3037
3	274.92	0.9729	0.5233	0.0345	-0.3897	0.1229	4.9013	0.8372	-2.2093	0.3144

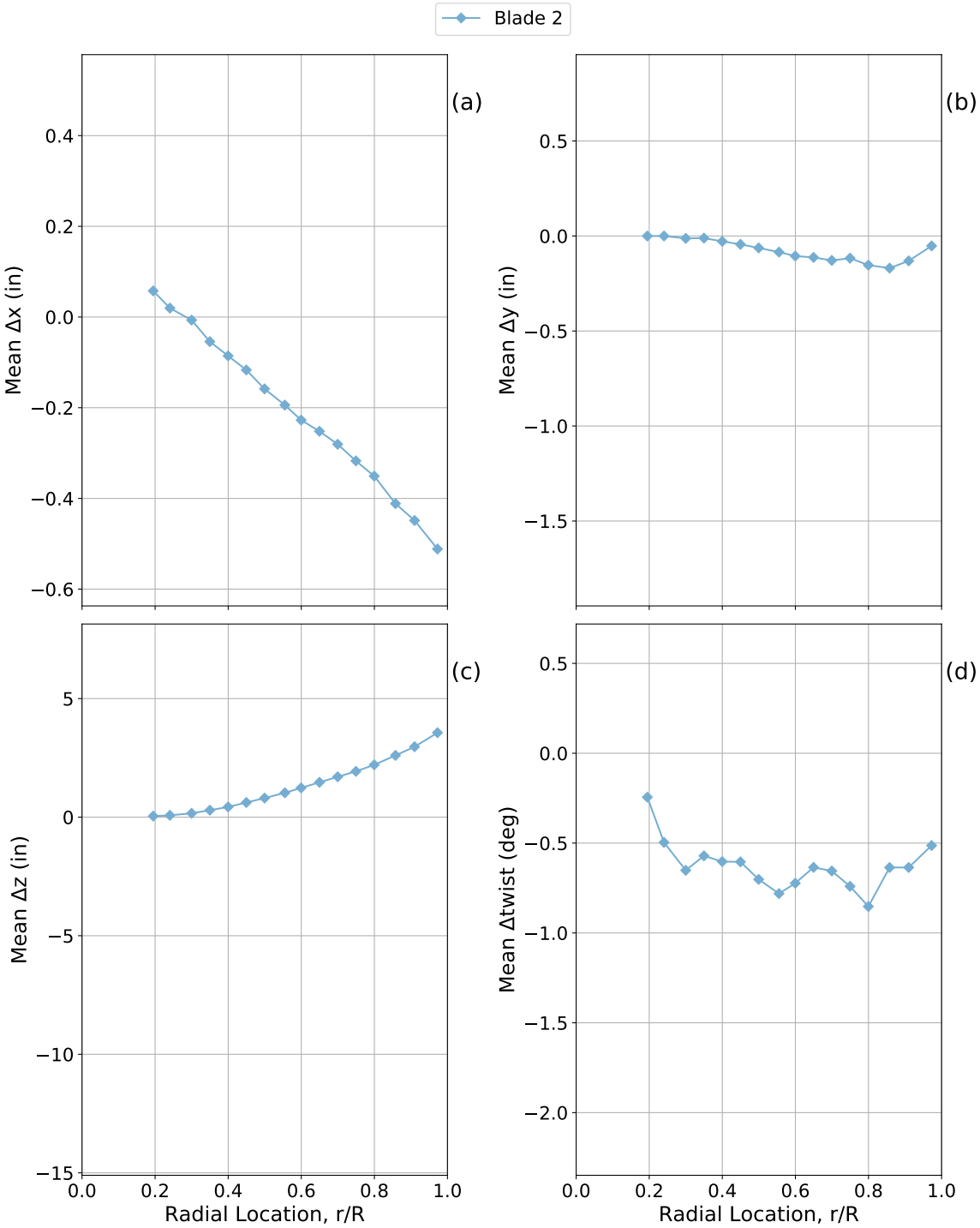


Figure 3.4-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0576	0.0032	-0.0003	0.0007	0.0448	0.0060	-0.2445	0.0655
2	285.12	0.2405	0.0196	0.0036	-0.0001	0.0039	0.0773	0.0182	-0.4963	0.0394
2	285.12	0.2999	-0.0068	0.0022	-0.0126	0.0050	0.1630	0.0290	-0.6516	0.1080
2	285.12	0.3498	-0.0543	0.0015	-0.0112	0.0077	0.2931	0.0478	-0.5710	0.1069
2	285.12	0.3998	-0.0857	0.0022	-0.0282	0.0147	0.4307	0.0763	-0.6028	0.1008
2	285.12	0.4496	-0.1168	0.0034	-0.0440	0.0186	0.6180	0.0989	-0.6045	0.0886
2	285.12	0.4995	-0.1585	0.0040	-0.0629	0.0233	0.8042	0.1201	-0.7019	0.0758
2	285.12	0.5551	-0.1943	0.0032	-0.0847	0.0279	1.0266	0.1376	-0.7810	0.0626
2	285.12	0.5996	-0.2273	0.0037	-0.1057	0.0312	1.2345	0.1588	-0.7234	0.0499
2	285.12	0.6497	-0.2520	0.0036	-0.1127	0.0362	1.4684	0.1745	-0.6350	0.0559
2	285.12	0.6996	-0.2806	0.0041	-0.1286	0.0413	1.7021	0.1911	-0.6553	0.0717
2	285.12	0.7495	-0.3173	0.0045	-0.1168	0.0461	1.9320	0.2036	-0.7404	0.0793
2	285.12	0.7996	-0.3508	0.0051	-0.1534	0.0509	2.2067	0.2206	-0.8529	0.0588
2	285.12	0.8578	-0.4115	0.0044	-0.1692	0.0578	2.6043	0.2300	-0.6358	0.0667
2	285.12	0.9100	-0.4487	0.0038	-0.1310	0.0637	2.9697	0.2380	-0.6356	0.0635
2	285.12	0.9727	-0.5116	0.0058	-0.0522	0.0710	3.5607	0.2474	-0.5134	0.0934

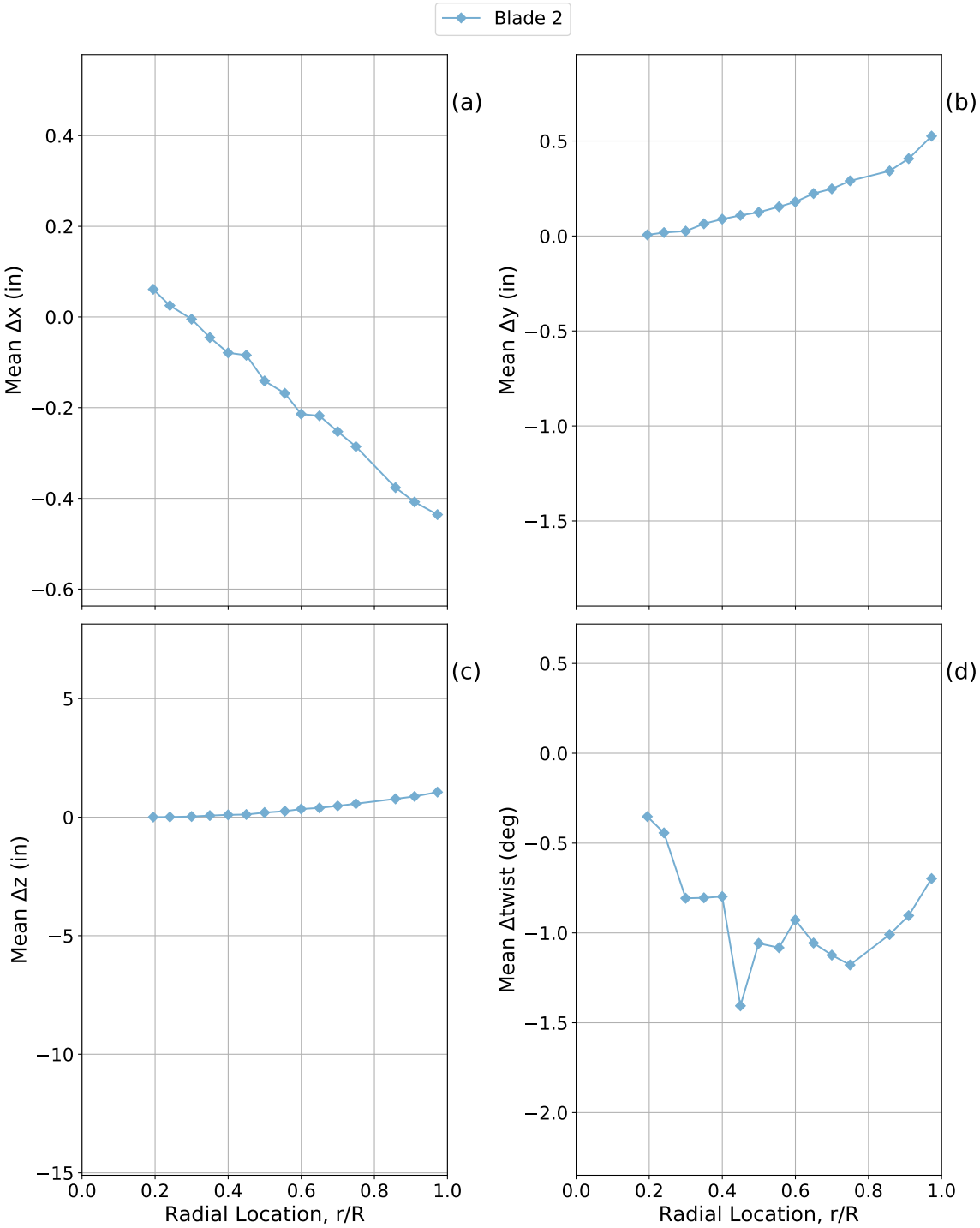


Figure 3.4-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0611	0.0021	0.0059	0.0014	0.0053	0.0084	-0.3522	0.0488
2	299.88	0.2405	0.0252	0.0029	0.0182	0.0038	0.0088	0.0150	-0.4431	0.1080
2	299.88	0.2999	-0.0048	0.0026	0.0258	0.0061	0.0291	0.0281	-0.8067	0.1261
2	299.88	0.3498	-0.0453	0.0037	0.0644	0.0140	0.0684	0.0448	-0.8045	0.0935
2	299.88	0.3998	-0.0790	0.0038	0.0890	0.0202	0.0988	0.0676	-0.7974	0.0930
2	299.88	0.4496	-0.0843	0.0033	0.1085	0.0234	0.1131	0.0825	-1.4059	0.1108
2	299.88	0.4995	-0.1411	0.0045	0.1249	0.0293	0.1940	0.1042	-1.0581	0.1048
2	299.88	0.5551	-0.1683	0.0059	0.1542	0.0339	0.2543	0.1318	-1.0824	0.0914
2	299.88	0.5996	-0.2141	0.0043	0.1795	0.0391	0.3451	0.1491	-0.9279	0.1126
2	299.88	0.6497	-0.2180	0.0041	0.2236	0.0458	0.3911	0.1777	-1.0564	0.0893
2	299.88	0.6996	-0.2528	0.0049	0.2481	0.0514	0.4765	0.2045	-1.1235	0.0856
2	299.88	0.7495	-0.2858	0.0050	0.2902	0.0574	0.5683	0.2327	-1.1784	0.1019
2	299.88	0.8578	-0.3762	0.0053	0.3426	0.0705	0.7726	0.3004	-1.0092	0.1084
2	299.88	0.9100	-0.4079	0.0062	0.4072	0.0768	0.8739	0.3362	-0.9035	0.0943
2	299.88	0.9727	-0.4358	0.0084	0.5257	0.0837	1.0573	0.3808	-0.6973	0.0773

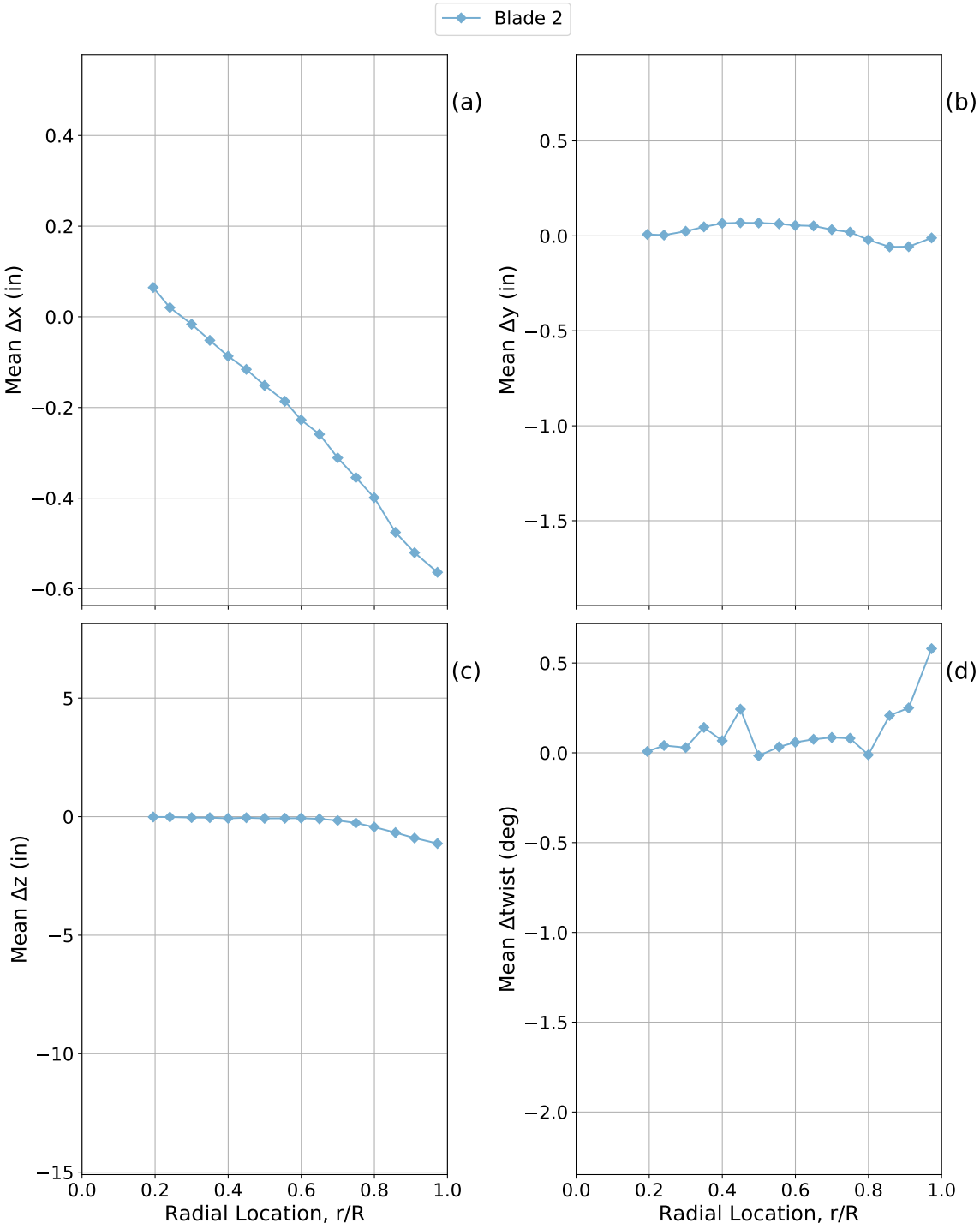


Figure 3.4-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0646	0.0027	0.0075	0.0014	-0.0131	0.0065	0.0076	0.0288
2	315	0.2405	0.0204	0.0045	0.0040	0.0052	-0.0146	0.0110	0.0409	0.0690
2	315	0.2999	-0.0163	0.0031	0.0241	0.0102	-0.0394	0.0234	0.0292	0.0717
2	315	0.3498	-0.0519	0.0028	0.0474	0.0175	-0.0421	0.0290	0.1415	0.1061
2	315	0.3998	-0.0868	0.0030	0.0658	0.0293	-0.0700	0.0489	0.0675	0.0563
2	315	0.4496	-0.1159	0.0031	0.0688	0.0339	-0.0456	0.0567	0.2429	0.0883
2	315	0.4995	-0.1514	0.0041	0.0677	0.0397	-0.0709	0.0698	-0.0162	0.0915
2	315	0.5551	-0.1864	0.0031	0.0635	0.0465	-0.0688	0.0813	0.0332	0.0732
2	315	0.5996	-0.2274	0.0049	0.0548	0.0521	-0.0611	0.0935	0.0587	0.0689
2	315	0.6497	-0.2591	0.0047	0.0522	0.0581	-0.0948	0.1066	0.0754	0.0719
2	315	0.6996	-0.3112	0.0050	0.0325	0.0643	-0.1599	0.1192	0.0856	0.0629
2	315	0.7495	-0.3546	0.0059	0.0196	0.0704	-0.2676	0.1341	0.0809	0.0663
2	315	0.7996	-0.3990	0.0063	-0.0211	0.0775	-0.4376	0.1542	-0.0112	0.0589
2	315	0.8578	-0.4754	0.0065	-0.0582	0.0849	-0.6740	0.1766	0.2077	0.0679
2	315	0.9100	-0.5203	0.0069	-0.0571	0.0917	-0.9022	0.1972	0.2499	0.0702
2	315	0.9727	-0.5636	0.0083	-0.0109	0.1004	-1.1330	0.2265	0.5798	0.0644

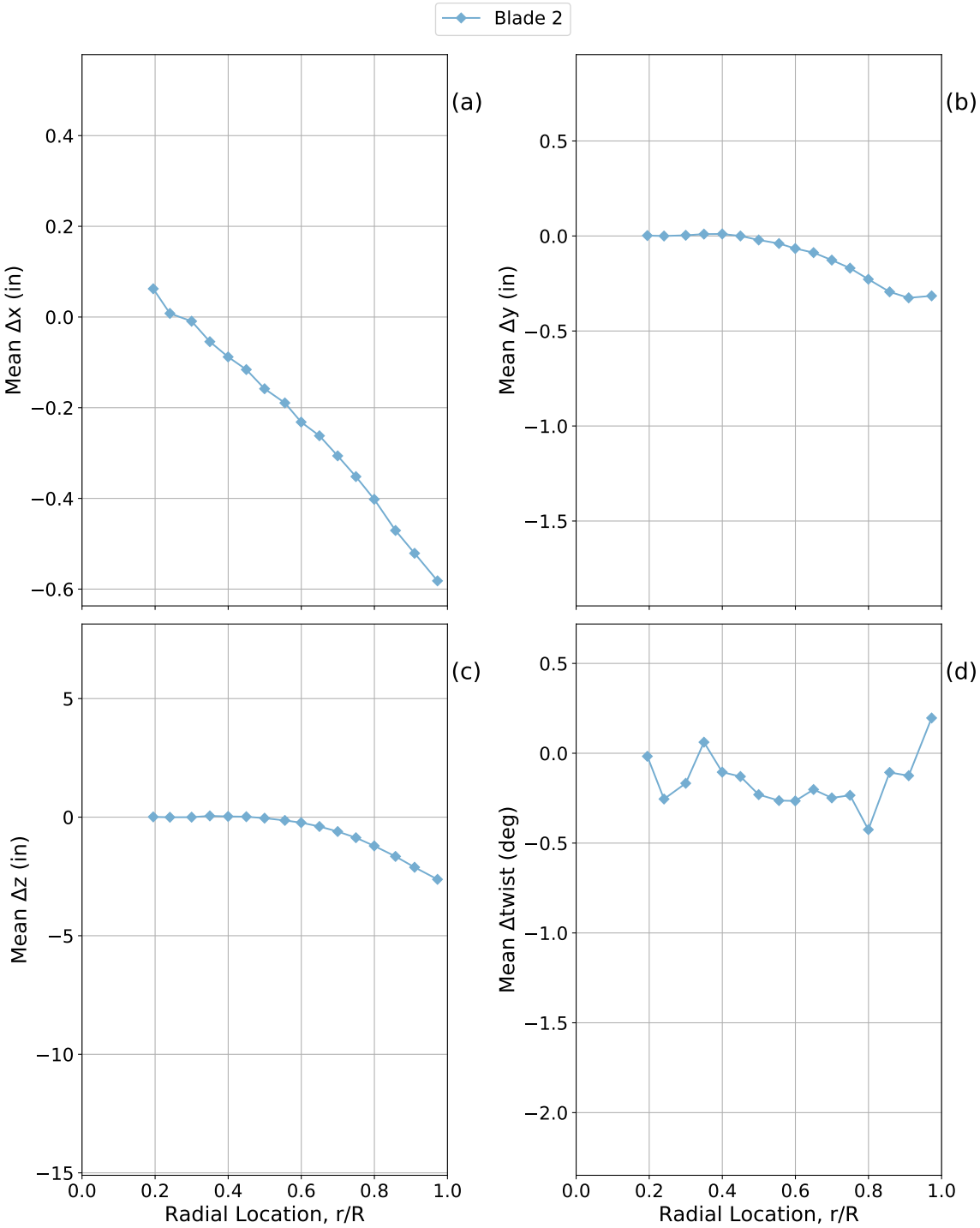


Figure 3.4-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0623	0.0021	0.0021	0.0014	0.0108	0.0029	-0.0171	0.0365
2	330.12	0.2405	0.0079	0.0030	-0.0001	0.0032	-0.0040	0.0058	-0.2547	0.0465
2	330.12	0.2999	-0.0093	0.0046	0.0037	0.0043	-0.0011	0.0086	-0.1672	0.0750
2	330.12	0.3498	-0.0544	0.0028	0.0098	0.0082	0.0527	0.0184	0.0616	0.0619
2	330.12	0.3998	-0.0880	0.0032	0.0106	0.0115	0.0296	0.0248	-0.1052	0.0709
2	330.12	0.4496	-0.1159	0.0045	0.0001	0.0140	0.0188	0.0336	-0.1294	0.0555
2	330.12	0.4995	-0.1582	0.0043	-0.0210	0.0166	-0.0429	0.0425	-0.2303	0.0480
2	330.12	0.5551	-0.1894	0.0047	-0.0396	0.0201	-0.1371	0.0525	-0.2634	0.0514
2	330.12	0.5996	-0.2317	0.0038	-0.0660	0.0232	-0.2324	0.0613	-0.2653	0.0570
2	330.12	0.6497	-0.2619	0.0047	-0.0876	0.0268	-0.3940	0.0725	-0.2018	0.0509
2	330.12	0.6996	-0.3062	0.0043	-0.1269	0.0310	-0.6057	0.0880	-0.2485	0.0542
2	330.12	0.7495	-0.3519	0.0044	-0.1693	0.0331	-0.8673	0.1112	-0.2340	0.0564
2	330.12	0.7996	-0.4020	0.0051	-0.2277	0.0369	-1.2130	0.1306	-0.4251	0.0496
2	330.12	0.8578	-0.4707	0.0071	-0.2940	0.0397	-1.6555	0.1619	-0.1068	0.0772
2	330.12	0.9100	-0.5210	0.0064	-0.3256	0.0443	-2.1137	0.1872	-0.1249	0.0901
2	330.12	0.9727	-0.5818	0.0070	-0.3152	0.0508	-2.6236	0.2279	0.1962	0.0524

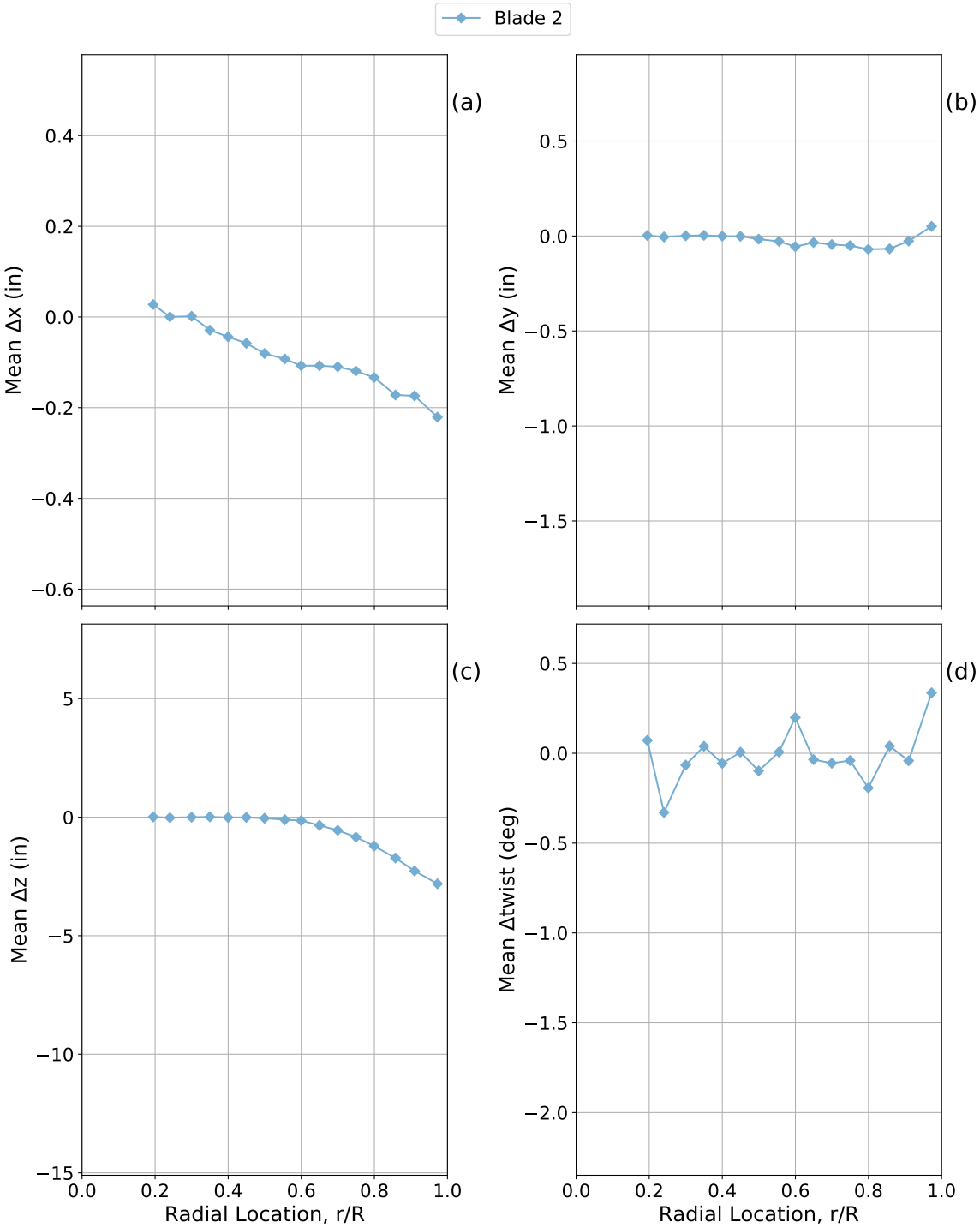


Figure 3.4-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0276	0.0021	0.0028	0.0019	0.0114	0.0042	0.0719	0.0195
2	344.88	0.2405	0.0003	0.0017	-0.0049	0.0034	-0.0216	0.0038	-0.3295	0.0530
2	344.88	0.2999	0.0015	0.0016	0.0012	0.0070	-0.0015	0.0089	-0.0655	0.0499
2	344.88	0.3498	-0.0291	0.0022	0.0035	0.0121	0.0126	0.0146	0.0387	0.0487
2	344.88	0.3998	-0.0438	0.0021	-0.0007	0.0187	-0.0131	0.0193	-0.0563	0.0548
2	344.88	0.4496	-0.0581	0.0025	-0.0017	0.0245	-0.0074	0.0240	0.0060	0.0561
2	344.88	0.4995	-0.0805	0.0028	-0.0163	0.0310	-0.0450	0.0289	-0.0978	0.0594
2	344.88	0.5551	-0.0926	0.0042	-0.0285	0.0360	-0.1060	0.0337	0.0066	0.1740
2	344.88	0.5996	-0.1075	0.0067	-0.0560	0.0429	-0.1435	0.0525	0.1987	0.1359
2	344.88	0.6497	-0.1074	0.0095	-0.0342	0.0448	-0.3446	0.0446	-0.0352	0.0594
2	344.88	0.6996	-0.1098	0.0124	-0.0450	0.0490	-0.5534	0.0510	-0.0553	0.0763
2	344.88	0.7495	-0.1192	0.0172	-0.0506	0.0509	-0.8384	0.0599	-0.0407	0.0556
2	344.88	0.7996	-0.1335	0.0206	-0.0699	0.0535	-1.2165	0.0686	-0.1927	0.0640
2	344.88	0.8578	-0.1720	0.0278	-0.0675	0.0551	-1.7219	0.0794	0.0398	0.0657
2	344.88	0.9100	-0.1740	0.0344	-0.0264	0.0585	-2.2663	0.0886	-0.0417	0.0720
2	344.88	0.9727	-0.2208	0.0423	0.0508	0.0642	-2.8070	0.1004	0.3363	0.0844

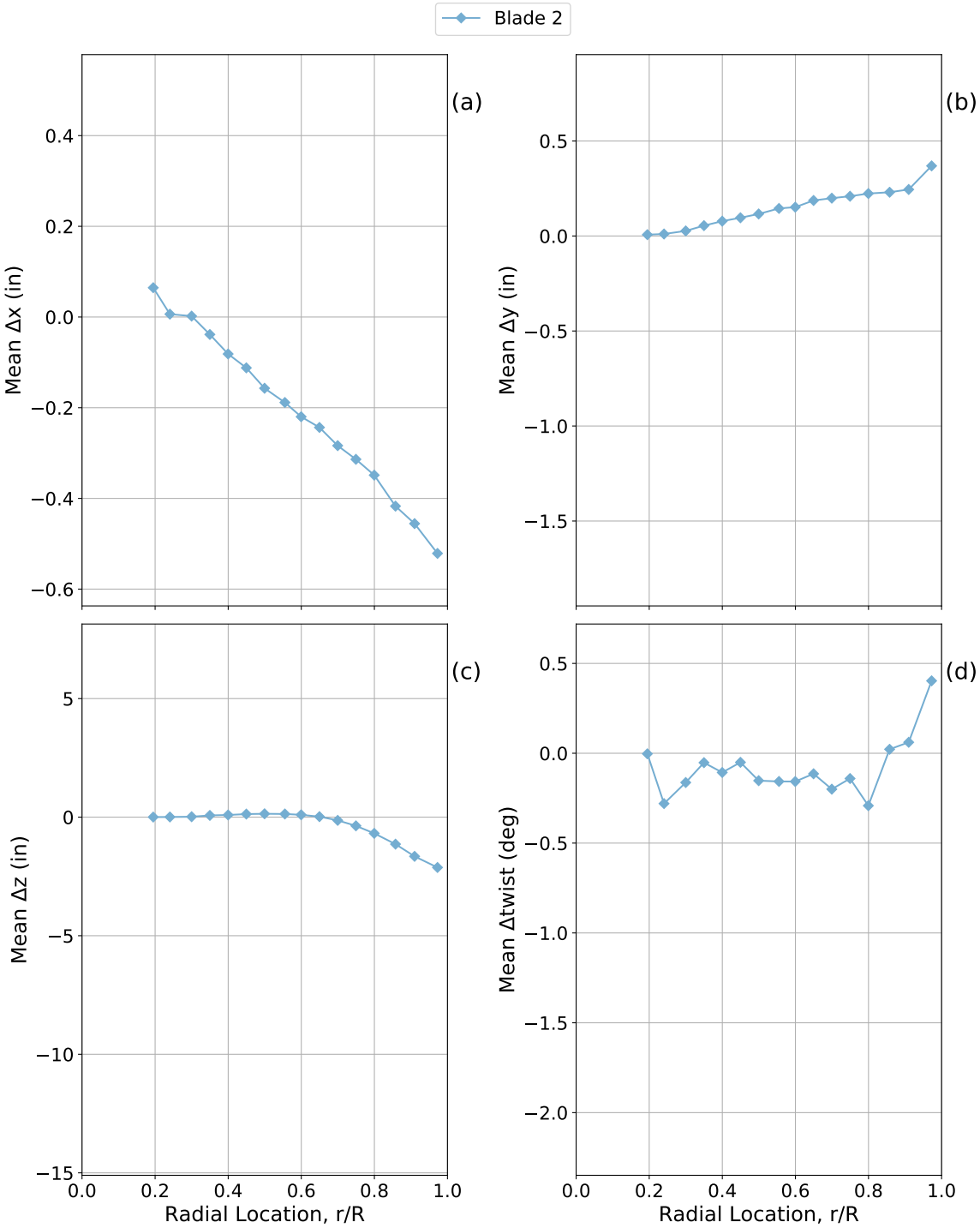


Figure 3.4-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0646	0.0033	0.0069	0.0011	0.0040	0.0072	-0.0031	0.0337
2	350.16	0.2405	0.0063	0.0023	0.0104	0.0030	0.0079	0.0081	-0.2801	0.0788
2	350.16	0.2999	0.0020	0.0030	0.0267	0.0069	0.0185	0.0210	-0.1628	0.0830
2	350.16	0.3498	-0.0385	0.0026	0.0545	0.0094	0.0734	0.0359	-0.0523	0.0795
2	350.16	0.3998	-0.0815	0.0034	0.0780	0.0171	0.0919	0.0508	-0.1070	0.0727
2	350.16	0.4496	-0.1121	0.0024	0.0959	0.0220	0.1300	0.0636	-0.0505	0.0827
2	350.16	0.4995	-0.1571	0.0034	0.1159	0.0259	0.1421	0.0766	-0.1525	0.0791
2	350.16	0.5551	-0.1885	0.0042	0.1450	0.0348	0.1338	0.0865	-0.1569	0.0765
2	350.16	0.5996	-0.2199	0.0045	0.1517	0.0365	0.0990	0.0953	-0.1573	0.0691
2	350.16	0.6497	-0.2435	0.0051	0.1869	0.0415	0.0215	0.1052	-0.1142	0.0770
2	350.16	0.6996	-0.2837	0.0047	0.1990	0.0454	-0.1355	0.1168	-0.1999	0.0702
2	350.16	0.7495	-0.3138	0.0044	0.2091	0.0521	-0.3666	0.1263	-0.1406	0.0869
2	350.16	0.7996	-0.3487	0.0052	0.2233	0.0569	-0.6835	0.1460	-0.2918	0.0662
2	350.16	0.8578	-0.4171	0.0058	0.2302	0.0645	-1.1384	0.1696	0.0221	0.0734
2	350.16	0.9100	-0.4556	0.0057	0.2447	0.0716	-1.6530	0.1942	0.0610	0.0778
2	350.16	0.9727	-0.5213	0.0053	0.3689	0.0790	-2.1219	0.2292	0.4031	0.0614

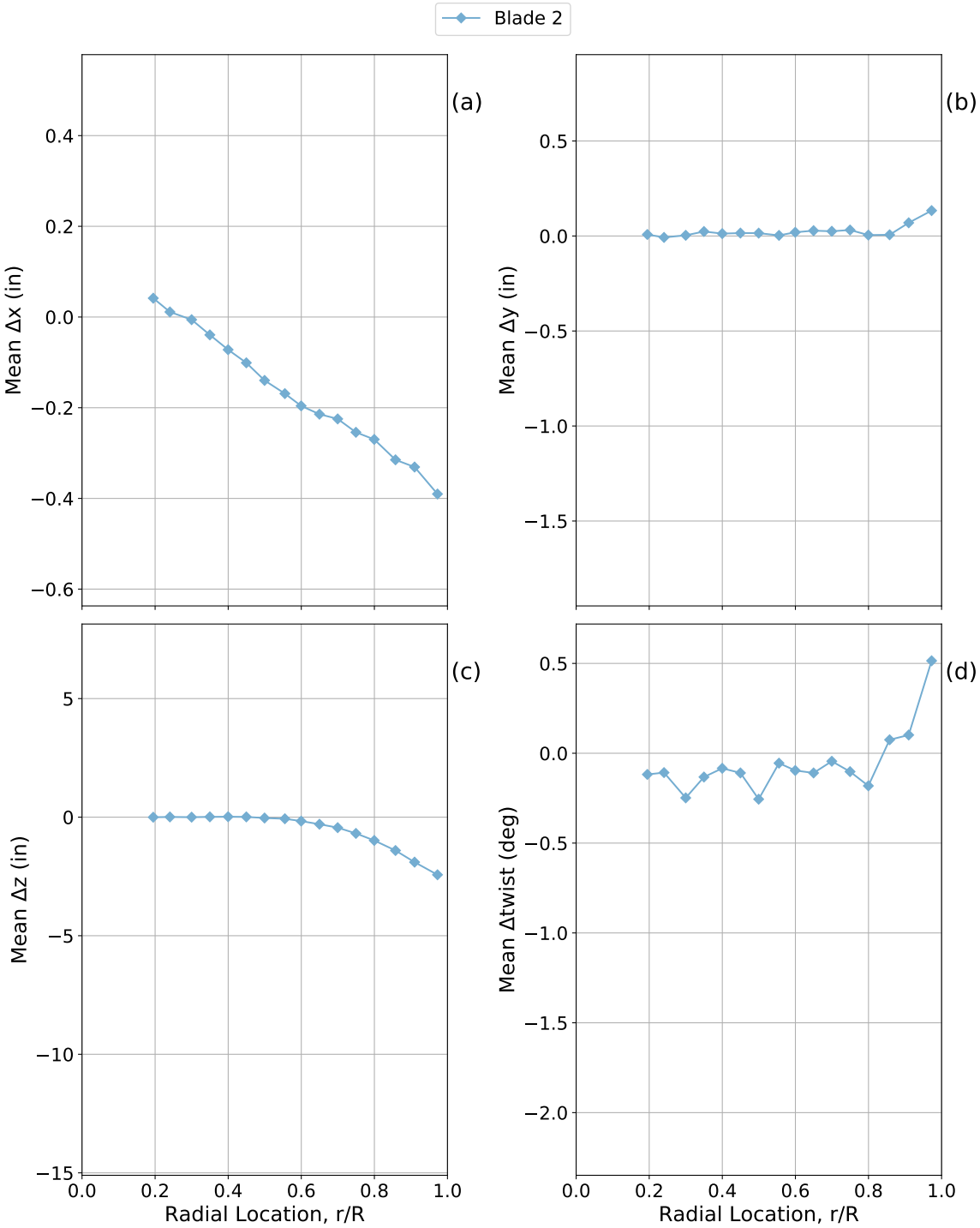


Figure 3.4-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.241, α = -0° NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Table 3.4-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.241, α = -0°
NFAC run 45, point 51. BD run 21, points 2106 to 2116.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0415	0.0027	0.0078	0.0017	-0.0030	0.0066	-0.1179	0.0428
2	355.08	0.2405	0.0112	0.0013	-0.0076	0.0036	0.0093	0.0105	-0.1077	0.0950
2	355.08	0.2999	-0.0059	0.0010	0.0035	0.0059	-0.0008	0.0195	-0.2483	0.1032
2	355.08	0.3498	-0.0394	0.0019	0.0235	0.0127	0.0125	0.0344	-0.1323	0.0886
2	355.08	0.3998	-0.0721	0.0019	0.0125	0.0180	0.0180	0.0490	-0.0838	0.0786
2	355.08	0.4496	-0.1010	0.0030	0.0153	0.0234	0.0110	0.0614	-0.1095	0.0935
2	355.08	0.4995	-0.1398	0.0025	0.0150	0.0279	-0.0362	0.0764	-0.2558	0.0831
2	355.08	0.5551	-0.1689	0.0029	0.0031	0.0347	-0.0675	0.0912	-0.0551	0.0918
2	355.08	0.5996	-0.1960	0.0031	0.0195	0.0391	-0.1662	0.1050	-0.0959	0.0995
2	355.08	0.6497	-0.2143	0.0038	0.0280	0.0450	-0.2979	0.1245	-0.1096	0.1003
2	355.08	0.6996	-0.2247	0.0036	0.0248	0.0503	-0.4430	0.1414	-0.0445	0.1014
2	355.08	0.7495	-0.2542	0.0033	0.0315	0.0555	-0.6855	0.1577	-0.1023	0.1011
2	355.08	0.7996	-0.2699	0.0044	0.0048	0.0610	-0.9828	0.1729	-0.1814	0.1093
2	355.08	0.8578	-0.3149	0.0055	0.0063	0.0676	-1.4065	0.1926	0.0750	0.0769
2	355.08	0.9100	-0.3308	0.0063	0.0694	0.0752	-1.8974	0.2077	0.1016	0.1629
2	355.08	0.9727	-0.3903	0.0089	0.1336	0.0790	-2.4301	0.2271	0.5147	0.1036

3.5 Run 45, Point 52

3.5.1 Pitch, Flap, and Lag

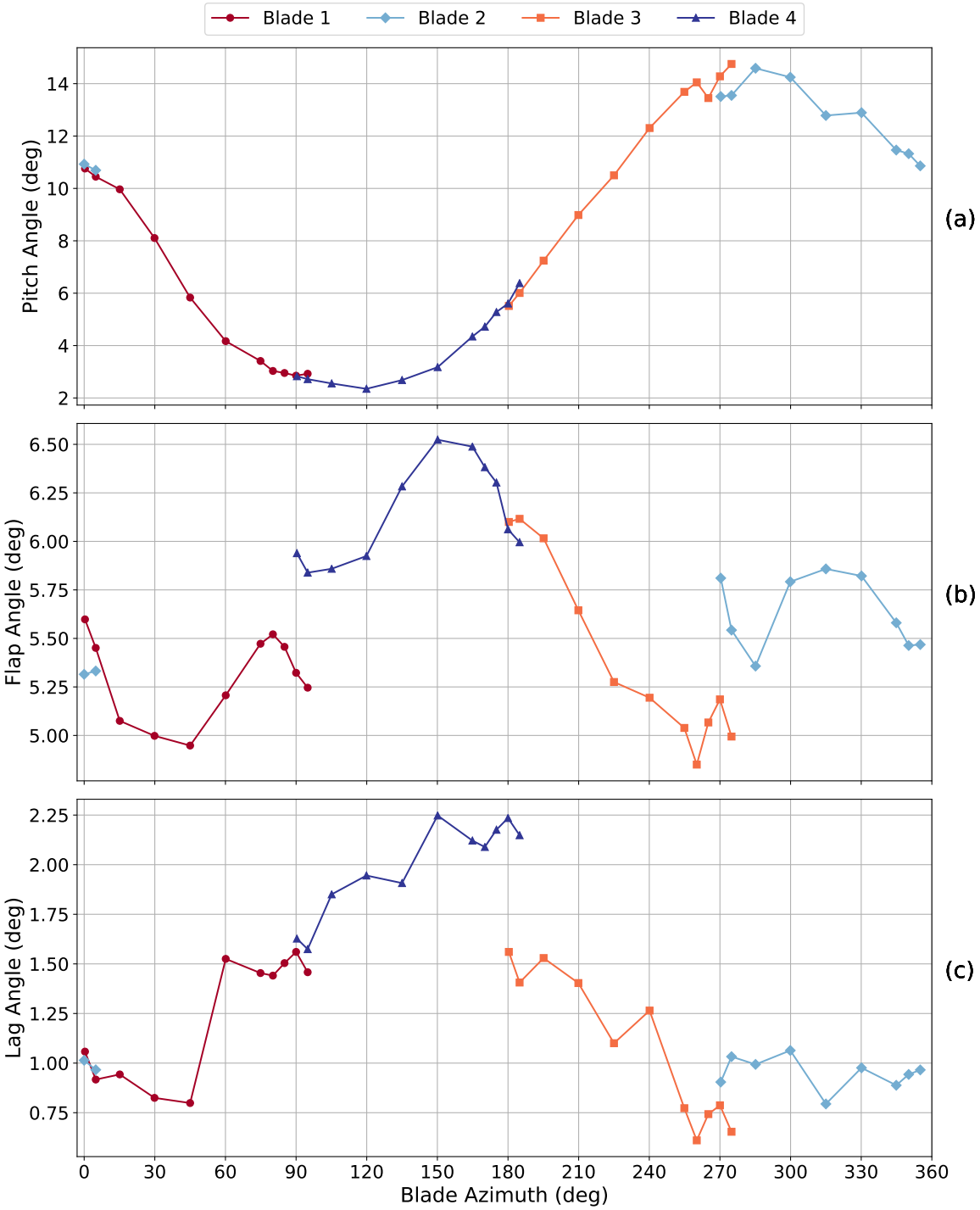


Figure 3.5-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	10.9277	5.3151	1.0140	0.0817	0.0644	0.0471
0.35	1	10.7589	5.5982	1.0579	0.1896	0.0874	0.0462
4.92	1	10.4489	5.4511	0.9172	0.1230	0.0674	0.0446
4.92	2	10.6937	5.3321	0.9663	0.1136	0.0478	0.0404
15.12	1	9.9663	5.0751	0.9430	0.2023	0.0861	0.0262
29.88	1	8.1061	4.9980	0.8248	0.1295	0.0763	0.0463
45	1	5.8336	4.9479	0.7988	0.1826	0.0765	0.0432
60.12	1	4.1685	5.2068	1.5253	0.1069	0.0989	0.0307
74.88	1	3.4121	5.4725	1.4538	0.0610	0.0905	0.0381
80.16	1	3.0314	5.5212	1.4409	0.1371	0.1414	0.0415
85.08	1	2.9533	5.4566	1.5039	0.0942	0.1263	0.0338
90	1	2.8507	5.3227	1.5605	0.1593	0.0882	0.0424
90.35	4	2.8289	5.9390	1.6273	0.1352	0.0874	0.0674
94.92	1	2.9246	5.2461	1.4580	0.0956	0.1109	0.0434
94.92	4	2.7180	5.8388	1.5742	0.0727	0.1738	0.0669
105.12	4	2.5536	5.8588	1.8504	0.1066	0.0939	0.0297
119.88	4	2.3485	5.9245	1.9453	0.1322	0.1154	0.0538
135	4	2.6824	6.2832	1.9072	0.1020	0.2091	0.0607
150.12	4	3.1754	6.5238	2.2478	0.0616	0.0794	0.0347
164.88	4	4.3451	6.4881	2.1213	0.0733	0.1406	0.0578
170.16	4	4.7205	6.3821	2.0891	0.0766	0.1340	0.0405
175.08	4	5.2791	6.3032	2.1758	0.1178	0.1628	0.0331
180	4	5.6048	6.0622	2.2351	0.1019	0.1325	0.0439
180.35	3	5.5122	6.1001	1.5603	0.1361	0.1530	0.0663
184.92	3	6.0089	6.1162	1.4061	0.1267	0.1620	0.0775
184.92	4	6.3827	5.9954	2.1483	0.1438	0.1209	0.0570
195.12	3	7.2432	6.0158	1.5294	0.1349	0.1497	0.0382
209.88	3	8.9846	5.6449	1.4034	0.0958	0.1218	0.0397
225	3	10.4994	5.2753	1.1002	0.1265	0.0685	0.0491
240.12	3	12.3051	5.1944	1.2647	0.0484	0.0903	0.0381
254.88	3	13.6861	5.0387	0.7728	0.1293	0.1352	0.0561
260.16	3	14.0503	4.8498	0.6107	0.2330	0.1304	0.0518
265.08	3	13.4503	5.0669	0.7429	0.1980	0.1645	0.0514
270	3	14.2790	5.1858	0.7873	0.1760	0.1394	0.0631
270.35	2	13.5091	5.8107	0.9045	0.4348	0.2363	0.1127
274.92	2	13.5502	5.5428	1.0326	0.0641	0.1063	0.0848
274.92	3	14.7513	4.9943	0.6540	0.6066	0.4028	0.1474
285.12	2	14.5882	5.3573	0.9935	0.1252	0.1408	0.0677
299.88	2	14.2458	5.7921	1.0637	0.1731	0.1471	0.0413
315	2	12.7833	5.8582	0.7942	0.1724	0.1680	0.0583
330.12	2	12.8927	5.8219	0.9762	0.0736	0.0535	0.0248
344.88	2	11.4649	5.5804	0.8883	0.0733	0.0741	0.0511
350.16	2	11.3253	5.4634	0.9429	0.1234	0.0517	0.0234
355.08	2	10.8597	5.4684	0.9657	0.1521	0.0724	0.0421

3.5.2 Spanwise Elastic Deformations

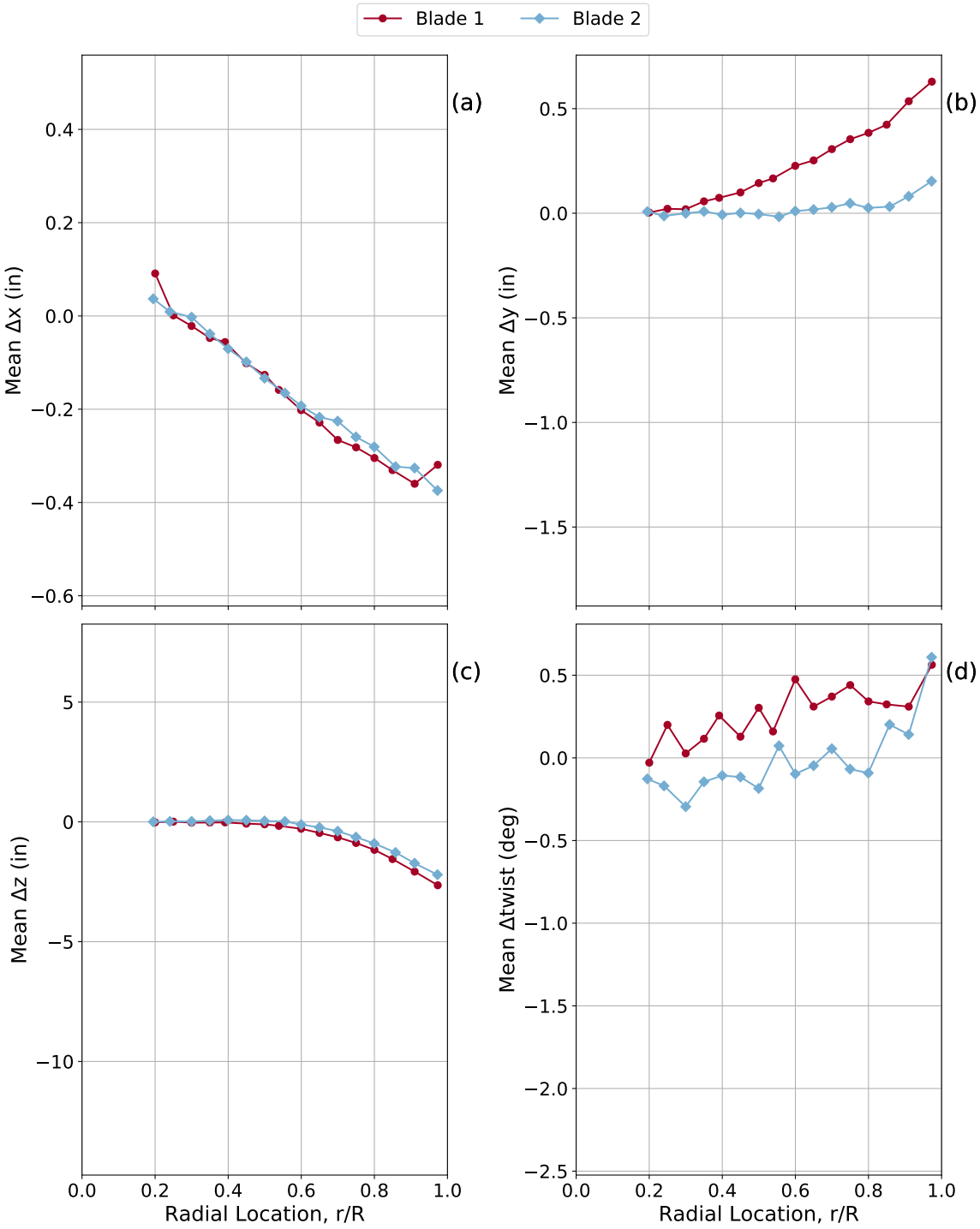


Figure 3.5-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0911	0.0043	0.0035	0.0027	-0.0200	0.0087	-0.0291	0.0397
1	0.35	0.2499	0.0012	0.0018	0.0212	0.0046	0.0113	0.0129	0.1995	0.0941
1	0.35	0.2998	-0.0215	0.0018	0.0191	0.0105	-0.0312	0.0253	0.0268	0.0964
1	0.35	0.3498	-0.0473	0.0022	0.0568	0.0204	-0.0272	0.0387	0.1155	0.1153
1	0.35	0.3913	-0.0560	0.0021	0.0736	0.0274	-0.0213	0.0533	0.2561	0.1037
1	0.35	0.4496	-0.1016	0.0023	0.0994	0.0378	-0.0739	0.0740	0.1281	0.1059
1	0.35	0.4997	-0.1263	0.0023	0.1443	0.0467	-0.1020	0.0910	0.3028	0.1163
1	0.35	0.5387	-0.1586	0.0025	0.1663	0.0528	-0.1649	0.1036	0.1597	0.1265
1	0.35	0.5996	-0.2020	0.0023	0.2266	0.0652	-0.2862	0.1269	0.4752	0.1012
1	0.35	0.6498	-0.2286	0.0033	0.2527	0.0738	-0.4598	0.1432	0.3102	0.1120
1	0.35	0.6998	-0.2659	0.0033	0.3065	0.0830	-0.6447	0.1602	0.3708	0.1079
1	0.35	0.7500	-0.2818	0.0030	0.3539	0.0905	-0.8815	0.1746	0.4403	0.1263
1	0.35	0.8001	-0.3046	0.0045	0.3844	0.0989	-1.1674	0.1925	0.3415	0.1108
1	0.35	0.8497	-0.3306	0.0036	0.4233	0.1074	-1.5520	0.2109	0.3235	0.1075
1	0.35	0.9102	-0.3599	0.0063	0.5355	0.1193	-2.0748	0.2352	0.3099	0.1120
1	0.35	0.9734	-0.3192	0.0081	0.6290	0.1278	-2.6450	0.2558	0.5631	0.1298
2	0	0.1949	0.0367	0.0028	0.0074	0.0017	0.0039	0.0056	-0.1272	0.0228
2	0	0.2405	0.0091	0.0016	-0.0129	0.0023	0.0195	0.0071	-0.1694	0.0706
2	0	0.2999	-0.0025	0.0013	-0.0002	0.0053	0.0204	0.0159	-0.2953	0.0667
2	0	0.3498	-0.0385	0.0012	0.0086	0.0077	0.0517	0.0261	-0.1448	0.0714
2	0	0.3998	-0.0703	0.0009	-0.0070	0.0118	0.0728	0.0375	-0.1070	0.0676
2	0	0.4496	-0.0985	0.0007	0.0014	0.0149	0.0699	0.0512	-0.1157	0.0592
2	0	0.4995	-0.1335	0.0011	-0.0040	0.0196	0.0380	0.0667	-0.1848	0.0782
2	0	0.5551	-0.1654	0.0010	-0.0167	0.0239	0.0184	0.0897	0.0730	0.0826
2	0	0.5996	-0.1927	0.0014	0.0102	0.0285	-0.1116	0.1033	-0.0972	0.0784
2	0	0.6497	-0.2171	0.0013	0.0176	0.0317	-0.2300	0.1186	-0.0473	0.0815
2	0	0.6996	-0.2255	0.0021	0.0283	0.0371	-0.3867	0.1325	0.0551	0.0849
2	0	0.7495	-0.2594	0.0021	0.0475	0.0405	-0.6345	0.1470	-0.0680	0.0817
2	0	0.7996	-0.2807	0.0030	0.0256	0.0462	-0.9002	0.1610	-0.0918	0.0839
2	0	0.8578	-0.3232	0.0034	0.0315	0.0534	-1.2769	0.1825	0.2015	0.0827
2	0	0.9100	-0.3261	0.0028	0.0808	0.0582	-1.7252	0.2090	0.1411	0.0813
2	0	0.9727	-0.3743	0.0069	0.1533	0.0652	-2.2039	0.2337	0.6087	0.1090

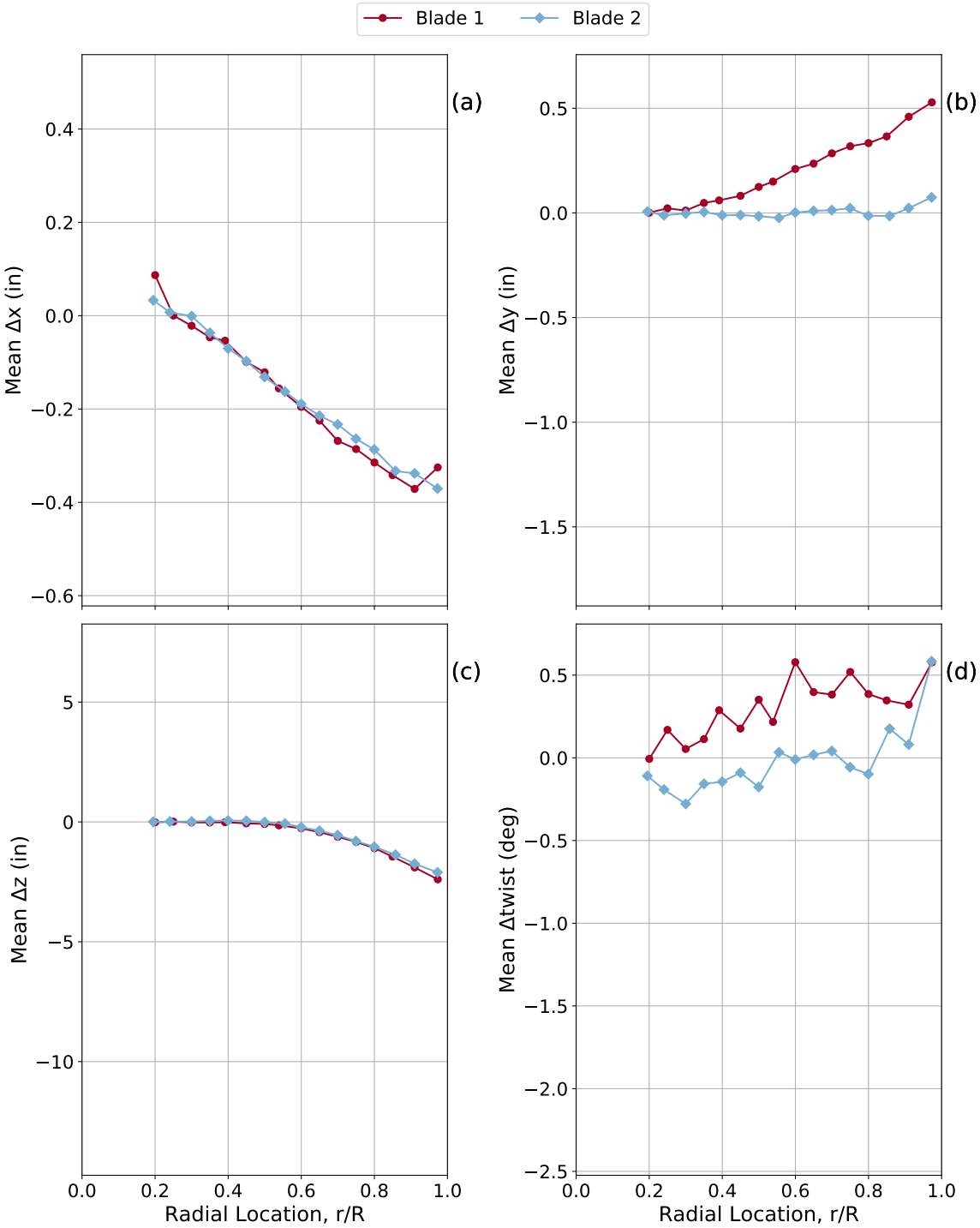


Figure 3.5-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0869	0.0024	0.0012	0.0015	-0.0170	0.0058	-0.0062	0.0496
1	4.92	0.2499	0.0003	0.0017	0.0219	0.0026	0.0111	0.0079	0.1691	0.0843
1	4.92	0.2998	-0.0216	0.0014	0.0113	0.0052	-0.0217	0.0189	0.0536	0.1054
1	4.92	0.3498	-0.0464	0.0019	0.0476	0.0095	-0.0245	0.0289	0.1131	0.0841
1	4.92	0.3913	-0.0536	0.0018	0.0599	0.0127	-0.0124	0.0407	0.2878	0.0896
1	4.92	0.4496	-0.0991	0.0023	0.0817	0.0168	-0.0595	0.0595	0.1770	0.0846
1	4.92	0.4997	-0.1213	0.0023	0.1242	0.0208	-0.0849	0.0747	0.3516	0.0846
1	4.92	0.5387	-0.1559	0.0025	0.1495	0.0233	-0.1443	0.0876	0.2171	0.0891
1	4.92	0.5996	-0.1953	0.0021	0.2098	0.0279	-0.2663	0.1053	0.5782	0.0917
1	4.92	0.6498	-0.2250	0.0023	0.2354	0.0317	-0.4299	0.1209	0.3974	0.0860
1	4.92	0.6998	-0.2684	0.0027	0.2846	0.0348	-0.6216	0.1326	0.3823	0.0967
1	4.92	0.7500	-0.2858	0.0018	0.3185	0.0385	-0.8348	0.1449	0.5194	0.0866
1	4.92	0.8001	-0.3147	0.0026	0.3335	0.0420	-1.0961	0.1568	0.3855	0.1155
1	4.92	0.8497	-0.3417	0.0029	0.3655	0.0455	-1.4467	0.1645	0.3471	0.1024
1	4.92	0.9102	-0.3713	0.0029	0.4593	0.0498	-1.9004	0.1756	0.3215	0.1115
1	4.92	0.9734	-0.3253	0.0032	0.5282	0.0523	-2.3963	0.1910	0.5768	0.1059
2	4.92	0.1949	0.0330	0.0022	0.0058	0.0012	0.0056	0.0053	-0.1092	0.0281
2	4.92	0.2405	0.0071	0.0011	-0.0114	0.0016	0.0133	0.0089	-0.1919	0.0755
2	4.92	0.2999	-0.0009	0.0013	-0.0026	0.0041	0.0157	0.0179	-0.2783	0.0786
2	4.92	0.3498	-0.0368	0.0017	0.0043	0.0071	0.0455	0.0320	-0.1572	0.0622
2	4.92	0.3998	-0.0704	0.0020	-0.0114	0.0103	0.0564	0.0470	-0.1445	0.0604
2	4.92	0.4496	-0.0974	0.0022	-0.0104	0.0144	0.0472	0.0592	-0.0898	0.0774
2	4.92	0.4995	-0.1313	0.0025	-0.0159	0.0187	-0.0091	0.0723	-0.1765	0.0717
2	4.92	0.5551	-0.1629	0.0031	-0.0235	0.0242	-0.0691	0.0879	0.0335	0.0789
2	4.92	0.5996	-0.1891	0.0030	0.0018	0.0295	-0.2182	0.0990	-0.0099	0.0708
2	4.92	0.6497	-0.2144	0.0031	0.0096	0.0360	-0.3671	0.1096	0.0183	0.0712
2	4.92	0.6996	-0.2331	0.0033	0.0130	0.0423	-0.5550	0.1211	0.0415	0.0801
2	4.92	0.7495	-0.2638	0.0044	0.0221	0.0490	-0.8011	0.1338	-0.0565	0.0771
2	4.92	0.7996	-0.2868	0.0047	-0.0138	0.0561	-1.0360	0.1457	-0.0984	0.0965
2	4.92	0.8578	-0.3330	0.0061	-0.0148	0.0633	-1.3685	0.1681	0.1759	0.0781
2	4.92	0.9100	-0.3380	0.0057	0.0227	0.0740	-1.7459	0.1865	0.0804	0.1043
2	4.92	0.9727	-0.3706	0.0115	0.0741	0.0829	-2.1051	0.2125	0.5835	0.1075

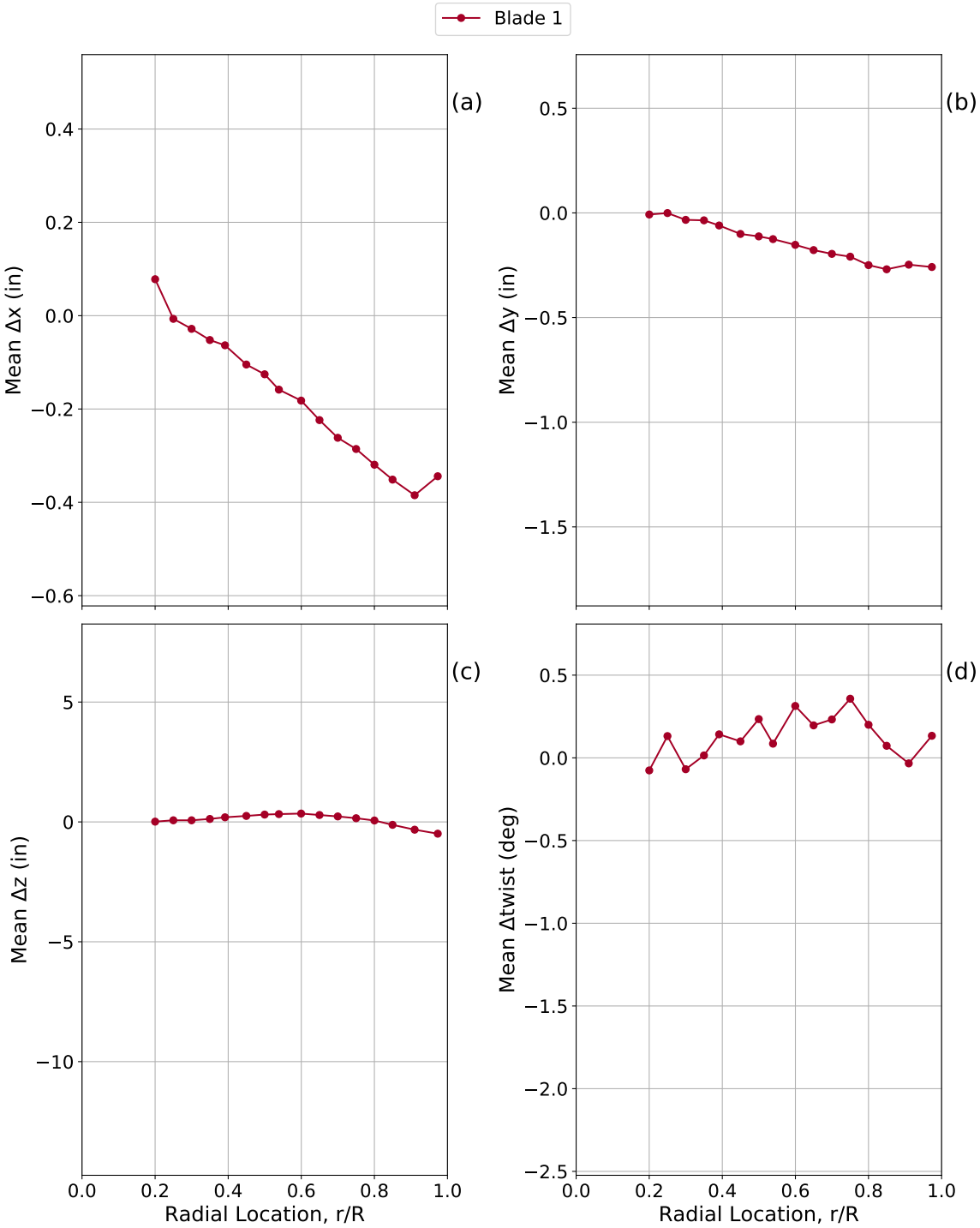


Figure 3.5-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0781	0.0035	-0.0077	0.0014	0.0119	0.0060	-0.0760	0.0560
1	15.12	0.2499	-0.0068	0.0023	-0.0008	0.0018	0.0675	0.0099	0.1316	0.1152
1	15.12	0.2998	-0.0282	0.0012	-0.0332	0.0047	0.0674	0.0200	-0.0688	0.1371
1	15.12	0.3498	-0.0522	0.0014	-0.0355	0.0076	0.1236	0.0349	0.0146	0.1226
1	15.12	0.3913	-0.0635	0.0020	-0.0601	0.0106	0.1924	0.0475	0.1421	0.1100
1	15.12	0.4496	-0.1047	0.0022	-0.1005	0.0160	0.2500	0.0643	0.0997	0.1121
1	15.12	0.4997	-0.1256	0.0033	-0.1122	0.0202	0.3064	0.0791	0.2343	0.1026
1	15.12	0.5387	-0.1585	0.0030	-0.1252	0.0237	0.3259	0.0890	0.0856	0.1017
1	15.12	0.5996	-0.1820	0.0047	-0.1526	0.0287	0.3481	0.1060	0.3136	0.1001
1	15.12	0.6498	-0.2238	0.0033	-0.1777	0.0341	0.2882	0.1174	0.1963	0.1054
1	15.12	0.6998	-0.2617	0.0039	-0.1957	0.0391	0.2287	0.1304	0.2322	0.1068
1	15.12	0.7500	-0.2857	0.0040	-0.2091	0.0443	0.1541	0.1358	0.3574	0.1127
1	15.12	0.8001	-0.3194	0.0038	-0.2495	0.0496	0.0593	0.1429	0.1999	0.1132
1	15.12	0.8497	-0.3513	0.0043	-0.2694	0.0540	-0.1219	0.1496	0.0728	0.1202
1	15.12	0.9102	-0.3848	0.0040	-0.2473	0.0612	-0.3243	0.1585	-0.0334	0.1213
1	15.12	0.9734	-0.3441	0.0061	-0.2585	0.0667	-0.4909	0.1710	0.1334	0.1415

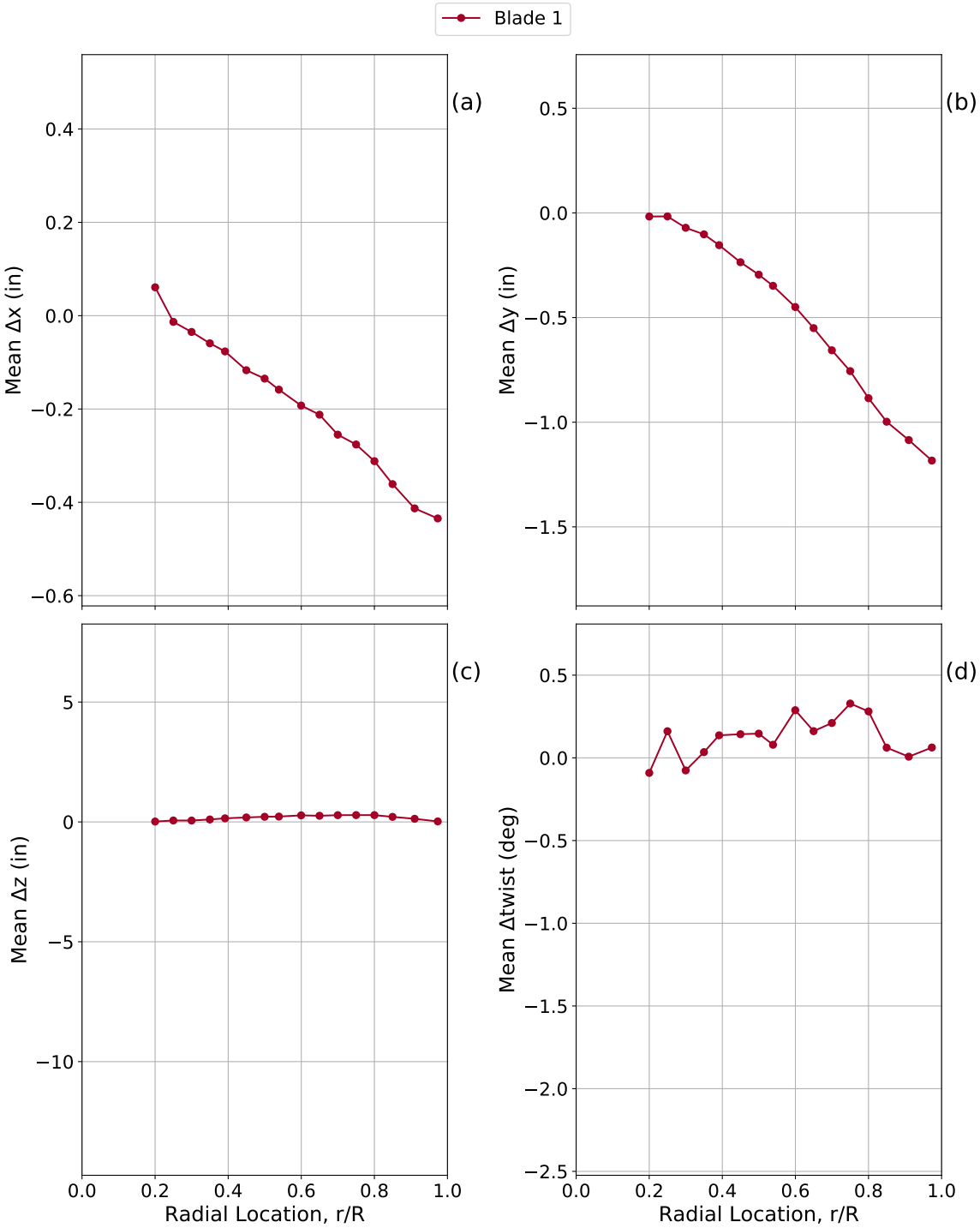


Figure 3.5-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0608	0.0026	-0.0172	0.0010	0.0161	0.0045	-0.0910	0.0152
1	29.88	0.2499	-0.0133	0.0011	-0.0167	0.0019	0.0596	0.0106	0.1609	0.0587
1	29.88	0.2998	-0.0349	0.0023	-0.0711	0.0030	0.0578	0.0173	-0.0760	0.0455
1	29.88	0.3498	-0.0592	0.0013	-0.1025	0.0058	0.1017	0.0319	0.0345	0.0576
1	29.88	0.3913	-0.0766	0.0019	-0.1541	0.0077	0.1497	0.0450	0.1363	0.0724
1	29.88	0.4496	-0.1169	0.0015	-0.2356	0.0090	0.1864	0.0624	0.1429	0.0766
1	29.88	0.4997	-0.1349	0.0014	-0.2950	0.0122	0.2145	0.0804	0.1464	0.0758
1	29.88	0.5387	-0.1585	0.0018	-0.3483	0.0133	0.2231	0.0927	0.0791	0.0783
1	29.88	0.5996	-0.1926	0.0025	-0.4498	0.0157	0.2737	0.1092	0.2880	0.0697
1	29.88	0.6498	-0.2122	0.0021	-0.5504	0.0185	0.2566	0.1228	0.1614	0.0784
1	29.88	0.6998	-0.2550	0.0023	-0.6564	0.0215	0.2817	0.1342	0.2107	0.0813
1	29.88	0.7500	-0.2761	0.0028	-0.7559	0.0252	0.2842	0.1473	0.3283	0.0864
1	29.88	0.8001	-0.3118	0.0027	-0.8852	0.0291	0.2834	0.1613	0.2807	0.0901
1	29.88	0.8497	-0.3610	0.0027	-0.9976	0.0339	0.2105	0.1789	0.0615	0.0957
1	29.88	0.9102	-0.4130	0.0027	-1.0852	0.0383	0.1304	0.2013	0.0070	0.0896
1	29.88	0.9734	-0.4345	0.0038	-1.1833	0.0461	0.0210	0.2332	0.0625	0.1083

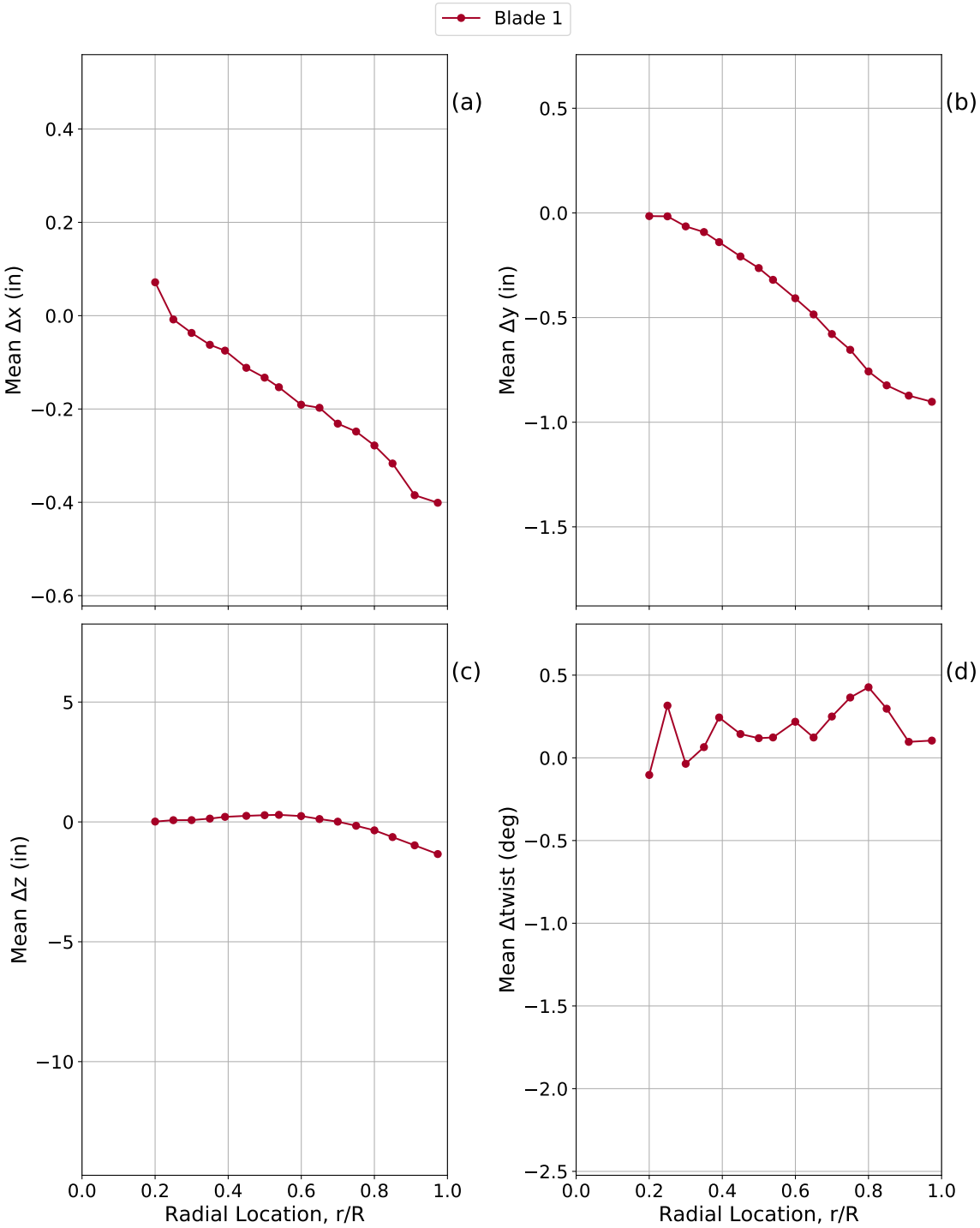


Figure 3.5-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0715	0.0023	-0.0153	0.0011	0.0146	0.0046	-0.1034	0.0285
1	45	0.2499	-0.0081	0.0017	-0.0164	0.0027	0.0726	0.0096	0.3158	0.0519
1	45	0.2998	-0.0370	0.0017	-0.0644	0.0054	0.0750	0.0182	-0.0358	0.0651
1	45	0.3498	-0.0624	0.0018	-0.0915	0.0082	0.1381	0.0310	0.0647	0.0552
1	45	0.3913	-0.0749	0.0030	-0.1396	0.0130	0.2111	0.0446	0.2440	0.0596
1	45	0.4496	-0.1117	0.0029	-0.2080	0.0156	0.2529	0.0636	0.1440	0.0703
1	45	0.4997	-0.1328	0.0026	-0.2636	0.0191	0.2806	0.0806	0.1188	0.0744
1	45	0.5387	-0.1533	0.0027	-0.3197	0.0223	0.2949	0.0949	0.1233	0.0717
1	45	0.5996	-0.1908	0.0029	-0.4078	0.0271	0.2438	0.1136	0.2182	0.0715
1	45	0.6498	-0.1974	0.0036	-0.4851	0.0317	0.1201	0.1287	0.1231	0.0791
1	45	0.6998	-0.2314	0.0036	-0.5787	0.0368	0.0106	0.1415	0.2499	0.0819
1	45	0.7500	-0.2483	0.0037	-0.6541	0.0416	-0.1602	0.1553	0.3646	0.0788
1	45	0.8001	-0.2782	0.0040	-0.7575	0.0467	-0.3519	0.1693	0.4268	0.0837
1	45	0.8497	-0.3168	0.0031	-0.8238	0.0536	-0.6323	0.1852	0.2970	0.0928
1	45	0.9102	-0.3847	0.0035	-0.8729	0.0613	-0.9771	0.2036	0.0967	0.0966
1	45	0.9734	-0.4009	0.0048	-0.9024	0.0698	-1.3402	0.2248	0.1044	0.0967

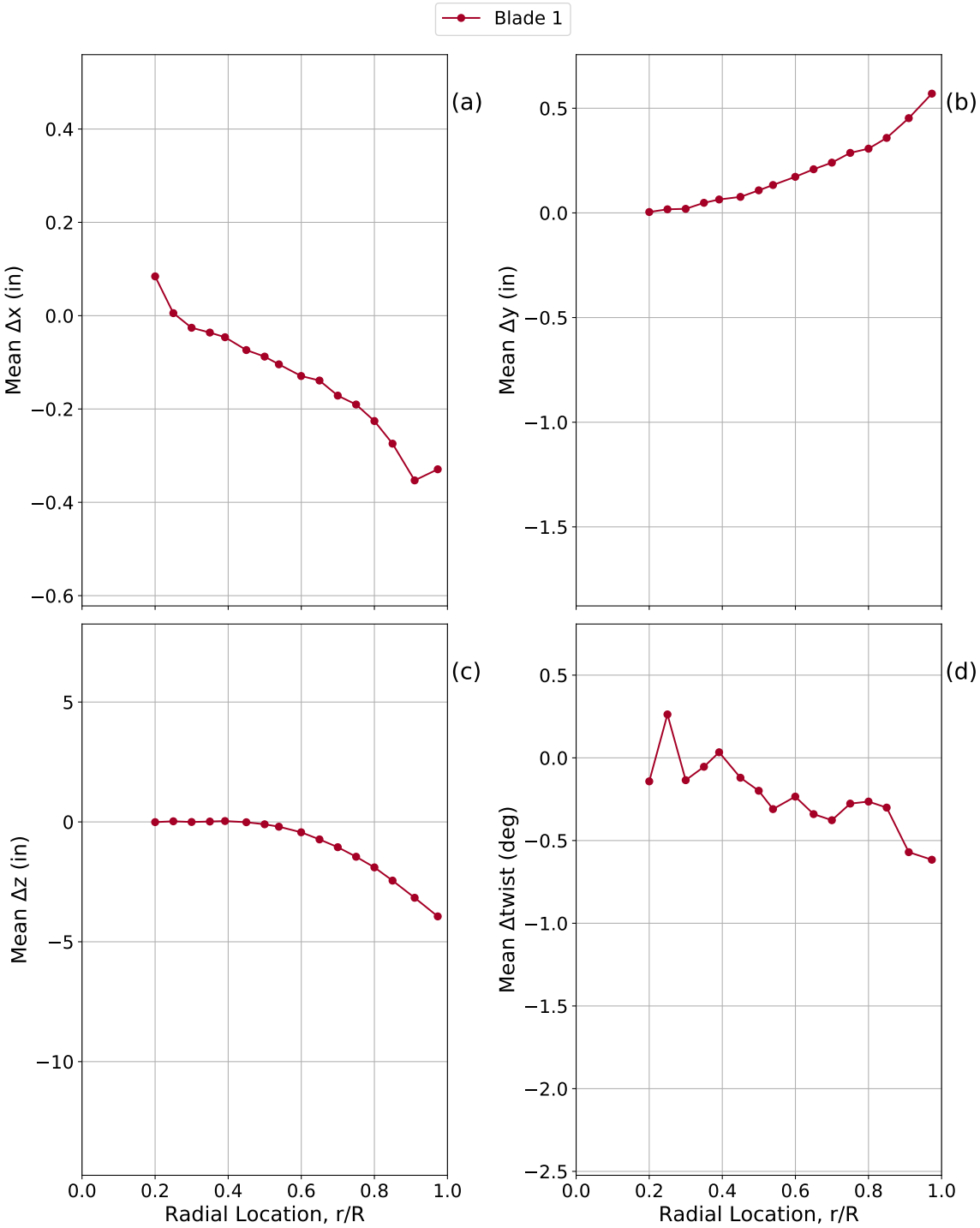


Figure 3.5-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0842	0.0018	0.0042	0.0010	-0.0091	0.0033	-0.1421	0.0303
1	60.12	0.2499	0.0054	0.0015	0.0172	0.0014	0.0260	0.0067	0.2625	0.0488
1	60.12	0.2998	-0.0259	0.0016	0.0194	0.0035	-0.0030	0.0116	-0.1350	0.0653
1	60.12	0.3498	-0.0362	0.0022	0.0482	0.0055	0.0164	0.0221	-0.0539	0.0537
1	60.12	0.3913	-0.0462	0.0022	0.0641	0.0079	0.0361	0.0298	0.0337	0.0697
1	60.12	0.4496	-0.0737	0.0020	0.0765	0.0100	-0.0130	0.0382	-0.1202	0.0688
1	60.12	0.4997	-0.0877	0.0024	0.1078	0.0118	-0.0995	0.0497	-0.1990	0.0725
1	60.12	0.5387	-0.1043	0.0026	0.1332	0.0123	-0.1997	0.0612	-0.3099	0.0878
1	60.12	0.5996	-0.1293	0.0027	0.1724	0.0172	-0.4328	0.0804	-0.2343	0.0807
1	60.12	0.6498	-0.1390	0.0027	0.2085	0.0207	-0.7296	0.1024	-0.3402	0.0839
1	60.12	0.6998	-0.1713	0.0031	0.2402	0.0224	-1.0547	0.1250	-0.3770	0.0698
1	60.12	0.7500	-0.1904	0.0024	0.2867	0.0264	-1.4530	0.1505	-0.2766	0.0759
1	60.12	0.8001	-0.2258	0.0023	0.3069	0.0302	-1.8972	0.1759	-0.2644	0.0750
1	60.12	0.8497	-0.2743	0.0027	0.3583	0.0344	-2.4483	0.2002	-0.3008	0.0678
1	60.12	0.9102	-0.3530	0.0035	0.4527	0.0397	-3.1644	0.2309	-0.5702	0.0934
1	60.12	0.9734	-0.3292	0.0034	0.5698	0.0454	-3.9417	0.2577	-0.6160	0.0823

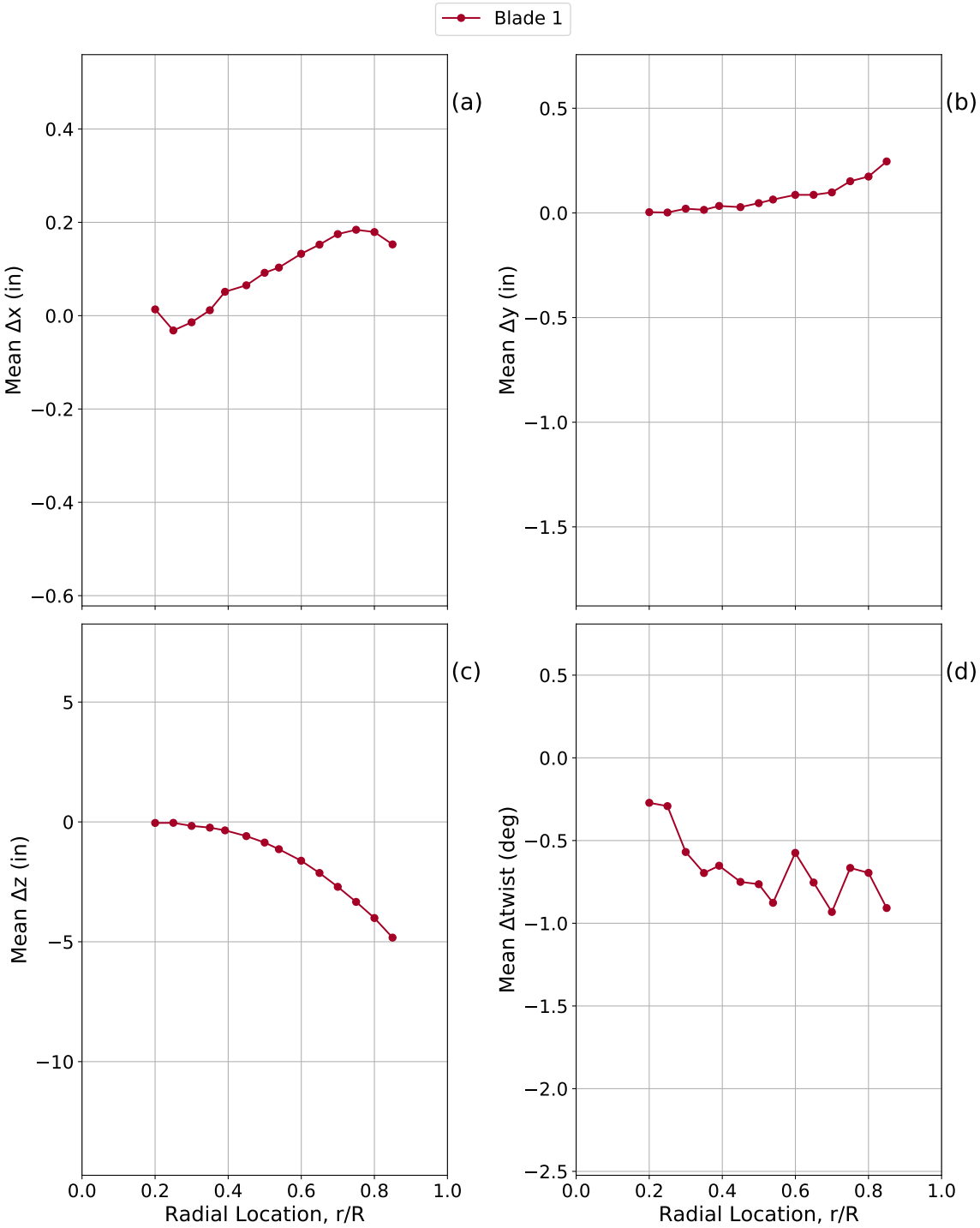


Figure 3.5-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0135	0.0012	0.0035	0.0005	-0.0436	0.0019	-0.2717	0.0222
1	74.88	0.2499	-0.0317	0.0017	0.0019	0.0018	-0.0388	0.0051	-0.2918	0.0403
1	74.88	0.2998	-0.0142	0.0013	0.0201	0.0025	-0.1666	0.0089	-0.5692	0.0522
1	74.88	0.3498	0.0117	0.0010	0.0145	0.0042	-0.2383	0.0133	-0.6961	0.0582
1	74.88	0.3913	0.0512	0.0019	0.0332	0.0066	-0.3529	0.0212	-0.6522	0.0467
1	74.88	0.4496	0.0651	0.0021	0.0276	0.0083	-0.5920	0.0310	-0.7499	0.0550
1	74.88	0.4997	0.0919	0.0022	0.0467	0.0103	-0.8611	0.0435	-0.7639	0.0651
1	74.88	0.5387	0.1031	0.0019	0.0638	0.0109	-1.1384	0.0493	-0.8764	0.1052
1	74.88	0.5996	0.1326	0.0036	0.0861	0.0141	-1.6189	0.0644	-0.5745	0.0899
1	74.88	0.6498	0.1523	0.0032	0.0863	0.0168	-2.1302	0.0802	-0.7538	0.0965
1	74.88	0.6998	0.1748	0.0053	0.0981	0.0181	-2.7080	0.0948	-0.9318	0.1805
1	74.88	0.7500	0.1841	0.0073	0.1513	0.0231	-3.3363	0.1064	-0.6655	0.2195
1	74.88	0.8001	0.1792	0.0115	0.1737	0.0353	-4.0093	0.1132	-0.6952	0.3099
1	74.88	0.8497	0.1527	0.0071	0.2459	0.0297	-4.8263	0.1449	-0.9079	0.1059

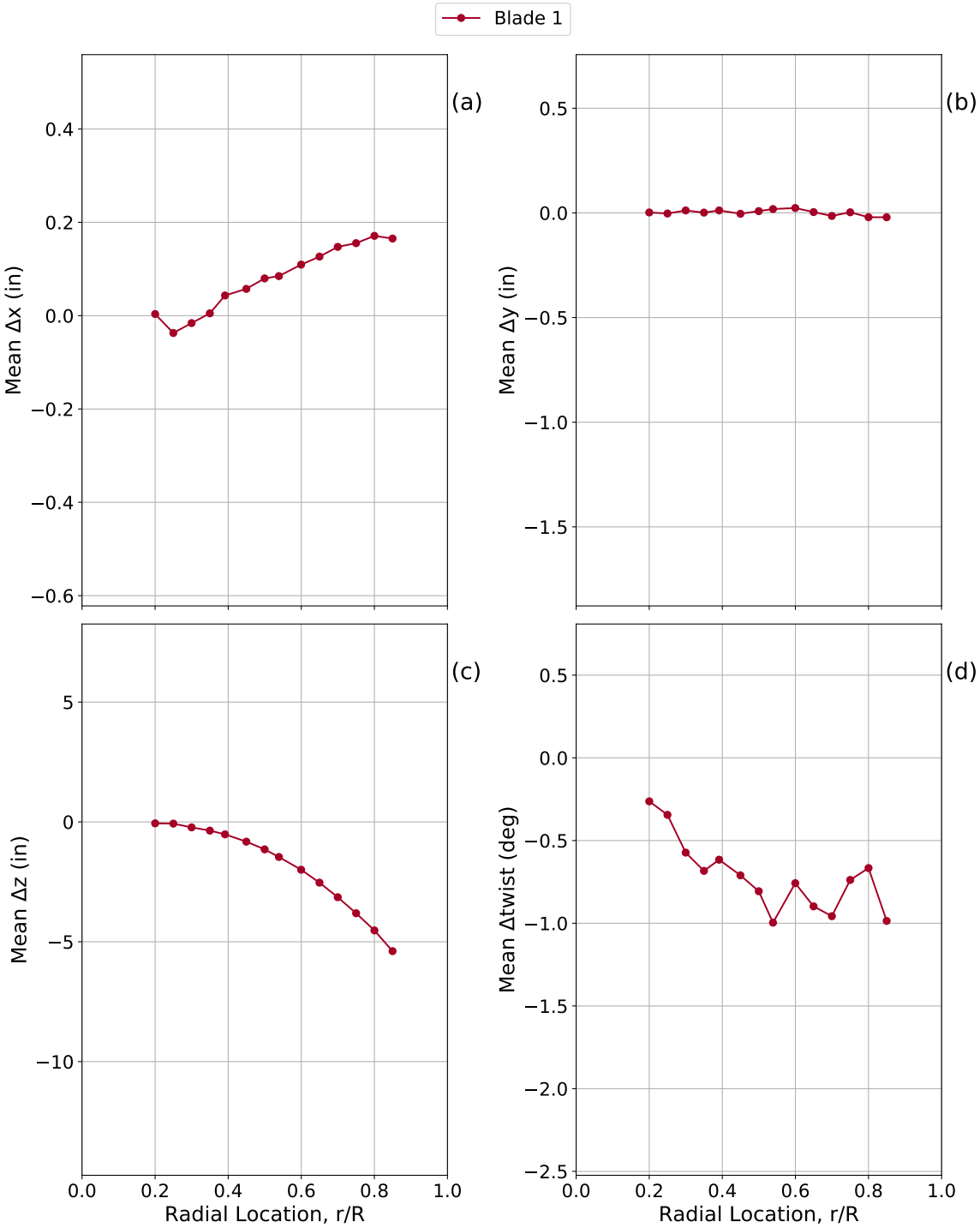


Figure 3.5-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0035	0.0022	0.0021	0.0006	-0.0595	0.0021	-0.2628	0.0304
1	80.16	0.2499	-0.0371	0.0010	-0.0029	0.0008	-0.0710	0.0050	-0.3446	0.0452
1	80.16	0.2998	-0.0159	0.0006	0.0118	0.0019	-0.2282	0.0095	-0.5729	0.0674
1	80.16	0.3498	0.0050	0.0013	0.0014	0.0034	-0.3619	0.0152	-0.6834	0.0598
1	80.16	0.3913	0.0433	0.0015	0.0120	0.0046	-0.5193	0.0233	-0.6158	0.0632
1	80.16	0.4496	0.0574	0.0014	-0.0041	0.0068	-0.8230	0.0310	-0.7103	0.0712
1	80.16	0.4997	0.0799	0.0020	0.0085	0.0086	-1.1448	0.0408	-0.8064	0.0592
1	80.16	0.5387	0.0848	0.0022	0.0184	0.0103	-1.4625	0.0500	-0.9965	0.0635
1	80.16	0.5996	0.1094	0.0023	0.0233	0.0132	-1.9955	0.0688	-0.7577	0.0811
1	80.16	0.6498	0.1266	0.0038	0.0039	0.0180	-2.5340	0.0852	-0.8979	0.1068
1	80.16	0.6998	0.1474	0.0047	-0.0145	0.0197	-3.1419	0.1050	-0.9573	0.0850
1	80.16	0.7500	0.1554	0.0052	0.0030	0.0252	-3.8090	0.1248	-0.7382	0.0991
1	80.16	0.8001	0.1710	0.0079	-0.0206	0.0333	-4.5263	0.1408	-0.6663	0.1922
1	80.16	0.8497	0.1653	0.0056	-0.0209	0.0359	-5.3911	0.1609	-0.9858	0.1102

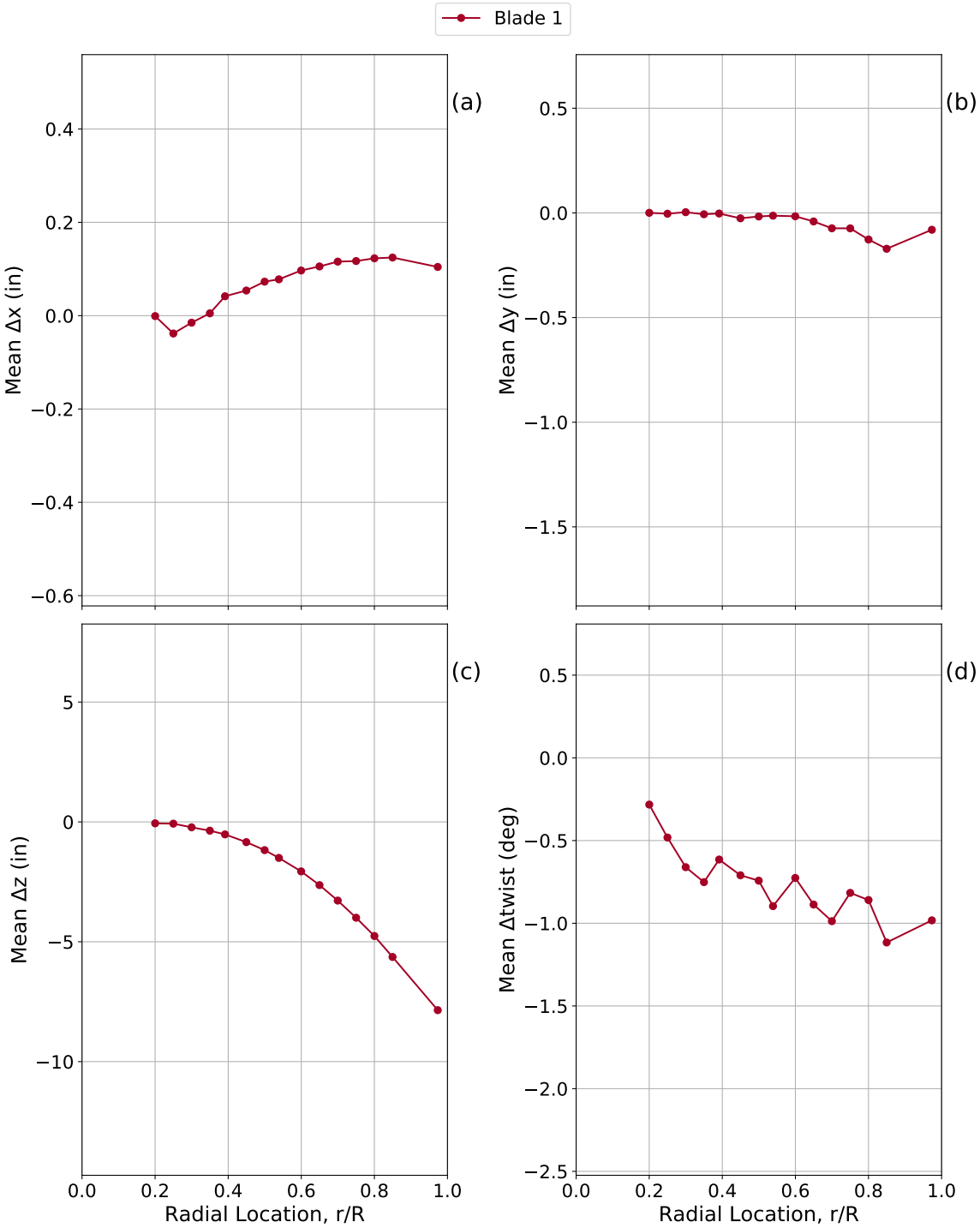


Figure 3.5-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0009	0.0014	0.0004	0.0008	-0.0589	0.0024	-0.2826	0.0215
1	85.08	0.2499	-0.0382	0.0011	-0.0039	0.0017	-0.0735	0.0053	-0.4816	0.0454
1	85.08	0.2998	-0.0150	0.0010	0.0034	0.0029	-0.2256	0.0091	-0.6610	0.0521
1	85.08	0.3498	0.0050	0.0013	-0.0065	0.0056	-0.3654	0.0158	-0.7515	0.0454
1	85.08	0.3913	0.0416	0.0017	-0.0029	0.0076	-0.5207	0.0229	-0.6147	0.0438
1	85.08	0.4496	0.0539	0.0014	-0.0258	0.0098	-0.8431	0.0362	-0.7100	0.0590
1	85.08	0.4997	0.0729	0.0024	-0.0171	0.0125	-1.1774	0.0493	-0.7425	0.0503
1	85.08	0.5387	0.0779	0.0025	-0.0133	0.0145	-1.5015	0.0623	-0.8965	0.0617
1	85.08	0.5996	0.0968	0.0038	-0.0162	0.0185	-2.0642	0.0816	-0.7260	0.0481
1	85.08	0.6498	0.1055	0.0041	-0.0408	0.0228	-2.6357	0.1025	-0.8869	0.0841
1	85.08	0.6998	0.1158	0.0053	-0.0735	0.0266	-3.2817	0.1217	-0.9874	0.0800
1	85.08	0.7500	0.1171	0.0056	-0.0738	0.0299	-3.9973	0.1374	-0.8163	0.0875
1	85.08	0.8001	0.1229	0.0059	-0.1272	0.0341	-4.7604	0.1565	-0.8597	0.0953
1	85.08	0.8497	0.1246	0.0092	-0.1714	0.0392	-5.6342	0.1765	-1.1162	0.0857
1	85.08	0.9734	0.1044	0.0145	-0.0805	0.0530	-7.8529	0.2118	-0.9824	0.2658

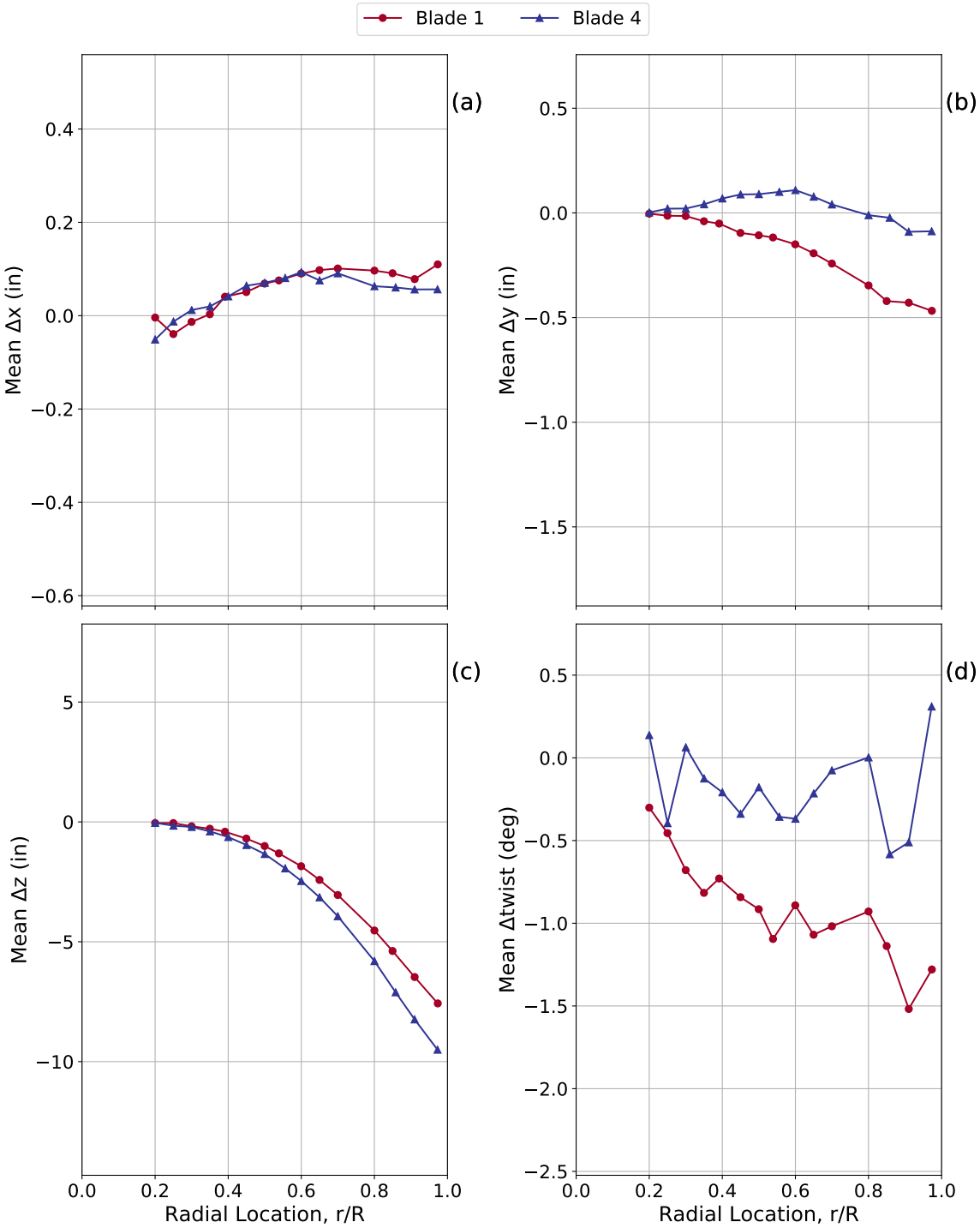


Figure 3.5-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0041	0.0014	-0.0037	0.0009	-0.0480	0.0030	-0.3012	0.0221
1	90	0.2499	-0.0394	0.0009	-0.0135	0.0017	-0.0482	0.0077	-0.4549	0.0260
1	90	0.2998	-0.0133	0.0006	-0.0150	0.0036	-0.1835	0.0137	-0.6790	0.0453
1	90	0.3498	0.0031	0.0011	-0.0399	0.0062	-0.2837	0.0230	-0.8162	0.0607
1	90	0.3913	0.0406	0.0015	-0.0509	0.0089	-0.4085	0.0343	-0.7295	0.0351
1	90	0.4496	0.0506	0.0017	-0.0957	0.0122	-0.6946	0.0443	-0.8423	0.0475
1	90	0.4997	0.0688	0.0016	-0.1069	0.0149	-1.0059	0.0550	-0.9152	0.0471
1	90	0.5387	0.0755	0.0018	-0.1174	0.0171	-1.3120	0.0625	-1.0949	0.0624
1	90	0.5996	0.0903	0.0024	-0.1501	0.0208	-1.8489	0.0741	-0.8915	0.0705
1	90	0.6498	0.0976	0.0025	-0.1931	0.0239	-2.4195	0.0846	-1.0693	0.0514
1	90	0.6998	0.1011	0.0027	-0.2420	0.0265	-3.0483	0.0899	-1.0184	0.0751
1	90	0.8001	0.0966	0.0050	-0.3467	0.0341	-4.5293	0.1079	-0.9288	0.0700
1	90	0.8497	0.0909	0.0051	-0.4212	0.0356	-5.3845	0.1157	-1.1379	0.0625
1	90	0.9102	0.0783	0.0128	-0.4290	0.0443	-6.4716	0.1293	-1.5181	0.2839
1	90	0.9734	0.1099	0.0082	-0.4678	0.0442	-7.5717	0.1433	-1.2795	0.0829
4	90.35	0.2001	-0.0512	0.0011	0.0022	0.0006	-0.0396	0.0028	0.1374	0.0242
4	90.35	0.2502	-0.0127	0.0006	0.0202	0.0015	-0.1576	0.0055	-0.3950	0.0563
4	90.35	0.3001	0.0121	0.0007	0.0208	0.0024	-0.2119	0.0117	0.0634	0.0582
4	90.35	0.3502	0.0199	0.0012	0.0411	0.0044	-0.3966	0.0168	-0.1249	0.0552
4	90.35	0.4002	0.0414	0.0010	0.0689	0.0067	-0.6328	0.0280	-0.2085	0.0468
4	90.35	0.4500	0.0641	0.0014	0.0882	0.0087	-0.9648	0.0374	-0.3383	0.0555
4	90.35	0.5001	0.0704	0.0019	0.0894	0.0105	-1.3398	0.0473	-0.1780	0.0541
4	90.35	0.5560	0.0806	0.0023	0.1004	0.0133	-1.9391	0.0616	-0.3565	0.0606
4	90.35	0.6001	0.0932	0.0023	0.1088	0.0159	-2.4652	0.0753	-0.3682	0.0623
4	90.35	0.6501	0.0756	0.0028	0.0774	0.0188	-3.1480	0.0906	-0.2152	0.0647
4	90.35	0.6999	0.0907	0.0036	0.0403	0.0224	-3.9358	0.1038	-0.0757	0.0634
4	90.35	0.8002	0.0631	0.0052	-0.0110	0.0287	-5.8067	0.1383	0.0026	0.0789
4	90.35	0.8582	0.0604	0.0049	-0.0232	0.0340	-7.1097	0.1468	-0.5830	0.1021
4	90.35	0.9101	0.0562	0.0081	-0.0902	0.0383	-8.2393	0.1685	-0.5109	0.0900
4	90.35	0.9728	0.0564	0.0084	-0.0878	0.0440	-9.5031	0.1796	0.3102	0.0879

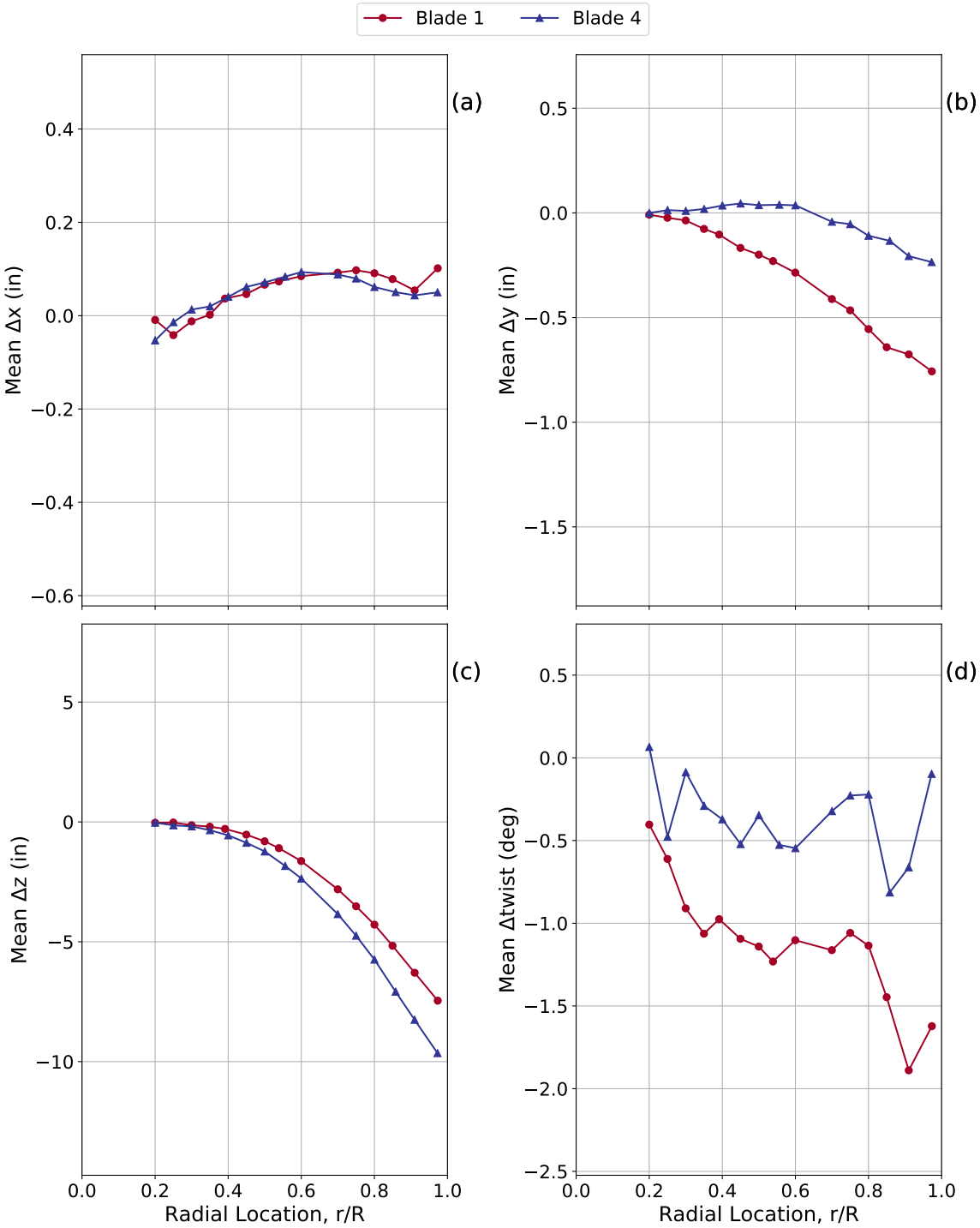


Figure 3.5-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0092	0.0011	-0.0086	0.0012	-0.0354	0.0031	-0.4035	0.0182
1	94.92	0.2499	-0.0417	0.0009	-0.0233	0.0016	-0.0238	0.0068	-0.6113	0.0315
1	94.92	0.2998	-0.0121	0.0010	-0.0360	0.0045	-0.1374	0.0139	-0.9098	0.0402
1	94.92	0.3498	0.0021	0.0017	-0.0765	0.0072	-0.1985	0.0210	-1.0631	0.0367
1	94.92	0.3913	0.0367	0.0014	-0.1036	0.0103	-0.2915	0.0325	-0.9752	0.0385
1	94.92	0.4496	0.0462	0.0016	-0.1672	0.0141	-0.5313	0.0434	-1.0939	0.0544
1	94.92	0.4997	0.0664	0.0017	-0.1995	0.0182	-0.8084	0.0552	-1.1409	0.0437
1	94.92	0.5387	0.0734	0.0018	-0.2301	0.0212	-1.0951	0.0633	-1.2314	0.0359
1	94.92	0.5996	0.0847	0.0021	-0.2853	0.0264	-1.6311	0.0781	-1.1025	0.0442
1	94.92	0.6998	0.0921	0.0029	-0.4116	0.0358	-2.8113	0.1054	-1.1627	0.0585
1	94.92	0.7500	0.0973	0.0038	-0.4654	0.0413	-3.5204	0.1187	-1.0585	0.0552
1	94.92	0.8001	0.0910	0.0047	-0.5551	0.0466	-4.2855	0.1325	-1.1353	0.0542
1	94.92	0.8497	0.0784	0.0048	-0.6418	0.0516	-5.1675	0.1403	-1.4469	0.0489
1	94.92	0.9102	0.0542	0.0063	-0.6760	0.0585	-6.2926	0.1576	-1.8892	0.1134
1	94.92	0.9734	0.1016	0.0080	-0.7571	0.0649	-7.4557	0.1832	-1.6222	0.0730
4	94.92	0.2001	-0.0531	0.0010	-0.0004	0.0006	-0.0321	0.0029	0.0655	0.0133
4	94.92	0.2502	-0.0140	0.0011	0.0132	0.0012	-0.1430	0.0044	-0.4774	0.0158
4	94.92	0.3001	0.0130	0.0014	0.0095	0.0018	-0.1862	0.0091	-0.0870	0.0254
4	94.92	0.3502	0.0199	0.0017	0.0188	0.0034	-0.3472	0.0174	-0.2905	0.0324
4	94.92	0.4002	0.0404	0.0020	0.0351	0.0047	-0.5614	0.0248	-0.3720	0.0295
4	94.92	0.4500	0.0615	0.0021	0.0448	0.0066	-0.8708	0.0306	-0.5218	0.0261
4	94.92	0.5001	0.0713	0.0027	0.0370	0.0082	-1.2342	0.0406	-0.3476	0.0285
4	94.92	0.5560	0.0837	0.0027	0.0388	0.0097	-1.8380	0.0478	-0.5263	0.0264
4	94.92	0.6001	0.0935	0.0036	0.0362	0.0113	-2.3626	0.0547	-0.5461	0.0263
4	94.92	0.6999	0.0881	0.0040	-0.0423	0.0155	-3.8473	0.0702	-0.3223	0.0367
4	94.92	0.7500	0.0796	0.0050	-0.0538	0.0181	-4.7481	0.0772	-0.2278	0.0394
4	94.92	0.8002	0.0614	0.0060	-0.1093	0.0207	-5.7438	0.0868	-0.2216	0.0471
4	94.92	0.8582	0.0504	0.0074	-0.1334	0.0242	-7.0842	0.1024	-0.8140	0.0592
4	94.92	0.9101	0.0435	0.0094	-0.2064	0.0277	-8.2562	0.1202	-0.6621	0.0473
4	94.92	0.9728	0.0500	0.0096	-0.2351	0.0312	-9.6464	0.1456	-0.0972	0.0625

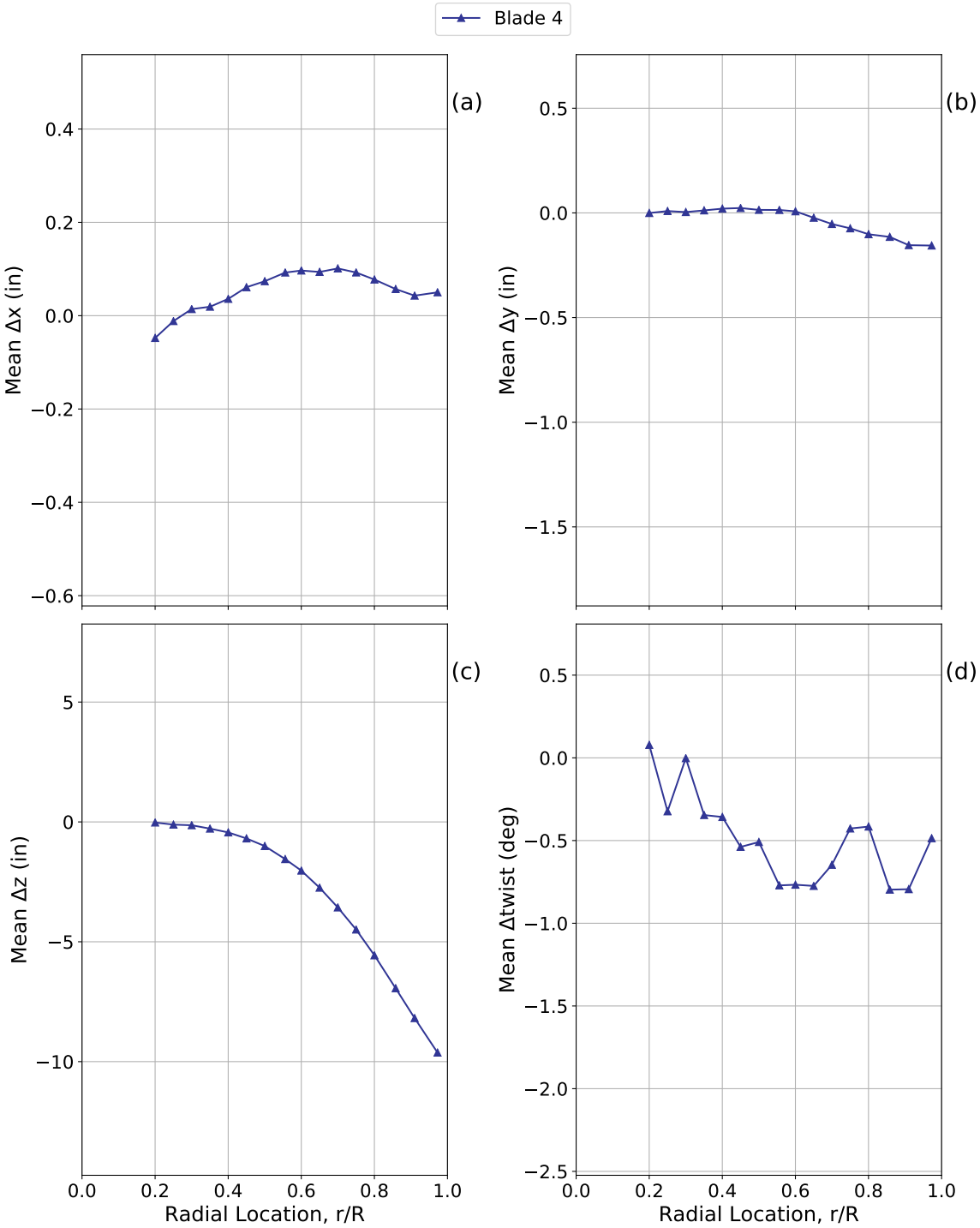


Figure 3.5-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0478	0.0006	-0.0006	0.0003	-0.0258	0.0022	0.0782	0.0236
4	105.12	0.2502	-0.0116	0.0010	0.0088	0.0012	-0.1128	0.0056	-0.3234	0.0350
4	105.12	0.3001	0.0141	0.0009	0.0040	0.0019	-0.1394	0.0093	-0.0020	0.0525
4	105.12	0.3502	0.0191	0.0009	0.0119	0.0030	-0.2803	0.0161	-0.3459	0.0422
4	105.12	0.4002	0.0360	0.0015	0.0203	0.0048	-0.4386	0.0254	-0.3576	0.0526
4	105.12	0.4500	0.0609	0.0011	0.0233	0.0065	-0.6902	0.0343	-0.5385	0.0497
4	105.12	0.5001	0.0738	0.0021	0.0144	0.0082	-1.0080	0.0441	-0.5090	0.0454
4	105.12	0.5560	0.0924	0.0023	0.0139	0.0106	-1.5523	0.0575	-0.7712	0.0448
4	105.12	0.6001	0.0967	0.0028	0.0075	0.0128	-2.0328	0.0670	-0.7671	0.0507
4	105.12	0.6501	0.0937	0.0034	-0.0232	0.0159	-2.7453	0.0778	-0.7744	0.0493
4	105.12	0.6999	0.1012	0.0035	-0.0531	0.0190	-3.5690	0.0886	-0.6468	0.0616
4	105.12	0.7500	0.0925	0.0047	-0.0738	0.0227	-4.4905	0.0996	-0.4272	0.0522
4	105.12	0.8002	0.0774	0.0060	-0.1020	0.0267	-5.5669	0.1099	-0.4156	0.0512
4	105.12	0.8582	0.0570	0.0069	-0.1147	0.0319	-6.9403	0.1238	-0.7969	0.0568
4	105.12	0.9101	0.0429	0.0081	-0.1542	0.0374	-8.1858	0.1369	-0.7941	0.0657
4	105.12	0.9728	0.0500	0.0096	-0.1560	0.0426	-9.6236	0.1579	-0.4861	0.0521

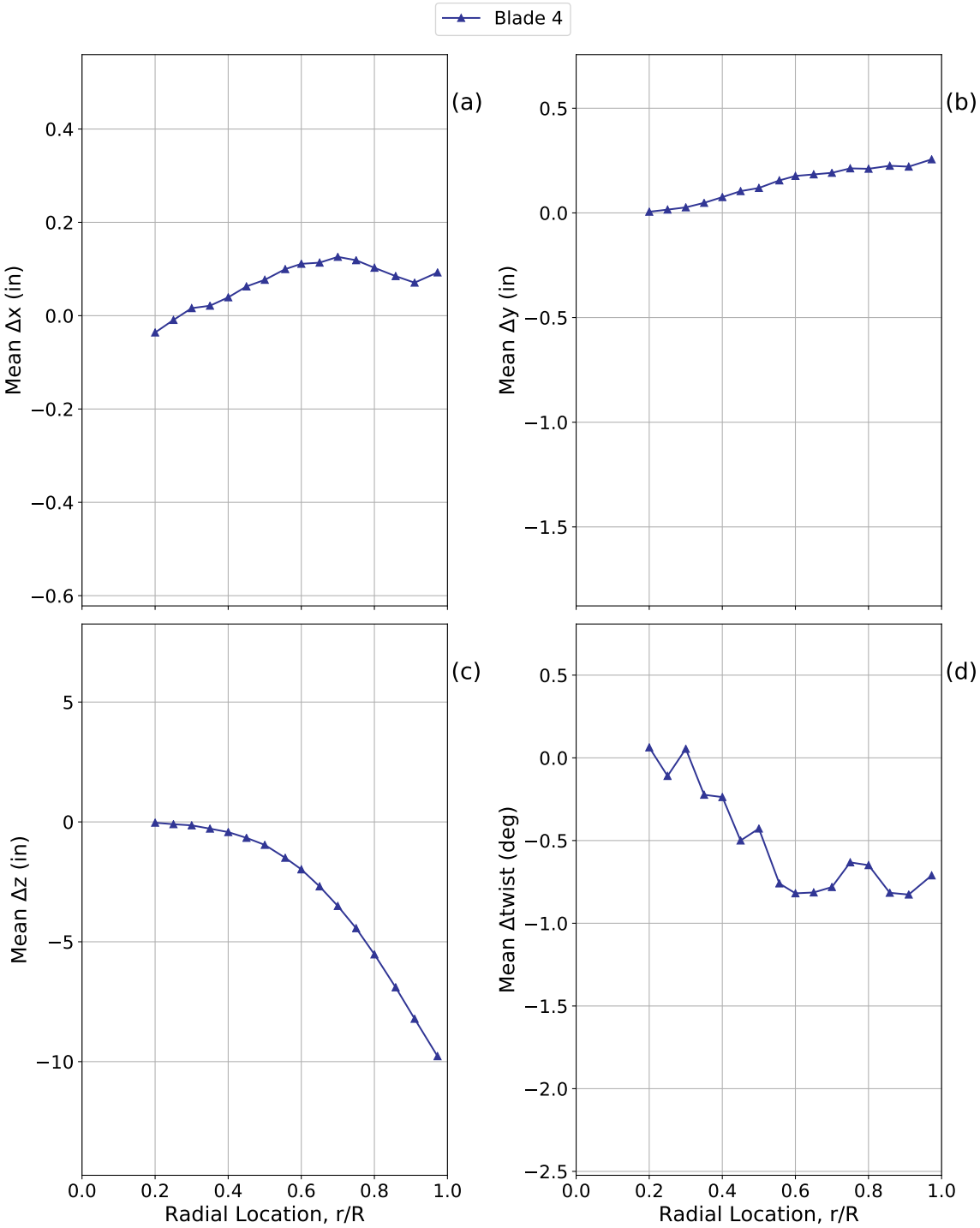


Figure 3.5-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0361	0.0013	0.0055	0.0007	-0.0337	0.0022	0.0631	0.0413
4	119.88	0.2502	-0.0092	0.0010	0.0156	0.0020	-0.0955	0.0073	-0.1097	0.0481
4	119.88	0.3001	0.0161	0.0008	0.0264	0.0036	-0.1441	0.0103	0.0546	0.0858
4	119.88	0.3502	0.0213	0.0009	0.0480	0.0055	-0.2815	0.0186	-0.2233	0.0650
4	119.88	0.4002	0.0393	0.0009	0.0754	0.0093	-0.4259	0.0290	-0.2373	0.0642
4	119.88	0.4500	0.0626	0.0018	0.1039	0.0118	-0.6656	0.0402	-0.4999	0.0640
4	119.88	0.5001	0.0768	0.0016	0.1191	0.0143	-0.9584	0.0501	-0.4275	0.0594
4	119.88	0.5560	0.0997	0.0024	0.1551	0.0179	-1.4977	0.0620	-0.7593	0.0585
4	119.88	0.6001	0.1111	0.0022	0.1765	0.0195	-1.9811	0.0711	-0.8191	0.0731
4	119.88	0.6501	0.1136	0.0025	0.1839	0.0229	-2.6918	0.0815	-0.8139	0.0671
4	119.88	0.6999	0.1260	0.0032	0.1915	0.0256	-3.5084	0.0928	-0.7812	0.0707
4	119.88	0.7500	0.1188	0.0038	0.2127	0.0284	-4.4355	0.1044	-0.6320	0.0652
4	119.88	0.8002	0.1026	0.0052	0.2108	0.0306	-5.5290	0.1157	-0.6489	0.0770
4	119.88	0.8582	0.0847	0.0066	0.2251	0.0337	-6.9020	0.1315	-0.8159	0.0709
4	119.88	0.9101	0.0707	0.0074	0.2209	0.0366	-8.2140	0.1472	-0.8266	0.0775
4	119.88	0.9728	0.0926	0.0090	0.2558	0.0406	-9.7747	0.1681	-0.7108	0.0721

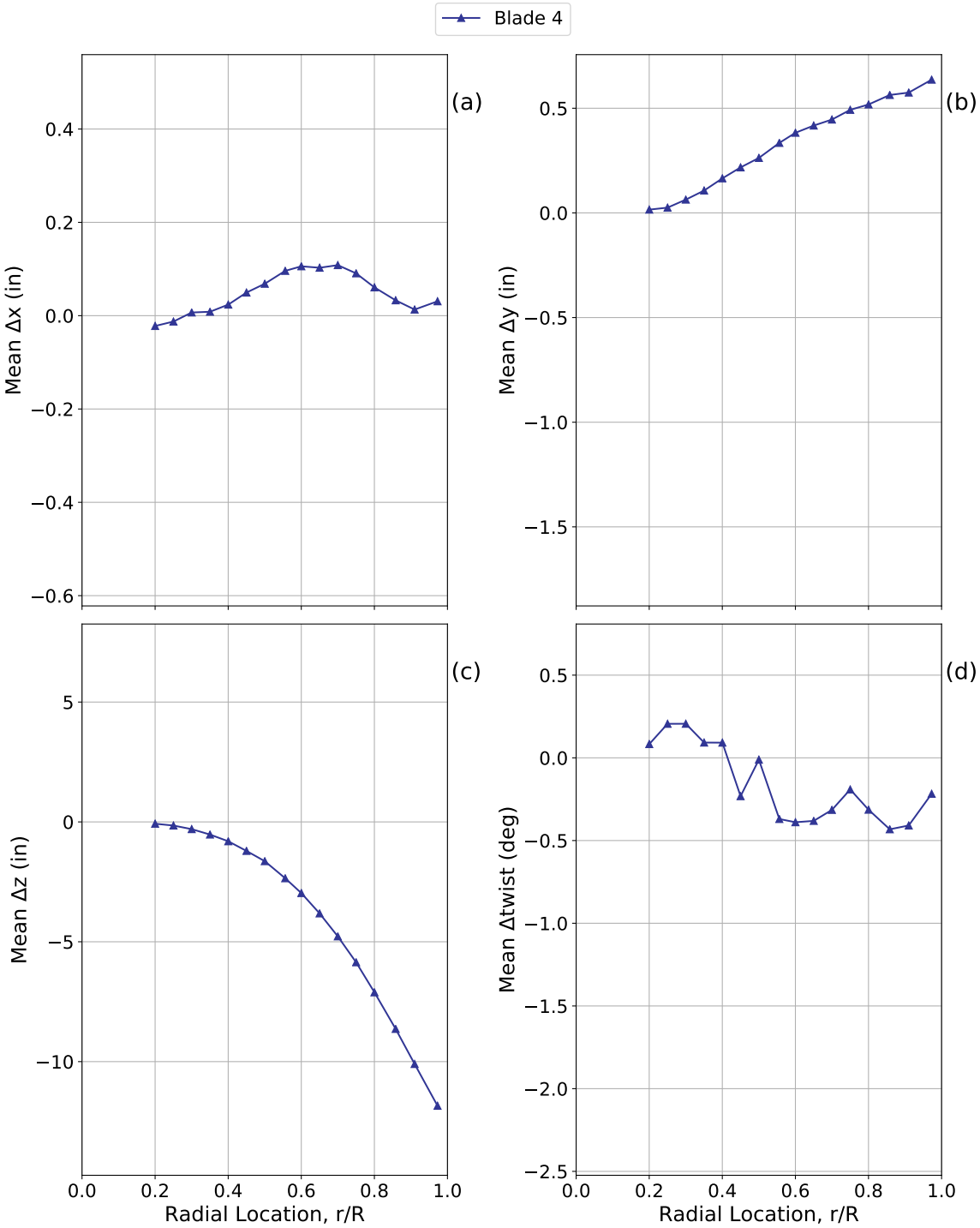


Figure 3.5-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0221	0.0015	0.0156	0.0006	-0.0757	0.0021	0.0830	0.0239
4	135	0.2502	-0.0126	0.0011	0.0252	0.0019	-0.1518	0.0053	0.2057	0.0311
4	135	0.3001	0.0068	0.0012	0.0634	0.0024	-0.3016	0.0082	0.2060	0.0493
4	135	0.3502	0.0084	0.0023	0.1068	0.0051	-0.5276	0.0163	0.0923	0.0373
4	135	0.4002	0.0237	0.0025	0.1650	0.0074	-0.8082	0.0241	0.0918	0.0522
4	135	0.4500	0.0495	0.0034	0.2174	0.0100	-1.2103	0.0355	-0.2318	0.0469
4	135	0.5001	0.0684	0.0033	0.2626	0.0144	-1.6384	0.0417	-0.0111	0.0450
4	135	0.5560	0.0960	0.0048	0.3344	0.0167	-2.3509	0.0566	-0.3698	0.0525
4	135	0.6001	0.1058	0.0043	0.3828	0.0203	-2.9691	0.0655	-0.3893	0.0685
4	135	0.6501	0.1027	0.0053	0.4172	0.0247	-3.8172	0.0781	-0.3812	0.0524
4	135	0.6999	0.1083	0.0065	0.4459	0.0292	-4.7754	0.0922	-0.3147	0.0532
4	135	0.7500	0.0907	0.0074	0.4923	0.0345	-5.8566	0.1124	-0.1913	0.0537
4	135	0.8002	0.0606	0.0092	0.5180	0.0391	-7.1105	0.1323	-0.3136	0.0528
4	135	0.8582	0.0329	0.0117	0.5633	0.0458	-8.6356	0.1593	-0.4320	0.0534
4	135	0.9101	0.0131	0.0133	0.5748	0.0508	-10.0993	0.1855	-0.4090	0.0497
4	135	0.9728	0.0308	0.0167	0.6364	0.0577	-11.8432	0.2196	-0.2175	0.0443

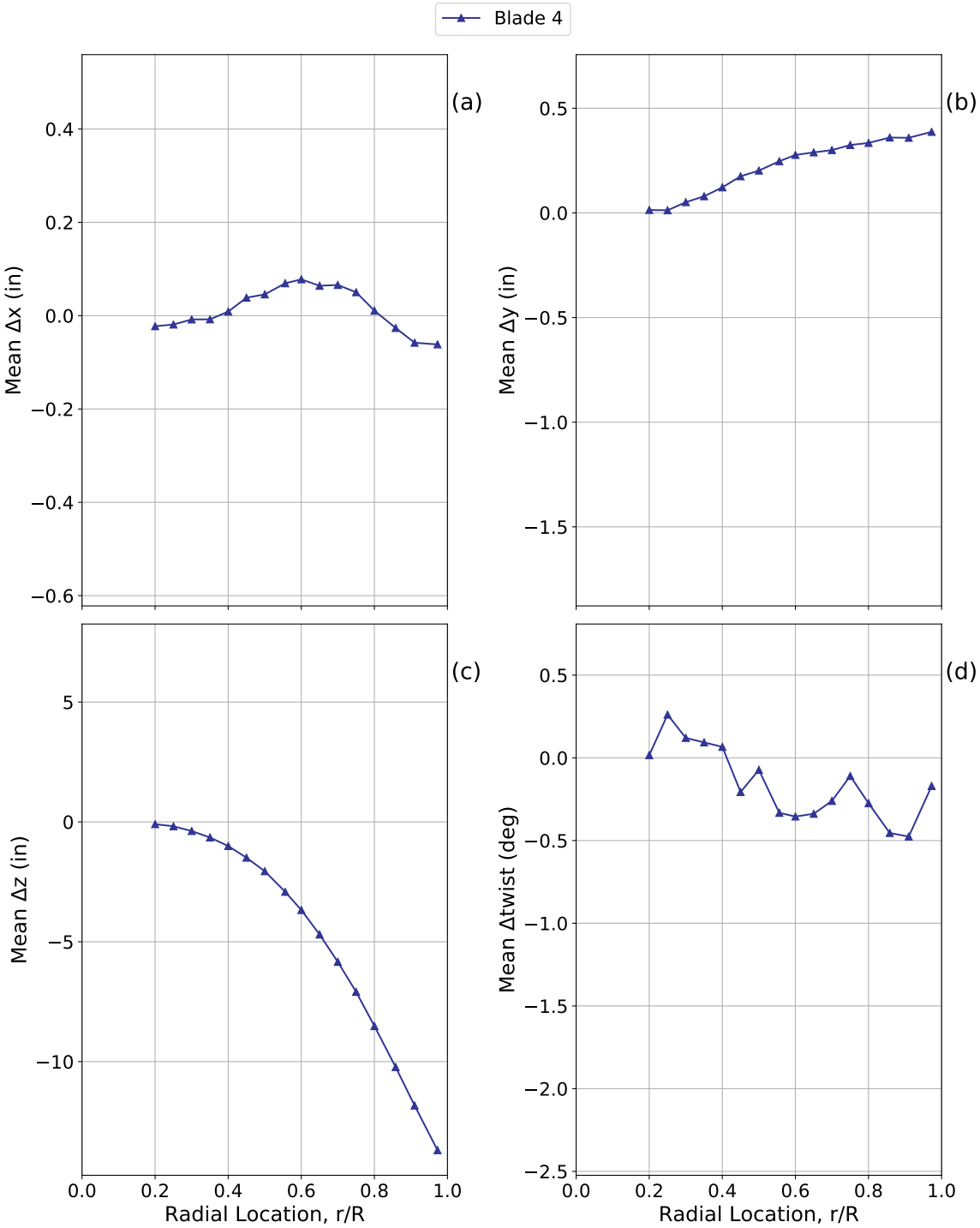


Figure 3.5-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0226	0.0011	0.0139	0.0010	-0.0934	0.0027	0.0162	0.0212
4	150.12	0.2502	-0.0190	0.0023	0.0124	0.0029	-0.1828	0.0065	0.2611	0.0292
4	150.12	0.3001	-0.0081	0.0017	0.0512	0.0044	-0.3803	0.0100	0.1205	0.0447
4	150.12	0.3502	-0.0079	0.0014	0.0794	0.0083	-0.6508	0.0195	0.0932	0.0438
4	150.12	0.4002	0.0088	0.0024	0.1221	0.0127	-1.0072	0.0294	0.0662	0.0466
4	150.12	0.4500	0.0385	0.0017	0.1749	0.0157	-1.4930	0.0369	-0.2067	0.0383
4	150.12	0.5001	0.0456	0.0029	0.2021	0.0198	-2.0560	0.0476	-0.0729	0.0457
4	150.12	0.5560	0.0694	0.0025	0.2468	0.0226	-2.9162	0.0579	-0.3327	0.0458
4	150.12	0.6001	0.0778	0.0035	0.2770	0.0265	-3.6770	0.0673	-0.3548	0.0414
4	150.12	0.6501	0.0640	0.0037	0.2890	0.0290	-4.6969	0.0733	-0.3383	0.0500
4	150.12	0.6999	0.0658	0.0037	0.3000	0.0340	-5.8394	0.0825	-0.2605	0.0368
4	150.12	0.7500	0.0502	0.0042	0.3243	0.0380	-7.0906	0.0929	-0.1098	0.0516
4	150.12	0.8002	0.0107	0.0061	0.3342	0.0422	-8.5188	0.1043	-0.2746	0.0367
4	150.12	0.8582	-0.0264	0.0071	0.3601	0.0472	-10.2290	0.1232	-0.4544	0.0500
4	150.12	0.9101	-0.0580	0.0096	0.3588	0.0519	-11.8329	0.1450	-0.4759	0.0340
4	150.12	0.9728	-0.0616	0.0123	0.3871	0.0573	-13.6964	0.1715	-0.1705	0.0379

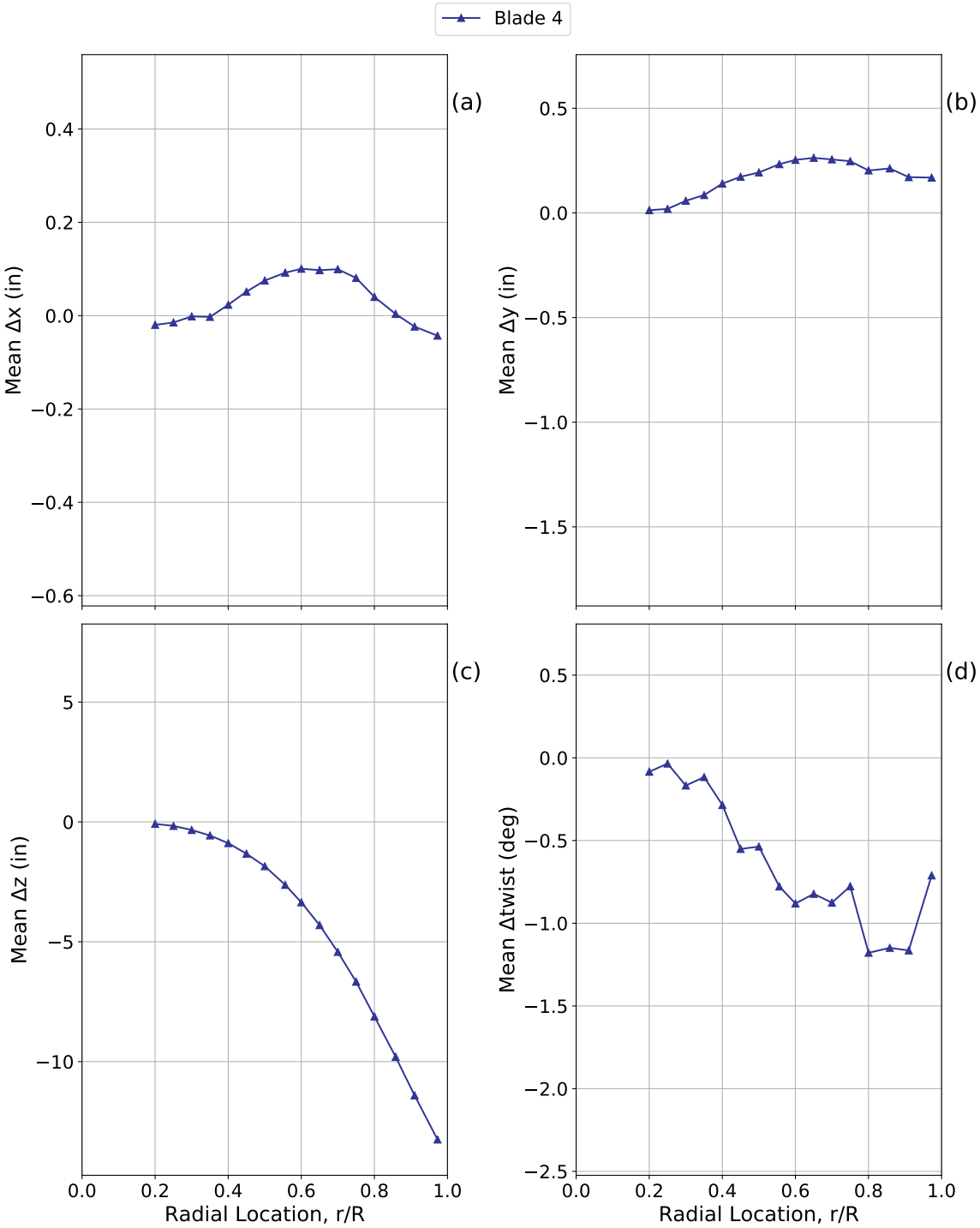


Figure 3.5-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0198	0.0014	0.0129	0.0012	-0.0815	0.0024	-0.0841	0.0305
4	164.88	0.2502	-0.0146	0.0016	0.0190	0.0025	-0.1677	0.0074	-0.0348	0.0352
4	164.88	0.3001	-0.0016	0.0013	0.0578	0.0049	-0.3375	0.0094	-0.1676	0.0634
4	164.88	0.3502	-0.0027	0.0016	0.0852	0.0074	-0.5671	0.0186	-0.1164	0.0292
4	164.88	0.4002	0.0234	0.0018	0.1401	0.0120	-0.8870	0.0278	-0.2853	0.0426
4	164.88	0.4500	0.0514	0.0018	0.1726	0.0142	-1.3272	0.0388	-0.5507	0.0365
4	164.88	0.5001	0.0752	0.0026	0.1931	0.0194	-1.8483	0.0537	-0.5368	0.0419
4	164.88	0.5560	0.0921	0.0026	0.2327	0.0226	-2.6271	0.0733	-0.7779	0.0444
4	164.88	0.6001	0.1005	0.0042	0.2532	0.0261	-3.3574	0.0909	-0.8806	0.0442
4	164.88	0.6501	0.0975	0.0043	0.2628	0.0313	-4.3058	0.1083	-0.8224	0.0536
4	164.88	0.6999	0.0995	0.0058	0.2554	0.0365	-5.4245	0.1269	-0.8756	0.0422
4	164.88	0.7500	0.0808	0.0073	0.2468	0.0412	-6.6670	0.1440	-0.7766	0.0468
4	164.88	0.8002	0.0401	0.0103	0.2027	0.0480	-8.1196	0.1653	-1.1787	0.0619
4	164.88	0.8582	0.0036	0.0111	0.2124	0.0523	-9.8037	0.1838	-1.1488	0.0611
4	164.88	0.9101	-0.0235	0.0129	0.1707	0.0576	-11.4122	0.2049	-1.1644	0.0593
4	164.88	0.9728	-0.0429	0.0149	0.1686	0.0643	-13.2499	0.2323	-0.7109	0.0509

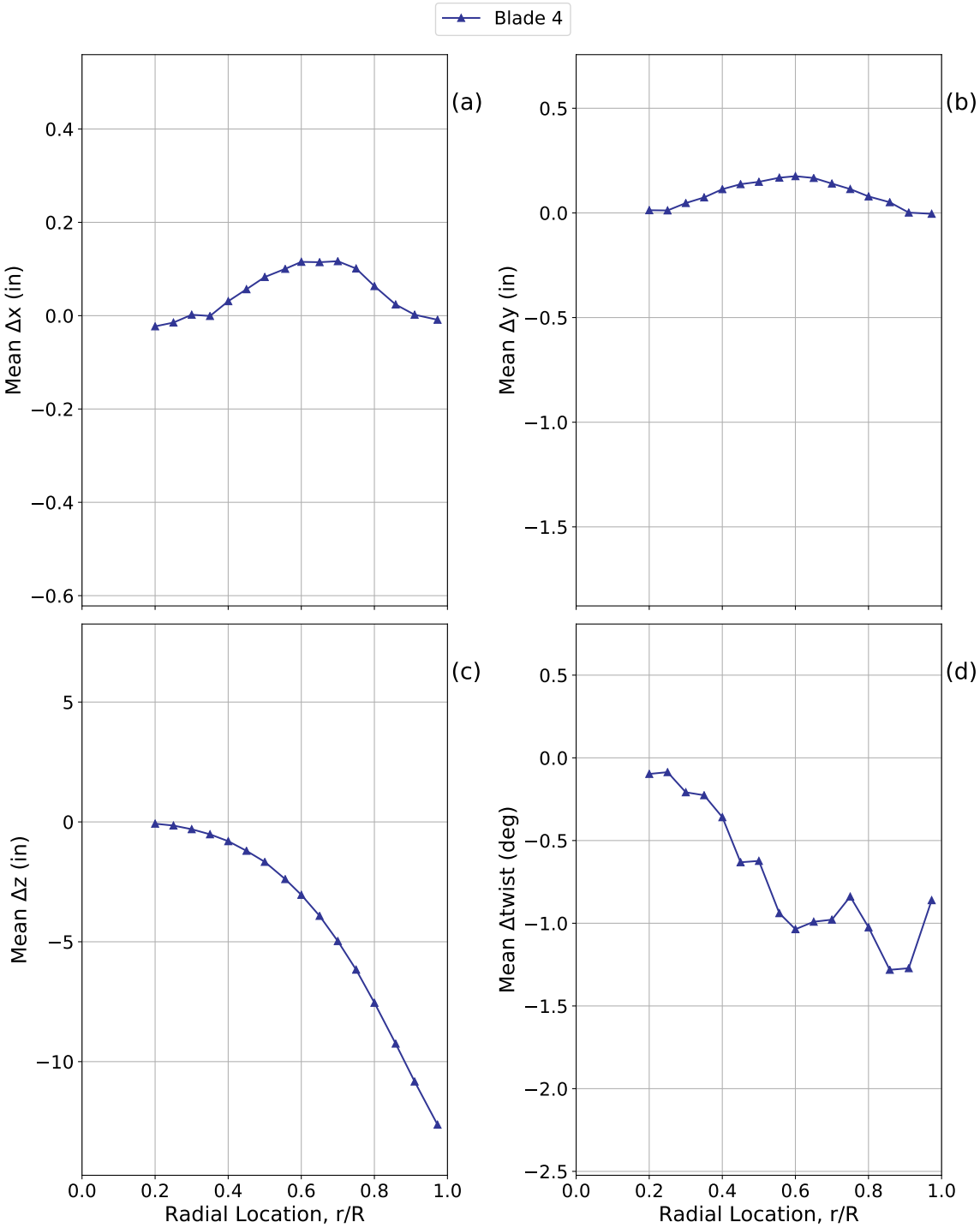


Figure 3.5-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0229	0.0012	0.0127	0.0007	-0.0745	0.0024	-0.0973	0.0248
4	170.16	0.2502	-0.0148	0.0017	0.0117	0.0031	-0.1526	0.0050	-0.0866	0.0513
4	170.16	0.3001	0.0020	0.0017	0.0470	0.0039	-0.3050	0.0056	-0.2083	0.0550
4	170.16	0.3502	-0.0007	0.0014	0.0739	0.0069	-0.5178	0.0081	-0.2261	0.0427
4	170.16	0.4002	0.0310	0.0014	0.1133	0.0115	-0.8054	0.0128	-0.3590	0.0491
4	170.16	0.4500	0.0566	0.0015	0.1372	0.0132	-1.2063	0.0153	-0.6313	0.0353
4	170.16	0.5001	0.0828	0.0011	0.1484	0.0164	-1.6673	0.0187	-0.6232	0.0467
4	170.16	0.5560	0.1003	0.0016	0.1681	0.0180	-2.3864	0.0267	-0.9391	0.0343
4	170.16	0.6001	0.1153	0.0013	0.1754	0.0216	-3.0438	0.0330	-1.0361	0.0596
4	170.16	0.6501	0.1146	0.0029	0.1668	0.0254	-3.9204	0.0380	-0.9909	0.0534
4	170.16	0.6999	0.1167	0.0023	0.1401	0.0282	-4.9732	0.0455	-0.9784	0.0408
4	170.16	0.7500	0.1010	0.0030	0.1138	0.0313	-6.1649	0.0559	-0.8388	0.0509
4	170.16	0.8002	0.0633	0.0037	0.0786	0.0355	-7.5476	0.0677	-1.0250	0.0384
4	170.16	0.8582	0.0239	0.0052	0.0509	0.0401	-9.2500	0.0809	-1.2816	0.0419
4	170.16	0.9101	0.0020	0.0060	0.0014	0.0438	-10.8305	0.0908	-1.2719	0.0477
4	170.16	0.9728	-0.0088	0.0071	-0.0044	0.0484	-12.6318	0.1039	-0.8607	0.0376

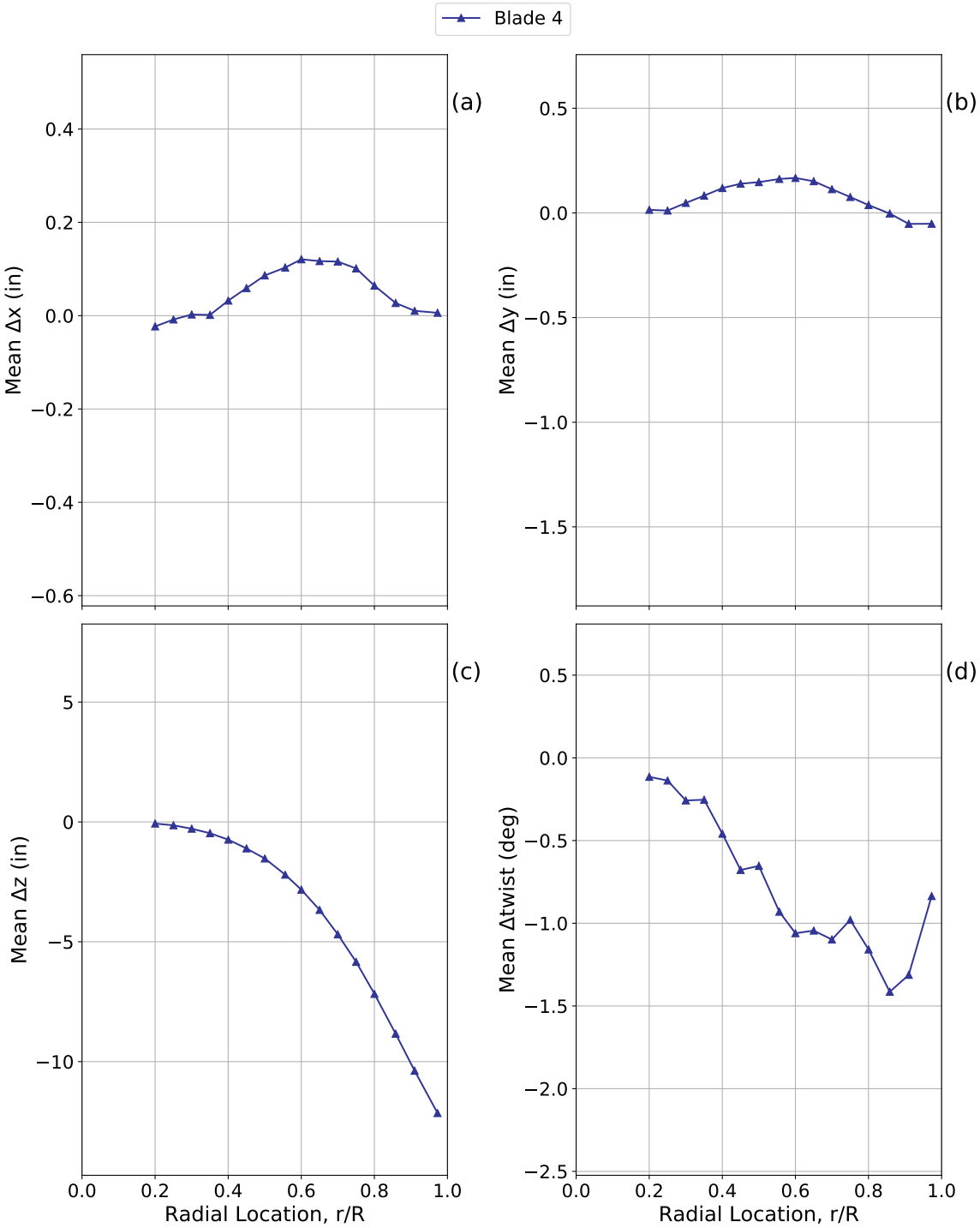


Figure 3.5-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0231	0.0018	0.0146	0.0013	-0.0690	0.0037	-0.1149	0.0286
4	175.08	0.2502	-0.0082	0.0035	0.0111	0.0032	-0.1414	0.0068	-0.1373	0.0498
4	175.08	0.3001	0.0024	0.0024	0.0476	0.0042	-0.2846	0.0124	-0.2576	0.0591
4	175.08	0.3502	0.0016	0.0023	0.0823	0.0093	-0.4721	0.0170	-0.2534	0.0599
4	175.08	0.4002	0.0323	0.0030	0.1187	0.0131	-0.7410	0.0282	-0.4589	0.0740
4	175.08	0.4500	0.0591	0.0031	0.1394	0.0185	-1.1067	0.0356	-0.6779	0.0398
4	175.08	0.5001	0.0862	0.0029	0.1470	0.0207	-1.5271	0.0492	-0.6534	0.0620
4	175.08	0.5560	0.1031	0.0030	0.1621	0.0255	-2.2010	0.0575	-0.9305	0.0468
4	175.08	0.6001	0.1208	0.0028	0.1669	0.0297	-2.8293	0.0690	-1.0604	0.0634
4	175.08	0.6501	0.1169	0.0025	0.1513	0.0338	-3.6719	0.0790	-1.0446	0.0594
4	175.08	0.6999	0.1159	0.0032	0.1132	0.0394	-4.6918	0.0880	-1.0983	0.0631
4	175.08	0.7500	0.1012	0.0042	0.0758	0.0434	-5.8396	0.0986	-0.9799	0.0670
4	175.08	0.8002	0.0643	0.0041	0.0373	0.0489	-7.1750	0.1056	-1.1587	0.0606
4	175.08	0.8582	0.0271	0.0050	-0.0031	0.0550	-8.8370	0.1154	-1.4147	0.0608
4	175.08	0.9101	0.0104	0.0058	-0.0525	0.0612	-10.3816	0.1241	-1.3119	0.0601
4	175.08	0.9728	0.0061	0.0075	-0.0519	0.0686	-12.1474	0.1368	-0.8356	0.0608

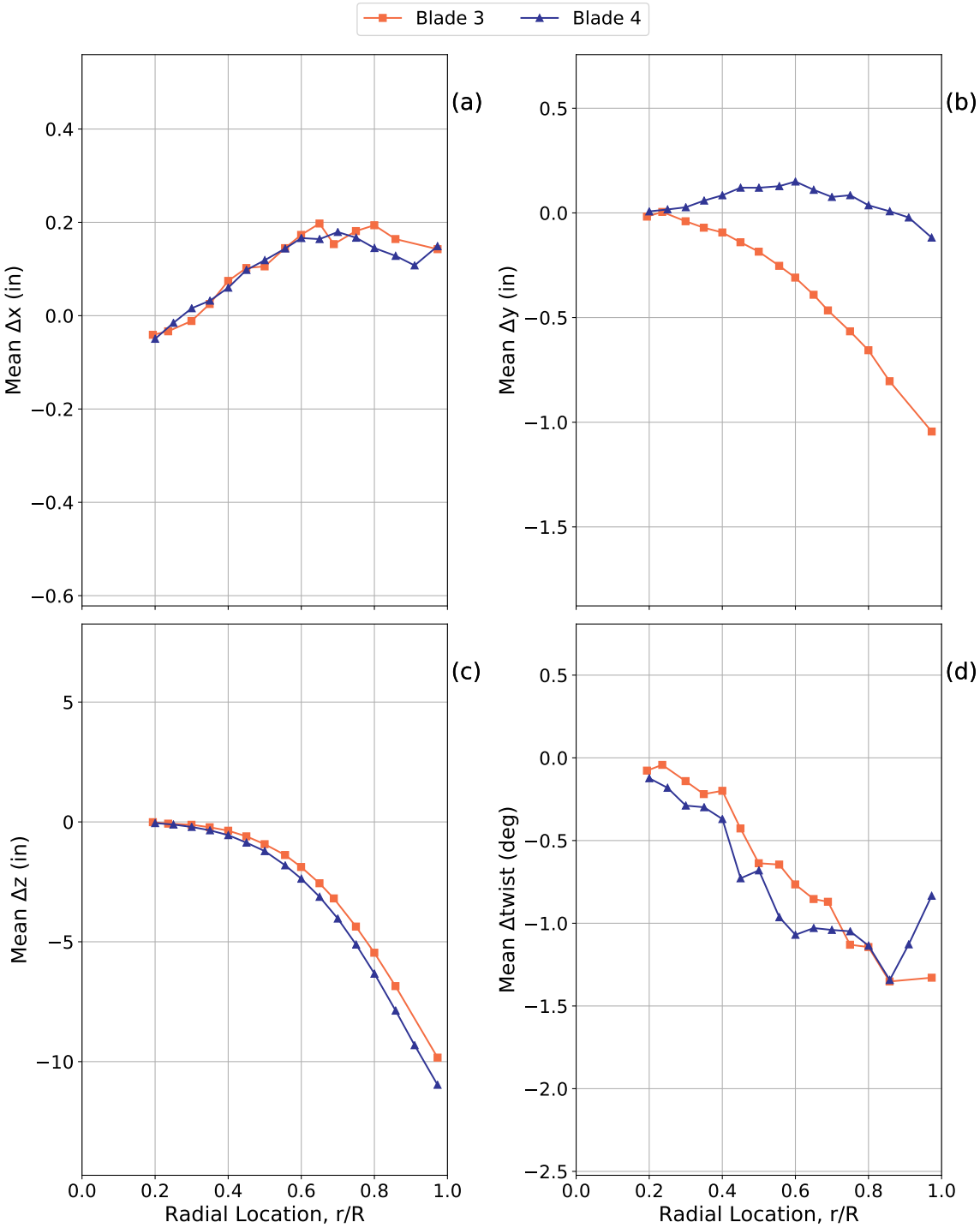


Figure 3.5-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0410	0.0012	-0.0177	0.0017	-0.0111	0.0039	-0.0772	0.0313
3	180.35	0.2357	-0.0335	0.0014	0.0046	0.0030	-0.0717	0.0079	-0.0424	0.0391
3	180.35	0.2995	-0.0114	0.0017	-0.0399	0.0072	-0.1188	0.0148	-0.1406	0.0666
3	180.35	0.3493	0.0250	0.0014	-0.0707	0.0137	-0.2224	0.0263	-0.2192	0.0467
3	180.35	0.4000	0.0745	0.0014	-0.0934	0.0204	-0.3660	0.0397	-0.1994	0.0457
3	180.35	0.4497	0.1021	0.0020	-0.1402	0.0238	-0.6021	0.0493	-0.4268	0.0551
3	180.35	0.4997	0.1056	0.0022	-0.1852	0.0286	-0.9280	0.0630	-0.6371	0.0581
3	180.35	0.5556	0.1447	0.0026	-0.2528	0.0344	-1.3800	0.0776	-0.6451	0.0531
3	180.35	0.5995	0.1731	0.0026	-0.3091	0.0411	-1.8807	0.0855	-0.7652	0.0563
3	180.35	0.6498	0.1975	0.0031	-0.3911	0.0480	-2.5589	0.1003	-0.8535	0.0651
3	180.35	0.6890	0.1533	0.0030	-0.4658	0.0522	-3.1911	0.1090	-0.8701	0.0770
3	180.35	0.7495	0.1813	0.0041	-0.5658	0.0606	-4.3657	0.1229	-1.1298	0.0729
3	180.35	0.7998	0.1938	0.0039	-0.6560	0.0691	-5.4576	0.1446	-1.1438	0.0644
3	180.35	0.8577	0.1642	0.0074	-0.8041	0.0712	-6.8497	0.1498	-1.3519	0.1478
3	180.35	0.9729	0.1425	0.0112	-1.0445	0.0860	-9.8318	0.1925	-1.3291	0.1833
4	180	0.2001	-0.0496	0.0012	0.0071	0.0012	-0.0504	0.0024	-0.1234	0.0283
4	180	0.2502	-0.0154	0.0010	0.0164	0.0025	-0.1099	0.0067	-0.1813	0.0528
4	180	0.3001	0.0159	0.0011	0.0269	0.0060	-0.2108	0.0103	-0.2887	0.0663
4	180	0.3502	0.0322	0.0017	0.0588	0.0073	-0.3513	0.0160	-0.2987	0.0521
4	180	0.4002	0.0600	0.0016	0.0841	0.0133	-0.5529	0.0266	-0.3700	0.0619
4	180	0.4500	0.0980	0.0018	0.1204	0.0130	-0.8657	0.0292	-0.7283	0.0591
4	180	0.5001	0.1189	0.0022	0.1202	0.0148	-1.2191	0.0381	-0.6804	0.0507
4	180	0.5560	0.1439	0.0024	0.1277	0.0192	-1.8121	0.0473	-0.9638	0.0605
4	180	0.6001	0.1663	0.0023	0.1498	0.0206	-2.3704	0.0551	-1.0699	0.0640
4	180	0.6501	0.1641	0.0029	0.1101	0.0243	-3.1269	0.0652	-1.0290	0.0833
4	180	0.6999	0.1793	0.0018	0.0761	0.0250	-4.0329	0.0710	-1.0404	0.0664
4	180	0.7500	0.1670	0.0033	0.0844	0.0277	-5.1169	0.0811	-1.0487	0.0709
4	180	0.8002	0.1449	0.0050	0.0361	0.0290	-6.3331	0.0920	-1.1358	0.1130
4	180	0.8582	0.1281	0.0068	0.0075	0.0293	-7.8737	0.1001	-1.3429	0.1633
4	180	0.9101	0.1077	0.0085	-0.0220	0.0501	-9.3151	0.1161	-1.1276	0.2158
4	180	0.9728	0.1489	0.0112	-0.1180	0.0363	-10.9673	0.1469	-0.8340	0.1567

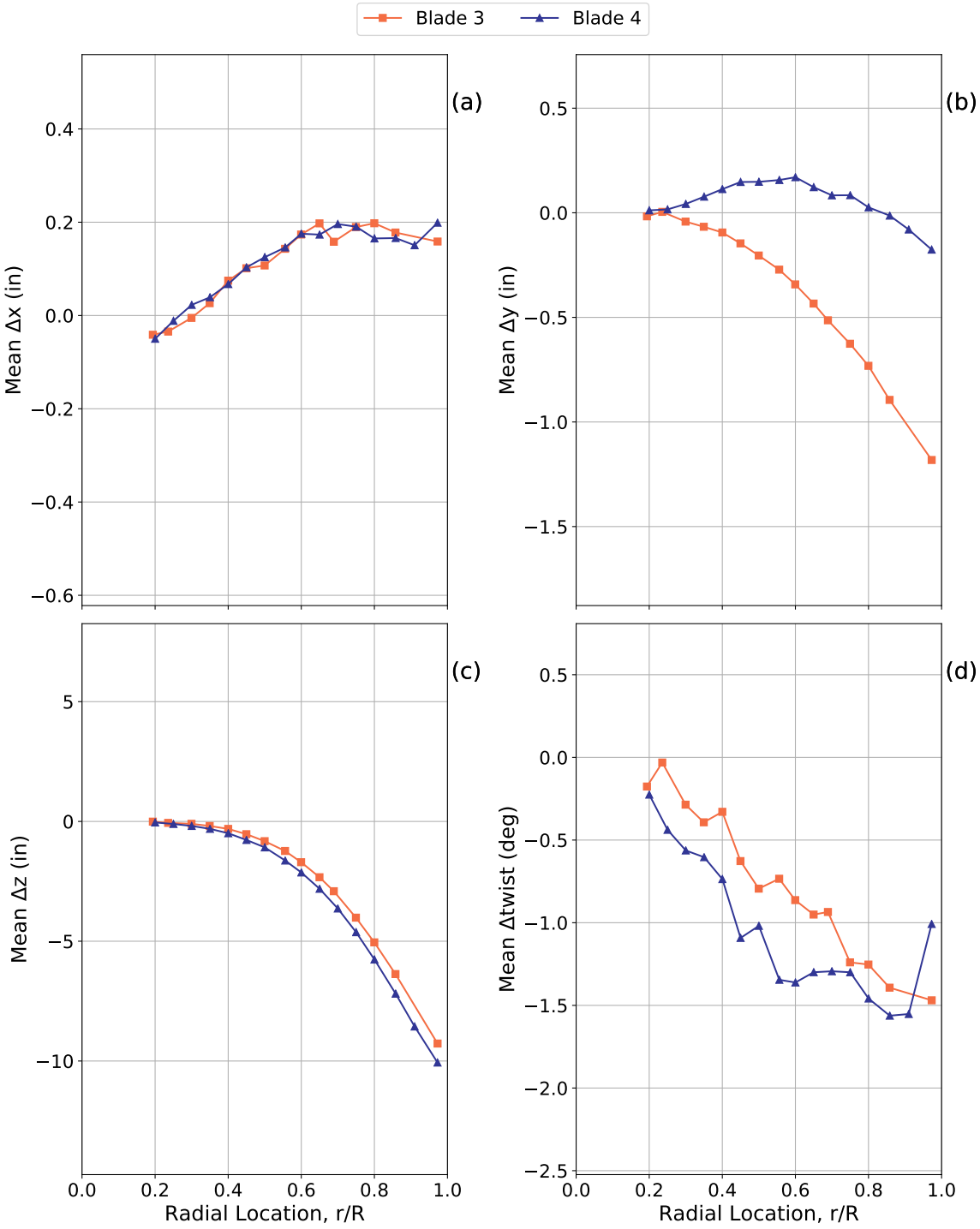


Figure 3.5-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0413	0.0014	-0.0170	0.0026	-0.0081	0.0030	-0.1762	0.0251
3	184.92	0.2357	-0.0345	0.0010	0.0043	0.0016	-0.0605	0.0048	-0.0310	0.0428
3	184.92	0.2995	-0.0052	0.0012	-0.0422	0.0061	-0.0988	0.0108	-0.2859	0.0521
3	184.92	0.3493	0.0264	0.0012	-0.0669	0.0094	-0.1894	0.0172	-0.3926	0.0451
3	184.92	0.4000	0.0747	0.0013	-0.0942	0.0133	-0.3113	0.0267	-0.3292	0.0400
3	184.92	0.4497	0.1013	0.0020	-0.1463	0.0169	-0.5314	0.0328	-0.6271	0.0562
3	184.92	0.4997	0.1072	0.0031	-0.2043	0.0204	-0.8227	0.0393	-0.7939	0.0415
3	184.92	0.5556	0.1430	0.0029	-0.2718	0.0248	-1.2323	0.0484	-0.7339	0.0599
3	184.92	0.5995	0.1736	0.0026	-0.3424	0.0275	-1.7009	0.0533	-0.8633	0.0418
3	184.92	0.6498	0.1975	0.0029	-0.4340	0.0323	-2.3288	0.0589	-0.9507	0.0446
3	184.92	0.6890	0.1581	0.0036	-0.5140	0.0378	-2.9126	0.0667	-0.9351	0.0802
3	184.92	0.7495	0.1896	0.0048	-0.6261	0.0428	-4.0165	0.0742	-1.2397	0.0615
3	184.92	0.7998	0.1978	0.0062	-0.7315	0.0543	-5.0476	0.0849	-1.2530	0.0722
3	184.92	0.8577	0.1779	0.0074	-0.8945	0.0573	-6.3707	0.0965	-1.3928	0.0919
3	184.92	0.9729	0.1586	0.0113	-1.1817	0.0748	-9.2707	0.1343	-1.4693	0.1229
4	184.92	0.2001	-0.0499	0.0012	0.0116	0.0011	-0.0440	0.0026	-0.2252	0.0207
4	184.92	0.2502	-0.0115	0.0010	0.0160	0.0019	-0.1054	0.0032	-0.4382	0.0497
4	184.92	0.3001	0.0227	0.0007	0.0422	0.0051	-0.1889	0.0079	-0.5630	0.0526
4	184.92	0.3502	0.0391	0.0018	0.0770	0.0070	-0.3097	0.0123	-0.6036	0.0508
4	184.92	0.4002	0.0673	0.0013	0.1131	0.0118	-0.4940	0.0182	-0.7363	0.0500
4	184.92	0.4500	0.1032	0.0014	0.1471	0.0142	-0.7740	0.0232	-1.0920	0.0620
4	184.92	0.5001	0.1250	0.0017	0.1480	0.0172	-1.0836	0.0271	-1.0189	0.0610
4	184.92	0.5560	0.1459	0.0027	0.1566	0.0230	-1.6328	0.0370	-1.3454	0.0610
4	184.92	0.6001	0.1753	0.0023	0.1700	0.0267	-2.1309	0.0425	-1.3615	0.0456
4	184.92	0.6501	0.1734	0.0029	0.1222	0.0300	-2.8118	0.0516	-1.2994	0.0429
4	184.92	0.6999	0.1960	0.0043	0.0833	0.0342	-3.6347	0.0662	-1.2938	0.0768
4	184.92	0.7500	0.1904	0.0048	0.0840	0.0425	-4.6239	0.0787	-1.2996	0.0529
4	184.92	0.8002	0.1652	0.0101	0.0258	0.0439	-5.7650	0.0990	-1.4586	0.0717
4	184.92	0.8582	0.1660	0.0070	-0.0137	0.0503	-7.1897	0.1159	-1.5624	0.0783
4	184.92	0.9101	0.1506	0.0102	-0.0801	0.0510	-8.5605	0.1403	-1.5523	0.1380
4	184.92	0.9728	0.1989	0.0124	-0.1762	0.0632	-10.0648	0.1472	-1.0076	0.1191

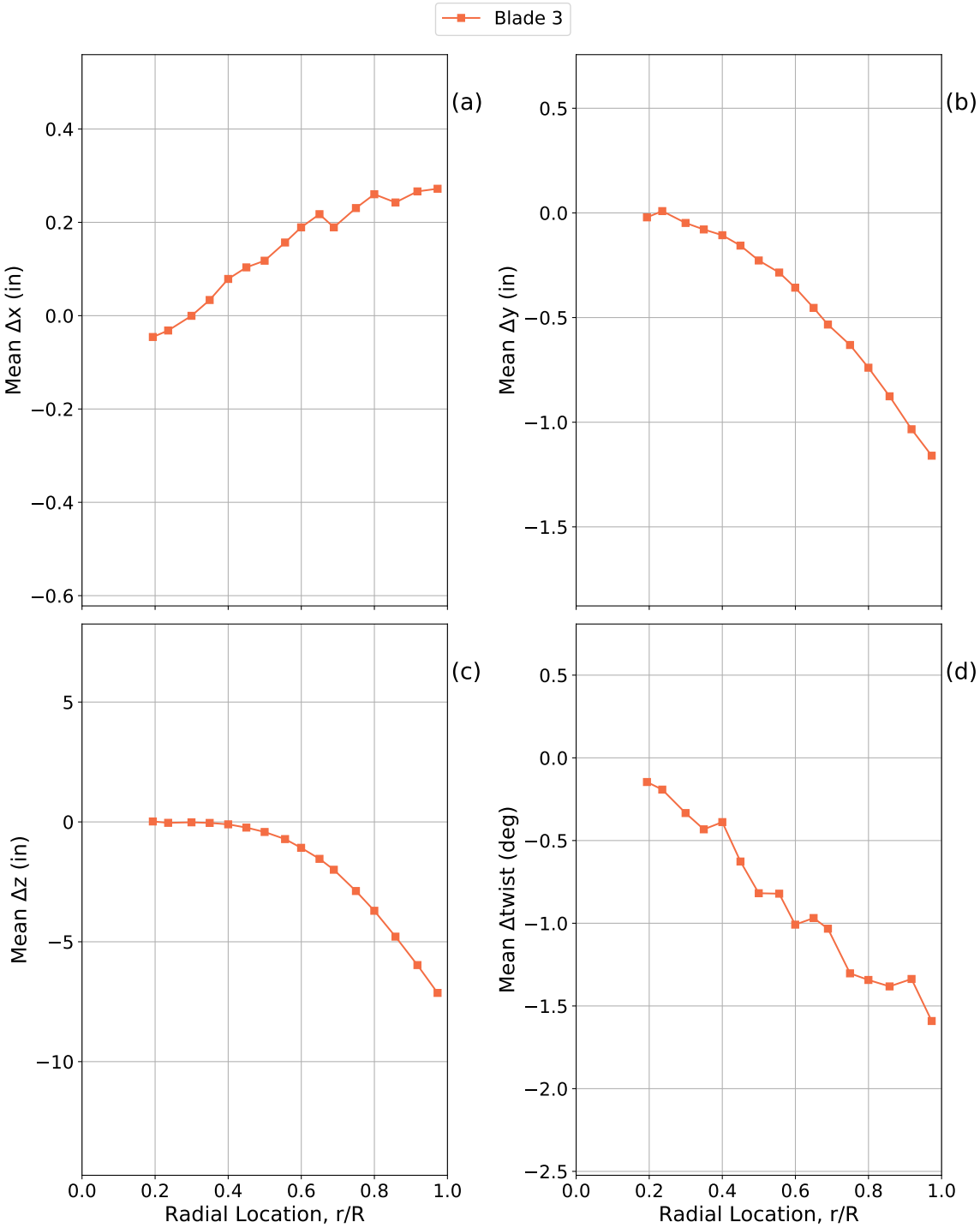


Figure 3.5-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0457	0.0014	-0.0213	0.0013	0.0185	0.0038	-0.1461	0.0276
3	195.12	0.2357	-0.0318	0.0010	0.0086	0.0015	-0.0380	0.0047	-0.1920	0.0457
3	195.12	0.2995	-0.0003	0.0011	-0.0480	0.0044	-0.0173	0.0128	-0.3338	0.0668
3	195.12	0.3493	0.0336	0.0010	-0.0791	0.0072	-0.0421	0.0202	-0.4322	0.0567
3	195.12	0.4000	0.0787	0.0015	-0.1066	0.0110	-0.1012	0.0311	-0.3885	0.0609
3	195.12	0.4497	0.1035	0.0014	-0.1562	0.0134	-0.2369	0.0413	-0.6268	0.0698
3	195.12	0.4997	0.1178	0.0016	-0.2273	0.0157	-0.4199	0.0530	-0.8185	0.0560
3	195.12	0.5556	0.1568	0.0033	-0.2849	0.0188	-0.7161	0.0645	-0.8212	0.1287
3	195.12	0.5995	0.1892	0.0031	-0.3572	0.0219	-1.0803	0.0832	-1.0084	0.0470
3	195.12	0.6498	0.2175	0.0030	-0.4538	0.0265	-1.5407	0.0930	-0.9684	0.0992
3	195.12	0.6890	0.1893	0.0036	-0.5334	0.0282	-1.9951	0.1058	-1.0329	0.0699
3	195.12	0.7495	0.2306	0.0036	-0.6310	0.0328	-2.8824	0.1257	-1.3029	0.0765
3	195.12	0.7998	0.2602	0.0052	-0.7395	0.0355	-3.7072	0.1450	-1.3428	0.0707
3	195.12	0.8577	0.2426	0.0061	-0.8762	0.0387	-4.7859	0.1712	-1.3818	0.1154
3	195.12	0.9178	0.2663	0.0094	-1.0336	0.0503	-5.9721	0.2014	-1.3369	0.1283
3	195.12	0.9729	0.2720	0.0101	-1.1599	0.0432	-7.1335	0.2385	-1.5910	0.1012

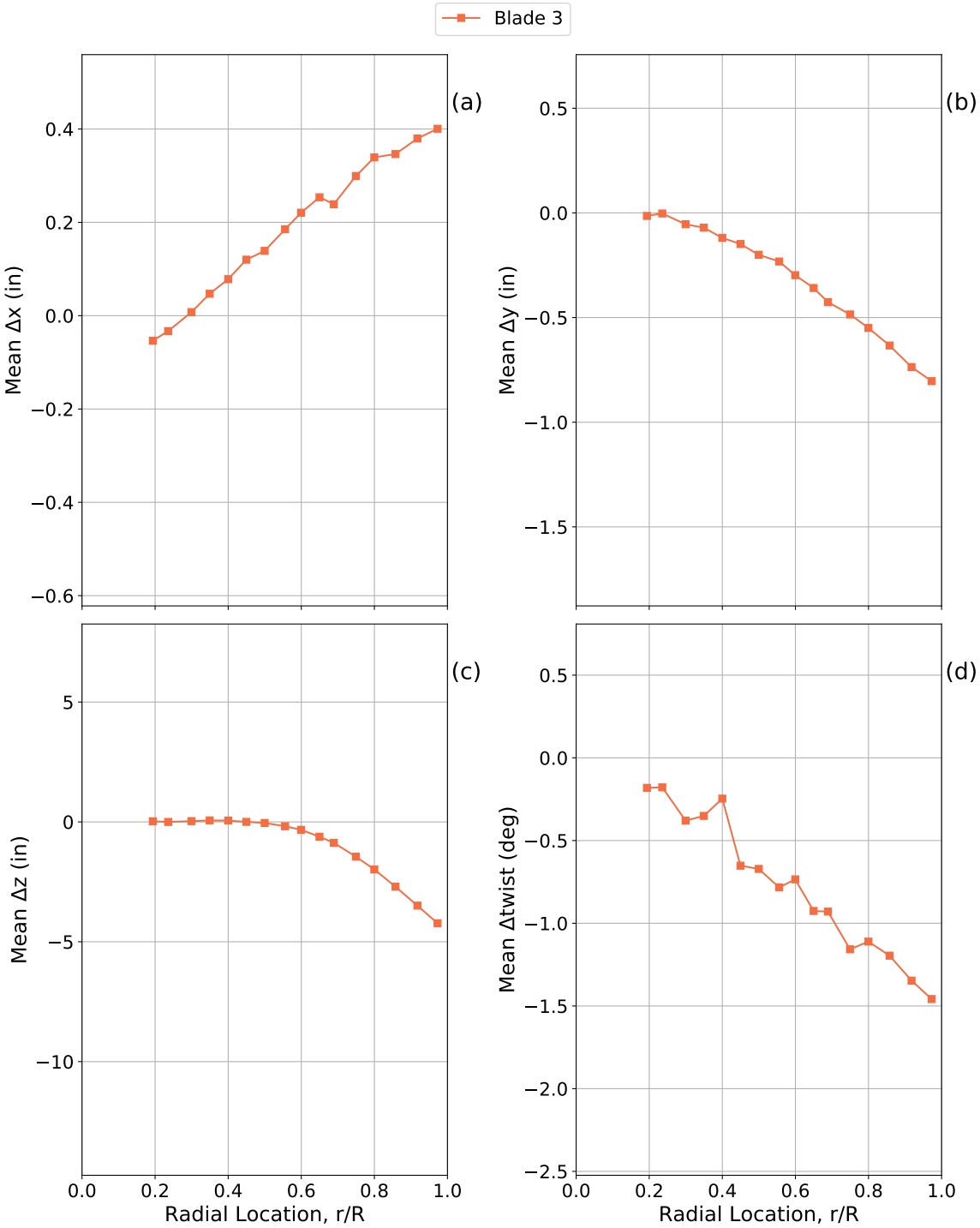


Figure 3.5-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0537	0.0016	-0.0145	0.0006	0.0270	0.0034	-0.1816	0.0230
3	209.88	0.2357	-0.0331	0.0012	-0.0027	0.0025	-0.0013	0.0066	-0.1784	0.0359
3	209.88	0.2995	0.0076	0.0012	-0.0544	0.0063	0.0331	0.0177	-0.3796	0.0510
3	209.88	0.3493	0.0470	0.0020	-0.0706	0.0067	0.0616	0.0219	-0.3510	0.0507
3	209.88	0.4000	0.0782	0.0025	-0.1193	0.0141	0.0557	0.0400	-0.2465	0.0583
3	209.88	0.4497	0.1200	0.0021	-0.1486	0.0135	0.0022	0.0481	-0.6518	0.0459
3	209.88	0.4997	0.1389	0.0011	-0.2002	0.0160	-0.0437	0.0574	-0.6716	0.0476
3	209.88	0.5556	0.1851	0.0015	-0.2322	0.0207	-0.1804	0.0717	-0.7834	0.0527
3	209.88	0.5995	0.2207	0.0011	-0.2976	0.0216	-0.3306	0.0837	-0.7346	0.0552
3	209.88	0.6498	0.2538	0.0013	-0.3586	0.0237	-0.6176	0.0974	-0.9257	0.0675
3	209.88	0.6890	0.2388	0.0014	-0.4262	0.0259	-0.8746	0.1075	-0.9296	0.0643
3	209.88	0.7495	0.2992	0.0012	-0.4851	0.0287	-1.4502	0.1214	-1.1575	0.0601
3	209.88	0.7998	0.3392	0.0020	-0.5495	0.0319	-1.9825	0.1335	-1.1108	0.0626
3	209.88	0.8577	0.3463	0.0023	-0.6336	0.0356	-2.7027	0.1457	-1.1959	0.0703
3	209.88	0.9178	0.3797	0.0033	-0.7365	0.0403	-3.4928	0.1574	-1.3468	0.0564
3	209.88	0.9729	0.4006	0.0043	-0.8038	0.0436	-4.2282	0.1669	-1.4584	0.0799

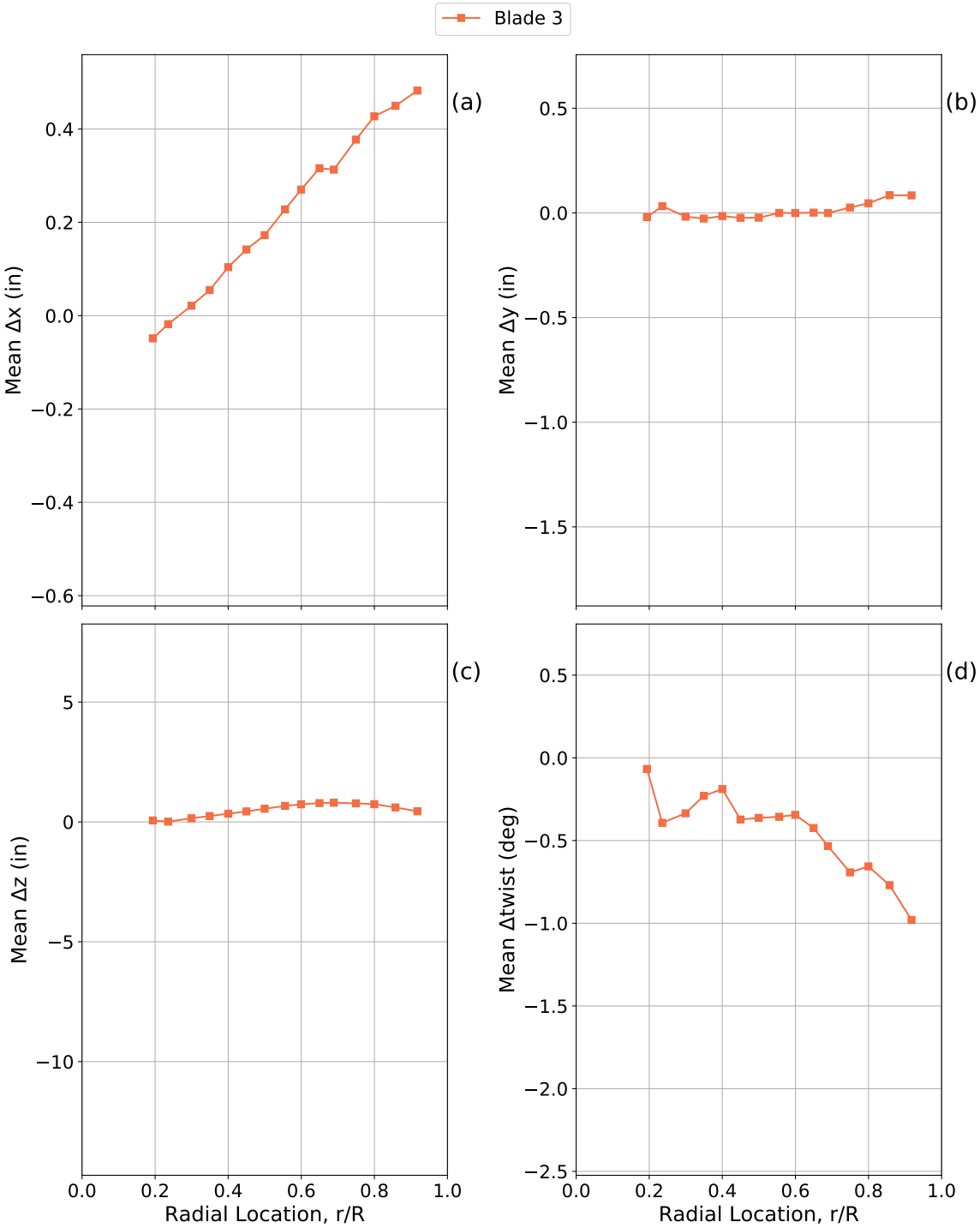


Figure 3.5-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0486	0.0014	-0.0202	0.0011	0.0609	0.0027	-0.0672	0.0355
3	225	0.2357	-0.0183	0.0014	0.0324	0.0026	0.0110	0.0089	-0.3928	0.0413
3	225	0.2995	0.0213	0.0016	-0.0179	0.0039	0.1535	0.0152	-0.3352	0.0780
3	225	0.3493	0.0549	0.0012	-0.0270	0.0062	0.2452	0.0217	-0.2297	0.0638
3	225	0.4000	0.1039	0.0021	-0.0152	0.0101	0.3438	0.0381	-0.1887	0.0680
3	225	0.4497	0.1418	0.0016	-0.0235	0.0086	0.4370	0.0454	-0.3729	0.0662
3	225	0.4997	0.1725	0.0011	-0.0229	0.0122	0.5493	0.0579	-0.3629	0.0522
3	225	0.5556	0.2278	0.0016	-0.0003	0.0149	0.6677	0.0760	-0.3563	0.0603
3	225	0.5995	0.2702	0.0018	-0.0006	0.0173	0.7354	0.0910	-0.3446	0.0458
3	225	0.6498	0.3160	0.0014	0.0014	0.0205	0.7859	0.1078	-0.4243	0.0643
3	225	0.6890	0.3129	0.0023	-0.0007	0.0231	0.8013	0.1172	-0.5333	0.0477
3	225	0.7495	0.3773	0.0025	0.0256	0.0279	0.7752	0.1326	-0.6923	0.0488
3	225	0.7998	0.4272	0.0025	0.0460	0.0332	0.7398	0.1479	-0.6563	0.0616
3	225	0.8577	0.4497	0.0033	0.0847	0.0386	0.6039	0.1591	-0.7698	0.0551
3	225	0.9178	0.4824	0.0032	0.0837	0.0484	0.4428	0.1741	-0.9800	0.0654

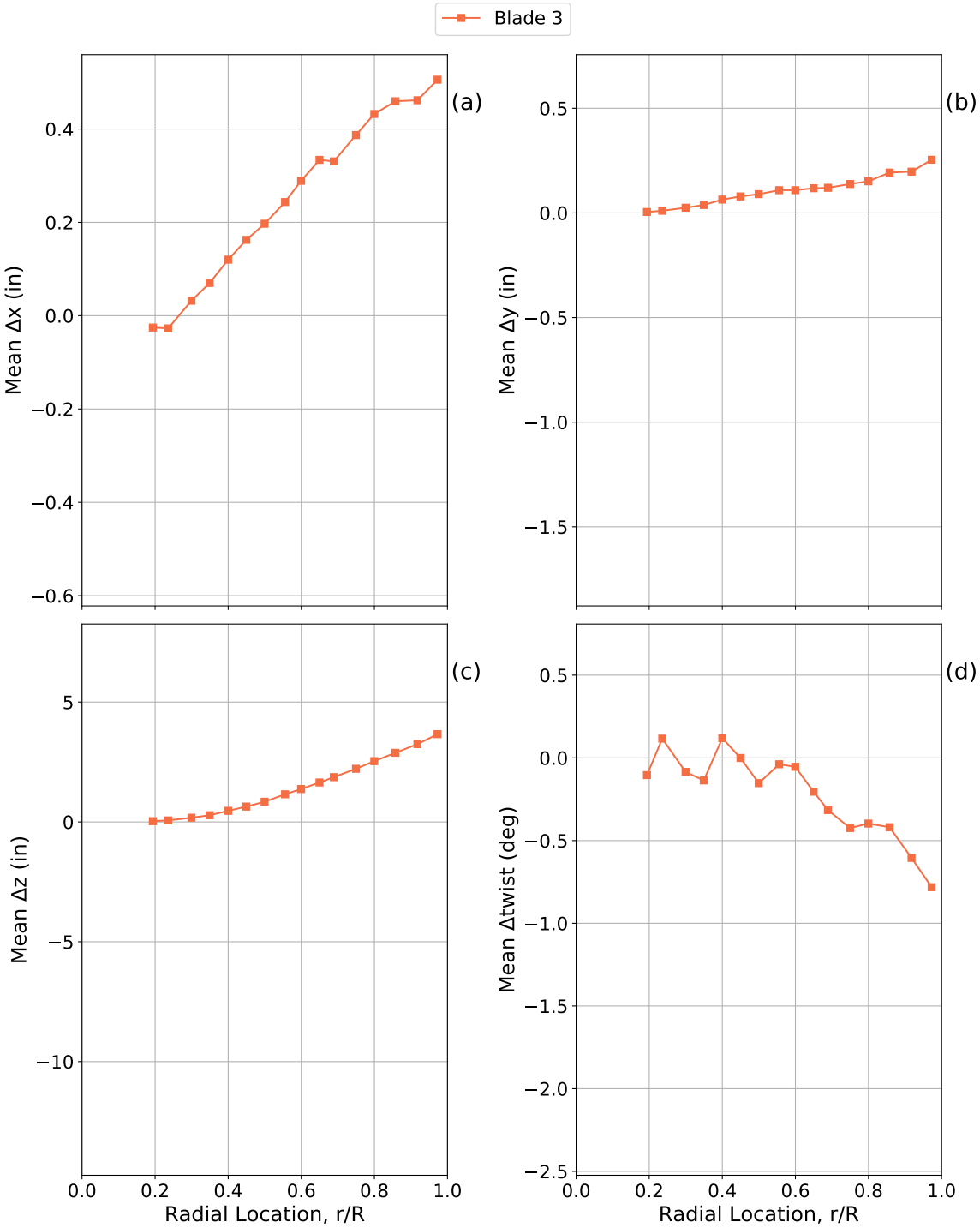


Figure 3.5-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0254	0.0014	0.0045	0.0022	0.0329	0.0054	-0.1041	0.0320
3	240.12	0.2357	-0.0272	0.0018	0.0104	0.0022	0.0641	0.0069	0.1163	0.0336
3	240.12	0.2995	0.0321	0.0025	0.0248	0.0052	0.1768	0.0122	-0.0847	0.0598
3	240.12	0.3493	0.0702	0.0019	0.0380	0.0073	0.2810	0.0217	-0.1362	0.0648
3	240.12	0.4000	0.1201	0.0025	0.0638	0.0109	0.4644	0.0307	0.1196	0.0685
3	240.12	0.4497	0.1625	0.0031	0.0788	0.0135	0.6415	0.0431	-0.0006	0.0925
3	240.12	0.4997	0.1971	0.0028	0.0896	0.0165	0.8436	0.0536	-0.1526	0.0671
3	240.12	0.5556	0.2436	0.0025	0.1086	0.0220	1.1536	0.0703	-0.0387	0.0716
3	240.12	0.5995	0.2891	0.0028	0.1086	0.0263	1.3733	0.0836	-0.0541	0.0696
3	240.12	0.6498	0.3339	0.0026	0.1180	0.0314	1.6474	0.0984	-0.2044	0.0630
3	240.12	0.6890	0.3307	0.0033	0.1200	0.0357	1.8678	0.1083	-0.3155	0.0614
3	240.12	0.7495	0.3871	0.0036	0.1382	0.0431	2.2172	0.1257	-0.4240	0.0608
3	240.12	0.7998	0.4322	0.0065	0.1509	0.0514	2.5364	0.1400	-0.3971	0.0825
3	240.12	0.8577	0.4595	0.0035	0.1929	0.0556	2.8844	0.1516	-0.4191	0.0639
3	240.12	0.9178	0.4617	0.0046	0.1972	0.0650	3.2458	0.1681	-0.6048	0.0691
3	240.12	0.9729	0.5057	0.0068	0.2540	0.0727	3.6614	0.1846	-0.7817	0.0750

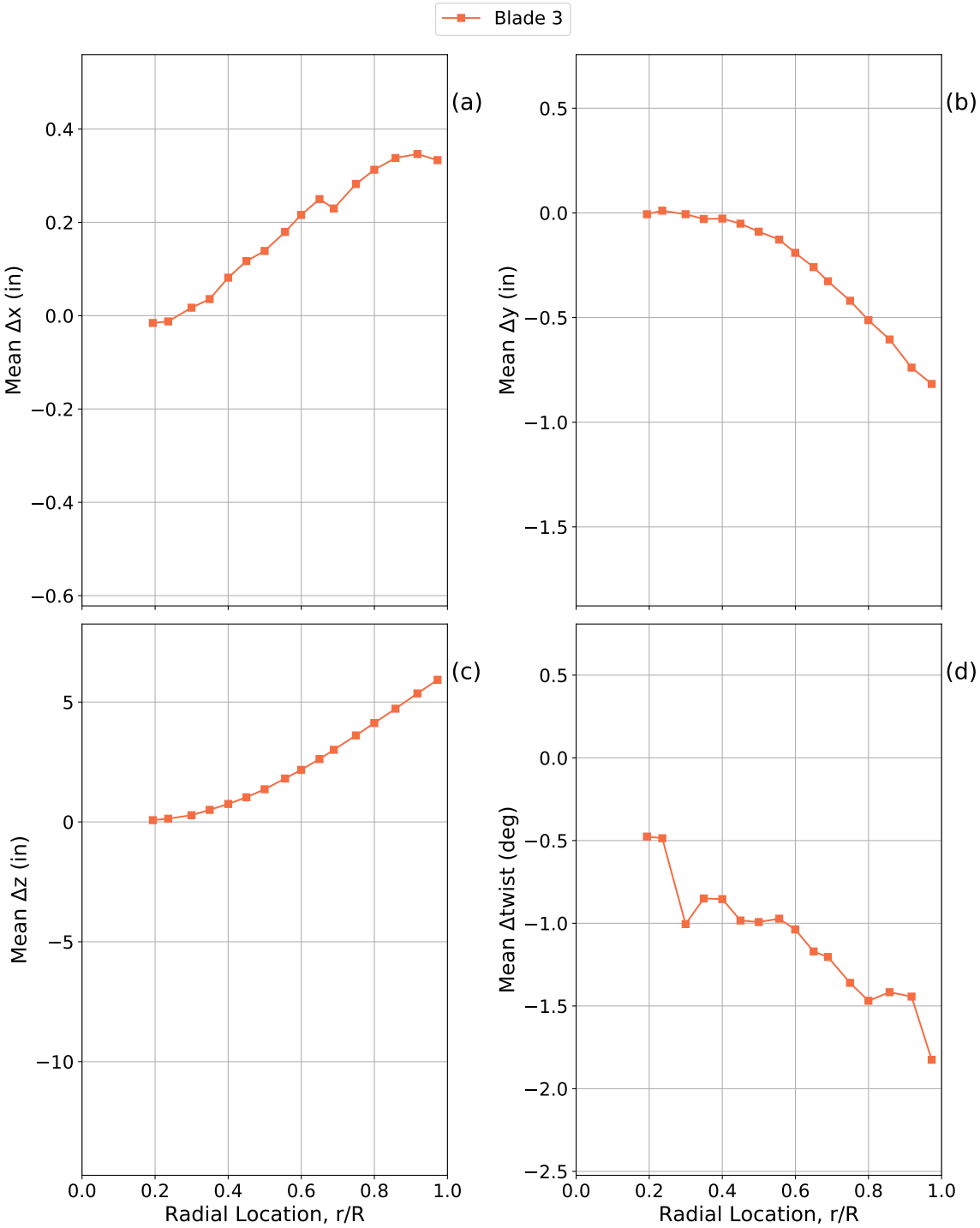


Figure 3.5-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0156	0.0048	-0.0064	0.0019	0.0733	0.0111	-0.4759	0.0382
3	254.88	0.2357	-0.0123	0.0022	0.0107	0.0014	0.1342	0.0061	-0.4861	0.1397
3	254.88	0.2995	0.0171	0.0012	-0.0063	0.0050	0.2798	0.0271	-1.0051	0.1290
3	254.88	0.3493	0.0356	0.0016	-0.0292	0.0091	0.5028	0.0419	-0.8501	0.1238
3	254.88	0.4000	0.0815	0.0026	-0.0271	0.0127	0.7496	0.0583	-0.8540	0.1166
3	254.88	0.4497	0.1170	0.0032	-0.0514	0.0160	1.0280	0.0751	-0.9834	0.1118
3	254.88	0.4997	0.1387	0.0032	-0.0897	0.0195	1.3631	0.0915	-0.9928	0.1151
3	254.88	0.5556	0.1795	0.0036	-0.1274	0.0232	1.8099	0.1089	-0.9723	0.1315
3	254.88	0.5995	0.2159	0.0039	-0.1907	0.0275	2.1716	0.1256	-1.0377	0.1247
3	254.88	0.6498	0.2498	0.0044	-0.2593	0.0306	2.6233	0.1465	-1.1705	0.1116
3	254.88	0.6890	0.2297	0.0054	-0.3264	0.0344	3.0092	0.1589	-1.2039	0.1293
3	254.88	0.7495	0.2821	0.0057	-0.4197	0.0382	3.6092	0.1889	-1.3602	0.1185
3	254.88	0.7998	0.3128	0.0070	-0.5123	0.0416	4.1268	0.2113	-1.4687	0.1186
3	254.88	0.8577	0.3379	0.0068	-0.6047	0.0457	4.7237	0.2387	-1.4167	0.1131
3	254.88	0.9178	0.3464	0.0088	-0.7391	0.0500	5.3615	0.2692	-1.4434	0.1180
3	254.88	0.9729	0.3333	0.0116	-0.8171	0.0529	5.9283	0.2992	-1.8252	0.1281

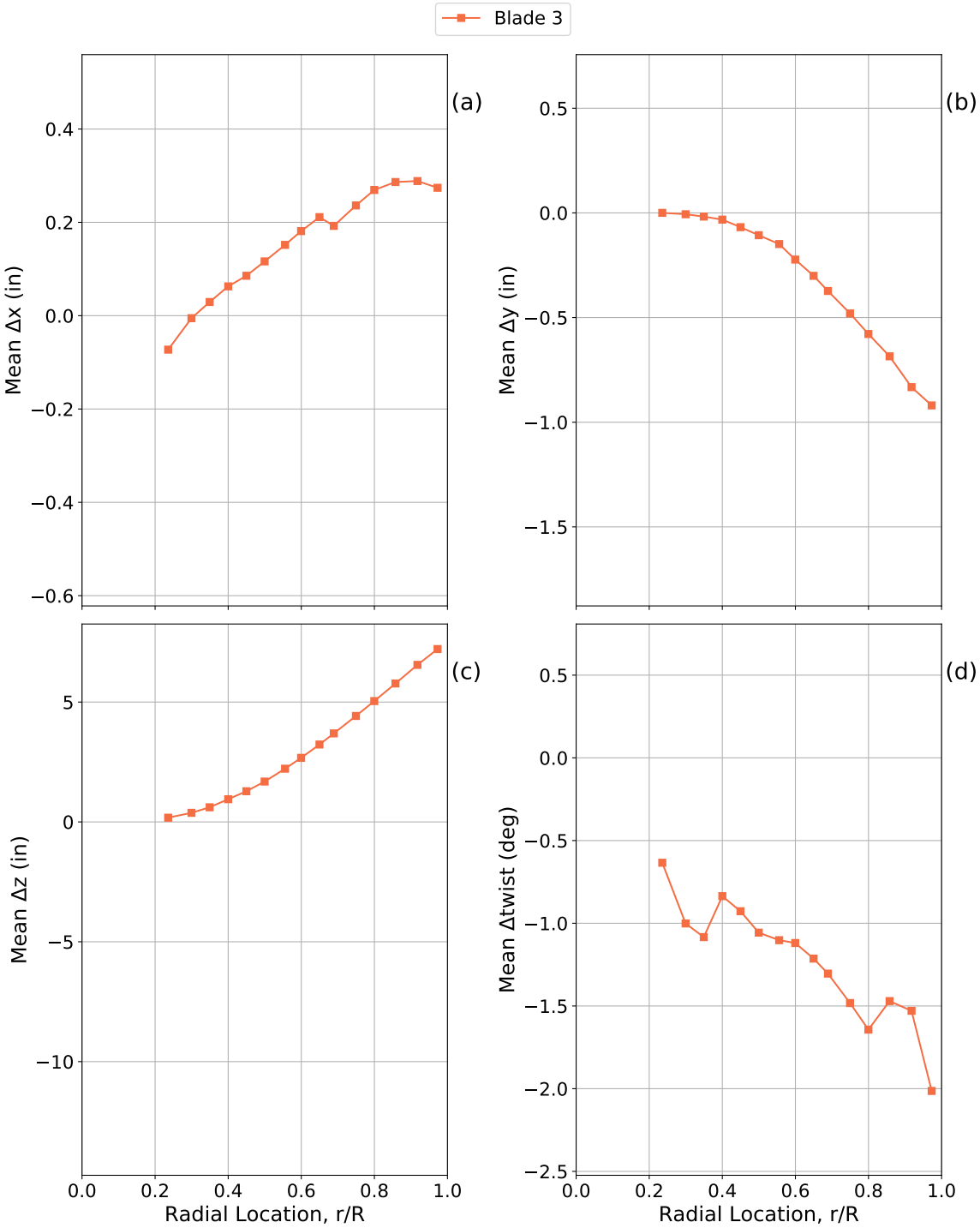


Figure 3.5-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2357	-0.0728	0.0046	0.0003	0.0012	0.1764	0.0185	-0.6342	0.1334
3	260.16	0.2995	-0.0054	0.0033	-0.0064	0.0050	0.3796	0.0339	-1.0011	0.2120
3	260.16	0.3493	0.0293	0.0014	-0.0176	0.0078	0.6103	0.0546	-1.0837	0.1959
3	260.16	0.4000	0.0628	0.0023	-0.0321	0.0142	0.9471	0.0794	-0.8361	0.1885
3	260.16	0.4497	0.0855	0.0047	-0.0681	0.0189	1.2786	0.1020	-0.9273	0.2050
3	260.16	0.4997	0.1163	0.0040	-0.1066	0.0239	1.6835	0.1267	-1.0567	0.1867
3	260.16	0.5556	0.1517	0.0050	-0.1489	0.0296	2.2192	0.1506	-1.1023	0.1856
3	260.16	0.5995	0.1812	0.0058	-0.2230	0.0339	2.6727	0.1691	-1.1193	0.1865
3	260.16	0.6498	0.2112	0.0070	-0.3007	0.0390	3.2286	0.1893	-1.2137	0.1953
3	260.16	0.6890	0.1924	0.0079	-0.3731	0.0434	3.6923	0.2053	-1.3044	0.1899
3	260.16	0.7495	0.2362	0.0088	-0.4803	0.0502	4.4197	0.2301	-1.4823	0.1818
3	260.16	0.7998	0.2694	0.0100	-0.5786	0.0562	5.0411	0.2498	-1.6431	0.1774
3	260.16	0.8577	0.2864	0.0117	-0.6852	0.0634	5.7750	0.2732	-1.4705	0.1895
3	260.16	0.9178	0.2885	0.0126	-0.8325	0.0703	6.5508	0.2978	-1.5295	0.1940
3	260.16	0.9729	0.2741	0.0163	-0.9196	0.0764	7.2104	0.3191	-2.0137	0.1864

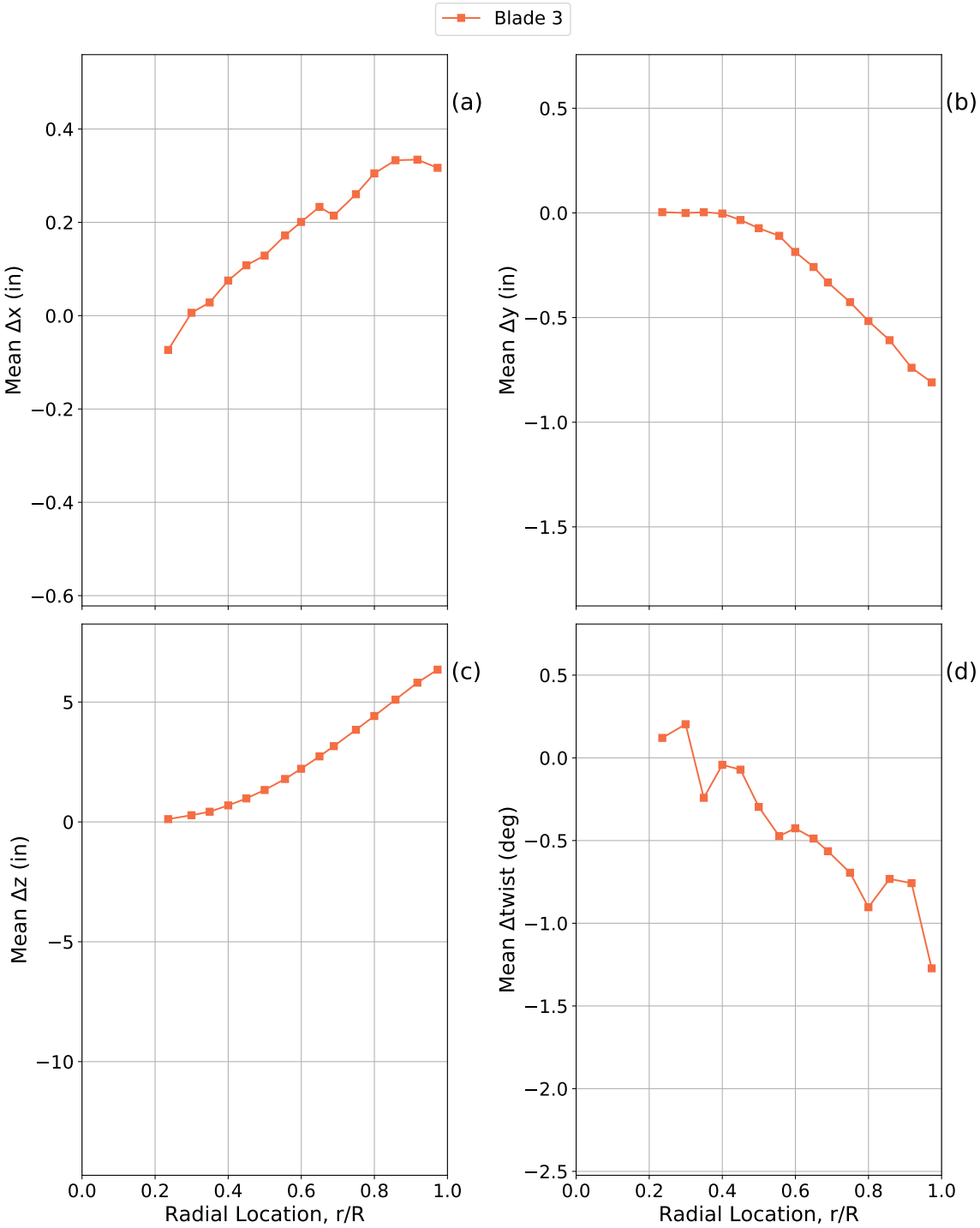


Figure 3.5-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0735	0.0041	0.0036	0.0018	0.1166	0.0160	0.1205	0.1527
3	265.08	0.2995	0.0062	0.0051	-0.0004	0.0047	0.2789	0.0265	0.2033	0.2447
3	265.08	0.3493	0.0283	0.0036	0.0031	0.0094	0.4250	0.0509	-0.2417	0.1553
3	265.08	0.4000	0.0752	0.0016	-0.0030	0.0148	0.6891	0.0699	-0.0422	0.1702
3	265.08	0.4497	0.1080	0.0029	-0.0339	0.0205	0.9796	0.0925	-0.0714	0.1576
3	265.08	0.4997	0.1288	0.0034	-0.0731	0.0256	1.3316	0.1139	-0.2964	0.1729
3	265.08	0.5556	0.1719	0.0045	-0.1095	0.0320	1.7909	0.1403	-0.4731	0.1656
3	265.08	0.5995	0.2008	0.0053	-0.1864	0.0373	2.2169	0.1611	-0.4259	0.1676
3	265.08	0.6498	0.2331	0.0063	-0.2585	0.0432	2.7340	0.1868	-0.4879	0.1664
3	265.08	0.6890	0.2144	0.0065	-0.3324	0.0480	3.1607	0.2038	-0.5645	0.1796
3	265.08	0.7495	0.2602	0.0077	-0.4262	0.0562	3.8433	0.2354	-0.6947	0.1699
3	265.08	0.7998	0.3049	0.0088	-0.5165	0.0631	4.4188	0.2628	-0.9031	0.1675
3	265.08	0.8577	0.3331	0.0106	-0.6081	0.0715	5.1017	0.2973	-0.7320	0.1644
3	265.08	0.9178	0.3343	0.0121	-0.7397	0.0799	5.8090	0.3345	-0.7575	0.1792
3	265.08	0.9729	0.3168	0.0166	-0.8095	0.0882	6.3516	0.3723	-1.2725	0.1831

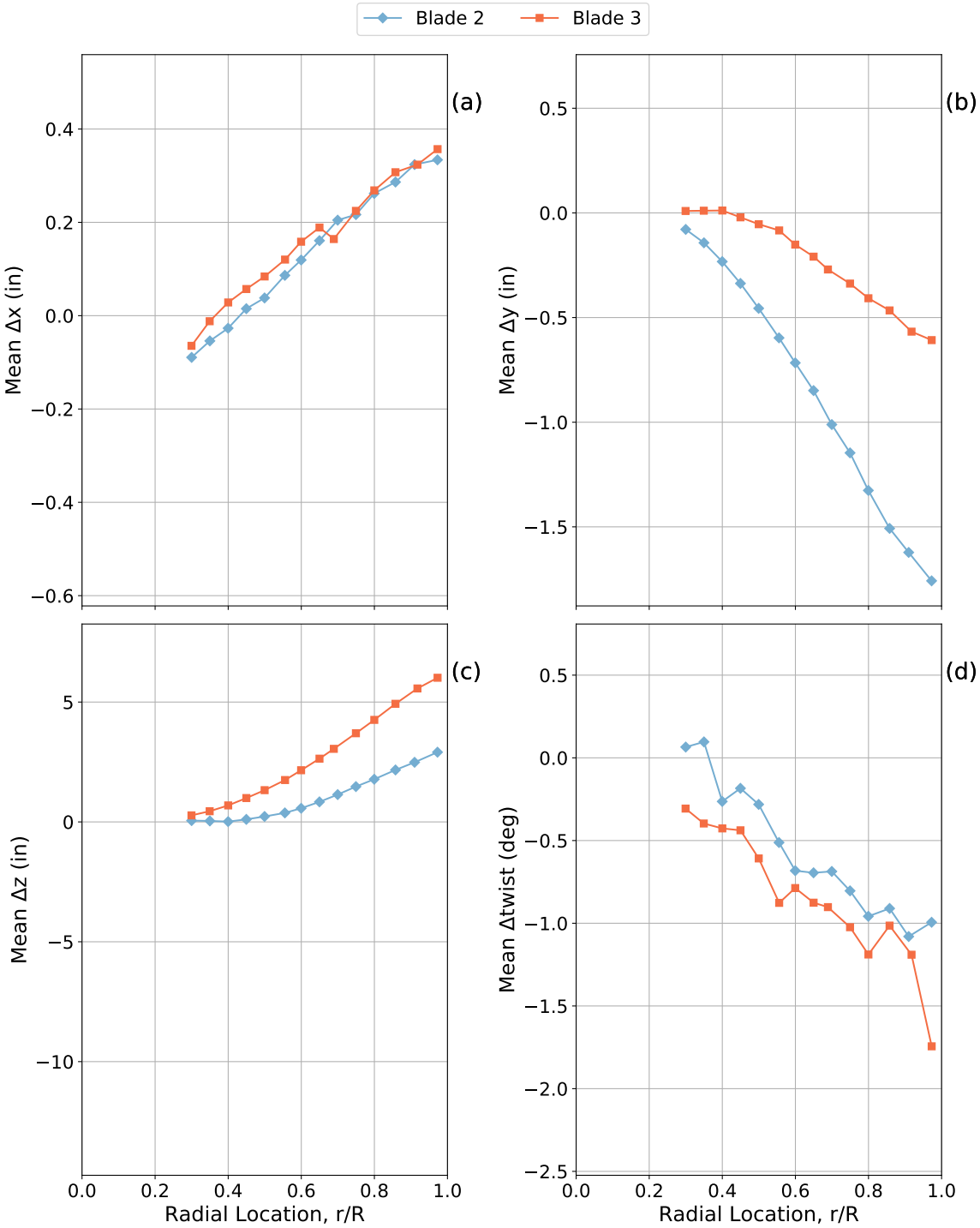


Figure 3.5-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2999	-0.0894	0.0065	-0.0789	0.0129	0.0547	0.0691	0.0652	0.3146
2	270.35	0.3498	-0.0541	0.0039	-0.1428	0.0240	0.0405	0.1082	0.0965	0.4147
2	270.35	0.3998	-0.0269	0.0055	-0.2326	0.0397	0.0129	0.1611	-0.2637	0.4295
2	270.35	0.4496	0.0150	0.0063	-0.3370	0.0538	0.1059	0.2154	-0.1843	0.4385
2	270.35	0.4995	0.0380	0.0078	-0.4560	0.0684	0.2268	0.2708	-0.2815	0.4398
2	270.35	0.5551	0.0864	0.0077	-0.5970	0.0853	0.3760	0.3305	-0.5119	0.4260
2	270.35	0.5996	0.1193	0.0090	-0.7164	0.0984	0.5695	0.3773	-0.6822	0.4162
2	270.35	0.6497	0.1608	0.0099	-0.8488	0.1134	0.8368	0.4300	-0.6949	0.4121
2	270.35	0.6996	0.2047	0.0109	-1.0112	0.1286	1.1402	0.4833	-0.6866	0.4128
2	270.35	0.7495	0.2166	0.0143	-1.1465	0.1441	1.4730	0.5351	-0.8041	0.4259
2	270.35	0.7996	0.2619	0.0142	-1.3259	0.1599	1.7802	0.5893	-0.9579	0.4222
2	270.35	0.8578	0.2864	0.0163	-1.5074	0.1778	2.1684	0.6510	-0.9104	0.4280
2	270.35	0.9100	0.3238	0.0176	-1.6221	0.1938	2.4867	0.7100	-1.0802	0.4120
2	270.35	0.9727	0.3339	0.0246	-1.7579	0.2136	2.9086	0.7748	-0.9940	0.4368
3	270	0.2995	-0.0646	0.0049	0.0092	0.0058	0.2735	0.0552	-0.3067	0.1414
3	270	0.3493	-0.0119	0.0026	0.0105	0.0106	0.4460	0.0872	-0.3969	0.1846
3	270	0.4000	0.0283	0.0040	0.0114	0.0177	0.6881	0.1316	-0.4266	0.1756
3	270	0.4497	0.0571	0.0055	-0.0212	0.0239	0.9957	0.1684	-0.4381	0.2012
3	270	0.4997	0.0840	0.0054	-0.0541	0.0296	1.3250	0.2081	-0.6082	0.1889
3	270	0.5556	0.1202	0.0073	-0.0838	0.0371	1.7469	0.2553	-0.8767	0.1815
3	270	0.5995	0.1585	0.0084	-0.1515	0.0429	2.1557	0.2889	-0.7872	0.1870
3	270	0.6498	0.1889	0.0100	-0.2090	0.0501	2.6388	0.3293	-0.8756	0.1843
3	270	0.6890	0.1642	0.0123	-0.2703	0.0554	3.0482	0.3617	-0.9025	0.1756
3	270	0.7495	0.2246	0.0133	-0.3377	0.0644	3.6988	0.4094	-1.0239	0.1805
3	270	0.7998	0.2685	0.0150	-0.4077	0.0712	4.2565	0.4470	-1.1890	0.1936
3	270	0.8577	0.3074	0.0170	-0.4659	0.0807	4.9275	0.4934	-1.0142	0.1946
3	270	0.9178	0.3237	0.0192	-0.5673	0.0890	5.5671	0.5432	-1.1902	0.1772
3	270	0.9729	0.3569	0.0243	-0.6078	0.0976	6.0137	0.5914	-1.7440	0.1699

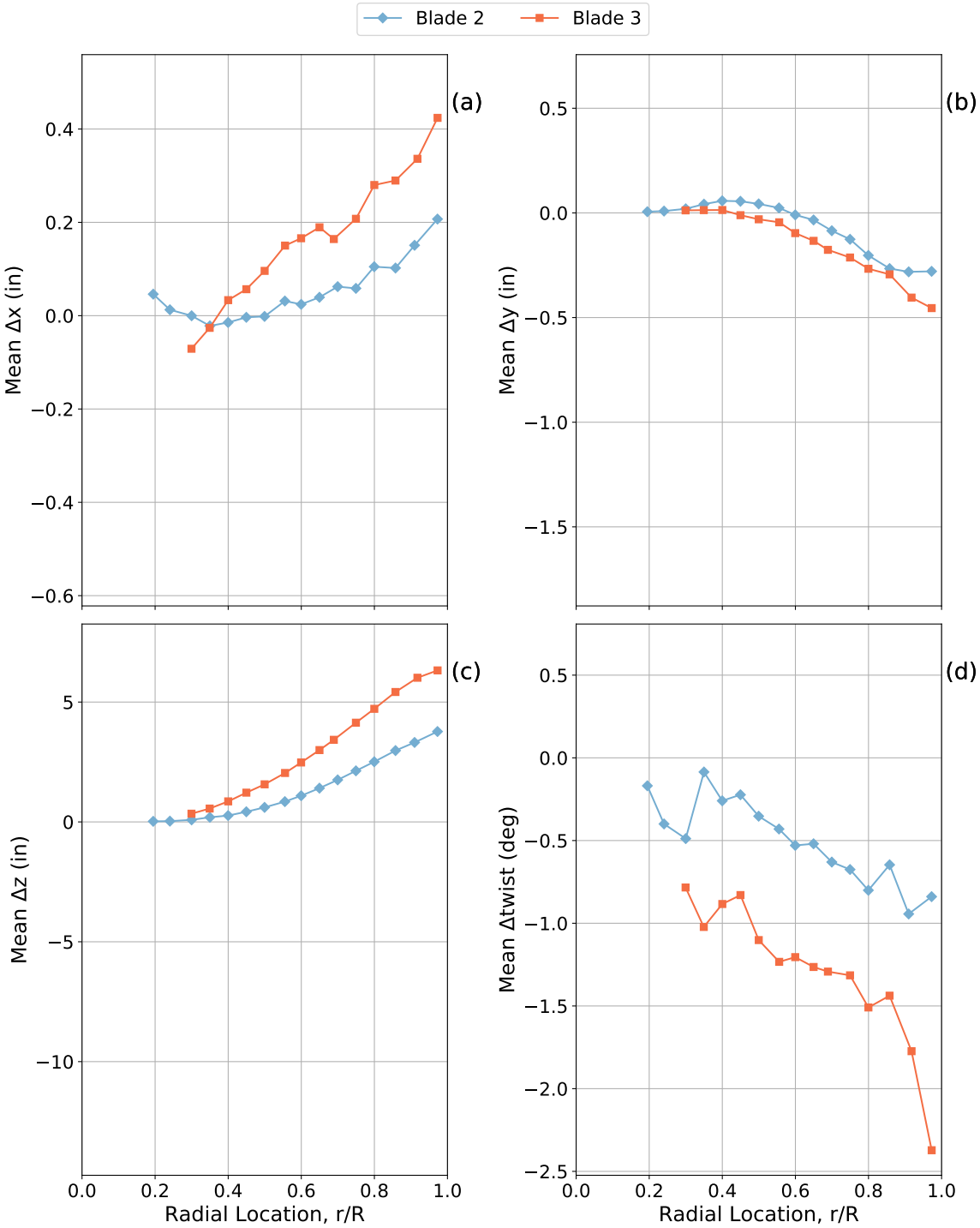


Figure 3.5-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0461	0.0024	0.0057	0.0011	0.0246	0.0068	-0.1690	0.0485
2	274.92	0.2405	0.0127	0.0011	0.0087	0.0016	0.0323	0.0113	-0.3996	0.0313
2	274.92	0.2999	-0.0002	0.0010	0.0196	0.0045	0.0858	0.0226	-0.4884	0.0865
2	274.92	0.3498	-0.0219	0.0026	0.0418	0.0072	0.1933	0.0339	-0.0855	0.0729
2	274.92	0.3998	-0.0146	0.0041	0.0577	0.0115	0.2643	0.0536	-0.2597	0.0745
2	274.92	0.4496	-0.0035	0.0027	0.0555	0.0137	0.4234	0.0628	-0.2230	0.0743
2	274.92	0.4995	-0.0016	0.0030	0.0430	0.0158	0.6062	0.0755	-0.3527	0.0613
2	274.92	0.5551	0.0314	0.0040	0.0238	0.0193	0.8466	0.0898	-0.4302	0.0628
2	274.92	0.5996	0.0243	0.0032	-0.0095	0.0209	1.0921	0.1047	-0.5295	0.0570
2	274.92	0.6497	0.0394	0.0036	-0.0337	0.0251	1.4087	0.1189	-0.5195	0.0706
2	274.92	0.6996	0.0622	0.0037	-0.0852	0.0280	1.7533	0.1360	-0.6301	0.0670
2	274.92	0.7495	0.0585	0.0047	-0.1261	0.0320	2.1312	0.1537	-0.6751	0.0600
2	274.92	0.7996	0.1049	0.0051	-0.2032	0.0360	2.5100	0.1692	-0.8007	0.0675
2	274.92	0.8578	0.1021	0.0060	-0.2659	0.0405	2.9765	0.1947	-0.6465	0.0720
2	274.92	0.9100	0.1508	0.0067	-0.2815	0.0448	3.3149	0.2149	-0.9438	0.0647
2	274.92	0.9727	0.2070	0.0087	-0.2792	0.0511	3.7705	0.2340	-0.8391	0.0678
3	274.92	0.2995	-0.0709	0.0105	0.0121	0.0064	0.3435	0.1375	-0.7837	0.4622
3	274.92	0.3493	-0.0261	0.0086	0.0133	0.0133	0.5573	0.2169	-1.0223	0.6042
3	274.92	0.4000	0.0333	0.0114	0.0138	0.0239	0.8566	0.3271	-0.8837	0.6042
3	274.92	0.4497	0.0567	0.0145	-0.0109	0.0332	1.2207	0.4277	-0.8296	0.5808
3	274.92	0.4997	0.0960	0.0164	-0.0306	0.0421	1.5679	0.5268	-1.1017	0.5815
3	274.92	0.5556	0.1502	0.0192	-0.0449	0.0523	2.0415	0.6334	-1.2333	0.5890
3	274.92	0.5995	0.1659	0.0227	-0.0966	0.0603	2.4795	0.7240	-1.2048	0.5732
3	274.92	0.6498	0.1894	0.0273	-0.1334	0.0702	2.9968	0.8249	-1.2644	0.5772
3	274.92	0.6890	0.1642	0.0306	-0.1765	0.0773	3.4255	0.9041	-1.2923	0.5691
3	274.92	0.7495	0.2076	0.0356	-0.2131	0.0891	4.1389	1.0254	-1.3149	0.5758
3	274.92	0.7998	0.2800	0.0395	-0.2669	0.1000	4.7182	1.1270	-1.5091	0.5862
3	274.92	0.8577	0.2896	0.0435	-0.2936	0.1104	5.4195	1.2426	-1.4378	0.5797
3	274.92	0.9178	0.3362	0.0490	-0.4046	0.1235	6.0142	1.3614	-1.7734	0.5698
3	274.92	0.9729	0.4239	0.0565	-0.4548	0.1353	6.3204	1.4719	-2.3722	0.5707

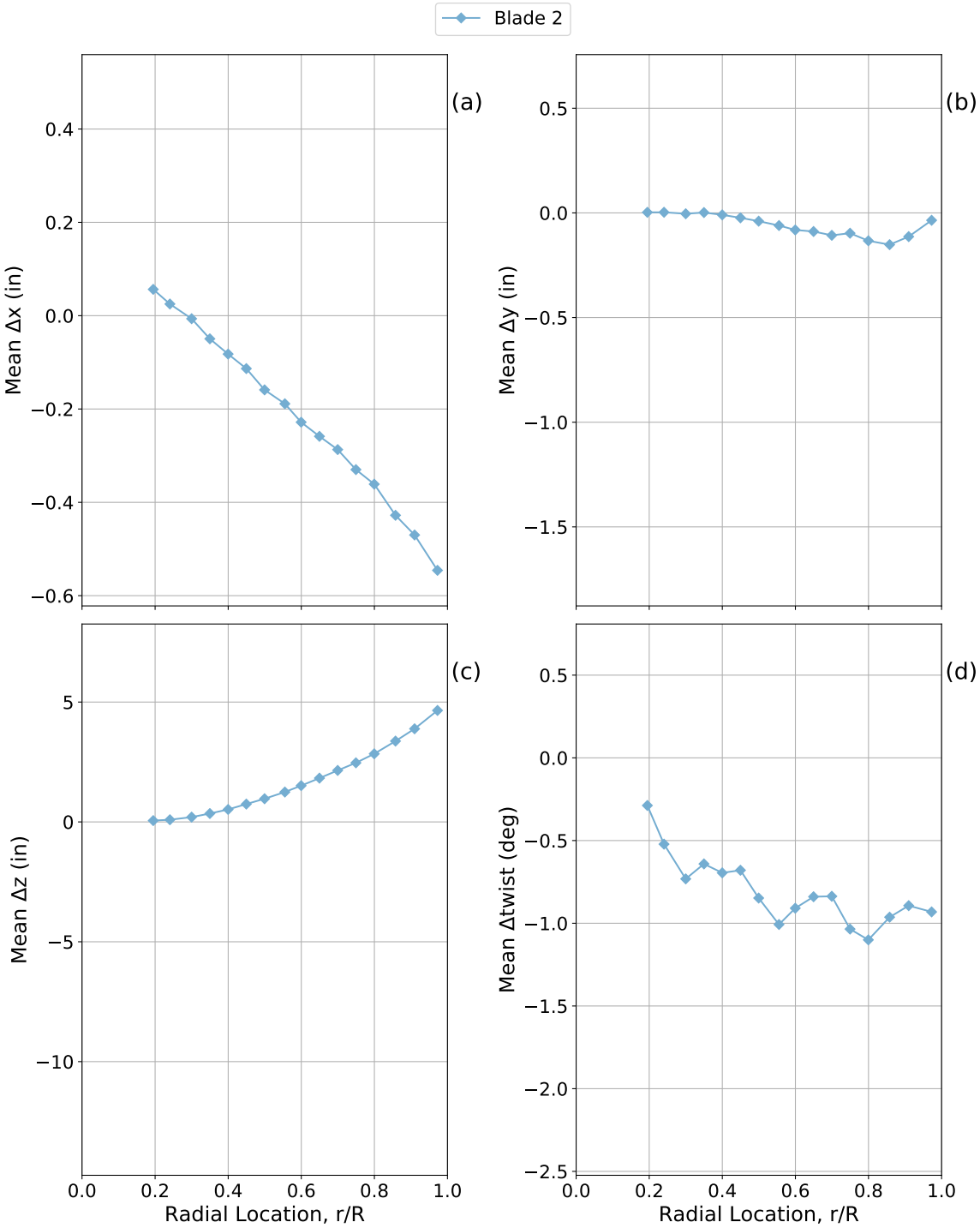


Figure 3.5-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0564	0.0041	0.0027	0.0012	0.0546	0.0094	-0.2880	0.0671
2	285.12	0.2405	0.0250	0.0016	0.0030	0.0020	0.0909	0.0171	-0.5217	0.0949
2	285.12	0.2999	-0.0065	0.0022	-0.0041	0.0062	0.2001	0.0317	-0.7318	0.1379
2	285.12	0.3498	-0.0496	0.0033	0.0017	0.0100	0.3503	0.0476	-0.6412	0.1463
2	285.12	0.3998	-0.0823	0.0032	-0.0093	0.0160	0.5198	0.0737	-0.6952	0.0716
2	285.12	0.4496	-0.1134	0.0053	-0.0235	0.0206	0.7442	0.0915	-0.6796	0.1363
2	285.12	0.4995	-0.1590	0.0058	-0.0395	0.0263	0.9667	0.1125	-0.8476	0.1056
2	285.12	0.5551	-0.1888	0.0083	-0.0603	0.0308	1.2467	0.1334	-1.0074	0.1182
2	285.12	0.5996	-0.2283	0.0065	-0.0814	0.0371	1.5128	0.1593	-0.9091	0.0988
2	285.12	0.6497	-0.2586	0.0073	-0.0889	0.0438	1.8266	0.1857	-0.8396	0.0983
2	285.12	0.6996	-0.2870	0.0080	-0.1071	0.0513	2.1478	0.2180	-0.8369	0.0981
2	285.12	0.7495	-0.3299	0.0086	-0.0970	0.0587	2.4652	0.2475	-1.0352	0.1002
2	285.12	0.7996	-0.3611	0.0099	-0.1332	0.0659	2.8412	0.2759	-1.1004	0.0917
2	285.12	0.8578	-0.4278	0.0114	-0.1517	0.0748	3.3716	0.3053	-0.9632	0.1221
2	285.12	0.9100	-0.4700	0.0128	-0.1132	0.0827	3.8847	0.3319	-0.8935	0.0966
2	285.12	0.9727	-0.5458	0.0166	-0.0353	0.0926	4.6500	0.3632	-0.9313	0.1084

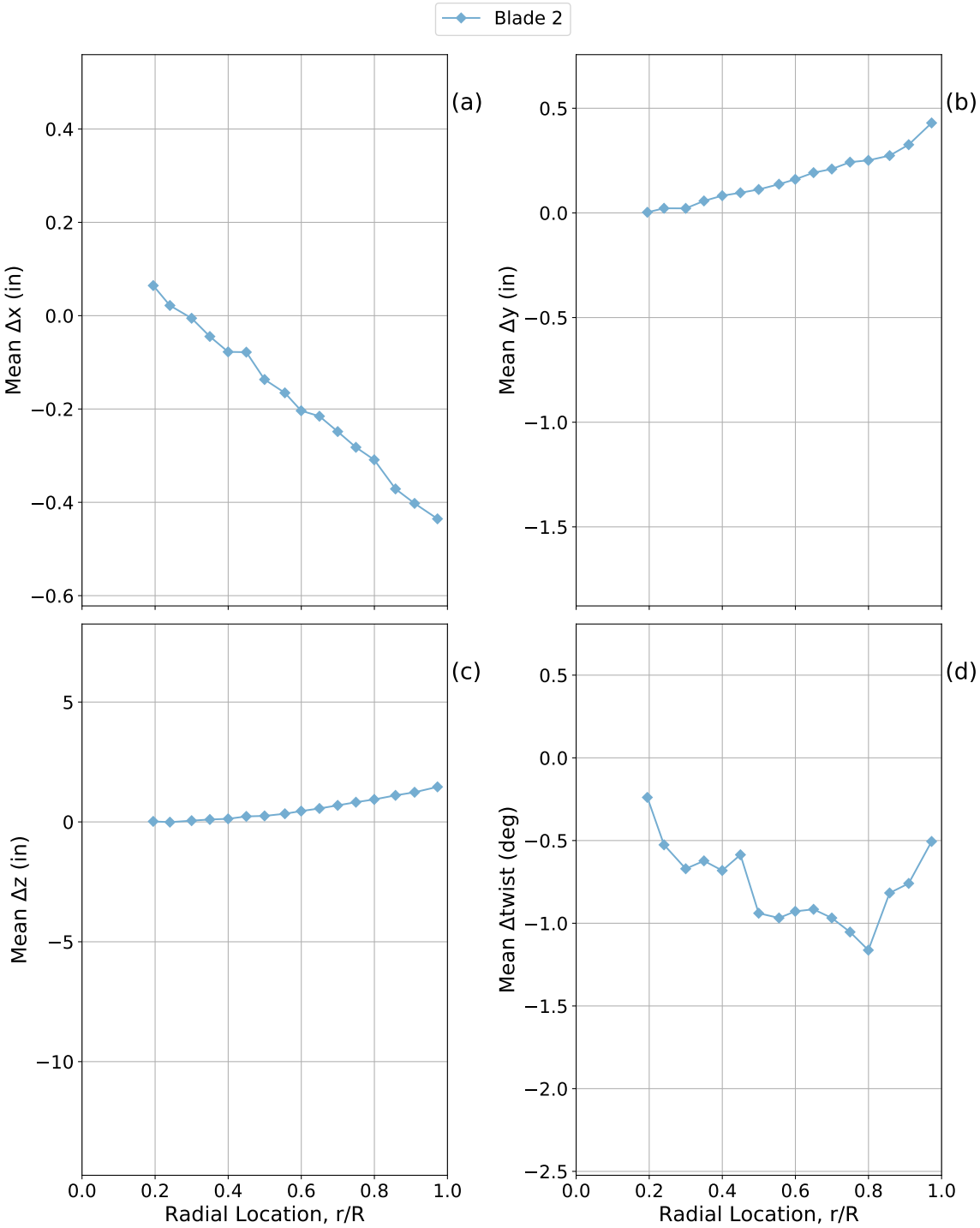


Figure 3.5-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0645	0.0020	0.0029	0.0016	0.0215	0.0062	-0.2392	0.0386
2	299.88	0.2405	0.0218	0.0023	0.0220	0.0024	-0.0100	0.0142	-0.5259	0.0823
2	299.88	0.2999	-0.0055	0.0040	0.0217	0.0050	0.0515	0.0251	-0.6705	0.0944
2	299.88	0.3498	-0.0446	0.0018	0.0572	0.0095	0.1011	0.0377	-0.6228	0.1115
2	299.88	0.3998	-0.0776	0.0036	0.0823	0.0139	0.1289	0.0598	-0.6811	0.0955
2	299.88	0.4496	-0.0782	0.0067	0.0962	0.0163	0.2297	0.0724	-0.5859	0.1058
2	299.88	0.4995	-0.1368	0.0037	0.1119	0.0222	0.2503	0.0959	-0.9394	0.0872
2	299.88	0.5551	-0.1654	0.0049	0.1371	0.0289	0.3405	0.1217	-0.9680	0.1102
2	299.88	0.5996	-0.2037	0.0038	0.1604	0.0373	0.4521	0.1559	-0.9279	0.0663
2	299.88	0.6497	-0.2155	0.0060	0.1923	0.0425	0.5608	0.1807	-0.9158	0.0962
2	299.88	0.6996	-0.2484	0.0057	0.2095	0.0497	0.6901	0.2187	-0.9680	0.1078
2	299.88	0.7495	-0.2821	0.0069	0.2425	0.0575	0.8222	0.2604	-1.0530	0.0994
2	299.88	0.7996	-0.3089	0.0070	0.2511	0.0653	0.9374	0.3090	-1.1626	0.1040
2	299.88	0.8578	-0.3713	0.0074	0.2737	0.0741	1.1074	0.3684	-0.8168	0.1119
2	299.88	0.9100	-0.4023	0.0093	0.3259	0.0821	1.2369	0.4257	-0.7591	0.1124
2	299.88	0.9727	-0.4354	0.0127	0.4298	0.0914	1.4617	0.4976	-0.5055	0.1243

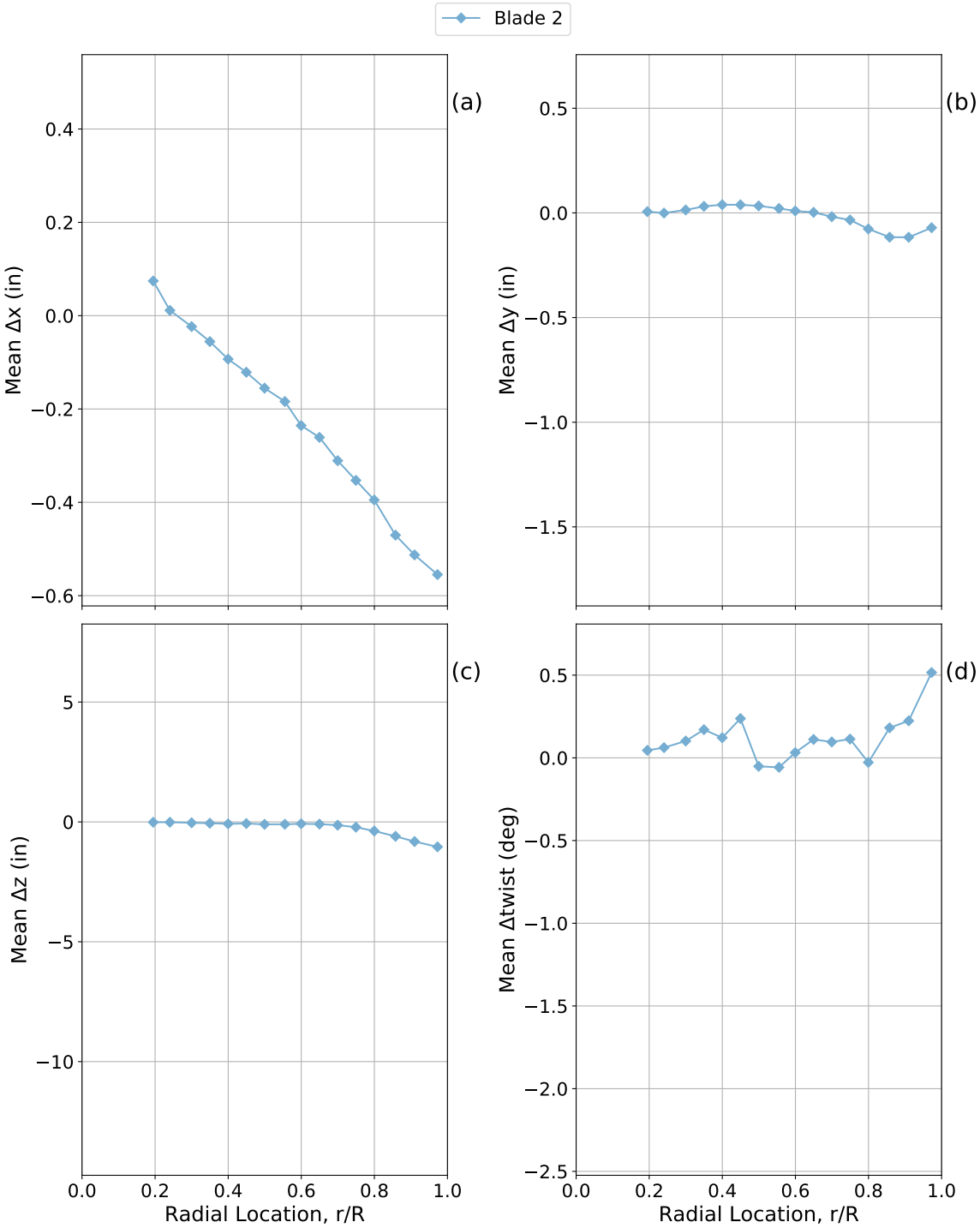


Figure 3.5-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0744	0.0013	0.0059	0.0008	-0.0139	0.0022	0.0453	0.0336
2	315	0.2405	0.0113	0.0019	-0.0007	0.0018	-0.0134	0.0080	0.0618	0.0368
2	315	0.2999	-0.0234	0.0038	0.0142	0.0024	-0.0376	0.0126	0.1018	0.0621
2	315	0.3498	-0.0556	0.0026	0.0312	0.0049	-0.0551	0.0183	0.1704	0.0652
2	315	0.3998	-0.0931	0.0027	0.0390	0.0065	-0.0790	0.0320	0.1217	0.0454
2	315	0.4496	-0.1212	0.0026	0.0387	0.0070	-0.0680	0.0412	0.2375	0.0626
2	315	0.4995	-0.1553	0.0033	0.0335	0.0102	-0.1003	0.0446	-0.0512	0.0655
2	315	0.5551	-0.1840	0.0031	0.0212	0.0131	-0.0981	0.0621	-0.0574	0.1877
2	315	0.5996	-0.2355	0.0042	0.0095	0.0161	-0.0773	0.0609	0.0318	0.0568
2	315	0.6497	-0.2608	0.0048	0.0025	0.0184	-0.0915	0.0710	0.1112	0.0712
2	315	0.6996	-0.3108	0.0041	-0.0182	0.0222	-0.1361	0.0754	0.0961	0.0717
2	315	0.7495	-0.3529	0.0047	-0.0338	0.0264	-0.2200	0.0861	0.1134	0.0757
2	315	0.7996	-0.3950	0.0052	-0.0767	0.0310	-0.3788	0.1000	-0.0276	0.0616
2	315	0.8578	-0.4704	0.0054	-0.1161	0.0359	-0.6010	0.1236	0.1817	0.0484
2	315	0.9100	-0.5127	0.0055	-0.1164	0.0406	-0.8188	0.1478	0.2237	0.0471
2	315	0.9727	-0.5549	0.0077	-0.0708	0.0466	-1.0402	0.1813	0.5158	0.0582

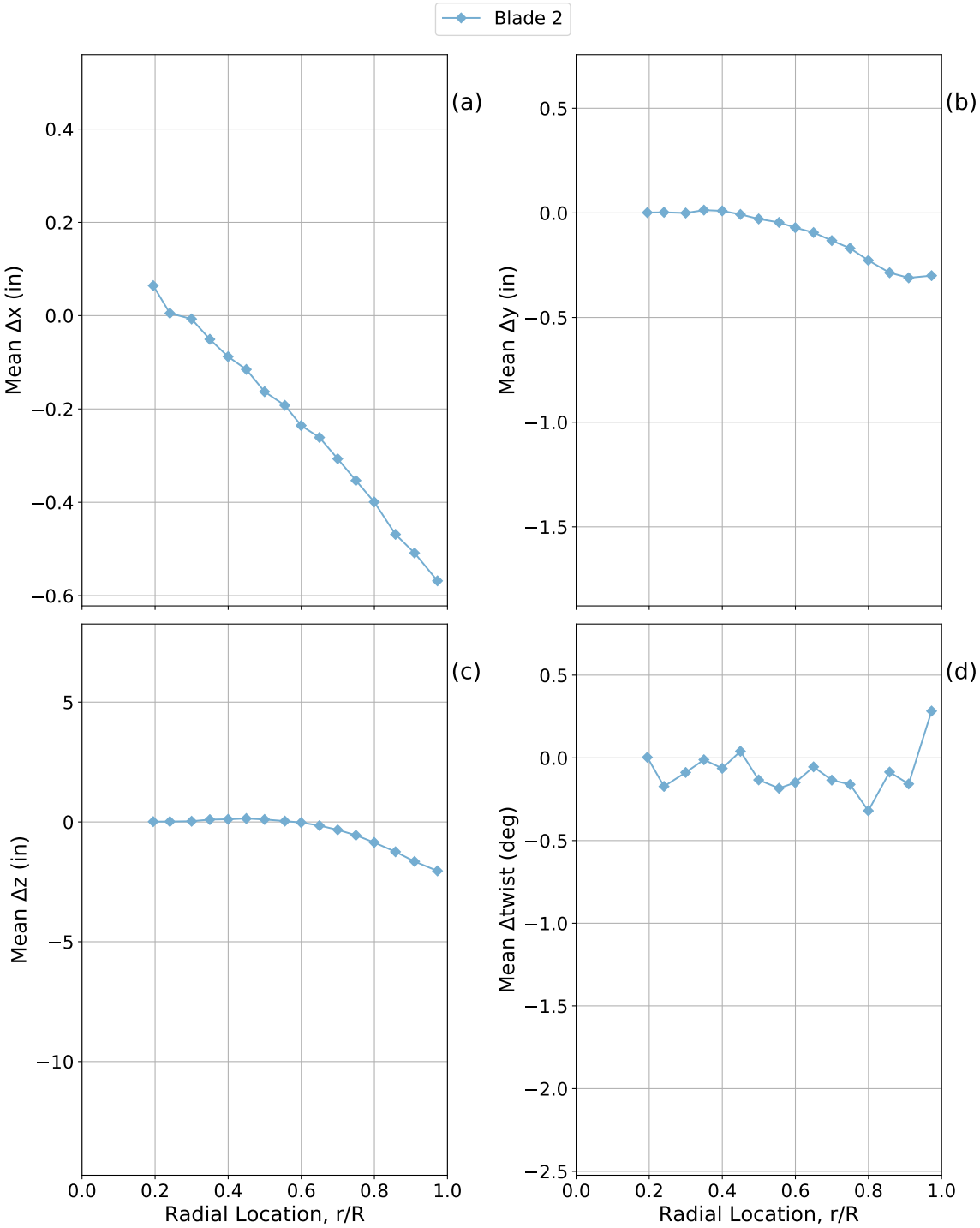


Figure 3.5-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0644	0.0026	0.0017	0.0005	0.0141	0.0040	0.0035	0.0399
2	330.12	0.2405	0.0051	0.0022	0.0030	0.0018	0.0166	0.0059	-0.1725	0.0690
2	330.12	0.2999	-0.0072	0.0021	-0.0003	0.0021	0.0295	0.0131	-0.0881	0.0978
2	330.12	0.3498	-0.0507	0.0033	0.0135	0.0040	0.0988	0.0234	-0.0112	0.0768
2	330.12	0.3998	-0.0879	0.0028	0.0098	0.0062	0.1120	0.0340	-0.0633	0.1042
2	330.12	0.4496	-0.1153	0.0042	-0.0070	0.0110	0.1429	0.0403	0.0400	0.1209
2	330.12	0.4995	-0.1630	0.0070	-0.0286	0.0118	0.1038	0.0569	-0.1332	0.0679
2	330.12	0.5551	-0.1923	0.0054	-0.0453	0.0122	0.0356	0.0656	-0.1837	0.0839
2	330.12	0.5996	-0.2356	0.0045	-0.0704	0.0173	-0.0248	0.0739	-0.1492	0.1168
2	330.12	0.6497	-0.2611	0.0055	-0.0936	0.0238	-0.1515	0.0863	-0.0543	0.0832
2	330.12	0.6996	-0.3068	0.0076	-0.1322	0.0274	-0.3289	0.1010	-0.1345	0.0922
2	330.12	0.7495	-0.3534	0.0065	-0.1688	0.0323	-0.5555	0.1144	-0.1606	0.1056
2	330.12	0.7996	-0.3993	0.0063	-0.2268	0.0388	-0.8557	0.1321	-0.3200	0.0825
2	330.12	0.8578	-0.4687	0.0086	-0.2857	0.0457	-1.2443	0.1481	-0.0857	0.1033
2	330.12	0.9100	-0.5087	0.0079	-0.3101	0.0513	-1.6480	0.1672	-0.1576	0.0945
2	330.12	0.9727	-0.5683	0.0095	-0.2997	0.0603	-2.0413	0.1959	0.2830	0.0949

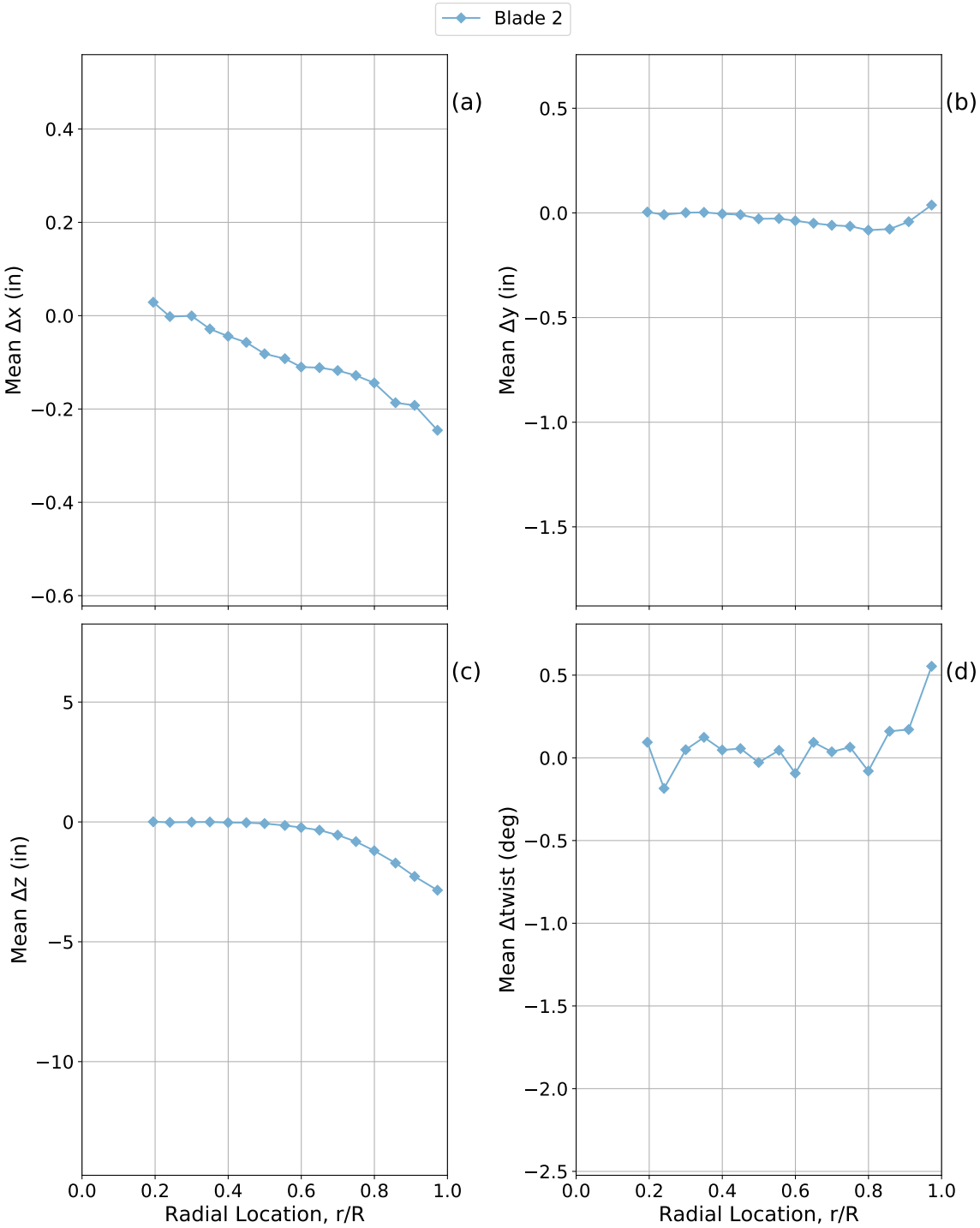


Figure 3.5-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0288	0.0031	0.0041	0.0016	0.0061	0.0048	0.0943	0.0266
2	344.88	0.2405	-0.0019	0.0016	-0.0085	0.0031	-0.0177	0.0081	-0.1849	0.0520
2	344.88	0.2999	-0.0005	0.0017	0.0011	0.0069	-0.0089	0.0153	0.0492	0.0656
2	344.88	0.3498	-0.0285	0.0021	0.0025	0.0130	-0.0028	0.0239	0.1240	0.0566
2	344.88	0.3998	-0.0441	0.0028	-0.0045	0.0197	-0.0280	0.0356	0.0474	0.0594
2	344.88	0.4496	-0.0573	0.0028	-0.0086	0.0259	-0.0322	0.0450	0.0559	0.0630
2	344.88	0.4995	-0.0817	0.0047	-0.0282	0.0320	-0.0686	0.0598	-0.0280	0.0947
2	344.88	0.5551	-0.0922	0.0062	-0.0270	0.0391	-0.1479	0.0714	0.0454	0.0727
2	344.88	0.5996	-0.1101	0.0088	-0.0376	0.0439	-0.2331	0.0961	-0.0935	0.0901
2	344.88	0.6497	-0.1114	0.0119	-0.0494	0.0489	-0.3440	0.1053	0.0937	0.0563
2	344.88	0.6996	-0.1176	0.0150	-0.0591	0.0572	-0.5490	0.1232	0.0364	0.0759
2	344.88	0.7495	-0.1282	0.0191	-0.0637	0.0656	-0.8212	0.1477	0.0644	0.0716
2	344.88	0.7996	-0.1442	0.0233	-0.0824	0.0756	-1.2022	0.1723	-0.0799	0.0800
2	344.88	0.8578	-0.1866	0.0288	-0.0772	0.0867	-1.7164	0.2083	0.1608	0.0785
2	344.88	0.9100	-0.1922	0.0341	-0.0421	0.0954	-2.2753	0.2390	0.1713	0.0719
2	344.88	0.9727	-0.2456	0.0385	0.0375	0.1071	-2.8495	0.2788	0.5535	0.1163

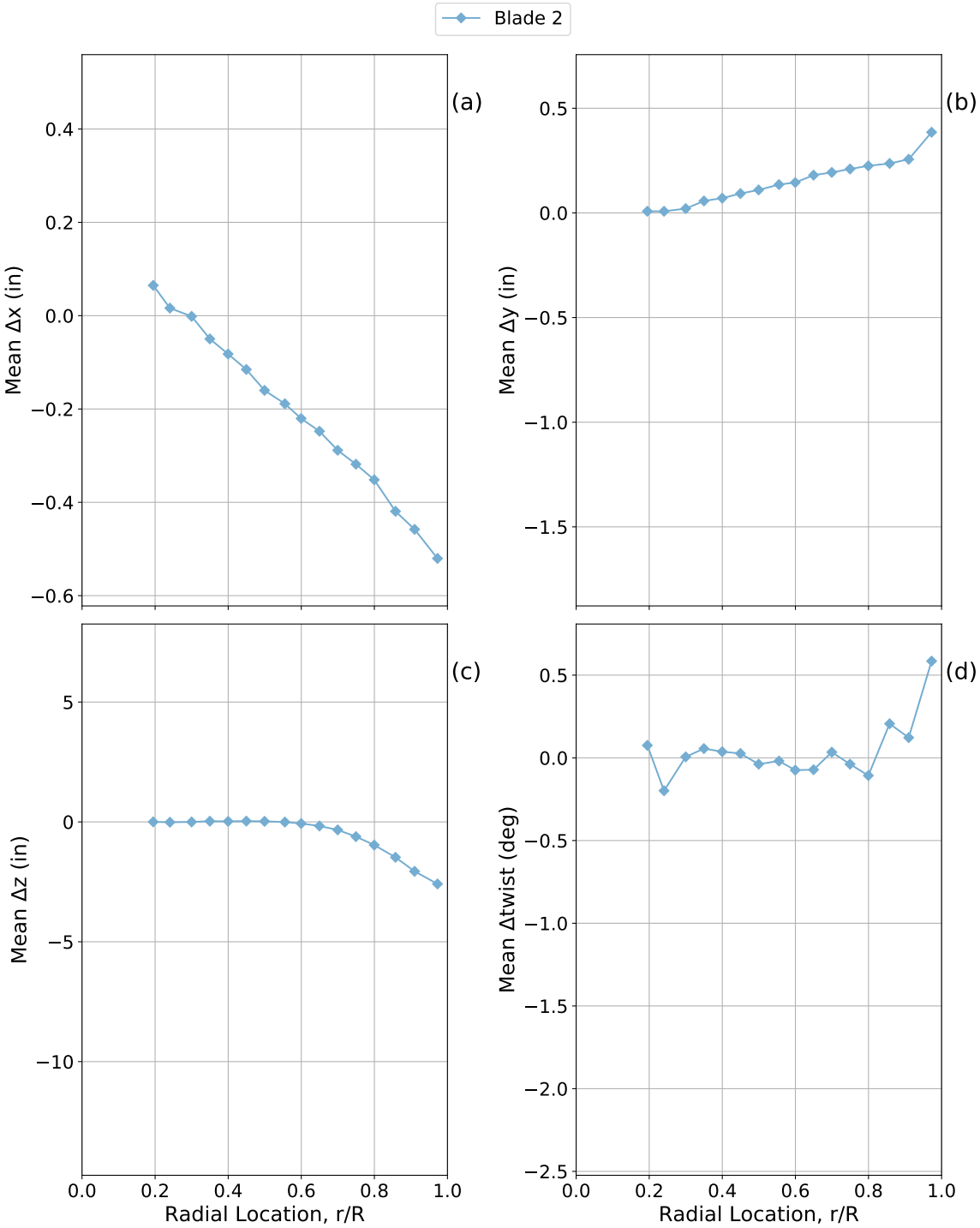


Figure 3.5-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0649	0.0043	0.0078	0.0012	0.0017	0.0058	0.0754	0.0341
2	350.16	0.2405	0.0162	0.0036	0.0077	0.0034	-0.0127	0.0056	-0.1989	0.0647
2	350.16	0.2999	-0.0015	0.0040	0.0206	0.0088	-0.0015	0.0153	0.0060	0.0798
2	350.16	0.3498	-0.0498	0.0031	0.0572	0.0112	0.0291	0.0219	0.0560	0.0928
2	350.16	0.3998	-0.0822	0.0028	0.0704	0.0214	0.0239	0.0333	0.0372	0.0844
2	350.16	0.4496	-0.1153	0.0026	0.0924	0.0221	0.0339	0.0473	0.0264	0.0873
2	350.16	0.4995	-0.1601	0.0027	0.1097	0.0275	0.0238	0.0556	-0.0382	0.0735
2	350.16	0.5551	-0.1888	0.0023	0.1354	0.0342	-0.0049	0.0680	-0.0191	0.0802
2	350.16	0.5996	-0.2204	0.0031	0.1451	0.0405	-0.0670	0.0759	-0.0744	0.0739
2	350.16	0.6497	-0.2477	0.0029	0.1803	0.0451	-0.1694	0.0854	-0.0718	0.0998
2	350.16	0.6996	-0.2885	0.0028	0.1934	0.0508	-0.3327	0.1001	0.0344	0.0772
2	350.16	0.7495	-0.3183	0.0028	0.2097	0.0570	-0.6144	0.1103	-0.0382	0.1017
2	350.16	0.7996	-0.3517	0.0030	0.2249	0.0629	-0.9648	0.1226	-0.1071	0.0882
2	350.16	0.8578	-0.4193	0.0027	0.2361	0.0693	-1.4761	0.1333	0.2062	0.1022
2	350.16	0.9100	-0.4579	0.0037	0.2562	0.0760	-2.0612	0.1469	0.1222	0.0924
2	350.16	0.9727	-0.5203	0.0051	0.3854	0.0846	-2.5879	0.1628	0.5849	0.0986

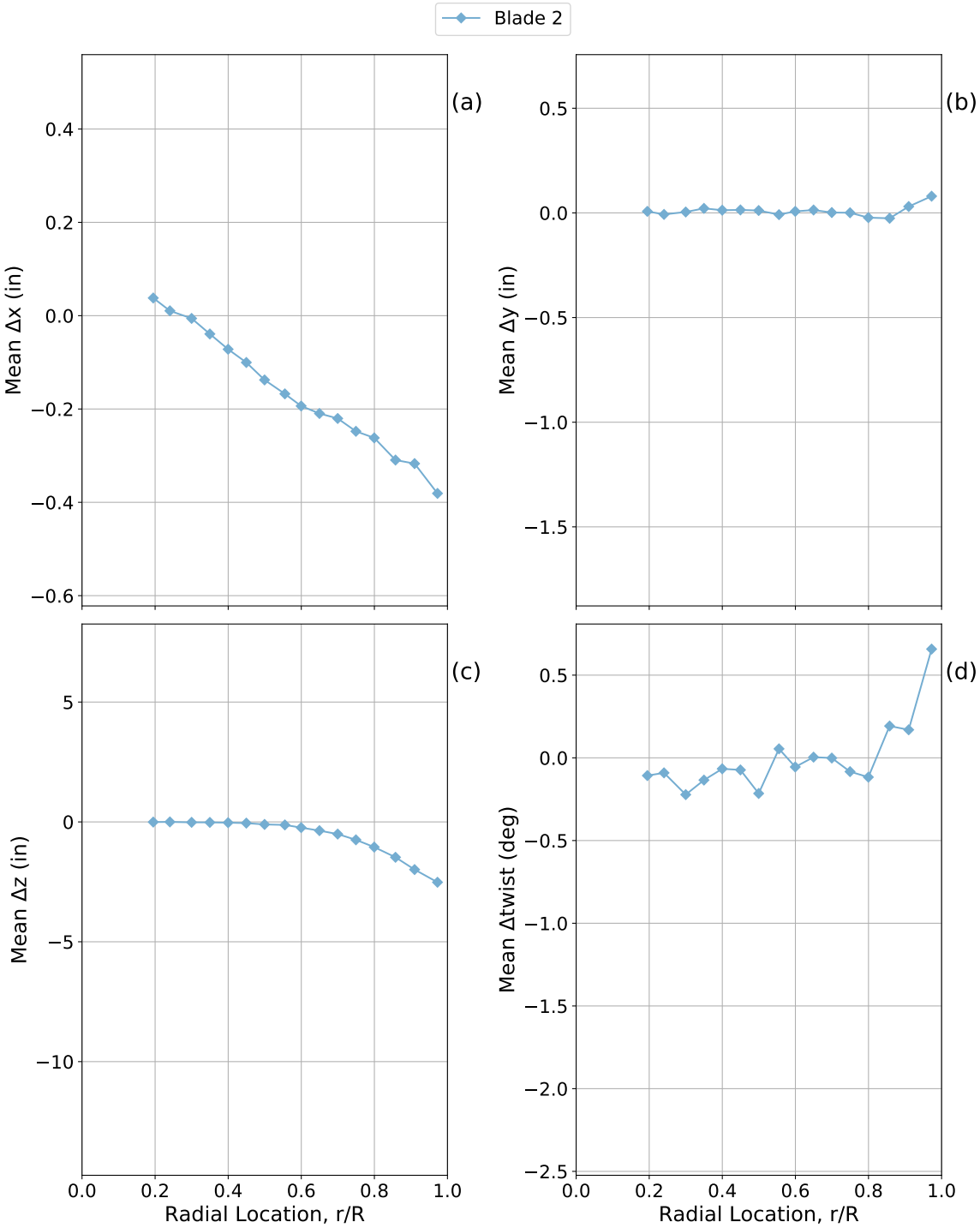


Figure 3.5-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.241, α = -0° NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Table 3.5-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.241, α = -0°
NFAC run 45, point 52. BD run 21, points 2117 to 2127.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0379	0.0027	0.0073	0.0020	-0.0066	0.0064	-0.1073	0.0463
2	355.08	0.2405	0.0104	0.0011	-0.0073	0.0034	0.0001	0.0121	-0.0907	0.1058
2	355.08	0.2999	-0.0059	0.0014	0.0044	0.0055	-0.0176	0.0199	-0.2223	0.1218
2	355.08	0.3498	-0.0392	0.0020	0.0216	0.0129	-0.0204	0.0384	-0.1344	0.1170
2	355.08	0.3998	-0.0720	0.0016	0.0129	0.0173	-0.0312	0.0538	-0.0663	0.1171
2	355.08	0.4496	-0.1003	0.0026	0.0142	0.0224	-0.0501	0.0715	-0.0730	0.1132
2	355.08	0.4995	-0.1377	0.0026	0.0114	0.0265	-0.1051	0.0875	-0.2154	0.1304
2	355.08	0.5551	-0.1676	0.0029	-0.0083	0.0327	-0.1256	0.1054	0.0545	0.1417
2	355.08	0.5996	-0.1936	0.0016	0.0073	0.0369	-0.2382	0.1183	-0.0551	0.1199
2	355.08	0.6497	-0.2096	0.0027	0.0138	0.0411	-0.3645	0.1305	0.0043	0.1448
2	355.08	0.6996	-0.2203	0.0025	0.0017	0.0465	-0.5070	0.1478	-0.0012	0.1276
2	355.08	0.7495	-0.2478	0.0028	0.0007	0.0519	-0.7473	0.1675	-0.0833	0.1284
2	355.08	0.7996	-0.2619	0.0033	-0.0226	0.0584	-1.0507	0.1839	-0.1167	0.0980
2	355.08	0.8578	-0.3094	0.0056	-0.0258	0.0641	-1.4753	0.2081	0.1925	0.1265
2	355.08	0.9100	-0.3170	0.0057	0.0304	0.0659	-1.9875	0.2310	0.1695	0.1183
2	355.08	0.9727	-0.3809	0.0096	0.0798	0.0774	-2.5179	0.2714	0.6576	0.1456

3.6 Run 47, Point 9

3.6.1 Pitch, Flap, and Lag

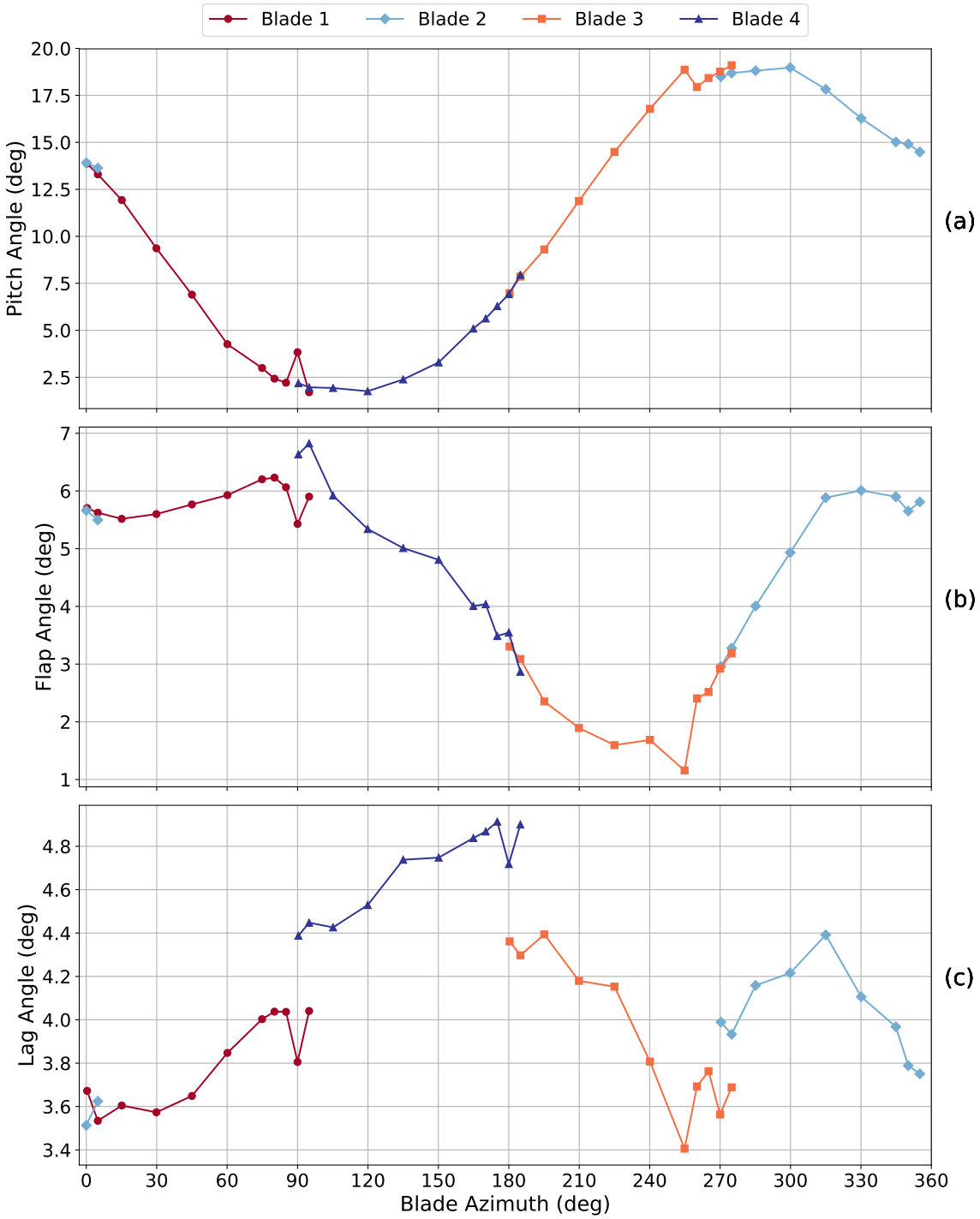


Figure 3.6-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	13.9108	5.6621	3.5131	0.5559	0.4711	0.2514
0.35	1	13.8699	5.7044	3.6721	0.0985	0.0529	0.0625
4.92	1	13.2982	5.6234	3.5341	0.1157	0.1144	0.0456
4.92	2	13.6321	5.4978	3.6242	0.0806	0.0516	0.0317
15.12	1	11.9297	5.5173	3.6047	0.1166	0.1826	0.0942
29.88	1	9.3610	5.6000	3.5732	0.1109	0.0367	0.0270
45	1	6.8949	5.7669	3.6488	0.0951	0.0619	0.0372
60.12	1	4.2605	5.9280	3.8472	0.0614	0.0454	0.0270
74.88	1	2.9944	6.2027	4.0027	0.0661	0.0809	0.0260
80.16	1	2.4278	6.2313	4.0376	0.0541	0.0513	0.0269
85.08	1	2.2102	6.0641	4.0365	0.1859	0.0727	0.0455
90	1	3.8329	5.4292	3.8053	0.2374	0.1076	0.0341
90.35	4	2.1853	6.6330	4.3876	0.0667	0.0709	0.0467
94.92	1	1.7044	5.9019	4.0402	0.1649	0.0846	0.0381
94.92	4	1.9667	6.8238	4.4475	0.0896	0.1311	0.0477
105.12	4	1.9309	5.9203	4.4261	0.0449	0.1035	0.0480
119.88	4	1.7579	5.3404	4.5290	0.0519	0.0940	0.0229
135	4	2.3860	5.0103	4.7379	0.0279	0.1520	0.0279
150.12	4	3.2910	4.8072	4.7478	0.0344	0.0473	0.0191
164.88	4	5.0899	4.0059	4.8380	0.0532	0.1721	0.0408
170.16	4	5.6294	4.0381	4.8683	0.0490	0.1071	0.0226
175.08	4	6.2850	3.4868	4.9136	0.0894	0.4093	0.0561
180	4	6.9229	3.5464	4.7180	0.0527	0.0828	0.0343
180.35	3	6.9795	3.3032	4.3614	0.0869	0.1003	0.0631
184.92	3	7.8554	3.0872	4.2973	0.0941	0.2920	0.0457
184.92	4	7.9517	2.8667	4.9003	0.0501	0.1464	0.0448
195.12	3	9.3013	2.3529	4.3936	0.0426	0.3234	0.0664
209.88	3	11.8809	1.8941	4.1794	0.0627	0.0699	0.0359
225	3	14.4919	1.5958	4.1527	0.0599	0.1157	0.0254
240.12	3	16.7842	1.6860	3.8074	0.0666	0.0596	0.0227
254.88	3	18.8660	1.1567	3.4054	0.2602	0.1977	0.1266
260.16	3	17.9462	2.4055	3.6927	0.0420	0.0350	0.0214
265.08	3	18.4230	2.5175	3.7627	0.0402	0.0794	0.0889
270	3	18.7648	2.9226	3.5633	0.0448	0.0406	0.0384
270.35	2	18.4929	2.9586	3.9896	0.0583	0.0871	0.1093
274.92	2	18.6863	3.2782	3.9330	0.0631	0.1056	0.0535
274.92	3	19.1049	3.1847	3.6885	0.0523	0.0614	0.0268
285.12	2	18.8110	4.0057	4.1585	0.0421	0.0474	0.0966
299.88	2	18.9769	4.9334	4.2157	0.0723	0.0259	0.0255
315	2	17.8218	5.8841	4.3914	0.0636	0.0654	0.0242
330.12	2	16.2767	6.0087	4.1061	0.0432	0.0796	0.0365
344.88	2	15.0233	5.9002	3.9676	0.1703	0.0756	0.0366
350.16	2	14.9111	5.6521	3.7886	0.1539	0.0658	0.0309
355.08	2	14.4890	5.8104	3.7507	0.0965	0.1308	0.0755

3.6.2 Spanwise Elastic Deformations

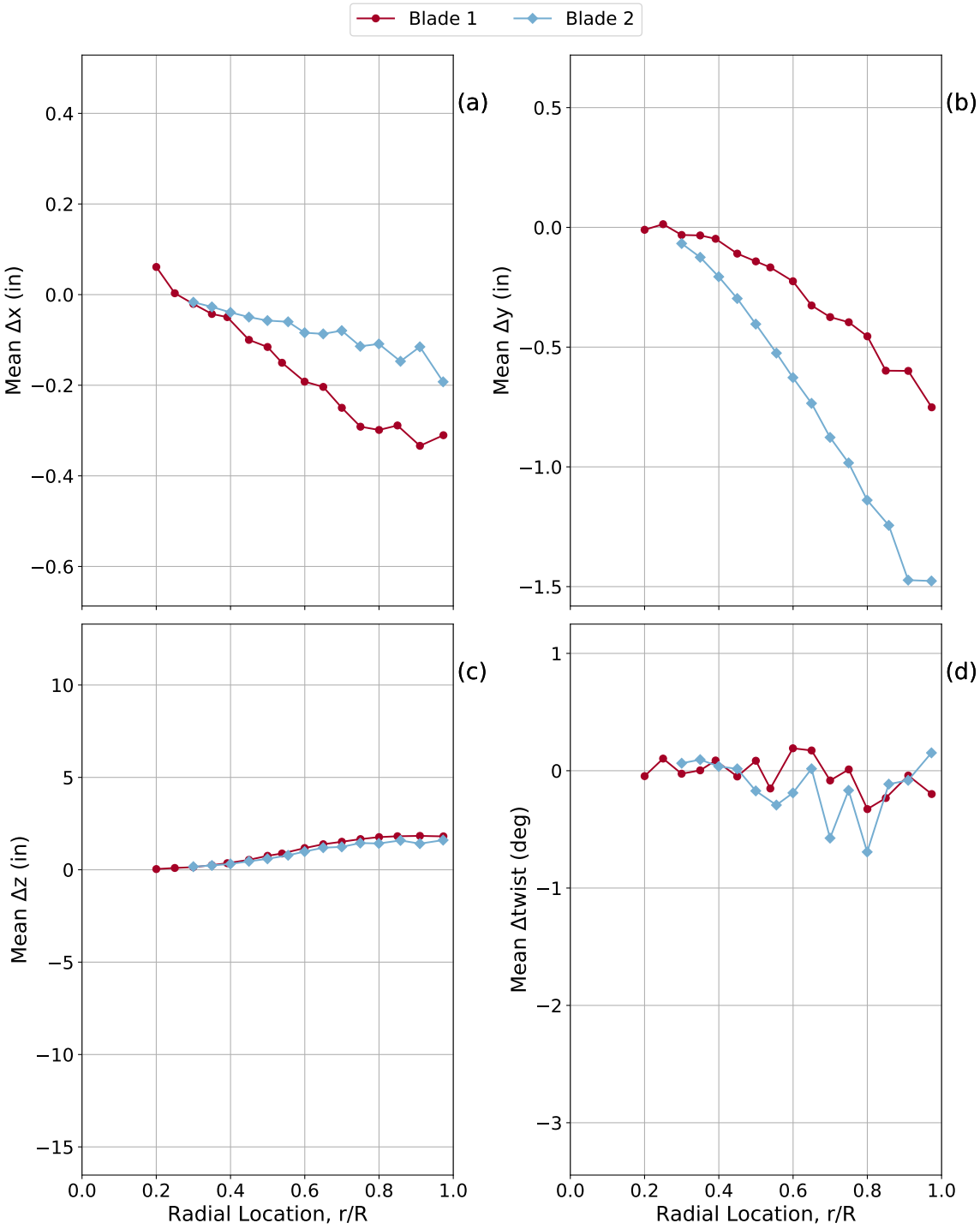


Figure 3.6-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0610	0.0030	-0.0101	0.0016	0.0380	0.0048	-0.0461	0.0575
1	0.35	0.2499	0.0030	0.0017	0.0132	0.0052	0.0974	0.0118	0.1034	0.0763
1	0.35	0.2998	-0.0205	0.0017	-0.0318	0.0063	0.1419	0.0151	-0.0257	0.1070
1	0.35	0.3498	-0.0427	0.0028	-0.0336	0.0129	0.2489	0.0234	0.0032	0.1030
1	0.35	0.3913	-0.0497	0.0027	-0.0477	0.0178	0.3562	0.0324	0.0872	0.0854
1	0.35	0.4496	-0.0999	0.0030	-0.1096	0.0237	0.5373	0.0418	-0.0491	0.0824
1	0.35	0.4997	-0.1156	0.0031	-0.1420	0.0286	0.7549	0.0477	0.0851	0.0846
1	0.35	0.5387	-0.1504	0.0040	-0.1671	0.0330	0.8814	0.0522	-0.1515	0.0982
1	0.35	0.5996	-0.1921	0.0040	-0.2250	0.0382	1.1737	0.0599	0.1911	0.1107
1	0.35	0.6498	-0.2037	0.0041	-0.3262	0.0444	1.3815	0.0731	0.1727	0.0886
1	0.35	0.6998	-0.2498	0.0048	-0.3746	0.0499	1.5164	0.0833	-0.0831	0.0970
1	0.35	0.7500	-0.2915	0.0052	-0.3961	0.0559	1.6601	0.1003	0.0109	0.1155
1	0.35	0.8001	-0.2987	0.0055	-0.4550	0.0616	1.7677	0.1182	-0.3271	0.1171
1	0.35	0.8497	-0.2888	0.0065	-0.5984	0.0714	1.8144	0.1316	-0.2326	0.1201
1	0.35	0.9102	-0.3337	0.0057	-0.5993	0.0803	1.8335	0.1578	-0.0410	0.1281
1	0.35	0.9734	-0.3103	0.0092	-0.7514	0.0893	1.8077	0.1860	-0.1987	0.1071
2	0	0.2999	-0.0168	0.0150	-0.0674	0.0263	0.1670	0.1615	0.0637	0.4097
2	0	0.3498	-0.0271	0.0108	-0.1249	0.0504	0.2322	0.2499	0.0944	0.5378
2	0	0.3998	-0.0393	0.0121	-0.2062	0.0848	0.3148	0.3687	0.0366	0.5008
2	0	0.4496	-0.0496	0.0145	-0.2971	0.1159	0.4572	0.4784	0.0162	0.5360
2	0	0.4995	-0.0573	0.0177	-0.4039	0.1502	0.5923	0.6023	-0.1720	0.5001
2	0	0.5551	-0.0600	0.0225	-0.5249	0.1869	0.7832	0.7312	-0.2926	0.5203
2	0	0.5996	-0.0841	0.0261	-0.6273	0.2159	0.9848	0.8406	-0.1892	0.4967
2	0	0.6497	-0.0867	0.0298	-0.7348	0.2494	1.1940	0.9544	0.0168	0.5494
2	0	0.6996	-0.0795	0.0328	-0.8770	0.2864	1.2384	1.0637	-0.5744	0.6433
2	0	0.7495	-0.1141	0.0358	-0.9835	0.3213	1.4458	1.1826	-0.1672	0.6470
2	0	0.7996	-0.1089	0.0390	-1.1391	0.3553	1.4240	1.3025	-0.6925	0.7027
2	0	0.8578	-0.1472	0.0468	-1.2443	0.3887	1.5875	1.4679	-0.1142	0.5116
2	0	0.9100	-0.1152	0.0487	-1.4730	0.4149	1.4141	1.6124	-0.0818	0.4822
2	0	0.9727	-0.1925	0.0667	-1.4765	0.4576	1.6048	1.7710	0.1524	0.4327

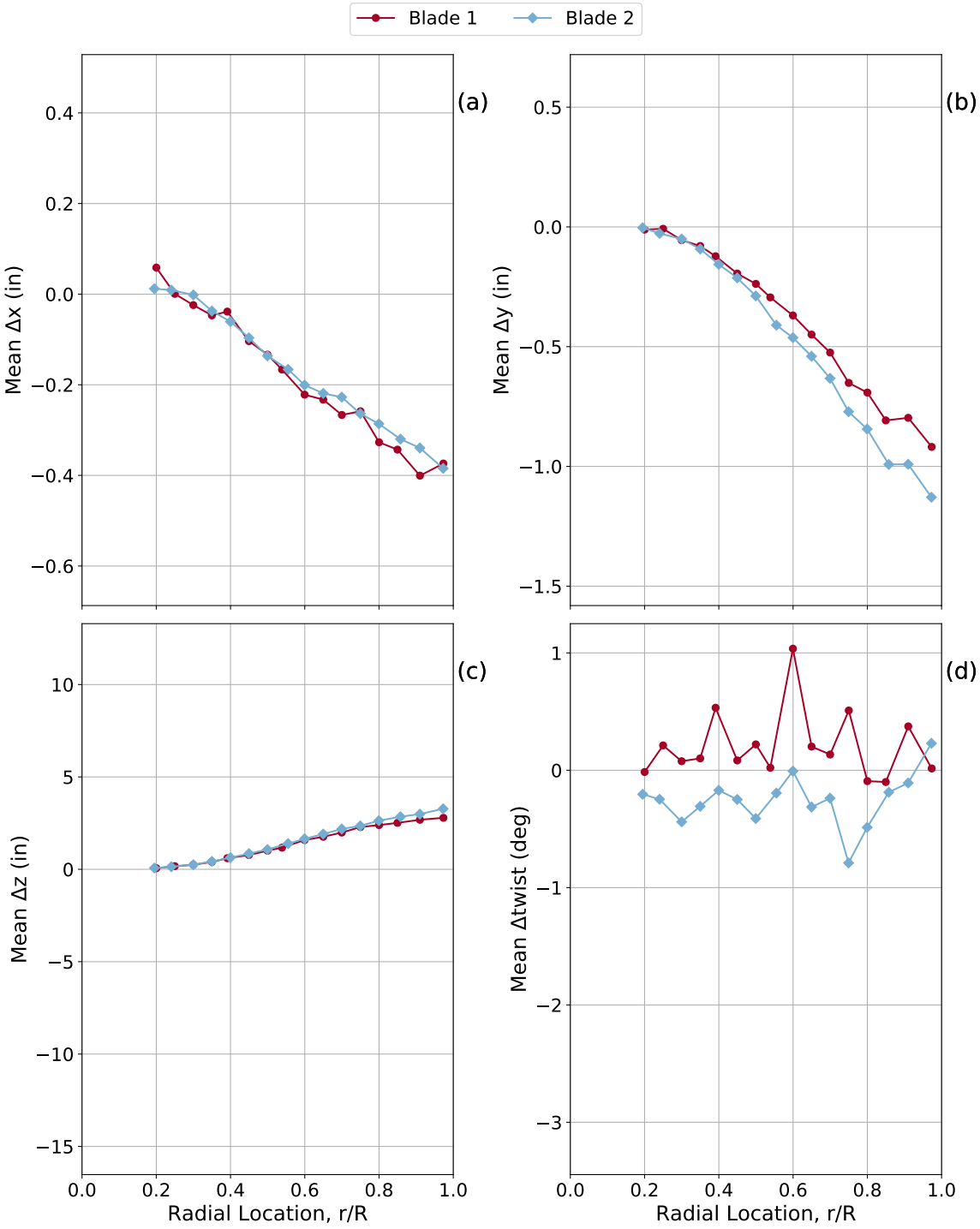


Figure 3.6-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0586	0.0036	-0.0113	0.0022	0.0593	0.0087	-0.0147	0.0530
1	4.92	0.2499	0.0007	0.0026	-0.0077	0.0053	0.1691	0.0139	0.2118	0.0924
1	4.92	0.2998	-0.0241	0.0026	-0.0552	0.0113	0.2451	0.0265	0.0771	0.1064
1	4.92	0.3498	-0.0469	0.0029	-0.0797	0.0193	0.3986	0.0393	0.1013	0.1026
1	4.92	0.3913	-0.0385	0.0040	-0.1225	0.0289	0.6016	0.0563	0.5327	0.0875
1	4.92	0.4496	-0.1037	0.0043	-0.1946	0.0362	0.7722	0.0772	0.0838	0.0903
1	4.92	0.4997	-0.1335	0.0044	-0.2379	0.0450	1.0072	0.0909	0.2205	0.1076
1	4.92	0.5387	-0.1664	0.0053	-0.2943	0.0498	1.1723	0.1063	0.0215	0.0909
1	4.92	0.5996	-0.2218	0.0092	-0.3697	0.0574	1.5839	0.1221	1.0361	0.1607
1	4.92	0.6498	-0.2328	0.0065	-0.4495	0.0662	1.7608	0.1443	0.2019	0.0908
1	4.92	0.6998	-0.2666	0.0068	-0.5247	0.0742	1.9891	0.1630	0.1342	0.0947
1	4.92	0.7500	-0.2585	0.0083	-0.6513	0.0856	2.2893	0.1812	0.5095	0.0977
1	4.92	0.8001	-0.3269	0.0075	-0.6917	0.0898	2.3948	0.2031	-0.0926	0.0864
1	4.92	0.8497	-0.3431	0.0076	-0.8079	0.1016	2.5144	0.2206	-0.1001	0.0917
1	4.92	0.9102	-0.4006	0.0085	-0.7972	0.1133	2.6813	0.2448	0.3741	0.1619
1	4.92	0.9734	-0.3738	0.0102	-0.9186	0.1273	2.7878	0.2878	0.0154	0.1094
2	4.92	0.1949	0.0120	0.0021	-0.0034	0.0013	0.0699	0.0045	-0.2047	0.0469
2	4.92	0.2405	0.0090	0.0016	-0.0272	0.0023	0.1396	0.0110	-0.2473	0.0497
2	4.92	0.2999	-0.0017	0.0013	-0.0504	0.0038	0.2483	0.0148	-0.4397	0.0850
2	4.92	0.3498	-0.0372	0.0020	-0.0922	0.0082	0.4277	0.0257	-0.3075	0.0592
2	4.92	0.3998	-0.0606	0.0032	-0.1564	0.0110	0.6341	0.0388	-0.1709	0.0923
2	4.92	0.4496	-0.0964	0.0025	-0.2130	0.0135	0.8497	0.0507	-0.2489	0.0784
2	4.92	0.4995	-0.1363	0.0029	-0.2882	0.0167	1.0733	0.0679	-0.4115	0.0616
2	4.92	0.5551	-0.1660	0.0030	-0.4103	0.0212	1.3920	0.0829	-0.1944	0.0791
2	4.92	0.5996	-0.2006	0.0029	-0.4623	0.0234	1.6511	0.0972	-0.0070	0.0772
2	4.92	0.6497	-0.2190	0.0025	-0.5401	0.0258	1.9104	0.1092	-0.3133	0.0895
2	4.92	0.6996	-0.2273	0.0032	-0.6323	0.0285	2.1839	0.1242	-0.2384	0.0680
2	4.92	0.7495	-0.2637	0.0049	-0.7717	0.0307	2.3510	0.1390	-0.7900	0.1063
2	4.92	0.7996	-0.2862	0.0018	-0.8441	0.0382	2.6355	0.1485	-0.4871	0.0834
2	4.92	0.8578	-0.3199	0.0044	-0.9918	0.0436	2.8466	0.1639	-0.1872	0.1014
2	4.92	0.9100	-0.3394	0.0042	-0.9910	0.0472	2.9894	0.1835	-0.1083	0.1058
2	4.92	0.9727	-0.3844	0.0070	-1.1288	0.0515	3.2757	0.2089	0.2296	0.0856

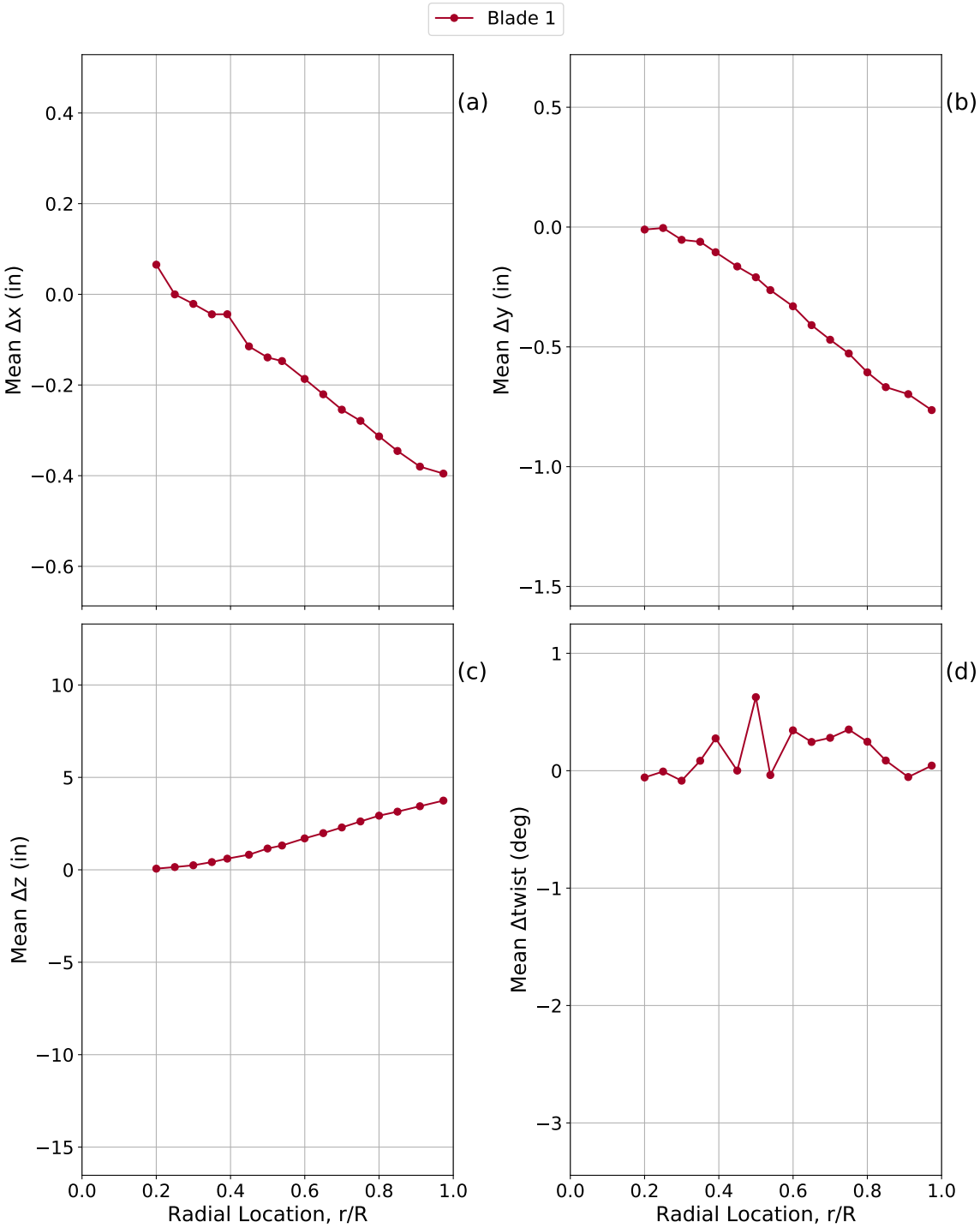


Figure 3.6-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0654	0.0038	-0.0105	0.0033	0.0635	0.0126	-0.0574	0.0466
1	15.12	0.2499	-0.0001	0.0052	-0.0040	0.0164	0.1487	0.0272	-0.0069	0.0776
1	15.12	0.2998	-0.0211	0.0055	-0.0533	0.0306	0.2452	0.0410	-0.0850	0.1057
1	15.12	0.3498	-0.0441	0.0069	-0.0615	0.0415	0.4185	0.0585	0.0846	0.0991
1	15.12	0.3913	-0.0439	0.0040	-0.1050	0.0750	0.6046	0.0885	0.2754	0.1649
1	15.12	0.4496	-0.1148	0.0065	-0.1646	0.0729	0.8171	0.0930	0.0009	0.0915
1	15.12	0.4997	-0.1392	0.0082	-0.2096	0.0901	1.1526	0.1115	0.6267	0.2003
1	15.12	0.5387	-0.1472	0.0075	-0.2631	0.0899	1.3154	0.1277	-0.0371	0.0830
1	15.12	0.5996	-0.1866	0.0073	-0.3306	0.1112	1.7000	0.1618	0.3440	0.1055
1	15.12	0.6498	-0.2205	0.0081	-0.4094	0.1200	1.9845	0.1872	0.2449	0.1043
1	15.12	0.6998	-0.2544	0.0086	-0.4703	0.1318	2.2915	0.2160	0.2800	0.0874
1	15.12	0.7500	-0.2791	0.0091	-0.5276	0.1441	2.6171	0.2499	0.3509	0.0947
1	15.12	0.8001	-0.3133	0.0093	-0.6064	0.1547	2.9291	0.2854	0.2469	0.1281
1	15.12	0.8497	-0.3455	0.0107	-0.6680	0.1662	3.1463	0.3254	0.0867	0.1075
1	15.12	0.9102	-0.3800	0.0118	-0.6973	0.1793	3.4401	0.3818	-0.0539	0.1233
1	15.12	0.9734	-0.3954	0.0168	-0.7639	0.1917	3.7444	0.4471	0.0436	0.1515

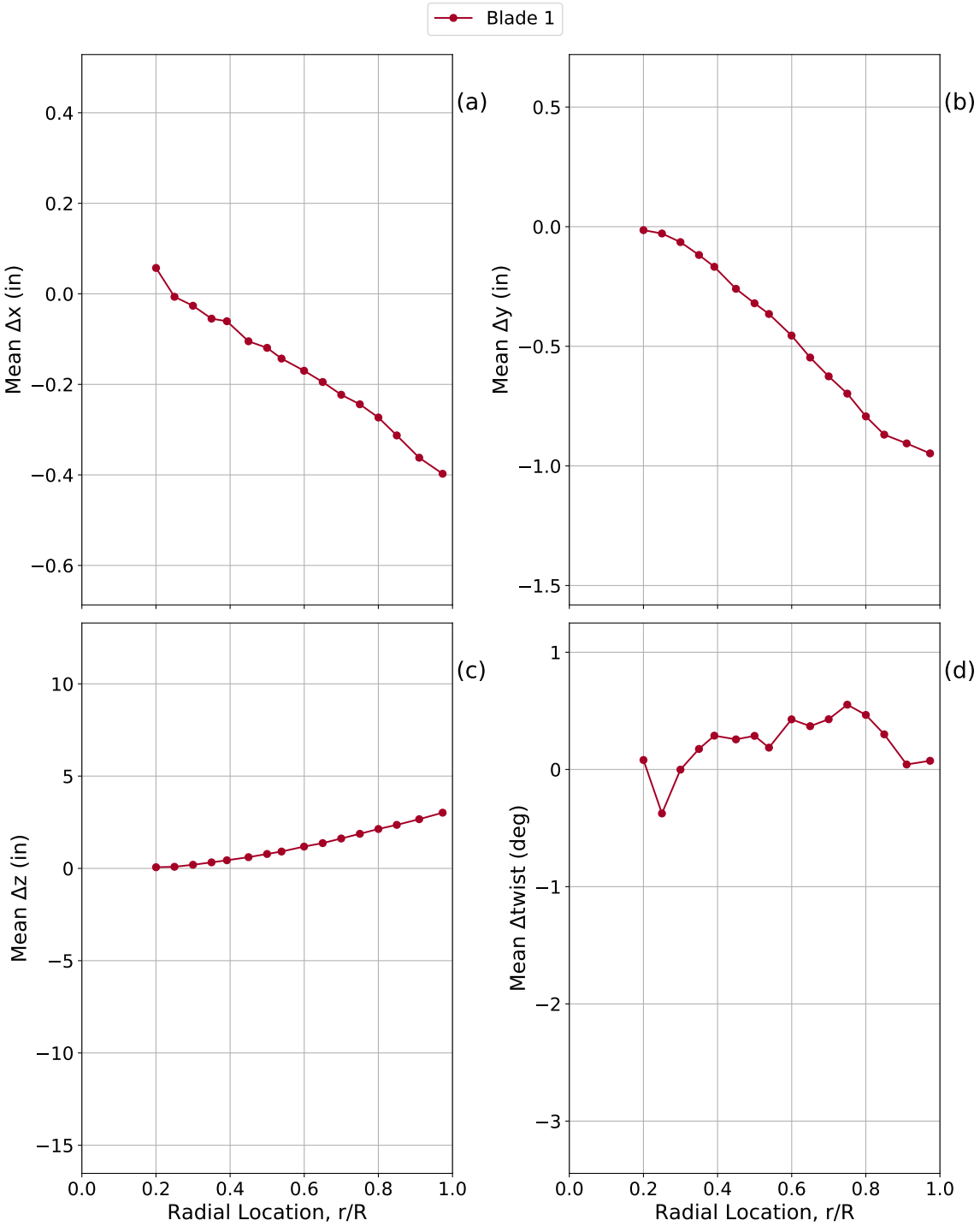


Figure 3.6-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0572	0.0026	-0.0145	0.0015	0.0637	0.0044	0.0805	0.0510
1	29.88	0.2499	-0.0065	0.0027	-0.0285	0.0032	0.0882	0.0103	-0.3754	0.0745
1	29.88	0.2998	-0.0263	0.0022	-0.0645	0.0034	0.1956	0.0155	-0.0015	0.1112
1	29.88	0.3498	-0.0548	0.0026	-0.1183	0.0075	0.3267	0.0252	0.1750	0.1168
1	29.88	0.3913	-0.0605	0.0027	-0.1677	0.0090	0.4405	0.0362	0.2882	0.1066
1	29.88	0.4496	-0.1048	0.0029	-0.2597	0.0118	0.6084	0.0452	0.2567	0.1007
1	29.88	0.4997	-0.1193	0.0039	-0.3202	0.0146	0.7814	0.0525	0.2867	0.1145
1	29.88	0.5387	-0.1430	0.0027	-0.3650	0.0168	0.9136	0.0604	0.1861	0.1098
1	29.88	0.5996	-0.1699	0.0019	-0.4550	0.0209	1.1826	0.0746	0.4275	0.1138
1	29.88	0.6498	-0.1948	0.0023	-0.5470	0.0266	1.3696	0.0869	0.3692	0.1107
1	29.88	0.6998	-0.2229	0.0032	-0.6256	0.0290	1.6208	0.0995	0.4285	0.1224
1	29.88	0.7500	-0.2440	0.0040	-0.6978	0.0351	1.8747	0.1188	0.5528	0.1071
1	29.88	0.8001	-0.2732	0.0045	-0.7930	0.0398	2.1353	0.1357	0.4652	0.1158
1	29.88	0.8497	-0.3128	0.0042	-0.8693	0.0456	2.3588	0.1546	0.2997	0.1278
1	29.88	0.9102	-0.3620	0.0047	-0.9060	0.0518	2.6661	0.1792	0.0425	0.1250
1	29.88	0.9734	-0.3975	0.0065	-0.9476	0.0598	3.0184	0.2079	0.0739	0.1232

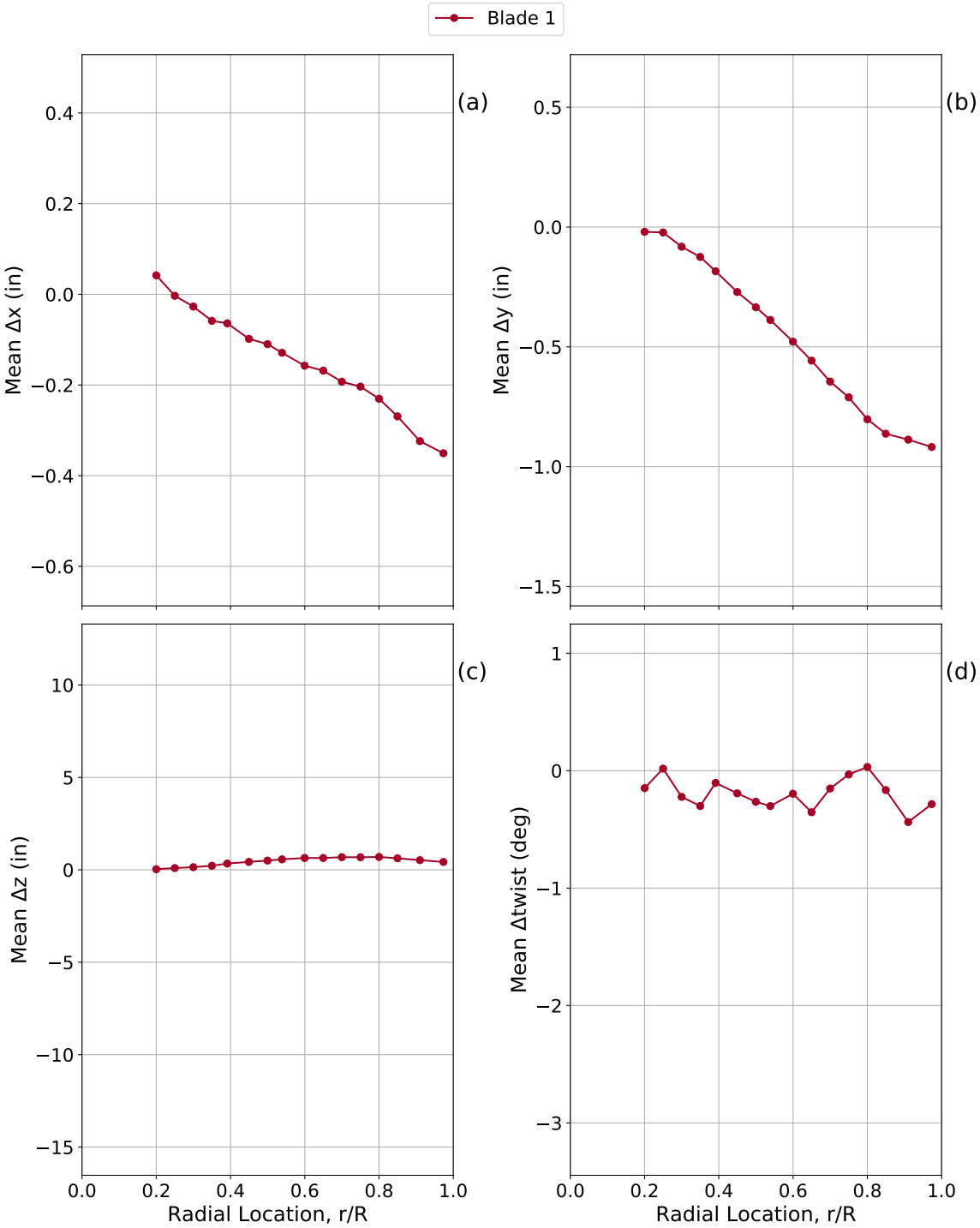


Figure 3.6-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0418	0.0032	-0.0199	0.0015	0.0339	0.0046	-0.1483	0.0361
1	45	0.2499	-0.0032	0.0025	-0.0226	0.0024	0.0951	0.0095	0.0178	0.0582
1	45	0.2998	-0.0270	0.0026	-0.0820	0.0063	0.1429	0.0161	-0.2229	0.0805
1	45	0.3498	-0.0585	0.0016	-0.1247	0.0106	0.2183	0.0289	-0.3005	0.0664
1	45	0.3913	-0.0640	0.0022	-0.1843	0.0151	0.3391	0.0400	-0.1035	0.0718
1	45	0.4496	-0.0982	0.0025	-0.2711	0.0195	0.4282	0.0584	-0.1927	0.0709
1	45	0.4997	-0.1099	0.0022	-0.3347	0.0244	0.4994	0.0796	-0.2647	0.0837
1	45	0.5387	-0.1289	0.0028	-0.3877	0.0286	0.5676	0.0950	-0.3012	0.0885
1	45	0.5996	-0.1574	0.0025	-0.4783	0.0347	0.6400	0.1232	-0.1962	0.0716
1	45	0.6498	-0.1683	0.0026	-0.5575	0.0414	0.6397	0.1476	-0.3534	0.0701
1	45	0.6998	-0.1928	0.0025	-0.6448	0.0463	0.6835	0.1675	-0.1516	0.0750
1	45	0.7500	-0.2036	0.0033	-0.7107	0.0527	0.6790	0.1891	-0.0318	0.0714
1	45	0.8001	-0.2304	0.0039	-0.8022	0.0589	0.6970	0.2093	0.0319	0.0689
1	45	0.8497	-0.2692	0.0040	-0.8624	0.0660	0.6240	0.2262	-0.1650	0.0726
1	45	0.9102	-0.3238	0.0033	-0.8873	0.0741	0.5240	0.2409	-0.4370	0.0802
1	45	0.9734	-0.3506	0.0063	-0.9177	0.0845	0.4250	0.2519	-0.2848	0.0733

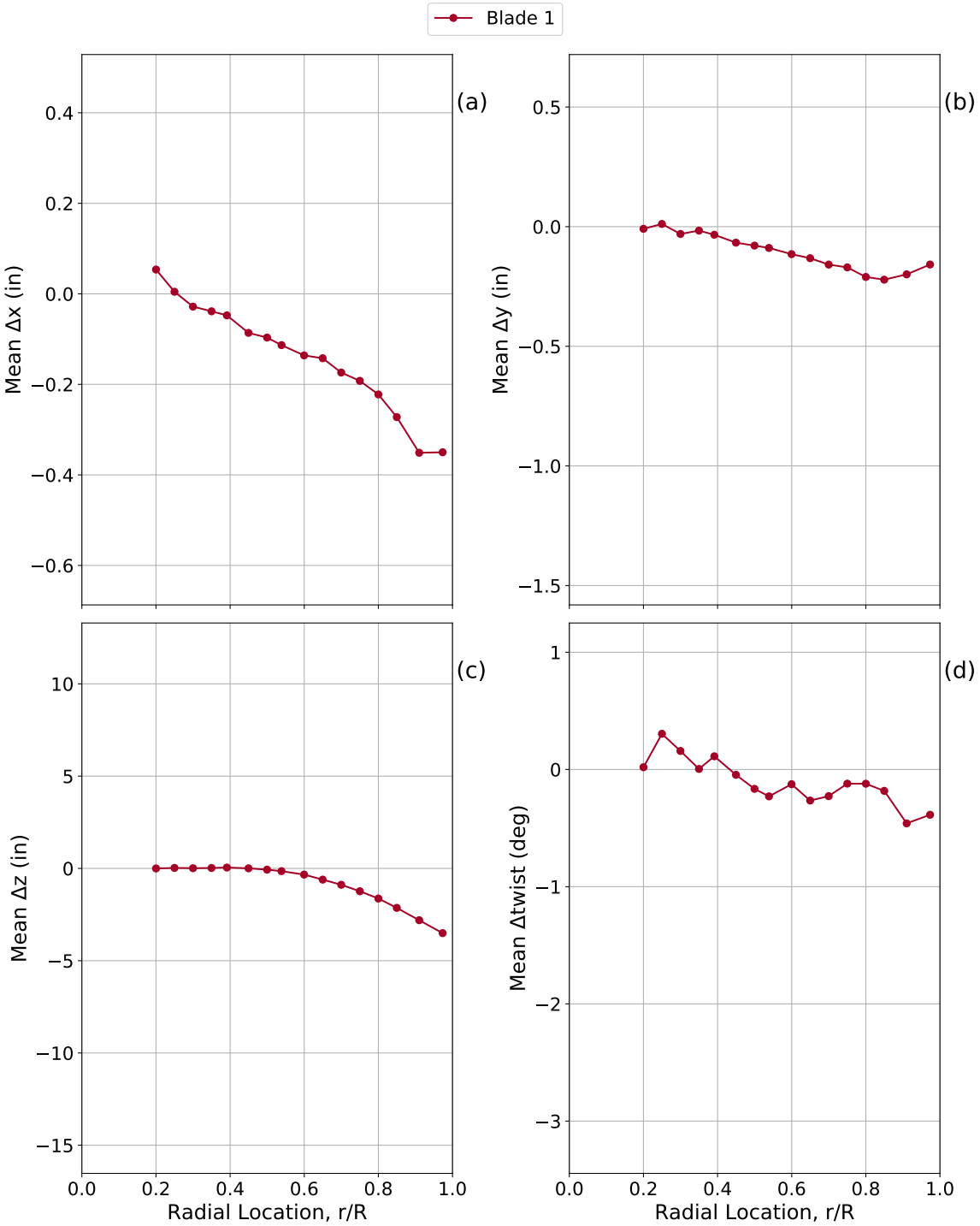


Figure 3.6-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0537	0.0021	-0.0090	0.0009	-0.0025	0.0040	0.0190	0.0218
1	60.12	0.2499	0.0046	0.0024	0.0113	0.0020	0.0268	0.0086	0.3043	0.0336
1	60.12	0.2998	-0.0282	0.0021	-0.0304	0.0036	0.0104	0.0171	0.1578	0.0469
1	60.12	0.3498	-0.0386	0.0025	-0.0165	0.0058	0.0237	0.0287	0.0045	0.0553
1	60.12	0.3913	-0.0475	0.0026	-0.0338	0.0087	0.0471	0.0420	0.1123	0.0601
1	60.12	0.4496	-0.0862	0.0032	-0.0668	0.0127	0.0039	0.0586	-0.0457	0.0443
1	60.12	0.4997	-0.0966	0.0023	-0.0791	0.0155	-0.0674	0.0731	-0.1654	0.0576
1	60.12	0.5387	-0.1133	0.0024	-0.0889	0.0189	-0.1489	0.0855	-0.2295	0.0619
1	60.12	0.5996	-0.1360	0.0022	-0.1149	0.0221	-0.3354	0.1109	-0.1259	0.0586
1	60.12	0.6498	-0.1423	0.0022	-0.1318	0.0268	-0.6079	0.1254	-0.2652	0.0673
1	60.12	0.6998	-0.1739	0.0027	-0.1584	0.0307	-0.8871	0.1428	-0.2278	0.0603
1	60.12	0.7500	-0.1922	0.0029	-0.1701	0.0346	-1.2374	0.1663	-0.1211	0.0540
1	60.12	0.8001	-0.2223	0.0039	-0.2102	0.0391	-1.6332	0.1892	-0.1217	0.0539
1	60.12	0.8497	-0.2723	0.0046	-0.2215	0.0443	-2.1387	0.2071	-0.1826	0.0548
1	60.12	0.9102	-0.3511	0.0065	-0.1994	0.0506	-2.8075	0.2370	-0.4599	0.0661
1	60.12	0.9734	-0.3500	0.0073	-0.1582	0.0578	-3.5082	0.2724	-0.3865	0.0633

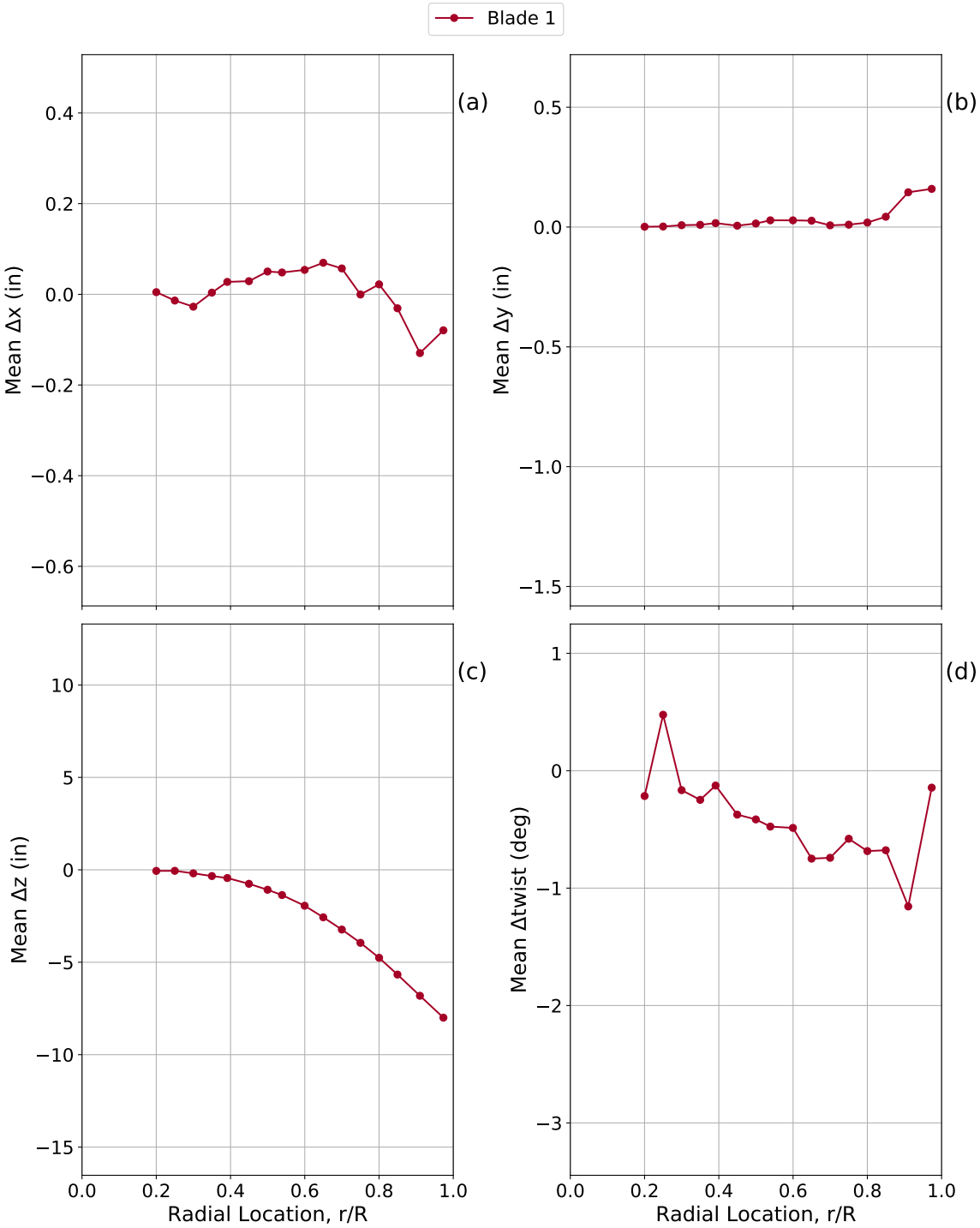


Figure 3.6-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0048	0.0075	0.0013	0.0015	-0.0588	0.0070	-0.2156	0.0247
1	74.88	0.2499	-0.0137	0.0017	0.0022	0.0021	-0.0539	0.0094	0.4764	0.0711
1	74.88	0.2998	-0.0273	0.0027	0.0077	0.0057	-0.1909	0.0256	-0.1656	0.0648
1	74.88	0.3498	0.0037	0.0062	0.0093	0.0096	-0.3369	0.0426	-0.2482	0.0668
1	74.88	0.3913	0.0274	0.0085	0.0164	0.0135	-0.4436	0.0598	-0.1263	0.0746
1	74.88	0.4496	0.0290	0.0090	0.0057	0.0194	-0.7564	0.0844	-0.3740	0.0746
1	74.88	0.4997	0.0503	0.0085	0.0148	0.0250	-1.0795	0.1046	-0.4148	0.0822
1	74.88	0.5387	0.0482	0.0074	0.0281	0.0303	-1.3652	0.1255	-0.4758	0.0659
1	74.88	0.5996	0.0539	0.0079	0.0280	0.0387	-1.9433	0.1546	-0.4871	0.0751
1	74.88	0.6498	0.0696	0.0106	0.0265	0.0470	-2.5688	0.1814	-0.7489	0.0649
1	74.88	0.6998	0.0571	0.0151	0.0072	0.0560	-3.2311	0.2079	-0.7418	0.0740
1	74.88	0.7500	-0.0004	0.0206	0.0099	0.0661	-3.9500	0.2382	-0.5795	0.0702
1	74.88	0.8001	0.0220	0.0263	0.0187	0.0772	-4.7576	0.2690	-0.6845	0.0855
1	74.88	0.8497	-0.0308	0.0346	0.0430	0.0897	-5.6664	0.3022	-0.6775	0.0668
1	74.88	0.9102	-0.1296	0.0458	0.1450	0.1065	-6.8133	0.3390	-1.1561	0.0665
1	74.88	0.9734	-0.0794	0.0581	0.1593	0.1304	-7.9977	0.3797	-0.1442	0.0697

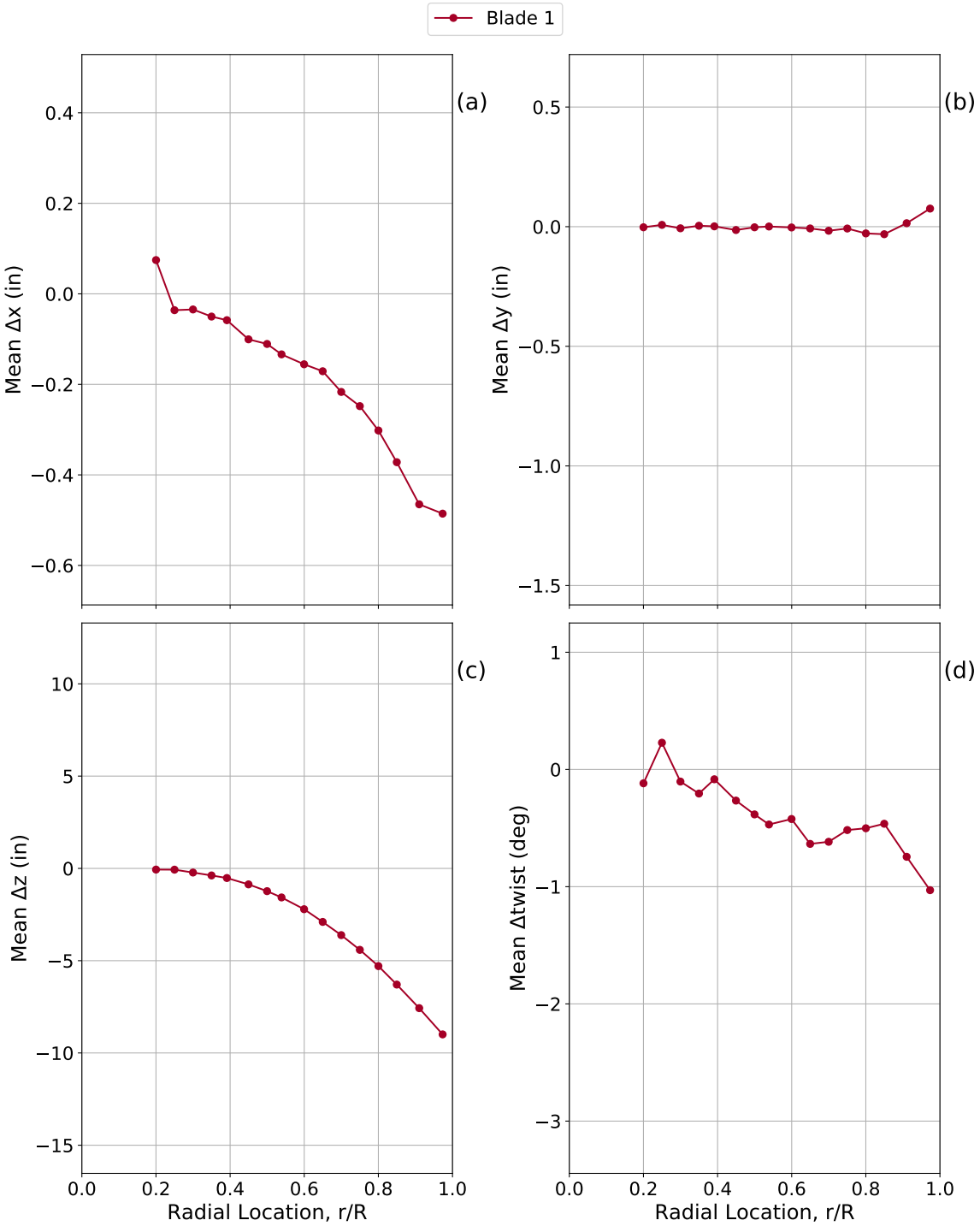


Figure 3.6-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0746	0.0016	-0.0025	0.0013	-0.0637	0.0045	-0.1181	0.0276
1	80.16	0.2499	-0.0361	0.0019	0.0075	0.0022	-0.0679	0.0072	0.2281	0.0762
1	80.16	0.2998	-0.0345	0.0023	-0.0068	0.0046	-0.2241	0.0163	-0.1033	0.0712
1	80.16	0.3498	-0.0502	0.0016	0.0039	0.0081	-0.3817	0.0284	-0.2055	0.0769
1	80.16	0.3913	-0.0582	0.0026	0.0014	0.0111	-0.5212	0.0394	-0.0838	0.0619
1	80.16	0.4496	-0.1005	0.0021	-0.0140	0.0150	-0.8657	0.0542	-0.2656	0.0646
1	80.16	0.4997	-0.1107	0.0028	-0.0026	0.0178	-1.2330	0.0713	-0.3835	0.0917
1	80.16	0.5387	-0.1337	0.0032	0.0007	0.0204	-1.5735	0.0841	-0.4696	0.0715
1	80.16	0.5996	-0.1556	0.0034	-0.0033	0.0247	-2.2113	0.1039	-0.4228	0.0521
1	80.16	0.6498	-0.1710	0.0029	-0.0074	0.0287	-2.8997	0.1232	-0.6350	0.0675
1	80.16	0.6998	-0.2167	0.0042	-0.0170	0.0317	-3.6153	0.1423	-0.6171	0.0769
1	80.16	0.7500	-0.2481	0.0049	-0.0077	0.0358	-4.4133	0.1660	-0.5169	0.0502
1	80.16	0.8001	-0.3019	0.0046	-0.0282	0.0398	-5.2932	0.1850	-0.5017	0.0658
1	80.16	0.8497	-0.3719	0.0057	-0.0315	0.0434	-6.2943	0.2059	-0.4632	0.0529
1	80.16	0.9102	-0.4650	0.0073	0.0145	0.0486	-7.5723	0.2258	-0.7451	0.0660
1	80.16	0.9734	-0.4856	0.0081	0.0756	0.0557	-8.9943	0.2463	-1.0299	0.0612

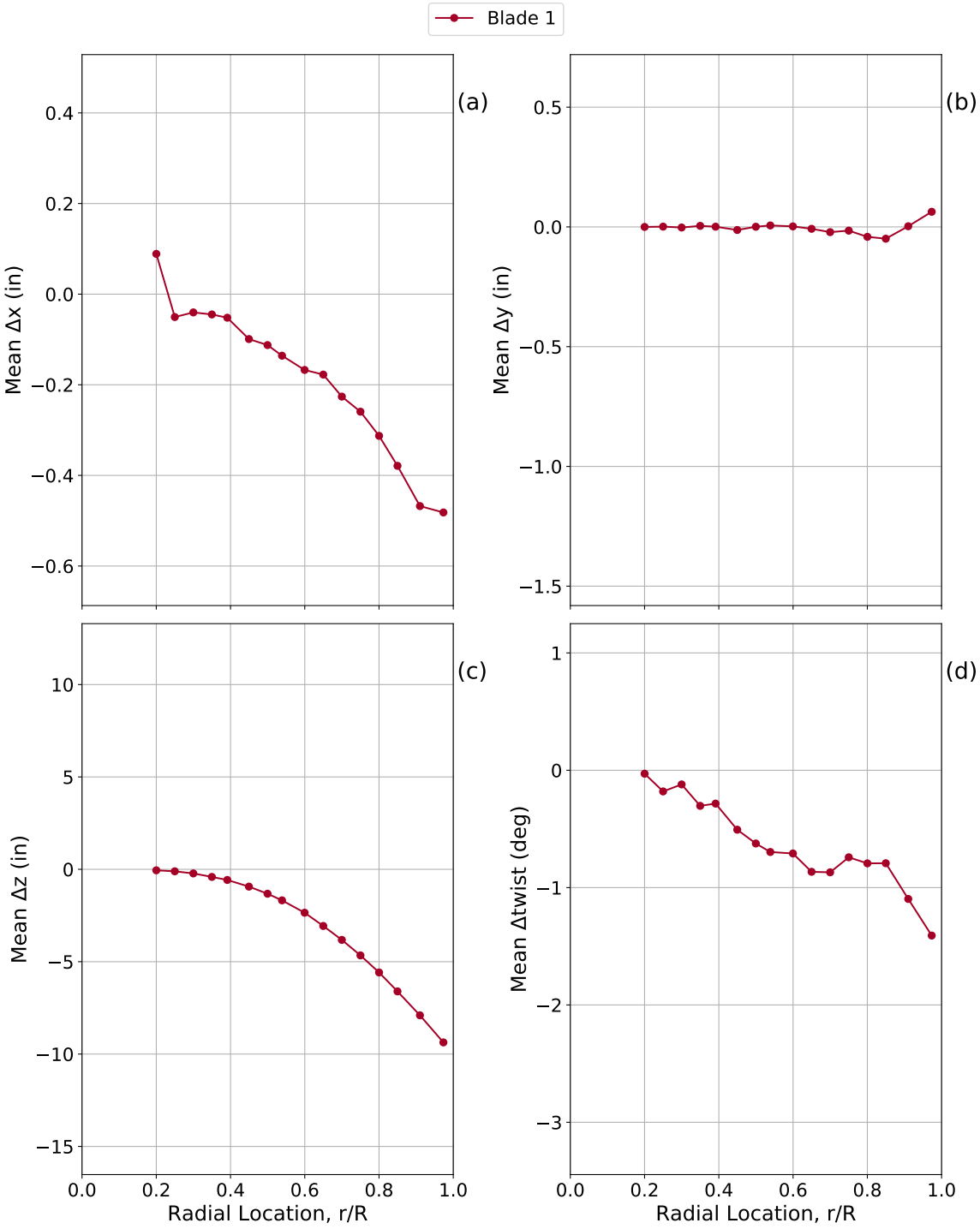


Figure 3.6-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0889	0.0067	-0.0001	0.0032	-0.0540	0.0087	-0.0293	0.0612
1	85.08	0.2499	-0.0505	0.0024	0.0012	0.0030	-0.1090	0.0116	-0.1803	0.1817
1	85.08	0.2998	-0.0403	0.0028	-0.0025	0.0101	-0.2223	0.0282	-0.1207	0.1716
1	85.08	0.3498	-0.0448	0.0026	0.0044	0.0182	-0.4117	0.0506	-0.3033	0.1608
1	85.08	0.3913	-0.0520	0.0032	0.0009	0.0234	-0.5761	0.0673	-0.2841	0.1582
1	85.08	0.4496	-0.0991	0.0040	-0.0129	0.0326	-0.9366	0.0932	-0.5065	0.1498
1	85.08	0.4997	-0.1124	0.0049	0.0007	0.0405	-1.3217	0.1168	-0.6241	0.1550
1	85.08	0.5387	-0.1358	0.0050	0.0061	0.0462	-1.6797	0.1379	-0.6967	0.1571
1	85.08	0.5996	-0.1673	0.0057	0.0022	0.0570	-2.3493	0.1729	-0.7091	0.1510
1	85.08	0.6498	-0.1775	0.0070	-0.0079	0.0662	-3.0661	0.2031	-0.8654	0.1610
1	85.08	0.6998	-0.2261	0.0074	-0.0218	0.0756	-3.8201	0.2369	-0.8698	0.1443
1	85.08	0.7500	-0.2594	0.0094	-0.0156	0.0854	-4.6596	0.2676	-0.7416	0.1578
1	85.08	0.8001	-0.3127	0.0120	-0.0414	0.0957	-5.5826	0.3017	-0.7934	0.1627
1	85.08	0.8497	-0.3789	0.0139	-0.0492	0.1071	-6.6072	0.3377	-0.7922	0.1521
1	85.08	0.9102	-0.4677	0.0167	0.0028	0.1208	-7.9028	0.3840	-1.0966	0.1576
1	85.08	0.9734	-0.4818	0.0192	0.0632	0.1344	-9.3681	0.4382	-1.4086	0.1603

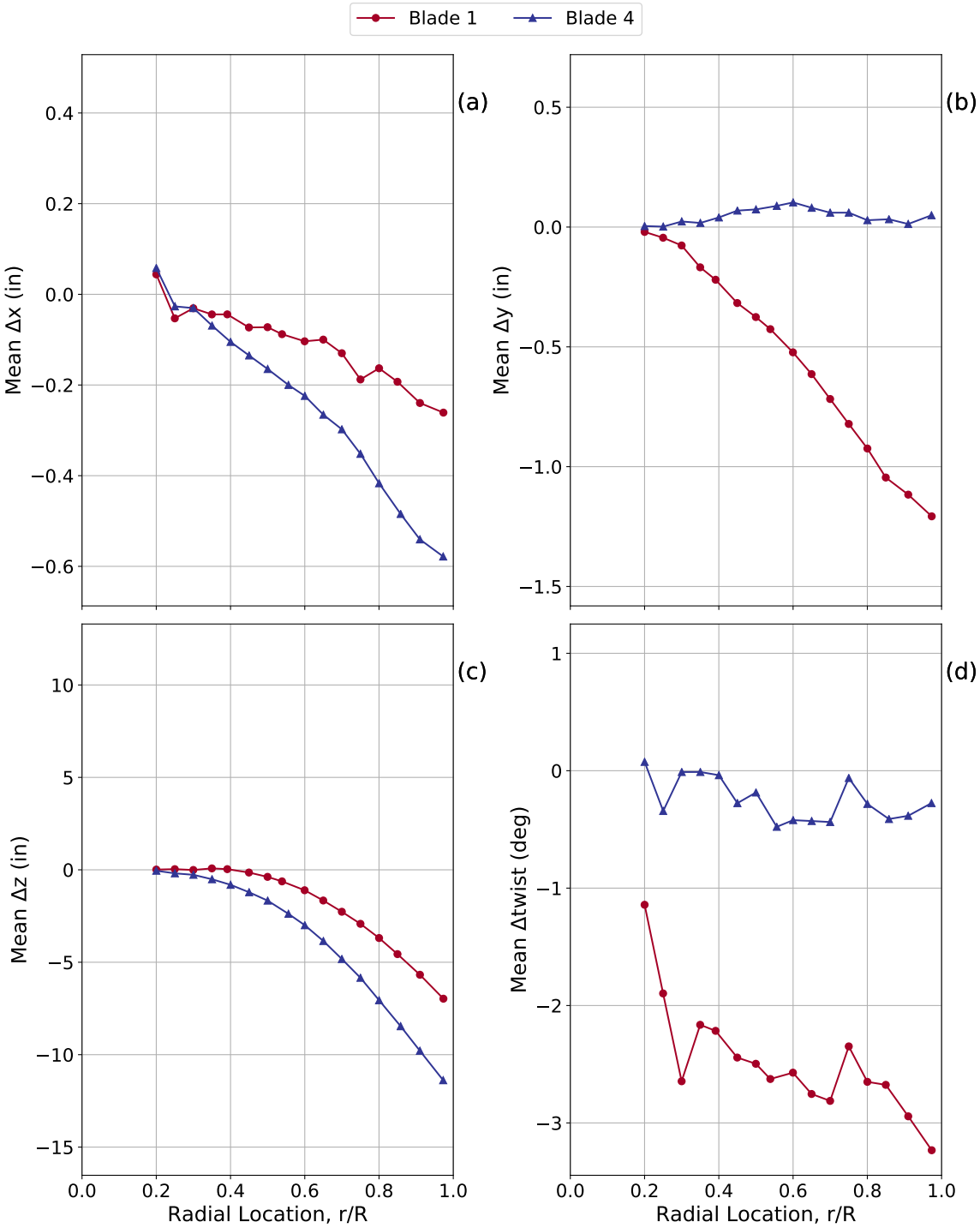


Figure 3.6-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0440	0.0070	-0.0203	0.0028	0.0130	0.0155	-1.1419	0.0916
1	90	0.2499	-0.0530	0.0028	-0.0446	0.0028	0.0357	0.0176	-1.8970	0.2358
1	90	0.2998	-0.0307	0.0028	-0.0769	0.0101	-0.0091	0.0491	-2.6452	0.2401
1	90	0.3498	-0.0443	0.0025	-0.1681	0.0166	0.0770	0.0820	-2.1643	0.2379
1	90	0.3913	-0.0442	0.0038	-0.2199	0.0229	0.0367	0.1102	-2.2157	0.2279
1	90	0.4496	-0.0731	0.0049	-0.3171	0.0316	-0.1464	0.1497	-2.4432	0.2223
1	90	0.4997	-0.0725	0.0050	-0.3756	0.0399	-0.3813	0.1835	-2.4963	0.2246
1	90	0.5387	-0.0879	0.0056	-0.4261	0.0466	-0.6248	0.2104	-2.6259	0.2221
1	90	0.5996	-0.1036	0.0067	-0.5228	0.0573	-1.1052	0.2516	-2.5719	0.2254
1	90	0.6498	-0.0999	0.0073	-0.6137	0.0663	-1.6605	0.2876	-2.7534	0.2239
1	90	0.6998	-0.1299	0.0075	-0.7176	0.0754	-2.2685	0.3253	-2.8123	0.2265
1	90	0.7500	-0.1878	0.0086	-0.8217	0.0766	-2.9223	0.3596	-2.3481	0.3707
1	90	0.8001	-0.1631	0.0116	-0.9242	0.0962	-3.6890	0.3980	-2.6501	0.2296
1	90	0.8497	-0.1929	0.0133	-1.0453	0.1069	-4.5608	0.4328	-2.6757	0.2197
1	90	0.9102	-0.2397	0.0165	-1.1167	0.1200	-5.6770	0.4705	-2.9438	0.2279
1	90	0.9734	-0.2609	0.0177	-1.2072	0.1356	-6.9718	0.5106	-3.2326	0.2241
4	90.35	0.2001	0.0581	0.0038	0.0040	0.0011	-0.0501	0.0033	0.0752	0.0286
4	90.35	0.2502	-0.0266	0.0029	0.0017	0.0025	-0.1912	0.0119	-0.3430	0.0597
4	90.35	0.3001	-0.0304	0.0022	0.0232	0.0031	-0.2700	0.0144	-0.0111	0.0637
4	90.35	0.3502	-0.0690	0.0017	0.0171	0.0064	-0.5108	0.0271	-0.0110	0.0607
4	90.35	0.4002	-0.1050	0.0018	0.0401	0.0085	-0.8110	0.0428	-0.0382	0.0603
4	90.35	0.4500	-0.1349	0.0023	0.0686	0.0125	-1.2136	0.0600	-0.2763	0.0611
4	90.35	0.5001	-0.1648	0.0022	0.0735	0.0167	-1.6672	0.0785	-0.1855	0.0677
4	90.35	0.5560	-0.1999	0.0024	0.0882	0.0209	-2.3811	0.1040	-0.4780	0.0699
4	90.35	0.6001	-0.2241	0.0030	0.1027	0.0266	-2.9969	0.1245	-0.4210	0.0694
4	90.35	0.6501	-0.2656	0.0028	0.0803	0.0331	-3.8516	0.1475	-0.4286	0.0759
4	90.35	0.6999	-0.2978	0.0045	0.0599	0.0397	-4.8259	0.1704	-0.4372	0.0844
4	90.35	0.7500	-0.3519	0.0050	0.0600	0.0471	-5.8424	0.1914	-0.0621	0.0815
4	90.35	0.8002	-0.4168	0.0056	0.0285	0.0552	-7.0557	0.2098	-0.2830	0.0875
4	90.35	0.8582	-0.4845	0.0070	0.0325	0.0656	-8.4614	0.2278	-0.4116	0.0885
4	90.35	0.9101	-0.5406	0.0078	0.0127	0.0740	-9.7905	0.2448	-0.3840	0.0821
4	90.35	0.9728	-0.5783	0.0077	0.0491	0.0852	-11.3827	0.2619	-0.2760	0.0895

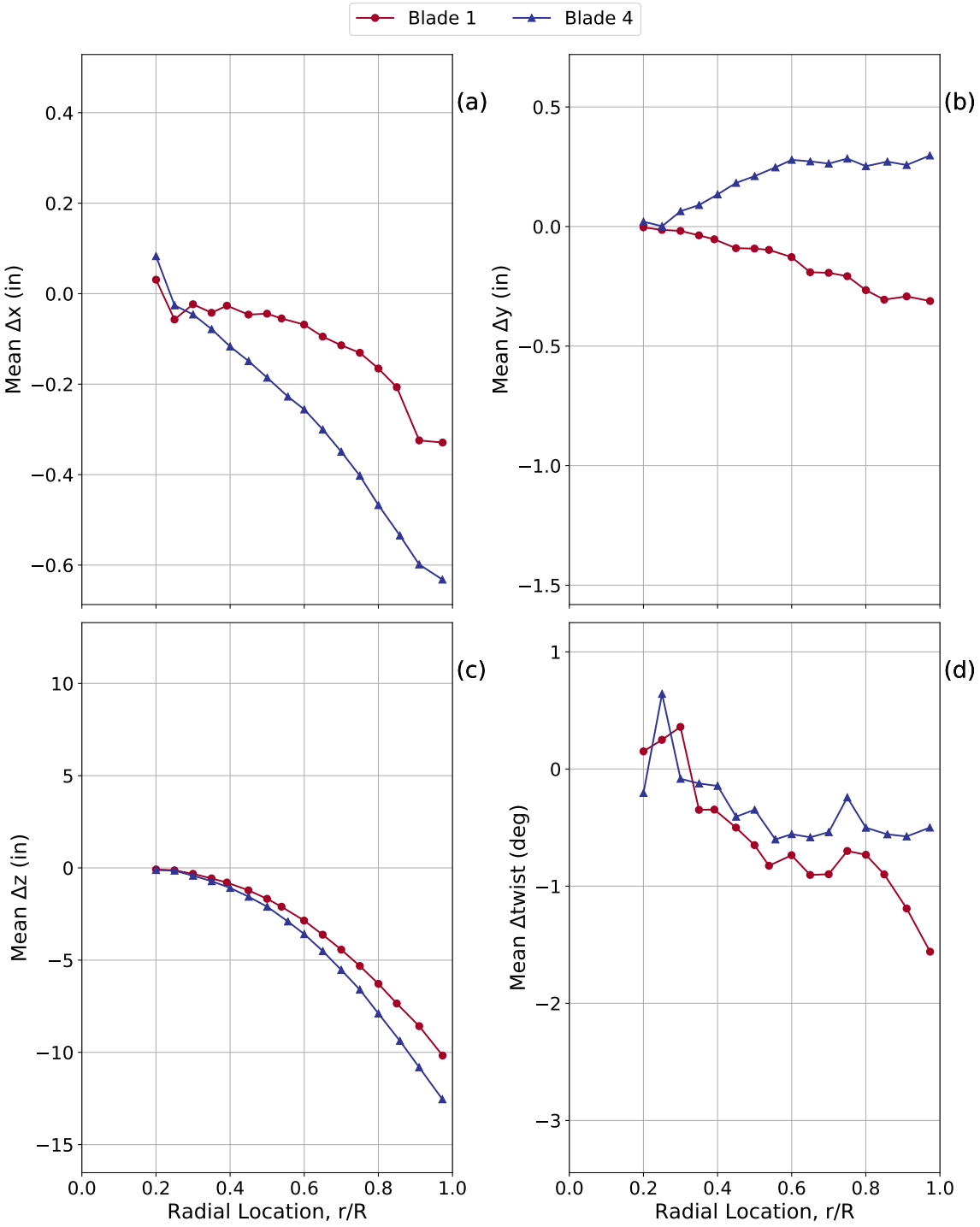


Figure 3.6-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	0.0309	0.0023	-0.0034	0.0028	-0.0832	0.0084	0.1507	0.0528
1	94.92	0.2499	-0.0571	0.0014	-0.0140	0.0034	-0.1311	0.0089	0.2493	0.1694
1	94.92	0.2998	-0.0234	0.0018	-0.0182	0.0107	-0.3204	0.0286	0.3594	0.1536
1	94.92	0.3498	-0.0422	0.0022	-0.0369	0.0178	-0.5701	0.0481	-0.3485	0.1604
1	94.92	0.3913	-0.0265	0.0026	-0.0534	0.0249	-0.7918	0.0655	-0.3463	0.1534
1	94.92	0.4496	-0.0463	0.0031	-0.0906	0.0343	-1.2170	0.0885	-0.5002	0.1545
1	94.92	0.4997	-0.0442	0.0029	-0.0922	0.0428	-1.6753	0.1105	-0.6499	0.1540
1	94.92	0.5387	-0.0548	0.0041	-0.0976	0.0499	-2.1036	0.1271	-0.8257	0.1583
1	94.92	0.5996	-0.0684	0.0037	-0.1277	0.0609	-2.8549	0.1535	-0.7359	0.1628
1	94.92	0.6498	-0.0949	0.0111	-0.1911	0.0637	-3.6213	0.1788	-0.9042	0.1309
1	94.92	0.6998	-0.1141	0.0053	-0.1935	0.0804	-4.4311	0.2025	-0.8982	0.1640
1	94.92	0.7500	-0.1306	0.0062	-0.2077	0.0912	-5.3169	0.2248	-0.6997	0.1744
1	94.92	0.8001	-0.1654	0.0094	-0.2660	0.1018	-6.2822	0.2510	-0.7320	0.1864
1	94.92	0.8497	-0.2067	0.0105	-0.3058	0.1143	-7.3515	0.2808	-0.8996	0.1422
1	94.92	0.9102	-0.3244	0.0121	-0.2922	0.1389	-8.5795	0.2734	-1.1906	0.1460
1	94.92	0.9734	-0.3291	0.0141	-0.3115	0.1523	-10.1735	0.3138	-1.5592	0.1435
4	94.92	0.2001	0.0830	0.0027	0.0203	0.0015	-0.1146	0.0079	-0.2044	0.0377
4	94.92	0.2502	-0.0259	0.0030	0.0013	0.0024	-0.1489	0.0089	0.6417	0.1078
4	94.92	0.3001	-0.0460	0.0018	0.0641	0.0053	-0.4238	0.0263	-0.0835	0.0933
4	94.92	0.3502	-0.0785	0.0018	0.0900	0.0092	-0.7203	0.0455	-0.1237	0.0821
4	94.92	0.4002	-0.1169	0.0017	0.1344	0.0137	-1.0851	0.0666	-0.1442	0.0821
4	94.92	0.4500	-0.1492	0.0021	0.1826	0.0171	-1.5637	0.0899	-0.4071	0.0908
4	94.92	0.5001	-0.1858	0.0030	0.2109	0.0218	-2.1048	0.1167	-0.3476	0.0915
4	94.92	0.5560	-0.2276	0.0033	0.2475	0.0280	-2.9058	0.1478	-0.6011	0.0996
4	94.92	0.6001	-0.2559	0.0042	0.2790	0.0336	-3.5902	0.1758	-0.5561	0.0982
4	94.92	0.6501	-0.3004	0.0055	0.2725	0.0402	-4.5133	0.2046	-0.5831	0.1076
4	94.92	0.6999	-0.3494	0.0078	0.2632	0.0476	-5.5338	0.2381	-0.5393	0.1123
4	94.92	0.7500	-0.4025	0.0094	0.2842	0.0559	-6.6025	0.2757	-0.2427	0.1124
4	94.92	0.8002	-0.4674	0.0121	0.2524	0.0646	-7.8945	0.3141	-0.5011	0.1147
4	94.92	0.8582	-0.5347	0.0153	0.2714	0.0746	-9.3799	0.3610	-0.5575	0.1184
4	94.92	0.9101	-0.5986	0.0185	0.2573	0.0842	-10.8121	0.4071	-0.5757	0.1171
4	94.92	0.9728	-0.6320	0.0203	0.2971	0.0960	-12.5438	0.4618	-0.5000	0.1237

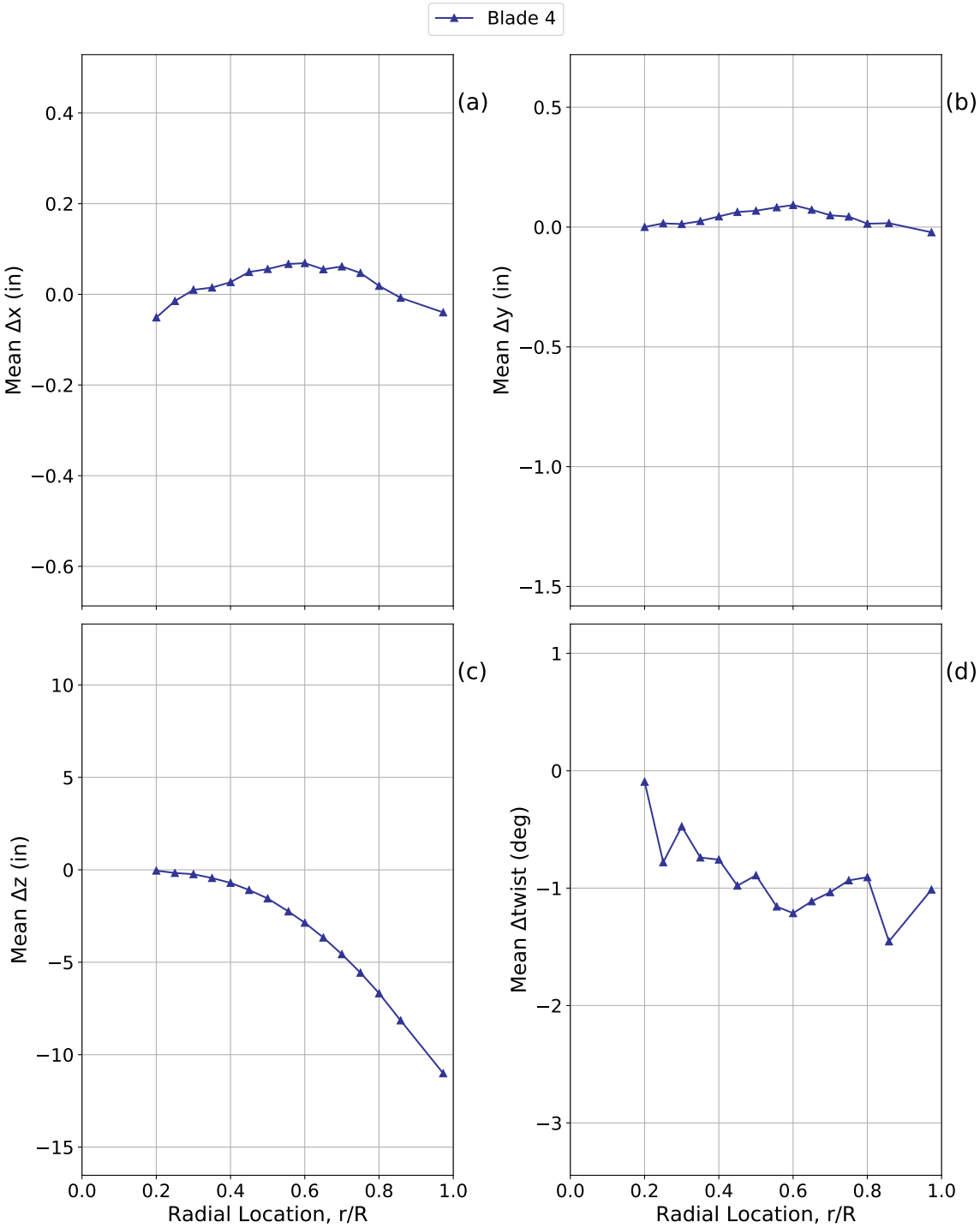


Figure 3.6-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0511	0.0019	0.0002	0.0007	-0.0452	0.0045	-0.0937	0.0166
4	105.12	0.2502	-0.0149	0.0020	0.0154	0.0021	-0.1703	0.0106	-0.7800	0.0356
4	105.12	0.3001	0.0100	0.0012	0.0124	0.0030	-0.2376	0.0197	-0.4758	0.0390
4	105.12	0.3502	0.0148	0.0016	0.0248	0.0056	-0.4449	0.0335	-0.7394	0.0455
4	105.12	0.4002	0.0268	0.0016	0.0443	0.0087	-0.7069	0.0529	-0.7573	0.0490
4	105.12	0.4500	0.0492	0.0025	0.0627	0.0113	-1.0931	0.0782	-0.9790	0.0325
4	105.12	0.5001	0.0557	0.0028	0.0680	0.0151	-1.5498	0.1071	-0.8914	0.0411
4	105.12	0.5560	0.0669	0.0041	0.0822	0.0204	-2.2537	0.1430	-1.1572	0.0503
4	105.12	0.6001	0.0688	0.0048	0.0918	0.0249	-2.8647	0.1743	-1.2135	0.0501
4	105.12	0.6501	0.0551	0.0058	0.0722	0.0307	-3.6657	0.2107	-1.1123	0.0538
4	105.12	0.6999	0.0614	0.0085	0.0491	0.0366	-4.5666	0.2473	-1.0353	0.0590
4	105.12	0.7500	0.0471	0.0100	0.0434	0.0435	-5.5688	0.2817	-0.9341	0.0494
4	105.12	0.8002	0.0186	0.0125	0.0139	0.0509	-6.6824	0.3156	-0.9073	0.0808
4	105.12	0.8582	-0.0077	0.0152	0.0161	0.0587	-8.1487	0.3524	-1.4543	0.0657
4	105.12	0.9728	-0.0399	0.0193	-0.0220	0.0780	-11.0084	0.4217	-1.0129	0.0982

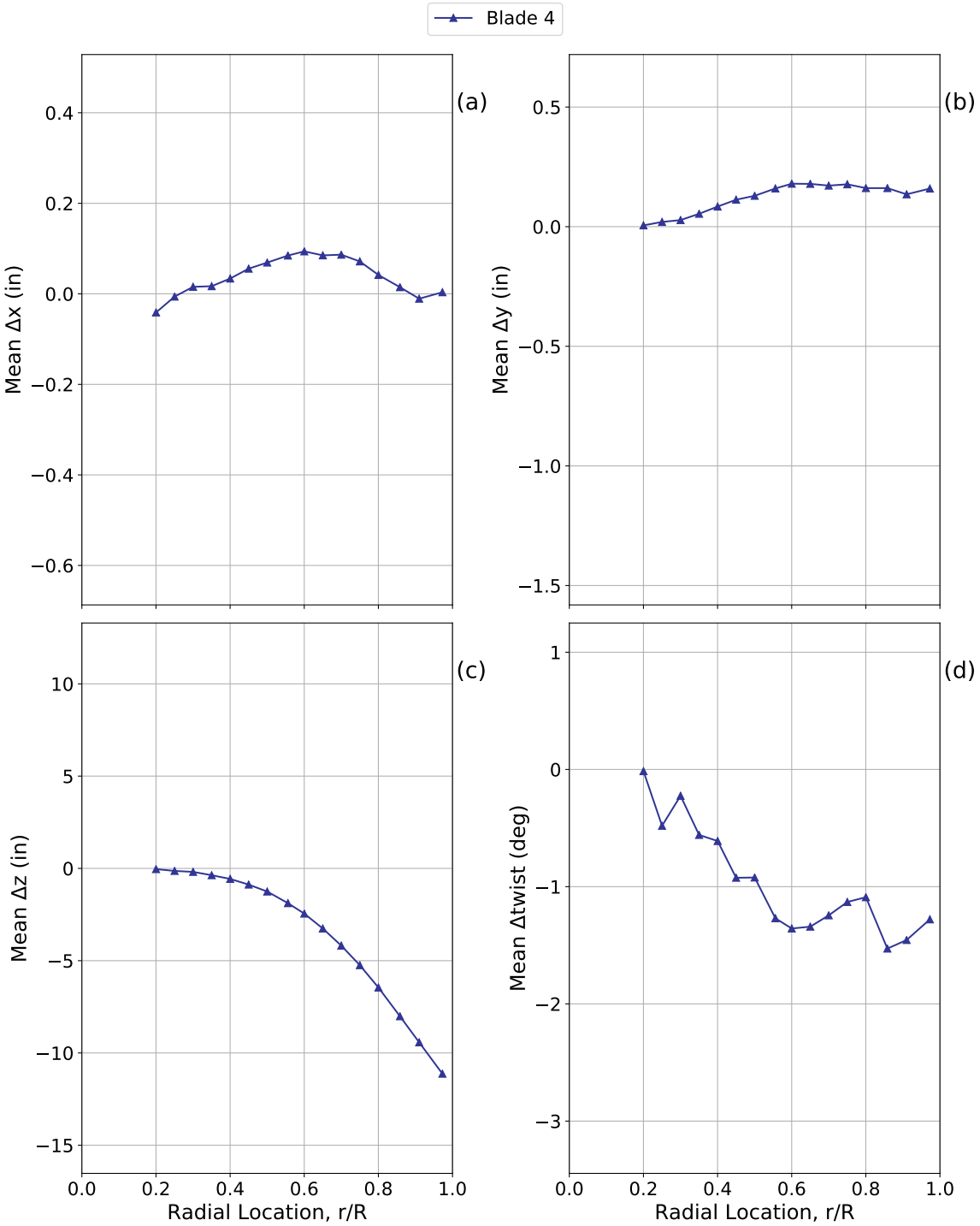


Figure 3.6-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0412	0.0012	0.0054	0.0006	-0.0393	0.0023	-0.0147	0.0210
4	119.88	0.2502	-0.0061	0.0014	0.0198	0.0021	-0.1366	0.0035	-0.4805	0.0293
4	119.88	0.3001	0.0155	0.0012	0.0275	0.0022	-0.1887	0.0085	-0.2249	0.0451
4	119.88	0.3502	0.0169	0.0016	0.0539	0.0054	-0.3693	0.0136	-0.5586	0.0328
4	119.88	0.4002	0.0338	0.0019	0.0840	0.0075	-0.5708	0.0206	-0.6107	0.0390
4	119.88	0.4500	0.0556	0.0029	0.1127	0.0089	-0.8773	0.0297	-0.9240	0.0373
4	119.88	0.5001	0.0691	0.0033	0.1290	0.0121	-1.2534	0.0422	-0.9219	0.0388
4	119.88	0.5560	0.0846	0.0038	0.1597	0.0148	-1.8836	0.0564	-1.2696	0.0397
4	119.88	0.6001	0.0938	0.0048	0.1796	0.0176	-2.4501	0.0747	-1.3570	0.0372
4	119.88	0.6501	0.0850	0.0064	0.1789	0.0212	-3.2570	0.0971	-1.3412	0.0368
4	119.88	0.6999	0.0865	0.0088	0.1716	0.0248	-4.1850	0.1254	-1.2447	0.0384
4	119.88	0.7500	0.0716	0.0103	0.1771	0.0295	-5.2454	0.1592	-1.1308	0.0419
4	119.88	0.8002	0.0417	0.0138	0.1612	0.0341	-6.4563	0.1939	-1.0900	0.0361
4	119.88	0.8582	0.0147	0.0175	0.1611	0.0390	-8.0113	0.2370	-1.5283	0.0447
4	119.88	0.9101	-0.0107	0.0197	0.1352	0.0447	-9.4256	0.2725	-1.4550	0.0440
4	119.88	0.9728	0.0035	0.0229	0.1593	0.0515	-11.1248	0.3170	-1.2790	0.0512

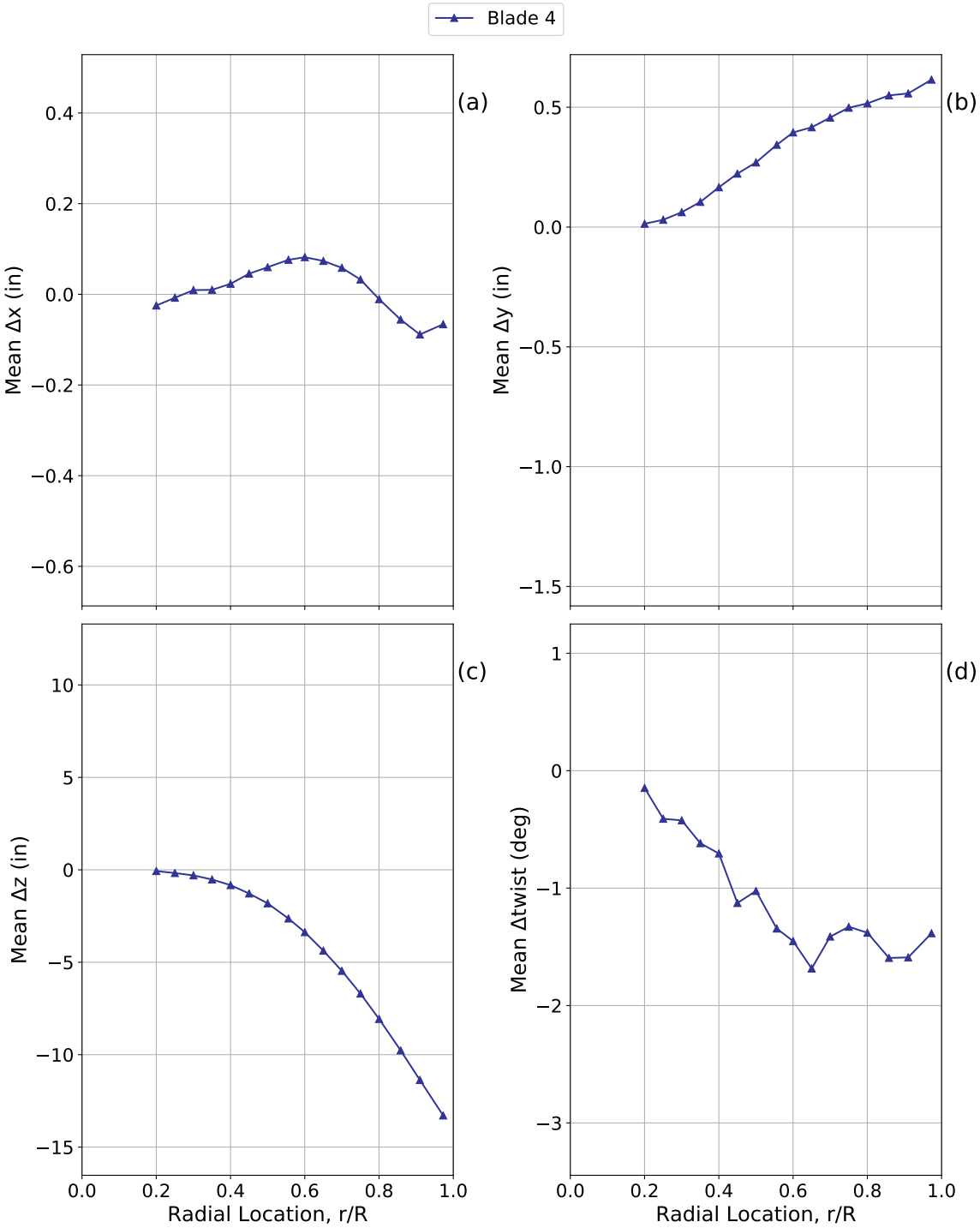


Figure 3.6-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0247	0.0015	0.0137	0.0007	-0.0661	0.0029	-0.1469	0.0177
4	135	0.2502	-0.0076	0.0015	0.0303	0.0016	-0.1753	0.0068	-0.4094	0.0344
4	135	0.3001	0.0093	0.0015	0.0618	0.0029	-0.3019	0.0131	-0.4230	0.0417
4	135	0.3502	0.0099	0.0020	0.1048	0.0050	-0.5239	0.0215	-0.6176	0.0367
4	135	0.4002	0.0232	0.0033	0.1659	0.0076	-0.8296	0.0347	-0.7053	0.0430
4	135	0.4500	0.0455	0.0039	0.2227	0.0102	-1.2815	0.0517	-1.1269	0.0460
4	135	0.5001	0.0598	0.0048	0.2695	0.0126	-1.8147	0.0739	-1.0243	0.0577
4	135	0.5560	0.0761	0.0065	0.3431	0.0165	-2.6347	0.1041	-1.3445	0.0497
4	135	0.6001	0.0819	0.0082	0.3947	0.0200	-3.3734	0.1340	-1.4517	0.0499
4	135	0.6501	0.0736	0.0108	0.4162	0.0243	-4.3758	0.1760	-1.6849	0.0689
4	135	0.6999	0.0584	0.0140	0.4566	0.0277	-5.4676	0.2227	-1.4131	0.0501
4	135	0.7500	0.0326	0.0180	0.4978	0.0325	-6.6976	0.2784	-1.3293	0.0575
4	135	0.8002	-0.0107	0.0238	0.5159	0.0380	-8.0695	0.3405	-1.3800	0.0610
4	135	0.8582	-0.0558	0.0315	0.5493	0.0449	-9.7692	0.4224	-1.5948	0.0645
4	135	0.9101	-0.0886	0.0378	0.5575	0.0513	-11.3723	0.5021	-1.5904	0.0635
4	135	0.9728	-0.0660	0.0467	0.6149	0.0604	-13.2886	0.6015	-1.3847	0.0653

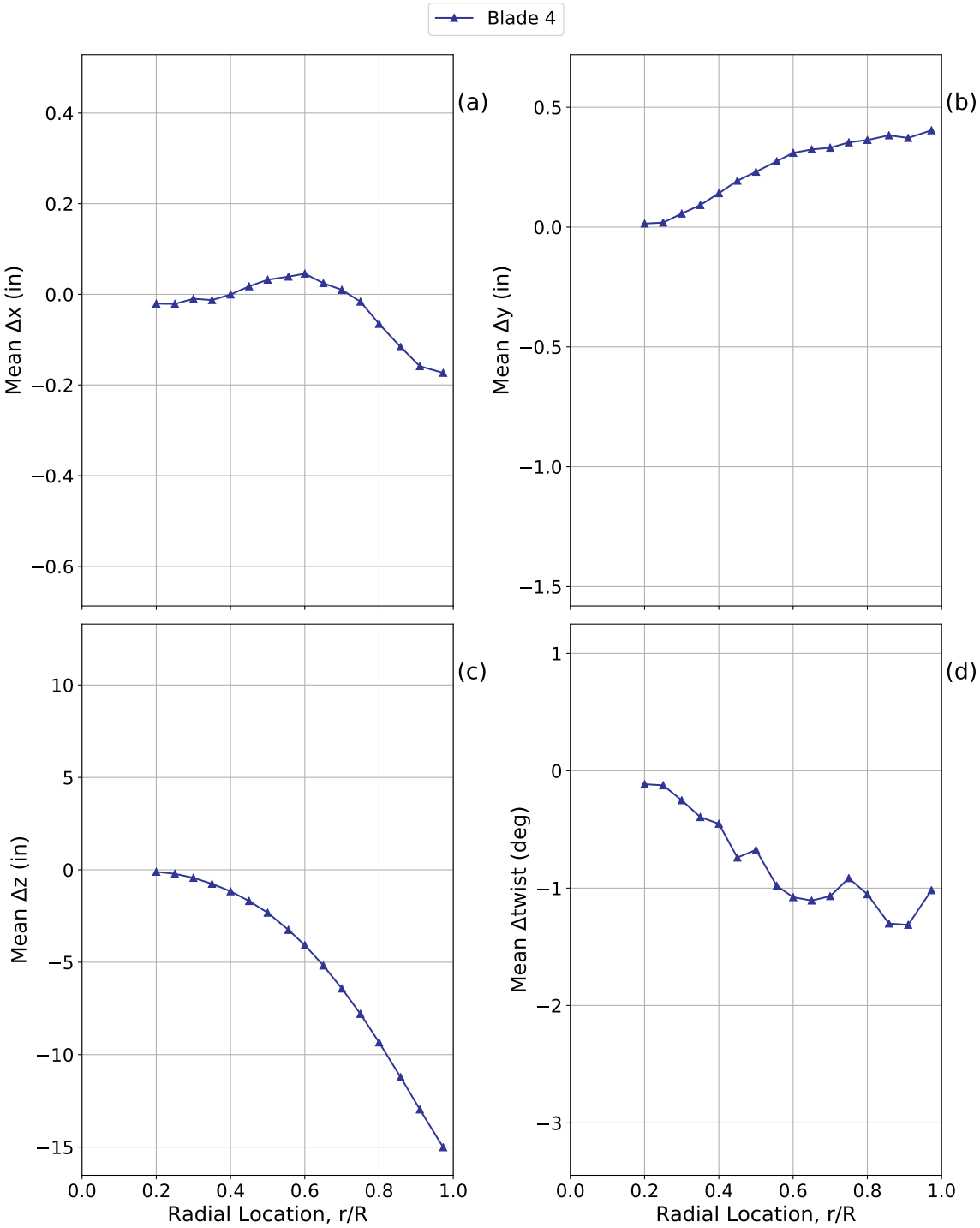


Figure 3.6-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0206	0.0010	0.0147	0.0006	-0.1073	0.0017	-0.1142	0.0197
4	150.12	0.2502	-0.0211	0.0012	0.0187	0.0016	-0.2147	0.0035	-0.1244	0.0313
4	150.12	0.3001	-0.0097	0.0011	0.0564	0.0029	-0.4330	0.0063	-0.2516	0.0442
4	150.12	0.3502	-0.0126	0.0015	0.0919	0.0041	-0.7556	0.0117	-0.3950	0.0365
4	150.12	0.4002	-0.0003	0.0019	0.1413	0.0073	-1.1609	0.0168	-0.4516	0.0494
4	150.12	0.4500	0.0177	0.0016	0.1933	0.0086	-1.6889	0.0265	-0.7398	0.0389
4	150.12	0.5001	0.0323	0.0028	0.2309	0.0119	-2.3211	0.0398	-0.6739	0.0491
4	150.12	0.5560	0.0391	0.0030	0.2744	0.0156	-3.2511	0.0557	-0.9800	0.0411
4	150.12	0.6001	0.0456	0.0037	0.3096	0.0174	-4.0772	0.0708	-1.0771	0.0411
4	150.12	0.6501	0.0247	0.0045	0.3240	0.0219	-5.1807	0.0945	-1.1059	0.0503
4	150.12	0.6999	0.0099	0.0068	0.3309	0.0257	-6.4263	0.1170	-1.0682	0.0501
4	150.12	0.7500	-0.0162	0.0084	0.3534	0.0306	-7.7975	0.1440	-0.9150	0.0539
4	150.12	0.8002	-0.0653	0.0108	0.3634	0.0366	-9.3400	0.1702	-1.0522	0.0393
4	150.12	0.8582	-0.1161	0.0145	0.3828	0.0433	-11.2184	0.2019	-1.3019	0.0496
4	150.12	0.9101	-0.1586	0.0170	0.3719	0.0493	-12.9669	0.2326	-1.3132	0.0546
4	150.12	0.9728	-0.1733	0.0190	0.4037	0.0577	-15.0100	0.2665	-1.0175	0.0589

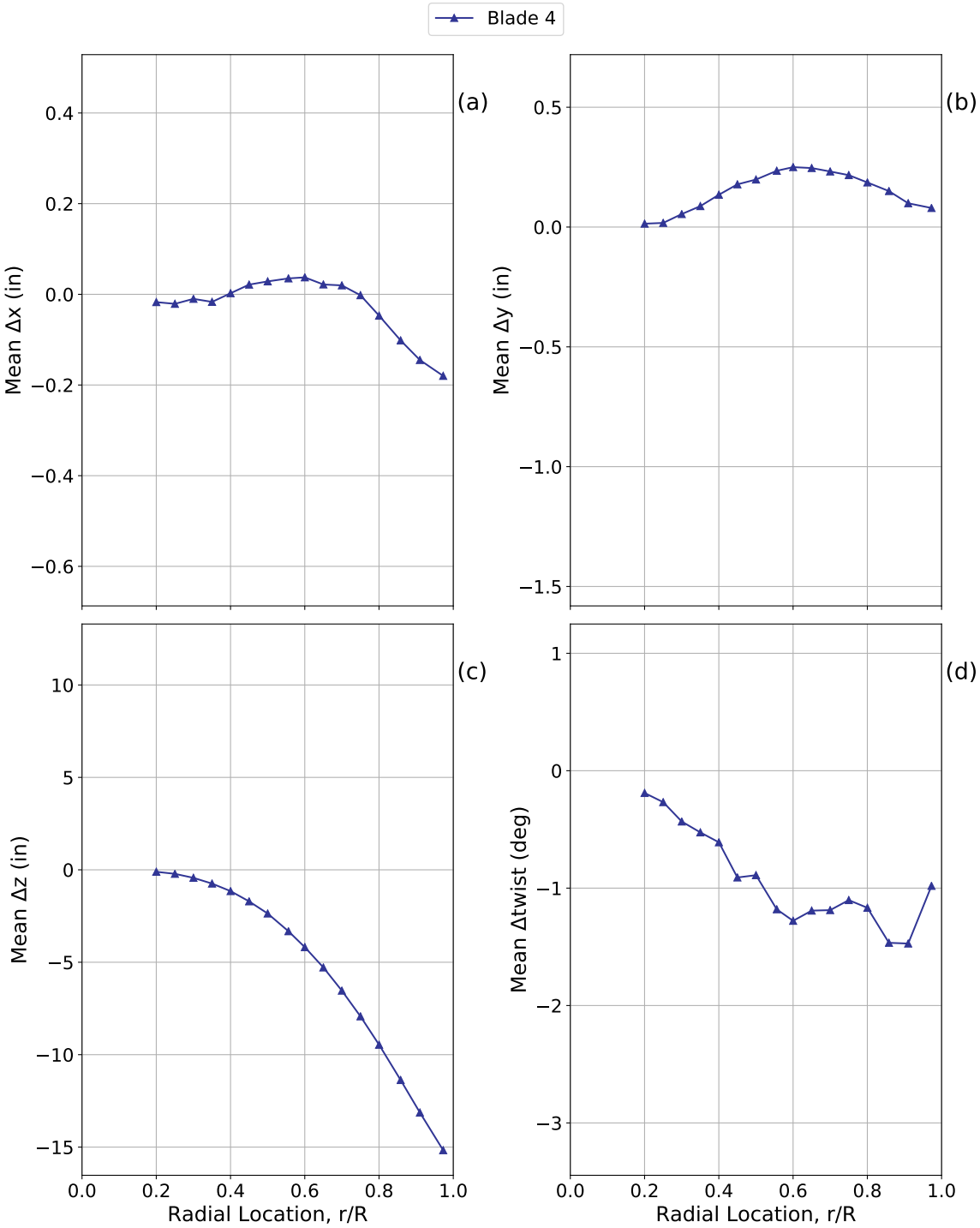


Figure 3.6-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0172	0.0019	0.0140	0.0008	-0.1064	0.0027	-0.1898	0.0136
4	164.88	0.2502	-0.0210	0.0022	0.0172	0.0012	-0.2173	0.0047	-0.2679	0.0322
4	164.88	0.3001	-0.0100	0.0020	0.0541	0.0024	-0.4341	0.0095	-0.4328	0.0302
4	164.88	0.3502	-0.0167	0.0015	0.0873	0.0049	-0.7446	0.0161	-0.5254	0.0368
4	164.88	0.4002	0.0024	0.0028	0.1348	0.0067	-1.1532	0.0246	-0.6100	0.0309
4	164.88	0.4500	0.0214	0.0027	0.1781	0.0082	-1.7067	0.0302	-0.9095	0.0407
4	164.88	0.5001	0.0285	0.0030	0.1982	0.0109	-2.3644	0.0369	-0.8898	0.0394
4	164.88	0.5560	0.0351	0.0033	0.2347	0.0128	-3.3225	0.0460	-1.1806	0.0412
4	164.88	0.6001	0.0374	0.0038	0.2500	0.0157	-4.1845	0.0526	-1.2785	0.0528
4	164.88	0.6501	0.0217	0.0040	0.2462	0.0180	-5.2832	0.0584	-1.1917	0.0499
4	164.88	0.6999	0.0197	0.0053	0.2318	0.0203	-6.5377	0.0706	-1.1876	0.0577
4	164.88	0.7500	-0.0020	0.0062	0.2166	0.0240	-7.9283	0.0849	-1.1022	0.0632
4	164.88	0.8002	-0.0471	0.0077	0.1860	0.0266	-9.4640	0.1064	-1.1678	0.0563
4	164.88	0.8582	-0.1017	0.0103	0.1500	0.0303	-11.3729	0.1334	-1.4658	0.0446
4	164.88	0.9101	-0.1449	0.0128	0.0992	0.0344	-13.1319	0.1619	-1.4722	0.0485
4	164.88	0.9728	-0.1799	0.0157	0.0795	0.0391	-15.1690	0.1984	-0.9809	0.0480

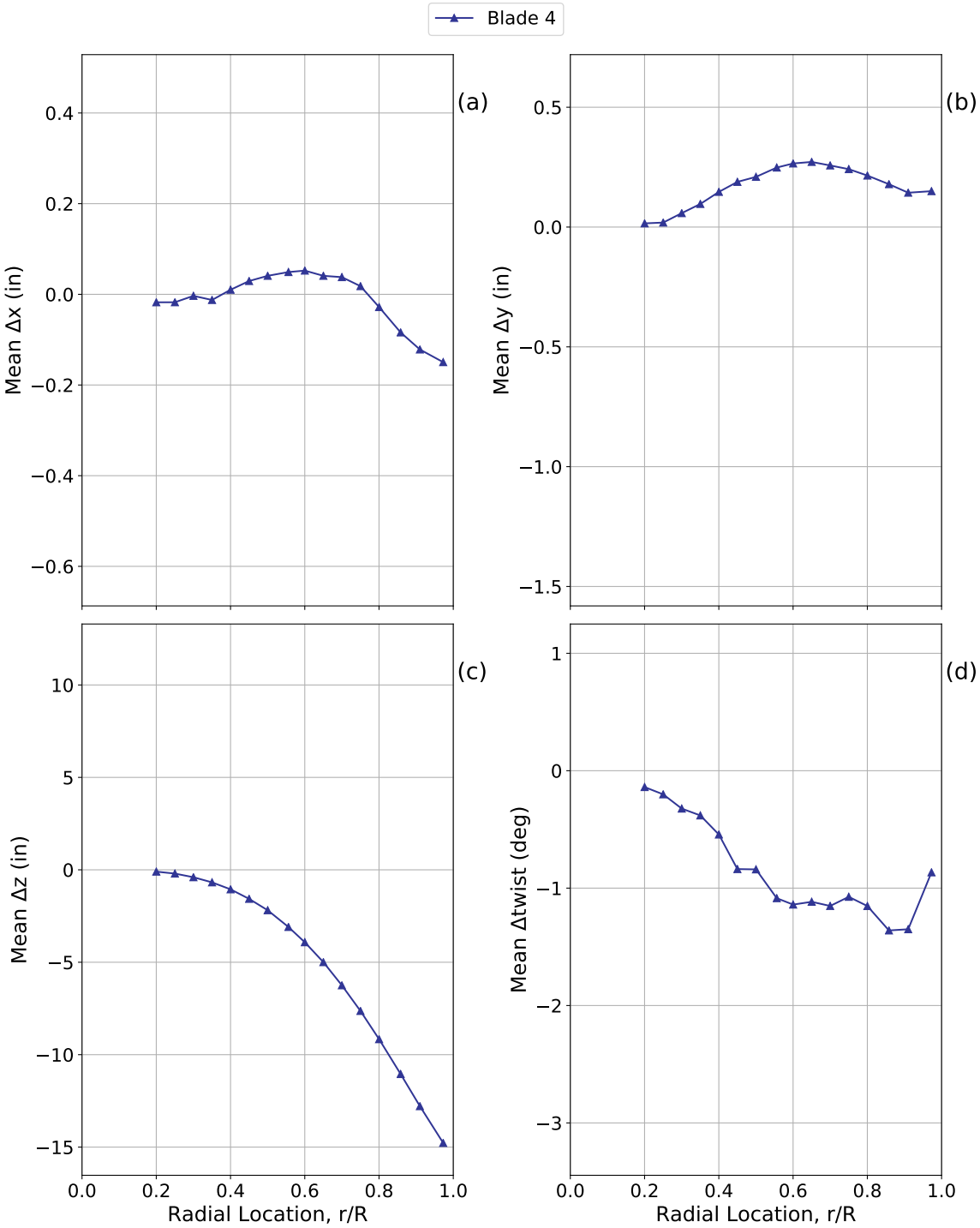


Figure 3.6-18. 170° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0176	0.0014	0.0153	0.0009	-0.0981	0.0039	-0.1393	0.0299
4	170.16	0.2502	-0.0175	0.0035	0.0187	0.0033	-0.2034	0.0063	-0.2015	0.0402
4	170.16	0.3001	-0.0034	0.0019	0.0580	0.0046	-0.4009	0.0137	-0.3227	0.0630
4	170.16	0.3502	-0.0125	0.0015	0.0963	0.0085	-0.6785	0.0220	-0.3810	0.0626
4	170.16	0.4002	0.0101	0.0021	0.1467	0.0135	-1.0566	0.0337	-0.5437	0.0506
4	170.16	0.4500	0.0293	0.0022	0.1884	0.0171	-1.5705	0.0452	-0.8380	0.0465
4	170.16	0.5001	0.0408	0.0029	0.2094	0.0211	-2.1869	0.0604	-0.8405	0.0595
4	170.16	0.5560	0.0491	0.0034	0.2482	0.0264	-3.0921	0.0758	-1.0858	0.0595
4	170.16	0.6001	0.0523	0.0050	0.2653	0.0309	-3.9188	0.0929	-1.1403	0.0685
4	170.16	0.6501	0.0408	0.0053	0.2717	0.0364	-4.9951	0.1153	-1.1166	0.0586
4	170.16	0.6999	0.0379	0.0057	0.2570	0.0426	-6.2483	0.1363	-1.1520	0.0629
4	170.16	0.7500	0.0180	0.0090	0.2416	0.0484	-7.6354	0.1620	-1.0742	0.0575
4	170.16	0.8002	-0.0282	0.0106	0.2148	0.0552	-9.1628	0.1863	-1.1528	0.0568
4	170.16	0.8582	-0.0841	0.0136	0.1788	0.0624	-11.0488	0.2173	-1.3606	0.0602
4	170.16	0.9101	-0.1217	0.0157	0.1433	0.0685	-12.7865	0.2420	-1.3503	0.0581
4	170.16	0.9728	-0.1496	0.0181	0.1497	0.0767	-14.7740	0.2769	-0.8658	0.0557

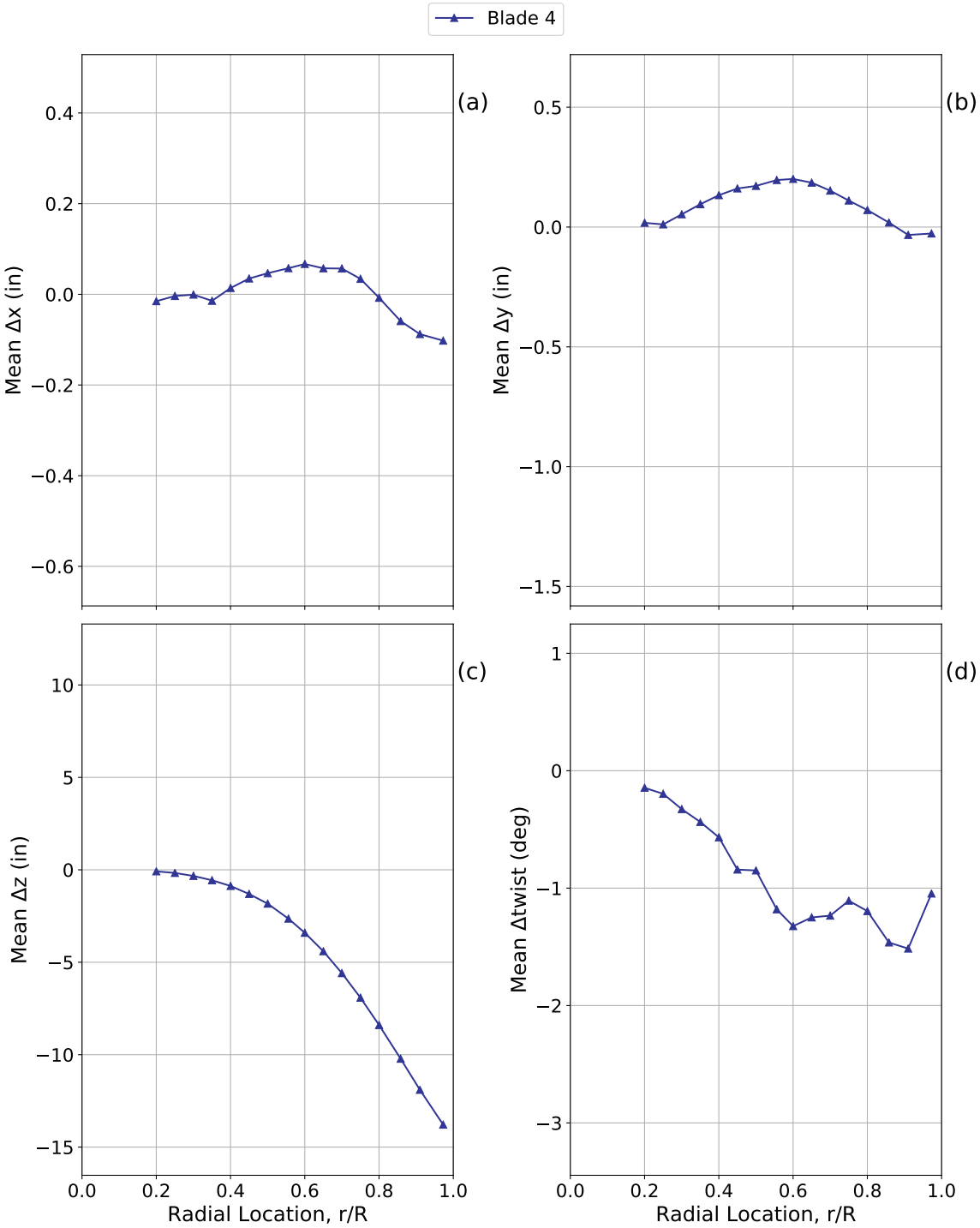


Figure 3.6-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.305, α = -4.99° NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0152	0.0028	0.0176	0.0018	-0.0831	0.0114	-0.1455	0.0480
4	175.08	0.2502	-0.0037	0.0097	0.0109	0.0038	-0.1692	0.0085	-0.1971	0.1113
4	175.08	0.3001	-0.0007	0.0029	0.0531	0.0065	-0.3323	0.0279	-0.3273	0.0709
4	175.08	0.3502	-0.0144	0.0024	0.0952	0.0094	-0.5652	0.0405	-0.4367	0.0801
4	175.08	0.4002	0.0139	0.0029	0.1329	0.0155	-0.8749	0.0547	-0.5677	0.0732
4	175.08	0.4500	0.0348	0.0031	0.1609	0.0179	-1.3082	0.0660	-0.8422	0.0815
4	175.08	0.5001	0.0466	0.0030	0.1715	0.0227	-1.8312	0.0810	-0.8498	0.0781
4	175.08	0.5560	0.0576	0.0026	0.1961	0.0291	-2.6437	0.0978	-1.1810	0.0816
4	175.08	0.6001	0.0669	0.0029	0.2007	0.0340	-3.4077	0.1126	-1.3240	0.0882
4	175.08	0.6501	0.0573	0.0031	0.1851	0.0392	-4.4063	0.1329	-1.2496	0.0829
4	175.08	0.6999	0.0569	0.0048	0.1519	0.0452	-5.5910	0.1574	-1.2344	0.1001
4	175.08	0.7500	0.0341	0.0079	0.1104	0.0516	-6.9197	0.1881	-1.1074	0.0916
4	175.08	0.8002	-0.0077	0.0112	0.0708	0.0589	-8.3989	0.2223	-1.1959	0.1080
4	175.08	0.8582	-0.0591	0.0156	0.0186	0.0664	-10.2215	0.2680	-1.4633	0.0861
4	175.08	0.9101	-0.0878	0.0197	-0.0330	0.0732	-11.9021	0.3146	-1.5152	0.1041
4	175.08	0.9728	-0.1022	0.0232	-0.0270	0.0820	-13.7858	0.3713	-1.0462	0.1028

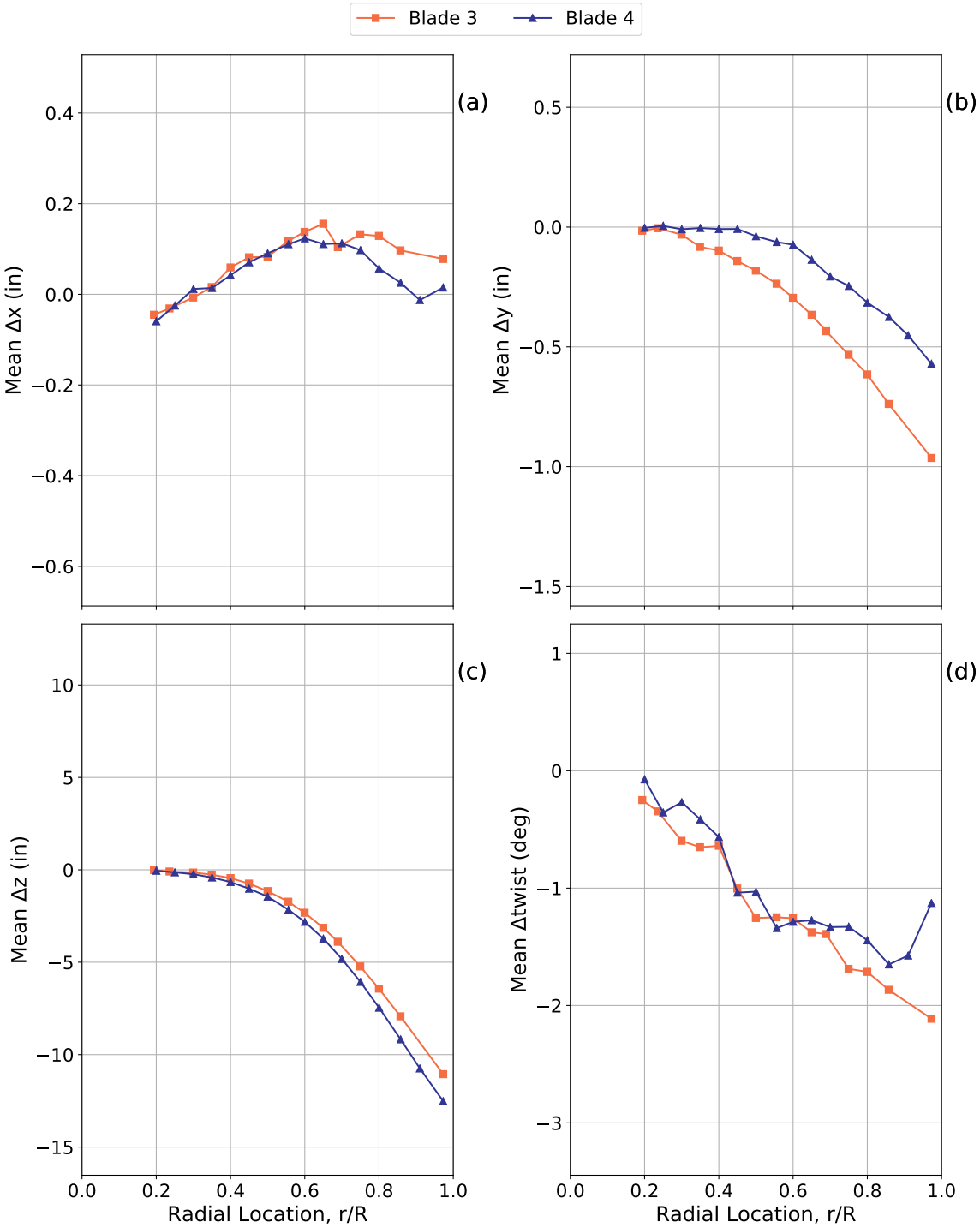


Figure 3.6-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0451	0.0011	-0.0152	0.0015	-0.0091	0.0032	-0.2495	0.0968
3	180.35	0.2357	-0.0312	0.0017	-0.0046	0.0052	-0.0904	0.0074	-0.3462	0.0849
3	180.35	0.2995	-0.0070	0.0024	-0.0314	0.0045	-0.1461	0.0102	-0.5966	0.1990
3	180.35	0.3493	0.0161	0.0012	-0.0825	0.0151	-0.2612	0.0213	-0.6513	0.1182
3	180.35	0.4000	0.0593	0.0025	-0.0980	0.0170	-0.4465	0.0289	-0.6396	0.1028
3	180.35	0.4497	0.0818	0.0022	-0.1417	0.0208	-0.7418	0.0343	-1.0032	0.1037
3	180.35	0.4997	0.0827	0.0024	-0.1818	0.0268	-1.1489	0.0404	-1.2545	0.0943
3	180.35	0.5556	0.1180	0.0034	-0.2365	0.0317	-1.7230	0.0451	-1.2484	0.1031
3	180.35	0.5995	0.1377	0.0031	-0.2951	0.0378	-2.3222	0.0524	-1.2566	0.1125
3	180.35	0.6498	0.1557	0.0043	-0.3662	0.0446	-3.1386	0.0544	-1.3765	0.1137
3	180.35	0.6890	0.1042	0.0047	-0.4348	0.0488	-3.8929	0.0557	-1.3918	0.1000
3	180.35	0.7495	0.1325	0.0058	-0.5331	0.0562	-5.2286	0.0586	-1.6880	0.0980
3	180.35	0.7998	0.1289	0.0052	-0.6152	0.0627	-6.4311	0.0628	-1.7135	0.0906
3	180.35	0.8577	0.0970	0.0100	-0.7384	0.0695	-7.9269	0.0717	-1.8667	0.1337
3	180.35	0.9729	0.0781	0.0220	-0.9638	0.0806	-11.0558	0.1058	-2.1131	0.1303
4	180	0.2001	-0.0595	0.0018	-0.0032	0.0020	-0.0502	0.0056	-0.0737	0.0411
4	180	0.2502	-0.0249	0.0019	0.0049	0.0045	-0.1377	0.0105	-0.3554	0.0392
4	180	0.3001	0.0119	0.0013	-0.0090	0.0061	-0.2374	0.0200	-0.2680	0.0821
4	180	0.3502	0.0140	0.0021	-0.0039	0.0151	-0.4148	0.0327	-0.4147	0.0515
4	180	0.4002	0.0421	0.0013	-0.0081	0.0193	-0.6590	0.0499	-0.5651	0.0540
4	180	0.4500	0.0707	0.0028	-0.0078	0.0264	-1.0218	0.0676	-1.0383	0.0474
4	180	0.5001	0.0905	0.0028	-0.0383	0.0315	-1.4475	0.0872	-1.0302	0.0455
4	180	0.5560	0.1106	0.0031	-0.0625	0.0379	-2.1586	0.1133	-1.3406	0.0535
4	180	0.6001	0.1235	0.0044	-0.0737	0.0427	-2.8154	0.1373	-1.2871	0.0519
4	180	0.6501	0.1109	0.0067	-0.1365	0.0502	-3.7275	0.1640	-1.2738	0.0390
4	180	0.6999	0.1126	0.0079	-0.2063	0.0567	-4.8238	0.1937	-1.3319	0.0564
4	180	0.7500	0.0975	0.0108	-0.2458	0.0631	-6.0678	0.2259	-1.3295	0.0445
4	180	0.8002	0.0571	0.0127	-0.3156	0.0685	-7.4623	0.2615	-1.4452	0.0867
4	180	0.8582	0.0255	0.0159	-0.3755	0.0804	-9.1738	0.3072	-1.6504	0.1119
4	180	0.9101	-0.0126	0.0212	-0.4526	0.0882	-10.7484	0.3541	-1.5747	0.1040
4	180	0.9728	0.0150	0.0254	-0.5709	0.0969	-12.5148	0.4088	-1.1266	0.0790

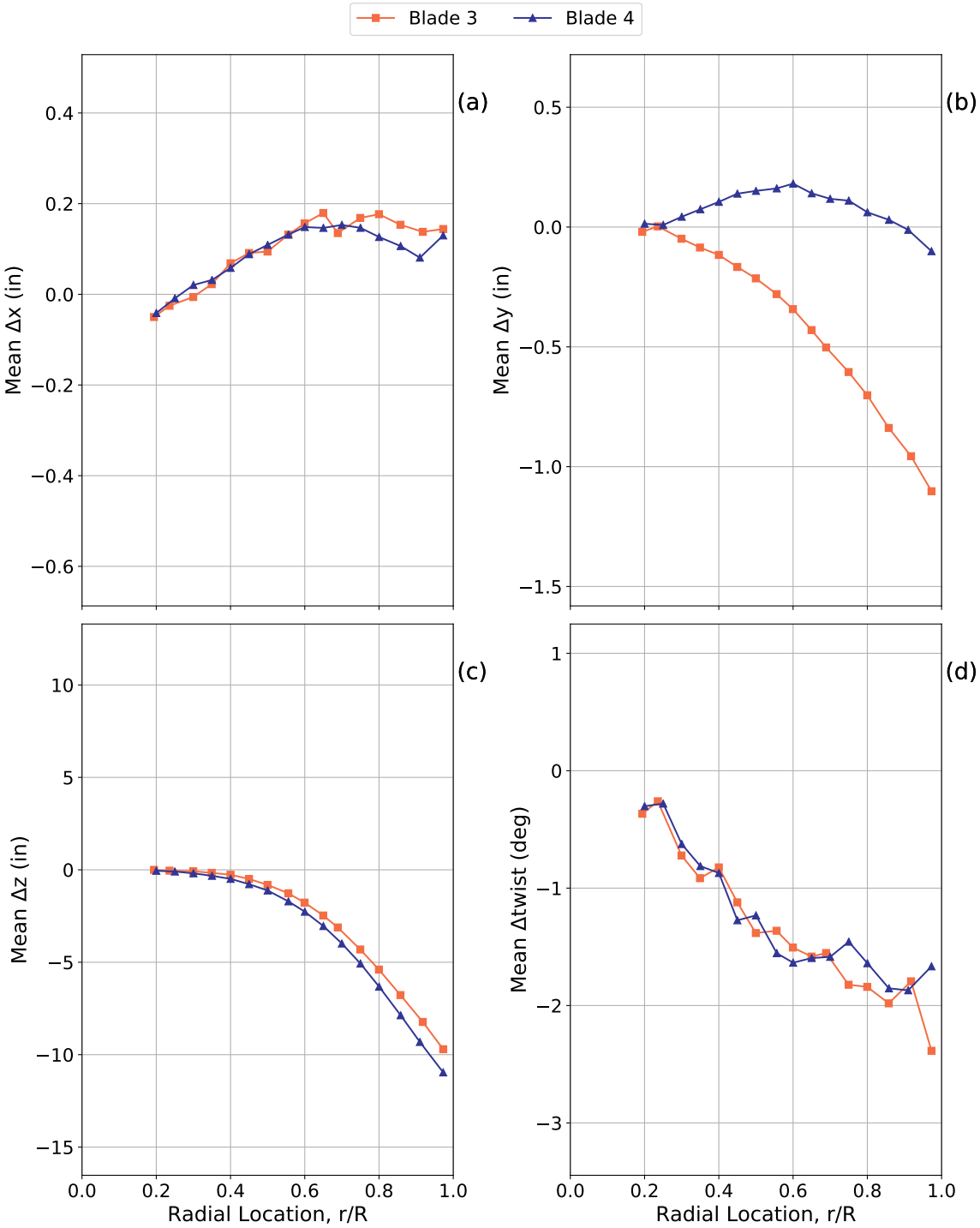


Figure 3.6-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0501	0.0025	-0.0201	0.0023	-0.0030	0.0044	-0.3663	0.0330
3	184.92	0.2357	-0.0252	0.0027	0.0028	0.0033	-0.0465	0.0087	-0.2602	0.1488
3	184.92	0.2995	-0.0059	0.0018	-0.0488	0.0086	-0.0776	0.0157	-0.7223	0.1381
3	184.92	0.3493	0.0224	0.0017	-0.0856	0.0135	-0.1643	0.0265	-0.9154	0.1449
3	184.92	0.4000	0.0685	0.0016	-0.1163	0.0215	-0.2674	0.0417	-0.8235	0.1426
3	184.92	0.4497	0.0912	0.0018	-0.1666	0.0251	-0.4927	0.0596	-1.1213	0.1470
3	184.92	0.4997	0.0943	0.0029	-0.2142	0.0314	-0.8144	0.0807	-1.3828	0.1554
3	184.92	0.5556	0.1316	0.0027	-0.2799	0.0391	-1.2694	0.1047	-1.3631	0.1585
3	184.92	0.5995	0.1564	0.0031	-0.3425	0.0444	-1.7753	0.1242	-1.5059	0.1653
3	184.92	0.6498	0.1794	0.0045	-0.4300	0.0509	-2.4712	0.1438	-1.5829	0.1681
3	184.92	0.6890	0.1351	0.0061	-0.5025	0.0560	-3.1185	0.1546	-1.5527	0.1716
3	184.92	0.7495	0.1685	0.0063	-0.6051	0.0682	-4.3102	0.1721	-1.8229	0.1827
3	184.92	0.7998	0.1767	0.0097	-0.7020	0.0749	-5.3976	0.1878	-1.8410	0.2021
3	184.92	0.8577	0.1534	0.0132	-0.8384	0.0833	-6.7760	0.2098	-1.9816	0.2385
3	184.92	0.9178	0.1378	0.0144	-0.9564	0.0927	-8.2292	0.2266	-1.7939	0.2210
3	184.92	0.9729	0.1440	0.0246	-1.1026	0.1021	-9.7054	0.2629	-2.3859	0.2517
4	184.92	0.2001	-0.0413	0.0014	0.0138	0.0012	-0.0532	0.0027	-0.3024	0.0200
4	184.92	0.2502	-0.0088	0.0015	0.0085	0.0035	-0.0940	0.0064	-0.2803	0.0441
4	184.92	0.3001	0.0205	0.0016	0.0429	0.0055	-0.1905	0.0122	-0.6249	0.0482
4	184.92	0.3502	0.0317	0.0018	0.0741	0.0098	-0.3253	0.0138	-0.8126	0.0682
4	184.92	0.4002	0.0583	0.0015	0.1051	0.0156	-0.4903	0.0258	-0.8715	0.0569
4	184.92	0.4500	0.0885	0.0017	0.1392	0.0182	-0.7786	0.0310	-1.2740	0.0556
4	184.92	0.5001	0.1091	0.0020	0.1509	0.0234	-1.1192	0.0392	-1.2325	0.0656
4	184.92	0.5560	0.1318	0.0018	0.1612	0.0293	-1.7084	0.0497	-1.5543	0.0741
4	184.92	0.6001	0.1484	0.0031	0.1811	0.0337	-2.2674	0.0603	-1.6353	0.0632
4	184.92	0.6501	0.1465	0.0035	0.1407	0.0390	-3.0428	0.0726	-1.5956	0.0849
4	184.92	0.6999	0.1530	0.0047	0.1177	0.0435	-3.9878	0.0879	-1.5856	0.0739
4	184.92	0.7500	0.1466	0.0059	0.1102	0.0472	-5.0728	0.1054	-1.4565	0.0586
4	184.92	0.8002	0.1264	0.0079	0.0615	0.0529	-6.3211	0.1262	-1.6400	0.0714
4	184.92	0.8582	0.1064	0.0089	0.0300	0.0613	-7.8689	0.1502	-1.8540	0.0701
4	184.92	0.9101	0.0809	0.0102	-0.0118	0.0639	-9.3134	0.1729	-1.8704	0.1138
4	184.92	0.9728	0.1299	0.0139	-0.1009	0.0755	-10.9598	0.1933	-1.6663	0.1568

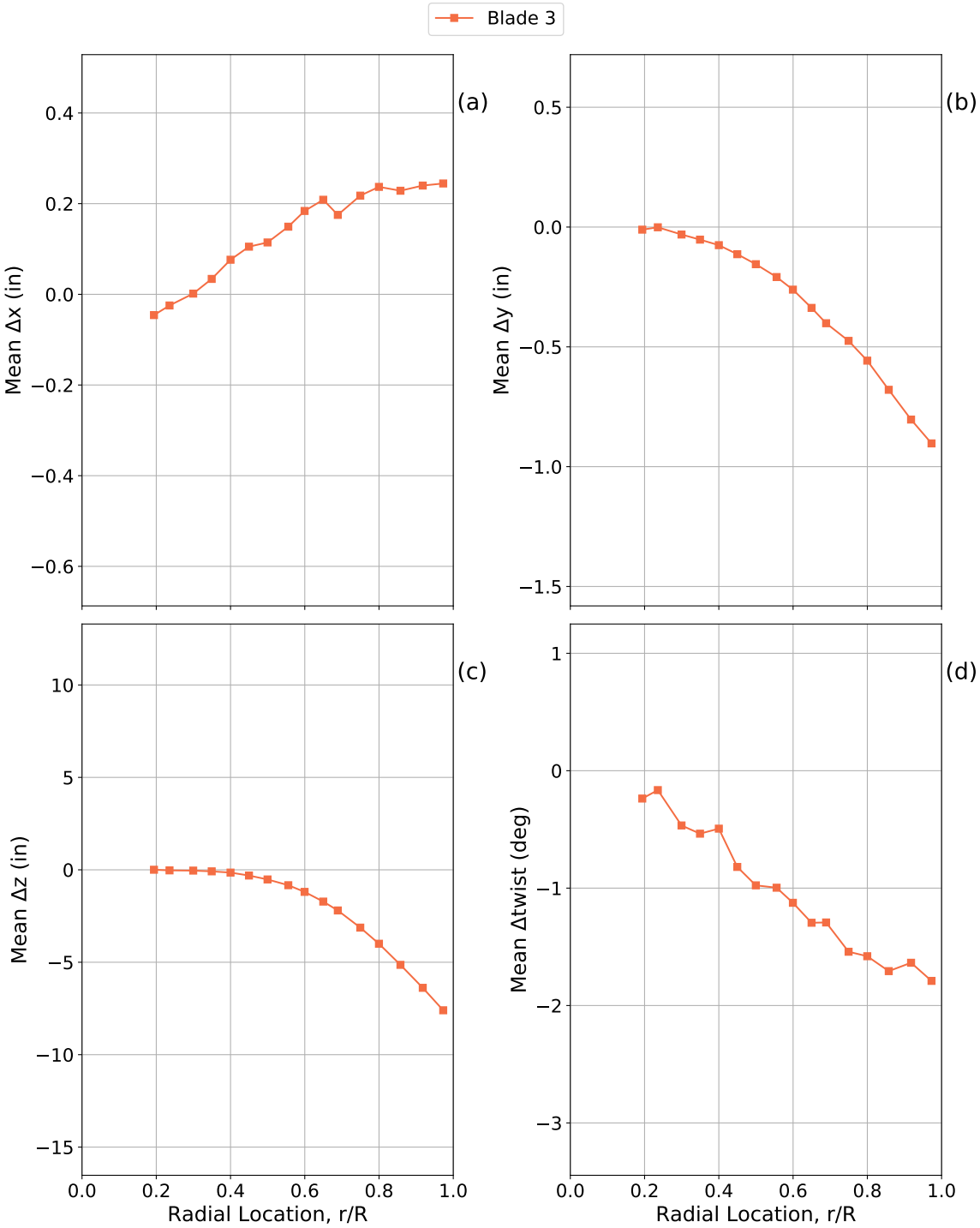


Figure 3.6-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0458	0.0009	-0.0109	0.0009	0.0041	0.0033	-0.2371	0.0256
3	195.12	0.2357	-0.0246	0.0011	-0.0010	0.0019	-0.0302	0.0053	-0.1651	0.0386
3	195.12	0.2995	0.0016	0.0007	-0.0312	0.0037	-0.0421	0.0114	-0.4662	0.0586
3	195.12	0.3493	0.0340	0.0014	-0.0525	0.0050	-0.0830	0.0186	-0.5363	0.0592
3	195.12	0.4000	0.0763	0.0014	-0.0756	0.0087	-0.1497	0.0288	-0.4935	0.0597
3	195.12	0.4497	0.1051	0.0016	-0.1133	0.0124	-0.3090	0.0324	-0.8196	0.0708
3	195.12	0.4997	0.1144	0.0015	-0.1551	0.0159	-0.5208	0.0405	-0.9764	0.0779
3	195.12	0.5556	0.1492	0.0035	-0.2087	0.0183	-0.8330	0.0480	-0.9965	0.0468
3	195.12	0.5995	0.1839	0.0026	-0.2612	0.0231	-1.1937	0.0504	-1.1250	0.0908
3	195.12	0.6498	0.2086	0.0036	-0.3374	0.0270	-1.7183	0.0564	-1.2950	0.0762
3	195.12	0.6890	0.1752	0.0037	-0.4014	0.0303	-2.1985	0.0631	-1.2926	0.0642
3	195.12	0.7495	0.2177	0.0038	-0.4750	0.0356	-3.1268	0.0647	-1.5419	0.0907
3	195.12	0.7998	0.2370	0.0051	-0.5575	0.0417	-3.9978	0.0736	-1.5802	0.0822
3	195.12	0.8577	0.2285	0.0070	-0.6792	0.0477	-5.1412	0.0899	-1.7070	0.0962
3	195.12	0.9178	0.2399	0.0093	-0.8034	0.0531	-6.3835	0.1118	-1.6357	0.0952
3	195.12	0.9729	0.2445	0.0103	-0.9029	0.0632	-7.5984	0.1309	-1.7902	0.1127

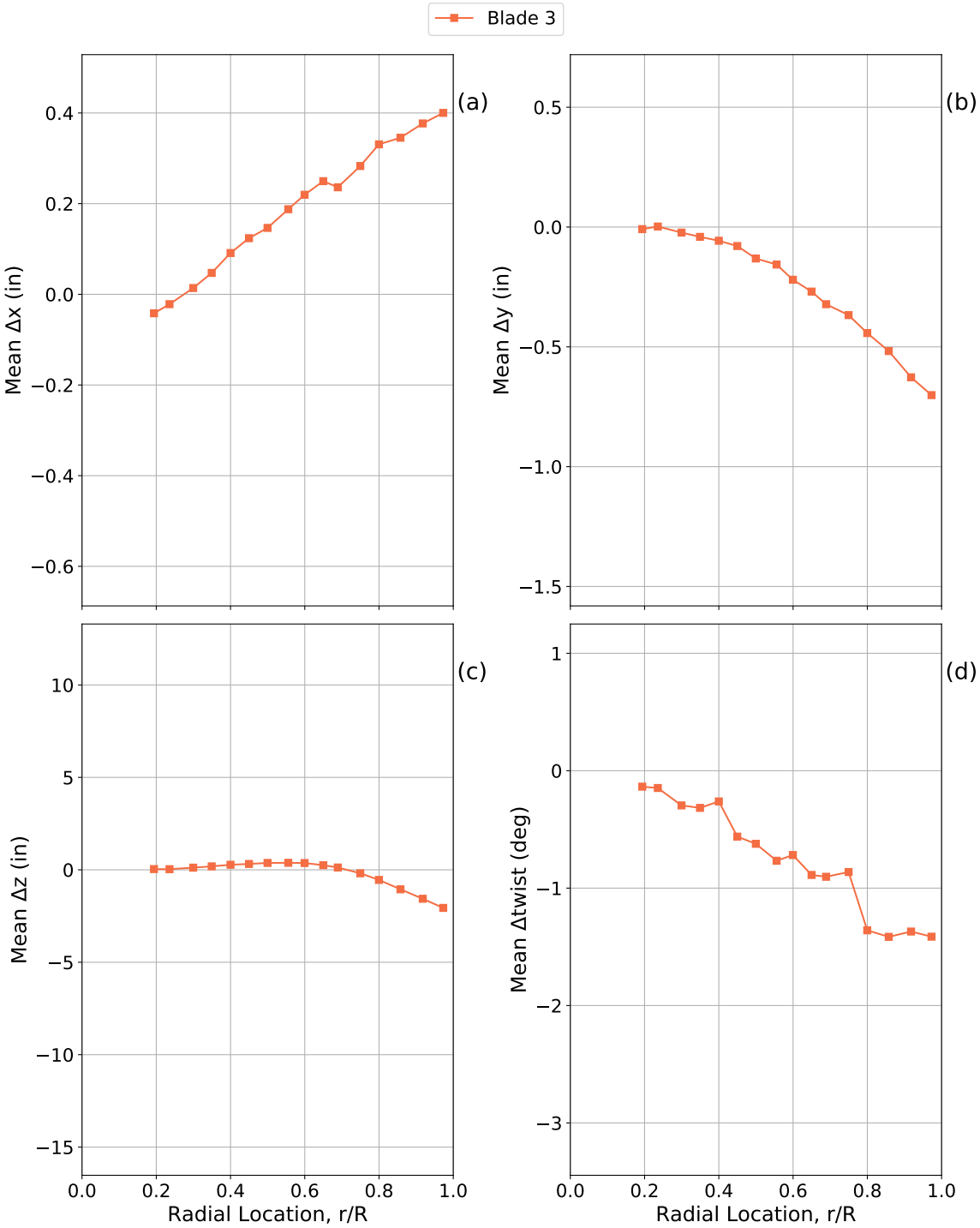


Figure 3.6-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0418	0.0016	-0.0087	0.0010	0.0400	0.0049	-0.1359	0.0194
3	209.88	0.2357	-0.0217	0.0010	0.0022	0.0024	0.0344	0.0085	-0.1473	0.0314
3	209.88	0.2995	0.0139	0.0015	-0.0231	0.0054	0.1176	0.0159	-0.2956	0.0467
3	209.88	0.3493	0.0472	0.0018	-0.0410	0.0095	0.1872	0.0280	-0.3167	0.0390
3	209.88	0.4000	0.0911	0.0020	-0.0572	0.0154	0.2737	0.0409	-0.2617	0.0442
3	209.88	0.4497	0.1238	0.0022	-0.0792	0.0181	0.3172	0.0500	-0.5613	0.0406
3	209.88	0.4997	0.1465	0.0023	-0.1312	0.0223	0.3726	0.0627	-0.6225	0.0365
3	209.88	0.5556	0.1877	0.0029	-0.1565	0.0277	0.3787	0.0757	-0.7669	0.0708
3	209.88	0.5995	0.2196	0.0026	-0.2199	0.0329	0.3680	0.0803	-0.7182	0.0529
3	209.88	0.6498	0.2496	0.0026	-0.2693	0.0384	0.2511	0.0927	-0.8879	0.0389
3	209.88	0.6890	0.2361	0.0034	-0.3220	0.0438	0.1249	0.1020	-0.9034	0.0419
3	209.88	0.7495	0.2830	0.0035	-0.3675	0.0522	-0.1878	0.1210	-0.8629	0.0500
3	209.88	0.7998	0.3308	0.0038	-0.4424	0.0567	-0.5465	0.1397	-1.3594	0.0566
3	209.88	0.8577	0.3454	0.0065	-0.5175	0.0671	-1.0543	0.1759	-1.4151	0.1053
3	209.88	0.9178	0.3769	0.0041	-0.6271	0.0678	-1.5666	0.2041	-1.3698	0.1116
3	209.88	0.9729	0.4002	0.0060	-0.7013	0.0768	-2.0596	0.2445	-1.4136	0.1490

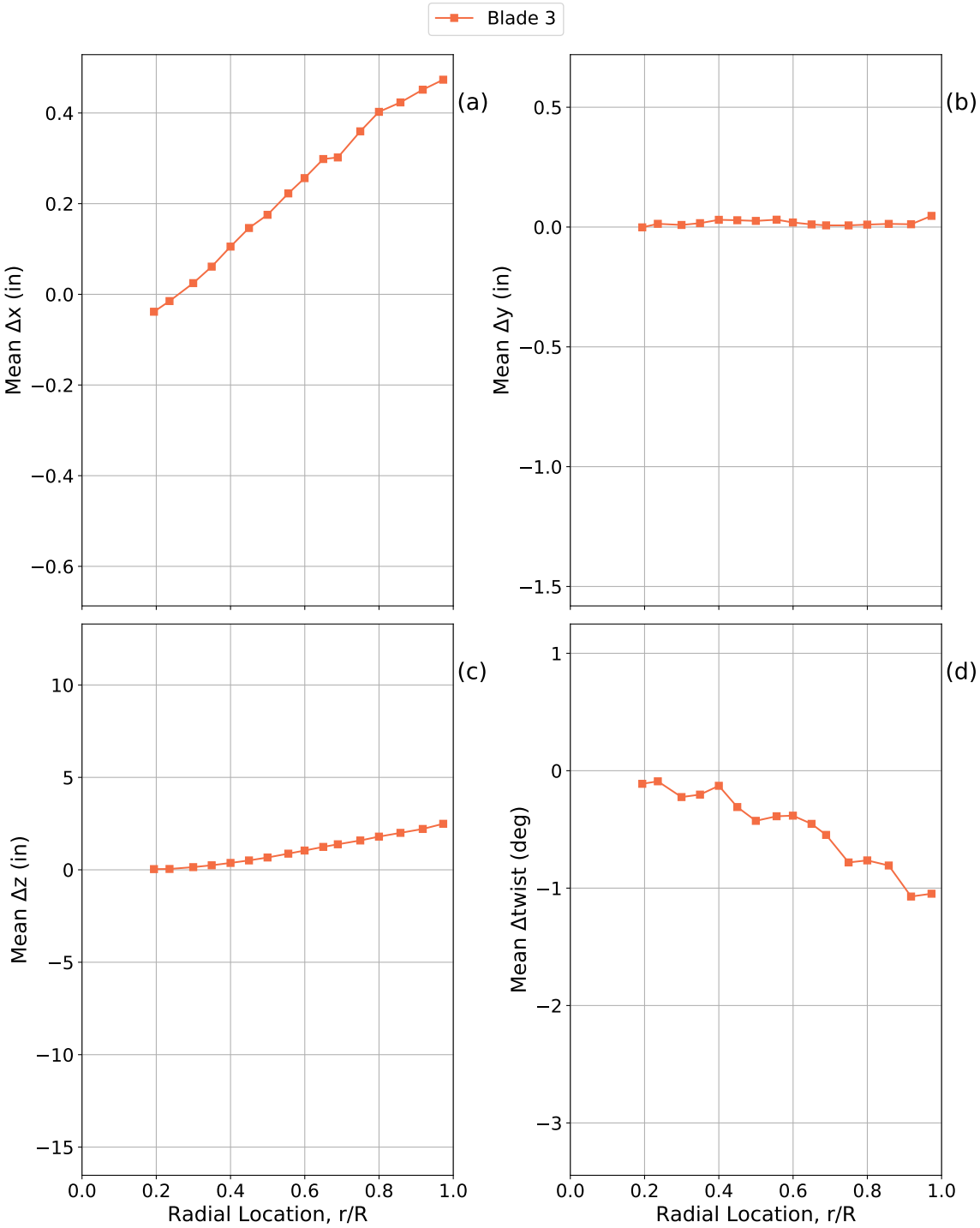


Figure 3.6-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0384	0.0013	-0.0013	0.0009	0.0387	0.0048	-0.1115	0.0243
3	225	0.2357	-0.0149	0.0014	0.0135	0.0024	0.0463	0.0072	-0.0904	0.0395
3	225	0.2995	0.0247	0.0009	0.0087	0.0049	0.1448	0.0167	-0.2244	0.0562
3	225	0.3493	0.0611	0.0010	0.0162	0.0070	0.2451	0.0226	-0.2036	0.0571
3	225	0.4000	0.1053	0.0025	0.0302	0.0128	0.3729	0.0368	-0.1284	0.0619
3	225	0.4497	0.1463	0.0025	0.0284	0.0150	0.5084	0.0488	-0.3095	0.0570
3	225	0.4997	0.1754	0.0017	0.0256	0.0179	0.6666	0.0615	-0.4270	0.0604
3	225	0.5556	0.2226	0.0018	0.0307	0.0225	0.8748	0.0831	-0.3879	0.0722
3	225	0.5995	0.2563	0.0027	0.0191	0.0267	1.0434	0.0976	-0.3828	0.0794
3	225	0.6498	0.2984	0.0028	0.0109	0.0308	1.2394	0.1252	-0.4527	0.0709
3	225	0.6890	0.3019	0.0024	0.0070	0.0356	1.3812	0.1446	-0.5468	0.0649
3	225	0.7495	0.3595	0.0042	0.0069	0.0404	1.5872	0.1792	-0.7813	0.0709
3	225	0.7998	0.4025	0.0043	0.0102	0.0459	1.7960	0.2113	-0.7639	0.0722
3	225	0.8577	0.4233	0.0043	0.0132	0.0517	1.9991	0.2521	-0.8074	0.0689
3	225	0.9178	0.4514	0.0053	0.0116	0.0579	2.2099	0.2952	-1.0717	0.0571
3	225	0.9729	0.4734	0.0080	0.0466	0.0638	2.4897	0.3349	-1.0476	0.0776

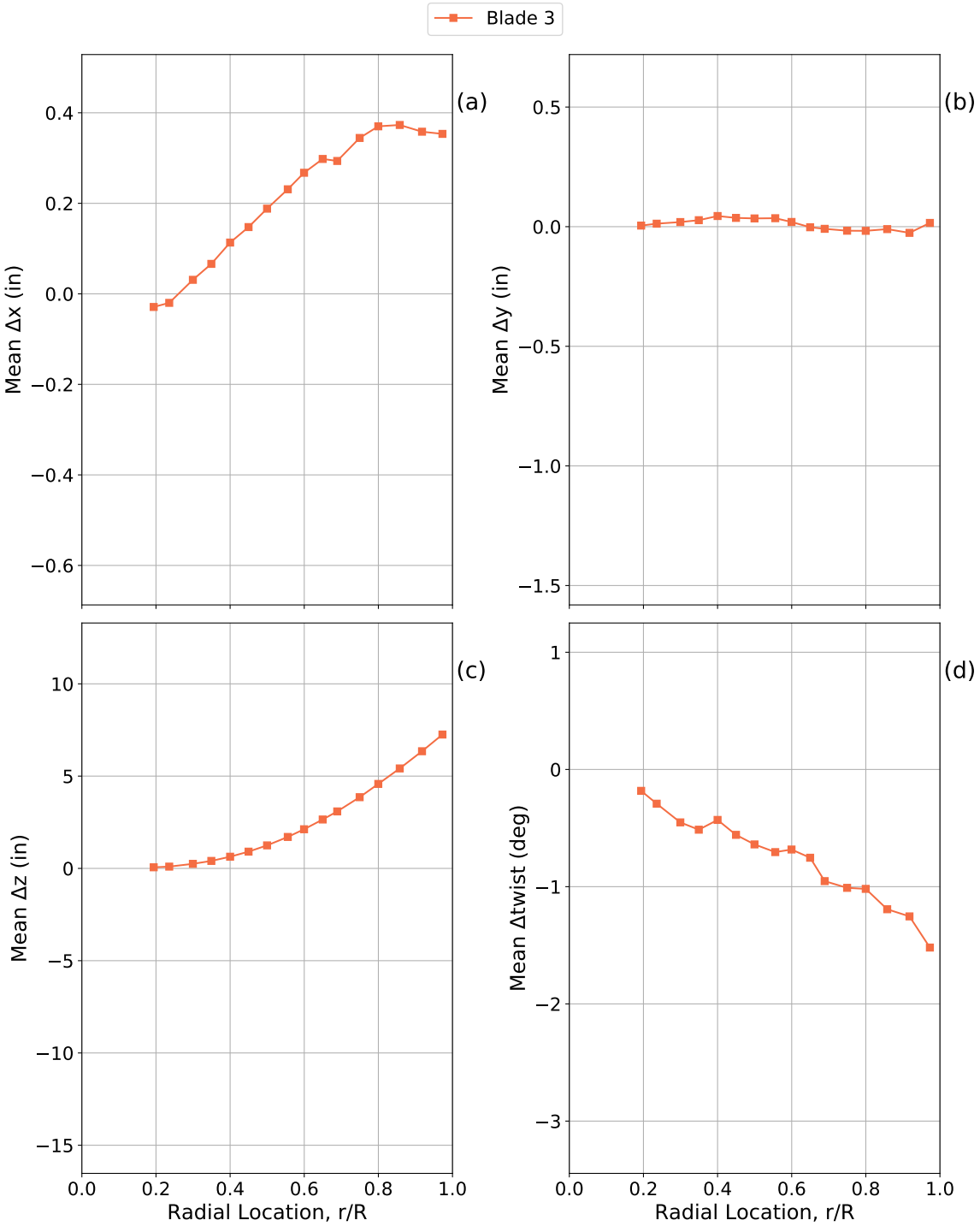


Figure 3.6-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0290	0.0021	0.0046	0.0009	0.0602	0.0061	-0.1826	0.0269
3	240.12	0.2357	-0.0199	0.0008	0.0125	0.0009	0.0966	0.0093	-0.2921	0.0682
3	240.12	0.2995	0.0310	0.0010	0.0193	0.0028	0.2470	0.0196	-0.4515	0.0777
3	240.12	0.3493	0.0662	0.0011	0.0271	0.0052	0.4056	0.0306	-0.5139	0.0742
3	240.12	0.4000	0.1133	0.0008	0.0445	0.0077	0.6332	0.0474	-0.4306	0.0824
3	240.12	0.4497	0.1475	0.0011	0.0367	0.0109	0.9081	0.0645	-0.5579	0.0883
3	240.12	0.4997	0.1882	0.0020	0.0345	0.0142	1.2478	0.0842	-0.6395	0.0896
3	240.12	0.5556	0.2310	0.0017	0.0354	0.0190	1.7043	0.1106	-0.7051	0.0931
3	240.12	0.5995	0.2675	0.0026	0.0197	0.0233	2.1209	0.1265	-0.6831	0.0862
3	240.12	0.6498	0.2980	0.0028	-0.0024	0.0286	2.6494	0.1473	-0.7531	0.0925
3	240.12	0.6890	0.2936	0.0035	-0.0090	0.0329	3.0872	0.1601	-0.9527	0.0925
3	240.12	0.7495	0.3444	0.0052	-0.0169	0.0399	3.8584	0.1773	-1.0100	0.0927
3	240.12	0.7998	0.3701	0.0054	-0.0174	0.0470	4.5775	0.1851	-1.0188	0.0871
3	240.12	0.8577	0.3731	0.0057	-0.0102	0.0553	5.4165	0.1919	-1.1926	0.0976
3	240.12	0.9178	0.3582	0.0053	-0.0258	0.0635	6.3486	0.1947	-1.2536	0.0926
3	240.12	0.9729	0.3534	0.0078	0.0157	0.0728	7.2532	0.1954	-1.5194	0.0884

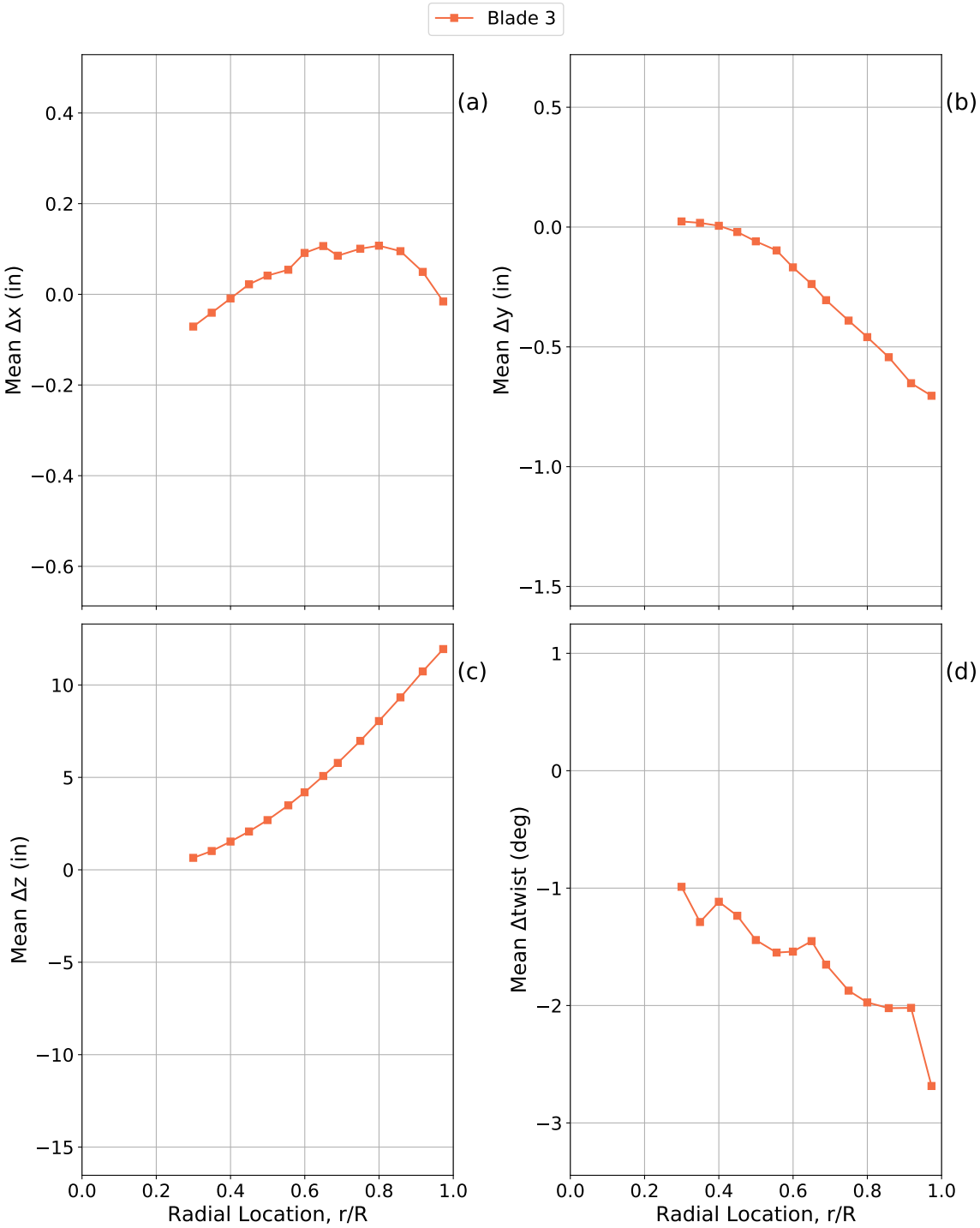


Figure 3.6-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.0711	0.0137	0.0234	0.0098	0.6476	0.0918	-0.9889	0.1972
3	254.88	0.3493	-0.0406	0.0110	0.0174	0.0194	1.0171	0.1358	-1.2888	0.2586
3	254.88	0.4000	-0.0091	0.0137	0.0053	0.0337	1.5286	0.1953	-1.1163	0.2479
3	254.88	0.4497	0.0221	0.0164	-0.0206	0.0458	2.0740	0.2481	-1.2353	0.2485
3	254.88	0.4997	0.0413	0.0188	-0.0597	0.0587	2.6900	0.3016	-1.4423	0.2532
3	254.88	0.5556	0.0542	0.0223	-0.0976	0.0729	3.4873	0.3609	-1.5490	0.2417
3	254.88	0.5995	0.0913	0.0247	-0.1682	0.0845	4.1932	0.4067	-1.5408	0.2392
3	254.88	0.6498	0.1065	0.0282	-0.2378	0.0974	5.0760	0.4591	-1.4515	0.2440
3	254.88	0.6890	0.0852	0.0305	-0.3052	0.1075	5.7819	0.5016	-1.6519	0.2422
3	254.88	0.7495	0.1006	0.0350	-0.3903	0.1239	6.9746	0.5683	-1.8732	0.2284
3	254.88	0.7998	0.1073	0.0391	-0.4594	0.1377	8.0472	0.6251	-1.9737	0.2407
3	254.88	0.8577	0.0952	0.0441	-0.5432	0.1533	9.3273	0.6961	-2.0223	0.2271
3	254.88	0.9178	0.0495	0.0504	-0.6517	0.1700	10.7337	0.7703	-2.0202	0.2374
3	254.88	0.9729	-0.0158	0.0604	-0.7041	0.1854	11.9413	0.8391	-2.6855	0.2360

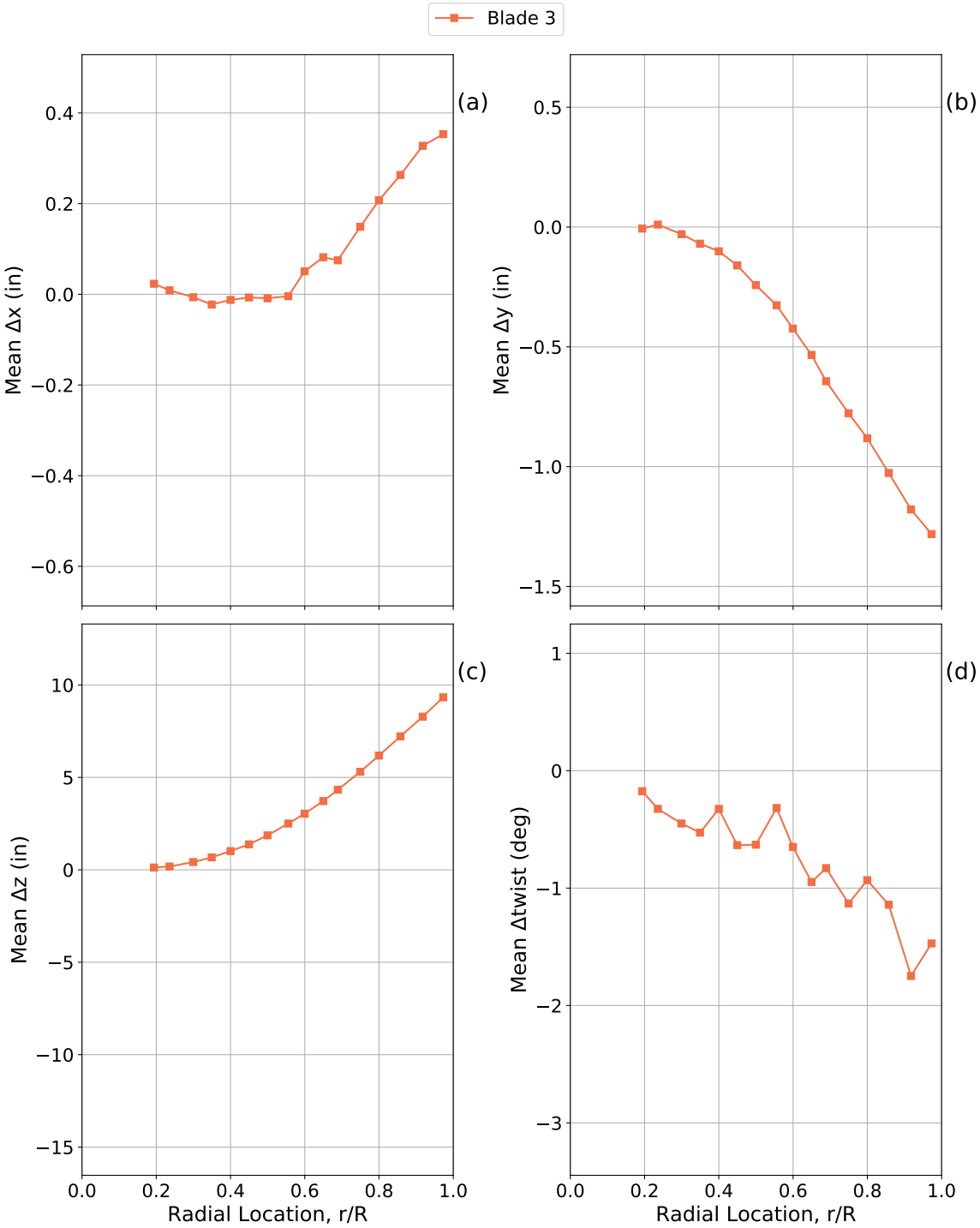


Figure 3.6-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0233	0.0015	-0.0064	0.0005	0.1253	0.0044	-0.1743	0.0326
3	260.16	0.2357	0.0089	0.0022	0.0103	0.0018	0.1802	0.0057	-0.3250	0.0469
3	260.16	0.2995	-0.0065	0.0014	-0.0298	0.0033	0.4205	0.0127	-0.4494	0.0773
3	260.16	0.3493	-0.0225	0.0027	-0.0694	0.0039	0.6725	0.0208	-0.5275	0.0541
3	260.16	0.4000	-0.0123	0.0025	-0.1011	0.0076	1.0124	0.0299	-0.3254	0.0788
3	260.16	0.4497	-0.0069	0.0034	-0.1604	0.0091	1.3767	0.0326	-0.6337	0.0542
3	260.16	0.4997	-0.0087	0.0032	-0.2422	0.0116	1.8642	0.0396	-0.6301	0.0627
3	260.16	0.5556	-0.0041	0.0042	-0.3263	0.0149	2.5032	0.0461	-0.3174	0.0621
3	260.16	0.5995	0.0507	0.0048	-0.4235	0.0173	3.0366	0.0528	-0.6495	0.0406
3	260.16	0.6498	0.0818	0.0064	-0.5338	0.0209	3.7184	0.0656	-0.9476	0.0458
3	260.16	0.6890	0.0750	0.0074	-0.6436	0.0229	4.3310	0.0738	-0.8297	0.0558
3	260.16	0.7495	0.1488	0.0092	-0.7770	0.0275	5.3055	0.0881	-1.1313	0.0580
3	260.16	0.7998	0.2075	0.0109	-0.8814	0.0306	6.1808	0.0995	-0.9322	0.0753
3	260.16	0.8577	0.2633	0.0126	-1.0265	0.0339	7.2227	0.1165	-1.1416	0.0587
3	260.16	0.9178	0.3276	0.0161	-1.1787	0.0386	8.2865	0.1419	-1.7480	0.0623
3	260.16	0.9729	0.3532	0.0190	-1.2813	0.0403	9.3303	0.1590	-1.4711	0.0764

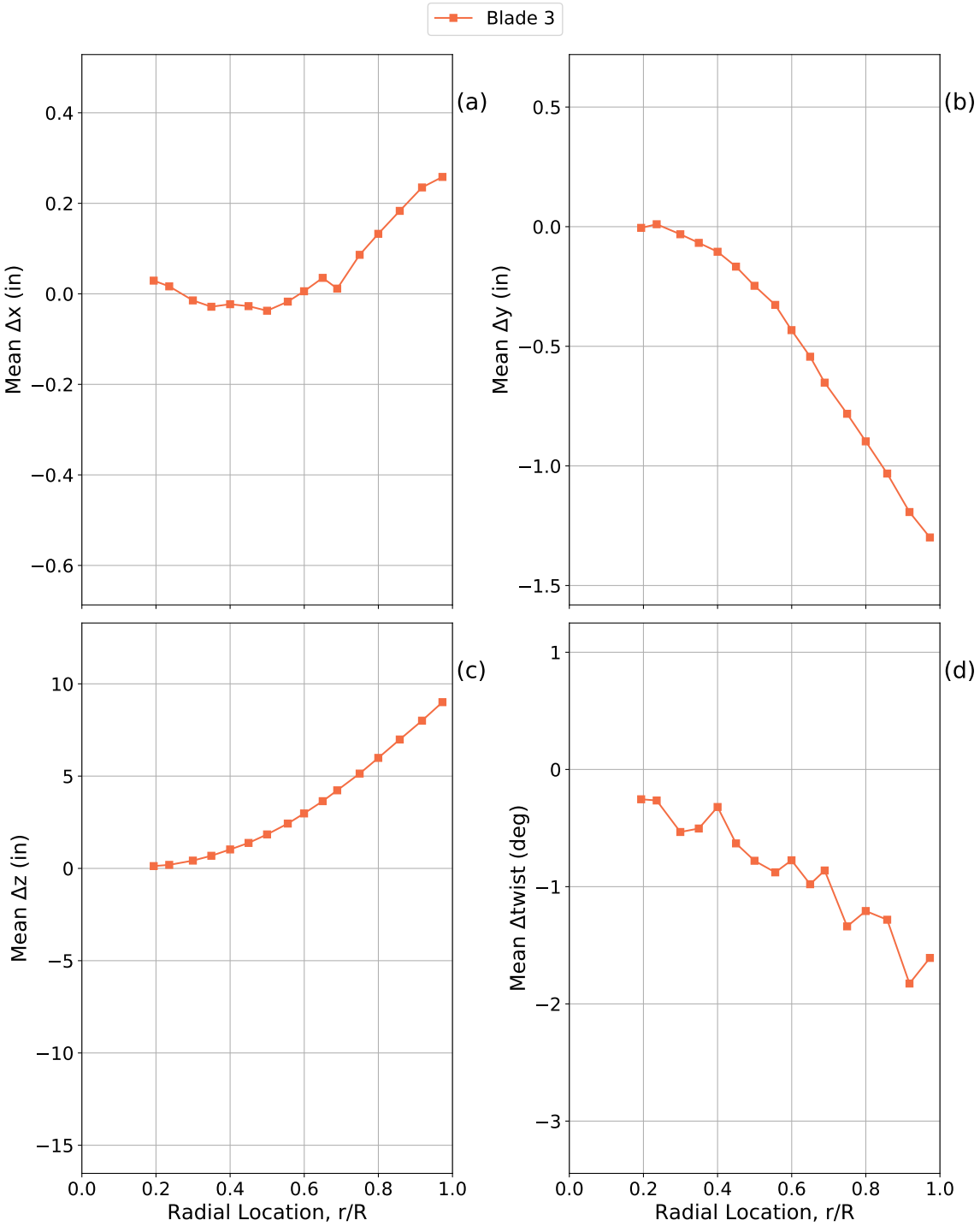


Figure 3.6-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0292	0.0017	-0.0050	0.0005	0.1253	0.0072	-0.2544	0.0393
3	265.08	0.2357	0.0165	0.0021	0.0102	0.0016	0.1908	0.0131	-0.2646	0.0537
3	265.08	0.2995	-0.0145	0.0027	-0.0317	0.0049	0.4227	0.0305	-0.5336	0.0924
3	265.08	0.3493	-0.0285	0.0036	-0.0677	0.0082	0.6842	0.0355	-0.5039	0.0675
3	265.08	0.4000	-0.0229	0.0051	-0.1048	0.0147	1.0266	0.0634	-0.3203	0.0930
3	265.08	0.4497	-0.0272	0.0026	-0.1670	0.0151	1.3804	0.0632	-0.6309	0.0753
3	265.08	0.4997	-0.0373	0.0046	-0.2471	0.0219	1.8413	0.0813	-0.7789	0.0468
3	265.08	0.5556	-0.0172	0.0035	-0.3270	0.0271	2.4294	0.0975	-0.8779	0.0746
3	265.08	0.5995	0.0057	0.0048	-0.4325	0.0327	2.9781	0.1100	-0.7749	0.0825
3	265.08	0.6498	0.0353	0.0058	-0.5436	0.0401	3.6430	0.1246	-0.9792	0.0949
3	265.08	0.6890	0.0116	0.0051	-0.6519	0.0456	4.2299	0.1361	-0.8619	0.0803
3	265.08	0.7495	0.0862	0.0065	-0.7821	0.0552	5.1380	0.1526	-1.3389	0.0813
3	265.08	0.7998	0.1326	0.0074	-0.8974	0.0638	5.9872	0.1684	-1.2078	0.0916
3	265.08	0.8577	0.1833	0.0093	-1.0320	0.0741	6.9843	0.1875	-1.2820	0.0932
3	265.08	0.9178	0.2351	0.0112	-1.1928	0.0845	8.0048	0.2258	-1.8265	0.0931
3	265.08	0.9729	0.2583	0.0157	-1.2990	0.0943	9.0069	0.2572	-1.6079	0.1353

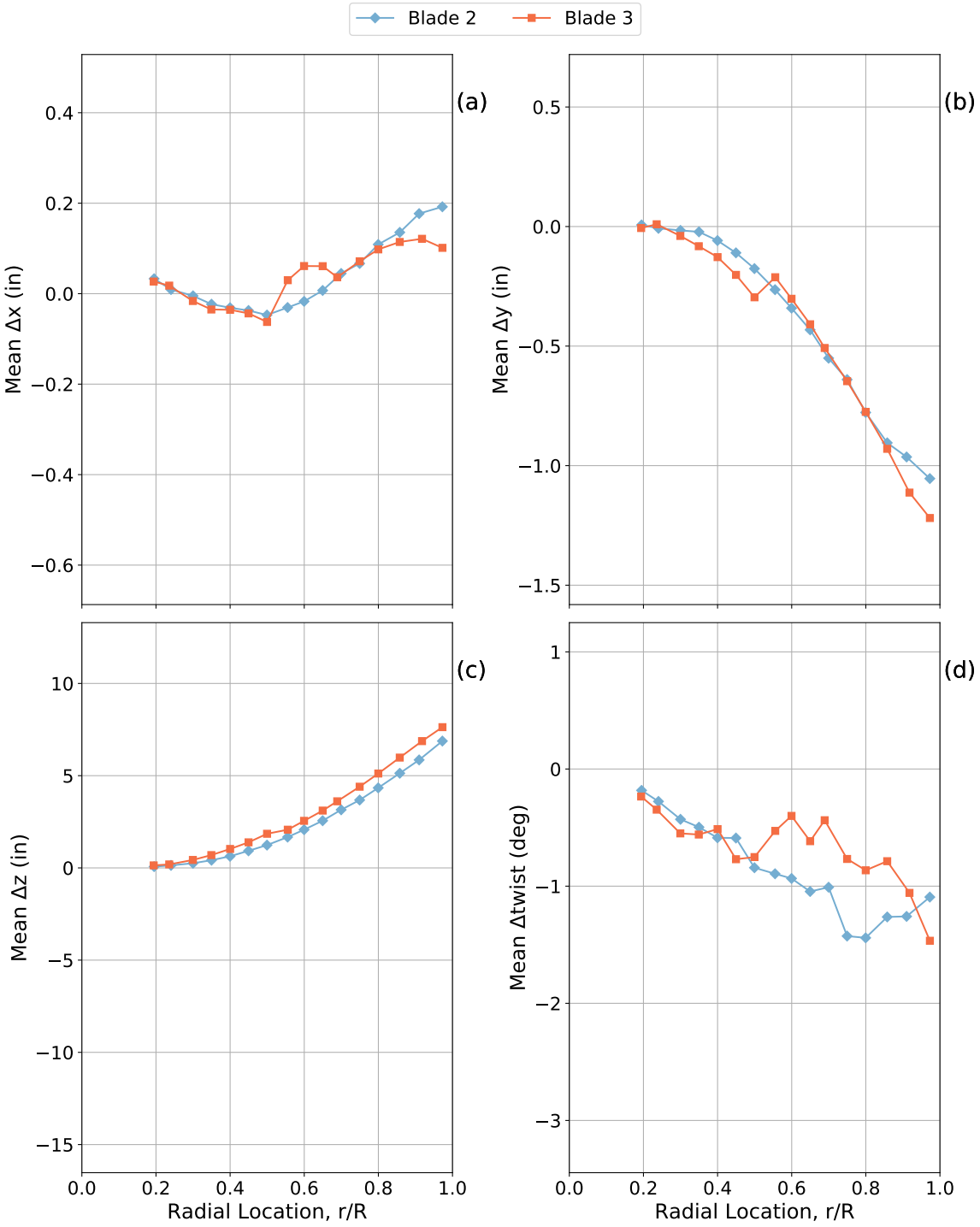


Figure 3.6-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0330	0.0020	0.0067	0.0010	0.0697	0.0101	-0.1823	0.0402
2	270.35	0.2405	0.0091	0.0014	-0.0075	0.0018	0.1365	0.0177	-0.2769	0.0492
2	270.35	0.2999	-0.0048	0.0013	-0.0161	0.0051	0.2522	0.0333	-0.4295	0.0825
2	270.35	0.3498	-0.0233	0.0016	-0.0222	0.0093	0.4177	0.0533	-0.4965	0.0448
2	270.35	0.3998	-0.0311	0.0025	-0.0587	0.0152	0.6297	0.0795	-0.5869	0.0565
2	270.35	0.4496	-0.0372	0.0032	-0.1100	0.0213	0.9255	0.1071	-0.5891	0.0824
2	270.35	0.4995	-0.0472	0.0039	-0.1759	0.0291	1.2358	0.1403	-0.8426	0.0698
2	270.35	0.5551	-0.0306	0.0053	-0.2641	0.0385	1.6701	0.1768	-0.8943	0.0621
2	270.35	0.5996	-0.0170	0.0073	-0.3412	0.0471	2.0718	0.2101	-0.9343	0.0719
2	270.35	0.6497	0.0071	0.0086	-0.4320	0.0579	2.5586	0.2467	-1.0457	0.0523
2	270.35	0.6996	0.0447	0.0107	-0.5505	0.0688	3.1500	0.2835	-1.0091	0.0486
2	270.35	0.7495	0.0668	0.0127	-0.6400	0.0806	3.6785	0.3192	-1.4261	0.0470
2	270.35	0.7996	0.1088	0.0146	-0.7777	0.0928	4.3389	0.3479	-1.4413	0.0414
2	270.35	0.8578	0.1355	0.0177	-0.9047	0.1079	5.1317	0.3849	-1.2628	0.0662
2	270.35	0.9100	0.1770	0.0204	-0.9637	0.1215	5.8542	0.4203	-1.2582	0.0721
2	270.35	0.9727	0.1921	0.0274	-1.0541	0.1376	6.8766	0.4586	-1.0932	0.0637
3	270	0.1938	0.0268	0.0014	-0.0062	0.0010	0.1366	0.0042	-0.2348	0.0334
3	270	0.2357	0.0178	0.0012	0.0095	0.0015	0.1886	0.0089	-0.3470	0.0420
3	270	0.2995	-0.0162	0.0018	-0.0393	0.0031	0.4311	0.0141	-0.5496	0.0646
3	270	0.3493	-0.0350	0.0012	-0.0823	0.0047	0.6947	0.0290	-0.5594	0.0314
3	270	0.4000	-0.0356	0.0033	-0.1279	0.0078	1.0267	0.0408	-0.5130	0.0711
3	270	0.4497	-0.0436	0.0020	-0.2022	0.0112	1.3865	0.0472	-0.7700	0.1106
3	270	0.4997	-0.0625	0.0034	-0.2959	0.0146	1.8508	0.0578	-0.7518	0.0530
3	270	0.5556	0.0298	0.0060	-0.2120	0.0196	2.0717	0.0734	-0.5282	0.0740
3	270	0.5995	0.0611	0.0047	-0.3021	0.0230	2.5516	0.0738	-0.4002	0.0828
3	270	0.6498	0.0608	0.0049	-0.4087	0.0289	3.1073	0.0795	-0.6161	0.0707
3	270	0.6890	0.0363	0.0054	-0.5079	0.0331	3.6110	0.0842	-0.4372	0.0644
3	270	0.7495	0.0716	0.0054	-0.6467	0.0410	4.4019	0.0869	-0.7678	0.0506
3	270	0.7998	0.0979	0.0063	-0.7751	0.0476	5.1164	0.0952	-0.8646	0.0535
3	270	0.8577	0.1143	0.0057	-0.9297	0.0565	5.9803	0.1067	-0.7868	0.0602
3	270	0.9178	0.1213	0.0069	-1.1127	0.0646	6.8734	0.1239	-1.0575	0.0617
3	270	0.9729	0.1013	0.0093	-1.2190	0.0727	7.6303	0.1446	-1.4661	0.0542

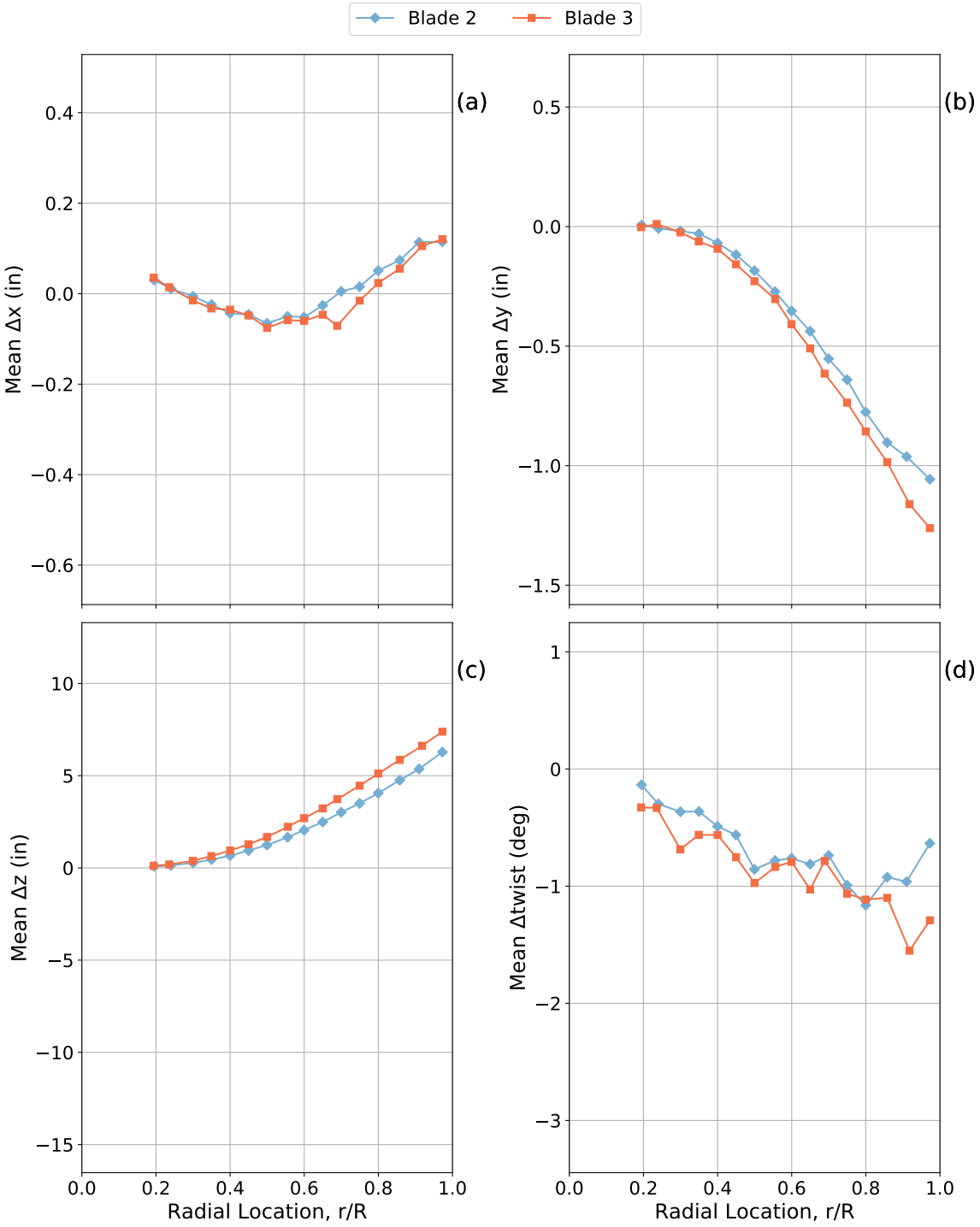


Figure 3.6-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0302	0.0027	0.0060	0.0005	0.0807	0.0088	-0.1351	0.0252
2	274.92	0.2405	0.0110	0.0019	-0.0079	0.0027	0.1352	0.0131	-0.2987	0.0486
2	274.92	0.2999	-0.0058	0.0025	-0.0186	0.0046	0.2711	0.0226	-0.3646	0.0478
2	274.92	0.3498	-0.0242	0.0022	-0.0300	0.0098	0.4485	0.0429	-0.3626	0.0692
2	274.92	0.3998	-0.0434	0.0031	-0.0685	0.0155	0.6642	0.0568	-0.4896	0.0560
2	274.92	0.4496	-0.0461	0.0039	-0.1180	0.0210	0.9388	0.0709	-0.5629	0.0533
2	274.92	0.4995	-0.0655	0.0043	-0.1848	0.0287	1.2378	0.0906	-0.8566	0.0508
2	274.92	0.5551	-0.0502	0.0052	-0.2728	0.0375	1.6620	0.1104	-0.7808	0.0695
2	274.92	0.5996	-0.0520	0.0057	-0.3531	0.0451	2.0485	0.1281	-0.7625	0.0479
2	274.92	0.6497	-0.0259	0.0066	-0.4380	0.0540	2.4846	0.1511	-0.8124	0.0511
2	274.92	0.6996	0.0051	0.0074	-0.5530	0.0643	3.0138	0.1744	-0.7372	0.0874
2	274.92	0.7495	0.0153	0.0076	-0.6406	0.0736	3.4967	0.1929	-0.9922	0.0521
2	274.92	0.7996	0.0510	0.0091	-0.7756	0.0839	4.0543	0.2129	-1.1638	0.0613
2	274.92	0.8578	0.0740	0.0096	-0.9032	0.0959	4.7531	0.2366	-0.9237	0.0787
2	274.92	0.9100	0.1137	0.0114	-0.9623	0.1071	5.3671	0.2588	-0.9620	0.0856
2	274.92	0.9727	0.1149	0.0159	-1.0568	0.1195	6.2790	0.2780	-0.6345	0.0518
3	274.92	0.1938	0.0353	0.0066	-0.0028	0.0007	0.1170	0.0056	-0.3278	0.0331
3	274.92	0.2357	0.0141	0.0033	0.0103	0.0013	0.1850	0.0085	-0.3319	0.0510
3	274.92	0.2995	-0.0148	0.0038	-0.0245	0.0029	0.3817	0.0174	-0.6857	0.0641
3	274.92	0.3493	-0.0327	0.0051	-0.0620	0.0047	0.6398	0.0241	-0.5619	0.0780
3	274.92	0.4000	-0.0353	0.0082	-0.0932	0.0083	0.9408	0.0387	-0.5629	0.0762
3	274.92	0.4497	-0.0481	0.0087	-0.1577	0.0106	1.2817	0.0474	-0.7530	0.0658
3	274.92	0.4997	-0.0755	0.0094	-0.2286	0.0135	1.6761	0.0582	-0.9730	0.0823
3	274.92	0.5556	-0.0585	0.0084	-0.3037	0.0184	2.2292	0.0718	-0.8360	0.0606
3	274.92	0.5995	-0.0600	0.0099	-0.4084	0.0224	2.6954	0.0812	-0.7921	0.0725
3	274.92	0.6498	-0.0465	0.0125	-0.5097	0.0270	3.2251	0.0948	-1.0287	0.0564
3	274.92	0.6890	-0.0710	0.0161	-0.6154	0.0312	3.7252	0.1066	-0.7849	0.0594
3	274.92	0.7495	-0.0154	0.0259	-0.7368	0.0374	4.4566	0.1217	-1.0641	0.0762
3	274.92	0.7998	0.0235	0.0364	-0.8571	0.0429	5.1153	0.1389	-1.1147	0.0883
3	274.92	0.8577	0.0553	0.0525	-0.9852	0.0488	5.8550	0.1680	-1.0994	0.0803
3	274.92	0.9178	0.1053	0.0734	-1.1612	0.0536	6.6198	0.1955	-1.5508	0.0993
3	274.92	0.9729	0.1204	0.0999	-1.2613	0.0580	7.3861	0.2280	-1.2917	0.1107

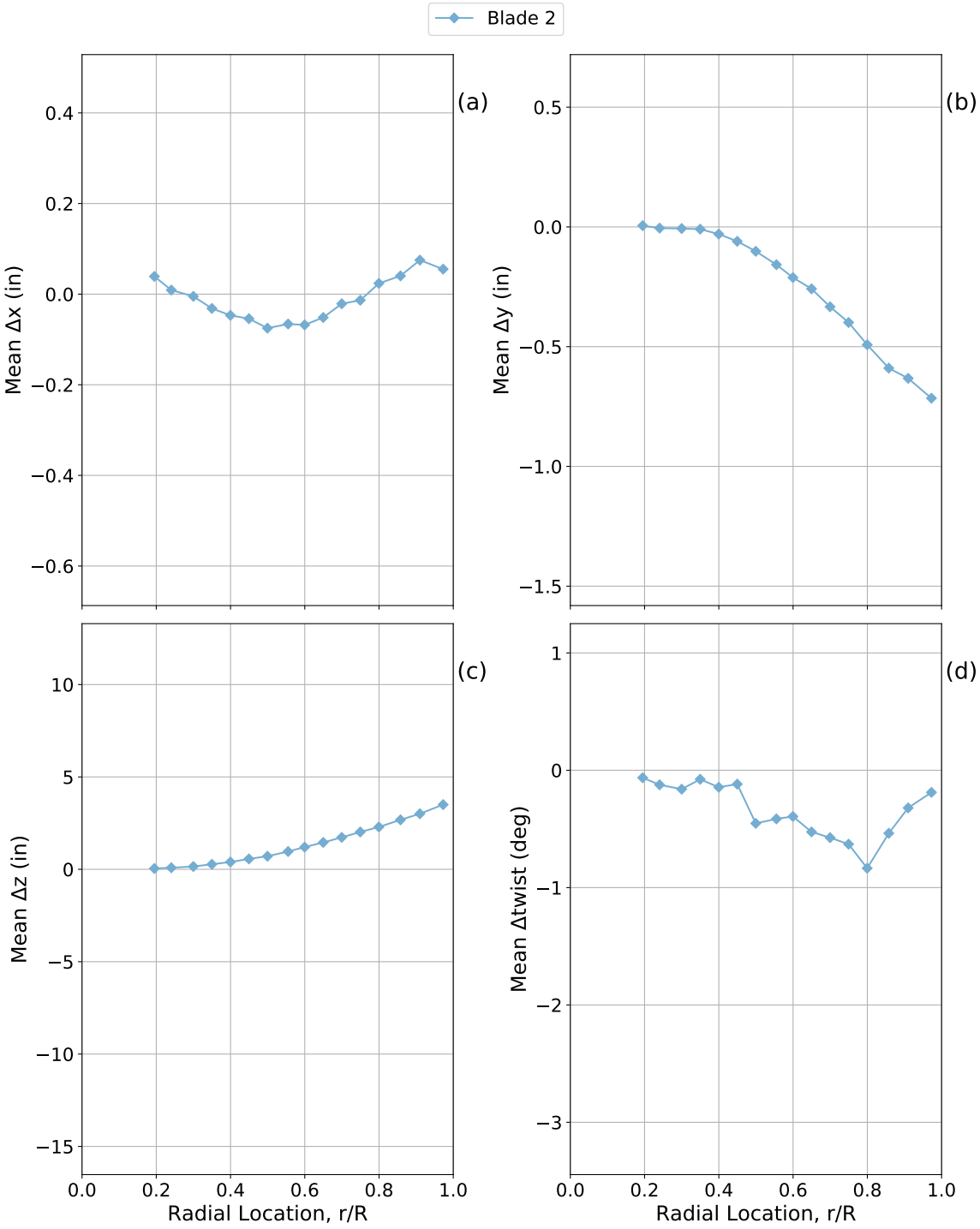


Figure 3.6-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0391	0.0070	0.0053	0.0012	0.0435	0.0075	-0.0637	0.0497
2	285.12	0.2405	0.0090	0.0030	-0.0051	0.0012	0.0863	0.0172	-0.1240	0.0601
2	285.12	0.2999	-0.0049	0.0051	-0.0068	0.0032	0.1509	0.0293	-0.1611	0.1095
2	285.12	0.3498	-0.0315	0.0069	-0.0094	0.0054	0.2718	0.0485	-0.0769	0.0939
2	285.12	0.3998	-0.0468	0.0099	-0.0300	0.0086	0.3953	0.0743	-0.1447	0.0997
2	285.12	0.4496	-0.0541	0.0118	-0.0601	0.0127	0.5627	0.0930	-0.1181	0.1094
2	285.12	0.4995	-0.0751	0.0121	-0.1018	0.0180	0.7081	0.1169	-0.4526	0.0973
2	285.12	0.5551	-0.0659	0.0113	-0.1577	0.0239	0.9638	0.1443	-0.4144	0.1050
2	285.12	0.5996	-0.0678	0.0116	-0.2114	0.0284	1.2028	0.1649	-0.3937	0.1039
2	285.12	0.6497	-0.0515	0.0118	-0.2585	0.0340	1.4541	0.1928	-0.5255	0.0915
2	285.12	0.6996	-0.0212	0.0148	-0.3335	0.0394	1.7294	0.2202	-0.5744	0.1012
2	285.12	0.7495	-0.0135	0.0189	-0.3990	0.0451	2.0212	0.2492	-0.6299	0.0996
2	285.12	0.7996	0.0238	0.0250	-0.4920	0.0511	2.2915	0.2819	-0.8350	0.1070
2	285.12	0.8578	0.0403	0.0348	-0.5897	0.0570	2.6773	0.3193	-0.5369	0.1013
2	285.12	0.9100	0.0751	0.0458	-0.6323	0.0641	3.0070	0.3588	-0.3206	0.0932
2	285.12	0.9727	0.0552	0.0639	-0.7153	0.0736	3.5022	0.3975	-0.1884	0.1249

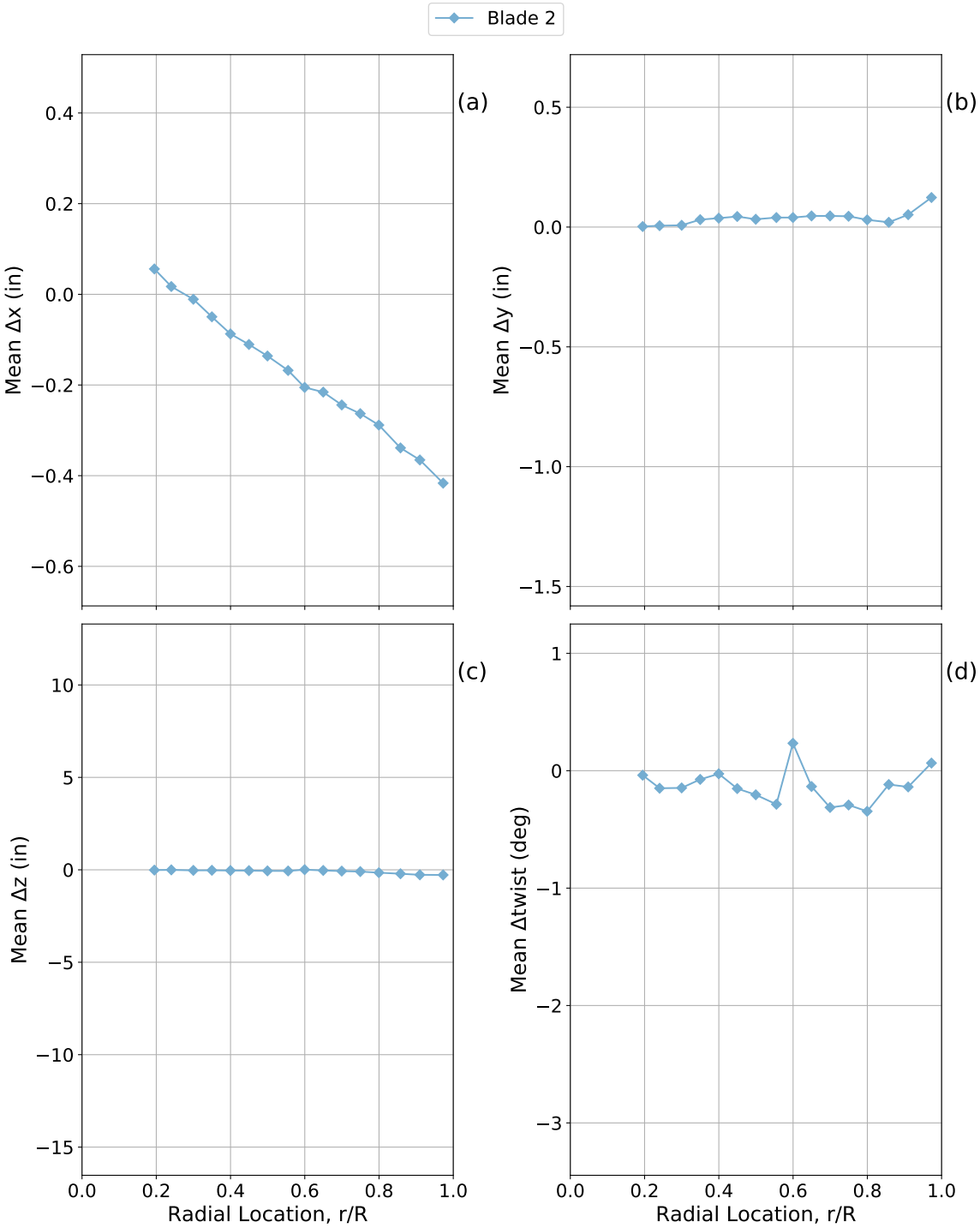


Figure 3.6-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0560	0.0014	0.0022	0.0006	-0.0150	0.0053	-0.0383	0.0556
2	299.88	0.2405	0.0172	0.0015	0.0056	0.0015	-0.0030	0.0089	-0.1493	0.0562
2	299.88	0.2999	-0.0109	0.0019	0.0074	0.0043	-0.0311	0.0194	-0.1465	0.1187
2	299.88	0.3498	-0.0496	0.0019	0.0309	0.0058	-0.0262	0.0241	-0.0740	0.0875
2	299.88	0.3998	-0.0873	0.0027	0.0371	0.0110	-0.0384	0.0404	-0.0262	0.0949
2	299.88	0.4496	-0.1106	0.0028	0.0439	0.0144	-0.0439	0.0520	-0.1522	0.0597
2	299.88	0.4995	-0.1360	0.0032	0.0325	0.0190	-0.0574	0.0668	-0.2050	0.0981
2	299.88	0.5551	-0.1678	0.0046	0.0396	0.0263	-0.0608	0.0869	-0.2861	0.1254
2	299.88	0.5996	-0.2053	0.0054	0.0396	0.0309	0.0076	0.1042	0.2339	0.1340
2	299.88	0.6497	-0.2157	0.0048	0.0464	0.0382	-0.0343	0.1219	-0.1345	0.0972
2	299.88	0.6996	-0.2440	0.0060	0.0463	0.0445	-0.0688	0.1384	-0.3132	0.0787
2	299.88	0.7495	-0.2632	0.0054	0.0450	0.0514	-0.0952	0.1596	-0.2921	0.0967
2	299.88	0.7996	-0.2884	0.0051	0.0301	0.0587	-0.1541	0.1814	-0.3459	0.1039
2	299.88	0.8578	-0.3388	0.0057	0.0199	0.0670	-0.2127	0.2101	-0.1175	0.0970
2	299.88	0.9100	-0.3653	0.0059	0.0516	0.0748	-0.2707	0.2350	-0.1381	0.1046
2	299.88	0.9727	-0.4165	0.0082	0.1232	0.0845	-0.2772	0.2671	0.0652	0.1004

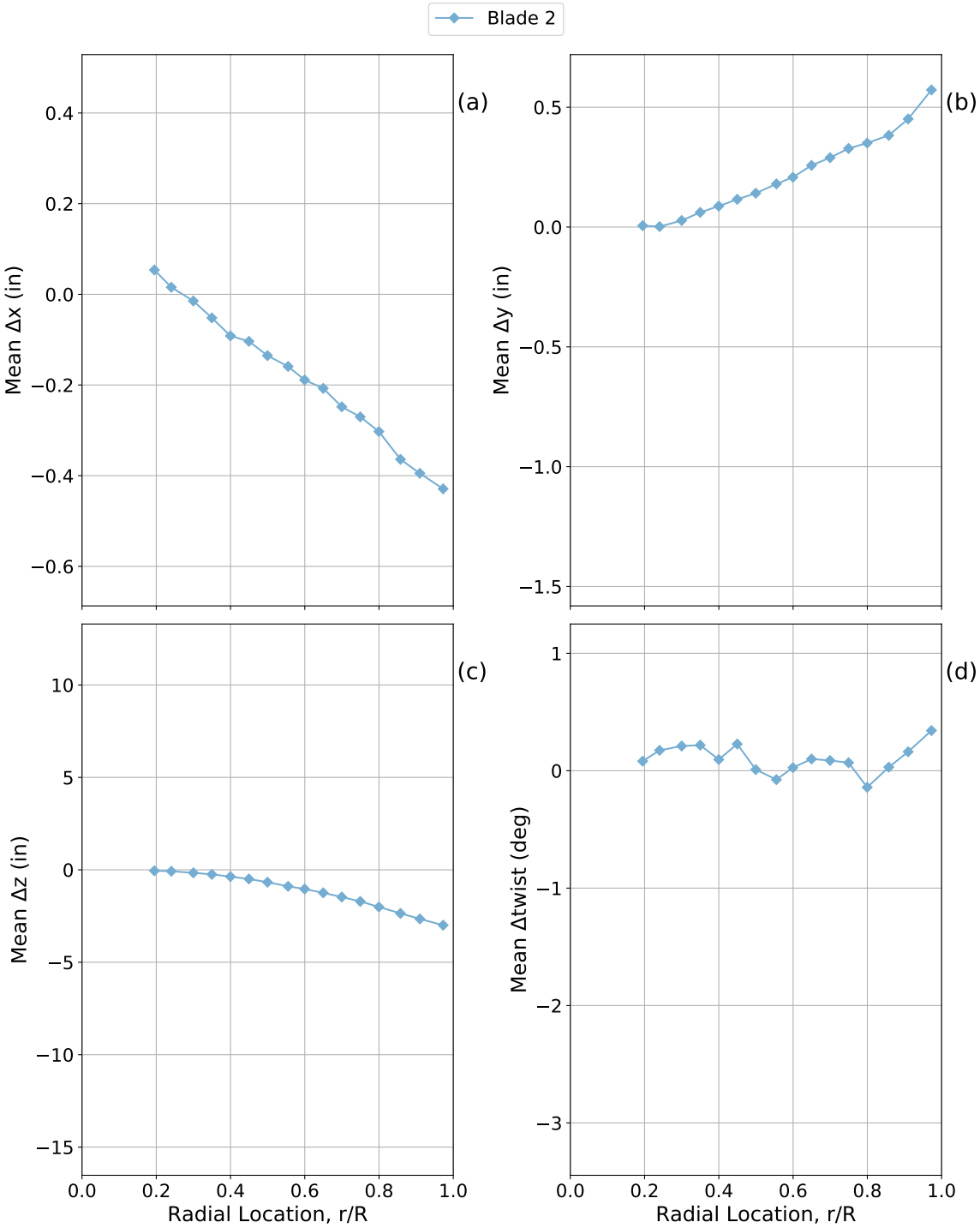


Figure 3.6-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0537	0.0025	0.0058	0.0007	-0.0523	0.0039	0.0812	0.0420
2	315	0.2405	0.0156	0.0014	0.0018	0.0021	-0.0769	0.0077	0.1735	0.0657
2	315	0.2999	-0.0147	0.0029	0.0272	0.0025	-0.1625	0.0130	0.2101	0.0976
2	315	0.3498	-0.0520	0.0026	0.0611	0.0052	-0.2470	0.0255	0.2179	0.0541
2	315	0.3998	-0.0917	0.0036	0.0874	0.0074	-0.3677	0.0353	0.0952	0.0745
2	315	0.4496	-0.1037	0.0052	0.1155	0.0071	-0.4955	0.0450	0.2272	0.0949
2	315	0.4995	-0.1352	0.0038	0.1411	0.0090	-0.6700	0.0558	0.0095	0.0555
2	315	0.5551	-0.1591	0.0053	0.1800	0.0104	-0.8918	0.0655	-0.0758	0.0759
2	315	0.5996	-0.1889	0.0042	0.2079	0.0132	-1.0393	0.0756	0.0258	0.0714
2	315	0.6497	-0.2074	0.0051	0.2573	0.0156	-1.2441	0.0841	0.0998	0.0669
2	315	0.6996	-0.2480	0.0059	0.2895	0.0176	-1.4726	0.0942	0.0873	0.0764
2	315	0.7495	-0.2703	0.0056	0.3279	0.0204	-1.7097	0.1046	0.0682	0.0680
2	315	0.7996	-0.3026	0.0061	0.3506	0.0231	-2.0073	0.1183	-0.1415	0.0731
2	315	0.8578	-0.3640	0.0067	0.3826	0.0258	-2.3567	0.1337	0.0302	0.0720
2	315	0.9100	-0.3949	0.0067	0.4510	0.0290	-2.6549	0.1510	0.1613	0.0768
2	315	0.9727	-0.4291	0.0075	0.5721	0.0325	-2.9968	0.1754	0.3420	0.0715

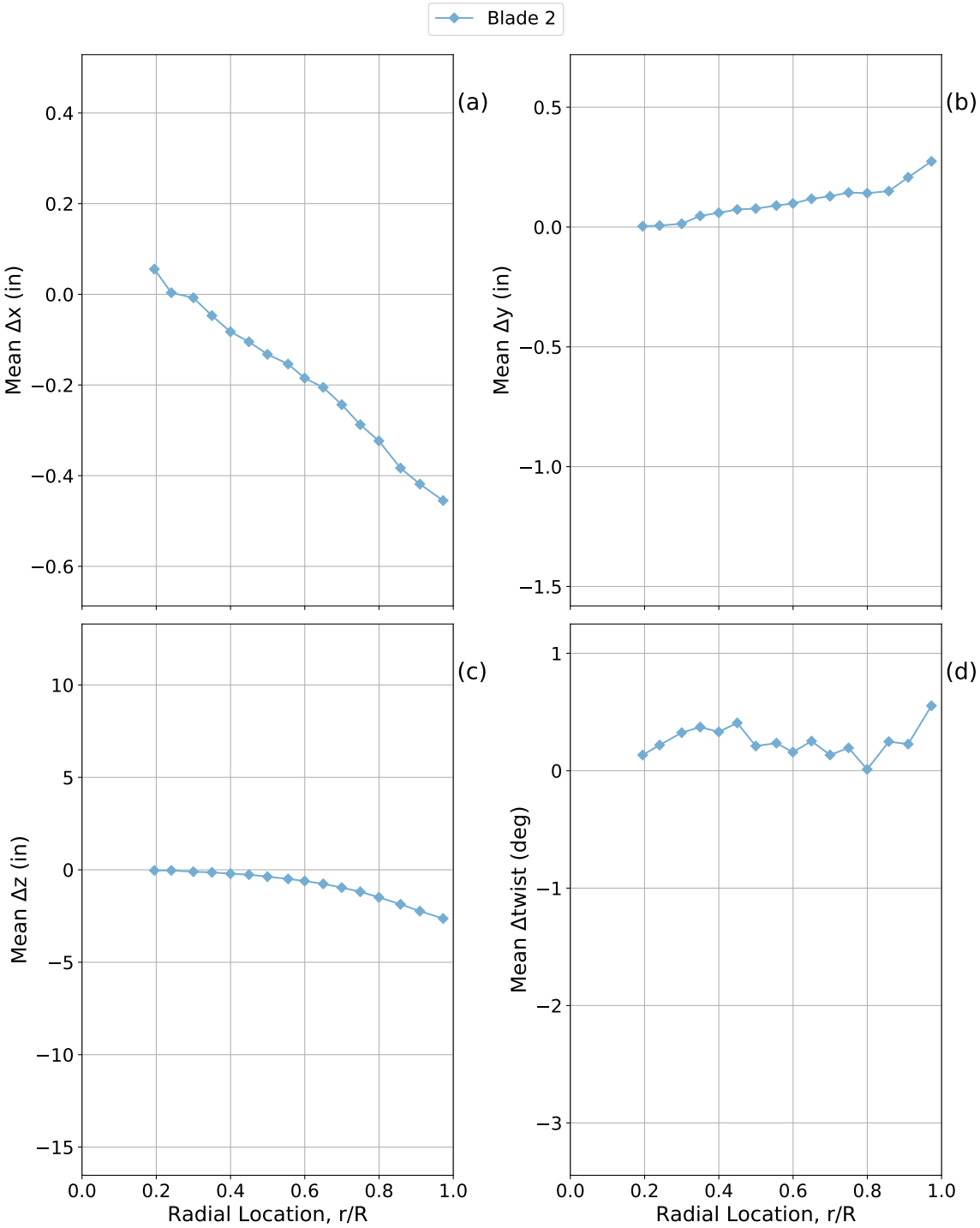


Figure 3.6-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0556	0.0030	0.0032	0.0010	-0.0355	0.0034	0.1339	0.0310
2	330.12	0.2405	0.0035	0.0017	0.0061	0.0032	-0.0349	0.0071	0.2183	0.0314
2	330.12	0.2999	-0.0076	0.0022	0.0136	0.0059	-0.1033	0.0118	0.3242	0.0621
2	330.12	0.3498	-0.0470	0.0022	0.0465	0.0106	-0.1390	0.0151	0.3715	0.0513
2	330.12	0.3998	-0.0826	0.0027	0.0594	0.0171	-0.2106	0.0265	0.3306	0.0415
2	330.12	0.4496	-0.1047	0.0035	0.0733	0.0199	-0.2618	0.0317	0.4069	0.0484
2	330.12	0.4995	-0.1323	0.0024	0.0771	0.0272	-0.3711	0.0373	0.2101	0.0427
2	330.12	0.5551	-0.1538	0.0018	0.0895	0.0304	-0.4917	0.0475	0.2347	0.0285
2	330.12	0.5996	-0.1848	0.0027	0.0985	0.0354	-0.6068	0.0579	0.1579	0.0336
2	330.12	0.6497	-0.2052	0.0029	0.1177	0.0422	-0.7598	0.0715	0.2522	0.0333
2	330.12	0.6996	-0.2434	0.0032	0.1284	0.0469	-0.9622	0.0782	0.1343	0.0470
2	330.12	0.7495	-0.2876	0.0030	0.1438	0.0539	-1.1866	0.0957	0.1944	0.0412
2	330.12	0.7996	-0.3233	0.0044	0.1414	0.0609	-1.4865	0.1093	0.0111	0.0399
2	330.12	0.8578	-0.3832	0.0046	0.1498	0.0695	-1.8644	0.1298	0.2478	0.0357
2	330.12	0.9100	-0.4185	0.0047	0.2076	0.0776	-2.2352	0.1476	0.2266	0.0348
2	330.12	0.9727	-0.4549	0.0054	0.2742	0.0873	-2.6355	0.1739	0.5529	0.0369

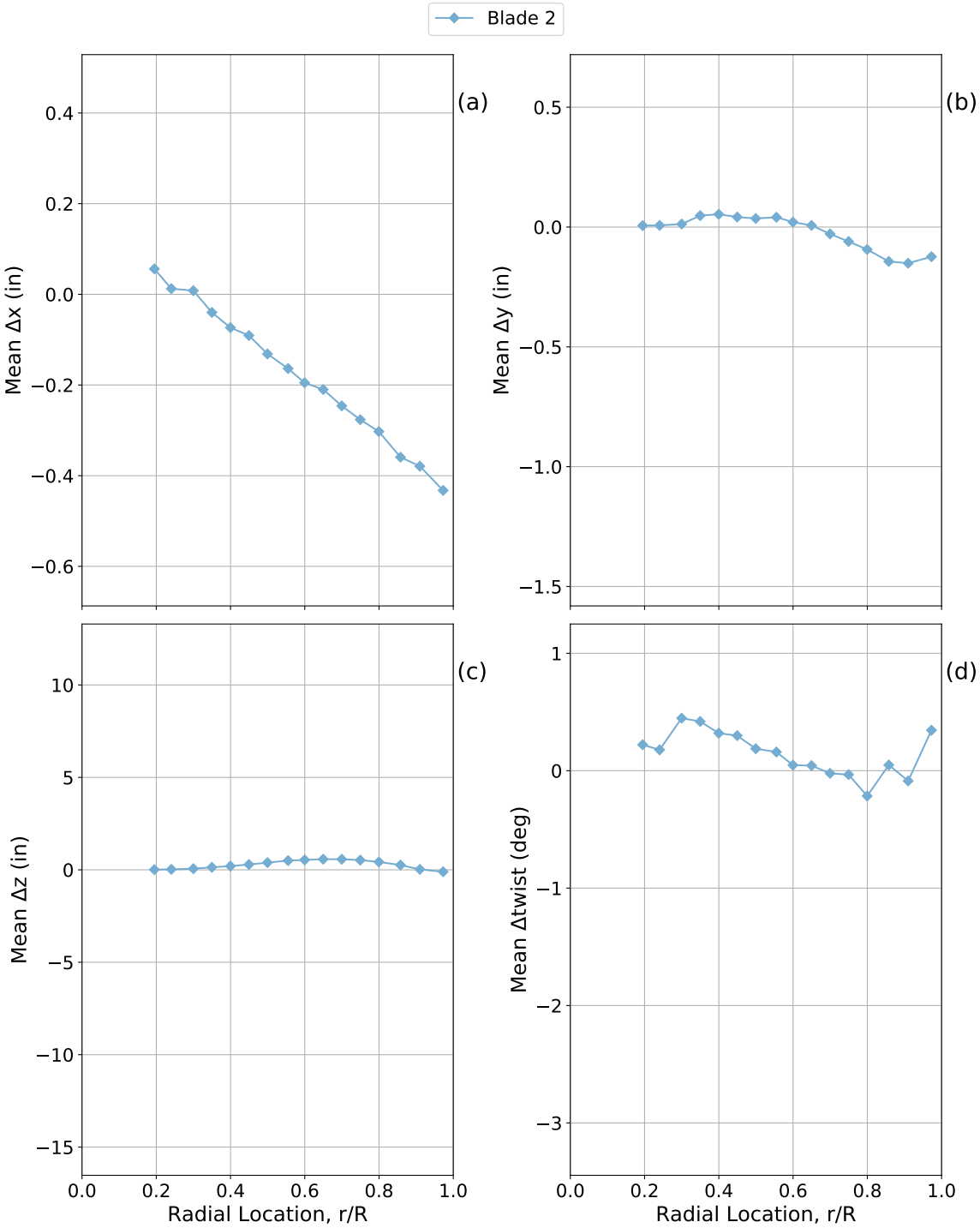


Figure 3.6-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0561	0.0046	0.0061	0.0018	0.0102	0.0076	0.2214	0.0630
2	344.88	0.2405	0.0125	0.0050	0.0069	0.0041	0.0241	0.0084	0.1779	0.1379
2	344.88	0.2999	0.0081	0.0037	0.0125	0.0073	0.0616	0.0203	0.4477	0.1723
2	344.88	0.3498	-0.0399	0.0028	0.0477	0.0175	0.1351	0.0344	0.4194	0.1522
2	344.88	0.3998	-0.0735	0.0029	0.0532	0.0244	0.2013	0.0483	0.3195	0.1557
2	344.88	0.4496	-0.0908	0.0040	0.0418	0.0257	0.2877	0.0619	0.2988	0.1858
2	344.88	0.4995	-0.1315	0.0030	0.0358	0.0377	0.3890	0.0784	0.1874	0.1529
2	344.88	0.5551	-0.1637	0.0038	0.0409	0.0454	0.4988	0.0966	0.1596	0.1494
2	344.88	0.5996	-0.1951	0.0035	0.0206	0.0476	0.5365	0.1129	0.0477	0.1710
2	344.88	0.6497	-0.2099	0.0041	0.0069	0.0529	0.5743	0.1342	0.0434	0.1775
2	344.88	0.6996	-0.2461	0.0052	-0.0287	0.0606	0.5726	0.1590	-0.0225	0.1691
2	344.88	0.7495	-0.2765	0.0050	-0.0603	0.0682	0.5251	0.1885	-0.0331	0.1724
2	344.88	0.7996	-0.3028	0.0051	-0.0937	0.0746	0.4270	0.2193	-0.2156	0.1686
2	344.88	0.8578	-0.3592	0.0060	-0.1436	0.0830	0.2575	0.2576	0.0485	0.1588
2	344.88	0.9100	-0.3791	0.0062	-0.1510	0.0906	0.0244	0.2962	-0.0868	0.1613
2	344.88	0.9727	-0.4325	0.0076	-0.1236	0.0997	-0.1049	0.3416	0.3445	0.1678

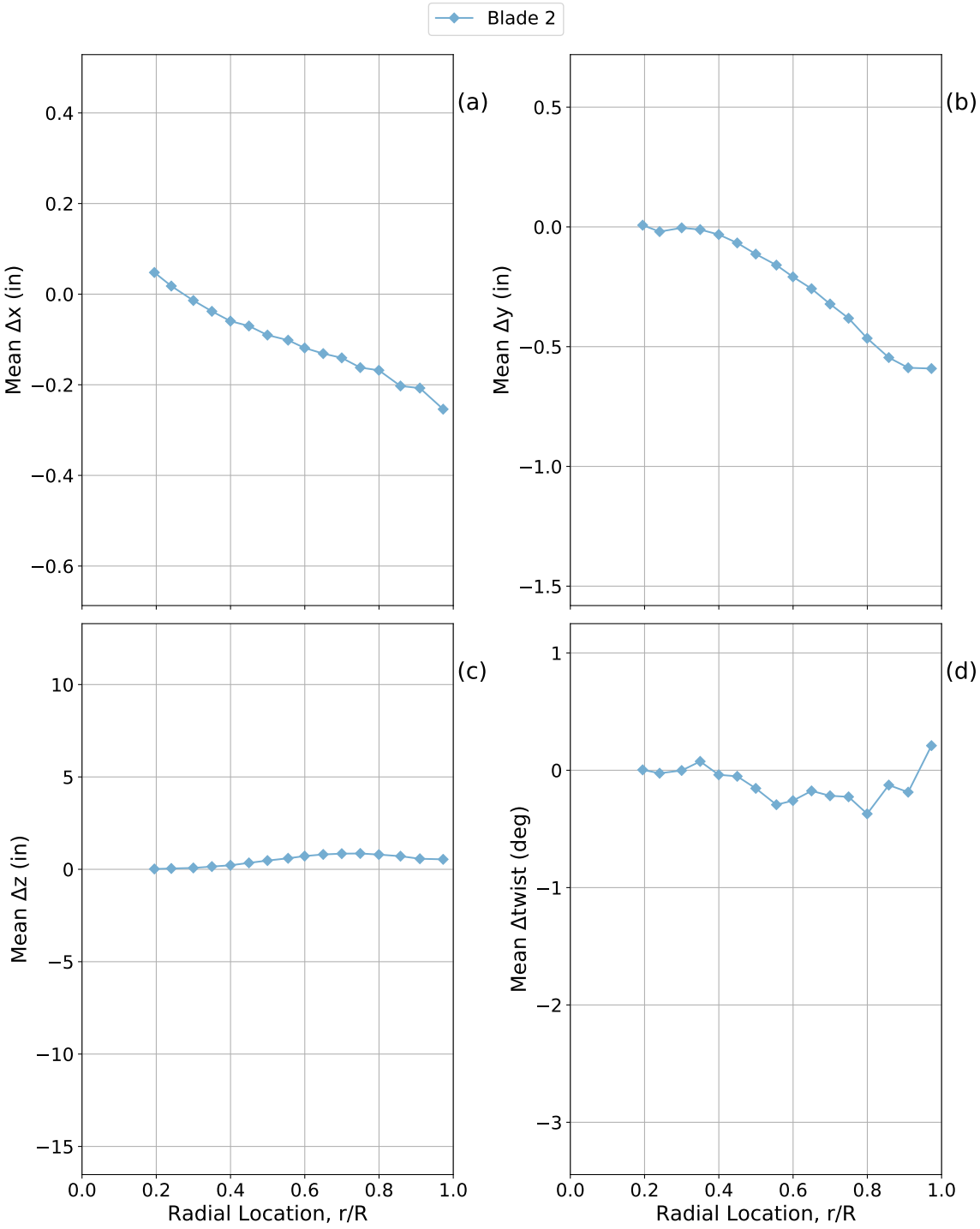


Figure 3.6-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0478	0.0059	0.0072	0.0017	0.0180	0.0055	0.0036	0.0705
2	350.16	0.2405	0.0179	0.0036	-0.0197	0.0044	0.0442	0.0087	-0.0255	0.0954
2	350.16	0.2999	-0.0140	0.0035	-0.0039	0.0046	0.0747	0.0127	-0.0020	0.1568
2	350.16	0.3498	-0.0379	0.0041	-0.0112	0.0117	0.1489	0.0207	0.0754	0.1459
2	350.16	0.3998	-0.0595	0.0048	-0.0319	0.0171	0.2176	0.0287	-0.0387	0.1510
2	350.16	0.4496	-0.0703	0.0048	-0.0670	0.0234	0.3478	0.0349	-0.0516	0.1522
2	350.16	0.4995	-0.0903	0.0054	-0.1134	0.0280	0.4737	0.0417	-0.1544	0.1497
2	350.16	0.5551	-0.1016	0.0063	-0.1595	0.0333	0.5961	0.0518	-0.2937	0.1432
2	350.16	0.5996	-0.1187	0.0065	-0.2085	0.0344	0.7161	0.0554	-0.2589	0.1517
2	350.16	0.6497	-0.1312	0.0070	-0.2580	0.0380	0.8054	0.0648	-0.1759	0.1472
2	350.16	0.6996	-0.1406	0.0081	-0.3220	0.0423	0.8471	0.0735	-0.2175	0.1534
2	350.16	0.7495	-0.1621	0.0089	-0.3815	0.0477	0.8573	0.0833	-0.2264	0.1425
2	350.16	0.7996	-0.1680	0.0098	-0.4652	0.0551	0.7974	0.0935	-0.3714	0.1466
2	350.16	0.8578	-0.2027	0.0124	-0.5456	0.0631	0.7098	0.1062	-0.1263	0.1610
2	350.16	0.9100	-0.2073	0.0145	-0.5882	0.0736	0.5713	0.1178	-0.1868	0.1335
2	350.16	0.9727	-0.2539	0.0198	-0.5914	0.0865	0.5405	0.1259	0.2098	0.1435

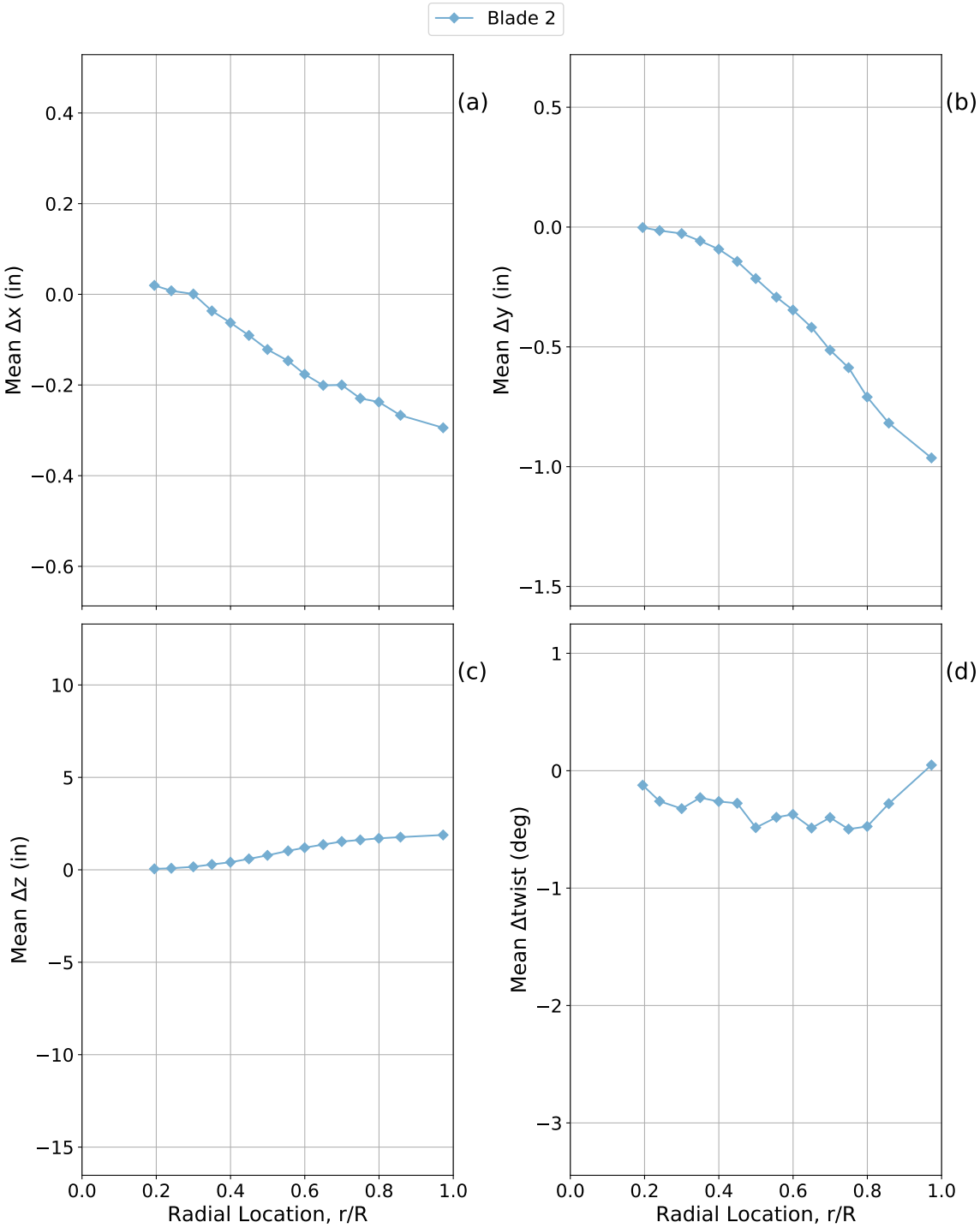


Figure 3.6-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.305$, $\alpha = -4.99°$ NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Table 3.6-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.305, α = -4.99°
NFAC run 47, point 9. BD run 22, points 2219 to 2229.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0197	0.0021	-0.0020	0.0023	0.0529	0.0097	-0.1232	0.0440
2	355.08	0.2405	0.0078	0.0017	-0.0149	0.0027	0.0839	0.0099	-0.2601	0.0763
2	355.08	0.2999	0.0007	0.0017	-0.0271	0.0082	0.1631	0.0236	-0.3231	0.0932
2	355.08	0.3498	-0.0366	0.0023	-0.0581	0.0142	0.2901	0.0401	-0.2297	0.0918
2	355.08	0.3998	-0.0626	0.0024	-0.0925	0.0212	0.4113	0.0538	-0.2623	0.0692
2	355.08	0.4496	-0.0907	0.0035	-0.1435	0.0254	0.5924	0.0676	-0.2772	0.0834
2	355.08	0.4995	-0.1217	0.0038	-0.2150	0.0315	0.7827	0.0862	-0.4850	0.0498
2	355.08	0.5551	-0.1467	0.0047	-0.2927	0.0395	1.0250	0.1127	-0.3969	0.0820
2	355.08	0.5996	-0.1762	0.0042	-0.3462	0.0431	1.1977	0.1279	-0.3718	0.0896
2	355.08	0.6497	-0.2008	0.0039	-0.4186	0.0515	1.3649	0.1510	-0.4881	0.0987
2	355.08	0.6996	-0.2000	0.0042	-0.5137	0.0592	1.5297	0.1763	-0.3990	0.0913
2	355.08	0.7495	-0.2295	0.0057	-0.5869	0.0674	1.6170	0.2104	-0.4976	0.1058
2	355.08	0.7996	-0.2375	0.0065	-0.7094	0.0743	1.7032	0.2423	-0.4746	0.0937
2	355.08	0.8578	-0.2669	0.0065	-0.8181	0.0897	1.7687	0.2905	-0.2808	0.1291
2	355.08	0.9727	-0.2944	0.0096	-0.9635	0.1066	1.8847	0.3833	0.0484	0.1133

3.7 Run 47, Point 30

3.7.1 Pitch, Flap, and Lag

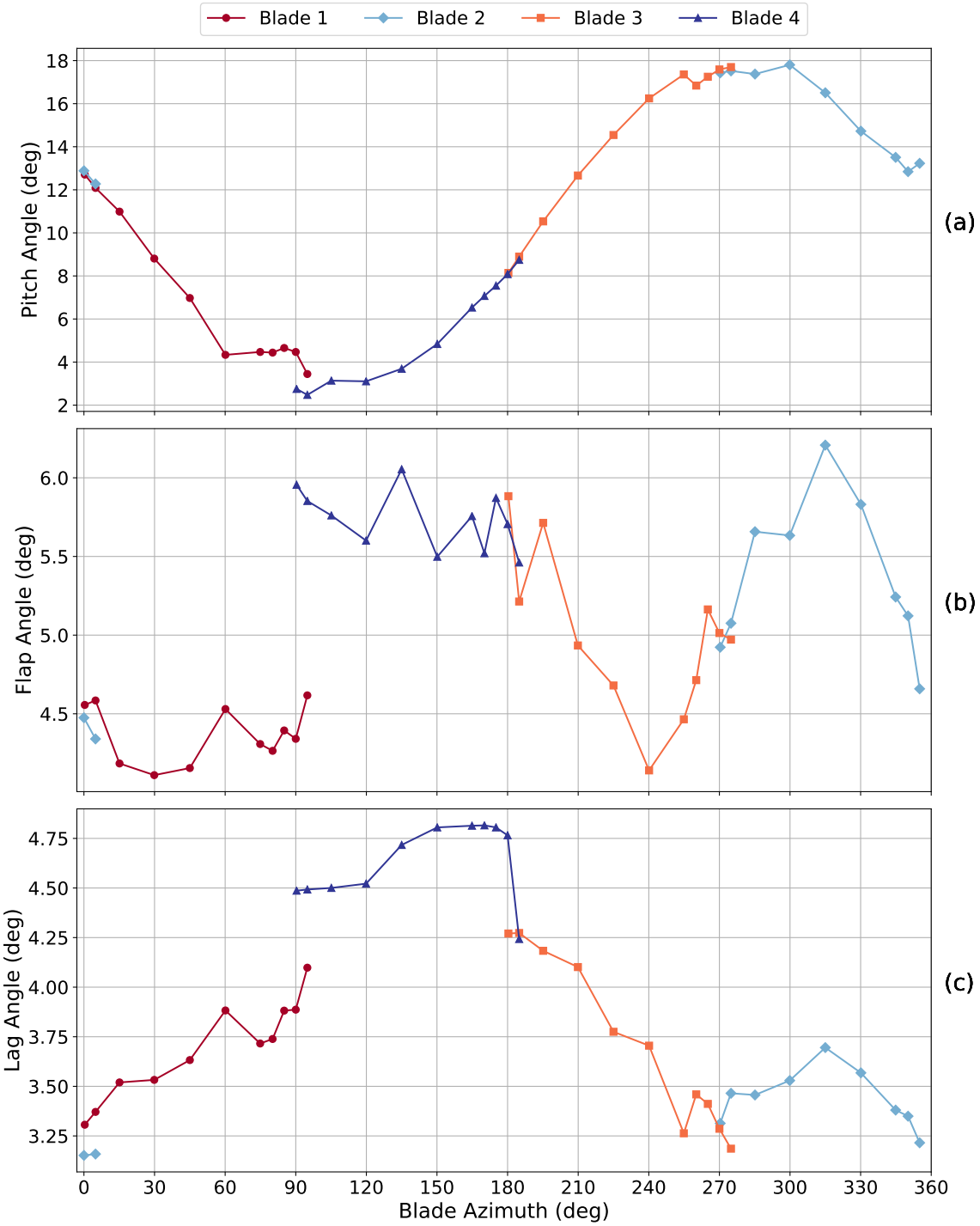


Figure 3.7-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	12.8830	4.4749	3.1518	0.0728	0.2165	0.0476
0.35	1	12.7083	4.5562	3.3064	0.2113	0.0885	0.0320
4.92	1	12.0881	4.5847	3.3711	0.1454	0.1630	0.0406
4.92	2	12.2743	4.3401	3.1586	0.0713	0.0795	0.0364
15.12	1	10.9878	4.1842	3.5197	0.1033	0.1021	0.0369
29.88	1	8.8055	4.1100	3.5325	0.0944	0.0514	0.0354
45	1	6.9750	4.1550	3.6324	0.1394	0.0728	0.0291
60.12	1	4.3345	4.5302	3.8826	0.0670	0.0682	0.0467
74.88	1	4.4688	4.3077	3.7160	0.1745	0.0915	0.0442
80.16	1	4.4397	4.2645	3.7387	0.1955	0.0954	0.0720
85.08	1	4.6546	4.3941	3.8817	0.2402	0.1210	0.0735
90	1	4.4688	4.3408	3.8866	0.1964	0.0690	0.0392
90.35	4	2.7523	5.9557	4.4865	0.0580	0.0799	0.0270
94.92	1	3.4443	4.6171	4.0982	0.0326	0.1275	0.0937
94.92	4	2.4754	5.8525	4.4923	0.1077	0.1089	0.0395
105.12	4	3.1366	5.7606	4.5003	0.0535	0.0906	0.0297
119.88	4	3.1053	5.6007	4.5218	0.0616	0.1184	0.0431
135	4	3.6880	6.0541	4.7170	0.0339	0.2955	0.0287
150.12	4	4.8387	5.4979	4.8054	0.0630	0.2216	0.0580
164.88	4	6.5301	5.7565	4.8139	0.0597	0.1967	0.0298
170.16	4	7.0707	5.5203	4.8157	0.0700	0.3720	0.0336
175.08	4	7.5475	5.8721	4.8053	0.0857	0.5120	0.0430
180	4	8.0829	5.7055	4.7655	0.1431	0.3730	0.0354
180.35	3	8.1387	5.8831	4.2704	0.0823	0.1931	0.0433
184.92	3	8.8970	5.2136	4.2732	0.0772	0.2798	0.0351
184.92	4	8.7462	5.4616	4.2426	0.5317	0.6268	0.1835
195.12	3	10.5342	5.7135	4.1833	0.0768	0.2188	0.0579
209.88	3	12.6637	4.9342	4.1013	0.0610	0.1691	0.0435
225	3	14.5457	4.6799	3.7750	0.0721	0.1637	0.0499
240.12	3	16.2464	4.1402	3.7050	0.0571	0.1450	0.0286
254.88	3	17.3580	4.4650	3.2632	0.1237	0.1003	0.0693
260.16	3	16.8411	4.7139	3.4594	0.0632	0.1537	0.0501
265.08	3	17.2506	5.1633	3.4115	0.1212	0.1488	0.0910
270	3	17.5898	5.0133	3.2861	0.0807	0.1285	0.0858
270.35	2	17.4320	4.9230	3.3134	0.0578	0.0629	0.0513
274.92	2	17.5219	5.0755	3.4650	0.0628	0.1362	0.0496
274.92	3	17.7006	4.9715	3.1857	0.0620	0.1139	0.0551
285.12	2	17.3751	5.6575	3.4564	0.0640	0.0464	0.0547
299.88	2	17.8028	5.6334	3.5292	0.0756	0.0942	0.0386
315	2	16.5066	6.2077	3.6953	0.0590	0.0995	0.0419
330.12	2	14.7247	5.8311	3.5680	0.0898	0.1181	0.0369
344.88	2	13.5074	5.2423	3.3802	0.2969	0.1491	0.0496
350.16	2	12.8430	5.1223	3.3495	0.1265	0.1896	0.0479
355.08	2	13.2292	4.6586	3.2153	0.1061	0.1599	0.0567

3.7.2 Spanwise Elastic Deformations

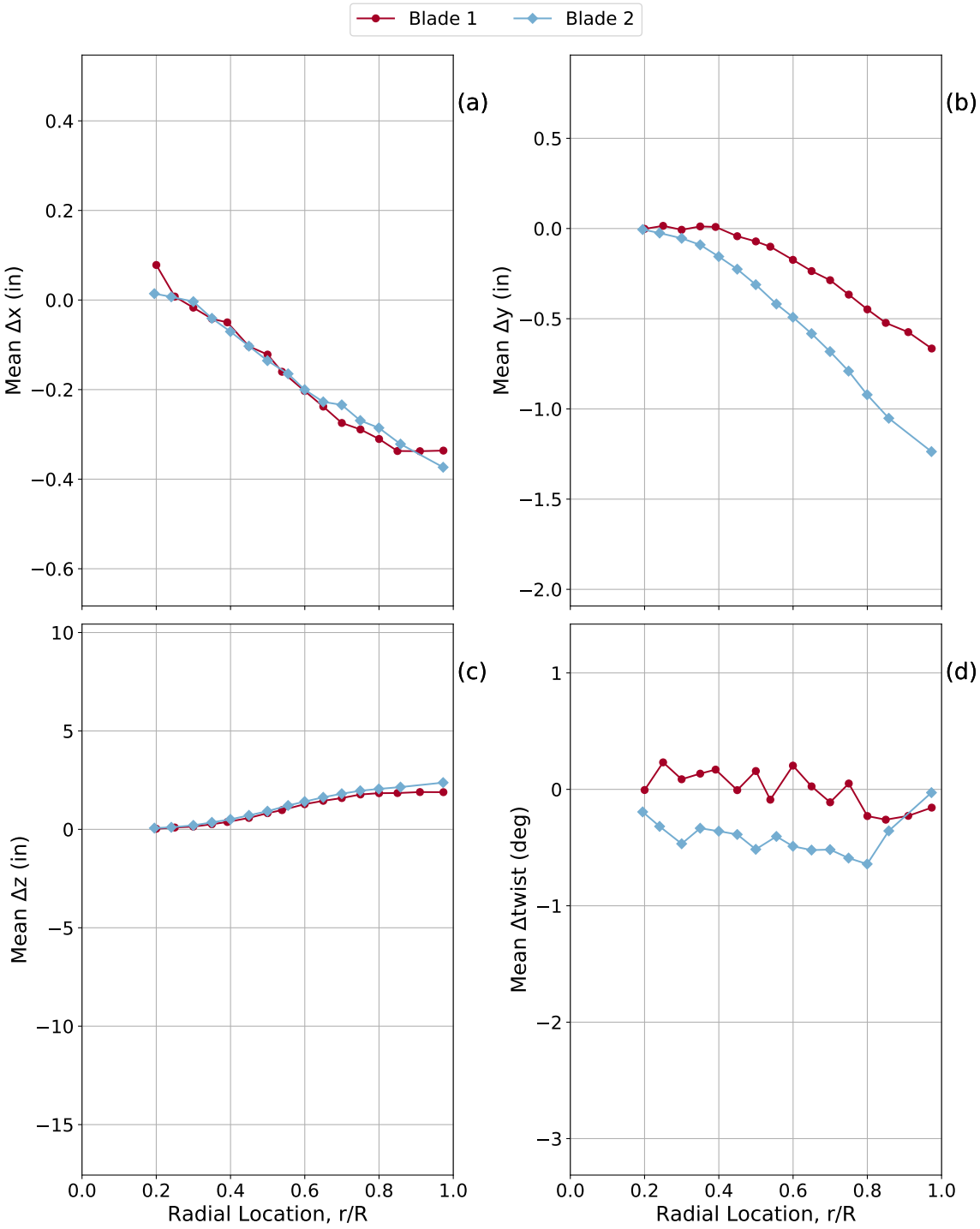


Figure 3.7-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0782	0.0032	-0.0021	0.0021	0.0306	0.0100	-0.0057	0.0938
1	0.35	0.2499	0.0077	0.0010	0.0148	0.0030	0.0925	0.0164	0.2319	0.1489
1	0.35	0.2998	-0.0170	0.0021	-0.0071	0.0094	0.1382	0.0276	0.0866	0.2094
1	0.35	0.3498	-0.0420	0.0023	0.0115	0.0158	0.2598	0.0472	0.1350	0.1664
1	0.35	0.3913	-0.0499	0.0030	0.0087	0.0225	0.3745	0.0622	0.1697	0.1609
1	0.35	0.4496	-0.1033	0.0036	-0.0427	0.0320	0.5807	0.0851	-0.0068	0.1707
1	0.35	0.4997	-0.1218	0.0043	-0.0715	0.0390	0.8220	0.0999	0.1573	0.1806
1	0.35	0.5387	-0.1602	0.0048	-0.1008	0.0470	0.9778	0.1107	-0.0888	0.1846
1	0.35	0.5996	-0.2031	0.0059	-0.1737	0.0575	1.2782	0.1294	0.2038	0.1700
1	0.35	0.6498	-0.2379	0.0063	-0.2359	0.0658	1.4498	0.1447	0.0255	0.1707
1	0.35	0.6998	-0.2745	0.0067	-0.2864	0.0758	1.5901	0.1583	-0.1112	0.1739
1	0.35	0.7500	-0.2890	0.0070	-0.3664	0.0871	1.7716	0.1721	0.0502	0.1693
1	0.35	0.8001	-0.3103	0.0065	-0.4482	0.0955	1.8380	0.1925	-0.2294	0.1528
1	0.35	0.8497	-0.3371	0.0063	-0.5231	0.1088	1.8444	0.2083	-0.2606	0.1810
1	0.35	0.9102	-0.3375	0.0088	-0.5743	0.1218	1.8943	0.2272	-0.2275	0.2089
1	0.35	0.9734	-0.3362	0.0092	-0.6652	0.1333	1.8892	0.2568	-0.1570	0.1844
2	0	0.1949	0.0142	0.0020	-0.0056	0.0017	0.0645	0.0064	-0.1937	0.0550
2	0	0.2405	0.0071	0.0015	-0.0251	0.0043	0.1043	0.0117	-0.3183	0.0955
2	0	0.2999	-0.0036	0.0014	-0.0542	0.0054	0.2030	0.0196	-0.4673	0.1276
2	0	0.3498	-0.0409	0.0021	-0.0906	0.0094	0.3540	0.0342	-0.3341	0.0944
2	0	0.3998	-0.0705	0.0025	-0.1555	0.0148	0.5073	0.0495	-0.3592	0.0753
2	0	0.4496	-0.1030	0.0032	-0.2254	0.0180	0.7121	0.0607	-0.3874	0.0835
2	0	0.4995	-0.1354	0.0033	-0.3113	0.0233	0.9222	0.0736	-0.5152	0.0923
2	0	0.5551	-0.1648	0.0044	-0.4185	0.0277	1.2110	0.0887	-0.4044	0.0892
2	0	0.5996	-0.2002	0.0048	-0.4918	0.0323	1.4112	0.1015	-0.4888	0.1094
2	0	0.6497	-0.2274	0.0051	-0.5826	0.0384	1.6273	0.1161	-0.5216	0.0866
2	0	0.6996	-0.2341	0.0050	-0.6821	0.0435	1.8110	0.1290	-0.5175	0.1068
2	0	0.7495	-0.2691	0.0064	-0.7903	0.0513	1.9600	0.1393	-0.5902	0.1091
2	0	0.7996	-0.2855	0.0050	-0.9214	0.0576	2.0549	0.1601	-0.6415	0.1100
2	0	0.8578	-0.3216	0.0075	-1.0517	0.0633	2.1465	0.1878	-0.3566	0.0676
2	0	0.9727	-0.3734	0.0090	-1.2365	0.0812	2.3741	0.2165	-0.0281	0.1200

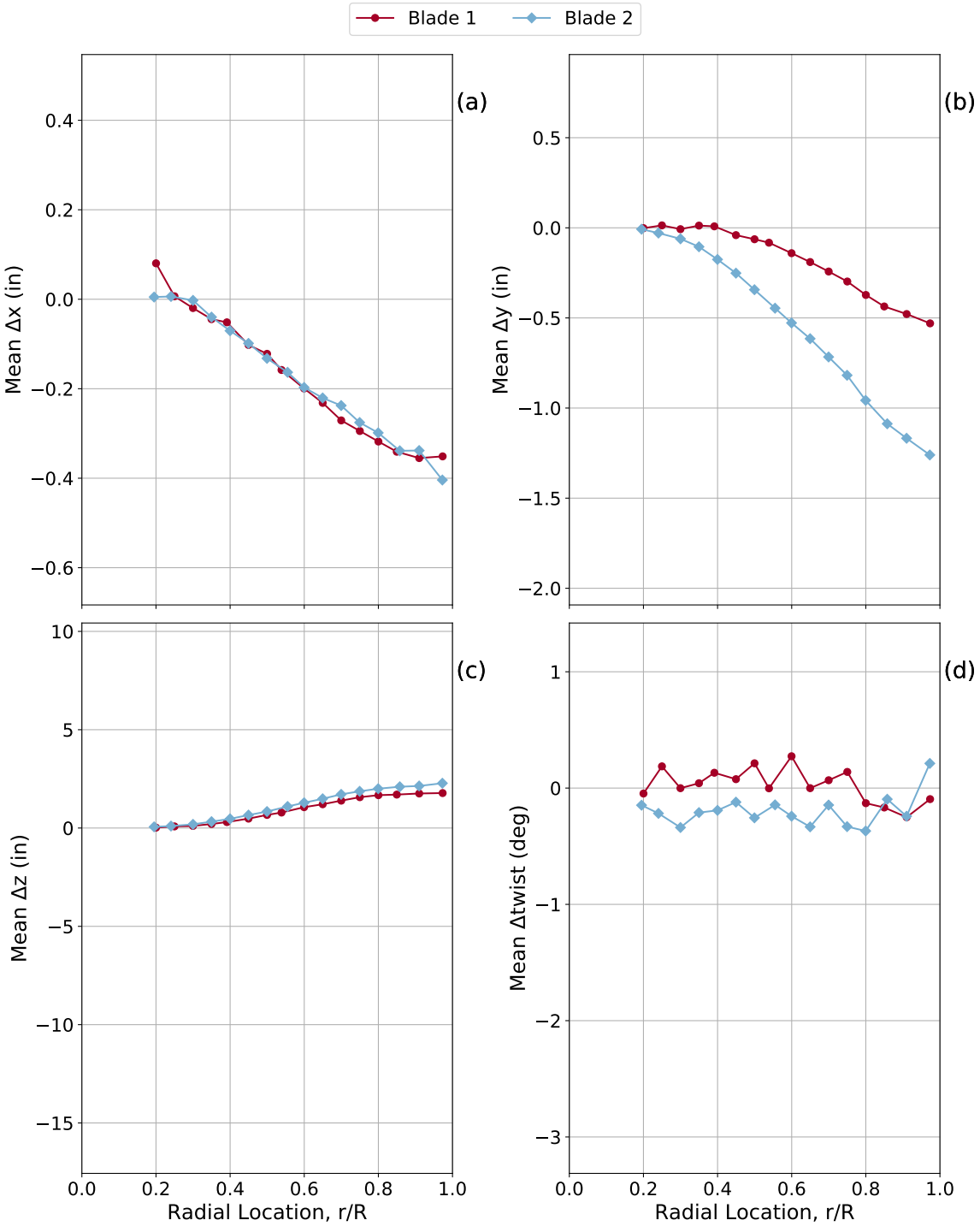


Figure 3.7-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0803	0.0025	-0.0019	0.0016	0.0204	0.0088	-0.0470	0.0483
1	4.92	0.2499	0.0066	0.0024	0.0135	0.0051	0.0816	0.0201	0.1868	0.0864
1	4.92	0.2998	-0.0197	0.0017	-0.0075	0.0076	0.1068	0.0297	-0.0010	0.1010
1	4.92	0.3498	-0.0445	0.0026	0.0124	0.0158	0.2044	0.0514	0.0417	0.0950
1	4.92	0.3913	-0.0516	0.0026	0.0082	0.0219	0.3020	0.0727	0.1317	0.0785
1	4.92	0.4496	-0.1021	0.0029	-0.0405	0.0273	0.4779	0.0902	0.0765	0.1048
1	4.92	0.4997	-0.1220	0.0026	-0.0634	0.0332	0.6665	0.1142	0.2130	0.0751
1	4.92	0.5387	-0.1581	0.0031	-0.0825	0.0373	0.7872	0.1259	-0.0022	0.0788
1	4.92	0.5996	-0.1995	0.0026	-0.1407	0.0429	1.0595	0.1484	0.2736	0.0798
1	4.92	0.6498	-0.2317	0.0034	-0.1899	0.0461	1.2086	0.1627	-0.0008	0.0860
1	4.92	0.6998	-0.2708	0.0040	-0.2425	0.0500	1.3929	0.1865	0.0674	0.0661
1	4.92	0.7500	-0.2945	0.0037	-0.2979	0.0539	1.5680	0.2054	0.1389	0.0785
1	4.92	0.8001	-0.3180	0.0039	-0.3725	0.0595	1.6706	0.2335	-0.1300	0.0783
1	4.92	0.8497	-0.3408	0.0048	-0.4364	0.0625	1.7007	0.2610	-0.1671	0.0850
1	4.92	0.9102	-0.3550	0.0056	-0.4784	0.0695	1.7563	0.3019	-0.2507	0.1012
1	4.92	0.9734	-0.3512	0.0080	-0.5301	0.0747	1.7778	0.3443	-0.0950	0.1104
2	4.92	0.1949	0.0049	0.0054	-0.0076	0.0019	0.0594	0.0057	-0.1474	0.0362
2	4.92	0.2405	0.0062	0.0016	-0.0291	0.0031	0.1004	0.0078	-0.2177	0.0541
2	4.92	0.2999	-0.0025	0.0022	-0.0611	0.0053	0.1873	0.0178	-0.3391	0.0847
2	4.92	0.3498	-0.0399	0.0048	-0.1051	0.0075	0.3249	0.0291	-0.2109	0.0512
2	4.92	0.3998	-0.0704	0.0061	-0.1756	0.0117	0.4669	0.0426	-0.1918	0.0609
2	4.92	0.4496	-0.0986	0.0075	-0.2515	0.0151	0.6589	0.0553	-0.1208	0.0656
2	4.92	0.4995	-0.1321	0.0077	-0.3434	0.0210	0.8380	0.0719	-0.2558	0.0780
2	4.92	0.5551	-0.1633	0.0081	-0.4459	0.0291	1.0968	0.0942	-0.1444	0.0703
2	4.92	0.5996	-0.1971	0.0087	-0.5278	0.0365	1.2850	0.1118	-0.2419	0.0617
2	4.92	0.6497	-0.2206	0.0097	-0.6151	0.0446	1.4877	0.1330	-0.3335	0.0649
2	4.92	0.6996	-0.2376	0.0119	-0.7166	0.0509	1.7124	0.1541	-0.1460	0.0635
2	4.92	0.7495	-0.2755	0.0163	-0.8183	0.0616	1.8659	0.1766	-0.3315	0.0595
2	4.92	0.7996	-0.2986	0.0214	-0.9574	0.0721	2.0001	0.1996	-0.3690	0.0692
2	4.92	0.8578	-0.3387	0.0281	-1.0872	0.0831	2.0994	0.2233	-0.0958	0.0719
2	4.92	0.9100	-0.3381	0.0358	-1.1677	0.1020	2.1391	0.2532	-0.2425	0.0759
2	4.92	0.9727	-0.4040	0.0466	-1.2603	0.1210	2.2775	0.2552	0.2120	0.1318

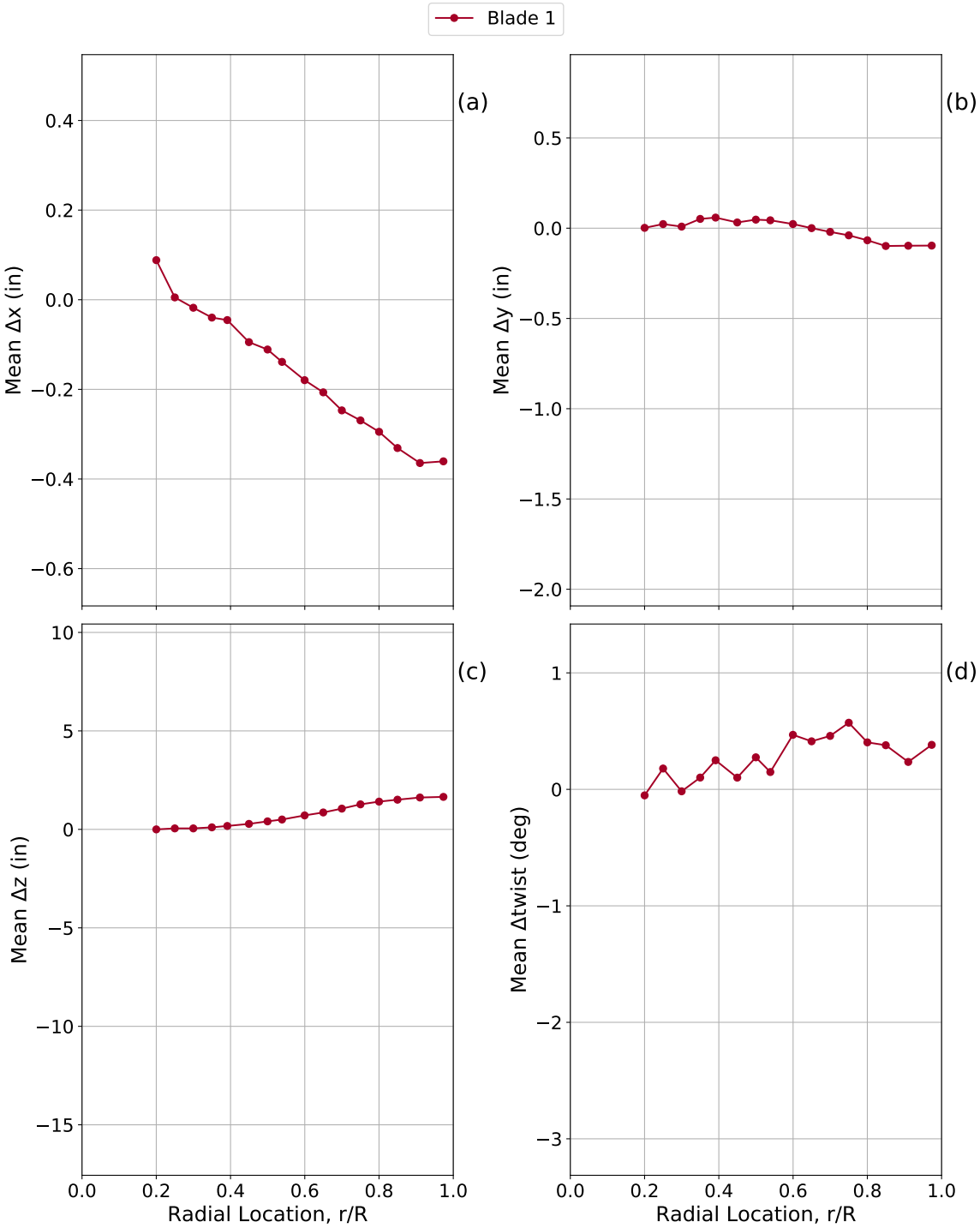


Figure 3.7-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0883	0.0035	0.0019	0.0025	-0.0009	0.0076	-0.0517	0.0490
1	15.12	0.2499	0.0052	0.0016	0.0227	0.0031	0.0499	0.0107	0.1789	0.0822
1	15.12	0.2998	-0.0179	0.0022	0.0088	0.0089	0.0495	0.0228	-0.0167	0.1001
1	15.12	0.3498	-0.0398	0.0029	0.0514	0.0143	0.1033	0.0368	0.1012	0.0912
1	15.12	0.3913	-0.0454	0.0046	0.0587	0.0197	0.1723	0.0503	0.2497	0.0901
1	15.12	0.4496	-0.0946	0.0046	0.0318	0.0227	0.2784	0.0680	0.1006	0.0855
1	15.12	0.4997	-0.1111	0.0038	0.0474	0.0282	0.4067	0.0851	0.2750	0.0830
1	15.12	0.5387	-0.1387	0.0050	0.0438	0.0314	0.5004	0.0961	0.1488	0.0897
1	15.12	0.5996	-0.1795	0.0045	0.0230	0.0374	0.7091	0.1162	0.4682	0.0758
1	15.12	0.6498	-0.2067	0.0043	0.0003	0.0420	0.8588	0.1314	0.4124	0.0751
1	15.12	0.6998	-0.2469	0.0044	-0.0205	0.0477	1.0542	0.1469	0.4588	0.0735
1	15.12	0.7500	-0.2693	0.0044	-0.0396	0.0521	1.2707	0.1659	0.5719	0.0856
1	15.12	0.8001	-0.2947	0.0044	-0.0670	0.0565	1.4092	0.1868	0.4034	0.0734
1	15.12	0.8497	-0.3309	0.0045	-0.0986	0.0646	1.5072	0.2075	0.3789	0.0717
1	15.12	0.9102	-0.3644	0.0050	-0.0971	0.0709	1.6179	0.2452	0.2354	0.0723
1	15.12	0.9734	-0.3606	0.0078	-0.0964	0.0780	1.6494	0.2886	0.3821	0.0985

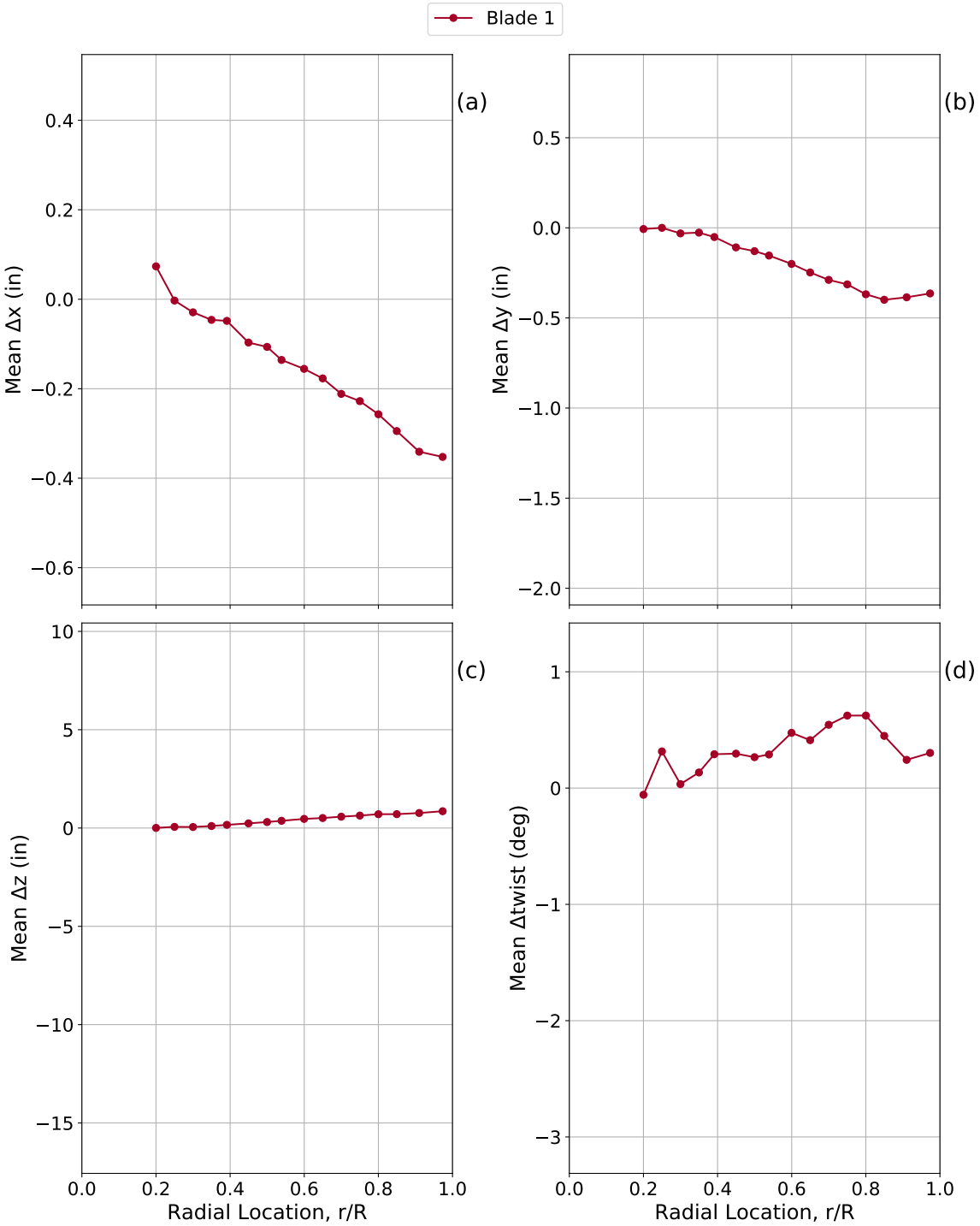


Figure 3.7-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0735	0.0046	-0.0067	0.0016	0.0066	0.0064	-0.0578	0.0465
1	29.88	0.2499	-0.0029	0.0019	-0.0001	0.0027	0.0595	0.0085	0.3151	0.0860
1	29.88	0.2998	-0.0292	0.0020	-0.0309	0.0070	0.0520	0.0199	0.0340	0.1071
1	29.88	0.3498	-0.0461	0.0027	-0.0266	0.0115	0.1019	0.0320	0.1342	0.0897
1	29.88	0.3913	-0.0483	0.0036	-0.0512	0.0168	0.1614	0.0438	0.2910	0.0869
1	29.88	0.4496	-0.0968	0.0026	-0.1085	0.0212	0.2361	0.0591	0.2960	0.0891
1	29.88	0.4997	-0.1065	0.0035	-0.1295	0.0258	0.3048	0.0719	0.2656	0.0958
1	29.88	0.5387	-0.1357	0.0033	-0.1538	0.0288	0.3671	0.0835	0.2887	0.0992
1	29.88	0.5996	-0.1556	0.0037	-0.2002	0.0340	0.4642	0.1039	0.4750	0.1012
1	29.88	0.6498	-0.1769	0.0038	-0.2477	0.0386	0.5084	0.1188	0.4120	0.0940
1	29.88	0.6998	-0.2115	0.0039	-0.2888	0.0425	0.5765	0.1318	0.5443	0.0988
1	29.88	0.7500	-0.2277	0.0041	-0.3138	0.0460	0.6335	0.1468	0.6234	0.0988
1	29.88	0.8001	-0.2571	0.0050	-0.3687	0.0503	0.7028	0.1596	0.6235	0.1090
1	29.88	0.8497	-0.2946	0.0052	-0.3992	0.0553	0.7056	0.1738	0.4486	0.1029
1	29.88	0.9102	-0.3408	0.0060	-0.3855	0.0627	0.7632	0.1919	0.2426	0.1080
1	29.88	0.9734	-0.3524	0.0069	-0.3641	0.0683	0.8548	0.2133	0.3024	0.1027

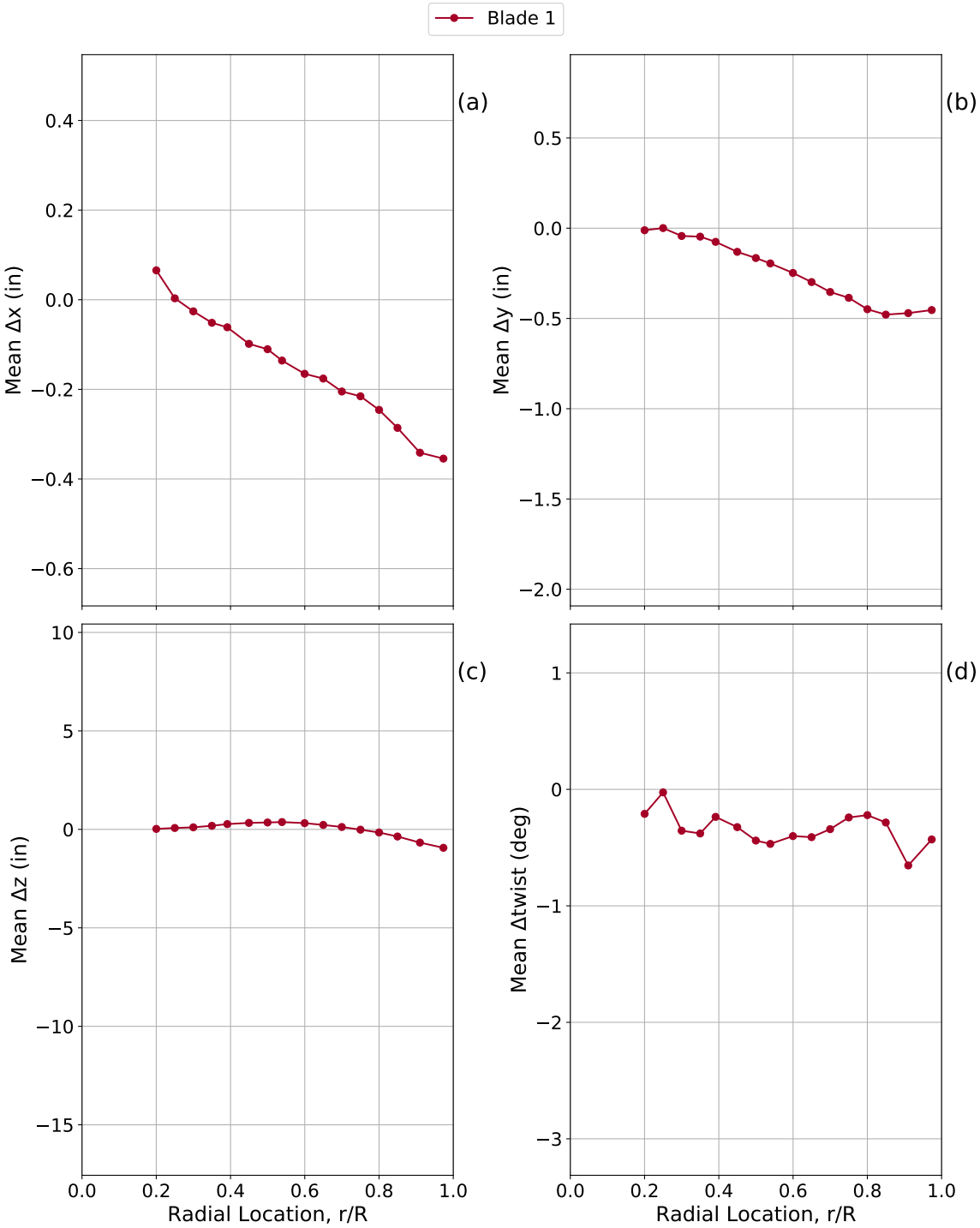


Figure 3.7-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0656	0.0026	-0.0113	0.0011	0.0242	0.0057	-0.2103	0.0390
1	45	0.2499	0.0032	0.0028	0.0006	0.0025	0.0708	0.0119	-0.0260	0.0673
1	45	0.2998	-0.0259	0.0021	-0.0432	0.0045	0.1043	0.0201	-0.3549	0.0834
1	45	0.3498	-0.0514	0.0027	-0.0468	0.0084	0.1815	0.0369	-0.3786	0.0643
1	45	0.3913	-0.0615	0.0029	-0.0756	0.0118	0.2681	0.0507	-0.2361	0.0692
1	45	0.4496	-0.0984	0.0026	-0.1310	0.0157	0.3297	0.0674	-0.3243	0.0736
1	45	0.4997	-0.1104	0.0029	-0.1653	0.0194	0.3502	0.0798	-0.4395	0.0857
1	45	0.5387	-0.1357	0.0036	-0.1952	0.0232	0.3713	0.0918	-0.4682	0.0812
1	45	0.5996	-0.1653	0.0040	-0.2479	0.0286	0.3163	0.1040	-0.4012	0.0710
1	45	0.6498	-0.1759	0.0028	-0.2984	0.0334	0.2261	0.1129	-0.4104	0.0813
1	45	0.6998	-0.2048	0.0038	-0.3534	0.0379	0.1204	0.1199	-0.3417	0.0795
1	45	0.7500	-0.2154	0.0036	-0.3857	0.0432	-0.0156	0.1287	-0.2413	0.0778
1	45	0.8001	-0.2458	0.0042	-0.4490	0.0485	-0.1580	0.1372	-0.2212	0.0842
1	45	0.8497	-0.2859	0.0035	-0.4787	0.0527	-0.3617	0.1419	-0.2846	0.0981
1	45	0.9102	-0.3413	0.0041	-0.4704	0.0600	-0.6711	0.1506	-0.6534	0.0974
1	45	0.9734	-0.3545	0.0054	-0.4535	0.0654	-0.9356	0.1656	-0.4300	0.1080

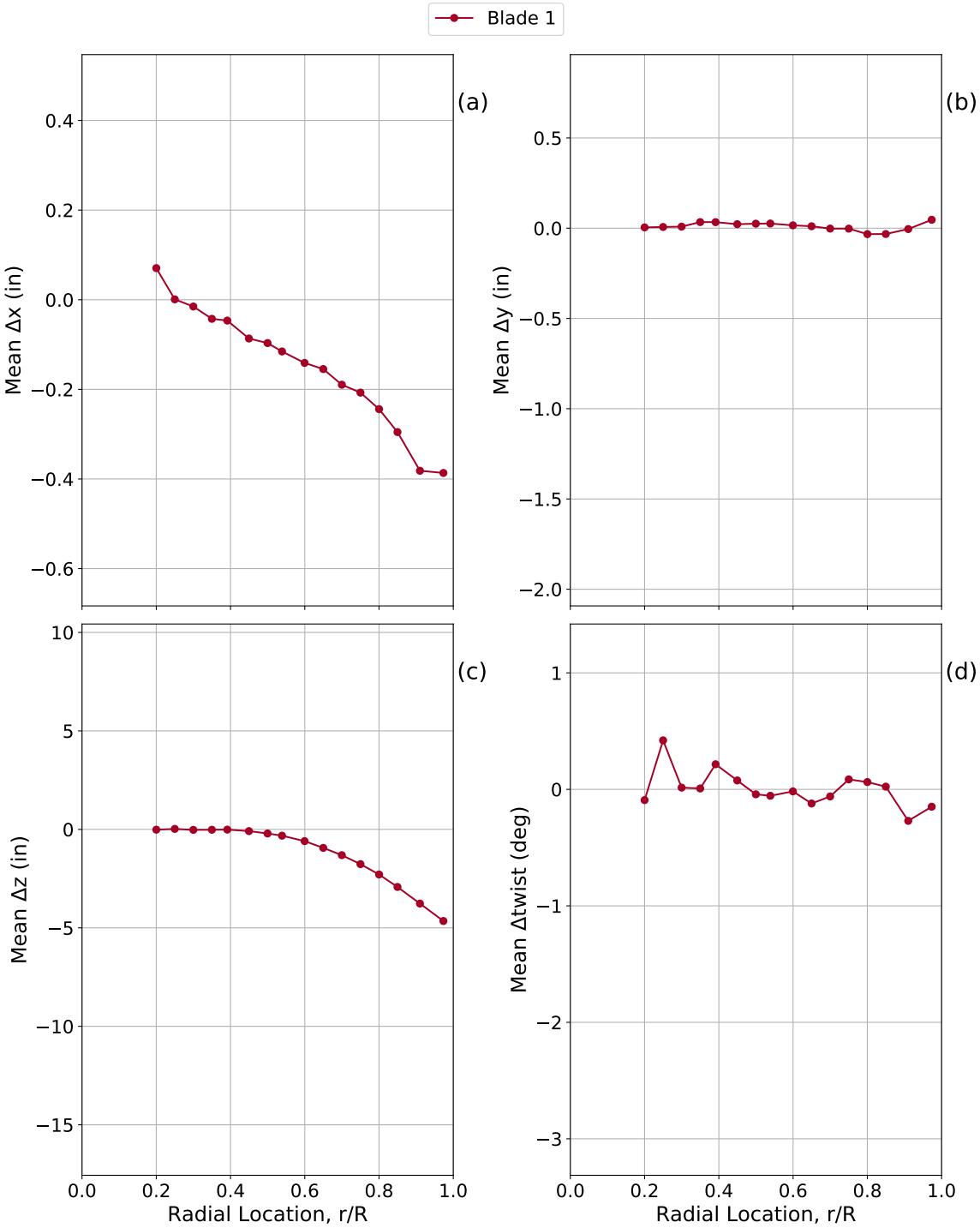


Figure 3.7-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0705	0.0025	0.0044	0.0007	-0.0154	0.0041	-0.0921	0.0319
1	60.12	0.2499	0.0009	0.0027	0.0067	0.0021	0.0233	0.0086	0.4206	0.0693
1	60.12	0.2998	-0.0151	0.0028	0.0086	0.0033	-0.0247	0.0175	0.0150	0.0794
1	60.12	0.3498	-0.0426	0.0016	0.0339	0.0050	-0.0196	0.0293	0.0077	0.0668
1	60.12	0.3913	-0.0465	0.0027	0.0335	0.0080	-0.0123	0.0429	0.2154	0.0701
1	60.12	0.4496	-0.0865	0.0025	0.0222	0.0104	-0.0881	0.0642	0.0764	0.0434
1	60.12	0.4997	-0.0967	0.0035	0.0250	0.0143	-0.2088	0.0832	-0.0426	0.0737
1	60.12	0.5387	-0.1154	0.0030	0.0259	0.0144	-0.3196	0.0979	-0.0553	0.0699
1	60.12	0.5996	-0.1410	0.0033	0.0157	0.0193	-0.5968	0.1226	-0.0173	0.0778
1	60.12	0.6498	-0.1547	0.0034	0.0107	0.0235	-0.9399	0.1374	-0.1214	0.0780
1	60.12	0.6998	-0.1896	0.0036	-0.0022	0.0277	-1.3099	0.1506	-0.0609	0.0737
1	60.12	0.7500	-0.2073	0.0038	-0.0024	0.0321	-1.7650	0.1682	0.0856	0.0627
1	60.12	0.8001	-0.2441	0.0049	-0.0329	0.0360	-2.2908	0.1808	0.0626	0.0675
1	60.12	0.8497	-0.2953	0.0056	-0.0322	0.0412	-2.9239	0.1952	0.0232	0.0777
1	60.12	0.9102	-0.3816	0.0090	-0.0048	0.0479	-3.7667	0.2117	-0.2704	0.0661
1	60.12	0.9734	-0.3865	0.0068	0.0466	0.0530	-4.6532	0.2296	-0.1489	0.0806

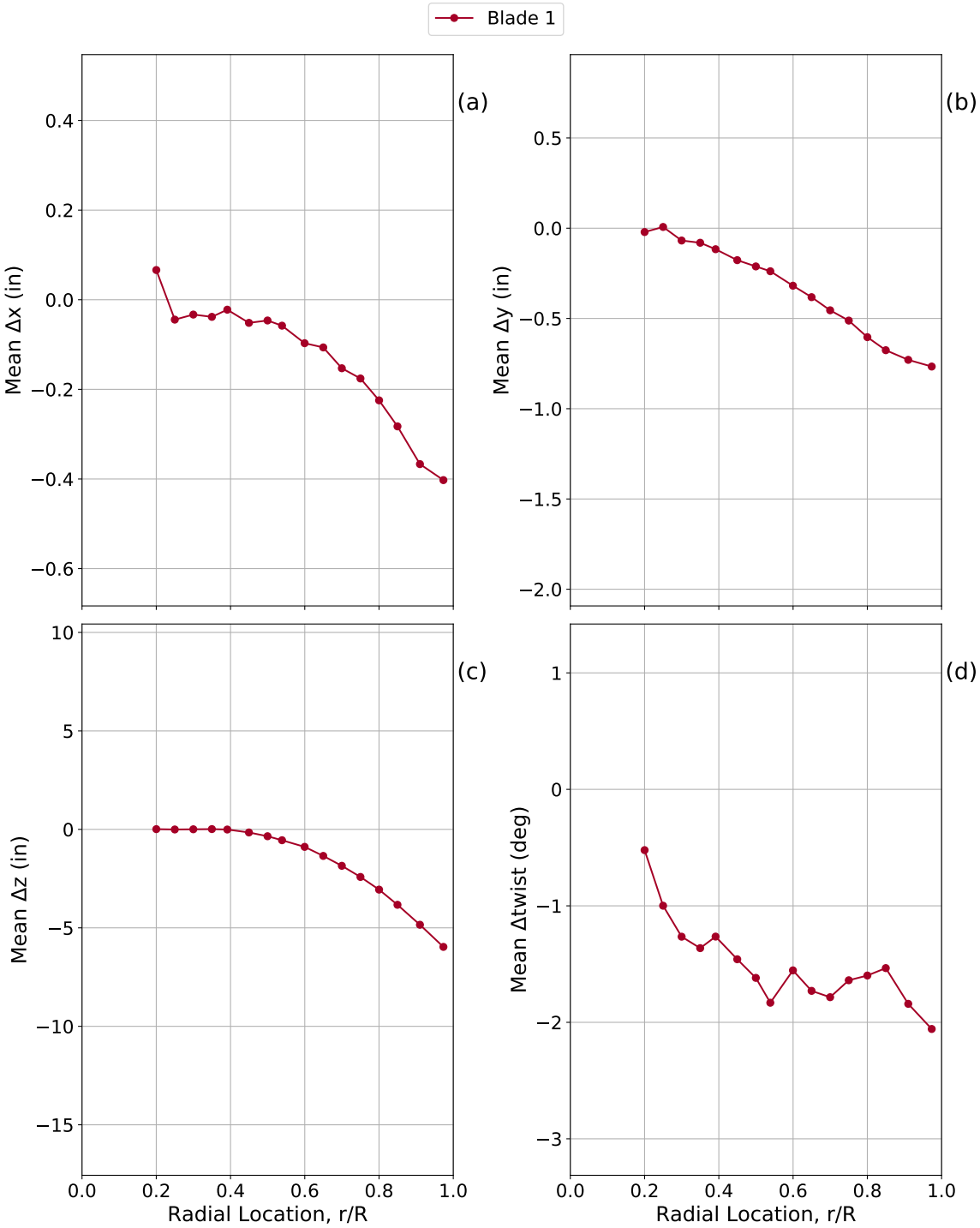


Figure 3.7-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0663	0.0026	-0.0213	0.0036	0.0118	0.0110	-0.5217	0.0532
1	74.88	0.2499	-0.0444	0.0024	0.0068	0.0044	-0.0050	0.0139	-0.9989	0.1365
1	74.88	0.2998	-0.0331	0.0037	-0.0683	0.0132	0.0045	0.0360	-1.2648	0.1415
1	74.88	0.3498	-0.0382	0.0037	-0.0807	0.0229	0.0142	0.0611	-1.3631	0.1443
1	74.88	0.3913	-0.0222	0.0050	-0.1165	0.0315	-0.0075	0.0828	-1.2640	0.1505
1	74.88	0.4496	-0.0516	0.0060	-0.1771	0.0446	-0.1567	0.1175	-1.4586	0.1512
1	74.88	0.4997	-0.0463	0.0069	-0.2118	0.0560	-0.3486	0.1457	-1.6184	0.1639
1	74.88	0.5387	-0.0579	0.0048	-0.2385	0.0693	-0.5512	0.1809	-1.8317	0.2082
1	74.88	0.5996	-0.0970	0.0101	-0.3186	0.0888	-0.8881	0.1744	-1.5540	0.1373
1	74.88	0.6498	-0.1064	0.0102	-0.3821	0.1017	-1.3477	0.1990	-1.7299	0.1581
1	74.88	0.6998	-0.1529	0.0108	-0.4548	0.1137	-1.8502	0.2226	-1.7843	0.1795
1	74.88	0.7500	-0.1757	0.0108	-0.5118	0.1291	-2.4161	0.2517	-1.6389	0.1588
1	74.88	0.8001	-0.2245	0.0120	-0.6037	0.1428	-3.0588	0.2803	-1.5982	0.1602
1	74.88	0.8497	-0.2826	0.0142	-0.6759	0.1578	-3.8293	0.3102	-1.5345	0.1606
1	74.88	0.9102	-0.3668	0.0159	-0.7293	0.1768	-4.8434	0.3502	-1.8414	0.1699
1	74.88	0.9734	-0.4025	0.0152	-0.7664	0.1956	-5.9669	0.3988	-2.0571	0.1683

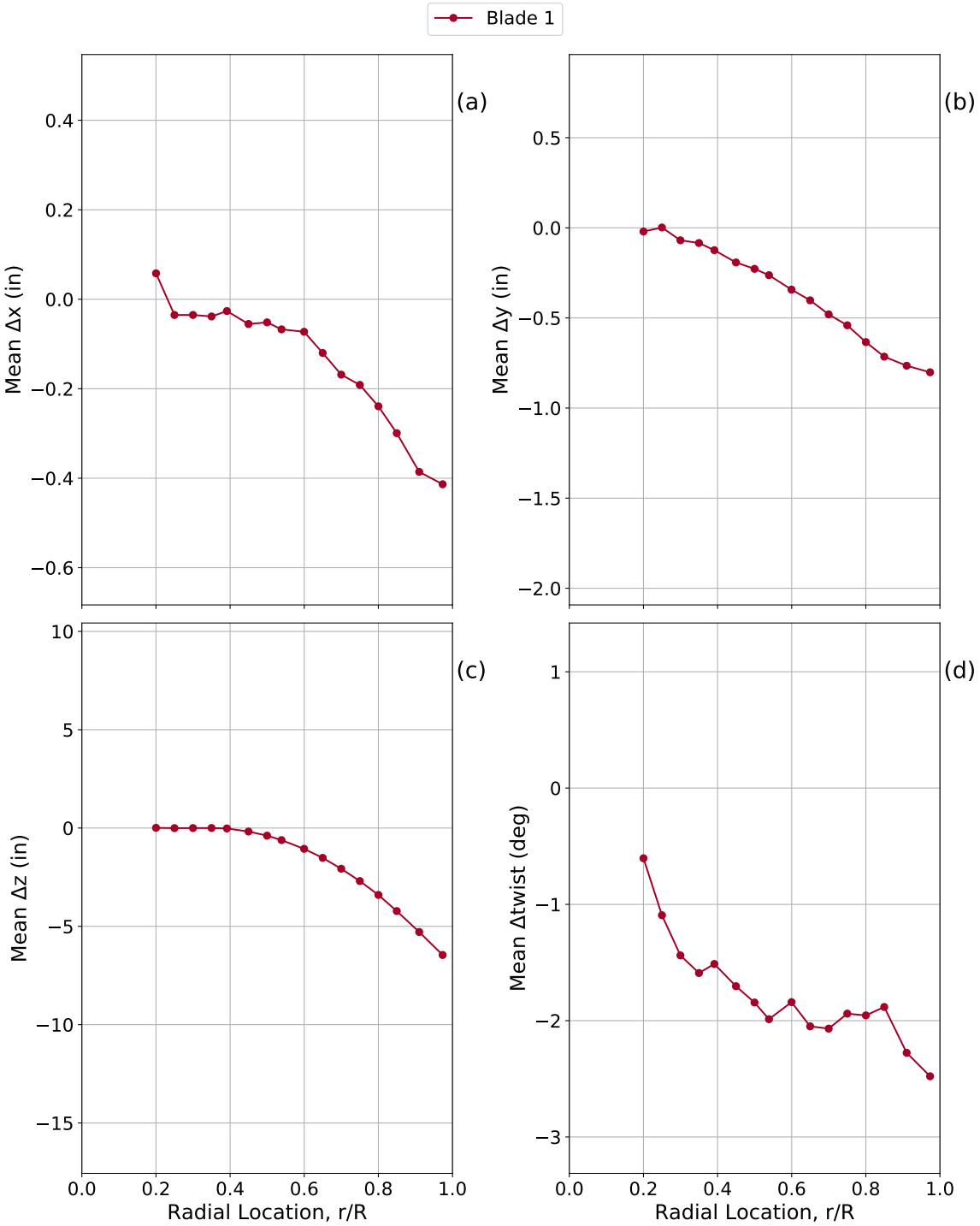


Figure 3.7-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0579	0.0051	-0.0204	0.0037	0.0090	0.0124	-0.6037	0.0586
1	80.16	0.2499	-0.0352	0.0025	0.0018	0.0058	-0.0042	0.0175	-1.0933	0.1537
1	80.16	0.2998	-0.0351	0.0034	-0.0692	0.0143	-0.0019	0.0420	-1.4389	0.1567
1	80.16	0.3498	-0.0385	0.0062	-0.0843	0.0257	0.0011	0.0699	-1.5903	0.1654
1	80.16	0.3913	-0.0264	0.0096	-0.1242	0.0356	-0.0214	0.0968	-1.5126	0.1597
1	80.16	0.4496	-0.0553	0.0134	-0.1922	0.0497	-0.1779	0.1367	-1.7036	0.1568
1	80.16	0.4997	-0.0517	0.0149	-0.2276	0.0631	-0.3886	0.1699	-1.8439	0.1746
1	80.16	0.5387	-0.0673	0.0169	-0.2628	0.0752	-0.6151	0.1956	-1.9873	0.1584
1	80.16	0.5996	-0.0727	0.0207	-0.3431	0.0907	-1.0593	0.2345	-1.8406	0.1585
1	80.16	0.6498	-0.1201	0.0121	-0.4023	0.1214	-1.5182	0.2373	-2.0489	0.1625
1	80.16	0.6998	-0.1685	0.0127	-0.4802	0.1365	-2.0715	0.2672	-2.0684	0.1579
1	80.16	0.7500	-0.1915	0.0127	-0.5409	0.1526	-2.6974	0.2961	-1.9397	0.1669
1	80.16	0.8001	-0.2393	0.0134	-0.6341	0.1689	-3.4030	0.3235	-1.9547	0.1631
1	80.16	0.8497	-0.2993	0.0143	-0.7148	0.1863	-4.2236	0.3465	-1.8824	0.1593
1	80.16	0.9102	-0.3858	0.0141	-0.7652	0.2064	-5.2873	0.3730	-2.2761	0.1697
1	80.16	0.9734	-0.4135	0.0105	-0.8016	0.2293	-6.4563	0.3993	-2.4782	0.1605

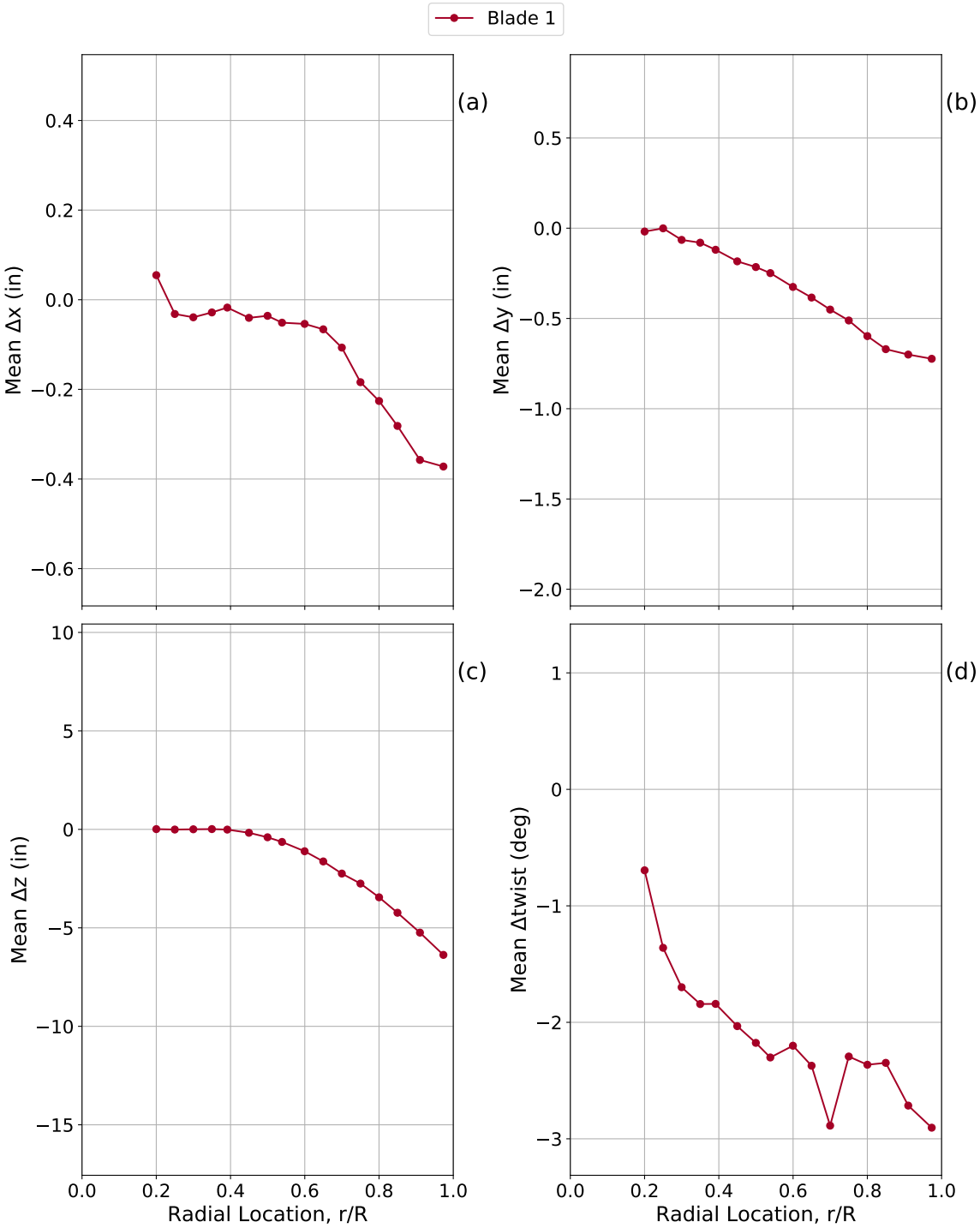


Figure 3.7-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.099, μ = 0.3, α = -4.5° NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0549	0.0038	-0.0184	0.0042	0.0133	0.0127	-0.6950	0.0753
1	85.08	0.2499	-0.0318	0.0021	-0.0008	0.0039	-0.0086	0.0137	-1.3603	0.2077
1	85.08	0.2998	-0.0392	0.0038	-0.0648	0.0153	0.0046	0.0389	-1.6988	0.2058
1	85.08	0.3498	-0.0283	0.0062	-0.0803	0.0250	0.0148	0.0655	-1.8430	0.2102
1	85.08	0.3913	-0.0175	0.0079	-0.1195	0.0346	-0.0110	0.0869	-1.8417	0.2106
1	85.08	0.4496	-0.0404	0.0125	-0.1836	0.0481	-0.1729	0.1199	-2.0327	0.2099
1	85.08	0.4997	-0.0359	0.0156	-0.2152	0.0608	-0.4009	0.1476	-2.1763	0.2251
1	85.08	0.5387	-0.0512	0.0187	-0.2488	0.0710	-0.6383	0.1732	-2.3017	0.2155
1	85.08	0.5996	-0.0539	0.0253	-0.3254	0.0886	-1.1104	0.2147	-2.2008	0.2278
1	85.08	0.6498	-0.0660	0.0293	-0.3842	0.1032	-1.6282	0.2549	-2.3726	0.2203
1	85.08	0.6998	-0.1068	0.0213	-0.4508	0.1372	-2.2441	0.3375	-2.8868	0.7139
1	85.08	0.7500	-0.1840	0.0175	-0.5112	0.1894	-2.7524	0.2490	-2.2935	0.2299
1	85.08	0.8001	-0.2259	0.0172	-0.5978	0.2090	-3.4489	0.2895	-2.3641	0.2448
1	85.08	0.8497	-0.2816	0.0190	-0.6701	0.2288	-4.2336	0.3278	-2.3479	0.2434
1	85.08	0.9102	-0.3575	0.0200	-0.7000	0.2538	-5.2427	0.3737	-2.7147	0.2410
1	85.08	0.9734	-0.3722	0.0204	-0.7234	0.2808	-6.3732	0.4193	-2.9045	0.2212

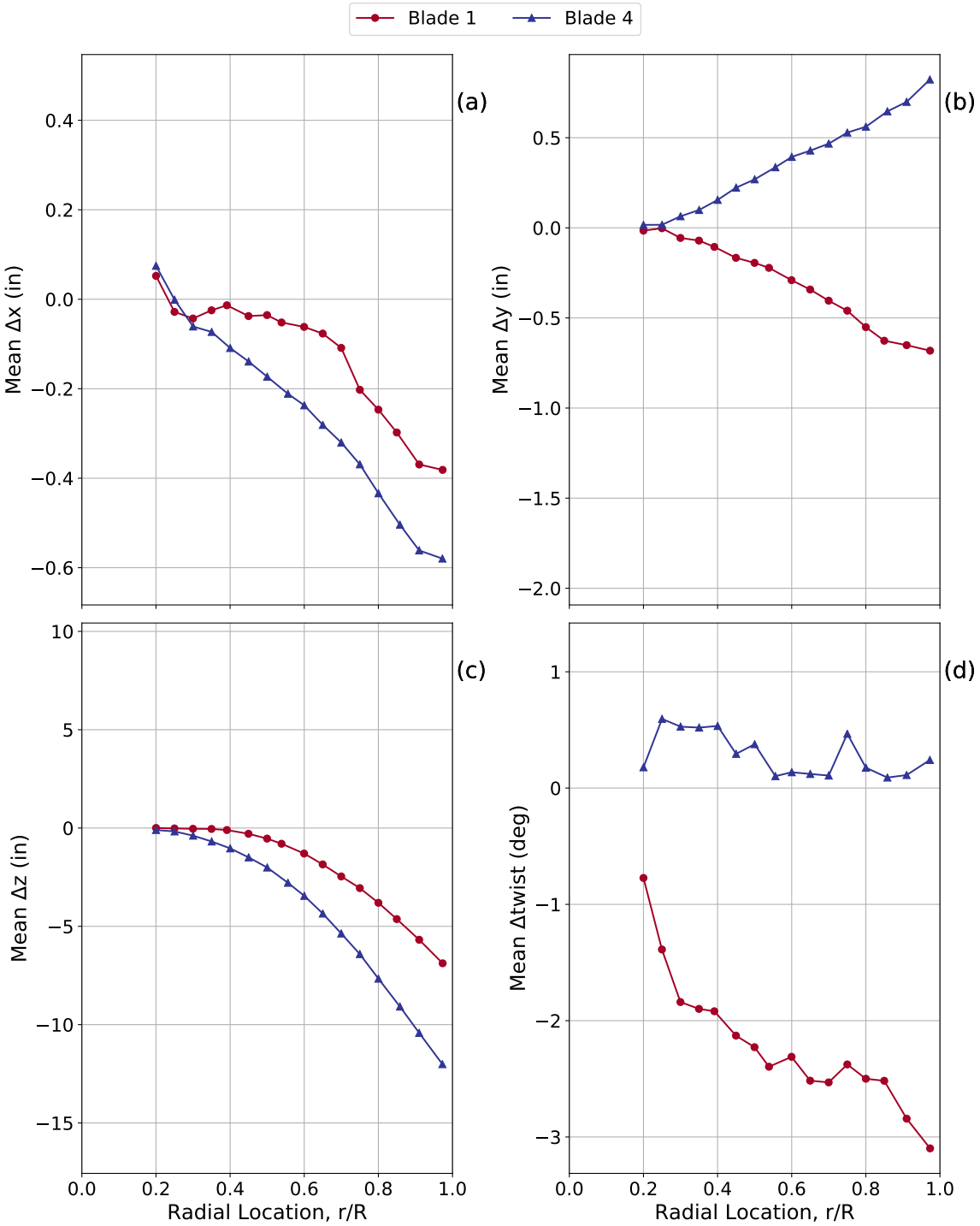


Figure 3.7-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.099, μ = 0.3, α = -4.5° NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0522	0.0051	-0.0157	0.0033	0.0019	0.0096	-0.7728	0.0628
1	90	0.2499	-0.0282	0.0027	-0.0023	0.0059	-0.0207	0.0144	-1.3879	0.1530
1	90	0.2998	-0.0430	0.0022	-0.0562	0.0138	-0.0377	0.0316	-1.8399	0.1609
1	90	0.3498	-0.0247	0.0043	-0.0708	0.0236	-0.0468	0.0536	-1.8987	0.1547
1	90	0.3913	-0.0135	0.0062	-0.1058	0.0339	-0.1015	0.0733	-1.9192	0.1549
1	90	0.4496	-0.0376	0.0090	-0.1664	0.0499	-0.2931	0.1028	-2.1287	0.1541
1	90	0.4997	-0.0354	0.0125	-0.1945	0.0634	-0.5377	0.1304	-2.2281	0.1634
1	90	0.5387	-0.0519	0.0159	-0.2221	0.0758	-0.7996	0.1555	-2.3962	0.1543
1	90	0.5996	-0.0618	0.0208	-0.2905	0.0945	-1.2965	0.1958	-2.3109	0.1507
1	90	0.6498	-0.0767	0.0235	-0.3424	0.1098	-1.8505	0.2306	-2.5160	0.1548
1	90	0.6998	-0.1087	0.0268	-0.4043	0.1239	-2.4619	0.2681	-2.5308	0.1402
1	90	0.7500	-0.2024	0.0129	-0.4600	0.1462	-3.0557	0.3657	-2.3762	0.1557
1	90	0.8001	-0.2468	0.0139	-0.5512	0.1633	-3.8028	0.4135	-2.4996	0.1464
1	90	0.8497	-0.2978	0.0139	-0.6264	0.1798	-4.6317	0.4599	-2.5171	0.1447
1	90	0.9102	-0.3693	0.0172	-0.6511	0.2008	-5.6833	0.5207	-2.8426	0.1539
1	90	0.9734	-0.3814	0.0173	-0.6818	0.2226	-6.8796	0.5909	-3.0980	0.1562
4	90.35	0.2001	0.0748	0.0010	0.0163	0.0012	-0.1002	0.0036	0.1784	0.0206
4	90.35	0.2502	-0.0013	0.0021	0.0168	0.0023	-0.1740	0.0085	0.5948	0.0545
4	90.35	0.3001	-0.0609	0.0021	0.0641	0.0043	-0.3881	0.0145	0.5281	0.0491
4	90.35	0.3502	-0.0731	0.0025	0.0989	0.0077	-0.6842	0.0240	0.5200	0.0541
4	90.35	0.4002	-0.1090	0.0022	0.1549	0.0117	-1.0360	0.0385	0.5339	0.0539
4	90.35	0.4500	-0.1393	0.0034	0.2228	0.0154	-1.4944	0.0545	0.2939	0.0604
4	90.35	0.5001	-0.1732	0.0033	0.2689	0.0196	-2.0094	0.0735	0.3772	0.0488
4	90.35	0.5560	-0.2113	0.0039	0.3360	0.0256	-2.7855	0.0985	0.1022	0.0582
4	90.35	0.6001	-0.2371	0.0045	0.3934	0.0301	-3.4497	0.1194	0.1361	0.0524
4	90.35	0.6501	-0.2809	0.0056	0.4284	0.0350	-4.3509	0.1442	0.1212	0.0514
4	90.35	0.6999	-0.3204	0.0069	0.4669	0.0418	-5.3646	0.1710	0.1076	0.0512
4	90.35	0.7500	-0.3690	0.0089	0.5282	0.0481	-6.4135	0.1995	0.4668	0.0531
4	90.35	0.8002	-0.4337	0.0110	0.5610	0.0547	-7.6614	0.2284	0.1753	0.0577
4	90.35	0.8582	-0.5040	0.0128	0.6463	0.0624	-9.0815	0.2665	0.0902	0.0540
4	90.35	0.9101	-0.5614	0.0156	0.6987	0.0702	-10.4203	0.2995	0.1119	0.0523
4	90.35	0.9728	-0.5797	0.0175	0.8226	0.0795	-12.0099	0.3462	0.2416	0.0630

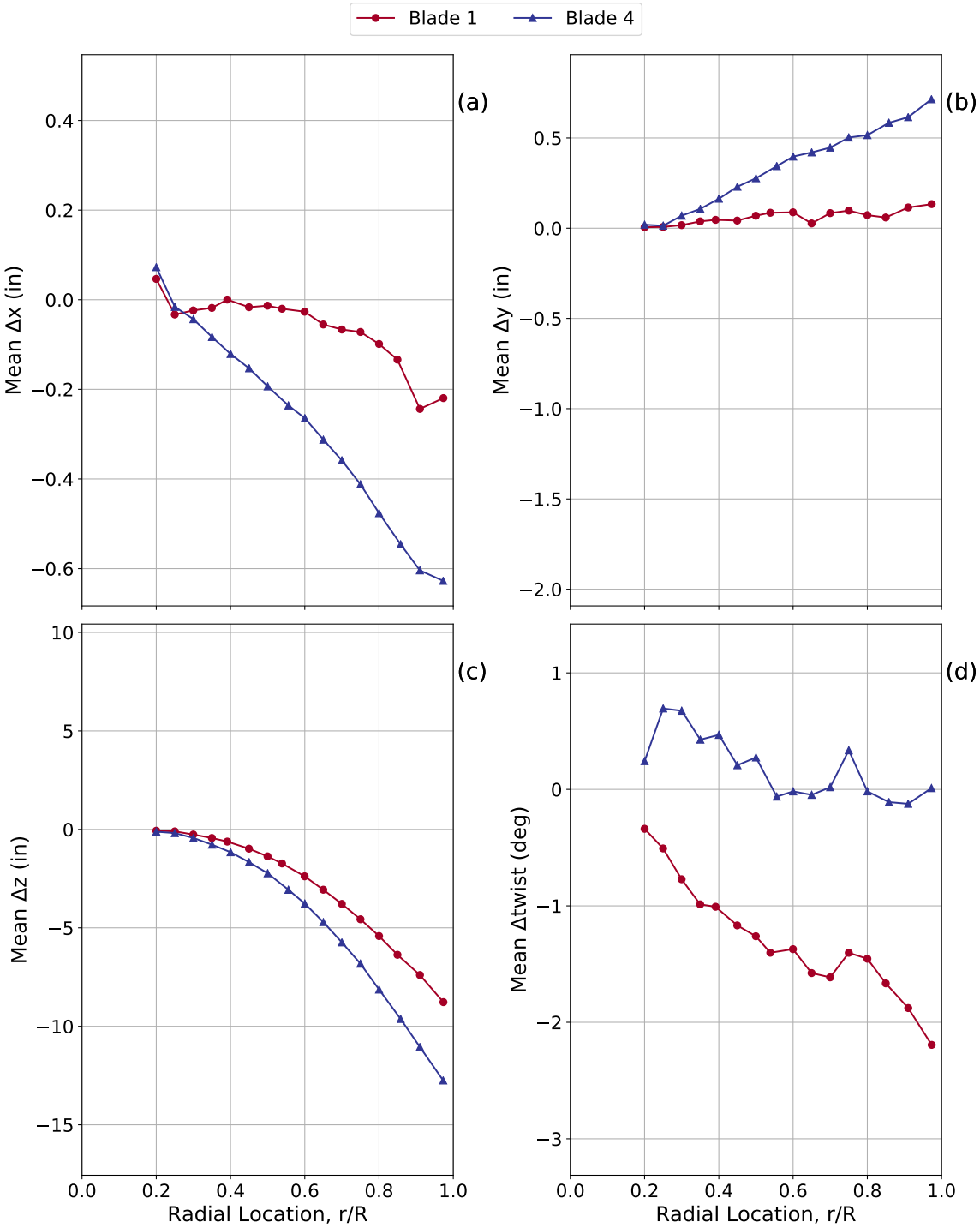


Figure 3.7-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	0.0465	0.0160	0.0055	0.0073	-0.0677	0.0163	-0.3384	0.0180
1	94.92	0.2499	-0.0331	0.0016	0.0071	0.0084	-0.0999	0.0197	-0.5069	0.0453
1	94.92	0.2998	-0.0239	0.0021	0.0170	0.0268	-0.2608	0.0540	-0.7716	0.0436
1	94.92	0.3498	-0.0183	0.0031	0.0380	0.0457	-0.4356	0.0909	-0.9872	0.0424
1	94.92	0.3913	0.0003	0.0039	0.0464	0.0632	-0.6182	0.1236	-1.0077	0.0418
1	94.92	0.4496	-0.0167	0.0046	0.0425	0.0869	-0.9782	0.1664	-1.1681	0.0527
1	94.92	0.4997	-0.0133	0.0044	0.0692	0.1075	-1.3689	0.2036	-1.2612	0.0498
1	94.92	0.5387	-0.0202	0.0050	0.0857	0.1229	-1.7297	0.2329	-1.4028	0.0495
1	94.92	0.5996	-0.0268	0.0043	0.0882	0.1485	-2.3833	0.2831	-1.3720	0.0426
1	94.92	0.6498	-0.0553	0.0195	0.0266	0.1321	-3.0635	0.3113	-1.5773	0.0539
1	94.92	0.6998	-0.0665	0.0053	0.0838	0.1883	-3.7838	0.3603	-1.6141	0.0453
1	94.92	0.7500	-0.0720	0.0075	0.0976	0.2080	-4.5657	0.4001	-1.4034	0.0553
1	94.92	0.8001	-0.0988	0.0101	0.0723	0.2295	-5.4182	0.4394	-1.4543	0.0962
1	94.92	0.8497	-0.1338	0.0131	0.0594	0.2504	-6.3699	0.4682	-1.6656	0.0843
1	94.92	0.9102	-0.2437	0.0152	0.1150	0.2955	-7.3962	0.4363	-1.8779	0.0964
1	94.92	0.9734	-0.2196	0.0261	0.1335	0.3195	-8.7741	0.4906	-2.1939	0.0868
4	94.92	0.2001	0.0727	0.0021	0.0194	0.0012	-0.1160	0.0030	0.2425	0.0326
4	94.92	0.2502	-0.0160	0.0020	0.0139	0.0024	-0.1870	0.0063	0.6946	0.0497
4	94.92	0.3001	-0.0435	0.0029	0.0695	0.0048	-0.4342	0.0120	0.6748	0.0724
4	94.92	0.3502	-0.0832	0.0024	0.1073	0.0090	-0.7739	0.0206	0.4271	0.0680
4	94.92	0.4002	-0.1211	0.0034	0.1635	0.0133	-1.1577	0.0320	0.4681	0.0810
4	94.92	0.4500	-0.1531	0.0036	0.2298	0.0170	-1.6638	0.0422	0.2075	0.0721
4	94.92	0.5001	-0.1935	0.0033	0.2768	0.0222	-2.2286	0.0544	0.2741	0.0792
4	94.92	0.5560	-0.2361	0.0041	0.3441	0.0278	-3.0670	0.0686	-0.0621	0.0778
4	94.92	0.6001	-0.2643	0.0046	0.3968	0.0322	-3.7691	0.0788	-0.0172	0.0847
4	94.92	0.6501	-0.3124	0.0052	0.4201	0.0382	-4.7114	0.0940	-0.0469	0.0827
4	94.92	0.6999	-0.3586	0.0063	0.4465	0.0451	-5.7391	0.1099	0.0187	0.0818
4	94.92	0.7500	-0.4120	0.0076	0.5024	0.0514	-6.8213	0.1260	0.3356	0.0737
4	94.92	0.8002	-0.4763	0.0086	0.5157	0.0582	-8.1347	0.1396	-0.0168	0.0916
4	94.92	0.8582	-0.5458	0.0092	0.5838	0.0668	-9.6271	0.1573	-0.1093	0.0882
4	94.92	0.9101	-0.6039	0.0101	0.6153	0.0748	-11.0503	0.1769	-0.1239	0.0948
4	94.92	0.9728	-0.6273	0.0110	0.7143	0.0844	-12.7486	0.1905	0.0110	0.0937

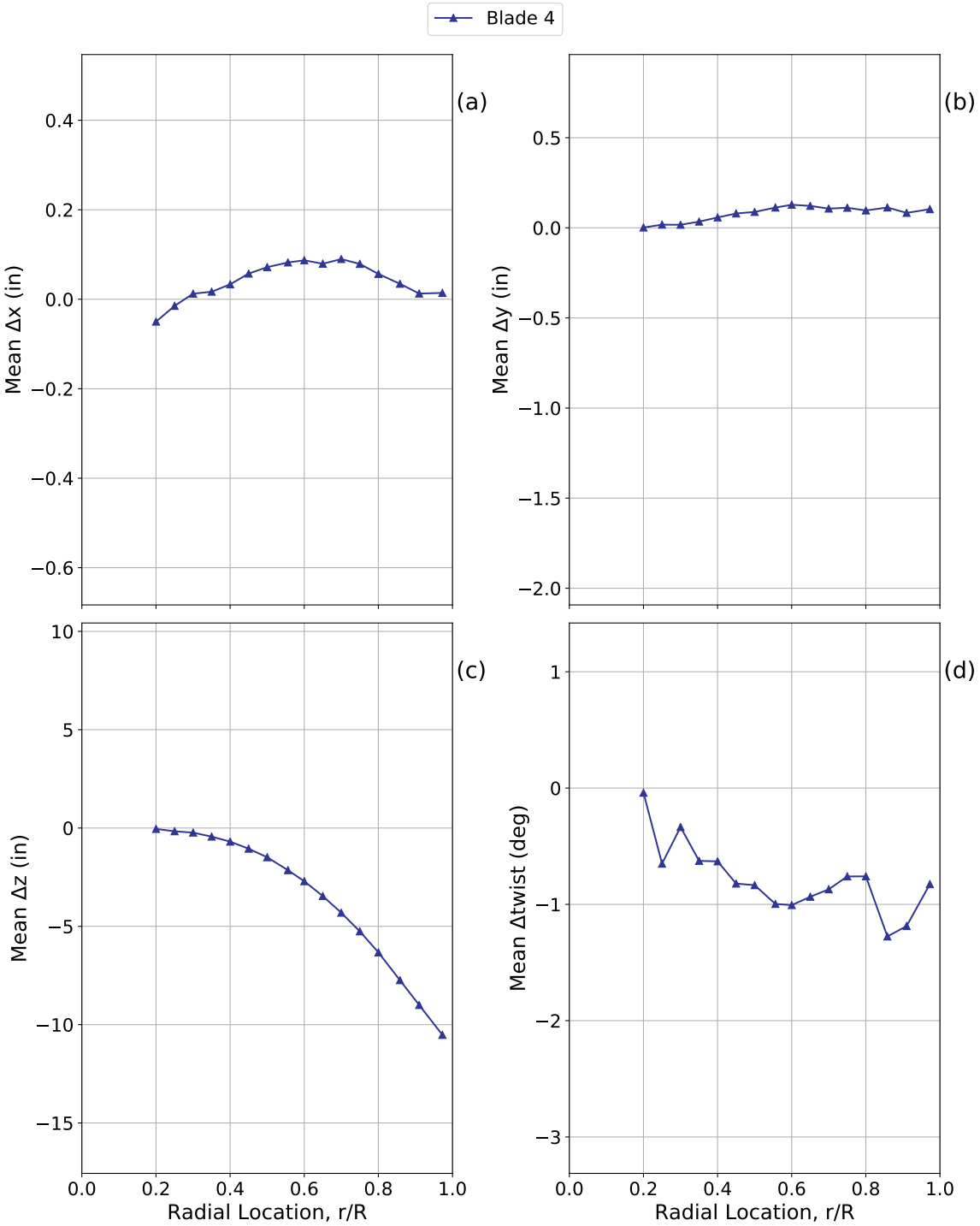


Figure 3.7-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0501	0.0009	0.0016	0.0007	-0.0463	0.0041	-0.0400	0.0201
4	105.12	0.2502	-0.0149	0.0017	0.0174	0.0027	-0.1653	0.0083	-0.6502	0.0297
4	105.12	0.3001	0.0124	0.0017	0.0169	0.0038	-0.2339	0.0171	-0.3353	0.0439
4	105.12	0.3502	0.0168	0.0014	0.0344	0.0069	-0.4382	0.0274	-0.6261	0.0515
4	105.12	0.4002	0.0333	0.0017	0.0575	0.0110	-0.6917	0.0438	-0.6303	0.0625
4	105.12	0.4500	0.0573	0.0024	0.0795	0.0133	-1.0534	0.0555	-0.8213	0.0466
4	105.12	0.5001	0.0717	0.0020	0.0880	0.0166	-1.4883	0.0709	-0.8350	0.0530
4	105.12	0.5560	0.0822	0.0021	0.1123	0.0208	-2.1450	0.0889	-0.9964	0.0502
4	105.12	0.6001	0.0870	0.0026	0.1279	0.0244	-2.7066	0.1035	-1.0064	0.0535
4	105.12	0.6501	0.0793	0.0029	0.1216	0.0284	-3.4610	0.1171	-0.9348	0.0463
4	105.12	0.6999	0.0898	0.0034	0.1066	0.0330	-4.3085	0.1313	-0.8706	0.0714
4	105.12	0.7500	0.0789	0.0034	0.1112	0.0364	-5.2562	0.1417	-0.7597	0.0540
4	105.12	0.8002	0.0565	0.0044	0.0962	0.0414	-6.3285	0.1531	-0.7592	0.0602
4	105.12	0.8582	0.0345	0.0056	0.1127	0.0463	-7.7387	0.1605	-1.2762	0.0660
4	105.12	0.9101	0.0127	0.0058	0.0828	0.0517	-9.0013	0.1716	-1.1865	0.0580
4	105.12	0.9728	0.0141	0.0060	0.1034	0.0578	-10.5210	0.1825	-0.8263	0.0600

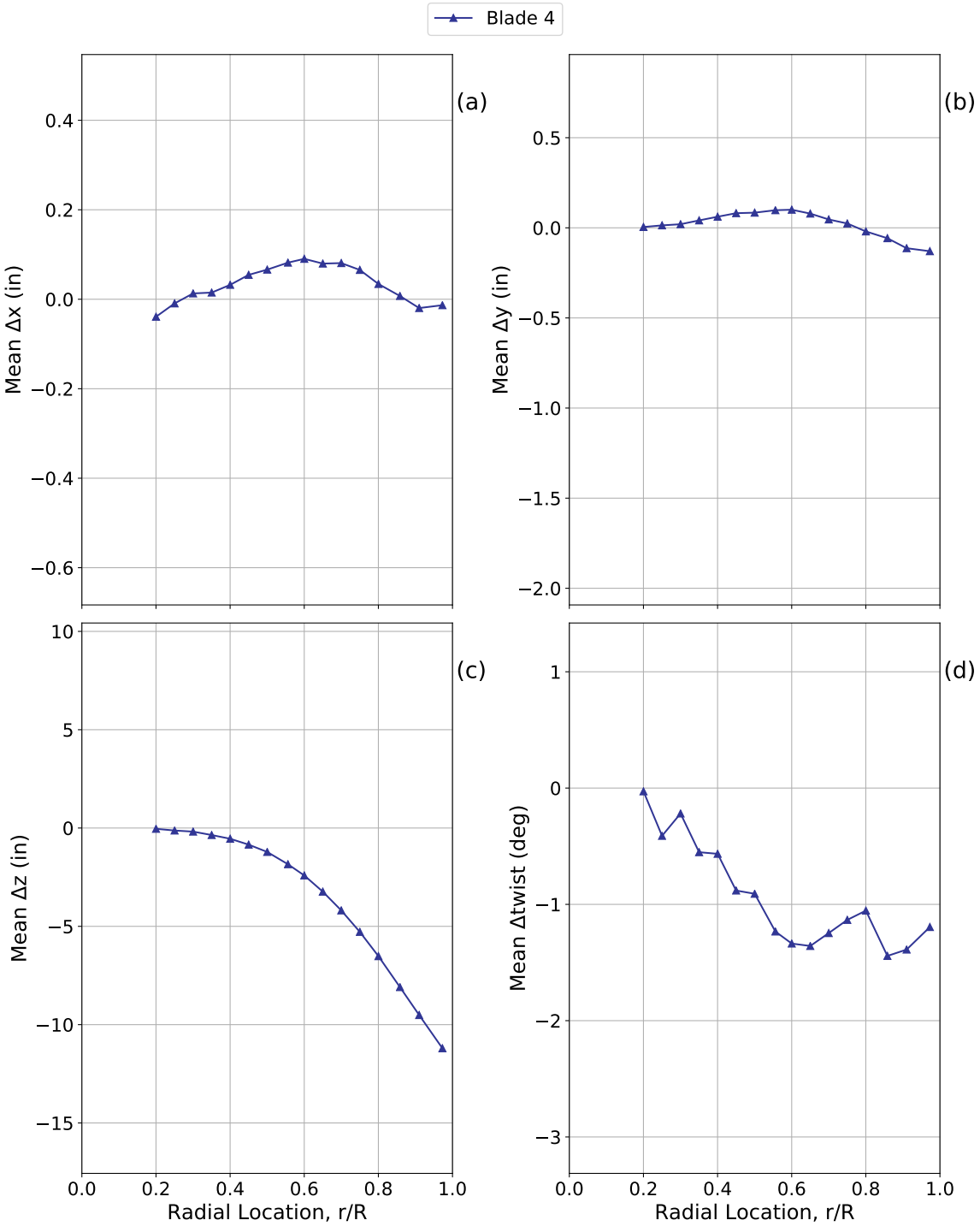


Figure 3.7-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.099, μ = 0.3, α = -4.5° NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0391	0.0018	0.0045	0.0008	-0.0403	0.0047	-0.0282	0.0239
4	119.88	0.2502	-0.0093	0.0015	0.0136	0.0018	-0.1267	0.0091	-0.4109	0.0460
4	119.88	0.3001	0.0130	0.0014	0.0199	0.0031	-0.1831	0.0183	-0.2187	0.0549
4	119.88	0.3502	0.0149	0.0015	0.0412	0.0054	-0.3563	0.0322	-0.5514	0.0547
4	119.88	0.4002	0.0322	0.0024	0.0616	0.0083	-0.5462	0.0490	-0.5654	0.0560
4	119.88	0.4500	0.0545	0.0023	0.0812	0.0111	-0.8454	0.0668	-0.8810	0.0565
4	119.88	0.5001	0.0662	0.0032	0.0840	0.0143	-1.2166	0.0875	-0.9089	0.0551
4	119.88	0.5560	0.0818	0.0040	0.0977	0.0185	-1.8420	0.1108	-1.2335	0.0627
4	119.88	0.6001	0.0903	0.0046	0.1004	0.0215	-2.4122	0.1326	-1.3369	0.0558
4	119.88	0.6501	0.0797	0.0049	0.0789	0.0253	-3.2367	0.1578	-1.3579	0.0575
4	119.88	0.6999	0.0808	0.0072	0.0464	0.0277	-4.1907	0.1789	-1.2469	0.0757
4	119.88	0.7500	0.0655	0.0080	0.0240	0.0343	-5.2831	0.2116	-1.1335	0.0561
4	119.88	0.8002	0.0341	0.0095	-0.0201	0.0388	-6.5175	0.2376	-1.0538	0.0678
4	119.88	0.8582	0.0073	0.0122	-0.0577	0.0454	-8.0908	0.2723	-1.4435	0.0602
4	119.88	0.9101	-0.0197	0.0145	-0.1131	0.0516	-9.5122	0.3045	-1.3887	0.0553
4	119.88	0.9728	-0.0133	0.0174	-0.1298	0.0594	-11.2014	0.3428	-1.1948	0.0698

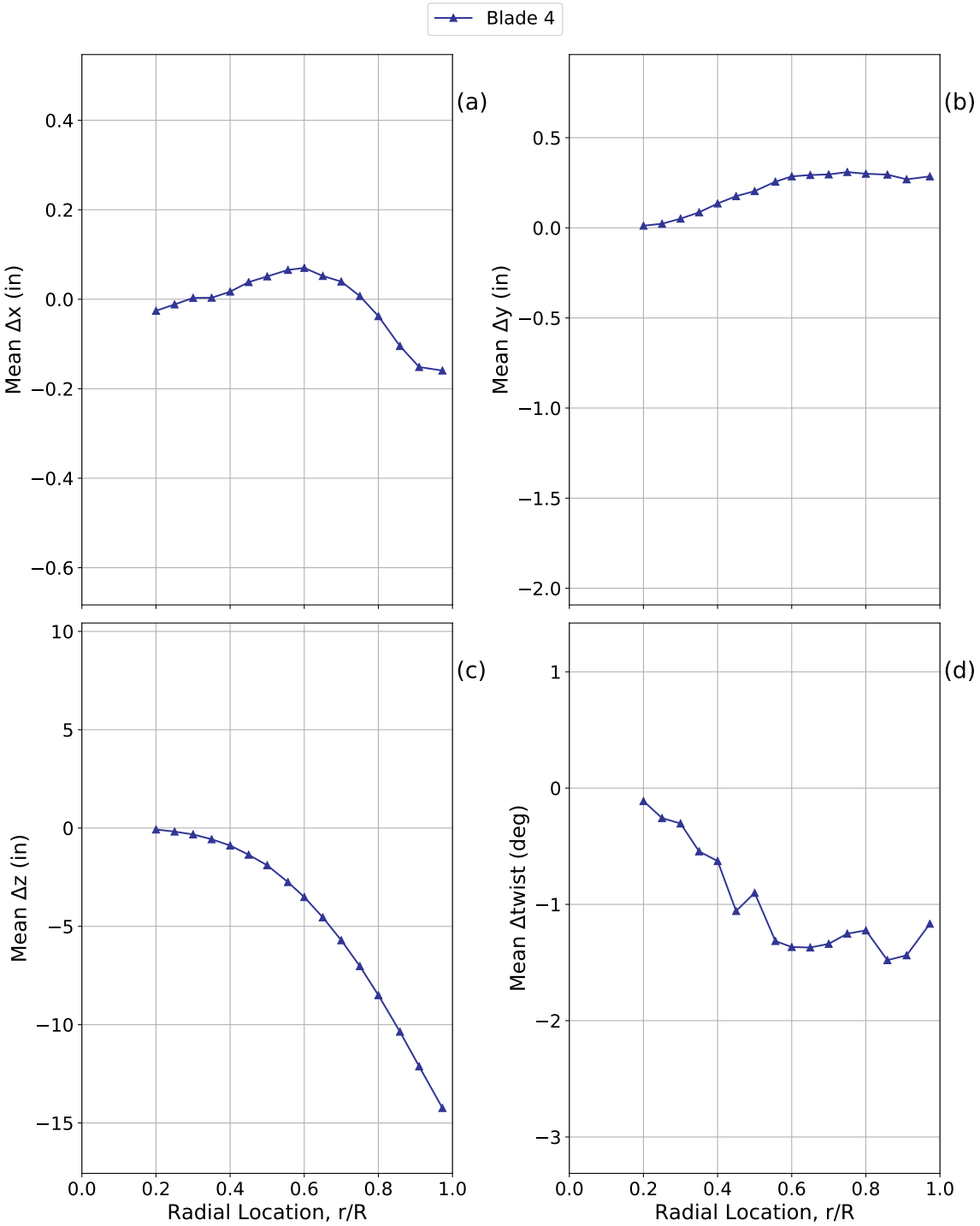


Figure 3.7-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0258	0.0015	0.0117	0.0007	-0.0756	0.0041	-0.1120	0.0257
4	135	0.2502	-0.0116	0.0012	0.0226	0.0017	-0.1824	0.0088	-0.2583	0.0410
4	135	0.3001	0.0030	0.0018	0.0508	0.0023	-0.3262	0.0173	-0.3046	0.0586
4	135	0.3502	0.0033	0.0009	0.0860	0.0055	-0.5713	0.0293	-0.5446	0.0407
4	135	0.4002	0.0170	0.0022	0.1349	0.0074	-0.8915	0.0459	-0.6277	0.0555
4	135	0.4500	0.0383	0.0028	0.1756	0.0098	-1.3591	0.0662	-1.0573	0.0546
4	135	0.5001	0.0510	0.0035	0.2036	0.0128	-1.8967	0.0931	-0.9012	0.0659
4	135	0.5560	0.0655	0.0054	0.2558	0.0166	-2.7515	0.1351	-1.3153	0.0791
4	135	0.6001	0.0700	0.0072	0.2854	0.0190	-3.5120	0.1735	-1.3670	0.0769
4	135	0.6501	0.0520	0.0097	0.2930	0.0230	-4.5445	0.2259	-1.3710	0.0652
4	135	0.6999	0.0395	0.0145	0.2962	0.0272	-5.7106	0.2853	-1.3396	0.0578
4	135	0.7500	0.0071	0.0201	0.3094	0.0310	-7.0253	0.3565	-1.2518	0.0667
4	135	0.8002	-0.0379	0.0230	0.3000	0.0319	-8.5038	0.4374	-1.2239	0.1140
4	135	0.8582	-0.1046	0.0363	0.2952	0.0405	-10.3601	0.5294	-1.4800	0.0595
4	135	0.9101	-0.1515	0.0448	0.2689	0.0455	-12.1232	0.6208	-1.4382	0.0612
4	135	0.9728	-0.1594	0.0545	0.2853	0.0508	-14.2384	0.7384	-1.1666	0.0628

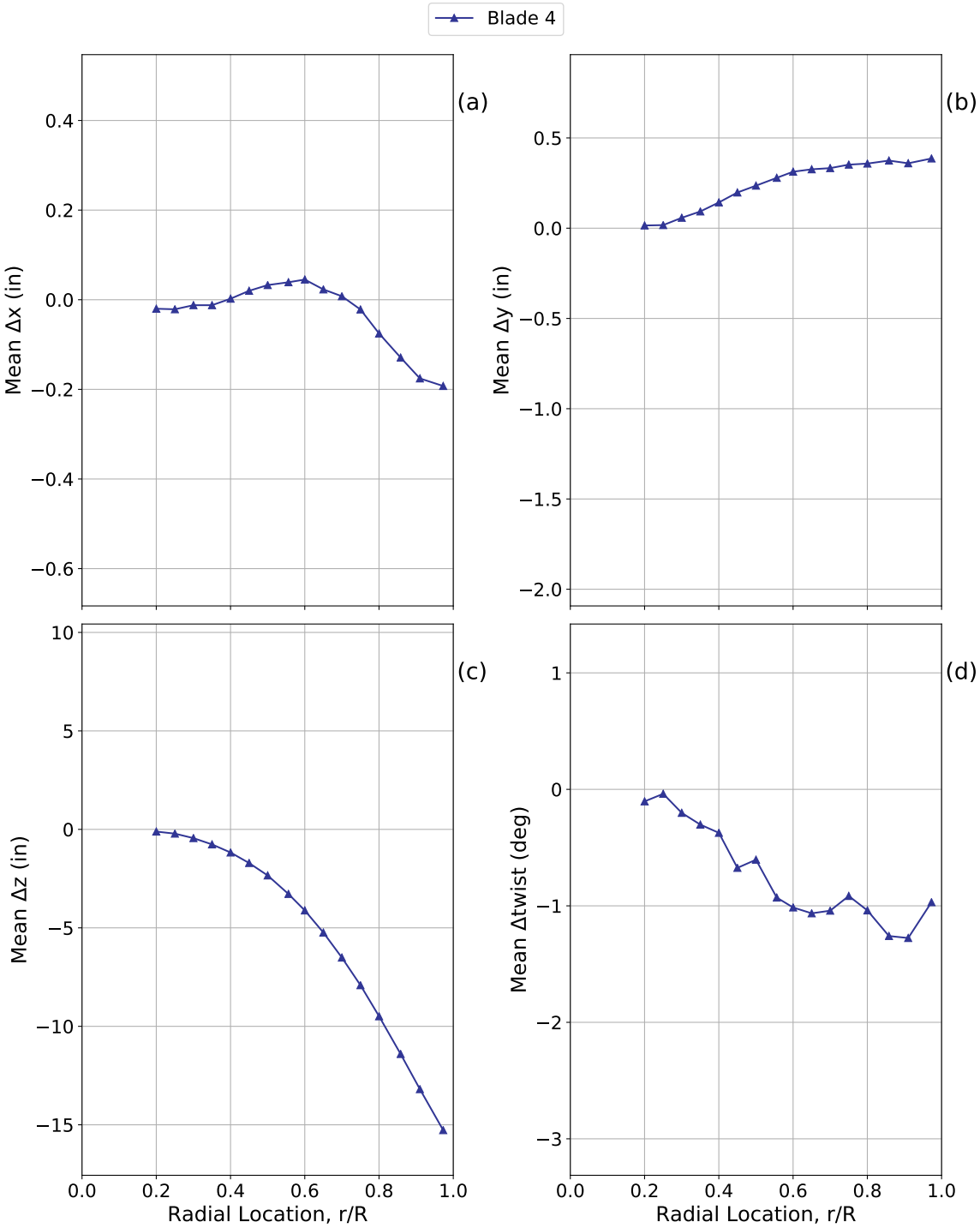


Figure 3.7-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0201	0.0014	0.0150	0.0011	-0.1119	0.0032	-0.1033	0.0204
4	150.12	0.2502	-0.0213	0.0013	0.0171	0.0027	-0.2165	0.0083	-0.0382	0.0205
4	150.12	0.3001	-0.0122	0.0008	0.0576	0.0051	-0.4445	0.0121	-0.2019	0.0392
4	150.12	0.3502	-0.0122	0.0018	0.0927	0.0082	-0.7636	0.0235	-0.3028	0.0320
4	150.12	0.4002	0.0023	0.0021	0.1428	0.0133	-1.1748	0.0348	-0.3734	0.0402
4	150.12	0.4500	0.0199	0.0022	0.1977	0.0193	-1.7087	0.0537	-0.6741	0.0318
4	150.12	0.5001	0.0327	0.0024	0.2356	0.0253	-2.3398	0.0734	-0.6041	0.0406
4	150.12	0.5560	0.0390	0.0038	0.2789	0.0333	-3.2795	0.1021	-0.9290	0.0363
4	150.12	0.6001	0.0450	0.0037	0.3129	0.0410	-4.1167	0.1272	-1.0140	0.0333
4	150.12	0.6501	0.0230	0.0058	0.3262	0.0481	-5.2394	0.1575	-1.0642	0.0254
4	150.12	0.6999	0.0078	0.0084	0.3327	0.0568	-6.5099	0.1936	-1.0416	0.0464
4	150.12	0.7500	-0.0218	0.0108	0.3520	0.0664	-7.9123	0.2305	-0.9153	0.0370
4	150.12	0.8002	-0.0754	0.0155	0.3579	0.0763	-9.4921	0.2757	-1.0394	0.0313
4	150.12	0.8582	-0.1291	0.0210	0.3745	0.0867	-11.4070	0.3325	-1.2590	0.0377
4	150.12	0.9101	-0.1756	0.0259	0.3595	0.0972	-13.1917	0.3864	-1.2762	0.0394
4	150.12	0.9728	-0.1925	0.0304	0.3861	0.1093	-15.2718	0.4552	-0.9689	0.0298

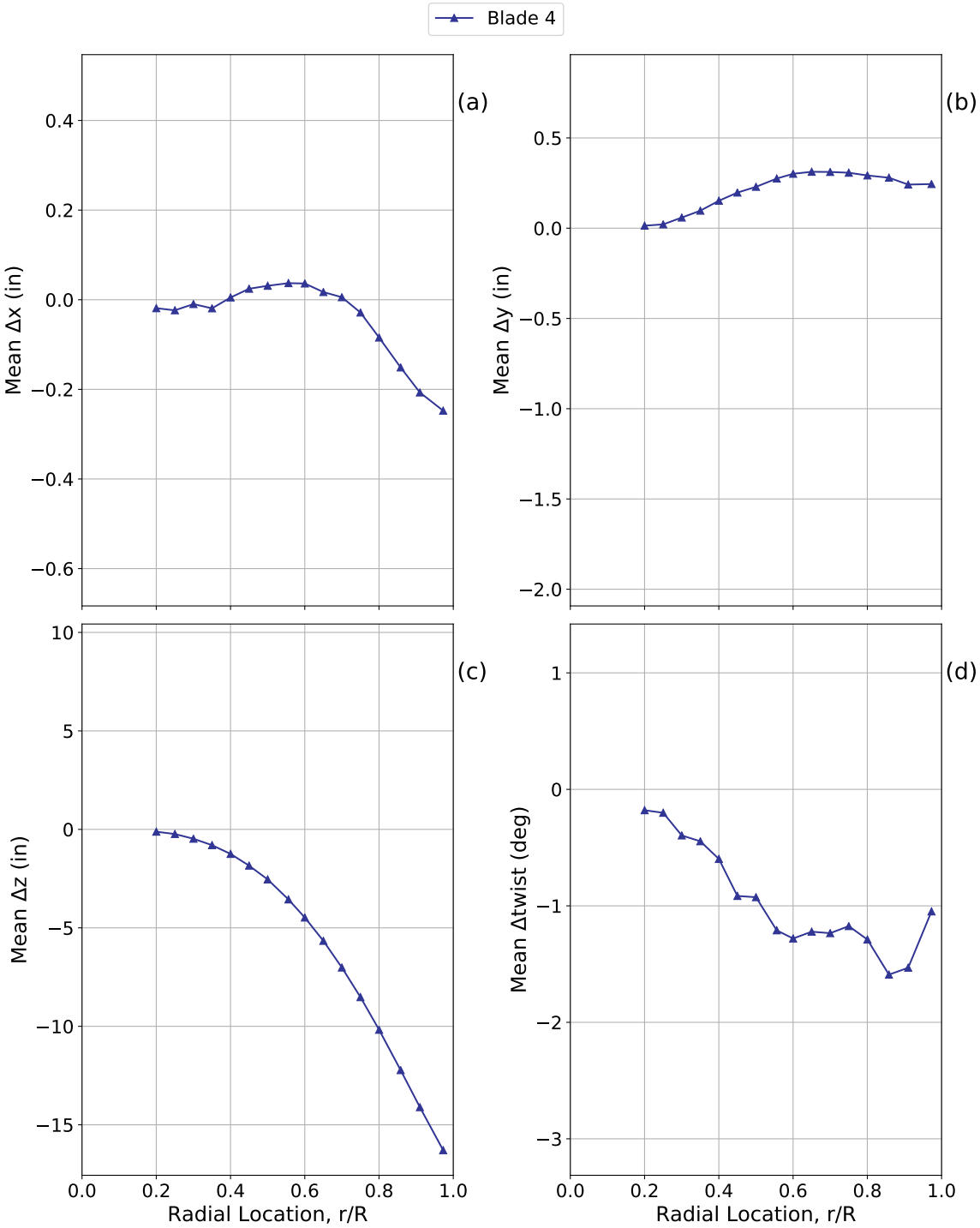


Figure 3.7-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0189	0.0018	0.0138	0.0008	-0.1182	0.0038	-0.1792	0.0184
4	164.88	0.2502	-0.0236	0.0022	0.0211	0.0025	-0.2363	0.0056	-0.2013	0.0489
4	164.88	0.3001	-0.0097	0.0023	0.0588	0.0033	-0.4758	0.0130	-0.3957	0.0475
4	164.88	0.3502	-0.0192	0.0025	0.0969	0.0065	-0.8024	0.0215	-0.4458	0.0418
4	164.88	0.4002	0.0050	0.0025	0.1520	0.0098	-1.2461	0.0323	-0.5976	0.0517
4	164.88	0.4500	0.0245	0.0025	0.1972	0.0124	-1.8419	0.0416	-0.9152	0.0475
4	164.88	0.5001	0.0311	0.0030	0.2291	0.0135	-2.5420	0.0570	-0.9259	0.0553
4	164.88	0.5560	0.0370	0.0039	0.2750	0.0176	-3.5578	0.0766	-1.2103	0.0580
4	164.88	0.6001	0.0362	0.0053	0.3013	0.0208	-4.4769	0.0956	-1.2805	0.0625
4	164.88	0.6501	0.0171	0.0059	0.3124	0.0249	-5.6610	0.1180	-1.2219	0.0558
4	164.88	0.6999	0.0056	0.0079	0.3115	0.0277	-7.0163	0.1431	-1.2347	0.0654
4	164.88	0.7500	-0.0286	0.0100	0.3072	0.0312	-8.5199	0.1691	-1.1740	0.0594
4	164.88	0.8002	-0.0844	0.0131	0.2921	0.0350	-10.1761	0.1946	-1.2894	0.0595
4	164.88	0.8582	-0.1511	0.0166	0.2796	0.0394	-12.2257	0.2239	-1.5907	0.0530
4	164.88	0.9101	-0.2070	0.0194	0.2416	0.0435	-14.1069	0.2549	-1.5313	0.0650
4	164.88	0.9728	-0.2476	0.0228	0.2445	0.0487	-16.2913	0.2920	-1.0480	0.0664

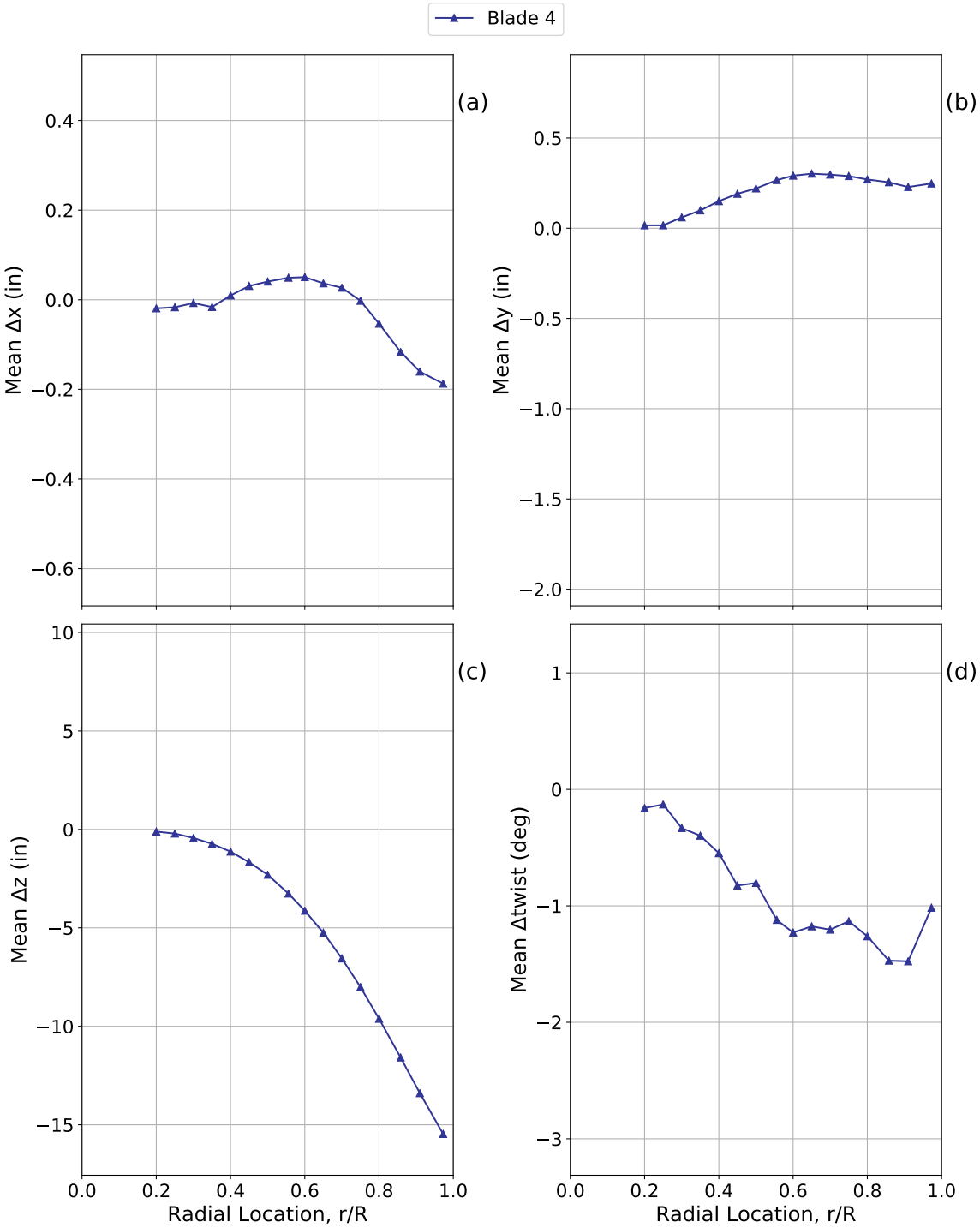


Figure 3.7-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0192	0.0021	0.0160	0.0015	-0.1111	0.0068	-0.1599	0.0293
4	170.16	0.2502	-0.0168	0.0053	0.0161	0.0026	-0.2120	0.0060	-0.1293	0.0727
4	170.16	0.3001	-0.0073	0.0026	0.0601	0.0035	-0.4337	0.0163	-0.3320	0.0520
4	170.16	0.3502	-0.0163	0.0019	0.0989	0.0060	-0.7322	0.0246	-0.3977	0.0491
4	170.16	0.4002	0.0096	0.0015	0.1502	0.0084	-1.1288	0.0323	-0.5476	0.0545
4	170.16	0.4500	0.0308	0.0020	0.1908	0.0106	-1.6680	0.0395	-0.8252	0.0437
4	170.16	0.5001	0.0406	0.0027	0.2204	0.0151	-2.3029	0.0467	-0.8034	0.0613
4	170.16	0.5560	0.0492	0.0034	0.2666	0.0182	-3.2574	0.0598	-1.1208	0.0409
4	170.16	0.6001	0.0505	0.0044	0.2910	0.0211	-4.1290	0.0705	-1.2297	0.0592
4	170.16	0.6501	0.0366	0.0043	0.3021	0.0254	-5.2524	0.0848	-1.1765	0.0533
4	170.16	0.6999	0.0269	0.0052	0.2970	0.0295	-6.5576	0.0992	-1.2048	0.0452
4	170.16	0.7500	-0.0023	0.0063	0.2889	0.0343	-8.0080	0.1159	-1.1321	0.0541
4	170.16	0.8002	-0.0536	0.0084	0.2701	0.0384	-9.6197	0.1331	-1.2618	0.0600
4	170.16	0.8582	-0.1165	0.0098	0.2546	0.0458	-11.5860	0.1538	-1.4710	0.0635
4	170.16	0.9101	-0.1605	0.0118	0.2282	0.0496	-13.3965	0.1748	-1.4763	0.0879
4	170.16	0.9728	-0.1874	0.0144	0.2477	0.0559	-15.4682	0.2024	-1.0164	0.0857

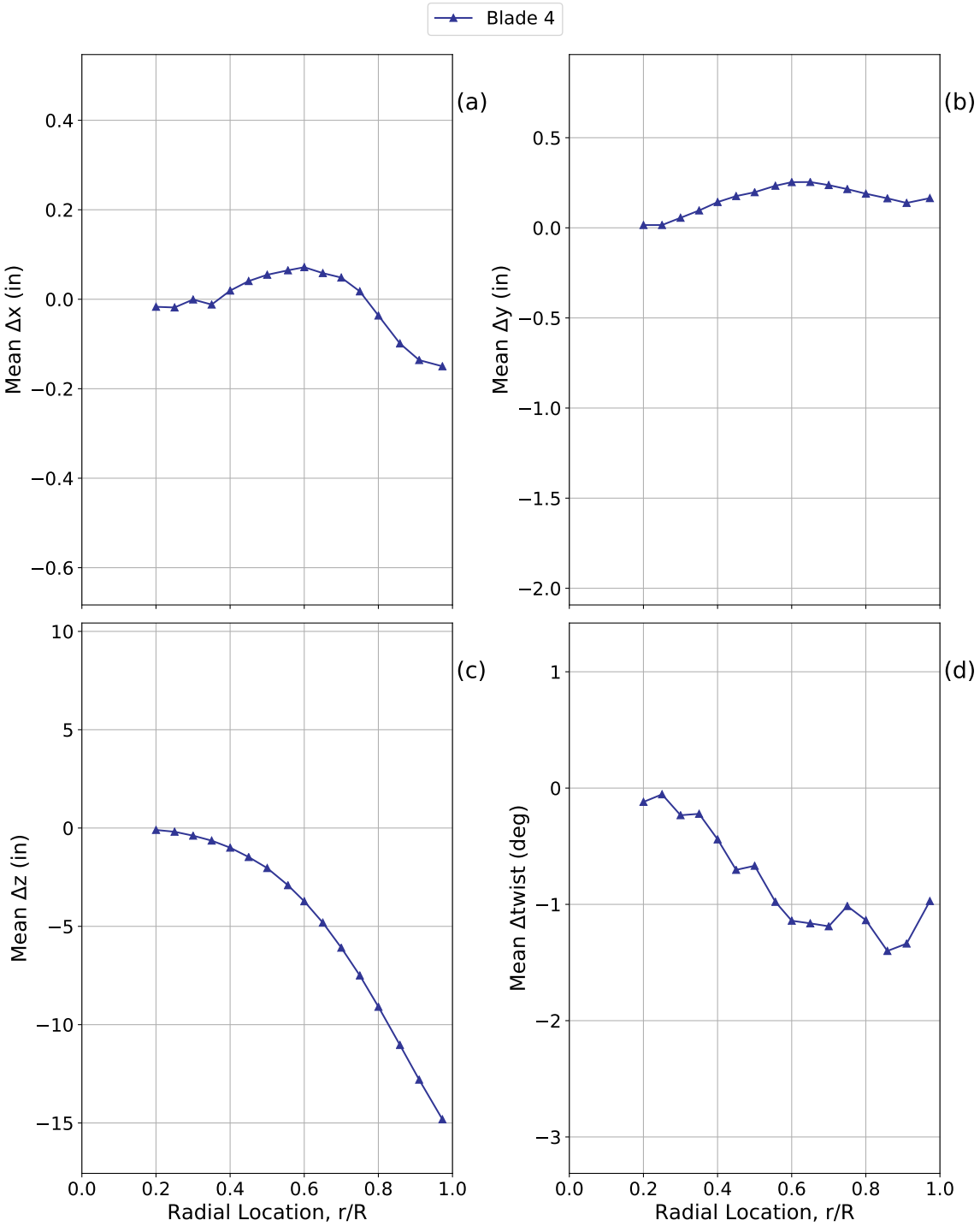


Figure 3.7-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0169	0.0038	0.0153	0.0028	-0.0983	0.0079	-0.1191	0.0558
4	175.08	0.2502	-0.0184	0.0124	0.0154	0.0022	-0.1893	0.0087	-0.0540	0.1043
4	175.08	0.3001	-0.0006	0.0030	0.0556	0.0071	-0.3896	0.0201	-0.2335	0.1094
4	175.08	0.3502	-0.0119	0.0034	0.0962	0.0125	-0.6407	0.0276	-0.2216	0.1087
4	175.08	0.4002	0.0193	0.0028	0.1429	0.0164	-0.9995	0.0387	-0.4417	0.1266
4	175.08	0.4500	0.0406	0.0035	0.1759	0.0214	-1.4762	0.0465	-0.7035	0.1285
4	175.08	0.5001	0.0547	0.0036	0.1975	0.0255	-2.0372	0.0547	-0.6684	0.1367
4	175.08	0.5560	0.0646	0.0045	0.2333	0.0327	-2.9093	0.0642	-0.9785	0.1348
4	175.08	0.6001	0.0716	0.0044	0.2534	0.0360	-3.7269	0.0710	-1.1408	0.1308
4	175.08	0.6501	0.0584	0.0049	0.2540	0.0428	-4.8139	0.0790	-1.1633	0.1209
4	175.08	0.6999	0.0484	0.0058	0.2370	0.0502	-6.0874	0.0881	-1.1886	0.1472
4	175.08	0.7500	0.0175	0.0070	0.2147	0.0565	-7.5009	0.0977	-1.0148	0.1545
4	175.08	0.8002	-0.0365	0.0083	0.1892	0.0641	-9.0935	0.1114	-1.1362	0.1453
4	175.08	0.8582	-0.0989	0.0100	0.1635	0.0729	-11.0361	0.1274	-1.4009	0.1522
4	175.08	0.9101	-0.1360	0.0117	0.1380	0.0814	-12.8005	0.1429	-1.3374	0.1833
4	175.08	0.9728	-0.1499	0.0145	0.1646	0.0919	-14.8167	0.1643	-0.9718	0.1362

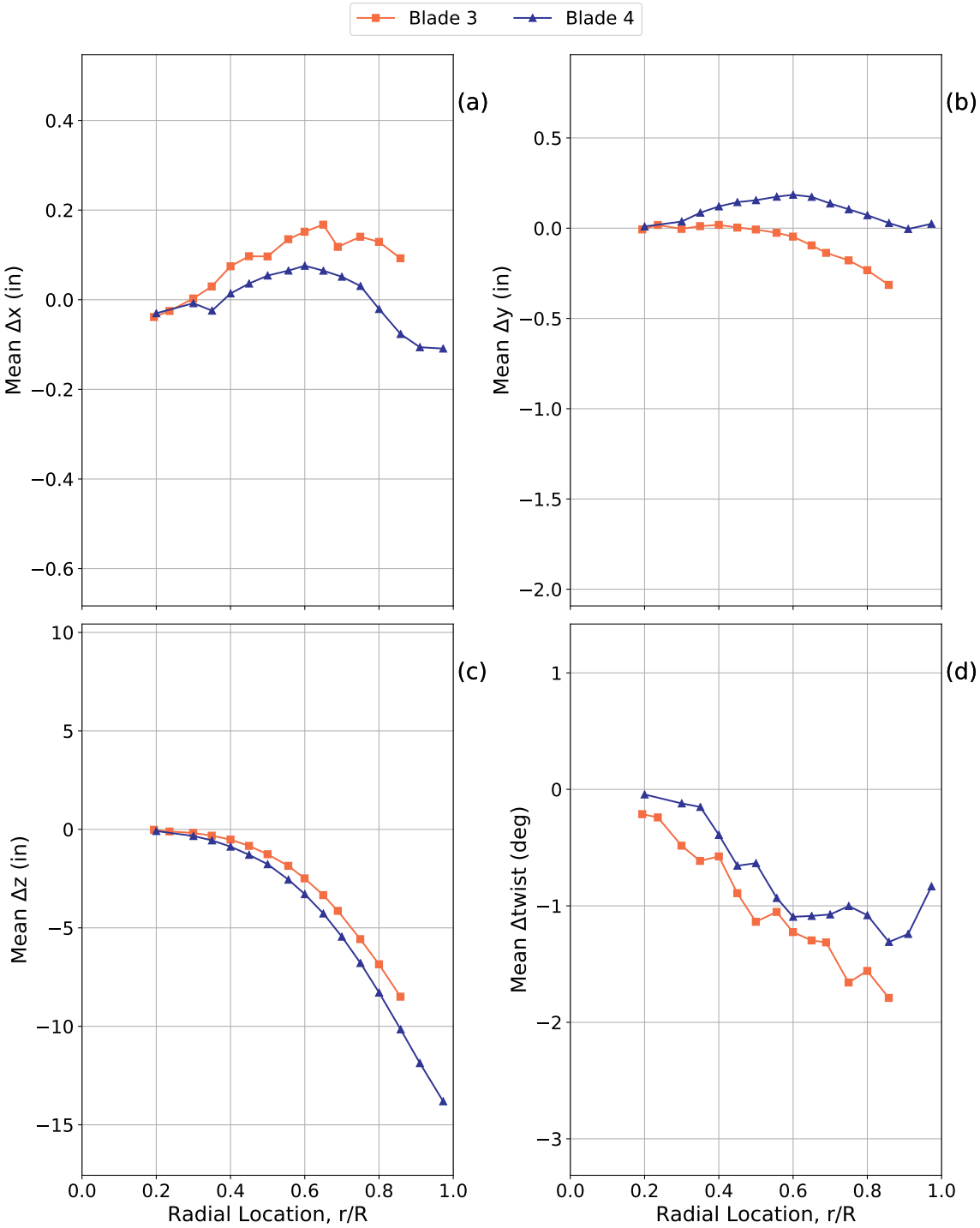


Figure 3.7-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0386	0.0024	-0.0068	0.0018	-0.0237	0.0047	-0.2128	0.0210
3	180.35	0.2357	-0.0251	0.0018	0.0176	0.0026	-0.1094	0.0073	-0.2408	0.0397
3	180.35	0.2995	0.0028	0.0018	-0.0040	0.0061	-0.1769	0.0187	-0.4836	0.0528
3	180.35	0.3493	0.0296	0.0017	0.0113	0.0118	-0.3195	0.0291	-0.6139	0.0450
3	180.35	0.4000	0.0746	0.0021	0.0181	0.0172	-0.5187	0.0462	-0.5757	0.0460
3	180.35	0.4497	0.0971	0.0021	0.0034	0.0207	-0.8377	0.0618	-0.8911	0.0555
3	180.35	0.4997	0.0966	0.0036	-0.0073	0.0274	-1.2641	0.0844	-1.1369	0.0615
3	180.35	0.5556	0.1351	0.0037	-0.0256	0.0302	-1.8516	0.0985	-1.0522	0.0488
3	180.35	0.5995	0.1517	0.0026	-0.0467	0.0387	-2.4885	0.1085	-1.2252	0.0619
3	180.35	0.6498	0.1675	0.0029	-0.0951	0.0451	-3.3389	0.1229	-1.2969	0.0582
3	180.35	0.6890	0.1180	0.0041	-0.1366	0.0478	-4.1377	0.1289	-1.3139	0.0784
3	180.35	0.7495	0.1405	0.0043	-0.1782	0.0591	-5.5736	0.1401	-1.6580	0.0880
3	180.35	0.7998	0.1291	0.0057	-0.2325	0.0628	-6.8508	0.1393	-1.5586	0.0892
3	180.35	0.8577	0.0925	0.0070	-0.3141	0.0706	-8.4941	0.1423	-1.7903	0.0983
4	180	0.2001	-0.0302	0.0045	0.0095	0.0014	-0.0839	0.0043	-0.0438	0.0601
4	180	0.3001	-0.0078	0.0062	0.0367	0.0065	-0.3375	0.0139	-0.1209	0.1412
4	180	0.3502	-0.0244	0.0042	0.0859	0.0120	-0.5604	0.0276	-0.1511	0.1338
4	180	0.4002	0.0140	0.0039	0.1206	0.0182	-0.8772	0.0383	-0.3913	0.1348
4	180	0.4500	0.0361	0.0033	0.1442	0.0221	-1.2928	0.0522	-0.6554	0.1247
4	180	0.5001	0.0539	0.0040	0.1550	0.0274	-1.7722	0.0609	-0.6340	0.1375
4	180	0.5560	0.0650	0.0034	0.1743	0.0343	-2.5541	0.0765	-0.9327	0.1330
4	180	0.6001	0.0758	0.0045	0.1851	0.0408	-3.2911	0.0917	-1.0942	0.1402
4	180	0.6501	0.0648	0.0056	0.1734	0.0482	-4.2723	0.1092	-1.0867	0.1435
4	180	0.6999	0.0513	0.0070	0.1367	0.0562	-5.4487	0.1335	-1.0741	0.1437
4	180	0.7500	0.0306	0.0087	0.1046	0.0654	-6.7863	0.1572	-1.0021	0.1470
4	180	0.8002	-0.0208	0.0109	0.0718	0.0766	-8.2890	0.1821	-1.0806	0.1377
4	180	0.8582	-0.0766	0.0151	0.0284	0.0899	-10.1557	0.2132	-1.3100	0.1461
4	180	0.9101	-0.1060	0.0173	-0.0046	0.1024	-11.8687	0.2406	-1.2416	0.1580
4	180	0.9728	-0.1090	0.0200	0.0242	0.1154	-13.8077	0.2836	-0.8331	0.1603

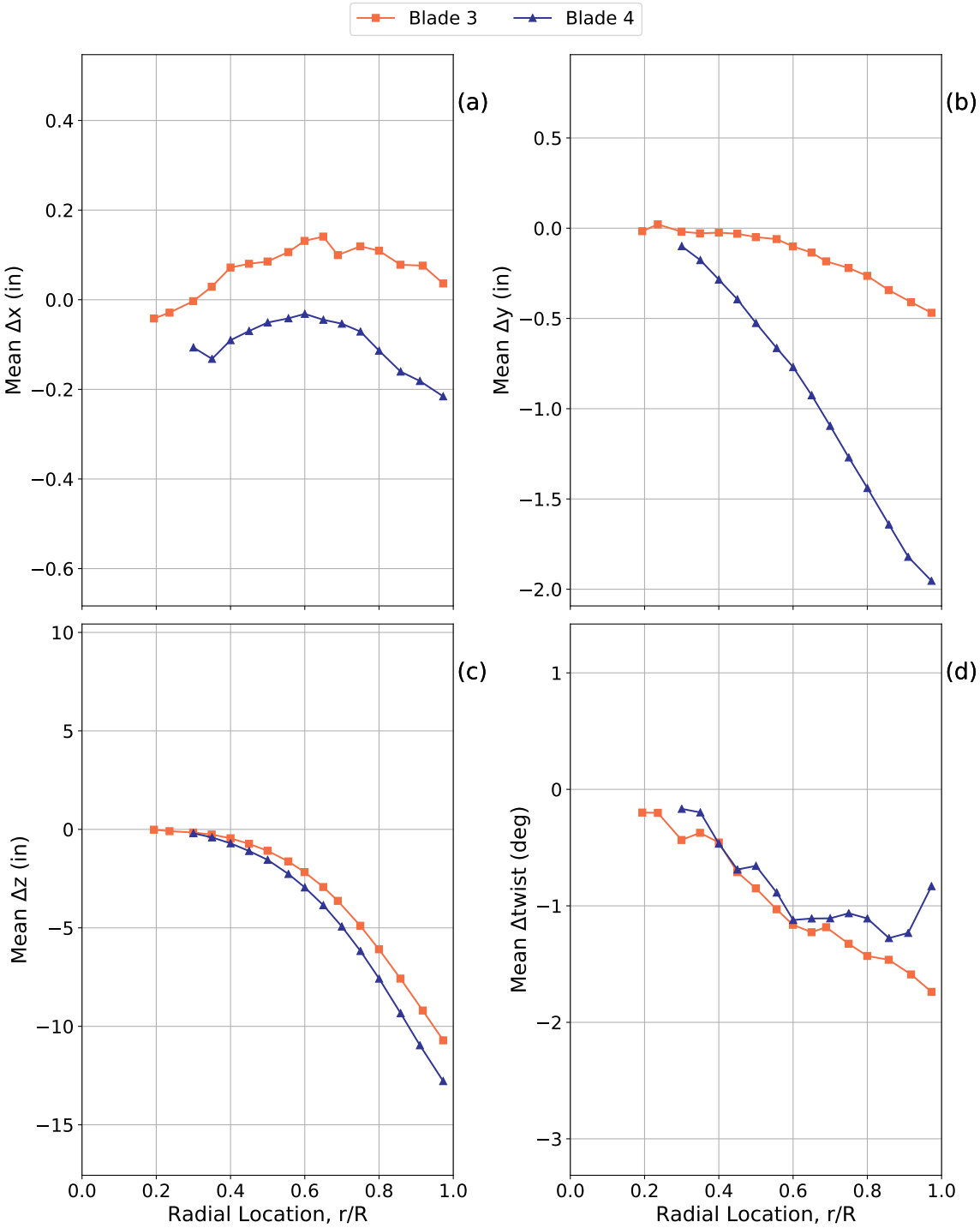


Figure 3.7-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0418	0.0017	-0.0167	0.0021	-0.0154	0.0048	-0.1992	0.0454
3	184.92	0.2357	-0.0288	0.0020	0.0211	0.0055	-0.0918	0.0127	-0.2015	0.0540
3	184.92	0.2995	-0.0032	0.0028	-0.0192	0.0101	-0.1600	0.0203	-0.4346	0.0964
3	184.92	0.3493	0.0290	0.0038	-0.0285	0.0185	-0.2613	0.0290	-0.3733	0.0753
3	184.92	0.4000	0.0719	0.0035	-0.0246	0.0292	-0.4533	0.0494	-0.4561	0.0591
3	184.92	0.4497	0.0802	0.0029	-0.0306	0.0353	-0.7330	0.0578	-0.7108	0.0524
3	184.92	0.4997	0.0853	0.0030	-0.0495	0.0398	-1.0859	0.0698	-0.8497	0.0569
3	184.92	0.5556	0.1064	0.0032	-0.0604	0.0499	-1.6274	0.0853	-1.0296	0.0541
3	184.92	0.5995	0.1313	0.0031	-0.1011	0.0568	-2.1694	0.0975	-1.1626	0.0553
3	184.92	0.6498	0.1409	0.0029	-0.1351	0.0628	-2.9272	0.1088	-1.2265	0.0732
3	184.92	0.6890	0.0996	0.0030	-0.1838	0.0685	-3.6299	0.1213	-1.1832	0.0658
3	184.92	0.7495	0.1192	0.0046	-0.2202	0.0777	-4.8927	0.1374	-1.3254	0.0649
3	184.92	0.7998	0.1095	0.0060	-0.2640	0.0835	-6.0886	0.1491	-1.4302	0.0636
3	184.92	0.8577	0.0781	0.0077	-0.3428	0.0919	-7.5768	0.1697	-1.4631	0.0697
3	184.92	0.9178	0.0761	0.0133	-0.4097	0.0999	-9.1972	0.2000	-1.5887	0.0701
3	184.92	0.9729	0.0363	0.0172	-0.4687	0.1089	-10.7114	0.2317	-1.7385	0.0829
4	184.92	0.3001	-0.1066	0.0569	-0.0998	0.0676	-0.1980	0.1549	-0.1674	0.4637
4	184.92	0.3502	-0.1320	0.0776	-0.1770	0.1202	-0.4080	0.3035	-0.1981	0.6292
4	184.92	0.4002	-0.0903	0.0648	-0.2851	0.1938	-0.7099	0.5173	-0.4666	0.5035
4	184.92	0.4500	-0.0698	0.0683	-0.3942	0.2561	-1.0992	0.6991	-0.6882	0.5116
4	184.92	0.5001	-0.0509	0.0734	-0.5256	0.3214	-1.5489	0.8799	-0.6572	0.5189
4	184.92	0.5560	-0.0415	0.0794	-0.6642	0.3906	-2.2653	1.0817	-0.8865	0.5455
4	184.92	0.6001	-0.0316	0.0840	-0.7698	0.4460	-2.9490	1.2438	-1.1216	0.5162
4	184.92	0.6501	-0.0448	0.0923	-0.9256	0.5067	-3.8534	1.4220	-1.1086	0.5213
4	184.92	0.6999	-0.0535	0.1029	-1.0953	0.5668	-4.9354	1.5955	-1.1074	0.5092
4	184.92	0.7500	-0.0711	0.1140	-1.2701	0.6257	-6.1769	1.7692	-1.0637	0.5154
4	184.92	0.8002	-0.1137	0.1274	-1.4397	0.6853	-7.5792	1.9408	-1.1084	0.5169
4	184.92	0.8582	-0.1604	0.1452	-1.6418	0.7506	-9.3376	2.1336	-1.2769	0.5140
4	184.92	0.9101	-0.1814	0.1586	-1.8207	0.8103	-10.9619	2.3039	-1.2326	0.5262
4	184.92	0.9728	-0.2156	0.1905	-1.9536	0.8828	-12.7825	2.5120	-0.8312	0.5170

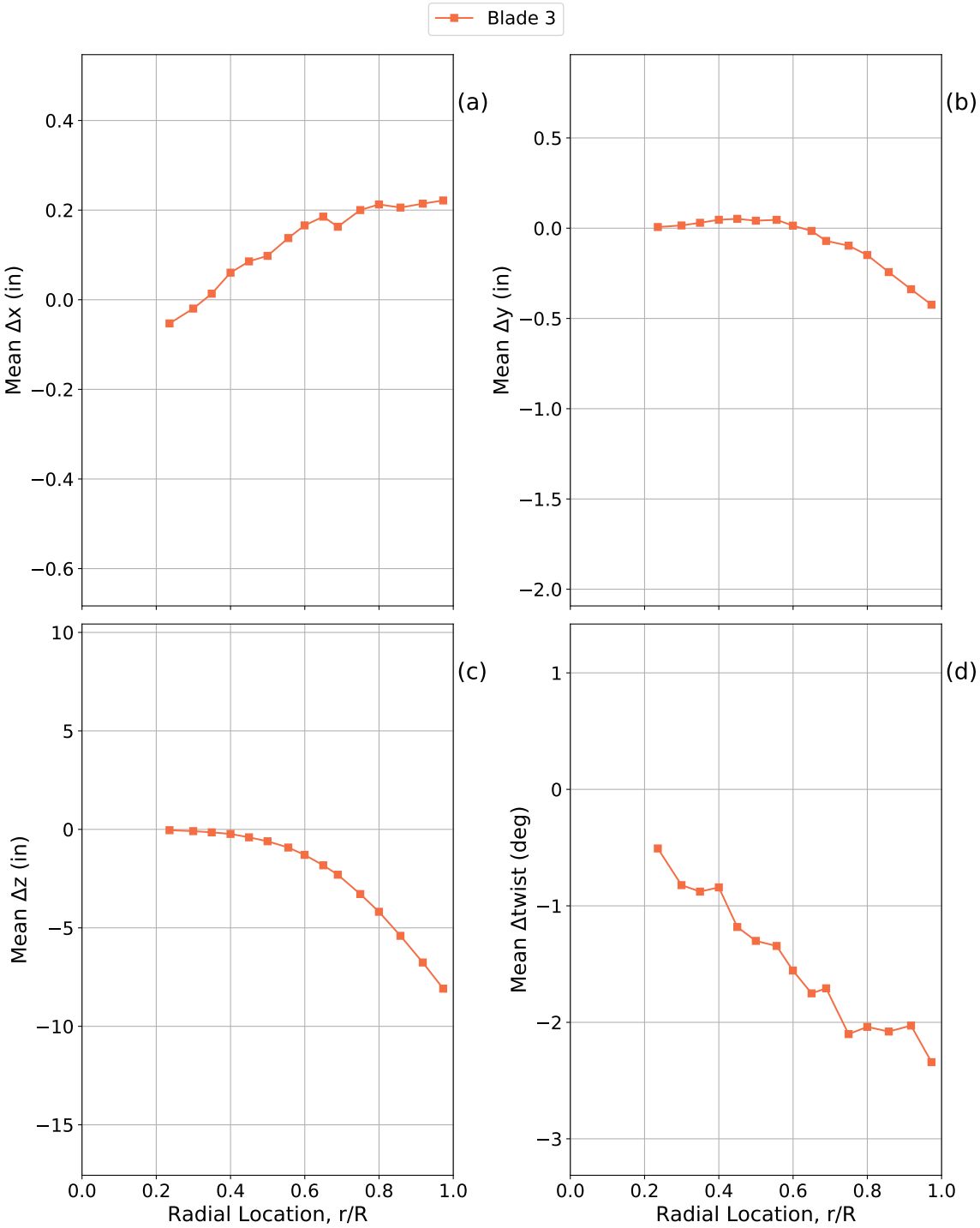


Figure 3.7-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.099, μ = 0.3, α = -4.5° NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.2357	-0.0529	0.0022	0.0064	0.0030	-0.0426	0.0075	-0.5073	0.0379
3	195.12	0.2995	-0.0197	0.0027	0.0153	0.0088	-0.0899	0.0142	-0.8223	0.0611
3	195.12	0.3493	0.0135	0.0028	0.0299	0.0138	-0.1507	0.0206	-0.8777	0.0521
3	195.12	0.4000	0.0604	0.0016	0.0466	0.0234	-0.2311	0.0308	-0.8417	0.0555
3	195.12	0.4497	0.0856	0.0034	0.0518	0.0289	-0.4039	0.0354	-1.1817	0.0494
3	195.12	0.4997	0.0980	0.0017	0.0415	0.0364	-0.6043	0.0521	-1.3009	0.0530
3	195.12	0.5556	0.1376	0.0049	0.0464	0.0389	-0.9221	0.0670	-1.3444	0.0673
3	195.12	0.5995	0.1659	0.0036	0.0141	0.0447	-1.2942	0.0717	-1.5553	0.1201
3	195.12	0.6498	0.1854	0.0056	-0.0152	0.0510	-1.8248	0.0869	-1.7511	0.0750
3	195.12	0.6890	0.1629	0.0041	-0.0705	0.0498	-2.3019	0.1064	-1.7081	0.0927
3	195.12	0.7495	0.2001	0.0051	-0.0968	0.0611	-3.2850	0.1178	-2.1010	0.0883
3	195.12	0.7998	0.2127	0.0065	-0.1487	0.0745	-4.1850	0.1461	-2.0391	0.1063
3	195.12	0.8577	0.2057	0.0074	-0.2433	0.0758	-5.4041	0.1568	-2.0791	0.0735
3	195.12	0.9178	0.2144	0.0117	-0.3383	0.0834	-6.7573	0.1796	-2.0278	0.0685
3	195.12	0.9729	0.2215	0.0095	-0.4240	0.0986	-8.0872	0.2059	-2.3419	0.1190

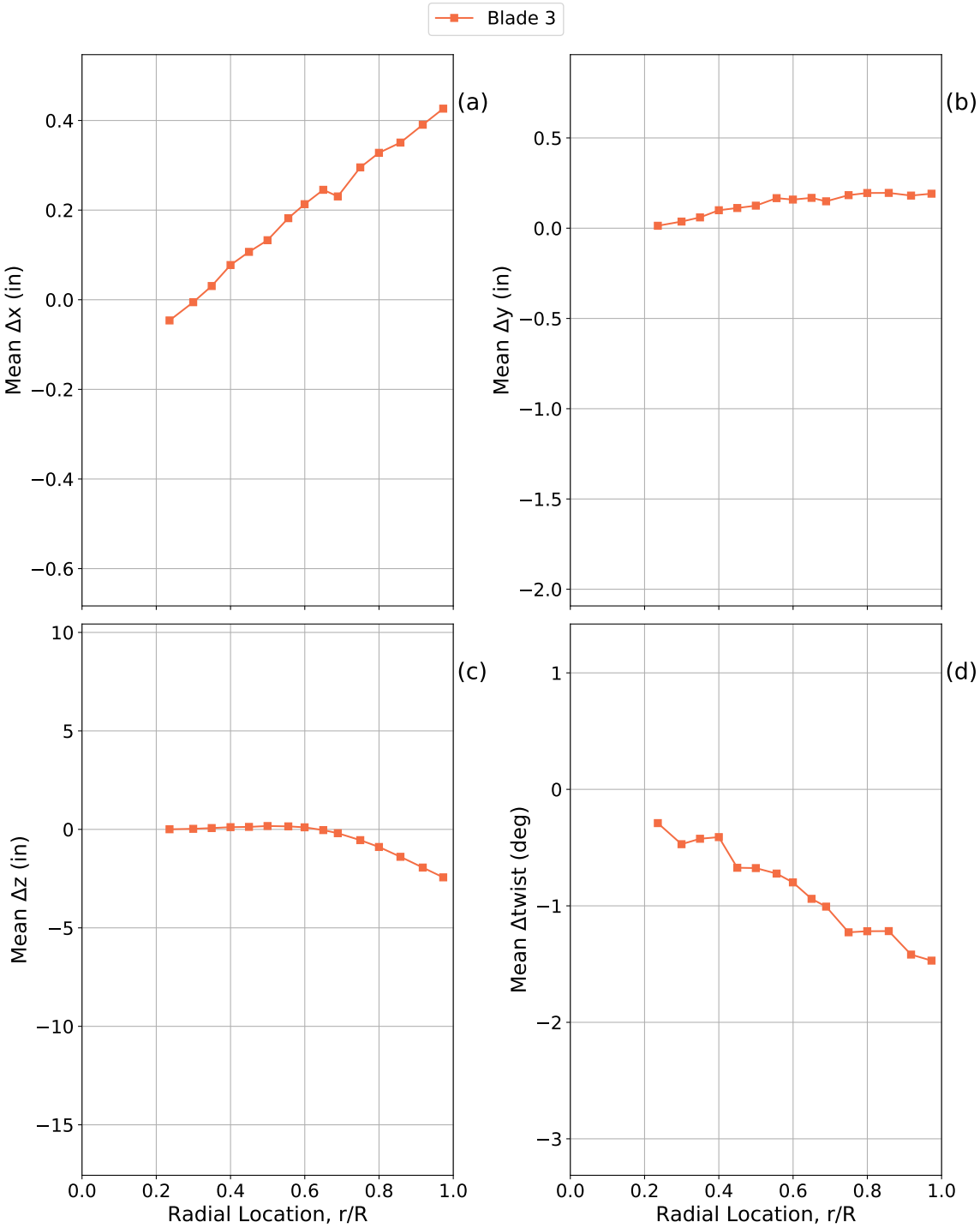


Figure 3.7-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.2357	-0.0462	0.0018	0.0135	0.0029	0.0057	0.0096	-0.2898	0.0508
3	209.88	0.2995	-0.0055	0.0024	0.0367	0.0090	0.0280	0.0182	-0.4707	0.0821
3	209.88	0.3493	0.0306	0.0027	0.0598	0.0138	0.0667	0.0277	-0.4241	0.0771
3	209.88	0.4000	0.0774	0.0032	0.0994	0.0239	0.1133	0.0413	-0.4100	0.0680
3	209.88	0.4497	0.1068	0.0031	0.1118	0.0280	0.1257	0.0544	-0.6730	0.0670
3	209.88	0.4997	0.1328	0.0042	0.1248	0.0365	0.1698	0.0669	-0.6759	0.0915
3	209.88	0.5556	0.1820	0.0040	0.1665	0.0468	0.1526	0.0832	-0.7230	0.0840
3	209.88	0.5995	0.2132	0.0046	0.1585	0.0540	0.1043	0.0965	-0.7987	0.0652
3	209.88	0.6498	0.2453	0.0042	0.1679	0.0618	-0.0366	0.1129	-0.9398	0.0687
3	209.88	0.6890	0.2305	0.0060	0.1489	0.0694	-0.1942	0.1237	-1.0067	0.0743
3	209.88	0.7495	0.2953	0.0044	0.1830	0.0806	-0.5473	0.1448	-1.2272	0.0632
3	209.88	0.7998	0.3278	0.0055	0.1950	0.0920	-0.8936	0.1634	-1.2179	0.0854
3	209.88	0.8577	0.3507	0.0054	0.1955	0.1027	-1.3929	0.1821	-1.2168	0.0880
3	209.88	0.9178	0.3905	0.0064	0.1807	0.1136	-1.9387	0.2070	-1.4184	0.1000
3	209.88	0.9729	0.4264	0.0087	0.1911	0.1243	-2.4361	0.2346	-1.4703	0.1147

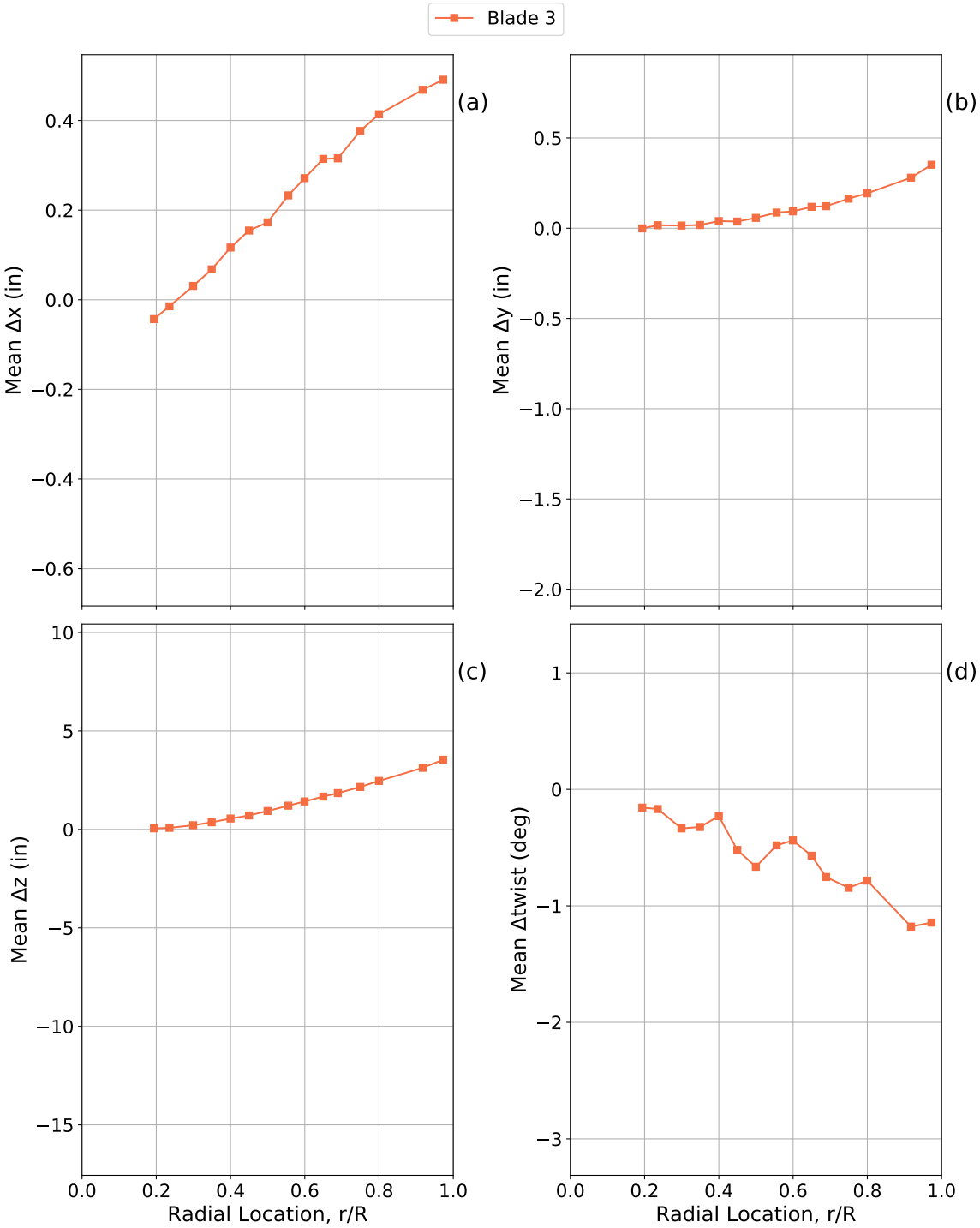


Figure 3.7-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.099, μ = 0.3, α = -4.5° NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0432	0.0013	-0.0009	0.0007	0.0542	0.0049	-0.1564	0.0219
3	225	0.2357	-0.0147	0.0016	0.0166	0.0028	0.0780	0.0083	-0.1685	0.0283
3	225	0.2995	0.0309	0.0008	0.0149	0.0048	0.2128	0.0179	-0.3349	0.0493
3	225	0.3493	0.0678	0.0018	0.0180	0.0102	0.3601	0.0302	-0.3228	0.0573
3	225	0.4000	0.1165	0.0018	0.0396	0.0153	0.5522	0.0457	-0.2297	0.0616
3	225	0.4497	0.1545	0.0028	0.0371	0.0222	0.7080	0.0598	-0.5196	0.0968
3	225	0.4997	0.1727	0.0057	0.0573	0.0233	0.9336	0.0729	-0.6646	0.1033
3	225	0.5556	0.2329	0.0026	0.0868	0.0325	1.2059	0.0916	-0.4803	0.0735
3	225	0.5995	0.2714	0.0030	0.0935	0.0387	1.4204	0.1033	-0.4382	0.0790
3	225	0.6498	0.3143	0.0035	0.1185	0.0444	1.6662	0.1124	-0.5694	0.0640
3	225	0.6890	0.3155	0.0042	0.1220	0.0510	1.8430	0.1192	-0.7523	0.0778
3	225	0.7495	0.3766	0.0036	0.1638	0.0592	2.1538	0.1304	-0.8449	0.0708
3	225	0.7998	0.4140	0.0035	0.1933	0.0658	2.4610	0.1426	-0.7829	0.0847
3	225	0.9178	0.4685	0.0047	0.2802	0.0869	3.1262	0.2036	-1.1783	0.1004
3	225	0.9729	0.4910	0.0074	0.3517	0.0957	3.5363	0.2500	-1.1435	0.1175

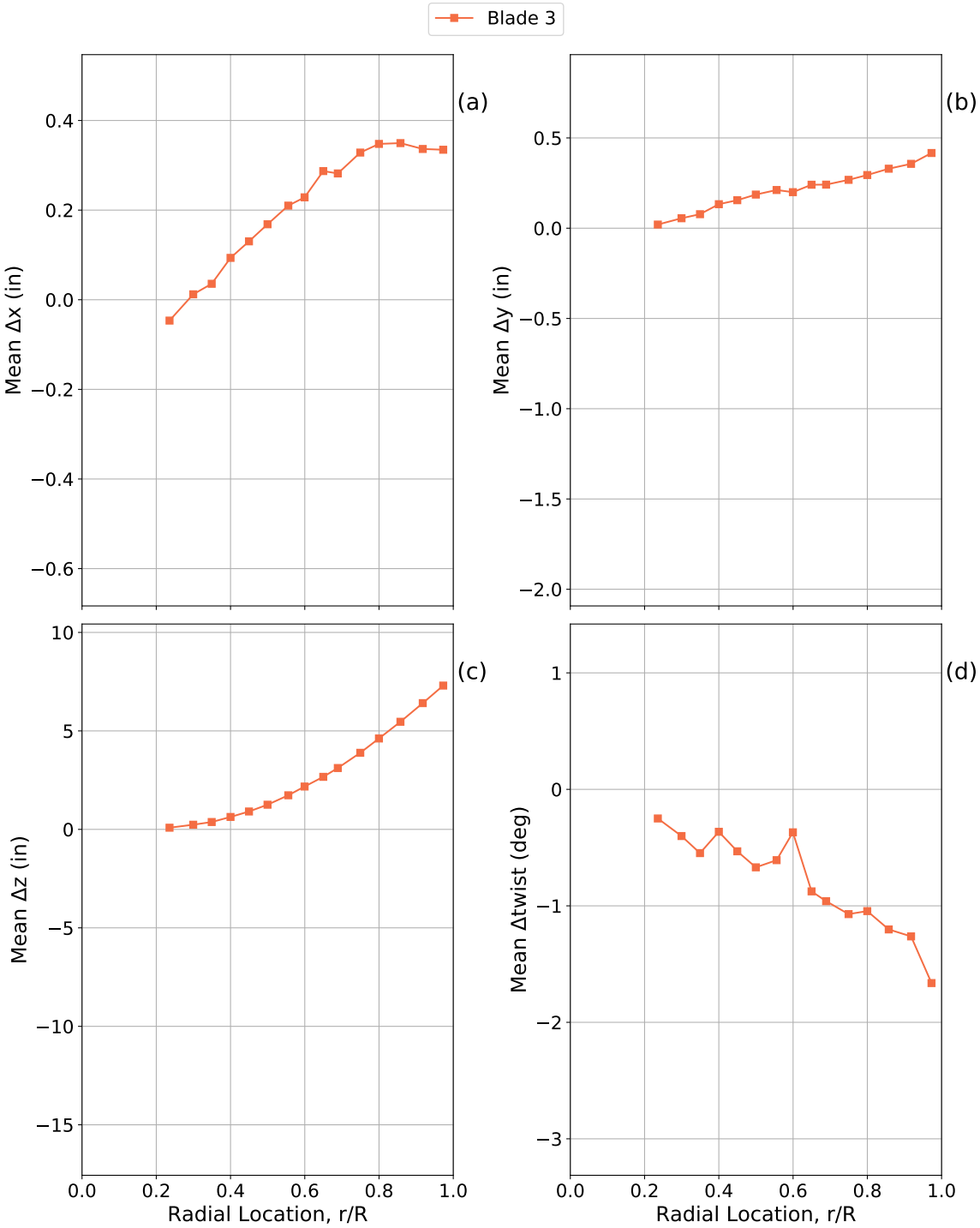


Figure 3.7-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0465	0.0012	0.0201	0.0009	0.0843	0.0066	-0.2499	0.0683
3	240.12	0.2995	0.0121	0.0014	0.0551	0.0026	0.2367	0.0133	-0.4008	0.1097
3	240.12	0.3493	0.0356	0.0012	0.0775	0.0051	0.3738	0.0194	-0.5473	0.1293
3	240.12	0.4000	0.0934	0.0011	0.1329	0.0080	0.6305	0.0296	-0.3642	0.1118
3	240.12	0.4497	0.1303	0.0023	0.1551	0.0111	0.9082	0.0397	-0.5318	0.1176
3	240.12	0.4997	0.1684	0.0025	0.1862	0.0145	1.2527	0.0511	-0.6694	0.1092
3	240.12	0.5556	0.2100	0.0041	0.2115	0.0191	1.7312	0.0659	-0.6079	0.1149
3	240.12	0.5995	0.2285	0.0090	0.1996	0.0233	2.1753	0.0751	-0.3689	0.0897
3	240.12	0.6498	0.2871	0.0030	0.2408	0.0241	2.6675	0.0878	-0.8758	0.1281
3	240.12	0.6890	0.2818	0.0035	0.2413	0.0277	3.1153	0.0943	-0.9599	0.1269
3	240.12	0.7495	0.3284	0.0038	0.2678	0.0322	3.8883	0.1105	-1.0710	0.1251
3	240.12	0.7998	0.3477	0.0038	0.2945	0.0362	4.6152	0.1245	-1.0451	0.1357
3	240.12	0.8577	0.3495	0.0046	0.3295	0.0404	5.4640	0.1417	-1.2024	0.1177
3	240.12	0.9178	0.3364	0.0059	0.3565	0.0435	6.4103	0.1658	-1.2623	0.1267
3	240.12	0.9729	0.3347	0.0074	0.4165	0.0470	7.3017	0.1937	-1.6629	0.1588

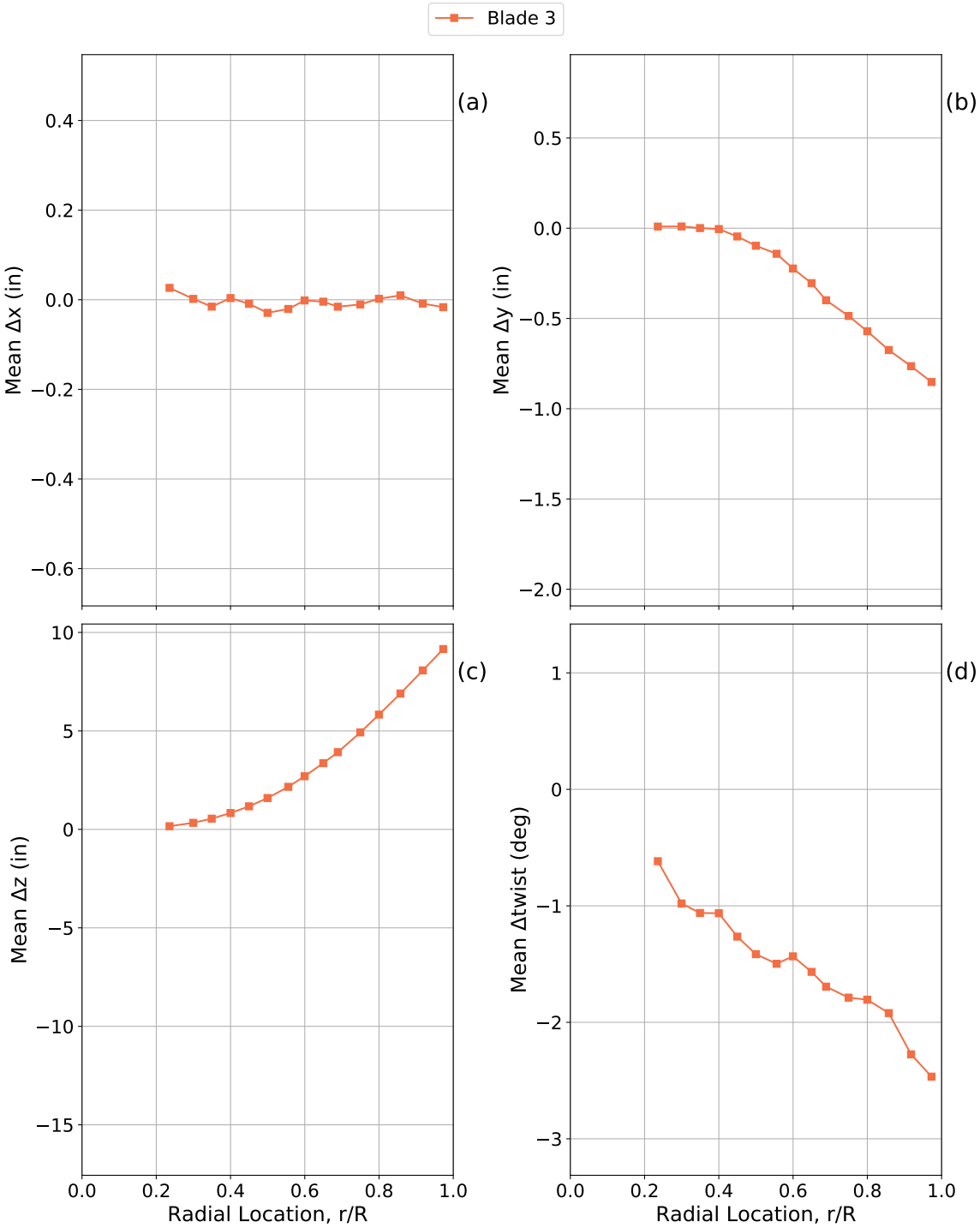


Figure 3.7-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.099, μ = 0.3, α = -4.5° NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2357	0.0265	0.0036	0.0091	0.0021	0.1608	0.0107	-0.6168	0.1023
3	254.88	0.2995	0.0019	0.0038	0.0097	0.0053	0.3330	0.0148	-0.9798	0.1628
3	254.88	0.3493	-0.0154	0.0031	0.0008	0.0123	0.5443	0.0260	-1.0612	0.1317
3	254.88	0.4000	0.0037	0.0024	-0.0047	0.0190	0.8313	0.0333	-1.0636	0.1459
3	254.88	0.4497	-0.0091	0.0019	-0.0458	0.0244	1.1701	0.0418	-1.2643	0.1488
3	254.88	0.4997	-0.0292	0.0044	-0.0972	0.0330	1.5914	0.0523	-1.4147	0.1385
3	254.88	0.5556	-0.0206	0.0059	-0.1416	0.0407	2.1612	0.0650	-1.4972	0.1266
3	254.88	0.5995	-0.0016	0.0045	-0.2233	0.0448	2.6966	0.0784	-1.4335	0.1471
3	254.88	0.6498	-0.0043	0.0044	-0.3044	0.0522	3.3635	0.0920	-1.5667	0.1408
3	254.88	0.6890	-0.0156	0.0063	-0.3993	0.0576	3.9193	0.1045	-1.6938	0.1513
3	254.88	0.7495	-0.0105	0.0061	-0.4861	0.0673	4.9220	0.1206	-1.7879	0.1449
3	254.88	0.7998	0.0022	0.0062	-0.5707	0.0749	5.8262	0.1331	-1.8054	0.1438
3	254.88	0.8577	0.0098	0.0080	-0.6750	0.0835	6.8984	0.1475	-1.9206	0.1442
3	254.88	0.9178	-0.0086	0.0074	-0.7644	0.0892	8.0704	0.1638	-2.2751	0.1862
3	254.88	0.9729	-0.0166	0.0103	-0.8522	0.0993	9.1548	0.1778	-2.4663	0.1790

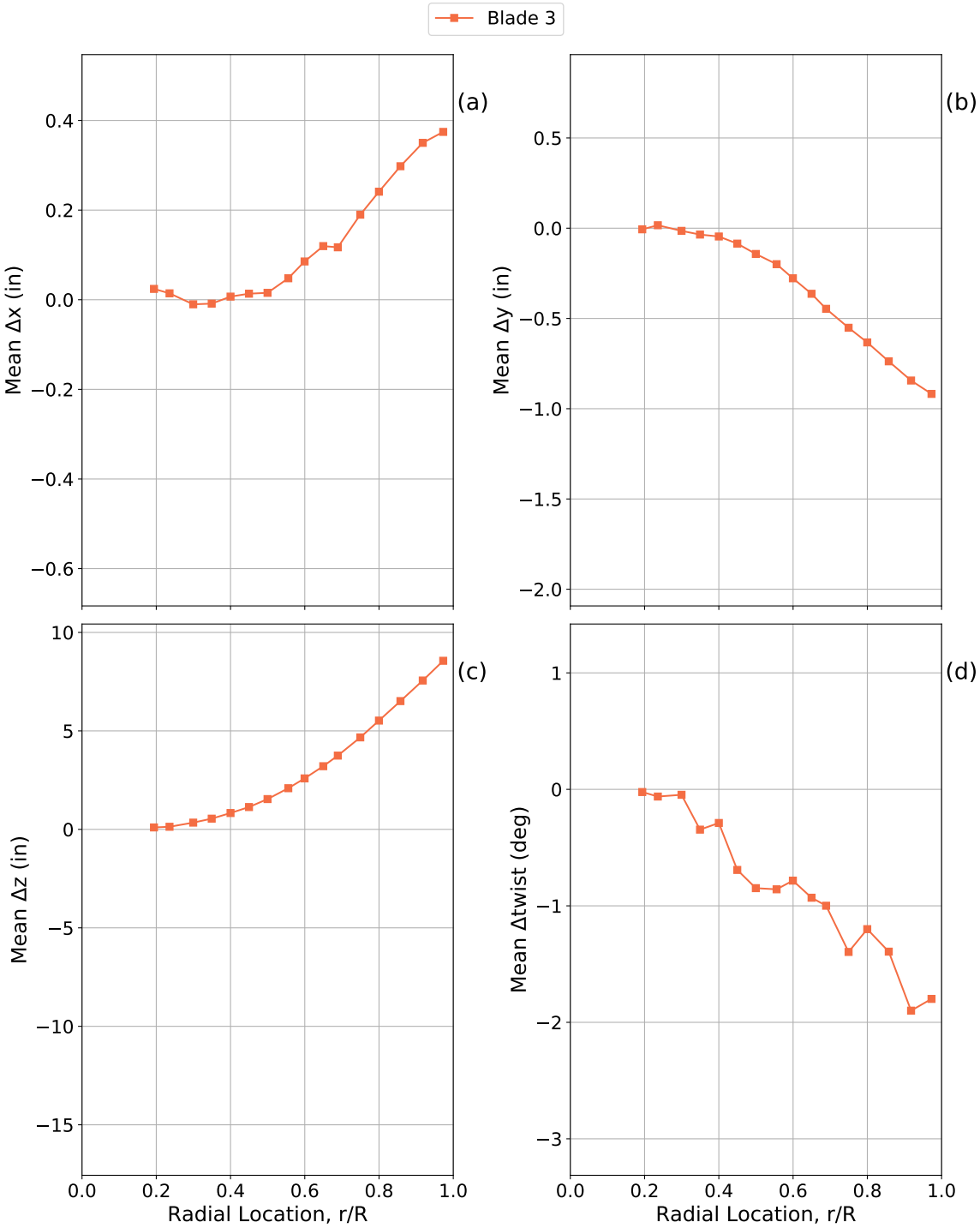


Figure 3.7-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.099, μ = 0.3, α = -4.5° NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0242	0.0025	-0.0062	0.0010	0.0985	0.0070	-0.0229	0.0344
3	260.16	0.2357	0.0143	0.0023	0.0163	0.0023	0.1319	0.0162	-0.0617	0.1256
3	260.16	0.2995	-0.0102	0.0025	-0.0148	0.0061	0.3431	0.0303	-0.0467	0.1152
3	260.16	0.3493	-0.0087	0.0031	-0.0353	0.0078	0.5444	0.0375	-0.3457	0.0603
3	260.16	0.4000	0.0070	0.0022	-0.0460	0.0151	0.8305	0.0675	-0.2886	0.1049
3	260.16	0.4497	0.0135	0.0028	-0.0854	0.0195	1.1331	0.0778	-0.6917	0.0759
3	260.16	0.4997	0.0154	0.0037	-0.1428	0.0270	1.5381	0.1044	-0.8481	0.0608
3	260.16	0.5556	0.0479	0.0037	-0.1994	0.0360	2.0899	0.1358	-0.8581	0.0799
3	260.16	0.5995	0.0854	0.0049	-0.2775	0.0439	2.5885	0.1572	-0.7835	0.0984
3	260.16	0.6498	0.1197	0.0078	-0.3634	0.0542	3.2074	0.1868	-0.9302	0.1250
3	260.16	0.6890	0.1170	0.0077	-0.4466	0.0608	3.7459	0.2138	-0.9990	0.0945
3	260.16	0.7495	0.1898	0.0095	-0.5515	0.0714	4.6703	0.2534	-1.3958	0.1083
3	260.16	0.7998	0.2411	0.0114	-0.6327	0.0792	5.5236	0.2821	-1.2000	0.1058
3	260.16	0.8577	0.2979	0.0131	-0.7375	0.0899	6.5139	0.3224	-1.3932	0.1248
3	260.16	0.9178	0.3501	0.0160	-0.8438	0.1024	7.5579	0.3603	-1.8997	0.1782
3	260.16	0.9729	0.3745	0.0203	-0.9179	0.1147	8.5603	0.3992	-1.7988	0.0915

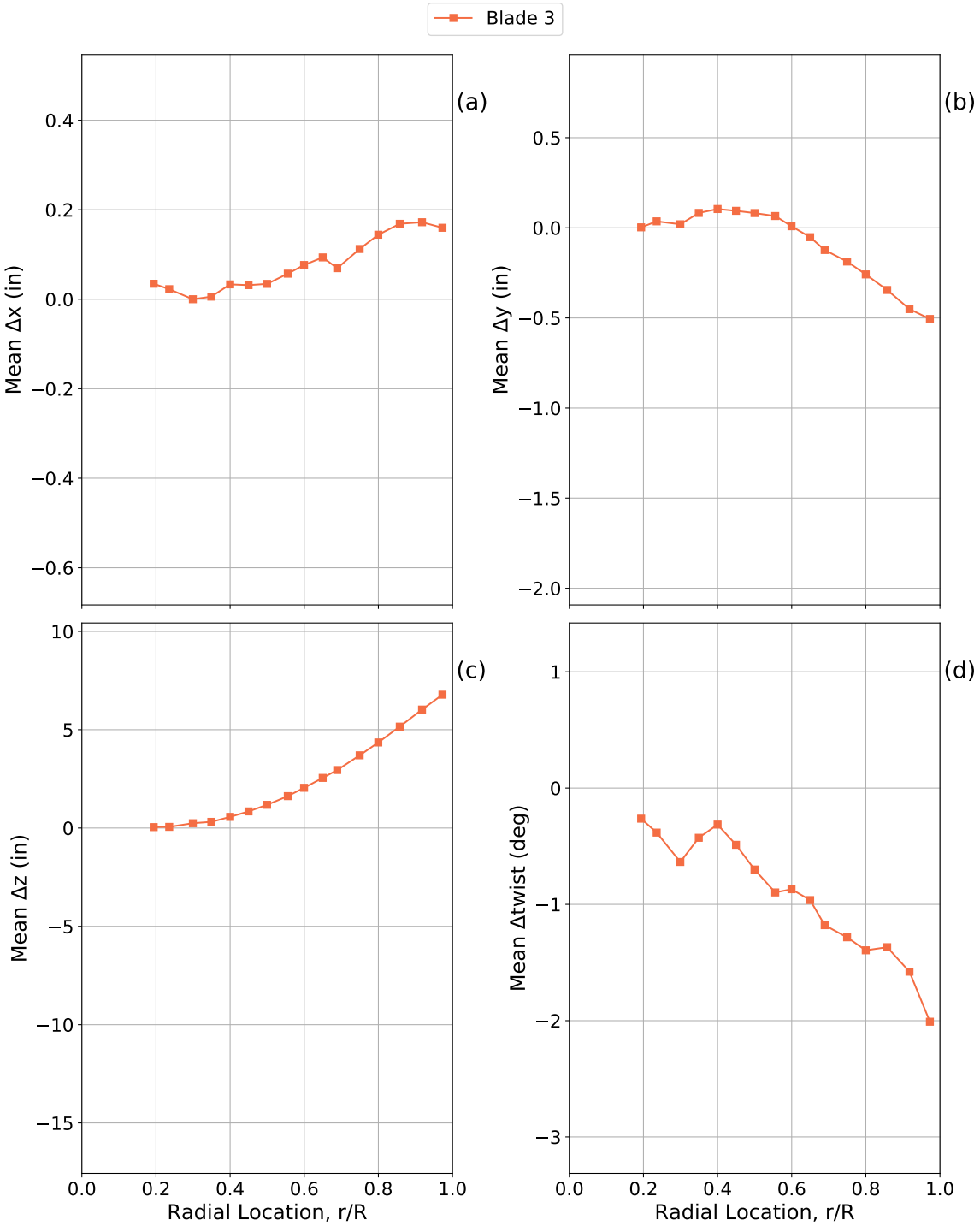


Figure 3.7-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.099, μ = 0.3, α = -4.5° NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0346	0.0018	0.0025	0.0008	0.0457	0.0060	-0.2633	0.0421
3	265.08	0.2357	0.0225	0.0034	0.0357	0.0021	0.0575	0.0125	-0.3830	0.0600
3	265.08	0.2995	0.0000	0.0017	0.0196	0.0047	0.2436	0.0191	-0.6354	0.0961
3	265.08	0.3493	0.0058	0.0030	0.0825	0.0097	0.3133	0.0356	-0.4275	0.0986
3	265.08	0.4000	0.0332	0.0027	0.1041	0.0149	0.5657	0.0503	-0.3141	0.0894
3	265.08	0.4497	0.0315	0.0032	0.0942	0.0184	0.8438	0.0642	-0.4881	0.0526
3	265.08	0.4997	0.0343	0.0037	0.0818	0.0242	1.1797	0.0842	-0.7003	0.0705
3	265.08	0.5556	0.0571	0.0038	0.0654	0.0314	1.6213	0.1059	-0.8975	0.0785
3	265.08	0.5995	0.0765	0.0041	0.0086	0.0367	2.0453	0.1208	-0.8702	0.0760
3	265.08	0.6498	0.0935	0.0061	-0.0521	0.0448	2.5493	0.1380	-0.9633	0.0657
3	265.08	0.6890	0.0694	0.0070	-0.1230	0.0503	2.9501	0.1503	-1.1790	0.0755
3	265.08	0.7495	0.1123	0.0079	-0.1872	0.0593	3.6975	0.1685	-1.2833	0.0818
3	265.08	0.7998	0.1442	0.0088	-0.2586	0.0671	4.3504	0.1810	-1.3950	0.0807
3	265.08	0.8577	0.1686	0.0099	-0.3450	0.0757	5.1579	0.1937	-1.3682	0.0877
3	265.08	0.9178	0.1721	0.0103	-0.4509	0.0855	6.0250	0.2118	-1.5792	0.1110
3	265.08	0.9729	0.1597	0.0133	-0.5057	0.0941	6.7809	0.2256	-2.0088	0.0983

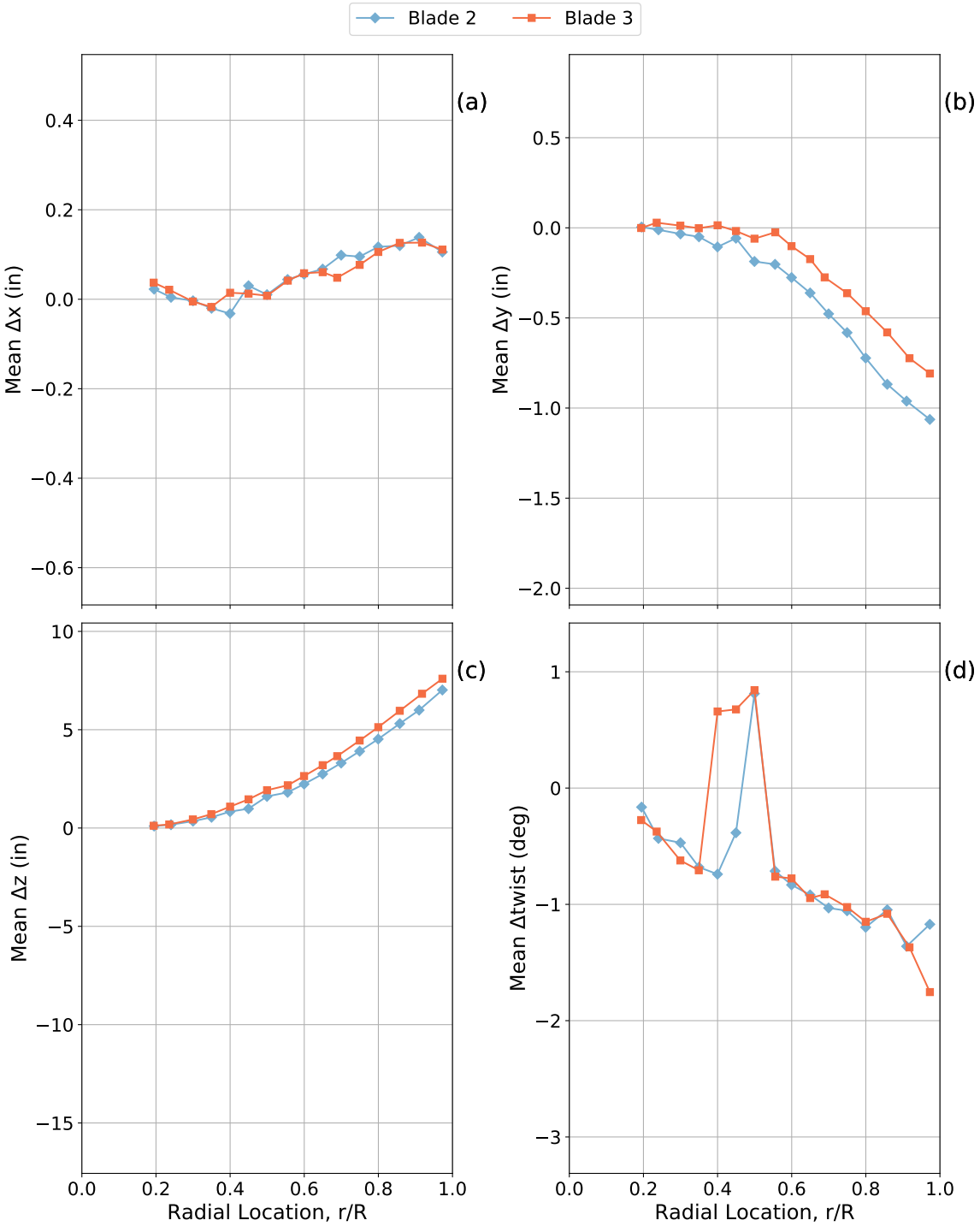


Figure 3.7-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.099, μ = 0.3, α = -4.5° NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0226	0.0020	0.0042	0.0012	0.0988	0.0060	-0.1639	0.0438
2	270.35	0.2405	0.0043	0.0016	-0.0111	0.0008	0.1696	0.0076	-0.4327	0.0582
2	270.35	0.2999	-0.0035	0.0019	-0.0338	0.0029	0.3481	0.0127	-0.4702	0.0948
2	270.35	0.3498	-0.0201	0.0031	-0.0499	0.0051	0.5471	0.0255	-0.6803	0.0647
2	270.35	0.3998	-0.0321	0.0036	-0.1060	0.0068	0.8334	0.0326	-0.7405	0.0509
2	270.35	0.4496	0.0302	0.0029	-0.0576	0.0114	0.9826	0.0442	-0.3844	0.0587
2	270.35	0.4995	0.0103	0.0025	-0.1868	0.0142	1.6080	0.0521	0.8120	0.1053
2	270.35	0.5551	0.0441	0.0030	-0.2027	0.0191	1.8128	0.0653	-0.7137	0.0700
2	270.35	0.5996	0.0559	0.0033	-0.2759	0.0217	2.2350	0.0717	-0.8322	0.0819
2	270.35	0.6497	0.0674	0.0045	-0.3614	0.0272	2.7479	0.0851	-0.9185	0.0865
2	270.35	0.6996	0.0985	0.0051	-0.4774	0.0320	3.3057	0.0966	-1.0311	0.0987
2	270.35	0.7495	0.0953	0.0053	-0.5816	0.0368	3.9056	0.1090	-1.0550	0.0814
2	270.35	0.7996	0.1171	0.0060	-0.7226	0.0411	4.5241	0.1238	-1.1972	0.0944
2	270.35	0.8578	0.1198	0.0071	-0.8681	0.0476	5.3101	0.1464	-1.0465	0.1048
2	270.35	0.9100	0.1384	0.0083	-0.9616	0.0530	5.9964	0.1706	-1.3605	0.0950
2	270.35	0.9727	0.1056	0.0116	-1.0632	0.0589	7.0195	0.2046	-1.1714	0.0986
3	270	0.1938	0.0371	0.0022	-0.0010	0.0006	0.1162	0.0098	-0.2752	0.0666
3	270	0.2357	0.0212	0.0007	0.0285	0.0020	0.1806	0.0151	-0.3740	0.1441
3	270	0.2995	-0.0051	0.0031	0.0120	0.0039	0.4373	0.0301	-0.6224	0.1842
3	270	0.3493	-0.0172	0.0016	-0.0022	0.0066	0.7059	0.0505	-0.7068	0.1038
3	270	0.4000	0.0145	0.0052	0.0140	0.0120	1.0883	0.0738	0.6585	0.1470
3	270	0.4497	0.0125	0.0049	-0.0178	0.0147	1.4595	0.0952	0.6766	0.1746
3	270	0.4997	0.0079	0.0064	-0.0602	0.0191	1.9238	0.1122	0.8418	0.1967
3	270	0.5556	0.0416	0.0057	-0.0249	0.0241	2.1740	0.1390	-0.7616	0.1731
3	270	0.5995	0.0581	0.0069	-0.1017	0.0280	2.6434	0.1615	-0.7768	0.1686
3	270	0.6498	0.0605	0.0075	-0.1737	0.0331	3.1959	0.1831	-0.9460	0.1609
3	270	0.6890	0.0481	0.0072	-0.2749	0.0369	3.6546	0.2015	-0.9135	0.1402
3	270	0.7495	0.0768	0.0095	-0.3627	0.0439	4.4496	0.2287	-1.0235	0.1484
3	270	0.7998	0.1057	0.0100	-0.4627	0.0509	5.1289	0.2549	-1.1497	0.1412
3	270	0.8577	0.1260	0.0113	-0.5801	0.0582	5.9618	0.2859	-1.0810	0.1411
3	270	0.9178	0.1266	0.0130	-0.7236	0.0663	6.8291	0.3198	-1.3694	0.1647
3	270	0.9729	0.1110	0.0172	-0.8083	0.0737	7.5932	0.3497	-1.7542	0.1392

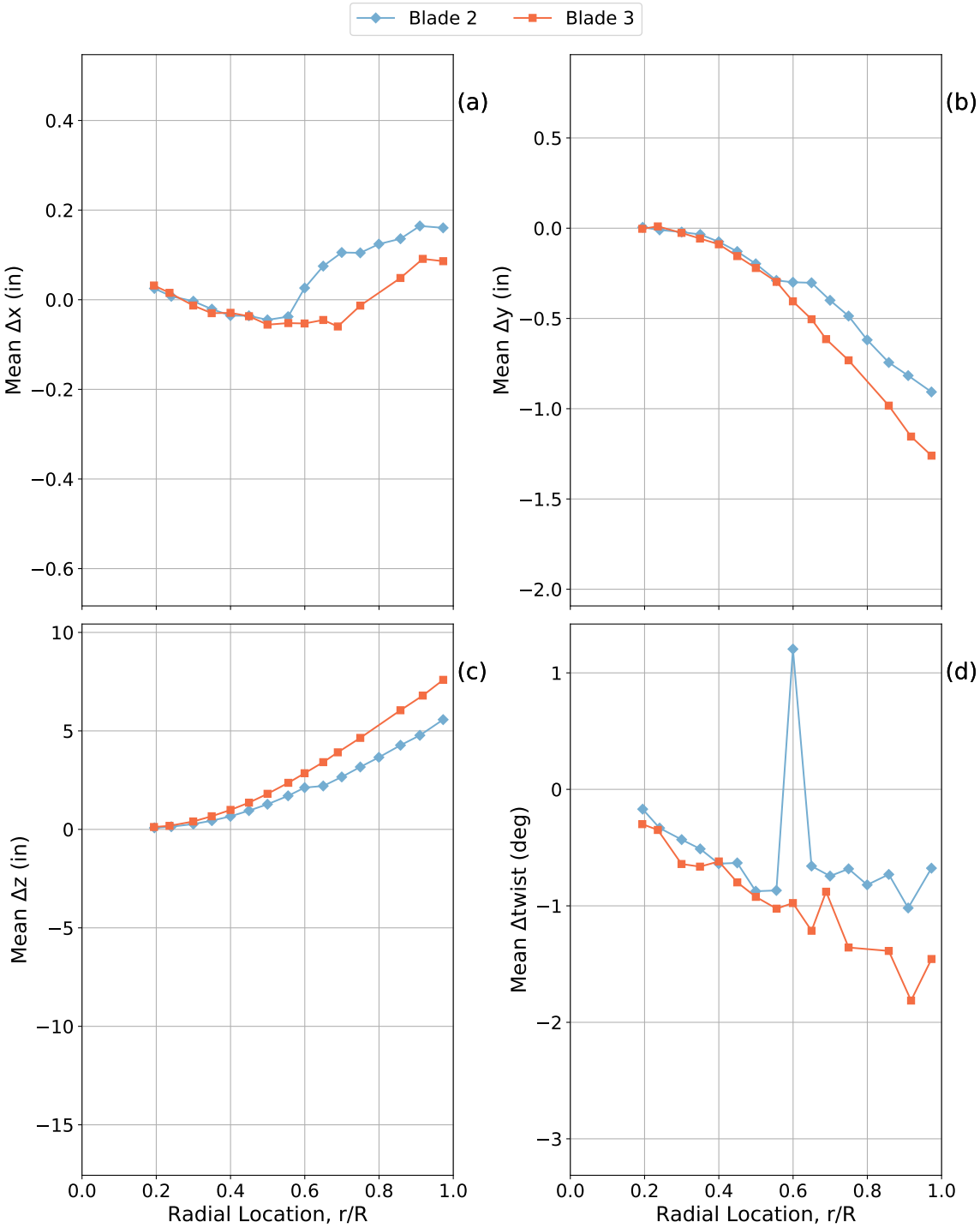


Figure 3.7-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.099, μ = 0.3, α = -4.5° NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0252	0.0021	0.0049	0.0005	0.0779	0.0073	-0.1699	0.0344
2	274.92	0.2405	0.0077	0.0022	-0.0096	0.0017	0.1352	0.0168	-0.3324	0.0487
2	274.92	0.2999	-0.0033	0.0015	-0.0215	0.0035	0.2697	0.0265	-0.4314	0.0782
2	274.92	0.3498	-0.0210	0.0018	-0.0346	0.0063	0.4422	0.0464	-0.5112	0.0454
2	274.92	0.3998	-0.0354	0.0031	-0.0751	0.0109	0.6615	0.0693	-0.6381	0.0536
2	274.92	0.4496	-0.0358	0.0042	-0.1291	0.0156	0.9510	0.0929	-0.6313	0.0885
2	274.92	0.4995	-0.0449	0.0021	-0.1972	0.0189	1.2753	0.1173	-0.8746	0.0435
2	274.92	0.5551	-0.0378	0.0030	-0.2893	0.0255	1.7031	0.1477	-0.8678	0.0463
2	274.92	0.5996	0.0262	0.0032	-0.2994	0.0285	2.1205	0.1776	1.2043	0.0873
2	274.92	0.6497	0.0750	0.0047	-0.3024	0.0348	2.2037	0.2135	-0.6586	0.0574
2	274.92	0.6996	0.1054	0.0037	-0.3995	0.0410	2.6618	0.2520	-0.7443	0.0623
2	274.92	0.7495	0.1046	0.0049	-0.4867	0.0479	3.1686	0.2960	-0.6823	0.0425
2	274.92	0.7996	0.1242	0.0059	-0.6190	0.0578	3.6580	0.3395	-0.8198	0.0624
2	274.92	0.8578	0.1361	0.0078	-0.7440	0.0658	4.2715	0.3901	-0.7300	0.0491
2	274.92	0.9100	0.1646	0.0086	-0.8166	0.0750	4.7747	0.4352	-1.0183	0.0458
2	274.92	0.9727	0.1604	0.0131	-0.9071	0.0861	5.5724	0.4923	-0.6767	0.0716
3	274.92	0.1938	0.0318	0.0012	-0.0034	0.0006	0.1209	0.0063	-0.2986	0.0218
3	274.92	0.2357	0.0154	0.0024	0.0099	0.0010	0.1795	0.0052	-0.3486	0.0415
3	274.92	0.2995	-0.0129	0.0022	-0.0260	0.0023	0.4019	0.0200	-0.6409	0.0464
3	274.92	0.3493	-0.0300	0.0014	-0.0574	0.0041	0.6659	0.0240	-0.6634	0.0623
3	274.92	0.4000	-0.0292	0.0021	-0.0892	0.0064	0.9885	0.0396	-0.6190	0.0554
3	274.92	0.4497	-0.0368	0.0033	-0.1546	0.0091	1.3573	0.0521	-0.7985	0.0670
3	274.92	0.4997	-0.0556	0.0035	-0.2205	0.0122	1.8066	0.0700	-0.9229	0.0523
3	274.92	0.5556	-0.0521	0.0040	-0.2974	0.0157	2.3640	0.0876	-1.0242	0.0597
3	274.92	0.5995	-0.0530	0.0053	-0.4052	0.0186	2.8499	0.1060	-0.9762	0.0483
3	274.92	0.6498	-0.0452	0.0060	-0.5044	0.0226	3.4122	0.1308	-1.2138	0.0545
3	274.92	0.6890	-0.0597	0.0070	-0.6146	0.0255	3.9113	0.1480	-0.8787	0.0700
3	274.92	0.7495	-0.0131	0.0090	-0.7319	0.0307	4.6449	0.1794	-1.3576	0.0515
3	274.92	0.8577	0.0485	0.0126	-0.9829	0.0397	6.0478	0.2335	-1.3870	0.0668
3	274.92	0.9178	0.0912	0.0154	-1.1543	0.0463	6.7939	0.2652	-1.8131	0.0749
3	274.92	0.9729	0.0860	0.0179	-1.2600	0.0517	7.5923	0.2883	-1.4564	0.1211

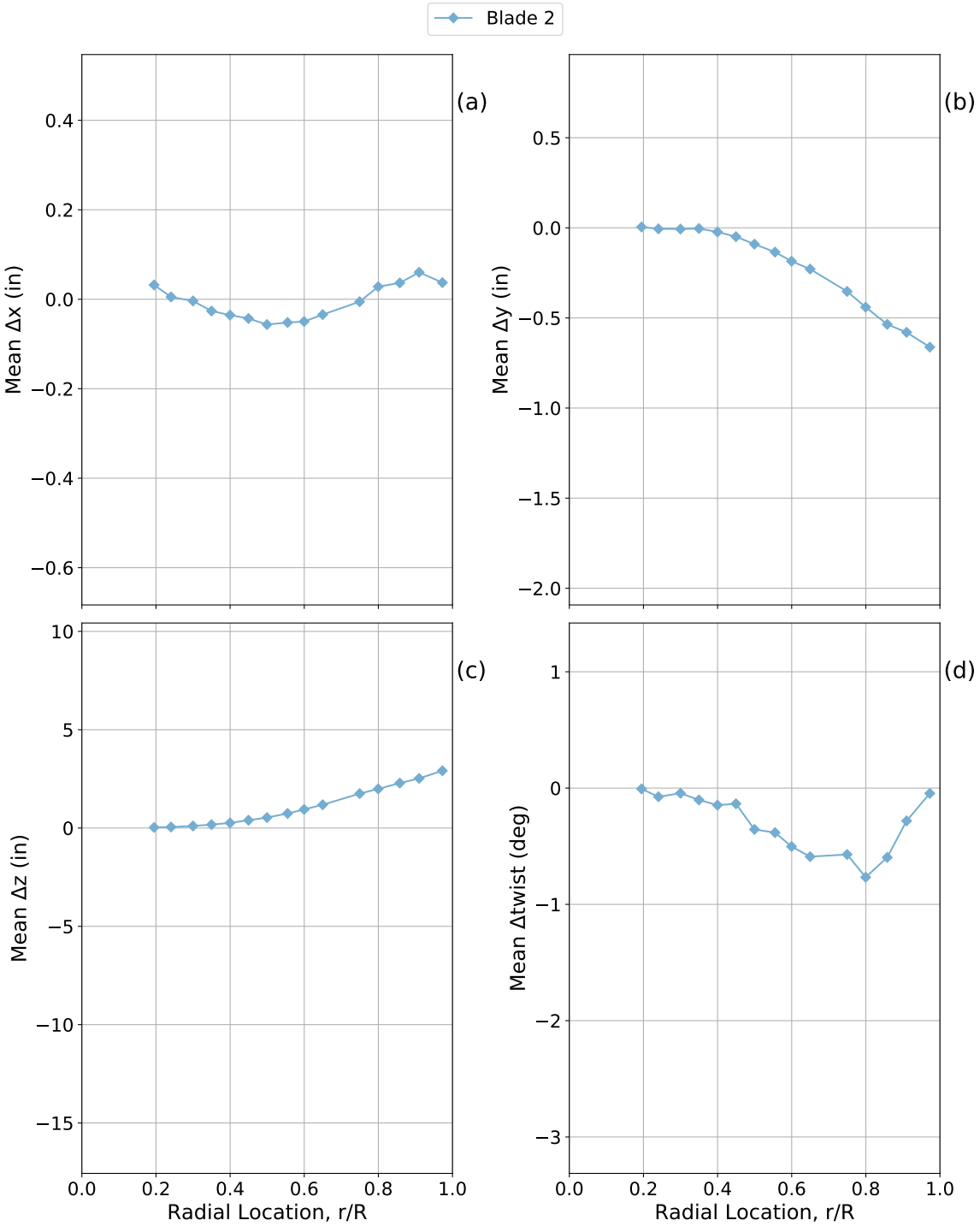


Figure 3.7-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0319	0.0017	0.0046	0.0004	0.0296	0.0038	-0.0069	0.0466
2	285.12	0.2405	0.0052	0.0024	-0.0058	0.0011	0.0525	0.0134	-0.0749	0.0481
2	285.12	0.2999	-0.0038	0.0025	-0.0069	0.0022	0.1043	0.0158	-0.0442	0.0927
2	285.12	0.3498	-0.0263	0.0025	-0.0040	0.0034	0.1738	0.0296	-0.1022	0.0845
2	285.12	0.3998	-0.0355	0.0029	-0.0230	0.0062	0.2597	0.0449	-0.1468	0.0615
2	285.12	0.4496	-0.0430	0.0019	-0.0492	0.0072	0.3965	0.0506	-0.1349	0.0806
2	285.12	0.4995	-0.0565	0.0036	-0.0907	0.0091	0.5312	0.0603	-0.3557	0.0845
2	285.12	0.5551	-0.0520	0.0033	-0.1347	0.0105	0.7399	0.0779	-0.3831	0.0699
2	285.12	0.5996	-0.0498	0.0025	-0.1853	0.0126	0.9447	0.0908	-0.5026	0.0863
2	285.12	0.6497	-0.0344	0.0035	-0.2290	0.0146	1.1835	0.1036	-0.5897	0.0729
2	285.12	0.7495	-0.0054	0.0042	-0.3530	0.0202	1.7488	0.1412	-0.5710	0.0858
2	285.12	0.7996	0.0281	0.0040	-0.4402	0.0230	1.9897	0.1611	-0.7671	0.0862
2	285.12	0.8578	0.0365	0.0051	-0.5357	0.0276	2.2853	0.1872	-0.5961	0.0834
2	285.12	0.9100	0.0602	0.0063	-0.5798	0.0297	2.5247	0.2099	-0.2821	0.0791
2	285.12	0.9727	0.0372	0.0072	-0.6619	0.0343	2.9123	0.2420	-0.0458	0.0949

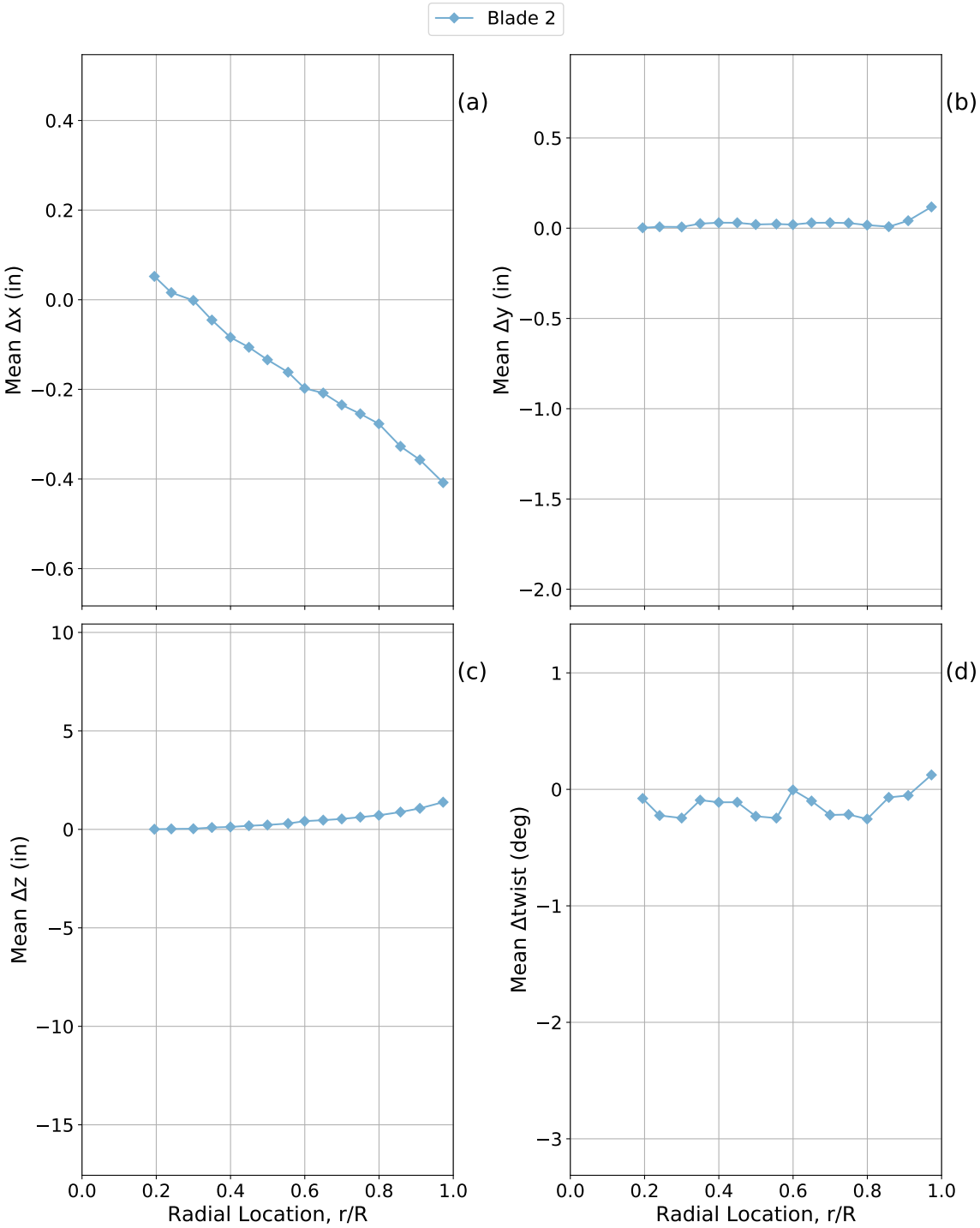


Figure 3.7-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0521	0.0009	0.0023	0.0007	0.0075	0.0064	-0.0780	0.0449
2	299.88	0.2405	0.0159	0.0029	0.0077	0.0017	0.0235	0.0131	-0.2244	0.0855
2	299.88	0.2999	-0.0015	0.0014	0.0068	0.0034	0.0313	0.0269	-0.2463	0.1037
2	299.88	0.3498	-0.0453	0.0037	0.0252	0.0047	0.0943	0.0364	-0.0927	0.0686
2	299.88	0.3998	-0.0839	0.0031	0.0304	0.0087	0.1238	0.0616	-0.1110	0.0874
2	299.88	0.4496	-0.1061	0.0032	0.0300	0.0115	0.1829	0.0722	-0.1104	0.0675
2	299.88	0.4995	-0.1340	0.0035	0.0205	0.0154	0.2237	0.0934	-0.2311	0.0953
2	299.88	0.5551	-0.1617	0.0038	0.0231	0.0208	0.2980	0.1138	-0.2466	0.0949
2	299.88	0.5996	-0.1977	0.0040	0.0199	0.0248	0.4179	0.1333	-0.0052	0.1358
2	299.88	0.6497	-0.2082	0.0048	0.0297	0.0306	0.4685	0.1500	-0.1000	0.1180
2	299.88	0.6996	-0.2347	0.0049	0.0304	0.0359	0.5298	0.1674	-0.2198	0.1125
2	299.88	0.7495	-0.2546	0.0058	0.0285	0.0415	0.6208	0.1860	-0.2161	0.1055
2	299.88	0.7996	-0.2769	0.0062	0.0172	0.0478	0.7150	0.2041	-0.2547	0.1013
2	299.88	0.8578	-0.3272	0.0057	0.0083	0.0553	0.8802	0.2303	-0.0689	0.1118
2	299.88	0.9100	-0.3572	0.0057	0.0414	0.0623	1.0677	0.2588	-0.0526	0.1072
2	299.88	0.9727	-0.4082	0.0088	0.1177	0.0706	1.3825	0.2957	0.1239	0.0958

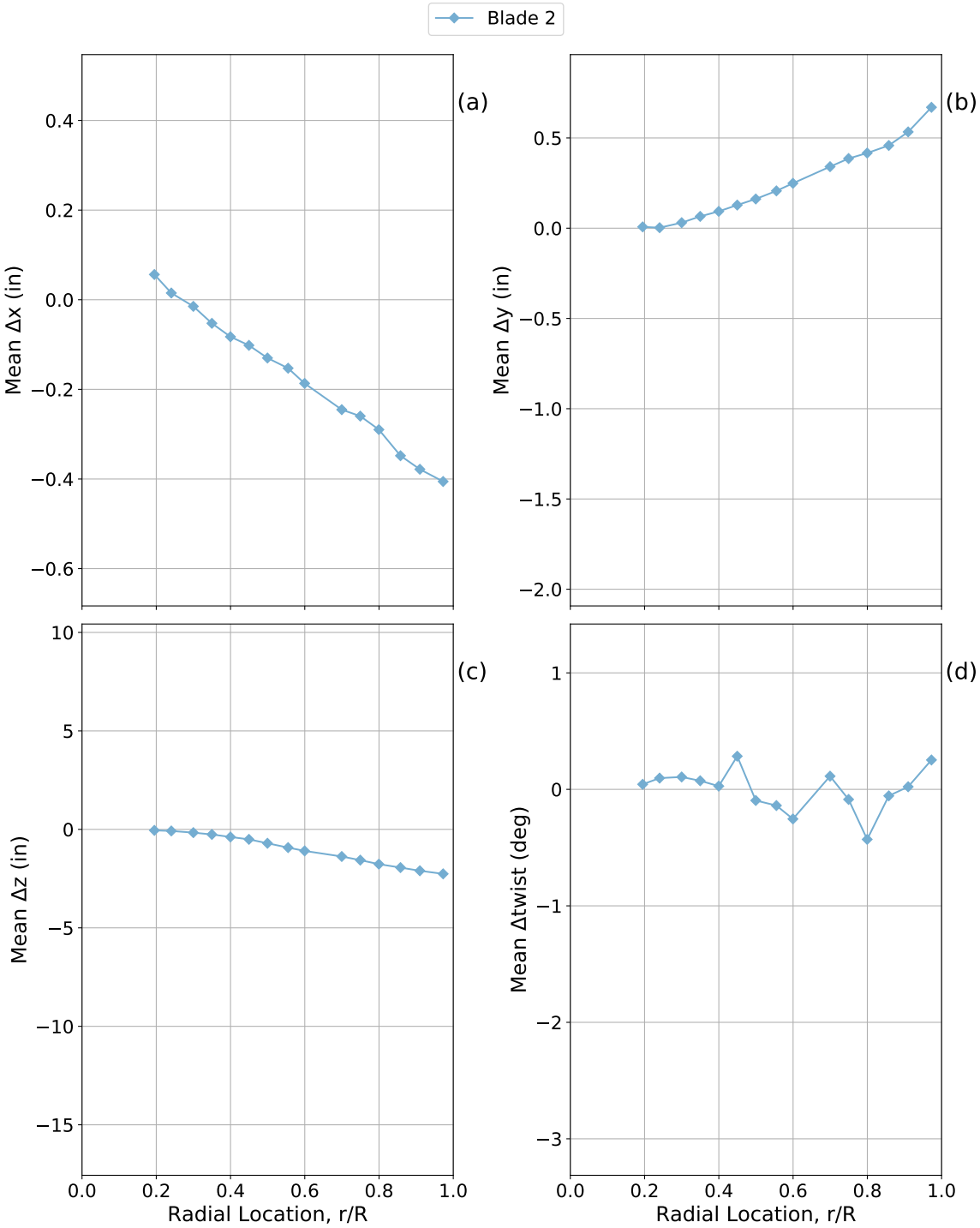


Figure 3.7-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0563	0.0018	0.0073	0.0006	-0.0508	0.0050	0.0434	0.0276
2	315	0.2405	0.0150	0.0022	0.0027	0.0028	-0.0802	0.0098	0.0966	0.0300
2	315	0.2999	-0.0148	0.0024	0.0305	0.0052	-0.1656	0.0237	0.1063	0.0555
2	315	0.3498	-0.0526	0.0045	0.0653	0.0069	-0.2578	0.0282	0.0737	0.0873
2	315	0.3998	-0.0826	0.0036	0.0932	0.0133	-0.3861	0.0500	0.0276	0.0755
2	315	0.4496	-0.1018	0.0020	0.1281	0.0150	-0.5065	0.0716	0.2845	0.0882
2	315	0.4995	-0.1300	0.0024	0.1618	0.0174	-0.7055	0.0817	-0.0955	0.0798
2	315	0.5551	-0.1528	0.0020	0.2067	0.0212	-0.9254	0.0990	-0.1390	0.0920
2	315	0.5996	-0.1867	0.0026	0.2487	0.0249	-1.0936	0.1122	-0.2542	0.0881
2	315	0.6996	-0.2453	0.0030	0.3408	0.0331	-1.3770	0.1539	0.1132	0.0748
2	315	0.7495	-0.2597	0.0031	0.3859	0.0365	-1.5615	0.1737	-0.0865	0.0763
2	315	0.7996	-0.2898	0.0043	0.4163	0.0400	-1.7656	0.1991	-0.4296	0.0625
2	315	0.8578	-0.3481	0.0038	0.4582	0.0446	-1.9396	0.2291	-0.0557	0.0751
2	315	0.9100	-0.3783	0.0044	0.5334	0.0490	-2.1021	0.2623	0.0224	0.0698
2	315	0.9727	-0.4056	0.0043	0.6696	0.0539	-2.2585	0.3031	0.2523	0.0764

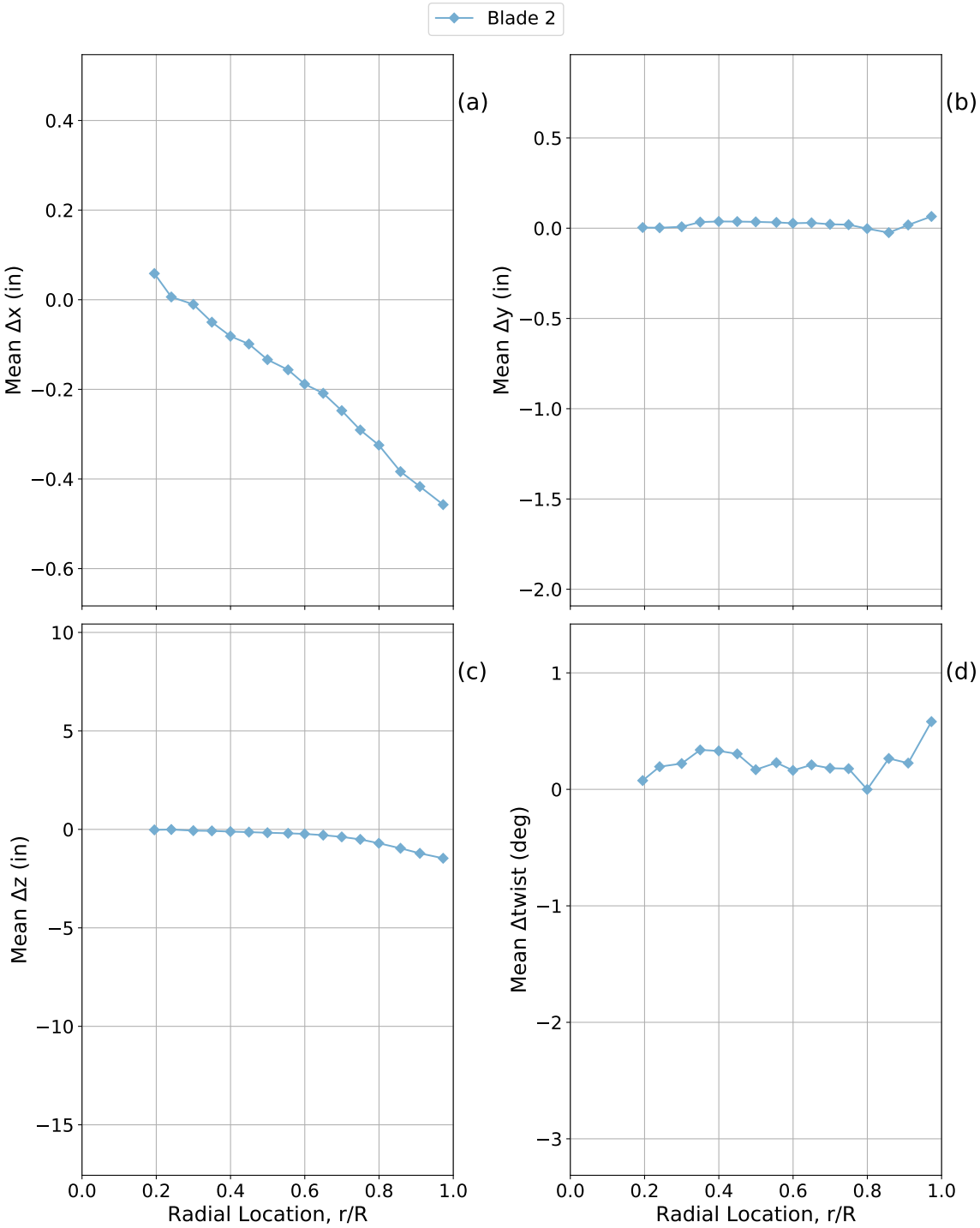


Figure 3.7-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.099, μ = 0.3, α = -4.5° NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0585	0.0017	0.0038	0.0014	-0.0259	0.0060	0.0756	0.0377
2	330.12	0.2405	0.0062	0.0016	0.0023	0.0029	-0.0071	0.0097	0.1947	0.0449
2	330.12	0.2999	-0.0104	0.0028	0.0078	0.0026	-0.0649	0.0200	0.2214	0.0779
2	330.12	0.3498	-0.0501	0.0015	0.0338	0.0091	-0.0767	0.0312	0.3385	0.0624
2	330.12	0.3998	-0.0814	0.0025	0.0372	0.0101	-0.1138	0.0475	0.3301	0.0652
2	330.12	0.4496	-0.0988	0.0026	0.0366	0.0151	-0.1392	0.0614	0.3045	0.0560
2	330.12	0.4995	-0.1337	0.0031	0.0350	0.0185	-0.1704	0.0799	0.1688	0.0764
2	330.12	0.5551	-0.1564	0.0040	0.0321	0.0245	-0.1987	0.1005	0.2288	0.0723
2	330.12	0.5996	-0.1882	0.0048	0.0274	0.0297	-0.2305	0.1204	0.1627	0.0861
2	330.12	0.6497	-0.2088	0.0064	0.0298	0.0364	-0.2932	0.1419	0.2102	0.0753
2	330.12	0.6996	-0.2475	0.0058	0.0217	0.0444	-0.3822	0.1674	0.1815	0.0771
2	330.12	0.7495	-0.2907	0.0062	0.0194	0.0522	-0.5081	0.1937	0.1774	0.0810
2	330.12	0.7996	-0.3245	0.0050	-0.0025	0.0607	-0.7044	0.2270	-0.0010	0.0710
2	330.12	0.8578	-0.3835	0.0052	-0.0247	0.0702	-0.9606	0.2739	0.2651	0.0709
2	330.12	0.9100	-0.4168	0.0065	0.0180	0.0799	-1.2164	0.3184	0.2254	0.0675
2	330.12	0.9727	-0.4572	0.0089	0.0649	0.0907	-1.4672	0.3752	0.5815	0.0675

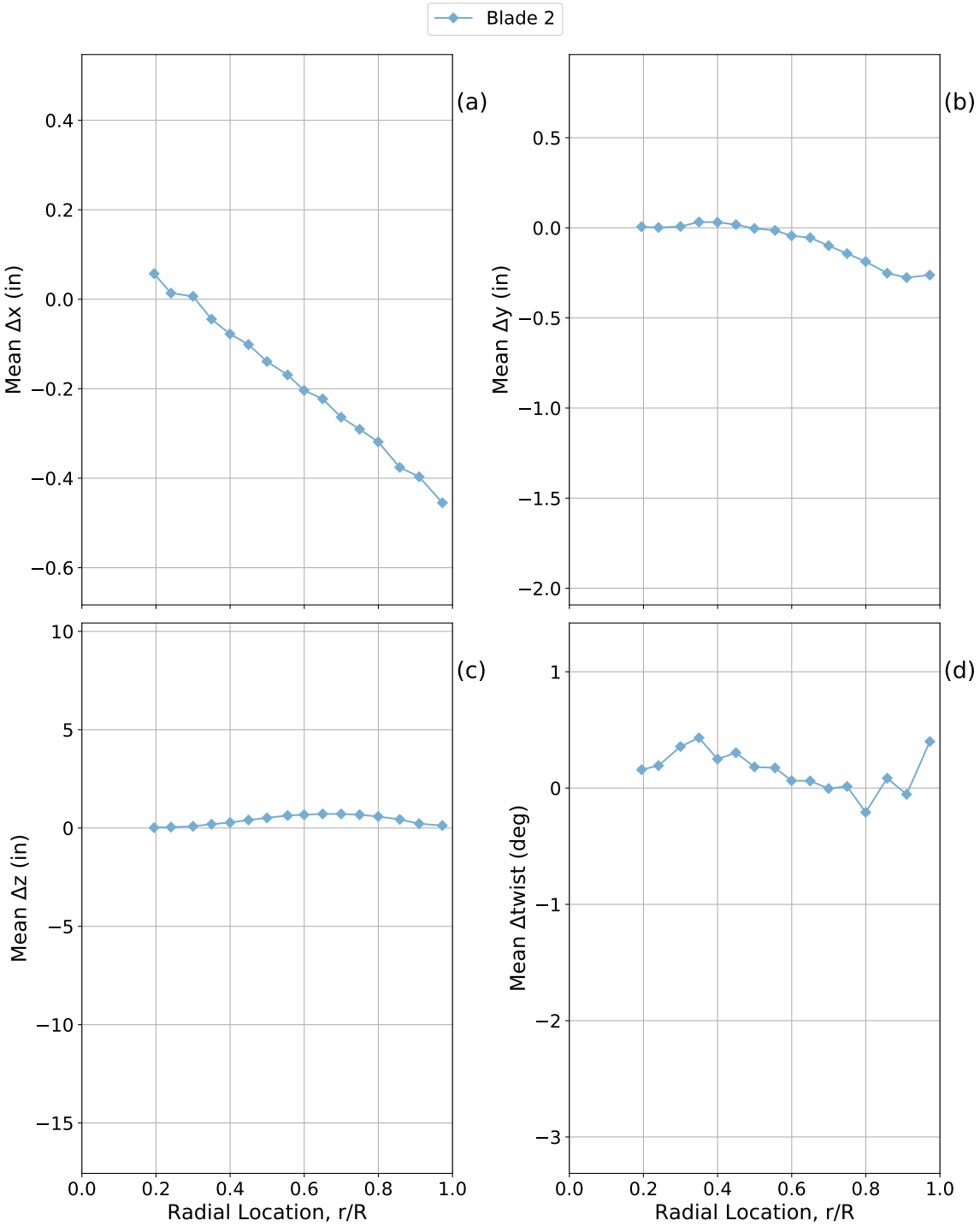


Figure 3.7-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.099, μ = 0.3, α = -4.5° NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0571	0.0071	0.0060	0.0017	0.0191	0.0082	0.1583	0.0787
2	344.88	0.2405	0.0137	0.0046	0.0018	0.0037	0.0456	0.0104	0.1928	0.2504
2	344.88	0.2999	0.0065	0.0042	0.0072	0.0073	0.0860	0.0221	0.3569	0.2578
2	344.88	0.3498	-0.0445	0.0047	0.0325	0.0124	0.1951	0.0395	0.4325	0.2496
2	344.88	0.3998	-0.0777	0.0054	0.0307	0.0193	0.2780	0.0546	0.2491	0.2665
2	344.88	0.4496	-0.1013	0.0049	0.0178	0.0264	0.4071	0.0674	0.3037	0.2681
2	344.88	0.4995	-0.1392	0.0046	-0.0039	0.0314	0.5151	0.0848	0.1816	0.2641
2	344.88	0.5551	-0.1692	0.0061	-0.0143	0.0396	0.6357	0.1025	0.1736	0.2636
2	344.88	0.5996	-0.2037	0.0071	-0.0443	0.0444	0.6765	0.1193	0.0637	0.2602
2	344.88	0.6497	-0.2227	0.0074	-0.0547	0.0524	0.7168	0.1368	0.0614	0.2612
2	344.88	0.6996	-0.2636	0.0086	-0.0992	0.0595	0.7145	0.1540	-0.0043	0.2658
2	344.88	0.7495	-0.2907	0.0082	-0.1429	0.0683	0.6777	0.1737	0.0141	0.2526
2	344.88	0.7996	-0.3188	0.0090	-0.1873	0.0784	0.5841	0.1959	-0.2085	0.2511
2	344.88	0.8578	-0.3758	0.0088	-0.2517	0.0873	0.4371	0.2225	0.0846	0.2532
2	344.88	0.9100	-0.3968	0.0100	-0.2760	0.0968	0.2209	0.2486	-0.0540	0.2623
2	344.88	0.9727	-0.4550	0.0126	-0.2621	0.1075	0.1238	0.2831	0.4001	0.2591

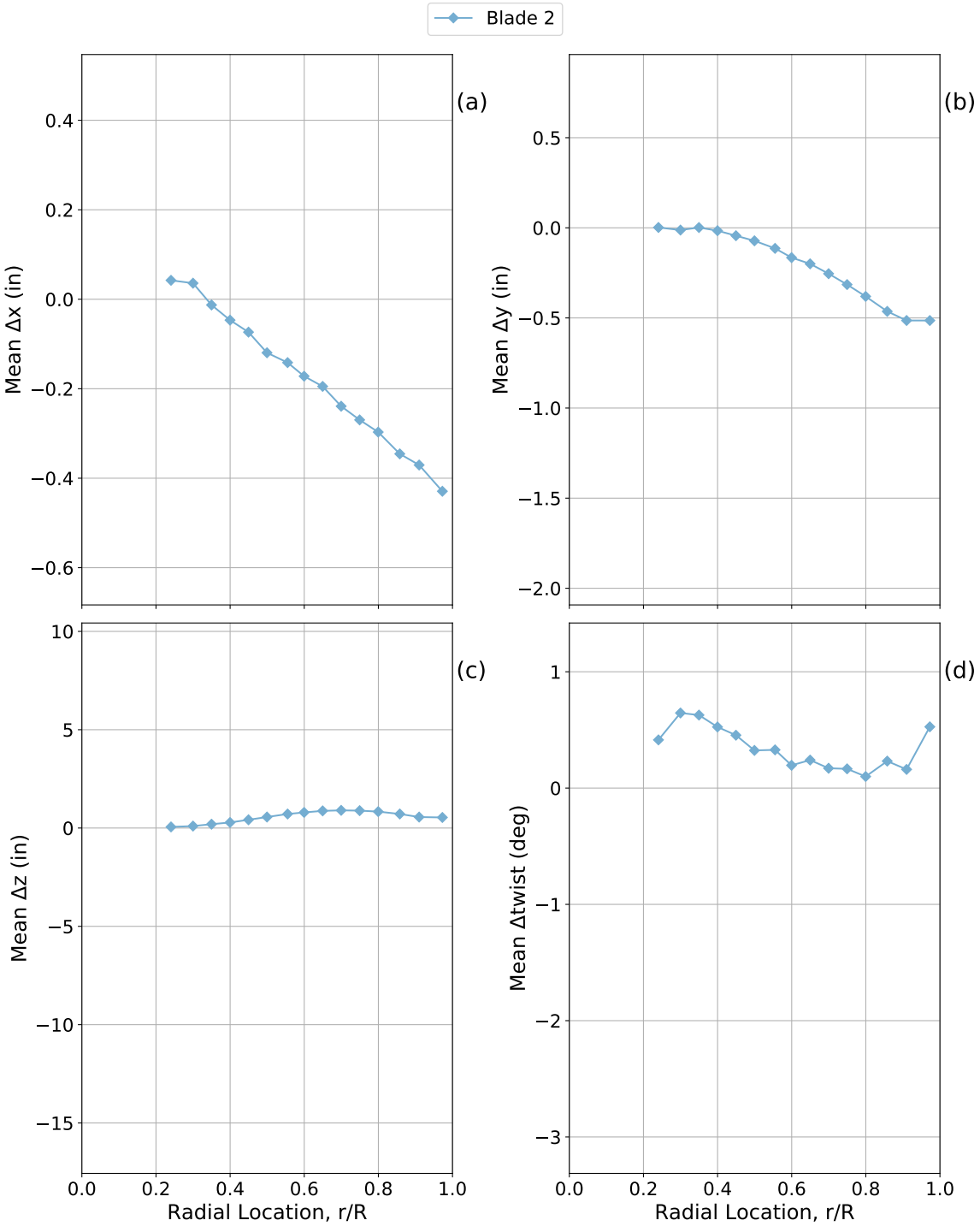


Figure 3.7-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0423	0.0032	0.0019	0.0022	0.0561	0.0131	0.4143	0.0836
2	350.16	0.2999	0.0359	0.0020	-0.0124	0.0060	0.0991	0.0318	0.6457	0.1290
2	350.16	0.3498	-0.0128	0.0028	0.0016	0.0099	0.1952	0.0427	0.6277	0.1346
2	350.16	0.3998	-0.0467	0.0030	-0.0159	0.0164	0.2818	0.0721	0.5255	0.1084
2	350.16	0.4496	-0.0735	0.0028	-0.0438	0.0229	0.4201	0.0879	0.4546	0.1277
2	350.16	0.4995	-0.1196	0.0036	-0.0721	0.0271	0.5601	0.1057	0.3237	0.1293
2	350.16	0.5551	-0.1416	0.0030	-0.1140	0.0330	0.7131	0.1230	0.3286	0.1021
2	350.16	0.5996	-0.1720	0.0037	-0.1653	0.0378	0.7930	0.1404	0.1956	0.1091
2	350.16	0.6497	-0.1948	0.0037	-0.1997	0.0446	0.8724	0.1600	0.2408	0.1027
2	350.16	0.6996	-0.2391	0.0044	-0.2545	0.0511	0.8985	0.1776	0.1704	0.1237
2	350.16	0.7495	-0.2697	0.0042	-0.3149	0.0553	0.8841	0.1971	0.1653	0.1228
2	350.16	0.7996	-0.2969	0.0060	-0.3807	0.0613	0.8349	0.2164	0.0993	0.1248
2	350.16	0.8578	-0.3456	0.0045	-0.4637	0.0688	0.7144	0.2327	0.2318	0.1185
2	350.16	0.9100	-0.3705	0.0049	-0.5142	0.0756	0.5574	0.2498	0.1604	0.1204
2	350.16	0.9727	-0.4292	0.0065	-0.5144	0.0829	0.5376	0.2690	0.5268	0.1166

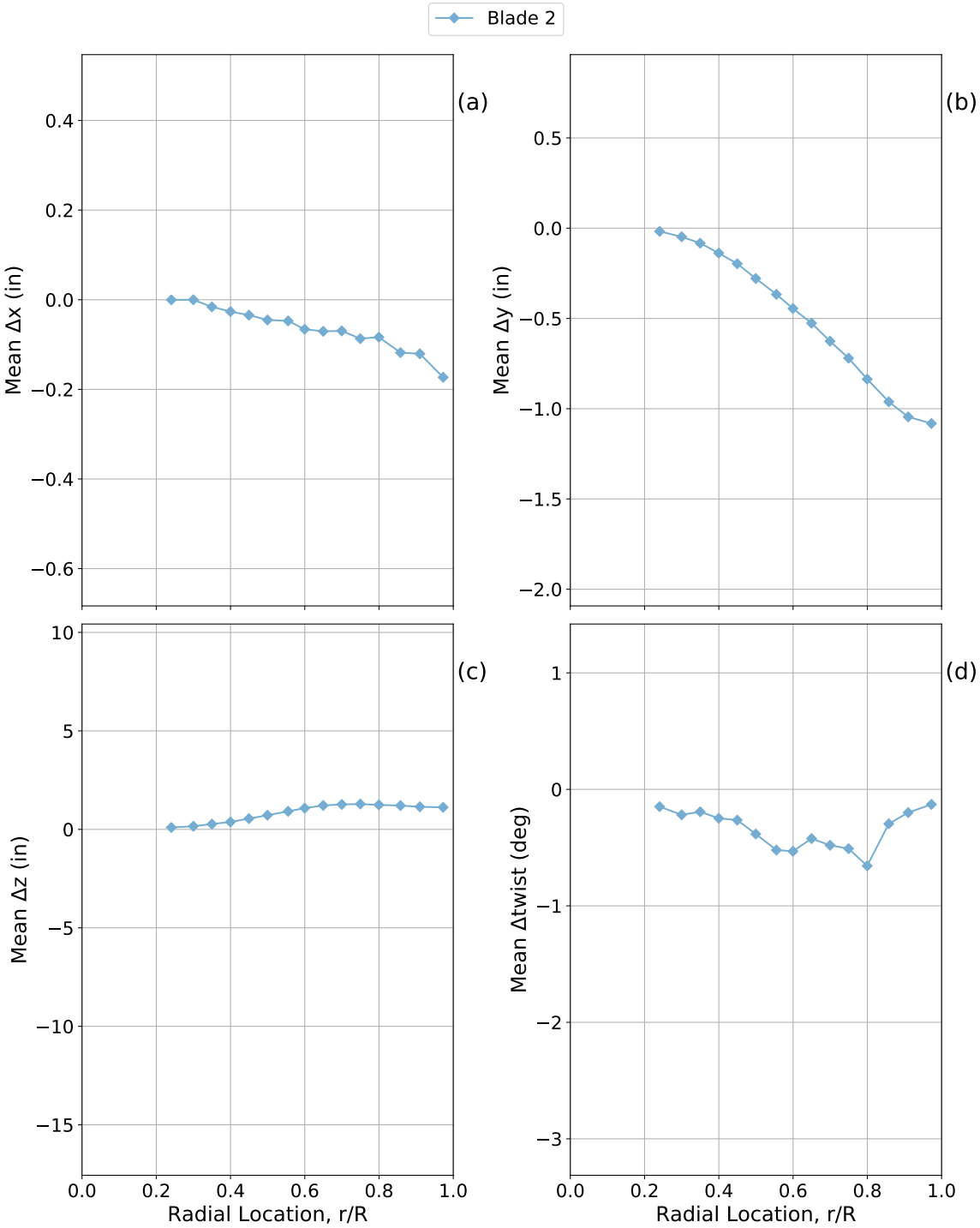


Figure 3.7-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.099$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Table 3.7-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.099, μ = 0.3, α = -4.5°
NFAC run 47, point 30. BD run 22, points 2282 to 2292.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2405	-0.0003	0.0030	-0.0177	0.0026	0.0960	0.0111	-0.1486	0.0628
2	355.08	0.2999	-0.0001	0.0029	-0.0476	0.0072	0.1586	0.0218	-0.2184	0.0964
2	355.08	0.3498	-0.0159	0.0019	-0.0831	0.0114	0.2680	0.0342	-0.1924	0.0875
2	355.08	0.3998	-0.0264	0.0031	-0.1379	0.0193	0.3774	0.0523	-0.2485	0.0963
2	355.08	0.4496	-0.0344	0.0030	-0.1969	0.0246	0.5461	0.0584	-0.2640	0.0837
2	355.08	0.4995	-0.0451	0.0030	-0.2786	0.0306	0.7203	0.0714	-0.3832	0.0806
2	355.08	0.5551	-0.0472	0.0023	-0.3667	0.0370	0.9158	0.0879	-0.5210	0.0868
2	355.08	0.5996	-0.0658	0.0028	-0.4448	0.0420	1.0783	0.1045	-0.5316	0.0816
2	355.08	0.6497	-0.0705	0.0031	-0.5261	0.0489	1.2144	0.1213	-0.4224	0.0915
2	355.08	0.6996	-0.0695	0.0032	-0.6259	0.0558	1.2666	0.1422	-0.4800	0.0968
2	355.08	0.7495	-0.0869	0.0034	-0.7201	0.0630	1.2870	0.1673	-0.5090	0.0881
2	355.08	0.7996	-0.0835	0.0050	-0.8361	0.0696	1.2437	0.1905	-0.6567	0.0931
2	355.08	0.8578	-0.1180	0.0031	-0.9615	0.0791	1.2085	0.2108	-0.2953	0.0795
2	355.08	0.9100	-0.1206	0.0046	-1.0453	0.0868	1.1475	0.2302	-0.1996	0.1179
2	355.08	0.9727	-0.1731	0.0059	-1.0816	0.0970	1.1194	0.2479	-0.1291	0.0934

3.8 Run 52, Point 20

3.8.1 Pitch, Flap, and Lag

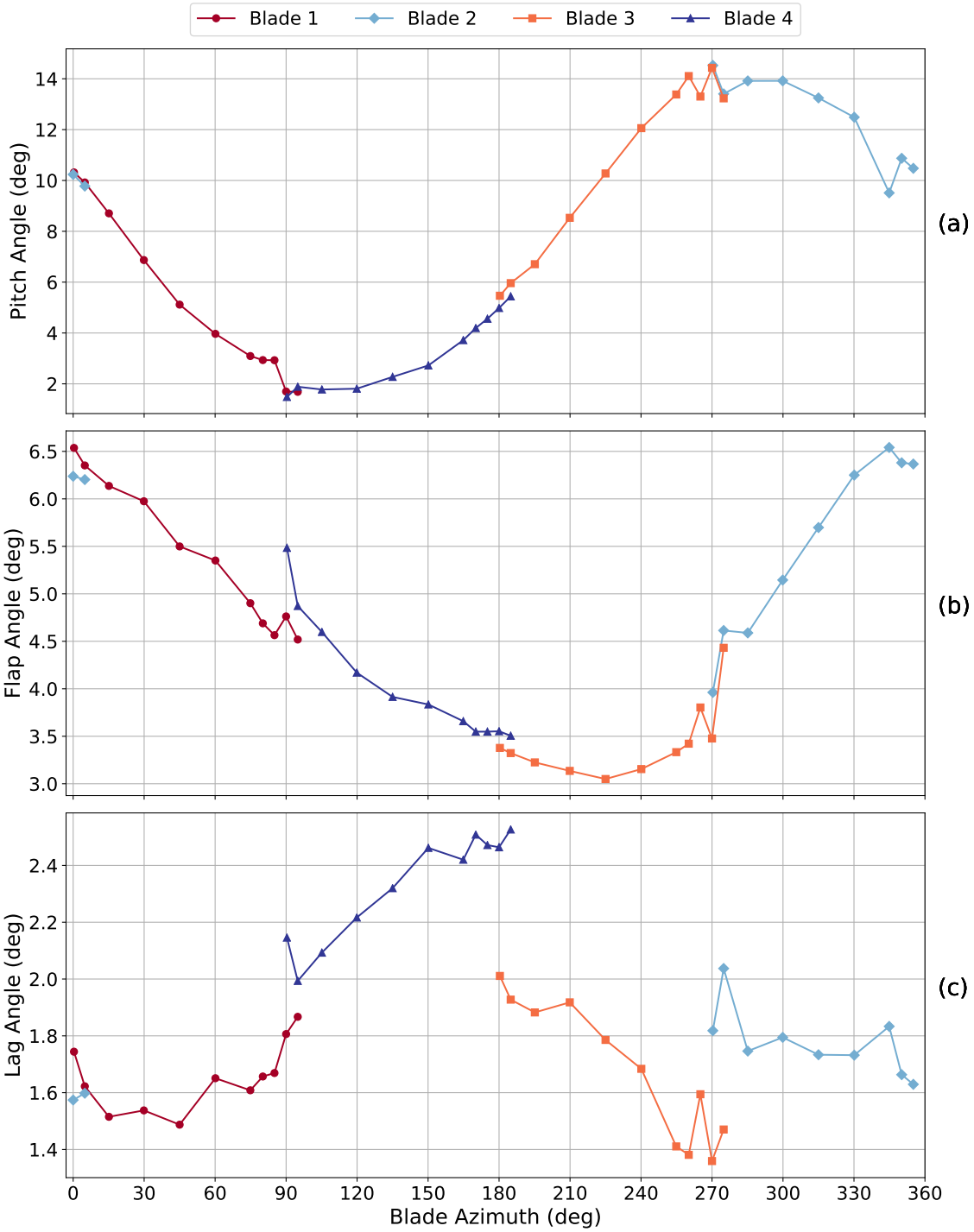


Figure 3.8-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	10.2367	6.2378	1.5740	0.0824	0.0434	0.0383
0.35	1	10.3177	6.5367	1.7442	0.1075	0.0409	0.0265
4.92	1	9.9222	6.3520	1.6224	0.0828	0.0537	0.0357
4.92	2	9.7785	6.2031	1.5980	0.1470	0.0810	0.0609
15.12	1	8.7064	6.1365	1.5150	0.0329	0.0401	0.0426
29.88	1	6.8694	5.9748	1.5375	0.0514	0.0459	0.0189
45	1	5.1162	5.4991	1.4873	0.0553	0.0575	0.0177
60.12	1	3.9665	5.3507	1.6508	0.0639	0.0391	0.0262
74.88	1	3.0937	4.9013	1.6083	0.0677	0.0739	0.0220
80.16	1	2.9348	4.6891	1.6569	0.0856	0.0454	0.0198
85.08	1	2.9291	4.5645	1.6691	0.0789	0.0376	0.0242
90	1	1.6976	4.7620	1.8063	0.1360	0.0541	0.0307
90.35	4	1.4827	5.4837	2.1458	0.0998	0.0606	0.0338
94.92	1	1.6856	4.5187	1.8670	0.0440	0.0364	0.0349
94.92	4	1.8849	4.8715	1.9934	0.0376	0.0530	0.0508
105.12	4	1.7774	4.5980	2.0929	0.0365	0.0381	0.0482
119.88	4	1.8091	4.1699	2.2166	0.0476	0.0560	0.0189
135	4	2.2732	3.9144	2.3199	0.0482	0.0518	0.0105
150.12	4	2.7232	3.8348	2.4617	0.0477	0.0290	0.0270
164.88	4	3.7185	3.6587	2.4201	0.0558	0.0403	0.0233
170.16	4	4.1937	3.5483	2.5084	0.0465	0.0469	0.0237
175.08	4	4.5600	3.5485	2.4716	0.0361	0.0570	0.0202
180	4	4.9832	3.5528	2.4639	0.0498	0.0548	0.0351
180.35	3	5.4654	3.3772	2.0109	0.0365	0.0534	0.0280
184.92	3	5.9609	3.3229	1.9275	0.0481	0.0361	0.0516
184.92	4	5.4401	3.5053	2.5265	0.0389	0.0467	0.0224
195.12	3	6.7062	3.2249	1.8825	0.0501	0.0744	0.0501
209.88	3	8.5301	3.1353	1.9179	0.0660	0.0375	0.0226
225	3	10.2757	3.0497	1.7856	0.0295	0.0536	0.0192
240.12	3	12.0579	3.1543	1.6839	0.0570	0.0428	0.0293
254.88	3	13.3823	3.3328	1.4107	0.0828	0.0480	0.0335
260.16	3	14.1069	3.4218	1.3811	0.2590	0.1367	0.0830
265.08	3	13.3013	3.8030	1.5944	0.2255	0.0753	0.0265
270	3	14.4296	3.4766	1.3592	0.3233	0.2748	0.1187
270.35	2	14.5251	3.9619	1.8182	1.4530	0.8169	0.3532
274.92	2	13.4051	4.6138	2.0372	0.0616	0.0693	0.0440
274.92	3	13.2296	4.4315	1.4703	0.2483	0.0814	0.0343
285.12	2	13.9164	4.5883	1.7463	0.0587	0.0480	0.0232
299.88	2	13.9188	5.1452	1.7946	0.0566	0.0271	0.0256
315	2	13.2465	5.6981	1.7335	0.0499	0.0251	0.0198
330.12	2	12.4875	6.2503	1.7320	0.0466	0.0404	0.0343
344.88	2	9.5106	6.5413	1.8333	0.0607	0.0313	0.0277
350.16	2	10.8723	6.3797	1.6633	0.0425	0.0289	0.0196
355.08	2	10.4778	6.3669	1.6293	0.0372	0.0491	0.0329

3.8.2 Spanwise Elastic Deformations

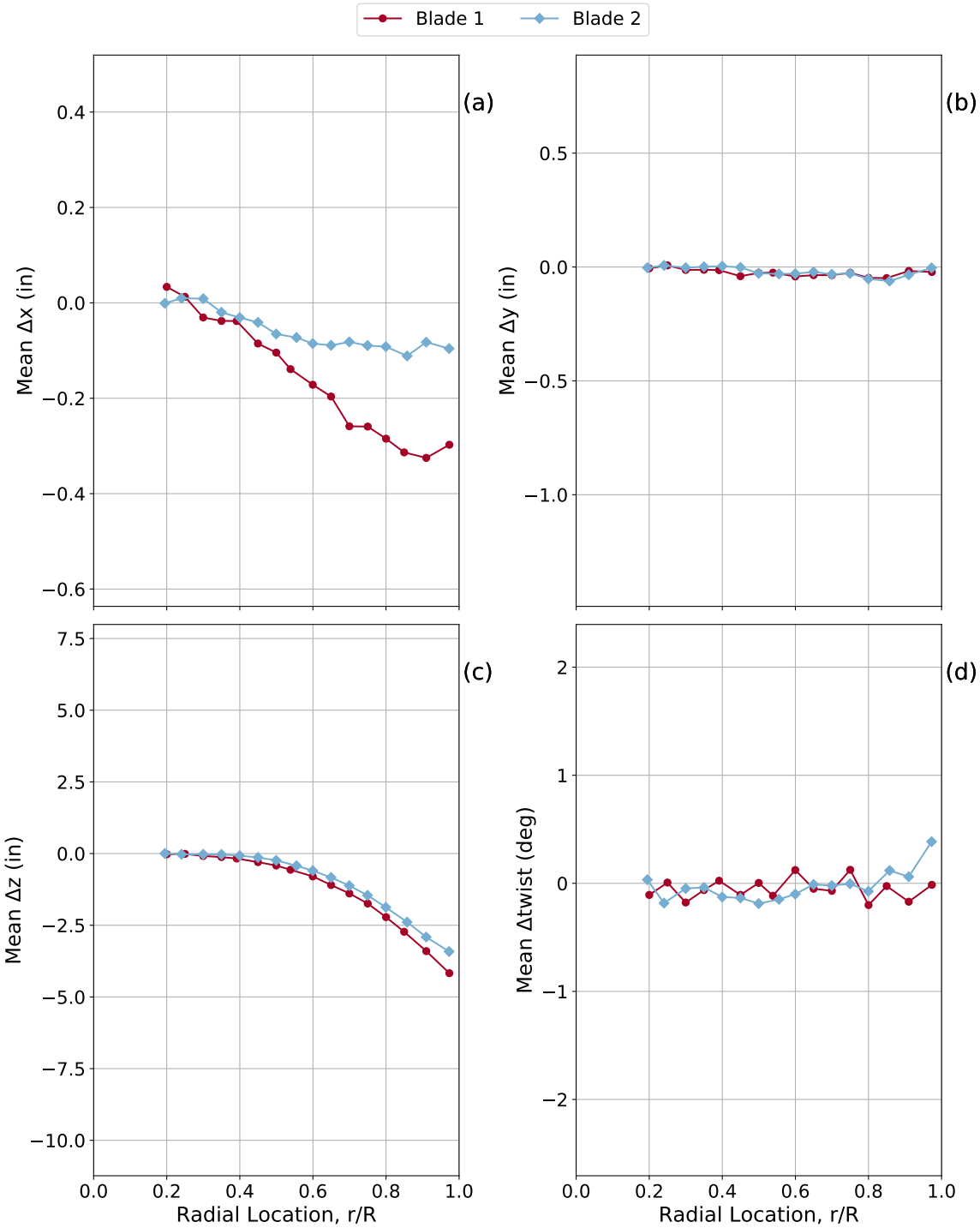


Figure 3.8-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0335	0.0031	-0.0059	0.0020	-0.0249	0.0066	-0.1075	0.0616
1	0.35	0.2499	0.0126	0.0022	0.0072	0.0041	-0.0116	0.0112	0.0070	0.0915
1	0.35	0.2998	-0.0307	0.0012	-0.0129	0.0076	-0.0849	0.0159	-0.1775	0.1317
1	0.35	0.3498	-0.0379	0.0019	-0.0122	0.0153	-0.1222	0.0329	-0.0624	0.1011
1	0.35	0.3913	-0.0381	0.0018	-0.0138	0.0204	-0.1727	0.0394	0.0240	0.1126
1	0.35	0.4496	-0.0853	0.0021	-0.0403	0.0263	-0.2983	0.0535	-0.1069	0.1065
1	0.35	0.4997	-0.1043	0.0014	-0.0258	0.0329	-0.4168	0.0651	0.0038	0.0946
1	0.35	0.5387	-0.1390	0.0021	-0.0247	0.0377	-0.5648	0.0747	-0.1153	0.1066
1	0.35	0.5996	-0.1717	0.0019	-0.0415	0.0463	-0.7961	0.0908	0.1229	0.0839
1	0.35	0.6498	-0.1964	0.0024	-0.0358	0.0509	-1.0966	0.0991	-0.0503	0.1024
1	0.35	0.6998	-0.2588	0.0022	-0.0358	0.0597	-1.3911	0.1077	-0.0694	0.1113
1	0.35	0.7500	-0.2594	0.0015	-0.0254	0.0665	-1.7424	0.1194	0.1248	0.1099
1	0.35	0.8001	-0.2848	0.0016	-0.0478	0.0730	-2.2174	0.1279	-0.2013	0.0967
1	0.35	0.8497	-0.3135	0.0024	-0.0486	0.0796	-2.7282	0.1366	-0.0252	0.1018
1	0.35	0.9102	-0.3250	0.0040	-0.0175	0.0876	-3.4028	0.1434	-0.1702	0.1393
1	0.35	0.9734	-0.2975	0.0078	-0.0219	0.0981	-4.1715	0.1531	-0.0139	0.0997
2	0	0.1949	-0.0010	0.0062	-0.0031	0.0020	0.0030	0.0057	0.0332	0.0416
2	0	0.2405	0.0097	0.0026	0.0070	0.0050	-0.0266	0.0117	-0.1825	0.0434
2	0	0.2999	0.0087	0.0018	-0.0030	0.0102	-0.0258	0.0180	-0.0479	0.0851
2	0	0.3498	-0.0199	0.0033	0.0013	0.0185	-0.0309	0.0303	-0.0386	0.0642
2	0	0.3998	-0.0309	0.0047	0.0037	0.0290	-0.0735	0.0441	-0.1263	0.0660
2	0	0.4496	-0.0409	0.0063	-0.0015	0.0359	-0.1355	0.0507	-0.1351	0.0673
2	0	0.4995	-0.0653	0.0092	-0.0277	0.0485	-0.2363	0.0657	-0.1875	0.0744
2	0	0.5551	-0.0727	0.0108	-0.0304	0.0604	-0.4256	0.0788	-0.1484	0.0780
2	0	0.5996	-0.0853	0.0129	-0.0294	0.0713	-0.5958	0.0915	-0.0999	0.0926
2	0	0.6497	-0.0891	0.0154	-0.0216	0.0831	-0.8338	0.1077	-0.0105	0.0539
2	0	0.6996	-0.0819	0.0172	-0.0322	0.0944	-1.1184	0.1228	-0.0213	0.0693
2	0	0.7495	-0.0895	0.0200	-0.0280	0.1029	-1.4576	0.1371	-0.0038	0.0643
2	0	0.7996	-0.0918	0.0222	-0.0522	0.1108	-1.8749	0.1537	-0.0737	0.0770
2	0	0.8578	-0.1113	0.0259	-0.0617	0.1199	-2.3911	0.1747	0.1186	0.0645
2	0	0.9100	-0.0824	0.0278	-0.0344	0.1269	-2.9104	0.1881	0.0608	0.0704
2	0	0.9727	-0.0959	0.0308	-0.0038	0.1352	-3.4163	0.2055	0.3857	0.0748

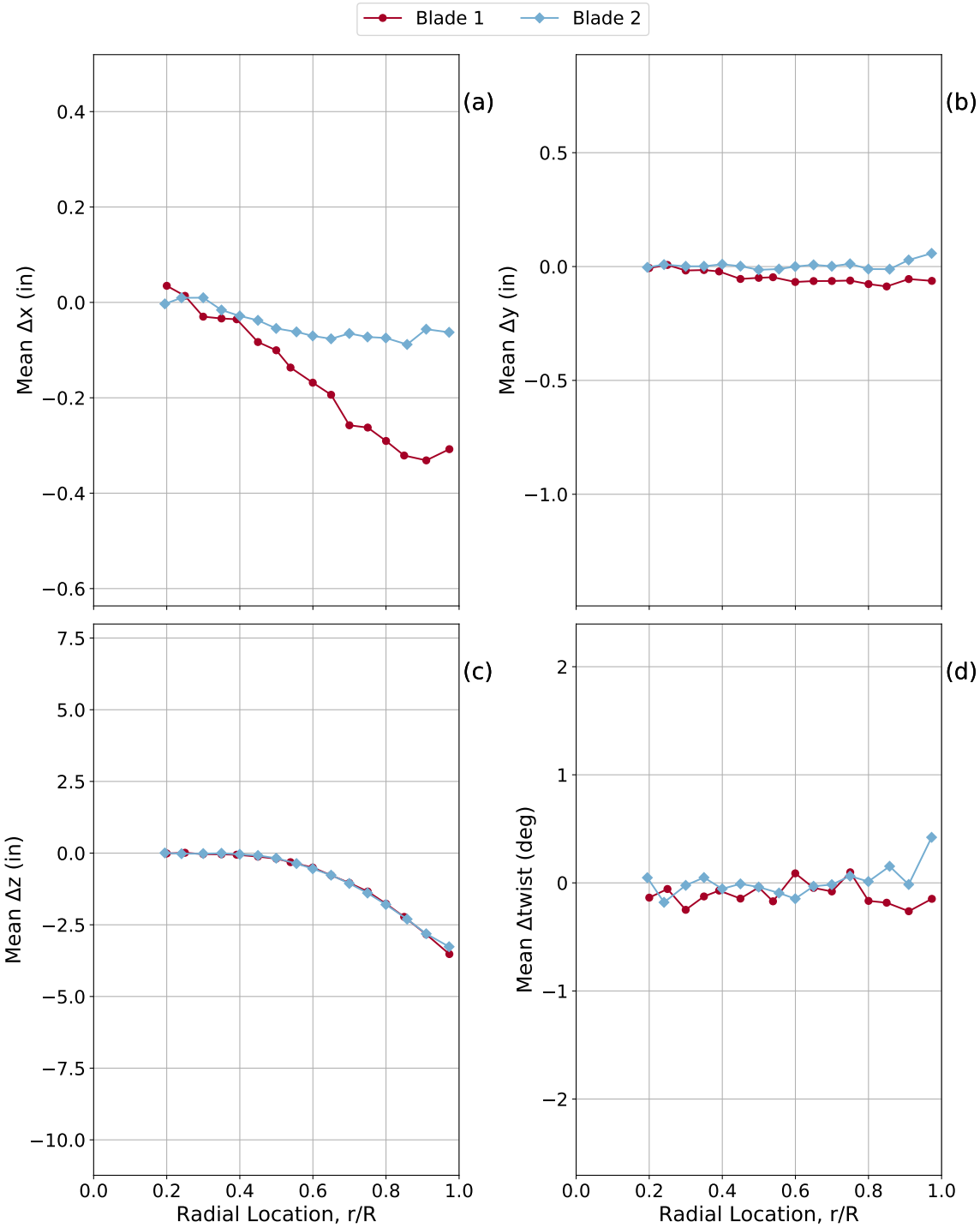


Figure 3.8-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0348	0.0028	-0.0064	0.0014	-0.0125	0.0047	-0.1367	0.0403
1	4.92	0.2499	0.0137	0.0011	0.0071	0.0025	0.0122	0.0071	-0.0568	0.0802
1	4.92	0.2998	-0.0299	0.0014	-0.0173	0.0050	-0.0358	0.0177	-0.2493	0.0910
1	4.92	0.3498	-0.0337	0.0027	-0.0153	0.0083	-0.0425	0.0282	-0.1256	0.0808
1	4.92	0.3913	-0.0354	0.0024	-0.0215	0.0116	-0.0561	0.0400	-0.0713	0.0798
1	4.92	0.4496	-0.0831	0.0020	-0.0545	0.0155	-0.1222	0.0575	-0.1454	0.0728
1	4.92	0.4997	-0.1004	0.0028	-0.0495	0.0180	-0.1939	0.0693	-0.0416	0.0699
1	4.92	0.5387	-0.1366	0.0026	-0.0469	0.0185	-0.3161	0.0771	-0.1708	0.0640
1	4.92	0.5996	-0.1683	0.0028	-0.0678	0.0231	-0.5035	0.0946	0.0881	0.0751
1	4.92	0.6498	-0.1937	0.0026	-0.0637	0.0256	-0.7739	0.1056	-0.0467	0.0773
1	4.92	0.6998	-0.2576	0.0032	-0.0634	0.0279	-1.0403	0.1174	-0.0794	0.0801
1	4.92	0.7500	-0.2624	0.0031	-0.0614	0.0319	-1.3400	0.1308	0.0979	0.0800
1	4.92	0.8001	-0.2905	0.0035	-0.0770	0.0336	-1.7651	0.1421	-0.1668	0.0817
1	4.92	0.8497	-0.3210	0.0041	-0.0874	0.0376	-2.2243	0.1502	-0.1836	0.0845
1	4.92	0.9102	-0.3312	0.0047	-0.0549	0.0405	-2.8333	0.1618	-0.2626	0.0684
1	4.92	0.9734	-0.3077	0.0044	-0.0629	0.0452	-3.5215	0.1754	-0.1478	0.1079
2	4.92	0.1949	-0.0031	0.0085	-0.0035	0.0021	0.0058	0.0094	0.0480	0.0721
2	4.92	0.2405	0.0096	0.0044	0.0086	0.0050	-0.0213	0.0169	-0.1802	0.1216
2	4.92	0.2999	0.0098	0.0036	0.0010	0.0094	-0.0173	0.0298	-0.0230	0.1729
2	4.92	0.3498	-0.0160	0.0041	0.0013	0.0196	-0.0062	0.0546	0.0494	0.1289
2	4.92	0.3998	-0.0284	0.0074	0.0100	0.0287	-0.0426	0.0773	-0.0553	0.1300
2	4.92	0.4496	-0.0376	0.0094	0.0016	0.0373	-0.0828	0.0973	-0.0092	0.1535
2	4.92	0.4995	-0.0546	0.0117	-0.0143	0.0486	-0.1775	0.1219	-0.0388	0.1239
2	4.92	0.5551	-0.0618	0.0145	-0.0110	0.0569	-0.3639	0.1358	-0.0939	0.1611
2	4.92	0.5996	-0.0703	0.0156	0.0001	0.0660	-0.5456	0.1535	-0.1468	0.1583
2	4.92	0.6497	-0.0763	0.0186	0.0075	0.0751	-0.7693	0.1752	-0.0314	0.1410
2	4.92	0.6996	-0.0652	0.0212	0.0014	0.0835	-1.0593	0.1904	-0.0161	0.1511
2	4.92	0.7495	-0.0725	0.0253	0.0120	0.0950	-1.3928	0.2113	0.0631	0.1315
2	4.92	0.7996	-0.0746	0.0277	-0.0111	0.1060	-1.7942	0.2275	0.0122	0.1414
2	4.92	0.8578	-0.0882	0.0314	-0.0115	0.1195	-2.3032	0.2499	0.1533	0.1543
2	4.92	0.9100	-0.0562	0.0345	0.0289	0.1326	-2.8137	0.2704	-0.0151	0.1430
2	4.92	0.9727	-0.0627	0.0368	0.0579	0.1492	-3.2647	0.2947	0.4213	0.1547

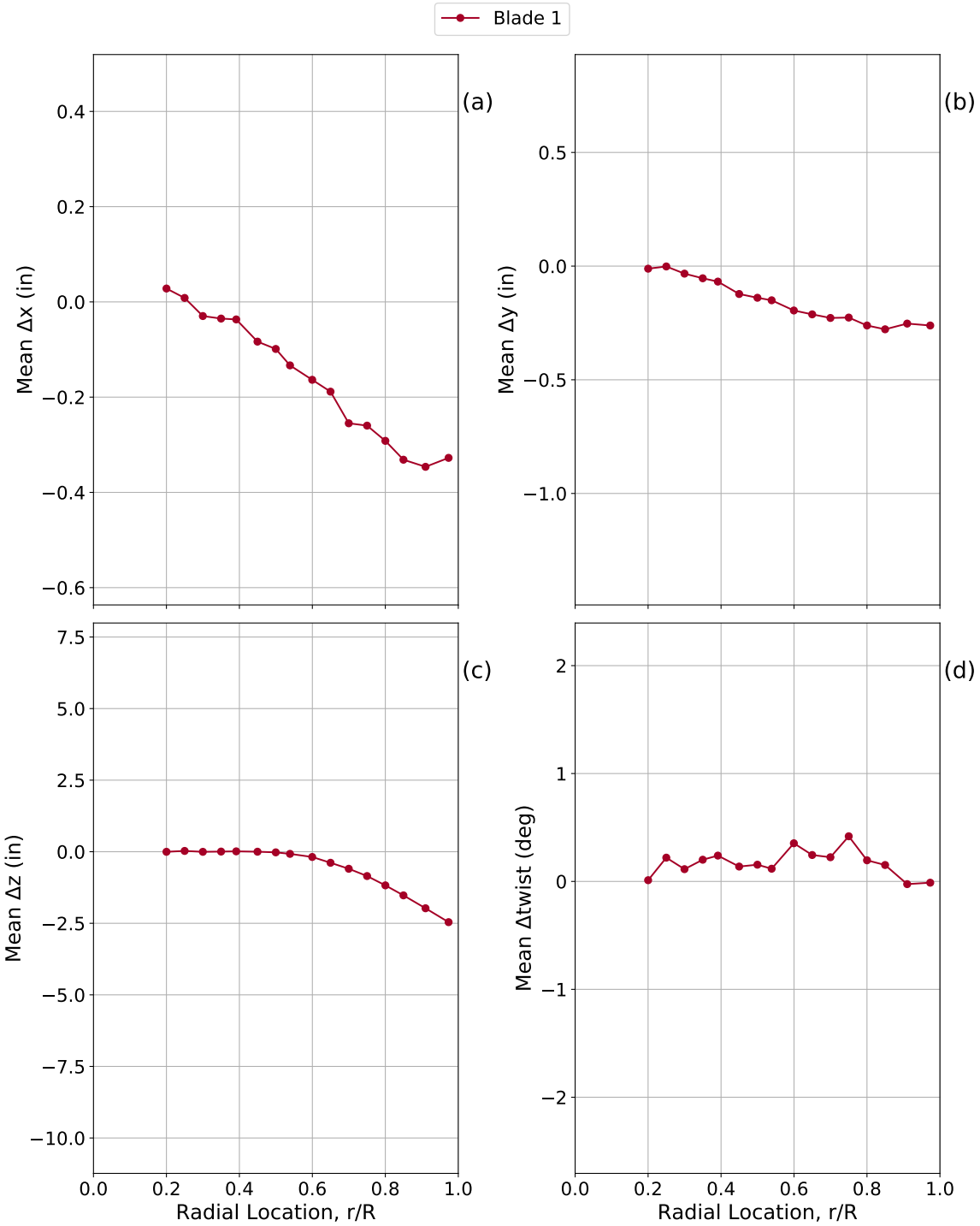


Figure 3.8-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0281	0.0021	-0.0113	0.0012	-0.0027	0.0046	0.0114	0.0270
1	15.12	0.2499	0.0083	0.0015	-0.0015	0.0020	0.0277	0.0081	0.2203	0.0630
1	15.12	0.2998	-0.0297	0.0010	-0.0331	0.0042	-0.0035	0.0156	0.1137	0.0641
1	15.12	0.3498	-0.0350	0.0015	-0.0535	0.0078	0.0050	0.0254	0.2012	0.0660
1	15.12	0.3913	-0.0368	0.0015	-0.0681	0.0106	0.0128	0.0358	0.2394	0.0578
1	15.12	0.4496	-0.0834	0.0009	-0.1226	0.0142	0.0001	0.0480	0.1378	0.0557
1	15.12	0.4997	-0.0988	0.0016	-0.1392	0.0178	-0.0223	0.0590	0.1551	0.0643
1	15.12	0.5387	-0.1333	0.0019	-0.1503	0.0205	-0.0749	0.0683	0.1177	0.0538
1	15.12	0.5996	-0.1636	0.0027	-0.1952	0.0241	-0.1835	0.0793	0.3536	0.0691
1	15.12	0.6498	-0.1885	0.0024	-0.2122	0.0278	-0.3864	0.0878	0.2448	0.0637
1	15.12	0.6998	-0.2549	0.0027	-0.2280	0.0304	-0.5957	0.0957	0.2242	0.0678
1	15.12	0.7500	-0.2598	0.0023	-0.2263	0.0345	-0.8497	0.1085	0.4185	0.0664
1	15.12	0.8001	-0.2918	0.0027	-0.2612	0.0376	-1.1754	0.1205	0.1958	0.0657
1	15.12	0.8497	-0.3314	0.0025	-0.2779	0.0418	-1.5247	0.1352	0.1522	0.0597
1	15.12	0.9102	-0.3463	0.0032	-0.2528	0.0452	-1.9755	0.1550	-0.0250	0.0612
1	15.12	0.9734	-0.3275	0.0045	-0.2612	0.0500	-2.4603	0.1806	-0.0117	0.0991

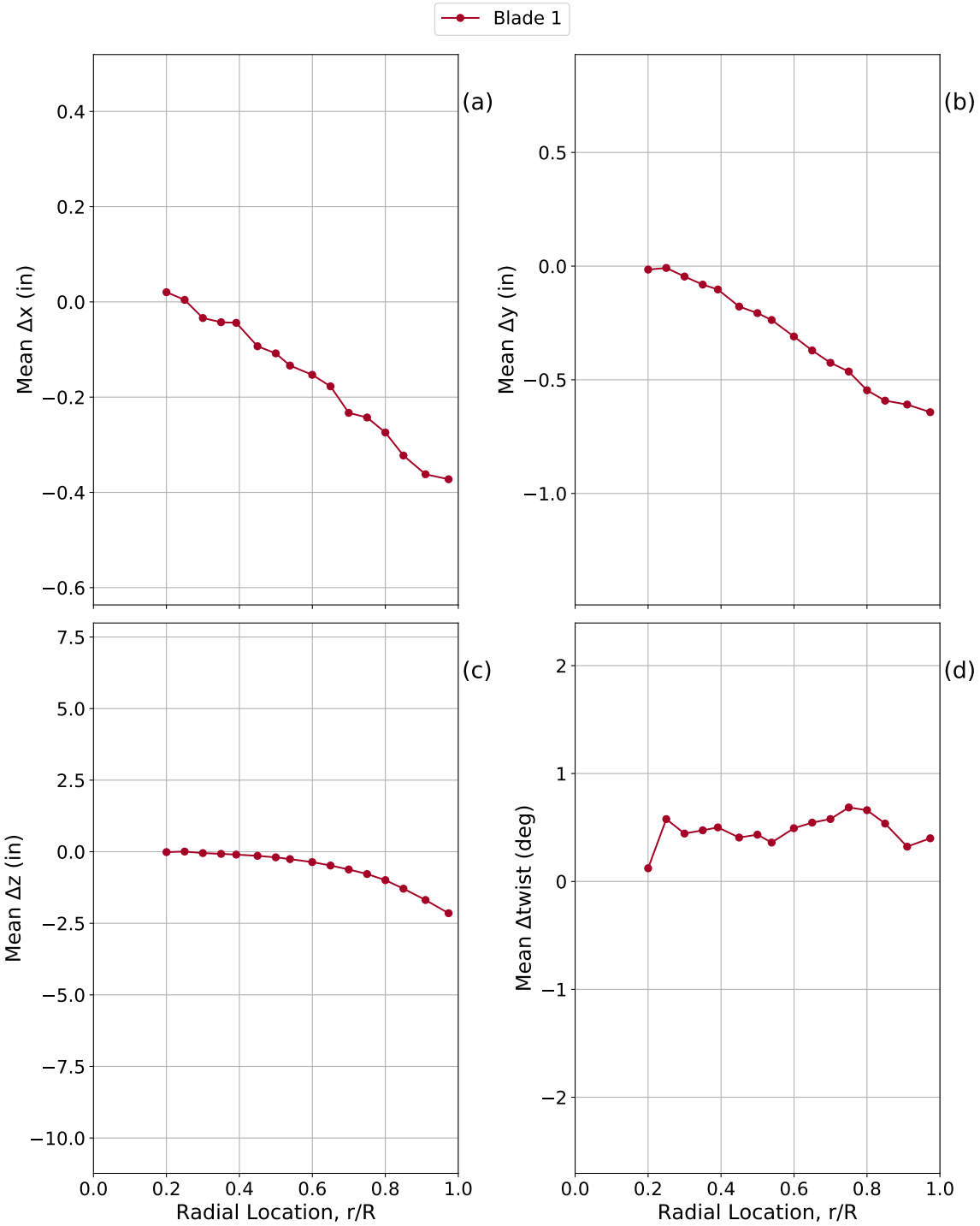


Figure 3.8-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0204	0.0022	-0.0153	0.0009	-0.0130	0.0038	0.1221	0.0333
1	29.88	0.2499	0.0043	0.0018	-0.0080	0.0022	0.0052	0.0073	0.5776	0.0583
1	29.88	0.2998	-0.0338	0.0010	-0.0458	0.0041	-0.0473	0.0136	0.4438	0.0737
1	29.88	0.3498	-0.0427	0.0014	-0.0812	0.0063	-0.0749	0.0223	0.4737	0.0692
1	29.88	0.3913	-0.0439	0.0011	-0.1028	0.0099	-0.1006	0.0317	0.5008	0.0599
1	29.88	0.4496	-0.0931	0.0017	-0.1779	0.0137	-0.1439	0.0418	0.4068	0.0510
1	29.88	0.4997	-0.1081	0.0012	-0.2067	0.0165	-0.1968	0.0528	0.4334	0.0589
1	29.88	0.5387	-0.1337	0.0017	-0.2370	0.0193	-0.2580	0.0606	0.3602	0.0484
1	29.88	0.5996	-0.1531	0.0021	-0.3095	0.0231	-0.3624	0.0735	0.4931	0.0465
1	29.88	0.6498	-0.1773	0.0028	-0.3710	0.0269	-0.4816	0.0828	0.5449	0.0489
1	29.88	0.6998	-0.2330	0.0029	-0.4252	0.0305	-0.6200	0.0914	0.5783	0.0385
1	29.88	0.7500	-0.2427	0.0030	-0.4637	0.0337	-0.7791	0.0993	0.6855	0.0433
1	29.88	0.8001	-0.2743	0.0028	-0.5461	0.0376	-0.9928	0.1082	0.6603	0.0449
1	29.88	0.8497	-0.3226	0.0026	-0.5918	0.0412	-1.2903	0.1196	0.5363	0.0385
1	29.88	0.9102	-0.3620	0.0036	-0.6089	0.0463	-1.6870	0.1314	0.3224	0.0348
1	29.88	0.9734	-0.3724	0.0051	-0.6424	0.0520	-2.1487	0.1446	0.3998	0.0626

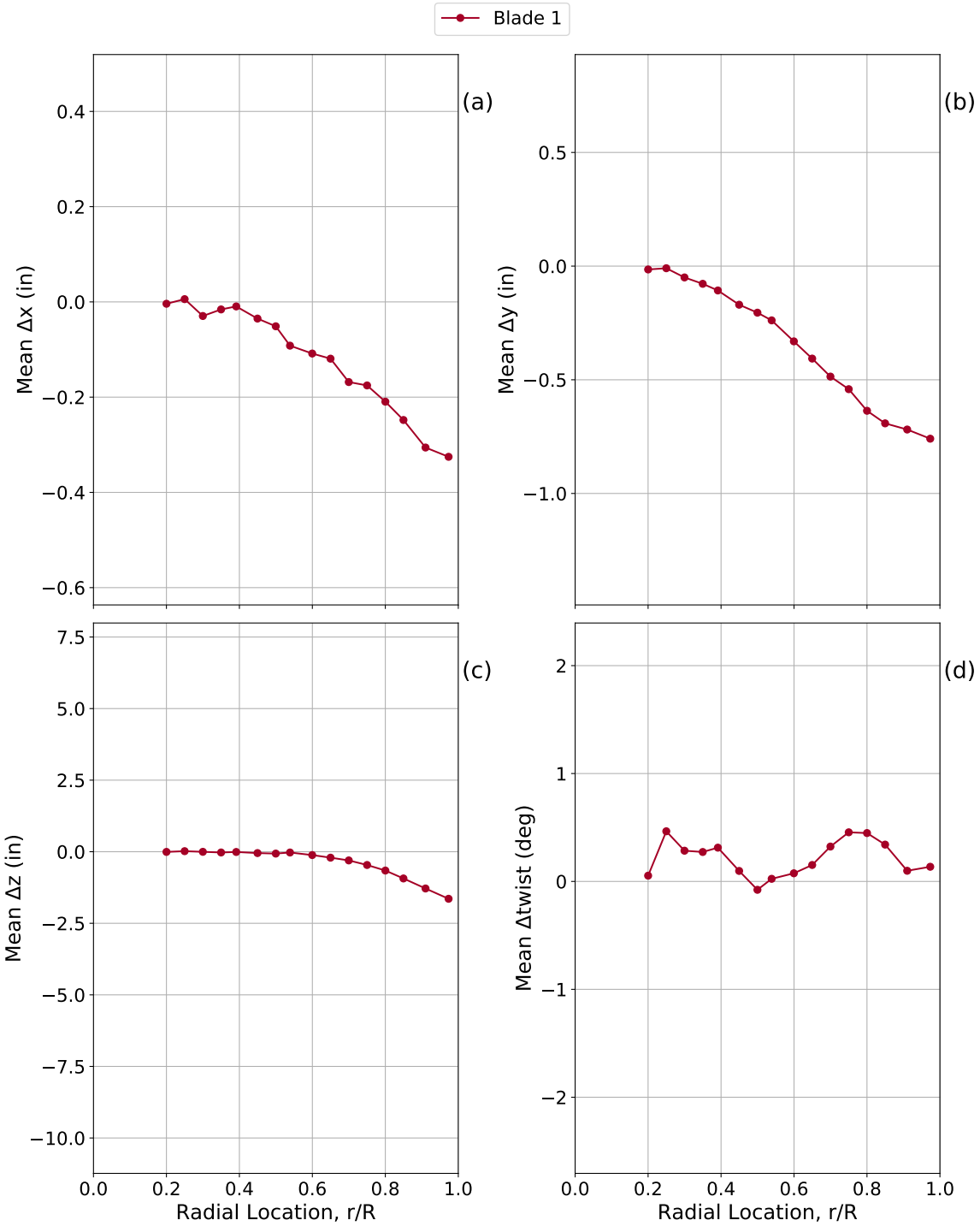


Figure 3.8-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0039	0.0019	-0.0147	0.0012	-0.0065	0.0033	0.0535	0.0173
1	45	0.2499	0.0058	0.0013	-0.0093	0.0029	0.0193	0.0074	0.4648	0.0379
1	45	0.2998	-0.0296	0.0011	-0.0498	0.0052	-0.0036	0.0126	0.2848	0.0397
1	45	0.3498	-0.0158	0.0024	-0.0778	0.0087	-0.0265	0.0213	0.2728	0.0306
1	45	0.3913	-0.0095	0.0042	-0.1071	0.0132	-0.0089	0.0308	0.3130	0.0274
1	45	0.4496	-0.0350	0.0060	-0.1698	0.0165	-0.0474	0.0436	0.0973	0.0343
1	45	0.4997	-0.0512	0.0080	-0.2048	0.0217	-0.0651	0.0573	-0.0776	0.0480
1	45	0.5387	-0.0919	0.0093	-0.2386	0.0261	-0.0276	0.0733	0.0242	0.0292
1	45	0.5996	-0.1084	0.0056	-0.3310	0.0411	-0.1168	0.0897	0.0754	0.0320
1	45	0.6498	-0.1192	0.0047	-0.4067	0.0450	-0.2076	0.1019	0.1525	0.0401
1	45	0.6998	-0.1683	0.0044	-0.4859	0.0510	-0.3038	0.1181	0.3232	0.0318
1	45	0.7500	-0.1754	0.0044	-0.5413	0.0562	-0.4637	0.1322	0.4552	0.0341
1	45	0.8001	-0.2095	0.0042	-0.6363	0.0616	-0.6575	0.1476	0.4483	0.0342
1	45	0.8497	-0.2480	0.0042	-0.6916	0.0667	-0.9342	0.1631	0.3414	0.0300
1	45	0.9102	-0.3058	0.0048	-0.7188	0.0731	-1.2843	0.1845	0.0988	0.0322
1	45	0.9734	-0.3253	0.0054	-0.7591	0.0801	-1.6440	0.2083	0.1359	0.0447

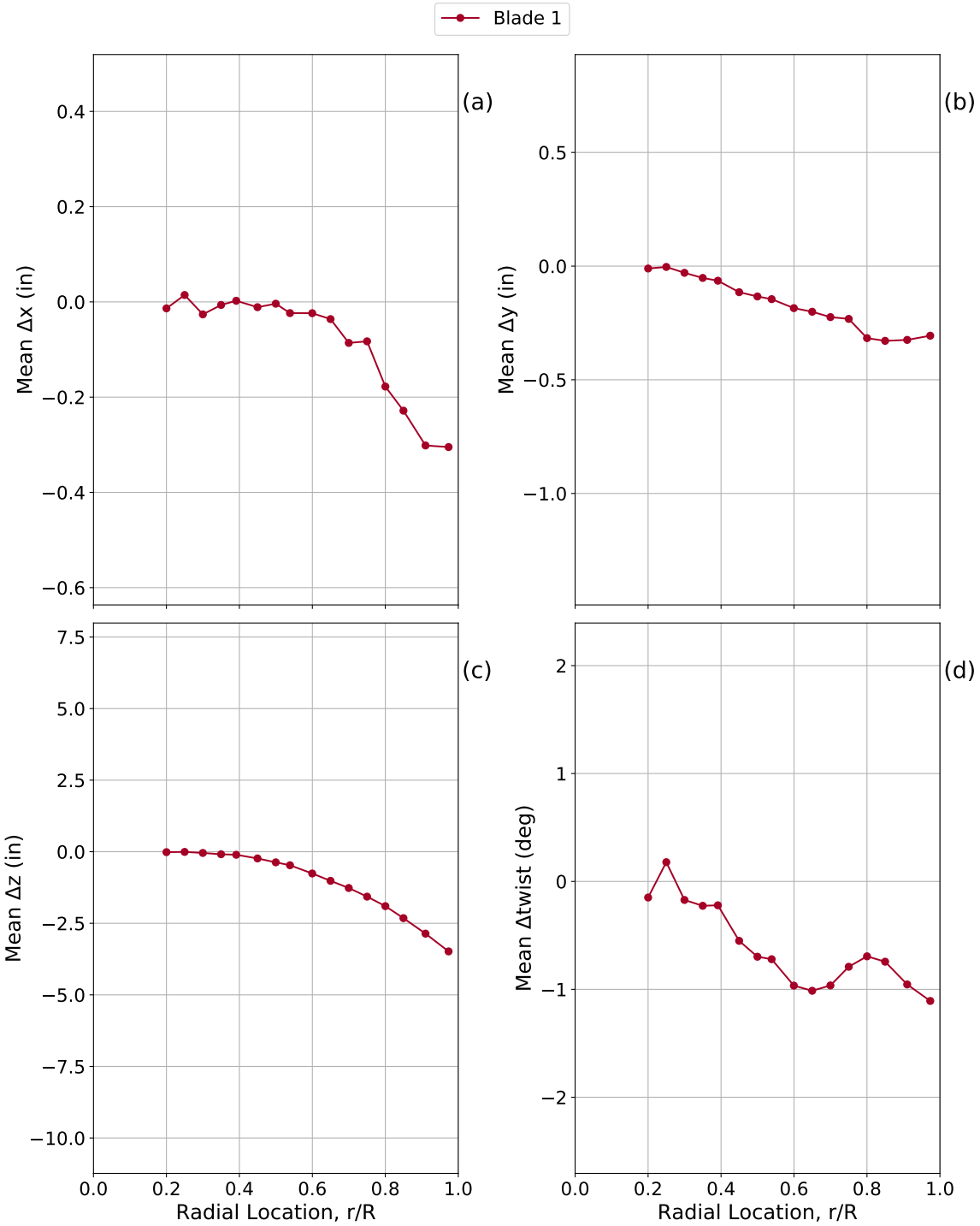


Figure 3.8-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0136	0.0018	-0.0105	0.0008	-0.0151	0.0032	-0.1491	0.0174
1	60.12	0.2499	0.0145	0.0014	-0.0036	0.0019	-0.0068	0.0062	0.1785	0.0347
1	60.12	0.2998	-0.0262	0.0010	-0.0295	0.0035	-0.0432	0.0119	-0.1718	0.0401
1	60.12	0.3498	-0.0064	0.0015	-0.0520	0.0061	-0.0887	0.0198	-0.2259	0.0430
1	60.12	0.3913	0.0024	0.0030	-0.0642	0.0088	-0.1059	0.0285	-0.2212	0.0582
1	60.12	0.4496	-0.0111	0.0040	-0.1147	0.0122	-0.2345	0.0407	-0.5506	0.0473
1	60.12	0.4997	-0.0038	0.0059	-0.1335	0.0155	-0.3711	0.0519	-0.6977	0.0398
1	60.12	0.5387	-0.0235	0.0082	-0.1453	0.0181	-0.4725	0.0614	-0.7208	0.0429
1	60.12	0.5996	-0.0237	0.0118	-0.1848	0.0210	-0.7601	0.0725	-0.9655	0.0551
1	60.12	0.6498	-0.0361	0.0153	-0.2007	0.0240	-1.0168	0.0862	-1.0134	0.0531
1	60.12	0.6998	-0.0861	0.0192	-0.2243	0.0263	-1.2671	0.0951	-0.9638	0.0468
1	60.12	0.7500	-0.0828	0.0236	-0.2321	0.0286	-1.5688	0.1021	-0.7909	0.0555
1	60.12	0.8001	-0.1778	0.0061	-0.3167	0.0691	-1.9011	0.1235	-0.6940	0.0467
1	60.12	0.8497	-0.2284	0.0059	-0.3287	0.0741	-2.3205	0.1305	-0.7439	0.0369
1	60.12	0.9102	-0.3015	0.0065	-0.3246	0.0801	-2.8614	0.1404	-0.9546	0.0485
1	60.12	0.9734	-0.3048	0.0079	-0.3061	0.0869	-3.4822	0.1472	-1.1078	0.0527

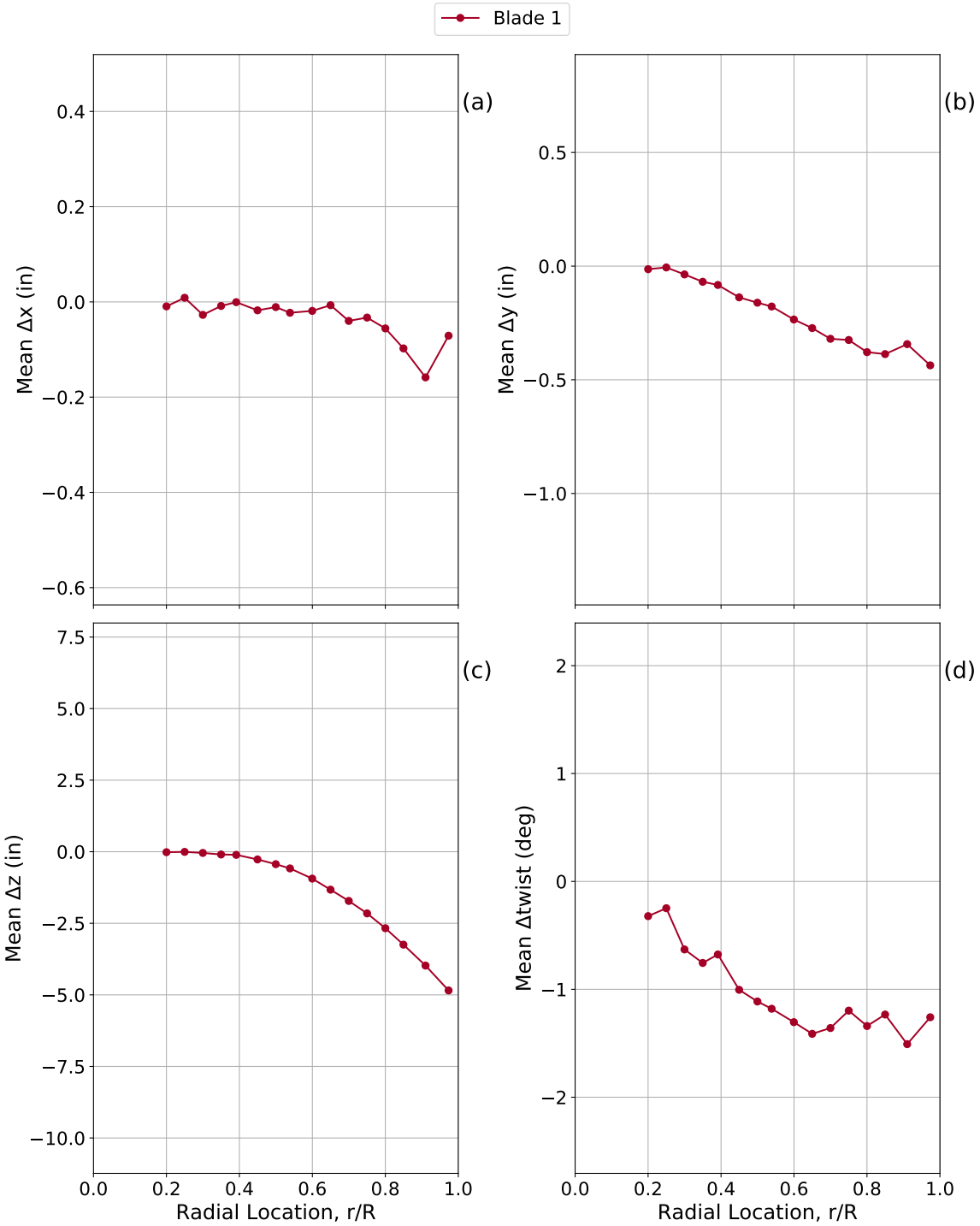


Figure 3.8-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0094	0.0042	-0.0134	0.0009	-0.0165	0.0037	-0.3217	0.0297
1	74.88	0.2499	0.0087	0.0015	-0.0058	0.0017	-0.0057	0.0065	-0.2483	0.0698
1	74.88	0.2998	-0.0272	0.0015	-0.0365	0.0036	-0.0426	0.0129	-0.6303	0.0748
1	74.88	0.3498	-0.0085	0.0035	-0.0689	0.0064	-0.0967	0.0221	-0.7554	0.0674
1	74.88	0.3913	-0.0005	0.0051	-0.0829	0.0088	-0.1086	0.0309	-0.6769	0.0553
1	74.88	0.4496	-0.0177	0.0064	-0.1374	0.0114	-0.2697	0.0404	-1.0043	0.0651
1	74.88	0.4997	-0.0109	0.0077	-0.1609	0.0137	-0.4345	0.0498	-1.1126	0.0690
1	74.88	0.5387	-0.0228	0.0074	-0.1776	0.0163	-0.5832	0.0591	-1.1799	0.0589
1	74.88	0.5996	-0.0189	0.0059	-0.2348	0.0201	-0.9392	0.0733	-1.3042	0.0491
1	74.88	0.6498	-0.0069	0.0057	-0.2726	0.0230	-1.3258	0.0811	-1.4124	0.0791
1	74.88	0.6998	-0.0399	0.0063	-0.3197	0.0260	-1.7188	0.0952	-1.3587	0.0689
1	74.88	0.7500	-0.0329	0.0088	-0.3250	0.0286	-2.1544	0.1063	-1.1975	0.0843
1	74.88	0.8001	-0.0557	0.0132	-0.3784	0.0332	-2.6722	0.1268	-1.3400	0.0698
1	74.88	0.8497	-0.0976	0.0186	-0.3870	0.0370	-3.2464	0.1394	-1.2334	0.0745
1	74.88	0.9102	-0.1585	0.0272	-0.3432	0.0429	-3.9777	0.1583	-1.5080	0.0810
1	74.88	0.9734	-0.0710	0.0380	-0.4365	0.0499	-4.8461	0.1819	-1.2588	0.0614

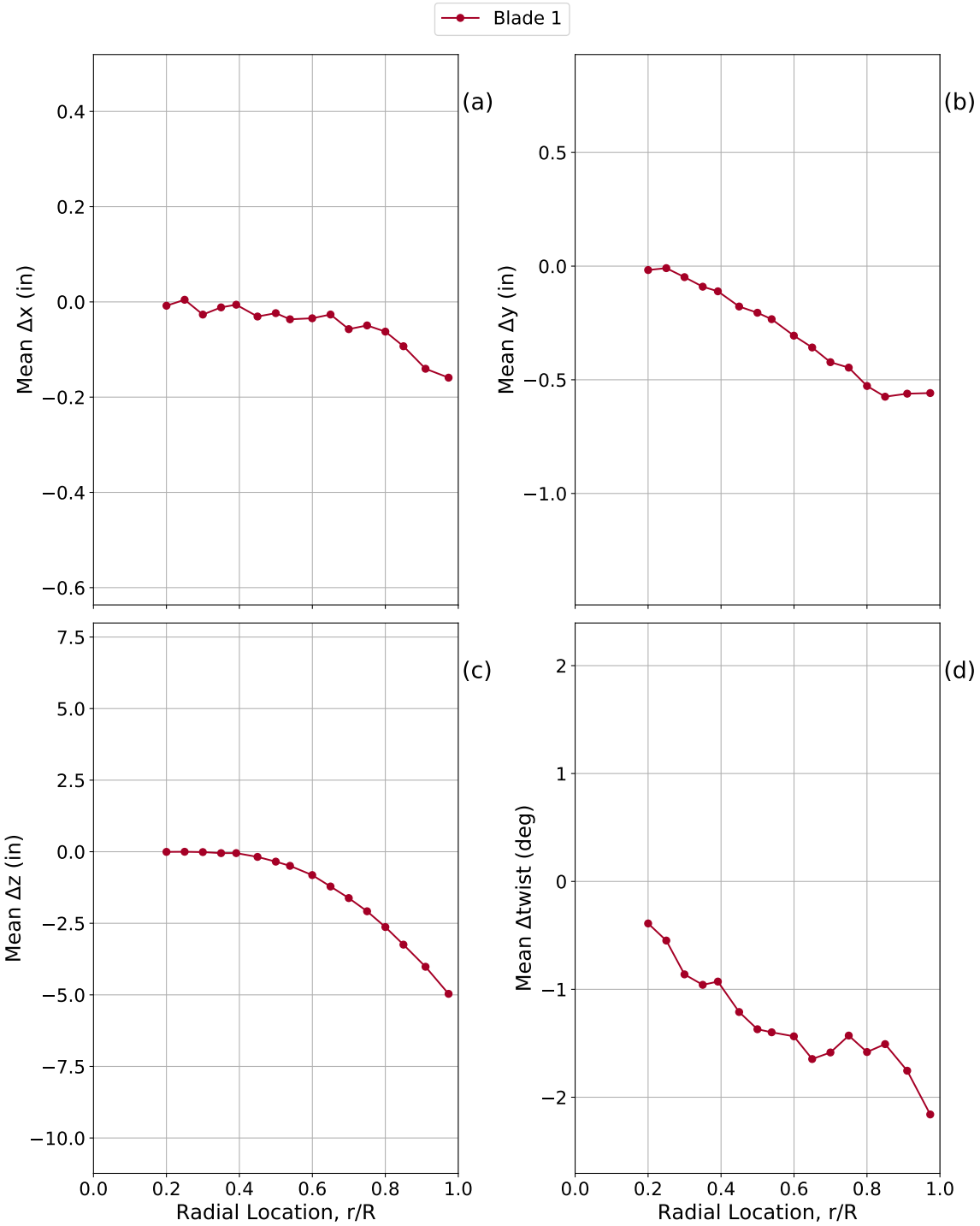


Figure 3.8-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0080	0.0031	-0.0172	0.0011	-0.0056	0.0038	-0.3895	0.0336
1	80.16	0.2499	0.0045	0.0008	-0.0089	0.0017	-0.0017	0.0058	-0.5480	0.0698
1	80.16	0.2998	-0.0266	0.0011	-0.0485	0.0039	-0.0128	0.0124	-0.8615	0.0802
1	80.16	0.3498	-0.0115	0.0016	-0.0905	0.0072	-0.0491	0.0214	-0.9583	0.0695
1	80.16	0.3913	-0.0059	0.0020	-0.1108	0.0096	-0.0486	0.0290	-0.9280	0.0707
1	80.16	0.4496	-0.0307	0.0028	-0.1777	0.0136	-0.1808	0.0385	-1.2102	0.0696
1	80.16	0.4997	-0.0236	0.0021	-0.2051	0.0164	-0.3462	0.0466	-1.3698	0.0828
1	80.16	0.5387	-0.0365	0.0024	-0.2334	0.0198	-0.4938	0.0563	-1.3982	0.0737
1	80.16	0.5996	-0.0344	0.0025	-0.3059	0.0249	-0.8163	0.0700	-1.4356	0.0611
1	80.16	0.6498	-0.0265	0.0025	-0.3579	0.0296	-1.2146	0.0815	-1.6460	0.0645
1	80.16	0.6998	-0.0572	0.0034	-0.4226	0.0344	-1.6197	0.0929	-1.5850	0.0595
1	80.16	0.7500	-0.0494	0.0043	-0.4465	0.0393	-2.0802	0.1056	-1.4286	0.0607
1	80.16	0.8001	-0.0624	0.0056	-0.5273	0.0445	-2.6308	0.1170	-1.5810	0.0644
1	80.16	0.8497	-0.0931	0.0077	-0.5744	0.0498	-3.2460	0.1308	-1.5078	0.0588
1	80.16	0.9102	-0.1404	0.0091	-0.5611	0.0562	-4.0187	0.1487	-1.7543	0.0629
1	80.16	0.9734	-0.1591	0.0119	-0.5584	0.0616	-4.9643	0.1707	-2.1596	0.0703

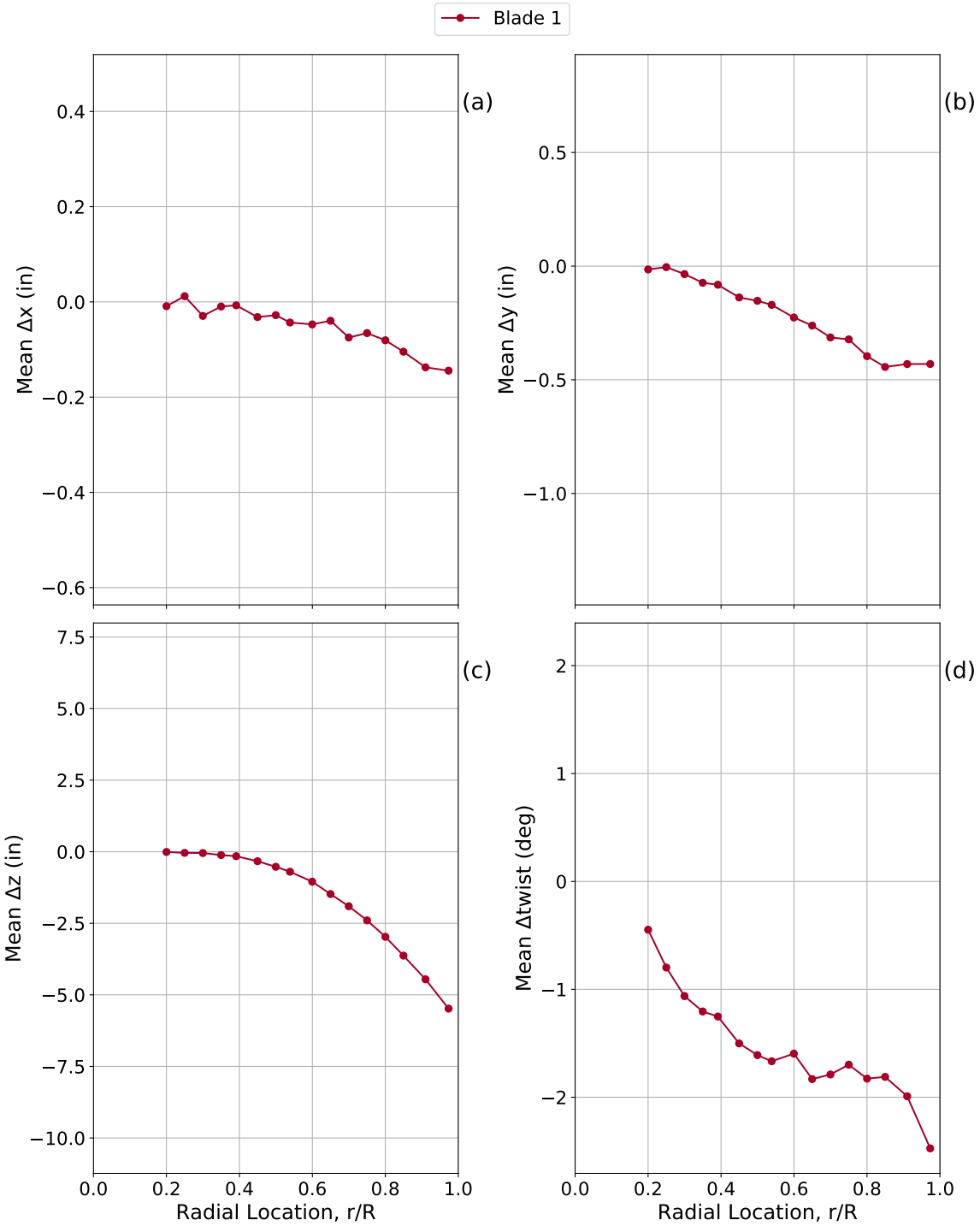


Figure 3.8-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0090	0.0035	-0.0146	0.0011	-0.0086	0.0050	-0.4477	0.0238
1	85.08	0.2499	0.0120	0.0017	-0.0045	0.0009	-0.0405	0.0051	-0.7978	0.0868
1	85.08	0.2998	-0.0294	0.0008	-0.0351	0.0032	-0.0466	0.0159	-1.0626	0.0687
1	85.08	0.3498	-0.0097	0.0030	-0.0732	0.0054	-0.1161	0.0239	-1.2052	0.0704
1	85.08	0.3913	-0.0072	0.0042	-0.0819	0.0069	-0.1570	0.0331	-1.2518	0.0824
1	85.08	0.4496	-0.0319	0.0052	-0.1378	0.0089	-0.3315	0.0451	-1.5011	0.0766
1	85.08	0.4997	-0.0278	0.0065	-0.1526	0.0112	-0.5262	0.0558	-1.6097	0.0801
1	85.08	0.5387	-0.0433	0.0064	-0.1704	0.0134	-0.6998	0.0640	-1.6663	0.0713
1	85.08	0.5996	-0.0472	0.0072	-0.2259	0.0167	-1.0463	0.0784	-1.5960	0.0771
1	85.08	0.6498	-0.0396	0.0062	-0.2616	0.0199	-1.4792	0.0888	-1.8317	0.0786
1	85.08	0.6998	-0.0748	0.0059	-0.3137	0.0232	-1.9056	0.1006	-1.7891	0.0870
1	85.08	0.7500	-0.0655	0.0063	-0.3222	0.0265	-2.3978	0.1124	-1.6984	0.0802
1	85.08	0.8001	-0.0806	0.0089	-0.3962	0.0301	-2.9724	0.1257	-1.8275	0.0841
1	85.08	0.8497	-0.1046	0.0130	-0.4436	0.0332	-3.6303	0.1409	-1.8111	0.0877
1	85.08	0.9102	-0.1374	0.0197	-0.4308	0.0378	-4.4570	0.1600	-1.9910	0.0860
1	85.08	0.9734	-0.1444	0.0286	-0.4305	0.0441	-5.4812	0.1797	-2.4738	0.0965

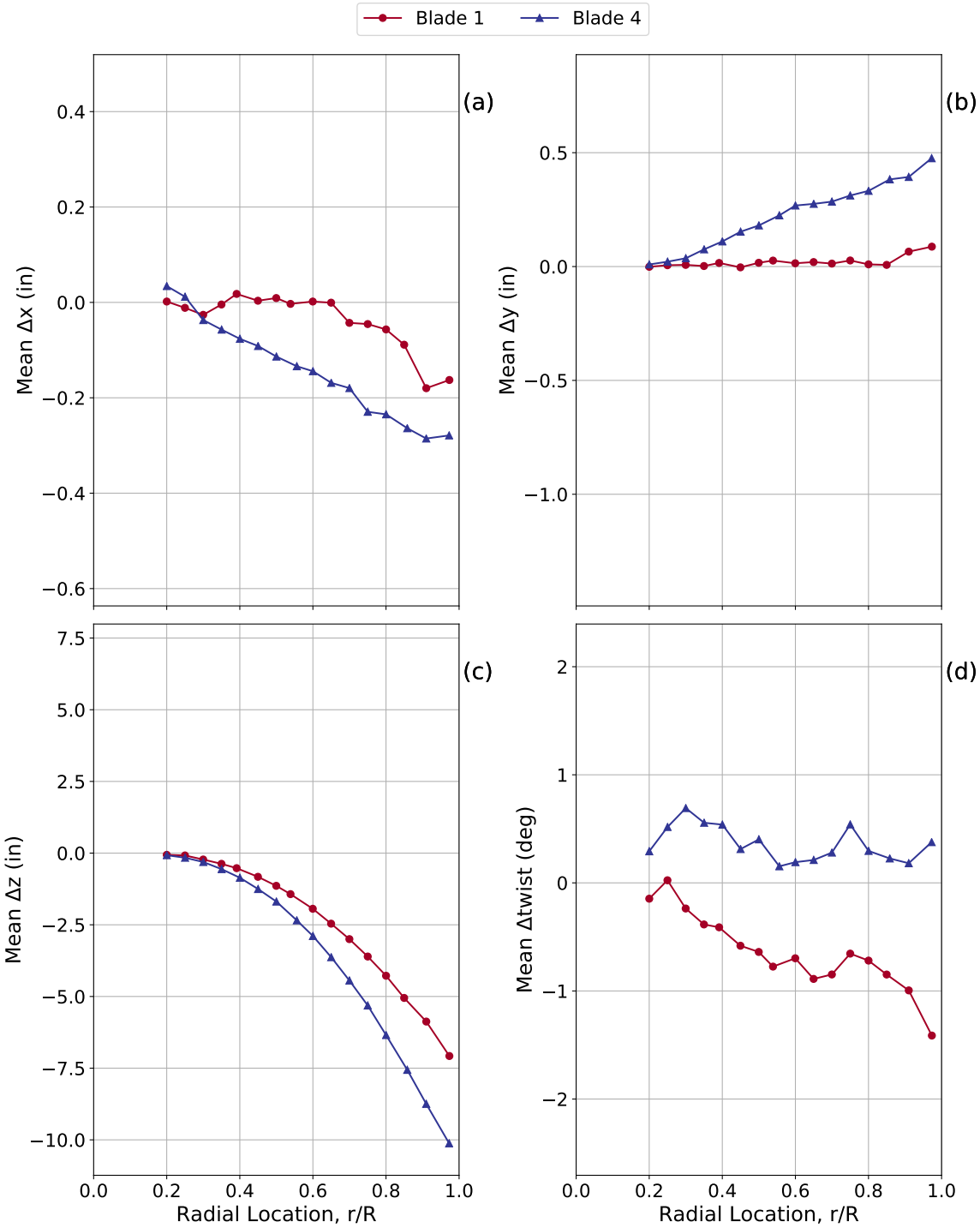


Figure 3.8-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0018	0.0023	-0.0011	0.0022	-0.0598	0.0063	-0.1463	0.0482
1	90	0.2499	-0.0114	0.0013	0.0058	0.0032	-0.0812	0.0075	0.0240	0.1157
1	90	0.2998	-0.0261	0.0013	0.0073	0.0083	-0.2232	0.0212	-0.2372	0.1247
1	90	0.3498	-0.0044	0.0017	0.0023	0.0145	-0.3741	0.0370	-0.3847	0.1159
1	90	0.3913	0.0178	0.0024	0.0158	0.0200	-0.5252	0.0497	-0.4112	0.1168
1	90	0.4496	0.0035	0.0024	-0.0035	0.0274	-0.8268	0.0693	-0.5816	0.1141
1	90	0.4997	0.0091	0.0028	0.0166	0.0346	-1.1407	0.0857	-0.6392	0.1181
1	90	0.5387	-0.0031	0.0030	0.0262	0.0403	-1.4311	0.0977	-0.7749	0.1151
1	90	0.5996	0.0018	0.0024	0.0144	0.0492	-1.9410	0.1144	-0.6977	0.1255
1	90	0.6498	-0.0006	0.0024	0.0197	0.0574	-2.4607	0.1296	-0.8887	0.1186
1	90	0.6998	-0.0429	0.0030	0.0130	0.0660	-2.9996	0.1438	-0.8475	0.1284
1	90	0.7500	-0.0454	0.0058	0.0267	0.0730	-3.6070	0.1579	-0.6547	0.1382
1	90	0.8001	-0.0567	0.0059	0.0096	0.0833	-4.2763	0.1739	-0.7191	0.1418
1	90	0.8497	-0.0887	0.0066	0.0073	0.0909	-5.0507	0.1935	-0.8480	0.1179
1	90	0.9102	-0.1799	0.0053	0.0655	0.1126	-5.8748	0.1738	-0.9950	0.1249
1	90	0.9734	-0.1627	0.0081	0.0874	0.1225	-7.0758	0.1949	-1.4128	0.1342
4	90.35	0.2001	0.0342	0.0068	0.0092	0.0010	-0.0736	0.0039	0.2920	0.0435
4	90.35	0.2502	0.0118	0.0025	0.0213	0.0016	-0.1618	0.0059	0.5169	0.0795
4	90.35	0.3001	-0.0371	0.0020	0.0364	0.0033	-0.3107	0.0125	0.6919	0.0983
4	90.35	0.3502	-0.0571	0.0056	0.0755	0.0056	-0.5594	0.0194	0.5561	0.0803
4	90.35	0.4002	-0.0764	0.0076	0.1103	0.0083	-0.8595	0.0294	0.5389	0.0823
4	90.35	0.4500	-0.0915	0.0097	0.1530	0.0096	-1.2532	0.0370	0.3128	0.0927
4	90.35	0.5001	-0.1136	0.0111	0.1806	0.0120	-1.6905	0.0473	0.4024	0.0905
4	90.35	0.5560	-0.1339	0.0113	0.2248	0.0146	-2.3464	0.0604	0.1532	0.0845
4	90.35	0.6001	-0.1443	0.0110	0.2680	0.0161	-2.8912	0.0713	0.1916	0.0843
4	90.35	0.6501	-0.1687	0.0081	0.2753	0.0187	-3.6306	0.0804	0.2117	0.0814
4	90.35	0.6999	-0.1797	0.0057	0.2851	0.0203	-4.4442	0.0879	0.2802	0.0807
4	90.35	0.7500	-0.2294	0.0065	0.3120	0.0246	-5.3147	0.0978	0.5403	0.0817
4	90.35	0.8002	-0.2347	0.0069	0.3324	0.0251	-6.3463	0.1043	0.2955	0.0824
4	90.35	0.8582	-0.2638	0.0134	0.3828	0.0278	-7.5600	0.1178	0.2259	0.0816
4	90.35	0.9101	-0.2854	0.0220	0.3934	0.0305	-8.7463	0.1286	0.1815	0.0825
4	90.35	0.9728	-0.2789	0.0333	0.4757	0.0344	-10.1223	0.1458	0.3769	0.0827

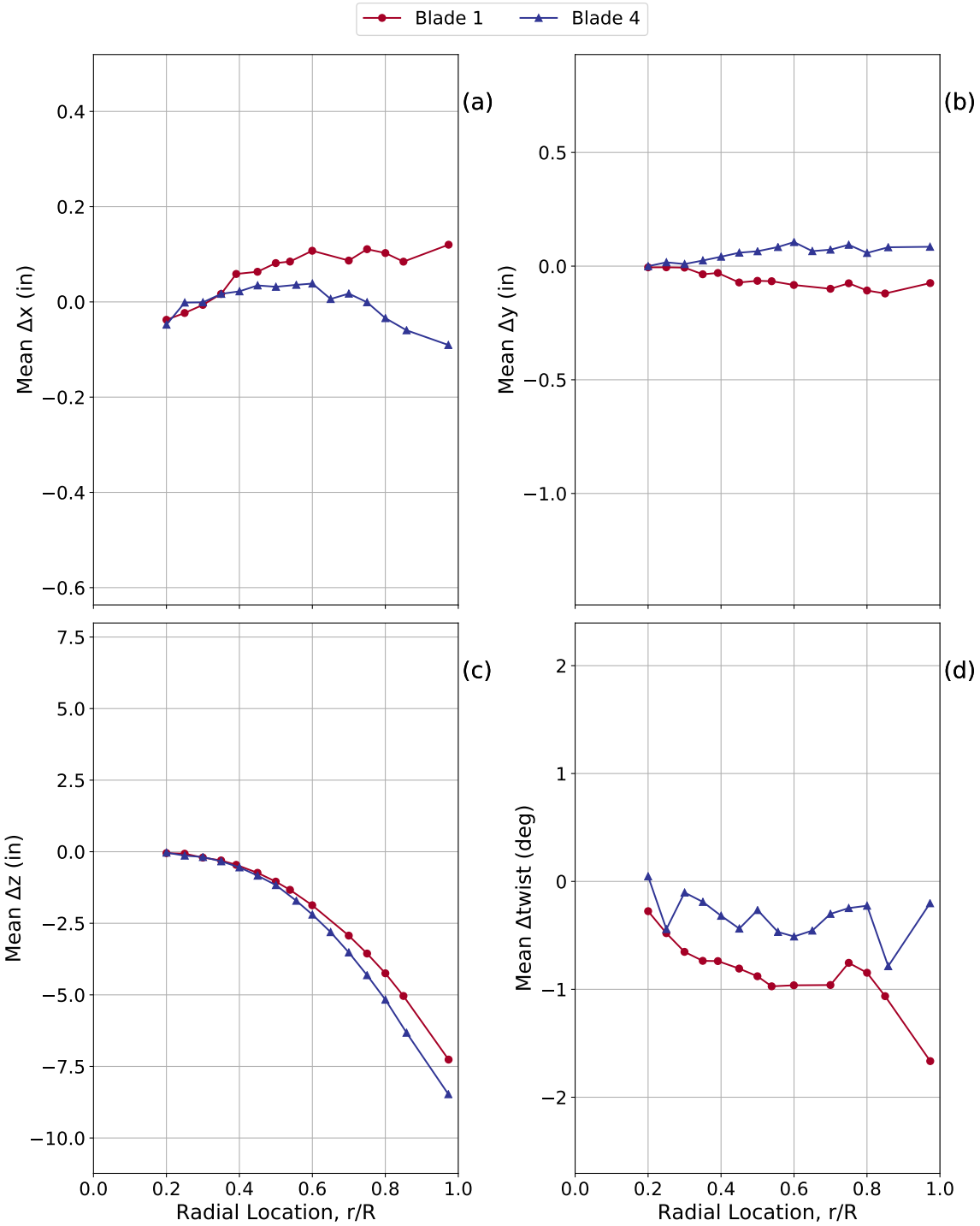


Figure 3.8-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0376	0.0014	-0.0054	0.0005	-0.0494	0.0026	-0.2757	0.0213
1	94.92	0.2499	-0.0233	0.0009	-0.0052	0.0014	-0.0686	0.0059	-0.4793	0.0346
1	94.92	0.2998	-0.0063	0.0010	-0.0065	0.0021	-0.2050	0.0115	-0.6527	0.0484
1	94.92	0.3498	0.0167	0.0009	-0.0359	0.0036	-0.3043	0.0185	-0.7360	0.0469
1	94.92	0.3913	0.0587	0.0009	-0.0301	0.0054	-0.4584	0.0280	-0.7382	0.0405
1	94.92	0.4496	0.0633	0.0016	-0.0719	0.0062	-0.7367	0.0348	-0.8077	0.0492
1	94.92	0.4997	0.0815	0.0017	-0.0647	0.0079	-1.0444	0.0415	-0.8788	0.0512
1	94.92	0.5387	0.0847	0.0018	-0.0664	0.0087	-1.3326	0.0473	-0.9721	0.0473
1	94.92	0.5996	0.1074	0.0014	-0.0830	0.0107	-1.8700	0.0536	-0.9626	0.0480
1	94.92	0.6998	0.0868	0.0025	-0.0997	0.0140	-2.9306	0.0674	-0.9601	0.0754
1	94.92	0.7500	0.1107	0.0024	-0.0755	0.0159	-3.5566	0.0715	-0.7546	0.0678
1	94.92	0.8001	0.1026	0.0028	-0.1073	0.0188	-4.2469	0.0762	-0.8464	0.0859
1	94.92	0.8497	0.0845	0.0043	-0.1204	0.0210	-5.0391	0.0873	-1.0633	0.0833
1	94.92	0.9734	0.1201	0.0082	-0.0746	0.0305	-7.2608	0.1120	-1.6652	0.1685
4	94.92	0.2001	-0.0478	0.0011	-0.0004	0.0007	-0.0320	0.0020	0.0469	0.0167
4	94.92	0.2502	-0.0014	0.0005	0.0167	0.0012	-0.1364	0.0056	-0.4419	0.0245
4	94.92	0.3001	-0.0009	0.0007	0.0091	0.0025	-0.1848	0.0091	-0.1030	0.0363
4	94.92	0.3502	0.0169	0.0012	0.0247	0.0046	-0.3361	0.0161	-0.1900	0.0389
4	94.92	0.4002	0.0222	0.0008	0.0414	0.0067	-0.5470	0.0254	-0.3185	0.0361
4	94.92	0.4500	0.0346	0.0012	0.0591	0.0088	-0.8363	0.0351	-0.4373	0.0328
4	94.92	0.5001	0.0317	0.0011	0.0654	0.0115	-1.1662	0.0462	-0.2653	0.0412
4	94.92	0.5560	0.0358	0.0018	0.0840	0.0144	-1.7142	0.0590	-0.4684	0.0360
4	94.92	0.6001	0.0385	0.0020	0.1057	0.0167	-2.1966	0.0704	-0.5104	0.0419
4	94.92	0.6501	0.0061	0.0023	0.0659	0.0194	-2.8093	0.0835	-0.4558	0.0569
4	94.92	0.6999	0.0174	0.0028	0.0723	0.0222	-3.5197	0.0985	-0.3008	0.0463
4	94.92	0.7500	-0.0008	0.0038	0.0938	0.0254	-4.3136	0.1136	-0.2471	0.0438
4	94.92	0.8002	-0.0341	0.0047	0.0579	0.0281	-5.1689	0.1314	-0.2252	0.0694
4	94.92	0.8582	-0.0596	0.0086	0.0829	0.0325	-6.3238	0.1519	-0.7856	0.1500
4	94.92	0.9728	-0.0905	0.0080	0.0850	0.0394	-8.4709	0.1929	-0.2021	0.1102

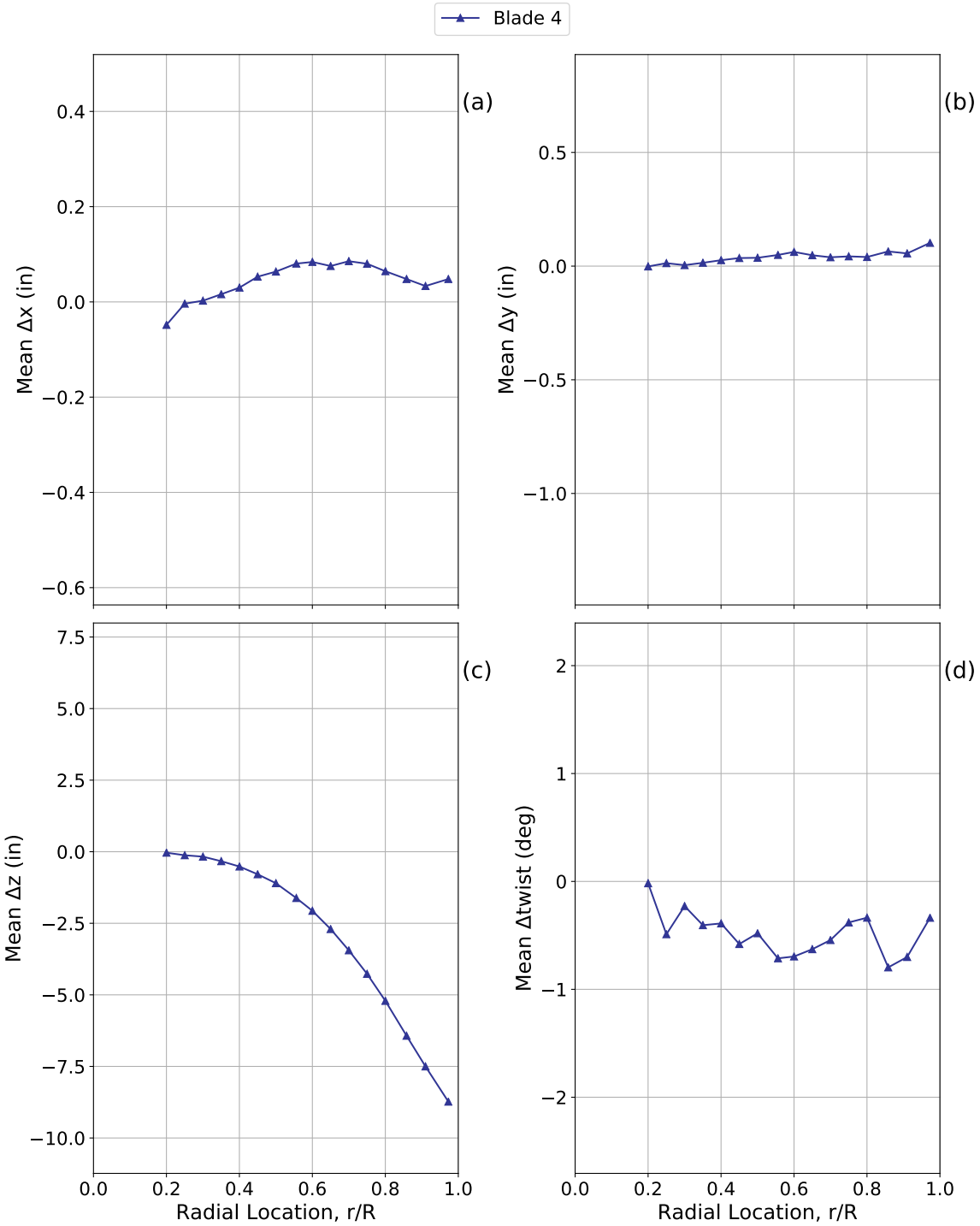


Figure 3.8-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0483	0.0012	-0.0015	0.0006	-0.0346	0.0024	-0.0172	0.0209
4	105.12	0.2502	-0.0037	0.0009	0.0130	0.0018	-0.1231	0.0056	-0.4896	0.0318
4	105.12	0.3001	0.0025	0.0008	0.0042	0.0026	-0.1723	0.0104	-0.2286	0.0429
4	105.12	0.3502	0.0161	0.0012	0.0146	0.0048	-0.3316	0.0167	-0.4056	0.0301
4	105.12	0.4002	0.0300	0.0017	0.0261	0.0075	-0.5180	0.0268	-0.3893	0.0428
4	105.12	0.4500	0.0529	0.0013	0.0355	0.0100	-0.7884	0.0366	-0.5804	0.0332
4	105.12	0.5001	0.0636	0.0010	0.0366	0.0136	-1.1004	0.0485	-0.4806	0.0380
4	105.12	0.5560	0.0804	0.0013	0.0491	0.0183	-1.6180	0.0652	-0.7128	0.0387
4	105.12	0.6001	0.0839	0.0012	0.0624	0.0223	-2.0647	0.0772	-0.6957	0.0441
4	105.12	0.6501	0.0753	0.0021	0.0478	0.0269	-2.7028	0.0926	-0.6282	0.0456
4	105.12	0.6999	0.0855	0.0025	0.0389	0.0316	-3.4452	0.1096	-0.5435	0.0457
4	105.12	0.7500	0.0801	0.0036	0.0429	0.0368	-4.2680	0.1277	-0.3802	0.0440
4	105.12	0.8002	0.0644	0.0046	0.0400	0.0423	-5.2114	0.1477	-0.3361	0.0600
4	105.12	0.8582	0.0480	0.0052	0.0646	0.0483	-6.4292	0.1692	-0.7967	0.0730
4	105.12	0.9101	0.0333	0.0069	0.0559	0.0538	-7.5010	0.1936	-0.7005	0.0525
4	105.12	0.9728	0.0480	0.0074	0.1022	0.0595	-8.7312	0.2205	-0.3370	0.0748

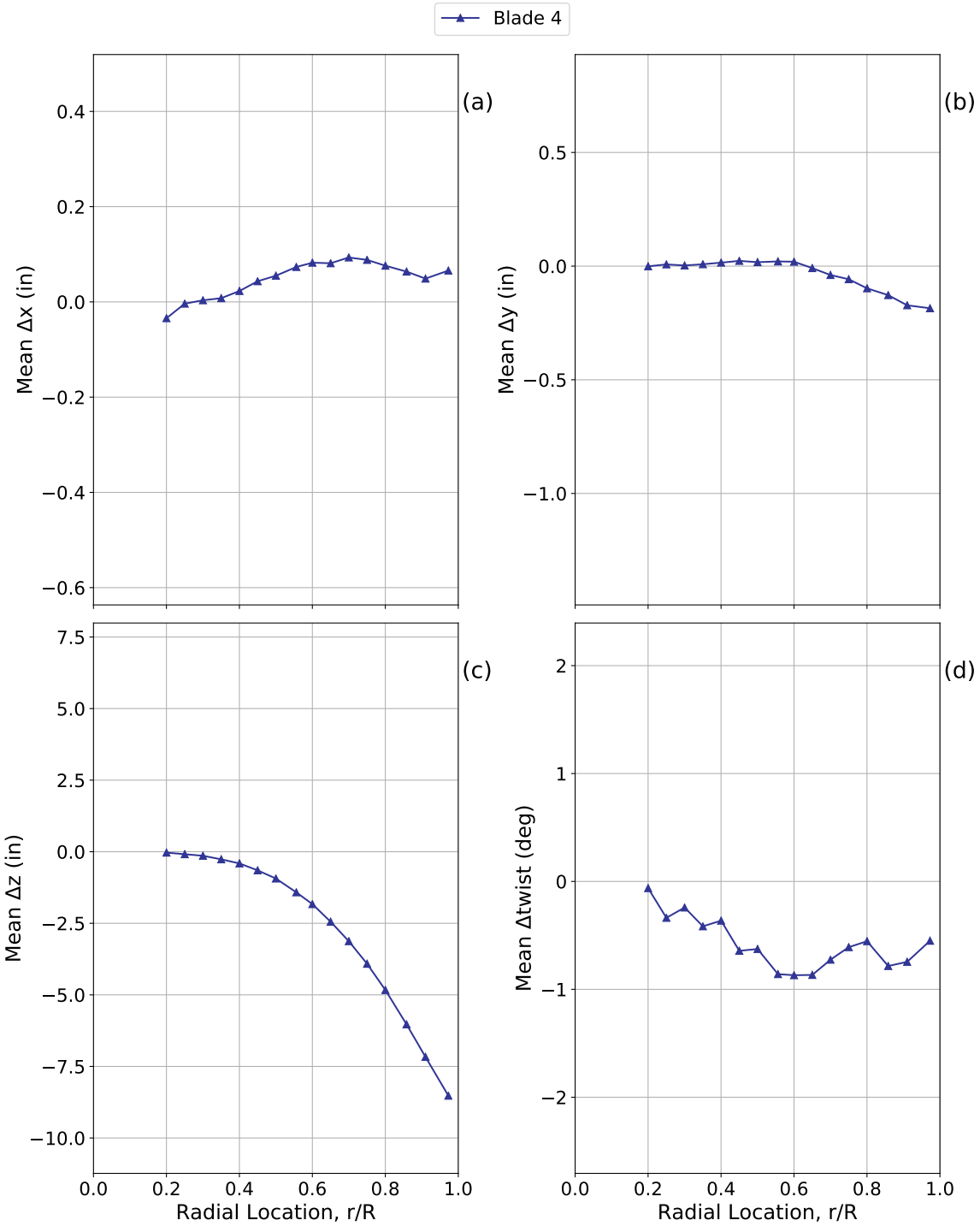


Figure 3.8-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0343	0.0012	-0.0009	0.0005	-0.0318	0.0016	-0.0623	0.0186
4	119.88	0.2502	-0.0037	0.0009	0.0075	0.0011	-0.0870	0.0048	-0.3375	0.0323
4	119.88	0.3001	0.0034	0.0010	0.0028	0.0018	-0.1415	0.0070	-0.2417	0.0414
4	119.88	0.3502	0.0078	0.0015	0.0082	0.0036	-0.2661	0.0135	-0.4160	0.0343
4	119.88	0.4002	0.0229	0.0012	0.0153	0.0051	-0.4091	0.0206	-0.3636	0.0331
4	119.88	0.4500	0.0434	0.0015	0.0230	0.0067	-0.6512	0.0265	-0.6431	0.0411
4	119.88	0.5001	0.0550	0.0020	0.0174	0.0086	-0.9371	0.0360	-0.6263	0.0384
4	119.88	0.5560	0.0733	0.0028	0.0206	0.0110	-1.4188	0.0458	-0.8590	0.0386
4	119.88	0.6001	0.0823	0.0023	0.0193	0.0132	-1.8310	0.0558	-0.8692	0.0442
4	119.88	0.6501	0.0812	0.0027	-0.0088	0.0152	-2.4460	0.0655	-0.8666	0.0378
4	119.88	0.6999	0.0933	0.0031	-0.0391	0.0178	-3.1262	0.0753	-0.7256	0.0441
4	119.88	0.7500	0.0882	0.0035	-0.0577	0.0206	-3.9149	0.0894	-0.6093	0.0433
4	119.88	0.8002	0.0760	0.0040	-0.0977	0.0238	-4.8316	0.1002	-0.5541	0.0428
4	119.88	0.8582	0.0636	0.0054	-0.1277	0.0278	-6.0314	0.1147	-0.7841	0.0477
4	119.88	0.9101	0.0489	0.0056	-0.1723	0.0307	-7.1686	0.1287	-0.7453	0.0465
4	119.88	0.9728	0.0658	0.0069	-0.1854	0.0351	-8.5232	0.1446	-0.5499	0.0526

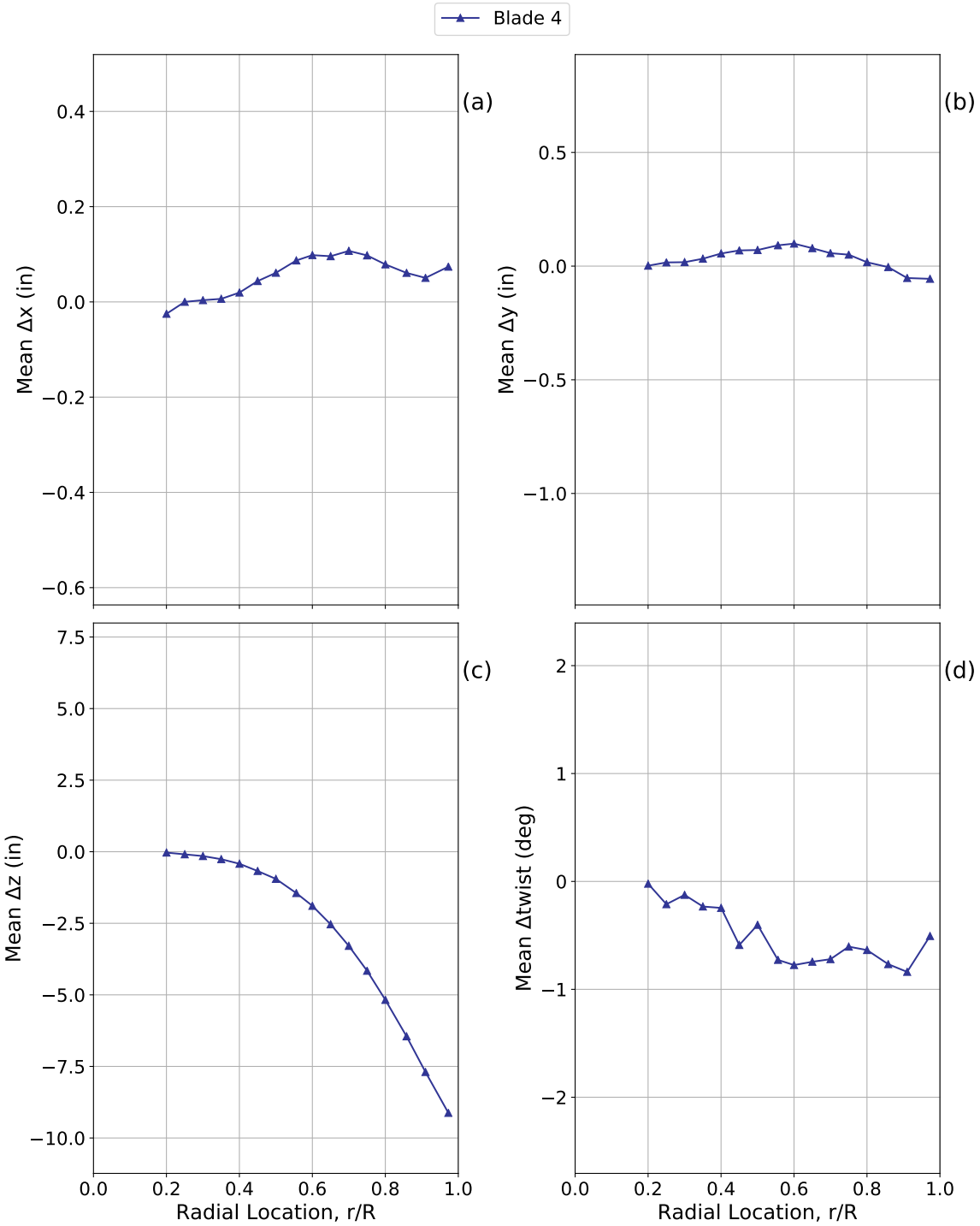


Figure 3.8-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0250	0.0008	0.0018	0.0006	-0.0309	0.0015	-0.0215	0.0210
4	135	0.2502	0.0001	0.0010	0.0162	0.0021	-0.0916	0.0035	-0.2114	0.0310
4	135	0.3001	0.0036	0.0010	0.0173	0.0025	-0.1524	0.0062	-0.1248	0.0460
4	135	0.3502	0.0064	0.0010	0.0325	0.0057	-0.2611	0.0108	-0.2326	0.0289
4	135	0.4002	0.0196	0.0012	0.0555	0.0082	-0.4212	0.0166	-0.2456	0.0392
4	135	0.4500	0.0437	0.0013	0.0691	0.0099	-0.6743	0.0224	-0.5892	0.0256
4	135	0.5001	0.0611	0.0019	0.0707	0.0121	-0.9500	0.0277	-0.4026	0.0512
4	135	0.5560	0.0870	0.0015	0.0915	0.0142	-1.4455	0.0363	-0.7274	0.0258
4	135	0.6001	0.0982	0.0018	0.0989	0.0179	-1.8916	0.0440	-0.7751	0.0357
4	135	0.6501	0.0959	0.0029	0.0788	0.0212	-2.5369	0.0514	-0.7445	0.0460
4	135	0.6999	0.1071	0.0025	0.0570	0.0242	-3.2899	0.0606	-0.7206	0.0342
4	135	0.7500	0.0976	0.0036	0.0503	0.0282	-4.1593	0.0716	-0.6046	0.0287
4	135	0.8002	0.0787	0.0037	0.0170	0.0320	-5.1768	0.0817	-0.6361	0.0299
4	135	0.8582	0.0609	0.0045	-0.0044	0.0367	-6.4500	0.0949	-0.7669	0.0355
4	135	0.9101	0.0504	0.0051	-0.0524	0.0412	-7.6960	0.1062	-0.8383	0.0396
4	135	0.9728	0.0739	0.0062	-0.0559	0.0466	-9.1235	0.1215	-0.5061	0.0338

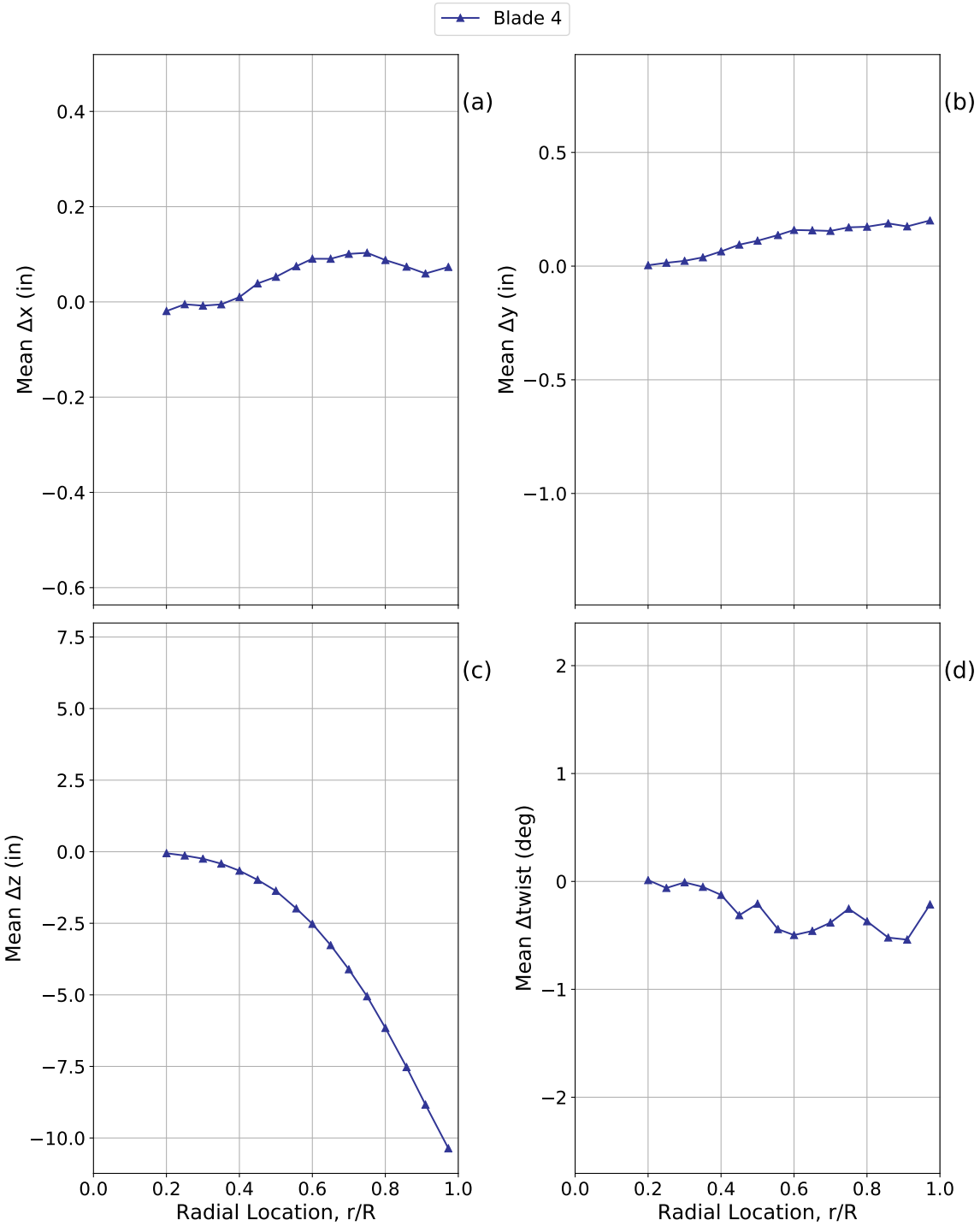


Figure 3.8-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0193	0.0009	0.0038	0.0005	-0.0533	0.0012	0.0118	0.0324
4	150.12	0.2502	-0.0050	0.0009	0.0146	0.0011	-0.1347	0.0059	-0.0609	0.0299
4	150.12	0.3001	-0.0079	0.0007	0.0231	0.0019	-0.2439	0.0067	-0.0089	0.0653
4	150.12	0.3502	-0.0052	0.0012	0.0386	0.0030	-0.4184	0.0123	-0.0508	0.0513
4	150.12	0.4002	0.0101	0.0016	0.0647	0.0046	-0.6643	0.0203	-0.1251	0.0368
4	150.12	0.4500	0.0387	0.0018	0.0943	0.0048	-0.9842	0.0234	-0.3132	0.0449
4	150.12	0.5001	0.0526	0.0015	0.1116	0.0064	-1.3683	0.0290	-0.2074	0.0542
4	150.12	0.5560	0.0749	0.0026	0.1364	0.0077	-1.9830	0.0327	-0.4427	0.0485
4	150.12	0.6001	0.0906	0.0020	0.1589	0.0086	-2.5221	0.0395	-0.4973	0.0540
4	150.12	0.6501	0.0905	0.0030	0.1572	0.0105	-3.2645	0.0447	-0.4590	0.0502
4	150.12	0.6999	0.1008	0.0031	0.1547	0.0122	-4.1087	0.0509	-0.3822	0.0636
4	150.12	0.7500	0.1031	0.0036	0.1706	0.0149	-5.0523	0.0580	-0.2534	0.0597
4	150.12	0.8002	0.0878	0.0043	0.1731	0.0170	-6.1586	0.0632	-0.3697	0.0708
4	150.12	0.8582	0.0739	0.0047	0.1879	0.0201	-7.5261	0.0752	-0.5206	0.0715
4	150.12	0.9101	0.0596	0.0056	0.1746	0.0229	-8.8365	0.0860	-0.5395	0.0546
4	150.12	0.9728	0.0733	0.0069	0.2008	0.0263	-10.3621	0.1006	-0.2140	0.0582

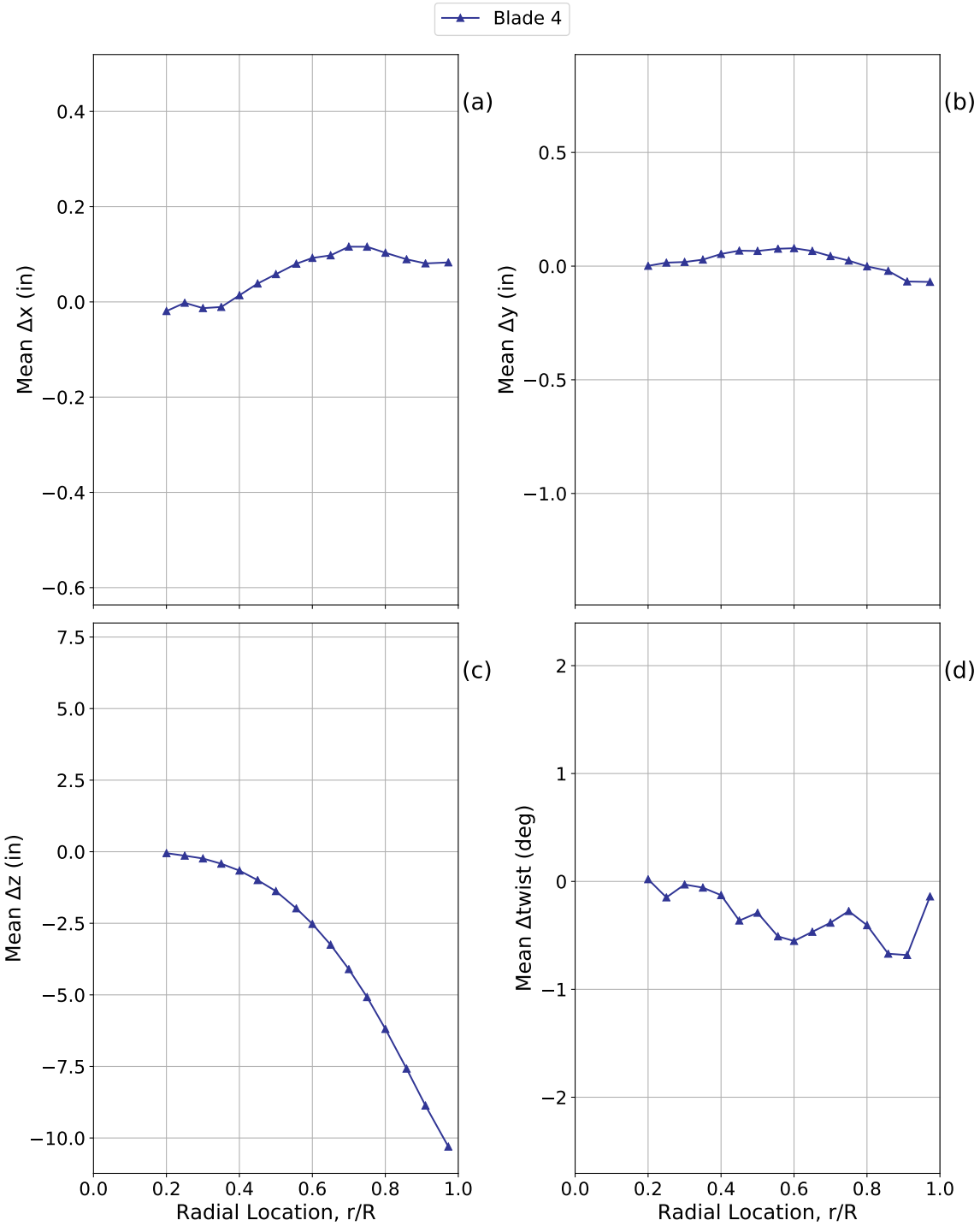


Figure 3.8-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0193	0.0012	0.0012	0.0007	-0.0515	0.0018	0.0201	0.0131
4	164.88	0.2502	-0.0019	0.0018	0.0152	0.0024	-0.1387	0.0020	-0.1483	0.0303
4	164.88	0.3001	-0.0131	0.0013	0.0181	0.0028	-0.2368	0.0049	-0.0286	0.0311
4	164.88	0.3502	-0.0107	0.0008	0.0284	0.0061	-0.4197	0.0093	-0.0577	0.0280
4	164.88	0.4002	0.0139	0.0013	0.0534	0.0091	-0.6609	0.0122	-0.1275	0.0284
4	164.88	0.4500	0.0385	0.0009	0.0680	0.0108	-0.9930	0.0164	-0.3629	0.0302
4	164.88	0.5001	0.0582	0.0017	0.0665	0.0139	-1.3780	0.0206	-0.2907	0.0229
4	164.88	0.5560	0.0801	0.0013	0.0764	0.0154	-1.9788	0.0254	-0.5096	0.0213
4	164.88	0.6001	0.0923	0.0013	0.0787	0.0177	-2.5245	0.0278	-0.5517	0.0310
4	164.88	0.6501	0.0977	0.0021	0.0665	0.0200	-3.2512	0.0310	-0.4673	0.0369
4	164.88	0.6999	0.1159	0.0013	0.0438	0.0214	-4.1036	0.0366	-0.3829	0.0291
4	164.88	0.7500	0.1158	0.0025	0.0242	0.0243	-5.0800	0.0399	-0.2750	0.0300
4	164.88	0.8002	0.1031	0.0028	-0.0013	0.0268	-6.1923	0.0468	-0.4061	0.0344
4	164.88	0.8582	0.0895	0.0035	-0.0209	0.0297	-7.5786	0.0554	-0.6702	0.0277
4	164.88	0.9101	0.0808	0.0041	-0.0677	0.0328	-8.8684	0.0662	-0.6824	0.0377
4	164.88	0.9728	0.0829	0.0055	-0.0696	0.0362	-10.3033	0.0801	-0.1393	0.0356

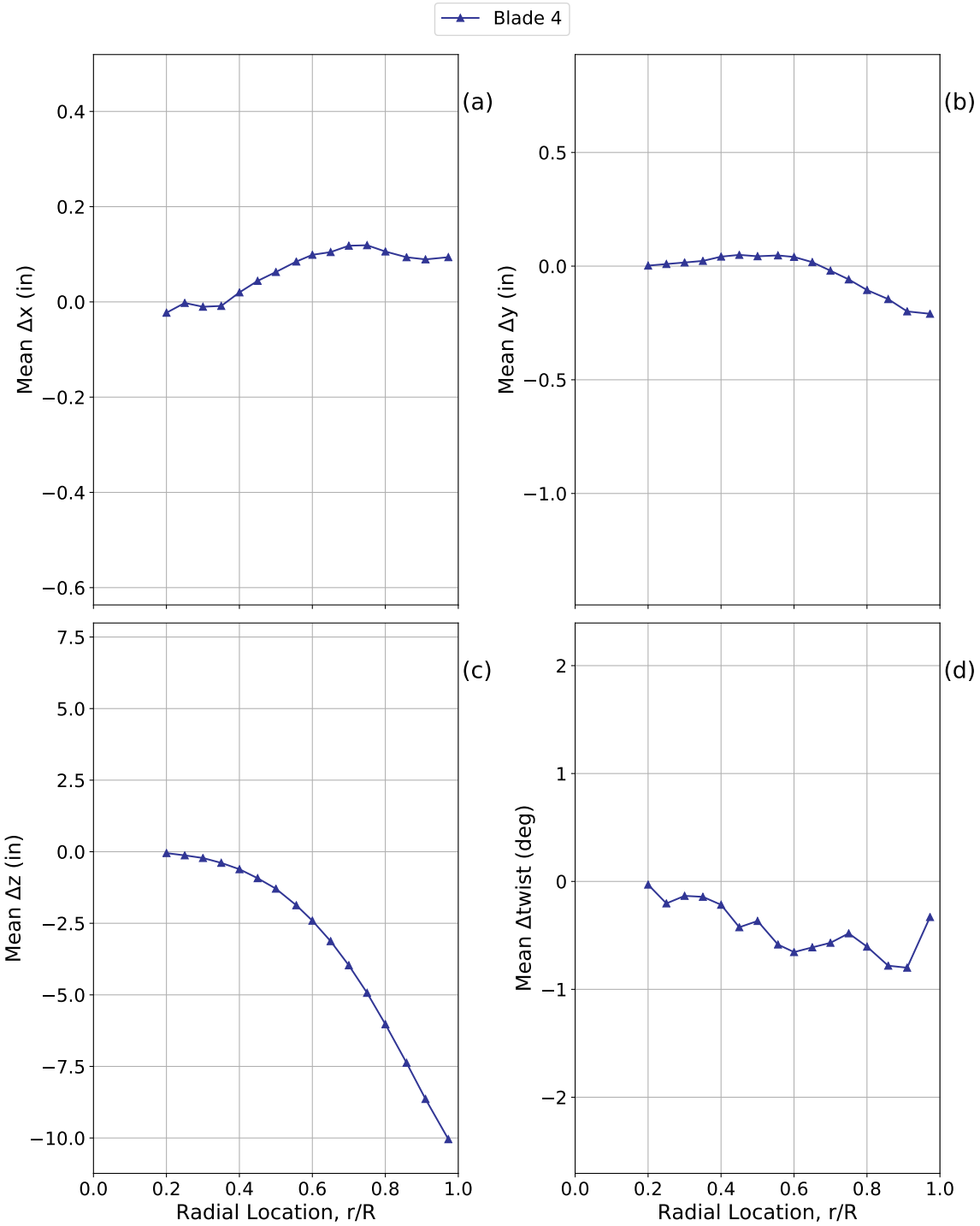


Figure 3.8-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0228	0.0011	0.0022	0.0009	-0.0484	0.0018	-0.0298	0.0130
4	170.16	0.2502	-0.0022	0.0015	0.0091	0.0014	-0.1271	0.0040	-0.2039	0.0313
4	170.16	0.3001	-0.0102	0.0015	0.0159	0.0031	-0.2201	0.0075	-0.1338	0.0307
4	170.16	0.3502	-0.0085	0.0018	0.0229	0.0052	-0.3898	0.0111	-0.1428	0.0381
4	170.16	0.4002	0.0200	0.0018	0.0417	0.0078	-0.6125	0.0184	-0.2166	0.0360
4	170.16	0.4500	0.0441	0.0019	0.0494	0.0087	-0.9259	0.0254	-0.4247	0.0342
4	170.16	0.5001	0.0628	0.0018	0.0433	0.0133	-1.2919	0.0313	-0.3666	0.0314
4	170.16	0.5560	0.0847	0.0013	0.0470	0.0157	-1.8715	0.0431	-0.5849	0.0286
4	170.16	0.6001	0.0989	0.0025	0.0403	0.0181	-2.4107	0.0515	-0.6550	0.0340
4	170.16	0.6501	0.1046	0.0025	0.0174	0.0210	-3.1259	0.0613	-0.6112	0.0457
4	170.16	0.6999	0.1180	0.0019	-0.0202	0.0258	-3.9686	0.0734	-0.5689	0.0400
4	170.16	0.7500	0.1190	0.0022	-0.0586	0.0283	-4.9315	0.0856	-0.4813	0.0355
4	170.16	0.8002	0.1058	0.0033	-0.1053	0.0332	-6.0282	0.0966	-0.6047	0.0473
4	170.16	0.8582	0.0938	0.0042	-0.1452	0.0377	-7.3750	0.1141	-0.7810	0.0447
4	170.16	0.9101	0.0893	0.0055	-0.1992	0.0422	-8.6380	0.1309	-0.7996	0.0391
4	170.16	0.9728	0.0939	0.0062	-0.2097	0.0474	-10.0433	0.1512	-0.3301	0.0419

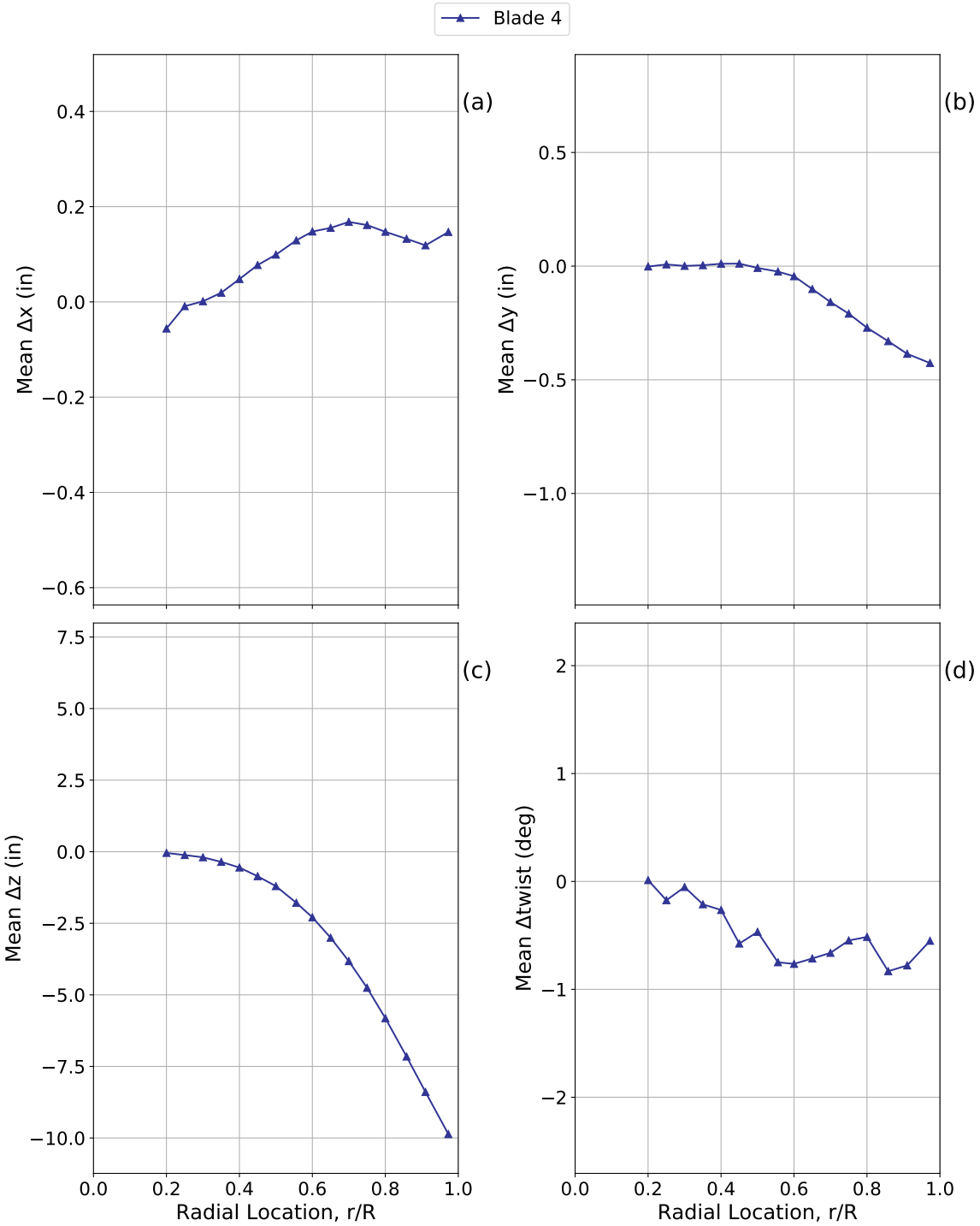


Figure 3.8-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0560	0.0055	-0.0018	0.0008	-0.0433	0.0012	0.0117	0.0163
4	175.08	0.2502	-0.0091	0.0022	0.0073	0.0017	-0.1168	0.0024	-0.1744	0.0299
4	175.08	0.3001	0.0013	0.0020	0.0009	0.0036	-0.1954	0.0039	-0.0521	0.0382
4	175.08	0.3502	0.0192	0.0046	0.0038	0.0060	-0.3558	0.0062	-0.2124	0.0399
4	175.08	0.4002	0.0480	0.0090	0.0104	0.0094	-0.5538	0.0097	-0.2649	0.0433
4	175.08	0.4500	0.0774	0.0129	0.0109	0.0122	-0.8572	0.0107	-0.5761	0.0524
4	175.08	0.5001	0.0992	0.0154	-0.0081	0.0162	-1.2034	0.0155	-0.4679	0.0460
4	175.08	0.5560	0.1292	0.0196	-0.0241	0.0211	-1.7856	0.0238	-0.7495	0.0526
4	175.08	0.6001	0.1478	0.0222	-0.0446	0.0246	-2.2923	0.0292	-0.7641	0.0418
4	175.08	0.6501	0.1554	0.0248	-0.1009	0.0299	-3.0060	0.0398	-0.7141	0.0630
4	175.08	0.6999	0.1680	0.0279	-0.1579	0.0347	-3.8236	0.0469	-0.6623	0.0628
4	175.08	0.7500	0.1613	0.0304	-0.2092	0.0408	-4.7543	0.0495	-0.5472	0.0558
4	175.08	0.8002	0.1472	0.0325	-0.2711	0.0465	-5.8170	0.0530	-0.5145	0.0691
4	175.08	0.8582	0.1325	0.0362	-0.3303	0.0549	-7.1555	0.0548	-0.8322	0.0715
4	175.08	0.9101	0.1187	0.0371	-0.3858	0.0618	-8.3937	0.0583	-0.7786	0.0935
4	175.08	0.9728	0.1468	0.0371	-0.4265	0.0669	-9.8658	0.0675	-0.5503	0.0901

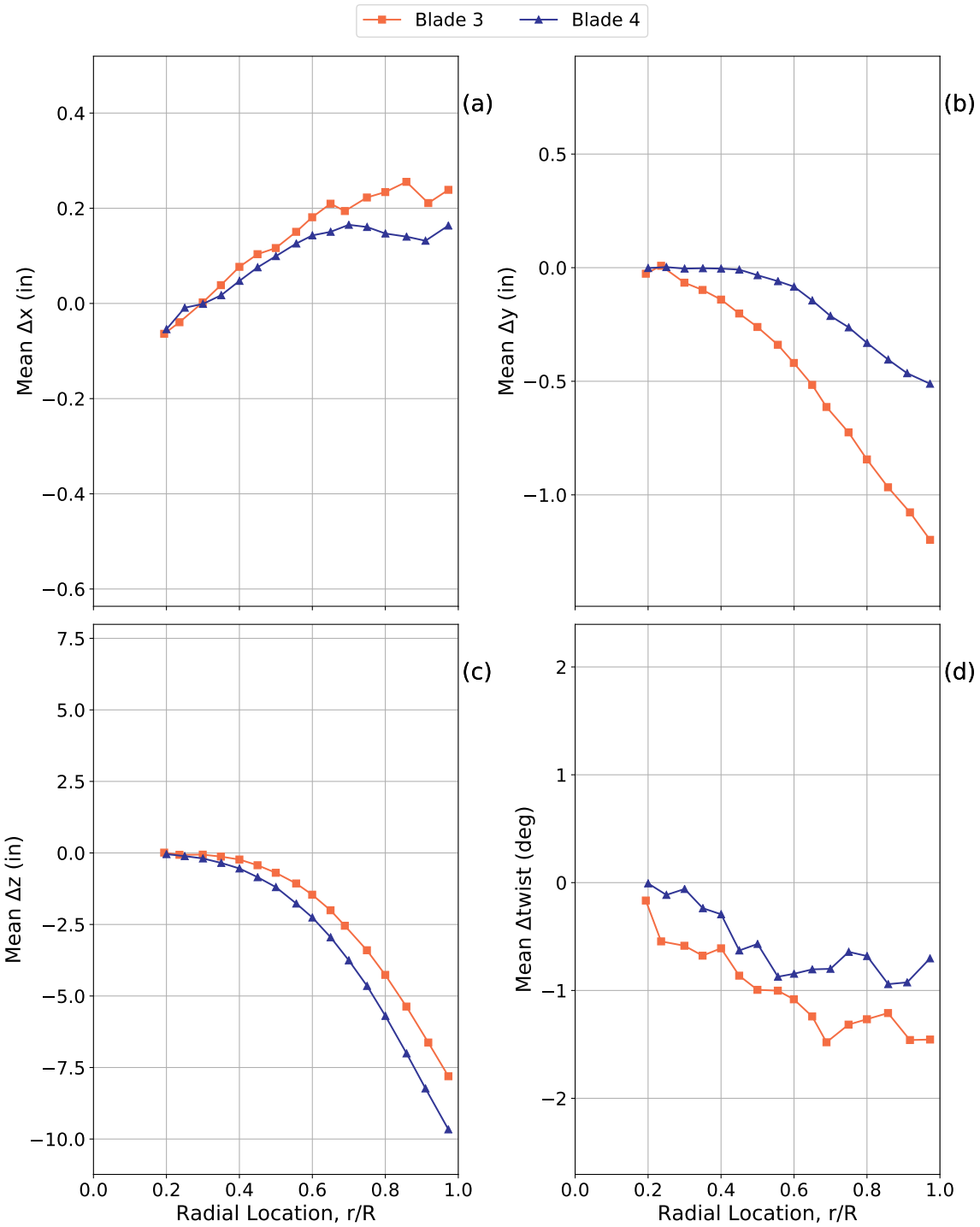


Figure 3.8-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0638	0.0052	-0.0266	0.0009	0.0111	0.0021	-0.1660	0.0133
3	180.35	0.2357	-0.0395	0.0020	0.0084	0.0012	-0.0646	0.0026	-0.5448	0.0145
3	180.35	0.2995	0.0022	0.0021	-0.0660	0.0037	-0.0595	0.0084	-0.5853	0.0243
3	180.35	0.3493	0.0384	0.0040	-0.0980	0.0056	-0.1274	0.0111	-0.6771	0.0244
3	180.35	0.4000	0.0769	0.0057	-0.1405	0.0092	-0.2305	0.0187	-0.6091	0.0157
3	180.35	0.4497	0.1035	0.0071	-0.2017	0.0109	-0.4303	0.0222	-0.8627	0.0218
3	180.35	0.4997	0.1164	0.0086	-0.2611	0.0136	-0.6930	0.0274	-0.9940	0.0312
3	180.35	0.5556	0.1505	0.0107	-0.3393	0.0154	-1.0669	0.0332	-1.0018	0.0273
3	180.35	0.5995	0.1811	0.0105	-0.4194	0.0182	-1.4594	0.0353	-1.0820	0.0307
3	180.35	0.6498	0.2096	0.0119	-0.5159	0.0219	-2.0043	0.0402	-1.2409	0.0296
3	180.35	0.6890	0.1942	0.0133	-0.6132	0.0235	-2.5445	0.0418	-1.4805	0.0354
3	180.35	0.7495	0.2226	0.0159	-0.7249	0.0301	-3.4018	0.0477	-1.3166	0.0218
3	180.35	0.7998	0.2340	0.0184	-0.8440	0.0350	-4.2621	0.0515	-1.2667	0.0354
3	180.35	0.8577	0.2555	0.0223	-0.9666	0.0398	-5.3696	0.0567	-1.2094	0.0550
3	180.35	0.9178	0.2109	0.0261	-1.0769	0.0474	-6.6264	0.0654	-1.4597	0.0628
3	180.35	0.9729	0.2387	0.0311	-1.1979	0.0517	-7.8061	0.0707	-1.4550	0.0831
4	180	0.2001	-0.0542	0.0011	-0.0017	0.0007	-0.0433	0.0016	-0.0073	0.0126
4	180	0.2502	-0.0090	0.0011	0.0025	0.0017	-0.1112	0.0037	-0.1140	0.0236
4	180	0.3001	-0.0010	0.0014	-0.0041	0.0032	-0.1933	0.0060	-0.0589	0.0288
4	180	0.3502	0.0173	0.0014	-0.0026	0.0054	-0.3495	0.0106	-0.2374	0.0229
4	180	0.4002	0.0474	0.0018	-0.0041	0.0085	-0.5435	0.0164	-0.2937	0.0297
4	180	0.4500	0.0759	0.0015	-0.0087	0.0105	-0.8487	0.0224	-0.6292	0.0292
4	180	0.5001	0.0994	0.0020	-0.0333	0.0130	-1.1963	0.0306	-0.5687	0.0328
4	180	0.5560	0.1259	0.0028	-0.0596	0.0162	-1.7696	0.0370	-0.8727	0.0404
4	180	0.6001	0.1430	0.0025	-0.0836	0.0188	-2.2579	0.0445	-0.8450	0.0374
4	180	0.6501	0.1505	0.0028	-0.1445	0.0224	-2.9491	0.0540	-0.8042	0.0370
4	180	0.6999	0.1652	0.0037	-0.2126	0.0255	-3.7559	0.0621	-0.7994	0.0391
4	180	0.7500	0.1606	0.0045	-0.2628	0.0294	-4.6494	0.0719	-0.6422	0.0350
4	180	0.8002	0.1469	0.0048	-0.3313	0.0339	-5.6970	0.0831	-0.6809	0.0506
4	180	0.8582	0.1403	0.0070	-0.4047	0.0390	-7.0065	0.1015	-0.9412	0.0489
4	180	0.9101	0.1317	0.0081	-0.4647	0.0439	-8.2322	0.1196	-0.9250	0.0436
4	180	0.9728	0.1636	0.0105	-0.5109	0.0486	-9.6632	0.1422	-0.7024	0.0626

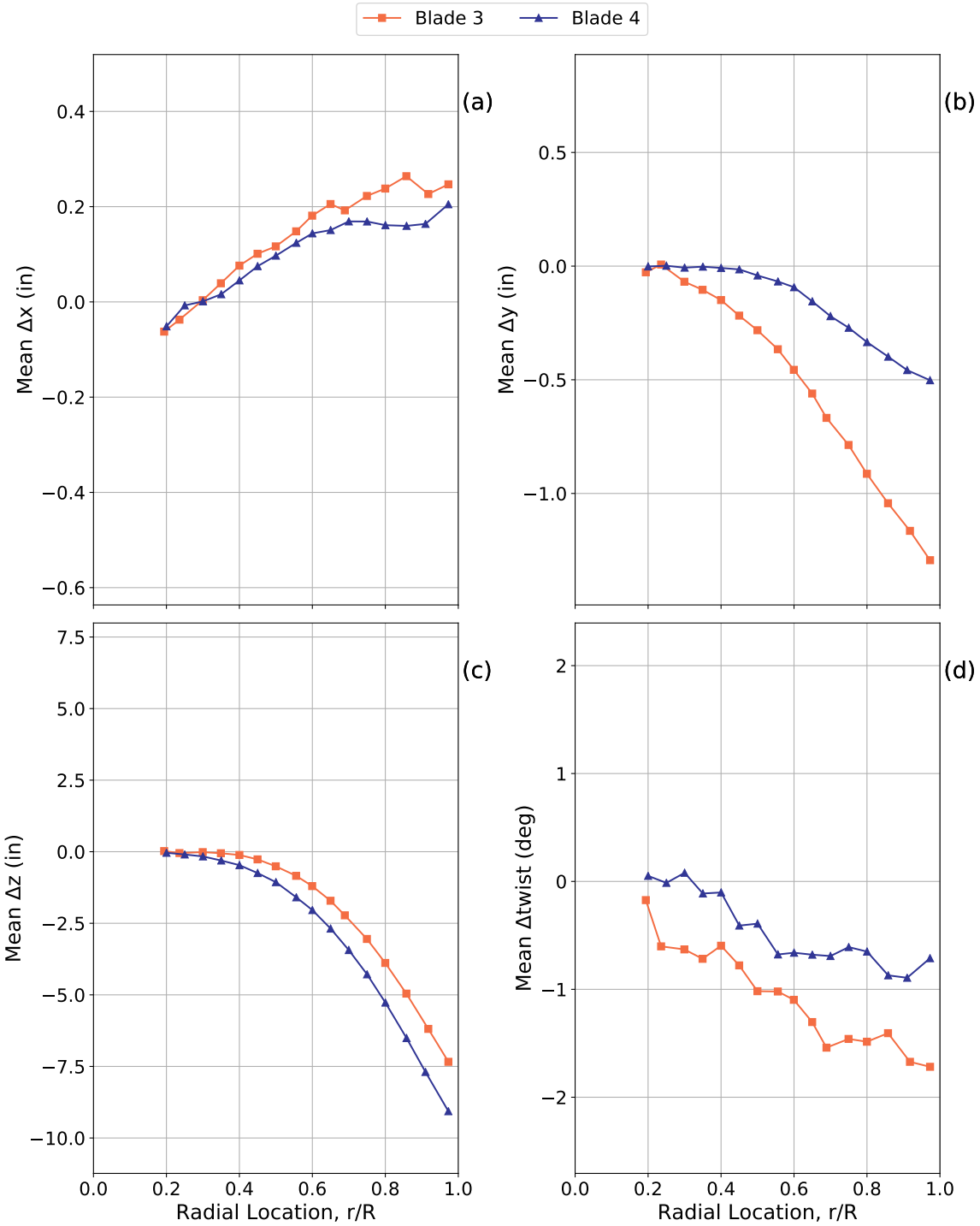


Figure 3.8-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0624	0.0014	-0.0272	0.0009	0.0219	0.0028	-0.1731	0.0179
3	184.92	0.2357	-0.0373	0.0012	0.0071	0.0018	-0.0471	0.0039	-0.6018	0.0356
3	184.92	0.2995	0.0036	0.0013	-0.0687	0.0034	-0.0141	0.0101	-0.6299	0.0465
3	184.92	0.3493	0.0391	0.0008	-0.1042	0.0060	-0.0534	0.0159	-0.7172	0.0455
3	184.92	0.4000	0.0762	0.0010	-0.1493	0.0095	-0.1141	0.0248	-0.5960	0.0371
3	184.92	0.4497	0.1011	0.0012	-0.2178	0.0121	-0.2674	0.0302	-0.7782	0.0391
3	184.92	0.4997	0.1166	0.0023	-0.2820	0.0151	-0.5094	0.0369	-1.0172	0.0531
3	184.92	0.5556	0.1482	0.0029	-0.3656	0.0191	-0.8422	0.0449	-1.0201	0.0456
3	184.92	0.5995	0.1811	0.0016	-0.4562	0.0221	-1.2008	0.0518	-1.0972	0.0487
3	184.92	0.6498	0.2055	0.0023	-0.5605	0.0250	-1.7129	0.0605	-1.3032	0.0477
3	184.92	0.6890	0.1922	0.0024	-0.6676	0.0288	-2.2221	0.0664	-1.5405	0.0473
3	184.92	0.7495	0.2225	0.0034	-0.7867	0.0337	-3.0473	0.0789	-1.4598	0.0523
3	184.92	0.7998	0.2380	0.0036	-0.9136	0.0383	-3.8852	0.0903	-1.4855	0.0524
3	184.92	0.8577	0.2640	0.0041	-1.0430	0.0437	-4.9569	0.1026	-1.4062	0.0535
3	184.92	0.9178	0.2265	0.0054	-1.1645	0.0490	-6.1893	0.1152	-1.6718	0.0657
3	184.92	0.9729	0.2469	0.0061	-1.2936	0.0542	-7.3385	0.1275	-1.7181	0.0580
4	184.92	0.2001	-0.0514	0.0036	-0.0015	0.0007	-0.0383	0.0018	0.0513	0.0112
4	184.92	0.2502	-0.0074	0.0017	0.0015	0.0024	-0.0966	0.0034	-0.0135	0.0262
4	184.92	0.3001	0.0011	0.0018	-0.0068	0.0033	-0.1650	0.0063	0.0799	0.0275
4	184.92	0.3502	0.0161	0.0032	-0.0024	0.0064	-0.3076	0.0105	-0.1119	0.0275
4	184.92	0.4002	0.0452	0.0060	-0.0081	0.0099	-0.4707	0.0162	-0.1023	0.0362
4	184.92	0.4500	0.0750	0.0077	-0.0144	0.0122	-0.7463	0.0210	-0.4092	0.0323
4	184.92	0.5001	0.0971	0.0104	-0.0413	0.0164	-1.0642	0.0268	-0.3914	0.0320
4	184.92	0.5560	0.1240	0.0123	-0.0677	0.0213	-1.5934	0.0331	-0.6768	0.0293
4	184.92	0.6001	0.1439	0.0148	-0.0929	0.0260	-2.0392	0.0407	-0.6608	0.0256
4	184.92	0.6501	0.1508	0.0169	-0.1553	0.0318	-2.6862	0.0471	-0.6790	0.0297
4	184.92	0.6999	0.1690	0.0193	-0.2203	0.0385	-3.4364	0.0550	-0.6916	0.0351
4	184.92	0.7500	0.1688	0.0226	-0.2713	0.0463	-4.2838	0.0638	-0.6086	0.0384
4	184.92	0.8002	0.1611	0.0246	-0.3345	0.0531	-5.2716	0.0740	-0.6502	0.0349
4	184.92	0.8582	0.1596	0.0272	-0.3985	0.0627	-6.5108	0.0858	-0.8705	0.0493
4	184.92	0.9101	0.1638	0.0285	-0.4575	0.0710	-7.6939	0.1005	-0.8930	0.0452
4	184.92	0.9728	0.2050	0.0320	-0.5021	0.0812	-9.0656	0.1184	-0.7117	0.0558

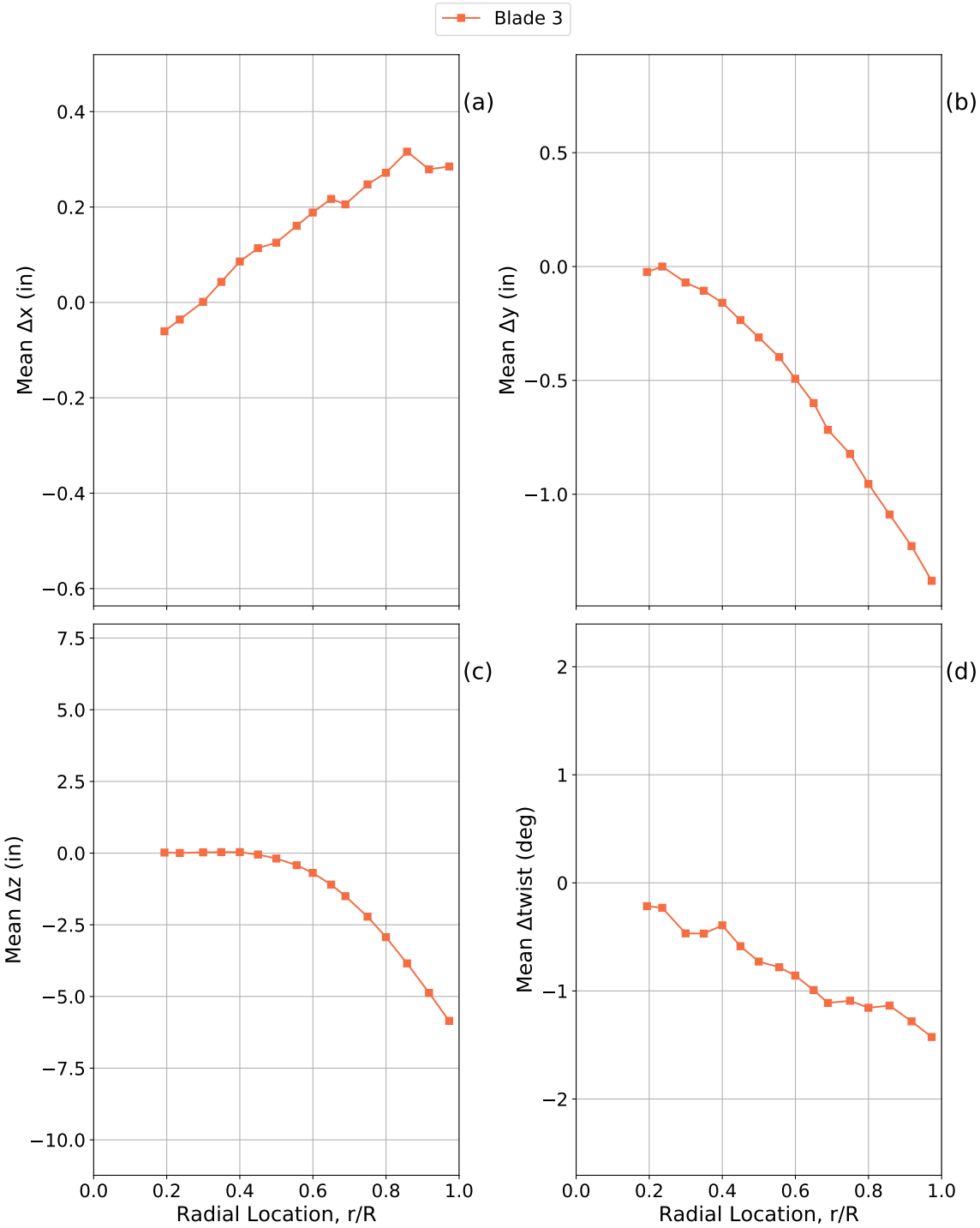


Figure 3.8-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0606	0.0015	-0.0241	0.0009	0.0191	0.0008	-0.2155	0.0248
3	195.12	0.2357	-0.0359	0.0009	0.0001	0.0019	0.0044	0.0052	-0.2309	0.0279
3	195.12	0.2995	0.0012	0.0011	-0.0701	0.0027	0.0272	0.0081	-0.4673	0.0501
3	195.12	0.3493	0.0429	0.0015	-0.1063	0.0064	0.0333	0.0097	-0.4694	0.0375
3	195.12	0.4000	0.0857	0.0019	-0.1590	0.0088	0.0337	0.0198	-0.3931	0.0324
3	195.12	0.4497	0.1137	0.0021	-0.2352	0.0107	-0.0510	0.0283	-0.5861	0.0356
3	195.12	0.4997	0.1252	0.0024	-0.3112	0.0128	-0.1884	0.0396	-0.7279	0.0406
3	195.12	0.5556	0.1607	0.0026	-0.3977	0.0156	-0.4217	0.0556	-0.7805	0.0462
3	195.12	0.5995	0.1884	0.0024	-0.4927	0.0178	-0.6900	0.0700	-0.8583	0.0485
3	195.12	0.6498	0.2169	0.0030	-0.5995	0.0213	-1.0971	0.0894	-0.9918	0.0458
3	195.12	0.6890	0.2056	0.0033	-0.7172	0.0231	-1.5031	0.1075	-1.1113	0.0449
3	195.12	0.7495	0.2473	0.0044	-0.8228	0.0271	-2.2153	0.1392	-1.0907	0.0462
3	195.12	0.7998	0.2718	0.0053	-0.9550	0.0306	-2.9309	0.1668	-1.1555	0.0409
3	195.12	0.8577	0.3160	0.0074	-1.0889	0.0347	-3.8471	0.1989	-1.1355	0.0431
3	195.12	0.9178	0.2790	0.0102	-1.2275	0.0412	-4.8752	0.2335	-1.2813	0.0647
3	195.12	0.9729	0.2849	0.0103	-1.3803	0.0438	-5.8513	0.2663	-1.4262	0.0456

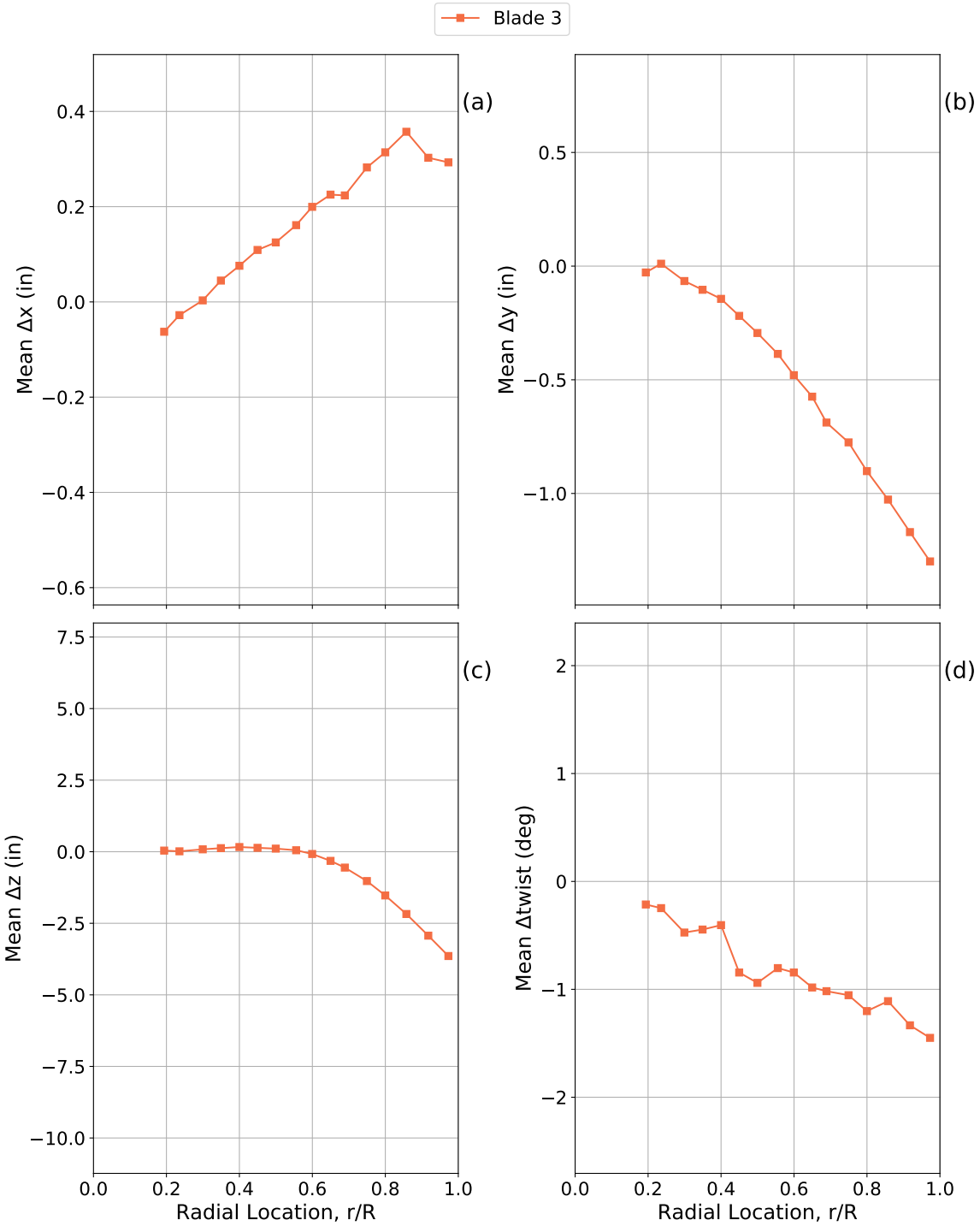


Figure 3.8-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0627	0.0008	-0.0279	0.0006	0.0396	0.0023	-0.2137	0.0290
3	209.88	0.2357	-0.0278	0.0010	0.0106	0.0015	0.0145	0.0054	-0.2474	0.0388
3	209.88	0.2995	0.0032	0.0019	-0.0656	0.0034	0.0833	0.0096	-0.4737	0.0662
3	209.88	0.3493	0.0448	0.0011	-0.1041	0.0048	0.1246	0.0157	-0.4459	0.0589
3	209.88	0.4000	0.0759	0.0014	-0.1440	0.0082	0.1640	0.0217	-0.4050	0.0473
3	209.88	0.4497	0.1091	0.0066	-0.2188	0.0150	0.1359	0.0267	-0.8443	0.2034
3	209.88	0.4997	0.1249	0.0064	-0.2942	0.0180	0.1080	0.0316	-0.9400	0.2338
3	209.88	0.5556	0.1612	0.0089	-0.3861	0.0339	0.0513	0.0789	-0.8033	0.0473
3	209.88	0.5995	0.1996	0.0081	-0.4797	0.0379	-0.0790	0.0885	-0.8441	0.0552
3	209.88	0.6498	0.2253	0.0069	-0.5742	0.0428	-0.3193	0.0993	-0.9828	0.0522
3	209.88	0.6890	0.2236	0.0056	-0.6881	0.0469	-0.5545	0.1080	-1.0170	0.0490
3	209.88	0.7495	0.2824	0.0036	-0.7753	0.0538	-1.0248	0.1235	-1.0544	0.0541
3	209.88	0.7998	0.3141	0.0023	-0.9017	0.0592	-1.5282	0.1359	-1.2016	0.0462
3	209.88	0.8577	0.3573	0.0034	-1.0270	0.0651	-2.1759	0.1509	-1.1096	0.0517
3	209.88	0.9178	0.3027	0.0081	-1.1700	0.0712	-2.9315	0.1677	-1.3334	0.0606
3	209.88	0.9729	0.2930	0.0117	-1.2989	0.0762	-3.6435	0.1862	-1.4498	0.0453

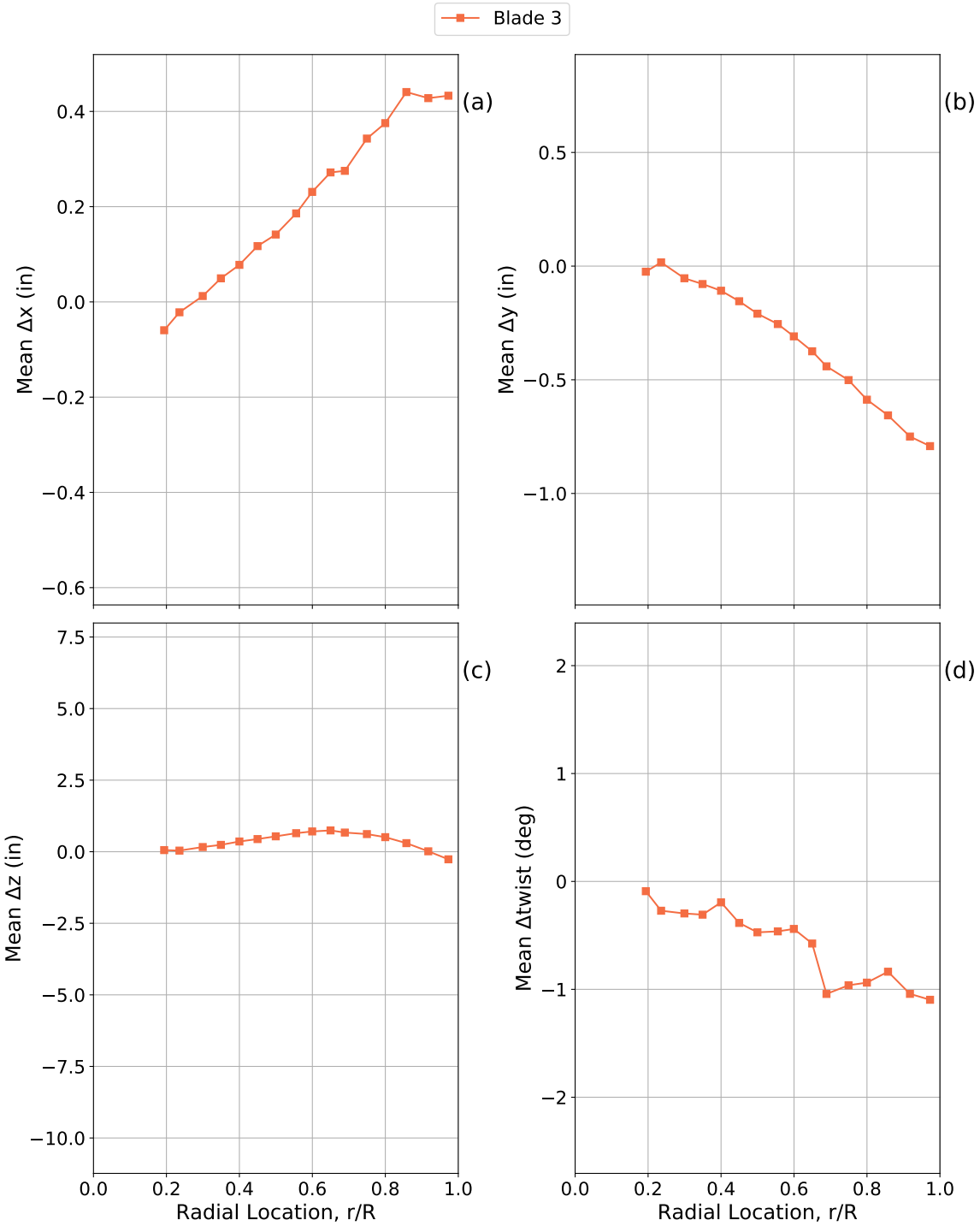


Figure 3.8-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0595	0.0014	-0.0245	0.0006	0.0566	0.0022	-0.0903	0.0291
3	225	0.2357	-0.0218	0.0012	0.0164	0.0014	0.0389	0.0055	-0.2715	0.0225
3	225	0.2995	0.0123	0.0023	-0.0534	0.0040	0.1637	0.0097	-0.2967	0.0558
3	225	0.3493	0.0495	0.0017	-0.0788	0.0056	0.2388	0.0157	-0.3080	0.0432
3	225	0.4000	0.0778	0.0014	-0.1082	0.0097	0.3575	0.0249	-0.1940	0.0312
3	225	0.4497	0.1172	0.0012	-0.1544	0.0128	0.4416	0.0327	-0.3846	0.0283
3	225	0.4997	0.1415	0.0021	-0.2092	0.0156	0.5372	0.0382	-0.4719	0.0167
3	225	0.5556	0.1858	0.0016	-0.2549	0.0192	0.6472	0.0444	-0.4628	0.0382
3	225	0.5995	0.2310	0.0023	-0.3090	0.0221	0.7078	0.0501	-0.4402	0.0565
3	225	0.6498	0.2719	0.0024	-0.3747	0.0254	0.7442	0.0569	-0.5755	0.0415
3	225	0.6890	0.2752	0.0019	-0.4408	0.0285	0.6696	0.0640	-1.0427	0.0226
3	225	0.7495	0.3430	0.0024	-0.5014	0.0335	0.6158	0.0720	-0.9623	0.0341
3	225	0.7998	0.3754	0.0021	-0.5875	0.0376	0.5084	0.0778	-0.9378	0.0349
3	225	0.8577	0.4407	0.0019	-0.6564	0.0431	0.2996	0.0856	-0.8366	0.0308
3	225	0.9178	0.4279	0.0023	-0.7496	0.0484	0.0145	0.0934	-1.0420	0.0337
3	225	0.9729	0.4330	0.0042	-0.7918	0.0532	-0.2653	0.0964	-1.0968	0.0407

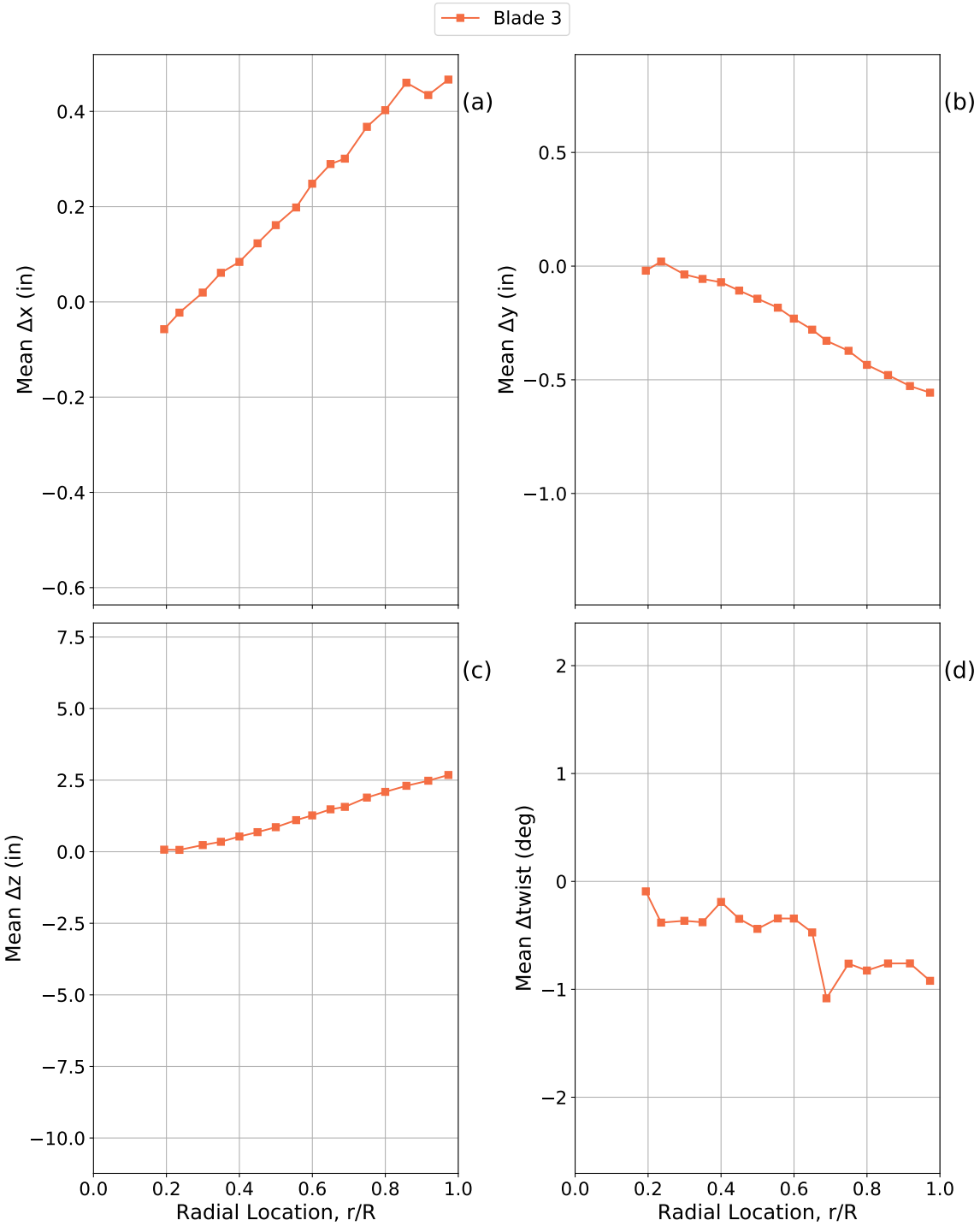


Figure 3.8-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0573	0.0014	-0.0200	0.0008	0.0720	0.0032	-0.0923	0.0212
3	240.12	0.2357	-0.0225	0.0011	0.0200	0.0011	0.0639	0.0027	-0.3816	0.0464
3	240.12	0.2995	0.0196	0.0010	-0.0367	0.0027	0.2324	0.0089	-0.3649	0.0561
3	240.12	0.3493	0.0611	0.0012	-0.0563	0.0049	0.3465	0.0132	-0.3783	0.0415
3	240.12	0.4000	0.0840	0.0013	-0.0710	0.0075	0.5312	0.0196	-0.1903	0.0494
3	240.12	0.4497	0.1230	0.0012	-0.1076	0.0107	0.6838	0.0249	-0.3465	0.0428
3	240.12	0.4997	0.1612	0.0015	-0.1433	0.0119	0.8560	0.0320	-0.4395	0.0540
3	240.12	0.5556	0.1983	0.0016	-0.1828	0.0146	1.1031	0.0404	-0.3429	0.0444
3	240.12	0.5995	0.2482	0.0014	-0.2309	0.0171	1.2683	0.0478	-0.3440	0.0632
3	240.12	0.6498	0.2895	0.0015	-0.2794	0.0175	1.4806	0.0529	-0.4727	0.0521
3	240.12	0.6890	0.3008	0.0016	-0.3285	0.0207	1.5663	0.0608	-1.0833	0.0573
3	240.12	0.7495	0.3677	0.0017	-0.3725	0.0232	1.8916	0.0682	-0.7618	0.0435
3	240.12	0.7998	0.4026	0.0018	-0.4344	0.0247	2.0905	0.0744	-0.8257	0.0547
3	240.12	0.8577	0.4603	0.0020	-0.4792	0.0276	2.3027	0.0816	-0.7602	0.0521
3	240.12	0.9178	0.4344	0.0015	-0.5275	0.0306	2.4800	0.0924	-0.7597	0.0531
3	240.12	0.9729	0.4669	0.0025	-0.5567	0.0339	2.6805	0.0981	-0.9209	0.0458

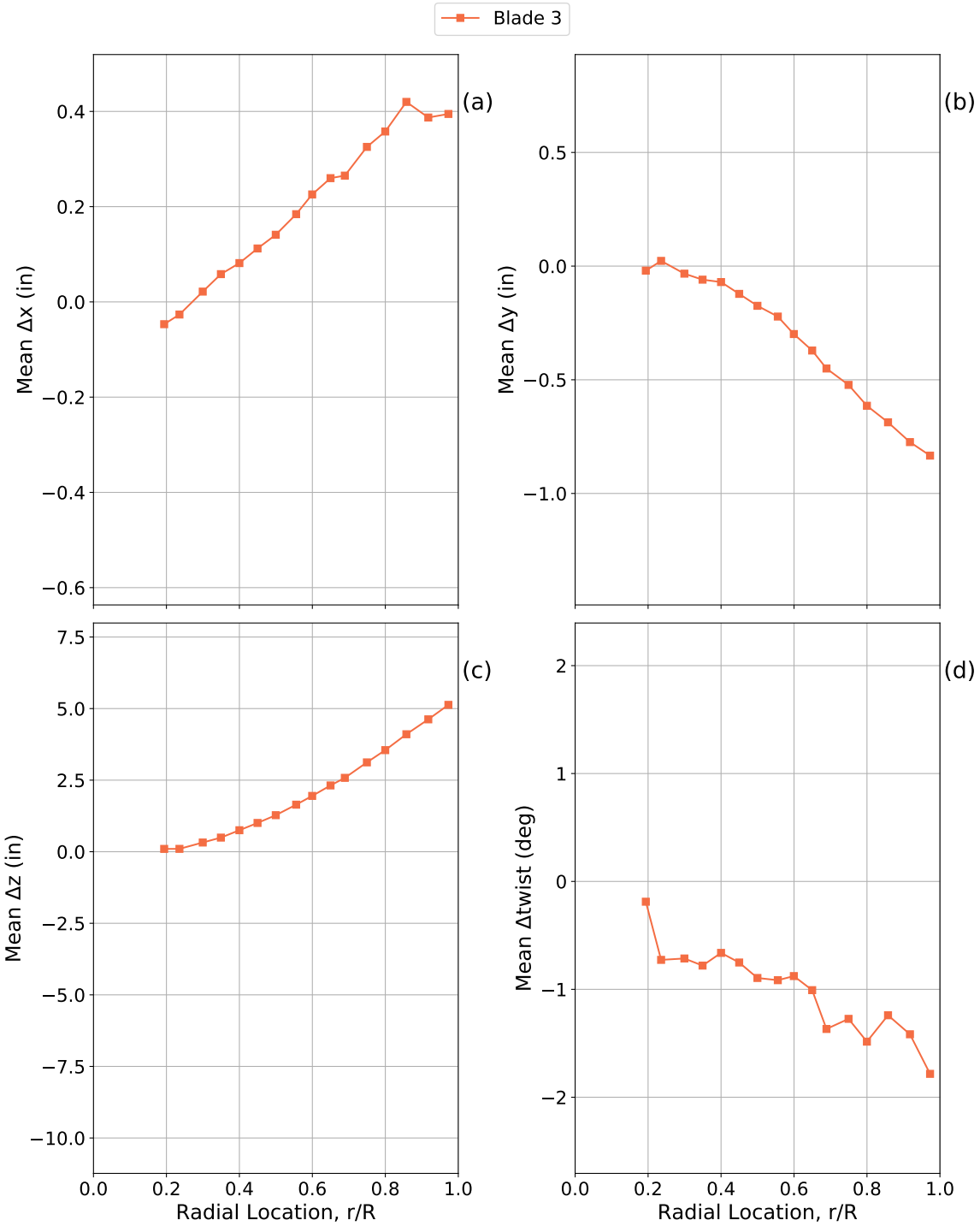


Figure 3.8-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0468	0.0057	-0.0198	0.0018	0.0985	0.0071	-0.1879	0.0271
3	254.88	0.2357	-0.0265	0.0012	0.0230	0.0014	0.0999	0.0060	-0.7270	0.0803
3	254.88	0.2995	0.0216	0.0008	-0.0332	0.0063	0.3216	0.0175	-0.7141	0.0839
3	254.88	0.3493	0.0583	0.0016	-0.0596	0.0100	0.4933	0.0256	-0.7799	0.0874
3	254.88	0.4000	0.0815	0.0012	-0.0701	0.0155	0.7506	0.0362	-0.6623	0.0797
3	254.88	0.4497	0.1122	0.0014	-0.1221	0.0204	1.0049	0.0459	-0.7514	0.0767
3	254.88	0.4997	0.1410	0.0015	-0.1746	0.0247	1.2763	0.0548	-0.8947	0.0759
3	254.88	0.5556	0.1842	0.0020	-0.2219	0.0301	1.6436	0.0645	-0.9153	0.0805
3	254.88	0.5995	0.2257	0.0017	-0.2988	0.0342	1.9495	0.0726	-0.8772	0.0767
3	254.88	0.6498	0.2599	0.0023	-0.3713	0.0392	2.3155	0.0809	-1.0076	0.0698
3	254.88	0.6890	0.2652	0.0023	-0.4504	0.0434	2.5806	0.0863	-1.3673	0.0749
3	254.88	0.7495	0.3255	0.0029	-0.5225	0.0496	3.1206	0.0961	-1.2737	0.0842
3	254.88	0.7998	0.3578	0.0031	-0.6143	0.0548	3.5483	0.1050	-1.4848	0.0786
3	254.88	0.8577	0.4200	0.0034	-0.6870	0.0611	4.1035	0.1158	-1.2402	0.0810
3	254.88	0.9178	0.3872	0.0032	-0.7741	0.0682	4.6240	0.1260	-1.4166	0.0841
3	254.88	0.9729	0.3947	0.0049	-0.8335	0.0745	5.1297	0.1398	-1.7832	0.0751

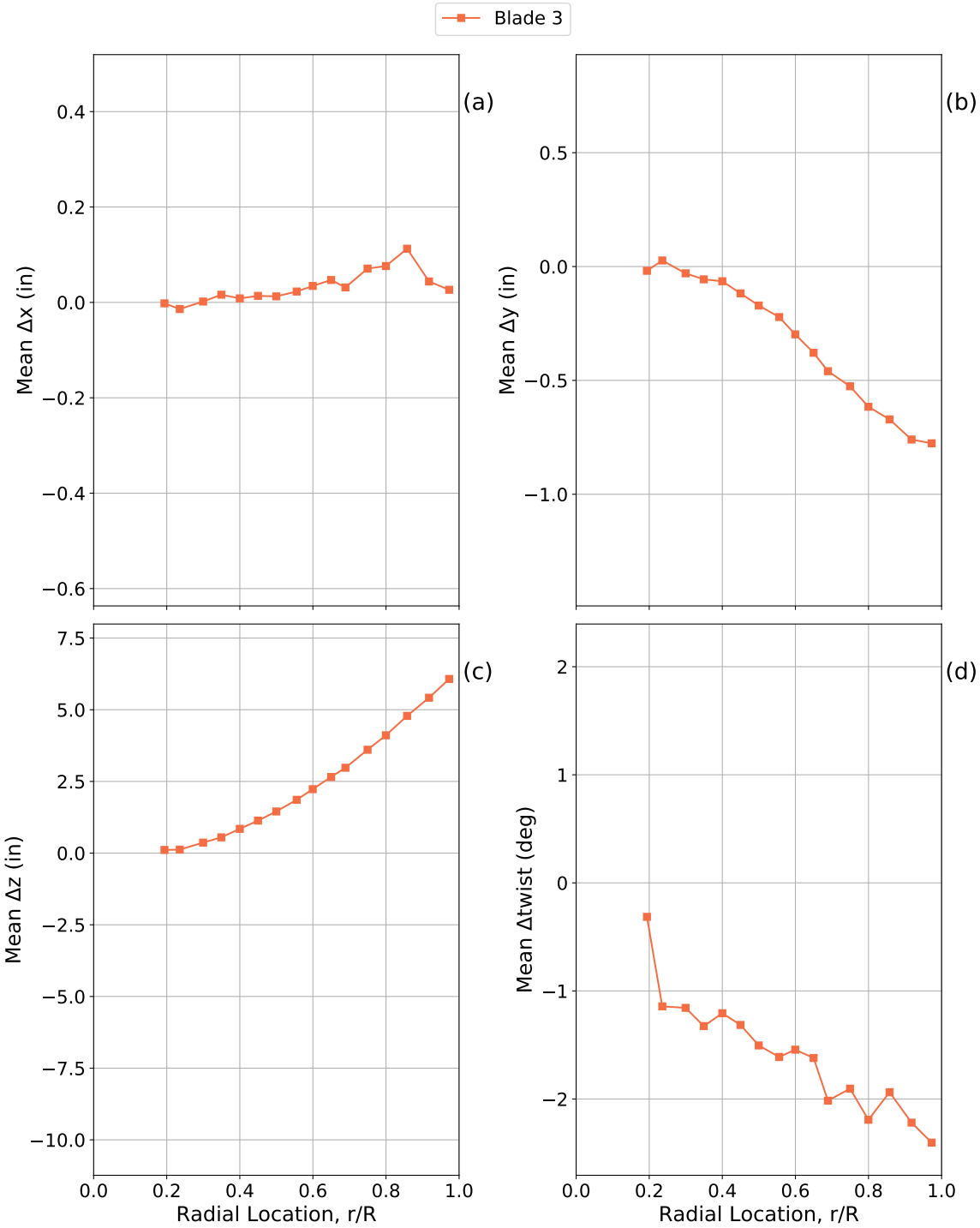


Figure 3.8-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0020	0.0147	-0.0186	0.0039	0.1099	0.0285	-0.3145	0.0774
3	260.16	0.2357	-0.0139	0.0044	0.0267	0.0022	0.1218	0.0197	-1.1427	0.2519
3	260.16	0.2995	0.0018	0.0017	-0.0297	0.0125	0.3667	0.0691	-1.1565	0.2535
3	260.16	0.3493	0.0161	0.0025	-0.0562	0.0227	0.5491	0.1108	-1.3253	0.2427
3	260.16	0.4000	0.0084	0.0038	-0.0645	0.0332	0.8462	0.1521	-1.2063	0.2384
3	260.16	0.4497	0.0137	0.0039	-0.1178	0.0433	1.1332	0.1908	-1.3144	0.2472
3	260.16	0.4997	0.0126	0.0050	-0.1711	0.0541	1.4515	0.2327	-1.5042	0.2475
3	260.16	0.5556	0.0228	0.0064	-0.2218	0.0663	1.8582	0.2800	-1.6112	0.2451
3	260.16	0.5995	0.0345	0.0075	-0.2977	0.0763	2.2291	0.3170	-1.5434	0.2447
3	260.16	0.6498	0.0470	0.0096	-0.3787	0.0869	2.6560	0.3579	-1.6201	0.2513
3	260.16	0.6890	0.0314	0.0112	-0.4595	0.0961	2.9764	0.3909	-2.0153	0.2484
3	260.16	0.7495	0.0709	0.0129	-0.5258	0.1093	3.6035	0.4396	-1.9040	0.2499
3	260.16	0.7998	0.0762	0.0146	-0.6157	0.1214	4.1085	0.4764	-2.1919	0.2493
3	260.16	0.8577	0.1126	0.0167	-0.6713	0.1346	4.7852	0.5187	-1.9370	0.2436
3	260.16	0.9178	0.0439	0.0186	-0.7596	0.1496	5.4193	0.5601	-2.2184	0.2497
3	260.16	0.9729	0.0264	0.0234	-0.7763	0.1634	6.0728	0.5876	-2.4036	0.2834

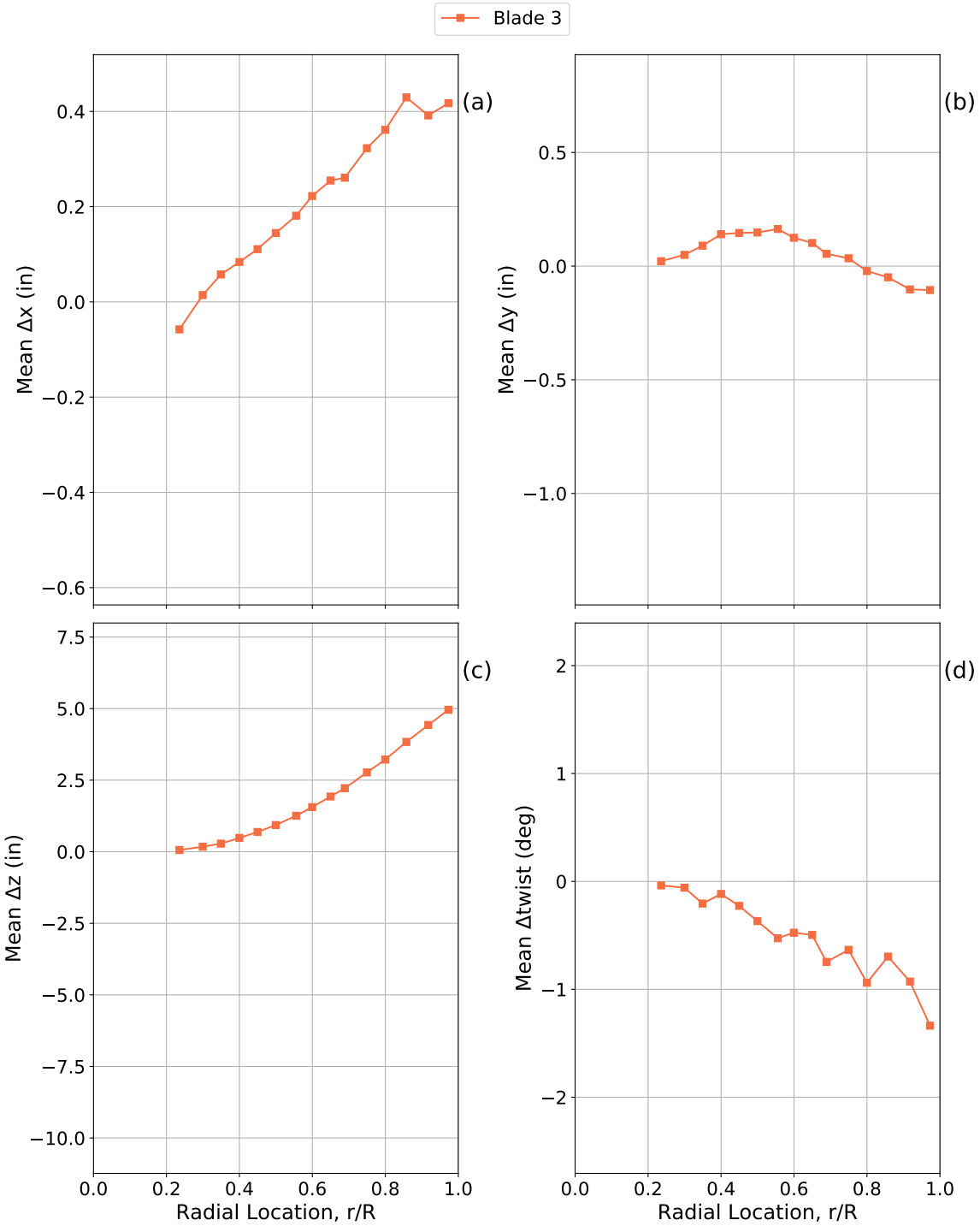


Figure 3.8-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0577	0.0055	0.0217	0.0020	0.0586	0.0146	-0.0371	0.1369
3	265.08	0.2995	0.0143	0.0026	0.0495	0.0045	0.1760	0.0251	-0.0581	0.2191
3	265.08	0.3493	0.0576	0.0024	0.0900	0.0094	0.2825	0.0497	-0.2051	0.2125
3	265.08	0.4000	0.0838	0.0023	0.1402	0.0139	0.4829	0.0697	-0.1162	0.2190
3	265.08	0.4497	0.1108	0.0027	0.1459	0.0179	0.6890	0.0872	-0.2266	0.2167
3	265.08	0.4997	0.1447	0.0031	0.1479	0.0224	0.9319	0.1094	-0.3674	0.2041
3	265.08	0.5556	0.1810	0.0036	0.1632	0.0268	1.2570	0.1306	-0.5264	0.2138
3	265.08	0.5995	0.2224	0.0037	0.1245	0.0312	1.5581	0.1496	-0.4750	0.2126
3	265.08	0.6498	0.2549	0.0043	0.1018	0.0359	1.9287	0.1741	-0.4960	0.2102
3	265.08	0.6890	0.2608	0.0050	0.0542	0.0399	2.2190	0.1911	-0.7458	0.2122
3	265.08	0.7495	0.3228	0.0056	0.0343	0.0456	2.7697	0.2176	-0.6343	0.2052
3	265.08	0.7998	0.3613	0.0070	-0.0217	0.0513	3.2172	0.2389	-0.9385	0.2091
3	265.08	0.8577	0.4295	0.0078	-0.0492	0.0578	3.8360	0.2634	-0.6967	0.2083
3	265.08	0.9178	0.3915	0.0092	-0.1025	0.0643	4.4265	0.2861	-0.9278	0.2095
3	265.08	0.9729	0.4173	0.0110	-0.1053	0.0706	4.9574	0.3072	-1.3366	0.2177

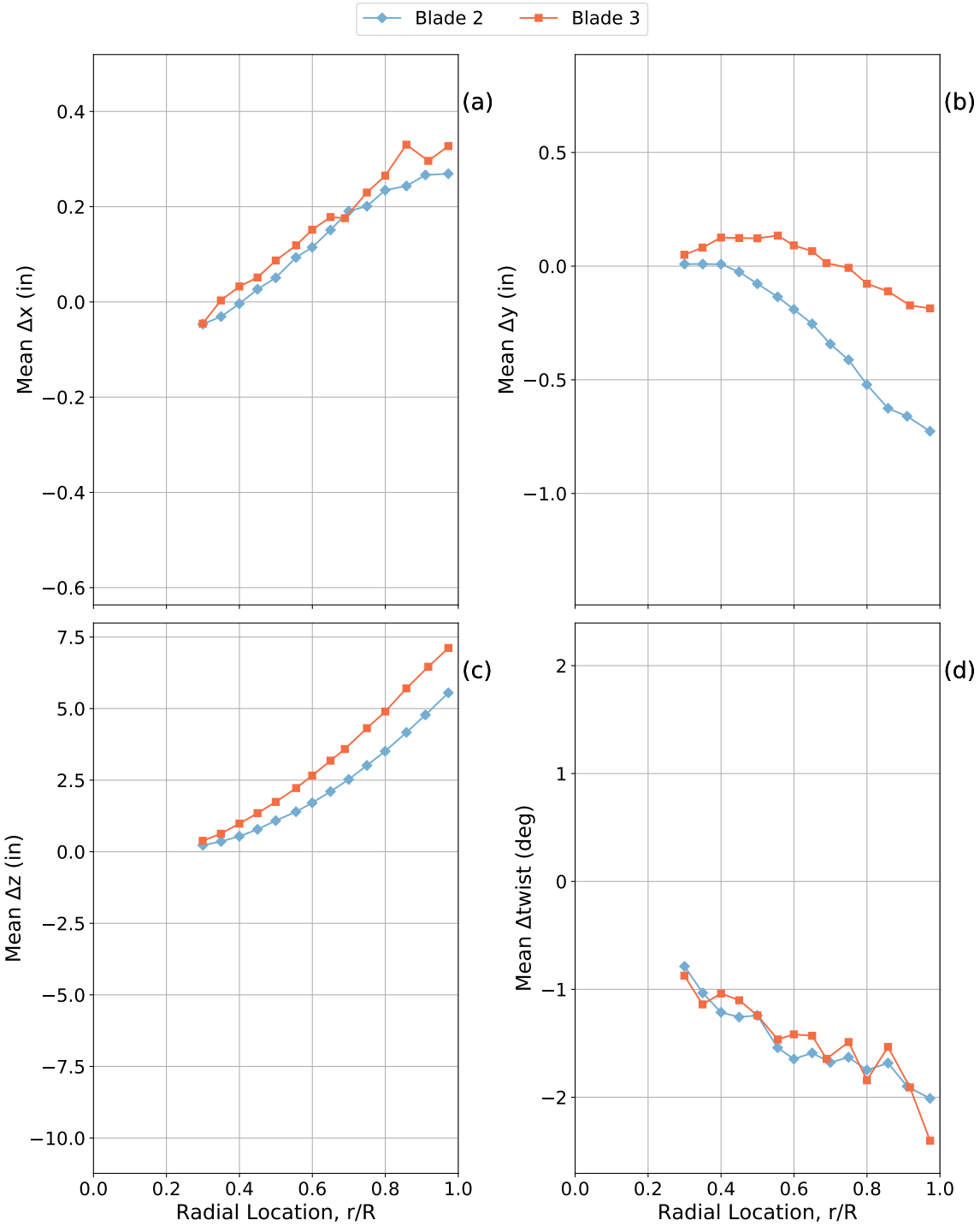


Figure 3.8-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2999	-0.0465	0.0227	0.0090	0.0258	0.2253	0.2849	-0.7873	1.0876
2	270.35	0.3498	-0.0308	0.0148	0.0091	0.0526	0.3575	0.4569	-1.0328	1.4333
2	270.35	0.3998	-0.0039	0.0170	0.0083	0.0912	0.5367	0.6914	-1.2130	1.4338
2	270.35	0.4496	0.0266	0.0184	-0.0252	0.1280	0.7798	0.9225	-1.2573	1.4394
2	270.35	0.4995	0.0506	0.0217	-0.0779	0.1625	1.0852	1.1533	-1.2423	1.4615
2	270.35	0.5551	0.0933	0.0268	-0.1351	0.2040	1.3965	1.4198	-1.5412	1.4232
2	270.35	0.5996	0.1147	0.0322	-0.1905	0.2344	1.7074	1.6268	-1.6462	1.4323
2	270.35	0.6497	0.1510	0.0376	-0.2539	0.2682	2.1022	1.8605	-1.5895	1.4374
2	270.35	0.6996	0.1906	0.0430	-0.3428	0.3006	2.5241	2.0951	-1.6784	1.4370
2	270.35	0.7495	0.2009	0.0493	-0.4120	0.3315	3.0126	2.3287	-1.6299	1.4369
2	270.35	0.7996	0.2346	0.0565	-0.5215	0.3623	3.5108	2.5665	-1.7477	1.4347
2	270.35	0.8578	0.2433	0.0646	-0.6255	0.3952	4.1668	2.8431	-1.6833	1.4354
2	270.35	0.9100	0.2666	0.0750	-0.6605	0.4254	4.7797	3.0899	-1.8990	1.4383
2	270.35	0.9727	0.2691	0.1012	-0.7264	0.4604	5.5498	3.3872	-2.0114	1.4484
3	270	0.2995	-0.0456	0.0102	0.0499	0.0124	0.3804	0.1128	-0.8731	0.2555
3	270	0.3493	0.0031	0.0083	0.0815	0.0228	0.6297	0.1754	-1.1394	0.3328
3	270	0.4000	0.0325	0.0125	0.1258	0.0379	0.9809	0.2620	-1.0386	0.2960
3	270	0.4497	0.0513	0.0146	0.1234	0.0511	1.3477	0.3357	-1.1012	0.2882
3	270	0.4997	0.0870	0.0159	0.1224	0.0641	1.7401	0.4087	-1.2414	0.3011
3	270	0.5556	0.1188	0.0189	0.1343	0.0789	2.2231	0.4936	-1.4647	0.3116
3	270	0.5995	0.1516	0.0216	0.0910	0.0907	2.6599	0.5599	-1.4171	0.3239
3	270	0.6498	0.1781	0.0245	0.0661	0.1046	3.1814	0.6351	-1.4305	0.3206
3	270	0.6890	0.1758	0.0266	0.0134	0.1156	3.5861	0.6967	-1.6443	0.3157
3	270	0.7495	0.2297	0.0301	-0.0076	0.1323	4.3150	0.7863	-1.4886	0.3179
3	270	0.7998	0.2652	0.0339	-0.0776	0.1465	4.8946	0.8643	-1.8425	0.3126
3	270	0.8577	0.3302	0.0376	-0.1108	0.1632	5.7059	0.9550	-1.5339	0.3154
3	270	0.9178	0.2962	0.0441	-0.1727	0.1794	6.4607	1.0499	-1.9088	0.3061
3	270	0.9729	0.3272	0.0519	-0.1859	0.1964	7.1156	1.1352	-2.4026	0.3125

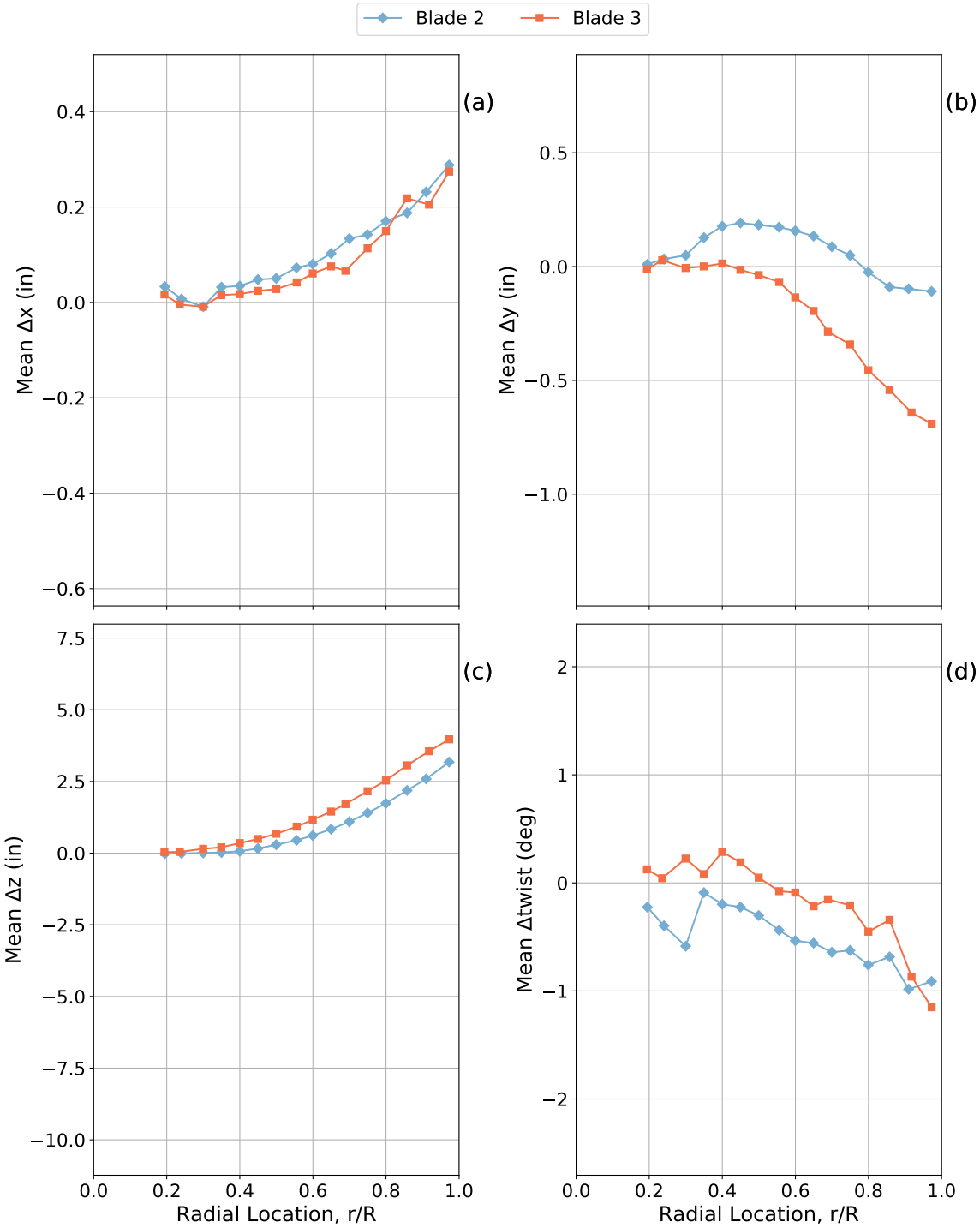


Figure 3.8-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0333	0.0023	0.0101	0.0027	-0.0155	0.0153	-0.2244	0.0402
2	274.92	0.2405	0.0072	0.0013	0.0334	0.0037	-0.0085	0.0221	-0.3970	0.1020
2	274.92	0.2999	-0.0090	0.0024	0.0494	0.0072	0.0081	0.0364	-0.5862	0.1143
2	274.92	0.3498	0.0321	0.0047	0.1273	0.0253	0.0232	0.0830	-0.0899	0.0683
2	274.92	0.3998	0.0345	0.0057	0.1771	0.0297	0.0666	0.1026	-0.1972	0.0752
2	274.92	0.4496	0.0480	0.0056	0.1917	0.0358	0.1611	0.1219	-0.2239	0.0572
2	274.92	0.4995	0.0504	0.0061	0.1828	0.0428	0.2945	0.1442	-0.3017	0.0443
2	274.92	0.5551	0.0728	0.0067	0.1730	0.0473	0.4485	0.1613	-0.4375	0.0636
2	274.92	0.5996	0.0804	0.0077	0.1573	0.0526	0.6140	0.1794	-0.5354	0.0628
2	274.92	0.6497	0.1026	0.0101	0.1339	0.0585	0.8368	0.1972	-0.5576	0.0625
2	274.92	0.6996	0.1339	0.0124	0.0873	0.0654	1.0952	0.2169	-0.6420	0.0582
2	274.92	0.7495	0.1423	0.0149	0.0495	0.0704	1.4019	0.2351	-0.6257	0.0589
2	274.92	0.7996	0.1704	0.0176	-0.0246	0.0771	1.7335	0.2570	-0.7601	0.0573
2	274.92	0.8578	0.1877	0.0217	-0.0900	0.0825	2.1882	0.2779	-0.6851	0.0554
2	274.92	0.9100	0.2317	0.0265	-0.0977	0.0884	2.5891	0.2934	-0.9837	0.0619
2	274.92	0.9727	0.2880	0.0342	-0.1089	0.0939	3.1760	0.3172	-0.9126	0.0613
3	274.92	0.1938	0.0168	0.0061	-0.0120	0.0044	0.0336	0.0355	0.1250	0.2165
3	274.92	0.2357	-0.0045	0.0139	0.0280	0.0061	0.0438	0.0360	0.0429	0.2456
3	274.92	0.2995	-0.0090	0.0060	-0.0063	0.0096	0.1517	0.0630	0.2248	0.3842
3	274.92	0.3493	0.0154	0.0046	0.0008	0.0229	0.2048	0.1161	0.0811	0.2464
3	274.92	0.4000	0.0174	0.0062	0.0136	0.0297	0.3513	0.1417	0.2870	0.2365
3	274.92	0.4497	0.0242	0.0062	-0.0142	0.0309	0.4944	0.1544	0.1891	0.2286
3	274.92	0.4997	0.0281	0.0069	-0.0375	0.0370	0.6772	0.1800	0.0484	0.2399
3	274.92	0.5556	0.0420	0.0085	-0.0677	0.0414	0.9249	0.2006	-0.0764	0.2385
3	274.92	0.5995	0.0607	0.0095	-0.1353	0.0452	1.1642	0.2190	-0.0892	0.2335
3	274.92	0.6498	0.0756	0.0109	-0.1951	0.0507	1.4497	0.2422	-0.2164	0.2341
3	274.92	0.6890	0.0663	0.0131	-0.2865	0.0542	1.7112	0.2566	-0.1517	0.2231
3	274.92	0.7495	0.1135	0.0171	-0.3421	0.0608	2.1589	0.2830	-0.2083	0.2255
3	274.92	0.7998	0.1495	0.0200	-0.4558	0.0671	2.5338	0.3065	-0.4519	0.2355
3	274.92	0.8577	0.2183	0.0243	-0.5421	0.0750	3.0627	0.3326	-0.3423	0.2291
3	274.92	0.9178	0.2050	0.0301	-0.6413	0.0836	3.5543	0.3596	-0.8677	0.2475
3	274.92	0.9729	0.2743	0.0394	-0.6908	0.0903	3.9688	0.3899	-1.1511	0.2366

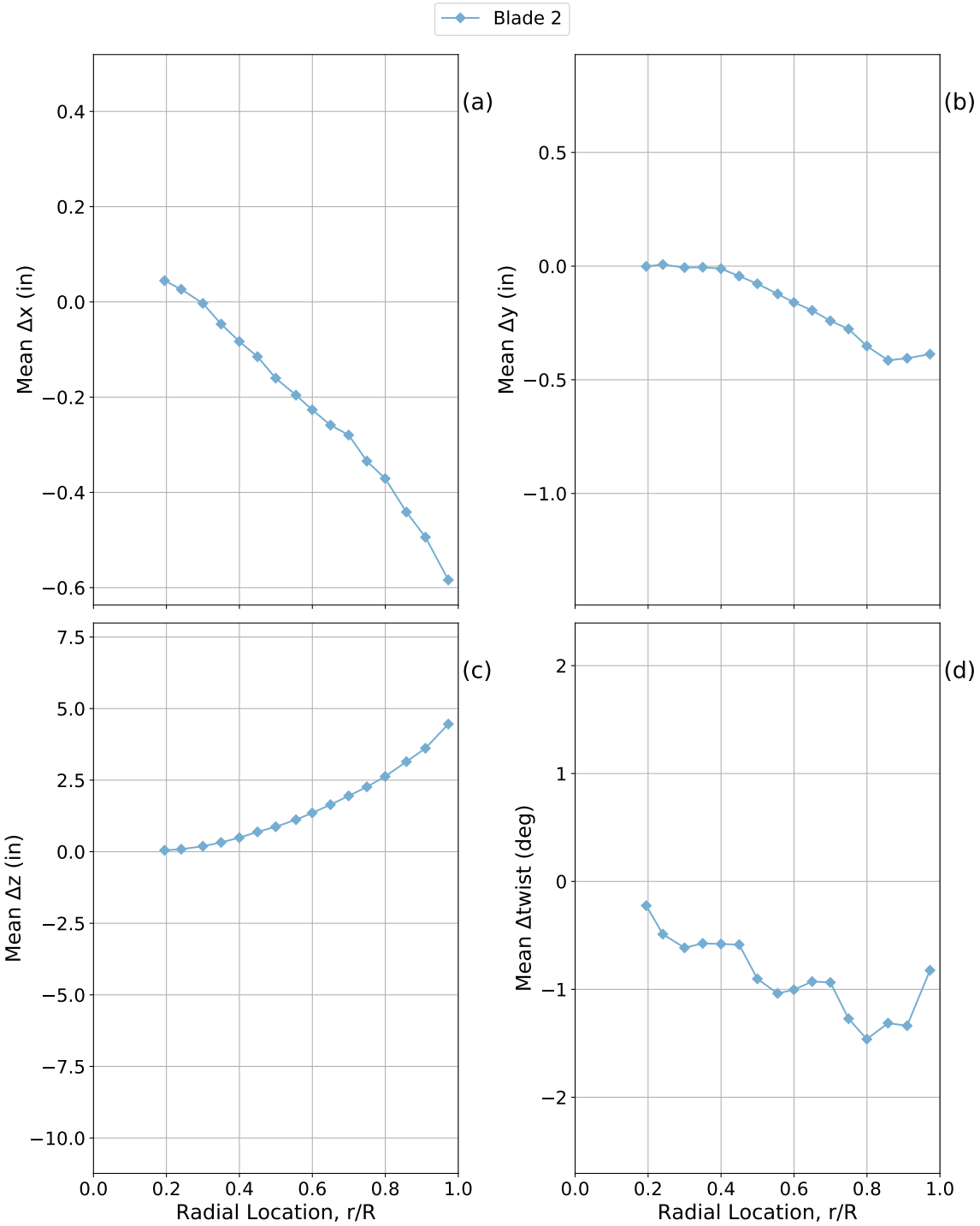


Figure 3.8-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0446	0.0036	-0.0012	0.0009	0.0500	0.0083	-0.2246	0.0356
2	285.12	0.2405	0.0265	0.0018	0.0070	0.0043	0.0877	0.0183	-0.4891	0.0364
2	285.12	0.2999	-0.0031	0.0020	-0.0064	0.0079	0.1906	0.0304	-0.6152	0.0665
2	285.12	0.3498	-0.0465	0.0036	-0.0050	0.0160	0.3247	0.0452	-0.5743	0.0999
2	285.12	0.3998	-0.0831	0.0026	-0.0112	0.0251	0.4903	0.0710	-0.5800	0.0354
2	285.12	0.4496	-0.1150	0.0030	-0.0439	0.0260	0.6914	0.0772	-0.5855	0.0478
2	285.12	0.4995	-0.1601	0.0034	-0.0777	0.0323	0.8712	0.0943	-0.9028	0.0332
2	285.12	0.5551	-0.1958	0.0039	-0.1223	0.0383	1.1181	0.1098	-1.0380	0.0333
2	285.12	0.5996	-0.2266	0.0053	-0.1596	0.0429	1.3547	0.1223	-1.0036	0.0432
2	285.12	0.6497	-0.2588	0.0047	-0.1948	0.0487	1.6435	0.1406	-0.9279	0.0218
2	285.12	0.6996	-0.2796	0.0065	-0.2409	0.0543	1.9511	0.1618	-0.9360	0.0466
2	285.12	0.7495	-0.3344	0.0062	-0.2766	0.0607	2.2657	0.1826	-1.2723	0.0694
2	285.12	0.7996	-0.3709	0.0072	-0.3518	0.0672	2.6301	0.2112	-1.4617	0.0477
2	285.12	0.8578	-0.4413	0.0075	-0.4145	0.0741	3.1454	0.2426	-1.3132	0.0696
2	285.12	0.9100	-0.4941	0.0084	-0.4053	0.0814	3.6131	0.2721	-1.3376	0.0690
2	285.12	0.9727	-0.5838	0.0159	-0.3871	0.0880	4.4579	0.3215	-0.8239	0.0948

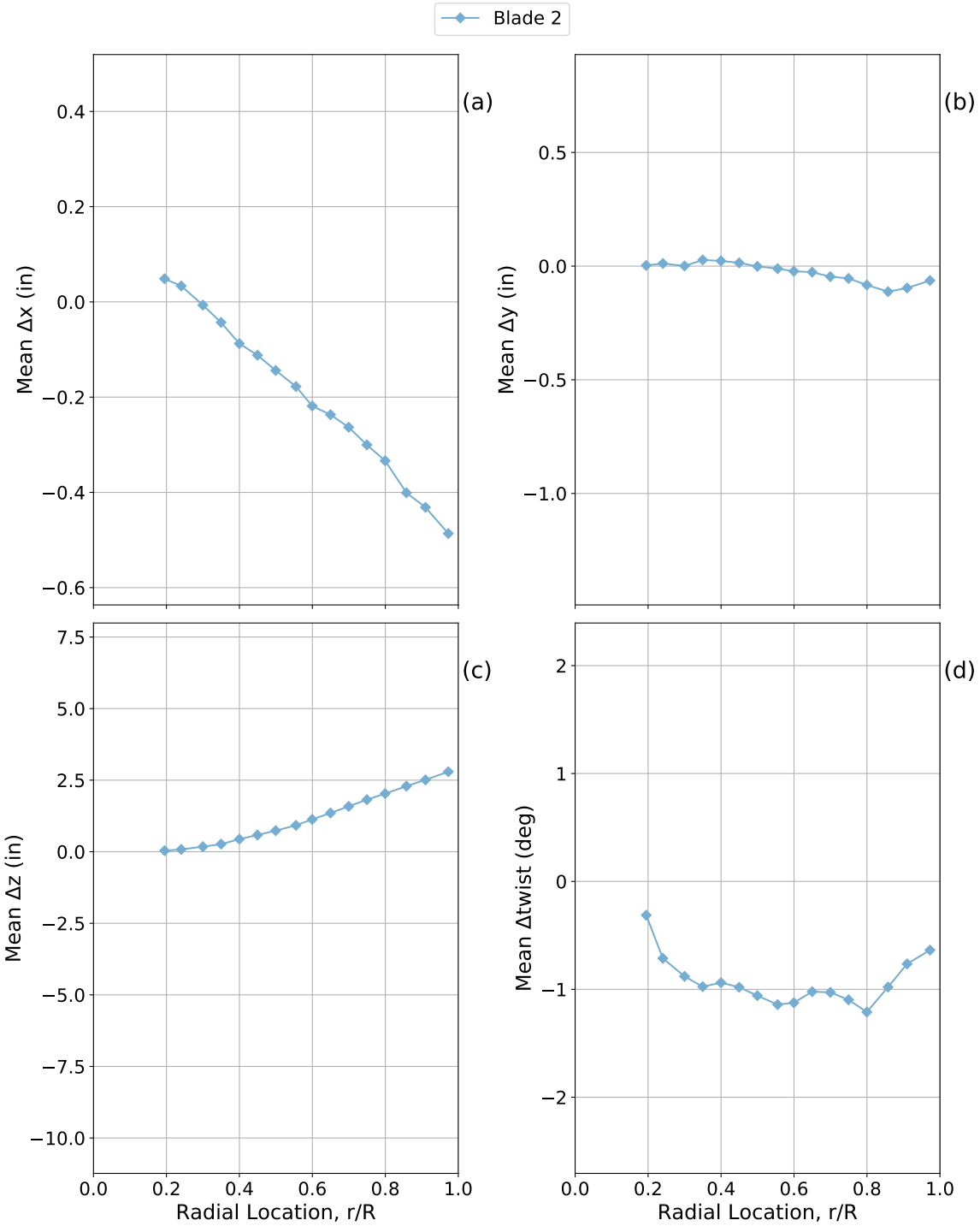


Figure 3.8-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0486	0.0017	0.0028	0.0010	0.0357	0.0030	-0.3131	0.0286
2	299.88	0.2405	0.0335	0.0012	0.0115	0.0020	0.0806	0.0064	-0.7128	0.0297
2	299.88	0.2999	-0.0067	0.0020	0.0007	0.0032	0.1750	0.0099	-0.8799	0.0540
2	299.88	0.3498	-0.0431	0.0013	0.0271	0.0053	0.2658	0.0107	-0.9754	0.0648
2	299.88	0.3998	-0.0875	0.0031	0.0229	0.0082	0.4383	0.0197	-0.9380	0.0496
2	299.88	0.4496	-0.1119	0.0023	0.0143	0.0090	0.5838	0.0242	-0.9806	0.0575
2	299.88	0.4995	-0.1440	0.0054	-0.0011	0.0126	0.7359	0.0322	-1.0584	0.0694
2	299.88	0.5551	-0.1777	0.0035	-0.0111	0.0148	0.9215	0.0396	-1.1415	0.0708
2	299.88	0.5996	-0.2186	0.0038	-0.0226	0.0167	1.1286	0.0441	-1.1245	0.0639
2	299.88	0.6497	-0.2369	0.0040	-0.0266	0.0196	1.3529	0.0533	-1.0215	0.0546
2	299.88	0.6996	-0.2632	0.0038	-0.0463	0.0214	1.5844	0.0607	-1.0279	0.0559
2	299.88	0.7495	-0.3003	0.0041	-0.0542	0.0238	1.8188	0.0650	-1.0968	0.0613
2	299.88	0.7996	-0.3336	0.0035	-0.0829	0.0270	2.0297	0.0740	-1.2105	0.0788
2	299.88	0.8578	-0.4008	0.0044	-0.1123	0.0297	2.2899	0.0872	-0.9787	0.0743
2	299.88	0.9100	-0.4314	0.0043	-0.0963	0.0333	2.5104	0.1017	-0.7642	0.0710
2	299.88	0.9727	-0.4864	0.0061	-0.0635	0.0369	2.7948	0.1236	-0.6363	0.0942

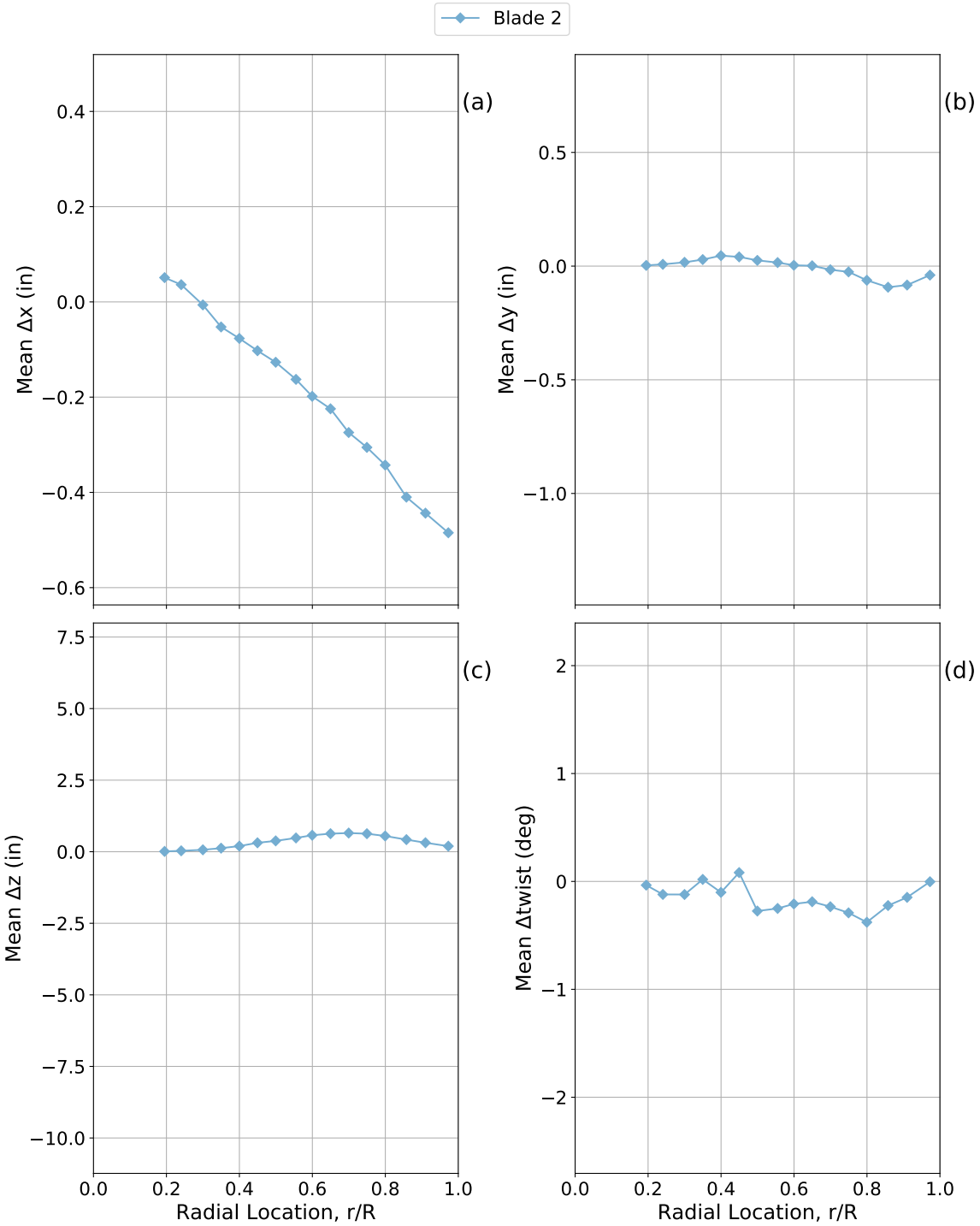


Figure 3.8-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0510	0.0014	0.0031	0.0011	0.0106	0.0061	-0.0345	0.0312
2	315	0.2405	0.0362	0.0019	0.0079	0.0017	0.0315	0.0159	-0.1206	0.0593
2	315	0.2999	-0.0063	0.0016	0.0167	0.0055	0.0664	0.0257	-0.1212	0.0699
2	315	0.3498	-0.0526	0.0023	0.0288	0.0073	0.1242	0.0420	0.0187	0.0711
2	315	0.3998	-0.0767	0.0022	0.0460	0.0125	0.1963	0.0662	-0.1016	0.0752
2	315	0.4496	-0.1025	0.0031	0.0406	0.0141	0.3113	0.0733	0.0819	0.0613
2	315	0.4995	-0.1267	0.0023	0.0253	0.0190	0.3785	0.0879	-0.2745	0.0530
2	315	0.5551	-0.1627	0.0024	0.0156	0.0215	0.4808	0.1009	-0.2504	0.0553
2	315	0.5996	-0.1983	0.0032	0.0038	0.0238	0.5753	0.1069	-0.2085	0.0670
2	315	0.6497	-0.2245	0.0021	0.0016	0.0292	0.6303	0.1217	-0.1882	0.0473
2	315	0.6996	-0.2743	0.0034	-0.0159	0.0346	0.6525	0.1308	-0.2342	0.0494
2	315	0.7495	-0.3055	0.0031	-0.0253	0.0393	0.6292	0.1392	-0.2912	0.0645
2	315	0.7996	-0.3427	0.0030	-0.0623	0.0451	0.5495	0.1519	-0.3782	0.0608
2	315	0.8578	-0.4100	0.0025	-0.0929	0.0516	0.4225	0.1669	-0.2237	0.0443
2	315	0.9100	-0.4436	0.0032	-0.0833	0.0576	0.3135	0.1797	-0.1476	0.0507
2	315	0.9727	-0.4848	0.0044	-0.0395	0.0645	0.1939	0.1990	-0.0029	0.0587

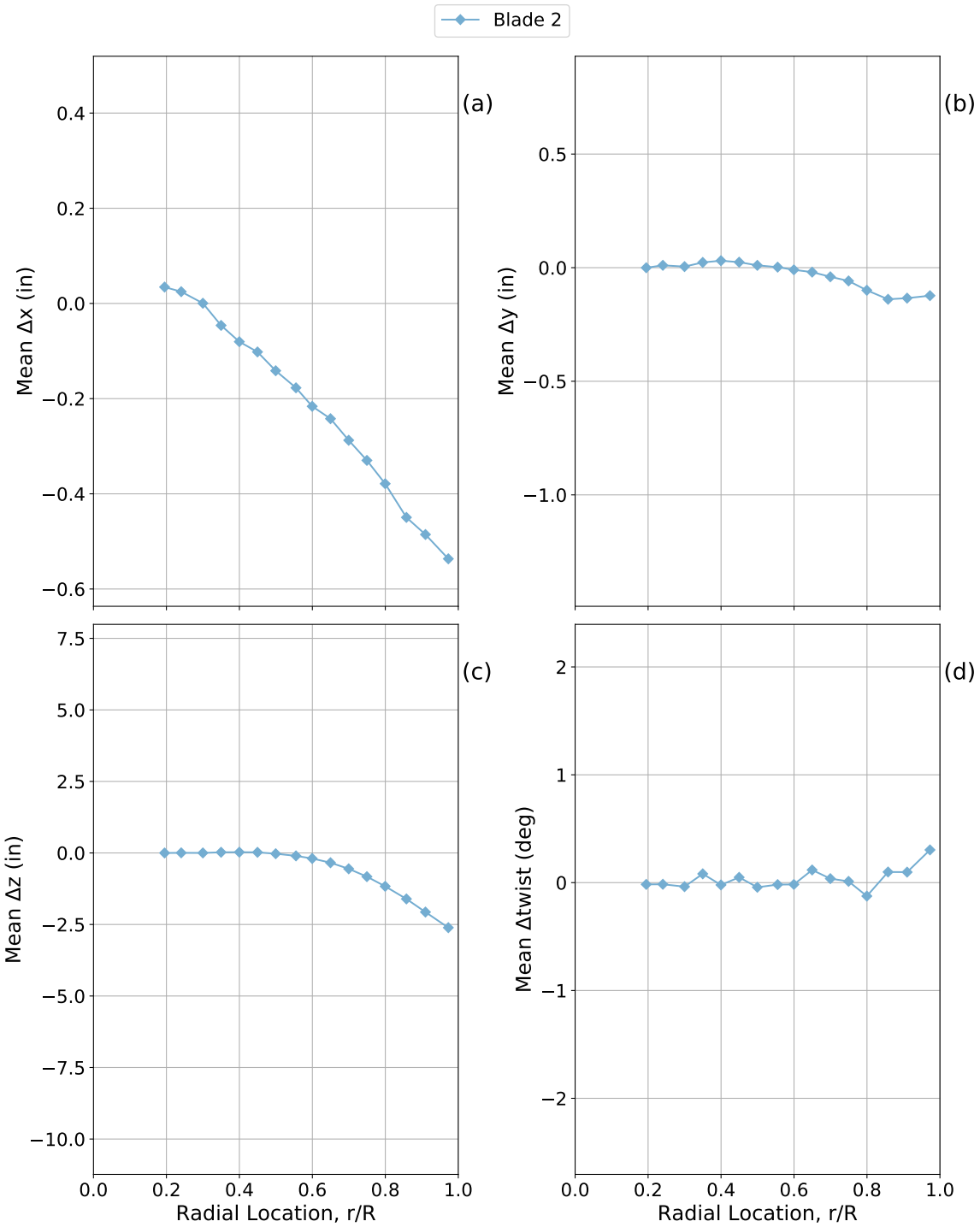


Figure 3.8-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0344	0.0018	-0.0003	0.0007	-0.0014	0.0028	-0.0164	0.0173
2	330.12	0.2405	0.0247	0.0019	0.0104	0.0018	0.0034	0.0078	-0.0153	0.0287
2	330.12	0.2999	0.0004	0.0020	0.0047	0.0037	0.0001	0.0169	-0.0373	0.0404
2	330.12	0.3498	-0.0462	0.0015	0.0231	0.0046	0.0231	0.0183	0.0815	0.0708
2	330.12	0.3998	-0.0804	0.0036	0.0307	0.0089	0.0265	0.0358	-0.0213	0.0709
2	330.12	0.4496	-0.1019	0.0027	0.0242	0.0088	0.0218	0.0340	0.0491	0.0647
2	330.12	0.4995	-0.1414	0.0028	0.0103	0.0108	-0.0277	0.0455	-0.0431	0.0458
2	330.12	0.5551	-0.1773	0.0036	0.0024	0.0118	-0.1026	0.0537	-0.0182	0.0545
2	330.12	0.5996	-0.2162	0.0036	-0.0094	0.0146	-0.1945	0.0631	-0.0168	0.0415
2	330.12	0.6497	-0.2422	0.0035	-0.0196	0.0178	-0.3418	0.0756	0.1175	0.0555
2	330.12	0.6996	-0.2875	0.0040	-0.0401	0.0193	-0.5551	0.0809	0.0369	0.0476
2	330.12	0.7495	-0.3298	0.0036	-0.0584	0.0217	-0.8289	0.0886	0.0117	0.0546
2	330.12	0.7996	-0.3788	0.0033	-0.0995	0.0241	-1.1671	0.1020	-0.1249	0.0442
2	330.12	0.8578	-0.4496	0.0038	-0.1391	0.0268	-1.6078	0.1137	0.0987	0.0457
2	330.12	0.9100	-0.4855	0.0042	-0.1341	0.0299	-2.0670	0.1253	0.0974	0.0492
2	330.12	0.9727	-0.5366	0.0054	-0.1232	0.0336	-2.6115	0.1397	0.3034	0.0511

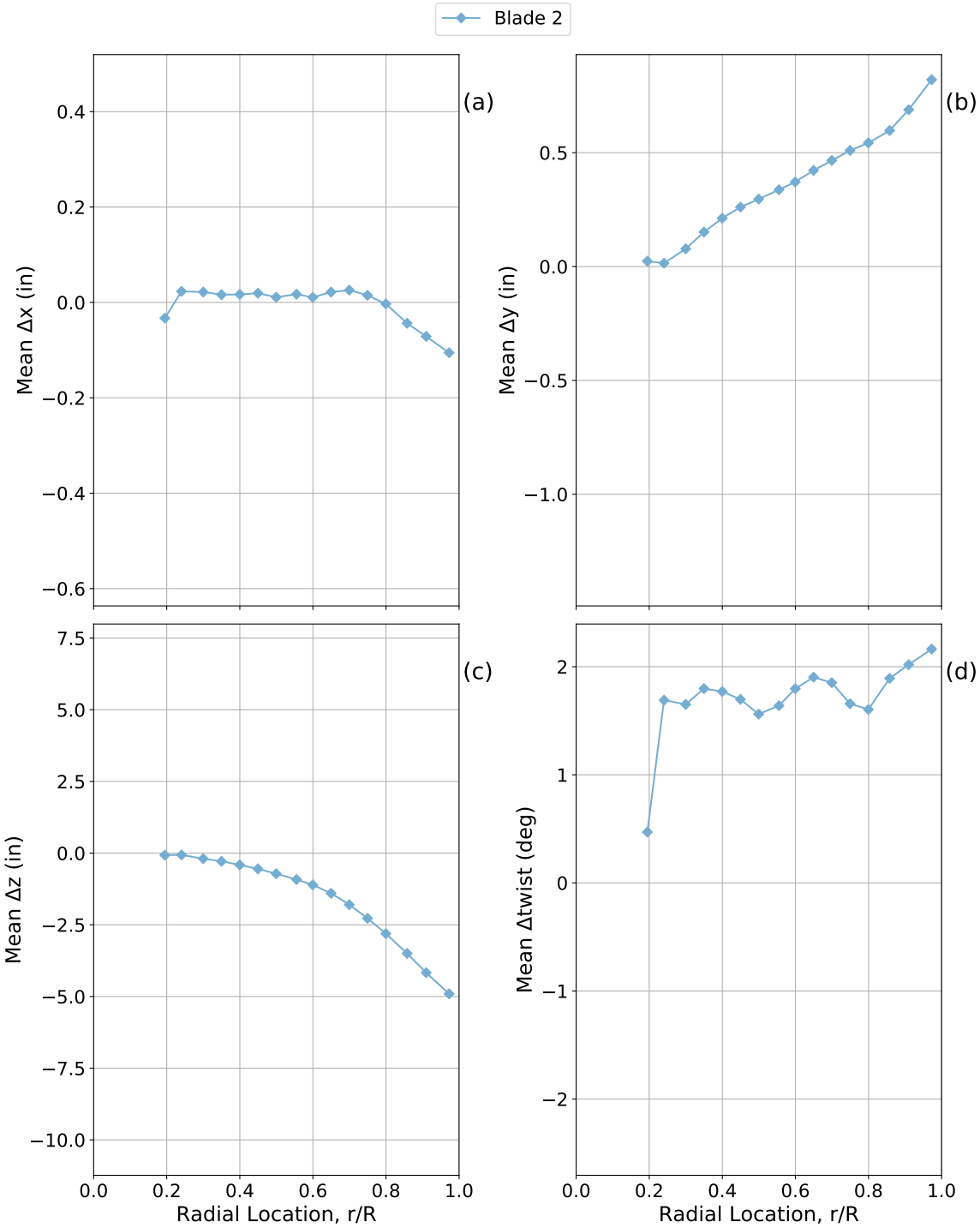


Figure 3.8-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0330	0.0044	0.0237	0.0008	-0.0711	0.0026	0.4700	0.0217
2	344.88	0.2405	0.0231	0.0023	0.0146	0.0024	-0.0630	0.0049	1.6905	0.0480
2	344.88	0.2999	0.0217	0.0014	0.0780	0.0048	-0.1946	0.0120	1.6512	0.0523
2	344.88	0.3498	0.0162	0.0023	0.1514	0.0073	-0.2854	0.0154	1.7975	0.0486
2	344.88	0.3998	0.0167	0.0037	0.2124	0.0126	-0.4117	0.0263	1.7705	0.0512
2	344.88	0.4496	0.0193	0.0056	0.2612	0.0175	-0.5494	0.0348	1.6979	0.0653
2	344.88	0.4995	0.0108	0.0077	0.2962	0.0193	-0.7187	0.0374	1.5613	0.0901
2	344.88	0.5551	0.0172	0.0096	0.3375	0.0238	-0.9191	0.0536	1.6396	0.0606
2	344.88	0.5996	0.0106	0.0117	0.3718	0.0278	-1.1074	0.0572	1.7958	0.0620
2	344.88	0.6497	0.0216	0.0131	0.4221	0.0323	-1.4024	0.0703	1.9035	0.0535
2	344.88	0.6996	0.0257	0.0154	0.4659	0.0373	-1.7982	0.0794	1.8521	0.0619
2	344.88	0.7495	0.0149	0.0180	0.5098	0.0408	-2.2744	0.0919	1.6577	0.0450
2	344.88	0.7996	-0.0031	0.0198	0.5430	0.0468	-2.8082	0.1069	1.6042	0.0800
2	344.88	0.8578	-0.0437	0.0212	0.5972	0.0528	-3.4996	0.1245	1.8922	0.0548
2	344.88	0.9100	-0.0714	0.0244	0.6887	0.0569	-4.1706	0.1373	2.0189	0.0939
2	344.88	0.9727	-0.1055	0.0280	0.8206	0.0626	-4.9085	0.1528	2.1632	0.1065

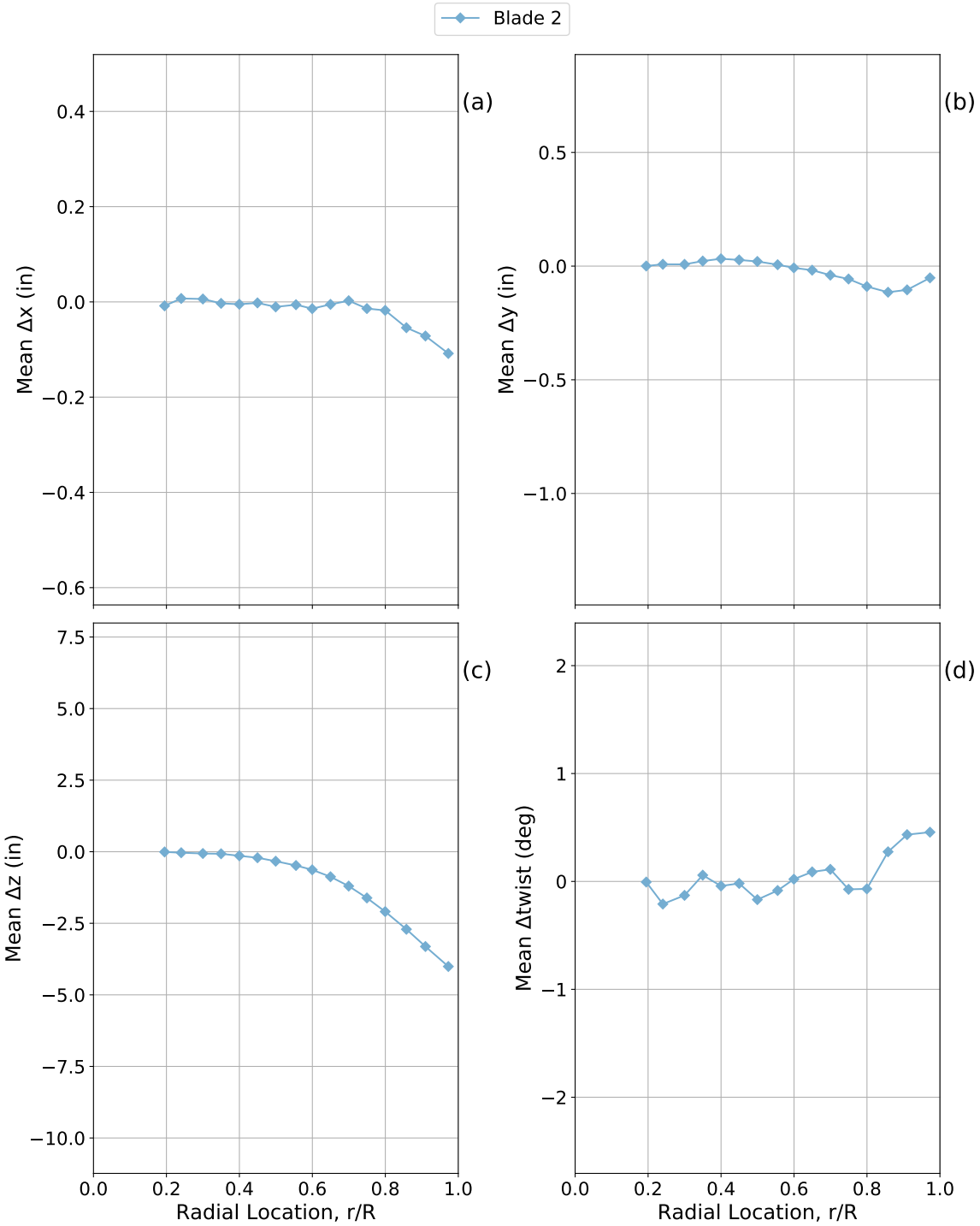


Figure 3.8-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0083	0.0036	0.0005	0.0008	-0.0082	0.0023	-0.0056	0.0247
2	350.16	0.2405	0.0072	0.0018	0.0081	0.0020	-0.0350	0.0033	-0.2096	0.0363
2	350.16	0.2999	0.0061	0.0027	0.0077	0.0043	-0.0624	0.0073	-0.1291	0.0571
2	350.16	0.3498	-0.0031	0.0043	0.0223	0.0056	-0.0721	0.0115	0.0581	0.0294
2	350.16	0.3998	-0.0049	0.0077	0.0323	0.0102	-0.1427	0.0158	-0.0422	0.0219
2	350.16	0.4496	-0.0021	0.0084	0.0272	0.0115	-0.2107	0.0186	-0.0186	0.0554
2	350.16	0.4995	-0.0105	0.0104	0.0205	0.0151	-0.3319	0.0230	-0.1687	0.0403
2	350.16	0.5551	-0.0059	0.0106	0.0062	0.0177	-0.4818	0.0272	-0.0841	0.0501
2	350.16	0.5996	-0.0142	0.0110	-0.0077	0.0214	-0.6320	0.0330	0.0208	0.0373
2	350.16	0.6497	-0.0052	0.0116	-0.0179	0.0245	-0.8747	0.0365	0.0884	0.0575
2	350.16	0.6996	0.0025	0.0118	-0.0397	0.0285	-1.2007	0.0418	0.1119	0.0414
2	350.16	0.7495	-0.0140	0.0117	-0.0567	0.0311	-1.6150	0.0458	-0.0734	0.0607
2	350.16	0.7996	-0.0178	0.0118	-0.0897	0.0348	-2.0920	0.0495	-0.0690	0.0726
2	350.16	0.8578	-0.0542	0.0130	-0.1149	0.0381	-2.7093	0.0572	0.2748	0.0855
2	350.16	0.9100	-0.0716	0.0140	-0.1044	0.0421	-3.3112	0.0634	0.4336	0.0537
2	350.16	0.9727	-0.1083	0.0167	-0.0518	0.0478	-4.0092	0.0682	0.4563	0.1316

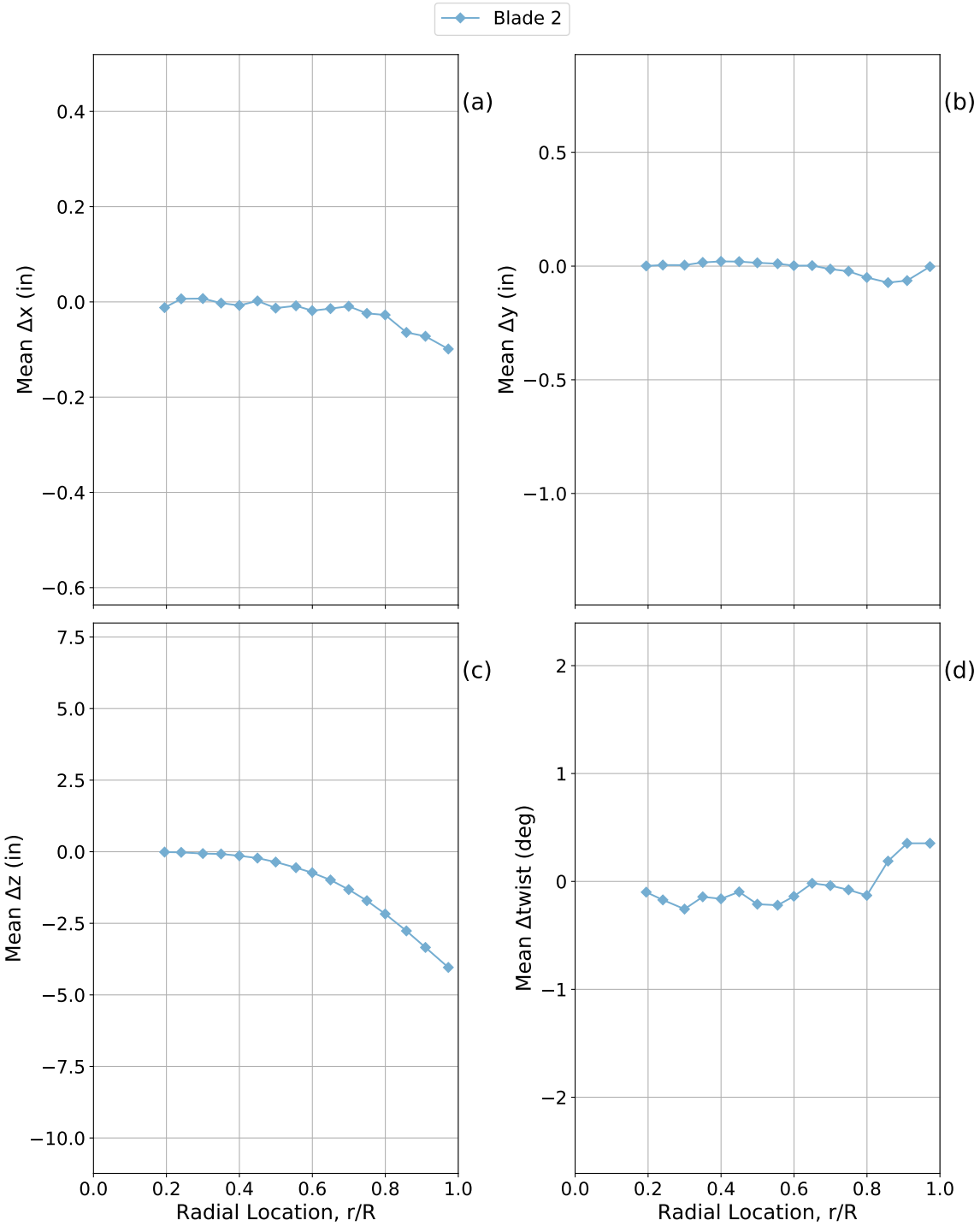


Figure 3.8-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.2, α = -1.9° NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Table 3.8-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.2, α = -1.9°
NFAC run 52, point 20. BD run 25, points 2722 to 2732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0120	0.0053	0.0008	0.0010	-0.0129	0.0033	-0.0994	0.0260
2	355.08	0.2405	0.0065	0.0016	0.0047	0.0018	-0.0226	0.0054	-0.1713	0.0352
2	355.08	0.2999	0.0070	0.0015	0.0043	0.0053	-0.0644	0.0098	-0.2564	0.0591
2	355.08	0.3498	-0.0025	0.0046	0.0162	0.0077	-0.0783	0.0171	-0.1426	0.0594
2	355.08	0.3998	-0.0074	0.0044	0.0208	0.0130	-0.1420	0.0247	-0.1612	0.0456
2	355.08	0.4496	0.0021	0.0069	0.0198	0.0141	-0.2225	0.0305	-0.0966	0.0326
2	355.08	0.4995	-0.0130	0.0069	0.0146	0.0190	-0.3604	0.0352	-0.2111	0.0403
2	355.08	0.5551	-0.0082	0.0087	0.0106	0.0228	-0.5578	0.0399	-0.2204	0.0518
2	355.08	0.5996	-0.0184	0.0110	0.0020	0.0260	-0.7340	0.0476	-0.1381	0.0506
2	355.08	0.6497	-0.0141	0.0114	0.0023	0.0313	-0.9876	0.0519	-0.0171	0.0694
2	355.08	0.6996	-0.0092	0.0132	-0.0132	0.0362	-1.3221	0.0615	-0.0389	0.0438
2	355.08	0.7495	-0.0241	0.0156	-0.0227	0.0404	-1.7109	0.0711	-0.0778	0.0529
2	355.08	0.7996	-0.0274	0.0185	-0.0500	0.0447	-2.1738	0.0793	-0.1298	0.0589
2	355.08	0.8578	-0.0641	0.0222	-0.0725	0.0518	-2.7661	0.0929	0.1883	0.0622
2	355.08	0.9100	-0.0722	0.0261	-0.0637	0.0573	-3.3436	0.1044	0.3533	0.0388
2	355.08	0.9727	-0.0989	0.0319	-0.0023	0.0637	-4.0419	0.1254	0.3535	0.0560

3.9 Run 52, Point 28

3.9.1 Pitch, Flap, and Lag

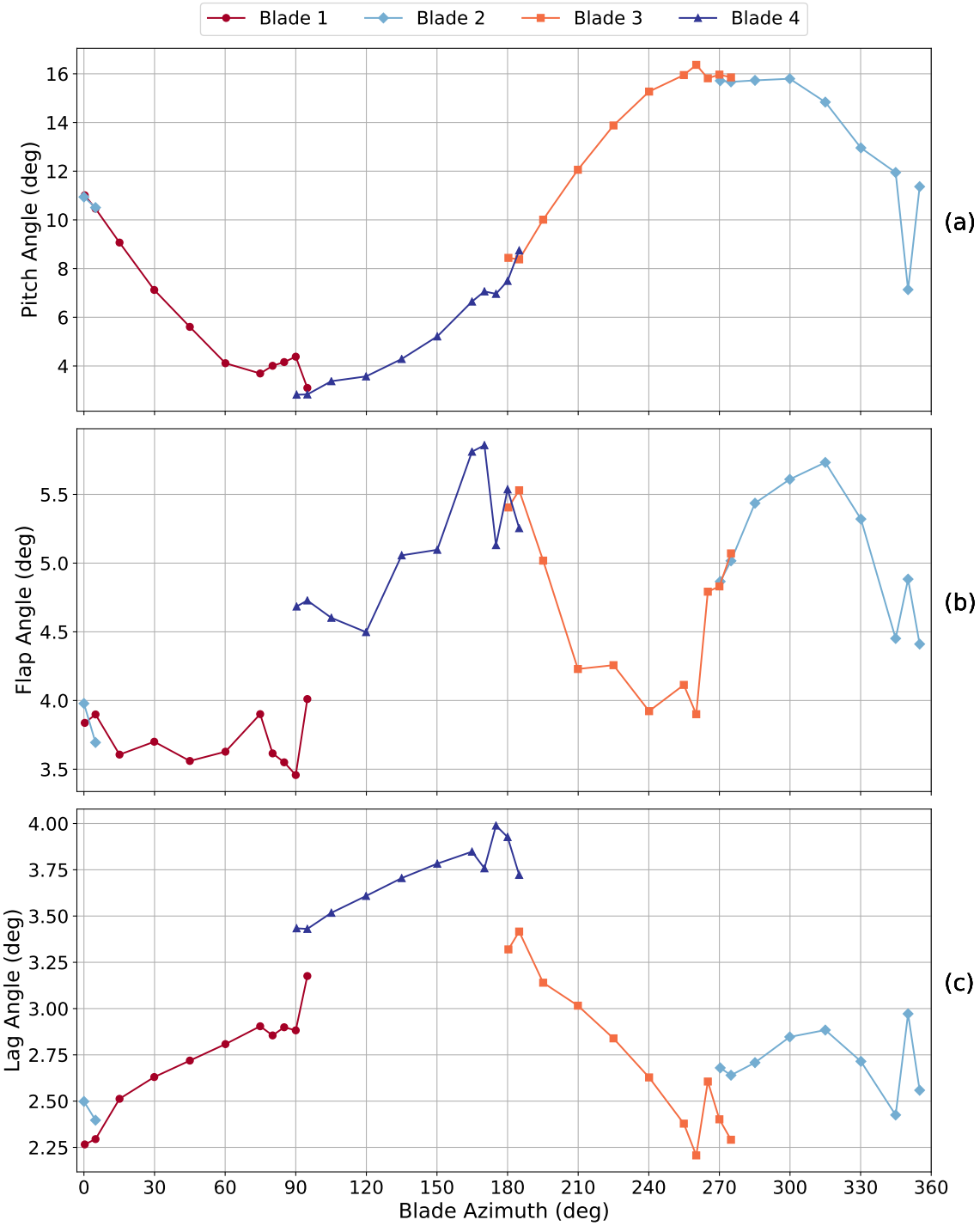


Figure 3.9-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	10.9402	3.9784	2.4982	0.1220	0.0859	0.0786
0.35	1	11.0105	3.8371	2.2660	0.1144	0.0739	0.0451
4.92	1	10.4619	3.8987	2.2948	0.0656	0.0654	0.0296
4.92	2	10.5059	3.6945	2.3969	0.0771	0.0470	0.0395
15.12	1	9.0690	3.6064	2.5124	0.0642	0.0368	0.0310
29.88	1	7.1228	3.7001	2.6301	0.0785	0.0971	0.0445
45	1	5.6058	3.5601	2.7190	0.0740	0.0764	0.0336
60.12	1	4.1138	3.6276	2.8080	0.0450	0.0622	0.0403
74.88	1	3.6925	3.9011	2.9045	0.0423	0.0383	0.0461
80.16	1	4.0077	3.6151	2.8550	0.0758	0.0497	0.0177
85.08	1	4.1604	3.5502	2.8991	0.1342	0.0574	0.0425
90	1	4.3821	3.4576	2.8824	0.2301	0.1229	0.0735
90.35	4	2.8213	4.6841	3.4337	0.0713	0.0713	0.0287
94.92	1	3.0992	4.0107	3.1759	0.1602	0.0928	0.0293
94.92	4	2.8303	4.7282	3.4304	0.0545	0.0925	0.0270
105.12	4	3.3753	4.6019	3.5174	0.0544	0.1107	0.0452
119.88	4	3.5716	4.4979	3.6086	0.0474	0.0654	0.0394
135	4	4.2869	5.0565	3.7049	0.0406	0.0753	0.0470
150.12	4	5.2137	5.0969	3.7829	0.0644	0.1798	0.0427
164.88	4	6.6451	5.8109	3.8477	0.0445	0.1070	0.0393
170.16	4	7.0615	5.8582	3.7579	0.0606	0.1314	0.0210
175.08	4	6.9619	5.1308	3.9888	0.0458	0.0464	0.0422
180	4	7.4938	5.5368	3.9266	0.0781	0.1880	0.0370
180.35	3	8.4408	5.4051	3.3198	0.0427	0.2248	0.0466
184.92	3	8.3782	5.5302	3.4161	0.2843	0.3782	0.1326
184.92	4	8.7434	5.2543	3.7222	0.0361	0.1356	0.0199
195.12	3	10.0097	5.0183	3.1398	0.1026	0.1237	0.1190
209.88	3	12.0597	4.2294	3.0158	0.0346	0.1077	0.0297
225	3	13.8783	4.2573	2.8391	0.0399	0.0421	0.0469
240.12	3	15.2700	3.9227	2.6280	0.0679	0.0948	0.0652
254.88	3	15.9479	4.1138	2.3783	0.1269	0.1070	0.0626
260.16	3	16.3672	3.9004	2.2067	0.2054	0.1581	0.0735
265.08	3	15.8164	4.7922	2.6057	0.1394	0.0602	0.0746
270	3	15.9667	4.8306	2.4017	0.1651	0.0455	0.0794
270.35	2	15.7161	4.8662	2.6796	0.1247	0.0792	0.0589
274.92	2	15.6687	5.0166	2.6399	0.1179	0.1014	0.0390
274.92	3	15.8512	5.0708	2.2913	0.1004	0.0745	0.0481
285.12	2	15.7300	5.4362	2.7080	0.1427	0.1008	0.0307
299.88	2	15.7973	5.6098	2.8467	0.1081	0.0815	0.0606
315	2	14.8378	5.7328	2.8840	0.0989	0.0628	0.0422
330.12	2	12.9573	5.3208	2.7148	0.0722	0.1602	0.0610
344.88	2	11.9470	4.4516	2.4251	0.0590	0.0685	0.0475
350.16	2	7.1362	4.8835	2.9718	0.4459	0.0607	0.0534
355.08	2	11.3655	4.4108	2.5587	0.0852	0.0752	0.0531

3.9.2 Spanwise Elastic Deformations

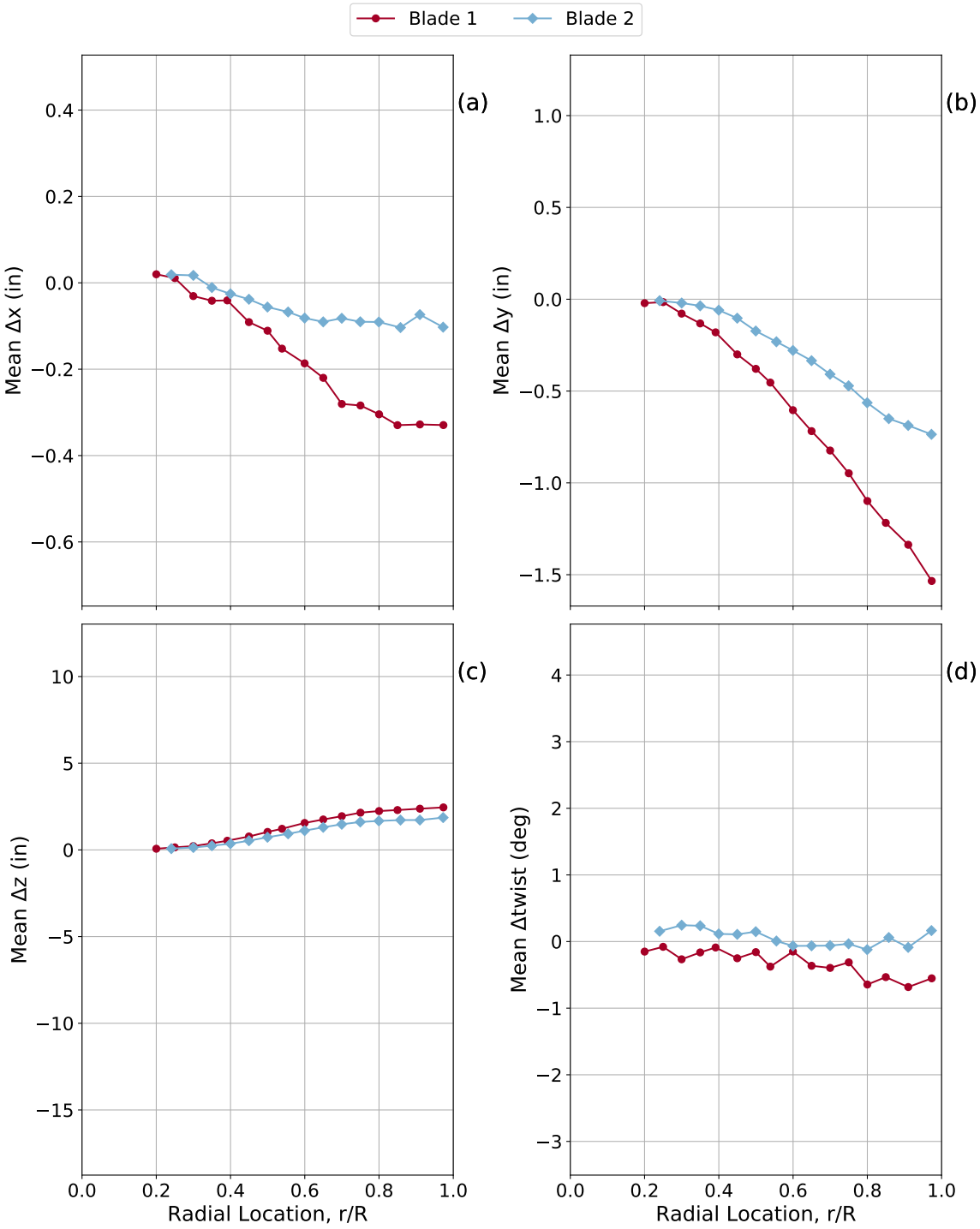


Figure 3.9-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.09$, $\mu = 0.3$, $\alpha = -4.5°$
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0198	0.0026	-0.0214	0.0016	0.0672	0.0053	-0.1510	0.0591
1	0.35	0.2499	0.0110	0.0021	-0.0157	0.0041	0.1460	0.0135	-0.0793	0.0720
1	0.35	0.2998	-0.0307	0.0018	-0.0784	0.0065	0.2194	0.0165	-0.2665	0.1177
1	0.35	0.3498	-0.0415	0.0024	-0.1317	0.0107	0.3809	0.0307	-0.1635	0.0990
1	0.35	0.3913	-0.0407	0.0023	-0.1803	0.0159	0.5285	0.0418	-0.0895	0.0887
1	0.35	0.4496	-0.0910	0.0023	-0.3004	0.0208	0.7733	0.0573	-0.2510	0.0847
1	0.35	0.4997	-0.1109	0.0032	-0.3790	0.0283	1.0363	0.0718	-0.1589	0.0704
1	0.35	0.5387	-0.1524	0.0033	-0.4539	0.0314	1.2173	0.0849	-0.3765	0.0653
1	0.35	0.5996	-0.1865	0.0050	-0.6041	0.0392	1.5538	0.1034	-0.1499	0.0844
1	0.35	0.6498	-0.2200	0.0046	-0.7183	0.0444	1.7543	0.1195	-0.3639	0.0933
1	0.35	0.6998	-0.2805	0.0050	-0.8239	0.0522	1.9440	0.1421	-0.3957	0.0859
1	0.35	0.7500	-0.2840	0.0049	-0.9477	0.0616	2.1474	0.1695	-0.3125	0.0896
1	0.35	0.8001	-0.3045	0.0062	-1.0987	0.0698	2.2414	0.1959	-0.6451	0.0865
1	0.35	0.8497	-0.3296	0.0062	-1.2178	0.0778	2.2983	0.2275	-0.5340	0.1059
1	0.35	0.9102	-0.3279	0.0083	-1.3369	0.0920	2.3763	0.2740	-0.6829	0.1181
1	0.35	0.9734	-0.3294	0.0109	-1.5342	0.0983	2.4508	0.3196	-0.5522	0.1145
2	0	0.2405	0.0188	0.0079	-0.0079	0.0044	0.0729	0.0111	0.1544	0.0815
2	0	0.2999	0.0172	0.0041	-0.0208	0.0087	0.1391	0.0154	0.2455	0.1255
2	0	0.3498	-0.0110	0.0037	-0.0360	0.0181	0.2394	0.0309	0.2364	0.0962
2	0	0.3998	-0.0256	0.0073	-0.0596	0.0270	0.3583	0.0405	0.1147	0.1064
2	0	0.4496	-0.0381	0.0105	-0.1032	0.0347	0.5293	0.0486	0.1078	0.1038
2	0	0.4995	-0.0561	0.0140	-0.1730	0.0428	0.7298	0.0566	0.1481	0.1040
2	0	0.5551	-0.0675	0.0185	-0.2316	0.0538	0.9278	0.0632	0.0077	0.1100
2	0	0.5996	-0.0816	0.0218	-0.2789	0.0635	1.1106	0.0672	-0.0658	0.1245
2	0	0.6497	-0.0904	0.0258	-0.3347	0.0721	1.3035	0.0750	-0.0641	0.1162
2	0	0.6996	-0.0821	0.0301	-0.4084	0.0806	1.4790	0.0817	-0.0611	0.1250
2	0	0.7495	-0.0902	0.0349	-0.4716	0.0847	1.6092	0.0861	-0.0343	0.1488
2	0	0.7996	-0.0907	0.0396	-0.5637	0.0880	1.6713	0.0933	-0.1215	0.1359
2	0	0.8578	-0.1036	0.0437	-0.6504	0.0935	1.7202	0.1071	0.0605	0.1261
2	0	0.9100	-0.0736	0.0510	-0.6873	0.0986	1.7219	0.1183	-0.0877	0.1242
2	0	0.9727	-0.1027	0.0610	-0.7358	0.1094	1.8632	0.1376	0.1642	0.1376

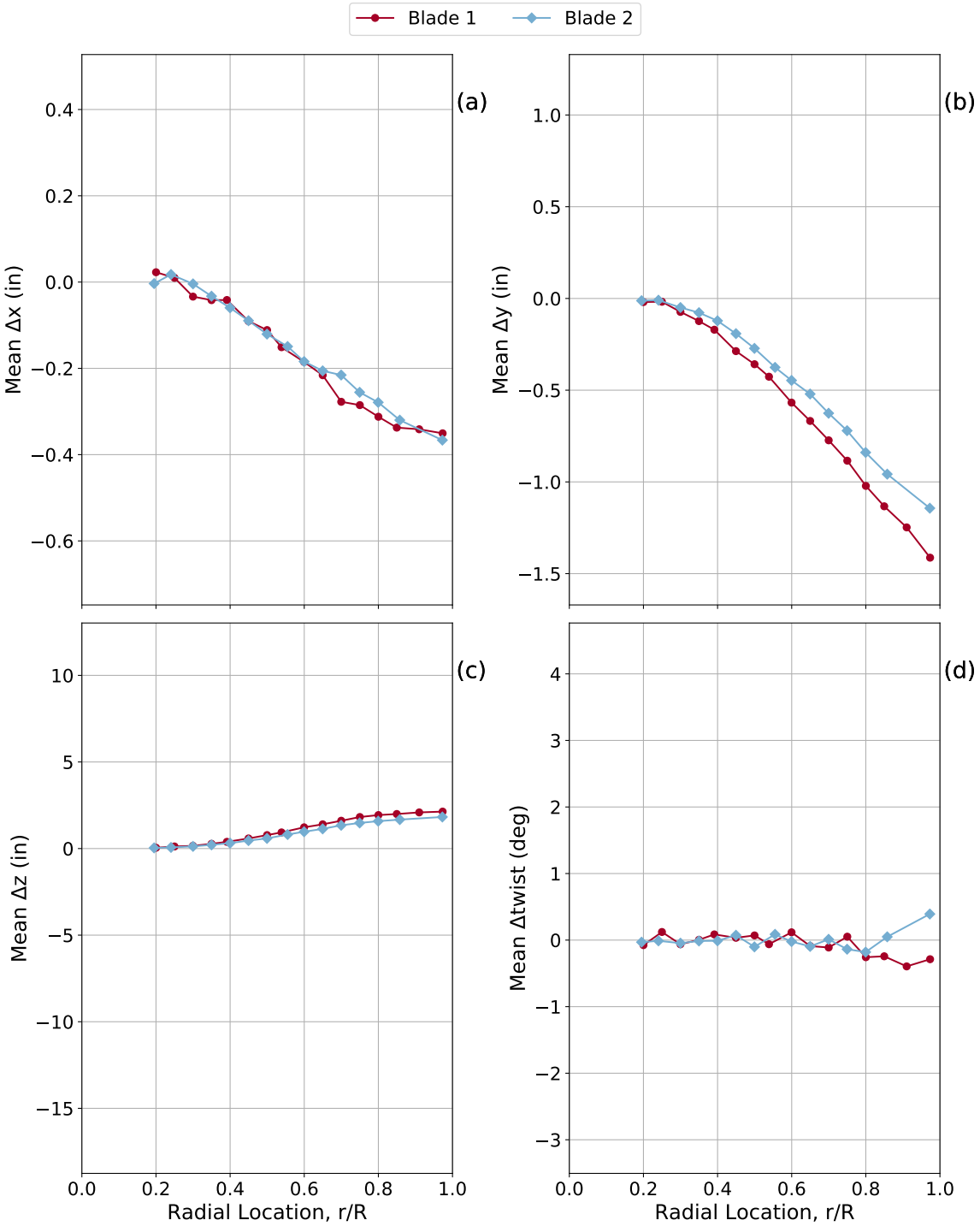


Figure 3.9-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0228	0.0026	-0.0196	0.0016	0.0456	0.0074	-0.0755	0.0619
1	4.92	0.2499	0.0098	0.0014	-0.0179	0.0025	0.1198	0.0149	0.1216	0.0842
1	4.92	0.2998	-0.0337	0.0020	-0.0732	0.0056	0.1571	0.0235	-0.0623	0.1303
1	4.92	0.3498	-0.0419	0.0020	-0.1234	0.0101	0.2722	0.0438	0.0039	0.1007
1	4.92	0.3913	-0.0416	0.0018	-0.1704	0.0136	0.3875	0.0588	0.0854	0.0966
1	4.92	0.4496	-0.0905	0.0022	-0.2871	0.0181	0.5832	0.0788	0.0347	0.0997
1	4.92	0.4997	-0.1113	0.0026	-0.3585	0.0218	0.7771	0.0946	0.0702	0.1074
1	4.92	0.5387	-0.1510	0.0034	-0.4266	0.0253	0.9319	0.1076	-0.0618	0.1015
1	4.92	0.5996	-0.1851	0.0033	-0.5677	0.0298	1.2259	0.1194	0.1168	0.1252
1	4.92	0.6498	-0.2159	0.0046	-0.6677	0.0357	1.3991	0.1319	-0.0896	0.1114
1	4.92	0.6998	-0.2775	0.0048	-0.7733	0.0401	1.6057	0.1406	-0.1114	0.1208
1	4.92	0.7500	-0.2852	0.0046	-0.8844	0.0454	1.8208	0.1557	0.0512	0.1204
1	4.92	0.8001	-0.3122	0.0054	-1.0218	0.0528	1.9327	0.1681	-0.2571	0.1226
1	4.92	0.8497	-0.3374	0.0058	-1.1330	0.0588	1.9945	0.1817	-0.2433	0.1162
1	4.92	0.9102	-0.3412	0.0070	-1.2479	0.0694	2.0868	0.1962	-0.3951	0.1665
1	4.92	0.9734	-0.3506	0.0082	-1.4130	0.0788	2.1335	0.2284	-0.2873	0.1600
2	4.92	0.1949	-0.0035	0.0018	-0.0121	0.0015	0.0375	0.0070	-0.0308	0.0358
2	4.92	0.2405	0.0176	0.0018	-0.0095	0.0034	0.0650	0.0140	-0.0113	0.0448
2	4.92	0.2999	-0.0042	0.0010	-0.0494	0.0063	0.1254	0.0243	-0.0459	0.0657
2	4.92	0.3498	-0.0327	0.0009	-0.0774	0.0117	0.2128	0.0440	-0.0133	0.0541
2	4.92	0.3998	-0.0596	0.0020	-0.1218	0.0176	0.3124	0.0645	-0.0106	0.0539
2	4.92	0.4496	-0.0896	0.0019	-0.1918	0.0220	0.4603	0.0777	0.0733	0.0563
2	4.92	0.4995	-0.1206	0.0028	-0.2721	0.0259	0.5862	0.0958	-0.1018	0.0647
2	4.92	0.5551	-0.1494	0.0026	-0.3757	0.0319	0.8105	0.1150	0.0867	0.0541
2	4.92	0.5996	-0.1842	0.0032	-0.4468	0.0370	0.9707	0.1313	-0.0222	0.0647
2	4.92	0.6497	-0.2058	0.0037	-0.5208	0.0439	1.1365	0.1518	-0.0952	0.0594
2	4.92	0.6996	-0.2155	0.0040	-0.6257	0.0499	1.3426	0.1724	0.0115	0.0623
2	4.92	0.7495	-0.2555	0.0043	-0.7207	0.0572	1.4777	0.1910	-0.1371	0.0875
2	4.92	0.7996	-0.2789	0.0048	-0.8396	0.0654	1.5818	0.2206	-0.1800	0.0634
2	4.92	0.8578	-0.3200	0.0042	-0.9577	0.0749	1.6711	0.2555	0.0493	0.0727
2	4.92	0.9727	-0.3664	0.0104	-1.1433	0.0889	1.8230	0.3352	0.3919	0.0933

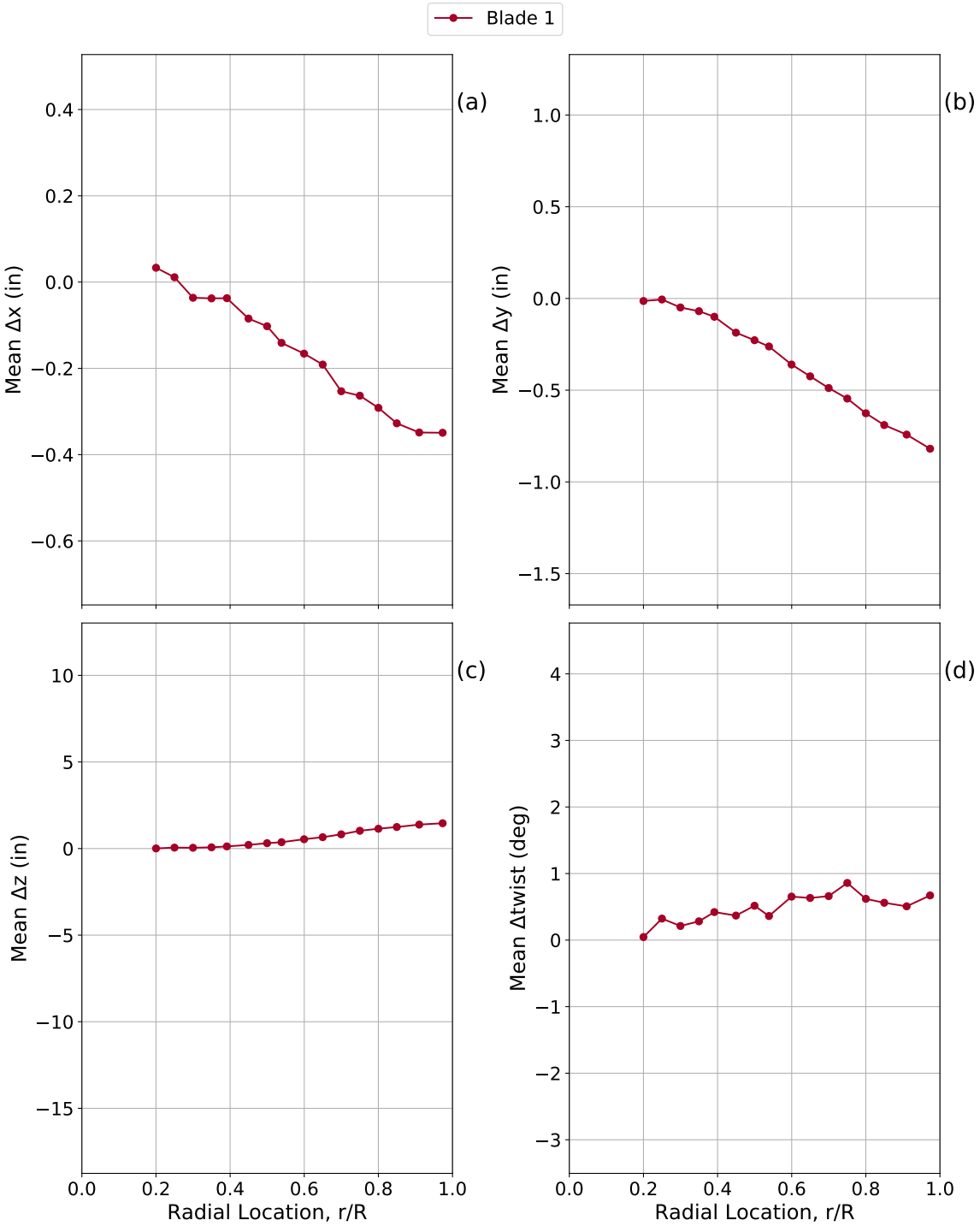


Figure 3.9-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.09$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0332	0.0026	-0.0138	0.0011	0.0075	0.0063	0.0456	0.0270
1	15.12	0.2499	0.0112	0.0012	-0.0057	0.0037	0.0543	0.0115	0.3233	0.0595
1	15.12	0.2998	-0.0364	0.0013	-0.0491	0.0054	0.0459	0.0218	0.2121	0.0609
1	15.12	0.3498	-0.0378	0.0013	-0.0694	0.0105	0.0712	0.0356	0.2819	0.0523
1	15.12	0.3913	-0.0374	0.0018	-0.0998	0.0149	0.1235	0.0504	0.4210	0.0491
1	15.12	0.4496	-0.0846	0.0015	-0.1865	0.0200	0.2103	0.0677	0.3685	0.0468
1	15.12	0.4997	-0.1024	0.0018	-0.2276	0.0243	0.3105	0.0815	0.5162	0.0545
1	15.12	0.5387	-0.1409	0.0017	-0.2617	0.0277	0.3671	0.0925	0.3619	0.0603
1	15.12	0.5996	-0.1659	0.0020	-0.3602	0.0327	0.5378	0.1093	0.6531	0.0500
1	15.12	0.6498	-0.1912	0.0022	-0.4245	0.0367	0.6560	0.1243	0.6333	0.0629
1	15.12	0.6998	-0.2531	0.0019	-0.4882	0.0423	0.8206	0.1425	0.6605	0.0726
1	15.12	0.7500	-0.2634	0.0022	-0.5458	0.0465	1.0267	0.1698	0.8587	0.0667
1	15.12	0.8001	-0.2915	0.0033	-0.6258	0.0519	1.1446	0.2052	0.6201	0.0796
1	15.12	0.8497	-0.3274	0.0037	-0.6900	0.0570	1.2431	0.2502	0.5606	0.0755
1	15.12	0.9102	-0.3487	0.0042	-0.7421	0.0643	1.3826	0.3188	0.5070	0.0987
1	15.12	0.9734	-0.3493	0.0050	-0.8192	0.0707	1.4621	0.4037	0.6713	0.1009

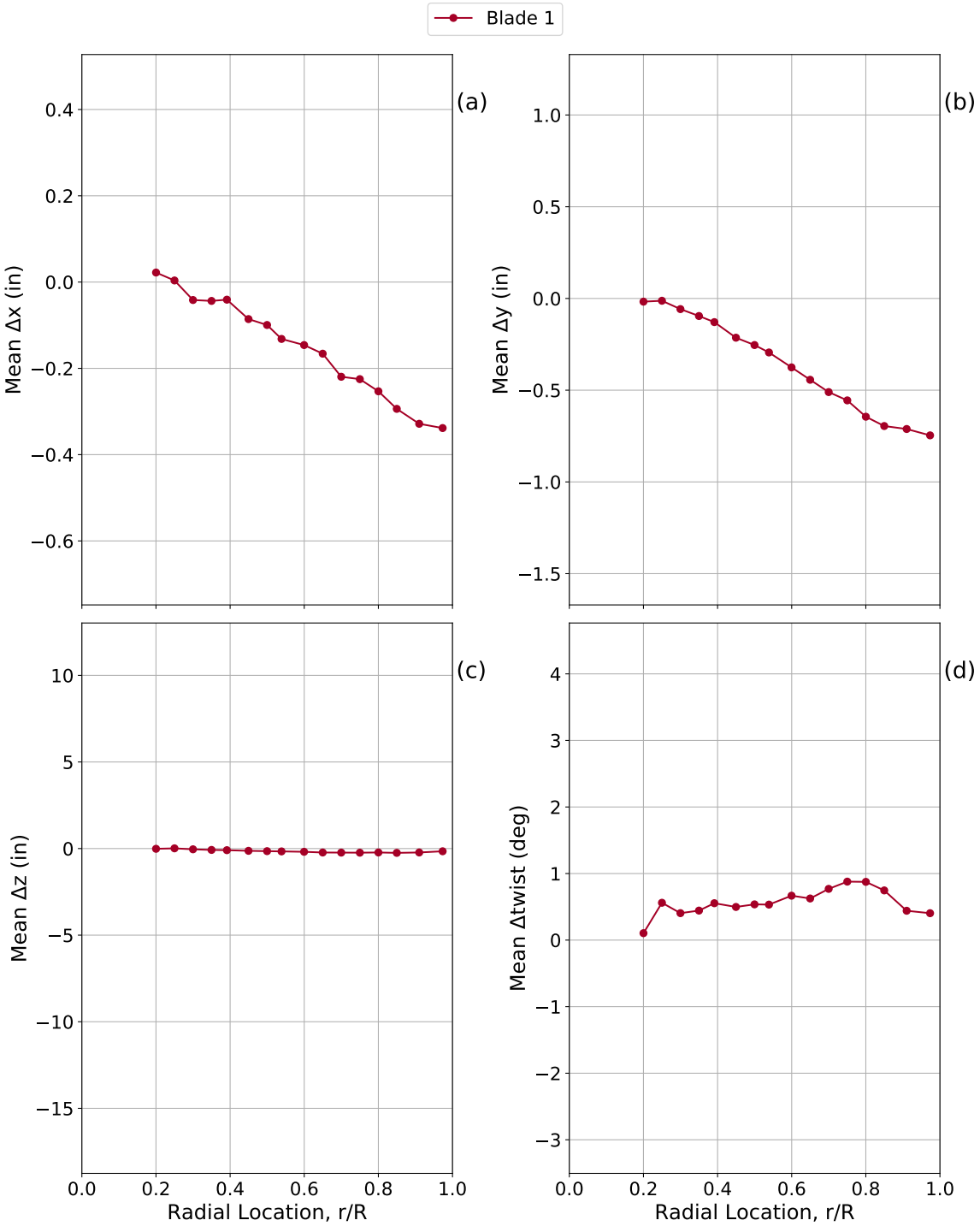


Figure 3.9-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0221	0.0030	-0.0174	0.0012	-0.0142	0.0044	0.1039	0.0428
1	29.88	0.2499	0.0037	0.0026	-0.0125	0.0037	0.0125	0.0110	0.5609	0.0608
1	29.88	0.2998	-0.0416	0.0016	-0.0580	0.0071	-0.0429	0.0184	0.4050	0.0941
1	29.88	0.3498	-0.0437	0.0029	-0.0957	0.0102	-0.0790	0.0319	0.4432	0.0857
1	29.88	0.3913	-0.0408	0.0030	-0.1290	0.0168	-0.0937	0.0464	0.5541	0.0888
1	29.88	0.4496	-0.0858	0.0033	-0.2139	0.0219	-0.1309	0.0650	0.4979	0.1032
1	29.88	0.4997	-0.0995	0.0043	-0.2539	0.0279	-0.1500	0.0801	0.5368	0.1078
1	29.88	0.5387	-0.1318	0.0042	-0.2944	0.0340	-0.1644	0.0925	0.5333	0.1047
1	29.88	0.5996	-0.1460	0.0051	-0.3757	0.0425	-0.1875	0.1109	0.6672	0.1093
1	29.88	0.6498	-0.1660	0.0050	-0.4433	0.0501	-0.2281	0.1286	0.6252	0.1186
1	29.88	0.6998	-0.2195	0.0045	-0.5103	0.0580	-0.2336	0.1443	0.7697	0.1166
1	29.88	0.7500	-0.2250	0.0048	-0.5556	0.0664	-0.2385	0.1571	0.8784	0.1198
1	29.88	0.8001	-0.2532	0.0041	-0.6446	0.0740	-0.2260	0.1733	0.8750	0.1177
1	29.88	0.8497	-0.2939	0.0047	-0.6954	0.0838	-0.2495	0.1892	0.7464	0.1212
1	29.88	0.9102	-0.3285	0.0052	-0.7116	0.0953	-0.2264	0.2100	0.4408	0.1480
1	29.88	0.9734	-0.3384	0.0083	-0.7463	0.1074	-0.1569	0.2422	0.4041	0.1313

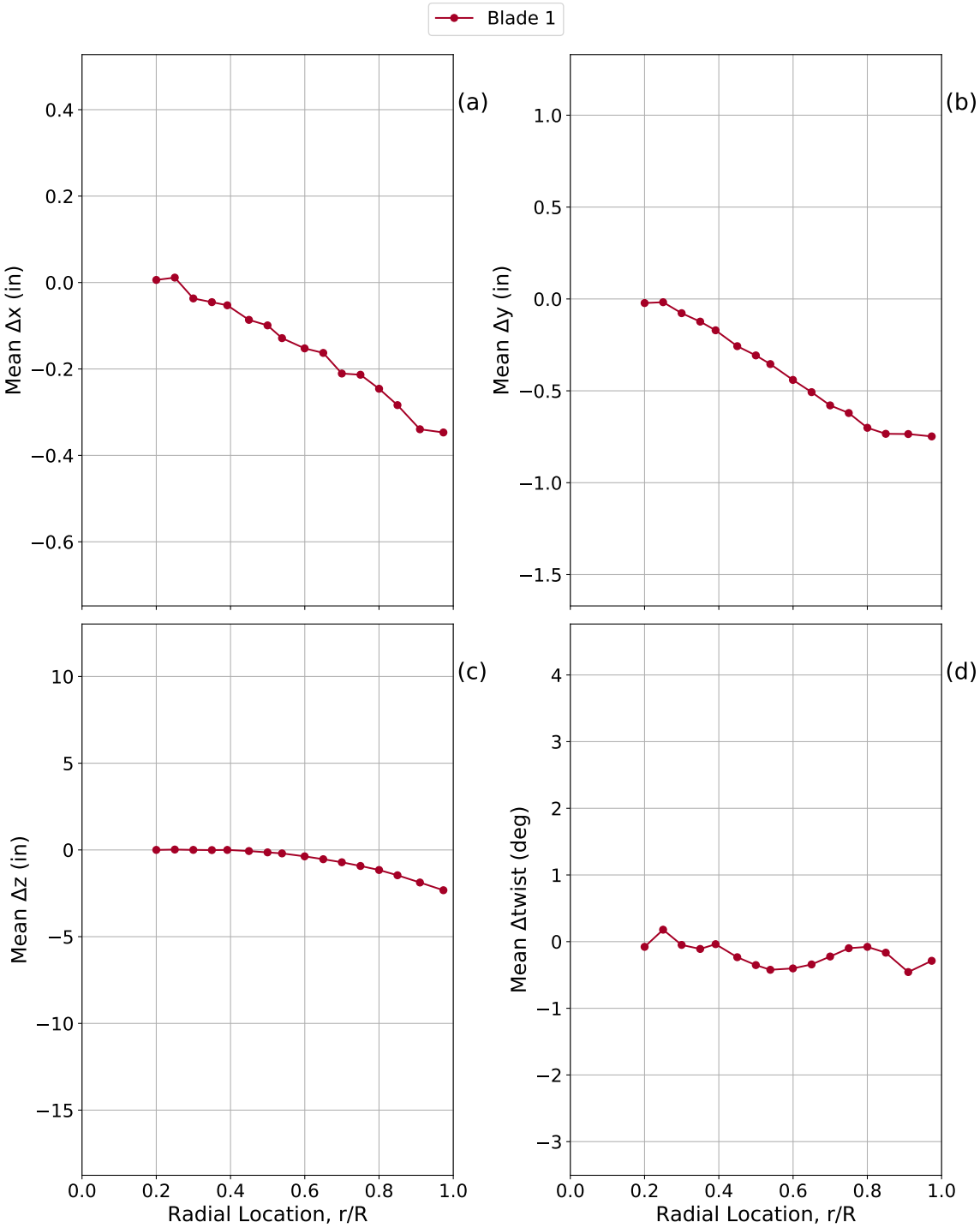


Figure 3.9-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.09$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0060	0.0022	-0.0223	0.0009	0.0015	0.0041	-0.0783	0.0323
1	45	0.2499	0.0114	0.0022	-0.0177	0.0021	0.0220	0.0098	0.1790	0.0673
1	45	0.2998	-0.0368	0.0020	-0.0775	0.0039	0.0030	0.0161	-0.0492	0.0787
1	45	0.3498	-0.0454	0.0016	-0.1234	0.0073	-0.0080	0.0284	-0.1098	0.0755
1	45	0.3913	-0.0527	0.0030	-0.1706	0.0102	0.0003	0.0407	-0.0382	0.0690
1	45	0.4496	-0.0864	0.0029	-0.2570	0.0144	-0.0634	0.0575	-0.2337	0.0802
1	45	0.4997	-0.0992	0.0031	-0.3073	0.0200	-0.1405	0.0790	-0.3519	0.0672
1	45	0.5387	-0.1287	0.0023	-0.3545	0.0227	-0.1995	0.0876	-0.4226	0.0752
1	45	0.5996	-0.1524	0.0025	-0.4407	0.0285	-0.3700	0.1083	-0.4019	0.0706
1	45	0.6498	-0.1629	0.0035	-0.5072	0.0341	-0.5348	0.1251	-0.3421	0.0661
1	45	0.6998	-0.2106	0.0038	-0.5793	0.0409	-0.7105	0.1408	-0.2232	0.0759
1	45	0.7500	-0.2134	0.0037	-0.6208	0.0468	-0.9244	0.1575	-0.0989	0.0708
1	45	0.8001	-0.2458	0.0038	-0.7012	0.0529	-1.1567	0.1713	-0.0785	0.0761
1	45	0.8497	-0.2837	0.0046	-0.7340	0.0598	-1.4599	0.1901	-0.1658	0.0603
1	45	0.9102	-0.3396	0.0046	-0.7352	0.0676	-1.8778	0.2145	-0.4565	0.0792
1	45	0.9734	-0.3470	0.0067	-0.7481	0.0756	-2.3229	0.2512	-0.2876	0.0803

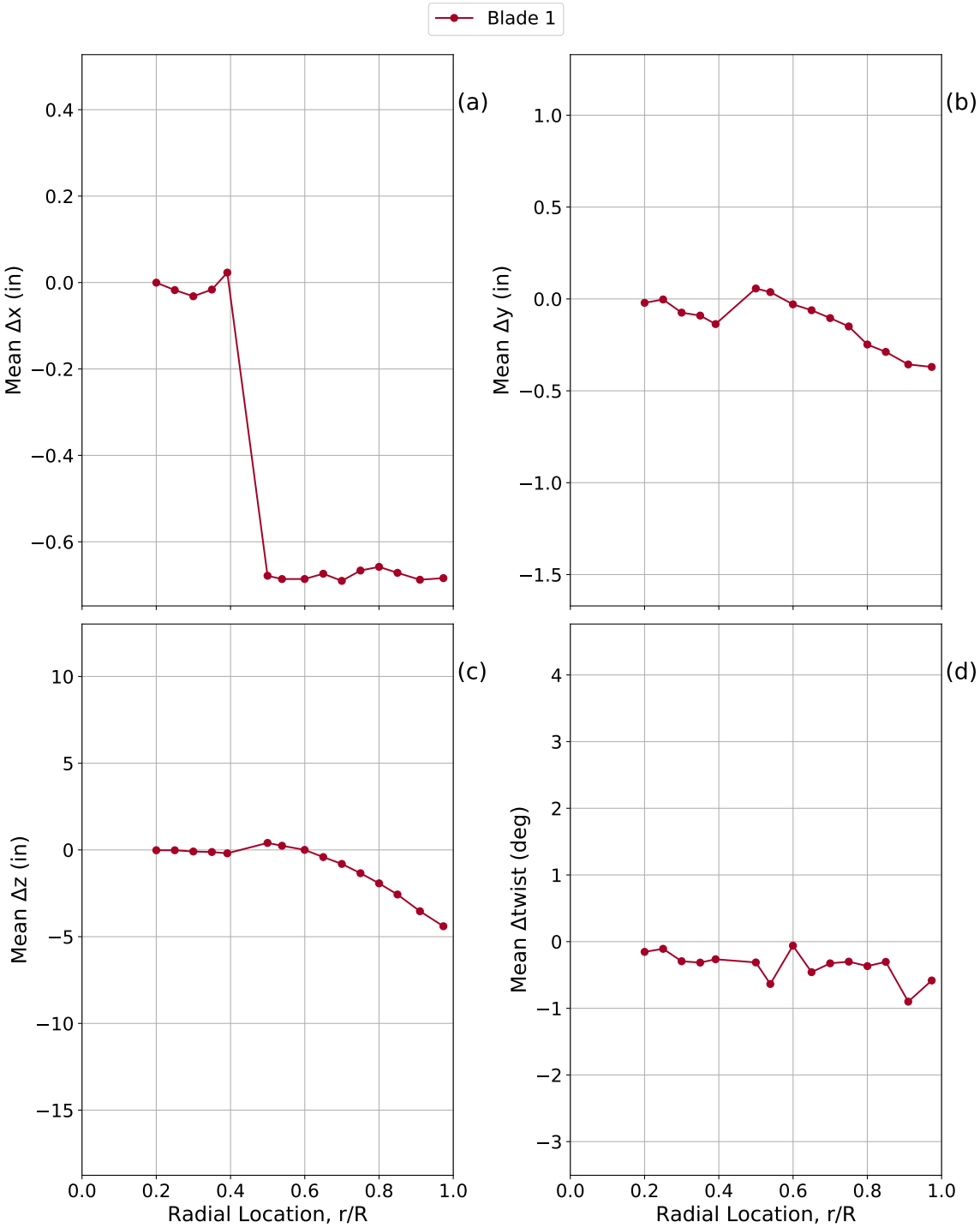


Figure 3.9-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0003	0.0149	-0.0211	0.0022	-0.0174	0.0020	-0.1536	0.0349
1	60.12	0.2499	-0.0175	0.0082	-0.0029	0.0034	-0.0181	0.0049	-0.1080	0.0568
1	60.12	0.2998	-0.0318	0.0052	-0.0745	0.0091	-0.0900	0.0087	-0.2941	0.0794
1	60.12	0.3498	-0.0163	0.0141	-0.0906	0.0144	-0.1198	0.0135	-0.3145	0.0584
1	60.12	0.3913	0.0230	0.0236	-0.1367	0.0211	-0.1949	0.0207	-0.2643	0.0646
1	60.12	0.4997	-0.6786	0.0331	0.0570	0.0773	0.4048	0.1321	-0.3120	0.0528
1	60.12	0.5387	-0.6862	0.0320	0.0372	0.0843	0.2407	0.1399	-0.6355	0.1099
1	60.12	0.5996	-0.6861	0.0332	-0.0293	0.0967	0.0031	0.1554	-0.0607	0.0890
1	60.12	0.6498	-0.6739	0.0331	-0.0614	0.1078	-0.4111	0.1655	-0.4583	0.1058
1	60.12	0.6998	-0.6904	0.0335	-0.1041	0.1151	-0.8068	0.1886	-0.3255	0.1330
1	60.12	0.7500	-0.6665	0.0319	-0.1496	0.1269	-1.3416	0.2096	-0.3006	0.0963
1	60.12	0.8001	-0.6580	0.0318	-0.2480	0.1386	-1.9260	0.2419	-0.3673	0.1493
1	60.12	0.8497	-0.6718	0.0326	-0.2881	0.1500	-2.5693	0.2646	-0.3038	0.1276
1	60.12	0.9102	-0.6878	0.0322	-0.3563	0.1637	-3.5327	0.3028	-0.9003	0.1715
1	60.12	0.9734	-0.6841	0.0293	-0.3701	0.1808	-4.3995	0.3378	-0.5827	0.1574

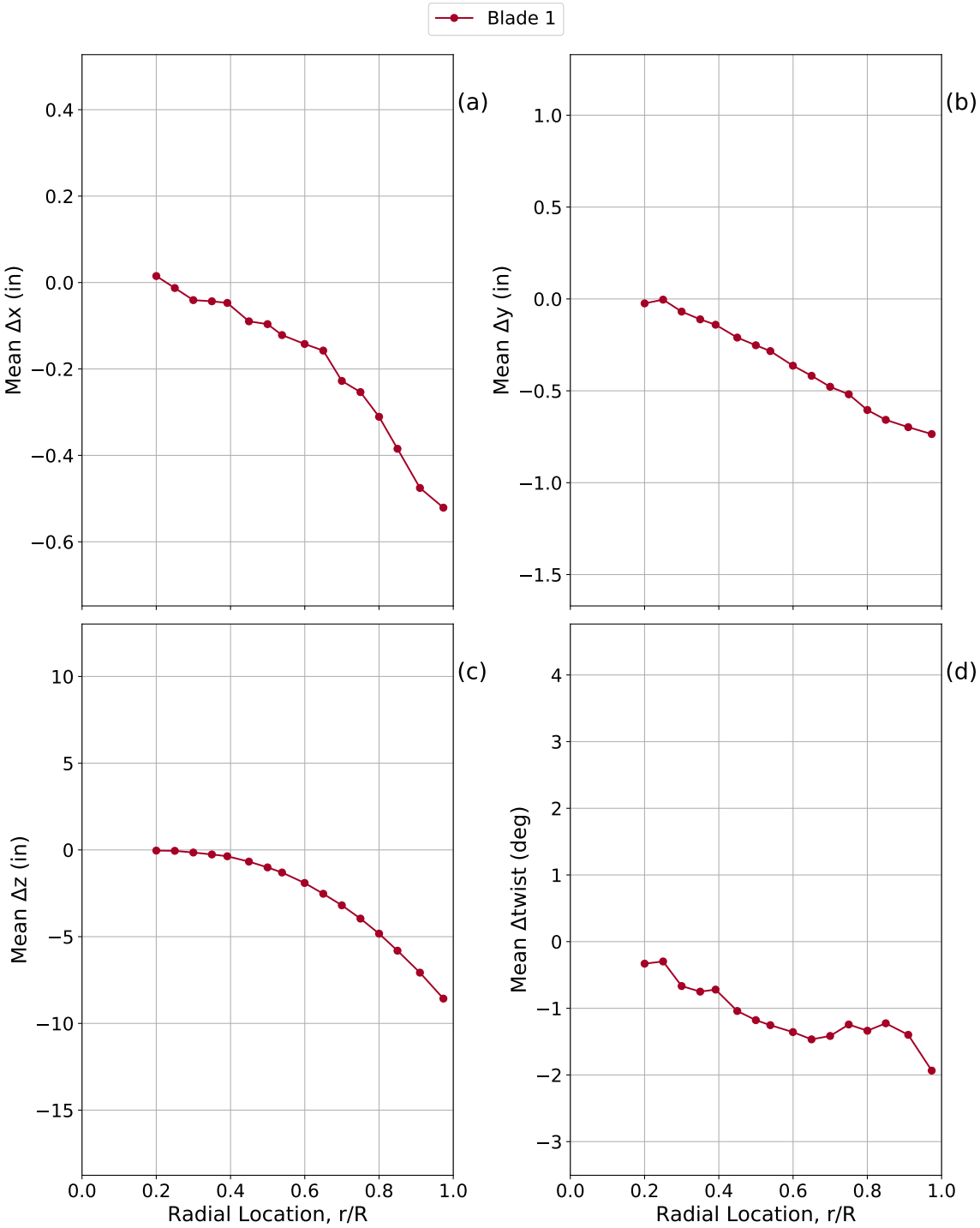


Figure 3.9-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0150	0.0017	-0.0242	0.0009	-0.0372	0.0030	-0.3306	0.0231
1	74.88	0.2499	-0.0127	0.0012	-0.0038	0.0024	-0.0514	0.0072	-0.2976	0.0501
1	74.88	0.2998	-0.0407	0.0013	-0.0688	0.0035	-0.1489	0.0120	-0.6662	0.0537
1	74.88	0.3498	-0.0434	0.0022	-0.1110	0.0068	-0.2605	0.0205	-0.7501	0.0530
1	74.88	0.3913	-0.0472	0.0020	-0.1403	0.0095	-0.3645	0.0297	-0.7195	0.0474
1	74.88	0.4496	-0.0898	0.0018	-0.2102	0.0127	-0.6729	0.0418	-1.0404	0.0566
1	74.88	0.4997	-0.0963	0.0037	-0.2520	0.0148	-1.0060	0.0563	-1.1777	0.0571
1	74.88	0.5387	-0.1216	0.0028	-0.2837	0.0167	-1.3012	0.0603	-1.2530	0.0531
1	74.88	0.5996	-0.1422	0.0034	-0.3632	0.0209	-1.9044	0.0699	-1.3571	0.0523
1	74.88	0.6498	-0.1575	0.0035	-0.4182	0.0219	-2.5270	0.0741	-1.4660	0.0509
1	74.88	0.6998	-0.2277	0.0052	-0.4780	0.0253	-3.1931	0.0796	-1.4152	0.0532
1	74.88	0.7500	-0.2536	0.0049	-0.5191	0.0282	-3.9581	0.0860	-1.2433	0.0562
1	74.88	0.8001	-0.3107	0.0052	-0.6045	0.0309	-4.8253	0.0918	-1.3366	0.0482
1	74.88	0.8497	-0.3847	0.0062	-0.6580	0.0341	-5.8077	0.0976	-1.2250	0.0686
1	74.88	0.9102	-0.4754	0.0060	-0.6978	0.0367	-7.0738	0.1116	-1.3981	0.0642
1	74.88	0.9734	-0.5210	0.0085	-0.7352	0.0406	-8.5699	0.1280	-1.9345	0.0624

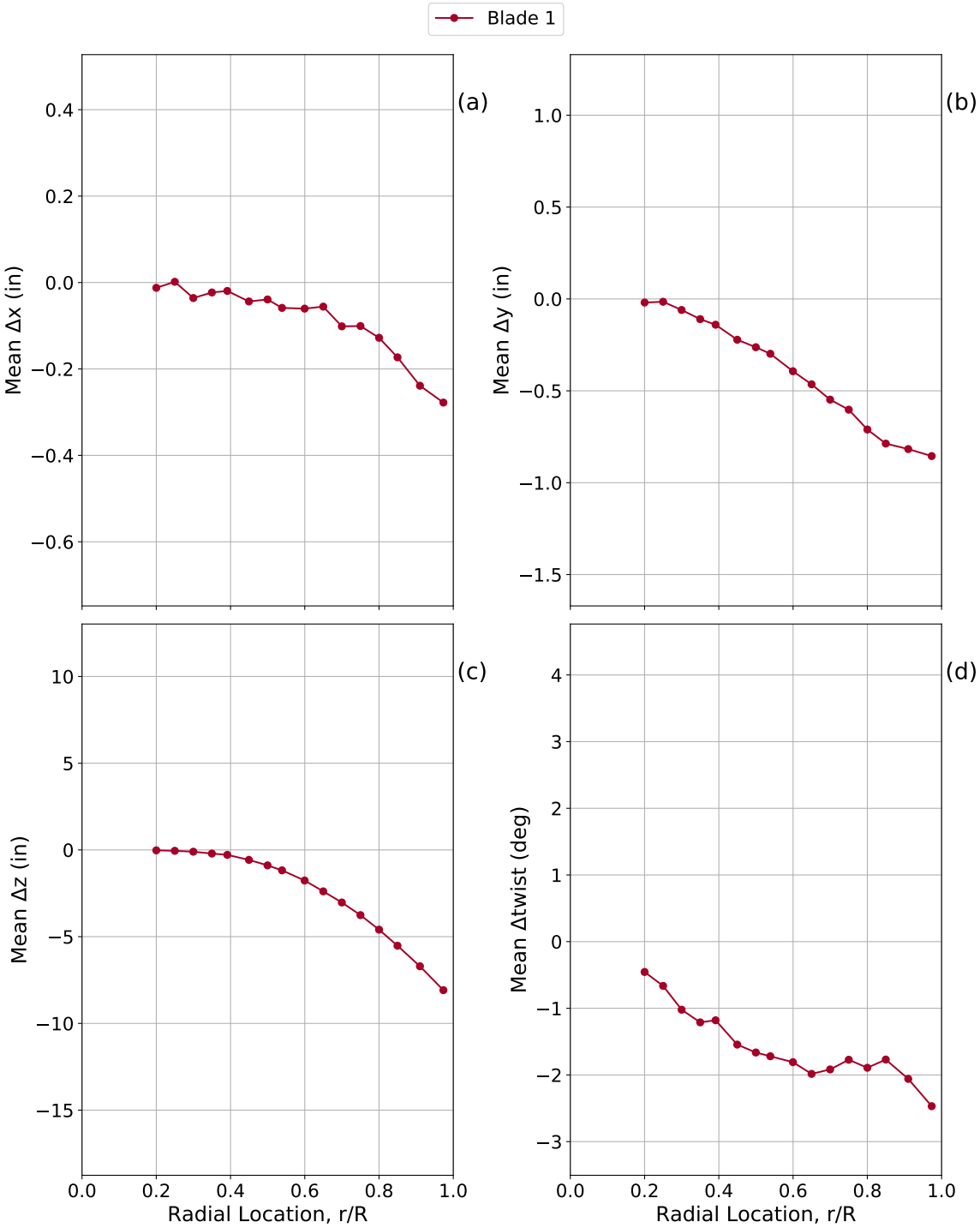


Figure 3.9-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0123	0.0050	-0.0195	0.0011	-0.0236	0.0029	-0.4553	0.0357
1	80.16	0.2499	0.0017	0.0012	-0.0153	0.0028	-0.0501	0.0061	-0.6638	0.0671
1	80.16	0.2998	-0.0359	0.0016	-0.0601	0.0047	-0.1022	0.0094	-1.0214	0.0819
1	80.16	0.3498	-0.0230	0.0040	-0.1098	0.0088	-0.2079	0.0164	-1.2108	0.0817
1	80.16	0.3913	-0.0195	0.0060	-0.1403	0.0125	-0.2834	0.0228	-1.1793	0.0779
1	80.16	0.4496	-0.0438	0.0071	-0.2220	0.0171	-0.5734	0.0283	-1.5444	0.0775
1	80.16	0.4997	-0.0392	0.0089	-0.2627	0.0206	-0.8889	0.0365	-1.6630	0.0850
1	80.16	0.5387	-0.0587	0.0094	-0.2983	0.0240	-1.1757	0.0416	-1.7193	0.0894
1	80.16	0.5996	-0.0604	0.0093	-0.3933	0.0287	-1.7629	0.0553	-1.8082	0.0879
1	80.16	0.6498	-0.0558	0.0089	-0.4646	0.0334	-2.3879	0.0688	-1.9838	0.1066
1	80.16	0.6998	-0.1014	0.0089	-0.5480	0.0387	-3.0290	0.0823	-1.9173	0.0955
1	80.16	0.7500	-0.1007	0.0093	-0.6027	0.0441	-3.7579	0.0985	-1.7717	0.0892
1	80.16	0.8001	-0.1279	0.0097	-0.7105	0.0490	-4.5957	0.1136	-1.8922	0.0990
1	80.16	0.8497	-0.1731	0.0123	-0.7871	0.0538	-5.5203	0.1271	-1.7689	0.1012
1	80.16	0.9102	-0.2388	0.0152	-0.8170	0.0588	-6.7059	0.1434	-2.0588	0.0959
1	80.16	0.9734	-0.2778	0.0215	-0.8551	0.0656	-8.0852	0.1618	-2.4683	0.0976

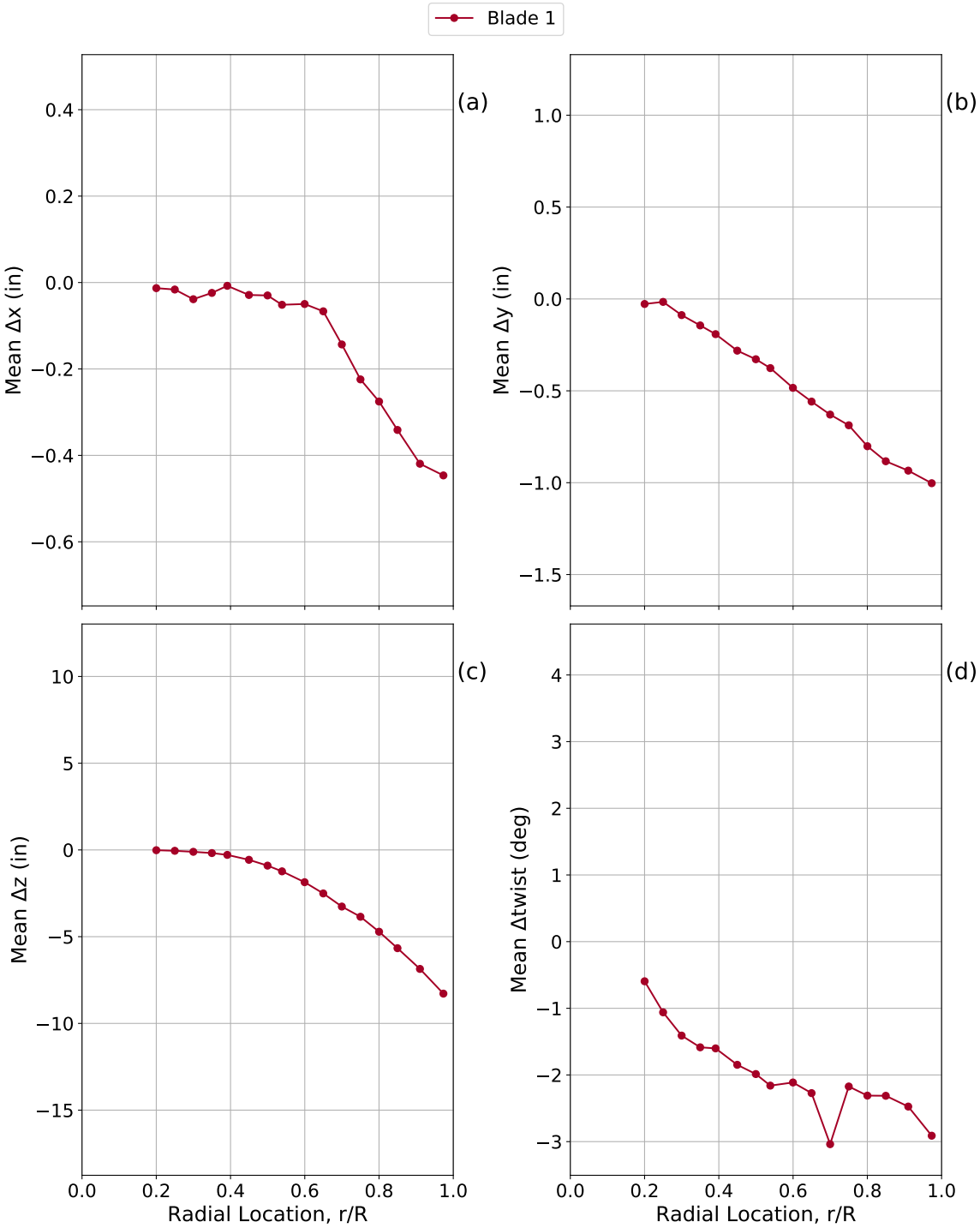


Figure 3.9-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0130	0.0023	-0.0274	0.0025	-0.0154	0.0076	-0.5946	0.0494
1	85.08	0.2499	-0.0162	0.0015	-0.0161	0.0036	-0.0495	0.0084	-1.0604	0.1224
1	85.08	0.2998	-0.0386	0.0024	-0.0879	0.0098	-0.1082	0.0234	-1.4095	0.1288
1	85.08	0.3498	-0.0240	0.0023	-0.1441	0.0160	-0.1805	0.0376	-1.5853	0.1328
1	85.08	0.3913	-0.0076	0.0035	-0.1916	0.0229	-0.2849	0.0508	-1.6013	0.1301
1	85.08	0.4496	-0.0288	0.0060	-0.2814	0.0310	-0.5693	0.0682	-1.8477	0.1250
1	85.08	0.4997	-0.0299	0.0067	-0.3281	0.0389	-0.9042	0.0835	-1.9864	0.1250
1	85.08	0.5387	-0.0515	0.0073	-0.3764	0.0449	-1.2338	0.0947	-2.1599	0.1364
1	85.08	0.5996	-0.0497	0.0100	-0.4837	0.0555	-1.8600	0.1192	-2.1128	0.1206
1	85.08	0.6498	-0.0666	0.0109	-0.5586	0.0621	-2.5080	0.1382	-2.2725	0.1715
1	85.08	0.6998	-0.1433	0.0099	-0.6293	0.0769	-3.2638	0.1797	-3.0383	0.2109
1	85.08	0.7500	-0.2242	0.0094	-0.6875	0.0966	-3.8523	0.1672	-2.1730	0.1275
1	85.08	0.8001	-0.2754	0.0097	-0.8015	0.1076	-4.7149	0.1920	-2.3099	0.1359
1	85.08	0.8497	-0.3412	0.0099	-0.8833	0.1186	-5.6641	0.2163	-2.3122	0.1321
1	85.08	0.9102	-0.4194	0.0103	-0.9343	0.1331	-6.8589	0.2471	-2.4740	0.1354
1	85.08	0.9734	-0.4464	0.0095	-1.0028	0.1482	-8.2832	0.2796	-2.9111	0.1322

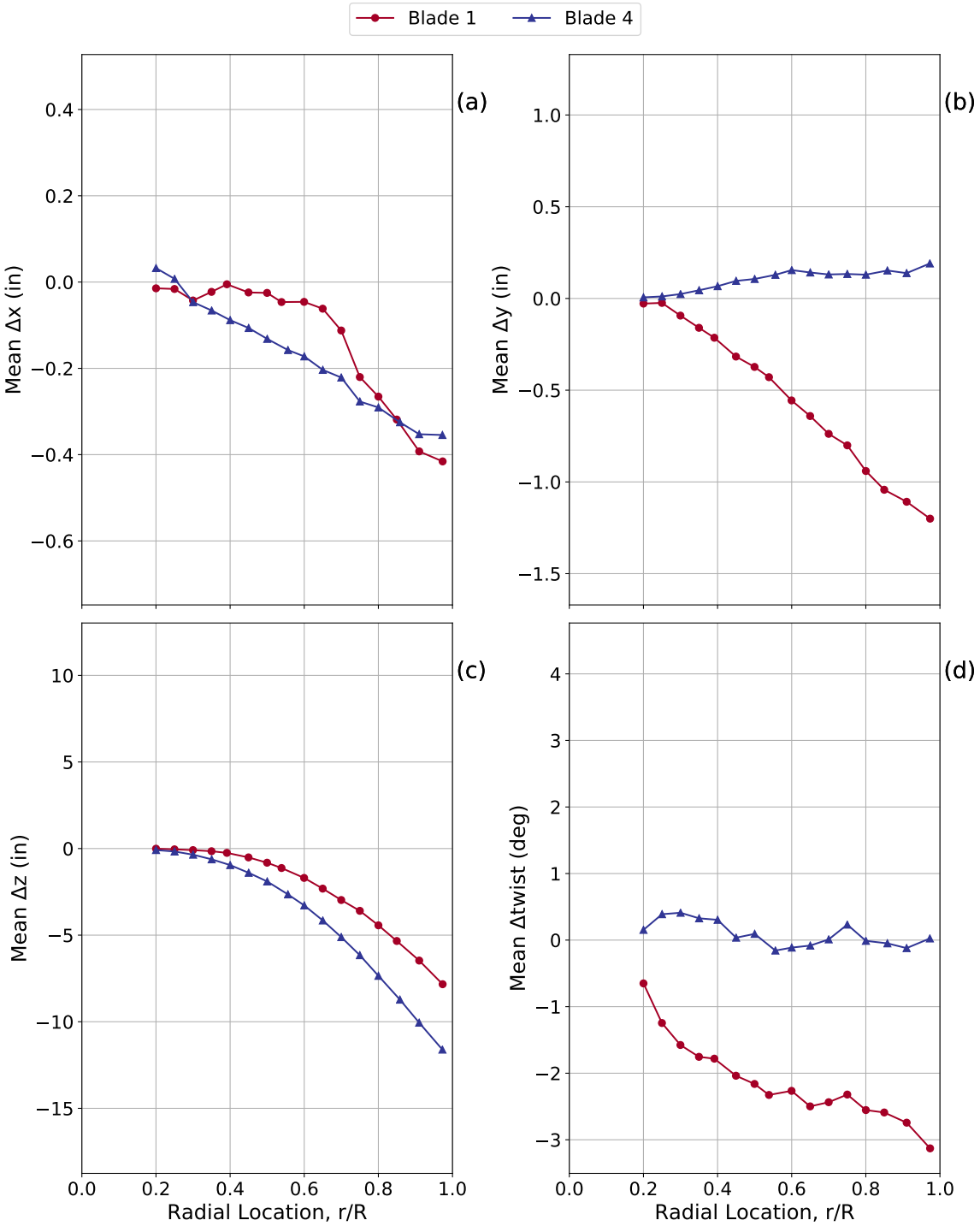


Figure 3.9-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0145	0.0034	-0.0279	0.0048	-0.0086	0.0146	-0.6506	0.0724
1	90	0.2499	-0.0160	0.0025	-0.0243	0.0058	-0.0455	0.0174	-1.2458	0.1960
1	90	0.2998	-0.0427	0.0028	-0.0935	0.0171	-0.0896	0.0455	-1.5763	0.1952
1	90	0.3498	-0.0227	0.0046	-0.1600	0.0302	-0.1540	0.0745	-1.7541	0.2026
1	90	0.3913	-0.0051	0.0055	-0.2141	0.0410	-0.2497	0.1008	-1.7815	0.2039
1	90	0.4496	-0.0241	0.0060	-0.3167	0.0594	-0.5108	0.1393	-2.0379	0.2016
1	90	0.4997	-0.0251	0.0075	-0.3732	0.0763	-0.8176	0.1747	-2.1612	0.2018
1	90	0.5387	-0.0463	0.0084	-0.4292	0.0892	-1.1242	0.2022	-2.3266	0.2047
1	90	0.5996	-0.0459	0.0113	-0.5559	0.1109	-1.6953	0.2454	-2.2651	0.2050
1	90	0.6498	-0.0617	0.0134	-0.6409	0.1291	-2.3135	0.2805	-2.4984	0.2112
1	90	0.6998	-0.1123	0.0195	-0.7380	0.1475	-2.9720	0.3143	-2.4356	0.1979
1	90	0.7500	-0.2202	0.0169	-0.8007	0.1977	-3.5961	0.2719	-2.3206	0.2127
1	90	0.8001	-0.2655	0.0176	-0.9406	0.2185	-4.4331	0.2994	-2.5539	0.2103
1	90	0.8497	-0.3187	0.0185	-1.0428	0.2398	-5.3367	0.3228	-2.5900	0.2221
1	90	0.9102	-0.3925	0.0202	-1.1082	0.2661	-6.4678	0.3514	-2.7432	0.2127
1	90	0.9734	-0.4157	0.0167	-1.2003	0.2947	-7.8334	0.3819	-3.1291	0.2157
4	90.35	0.2001	0.0324	0.0055	0.0060	0.0008	-0.0864	0.0037	0.1537	0.0261
4	90.35	0.2502	0.0074	0.0023	0.0110	0.0011	-0.1712	0.0091	0.3892	0.0501
4	90.35	0.3001	-0.0466	0.0022	0.0240	0.0022	-0.3540	0.0150	0.4106	0.0585
4	90.35	0.3502	-0.0659	0.0042	0.0447	0.0041	-0.6220	0.0277	0.3270	0.0380
4	90.35	0.4002	-0.0883	0.0079	0.0669	0.0057	-0.9557	0.0424	0.3044	0.0481
4	90.35	0.4500	-0.1065	0.0104	0.0957	0.0069	-1.4004	0.0558	0.0361	0.0526
4	90.35	0.5001	-0.1317	0.0130	0.1062	0.0091	-1.9006	0.0742	0.0933	0.0493
4	90.35	0.5560	-0.1576	0.0142	0.1288	0.0115	-2.6469	0.0970	-0.1573	0.0528
4	90.35	0.6001	-0.1723	0.0152	0.1546	0.0136	-3.2842	0.1134	-0.1128	0.0506
4	90.35	0.6501	-0.2036	0.0157	0.1415	0.0165	-4.1531	0.1329	-0.0824	0.0499
4	90.35	0.6999	-0.2213	0.0153	0.1308	0.0192	-5.1146	0.1532	0.0106	0.0529
4	90.35	0.7500	-0.2769	0.0109	0.1333	0.0310	-6.1582	0.1783	0.2327	0.0496
4	90.35	0.8002	-0.2907	0.0126	0.1296	0.0253	-7.3497	0.1907	-0.0113	0.0477
4	90.35	0.8582	-0.3250	0.0140	0.1523	0.0294	-8.7253	0.2067	-0.0490	0.0557
4	90.35	0.9101	-0.3527	0.0177	0.1380	0.0336	-10.0544	0.2235	-0.1205	0.0513
4	90.35	0.9728	-0.3545	0.0253	0.1907	0.0381	-11.6096	0.2393	0.0247	0.0521

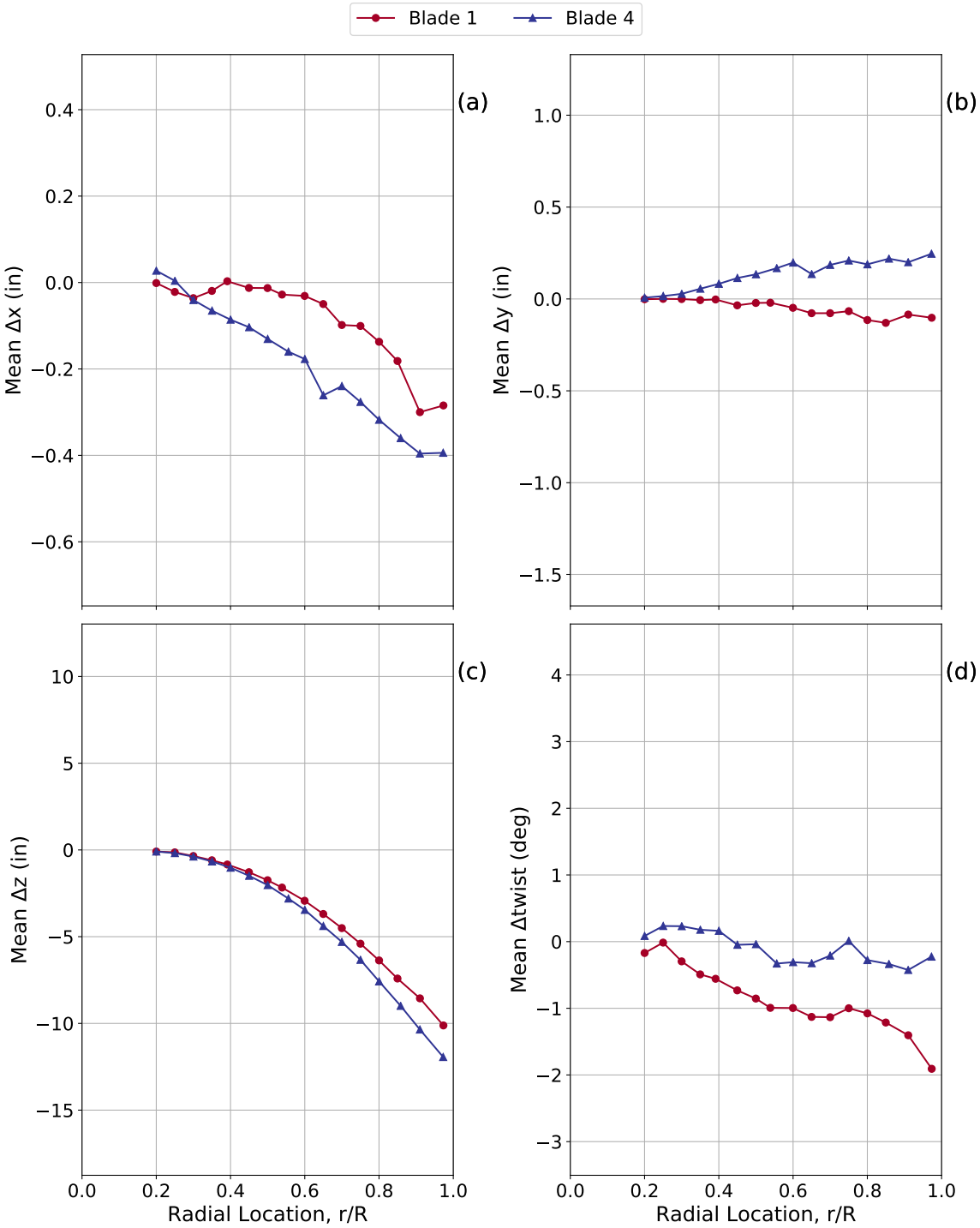


Figure 3.9-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0012	0.0040	-0.0015	0.0029	-0.0913	0.0096	-0.1704	0.0615
1	94.92	0.2499	-0.0217	0.0019	0.0005	0.0035	-0.1395	0.0123	-0.0145	0.1543
1	94.92	0.2998	-0.0361	0.0023	-0.0006	0.0100	-0.3504	0.0325	-0.2961	0.1609
1	94.92	0.3498	-0.0194	0.0026	-0.0063	0.0177	-0.5953	0.0554	-0.4913	0.1552
1	94.92	0.3913	0.0030	0.0030	-0.0029	0.0238	-0.8399	0.0756	-0.5574	0.1481
1	94.92	0.4496	-0.0125	0.0030	-0.0348	0.0325	-1.2833	0.1038	-0.7313	0.1551
1	94.92	0.4997	-0.0128	0.0041	-0.0218	0.0403	-1.7460	0.1292	-0.8539	0.1551
1	94.92	0.5387	-0.0279	0.0044	-0.0206	0.0465	-2.1684	0.1505	-0.9932	0.1528
1	94.92	0.5996	-0.0310	0.0054	-0.0482	0.0559	-2.9298	0.1844	-0.9958	0.1533
1	94.92	0.6498	-0.0498	0.0075	-0.0776	0.0579	-3.6925	0.2141	-1.1291	0.1222
1	94.92	0.6998	-0.0983	0.0074	-0.0775	0.0745	-4.5068	0.2432	-1.1337	0.1529
1	94.92	0.7500	-0.1005	0.0094	-0.0666	0.0850	-5.4055	0.2713	-0.9992	0.1695
1	94.92	0.8001	-0.1371	0.0120	-0.1148	0.0946	-6.3696	0.3017	-1.0762	0.1658
1	94.92	0.8497	-0.1816	0.0122	-0.1302	0.1065	-7.4138	0.3266	-1.2134	0.1731
1	94.92	0.9102	-0.3000	0.0192	-0.0850	0.1258	-8.5558	0.3084	-1.4045	0.1519
1	94.92	0.9734	-0.2845	0.0190	-0.1024	0.1371	-10.1174	0.3399	-1.9077	0.1604
4	94.92	0.2001	0.0273	0.0041	0.0068	0.0010	-0.0927	0.0045	0.0847	0.0267
4	94.92	0.2502	0.0040	0.0018	0.0156	0.0016	-0.1840	0.0076	0.2342	0.0688
4	94.92	0.3001	-0.0406	0.0020	0.0277	0.0031	-0.3822	0.0160	0.2313	0.0667
4	94.92	0.3502	-0.0652	0.0037	0.0556	0.0059	-0.6641	0.0267	0.1776	0.0757
4	94.92	0.4002	-0.0860	0.0061	0.0823	0.0083	-1.0251	0.0409	0.1616	0.0649
4	94.92	0.4500	-0.1035	0.0063	0.1139	0.0111	-1.4929	0.0542	-0.0478	0.0816
4	94.92	0.5001	-0.1307	0.0080	0.1341	0.0143	-2.0280	0.0707	-0.0385	0.0811
4	94.92	0.5560	-0.1601	0.0074	0.1675	0.0180	-2.8039	0.0904	-0.3291	0.0908
4	94.92	0.6001	-0.1771	0.0082	0.1978	0.0214	-3.4568	0.1093	-0.3079	0.0850
4	94.92	0.6501	-0.2610	0.0177	0.1353	0.0966	-4.3868	0.1346	-0.3241	0.0928
4	94.92	0.6999	-0.2397	0.0080	0.1851	0.0293	-5.3024	0.1514	-0.2096	0.1079
4	94.92	0.7500	-0.2764	0.0091	0.2090	0.0336	-6.3375	0.1767	0.0110	0.1040
4	94.92	0.8002	-0.3177	0.0110	0.1883	0.0387	-7.5791	0.1976	-0.2772	0.1152
4	94.92	0.8582	-0.3602	0.0146	0.2192	0.0438	-8.9899	0.2276	-0.3365	0.1160
4	94.92	0.9101	-0.3959	0.0198	0.1998	0.0488	-10.3545	0.2533	-0.4252	0.1297
4	94.92	0.9728	-0.3941	0.0268	0.2458	0.0546	-11.9384	0.2954	-0.2256	0.1101

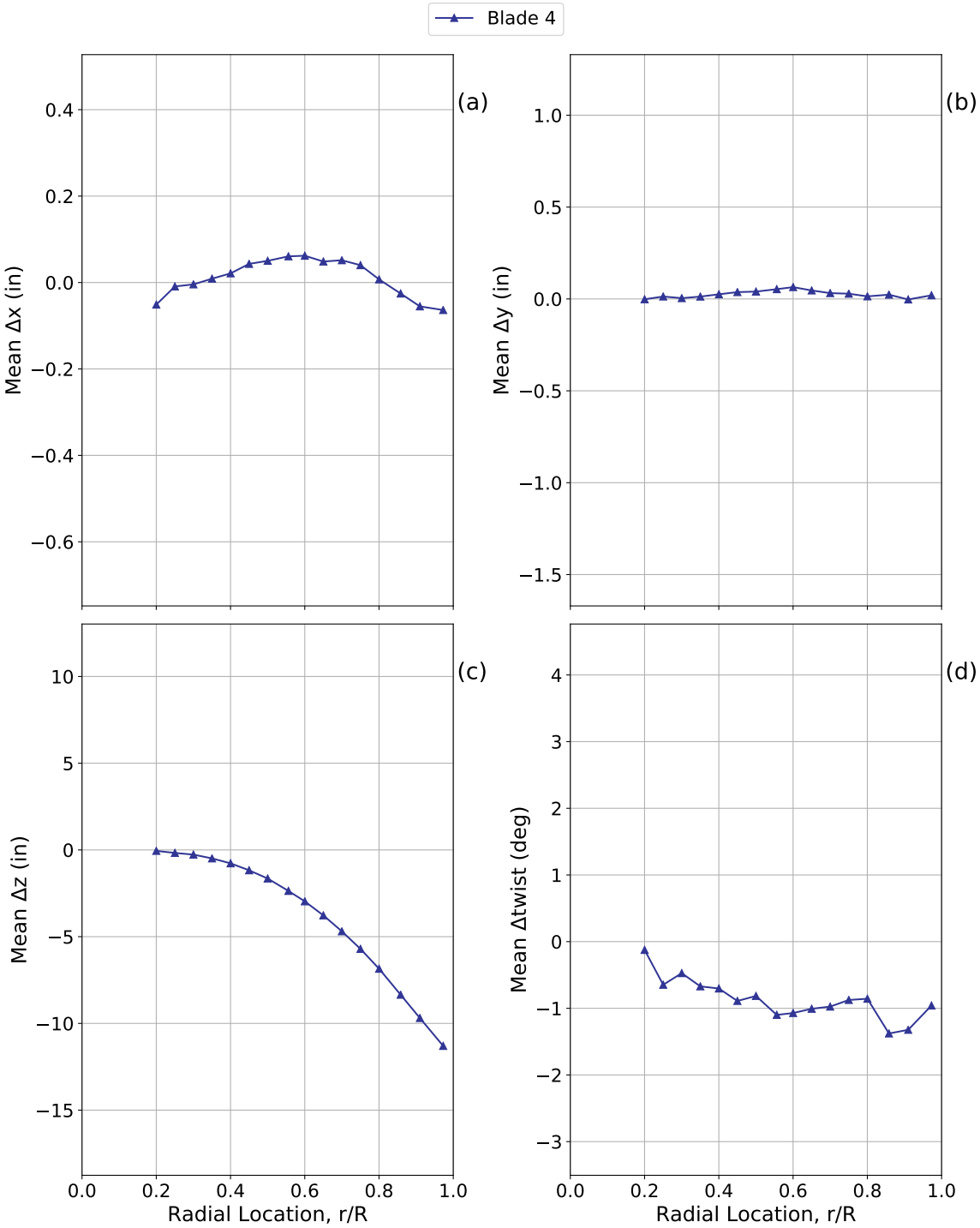


Figure 3.9-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0511	0.0012	-0.0019	0.0009	-0.0552	0.0026	-0.1244	0.0180
4	105.12	0.2502	-0.0091	0.0010	0.0132	0.0016	-0.1721	0.0050	-0.6472	0.0362
4	105.12	0.3001	-0.0043	0.0018	0.0043	0.0032	-0.2697	0.0096	-0.4729	0.0418
4	105.12	0.3502	0.0089	0.0009	0.0128	0.0054	-0.4878	0.0162	-0.6712	0.0389
4	105.12	0.4002	0.0212	0.0014	0.0253	0.0083	-0.7725	0.0248	-0.7033	0.0478
4	105.12	0.4500	0.0431	0.0027	0.0372	0.0117	-1.1743	0.0393	-0.8900	0.0439
4	105.12	0.5001	0.0502	0.0029	0.0400	0.0149	-1.6477	0.0547	-0.8150	0.0479
4	105.12	0.5560	0.0606	0.0036	0.0531	0.0189	-2.3634	0.0752	-1.0991	0.0434
4	105.12	0.6001	0.0620	0.0051	0.0643	0.0227	-2.9646	0.0929	-1.0711	0.0465
4	105.12	0.6501	0.0486	0.0061	0.0462	0.0262	-3.7738	0.1142	-1.0073	0.0645
4	105.12	0.6999	0.0516	0.0079	0.0317	0.0312	-4.6921	0.1349	-0.9748	0.0629
4	105.12	0.7500	0.0401	0.0088	0.0286	0.0358	-5.7061	0.1568	-0.8754	0.0530
4	105.12	0.8002	0.0072	0.0117	0.0140	0.0411	-6.8499	0.1816	-0.8567	0.0605
4	105.12	0.8582	-0.0255	0.0141	0.0233	0.0471	-8.3480	0.2122	-1.3778	0.0481
4	105.12	0.9101	-0.0552	0.0173	-0.0029	0.0530	-9.6921	0.2450	-1.3229	0.0659
4	105.12	0.9728	-0.0637	0.0207	0.0198	0.0623	-11.2985	0.2900	-0.9588	0.0689

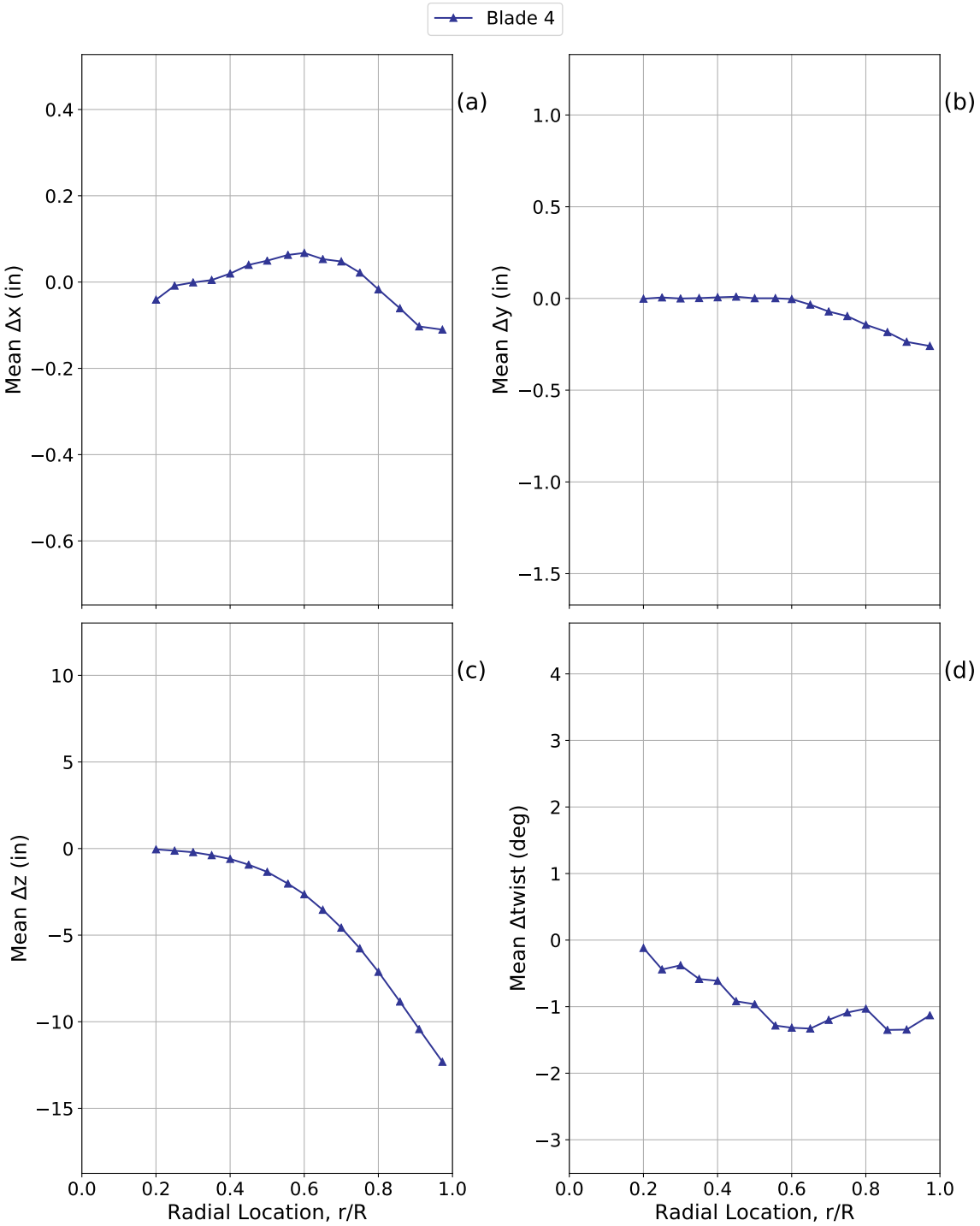


Figure 3.9-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0409	0.0018	-0.0016	0.0010	-0.0466	0.0033	-0.1187	0.0239
4	119.88	0.2502	-0.0085	0.0013	0.0055	0.0027	-0.1261	0.0093	-0.4413	0.0277
4	119.88	0.3001	-0.0009	0.0015	-0.0002	0.0038	-0.2112	0.0159	-0.3788	0.0493
4	119.88	0.3502	0.0047	0.0022	0.0019	0.0082	-0.3860	0.0249	-0.5847	0.0347
4	119.88	0.4002	0.0197	0.0032	0.0061	0.0119	-0.6004	0.0411	-0.6120	0.0432
4	119.88	0.4500	0.0398	0.0027	0.0095	0.0150	-0.9325	0.0563	-0.9193	0.0485
4	119.88	0.5001	0.0496	0.0036	0.0011	0.0205	-1.3478	0.0772	-0.9631	0.0617
4	119.88	0.5560	0.0629	0.0049	0.0012	0.0272	-2.0280	0.1019	-1.2846	0.0599
4	119.88	0.6001	0.0675	0.0056	-0.0035	0.0337	-2.6417	0.1227	-1.3167	0.0693
4	119.88	0.6501	0.0532	0.0065	-0.0339	0.0414	-3.5400	0.1480	-1.3295	0.0611
4	119.88	0.6999	0.0477	0.0081	-0.0712	0.0504	-4.5730	0.1752	-1.1996	0.0658
4	119.88	0.7500	0.0218	0.0114	-0.0965	0.0601	-5.7684	0.2094	-1.0881	0.0676
4	119.88	0.8002	-0.0171	0.0141	-0.1434	0.0704	-7.1218	0.2437	-1.0306	0.0709
4	119.88	0.8582	-0.0609	0.0183	-0.1836	0.0836	-8.8400	0.2906	-1.3497	0.0746
4	119.88	0.9101	-0.1029	0.0222	-0.2366	0.0957	-10.4292	0.3343	-1.3453	0.0671
4	119.88	0.9728	-0.1103	0.0279	-0.2592	0.1106	-12.3170	0.3940	-1.1304	0.0714

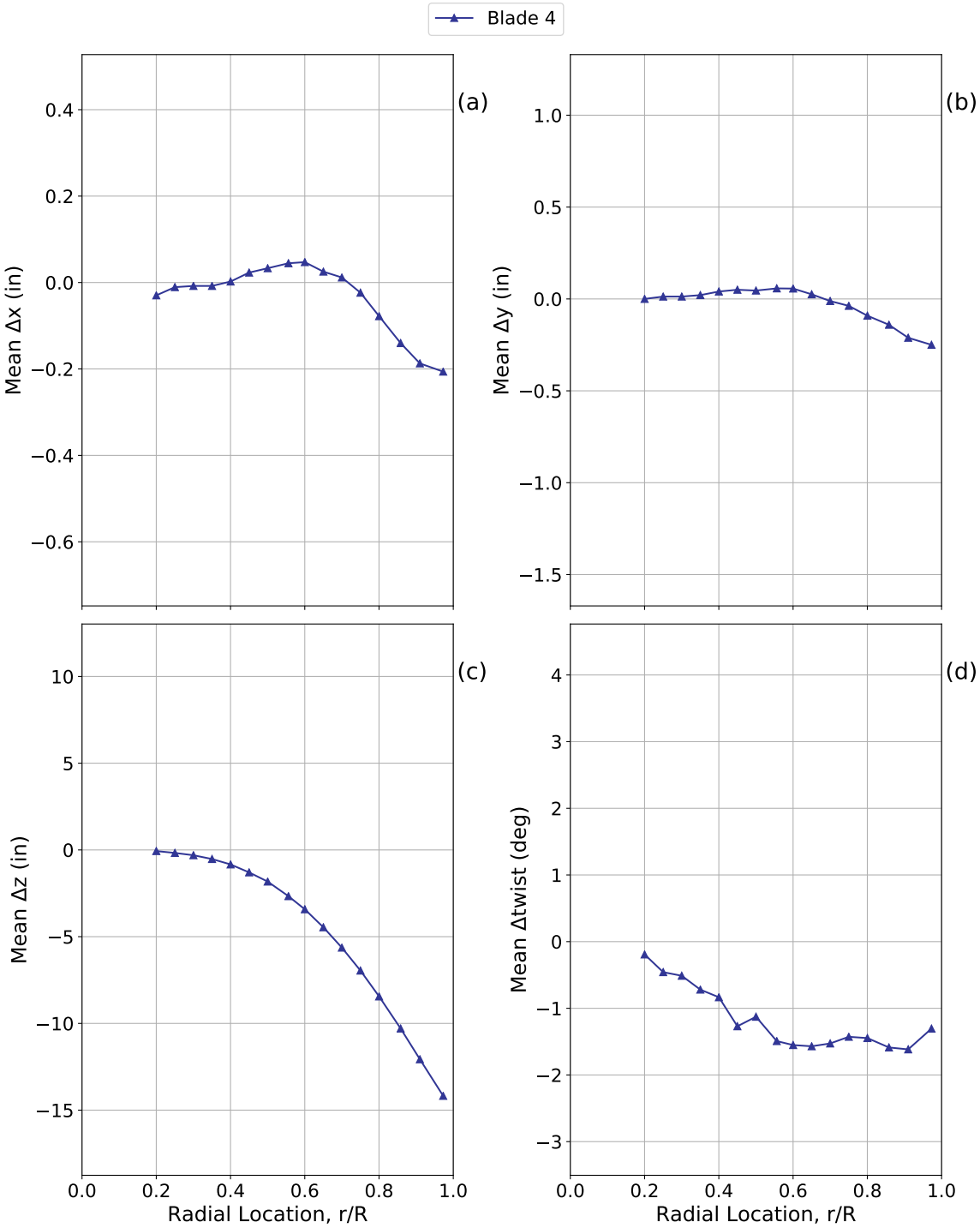


Figure 3.9-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0297	0.0010	0.0002	0.0009	-0.0651	0.0025	-0.1924	0.0231
4	135	0.2502	-0.0107	0.0017	0.0128	0.0023	-0.1726	0.0061	-0.4579	0.0266
4	135	0.3001	-0.0079	0.0013	0.0129	0.0040	-0.3059	0.0104	-0.5121	0.0469
4	135	0.3502	-0.0079	0.0019	0.0208	0.0069	-0.5240	0.0186	-0.7199	0.0488
4	135	0.4002	0.0023	0.0026	0.0404	0.0110	-0.8366	0.0286	-0.8345	0.0400
4	135	0.4500	0.0230	0.0031	0.0500	0.0147	-1.2946	0.0426	-1.2697	0.0525
4	135	0.5001	0.0331	0.0035	0.0456	0.0170	-1.8241	0.0642	-1.1270	0.0654
4	135	0.5560	0.0446	0.0055	0.0574	0.0224	-2.6656	0.0937	-1.4919	0.0642
4	135	0.6001	0.0472	0.0072	0.0565	0.0260	-3.4218	0.1240	-1.5516	0.0642
4	135	0.6501	0.0252	0.0092	0.0252	0.0311	-4.4591	0.1609	-1.5698	0.0594
4	135	0.6999	0.0117	0.0115	-0.0114	0.0358	-5.6318	0.2048	-1.5275	0.0706
4	135	0.7500	-0.0236	0.0156	-0.0377	0.0411	-6.9563	0.2553	-1.4276	0.0742
4	135	0.8002	-0.0779	0.0199	-0.0912	0.0468	-8.4461	0.3090	-1.4467	0.0719
4	135	0.8582	-0.1402	0.0271	-0.1406	0.0532	-10.2959	0.3775	-1.5875	0.0774
4	135	0.9101	-0.1872	0.0325	-0.2113	0.0600	-12.0696	0.4434	-1.6164	0.0795
4	135	0.9728	-0.2062	0.0393	-0.2497	0.0676	-14.1772	0.5287	-1.3049	0.0819

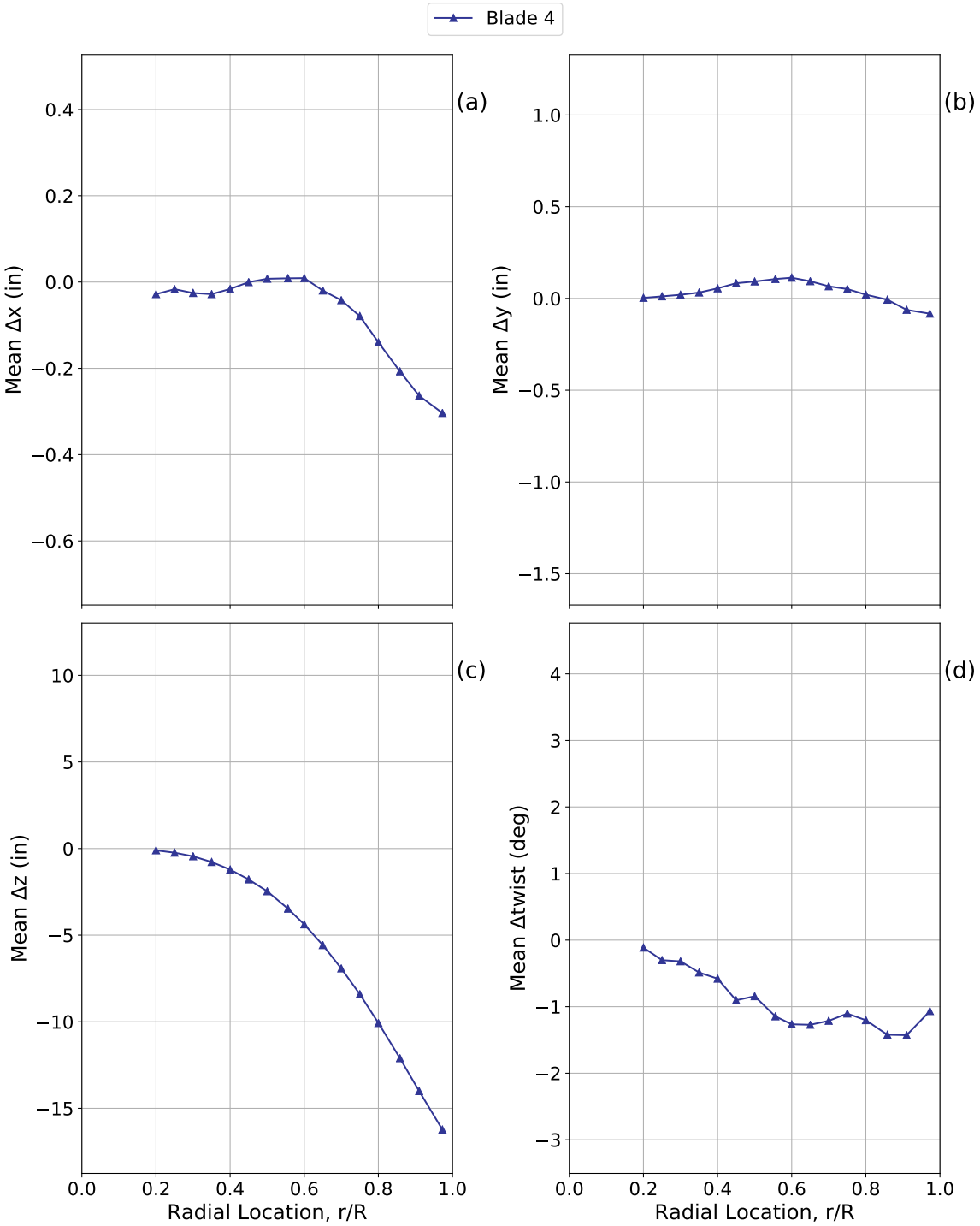


Figure 3.9-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0281	0.0019	0.0030	0.0009	-0.1034	0.0044	-0.1133	0.0225
4	150.12	0.2502	-0.0166	0.0021	0.0112	0.0036	-0.2390	0.0098	-0.3017	0.0213
4	150.12	0.3001	-0.0255	0.0023	0.0198	0.0049	-0.4477	0.0195	-0.3194	0.0445
4	150.12	0.3502	-0.0281	0.0031	0.0320	0.0090	-0.7781	0.0332	-0.4872	0.0338
4	150.12	0.4002	-0.0161	0.0048	0.0548	0.0146	-1.2162	0.0524	-0.5802	0.0307
4	150.12	0.4500	-0.0003	0.0050	0.0828	0.0158	-1.7855	0.0717	-0.9043	0.0398
4	150.12	0.5001	0.0075	0.0057	0.0922	0.0215	-2.4701	0.0982	-0.8434	0.0554
4	150.12	0.5560	0.0086	0.0066	0.1056	0.0263	-3.4737	0.1273	-1.1460	0.0575
4	150.12	0.6001	0.0090	0.0086	0.1128	0.0310	-4.3800	0.1528	-1.2648	0.0471
4	150.12	0.6501	-0.0198	0.0111	0.0936	0.0374	-5.5762	0.1885	-1.2721	0.0475
4	150.12	0.6999	-0.0421	0.0142	0.0660	0.0443	-6.9235	0.2285	-1.2125	0.0604
4	150.12	0.7500	-0.0790	0.0183	0.0511	0.0520	-8.4132	0.2719	-1.1039	0.0595
4	150.12	0.8002	-0.1399	0.0253	0.0203	0.0603	-10.0763	0.3242	-1.2034	0.0485
4	150.12	0.8582	-0.2071	0.0327	-0.0070	0.0711	-12.1066	0.3977	-1.4222	0.0514
4	150.12	0.9101	-0.2636	0.0405	-0.0622	0.0811	-14.0053	0.4685	-1.4280	0.0541
4	150.12	0.9728	-0.3034	0.0509	-0.0831	0.0942	-16.2304	0.5594	-1.0666	0.0504

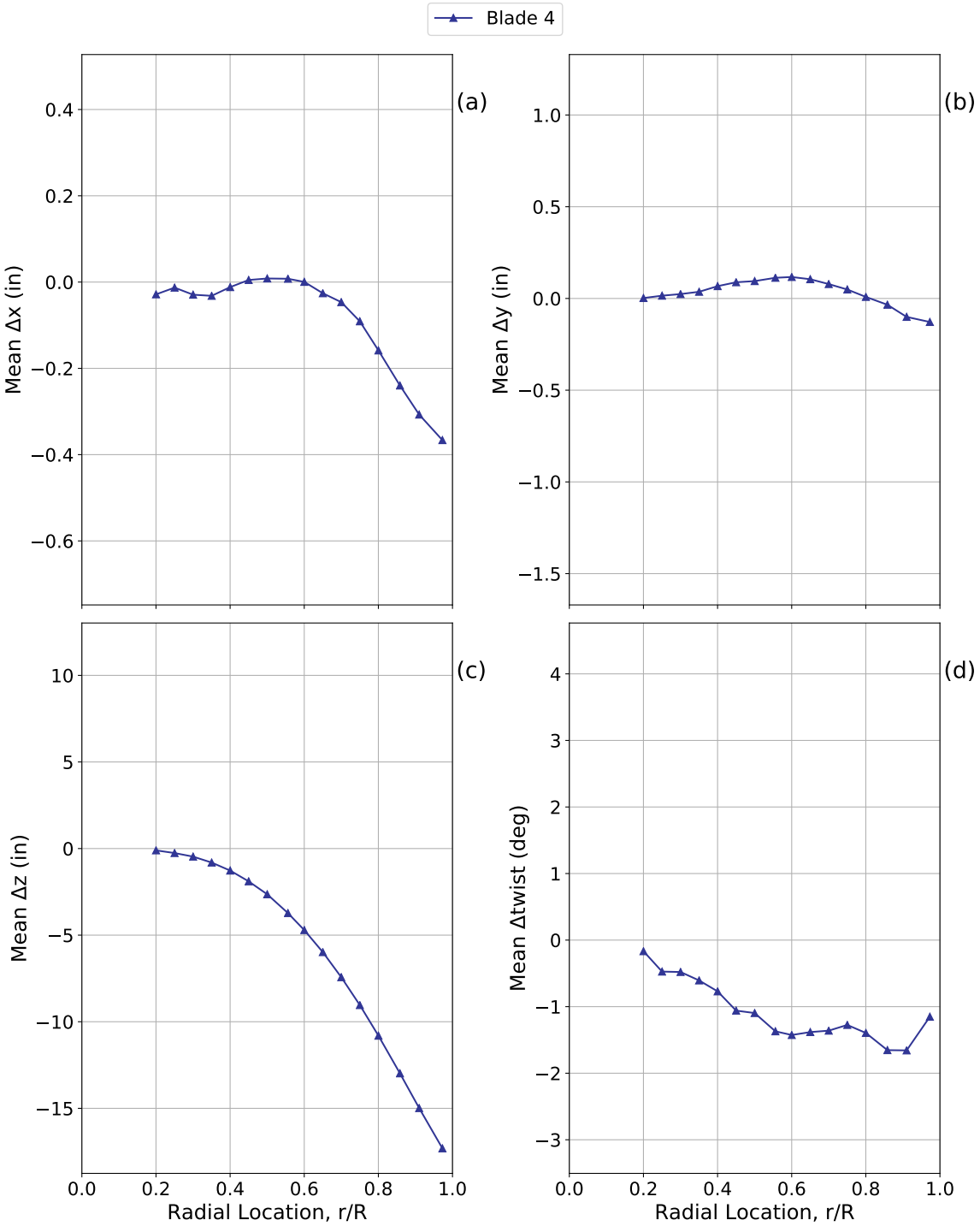


Figure 3.9-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0285	0.0015	0.0023	0.0011	-0.1049	0.0032	-0.1669	0.0267
4	164.88	0.2502	-0.0129	0.0037	0.0151	0.0022	-0.2600	0.0074	-0.4734	0.0470
4	164.88	0.3001	-0.0293	0.0018	0.0239	0.0031	-0.4654	0.0115	-0.4792	0.0581
4	164.88	0.3502	-0.0319	0.0028	0.0364	0.0081	-0.8090	0.0172	-0.6062	0.0520
4	164.88	0.4002	-0.0117	0.0031	0.0671	0.0101	-1.2721	0.0282	-0.7705	0.0531
4	164.88	0.4500	0.0048	0.0037	0.0883	0.0148	-1.8940	0.0344	-1.0595	0.0616
4	164.88	0.5001	0.0083	0.0043	0.0946	0.0191	-2.6415	0.0456	-1.0962	0.0399
4	164.88	0.5560	0.0077	0.0049	0.1127	0.0245	-3.7261	0.0621	-1.3707	0.0481
4	164.88	0.6001	0.0004	0.0055	0.1170	0.0291	-4.7087	0.0713	-1.4261	0.0558
4	164.88	0.6501	-0.0259	0.0067	0.1048	0.0343	-5.9810	0.0888	-1.3821	0.0460
4	164.88	0.6999	-0.0466	0.0079	0.0784	0.0406	-7.4300	0.1031	-1.3607	0.0394
4	164.88	0.7500	-0.0910	0.0097	0.0488	0.0468	-9.0392	0.1171	-1.2747	0.0644
4	164.88	0.8002	-0.1585	0.0109	0.0084	0.0540	-10.8064	0.1269	-1.3953	0.0570
4	164.88	0.8582	-0.2398	0.0131	-0.0342	0.0616	-12.9804	0.1394	-1.6534	0.0472
4	164.88	0.9101	-0.3072	0.0151	-0.1005	0.0687	-14.9872	0.1524	-1.6573	0.0506
4	164.88	0.9728	-0.3664	0.0178	-0.1283	0.0778	-17.3115	0.1715	-1.1518	0.0470

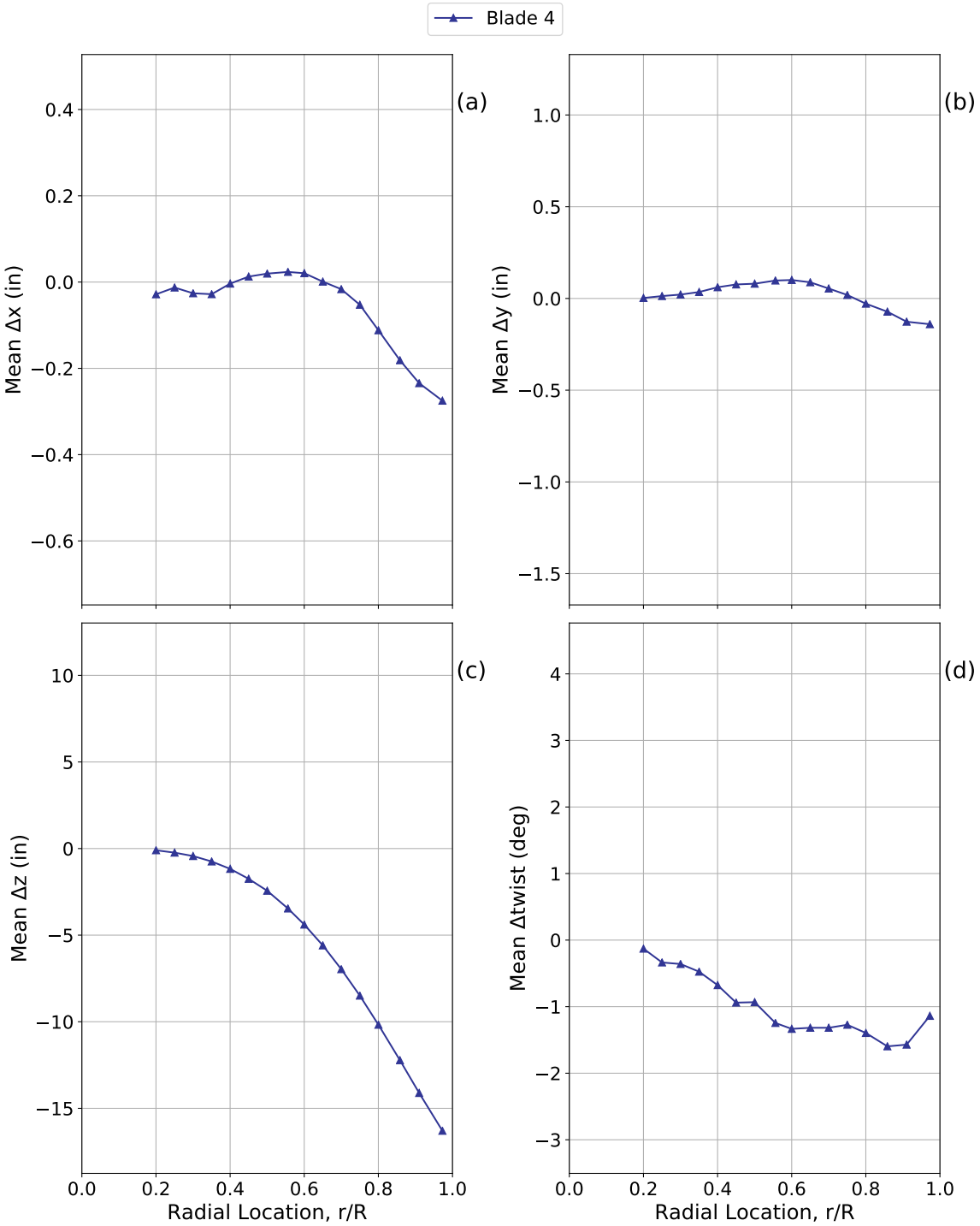


Figure 3.9-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0284	0.0023	0.0026	0.0011	-0.0988	0.0024	-0.1288	0.0264
4	170.16	0.2502	-0.0127	0.0031	0.0130	0.0021	-0.2368	0.0068	-0.3362	0.0292
4	170.16	0.3001	-0.0260	0.0019	0.0212	0.0037	-0.4330	0.0088	-0.3594	0.0528
4	170.16	0.3502	-0.0281	0.0021	0.0351	0.0071	-0.7470	0.0154	-0.4747	0.0511
4	170.16	0.4002	-0.0036	0.0020	0.0611	0.0103	-1.1742	0.0240	-0.6774	0.0451
4	170.16	0.4500	0.0127	0.0025	0.0763	0.0129	-1.7493	0.0307	-0.9396	0.0497
4	170.16	0.5001	0.0196	0.0027	0.0804	0.0171	-2.4379	0.0407	-0.9327	0.0430
4	170.16	0.5560	0.0235	0.0018	0.0977	0.0210	-3.4610	0.0530	-1.2452	0.0471
4	170.16	0.6001	0.0205	0.0030	0.1006	0.0264	-4.3910	0.0627	-1.3339	0.0532
4	170.16	0.6501	0.0010	0.0036	0.0881	0.0309	-5.5938	0.0783	-1.3175	0.0762
4	170.16	0.6999	-0.0165	0.0043	0.0541	0.0361	-6.9663	0.0912	-1.3176	0.0780
4	170.16	0.7500	-0.0527	0.0058	0.0189	0.0419	-8.4935	0.1120	-1.2723	0.0673
4	170.16	0.8002	-0.1118	0.0081	-0.0286	0.0480	-10.1748	0.1322	-1.3957	0.0565
4	170.16	0.8582	-0.1813	0.0106	-0.0722	0.0547	-12.2235	0.1554	-1.5965	0.0645
4	170.16	0.9101	-0.2344	0.0126	-0.1268	0.0605	-14.1145	0.1790	-1.5710	0.0673
4	170.16	0.9728	-0.2750	0.0140	-0.1404	0.0677	-16.2970	0.2078	-1.1385	0.0648

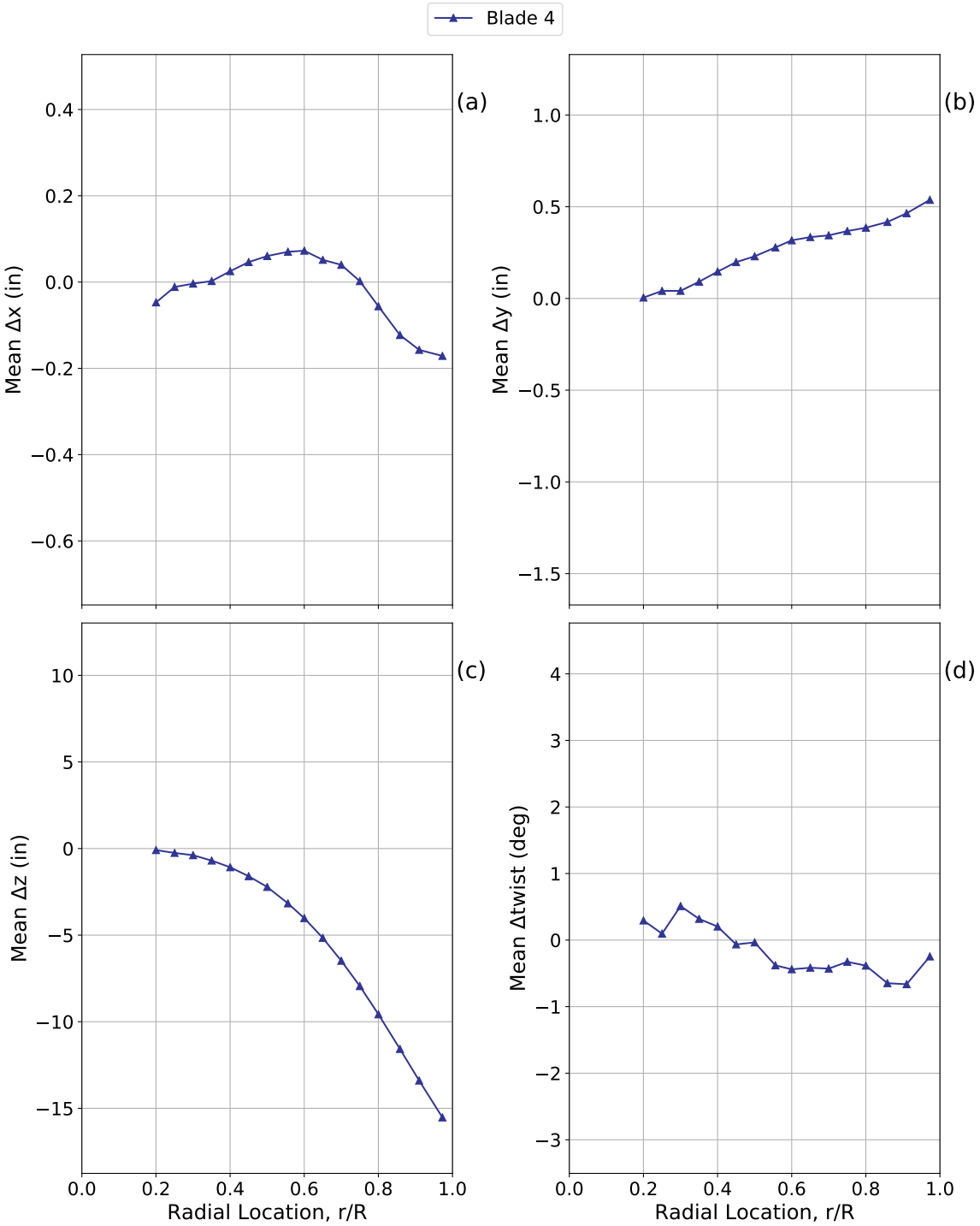


Figure 3.9-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0471	0.0010	0.0048	0.0008	-0.0894	0.0013	0.2942	0.0249
4	175.08	0.2502	-0.0114	0.0018	0.0411	0.0019	-0.2530	0.0043	0.0967	0.0394
4	175.08	0.3001	-0.0037	0.0020	0.0414	0.0028	-0.3849	0.0052	0.5102	0.0567
4	175.08	0.3502	0.0023	0.0006	0.0913	0.0059	-0.6953	0.0094	0.3184	0.0631
4	175.08	0.4002	0.0252	0.0012	0.1462	0.0086	-1.0799	0.0145	0.2028	0.0578
4	175.08	0.4500	0.0463	0.0008	0.1980	0.0109	-1.5977	0.0186	-0.0651	0.0546
4	175.08	0.5001	0.0603	0.0021	0.2297	0.0147	-2.2178	0.0243	-0.0350	0.0623
4	175.08	0.5560	0.0702	0.0023	0.2780	0.0192	-3.1670	0.0351	-0.3794	0.0604
4	175.08	0.6001	0.0727	0.0030	0.3168	0.0235	-4.0186	0.0453	-0.4390	0.0613
4	175.08	0.6501	0.0515	0.0029	0.3345	0.0290	-5.1609	0.0571	-0.4155	0.0668
4	175.08	0.6999	0.0399	0.0043	0.3439	0.0352	-6.4818	0.0684	-0.4288	0.0646
4	175.08	0.7500	0.0021	0.0056	0.3673	0.0406	-7.9429	0.0825	-0.3264	0.0720
4	175.08	0.8002	-0.0562	0.0073	0.3855	0.0476	-9.5727	0.0931	-0.3839	0.0688
4	175.08	0.8582	-0.1228	0.0094	0.4168	0.0565	-11.5733	0.1098	-0.6478	0.0554
4	175.08	0.9101	-0.1572	0.0101	0.4644	0.0663	-13.3981	0.1230	-0.6634	0.0573
4	175.08	0.9728	-0.1712	0.0134	0.5374	0.0758	-15.5271	0.1420	-0.2462	0.0687

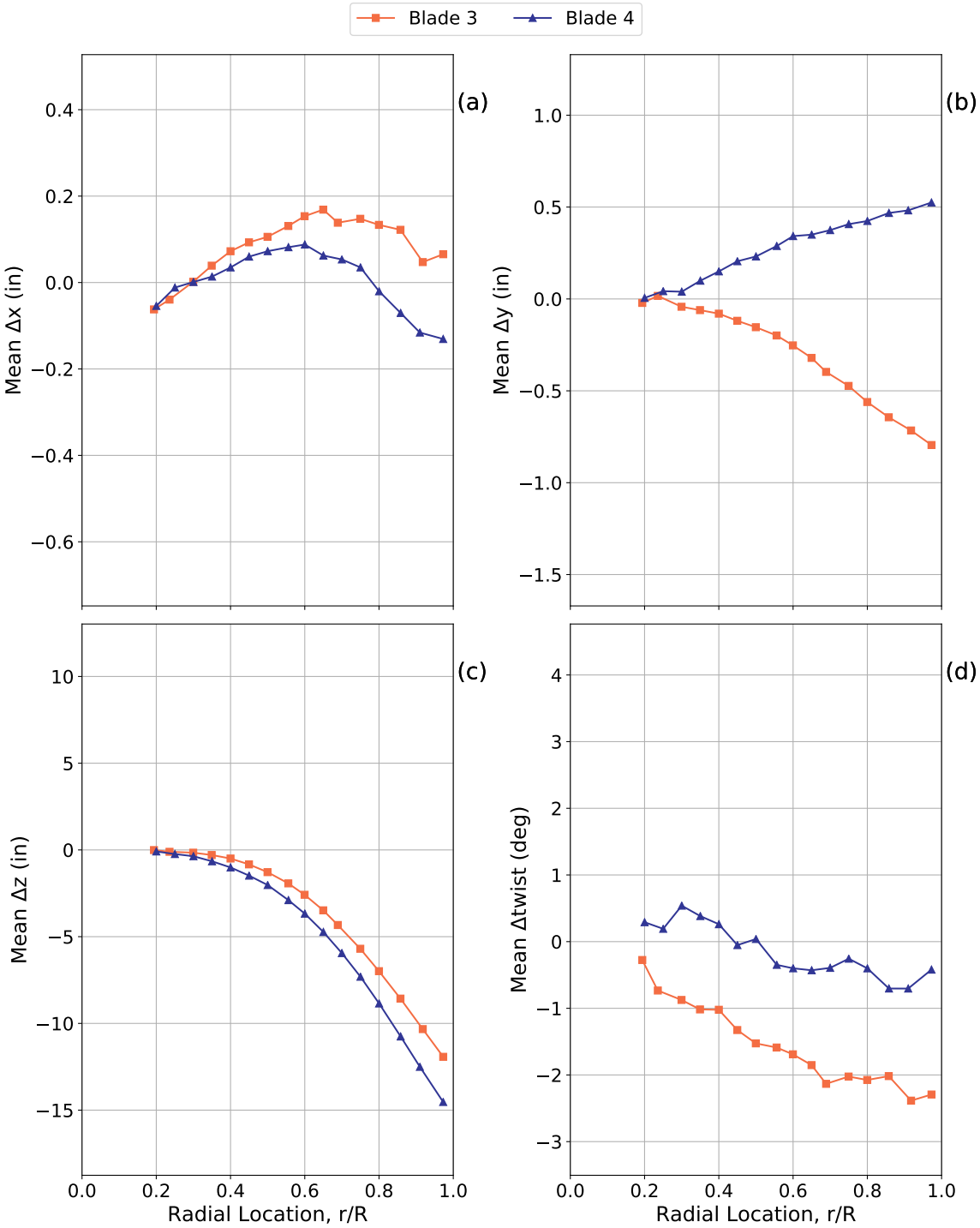


Figure 3.9-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0622	0.0015	-0.0216	0.0009	-0.0083	0.0023	-0.2758	0.0194
3	180.35	0.2357	-0.0395	0.0014	0.0166	0.0014	-0.1075	0.0048	-0.7334	0.0240
3	180.35	0.2995	0.0018	0.0012	-0.0425	0.0034	-0.1574	0.0087	-0.8748	0.0361
3	180.35	0.3493	0.0390	0.0012	-0.0608	0.0056	-0.2928	0.0146	-1.0169	0.0387
3	180.35	0.4000	0.0724	0.0024	-0.0800	0.0090	-0.4949	0.0224	-1.0220	0.0496
3	180.35	0.4497	0.0930	0.0020	-0.1189	0.0135	-0.8329	0.0294	-1.3261	0.0467
3	180.35	0.4997	0.1057	0.0017	-0.1538	0.0182	-1.2802	0.0396	-1.5261	0.0403
3	180.35	0.5556	0.1309	0.0026	-0.1988	0.0234	-1.9277	0.0506	-1.5885	0.0428
3	180.35	0.5995	0.1535	0.0026	-0.2527	0.0284	-2.5851	0.0613	-1.6904	0.0436
3	180.35	0.6498	0.1687	0.0027	-0.3208	0.0345	-3.4822	0.0728	-1.8521	0.0452
3	180.35	0.6890	0.1384	0.0034	-0.3970	0.0398	-4.3283	0.0795	-2.1329	0.0603
3	180.35	0.7495	0.1475	0.0044	-0.4733	0.0501	-5.6970	0.0913	-2.0239	0.0494
3	180.35	0.7998	0.1334	0.0057	-0.5609	0.0591	-6.9887	0.0986	-2.0752	0.0427
3	180.35	0.8577	0.1220	0.0074	-0.6439	0.0698	-8.5709	0.1086	-2.0170	0.0434
3	180.35	0.9178	0.0473	0.0100	-0.7159	0.0815	-10.3287	0.1179	-2.3852	0.0516
3	180.35	0.9729	0.0655	0.0113	-0.7950	0.0934	-11.9265	0.1273	-2.2932	0.0826
4	180	0.2001	-0.0542	0.0011	0.0056	0.0010	-0.0882	0.0032	0.2911	0.0468
4	180	0.2502	-0.0117	0.0016	0.0423	0.0045	-0.2371	0.0111	0.1921	0.0569
4	180	0.3001	0.0012	0.0020	0.0394	0.0051	-0.3632	0.0137	0.5394	0.0957
4	180	0.3502	0.0137	0.0019	0.0992	0.0086	-0.6554	0.0241	0.3830	0.0810
4	180	0.4002	0.0349	0.0020	0.1500	0.0144	-1.0098	0.0372	0.2609	0.0741
4	180	0.4500	0.0599	0.0022	0.2051	0.0174	-1.4821	0.0465	-0.0525	0.0727
4	180	0.5001	0.0725	0.0027	0.2312	0.0221	-2.0241	0.0583	0.0393	0.0784
4	180	0.5560	0.0817	0.0031	0.2881	0.0290	-2.8957	0.0746	-0.3484	0.0753
4	180	0.6001	0.0879	0.0041	0.3420	0.0336	-3.6740	0.0870	-0.4003	0.0918
4	180	0.6501	0.0624	0.0048	0.3498	0.0382	-4.7313	0.1065	-0.4295	0.0907
4	180	0.6999	0.0534	0.0073	0.3745	0.0438	-5.9482	0.1312	-0.3936	0.0832
4	180	0.7500	0.0349	0.0112	0.4071	0.0513	-7.3105	0.1650	-0.2561	0.0861
4	180	0.8002	-0.0203	0.0145	0.4242	0.0575	-8.8519	0.2046	-0.4012	0.0933
4	180	0.8582	-0.0705	0.0192	0.4679	0.0669	-10.7550	0.2571	-0.7034	0.0991
4	180	0.9101	-0.1158	0.0253	0.4820	0.0735	-12.5053	0.3094	-0.7039	0.0894
4	180	0.9728	-0.1307	0.0301	0.5248	0.0854	-14.5305	0.3771	-0.4200	0.0976

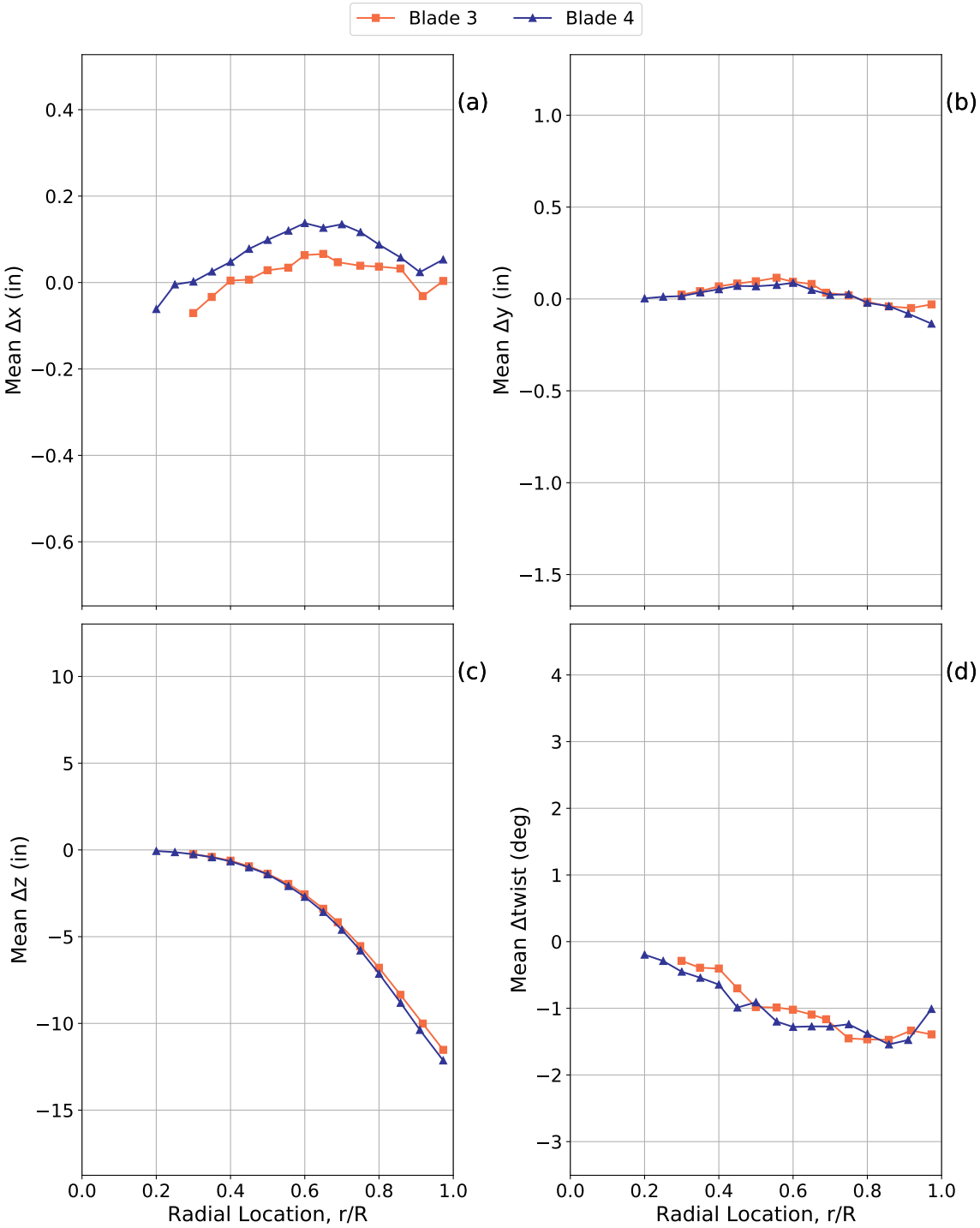


Figure 3.9-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0707	0.0269	0.0240	0.0438	-0.2446	0.1001	-0.2883	0.2310
3	184.92	0.3493	-0.0334	0.0352	0.0423	0.0759	-0.3995	0.1740	-0.3917	0.3044
3	184.92	0.4000	0.0045	0.0272	0.0686	0.1218	-0.6170	0.2809	-0.4035	0.2530
3	184.92	0.4497	0.0066	0.0306	0.0840	0.1609	-0.9424	0.3612	-0.7003	0.2736
3	184.92	0.4997	0.0284	0.0302	0.0962	0.2025	-1.3700	0.4501	-0.9819	0.2536
3	184.92	0.5556	0.0343	0.0333	0.1153	0.2455	-1.9587	0.5524	-0.9880	0.2488
3	184.92	0.5995	0.0634	0.0365	0.0935	0.2811	-2.5573	0.6280	-1.0208	0.2642
3	184.92	0.6498	0.0662	0.0403	0.0815	0.3203	-3.3910	0.7209	-1.0944	0.2574
3	184.92	0.6890	0.0471	0.0435	0.0340	0.3520	-4.1688	0.7937	-1.1645	0.2470
3	184.92	0.7495	0.0389	0.0501	0.0195	0.4005	-5.5455	0.9067	-1.4516	0.2654
3	184.92	0.7998	0.0368	0.0588	-0.0158	0.4408	-6.7937	1.0052	-1.4659	0.2574
3	184.92	0.8577	0.0324	0.0670	-0.0406	0.4863	-8.3518	1.1214	-1.4729	0.2713
3	184.92	0.9178	-0.0314	0.0756	-0.0497	0.5336	-10.0090	1.2469	-1.3335	0.2673
3	184.92	0.9729	0.0036	0.0905	-0.0296	0.5764	-11.5244	1.3637	-1.3914	0.2679
4	184.92	0.2001	-0.0614	0.0012	0.0030	0.0009	-0.0615	0.0024	-0.1959	0.0157
4	184.92	0.2502	-0.0045	0.0013	0.0119	0.0023	-0.1294	0.0070	-0.2904	0.0203
4	184.92	0.3001	0.0021	0.0011	0.0155	0.0045	-0.2497	0.0096	-0.4513	0.0312
4	184.92	0.3502	0.0254	0.0020	0.0355	0.0066	-0.4244	0.0174	-0.5421	0.0297
4	184.92	0.4002	0.0478	0.0020	0.0527	0.0112	-0.6594	0.0270	-0.6451	0.0373
4	184.92	0.4500	0.0778	0.0026	0.0711	0.0145	-1.0034	0.0356	-0.9894	0.0413
4	184.92	0.5001	0.0986	0.0030	0.0689	0.0170	-1.4045	0.0502	-0.9094	0.0401
4	184.92	0.5560	0.1200	0.0028	0.0762	0.0232	-2.0830	0.0668	-1.1990	0.0462
4	184.92	0.6001	0.1375	0.0029	0.0875	0.0283	-2.7057	0.0829	-1.2797	0.0432
4	184.92	0.6501	0.1266	0.0036	0.0492	0.0334	-3.5751	0.1019	-1.2715	0.0543
4	184.92	0.6999	0.1348	0.0038	0.0222	0.0392	-4.6041	0.1170	-1.2731	0.0571
4	184.92	0.7500	0.1166	0.0059	0.0256	0.0447	-5.7981	0.1318	-1.2398	0.0541
4	184.92	0.8002	0.0877	0.0079	-0.0211	0.0514	-7.1410	0.1508	-1.3807	0.0728
4	184.92	0.8582	0.0578	0.0105	-0.0396	0.0609	-8.8147	0.1663	-1.5423	0.0759
4	184.92	0.9101	0.0240	0.0117	-0.0803	0.0720	-10.3781	0.1881	-1.4753	0.0865
4	184.92	0.9728	0.0532	0.0178	-0.1346	0.0797	-12.1378	0.1960	-1.0102	0.0796

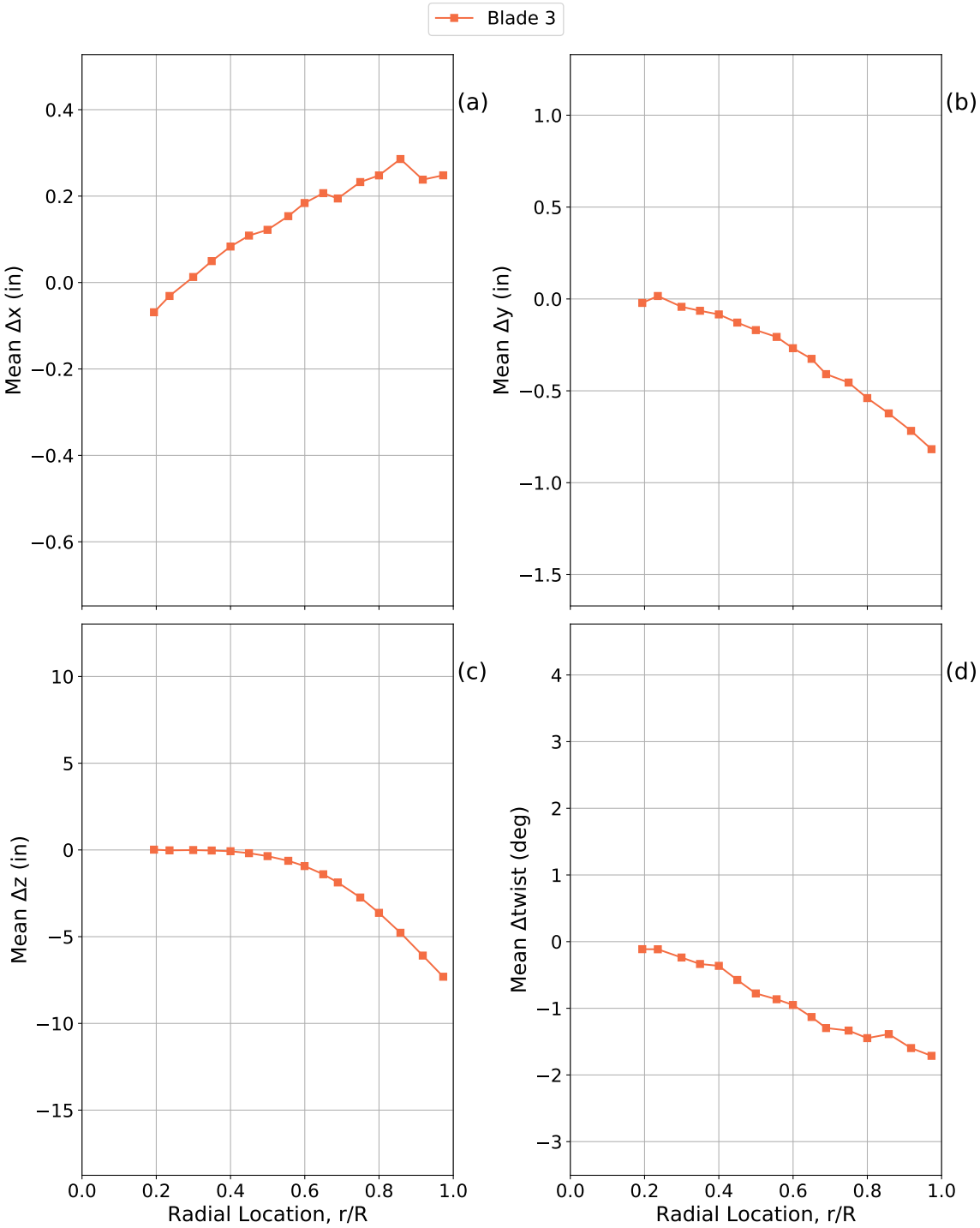


Figure 3.9-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0688	0.0168	-0.0216	0.0056	0.0163	0.0064	-0.1129	0.1226
3	195.12	0.2357	-0.0311	0.0062	0.0160	0.0114	-0.0246	0.0357	-0.1148	0.1519
3	195.12	0.2995	0.0128	0.0055	-0.0428	0.0262	-0.0070	0.0253	-0.2383	0.1071
3	195.12	0.3493	0.0496	0.0079	-0.0643	0.0496	-0.0330	0.0488	-0.3356	0.1149
3	195.12	0.4000	0.0833	0.0120	-0.0842	0.0761	-0.0742	0.0760	-0.3633	0.1109
3	195.12	0.4497	0.1086	0.0158	-0.1286	0.1017	-0.1864	0.1010	-0.5748	0.1210
3	195.12	0.4997	0.1220	0.0192	-0.1695	0.1295	-0.3567	0.1288	-0.7771	0.1205
3	195.12	0.5556	0.1536	0.0218	-0.2067	0.1615	-0.6260	0.1629	-0.8643	0.1209
3	195.12	0.5995	0.1840	0.0237	-0.2681	0.1866	-0.9297	0.1915	-0.9499	0.1267
3	195.12	0.6498	0.2068	0.0254	-0.3260	0.2162	-1.4024	0.2287	-1.1306	0.1237
3	195.12	0.6890	0.1945	0.0262	-0.4091	0.2388	-1.8740	0.2592	-1.2964	0.1245
3	195.12	0.7495	0.2325	0.0265	-0.4550	0.2752	-2.7416	0.3103	-1.3340	0.1293
3	195.12	0.7998	0.2479	0.0261	-0.5395	0.3068	-3.6259	0.3552	-1.4476	0.1372
3	195.12	0.8577	0.2858	0.0250	-0.6228	0.3445	-4.7744	0.4107	-1.3873	0.1365
3	195.12	0.9178	0.2381	0.0245	-0.7180	0.3853	-6.0895	0.4659	-1.5966	0.1337
3	195.12	0.9729	0.2481	0.0298	-0.8176	0.4200	-7.3096	0.5209	-1.7131	0.1313

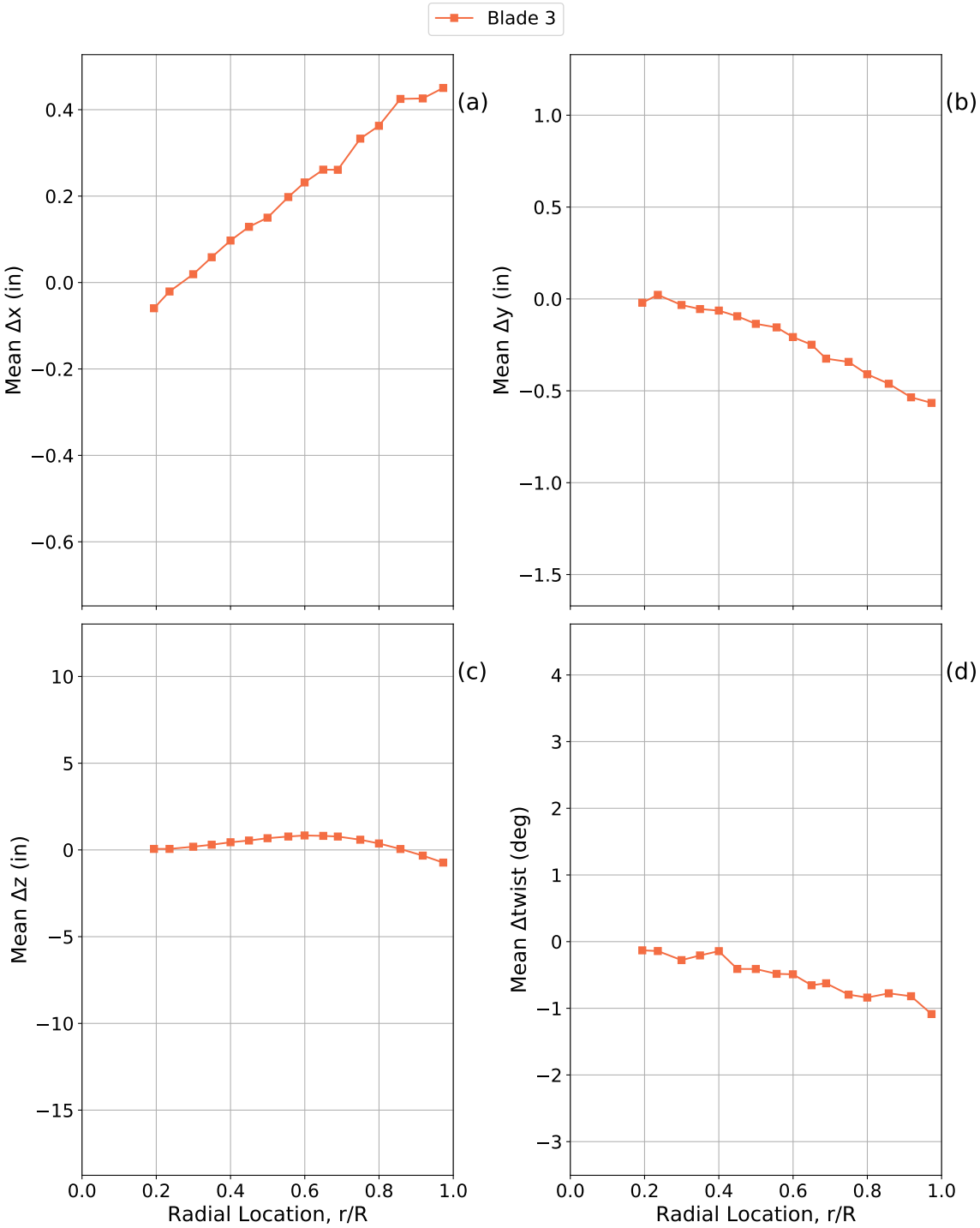


Figure 3.9-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0595	0.0011	-0.0206	0.0008	0.0595	0.0049	-0.1307	0.0272
3	209.88	0.2357	-0.0207	0.0013	0.0223	0.0021	0.0596	0.0102	-0.1411	0.0342
3	209.88	0.2995	0.0192	0.0013	-0.0329	0.0053	0.1849	0.0200	-0.2774	0.0541
3	209.88	0.3493	0.0585	0.0021	-0.0550	0.0073	0.3000	0.0283	-0.2071	0.0614
3	209.88	0.4000	0.0972	0.0020	-0.0633	0.0135	0.4425	0.0480	-0.1427	0.0490
3	209.88	0.4497	0.1289	0.0023	-0.0943	0.0167	0.5427	0.0601	-0.4094	0.0578
3	209.88	0.4997	0.1501	0.0029	-0.1355	0.0207	0.6760	0.0752	-0.4106	0.0694
3	209.88	0.5556	0.1978	0.0032	-0.1548	0.0261	0.7733	0.0941	-0.4833	0.0649
3	209.88	0.5995	0.2316	0.0037	-0.2075	0.0306	0.8337	0.1103	-0.4899	0.0671
3	209.88	0.6498	0.2612	0.0041	-0.2491	0.0356	0.8109	0.1300	-0.6545	0.0687
3	209.88	0.6890	0.2609	0.0039	-0.3249	0.0401	0.7724	0.1489	-0.6250	0.0812
3	209.88	0.7495	0.3330	0.0046	-0.3426	0.0468	0.5893	0.1776	-0.7947	0.0859
3	209.88	0.7998	0.3627	0.0048	-0.4098	0.0530	0.3728	0.2044	-0.8390	0.0735
3	209.88	0.8577	0.4249	0.0054	-0.4615	0.0593	0.0527	0.2370	-0.7753	0.0722
3	209.88	0.9178	0.4260	0.0067	-0.5353	0.0671	-0.3270	0.2690	-0.8189	0.0747
3	209.88	0.9729	0.4503	0.0083	-0.5658	0.0740	-0.7294	0.3042	-1.0865	0.0932

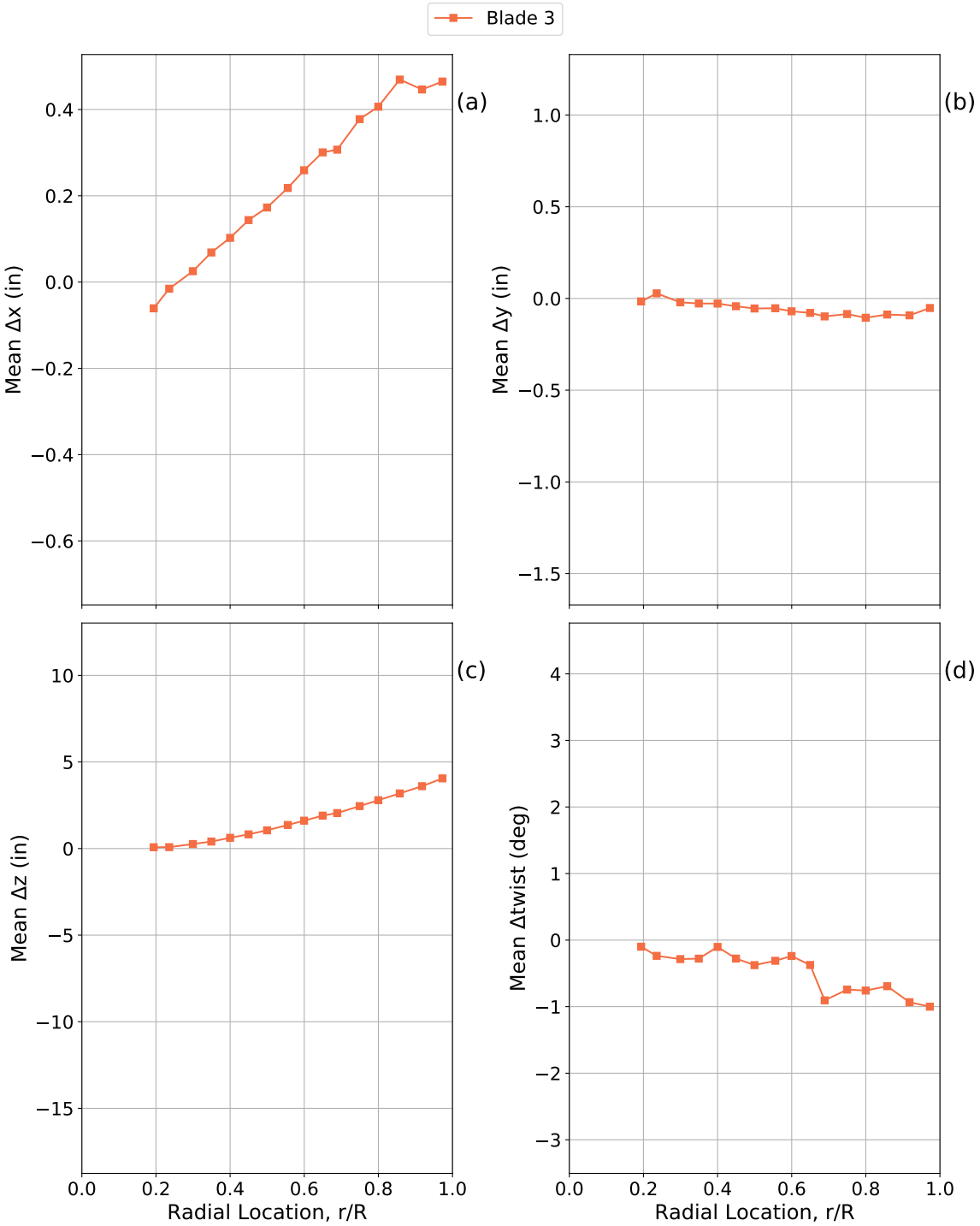


Figure 3.9-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0609	0.0016	-0.0161	0.0007	0.0761	0.0046	-0.0996	0.0253
3	225	0.2357	-0.0154	0.0008	0.0278	0.0018	0.0815	0.0104	-0.2365	0.0400
3	225	0.2995	0.0252	0.0026	-0.0212	0.0035	0.2616	0.0165	-0.2856	0.0602
3	225	0.3493	0.0686	0.0021	-0.0273	0.0062	0.4039	0.0339	-0.2785	0.0548
3	225	0.4000	0.1024	0.0023	-0.0279	0.0100	0.6212	0.0479	-0.1026	0.0459
3	225	0.4497	0.1437	0.0019	-0.0425	0.0117	0.8207	0.0600	-0.2775	0.0518
3	225	0.4997	0.1728	0.0028	-0.0546	0.0166	1.0539	0.0731	-0.3759	0.0451
3	225	0.5556	0.2181	0.0028	-0.0534	0.0202	1.3624	0.0900	-0.3108	0.0553
3	225	0.5995	0.2591	0.0033	-0.0700	0.0247	1.6109	0.1037	-0.2393	0.0734
3	225	0.6498	0.3006	0.0038	-0.0787	0.0293	1.9010	0.1143	-0.3740	0.0567
3	225	0.6890	0.3069	0.0041	-0.0979	0.0329	2.0502	0.1227	-0.9054	0.0623
3	225	0.7495	0.3777	0.0045	-0.0850	0.0385	2.4517	0.1387	-0.7439	0.0554
3	225	0.7998	0.4065	0.0051	-0.1052	0.0434	2.7916	0.1536	-0.7580	0.0601
3	225	0.8577	0.4694	0.0054	-0.0876	0.0488	3.1838	0.1760	-0.6928	0.0599
3	225	0.9178	0.4464	0.0072	-0.0921	0.0549	3.6001	0.2026	-0.9326	0.0459
3	225	0.9729	0.4648	0.0094	-0.0521	0.0601	4.0509	0.2328	-0.9998	0.0616

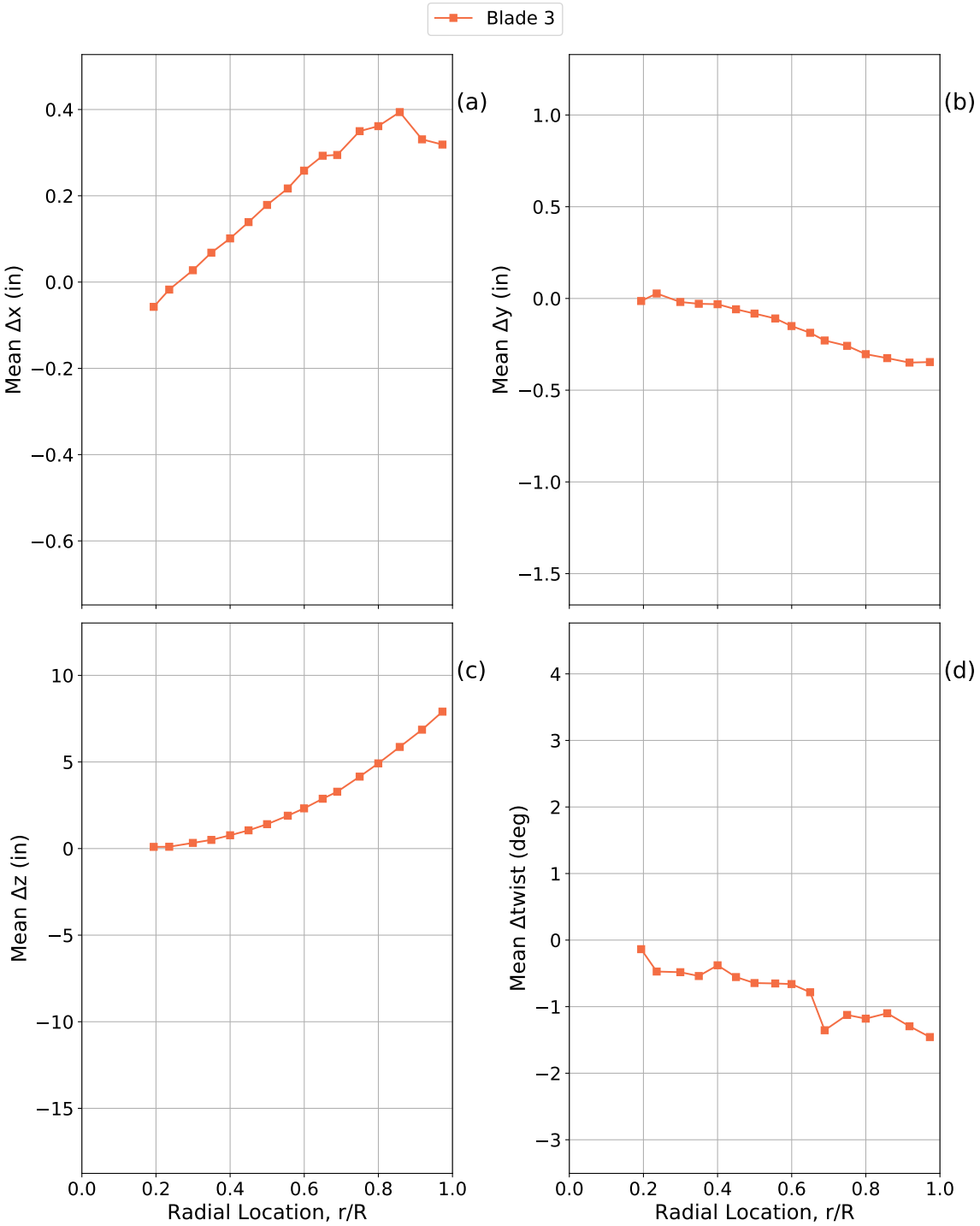


Figure 3.9-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0574	0.0012	-0.0139	0.0012	0.0969	0.0051	-0.1365	0.0283
3	240.12	0.2357	-0.0174	0.0016	0.0271	0.0012	0.1033	0.0066	-0.4724	0.0488
3	240.12	0.2995	0.0274	0.0016	-0.0193	0.0033	0.3263	0.0177	-0.4824	0.0689
3	240.12	0.3493	0.0681	0.0012	-0.0290	0.0056	0.4999	0.0266	-0.5399	0.0767
3	240.12	0.4000	0.1012	0.0016	-0.0314	0.0083	0.7667	0.0417	-0.3786	0.0689
3	240.12	0.4497	0.1390	0.0023	-0.0590	0.0109	1.0513	0.0571	-0.5554	0.0817
3	240.12	0.4997	0.1788	0.0024	-0.0824	0.0136	1.4065	0.0718	-0.6452	0.0914
3	240.12	0.5556	0.2170	0.0030	-0.1091	0.0170	1.8964	0.0900	-0.6516	0.0735
3	240.12	0.5995	0.2583	0.0045	-0.1504	0.0207	2.3202	0.1035	-0.6606	0.0857
3	240.12	0.6498	0.2928	0.0046	-0.1872	0.0257	2.8769	0.1231	-0.7837	0.0908
3	240.12	0.6890	0.2946	0.0057	-0.2291	0.0296	3.2818	0.1340	-1.3545	0.0788
3	240.12	0.7495	0.3498	0.0069	-0.2583	0.0371	4.1536	0.1576	-1.1245	0.0800
3	240.12	0.7998	0.3614	0.0086	-0.3036	0.0437	4.9180	0.1767	-1.1800	0.0705
3	240.12	0.8577	0.3940	0.0095	-0.3253	0.0519	5.8676	0.2030	-1.0993	0.0824
3	240.12	0.9178	0.3308	0.0122	-0.3496	0.0611	6.8636	0.2352	-1.2946	0.0845
3	240.12	0.9729	0.3187	0.0169	-0.3467	0.0688	7.9044	0.2694	-1.4568	0.0817

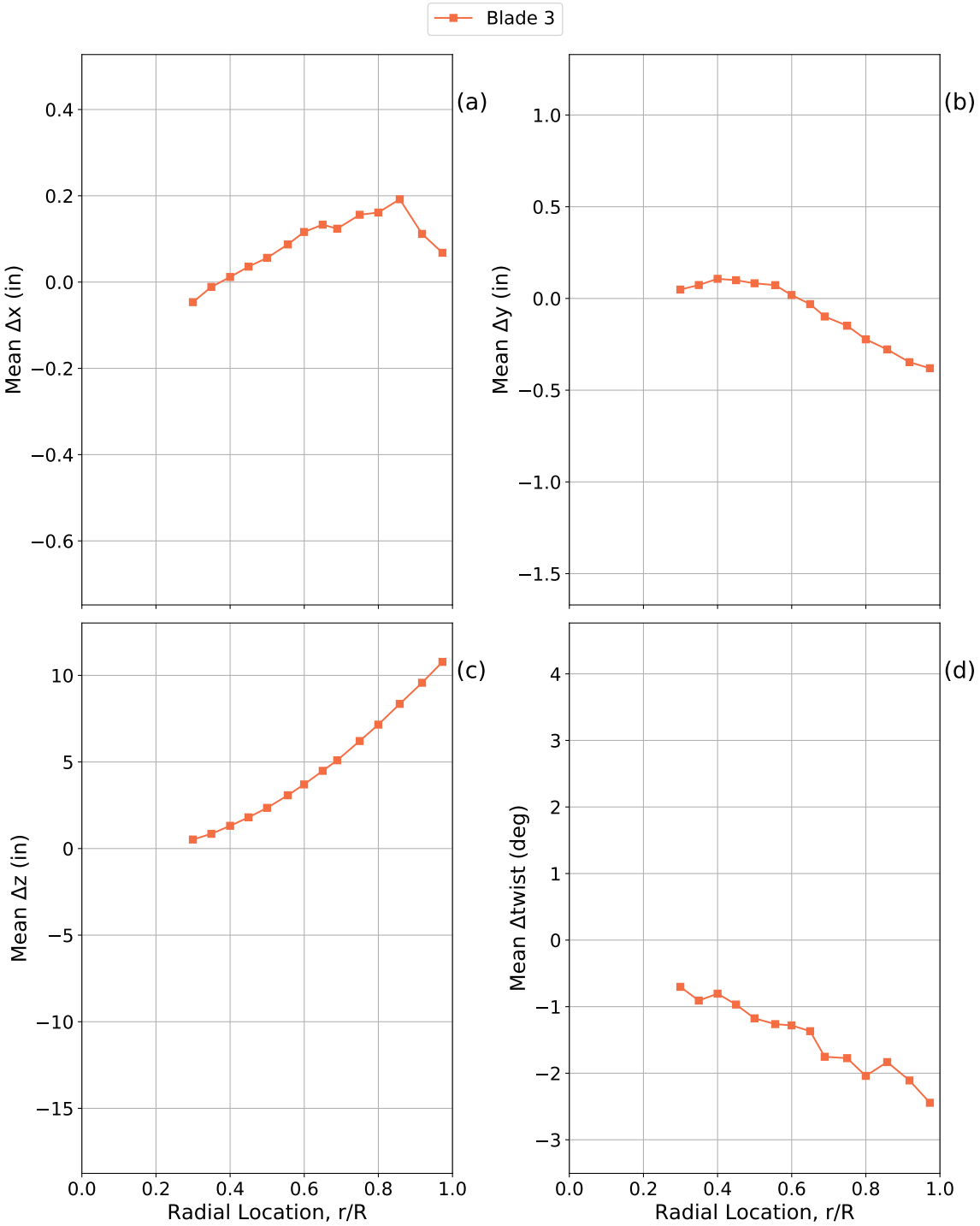


Figure 3.9-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.0465	0.0054	0.0485	0.0059	0.5213	0.0435	-0.7024	0.1378
3	254.88	0.3493	-0.0113	0.0052	0.0733	0.0110	0.8511	0.0671	-0.9086	0.1808
3	254.88	0.4000	0.0118	0.0061	0.1070	0.0185	1.3139	0.0997	-0.8047	0.1587
3	254.88	0.4497	0.0358	0.0068	0.0995	0.0250	1.8018	0.1254	-0.9683	0.1653
3	254.88	0.4997	0.0561	0.0075	0.0827	0.0310	2.3493	0.1536	-1.1758	0.1671
3	254.88	0.5556	0.0872	0.0090	0.0726	0.0381	3.0766	0.1858	-1.2624	0.1613
3	254.88	0.5995	0.1161	0.0100	0.0187	0.0434	3.7025	0.2122	-1.2814	0.1711
3	254.88	0.6498	0.1331	0.0115	-0.0310	0.0495	4.4874	0.2435	-1.3686	0.1678
3	254.88	0.6890	0.1237	0.0125	-0.0984	0.0542	5.0976	0.2671	-1.7530	0.1732
3	254.88	0.7495	0.1560	0.0151	-0.1484	0.0615	6.2093	0.3081	-1.7739	0.1722
3	254.88	0.7998	0.1612	0.0173	-0.2227	0.0675	7.1548	0.3430	-2.0404	0.1757
3	254.88	0.8577	0.1920	0.0200	-0.2778	0.0748	8.3541	0.3854	-1.8327	0.1747
3	254.88	0.9178	0.1117	0.0233	-0.3474	0.0817	9.5730	0.4280	-2.1088	0.1864
3	254.88	0.9729	0.0679	0.0280	-0.3804	0.0881	10.7772	0.4666	-2.4442	0.1851

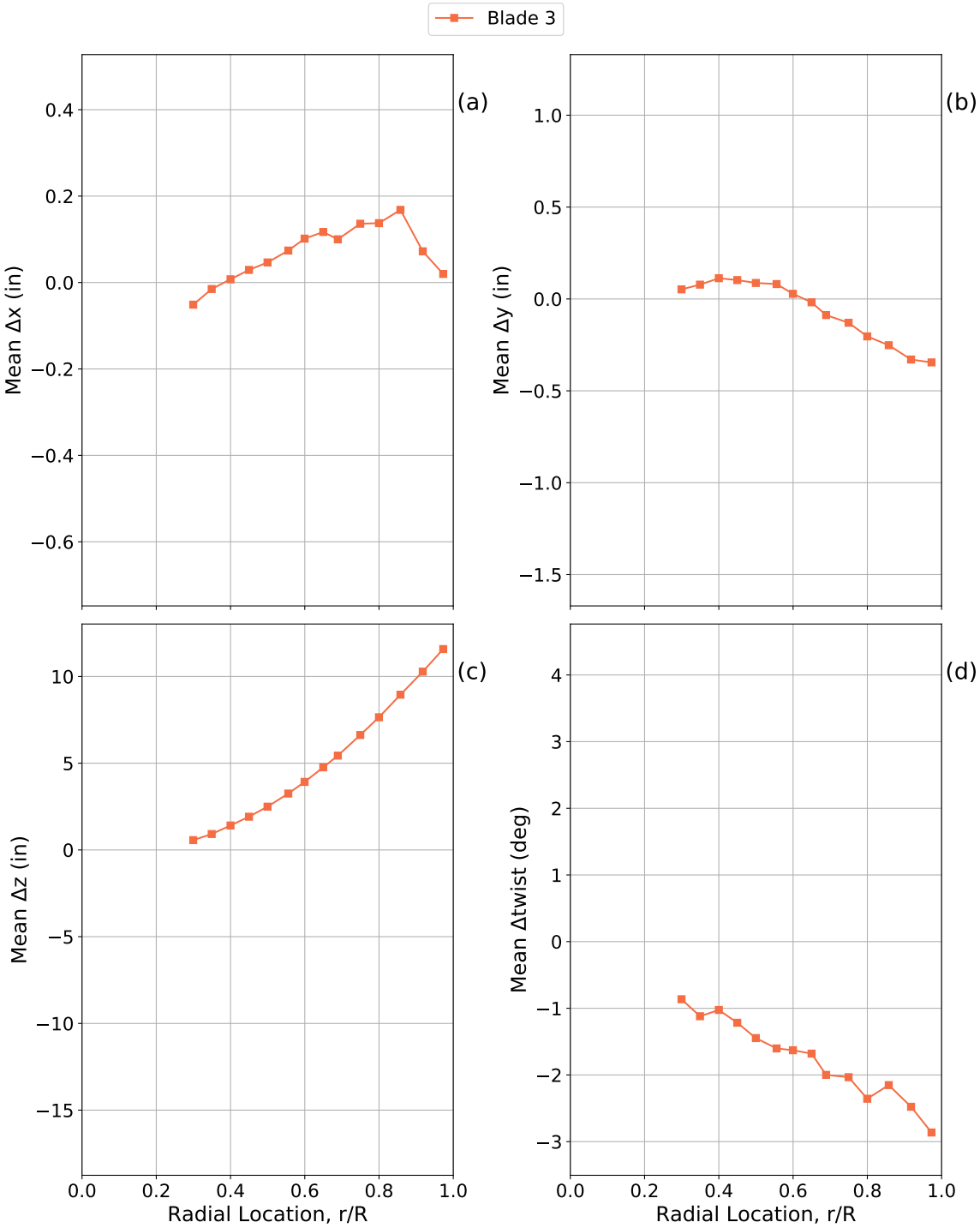


Figure 3.9-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2995	-0.0512	0.0077	0.0521	0.0067	0.5653	0.0605	-0.8640	0.1513
3	260.16	0.3493	-0.0150	0.0073	0.0779	0.0128	0.9173	0.0926	-1.1192	0.1972
3	260.16	0.4000	0.0075	0.0090	0.1128	0.0218	1.4100	0.1368	-1.0251	0.1923
3	260.16	0.4497	0.0292	0.0101	0.1026	0.0301	1.9161	0.1745	-1.2169	0.1990
3	260.16	0.4997	0.0465	0.0117	0.0871	0.0385	2.4954	0.2178	-1.4471	0.1782
3	260.16	0.5556	0.0740	0.0142	0.0810	0.0483	3.2506	0.2634	-1.6022	0.1855
3	260.16	0.5995	0.1016	0.0163	0.0279	0.0558	3.9211	0.2990	-1.6292	0.1999
3	260.16	0.6498	0.1170	0.0185	-0.0183	0.0645	4.7627	0.3437	-1.6798	0.1829
3	260.16	0.6890	0.1000	0.0208	-0.0878	0.0712	5.4371	0.3784	-1.9988	0.2007
3	260.16	0.7495	0.1361	0.0247	-0.1296	0.0817	6.6258	0.4355	-2.0335	0.1911
3	260.16	0.7998	0.1374	0.0285	-0.2038	0.0905	7.6476	0.4842	-2.3566	0.1921
3	260.16	0.8577	0.1681	0.0323	-0.2519	0.0999	8.9490	0.5424	-2.1519	0.1946
3	260.16	0.9178	0.0722	0.0380	-0.3297	0.1115	10.2793	0.6030	-2.4772	0.1954
3	260.16	0.9729	0.0199	0.0459	-0.3454	0.1210	11.5795	0.6614	-2.8633	0.1963

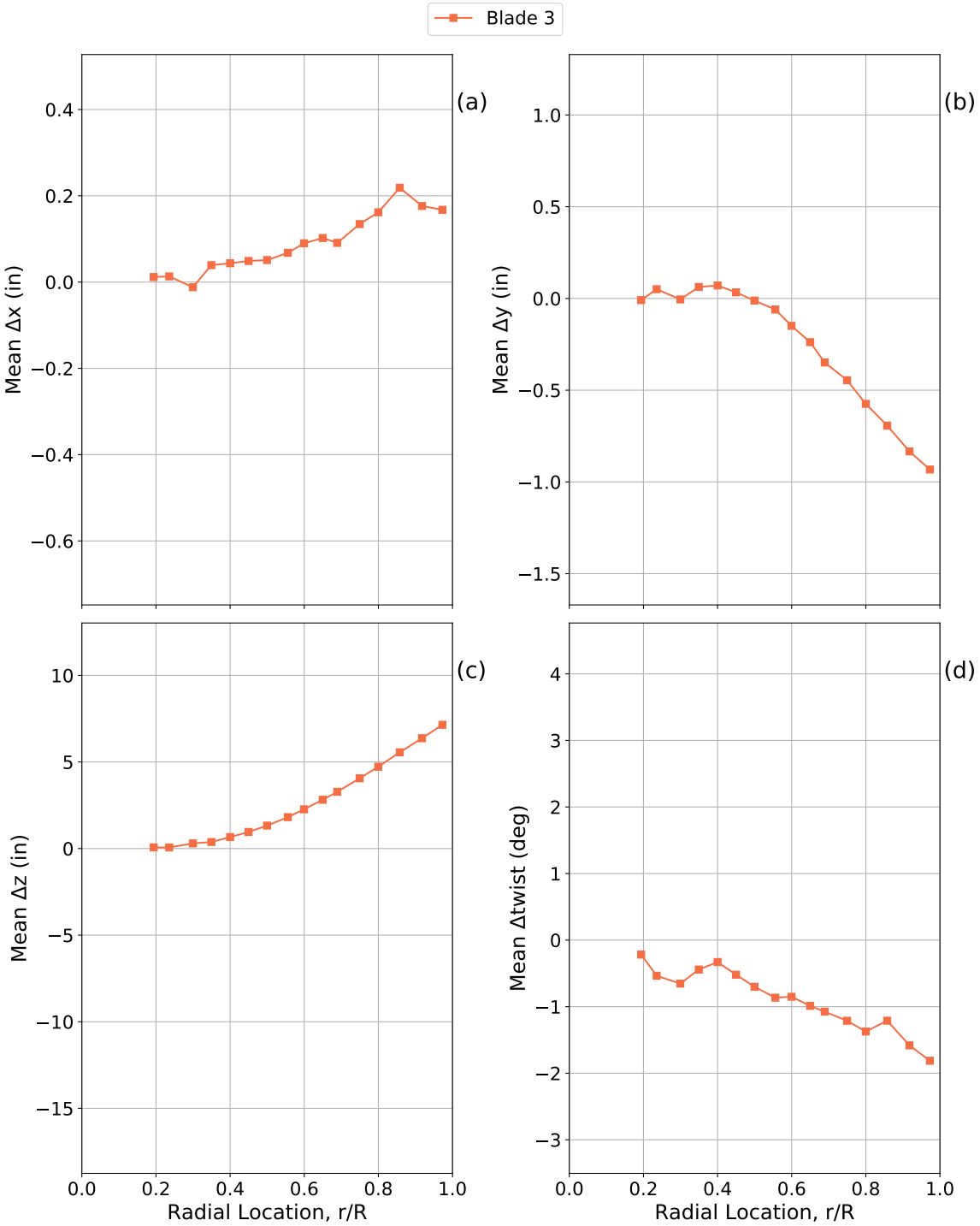


Figure 3.9-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0117	0.0071	-0.0090	0.0030	0.0674	0.0221	-0.2175	0.0616
3	265.08	0.2357	0.0131	0.0040	0.0506	0.0061	0.0637	0.0335	-0.5354	0.1251
3	265.08	0.2995	-0.0120	0.0020	-0.0052	0.0104	0.2972	0.0489	-0.6546	0.1626
3	265.08	0.3493	0.0392	0.0054	0.0624	0.0388	0.3781	0.1155	-0.4428	0.1637
3	265.08	0.4000	0.0436	0.0077	0.0707	0.0473	0.6631	0.1382	-0.3301	0.1226
3	265.08	0.4497	0.0489	0.0086	0.0333	0.0560	0.9567	0.1613	-0.5197	0.1576
3	265.08	0.4997	0.0510	0.0107	-0.0117	0.0649	1.3258	0.1852	-0.7017	0.1481
3	265.08	0.5556	0.0677	0.0127	-0.0602	0.0757	1.8123	0.2096	-0.8651	0.1716
3	265.08	0.5995	0.0899	0.0148	-0.1492	0.0852	2.2656	0.2302	-0.8513	0.1709
3	265.08	0.6498	0.1021	0.0169	-0.2382	0.0957	2.8179	0.2542	-0.9882	0.1668
3	265.08	0.6890	0.0908	0.0180	-0.3489	0.1041	3.2766	0.2713	-1.0751	0.1713
3	265.08	0.7495	0.1344	0.0210	-0.4458	0.1170	4.0553	0.2982	-1.2120	0.1832
3	265.08	0.7998	0.1617	0.0248	-0.5744	0.1282	4.7233	0.3242	-1.3742	0.1758
3	265.08	0.8577	0.2186	0.0298	-0.6931	0.1415	5.5574	0.3576	-1.2109	0.1711
3	265.08	0.9178	0.1763	0.0372	-0.8337	0.1550	6.3717	0.3982	-1.5816	0.1696
3	265.08	0.9729	0.1675	0.0484	-0.9325	0.1673	7.1475	0.4392	-1.8133	0.1715

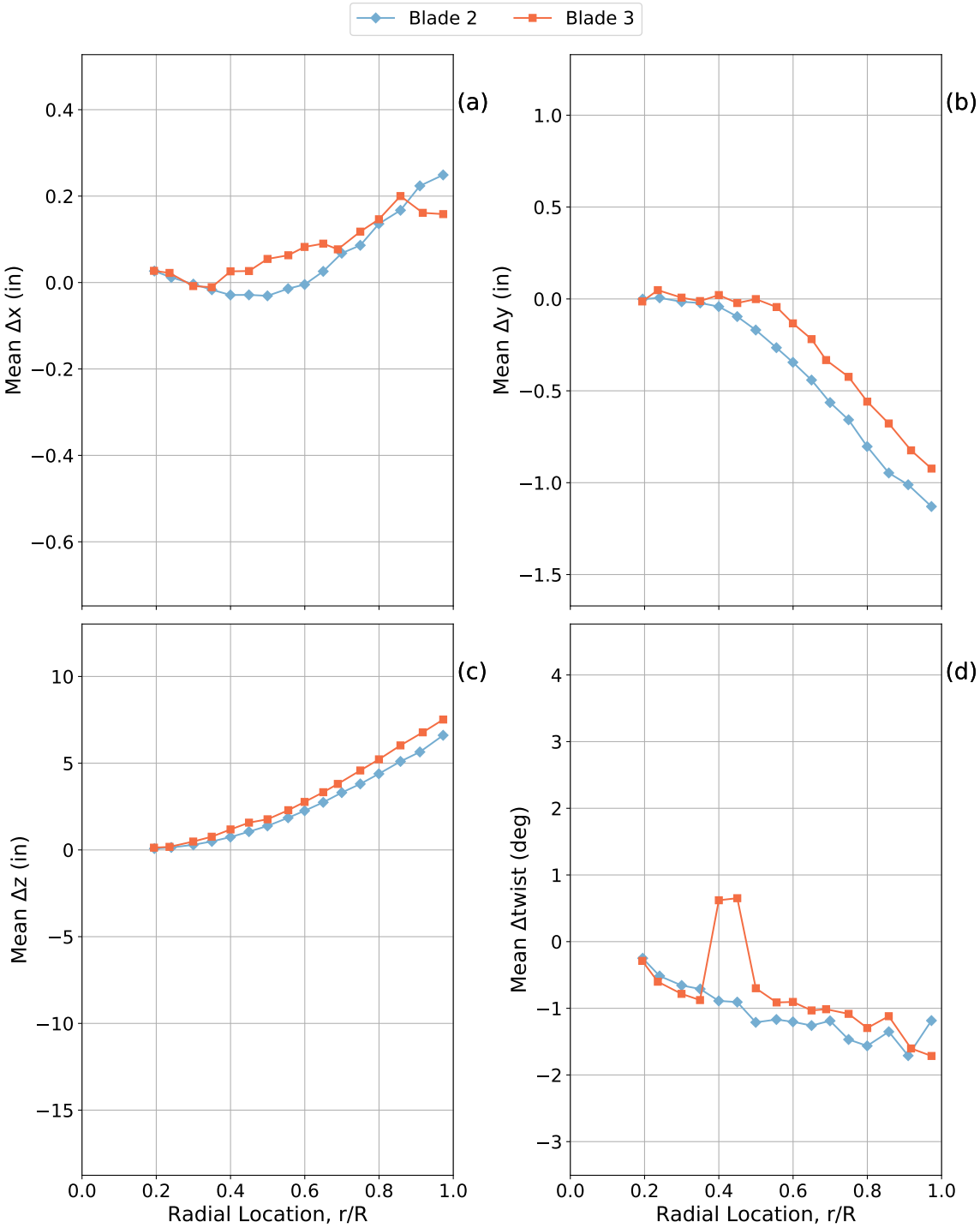


Figure 3.9-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0266	0.0055	-0.0008	0.0008	0.0795	0.0080	-0.2492	0.0630
2	270.35	0.2405	0.0118	0.0039	0.0060	0.0019	0.1437	0.0116	-0.5156	0.1029
2	270.35	0.2999	-0.0036	0.0038	-0.0152	0.0039	0.2936	0.0201	-0.6573	0.1491
2	270.35	0.3498	-0.0167	0.0062	-0.0221	0.0077	0.4906	0.0415	-0.7105	0.0916
2	270.35	0.3998	-0.0289	0.0088	-0.0417	0.0118	0.7405	0.0532	-0.8890	0.0971
2	270.35	0.4496	-0.0286	0.0073	-0.0959	0.0151	1.0534	0.0702	-0.9065	0.1042
2	270.35	0.4995	-0.0308	0.0085	-0.1691	0.0206	1.3835	0.0878	-1.2109	0.0922
2	270.35	0.5551	-0.0142	0.0119	-0.2653	0.0271	1.8529	0.1088	-1.1682	0.0931
2	270.35	0.5996	-0.0046	0.0152	-0.3450	0.0326	2.2595	0.1264	-1.2031	0.1269
2	270.35	0.6497	0.0258	0.0214	-0.4414	0.0401	2.7435	0.1493	-1.2589	0.1226
2	270.35	0.6996	0.0678	0.0284	-0.5638	0.0477	3.3047	0.1712	-1.1884	0.1380
2	270.35	0.7495	0.0861	0.0376	-0.6577	0.0567	3.8049	0.1967	-1.4679	0.1458
2	270.35	0.7996	0.1359	0.0507	-0.8033	0.0666	4.3885	0.2250	-1.5638	0.1422
2	270.35	0.8578	0.1672	0.0685	-0.9470	0.0770	5.1018	0.2544	-1.3515	0.1584
2	270.35	0.9100	0.2237	0.0895	-1.0112	0.0883	5.6487	0.2908	-1.7104	0.1551
2	270.35	0.9727	0.2490	0.1197	-1.1296	0.1067	6.6095	0.3425	-1.1845	0.1462
3	270	0.1938	0.0271	0.0017	-0.0136	0.0012	0.1315	0.0114	-0.2893	0.0622
3	270	0.2357	0.0222	0.0043	0.0479	0.0028	0.1782	0.0113	-0.6013	0.1847
3	270	0.2995	-0.0082	0.0032	0.0072	0.0042	0.4839	0.0362	-0.7835	0.2000
3	270	0.3493	-0.0108	0.0027	-0.0115	0.0077	0.7623	0.0457	-0.8766	0.2633
3	270	0.4000	0.0259	0.0050	0.0211	0.0115	1.1811	0.0730	0.6205	0.1596
3	270	0.4497	0.0266	0.0045	-0.0222	0.0152	1.5732	0.0877	0.6515	0.1831
3	270	0.4997	0.0546	0.0040	-0.0008	0.0191	1.7672	0.1055	-0.6990	0.2159
3	270	0.5556	0.0631	0.0045	-0.0442	0.0241	2.2912	0.1287	-0.9123	0.2093
3	270	0.5995	0.0824	0.0051	-0.1329	0.0292	2.7678	0.1466	-0.9045	0.2247
3	270	0.6498	0.0900	0.0065	-0.2188	0.0348	3.3275	0.1676	-1.0321	0.2327
3	270	0.6890	0.0768	0.0065	-0.3326	0.0399	3.8055	0.1853	-1.0140	0.2237
3	270	0.7495	0.1178	0.0081	-0.4240	0.0476	4.5813	0.2104	-1.0833	0.2210
3	270	0.7998	0.1464	0.0087	-0.5588	0.0548	5.2223	0.2321	-1.2958	0.2281
3	270	0.8577	0.2001	0.0104	-0.6777	0.0645	6.0253	0.2586	-1.1187	0.2241
3	270	0.9178	0.1613	0.0108	-0.8240	0.0725	6.7796	0.2875	-1.6025	0.2233
3	270	0.9729	0.1583	0.0135	-0.9233	0.0816	7.5174	0.3186	-1.7150	0.2218

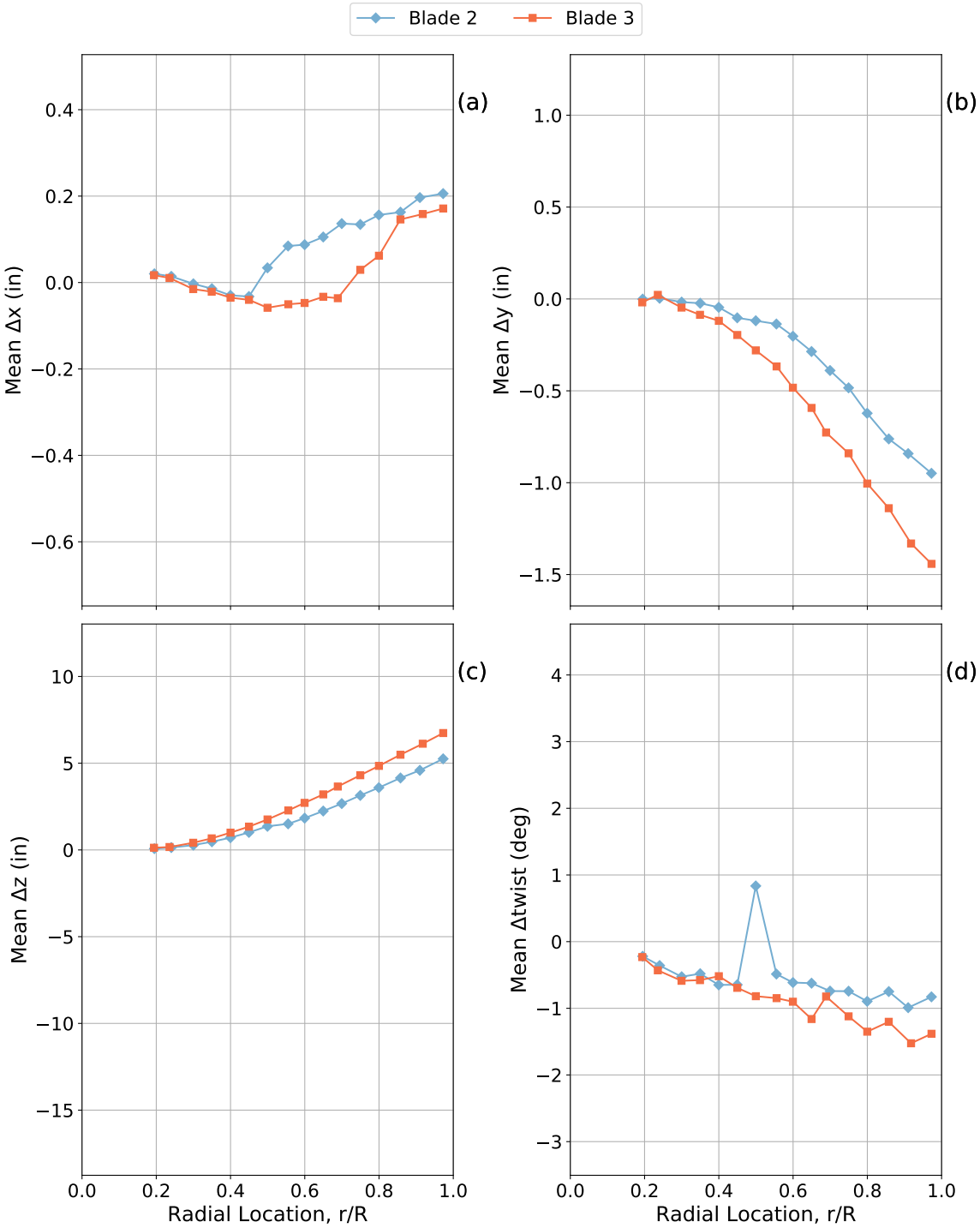


Figure 3.9-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0202	0.0040	-0.0008	0.0010	0.0755	0.0093	-0.2197	0.0421
2	274.92	0.2405	0.0143	0.0052	0.0038	0.0015	0.1372	0.0088	-0.3583	0.0439
2	274.92	0.2999	-0.0030	0.0024	-0.0171	0.0037	0.2774	0.0295	-0.5268	0.0730
2	274.92	0.3498	-0.0142	0.0029	-0.0234	0.0065	0.4716	0.0333	-0.4810	0.0933
2	274.92	0.3998	-0.0297	0.0050	-0.0456	0.0098	0.7071	0.0560	-0.6492	0.0812
2	274.92	0.4496	-0.0324	0.0057	-0.1027	0.0133	1.0100	0.0646	-0.6465	0.1044
2	274.92	0.4995	0.0340	0.0093	-0.1186	0.0176	1.3622	0.0818	0.8352	0.3930
2	274.92	0.5551	0.0845	0.0103	-0.1364	0.0324	1.5039	0.1370	-0.4866	0.0731
2	274.92	0.5996	0.0876	0.0126	-0.2029	0.0385	1.8330	0.1580	-0.6139	0.0799
2	274.92	0.6497	0.1054	0.0158	-0.2861	0.0436	2.2432	0.1724	-0.6234	0.0777
2	274.92	0.6996	0.1364	0.0180	-0.3895	0.0496	2.6726	0.1891	-0.7417	0.0777
2	274.92	0.7495	0.1344	0.0216	-0.4837	0.0560	3.1429	0.2062	-0.7434	0.0612
2	274.92	0.7996	0.1564	0.0237	-0.6222	0.0617	3.5916	0.2222	-0.8956	0.0618
2	274.92	0.8578	0.1629	0.0298	-0.7617	0.0680	4.1485	0.2407	-0.7489	0.0755
2	274.92	0.9100	0.1966	0.0351	-0.8417	0.0752	4.5899	0.2631	-0.9906	0.0687
2	274.92	0.9727	0.2058	0.0441	-0.9489	0.0797	5.2530	0.2893	-0.8282	0.1006
3	274.92	0.1938	0.0170	0.0044	-0.0187	0.0007	0.1265	0.0072	-0.2318	0.0356
3	274.92	0.2357	0.0106	0.0027	0.0222	0.0029	0.1677	0.0084	-0.4305	0.0992
3	274.92	0.2995	-0.0152	0.0048	-0.0471	0.0040	0.4142	0.0154	-0.5876	0.0972
3	274.92	0.3493	-0.0213	0.0045	-0.0864	0.0079	0.6673	0.0294	-0.5774	0.1069
3	274.92	0.4000	-0.0351	0.0080	-0.1192	0.0134	0.9968	0.0380	-0.5187	0.0881
3	274.92	0.4497	-0.0401	0.0095	-0.1962	0.0204	1.3445	0.0517	-0.6931	0.1219
3	274.92	0.4997	-0.0584	0.0120	-0.2800	0.0271	1.7573	0.0689	-0.8186	0.1341
3	274.92	0.5556	-0.0503	0.0142	-0.3673	0.0369	2.2773	0.0857	-0.8480	0.1059
3	274.92	0.5995	-0.0473	0.0150	-0.4831	0.0452	2.7138	0.0986	-0.9013	0.1047
3	274.92	0.6498	-0.0330	0.0171	-0.5930	0.0555	3.2025	0.1121	-1.1609	0.1089
3	274.92	0.6890	-0.0363	0.0187	-0.7271	0.0651	3.6551	0.1222	-0.8232	0.1156
3	274.92	0.7495	0.0294	0.0223	-0.8400	0.0794	4.3066	0.1354	-1.1206	0.1120
3	274.92	0.7998	0.0620	0.0285	-1.0047	0.0935	4.8461	0.1415	-1.3506	0.1438
3	274.92	0.8577	0.1460	0.0347	-1.1388	0.1101	5.4886	0.1498	-1.2025	0.1411
3	274.92	0.9178	0.1585	0.0451	-1.3309	0.1296	6.1235	0.1586	-1.5248	0.1244
3	274.92	0.9729	0.1713	0.0622	-1.4417	0.1441	6.7384	0.1693	-1.3822	0.1595

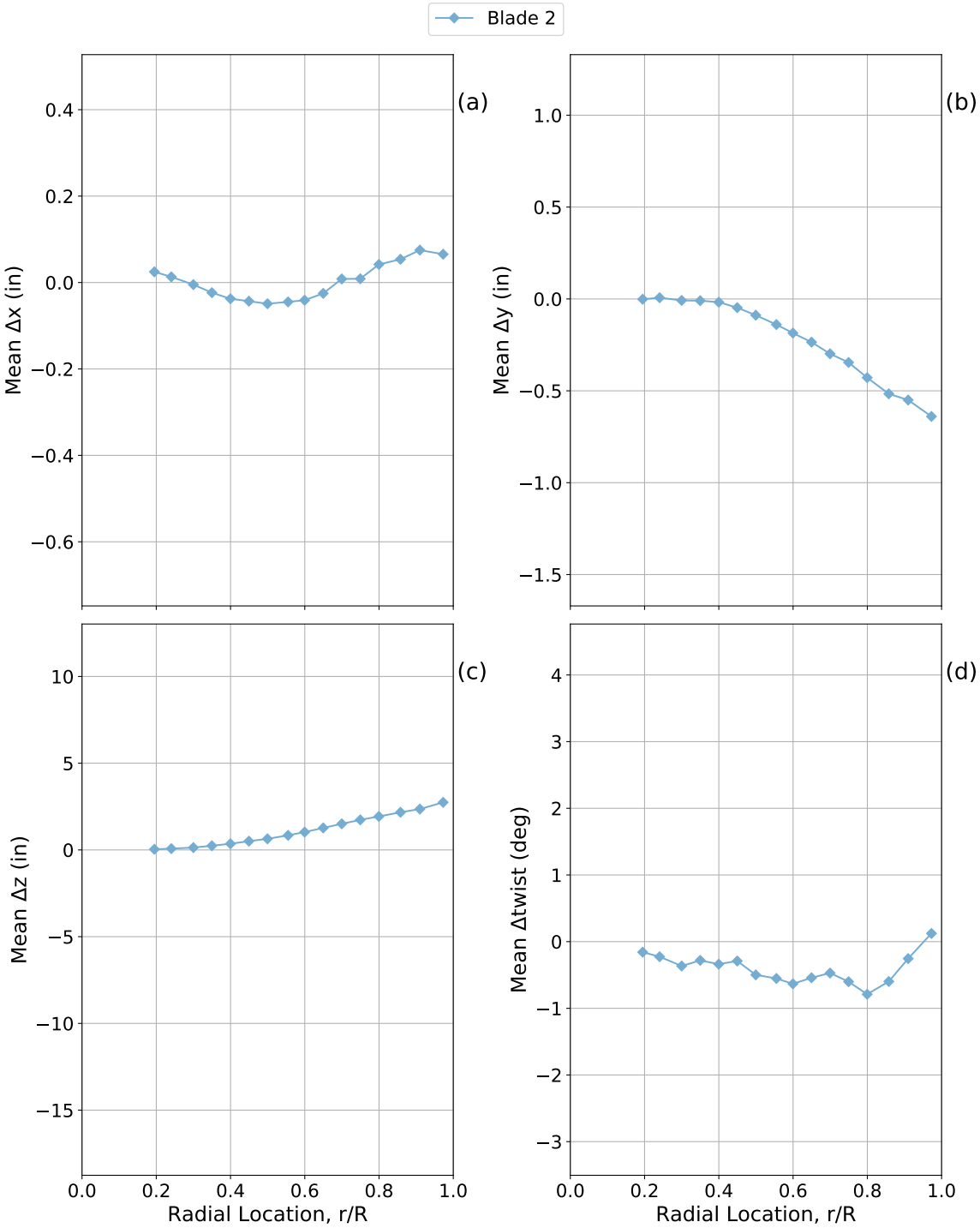


Figure 3.9-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0248	0.0013	-0.0016	0.0007	0.0368	0.0073	-0.1579	0.0425
2	285.12	0.2405	0.0131	0.0028	0.0067	0.0019	0.0761	0.0171	-0.2263	0.0390
2	285.12	0.2999	-0.0048	0.0026	-0.0082	0.0045	0.1352	0.0292	-0.3658	0.0742
2	285.12	0.3498	-0.0235	0.0035	-0.0095	0.0078	0.2415	0.0446	-0.2814	0.0782
2	285.12	0.3998	-0.0375	0.0029	-0.0175	0.0134	0.3565	0.0715	-0.3381	0.0446
2	285.12	0.4496	-0.0432	0.0038	-0.0474	0.0184	0.5053	0.0868	-0.2907	0.0525
2	285.12	0.4995	-0.0491	0.0049	-0.0885	0.0247	0.6407	0.1036	-0.4985	0.0626
2	285.12	0.5551	-0.0448	0.0057	-0.1394	0.0331	0.8419	0.1233	-0.5524	0.0607
2	285.12	0.5996	-0.0410	0.0065	-0.1857	0.0406	1.0297	0.1373	-0.6336	0.0675
2	285.12	0.6497	-0.0251	0.0076	-0.2351	0.0497	1.2682	0.1521	-0.5421	0.0567
2	285.12	0.6996	0.0083	0.0078	-0.2985	0.0582	1.5057	0.1695	-0.4713	0.0715
2	285.12	0.7495	0.0087	0.0085	-0.3456	0.0690	1.7334	0.1930	-0.6008	0.0794
2	285.12	0.7996	0.0418	0.0095	-0.4284	0.0801	1.9307	0.2194	-0.7897	0.0745
2	285.12	0.8578	0.0538	0.0098	-0.5163	0.0934	2.1703	0.2607	-0.5976	0.0908
2	285.12	0.9100	0.0750	0.0113	-0.5500	0.1050	2.3566	0.3007	-0.2546	0.1070
2	285.12	0.9727	0.0655	0.0143	-0.6395	0.1204	2.7428	0.3553	0.1229	0.1073

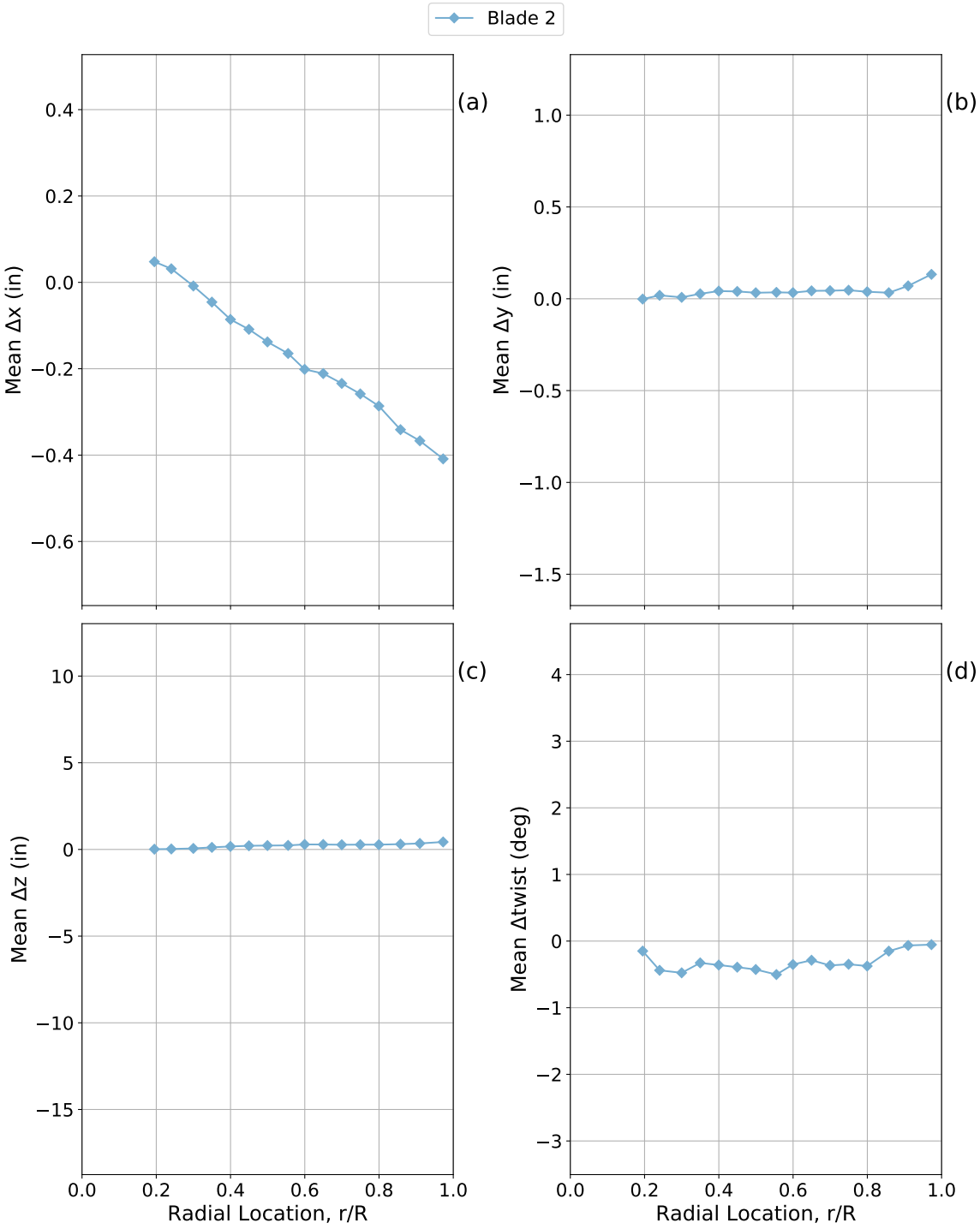


Figure 3.9-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0478	0.0019	-0.0016	0.0014	0.0143	0.0072	-0.1494	0.0799
2	299.88	0.2405	0.0315	0.0032	0.0187	0.0029	0.0266	0.0147	-0.4387	0.0932
2	299.88	0.2999	-0.0084	0.0017	0.0078	0.0048	0.0583	0.0221	-0.4765	0.1748
2	299.88	0.3498	-0.0457	0.0031	0.0271	0.0072	0.1196	0.0383	-0.3273	0.1447
2	299.88	0.3998	-0.0859	0.0022	0.0420	0.0125	0.1726	0.0552	-0.3595	0.1506
2	299.88	0.4496	-0.1088	0.0027	0.0399	0.0148	0.2111	0.0748	-0.3919	0.1438
2	299.88	0.4995	-0.1379	0.0026	0.0328	0.0188	0.2246	0.0983	-0.4265	0.1571
2	299.88	0.5551	-0.1647	0.0038	0.0350	0.0237	0.2332	0.1256	-0.5024	0.1566
2	299.88	0.5996	-0.2014	0.0021	0.0333	0.0274	0.2882	0.1470	-0.3513	0.1498
2	299.88	0.6497	-0.2111	0.0030	0.0432	0.0321	0.2850	0.1751	-0.2874	0.1503
2	299.88	0.6996	-0.2340	0.0031	0.0441	0.0375	0.2713	0.2026	-0.3653	0.1505
2	299.88	0.7495	-0.2583	0.0044	0.0465	0.0435	0.2765	0.2317	-0.3478	0.1539
2	299.88	0.7996	-0.2864	0.0046	0.0382	0.0495	0.2762	0.2581	-0.3750	0.1440
2	299.88	0.8578	-0.3411	0.0045	0.0329	0.0575	0.3056	0.2876	-0.1510	0.1406
2	299.88	0.9100	-0.3669	0.0054	0.0703	0.0639	0.3459	0.3161	-0.0655	0.1516
2	299.88	0.9727	-0.4088	0.0079	0.1330	0.0720	0.4316	0.3482	-0.0534	0.1540

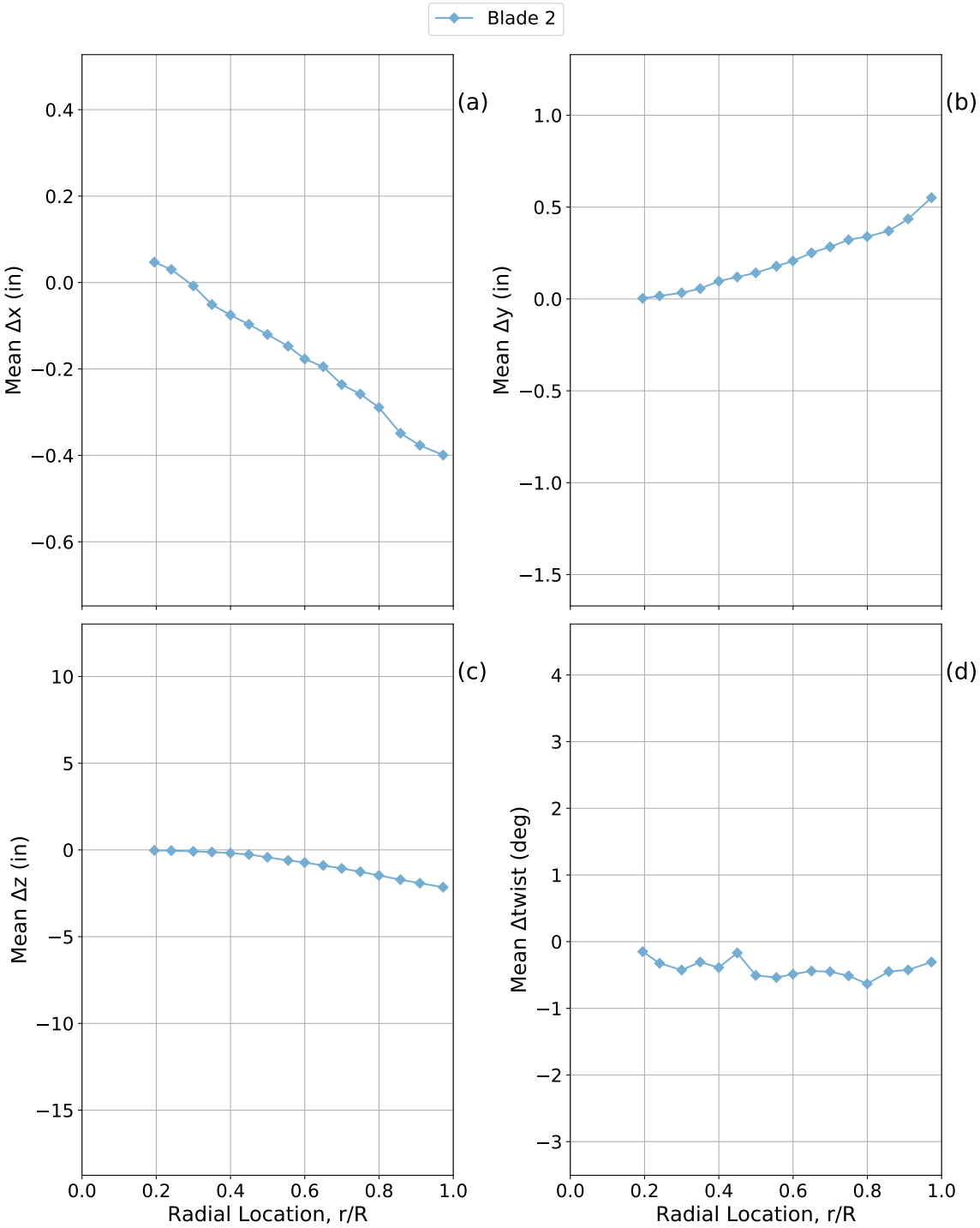


Figure 3.9-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0472	0.0022	0.0032	0.0007	-0.0259	0.0046	-0.1497	0.0432
2	315	0.2405	0.0303	0.0020	0.0163	0.0026	-0.0417	0.0102	-0.3246	0.0483
2	315	0.2999	-0.0079	0.0040	0.0333	0.0031	-0.0818	0.0198	-0.4262	0.0842
2	315	0.3498	-0.0510	0.0042	0.0562	0.0061	-0.1213	0.0301	-0.3063	0.0627
2	315	0.3998	-0.0753	0.0020	0.0966	0.0094	-0.1829	0.0483	-0.3897	0.1011
2	315	0.4496	-0.0969	0.0023	0.1195	0.0137	-0.2642	0.0629	-0.1689	0.1106
2	315	0.4995	-0.1203	0.0031	0.1420	0.0186	-0.4230	0.0738	-0.5066	0.0498
2	315	0.5551	-0.1474	0.0032	0.1780	0.0230	-0.6038	0.0919	-0.5382	0.0957
2	315	0.5996	-0.1769	0.0036	0.2067	0.0278	-0.7270	0.1088	-0.4889	0.0847
2	315	0.6497	-0.1948	0.0037	0.2508	0.0330	-0.8950	0.1298	-0.4411	0.0868
2	315	0.6996	-0.2362	0.0044	0.2833	0.0394	-1.0676	0.1495	-0.4506	0.0893
2	315	0.7495	-0.2580	0.0045	0.3220	0.0451	-1.2566	0.1720	-0.5130	0.0850
2	315	0.7996	-0.2890	0.0054	0.3393	0.0520	-1.4682	0.1976	-0.6336	0.0904
2	315	0.8578	-0.3489	0.0065	0.3701	0.0589	-1.7147	0.2191	-0.4491	0.0923
2	315	0.9100	-0.3767	0.0065	0.4357	0.0665	-1.9196	0.2414	-0.4237	0.0820
2	315	0.9727	-0.3993	0.0073	0.5509	0.0751	-2.1471	0.2711	-0.3063	0.0955

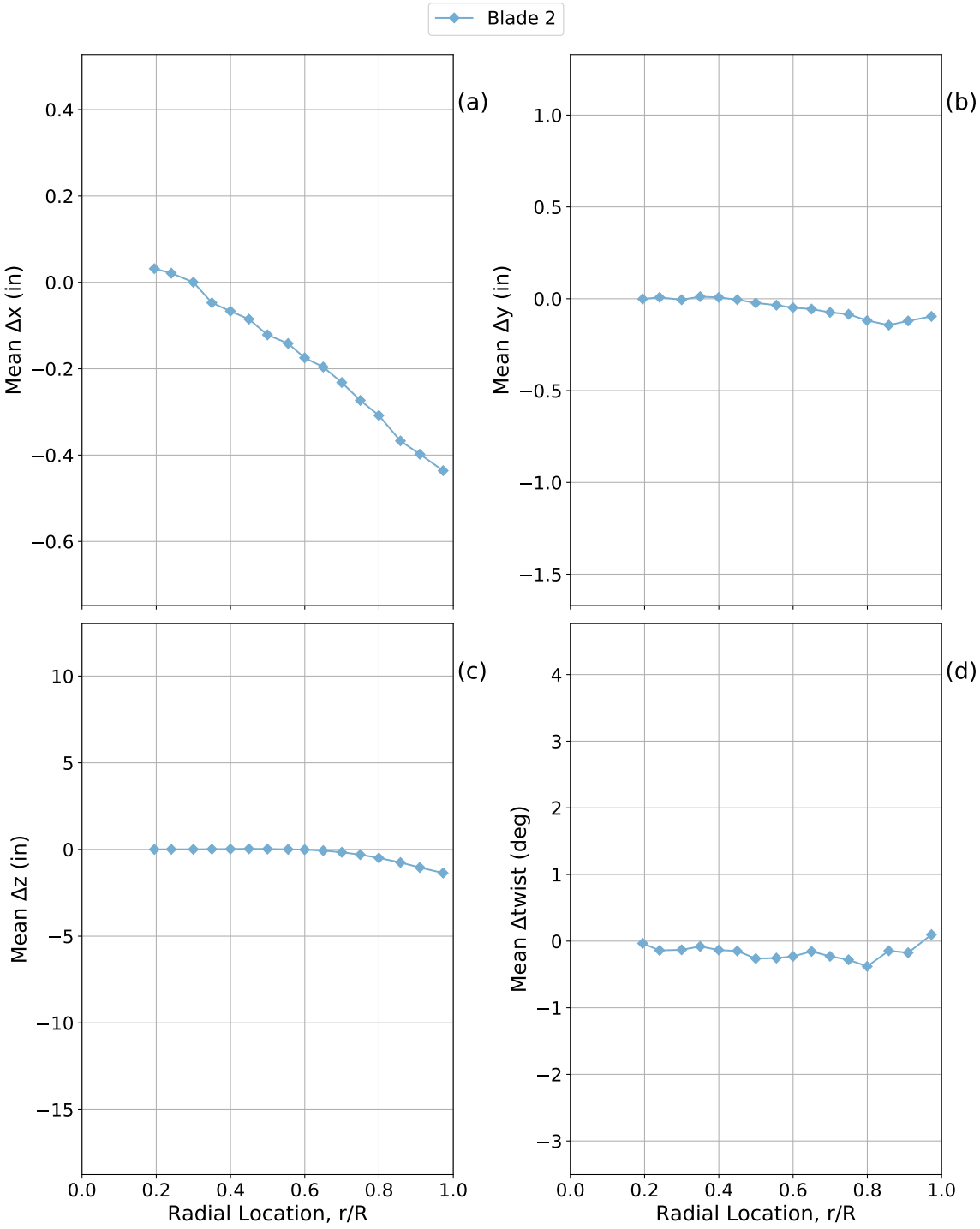


Figure 3.9-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0316	0.0021	-0.0014	0.0013	-0.0005	0.0040	-0.0334	0.0335
2	330.12	0.2405	0.0211	0.0024	0.0075	0.0020	0.0046	0.0106	-0.1393	0.0569
2	330.12	0.2999	0.0002	0.0028	-0.0055	0.0052	0.0038	0.0191	-0.1301	0.0815
2	330.12	0.3498	-0.0473	0.0026	0.0115	0.0080	0.0127	0.0267	-0.0794	0.0950
2	330.12	0.3998	-0.0668	0.0025	0.0073	0.0130	0.0192	0.0445	-0.1341	0.0704
2	330.12	0.4496	-0.0853	0.0023	-0.0051	0.0161	0.0323	0.0514	-0.1472	0.0613
2	330.12	0.4995	-0.1216	0.0039	-0.0229	0.0187	0.0215	0.0601	-0.2619	0.0636
2	330.12	0.5551	-0.1416	0.0044	-0.0350	0.0235	0.0026	0.0730	-0.2541	0.0662
2	330.12	0.5996	-0.1747	0.0046	-0.0484	0.0273	-0.0141	0.0855	-0.2298	0.0667
2	330.12	0.6497	-0.1960	0.0044	-0.0562	0.0311	-0.0693	0.1003	-0.1540	0.0778
2	330.12	0.6996	-0.2318	0.0060	-0.0741	0.0368	-0.1658	0.1210	-0.2281	0.0540
2	330.12	0.7495	-0.2733	0.0045	-0.0844	0.0421	-0.3022	0.1359	-0.2802	0.0699
2	330.12	0.7996	-0.3081	0.0049	-0.1185	0.0479	-0.4937	0.1553	-0.3794	0.0618
2	330.12	0.8578	-0.3670	0.0052	-0.1436	0.0551	-0.7544	0.1798	-0.1450	0.0547
2	330.12	0.9100	-0.3979	0.0057	-0.1207	0.0616	-1.0432	0.2004	-0.1740	0.0671
2	330.12	0.9727	-0.4360	0.0072	-0.0960	0.0702	-1.3608	0.2259	0.0975	0.0592

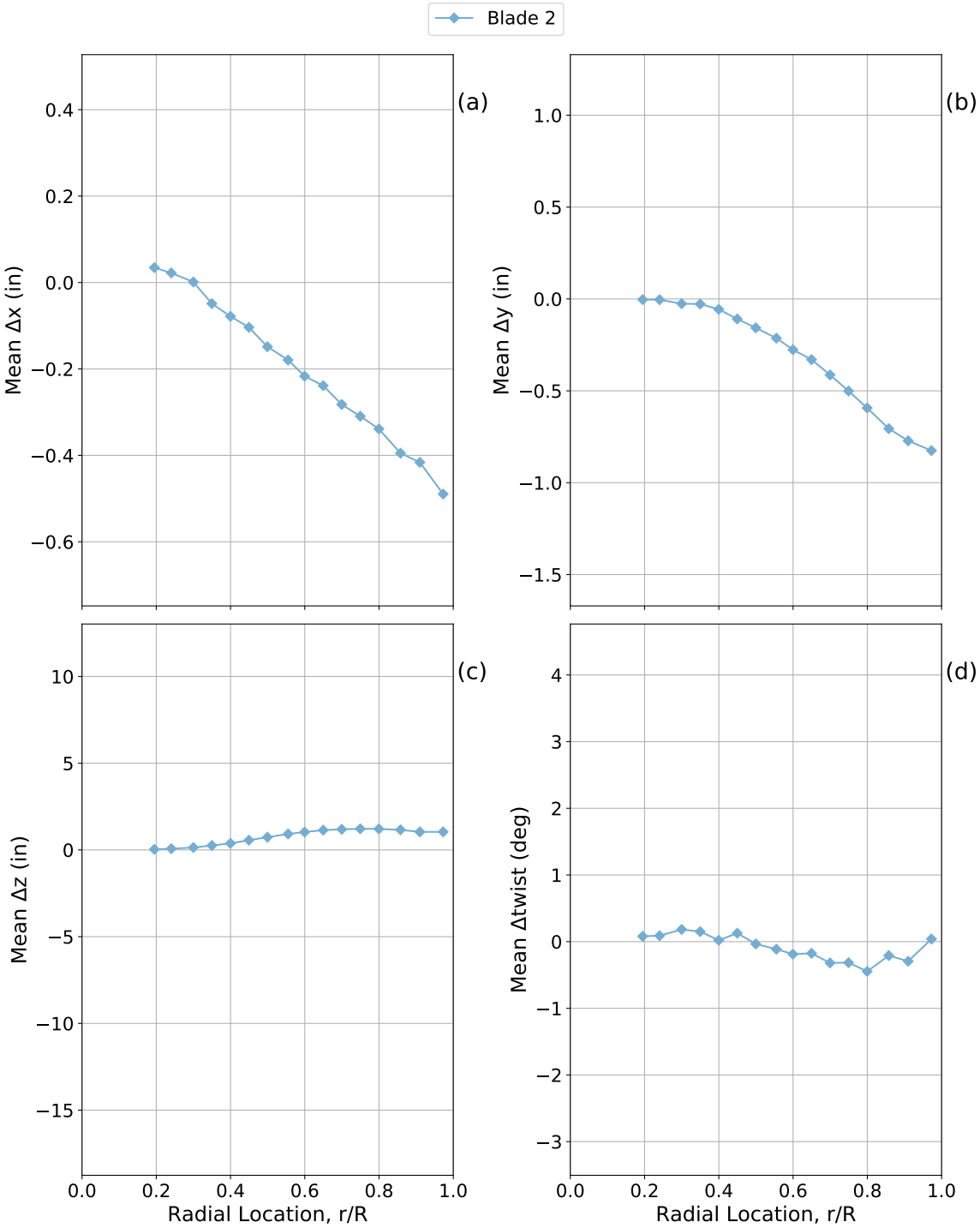


Figure 3.9-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0345	0.0030	-0.0035	0.0009	0.0356	0.0047	0.0796	0.0284
2	344.88	0.2405	0.0221	0.0016	-0.0041	0.0049	0.0726	0.0097	0.0890	0.0687
2	344.88	0.2999	0.0013	0.0038	-0.0259	0.0044	0.1385	0.0213	0.1825	0.0763
2	344.88	0.3498	-0.0488	0.0025	-0.0276	0.0116	0.2560	0.0330	0.1504	0.0869
2	344.88	0.3998	-0.0783	0.0018	-0.0564	0.0162	0.3783	0.0541	0.0204	0.0776
2	344.88	0.4496	-0.1038	0.0040	-0.1089	0.0148	0.5620	0.0664	0.1266	0.0877
2	344.88	0.4995	-0.1486	0.0040	-0.1573	0.0198	0.7346	0.0800	-0.0349	0.0945
2	344.88	0.5551	-0.1794	0.0031	-0.2133	0.0203	0.9198	0.0974	-0.1132	0.0790
2	344.88	0.5996	-0.2167	0.0040	-0.2762	0.0233	1.0317	0.1101	-0.1876	0.1013
2	344.88	0.6497	-0.2387	0.0041	-0.3301	0.0260	1.1413	0.1269	-0.1751	0.0748
2	344.88	0.6996	-0.2822	0.0044	-0.4134	0.0283	1.1888	0.1415	-0.3189	0.0844
2	344.88	0.7495	-0.3095	0.0053	-0.5011	0.0316	1.2179	0.1521	-0.3150	0.0817
2	344.88	0.7996	-0.3388	0.0060	-0.5933	0.0351	1.2125	0.1605	-0.4468	0.0823
2	344.88	0.8578	-0.3950	0.0066	-0.7060	0.0398	1.1577	0.1710	-0.2086	0.0859
2	344.88	0.9100	-0.4162	0.0069	-0.7720	0.0433	1.0397	0.1752	-0.2946	0.0936
2	344.88	0.9727	-0.4894	0.0076	-0.8253	0.0492	1.0423	0.1821	0.0392	0.0863

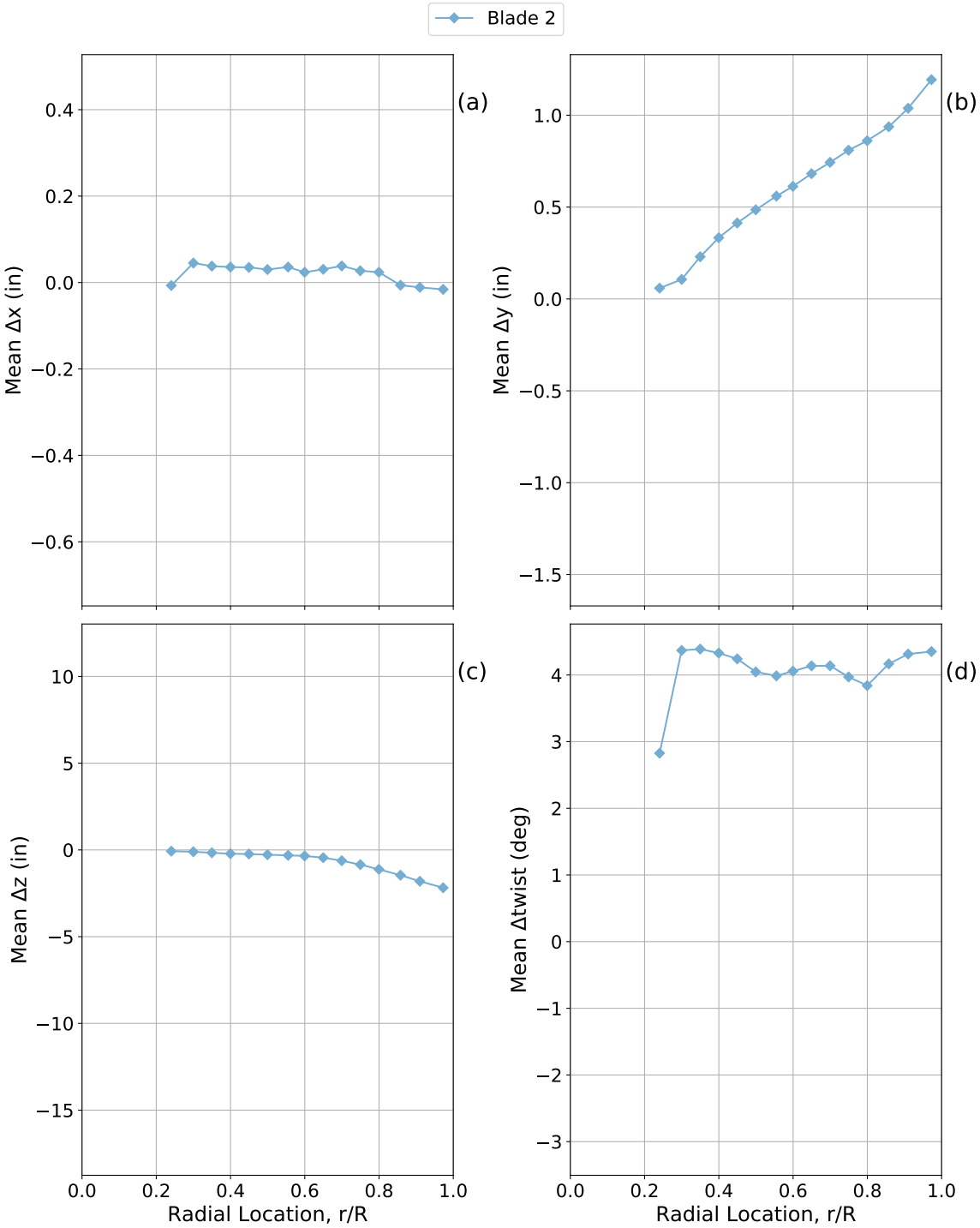


Figure 3.9-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	-0.0069	0.0020	0.0587	0.0087	-0.0719	0.0153	2.8266	0.3058
2	350.16	0.2999	0.0451	0.0041	0.1063	0.0182	-0.1055	0.0314	4.3690	0.4740
2	350.16	0.3498	0.0379	0.0027	0.2296	0.0330	-0.1649	0.0507	4.3884	0.4852
2	350.16	0.3998	0.0358	0.0038	0.3331	0.0509	-0.2173	0.0784	4.3285	0.4558
2	350.16	0.4496	0.0349	0.0032	0.4133	0.0659	-0.2355	0.1003	4.2414	0.5066
2	350.16	0.4995	0.0301	0.0042	0.4851	0.0819	-0.2755	0.1292	4.0459	0.4747
2	350.16	0.5551	0.0358	0.0051	0.5596	0.0980	-0.3124	0.1587	3.9867	0.4940
2	350.16	0.5996	0.0238	0.0043	0.6128	0.1142	-0.3461	0.1837	4.0576	0.4919
2	350.16	0.6497	0.0306	0.0056	0.6816	0.1312	-0.4455	0.2192	4.1361	0.4985
2	350.16	0.6996	0.0384	0.0046	0.7433	0.1484	-0.6217	0.2504	4.1380	0.4999
2	350.16	0.7495	0.0272	0.0046	0.8094	0.1668	-0.8474	0.2808	3.9702	0.4949
2	350.16	0.7996	0.0239	0.0048	0.8610	0.1861	-1.1185	0.3110	3.8403	0.5061
2	350.16	0.8578	-0.0062	0.0033	0.9369	0.2091	-1.4568	0.3425	4.1664	0.4963
2	350.16	0.9100	-0.0112	0.0042	1.0379	0.2295	-1.8070	0.3812	4.3137	0.4852
2	350.16	0.9727	-0.0159	0.0077	1.1932	0.2547	-2.1797	0.4070	4.3513	0.4930

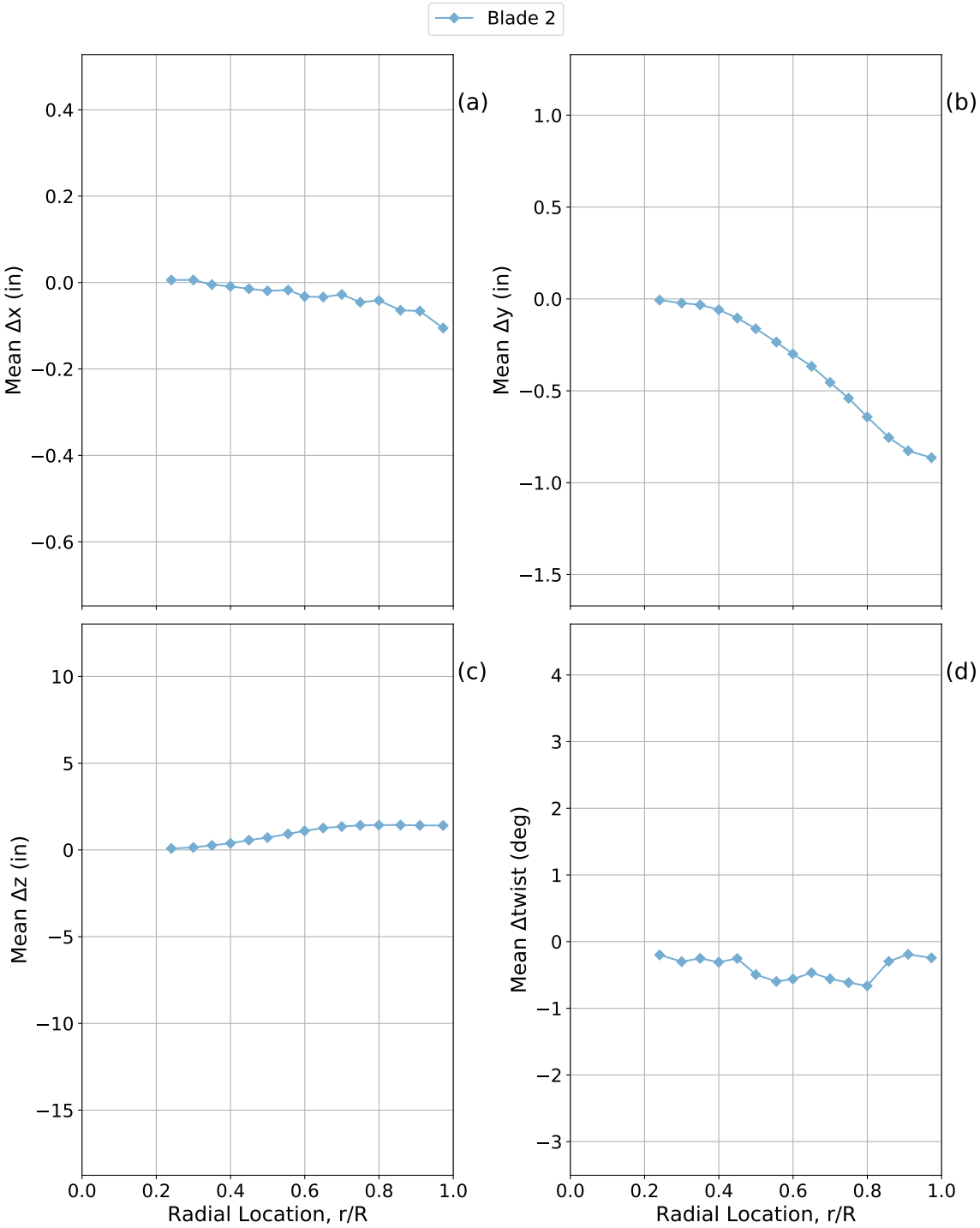


Figure 3.9-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.09, μ = 0.3, α = -4.5° NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Table 3.9-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.09, μ = 0.3, α = -4.5°
NFAC run 52, point 28. BD run 25, points 2815 to 2825.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2405	0.0058	0.0027	-0.0064	0.0029	0.0806	0.0146	-0.1988	0.0525
2	355.08	0.2999	0.0059	0.0029	-0.0223	0.0088	0.1446	0.0291	-0.3004	0.0810
2	355.08	0.3498	-0.0048	0.0024	-0.0321	0.0127	0.2622	0.0445	-0.2510	0.0814
2	355.08	0.3998	-0.0091	0.0032	-0.0587	0.0225	0.3819	0.0678	-0.3089	0.0881
2	355.08	0.4496	-0.0145	0.0037	-0.1039	0.0286	0.5632	0.0835	-0.2524	0.0704
2	355.08	0.4995	-0.0191	0.0041	-0.1623	0.0369	0.7138	0.1060	-0.4933	0.0951
2	355.08	0.5551	-0.0174	0.0043	-0.2348	0.0434	0.9228	0.1249	-0.5985	0.1002
2	355.08	0.5996	-0.0324	0.0046	-0.2992	0.0516	1.0982	0.1437	-0.5615	0.0875
2	355.08	0.6497	-0.0336	0.0061	-0.3665	0.0610	1.2631	0.1624	-0.4662	0.0859
2	355.08	0.6996	-0.0277	0.0058	-0.4541	0.0709	1.3488	0.1845	-0.5586	0.0869
2	355.08	0.7495	-0.0456	0.0056	-0.5402	0.0799	1.4182	0.2105	-0.6141	0.0997
2	355.08	0.7996	-0.0414	0.0065	-0.6419	0.0910	1.4309	0.2387	-0.6641	0.0609
2	355.08	0.8578	-0.0642	0.0069	-0.7544	0.1026	1.4363	0.2759	-0.2960	0.0955
2	355.08	0.9100	-0.0660	0.0068	-0.8265	0.1139	1.4131	0.3083	-0.1911	0.0730
2	355.08	0.9727	-0.1053	0.0112	-0.8639	0.1270	1.4091	0.3550	-0.2441	0.0949

3.10 Run 52, Point 29

3.10.1 Pitch, Flap, and Lag

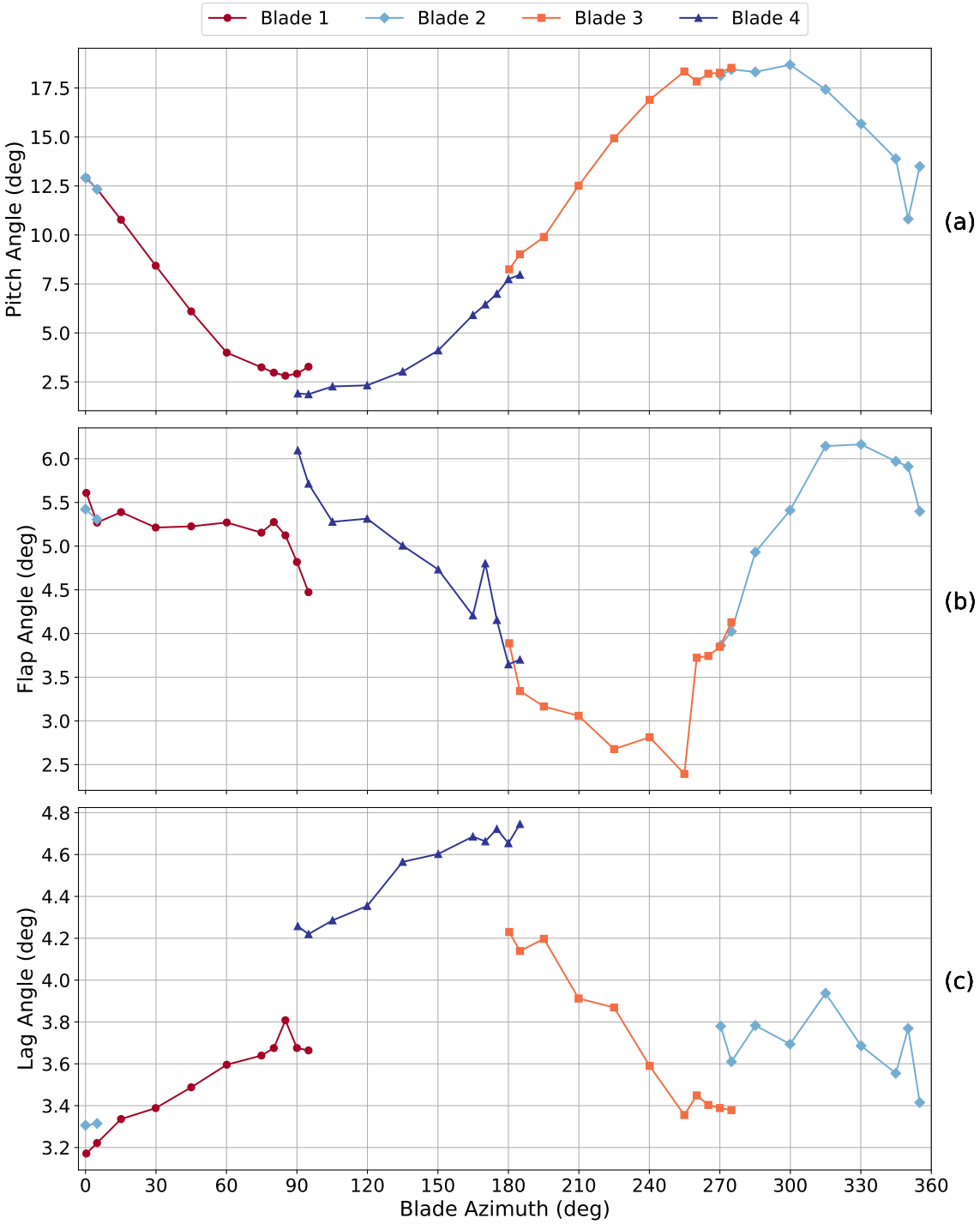


Figure 3.10-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.091$, $\mu = 0.3$, $\alpha = -4.5°$
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	12.9193	5.4225	3.3062	0.0770	0.0860	0.0561
0.35	1	12.9045	5.6089	3.1714	0.0624	0.0445	0.0191
4.92	1	12.3436	5.2691	3.2215	0.0976	0.0911	0.0377
4.92	2	12.3288	5.3059	3.3148	0.0479	0.0679	0.0447
15.12	1	10.7763	5.3891	3.3360	0.0640	0.0534	0.0348
29.88	1	8.4302	5.2127	3.3885	0.0784	0.0842	0.0385
45	1	6.1002	5.2259	3.4878	0.0693	0.0433	0.0525
60.12	1	3.9939	5.2702	3.5956	0.0436	0.0441	0.0265
74.88	1	3.2448	5.1544	3.6396	0.0802	0.0880	0.0324
80.16	1	2.9765	5.2753	3.6752	0.0718	0.0897	0.0185
85.08	1	2.8147	5.1235	3.8083	0.0668	0.0943	0.0543
90	1	2.9180	4.8187	3.6756	0.1201	0.0597	0.0281
90.35	4	1.9087	6.0960	4.2578	0.0622	0.0847	0.0215
94.92	1	3.2740	4.4729	3.6640	0.2016	0.0894	0.0409
94.92	4	1.8709	5.7142	4.2197	0.0529	0.0628	0.0205
105.12	4	2.2685	5.2782	4.2854	0.0421	0.0358	0.0408
119.88	4	2.3233	5.3141	4.3543	0.0293	0.2364	0.0570
135	4	3.0298	5.0063	4.5651	0.0535	0.1293	0.0578
150.12	4	4.1068	4.7329	4.6027	0.0566	0.1694	0.0265
164.88	4	5.9106	4.2067	4.6861	0.0398	0.1739	0.0620
170.16	4	6.4532	4.8028	4.6631	0.0402	0.1712	0.0403
175.08	4	6.9957	4.1544	4.7223	0.0289	0.4483	0.0401
180	4	7.7429	3.6474	4.6541	0.0194	0.0750	0.0361
180.35	3	8.2433	3.8883	4.2301	0.0248	0.1501	0.0232
184.92	3	9.0128	3.3426	4.1392	0.0458	0.1051	0.0472
184.92	4	7.9708	3.7012	4.7459	0.0668	0.0818	0.0357
195.12	3	9.8954	3.1651	4.1974	0.0614	0.1685	0.0369
209.88	3	12.5139	3.0585	3.9122	0.0388	0.1932	0.0359
225	3	14.9306	2.6771	3.8690	0.0784	0.1586	0.0512
240.12	3	16.8955	2.8135	3.5899	0.0544	0.1372	0.0539
254.88	3	18.3430	2.3940	3.3553	0.2205	0.1403	0.1241
260.16	3	17.8346	3.7228	3.4491	0.0654	0.0635	0.0349
265.08	3	18.2280	3.7435	3.4035	0.2464	0.2087	0.0376
270	3	18.2766	3.8484	3.3887	0.1087	0.1812	0.0588
270.35	2	18.1369	3.8631	3.7797	0.0770	0.0740	0.0387
274.92	2	18.4473	4.0234	3.6102	0.0416	0.0506	0.0506
274.92	3	18.5265	4.1283	3.3788	0.0677	0.0862	0.0559
285.12	2	18.3207	4.9318	3.7830	0.0329	0.0630	0.0468
299.88	2	18.6859	5.4100	3.6942	0.0700	0.0567	0.0615
315	2	17.4226	6.1444	3.9374	0.0489	0.0420	0.0671
330.12	2	15.6718	6.1641	3.6859	0.0578	0.1129	0.0571
344.88	2	13.8900	5.9704	3.5548	0.1530	0.0573	0.0893
350.16	2	10.8146	5.9111	3.7691	0.3839	0.0955	0.0558
355.08	2	13.5012	5.3977	3.4147	0.1003	0.1801	0.0429

3.10.2 Spanwise Elastic Deformations

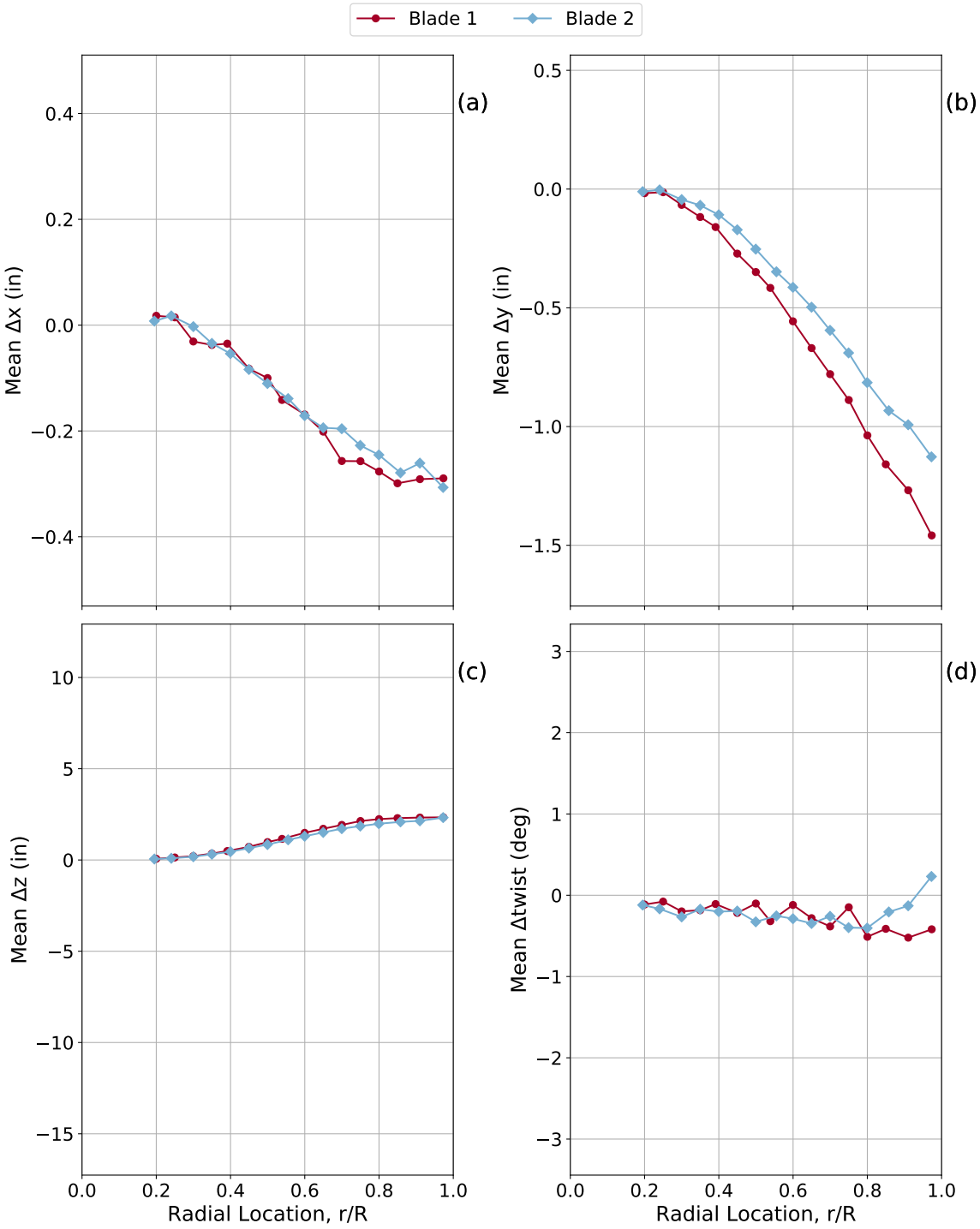


Figure 3.10-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0177	0.0016	-0.0173	0.0018	0.0665	0.0054	-0.1139	0.0348
1	0.35	0.2499	0.0147	0.0014	-0.0132	0.0029	0.1380	0.0097	-0.0781	0.0595
1	0.35	0.2998	-0.0309	0.0018	-0.0666	0.0045	0.2107	0.0171	-0.1984	0.0740
1	0.35	0.3498	-0.0375	0.0019	-0.1177	0.0075	0.3514	0.0312	-0.1842	0.0626
1	0.35	0.3913	-0.0350	0.0018	-0.1599	0.0097	0.4903	0.0417	-0.1080	0.0685
1	0.35	0.4496	-0.0823	0.0021	-0.2718	0.0126	0.7207	0.0570	-0.2176	0.0582
1	0.35	0.4997	-0.1000	0.0022	-0.3493	0.0163	0.9802	0.0707	-0.1018	0.0587
1	0.35	0.5387	-0.1414	0.0023	-0.4162	0.0196	1.1576	0.0818	-0.3192	0.0704
1	0.35	0.5996	-0.1688	0.0033	-0.5568	0.0236	1.4875	0.1022	-0.1194	0.0728
1	0.35	0.6498	-0.2013	0.0035	-0.6696	0.0286	1.7105	0.1254	-0.2819	0.0636
1	0.35	0.6998	-0.2568	0.0036	-0.7794	0.0349	1.9218	0.1538	-0.3839	0.0780
1	0.35	0.7500	-0.2571	0.0046	-0.8882	0.0381	2.1350	0.1781	-0.1478	0.0789
1	0.35	0.8001	-0.2766	0.0048	-1.0372	0.0435	2.2401	0.2081	-0.5112	0.0503
1	0.35	0.8497	-0.2989	0.0068	-1.1591	0.0501	2.2944	0.2372	-0.4131	0.0770
1	0.35	0.9102	-0.2911	0.0075	-1.2684	0.0583	2.3245	0.2774	-0.5217	0.1259
1	0.35	0.9734	-0.2895	0.0094	-1.4585	0.0628	2.3377	0.3225	-0.4188	0.0917
2	0	0.1949	0.0077	0.0030	-0.0107	0.0011	0.0544	0.0060	-0.1202	0.0301
2	0	0.2405	0.0175	0.0028	-0.0033	0.0045	0.0929	0.0121	-0.1677	0.0570
2	0	0.2999	-0.0028	0.0017	-0.0443	0.0072	0.1789	0.0186	-0.2666	0.0615
2	0	0.3498	-0.0345	0.0015	-0.0683	0.0133	0.3145	0.0302	-0.1721	0.0522
2	0	0.3998	-0.0539	0.0014	-0.1083	0.0211	0.4548	0.0461	-0.2011	0.0402
2	0	0.4496	-0.0838	0.0026	-0.1714	0.0292	0.6496	0.0621	-0.1941	0.0459
2	0	0.4995	-0.1103	0.0029	-0.2529	0.0357	0.8456	0.0744	-0.3269	0.0469
2	0	0.5551	-0.1388	0.0041	-0.3482	0.0455	1.1055	0.0956	-0.2537	0.0578
2	0	0.5996	-0.1711	0.0049	-0.4137	0.0525	1.2997	0.1167	-0.2887	0.0285
2	0	0.6497	-0.1940	0.0056	-0.4974	0.0627	1.5105	0.1400	-0.3473	0.0507
2	0	0.6996	-0.1958	0.0052	-0.5948	0.0726	1.7155	0.1665	-0.2593	0.0620
2	0	0.7495	-0.2273	0.0068	-0.6899	0.0801	1.8565	0.1882	-0.3982	0.0656
2	0	0.7996	-0.2452	0.0081	-0.8149	0.0905	1.9861	0.2156	-0.4035	0.0656
2	0	0.8578	-0.2790	0.0091	-0.9331	0.1033	2.0880	0.2505	-0.2054	0.0769
2	0	0.9100	-0.2608	0.0089	-0.9925	0.1117	2.1444	0.2870	-0.1298	0.1987
2	0	0.9727	-0.3067	0.0127	-1.1275	0.1281	2.3222	0.3180	0.2313	0.0875

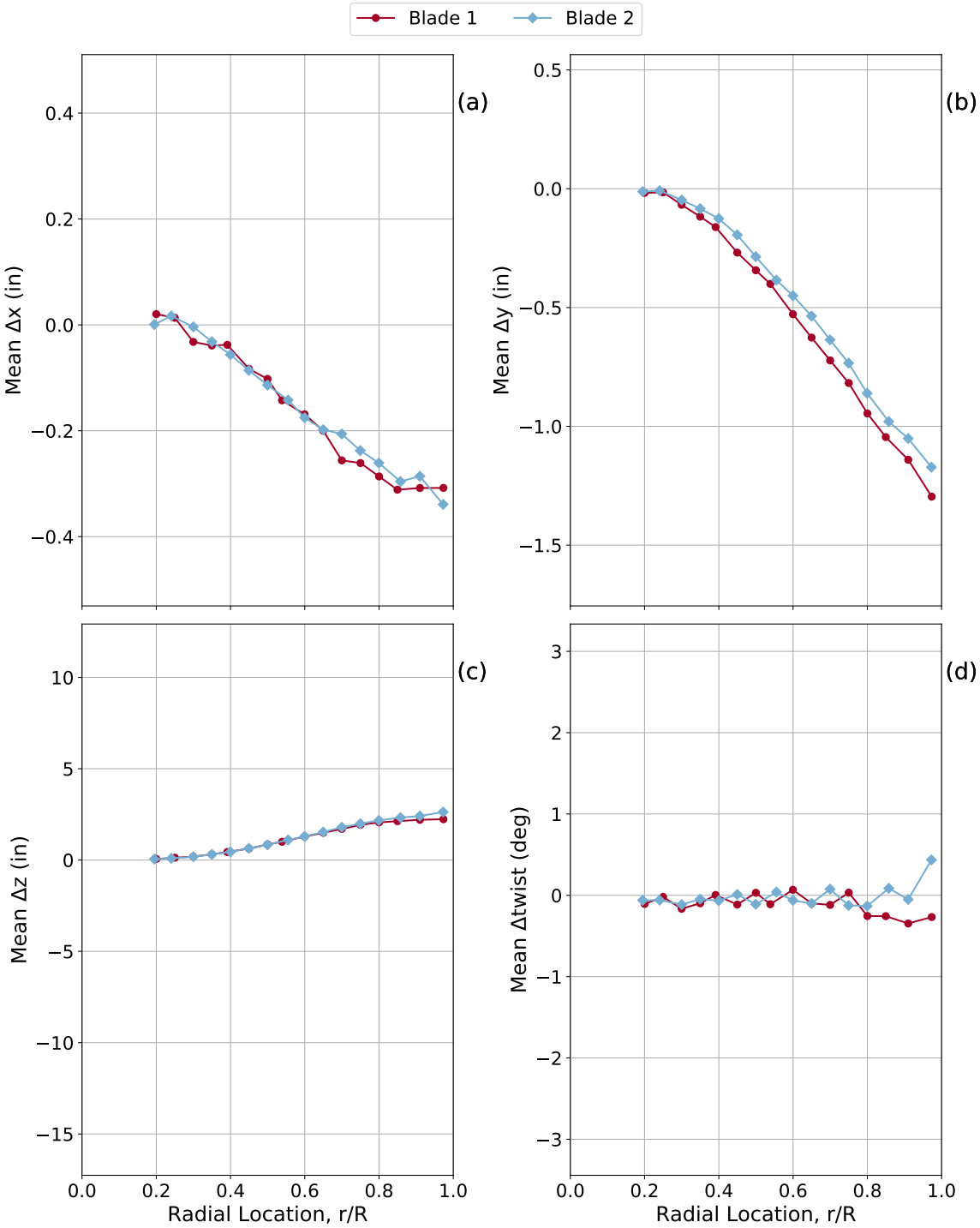


Figure 3.10-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0203	0.0028	-0.0175	0.0010	0.0576	0.0052	-0.1062	0.0570
1	4.92	0.2499	0.0134	0.0017	-0.0152	0.0036	0.1279	0.0105	-0.0200	0.0795
1	4.92	0.2998	-0.0322	0.0013	-0.0676	0.0064	0.1857	0.0176	-0.1653	0.1203
1	4.92	0.3498	-0.0390	0.0019	-0.1175	0.0099	0.3131	0.0281	-0.0977	0.1042
1	4.92	0.3913	-0.0377	0.0029	-0.1614	0.0160	0.4389	0.0399	0.0039	0.0978
1	4.92	0.4496	-0.0830	0.0027	-0.2688	0.0189	0.6288	0.0585	-0.1138	0.1082
1	4.92	0.4997	-0.1021	0.0032	-0.3432	0.0250	0.8504	0.0764	0.0311	0.0952
1	4.92	0.5387	-0.1425	0.0036	-0.4006	0.0295	1.0007	0.0927	-0.1093	0.1087
1	4.92	0.5996	-0.1689	0.0042	-0.5279	0.0362	1.2856	0.1193	0.0679	0.1208
1	4.92	0.6498	-0.2001	0.0043	-0.6265	0.0427	1.4884	0.1504	-0.0989	0.1121
1	4.92	0.6998	-0.2560	0.0052	-0.7226	0.0503	1.7006	0.1851	-0.1179	0.1017
1	4.92	0.7500	-0.2610	0.0055	-0.8177	0.0578	1.9263	0.2222	0.0329	0.0976
1	4.92	0.8001	-0.2863	0.0058	-0.9457	0.0675	2.0611	0.2628	-0.2544	0.0935
1	4.92	0.8497	-0.3114	0.0055	-1.0453	0.0762	2.1275	0.3085	-0.2563	0.0727
1	4.92	0.9102	-0.3081	0.0066	-1.1406	0.0867	2.2041	0.3652	-0.3466	0.0863
1	4.92	0.9734	-0.3080	0.0088	-1.2958	0.1008	2.2348	0.4269	-0.2674	0.1563
2	4.92	0.1949	0.0007	0.0020	-0.0121	0.0009	0.0531	0.0033	-0.0615	0.0266
2	4.92	0.2405	0.0168	0.0014	-0.0081	0.0025	0.0934	0.0083	-0.0594	0.0432
2	4.92	0.2999	-0.0037	0.0012	-0.0475	0.0031	0.1752	0.0111	-0.1136	0.0573
2	4.92	0.3498	-0.0318	0.0012	-0.0838	0.0069	0.3088	0.0183	-0.0469	0.0518
2	4.92	0.3998	-0.0562	0.0013	-0.1257	0.0091	0.4467	0.0283	-0.0663	0.0649
2	4.92	0.4496	-0.0860	0.0019	-0.1945	0.0115	0.6420	0.0411	0.0109	0.0630
2	4.92	0.4995	-0.1137	0.0018	-0.2858	0.0142	0.8332	0.0588	-0.1097	0.0594
2	4.92	0.5551	-0.1420	0.0023	-0.3847	0.0163	1.1009	0.0773	0.0406	0.0701
2	4.92	0.5996	-0.1752	0.0019	-0.4501	0.0188	1.2941	0.0939	-0.0625	0.0660
2	4.92	0.6497	-0.1980	0.0025	-0.5359	0.0213	1.5341	0.1103	-0.1001	0.0752
2	4.92	0.6996	-0.2060	0.0022	-0.6358	0.0244	1.7941	0.1337	0.0763	0.0585
2	4.92	0.7495	-0.2374	0.0032	-0.7339	0.0267	1.9875	0.1524	-0.1242	0.0522
2	4.92	0.7996	-0.2609	0.0038	-0.8610	0.0289	2.1719	0.1753	-0.1320	0.0746
2	4.92	0.8578	-0.2959	0.0045	-0.9799	0.0331	2.3250	0.1991	0.0860	0.0948
2	4.92	0.9100	-0.2858	0.0051	-1.0510	0.0381	2.4092	0.2274	-0.0507	0.1672
2	4.92	0.9727	-0.3390	0.0067	-1.1718	0.0432	2.6279	0.2498	0.4356	0.0540

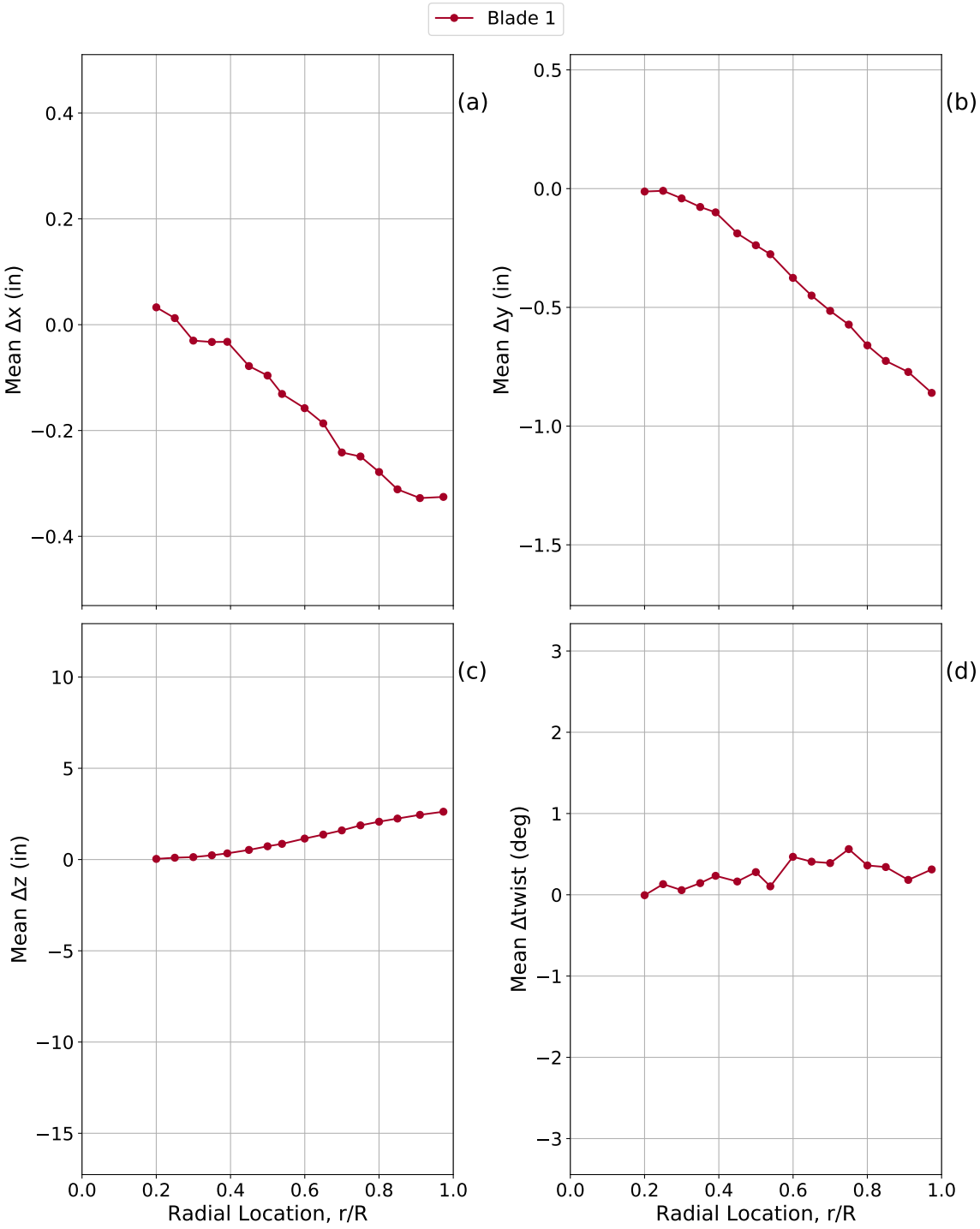


Figure 3.10-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0328	0.0032	-0.0122	0.0011	0.0346	0.0043	-0.0050	0.0444
1	15.12	0.2499	0.0124	0.0018	-0.0092	0.0032	0.0995	0.0121	0.1311	0.0610
1	15.12	0.2998	-0.0301	0.0019	-0.0412	0.0046	0.1329	0.0168	0.0572	0.0933
1	15.12	0.3498	-0.0327	0.0016	-0.0773	0.0082	0.2333	0.0284	0.1437	0.0930
1	15.12	0.3913	-0.0324	0.0022	-0.0999	0.0122	0.3381	0.0422	0.2338	0.0836
1	15.12	0.4496	-0.0782	0.0024	-0.1886	0.0153	0.5263	0.0571	0.1637	0.0929
1	15.12	0.4997	-0.0961	0.0020	-0.2385	0.0187	0.7258	0.0693	0.2792	0.1098
1	15.12	0.5387	-0.1309	0.0027	-0.2763	0.0218	0.8590	0.0778	0.1039	0.1056
1	15.12	0.5996	-0.1578	0.0034	-0.3758	0.0272	1.1488	0.0957	0.4676	0.1008
1	15.12	0.6498	-0.1865	0.0028	-0.4503	0.0300	1.3672	0.1101	0.4078	0.1205
1	15.12	0.6998	-0.2415	0.0034	-0.5148	0.0348	1.5968	0.1288	0.3903	0.1115
1	15.12	0.7500	-0.2491	0.0034	-0.5726	0.0378	1.8711	0.1489	0.5621	0.1251
1	15.12	0.8001	-0.2784	0.0052	-0.6601	0.0432	2.0731	0.1776	0.3611	0.1299
1	15.12	0.8497	-0.3112	0.0053	-0.7255	0.0481	2.2456	0.2034	0.3414	0.1137
1	15.12	0.9102	-0.3277	0.0053	-0.7721	0.0560	2.4490	0.2384	0.1832	0.1291
1	15.12	0.9734	-0.3255	0.0081	-0.8601	0.0632	2.6201	0.2889	0.3122	0.0807

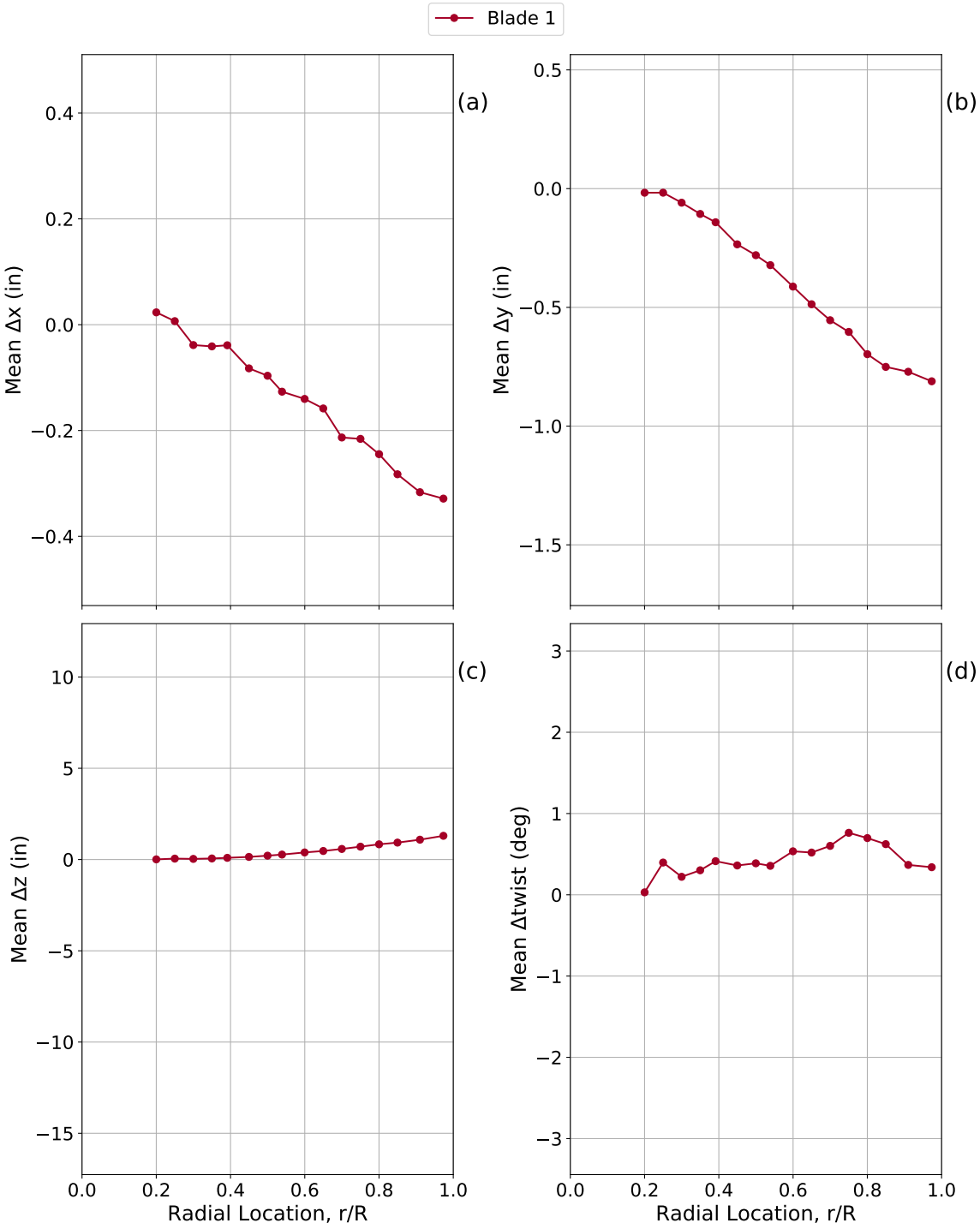


Figure 3.10-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0233	0.0024	-0.0172	0.0009	0.0089	0.0039	0.0302	0.0393
1	29.88	0.2499	0.0067	0.0015	-0.0171	0.0027	0.0504	0.0087	0.3969	0.0543
1	29.88	0.2998	-0.0385	0.0020	-0.0592	0.0042	0.0350	0.0146	0.2215	0.0823
1	29.88	0.3498	-0.0410	0.0021	-0.1067	0.0077	0.0583	0.0240	0.3017	0.0831
1	29.88	0.3913	-0.0389	0.0027	-0.1416	0.0112	0.0935	0.0351	0.4139	0.0553
1	29.88	0.4496	-0.0825	0.0032	-0.2346	0.0170	0.1438	0.0476	0.3607	0.0801
1	29.88	0.4997	-0.0965	0.0027	-0.2803	0.0214	0.2115	0.0653	0.3876	0.0746
1	29.88	0.5387	-0.1266	0.0031	-0.3222	0.0257	0.2719	0.0779	0.3564	0.0800
1	29.88	0.5996	-0.1403	0.0030	-0.4124	0.0308	0.3883	0.0985	0.5352	0.0804
1	29.88	0.6498	-0.1583	0.0034	-0.4869	0.0358	0.4683	0.1168	0.5198	0.0802
1	29.88	0.6998	-0.2132	0.0036	-0.5542	0.0410	0.5799	0.1372	0.6020	0.0826
1	29.88	0.7500	-0.2158	0.0038	-0.6034	0.0476	0.7051	0.1583	0.7627	0.0864
1	29.88	0.8001	-0.2447	0.0048	-0.6973	0.0538	0.8346	0.1822	0.6979	0.1017
1	29.88	0.8497	-0.2827	0.0050	-0.7507	0.0593	0.9281	0.2083	0.6233	0.0978
1	29.88	0.9102	-0.3166	0.0049	-0.7712	0.0674	1.0870	0.2425	0.3678	0.1059
1	29.88	0.9734	-0.3287	0.0061	-0.8113	0.0754	1.2999	0.2858	0.3394	0.1178

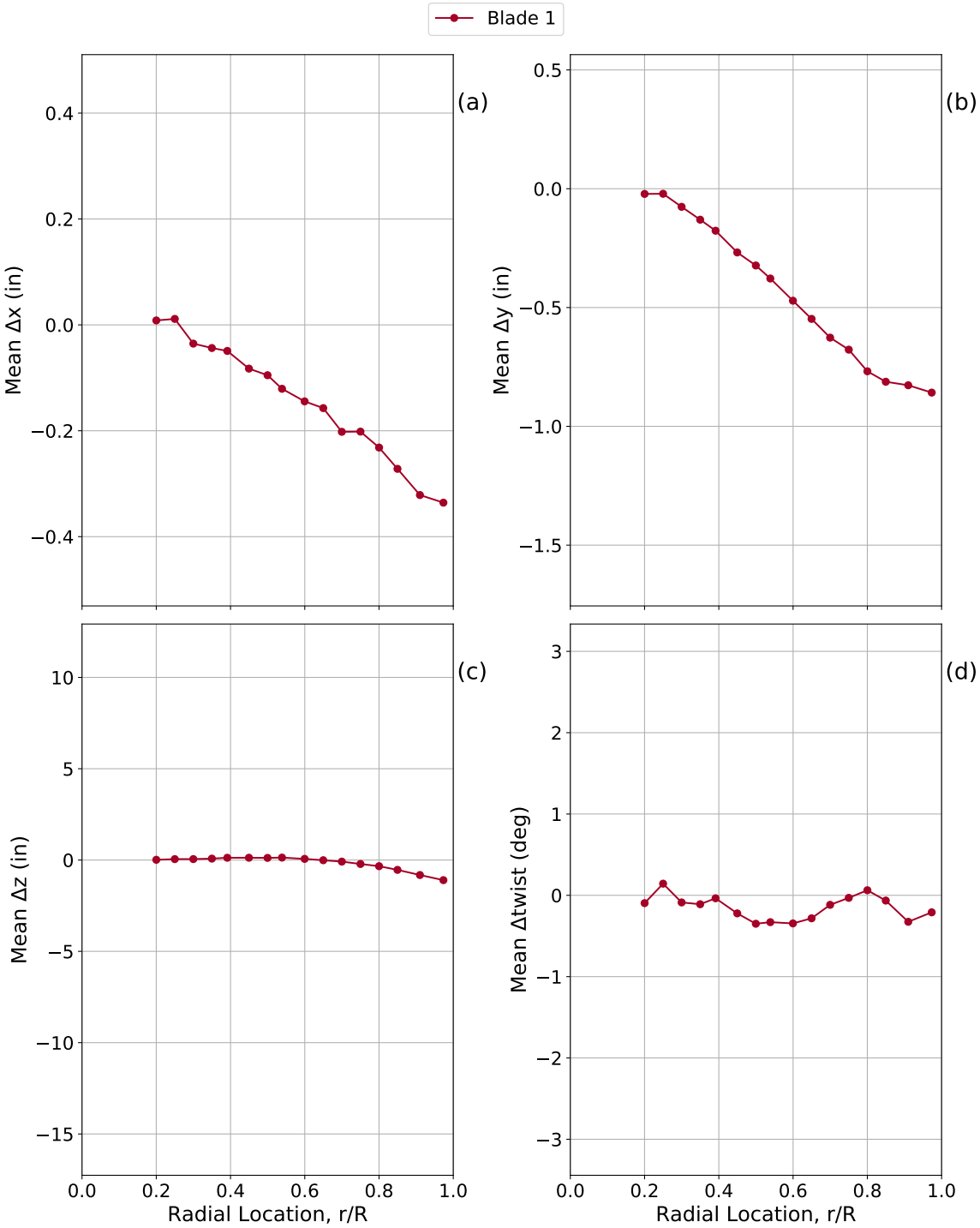


Figure 3.10-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0084	0.0015	-0.0218	0.0013	0.0135	0.0050	-0.0961	0.0259
1	45	0.2499	0.0113	0.0016	-0.0212	0.0032	0.0504	0.0063	0.1433	0.0551
1	45	0.2998	-0.0354	0.0019	-0.0761	0.0050	0.0522	0.0156	-0.0875	0.0596
1	45	0.3498	-0.0437	0.0014	-0.1303	0.0104	0.0776	0.0259	-0.1095	0.0573
1	45	0.3913	-0.0492	0.0024	-0.1767	0.0140	0.1240	0.0348	-0.0363	0.0628
1	45	0.4496	-0.0826	0.0034	-0.2681	0.0179	0.1253	0.0460	-0.2221	0.0772
1	45	0.4997	-0.0951	0.0033	-0.3230	0.0213	0.1173	0.0533	-0.3496	0.0688
1	45	0.5387	-0.1207	0.0044	-0.3778	0.0250	0.1334	0.0572	-0.3301	0.0771
1	45	0.5996	-0.1445	0.0039	-0.4713	0.0321	0.0628	0.0637	-0.3454	0.0632
1	45	0.6498	-0.1572	0.0041	-0.5478	0.0372	-0.0105	0.0695	-0.2827	0.0613
1	45	0.6998	-0.2020	0.0036	-0.6267	0.0434	-0.0863	0.0796	-0.1170	0.0645
1	45	0.7500	-0.2016	0.0043	-0.6773	0.0504	-0.2165	0.0913	-0.0311	0.0737
1	45	0.8001	-0.2317	0.0046	-0.7683	0.0573	-0.3368	0.1051	0.0624	0.0670
1	45	0.8497	-0.2719	0.0048	-0.8123	0.0643	-0.5388	0.1231	-0.0647	0.0737
1	45	0.9102	-0.3214	0.0050	-0.8271	0.0732	-0.8202	0.1426	-0.3255	0.0774
1	45	0.9734	-0.3358	0.0073	-0.8580	0.0827	-1.1012	0.1661	-0.2092	0.0704

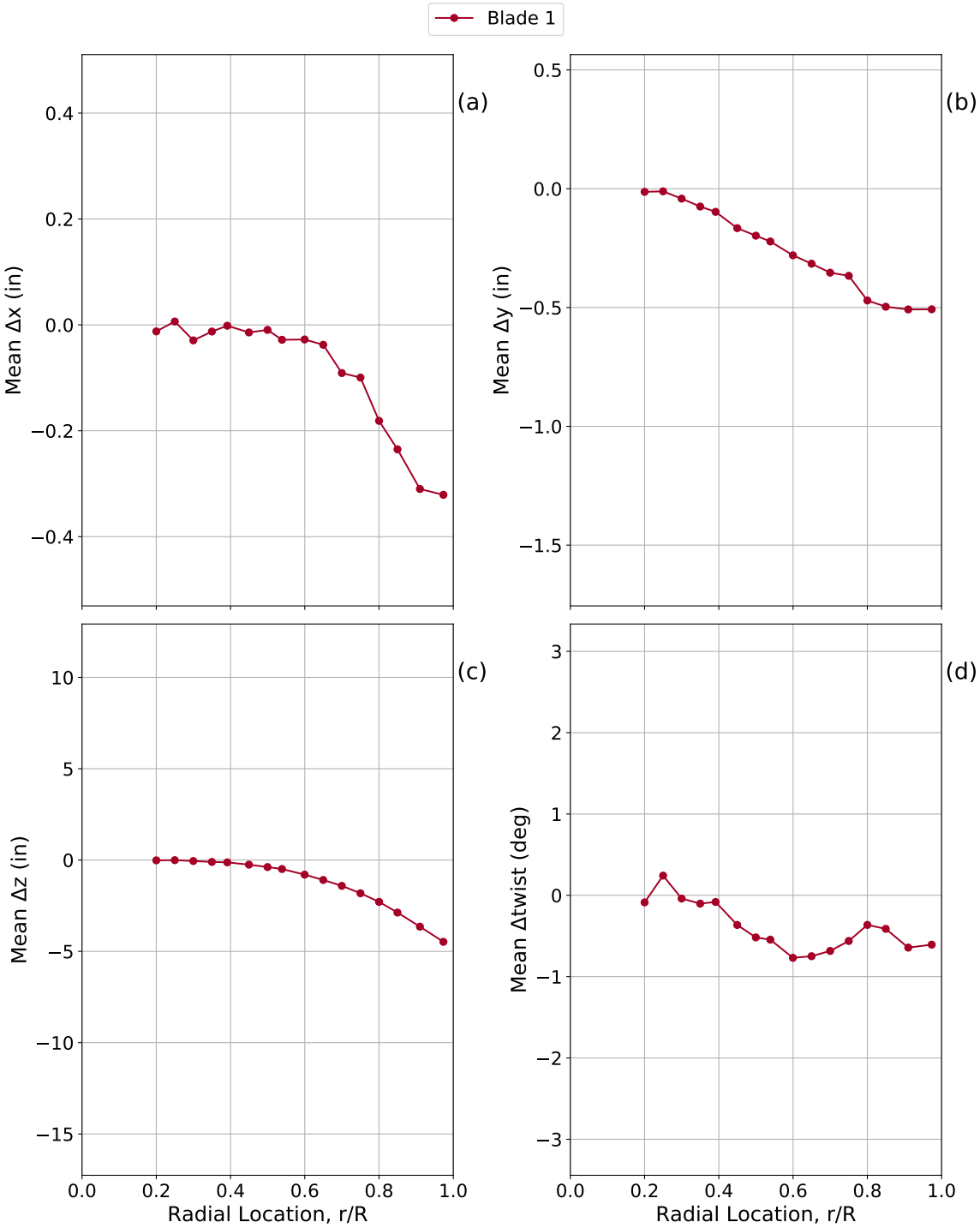


Figure 3.10-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0123	0.0028	-0.0131	0.0009	-0.0173	0.0037	-0.0867	0.0169
1	60.12	0.2499	0.0064	0.0013	-0.0109	0.0028	-0.0066	0.0095	0.2424	0.0348
1	60.12	0.2998	-0.0293	0.0016	-0.0417	0.0046	-0.0528	0.0155	-0.0396	0.0398
1	60.12	0.3498	-0.0126	0.0024	-0.0749	0.0079	-0.1037	0.0275	-0.1021	0.0303
1	60.12	0.3913	-0.0016	0.0037	-0.0972	0.0120	-0.1274	0.0398	-0.0818	0.0500
1	60.12	0.4496	-0.0143	0.0052	-0.1659	0.0169	-0.2529	0.0564	-0.3646	0.0479
1	60.12	0.4997	-0.0095	0.0058	-0.1976	0.0211	-0.3850	0.0736	-0.5177	0.0615
1	60.12	0.5387	-0.0282	0.0063	-0.2220	0.0249	-0.4917	0.0874	-0.5454	0.0462
1	60.12	0.5996	-0.0276	0.0071	-0.2802	0.0308	-0.7992	0.1087	-0.7687	0.0513
1	60.12	0.6498	-0.0376	0.0083	-0.3155	0.0363	-1.0920	0.1221	-0.7488	0.0458
1	60.12	0.6998	-0.0910	0.0081	-0.3533	0.0420	-1.4141	0.1385	-0.6841	0.0632
1	60.12	0.7500	-0.0995	0.0091	-0.3665	0.0468	-1.8197	0.1456	-0.5616	0.0644
1	60.12	0.8001	-0.1813	0.0108	-0.4703	0.0641	-2.2894	0.1809	-0.3638	0.0836
1	60.12	0.8497	-0.2351	0.0113	-0.4966	0.0679	-2.8765	0.1913	-0.4125	0.0933
1	60.12	0.9102	-0.3100	0.0115	-0.5080	0.0737	-3.6480	0.2150	-0.6432	0.0932
1	60.12	0.9734	-0.3210	0.0116	-0.5074	0.0802	-4.4794	0.2390	-0.6067	0.1049

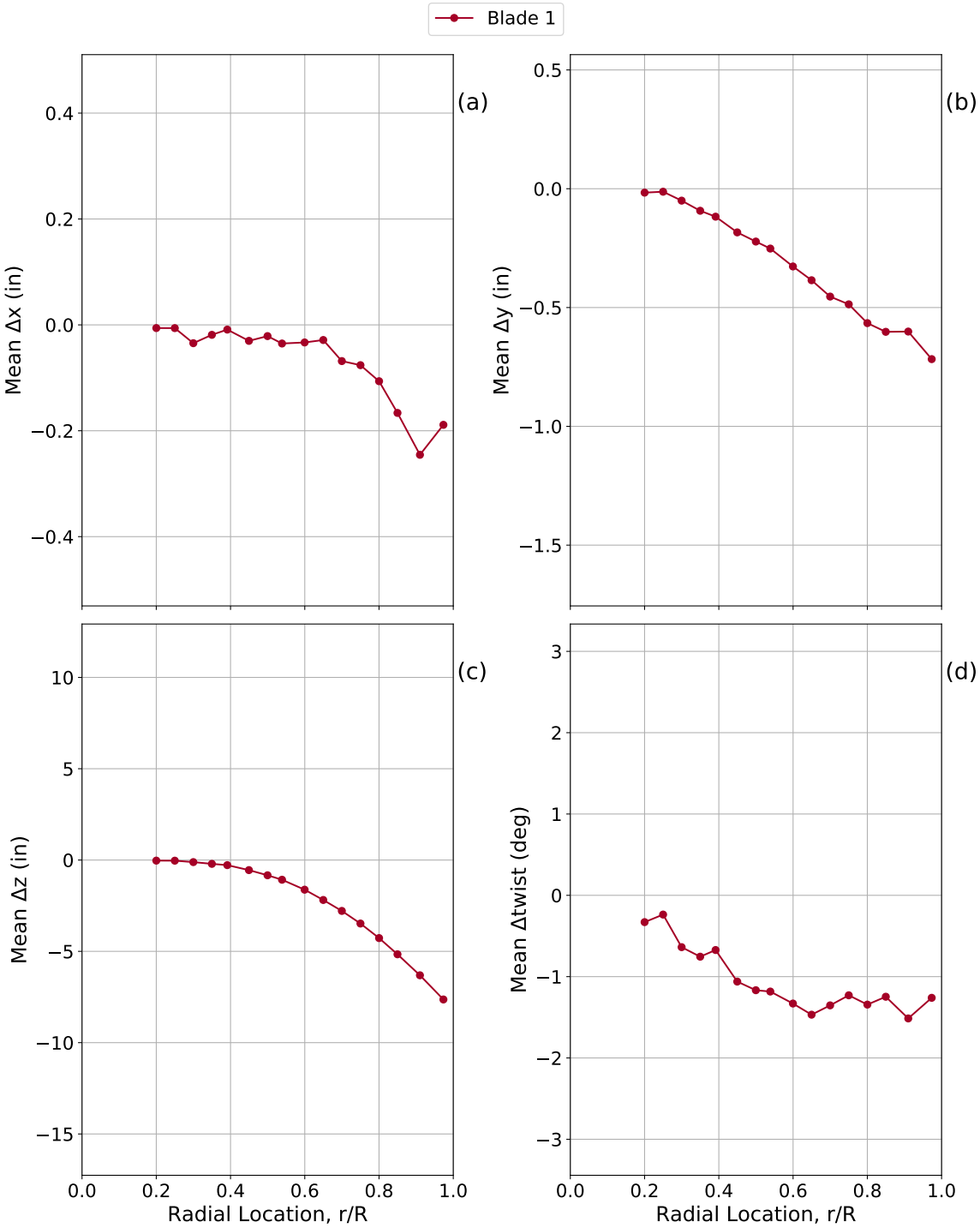


Figure 3.10-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0060	0.0029	-0.0164	0.0012	-0.0317	0.0069	-0.3297	0.0252
1	74.88	0.2499	-0.0061	0.0024	-0.0126	0.0028	-0.0352	0.0139	-0.2367	0.0517
1	74.88	0.2998	-0.0346	0.0020	-0.0501	0.0050	-0.1133	0.0272	-0.6375	0.0588
1	74.88	0.3498	-0.0188	0.0038	-0.0927	0.0094	-0.2094	0.0477	-0.7547	0.0516
1	74.88	0.3913	-0.0089	0.0044	-0.1176	0.0132	-0.2789	0.0678	-0.6727	0.0647
1	74.88	0.4496	-0.0302	0.0059	-0.1837	0.0183	-0.5518	0.0960	-1.0609	0.0646
1	74.88	0.4997	-0.0212	0.0073	-0.2223	0.0242	-0.8343	0.1203	-1.1670	0.0826
1	74.88	0.5387	-0.0352	0.0087	-0.2518	0.0287	-1.0788	0.1434	-1.1834	0.0709
1	74.88	0.5996	-0.0332	0.0093	-0.3271	0.0363	-1.6235	0.1777	-1.3307	0.0752
1	74.88	0.6498	-0.0286	0.0102	-0.3851	0.0433	-2.1873	0.2040	-1.4679	0.0727
1	74.88	0.6998	-0.0684	0.0109	-0.4539	0.0492	-2.7862	0.2310	-1.3533	0.0786
1	74.88	0.7500	-0.0761	0.0123	-0.4865	0.0573	-3.4773	0.2604	-1.2294	0.0810
1	74.88	0.8001	-0.1064	0.0139	-0.5656	0.0654	-4.2733	0.2888	-1.3438	0.0646
1	74.88	0.8497	-0.1663	0.0163	-0.6022	0.0735	-5.1617	0.3165	-1.2472	0.0706
1	74.88	0.9102	-0.2454	0.0213	-0.6011	0.0841	-6.3108	0.3494	-1.5140	0.0766
1	74.88	0.9734	-0.1888	0.0311	-0.7171	0.0937	-7.6356	0.3815	-1.2605	0.0737

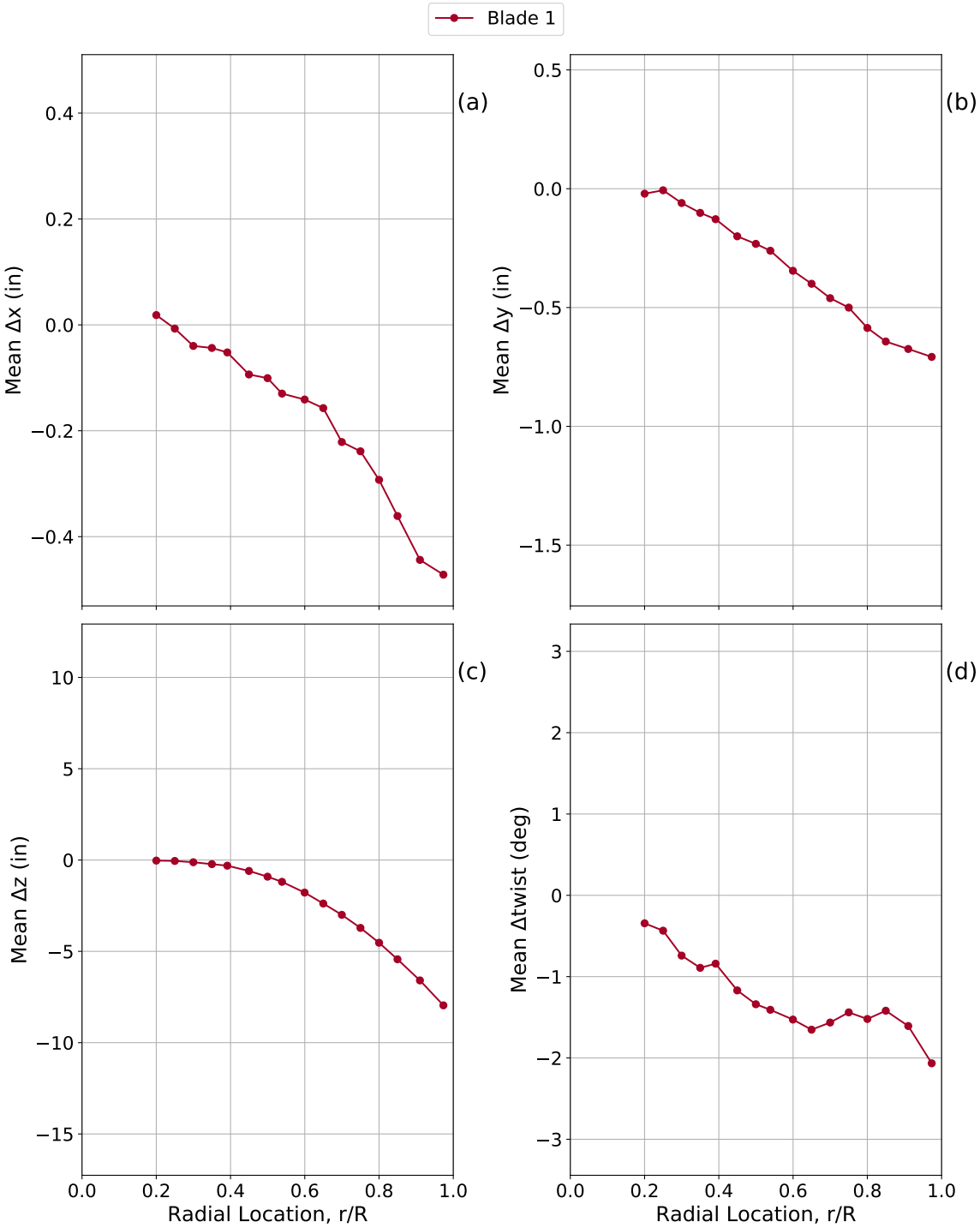


Figure 3.10-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0185	0.0019	-0.0208	0.0009	-0.0303	0.0044	-0.3442	0.0301
1	80.16	0.2499	-0.0070	0.0007	-0.0065	0.0028	-0.0497	0.0100	-0.4348	0.0617
1	80.16	0.2998	-0.0398	0.0017	-0.0601	0.0047	-0.1204	0.0179	-0.7412	0.0718
1	80.16	0.3498	-0.0436	0.0023	-0.1016	0.0078	-0.2255	0.0308	-0.8918	0.0619
1	80.16	0.3913	-0.0520	0.0024	-0.1282	0.0120	-0.3093	0.0448	-0.8407	0.0744
1	80.16	0.4496	-0.0937	0.0024	-0.2002	0.0158	-0.5978	0.0639	-1.1694	0.0570
1	80.16	0.4997	-0.1006	0.0025	-0.2320	0.0220	-0.9113	0.0839	-1.3394	0.0567
1	80.16	0.5387	-0.1298	0.0030	-0.2609	0.0254	-1.1934	0.0975	-1.4079	0.0539
1	80.16	0.5996	-0.1410	0.0043	-0.3453	0.0333	-1.7816	0.1241	-1.5279	0.0600
1	80.16	0.6498	-0.1572	0.0053	-0.4000	0.0406	-2.3818	0.1484	-1.6523	0.0555
1	80.16	0.6998	-0.2213	0.0054	-0.4605	0.0484	-3.0010	0.1736	-1.5644	0.0619
1	80.16	0.7500	-0.2388	0.0058	-0.5003	0.0561	-3.7173	0.1993	-1.4394	0.0543
1	80.16	0.8001	-0.2927	0.0069	-0.5859	0.0645	-4.5288	0.2264	-1.5210	0.0660
1	80.16	0.8497	-0.3610	0.0080	-0.6430	0.0736	-5.4345	0.2567	-1.4193	0.0742
1	80.16	0.9102	-0.4439	0.0093	-0.6744	0.0840	-6.5922	0.2910	-1.6072	0.0707
1	80.16	0.9734	-0.4718	0.0123	-0.7077	0.0967	-7.9566	0.3254	-2.0658	0.0724

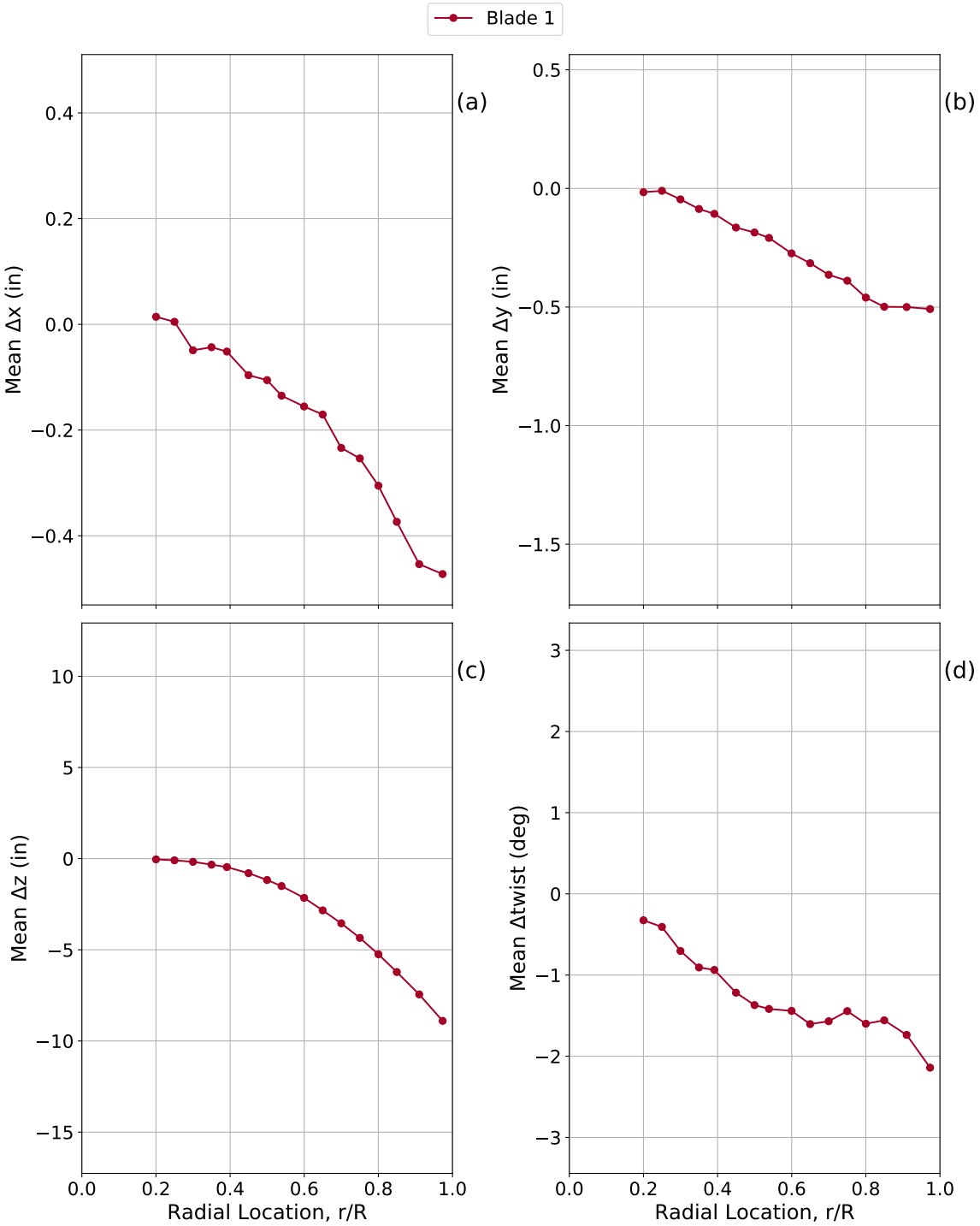


Figure 3.10-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0143	0.0021	-0.0159	0.0009	-0.0416	0.0041	-0.3253	0.0299
1	85.08	0.2499	0.0048	0.0019	-0.0100	0.0021	-0.0904	0.0079	-0.4073	0.0676
1	85.08	0.2998	-0.0491	0.0016	-0.0461	0.0031	-0.1752	0.0153	-0.7032	0.0727
1	85.08	0.3498	-0.0433	0.0022	-0.0865	0.0064	-0.3303	0.0267	-0.9064	0.0656
1	85.08	0.3913	-0.0515	0.0022	-0.1071	0.0086	-0.4621	0.0375	-0.9372	0.0590
1	85.08	0.4496	-0.0962	0.0022	-0.1649	0.0114	-0.7970	0.0485	-1.2170	0.0787
1	85.08	0.4997	-0.1055	0.0025	-0.1857	0.0151	-1.1714	0.0638	-1.3700	0.0737
1	85.08	0.5387	-0.1349	0.0025	-0.2086	0.0185	-1.5047	0.0729	-1.4173	0.0630
1	85.08	0.5996	-0.1554	0.0035	-0.2738	0.0244	-2.1521	0.0922	-1.4413	0.0758
1	85.08	0.6498	-0.1706	0.0040	-0.3152	0.0296	-2.8381	0.1127	-1.6045	0.0660
1	85.08	0.6998	-0.2338	0.0046	-0.3641	0.0348	-3.5479	0.1343	-1.5690	0.0675
1	85.08	0.7500	-0.2536	0.0051	-0.3890	0.0411	-4.3477	0.1559	-1.4444	0.0652
1	85.08	0.8001	-0.3053	0.0055	-0.4602	0.0482	-5.2455	0.1748	-1.6000	0.0835
1	85.08	0.8497	-0.3736	0.0066	-0.4989	0.0551	-6.2188	0.1896	-1.5573	0.0722
1	85.08	0.9102	-0.4537	0.0074	-0.4999	0.0639	-7.4473	0.2043	-1.7370	0.0727
1	85.08	0.9734	-0.4725	0.0088	-0.5084	0.0740	-8.8984	0.2213	-2.1408	0.0619

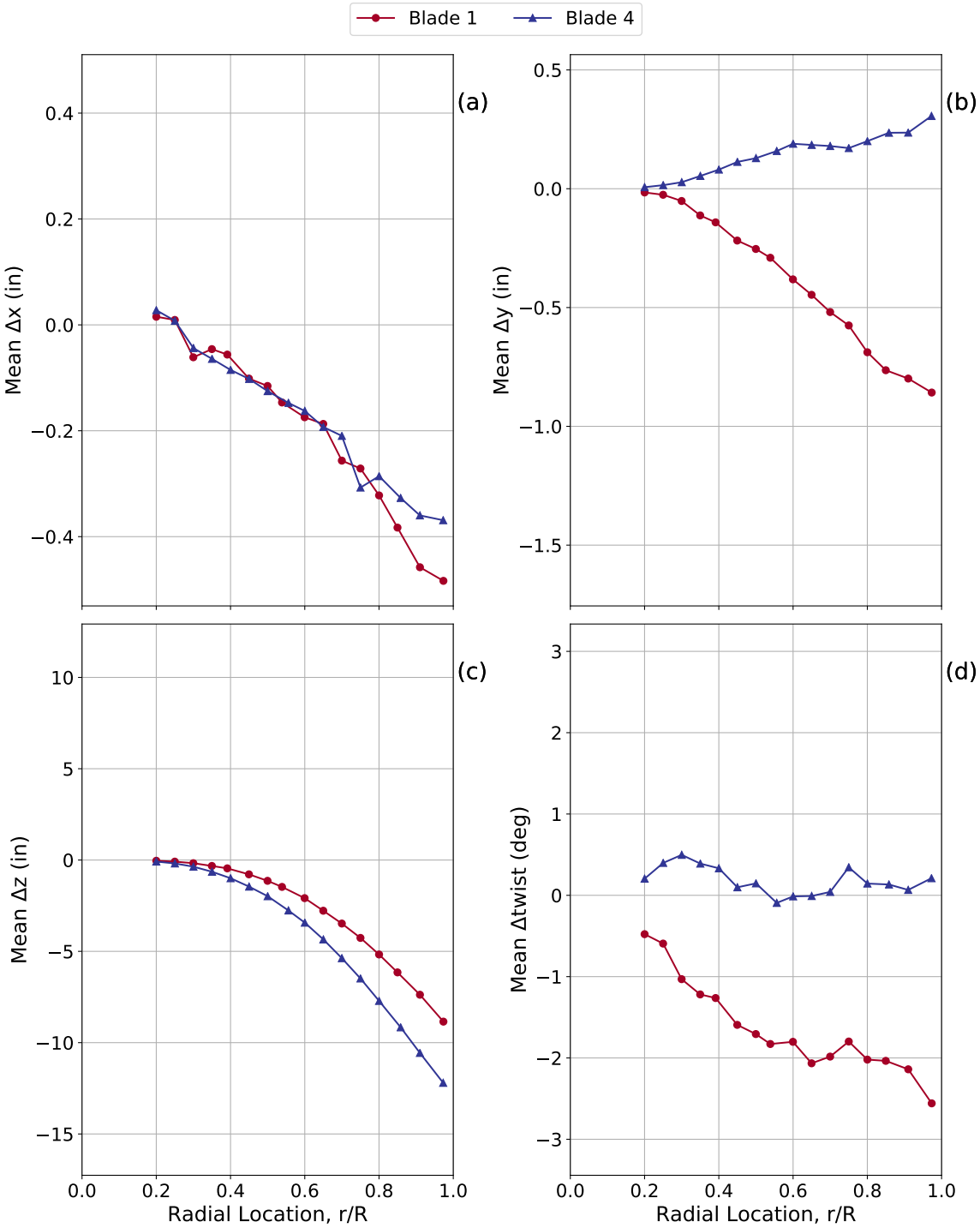


Figure 3.10-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0154	0.0038	-0.0157	0.0019	-0.0401	0.0066	-0.4777	0.0390
1	90	0.2499	0.0093	0.0021	-0.0254	0.0028	-0.0872	0.0074	-0.5934	0.1021
1	90	0.2998	-0.0612	0.0022	-0.0516	0.0066	-0.1725	0.0204	-1.0311	0.1008
1	90	0.3498	-0.0458	0.0024	-0.1123	0.0121	-0.3239	0.0342	-1.2188	0.0893
1	90	0.3913	-0.0561	0.0019	-0.1415	0.0163	-0.4552	0.0454	-1.2631	0.0858
1	90	0.4496	-0.1014	0.0027	-0.2181	0.0222	-0.7838	0.0630	-1.5932	0.0946
1	90	0.4997	-0.1154	0.0035	-0.2535	0.0274	-1.1381	0.0807	-1.7061	0.0915
1	90	0.5387	-0.1466	0.0032	-0.2905	0.0314	-1.4711	0.0958	-1.8285	0.0946
1	90	0.5996	-0.1745	0.0037	-0.3814	0.0401	-2.0862	0.1172	-1.8016	0.0978
1	90	0.6498	-0.1871	0.0035	-0.4464	0.0481	-2.7760	0.1395	-2.0657	0.0885
1	90	0.6998	-0.2564	0.0038	-0.5190	0.0563	-3.4776	0.1598	-1.9834	0.0871
1	90	0.7500	-0.2713	0.0051	-0.5754	0.0651	-4.2650	0.1819	-1.7980	0.0905
1	90	0.8001	-0.3221	0.0055	-0.6882	0.0738	-5.1718	0.2050	-2.0203	0.0964
1	90	0.8497	-0.3829	0.0071	-0.7638	0.0833	-6.1525	0.2296	-2.0356	0.0887
1	90	0.9102	-0.4578	0.0087	-0.7989	0.0948	-7.3763	0.2567	-2.1395	0.1001
1	90	0.9734	-0.4835	0.0104	-0.8578	0.1078	-8.8488	0.2870	-2.5583	0.0887
4	90.35	0.2001	0.0277	0.0050	0.0065	0.0008	-0.0844	0.0032	0.2044	0.0268
4	90.35	0.2502	0.0077	0.0019	0.0150	0.0016	-0.1876	0.0056	0.3984	0.0462
4	90.35	0.3001	-0.0439	0.0027	0.0274	0.0032	-0.3640	0.0117	0.4975	0.0619
4	90.35	0.3502	-0.0642	0.0044	0.0538	0.0055	-0.6422	0.0221	0.3900	0.0418
4	90.35	0.4002	-0.0851	0.0054	0.0805	0.0085	-0.9969	0.0324	0.3320	0.0524
4	90.35	0.4500	-0.1021	0.0064	0.1128	0.0112	-1.4561	0.0415	0.0985	0.0564
4	90.35	0.5001	-0.1252	0.0074	0.1287	0.0143	-1.9817	0.0524	0.1470	0.0588
4	90.35	0.5560	-0.1474	0.0075	0.1587	0.0187	-2.7626	0.0650	-0.0934	0.0570
4	90.35	0.6001	-0.1626	0.0069	0.1892	0.0222	-3.4297	0.0773	-0.0132	0.0510
4	90.35	0.6501	-0.1929	0.0065	0.1843	0.0265	-4.3493	0.0888	-0.0087	0.0642
4	90.35	0.6999	-0.2097	0.0072	0.1797	0.0310	-5.3753	0.1016	0.0418	0.0641
4	90.35	0.7500	-0.3073	0.0160	0.1710	0.0652	-6.4859	0.1435	0.3444	0.0638
4	90.35	0.8002	-0.2858	0.0108	0.2003	0.0406	-7.7157	0.1249	0.1445	0.0737
4	90.35	0.8582	-0.3270	0.0139	0.2355	0.0462	-9.1615	0.1403	0.1331	0.0759
4	90.35	0.9101	-0.3599	0.0170	0.2361	0.0511	-10.5626	0.1553	0.0662	0.0800
4	90.35	0.9728	-0.3690	0.0234	0.3061	0.0558	-12.2009	0.1800	0.2102	0.0852

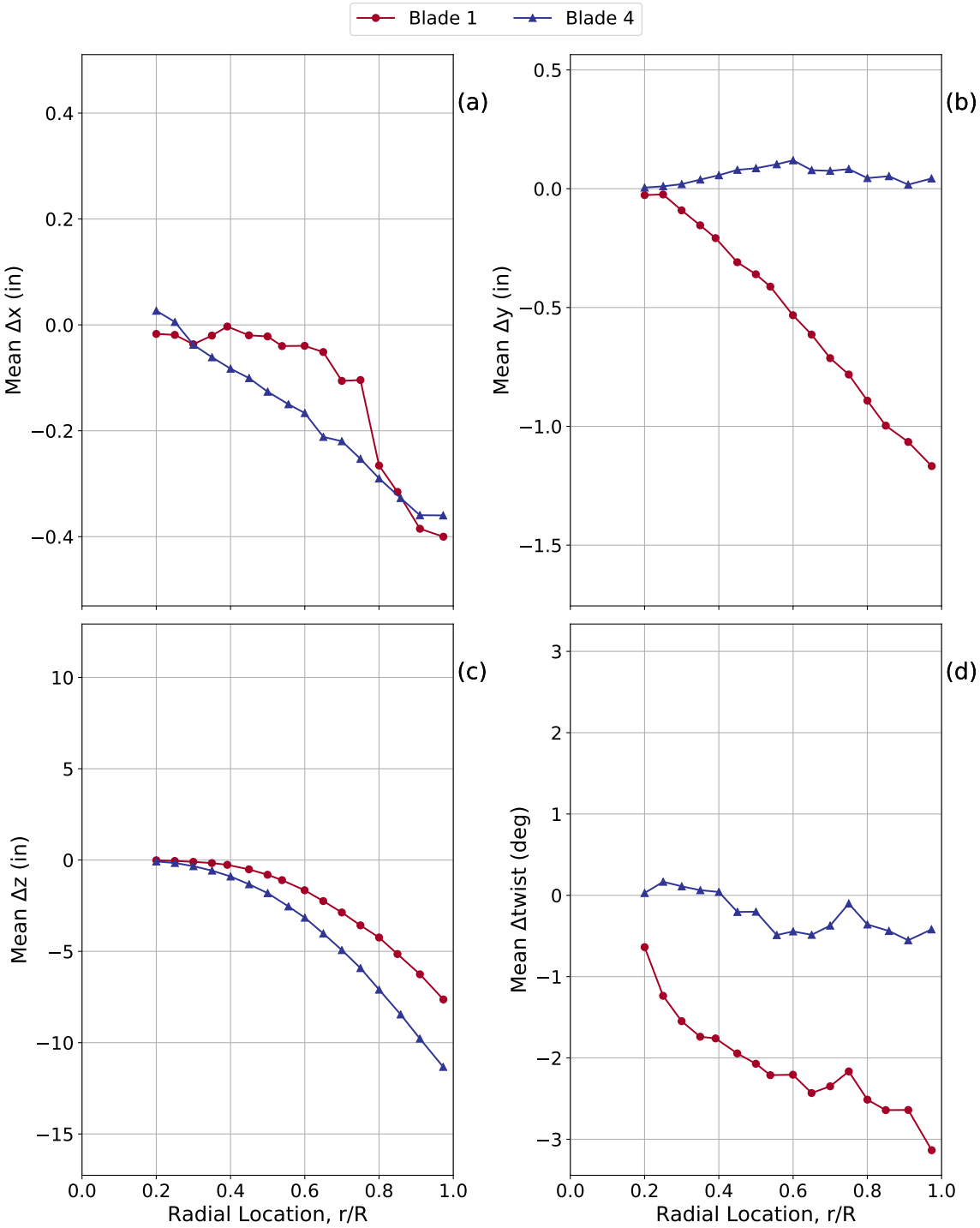


Figure 3.10-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0171	0.0040	-0.0268	0.0040	-0.0130	0.0120	-0.6374	0.0680
1	94.92	0.2499	-0.0189	0.0020	-0.0241	0.0043	-0.0503	0.0137	-1.2359	0.1825
1	94.92	0.2998	-0.0366	0.0023	-0.0910	0.0141	-0.0979	0.0385	-1.5477	0.1823
1	94.92	0.3498	-0.0202	0.0034	-0.1539	0.0238	-0.1652	0.0619	-1.7392	0.1880
1	94.92	0.3913	-0.0031	0.0043	-0.2078	0.0326	-0.2627	0.0849	-1.7596	0.1806
1	94.92	0.4496	-0.0197	0.0060	-0.3092	0.0452	-0.5103	0.1151	-1.9441	0.1856
1	94.92	0.4997	-0.0218	0.0076	-0.3599	0.0566	-0.8059	0.1414	-2.0716	0.1848
1	94.92	0.5387	-0.0400	0.0088	-0.4119	0.0656	-1.1012	0.1633	-2.2113	0.1832
1	94.92	0.5996	-0.0396	0.0117	-0.5324	0.0802	-1.6555	0.1969	-2.2062	0.1786
1	94.92	0.6498	-0.0513	0.0130	-0.6137	0.0923	-2.2474	0.2254	-2.4314	0.1863
1	94.92	0.6998	-0.1058	0.0166	-0.7129	0.1047	-2.8707	0.2550	-2.3487	0.1694
1	94.92	0.7500	-0.1042	0.0193	-0.7819	0.1160	-3.5786	0.2808	-2.1658	0.2187
1	94.92	0.8001	-0.2657	0.0174	-0.8920	0.1572	-4.2416	0.2636	-2.5127	0.2003
1	94.92	0.8497	-0.3155	0.0187	-0.9971	0.1710	-5.1479	0.2932	-2.6417	0.1825
1	94.92	0.9102	-0.3851	0.0202	-1.0657	0.1875	-6.2581	0.3229	-2.6397	0.2035
1	94.92	0.9734	-0.4001	0.0178	-1.1673	0.2060	-7.6343	0.3557	-3.1348	0.2081
4	94.92	0.2001	0.0267	0.0049	0.0049	0.0008	-0.0800	0.0055	0.0283	0.0242
4	94.92	0.2502	0.0055	0.0022	0.0103	0.0021	-0.1605	0.0121	0.1666	0.0383
4	94.92	0.3001	-0.0376	0.0021	0.0193	0.0035	-0.3367	0.0239	0.1103	0.0546
4	94.92	0.3502	-0.0612	0.0042	0.0385	0.0065	-0.5793	0.0407	0.0631	0.0691
4	94.92	0.4002	-0.0828	0.0060	0.0567	0.0100	-0.9006	0.0640	0.0412	0.0610
4	94.92	0.4500	-0.1006	0.0075	0.0794	0.0141	-1.3268	0.0900	-0.2045	0.0522
4	94.92	0.5001	-0.1263	0.0091	0.0863	0.0180	-1.8136	0.1207	-0.2019	0.0665
4	94.92	0.5560	-0.1499	0.0100	0.1029	0.0229	-2.5397	0.1576	-0.4892	0.0644
4	94.92	0.6001	-0.1666	0.0112	0.1195	0.0270	-3.1575	0.1865	-0.4439	0.0661
4	94.92	0.6501	-0.2116	0.0096	0.0781	0.0367	-4.0254	0.2215	-0.4860	0.0639
4	94.92	0.6999	-0.2198	0.0120	0.0751	0.0356	-4.9316	0.2472	-0.3724	0.0617
4	94.92	0.7500	-0.2531	0.0125	0.0827	0.0401	-5.9161	0.2779	-0.1016	0.0634
4	94.92	0.8002	-0.2900	0.0147	0.0448	0.0449	-7.0993	0.3054	-0.3586	0.0701
4	94.92	0.8582	-0.3271	0.0182	0.0527	0.0506	-8.4544	0.3362	-0.4387	0.0710
4	94.92	0.9101	-0.3595	0.0239	0.0172	0.0554	-9.7803	0.3623	-0.5532	0.0739
4	94.92	0.9728	-0.3599	0.0318	0.0431	0.0616	-11.3276	0.3982	-0.4191	0.0737

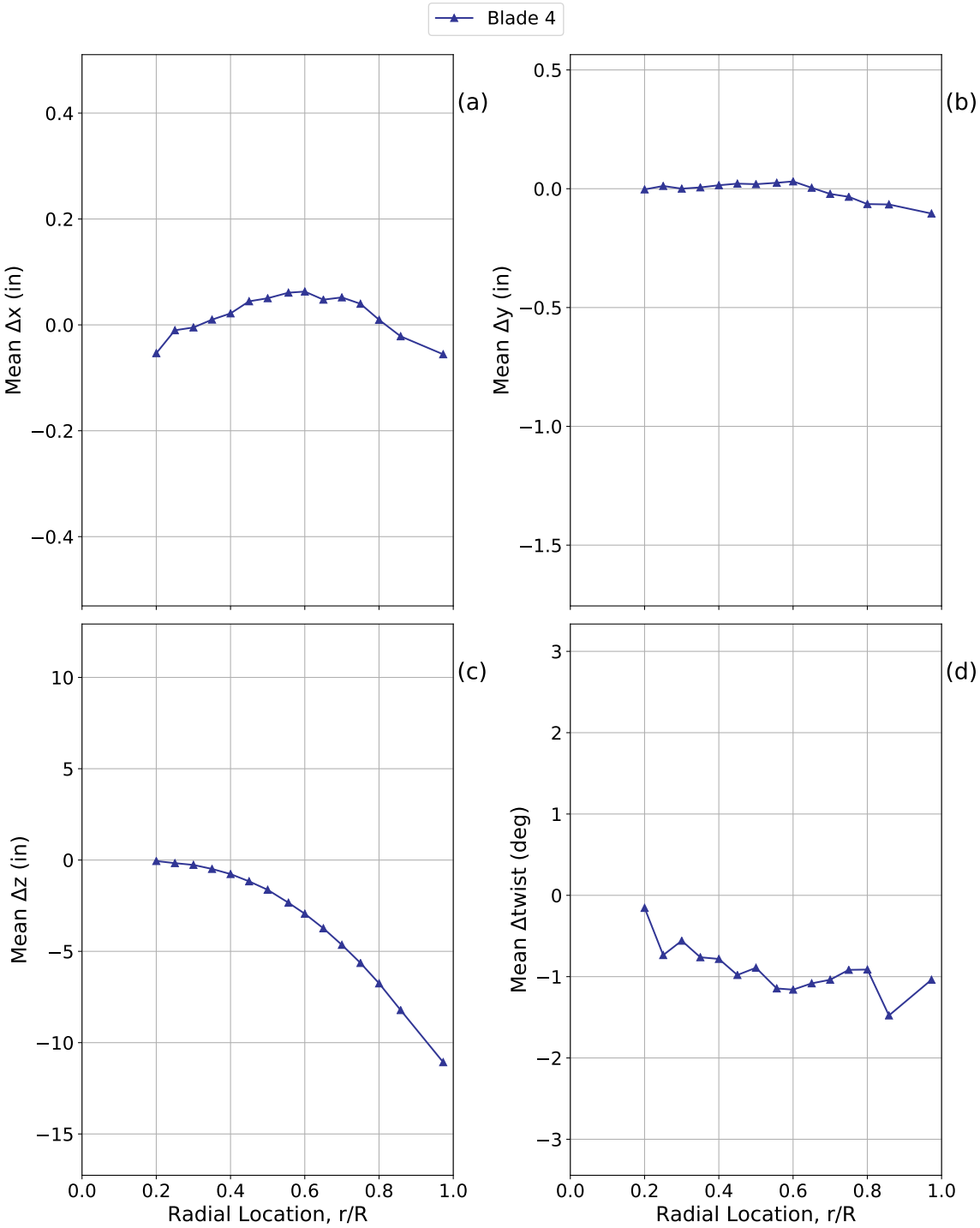


Figure 3.10-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0535	0.0010	-0.0030	0.0007	-0.0551	0.0019	-0.1550	0.0219
4	105.12	0.2502	-0.0102	0.0014	0.0116	0.0026	-0.1703	0.0050	-0.7352	0.0304
4	105.12	0.3001	-0.0049	0.0010	0.0003	0.0033	-0.2673	0.0076	-0.5584	0.0442
4	105.12	0.3502	0.0099	0.0012	0.0056	0.0065	-0.4874	0.0136	-0.7618	0.0264
4	105.12	0.4002	0.0217	0.0011	0.0147	0.0102	-0.7689	0.0207	-0.7825	0.0264
4	105.12	0.4500	0.0445	0.0015	0.0214	0.0127	-1.1671	0.0313	-0.9799	0.0281
4	105.12	0.5001	0.0503	0.0019	0.0192	0.0163	-1.6305	0.0454	-0.8910	0.0382
4	105.12	0.5560	0.0608	0.0031	0.0250	0.0210	-2.3381	0.0645	-1.1454	0.0387
4	105.12	0.6001	0.0629	0.0039	0.0308	0.0249	-2.9420	0.0798	-1.1601	0.0345
4	105.12	0.6501	0.0476	0.0049	0.0040	0.0299	-3.7400	0.0994	-1.0826	0.0356
4	105.12	0.6999	0.0519	0.0055	-0.0219	0.0354	-4.6452	0.1216	-1.0384	0.0388
4	105.12	0.7500	0.0398	0.0068	-0.0340	0.0410	-5.6373	0.1406	-0.9166	0.0433
4	105.12	0.8002	0.0095	0.0081	-0.0646	0.0471	-6.7553	0.1646	-0.9131	0.0580
4	105.12	0.8582	-0.0216	0.0103	-0.0662	0.0549	-8.2190	0.1888	-1.4776	0.0664
4	105.12	0.9728	-0.0556	0.0122	-0.1044	0.0692	-11.0716	0.2455	-1.0383	0.0739

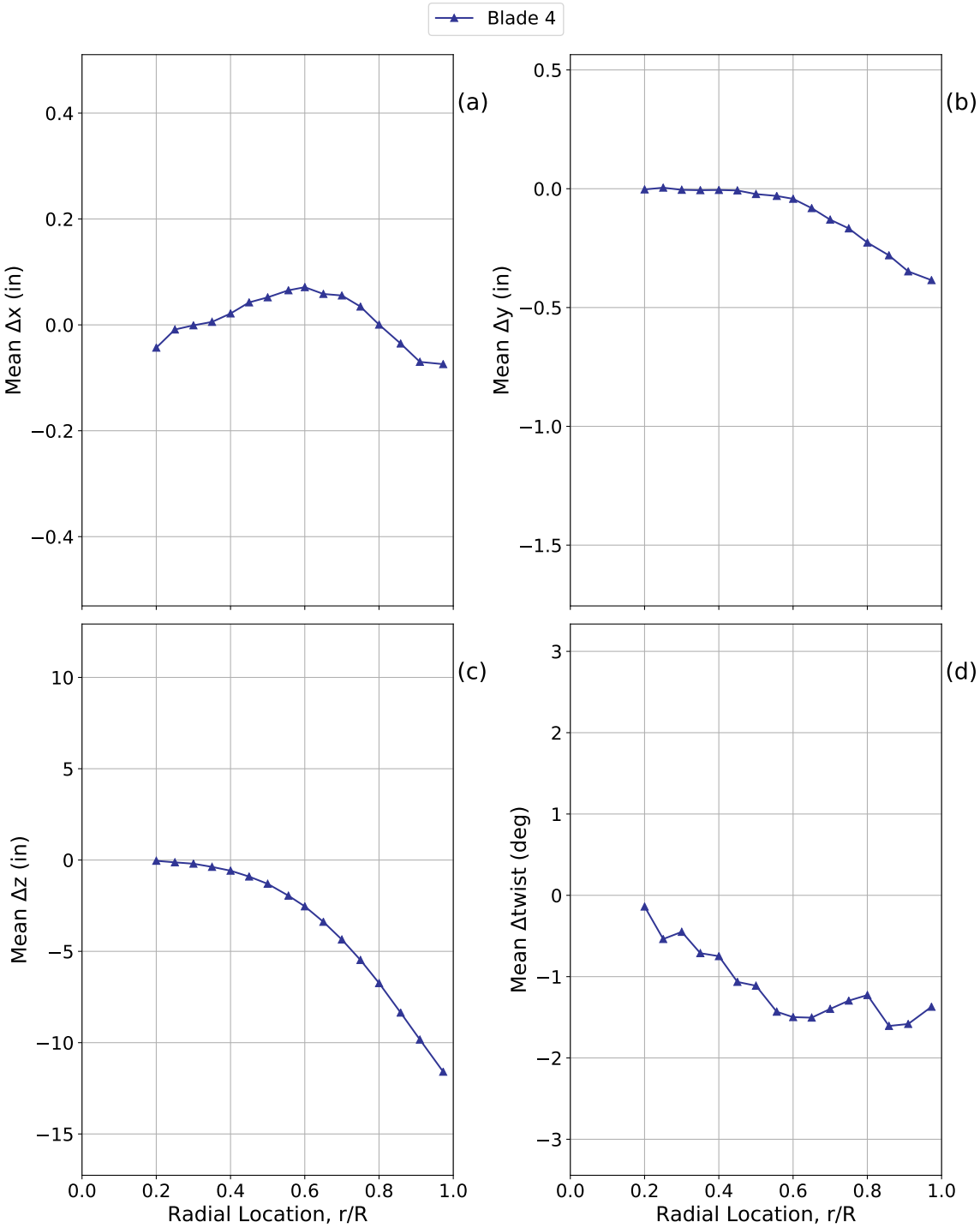


Figure 3.10-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0431	0.0022	-0.0031	0.0012	-0.0430	0.0019	-0.1388	0.0184
4	119.88	0.2502	-0.0088	0.0018	0.0044	0.0031	-0.1271	0.0036	-0.5376	0.0456
4	119.88	0.3001	-0.0009	0.0014	-0.0047	0.0047	-0.2015	0.0073	-0.4497	0.0476
4	119.88	0.3502	0.0056	0.0014	-0.0062	0.0093	-0.3758	0.0119	-0.7117	0.0391
4	119.88	0.4002	0.0215	0.0015	-0.0053	0.0139	-0.5848	0.0183	-0.7486	0.0475
4	119.88	0.4500	0.0424	0.0014	-0.0073	0.0165	-0.9058	0.0238	-1.0649	0.0382
4	119.88	0.5001	0.0520	0.0017	-0.0225	0.0202	-1.3032	0.0330	-1.1121	0.0464
4	119.88	0.5560	0.0653	0.0024	-0.0304	0.0247	-1.9530	0.0466	-1.4317	0.0435
4	119.88	0.6001	0.0712	0.0033	-0.0425	0.0289	-2.5373	0.0649	-1.4981	0.0593
4	119.88	0.6501	0.0584	0.0041	-0.0817	0.0342	-3.3840	0.0909	-1.5044	0.0484
4	119.88	0.6999	0.0555	0.0062	-0.1302	0.0400	-4.3562	0.1234	-1.3972	0.0584
4	119.88	0.7500	0.0345	0.0088	-0.1671	0.0463	-5.4758	0.1658	-1.2952	0.0655
4	119.88	0.8002	0.0004	0.0127	-0.2267	0.0525	-6.7419	0.2116	-1.2270	0.0633
4	119.88	0.8582	-0.0353	0.0169	-0.2804	0.0607	-8.3573	0.2705	-1.6064	0.0720
4	119.88	0.9101	-0.0699	0.0213	-0.3480	0.0677	-9.8346	0.3258	-1.5822	0.0581
4	119.88	0.9728	-0.0742	0.0267	-0.3848	0.0768	-11.5935	0.3951	-1.3708	0.0783

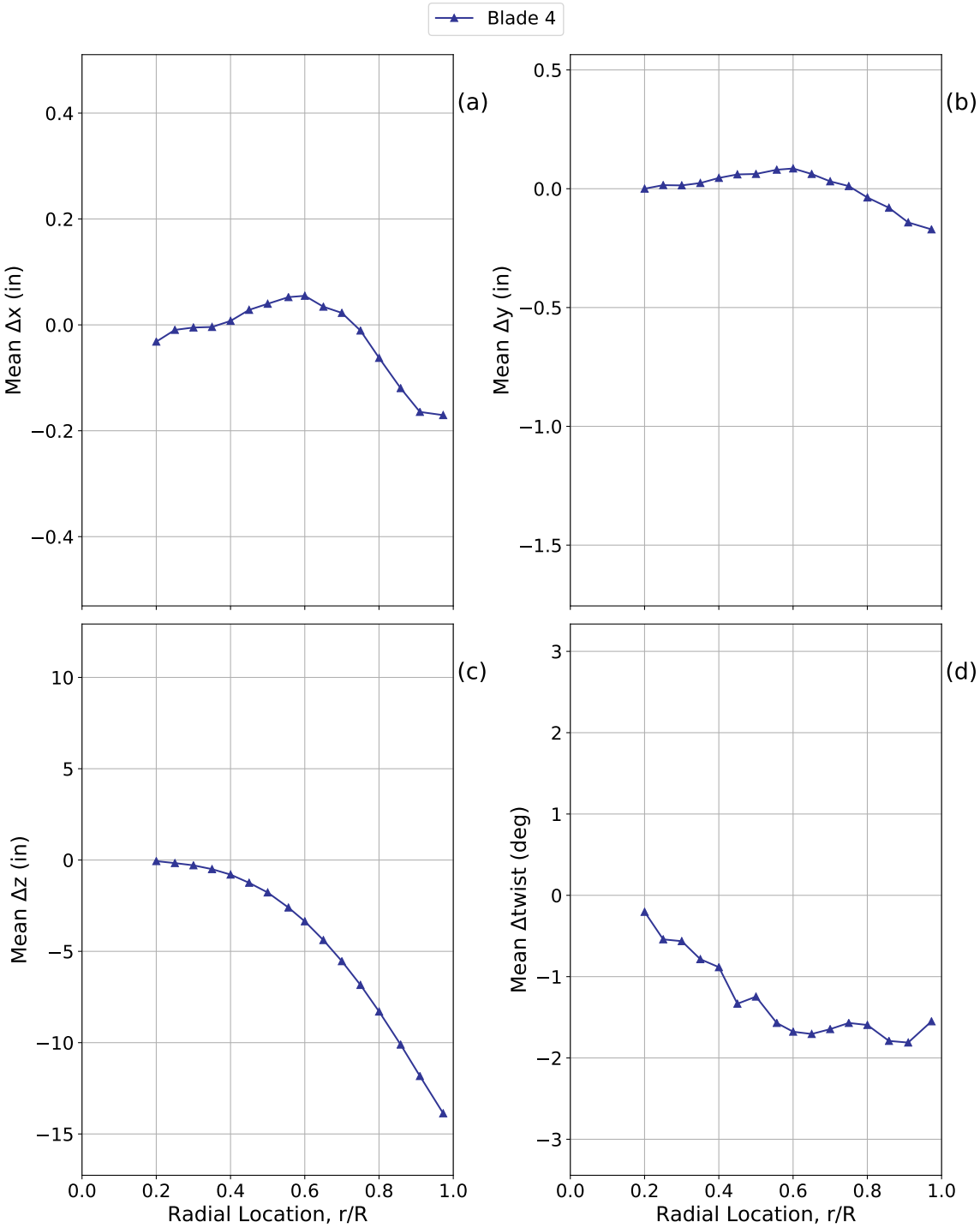


Figure 3.10-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0317	0.0016	0.0002	0.0008	-0.0603	0.0044	-0.2037	0.0154
4	135	0.2502	-0.0095	0.0019	0.0151	0.0013	-0.1675	0.0106	-0.5418	0.0267
4	135	0.3001	-0.0050	0.0026	0.0140	0.0028	-0.2896	0.0188	-0.5638	0.0323
4	135	0.3502	-0.0040	0.0028	0.0240	0.0051	-0.4990	0.0342	-0.7855	0.0339
4	135	0.4002	0.0075	0.0038	0.0455	0.0074	-0.7987	0.0527	-0.8842	0.0303
4	135	0.4500	0.0283	0.0037	0.0602	0.0089	-1.2466	0.0783	-1.3334	0.0213
4	135	0.5001	0.0398	0.0060	0.0621	0.0116	-1.7769	0.1041	-1.2460	0.0400
4	135	0.5560	0.0524	0.0069	0.0799	0.0153	-2.6027	0.1424	-1.5697	0.0320
4	135	0.6001	0.0549	0.0081	0.0852	0.0179	-3.3582	0.1740	-1.6774	0.0453
4	135	0.6501	0.0343	0.0113	0.0620	0.0222	-4.3841	0.2163	-1.7054	0.0437
4	135	0.6999	0.0226	0.0143	0.0310	0.0257	-5.5403	0.2641	-1.6457	0.0472
4	135	0.7500	-0.0108	0.0193	0.0110	0.0299	-6.8416	0.3191	-1.5695	0.0400
4	135	0.8002	-0.0624	0.0244	-0.0370	0.0349	-8.2985	0.3788	-1.5947	0.0402
4	135	0.8582	-0.1196	0.0324	-0.0802	0.0414	-10.1089	0.4531	-1.7905	0.0449
4	135	0.9101	-0.1644	0.0378	-0.1419	0.0460	-11.8290	0.5232	-1.8108	0.0470
4	135	0.9728	-0.1705	0.0452	-0.1711	0.0528	-13.8710	0.6096	-1.5497	0.0480

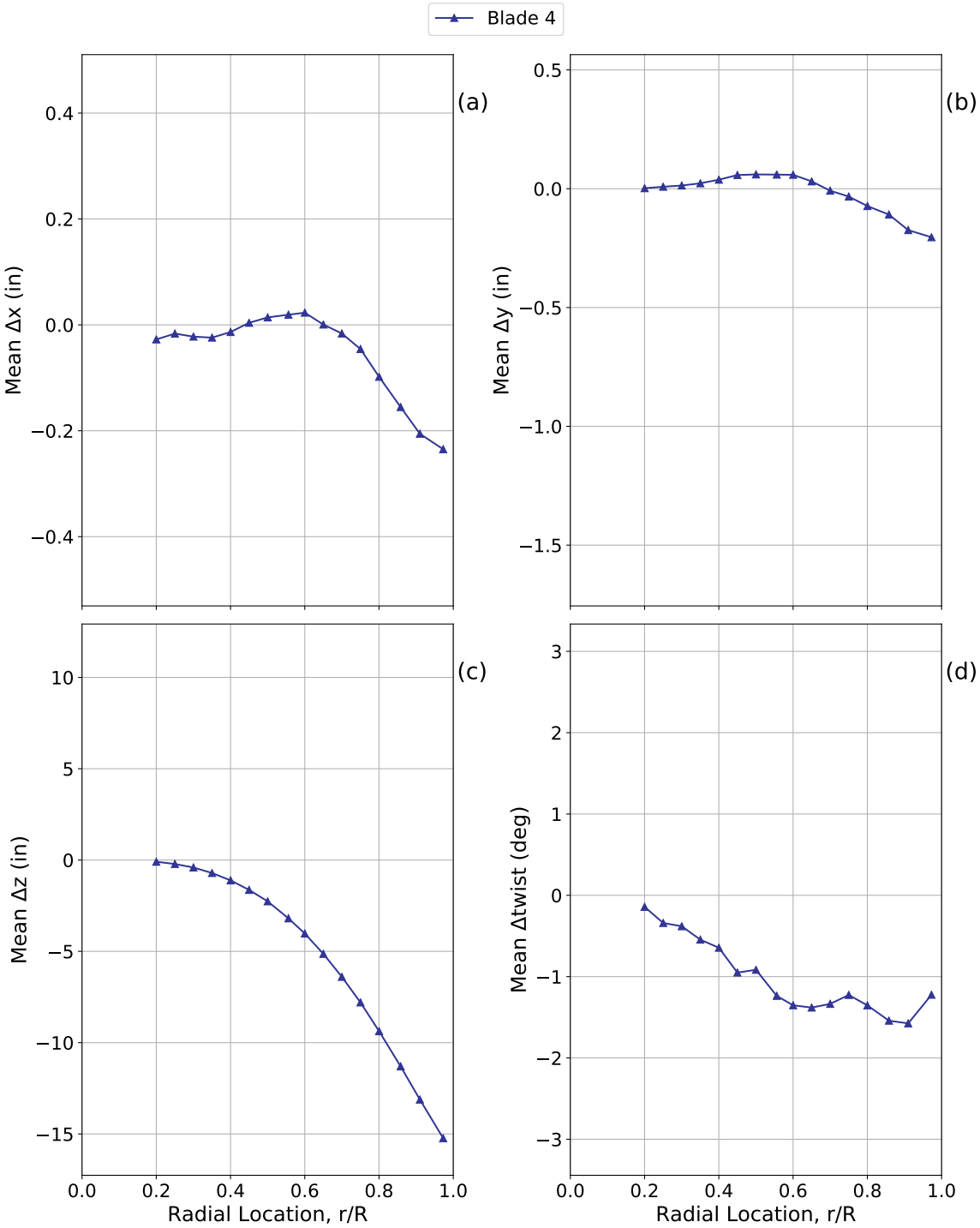


Figure 3.10-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0275	0.0014	0.0022	0.0009	-0.0936	0.0026	-0.1421	0.0164
4	150.12	0.2502	-0.0165	0.0018	0.0083	0.0028	-0.2170	0.0057	-0.3405	0.0173
4	150.12	0.3001	-0.0222	0.0013	0.0134	0.0037	-0.4090	0.0103	-0.3806	0.0303
4	150.12	0.3502	-0.0241	0.0012	0.0229	0.0077	-0.7118	0.0169	-0.5452	0.0344
4	150.12	0.4002	-0.0135	0.0017	0.0381	0.0113	-1.1138	0.0267	-0.6452	0.0333
4	150.12	0.4500	0.0039	0.0024	0.0576	0.0157	-1.6365	0.0367	-0.9501	0.0379
4	150.12	0.5001	0.0141	0.0017	0.0602	0.0208	-2.2640	0.0483	-0.9161	0.0385
4	150.12	0.5560	0.0192	0.0024	0.0594	0.0276	-3.1934	0.0631	-1.2368	0.0486
4	150.12	0.6001	0.0230	0.0036	0.0586	0.0342	-4.0259	0.0754	-1.3526	0.0516
4	150.12	0.6501	0.0006	0.0038	0.0309	0.0419	-5.1388	0.0922	-1.3804	0.0362
4	150.12	0.6999	-0.0163	0.0049	-0.0082	0.0502	-6.3975	0.1066	-1.3352	0.0302
4	150.12	0.7500	-0.0457	0.0073	-0.0330	0.0599	-7.7974	0.1234	-1.2254	0.0387
4	150.12	0.8002	-0.0981	0.0103	-0.0729	0.0707	-9.3749	0.1400	-1.3536	0.0360
4	150.12	0.8582	-0.1553	0.0146	-0.1088	0.0842	-11.3009	0.1656	-1.5417	0.0281
4	150.12	0.9101	-0.2057	0.0181	-0.1741	0.0968	-13.1189	0.1968	-1.5751	0.0325
4	150.12	0.9728	-0.2349	0.0259	-0.2042	0.1122	-15.2333	0.2407	-1.2228	0.0330

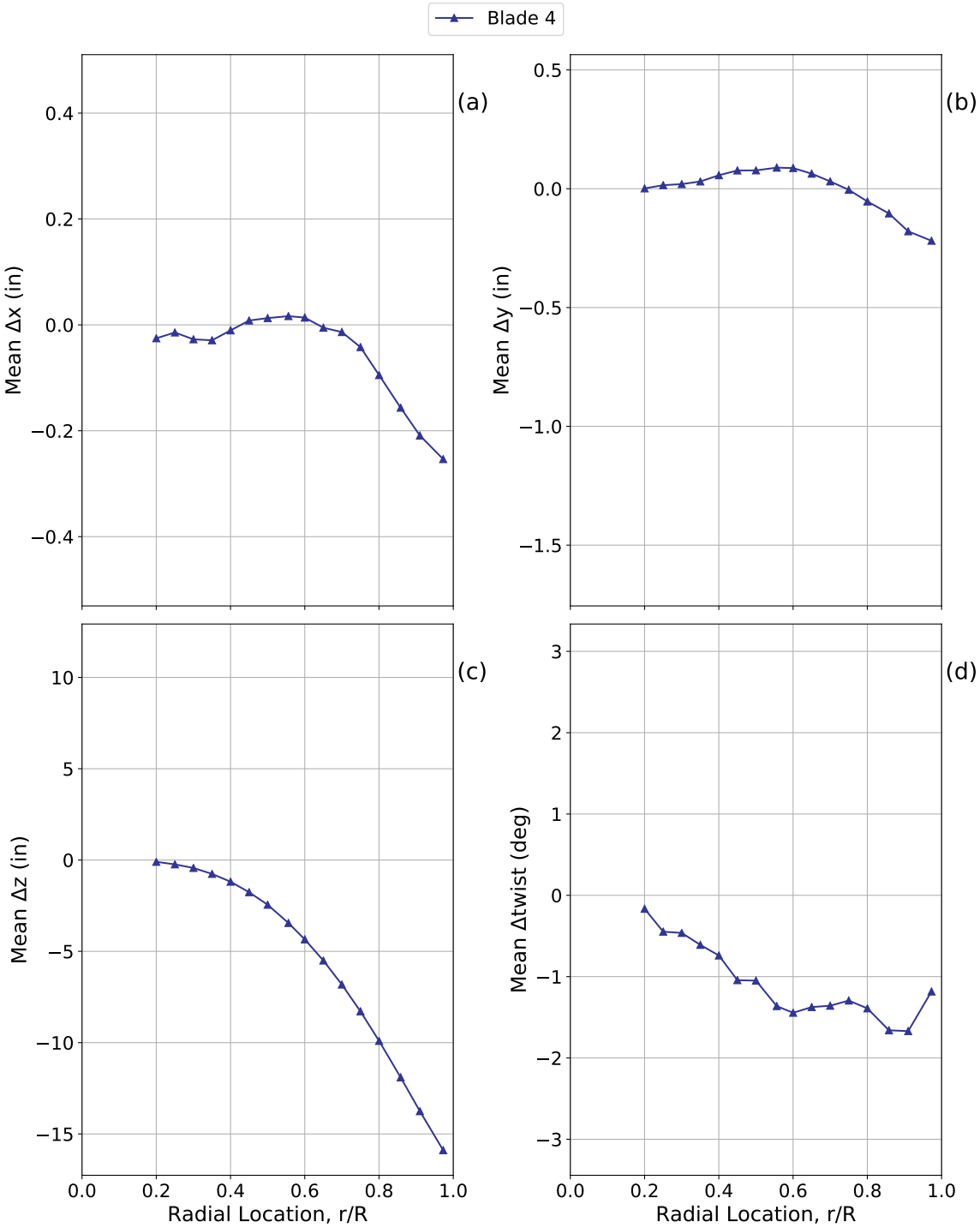


Figure 3.10-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0253	0.0013	0.0014	0.0009	-0.0988	0.0023	-0.1658	0.0223
4	164.88	0.2502	-0.0144	0.0021	0.0149	0.0025	-0.2379	0.0070	-0.4473	0.0365
4	164.88	0.3001	-0.0273	0.0017	0.0194	0.0046	-0.4341	0.0108	-0.4625	0.0492
4	164.88	0.3502	-0.0291	0.0012	0.0305	0.0076	-0.7590	0.0162	-0.6095	0.0625
4	164.88	0.4002	-0.0104	0.0016	0.0568	0.0121	-1.1881	0.0274	-0.7403	0.0735
4	164.88	0.4500	0.0082	0.0017	0.0768	0.0157	-1.7635	0.0382	-1.0437	0.0774
4	164.88	0.5001	0.0128	0.0025	0.0772	0.0198	-2.4490	0.0513	-1.0492	0.0778
4	164.88	0.5560	0.0165	0.0030	0.0887	0.0254	-3.4485	0.0672	-1.3624	0.0836
4	164.88	0.6001	0.0137	0.0037	0.0870	0.0308	-4.3479	0.0820	-1.4448	0.0867
4	164.88	0.6501	-0.0054	0.0046	0.0634	0.0372	-5.5045	0.1001	-1.3744	0.0860
4	164.88	0.6999	-0.0136	0.0075	0.0309	0.0438	-6.8200	0.1182	-1.3579	0.0822
4	164.88	0.7500	-0.0421	0.0088	-0.0046	0.0507	-8.2883	0.1366	-1.2943	0.0844
4	164.88	0.8002	-0.0949	0.0104	-0.0537	0.0586	-9.9058	0.1581	-1.3906	0.0831
4	164.88	0.8582	-0.1565	0.0141	-0.1041	0.0683	-11.9027	0.1846	-1.6599	0.0716
4	164.88	0.9101	-0.2091	0.0170	-0.1793	0.0771	-13.7546	0.2136	-1.6700	0.0886
4	164.88	0.9728	-0.2536	0.0219	-0.2190	0.0887	-15.8907	0.2540	-1.1830	0.0875

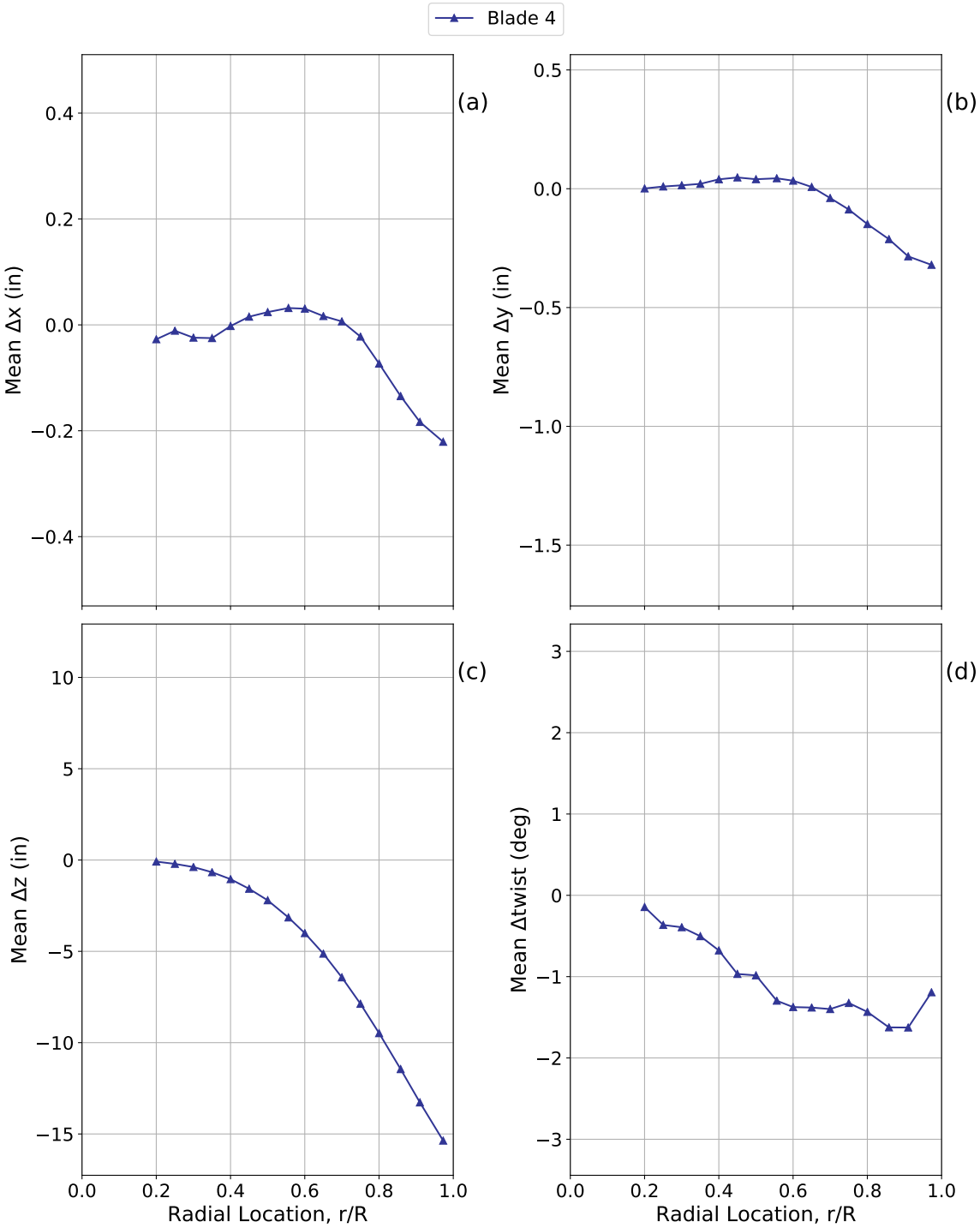


Figure 3.10-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0272	0.0017	0.0011	0.0013	-0.0865	0.0037	-0.1443	0.0279
4	170.16	0.2502	-0.0111	0.0032	0.0093	0.0023	-0.2106	0.0058	-0.3647	0.0333
4	170.16	0.3001	-0.0242	0.0016	0.0144	0.0052	-0.3839	0.0115	-0.3929	0.0536
4	170.16	0.3502	-0.0250	0.0020	0.0205	0.0088	-0.6676	0.0173	-0.5028	0.0404
4	170.16	0.4002	-0.0022	0.0028	0.0396	0.0136	-1.0489	0.0261	-0.6784	0.0707
4	170.16	0.4500	0.0154	0.0027	0.0474	0.0166	-1.5746	0.0362	-0.9673	0.0592
4	170.16	0.5001	0.0241	0.0037	0.0400	0.0223	-2.2048	0.0492	-0.9846	0.0609
4	170.16	0.5560	0.0318	0.0032	0.0439	0.0275	-3.1449	0.0652	-1.2960	0.0658
4	170.16	0.6001	0.0306	0.0047	0.0338	0.0325	-4.0040	0.0763	-1.3744	0.0732
4	170.16	0.6501	0.0166	0.0050	0.0074	0.0388	-5.1285	0.0908	-1.3801	0.0793
4	170.16	0.6999	0.0065	0.0064	-0.0392	0.0438	-6.4260	0.1049	-1.3990	0.0655
4	170.16	0.7500	-0.0222	0.0082	-0.0875	0.0513	-7.8747	0.1185	-1.3244	0.0771
4	170.16	0.8002	-0.0732	0.0100	-0.1489	0.0587	-9.4812	0.1339	-1.4337	0.0793
4	170.16	0.8582	-0.1346	0.0130	-0.2124	0.0675	-11.4505	0.1559	-1.6241	0.0872
4	170.16	0.9101	-0.1834	0.0160	-0.2848	0.0769	-13.2745	0.1802	-1.6260	0.0863
4	170.16	0.9728	-0.2209	0.0202	-0.3204	0.0868	-15.3661	0.2113	-1.1928	0.0835

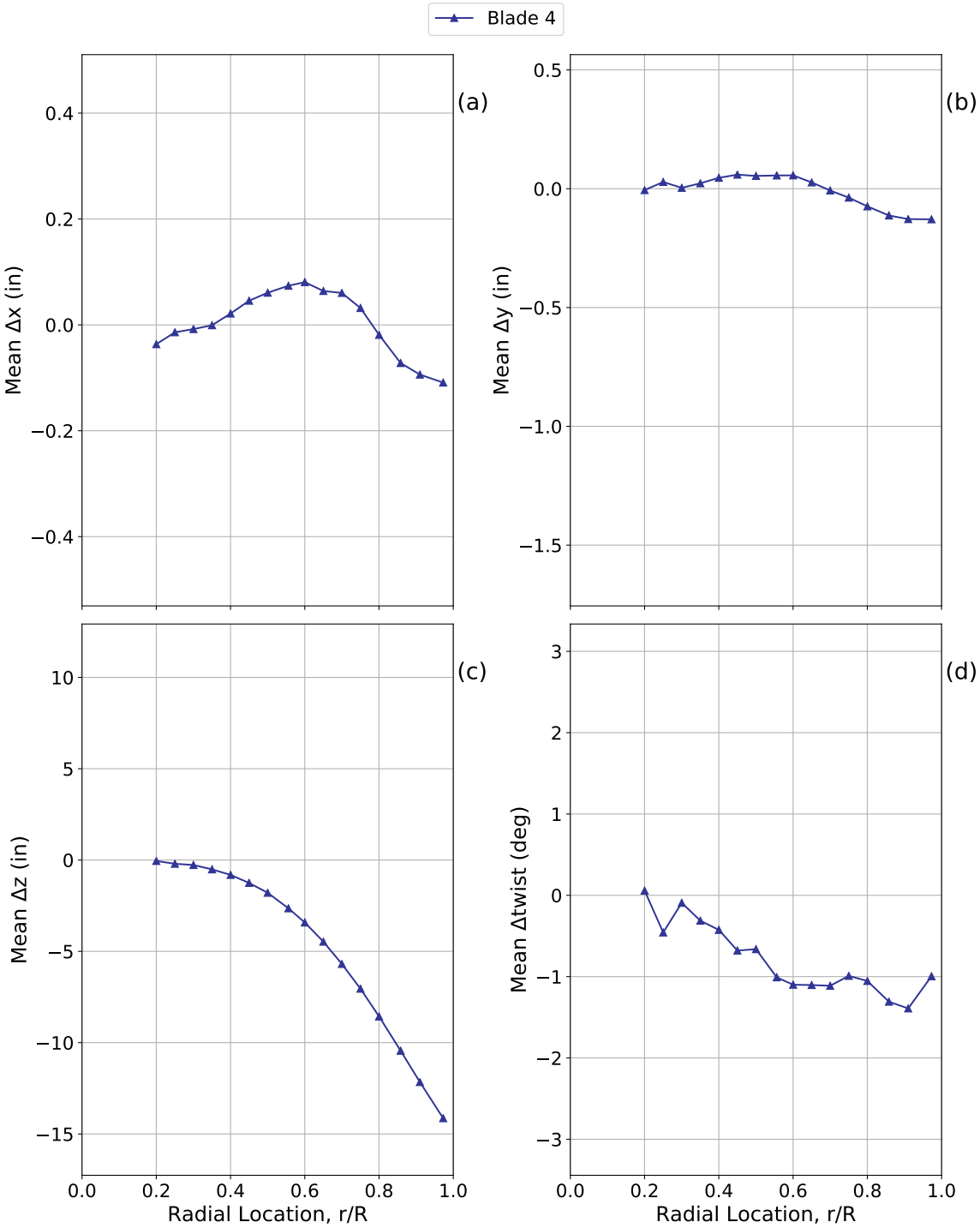


Figure 3.10-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0365	0.0021	-0.0058	0.0008	-0.0506	0.0031	0.0576	0.0200
4	175.08	0.2502	-0.0140	0.0021	0.0284	0.0021	-0.2057	0.0042	-0.4572	0.0318
4	175.08	0.3001	-0.0080	0.0011	0.0037	0.0031	-0.2720	0.0094	-0.0926	0.0382
4	175.08	0.3502	-0.0007	0.0013	0.0228	0.0052	-0.5110	0.0152	-0.3123	0.0246
4	175.08	0.4002	0.0214	0.0020	0.0460	0.0081	-0.8154	0.0216	-0.4255	0.0458
4	175.08	0.4500	0.0456	0.0012	0.0592	0.0115	-1.2542	0.0255	-0.6794	0.0531
4	175.08	0.5001	0.0607	0.0019	0.0539	0.0147	-1.7938	0.0311	-0.6623	0.0485
4	175.08	0.5560	0.0739	0.0022	0.0558	0.0190	-2.6446	0.0435	-1.0088	0.0420
4	175.08	0.6001	0.0807	0.0026	0.0563	0.0229	-3.4218	0.0551	-1.0995	0.0575
4	175.08	0.6501	0.0640	0.0029	0.0265	0.0268	-4.4723	0.0688	-1.1035	0.0352
4	175.08	0.6999	0.0603	0.0039	-0.0075	0.0311	-5.6909	0.0890	-1.1125	0.0551
4	175.08	0.7500	0.0318	0.0052	-0.0375	0.0363	-7.0465	0.1094	-0.9909	0.0710
4	175.08	0.8002	-0.0189	0.0072	-0.0743	0.0402	-8.5683	0.1275	-1.0536	0.0655
4	175.08	0.8582	-0.0721	0.0088	-0.1126	0.0465	-10.4442	0.1499	-1.3085	0.0731
4	175.08	0.9101	-0.0939	0.0106	-0.1278	0.0536	-12.1592	0.1632	-1.3908	0.0552
4	175.08	0.9728	-0.1090	0.0098	-0.1287	0.0601	-14.1382	0.1857	-0.9952	0.0803

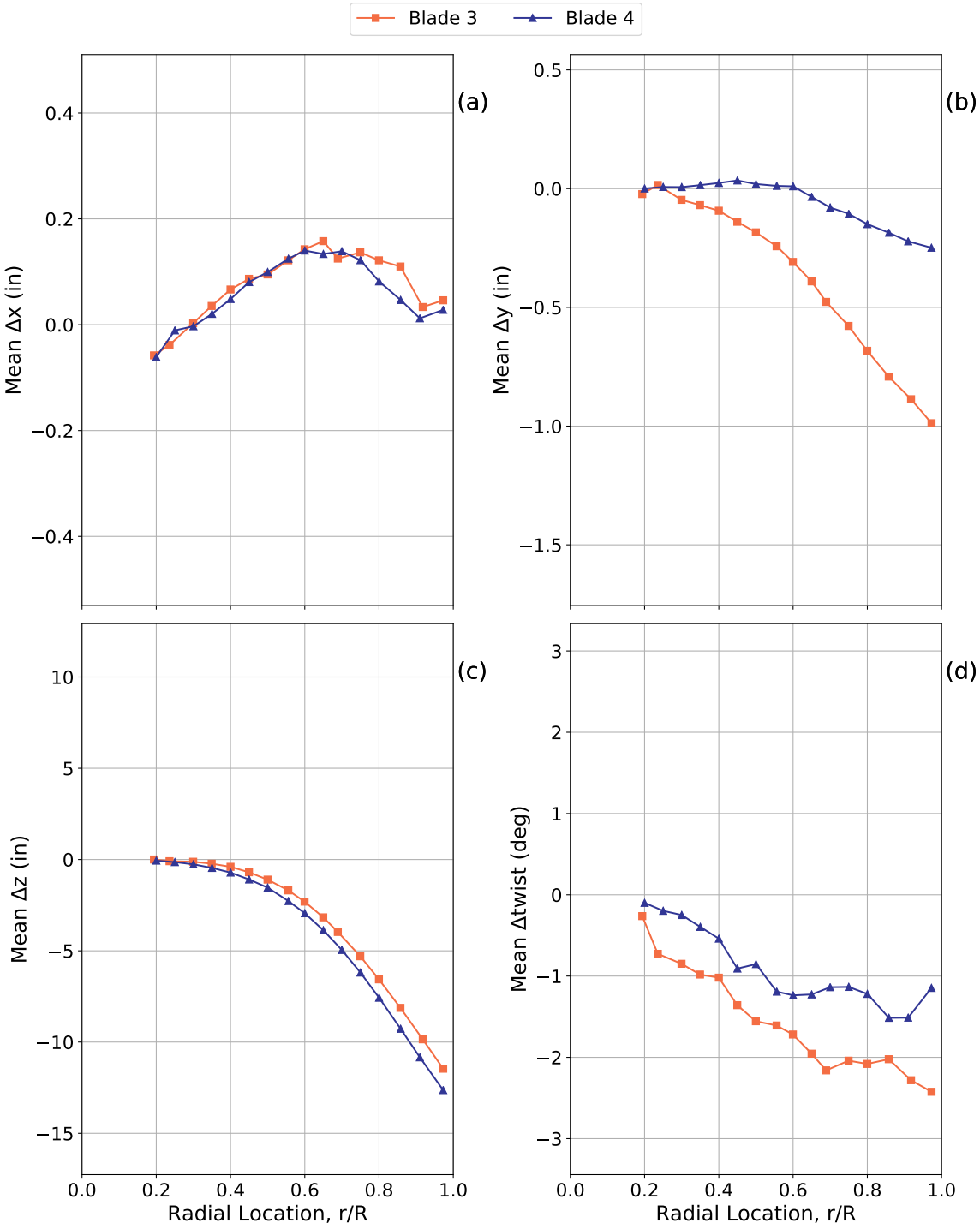


Figure 3.10-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0580	0.0077	-0.0230	0.0007	0.0007	0.0016	-0.2623	0.0134
3	180.35	0.2357	-0.0383	0.0039	0.0154	0.0012	-0.0925	0.0020	-0.7258	0.0275
3	180.35	0.2995	0.0029	0.0033	-0.0474	0.0033	-0.1224	0.0032	-0.8489	0.0353
3	180.35	0.3493	0.0354	0.0069	-0.0697	0.0052	-0.2290	0.0054	-0.9814	0.0356
3	180.35	0.4000	0.0665	0.0115	-0.0932	0.0086	-0.3998	0.0074	-1.0197	0.0419
3	180.35	0.4497	0.0866	0.0149	-0.1397	0.0117	-0.6974	0.0100	-1.3580	0.0427
3	180.35	0.4997	0.0949	0.0182	-0.1842	0.0163	-1.1004	0.0126	-1.5559	0.0463
3	180.35	0.5556	0.1216	0.0206	-0.2427	0.0207	-1.6908	0.0187	-1.6081	0.0504
3	180.35	0.5995	0.1426	0.0226	-0.3087	0.0260	-2.3076	0.0259	-1.7190	0.0375
3	180.35	0.6498	0.1579	0.0245	-0.3907	0.0320	-3.1678	0.0332	-1.9549	0.0449
3	180.35	0.6890	0.1249	0.0243	-0.4771	0.0372	-3.9665	0.0377	-2.1602	0.0602
3	180.35	0.7495	0.1367	0.0273	-0.5783	0.0472	-5.2992	0.0481	-2.0407	0.0586
3	180.35	0.7998	0.1216	0.0288	-0.6829	0.0563	-6.5660	0.0567	-2.0809	0.0592
3	180.35	0.8577	0.1099	0.0313	-0.7916	0.0696	-8.1277	0.0692	-2.0228	0.0887
3	180.35	0.9178	0.0334	0.0353	-0.8866	0.0870	-9.8513	0.0874	-2.2813	0.0830
3	180.35	0.9729	0.0461	0.0395	-0.9876	0.0972	-11.4614	0.1001	-2.4240	0.0965
4	180	0.2001	-0.0611	0.0066	0.0005	0.0010	-0.0620	0.0016	-0.0993	0.0112
4	180	0.2502	-0.0108	0.0029	0.0069	0.0028	-0.1432	0.0041	-0.1974	0.0200
4	180	0.3001	-0.0030	0.0020	0.0064	0.0050	-0.2635	0.0051	-0.2489	0.0234
4	180	0.3502	0.0204	0.0060	0.0147	0.0086	-0.4604	0.0088	-0.3953	0.0254
4	180	0.4002	0.0485	0.0099	0.0239	0.0138	-0.7163	0.0133	-0.5396	0.0244
4	180	0.4500	0.0805	0.0133	0.0343	0.0184	-1.0945	0.0175	-0.9077	0.0299
4	180	0.5001	0.0995	0.0170	0.0193	0.0241	-1.5396	0.0222	-0.8530	0.0378
4	180	0.5560	0.1247	0.0200	0.0115	0.0311	-2.2763	0.0278	-1.1919	0.0329
4	180	0.6001	0.1401	0.0222	0.0097	0.0379	-2.9446	0.0314	-1.2371	0.0327
4	180	0.6501	0.1336	0.0250	-0.0349	0.0452	-3.8745	0.0357	-1.2263	0.0388
4	180	0.6999	0.1388	0.0282	-0.0798	0.0537	-4.9551	0.0439	-1.1371	0.0496
4	180	0.7500	0.1218	0.0315	-0.1062	0.0641	-6.1956	0.0534	-1.1338	0.0550
4	180	0.8002	0.0817	0.0337	-0.1498	0.0754	-7.5739	0.0677	-1.2199	0.0526
4	180	0.8582	0.0467	0.0381	-0.1859	0.0874	-9.2732	0.0869	-1.5141	0.0709
4	180	0.9101	0.0120	0.0387	-0.2220	0.1013	-10.8384	0.1048	-1.5120	0.0739
4	180	0.9728	0.0280	0.0402	-0.2489	0.1149	-12.6326	0.1249	-1.1462	0.0728

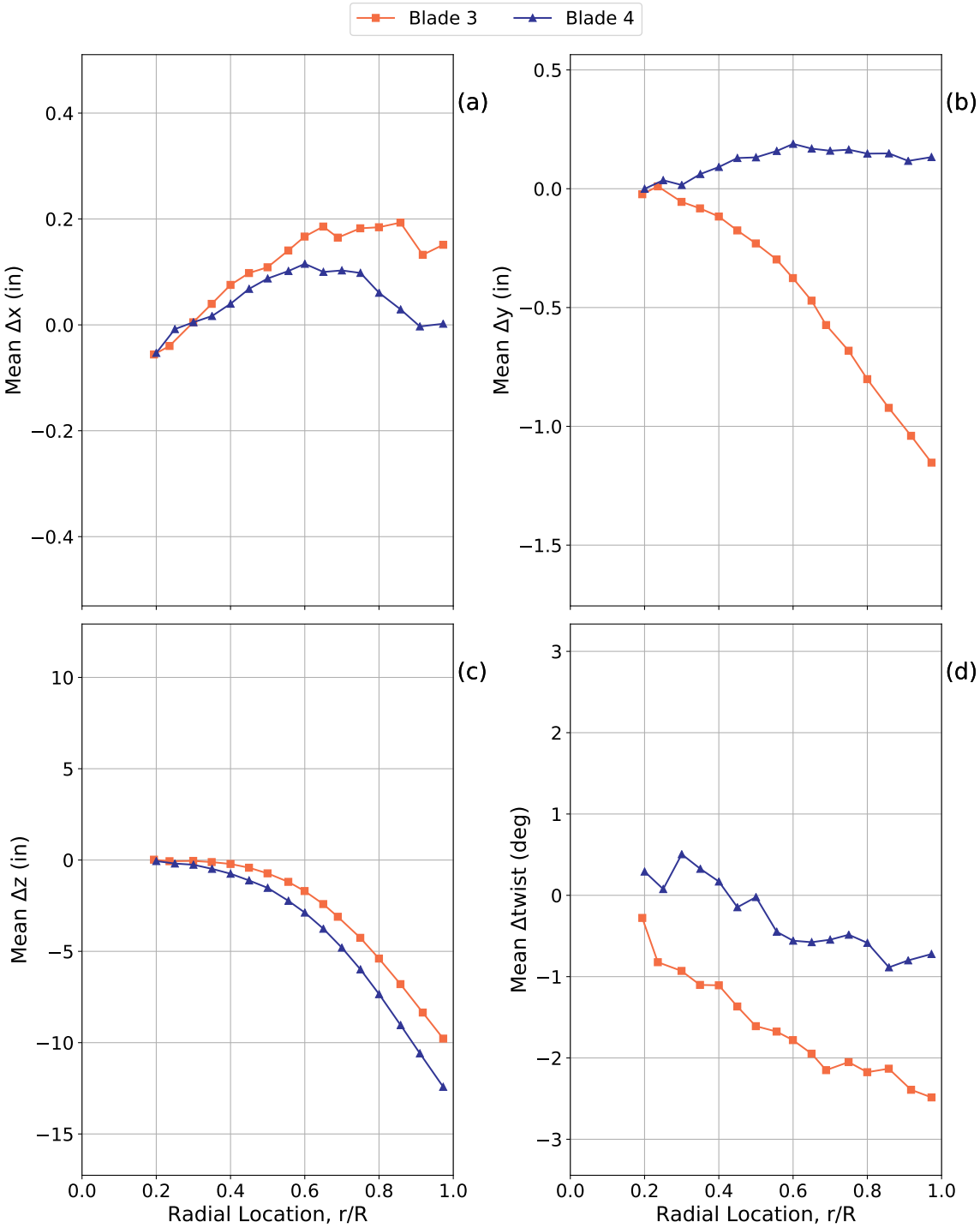


Figure 3.10-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0559	0.0015	-0.0231	0.0014	0.0191	0.0031	-0.2780	0.0170
3	184.92	0.2357	-0.0398	0.0013	0.0101	0.0014	-0.0637	0.0055	-0.8225	0.0390
3	184.92	0.2995	0.0049	0.0010	-0.0553	0.0040	-0.0481	0.0090	-0.9296	0.0442
3	184.92	0.3493	0.0397	0.0019	-0.0827	0.0067	-0.1116	0.0165	-1.1020	0.0427
3	184.92	0.4000	0.0755	0.0020	-0.1170	0.0100	-0.2145	0.0243	-1.1066	0.0453
3	184.92	0.4497	0.0979	0.0020	-0.1755	0.0130	-0.4204	0.0329	-1.3670	0.0472
3	184.92	0.4997	0.1088	0.0027	-0.2302	0.0162	-0.7287	0.0467	-1.6091	0.0467
3	184.92	0.5556	0.1405	0.0034	-0.2977	0.0200	-1.1947	0.0646	-1.6757	0.0566
3	184.92	0.5995	0.1668	0.0036	-0.3761	0.0233	-1.6979	0.0835	-1.7806	0.0592
3	184.92	0.6498	0.1857	0.0043	-0.4710	0.0267	-2.4119	0.1063	-1.9472	0.0625
3	184.92	0.6890	0.1648	0.0045	-0.5738	0.0300	-3.1070	0.1294	-2.1498	0.0559
3	184.92	0.7495	0.1824	0.0071	-0.6817	0.0358	-4.2601	0.1634	-2.0510	0.0667
3	184.92	0.7998	0.1844	0.0087	-0.8014	0.0407	-5.3946	0.1972	-2.1750	0.0666
3	184.92	0.8577	0.1932	0.0102	-0.9222	0.0469	-6.7955	0.2396	-2.1319	0.0558
3	184.92	0.9178	0.1323	0.0144	-1.0398	0.0541	-8.3513	0.2788	-2.3913	0.0648
3	184.92	0.9729	0.1513	0.0170	-1.1529	0.0591	-9.7783	0.3185	-2.4851	0.0848
4	184.92	0.2001	-0.0530	0.0027	-0.0004	0.0013	-0.0579	0.0031	0.2917	0.0449
4	184.92	0.2502	-0.0080	0.0020	0.0358	0.0028	-0.1920	0.0080	0.0766	0.0618
4	184.92	0.3001	0.0049	0.0027	0.0156	0.0042	-0.2580	0.0132	0.5051	0.0983
4	184.92	0.3502	0.0167	0.0022	0.0617	0.0075	-0.4835	0.0194	0.3257	0.0921
4	184.92	0.4002	0.0399	0.0016	0.0915	0.0098	-0.7502	0.0316	0.1693	0.0919
4	184.92	0.4500	0.0680	0.0029	0.1292	0.0139	-1.1188	0.0389	-0.1466	0.0940
4	184.92	0.5001	0.0876	0.0032	0.1320	0.0151	-1.5249	0.0501	-0.0219	0.0966
4	184.92	0.5560	0.1017	0.0038	0.1588	0.0188	-2.2366	0.0614	-0.4486	0.0899
4	184.92	0.6001	0.1153	0.0043	0.1887	0.0222	-2.8787	0.0709	-0.5581	0.1028
4	184.92	0.6501	0.1000	0.0047	0.1687	0.0258	-3.7624	0.0829	-0.5765	0.0993
4	184.92	0.6999	0.1028	0.0057	0.1599	0.0298	-4.7998	0.0958	-0.5458	0.1038
4	184.92	0.7500	0.0981	0.0058	0.1644	0.0335	-5.9905	0.1093	-0.4847	0.1183
4	184.92	0.8002	0.0606	0.0062	0.1478	0.0381	-7.3454	0.1212	-0.5851	0.1164
4	184.92	0.8582	0.0291	0.0077	0.1486	0.0429	-9.0427	0.1390	-0.8859	0.1069
4	184.92	0.9101	-0.0030	0.0093	0.1171	0.0469	-10.5886	0.1545	-0.8001	0.1066
4	184.92	0.9728	0.0021	0.0121	0.1331	0.0514	-12.4214	0.1805	-0.7223	0.0795

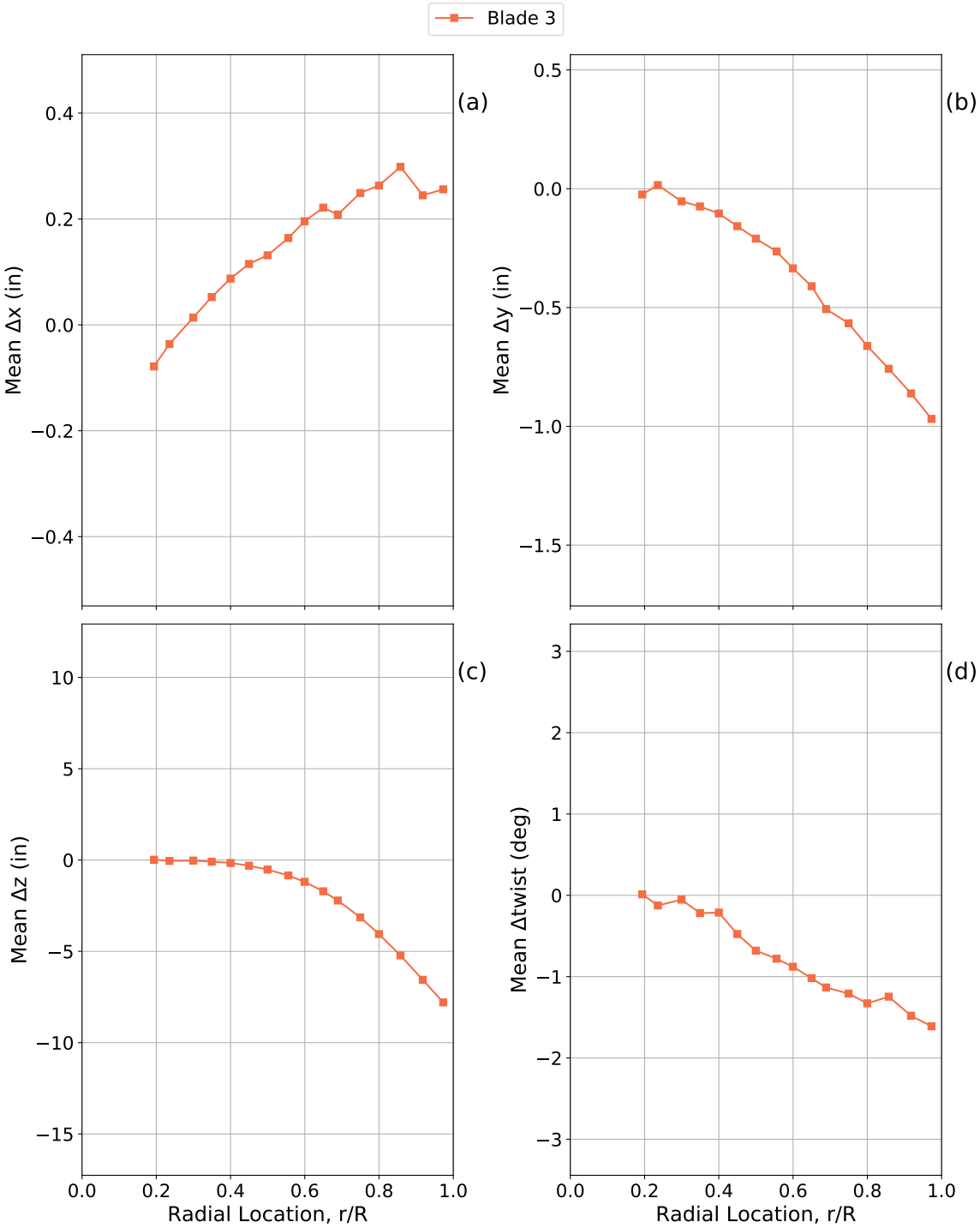


Figure 3.10-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0785	0.0026	-0.0241	0.0012	0.0140	0.0036	0.0124	0.0356
3	195.12	0.2357	-0.0362	0.0012	0.0153	0.0026	-0.0466	0.0073	-0.1252	0.0450
3	195.12	0.2995	0.0138	0.0013	-0.0531	0.0052	-0.0301	0.0105	-0.0534	0.0764
3	195.12	0.3493	0.0525	0.0017	-0.0747	0.0109	-0.0914	0.0215	-0.2192	0.0505
3	195.12	0.4000	0.0874	0.0015	-0.1042	0.0158	-0.1600	0.0291	-0.2121	0.0545
3	195.12	0.4497	0.1151	0.0015	-0.1576	0.0209	-0.3101	0.0387	-0.4761	0.0577
3	195.12	0.4997	0.1314	0.0019	-0.2100	0.0258	-0.5218	0.0489	-0.6806	0.0601
3	195.12	0.5556	0.1641	0.0025	-0.2639	0.0328	-0.8432	0.0600	-0.7797	0.0567
3	195.12	0.5995	0.1957	0.0031	-0.3350	0.0374	-1.1938	0.0683	-0.8782	0.0624
3	195.12	0.6498	0.2215	0.0033	-0.4102	0.0436	-1.7140	0.0815	-1.0191	0.0639
3	195.12	0.6890	0.2084	0.0033	-0.5065	0.0492	-2.2179	0.0921	-1.1336	0.0732
3	195.12	0.7495	0.2491	0.0041	-0.5662	0.0567	-3.1405	0.1092	-1.2083	0.0648
3	195.12	0.7998	0.2633	0.0052	-0.6616	0.0643	-4.0548	0.1276	-1.3286	0.0721
3	195.12	0.8577	0.2984	0.0067	-0.7578	0.0732	-5.2237	0.1457	-1.2464	0.0678
3	195.12	0.9178	0.2447	0.0077	-0.8615	0.0828	-6.5576	0.1685	-1.4809	0.0777
3	195.12	0.9729	0.2560	0.0100	-0.9686	0.0903	-7.7948	0.1894	-1.6109	0.0821

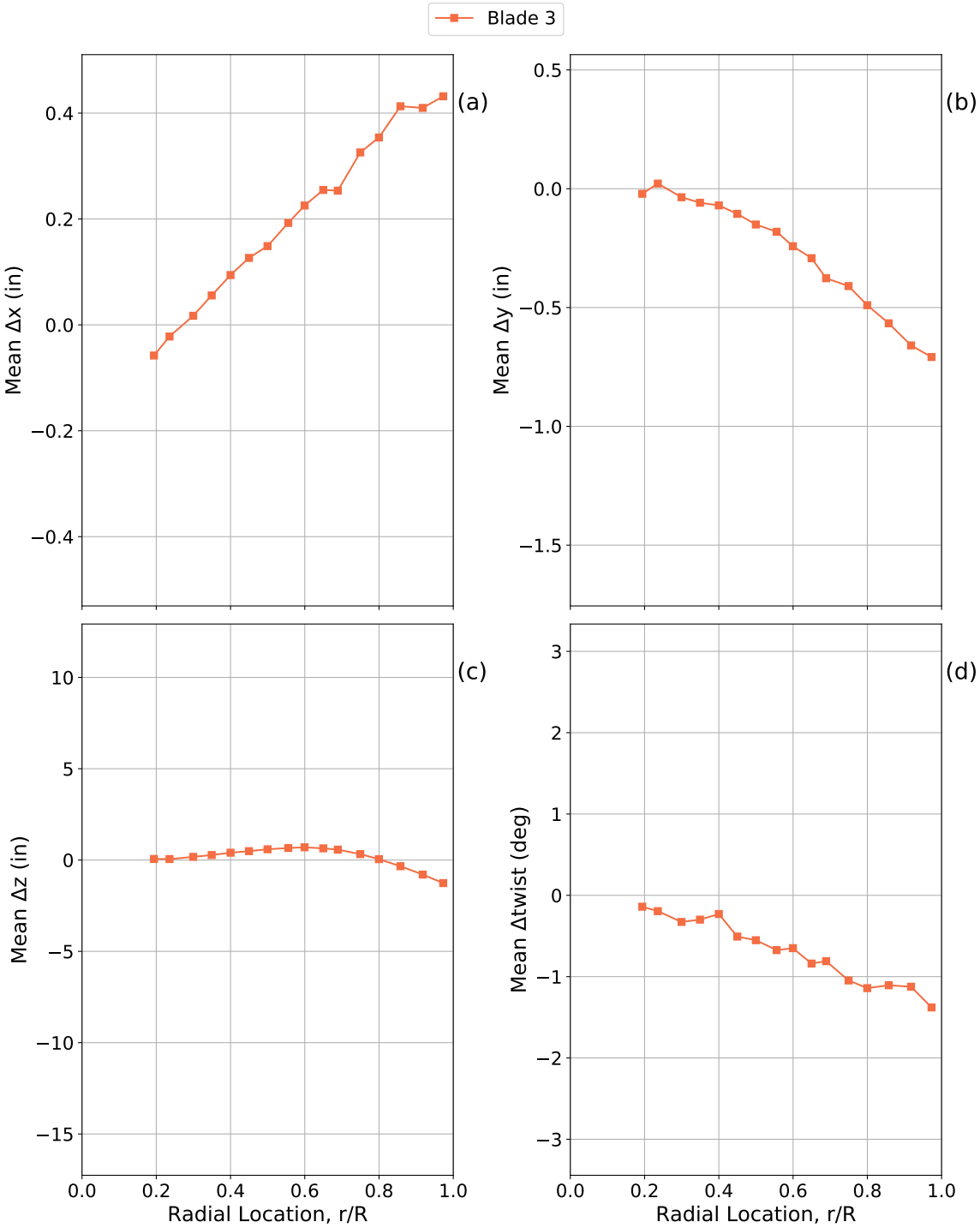


Figure 3.10-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0579	0.0023	-0.0212	0.0009	0.0583	0.0047	-0.1401	0.0350
3	209.88	0.2357	-0.0220	0.0018	0.0218	0.0021	0.0533	0.0100	-0.1946	0.0392
3	209.88	0.2995	0.0172	0.0022	-0.0358	0.0054	0.1726	0.0194	-0.3274	0.0754
3	209.88	0.3493	0.0556	0.0033	-0.0589	0.0073	0.2739	0.0366	-0.2988	0.0689
3	209.88	0.4000	0.0941	0.0033	-0.0702	0.0130	0.4013	0.0549	-0.2301	0.0497
3	209.88	0.4497	0.1265	0.0031	-0.1057	0.0151	0.4865	0.0765	-0.5072	0.0650
3	209.88	0.4997	0.1488	0.0028	-0.1506	0.0200	0.5895	0.1020	-0.5519	0.0706
3	209.88	0.5556	0.1926	0.0033	-0.1810	0.0250	0.6576	0.1307	-0.6738	0.0608
3	209.88	0.5995	0.2254	0.0038	-0.2420	0.0295	0.6974	0.1555	-0.6499	0.0656
3	209.88	0.6498	0.2549	0.0041	-0.2923	0.0344	0.6387	0.1877	-0.8391	0.0625
3	209.88	0.6890	0.2535	0.0039	-0.3767	0.0386	0.5706	0.2127	-0.8096	0.0656
3	209.88	0.7495	0.3257	0.0042	-0.4097	0.0460	0.3240	0.2554	-1.0469	0.0547
3	209.88	0.7998	0.3540	0.0050	-0.4902	0.0531	0.0480	0.2942	-1.1413	0.0564
3	209.88	0.8577	0.4129	0.0061	-0.5664	0.0613	-0.3390	0.3431	-1.1060	0.0529
3	209.88	0.9178	0.4098	0.0073	-0.6594	0.0719	-0.7958	0.3994	-1.1244	0.0575
3	209.88	0.9729	0.4317	0.0093	-0.7082	0.0800	-1.2630	0.4501	-1.3787	0.0559

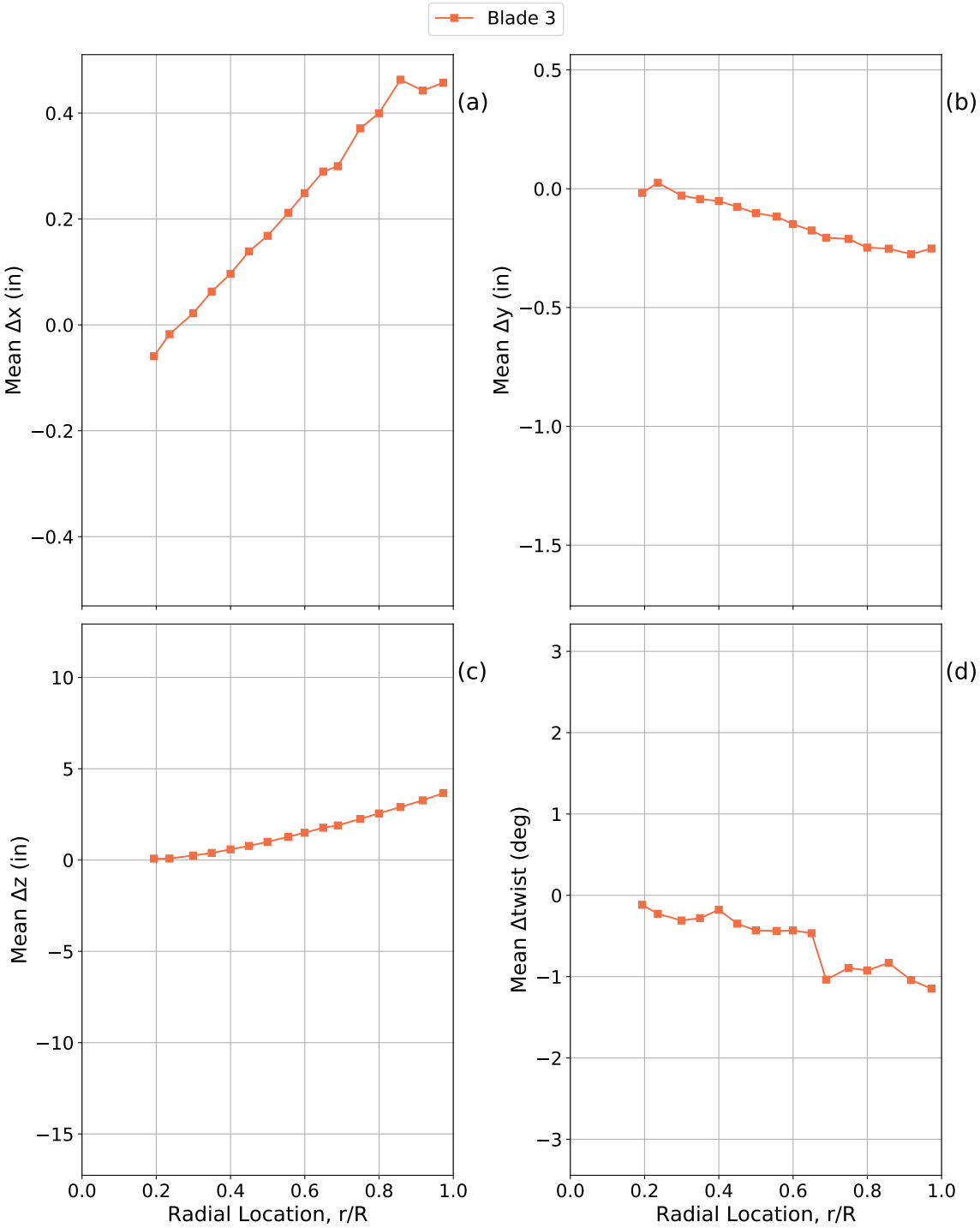


Figure 3.10-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0592	0.0115	-0.0175	0.0009	0.0770	0.0064	-0.1163	0.0455
3	225	0.2357	-0.0176	0.0071	0.0252	0.0026	0.0815	0.0127	-0.2276	0.0455
3	225	0.2995	0.0220	0.0036	-0.0286	0.0059	0.2477	0.0224	-0.3094	0.0933
3	225	0.3493	0.0629	0.0153	-0.0433	0.0094	0.3869	0.0367	-0.2807	0.0864
3	225	0.4000	0.0964	0.0234	-0.0516	0.0162	0.5826	0.0549	-0.1781	0.0717
3	225	0.4497	0.1388	0.0345	-0.0765	0.0214	0.7729	0.0721	-0.3487	0.0790
3	225	0.4997	0.1682	0.0458	-0.1027	0.0285	0.9972	0.0941	-0.4314	0.0810
3	225	0.5556	0.2117	0.0578	-0.1173	0.0365	1.2726	0.1183	-0.4384	0.0791
3	225	0.5995	0.2488	0.0671	-0.1489	0.0434	1.4966	0.1403	-0.4321	0.0969
3	225	0.6498	0.2897	0.0763	-0.1755	0.0527	1.7706	0.1666	-0.4659	0.0885
3	225	0.6890	0.2997	0.0830	-0.2064	0.0604	1.8947	0.1916	-1.0370	0.0844
3	225	0.7495	0.3712	0.0904	-0.2112	0.0723	2.2510	0.2312	-0.8935	0.0868
3	225	0.7998	0.3998	0.0943	-0.2478	0.0835	2.5519	0.2691	-0.9234	0.0879
3	225	0.8577	0.4631	0.0963	-0.2521	0.0960	2.9015	0.3186	-0.8312	0.0835
3	225	0.9178	0.4426	0.0942	-0.2753	0.1090	3.2670	0.3723	-1.0418	0.0920
3	225	0.9729	0.4574	0.0907	-0.2516	0.1230	3.6669	0.4290	-1.1476	0.0848

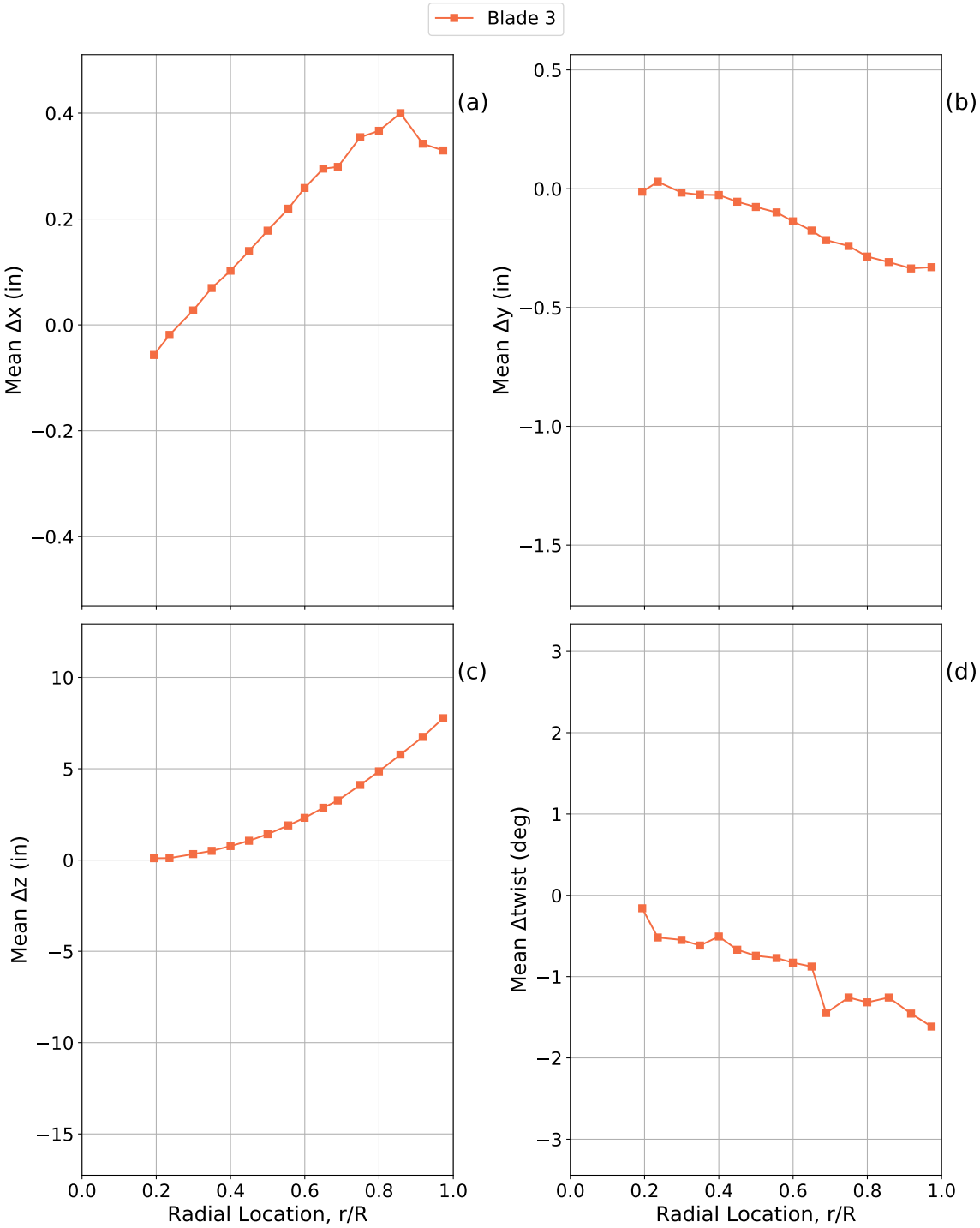


Figure 3.10-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0568	0.0017	-0.0123	0.0007	0.1005	0.0059	-0.1597	0.0252
3	240.12	0.2357	-0.0189	0.0014	0.0292	0.0015	0.1083	0.0078	-0.5190	0.0529
3	240.12	0.2995	0.0274	0.0018	-0.0161	0.0041	0.3278	0.0195	-0.5492	0.0622
3	240.12	0.3493	0.0697	0.0017	-0.0251	0.0059	0.5049	0.0271	-0.6181	0.0530
3	240.12	0.4000	0.1024	0.0025	-0.0264	0.0107	0.7666	0.0436	-0.5072	0.0685
3	240.12	0.4497	0.1395	0.0025	-0.0545	0.0135	1.0571	0.0577	-0.6697	0.0619
3	240.12	0.4997	0.1780	0.0023	-0.0766	0.0163	1.4150	0.0756	-0.7434	0.0683
3	240.12	0.5556	0.2195	0.0029	-0.0995	0.0200	1.8967	0.1009	-0.7718	0.0541
3	240.12	0.5995	0.2586	0.0033	-0.1370	0.0229	2.3117	0.1219	-0.8284	0.0665
3	240.12	0.6498	0.2952	0.0037	-0.1758	0.0289	2.8650	0.1441	-0.8769	0.0667
3	240.12	0.6890	0.2984	0.0044	-0.2161	0.0333	3.2633	0.1631	-1.4468	0.0688
3	240.12	0.7495	0.3545	0.0066	-0.2407	0.0395	4.1136	0.1934	-1.2570	0.0539
3	240.12	0.7998	0.3666	0.0085	-0.2852	0.0457	4.8574	0.2162	-1.3168	0.0588
3	240.12	0.8577	0.3999	0.0098	-0.3084	0.0537	5.7732	0.2405	-1.2576	0.0596
3	240.12	0.9178	0.3422	0.0114	-0.3352	0.0624	6.7450	0.2643	-1.4550	0.0637
3	240.12	0.9729	0.3294	0.0150	-0.3300	0.0706	7.7684	0.2868	-1.6146	0.0623

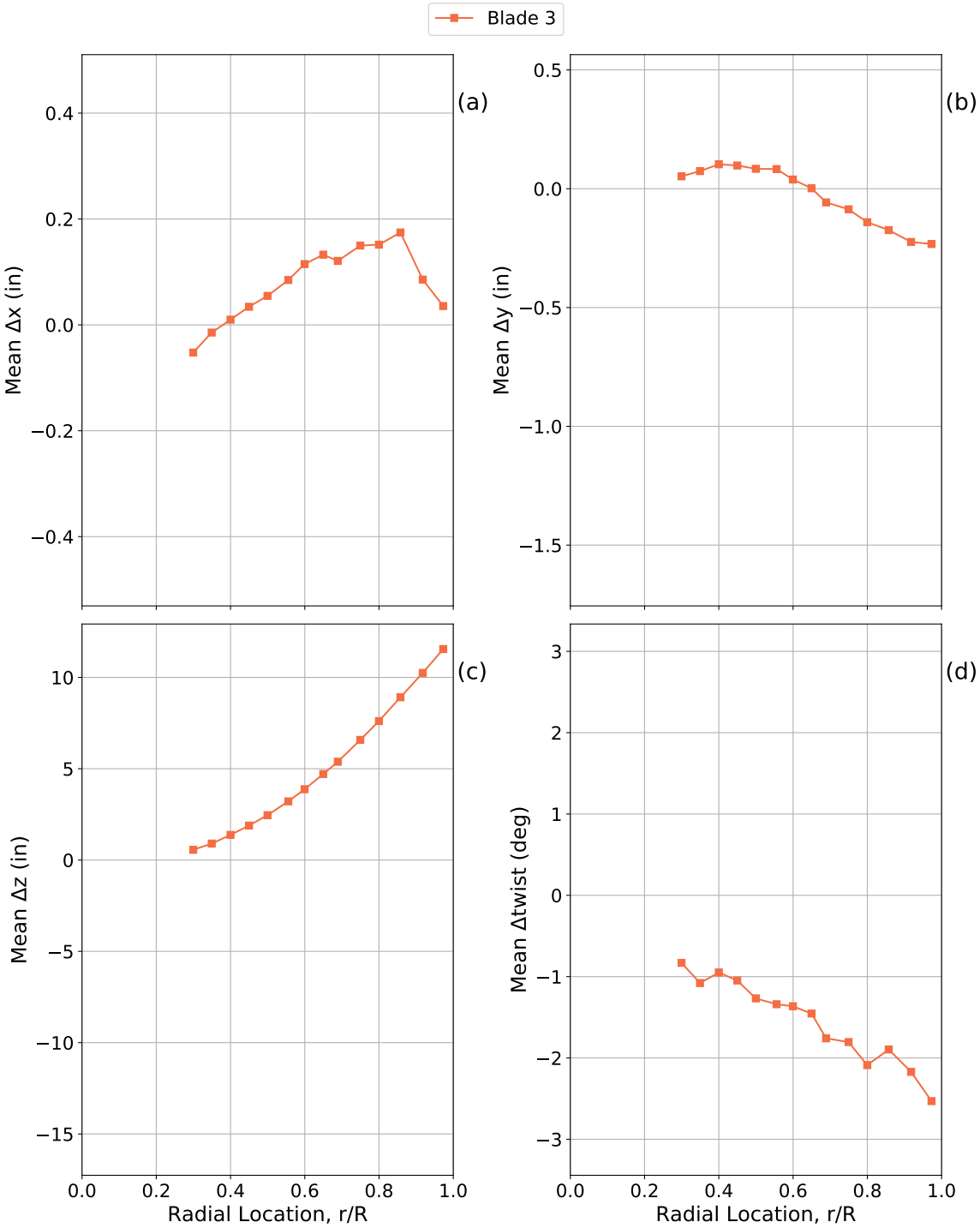


Figure 3.10-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.0523	0.0072	0.0523	0.0114	0.5607	0.0601	-0.8305	0.1479
3	254.88	0.3493	-0.0145	0.0077	0.0742	0.0202	0.9007	0.0928	-1.0787	0.1932
3	254.88	0.4000	0.0099	0.0080	0.1029	0.0330	1.3752	0.1384	-0.9486	0.1910
3	254.88	0.4497	0.0342	0.0092	0.0978	0.0426	1.8878	0.1850	-1.0478	0.1858
3	254.88	0.4997	0.0548	0.0113	0.0839	0.0529	2.4556	0.2345	-1.2675	0.1879
3	254.88	0.5556	0.0847	0.0135	0.0827	0.0642	3.2125	0.2955	-1.3396	0.1841
3	254.88	0.5995	0.1148	0.0169	0.0388	0.0733	3.8765	0.3472	-1.3643	0.1939
3	254.88	0.6498	0.1326	0.0200	0.0020	0.0837	4.7108	0.4055	-1.4541	0.1973
3	254.88	0.6890	0.1208	0.0233	-0.0575	0.0922	5.3817	0.4562	-1.7586	0.1923
3	254.88	0.7495	0.1498	0.0285	-0.0866	0.1049	6.5772	0.5356	-1.8047	0.1927
3	254.88	0.7998	0.1515	0.0335	-0.1410	0.1156	7.6107	0.6070	-2.0877	0.1936
3	254.88	0.8577	0.1745	0.0396	-0.1741	0.1289	8.9148	0.6946	-1.8962	0.1835
3	254.88	0.9178	0.0855	0.0474	-0.2241	0.1423	10.2469	0.7871	-2.1710	0.1840
3	254.88	0.9729	0.0356	0.0578	-0.2325	0.1547	11.5519	0.8738	-2.5307	0.1950

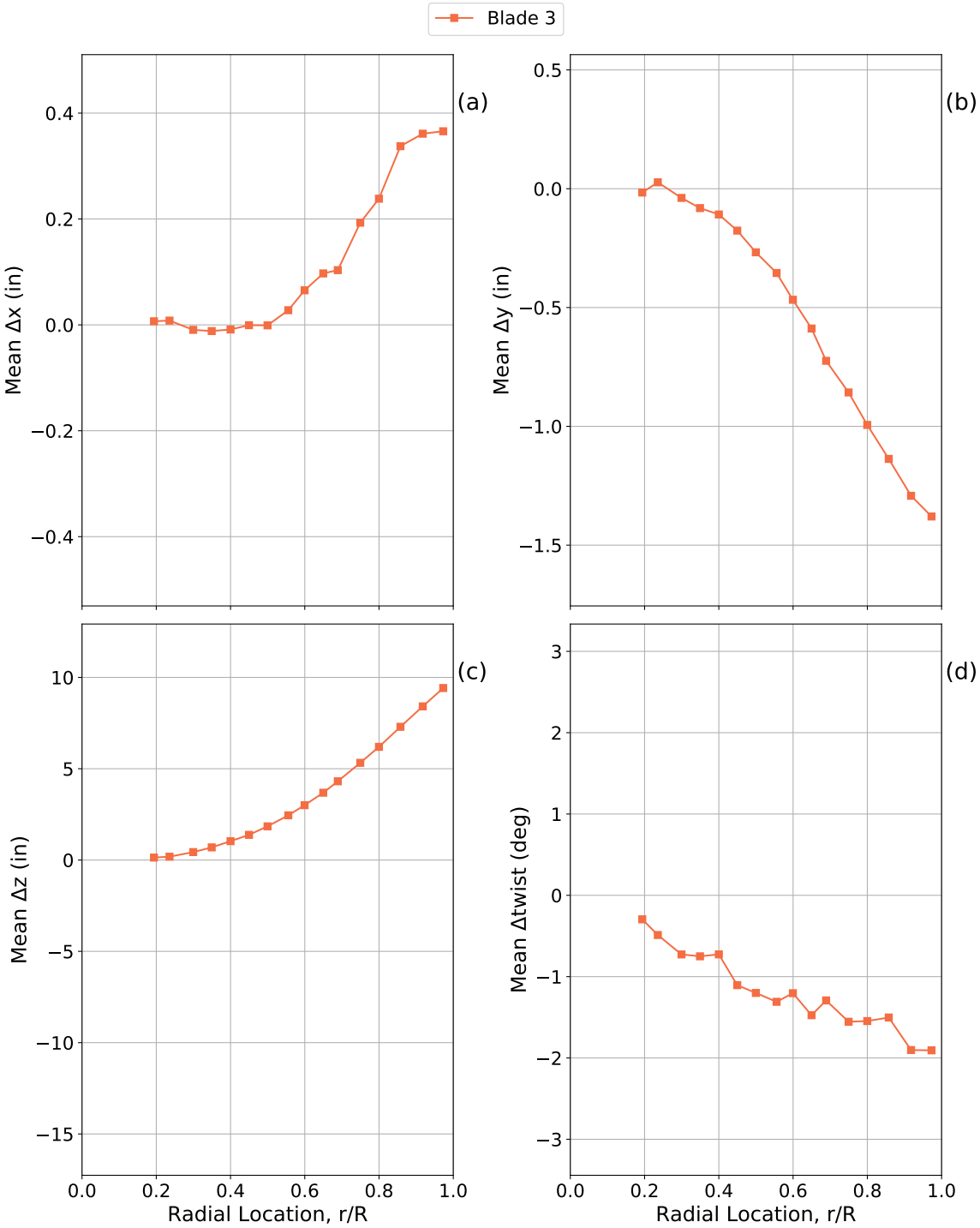


Figure 3.10-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0068	0.0019	-0.0160	0.0009	0.1348	0.0072	-0.2955	0.0526
3	260.16	0.2357	0.0081	0.0018	0.0269	0.0018	0.1831	0.0123	-0.4880	0.0734
3	260.16	0.2995	-0.0094	0.0016	-0.0387	0.0028	0.4345	0.0264	-0.7271	0.1208
3	260.16	0.3493	-0.0117	0.0019	-0.0815	0.0059	0.6921	0.0386	-0.7502	0.1768
3	260.16	0.4000	-0.0087	0.0022	-0.1083	0.0081	1.0327	0.0614	-0.7264	0.1078
3	260.16	0.4497	-0.0006	0.0021	-0.1762	0.0119	1.3787	0.0739	-1.1048	0.1047
3	260.16	0.4997	-0.0009	0.0029	-0.2676	0.0166	1.8454	0.0843	-1.2003	0.1424
3	260.16	0.5556	0.0277	0.0034	-0.3546	0.0221	2.4483	0.0988	-1.3095	0.1296
3	260.16	0.5995	0.0653	0.0046	-0.4674	0.0271	3.0037	0.1033	-1.2037	0.1297
3	260.16	0.6498	0.0972	0.0052	-0.5884	0.0333	3.6858	0.1123	-1.4742	0.1225
3	260.16	0.6890	0.1034	0.0069	-0.7242	0.0388	4.3121	0.1197	-1.2925	0.1281
3	260.16	0.7495	0.1930	0.0087	-0.8573	0.0460	5.3231	0.1300	-1.5547	0.1256
3	260.16	0.7998	0.2383	0.0099	-0.9941	0.0535	6.1975	0.1488	-1.5463	0.1282
3	260.16	0.8577	0.3375	0.0126	-1.1371	0.0620	7.2962	0.1652	-1.5025	0.1382
3	260.16	0.9178	0.3611	0.0163	-1.2922	0.0709	8.4143	0.1893	-1.9027	0.1693
3	260.16	0.9729	0.3657	0.0204	-1.3794	0.0796	9.4182	0.2209	-1.9064	0.1441

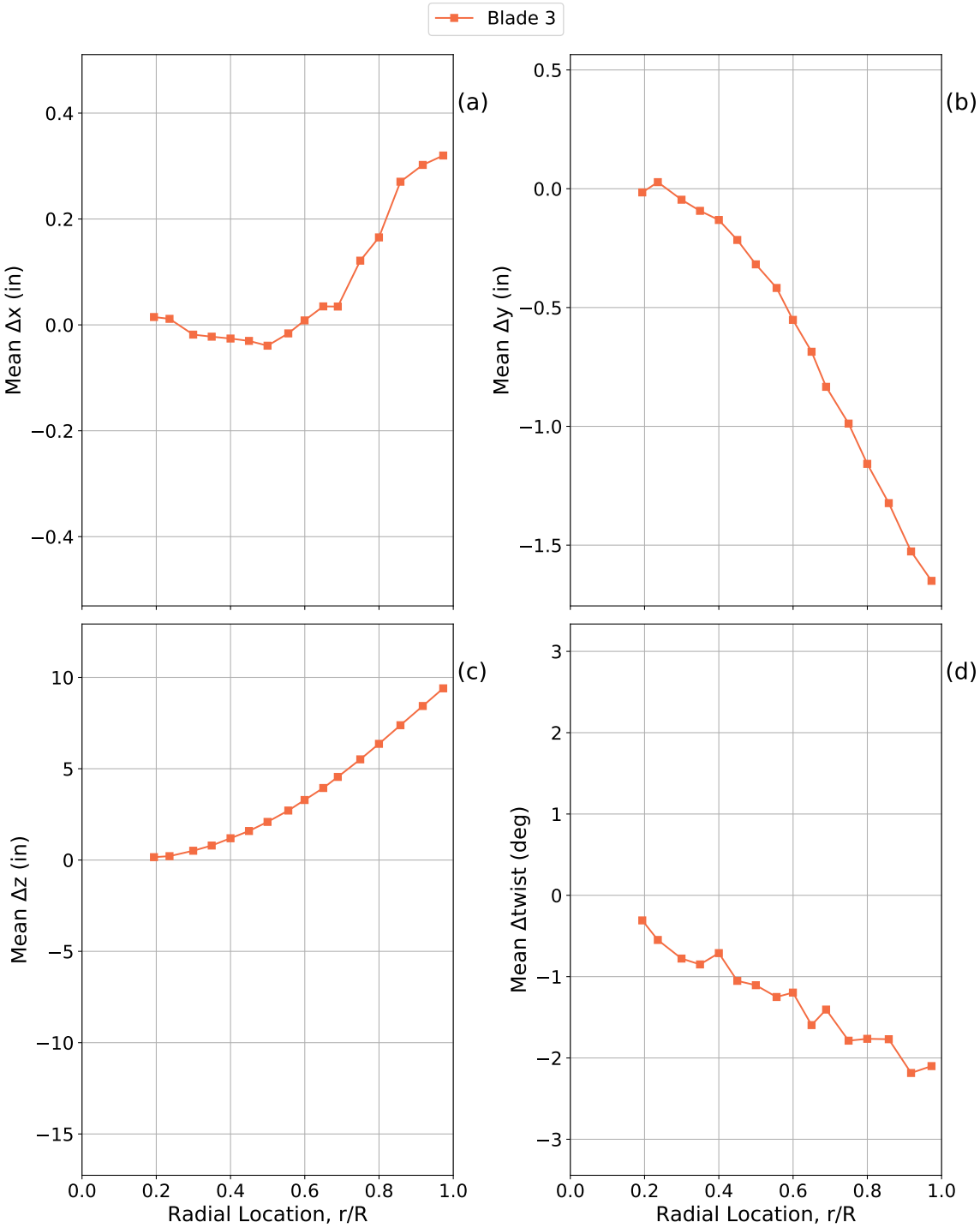


Figure 3.10-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0148	0.0052	-0.0155	0.0021	0.1580	0.0183	-0.3086	0.1088
3	265.08	0.2357	0.0114	0.0046	0.0277	0.0026	0.2123	0.0177	-0.5491	0.2256
3	265.08	0.2995	-0.0184	0.0033	-0.0462	0.0029	0.5086	0.0443	-0.7777	0.2987
3	265.08	0.3493	-0.0223	0.0063	-0.0930	0.0065	0.7945	0.0807	-0.8498	0.2527
3	265.08	0.4000	-0.0258	0.0083	-0.1315	0.0073	1.1927	0.1068	-0.7106	0.2582
3	265.08	0.4497	-0.0303	0.0095	-0.2156	0.0101	1.5900	0.1308	-1.0520	0.2579
3	265.08	0.4997	-0.0393	0.0101	-0.3183	0.0119	2.0882	0.1549	-1.1053	0.2599
3	265.08	0.5556	-0.0161	0.0133	-0.4176	0.0161	2.7102	0.1802	-1.2505	0.2716
3	265.08	0.5995	0.0084	0.0157	-0.5519	0.0198	3.2864	0.1997	-1.1962	0.2928
3	265.08	0.6498	0.0349	0.0196	-0.6860	0.0222	3.9441	0.2254	-1.5958	0.2666
3	265.08	0.6890	0.0346	0.0236	-0.8337	0.0249	4.5507	0.2422	-1.4050	0.2795
3	265.08	0.7495	0.1213	0.0323	-0.9884	0.0295	5.5138	0.2728	-1.7875	0.2629
3	265.08	0.7998	0.1652	0.0417	-1.1578	0.0351	6.3624	0.2979	-1.7646	0.2677
3	265.08	0.8577	0.2704	0.0545	-1.3231	0.0423	7.3825	0.3305	-1.7696	0.2639
3	265.08	0.9178	0.3021	0.0708	-1.5265	0.0521	8.4342	0.3729	-2.1847	0.2540
3	265.08	0.9729	0.3199	0.0904	-1.6503	0.0656	9.4018	0.4097	-2.1001	0.2963

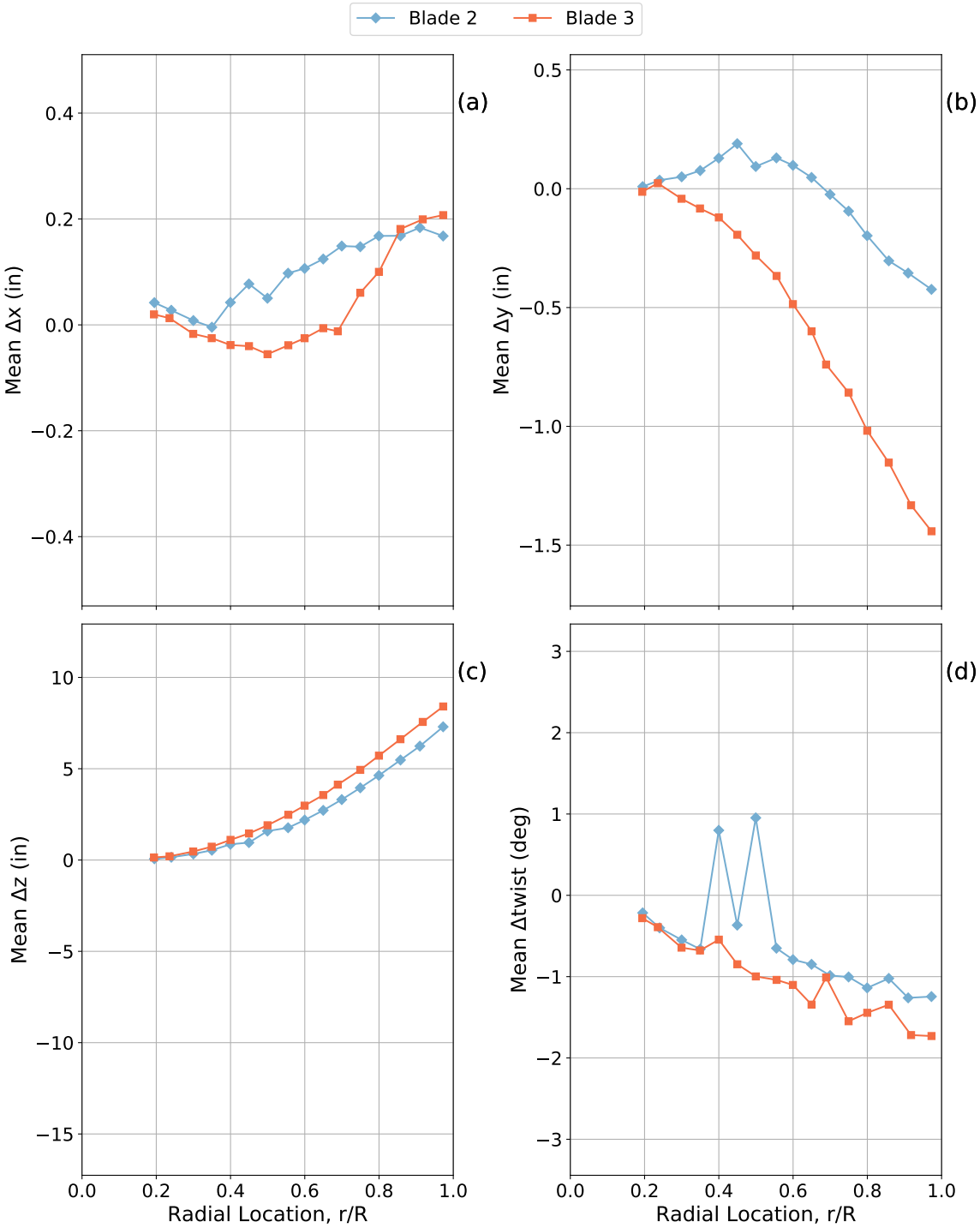


Figure 3.10-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0420	0.0026	0.0089	0.0008	0.0691	0.0068	-0.2157	0.0251
2	270.35	0.2405	0.0276	0.0043	0.0359	0.0033	0.1521	0.0167	-0.4002	0.1233
2	270.35	0.2999	0.0082	0.0016	0.0502	0.0050	0.3320	0.0128	-0.5485	0.0761
2	270.35	0.3498	-0.0044	0.0023	0.0764	0.0090	0.5373	0.0163	-0.6623	0.1371
2	270.35	0.3998	0.0424	0.0038	0.1288	0.0146	0.8624	0.0284	0.7991	0.1354
2	270.35	0.4496	0.0773	0.0036	0.1897	0.0200	0.9545	0.0370	-0.3670	0.1160
2	270.35	0.4995	0.0503	0.0031	0.0936	0.0258	1.5861	0.0488	0.9530	0.1153
2	270.35	0.5551	0.0976	0.0055	0.1298	0.0338	1.7670	0.0695	-0.6505	0.1186
2	270.35	0.5996	0.1066	0.0052	0.0985	0.0415	2.1902	0.0814	-0.7908	0.1254
2	270.35	0.6497	0.1244	0.0059	0.0475	0.0510	2.7199	0.1016	-0.8486	0.1303
2	270.35	0.6996	0.1489	0.0063	-0.0240	0.0611	3.3105	0.1182	-0.9866	0.1186
2	270.35	0.7495	0.1476	0.0076	-0.0943	0.0717	3.9537	0.1372	-1.0038	0.1362
2	270.35	0.7996	0.1680	0.0088	-0.1977	0.0830	4.6307	0.1543	-1.1385	0.1375
2	270.35	0.8578	0.1683	0.0097	-0.3034	0.0968	5.4763	0.1754	-1.0219	0.1417
2	270.35	0.9100	0.1837	0.0113	-0.3550	0.1085	6.2375	0.1934	-1.2611	0.1276
2	270.35	0.9727	0.1678	0.0144	-0.4236	0.1231	7.2963	0.2154	-1.2451	0.1303
3	270	0.1938	0.0198	0.0083	-0.0128	0.0016	0.1412	0.0091	-0.2811	0.0437
3	270	0.2357	0.0127	0.0038	0.0231	0.0021	0.2027	0.0233	-0.3917	0.0619
3	270	0.2995	-0.0170	0.0056	-0.0422	0.0029	0.4682	0.0391	-0.6435	0.0937
3	270	0.3493	-0.0251	0.0077	-0.0831	0.0056	0.7301	0.0559	-0.6783	0.1121
3	270	0.4000	-0.0381	0.0119	-0.1208	0.0100	1.1042	0.0932	-0.5450	0.0878
3	270	0.4497	-0.0402	0.0137	-0.1937	0.0134	1.4562	0.1192	-0.8480	0.1151
3	270	0.4997	-0.0554	0.0160	-0.2809	0.0171	1.9040	0.1488	-0.9976	0.0990
3	270	0.5556	-0.0385	0.0166	-0.3670	0.0231	2.4784	0.1932	-1.0401	0.0903
3	270	0.5995	-0.0252	0.0171	-0.4857	0.0284	2.9790	0.2351	-1.1024	0.0880
3	270	0.6498	-0.0063	0.0195	-0.6001	0.0345	3.5578	0.2856	-1.3441	0.1052
3	270	0.6890	-0.0121	0.0223	-0.7400	0.0401	4.1293	0.3272	-1.0102	0.1323
3	270	0.7495	0.0607	0.0317	-0.8579	0.0501	4.9363	0.4074	-1.5485	0.1252
3	270	0.7998	0.1001	0.0422	-1.0185	0.0585	5.7161	0.4777	-1.4445	0.1261
3	270	0.8577	0.1811	0.0552	-1.1526	0.0681	6.6164	0.5649	-1.3454	0.1525
3	270	0.9178	0.1993	0.0693	-1.3321	0.0815	7.5623	0.6611	-1.7185	0.1593
3	270	0.9729	0.2073	0.0884	-1.4416	0.0971	8.4083	0.7585	-1.7304	0.1544

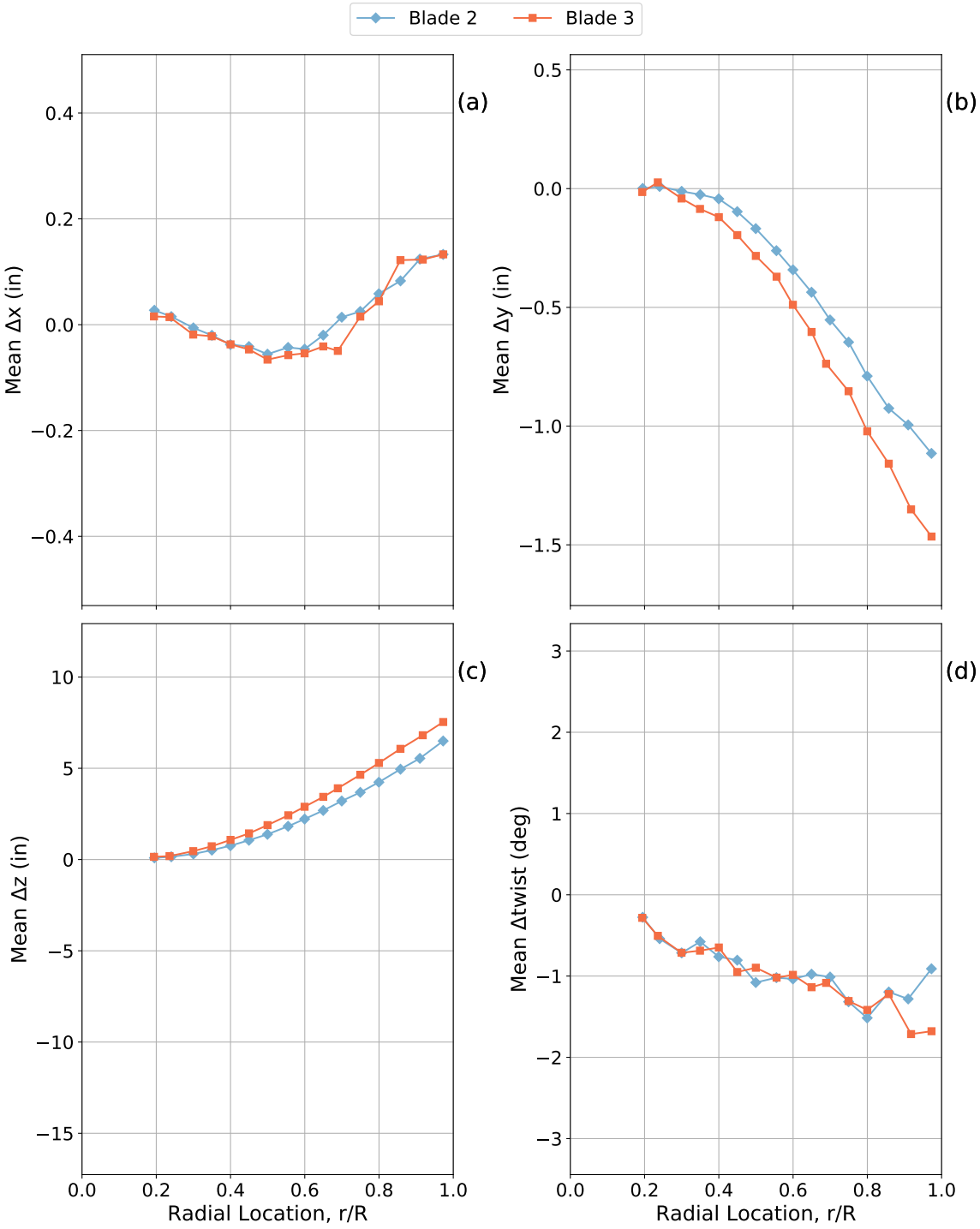


Figure 3.10-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.3$, $\alpha = -4.5°$ NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0273	0.0063	0.0009	0.0008	0.0906	0.0067	-0.2765	0.0324
2	274.92	0.2405	0.0153	0.0036	0.0090	0.0012	0.1509	0.0161	-0.5400	0.0432
2	274.92	0.2999	-0.0060	0.0025	-0.0114	0.0060	0.3041	0.0239	-0.7154	0.0717
2	274.92	0.3498	-0.0201	0.0050	-0.0252	0.0089	0.5142	0.0380	-0.5775	0.0393
2	274.92	0.3998	-0.0376	0.0100	-0.0430	0.0154	0.7561	0.0579	-0.7621	0.0476
2	274.92	0.4496	-0.0413	0.0088	-0.0969	0.0196	1.0564	0.0656	-0.8046	0.0822
2	274.92	0.4995	-0.0557	0.0111	-0.1684	0.0263	1.3817	0.0839	-1.0794	0.0814
2	274.92	0.5551	-0.0430	0.0134	-0.2613	0.0343	1.8232	0.0992	-1.0195	0.0544
2	274.92	0.5996	-0.0462	0.0153	-0.3419	0.0406	2.2191	0.1096	-1.0356	0.0624
2	274.92	0.6497	-0.0198	0.0198	-0.4363	0.0494	2.6879	0.1244	-0.9768	0.0668
2	274.92	0.6996	0.0141	0.0240	-0.5530	0.0580	3.2063	0.1292	-1.0114	0.0628
2	274.92	0.7495	0.0250	0.0297	-0.6465	0.0678	3.6805	0.1425	-1.3164	0.0760
2	274.92	0.7996	0.0585	0.0368	-0.7895	0.0777	4.2371	0.1524	-1.5154	0.0956
2	274.92	0.8578	0.0828	0.0468	-0.9252	0.0910	4.9490	0.1646	-1.1960	0.0636
2	274.92	0.9100	0.1239	0.0583	-0.9951	0.1028	5.5431	0.1811	-1.2815	0.0839
2	274.92	0.9727	0.1328	0.0736	-1.1150	0.1186	6.4951	0.2109	-0.9102	0.1104
3	274.92	0.1938	0.0156	0.0028	-0.0142	0.0006	0.1482	0.0050	-0.2833	0.0373
3	274.92	0.2357	0.0144	0.0020	0.0262	0.0014	0.1886	0.0129	-0.5048	0.0755
3	274.92	0.2995	-0.0187	0.0015	-0.0416	0.0028	0.4597	0.0198	-0.7131	0.0978
3	274.92	0.3493	-0.0219	0.0014	-0.0855	0.0055	0.7263	0.0314	-0.6875	0.1014
3	274.92	0.4000	-0.0372	0.0016	-0.1201	0.0089	1.0760	0.0493	-0.6485	0.0880
3	274.92	0.4497	-0.0468	0.0055	-0.1958	0.0130	1.4324	0.0653	-0.9502	0.0933
3	274.92	0.4997	-0.0660	0.0033	-0.2834	0.0174	1.8852	0.0775	-0.8973	0.0913
3	274.92	0.5556	-0.0575	0.0031	-0.3709	0.0227	2.4244	0.0954	-1.0193	0.0990
3	274.92	0.5995	-0.0541	0.0037	-0.4892	0.0276	2.8916	0.1144	-0.9849	0.1108
3	274.92	0.6498	-0.0411	0.0044	-0.6036	0.0333	3.4334	0.1349	-1.1374	0.1149
3	274.92	0.6890	-0.0495	0.0060	-0.7376	0.0381	3.9029	0.1552	-1.0837	0.1028
3	274.92	0.7495	0.0153	0.0071	-0.8532	0.0457	4.6437	0.1882	-1.3070	0.1133
3	274.92	0.7998	0.0442	0.0096	-1.0219	0.0525	5.2898	0.2150	-1.4164	0.1172
3	274.92	0.8577	0.1220	0.0094	-1.1584	0.0599	6.0654	0.2484	-1.2223	0.1149
3	274.92	0.9178	0.1231	0.0126	-1.3508	0.0685	6.8105	0.2896	-1.7139	0.1113
3	274.92	0.9729	0.1329	0.0169	-1.4651	0.0760	7.5354	0.3234	-1.6786	0.1183

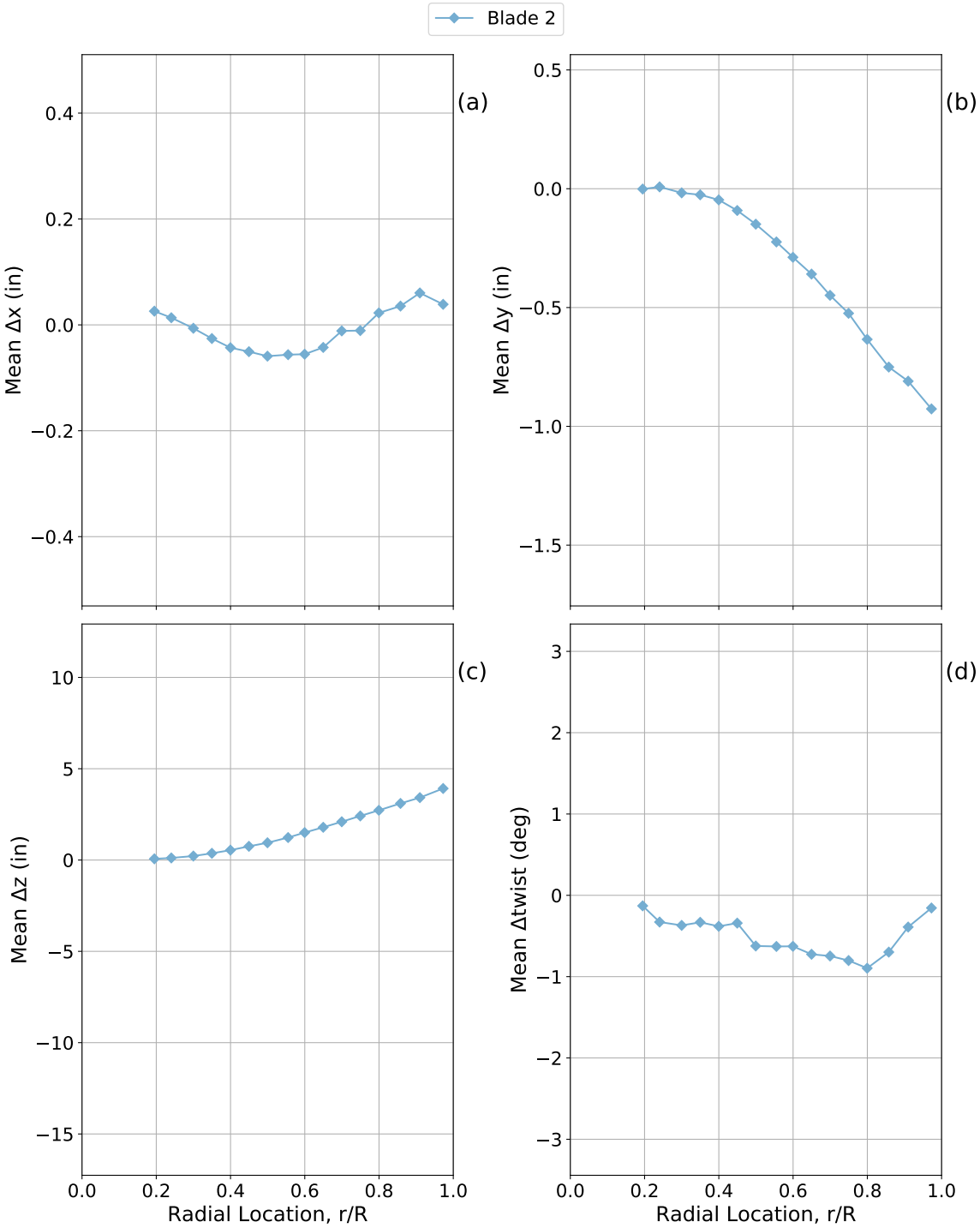


Figure 3.10-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0259	0.0055	-0.0013	0.0005	0.0657	0.0052	-0.1295	0.0300
2	285.12	0.2405	0.0135	0.0015	0.0078	0.0015	0.1138	0.0106	-0.3286	0.0270
2	285.12	0.2999	-0.0064	0.0019	-0.0174	0.0028	0.2187	0.0180	-0.3697	0.0563
2	285.12	0.3498	-0.0258	0.0042	-0.0255	0.0055	0.3679	0.0278	-0.3319	0.0451
2	285.12	0.3998	-0.0431	0.0052	-0.0470	0.0092	0.5407	0.0426	-0.3811	0.0335
2	285.12	0.4496	-0.0506	0.0065	-0.0917	0.0129	0.7506	0.0507	-0.3416	0.0516
2	285.12	0.4995	-0.0591	0.0077	-0.1492	0.0180	0.9456	0.0633	-0.6230	0.0369
2	285.12	0.5551	-0.0563	0.0091	-0.2239	0.0241	1.2313	0.0781	-0.6287	0.0319
2	285.12	0.5996	-0.0554	0.0094	-0.2885	0.0295	1.5029	0.0891	-0.6270	0.0480
2	285.12	0.6497	-0.0426	0.0111	-0.3592	0.0364	1.7931	0.1024	-0.7250	0.0511
2	285.12	0.6996	-0.0114	0.0142	-0.4486	0.0436	2.0967	0.1177	-0.7463	0.0444
2	285.12	0.7495	-0.0108	0.0188	-0.5244	0.0513	2.4142	0.1351	-0.8021	0.0399
2	285.12	0.7996	0.0226	0.0234	-0.6340	0.0587	2.7235	0.1531	-0.8964	0.0791
2	285.12	0.8578	0.0355	0.0320	-0.7505	0.0678	3.0996	0.1800	-0.6983	0.0899
2	285.12	0.9100	0.0603	0.0401	-0.8099	0.0760	3.4180	0.2048	-0.3900	0.0780
2	285.12	0.9727	0.0388	0.0545	-0.9266	0.0840	3.9180	0.2368	-0.1557	0.1108

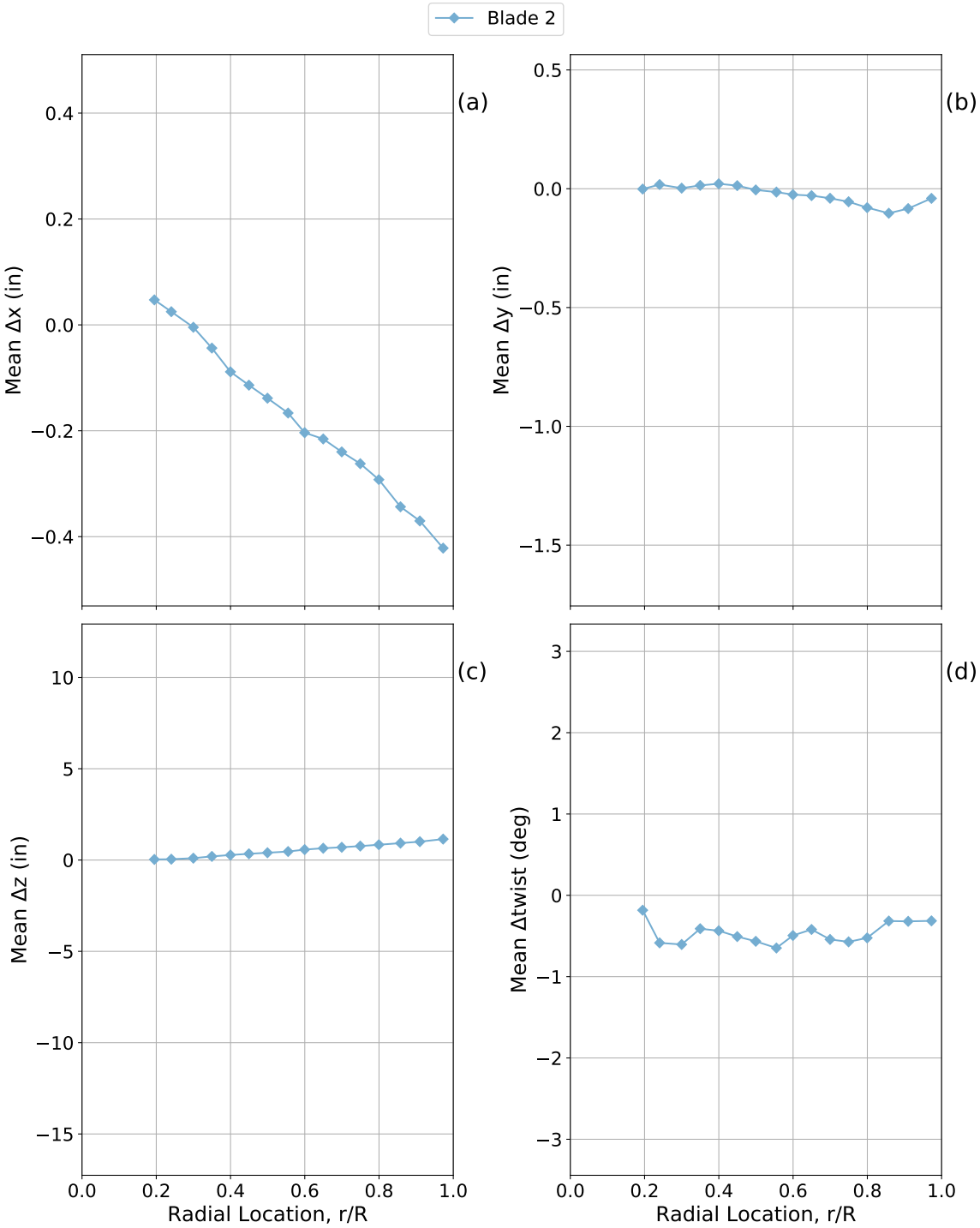


Figure 3.10-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0472	0.0016	-0.0014	0.0014	0.0331	0.0050	-0.1831	0.0478
2	299.88	0.2405	0.0249	0.0021	0.0176	0.0034	0.0456	0.0114	-0.5850	0.0553
2	299.88	0.2999	-0.0045	0.0023	0.0024	0.0040	0.1019	0.0146	-0.6044	0.0933
2	299.88	0.3498	-0.0438	0.0027	0.0141	0.0073	0.1989	0.0227	-0.4108	0.1055
2	299.88	0.3998	-0.0887	0.0021	0.0209	0.0113	0.2747	0.0362	-0.4356	0.0959
2	299.88	0.4496	-0.1139	0.0033	0.0130	0.0149	0.3415	0.0508	-0.5074	0.0656
2	299.88	0.4995	-0.1385	0.0026	-0.0050	0.0193	0.3990	0.0605	-0.5656	0.0838
2	299.88	0.5551	-0.1665	0.0024	-0.0141	0.0228	0.4654	0.0775	-0.6479	0.0540
2	299.88	0.5996	-0.2036	0.0025	-0.0248	0.0277	0.5717	0.0930	-0.4945	0.0808
2	299.88	0.6497	-0.2155	0.0038	-0.0290	0.0324	0.6457	0.1133	-0.4199	0.0715
2	299.88	0.6996	-0.2399	0.0032	-0.0401	0.0365	0.6984	0.1337	-0.5426	0.0828
2	299.88	0.7495	-0.2622	0.0038	-0.0548	0.0422	0.7648	0.1539	-0.5721	0.0664
2	299.88	0.7996	-0.2923	0.0048	-0.0796	0.0477	0.8370	0.1738	-0.5236	0.0658
2	299.88	0.8578	-0.3436	0.0046	-0.1032	0.0545	0.9248	0.2024	-0.3162	0.0619
2	299.88	0.9100	-0.3703	0.0053	-0.0835	0.0610	1.0054	0.2258	-0.3201	0.0720
2	299.88	0.9727	-0.4217	0.0056	-0.0406	0.0683	1.1465	0.2548	-0.3142	0.0693

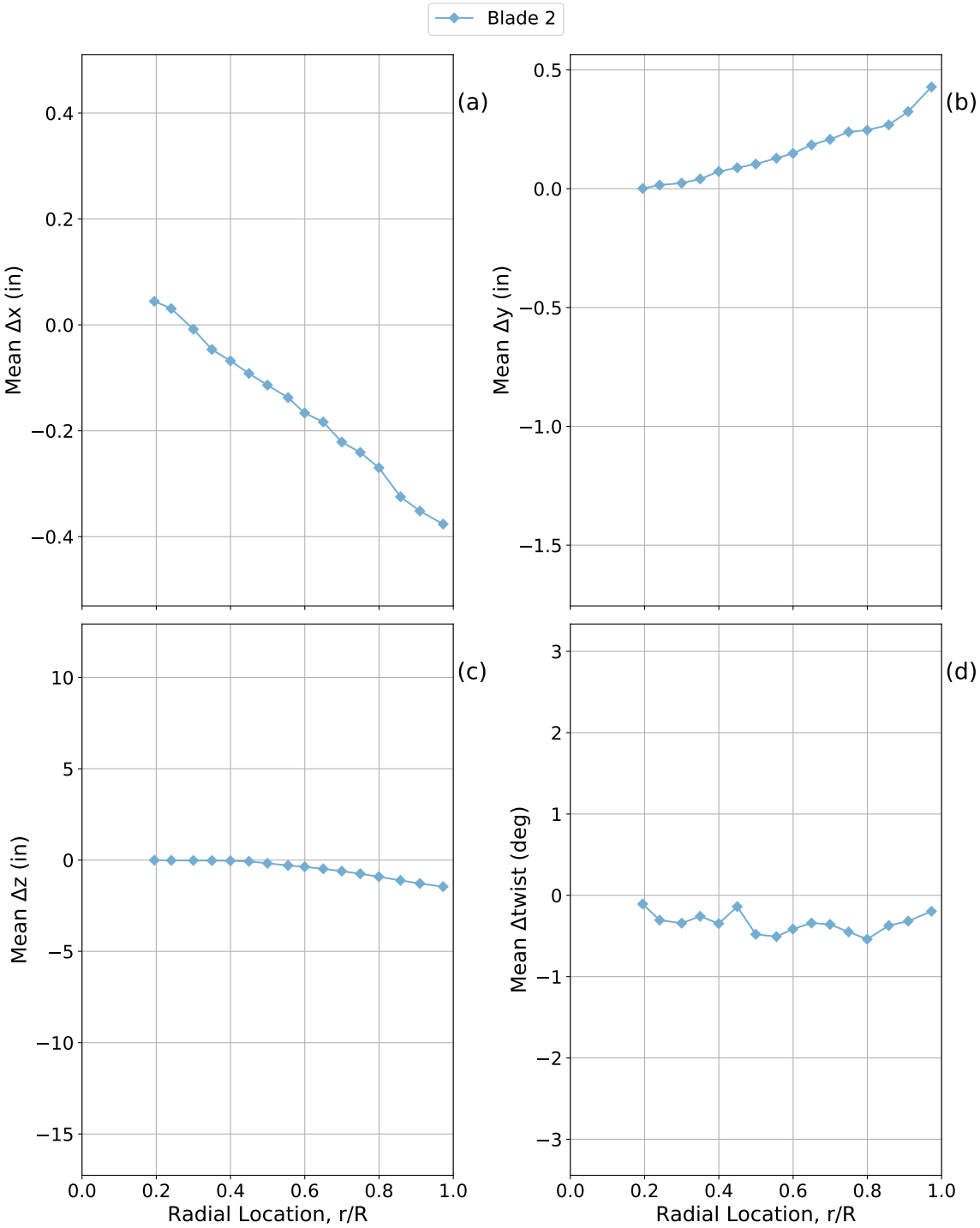


Figure 3.10-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0446	0.0032	0.0009	0.0012	-0.0094	0.0067	-0.1067	0.0518
2	315	0.2405	0.0307	0.0018	0.0154	0.0034	-0.0200	0.0130	-0.3051	0.0616
2	315	0.2999	-0.0082	0.0030	0.0238	0.0079	-0.0225	0.0239	-0.3426	0.1121
2	315	0.3498	-0.0465	0.0033	0.0411	0.0118	-0.0286	0.0327	-0.2582	0.0981
2	315	0.3998	-0.0680	0.0044	0.0728	0.0211	-0.0410	0.0536	-0.3479	0.0941
2	315	0.4496	-0.0918	0.0042	0.0883	0.0217	-0.0710	0.0689	-0.1392	0.0770
2	315	0.4995	-0.1138	0.0044	0.1038	0.0254	-0.1795	0.0780	-0.4794	0.1018
2	315	0.5551	-0.1374	0.0043	0.1285	0.0288	-0.2981	0.0937	-0.5076	0.0811
2	315	0.5996	-0.1664	0.0043	0.1487	0.0316	-0.3721	0.1073	-0.4155	0.0840
2	315	0.6497	-0.1834	0.0049	0.1844	0.0353	-0.4829	0.1213	-0.3402	0.0908
2	315	0.6996	-0.2213	0.0040	0.2078	0.0398	-0.6094	0.1451	-0.3577	0.0861
2	315	0.7495	-0.2409	0.0045	0.2392	0.0444	-0.7526	0.1646	-0.4501	0.0770
2	315	0.7996	-0.2698	0.0048	0.2465	0.0481	-0.9145	0.1894	-0.5394	0.0766
2	315	0.8578	-0.3248	0.0050	0.2687	0.0535	-1.1164	0.2245	-0.3717	0.0810
2	315	0.9100	-0.3516	0.0055	0.3249	0.0590	-1.2844	0.2611	-0.3176	0.0781
2	315	0.9727	-0.3763	0.0065	0.4283	0.0641	-1.4579	0.3016	-0.1964	0.0913

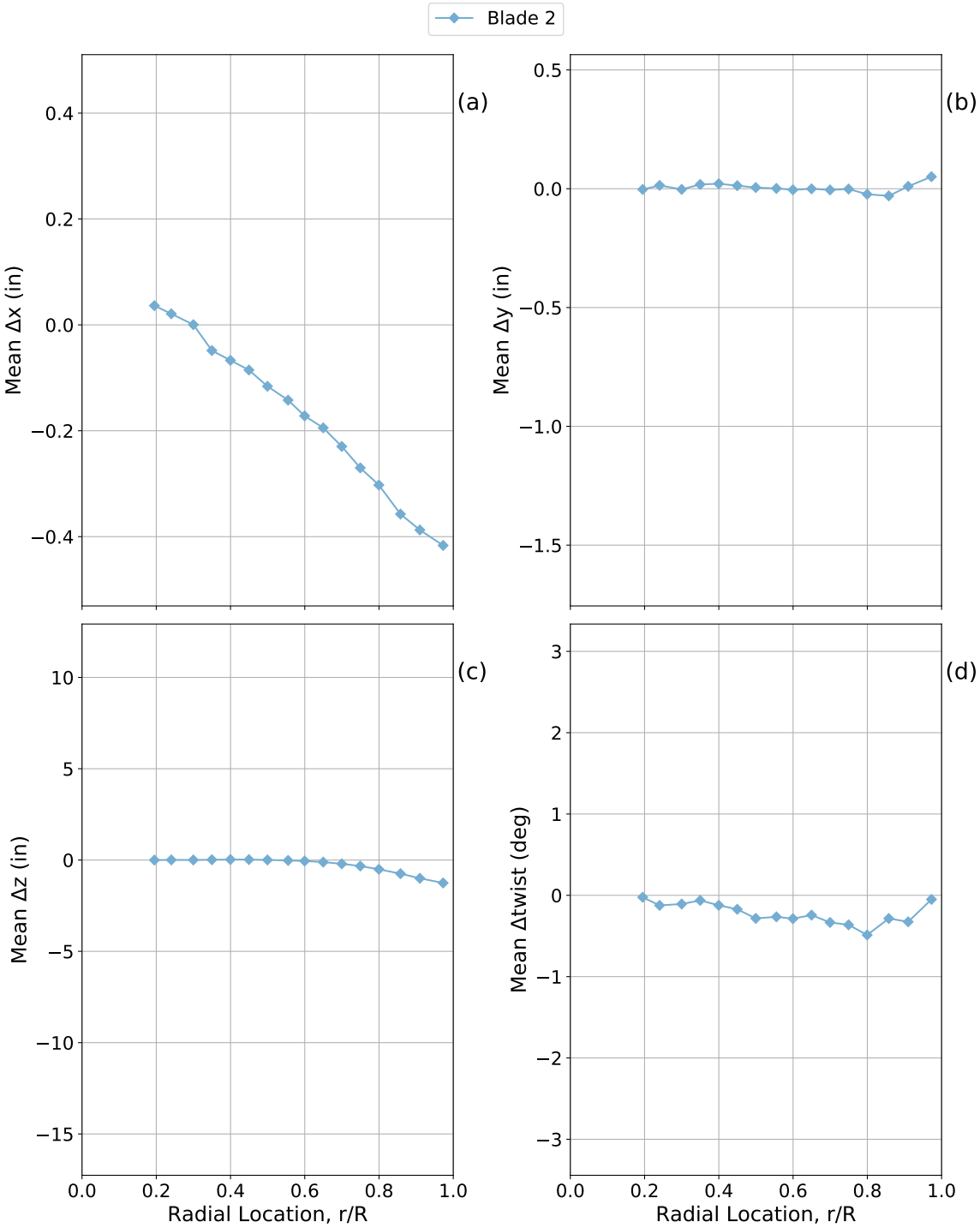


Figure 3.10-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0363	0.0013	-0.0030	0.0015	-0.0025	0.0038	-0.0239	0.0247
2	330.12	0.2405	0.0209	0.0025	0.0141	0.0019	0.0077	0.0080	-0.1237	0.0391
2	330.12	0.2999	0.0004	0.0021	-0.0028	0.0041	0.0028	0.0157	-0.1069	0.0541
2	330.12	0.3498	-0.0485	0.0020	0.0181	0.0083	0.0168	0.0220	-0.0627	0.0419
2	330.12	0.3998	-0.0670	0.0023	0.0210	0.0115	0.0263	0.0364	-0.1229	0.0606
2	330.12	0.4496	-0.0853	0.0033	0.0129	0.0163	0.0257	0.0442	-0.1716	0.0591
2	330.12	0.4995	-0.1160	0.0023	0.0050	0.0222	0.0062	0.0535	-0.2836	0.0595
2	330.12	0.5551	-0.1422	0.0030	0.0013	0.0288	-0.0216	0.0700	-0.2648	0.0425
2	330.12	0.5996	-0.1719	0.0034	-0.0046	0.0357	-0.0527	0.0848	-0.2872	0.0401
2	330.12	0.6497	-0.1945	0.0041	-0.0004	0.0434	-0.1125	0.1030	-0.2431	0.0530
2	330.12	0.6996	-0.2296	0.0043	-0.0050	0.0517	-0.2062	0.1257	-0.3336	0.0619
2	330.12	0.7495	-0.2701	0.0039	-0.0013	0.0601	-0.3294	0.1411	-0.3629	0.0648
2	330.12	0.7996	-0.3025	0.0039	-0.0233	0.0701	-0.5074	0.1616	-0.4878	0.0526
2	330.12	0.8578	-0.3574	0.0042	-0.0301	0.0815	-0.7469	0.1782	-0.2850	0.0371
2	330.12	0.9100	-0.3874	0.0048	0.0099	0.0919	-0.9997	0.1941	-0.3257	0.0480
2	330.12	0.9727	-0.4166	0.0073	0.0507	0.1049	-1.2547	0.2121	-0.0499	0.0558

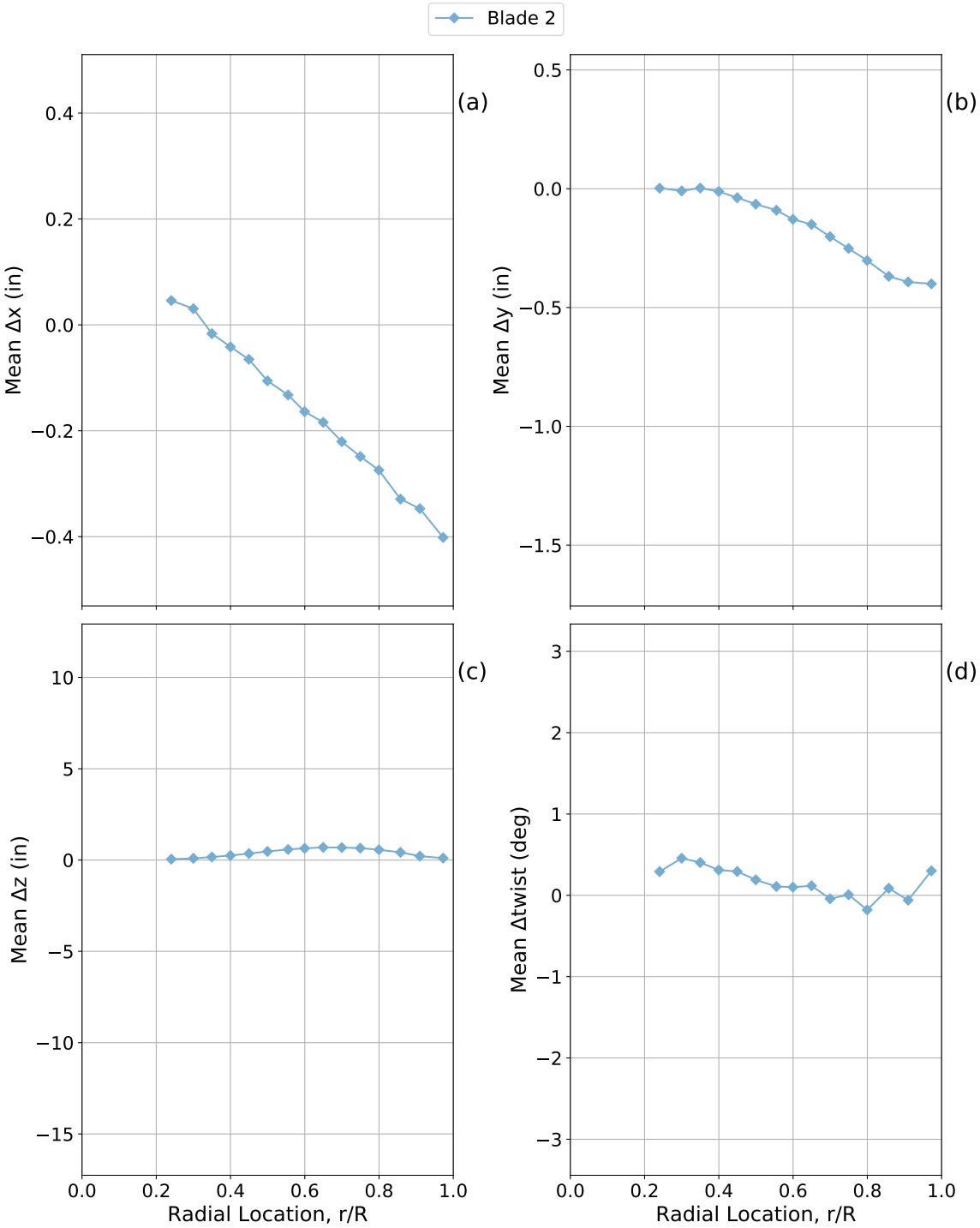


Figure 3.10-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.2405	0.0460	0.0030	0.0023	0.0054	0.0476	0.0107	0.2918	0.0794
2	344.88	0.2999	0.0306	0.0062	-0.0093	0.0101	0.0911	0.0178	0.4560	0.1219
2	344.88	0.3498	-0.0165	0.0046	0.0027	0.0228	0.1653	0.0313	0.4035	0.1210
2	344.88	0.3998	-0.0416	0.0045	-0.0115	0.0329	0.2469	0.0450	0.3111	0.1238
2	344.88	0.4496	-0.0651	0.0052	-0.0379	0.0424	0.3547	0.0567	0.2932	0.1342
2	344.88	0.4995	-0.1057	0.0061	-0.0648	0.0514	0.4682	0.0736	0.1905	0.1246
2	344.88	0.5551	-0.1325	0.0064	-0.0905	0.0623	0.5799	0.0966	0.1081	0.1243
2	344.88	0.5996	-0.1638	0.0063	-0.1287	0.0719	0.6392	0.1159	0.0999	0.1175
2	344.88	0.6497	-0.1841	0.0072	-0.1501	0.0802	0.6930	0.1417	0.1174	0.1392
2	344.88	0.6996	-0.2206	0.0071	-0.2017	0.0908	0.6823	0.1721	-0.0425	0.1300
2	344.88	0.7495	-0.2486	0.0066	-0.2515	0.1012	0.6499	0.2118	0.0074	0.1177
2	344.88	0.7996	-0.2744	0.0082	-0.3022	0.1107	0.5633	0.2577	-0.1797	0.1326
2	344.88	0.8578	-0.3291	0.0086	-0.3688	0.1223	0.4213	0.3164	0.0862	0.1307
2	344.88	0.9100	-0.3471	0.0092	-0.3924	0.1331	0.2121	0.3789	-0.0602	0.1290
2	344.88	0.9727	-0.4015	0.0123	-0.4003	0.1457	0.1052	0.4524	0.3010	0.1424

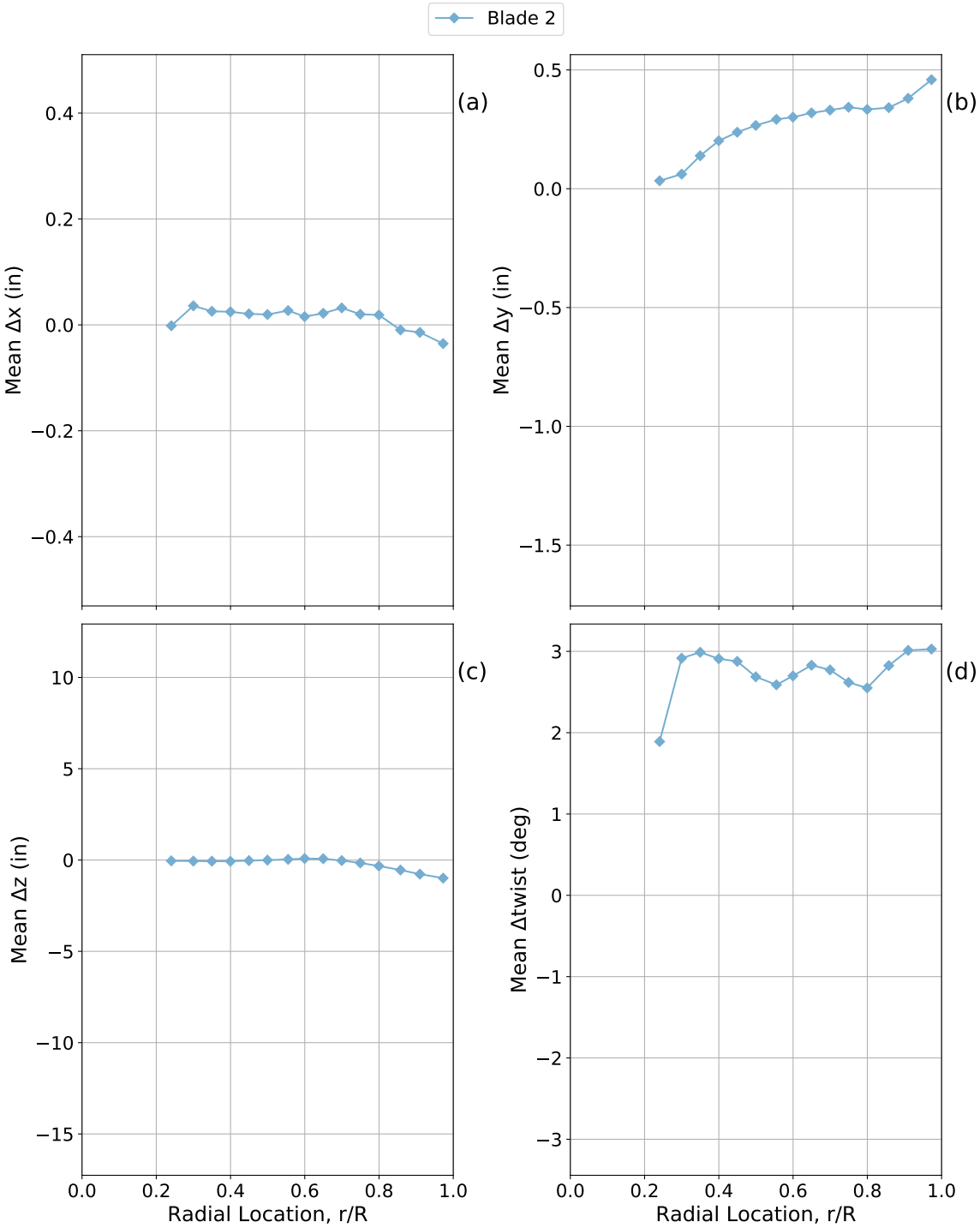


Figure 3.10-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	-0.0017	0.0064	0.0335	0.0076	-0.0447	0.0191	1.8902	0.2597
2	350.16	0.2999	0.0360	0.0034	0.0615	0.0167	-0.0573	0.0373	2.9164	0.4003
2	350.16	0.3498	0.0257	0.0065	0.1387	0.0309	-0.0635	0.0534	2.9887	0.4219
2	350.16	0.3998	0.0247	0.0100	0.2018	0.0481	-0.0712	0.0824	2.9091	0.4082
2	350.16	0.4496	0.0208	0.0127	0.2378	0.0621	-0.0290	0.1010	2.8767	0.4257
2	350.16	0.4995	0.0196	0.0152	0.2664	0.0769	-0.0047	0.1263	2.6874	0.4019
2	350.16	0.5551	0.0270	0.0184	0.2921	0.0914	0.0365	0.1488	2.5884	0.4243
2	350.16	0.5996	0.0156	0.0209	0.3010	0.1064	0.0816	0.1708	2.6982	0.4209
2	350.16	0.6497	0.0219	0.0236	0.3192	0.1222	0.0710	0.1957	2.8296	0.4090
2	350.16	0.6996	0.0320	0.0265	0.3309	0.1378	-0.0298	0.2180	2.7721	0.4241
2	350.16	0.7495	0.0201	0.0288	0.3431	0.1530	-0.1599	0.2434	2.6183	0.4139
2	350.16	0.7996	0.0187	0.0315	0.3337	0.1679	-0.3256	0.2652	2.5502	0.4142
2	350.16	0.8578	-0.0096	0.0363	0.3412	0.1836	-0.5481	0.2906	2.8252	0.4404
2	350.16	0.9100	-0.0142	0.0415	0.3805	0.2000	-0.7717	0.3130	3.0120	0.4228
2	350.16	0.9727	-0.0354	0.0461	0.4589	0.2187	-0.9906	0.3497	3.0282	0.4094

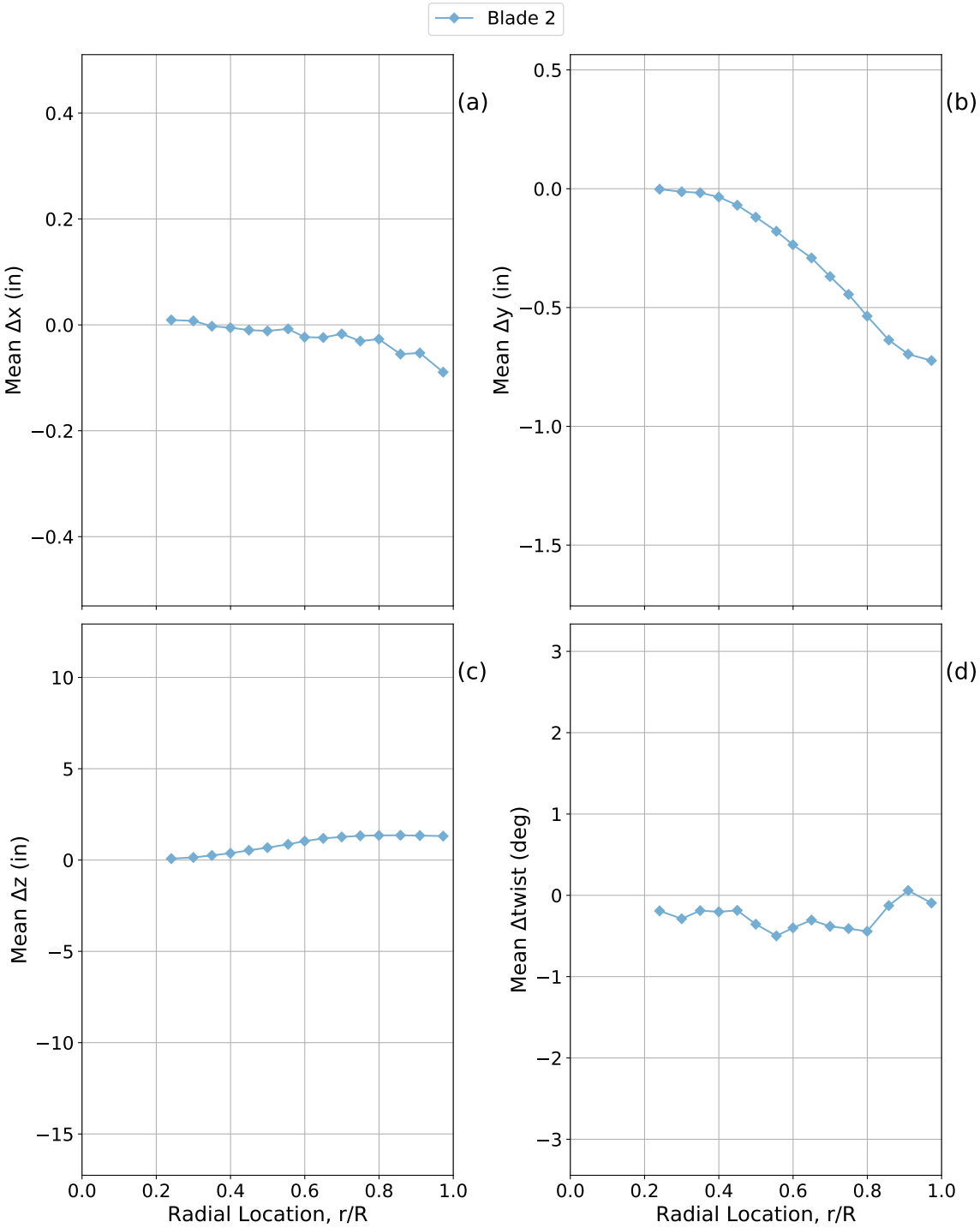


Figure 3.10-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.3, α = -4.5° NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Table 3.10-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.3, α = -4.5°
NFAC run 52, point 29. BD run 25, points 2826 to 2836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2405	0.0093	0.0025	-0.0020	0.0015	0.0775	0.0099	-0.1913	0.0953
2	355.08	0.2999	0.0075	0.0025	-0.0128	0.0049	0.1414	0.0178	-0.2883	0.1467
2	355.08	0.3498	-0.0026	0.0013	-0.0170	0.0070	0.2535	0.0298	-0.1881	0.1374
2	355.08	0.3998	-0.0054	0.0023	-0.0347	0.0126	0.3720	0.0433	-0.2025	0.1414
2	355.08	0.4496	-0.0098	0.0023	-0.0693	0.0153	0.5331	0.0535	-0.1854	0.1430
2	355.08	0.4995	-0.0115	0.0026	-0.1196	0.0173	0.6776	0.0660	-0.3554	0.1537
2	355.08	0.5551	-0.0076	0.0017	-0.1790	0.0213	0.8619	0.0775	-0.4987	0.1646
2	355.08	0.5996	-0.0232	0.0025	-0.2358	0.0238	1.0355	0.0887	-0.4003	0.1568
2	355.08	0.6497	-0.0239	0.0025	-0.2915	0.0261	1.1858	0.0983	-0.3046	0.1829
2	355.08	0.6996	-0.0171	0.0034	-0.3695	0.0297	1.2638	0.1155	-0.3814	0.1868
2	355.08	0.7495	-0.0306	0.0022	-0.4448	0.0325	1.3284	0.1319	-0.4100	0.1908
2	355.08	0.7996	-0.0269	0.0033	-0.5362	0.0359	1.3480	0.1537	-0.4430	0.2050
2	355.08	0.8578	-0.0552	0.0033	-0.6368	0.0395	1.3552	0.1829	-0.1264	0.1851
2	355.08	0.9100	-0.0531	0.0032	-0.6963	0.0426	1.3404	0.2084	0.0586	0.1978
2	355.08	0.9727	-0.0893	0.0034	-0.7232	0.0466	1.3095	0.2533	-0.0944	0.1887

3.11 Run 52, Point 49

3.11.1 Pitch, Flap, and Lag

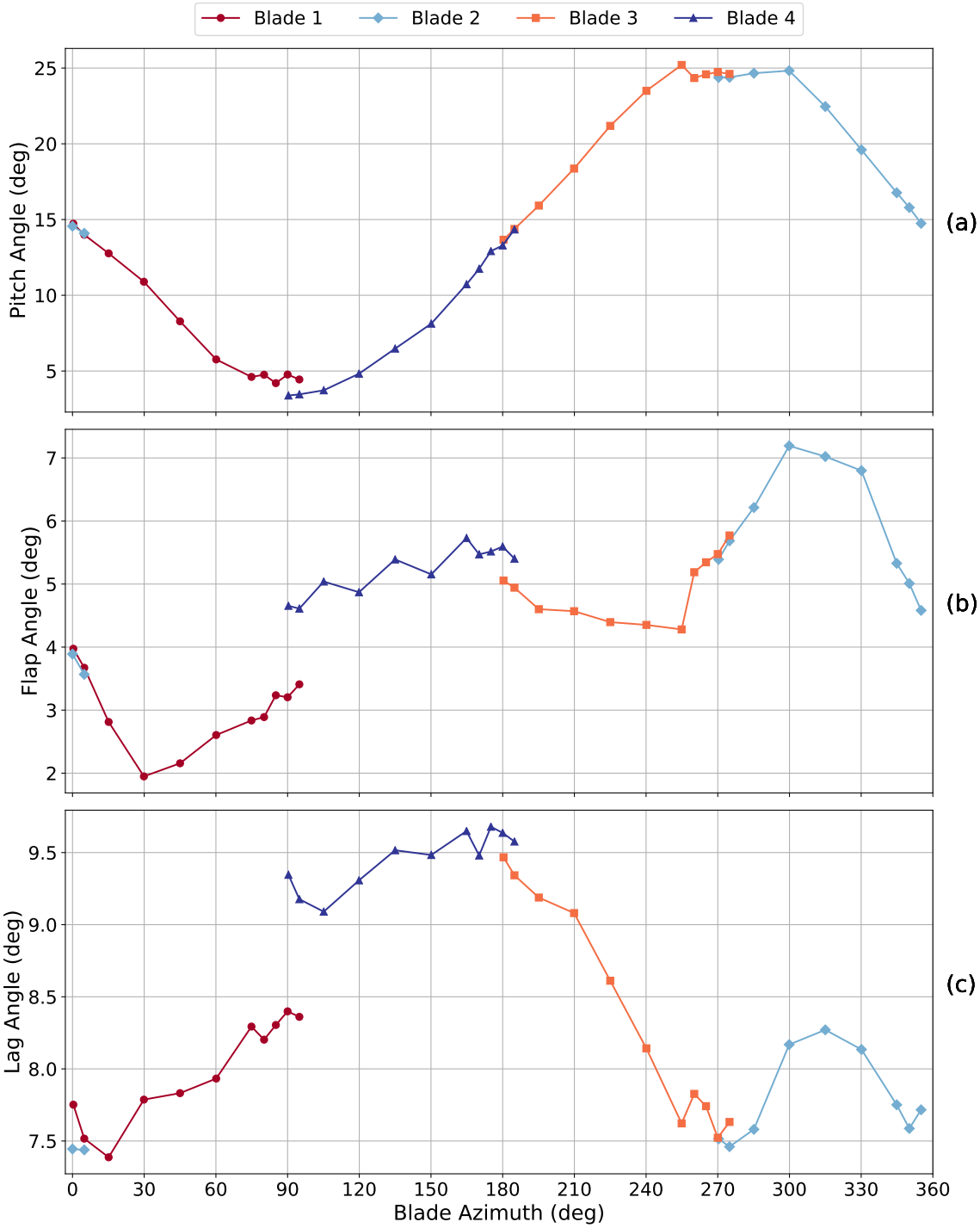


Figure 3.11-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	14.5596	3.8901	7.4445	0.2160	0.0575	0.0594
0.35	1	14.7258	3.9740	7.7519	0.1605	0.1100	0.1452
4.92	1	13.9952	3.6723	7.5165	0.1376	0.0948	0.1235
4.92	2	14.0899	3.5674	7.4384	0.1557	0.1200	0.0874
15.12	1	12.7656	2.8127	7.3871	0.1112	0.0719	0.1171
29.88	1	10.8930	1.9490	7.7870	0.1288	0.1230	0.1555
45	1	8.2799	2.1570	7.8318	0.1460	0.0967	0.0962
60.12	1	5.7629	2.6052	7.9329	0.1043	0.1267	0.1375
74.88	1	4.6108	2.8360	8.2934	0.0472	0.0965	0.0944
80.16	1	4.7539	2.8897	8.2026	0.0925	0.1770	0.0667
85.08	1	4.1991	3.2363	8.3044	0.0691	0.1196	0.1200
90	1	4.7679	3.2043	8.3990	0.0833	0.1162	0.0903
90.35	4	3.3806	4.6542	9.3460	0.0923	0.2659	0.0985
94.92	1	4.4408	3.4094	8.3609	0.0794	0.0942	0.1292
94.92	4	3.4582	4.6101	9.1767	0.0706	0.1458	0.1279
105.12	4	3.7254	5.0396	9.0902	0.0608	0.1418	0.1321
119.88	4	4.8218	4.8701	9.3074	0.0716	0.1637	0.1142
135	4	6.4783	5.3900	9.5160	0.0849	0.2615	0.1036
150.12	4	8.1247	5.1534	9.4833	0.0658	0.2506	0.1197
164.88	4	10.7256	5.7301	9.6493	0.0698	0.1548	0.0865
170.16	4	11.7450	5.4705	9.4797	0.1215	0.1538	0.1018
175.08	4	12.9151	5.5160	9.6793	0.2378	0.1593	0.1346
180	4	13.2881	5.5949	9.6366	0.0572	0.0944	0.0940
180.35	3	13.6645	5.0558	9.4672	0.0789	0.1841	0.1121
184.92	3	14.3786	4.9421	9.3425	0.0836	0.0966	0.0840
184.92	4	14.3444	5.4023	9.5765	0.0775	0.1412	0.1112
195.12	3	15.9209	4.6012	9.1881	0.0868	0.1554	0.1384
209.88	3	18.3651	4.5694	9.0805	0.0967	0.1871	0.1183
225	3	21.1837	4.3961	8.6114	0.0862	0.1795	0.1146
240.12	3	23.4984	4.3520	8.1424	0.0875	0.1864	0.1062
254.88	3	25.2042	4.2801	7.6221	0.3103	0.2520	0.2069
260.16	3	24.3422	5.1875	7.8267	0.1204	0.1143	0.1007
265.08	3	24.5865	5.3451	7.7414	0.0681	0.0941	0.1291
270	3	24.7391	5.4752	7.5223	0.1352	0.0999	0.0541
270.35	2	24.3816	5.3905	7.5147	0.0694	0.1043	0.1145
274.92	2	24.3876	5.6851	7.4606	0.0686	0.0941	0.0611
274.92	3	24.6132	5.7707	7.6320	0.1041	0.1257	0.1190
285.12	2	24.6592	6.2135	7.5808	0.0775	0.1072	0.0831
299.88	2	24.8267	7.1920	8.1685	0.1436	0.0754	0.1453
315	2	22.4568	7.0220	8.2707	0.1196	0.1287	0.1216
330.12	2	19.6026	6.7987	8.1345	0.1306	0.0911	0.1020
344.88	2	16.7675	5.3282	7.7510	0.1860	0.0826	0.0906
350.16	2	15.7916	5.0091	7.5867	0.1380	0.0770	0.0900
355.08	2	14.7444	4.5823	7.7164	0.1927	0.0833	0.0447

3.11.2 Spanwise Elastic Deformations

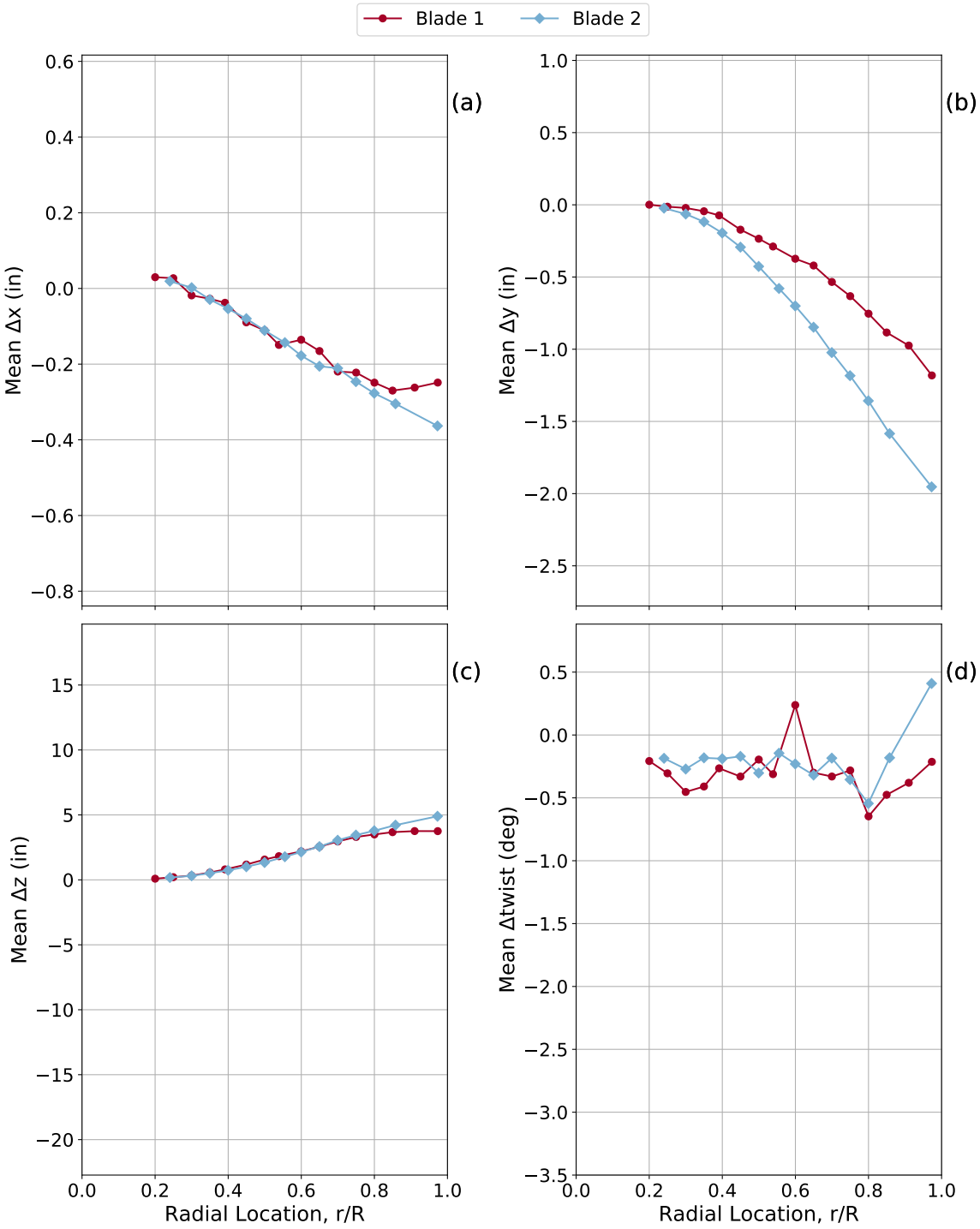


Figure 3.11-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0297	0.0046	0.0008	0.0031	0.0898	0.0088	-0.2071	0.0527
1	0.35	0.2499	0.0270	0.0037	-0.0131	0.0059	0.2056	0.0203	-0.3049	0.0935
1	0.35	0.2998	-0.0184	0.0029	-0.0217	0.0117	0.3297	0.0266	-0.4529	0.1203
1	0.35	0.3498	-0.0273	0.0040	-0.0446	0.0223	0.5628	0.0476	-0.4098	0.1110
1	0.35	0.3913	-0.0379	0.0058	-0.0733	0.0306	0.8052	0.0651	-0.2650	0.1006
1	0.35	0.4496	-0.0896	0.0092	-0.1721	0.0385	1.1784	0.0823	-0.3305	0.1276
1	0.35	0.4997	-0.1109	0.0114	-0.2348	0.0456	1.5643	0.1045	-0.1955	0.1000
1	0.35	0.5387	-0.1492	0.0131	-0.2887	0.0525	1.8222	0.1167	-0.3116	0.1175
1	0.35	0.5996	-0.1356	0.0161	-0.3735	0.0594	2.1919	0.1365	0.2381	0.1269
1	0.35	0.6498	-0.1654	0.0190	-0.4204	0.1270	2.5542	0.2500	-0.3000	0.1247
1	0.35	0.6998	-0.2196	0.0201	-0.5341	0.1375	2.9549	0.2845	-0.3302	0.1756
1	0.35	0.7500	-0.2224	0.0200	-0.6325	0.1511	3.3022	0.3095	-0.2819	0.1351
1	0.35	0.8001	-0.2489	0.0189	-0.7539	0.1621	3.4950	0.3298	-0.6471	0.1834
1	0.35	0.8497	-0.2699	0.0221	-0.8842	0.1742	3.6714	0.3578	-0.4759	0.1292
1	0.35	0.9102	-0.2620	0.0225	-0.9746	0.1915	3.7546	0.3913	-0.3800	0.1540
1	0.35	0.9734	-0.2487	0.0266	-1.1815	0.2063	3.7506	0.4319	-0.2133	0.1518
2	0	0.2405	0.0191	0.0027	-0.0229	0.0036	0.1773	0.0158	-0.1853	0.1419
2	0	0.2999	0.0020	0.0031	-0.0638	0.0090	0.3075	0.0283	-0.2708	0.2193
2	0	0.3498	-0.0293	0.0035	-0.1175	0.0158	0.5096	0.0470	-0.1816	0.1679
2	0	0.3998	-0.0537	0.0041	-0.1949	0.0255	0.7345	0.0691	-0.1888	0.1796
2	0	0.4496	-0.0798	0.0051	-0.2932	0.0325	1.0092	0.0806	-0.1701	0.1910
2	0	0.4995	-0.1111	0.0043	-0.4267	0.0411	1.3350	0.0974	-0.3026	0.1921
2	0	0.5551	-0.1432	0.0051	-0.5794	0.0479	1.7820	0.1093	-0.1448	0.2046
2	0	0.5996	-0.1776	0.0070	-0.7004	0.0557	2.1427	0.1147	-0.2302	0.1903
2	0	0.6497	-0.2056	0.0070	-0.8476	0.0650	2.5608	0.1246	-0.3187	0.1833
2	0	0.6996	-0.2107	0.0071	-1.0232	0.0752	3.0481	0.1381	-0.1840	0.1950
2	0	0.7495	-0.2463	0.0078	-1.1834	0.0855	3.4482	0.1352	-0.3548	0.2635
2	0	0.7996	-0.2769	0.0076	-1.3574	0.0971	3.7787	0.1558	-0.5446	0.2117
2	0	0.8578	-0.3047	0.0092	-1.5845	0.1060	4.2144	0.1576	-0.1813	0.1914
2	0	0.9727	-0.3633	0.0139	-1.9530	0.1330	4.8958	0.2025	0.4098	0.2044

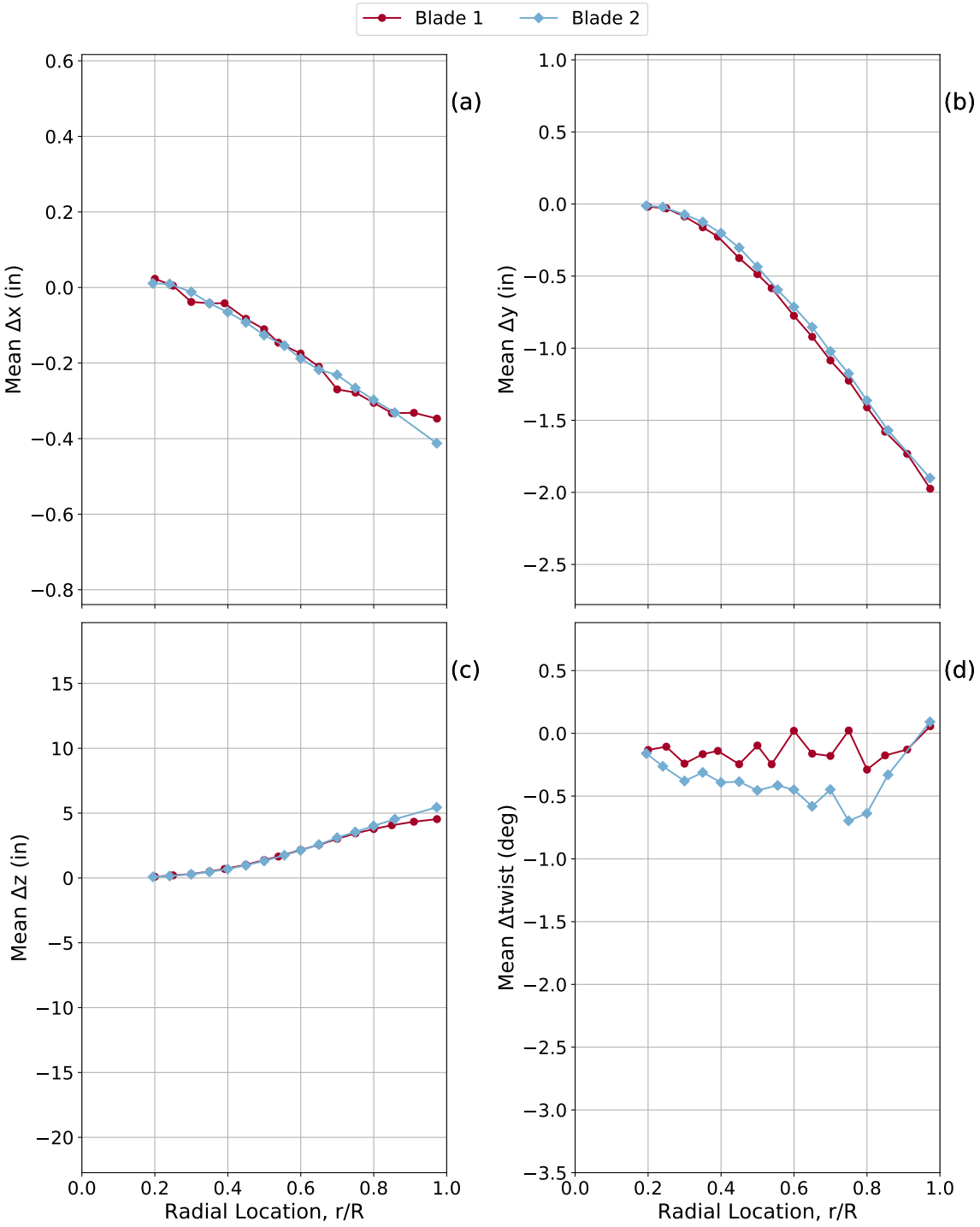


Figure 3.11-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0230	0.0027	-0.0185	0.0017	0.0942	0.0067	-0.1322	0.0483
1	4.92	0.2499	0.0048	0.0020	-0.0300	0.0046	0.2024	0.0114	-0.1064	0.0662
1	4.92	0.2998	-0.0382	0.0028	-0.0862	0.0055	0.2995	0.0174	-0.2414	0.0985
1	4.92	0.3498	-0.0416	0.0034	-0.1612	0.0143	0.4968	0.0322	-0.1659	0.0881
1	4.92	0.3913	-0.0418	0.0028	-0.2263	0.0168	0.6974	0.0406	-0.1399	0.0820
1	4.92	0.4496	-0.0828	0.0028	-0.3748	0.0241	1.0154	0.0579	-0.2459	0.1181
1	4.92	0.4997	-0.1104	0.0035	-0.4863	0.0307	1.3781	0.0677	-0.0970	0.1023
1	4.92	0.5387	-0.1460	0.0030	-0.5836	0.0350	1.6527	0.0818	-0.2464	0.0950
1	4.92	0.5996	-0.1748	0.0034	-0.7747	0.0424	2.1638	0.0982	0.0204	0.1084
1	4.92	0.6498	-0.2098	0.0039	-0.9210	0.0495	2.5562	0.1152	-0.1619	0.1000
1	4.92	0.6998	-0.2696	0.0044	-1.0850	0.0586	3.0126	0.1296	-0.1801	0.1041
1	4.92	0.7500	-0.2781	0.0047	-1.2249	0.0653	3.4365	0.1437	0.0227	0.0909
1	4.92	0.8001	-0.3052	0.0059	-1.4103	0.0739	3.7781	0.1702	-0.2891	0.1861
1	4.92	0.8497	-0.3324	0.0049	-1.5794	0.0824	4.0661	0.1962	-0.1758	0.1314
1	4.92	0.9102	-0.3317	0.0090	-1.7331	0.0949	4.3357	0.2217	-0.1291	0.1238
1	4.92	0.9734	-0.3469	0.0097	-1.9747	0.1079	4.5382	0.2631	0.0566	0.1579
2	4.92	0.1949	0.0109	0.0027	-0.0125	0.0019	0.0848	0.0059	-0.1607	0.0746
2	4.92	0.2405	0.0094	0.0021	-0.0209	0.0056	0.1519	0.0196	-0.2626	0.0699
2	4.92	0.2999	-0.0118	0.0028	-0.0734	0.0064	0.2806	0.0255	-0.3797	0.1507
2	4.92	0.3498	-0.0421	0.0032	-0.1243	0.0136	0.4679	0.0415	-0.3117	0.0957
2	4.92	0.3998	-0.0651	0.0032	-0.2017	0.0217	0.6888	0.0660	-0.3913	0.1157
2	4.92	0.4496	-0.0923	0.0039	-0.3026	0.0274	0.9731	0.0846	-0.3850	0.1060
2	4.92	0.4995	-0.1260	0.0050	-0.4356	0.0322	1.3082	0.1042	-0.4546	0.1127
2	4.92	0.5551	-0.1536	0.0048	-0.5946	0.0388	1.7523	0.1287	-0.4150	0.1084
2	4.92	0.5996	-0.1880	0.0044	-0.7135	0.0433	2.1309	0.1530	-0.4494	0.0964
2	4.92	0.6497	-0.2178	0.0066	-0.8539	0.0464	2.5788	0.1764	-0.5815	0.1226
2	4.92	0.6996	-0.2312	0.0081	-1.0229	0.0550	3.1088	0.2031	-0.4479	0.1158
2	4.92	0.7495	-0.2660	0.0083	-1.1757	0.0610	3.5446	0.2272	-0.6968	0.1120
2	4.92	0.7996	-0.2973	0.0082	-1.3627	0.0706	4.0137	0.2553	-0.6377	0.1098
2	4.92	0.8578	-0.3314	0.0097	-1.5703	0.0809	4.5360	0.2670	-0.3303	0.1563
2	4.92	0.9727	-0.4122	0.0148	-1.9010	0.0970	5.4465	0.2868	0.0915	0.1618

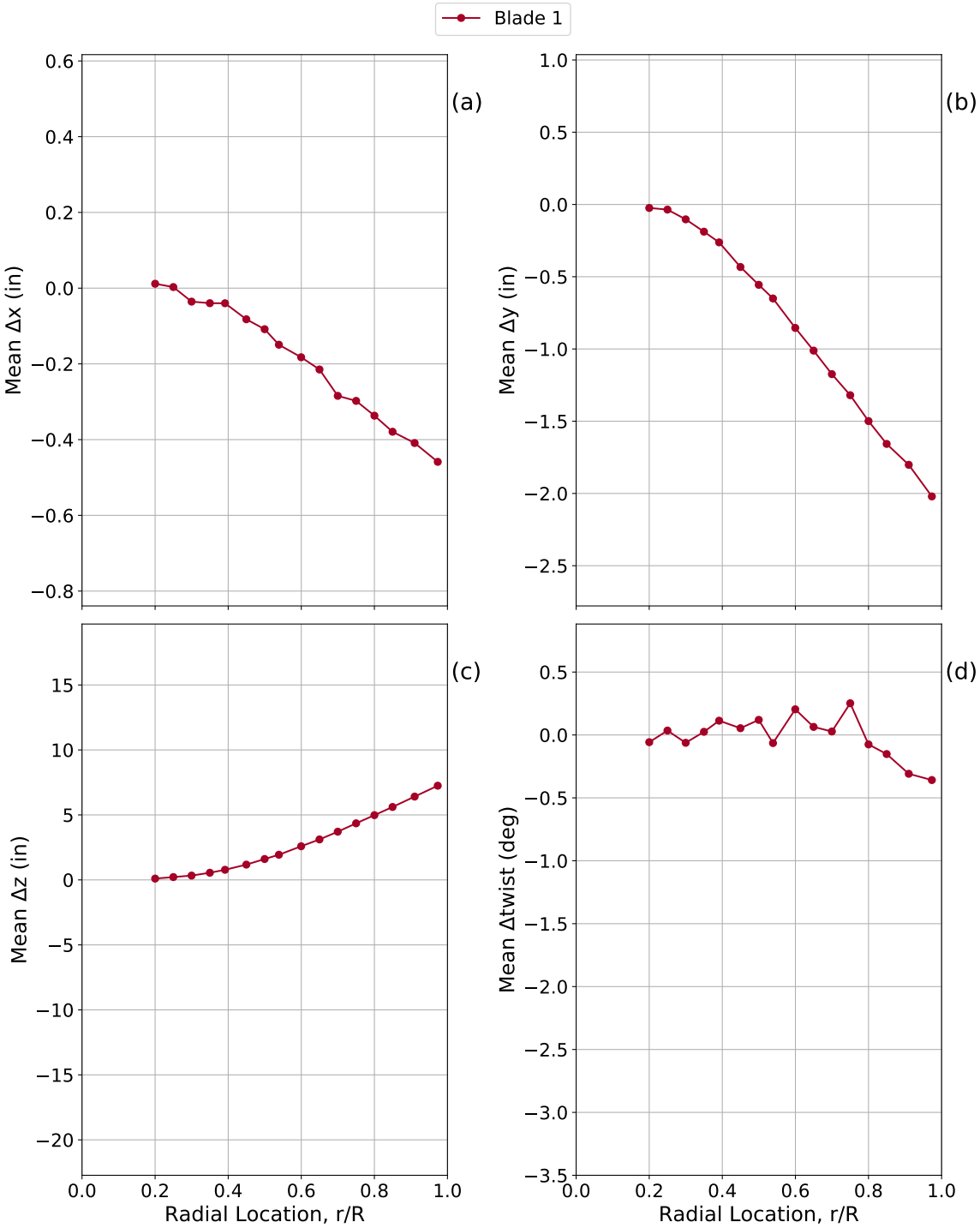


Figure 3.11-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0116	0.0016	-0.0241	0.0015	0.1017	0.0064	-0.0574	0.0476
1	15.12	0.2499	0.0029	0.0022	-0.0354	0.0043	0.2182	0.0136	0.0349	0.0566
1	15.12	0.2998	-0.0356	0.0018	-0.1029	0.0056	0.3335	0.0215	-0.0623	0.0952
1	15.12	0.3498	-0.0397	0.0031	-0.1883	0.0120	0.5507	0.0341	0.0250	0.0802
1	15.12	0.3913	-0.0399	0.0032	-0.2622	0.0162	0.7788	0.0487	0.1135	0.0870
1	15.12	0.4496	-0.0822	0.0038	-0.4327	0.0217	1.1770	0.0645	0.0537	0.0887
1	15.12	0.4997	-0.1084	0.0036	-0.5561	0.0273	1.6070	0.0792	0.1199	0.0998
1	15.12	0.5387	-0.1494	0.0044	-0.6506	0.0313	1.9362	0.0924	-0.0645	0.0987
1	15.12	0.5996	-0.1825	0.0053	-0.8542	0.0401	2.5892	0.1171	0.2039	0.0875
1	15.12	0.6498	-0.2148	0.0069	-1.0114	0.0454	3.1144	0.1414	0.0640	0.0814
1	15.12	0.6998	-0.2844	0.0070	-1.1742	0.0547	3.7103	0.1750	0.0277	0.0914
1	15.12	0.7500	-0.2977	0.0083	-1.3200	0.0631	4.3536	0.2117	0.2520	0.0825
1	15.12	0.8001	-0.3368	0.0115	-1.4991	0.0724	4.9825	0.2514	-0.0752	0.0840
1	15.12	0.8497	-0.3792	0.0120	-1.6571	0.0815	5.6111	0.2936	-0.1517	0.1131
1	15.12	0.9102	-0.4090	0.0132	-1.8018	0.0925	6.4118	0.3491	-0.3086	0.1388
1	15.12	0.9734	-0.4587	0.0212	-2.0205	0.1048	7.2485	0.4022	-0.3584	0.1162

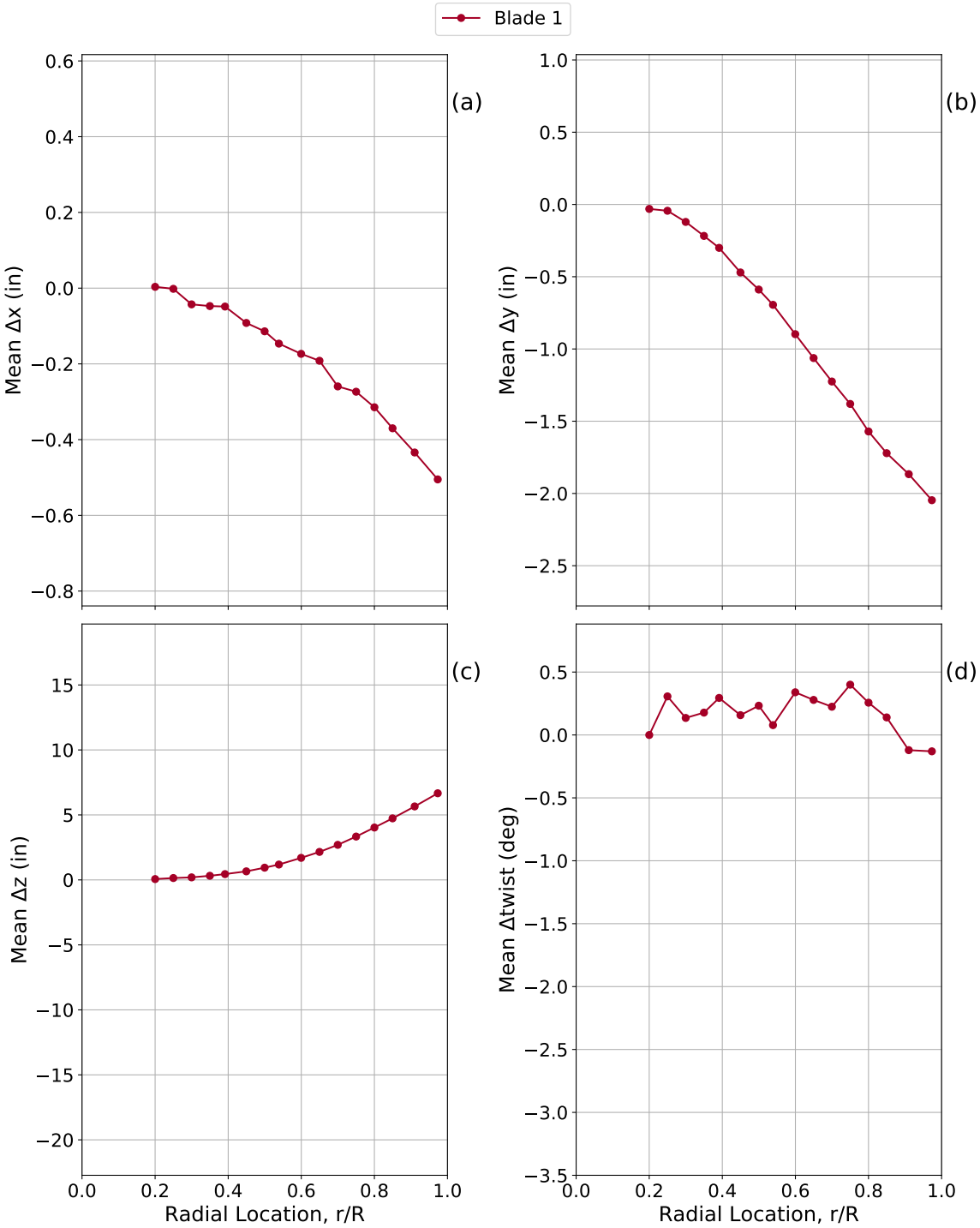


Figure 3.11-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0035	0.0017	-0.0307	0.0009	0.0642	0.0056	-0.0002	0.0344
1	29.88	0.2499	-0.0018	0.0021	-0.0435	0.0039	0.1446	0.0130	0.3066	0.0590
1	29.88	0.2998	-0.0428	0.0021	-0.1207	0.0057	0.1956	0.0202	0.1353	0.0741
1	29.88	0.3498	-0.0473	0.0024	-0.2175	0.0103	0.3172	0.0348	0.1777	0.0848
1	29.88	0.3913	-0.0486	0.0029	-0.3002	0.0157	0.4470	0.0496	0.2944	0.0723
1	29.88	0.4496	-0.0919	0.0034	-0.4705	0.0209	0.6584	0.0707	0.1574	0.1023
1	29.88	0.4997	-0.1140	0.0024	-0.5888	0.0242	0.9417	0.0896	0.2325	0.0884
1	29.88	0.5387	-0.1465	0.0025	-0.6945	0.0280	1.1813	0.1053	0.0782	0.0935
1	29.88	0.5996	-0.1735	0.0036	-0.8976	0.0340	1.6969	0.1264	0.3391	0.0912
1	29.88	0.6498	-0.1918	0.0044	-1.0629	0.0393	2.1550	0.1464	0.2785	0.1057
1	29.88	0.6998	-0.2595	0.0046	-1.2252	0.0454	2.6978	0.1639	0.2244	0.1228
1	29.88	0.7500	-0.2735	0.0058	-1.3805	0.0530	3.3355	0.1880	0.3997	0.1342
1	29.88	0.8001	-0.3146	0.0068	-1.5709	0.0591	4.0311	0.2158	0.2566	0.1403
1	29.88	0.8497	-0.3701	0.0074	-1.7212	0.0660	4.7355	0.2457	0.1395	0.1405
1	29.88	0.9102	-0.4340	0.0098	-1.8665	0.0748	5.6532	0.2821	-0.1207	0.1415
1	29.88	0.9734	-0.5051	0.0120	-2.0468	0.0852	6.6666	0.3203	-0.1301	0.1634

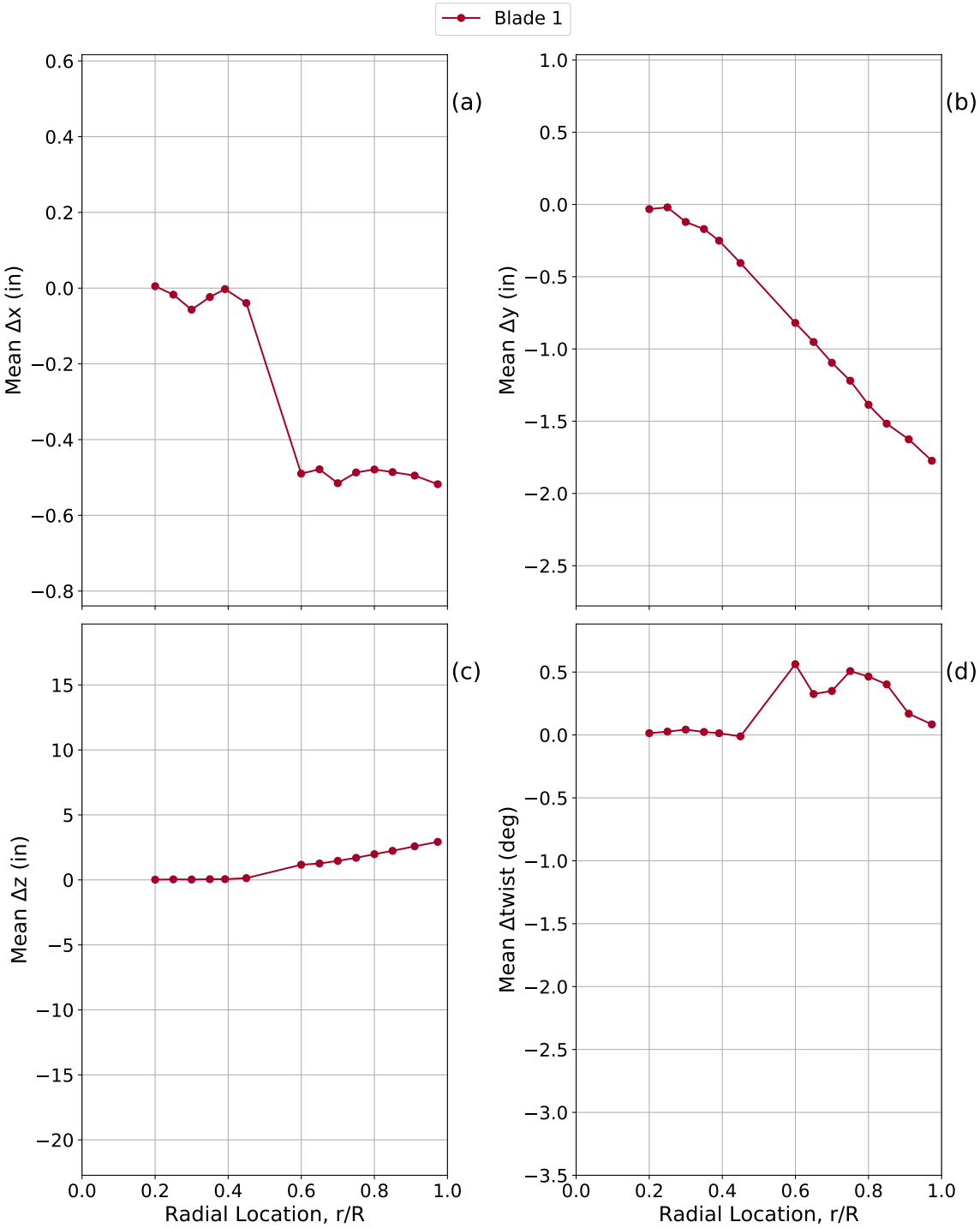


Figure 3.11-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0051	0.0142	-0.0321	0.0021	0.0199	0.0037	0.0142	0.0430
1	45	0.2499	-0.0172	0.0053	-0.0199	0.0059	0.0434	0.0120	0.0267	0.0616
1	45	0.2998	-0.0567	0.0063	-0.1211	0.0105	0.0314	0.0168	0.0425	0.0907
1	45	0.3498	-0.0235	0.0143	-0.1701	0.0185	0.0523	0.0226	0.0240	0.0780
1	45	0.3913	-0.0025	0.0191	-0.2506	0.0272	0.0587	0.0386	0.0139	0.0964
1	45	0.4496	-0.0394	0.0381	-0.4051	0.0434	0.1360	0.0610	-0.0111	0.1694
1	45	0.5996	-0.4898	0.0719	-0.8196	0.1438	1.1667	0.3035	0.5627	0.0777
1	45	0.6498	-0.4784	0.0630	-0.9519	0.1519	1.2647	0.3299	0.3256	0.0743
1	45	0.6998	-0.5151	0.0591	-1.0952	0.1605	1.4656	0.3574	0.3498	0.0548
1	45	0.7500	-0.4867	0.0535	-1.2196	0.1687	1.7009	0.3884	0.5078	0.0762
1	45	0.8001	-0.4789	0.0495	-1.3861	0.1760	1.9808	0.4143	0.4639	0.0821
1	45	0.8497	-0.4858	0.0506	-1.5169	0.1832	2.2398	0.4398	0.4022	0.0800
1	45	0.9102	-0.4950	0.0555	-1.6256	0.1897	2.5838	0.4622	0.1689	0.0954
1	45	0.9734	-0.5178	0.0629	-1.7736	0.1965	2.9275	0.4889	0.0840	0.0766

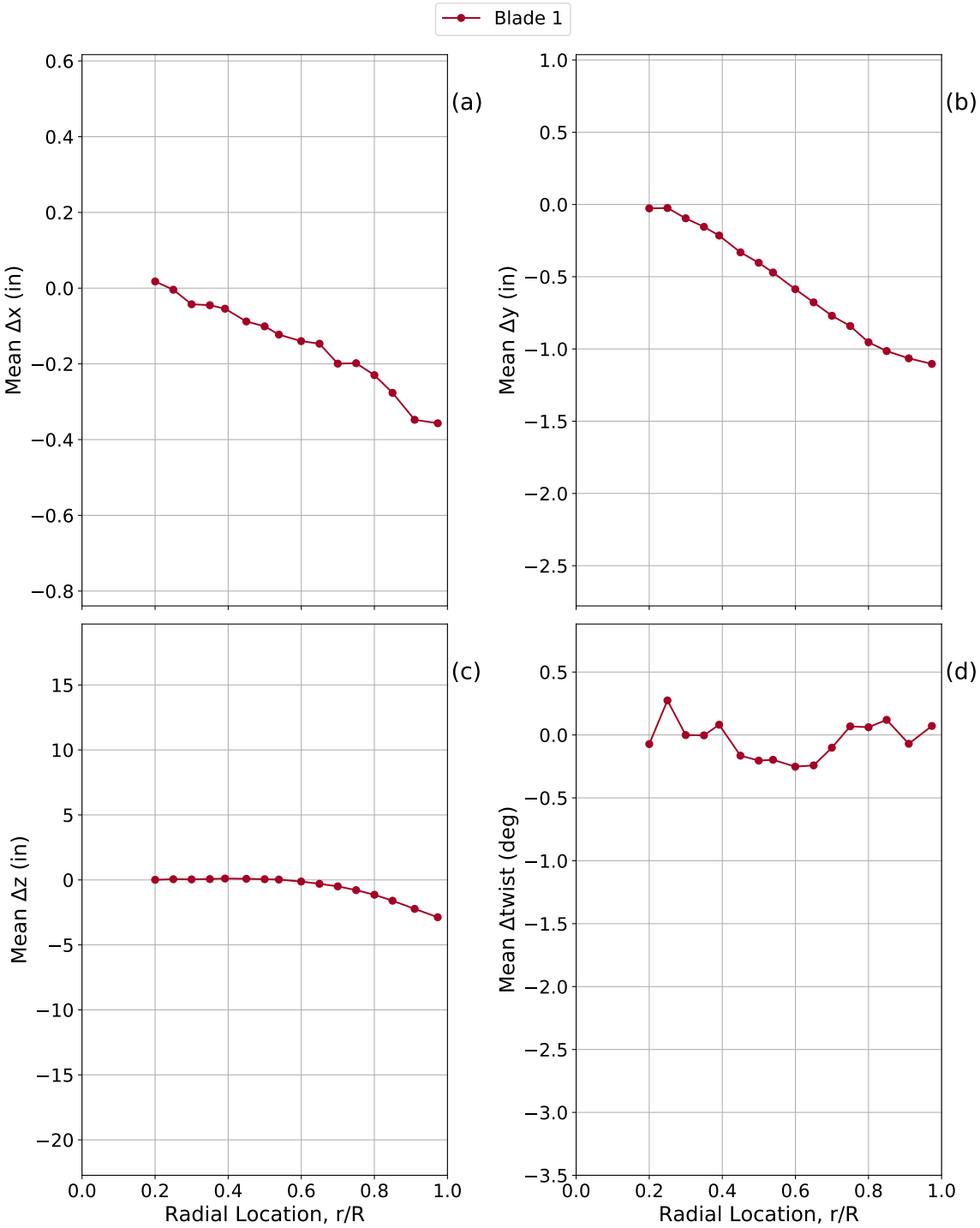


Figure 3.11-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0177	0.0020	-0.0269	0.0012	0.0102	0.0059	-0.0723	0.0333
1	60.12	0.2499	-0.0042	0.0019	-0.0245	0.0040	0.0550	0.0120	0.2744	0.0540
1	60.12	0.2998	-0.0426	0.0020	-0.0957	0.0066	0.0412	0.0229	-0.0006	0.0760
1	60.12	0.3498	-0.0450	0.0028	-0.1549	0.0111	0.0663	0.0376	-0.0032	0.0717
1	60.12	0.3913	-0.0543	0.0029	-0.2149	0.0173	0.1074	0.0547	0.0814	0.0665
1	60.12	0.4496	-0.0880	0.0034	-0.3311	0.0258	0.0872	0.0786	-0.1645	0.0908
1	60.12	0.4997	-0.1009	0.0036	-0.4035	0.0335	0.0560	0.1052	-0.2038	0.1063
1	60.12	0.5387	-0.1227	0.0040	-0.4708	0.0430	0.0258	0.1288	-0.1974	0.0995
1	60.12	0.5996	-0.1399	0.0049	-0.5861	0.0550	-0.1248	0.1661	-0.2520	0.0986
1	60.12	0.6498	-0.1467	0.0047	-0.6774	0.0663	-0.3007	0.1993	-0.2419	0.0997
1	60.12	0.6998	-0.1993	0.0055	-0.7702	0.0790	-0.4965	0.2333	-0.1014	0.1154
1	60.12	0.7500	-0.1982	0.0049	-0.8412	0.0917	-0.7858	0.2665	0.0684	0.1075
1	60.12	0.8001	-0.2297	0.0047	-0.9535	0.1066	-1.1424	0.3025	0.0615	0.1133
1	60.12	0.8497	-0.2765	0.0051	-1.0145	0.1198	-1.6003	0.3377	0.1203	0.1135
1	60.12	0.9102	-0.3476	0.0056	-1.0648	0.1382	-2.2291	0.3858	-0.0700	0.1188
1	60.12	0.9734	-0.3568	0.0080	-1.1033	0.1564	-2.8724	0.4385	0.0715	0.1111

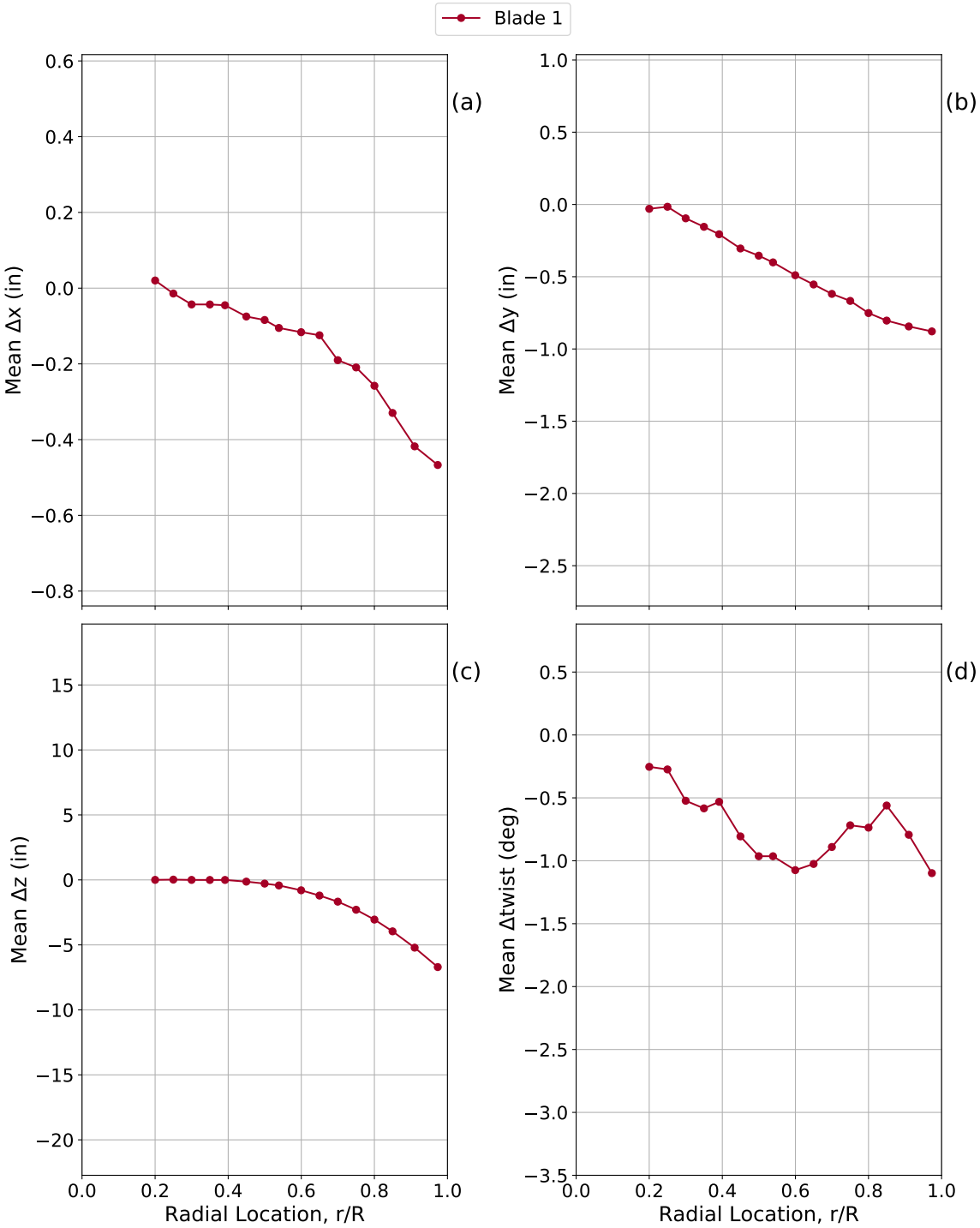


Figure 3.11-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0202	0.0020	-0.0299	0.0010	0.0028	0.0058	-0.2532	0.0288
1	74.88	0.2499	-0.0142	0.0023	-0.0158	0.0019	0.0220	0.0121	-0.2740	0.0514
1	74.88	0.2998	-0.0430	0.0025	-0.0959	0.0041	-0.0000	0.0230	-0.5230	0.0659
1	74.88	0.3498	-0.0431	0.0025	-0.1545	0.0061	-0.0044	0.0396	-0.5835	0.0563
1	74.88	0.3913	-0.0451	0.0019	-0.2062	0.0093	-0.0035	0.0572	-0.5314	0.0628
1	74.88	0.4496	-0.0749	0.0043	-0.3046	0.0116	-0.1319	0.0803	-0.8063	0.0810
1	74.88	0.4997	-0.0841	0.0034	-0.3544	0.0138	-0.2835	0.1024	-0.9639	0.0652
1	74.88	0.5387	-0.1051	0.0041	-0.4007	0.0172	-0.4252	0.1201	-0.9639	0.0728
1	74.88	0.5996	-0.1163	0.0036	-0.4896	0.0217	-0.7992	0.1490	-1.0746	0.0745
1	74.88	0.6498	-0.1244	0.0042	-0.5538	0.0273	-1.2048	0.1731	-1.0252	0.0650
1	74.88	0.6998	-0.1902	0.0045	-0.6188	0.0338	-1.6730	0.1971	-0.8906	0.0703
1	74.88	0.7500	-0.2094	0.0054	-0.6673	0.0391	-2.2947	0.2214	-0.7180	0.0618
1	74.88	0.8001	-0.2578	0.0065	-0.7515	0.0482	-3.0526	0.2504	-0.7366	0.0681
1	74.88	0.8497	-0.3296	0.0090	-0.8036	0.0547	-3.9575	0.2832	-0.5609	0.0694
1	74.88	0.9102	-0.4178	0.0125	-0.8442	0.0637	-5.2121	0.3260	-0.7934	0.0950
1	74.88	0.9734	-0.4670	0.0149	-0.8784	0.0742	-6.7067	0.3624	-1.0984	0.1240

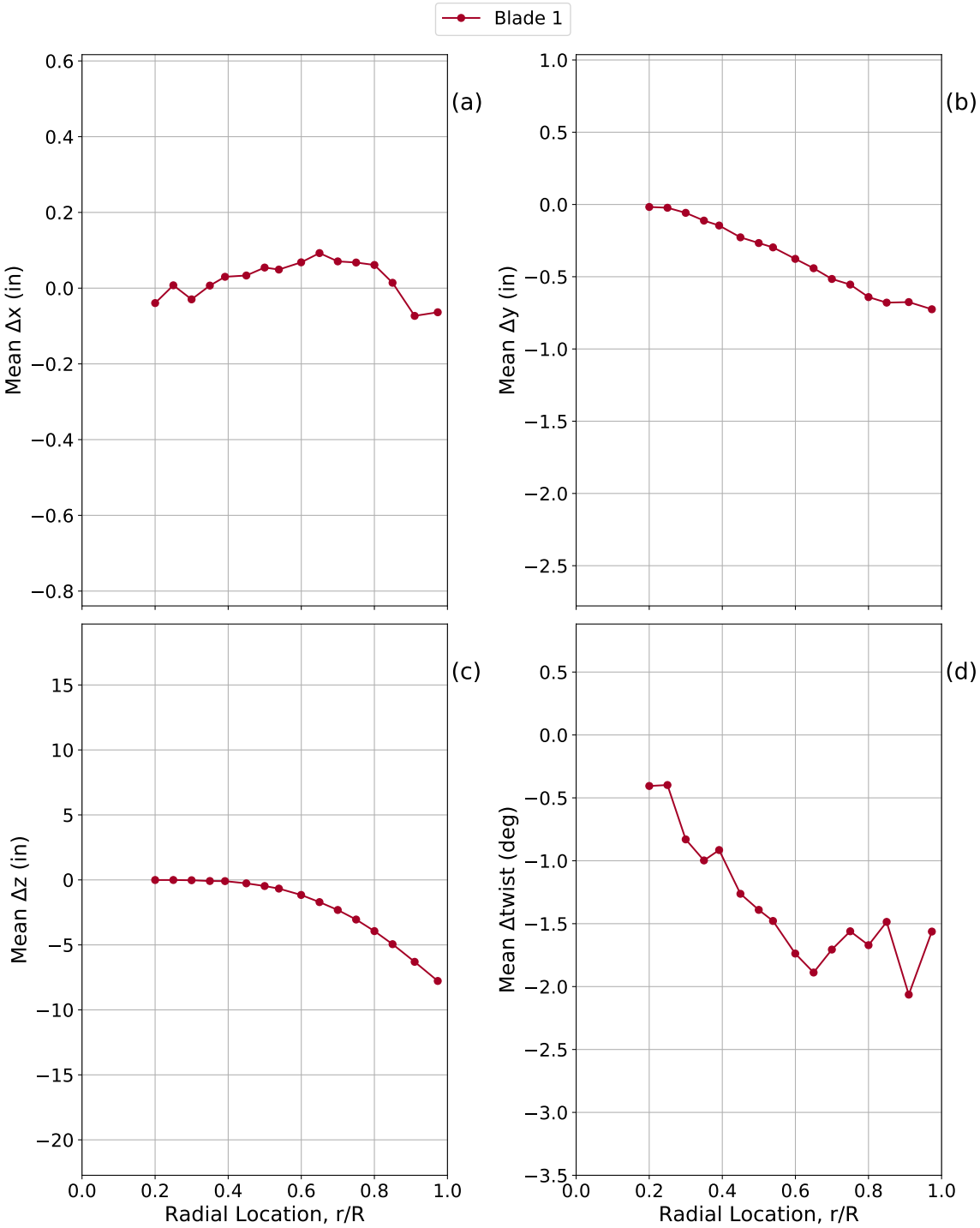


Figure 3.11-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0394	0.0276	-0.0172	0.0015	-0.0077	0.0059	-0.4055	0.0344
1	80.16	0.2499	0.0075	0.0071	-0.0227	0.0019	-0.0071	0.0117	-0.3980	0.0736
1	80.16	0.2998	-0.0296	0.0107	-0.0579	0.0052	-0.0249	0.0209	-0.8300	0.0769
1	80.16	0.3498	0.0068	0.0252	-0.1116	0.0085	-0.0842	0.0373	-0.9973	0.0759
1	80.16	0.3913	0.0300	0.0321	-0.1456	0.0118	-0.0925	0.0521	-0.9147	0.0933
1	80.16	0.4496	0.0334	0.0394	-0.2274	0.0157	-0.2643	0.0756	-1.2626	0.0844
1	80.16	0.4997	0.0544	0.0409	-0.2668	0.0213	-0.4707	0.0966	-1.3903	0.0919
1	80.16	0.5387	0.0491	0.0404	-0.2970	0.0250	-0.6688	0.1123	-1.4784	0.1027
1	80.16	0.5996	0.0682	0.0358	-0.3765	0.0322	-1.1577	0.1424	-1.7376	0.1049
1	80.16	0.6498	0.0926	0.0310	-0.4413	0.0387	-1.7081	0.1664	-1.8883	0.1106
1	80.16	0.6998	0.0707	0.0266	-0.5155	0.0451	-2.3136	0.1940	-1.7057	0.0954
1	80.16	0.7500	0.0677	0.0301	-0.5544	0.0529	-3.0474	0.2181	-1.5604	0.1237
1	80.16	0.8001	0.0612	0.0414	-0.6411	0.0641	-3.9402	0.2504	-1.6708	0.1145
1	80.16	0.8497	0.0142	0.0598	-0.6793	0.0744	-4.9451	0.2813	-1.4857	0.1187
1	80.16	0.9102	-0.0732	0.0887	-0.6756	0.0882	-6.3040	0.3148	-2.0639	0.1127
1	80.16	0.9734	-0.0637	0.1230	-0.7252	0.1073	-7.7754	0.3596	-1.5627	0.1233

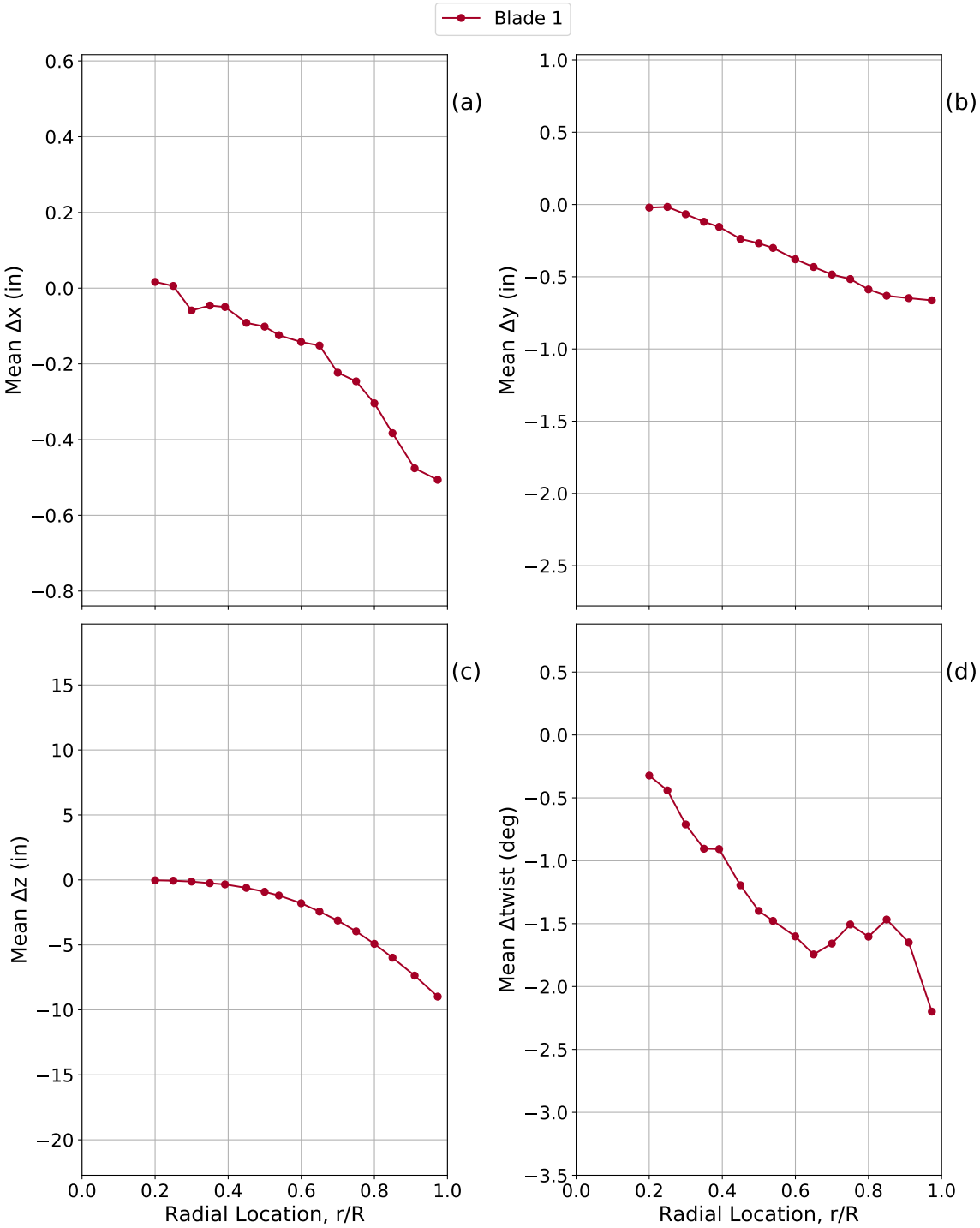


Figure 3.11-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0166	0.0033	-0.0212	0.0015	-0.0294	0.0093	-0.3223	0.0340
1	85.08	0.2499	0.0059	0.0018	-0.0166	0.0022	-0.0592	0.0179	-0.4409	0.0603
1	85.08	0.2998	-0.0590	0.0022	-0.0671	0.0058	-0.1262	0.0374	-0.7109	0.0779
1	85.08	0.3498	-0.0459	0.0024	-0.1193	0.0093	-0.2501	0.0625	-0.9040	0.0686
1	85.08	0.3913	-0.0498	0.0037	-0.1549	0.0135	-0.3428	0.0905	-0.9070	0.0550
1	85.08	0.4496	-0.0916	0.0032	-0.2377	0.0209	-0.6114	0.1330	-1.1943	0.0778
1	85.08	0.4997	-0.1016	0.0030	-0.2682	0.0275	-0.9130	0.1675	-1.3981	0.0858
1	85.08	0.5387	-0.1243	0.0037	-0.3007	0.0338	-1.1971	0.1939	-1.4779	0.0981
1	85.08	0.5996	-0.1423	0.0050	-0.3791	0.0431	-1.7932	0.2361	-1.6014	0.0739
1	85.08	0.6498	-0.1517	0.0057	-0.4325	0.0514	-2.4356	0.2634	-1.7446	0.0905
1	85.08	0.6998	-0.2233	0.0069	-0.4845	0.0609	-3.1289	0.2876	-1.6584	0.0938
1	85.08	0.7500	-0.2462	0.0073	-0.5161	0.0707	-3.9622	0.3116	-1.5068	0.1041
1	85.08	0.8001	-0.3043	0.0099	-0.5880	0.0810	-4.9217	0.3354	-1.6038	0.1078
1	85.08	0.8497	-0.3831	0.0125	-0.6315	0.0912	-5.9874	0.3598	-1.4671	0.0946
1	85.08	0.9102	-0.4758	0.0151	-0.6481	0.1050	-7.3656	0.3903	-1.6497	0.1051
1	85.08	0.9734	-0.5063	0.0172	-0.6633	0.1205	-8.9844	0.4284	-2.1993	0.1170

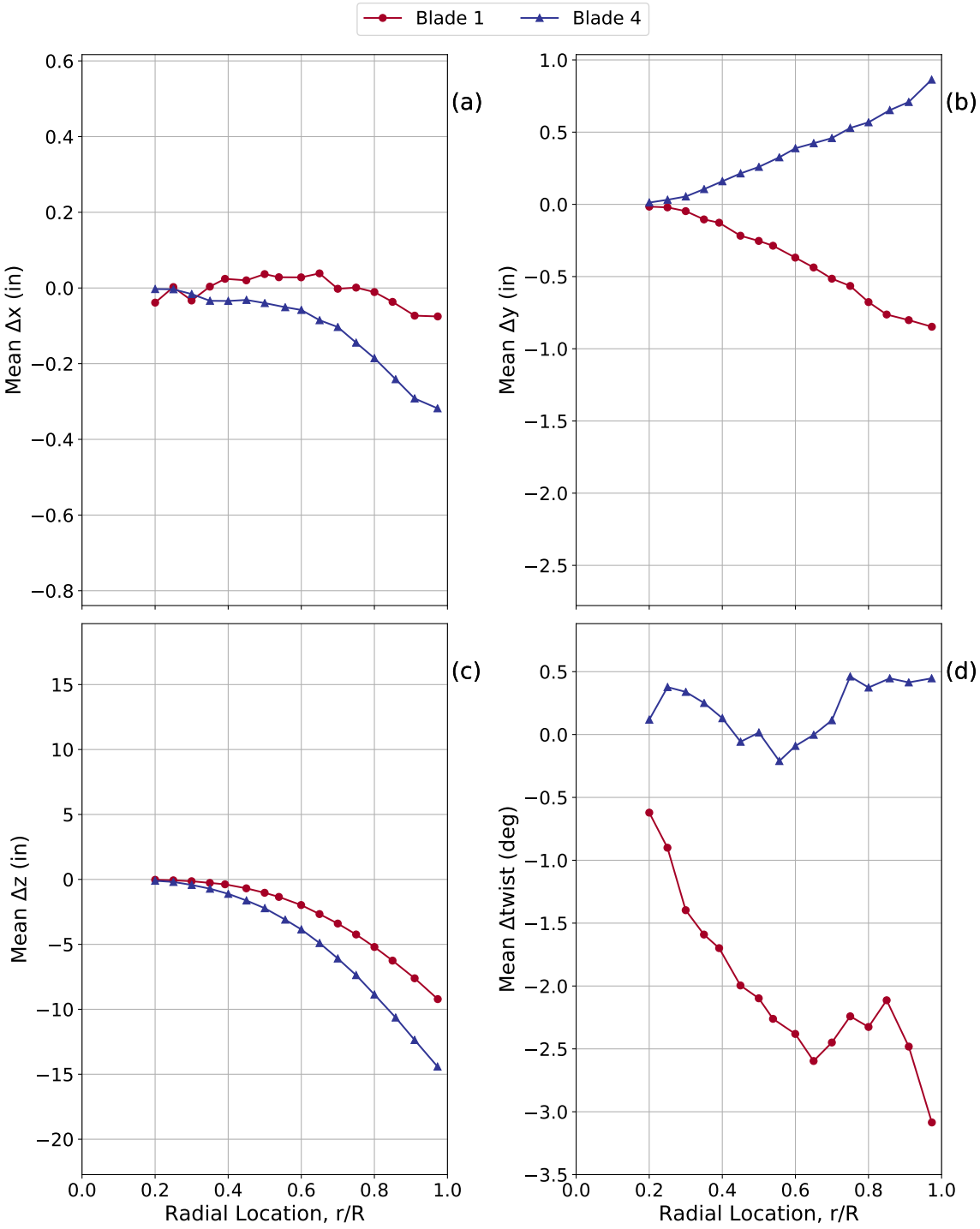


Figure 3.11-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0387	0.0284	-0.0157	0.0012	-0.0312	0.0071	-0.6212	0.0429
1	90	0.2499	0.0024	0.0071	-0.0209	0.0016	-0.0712	0.0090	-0.9002	0.0958
1	90	0.2998	-0.0331	0.0120	-0.0469	0.0046	-0.1396	0.0223	-1.3970	0.1042
1	90	0.3498	0.0036	0.0269	-0.1043	0.0076	-0.2706	0.0385	-1.5908	0.0931
1	90	0.3913	0.0242	0.0344	-0.1271	0.0107	-0.3785	0.0513	-1.6987	0.1002
1	90	0.4496	0.0202	0.0422	-0.2172	0.0161	-0.6872	0.0730	-1.9957	0.1007
1	90	0.4997	0.0367	0.0429	-0.2532	0.0219	-1.0299	0.0892	-2.0977	0.1092
1	90	0.5387	0.0284	0.0413	-0.2865	0.0263	-1.3491	0.1037	-2.2610	0.1160
1	90	0.5996	0.0281	0.0345	-0.3688	0.0334	-1.9740	0.1273	-2.3810	0.1107
1	90	0.6498	0.0386	0.0244	-0.4370	0.0402	-2.6690	0.1438	-2.5964	0.1266
1	90	0.6998	-0.0021	0.0181	-0.5148	0.0482	-3.3986	0.1616	-2.4493	0.1367
1	90	0.7500	0.0010	0.0247	-0.5650	0.0566	-4.2406	0.1770	-2.2409	0.1469
1	90	0.8001	-0.0108	0.0462	-0.6768	0.0665	-5.2039	0.1964	-2.3258	0.1597
1	90	0.8497	-0.0367	0.0720	-0.7628	0.0758	-6.2518	0.2202	-2.1132	0.1674
1	90	0.9102	-0.0731	0.1107	-0.8017	0.0886	-7.6141	0.2504	-2.4818	0.1974
1	90	0.9734	-0.0752	0.1517	-0.8475	0.1154	-9.2158	0.2884	-3.0851	0.2050
4	90.35	0.2001	-0.0029	0.0329	0.0124	0.0015	-0.1058	0.0071	0.1182	0.0392
4	90.35	0.2502	-0.0034	0.0081	0.0318	0.0042	-0.1968	0.0147	0.3773	0.0744
4	90.35	0.3001	-0.0161	0.0146	0.0544	0.0070	-0.4269	0.0298	0.3390	0.0929
4	90.35	0.3502	-0.0339	0.0282	0.1056	0.0133	-0.7168	0.0520	0.2507	0.0791
4	90.35	0.4002	-0.0343	0.0388	0.1599	0.0206	-1.1129	0.0807	0.1298	0.0792
4	90.35	0.4500	-0.0316	0.0443	0.2141	0.0281	-1.6273	0.1092	-0.0575	0.0948
4	90.35	0.5001	-0.0399	0.0469	0.2594	0.0365	-2.2204	0.1428	0.0158	0.0915
4	90.35	0.5560	-0.0508	0.0429	0.3258	0.0471	-3.0995	0.1818	-0.2109	0.1305
4	90.35	0.6001	-0.0581	0.0377	0.3885	0.0552	-3.8553	0.2154	-0.0906	0.1156
4	90.35	0.6501	-0.0852	0.0295	0.4232	0.0651	-4.9028	0.2504	-0.0023	0.1317
4	90.35	0.6999	-0.1032	0.0245	0.4588	0.0755	-6.0905	0.2874	0.1136	0.1551
4	90.35	0.7500	-0.1445	0.0345	0.5290	0.0867	-7.3712	0.3310	0.4617	0.1537
4	90.35	0.8002	-0.1856	0.0560	0.5682	0.0996	-8.8678	0.3771	0.3738	0.1613
4	90.35	0.8582	-0.2411	0.0898	0.6522	0.1138	-10.6362	0.4327	0.4469	0.1620
4	90.35	0.9101	-0.2920	0.1259	0.7088	0.1278	-12.3648	0.4836	0.4147	0.1719
4	90.35	0.9728	-0.3180	0.1730	0.8636	0.1415	-14.4135	0.5502	0.4470	0.1739

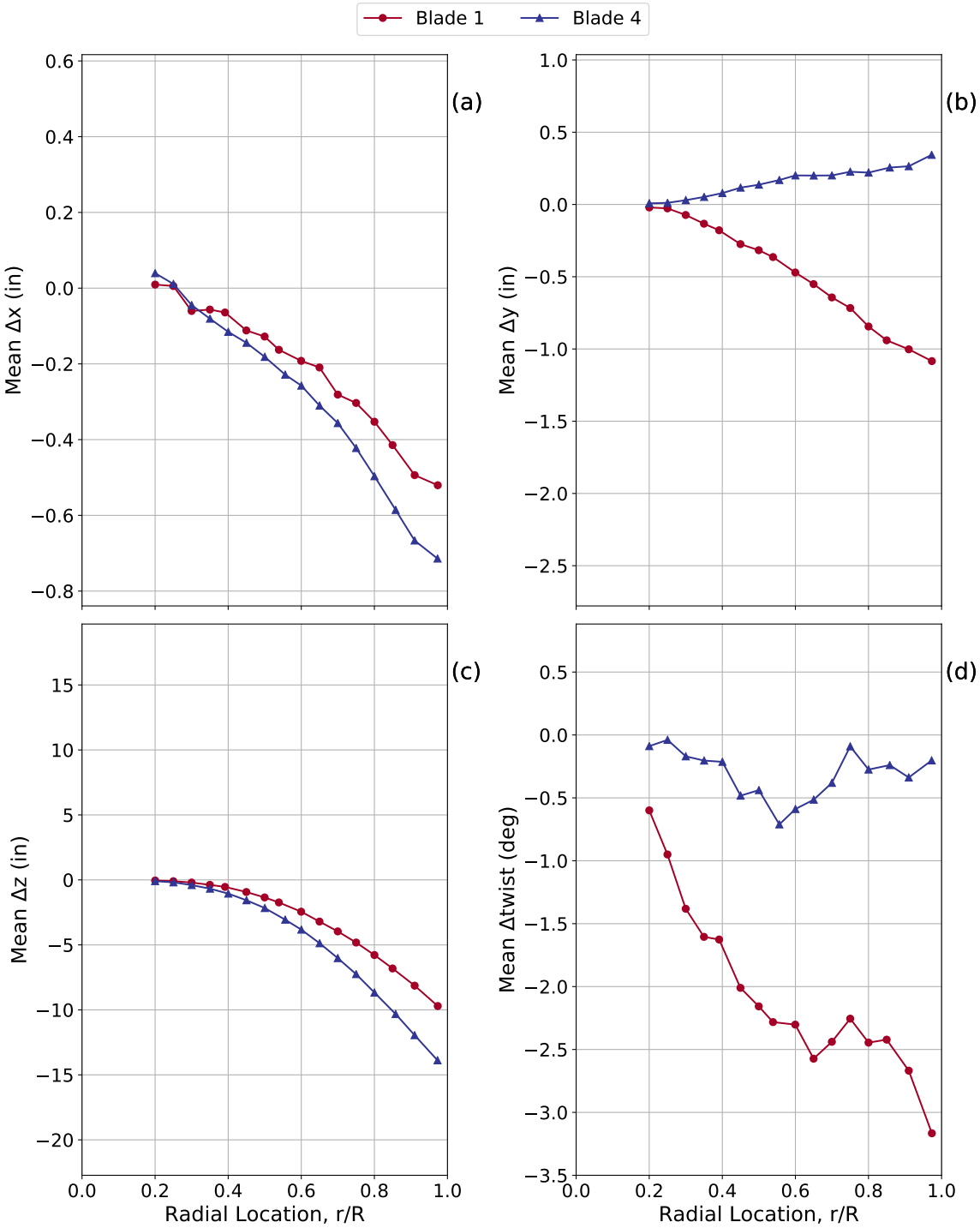


Figure 3.11-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	0.0094	0.0041	-0.0206	0.0015	-0.0450	0.0058	-0.5994	0.0351
1	94.92	0.2499	0.0056	0.0018	-0.0270	0.0035	-0.0999	0.0110	-0.9499	0.0638
1	94.92	0.2998	-0.0603	0.0013	-0.0727	0.0066	-0.2030	0.0213	-1.3813	0.0805
1	94.92	0.3498	-0.0566	0.0034	-0.1332	0.0116	-0.3802	0.0355	-1.6048	0.0772
1	94.92	0.3913	-0.0642	0.0023	-0.1786	0.0169	-0.5387	0.0507	-1.6260	0.0476
1	94.92	0.4496	-0.1117	0.0024	-0.2744	0.0231	-0.9304	0.0711	-2.0101	0.0665
1	94.92	0.4997	-0.1278	0.0036	-0.3166	0.0322	-1.3494	0.0895	-2.1572	0.0691
1	94.92	0.5387	-0.1628	0.0033	-0.3639	0.0391	-1.7336	0.1075	-2.2823	0.0661
1	94.92	0.5996	-0.1920	0.0045	-0.4707	0.0502	-2.4453	0.1366	-2.3024	0.0700
1	94.92	0.6498	-0.2095	0.0051	-0.5511	0.0611	-3.2051	0.1626	-2.5732	0.0609
1	94.92	0.6998	-0.2811	0.0057	-0.6433	0.0720	-3.9625	0.1827	-2.4390	0.0764
1	94.92	0.7500	-0.3032	0.0075	-0.7166	0.0842	-4.8187	0.2059	-2.2551	0.0783
1	94.92	0.8001	-0.3528	0.0092	-0.8445	0.0965	-5.7804	0.2329	-2.4454	0.0642
1	94.92	0.8497	-0.4144	0.0110	-0.9401	0.1095	-6.8129	0.2597	-2.4218	0.0722
1	94.92	0.9102	-0.4938	0.0127	-1.0024	0.1252	-8.1361	0.2976	-2.6684	0.0766
1	94.92	0.9734	-0.5205	0.0162	-1.0841	0.1421	-9.7039	0.3408	-3.1661	0.0804
4	94.92	0.2001	0.0395	0.0023	0.0077	0.0012	-0.0949	0.0063	-0.0889	0.0255
4	94.92	0.2502	0.0109	0.0018	0.0113	0.0026	-0.1887	0.0148	-0.0393	0.0424
4	94.92	0.3001	-0.0449	0.0022	0.0299	0.0049	-0.3985	0.0277	-0.1701	0.0558
4	94.92	0.3502	-0.0807	0.0024	0.0521	0.0088	-0.6755	0.0466	-0.2037	0.0617
4	94.92	0.4002	-0.1155	0.0018	0.0788	0.0135	-1.0547	0.0740	-0.2138	0.0807
4	94.92	0.4500	-0.1444	0.0024	0.1163	0.0192	-1.5673	0.1060	-0.4825	0.0740
4	94.92	0.5001	-0.1816	0.0034	0.1369	0.0284	-2.1651	0.1471	-0.4386	0.0654
4	94.92	0.5560	-0.2285	0.0053	0.1690	0.0374	-3.0618	0.1980	-0.7111	0.0854
4	94.92	0.6001	-0.2575	0.0078	0.2010	0.0462	-3.8277	0.2485	-0.5888	0.0905
4	94.92	0.6501	-0.3103	0.0118	0.2001	0.0574	-4.8737	0.3109	-0.5144	0.0966
4	94.92	0.6999	-0.3564	0.0159	0.2010	0.0694	-6.0202	0.3789	-0.3808	0.0946
4	94.92	0.7500	-0.4223	0.0211	0.2265	0.0819	-7.2493	0.4523	-0.0910	0.1062
4	94.92	0.8002	-0.4967	0.0271	0.2206	0.0957	-8.6694	0.5306	-0.2751	0.0948
4	94.92	0.8582	-0.5858	0.0346	0.2555	0.1114	-10.3232	0.6192	-0.2396	0.1033
4	94.92	0.9101	-0.6665	0.0409	0.2645	0.1273	-11.9484	0.6968	-0.3380	0.1175
4	94.92	0.9728	-0.7142	0.0452	0.3434	0.1451	-13.8834	0.7922	-0.2026	0.1184

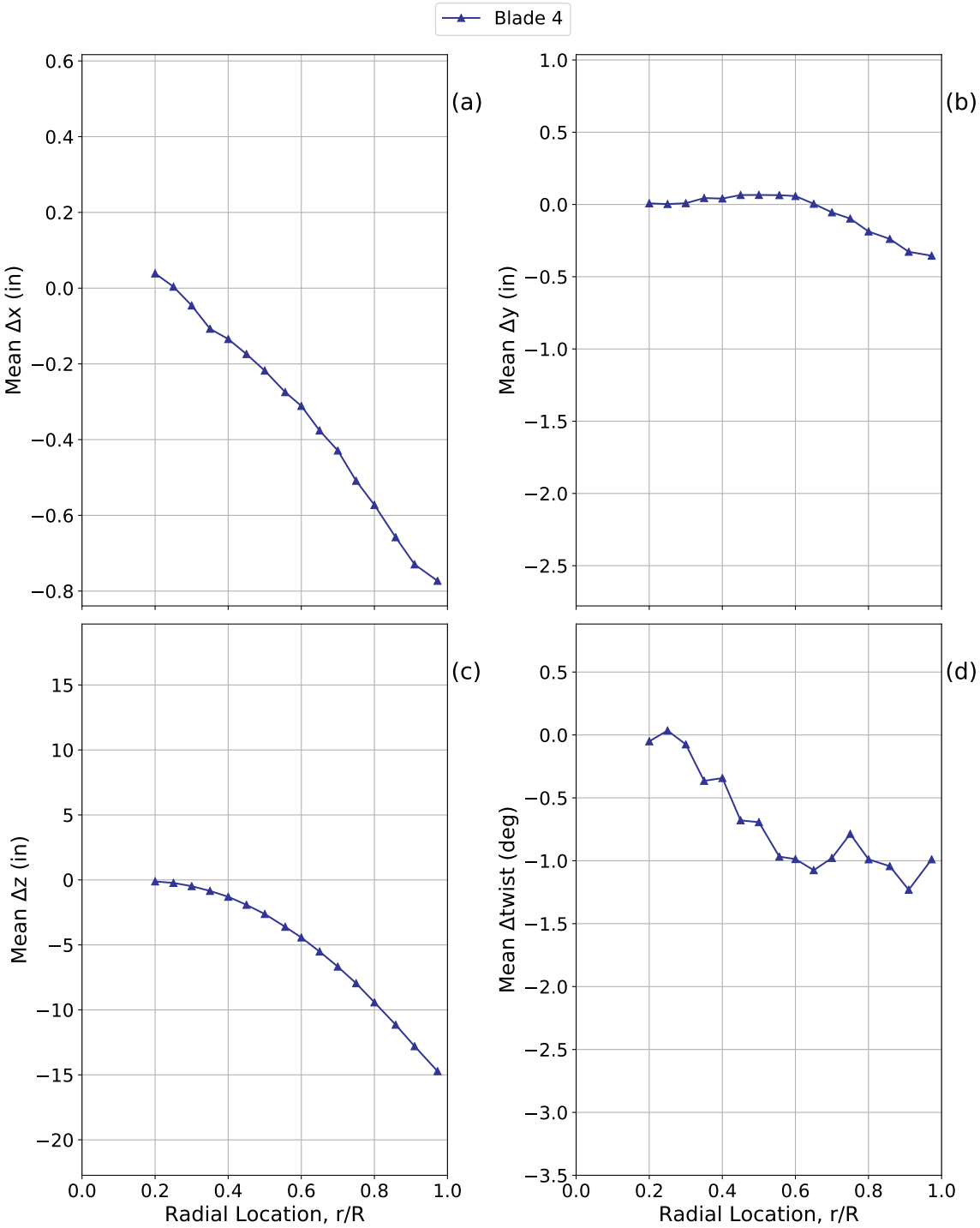


Figure 3.11-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	0.0387	0.0022	0.0077	0.0013	-0.1180	0.0044	-0.0507	0.0310
4	105.12	0.2502	0.0038	0.0028	0.0029	0.0035	-0.2315	0.0052	0.0351	0.0808
4	105.12	0.3001	-0.0459	0.0021	0.0087	0.0052	-0.4806	0.0142	-0.0751	0.0784
4	105.12	0.3502	-0.1073	0.0021	0.0442	0.0099	-0.8469	0.0222	-0.3648	0.0731
4	105.12	0.4002	-0.1345	0.0034	0.0411	0.0152	-1.2982	0.0332	-0.3427	0.0883
4	105.12	0.4500	-0.1741	0.0040	0.0653	0.0188	-1.9181	0.0479	-0.6787	0.0857
4	105.12	0.5001	-0.2179	0.0052	0.0658	0.0244	-2.6241	0.0620	-0.6935	0.0949
4	105.12	0.5560	-0.2747	0.0054	0.0645	0.0314	-3.6103	0.0852	-0.9674	0.0819
4	105.12	0.6001	-0.3111	0.0060	0.0582	0.0375	-4.4321	0.1020	-0.9866	0.0790
4	105.12	0.6501	-0.3761	0.0074	0.0045	0.0444	-5.5157	0.1223	-1.0751	0.0839
4	105.12	0.6999	-0.4290	0.0091	-0.0548	0.0530	-6.6753	0.1442	-0.9783	0.0890
4	105.12	0.7500	-0.5088	0.0116	-0.0977	0.0617	-7.9537	0.1672	-0.7864	0.0987
4	105.12	0.8002	-0.5728	0.0140	-0.1869	0.0704	-9.4229	0.1951	-0.9889	0.0956
4	105.12	0.8582	-0.6579	0.0168	-0.2386	0.0815	-11.1440	0.2275	-1.0430	0.0903
4	105.12	0.9101	-0.7296	0.0185	-0.3275	0.0924	-12.7977	0.2542	-1.2310	0.0953
4	105.12	0.9728	-0.7730	0.0227	-0.3548	0.1045	-14.7185	0.2918	-0.9887	0.0859

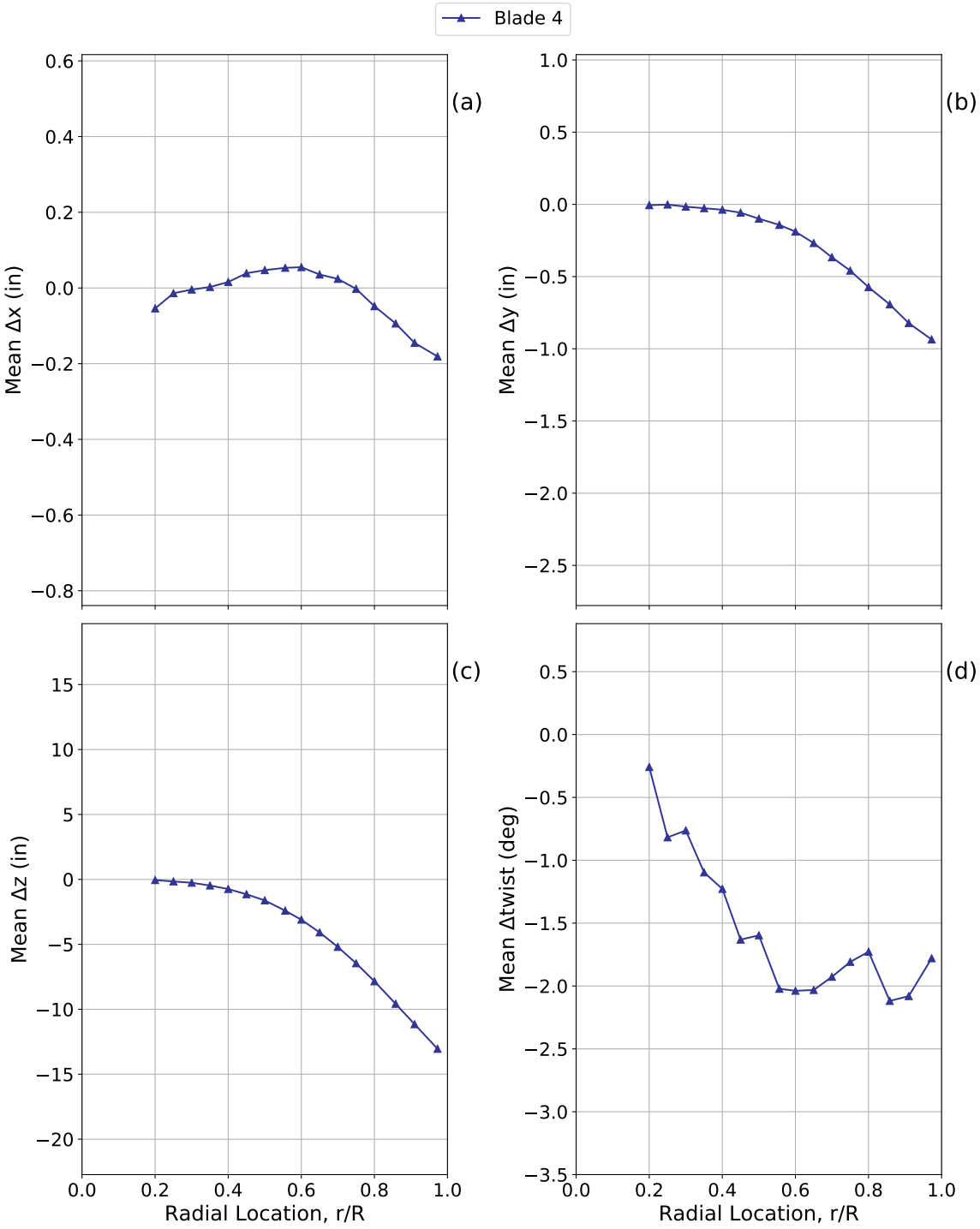


Figure 3.11-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0541	0.0047	-0.0057	0.0011	-0.0534	0.0038	-0.2586	0.0357
4	119.88	0.2502	-0.0139	0.0019	-0.0017	0.0025	-0.1585	0.0071	-0.8179	0.0540
4	119.88	0.3001	-0.0043	0.0020	-0.0162	0.0031	-0.2580	0.0141	-0.7629	0.0801
4	119.88	0.3502	0.0025	0.0042	-0.0269	0.0062	-0.4726	0.0242	-1.0967	0.0693
4	119.88	0.4002	0.0159	0.0072	-0.0373	0.0091	-0.7429	0.0367	-1.2279	0.0858
4	119.88	0.4500	0.0389	0.0094	-0.0578	0.0126	-1.1444	0.0521	-1.6313	0.0774
4	119.88	0.5001	0.0471	0.0128	-0.0994	0.0174	-1.6198	0.0742	-1.5969	0.0826
4	119.88	0.5560	0.0533	0.0156	-0.1424	0.0231	-2.4097	0.1061	-2.0224	0.0877
4	119.88	0.6001	0.0549	0.0175	-0.1889	0.0279	-3.1018	0.1353	-2.0380	0.0791
4	119.88	0.6501	0.0355	0.0207	-0.2682	0.0348	-4.0806	0.1758	-2.0320	0.0901
4	119.88	0.6999	0.0240	0.0239	-0.3667	0.0437	-5.1992	0.2248	-1.9270	0.0961
4	119.88	0.7500	-0.0023	0.0288	-0.4592	0.0525	-6.4596	0.2790	-1.8084	0.1086
4	119.88	0.8002	-0.0482	0.0340	-0.5736	0.0621	-7.8459	0.3443	-1.7275	0.1223
4	119.88	0.8582	-0.0939	0.0425	-0.6929	0.0753	-9.5808	0.4343	-2.1186	0.1276
4	119.88	0.9101	-0.1452	0.0492	-0.8223	0.0863	-11.1534	0.5299	-2.0806	0.1379
4	119.88	0.9728	-0.1810	0.0624	-0.9360	0.1023	-13.0448	0.6612	-1.7796	0.1764

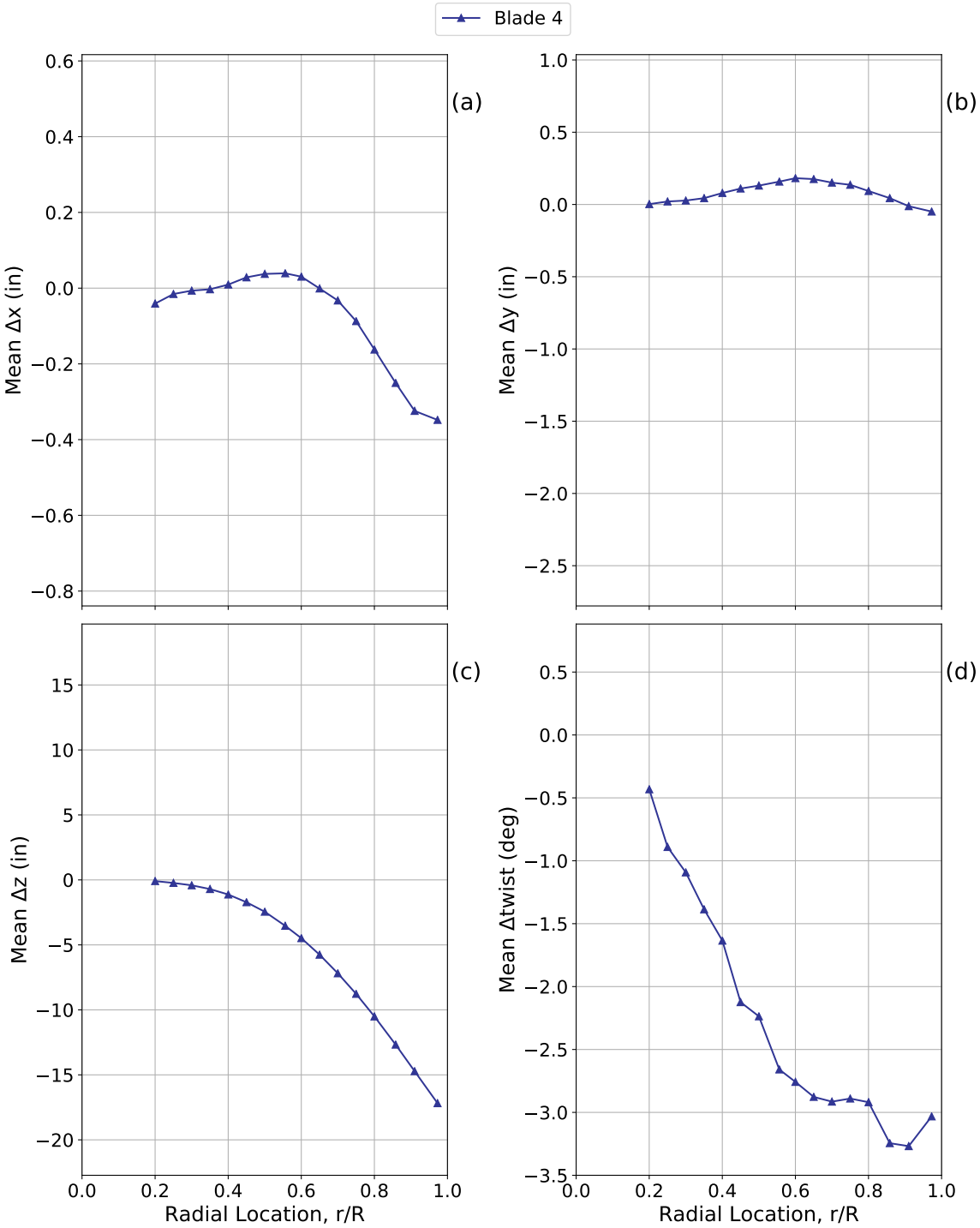


Figure 3.11-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0408	0.0039	0.0024	0.0008	-0.0905	0.0053	-0.4320	0.0230
4	135	0.2502	-0.0155	0.0026	0.0206	0.0020	-0.2337	0.0113	-0.8906	0.0342
4	135	0.3001	-0.0066	0.0020	0.0271	0.0039	-0.4156	0.0203	-1.0926	0.0458
4	135	0.3502	-0.0030	0.0026	0.0437	0.0065	-0.7042	0.0380	-1.3864	0.0400
4	135	0.4002	0.0094	0.0049	0.0794	0.0103	-1.1242	0.0565	-1.6351	0.0481
4	135	0.4500	0.0285	0.0058	0.1102	0.0130	-1.7175	0.0839	-2.1239	0.0667
4	135	0.5001	0.0376	0.0078	0.1306	0.0157	-2.4486	0.1185	-2.2367	0.0621
4	135	0.5560	0.0392	0.0095	0.1581	0.0195	-3.5329	0.1664	-2.6589	0.0587
4	135	0.6001	0.0303	0.0120	0.1820	0.0220	-4.4830	0.2134	-2.7578	0.0693
4	135	0.6501	-0.0009	0.0160	0.1757	0.0264	-5.7558	0.2756	-2.8769	0.0843
4	135	0.6999	-0.0326	0.0213	0.1511	0.0304	-7.1863	0.3481	-2.9146	0.0887
4	135	0.7500	-0.0871	0.0281	0.1361	0.0360	-8.7674	0.4307	-2.8900	0.0899
4	135	0.8002	-0.1623	0.0386	0.0929	0.0415	-10.5085	0.5278	-2.9192	0.0949
4	135	0.8582	-0.2504	0.0524	0.0438	0.0486	-12.6747	0.6549	-3.2447	0.0946
4	135	0.9101	-0.3242	0.0657	-0.0119	0.0559	-14.7187	0.7816	-3.2684	0.1042
4	135	0.9728	-0.3480	0.0826	-0.0491	0.0654	-17.1810	0.9473	-3.0318	0.1060

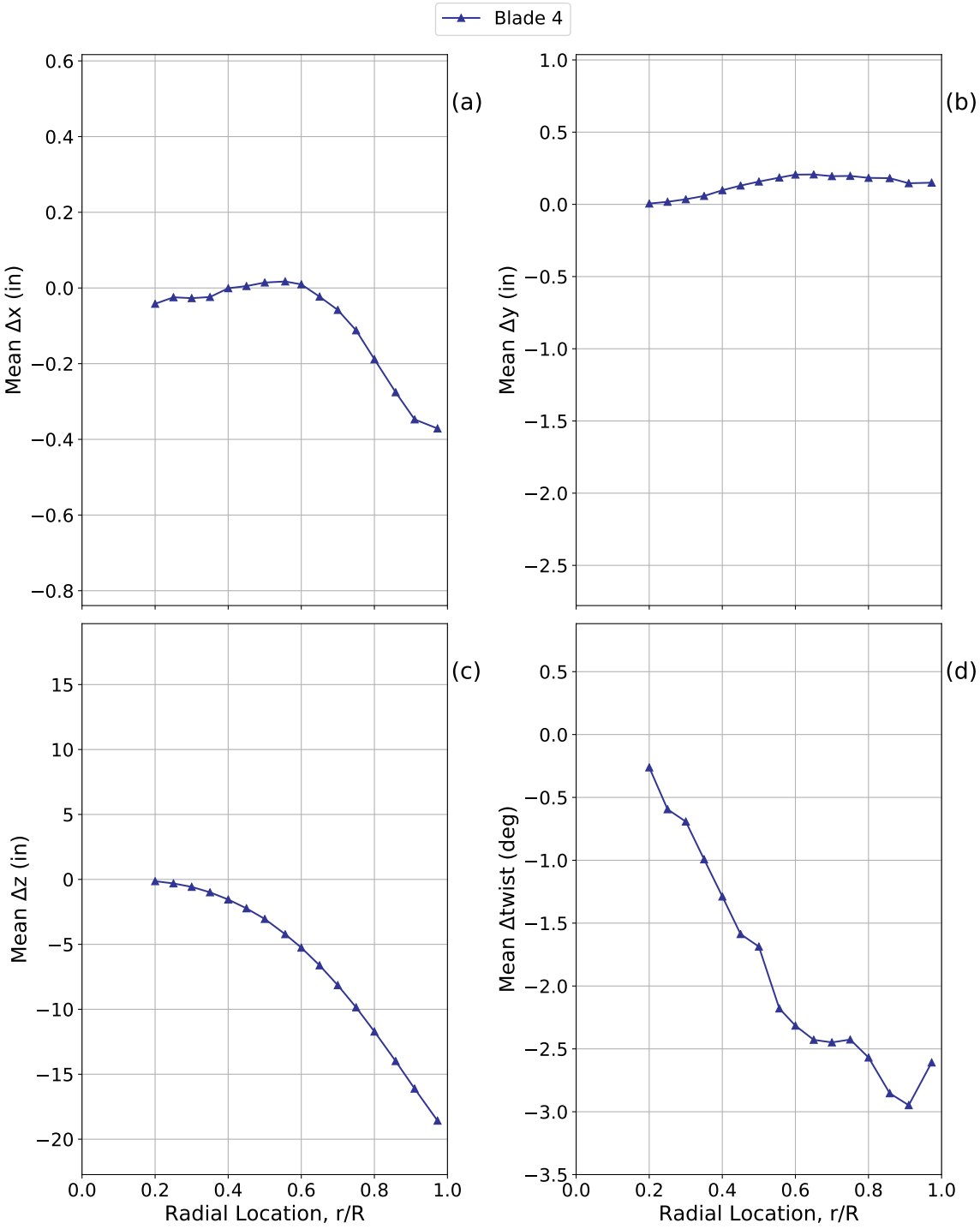


Figure 3.11-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0418	0.0046	0.0056	0.0013	-0.1379	0.0067	-0.2616	0.0278
4	150.12	0.2502	-0.0246	0.0015	0.0176	0.0039	-0.3098	0.0124	-0.5946	0.0312
4	150.12	0.3001	-0.0269	0.0019	0.0351	0.0062	-0.5765	0.0241	-0.6923	0.0561
4	150.12	0.3502	-0.0239	0.0043	0.0582	0.0122	-0.9953	0.0381	-0.9929	0.0580
4	150.12	0.4002	-0.0007	0.0085	0.0977	0.0186	-1.5494	0.0593	-1.2886	0.0487
4	150.12	0.4500	0.0050	0.0110	0.1300	0.0226	-2.2305	0.0769	-1.5872	0.0583
4	150.12	0.5001	0.0144	0.0136	0.1576	0.0282	-3.0457	0.0984	-1.6869	0.0696
4	150.12	0.5560	0.0172	0.0161	0.1851	0.0318	-4.2201	0.1272	-2.1788	0.0752
4	150.12	0.6001	0.0095	0.0202	0.2059	0.0370	-5.2573	0.1522	-2.3155	0.0811
4	150.12	0.6501	-0.0230	0.0228	0.2070	0.0422	-6.6191	0.1803	-2.4281	0.0787
4	150.12	0.6999	-0.0581	0.0263	0.1952	0.0480	-8.1484	0.2140	-2.4485	0.0874
4	150.12	0.7500	-0.1120	0.0321	0.1967	0.0543	-9.8523	0.2531	-2.4260	0.0899
4	150.12	0.8002	-0.1885	0.0361	0.1834	0.0608	-11.7190	0.2963	-2.5690	0.0981
4	150.12	0.8582	-0.2756	0.0426	0.1813	0.0684	-13.9903	0.3549	-2.8533	0.1032
4	150.12	0.9101	-0.3473	0.0494	0.1461	0.0754	-16.1111	0.4110	-2.9481	0.0989
4	150.12	0.9728	-0.3713	0.0552	0.1500	0.0844	-18.5776	0.4823	-2.6085	0.0957

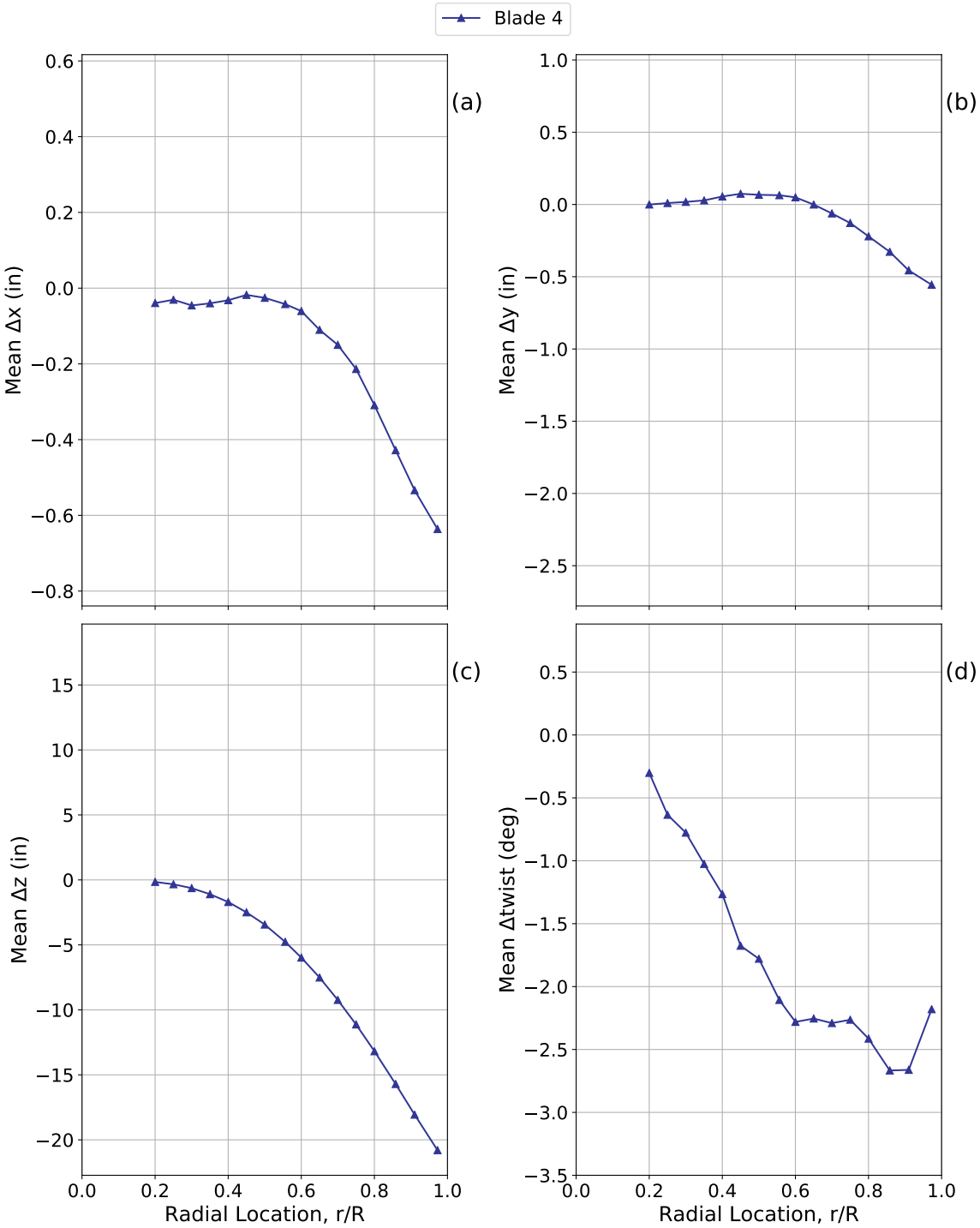


Figure 3.11-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0394	0.0037	-0.0004	0.0010	-0.1559	0.0043	-0.3018	0.0183
4	164.88	0.2502	-0.0306	0.0055	0.0095	0.0026	-0.3381	0.0065	-0.6349	0.0440
4	164.88	0.3001	-0.0457	0.0028	0.0178	0.0041	-0.6339	0.0132	-0.7770	0.0318
4	164.88	0.3502	-0.0401	0.0046	0.0282	0.0081	-1.1021	0.0173	-1.0255	0.0329
4	164.88	0.4002	-0.0319	0.0068	0.0552	0.0122	-1.7019	0.0282	-1.2658	0.0444
4	164.88	0.4500	-0.0179	0.0082	0.0740	0.0146	-2.4964	0.0389	-1.6757	0.0363
4	164.88	0.5001	-0.0256	0.0098	0.0669	0.0191	-3.4401	0.0489	-1.7790	0.0483
4	164.88	0.5560	-0.0422	0.0116	0.0639	0.0229	-4.7685	0.0630	-2.1066	0.0365
4	164.88	0.6001	-0.0606	0.0131	0.0493	0.0262	-5.9801	0.0746	-2.2809	0.0529
4	164.88	0.6501	-0.1102	0.0143	-0.0007	0.0311	-7.5144	0.0900	-2.2542	0.0640
4	164.88	0.6999	-0.1499	0.0156	-0.0622	0.0345	-9.2392	0.1025	-2.2904	0.0614
4	164.88	0.7500	-0.2136	0.0178	-0.1286	0.0409	-11.1253	0.1155	-2.2638	0.0642
4	164.88	0.8002	-0.3092	0.0198	-0.2207	0.0465	-13.1856	0.1273	-2.4140	0.0601
4	164.88	0.8582	-0.4281	0.0222	-0.3278	0.0542	-15.7083	0.1402	-2.6670	0.0705
4	164.88	0.9101	-0.5337	0.0254	-0.4563	0.0603	-18.0632	0.1509	-2.6622	0.0522
4	164.88	0.9728	-0.6363	0.0288	-0.5560	0.0689	-20.7995	0.1688	-2.1799	0.0586

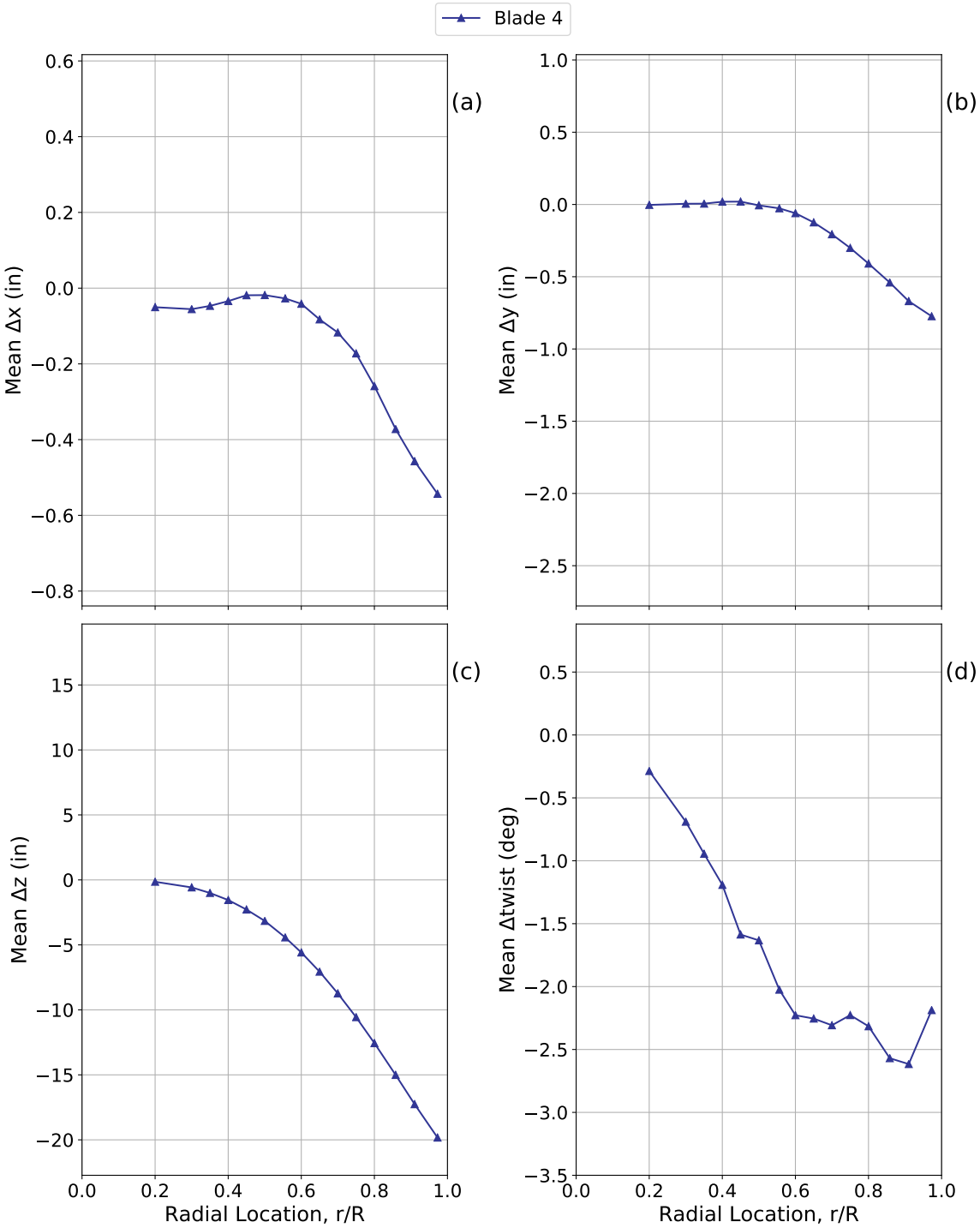


Figure 3.11-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0503	0.0077	-0.0031	0.0010	-0.1435	0.0061	-0.2868	0.0567
4	170.16	0.3001	-0.0555	0.0044	0.0050	0.0054	-0.5786	0.0219	-0.6898	0.1334
4	170.16	0.3502	-0.0469	0.0037	0.0056	0.0099	-1.0055	0.0337	-0.9449	0.1345
4	170.16	0.4002	-0.0342	0.0056	0.0190	0.0156	-1.5512	0.0525	-1.1920	0.1350
4	170.16	0.4500	-0.0188	0.0067	0.0197	0.0203	-2.2810	0.0714	-1.5865	0.1303
4	170.16	0.5001	-0.0184	0.0078	-0.0061	0.0258	-3.1562	0.0909	-1.6329	0.1384
4	170.16	0.5560	-0.0272	0.0100	-0.0268	0.0334	-4.4258	0.1198	-2.0250	0.1445
4	170.16	0.6001	-0.0414	0.0117	-0.0605	0.0398	-5.5857	0.1395	-2.2278	0.1427
4	170.16	0.6501	-0.0826	0.0134	-0.1242	0.0470	-7.0638	0.1619	-2.2545	0.1399
4	170.16	0.6999	-0.1172	0.0156	-0.2065	0.0546	-8.7322	0.1806	-2.3076	0.1331
4	170.16	0.7500	-0.1725	0.0163	-0.3011	0.0644	-10.5628	0.1951	-2.2269	0.1359
4	170.16	0.8002	-0.2589	0.0188	-0.4093	0.0737	-12.5645	0.2043	-2.3157	0.1325
4	170.16	0.8582	-0.3723	0.0220	-0.5403	0.0869	-15.0086	0.2132	-2.5694	0.1339
4	170.16	0.9101	-0.4572	0.0258	-0.6692	0.0993	-17.2598	0.2259	-2.6160	0.1381
4	170.16	0.9728	-0.5432	0.0329	-0.7737	0.1144	-19.8287	0.2481	-2.1872	0.1380

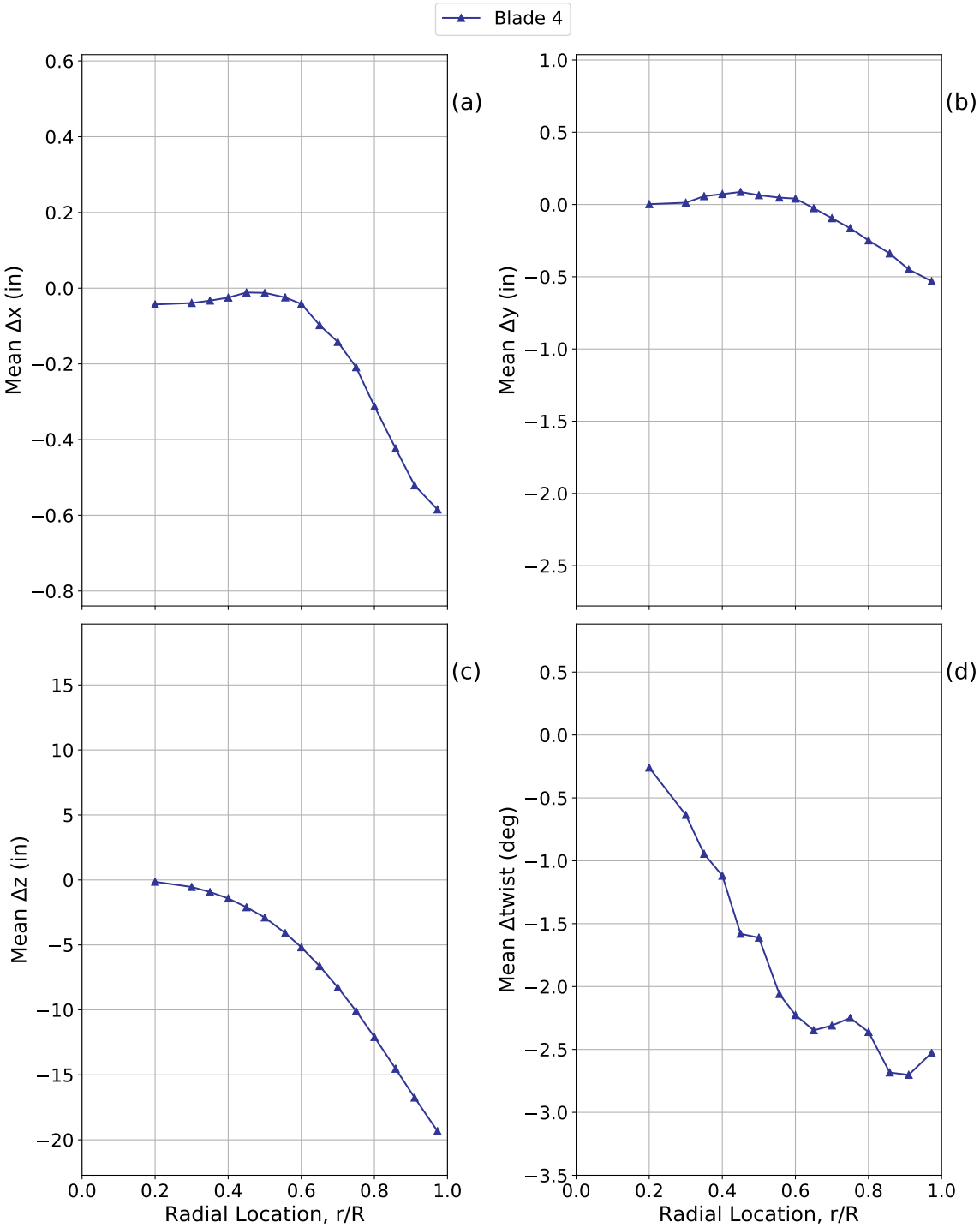


Figure 3.11-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0430	0.0085	0.0026	0.0034	-0.1423	0.0175	-0.2591	0.1265
4	175.08	0.3001	-0.0392	0.0048	0.0125	0.0172	-0.5412	0.0468	-0.6350	0.2877
4	175.08	0.3502	-0.0329	0.0030	0.0576	0.0337	-0.9291	0.0777	-0.9448	0.2548
4	175.08	0.4002	-0.0248	0.0041	0.0721	0.0517	-1.4227	0.1096	-1.1189	0.2448
4	175.08	0.4500	-0.0114	0.0037	0.0869	0.0665	-2.1022	0.1368	-1.5808	0.2483
4	175.08	0.5001	-0.0124	0.0044	0.0645	0.0833	-2.8930	0.1642	-1.6116	0.2556
4	175.08	0.5560	-0.0244	0.0061	0.0478	0.1062	-4.0923	0.1970	-2.0596	0.2491
4	175.08	0.6001	-0.0417	0.0076	0.0408	0.1225	-5.1858	0.2251	-2.2268	0.2391
4	175.08	0.6501	-0.0977	0.0111	-0.0255	0.1424	-6.6349	0.2546	-2.3480	0.2414
4	175.08	0.6999	-0.1422	0.0121	-0.0950	0.1616	-8.2718	0.2818	-2.3099	0.2480
4	175.08	0.7500	-0.2090	0.0167	-0.1643	0.1846	-10.0899	0.3110	-2.2495	0.2332
4	175.08	0.8002	-0.3121	0.0203	-0.2485	0.2081	-12.0959	0.3347	-2.3615	0.2285
4	175.08	0.8582	-0.4235	0.0264	-0.3388	0.2347	-14.5335	0.3632	-2.6835	0.2368
4	175.08	0.9101	-0.5209	0.0310	-0.4490	0.2608	-16.7564	0.3911	-2.7020	0.2306
4	175.08	0.9728	-0.5847	0.0345	-0.5307	0.2895	-19.3316	0.4310	-2.5274	0.2270

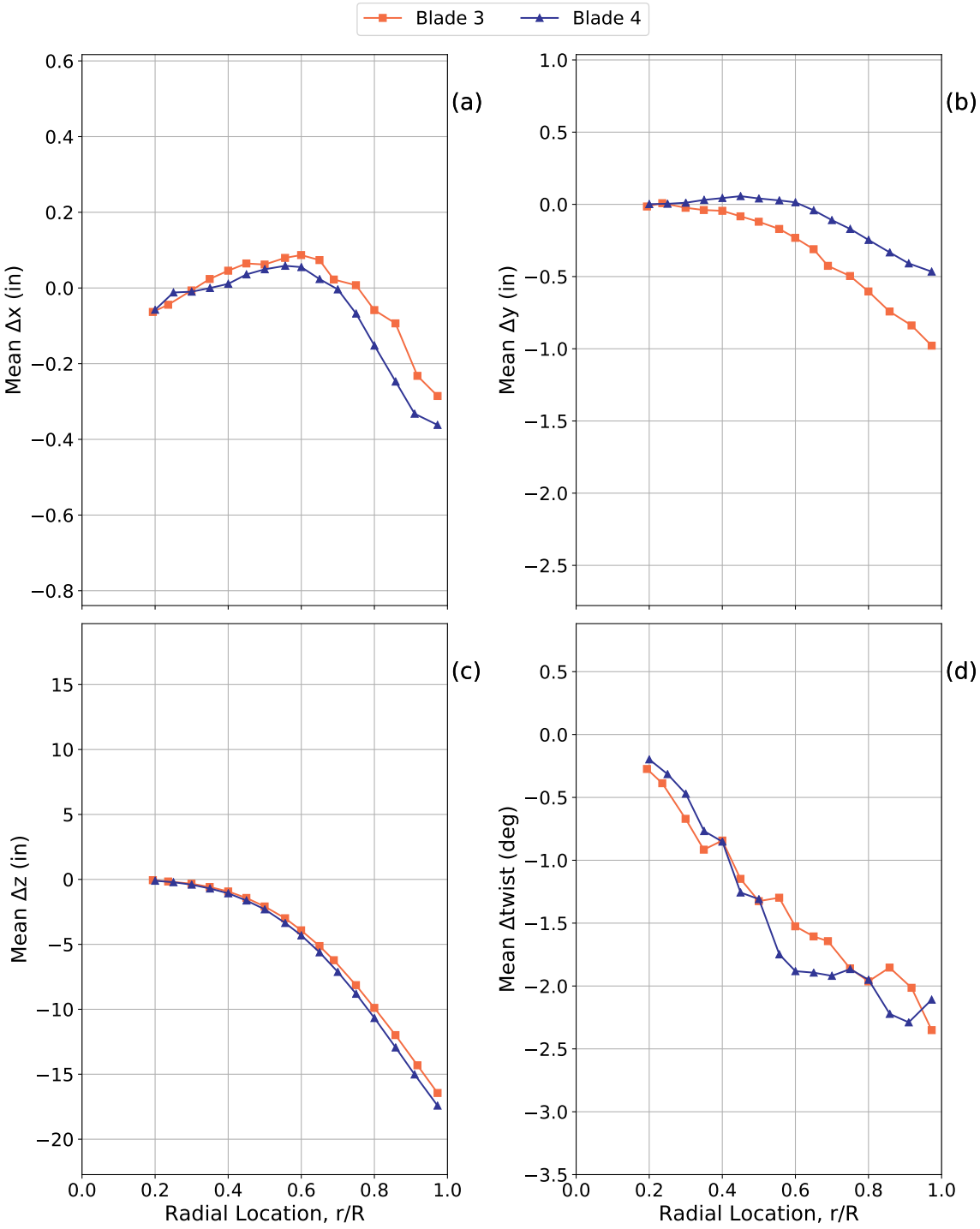


Figure 3.11-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0633	0.0041	-0.0147	0.0024	-0.0595	0.0085	-0.2740	0.0349
3	180.35	0.2357	-0.0443	0.0036	0.0083	0.0090	-0.1613	0.0095	-0.3873	0.0491
3	180.35	0.2995	-0.0065	0.0032	-0.0237	0.0112	-0.3301	0.0187	-0.6704	0.0828
3	180.35	0.3493	0.0238	0.0043	-0.0392	0.0329	-0.5843	0.0299	-0.9156	0.0724
3	180.35	0.4000	0.0457	0.0055	-0.0447	0.0444	-0.9288	0.0411	-0.8432	0.0875
3	180.35	0.4497	0.0648	0.0052	-0.0829	0.0556	-1.4286	0.0520	-1.1478	0.0917
3	180.35	0.4997	0.0620	0.0051	-0.1203	0.0675	-2.0833	0.0665	-1.3250	0.1074
3	180.35	0.5556	0.0795	0.0053	-0.1704	0.0822	-2.9909	0.0809	-1.2978	0.1095
3	180.35	0.5995	0.0870	0.0069	-0.2318	0.0929	-3.9197	0.0970	-1.5252	0.1205
3	180.35	0.6498	0.0737	0.0067	-0.3106	0.1073	-5.1308	0.1153	-1.6057	0.1223
3	180.35	0.6890	0.0223	0.0088	-0.4258	0.1192	-6.2200	0.1282	-1.6431	0.1279
3	180.35	0.7495	0.0074	0.0095	-0.4962	0.1397	-8.1389	0.1513	-1.8595	0.1425
3	180.35	0.7998	-0.0584	0.0123	-0.6031	0.1539	-9.8912	0.1737	-1.9632	0.1486
3	180.35	0.8577	-0.0935	0.0189	-0.7419	0.1739	-11.9879	0.2039	-1.8533	0.1686
3	180.35	0.9178	-0.2322	0.0258	-0.8385	0.1955	-14.3110	0.2447	-2.0143	0.2310
3	180.35	0.9729	-0.2854	0.0274	-0.9785	0.2169	-16.4431	0.2825	-2.3508	0.2048
4	180	0.2001	-0.0576	0.0021	0.0016	0.0009	-0.1064	0.0048	-0.1977	0.0175
4	180	0.2502	-0.0119	0.0011	0.0039	0.0014	-0.2176	0.0077	-0.3151	0.0374
4	180	0.3001	-0.0098	0.0015	0.0112	0.0033	-0.4058	0.0153	-0.4709	0.0421
4	180	0.3502	-0.0002	0.0020	0.0307	0.0063	-0.7036	0.0247	-0.7681	0.0535
4	180	0.4002	0.0110	0.0027	0.0437	0.0092	-1.0734	0.0368	-0.8520	0.0541
4	180	0.4500	0.0358	0.0019	0.0568	0.0116	-1.6281	0.0476	-1.2565	0.0560
4	180	0.5001	0.0494	0.0039	0.0407	0.0159	-2.3065	0.0593	-1.3091	0.0582
4	180	0.5560	0.0586	0.0040	0.0273	0.0192	-3.3569	0.0732	-1.7487	0.0623
4	180	0.6001	0.0551	0.0054	0.0140	0.0230	-4.3164	0.0858	-1.8820	0.0634
4	180	0.6501	0.0235	0.0064	-0.0414	0.0274	-5.6179	0.0975	-1.8938	0.0608
4	180	0.6999	-0.0038	0.0074	-0.1093	0.0324	-7.1254	0.1116	-1.9192	0.0620
4	180	0.7500	-0.0677	0.0087	-0.1704	0.0378	-8.8090	0.1287	-1.8651	0.0759
4	180	0.8002	-0.1523	0.0112	-0.2465	0.0444	-10.6753	0.1403	-1.9507	0.0530
4	180	0.8582	-0.2474	0.0152	-0.3329	0.0514	-12.9420	0.1667	-2.2220	0.0862
4	180	0.9101	-0.3323	0.0181	-0.4091	0.0583	-15.0225	0.1860	-2.2892	0.0443
4	180	0.9728	-0.3619	0.0220	-0.4657	0.0660	-17.4174	0.2167	-2.1087	0.0862

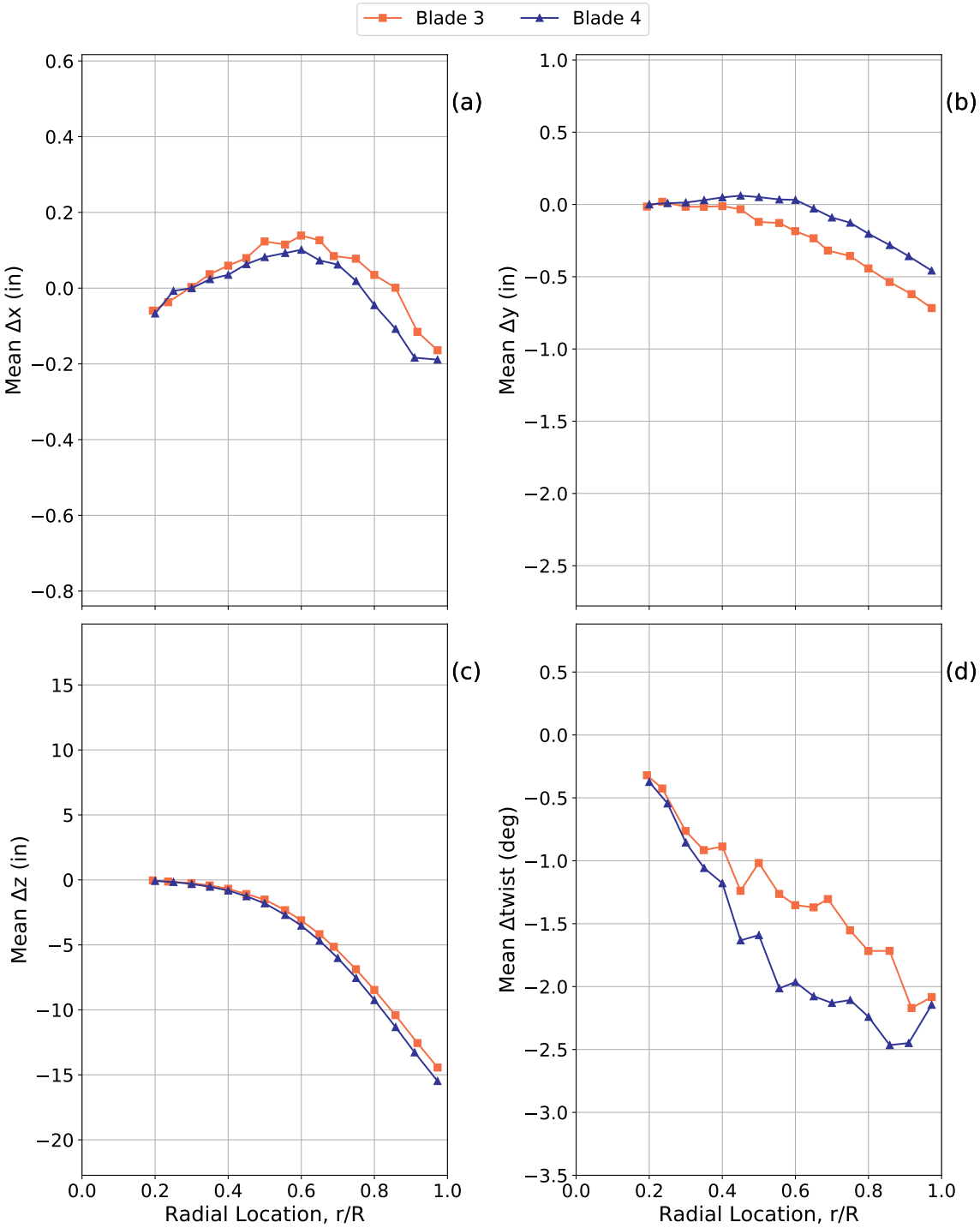


Figure 3.11-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0592	0.0011	-0.0143	0.0013	-0.0426	0.0023	-0.3201	0.0253
3	184.92	0.2357	-0.0371	0.0011	0.0184	0.0014	-0.1220	0.0037	-0.4255	0.0315
3	184.92	0.2995	0.0031	0.0014	-0.0156	0.0044	-0.2447	0.0067	-0.7633	0.0522
3	184.92	0.3493	0.0369	0.0018	-0.0160	0.0059	-0.4238	0.0128	-0.9153	0.0568
3	184.92	0.4000	0.0594	0.0018	-0.0114	0.0096	-0.6817	0.0181	-0.8870	0.0626
3	184.92	0.4497	0.0794	0.0026	-0.0328	0.0123	-1.0905	0.0233	-1.2387	0.0700
3	184.92	0.4997	0.1234	0.0034	-0.1206	0.0175	-1.5127	0.0263	-1.0172	0.1012
3	184.92	0.5556	0.1151	0.0040	-0.1281	0.0198	-2.3250	0.0304	-1.2634	0.0700
3	184.92	0.5995	0.1389	0.0032	-0.1844	0.0235	-3.1074	0.0350	-1.3525	0.0948
3	184.92	0.6498	0.1265	0.0048	-0.2340	0.0266	-4.1765	0.0492	-1.3703	0.0610
3	184.92	0.6890	0.0847	0.0052	-0.3189	0.0289	-5.1458	0.0620	-1.3042	0.0927
3	184.92	0.7495	0.0777	0.0074	-0.3562	0.0356	-6.8726	0.0882	-1.5526	0.0795
3	184.92	0.7998	0.0349	0.0111	-0.4427	0.0394	-8.4644	0.1170	-1.7172	0.0767
3	184.92	0.8577	0.0011	0.0156	-0.5364	0.0450	-10.4049	0.1546	-1.7159	0.0979
3	184.92	0.9178	-0.1154	0.0194	-0.6207	0.0522	-12.5529	0.1971	-2.1706	0.0972
3	184.92	0.9729	-0.1640	0.0238	-0.7170	0.0577	-14.4343	0.2487	-2.0836	0.0816
4	184.92	0.2001	-0.0670	0.0014	0.0007	0.0015	-0.0811	0.0063	-0.3736	0.0306
4	184.92	0.2502	-0.0072	0.0012	0.0090	0.0023	-0.1630	0.0098	-0.5446	0.0507
4	184.92	0.3001	-0.0000	0.0015	0.0135	0.0069	-0.3165	0.0181	-0.8550	0.0690
4	184.92	0.3502	0.0237	0.0014	0.0302	0.0094	-0.5273	0.0286	-1.0576	0.0420
4	184.92	0.4002	0.0353	0.0017	0.0492	0.0160	-0.8180	0.0420	-1.1785	0.0502
4	184.92	0.4500	0.0634	0.0014	0.0610	0.0207	-1.2612	0.0541	-1.6330	0.0610
4	184.92	0.5001	0.0819	0.0025	0.0510	0.0238	-1.8033	0.0680	-1.5911	0.0619
4	184.92	0.5560	0.0928	0.0034	0.0348	0.0311	-2.6969	0.0896	-2.0139	0.0619
4	184.92	0.6001	0.1013	0.0034	0.0319	0.0348	-3.5186	0.1029	-1.9641	0.0652
4	184.92	0.6501	0.0731	0.0054	-0.0282	0.0414	-4.6772	0.1221	-2.0774	0.0794
4	184.92	0.6999	0.0623	0.0081	-0.0902	0.0479	-6.0141	0.1438	-2.1302	0.0675
4	184.92	0.7500	0.0188	0.0089	-0.1262	0.0542	-7.5484	0.1680	-2.1070	0.0780
4	184.92	0.8002	-0.0449	0.0117	-0.2029	0.0608	-9.2489	0.1931	-2.2408	0.0871
4	184.92	0.8582	-0.1076	0.0182	-0.2811	0.0711	-11.3286	0.2268	-2.4653	0.0924
4	184.92	0.9101	-0.1836	0.0221	-0.3580	0.0792	-13.2734	0.2595	-2.4489	0.0986
4	184.92	0.9728	-0.1889	0.0304	-0.4577	0.0854	-15.4776	0.3089	-2.1447	0.1003

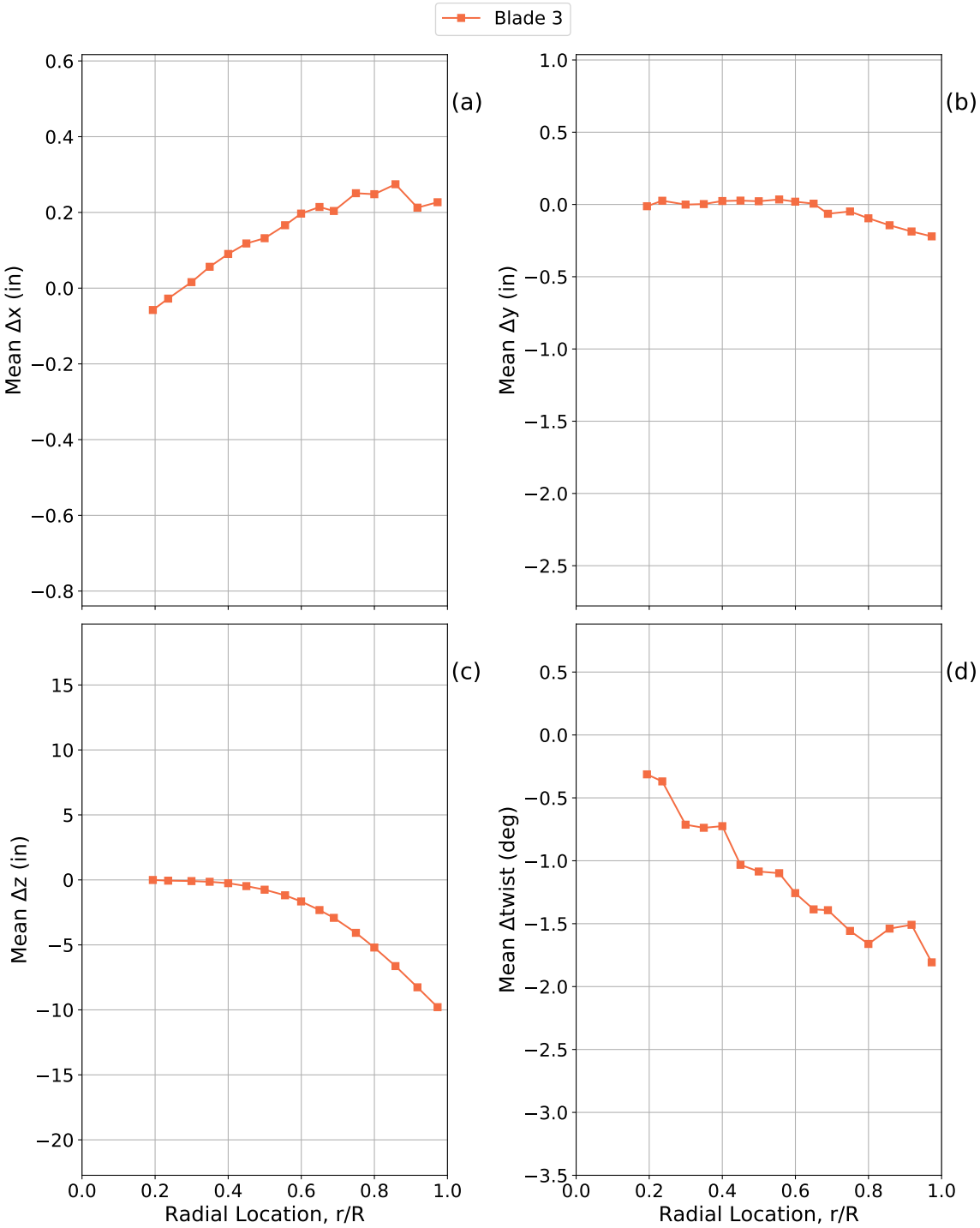


Figure 3.11-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0577	0.0012	-0.0121	0.0011	-0.0070	0.0046	-0.3132	0.0283
3	195.12	0.2357	-0.0276	0.0013	0.0259	0.0012	-0.0571	0.0056	-0.3693	0.0361
3	195.12	0.2995	0.0159	0.0010	-0.0007	0.0034	-0.0885	0.0136	-0.7133	0.0624
3	195.12	0.3493	0.0564	0.0017	0.0029	0.0069	-0.1437	0.0215	-0.7379	0.0718
3	195.12	0.4000	0.0903	0.0014	0.0239	0.0095	-0.2523	0.0320	-0.7249	0.0697
3	195.12	0.4497	0.1180	0.0012	0.0268	0.0123	-0.4765	0.0435	-1.0320	0.0732
3	195.12	0.4997	0.1319	0.0016	0.0224	0.0159	-0.7525	0.0537	-1.0854	0.0905
3	195.12	0.5556	0.1661	0.0015	0.0346	0.0196	-1.1835	0.0671	-1.0987	0.0854
3	195.12	0.5995	0.1969	0.0021	0.0194	0.0232	-1.6586	0.0746	-1.2570	0.0908
3	195.12	0.6498	0.2143	0.0027	0.0057	0.0287	-2.3201	0.0826	-1.3862	0.0905
3	195.12	0.6890	0.2038	0.0031	-0.0642	0.0316	-2.9186	0.0889	-1.3927	0.0884
3	195.12	0.7495	0.2507	0.0025	-0.0484	0.0386	-4.0718	0.0920	-1.5575	0.0960
3	195.12	0.7998	0.2481	0.0042	-0.0957	0.0460	-5.2029	0.0965	-1.6612	0.1000
3	195.12	0.8577	0.2744	0.0064	-0.1440	0.0558	-6.6321	0.1088	-1.5392	0.1363
3	195.12	0.9178	0.2126	0.0095	-0.1869	0.0621	-8.2626	0.1242	-1.5089	0.1277
3	195.12	0.9729	0.2269	0.0137	-0.2208	0.0713	-9.7902	0.1478	-1.8074	0.1478

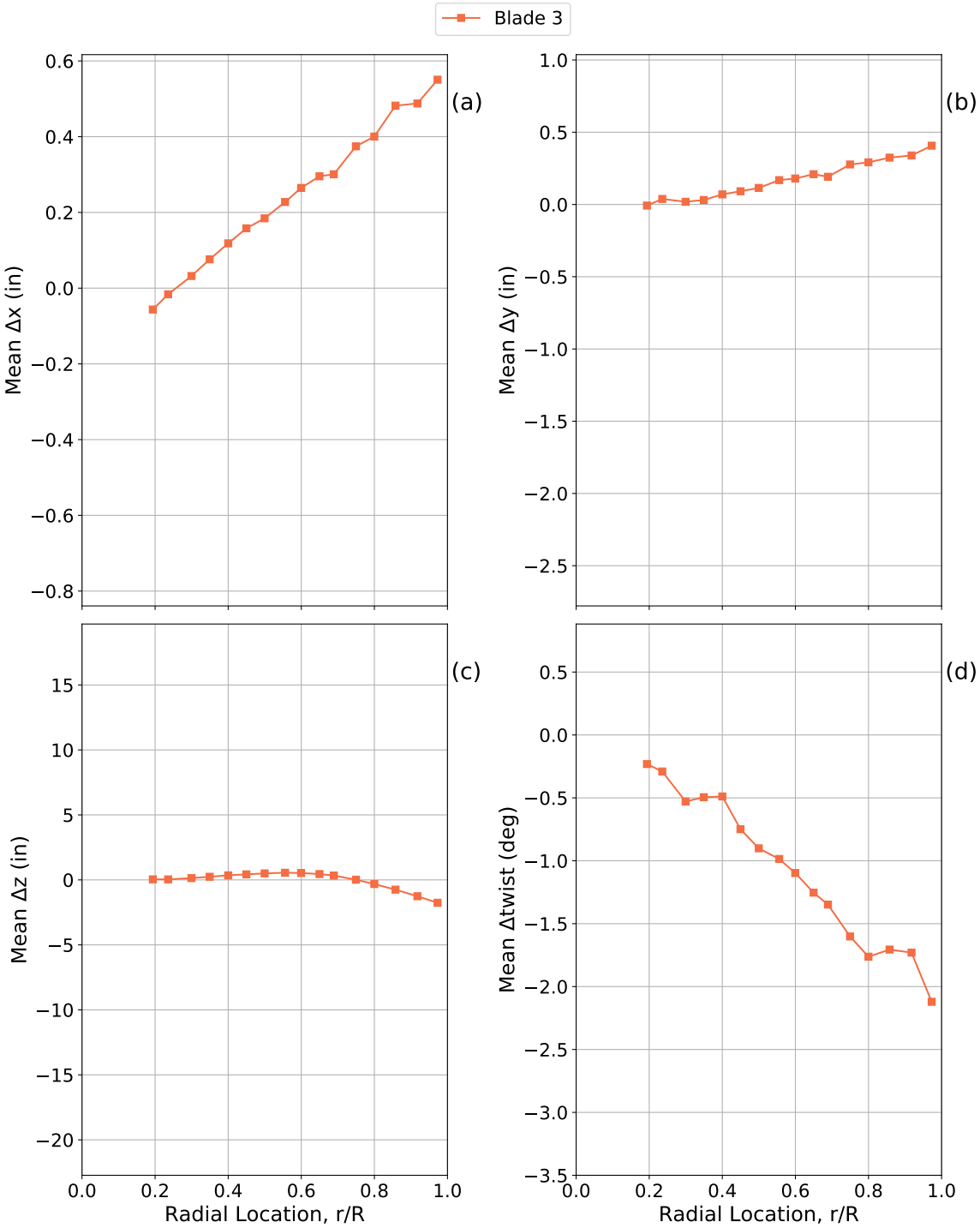


Figure 3.11-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0564	0.0021	-0.0076	0.0013	0.0433	0.0125	-0.2309	0.0370
3	209.88	0.2357	-0.0162	0.0008	0.0382	0.0012	0.0405	0.0228	-0.2905	0.0670
3	209.88	0.2995	0.0321	0.0017	0.0187	0.0050	0.1397	0.0467	-0.5289	0.0908
3	209.88	0.3493	0.0761	0.0024	0.0310	0.0091	0.2411	0.0720	-0.4947	0.0847
3	209.88	0.4000	0.1183	0.0022	0.0698	0.0151	0.3530	0.1130	-0.4887	0.0893
3	209.88	0.4497	0.1580	0.0029	0.0915	0.0198	0.4268	0.1528	-0.7490	0.0965
3	209.88	0.4997	0.1844	0.0035	0.1145	0.0262	0.5020	0.2007	-0.9011	0.1006
3	209.88	0.5556	0.2275	0.0032	0.1686	0.0327	0.5504	0.2572	-0.9858	0.1076
3	209.88	0.5995	0.2646	0.0034	0.1797	0.0389	0.5339	0.3057	-1.0970	0.1042
3	209.88	0.6498	0.2954	0.0041	0.2095	0.0462	0.4484	0.3660	-1.2533	0.1239
3	209.88	0.6890	0.3007	0.0044	0.1917	0.0521	0.3352	0.4148	-1.3480	0.1282
3	209.88	0.7495	0.3745	0.0050	0.2769	0.0602	0.0174	0.4978	-1.6016	0.1308
3	209.88	0.7998	0.4004	0.0062	0.2917	0.0673	-0.3186	0.5662	-1.7624	0.1464
3	209.88	0.8577	0.4820	0.0073	0.3241	0.0743	-0.7486	0.6508	-1.7057	0.1542
3	209.88	0.9178	0.4877	0.0087	0.3392	0.0837	-1.2566	0.7378	-1.7301	0.1626
3	209.88	0.9729	0.5505	0.0106	0.4070	0.0899	-1.7596	0.8243	-2.1208	0.1495

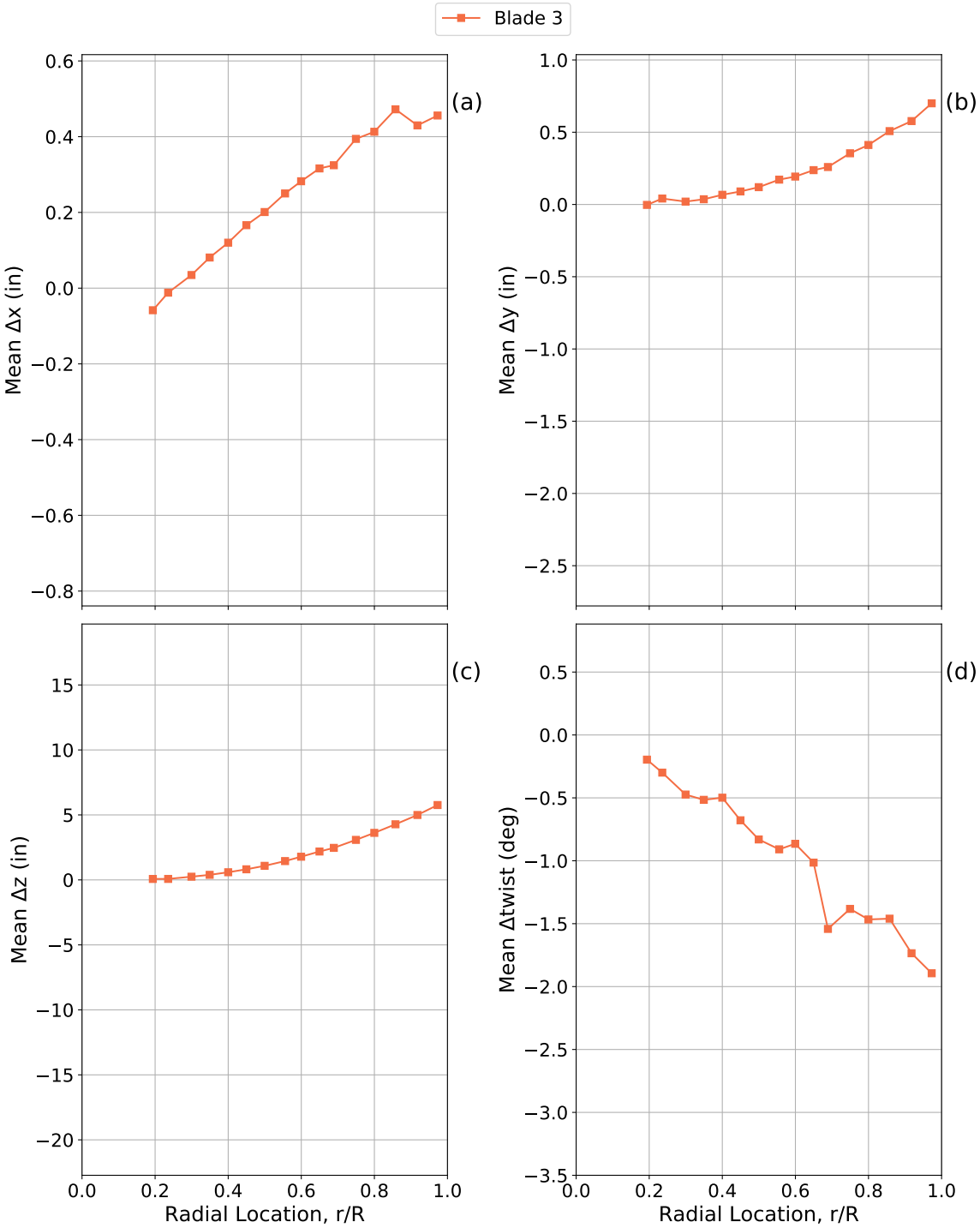


Figure 3.11-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0583	0.0023	-0.0029	0.0011	0.0746	0.0082	-0.1962	0.0329
3	225	0.2357	-0.0119	0.0010	0.0411	0.0014	0.0767	0.0136	-0.2993	0.0575
3	225	0.2995	0.0347	0.0023	0.0199	0.0041	0.2467	0.0255	-0.4736	0.0760
3	225	0.3493	0.0809	0.0026	0.0361	0.0092	0.3891	0.0414	-0.5157	0.0801
3	225	0.4000	0.1201	0.0036	0.0670	0.0132	0.5887	0.0614	-0.4985	0.0617
3	225	0.4497	0.1663	0.0032	0.0902	0.0182	0.8160	0.0811	-0.6783	0.0687
3	225	0.4997	0.2010	0.0032	0.1198	0.0248	1.0829	0.1043	-0.8305	0.0815
3	225	0.5556	0.2501	0.0031	0.1720	0.0317	1.4483	0.1345	-0.9091	0.0765
3	225	0.5995	0.2823	0.0041	0.1931	0.0377	1.7852	0.1638	-0.8651	0.0772
3	225	0.6498	0.3162	0.0055	0.2376	0.0451	2.1849	0.1979	-1.0147	0.0911
3	225	0.6890	0.3246	0.0061	0.2592	0.0511	2.4652	0.2274	-1.5416	0.0947
3	225	0.7495	0.3942	0.0077	0.3543	0.0604	3.0802	0.2766	-1.3825	0.1106
3	225	0.7998	0.4130	0.0094	0.4118	0.0684	3.6196	0.3205	-1.4664	0.1240
3	225	0.8577	0.4723	0.0107	0.5078	0.0773	4.2799	0.3726	-1.4602	0.1239
3	225	0.9178	0.4298	0.0133	0.5772	0.0864	4.9959	0.4280	-1.7351	0.1289
3	225	0.9729	0.4559	0.0186	0.7002	0.0955	5.7607	0.4912	-1.8941	0.1362

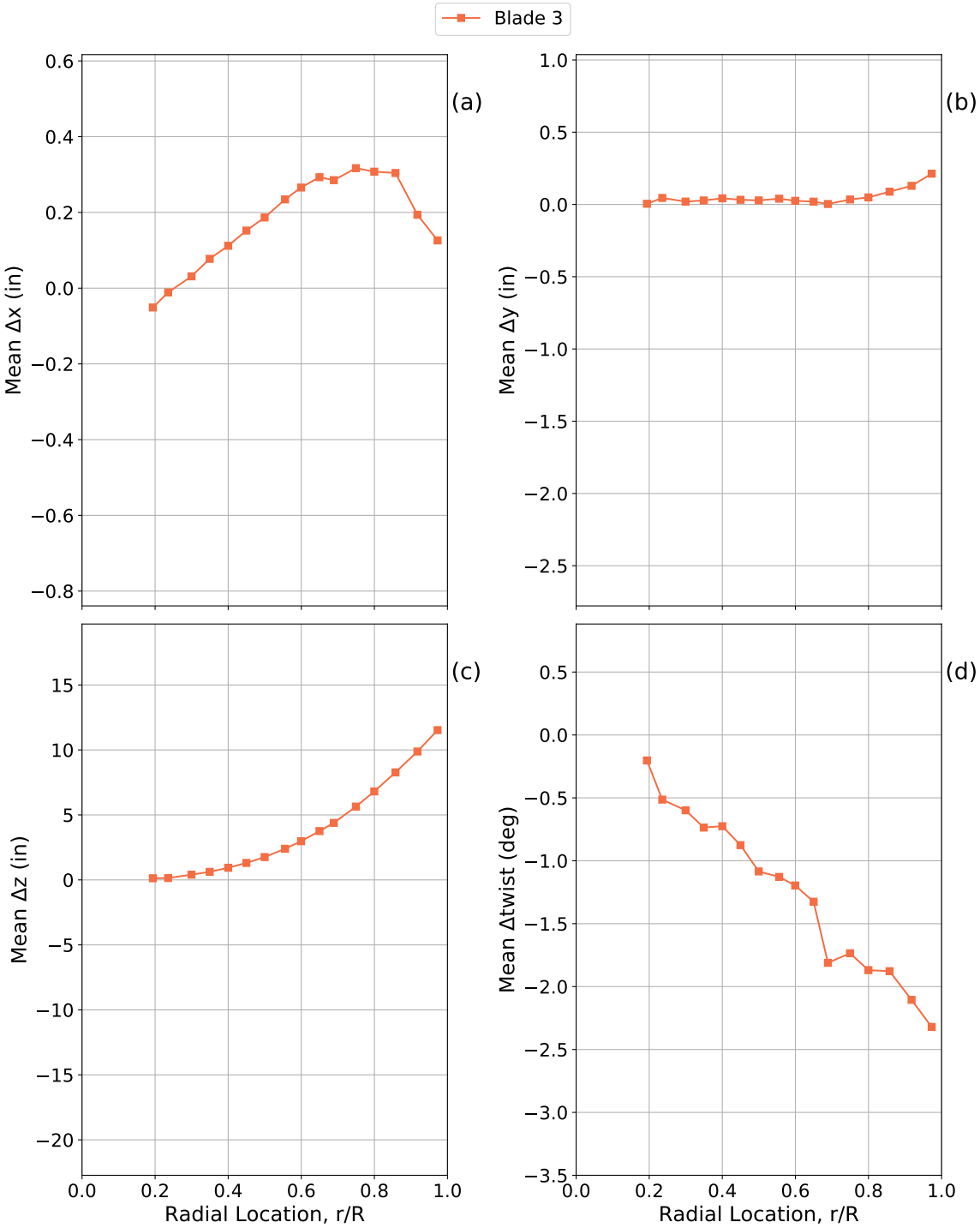


Figure 3.11-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0510	0.0024	0.0050	0.0010	0.1273	0.0082	-0.2027	0.0428
3	240.12	0.2357	-0.0113	0.0017	0.0452	0.0020	0.1449	0.0105	-0.5138	0.0624
3	240.12	0.2995	0.0312	0.0017	0.0199	0.0045	0.4044	0.0210	-0.5987	0.0961
3	240.12	0.3493	0.0774	0.0023	0.0279	0.0071	0.6199	0.0347	-0.7361	0.0756
3	240.12	0.4000	0.1119	0.0025	0.0425	0.0124	0.9349	0.0481	-0.7251	0.0828
3	240.12	0.4497	0.1521	0.0032	0.0325	0.0167	1.3069	0.0631	-0.8757	0.0880
3	240.12	0.4997	0.1866	0.0035	0.0281	0.0213	1.7560	0.0779	-1.0849	0.0983
3	240.12	0.5556	0.2344	0.0038	0.0400	0.0287	2.3970	0.0950	-1.1283	0.0942
3	240.12	0.5995	0.2657	0.0040	0.0255	0.0347	2.9777	0.1100	-1.1965	0.0927
3	240.12	0.6498	0.2930	0.0060	0.0196	0.0425	3.7567	0.1258	-1.3256	0.1210
3	240.12	0.6890	0.2852	0.0068	0.0034	0.0481	4.3896	0.1415	-1.8112	0.0962
3	240.12	0.7495	0.3169	0.0079	0.0344	0.0585	5.6425	0.1583	-1.7350	0.1071
3	240.12	0.7998	0.3076	0.0092	0.0489	0.0672	6.8078	0.1749	-1.8693	0.1088
3	240.12	0.8577	0.3041	0.0117	0.0885	0.0778	8.2718	0.1955	-1.8776	0.1088
3	240.12	0.9178	0.1938	0.0142	0.1290	0.0889	9.8787	0.2184	-2.1056	0.1108
3	240.12	0.9729	0.1261	0.0188	0.2133	0.0986	11.5247	0.2414	-2.3211	0.1007

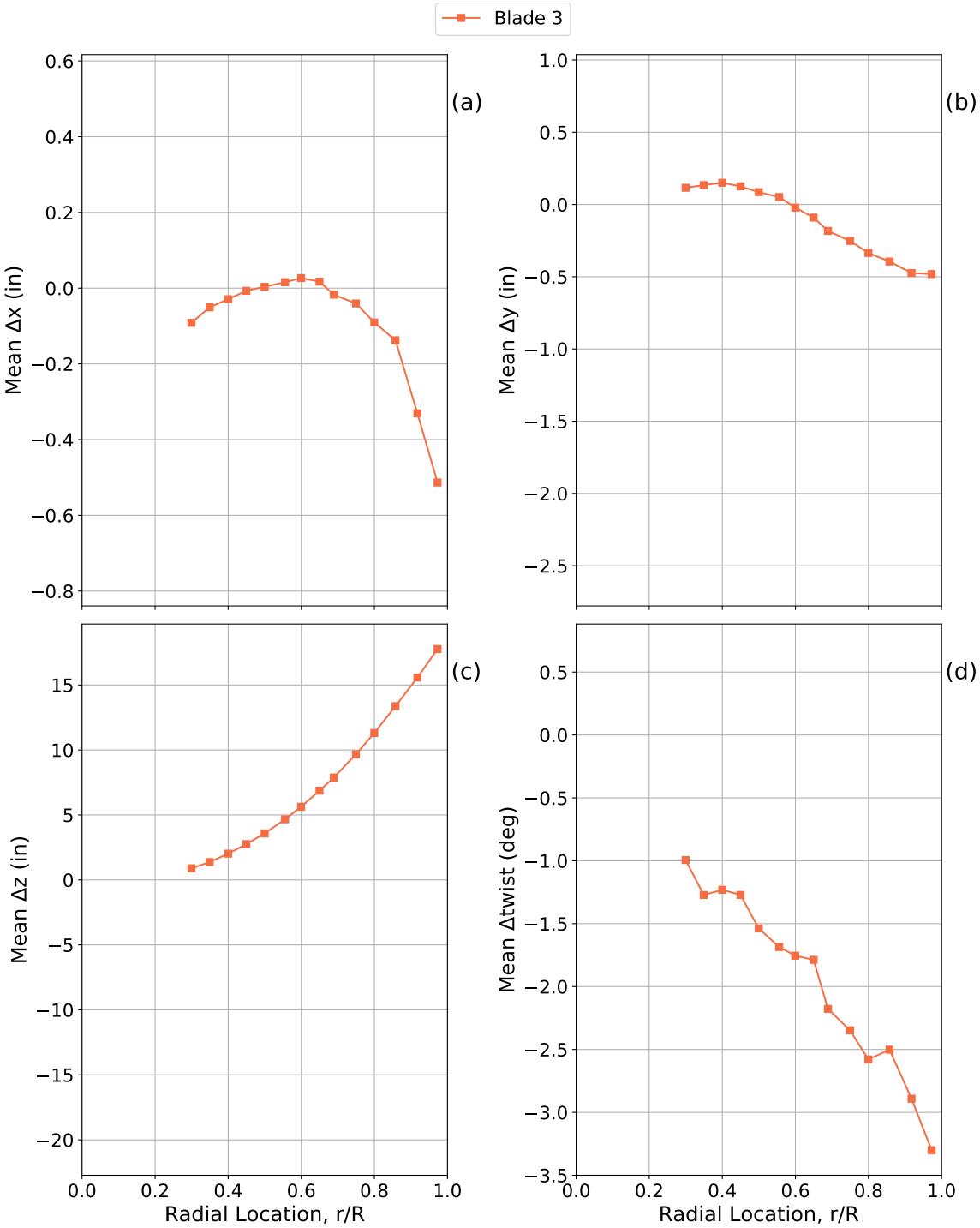


Figure 3.11-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.0915	0.0197	0.1158	0.0120	0.8988	0.1375	-0.9938	0.2363
3	254.88	0.3493	-0.0505	0.0198	0.1342	0.0195	1.3733	0.1973	-1.2714	0.3067
3	254.88	0.4000	-0.0292	0.0242	0.1505	0.0349	2.0228	0.2767	-1.2306	0.2887
3	254.88	0.4497	-0.0070	0.0272	0.1253	0.0502	2.7568	0.3464	-1.2714	0.2938
3	254.88	0.4997	0.0037	0.0331	0.0855	0.0663	3.5816	0.4219	-1.5379	0.2929
3	254.88	0.5556	0.0158	0.0388	0.0516	0.0863	4.6665	0.5051	-1.6861	0.2930
3	254.88	0.5995	0.0266	0.0437	-0.0216	0.1011	5.6307	0.5701	-1.7545	0.3046
3	254.88	0.6498	0.0174	0.0502	-0.0908	0.1190	6.8707	0.6436	-1.7877	0.3057
3	254.88	0.6890	-0.0172	0.0558	-0.1830	0.1333	7.8808	0.7017	-2.1776	0.2988
3	254.88	0.7495	-0.0404	0.0647	-0.2523	0.1558	9.6689	0.7876	-2.3483	0.3025
3	254.88	0.7998	-0.0906	0.0727	-0.3356	0.1749	11.3036	0.8601	-2.5793	0.2875
3	254.88	0.8577	-0.1376	0.0823	-0.3946	0.1979	13.3694	0.9424	-2.5017	0.2839
3	254.88	0.9178	-0.3308	0.0942	-0.4742	0.2209	15.5699	1.0277	-2.8915	0.2895
3	254.88	0.9729	-0.5134	0.1123	-0.4817	0.2427	17.7614	1.1071	-3.3008	0.2896

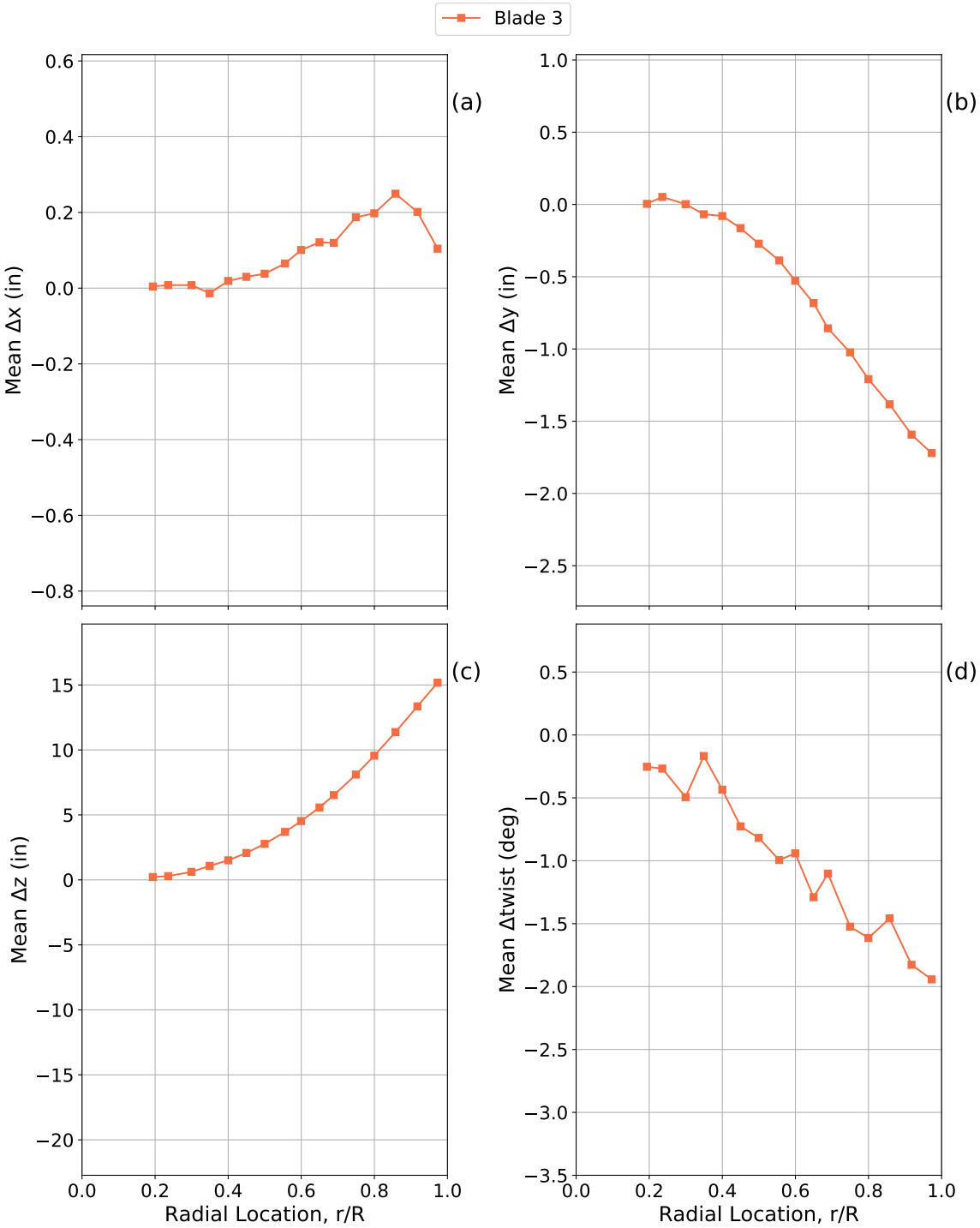


Figure 3.11-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0044	0.0028	0.0043	0.0023	0.2216	0.0117	-0.2529	0.0615
3	260.16	0.2357	0.0081	0.0016	0.0520	0.0036	0.2912	0.0172	-0.2670	0.1151
3	260.16	0.2995	0.0079	0.0018	0.0023	0.0033	0.6178	0.0332	-0.4942	0.1535
3	260.16	0.3493	-0.0135	0.0019	-0.0676	0.0054	1.0815	0.0517	-0.1674	0.1702
3	260.16	0.4000	0.0190	0.0024	-0.0797	0.0080	1.5065	0.0745	-0.4351	0.1375
3	260.16	0.4497	0.0299	0.0042	-0.1635	0.0093	2.0749	0.0944	-0.7265	0.1681
3	260.16	0.4997	0.0381	0.0033	-0.2712	0.0122	2.7739	0.1197	-0.8181	0.1769
3	260.16	0.5556	0.0651	0.0048	-0.3874	0.0160	3.6932	0.1500	-0.9941	0.1800
3	260.16	0.5995	0.1007	0.0060	-0.5278	0.0202	4.5279	0.1722	-0.9413	0.1940
3	260.16	0.6498	0.1209	0.0084	-0.6825	0.0260	5.5702	0.2061	-1.2899	0.1800
3	260.16	0.6890	0.1194	0.0091	-0.8569	0.0304	6.5264	0.2215	-1.1022	0.1985
3	260.16	0.7495	0.1873	0.0130	-1.0236	0.0398	8.1049	0.2627	-1.5232	0.1823
3	260.16	0.7998	0.1976	0.0155	-1.2086	0.0502	9.5561	0.2917	-1.6137	0.1864
3	260.16	0.8577	0.2495	0.0201	-1.3830	0.0627	11.3734	0.3244	-1.4580	0.2221
3	260.16	0.9178	0.2013	0.0250	-1.5930	0.0749	13.3555	0.3644	-1.8269	0.2479
3	260.16	0.9729	0.1043	0.0303	-1.7208	0.0870	15.1788	0.4051	-1.9429	0.2313

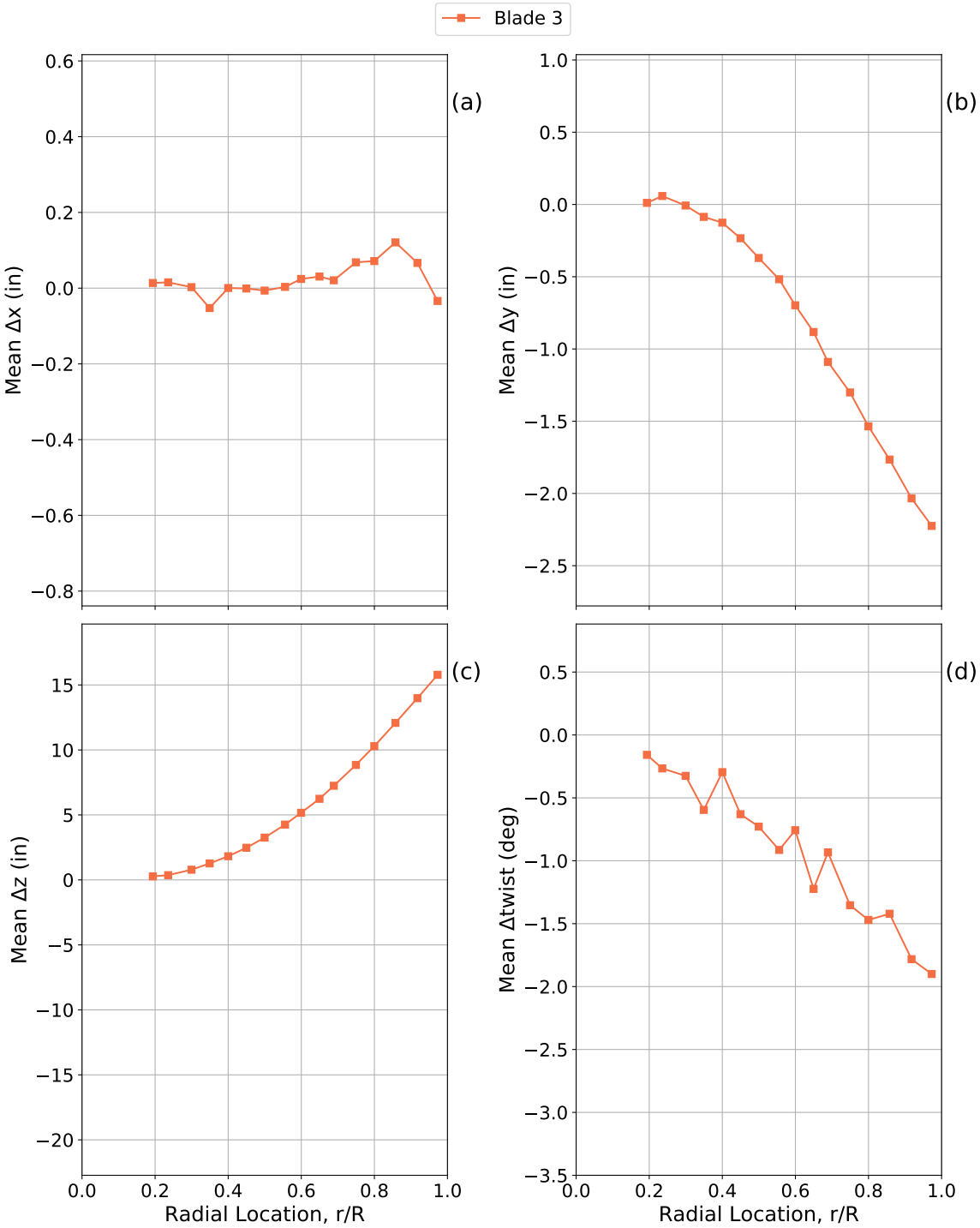


Figure 3.11-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0137	0.0012	0.0111	0.0020	0.2739	0.0101	-0.1581	0.0422
3	265.08	0.2357	0.0153	0.0029	0.0585	0.0016	0.3642	0.0198	-0.2658	0.0736
3	265.08	0.2995	0.0027	0.0033	-0.0073	0.0062	0.7838	0.0335	-0.3253	0.1023
3	265.08	0.3493	-0.0526	0.0027	-0.0858	0.0093	1.2701	0.0459	-0.5958	0.1227
3	265.08	0.4000	0.0004	0.0043	-0.1259	0.0169	1.8211	0.0745	-0.2955	0.1046
3	265.08	0.4497	-0.0009	0.0042	-0.2337	0.0232	2.4750	0.0932	-0.6297	0.1067
3	265.08	0.4997	-0.0064	0.0070	-0.3703	0.0329	3.2543	0.1195	-0.7284	0.1094
3	265.08	0.5556	0.0033	0.0086	-0.5176	0.0437	4.2568	0.1531	-0.9139	0.1143
3	265.08	0.5995	0.0243	0.0096	-0.6977	0.0541	5.1648	0.1847	-0.7572	0.1347
3	265.08	0.6498	0.0306	0.0128	-0.8829	0.0658	6.2414	0.2151	-1.2237	0.1457
3	265.08	0.6890	0.0208	0.0153	-1.0899	0.0751	7.2447	0.2386	-0.9334	0.1370
3	265.08	0.7495	0.0682	0.0179	-1.3010	0.0910	8.8498	0.2747	-1.3534	0.1564
3	265.08	0.7998	0.0715	0.0219	-1.5356	0.1044	10.2918	0.3091	-1.4703	0.1492
3	265.08	0.8577	0.1208	0.0247	-1.7653	0.1201	12.0817	0.3383	-1.4210	0.1437
3	265.08	0.9178	0.0666	0.0267	-2.0339	0.1365	13.9835	0.3668	-1.7820	0.1728
3	265.08	0.9729	-0.0338	0.0339	-2.2246	0.1525	15.7793	0.3983	-1.8998	0.1219

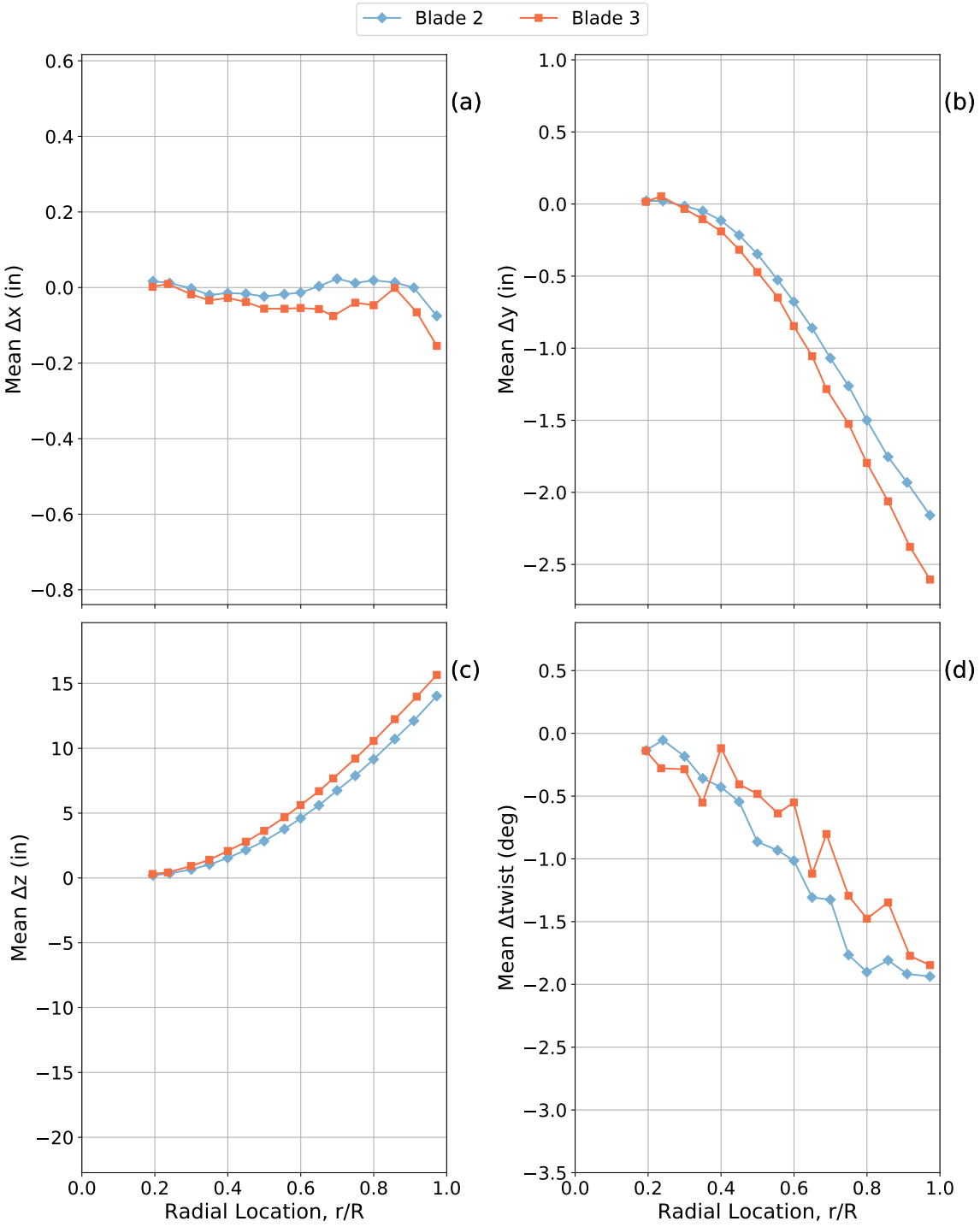


Figure 3.11-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0167	0.0046	0.0223	0.0012	0.2026	0.0142	-0.1367	0.0509
2	270.35	0.2405	0.0117	0.0025	0.0211	0.0028	0.3505	0.0227	-0.0541	0.0647
2	270.35	0.2999	-0.0023	0.0021	-0.0139	0.0030	0.6521	0.0420	-0.1835	0.1031
2	270.35	0.3498	-0.0199	0.0031	-0.0483	0.0073	1.0381	0.0613	-0.3592	0.1345
2	270.35	0.3998	-0.0147	0.0054	-0.1138	0.0123	1.5391	0.0915	-0.4285	0.1246
2	270.35	0.4496	-0.0164	0.0053	-0.2160	0.0176	2.1521	0.1210	-0.5446	0.1171
2	270.35	0.4995	-0.0238	0.0064	-0.3471	0.0229	2.8435	0.1518	-0.8638	0.1476
2	270.35	0.5551	-0.0177	0.0087	-0.5264	0.0294	3.7717	0.1865	-0.9320	0.1350
2	270.35	0.5996	-0.0134	0.0114	-0.6778	0.0355	4.5983	0.2238	-1.0142	0.1126
2	270.35	0.6497	0.0033	0.0144	-0.8605	0.0426	5.6014	0.2643	-1.3072	0.1404
2	270.35	0.6996	0.0232	0.0171	-1.0689	0.0502	6.7485	0.2996	-1.3249	0.1247
2	270.35	0.7495	0.0118	0.0213	-1.2620	0.0585	7.8825	0.3331	-1.7655	0.1464
2	270.35	0.7996	0.0188	0.0247	-1.4998	0.0681	9.1507	0.3634	-1.9017	0.1723
2	270.35	0.8578	0.0134	0.0284	-1.7534	0.0785	10.7163	0.3901	-1.8075	0.1618
2	270.35	0.9100	-0.0005	0.0320	-1.9317	0.0896	12.1231	0.4210	-1.9166	0.1575
2	270.35	0.9727	-0.0751	0.0396	-2.1591	0.1024	14.0361	0.4587	-1.9365	0.1207
3	270	0.1938	0.0018	0.0036	0.0155	0.0024	0.3060	0.0115	-0.1388	0.0726
3	270	0.2357	0.0095	0.0032	0.0537	0.0021	0.4255	0.0230	-0.2783	0.0782
3	270	0.2995	-0.0180	0.0030	-0.0332	0.0042	0.9232	0.0324	-0.2863	0.1514
3	270	0.3493	-0.0340	0.0043	-0.1045	0.0058	1.4014	0.0630	-0.5515	0.0800
3	270	0.4000	-0.0275	0.0064	-0.1897	0.0108	2.0810	0.0829	-0.1185	0.1036
3	270	0.4497	-0.0383	0.0055	-0.3169	0.0159	2.7952	0.0990	-0.4064	0.0847
3	270	0.4997	-0.0560	0.0062	-0.4720	0.0224	3.6292	0.1210	-0.4823	0.1146
3	270	0.5556	-0.0562	0.0080	-0.6488	0.0308	4.6855	0.1461	-0.6372	0.1077
3	270	0.5995	-0.0542	0.0095	-0.8472	0.0377	5.6223	0.1651	-0.5503	0.1449
3	270	0.6498	-0.0572	0.0117	-1.0554	0.0475	6.6863	0.1899	-1.1183	0.1325
3	270	0.6890	-0.0753	0.0138	-1.2835	0.0552	7.6804	0.2160	-0.8024	0.1240
3	270	0.7495	-0.0402	0.0169	-1.5249	0.0672	9.2119	0.2531	-1.2939	0.1336
3	270	0.7998	-0.0469	0.0201	-1.7963	0.0785	10.5705	0.2961	-1.4761	0.1309
3	270	0.8577	-0.0010	0.0247	-2.0618	0.0901	12.2449	0.3464	-1.3473	0.1480
3	270	0.9178	-0.0655	0.0314	-2.3784	0.1035	13.9774	0.4040	-1.7729	0.1544
3	270	0.9729	-0.1544	0.0411	-2.6049	0.1147	15.6568	0.4621	-1.8466	0.1396

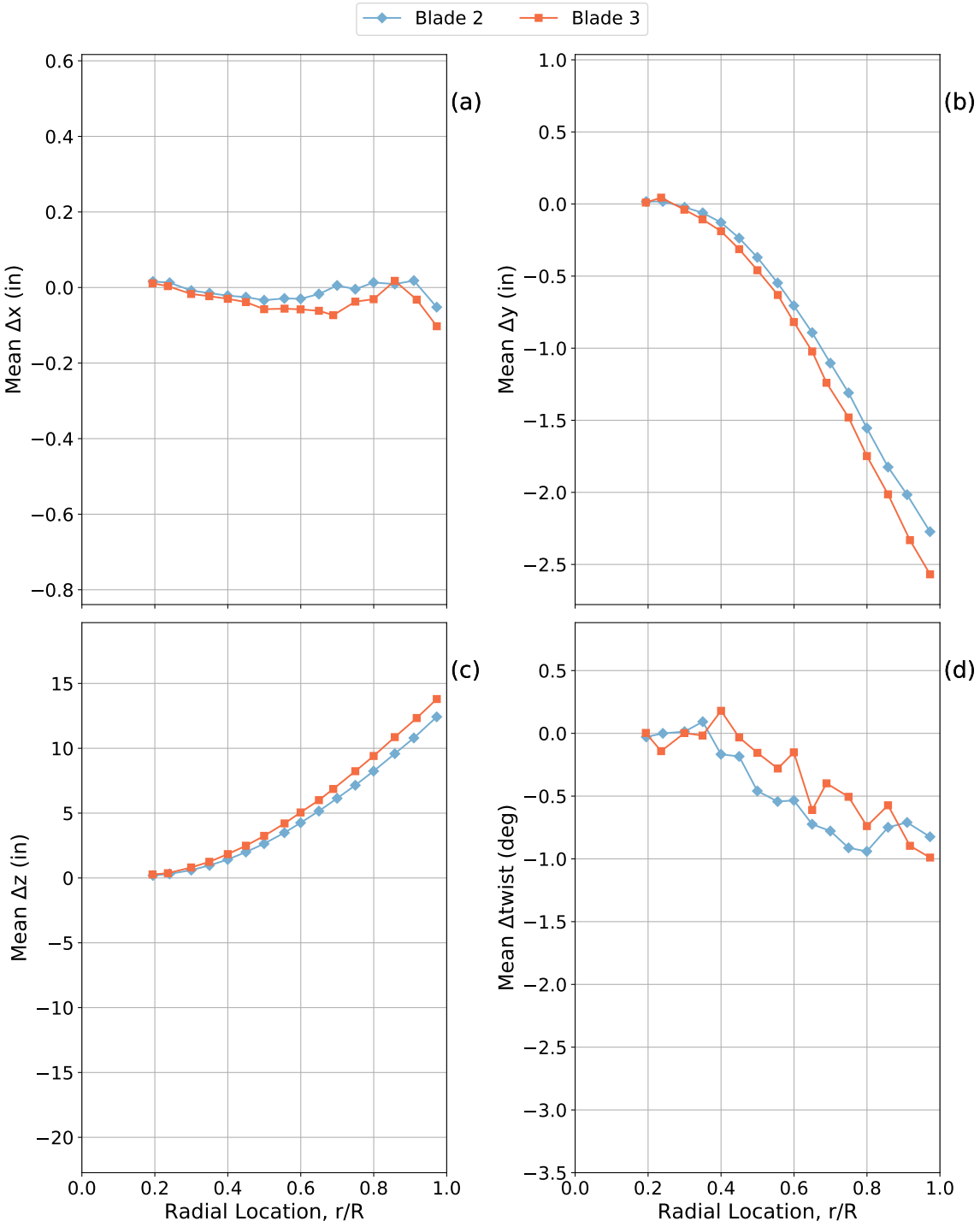


Figure 3.11-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0160	0.0057	0.0170	0.0016	0.1951	0.0114	-0.0291	0.0512
2	274.92	0.2405	0.0128	0.0021	0.0178	0.0033	0.3116	0.0220	-0.0002	0.0730
2	274.92	0.2999	-0.0081	0.0032	-0.0222	0.0034	0.6044	0.0403	0.0136	0.1072
2	274.92	0.3498	-0.0148	0.0071	-0.0612	0.0035	0.9710	0.0568	0.0926	0.1454
2	274.92	0.3998	-0.0216	0.0078	-0.1277	0.0081	1.4201	0.0893	-0.1671	0.1305
2	274.92	0.4496	-0.0254	0.0117	-0.2362	0.0128	1.9979	0.1206	-0.1839	0.1074
2	274.92	0.4995	-0.0336	0.0161	-0.3702	0.0170	2.6403	0.1450	-0.4592	0.1460
2	274.92	0.5551	-0.0289	0.0218	-0.5474	0.0237	3.4884	0.1822	-0.5431	0.1482
2	274.92	0.5996	-0.0299	0.0288	-0.7051	0.0283	4.2558	0.2126	-0.5343	0.1616
2	274.92	0.6497	-0.0173	0.0383	-0.8918	0.0338	5.1567	0.2515	-0.7239	0.1771
2	274.92	0.6996	0.0054	0.0500	-1.1037	0.0407	6.1412	0.2862	-0.7781	0.1708
2	274.92	0.7495	-0.0044	0.0637	-1.3097	0.0479	7.1484	0.3248	-0.9122	0.1866
2	274.92	0.7996	0.0133	0.0789	-1.5542	0.0552	8.2394	0.3599	-0.9403	0.2031
2	274.92	0.8578	0.0091	0.1001	-1.8246	0.0642	9.5840	0.3992	-0.7485	0.2221
2	274.92	0.9100	0.0183	0.1215	-2.0163	0.0713	10.7972	0.4392	-0.7100	0.2374
2	274.92	0.9727	-0.0520	0.1492	-2.2728	0.0827	12.4249	0.4906	-0.8241	0.2480
3	274.92	0.1938	0.0112	0.0052	0.0103	0.0023	0.2707	0.0090	0.0033	0.0606
3	274.92	0.2357	0.0037	0.0032	0.0444	0.0033	0.3687	0.0182	-0.1418	0.0574
3	274.92	0.2995	-0.0171	0.0027	-0.0390	0.0065	0.8109	0.0292	0.0021	0.1249
3	274.92	0.3493	-0.0230	0.0050	-0.1065	0.0133	1.2458	0.0433	-0.0176	0.1983
3	274.92	0.4000	-0.0299	0.0078	-0.1885	0.0201	1.8397	0.0665	0.1795	0.1466
3	274.92	0.4497	-0.0386	0.0143	-0.3132	0.0257	2.4890	0.0897	-0.0326	0.1382
3	274.92	0.4997	-0.0574	0.0203	-0.4593	0.0312	3.2468	0.1126	-0.1554	0.0968
3	274.92	0.5556	-0.0560	0.0309	-0.6308	0.0398	4.2067	0.1385	-0.2801	0.1191
3	274.92	0.5995	-0.0579	0.0427	-0.8185	0.0467	5.0537	0.1636	-0.1515	0.1525
3	274.92	0.6498	-0.0616	0.0576	-1.0227	0.0543	6.0013	0.1933	-0.6106	0.1560
3	274.92	0.6890	-0.0732	0.0708	-1.2398	0.0613	6.8622	0.2167	-0.3982	0.1626
3	274.92	0.7495	-0.0374	0.0957	-1.4806	0.0721	8.2332	0.2538	-0.5057	0.1647
3	274.92	0.7998	-0.0309	0.1196	-1.7484	0.0821	9.4087	0.2856	-0.7388	0.1839
3	274.92	0.8577	0.0177	0.1496	-2.0137	0.0950	10.8619	0.3225	-0.5733	0.1848
3	274.92	0.9178	-0.0321	0.1842	-2.3316	0.1076	12.3319	0.3689	-0.8959	0.2191
3	274.92	0.9729	-0.1025	0.2194	-2.5685	0.1224	13.7984	0.4001	-0.9896	0.2676

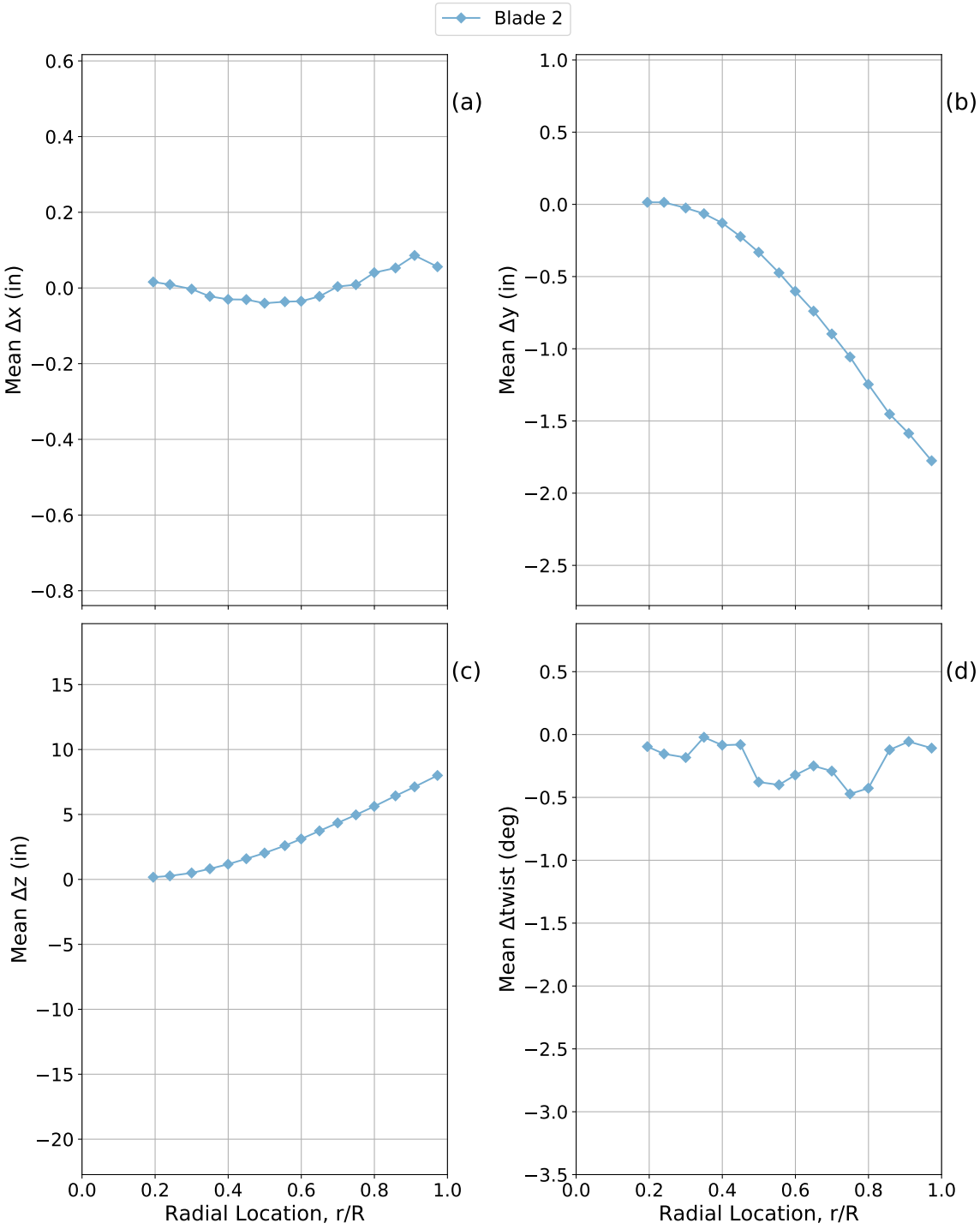


Figure 3.11-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0159	0.0123	0.0142	0.0013	0.1683	0.0078	-0.0960	0.0358
2	285.12	0.2405	0.0090	0.0049	0.0140	0.0015	0.2687	0.0126	-0.1540	0.0602
2	285.12	0.2999	-0.0029	0.0050	-0.0250	0.0039	0.4967	0.0225	-0.1830	0.0841
2	285.12	0.3498	-0.0222	0.0106	-0.0645	0.0051	0.8160	0.0367	-0.0216	0.0621
2	285.12	0.3998	-0.0301	0.0130	-0.1291	0.0094	1.1693	0.0523	-0.0846	0.0674
2	285.12	0.4496	-0.0307	0.0165	-0.2230	0.0125	1.5896	0.0699	-0.0799	0.0586
2	285.12	0.4995	-0.0403	0.0180	-0.3316	0.0173	2.0294	0.0906	-0.3780	0.0736
2	285.12	0.5551	-0.0363	0.0209	-0.4741	0.0243	2.5977	0.1179	-0.4002	0.0896
2	285.12	0.5996	-0.0350	0.0276	-0.6021	0.0301	3.1143	0.1441	-0.3224	0.0636
2	285.12	0.6497	-0.0223	0.0362	-0.7394	0.0384	3.7338	0.1731	-0.2496	0.0767
2	285.12	0.6996	0.0037	0.0501	-0.8974	0.0473	4.3502	0.2031	-0.2906	0.1004
2	285.12	0.7495	0.0088	0.0667	-1.0567	0.0577	4.9695	0.2404	-0.4723	0.1134
2	285.12	0.7996	0.0405	0.0890	-1.2467	0.0680	5.6216	0.2774	-0.4269	0.1189
2	285.12	0.8578	0.0529	0.1209	-1.4527	0.0809	6.4306	0.3184	-0.1215	0.1673
2	285.12	0.9100	0.0859	0.1549	-1.5862	0.0947	7.1268	0.3679	-0.0561	0.1580
2	285.12	0.9727	0.0561	0.2039	-1.7756	0.1080	8.0027	0.4284	-0.1080	0.1914

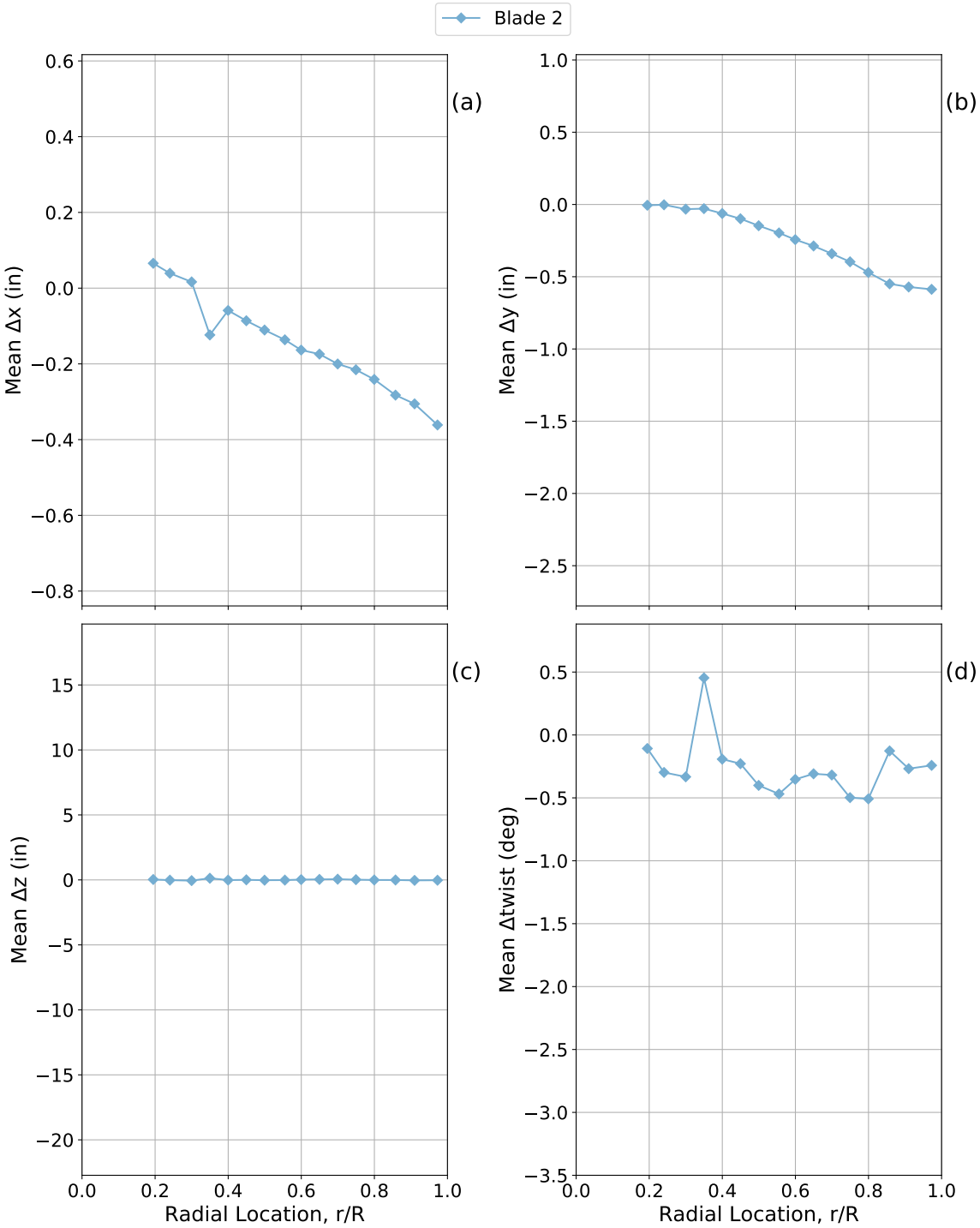


Figure 3.11-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0656	0.0034	-0.0055	0.0025	0.0322	0.0105	-0.1075	0.0687
2	299.88	0.2405	0.0393	0.0045	-0.0022	0.0021	-0.0181	0.0171	-0.2979	0.0817
2	299.88	0.2999	0.0165	0.0031	-0.0324	0.0052	-0.0559	0.0339	-0.3329	0.1469
2	299.88	0.3498	-0.1236	0.0035	-0.0288	0.0041	0.1279	0.0482	0.4538	0.1265
2	299.88	0.3998	-0.0589	0.0038	-0.0625	0.0103	-0.0137	0.0731	-0.1923	0.0993
2	299.88	0.4496	-0.0861	0.0056	-0.0988	0.0150	0.0058	0.0890	-0.2283	0.0999
2	299.88	0.4995	-0.1106	0.0053	-0.1470	0.0211	-0.0219	0.1074	-0.4009	0.1126
2	299.88	0.5551	-0.1364	0.0069	-0.1969	0.0285	-0.0142	0.1323	-0.4689	0.1033
2	299.88	0.5996	-0.1635	0.0067	-0.2433	0.0349	0.0253	0.1510	-0.3531	0.1005
2	299.88	0.6497	-0.1742	0.0076	-0.2872	0.0428	0.0387	0.1751	-0.3086	0.1001
2	299.88	0.6996	-0.2002	0.0084	-0.3405	0.0504	0.0550	0.1958	-0.3184	0.0924
2	299.88	0.7495	-0.2155	0.0082	-0.3967	0.0586	0.0181	0.2172	-0.4982	0.1140
2	299.88	0.7996	-0.2410	0.0095	-0.4705	0.0668	-0.0046	0.2368	-0.5080	0.1201
2	299.88	0.8578	-0.2825	0.0108	-0.5492	0.0757	-0.0071	0.2635	-0.1268	0.1129
2	299.88	0.9100	-0.3056	0.0111	-0.5709	0.0845	-0.0358	0.2850	-0.2680	0.1087
2	299.88	0.9727	-0.3613	0.0137	-0.5873	0.0946	-0.0247	0.3199	-0.2418	0.0908

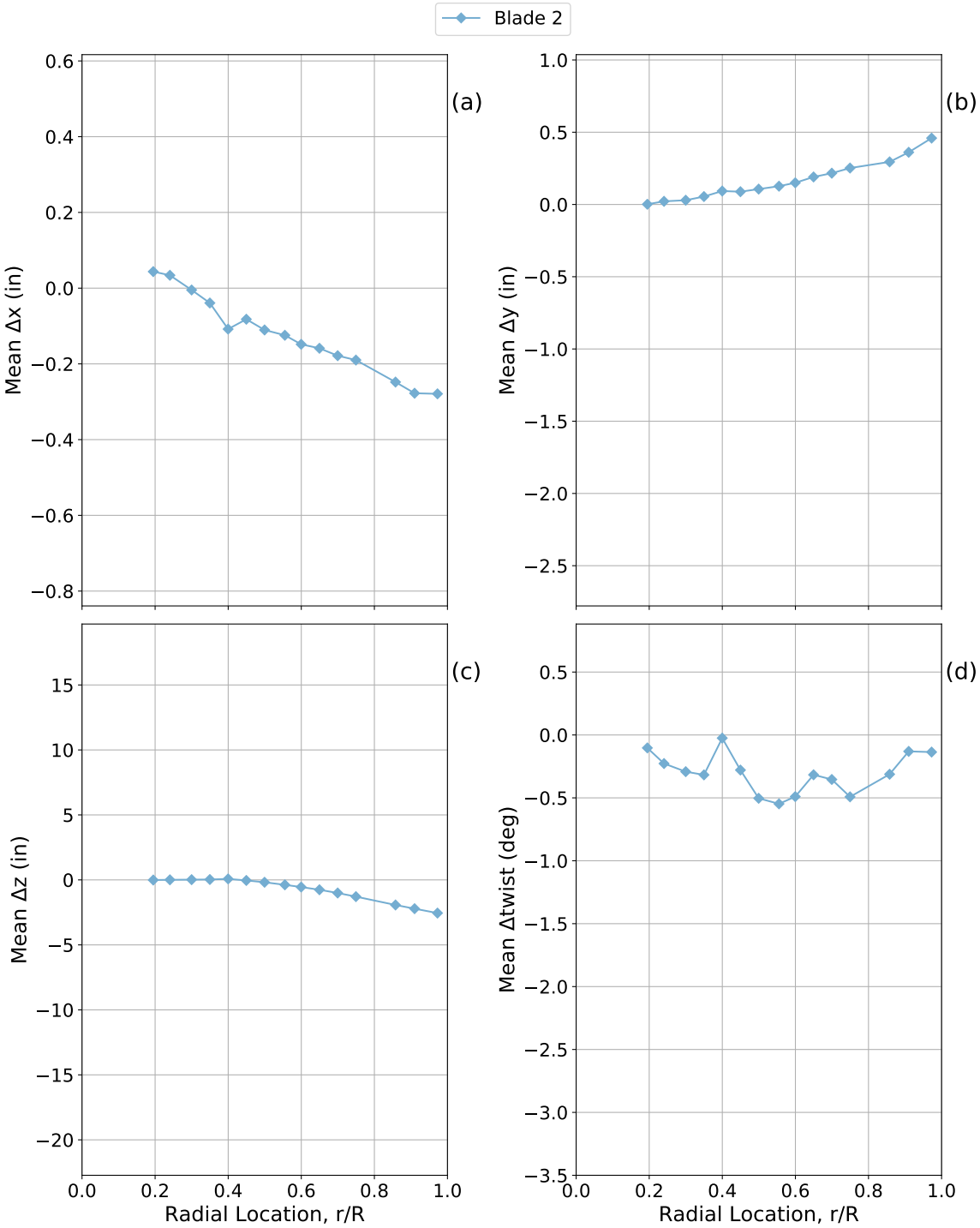


Figure 3.11-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0437	0.0030	0.0016	0.0018	-0.0088	0.0183	-0.1030	0.0605
2	315	0.2405	0.0340	0.0024	0.0218	0.0048	0.0080	0.0254	-0.2272	0.1643
2	315	0.2999	-0.0048	0.0037	0.0294	0.0065	0.0199	0.0500	-0.2917	0.1747
2	315	0.3498	-0.0392	0.0031	0.0548	0.0136	0.0311	0.0832	-0.3173	0.1133
2	315	0.3998	-0.1081	0.0052	0.0931	0.0224	0.0774	0.1179	-0.0249	0.1065
2	315	0.4496	-0.0821	0.0074	0.0884	0.0278	-0.0409	0.1358	-0.2791	0.0821
2	315	0.4995	-0.1104	0.0077	0.1064	0.0340	-0.1808	0.1649	-0.5034	0.1196
2	315	0.5551	-0.1244	0.0080	0.1266	0.0415	-0.3785	0.1924	-0.5476	0.1129
2	315	0.5996	-0.1483	0.0099	0.1501	0.0479	-0.5488	0.2176	-0.4900	0.1020
2	315	0.6497	-0.1588	0.0098	0.1905	0.0555	-0.7580	0.2401	-0.3166	0.1045
2	315	0.6996	-0.1784	0.0097	0.2165	0.0638	-1.0070	0.2649	-0.3537	0.0946
2	315	0.7495	-0.1899	0.0100	0.2522	0.0718	-1.2860	0.2840	-0.4918	0.0807
2	315	0.8578	-0.2480	0.0133	0.2948	0.0912	-1.9287	0.3236	-0.3122	0.1157
2	315	0.9100	-0.2775	0.0140	0.3612	0.1005	-2.2137	0.3422	-0.1305	0.1003
2	315	0.9727	-0.2791	0.0158	0.4594	0.1130	-2.5515	0.3653	-0.1360	0.1091

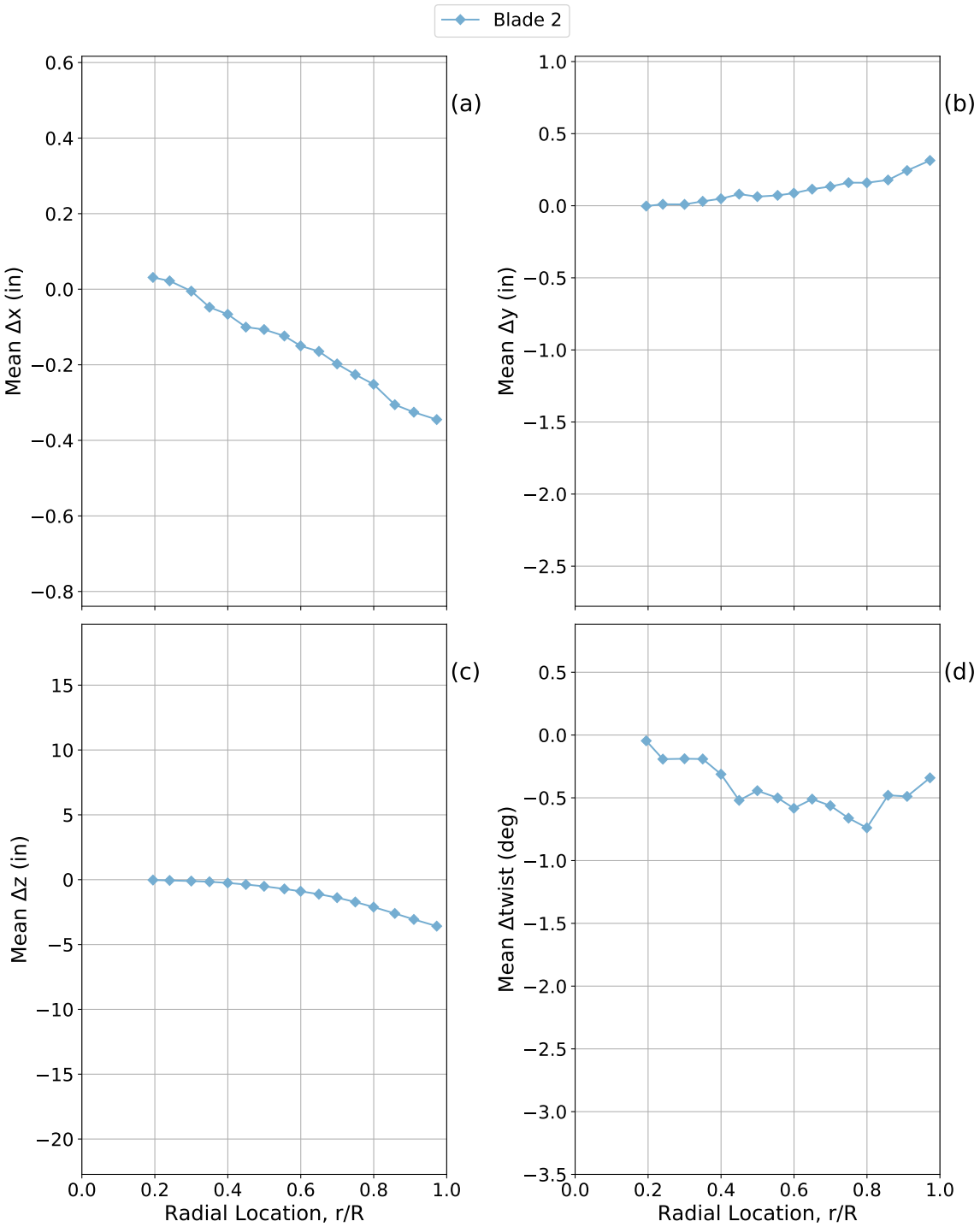


Figure 3.11-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0312	0.0022	-0.0023	0.0017	-0.0285	0.0062	-0.0459	0.0764
2	330.12	0.2405	0.0220	0.0020	0.0102	0.0034	-0.0584	0.0142	-0.1919	0.0549
2	330.12	0.2999	-0.0050	0.0031	0.0093	0.0066	-0.1058	0.0209	-0.1888	0.1410
2	330.12	0.3498	-0.0476	0.0034	0.0306	0.0109	-0.1603	0.0365	-0.1908	0.0773
2	330.12	0.3998	-0.0664	0.0023	0.0488	0.0176	-0.2505	0.0549	-0.3119	0.0979
2	330.12	0.4496	-0.1003	0.0042	0.0806	0.0217	-0.3732	0.0653	-0.5203	0.1523
2	330.12	0.4995	-0.1066	0.0037	0.0631	0.0254	-0.5115	0.0857	-0.4433	0.0973
2	330.12	0.5551	-0.1238	0.0043	0.0719	0.0326	-0.7143	0.1032	-0.5008	0.1242
2	330.12	0.5996	-0.1500	0.0052	0.0873	0.0380	-0.8947	0.1184	-0.5834	0.1295
2	330.12	0.6497	-0.1646	0.0055	0.1149	0.0468	-1.1188	0.1380	-0.5103	0.1530
2	330.12	0.6996	-0.1977	0.0056	0.1332	0.0555	-1.3876	0.1562	-0.5628	0.1301
2	330.12	0.7495	-0.2259	0.0064	0.1601	0.0652	-1.7206	0.1737	-0.6618	0.1397
2	330.12	0.7996	-0.2516	0.0063	0.1594	0.0752	-2.1146	0.1900	-0.7389	0.1594
2	330.12	0.8578	-0.3056	0.0069	0.1785	0.0880	-2.6026	0.2082	-0.4798	0.1618
2	330.12	0.9100	-0.3255	0.0079	0.2442	0.0989	-3.0656	0.2265	-0.4888	0.1579
2	330.12	0.9727	-0.3450	0.0086	0.3139	0.1122	-3.5828	0.2480	-0.3410	0.1684

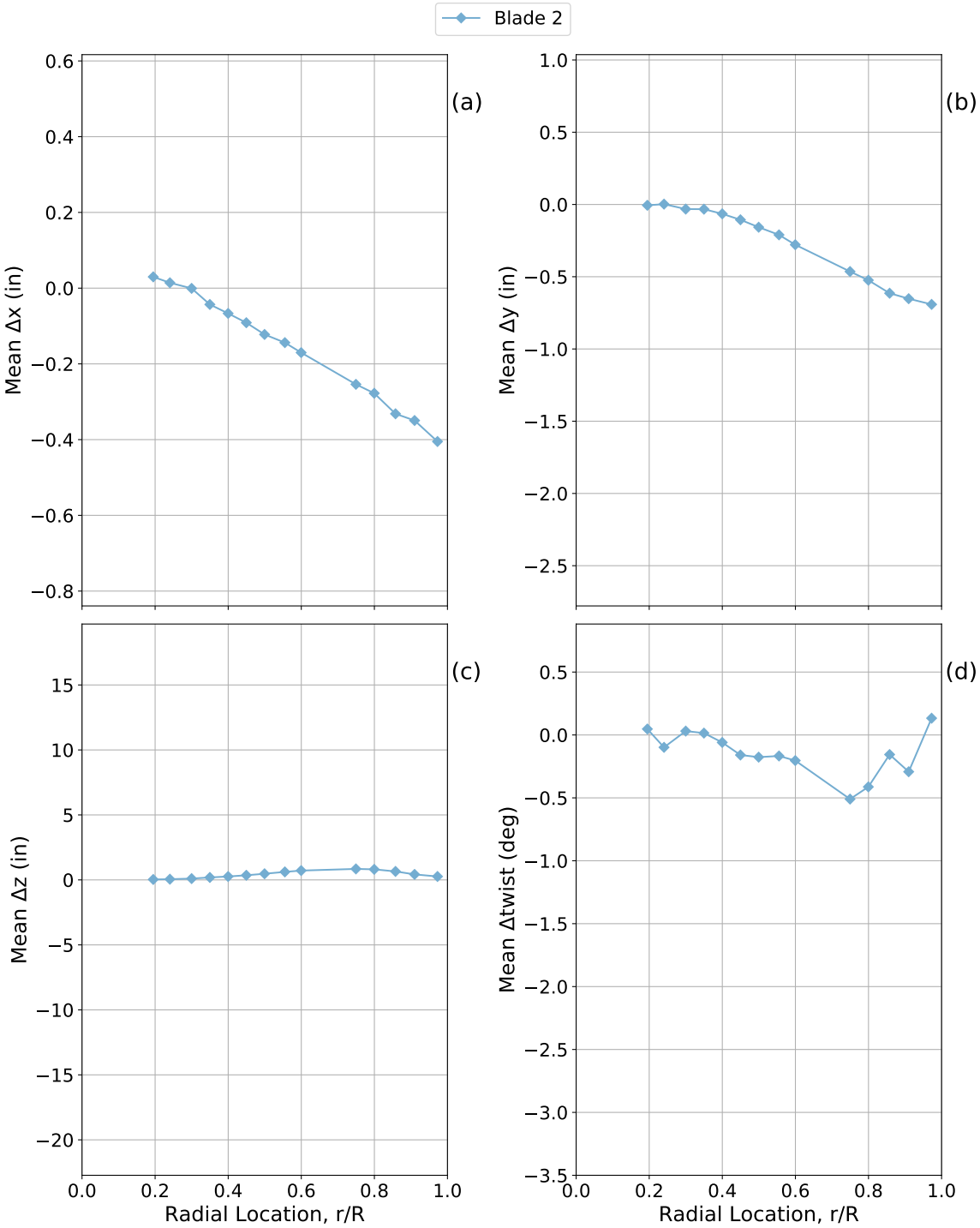


Figure 3.11-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0298	0.0037	-0.0058	0.0013	0.0337	0.0084	0.0473	0.0318
2	344.88	0.2405	0.0142	0.0041	0.0024	0.0065	0.0548	0.0090	-0.0984	0.0808
2	344.88	0.2999	-0.0006	0.0044	-0.0319	0.0076	0.1011	0.0243	0.0309	0.0846
2	344.88	0.3498	-0.0431	0.0035	-0.0325	0.0192	0.1890	0.0402	0.0148	0.0979
2	344.88	0.3998	-0.0667	0.0035	-0.0647	0.0280	0.2624	0.0584	-0.0596	0.0949
2	344.88	0.4496	-0.0913	0.0045	-0.1059	0.0328	0.3574	0.0724	-0.1594	0.0884
2	344.88	0.4995	-0.1223	0.0060	-0.1573	0.0408	0.4727	0.0858	-0.1763	0.0964
2	344.88	0.5551	-0.1439	0.0067	-0.2103	0.0481	0.6171	0.0995	-0.1670	0.1151
2	344.88	0.5996	-0.1702	0.0064	-0.2785	0.0575	0.7176	0.1113	-0.2036	0.1366
2	344.88	0.7495	-0.2540	0.0085	-0.4641	0.0863	0.8459	0.1565	-0.5097	0.1527
2	344.88	0.7996	-0.2776	0.0098	-0.5242	0.0951	0.8123	0.1749	-0.4126	0.1325
2	344.88	0.8578	-0.3318	0.0102	-0.6142	0.1076	0.6535	0.1956	-0.1556	0.1435
2	344.88	0.9100	-0.3495	0.0109	-0.6521	0.1193	0.4241	0.2140	-0.2923	0.1528
2	344.88	0.9727	-0.4050	0.0134	-0.6915	0.1333	0.2644	0.2359	0.1332	0.1550

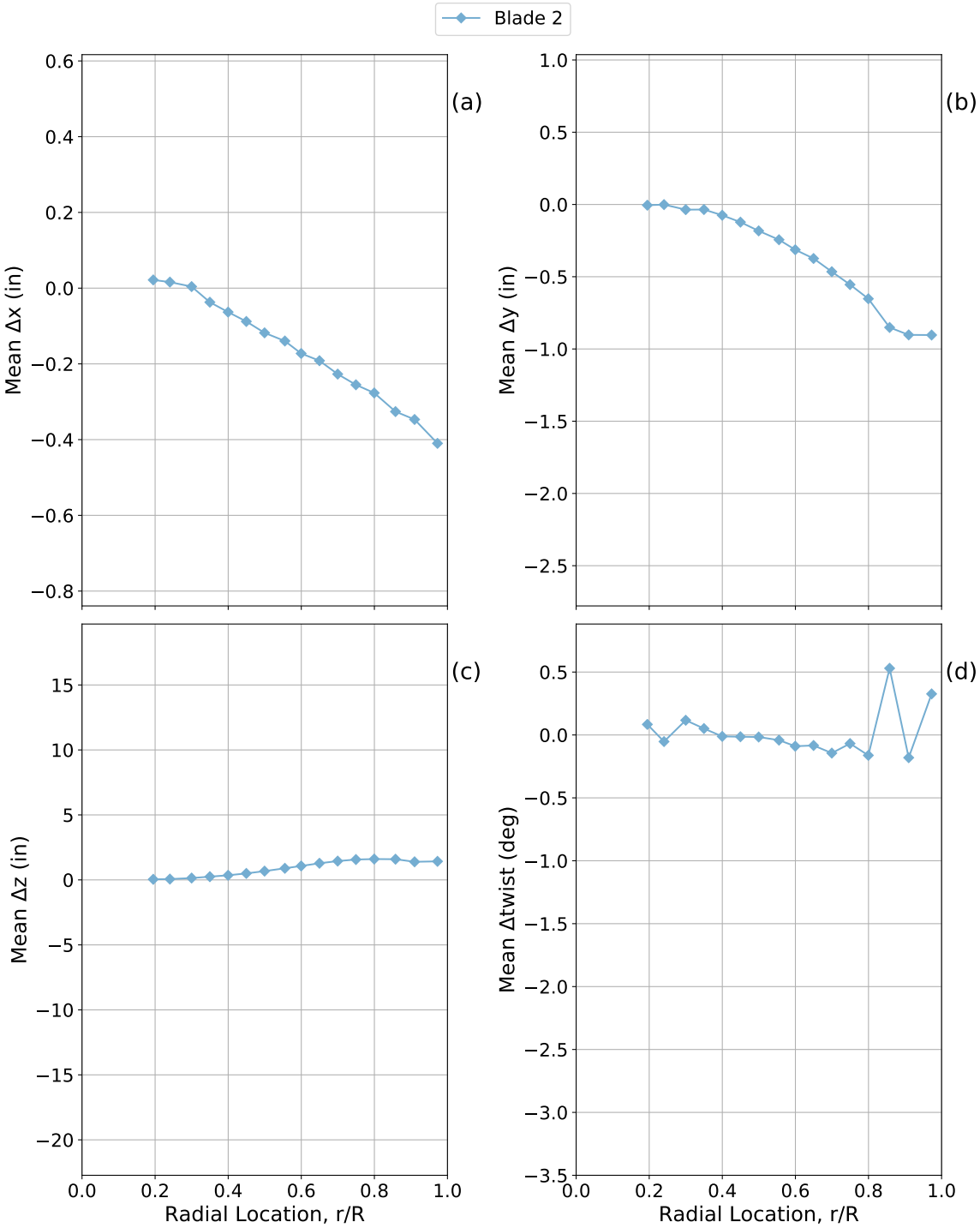


Figure 3.11-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.091$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0217	0.0037	-0.0051	0.0026	0.0456	0.0102	0.0840	0.0646
2	350.16	0.2405	0.0160	0.0037	-0.0009	0.0040	0.0635	0.0126	-0.0526	0.1389
2	350.16	0.2999	0.0041	0.0041	-0.0359	0.0110	0.1431	0.0265	0.1168	0.1737
2	350.16	0.3498	-0.0371	0.0034	-0.0351	0.0175	0.2489	0.0440	0.0510	0.1170
2	350.16	0.3998	-0.0632	0.0032	-0.0746	0.0281	0.3567	0.0619	-0.0115	0.1480
2	350.16	0.4496	-0.0880	0.0044	-0.1223	0.0347	0.4988	0.0809	-0.0141	0.1382
2	350.16	0.4995	-0.1180	0.0045	-0.1827	0.0423	0.6758	0.0974	-0.0162	0.1599
2	350.16	0.5551	-0.1396	0.0042	-0.2441	0.0519	0.8944	0.1269	-0.0413	0.1384
2	350.16	0.5996	-0.1725	0.0047	-0.3133	0.0586	1.0728	0.1455	-0.0896	0.1473
2	350.16	0.6497	-0.1916	0.0054	-0.3739	0.0668	1.2802	0.1696	-0.0836	0.1325
2	350.16	0.6996	-0.2270	0.0048	-0.4653	0.0740	1.4478	0.1947	-0.1441	0.1367
2	350.16	0.7495	-0.2552	0.0064	-0.5546	0.0825	1.5681	0.2215	-0.0682	0.1304
2	350.16	0.7996	-0.2768	0.0066	-0.6525	0.0928	1.6041	0.2488	-0.1622	0.1426
2	350.16	0.8578	-0.3260	0.0075	-0.8511	0.1055	1.5927	0.2803	0.5298	0.1579
2	350.16	0.9100	-0.3468	0.0075	-0.9026	0.1072	1.3927	0.3143	-0.1806	0.1390
2	350.16	0.9727	-0.4099	0.0099	-0.9036	0.1239	1.4275	0.3533	0.3263	0.1374

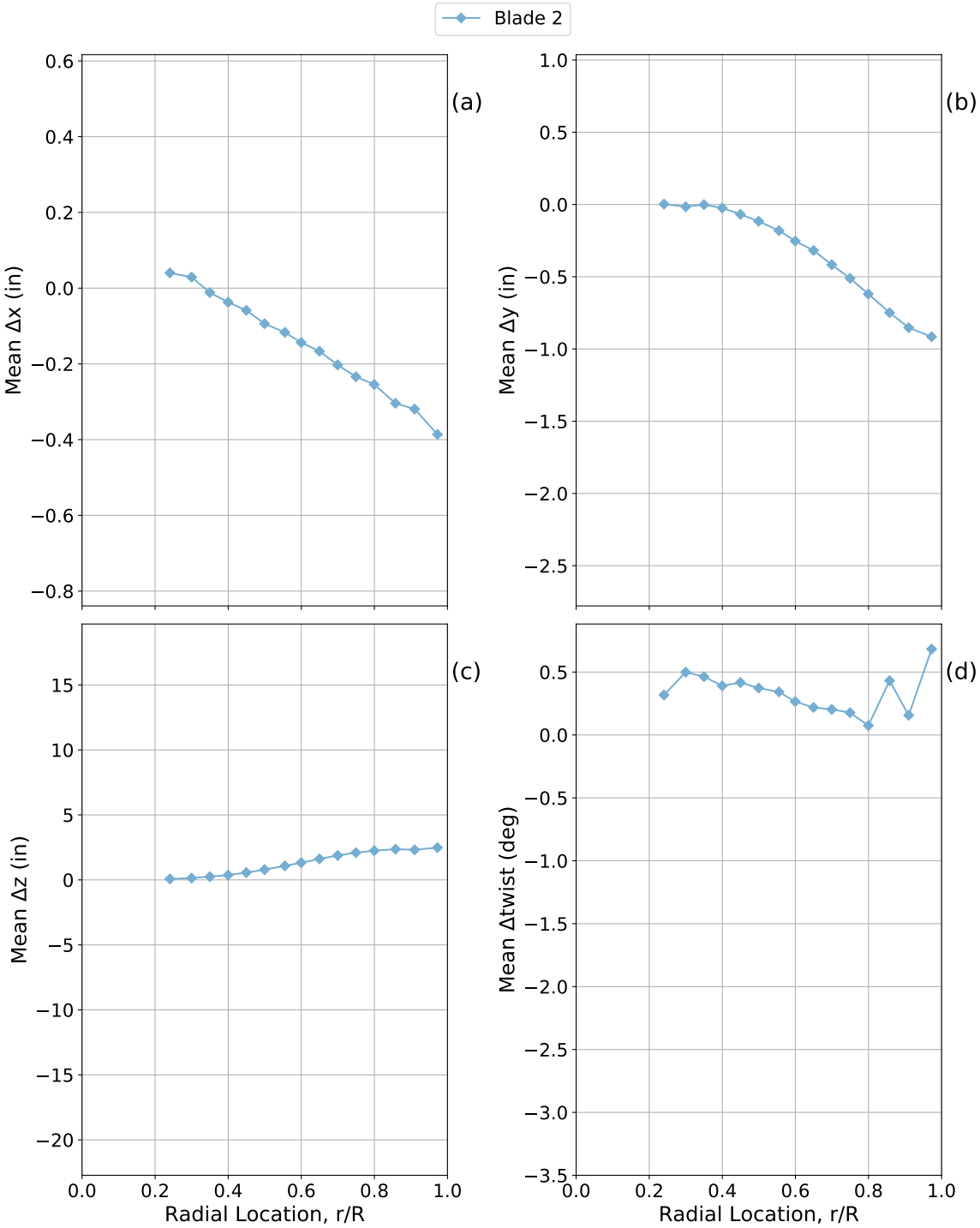


Figure 3.11-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.091, μ = 0.4, α = -8° NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Table 3.11-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.091, μ = 0.4, α = -8°
NFAC run 52, point 49. BD run 25, points 3046 to 3056.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2405	0.0403	0.0035	0.0023	0.0028	0.0747	0.0139	0.3183	0.1241
2	355.08	0.2999	0.0290	0.0039	-0.0157	0.0073	0.1403	0.0275	0.4991	0.1907
2	355.08	0.3498	-0.0117	0.0031	-0.0013	0.0121	0.2510	0.0441	0.4635	0.1747
2	355.08	0.3998	-0.0371	0.0033	-0.0247	0.0196	0.3724	0.0669	0.3903	0.1724
2	355.08	0.4496	-0.0586	0.0033	-0.0683	0.0256	0.5659	0.0848	0.4170	0.1898
2	355.08	0.4995	-0.0939	0.0046	-0.1165	0.0341	0.7899	0.1074	0.3729	0.1694
2	355.08	0.5551	-0.1167	0.0043	-0.1809	0.0414	1.0800	0.1287	0.3423	0.1943
2	355.08	0.5996	-0.1435	0.0052	-0.2535	0.0463	1.3256	0.1470	0.2649	0.1962
2	355.08	0.6497	-0.1666	0.0049	-0.3181	0.0568	1.6153	0.1675	0.2188	0.1910
2	355.08	0.6996	-0.2028	0.0054	-0.4169	0.0639	1.8805	0.1870	0.2028	0.1947
2	355.08	0.7495	-0.2339	0.0067	-0.5114	0.0737	2.0980	0.2055	0.1773	0.2090
2	355.08	0.7996	-0.2544	0.0069	-0.6195	0.0830	2.2476	0.2243	0.0747	0.2076
2	355.08	0.8578	-0.3041	0.0074	-0.7491	0.0949	2.3622	0.2439	0.4316	0.2175
2	355.08	0.9100	-0.3193	0.0074	-0.8525	0.1065	2.3165	0.2603	0.1563	0.2253
2	355.08	0.9727	-0.3862	0.0107	-0.9157	0.1191	2.4848	0.2867	0.6827	0.2300

3.12 Run 52, Point 50

3.12.1 Pitch, Flap, and Lag

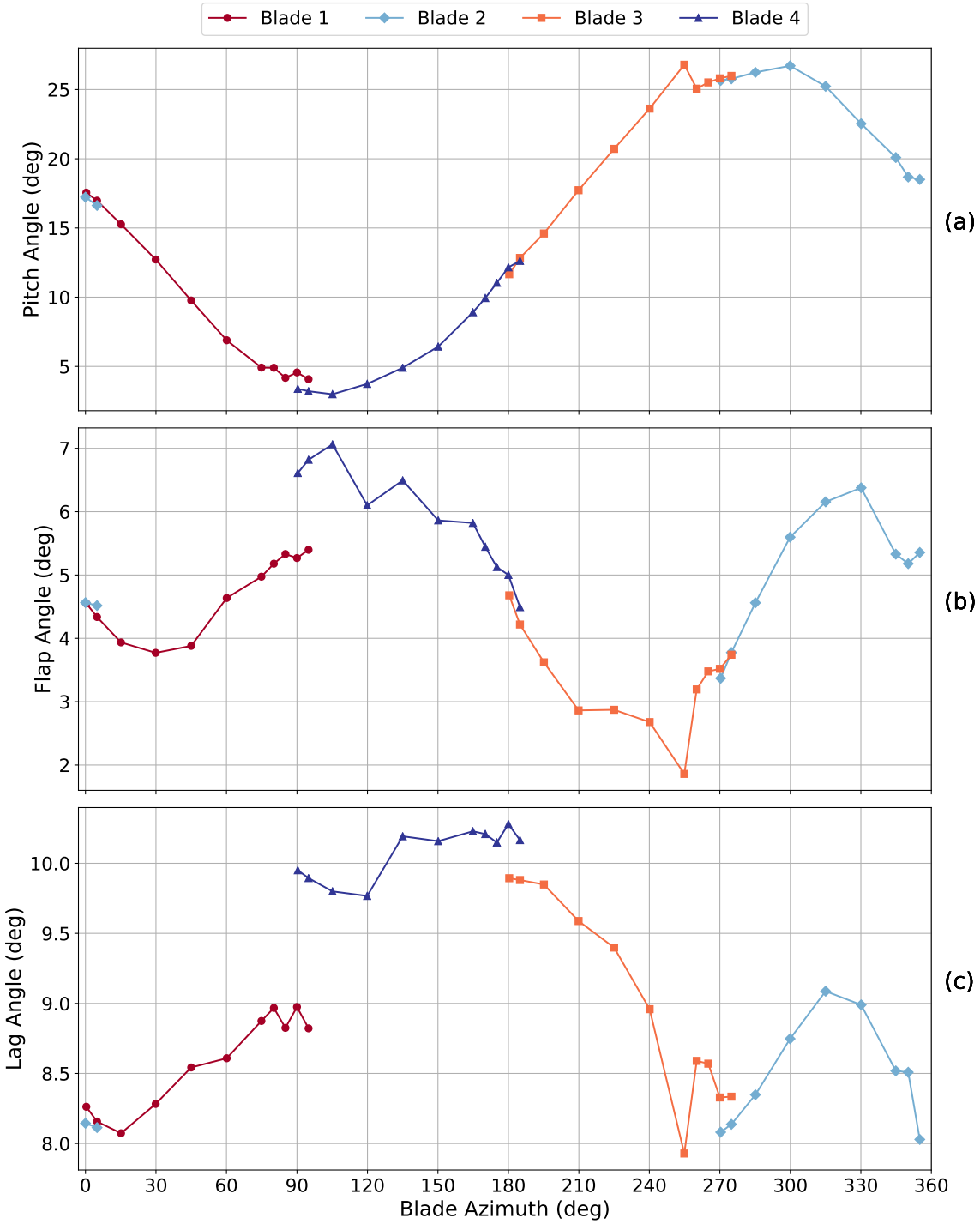


Figure 3.12-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	17.2276	4.5640	8.1441	0.1737	0.1190	0.1011
0.35	1	17.5551	4.5523	8.2621	0.1909	0.1047	0.2215
4.92	1	16.9747	4.3369	8.1566	0.0916	0.1397	0.1418
4.92	2	16.6251	4.5170	8.1134	0.1013	0.1035	0.0794
15.12	1	15.2673	3.9359	8.0730	0.1324	0.0709	0.2194
29.88	1	12.7241	3.7714	8.2822	0.0963	0.0581	0.1671
45	1	9.7593	3.8813	8.5427	0.0999	0.0915	0.1363
60.12	1	6.8898	4.6368	8.6084	0.1707	0.2084	0.1744
74.88	1	4.9144	4.9739	8.8747	0.0850	0.0557	0.1208
80.16	1	4.9033	5.1790	8.9677	0.0457	0.1282	0.0967
85.08	1	4.1753	5.3318	8.8252	0.0835	0.0563	0.1550
90	1	4.5684	5.2681	8.9746	0.0712	0.2088	0.1414
90.35	4	3.3794	6.6099	9.9502	0.1212	0.2133	0.0569
94.92	1	4.0785	5.3982	8.8218	0.0889	0.0970	0.1462
94.92	4	3.2098	6.8195	9.8944	0.0843	0.1608	0.1013
105.12	4	2.9906	7.0620	9.7995	0.0621	0.1397	0.1930
119.88	4	3.7372	6.0996	9.7669	0.0663	0.2350	0.2386
135	4	4.9031	6.4931	10.1927	0.0905	0.1574	0.1207
150.12	4	6.4289	5.8623	10.1580	0.0637	0.3609	0.2135
164.88	4	8.9129	5.8218	10.2286	0.0448	0.1314	0.0912
170.16	4	9.9348	5.4454	10.2086	0.0857	0.1475	0.0862
175.08	4	11.0373	5.1254	10.1482	0.1137	0.2941	0.1507
180	4	12.1570	5.0011	10.2804	0.2972	0.2605	0.1155
180.35	3	11.6584	4.6791	9.8935	0.2833	0.3056	0.1838
184.92	3	12.8367	4.2183	9.8806	0.0902	0.2207	0.1440
184.92	4	12.6218	4.4926	10.1655	0.0930	0.3013	0.1732
195.12	3	14.6037	3.6215	9.8486	0.0572	0.1561	0.1914
209.88	3	17.7283	2.8629	9.5879	0.0703	0.1201	0.1783
225	3	20.7134	2.8720	9.3984	0.0777	0.1035	0.1141
240.12	3	23.6223	2.6784	8.9587	0.1219	0.2008	0.1400
254.88	3	26.7906	1.8606	7.9285	1.0523	0.6175	0.3736
260.16	3	25.0641	3.1941	8.5896	0.0792	0.1185	0.1000
265.08	3	25.5146	3.4780	8.5698	0.1091	0.1605	0.1330
270	3	25.8063	3.5187	8.3285	0.1720	0.0983	0.1347
270.35	2	25.6530	3.3695	8.0807	0.1050	0.1389	0.0922
274.92	2	25.7746	3.7765	8.1372	0.1241	0.1093	0.1284
274.92	3	25.9843	3.7413	8.3342	0.2656	0.1188	0.1681
285.12	2	26.2390	4.5615	8.3479	0.0624	0.1397	0.1123
299.88	2	26.7128	5.5975	8.7474	0.1098	0.0741	0.1181
315	2	25.2289	6.1549	9.0869	0.0967	0.0922	0.0844
330.12	2	22.5333	6.3765	8.9898	0.1322	0.1582	0.0737
344.88	2	20.0893	5.3295	8.5182	0.2177	0.0809	0.1285
350.16	2	18.6815	5.1794	8.5083	0.3083	0.1072	0.1021
355.08	2	18.5058	5.3557	8.0290	0.2810	0.3018	0.1683

3.12.2 Spanwise Elastic Deformations

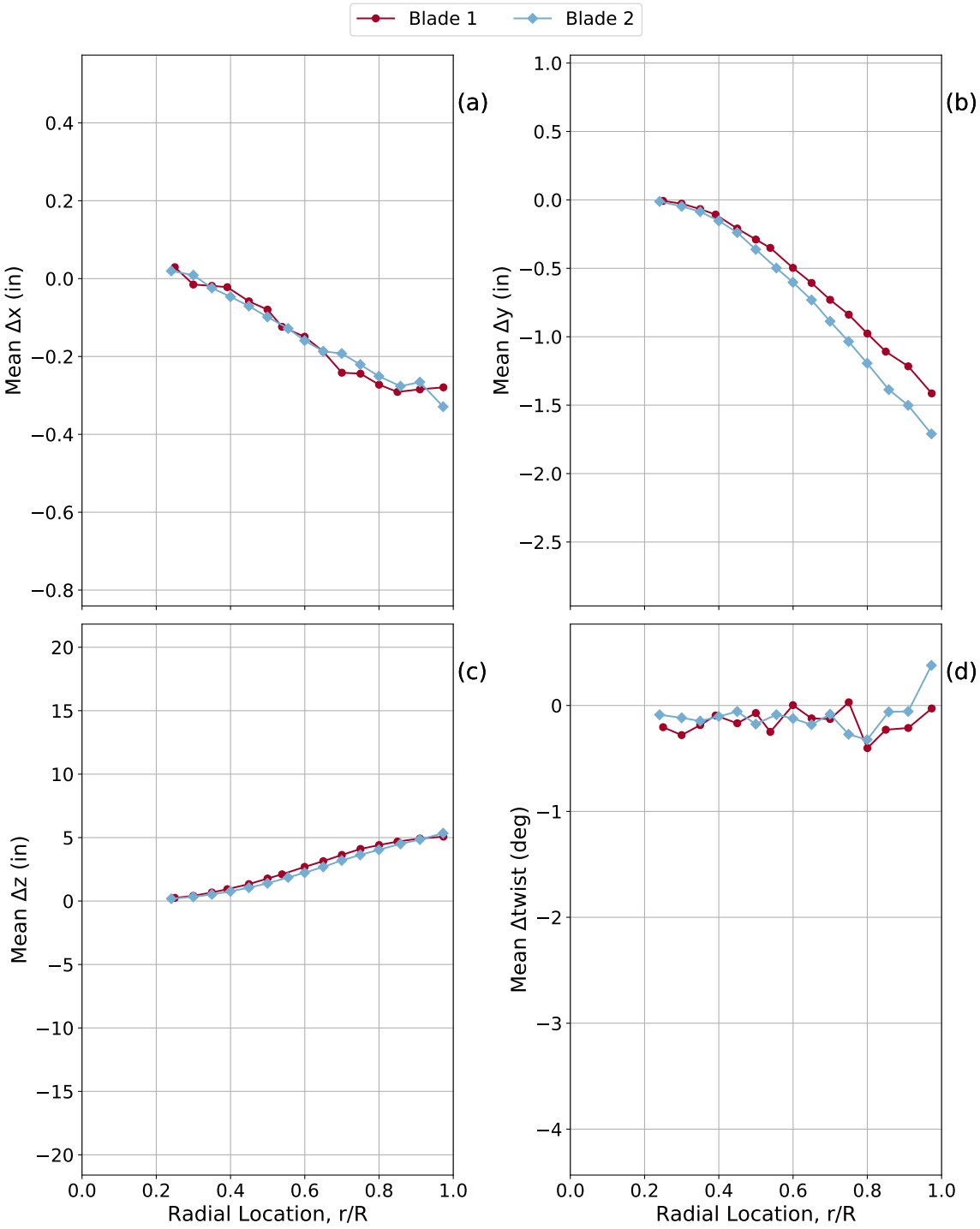


Figure 3.12-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2499	0.0293	0.0048	-0.0073	0.0050	0.2509	0.0315	-0.2050	0.1420
1	0.35	0.2998	-0.0152	0.0042	-0.0276	0.0088	0.4099	0.0532	-0.2796	0.2012
1	0.35	0.3498	-0.0186	0.0047	-0.0672	0.0201	0.6772	0.0814	-0.1855	0.2107
1	0.35	0.3913	-0.0220	0.0051	-0.1073	0.0277	0.9340	0.1151	-0.0944	0.1651
1	0.35	0.4496	-0.0584	0.0067	-0.2092	0.0377	1.3347	0.1539	-0.1679	0.1650
1	0.35	0.4997	-0.0797	0.0081	-0.2896	0.0474	1.7765	0.1847	-0.0715	0.1752
1	0.35	0.5387	-0.1238	0.0078	-0.3507	0.0542	2.1068	0.2069	-0.2492	0.1696
1	0.35	0.5996	-0.1493	0.0103	-0.4967	0.0674	2.6911	0.2458	0.0031	0.1742
1	0.35	0.6498	-0.1873	0.0117	-0.6067	0.0771	3.1432	0.2768	-0.1220	0.2031
1	0.35	0.6998	-0.2417	0.0122	-0.7302	0.0895	3.6349	0.3172	-0.1281	0.1994
1	0.35	0.7500	-0.2441	0.0141	-0.8385	0.0992	4.1050	0.3570	0.0300	0.1545
1	0.35	0.8001	-0.2725	0.0161	-0.9769	0.1087	4.4115	0.3895	-0.4025	0.1877
1	0.35	0.8497	-0.2910	0.0153	-1.1087	0.1211	4.6868	0.4275	-0.2291	0.1805
1	0.35	0.9102	-0.2844	0.0153	-1.2162	0.1423	4.9274	0.4777	-0.2124	0.1705
1	0.35	0.9734	-0.2793	0.0217	-1.4140	0.1544	5.0761	0.5301	-0.0281	0.1783
2	0	0.2405	0.0196	0.0030	-0.0117	0.0018	0.1851	0.0151	-0.0877	0.1279
2	0	0.2999	0.0089	0.0022	-0.0474	0.0047	0.3306	0.0251	-0.1166	0.1973
2	0	0.3498	-0.0242	0.0024	-0.0861	0.0095	0.5217	0.0414	-0.1468	0.1589
2	0	0.3998	-0.0466	0.0029	-0.1532	0.0141	0.7638	0.0578	-0.1036	0.1758
2	0	0.4496	-0.0706	0.0025	-0.2389	0.0179	1.0534	0.0726	-0.0573	0.1750
2	0	0.4995	-0.0984	0.0049	-0.3622	0.0220	1.3990	0.0835	-0.1759	0.1707
2	0	0.5551	-0.1282	0.0055	-0.4981	0.0291	1.8601	0.1061	-0.0865	0.1978
2	0	0.5996	-0.1592	0.0045	-0.6024	0.0345	2.2356	0.1220	-0.1231	0.1932
2	0	0.6497	-0.1867	0.0056	-0.7314	0.0420	2.6914	0.1441	-0.1810	0.2027
2	0	0.6996	-0.1924	0.0071	-0.8874	0.0483	3.1989	0.1631	-0.0825	0.2275
2	0	0.7495	-0.2208	0.0077	-1.0349	0.0546	3.6413	0.1870	-0.2723	0.1820
2	0	0.7996	-0.2508	0.0068	-1.1938	0.0652	4.0387	0.2187	-0.3234	0.1738
2	0	0.8578	-0.2763	0.0096	-1.3866	0.0727	4.5024	0.2487	-0.0597	0.2435
2	0	0.9100	-0.2658	0.0135	-1.5013	0.0840	4.8461	0.2863	-0.0563	0.2677
2	0	0.9727	-0.3290	0.0178	-1.7099	0.0911	5.3469	0.3475	0.3786	0.2013

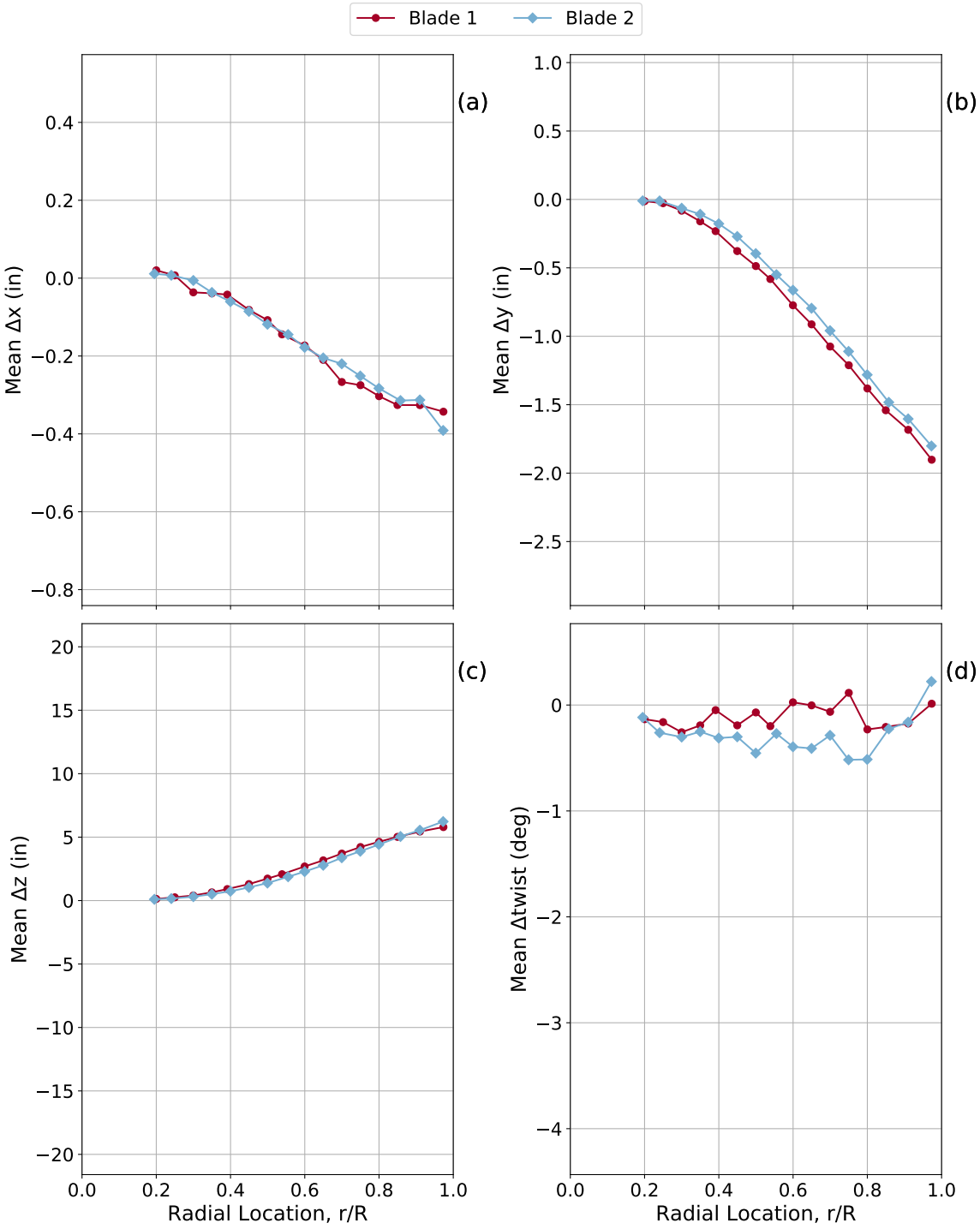


Figure 3.12-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0201	0.0022	-0.0127	0.0017	0.1311	0.0096	-0.1338	0.0512
1	4.92	0.2499	0.0071	0.0021	-0.0276	0.0043	0.2582	0.0176	-0.1613	0.0843
1	4.92	0.2998	-0.0365	0.0018	-0.0824	0.0083	0.4009	0.0257	-0.2572	0.1133
1	4.92	0.3498	-0.0390	0.0031	-0.1602	0.0144	0.6502	0.0451	-0.1920	0.0816
1	4.92	0.3913	-0.0423	0.0031	-0.2317	0.0221	0.9067	0.0593	-0.0482	0.1076
1	4.92	0.4496	-0.0814	0.0044	-0.3774	0.0283	1.2996	0.0788	-0.1921	0.1077
1	4.92	0.4997	-0.1079	0.0045	-0.4869	0.0364	1.7340	0.1008	-0.0701	0.0909
1	4.92	0.5387	-0.1444	0.0050	-0.5816	0.0435	2.0789	0.1177	-0.1992	0.0984
1	4.92	0.5996	-0.1729	0.0067	-0.7735	0.0544	2.6877	0.1416	0.0257	0.0962
1	4.92	0.6498	-0.2099	0.0074	-0.9129	0.0638	3.1712	0.1700	-0.0032	0.1102
1	4.92	0.6998	-0.2667	0.0083	-1.0750	0.0738	3.7060	0.1945	-0.0642	0.1088
1	4.92	0.7500	-0.2749	0.0098	-1.2116	0.0837	4.2206	0.2279	0.1149	0.1113
1	4.92	0.8001	-0.3032	0.0111	-1.3815	0.0961	4.6340	0.2564	-0.2306	0.1234
1	4.92	0.8497	-0.3259	0.0136	-1.5407	0.1073	5.0212	0.2882	-0.2073	0.1375
1	4.92	0.9102	-0.3261	0.0144	-1.6835	0.1265	5.4385	0.3266	-0.1750	0.1627
1	4.92	0.9734	-0.3430	0.0155	-1.9023	0.1398	5.7920	0.3582	0.0124	0.1471
2	4.92	0.1949	0.0112	0.0020	-0.0100	0.0014	0.0993	0.0054	-0.1168	0.0436
2	4.92	0.2405	0.0074	0.0016	-0.0108	0.0033	0.1566	0.0102	-0.2614	0.0648
2	4.92	0.2999	-0.0060	0.0015	-0.0641	0.0045	0.3090	0.0163	-0.3025	0.1001
2	4.92	0.3498	-0.0368	0.0026	-0.1083	0.0061	0.5063	0.0295	-0.2513	0.0858
2	4.92	0.3998	-0.0604	0.0021	-0.1778	0.0116	0.7370	0.0421	-0.3120	0.1043
2	4.92	0.4496	-0.0854	0.0031	-0.2710	0.0156	1.0368	0.0571	-0.3001	0.0912
2	4.92	0.4995	-0.1185	0.0033	-0.3959	0.0211	1.3803	0.0702	-0.4543	0.0891
2	4.92	0.5551	-0.1449	0.0033	-0.5499	0.0239	1.8782	0.0850	-0.2698	0.1075
2	4.92	0.5996	-0.1778	0.0040	-0.6633	0.0321	2.2827	0.0944	-0.3943	0.0905
2	4.92	0.6497	-0.2049	0.0048	-0.7952	0.0398	2.7829	0.1094	-0.4097	0.1014
2	4.92	0.6996	-0.2200	0.0060	-0.9591	0.0515	3.3740	0.1267	-0.2862	0.0872
2	4.92	0.7495	-0.2513	0.0075	-1.1106	0.0611	3.8864	0.1435	-0.5172	0.0954
2	4.92	0.7996	-0.2829	0.0095	-1.2816	0.0732	4.4171	0.1651	-0.5137	0.1045
2	4.92	0.8578	-0.3144	0.0083	-1.4826	0.0863	5.0505	0.1933	-0.2254	0.1170
2	4.92	0.9100	-0.3128	0.0101	-1.6038	0.1044	5.5482	0.2213	-0.1619	0.1645
2	4.92	0.9727	-0.3912	0.0107	-1.8016	0.1183	6.2271	0.2638	0.2219	0.1572

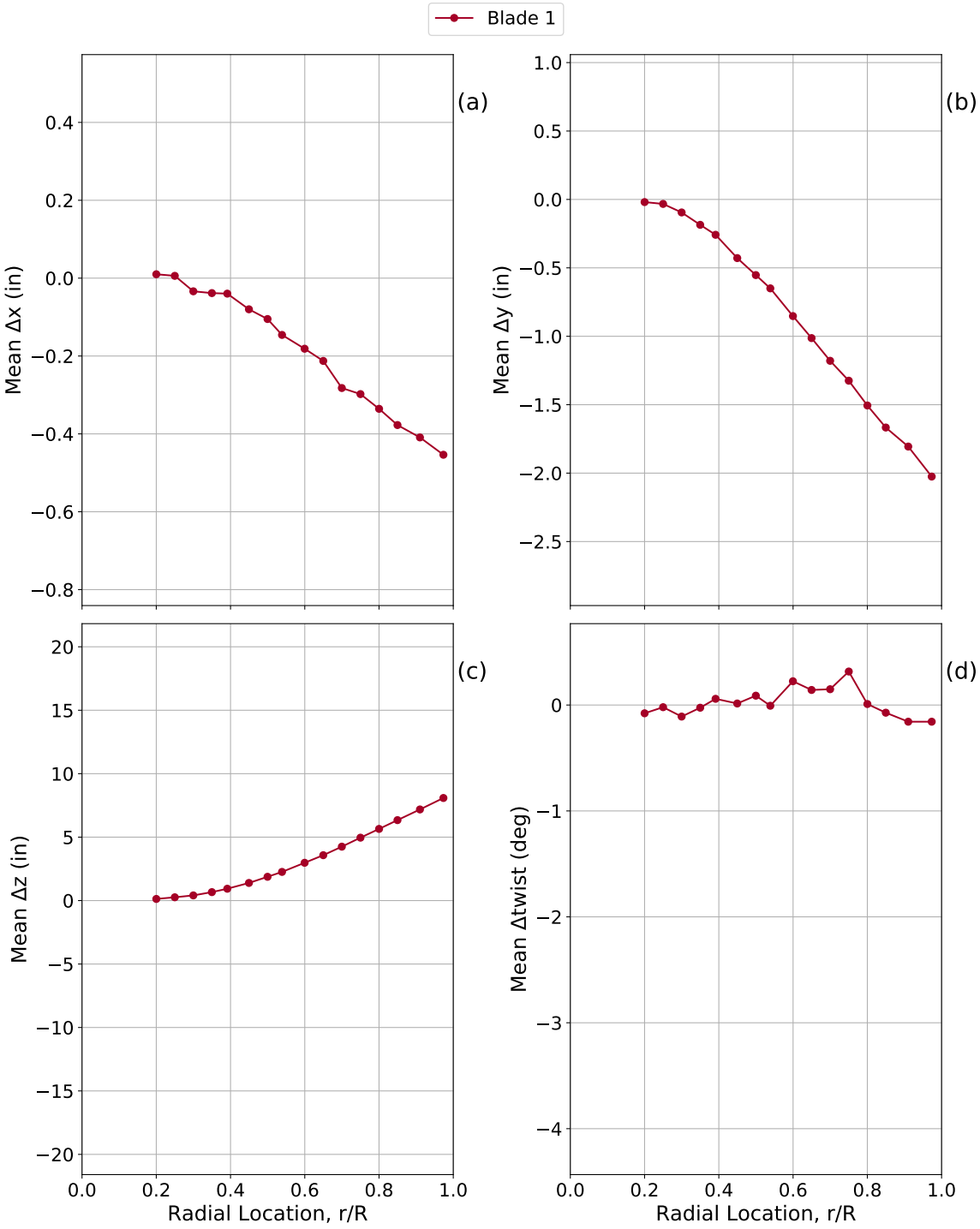


Figure 3.12-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0100	0.0019	-0.0194	0.0014	0.1296	0.0075	-0.0781	0.0411
1	15.12	0.2499	0.0059	0.0017	-0.0328	0.0043	0.2602	0.0193	-0.0205	0.0528
1	15.12	0.2998	-0.0338	0.0023	-0.0951	0.0062	0.4081	0.0298	-0.1090	0.0823
1	15.12	0.3498	-0.0384	0.0021	-0.1856	0.0124	0.6667	0.0476	-0.0255	0.0900
1	15.12	0.3913	-0.0398	0.0027	-0.2584	0.0177	0.9343	0.0715	0.0586	0.0887
1	15.12	0.4496	-0.0800	0.0035	-0.4287	0.0261	1.3901	0.1089	0.0143	0.0808
1	15.12	0.4997	-0.1050	0.0050	-0.5528	0.0334	1.8750	0.1413	0.0882	0.1087
1	15.12	0.5387	-0.1458	0.0055	-0.6499	0.0401	2.2599	0.1644	-0.0068	0.1092
1	15.12	0.5996	-0.1813	0.0078	-0.8524	0.0508	2.9790	0.2103	0.2245	0.1091
1	15.12	0.6498	-0.2126	0.0076	-1.0133	0.0613	3.5773	0.2549	0.1421	0.0957
1	15.12	0.6998	-0.2822	0.0114	-1.1792	0.0726	4.2497	0.2986	0.1492	0.1079
1	15.12	0.7500	-0.2978	0.0131	-1.3246	0.0870	4.9582	0.3546	0.3163	0.0958
1	15.12	0.8001	-0.3356	0.0154	-1.5057	0.0992	5.6481	0.4160	0.0094	0.1160
1	15.12	0.8497	-0.3773	0.0177	-1.6668	0.1140	6.3405	0.4853	-0.0725	0.0854
1	15.12	0.9102	-0.4091	0.0236	-1.8059	0.1309	7.1817	0.5766	-0.1575	0.1078
1	15.12	0.9734	-0.4536	0.0307	-2.0251	0.1482	8.0845	0.6910	-0.1575	0.1313

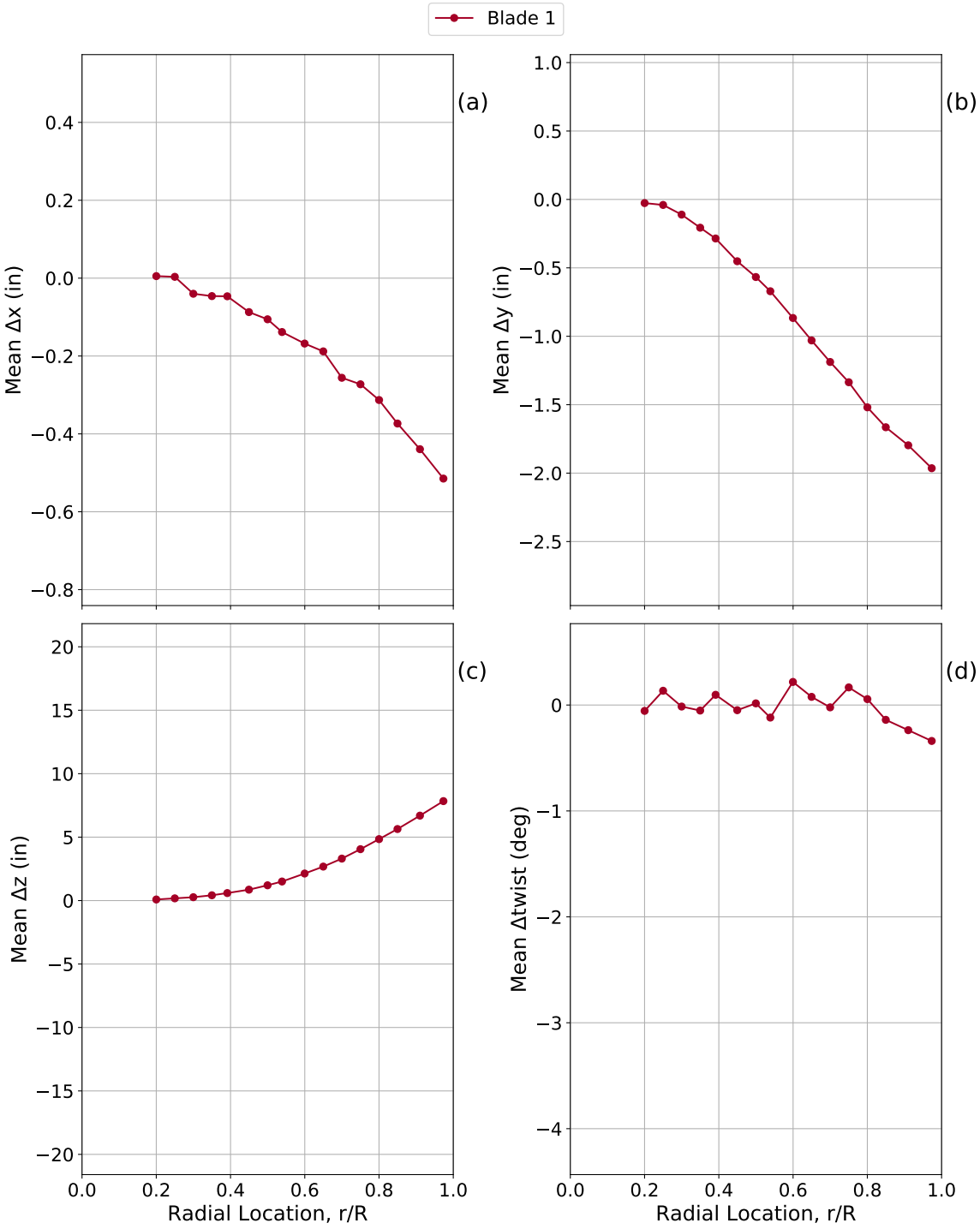


Figure 3.12-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0052	0.0017	-0.0266	0.0011	0.0866	0.0071	-0.0554	0.0361
1	29.88	0.2499	0.0034	0.0016	-0.0403	0.0039	0.1763	0.0154	0.1347	0.0537
1	29.88	0.2998	-0.0401	0.0033	-0.1110	0.0055	0.2662	0.0259	-0.0145	0.0793
1	29.88	0.3498	-0.0461	0.0022	-0.2066	0.0107	0.4181	0.0392	-0.0522	0.1107
1	29.88	0.3913	-0.0466	0.0031	-0.2854	0.0159	0.5927	0.0589	0.0965	0.0910
1	29.88	0.4496	-0.0872	0.0031	-0.4517	0.0212	0.8604	0.0783	-0.0489	0.0970
1	29.88	0.4997	-0.1057	0.0039	-0.5670	0.0273	1.2048	0.0991	0.0156	0.1168
1	29.88	0.5387	-0.1384	0.0038	-0.6709	0.0333	1.5031	0.1145	-0.1186	0.1352
1	29.88	0.5996	-0.1680	0.0044	-0.8663	0.0424	2.1318	0.1425	0.2179	0.1386
1	29.88	0.6498	-0.1881	0.0062	-1.0303	0.0520	2.6784	0.1683	0.0771	0.1521
1	29.88	0.6998	-0.2559	0.0066	-1.1878	0.0619	3.3083	0.1967	-0.0221	0.1601
1	29.88	0.7500	-0.2726	0.0081	-1.3359	0.0740	4.0507	0.2290	0.1663	0.1488
1	29.88	0.8001	-0.3130	0.0094	-1.5193	0.0858	4.8436	0.2656	0.0557	0.1737
1	29.88	0.8497	-0.3734	0.0113	-1.6648	0.0976	5.6386	0.3081	-0.1398	0.1865
1	29.88	0.9102	-0.4393	0.0136	-1.7967	0.1131	6.6939	0.3657	-0.2375	0.1930
1	29.88	0.9734	-0.5148	0.0208	-1.9642	0.1303	7.8387	0.4292	-0.3393	0.2181

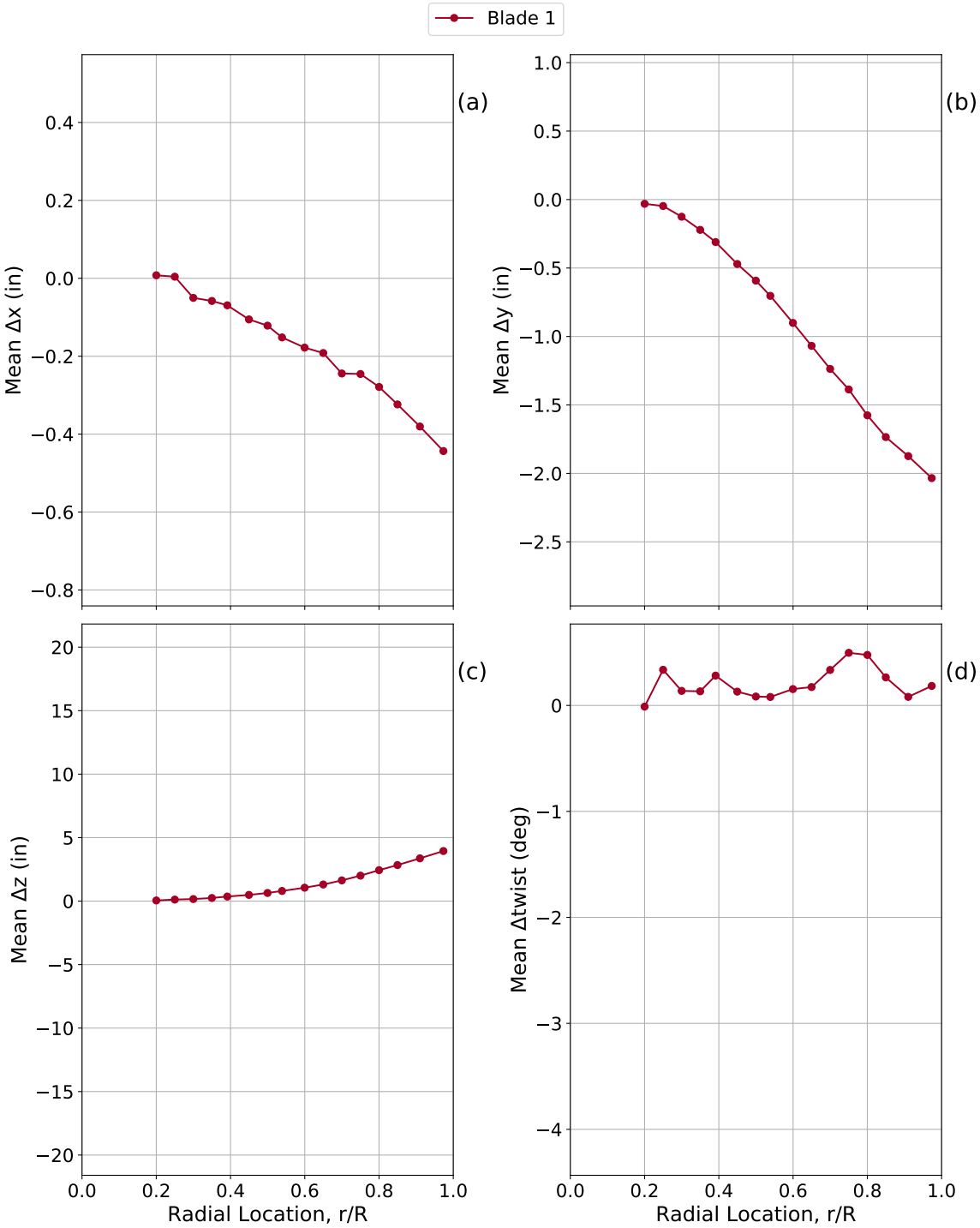


Figure 3.12-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0078	0.0017	-0.0311	0.0014	0.0515	0.0054	-0.0112	0.0311
1	45	0.2499	0.0041	0.0015	-0.0473	0.0035	0.1215	0.0106	0.3363	0.0372
1	45	0.2998	-0.0502	0.0022	-0.1254	0.0067	0.1619	0.0188	0.1371	0.0652
1	45	0.3498	-0.0581	0.0022	-0.2215	0.0115	0.2455	0.0314	0.1332	0.0707
1	45	0.3913	-0.0693	0.0036	-0.3105	0.0171	0.3593	0.0442	0.2816	0.0687
1	45	0.4496	-0.1055	0.0030	-0.4707	0.0230	0.4885	0.0638	0.1301	0.0887
1	45	0.4997	-0.1215	0.0037	-0.5922	0.0296	0.6412	0.0820	0.0840	0.0867
1	45	0.5387	-0.1517	0.0044	-0.7033	0.0336	0.7985	0.0980	0.0798	0.0880
1	45	0.5996	-0.1779	0.0046	-0.9010	0.0436	1.0568	0.1227	0.1543	0.0850
1	45	0.6498	-0.1918	0.0053	-1.0684	0.0511	1.3077	0.1411	0.1731	0.0815
1	45	0.6998	-0.2443	0.0057	-1.2370	0.0593	1.6319	0.1582	0.3347	0.0884
1	45	0.7500	-0.2456	0.0067	-1.3871	0.0673	2.0051	0.1760	0.4966	0.0889
1	45	0.8001	-0.2788	0.0072	-1.5760	0.0758	2.4362	0.1935	0.4765	0.0995
1	45	0.8497	-0.3237	0.0075	-1.7347	0.0846	2.8379	0.2154	0.2647	0.1132
1	45	0.9102	-0.3804	0.0082	-1.8738	0.0946	3.3684	0.2419	0.0807	0.1027
1	45	0.9734	-0.4434	0.0105	-2.0344	0.1058	3.9449	0.2800	0.1839	0.1238

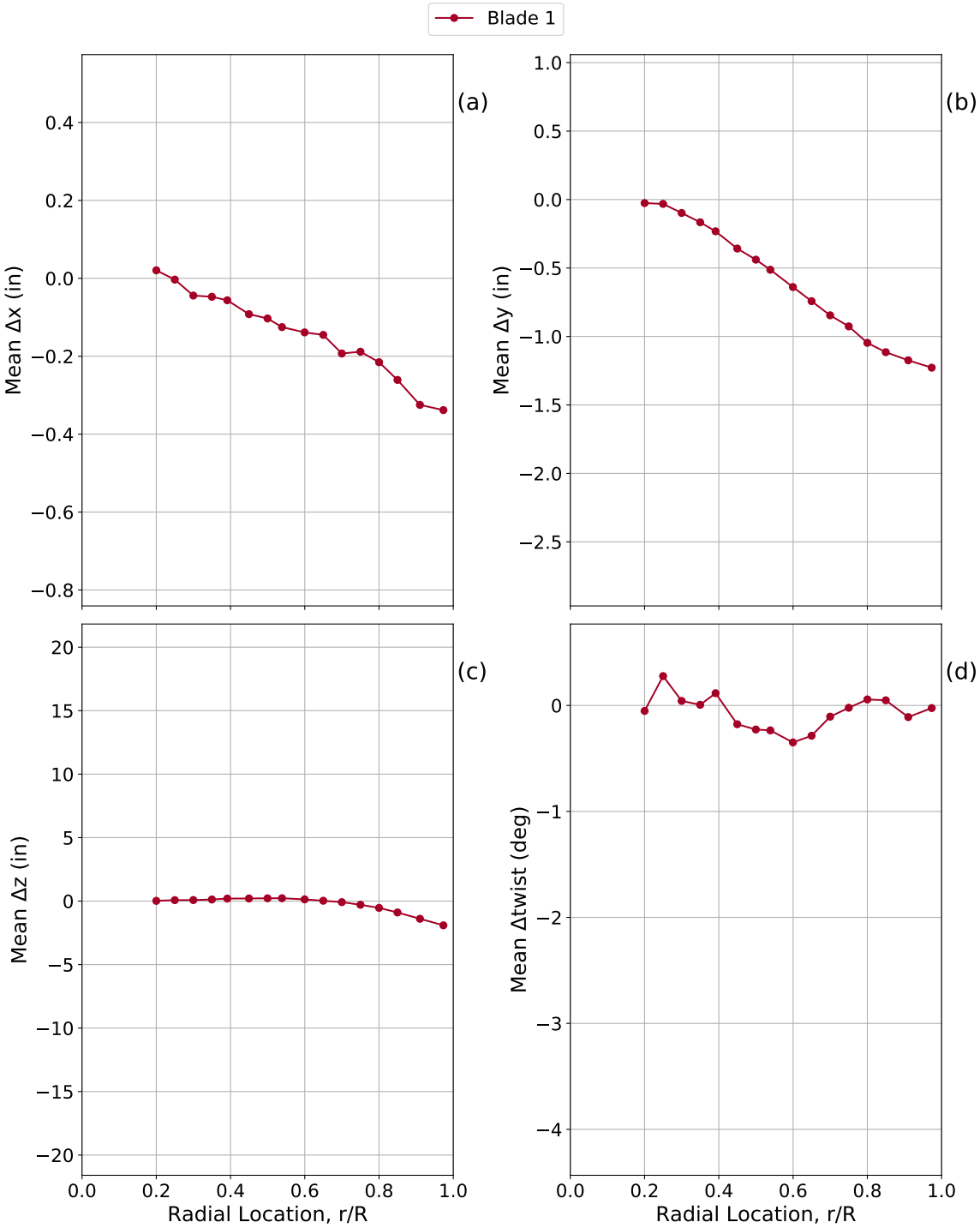


Figure 3.12-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0205	0.0023	-0.0259	0.0013	0.0217	0.0095	-0.0518	0.0180
1	60.12	0.2499	-0.0033	0.0025	-0.0318	0.0037	0.0764	0.0210	0.2769	0.0385
1	60.12	0.2998	-0.0443	0.0013	-0.0981	0.0068	0.0821	0.0385	0.0426	0.0404
1	60.12	0.3498	-0.0474	0.0017	-0.1661	0.0118	0.1274	0.0641	0.0061	0.0647
1	60.12	0.3913	-0.0564	0.0038	-0.2320	0.0175	0.1980	0.0936	0.1154	0.0630
1	60.12	0.4496	-0.0920	0.0030	-0.3580	0.0214	0.2081	0.1335	-0.1774	0.0839
1	60.12	0.4997	-0.1031	0.0028	-0.4390	0.0283	0.2197	0.1709	-0.2271	0.0799
1	60.12	0.5387	-0.1252	0.0031	-0.5128	0.0313	0.2270	0.2056	-0.2354	0.0928
1	60.12	0.5996	-0.1388	0.0048	-0.6391	0.0393	0.1364	0.2560	-0.3493	0.0944
1	60.12	0.6498	-0.1453	0.0050	-0.7421	0.0466	0.0296	0.2950	-0.2860	0.1120
1	60.12	0.6998	-0.1930	0.0044	-0.8455	0.0532	-0.0815	0.3282	-0.1062	0.1115
1	60.12	0.7500	-0.1884	0.0040	-0.9262	0.0597	-0.2890	0.3611	-0.0220	0.1159
1	60.12	0.8001	-0.2154	0.0040	-1.0466	0.0677	-0.5348	0.3871	0.0564	0.1040
1	60.12	0.8497	-0.2608	0.0045	-1.1147	0.0739	-0.8950	0.4218	0.0485	0.1139
1	60.12	0.9102	-0.3249	0.0052	-1.1741	0.0841	-1.3910	0.4599	-0.1100	0.1108
1	60.12	0.9734	-0.3383	0.0064	-1.2279	0.0927	-1.9076	0.5076	-0.0248	0.1150

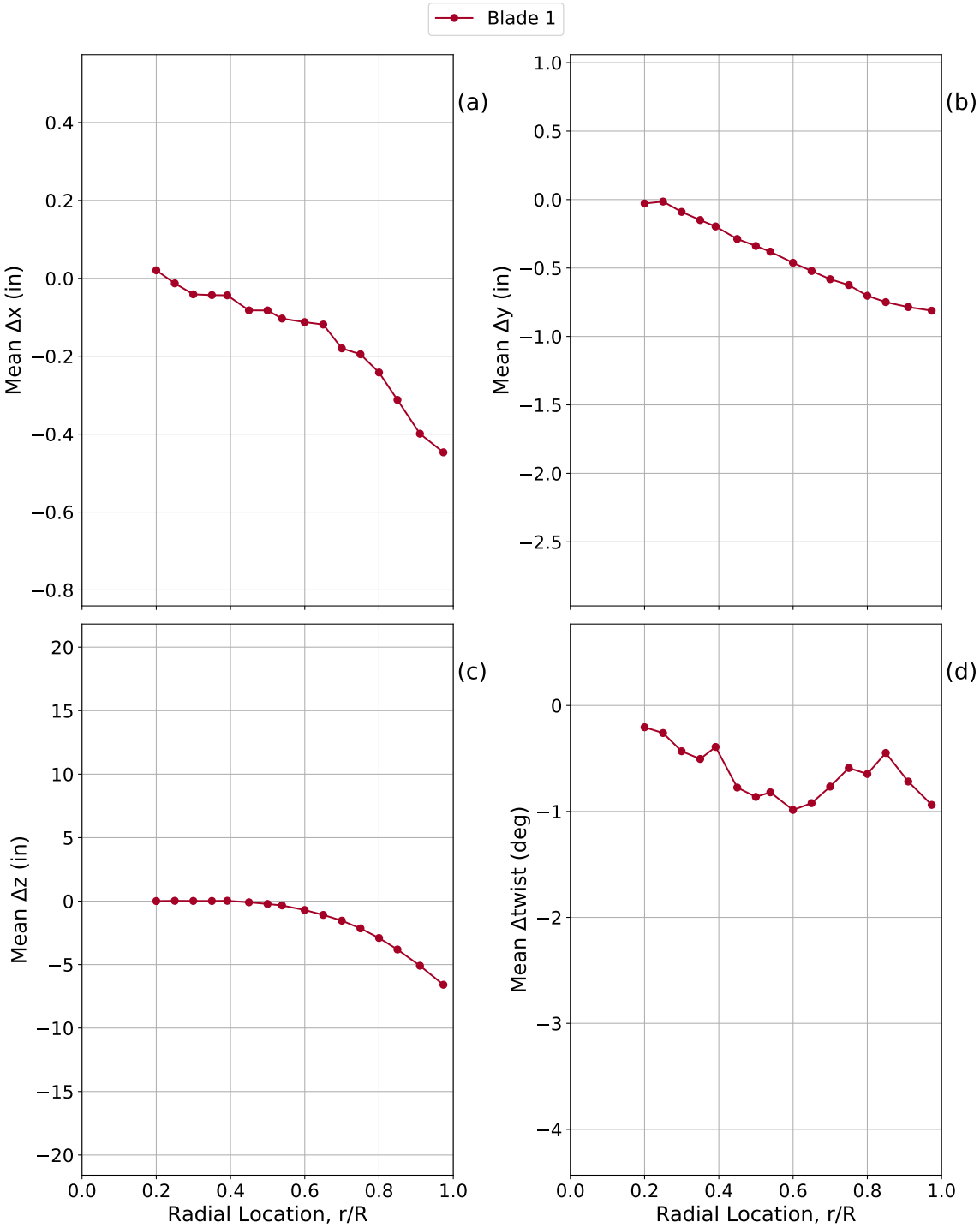


Figure 3.12-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0206	0.0025	-0.0287	0.0010	0.0067	0.0041	-0.2055	0.0334
1	74.88	0.2499	-0.0129	0.0015	-0.0144	0.0022	0.0253	0.0080	-0.2603	0.0427
1	74.88	0.2998	-0.0411	0.0020	-0.0899	0.0048	0.0164	0.0150	-0.4317	0.0705
1	74.88	0.3498	-0.0430	0.0023	-0.1497	0.0075	0.0136	0.0254	-0.5047	0.0693
1	74.88	0.3913	-0.0436	0.0030	-0.1961	0.0114	0.0272	0.0360	-0.3914	0.0717
1	74.88	0.4496	-0.0823	0.0032	-0.2877	0.0166	-0.0918	0.0485	-0.7744	0.0644
1	74.88	0.4997	-0.0825	0.0025	-0.3389	0.0210	-0.2234	0.0604	-0.8629	0.0642
1	74.88	0.5387	-0.1034	0.0034	-0.3805	0.0269	-0.3390	0.0646	-0.8196	0.0761
1	74.88	0.5996	-0.1125	0.0044	-0.4614	0.0351	-0.6987	0.0808	-0.9859	0.0733
1	74.88	0.6498	-0.1187	0.0045	-0.5215	0.0419	-1.0874	0.0887	-0.9215	0.0772
1	74.88	0.6998	-0.1799	0.0043	-0.5815	0.0494	-1.5420	0.1003	-0.7656	0.0847
1	74.88	0.7500	-0.1951	0.0051	-0.6240	0.0577	-2.1517	0.1096	-0.5901	0.0768
1	74.88	0.8001	-0.2418	0.0045	-0.7026	0.0651	-2.9103	0.1238	-0.6464	0.0818
1	74.88	0.8497	-0.3122	0.0062	-0.7491	0.0733	-3.8139	0.1405	-0.4477	0.0958
1	74.88	0.9102	-0.3990	0.0070	-0.7852	0.0829	-5.0917	0.1619	-0.7176	0.0787
1	74.88	0.9734	-0.4468	0.0102	-0.8117	0.0926	-6.5911	0.1860	-0.9379	0.1234

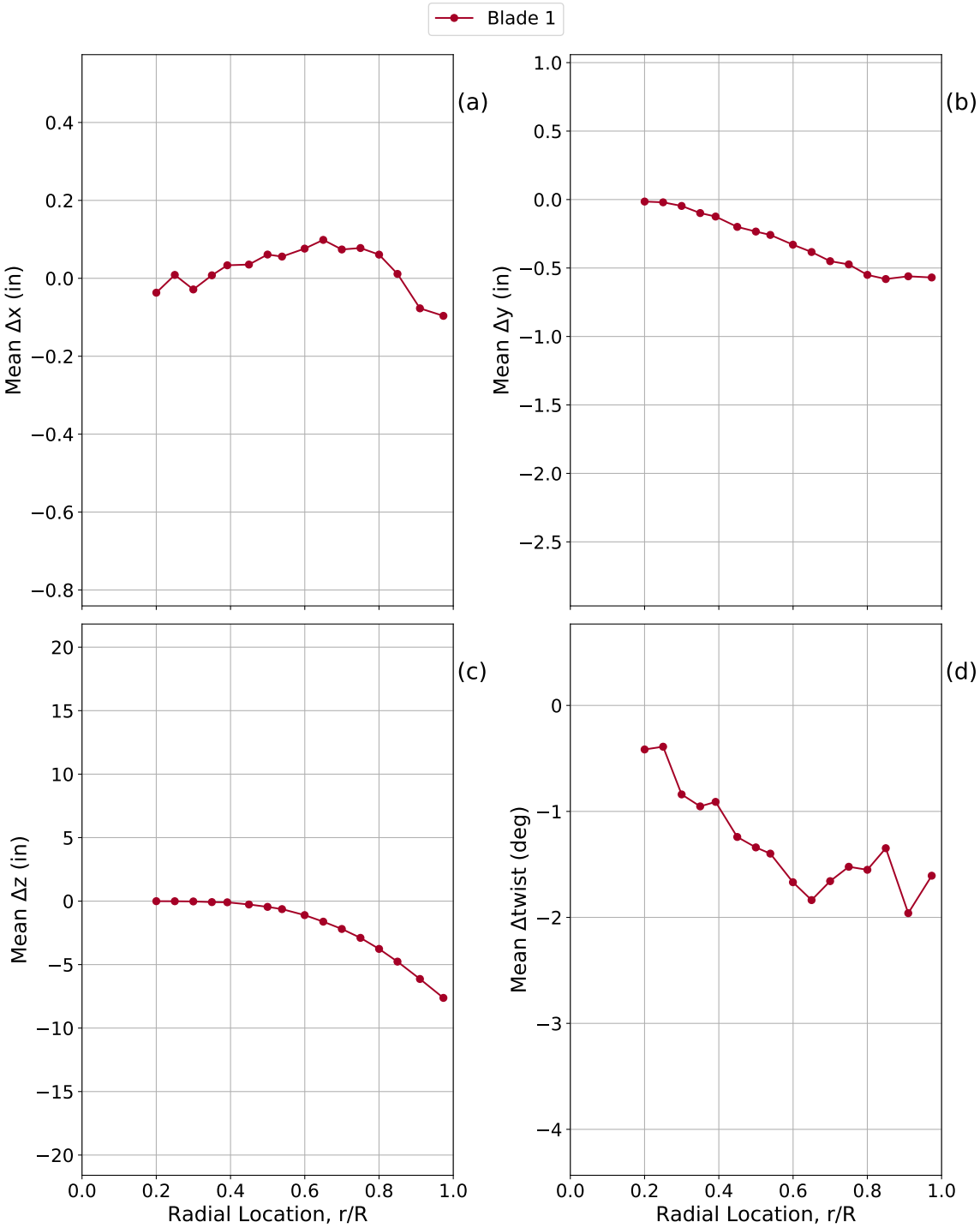


Figure 3.12-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0369	0.0239	-0.0146	0.0011	-0.0062	0.0040	-0.4155	0.0300
1	80.16	0.2499	0.0087	0.0053	-0.0202	0.0022	-0.0104	0.0076	-0.3895	0.0548
1	80.16	0.2998	-0.0286	0.0098	-0.0467	0.0045	-0.0265	0.0141	-0.8397	0.0674
1	80.16	0.3498	0.0077	0.0211	-0.0987	0.0081	-0.0786	0.0246	-0.9525	0.0575
1	80.16	0.3913	0.0334	0.0281	-0.1241	0.0114	-0.0938	0.0343	-0.9101	0.0508
1	80.16	0.4496	0.0353	0.0345	-0.1996	0.0160	-0.2650	0.0514	-1.2411	0.0837
1	80.16	0.4997	0.0610	0.0351	-0.2337	0.0212	-0.4544	0.0700	-1.3397	0.0660
1	80.16	0.5387	0.0558	0.0346	-0.2584	0.0253	-0.6310	0.0839	-1.3982	0.0549
1	80.16	0.5996	0.0762	0.0295	-0.3297	0.0324	-1.1033	0.1094	-1.6683	0.0692
1	80.16	0.6498	0.0986	0.0242	-0.3832	0.0402	-1.6190	0.1293	-1.8369	0.0717
1	80.16	0.6998	0.0740	0.0221	-0.4501	0.0477	-2.1936	0.1463	-1.6580	0.0688
1	80.16	0.7500	0.0777	0.0317	-0.4736	0.0573	-2.8948	0.1626	-1.5224	0.0834
1	80.16	0.8001	0.0608	0.0475	-0.5502	0.0697	-3.7651	0.1787	-1.5510	0.0825
1	80.16	0.8497	0.0113	0.0671	-0.5805	0.0833	-4.7655	0.1935	-1.3471	0.0770
1	80.16	0.9102	-0.0771	0.0980	-0.5606	0.0995	-6.1335	0.2116	-1.9602	0.0886
1	80.16	0.9734	-0.0964	0.1327	-0.5692	0.1262	-7.6225	0.2364	-1.6068	0.1035

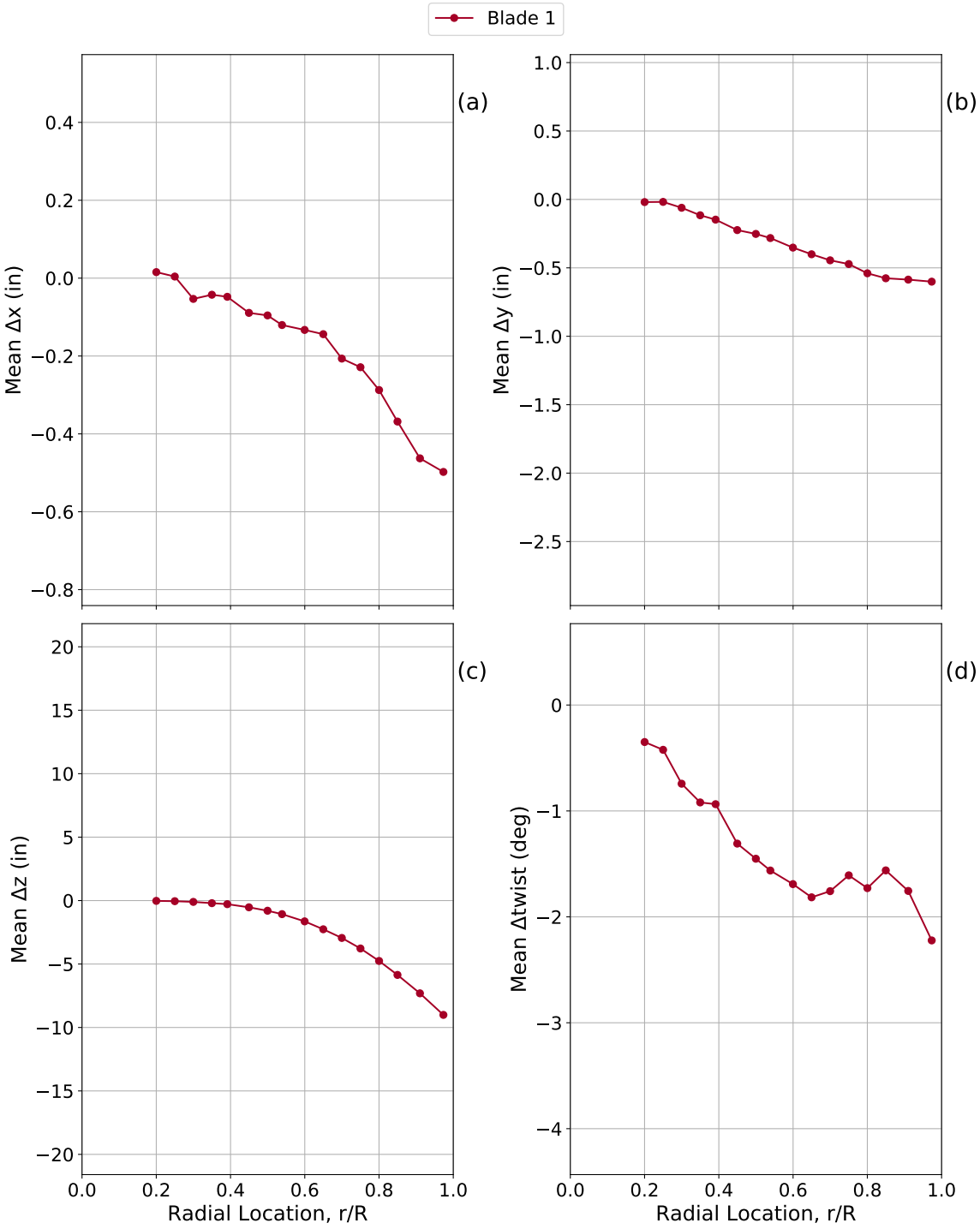


Figure 3.12-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0155	0.0020	-0.0193	0.0011	-0.0230	0.0064	-0.3495	0.0355
1	85.08	0.2499	0.0041	0.0022	-0.0180	0.0033	-0.0469	0.0113	-0.4229	0.0575
1	85.08	0.2998	-0.0533	0.0016	-0.0609	0.0057	-0.1032	0.0251	-0.7430	0.0796
1	85.08	0.3498	-0.0426	0.0017	-0.1157	0.0093	-0.2036	0.0406	-0.9197	0.0542
1	85.08	0.3913	-0.0479	0.0024	-0.1476	0.0145	-0.2813	0.0588	-0.9362	0.0874
1	85.08	0.4496	-0.0892	0.0034	-0.2240	0.0214	-0.5299	0.0810	-1.3085	0.0622
1	85.08	0.4997	-0.0957	0.0048	-0.2520	0.0254	-0.7990	0.1035	-1.4512	0.0854
1	85.08	0.5387	-0.1204	0.0037	-0.2822	0.0311	-1.0685	0.1200	-1.5625	0.0776
1	85.08	0.5996	-0.1330	0.0052	-0.3520	0.0391	-1.6381	0.1464	-1.6909	0.0904
1	85.08	0.6498	-0.1439	0.0048	-0.4007	0.0467	-2.2611	0.1612	-1.8156	0.0904
1	85.08	0.6998	-0.2066	0.0055	-0.4449	0.0538	-2.9440	0.1740	-1.7574	0.0939
1	85.08	0.7500	-0.2288	0.0062	-0.4723	0.0610	-3.7744	0.1918	-1.6080	0.1142
1	85.08	0.8001	-0.2874	0.0076	-0.5397	0.0690	-4.7566	0.2066	-1.7288	0.1143
1	85.08	0.8497	-0.3683	0.0088	-0.5761	0.0767	-5.8584	0.2276	-1.5613	0.1057
1	85.08	0.9102	-0.4628	0.0107	-0.5860	0.0872	-7.3088	0.2551	-1.7553	0.0986
1	85.08	0.9734	-0.4977	0.0134	-0.6009	0.0986	-9.0076	0.2893	-2.2226	0.0899

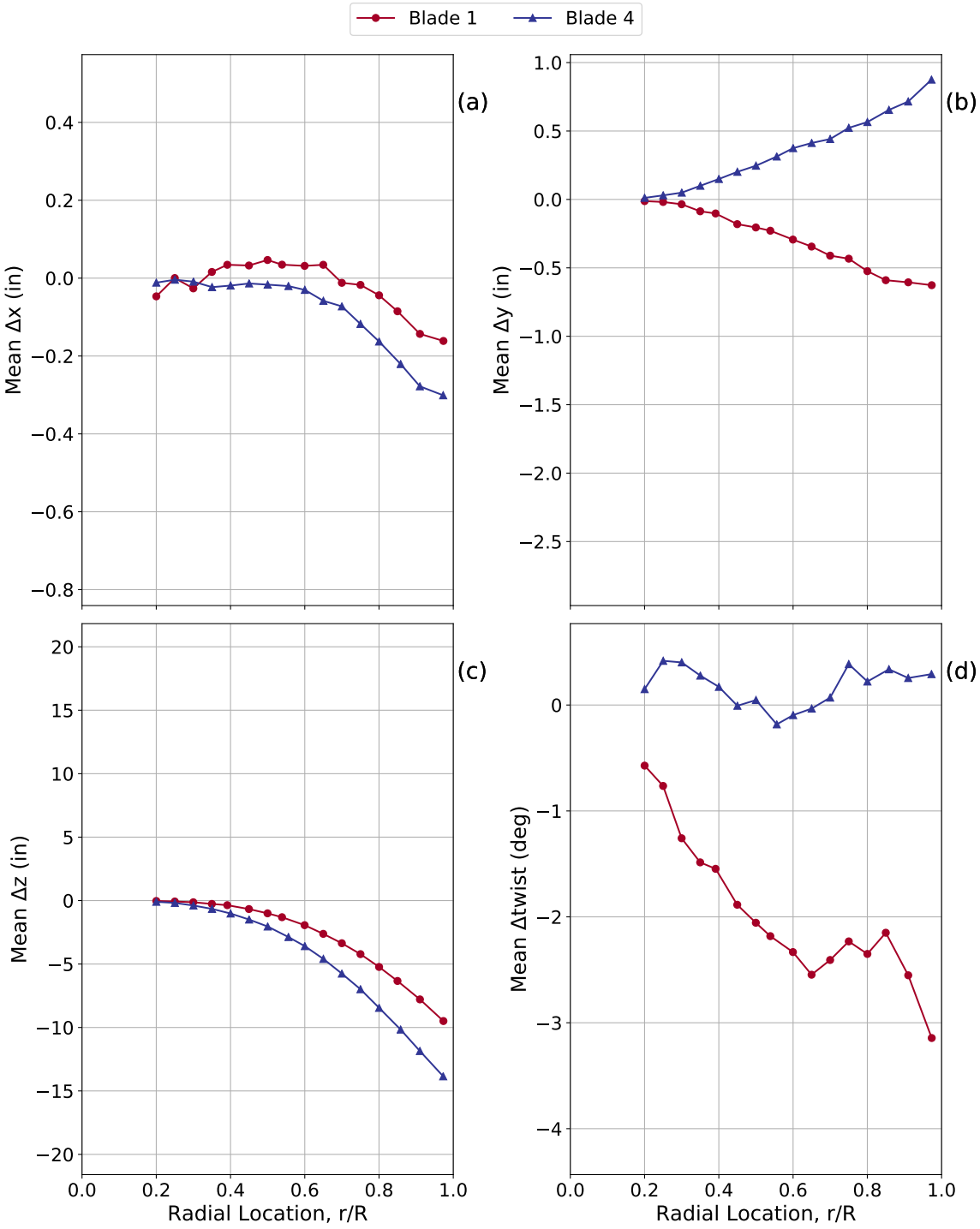


Figure 3.12-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.092, μ = 0.4, α = -8° NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0468	0.0358	-0.0122	0.0014	-0.0305	0.0069	-0.5723	0.0247
1	90	0.2499	0.0002	0.0091	-0.0186	0.0019	-0.0713	0.0121	-0.7639	0.0536
1	90	0.2998	-0.0263	0.0142	-0.0353	0.0051	-0.1315	0.0260	-1.2579	0.0593
1	90	0.3498	0.0159	0.0332	-0.0867	0.0091	-0.2631	0.0422	-1.4857	0.0522
1	90	0.3913	0.0343	0.0430	-0.1026	0.0126	-0.3625	0.0610	-1.5465	0.0770
1	90	0.4496	0.0325	0.0534	-0.1806	0.0182	-0.6678	0.0830	-1.8858	0.0861
1	90	0.4997	0.0466	0.0545	-0.2048	0.0236	-1.0046	0.1023	-2.0558	0.0860
1	90	0.5387	0.0346	0.0513	-0.2286	0.0285	-1.3097	0.1193	-2.1821	0.1158
1	90	0.5996	0.0315	0.0414	-0.2933	0.0374	-1.9371	0.1431	-2.3326	0.1163
1	90	0.6498	0.0343	0.0290	-0.3445	0.0457	-2.6219	0.1665	-2.5463	0.1362
1	90	0.6998	-0.0120	0.0242	-0.4108	0.0548	-3.3615	0.1895	-2.4074	0.1518
1	90	0.7500	-0.0173	0.0401	-0.4331	0.0663	-4.2201	0.2161	-2.2318	0.1714
1	90	0.8001	-0.0441	0.0699	-0.5242	0.0793	-5.2290	0.2411	-2.3503	0.2133
1	90	0.8497	-0.0851	0.1075	-0.5902	0.0924	-6.3344	0.2655	-2.1500	0.2095
1	90	0.9102	-0.1432	0.1622	-0.6057	0.1099	-7.7869	0.2977	-2.5517	0.2212
1	90	0.9734	-0.1613	0.2215	-0.6267	0.1446	-9.4921	0.3406	-3.1440	0.2309
4	90.35	0.2001	-0.0116	0.0322	0.0115	0.0010	-0.0956	0.0047	0.1499	0.0252
4	90.35	0.2502	-0.0040	0.0074	0.0297	0.0020	-0.1853	0.0086	0.4172	0.0557
4	90.35	0.3001	-0.0090	0.0140	0.0496	0.0039	-0.3886	0.0182	0.4023	0.0622
4	90.35	0.3502	-0.0231	0.0285	0.0998	0.0068	-0.6558	0.0294	0.2776	0.0649
4	90.35	0.4002	-0.0191	0.0373	0.1493	0.0103	-1.0190	0.0467	0.1712	0.0647
4	90.35	0.4500	-0.0137	0.0420	0.2016	0.0140	-1.4948	0.0613	-0.0072	0.0665
4	90.35	0.5001	-0.0167	0.0397	0.2463	0.0184	-2.0435	0.0778	0.0468	0.0862
4	90.35	0.5560	-0.0204	0.0334	0.3135	0.0230	-2.8742	0.0989	-0.1826	0.0837
4	90.35	0.6001	-0.0302	0.0248	0.3746	0.0266	-3.5895	0.1159	-0.0956	0.0957
4	90.35	0.6501	-0.0583	0.0169	0.4124	0.0308	-4.5966	0.1362	-0.0337	0.0956
4	90.35	0.6999	-0.0725	0.0240	0.4414	0.0351	-5.7536	0.1595	0.0701	0.1067
4	90.35	0.7500	-0.1177	0.0450	0.5230	0.0391	-6.9879	0.1862	0.3859	0.1262
4	90.35	0.8002	-0.1628	0.0722	0.5655	0.0445	-8.4542	0.2148	0.2219	0.1468
4	90.35	0.8582	-0.2207	0.1101	0.6540	0.0511	-10.1665	0.2505	0.3372	0.1556
4	90.35	0.9101	-0.2779	0.1482	0.7154	0.0594	-11.8566	0.2878	0.2550	0.1642
4	90.35	0.9728	-0.3009	0.1975	0.8753	0.0721	-13.8477	0.3362	0.2916	0.1928

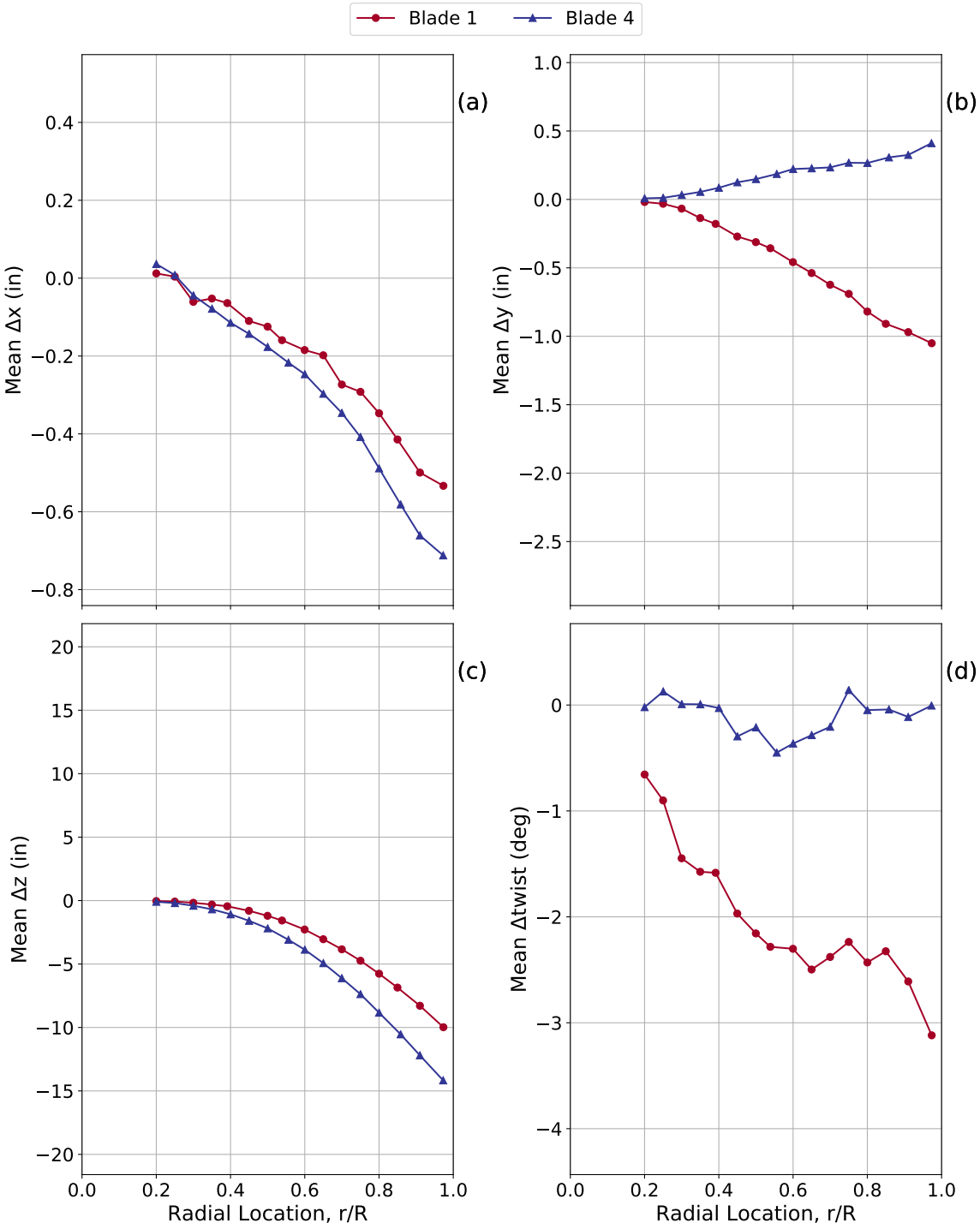


Figure 3.12-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.092, μ = 0.4, α = -8° NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	0.0121	0.0016	-0.0188	0.0015	-0.0379	0.0056	-0.6560	0.0436
1	94.92	0.2499	0.0038	0.0018	-0.0317	0.0036	-0.0768	0.0118	-0.9007	0.0598
1	94.92	0.2998	-0.0609	0.0023	-0.0672	0.0071	-0.1723	0.0220	-1.4471	0.0945
1	94.92	0.3498	-0.0524	0.0024	-0.1361	0.0121	-0.3136	0.0364	-1.5745	0.0824
1	94.92	0.3913	-0.0641	0.0030	-0.1787	0.0180	-0.4478	0.0529	-1.5840	0.0824
1	94.92	0.4496	-0.1099	0.0043	-0.2710	0.0254	-0.8023	0.0775	-1.9690	0.0839
1	94.92	0.4997	-0.1246	0.0051	-0.3120	0.0331	-1.1999	0.1025	-2.1563	0.0925
1	94.92	0.5387	-0.1593	0.0060	-0.3567	0.0385	-1.5696	0.1260	-2.2830	0.0953
1	94.92	0.5996	-0.1847	0.0072	-0.4581	0.0498	-2.2806	0.1614	-2.3015	0.0825
1	94.92	0.6498	-0.1981	0.0084	-0.5379	0.0600	-3.0434	0.1935	-2.4972	0.0838
1	94.92	0.6998	-0.2733	0.0097	-0.6234	0.0708	-3.8397	0.2275	-2.3789	0.0995
1	94.92	0.7500	-0.2920	0.0115	-0.6901	0.0824	-4.7394	0.2626	-2.2368	0.1034
1	94.92	0.8001	-0.3470	0.0138	-0.8196	0.0943	-5.7621	0.2960	-2.4308	0.0971
1	94.92	0.8497	-0.4144	0.0166	-0.9090	0.1071	-6.8550	0.3296	-2.3248	0.0941
1	94.92	0.9102	-0.4994	0.0201	-0.9695	0.1237	-8.2881	0.3693	-2.6101	0.1044
1	94.92	0.9734	-0.5334	0.0248	-1.0509	0.1420	-9.9800	0.4132	-3.1186	0.1095
4	94.92	0.2001	0.0363	0.0020	0.0080	0.0010	-0.0951	0.0055	-0.0203	0.0269
4	94.92	0.2502	0.0078	0.0016	0.0117	0.0027	-0.1972	0.0130	0.1276	0.0524
4	94.92	0.3001	-0.0444	0.0022	0.0329	0.0050	-0.4075	0.0247	0.0083	0.0632
4	94.92	0.3502	-0.0786	0.0021	0.0550	0.0085	-0.6889	0.0397	0.0067	0.0652
4	94.92	0.4002	-0.1146	0.0037	0.0851	0.0136	-1.0814	0.0644	-0.0285	0.0652
4	94.92	0.4500	-0.1431	0.0036	0.1252	0.0182	-1.5961	0.0927	-0.2962	0.0730
4	94.92	0.5001	-0.1768	0.0044	0.1486	0.0250	-2.1909	0.1251	-0.2111	0.0642
4	94.92	0.5560	-0.2171	0.0064	0.1860	0.0342	-3.0887	0.1648	-0.4495	0.0532
4	94.92	0.6001	-0.2468	0.0082	0.2220	0.0417	-3.8713	0.2003	-0.3638	0.0664
4	94.92	0.6501	-0.2970	0.0102	0.2275	0.0508	-4.9315	0.2428	-0.2843	0.0473
4	94.92	0.6999	-0.3462	0.0127	0.2340	0.0611	-6.1190	0.2874	-0.2054	0.0558
4	94.92	0.7500	-0.4081	0.0166	0.2679	0.0720	-7.3726	0.3314	0.1415	0.0613
4	94.92	0.8002	-0.4886	0.0203	0.2662	0.0831	-8.8347	0.3808	-0.0480	0.0628
4	94.92	0.8582	-0.5813	0.0254	0.3073	0.0954	-10.5393	0.4366	-0.0420	0.0644
4	94.92	0.9101	-0.6608	0.0298	0.3252	0.1075	-12.1968	0.4844	-0.1129	0.0675
4	94.92	0.9728	-0.7121	0.0340	0.4108	0.1221	-14.1690	0.5467	-0.0054	0.0655

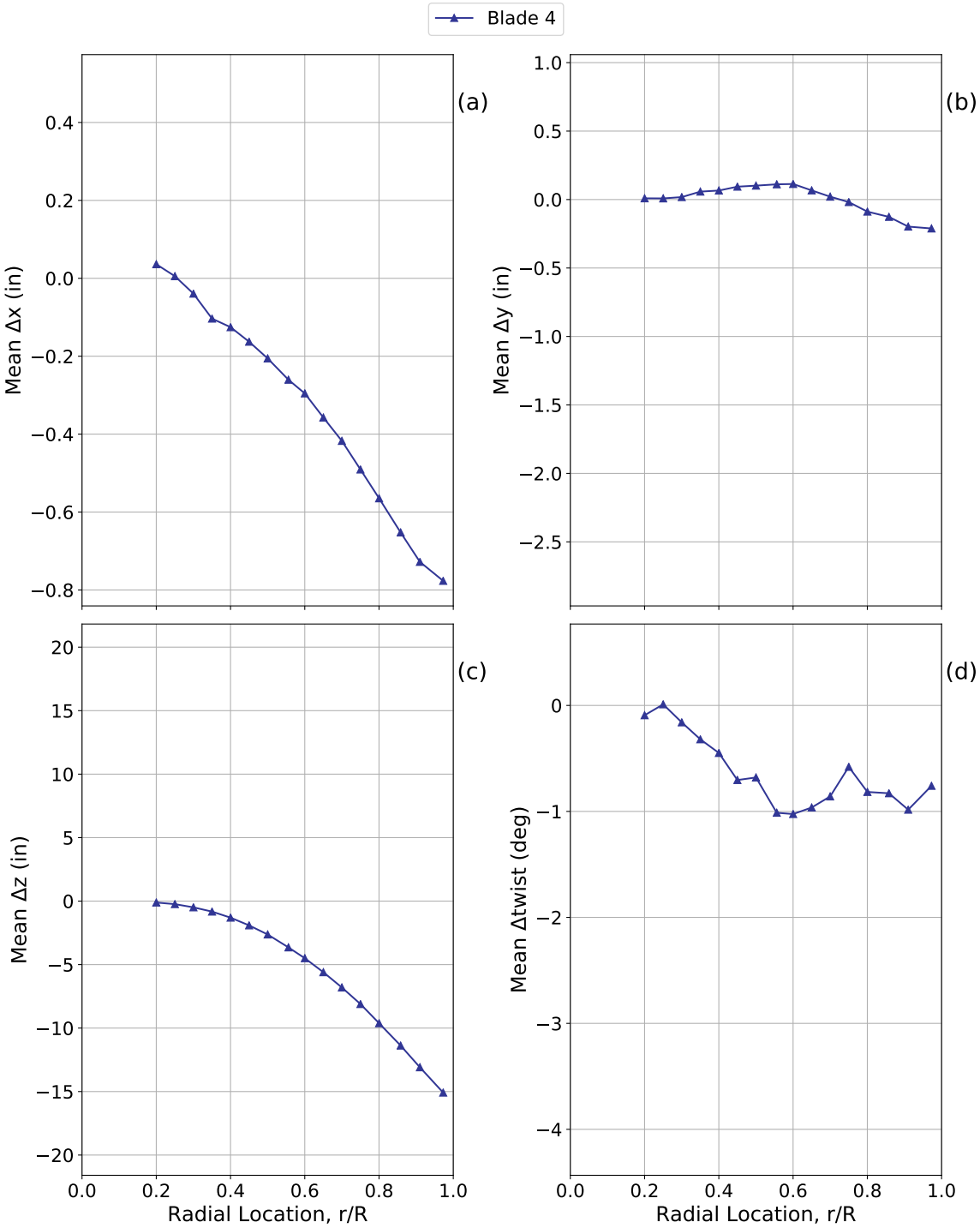


Figure 3.12-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	0.0361	0.0014	0.0089	0.0012	-0.1124	0.0045	-0.0927	0.0337
4	105.12	0.2502	0.0054	0.0021	0.0083	0.0022	-0.2378	0.0127	0.0102	0.0648
4	105.12	0.3001	-0.0394	0.0031	0.0178	0.0046	-0.4909	0.0206	-0.1599	0.0805
4	105.12	0.3502	-0.1035	0.0026	0.0579	0.0083	-0.8266	0.0358	-0.3197	0.0733
4	105.12	0.4002	-0.1255	0.0028	0.0658	0.0126	-1.3042	0.0572	-0.4486	0.0911
4	105.12	0.4500	-0.1628	0.0032	0.0940	0.0175	-1.9120	0.0803	-0.7041	0.0978
4	105.12	0.5001	-0.2057	0.0039	0.1015	0.0236	-2.6290	0.1076	-0.6798	0.0946
4	105.12	0.5560	-0.2604	0.0050	0.1112	0.0325	-3.6461	0.1445	-1.0128	0.1152
4	105.12	0.6001	-0.2955	0.0062	0.1136	0.0383	-4.4979	0.1688	-1.0249	0.1188
4	105.12	0.6501	-0.3574	0.0074	0.0668	0.0477	-5.6007	0.2023	-0.9634	0.1176
4	105.12	0.6999	-0.4174	0.0091	0.0209	0.0575	-6.8024	0.2281	-0.8587	0.1023
4	105.12	0.7500	-0.4908	0.0119	-0.0185	0.0688	-8.1082	0.2543	-0.5796	0.1079
4	105.12	0.8002	-0.5648	0.0134	-0.0883	0.0814	-9.6189	0.2842	-0.8165	0.1126
4	105.12	0.8582	-0.6524	0.0168	-0.1266	0.0956	-11.3795	0.3180	-0.8288	0.1140
4	105.12	0.9101	-0.7279	0.0198	-0.1975	0.1086	-13.0890	0.3502	-0.9840	0.1217
4	105.12	0.9728	-0.7766	0.0206	-0.2113	0.1254	-15.0830	0.3955	-0.7587	0.1289

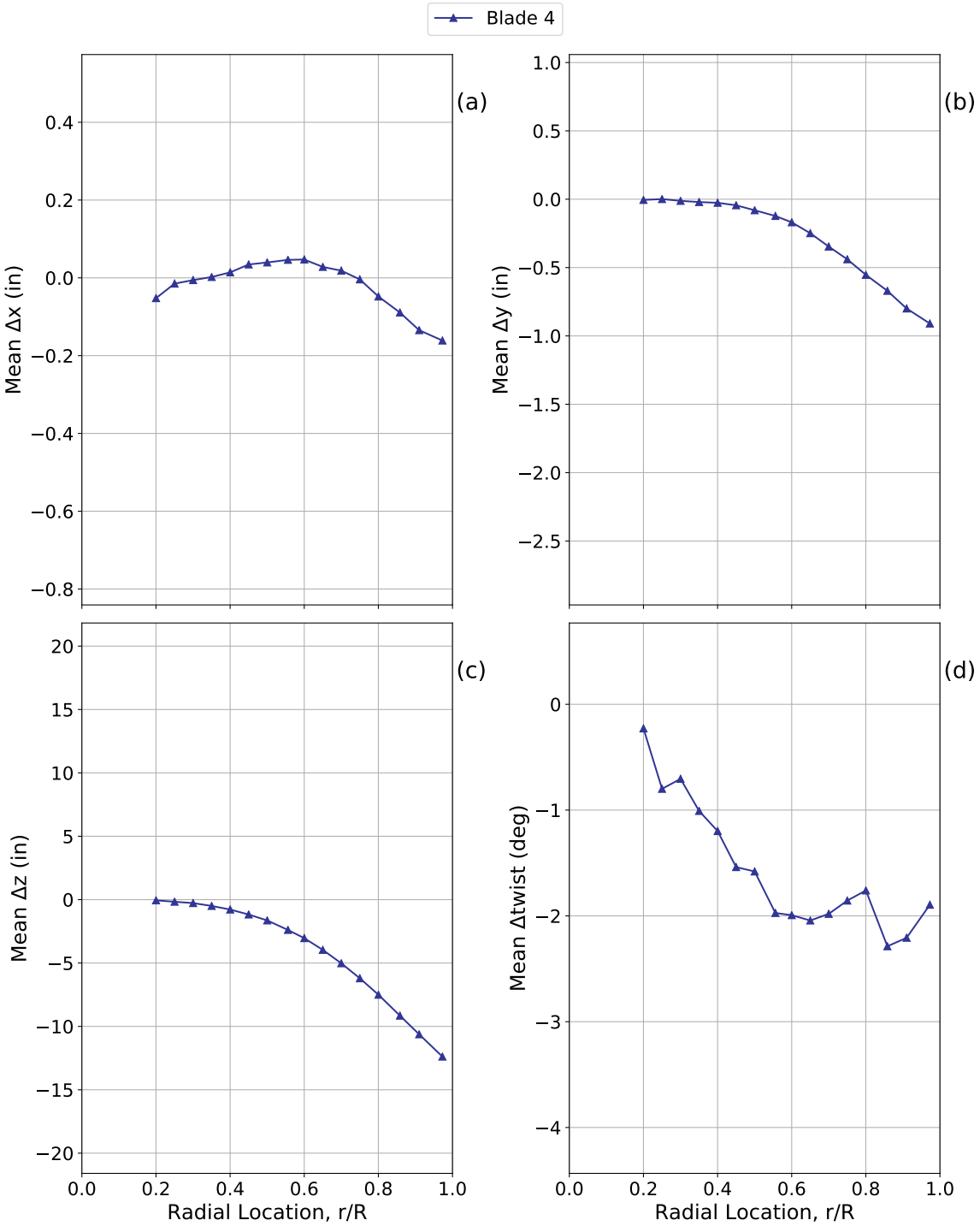


Figure 3.12-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.092, μ = 0.4, α = -8° NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0522	0.0031	-0.0052	0.0009	-0.0572	0.0036	-0.2283	0.0319
4	119.88	0.2502	-0.0148	0.0022	0.0009	0.0023	-0.1667	0.0105	-0.7993	0.0504
4	119.88	0.3001	-0.0058	0.0024	-0.0121	0.0041	-0.2720	0.0160	-0.7050	0.0701
4	119.88	0.3502	0.0022	0.0028	-0.0207	0.0063	-0.4977	0.0274	-1.0084	0.0648
4	119.88	0.4002	0.0141	0.0056	-0.0262	0.0106	-0.7807	0.0441	-1.1985	0.0786
4	119.88	0.4500	0.0344	0.0084	-0.0444	0.0135	-1.1740	0.0649	-1.5389	0.0728
4	119.88	0.5001	0.0396	0.0098	-0.0807	0.0171	-1.6400	0.0895	-1.5803	0.0830
4	119.88	0.5560	0.0463	0.0125	-0.1226	0.0209	-2.3896	0.1246	-1.9728	0.0863
4	119.88	0.6001	0.0471	0.0143	-0.1690	0.0249	-3.0389	0.1536	-1.9931	0.0899
4	119.88	0.6501	0.0281	0.0170	-0.2487	0.0299	-3.9637	0.1928	-2.0437	0.0871
4	119.88	0.6999	0.0185	0.0196	-0.3464	0.0342	-5.0204	0.2338	-1.9810	0.0973
4	119.88	0.7500	-0.0040	0.0228	-0.4396	0.0396	-6.2047	0.2782	-1.8555	0.0976
4	119.88	0.8002	-0.0480	0.0258	-0.5533	0.0453	-7.5020	0.3278	-1.7596	0.0947
4	119.88	0.8582	-0.0892	0.0312	-0.6704	0.0519	-9.1531	0.3876	-2.2873	0.1046
4	119.88	0.9101	-0.1346	0.0356	-0.7994	0.0584	-10.6256	0.4442	-2.2069	0.0971
4	119.88	0.9728	-0.1612	0.0382	-0.9093	0.0661	-12.3833	0.5148	-1.8947	0.1162

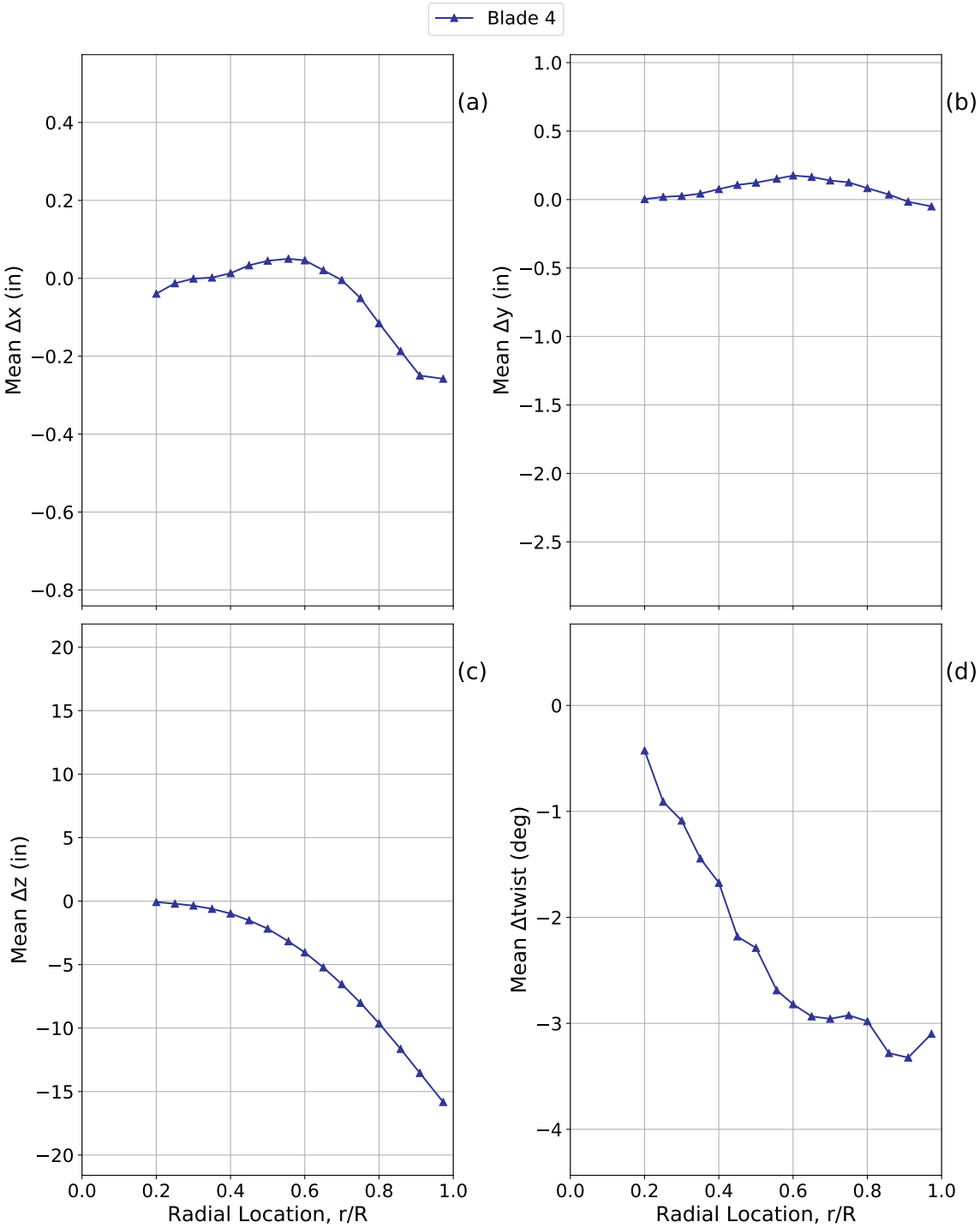


Figure 3.12-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0396	0.0021	0.0030	0.0010	-0.0760	0.0035	-0.4253	0.0248
4	135	0.2502	-0.0128	0.0013	0.0192	0.0019	-0.2069	0.0070	-0.9091	0.0301
4	135	0.3001	-0.0008	0.0029	0.0260	0.0035	-0.3573	0.0114	-1.0874	0.0477
4	135	0.3502	0.0018	0.0031	0.0432	0.0067	-0.6146	0.0223	-1.4441	0.0403
4	135	0.4002	0.0131	0.0041	0.0760	0.0098	-0.9809	0.0323	-1.6738	0.0484
4	135	0.4500	0.0333	0.0053	0.1067	0.0126	-1.5157	0.0417	-2.1802	0.0526
4	135	0.5001	0.0449	0.0066	0.1230	0.0158	-2.1769	0.0532	-2.2883	0.0461
4	135	0.5560	0.0501	0.0088	0.1518	0.0193	-3.1675	0.0668	-2.6884	0.0642
4	135	0.6001	0.0460	0.0096	0.1752	0.0229	-4.0435	0.0766	-2.8198	0.0577
4	135	0.6501	0.0207	0.0105	0.1650	0.0266	-5.2249	0.0925	-2.9346	0.0519
4	135	0.6999	-0.0046	0.0126	0.1391	0.0309	-6.5508	0.1103	-2.9571	0.0589
4	135	0.7500	-0.0510	0.0146	0.1251	0.0353	-8.0163	0.1306	-2.9238	0.0528
4	135	0.8002	-0.1155	0.0173	0.0831	0.0404	-9.6358	0.1553	-2.9802	0.0559
4	135	0.8582	-0.1869	0.0219	0.0365	0.0464	-11.6440	0.1863	-3.2809	0.0528
4	135	0.9101	-0.2497	0.0259	-0.0162	0.0514	-13.5426	0.2170	-3.3233	0.0560
4	135	0.9728	-0.2579	0.0302	-0.0504	0.0581	-15.8268	0.2549	-3.0988	0.0588

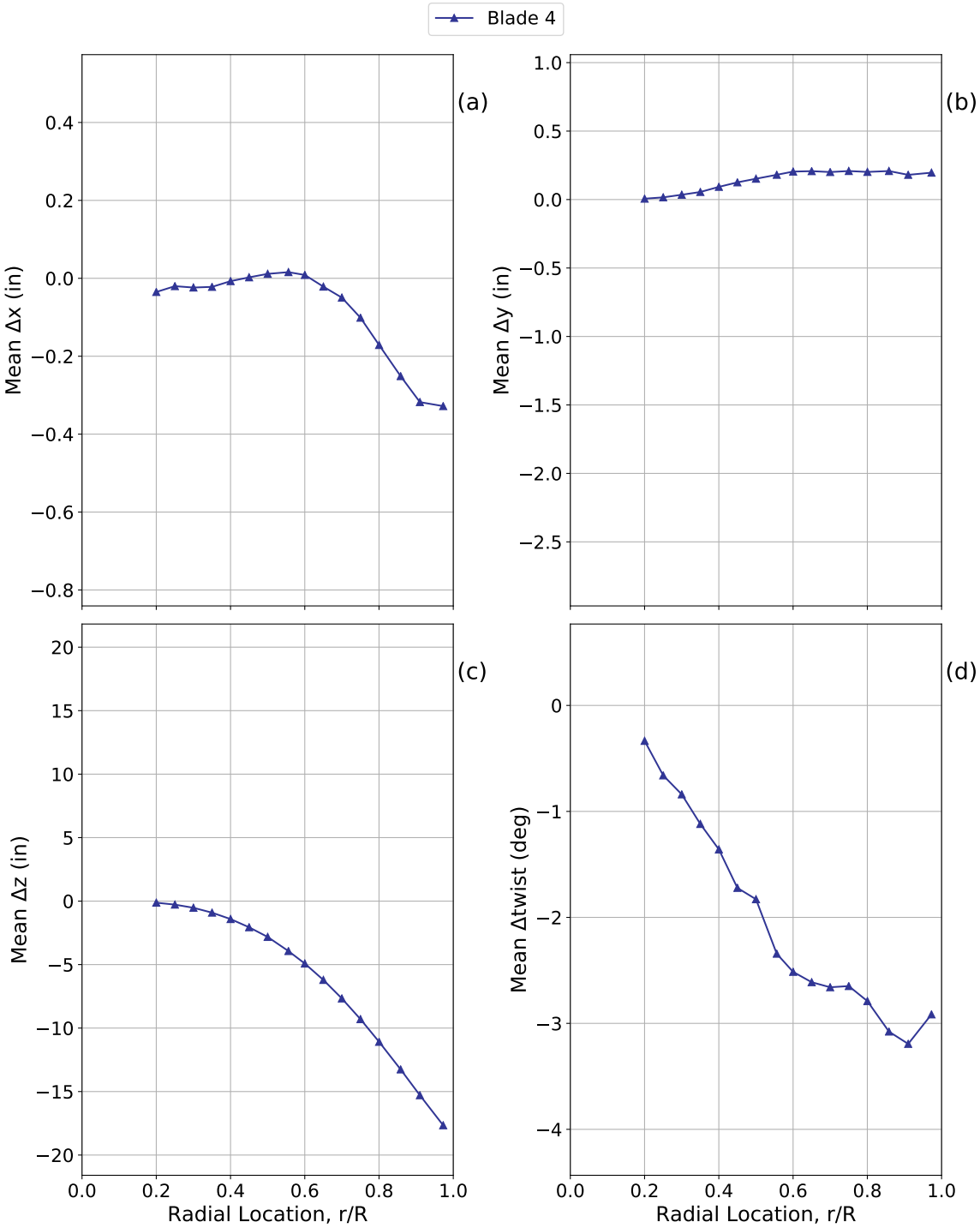


Figure 3.12-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0351	0.0028	0.0063	0.0006	-0.1246	0.0041	-0.3345	0.0230
4	150.12	0.2502	-0.0202	0.0017	0.0160	0.0028	-0.2772	0.0071	-0.6603	0.0344
4	150.12	0.3001	-0.0237	0.0020	0.0350	0.0028	-0.5251	0.0153	-0.8395	0.0491
4	150.12	0.3502	-0.0220	0.0031	0.0552	0.0067	-0.9096	0.0270	-1.1188	0.0406
4	150.12	0.4002	-0.0073	0.0053	0.0926	0.0097	-1.4157	0.0407	-1.3591	0.0500
4	150.12	0.4500	0.0025	0.0063	0.1255	0.0116	-2.0614	0.0622	-1.7219	0.0550
4	150.12	0.5001	0.0114	0.0074	0.1520	0.0144	-2.8234	0.0885	-1.8289	0.0377
4	150.12	0.5560	0.0158	0.0104	0.1807	0.0180	-3.9350	0.1301	-2.3430	0.0535
4	150.12	0.6001	0.0086	0.0145	0.2042	0.0205	-4.9183	0.1715	-2.5141	0.0452
4	150.12	0.6501	-0.0214	0.0190	0.2074	0.0249	-6.2094	0.2285	-2.6117	0.0458
4	150.12	0.6999	-0.0496	0.0245	0.2009	0.0289	-7.6681	0.3018	-2.6594	0.0505
4	150.12	0.7500	-0.1012	0.0331	0.2083	0.0337	-9.2987	0.3845	-2.6482	0.0537
4	150.12	0.8002	-0.1712	0.0433	0.2017	0.0397	-11.0841	0.4807	-2.7902	0.0621
4	150.12	0.8582	-0.2512	0.0568	0.2082	0.0473	-13.2584	0.6027	-3.0776	0.0514
4	150.12	0.9101	-0.3178	0.0695	0.1804	0.0549	-15.2919	0.7200	-3.1937	0.0784
4	150.12	0.9728	-0.3281	0.0841	0.1962	0.0650	-17.6569	0.8698	-2.9154	0.0756

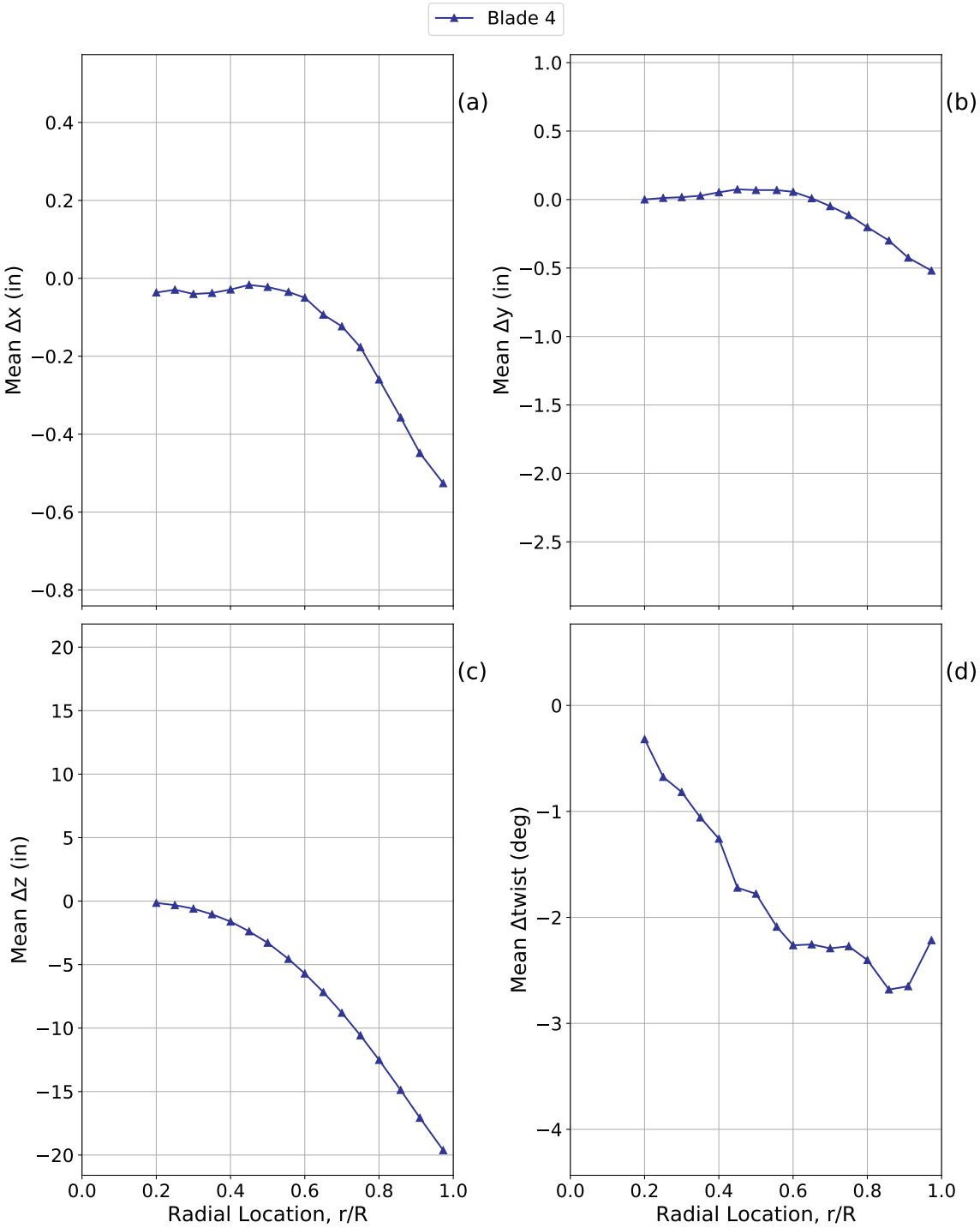


Figure 3.12-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.092, μ = 0.4, α = -8° NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0365	0.0057	0.0003	0.0013	-0.1427	0.0047	-0.3184	0.0308
4	164.88	0.2502	-0.0293	0.0028	0.0114	0.0044	-0.3176	0.0061	-0.6750	0.0473
4	164.88	0.3001	-0.0403	0.0030	0.0172	0.0071	-0.5962	0.0115	-0.8177	0.0650
4	164.88	0.3502	-0.0377	0.0046	0.0276	0.0130	-1.0395	0.0233	-1.0573	0.0494
4	164.88	0.4002	-0.0289	0.0063	0.0527	0.0206	-1.6123	0.0313	-1.2579	0.0710
4	164.88	0.4500	-0.0169	0.0088	0.0742	0.0242	-2.3823	0.0445	-1.7204	0.0621
4	164.88	0.5001	-0.0223	0.0108	0.0693	0.0293	-3.2829	0.0554	-1.7775	0.0931
4	164.88	0.5560	-0.0349	0.0135	0.0690	0.0377	-4.5553	0.0709	-2.0887	0.0901
4	164.88	0.6001	-0.0498	0.0141	0.0563	0.0453	-5.7099	0.0829	-2.2633	0.0811
4	164.88	0.6501	-0.0934	0.0182	0.0093	0.0534	-7.1711	0.0987	-2.2552	0.0787
4	164.88	0.6999	-0.1233	0.0205	-0.0485	0.0610	-8.8008	0.1124	-2.2920	0.0840
4	164.88	0.7500	-0.1769	0.0219	-0.1136	0.0717	-10.5783	0.1255	-2.2725	0.0859
4	164.88	0.8002	-0.2598	0.0256	-0.2019	0.0812	-12.5136	0.1391	-2.4028	0.0824
4	164.88	0.8582	-0.3573	0.0293	-0.2999	0.0930	-14.8772	0.1554	-2.6813	0.0838
4	164.88	0.9101	-0.4485	0.0330	-0.4245	0.1042	-17.0714	0.1695	-2.6500	0.0855
4	164.88	0.9728	-0.5260	0.0392	-0.5194	0.1189	-19.6209	0.1918	-2.2157	0.0853

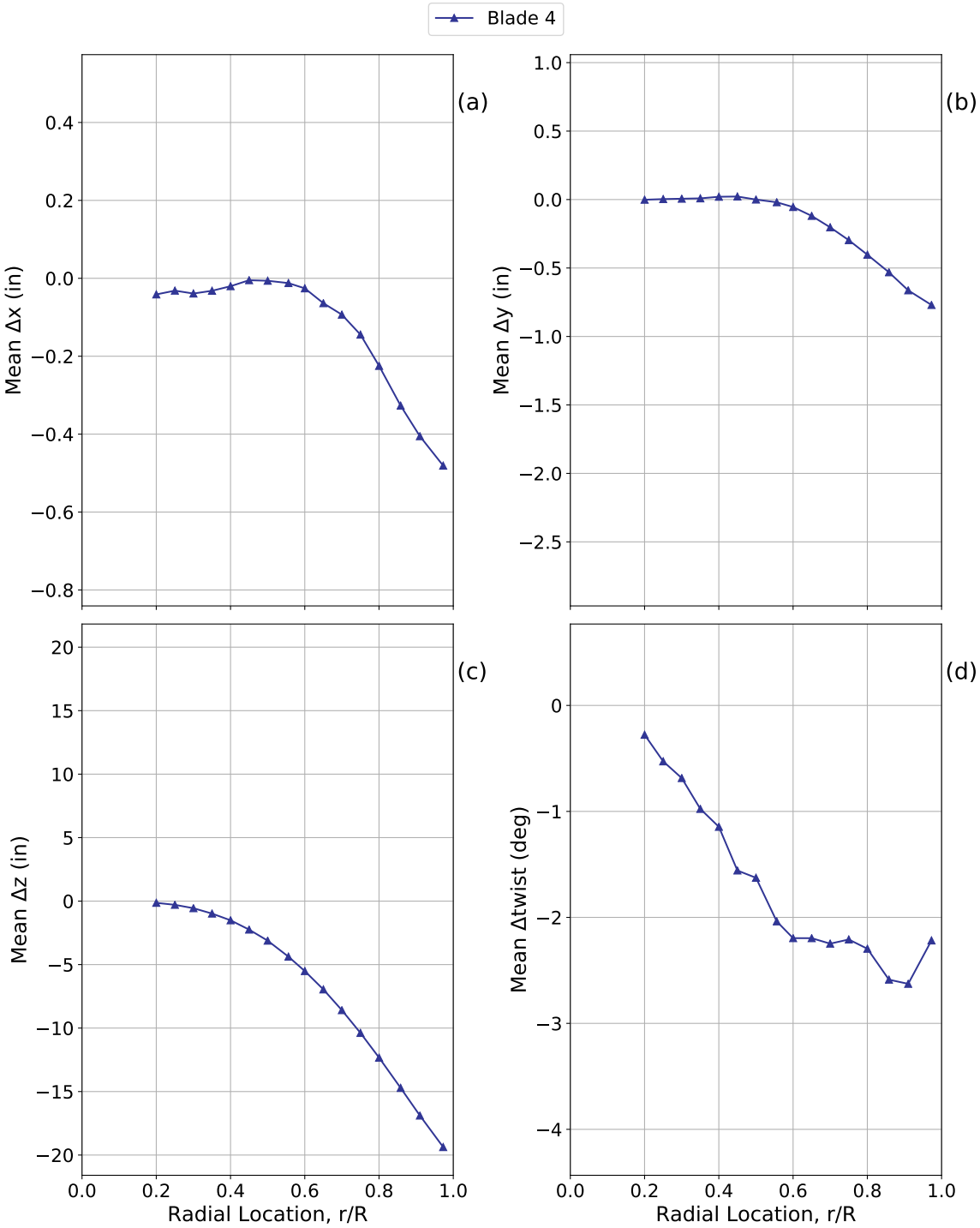


Figure 3.12-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0414	0.0059	-0.0014	0.0012	-0.1363	0.0092	-0.2770	0.0375
4	170.16	0.2502	-0.0317	0.0056	0.0033	0.0043	-0.2930	0.0117	-0.5279	0.0883
4	170.16	0.3001	-0.0391	0.0039	0.0060	0.0043	-0.5589	0.0265	-0.6856	0.0558
4	170.16	0.3502	-0.0320	0.0068	0.0086	0.0087	-0.9823	0.0394	-0.9766	0.0429
4	170.16	0.4002	-0.0203	0.0098	0.0203	0.0136	-1.5131	0.0581	-1.1458	0.0756
4	170.16	0.4500	-0.0049	0.0123	0.0220	0.0171	-2.2443	0.0762	-1.5576	0.0647
4	170.16	0.5001	-0.0063	0.0143	-0.0001	0.0226	-3.1157	0.0959	-1.6265	0.0757
4	170.16	0.5560	-0.0123	0.0164	-0.0199	0.0293	-4.3752	0.1233	-2.0379	0.0758
4	170.16	0.6001	-0.0258	0.0188	-0.0546	0.0353	-5.5118	0.1433	-2.1960	0.0750
4	170.16	0.6501	-0.0639	0.0196	-0.1194	0.0410	-6.9573	0.1696	-2.1962	0.0853
4	170.16	0.6999	-0.0933	0.0224	-0.2029	0.0490	-8.5897	0.1974	-2.2479	0.0921
4	170.16	0.7500	-0.1446	0.0260	-0.2967	0.0572	-10.3835	0.2262	-2.2086	0.0944
4	170.16	0.8002	-0.2249	0.0293	-0.4031	0.0656	-12.3314	0.2561	-2.2961	0.1036
4	170.16	0.8582	-0.3269	0.0330	-0.5313	0.0765	-14.7142	0.2918	-2.5875	0.0922
4	170.16	0.9101	-0.4054	0.0370	-0.6631	0.0865	-16.8912	0.3251	-2.6271	0.1056
4	170.16	0.9728	-0.4809	0.0429	-0.7700	0.0982	-19.3732	0.3714	-2.2178	0.1002

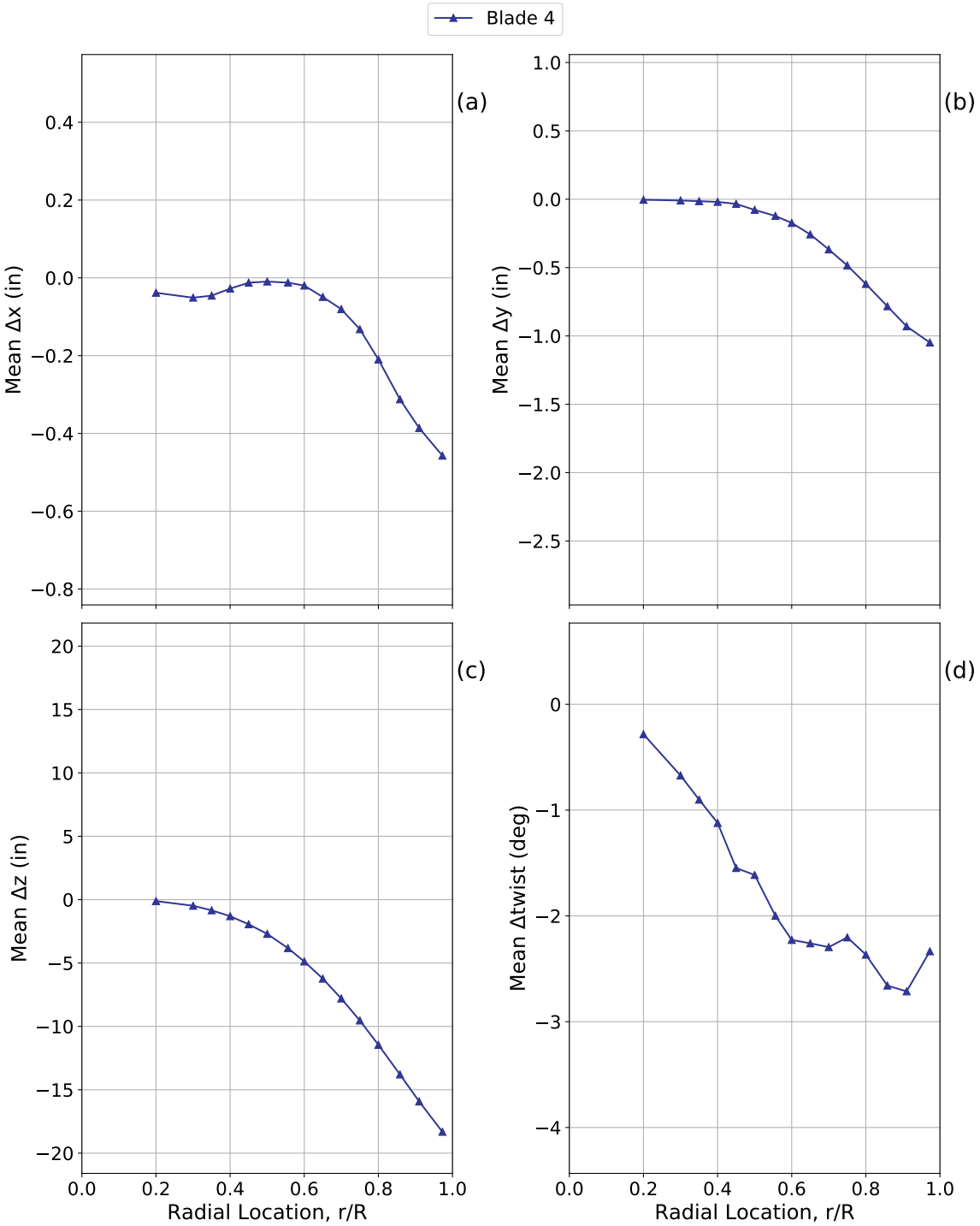


Figure 3.12-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0384	0.0084	-0.0041	0.0011	-0.1150	0.0052	-0.2832	0.0438
4	175.08	0.3001	-0.0510	0.0052	-0.0093	0.0044	-0.4830	0.0197	-0.6733	0.1019
4	175.08	0.3502	-0.0458	0.0048	-0.0144	0.0092	-0.8437	0.0321	-0.9014	0.0697
4	175.08	0.4002	-0.0276	0.0045	-0.0195	0.0133	-1.3091	0.0503	-1.1222	0.0838
4	175.08	0.4500	-0.0125	0.0070	-0.0342	0.0177	-1.9448	0.0671	-1.5475	0.0956
4	175.08	0.5001	-0.0095	0.0091	-0.0782	0.0211	-2.7027	0.0840	-1.6133	0.0928
4	175.08	0.5560	-0.0123	0.0111	-0.1224	0.0273	-3.8266	0.1062	-1.9993	0.0908
4	175.08	0.6001	-0.0199	0.0125	-0.1736	0.0322	-4.8787	0.1196	-2.2273	0.1067
4	175.08	0.6501	-0.0492	0.0146	-0.2576	0.0381	-6.2376	0.1427	-2.2593	0.1036
4	175.08	0.6999	-0.0805	0.0173	-0.3673	0.0448	-7.8008	0.1655	-2.2955	0.1038
4	175.08	0.7500	-0.1321	0.0203	-0.4849	0.0511	-9.5350	0.1921	-2.2035	0.1088
4	175.08	0.8002	-0.2099	0.0246	-0.6199	0.0589	-11.4580	0.2219	-2.3667	0.1129
4	175.08	0.8582	-0.3123	0.0301	-0.7834	0.0678	-13.7911	0.2604	-2.6590	0.1165
4	175.08	0.9101	-0.3862	0.0356	-0.9301	0.0762	-15.9232	0.3005	-2.7135	0.1332
4	175.08	0.9728	-0.4571	0.0414	-1.0485	0.0868	-18.3165	0.3518	-2.3349	0.1231

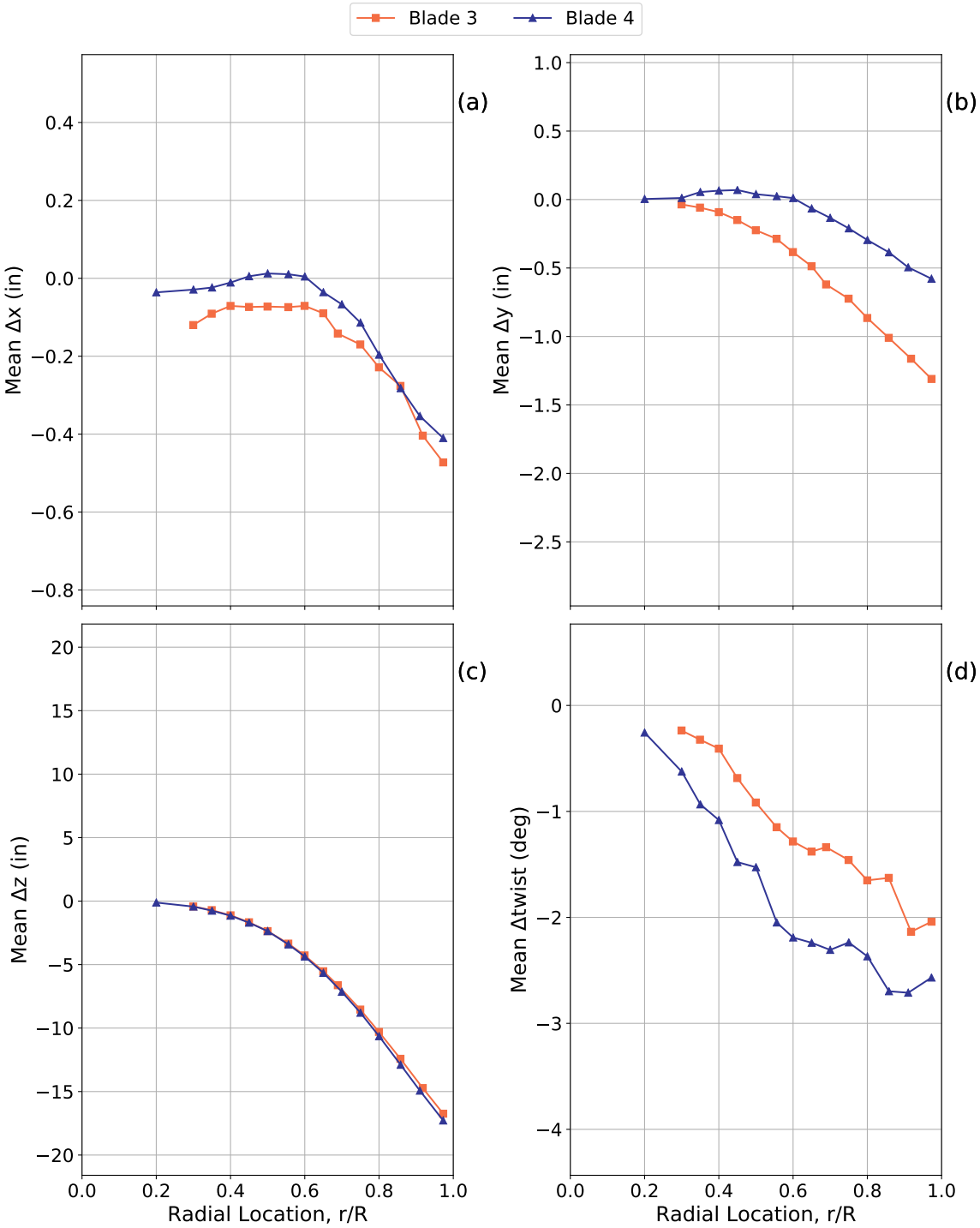


Figure 3.12-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2995	-0.1200	0.0110	-0.0355	0.0313	-0.4196	0.1027	-0.2365	0.2229
3	180.35	0.3493	-0.0908	0.0097	-0.0590	0.0555	-0.7088	0.1566	-0.3231	0.2913
3	180.35	0.4000	-0.0709	0.0107	-0.0920	0.0904	-1.1187	0.2307	-0.4077	0.2669
3	180.35	0.4497	-0.0736	0.0122	-0.1495	0.1200	-1.6655	0.2943	-0.6854	0.2640
3	180.35	0.4997	-0.0726	0.0131	-0.2240	0.1523	-2.3628	0.3618	-0.9164	0.2625
3	180.35	0.5556	-0.0740	0.0171	-0.2866	0.1878	-3.3468	0.4344	-1.1493	0.2626
3	180.35	0.5995	-0.0708	0.0206	-0.3836	0.2183	-4.2767	0.4956	-1.2839	0.2609
3	180.35	0.6498	-0.0897	0.0247	-0.4870	0.2504	-5.5246	0.5612	-1.3789	0.2786
3	180.35	0.6890	-0.1418	0.0289	-0.6202	0.2756	-6.6264	0.6151	-1.3375	0.2737
3	180.35	0.7495	-0.1698	0.0366	-0.7239	0.3174	-8.5420	0.7027	-1.4586	0.2705
3	180.35	0.7998	-0.2285	0.0445	-0.8650	0.3530	-10.3019	0.7767	-1.6505	0.2631
3	180.35	0.8577	-0.2762	0.0544	-1.0099	0.3927	-12.4202	0.8631	-1.6273	0.2931
3	180.35	0.9178	-0.4039	0.0632	-1.1624	0.4342	-14.7265	0.9593	-2.1360	0.2781
3	180.35	0.9729	-0.4725	0.0653	-1.3102	0.4681	-16.7431	1.0557	-2.0405	0.2715
4	180	0.2001	-0.0361	0.0194	0.0039	0.0023	-0.1149	0.0146	-0.2562	0.1336
4	180	0.3001	-0.0290	0.0080	0.0113	0.0120	-0.4332	0.0446	-0.6245	0.3085
4	180	0.3502	-0.0237	0.0064	0.0549	0.0233	-0.7564	0.0762	-0.9338	0.3211
4	180	0.4002	-0.0109	0.0148	0.0649	0.0357	-1.1501	0.1110	-1.0820	0.3211
4	180	0.4500	0.0052	0.0261	0.0694	0.0489	-1.7022	0.1381	-1.4783	0.3124
4	180	0.5001	0.0124	0.0399	0.0391	0.0653	-2.3671	0.1723	-1.5269	0.3051
4	180	0.5560	0.0104	0.0566	0.0242	0.0855	-3.4157	0.2103	-2.0484	0.3235
4	180	0.6001	0.0045	0.0724	0.0105	0.1039	-4.3671	0.2475	-2.1901	0.3031
4	180	0.6501	-0.0358	0.0932	-0.0656	0.1266	-5.6556	0.2861	-2.2398	0.3010
4	180	0.6999	-0.0669	0.1159	-0.1341	0.1518	-7.1438	0.3300	-2.3069	0.3169
4	180	0.7500	-0.1139	0.1403	-0.2107	0.1803	-8.7965	0.3790	-2.2363	0.3189
4	180	0.8002	-0.1962	0.1675	-0.2958	0.2113	-10.6437	0.4308	-2.3680	0.3136
4	180	0.8582	-0.2822	0.2012	-0.3856	0.2500	-12.8926	0.4908	-2.6971	0.3145
4	180	0.9101	-0.3538	0.2328	-0.4951	0.2882	-14.9313	0.5452	-2.7110	0.3153
4	180	0.9728	-0.4101	0.2803	-0.5784	0.3352	-17.2801	0.6155	-2.5681	0.3351

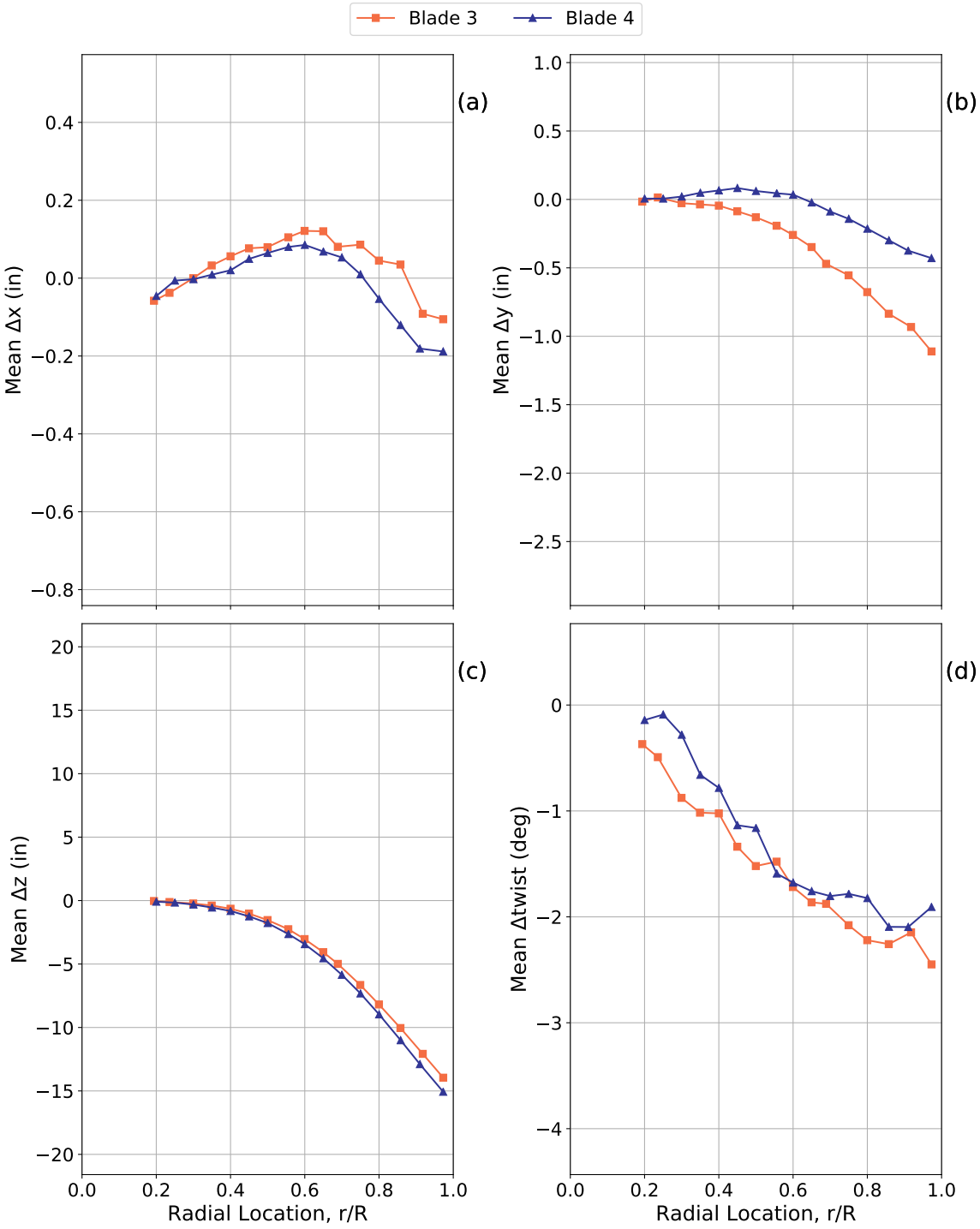


Figure 3.12-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.092, μ = 0.4, α = -8° NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0580	0.0010	-0.0159	0.0012	-0.0328	0.0031	-0.3693	0.0328
3	184.92	0.2357	-0.0377	0.0010	0.0146	0.0012	-0.1120	0.0064	-0.4923	0.0445
3	184.92	0.2995	-0.0001	0.0009	-0.0274	0.0047	-0.2256	0.0103	-0.8766	0.0714
3	184.92	0.3493	0.0326	0.0018	-0.0365	0.0084	-0.3902	0.0158	-1.0164	0.0761
3	184.92	0.4000	0.0561	0.0014	-0.0453	0.0126	-0.6409	0.0243	-1.0230	0.0834
3	184.92	0.4497	0.0766	0.0016	-0.0867	0.0160	-1.0227	0.0337	-1.3380	0.0858
3	184.92	0.4997	0.0795	0.0013	-0.1301	0.0205	-1.5344	0.0437	-1.5204	0.0726
3	184.92	0.5556	0.1049	0.0022	-0.1921	0.0277	-2.2557	0.0583	-1.4786	0.0844
3	184.92	0.5995	0.1214	0.0028	-0.2593	0.0335	-3.0349	0.0742	-1.7186	0.0986
3	184.92	0.6498	0.1204	0.0031	-0.3482	0.0409	-4.0632	0.0913	-1.8631	0.1143
3	184.92	0.6890	0.0805	0.0048	-0.4704	0.0477	-4.9882	0.1074	-1.8770	0.1160
3	184.92	0.7495	0.0860	0.0066	-0.5545	0.0569	-6.6503	0.1354	-2.0788	0.1272
3	184.92	0.7998	0.0451	0.0095	-0.6772	0.0652	-8.1852	0.1625	-2.2205	0.1308
3	184.92	0.8577	0.0349	0.0123	-0.8352	0.0773	-10.0437	0.1966	-2.2576	0.1470
3	184.92	0.9178	-0.0915	0.0195	-0.9321	0.0878	-12.0789	0.2346	-2.1464	0.1507
3	184.92	0.9729	-0.1056	0.0199	-1.1108	0.1015	-13.9559	0.2688	-2.4491	0.1618
4	184.92	0.2001	-0.0458	0.0019	0.0061	0.0015	-0.0882	0.0066	-0.1418	0.0258
4	184.92	0.2502	-0.0063	0.0012	0.0058	0.0018	-0.1609	0.0079	-0.0900	0.0841
4	184.92	0.3001	-0.0028	0.0015	0.0208	0.0052	-0.3141	0.0175	-0.2810	0.0719
4	184.92	0.3502	0.0090	0.0013	0.0485	0.0095	-0.5503	0.0291	-0.6593	0.0614
4	184.92	0.4002	0.0203	0.0025	0.0656	0.0139	-0.8229	0.0409	-0.7828	0.0578
4	184.92	0.4500	0.0495	0.0025	0.0829	0.0186	-1.2480	0.0564	-1.1353	0.0582
4	184.92	0.5001	0.0646	0.0035	0.0616	0.0234	-1.7732	0.0686	-1.1607	0.0619
4	184.92	0.5560	0.0801	0.0039	0.0450	0.0282	-2.6410	0.0895	-1.5915	0.0638
4	184.92	0.6001	0.0853	0.0057	0.0349	0.0329	-3.4368	0.1057	-1.6767	0.0658
4	184.92	0.6501	0.0683	0.0074	-0.0225	0.0368	-4.5521	0.1225	-1.7578	0.0749
4	184.92	0.6999	0.0531	0.0094	-0.0884	0.0416	-5.8514	0.1391	-1.8039	0.0894
4	184.92	0.7500	0.0097	0.0111	-0.1422	0.0463	-7.3214	0.1582	-1.7830	0.0924
4	184.92	0.8002	-0.0534	0.0132	-0.2140	0.0524	-8.9701	0.1783	-1.8232	0.0910
4	184.92	0.8582	-0.1206	0.0183	-0.2991	0.0572	-11.0072	0.2017	-2.0947	0.0943
4	184.92	0.9101	-0.1809	0.0188	-0.3743	0.0627	-12.8923	0.2265	-2.0959	0.1008
4	184.92	0.9728	-0.1884	0.0222	-0.4290	0.0687	-15.0678	0.2617	-1.9068	0.1342

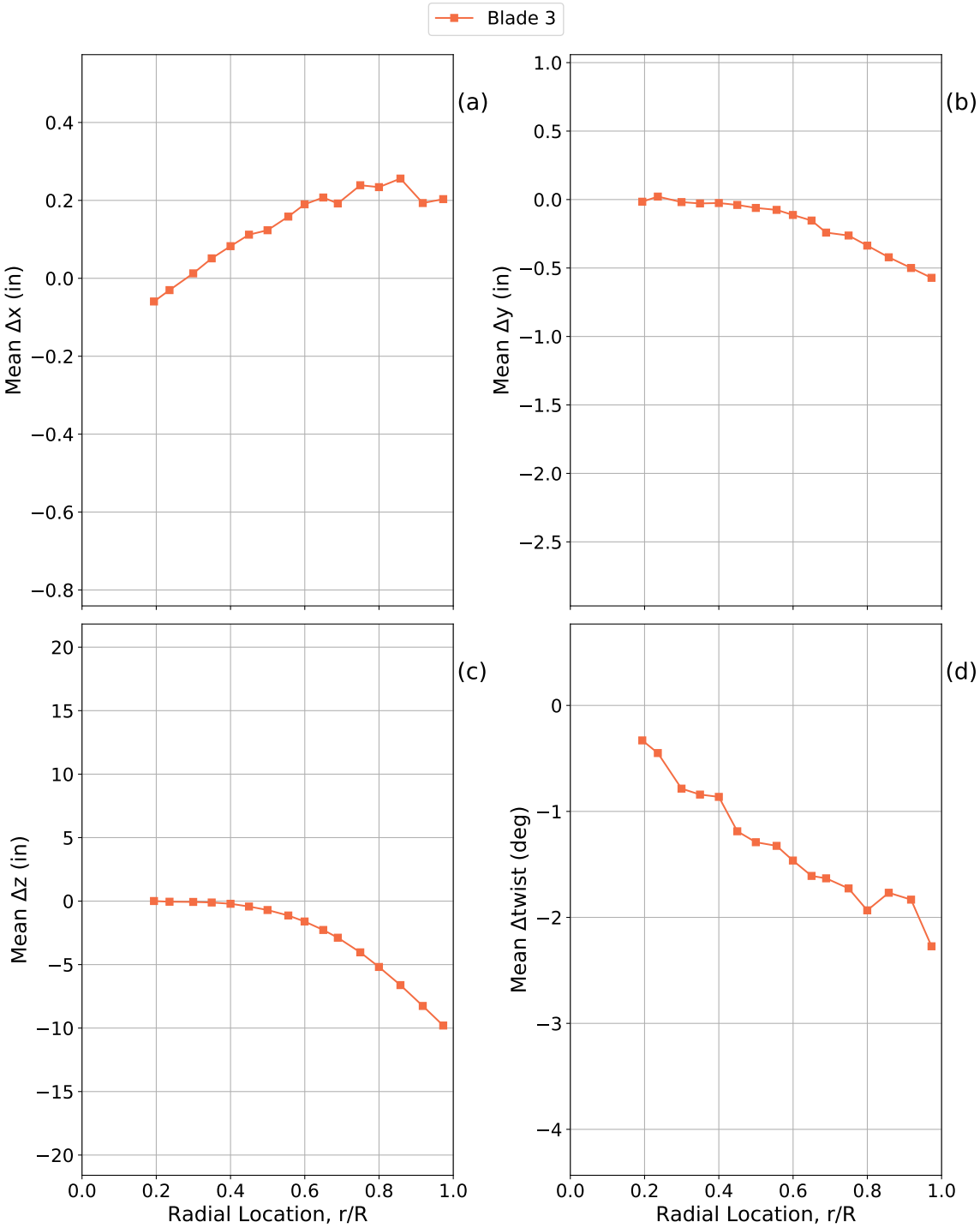


Figure 3.12-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.092, μ = 0.4, α = -8° NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0595	0.0014	-0.0158	0.0008	0.0064	0.0033	-0.3300	0.0252
3	195.12	0.2357	-0.0303	0.0011	0.0216	0.0012	-0.0481	0.0062	-0.4494	0.0445
3	195.12	0.2995	0.0127	0.0016	-0.0186	0.0042	-0.0645	0.0118	-0.7850	0.0609
3	195.12	0.3493	0.0512	0.0010	-0.0284	0.0065	-0.1083	0.0176	-0.8410	0.0442
3	195.12	0.4000	0.0825	0.0018	-0.0255	0.0106	-0.2099	0.0269	-0.8630	0.0460
3	195.12	0.4497	0.1120	0.0020	-0.0393	0.0146	-0.4266	0.0380	-1.1875	0.0483
3	195.12	0.4997	0.1234	0.0020	-0.0612	0.0204	-0.7025	0.0529	-1.2908	0.0395
3	195.12	0.5556	0.1584	0.0024	-0.0755	0.0261	-1.1335	0.0713	-1.3250	0.0460
3	195.12	0.5995	0.1899	0.0034	-0.1126	0.0326	-1.6061	0.0901	-1.4635	0.0656
3	195.12	0.6498	0.2074	0.0040	-0.1534	0.0398	-2.2728	0.1110	-1.6086	0.0628
3	195.12	0.6890	0.1921	0.0049	-0.2413	0.0456	-2.8823	0.1295	-1.6315	0.0847
3	195.12	0.7495	0.2389	0.0069	-0.2628	0.0570	-4.0355	0.1560	-1.7267	0.0816
3	195.12	0.7998	0.2340	0.0086	-0.3363	0.0677	-5.1867	0.1770	-1.9337	0.0820
3	195.12	0.8577	0.2560	0.0121	-0.4217	0.0794	-6.6161	0.2047	-1.7676	0.1138
3	195.12	0.9178	0.1932	0.0156	-0.4998	0.0928	-8.2575	0.2355	-1.8326	0.0875
3	195.12	0.9729	0.2032	0.0175	-0.5717	0.1033	-9.7989	0.2700	-2.2728	0.0931

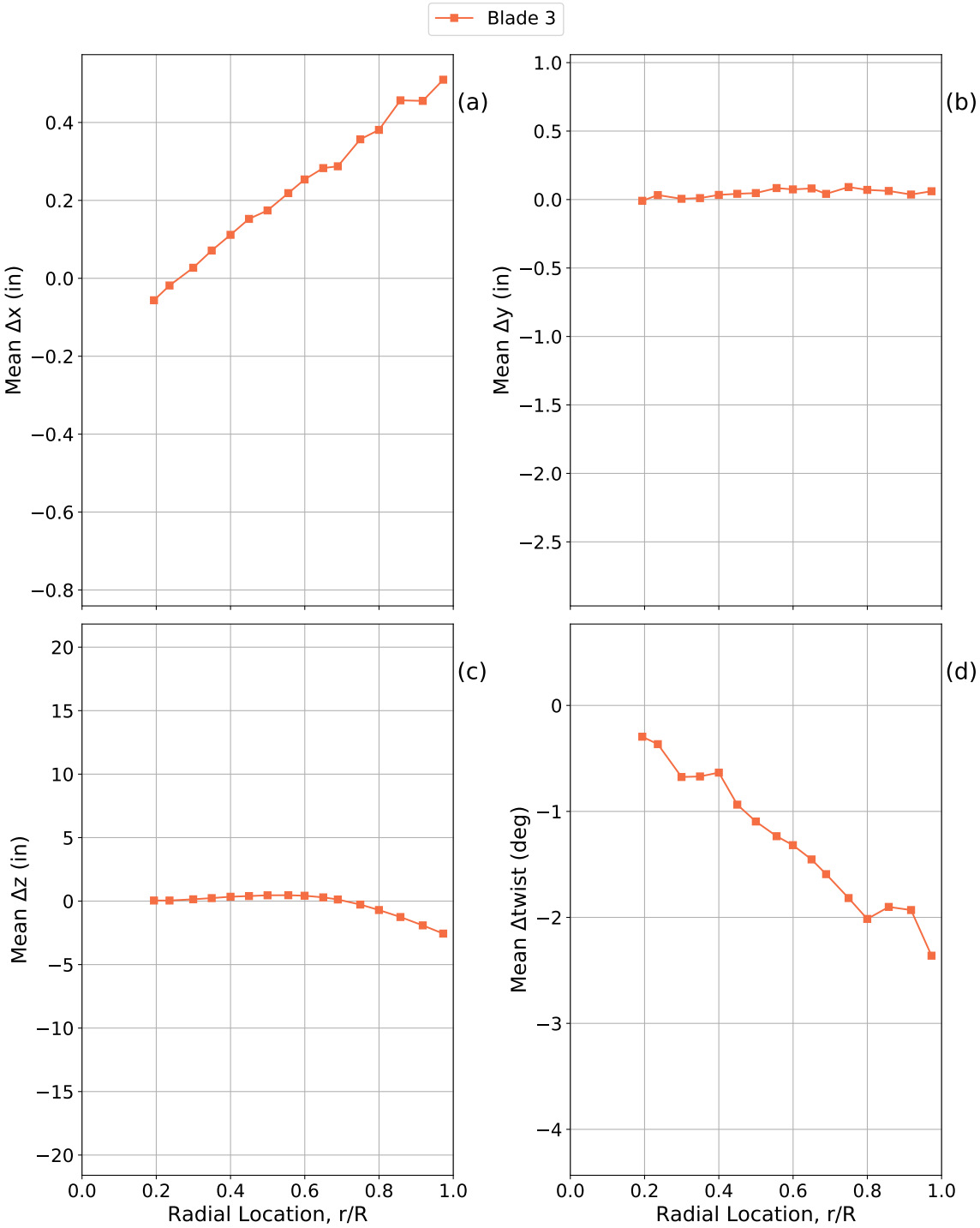


Figure 3.12-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0564	0.0017	-0.0091	0.0007	0.0467	0.0044	-0.2951	0.0258
3	209.88	0.2357	-0.0184	0.0019	0.0326	0.0022	0.0458	0.0083	-0.3655	0.0427
3	209.88	0.2995	0.0271	0.0025	0.0054	0.0041	0.1427	0.0159	-0.6753	0.0606
3	209.88	0.3493	0.0713	0.0019	0.0106	0.0078	0.2359	0.0287	-0.6702	0.0486
3	209.88	0.4000	0.1116	0.0024	0.0338	0.0121	0.3444	0.0422	-0.6338	0.0455
3	209.88	0.4497	0.1525	0.0023	0.0420	0.0164	0.3979	0.0565	-0.9362	0.0516
3	209.88	0.4997	0.1742	0.0023	0.0473	0.0209	0.4571	0.0719	-1.0953	0.0616
3	209.88	0.5556	0.2186	0.0026	0.0838	0.0275	0.4642	0.0945	-1.2341	0.0837
3	209.88	0.5995	0.2537	0.0027	0.0742	0.0329	0.4240	0.1121	-1.3185	0.0816
3	209.88	0.6498	0.2829	0.0032	0.0810	0.0402	0.2943	0.1354	-1.4533	0.0780
3	209.88	0.6890	0.2875	0.0038	0.0415	0.0453	0.1275	0.1591	-1.5921	0.0716
3	209.88	0.7495	0.3568	0.0049	0.0911	0.0551	-0.2718	0.1952	-1.8177	0.0662
3	209.88	0.7998	0.3810	0.0058	0.0707	0.0639	-0.7020	0.2367	-2.0148	0.0798
3	209.88	0.8577	0.4568	0.0074	0.0627	0.0733	-1.2541	0.2918	-1.9013	0.0740
3	209.88	0.9178	0.4554	0.0089	0.0367	0.0848	-1.9114	0.3592	-1.9308	0.0828
3	209.88	0.9729	0.5098	0.0125	0.0607	0.0945	-2.5583	0.4236	-2.3612	0.0859

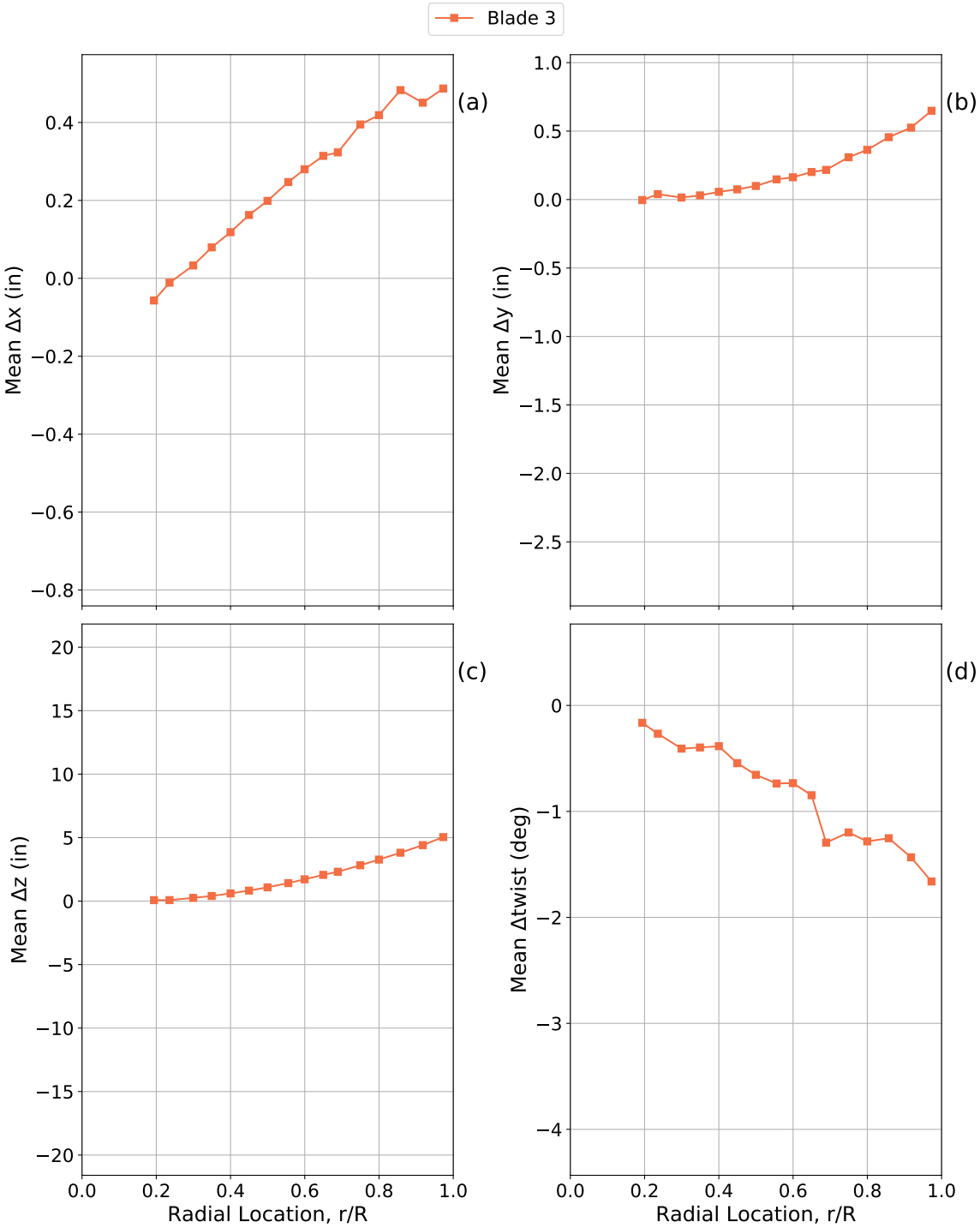


Figure 3.12-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.092, μ = 0.4, α = -8° NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0569	0.0012	-0.0041	0.0005	0.0767	0.0046	-0.1640	0.0222
3	225	0.2357	-0.0113	0.0014	0.0395	0.0016	0.0790	0.0076	-0.2664	0.0297
3	225	0.2995	0.0329	0.0018	0.0145	0.0027	0.2524	0.0155	-0.4075	0.0461
3	225	0.3493	0.0794	0.0017	0.0304	0.0048	0.4033	0.0232	-0.3968	0.0502
3	225	0.4000	0.1184	0.0019	0.0563	0.0084	0.6069	0.0356	-0.3849	0.0352
3	225	0.4497	0.1625	0.0026	0.0745	0.0119	0.8291	0.0483	-0.5448	0.0507
3	225	0.4997	0.1987	0.0025	0.0992	0.0153	1.0836	0.0611	-0.6546	0.0462
3	225	0.5556	0.2471	0.0039	0.1473	0.0207	1.4169	0.0768	-0.7366	0.0521
3	225	0.5995	0.2799	0.0035	0.1626	0.0258	1.7164	0.0859	-0.7332	0.0711
3	225	0.6498	0.3142	0.0044	0.2010	0.0320	2.0654	0.1066	-0.8474	0.0474
3	225	0.6890	0.3232	0.0037	0.2167	0.0371	2.3106	0.1212	-1.2943	0.0410
3	225	0.7495	0.3949	0.0047	0.3089	0.0451	2.8224	0.1457	-1.1988	0.0596
3	225	0.7998	0.4188	0.0057	0.3629	0.0521	3.2697	0.1688	-1.2831	0.0610
3	225	0.8577	0.4831	0.0066	0.4556	0.0603	3.8129	0.2004	-1.2532	0.0525
3	225	0.9178	0.4507	0.0075	0.5253	0.0686	4.4083	0.2339	-1.4332	0.0668
3	225	0.9729	0.4871	0.0100	0.6483	0.0765	5.0395	0.2632	-1.6614	0.0661

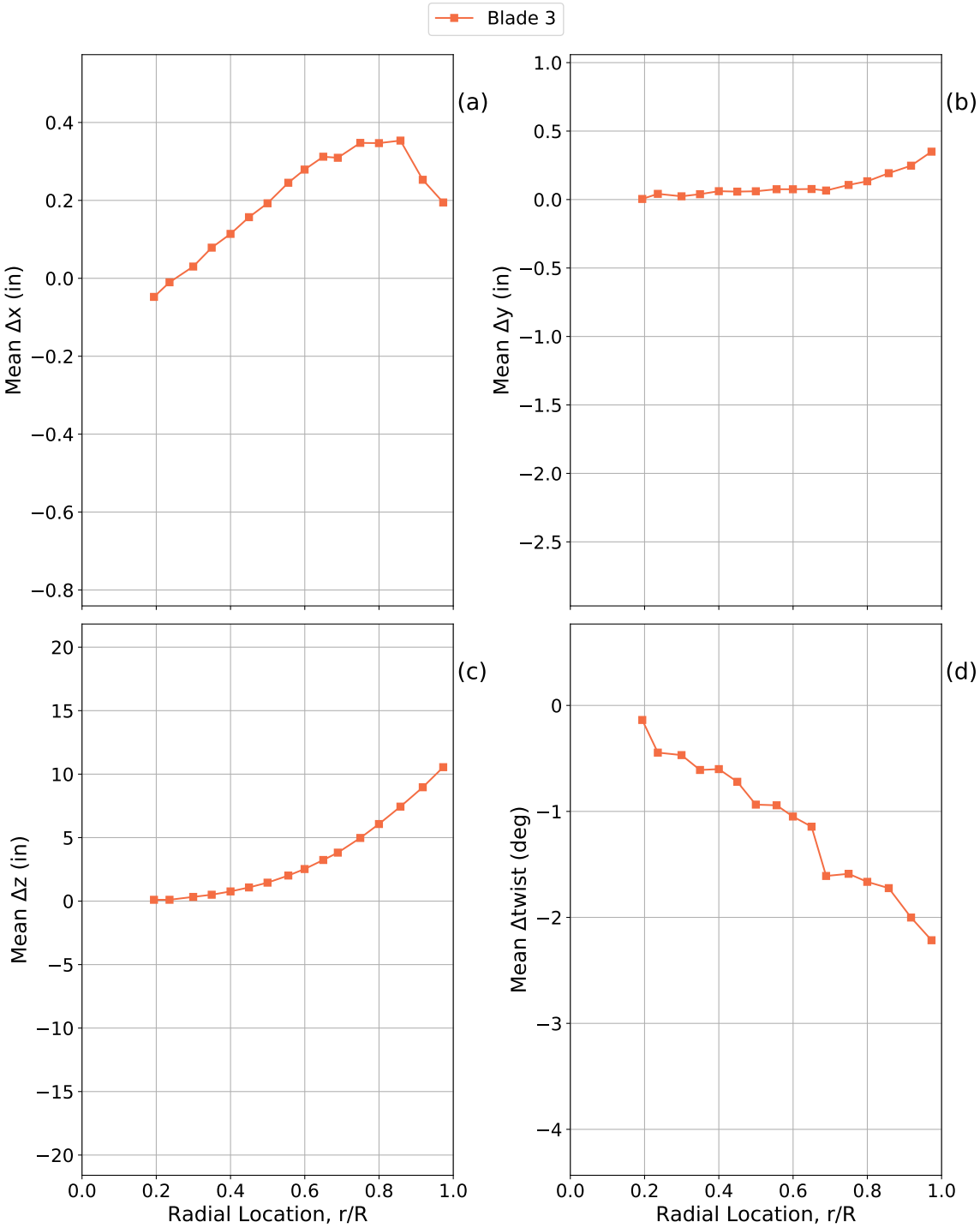


Figure 3.12-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.092, μ = 0.4, α = -8° NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0477	0.0023	0.0043	0.0008	0.1039	0.0148	-0.1373	0.0450
3	240.12	0.2357	-0.0102	0.0020	0.0416	0.0021	0.1048	0.0183	-0.4452	0.1000
3	240.12	0.2995	0.0302	0.0033	0.0237	0.0052	0.3307	0.0369	-0.4686	0.1244
3	240.12	0.3493	0.0787	0.0021	0.0392	0.0107	0.5038	0.0588	-0.6090	0.1087
3	240.12	0.4000	0.1140	0.0028	0.0611	0.0178	0.7628	0.0809	-0.6009	0.1072
3	240.12	0.4497	0.1569	0.0042	0.0579	0.0243	1.0766	0.1032	-0.7205	0.1154
3	240.12	0.4997	0.1926	0.0043	0.0605	0.0329	1.4534	0.1278	-0.9360	0.1166
3	240.12	0.5556	0.2453	0.0064	0.0754	0.0433	2.0141	0.1557	-0.9423	0.1301
3	240.12	0.5995	0.2791	0.0073	0.0751	0.0514	2.5265	0.1789	-1.0484	0.1102
3	240.12	0.6498	0.3121	0.0093	0.0769	0.0619	3.2387	0.2082	-1.1441	0.1176
3	240.12	0.6890	0.3094	0.0106	0.0659	0.0696	3.8178	0.2317	-1.6091	0.1294
3	240.12	0.7495	0.3476	0.0134	0.1066	0.0820	4.9735	0.2726	-1.5888	0.1352
3	240.12	0.7998	0.3470	0.0155	0.1335	0.0927	6.0709	0.3086	-1.6646	0.1499
3	240.12	0.8577	0.3535	0.0186	0.1925	0.1055	7.4419	0.3528	-1.7241	0.1355
3	240.12	0.9178	0.2529	0.0239	0.2475	0.1182	8.9668	0.3990	-2.0015	0.1399
3	240.12	0.9729	0.1947	0.0325	0.3497	0.1300	10.5492	0.4487	-2.2157	0.1406

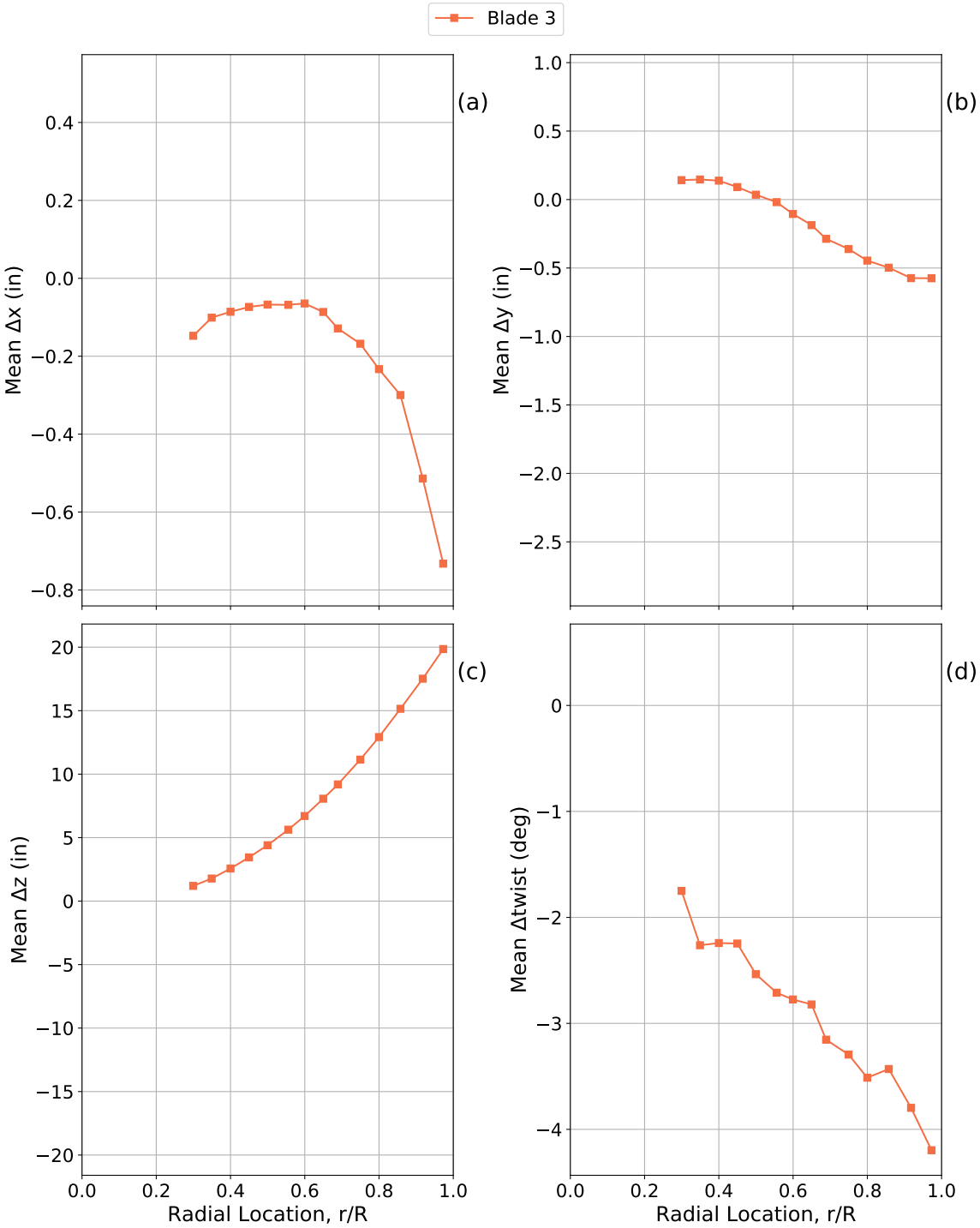


Figure 3.12-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.092, μ = 0.4, α = -8° NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.1476	0.0461	0.1418	0.0623	1.1973	0.3023	-1.7499	0.7650
3	254.88	0.3493	-0.1009	0.0518	0.1463	0.0794	1.7795	0.4464	-2.2629	0.9995
3	254.88	0.4000	-0.0859	0.0639	0.1380	0.1018	2.5661	0.6416	-2.2420	0.9784
3	254.88	0.4497	-0.0735	0.0759	0.0911	0.1267	3.4439	0.8264	-2.2467	0.9754
3	254.88	0.4997	-0.0675	0.0891	0.0355	0.1523	4.4013	1.0135	-2.5359	0.9759
3	254.88	0.5556	-0.0681	0.1058	-0.0190	0.1839	5.6254	1.2237	-2.7108	0.9801
3	254.88	0.5995	-0.0646	0.1205	-0.1051	0.2096	6.7021	1.3923	-2.7747	0.9716
3	254.88	0.6498	-0.0864	0.1386	-0.1868	0.2403	8.0655	1.5817	-2.8215	0.9799
3	254.88	0.6890	-0.1287	0.1541	-0.2866	0.2649	9.1868	1.7296	-3.1541	0.9840
3	254.88	0.7495	-0.1679	0.1789	-0.3614	0.3053	11.1435	1.9566	-3.2944	0.9833
3	254.88	0.7998	-0.2331	0.2013	-0.4459	0.3409	12.9214	2.1467	-3.5126	0.9715
3	254.88	0.8577	-0.2997	0.2289	-0.4977	0.3837	15.1489	2.3650	-3.4310	0.9712
3	254.88	0.9178	-0.5140	0.2616	-0.5739	0.4298	17.5171	2.5903	-3.7970	0.9753
3	254.88	0.9729	-0.7324	0.3000	-0.5748	0.4741	19.8502	2.7994	-4.1972	0.9792

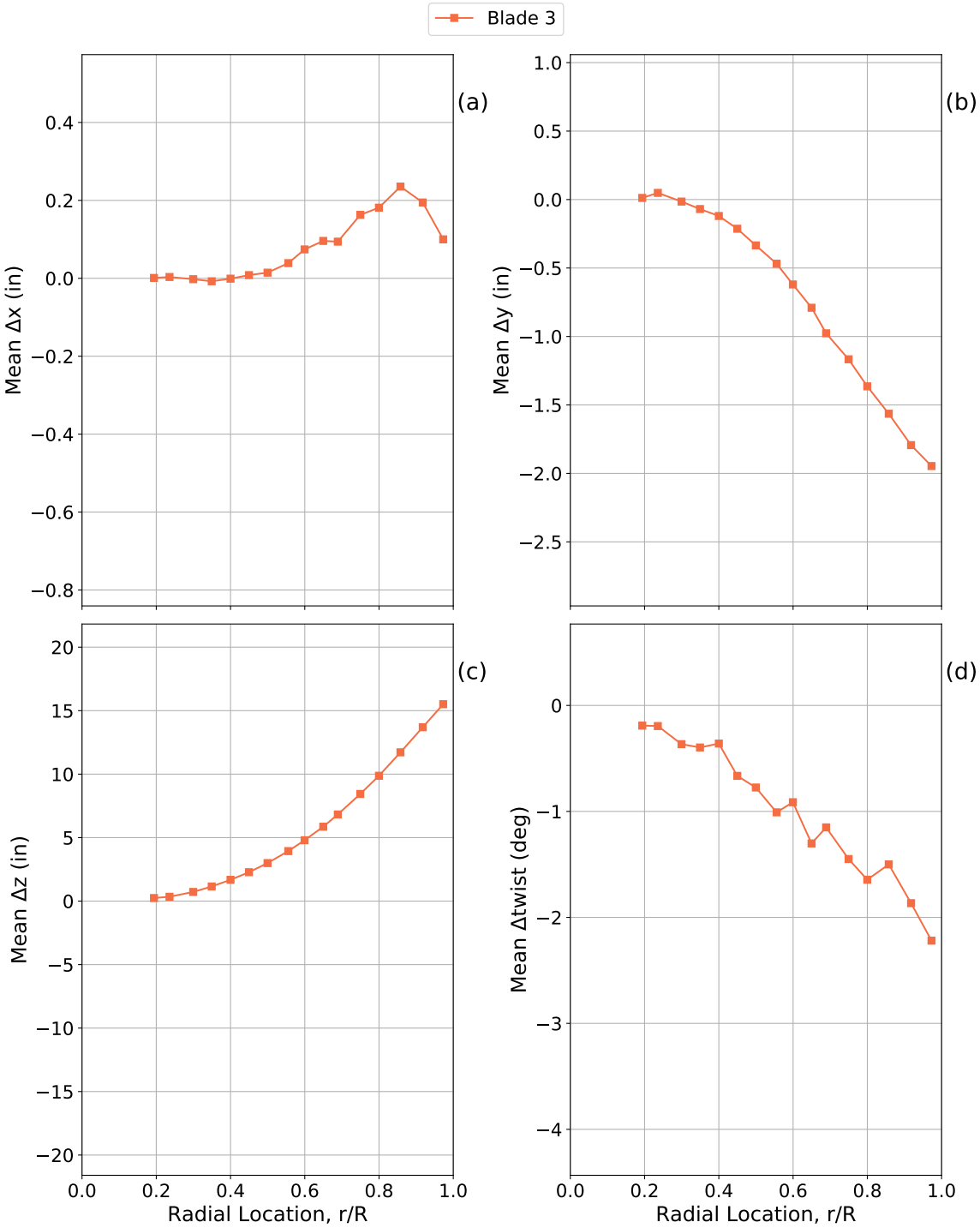


Figure 3.12-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0010	0.0032	0.0119	0.0021	0.2429	0.0069	-0.1903	0.0460
3	260.16	0.2357	0.0034	0.0011	0.0487	0.0016	0.3435	0.0103	-0.1944	0.0749
3	260.16	0.2995	-0.0023	0.0022	-0.0147	0.0071	0.7215	0.0215	-0.3655	0.1106
3	260.16	0.3493	-0.0076	0.0019	-0.0694	0.0076	1.1536	0.0335	-0.3967	0.0813
3	260.16	0.4000	-0.0009	0.0031	-0.1200	0.0140	1.6780	0.0479	-0.3599	0.0682
3	260.16	0.4497	0.0082	0.0038	-0.2133	0.0176	2.2753	0.0576	-0.6647	0.1171
3	260.16	0.4997	0.0145	0.0045	-0.3349	0.0209	2.9959	0.0726	-0.7744	0.1060
3	260.16	0.5556	0.0390	0.0062	-0.4684	0.0259	3.9392	0.0873	-1.0089	0.0938
3	260.16	0.5995	0.0742	0.0067	-0.6202	0.0301	4.7946	0.1073	-0.9134	0.0948
3	260.16	0.6498	0.0960	0.0100	-0.7902	0.0357	5.8611	0.1275	-1.3023	0.1166
3	260.16	0.6890	0.0941	0.0116	-0.9768	0.0389	6.8254	0.1473	-1.1507	0.1205
3	260.16	0.7495	0.1629	0.0151	-1.1665	0.0463	8.4406	0.1786	-1.4492	0.0908
3	260.16	0.7998	0.1813	0.0187	-1.3643	0.0527	9.8706	0.2117	-1.6445	0.1021
3	260.16	0.8577	0.2354	0.0233	-1.5642	0.0606	11.7171	0.2406	-1.5000	0.1220
3	260.16	0.9178	0.1946	0.0279	-1.7935	0.0696	13.6965	0.2774	-1.8658	0.1099
3	260.16	0.9729	0.1000	0.0356	-1.9464	0.0759	15.5090	0.3025	-2.2196	0.1655

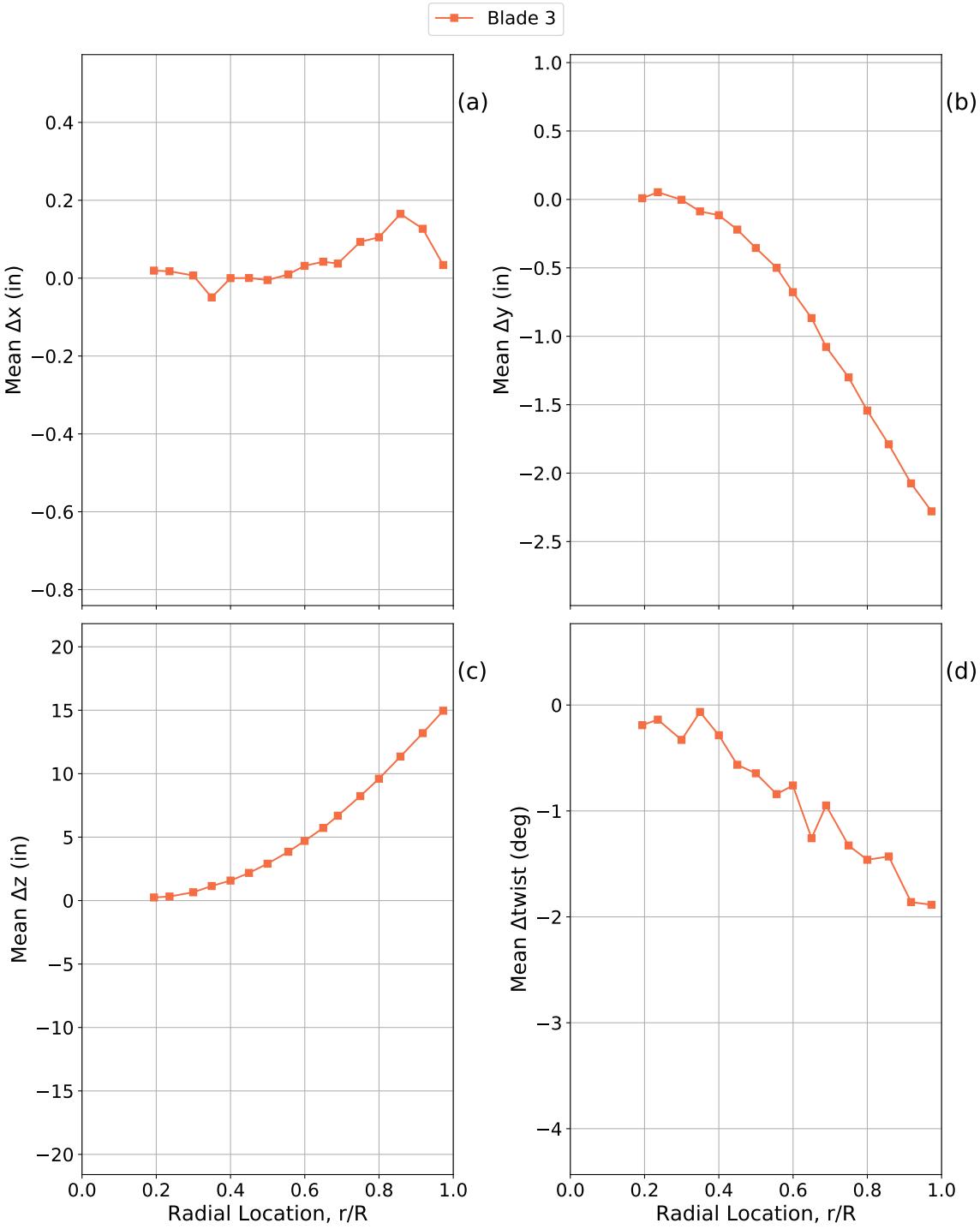


Figure 3.12-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0193	0.0043	0.0087	0.0022	0.2458	0.0161	-0.1899	0.0743
3	265.08	0.2357	0.0176	0.0044	0.0528	0.0024	0.3201	0.0263	-0.1379	0.1120
3	265.08	0.2995	0.0068	0.0017	-0.0025	0.0048	0.6544	0.0427	-0.3292	0.1711
3	265.08	0.3493	-0.0495	0.0036	-0.0873	0.0146	1.1500	0.0606	-0.0659	0.1349
3	265.08	0.4000	0.0000	0.0057	-0.1155	0.0233	1.5771	0.0878	-0.2851	0.1190
3	265.08	0.4497	0.0004	0.0056	-0.2204	0.0287	2.1824	0.1064	-0.5642	0.1092
3	265.08	0.4997	-0.0050	0.0065	-0.3547	0.0337	2.9076	0.1226	-0.6448	0.1260
3	265.08	0.5556	0.0096	0.0074	-0.4996	0.0415	3.8471	0.1458	-0.8412	0.1402
3	265.08	0.5995	0.0316	0.0089	-0.6776	0.0484	4.7012	0.1652	-0.7595	0.1337
3	265.08	0.6498	0.0422	0.0111	-0.8671	0.0559	5.7241	0.1891	-1.2572	0.1359
3	265.08	0.6890	0.0374	0.0133	-1.0777	0.0615	6.6887	0.2066	-0.9485	0.1621
3	265.08	0.7495	0.0932	0.0160	-1.3002	0.0712	8.2317	0.2353	-1.3261	0.1625
3	265.08	0.7998	0.1050	0.0188	-1.5430	0.0799	9.6019	0.2593	-1.4612	0.1450
3	265.08	0.8577	0.1649	0.0213	-1.7897	0.0893	11.3495	0.2797	-1.4299	0.1603
3	265.08	0.9178	0.1268	0.0249	-2.0749	0.0997	13.1963	0.3104	-1.8607	0.1596
3	265.08	0.9729	0.0336	0.0325	-2.2793	0.1103	14.9626	0.3261	-1.8860	0.2102

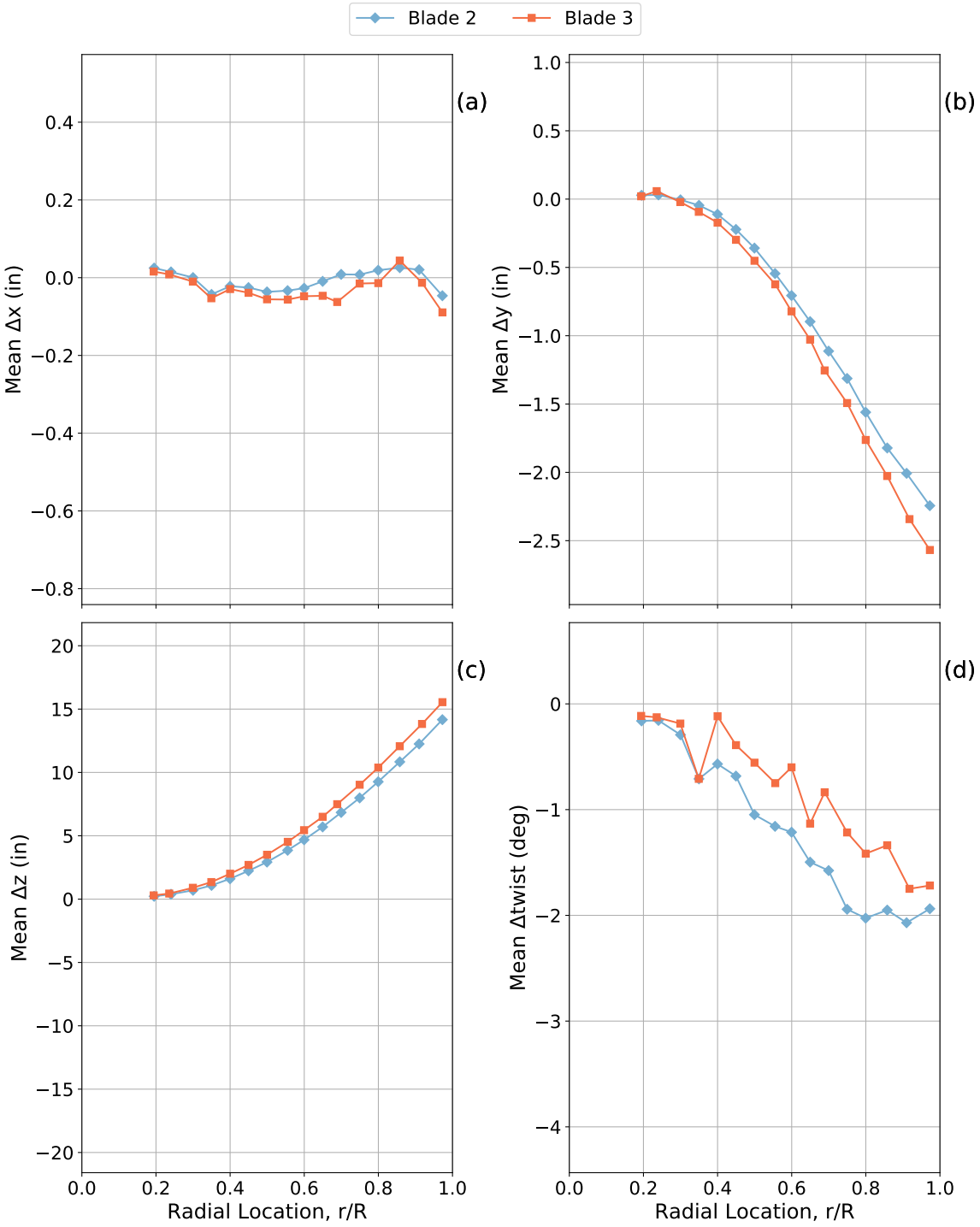


Figure 3.12-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0248	0.0028	0.0281	0.0017	0.2229	0.0101	-0.1611	0.0615
2	270.35	0.2405	0.0148	0.0020	0.0308	0.0034	0.3820	0.0147	-0.1564	0.0694
2	270.35	0.2999	0.0003	0.0018	-0.0052	0.0049	0.6966	0.0265	-0.2923	0.1200
2	270.35	0.3498	-0.0430	0.0029	-0.0455	0.0107	1.0831	0.0423	-0.7092	0.1324
2	270.35	0.3998	-0.0220	0.0032	-0.1109	0.0155	1.6046	0.0579	-0.5686	0.1363
2	270.35	0.4496	-0.0254	0.0028	-0.2219	0.0213	2.2329	0.0728	-0.6829	0.1249
2	270.35	0.4995	-0.0365	0.0047	-0.3585	0.0283	2.9238	0.0903	-1.0480	0.1242
2	270.35	0.5551	-0.0333	0.0069	-0.5449	0.0373	3.8533	0.1111	-1.1582	0.0904
2	270.35	0.5996	-0.0270	0.0094	-0.7060	0.0465	4.6828	0.1277	-1.2135	0.0980
2	270.35	0.6497	-0.0094	0.0117	-0.8967	0.0577	5.6993	0.1503	-1.4965	0.1529
2	270.35	0.6996	0.0086	0.0137	-1.1127	0.0684	6.8400	0.1700	-1.5764	0.1346
2	270.35	0.7495	0.0079	0.0155	-1.3128	0.0807	7.9873	0.1901	-1.9423	0.1502
2	270.35	0.7996	0.0192	0.0176	-1.5600	0.0934	9.2648	0.2112	-2.0264	0.1639
2	270.35	0.8578	0.0257	0.0211	-1.8216	0.1095	10.8359	0.2394	-1.9502	0.1913
2	270.35	0.9100	0.0206	0.0243	-2.0072	0.1245	12.2484	0.2827	-2.0698	0.2256
2	270.35	0.9727	-0.0464	0.0307	-2.2440	0.1427	14.1645	0.3151	-1.9377	0.1687
3	270	0.1938	0.0158	0.0034	0.0206	0.0028	0.2947	0.0189	-0.1141	0.0859
3	270	0.2357	0.0085	0.0041	0.0582	0.0040	0.4387	0.0183	-0.1270	0.1855
3	270	0.2995	-0.0100	0.0017	-0.0216	0.0052	0.8949	0.0380	-0.1862	0.2358
3	270	0.3493	-0.0529	0.0070	-0.0931	0.0065	1.3451	0.0763	-0.7090	0.1366
3	270	0.4000	-0.0292	0.0037	-0.1724	0.0081	2.0050	0.0918	-0.1170	0.1324
3	270	0.4497	-0.0389	0.0043	-0.2979	0.0098	2.6993	0.0972	-0.3902	0.1580
3	270	0.4997	-0.0556	0.0043	-0.4514	0.0144	3.5017	0.1076	-0.5562	0.1644
3	270	0.5556	-0.0563	0.0064	-0.6238	0.0184	4.5228	0.1218	-0.7496	0.1620
3	270	0.5995	-0.0477	0.0076	-0.8216	0.0215	5.4412	0.1402	-0.6002	0.1488
3	270	0.6498	-0.0466	0.0083	-1.0285	0.0257	6.4997	0.1507	-1.1323	0.1643
3	270	0.6890	-0.0625	0.0107	-1.2540	0.0303	7.4927	0.1691	-0.8359	0.1524
3	270	0.7495	-0.0150	0.0139	-1.4928	0.0367	9.0271	0.2030	-1.2160	0.1226
3	270	0.7998	-0.0139	0.0170	-1.7628	0.0417	10.3816	0.2317	-1.4164	0.1286
3	270	0.8577	0.0440	0.0220	-2.0267	0.0481	12.0684	0.2778	-1.3370	0.1740
3	270	0.9178	-0.0130	0.0305	-2.3423	0.0549	13.8261	0.3351	-1.7489	0.1277
3	270	0.9729	-0.0893	0.0405	-2.5683	0.0612	15.5464	0.4014	-1.7177	0.1502

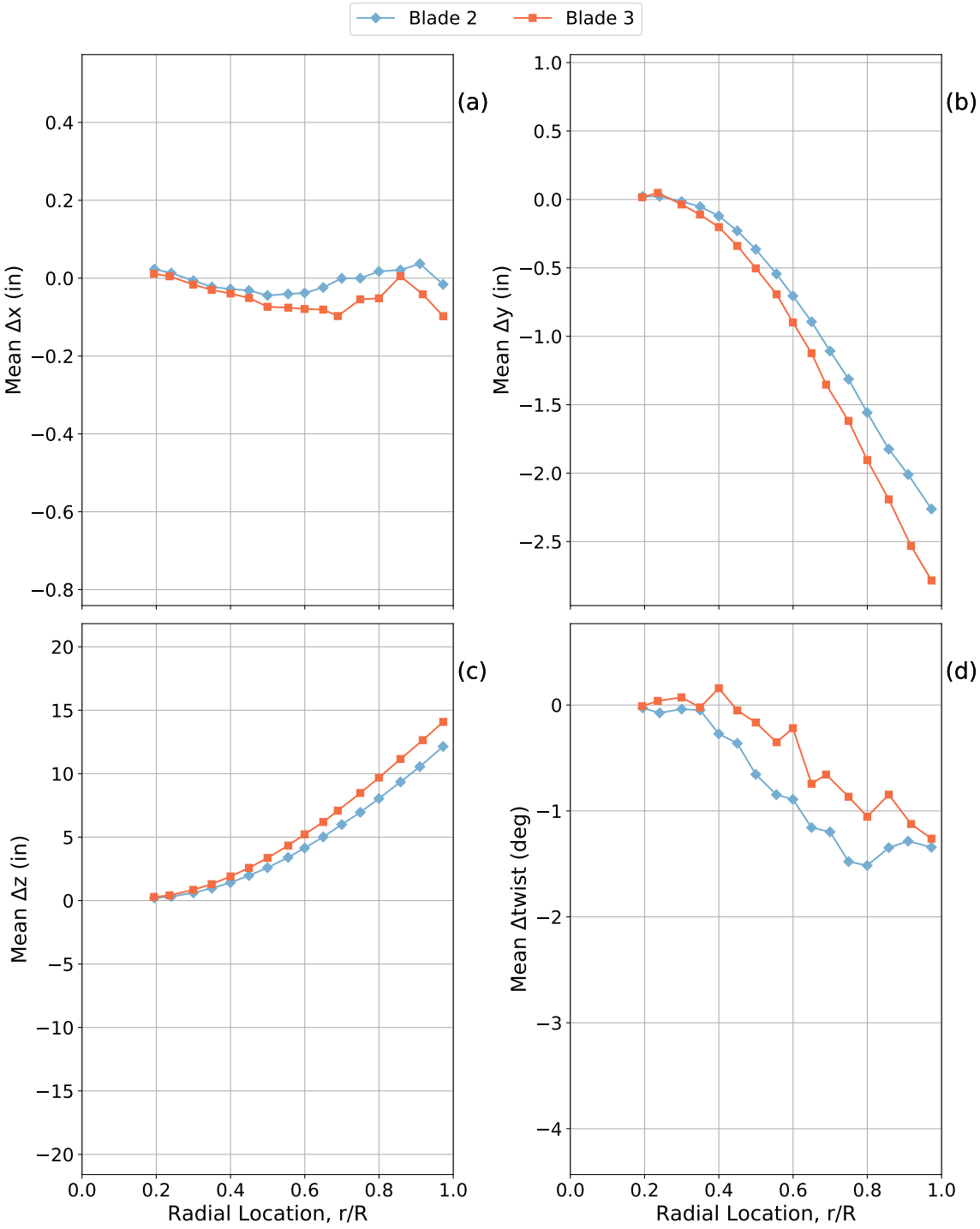


Figure 3.12-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.092, μ = 0.4, α = -8° NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0230	0.0023	0.0221	0.0023	0.2028	0.0103	-0.0271	0.0576
2	274.92	0.2405	0.0131	0.0024	0.0224	0.0028	0.3174	0.0182	-0.0742	0.0709
2	274.92	0.2999	-0.0064	0.0029	-0.0158	0.0054	0.6100	0.0315	-0.0387	0.1214
2	274.92	0.3498	-0.0226	0.0039	-0.0526	0.0070	0.9733	0.0437	-0.0481	0.1524
2	274.92	0.3998	-0.0280	0.0022	-0.1205	0.0140	1.4144	0.0665	-0.2721	0.1296
2	274.92	0.4496	-0.0317	0.0035	-0.2293	0.0168	1.9704	0.0816	-0.3614	0.1061
2	274.92	0.4995	-0.0444	0.0037	-0.3644	0.0217	2.5903	0.0997	-0.6548	0.1301
2	274.92	0.5551	-0.0407	0.0048	-0.5441	0.0271	3.4027	0.1245	-0.8469	0.1426
2	274.92	0.5996	-0.0380	0.0055	-0.7051	0.0323	4.1418	0.1401	-0.8904	0.1538
2	274.92	0.6497	-0.0240	0.0067	-0.8940	0.0384	5.0151	0.1586	-1.1569	0.1556
2	274.92	0.6996	-0.0005	0.0077	-1.1079	0.0450	5.9932	0.1746	-1.1976	0.1563
2	274.92	0.7495	-0.0003	0.0098	-1.3137	0.0524	6.9577	0.1900	-1.4784	0.1482
2	274.92	0.7996	0.0172	0.0110	-1.5578	0.0596	8.0407	0.2066	-1.5153	0.1785
2	274.92	0.8578	0.0210	0.0135	-1.8250	0.0697	9.3498	0.2248	-1.3471	0.1607
2	274.92	0.9100	0.0369	0.0158	-2.0107	0.0788	10.5556	0.2386	-1.2855	0.1655
2	274.92	0.9727	-0.0161	0.0199	-2.2620	0.0894	12.1410	0.2717	-1.3433	0.1734
3	274.92	0.1938	0.0112	0.0036	0.0164	0.0044	0.2826	0.0164	-0.0108	0.1267
3	274.92	0.2357	0.0048	0.0017	0.0481	0.0038	0.4112	0.0242	0.0387	0.1959
3	274.92	0.2995	-0.0166	0.0024	-0.0368	0.0091	0.8456	0.0411	0.0720	0.3071
3	274.92	0.3493	-0.0302	0.0043	-0.1105	0.0078	1.2907	0.0749	-0.0232	0.1945
3	274.92	0.4000	-0.0394	0.0037	-0.2022	0.0120	1.9068	0.0998	0.1580	0.2471
3	274.92	0.4497	-0.0510	0.0067	-0.3395	0.0162	2.5762	0.1369	-0.0507	0.2166
3	274.92	0.4997	-0.0736	0.0069	-0.5039	0.0212	3.3610	0.1666	-0.1652	0.2199
3	274.92	0.5556	-0.0758	0.0090	-0.6931	0.0282	4.3388	0.1998	-0.3513	0.2526
3	274.92	0.5995	-0.0792	0.0118	-0.8988	0.0343	5.2202	0.2343	-0.2186	0.2625
3	274.92	0.6498	-0.0808	0.0149	-1.1241	0.0416	6.1920	0.2733	-0.7436	0.2568
3	274.92	0.6890	-0.0974	0.0171	-1.3533	0.0488	7.0857	0.3072	-0.6560	0.2634
3	274.92	0.7495	-0.0545	0.0216	-1.6183	0.0594	8.4787	0.3617	-0.8663	0.2744
3	274.92	0.7998	-0.0518	0.0264	-1.9049	0.0688	9.6877	0.4236	-1.0545	0.2286
3	274.92	0.8577	0.0050	0.0318	-2.1919	0.0794	11.1541	0.4862	-0.8463	0.2405
3	274.92	0.9178	-0.0414	0.0386	-2.5322	0.0908	12.6427	0.5591	-1.1233	0.2613
3	274.92	0.9729	-0.0978	0.0485	-2.7848	0.1013	14.0794	0.6248	-1.2619	0.2831

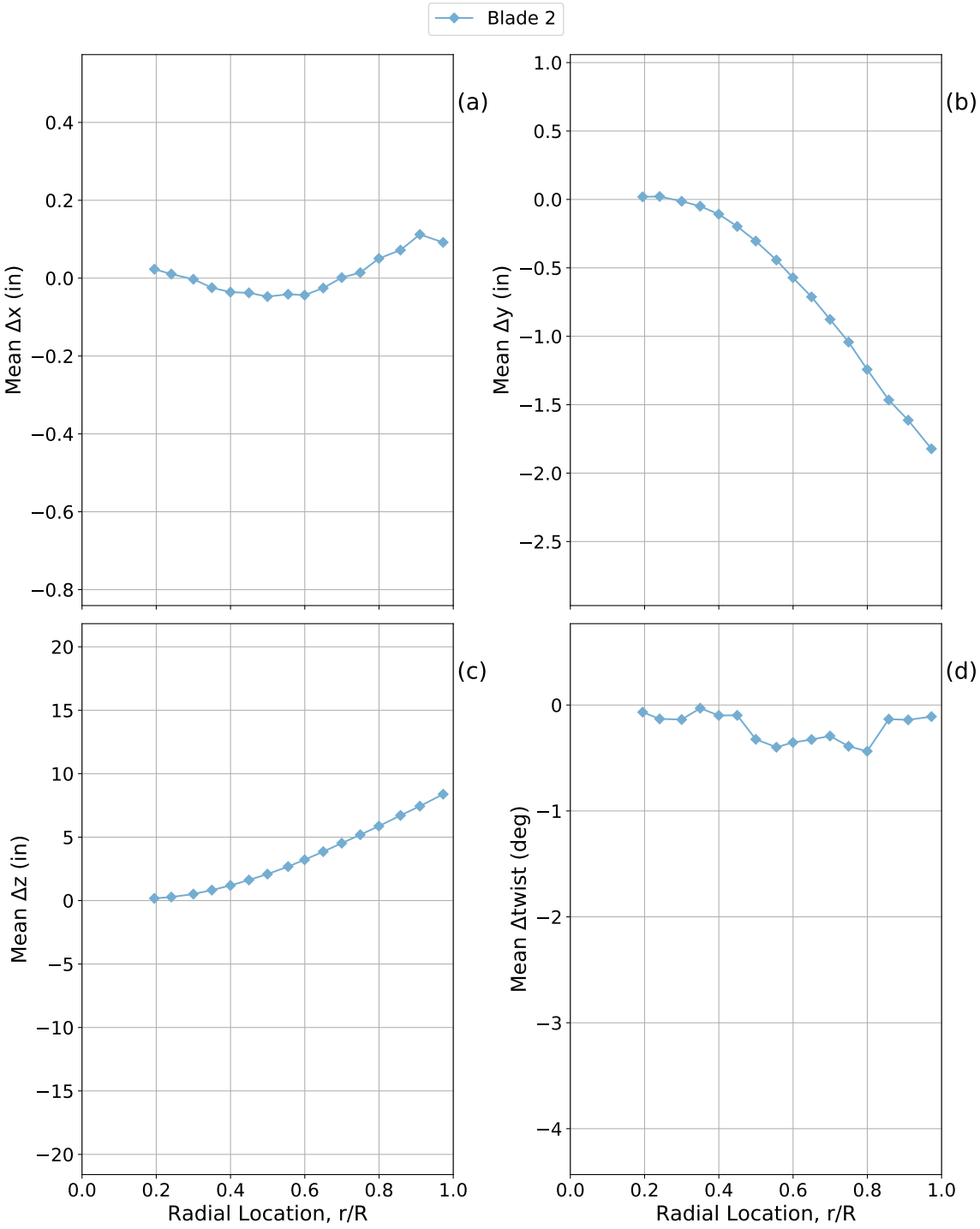


Figure 3.12-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0230	0.0118	0.0190	0.0013	0.1735	0.0117	-0.0673	0.0383
2	285.12	0.2405	0.0105	0.0047	0.0217	0.0016	0.2794	0.0198	-0.1311	0.0791
2	285.12	0.2999	-0.0028	0.0053	-0.0136	0.0031	0.5124	0.0321	-0.1370	0.0966
2	285.12	0.3498	-0.0246	0.0085	-0.0494	0.0085	0.8277	0.0510	-0.0302	0.0750
2	285.12	0.3998	-0.0359	0.0120	-0.1078	0.0134	1.1921	0.0727	-0.0986	0.0813
2	285.12	0.4496	-0.0378	0.0136	-0.1975	0.0199	1.6226	0.0906	-0.0974	0.0836
2	285.12	0.4995	-0.0474	0.0154	-0.3044	0.0271	2.0862	0.1139	-0.3237	0.0761
2	285.12	0.5551	-0.0414	0.0157	-0.4430	0.0357	2.6794	0.1334	-0.3984	0.0992
2	285.12	0.5996	-0.0436	0.0175	-0.5718	0.0440	3.2177	0.1457	-0.3536	0.0937
2	285.12	0.6497	-0.0254	0.0239	-0.7123	0.0538	3.8581	0.1637	-0.3260	0.1047
2	285.12	0.6996	0.0014	0.0345	-0.8767	0.0646	4.5225	0.1765	-0.2928	0.1125
2	285.12	0.7495	0.0141	0.0494	-1.0423	0.0762	5.1899	0.1931	-0.3896	0.1333
2	285.12	0.7996	0.0505	0.0687	-1.2428	0.0871	5.8689	0.2109	-0.4366	0.1352
2	285.12	0.8578	0.0720	0.0952	-1.4657	0.1005	6.7109	0.2300	-0.1334	0.1395
2	285.12	0.9100	0.1122	0.1251	-1.6131	0.1123	7.4414	0.2546	-0.1401	0.1064
2	285.12	0.9727	0.0918	0.1693	-1.8223	0.1261	8.3854	0.2967	-0.1094	0.1398

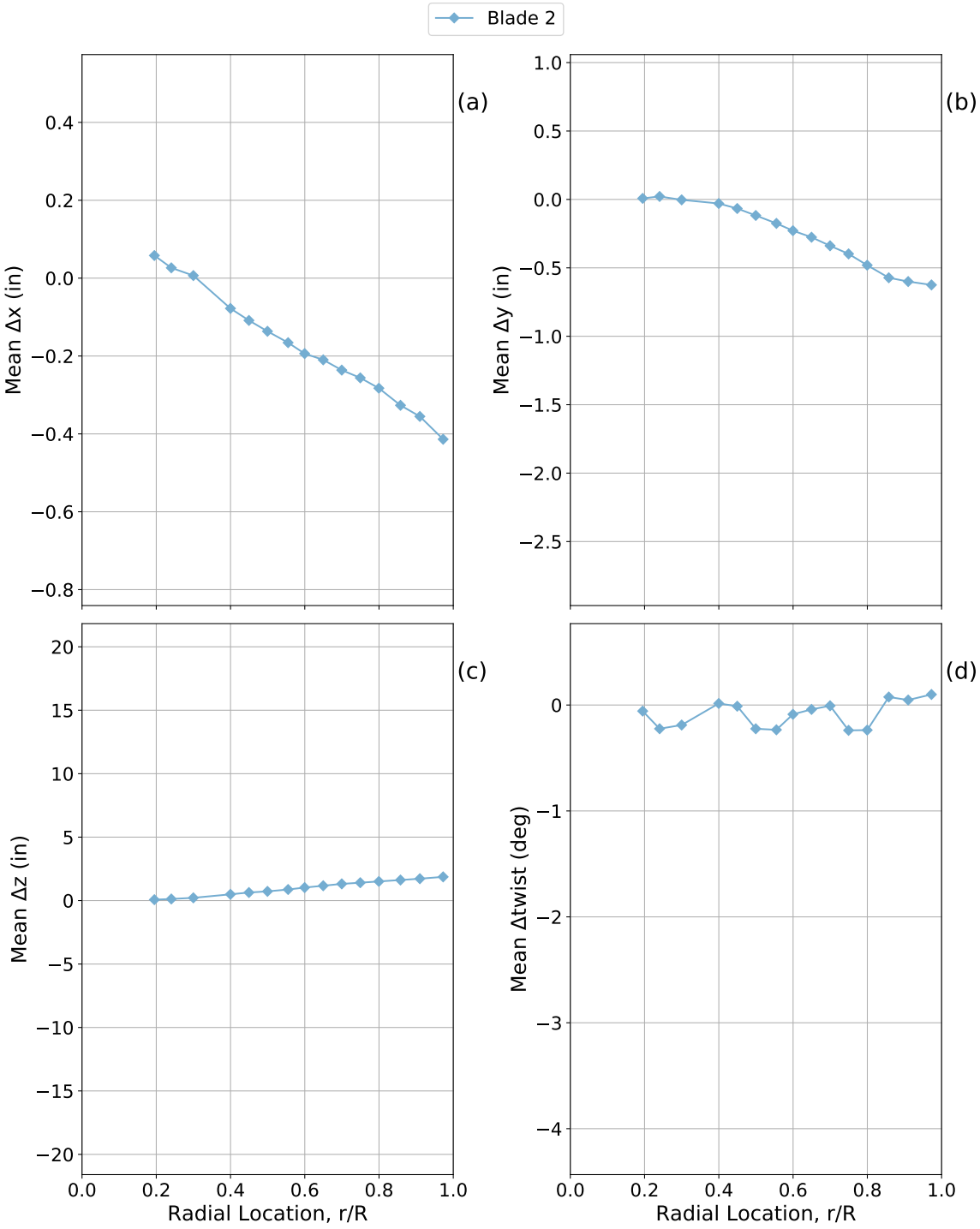


Figure 3.12-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0581	0.0029	0.0077	0.0022	0.0721	0.0090	-0.0573	0.0642
2	299.88	0.2405	0.0265	0.0066	0.0217	0.0044	0.1265	0.0101	-0.2239	0.0756
2	299.88	0.2999	0.0066	0.0056	-0.0030	0.0075	0.2171	0.0223	-0.1889	0.1288
2	299.88	0.3998	-0.0778	0.0043	-0.0297	0.0212	0.4936	0.0477	0.0147	0.1008
2	299.88	0.4496	-0.1086	0.0078	-0.0664	0.0269	0.6358	0.0528	-0.0113	0.1537
2	299.88	0.4995	-0.1365	0.0063	-0.1172	0.0340	0.7259	0.0703	-0.2243	0.1304
2	299.88	0.5551	-0.1657	0.0074	-0.1751	0.0439	0.8728	0.0809	-0.2340	0.1550
2	299.88	0.5996	-0.1938	0.0074	-0.2283	0.0505	1.0262	0.0926	-0.0877	0.1506
2	299.88	0.6497	-0.2098	0.0079	-0.2762	0.0610	1.1696	0.1031	-0.0414	0.1708
2	299.88	0.6996	-0.2362	0.0086	-0.3387	0.0713	1.3160	0.1147	-0.0071	0.1762
2	299.88	0.7495	-0.2561	0.0095	-0.3980	0.0816	1.4090	0.1265	-0.2392	0.1758
2	299.88	0.7996	-0.2827	0.0099	-0.4805	0.0930	1.5091	0.1443	-0.2369	0.2001
2	299.88	0.8578	-0.3266	0.0109	-0.5724	0.1060	1.6206	0.1725	0.0757	0.1866
2	299.88	0.9100	-0.3552	0.0108	-0.6000	0.1176	1.7246	0.1996	0.0473	0.2167
2	299.88	0.9727	-0.4138	0.0144	-0.6247	0.1316	1.8694	0.2434	0.0997	0.2035

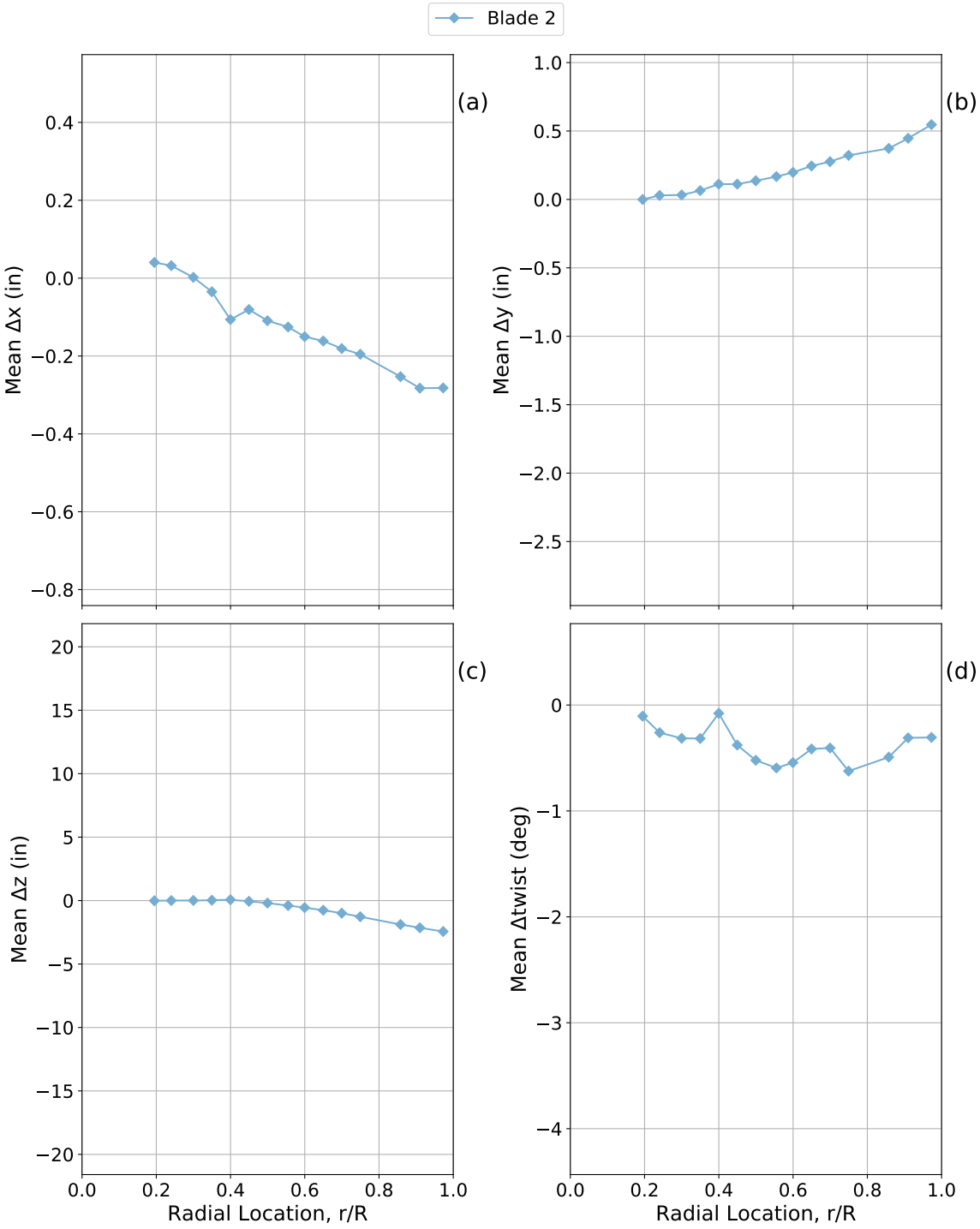


Figure 3.12-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.092, μ = 0.4, α = -8° NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0403	0.0028	-0.0005	0.0018	-0.0135	0.0108	-0.1053	0.0431
2	315	0.2405	0.0320	0.0035	0.0293	0.0061	0.0032	0.0153	-0.2611	0.0637
2	315	0.2999	0.0020	0.0063	0.0327	0.0100	0.0087	0.0252	-0.3144	0.0864
2	315	0.3498	-0.0350	0.0051	0.0646	0.0207	0.0277	0.0381	-0.3162	0.1109
2	315	0.3998	-0.1063	0.0066	0.1120	0.0330	0.0680	0.0557	-0.0786	0.0988
2	315	0.4496	-0.0807	0.0040	0.1119	0.0357	-0.0563	0.0753	-0.3783	0.0615
2	315	0.4995	-0.1093	0.0048	0.1362	0.0441	-0.1961	0.0932	-0.5218	0.0937
2	315	0.5551	-0.1255	0.0051	0.1670	0.0534	-0.3916	0.1166	-0.5941	0.0906
2	315	0.5996	-0.1503	0.0043	0.1974	0.0619	-0.5564	0.1399	-0.5441	0.0728
2	315	0.6497	-0.1614	0.0061	0.2446	0.0714	-0.7598	0.1588	-0.4152	0.0996
2	315	0.6996	-0.1809	0.0062	0.2760	0.0813	-0.9937	0.1839	-0.4057	0.0984
2	315	0.7495	-0.1955	0.0069	0.3221	0.0923	-1.2713	0.2146	-0.6237	0.0852
2	315	0.8578	-0.2531	0.0090	0.3728	0.1159	-1.8871	0.2830	-0.4920	0.0855
2	315	0.9100	-0.2826	0.0097	0.4468	0.1280	-2.1436	0.3120	-0.3100	0.1105
2	315	0.9727	-0.2820	0.0124	0.5467	0.1422	-2.4381	0.3576	-0.3058	0.1073

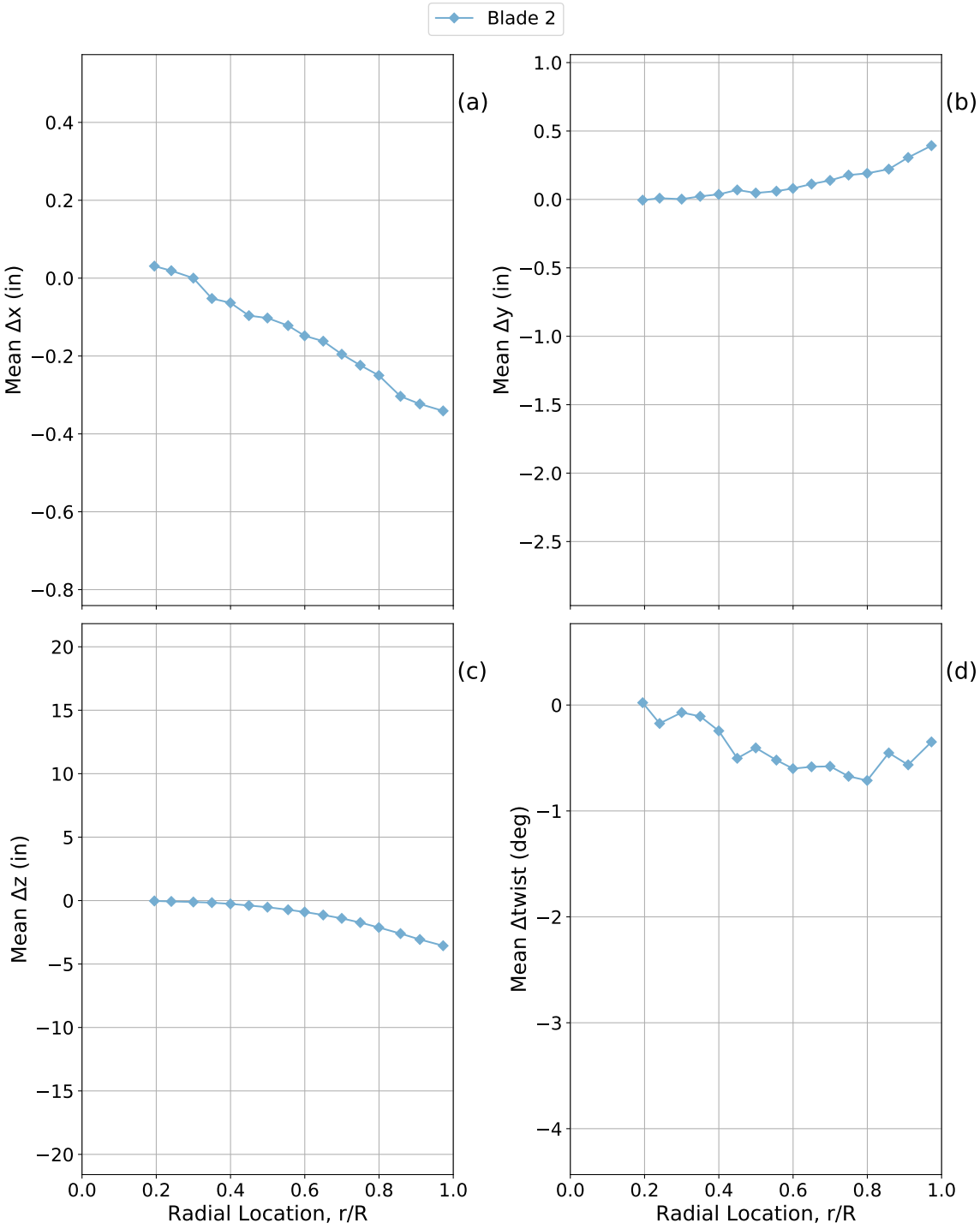


Figure 3.12-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0309	0.0020	-0.0053	0.0022	-0.0288	0.0102	0.0219	0.0485
2	330.12	0.2405	0.0191	0.0053	0.0090	0.0037	-0.0667	0.0117	-0.1742	0.0971
2	330.12	0.2999	-0.0000	0.0029	0.0022	0.0079	-0.1113	0.0257	-0.0705	0.1062
2	330.12	0.3498	-0.0523	0.0044	0.0225	0.0145	-0.1637	0.0446	-0.1071	0.0843
2	330.12	0.3998	-0.0634	0.0037	0.0371	0.0218	-0.2610	0.0619	-0.2440	0.0851
2	330.12	0.4496	-0.0963	0.0049	0.0694	0.0249	-0.3874	0.0807	-0.5031	0.0844
2	330.12	0.4995	-0.1024	0.0043	0.0471	0.0294	-0.5210	0.0989	-0.4049	0.0945
2	330.12	0.5551	-0.1219	0.0053	0.0603	0.0340	-0.7224	0.1210	-0.5201	0.0888
2	330.12	0.5996	-0.1481	0.0064	0.0803	0.0375	-0.9003	0.1400	-0.6005	0.0858
2	330.12	0.6497	-0.1619	0.0068	0.1126	0.0430	-1.1346	0.1603	-0.5833	0.0978
2	330.12	0.6996	-0.1954	0.0070	0.1390	0.0483	-1.4013	0.1835	-0.5789	0.0987
2	330.12	0.7495	-0.2238	0.0083	0.1780	0.0545	-1.7333	0.2112	-0.6731	0.0937
2	330.12	0.7996	-0.2499	0.0092	0.1907	0.0599	-2.1225	0.2375	-0.7125	0.1004
2	330.12	0.8578	-0.3035	0.0104	0.2214	0.0673	-2.6003	0.2725	-0.4522	0.0972
2	330.12	0.9100	-0.3232	0.0115	0.3064	0.0738	-3.0656	0.3068	-0.5648	0.1009
2	330.12	0.9727	-0.3410	0.0143	0.3930	0.0821	-3.5583	0.3486	-0.3483	0.1065

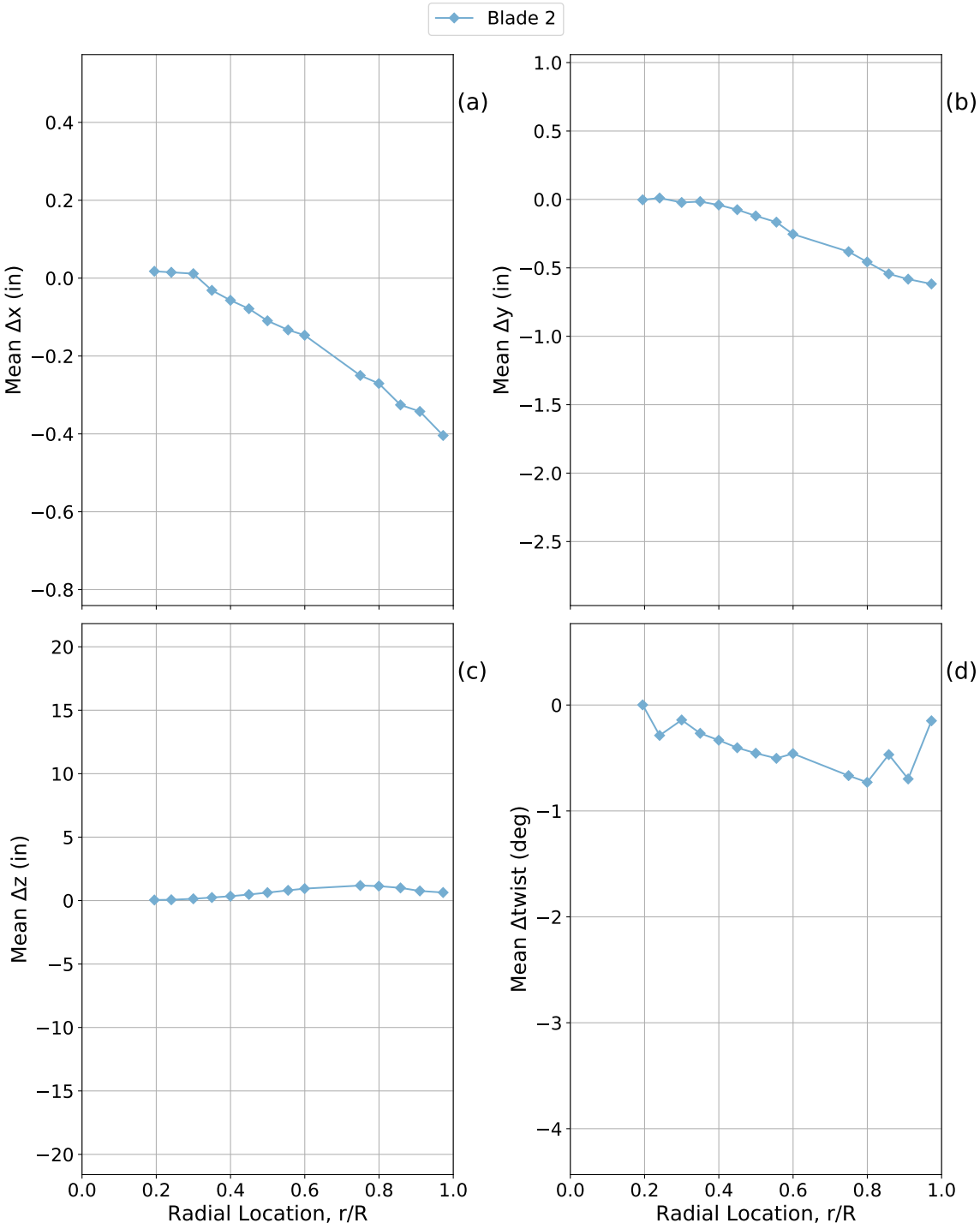


Figure 3.12-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0176	0.0060	-0.0028	0.0014	0.0471	0.0184	0.0014	0.0853
2	344.88	0.2405	0.0150	0.0051	0.0103	0.0050	0.0658	0.0175	-0.2872	0.2129
2	344.88	0.2999	0.0115	0.0066	-0.0223	0.0090	0.1420	0.0402	-0.1413	0.2381
2	344.88	0.3498	-0.0313	0.0058	-0.0156	0.0189	0.2414	0.0683	-0.2671	0.1995
2	344.88	0.3998	-0.0569	0.0065	-0.0406	0.0291	0.3444	0.0890	-0.3321	0.2036
2	344.88	0.4496	-0.0786	0.0066	-0.0750	0.0385	0.4781	0.1131	-0.4035	0.1962
2	344.88	0.4995	-0.1095	0.0081	-0.1205	0.0452	0.6285	0.1401	-0.4550	0.2011
2	344.88	0.5551	-0.1330	0.0082	-0.1659	0.0562	0.8057	0.1711	-0.5036	0.1985
2	344.88	0.5996	-0.1466	0.0107	-0.2535	0.0658	0.9431	0.1953	-0.4586	0.1684
2	344.88	0.7495	-0.2500	0.0115	-0.3819	0.0950	1.1850	0.2764	-0.6668	0.1969
2	344.88	0.7996	-0.2706	0.0115	-0.4568	0.1055	1.1401	0.3043	-0.7296	0.1981
2	344.88	0.8578	-0.3256	0.0125	-0.5441	0.1182	0.9997	0.3346	-0.4681	0.1952
2	344.88	0.9100	-0.3424	0.0128	-0.5827	0.1300	0.7593	0.3605	-0.6980	0.1947
2	344.88	0.9727	-0.4041	0.0160	-0.6174	0.1449	0.6367	0.3900	-0.1489	0.1896

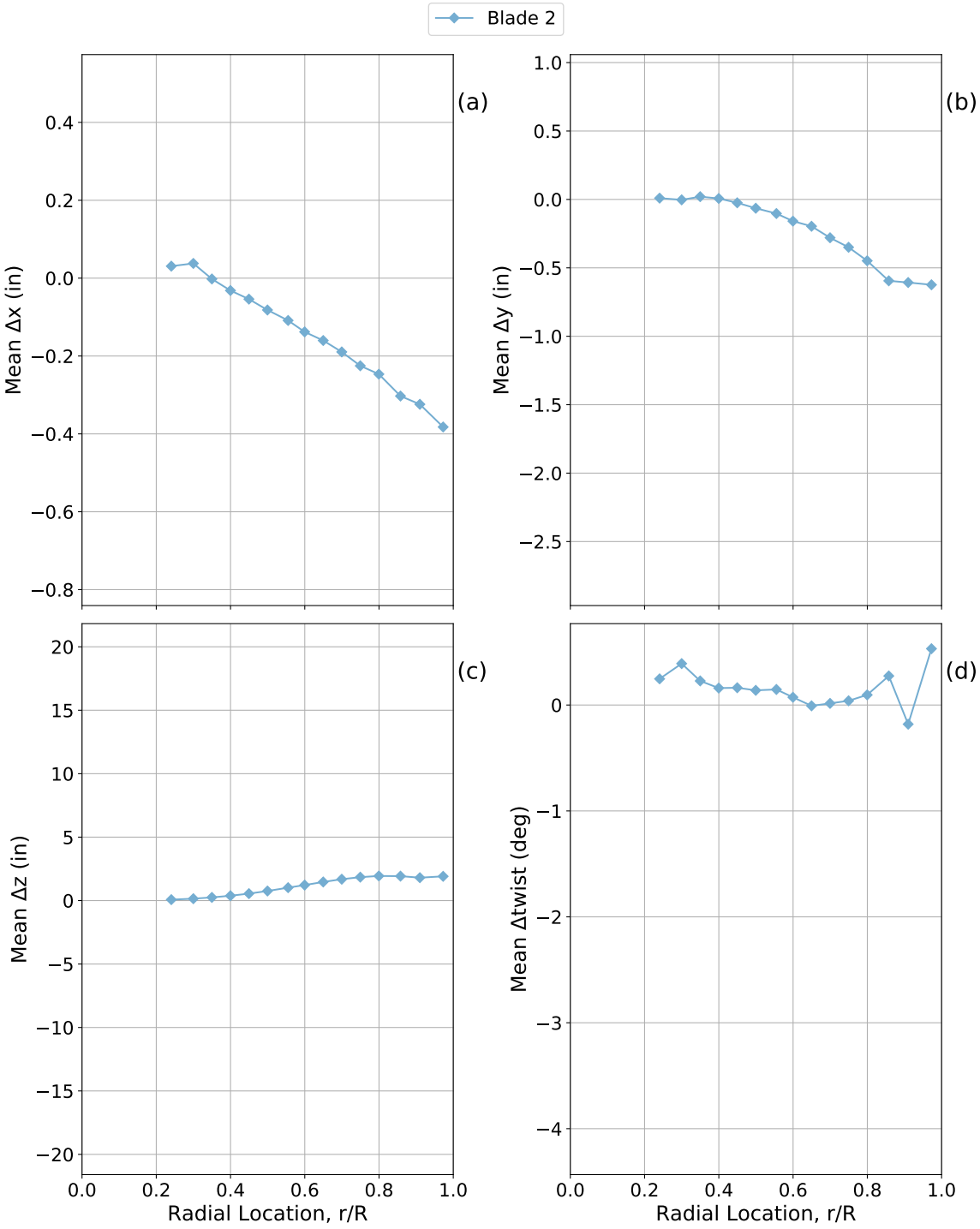


Figure 3.12-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0308	0.0052	0.0094	0.0038	0.0752	0.0255	0.2472	0.1918
2	350.16	0.2999	0.0378	0.0070	-0.0029	0.0123	0.1501	0.0451	0.3911	0.2940
2	350.16	0.3498	-0.0021	0.0054	0.0202	0.0163	0.2505	0.0785	0.2276	0.3053
2	350.16	0.3998	-0.0318	0.0045	0.0070	0.0299	0.3823	0.1146	0.1600	0.3045
2	350.16	0.4496	-0.0539	0.0050	-0.0246	0.0369	0.5488	0.1503	0.1631	0.2941
2	350.16	0.4995	-0.0818	0.0054	-0.0643	0.0481	0.7555	0.1849	0.1387	0.2840
2	350.16	0.5551	-0.1087	0.0055	-0.1030	0.0563	1.0181	0.2270	0.1469	0.2980
2	350.16	0.5996	-0.1380	0.0057	-0.1586	0.0641	1.2230	0.2642	0.0733	0.2767
2	350.16	0.6497	-0.1602	0.0076	-0.1961	0.0737	1.4668	0.3008	-0.0077	0.2966
2	350.16	0.6996	-0.1895	0.0076	-0.2801	0.0820	1.6844	0.3354	0.0154	0.2860
2	350.16	0.7495	-0.2251	0.0088	-0.3497	0.0918	1.8470	0.3711	0.0400	0.2763
2	350.16	0.7996	-0.2466	0.0099	-0.4484	0.0998	1.9405	0.4034	0.0957	0.2790
2	350.16	0.8578	-0.3028	0.0113	-0.5948	0.1115	1.9261	0.4431	0.2746	0.2701
2	350.16	0.9100	-0.3240	0.0123	-0.6071	0.1176	1.8044	0.4765	-0.1810	0.2773
2	350.16	0.9727	-0.3823	0.0134	-0.6237	0.1314	1.9113	0.5149	0.5318	0.2746

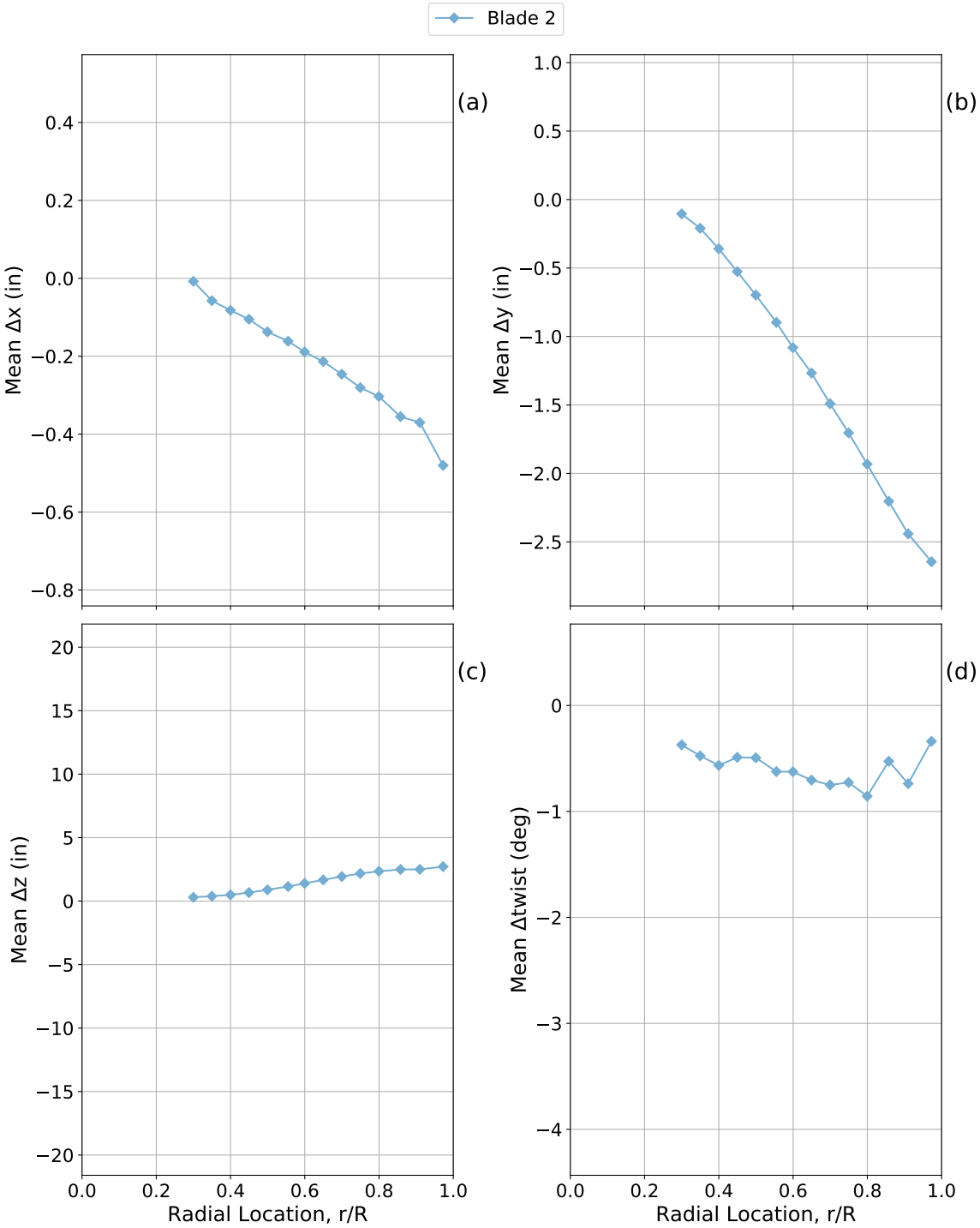


Figure 3.12-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.092$, $\mu = 0.4$, $\alpha = -8°$ NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Table 3.12-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.092, μ = 0.4, α = -8°
NFAC run 52, point 50. BD run 25, points 3057 to 3067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2999	-0.0077	0.0104	-0.1051	0.0193	0.3004	0.1042	-0.3724	0.2381
2	355.08	0.3498	-0.0575	0.0141	-0.2097	0.0332	0.3882	0.1747	-0.4755	0.3140
2	355.08	0.3998	-0.0821	0.0132	-0.3593	0.0528	0.4914	0.2729	-0.5658	0.2754
2	355.08	0.4496	-0.1052	0.0118	-0.5263	0.0695	0.6712	0.3555	-0.4899	0.2913
2	355.08	0.4995	-0.1375	0.0110	-0.6973	0.0874	0.8895	0.4410	-0.4938	0.3052
2	355.08	0.5551	-0.1615	0.0106	-0.8972	0.1060	1.1484	0.5416	-0.6242	0.2873
2	355.08	0.5996	-0.1890	0.0098	-1.0816	0.1227	1.3946	0.6230	-0.6257	0.2741
2	355.08	0.6497	-0.2137	0.0107	-1.2671	0.1402	1.6731	0.7122	-0.7049	0.2852
2	355.08	0.6996	-0.2462	0.0110	-1.4913	0.1558	1.9344	0.8011	-0.7503	0.2977
2	355.08	0.7495	-0.2806	0.0113	-1.7041	0.1726	2.1746	0.8942	-0.7271	0.2844
2	355.08	0.7996	-0.3033	0.0126	-1.9324	0.1898	2.3481	0.9803	-0.8567	0.2847
2	355.08	0.8578	-0.3551	0.0141	-2.2040	0.2081	2.4912	1.0785	-0.5269	0.2881
2	355.08	0.9100	-0.3702	0.0146	-2.4413	0.2247	2.4959	1.1619	-0.7381	0.2820
2	355.08	0.9727	-0.4803	0.0182	-2.6452	0.2452	2.7159	1.2521	-0.3390	0.3027

3.13 Run 53, Point 13

3.13.1 Pitch, Flap, and Lag

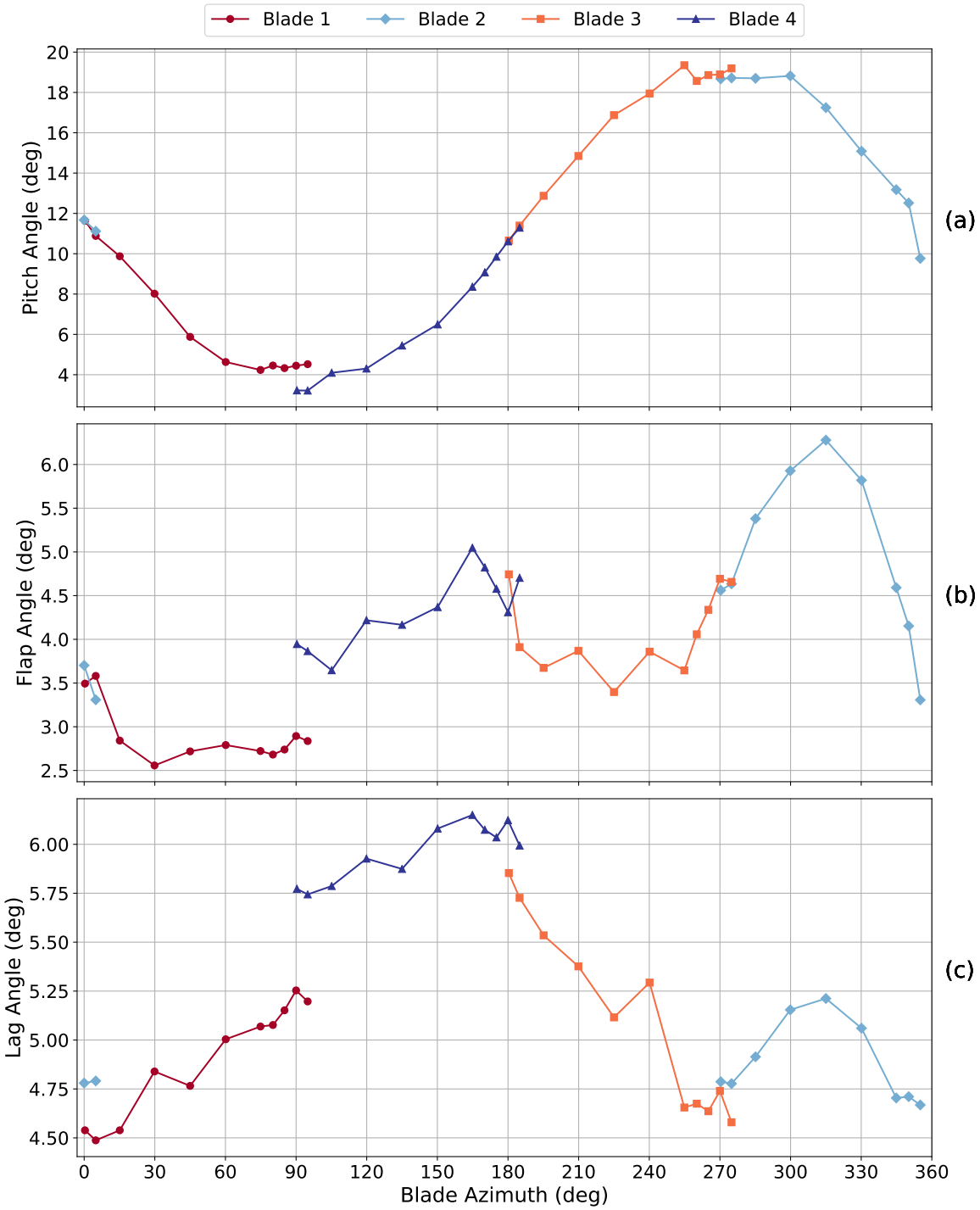


Figure 3.13-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	11.6762	3.7019	4.7801	0.1247	0.2755	0.0917
0.35	1	11.6349	3.4935	4.5387	0.0814	0.1204	0.0495
4.92	1	10.8848	3.5814	4.4874	0.1256	0.1230	0.0830
4.92	2	11.1190	3.3082	4.7910	0.2080	0.1329	0.1555
15.12	1	9.8751	2.8417	4.5387	0.0926	0.1486	0.1257
29.88	1	8.0194	2.5572	4.8393	0.0799	0.1195	0.0758
45	1	5.8765	2.7183	4.7656	0.0402	0.0679	0.0755
60.12	1	4.6309	2.7905	5.0038	0.1069	0.0609	0.0603
74.88	1	4.2362	2.7223	5.0689	0.0522	0.0716	0.0631
80.16	1	4.4567	2.6814	5.0767	0.0619	0.0654	0.0226
85.08	1	4.3275	2.7391	5.1518	0.0660	0.0690	0.0470
90	1	4.4486	2.8939	5.2534	0.0996	0.1817	0.1246
90.35	4	3.2211	3.9453	5.7724	0.0453	0.1004	0.0528
94.92	1	4.5225	2.8365	5.1971	0.2564	0.1379	0.1631
94.92	4	3.2135	3.8646	5.7440	0.0879	0.1630	0.0767
105.12	4	4.0953	3.6460	5.7867	0.1817	0.3784	0.1071
119.88	4	4.3045	4.2179	5.9268	0.0716	0.1288	0.0725
135	4	5.4463	4.1658	5.8741	0.0661	0.4464	0.0578
150.12	4	6.4934	4.3677	6.0804	0.0562	0.1191	0.0976
164.88	4	8.3585	5.0471	6.1498	0.0583	0.1244	0.0241
170.16	4	9.0743	4.8218	6.0740	0.0651	0.0969	0.0341
175.08	4	9.8505	4.5776	6.0351	0.1466	0.2427	0.0493
180	4	10.6118	4.3090	6.1229	0.0853	0.4857	0.0805
180.35	3	10.6551	4.7436	5.8532	0.0515	0.2922	0.0734
184.92	3	11.3959	3.9106	5.7265	0.0690	0.2804	0.0852
184.92	4	11.2908	4.7029	5.9935	0.0733	0.2088	0.0924
195.12	3	12.8723	3.6734	5.5349	0.0644	0.2344	0.1025
209.88	3	14.8488	3.8687	5.3762	0.0507	0.1394	0.0903
225	3	16.8740	3.3972	5.1157	0.0611	0.2889	0.0911
240.12	3	17.9456	3.8587	5.2934	0.1064	0.1549	0.0877
254.88	3	19.3491	3.6446	4.6552	0.1779	0.1642	0.0690
260.16	3	18.5698	4.0575	4.6747	0.0784	0.0399	0.0420
265.08	3	18.8610	4.3373	4.6362	0.0754	0.0695	0.0582
270	3	18.8917	4.6922	4.7400	0.0550	0.1324	0.0557
270.35	2	18.6741	4.5614	4.7869	0.0981	0.0730	0.0547
274.92	2	18.7192	4.6348	4.7772	0.0980	0.1107	0.0655
274.92	3	19.1922	4.6569	4.5795	0.0705	0.0623	0.1029
285.12	2	18.7016	5.3804	4.9142	0.1035	0.0555	0.0636
299.88	2	18.8216	5.9277	5.1543	0.1282	0.0747	0.0770
315	2	17.2456	6.2788	5.2121	0.1003	0.1682	0.0705
330.12	2	15.0849	5.8196	5.0604	0.0537	0.0697	0.0764
344.88	2	13.1763	4.5914	4.7039	0.0997	0.0584	0.0303
350.16	2	12.5170	4.1525	4.7107	0.1034	0.0520	0.0441
355.08	2	9.7667	3.3071	4.6682	0.4888	0.1478	0.1106

3.13.2 Spanwise Elastic Deformations

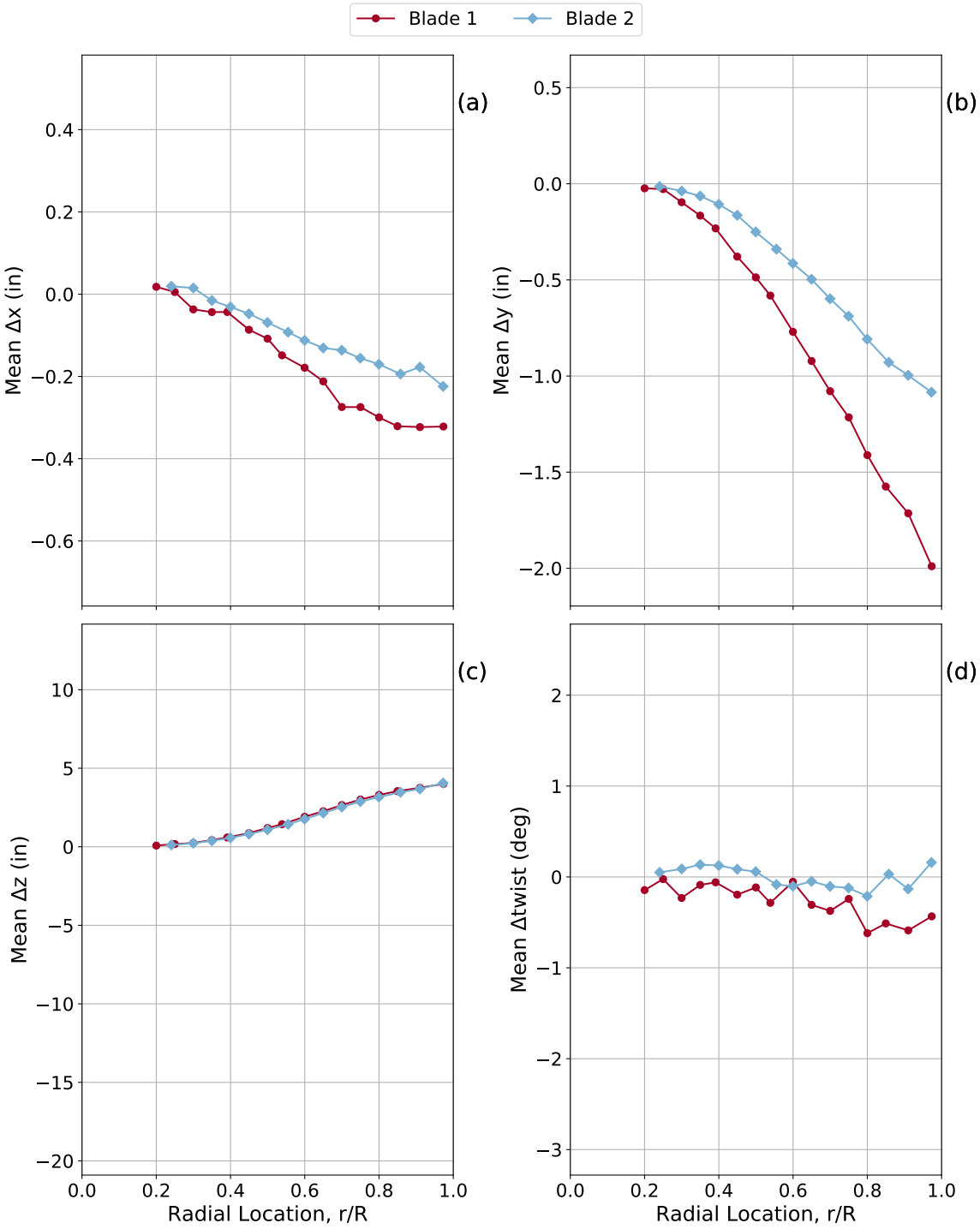


Figure 3.13-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0179	0.0034	-0.0238	0.0022	0.0765	0.0104	-0.1446	0.0498
1	0.35	0.2499	0.0053	0.0019	-0.0277	0.0044	0.1736	0.0157	-0.0237	0.0699
1	0.35	0.2998	-0.0370	0.0022	-0.0960	0.0093	0.2461	0.0326	-0.2314	0.1021
1	0.35	0.3498	-0.0436	0.0029	-0.1657	0.0174	0.4262	0.0511	-0.0878	0.0852
1	0.35	0.3913	-0.0433	0.0036	-0.2320	0.0241	0.5923	0.0711	-0.0591	0.0660
1	0.35	0.4496	-0.0865	0.0038	-0.3791	0.0305	0.8727	0.0947	-0.1950	0.0570
1	0.35	0.4997	-0.1082	0.0056	-0.4869	0.0383	1.1959	0.1146	-0.1156	0.0966
1	0.35	0.5387	-0.1486	0.0056	-0.5815	0.0460	1.4372	0.1315	-0.2848	0.0704
1	0.35	0.5996	-0.1788	0.0066	-0.7699	0.0568	1.9113	0.1550	-0.0530	0.0784
1	0.35	0.6498	-0.2120	0.0084	-0.9220	0.0678	2.2638	0.1747	-0.3069	0.0732
1	0.35	0.6998	-0.2744	0.0073	-1.0787	0.0766	2.6571	0.1927	-0.3736	0.0855
1	0.35	0.7500	-0.2745	0.0091	-1.2148	0.0885	3.0082	0.2182	-0.2420	0.1207
1	0.35	0.8001	-0.2996	0.0093	-1.4113	0.0987	3.3018	0.2346	-0.6186	0.0600
1	0.35	0.8497	-0.3210	0.0115	-1.5749	0.1094	3.5434	0.2613	-0.5116	0.0852
1	0.35	0.9102	-0.3231	0.0115	-1.7139	0.1292	3.7581	0.3068	-0.5879	0.1765
1	0.35	0.9734	-0.3218	0.0195	-1.9892	0.1380	3.9995	0.3503	-0.4337	0.1856
2	0	0.2405	0.0192	0.0059	-0.0138	0.0050	0.1183	0.0134	0.0502	0.0668
2	0	0.2999	0.0150	0.0037	-0.0379	0.0124	0.2238	0.0246	0.0881	0.1032
2	0	0.3498	-0.0154	0.0041	-0.0638	0.0212	0.3810	0.0361	0.1350	0.1190
2	0	0.3998	-0.0311	0.0065	-0.1071	0.0343	0.5690	0.0539	0.1260	0.1140
2	0	0.4496	-0.0477	0.0095	-0.1639	0.0473	0.8047	0.0676	0.0854	0.1263
2	0	0.4995	-0.0690	0.0141	-0.2506	0.0621	1.0856	0.0856	0.0579	0.1336
2	0	0.5551	-0.0924	0.0179	-0.3400	0.0771	1.4305	0.1017	-0.0833	0.1278
2	0	0.5996	-0.1124	0.0217	-0.4144	0.0878	1.7642	0.1146	-0.1022	0.1232
2	0	0.6497	-0.1308	0.0250	-0.4967	0.0988	2.1478	0.1296	-0.0489	0.1208
2	0	0.6996	-0.1363	0.0298	-0.5981	0.1090	2.5287	0.1434	-0.1042	0.1365
2	0	0.7495	-0.1556	0.0337	-0.6885	0.1180	2.8756	0.1561	-0.1206	0.1415
2	0	0.7996	-0.1703	0.0390	-0.8083	0.1288	3.1660	0.1658	-0.2124	0.1345
2	0	0.8578	-0.1941	0.0450	-0.9286	0.1417	3.4738	0.1737	0.0305	0.1407
2	0	0.9100	-0.1774	0.0512	-0.9961	0.1538	3.6796	0.1805	-0.1323	0.1422
2	0	0.9727	-0.2242	0.0599	-1.0840	0.1688	4.0590	0.1880	0.1590	0.1645

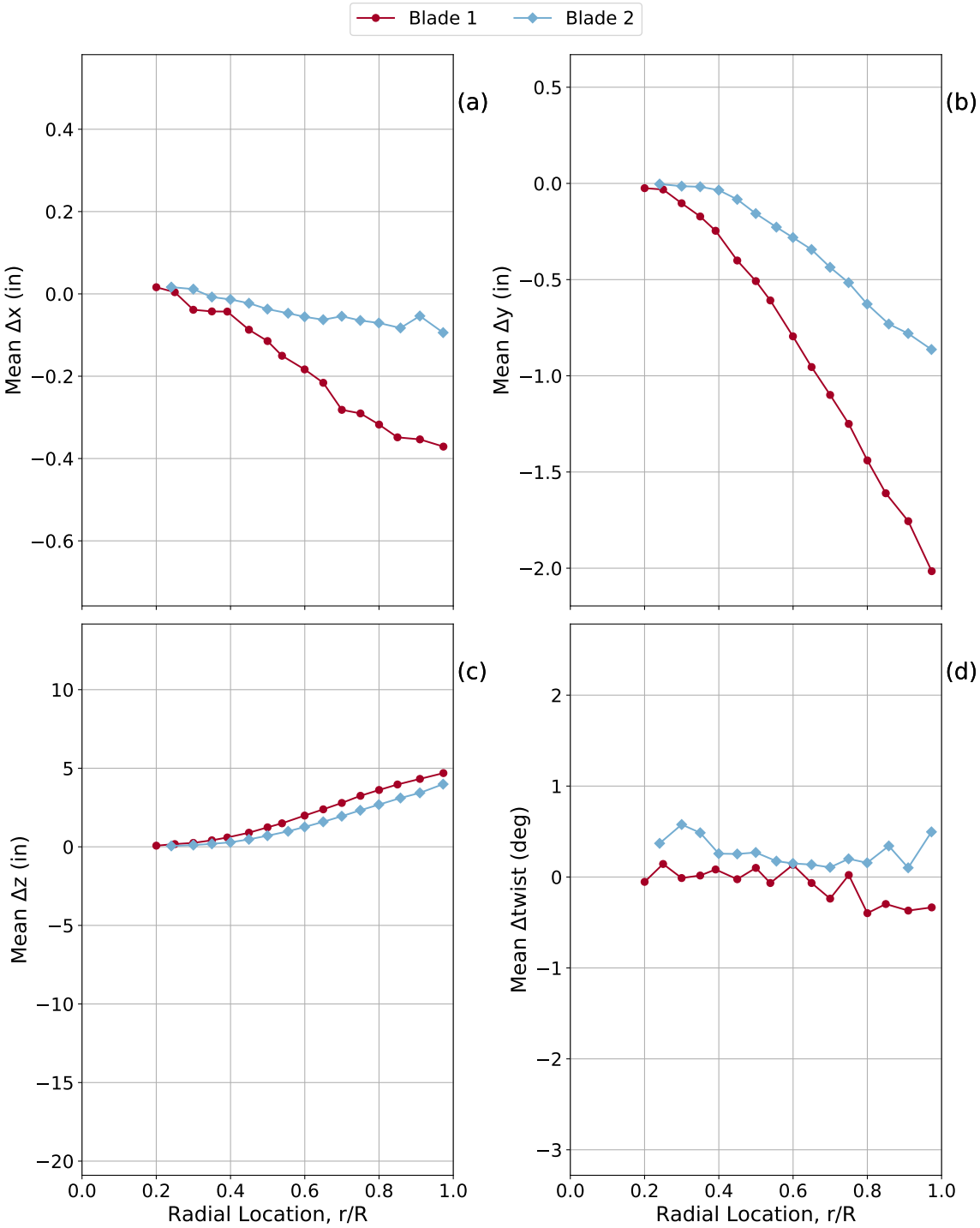


Figure 3.13-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0162	0.0028	-0.0247	0.0028	0.0731	0.0076	-0.0534	0.0563
1	4.92	0.2499	0.0041	0.0020	-0.0316	0.0035	0.1728	0.0144	0.1432	0.0669
1	4.92	0.2998	-0.0386	0.0025	-0.1031	0.0089	0.2497	0.0207	-0.0114	0.1052
1	4.92	0.3498	-0.0426	0.0036	-0.1719	0.0161	0.4146	0.0385	0.0164	0.0776
1	4.92	0.3913	-0.0430	0.0034	-0.2462	0.0209	0.5941	0.0509	0.0829	0.0882
1	4.92	0.4496	-0.0871	0.0033	-0.4007	0.0282	0.8968	0.0680	-0.0245	0.1029
1	4.92	0.4997	-0.1146	0.0044	-0.5078	0.0336	1.2397	0.0826	0.1003	0.1004
1	4.92	0.5387	-0.1503	0.0052	-0.6082	0.0364	1.4958	0.0955	-0.0662	0.0983
1	4.92	0.5996	-0.1835	0.0052	-0.7949	0.0435	1.9885	0.1113	0.1338	0.0992
1	4.92	0.6498	-0.2160	0.0050	-0.9545	0.0489	2.3852	0.1271	-0.0660	0.0993
1	4.92	0.6998	-0.2817	0.0063	-1.0994	0.0543	2.7920	0.1404	-0.2377	0.0984
1	4.92	0.7500	-0.2904	0.0061	-1.2500	0.0566	3.2472	0.1517	0.0218	0.1043
1	4.92	0.8001	-0.3175	0.0058	-1.4397	0.0619	3.6158	0.1699	-0.3977	0.1404
1	4.92	0.8497	-0.3485	0.0070	-1.6105	0.0723	3.9664	0.1884	-0.2971	0.0959
1	4.92	0.9102	-0.3535	0.0087	-1.7555	0.0809	4.3210	0.2258	-0.3693	0.1481
1	4.92	0.9734	-0.3710	0.0090	-2.0154	0.0887	4.6910	0.2566	-0.3344	0.1788
2	4.92	0.2405	0.0165	0.0061	-0.0033	0.0036	0.0563	0.0255	0.3699	0.1302
2	4.92	0.2999	0.0116	0.0024	-0.0144	0.0105	0.1110	0.0547	0.5772	0.2003
2	4.92	0.3498	-0.0076	0.0031	-0.0175	0.0160	0.1883	0.0817	0.4864	0.2190
2	4.92	0.3998	-0.0135	0.0077	-0.0350	0.0275	0.2856	0.1297	0.2570	0.1784
2	4.92	0.4496	-0.0227	0.0120	-0.0831	0.0338	0.4741	0.1596	0.2534	0.1870
2	4.92	0.4995	-0.0370	0.0159	-0.1567	0.0418	0.7058	0.2008	0.2697	0.1820
2	4.92	0.5551	-0.0470	0.0223	-0.2273	0.0510	0.9865	0.2435	0.1745	0.1968
2	4.92	0.5996	-0.0557	0.0278	-0.2813	0.0562	1.2628	0.2812	0.1494	0.1953
2	4.92	0.6497	-0.0627	0.0323	-0.3436	0.0614	1.5906	0.3204	0.1364	0.1986
2	4.92	0.6996	-0.0544	0.0383	-0.4360	0.0690	1.9473	0.3618	0.1062	0.1963
2	4.92	0.7495	-0.0646	0.0441	-0.5158	0.0772	2.3236	0.4002	0.1998	0.1970
2	4.92	0.7996	-0.0707	0.0507	-0.6273	0.0900	2.6846	0.4400	0.1560	0.1909
2	4.92	0.8578	-0.0828	0.0579	-0.7309	0.1057	3.1053	0.4838	0.3417	0.2227
2	4.92	0.9100	-0.0537	0.0640	-0.7801	0.1244	3.4317	0.5228	0.1011	0.2065
2	4.92	0.9727	-0.0941	0.0714	-0.8632	0.1451	3.9879	0.5752	0.4963	0.1870

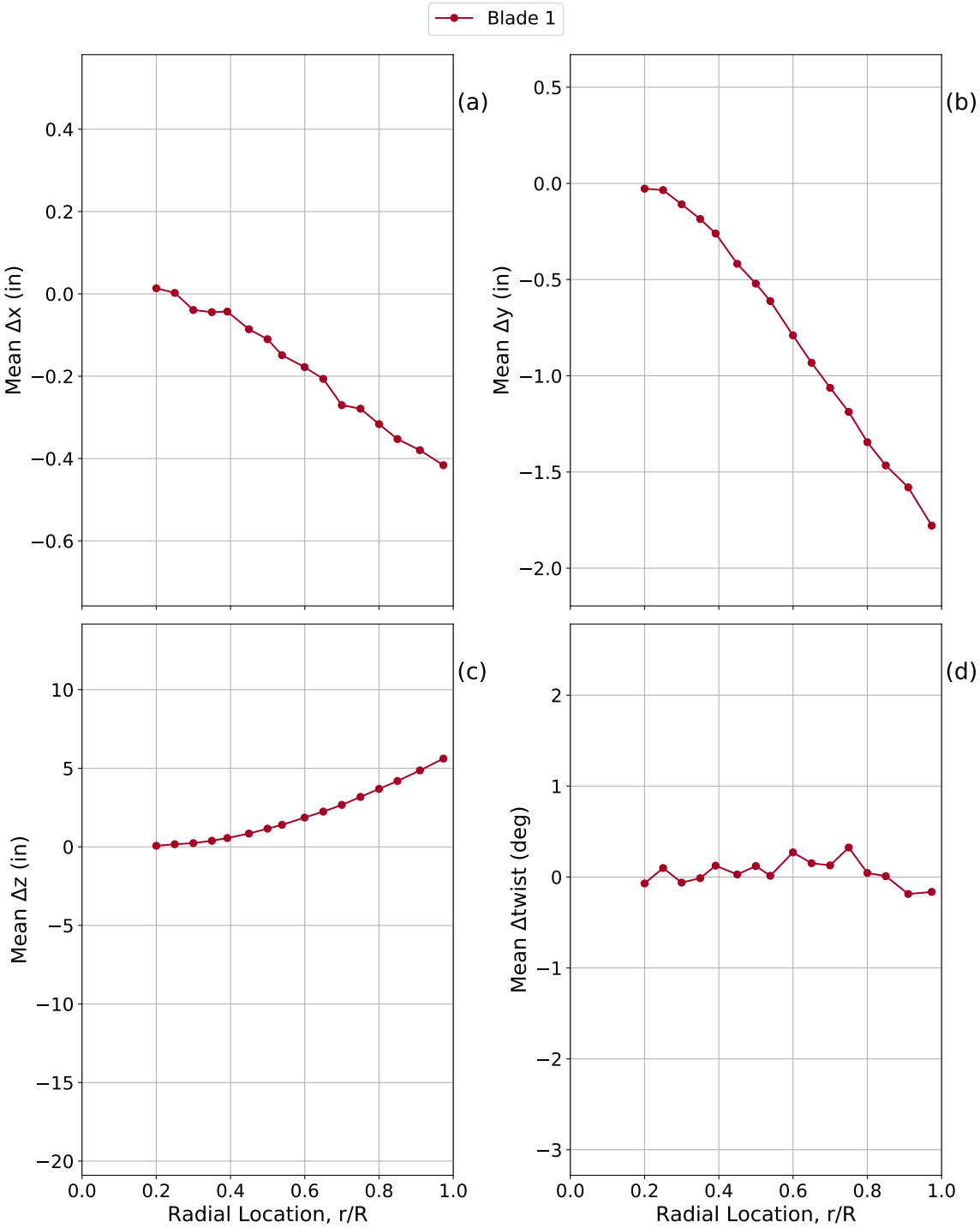


Figure 3.13-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0136	0.0031	-0.0274	0.0018	0.0666	0.0074	-0.0707	0.0368
1	15.12	0.2499	0.0024	0.0020	-0.0347	0.0029	0.1640	0.0154	0.0991	0.0595
1	15.12	0.2998	-0.0391	0.0014	-0.1086	0.0058	0.2338	0.0256	-0.0617	0.0767
1	15.12	0.3498	-0.0444	0.0016	-0.1850	0.0121	0.3849	0.0445	-0.0129	0.0536
1	15.12	0.3913	-0.0430	0.0018	-0.2602	0.0155	0.5578	0.0626	0.1250	0.0505
1	15.12	0.4496	-0.0859	0.0027	-0.4178	0.0230	0.8448	0.0956	0.0280	0.0509
1	15.12	0.4997	-0.1101	0.0039	-0.5211	0.0311	1.1566	0.1324	0.1203	0.0624
1	15.12	0.5387	-0.1489	0.0038	-0.6117	0.0367	1.3995	0.1602	0.0135	0.0593
1	15.12	0.5996	-0.1780	0.0058	-0.7897	0.0474	1.8619	0.2039	0.2706	0.0649
1	15.12	0.6498	-0.2064	0.0064	-0.9322	0.0562	2.2409	0.2427	0.1515	0.0649
1	15.12	0.6998	-0.2703	0.0078	-1.0624	0.0655	2.6665	0.2800	0.1282	0.0776
1	15.12	0.7500	-0.2789	0.0106	-1.1876	0.0750	3.1754	0.3185	0.3243	0.0809
1	15.12	0.8001	-0.3165	0.0109	-1.3451	0.0848	3.6859	0.3583	0.0446	0.0931
1	15.12	0.8497	-0.3527	0.0125	-1.4659	0.0962	4.1856	0.4017	0.0096	0.1036
1	15.12	0.9102	-0.3798	0.0145	-1.5799	0.1135	4.8620	0.4635	-0.1868	0.1027
1	15.12	0.9734	-0.4162	0.0207	-1.7786	0.1220	5.6133	0.5357	-0.1641	0.1081

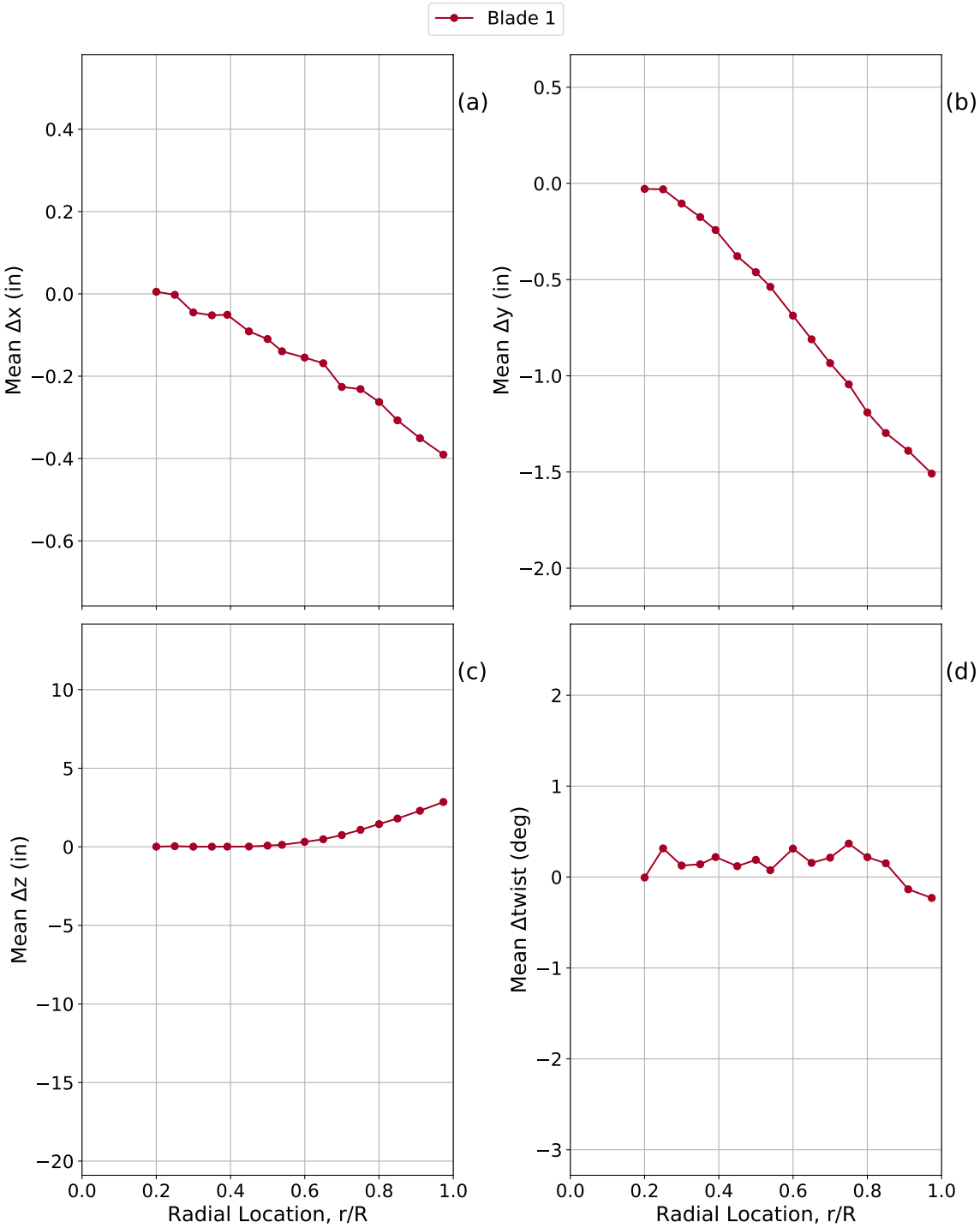


Figure 3.13-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0052	0.0022	-0.0286	0.0011	0.0087	0.0046	-0.0058	0.0342
1	29.88	0.2499	-0.0023	0.0019	-0.0306	0.0021	0.0408	0.0097	0.3147	0.0470
1	29.88	0.2998	-0.0450	0.0018	-0.1047	0.0057	0.0086	0.0175	0.1262	0.0710
1	29.88	0.3498	-0.0520	0.0017	-0.1748	0.0076	0.0082	0.0266	0.1399	0.0685
1	29.88	0.3913	-0.0508	0.0020	-0.2424	0.0124	0.0121	0.0400	0.2194	0.0433
1	29.88	0.4496	-0.0911	0.0031	-0.3781	0.0157	0.0171	0.0563	0.1192	0.0468
1	29.88	0.4997	-0.1097	0.0020	-0.4613	0.0198	0.0778	0.0767	0.1883	0.0464
1	29.88	0.5387	-0.1395	0.0028	-0.5377	0.0235	0.1264	0.0947	0.0748	0.0529
1	29.88	0.5996	-0.1547	0.0019	-0.6872	0.0277	0.3147	0.1264	0.3125	0.0504
1	29.88	0.6498	-0.1685	0.0023	-0.8104	0.0317	0.4799	0.1566	0.1552	0.0679
1	29.88	0.6998	-0.2261	0.0021	-0.9343	0.0349	0.7476	0.1833	0.2127	0.0587
1	29.88	0.7500	-0.2313	0.0030	-1.0445	0.0387	1.0801	0.2120	0.3676	0.0620
1	29.88	0.8001	-0.2626	0.0038	-1.1903	0.0419	1.4465	0.2383	0.2179	0.0571
1	29.88	0.8497	-0.3072	0.0039	-1.2974	0.0445	1.8020	0.2619	0.1509	0.0610
1	29.88	0.9102	-0.3505	0.0052	-1.3896	0.0484	2.2956	0.2937	-0.1353	0.0529
1	29.88	0.9734	-0.3905	0.0074	-1.5083	0.0528	2.8526	0.3275	-0.2303	0.0883

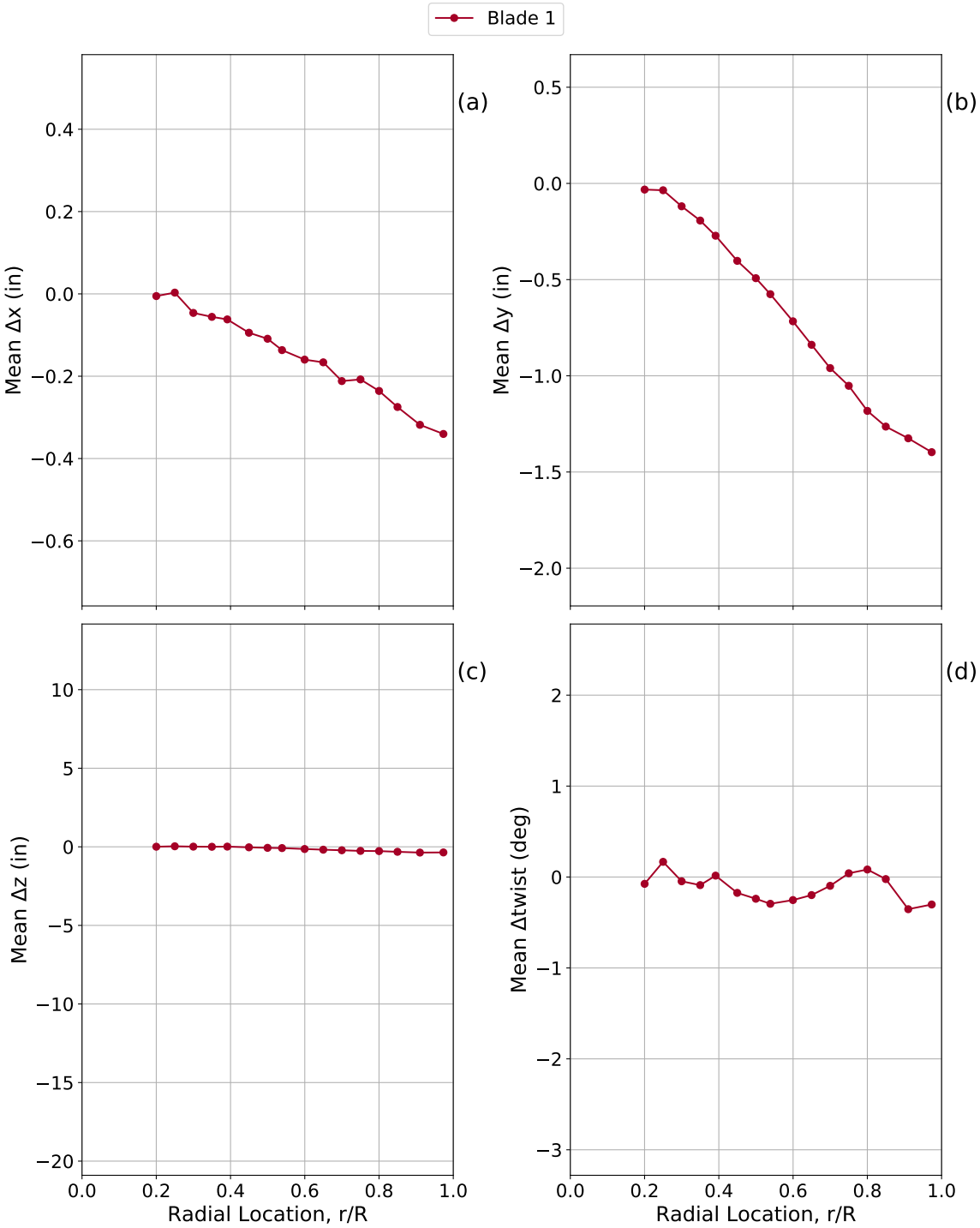


Figure 3.13-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0053	0.0022	-0.0320	0.0013	0.0068	0.0034	-0.0752	0.0266
1	45	0.2499	0.0031	0.0028	-0.0355	0.0036	0.0341	0.0073	0.1669	0.0277
1	45	0.2998	-0.0462	0.0017	-0.1189	0.0056	0.0113	0.0130	-0.0471	0.0513
1	45	0.3498	-0.0558	0.0021	-0.1930	0.0096	0.0024	0.0211	-0.0892	0.0342
1	45	0.3913	-0.0620	0.0034	-0.2719	0.0145	0.0129	0.0307	0.0152	0.0655
1	45	0.4496	-0.0944	0.0021	-0.4025	0.0197	-0.0321	0.0376	-0.1745	0.0653
1	45	0.4997	-0.1090	0.0025	-0.4926	0.0240	-0.0651	0.0470	-0.2393	0.0517
1	45	0.5387	-0.1366	0.0031	-0.5757	0.0290	-0.0803	0.0526	-0.2945	0.0798
1	45	0.5996	-0.1597	0.0045	-0.7167	0.0357	-0.1391	0.0659	-0.2537	0.0770
1	45	0.6498	-0.1663	0.0042	-0.8388	0.0426	-0.1826	0.0770	-0.1988	0.0911
1	45	0.6998	-0.2118	0.0046	-0.9599	0.0497	-0.2198	0.0947	-0.0969	0.0777
1	45	0.7500	-0.2078	0.0057	-1.0519	0.0576	-0.2598	0.1168	0.0409	0.0744
1	45	0.8001	-0.2358	0.0057	-1.1824	0.0672	-0.2720	0.1404	0.0824	0.0890
1	45	0.8497	-0.2748	0.0063	-1.2639	0.0763	-0.3172	0.1720	-0.0229	0.0940
1	45	0.9102	-0.3181	0.0067	-1.3249	0.0881	-0.3664	0.2138	-0.3540	0.0986
1	45	0.9734	-0.3403	0.0092	-1.3969	0.0999	-0.3576	0.2532	-0.3023	0.1378

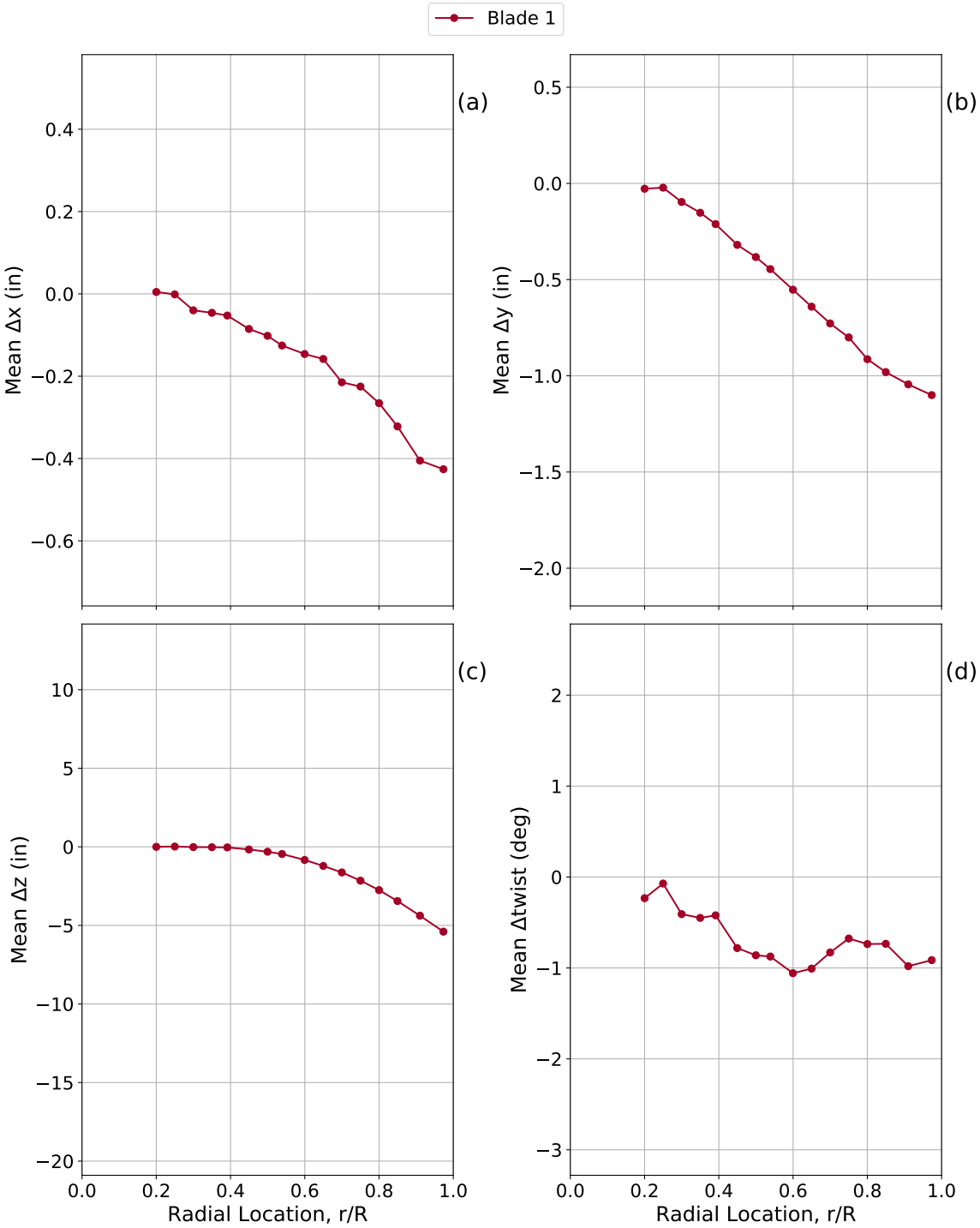


Figure 3.13-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0047	0.0020	-0.0277	0.0016	-0.0012	0.0056	-0.2330	0.0272
1	60.12	0.2499	-0.0012	0.0018	-0.0220	0.0040	0.0180	0.0114	-0.0719	0.0445
1	60.12	0.2998	-0.0399	0.0020	-0.0964	0.0073	-0.0175	0.0203	-0.4083	0.0599
1	60.12	0.3498	-0.0460	0.0028	-0.1525	0.0128	-0.0245	0.0348	-0.4496	0.0467
1	60.12	0.3913	-0.0526	0.0034	-0.2115	0.0188	-0.0376	0.0496	-0.4216	0.0573
1	60.12	0.4496	-0.0852	0.0038	-0.3194	0.0264	-0.1699	0.0704	-0.7816	0.0587
1	60.12	0.4997	-0.1019	0.0040	-0.3827	0.0354	-0.3129	0.0885	-0.8606	0.0502
1	60.12	0.5387	-0.1254	0.0039	-0.4455	0.0421	-0.4568	0.1018	-0.8748	0.0599
1	60.12	0.5996	-0.1461	0.0042	-0.5525	0.0534	-0.8359	0.1264	-1.0576	0.0569
1	60.12	0.6498	-0.1581	0.0043	-0.6407	0.0641	-1.2169	0.1520	-1.0074	0.0595
1	60.12	0.6998	-0.2148	0.0041	-0.7279	0.0738	-1.6297	0.1798	-0.8297	0.0598
1	60.12	0.7500	-0.2252	0.0061	-0.8004	0.0856	-2.1530	0.2161	-0.6766	0.0686
1	60.12	0.8001	-0.2655	0.0075	-0.9136	0.0966	-2.7550	0.2539	-0.7372	0.0538
1	60.12	0.8497	-0.3220	0.0087	-0.9806	0.1086	-3.4510	0.2958	-0.7347	0.0706
1	60.12	0.9102	-0.4050	0.0106	-1.0445	0.1223	-4.3818	0.3489	-0.9807	0.0624
1	60.12	0.9734	-0.4260	0.0132	-1.1003	0.1359	-5.3985	0.4052	-0.9144	0.0640

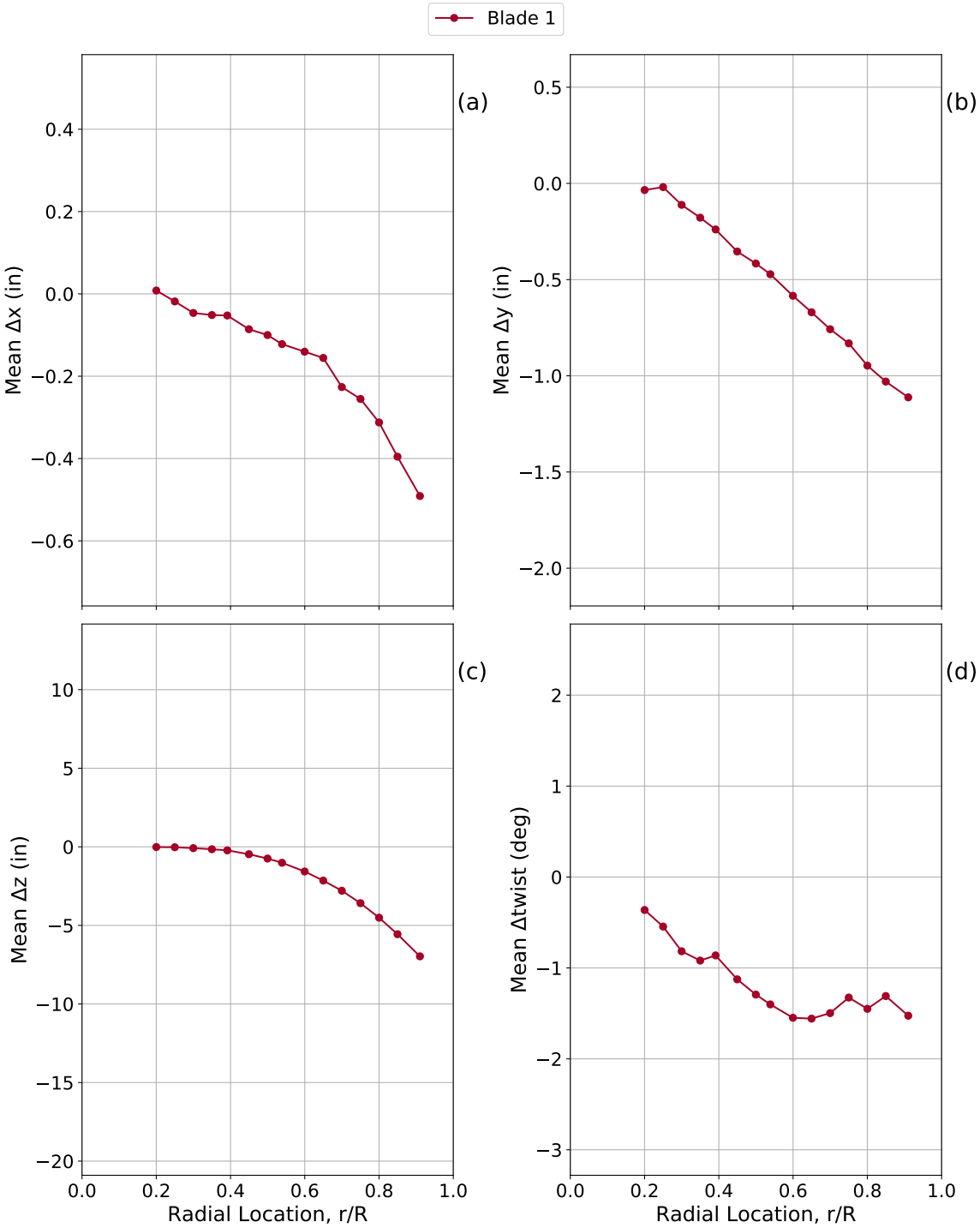


Figure 3.13-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0082	0.0026	-0.0344	0.0012	-0.0148	0.0059	-0.3628	0.0293
1	74.88	0.2499	-0.0183	0.0016	-0.0192	0.0035	-0.0272	0.0143	-0.5450	0.0762
1	74.88	0.2998	-0.0463	0.0013	-0.1115	0.0055	-0.0848	0.0248	-0.8166	0.0770
1	74.88	0.3498	-0.0514	0.0028	-0.1780	0.0098	-0.1544	0.0421	-0.9191	0.0660
1	74.88	0.3913	-0.0525	0.0031	-0.2393	0.0145	-0.2254	0.0619	-0.8622	0.0705
1	74.88	0.4496	-0.0858	0.0019	-0.3540	0.0200	-0.4702	0.0943	-1.1255	0.0839
1	74.88	0.4997	-0.1000	0.0029	-0.4163	0.0251	-0.7469	0.1248	-1.2929	0.0748
1	74.88	0.5387	-0.1220	0.0034	-0.4721	0.0287	-1.0145	0.1502	-1.4009	0.0844
1	74.88	0.5996	-0.1404	0.0038	-0.5842	0.0356	-1.5685	0.1913	-1.5482	0.0884
1	74.88	0.6498	-0.1556	0.0057	-0.6697	0.0415	-2.1480	0.2207	-1.5575	0.0787
1	74.88	0.6998	-0.2264	0.0064	-0.7578	0.0467	-2.7955	0.2549	-1.4967	0.0989
1	74.88	0.7500	-0.2552	0.0078	-0.8314	0.0519	-3.5868	0.2909	-1.3257	0.0815
1	74.88	0.8001	-0.3123	0.0110	-0.9469	0.0572	-4.5092	0.3308	-1.4497	0.0886
1	74.88	0.8497	-0.3955	0.0148	-1.0299	0.0634	-5.5602	0.3719	-1.3092	0.0910
1	74.88	0.9102	-0.4911	0.0180	-1.1119	0.0700	-6.9680	0.4257	-1.5255	0.1170

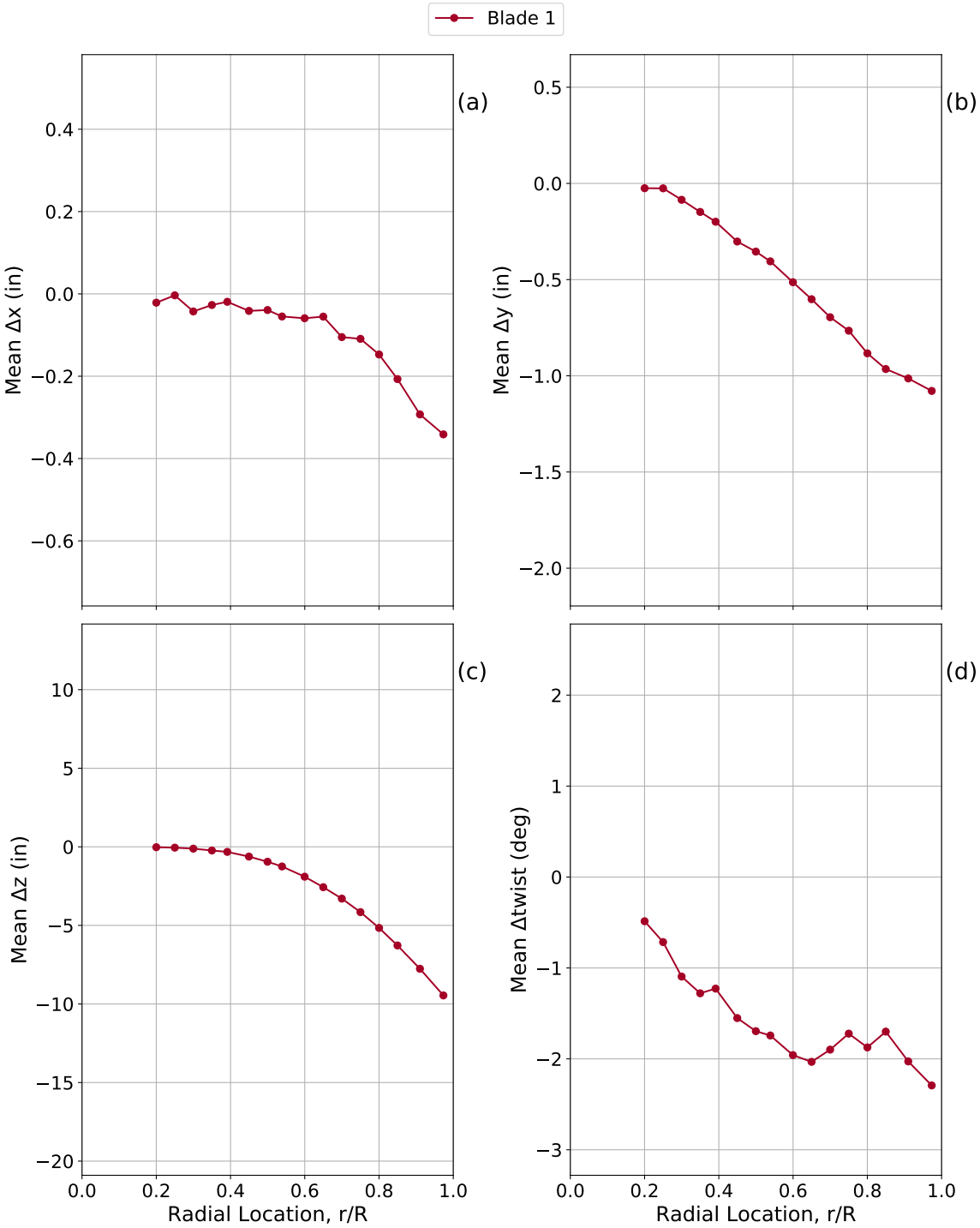


Figure 3.13-9. 80° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0213	0.0049	-0.0250	0.0010	-0.0253	0.0045	-0.4865	0.0309
1	80.16	0.2499	-0.0035	0.0013	-0.0256	0.0023	-0.0531	0.0088	-0.7159	0.0500
1	80.16	0.2998	-0.0427	0.0021	-0.0852	0.0038	-0.1170	0.0168	-1.0949	0.0660
1	80.16	0.3498	-0.0270	0.0031	-0.1483	0.0077	-0.2337	0.0290	-1.2788	0.0540
1	80.16	0.3913	-0.0192	0.0047	-0.1991	0.0104	-0.3231	0.0405	-1.2272	0.0582
1	80.16	0.4496	-0.0413	0.0054	-0.3022	0.0152	-0.6213	0.0586	-1.5513	0.0534
1	80.16	0.4997	-0.0392	0.0066	-0.3544	0.0192	-0.9493	0.0762	-1.6954	0.0558
1	80.16	0.5387	-0.0549	0.0069	-0.4051	0.0228	-1.2505	0.0913	-1.7430	0.0543
1	80.16	0.5996	-0.0592	0.0081	-0.5136	0.0286	-1.9015	0.1131	-1.9587	0.0545
1	80.16	0.6498	-0.0552	0.0066	-0.6018	0.0332	-2.5702	0.1308	-2.0327	0.0531
1	80.16	0.6998	-0.1050	0.0076	-0.6955	0.0395	-3.2957	0.1470	-1.8986	0.0488
1	80.16	0.7500	-0.1092	0.0083	-0.7656	0.0461	-4.1564	0.1668	-1.7224	0.0592
1	80.16	0.8001	-0.1472	0.0103	-0.8832	0.0531	-5.1600	0.1894	-1.8741	0.0537
1	80.16	0.8497	-0.2070	0.0141	-0.9647	0.0615	-6.2771	0.2112	-1.7003	0.0484
1	80.16	0.9102	-0.2928	0.0208	-1.0137	0.0728	-7.7600	0.2405	-2.0279	0.0538
1	80.16	0.9734	-0.3413	0.0302	-1.0785	0.0880	-9.4568	0.2747	-2.2921	0.0691

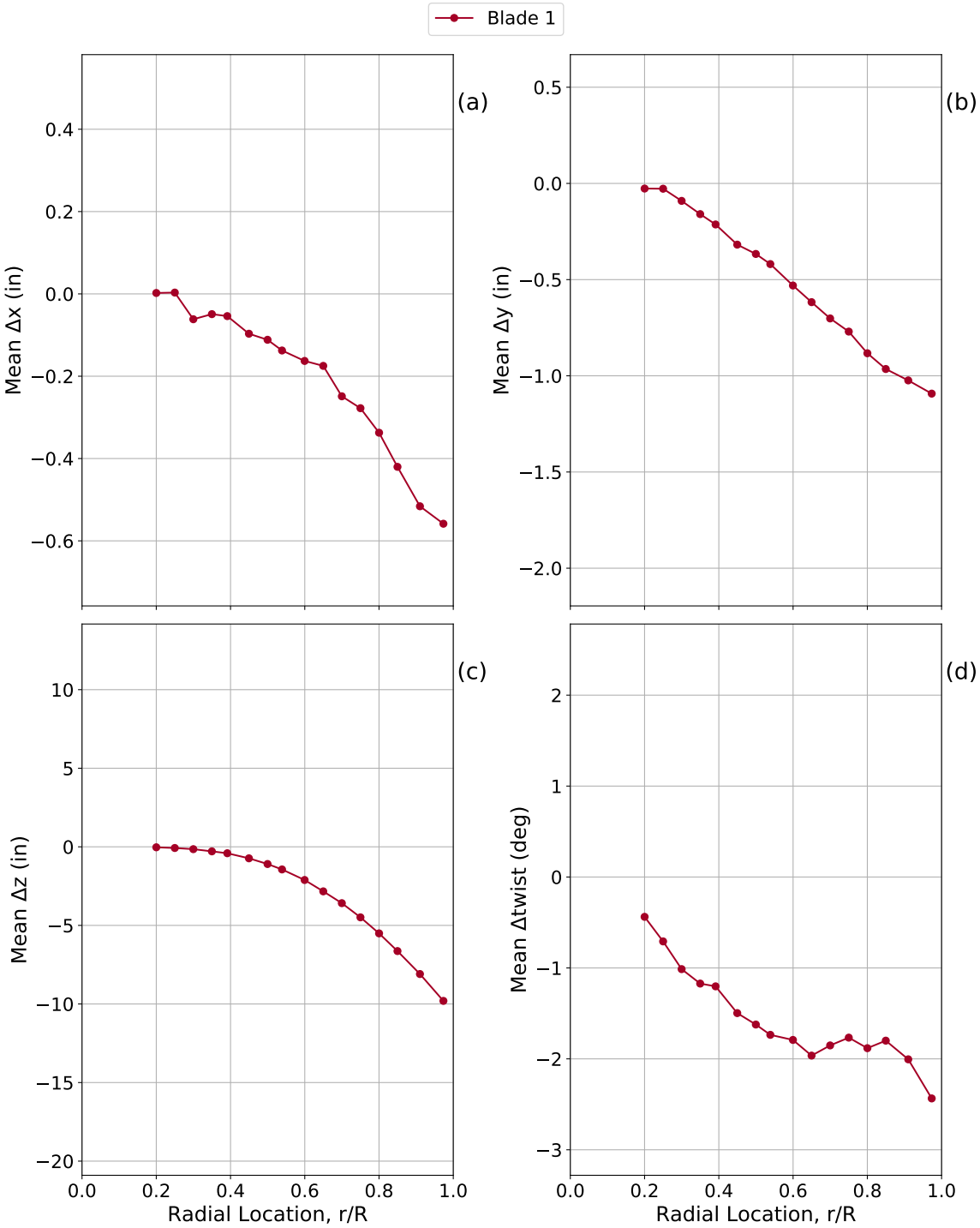


Figure 3.13-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0022	0.0028	-0.0267	0.0013	-0.0308	0.0048	-0.4381	0.0320
1	85.08	0.2499	0.0032	0.0017	-0.0276	0.0028	-0.0750	0.0110	-0.7082	0.0581
1	85.08	0.2998	-0.0616	0.0026	-0.0908	0.0053	-0.1490	0.0186	-1.0131	0.0737
1	85.08	0.3498	-0.0492	0.0016	-0.1596	0.0092	-0.2888	0.0324	-1.1720	0.0718
1	85.08	0.3913	-0.0540	0.0029	-0.2134	0.0134	-0.4088	0.0464	-1.2025	0.0665
1	85.08	0.4496	-0.0968	0.0030	-0.3182	0.0176	-0.7317	0.0664	-1.4967	0.0771
1	85.08	0.4997	-0.1115	0.0034	-0.3666	0.0232	-1.0941	0.0858	-1.6224	0.0808
1	85.08	0.5387	-0.1375	0.0039	-0.4193	0.0272	-1.4390	0.1040	-1.7357	0.0821
1	85.08	0.5996	-0.1629	0.0045	-0.5306	0.0340	-2.1112	0.1308	-1.7918	0.0837
1	85.08	0.6498	-0.1749	0.0053	-0.6172	0.0392	-2.8340	0.1546	-1.9641	0.0833
1	85.08	0.6998	-0.2488	0.0061	-0.7018	0.0462	-3.5853	0.1747	-1.8521	0.0787
1	85.08	0.7500	-0.2777	0.0062	-0.7702	0.0528	-4.4881	0.1940	-1.7665	0.0726
1	85.08	0.8001	-0.3373	0.0075	-0.8828	0.0607	-5.5079	0.2144	-1.8824	0.0833
1	85.08	0.8497	-0.4202	0.0100	-0.9646	0.0668	-6.6336	0.2340	-1.7997	0.0855
1	85.08	0.9102	-0.5160	0.0117	-1.0239	0.0757	-8.0951	0.2636	-2.0049	0.0854
1	85.08	0.9734	-0.5584	0.0143	-1.0926	0.0848	-9.8044	0.3004	-2.4351	0.0874

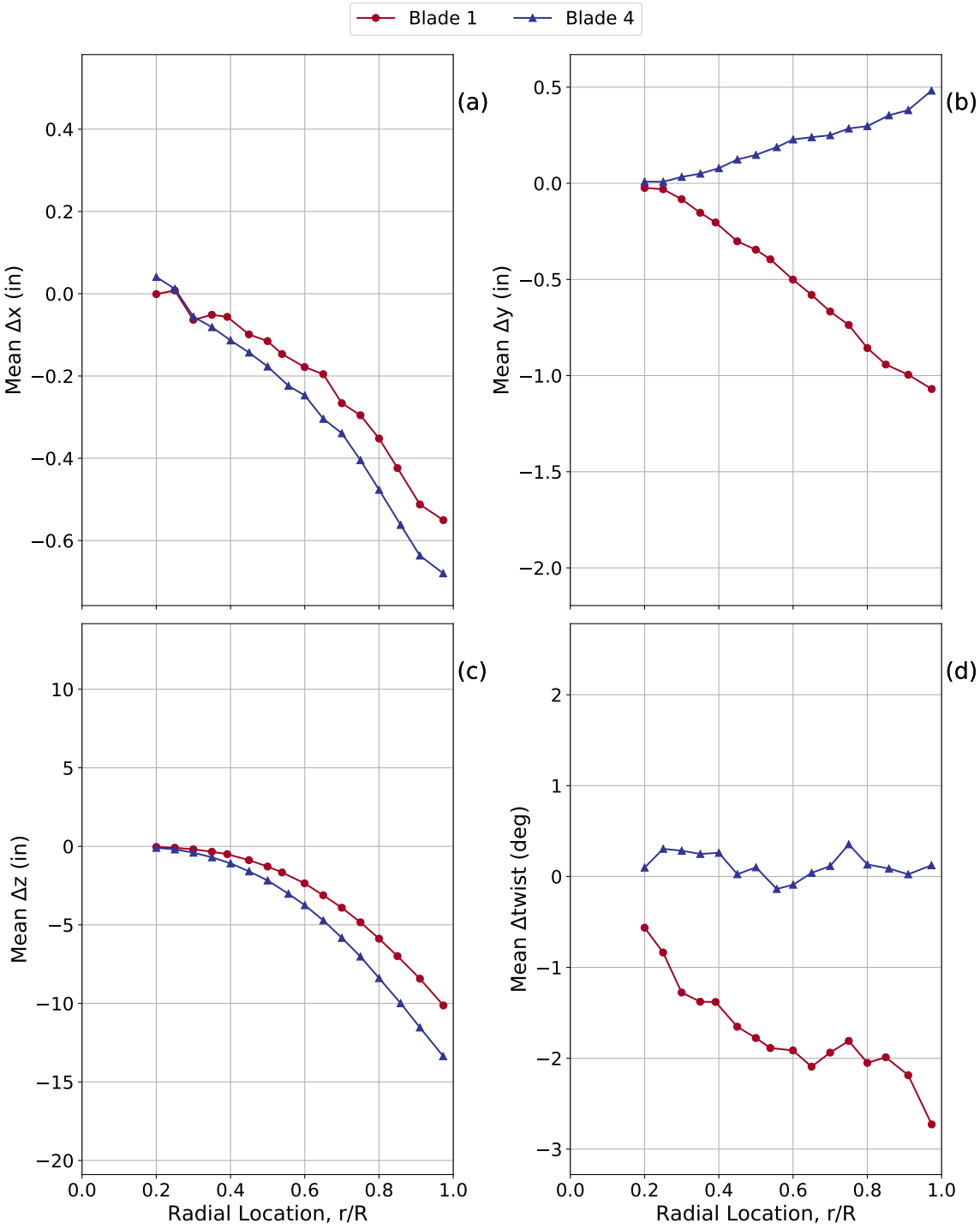


Figure 3.13-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0010	0.0038	-0.0238	0.0019	-0.0399	0.0060	-0.5636	0.0326
1	90	0.2499	0.0080	0.0020	-0.0309	0.0025	-0.0911	0.0087	-0.8364	0.0868
1	90	0.2998	-0.0635	0.0014	-0.0826	0.0076	-0.1896	0.0189	-1.2766	0.0873
1	90	0.3498	-0.0512	0.0018	-0.1531	0.0117	-0.3459	0.0328	-1.3780	0.0976
1	90	0.3913	-0.0563	0.0023	-0.2037	0.0171	-0.4992	0.0442	-1.3805	0.1088
1	90	0.4496	-0.0989	0.0025	-0.3017	0.0237	-0.8788	0.0591	-1.6532	0.1103
1	90	0.4997	-0.1152	0.0029	-0.3452	0.0303	-1.2876	0.0696	-1.7769	0.1128
1	90	0.5387	-0.1466	0.0035	-0.3952	0.0362	-1.6601	0.0777	-1.8874	0.1151
1	90	0.5996	-0.1783	0.0058	-0.5006	0.0465	-2.3574	0.0945	-1.9137	0.1260
1	90	0.6498	-0.1956	0.0062	-0.5803	0.0541	-3.1165	0.1086	-2.0928	0.1212
1	90	0.6998	-0.2662	0.0078	-0.6668	0.0646	-3.9110	0.1244	-1.9379	0.1381
1	90	0.7500	-0.2955	0.0091	-0.7368	0.0757	-4.8387	0.1451	-1.8094	0.1397
1	90	0.8001	-0.3520	0.0102	-0.8569	0.0860	-5.8810	0.1677	-2.0511	0.1471
1	90	0.8497	-0.4238	0.0118	-0.9423	0.0978	-6.9924	0.1901	-1.9893	0.1464
1	90	0.9102	-0.5124	0.0133	-0.9954	0.1119	-8.4283	0.2204	-2.1868	0.1408
1	90	0.9734	-0.5504	0.0165	-1.0699	0.1267	-10.1298	0.2520	-2.7283	0.1391
4	90.35	0.2001	0.0408	0.0017	0.0087	0.0008	-0.0965	0.0062	0.0978	0.0252
4	90.35	0.2502	0.0117	0.0020	0.0080	0.0023	-0.1963	0.0127	0.3042	0.0423
4	90.35	0.3001	-0.0559	0.0030	0.0332	0.0036	-0.4042	0.0251	0.2837	0.0574
4	90.35	0.3502	-0.0814	0.0028	0.0502	0.0068	-0.7003	0.0448	0.2482	0.0634
4	90.35	0.4002	-0.1135	0.0020	0.0785	0.0105	-1.0857	0.0686	0.2604	0.0527
4	90.35	0.4500	-0.1431	0.0031	0.1239	0.0146	-1.5957	0.0946	0.0252	0.0495
4	90.35	0.5001	-0.1771	0.0042	0.1478	0.0186	-2.1759	0.1235	0.1009	0.0618
4	90.35	0.5560	-0.2239	0.0058	0.1880	0.0233	-3.0214	0.1579	-0.1375	0.0680
4	90.35	0.6001	-0.2472	0.0068	0.2279	0.0282	-3.7481	0.1819	-0.0906	0.0614
4	90.35	0.6501	-0.3042	0.0077	0.2396	0.0332	-4.7202	0.2096	0.0398	0.0667
4	90.35	0.6999	-0.3392	0.0100	0.2499	0.0382	-5.8299	0.2396	0.1150	0.0709
4	90.35	0.7500	-0.4047	0.0123	0.2851	0.0433	-7.0210	0.2723	0.3539	0.0736
4	90.35	0.8002	-0.4767	0.0151	0.2972	0.0487	-8.3926	0.3079	0.1318	0.0674
4	90.35	0.8582	-0.5620	0.0190	0.3535	0.0550	-9.9900	0.3534	0.0874	0.0687
4	90.35	0.9101	-0.6366	0.0223	0.3805	0.0610	-11.5352	0.3972	0.0242	0.0753
4	90.35	0.9728	-0.6797	0.0266	0.4820	0.0678	-13.3618	0.4550	0.1238	0.0721

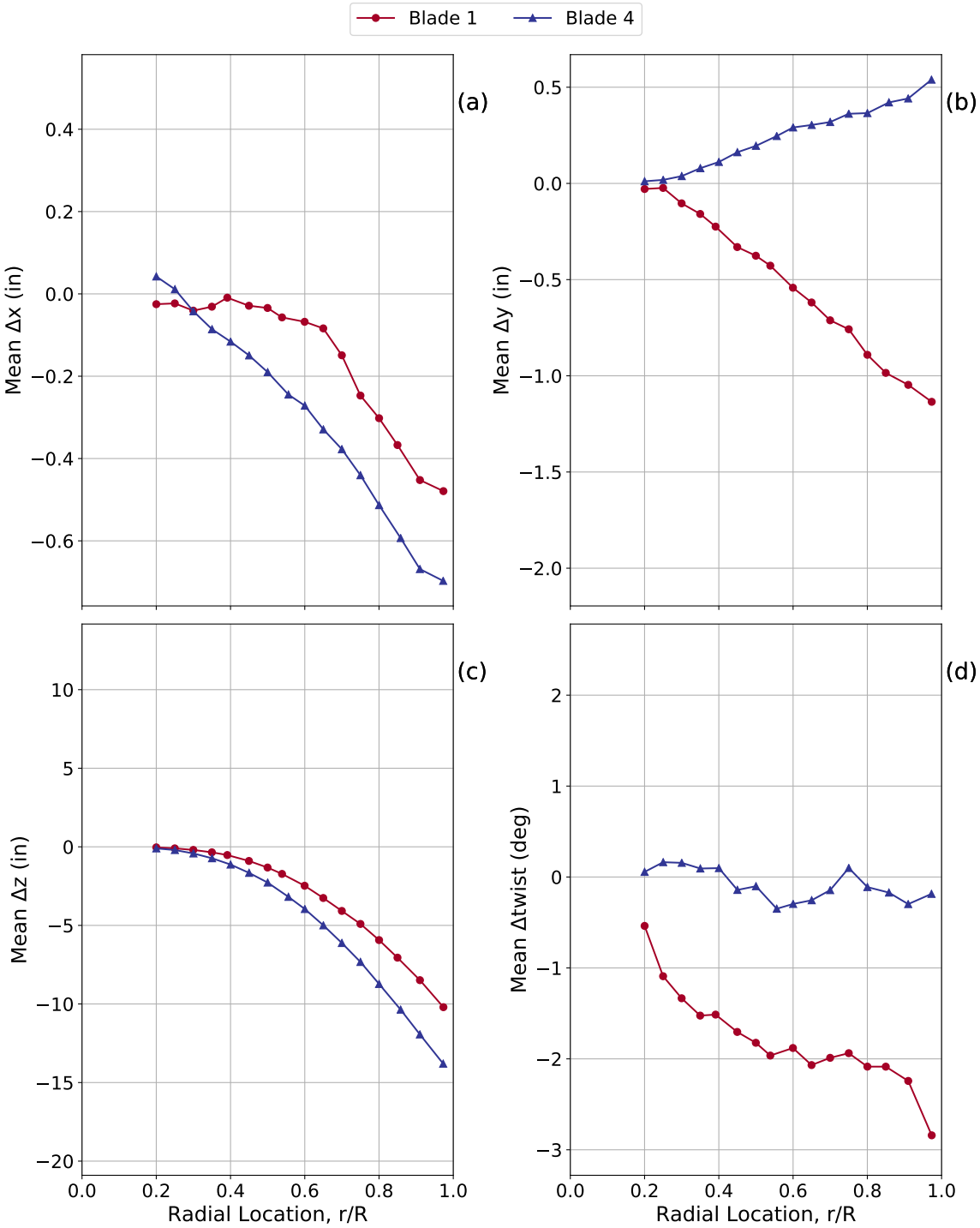


Figure 3.13-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0250	0.0050	-0.0290	0.0044	-0.0365	0.0144	-0.5378	0.0932
1	94.92	0.2499	-0.0231	0.0026	-0.0235	0.0046	-0.0989	0.0153	-1.0910	0.2405
1	94.92	0.2998	-0.0407	0.0026	-0.1036	0.0160	-0.1985	0.0429	-1.3335	0.2488
1	94.92	0.3498	-0.0311	0.0068	-0.1588	0.0260	-0.3491	0.0715	-1.5242	0.2529
1	94.92	0.3913	-0.0092	0.0101	-0.2245	0.0363	-0.5232	0.0945	-1.5131	0.2632
1	94.92	0.4496	-0.0288	0.0160	-0.3308	0.0512	-0.8991	0.1283	-1.7039	0.2707
1	94.92	0.4997	-0.0342	0.0207	-0.3759	0.0649	-1.3186	0.1576	-1.8232	0.2633
1	94.92	0.5387	-0.0571	0.0241	-0.4275	0.0754	-1.7239	0.1789	-1.9637	0.2723
1	94.92	0.5996	-0.0678	0.0301	-0.5422	0.0945	-2.4773	0.2174	-1.8805	0.2574
1	94.92	0.6498	-0.0838	0.0361	-0.6188	0.1109	-3.2566	0.2489	-2.0682	0.2652
1	94.92	0.6998	-0.1492	0.0404	-0.7115	0.1266	-4.0797	0.2756	-1.9886	0.2893
1	94.92	0.7500	-0.2470	0.0184	-0.7581	0.2220	-4.9083	0.1538	-1.9374	0.2709
1	94.92	0.8001	-0.3020	0.0185	-0.8909	0.2454	-5.9344	0.1720	-2.0853	0.2695
1	94.92	0.8497	-0.3672	0.0196	-0.9848	0.2697	-7.0527	0.1899	-2.0856	0.2870
1	94.92	0.9102	-0.4523	0.0207	-1.0471	0.3003	-8.4857	0.2186	-2.2428	0.2792
1	94.92	0.9734	-0.4792	0.0193	-1.1352	0.3342	-10.2037	0.2543	-2.8408	0.2687
4	94.92	0.2001	0.0423	0.0024	0.0110	0.0012	-0.1013	0.0034	0.0562	0.0289
4	94.92	0.2502	0.0112	0.0023	0.0183	0.0013	-0.2051	0.0069	0.1629	0.0580
4	94.92	0.3001	-0.0423	0.0015	0.0379	0.0042	-0.4223	0.0139	0.1558	0.0666
4	94.92	0.3502	-0.0859	0.0019	0.0791	0.0063	-0.7277	0.0215	0.0934	0.0714
4	94.92	0.4002	-0.1160	0.0017	0.1115	0.0097	-1.1293	0.0346	0.0977	0.0552
4	94.92	0.4500	-0.1495	0.0027	0.1620	0.0113	-1.6584	0.0427	-0.1422	0.0458
4	94.92	0.5001	-0.1903	0.0038	0.1953	0.0153	-2.2759	0.0566	-0.1014	0.0644
4	94.92	0.5560	-0.2446	0.0030	0.2462	0.0185	-3.1850	0.0733	-0.3492	0.0539
4	94.92	0.6001	-0.2716	0.0038	0.2909	0.0220	-3.9583	0.0883	-0.2964	0.0601
4	94.92	0.6501	-0.3293	0.0059	0.3037	0.0265	-4.9975	0.1123	-0.2557	0.0581
4	94.92	0.6999	-0.3774	0.0072	0.3190	0.0309	-6.1211	0.1393	-0.1444	0.0553
4	94.92	0.7500	-0.4406	0.0088	0.3620	0.0358	-7.3276	0.1692	0.0991	0.0589
4	94.92	0.8002	-0.5133	0.0113	0.3654	0.0423	-8.7288	0.1974	-0.1108	0.0530
4	94.92	0.8582	-0.5933	0.0135	0.4210	0.0488	-10.3622	0.2313	-0.1715	0.0618
4	94.92	0.9101	-0.6686	0.0155	0.4415	0.0554	-11.9396	0.2573	-0.2980	0.0582
4	94.92	0.9728	-0.6972	0.0170	0.5391	0.0636	-13.7997	0.2898	-0.1856	0.0626

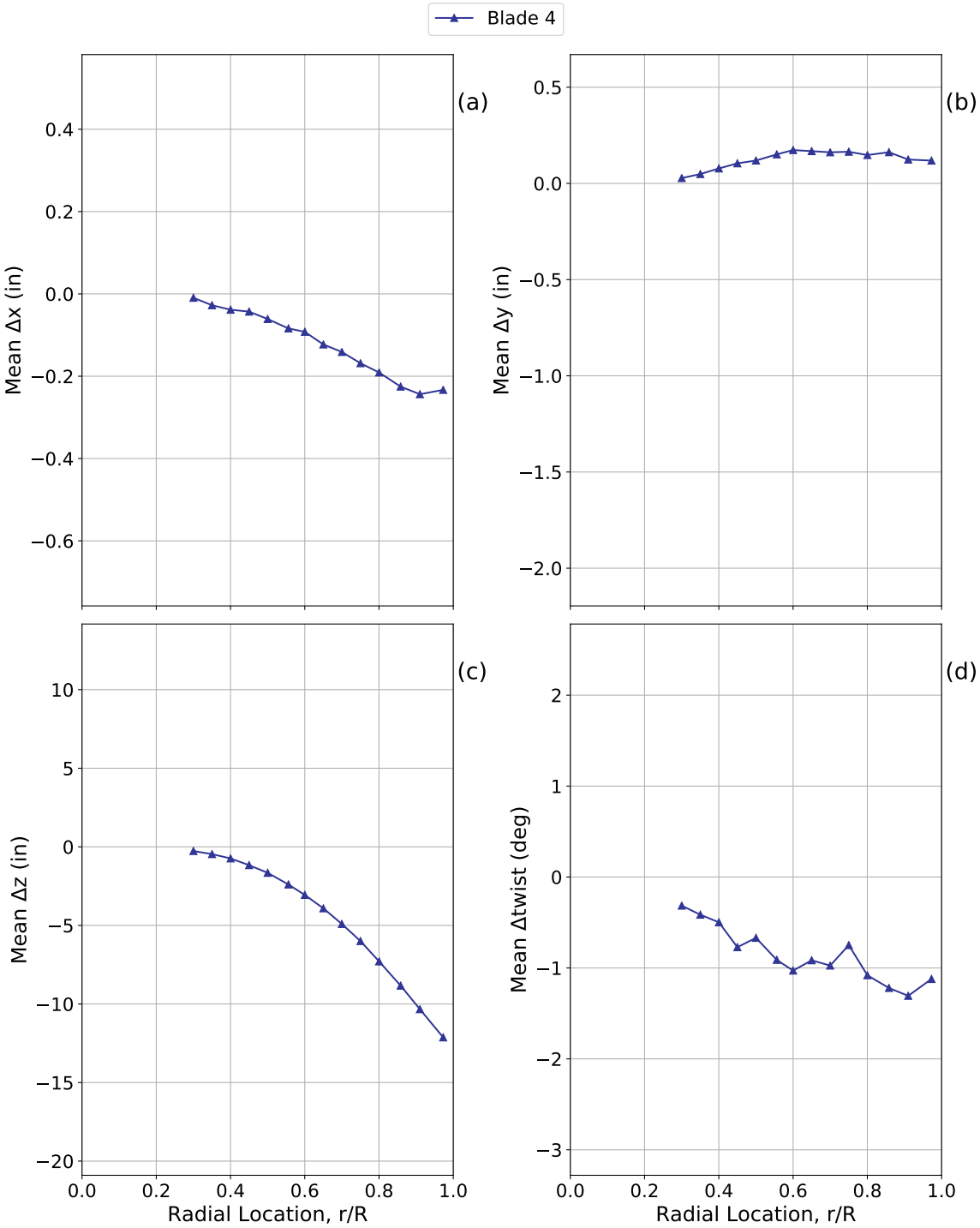


Figure 3.13-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.3001	-0.0095	0.0220	0.0278	0.0173	-0.2684	0.0712	-0.3151	0.1440
4	105.12	0.3502	-0.0276	0.0142	0.0486	0.0300	-0.4658	0.1247	-0.4147	0.1919
4	105.12	0.4002	-0.0385	0.0167	0.0777	0.0476	-0.7407	0.1995	-0.4984	0.1475
4	105.12	0.4500	-0.0431	0.0205	0.1043	0.0628	-1.1685	0.2604	-0.7722	0.1796
4	105.12	0.5001	-0.0611	0.0218	0.1188	0.0795	-1.6568	0.3326	-0.6692	0.1529
4	105.12	0.5560	-0.0839	0.0207	0.1509	0.0979	-2.3982	0.4145	-0.9115	0.1705
4	105.12	0.6001	-0.0922	0.0217	0.1733	0.1124	-3.0626	0.4795	-1.0293	0.1875
4	105.12	0.6501	-0.1229	0.0296	0.1677	0.1295	-3.9154	0.5605	-0.9159	0.1703
4	105.12	0.6999	-0.1411	0.0481	0.1617	0.1464	-4.9109	0.6397	-0.9744	0.1817
4	105.12	0.7500	-0.1685	0.0766	0.1645	0.1626	-5.9978	0.7283	-0.7490	0.1949
4	105.12	0.8002	-0.1910	0.1121	0.1474	0.1798	-7.2935	0.8263	-1.0805	0.1878
4	105.12	0.8582	-0.2253	0.1637	0.1621	0.1989	-8.8358	0.9404	-1.2206	0.2066
4	105.12	0.9101	-0.2438	0.2159	0.1241	0.2149	-10.3339	1.0539	-1.3069	0.2108
4	105.12	0.9728	-0.2332	0.2830	0.1185	0.2296	-12.1264	1.1902	-1.1217	0.2019

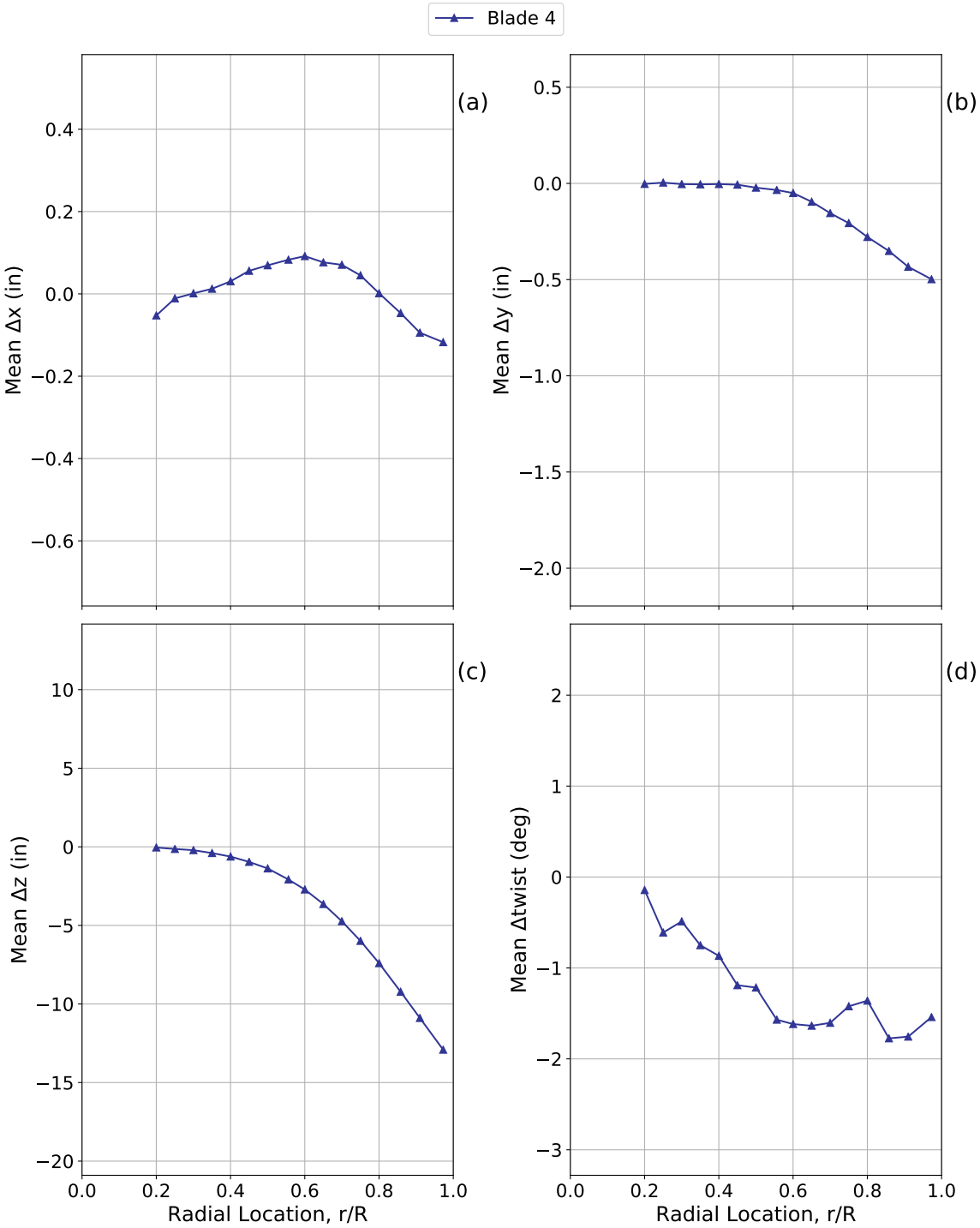


Figure 3.13-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0524	0.0034	-0.0027	0.0008	-0.0446	0.0031	-0.1436	0.0232
4	119.88	0.2502	-0.0109	0.0019	0.0041	0.0019	-0.1379	0.0054	-0.6108	0.0367
4	119.88	0.3001	0.0012	0.0019	-0.0037	0.0038	-0.2134	0.0108	-0.4883	0.0520
4	119.88	0.3502	0.0124	0.0038	-0.0049	0.0059	-0.3980	0.0200	-0.7504	0.0380
4	119.88	0.4002	0.0306	0.0054	-0.0035	0.0098	-0.6221	0.0292	-0.8675	0.0380
4	119.88	0.4500	0.0560	0.0083	-0.0067	0.0132	-0.9592	0.0392	-1.1902	0.0469
4	119.88	0.5001	0.0694	0.0096	-0.0223	0.0164	-1.3775	0.0542	-1.2160	0.0448
4	119.88	0.5560	0.0830	0.0118	-0.0342	0.0215	-2.0804	0.0709	-1.5694	0.0465
4	119.88	0.6001	0.0917	0.0133	-0.0502	0.0255	-2.7178	0.0882	-1.6175	0.0401
4	119.88	0.6501	0.0766	0.0151	-0.0953	0.0313	-3.6430	0.1082	-1.6360	0.0549
4	119.88	0.6999	0.0706	0.0167	-0.1544	0.0370	-4.7371	0.1299	-1.6039	0.0471
4	119.88	0.7500	0.0450	0.0193	-0.2066	0.0436	-5.9876	0.1531	-1.4220	0.0507
4	119.88	0.8002	0.0015	0.0219	-0.2786	0.0506	-7.4059	0.1775	-1.3600	0.0451
4	119.88	0.8582	-0.0467	0.0253	-0.3514	0.0582	-9.2234	0.2079	-1.7743	0.0572
4	119.88	0.9101	-0.0943	0.0284	-0.4334	0.0660	-10.8936	0.2328	-1.7557	0.0511
4	119.88	0.9728	-0.1174	0.0316	-0.4982	0.0761	-12.9132	0.2696	-1.5406	0.0568

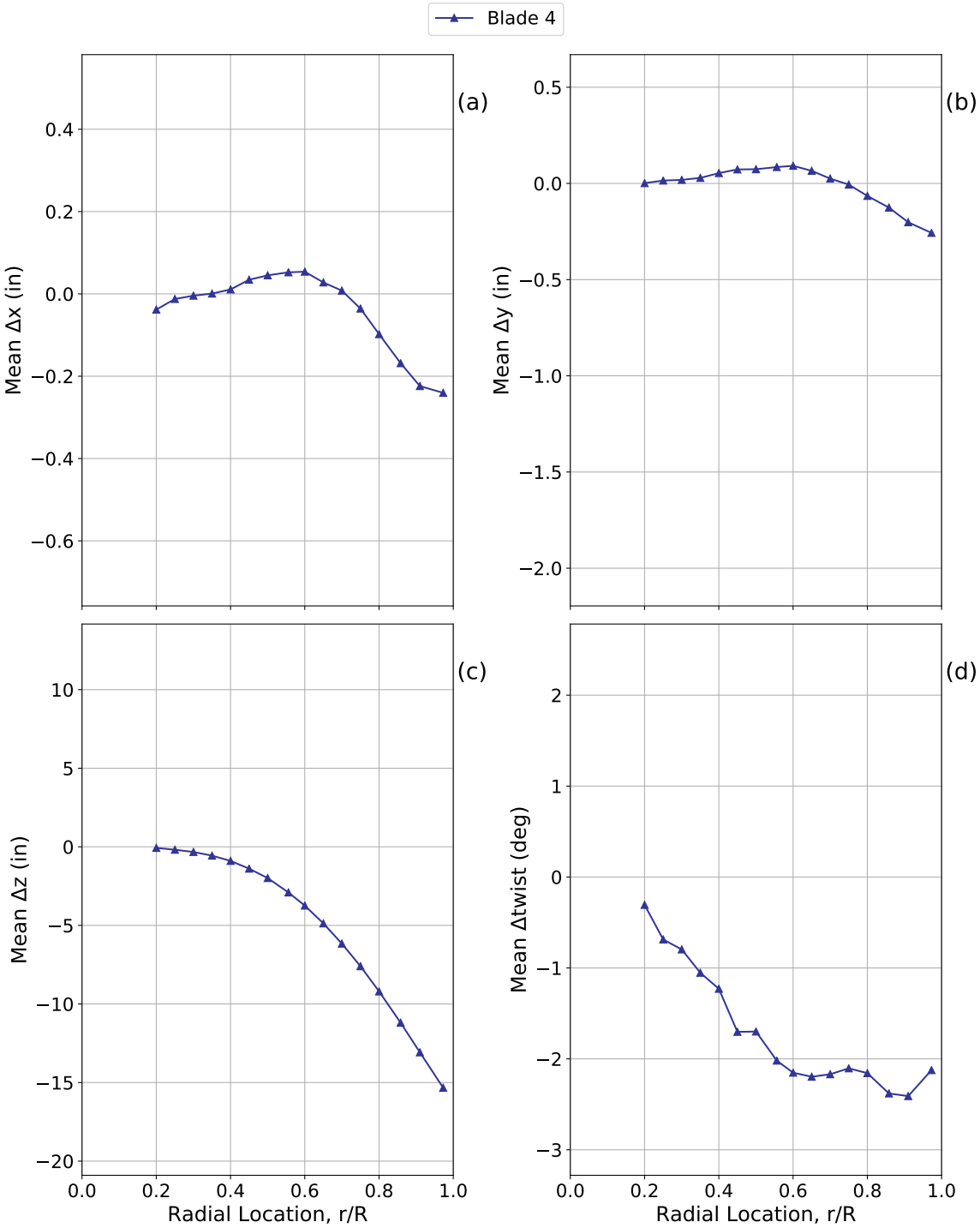


Figure 3.13-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0382	0.0029	0.0014	0.0007	-0.0703	0.0062	-0.3068	0.0236
4	135	0.2502	-0.0124	0.0013	0.0148	0.0027	-0.1872	0.0138	-0.6874	0.0370
4	135	0.3001	-0.0044	0.0014	0.0183	0.0038	-0.3288	0.0262	-0.7967	0.0514
4	135	0.3502	0.0007	0.0030	0.0287	0.0066	-0.5614	0.0435	-1.0533	0.0438
4	135	0.4002	0.0108	0.0040	0.0536	0.0108	-0.8970	0.0687	-1.2298	0.0625
4	135	0.4500	0.0343	0.0052	0.0727	0.0141	-1.3901	0.0971	-1.7030	0.0700
4	135	0.5001	0.0451	0.0071	0.0737	0.0184	-1.9886	0.1320	-1.6995	0.0790
4	135	0.5560	0.0524	0.0097	0.0849	0.0227	-2.9055	0.1765	-2.0194	0.0841
4	135	0.6001	0.0539	0.0113	0.0916	0.0263	-3.7411	0.2161	-2.1522	0.0825
4	135	0.6501	0.0278	0.0150	0.0654	0.0313	-4.8742	0.2653	-2.1965	0.0885
4	135	0.6999	0.0079	0.0190	0.0250	0.0354	-6.1607	0.3181	-2.1692	0.0863
4	135	0.7500	-0.0357	0.0241	-0.0062	0.0403	-7.5996	0.3762	-2.1041	0.0821
4	135	0.8002	-0.0979	0.0302	-0.0651	0.0452	-9.2050	0.4387	-2.1573	0.0937
4	135	0.8582	-0.1684	0.0391	-0.1258	0.0518	-11.1950	0.5186	-2.3805	0.0950
4	135	0.9101	-0.2240	0.0468	-0.2019	0.0575	-13.0798	0.5956	-2.4096	0.0869
4	135	0.9728	-0.2404	0.0555	-0.2572	0.0651	-15.3342	0.6959	-2.1236	0.0953

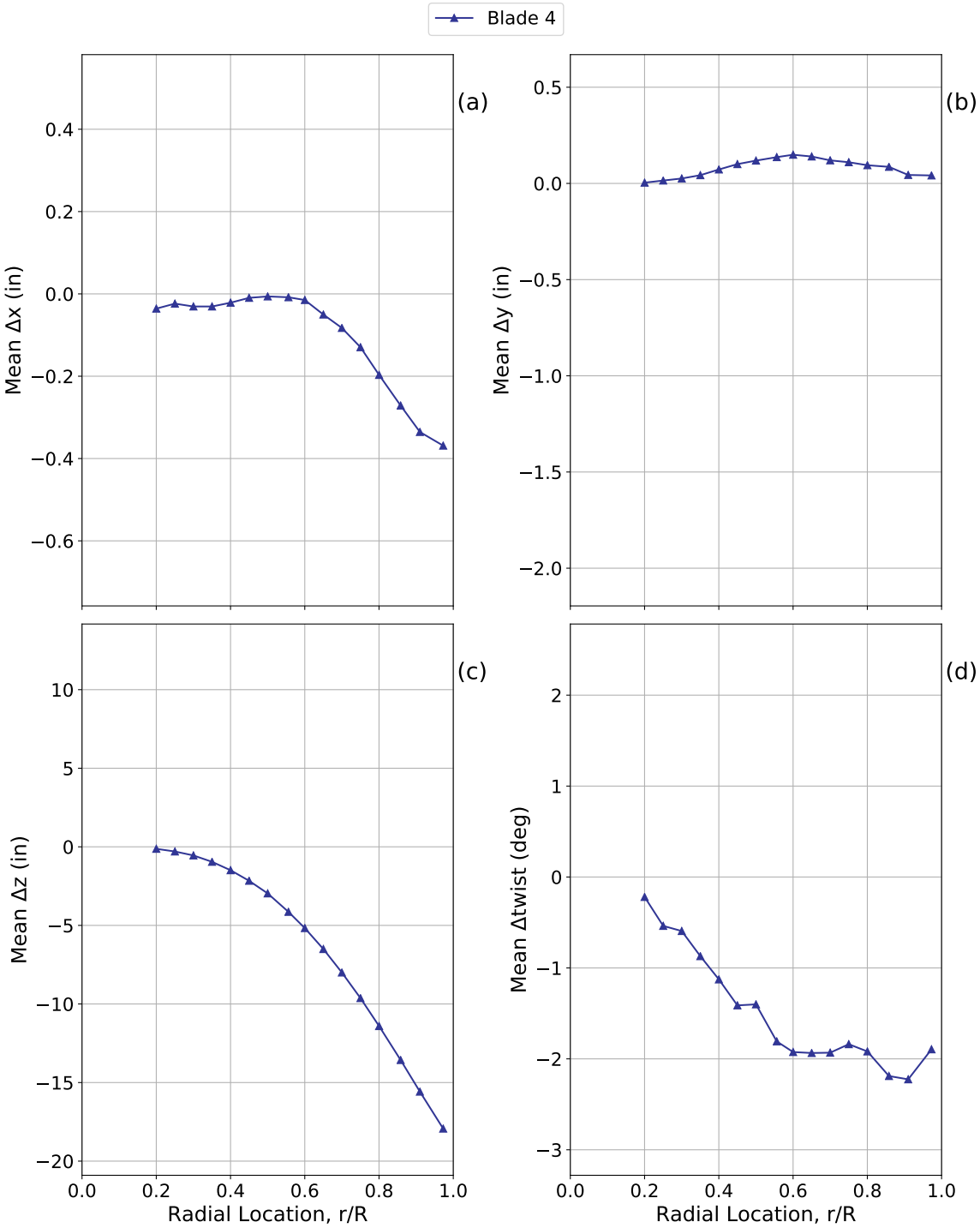


Figure 3.13-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0358	0.0019	0.0039	0.0012	-0.1277	0.0058	-0.2194	0.0181
4	150.12	0.2502	-0.0237	0.0017	0.0149	0.0018	-0.2972	0.0127	-0.5377	0.0360
4	150.12	0.3001	-0.0306	0.0021	0.0256	0.0044	-0.5492	0.0230	-0.5942	0.0419
4	150.12	0.3502	-0.0306	0.0031	0.0427	0.0078	-0.9547	0.0406	-0.8706	0.0453
4	150.12	0.4002	-0.0214	0.0031	0.0724	0.0117	-1.4912	0.0622	-1.1265	0.0517
4	150.12	0.4500	-0.0096	0.0048	0.1002	0.0158	-2.1612	0.0886	-1.4118	0.0518
4	150.12	0.5001	-0.0062	0.0069	0.1185	0.0219	-2.9651	0.1236	-1.4006	0.0617
4	150.12	0.5560	-0.0082	0.0090	0.1365	0.0303	-4.1387	0.1670	-1.8078	0.0589
4	150.12	0.6001	-0.0149	0.0116	0.1490	0.0376	-5.1729	0.2060	-1.9249	0.0587
4	150.12	0.6501	-0.0502	0.0159	0.1399	0.0465	-6.5059	0.2520	-1.9356	0.0657
4	150.12	0.6999	-0.0827	0.0208	0.1198	0.0567	-7.9984	0.3017	-1.9320	0.0619
4	150.12	0.7500	-0.1296	0.0270	0.1101	0.0663	-9.6288	0.3599	-1.8388	0.0815
4	150.12	0.8002	-0.1969	0.0350	0.0945	0.0782	-11.4089	0.4210	-1.9184	0.0820
4	150.12	0.8582	-0.2713	0.0451	0.0861	0.0930	-13.5684	0.5016	-2.1888	0.0982
4	150.12	0.9101	-0.3355	0.0535	0.0439	0.1071	-15.5804	0.5746	-2.2251	0.0811
4	150.12	0.9728	-0.3687	0.0645	0.0414	0.1248	-17.9321	0.6699	-1.8951	0.0853

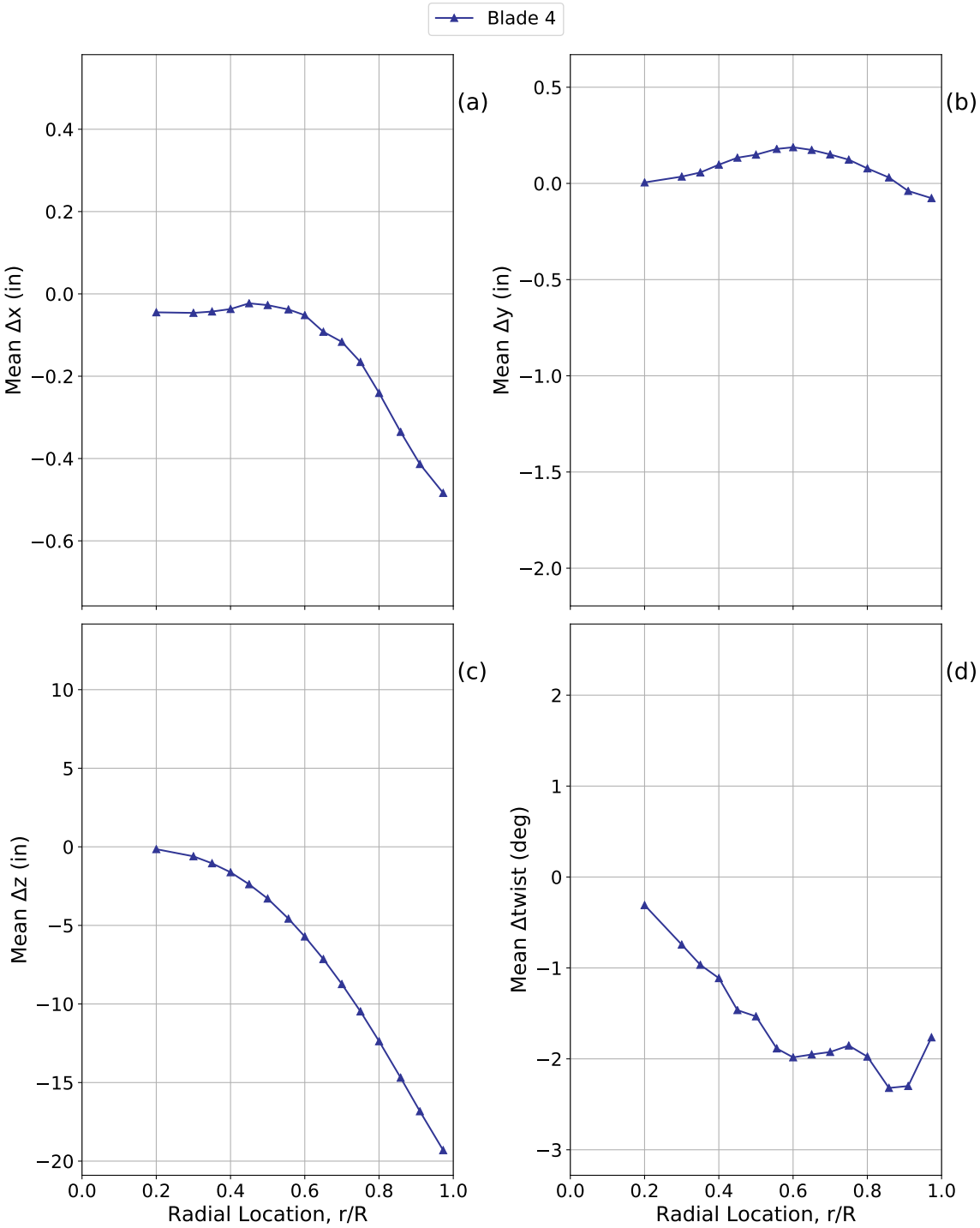


Figure 3.13-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0448	0.0029	0.0051	0.0008	-0.1493	0.0014	-0.3095	0.0208
4	164.88	0.3001	-0.0462	0.0024	0.0353	0.0028	-0.6044	0.0039	-0.7439	0.0491
4	164.88	0.3502	-0.0429	0.0017	0.0568	0.0061	-1.0502	0.0106	-0.9659	0.0528
4	164.88	0.4002	-0.0368	0.0024	0.0973	0.0086	-1.6214	0.0131	-1.1126	0.0524
4	164.88	0.4500	-0.0229	0.0042	0.1335	0.0098	-2.3841	0.0204	-1.4641	0.0526
4	164.88	0.5001	-0.0273	0.0052	0.1492	0.0111	-3.2951	0.0265	-1.5329	0.0561
4	164.88	0.5560	-0.0378	0.0062	0.1791	0.0149	-4.5739	0.0362	-1.8857	0.0587
4	164.88	0.6001	-0.0517	0.0071	0.1879	0.0187	-5.7115	0.0429	-1.9835	0.0594
4	164.88	0.6501	-0.0922	0.0079	0.1739	0.0225	-7.1456	0.0543	-1.9518	0.0703
4	164.88	0.6999	-0.1166	0.0087	0.1504	0.0260	-8.7386	0.0628	-1.9244	0.0544
4	164.88	0.7500	-0.1656	0.0094	0.1232	0.0305	-10.4770	0.0730	-1.8539	0.0627
4	164.88	0.8002	-0.2408	0.0100	0.0779	0.0352	-12.3736	0.0826	-1.9758	0.0588
4	164.88	0.8582	-0.3354	0.0113	0.0307	0.0405	-14.6926	0.0949	-2.3200	0.0664
4	164.88	0.9101	-0.4135	0.0126	-0.0393	0.0464	-16.8302	0.1098	-2.2989	0.0744
4	164.88	0.9728	-0.4837	0.0157	-0.0767	0.0529	-19.3069	0.1314	-1.7639	0.0641

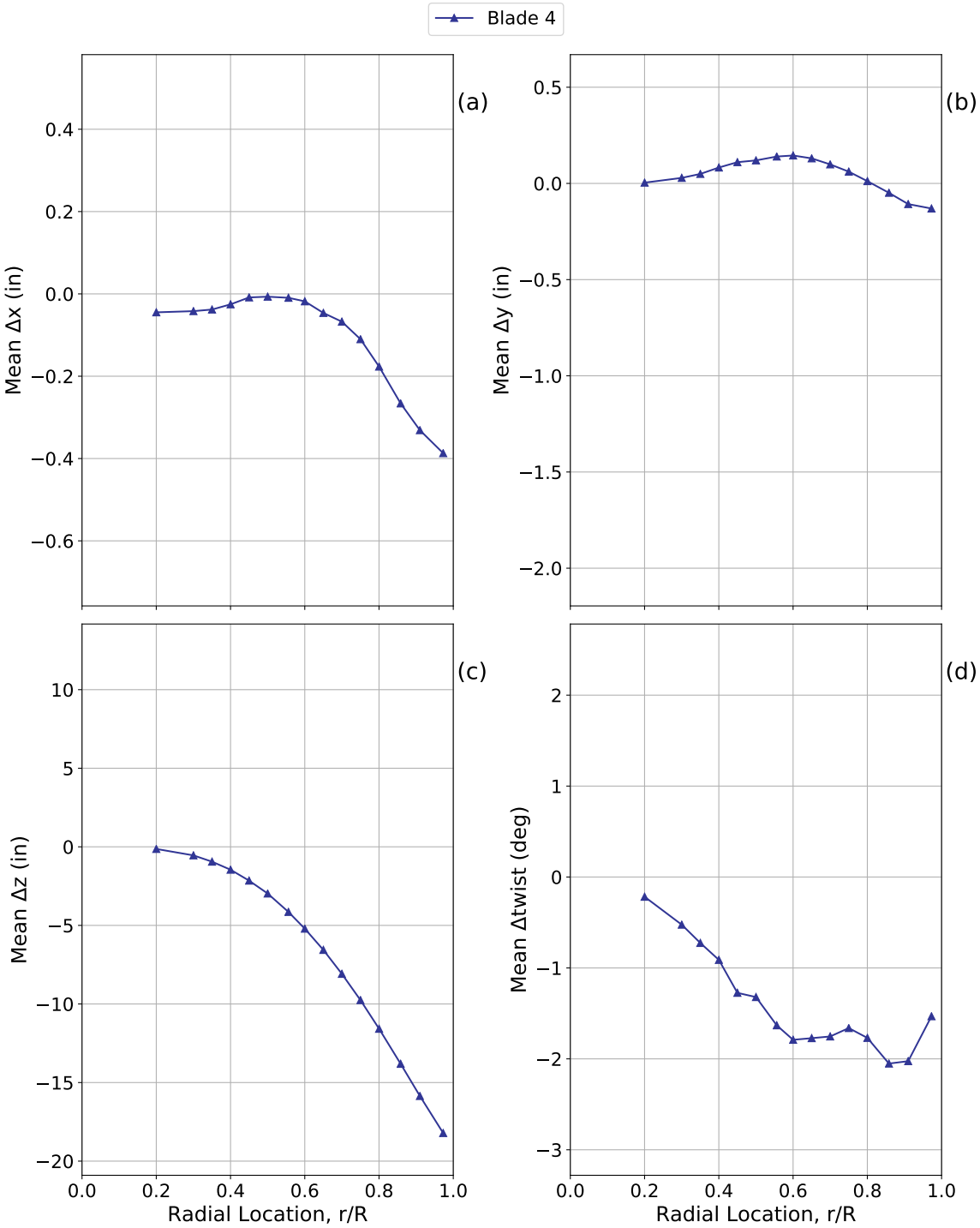


Figure 3.13-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0448	0.0058	0.0040	0.0008	-0.1355	0.0029	-0.2173	0.0245
4	170.16	0.3001	-0.0419	0.0025	0.0287	0.0033	-0.5446	0.0098	-0.5244	0.0564
4	170.16	0.3502	-0.0380	0.0026	0.0493	0.0064	-0.9458	0.0177	-0.7255	0.0504
4	170.16	0.4002	-0.0254	0.0047	0.0826	0.0093	-1.4586	0.0258	-0.9118	0.0533
4	170.16	0.4500	-0.0086	0.0065	0.1103	0.0112	-2.1517	0.0348	-1.2739	0.0476
4	170.16	0.5001	-0.0068	0.0080	0.1196	0.0149	-2.9723	0.0457	-1.3205	0.0550
4	170.16	0.5560	-0.0095	0.0092	0.1397	0.0181	-4.1435	0.0594	-1.6312	0.0474
4	170.16	0.6001	-0.0181	0.0106	0.1451	0.0204	-5.2093	0.0685	-1.7904	0.0493
4	170.16	0.6501	-0.0463	0.0121	0.1302	0.0238	-6.5613	0.0797	-1.7723	0.0590
4	170.16	0.6999	-0.0675	0.0126	0.0989	0.0275	-8.0842	0.0891	-1.7537	0.0499
4	170.16	0.7500	-0.1101	0.0145	0.0611	0.0307	-9.7556	0.0963	-1.6613	0.0514
4	170.16	0.8002	-0.1767	0.0161	0.0117	0.0351	-11.5791	0.1015	-1.7696	0.0545
4	170.16	0.8582	-0.2661	0.0184	-0.0489	0.0403	-13.8101	0.1104	-2.0518	0.0440
4	170.16	0.9101	-0.3312	0.0205	-0.1075	0.0454	-15.8569	0.1189	-2.0252	0.0472
4	170.16	0.9728	-0.3870	0.0236	-0.1305	0.0512	-18.2141	0.1313	-1.5314	0.0609

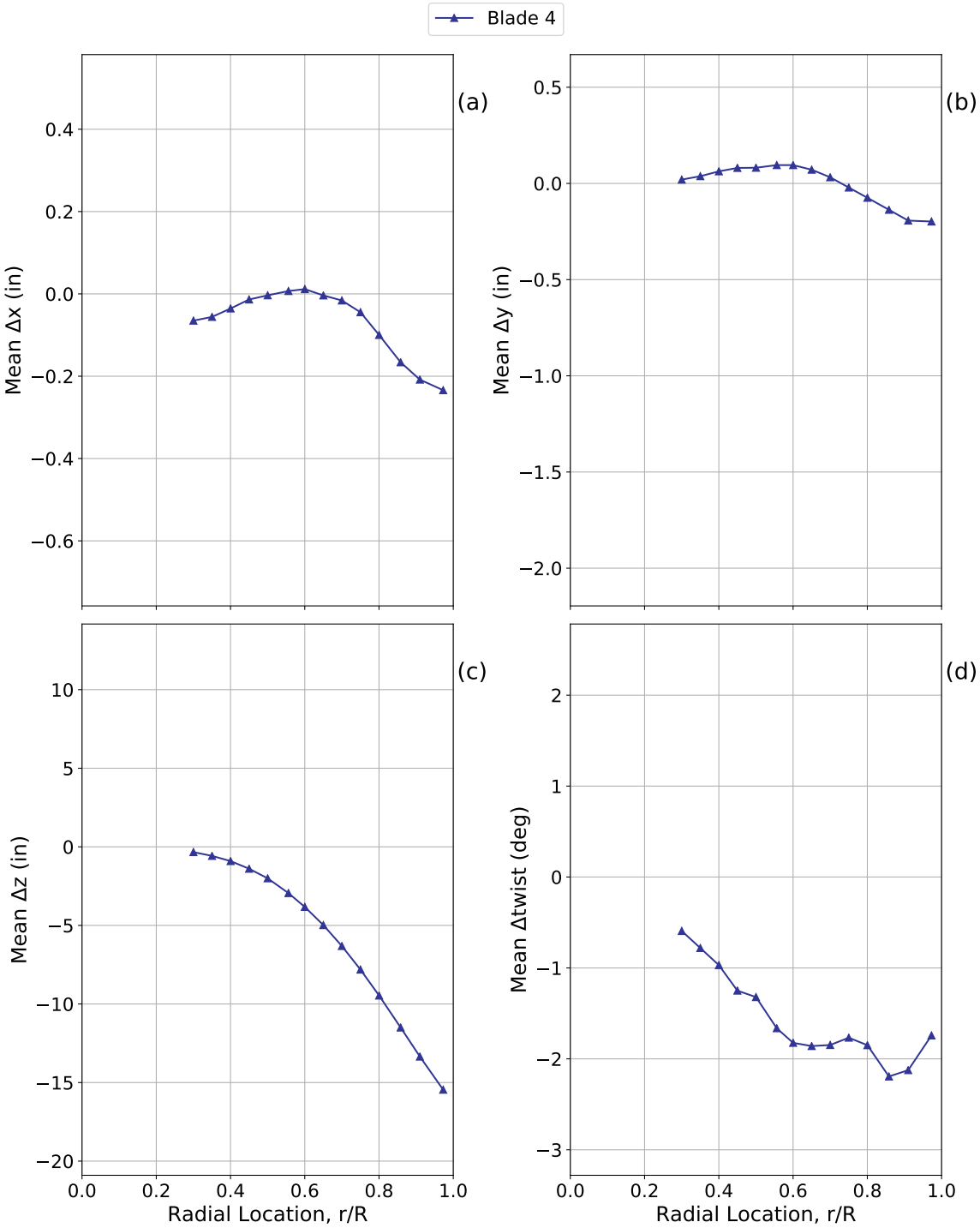


Figure 3.13-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.3001	-0.0650	0.0090	0.0197	0.0147	-0.3382	0.0258	-0.5936	0.0972
4	175.08	0.3502	-0.0559	0.0132	0.0375	0.0254	-0.5772	0.0480	-0.7813	0.1290
4	175.08	0.4002	-0.0355	0.0110	0.0627	0.0404	-0.9086	0.0802	-0.9696	0.1231
4	175.08	0.4500	-0.0136	0.0105	0.0805	0.0533	-1.3951	0.1096	-1.2497	0.1077
4	175.08	0.5001	-0.0035	0.0122	0.0814	0.0668	-2.0052	0.1364	-1.3207	0.1120
4	175.08	0.5560	0.0069	0.0135	0.0952	0.0813	-2.9451	0.1649	-1.6631	0.1179
4	175.08	0.6001	0.0116	0.0137	0.0951	0.0943	-3.8257	0.1870	-1.8240	0.1257
4	175.08	0.6501	-0.0038	0.0153	0.0712	0.1077	-4.9822	0.2106	-1.8591	0.1070
4	175.08	0.6999	-0.0160	0.0177	0.0319	0.1227	-6.3129	0.2319	-1.8477	0.1189
4	175.08	0.7500	-0.0446	0.0195	-0.0215	0.1372	-7.8144	0.2553	-1.7670	0.1041
4	175.08	0.8002	-0.0998	0.0214	-0.0747	0.1514	-9.4654	0.2766	-1.8498	0.1009
4	175.08	0.8582	-0.1662	0.0241	-0.1372	0.1684	-11.4996	0.3009	-2.1938	0.1091
4	175.08	0.9101	-0.2083	0.0264	-0.1932	0.1838	-13.3498	0.3252	-2.1241	0.1012
4	175.08	0.9728	-0.2340	0.0331	-0.1981	0.2021	-15.4572	0.3538	-1.7425	0.1080

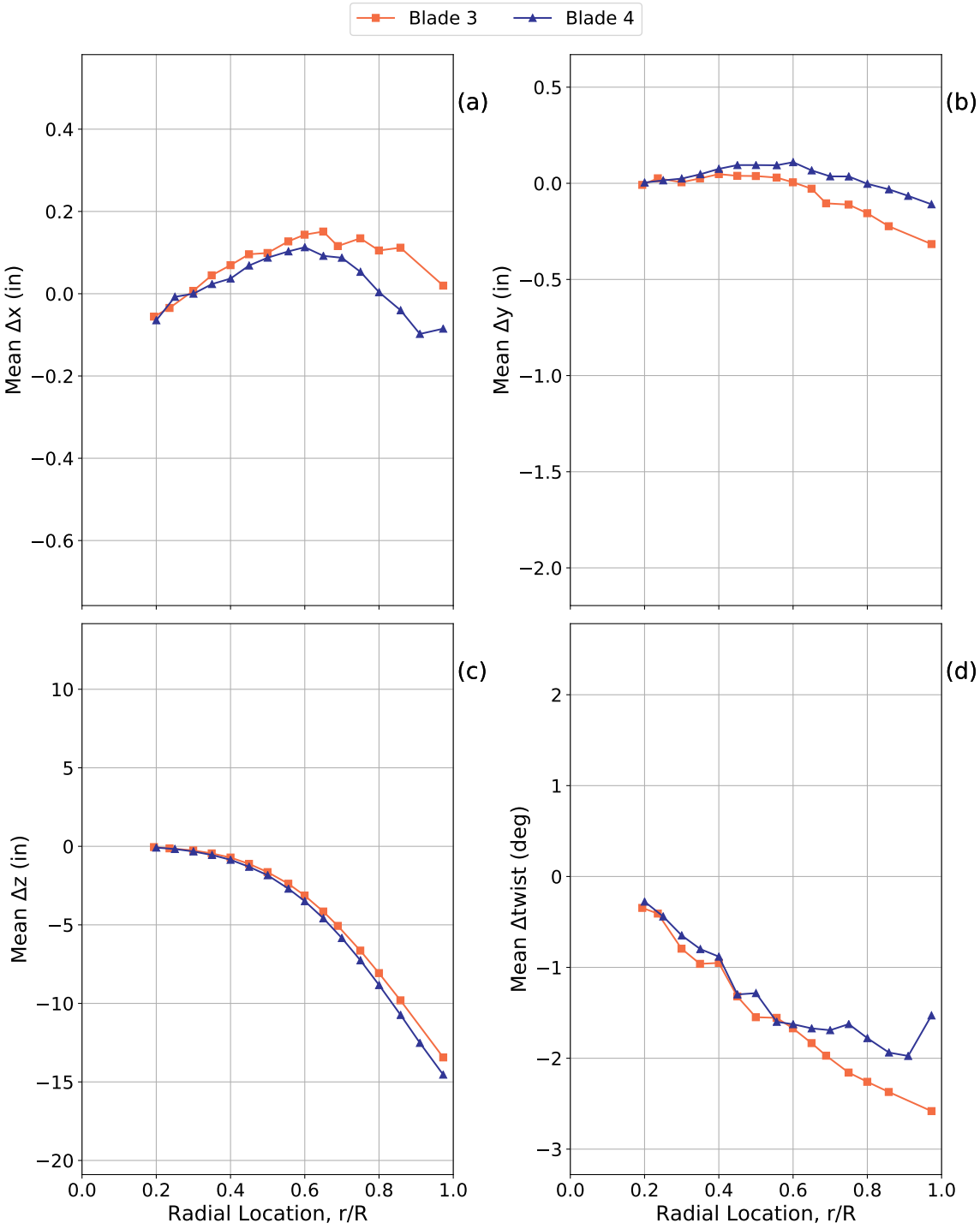


Figure 3.13-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0556	0.0019	-0.0082	0.0011	-0.0496	0.0050	-0.3456	0.0242
3	180.35	0.2357	-0.0346	0.0014	0.0260	0.0016	-0.1294	0.0073	-0.4082	0.0434
3	180.35	0.2995	0.0069	0.0015	0.0053	0.0037	-0.2596	0.0175	-0.7943	0.0566
3	180.35	0.3493	0.0447	0.0022	0.0255	0.0058	-0.4497	0.0308	-0.9613	0.0569
3	180.35	0.4000	0.0694	0.0021	0.0477	0.0090	-0.7143	0.0465	-0.9511	0.0490
3	180.35	0.4497	0.0959	0.0024	0.0389	0.0112	-1.1159	0.0638	-1.3196	0.0723
3	180.35	0.4997	0.0990	0.0036	0.0378	0.0135	-1.6415	0.0829	-1.5483	0.0855
3	180.35	0.5556	0.1272	0.0045	0.0297	0.0177	-2.3807	0.1081	-1.5554	0.0804
3	180.35	0.5995	0.1435	0.0052	0.0052	0.0201	-3.1312	0.1287	-1.6707	0.0938
3	180.35	0.6498	0.1511	0.0067	-0.0280	0.0239	-4.1510	0.1561	-1.8334	0.0750
3	180.35	0.6890	0.1158	0.0073	-0.1042	0.0272	-5.0649	0.1715	-1.9714	0.0814
3	180.35	0.7495	0.1347	0.0094	-0.1107	0.0324	-6.6384	0.2031	-2.1573	0.0892
3	180.35	0.7998	0.1051	0.0117	-0.1555	0.0348	-8.0717	0.2248	-2.2592	0.0964
3	180.35	0.8577	0.1119	0.0162	-0.2232	0.0391	-9.8055	0.2502	-2.3711	0.1244
3	180.35	0.9729	0.0197	0.0190	-0.3161	0.0543	-13.4389	0.2914	-2.5818	0.1891
4	180	0.2001	-0.0646	0.0019	0.0039	0.0018	-0.0825	0.0040	-0.2768	0.0237
4	180	0.2502	-0.0076	0.0017	0.0151	0.0025	-0.1724	0.0084	-0.4400	0.0328
4	180	0.3001	-0.0000	0.0016	0.0245	0.0069	-0.3278	0.0139	-0.6488	0.0504
4	180	0.3502	0.0235	0.0024	0.0470	0.0110	-0.5540	0.0243	-0.7990	0.0492
4	180	0.4002	0.0369	0.0035	0.0752	0.0168	-0.8591	0.0374	-0.8821	0.0497
4	180	0.4500	0.0685	0.0036	0.0947	0.0210	-1.3051	0.0497	-1.2981	0.0623
4	180	0.5001	0.0876	0.0031	0.0948	0.0267	-1.8428	0.0677	-1.2835	0.0758
4	180	0.5560	0.1029	0.0027	0.0938	0.0328	-2.6983	0.0843	-1.5993	0.0837
4	180	0.6001	0.1130	0.0036	0.1097	0.0354	-3.4953	0.1011	-1.6256	0.0784
4	180	0.6501	0.0920	0.0038	0.0670	0.0410	-4.5842	0.1052	-1.6713	0.0627
4	180	0.6999	0.0874	0.0051	0.0361	0.0447	-5.8405	0.1001	-1.6913	0.1102
4	180	0.7500	0.0531	0.0054	0.0355	0.0482	-7.2622	0.0987	-1.6242	0.1201
4	180	0.8002	0.0036	0.0089	-0.0028	0.0528	-8.8363	0.0976	-1.7789	0.1065
4	180	0.8582	-0.0404	0.0136	-0.0316	0.0590	-10.7393	0.1061	-1.9374	0.0962
4	180	0.9101	-0.0978	0.0168	-0.0654	0.0664	-12.5166	0.1340	-1.9749	0.1403
4	180	0.9728	-0.0850	0.0208	-0.1093	0.0673	-14.5371	0.1649	-1.5289	0.1468

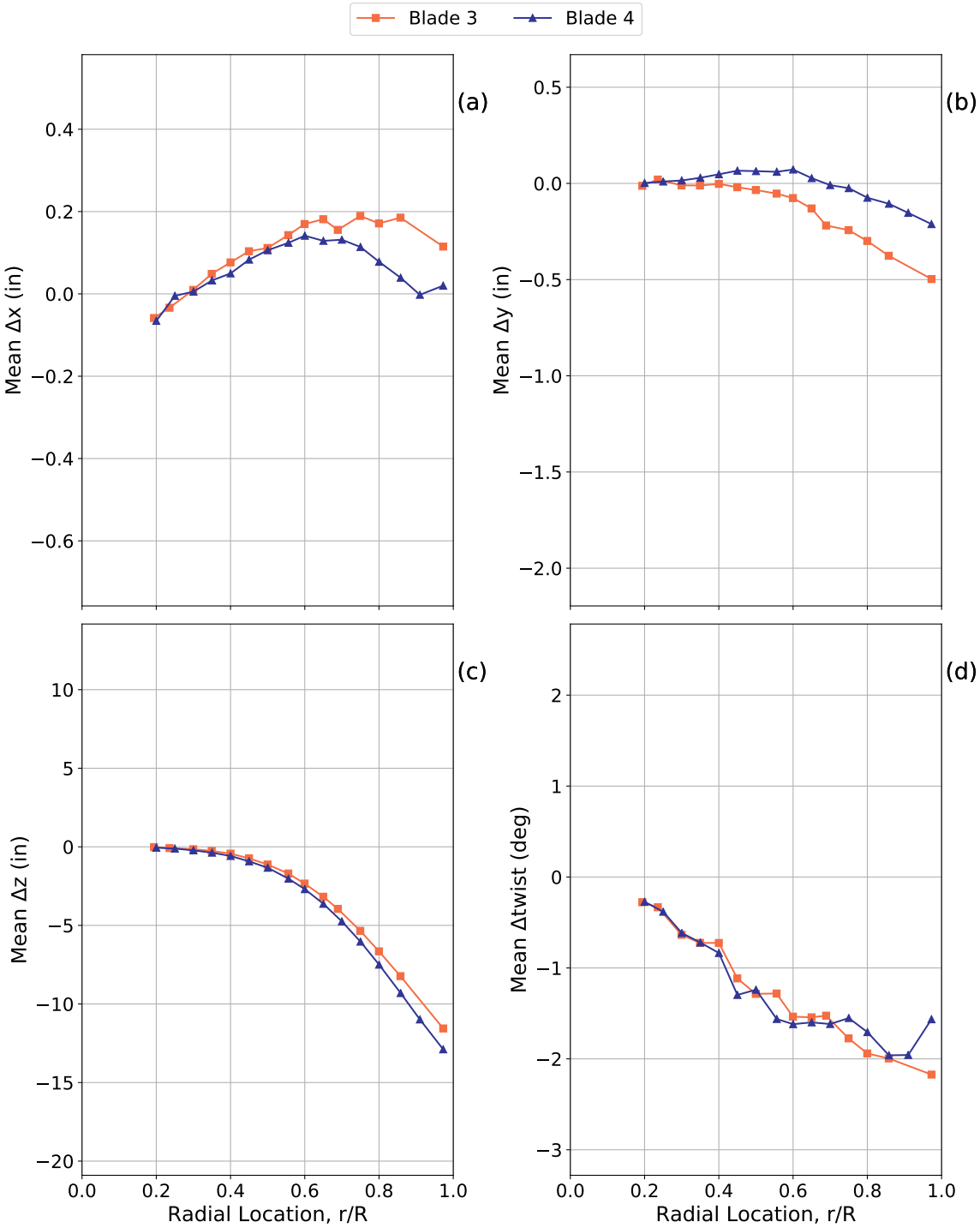


Figure 3.13-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0586	0.0016	-0.0124	0.0012	-0.0200	0.0041	-0.2773	0.0226
3	184.92	0.2357	-0.0336	0.0010	0.0201	0.0021	-0.0836	0.0053	-0.3328	0.0362
3	184.92	0.2995	0.0097	0.0016	-0.0104	0.0049	-0.1536	0.0118	-0.6357	0.0488
3	184.92	0.3493	0.0487	0.0014	-0.0107	0.0094	-0.2596	0.0208	-0.7242	0.0412
3	184.92	0.4000	0.0765	0.0019	-0.0025	0.0141	-0.4341	0.0294	-0.7257	0.0424
3	184.92	0.4497	0.1036	0.0020	-0.0198	0.0181	-0.7310	0.0390	-1.1150	0.0537
3	184.92	0.4997	0.1115	0.0024	-0.0343	0.0211	-1.1250	0.0488	-1.2852	0.0411
3	184.92	0.5556	0.1428	0.0027	-0.0530	0.0244	-1.6983	0.0667	-1.2811	0.0474
3	184.92	0.5995	0.1697	0.0037	-0.0762	0.0268	-2.3405	0.0795	-1.5361	0.0687
3	184.92	0.6498	0.1814	0.0042	-0.1301	0.0299	-3.1760	0.1006	-1.5429	0.0539
3	184.92	0.6890	0.1555	0.0050	-0.2188	0.0347	-3.9488	0.1199	-1.5250	0.0730
3	184.92	0.7495	0.1894	0.0070	-0.2428	0.0391	-5.3462	0.1506	-1.7747	0.0662
3	184.92	0.7998	0.1712	0.0098	-0.2991	0.0442	-6.6511	0.1827	-1.9405	0.0570
3	184.92	0.8577	0.1853	0.0145	-0.3761	0.0480	-8.2292	0.2208	-1.9953	0.0875
3	184.92	0.9729	0.1149	0.0214	-0.4970	0.0590	-11.5590	0.3328	-2.1729	0.1129
4	184.92	0.2001	-0.0656	0.0013	0.0022	0.0010	-0.0561	0.0037	-0.2726	0.0195
4	184.92	0.2502	-0.0047	0.0009	0.0097	0.0028	-0.1136	0.0089	-0.3820	0.0388
4	184.92	0.3001	0.0054	0.0012	0.0153	0.0043	-0.2260	0.0131	-0.6154	0.0457
4	184.92	0.3502	0.0327	0.0019	0.0293	0.0087	-0.3735	0.0223	-0.7207	0.0453
4	184.92	0.4002	0.0498	0.0015	0.0474	0.0132	-0.5844	0.0340	-0.8359	0.0519
4	184.92	0.4500	0.0832	0.0022	0.0660	0.0165	-0.9257	0.0450	-1.2971	0.0525
4	184.92	0.5001	0.1060	0.0020	0.0638	0.0200	-1.3320	0.0546	-1.2396	0.0575
4	184.92	0.5560	0.1241	0.0022	0.0603	0.0240	-2.0273	0.0660	-1.5616	0.0575
4	184.92	0.6001	0.1413	0.0022	0.0720	0.0262	-2.6946	0.0737	-1.6185	0.0560
4	184.92	0.6501	0.1289	0.0028	0.0274	0.0324	-3.6265	0.0864	-1.5988	0.0668
4	184.92	0.6999	0.1316	0.0043	-0.0090	0.0368	-4.7485	0.0997	-1.6170	0.0730
4	184.92	0.7500	0.1139	0.0056	-0.0247	0.0408	-6.0351	0.1109	-1.5512	0.0849
4	184.92	0.8002	0.0780	0.0079	-0.0745	0.0429	-7.4981	0.1298	-1.7060	0.0827
4	184.92	0.8582	0.0392	0.0104	-0.1059	0.0489	-9.3078	0.1551	-1.9613	0.1102
4	184.92	0.9101	-0.0022	0.0133	-0.1532	0.0499	-10.9863	0.1740	-1.9574	0.0979
4	184.92	0.9728	0.0200	0.0175	-0.2116	0.0585	-12.8879	0.2180	-1.5646	0.1108

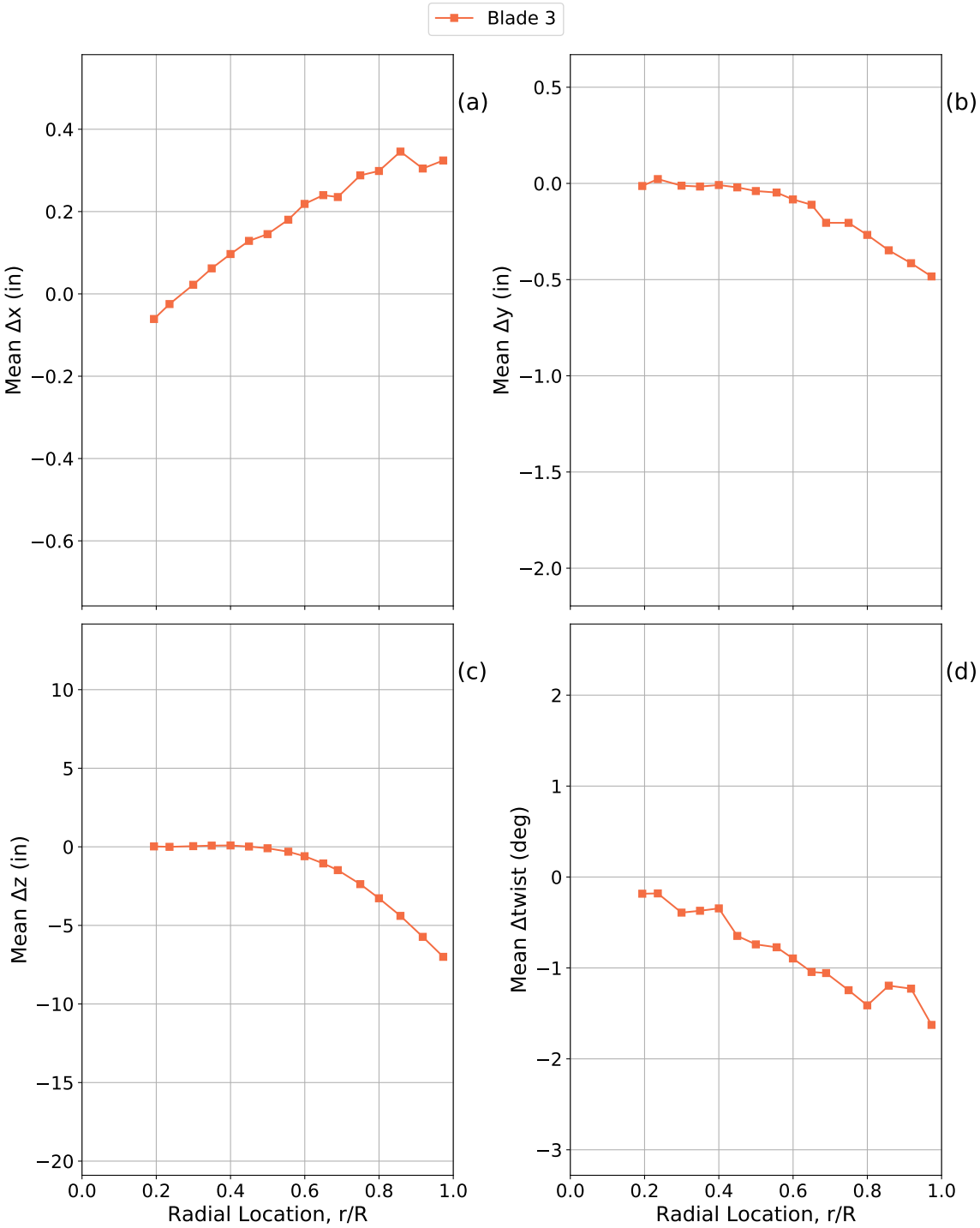


Figure 3.13-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0610	0.0013	-0.0134	0.0011	0.0252	0.0053	-0.1837	0.0192
3	195.12	0.2357	-0.0247	0.0017	0.0225	0.0028	-0.0011	0.0097	-0.1804	0.0338
3	195.12	0.2995	0.0222	0.0016	-0.0118	0.0064	0.0423	0.0196	-0.3916	0.0451
3	195.12	0.3493	0.0620	0.0022	-0.0162	0.0113	0.0764	0.0326	-0.3714	0.0411
3	195.12	0.4000	0.0968	0.0028	-0.0084	0.0183	0.0875	0.0504	-0.3451	0.0432
3	195.12	0.4497	0.1288	0.0039	-0.0206	0.0238	0.0158	0.0654	-0.6478	0.0412
3	195.12	0.4997	0.1452	0.0044	-0.0396	0.0304	-0.0918	0.0869	-0.7410	0.0460
3	195.12	0.5556	0.1802	0.0052	-0.0474	0.0373	-0.3113	0.1135	-0.7729	0.0512
3	195.12	0.5995	0.2186	0.0062	-0.0833	0.0440	-0.5983	0.1407	-0.8958	0.0537
3	195.12	0.6498	0.2399	0.0078	-0.1110	0.0517	-1.0567	0.1733	-1.0442	0.0597
3	195.12	0.6890	0.2353	0.0094	-0.2048	0.0583	-1.4847	0.2057	-1.0562	0.0721
3	195.12	0.7495	0.2880	0.0123	-0.2050	0.0679	-2.3754	0.2658	-1.2449	0.0766
3	195.12	0.7998	0.2986	0.0158	-0.2676	0.0773	-3.2744	0.3212	-1.4115	0.0730
3	195.12	0.8577	0.3457	0.0227	-0.3477	0.0890	-4.3940	0.4009	-1.1949	0.0765
3	195.12	0.9178	0.3046	0.0272	-0.4147	0.1031	-5.7292	0.4891	-1.2280	0.0826
3	195.12	0.9729	0.3241	0.0346	-0.4836	0.1167	-7.0004	0.5788	-1.6264	0.1175

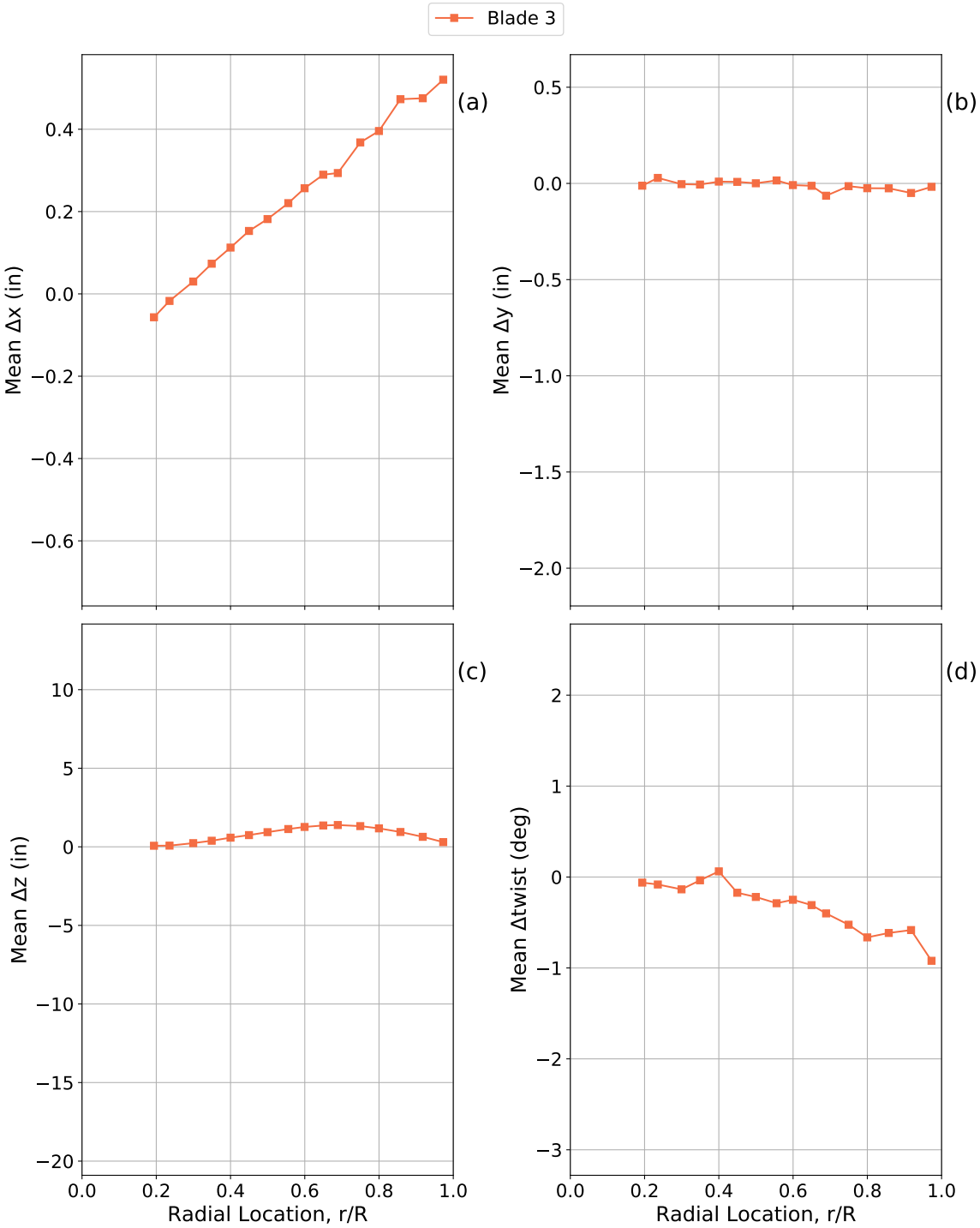


Figure 3.13-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0568	0.0012	-0.0117	0.0006	0.0676	0.0041	-0.0615	0.0297
3	209.88	0.2357	-0.0171	0.0012	0.0286	0.0023	0.0759	0.0085	-0.0822	0.0243
3	209.88	0.2995	0.0300	0.0018	-0.0039	0.0045	0.2338	0.0152	-0.1358	0.0531
3	209.88	0.3493	0.0733	0.0017	-0.0059	0.0069	0.3872	0.0256	-0.0363	0.0521
3	209.88	0.4000	0.1125	0.0025	0.0093	0.0123	0.5829	0.0389	0.0620	0.0384
3	209.88	0.4497	0.1529	0.0023	0.0080	0.0149	0.7453	0.0525	-0.1732	0.0444
3	209.88	0.4997	0.1818	0.0027	0.0007	0.0189	0.9334	0.0708	-0.2195	0.0638
3	209.88	0.5556	0.2205	0.0022	0.0154	0.0234	1.1311	0.0906	-0.2885	0.0542
3	209.88	0.5995	0.2567	0.0019	-0.0087	0.0263	1.2645	0.1108	-0.2501	0.0604
3	209.88	0.6498	0.2896	0.0023	-0.0124	0.0300	1.3576	0.1340	-0.3089	0.0661
3	209.88	0.6890	0.2936	0.0023	-0.0640	0.0335	1.3863	0.1590	-0.4004	0.0686
3	209.88	0.7495	0.3680	0.0027	-0.0143	0.0379	1.3179	0.1938	-0.5246	0.0721
3	209.88	0.7998	0.3957	0.0026	-0.0250	0.0410	1.1740	0.2268	-0.6640	0.0714
3	209.88	0.8577	0.4730	0.0023	-0.0255	0.0452	0.9431	0.2644	-0.6153	0.0663
3	209.88	0.9178	0.4753	0.0032	-0.0497	0.0491	0.6357	0.3083	-0.5836	0.0846
3	209.88	0.9729	0.5204	0.0036	-0.0177	0.0508	0.2996	0.3413	-0.9215	0.0640

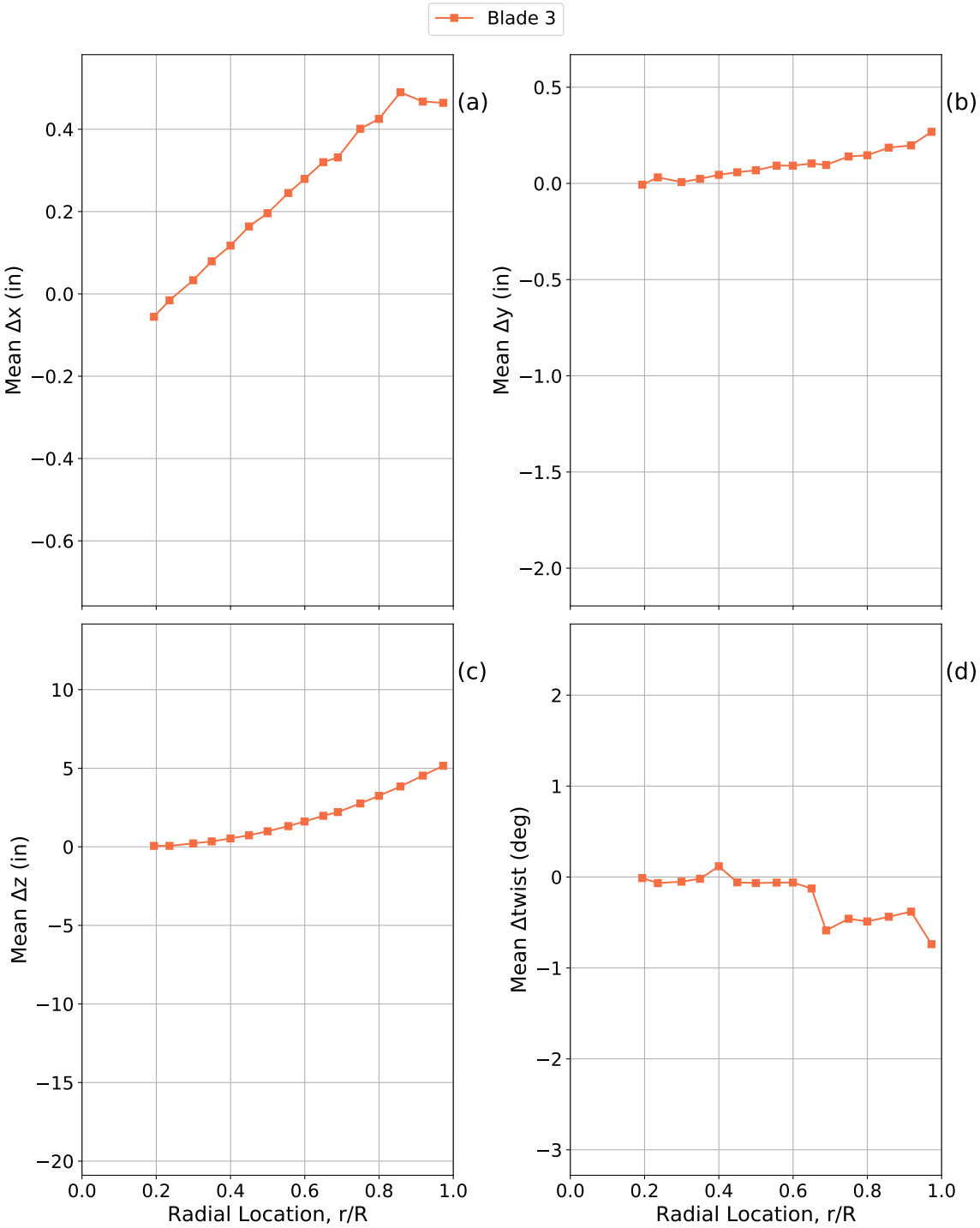


Figure 3.13-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0555	0.0021	-0.0067	0.0005	0.0596	0.0082	-0.0114	0.0216
3	225	0.2357	-0.0156	0.0020	0.0313	0.0021	0.0613	0.0156	-0.0669	0.0334
3	225	0.2995	0.0332	0.0016	0.0069	0.0038	0.2185	0.0322	-0.0517	0.0432
3	225	0.3493	0.0792	0.0024	0.0236	0.0077	0.3436	0.0490	-0.0193	0.0508
3	225	0.4000	0.1173	0.0026	0.0447	0.0124	0.5338	0.0777	0.1180	0.0377
3	225	0.4497	0.1639	0.0021	0.0580	0.0128	0.7325	0.0970	-0.0588	0.0633
3	225	0.4997	0.1959	0.0027	0.0681	0.0159	0.9886	0.1308	-0.0667	0.0456
3	225	0.5556	0.2452	0.0021	0.0924	0.0207	1.3174	0.1652	-0.0617	0.0603
3	225	0.5995	0.2793	0.0028	0.0925	0.0231	1.6102	0.1927	-0.0609	0.0622
3	225	0.6498	0.3201	0.0032	0.1035	0.0263	1.9729	0.2229	-0.1268	0.0603
3	225	0.6890	0.3315	0.0033	0.0960	0.0283	2.2106	0.2461	-0.5877	0.0465
3	225	0.7495	0.4013	0.0045	0.1400	0.0325	2.7584	0.2834	-0.4586	0.0479
3	225	0.7998	0.4251	0.0060	0.1463	0.0366	3.2474	0.3161	-0.4888	0.0539
3	225	0.8577	0.4898	0.0077	0.1859	0.0413	3.8385	0.3579	-0.4373	0.0648
3	225	0.9178	0.4673	0.0254	0.1977	0.0471	4.5325	0.4470	-0.3811	0.5475
3	225	0.9729	0.4642	0.0121	0.2681	0.0530	5.1545	0.4562	-0.7390	0.0636

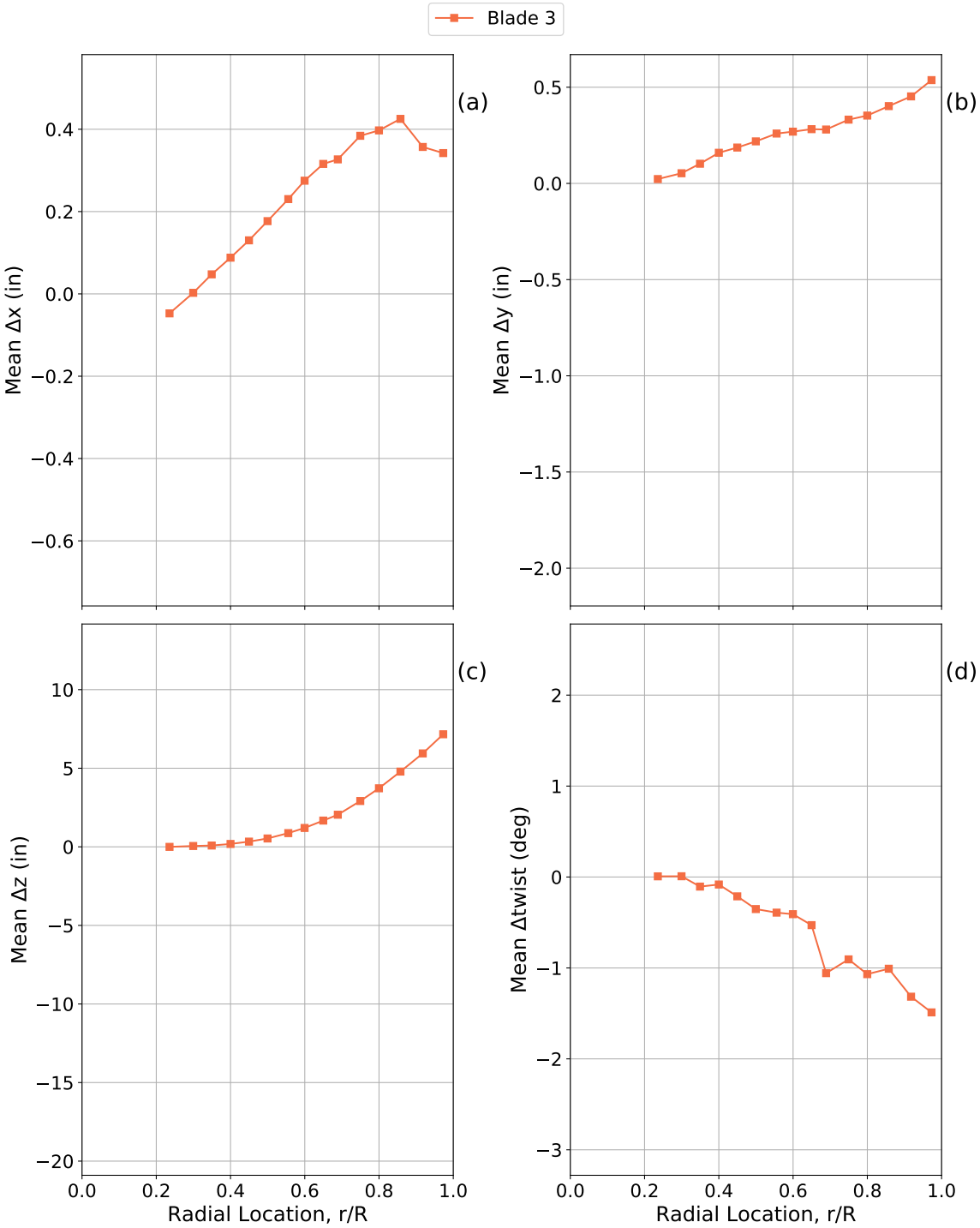


Figure 3.13-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0473	0.0023	0.0226	0.0014	-0.0034	0.0180	0.0073	0.0785
3	240.12	0.2995	0.0026	0.0017	0.0529	0.0048	0.0524	0.0329	0.0082	0.1259
3	240.12	0.3493	0.0475	0.0022	0.1024	0.0092	0.0824	0.0540	-0.1054	0.1240
3	240.12	0.4000	0.0880	0.0023	0.1593	0.0157	0.1812	0.0783	-0.0826	0.1118
3	240.12	0.4497	0.1301	0.0033	0.1865	0.0222	0.3314	0.1072	-0.2127	0.1145
3	240.12	0.4997	0.1768	0.0046	0.2185	0.0305	0.5312	0.1445	-0.3526	0.1140
3	240.12	0.5556	0.2303	0.0052	0.2592	0.0410	0.8724	0.1880	-0.3918	0.1196
3	240.12	0.5995	0.2750	0.0060	0.2690	0.0497	1.2003	0.2253	-0.4088	0.1177
3	240.12	0.6498	0.3158	0.0074	0.2820	0.0610	1.6697	0.2673	-0.5294	0.1159
3	240.12	0.6890	0.3268	0.0092	0.2802	0.0691	2.0424	0.3004	-1.0574	0.1147
3	240.12	0.7495	0.3841	0.0120	0.3315	0.0835	2.9151	0.3504	-0.9058	0.1235
3	240.12	0.7998	0.3972	0.0143	0.3526	0.0953	3.7240	0.3900	-1.0685	0.1228
3	240.12	0.8577	0.4252	0.0172	0.4018	0.1090	4.7866	0.4362	-1.0087	0.1221
3	240.12	0.9178	0.3570	0.0219	0.4523	0.1232	5.9432	0.4875	-1.3162	0.1138
3	240.12	0.9729	0.3421	0.0297	0.5369	0.1358	7.1613	0.5355	-1.4889	0.1214

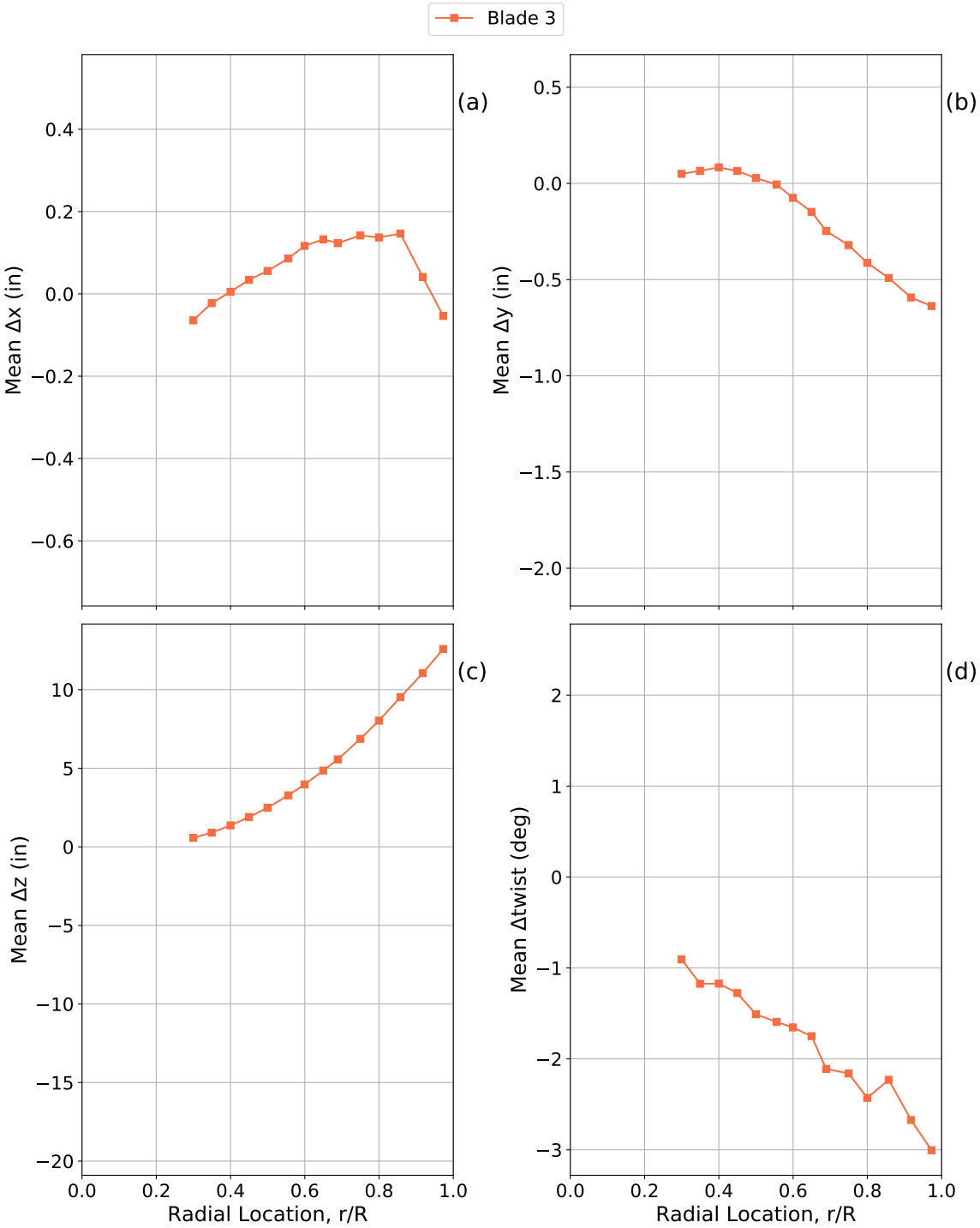


Figure 3.13-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.0643	0.0066	0.0498	0.0052	0.5697	0.0618	-0.9053	0.1621
3	254.88	0.3493	-0.0224	0.0064	0.0650	0.0094	0.9028	0.0937	-1.1735	0.2112
3	254.88	0.4000	0.0051	0.0079	0.0834	0.0161	1.3652	0.1373	-1.1727	0.1988
3	254.88	0.4497	0.0340	0.0096	0.0647	0.0207	1.8931	0.1804	-1.2759	0.1883
3	254.88	0.4997	0.0557	0.0118	0.0279	0.0273	2.4855	0.2196	-1.5093	0.2042
3	254.88	0.5556	0.0861	0.0140	-0.0058	0.0341	3.2747	0.2651	-1.5932	0.2017
3	254.88	0.5995	0.1166	0.0165	-0.0751	0.0403	3.9687	0.2983	-1.6545	0.2074
3	254.88	0.6498	0.1325	0.0183	-0.1480	0.0468	4.8509	0.3358	-1.7506	0.2009
3	254.88	0.6890	0.1233	0.0204	-0.2471	0.0520	5.5609	0.3645	-2.1104	0.2052
3	254.88	0.7495	0.1420	0.0233	-0.3209	0.0601	6.8669	0.4092	-2.1601	0.2014
3	254.88	0.7998	0.1371	0.0256	-0.4130	0.0673	8.0293	0.4453	-2.4294	0.2009
3	254.88	0.8577	0.1465	0.0297	-0.4915	0.0764	9.5215	0.4892	-2.2301	0.2005
3	254.88	0.9178	0.0408	0.0337	-0.5930	0.0855	11.0520	0.5335	-2.6729	0.1947
3	254.88	0.9729	-0.0535	0.0399	-0.6373	0.0954	12.5829	0.5731	-3.0048	0.1935

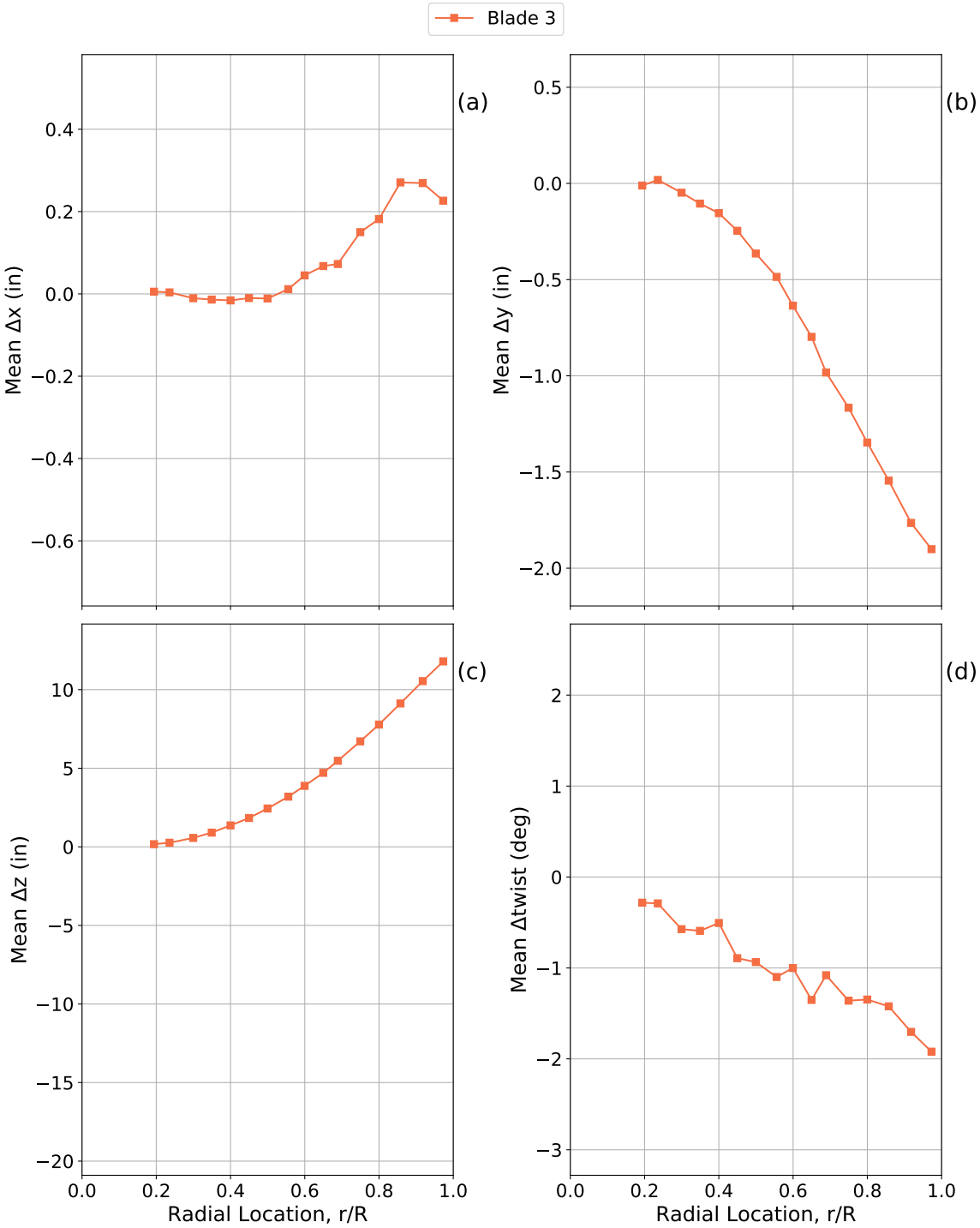


Figure 3.13-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0054	0.0025	-0.0111	0.0007	0.1680	0.0075	-0.2825	0.0474
3	260.16	0.2357	0.0037	0.0022	0.0180	0.0018	0.2598	0.0135	-0.2901	0.0291
3	260.16	0.2995	-0.0105	0.0015	-0.0481	0.0032	0.5658	0.0248	-0.5736	0.0818
3	260.16	0.3493	-0.0138	0.0023	-0.1049	0.0082	0.9046	0.0372	-0.5921	0.1089
3	260.16	0.4000	-0.0158	0.0027	-0.1545	0.0118	1.3616	0.0568	-0.5055	0.0490
3	260.16	0.4497	-0.0101	0.0038	-0.2461	0.0172	1.8347	0.0766	-0.8927	0.0541
3	260.16	0.4997	-0.0112	0.0039	-0.3645	0.0221	2.4383	0.0973	-0.9357	0.0764
3	260.16	0.5556	0.0115	0.0052	-0.4858	0.0294	3.1929	0.1229	-1.0995	0.0710
3	260.16	0.5995	0.0450	0.0063	-0.6353	0.0347	3.8792	0.1465	-1.0009	0.0616
3	260.16	0.6498	0.0676	0.0076	-0.7976	0.0412	4.7071	0.1658	-1.3518	0.0743
3	260.16	0.6890	0.0726	0.0092	-0.9830	0.0474	5.4744	0.1836	-1.0802	0.0894
3	260.16	0.7495	0.1500	0.0108	-1.1659	0.0564	6.7090	0.2078	-1.3598	0.0483
3	260.16	0.7998	0.1817	0.0125	-1.3470	0.0651	7.7800	0.2229	-1.3476	0.0878
3	260.16	0.8577	0.2707	0.0146	-1.5449	0.0746	9.1229	0.2421	-1.4226	0.0743
3	260.16	0.9178	0.2692	0.0157	-1.7645	0.0848	10.5428	0.2493	-1.7030	0.0979
3	260.16	0.9729	0.2264	0.0205	-1.9011	0.0936	11.7951	0.2652	-1.9211	0.1015

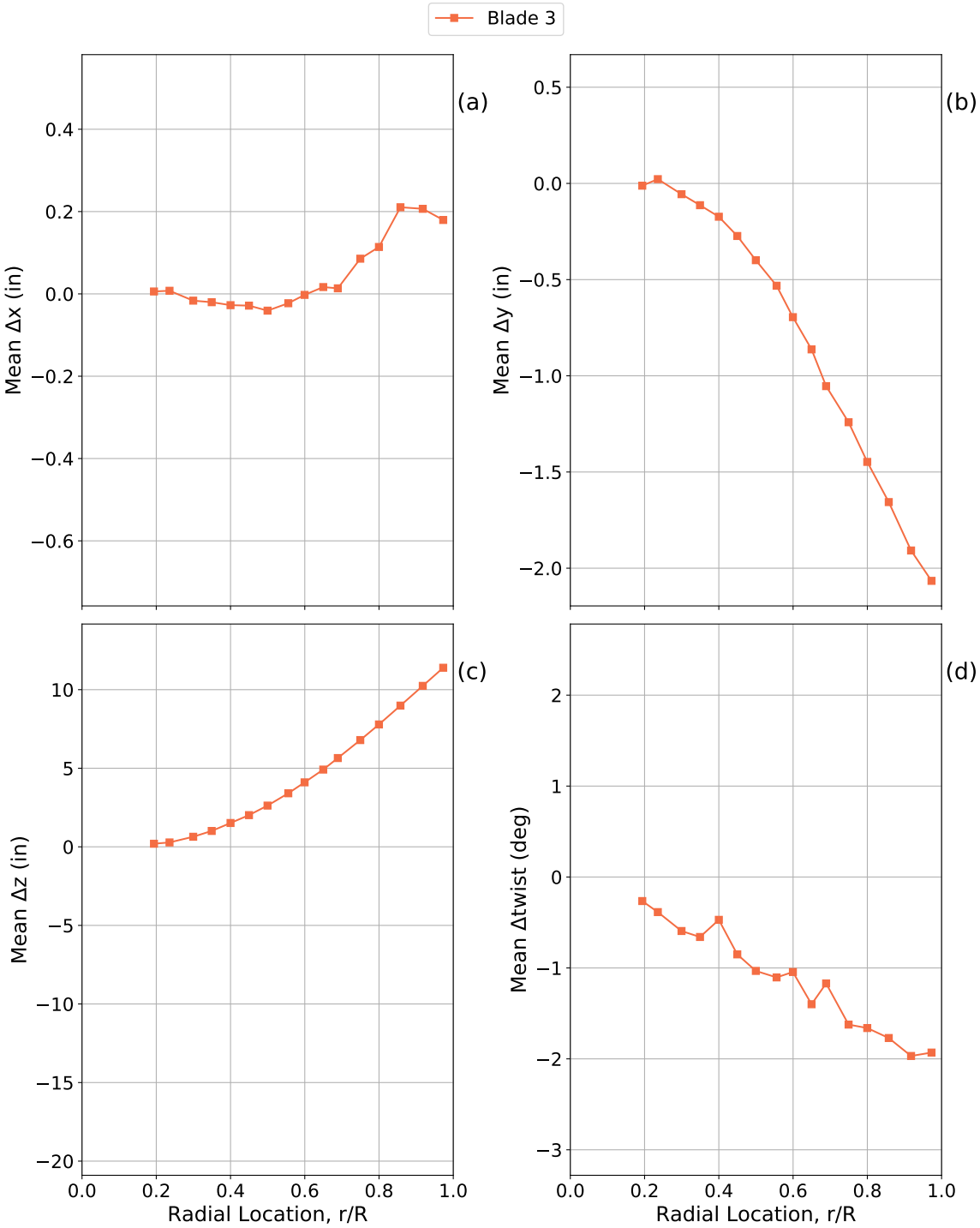


Figure 3.13-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0059	0.0033	-0.0117	0.0011	0.1960	0.0079	-0.2645	0.0579
3	265.08	0.2357	0.0076	0.0016	0.0222	0.0020	0.2791	0.0164	-0.3860	0.0750
3	265.08	0.2995	-0.0164	0.0018	-0.0560	0.0046	0.6403	0.0258	-0.5939	0.1216
3	265.08	0.3493	-0.0202	0.0027	-0.1132	0.0099	1.0097	0.0456	-0.6597	0.0703
3	265.08	0.4000	-0.0274	0.0044	-0.1732	0.0151	1.5159	0.0660	-0.4710	0.1147
3	265.08	0.4497	-0.0285	0.0040	-0.2733	0.0190	2.0164	0.0874	-0.8510	0.0991
3	265.08	0.4997	-0.0407	0.0062	-0.3991	0.0251	2.6238	0.1133	-1.0327	0.1181
3	265.08	0.5556	-0.0227	0.0082	-0.5317	0.0309	3.4064	0.1371	-1.1042	0.1132
3	265.08	0.5995	-0.0024	0.0093	-0.6951	0.0365	4.1015	0.1582	-1.0447	0.1021
3	265.08	0.6498	0.0166	0.0105	-0.8627	0.0431	4.9152	0.1770	-1.3993	0.1180
3	265.08	0.6890	0.0135	0.0121	-1.0537	0.0480	5.6487	0.1917	-1.1703	0.1187
3	265.08	0.7495	0.0855	0.0135	-1.2414	0.0561	6.7921	0.2143	-1.6229	0.1289
3	265.08	0.7998	0.1140	0.0157	-1.4475	0.0628	7.7857	0.2286	-1.6610	0.1176
3	265.08	0.8577	0.2105	0.0175	-1.6564	0.0718	8.9859	0.2494	-1.7707	0.1340
3	265.08	0.9178	0.2067	0.0206	-1.9080	0.0820	10.2407	0.2694	-1.9682	0.1431
3	265.08	0.9729	0.1796	0.0250	-2.0658	0.0897	11.3950	0.2985	-1.9308	0.1365

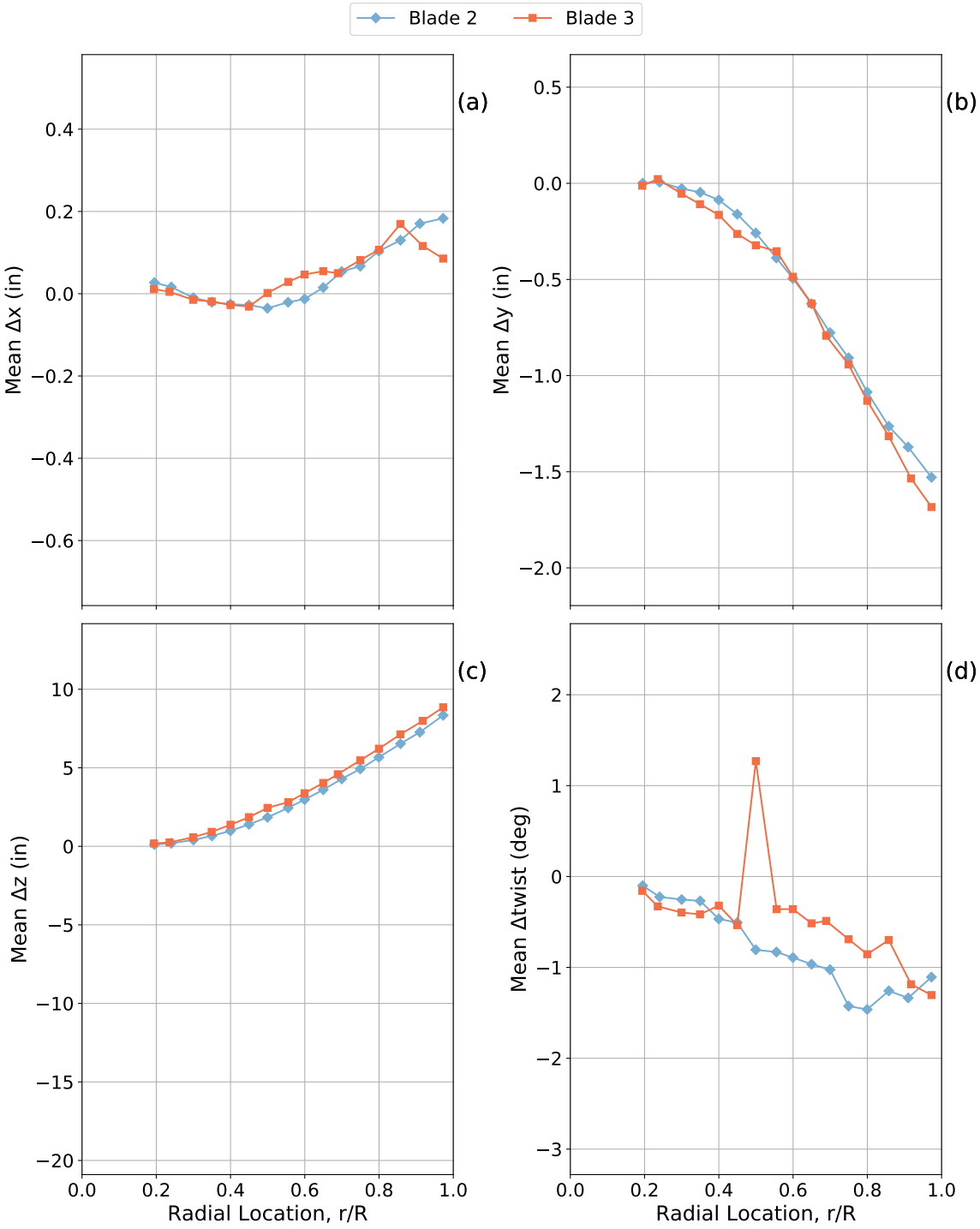


Figure 3.13-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0271	0.0065	0.0006	0.0011	0.1187	0.0141	-0.1011	0.0542
2	270.35	0.2405	0.0162	0.0025	0.0057	0.0028	0.1929	0.0210	-0.2247	0.0788
2	270.35	0.2999	-0.0096	0.0039	-0.0274	0.0060	0.4035	0.0422	-0.2533	0.1222
2	270.35	0.3498	-0.0207	0.0095	-0.0468	0.0123	0.6619	0.0662	-0.2690	0.1040
2	270.35	0.3998	-0.0253	0.0148	-0.0865	0.0206	0.9857	0.0958	-0.4670	0.1085
2	270.35	0.4496	-0.0277	0.0190	-0.1607	0.0301	1.3977	0.1282	-0.5068	0.1107
2	270.35	0.4995	-0.0353	0.0216	-0.2587	0.0406	1.8455	0.1624	-0.8066	0.0926
2	270.35	0.5551	-0.0208	0.0246	-0.3882	0.0532	2.4452	0.1999	-0.8312	0.1046
2	270.35	0.5996	-0.0128	0.0268	-0.4948	0.0644	2.9753	0.2349	-0.8921	0.1323
2	270.35	0.6497	0.0149	0.0292	-0.6264	0.0779	3.6035	0.2752	-0.9652	0.1184
2	270.35	0.6996	0.0540	0.0345	-0.7771	0.0924	4.2924	0.3156	-1.0249	0.1293
2	270.35	0.7495	0.0668	0.0445	-0.9078	0.1079	4.9281	0.3534	-1.4264	0.1577
2	270.35	0.7996	0.1036	0.0588	-1.0857	0.1238	5.6694	0.3983	-1.4633	0.1535
2	270.35	0.8578	0.1300	0.0823	-1.2640	0.1440	6.5334	0.4450	-1.2586	0.1638
2	270.35	0.9100	0.1705	0.1095	-1.3716	0.1599	7.2683	0.4803	-1.3364	0.1750
2	270.35	0.9727	0.1832	0.1507	-1.5291	0.1899	8.3415	0.5365	-1.1070	0.1594
3	270	0.1938	0.0112	0.0073	-0.0125	0.0008	0.1817	0.0069	-0.1574	0.0202
3	270	0.2357	0.0045	0.0054	0.0219	0.0027	0.2491	0.0120	-0.3288	0.0776
3	270	0.2995	-0.0148	0.0040	-0.0541	0.0032	0.5821	0.0210	-0.3963	0.0729
3	270	0.3493	-0.0188	0.0052	-0.1087	0.0065	0.9214	0.0246	-0.4164	0.1373
3	270	0.4000	-0.0274	0.0083	-0.1644	0.0102	1.3753	0.0410	-0.3205	0.1054
3	270	0.4497	-0.0312	0.0096	-0.2633	0.0152	1.8552	0.0469	-0.5352	0.1050
3	270	0.4997	0.0017	0.0115	-0.3225	0.0242	2.4486	0.0539	1.2696	0.4951
3	270	0.5556	0.0287	0.0142	-0.3532	0.0479	2.8167	0.1418	-0.3596	0.0985
3	270	0.5995	0.0467	0.0153	-0.4860	0.0562	3.3811	0.1559	-0.3592	0.1146
3	270	0.6498	0.0548	0.0176	-0.6256	0.0672	4.0366	0.1768	-0.5151	0.1172
3	270	0.6890	0.0499	0.0201	-0.7928	0.0753	4.5891	0.1915	-0.4890	0.1105
3	270	0.7495	0.0817	0.0214	-0.9422	0.0902	5.4759	0.2122	-0.6904	0.1038
3	270	0.7998	0.1069	0.0262	-1.1311	0.1040	6.2178	0.2314	-0.8553	0.1250
3	270	0.8577	0.1696	0.0309	-1.3150	0.1191	7.1299	0.2526	-0.6992	0.1271
3	270	0.9178	0.1161	0.0378	-1.5351	0.1387	7.9886	0.2808	-1.1858	0.1323
3	270	0.9729	0.0854	0.0470	-1.6835	0.1558	8.8522	0.3095	-1.3050	0.1348

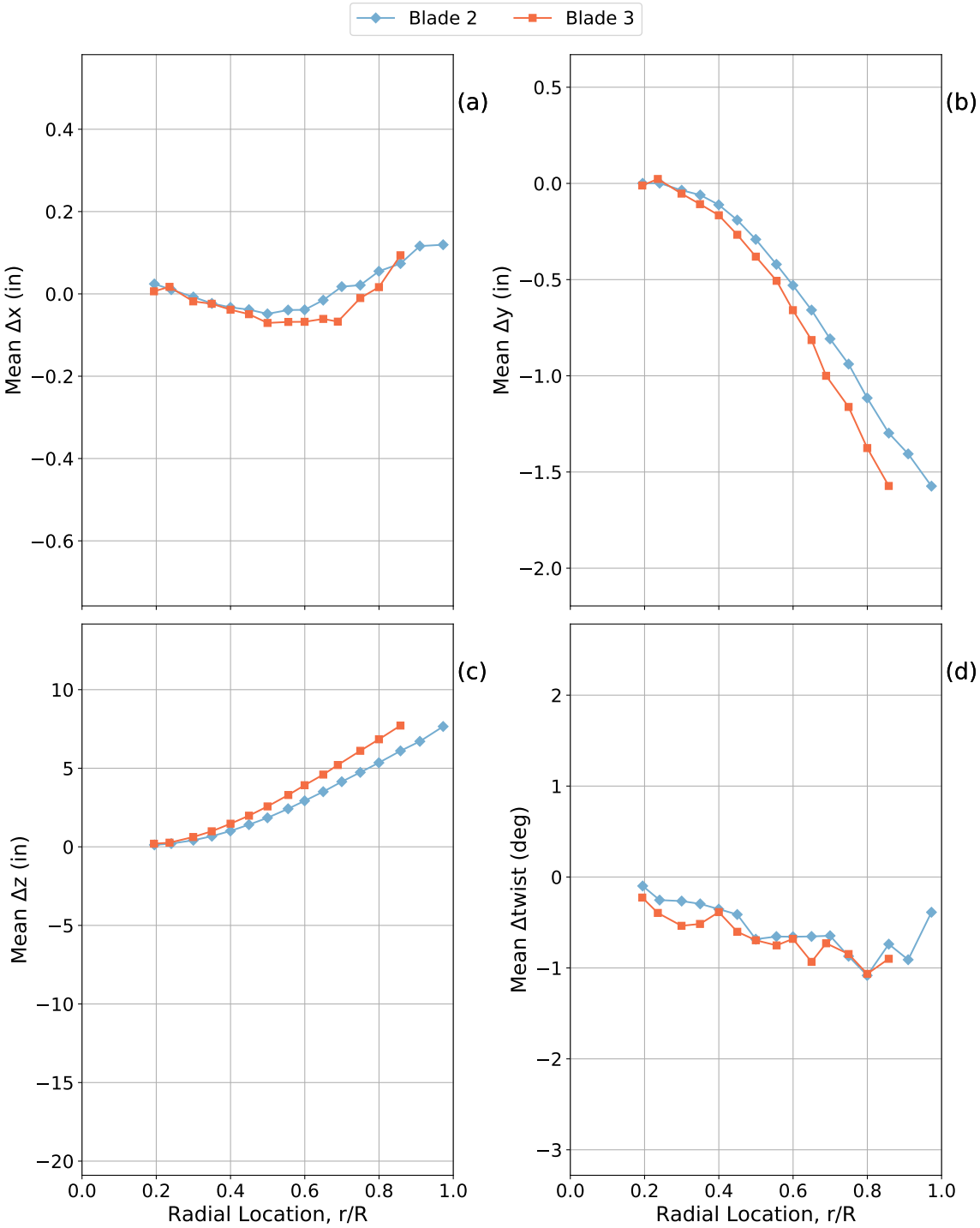


Figure 3.13-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0242	0.0017	0.0005	0.0008	0.1229	0.0076	-0.0986	0.0522
2	274.92	0.2405	0.0103	0.0030	0.0014	0.0024	0.2053	0.0125	-0.2537	0.0977
2	274.92	0.2999	-0.0076	0.0037	-0.0355	0.0056	0.4171	0.0222	-0.2647	0.1297
2	274.92	0.3498	-0.0232	0.0036	-0.0602	0.0088	0.6745	0.0361	-0.2955	0.1232
2	274.92	0.3998	-0.0327	0.0048	-0.1111	0.0151	1.0086	0.0516	-0.3531	0.0910
2	274.92	0.4496	-0.0382	0.0069	-0.1905	0.0176	1.4100	0.0693	-0.4122	0.1321
2	274.92	0.4995	-0.0485	0.0076	-0.2909	0.0216	1.8461	0.0882	-0.6841	0.1241
2	274.92	0.5551	-0.0392	0.0081	-0.4207	0.0252	2.4208	0.1084	-0.6548	0.1215
2	274.92	0.5996	-0.0387	0.0082	-0.5299	0.0289	2.9267	0.1293	-0.6570	0.1111
2	274.92	0.6497	-0.0152	0.0098	-0.6582	0.0330	3.5077	0.1472	-0.6538	0.1232
2	274.92	0.6996	0.0176	0.0113	-0.8080	0.0377	4.1437	0.1653	-0.6460	0.1497
2	274.92	0.7495	0.0212	0.0115	-0.9390	0.0421	4.7375	0.1856	-0.8716	0.1873
2	274.92	0.7996	0.0550	0.0132	-1.1153	0.0477	5.3509	0.2031	-1.0827	0.1305
2	274.92	0.8578	0.0737	0.0146	-1.2978	0.0540	6.1039	0.2215	-0.7383	0.1562
2	274.92	0.9100	0.1162	0.0159	-1.4059	0.0601	6.7106	0.2374	-0.9096	0.1897
2	274.92	0.9727	0.1194	0.0180	-1.5735	0.0660	7.6570	0.2527	-0.3876	0.1775
3	274.92	0.1938	0.0063	0.0092	-0.0108	0.0010	0.1970	0.0116	-0.2262	0.0397
3	274.92	0.2357	0.0171	0.0039	0.0230	0.0013	0.2638	0.0160	-0.3953	0.0751
3	274.92	0.2995	-0.0182	0.0038	-0.0531	0.0032	0.6247	0.0250	-0.5366	0.0690
3	274.92	0.3493	-0.0240	0.0035	-0.1078	0.0075	0.9876	0.0418	-0.5162	0.1004
3	274.92	0.4000	-0.0384	0.0026	-0.1656	0.0114	1.4708	0.0574	-0.3860	0.0693
3	274.92	0.4497	-0.0493	0.0023	-0.2669	0.0154	1.9812	0.0742	-0.6025	0.0971
3	274.92	0.4997	-0.0706	0.0033	-0.3806	0.0194	2.5708	0.0927	-0.6956	0.0606
3	274.92	0.5556	-0.0681	0.0039	-0.5062	0.0258	3.2977	0.1126	-0.7521	0.0533
3	274.92	0.5995	-0.0678	0.0039	-0.6589	0.0306	3.9196	0.1247	-0.6802	0.0639
3	274.92	0.6498	-0.0608	0.0051	-0.8142	0.0374	4.5964	0.1464	-0.9333	0.0702
3	274.92	0.6890	-0.0674	0.0059	-0.9999	0.0430	5.2071	0.1696	-0.7289	0.0724
3	274.92	0.7495	-0.0101	0.0071	-1.1619	0.0528	6.1098	0.2026	-0.8473	0.0734
3	274.92	0.7998	0.0164	0.0089	-1.3756	0.0616	6.8421	0.2287	-1.0650	0.0834
3	274.92	0.8577	0.0938	0.0107	-1.5725	0.0724	7.7157	0.2654	-0.8995	0.0652

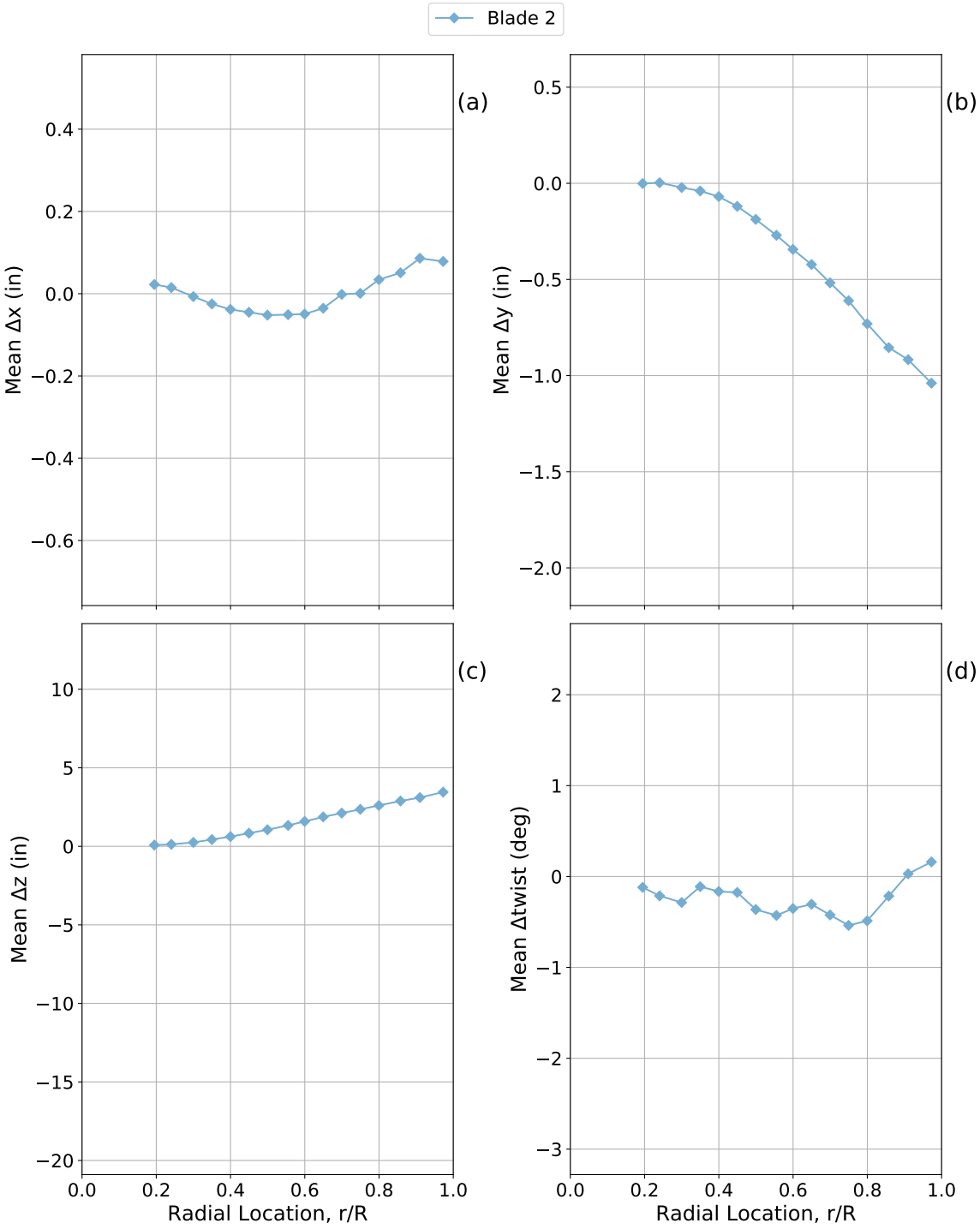


Figure 3.13-31. 285° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0225	0.0026	-0.0009	0.0007	0.0791	0.0054	-0.1195	0.0377
2	285.12	0.2405	0.0150	0.0022	0.0031	0.0020	0.1261	0.0107	-0.2128	0.0392
2	285.12	0.2999	-0.0070	0.0024	-0.0220	0.0038	0.2478	0.0155	-0.2862	0.0762
2	285.12	0.3498	-0.0248	0.0033	-0.0399	0.0080	0.4314	0.0314	-0.1115	0.0568
2	285.12	0.3998	-0.0382	0.0031	-0.0689	0.0123	0.6179	0.0422	-0.1648	0.0662
2	285.12	0.4496	-0.0451	0.0048	-0.1198	0.0170	0.8368	0.0558	-0.1755	0.0510
2	285.12	0.4995	-0.0520	0.0041	-0.1876	0.0237	1.0549	0.0683	-0.3635	0.0641
2	285.12	0.5551	-0.0509	0.0040	-0.2705	0.0330	1.3304	0.0857	-0.4283	0.0549
2	285.12	0.5996	-0.0494	0.0042	-0.3436	0.0414	1.5861	0.0970	-0.3528	0.0472
2	285.12	0.6497	-0.0353	0.0045	-0.4224	0.0521	1.8731	0.1101	-0.3055	0.0547
2	285.12	0.6996	-0.0016	0.0057	-0.5176	0.0638	2.1154	0.1266	-0.4233	0.0589
2	285.12	0.7495	0.0008	0.0060	-0.6106	0.0767	2.3550	0.1410	-0.5382	0.0592
2	285.12	0.7996	0.0342	0.0056	-0.7306	0.0908	2.6033	0.1540	-0.4879	0.0591
2	285.12	0.8578	0.0509	0.0064	-0.8546	0.1071	2.8857	0.1787	-0.2153	0.0668
2	285.12	0.9100	0.0862	0.0070	-0.9172	0.1220	3.1040	0.1963	0.0295	0.0729
2	285.12	0.9727	0.0784	0.0113	-1.0393	0.1398	3.4521	0.2322	0.1606	0.0797

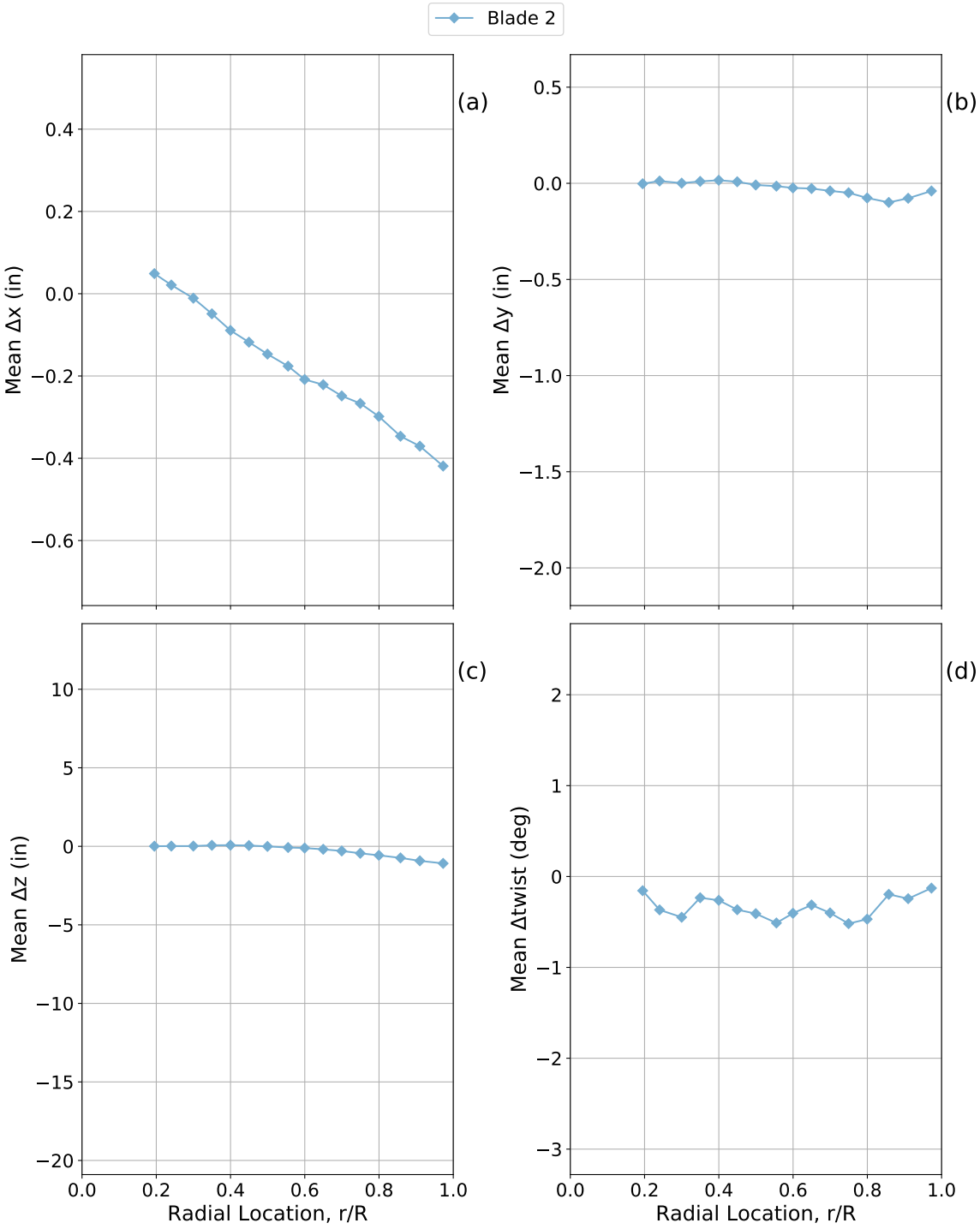


Figure 3.13-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0489	0.0021	-0.0022	0.0007	0.0085	0.0075	-0.1562	0.0464
2	299.88	0.2405	0.0212	0.0026	0.0119	0.0014	0.0157	0.0102	-0.3674	0.0906
2	299.88	0.2999	-0.0109	0.0024	0.0008	0.0032	0.0166	0.0236	-0.4483	0.1185
2	299.88	0.3498	-0.0488	0.0026	0.0099	0.0052	0.0660	0.0370	-0.2338	0.0691
2	299.88	0.3998	-0.0892	0.0039	0.0159	0.0077	0.0728	0.0550	-0.2620	0.0783
2	299.88	0.4496	-0.1178	0.0050	0.0081	0.0111	0.0521	0.0622	-0.3655	0.1109
2	299.88	0.4995	-0.1468	0.0060	-0.0088	0.0127	-0.0055	0.0806	-0.4089	0.0775
2	299.88	0.5551	-0.1761	0.0045	-0.0148	0.0167	-0.0764	0.1030	-0.5114	0.0568
2	299.88	0.5996	-0.2085	0.0057	-0.0240	0.0192	-0.1084	0.1178	-0.4047	0.0623
2	299.88	0.6497	-0.2212	0.0062	-0.0273	0.0224	-0.1900	0.1379	-0.3136	0.0648
2	299.88	0.6996	-0.2485	0.0072	-0.0395	0.0263	-0.2956	0.1593	-0.4008	0.0527
2	299.88	0.7495	-0.2667	0.0076	-0.0491	0.0309	-0.4440	0.1821	-0.5187	0.0588
2	299.88	0.7996	-0.2984	0.0085	-0.0763	0.0350	-0.5724	0.2094	-0.4693	0.0401
2	299.88	0.8578	-0.3464	0.0099	-0.0993	0.0401	-0.7370	0.2425	-0.1962	0.0564
2	299.88	0.9100	-0.3706	0.0114	-0.0779	0.0452	-0.9244	0.2749	-0.2441	0.0691
2	299.88	0.9727	-0.4190	0.0135	-0.0399	0.0513	-1.0869	0.3166	-0.1278	0.0724

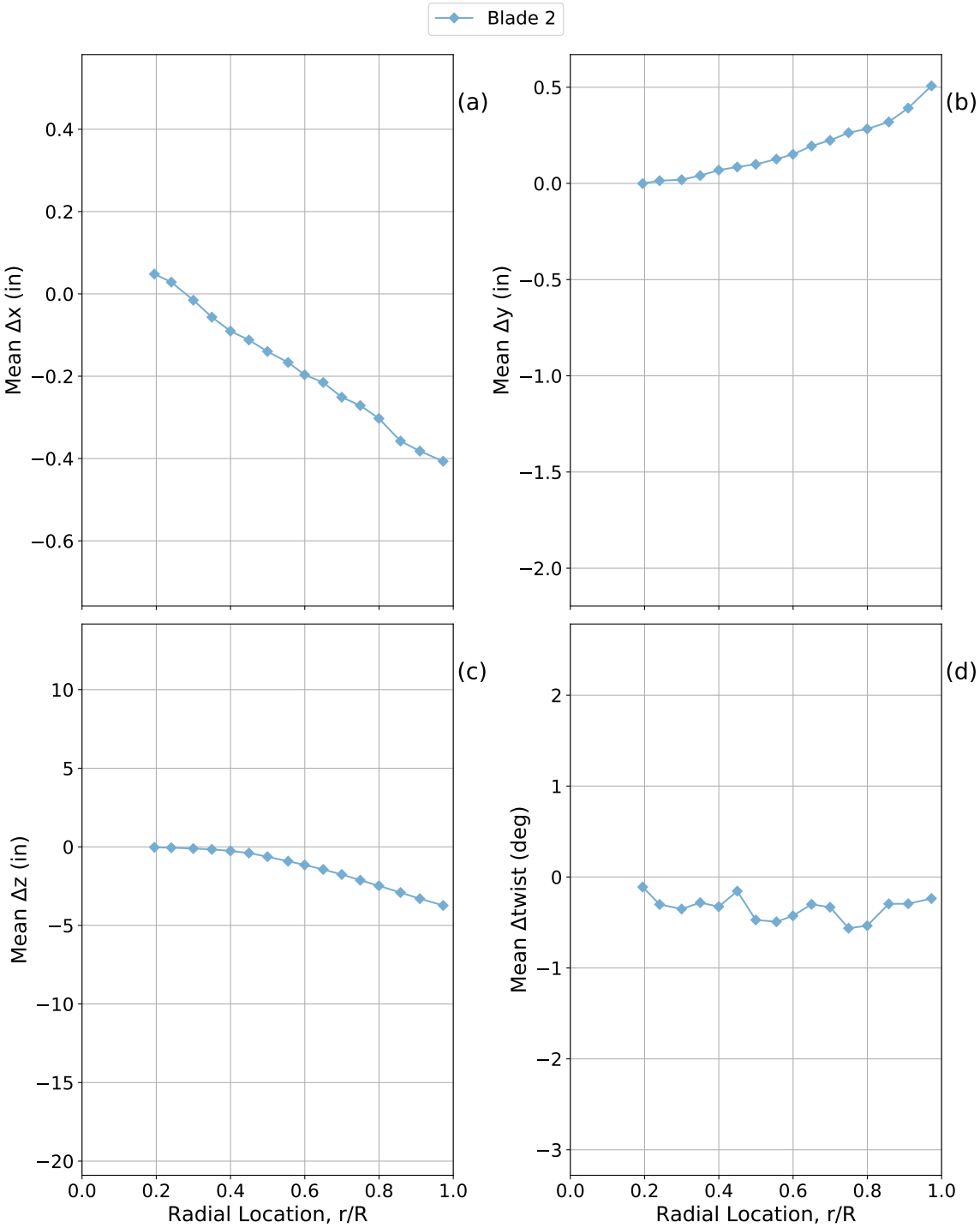


Figure 3.13-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0482	0.0023	-0.0007	0.0010	-0.0300	0.0045	-0.1103	0.0574
2	315	0.2405	0.0286	0.0025	0.0141	0.0039	-0.0573	0.0171	-0.3016	0.0346
2	315	0.2999	-0.0153	0.0050	0.0192	0.0074	-0.1116	0.0196	-0.3519	0.0806
2	315	0.3498	-0.0565	0.0022	0.0404	0.0116	-0.1654	0.0299	-0.2816	0.0715
2	315	0.3998	-0.0904	0.0040	0.0692	0.0206	-0.2605	0.0502	-0.3261	0.0784
2	315	0.4496	-0.1121	0.0043	0.0854	0.0252	-0.3971	0.0586	-0.1553	0.0770
2	315	0.4995	-0.1399	0.0040	0.0993	0.0304	-0.6298	0.0708	-0.4723	0.0623
2	315	0.5551	-0.1666	0.0056	0.1262	0.0376	-0.9161	0.0901	-0.4923	0.0575
2	315	0.5996	-0.1964	0.0042	0.1513	0.0445	-1.1501	0.1018	-0.4270	0.0677
2	315	0.6497	-0.2152	0.0052	0.1945	0.0518	-1.4403	0.1161	-0.3003	0.0535
2	315	0.6996	-0.2510	0.0060	0.2238	0.0600	-1.7599	0.1361	-0.3321	0.0574
2	315	0.7495	-0.2713	0.0072	0.2634	0.0678	-2.1257	0.1560	-0.5633	0.0462
2	315	0.7996	-0.3025	0.0075	0.2831	0.0763	-2.4806	0.1759	-0.5358	0.0628
2	315	0.8578	-0.3576	0.0072	0.3195	0.0863	-2.9095	0.2002	-0.2956	0.0491
2	315	0.9100	-0.3820	0.0094	0.3916	0.0944	-3.3023	0.2222	-0.2940	0.0797
2	315	0.9727	-0.4066	0.0099	0.5068	0.1059	-3.7309	0.2571	-0.2368	0.0396

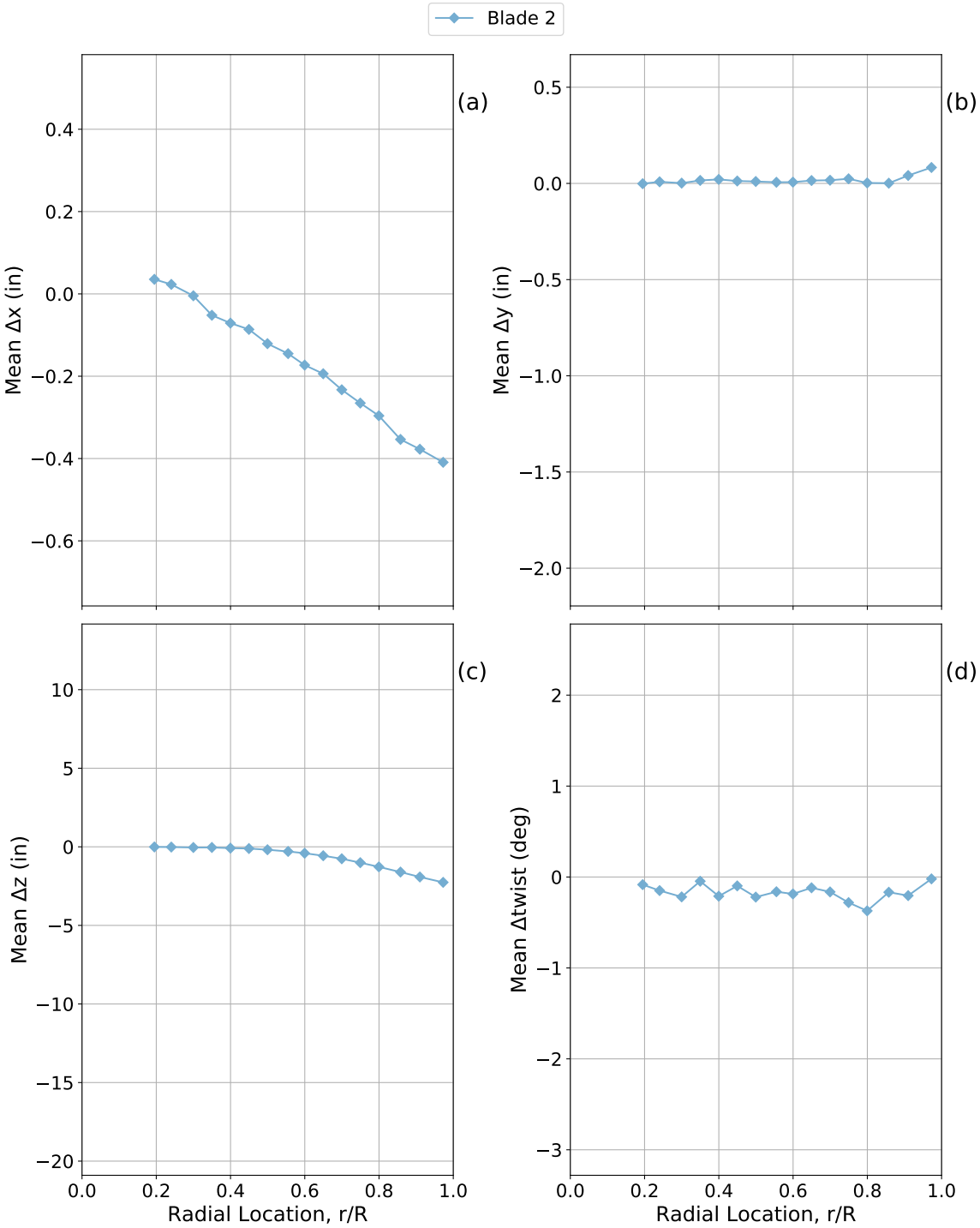


Figure 3.13-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0354	0.0024	-0.0014	0.0012	-0.0084	0.0064	-0.0838	0.0432
2	330.12	0.2405	0.0231	0.0021	0.0083	0.0039	-0.0157	0.0140	-0.1494	0.0470
2	330.12	0.2999	-0.0046	0.0025	0.0015	0.0058	-0.0430	0.0269	-0.2187	0.0888
2	330.12	0.3498	-0.0519	0.0026	0.0155	0.0119	-0.0408	0.0367	-0.0463	0.0680
2	330.12	0.3998	-0.0710	0.0026	0.0208	0.0184	-0.0834	0.0623	-0.2110	0.0824
2	330.12	0.4496	-0.0863	0.0030	0.0125	0.0245	-0.1091	0.0690	-0.0978	0.0771
2	330.12	0.4995	-0.1209	0.0048	0.0100	0.0323	-0.1861	0.0909	-0.2208	0.0624
2	330.12	0.5551	-0.1452	0.0058	0.0059	0.0424	-0.2948	0.1102	-0.1621	0.0496
2	330.12	0.5996	-0.1730	0.0058	0.0066	0.0519	-0.4084	0.1237	-0.1863	0.0769
2	330.12	0.6497	-0.1940	0.0068	0.0150	0.0634	-0.5680	0.1469	-0.1186	0.0690
2	330.12	0.6996	-0.2329	0.0056	0.0165	0.0769	-0.7602	0.1730	-0.1638	0.0652
2	330.12	0.7495	-0.2653	0.0076	0.0240	0.0910	-1.0093	0.1906	-0.2813	0.0769
2	330.12	0.7996	-0.2961	0.0086	0.0025	0.1062	-1.2764	0.2108	-0.3722	0.0605
2	330.12	0.8578	-0.3536	0.0081	0.0011	0.1245	-1.6065	0.2373	-0.1675	0.0682
2	330.12	0.9100	-0.3774	0.0088	0.0411	0.1415	-1.9193	0.2624	-0.2047	0.0635
2	330.12	0.9727	-0.4092	0.0118	0.0828	0.1621	-2.2616	0.2948	-0.0206	0.0775

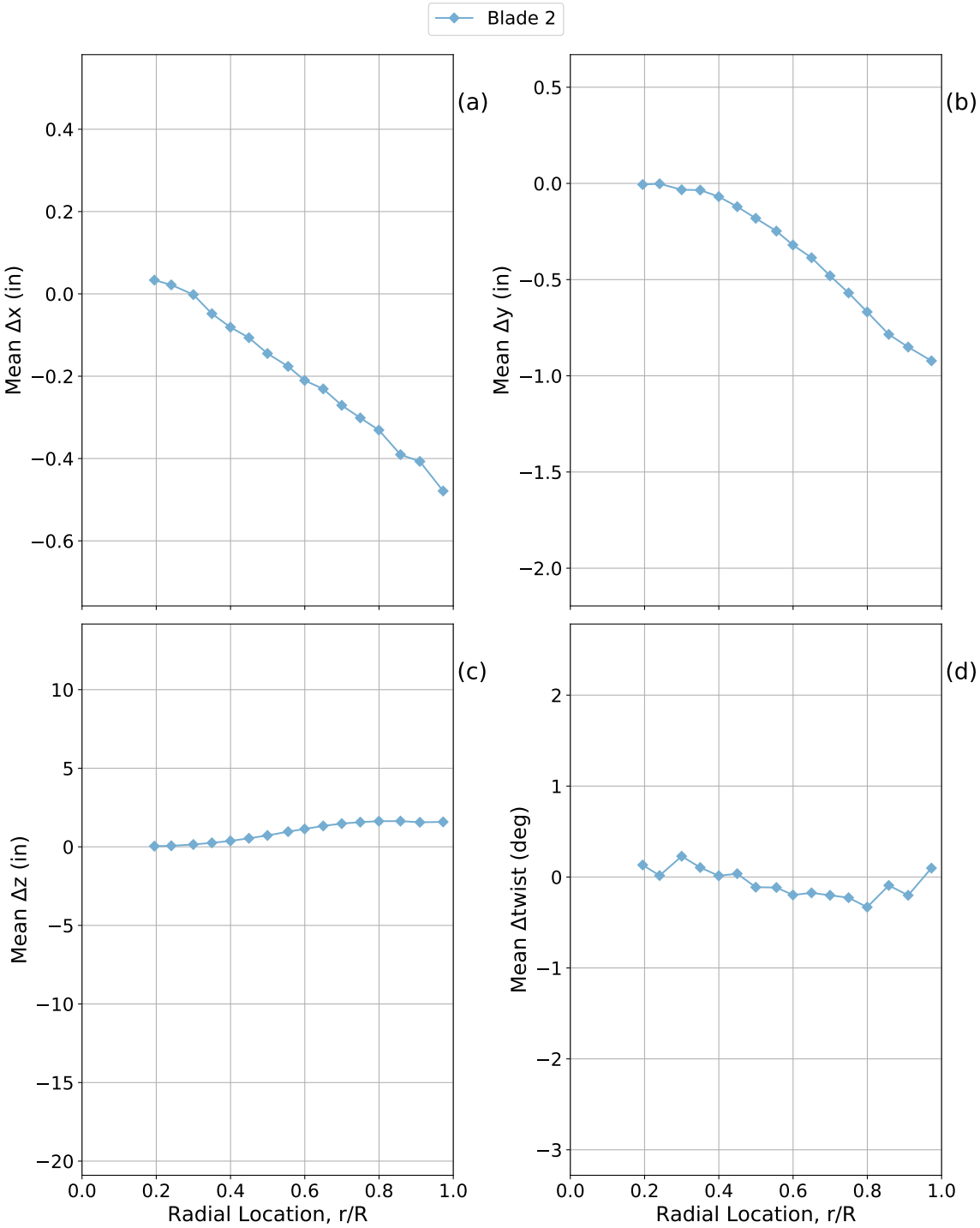


Figure 3.13-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.35$, $\alpha = -6.9°$
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0335	0.0020	-0.0057	0.0009	0.0421	0.0053	0.1322	0.0294
2	344.88	0.2405	0.0219	0.0026	-0.0018	0.0066	0.0647	0.0068	0.0159	0.0587
2	344.88	0.2999	-0.0017	0.0042	-0.0329	0.0071	0.1483	0.0161	0.2284	0.0715
2	344.88	0.3498	-0.0481	0.0039	-0.0347	0.0152	0.2526	0.0276	0.1042	0.0695
2	344.88	0.3998	-0.0810	0.0034	-0.0688	0.0248	0.3749	0.0401	0.0136	0.0724
2	344.88	0.4496	-0.1065	0.0046	-0.1210	0.0283	0.5416	0.0488	0.0364	0.0773
2	344.88	0.4995	-0.1448	0.0050	-0.1814	0.0357	0.7227	0.0593	-0.1123	0.1012
2	344.88	0.5551	-0.1762	0.0044	-0.2479	0.0397	0.9646	0.0709	-0.1155	0.0883
2	344.88	0.5996	-0.2103	0.0050	-0.3202	0.0451	1.1359	0.0842	-0.1976	0.0751
2	344.88	0.6497	-0.2308	0.0055	-0.3862	0.0484	1.3286	0.0995	-0.1746	0.0851
2	344.88	0.6996	-0.2708	0.0071	-0.4801	0.0535	1.4763	0.1212	-0.2011	0.0850
2	344.88	0.7495	-0.3013	0.0059	-0.5694	0.0575	1.5707	0.1364	-0.2278	0.0916
2	344.88	0.7996	-0.3309	0.0060	-0.6681	0.0616	1.6305	0.1577	-0.3314	0.0979
2	344.88	0.8578	-0.3905	0.0068	-0.7847	0.0675	1.6354	0.1833	-0.0923	0.0893
2	344.88	0.9100	-0.4071	0.0067	-0.8505	0.0717	1.5611	0.2034	-0.2014	0.0902
2	344.88	0.9727	-0.4789	0.0081	-0.9222	0.0778	1.5844	0.2262	0.0977	0.0932

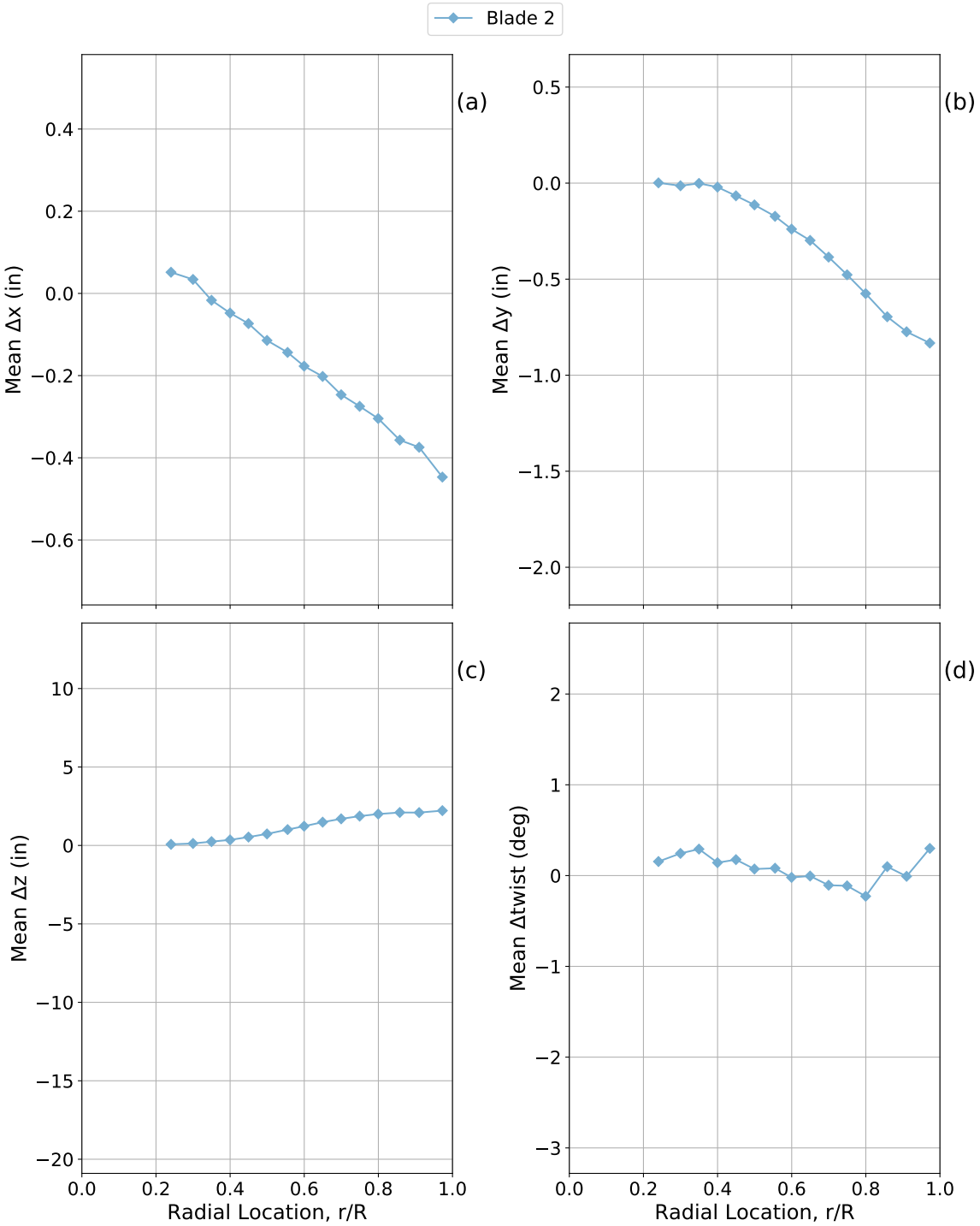


Figure 3.13-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0515	0.0034	0.0014	0.0027	0.0701	0.0068	0.1547	0.0765
2	350.16	0.2999	0.0340	0.0034	-0.0138	0.0061	0.1253	0.0143	0.2443	0.1186
2	350.16	0.3498	-0.0167	0.0026	-0.0013	0.0117	0.2436	0.0199	0.2917	0.0752
2	350.16	0.3998	-0.0478	0.0028	-0.0207	0.0180	0.3534	0.0310	0.1421	0.1077
2	350.16	0.4496	-0.0734	0.0033	-0.0661	0.0257	0.5338	0.0404	0.1755	0.1066
2	350.16	0.4995	-0.1144	0.0039	-0.1134	0.0294	0.7340	0.0515	0.0721	0.1171
2	350.16	0.5551	-0.1436	0.0040	-0.1729	0.0353	1.0095	0.0667	0.0811	0.1043
2	350.16	0.5996	-0.1770	0.0040	-0.2395	0.0404	1.2251	0.0797	-0.0202	0.1144
2	350.16	0.6497	-0.2021	0.0039	-0.2983	0.0459	1.4836	0.0946	-0.0051	0.1173
2	350.16	0.6996	-0.2466	0.0049	-0.3852	0.0514	1.6951	0.1085	-0.1061	0.1142
2	350.16	0.7495	-0.2748	0.0055	-0.4773	0.0569	1.8672	0.1215	-0.1130	0.0987
2	350.16	0.7996	-0.3045	0.0050	-0.5753	0.0631	2.0011	0.1363	-0.2279	0.1096
2	350.16	0.8578	-0.3570	0.0050	-0.6958	0.0703	2.0992	0.1534	0.0982	0.1124
2	350.16	0.9100	-0.3744	0.0056	-0.7739	0.0756	2.0940	0.1683	-0.0083	0.0977
2	350.16	0.9727	-0.4470	0.0068	-0.8327	0.0833	2.2185	0.1904	0.2991	0.1150

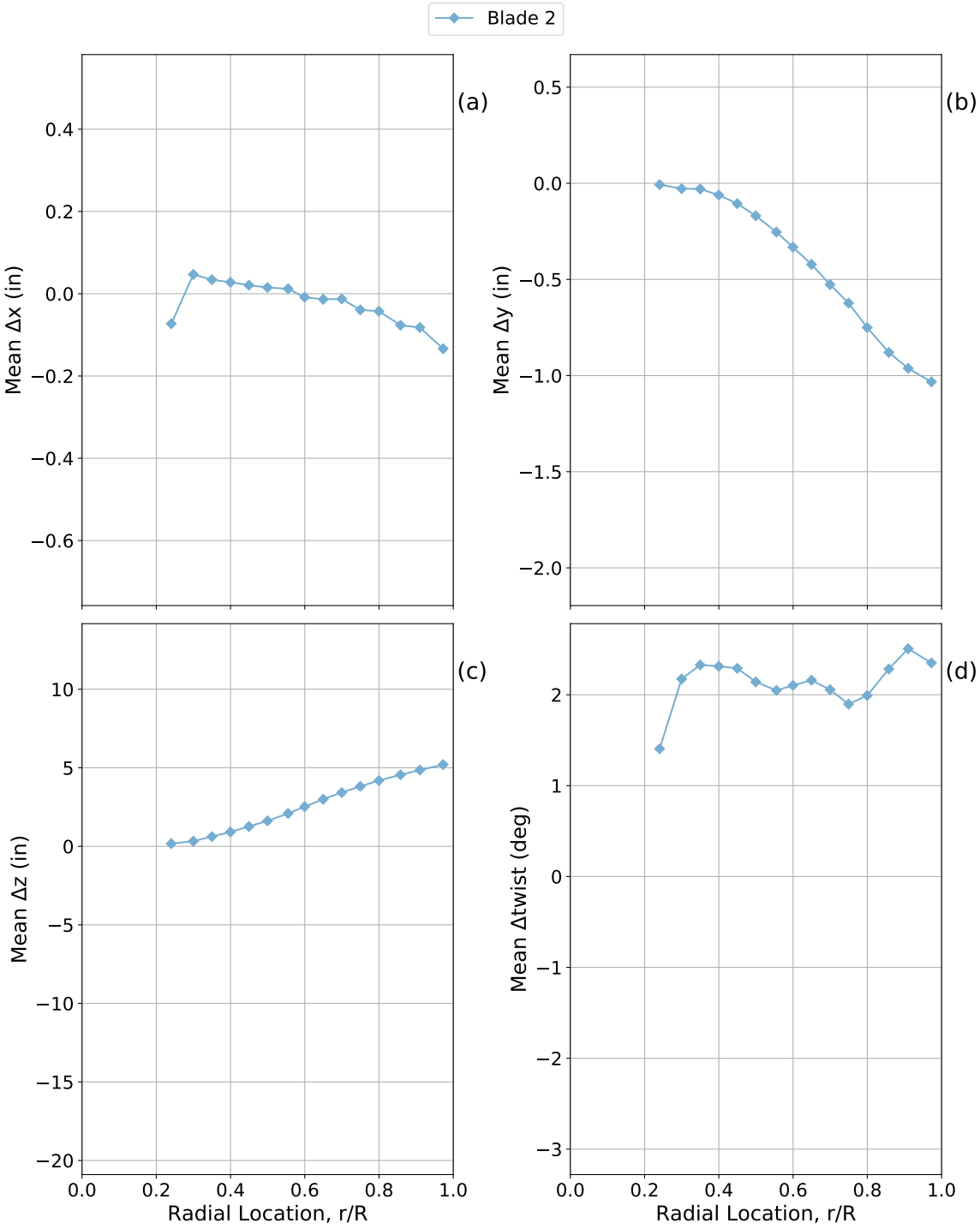


Figure 3.13-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.35, α = -6.9° NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Table 3.13-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.35, α = -6.9°
NFAC run 53, point 13. BD run 26, points 3145 to 3155.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2405	-0.0729	0.0125	-0.0068	0.0073	0.1744	0.0331	1.4049	0.3130
2	355.08	0.2999	0.0468	0.0080	-0.0279	0.0177	0.3270	0.0557	2.1738	0.4824
2	355.08	0.3498	0.0341	0.0078	-0.0296	0.0296	0.6183	0.0987	2.3285	0.4722
2	355.08	0.3998	0.0279	0.0088	-0.0609	0.0477	0.9139	0.1398	2.3130	0.4786
2	355.08	0.4496	0.0208	0.0111	-0.1057	0.0622	1.2633	0.1810	2.2905	0.4796
2	355.08	0.4995	0.0151	0.0152	-0.1690	0.0780	1.6218	0.2249	2.1412	0.4655
2	355.08	0.5551	0.0120	0.0184	-0.2536	0.0930	2.0939	0.2731	2.0479	0.5070
2	355.08	0.5996	-0.0085	0.0211	-0.3317	0.1025	2.5232	0.3110	2.1024	0.5091
2	355.08	0.6497	-0.0137	0.0246	-0.4217	0.1161	2.9983	0.3540	2.1597	0.5050
2	355.08	0.6996	-0.0127	0.0285	-0.5266	0.1317	3.4231	0.3984	2.0558	0.5072
2	355.08	0.7495	-0.0392	0.0311	-0.6232	0.1451	3.8175	0.4404	1.8965	0.4953
2	355.08	0.7996	-0.0426	0.0358	-0.7500	0.1597	4.1876	0.4868	1.9916	0.5113
2	355.08	0.8578	-0.0766	0.0403	-0.8795	0.1775	4.5534	0.5429	2.2831	0.5000
2	355.08	0.9100	-0.0821	0.0453	-0.9623	0.1914	4.8541	0.5934	2.5067	0.5062
2	355.08	0.9727	-0.1338	0.0561	-1.0326	0.2078	5.2034	0.6574	2.3501	0.5076

3.14 Run 53, Point 14

3.14.1 Pitch, Flap, and Lag

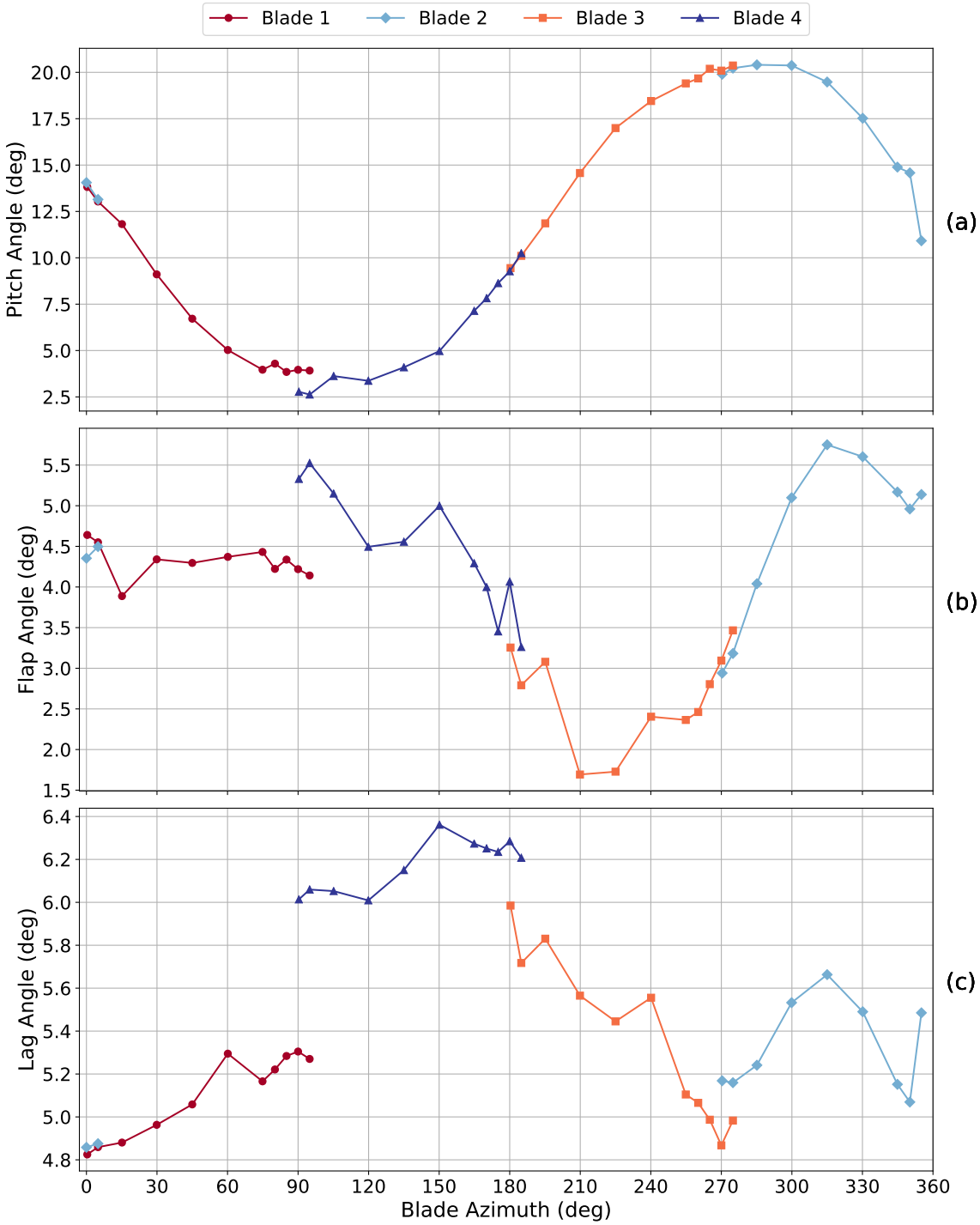


Figure 3.14-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	14.0553	4.3536	4.8582	0.0676	0.1656	0.0638
0.35	1	13.8182	4.6402	4.8251	0.0938	0.0521	0.0629
4.92	1	13.0340	4.5499	4.8591	0.1330	0.1646	0.0472
4.92	2	13.1462	4.4972	4.8755	0.0860	0.0664	0.0596
15.12	1	11.8174	3.8880	4.8805	0.0921	0.0675	0.0616
29.88	1	9.1071	4.3402	4.9631	0.0827	0.0973	0.1107
45	1	6.7156	4.2961	5.0583	0.0760	0.0608	0.0383
60.12	1	5.0275	4.3707	5.2948	0.0543	0.0584	0.0535
74.88	1	3.9655	4.4313	5.1658	0.0562	0.0900	0.0607
80.16	1	4.2920	4.2227	5.2211	0.0589	0.0732	0.0172
85.08	1	3.8451	4.3370	5.2840	0.0825	0.0533	0.0630
90	1	3.9615	4.2195	5.3047	0.0584	0.1411	0.1115
90.35	4	2.7733	5.3291	6.0136	0.0629	0.1968	0.0638
94.92	1	3.9187	4.1417	5.2702	0.2782	0.1277	0.0656
94.92	4	2.6254	5.5239	6.0596	0.0739	0.1375	0.0730
105.12	4	3.6222	5.1492	6.0524	0.2871	0.0964	0.0561
119.88	4	3.3667	4.4944	6.0091	0.0527	0.1438	0.0443
135	4	4.0934	4.5565	6.1501	0.0483	0.1618	0.0659
150.12	4	4.9696	4.9982	6.3618	0.0797	0.3267	0.0637
164.88	4	7.1360	4.2921	6.2735	0.0408	0.1240	0.0650
170.16	4	7.8184	3.9987	6.2510	0.0603	0.2185	0.0334
175.08	4	8.6320	3.4532	6.2348	0.0689	0.1687	0.0596
180	4	9.2718	4.0653	6.2847	0.0565	0.2143	0.0803
180.35	3	9.4453	3.2548	5.9849	0.0542	0.1025	0.0866
184.92	3	10.1054	2.7914	5.7174	0.0780	0.2729	0.0732
184.92	4	10.2478	3.2614	6.2073	0.0470	0.1600	0.0636
195.12	3	11.8581	3.0797	5.8306	0.0792	0.1413	0.0441
209.88	3	14.5711	1.6928	5.5651	0.0809	0.1803	0.0938
225	3	16.9960	1.7278	5.4452	0.0705	0.1033	0.0599
240.12	3	18.4539	2.4041	5.5555	0.0868	0.2249	0.0382
254.88	3	19.4033	2.3642	5.1045	0.0574	0.0734	0.0644
260.16	3	19.6725	2.4620	5.0656	0.1330	0.0489	0.0532
265.08	3	20.1923	2.8044	4.9869	0.1106	0.0922	0.0628
270	3	20.0922	3.0947	4.8675	0.0998	0.0668	0.0826
270.35	2	19.8965	2.9407	5.1685	0.0517	0.0489	0.0527
274.92	2	20.2253	3.1821	5.1596	0.0575	0.0782	0.0562
274.92	3	20.3683	3.4664	4.9831	0.3791	0.2840	0.1099
285.12	2	20.4062	4.0401	5.2411	0.1559	0.0680	0.0858
299.88	2	20.3713	5.0985	5.5325	0.1099	0.0427	0.0546
315	2	19.4797	5.7502	5.6631	0.1025	0.0299	0.0302
330.12	2	17.5239	5.6029	5.4902	0.0852	0.1167	0.0369
344.88	2	14.8902	5.1684	5.1518	0.0889	0.0830	0.0768
350.16	2	14.5807	4.9601	5.0693	0.1280	0.1381	0.0314
355.08	2	10.9173	5.1382	5.4851	1.2213	0.0687	0.2173

3.14.2 Spanwise Elastic Deformations

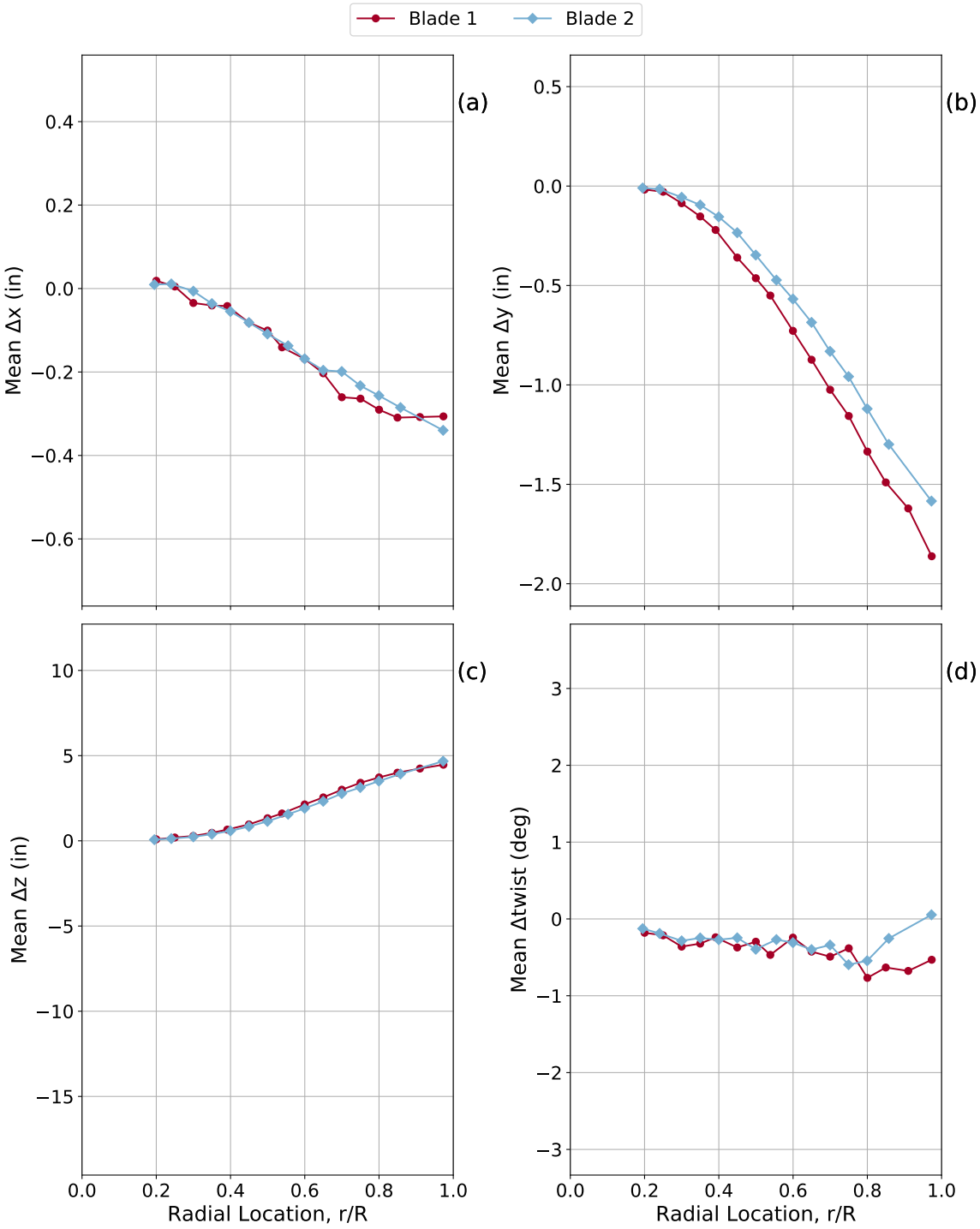


Figure 3.14-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0186	0.0026	-0.0176	0.0015	0.0890	0.0089	-0.1802	0.0431
1	0.35	0.2499	0.0049	0.0029	-0.0287	0.0058	0.1940	0.0152	-0.2133	0.0998
1	0.35	0.2998	-0.0346	0.0023	-0.0864	0.0082	0.2842	0.0243	-0.3603	0.1010
1	0.35	0.3498	-0.0406	0.0026	-0.1529	0.0164	0.4675	0.0442	-0.3212	0.0876
1	0.35	0.3913	-0.0420	0.0033	-0.2208	0.0239	0.6596	0.0570	-0.2388	0.1000
1	0.35	0.4496	-0.0816	0.0040	-0.3597	0.0310	0.9653	0.0786	-0.3717	0.1019
1	0.35	0.4997	-0.1007	0.0040	-0.4634	0.0374	1.3262	0.0961	-0.2963	0.0976
1	0.35	0.5387	-0.1409	0.0037	-0.5506	0.0425	1.6058	0.1093	-0.4680	0.1062
1	0.35	0.5996	-0.1685	0.0051	-0.7281	0.0535	2.1370	0.1293	-0.2431	0.1133
1	0.35	0.6498	-0.2031	0.0051	-0.8735	0.0609	2.5490	0.1371	-0.4254	0.1278
1	0.35	0.6998	-0.2605	0.0053	-1.0244	0.0696	3.0005	0.1508	-0.4911	0.1327
1	0.35	0.7500	-0.2638	0.0063	-1.1564	0.0763	3.4053	0.1504	-0.3819	0.1394
1	0.35	0.8001	-0.2904	0.0072	-1.3352	0.0862	3.7209	0.1655	-0.7672	0.1140
1	0.35	0.8497	-0.3093	0.0066	-1.4903	0.0987	3.9983	0.1868	-0.6321	0.1401
1	0.35	0.9102	-0.3079	0.0090	-1.6213	0.1058	4.2416	0.2125	-0.6766	0.2033
1	0.35	0.9734	-0.3064	0.0108	-1.8617	0.1223	4.4665	0.2480	-0.5313	0.1530
2	0	0.1949	0.0095	0.0019	-0.0095	0.0015	0.0678	0.0055	-0.1259	0.0719
2	0	0.2405	0.0110	0.0020	-0.0153	0.0050	0.1302	0.0129	-0.1890	0.0619
2	0	0.2999	-0.0063	0.0020	-0.0563	0.0083	0.2346	0.0195	-0.2852	0.1456
2	0	0.3498	-0.0361	0.0024	-0.0951	0.0149	0.3923	0.0313	-0.2472	0.0616
2	0	0.3998	-0.0550	0.0030	-0.1548	0.0239	0.5834	0.0449	-0.2707	0.0965
2	0	0.4496	-0.0815	0.0037	-0.2345	0.0266	0.8418	0.0535	-0.2458	0.1033
2	0	0.4995	-0.1088	0.0039	-0.3470	0.0314	1.1420	0.0616	-0.3948	0.1007
2	0	0.5551	-0.1372	0.0035	-0.4729	0.0377	1.5588	0.0759	-0.2686	0.1331
2	0	0.5996	-0.1684	0.0037	-0.5680	0.0440	1.9058	0.0899	-0.3086	0.0984
2	0	0.6497	-0.1959	0.0049	-0.6856	0.0493	2.3195	0.1003	-0.3988	0.1069
2	0	0.6996	-0.1988	0.0047	-0.8312	0.0540	2.7744	0.1138	-0.3395	0.1598
2	0	0.7495	-0.2328	0.0068	-0.9582	0.0594	3.1298	0.1318	-0.5953	0.1636
2	0	0.7996	-0.2565	0.0054	-1.1201	0.0673	3.5056	0.1533	-0.5443	0.1486
2	0	0.8578	-0.2852	0.0077	-1.2991	0.0699	3.9249	0.1797	-0.2540	0.1439
2	0	0.9727	-0.3398	0.0117	-1.5842	0.0840	4.6740	0.2482	0.0540	0.1171

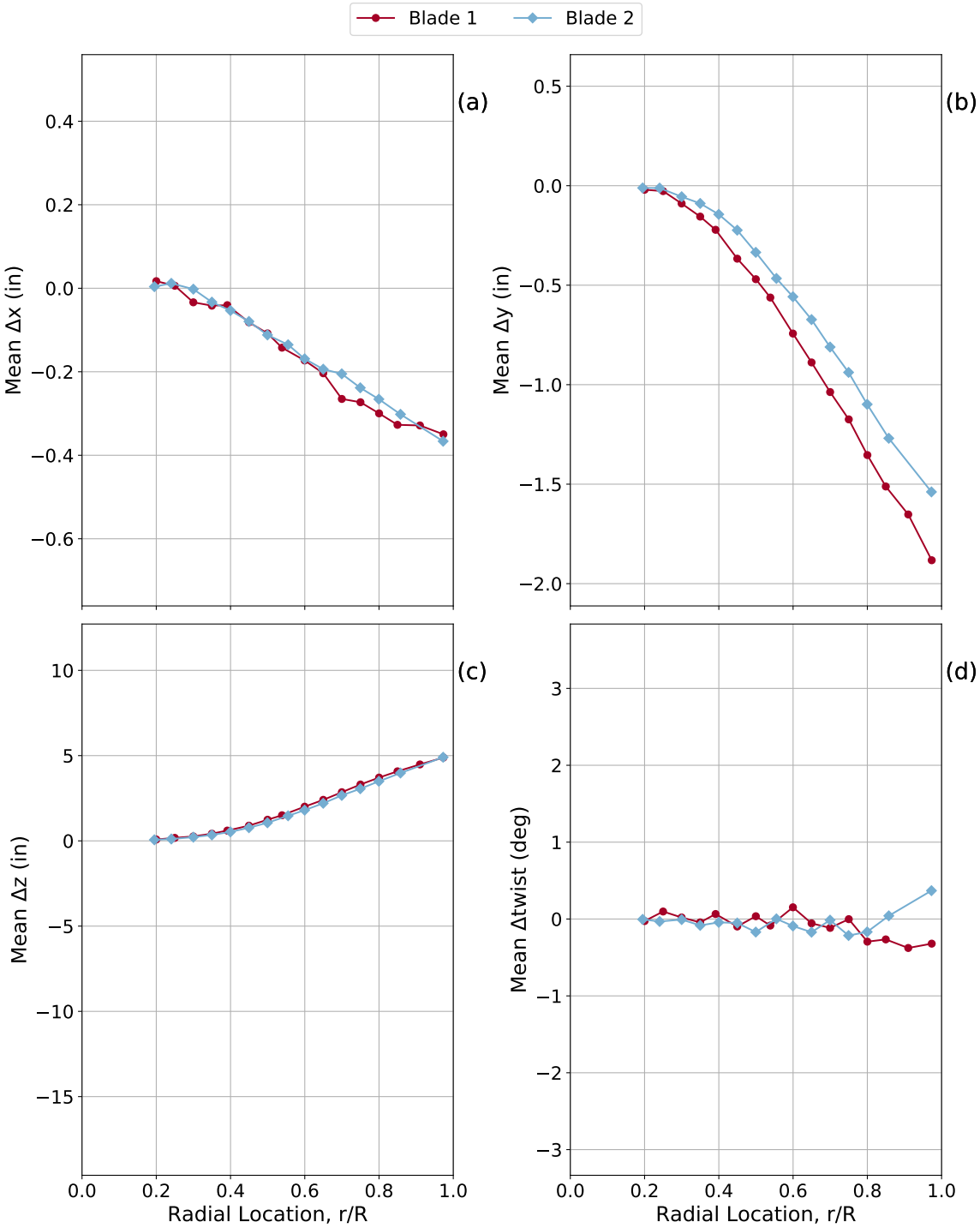


Figure 3.14-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0170	0.0026	-0.0202	0.0017	0.0802	0.0065	-0.0263	0.0538
1	4.92	0.2499	0.0060	0.0019	-0.0272	0.0045	0.1752	0.0101	0.0977	0.0830
1	4.92	0.2998	-0.0337	0.0023	-0.0896	0.0063	0.2617	0.0178	0.0200	0.1133
1	4.92	0.3498	-0.0417	0.0025	-0.1553	0.0109	0.4221	0.0266	-0.0437	0.0881
1	4.92	0.3913	-0.0405	0.0034	-0.2216	0.0156	0.6029	0.0362	0.0651	0.0642
1	4.92	0.4496	-0.0815	0.0031	-0.3668	0.0191	0.8918	0.0437	-0.0972	0.0898
1	4.92	0.4997	-0.1081	0.0024	-0.4699	0.0229	1.2391	0.0545	0.0363	0.0999
1	4.92	0.5387	-0.1423	0.0020	-0.5621	0.0259	1.5018	0.0656	-0.0853	0.0948
1	4.92	0.5996	-0.1729	0.0024	-0.7430	0.0304	2.0050	0.0920	0.1524	0.0923
1	4.92	0.6498	-0.2036	0.0021	-0.8883	0.0354	2.4051	0.1187	-0.0563	0.0859
1	4.92	0.6998	-0.2651	0.0030	-1.0371	0.0395	2.8537	0.1485	-0.1154	0.0885
1	4.92	0.7500	-0.2730	0.0027	-1.1744	0.0454	3.3057	0.1959	-0.0018	0.1127
1	4.92	0.8001	-0.2997	0.0032	-1.3538	0.0506	3.7119	0.2483	-0.2945	0.1000
1	4.92	0.8497	-0.3271	0.0047	-1.5117	0.0544	4.0779	0.3117	-0.2653	0.0922
1	4.92	0.9102	-0.3286	0.0080	-1.6523	0.0534	4.4827	0.4129	-0.3768	0.1962
1	4.92	0.9734	-0.3498	0.0122	-1.8824	0.0651	4.8846	0.5075	-0.3204	0.1178
2	4.92	0.1949	0.0038	0.0015	-0.0111	0.0010	0.0615	0.0062	-0.0046	0.0486
2	4.92	0.2405	0.0118	0.0014	-0.0118	0.0033	0.1100	0.0120	-0.0322	0.0599
2	4.92	0.2999	-0.0022	0.0015	-0.0554	0.0049	0.2173	0.0218	-0.0071	0.1032
2	4.92	0.3498	-0.0332	0.0017	-0.0891	0.0101	0.3479	0.0378	-0.0828	0.0492
2	4.92	0.3998	-0.0534	0.0028	-0.1440	0.0149	0.5273	0.0555	-0.0436	0.0685
2	4.92	0.4496	-0.0795	0.0034	-0.2236	0.0201	0.7707	0.0746	-0.0517	0.0738
2	4.92	0.4995	-0.1118	0.0034	-0.3349	0.0253	1.0609	0.1001	-0.1697	0.0666
2	4.92	0.5551	-0.1353	0.0052	-0.4661	0.0337	1.4708	0.1315	0.0023	0.0820
2	4.92	0.5996	-0.1690	0.0053	-0.5580	0.0397	1.8013	0.1577	-0.0911	0.0541
2	4.92	0.6497	-0.1939	0.0068	-0.6728	0.0457	2.2053	0.1875	-0.1714	0.0716
2	4.92	0.6996	-0.2050	0.0067	-0.8108	0.0537	2.6658	0.2210	-0.0144	0.0908
2	4.92	0.7495	-0.2384	0.0088	-0.9383	0.0628	3.0569	0.2523	-0.2148	0.0952
2	4.92	0.7996	-0.2657	0.0098	-1.0988	0.0719	3.4927	0.2950	-0.1674	0.0751
2	4.92	0.8578	-0.3019	0.0123	-1.2694	0.0807	3.9799	0.3439	0.0416	0.1095
2	4.92	0.9727	-0.3664	0.0183	-1.5389	0.1019	4.9038	0.4700	0.3690	0.0867

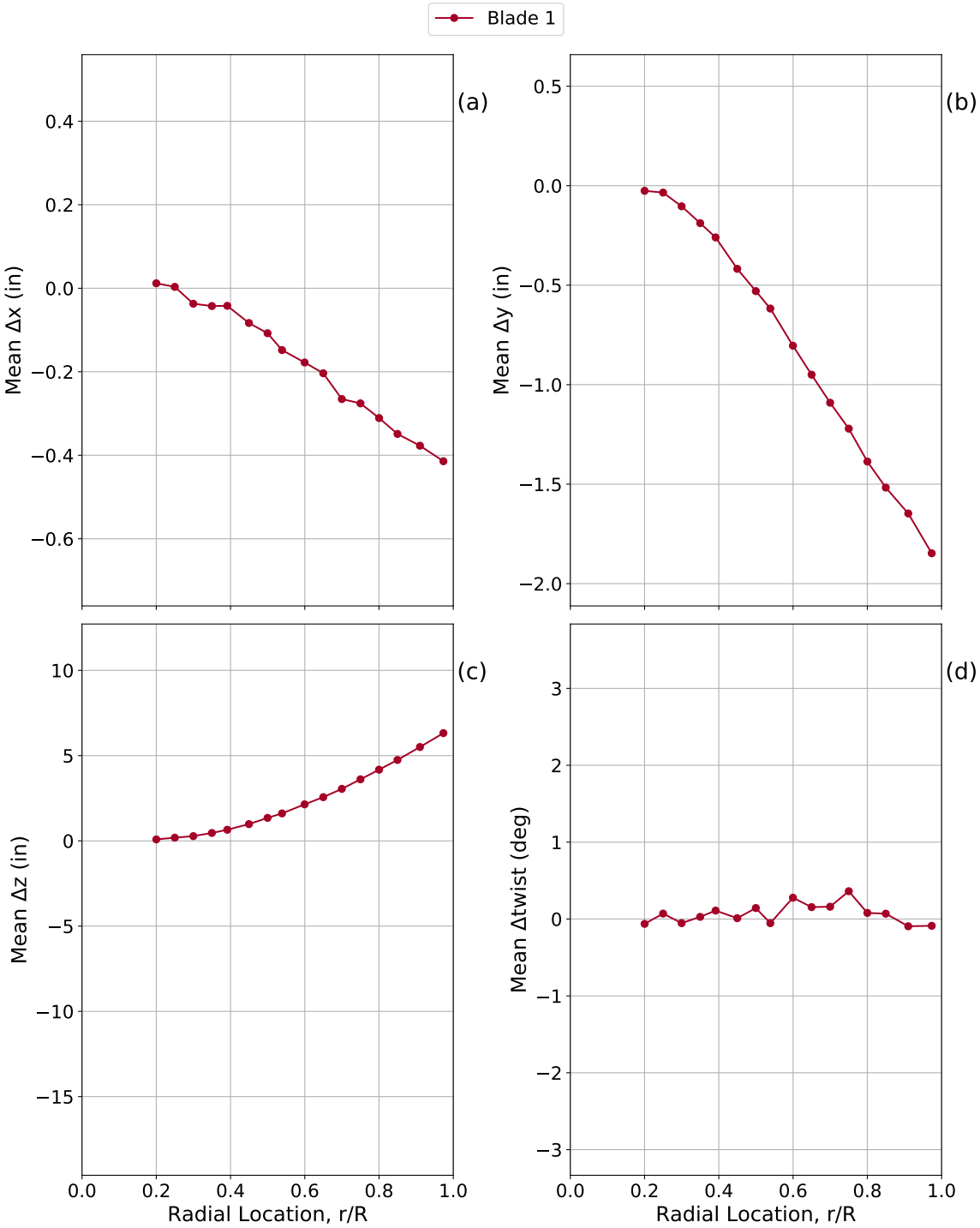


Figure 3.14-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0119	0.0037	-0.0256	0.0021	0.0856	0.0102	-0.0631	0.0301
1	15.12	0.2499	0.0033	0.0023	-0.0346	0.0038	0.1869	0.0158	0.0709	0.0534
1	15.12	0.2998	-0.0371	0.0019	-0.1036	0.0072	0.2777	0.0299	-0.0536	0.0666
1	15.12	0.3498	-0.0426	0.0023	-0.1882	0.0157	0.4634	0.0509	0.0282	0.0675
1	15.12	0.3913	-0.0421	0.0027	-0.2599	0.0202	0.6523	0.0682	0.1101	0.0667
1	15.12	0.4496	-0.0832	0.0031	-0.4178	0.0268	0.9833	0.0935	0.0107	0.0656
1	15.12	0.4997	-0.1077	0.0028	-0.5298	0.0323	1.3480	0.1153	0.1428	0.0780
1	15.12	0.5387	-0.1481	0.0041	-0.6174	0.0363	1.6105	0.1318	-0.0541	0.0758
1	15.12	0.5996	-0.1778	0.0048	-0.8040	0.0465	2.1417	0.1598	0.2775	0.0612
1	15.12	0.6498	-0.2036	0.0046	-0.9499	0.0555	2.5639	0.1807	0.1547	0.0766
1	15.12	0.6998	-0.2654	0.0064	-1.0909	0.0638	3.0502	0.2019	0.1599	0.0830
1	15.12	0.7500	-0.2757	0.0078	-1.2210	0.0725	3.6096	0.2244	0.3617	0.0747
1	15.12	0.8001	-0.3108	0.0082	-1.3863	0.0836	4.1758	0.2484	0.0793	0.0657
1	15.12	0.8497	-0.3489	0.0098	-1.5172	0.0927	4.7450	0.2736	0.0696	0.0702
1	15.12	0.9102	-0.3771	0.0111	-1.6473	0.1063	5.5045	0.3029	-0.0942	0.1065
1	15.12	0.9734	-0.4143	0.0140	-1.8473	0.1204	6.3206	0.3410	-0.0883	0.1036

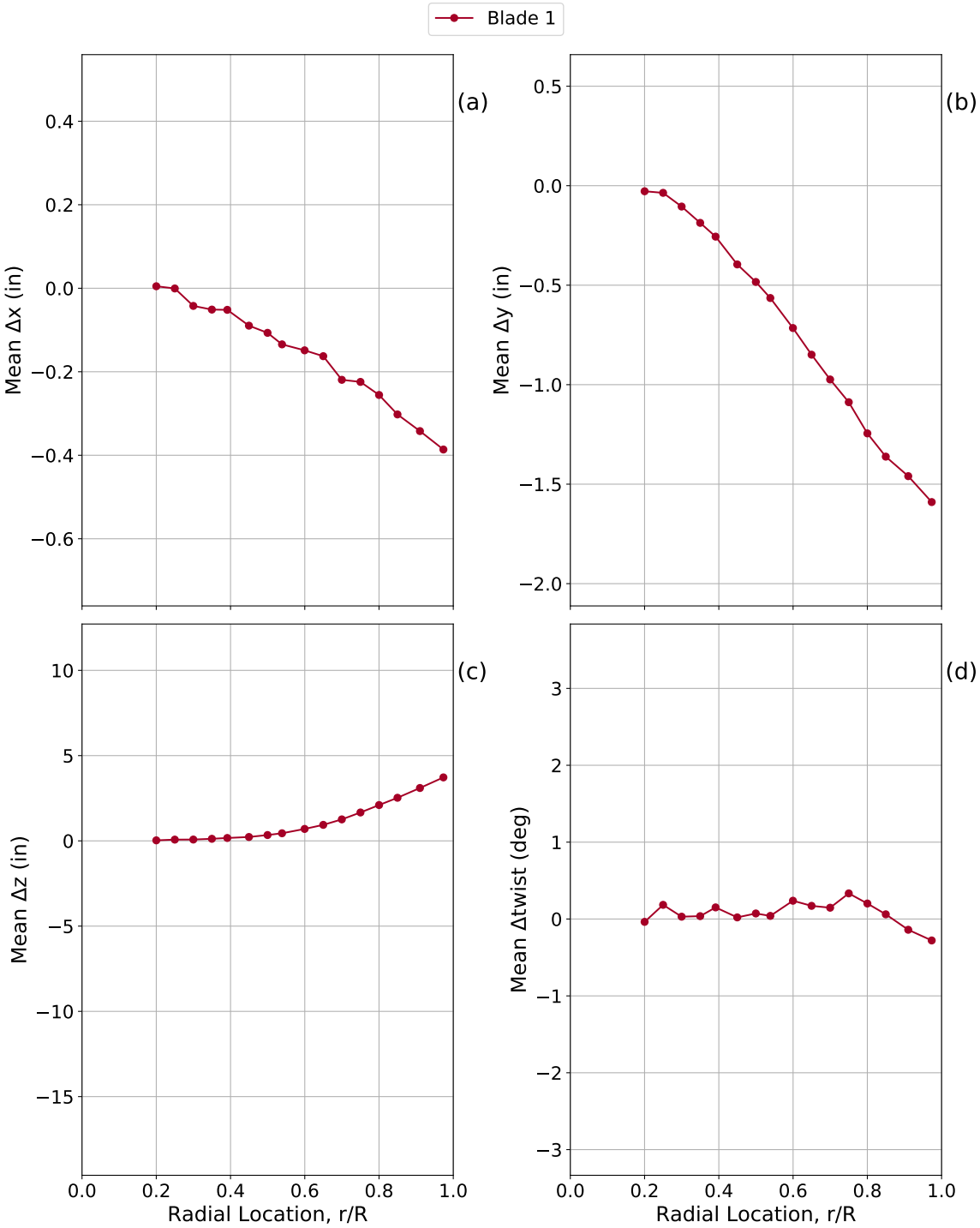


Figure 3.14-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0048	0.0026	-0.0279	0.0014	0.0300	0.0053	-0.0370	0.0370
1	29.88	0.2499	-0.0005	0.0029	-0.0359	0.0040	0.0736	0.0115	0.1843	0.0574
1	29.88	0.2998	-0.0423	0.0014	-0.1048	0.0073	0.0777	0.0184	0.0304	0.0795
1	29.88	0.3498	-0.0511	0.0021	-0.1868	0.0114	0.1212	0.0307	0.0373	0.0808
1	29.88	0.3913	-0.0517	0.0030	-0.2559	0.0179	0.1687	0.0436	0.1511	0.0788
1	29.88	0.4496	-0.0896	0.0036	-0.3956	0.0235	0.2268	0.0645	0.0212	0.0753
1	29.88	0.4997	-0.1068	0.0027	-0.4837	0.0296	0.3418	0.0823	0.0722	0.0823
1	29.88	0.5387	-0.1344	0.0034	-0.5645	0.0342	0.4451	0.1000	0.0404	0.0833
1	29.88	0.5996	-0.1487	0.0037	-0.7153	0.0422	0.6996	0.1289	0.2378	0.0985
1	29.88	0.6498	-0.1627	0.0038	-0.8493	0.0503	0.9387	0.1562	0.1713	0.0894
1	29.88	0.6998	-0.2193	0.0043	-0.9739	0.0597	1.2598	0.1853	0.1472	0.0980
1	29.88	0.7500	-0.2243	0.0052	-1.0881	0.0693	1.6656	0.2190	0.3334	0.0926
1	29.88	0.8001	-0.2556	0.0077	-1.2449	0.0791	2.1012	0.2555	0.2018	0.1069
1	29.88	0.8497	-0.3022	0.0094	-1.3617	0.0897	2.5276	0.2962	0.0614	0.0937
1	29.88	0.9102	-0.3421	0.0106	-1.4598	0.1015	3.1008	0.3456	-0.1399	0.1131
1	29.88	0.9734	-0.3862	0.0184	-1.5900	0.1171	3.7226	0.4028	-0.2788	0.1072

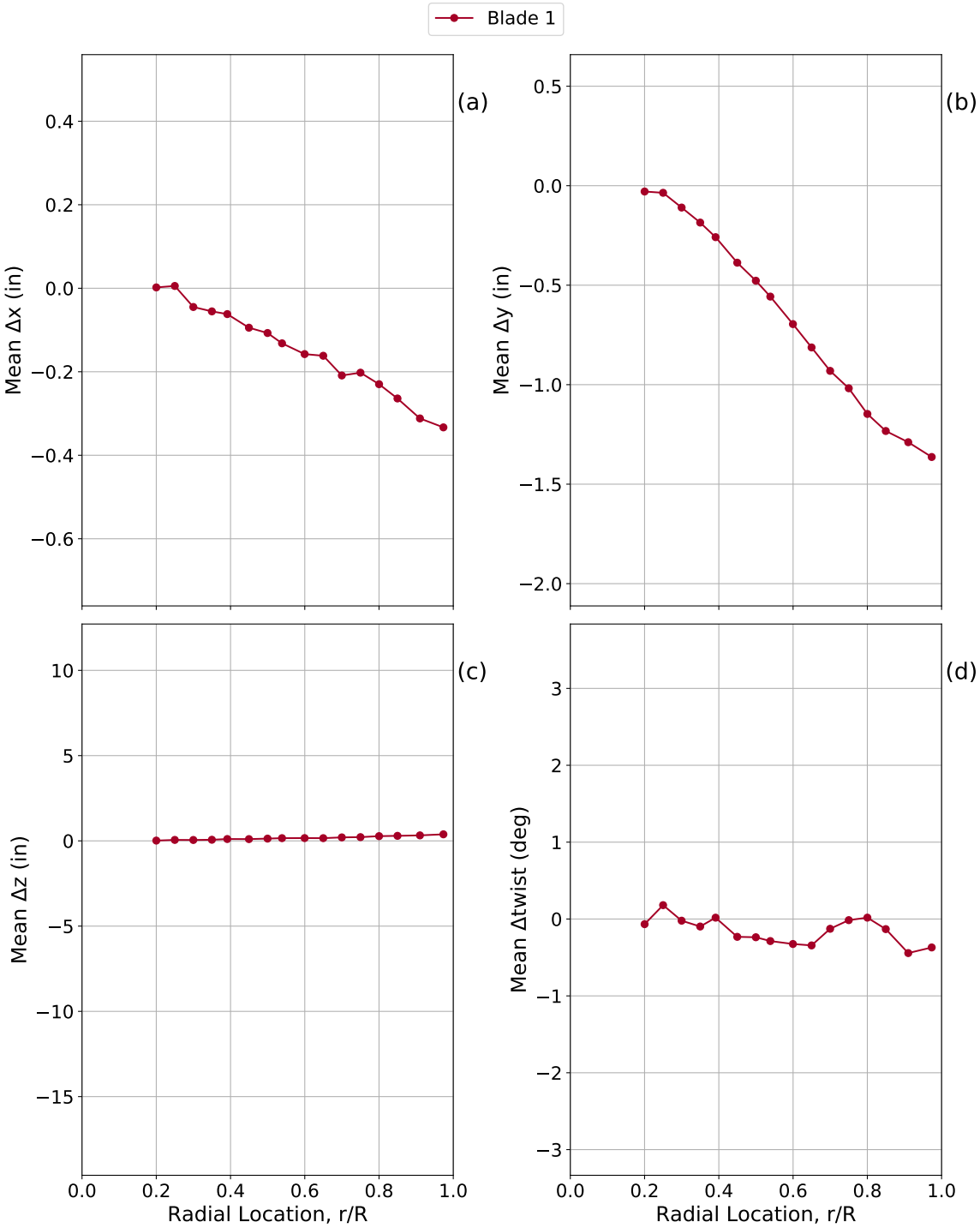


Figure 3.14-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0020	0.0021	-0.0292	0.0007	0.0163	0.0055	-0.0669	0.0299
1	45	0.2499	0.0055	0.0028	-0.0357	0.0027	0.0557	0.0101	0.1804	0.0554
1	45	0.2998	-0.0449	0.0021	-0.1098	0.0040	0.0516	0.0204	-0.0217	0.0689
1	45	0.3498	-0.0554	0.0020	-0.1853	0.0060	0.0651	0.0364	-0.0975	0.0650
1	45	0.3913	-0.0619	0.0022	-0.2586	0.0100	0.1080	0.0504	0.0176	0.0605
1	45	0.4496	-0.0945	0.0029	-0.3869	0.0139	0.1035	0.0727	-0.2318	0.0614
1	45	0.4997	-0.1072	0.0028	-0.4775	0.0177	0.1324	0.0934	-0.2371	0.0523
1	45	0.5387	-0.1319	0.0037	-0.5573	0.0235	0.1590	0.1095	-0.2866	0.0545
1	45	0.5996	-0.1577	0.0038	-0.6955	0.0292	0.1628	0.1313	-0.3249	0.0513
1	45	0.6498	-0.1617	0.0044	-0.8129	0.0354	0.1589	0.1483	-0.3434	0.0599
1	45	0.6998	-0.2089	0.0049	-0.9306	0.0422	0.2035	0.1641	-0.1271	0.0474
1	45	0.7500	-0.2022	0.0052	-1.0181	0.0495	0.2190	0.1794	-0.0147	0.0621
1	45	0.8001	-0.2298	0.0060	-1.1471	0.0572	0.2769	0.1967	0.0178	0.0715
1	45	0.8497	-0.2640	0.0062	-1.2328	0.0645	0.2948	0.2153	-0.1313	0.0713
1	45	0.9102	-0.3118	0.0066	-1.2892	0.0749	0.3225	0.2421	-0.4430	0.0645
1	45	0.9734	-0.3332	0.0092	-1.3635	0.0855	0.3841	0.2716	-0.3698	0.0712

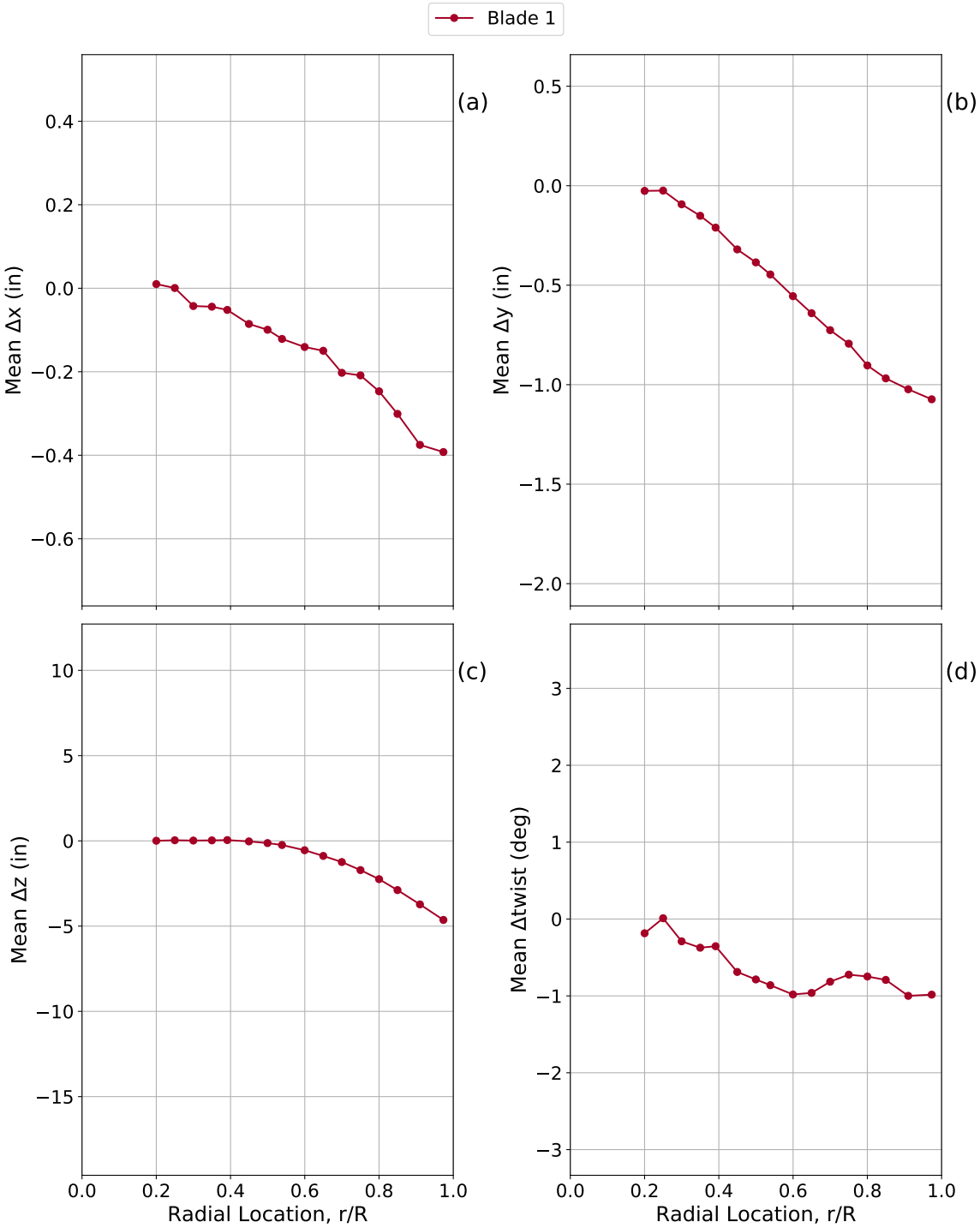


Figure 3.14-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0100	0.0019	-0.0260	0.0011	0.0067	0.0036	-0.1853	0.0244
1	60.12	0.2499	0.0006	0.0016	-0.0247	0.0020	0.0353	0.0076	0.0102	0.0375
1	60.12	0.2998	-0.0426	0.0019	-0.0934	0.0046	0.0180	0.0148	-0.2902	0.0535
1	60.12	0.3498	-0.0442	0.0019	-0.1512	0.0080	0.0293	0.0239	-0.3733	0.0640
1	60.12	0.3913	-0.0519	0.0024	-0.2106	0.0114	0.0457	0.0355	-0.3540	0.0623
1	60.12	0.4496	-0.0855	0.0032	-0.3201	0.0151	-0.0318	0.0508	-0.6887	0.0620
1	60.12	0.4997	-0.0994	0.0033	-0.3853	0.0190	-0.1298	0.0645	-0.7861	0.0562
1	60.12	0.5387	-0.1214	0.0046	-0.4462	0.0231	-0.2433	0.0752	-0.8610	0.0532
1	60.12	0.5996	-0.1407	0.0027	-0.5551	0.0296	-0.5494	0.0996	-0.9815	0.0638
1	60.12	0.6498	-0.1497	0.0026	-0.6408	0.0353	-0.8832	0.1194	-0.9611	0.0804
1	60.12	0.6998	-0.2025	0.0025	-0.7261	0.0406	-1.2418	0.1356	-0.8153	0.0589
1	60.12	0.7500	-0.2087	0.0032	-0.7940	0.0459	-1.7145	0.1515	-0.7239	0.0551
1	60.12	0.8001	-0.2468	0.0031	-0.9034	0.0527	-2.2460	0.1667	-0.7478	0.0590
1	60.12	0.8497	-0.3009	0.0032	-0.9683	0.0589	-2.8870	0.1807	-0.7920	0.0533
1	60.12	0.9102	-0.3751	0.0049	-1.0232	0.0661	-3.7261	0.2040	-0.9994	0.0559
1	60.12	0.9734	-0.3923	0.0062	-1.0735	0.0745	-4.6379	0.2301	-0.9837	0.0730

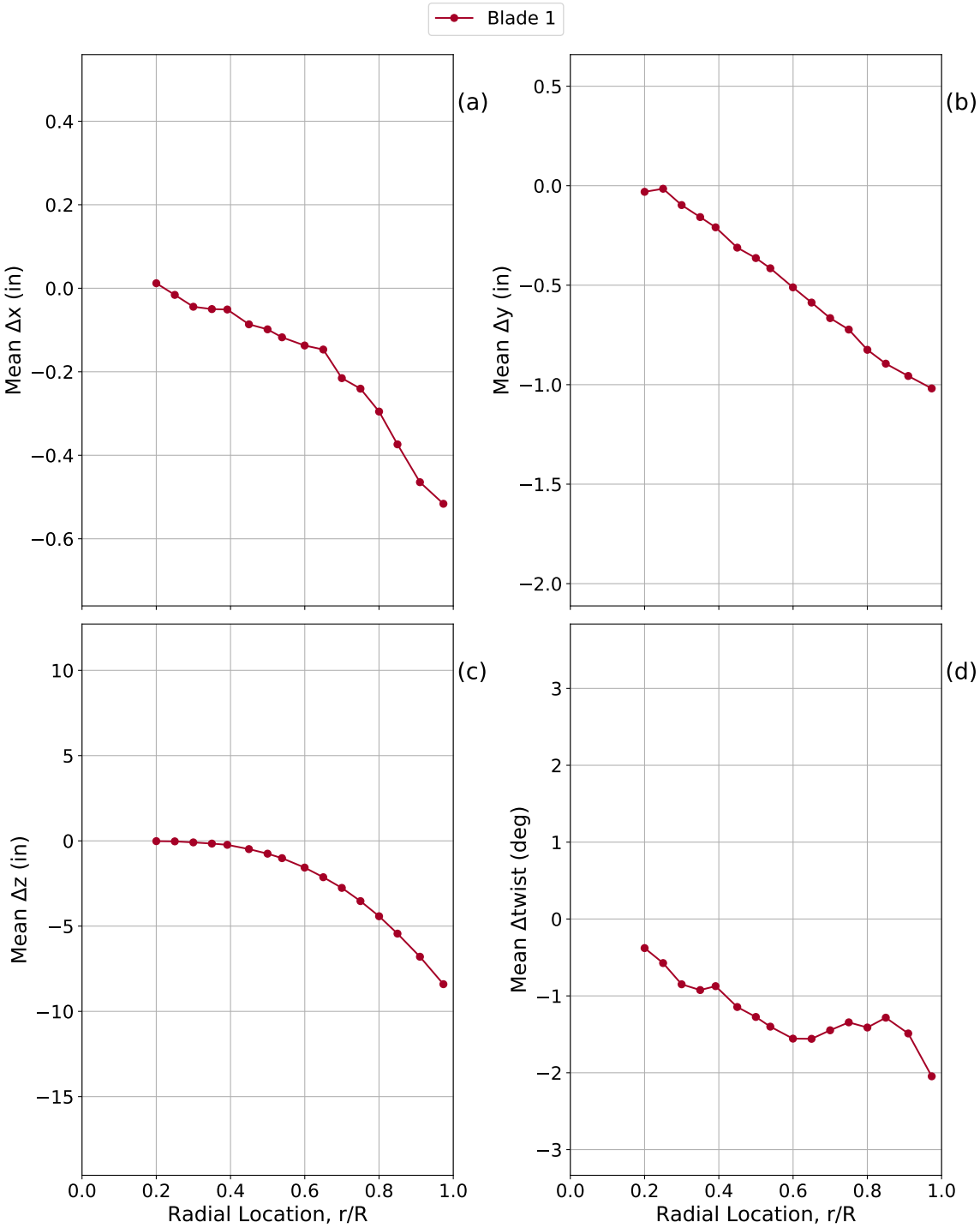


Figure 3.14-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0120	0.0020	-0.0308	0.0017	-0.0171	0.0062	-0.3781	0.0198
1	74.88	0.2499	-0.0159	0.0014	-0.0153	0.0030	-0.0297	0.0118	-0.5731	0.0519
1	74.88	0.2998	-0.0443	0.0027	-0.0974	0.0070	-0.0895	0.0237	-0.8492	0.0511
1	74.88	0.3498	-0.0499	0.0030	-0.1578	0.0116	-0.1594	0.0411	-0.9242	0.0587
1	74.88	0.3913	-0.0509	0.0037	-0.2092	0.0167	-0.2321	0.0581	-0.8733	0.0444
1	74.88	0.4496	-0.0864	0.0034	-0.3113	0.0224	-0.4829	0.0833	-1.1445	0.0505
1	74.88	0.4997	-0.0984	0.0039	-0.3636	0.0279	-0.7512	0.1088	-1.2739	0.0539
1	74.88	0.5387	-0.1175	0.0031	-0.4150	0.0330	-1.0146	0.1249	-1.4000	0.0575
1	74.88	0.5996	-0.1371	0.0040	-0.5108	0.0403	-1.5665	0.1501	-1.5561	0.0654
1	74.88	0.6498	-0.1468	0.0050	-0.5873	0.0470	-2.1324	0.1678	-1.5583	0.0575
1	74.88	0.6998	-0.2153	0.0044	-0.6655	0.0527	-2.7586	0.1817	-1.4474	0.0564
1	74.88	0.7500	-0.2405	0.0051	-0.7230	0.0604	-3.5336	0.2018	-1.3441	0.0511
1	74.88	0.8001	-0.2953	0.0069	-0.8248	0.0665	-4.4216	0.2220	-1.4113	0.0404
1	74.88	0.8497	-0.3739	0.0076	-0.8944	0.0727	-5.4401	0.2440	-1.2834	0.0416
1	74.88	0.9102	-0.4645	0.0107	-0.9563	0.0813	-6.7967	0.2705	-1.4887	0.0955
1	74.88	0.9734	-0.5162	0.0114	-1.0188	0.0901	-8.4062	0.3058	-2.0461	0.0785

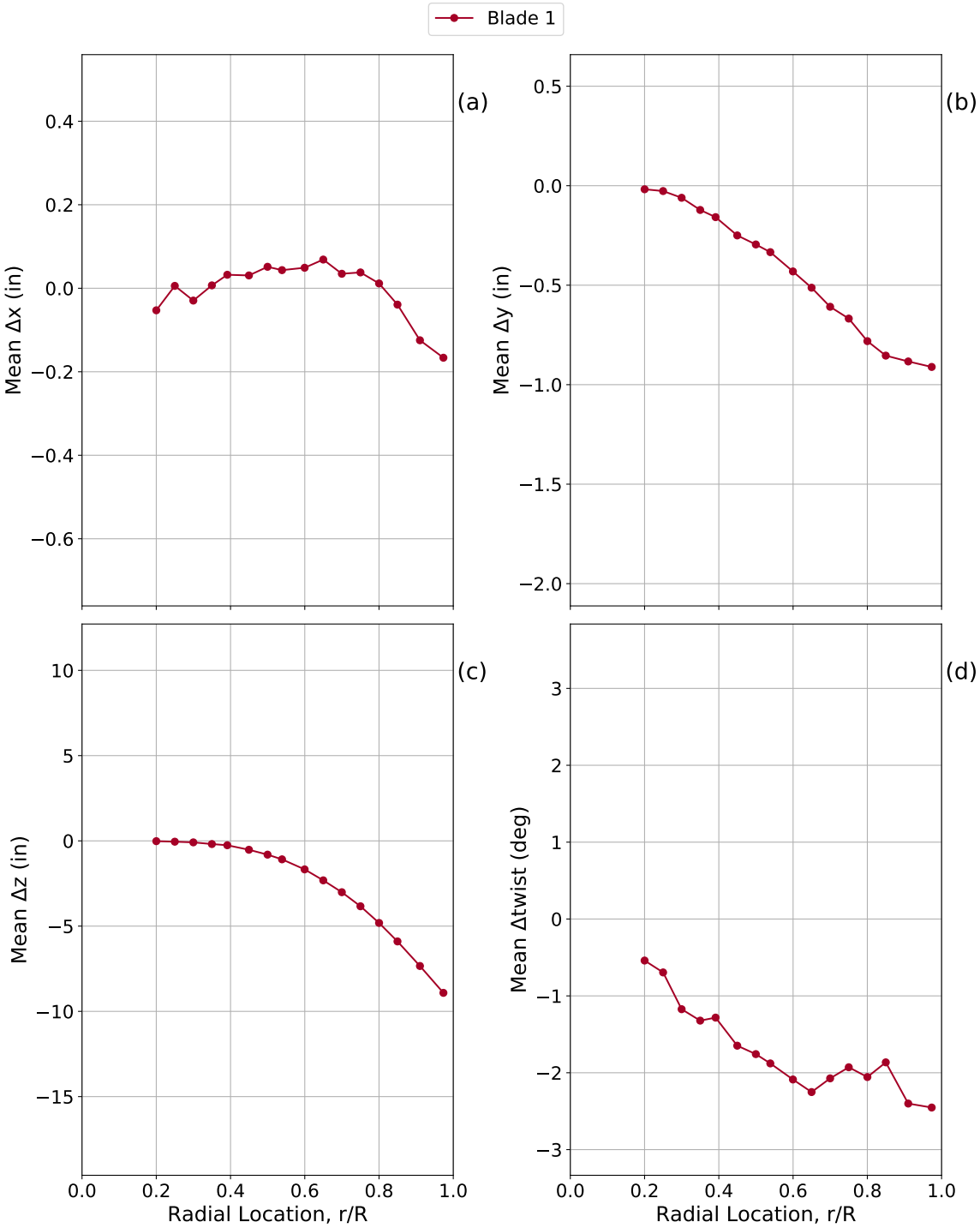


Figure 3.14-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0528	0.0130	-0.0179	0.0008	-0.0182	0.0032	-0.5403	0.0286
1	80.16	0.2499	0.0057	0.0037	-0.0269	0.0020	-0.0486	0.0088	-0.6947	0.0621
1	80.16	0.2998	-0.0295	0.0055	-0.0607	0.0033	-0.0879	0.0133	-1.1732	0.0671
1	80.16	0.3498	0.0069	0.0112	-0.1219	0.0064	-0.1869	0.0235	-1.3218	0.0681
1	80.16	0.3913	0.0323	0.0156	-0.1580	0.0088	-0.2567	0.0344	-1.2825	0.0744
1	80.16	0.4496	0.0307	0.0189	-0.2499	0.0125	-0.5217	0.0460	-1.6478	0.0778
1	80.16	0.4997	0.0514	0.0192	-0.2953	0.0158	-0.8076	0.0595	-1.7573	0.0682
1	80.16	0.5387	0.0434	0.0202	-0.3340	0.0194	-1.0835	0.0677	-1.8785	0.0809
1	80.16	0.5996	0.0491	0.0170	-0.4309	0.0245	-1.6730	0.0827	-2.0875	0.0616
1	80.16	0.6498	0.0687	0.0142	-0.5126	0.0299	-2.3159	0.0948	-2.2511	0.0774
1	80.16	0.6998	0.0347	0.0115	-0.6085	0.0365	-3.0115	0.1076	-2.0729	0.0783
1	80.16	0.7500	0.0379	0.0118	-0.6678	0.0437	-3.8360	0.1206	-1.9285	0.0765
1	80.16	0.8001	0.0115	0.0141	-0.7811	0.0508	-4.8137	0.1337	-2.0556	0.0725
1	80.16	0.8497	-0.0392	0.0190	-0.8540	0.0594	-5.8977	0.1495	-1.8646	0.0716
1	80.16	0.9102	-0.1246	0.0278	-0.8833	0.0703	-7.3390	0.1677	-2.4006	0.0720
1	80.16	0.9734	-0.1664	0.0387	-0.9109	0.0818	-8.9148	0.1890	-2.4524	0.0684

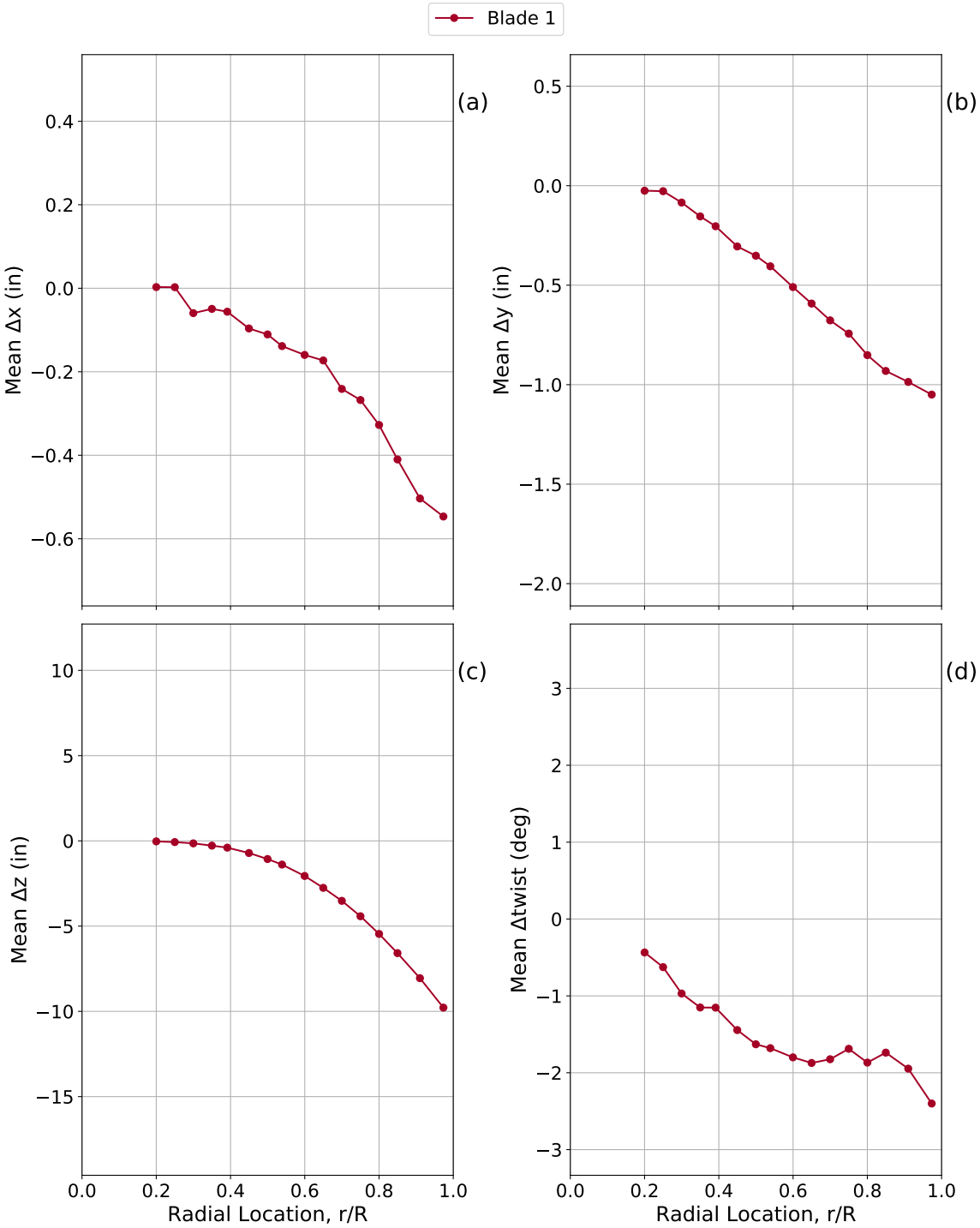


Figure 3.14-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0028	0.0017	-0.0251	0.0012	-0.0313	0.0070	-0.4352	0.0394
1	85.08	0.2499	0.0025	0.0014	-0.0276	0.0034	-0.0716	0.0120	-0.6259	0.0600
1	85.08	0.2998	-0.0596	0.0016	-0.0846	0.0056	-0.1468	0.0247	-0.9695	0.0876
1	85.08	0.3498	-0.0494	0.0018	-0.1543	0.0104	-0.2806	0.0436	-1.1509	0.0728
1	85.08	0.3913	-0.0562	0.0023	-0.2038	0.0151	-0.3969	0.0600	-1.1530	0.0864
1	85.08	0.4496	-0.0963	0.0022	-0.3054	0.0198	-0.7123	0.0912	-1.4447	0.0774
1	85.08	0.4997	-0.1106	0.0020	-0.3518	0.0253	-1.0657	0.1155	-1.6293	0.0886
1	85.08	0.5387	-0.1385	0.0024	-0.4050	0.0307	-1.3905	0.1322	-1.6799	0.0849
1	85.08	0.5996	-0.1597	0.0024	-0.5095	0.0379	-2.0587	0.1586	-1.7995	0.0885
1	85.08	0.6498	-0.1729	0.0027	-0.5923	0.0445	-2.7557	0.1770	-1.8727	0.0908
1	85.08	0.6998	-0.2411	0.0030	-0.6768	0.0525	-3.5176	0.1950	-1.8239	0.0862
1	85.08	0.7500	-0.2677	0.0034	-0.7433	0.0606	-4.4220	0.2090	-1.6884	0.0905
1	85.08	0.8001	-0.3274	0.0048	-0.8516	0.0680	-5.4575	0.2245	-1.8676	0.1006
1	85.08	0.8497	-0.4100	0.0054	-0.9310	0.0776	-6.5848	0.2373	-1.7381	0.1073
1	85.08	0.9102	-0.5035	0.0073	-0.9862	0.0892	-8.0541	0.2557	-1.9466	0.1027
1	85.08	0.9734	-0.5467	0.0081	-1.0498	0.1012	-9.7805	0.2778	-2.4002	0.0980

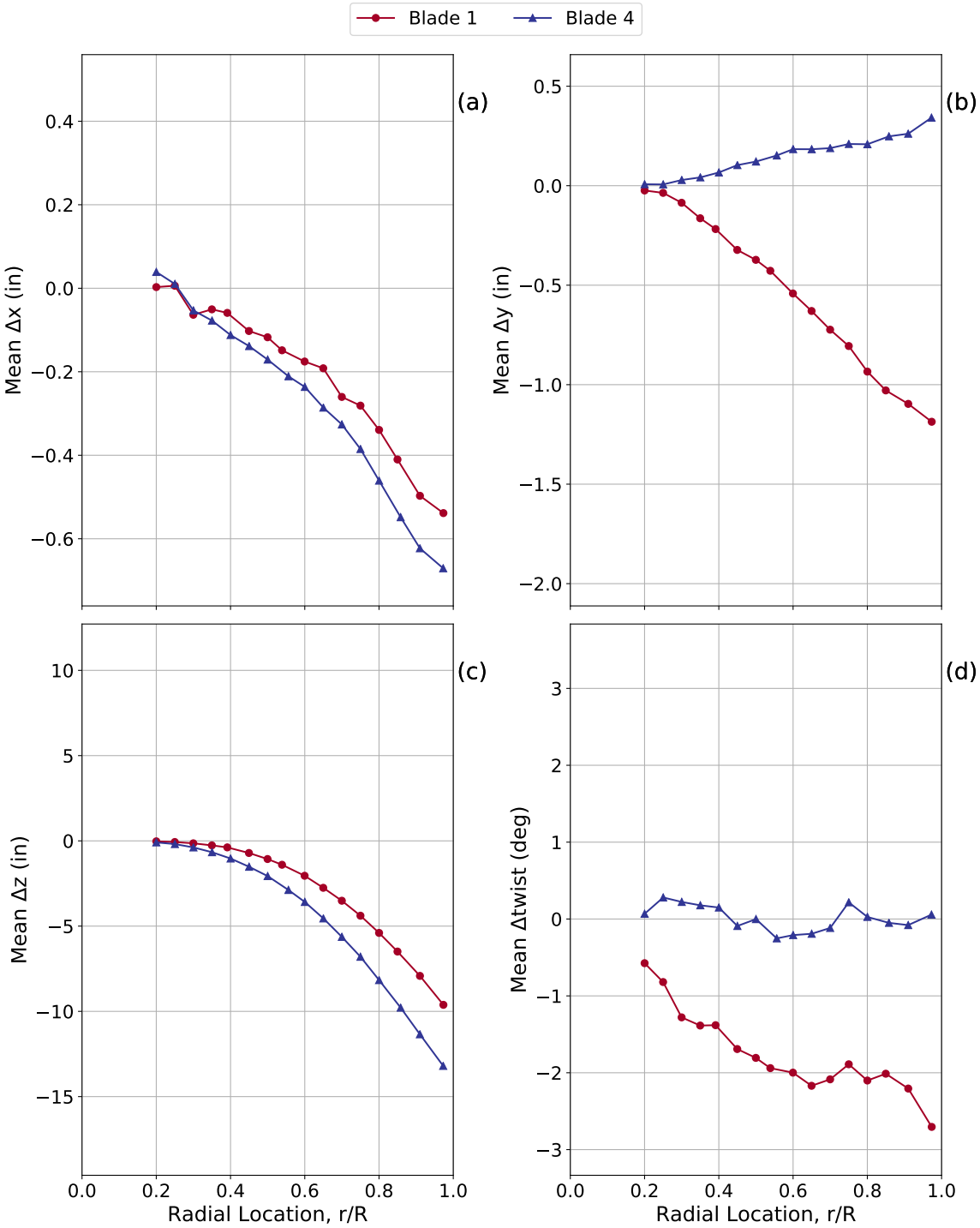


Figure 3.14-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0028	0.0023	-0.0240	0.0021	-0.0287	0.0068	-0.5745	0.0266
1	90	0.2499	0.0060	0.0019	-0.0360	0.0037	-0.0672	0.0161	-0.8197	0.0566
1	90	0.2998	-0.0635	0.0021	-0.0857	0.0085	-0.1432	0.0282	-1.2794	0.0639
1	90	0.3498	-0.0505	0.0021	-0.1636	0.0143	-0.2647	0.0474	-1.3858	0.0632
1	90	0.3913	-0.0590	0.0025	-0.2179	0.0207	-0.3823	0.0697	-1.3811	0.0607
1	90	0.4496	-0.1024	0.0027	-0.3228	0.0289	-0.7108	0.1016	-1.6914	0.0591
1	90	0.4997	-0.1174	0.0026	-0.3726	0.0376	-1.0655	0.1282	-1.8064	0.0870
1	90	0.5387	-0.1486	0.0027	-0.4276	0.0447	-1.4016	0.1531	-1.9397	0.0899
1	90	0.5996	-0.1755	0.0029	-0.5417	0.0571	-2.0472	0.1906	-1.9985	0.0827
1	90	0.6498	-0.1917	0.0034	-0.6296	0.0680	-2.7534	0.2218	-2.1695	0.0973
1	90	0.6998	-0.2603	0.0047	-0.7236	0.0790	-3.5118	0.2538	-2.0855	0.1122
1	90	0.7500	-0.2811	0.0064	-0.8058	0.0917	-4.3896	0.2897	-1.8896	0.1067
1	90	0.8001	-0.3393	0.0078	-0.9343	0.1043	-5.3981	0.3254	-2.1010	0.1147
1	90	0.8497	-0.4101	0.0101	-1.0288	0.1175	-6.4917	0.3617	-2.0124	0.1158
1	90	0.9102	-0.4971	0.0132	-1.0965	0.1335	-7.9197	0.4087	-2.2053	0.1086
1	90	0.9734	-0.5385	0.0151	-1.1864	0.1495	-9.6173	0.4626	-2.7043	0.1120
4	90.35	0.2001	0.0390	0.0018	0.0073	0.0010	-0.0905	0.0056	0.0678	0.0279
4	90.35	0.2502	0.0102	0.0023	0.0064	0.0019	-0.1886	0.0100	0.2802	0.0496
4	90.35	0.3001	-0.0532	0.0017	0.0286	0.0040	-0.3848	0.0220	0.2221	0.0634
4	90.35	0.3502	-0.0775	0.0023	0.0418	0.0059	-0.6658	0.0375	0.1781	0.0451
4	90.35	0.4002	-0.1121	0.0032	0.0665	0.0098	-1.0358	0.0575	0.1493	0.0582
4	90.35	0.4500	-0.1386	0.0031	0.1035	0.0136	-1.5198	0.0784	-0.0907	0.0616
4	90.35	0.5001	-0.1709	0.0051	0.1213	0.0182	-2.0668	0.1059	-0.0012	0.0603
4	90.35	0.5560	-0.2109	0.0047	0.1518	0.0254	-2.8808	0.1398	-0.2520	0.0612
4	90.35	0.6001	-0.2363	0.0059	0.1836	0.0312	-3.5838	0.1702	-0.2091	0.0722
4	90.35	0.6501	-0.2859	0.0063	0.1833	0.0392	-4.5490	0.2104	-0.1920	0.0712
4	90.35	0.6999	-0.3262	0.0087	0.1888	0.0480	-5.6321	0.2536	-0.1164	0.0569
4	90.35	0.7500	-0.3851	0.0123	0.2096	0.0578	-6.7994	0.2978	0.2168	0.0690
4	90.35	0.8002	-0.4608	0.0158	0.2083	0.0680	-8.1678	0.3443	0.0270	0.0685
4	90.35	0.8582	-0.5484	0.0201	0.2480	0.0799	-9.7835	0.3967	-0.0501	0.0694
4	90.35	0.9101	-0.6228	0.0240	0.2612	0.0917	-11.3457	0.4446	-0.0791	0.0714
4	90.35	0.9728	-0.6707	0.0268	0.3418	0.1058	-13.1983	0.5067	0.0571	0.0630

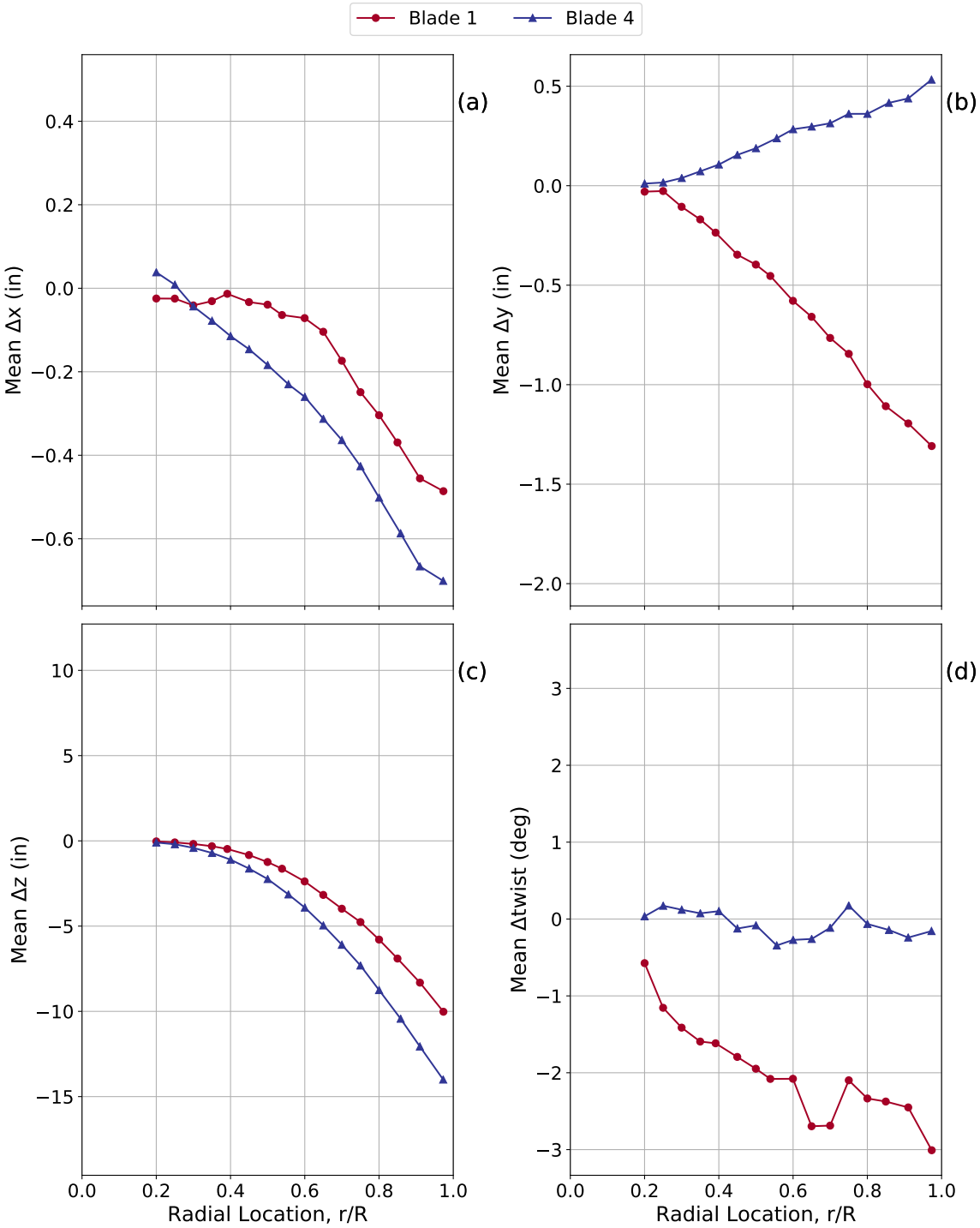


Figure 3.14-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0246	0.0024	-0.0299	0.0050	-0.0320	0.0161	-0.5739	0.1046
1	94.92	0.2499	-0.0248	0.0016	-0.0268	0.0050	-0.0897	0.0195	-1.1549	0.2711
1	94.92	0.2998	-0.0411	0.0029	-0.1059	0.0171	-0.1821	0.0494	-1.4130	0.2789
1	94.92	0.3498	-0.0309	0.0042	-0.1695	0.0296	-0.3125	0.0836	-1.5939	0.2705
1	94.92	0.3913	-0.0133	0.0053	-0.2359	0.0398	-0.4761	0.1116	-1.6166	0.2774
1	94.92	0.4496	-0.0331	0.0061	-0.3466	0.0538	-0.8318	0.1549	-1.7939	0.2739
1	94.92	0.4997	-0.0393	0.0066	-0.3965	0.0675	-1.2411	0.1913	-1.9476	0.2789
1	94.92	0.5387	-0.0641	0.0062	-0.4536	0.0776	-1.6336	0.2218	-2.0800	0.2892
1	94.92	0.5996	-0.0715	0.0079	-0.5785	0.0965	-2.3792	0.2709	-2.0784	0.2840
1	94.92	0.6498	-0.1042	0.0107	-0.6588	0.1317	-3.1700	0.3405	-2.6956	0.4031
1	94.92	0.6998	-0.1737	0.0137	-0.7652	0.1487	-3.9793	0.3824	-2.6874	0.4687
1	94.92	0.7500	-0.2489	0.0226	-0.8450	0.1964	-4.7628	0.3479	-2.0980	0.2823
1	94.92	0.8001	-0.3041	0.0238	-0.9979	0.2141	-5.7913	0.3883	-2.3345	0.2798
1	94.92	0.8497	-0.3693	0.0255	-1.1081	0.2325	-6.9024	0.4285	-2.3744	0.2801
1	94.92	0.9102	-0.4554	0.0281	-1.1947	0.2549	-8.3157	0.4708	-2.4509	0.2822
1	94.92	0.9734	-0.4860	0.0274	-1.3085	0.2783	-10.0218	0.5211	-3.0078	0.2824
4	94.92	0.2001	0.0382	0.0021	0.0105	0.0011	-0.0987	0.0043	0.0351	0.0300
4	94.92	0.2502	0.0084	0.0022	0.0161	0.0021	-0.1994	0.0087	0.1722	0.0518
4	94.92	0.3001	-0.0435	0.0018	0.0387	0.0042	-0.4131	0.0176	0.1205	0.0689
4	94.92	0.3502	-0.0780	0.0020	0.0725	0.0066	-0.7105	0.0293	0.0743	0.0655
4	94.92	0.4002	-0.1147	0.0027	0.1064	0.0105	-1.1038	0.0460	0.1023	0.0864
4	94.92	0.4500	-0.1461	0.0036	0.1549	0.0132	-1.6259	0.0634	-0.1239	0.0862
4	94.92	0.5001	-0.1840	0.0046	0.1884	0.0175	-2.2396	0.0849	-0.0823	0.0955
4	94.92	0.5560	-0.2300	0.0049	0.2387	0.0226	-3.1422	0.1110	-0.3442	0.1077
4	94.92	0.6001	-0.2602	0.0064	0.2838	0.0261	-3.9145	0.1358	-0.2718	0.1062
4	94.92	0.6501	-0.3127	0.0084	0.2972	0.0310	-4.9608	0.1657	-0.2593	0.1068
4	94.92	0.6999	-0.3637	0.0108	0.3138	0.0368	-6.0959	0.2014	-0.1141	0.1150
4	94.92	0.7500	-0.4263	0.0130	0.3612	0.0432	-7.3110	0.2416	0.1747	0.1360
4	94.92	0.8002	-0.5015	0.0167	0.3612	0.0483	-8.7533	0.2846	-0.0643	0.1342
4	94.92	0.8582	-0.5872	0.0216	0.4164	0.0549	-10.4334	0.3384	-0.1428	0.1386
4	94.92	0.9101	-0.6661	0.0261	0.4387	0.0611	-12.0637	0.3902	-0.2412	0.1345
4	94.92	0.9728	-0.7008	0.0310	0.5328	0.0681	-14.0005	0.4573	-0.1568	0.1339

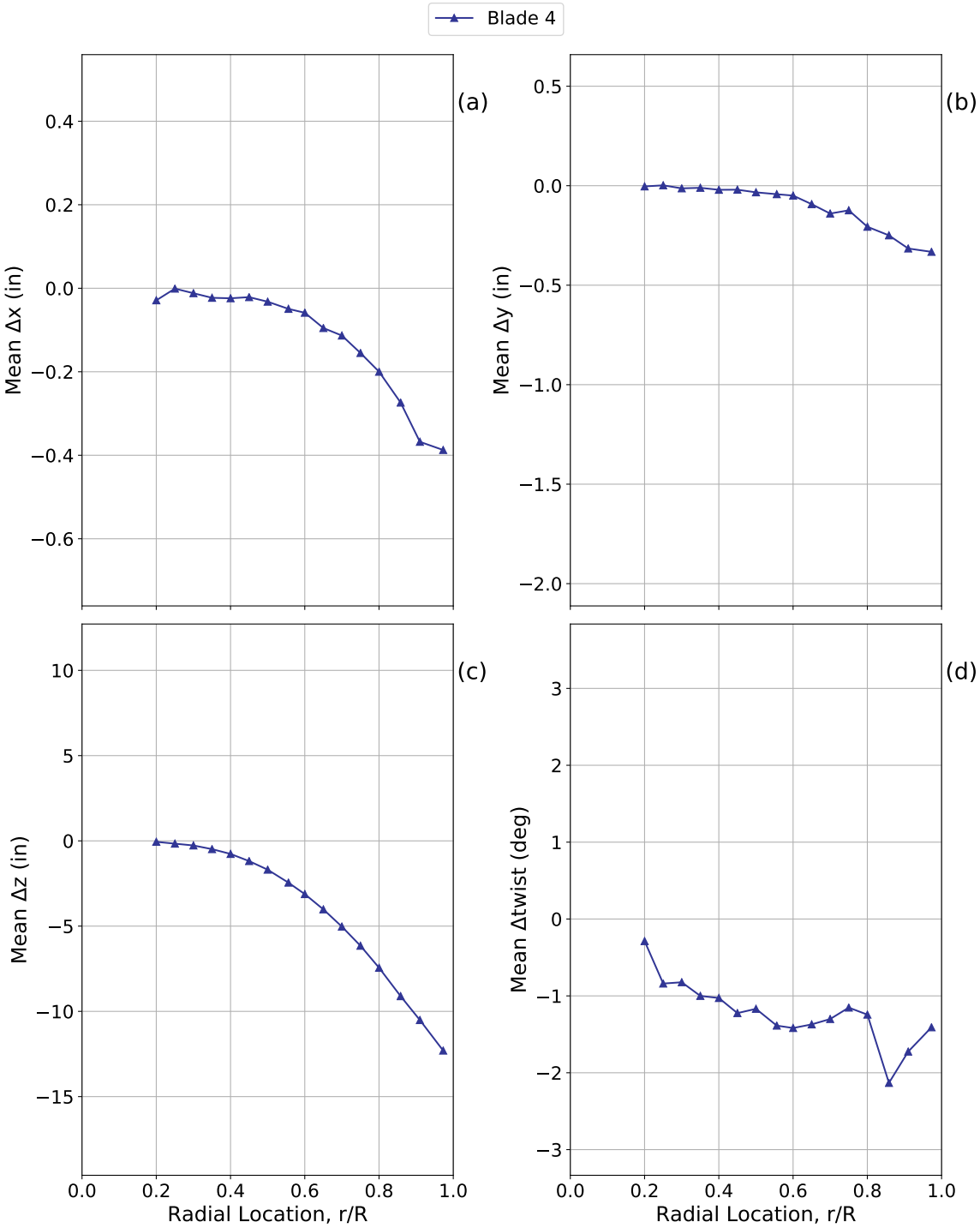


Figure 3.14-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0289	0.0026	-0.0036	0.0017	-0.0561	0.0043	-0.2875	0.1408
4	105.12	0.2502	-0.0009	0.0026	0.0019	0.0061	-0.1640	0.0231	-0.8396	0.0963
4	105.12	0.3001	-0.0119	0.0033	-0.0133	0.0051	-0.2702	0.0115	-0.8226	0.2698
4	105.12	0.3502	-0.0229	0.0038	-0.0106	0.0092	-0.4851	0.0259	-1.0003	0.2675
4	105.12	0.4002	-0.0240	0.0044	-0.0206	0.0153	-0.7672	0.0448	-1.0277	0.2716
4	105.12	0.4500	-0.0213	0.0046	-0.0201	0.0220	-1.1861	0.0654	-1.2241	0.2662
4	105.12	0.5001	-0.0322	0.0054	-0.0333	0.0289	-1.6909	0.0881	-1.1684	0.2711
4	105.12	0.5560	-0.0494	0.0053	-0.0427	0.0390	-2.4515	0.1199	-1.3868	0.2658
4	105.12	0.6001	-0.0587	0.0063	-0.0497	0.0471	-3.1236	0.1452	-1.4179	0.2750
4	105.12	0.6501	-0.0953	0.0077	-0.0928	0.0580	-4.0195	0.1793	-1.3710	0.2580
4	105.12	0.6999	-0.1133	0.0079	-0.1400	0.0706	-5.0293	0.2110	-1.3010	0.2709
4	105.12	0.7500	-0.1551	0.0125	-0.1238	0.1312	-6.1526	0.2430	-1.1524	0.2582
4	105.12	0.8002	-0.2000	0.0101	-0.2064	0.1152	-7.4464	0.2772	-1.2439	0.2754
4	105.12	0.8582	-0.2739	0.0122	-0.2496	0.1244	-9.1104	0.4015	-2.1320	1.3310
4	105.12	0.9101	-0.3678	0.0170	-0.3156	0.1714	-10.5118	0.2535	-1.7250	0.2634
4	105.12	0.9728	-0.3874	0.0209	-0.3324	0.1841	-12.3018	0.2937	-1.4086	0.2639

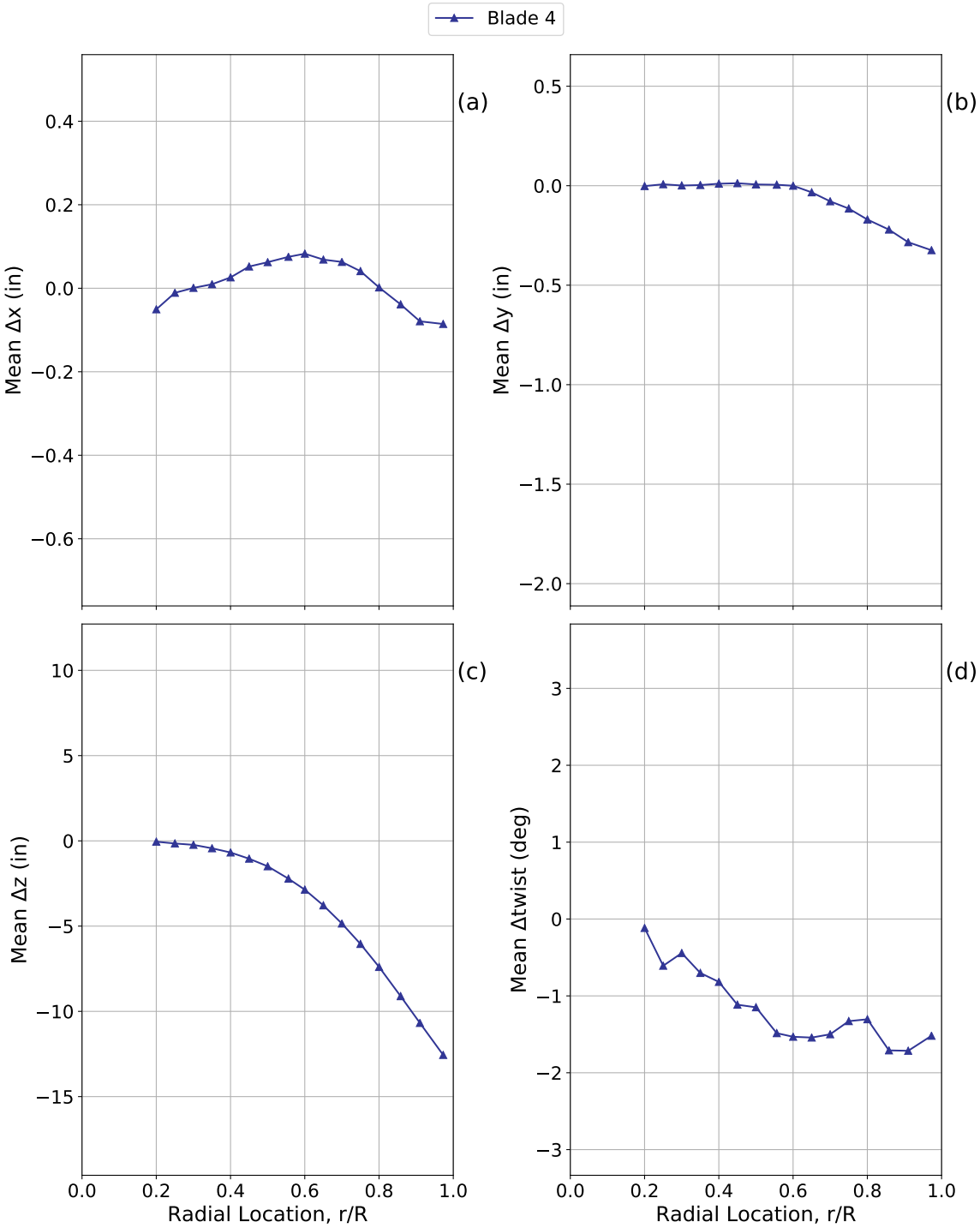


Figure 3.14-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0505	0.0031	-0.0019	0.0009	-0.0486	0.0041	-0.1166	0.0205
4	119.88	0.2502	-0.0109	0.0013	0.0071	0.0025	-0.1534	0.0092	-0.6080	0.0368
4	119.88	0.3001	0.0008	0.0019	0.0010	0.0040	-0.2345	0.0183	-0.4431	0.0445
4	119.88	0.3502	0.0096	0.0026	0.0032	0.0068	-0.4357	0.0290	-0.7020	0.0494
4	119.88	0.4002	0.0260	0.0048	0.0100	0.0110	-0.6831	0.0468	-0.8183	0.0598
4	119.88	0.4500	0.0520	0.0068	0.0124	0.0140	-1.0466	0.0673	-1.1148	0.0653
4	119.88	0.5001	0.0624	0.0091	0.0063	0.0180	-1.4925	0.0965	-1.1485	0.0598
4	119.88	0.5560	0.0752	0.0114	0.0048	0.0236	-2.2182	0.1334	-1.4849	0.0771
4	119.88	0.6001	0.0827	0.0129	-0.0002	0.0296	-2.8637	0.1699	-1.5319	0.0909
4	119.88	0.6501	0.0686	0.0164	-0.0334	0.0364	-3.7848	0.2197	-1.5423	0.0809
4	119.88	0.6999	0.0630	0.0203	-0.0785	0.0441	-4.8485	0.2757	-1.4996	0.0878
4	119.88	0.7500	0.0409	0.0254	-0.1150	0.0527	-6.0474	0.3379	-1.3285	0.1100
4	119.88	0.8002	0.0019	0.0317	-0.1701	0.0617	-7.3974	0.4080	-1.3042	0.1048
4	119.88	0.8582	-0.0387	0.0394	-0.2207	0.0731	-9.1110	0.4918	-1.7090	0.1142
4	119.88	0.9101	-0.0792	0.0465	-0.2841	0.0833	-10.6801	0.5703	-1.7142	0.1191
4	119.88	0.9728	-0.0856	0.0534	-0.3243	0.0957	-12.5578	0.6679	-1.5189	0.1227

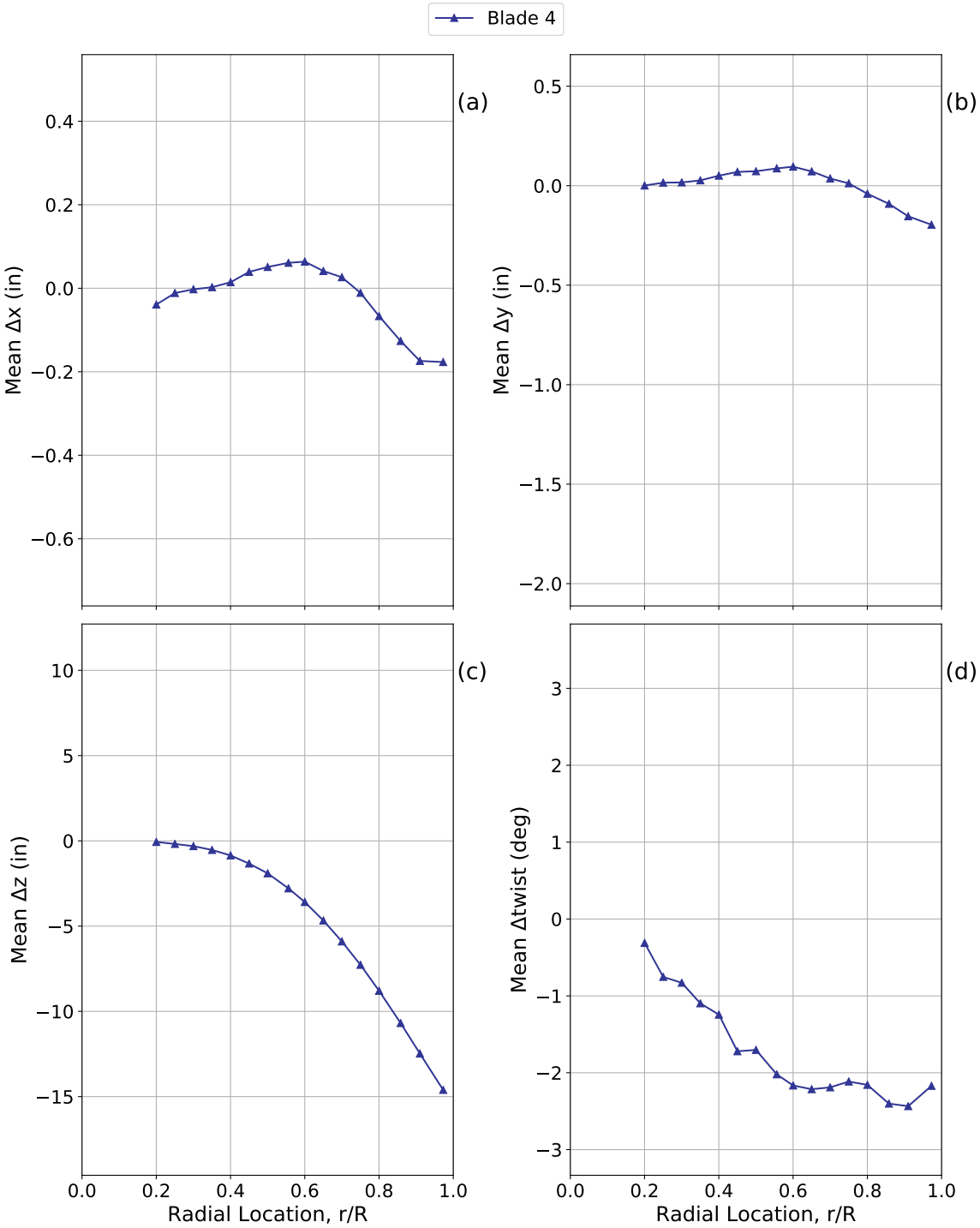


Figure 3.14-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0391	0.0011	0.0009	0.0006	-0.0643	0.0020	-0.3111	0.0259
4	135	0.2502	-0.0115	0.0013	0.0152	0.0020	-0.1816	0.0059	-0.7531	0.0268
4	135	0.3001	-0.0025	0.0019	0.0164	0.0028	-0.3101	0.0089	-0.8295	0.0520
4	135	0.3502	0.0025	0.0021	0.0268	0.0054	-0.5336	0.0162	-1.0970	0.0532
4	135	0.4002	0.0144	0.0025	0.0503	0.0082	-0.8555	0.0253	-1.2443	0.0550
4	135	0.4500	0.0391	0.0028	0.0694	0.0111	-1.3321	0.0368	-1.7205	0.0669
4	135	0.5001	0.0509	0.0035	0.0726	0.0139	-1.9053	0.0495	-1.7029	0.0694
4	135	0.5560	0.0609	0.0043	0.0869	0.0195	-2.7867	0.0653	-2.0203	0.0725
4	135	0.6001	0.0637	0.0054	0.0955	0.0242	-3.5873	0.0786	-2.1655	0.0751
4	135	0.6501	0.0412	0.0066	0.0719	0.0299	-4.6719	0.0955	-2.2142	0.0905
4	135	0.6999	0.0264	0.0084	0.0362	0.0355	-5.9007	0.1143	-2.1900	0.0970
4	135	0.7500	-0.0110	0.0101	0.0118	0.0423	-7.2721	0.1357	-2.1143	0.0906
4	135	0.8002	-0.0668	0.0130	-0.0406	0.0503	-8.7977	0.1604	-2.1575	0.1013
4	135	0.8582	-0.1264	0.0166	-0.0911	0.0595	-10.6895	0.1922	-2.4015	0.0960
4	135	0.9101	-0.1741	0.0194	-0.1538	0.0679	-12.4767	0.2225	-2.4346	0.0991
4	135	0.9728	-0.1768	0.0237	-0.1962	0.0784	-14.6081	0.2578	-2.1704	0.0985

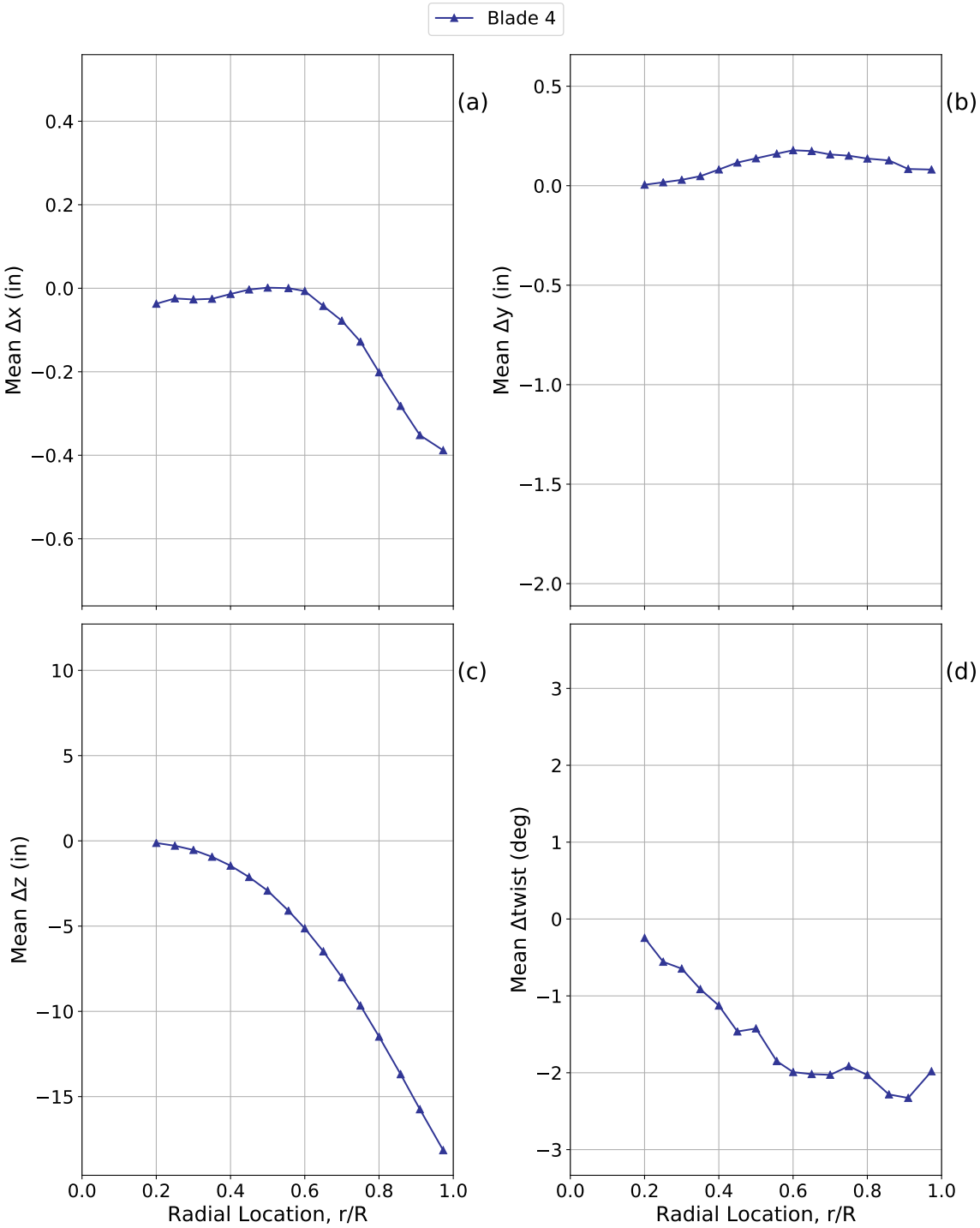


Figure 3.14-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0372	0.0017	0.0048	0.0005	-0.1243	0.0033	-0.2463	0.0247
4	150.12	0.2502	-0.0244	0.0014	0.0169	0.0025	-0.2868	0.0082	-0.5569	0.0308
4	150.12	0.3001	-0.0269	0.0021	0.0295	0.0035	-0.5358	0.0165	-0.6461	0.0523
4	150.12	0.3502	-0.0253	0.0019	0.0479	0.0052	-0.9348	0.0252	-0.9128	0.0535
4	150.12	0.4002	-0.0138	0.0023	0.0813	0.0095	-1.4583	0.0423	-1.1267	0.0583
4	150.12	0.4500	-0.0031	0.0035	0.1162	0.0118	-2.1248	0.0580	-1.4634	0.0491
4	150.12	0.5001	0.0014	0.0056	0.1374	0.0143	-2.9238	0.0813	-1.4243	0.0480
4	150.12	0.5560	0.0002	0.0068	0.1607	0.0181	-4.0957	0.1147	-1.8488	0.0591
4	150.12	0.6001	-0.0067	0.0094	0.1782	0.0220	-5.1347	0.1469	-1.9913	0.0615
4	150.12	0.6501	-0.0425	0.0132	0.1741	0.0258	-6.4865	0.1900	-2.0177	0.0416
4	150.12	0.6999	-0.0779	0.0181	0.1569	0.0296	-8.0044	0.2408	-2.0273	0.0632
4	150.12	0.7500	-0.1279	0.0234	0.1508	0.0335	-9.6646	0.2998	-1.9146	0.0636
4	150.12	0.8002	-0.2014	0.0312	0.1362	0.0371	-11.4862	0.3702	-2.0299	0.0664
4	150.12	0.8582	-0.2819	0.0426	0.1272	0.0415	-13.6899	0.4589	-2.2822	0.0640
4	150.12	0.9101	-0.3519	0.0519	0.0840	0.0457	-15.7459	0.5483	-2.3276	0.0699
4	150.12	0.9728	-0.3882	0.0619	0.0811	0.0508	-18.1451	0.6576	-1.9815	0.0727

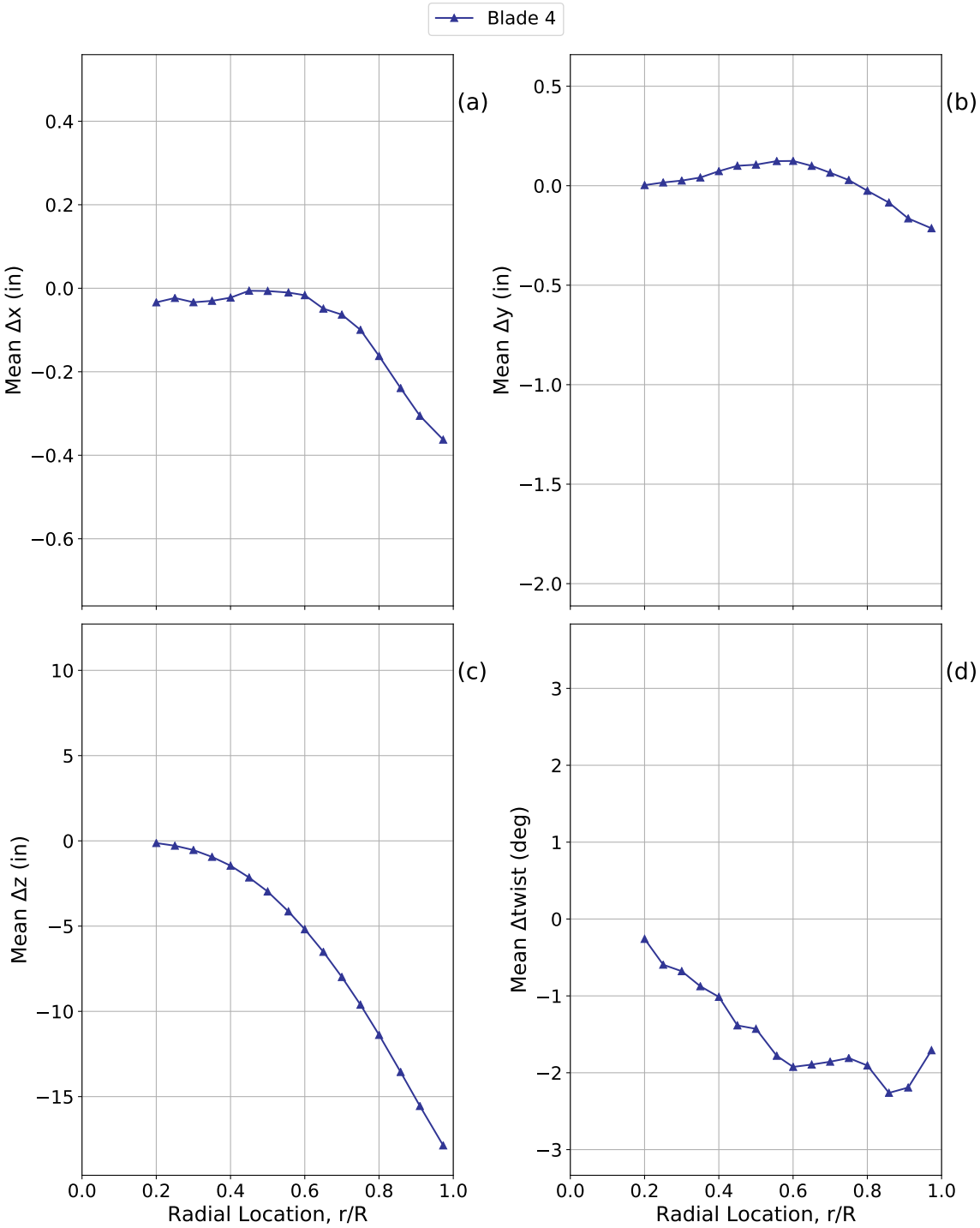


Figure 3.14-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0338	0.0034	0.0029	0.0011	-0.1283	0.0028	-0.2587	0.0199
4	164.88	0.2502	-0.0233	0.0027	0.0162	0.0024	-0.2854	0.0065	-0.5944	0.0313
4	164.88	0.3001	-0.0336	0.0030	0.0257	0.0042	-0.5378	0.0123	-0.6791	0.0441
4	164.88	0.3502	-0.0302	0.0034	0.0411	0.0077	-0.9400	0.0191	-0.8748	0.0436
4	164.88	0.4002	-0.0225	0.0048	0.0731	0.0117	-1.4575	0.0315	-1.0135	0.0460
4	164.88	0.4500	-0.0060	0.0064	0.1000	0.0158	-2.1509	0.0405	-1.3845	0.0513
4	164.88	0.5001	-0.0066	0.0083	0.1057	0.0205	-2.9731	0.0552	-1.4288	0.0452
4	164.88	0.5560	-0.0103	0.0099	0.1236	0.0273	-4.1403	0.0732	-1.7795	0.0521
4	164.88	0.6001	-0.0167	0.0116	0.1245	0.0341	-5.1885	0.0868	-1.9240	0.0465
4	164.88	0.6501	-0.0489	0.0137	0.0996	0.0420	-6.5112	0.1032	-1.8935	0.0418
4	164.88	0.6999	-0.0632	0.0153	0.0652	0.0506	-7.9880	0.1207	-1.8563	0.0501
4	164.88	0.7500	-0.0997	0.0170	0.0283	0.0604	-9.6128	0.1352	-1.8086	0.0502
4	164.88	0.8002	-0.1624	0.0185	-0.0255	0.0714	-11.3829	0.1497	-1.9061	0.0473
4	164.88	0.8582	-0.2392	0.0218	-0.0851	0.0855	-13.5597	0.1648	-2.2619	0.0586
4	164.88	0.9101	-0.3056	0.0250	-0.1645	0.0986	-15.5525	0.1883	-2.1922	0.0576
4	164.88	0.9728	-0.3627	0.0317	-0.2141	0.1152	-17.8645	0.2310	-1.7077	0.0626

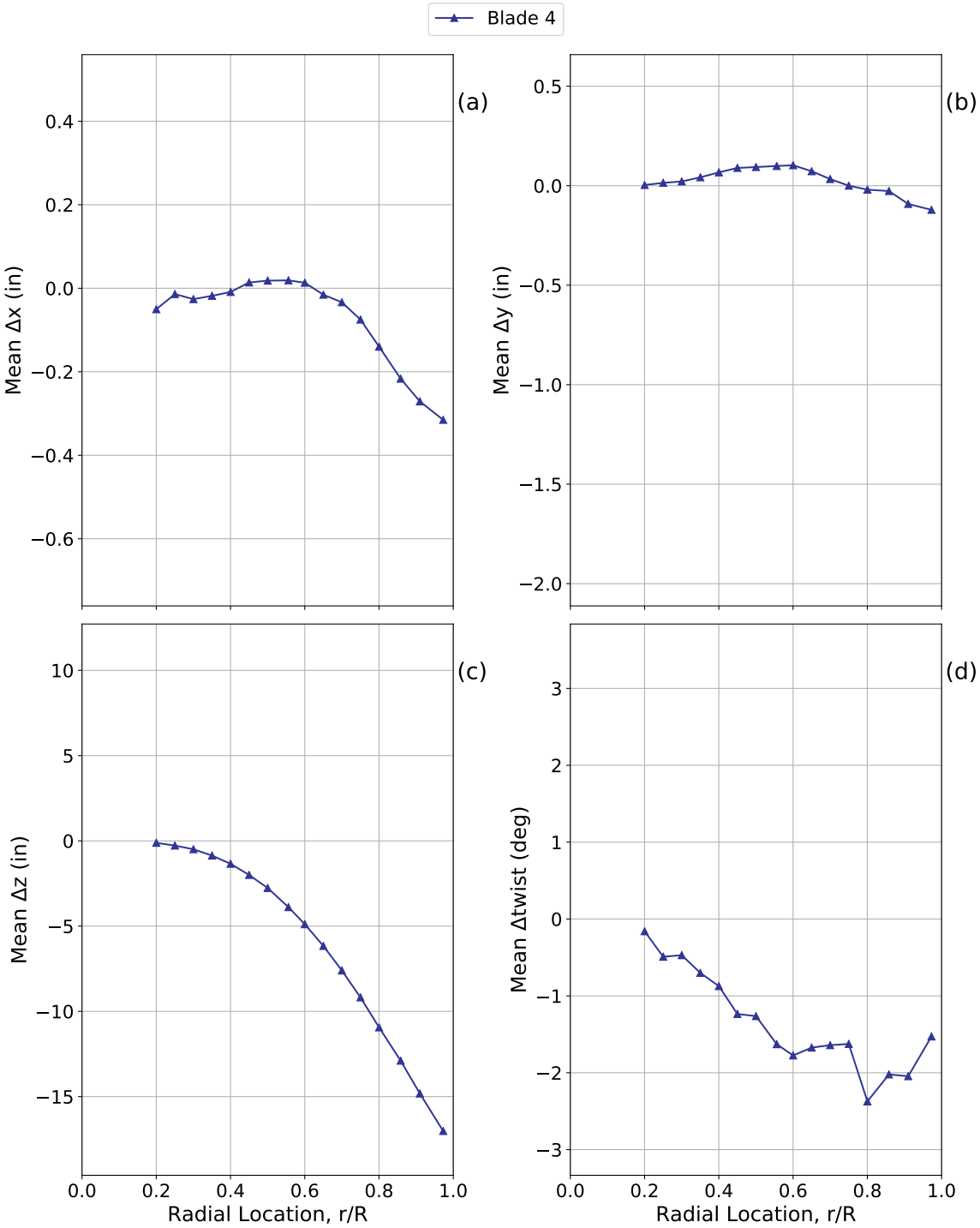


Figure 3.14-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0503	0.0035	0.0035	0.0024	-0.1148	0.0095	-0.1591	0.0500
4	170.16	0.2502	-0.0140	0.0074	0.0144	0.0030	-0.2775	0.0097	-0.4909	0.0684
4	170.16	0.3001	-0.0261	0.0032	0.0214	0.0059	-0.4922	0.0199	-0.4705	0.0648
4	170.16	0.3502	-0.0182	0.0033	0.0421	0.0068	-0.8638	0.0267	-0.7013	0.0590
4	170.16	0.4002	-0.0089	0.0037	0.0669	0.0096	-1.3458	0.0344	-0.8733	0.0631
4	170.16	0.4500	0.0138	0.0045	0.0894	0.0105	-1.9984	0.0430	-1.2357	0.0591
4	170.16	0.5001	0.0182	0.0056	0.0937	0.0129	-2.7663	0.0525	-1.2632	0.0629
4	170.16	0.5560	0.0189	0.0066	0.0989	0.0148	-3.8889	0.0677	-1.6288	0.0665
4	170.16	0.6001	0.0132	0.0076	0.1027	0.0173	-4.8886	0.0828	-1.7750	0.0610
4	170.16	0.6501	-0.0155	0.0084	0.0727	0.0205	-6.1634	0.0985	-1.6729	0.0661
4	170.16	0.6999	-0.0336	0.0115	0.0334	0.0236	-7.6037	0.1187	-1.6410	0.0751
4	170.16	0.7500	-0.0751	0.0140	0.0000	0.0257	-9.1824	0.1411	-1.6254	0.0965
4	170.16	0.8002	-0.1400	0.0174	-0.0198	0.0312	-10.9424	0.1680	-2.3725	0.1260
4	170.16	0.8582	-0.2166	0.0230	-0.0270	0.0395	-12.8939	0.2032	-2.0217	0.0807
4	170.16	0.9101	-0.2711	0.0274	-0.0916	0.0438	-14.8218	0.2357	-2.0451	0.0661
4	170.16	0.9728	-0.3152	0.0327	-0.1214	0.0499	-17.0173	0.2780	-1.5280	0.0778

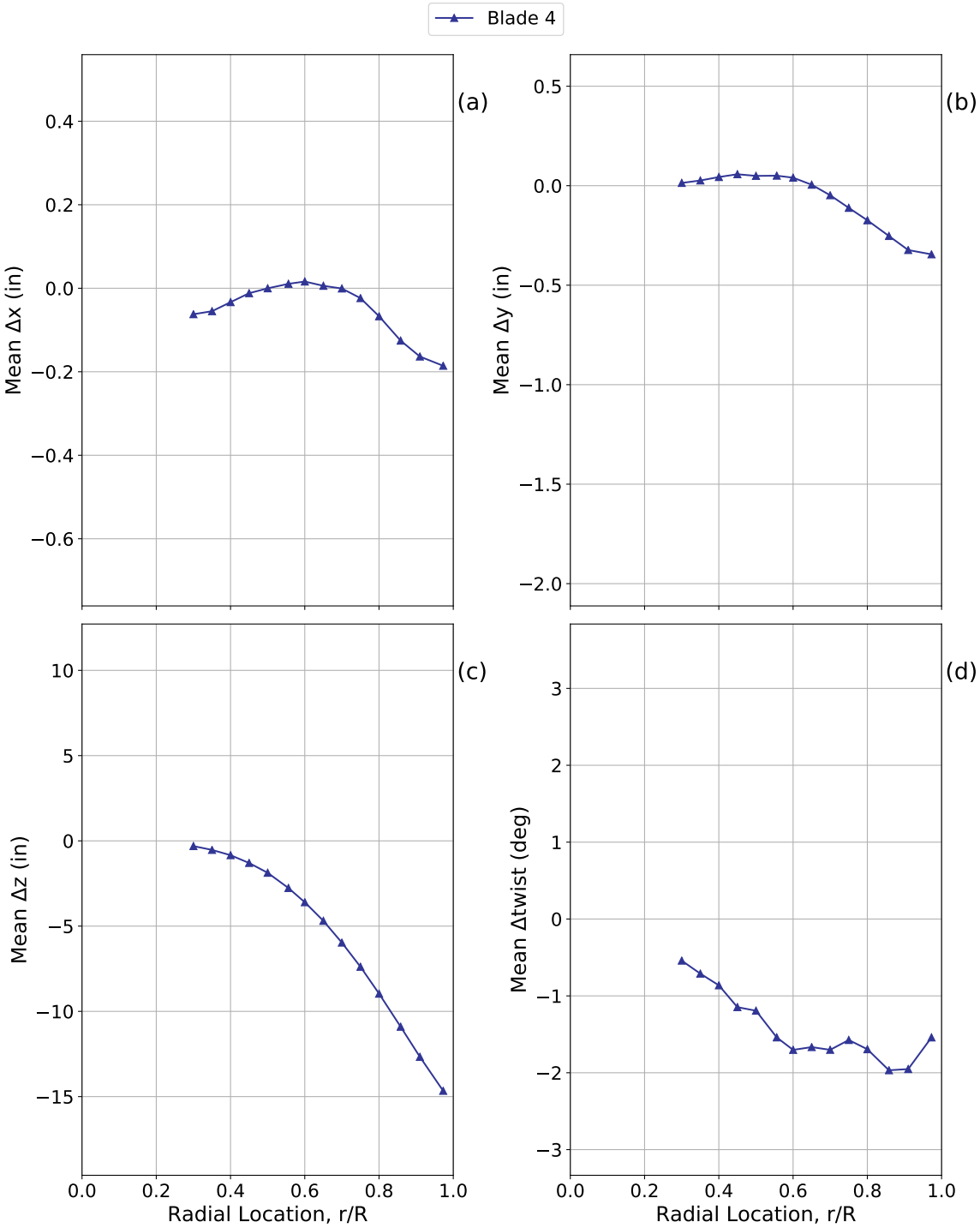


Figure 3.14-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.3001	-0.0622	0.0059	0.0139	0.0069	-0.3072	0.0254	-0.5417	0.0755
4	175.08	0.3502	-0.0550	0.0074	0.0262	0.0120	-0.5308	0.0460	-0.7106	0.1016
4	175.08	0.4002	-0.0333	0.0077	0.0436	0.0191	-0.8419	0.0751	-0.8630	0.0997
4	175.08	0.4500	-0.0119	0.0082	0.0576	0.0249	-1.2967	0.1008	-1.1466	0.0909
4	175.08	0.5001	-0.0002	0.0103	0.0493	0.0317	-1.8733	0.1272	-1.1929	0.1072
4	175.08	0.5560	0.0106	0.0115	0.0503	0.0396	-2.7668	0.1592	-1.5402	0.1091
4	175.08	0.6001	0.0161	0.0133	0.0403	0.0449	-3.6010	0.1833	-1.7025	0.1204
4	175.08	0.6501	0.0058	0.0149	0.0049	0.0519	-4.6912	0.2139	-1.6662	0.1157
4	175.08	0.6999	-0.0006	0.0179	-0.0480	0.0590	-5.9692	0.2422	-1.7018	0.1241
4	175.08	0.7500	-0.0237	0.0202	-0.1114	0.0656	-7.3869	0.2777	-1.5739	0.1231
4	175.08	0.8002	-0.0672	0.0234	-0.1740	0.0721	-8.9646	0.3116	-1.6943	0.1081
4	175.08	0.8582	-0.1255	0.0279	-0.2528	0.0808	-10.9028	0.3557	-1.9677	0.1252
4	175.08	0.9101	-0.1636	0.0315	-0.3233	0.0891	-12.6706	0.3976	-1.9519	0.1124
4	175.08	0.9728	-0.1857	0.0373	-0.3450	0.0989	-14.6618	0.4507	-1.5406	0.1108

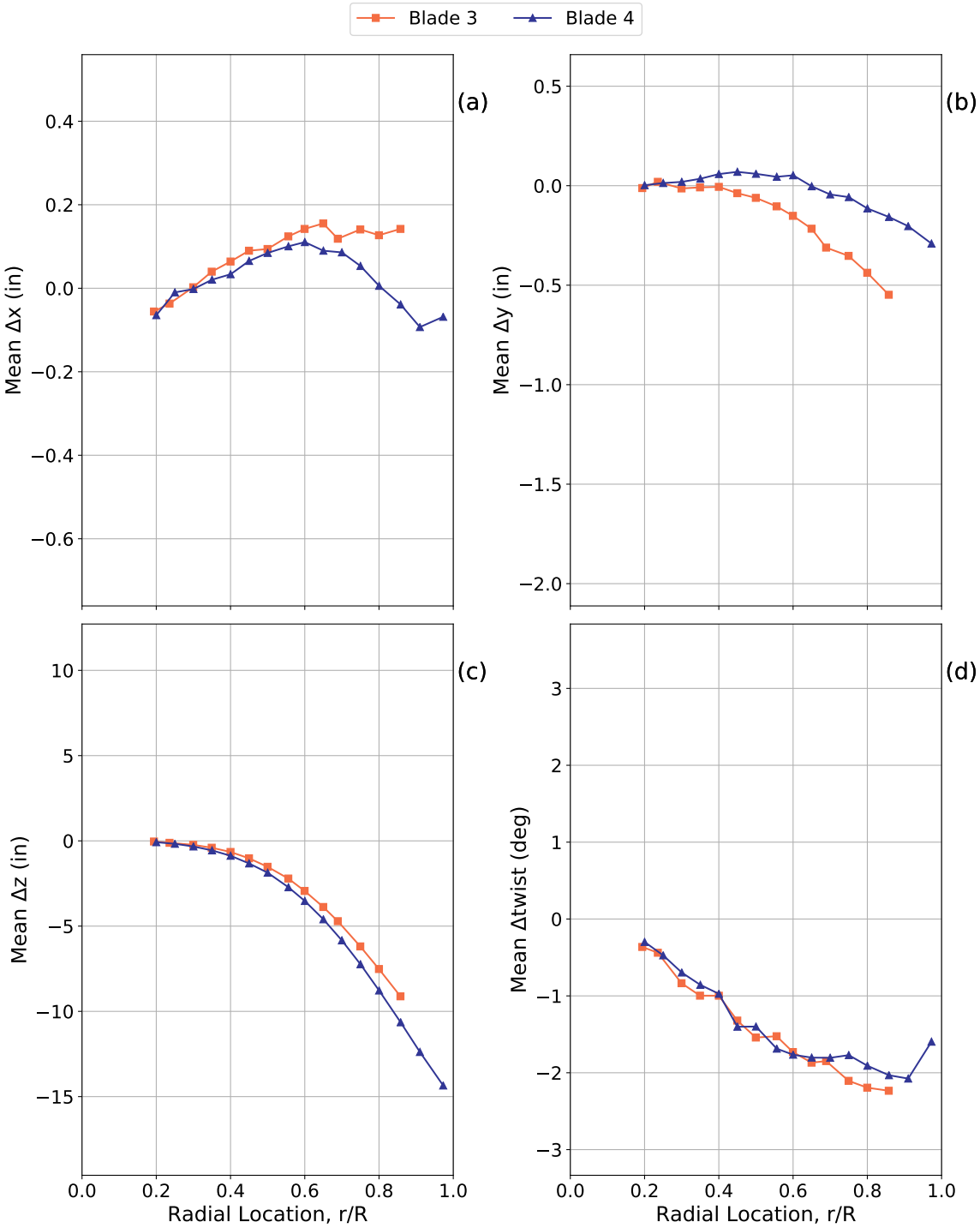


Figure 3.14-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0557	0.0013	-0.0119	0.0012	-0.0383	0.0038	-0.3634	0.0200
3	180.35	0.2357	-0.0367	0.0009	0.0195	0.0021	-0.1148	0.0066	-0.4387	0.0287
3	180.35	0.2995	0.0024	0.0006	-0.0138	0.0046	-0.2323	0.0144	-0.8351	0.0442
3	180.35	0.3493	0.0397	0.0011	-0.0084	0.0067	-0.4020	0.0234	-0.9969	0.0358
3	180.35	0.4000	0.0640	0.0018	-0.0058	0.0113	-0.6511	0.0362	-0.9976	0.0570
3	180.35	0.4497	0.0899	0.0024	-0.0376	0.0128	-1.0220	0.0482	-1.3210	0.0283
3	180.35	0.4997	0.0940	0.0017	-0.0611	0.0134	-1.5206	0.0586	-1.5416	0.0538
3	180.35	0.5556	0.1242	0.0020	-0.1039	0.0171	-2.2096	0.0721	-1.5249	0.0671
3	180.35	0.5995	0.1421	0.0030	-0.1514	0.0192	-2.9357	0.0852	-1.7304	0.0547
3	180.35	0.6498	0.1552	0.0031	-0.2161	0.0228	-3.8789	0.0983	-1.8686	0.0584
3	180.35	0.6890	0.1186	0.0038	-0.3111	0.0243	-4.7105	0.1104	-1.8480	0.0926
3	180.35	0.7495	0.1408	0.0063	-0.3527	0.0294	-6.1911	0.1363	-2.1050	0.0740
3	180.35	0.7998	0.1270	0.0107	-0.4375	0.0304	-7.5167	0.1594	-2.1940	0.0860
3	180.35	0.8577	0.1421	0.0161	-0.5481	0.0299	-9.1180	0.1945	-2.2341	0.0667
4	180	0.2001	-0.0645	0.0009	0.0025	0.0010	-0.0798	0.0028	-0.2986	0.0206
4	180	0.2502	-0.0099	0.0012	0.0133	0.0027	-0.1724	0.0040	-0.4728	0.0522
4	180	0.3001	-0.0019	0.0015	0.0192	0.0037	-0.3301	0.0076	-0.6961	0.0548
4	180	0.3502	0.0205	0.0008	0.0350	0.0081	-0.5596	0.0125	-0.8568	0.0484
4	180	0.4002	0.0335	0.0015	0.0585	0.0115	-0.8739	0.0176	-0.9728	0.0410
4	180	0.4500	0.0654	0.0018	0.0696	0.0153	-1.3248	0.0253	-1.4013	0.0487
4	180	0.5001	0.0846	0.0025	0.0597	0.0177	-1.8689	0.0325	-1.3992	0.0580
4	180	0.5560	0.1004	0.0028	0.0447	0.0232	-2.7219	0.0453	-1.6866	0.0591
4	180	0.6001	0.1105	0.0034	0.0523	0.0265	-3.5257	0.0541	-1.7652	0.0555
4	180	0.6501	0.0899	0.0042	-0.0030	0.0317	-4.6013	0.0701	-1.8031	0.0509
4	180	0.6999	0.0859	0.0075	-0.0440	0.0340	-5.8379	0.0921	-1.8055	0.0594
4	180	0.7500	0.0533	0.0085	-0.0575	0.0404	-7.2385	0.1207	-1.7707	0.0600
4	180	0.8002	0.0058	0.0125	-0.1144	0.0437	-8.7781	0.1510	-1.9088	0.0654
4	180	0.8582	-0.0390	0.0147	-0.1573	0.0525	-10.6426	0.2072	-2.0320	0.1090
4	180	0.9101	-0.0930	0.0247	-0.2034	0.0576	-12.3838	0.2514	-2.0757	0.0769
4	180	0.9728	-0.0684	0.0212	-0.2909	0.0667	-14.3486	0.2974	-1.5959	0.0810

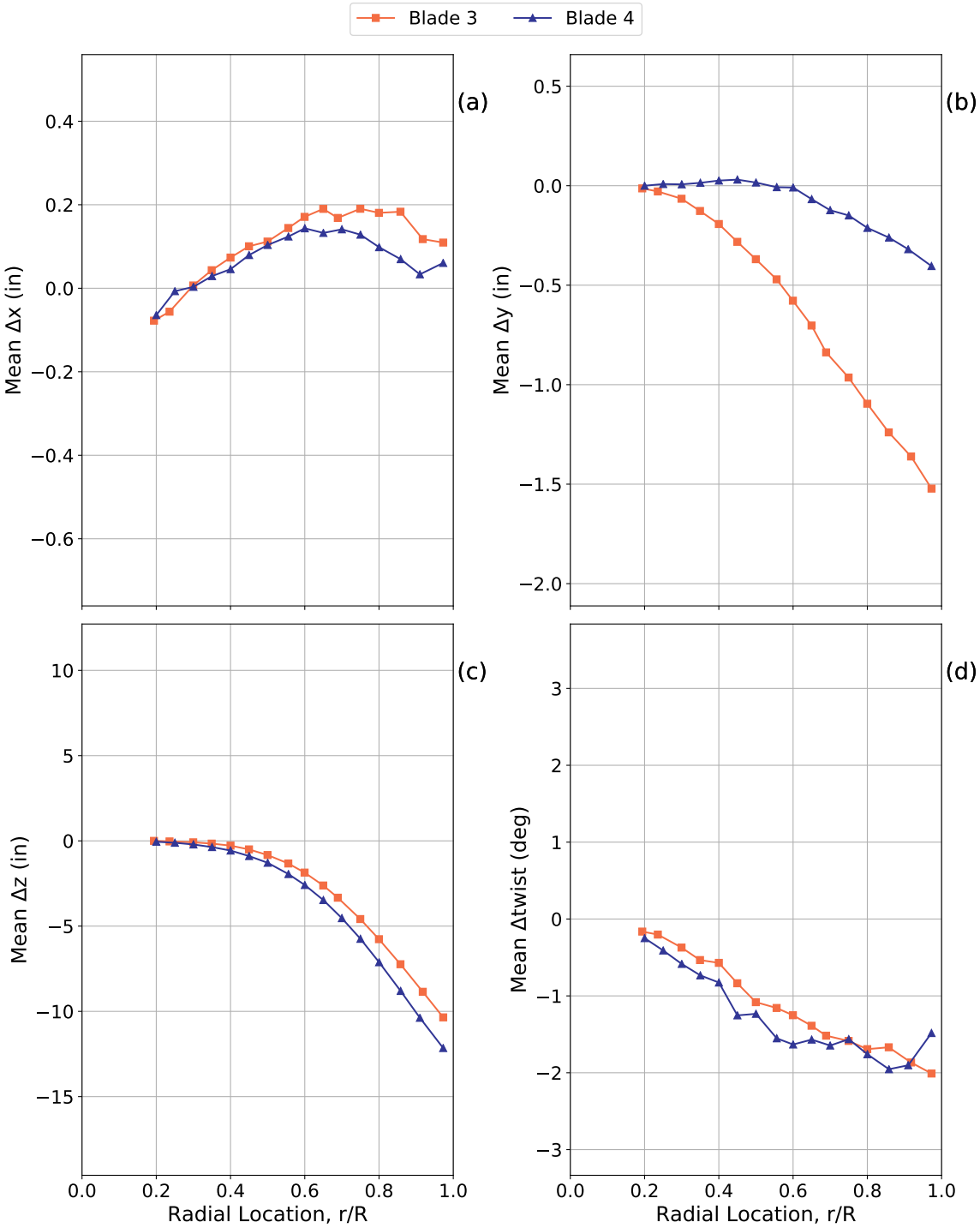


Figure 3.14-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0776	0.0029	-0.0135	0.0013	-0.0008	0.0037	-0.1635	0.0177
3	184.92	0.2357	-0.0561	0.0028	-0.0289	0.0032	-0.0325	0.0092	-0.2022	0.0340
3	184.92	0.2995	0.0067	0.0025	-0.0655	0.0049	-0.0849	0.0157	-0.3712	0.0437
3	184.92	0.3493	0.0432	0.0027	-0.1270	0.0083	-0.1607	0.0255	-0.5340	0.0278
3	184.92	0.4000	0.0735	0.0030	-0.1926	0.0137	-0.2793	0.0413	-0.5703	0.0363
3	184.92	0.4497	0.1005	0.0033	-0.2821	0.0185	-0.5009	0.0562	-0.8358	0.0338
3	184.92	0.4997	0.1118	0.0034	-0.3694	0.0237	-0.8302	0.0691	-1.0815	0.0356
3	184.92	0.5556	0.1443	0.0040	-0.4707	0.0292	-1.3268	0.0836	-1.1572	0.0458
3	184.92	0.5995	0.1710	0.0042	-0.5779	0.0346	-1.8608	0.0915	-1.2515	0.0567
3	184.92	0.6498	0.1901	0.0039	-0.7027	0.0419	-2.6177	0.0989	-1.3884	0.0533
3	184.92	0.6890	0.1684	0.0050	-0.8377	0.0457	-3.3336	0.1049	-1.5175	0.0555
3	184.92	0.7495	0.1904	0.0067	-0.9641	0.0528	-4.5863	0.1152	-1.5857	0.0425
3	184.92	0.7998	0.1806	0.0081	-1.0957	0.0591	-5.7670	0.1297	-1.6926	0.0525
3	184.92	0.8577	0.1833	0.0114	-1.2397	0.0670	-7.2360	0.1491	-1.6686	0.0482
3	184.92	0.9178	0.1177	0.0138	-1.3609	0.0758	-8.8519	0.1799	-1.8664	0.0700
3	184.92	0.9729	0.1094	0.0163	-1.5223	0.0836	-10.3527	0.2041	-2.0097	0.0542
4	184.92	0.2001	-0.0643	0.0015	-0.0002	0.0016	-0.0505	0.0035	-0.2490	0.0232
4	184.92	0.2502	-0.0070	0.0016	0.0083	0.0029	-0.1123	0.0039	-0.4096	0.0364
4	184.92	0.3001	0.0033	0.0015	0.0068	0.0063	-0.2120	0.0094	-0.5842	0.0499
4	184.92	0.3502	0.0291	0.0021	0.0145	0.0118	-0.3652	0.0142	-0.7332	0.0433
4	184.92	0.4002	0.0457	0.0030	0.0258	0.0175	-0.5692	0.0210	-0.8264	0.0409
4	184.92	0.4500	0.0795	0.0040	0.0305	0.0222	-0.8926	0.0310	-1.2536	0.0388
4	184.92	0.5001	0.1036	0.0033	0.0158	0.0266	-1.2858	0.0438	-1.2334	0.0409
4	184.92	0.5560	0.1239	0.0043	-0.0075	0.0345	-1.9485	0.0627	-1.5520	0.0386
4	184.92	0.6001	0.1435	0.0053	-0.0091	0.0410	-2.5895	0.0782	-1.6324	0.0454
4	184.92	0.6501	0.1325	0.0060	-0.0677	0.0469	-3.4742	0.1039	-1.5686	0.0422
4	184.92	0.6999	0.1411	0.0082	-0.1233	0.0544	-4.5346	0.1290	-1.6458	0.0412
4	184.92	0.7500	0.1283	0.0101	-0.1496	0.0620	-5.7470	0.1570	-1.5632	0.0519
4	184.92	0.8002	0.0983	0.0136	-0.2122	0.0704	-7.1192	0.1846	-1.7594	0.0574
4	184.92	0.8582	0.0696	0.0165	-0.2608	0.0815	-8.8055	0.2212	-1.9540	0.0757
4	184.92	0.9101	0.0333	0.0203	-0.3193	0.0893	-10.3785	0.2566	-1.9026	0.0833
4	184.92	0.9728	0.0606	0.0260	-0.4039	0.1029	-12.1525	0.3069	-1.4833	0.0809

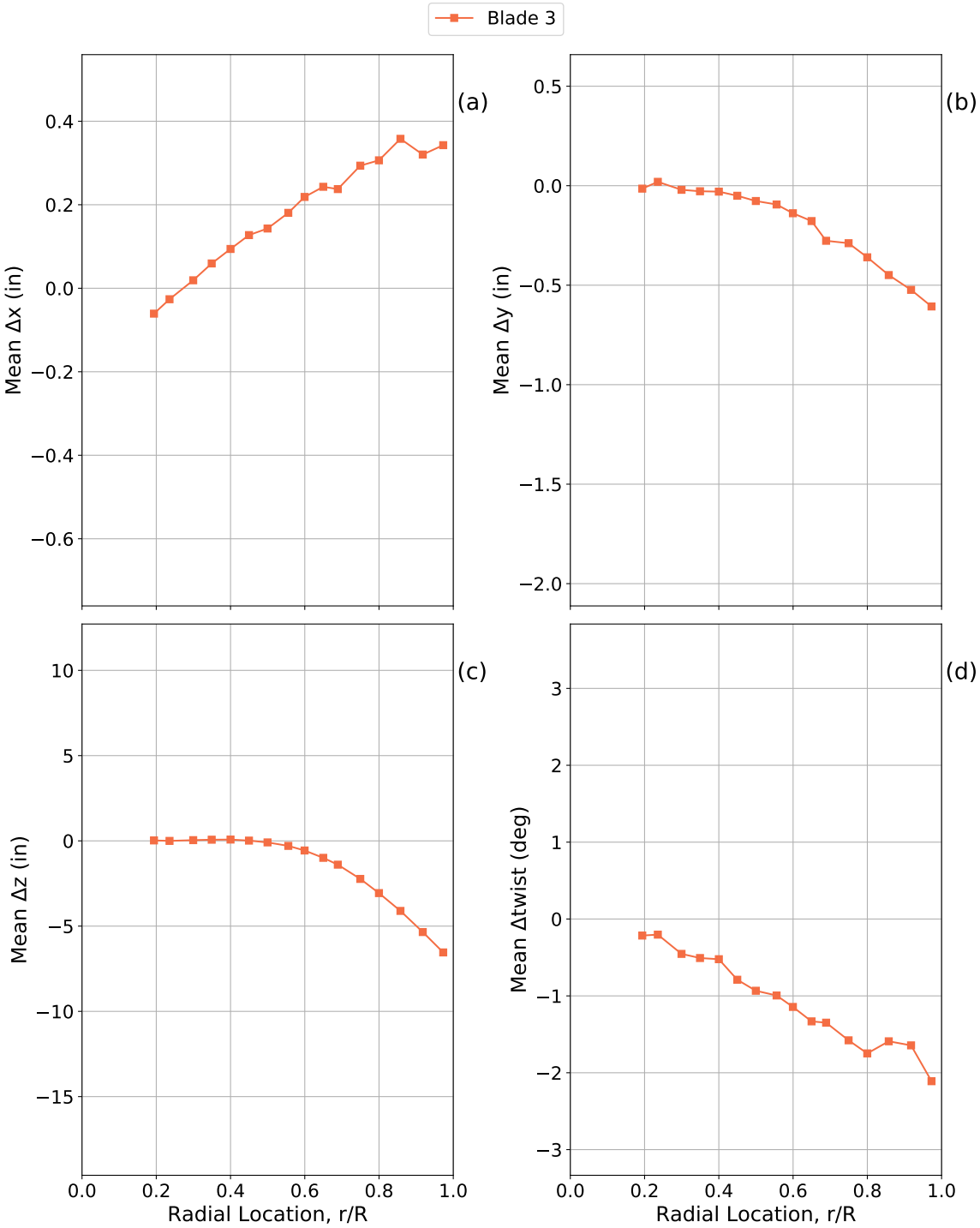


Figure 3.14-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0608	0.0016	-0.0147	0.0014	0.0262	0.0041	-0.2150	0.0159
3	195.12	0.2357	-0.0263	0.0012	0.0195	0.0021	-0.0020	0.0072	-0.2031	0.0239
3	195.12	0.2995	0.0191	0.0017	-0.0206	0.0051	0.0422	0.0153	-0.4535	0.0337
3	195.12	0.3493	0.0594	0.0028	-0.0279	0.0098	0.0678	0.0269	-0.5075	0.0360
3	195.12	0.4000	0.0941	0.0031	-0.0298	0.0144	0.0765	0.0414	-0.5228	0.0331
3	195.12	0.4497	0.1273	0.0041	-0.0505	0.0194	0.0151	0.0594	-0.7897	0.0403
3	195.12	0.4997	0.1431	0.0049	-0.0769	0.0259	-0.0901	0.0854	-0.9330	0.0486
3	195.12	0.5556	0.1806	0.0058	-0.0944	0.0353	-0.2944	0.1243	-0.9946	0.0486
3	195.12	0.5995	0.2187	0.0067	-0.1384	0.0429	-0.5648	0.1574	-1.1436	0.0457
3	195.12	0.6498	0.2430	0.0081	-0.1777	0.0524	-0.9953	0.2043	-1.3315	0.0445
3	195.12	0.6890	0.2375	0.0097	-0.2768	0.0616	-1.3961	0.2481	-1.3485	0.0503
3	195.12	0.7495	0.2936	0.0139	-0.2890	0.0748	-2.2315	0.3207	-1.5779	0.0469
3	195.12	0.7998	0.3064	0.0180	-0.3598	0.0884	-3.0631	0.3877	-1.7482	0.0443
3	195.12	0.8577	0.3579	0.0222	-0.4491	0.1046	-4.1086	0.4750	-1.5906	0.0800
3	195.12	0.9178	0.3202	0.0293	-0.5234	0.1235	-5.3482	0.5719	-1.6438	0.0901
3	195.12	0.9729	0.3427	0.0365	-0.6069	0.1402	-6.5435	0.6402	-2.1098	0.2610

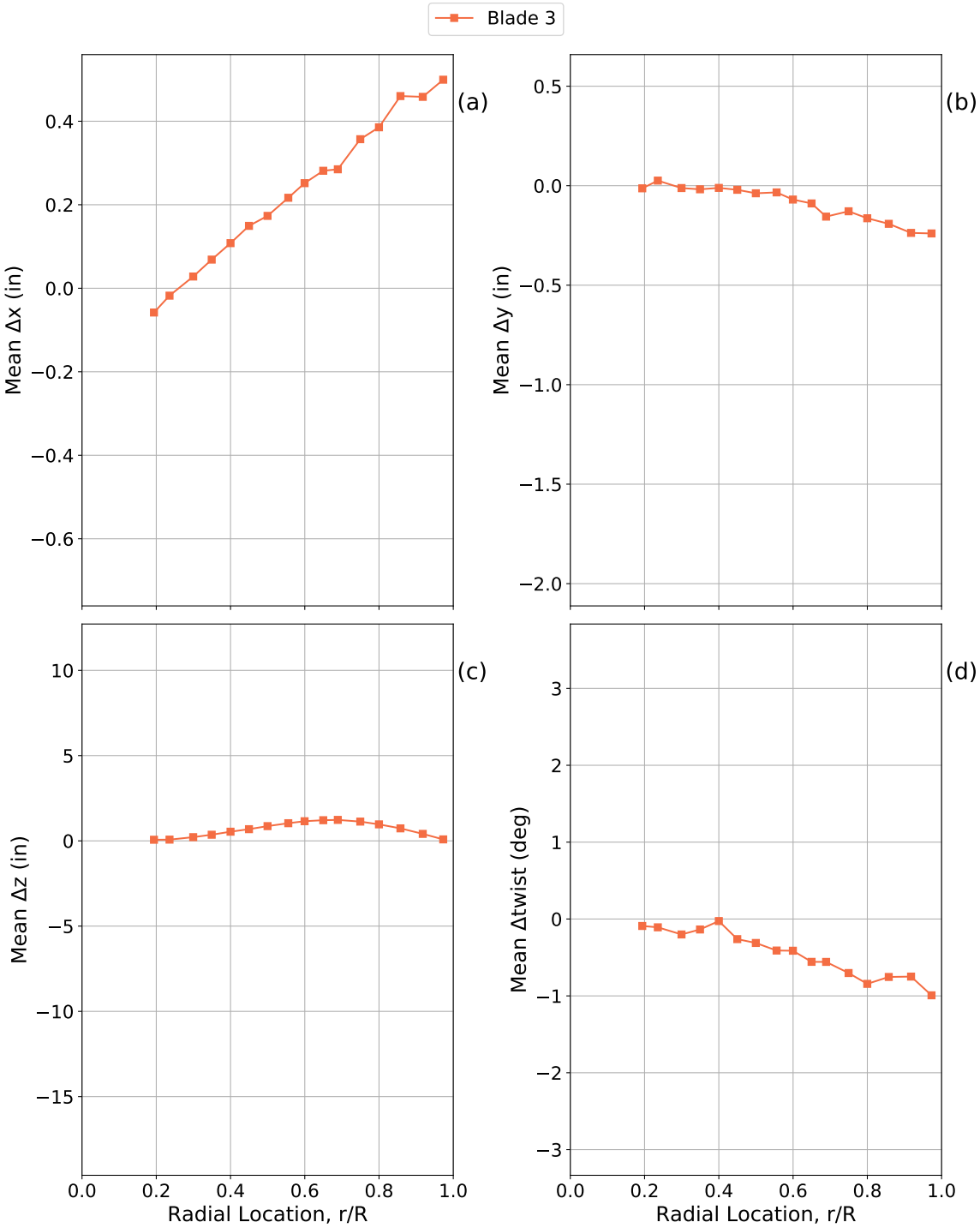


Figure 3.14-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0581	0.0022	-0.0132	0.0012	0.0653	0.0051	-0.0905	0.0406
3	209.88	0.2357	-0.0177	0.0013	0.0256	0.0018	0.0724	0.0078	-0.1078	0.0501
3	209.88	0.2995	0.0281	0.0019	-0.0118	0.0040	0.2174	0.0122	-0.2008	0.0803
3	209.88	0.3493	0.0686	0.0020	-0.0181	0.0071	0.3607	0.0232	-0.1360	0.0592
3	209.88	0.4000	0.1080	0.0015	-0.0110	0.0109	0.5376	0.0319	-0.0265	0.0636
3	209.88	0.4497	0.1494	0.0020	-0.0206	0.0140	0.6854	0.0421	-0.2616	0.0695
3	209.88	0.4997	0.1733	0.0021	-0.0381	0.0187	0.8645	0.0535	-0.3115	0.0752
3	209.88	0.5556	0.2167	0.0027	-0.0336	0.0235	1.0355	0.0704	-0.4099	0.0859
3	209.88	0.5995	0.2517	0.0027	-0.0696	0.0273	1.1520	0.0877	-0.4125	0.0824
3	209.88	0.6498	0.2814	0.0035	-0.0891	0.0336	1.2120	0.1117	-0.5571	0.0923
3	209.88	0.6890	0.2849	0.0042	-0.1554	0.0387	1.2293	0.1359	-0.5579	0.0779
3	209.88	0.7495	0.3570	0.0051	-0.1285	0.0476	1.1301	0.1815	-0.7026	0.0833
3	209.88	0.7998	0.3855	0.0058	-0.1636	0.0557	0.9675	0.2287	-0.8434	0.0944
3	209.88	0.8577	0.4603	0.0070	-0.1915	0.0658	0.7332	0.2905	-0.7536	0.0855
3	209.88	0.9178	0.4584	0.0084	-0.2372	0.0769	0.4105	0.3657	-0.7490	0.1001
3	209.88	0.9729	0.4995	0.0109	-0.2399	0.0870	0.0869	0.4378	-0.9923	0.0852

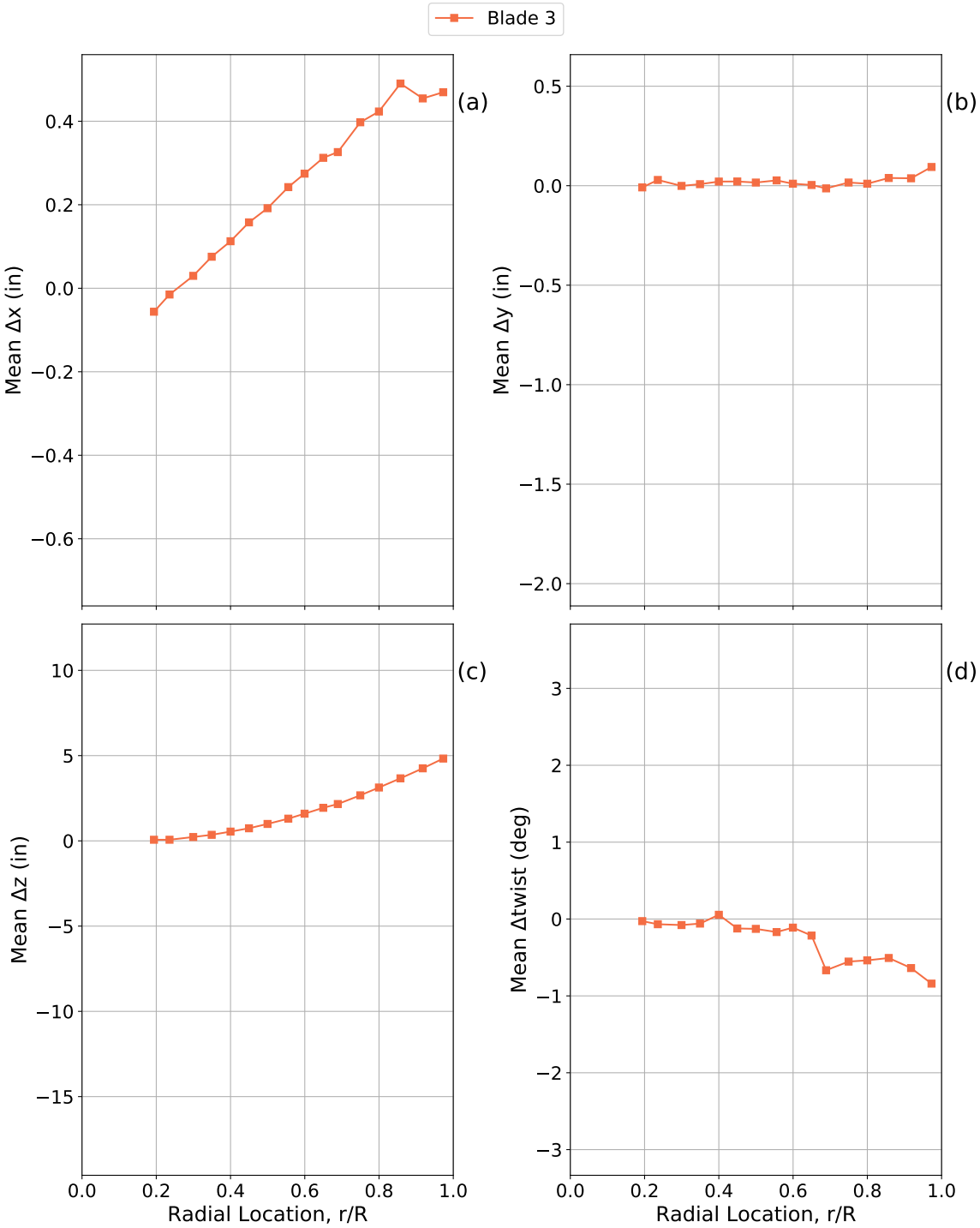


Figure 3.14-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0562	0.0023	-0.0085	0.0006	0.0651	0.0064	-0.0275	0.0343
3	225	0.2357	-0.0150	0.0012	0.0289	0.0013	0.0657	0.0101	-0.0677	0.0338
3	225	0.2995	0.0297	0.0022	-0.0010	0.0030	0.2254	0.0212	-0.0785	0.0702
3	225	0.3493	0.0755	0.0025	0.0077	0.0058	0.3546	0.0356	-0.0594	0.0797
3	225	0.4000	0.1126	0.0020	0.0208	0.0093	0.5435	0.0530	0.0550	0.0687
3	225	0.4497	0.1578	0.0021	0.0212	0.0144	0.7386	0.0776	-0.1230	0.0813
3	225	0.4997	0.1917	0.0026	0.0159	0.0167	0.9925	0.0979	-0.1281	0.0546
3	225	0.5556	0.2422	0.0027	0.0267	0.0232	1.3026	0.1251	-0.1696	0.0744
3	225	0.5995	0.2745	0.0036	0.0101	0.0263	1.5941	0.1441	-0.1120	0.0815
3	225	0.6498	0.3124	0.0045	0.0036	0.0329	1.9390	0.1691	-0.2152	0.0631
3	225	0.6890	0.3261	0.0049	-0.0135	0.0372	2.1603	0.1879	-0.6665	0.0809
3	225	0.7495	0.3975	0.0064	0.0160	0.0451	2.6711	0.2157	-0.5537	0.0795
3	225	0.7998	0.4233	0.0072	0.0100	0.0515	3.1292	0.2372	-0.5377	0.0848
3	225	0.8577	0.4903	0.0081	0.0388	0.0589	3.6676	0.2621	-0.5069	0.0974
3	225	0.9178	0.4546	0.0082	0.0373	0.0667	4.2545	0.2839	-0.6379	0.0998
3	225	0.9729	0.4695	0.0117	0.0941	0.0742	4.8281	0.3045	-0.8403	0.1321

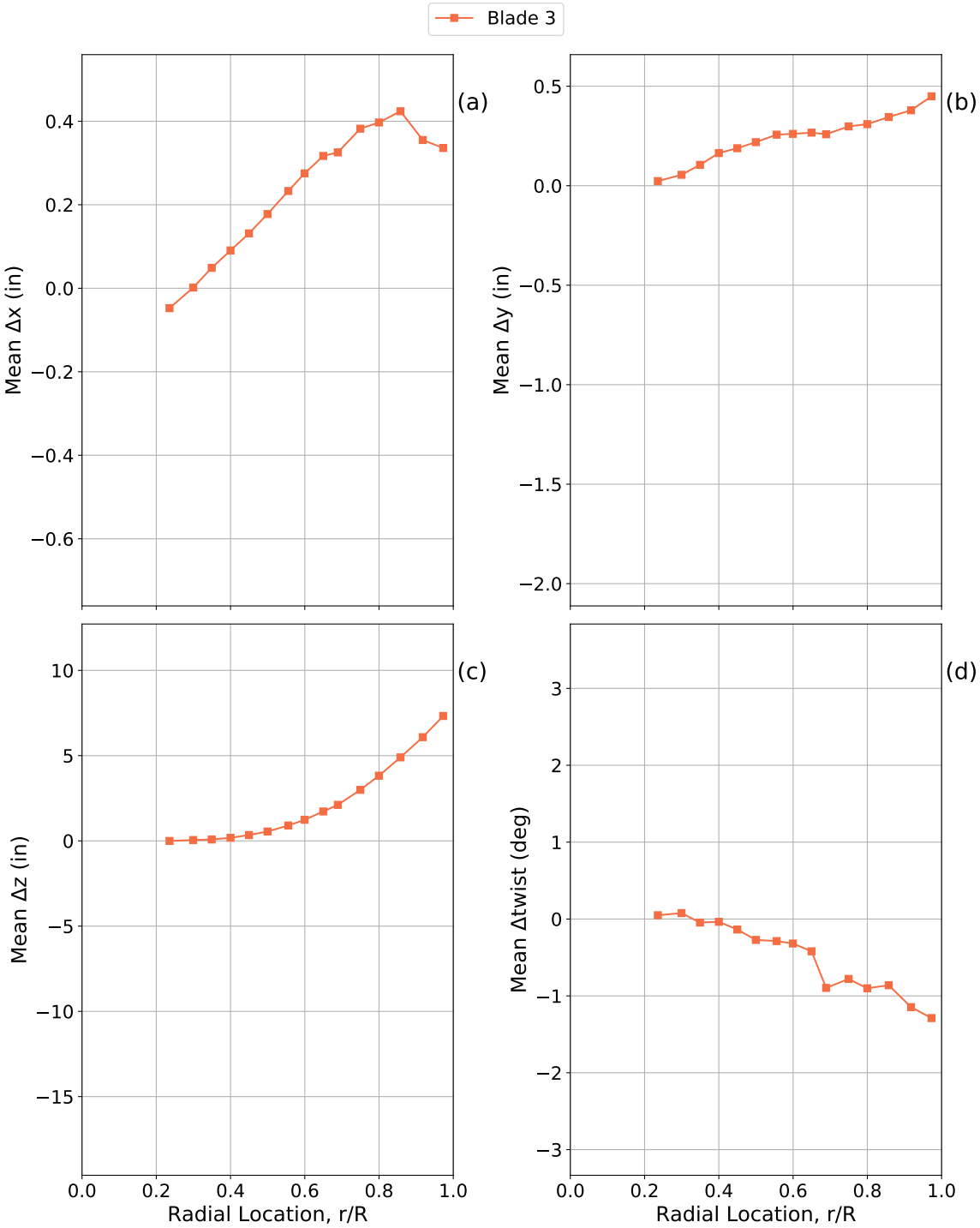


Figure 3.14-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0477	0.0016	0.0231	0.0008	-0.0047	0.0074	0.0492	0.0555
3	240.12	0.2995	0.0017	0.0018	0.0549	0.0031	0.0491	0.0149	0.0770	0.0890
3	240.12	0.3493	0.0489	0.0023	0.1048	0.0043	0.0823	0.0224	-0.0460	0.0961
3	240.12	0.4000	0.0905	0.0014	0.1641	0.0079	0.1798	0.0342	-0.0362	0.0903
3	240.12	0.4497	0.1314	0.0014	0.1884	0.0101	0.3394	0.0437	-0.1366	0.0900
3	240.12	0.4997	0.1777	0.0020	0.2189	0.0131	0.5479	0.0539	-0.2718	0.0861
3	240.12	0.5556	0.2329	0.0023	0.2566	0.0150	0.9013	0.0649	-0.2869	0.0902
3	240.12	0.5995	0.2751	0.0025	0.2606	0.0176	1.2375	0.0738	-0.3186	0.0978
3	240.12	0.6498	0.3169	0.0027	0.2667	0.0214	1.7228	0.0809	-0.4200	0.0850
3	240.12	0.6890	0.3254	0.0024	0.2586	0.0245	2.1122	0.0882	-0.8960	0.0896
3	240.12	0.7495	0.3822	0.0030	0.2979	0.0298	2.9914	0.0959	-0.7798	0.0944
3	240.12	0.7998	0.3970	0.0038	0.3093	0.0343	3.8219	0.1042	-0.9013	0.0847
3	240.12	0.8577	0.4239	0.0053	0.3452	0.0399	4.8972	0.1121	-0.8616	0.0917
3	240.12	0.9178	0.3550	0.0059	0.3793	0.0461	6.0821	0.1192	-1.1462	0.0854
3	240.12	0.9729	0.3360	0.0090	0.4494	0.0508	7.3255	0.1234	-1.2886	0.1037

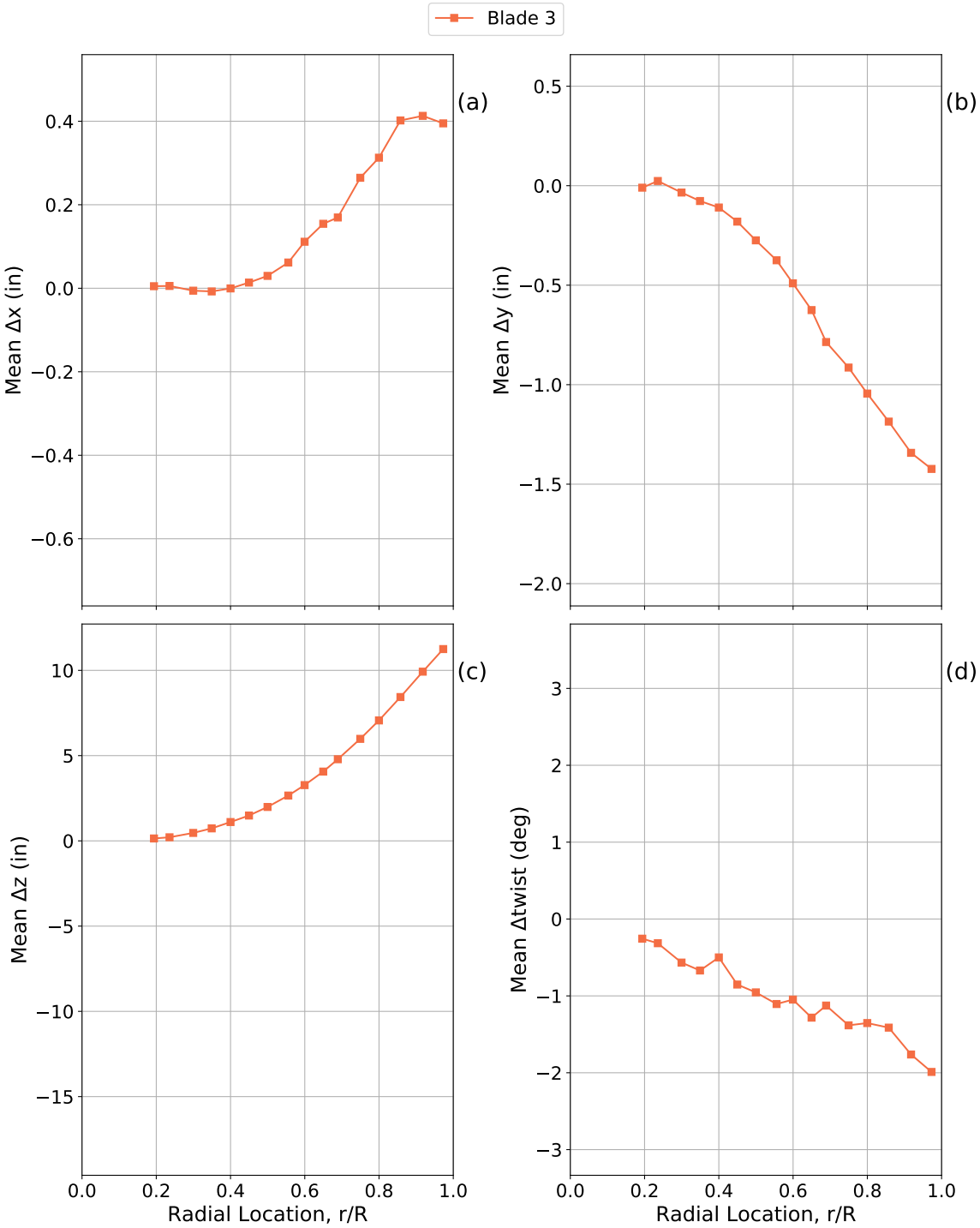


Figure 3.14-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	0.0049	0.0016	-0.0099	0.0009	0.1406	0.0062	-0.2557	0.0623
3	254.88	0.2357	0.0055	0.0016	0.0237	0.0022	0.2104	0.0126	-0.3149	0.0692
3	254.88	0.2995	-0.0058	0.0025	-0.0344	0.0052	0.4659	0.0254	-0.5667	0.1347
3	254.88	0.3493	-0.0076	0.0013	-0.0770	0.0067	0.7326	0.0300	-0.6697	0.1092
3	254.88	0.4000	-0.0004	0.0039	-0.1096	0.0136	1.1044	0.0527	-0.4995	0.0830
3	254.88	0.4497	0.0136	0.0049	-0.1805	0.0185	1.4858	0.0665	-0.8525	0.0765
3	254.88	0.4997	0.0296	0.0054	-0.2746	0.0240	1.9887	0.0837	-0.9543	0.0666
3	254.88	0.5556	0.0616	0.0076	-0.3748	0.0317	2.6577	0.1047	-1.1057	0.0793
3	254.88	0.5995	0.1114	0.0088	-0.4905	0.0381	3.2710	0.1198	-1.0481	0.0845
3	254.88	0.6498	0.1544	0.0104	-0.6252	0.0455	4.0633	0.1434	-1.2829	0.0793
3	254.88	0.6890	0.1695	0.0124	-0.7856	0.0517	4.7879	0.1572	-1.1258	0.0927
3	254.88	0.7495	0.2646	0.0146	-0.9140	0.0622	5.9834	0.1866	-1.3829	0.0788
3	254.88	0.7998	0.3127	0.0170	-1.0447	0.0715	7.0646	0.2064	-1.3535	0.0858
3	254.88	0.8577	0.4019	0.0198	-1.1856	0.0824	8.4350	0.2248	-1.4129	0.0981
3	254.88	0.9178	0.4129	0.0225	-1.3426	0.0941	9.9234	0.2357	-1.7623	0.1550
3	254.88	0.9729	0.3949	0.0278	-1.4234	0.1053	11.2490	0.2670	-1.9893	0.1839

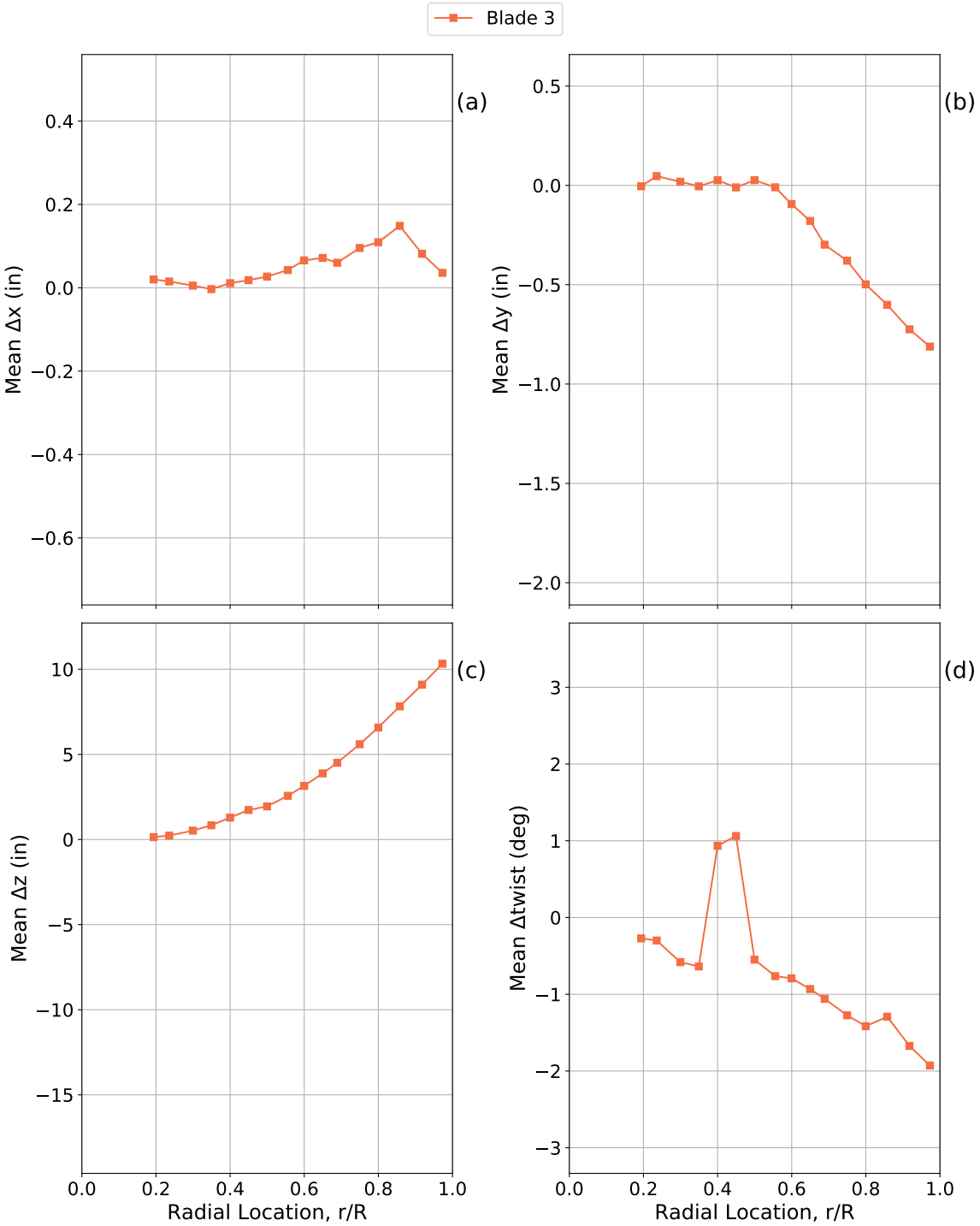


Figure 3.14-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0201	0.0065	-0.0044	0.0013	0.1389	0.0071	-0.2716	0.0427
3	260.16	0.2357	0.0151	0.0031	0.0466	0.0043	0.2302	0.0098	-0.2998	0.0784
3	260.16	0.2995	0.0052	0.0024	0.0186	0.0088	0.5187	0.0215	-0.5814	0.1092
3	260.16	0.3493	-0.0032	0.0047	-0.0048	0.0110	0.8361	0.0404	-0.6375	0.1036
3	260.16	0.4000	0.0111	0.0091	0.0257	0.0213	1.2862	0.0572	0.9346	0.3867
3	260.16	0.4497	0.0183	0.0113	-0.0102	0.0265	1.7328	0.0713	1.0622	0.4664
3	260.16	0.4997	0.0269	0.0144	0.0261	0.0545	1.9441	0.0702	-0.5489	0.1198
3	260.16	0.5556	0.0426	0.0158	-0.0096	0.0626	2.5669	0.0763	-0.7640	0.1147
3	260.16	0.5995	0.0657	0.0165	-0.0941	0.0699	3.1478	0.0821	-0.7922	0.1126
3	260.16	0.6498	0.0717	0.0174	-0.1787	0.0781	3.8839	0.0877	-0.9317	0.1122
3	260.16	0.6890	0.0600	0.0184	-0.2984	0.0858	4.5087	0.0953	-1.0596	0.1120
3	260.16	0.7495	0.0956	0.0201	-0.3790	0.0981	5.5956	0.1018	-1.2741	0.1089
3	260.16	0.7998	0.1093	0.0217	-0.4981	0.1094	6.5768	0.1113	-1.4162	0.1168
3	260.16	0.8577	0.1485	0.0238	-0.6013	0.1225	7.8226	0.1236	-1.2921	0.1182
3	260.16	0.9178	0.0815	0.0274	-0.7247	0.1368	9.0964	0.1348	-1.6728	0.1131
3	260.16	0.9729	0.0358	0.0325	-0.8116	0.1501	10.3269	0.1482	-1.9284	0.1296

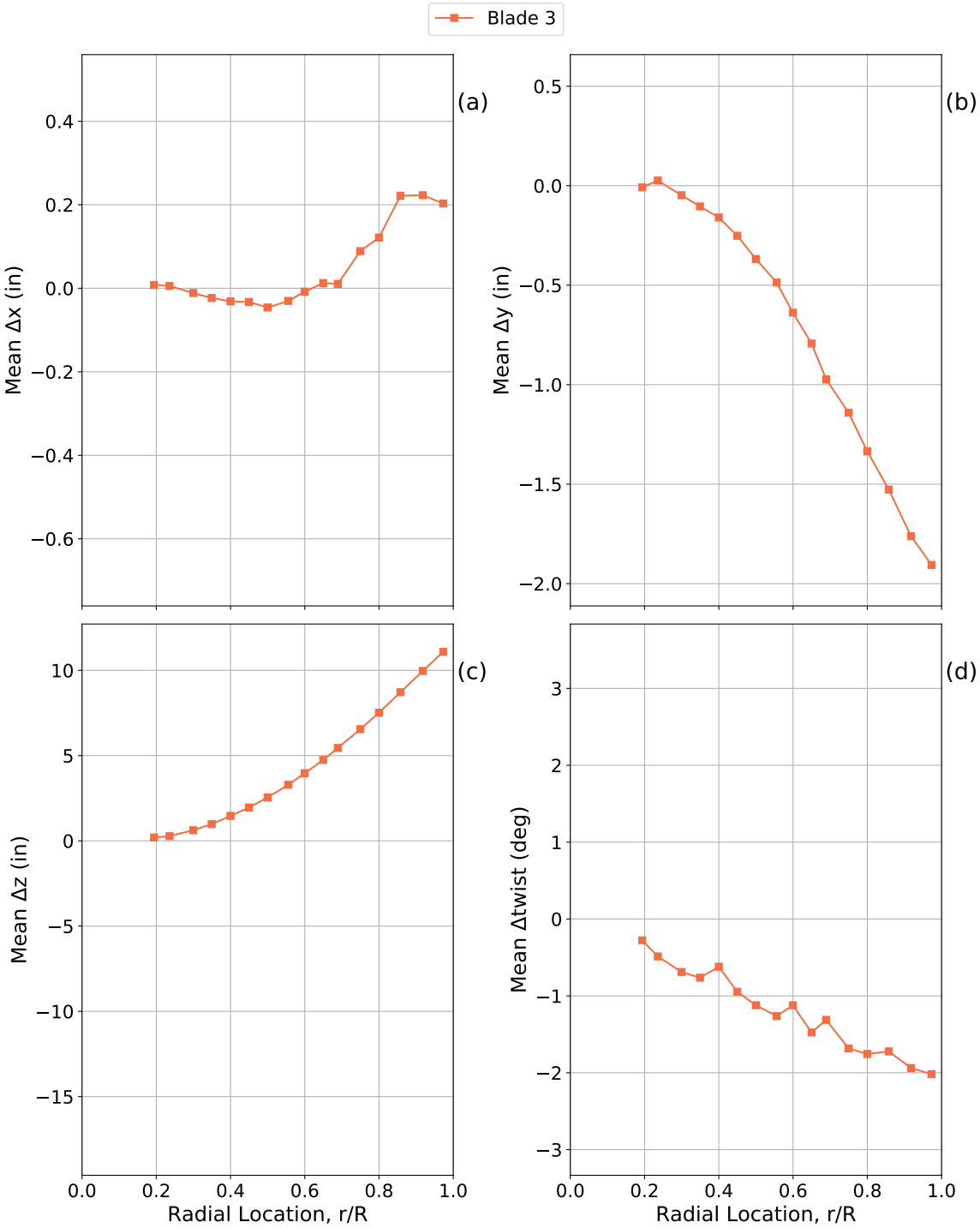


Figure 3.14-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0079	0.0030	-0.0084	0.0008	0.1974	0.0089	-0.2780	0.0522
3	265.08	0.2357	0.0056	0.0023	0.0260	0.0018	0.2800	0.0151	-0.4864	0.0712
3	265.08	0.2995	-0.0114	0.0022	-0.0479	0.0033	0.6252	0.0264	-0.6892	0.1078
3	265.08	0.3493	-0.0233	0.0019	-0.1044	0.0050	0.9841	0.0410	-0.7630	0.0993
3	265.08	0.4000	-0.0315	0.0022	-0.1599	0.0087	1.4657	0.0614	-0.6209	0.1104
3	265.08	0.4497	-0.0327	0.0031	-0.2516	0.0118	1.9588	0.0804	-0.9459	0.0958
3	265.08	0.4997	-0.0461	0.0040	-0.3683	0.0153	2.5470	0.0991	-1.1216	0.0895
3	265.08	0.5556	-0.0304	0.0059	-0.4865	0.0196	3.2929	0.1245	-1.2624	0.1071
3	265.08	0.5995	-0.0082	0.0077	-0.6381	0.0242	3.9655	0.1447	-1.1220	0.1043
3	265.08	0.6498	0.0124	0.0089	-0.7933	0.0291	4.7450	0.1705	-1.4759	0.0904
3	265.08	0.6890	0.0105	0.0102	-0.9734	0.0331	5.4484	0.1857	-1.3117	0.0925
3	265.08	0.7495	0.0889	0.0118	-1.1407	0.0406	6.5518	0.2152	-1.6834	0.1027
3	265.08	0.7998	0.1213	0.0138	-1.3351	0.0482	7.5183	0.2362	-1.7551	0.1104
3	265.08	0.8577	0.2217	0.0160	-1.5274	0.0562	8.7172	0.2530	-1.7219	0.1546
3	265.08	0.9178	0.2228	0.0191	-1.7617	0.0649	9.9642	0.2754	-1.9385	0.1168
3	265.08	0.9729	0.2031	0.0216	-1.9059	0.0750	11.0895	0.3117	-2.0178	0.1040

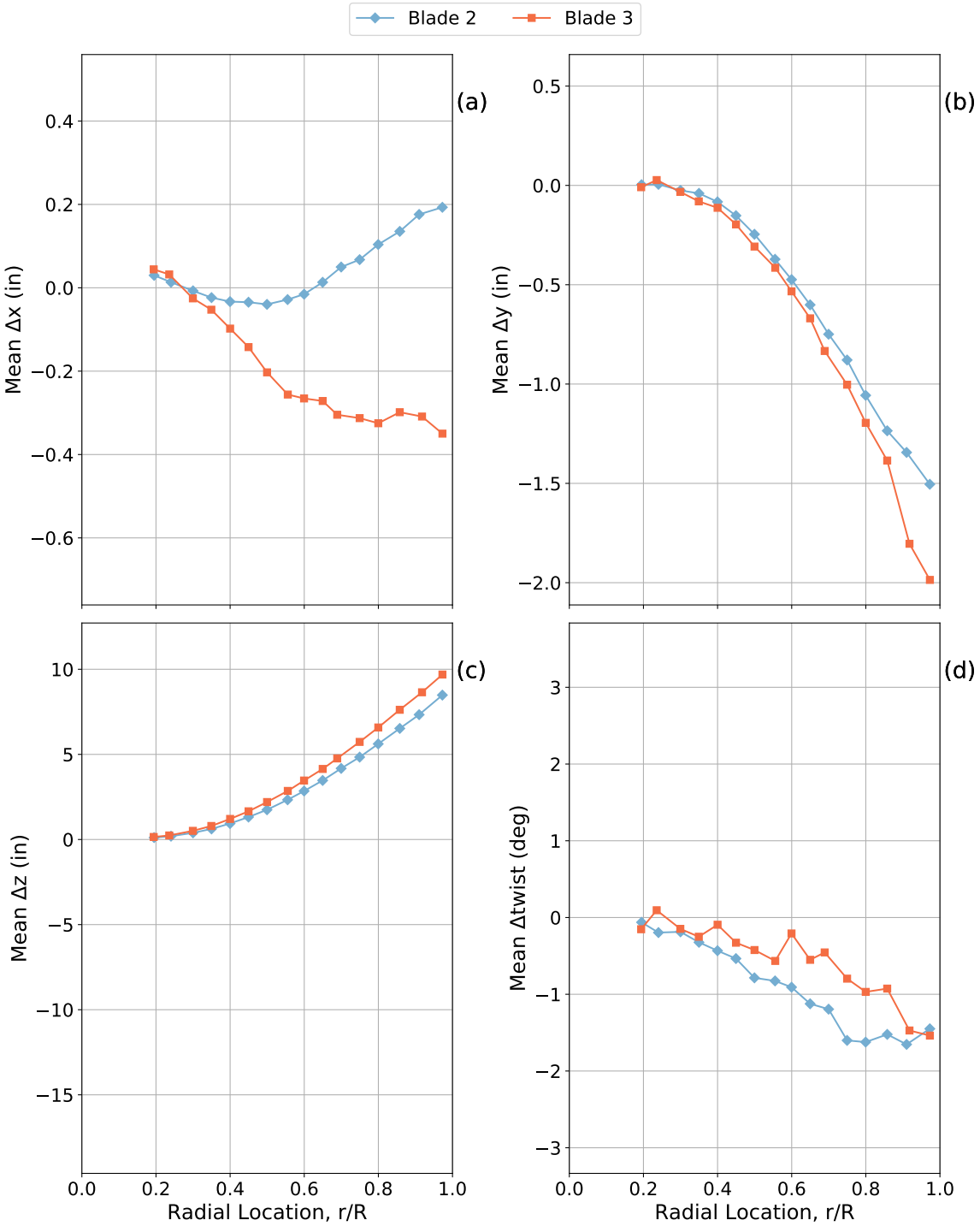


Figure 3.14-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0298	0.0015	0.0035	0.0008	0.1132	0.0054	-0.0624	0.0387
2	270.35	0.2405	0.0134	0.0014	0.0053	0.0015	0.1936	0.0121	-0.1961	0.0666
2	270.35	0.2999	-0.0073	0.0020	-0.0253	0.0041	0.3913	0.0181	-0.1865	0.0862
2	270.35	0.3498	-0.0236	0.0018	-0.0400	0.0052	0.6213	0.0322	-0.3231	0.0513
2	270.35	0.3998	-0.0332	0.0022	-0.0827	0.0098	0.9388	0.0475	-0.4325	0.0649
2	270.35	0.4496	-0.0346	0.0027	-0.1522	0.0146	1.3187	0.0671	-0.5349	0.1066
2	270.35	0.4995	-0.0398	0.0027	-0.2460	0.0201	1.7462	0.0898	-0.7858	0.1091
2	270.35	0.5551	-0.0283	0.0041	-0.3719	0.0270	2.3322	0.1168	-0.8261	0.0959
2	270.35	0.5996	-0.0154	0.0044	-0.4741	0.0331	2.8476	0.1473	-0.9081	0.1015
2	270.35	0.6497	0.0132	0.0059	-0.6012	0.0406	3.4695	0.1762	-1.1238	0.0764
2	270.35	0.6996	0.0498	0.0078	-0.7492	0.0493	4.1757	0.2047	-1.1944	0.1019
2	270.35	0.7495	0.0675	0.0088	-0.8790	0.0581	4.8393	0.2261	-1.6012	0.0933
2	270.35	0.7996	0.1038	0.0101	-1.0570	0.0677	5.6148	0.2490	-1.6231	0.1121
2	270.35	0.8578	0.1353	0.0107	-1.2353	0.0810	6.5246	0.2705	-1.5226	0.1317
2	270.35	0.9100	0.1760	0.0105	-1.3442	0.0917	7.3330	0.2810	-1.6532	0.1078
2	270.35	0.9727	0.1931	0.0145	-1.5045	0.1063	8.4831	0.2996	-1.4495	0.0706
3	270	0.1938	0.0442	0.0027	-0.0091	0.0023	0.1483	0.0160	-0.1526	0.0555
3	270	0.2357	0.0320	0.0017	0.0268	0.0026	0.2370	0.0144	0.0949	0.1267
3	270	0.2995	-0.0254	0.0022	-0.0327	0.0054	0.5085	0.0369	-0.1476	0.1371
3	270	0.3493	-0.0526	0.0026	-0.0805	0.0116	0.7936	0.0695	-0.2504	0.1660
3	270	0.4000	-0.0979	0.0048	-0.1128	0.0152	1.2087	0.0911	-0.0940	0.1379
3	270	0.4497	-0.1423	0.0034	-0.1964	0.0228	1.6566	0.1102	-0.3282	0.1193
3	270	0.4997	-0.2029	0.0053	-0.3079	0.0325	2.2001	0.1302	-0.4237	0.1377
3	270	0.5556	-0.2561	0.0063	-0.4146	0.0443	2.8538	0.1560	-0.5655	0.1478
3	270	0.5995	-0.2655	0.0191	-0.5333	0.0670	3.4637	0.1770	-0.2076	0.5658
3	270	0.6498	-0.2716	0.0257	-0.6692	0.0991	4.1448	0.2591	-0.5512	0.1420
3	270	0.6890	-0.3046	0.0254	-0.8335	0.1114	4.7624	0.2800	-0.4547	0.1670
3	270	0.7495	-0.3127	0.0243	-1.0033	0.1317	5.7338	0.3092	-0.7965	0.1654
3	270	0.7998	-0.3250	0.0243	-1.1954	0.1479	6.5806	0.3353	-0.9691	0.1524
3	270	0.8577	-0.2985	0.0239	-1.3851	0.1671	7.6202	0.3620	-0.9261	0.1550
3	270	0.9178	-0.3089	0.0395	-1.8040	0.2305	8.6488	0.3972	-1.4720	0.1671
3	270	0.9729	-0.3499	0.0380	-1.9860	0.2498	9.6908	0.4237	-1.5386	0.1624

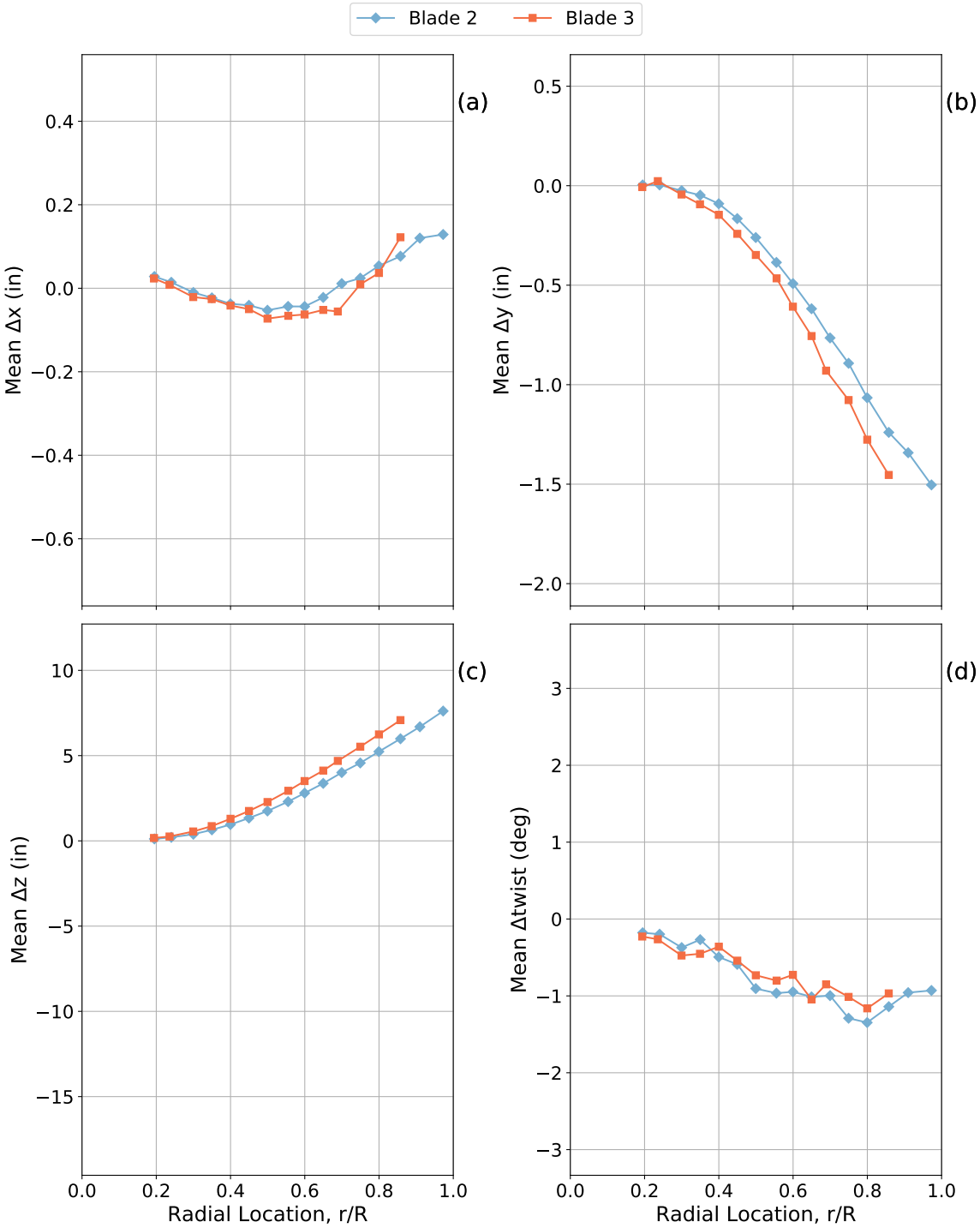


Figure 3.14-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0281	0.0030	0.0038	0.0015	0.1155	0.0051	-0.1784	0.0326
2	274.92	0.2405	0.0143	0.0048	0.0039	0.0014	0.2067	0.0084	-0.1976	0.0660
2	274.92	0.2999	-0.0101	0.0018	-0.0251	0.0027	0.3889	0.0173	-0.3714	0.0641
2	274.92	0.3498	-0.0230	0.0026	-0.0476	0.0080	0.6467	0.0236	-0.2683	0.1163
2	274.92	0.3998	-0.0373	0.0059	-0.0906	0.0092	0.9568	0.0373	-0.4945	0.0693
2	274.92	0.4496	-0.0408	0.0016	-0.1653	0.0116	1.3373	0.0468	-0.5897	0.1010
2	274.92	0.4995	-0.0527	0.0037	-0.2605	0.0149	1.7515	0.0614	-0.9049	0.0575
2	274.92	0.5551	-0.0435	0.0037	-0.3856	0.0189	2.3011	0.0734	-0.9647	0.0782
2	274.92	0.5996	-0.0437	0.0050	-0.4920	0.0233	2.8011	0.0865	-0.9470	0.0754
2	274.92	0.6497	-0.0220	0.0047	-0.6183	0.0280	3.3731	0.0971	-1.0127	0.0822
2	274.92	0.6996	0.0112	0.0065	-0.7650	0.0334	4.0066	0.1119	-0.9969	0.0863
2	274.92	0.7495	0.0242	0.0074	-0.8925	0.0397	4.5694	0.1241	-1.2905	0.0852
2	274.92	0.7996	0.0537	0.0085	-1.0657	0.0459	5.2349	0.1464	-1.3468	0.0742
2	274.92	0.8578	0.0767	0.0094	-1.2399	0.0532	5.9888	0.1647	-1.1402	0.0929
2	274.92	0.9100	0.1201	0.0117	-1.3421	0.0593	6.6899	0.1881	-0.9575	0.1013
2	274.92	0.9727	0.1288	0.0158	-1.5037	0.0661	7.6131	0.2250	-0.9294	0.0706
3	274.92	0.1938	0.0234	0.0112	-0.0068	0.0032	0.1696	0.0465	-0.2278	0.0588
3	274.92	0.2357	0.0081	0.0054	0.0229	0.0052	0.2559	0.0286	-0.2638	0.3772
3	274.92	0.2995	-0.0211	0.0021	-0.0443	0.0047	0.5508	0.1163	-0.4748	0.3037
3	274.92	0.3493	-0.0260	0.0040	-0.0934	0.0082	0.8638	0.1710	-0.4523	0.3725
3	274.92	0.4000	-0.0414	0.0056	-0.1462	0.0152	1.2958	0.2430	-0.3599	0.2977
3	274.92	0.4497	-0.0500	0.0081	-0.2419	0.0229	1.7530	0.3243	-0.5414	0.2477
3	274.92	0.4997	-0.0727	0.0106	-0.3481	0.0320	2.2779	0.3914	-0.7318	0.2918
3	274.92	0.5556	-0.0660	0.0139	-0.4656	0.0447	2.9372	0.4759	-0.8010	0.3000
3	274.92	0.5995	-0.0628	0.0183	-0.6080	0.0563	3.5080	0.5464	-0.7261	0.3393
3	274.92	0.6498	-0.0519	0.0221	-0.7556	0.0716	4.1219	0.6322	-1.0463	0.2968
3	274.92	0.6890	-0.0557	0.0272	-0.9295	0.0844	4.6899	0.6965	-0.8498	0.3128
3	274.92	0.7495	0.0094	0.0325	-1.0774	0.1055	5.5228	0.7971	-1.0131	0.3199
3	274.92	0.7998	0.0366	0.0364	-1.2764	0.1242	6.2440	0.8791	-1.1621	0.3041
3	274.92	0.8577	0.1221	0.0426	-1.4537	0.1462	7.0816	0.9773	-0.9676	0.3152

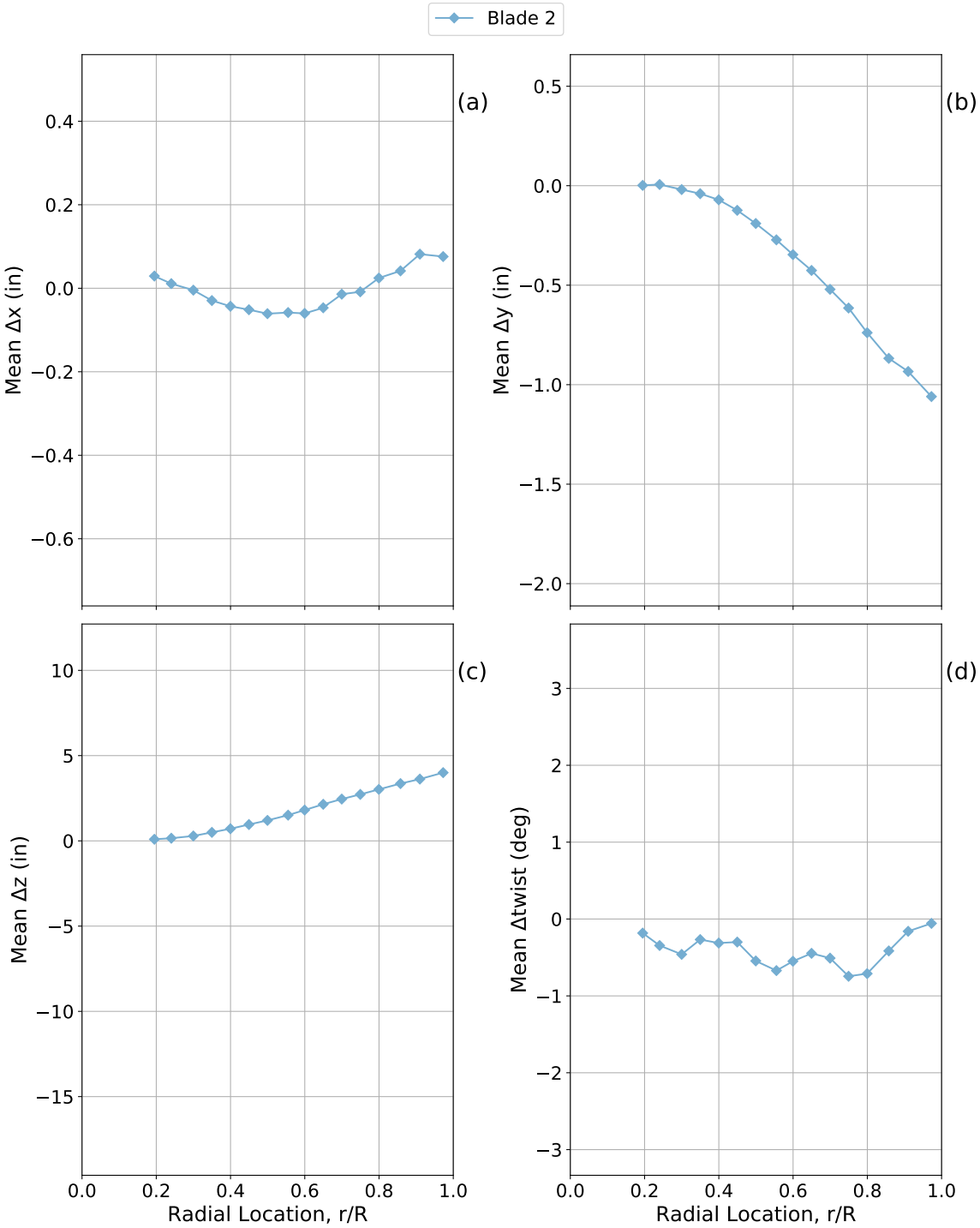


Figure 3.14-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0292	0.0019	0.0017	0.0009	0.0935	0.0145	-0.1830	0.0575
2	285.12	0.2405	0.0110	0.0020	0.0060	0.0023	0.1542	0.0240	-0.3446	0.0715
2	285.12	0.2999	-0.0046	0.0030	-0.0194	0.0038	0.2866	0.0402	-0.4599	0.1240
2	285.12	0.3498	-0.0295	0.0045	-0.0401	0.0111	0.4990	0.0748	-0.2672	0.0643
2	285.12	0.3998	-0.0432	0.0041	-0.0709	0.0172	0.7107	0.1019	-0.3124	0.0767
2	285.12	0.4496	-0.0514	0.0039	-0.1238	0.0260	0.9586	0.1320	-0.2996	0.0562
2	285.12	0.4995	-0.0609	0.0056	-0.1899	0.0361	1.2011	0.1680	-0.5453	0.0526
2	285.12	0.5551	-0.0582	0.0067	-0.2721	0.0485	1.5087	0.2047	-0.6711	0.0836
2	285.12	0.5996	-0.0603	0.0076	-0.3463	0.0604	1.8070	0.2454	-0.5494	0.0602
2	285.12	0.6497	-0.0468	0.0086	-0.4259	0.0747	2.1452	0.2863	-0.4464	0.0558
2	285.12	0.6996	-0.0142	0.0098	-0.5208	0.0904	2.4515	0.3284	-0.5090	0.0466
2	285.12	0.7495	-0.0085	0.0114	-0.6147	0.1066	2.7255	0.3736	-0.7448	0.0587
2	285.12	0.7996	0.0245	0.0118	-0.7389	0.1241	3.0201	0.4259	-0.7102	0.0475
2	285.12	0.8578	0.0416	0.0136	-0.8677	0.1454	3.3596	0.4862	-0.4151	0.0540
2	285.12	0.9100	0.0817	0.0153	-0.9337	0.1655	3.6231	0.5375	-0.1597	0.0685
2	285.12	0.9727	0.0759	0.0230	-1.0598	0.1888	4.0013	0.6041	-0.0568	0.0580

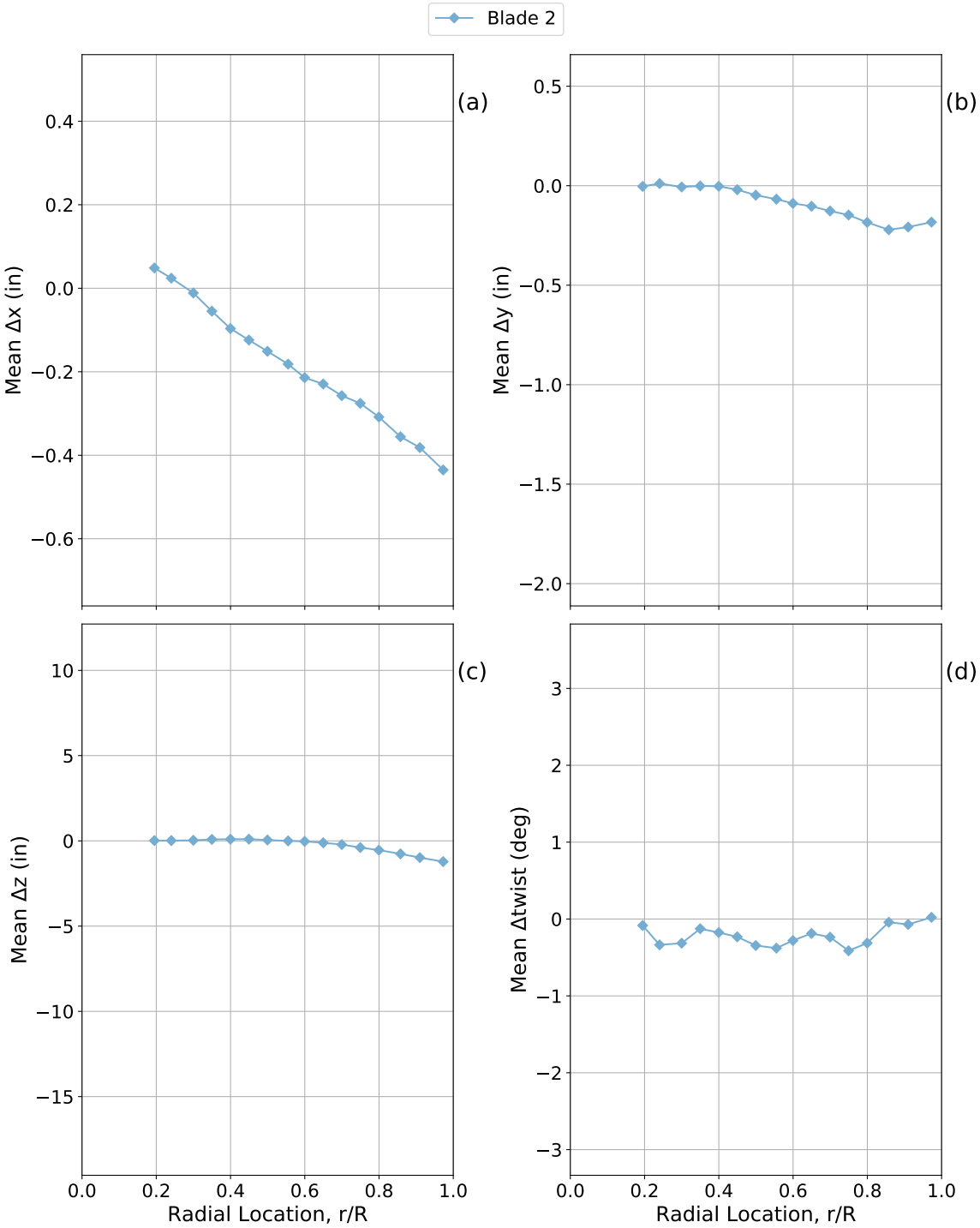


Figure 3.14-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0486	0.0018	-0.0034	0.0010	0.0171	0.0076	-0.0841	0.0437
2	299.88	0.2405	0.0241	0.0013	0.0109	0.0025	0.0157	0.0089	-0.3361	0.0564
2	299.88	0.2999	-0.0113	0.0015	-0.0064	0.0075	0.0319	0.0191	-0.3147	0.0899
2	299.88	0.3498	-0.0549	0.0046	-0.0012	0.0090	0.0860	0.0311	-0.1265	0.0608
2	299.88	0.3998	-0.0965	0.0043	-0.0028	0.0184	0.0961	0.0436	-0.1755	0.0548
2	299.88	0.4496	-0.1241	0.0056	-0.0200	0.0225	0.1009	0.0483	-0.2321	0.0834
2	299.88	0.4995	-0.1510	0.0050	-0.0477	0.0280	0.0509	0.0596	-0.3447	0.0766
2	299.88	0.5551	-0.1817	0.0053	-0.0678	0.0337	-0.0008	0.0707	-0.3787	0.0785
2	299.88	0.5996	-0.2142	0.0052	-0.0888	0.0397	-0.0313	0.0806	-0.2800	0.0627
2	299.88	0.6497	-0.2293	0.0054	-0.1034	0.0472	-0.1116	0.0949	-0.1875	0.0848
2	299.88	0.6996	-0.2573	0.0053	-0.1271	0.0544	-0.2165	0.1074	-0.2359	0.0779
2	299.88	0.7495	-0.2757	0.0060	-0.1473	0.0628	-0.3920	0.1199	-0.4127	0.0801
2	299.88	0.7996	-0.3084	0.0065	-0.1844	0.0709	-0.5431	0.1351	-0.3129	0.0807
2	299.88	0.8578	-0.3556	0.0065	-0.2215	0.0805	-0.7613	0.1538	-0.0416	0.0840
2	299.88	0.9100	-0.3816	0.0070	-0.2077	0.0890	-0.9835	0.1732	-0.0705	0.0856
2	299.88	0.9727	-0.4352	0.0093	-0.1831	0.0996	-1.2173	0.1952	0.0217	0.0889

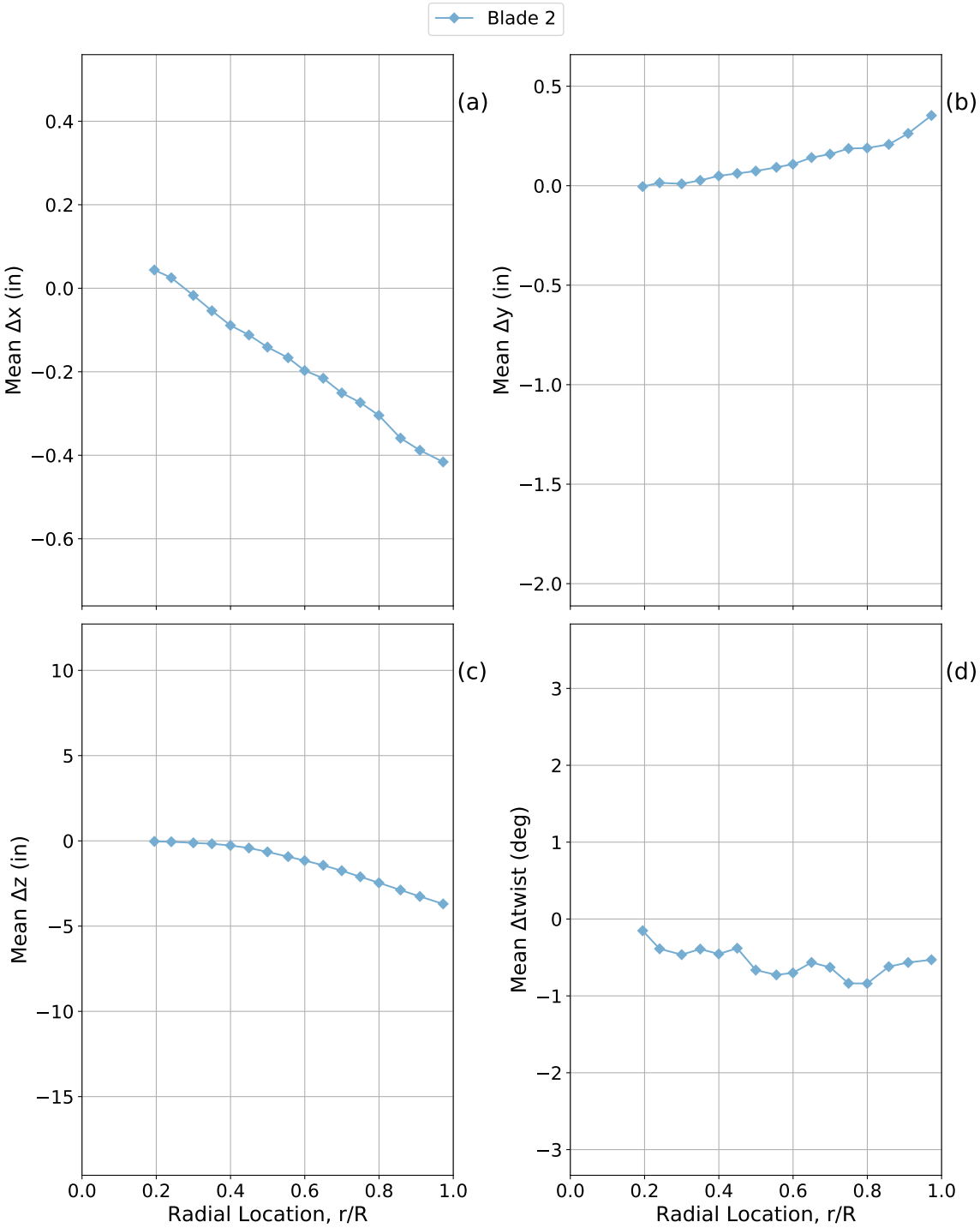


Figure 3.14-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0438	0.0024	-0.0043	0.0018	-0.0318	0.0053	-0.1520	0.0622
2	315	0.2405	0.0251	0.0032	0.0146	0.0031	-0.0524	0.0177	-0.3876	0.0563
2	315	0.2999	-0.0172	0.0030	0.0094	0.0039	-0.1184	0.0272	-0.4636	0.1251
2	315	0.3498	-0.0540	0.0031	0.0268	0.0057	-0.1706	0.0393	-0.3911	0.0911
2	315	0.3998	-0.0889	0.0028	0.0494	0.0101	-0.2713	0.0667	-0.4549	0.0522
2	315	0.4496	-0.1120	0.0071	0.0616	0.0110	-0.4191	0.0753	-0.3798	0.0945
2	315	0.4995	-0.1410	0.0042	0.0736	0.0132	-0.6453	0.0895	-0.6641	0.0779
2	315	0.5551	-0.1665	0.0049	0.0924	0.0147	-0.9266	0.1014	-0.7266	0.0801
2	315	0.5996	-0.1972	0.0059	0.1080	0.0171	-1.1566	0.1115	-0.7008	0.0850
2	315	0.6497	-0.2155	0.0053	0.1414	0.0198	-1.4329	0.1270	-0.5650	0.0721
2	315	0.6996	-0.2507	0.0065	0.1586	0.0220	-1.7500	0.1380	-0.6285	0.0821
2	315	0.7495	-0.2738	0.0069	0.1868	0.0254	-2.1062	0.1503	-0.8369	0.0982
2	315	0.7996	-0.3045	0.0082	0.1894	0.0294	-2.4588	0.1642	-0.8389	0.0834
2	315	0.8578	-0.3590	0.0098	0.2076	0.0358	-2.8828	0.1804	-0.6195	0.0820
2	315	0.9100	-0.3880	0.0103	0.2626	0.0418	-3.2610	0.1955	-0.5655	0.0821
2	315	0.9727	-0.4160	0.0114	0.3528	0.0495	-3.6978	0.2168	-0.5300	0.0777

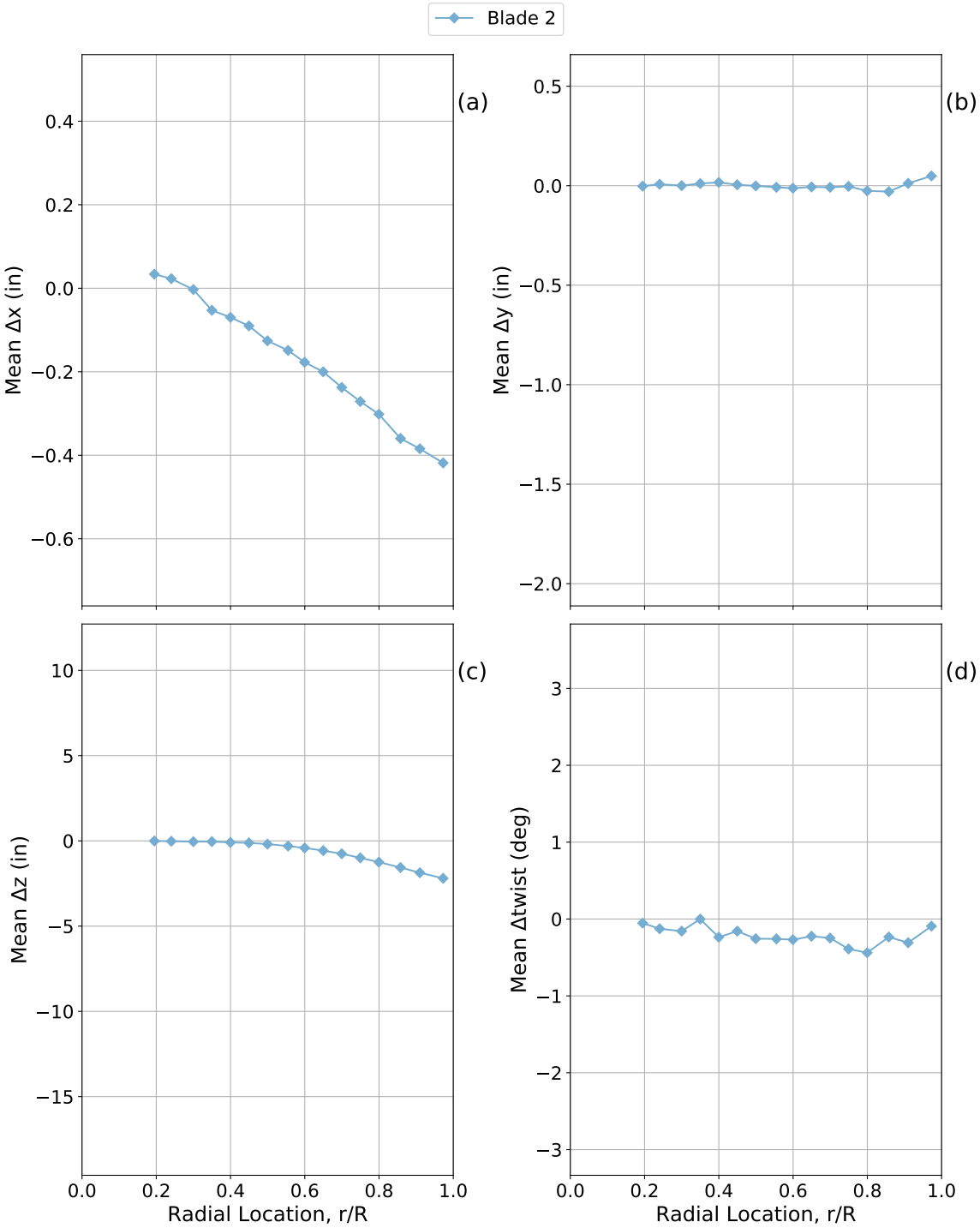


Figure 3.14-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0338	0.0021	-0.0023	0.0023	-0.0069	0.0043	-0.0534	0.0492
2	330.12	0.2405	0.0229	0.0037	0.0074	0.0032	-0.0228	0.0114	-0.1267	0.0396
2	330.12	0.2999	-0.0031	0.0025	0.0004	0.0078	-0.0463	0.0160	-0.1579	0.0926
2	330.12	0.3498	-0.0528	0.0038	0.0109	0.0095	-0.0428	0.0252	-0.0013	0.0561
2	330.12	0.3998	-0.0697	0.0028	0.0165	0.0150	-0.0932	0.0388	-0.2365	0.0598
2	330.12	0.4496	-0.0902	0.0051	0.0048	0.0180	-0.1171	0.0488	-0.1580	0.0570
2	330.12	0.4995	-0.1259	0.0053	-0.0010	0.0232	-0.1907	0.0677	-0.2559	0.0591
2	330.12	0.5551	-0.1489	0.0051	-0.0079	0.0293	-0.3037	0.0822	-0.2586	0.0884
2	330.12	0.5996	-0.1773	0.0053	-0.0125	0.0345	-0.4150	0.0962	-0.2687	0.0565
2	330.12	0.6497	-0.2001	0.0064	-0.0063	0.0408	-0.5735	0.1114	-0.2238	0.0684
2	330.12	0.6996	-0.2375	0.0077	-0.0082	0.0474	-0.7560	0.1305	-0.2475	0.0765
2	330.12	0.7495	-0.2712	0.0073	-0.0033	0.0543	-0.9964	0.1456	-0.3897	0.0810
2	330.12	0.7996	-0.3016	0.0086	-0.0258	0.0612	-1.2456	0.1630	-0.4385	0.0681
2	330.12	0.8578	-0.3598	0.0095	-0.0299	0.0702	-1.5633	0.1833	-0.2338	0.0693
2	330.12	0.9100	-0.3844	0.0102	0.0117	0.0782	-1.8687	0.2028	-0.3081	0.0736
2	330.12	0.9727	-0.4184	0.0120	0.0491	0.0873	-2.1972	0.2294	-0.0927	0.0761

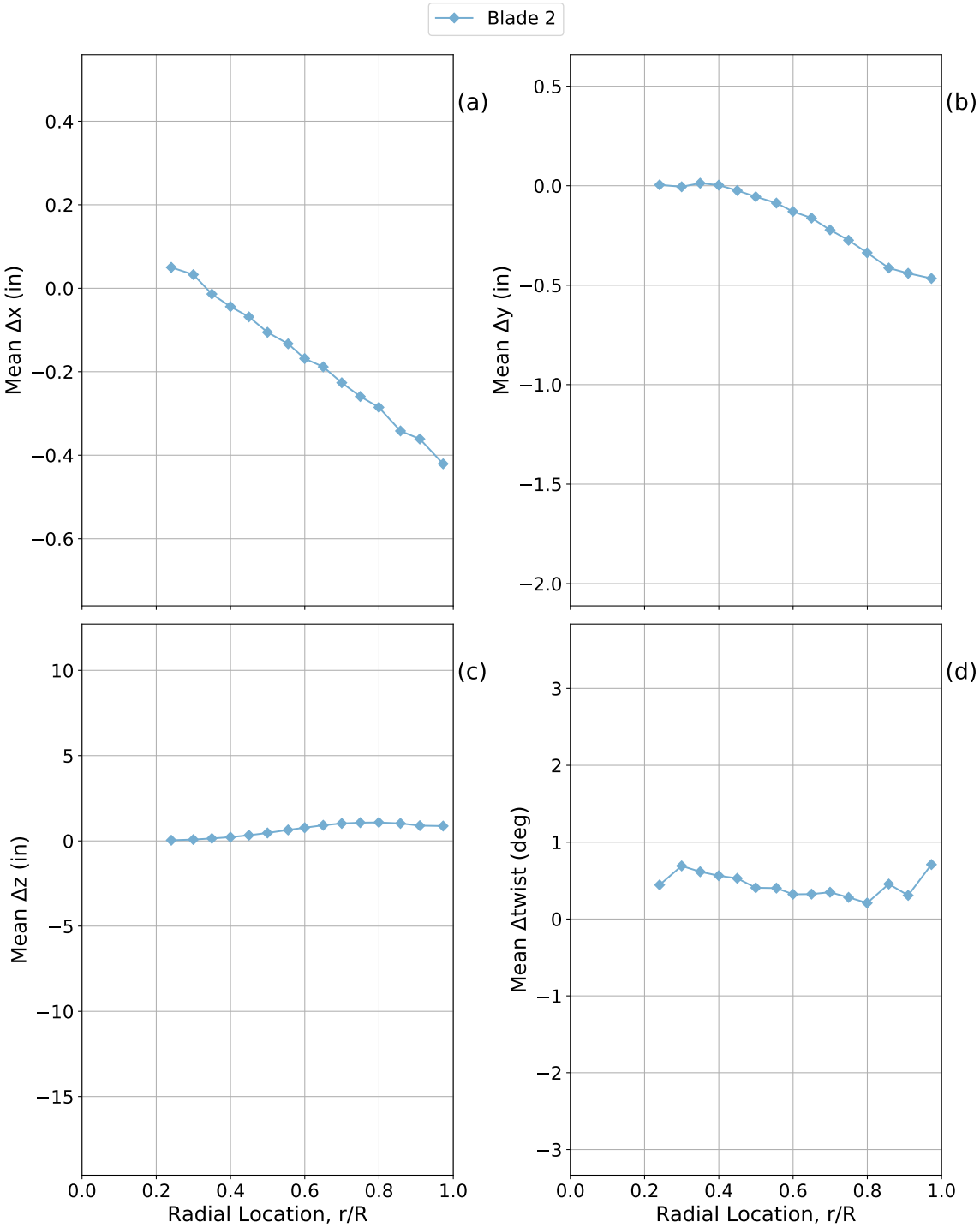


Figure 3.14-35. 345° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.2405	0.0500	0.0031	0.0046	0.0054	0.0399	0.0102	0.4447	0.0652
2	344.88	0.2999	0.0328	0.0063	-0.0052	0.0107	0.0795	0.0194	0.6913	0.1000
2	344.88	0.3498	-0.0138	0.0064	0.0128	0.0231	0.1469	0.0303	0.6155	0.1137
2	344.88	0.3998	-0.0440	0.0046	0.0030	0.0343	0.2222	0.0486	0.5639	0.1178
2	344.88	0.4496	-0.0686	0.0044	-0.0239	0.0440	0.3330	0.0660	0.5301	0.1153
2	344.88	0.4995	-0.1055	0.0061	-0.0551	0.0513	0.4664	0.0817	0.4068	0.1268
2	344.88	0.5551	-0.1331	0.0053	-0.0871	0.0613	0.6445	0.1051	0.4027	0.1228
2	344.88	0.5996	-0.1685	0.0054	-0.1297	0.0704	0.7732	0.1254	0.3224	0.1302
2	344.88	0.6497	-0.1883	0.0057	-0.1625	0.0795	0.9174	0.1489	0.3248	0.1282
2	344.88	0.6996	-0.2264	0.0064	-0.2220	0.0880	1.0250	0.1754	0.3488	0.1196
2	344.88	0.7495	-0.2593	0.0073	-0.2740	0.0971	1.0701	0.2019	0.2821	0.1270
2	344.88	0.7996	-0.2853	0.0074	-0.3370	0.1065	1.0820	0.2274	0.2090	0.1363
2	344.88	0.8578	-0.3419	0.0080	-0.4134	0.1170	1.0266	0.2526	0.4556	0.1395
2	344.88	0.9100	-0.3611	0.0082	-0.4401	0.1275	0.8956	0.2724	0.3083	0.1262
2	344.88	0.9727	-0.4206	0.0120	-0.4659	0.1389	0.8725	0.2885	0.7093	0.1431

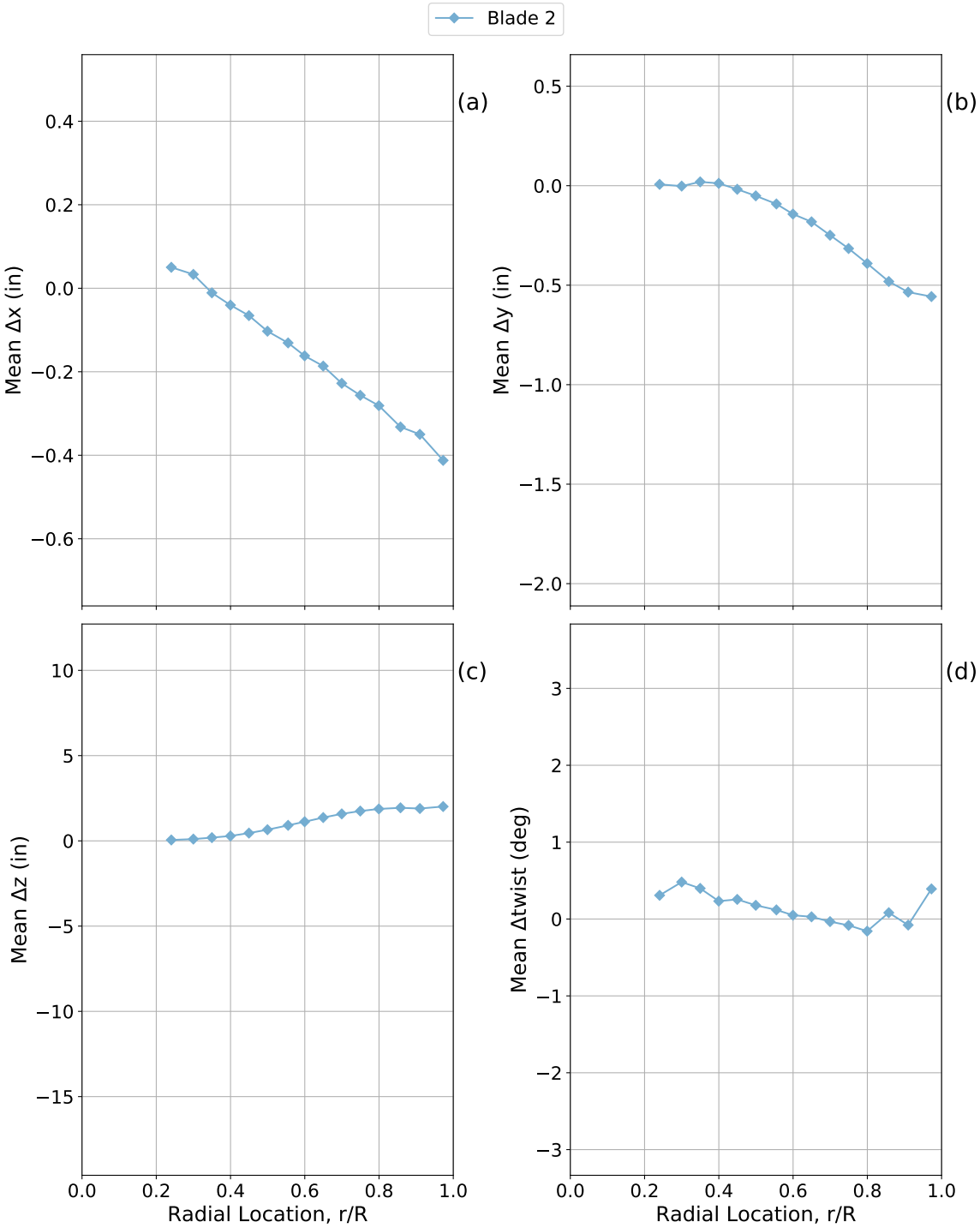


Figure 3.14-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0502	0.0035	0.0067	0.0021	0.0523	0.0087	0.3083	0.1060
2	350.16	0.2999	0.0332	0.0027	-0.0020	0.0063	0.1039	0.0155	0.4809	0.1636
2	350.16	0.3498	-0.0110	0.0032	0.0193	0.0088	0.1897	0.0293	0.3983	0.1321
2	350.16	0.3998	-0.0404	0.0026	0.0119	0.0150	0.2870	0.0428	0.2327	0.1534
2	350.16	0.4496	-0.0655	0.0025	-0.0181	0.0195	0.4558	0.0546	0.2551	0.1324
2	350.16	0.4995	-0.1029	0.0022	-0.0510	0.0227	0.6545	0.0672	0.1784	0.1381
2	350.16	0.5551	-0.1309	0.0029	-0.0917	0.0278	0.9100	0.0836	0.1188	0.1476
2	350.16	0.5996	-0.1619	0.0034	-0.1425	0.0310	1.1221	0.0958	0.0494	0.1405
2	350.16	0.6497	-0.1864	0.0041	-0.1815	0.0355	1.3668	0.1126	0.0286	0.1332
2	350.16	0.6996	-0.2277	0.0051	-0.2489	0.0411	1.5826	0.1307	-0.0339	0.1405
2	350.16	0.7495	-0.2564	0.0056	-0.3157	0.0454	1.7488	0.1458	-0.0822	0.1426
2	350.16	0.7996	-0.2812	0.0064	-0.3908	0.0505	1.8726	0.1665	-0.1580	0.1318
2	350.16	0.8578	-0.3322	0.0074	-0.4814	0.0562	1.9383	0.1918	0.0822	0.1322
2	350.16	0.9100	-0.3499	0.0081	-0.5349	0.0606	1.8965	0.2150	-0.0785	0.1263
2	350.16	0.9727	-0.4123	0.0095	-0.5572	0.0676	2.0129	0.2452	0.3918	0.1406

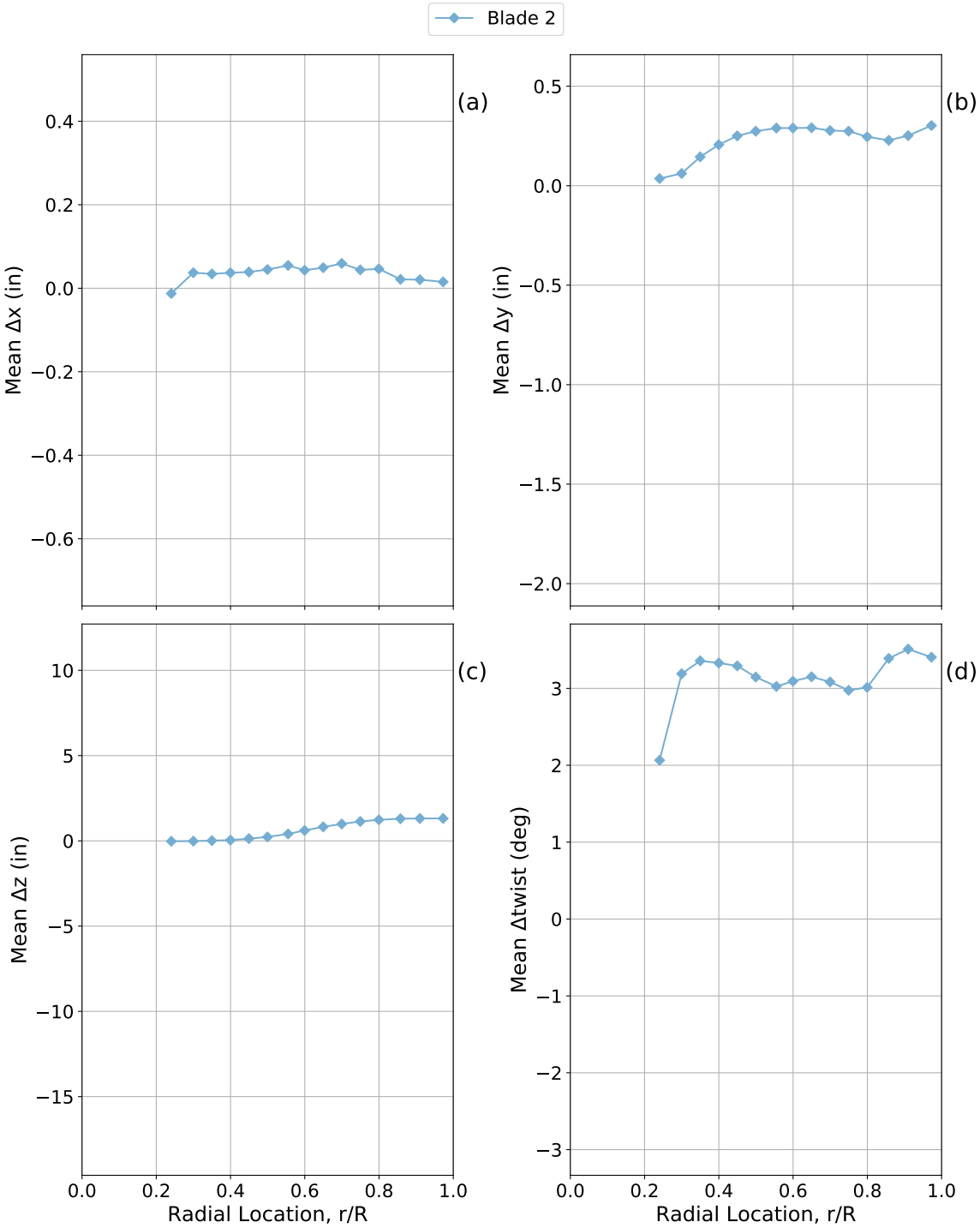


Figure 3.14-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.35, α = -6.9° NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Table 3.14-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.35, α = -6.9°
NFAC run 53, point 14. BD run 26, points 3156 to 3166.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2405	-0.0126	0.0158	0.0359	0.0181	-0.0238	0.0445	2.0652	0.8036
2	355.08	0.2999	0.0372	0.0080	0.0616	0.0381	-0.0161	0.0757	3.1905	1.2409
2	355.08	0.3498	0.0343	0.0133	0.1449	0.0731	0.0132	0.1197	3.3590	1.2354
2	355.08	0.3998	0.0371	0.0232	0.2059	0.1119	0.0442	0.1711	3.3308	1.2356
2	355.08	0.4496	0.0389	0.0299	0.2503	0.1492	0.1302	0.2204	3.2931	1.2240
2	355.08	0.4995	0.0448	0.0381	0.2738	0.1828	0.2288	0.2684	3.1475	1.2374
2	355.08	0.5551	0.0546	0.0454	0.2896	0.2245	0.4062	0.3275	3.0253	1.2374
2	355.08	0.5996	0.0432	0.0520	0.2897	0.2561	0.6077	0.3766	3.0937	1.2274
2	355.08	0.6497	0.0493	0.0572	0.2911	0.2905	0.8230	0.4263	3.1512	1.2525
2	355.08	0.6996	0.0595	0.0622	0.2773	0.3254	0.9903	0.4811	3.0844	1.2312
2	355.08	0.7495	0.0439	0.0664	0.2742	0.3615	1.1372	0.5352	2.9752	1.2448
2	355.08	0.7996	0.0464	0.0689	0.2458	0.3983	1.2359	0.5934	3.0134	1.2325
2	355.08	0.8578	0.0212	0.0696	0.2281	0.4416	1.3002	0.6555	3.3903	1.2449
2	355.08	0.9100	0.0205	0.0696	0.2518	0.4817	1.3133	0.7101	3.5117	1.2370
2	355.08	0.9727	0.0152	0.0802	0.3024	0.5353	1.3133	0.7685	3.4060	1.2523

3.15 Run 53, Point 26

3.15.1 Pitch, Flap, and Lag

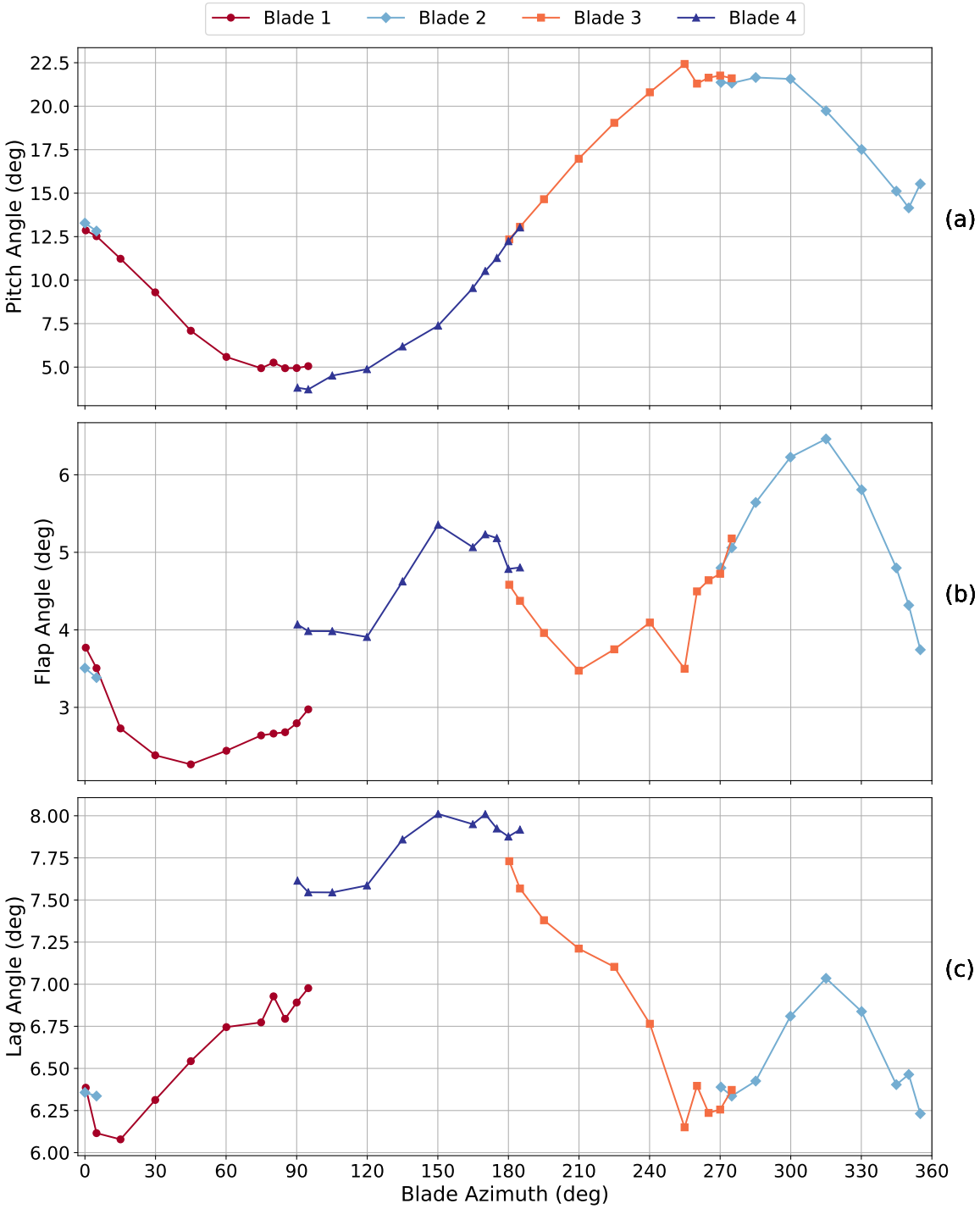


Figure 3.15-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	13.2808	3.5065	6.3573	0.0650	0.1304	0.0595
0.35	1	12.8602	3.7699	6.3856	0.0968	0.1333	0.0902
4.92	1	12.5248	3.5051	6.1158	0.0742	0.1176	0.0718
4.92	2	12.8233	3.3838	6.3361	0.1178	0.1334	0.0888
15.12	1	11.2300	2.7281	6.0788	0.1261	0.1709	0.1010
29.88	1	9.2979	2.3819	6.3128	0.0876	0.0455	0.0485
45	1	7.0919	2.2642	6.5431	0.0898	0.0809	0.0720
60.12	1	5.5846	2.4404	6.7452	0.0507	0.0442	0.0665
74.88	1	4.9366	2.6378	6.7732	0.0574	0.0524	0.0370
80.16	1	5.2593	2.6616	6.9280	0.0899	0.1152	0.0539
85.08	1	4.9368	2.6794	6.7944	0.1064	0.1223	0.0976
90	1	4.9439	2.7945	6.8914	0.0776	0.0783	0.0432
90.35	4	3.8128	4.0690	7.6144	0.0734	0.0909	0.0842
94.92	1	5.0547	2.9743	6.9762	0.0822	0.1014	0.0936
94.92	4	3.7170	3.9836	7.5455	0.0584	0.1099	0.0878
105.12	4	4.5102	3.9827	7.5448	0.0468	0.2105	0.1101
119.88	4	4.8808	3.9080	7.5861	0.0446	0.1575	0.0530
135	4	6.1874	4.6242	7.8591	0.0550	0.1518	0.0710
150.12	4	7.3811	5.3551	8.0108	0.0735	0.2236	0.0625
164.88	4	9.5442	5.0660	7.9498	0.0853	0.1651	0.0669
170.16	4	10.5254	5.2319	8.0094	0.1180	0.2264	0.0888
175.08	4	11.2711	5.1828	7.9241	0.1737	0.1916	0.0653
180	4	12.2401	4.7855	7.8764	0.0862	0.2236	0.0582
180.35	3	12.3448	4.5823	7.7303	0.0588	0.2085	0.0664
184.92	3	13.0638	4.3744	7.5679	0.0737	0.2565	0.0797
184.92	4	13.0263	4.8046	7.9173	0.0975	0.2775	0.0694
195.12	3	14.6535	3.9597	7.3797	0.0944	0.2467	0.0845
209.88	3	16.9782	3.4733	7.2113	0.0711	0.1219	0.0751
225	3	19.0438	3.7486	7.1030	0.0454	0.1422	0.1007
240.12	3	20.7991	4.0940	6.7649	0.0918	0.0945	0.1146
254.88	3	22.4288	3.4978	6.1504	0.5280	0.3295	0.1884
260.16	3	21.2983	4.4961	6.3965	0.0490	0.1585	0.1015
265.08	3	21.6397	4.6399	6.2359	0.0963	0.0895	0.0943
270	3	21.7638	4.7231	6.2558	0.0793	0.0909	0.0344
270.35	2	21.3702	4.7993	6.3891	0.0990	0.0824	0.0280
274.92	2	21.3261	5.0588	6.3358	0.1230	0.0538	0.0450
274.92	3	21.6047	5.1783	6.3722	0.0982	0.0838	0.0778
285.12	2	21.6504	5.6429	6.4251	0.1094	0.0562	0.0719
299.88	2	21.5662	6.2275	6.8098	0.0859	0.0833	0.1111
315	2	19.7332	6.4625	7.0349	0.0819	0.0815	0.0741
330.12	2	17.5142	5.8078	6.8379	0.1573	0.1921	0.0977
344.88	2	15.1165	4.7986	6.4037	0.0796	0.0726	0.0548
350.16	2	14.1531	4.3167	6.4640	0.1217	0.0979	0.0806
355.08	2	15.5342	3.7428	6.2314	0.2127	0.0762	0.1254

3.15.2 Spanwise Elastic Deformations

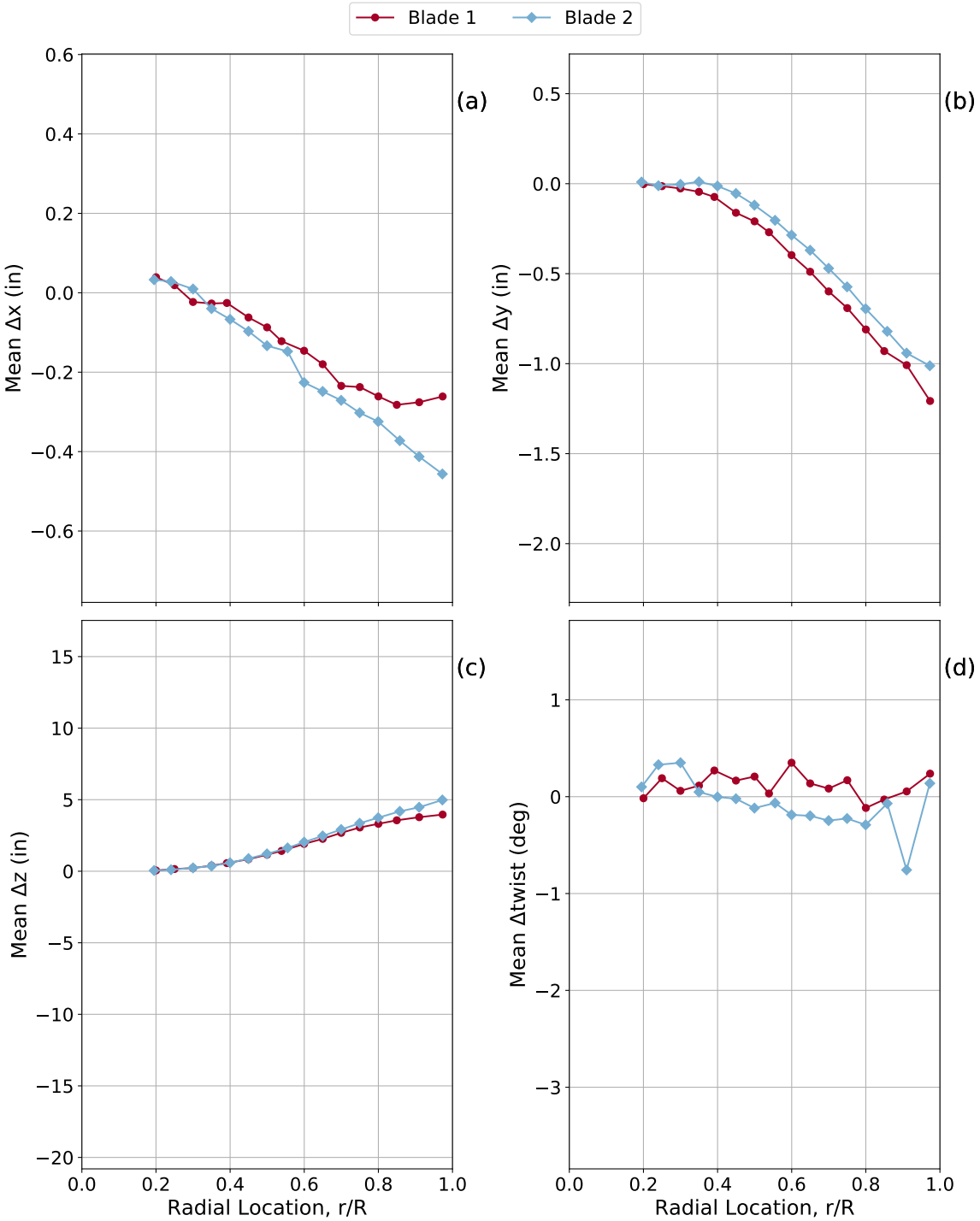


Figure 3.15-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0392	0.0028	-0.0026	0.0043	0.0543	0.0080	-0.0162	0.0803
1	0.35	0.2499	0.0190	0.0036	-0.0138	0.0072	0.1534	0.0147	0.1907	0.1345
1	0.35	0.2998	-0.0232	0.0046	-0.0266	0.0149	0.2219	0.0237	0.0606	0.1762
1	0.35	0.3498	-0.0270	0.0044	-0.0452	0.0238	0.3889	0.0385	0.1142	0.1059
1	0.35	0.3913	-0.0257	0.0040	-0.0737	0.0335	0.5675	0.0546	0.2707	0.1317
1	0.35	0.4496	-0.0622	0.0047	-0.1617	0.0470	0.8403	0.0668	0.1663	0.1422
1	0.35	0.4997	-0.0872	0.0051	-0.2094	0.0600	1.1554	0.0854	0.2080	0.1153
1	0.35	0.5387	-0.1219	0.0057	-0.2699	0.0651	1.4180	0.0934	0.0329	0.1098
1	0.35	0.5996	-0.1460	0.0063	-0.3969	0.0782	1.9104	0.1139	0.3507	0.1495
1	0.35	0.6498	-0.1800	0.0072	-0.4893	0.0938	2.2635	0.1273	0.1372	0.1431
1	0.35	0.6998	-0.2345	0.0074	-0.5987	0.1049	2.6824	0.1504	0.0839	0.1832
1	0.35	0.7500	-0.2375	0.0074	-0.6913	0.1169	3.0582	0.1783	0.1700	0.1362
1	0.35	0.8001	-0.2611	0.0081	-0.8101	0.1285	3.3142	0.2046	-0.1162	0.1611
1	0.35	0.8497	-0.2822	0.0086	-0.9301	0.1441	3.5591	0.2421	-0.0293	0.1370
1	0.35	0.9102	-0.2757	0.0055	-1.0082	0.1642	3.7762	0.2931	0.0546	0.1685
1	0.35	0.9734	-0.2612	0.0115	-1.2074	0.1784	3.9589	0.3465	0.2380	0.2044
2	0	0.1949	0.0328	0.0062	0.0090	0.0029	0.0502	0.0077	0.1009	0.0316
2	0	0.2405	0.0283	0.0037	-0.0115	0.0022	0.1047	0.0091	0.3298	0.0936
2	0	0.2999	0.0095	0.0034	-0.0038	0.0096	0.2347	0.0197	0.3505	0.0968
2	0	0.3498	-0.0399	0.0054	0.0106	0.0183	0.3637	0.0340	0.0484	0.0611
2	0	0.3998	-0.0669	0.0084	-0.0132	0.0257	0.5904	0.0469	-0.0027	0.0615
2	0	0.4496	-0.0970	0.0123	-0.0544	0.0346	0.8826	0.0606	-0.0214	0.0529
2	0	0.4995	-0.1334	0.0171	-0.1193	0.0416	1.2128	0.0736	-0.1179	0.0607
2	0	0.5551	-0.1476	0.0223	-0.2037	0.0510	1.6302	0.0910	-0.0651	0.0576
2	0	0.5996	-0.2261	0.0328	-0.2856	0.0777	2.0360	0.1017	-0.1874	0.0746
2	0	0.6497	-0.2485	0.0345	-0.3698	0.0851	2.4676	0.1124	-0.1975	0.0663
2	0	0.6996	-0.2709	0.0366	-0.4703	0.0939	2.9150	0.1211	-0.2466	0.0716
2	0	0.7495	-0.3023	0.0394	-0.5733	0.1016	3.3524	0.1339	-0.2252	0.0811
2	0	0.7996	-0.3244	0.0429	-0.6951	0.1091	3.7407	0.1528	-0.2911	0.0789
2	0	0.8578	-0.3725	0.0470	-0.8206	0.1200	4.1839	0.1795	-0.0703	0.0895
2	0	0.9100	-0.4127	0.0415	-0.9414	0.1248	4.4705	0.2025	-0.7565	0.4372
2	0	0.9727	-0.4563	0.0579	-1.0118	0.1425	4.9805	0.2368	0.1380	0.0906

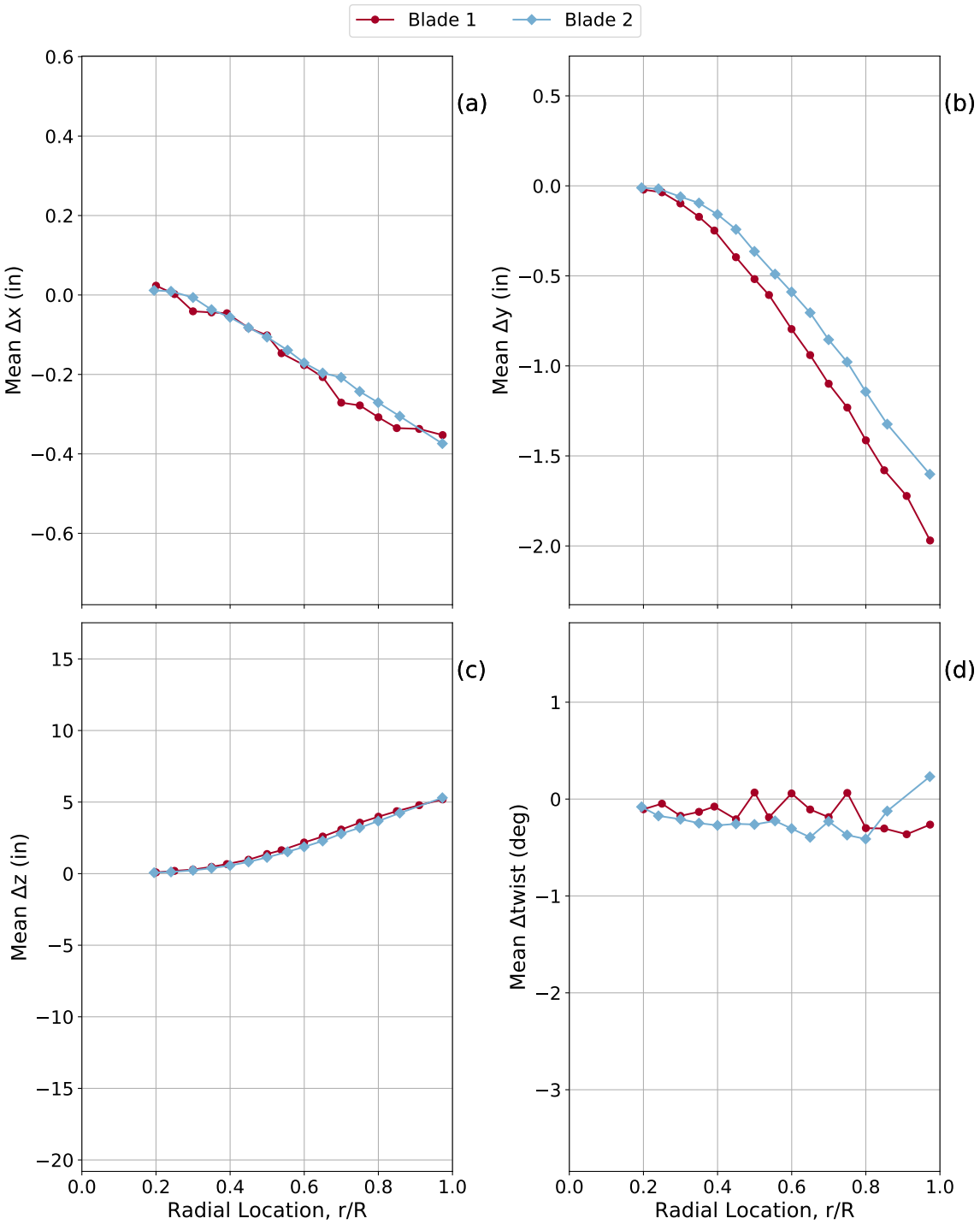


Figure 3.15-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0234	0.0030	-0.0209	0.0027	0.0874	0.0096	-0.1049	0.0229
1	4.92	0.2499	0.0022	0.0019	-0.0360	0.0044	0.1941	0.0121	-0.0475	0.0837
1	4.92	0.2998	-0.0411	0.0030	-0.0978	0.0100	0.2837	0.0275	-0.1732	0.0573
1	4.92	0.3498	-0.0439	0.0036	-0.1720	0.0159	0.4739	0.0384	-0.1318	0.0582
1	4.92	0.3913	-0.0460	0.0037	-0.2482	0.0233	0.6679	0.0549	-0.0776	0.0405
1	4.92	0.4496	-0.0827	0.0041	-0.3963	0.0289	0.9734	0.0690	-0.2089	0.0630
1	4.92	0.4997	-0.1016	0.0046	-0.5178	0.0353	1.3712	0.0829	0.0676	0.0691
1	4.92	0.5387	-0.1467	0.0044	-0.6061	0.0418	1.6367	0.0935	-0.1887	0.0707
1	4.92	0.5996	-0.1766	0.0047	-0.7956	0.0459	2.1771	0.1139	0.0582	0.0576
1	4.92	0.6498	-0.2067	0.0055	-0.9399	0.0534	2.5928	0.1206	-0.1074	0.0563
1	4.92	0.6998	-0.2711	0.0054	-1.0992	0.0604	3.0818	0.1390	-0.1869	0.0898
1	4.92	0.7500	-0.2780	0.0063	-1.2316	0.0681	3.5611	0.1491	0.0635	0.0864
1	4.92	0.8001	-0.3079	0.0061	-1.4135	0.0749	3.9777	0.1582	-0.2997	0.0660
1	4.92	0.8497	-0.3351	0.0076	-1.5798	0.0834	4.3628	0.1655	-0.3037	0.0890
1	4.92	0.9102	-0.3372	0.0092	-1.7224	0.0885	4.7819	0.1828	-0.3634	0.1494
1	4.92	0.9734	-0.3527	0.0111	-1.9696	0.1045	5.1865	0.2030	-0.2638	0.2130
2	4.92	0.1949	0.0116	0.0022	-0.0105	0.0016	0.0662	0.0050	-0.0803	0.0431
2	4.92	0.2405	0.0092	0.0016	-0.0165	0.0030	0.1200	0.0093	-0.1734	0.0699
2	4.92	0.2999	-0.0064	0.0010	-0.0606	0.0055	0.2324	0.0154	-0.2077	0.1012
2	4.92	0.3498	-0.0370	0.0024	-0.0953	0.0109	0.3798	0.0282	-0.2484	0.0885
2	4.92	0.3998	-0.0561	0.0023	-0.1588	0.0150	0.5708	0.0403	-0.2712	0.0689
2	4.92	0.4496	-0.0822	0.0044	-0.2418	0.0202	0.8189	0.0454	-0.2557	0.0720
2	4.92	0.4995	-0.1060	0.0044	-0.3644	0.0262	1.1346	0.0518	-0.2619	0.0524
2	4.92	0.5551	-0.1391	0.0057	-0.4903	0.0352	1.5275	0.0632	-0.2254	0.0851
2	4.92	0.5996	-0.1708	0.0074	-0.5893	0.0414	1.8702	0.0740	-0.3043	0.0876
2	4.92	0.6497	-0.1965	0.0067	-0.7048	0.0476	2.2816	0.0777	-0.3946	0.0851
2	4.92	0.6996	-0.2075	0.0079	-0.8545	0.0566	2.7865	0.0827	-0.2307	0.1002
2	4.92	0.7495	-0.2429	0.0079	-0.9781	0.0657	3.2066	0.0943	-0.3711	0.0865
2	4.92	0.7996	-0.2709	0.0084	-1.1433	0.0745	3.6712	0.1055	-0.4122	0.0902
2	4.92	0.8578	-0.3053	0.0089	-1.3237	0.0807	4.2338	0.1284	-0.1237	0.1039
2	4.92	0.9727	-0.3741	0.0134	-1.6015	0.1006	5.2998	0.1790	0.2318	0.1266

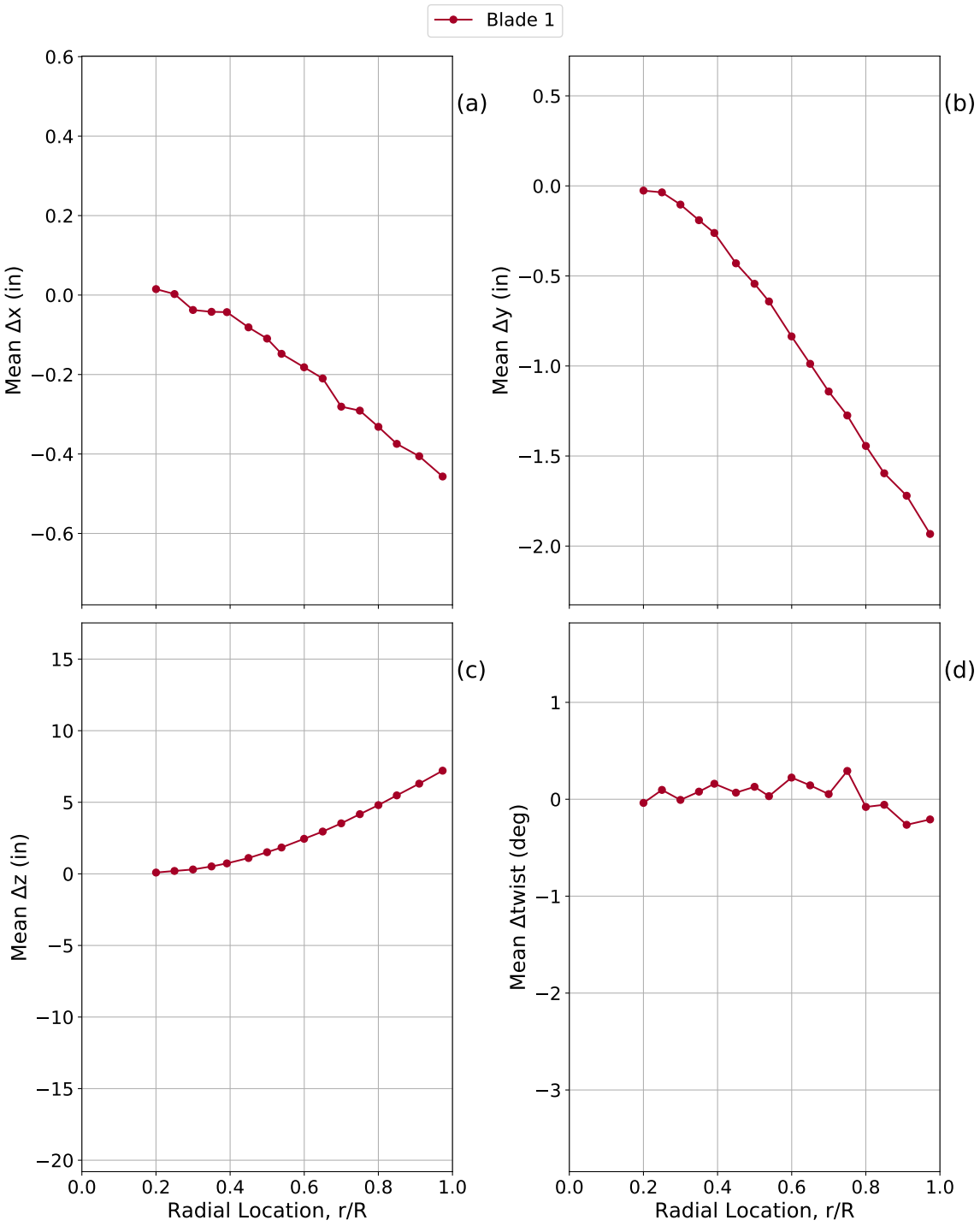


Figure 3.15-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0150	0.0021	-0.0261	0.0017	0.0914	0.0076	-0.0375	0.0547
1	15.12	0.2499	0.0025	0.0021	-0.0360	0.0036	0.2028	0.0144	0.0965	0.0492
1	15.12	0.2998	-0.0376	0.0019	-0.1038	0.0067	0.3064	0.0250	-0.0066	0.1063
1	15.12	0.3498	-0.0422	0.0016	-0.1905	0.0111	0.5182	0.0396	0.0787	0.0703
1	15.12	0.3913	-0.0430	0.0020	-0.2614	0.0159	0.7310	0.0558	0.1602	0.0730
1	15.12	0.4496	-0.0813	0.0031	-0.4299	0.0198	1.1055	0.0746	0.0682	0.0831
1	15.12	0.4997	-0.1096	0.0048	-0.5436	0.0251	1.5124	0.0948	0.1286	0.0821
1	15.12	0.5387	-0.1479	0.0055	-0.6417	0.0285	1.8405	0.1109	0.0321	0.0883
1	15.12	0.5996	-0.1818	0.0040	-0.8357	0.0341	2.4477	0.1331	0.2237	0.0851
1	15.12	0.6498	-0.2099	0.0048	-0.9880	0.0387	2.9541	0.1546	0.1437	0.0760
1	15.12	0.6998	-0.2809	0.0060	-1.1417	0.0437	3.5279	0.1759	0.0532	0.0902
1	15.12	0.7500	-0.2909	0.0062	-1.2748	0.0496	4.1687	0.2049	0.2924	0.0843
1	15.12	0.8001	-0.3317	0.0080	-1.4441	0.0537	4.8016	0.2297	-0.0791	0.1006
1	15.12	0.8497	-0.3745	0.0085	-1.5959	0.0590	5.4806	0.2561	-0.0568	0.0813
1	15.12	0.9102	-0.4056	0.0104	-1.7205	0.0673	6.3000	0.2896	-0.2635	0.1018
1	15.12	0.9734	-0.4567	0.0126	-1.9328	0.0729	7.2059	0.3332	-0.2081	0.1090

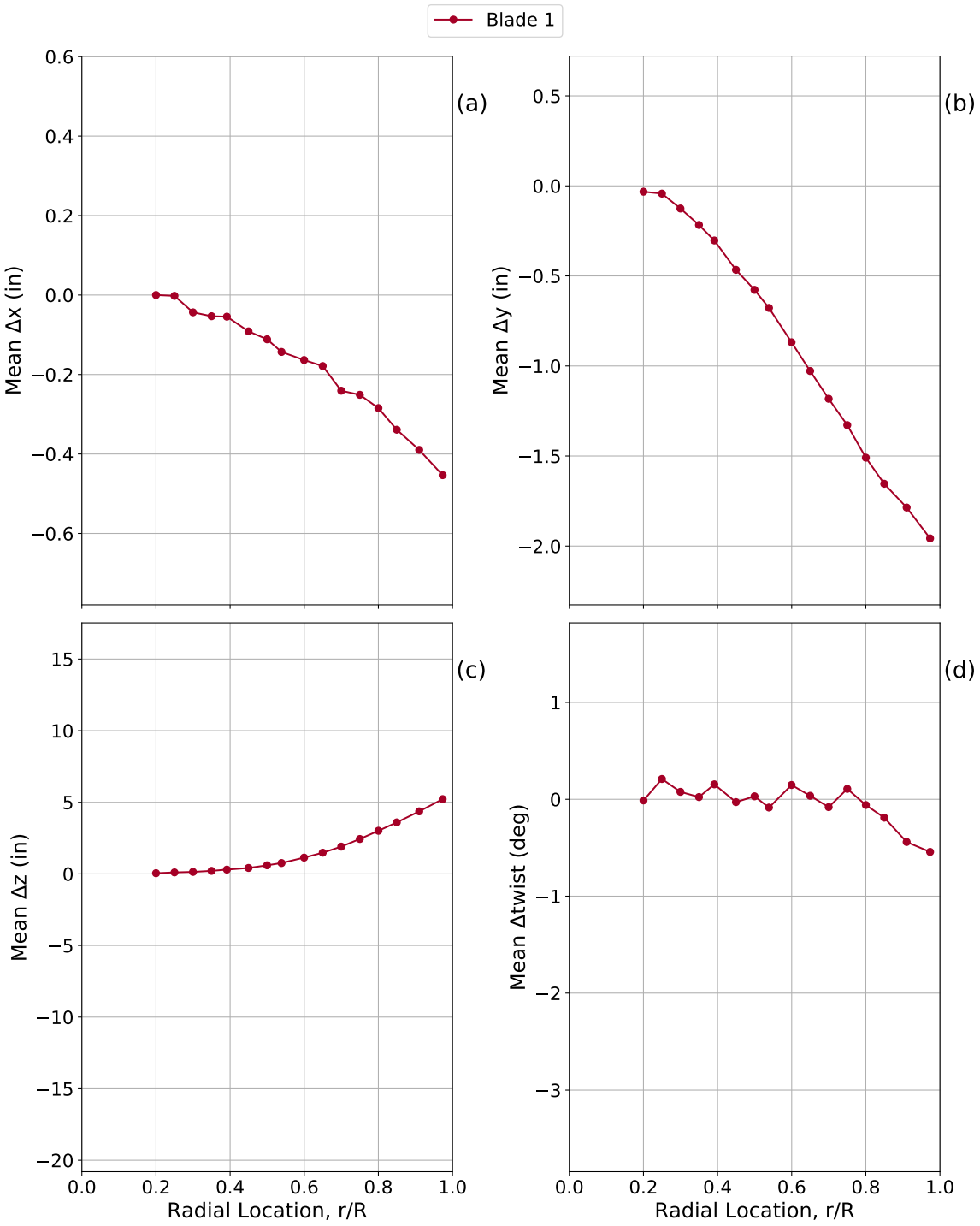


Figure 3.15-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0000	0.0023	-0.0325	0.0015	0.0475	0.0063	-0.0120	0.0428
1	29.88	0.2499	-0.0021	0.0016	-0.0430	0.0028	0.1029	0.0112	0.2094	0.0537
1	29.88	0.2998	-0.0435	0.0023	-0.1258	0.0051	0.1374	0.0203	0.0767	0.0874
1	29.88	0.3498	-0.0533	0.0016	-0.2171	0.0120	0.2099	0.0355	0.0230	0.0748
1	29.88	0.3913	-0.0544	0.0027	-0.3031	0.0146	0.2984	0.0480	0.1539	0.0874
1	29.88	0.4496	-0.0914	0.0027	-0.4663	0.0202	0.4135	0.0644	-0.0292	0.0936
1	29.88	0.4997	-0.1114	0.0032	-0.5774	0.0242	0.5994	0.0797	0.0305	0.0987
1	29.88	0.5387	-0.1432	0.0035	-0.6777	0.0288	0.7572	0.0931	-0.0856	0.0952
1	29.88	0.5996	-0.1636	0.0031	-0.8684	0.0345	1.1369	0.1168	0.1474	0.1004
1	29.88	0.6498	-0.1788	0.0040	-1.0279	0.0415	1.4791	0.1404	0.0360	0.1039
1	29.88	0.6998	-0.2408	0.0055	-1.1822	0.0471	1.9028	0.1636	-0.0811	0.1209
1	29.88	0.7500	-0.2511	0.0060	-1.3284	0.0533	2.4368	0.1924	0.1074	0.1241
1	29.88	0.8001	-0.2845	0.0065	-1.5093	0.0587	3.0090	0.2204	-0.0594	0.1352
1	29.88	0.8497	-0.3389	0.0077	-1.6540	0.0652	3.5944	0.2550	-0.1901	0.1261
1	29.88	0.9102	-0.3898	0.0090	-1.7860	0.0743	4.3642	0.2966	-0.4406	0.1124
1	29.88	0.9734	-0.4533	0.0112	-1.9573	0.0807	5.2206	0.3315	-0.5431	0.1332

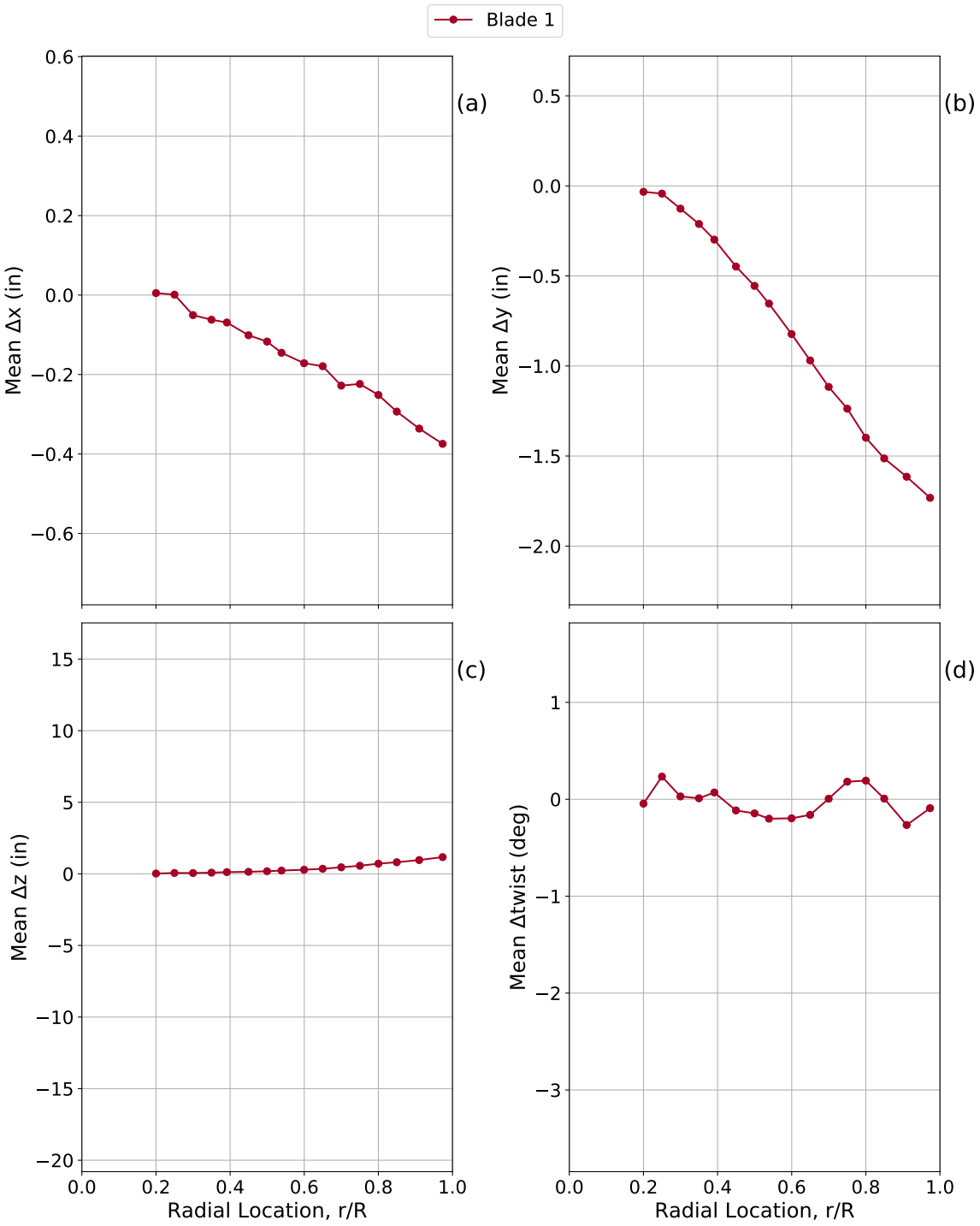


Figure 3.15-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0050	0.0019	-0.0328	0.0010	0.0218	0.0050	-0.0451	0.0368
1	45	0.2499	0.0010	0.0022	-0.0429	0.0028	0.0622	0.0105	0.2339	0.0578
1	45	0.2998	-0.0505	0.0014	-0.1263	0.0040	0.0571	0.0184	0.0294	0.0816
1	45	0.3498	-0.0621	0.0022	-0.2114	0.0080	0.0838	0.0324	0.0104	0.0649
1	45	0.3913	-0.0691	0.0020	-0.2983	0.0111	0.1221	0.0456	0.0701	0.0503
1	45	0.4496	-0.1011	0.0031	-0.4479	0.0157	0.1413	0.0660	-0.1153	0.0741
1	45	0.4997	-0.1171	0.0028	-0.5551	0.0197	0.1837	0.0827	-0.1456	0.0526
1	45	0.5387	-0.1453	0.0028	-0.6537	0.0237	0.2302	0.0972	-0.2003	0.0870
1	45	0.5996	-0.1715	0.0031	-0.8227	0.0310	0.2881	0.1219	-0.1967	0.0623
1	45	0.6498	-0.1791	0.0032	-0.9692	0.0367	0.3547	0.1380	-0.1609	0.0593
1	45	0.6998	-0.2279	0.0024	-1.1162	0.0411	0.4568	0.1530	0.0057	0.0626
1	45	0.7500	-0.2238	0.0031	-1.2372	0.0469	0.5663	0.1683	0.1815	0.0662
1	45	0.8001	-0.2515	0.0035	-1.3983	0.0527	0.7123	0.1821	0.1924	0.0651
1	45	0.8497	-0.2933	0.0040	-1.5133	0.0589	0.8119	0.1948	0.0068	0.0631
1	45	0.9102	-0.3361	0.0049	-1.6151	0.0663	0.9643	0.2071	-0.2658	0.0758
1	45	0.9734	-0.3745	0.0076	-1.7321	0.0759	1.1705	0.2208	-0.0920	0.0968

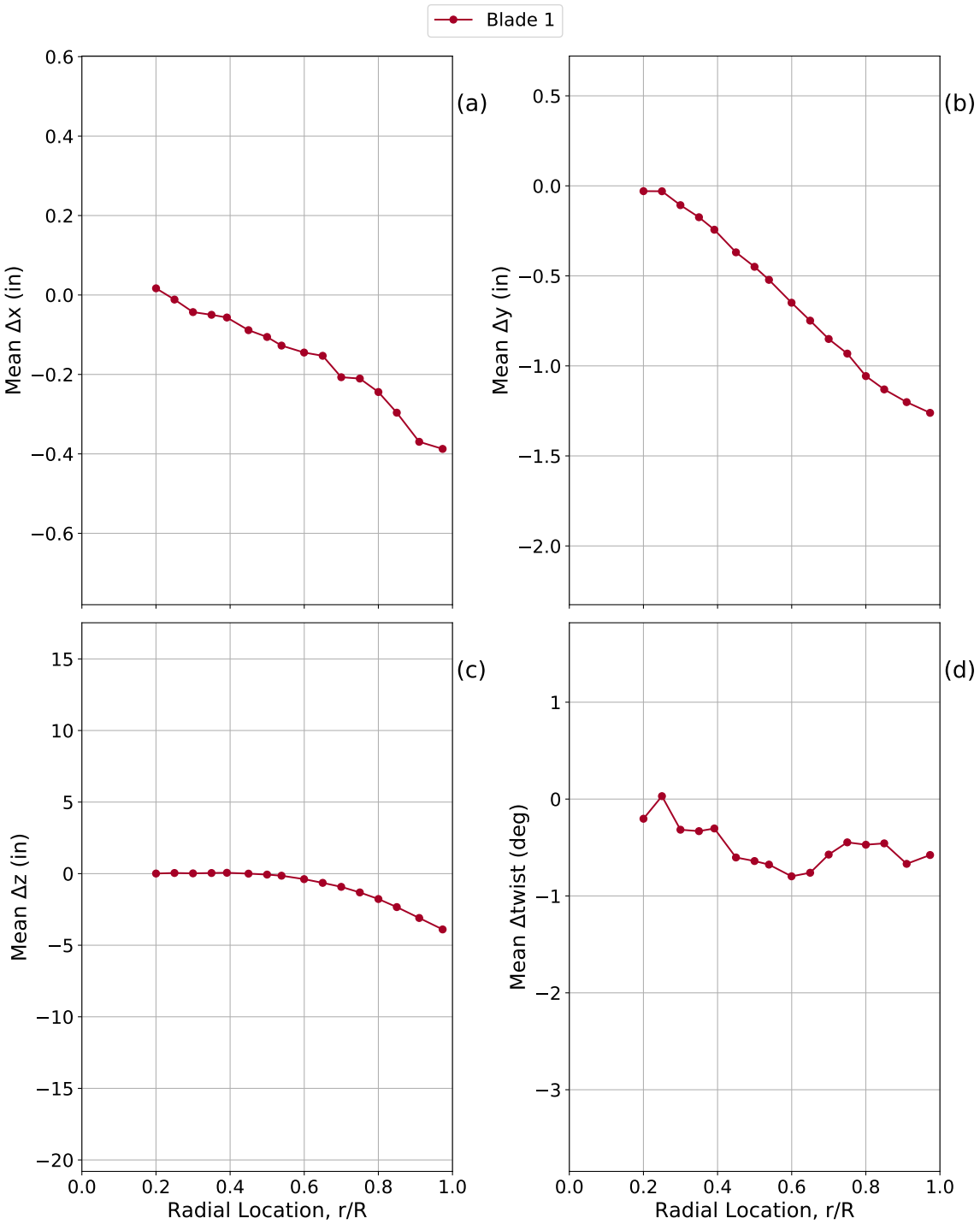


Figure 3.15-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0168	0.0020	-0.0294	0.0012	0.0092	0.0031	-0.2029	0.0177
1	60.12	0.2499	-0.0115	0.0029	-0.0300	0.0028	0.0465	0.0080	0.0302	0.0379
1	60.12	0.2998	-0.0431	0.0024	-0.1072	0.0053	0.0207	0.0133	-0.3162	0.0416
1	60.12	0.3498	-0.0499	0.0019	-0.1743	0.0091	0.0446	0.0228	-0.3309	0.0571
1	60.12	0.3913	-0.0567	0.0034	-0.2436	0.0133	0.0606	0.0338	-0.3034	0.0697
1	60.12	0.4496	-0.0886	0.0035	-0.3692	0.0195	0.0003	0.0456	-0.6026	0.0537
1	60.12	0.4997	-0.1057	0.0028	-0.4495	0.0273	-0.0649	0.0640	-0.6395	0.0800
1	60.12	0.5387	-0.1274	0.0034	-0.5221	0.0329	-0.1433	0.0801	-0.6762	0.0784
1	60.12	0.5996	-0.1449	0.0048	-0.6491	0.0444	-0.3832	0.1033	-0.7972	0.0763
1	60.12	0.6498	-0.1531	0.0053	-0.7486	0.0528	-0.6429	0.1223	-0.7603	0.0889
1	60.12	0.6998	-0.2070	0.0050	-0.8505	0.0643	-0.9218	0.1362	-0.5728	0.0732
1	60.12	0.7500	-0.2104	0.0052	-0.9316	0.0756	-1.3118	0.1475	-0.4466	0.0898
1	60.12	0.8001	-0.2443	0.0056	-1.0566	0.0874	-1.7717	0.1586	-0.4709	0.0879
1	60.12	0.8497	-0.2963	0.0068	-1.1306	0.0991	-2.3356	0.1681	-0.4571	0.0996
1	60.12	0.9102	-0.3696	0.0069	-1.2012	0.1140	-3.0968	0.1754	-0.6685	0.0914
1	60.12	0.9734	-0.3875	0.0100	-1.2607	0.1286	-3.8964	0.1853	-0.5772	0.0761

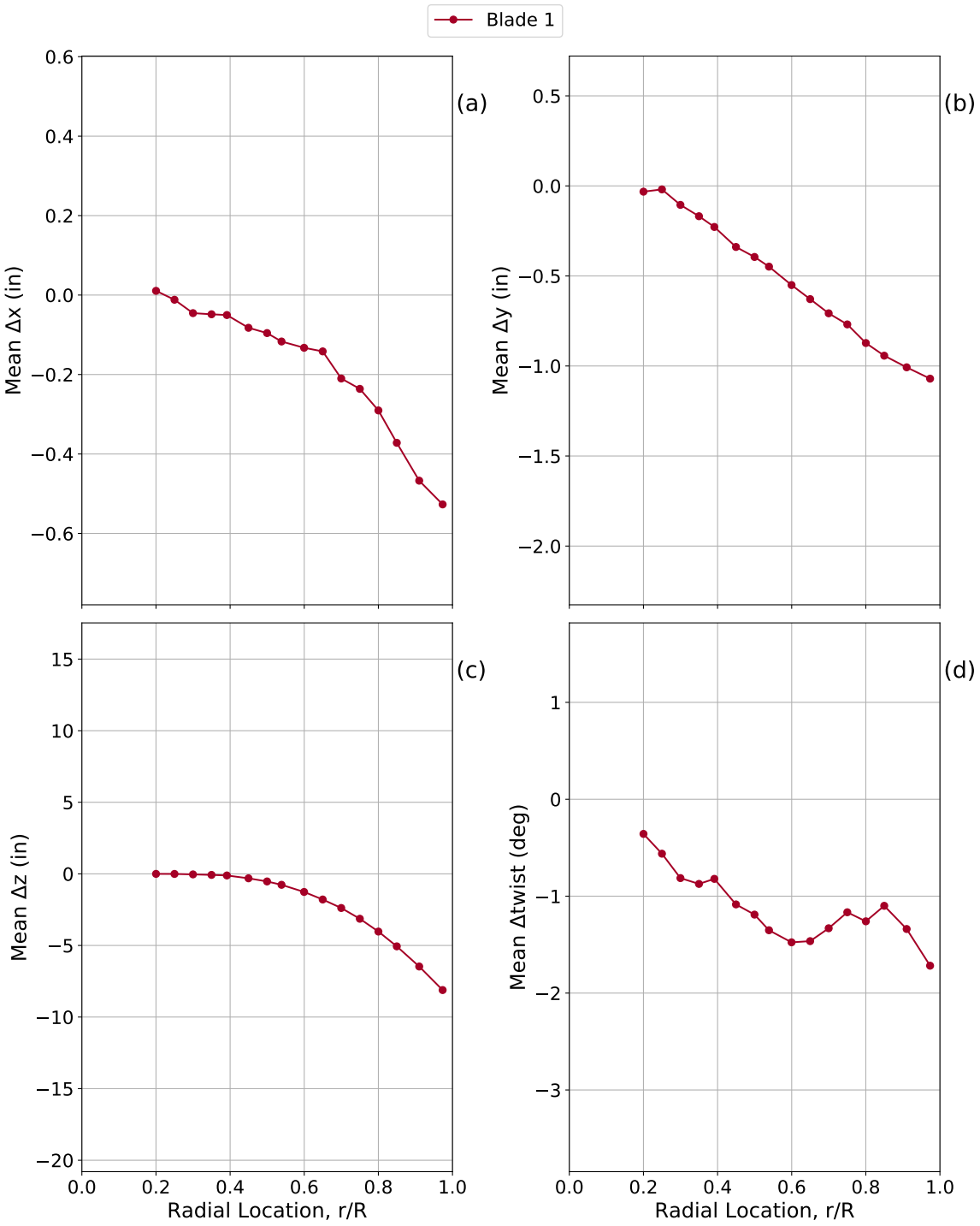


Figure 3.15-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0106	0.0022	-0.0320	0.0012	-0.0016	0.0036	-0.3573	0.0288
1	74.88	0.2499	-0.0118	0.0013	-0.0195	0.0020	-0.0055	0.0062	-0.5616	0.0600
1	74.88	0.2998	-0.0455	0.0019	-0.1055	0.0044	-0.0376	0.0120	-0.8135	0.0699
1	74.88	0.3498	-0.0484	0.0018	-0.1684	0.0080	-0.0729	0.0214	-0.8734	0.0669
1	74.88	0.3913	-0.0503	0.0028	-0.2280	0.0109	-0.1121	0.0293	-0.8213	0.0592
1	74.88	0.4496	-0.0824	0.0034	-0.3391	0.0142	-0.3110	0.0408	-1.0848	0.0633
1	74.88	0.4997	-0.0957	0.0027	-0.3946	0.0181	-0.5298	0.0496	-1.1901	0.0731
1	74.88	0.5387	-0.1169	0.0030	-0.4483	0.0216	-0.7648	0.0607	-1.3516	0.0692
1	74.88	0.5996	-0.1327	0.0023	-0.5506	0.0268	-1.2632	0.0761	-1.4762	0.0703
1	74.88	0.6498	-0.1418	0.0041	-0.6287	0.0308	-1.7912	0.0911	-1.4639	0.0609
1	74.88	0.6998	-0.2100	0.0035	-0.7075	0.0355	-2.3844	0.1066	-1.3310	0.0646
1	74.88	0.7500	-0.2361	0.0047	-0.7691	0.0408	-3.1360	0.1222	-1.1661	0.0621
1	74.88	0.8001	-0.2904	0.0048	-0.8725	0.0467	-4.0307	0.1414	-1.2595	0.0617
1	74.88	0.8497	-0.3719	0.0068	-0.9427	0.0525	-5.0625	0.1640	-1.0993	0.0739
1	74.88	0.9102	-0.4672	0.0094	-1.0074	0.0599	-6.4702	0.1913	-1.3387	0.0732
1	74.88	0.9734	-0.5269	0.0098	-1.0703	0.0665	-8.1154	0.2303	-1.7173	0.0648

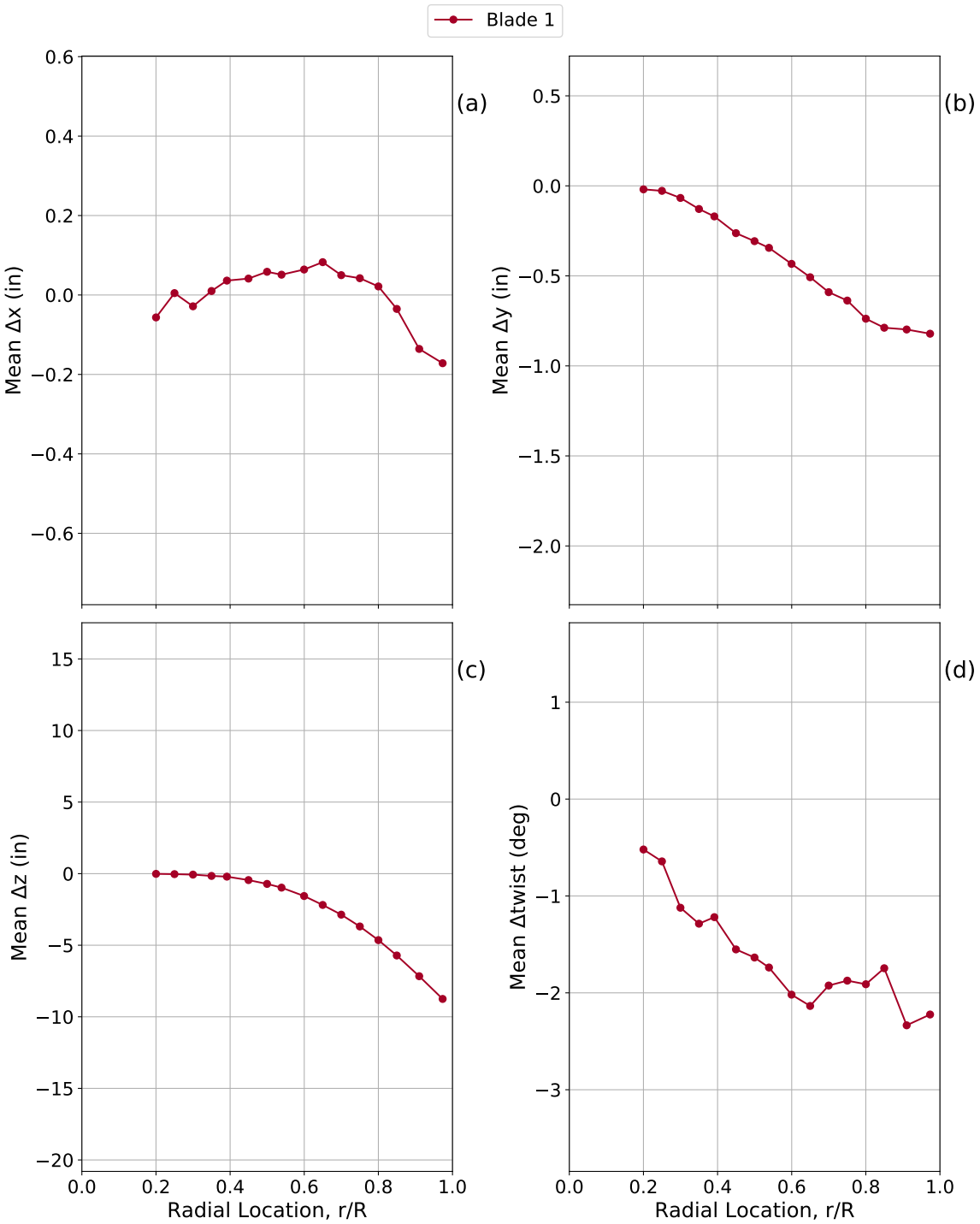


Figure 3.15-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0565	0.0201	-0.0194	0.0011	-0.0140	0.0037	-0.5203	0.0365
1	80.16	0.2499	0.0047	0.0048	-0.0277	0.0014	-0.0336	0.0049	-0.6430	0.0605
1	80.16	0.2998	-0.0285	0.0075	-0.0672	0.0033	-0.0670	0.0125	-1.1214	0.0801
1	80.16	0.3498	0.0100	0.0171	-0.1285	0.0053	-0.1585	0.0186	-1.2862	0.0828
1	80.16	0.3913	0.0362	0.0226	-0.1698	0.0072	-0.2082	0.0266	-1.2186	0.0621
1	80.16	0.4496	0.0413	0.0270	-0.2627	0.0099	-0.4493	0.0337	-1.5515	0.0651
1	80.16	0.4997	0.0584	0.0291	-0.3072	0.0122	-0.7165	0.0412	-1.6353	0.0773
1	80.16	0.5387	0.0511	0.0280	-0.3443	0.0144	-0.9760	0.0489	-1.7384	0.0791
1	80.16	0.5996	0.0641	0.0244	-0.4333	0.0211	-1.5630	0.0618	-2.0187	0.0815
1	80.16	0.6498	0.0826	0.0198	-0.5075	0.0274	-2.1861	0.0762	-2.1351	0.0864
1	80.16	0.6998	0.0499	0.0184	-0.5905	0.0357	-2.8641	0.0954	-1.9244	0.1049
1	80.16	0.7500	0.0422	0.0229	-0.6372	0.0460	-3.6894	0.1187	-1.8740	0.1123
1	80.16	0.8001	0.0215	0.0346	-0.7379	0.0585	-4.6435	0.1466	-1.9111	0.1147
1	80.16	0.8497	-0.0351	0.0510	-0.7880	0.0733	-5.7168	0.1840	-1.7458	0.1159
1	80.16	0.9102	-0.1358	0.0776	-0.7978	0.0940	-7.1648	0.2252	-2.3350	0.1435
1	80.16	0.9734	-0.1718	0.1106	-0.8212	0.1258	-8.7521	0.2731	-2.2234	0.1619

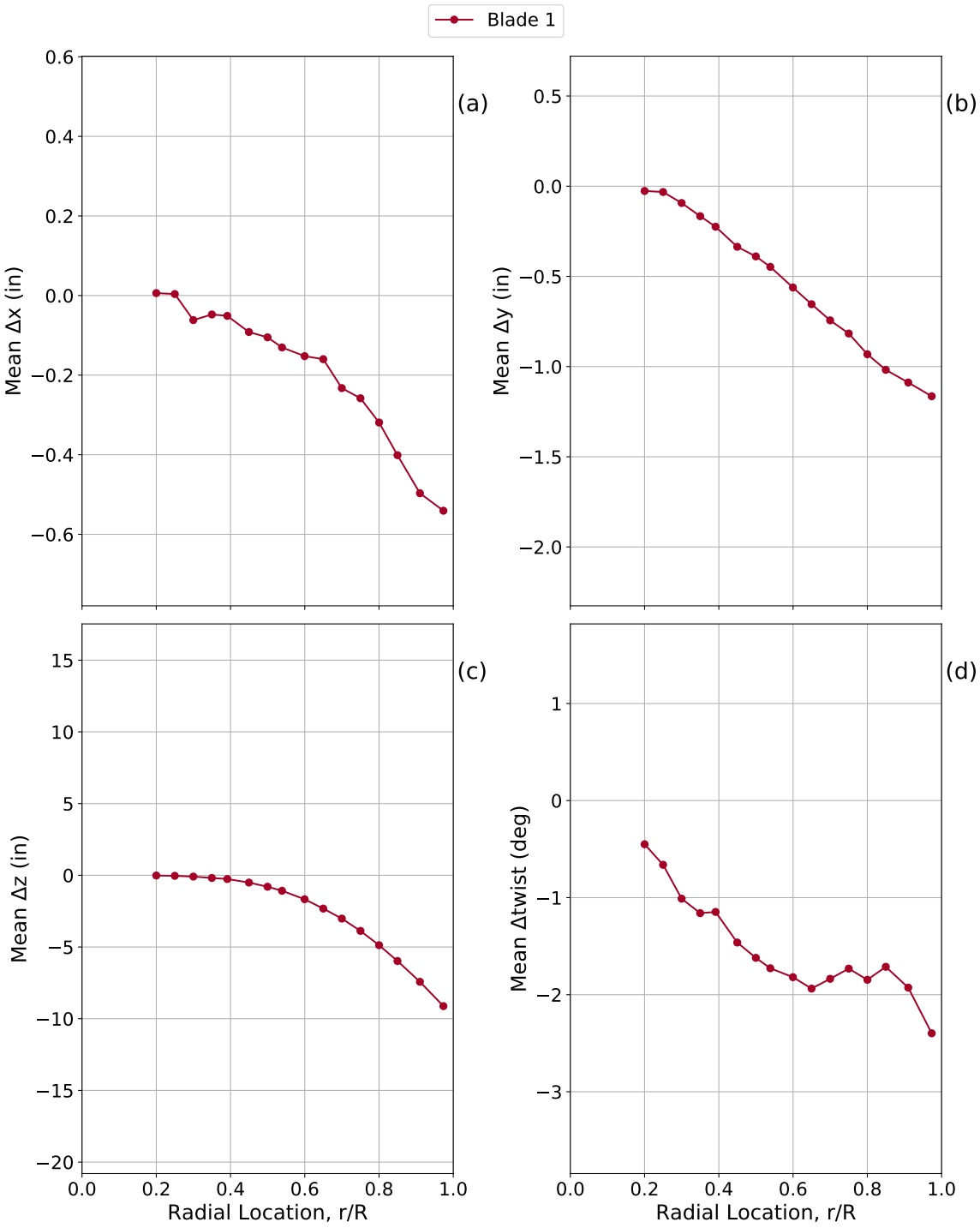


Figure 3.15-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0061	0.0019	-0.0263	0.0014	-0.0172	0.0081	-0.4501	0.0410
1	85.08	0.2499	0.0038	0.0020	-0.0322	0.0035	-0.0380	0.0176	-0.6615	0.0643
1	85.08	0.2998	-0.0617	0.0019	-0.0932	0.0060	-0.0908	0.0301	-1.0106	0.0908
1	85.08	0.3498	-0.0476	0.0024	-0.1662	0.0108	-0.1877	0.0552	-1.1597	0.0802
1	85.08	0.3913	-0.0511	0.0018	-0.2246	0.0157	-0.2602	0.0768	-1.1472	0.0882
1	85.08	0.4496	-0.0917	0.0025	-0.3359	0.0202	-0.5087	0.1160	-1.4623	0.0859
1	85.08	0.4997	-0.1050	0.0015	-0.3891	0.0268	-0.7980	0.1542	-1.6199	0.0883
1	85.08	0.5387	-0.1304	0.0025	-0.4472	0.0319	-1.0795	0.1822	-1.7276	0.1026
1	85.08	0.5996	-0.1523	0.0037	-0.5616	0.0398	-1.6719	0.2356	-1.8195	0.0955
1	85.08	0.6498	-0.1599	0.0052	-0.6541	0.0470	-2.3216	0.2764	-1.9369	0.1129
1	85.08	0.6998	-0.2326	0.0062	-0.7438	0.0538	-3.0200	0.3186	-1.8361	0.1123
1	85.08	0.7500	-0.2581	0.0083	-0.8167	0.0622	-3.8794	0.3586	-1.7310	0.1106
1	85.08	0.8001	-0.3190	0.0102	-0.9317	0.0710	-4.8747	0.4000	-1.8463	0.1210
1	85.08	0.8497	-0.4012	0.0134	-1.0180	0.0793	-5.9769	0.4401	-1.7124	0.1255
1	85.08	0.9102	-0.4968	0.0166	-1.0883	0.0906	-7.4261	0.4907	-1.9271	0.1431
1	85.08	0.9734	-0.5407	0.0191	-1.1645	0.1007	-9.1227	0.5479	-2.3976	0.1442

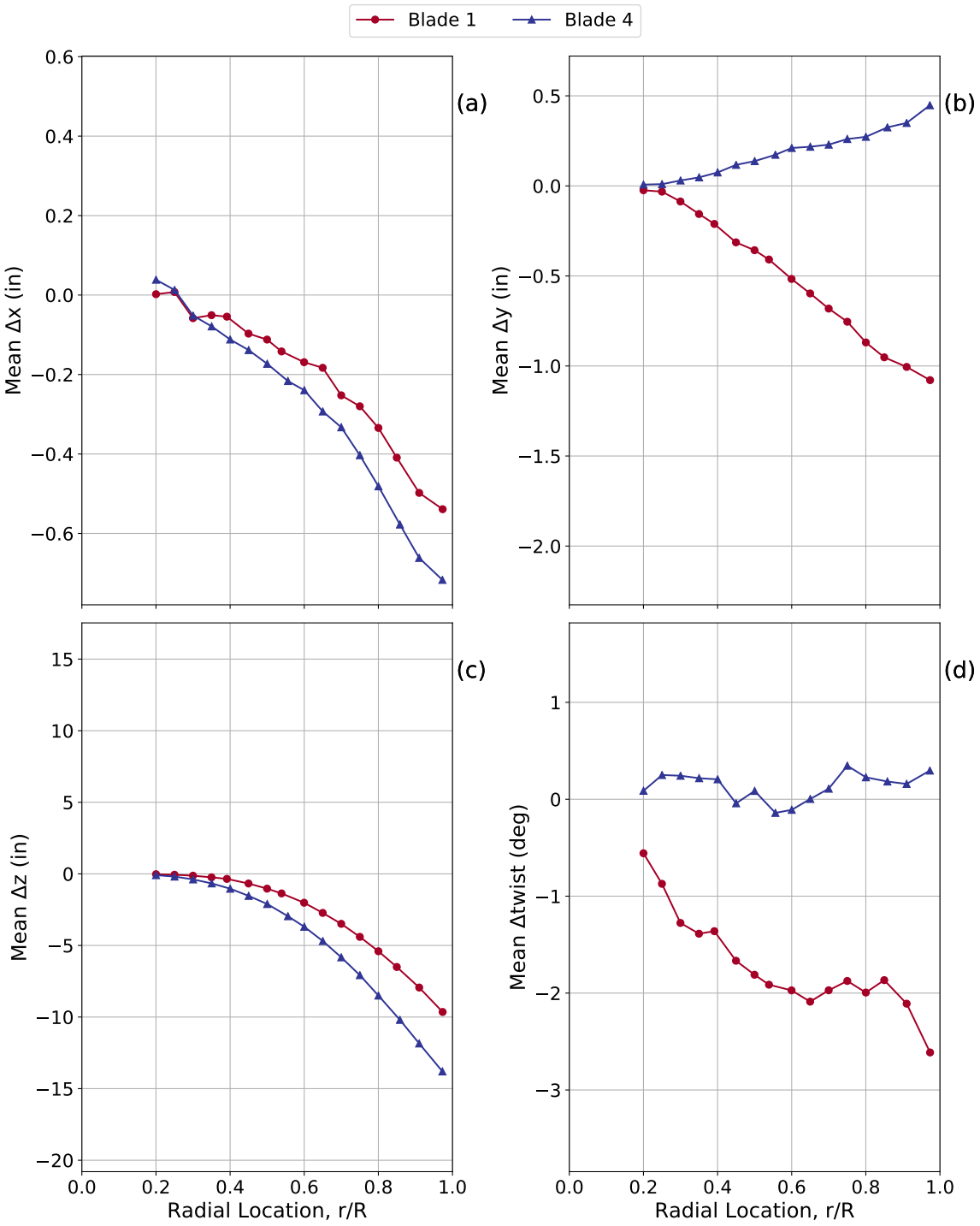


Figure 3.15-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0022	0.0038	-0.0242	0.0017	-0.0236	0.0062	-0.5571	0.0269
1	90	0.2499	0.0076	0.0017	-0.0319	0.0014	-0.0610	0.0093	-0.8724	0.0750
1	90	0.2998	-0.0582	0.0023	-0.0866	0.0050	-0.1275	0.0200	-1.2762	0.0721
1	90	0.3498	-0.0507	0.0017	-0.1560	0.0089	-0.2430	0.0355	-1.3872	0.0560
1	90	0.3913	-0.0544	0.0022	-0.2112	0.0113	-0.3511	0.0476	-1.3612	0.0641
1	90	0.4496	-0.0971	0.0027	-0.3135	0.0154	-0.6738	0.0634	-1.6662	0.0843
1	90	0.4997	-0.1121	0.0027	-0.3571	0.0190	-1.0331	0.0786	-1.8107	0.0714
1	90	0.5387	-0.1419	0.0028	-0.4088	0.0225	-1.3654	0.0881	-1.9135	0.0765
1	90	0.5996	-0.1690	0.0043	-0.5166	0.0272	-2.0165	0.1077	-1.9720	0.0774
1	90	0.6498	-0.1831	0.0033	-0.5972	0.0314	-2.7261	0.1262	-2.0883	0.0727
1	90	0.6998	-0.2524	0.0046	-0.6812	0.0348	-3.4904	0.1477	-1.9711	0.0976
1	90	0.7500	-0.2800	0.0059	-0.7542	0.0389	-4.3999	0.1702	-1.8748	0.0901
1	90	0.8001	-0.3344	0.0070	-0.8693	0.0426	-5.4056	0.1933	-1.9944	0.0957
1	90	0.8497	-0.4092	0.0088	-0.9518	0.0472	-6.5026	0.2191	-1.8663	0.0923
1	90	0.9102	-0.4979	0.0113	-1.0052	0.0524	-7.9399	0.2546	-2.1093	0.0878
1	90	0.9734	-0.5390	0.0137	-1.0786	0.0577	-9.6461	0.2932	-2.6125	0.1142
4	90.35	0.2001	0.0385	0.0022	0.0073	0.0016	-0.0917	0.0062	0.0871	0.0159
4	90.35	0.2502	0.0128	0.0014	0.0097	0.0030	-0.1906	0.0113	0.2502	0.0393
4	90.35	0.3001	-0.0518	0.0018	0.0300	0.0061	-0.3876	0.0230	0.2427	0.0393
4	90.35	0.3502	-0.0789	0.0018	0.0473	0.0113	-0.6658	0.0409	0.2173	0.0479
4	90.35	0.4002	-0.1119	0.0025	0.0747	0.0169	-1.0373	0.0614	0.2059	0.0460
4	90.35	0.4500	-0.1386	0.0030	0.1168	0.0236	-1.5379	0.0859	-0.0416	0.0560
4	90.35	0.5001	-0.1731	0.0037	0.1375	0.0312	-2.1068	0.1127	0.0859	0.0682
4	90.35	0.5560	-0.2165	0.0054	0.1727	0.0409	-2.9585	0.1437	-0.1406	0.0653
4	90.35	0.6001	-0.2396	0.0066	0.2105	0.0487	-3.6950	0.1707	-0.1089	0.0618
4	90.35	0.6501	-0.2931	0.0078	0.2174	0.0584	-4.6933	0.1983	0.0031	0.0704
4	90.35	0.6999	-0.3329	0.0107	0.2290	0.0683	-5.8311	0.2308	0.1090	0.0775
4	90.35	0.7500	-0.4032	0.0133	0.2603	0.0793	-7.0755	0.2667	0.3463	0.0727
4	90.35	0.8002	-0.4814	0.0177	0.2724	0.0907	-8.5006	0.3075	0.2266	0.0827
4	90.35	0.8582	-0.5776	0.0223	0.3250	0.1046	-10.1997	0.3576	0.1831	0.0890
4	90.35	0.9101	-0.6617	0.0265	0.3495	0.1168	-11.8461	0.4049	0.1581	0.0891
4	90.35	0.9728	-0.7169	0.0316	0.4477	0.1327	-13.7985	0.4651	0.2961	0.0981

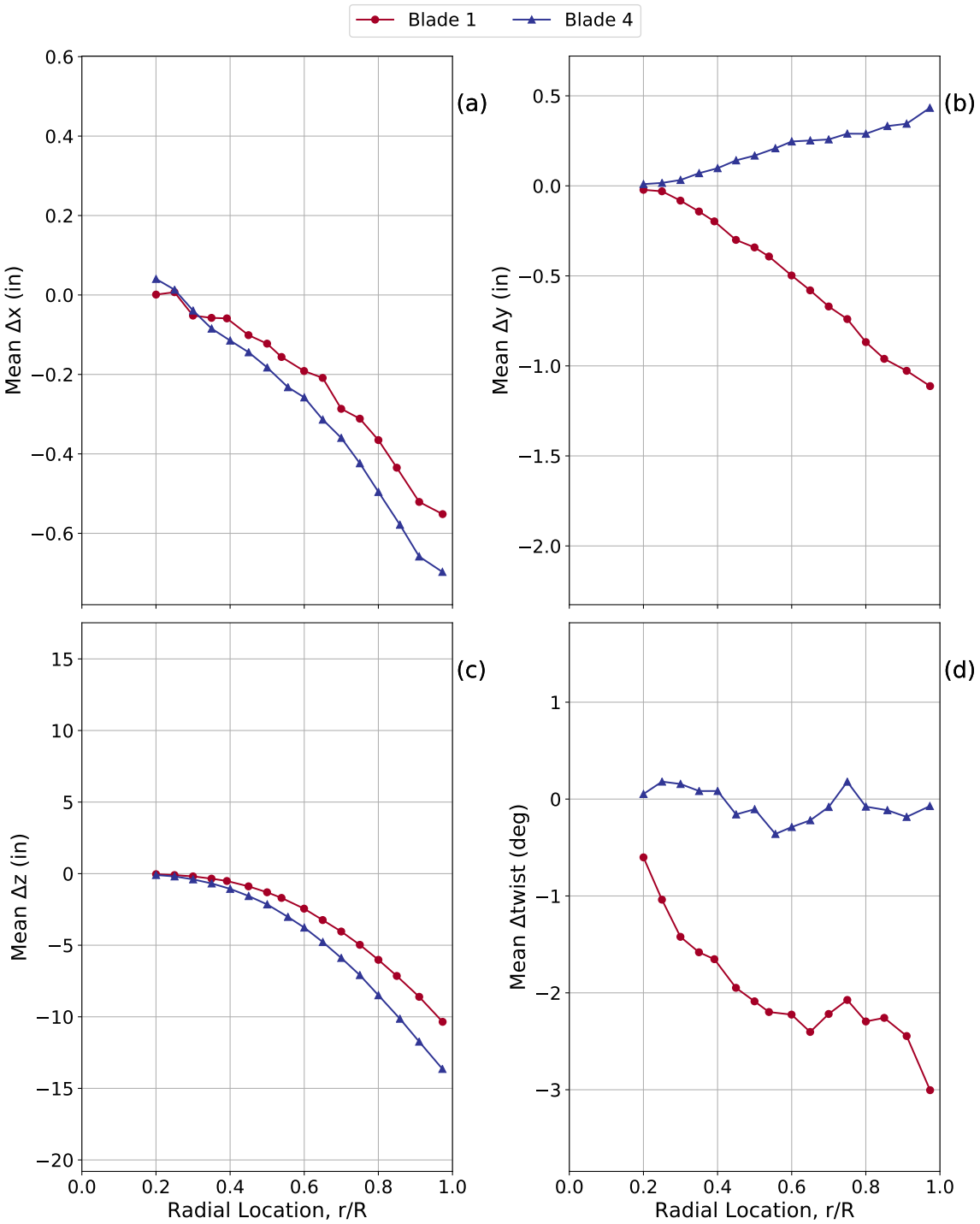


Figure 3.15-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	0.0010	0.0023	-0.0220	0.0017	-0.0367	0.0069	-0.6015	0.0304
1	94.92	0.2499	0.0070	0.0019	-0.0302	0.0022	-0.1001	0.0121	-1.0381	0.0906
1	94.92	0.2998	-0.0519	0.0018	-0.0820	0.0061	-0.1901	0.0240	-1.4216	0.0816
1	94.92	0.3498	-0.0576	0.0025	-0.1424	0.0106	-0.3491	0.0407	-1.5811	0.0792
1	94.92	0.3913	-0.0589	0.0024	-0.1973	0.0144	-0.5115	0.0570	-1.6524	0.0889
1	94.92	0.4496	-0.1011	0.0032	-0.3002	0.0195	-0.8865	0.0877	-1.9481	0.0910
1	94.92	0.4997	-0.1225	0.0040	-0.3420	0.0251	-1.3014	0.1188	-2.0876	0.1044
1	94.92	0.5387	-0.1561	0.0038	-0.3924	0.0304	-1.6953	0.1490	-2.1978	0.0883
1	94.92	0.5996	-0.1914	0.0056	-0.4977	0.0386	-2.4454	0.1980	-2.2244	0.1038
1	94.92	0.6498	-0.2088	0.0078	-0.5804	0.0460	-3.2419	0.2440	-2.4035	0.1007
1	94.92	0.6998	-0.2866	0.0094	-0.6700	0.0539	-4.0427	0.2933	-2.2180	0.1023
1	94.92	0.7500	-0.3114	0.0125	-0.7400	0.0620	-4.9721	0.3459	-2.0734	0.0951
1	94.92	0.8001	-0.3653	0.0158	-0.8679	0.0704	-6.0203	0.3917	-2.2952	0.1018
1	94.92	0.8497	-0.4348	0.0184	-0.9608	0.0796	-7.1457	0.4353	-2.2581	0.1008
1	94.92	0.9102	-0.5210	0.0216	-1.0273	0.0913	-8.6054	0.4869	-2.4456	0.1121
1	94.92	0.9734	-0.5517	0.0230	-1.1123	0.1036	-10.3516	0.5359	-3.0044	0.1044
4	94.92	0.2001	0.0404	0.0016	0.0096	0.0012	-0.0961	0.0047	0.0523	0.0245
4	94.92	0.2502	0.0132	0.0020	0.0164	0.0023	-0.1929	0.0100	0.1801	0.0323
4	94.92	0.3001	-0.0393	0.0021	0.0325	0.0044	-0.3998	0.0180	0.1556	0.0496
4	94.92	0.3502	-0.0847	0.0020	0.0703	0.0081	-0.6840	0.0330	0.0829	0.0466
4	94.92	0.4002	-0.1148	0.0026	0.0980	0.0120	-1.0633	0.0496	0.0833	0.0475
4	94.92	0.4500	-0.1443	0.0030	0.1415	0.0161	-1.5652	0.0676	-0.1586	0.0552
4	94.92	0.5001	-0.1826	0.0031	0.1679	0.0212	-2.1498	0.0871	-0.1047	0.0586
4	94.92	0.5560	-0.2322	0.0037	0.2086	0.0279	-3.0226	0.1116	-0.3602	0.0584
4	94.92	0.6001	-0.2579	0.0043	0.2464	0.0342	-3.7684	0.1327	-0.2887	0.0599
4	94.92	0.6501	-0.3139	0.0052	0.2519	0.0415	-4.7798	0.1605	-0.2188	0.0655
4	94.92	0.6999	-0.3598	0.0070	0.2578	0.0488	-5.8884	0.1868	-0.0818	0.0716
4	94.92	0.7500	-0.4237	0.0088	0.2898	0.0570	-7.0873	0.2187	0.1789	0.0717
4	94.92	0.8002	-0.4959	0.0117	0.2892	0.0652	-8.4951	0.2521	-0.0782	0.0819
4	94.92	0.8582	-0.5785	0.0144	0.3319	0.0751	-10.1375	0.2950	-0.1150	0.0798
4	94.92	0.9101	-0.6584	0.0180	0.3450	0.0839	-11.7359	0.3335	-0.1843	0.0806
4	94.92	0.9728	-0.6972	0.0214	0.4332	0.0951	-13.6413	0.3806	-0.0722	0.0861

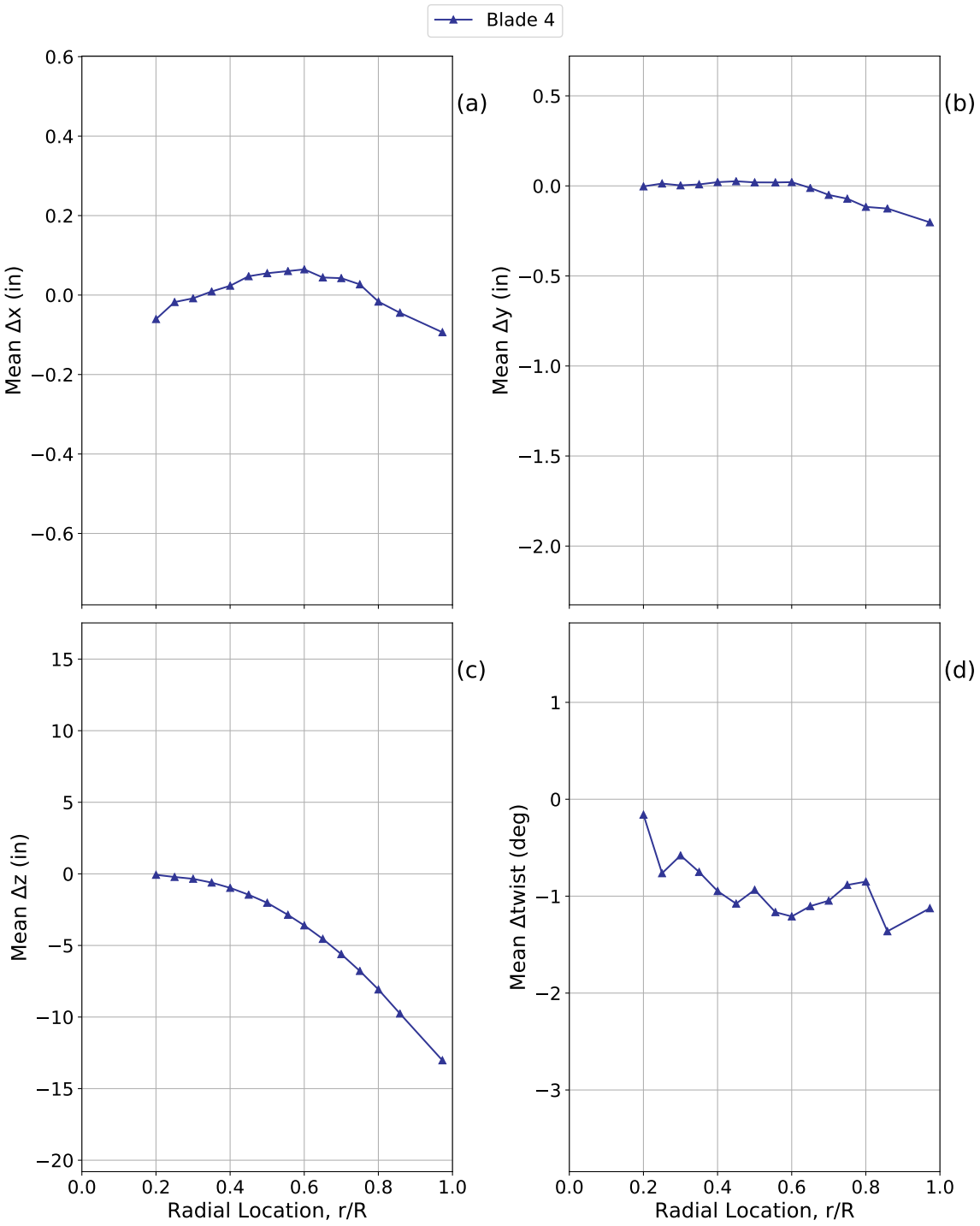


Figure 3.15-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0605	0.0032	-0.0029	0.0017	-0.0691	0.0053	-0.1595	0.0371
4	105.12	0.2502	-0.0177	0.0016	0.0130	0.0031	-0.2183	0.0113	-0.7634	0.0514
4	105.12	0.3001	-0.0082	0.0016	0.0029	0.0056	-0.3461	0.0221	-0.5796	0.0804
4	105.12	0.3502	0.0090	0.0027	0.0083	0.0095	-0.6117	0.0339	-0.7504	0.0650
4	105.12	0.4002	0.0234	0.0046	0.0208	0.0143	-0.9800	0.0554	-0.9480	0.0487
4	105.12	0.4500	0.0473	0.0064	0.0257	0.0198	-1.4583	0.0830	-1.0772	0.0573
4	105.12	0.5001	0.0549	0.0070	0.0195	0.0260	-2.0229	0.1182	-0.9346	0.0451
4	105.12	0.5560	0.0603	0.0085	0.0192	0.0337	-2.8651	0.1658	-1.1650	0.0449
4	105.12	0.6001	0.0646	0.0108	0.0208	0.0414	-3.6006	0.2051	-1.2093	0.0525
4	105.12	0.6501	0.0442	0.0116	-0.0114	0.0497	-4.5445	0.2481	-1.1028	0.0664
4	105.12	0.6999	0.0425	0.0148	-0.0501	0.0595	-5.6092	0.2934	-1.0467	0.0605
4	105.12	0.7500	0.0268	0.0160	-0.0713	0.0703	-6.7841	0.3333	-0.8844	0.0939
4	105.12	0.8002	-0.0166	0.0172	-0.1165	0.0812	-8.0780	0.3784	-0.8501	0.1103
4	105.12	0.8582	-0.0447	0.0224	-0.1257	0.0959	-9.7577	0.4210	-1.3626	0.2783
4	105.12	0.9728	-0.0937	0.0318	-0.2024	0.1200	-13.0257	0.5167	-1.1249	0.1996

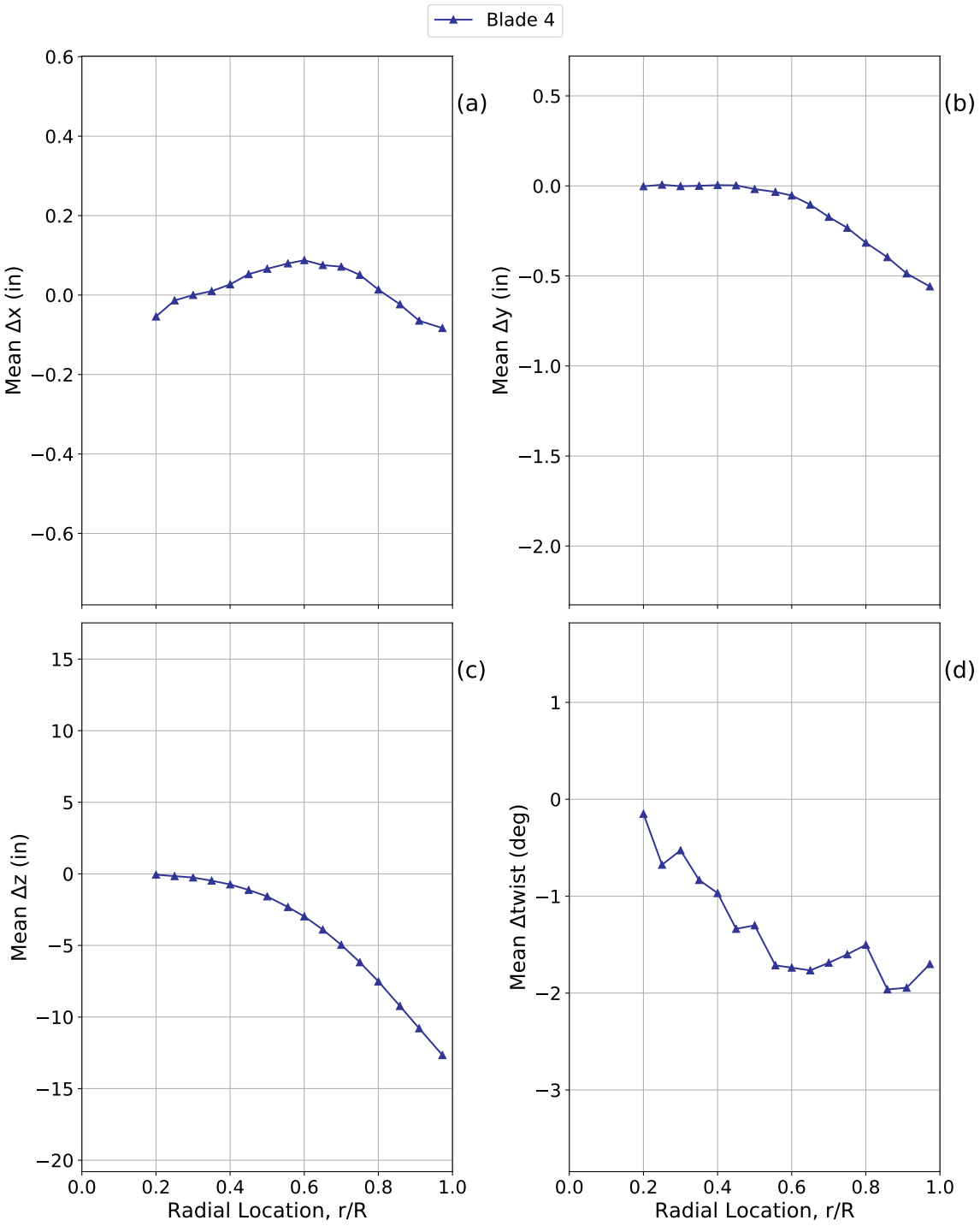


Figure 3.15-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0541	0.0023	-0.0023	0.0012	-0.0555	0.0046	-0.1501	0.0250
4	119.88	0.2502	-0.0136	0.0019	0.0063	0.0022	-0.1607	0.0113	-0.6761	0.0409
4	119.88	0.3001	-0.0000	0.0026	-0.0016	0.0050	-0.2568	0.0194	-0.5268	0.0558
4	119.88	0.3502	0.0098	0.0025	0.0004	0.0079	-0.4756	0.0336	-0.8331	0.0516
4	119.88	0.4002	0.0269	0.0033	0.0044	0.0126	-0.7402	0.0526	-0.9689	0.0578
4	119.88	0.4500	0.0525	0.0049	0.0029	0.0154	-1.1252	0.0698	-1.3372	0.0468
4	119.88	0.5001	0.0661	0.0064	-0.0177	0.0196	-1.5772	0.0938	-1.3015	0.0470
4	119.88	0.5560	0.0795	0.0077	-0.0335	0.0240	-2.3219	0.1205	-1.7138	0.0649
4	119.88	0.6001	0.0877	0.0092	-0.0535	0.0279	-2.9732	0.1433	-1.7378	0.0502
4	119.88	0.6501	0.0753	0.0098	-0.1041	0.0326	-3.8953	0.1725	-1.7658	0.0650
4	119.88	0.6999	0.0714	0.0117	-0.1721	0.0370	-4.9605	0.2054	-1.6876	0.0634
4	119.88	0.7500	0.0507	0.0137	-0.2331	0.0422	-6.1753	0.2411	-1.6006	0.0567
4	119.88	0.8002	0.0137	0.0165	-0.3154	0.0471	-7.5208	0.2801	-1.5018	0.0702
4	119.88	0.8582	-0.0234	0.0213	-0.3959	0.0539	-9.2329	0.3360	-1.9623	0.0639
4	119.88	0.9101	-0.0646	0.0244	-0.4863	0.0597	-10.7910	0.3886	-1.9454	0.0609
4	119.88	0.9728	-0.0831	0.0299	-0.5585	0.0669	-12.6560	0.4610	-1.7010	0.0610

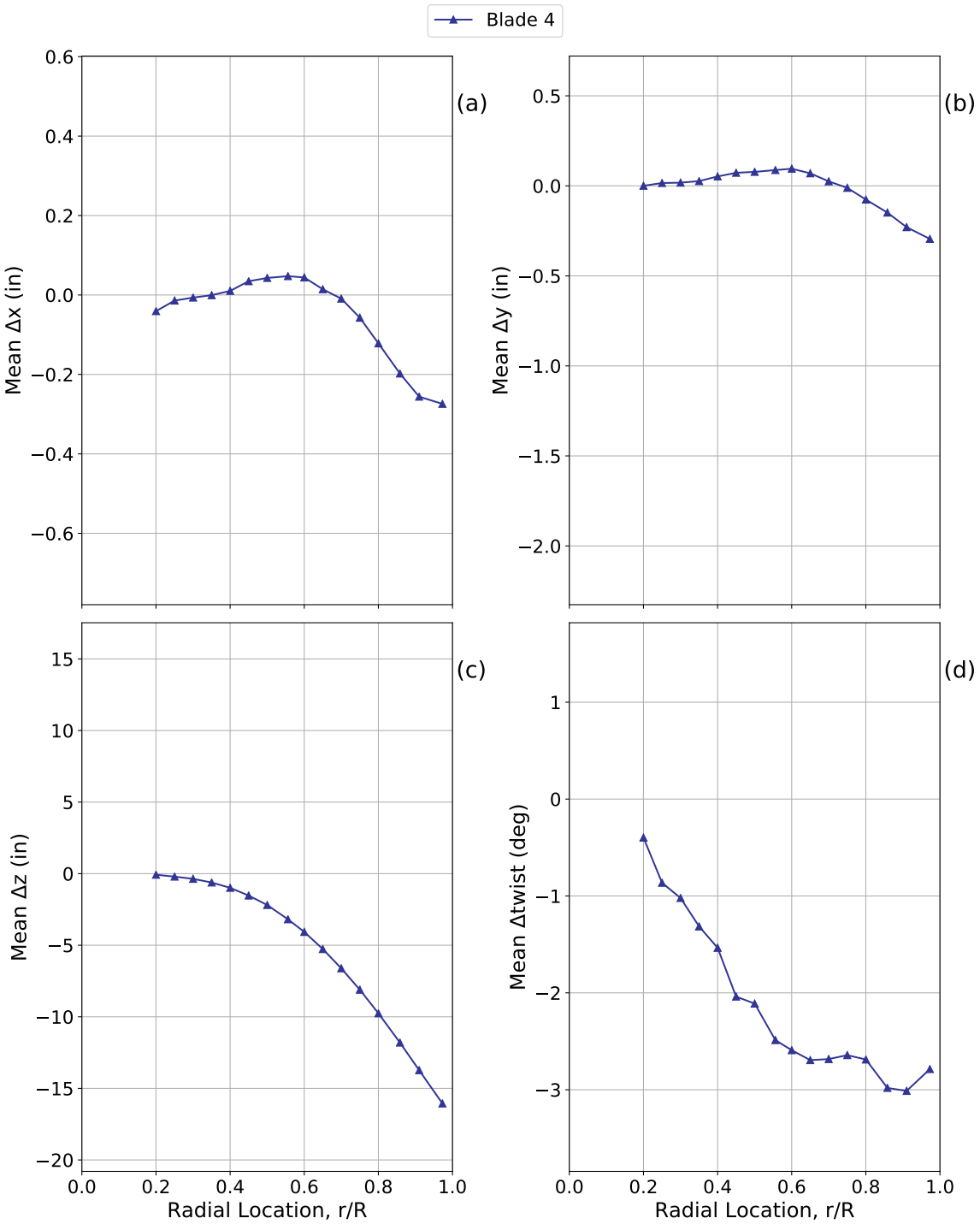


Figure 3.15-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0407	0.0022	0.0004	0.0008	-0.0770	0.0055	-0.3977	0.0333
4	135	0.2502	-0.0141	0.0022	0.0157	0.0016	-0.2079	0.0106	-0.8642	0.0495
4	135	0.3001	-0.0066	0.0030	0.0176	0.0031	-0.3630	0.0223	-1.0210	0.0727
4	135	0.3502	-0.0005	0.0026	0.0263	0.0048	-0.6191	0.0369	-1.3148	0.0515
4	135	0.4002	0.0103	0.0046	0.0523	0.0078	-0.9912	0.0578	-1.5356	0.0572
4	135	0.4500	0.0346	0.0055	0.0725	0.0095	-1.5309	0.0846	-2.0386	0.0494
4	135	0.5001	0.0429	0.0078	0.0776	0.0128	-2.1905	0.1192	-2.1110	0.0616
4	135	0.5560	0.0474	0.0100	0.0876	0.0156	-3.1877	0.1637	-2.4879	0.0538
4	135	0.6001	0.0441	0.0130	0.0952	0.0190	-4.0721	0.2054	-2.5920	0.0648
4	135	0.6501	0.0144	0.0176	0.0696	0.0227	-5.2698	0.2573	-2.6945	0.0560
4	135	0.6999	-0.0092	0.0220	0.0250	0.0265	-6.6153	0.3148	-2.6835	0.0662
4	135	0.7500	-0.0573	0.0278	-0.0112	0.0310	-8.1100	0.3772	-2.6429	0.0703
4	135	0.8002	-0.1218	0.0355	-0.0762	0.0351	-9.7575	0.4431	-2.6882	0.0658
4	135	0.8582	-0.1978	0.0443	-0.1486	0.0406	-11.8046	0.5250	-2.9813	0.0754
4	135	0.9101	-0.2560	0.0526	-0.2295	0.0469	-13.7315	0.6000	-3.0122	0.0729
4	135	0.9728	-0.2741	0.0615	-0.2948	0.0541	-16.0557	0.6952	-2.7870	0.0803

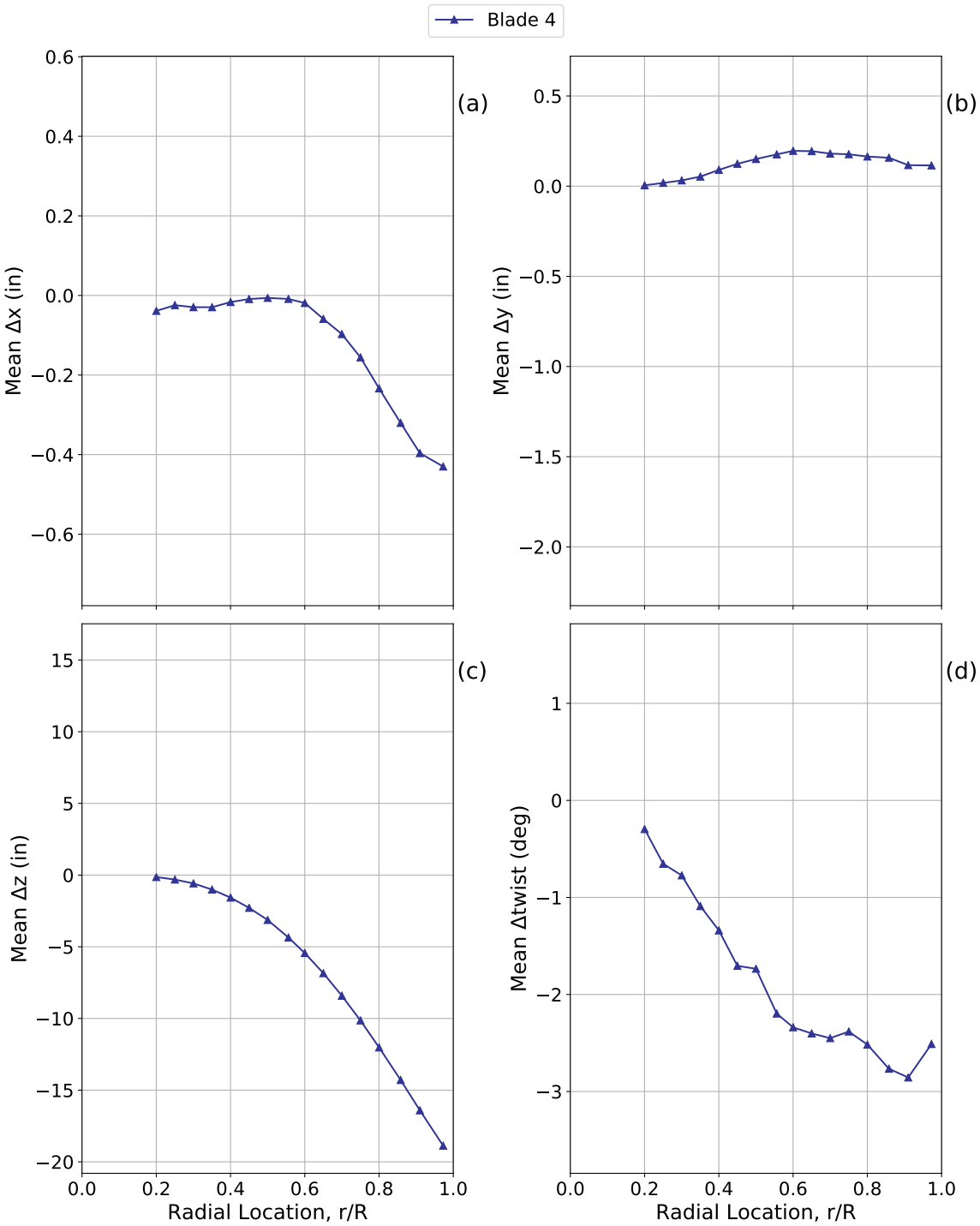


Figure 3.15-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0388	0.0024	0.0046	0.0009	-0.1385	0.0030	-0.2959	0.0327
4	150.12	0.2502	-0.0244	0.0020	0.0180	0.0033	-0.3126	0.0058	-0.6538	0.0307
4	150.12	0.3001	-0.0295	0.0015	0.0318	0.0053	-0.5823	0.0114	-0.7731	0.0661
4	150.12	0.3502	-0.0296	0.0022	0.0529	0.0086	-1.0113	0.0177	-1.0897	0.0527
4	150.12	0.4002	-0.0166	0.0028	0.0902	0.0146	-1.5729	0.0280	-1.3405	0.0507
4	150.12	0.4500	-0.0091	0.0035	0.1237	0.0182	-2.2872	0.0354	-1.7052	0.0703
4	150.12	0.5001	-0.0061	0.0043	0.1504	0.0235	-3.1330	0.0462	-1.7351	0.0610
4	150.12	0.5560	-0.0088	0.0044	0.1761	0.0293	-4.3579	0.0570	-2.1971	0.0564
4	150.12	0.6001	-0.0190	0.0055	0.1957	0.0348	-5.4394	0.0667	-2.3385	0.0556
4	150.12	0.6501	-0.0590	0.0082	0.1939	0.0422	-6.8449	0.0799	-2.4017	0.0670
4	150.12	0.6999	-0.0972	0.0086	0.1804	0.0497	-8.4184	0.0942	-2.4502	0.0570
4	150.12	0.7500	-0.1557	0.0114	0.1768	0.0569	-10.1414	0.1106	-2.3821	0.0582
4	150.12	0.8002	-0.2337	0.0140	0.1642	0.0655	-12.0247	0.1339	-2.5167	0.0729
4	150.12	0.8582	-0.3204	0.0188	0.1576	0.0752	-14.2952	0.1624	-2.7655	0.0732
4	150.12	0.9101	-0.3964	0.0223	0.1164	0.0849	-16.4124	0.1940	-2.8555	0.0758
4	150.12	0.9728	-0.4300	0.0290	0.1148	0.0954	-18.8780	0.2361	-2.5107	0.0736

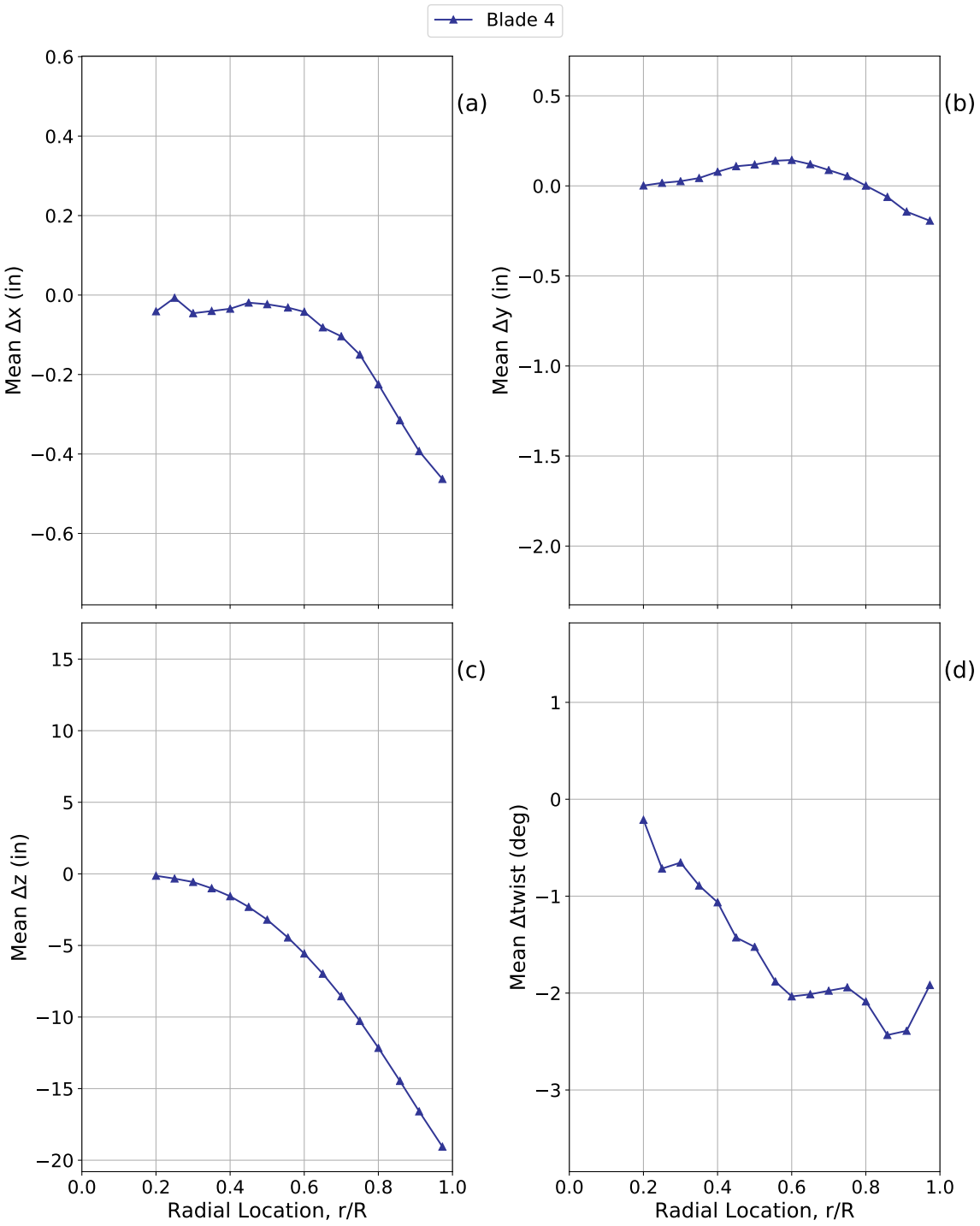


Figure 3.15-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0410	0.0059	0.0019	0.0011	-0.1345	0.0143	-0.2126	0.0583
4	164.88	0.2502	-0.0070	0.0154	0.0166	0.0020	-0.3303	0.0113	-0.7153	0.1154
4	164.88	0.3001	-0.0458	0.0041	0.0260	0.0037	-0.5709	0.0325	-0.6535	0.0614
4	164.88	0.3502	-0.0402	0.0043	0.0435	0.0061	-1.0088	0.0441	-0.8906	0.0639
4	164.88	0.4002	-0.0345	0.0051	0.0784	0.0092	-1.5668	0.0576	-1.0640	0.0779
4	164.88	0.4500	-0.0192	0.0069	0.1089	0.0133	-2.3115	0.0715	-1.4264	0.0728
4	164.88	0.5001	-0.0232	0.0081	0.1183	0.0161	-3.2047	0.0898	-1.5231	0.0778
4	164.88	0.5560	-0.0316	0.0096	0.1396	0.0199	-4.4508	0.1126	-1.8813	0.0790
4	164.88	0.6001	-0.0422	0.0109	0.1438	0.0243	-5.5687	0.1296	-2.0344	0.0789
4	164.88	0.6501	-0.0815	0.0125	0.1202	0.0293	-6.9790	0.1509	-2.0123	0.0789
4	164.88	0.6999	-0.1039	0.0150	0.0879	0.0327	-8.5511	0.1719	-1.9758	0.0763
4	164.88	0.7500	-0.1501	0.0162	0.0547	0.0389	-10.2772	0.1902	-1.9411	0.0718
4	164.88	0.8002	-0.2248	0.0188	0.0011	0.0432	-12.1585	0.2084	-2.0866	0.0800
4	164.88	0.8582	-0.3152	0.0225	-0.0617	0.0497	-14.4669	0.2285	-2.4328	0.0876
4	164.88	0.9101	-0.3931	0.0252	-0.1433	0.0560	-16.5918	0.2472	-2.3894	0.0928
4	164.88	0.9728	-0.4630	0.0289	-0.1934	0.0639	-19.0572	0.2712	-1.9175	0.0935

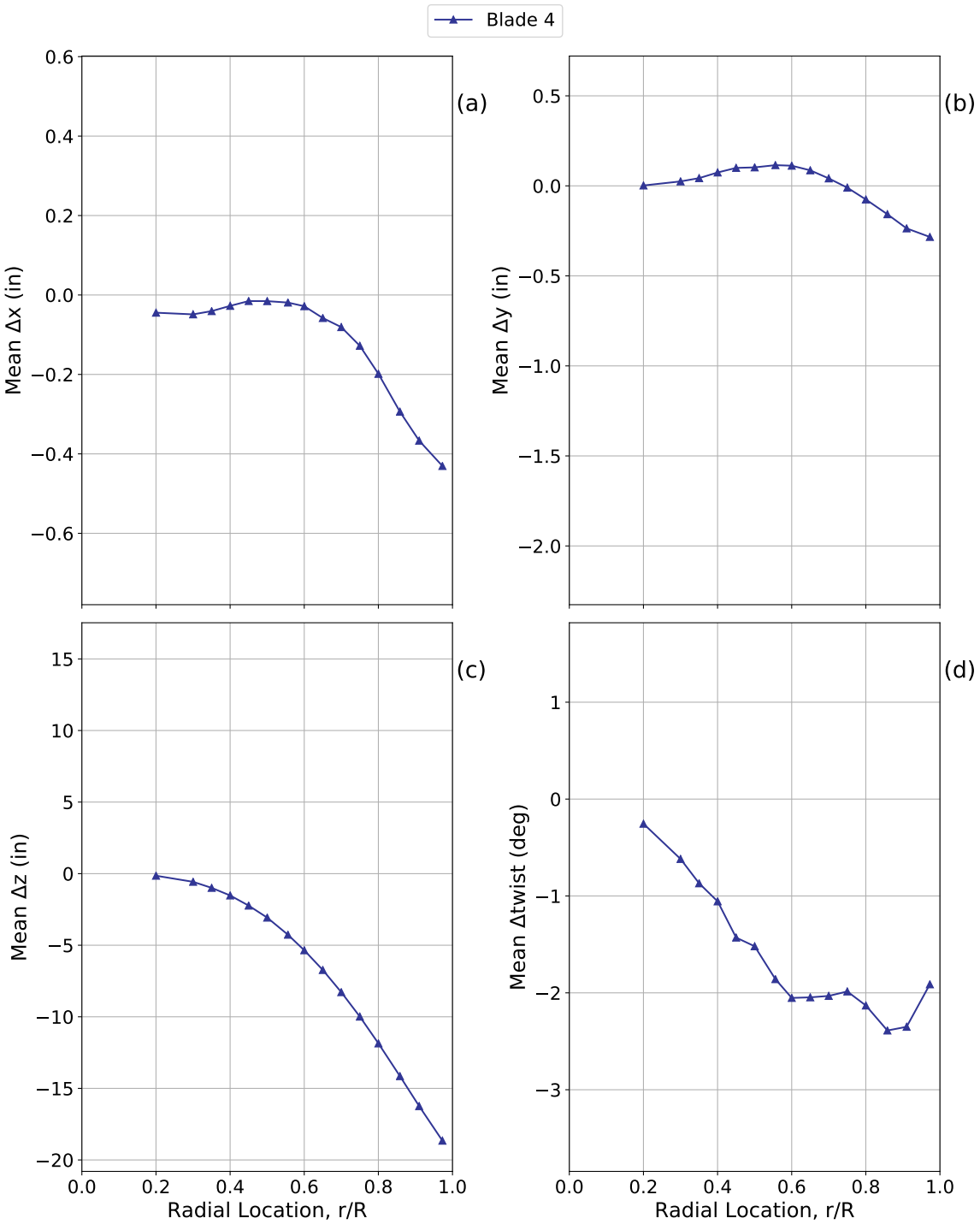


Figure 3.15-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0446	0.0051	0.0021	0.0010	-0.1448	0.0041	-0.2547	0.0341
4	170.16	0.3001	-0.0488	0.0052	0.0247	0.0046	-0.5706	0.0153	-0.6181	0.0808
4	170.16	0.3502	-0.0406	0.0044	0.0429	0.0086	-0.9932	0.0296	-0.8693	0.0647
4	170.16	0.4002	-0.0274	0.0043	0.0743	0.0132	-1.5248	0.0436	-1.0559	0.0718
4	170.16	0.4500	-0.0153	0.0069	0.0997	0.0170	-2.2321	0.0573	-1.4295	0.0641
4	170.16	0.5001	-0.0155	0.0084	0.1026	0.0209	-3.0721	0.0730	-1.5194	0.0772
4	170.16	0.5560	-0.0191	0.0101	0.1150	0.0247	-4.2661	0.0913	-1.8586	0.0717
4	170.16	0.6001	-0.0283	0.0107	0.1119	0.0294	-5.3538	0.1040	-2.0522	0.0687
4	170.16	0.6501	-0.0580	0.0128	0.0862	0.0339	-6.7310	0.1182	-2.0464	0.0549
4	170.16	0.6999	-0.0809	0.0135	0.0414	0.0381	-8.2804	0.1343	-2.0317	0.0602
4	170.16	0.7500	-0.1280	0.0150	-0.0100	0.0428	-9.9878	0.1522	-1.9857	0.0863
4	170.16	0.8002	-0.1986	0.0166	-0.0757	0.0480	-11.8601	0.1653	-2.1307	0.0731
4	170.16	0.8582	-0.2939	0.0192	-0.1577	0.0550	-14.1469	0.1862	-2.3886	0.0784
4	170.16	0.9101	-0.3668	0.0218	-0.2363	0.0611	-16.2416	0.2088	-2.3504	0.0725
4	170.16	0.9728	-0.4305	0.0259	-0.2838	0.0685	-18.6552	0.2459	-1.9119	0.0757

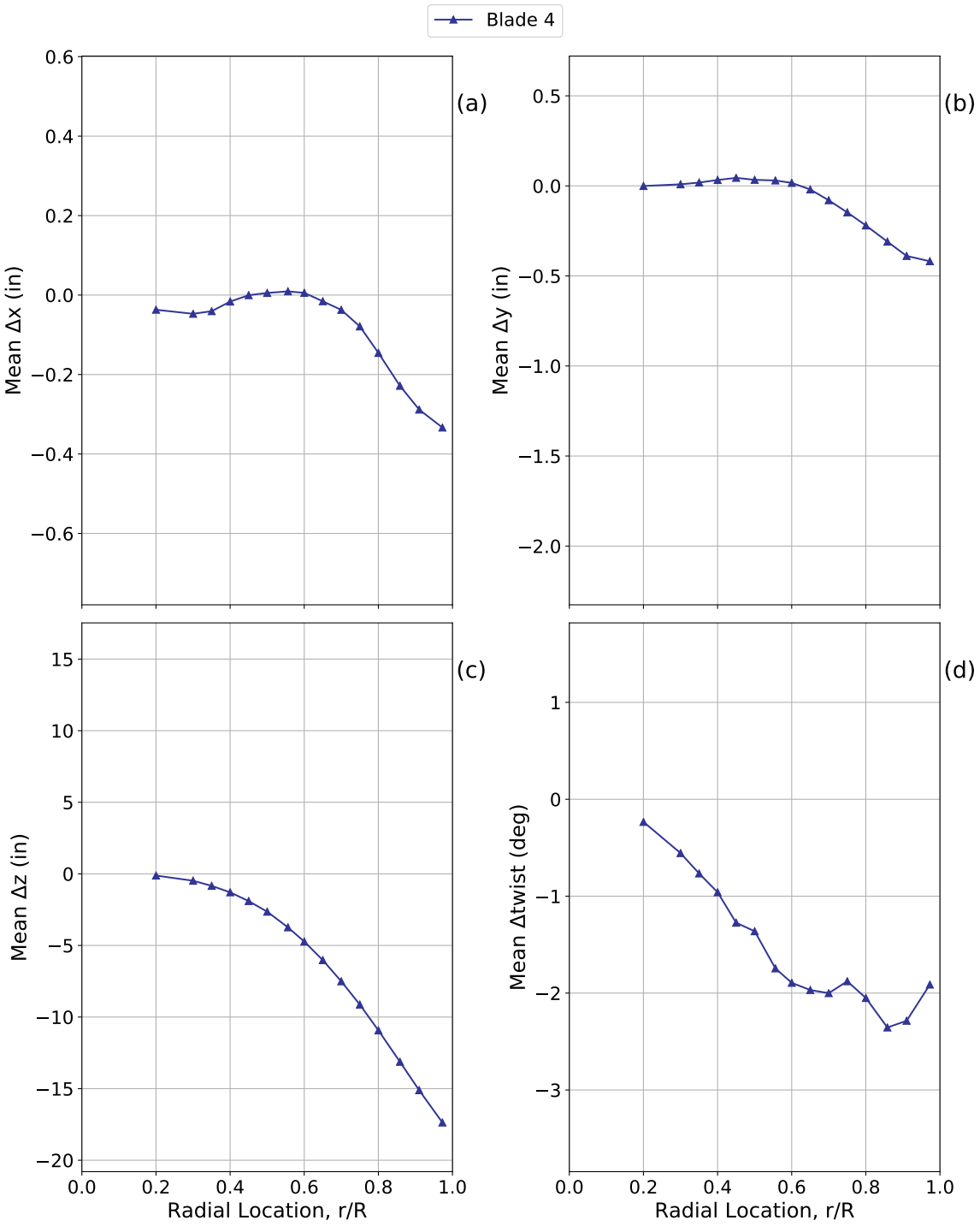


Figure 3.15-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0370	0.0088	-0.0006	0.0010	-0.1192	0.0039	-0.2336	0.0622
4	175.08	0.3001	-0.0472	0.0067	0.0088	0.0044	-0.4801	0.0168	-0.5557	0.1492
4	175.08	0.3502	-0.0406	0.0056	0.0186	0.0093	-0.8379	0.0277	-0.7658	0.1438
4	175.08	0.4002	-0.0164	0.0079	0.0328	0.0133	-1.2907	0.0432	-0.9601	0.1632
4	175.08	0.4500	-0.0004	0.0088	0.0446	0.0164	-1.9010	0.0594	-1.2738	0.1552
4	175.08	0.5001	0.0053	0.0095	0.0337	0.0215	-2.6432	0.0779	-1.3620	0.1551
4	175.08	0.5560	0.0093	0.0108	0.0302	0.0254	-3.7365	0.1013	-1.7452	0.1560
4	175.08	0.6001	0.0055	0.0128	0.0167	0.0310	-4.7299	0.1231	-1.8943	0.1504
4	175.08	0.6501	-0.0157	0.0148	-0.0199	0.0368	-6.0268	0.1451	-1.9683	0.1479
4	175.08	0.6999	-0.0373	0.0166	-0.0798	0.0426	-7.5065	0.1704	-2.0008	0.1569
4	175.08	0.7500	-0.0790	0.0193	-0.1473	0.0500	-9.1321	0.2019	-1.8780	0.1435
4	175.08	0.8002	-0.1457	0.0227	-0.2198	0.0565	-10.9343	0.2407	-2.0508	0.1387
4	175.08	0.8582	-0.2285	0.0280	-0.3097	0.0654	-13.1272	0.2901	-2.3552	0.1452
4	175.08	0.9101	-0.2883	0.0338	-0.3890	0.0744	-15.1129	0.3391	-2.2858	0.1386
4	175.08	0.9728	-0.3335	0.0400	-0.4184	0.0848	-17.3680	0.4006	-1.9123	0.1513

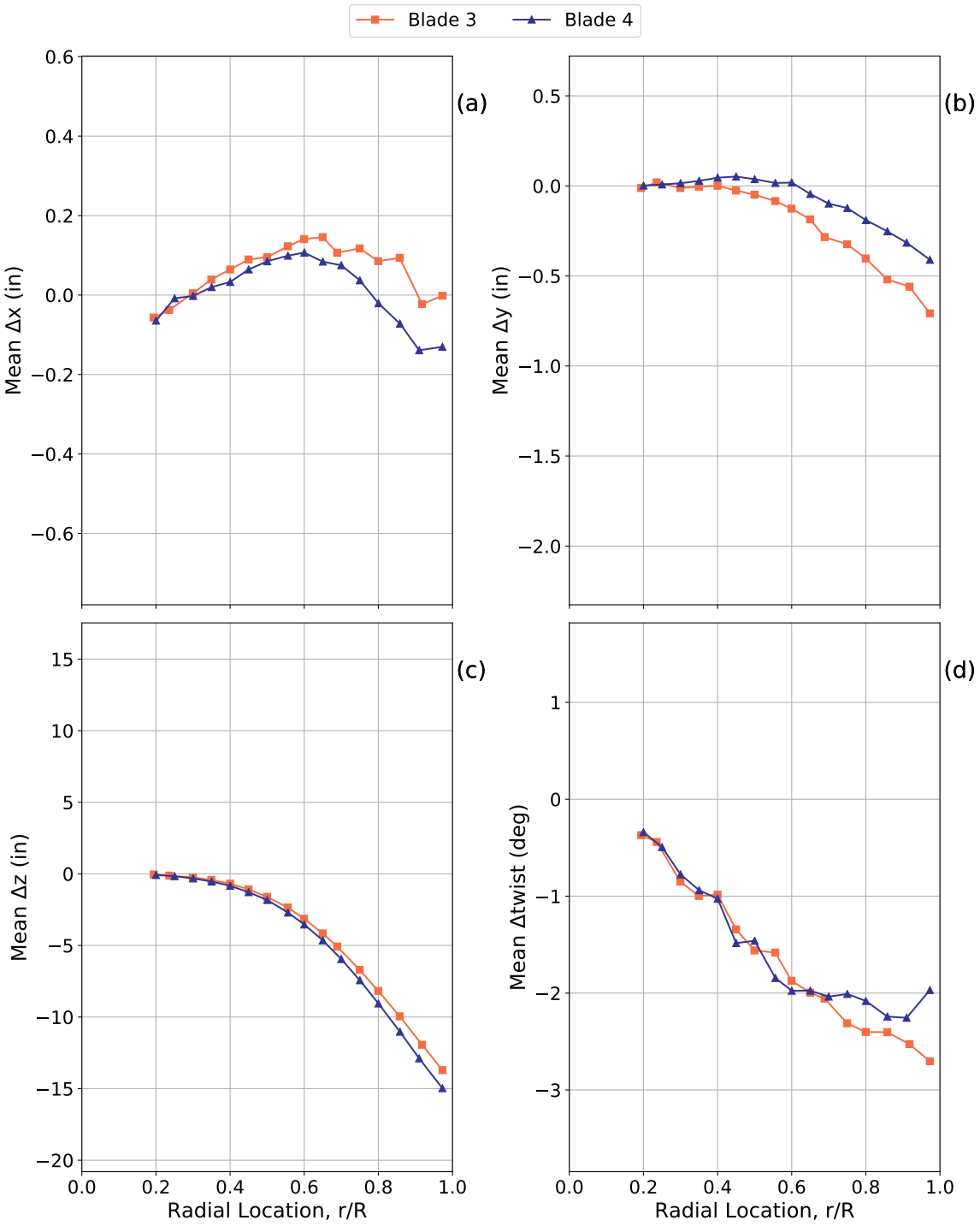


Figure 3.15-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0568	0.0009	-0.0119	0.0010	-0.0425	0.0065	-0.3701	0.0230
3	180.35	0.2357	-0.0377	0.0008	0.0196	0.0017	-0.1233	0.0104	-0.4404	0.0447
3	180.35	0.2995	0.0044	0.0016	-0.0118	0.0048	-0.2461	0.0228	-0.8494	0.0554
3	180.35	0.3493	0.0392	0.0009	-0.0044	0.0089	-0.4252	0.0380	-0.9976	0.0515
3	180.35	0.4000	0.0644	0.0017	0.0010	0.0134	-0.6852	0.0572	-0.9843	0.0554
3	180.35	0.4497	0.0895	0.0019	-0.0257	0.0160	-1.0817	0.0776	-1.3425	0.0695
3	180.35	0.4997	0.0954	0.0018	-0.0489	0.0214	-1.6075	0.0997	-1.5600	0.0679
3	180.35	0.5556	0.1227	0.0039	-0.0843	0.0270	-2.3511	0.1266	-1.5820	0.0804
3	180.35	0.5995	0.1408	0.0035	-0.1263	0.0317	-3.1379	0.1479	-1.8728	0.0928
3	180.35	0.6498	0.1458	0.0058	-0.1856	0.0360	-4.1573	0.1699	-1.9957	0.0714
3	180.35	0.6890	0.1065	0.0068	-0.2843	0.0416	-5.0774	0.1923	-2.0573	0.1041
3	180.35	0.7495	0.1173	0.0079	-0.3238	0.0508	-6.7028	0.2105	-2.3112	0.1071
3	180.35	0.7998	0.0854	0.0114	-0.4030	0.0559	-8.1786	0.2303	-2.4016	0.1000
3	180.35	0.8577	0.0936	0.0114	-0.5193	0.0674	-9.9477	0.2428	-2.4032	0.1488
3	180.35	0.9178	-0.0228	0.0167	-0.5599	0.0785	-11.9355	0.2742	-2.5269	0.1447
3	180.35	0.9729	-0.0017	0.0130	-0.7076	0.0825	-13.7082	0.2643	-2.7036	0.1499
4	180	0.2001	-0.0644	0.0014	0.0017	0.0016	-0.0802	0.0065	-0.3395	0.0231
4	180	0.2502	-0.0082	0.0011	0.0079	0.0028	-0.1638	0.0100	-0.4939	0.0218
4	180	0.3001	-0.0023	0.0016	0.0146	0.0066	-0.3212	0.0193	-0.7754	0.0372
4	180	0.3502	0.0200	0.0018	0.0278	0.0109	-0.5368	0.0314	-0.9385	0.0308
4	180	0.4002	0.0329	0.0014	0.0457	0.0170	-0.8361	0.0455	-1.0266	0.0450
4	180	0.4500	0.0643	0.0018	0.0517	0.0198	-1.2806	0.0588	-1.4841	0.0379
4	180	0.5001	0.0850	0.0029	0.0373	0.0238	-1.8265	0.0722	-1.4606	0.0409
4	180	0.5560	0.0991	0.0033	0.0161	0.0272	-2.7047	0.0871	-1.8443	0.0444
4	180	0.6001	0.1067	0.0045	0.0184	0.0305	-3.5370	0.0970	-1.9759	0.0468
4	180	0.6501	0.0841	0.0050	-0.0450	0.0341	-4.6459	0.1128	-1.9747	0.0567
4	180	0.6999	0.0749	0.0059	-0.0984	0.0397	-5.9530	0.1250	-2.0367	0.0367
4	180	0.7500	0.0370	0.0075	-0.1232	0.0425	-7.4317	0.1379	-2.0093	0.0583
4	180	0.8002	-0.0206	0.0095	-0.1901	0.0438	-9.0549	0.1535	-2.0815	0.0639
4	180	0.8582	-0.0720	0.0114	-0.2523	0.0523	-11.0270	0.1822	-2.2425	0.0865
4	180	0.9101	-0.1390	0.0164	-0.3153	0.0530	-12.8898	0.1925	-2.2549	0.0599
4	180	0.9728	-0.1303	0.0183	-0.4103	0.0589	-14.9737	0.2277	-1.9689	0.0992

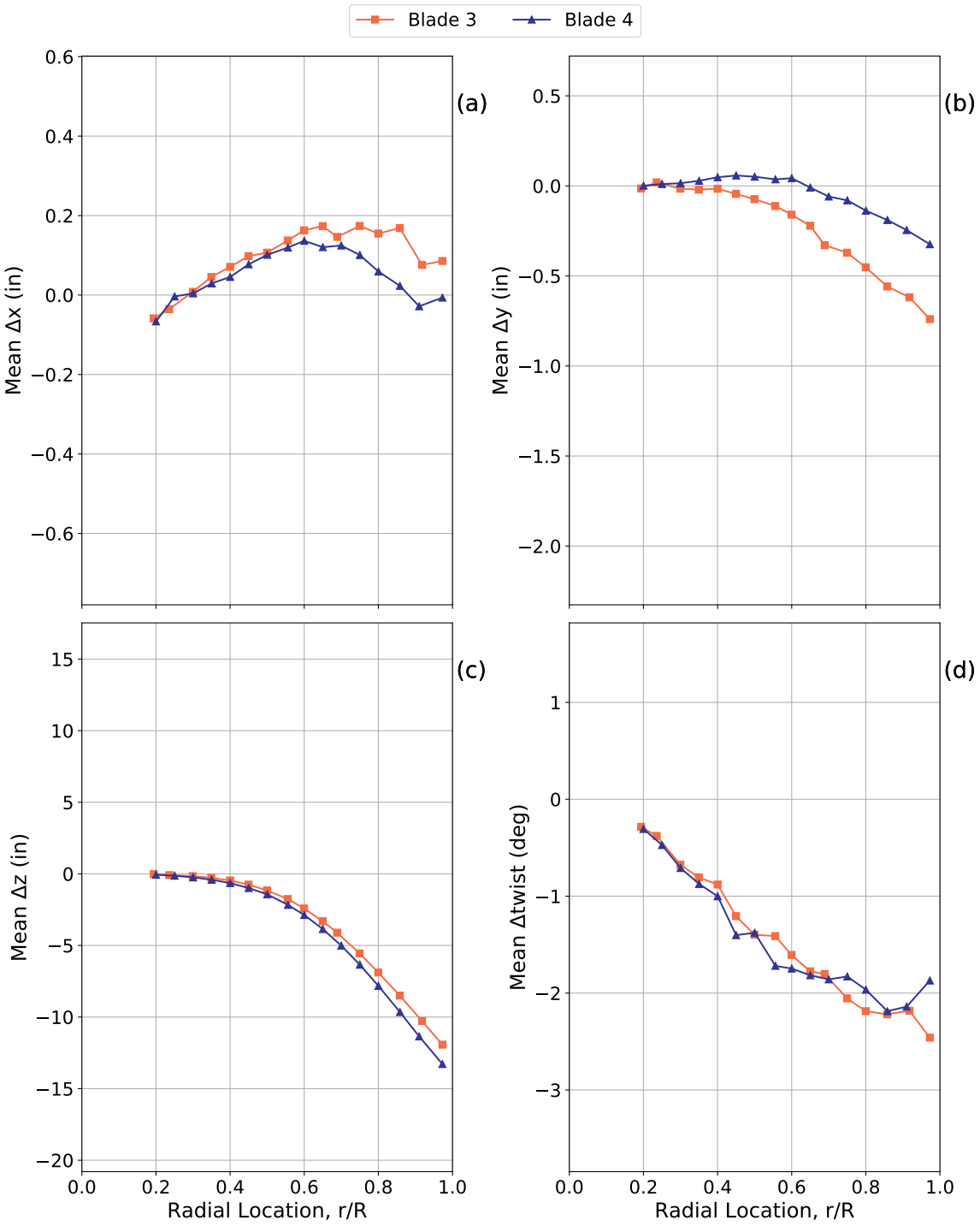


Figure 3.15-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0588	0.0011	-0.0144	0.0011	-0.0185	0.0031	-0.2849	0.0182
3	184.92	0.2357	-0.0355	0.0010	0.0196	0.0021	-0.0900	0.0049	-0.3783	0.0335
3	184.92	0.2995	0.0081	0.0014	-0.0155	0.0050	-0.1603	0.0098	-0.6752	0.0466
3	184.92	0.3493	0.0455	0.0014	-0.0205	0.0086	-0.2745	0.0145	-0.8059	0.0508
3	184.92	0.4000	0.0709	0.0027	-0.0157	0.0137	-0.4613	0.0220	-0.8796	0.0471
3	184.92	0.4497	0.0980	0.0021	-0.0445	0.0185	-0.7523	0.0291	-1.2062	0.0577
3	184.92	0.4997	0.1067	0.0027	-0.0736	0.0250	-1.1590	0.0405	-1.3977	0.0618
3	184.92	0.5556	0.1373	0.0025	-0.1117	0.0307	-1.7585	0.0527	-1.4118	0.0532
3	184.92	0.5995	0.1629	0.0032	-0.1598	0.0372	-2.4175	0.0620	-1.6065	0.0487
3	184.92	0.6498	0.1734	0.0038	-0.2213	0.0427	-3.3100	0.0754	-1.7753	0.0677
3	184.92	0.6890	0.1463	0.0037	-0.3292	0.0472	-4.1094	0.0842	-1.8026	0.0538
3	184.92	0.7495	0.1739	0.0047	-0.3710	0.0575	-5.5584	0.0993	-2.0546	0.0616
3	184.92	0.7998	0.1547	0.0058	-0.4522	0.0656	-6.8870	0.1123	-2.1868	0.0596
3	184.92	0.8577	0.1687	0.0087	-0.5585	0.0732	-8.5008	0.1233	-2.2181	0.0993
3	184.92	0.9178	0.0758	0.0135	-0.6189	0.0911	-10.2813	0.1452	-2.1828	0.1032
3	184.92	0.9729	0.0858	0.0186	-0.7396	0.0910	-11.9272	0.1616	-2.4600	0.1296
4	184.92	0.2001	-0.0663	0.0018	0.0012	0.0014	-0.0611	0.0051	-0.3064	0.0311
4	184.92	0.2502	-0.0036	0.0011	0.0103	0.0036	-0.1296	0.0099	-0.4727	0.0498
4	184.92	0.3001	0.0042	0.0015	0.0147	0.0066	-0.2476	0.0154	-0.7096	0.0693
4	184.92	0.3502	0.0293	0.0027	0.0284	0.0114	-0.4110	0.0265	-0.8743	0.0558
4	184.92	0.4002	0.0456	0.0035	0.0481	0.0182	-0.6437	0.0390	-1.0008	0.0654
4	184.92	0.4500	0.0773	0.0037	0.0577	0.0236	-0.9926	0.0546	-1.4021	0.0625
4	184.92	0.5001	0.1012	0.0041	0.0511	0.0300	-1.4316	0.0683	-1.3779	0.0772
4	184.92	0.5560	0.1196	0.0051	0.0363	0.0367	-2.1690	0.0876	-1.7191	0.0853
4	184.92	0.6001	0.1365	0.0053	0.0427	0.0430	-2.8734	0.1044	-1.7473	0.1007
4	184.92	0.6501	0.1205	0.0063	-0.0094	0.0503	-3.8575	0.1221	-1.8161	0.0757
4	184.92	0.6999	0.1246	0.0092	-0.0592	0.0571	-5.0124	0.1385	-1.8585	0.0918
4	184.92	0.7500	0.1007	0.0113	-0.0804	0.0627	-6.3451	0.1522	-1.8288	0.0946
4	184.92	0.8002	0.0592	0.0141	-0.1377	0.0713	-7.8285	0.1701	-1.9653	0.0852
4	184.92	0.8582	0.0230	0.0178	-0.1897	0.0798	-9.6518	0.1928	-2.1867	0.0941
4	184.92	0.9101	-0.0283	0.0212	-0.2454	0.0878	-11.3552	0.2174	-2.1400	0.1109
4	184.92	0.9728	-0.0065	0.0267	-0.3242	0.0971	-13.2816	0.2560	-1.8705	0.1292

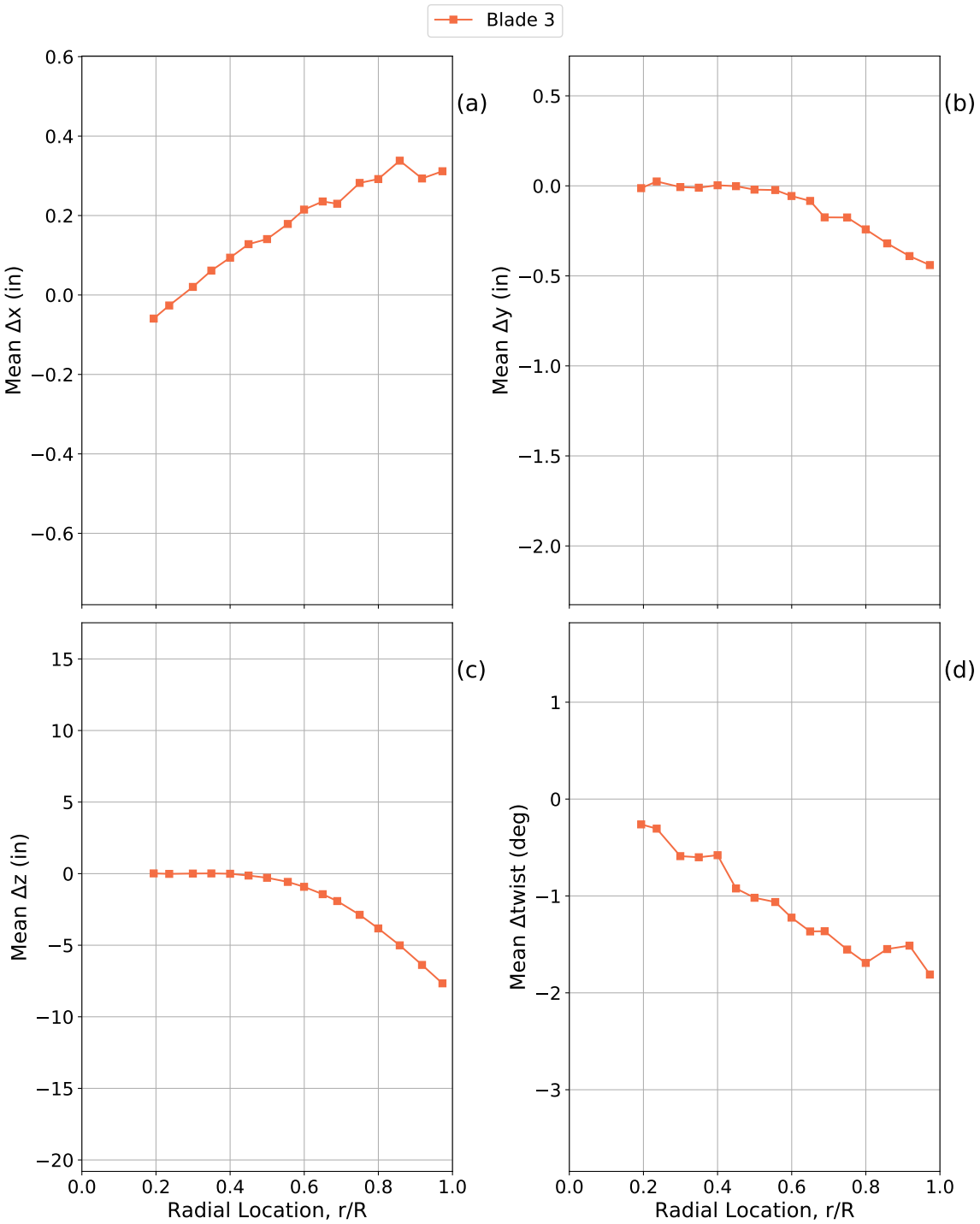


Figure 3.15-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0594	0.0009	-0.0128	0.0009	0.0178	0.0029	-0.2613	0.0351
3	195.12	0.2357	-0.0264	0.0014	0.0244	0.0021	-0.0156	0.0048	-0.3051	0.0500
3	195.12	0.2995	0.0203	0.0013	-0.0067	0.0044	0.0072	0.0081	-0.5889	0.0821
3	195.12	0.3493	0.0614	0.0019	-0.0103	0.0073	0.0164	0.0183	-0.6005	0.0713
3	195.12	0.4000	0.0939	0.0027	0.0033	0.0119	-0.0073	0.0236	-0.5792	0.0585
3	195.12	0.4497	0.1279	0.0029	-0.0018	0.0162	-0.1327	0.0323	-0.9225	0.0578
3	195.12	0.4997	0.1407	0.0033	-0.0210	0.0209	-0.2880	0.0447	-1.0186	0.0716
3	195.12	0.5556	0.1788	0.0033	-0.0232	0.0274	-0.5759	0.0578	-1.0626	0.0814
3	195.12	0.5995	0.2150	0.0042	-0.0564	0.0332	-0.9194	0.0733	-1.2236	0.0795
3	195.12	0.6498	0.2354	0.0041	-0.0837	0.0400	-1.4361	0.0925	-1.3662	0.0905
3	195.12	0.6890	0.2297	0.0059	-0.1750	0.0440	-1.9148	0.1093	-1.3637	0.0990
3	195.12	0.7495	0.2821	0.0073	-0.1756	0.0537	-2.8754	0.1480	-1.5528	0.1093
3	195.12	0.7998	0.2918	0.0100	-0.2418	0.0596	-3.8258	0.1836	-1.6911	0.1082
3	195.12	0.8577	0.3381	0.0141	-0.3195	0.0696	-5.0085	0.2356	-1.5480	0.1157
3	195.12	0.9178	0.2933	0.0175	-0.3901	0.0780	-6.3763	0.2958	-1.5124	0.1669
3	195.12	0.9729	0.3115	0.0204	-0.4400	0.0892	-7.6633	0.3603	-1.8106	0.1321

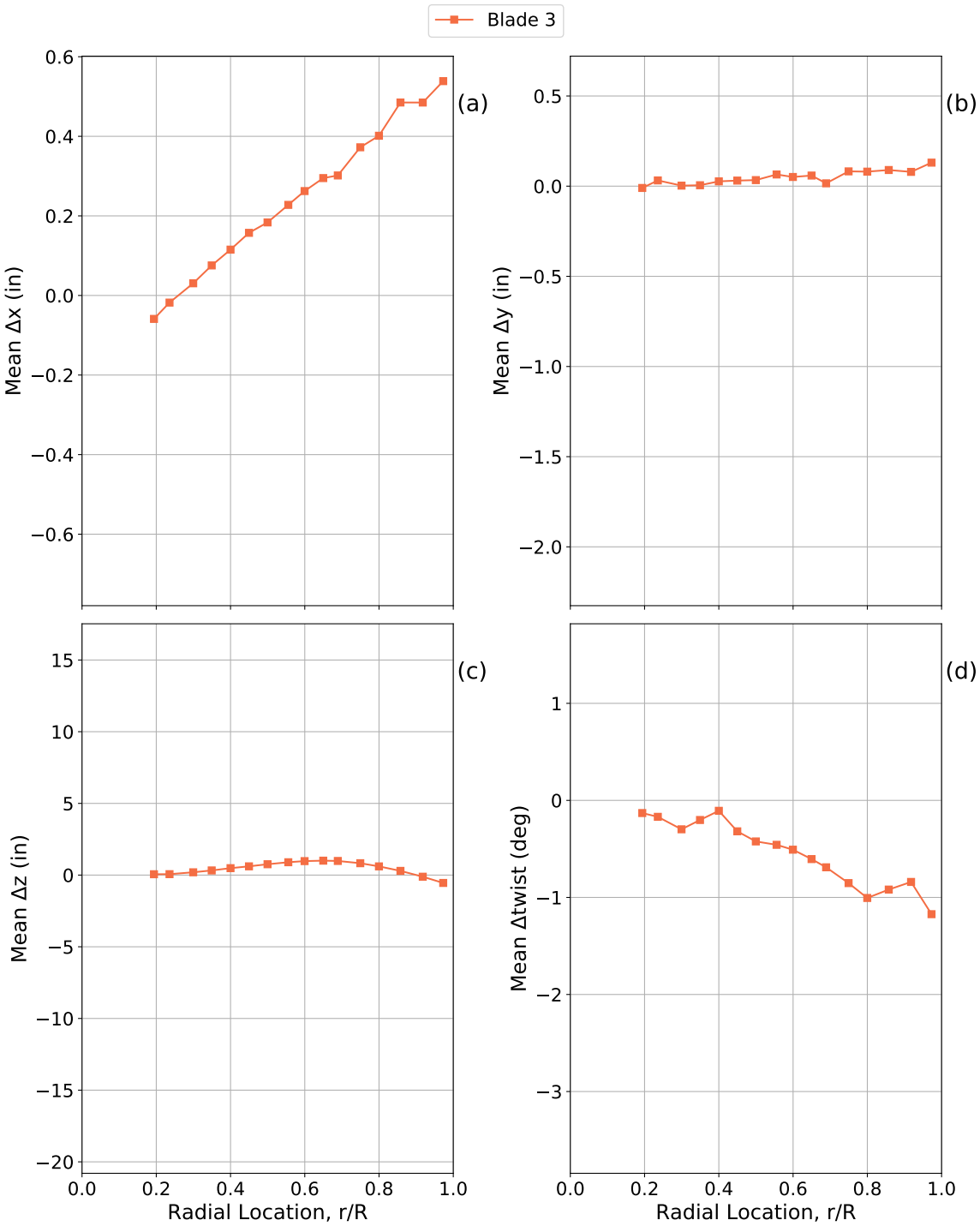


Figure 3.15-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0589	0.0017	-0.0100	0.0005	0.0584	0.0056	-0.1304	0.0254
3	209.88	0.2357	-0.0179	0.0012	0.0318	0.0020	0.0636	0.0136	-0.1694	0.0389
3	209.88	0.2995	0.0306	0.0011	0.0030	0.0039	0.1946	0.0234	-0.2980	0.0504
3	209.88	0.3493	0.0755	0.0016	0.0051	0.0066	0.3242	0.0365	-0.2020	0.0849
3	209.88	0.4000	0.1152	0.0017	0.0266	0.0119	0.4828	0.0576	-0.1074	0.0610
3	209.88	0.4497	0.1574	0.0028	0.0309	0.0158	0.6100	0.0770	-0.3188	0.0745
3	209.88	0.4997	0.1836	0.0032	0.0336	0.0207	0.7560	0.0984	-0.4229	0.0839
3	209.88	0.5556	0.2277	0.0035	0.0648	0.0265	0.8955	0.1213	-0.4577	0.0963
3	209.88	0.5995	0.2624	0.0032	0.0509	0.0321	0.9751	0.1405	-0.5080	0.0845
3	209.88	0.6498	0.2950	0.0037	0.0588	0.0382	1.0057	0.1594	-0.6049	0.0890
3	209.88	0.6890	0.3016	0.0041	0.0157	0.0425	0.9848	0.1751	-0.6895	0.0947
3	209.88	0.7495	0.3724	0.0046	0.0820	0.0516	0.8277	0.2027	-0.8524	0.0960
3	209.88	0.7998	0.4014	0.0046	0.0805	0.0593	0.6066	0.2297	-1.0055	0.0994
3	209.88	0.8577	0.4850	0.0053	0.0895	0.0681	0.2930	0.2638	-0.9190	0.1034
3	209.88	0.9178	0.4849	0.0050	0.0792	0.0778	-0.1137	0.3030	-0.8403	0.0850
3	209.88	0.9729	0.5387	0.0078	0.1304	0.0853	-0.5484	0.3371	-1.1725	0.1032

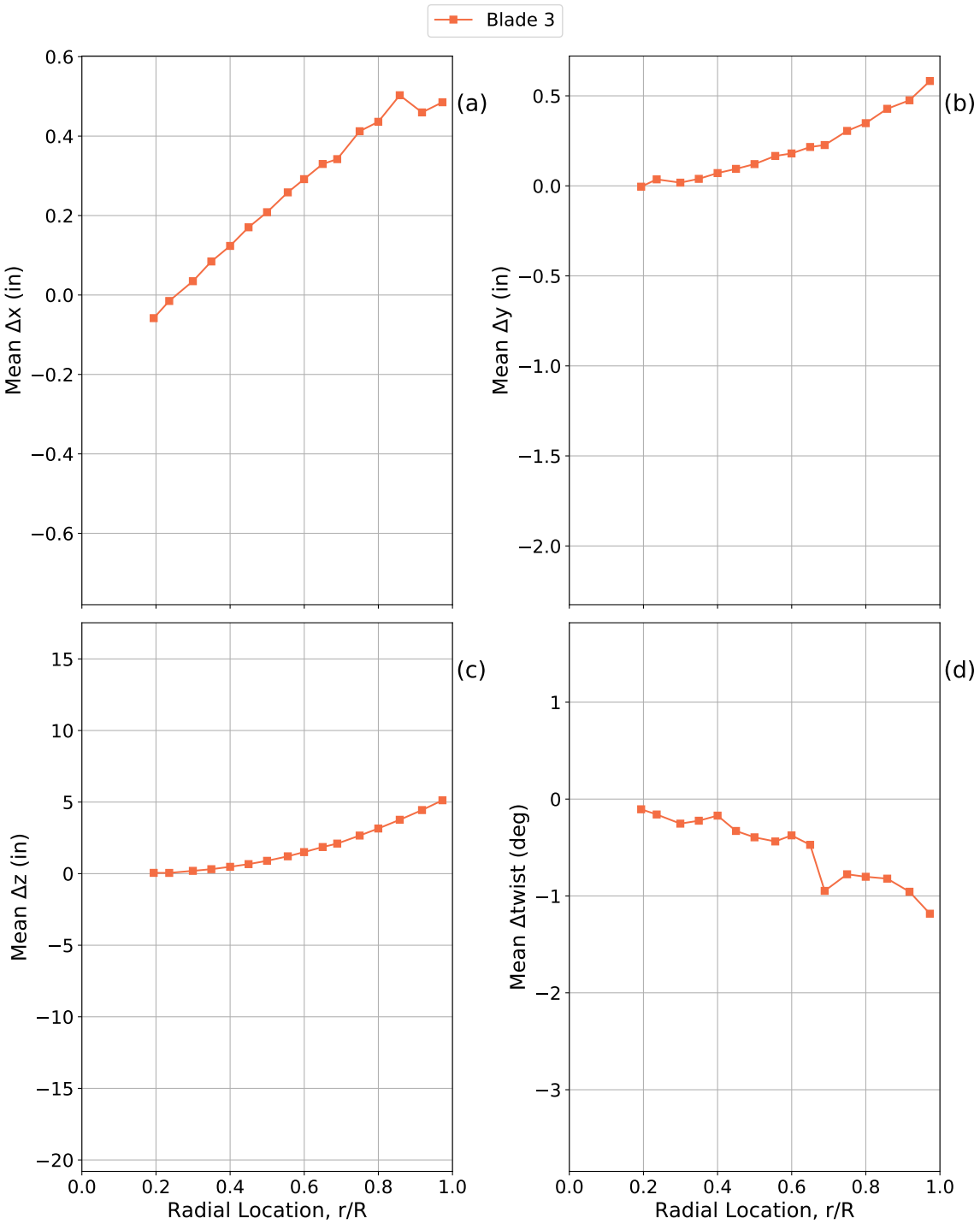


Figure 3.15-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0583	0.0013	-0.0046	0.0005	0.0552	0.0073	-0.1053	0.0217
3	225	0.2357	-0.0151	0.0016	0.0361	0.0015	0.0518	0.0124	-0.1589	0.0377
3	225	0.2995	0.0347	0.0020	0.0178	0.0034	0.1957	0.0241	-0.2534	0.0388
3	225	0.3493	0.0844	0.0020	0.0389	0.0068	0.3116	0.0397	-0.2233	0.0538
3	225	0.4000	0.1235	0.0021	0.0709	0.0105	0.4788	0.0592	-0.1707	0.0494
3	225	0.4497	0.1704	0.0021	0.0943	0.0134	0.6655	0.0752	-0.3290	0.0392
3	225	0.4997	0.2084	0.0022	0.1208	0.0197	0.8972	0.1027	-0.3947	0.0580
3	225	0.5556	0.2583	0.0036	0.1661	0.0253	1.2116	0.1294	-0.4374	0.0768
3	225	0.5995	0.2916	0.0038	0.1799	0.0306	1.5060	0.1539	-0.3745	0.0865
3	225	0.6498	0.3298	0.0048	0.2158	0.0383	1.8593	0.1817	-0.4720	0.0714
3	225	0.6890	0.3420	0.0057	0.2267	0.0440	2.1006	0.2053	-0.9475	0.0765
3	225	0.7495	0.4122	0.0073	0.3052	0.0540	2.6608	0.2413	-0.7761	0.0748
3	225	0.7998	0.4360	0.0082	0.3482	0.0627	3.1540	0.2749	-0.8018	0.0863
3	225	0.8577	0.5028	0.0099	0.4280	0.0719	3.7640	0.3143	-0.8212	0.0882
3	225	0.9178	0.4596	0.0115	0.4753	0.0813	4.4422	0.3575	-0.9563	0.0870
3	225	0.9729	0.4852	0.0169	0.5824	0.0910	5.1271	0.4006	-1.1829	0.0966

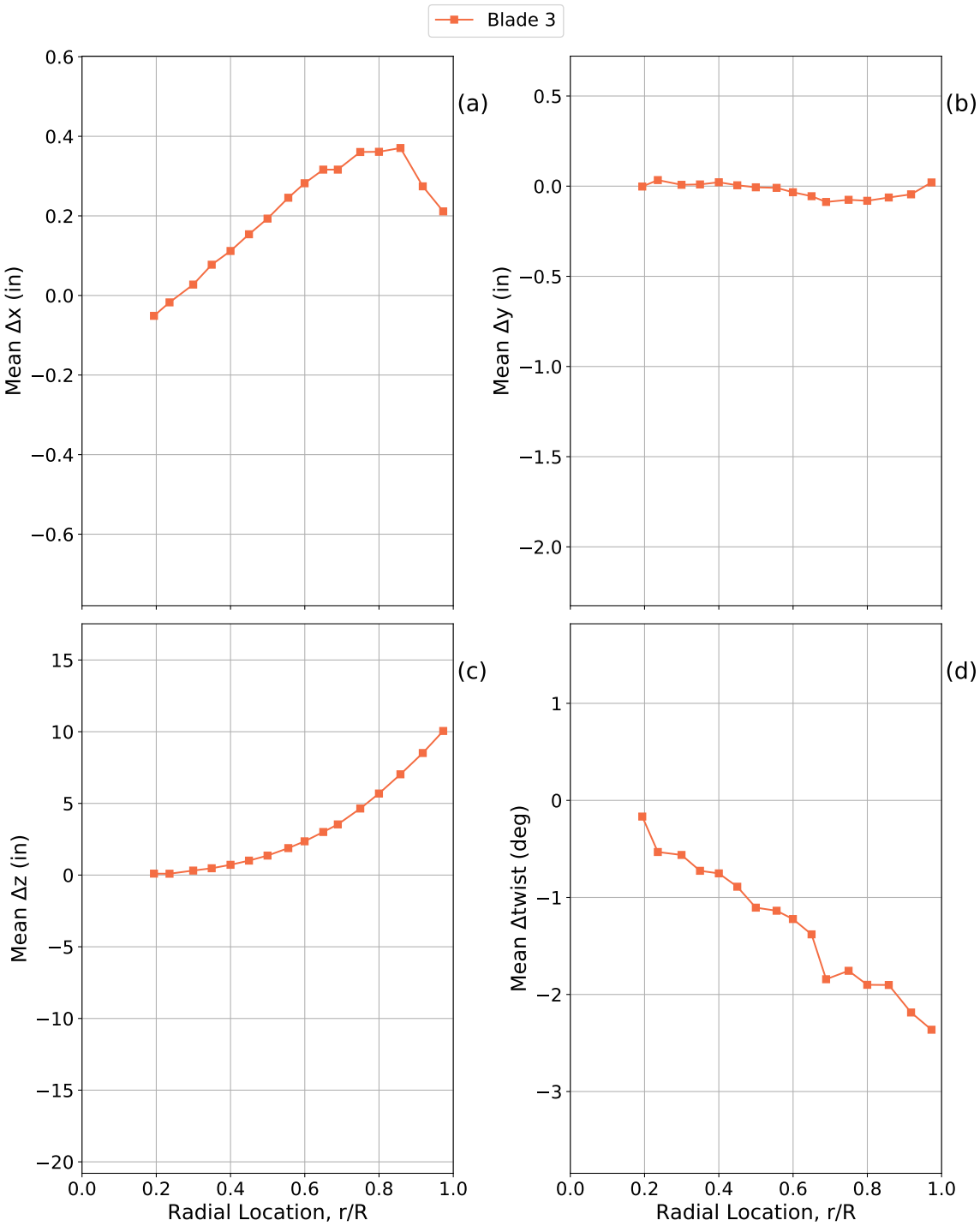


Figure 3.15-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0512	0.0035	-0.0021	0.0014	0.1017	0.0104	-0.1667	0.0382
3	240.12	0.2357	-0.0174	0.0022	0.0337	0.0022	0.0948	0.0146	-0.5319	0.0768
3	240.12	0.2995	0.0274	0.0028	0.0075	0.0062	0.3152	0.0268	-0.5623	0.0985
3	240.12	0.3493	0.0773	0.0027	0.0096	0.0126	0.4753	0.0425	-0.7255	0.0685
3	240.12	0.4000	0.1118	0.0030	0.0216	0.0196	0.7171	0.0595	-0.7523	0.0837
3	240.12	0.4497	0.1538	0.0040	0.0049	0.0277	1.0094	0.0735	-0.8896	0.0978
3	240.12	0.4997	0.1932	0.0041	-0.0064	0.0363	1.3601	0.0917	-1.1053	0.0863
3	240.12	0.5556	0.2456	0.0057	-0.0094	0.0483	1.8807	0.1146	-1.1370	0.0946
3	240.12	0.5995	0.2820	0.0063	-0.0338	0.0581	2.3546	0.1282	-1.2226	0.0898
3	240.12	0.6498	0.3163	0.0072	-0.0557	0.0711	3.0055	0.1460	-1.3804	0.1134
3	240.12	0.6890	0.3163	0.0081	-0.0876	0.0802	3.5352	0.1575	-1.8429	0.1126
3	240.12	0.7495	0.3606	0.0097	-0.0756	0.0977	4.6416	0.1821	-1.7559	0.1068
3	240.12	0.7998	0.3611	0.0115	-0.0811	0.1123	5.6870	0.2035	-1.9005	0.0949
3	240.12	0.8577	0.3706	0.0131	-0.0629	0.1295	7.0283	0.2271	-1.9021	0.1008
3	240.12	0.9178	0.2743	0.0150	-0.0454	0.1476	8.5127	0.2474	-2.1857	0.0932
3	240.12	0.9729	0.2113	0.0204	0.0206	0.1651	10.0509	0.2646	-2.3633	0.1038

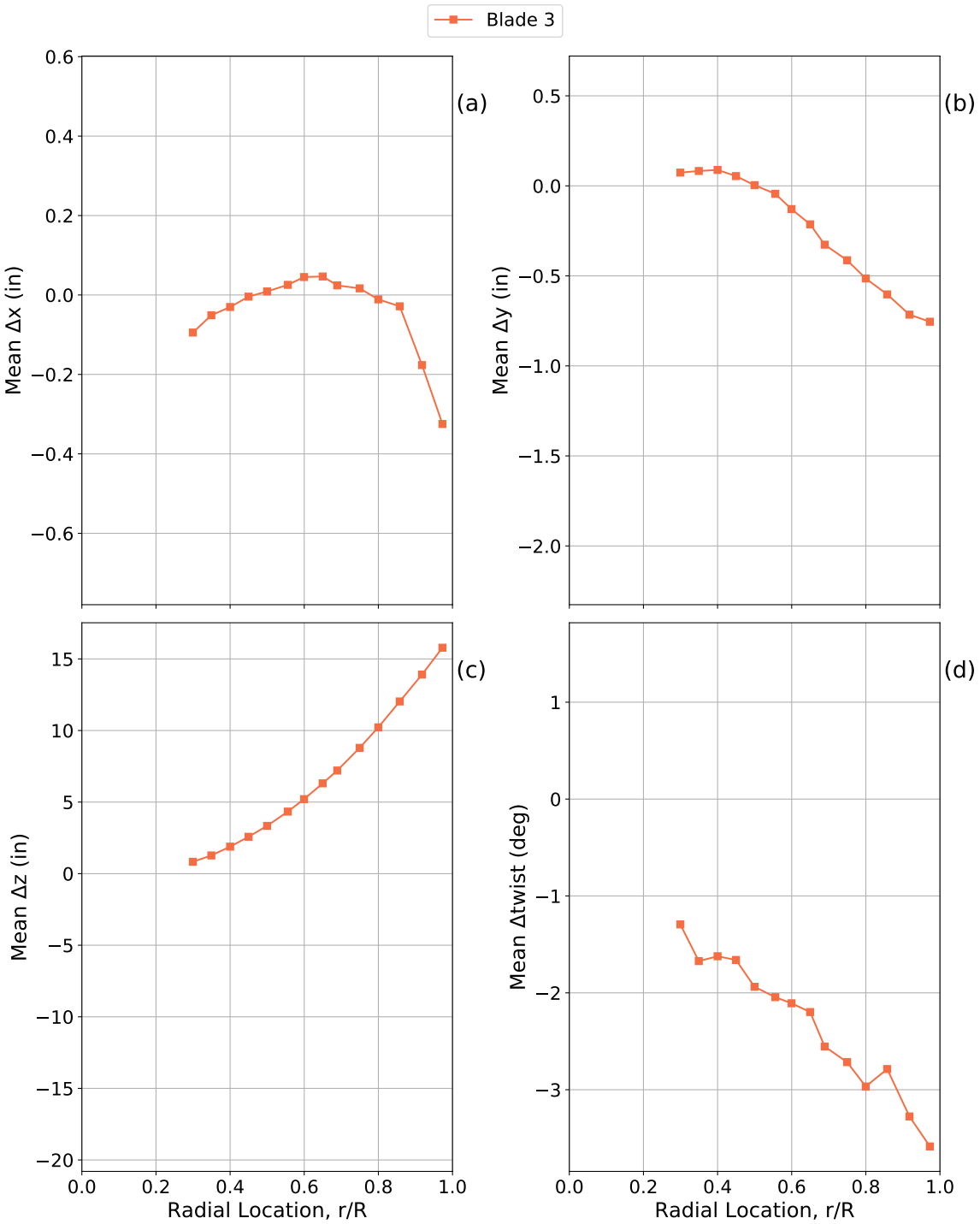


Figure 3.15-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.0946	0.0201	0.0736	0.0174	0.8274	0.1579	-1.2937	0.4165
3	254.88	0.3493	-0.0510	0.0179	0.0825	0.0258	1.2737	0.2360	-1.6722	0.5427
3	254.88	0.4000	-0.0303	0.0241	0.0885	0.0393	1.8865	0.3424	-1.6222	0.5202
3	254.88	0.4497	-0.0042	0.0285	0.0542	0.0510	2.5757	0.4418	-1.6606	0.5102
3	254.88	0.4997	0.0089	0.0336	0.0038	0.0638	3.3369	0.5390	-1.9374	0.5121
3	254.88	0.5556	0.0255	0.0405	-0.0441	0.0798	4.3349	0.6461	-2.0444	0.5157
3	254.88	0.5995	0.0452	0.0464	-0.1289	0.0926	5.2060	0.7318	-2.1075	0.5051
3	254.88	0.6498	0.0466	0.0537	-0.2137	0.1087	6.3095	0.8273	-2.1980	0.5221
3	254.88	0.6890	0.0242	0.0598	-0.3267	0.1208	7.2041	0.9051	-2.5542	0.5123
3	254.88	0.7495	0.0167	0.0702	-0.4130	0.1414	8.7885	1.0219	-2.7151	0.5151
3	254.88	0.7998	-0.0111	0.0793	-0.5145	0.1593	10.2210	1.1207	-2.9666	0.5142
3	254.88	0.8577	-0.0285	0.0909	-0.6028	0.1807	12.0296	1.2356	-2.7865	0.5103
3	254.88	0.9178	-0.1765	0.1040	-0.7154	0.2036	13.9094	1.3508	-3.2758	0.5198
3	254.88	0.9729	-0.3248	0.1213	-0.7546	0.2249	15.7850	1.4561	-3.5853	0.5238

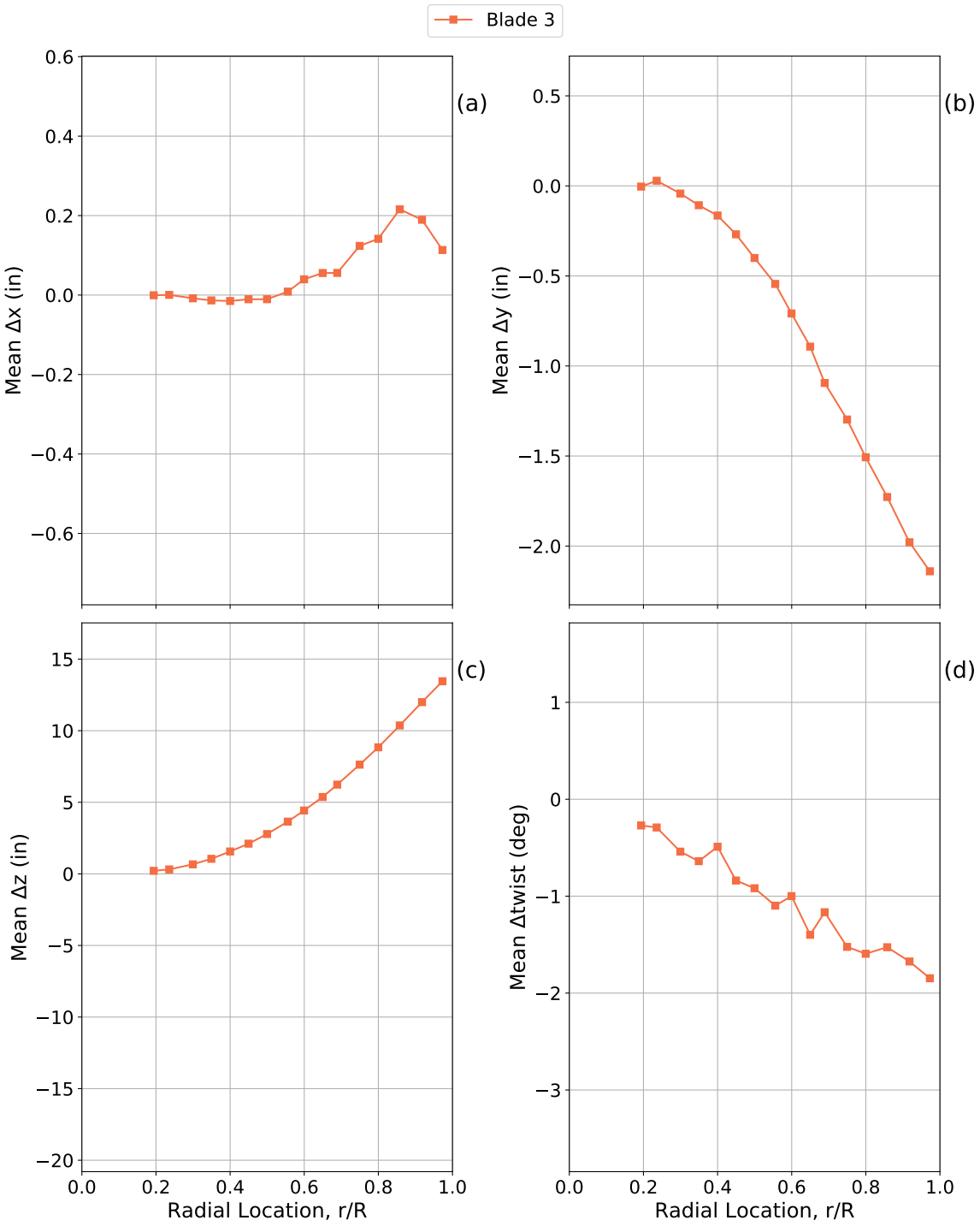


Figure 3.15-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0005	0.0030	-0.0038	0.0013	0.2096	0.0087	-0.2702	0.0248
3	260.16	0.2357	0.0004	0.0025	0.0287	0.0023	0.3109	0.0111	-0.2911	0.0643
3	260.16	0.2995	-0.0082	0.0011	-0.0424	0.0050	0.6656	0.0230	-0.5402	0.0670
3	260.16	0.3493	-0.0135	0.0036	-0.1075	0.0093	1.0504	0.0352	-0.6390	0.1116
3	260.16	0.4000	-0.0150	0.0042	-0.1647	0.0157	1.5631	0.0509	-0.4898	0.0713
3	260.16	0.4497	-0.0106	0.0044	-0.2689	0.0181	2.1090	0.0626	-0.8385	0.0889
3	260.16	0.4997	-0.0105	0.0052	-0.4004	0.0212	2.7810	0.0802	-0.9179	0.1008
3	260.16	0.5556	0.0086	0.0068	-0.5445	0.0259	3.6484	0.0996	-1.0976	0.0922
3	260.16	0.5995	0.0396	0.0081	-0.7084	0.0284	4.4248	0.1100	-0.9993	0.0719
3	260.16	0.6498	0.0555	0.0101	-0.8924	0.0329	5.3710	0.1273	-1.3984	0.0864
3	260.16	0.6890	0.0557	0.0111	-1.0943	0.0353	6.2337	0.1344	-1.1659	0.1089
3	260.16	0.7495	0.1237	0.0140	-1.2972	0.0415	7.6272	0.1465	-1.5233	0.0978
3	260.16	0.7998	0.1416	0.0161	-1.5070	0.0453	8.8380	0.1634	-1.5941	0.1124
3	260.16	0.8577	0.2157	0.0189	-1.7276	0.0507	10.3654	0.1866	-1.5265	0.0869
3	260.16	0.9178	0.1894	0.0229	-1.9790	0.0559	11.9922	0.2205	-1.6741	0.1336
3	260.16	0.9729	0.1134	0.0282	-2.1402	0.0623	13.4514	0.2465	-1.8472	0.1080

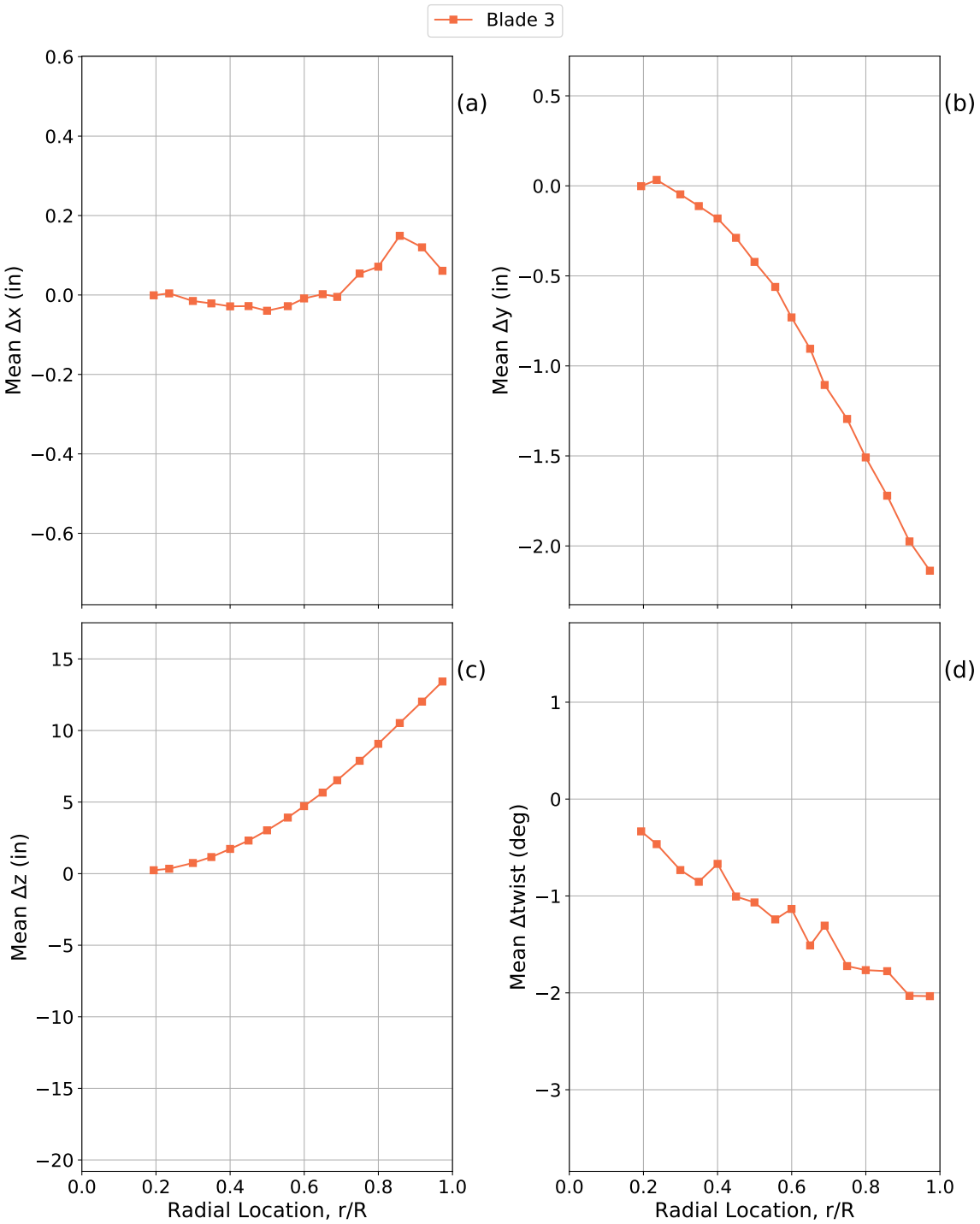


Figure 3.15-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0008	0.0044	-0.0017	0.0014	0.2374	0.0103	-0.3334	0.0597
3	265.08	0.2357	0.0040	0.0016	0.0329	0.0020	0.3424	0.0184	-0.4651	0.0929
3	265.08	0.2995	-0.0151	0.0021	-0.0472	0.0044	0.7447	0.0377	-0.7327	0.1303
3	265.08	0.3493	-0.0212	0.0021	-0.1124	0.0056	1.1590	0.0470	-0.8538	0.1948
3	265.08	0.4000	-0.0286	0.0034	-0.1812	0.0115	1.7269	0.0795	-0.6687	0.1427
3	265.08	0.4497	-0.0280	0.0037	-0.2887	0.0125	2.3124	0.0951	-1.0056	0.1448
3	265.08	0.4997	-0.0397	0.0052	-0.4225	0.0172	3.0260	0.1192	-1.0668	0.1374
3	265.08	0.5556	-0.0282	0.0072	-0.5614	0.0212	3.9170	0.1490	-1.2417	0.1159
3	265.08	0.5995	-0.0087	0.0084	-0.7308	0.0251	4.7166	0.1702	-1.1338	0.1327
3	265.08	0.6498	0.0020	0.0109	-0.9049	0.0299	5.6628	0.2022	-1.5107	0.1173
3	265.08	0.6890	-0.0048	0.0132	-1.1060	0.0336	6.5244	0.2245	-1.3063	0.1238
3	265.08	0.7495	0.0540	0.0168	-1.2947	0.0415	7.8839	0.2593	-1.7237	0.1451
3	265.08	0.7998	0.0712	0.0189	-1.5086	0.0474	9.0713	0.2861	-1.7654	0.1403
3	265.08	0.8577	0.1490	0.0215	-1.7210	0.0551	10.5208	0.3053	-1.7762	0.1360
3	265.08	0.9178	0.1200	0.0246	-1.9748	0.0656	12.0179	0.3387	-2.0307	0.1185
3	265.08	0.9729	0.0609	0.0290	-2.1375	0.0723	13.4229	0.3589	-2.0339	0.1299

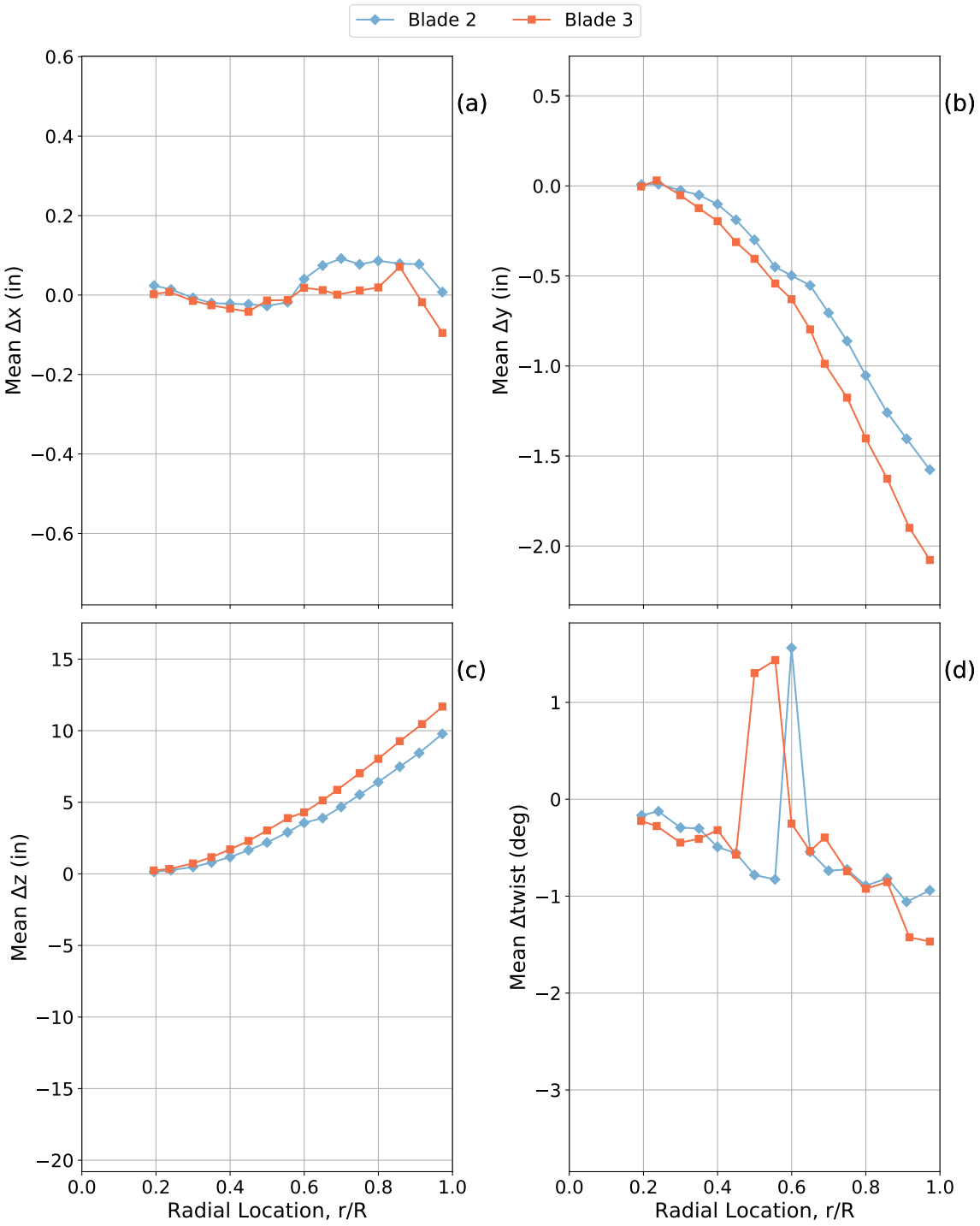


Figure 3.15-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0237	0.0028	0.0075	0.0014	0.1435	0.0068	-0.1662	0.0689
2	270.35	0.2405	0.0141	0.0036	0.0097	0.0031	0.2574	0.0162	-0.1248	0.0825
2	270.35	0.2999	-0.0071	0.0016	-0.0252	0.0032	0.4788	0.0201	-0.2928	0.1429
2	270.35	0.3498	-0.0201	0.0019	-0.0505	0.0058	0.7935	0.0349	-0.3011	0.1641
2	270.35	0.3998	-0.0219	0.0046	-0.1014	0.0084	1.1726	0.0517	-0.4930	0.1427
2	270.35	0.4496	-0.0232	0.0030	-0.1884	0.0090	1.6535	0.0606	-0.5563	0.1344
2	270.35	0.4995	-0.0274	0.0030	-0.2994	0.0116	2.1881	0.0776	-0.7816	0.0981
2	270.35	0.5551	-0.0181	0.0039	-0.4499	0.0154	2.9032	0.0971	-0.8266	0.0994
2	270.35	0.5996	0.0402	0.0066	-0.4981	0.0192	3.5628	0.1204	1.5625	0.1447
2	270.35	0.6497	0.0744	0.0082	-0.5528	0.0238	3.8960	0.1495	-0.5433	0.1717
2	270.35	0.6996	0.0919	0.0096	-0.7051	0.0289	4.6700	0.1934	-0.7372	0.1156
2	270.35	0.7495	0.0773	0.0118	-0.8614	0.0342	5.5294	0.2304	-0.7240	0.1346
2	270.35	0.7996	0.0862	0.0141	-1.0528	0.0384	6.4063	0.2775	-0.8923	0.1300
2	270.35	0.8578	0.0789	0.0182	-1.2588	0.0443	7.4799	0.3274	-0.8156	0.1397
2	270.35	0.9100	0.0776	0.0213	-1.4042	0.0500	8.4382	0.3745	-1.0582	0.1159
2	270.35	0.9727	0.0075	0.0265	-1.5760	0.0557	9.7785	0.4228	-0.9399	0.1305
3	270	0.1938	0.0022	0.0027	-0.0033	0.0013	0.2366	0.0053	-0.2242	0.0467
3	270	0.2357	0.0080	0.0029	0.0301	0.0016	0.3386	0.0104	-0.2762	0.0512
3	270	0.2995	-0.0147	0.0019	-0.0519	0.0024	0.7295	0.0245	-0.4472	0.0931
3	270	0.3493	-0.0256	0.0039	-0.1236	0.0071	1.1597	0.0258	-0.4085	0.1104
3	270	0.4000	-0.0343	0.0059	-0.1958	0.0075	1.7085	0.0504	-0.3189	0.1193
3	270	0.4497	-0.0417	0.0053	-0.3121	0.0099	2.3007	0.0625	-0.5717	0.1090
3	270	0.4997	-0.0136	0.0059	-0.4049	0.0161	3.0306	0.0688	1.3026	0.0709
3	270	0.5556	-0.0125	0.0054	-0.5423	0.0198	3.8927	0.0773	1.4359	0.0821
3	270	0.5995	0.0183	0.0086	-0.6292	0.0279	4.2947	0.0888	-0.2514	0.1367
3	270	0.6498	0.0125	0.0072	-0.7967	0.0337	5.1320	0.0900	-0.5342	0.0943
3	270	0.6890	0.0011	0.0082	-0.9876	0.0403	5.8673	0.0931	-0.3947	0.1259
3	270	0.7495	0.0115	0.0087	-1.1761	0.0491	7.0269	0.1024	-0.7428	0.0880
3	270	0.7998	0.0191	0.0089	-1.4021	0.0591	8.0353	0.1126	-0.9233	0.1018
3	270	0.8577	0.0712	0.0094	-1.6263	0.0703	9.2652	0.1218	-0.8546	0.0923
3	270	0.9178	-0.0180	0.0102	-1.8989	0.0830	10.4588	0.1414	-1.4245	0.1070
3	270	0.9729	-0.0954	0.0133	-2.0773	0.0944	11.6815	0.1631	-1.4676	0.0945

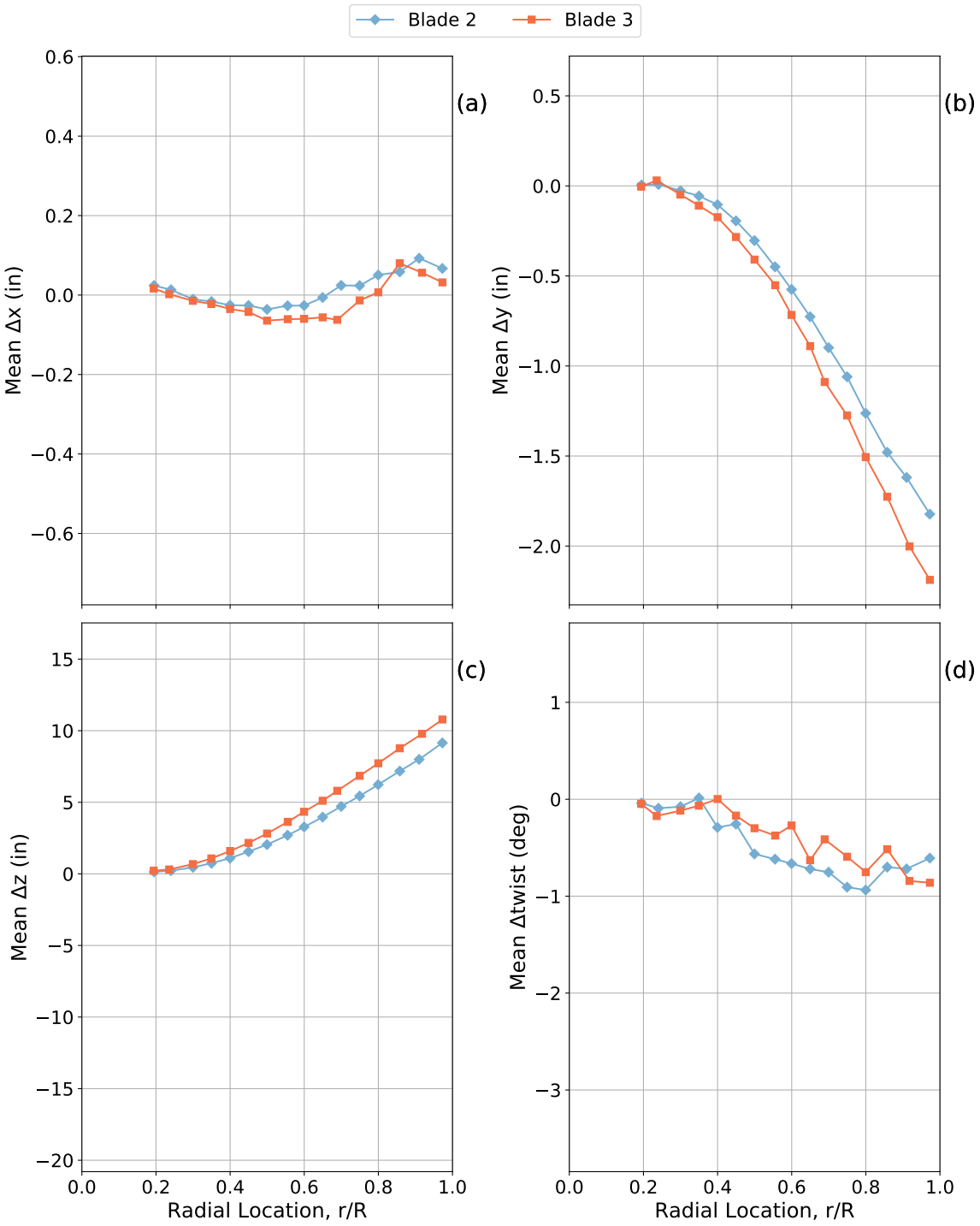


Figure 3.15-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0239	0.0031	0.0051	0.0009	0.1408	0.0078	-0.0399	0.0678
2	274.92	0.2405	0.0133	0.0015	0.0080	0.0019	0.2244	0.0135	-0.0927	0.0944
2	274.92	0.2999	-0.0105	0.0028	-0.0270	0.0036	0.4553	0.0235	-0.0763	0.1543
2	274.92	0.3498	-0.0164	0.0033	-0.0560	0.0070	0.7427	0.0376	0.0134	0.1292
2	274.92	0.3998	-0.0255	0.0049	-0.1044	0.0113	1.0937	0.0542	-0.2907	0.1651
2	274.92	0.4496	-0.0263	0.0045	-0.1943	0.0160	1.5525	0.0697	-0.2559	0.1160
2	274.92	0.4995	-0.0360	0.0046	-0.3037	0.0213	2.0444	0.0859	-0.5642	0.1556
2	274.92	0.5551	-0.0269	0.0056	-0.4493	0.0272	2.6972	0.1054	-0.6180	0.1263
2	274.92	0.5996	-0.0264	0.0072	-0.5750	0.0330	3.2781	0.1207	-0.6635	0.1436
2	274.92	0.6497	-0.0061	0.0079	-0.7263	0.0396	3.9654	0.1394	-0.7194	0.1228
2	274.92	0.6996	0.0243	0.0090	-0.8983	0.0471	4.7097	0.1554	-0.7527	0.1219
2	274.92	0.7495	0.0237	0.0108	-1.0599	0.0548	5.4365	0.1748	-0.9070	0.1745
2	274.92	0.7996	0.0504	0.0122	-1.2628	0.0617	6.2317	0.1933	-0.9367	0.1514
2	274.92	0.8578	0.0583	0.0152	-1.4794	0.0708	7.1791	0.2204	-0.7003	0.1495
2	274.92	0.9100	0.0927	0.0168	-1.6190	0.0794	7.9937	0.2406	-0.7185	0.1797
2	274.92	0.9727	0.0669	0.0216	-1.8227	0.0895	9.1462	0.2723	-0.6075	0.1674
3	274.92	0.1938	0.0166	0.0026	-0.0040	0.0015	0.2185	0.0106	-0.0475	0.0428
3	274.92	0.2357	0.0022	0.0018	0.0302	0.0024	0.3051	0.0158	-0.1726	0.1033
3	274.92	0.2995	-0.0145	0.0020	-0.0481	0.0056	0.6817	0.0321	-0.1174	0.1191
3	274.92	0.3493	-0.0226	0.0058	-0.1090	0.0108	1.0774	0.0464	-0.0662	0.1383
3	274.92	0.4000	-0.0351	0.0037	-0.1739	0.0175	1.5961	0.0709	0.0024	0.0958
3	274.92	0.4497	-0.0425	0.0078	-0.2839	0.0239	2.1623	0.0872	-0.1686	0.1169
3	274.92	0.4997	-0.0644	0.0062	-0.4093	0.0322	2.8177	0.1114	-0.2989	0.1034
3	274.92	0.5556	-0.0607	0.0084	-0.5514	0.0432	3.6315	0.1397	-0.3745	0.1050
3	274.92	0.5995	-0.0599	0.0098	-0.7164	0.0524	4.3364	0.1662	-0.2703	0.1149
3	274.92	0.6498	-0.0562	0.0116	-0.8898	0.0638	5.1075	0.1965	-0.6291	0.1098
3	274.92	0.6890	-0.0624	0.0141	-1.0889	0.0738	5.8027	0.2213	-0.4133	0.1154
3	274.92	0.7495	-0.0134	0.0167	-1.2751	0.0910	6.8474	0.2536	-0.5928	0.1020
3	274.92	0.7998	0.0068	0.0200	-1.5060	0.1051	7.7223	0.2792	-0.7521	0.1160
3	274.92	0.8577	0.0800	0.0231	-1.7259	0.1225	8.7701	0.3034	-0.5158	0.1205
3	274.92	0.9178	0.0562	0.0276	-2.0022	0.1396	9.7812	0.3231	-0.8427	0.1424
3	274.92	0.9729	0.0319	0.0331	-2.1878	0.1552	10.7804	0.3524	-0.8618	0.1333

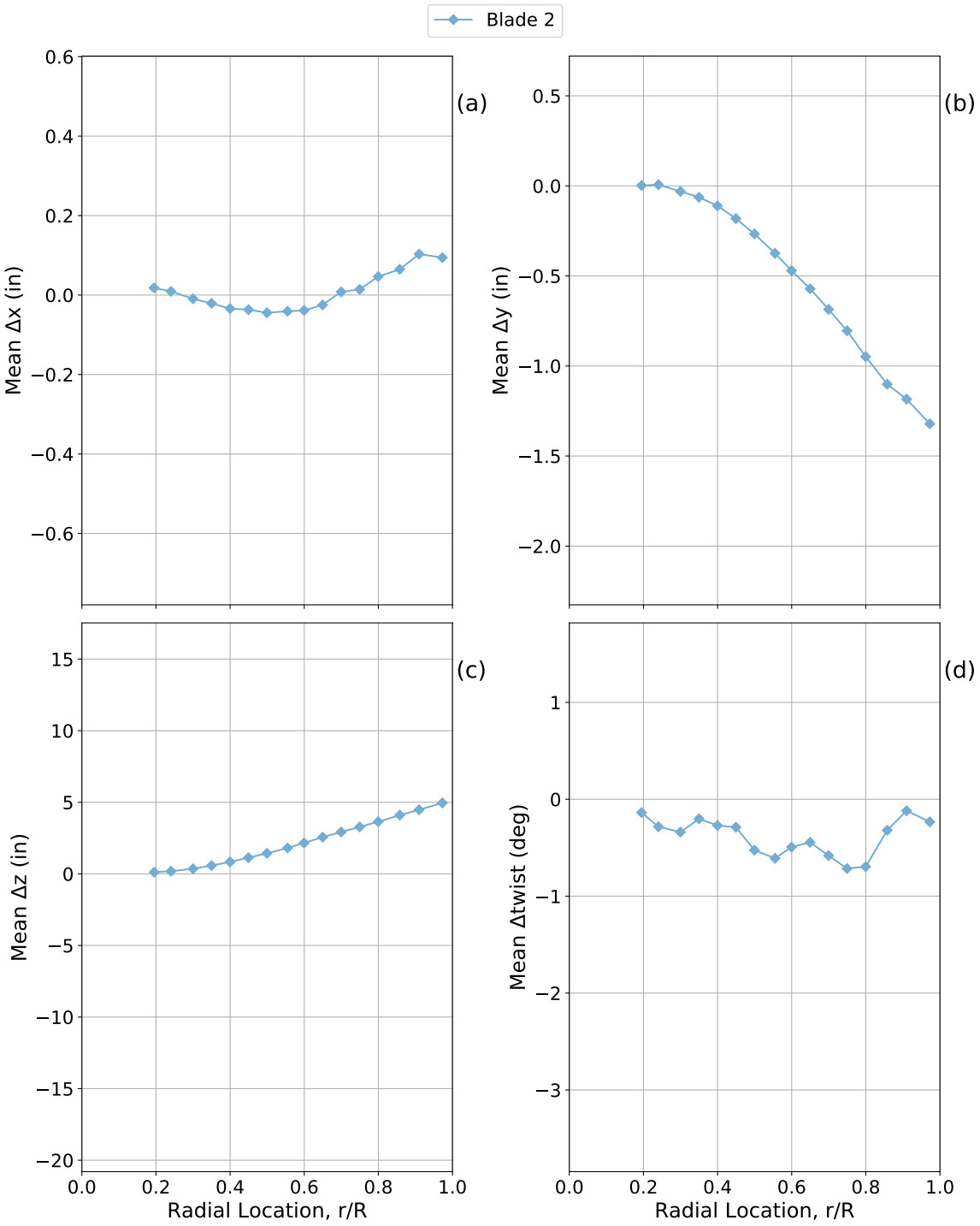


Figure 3.15-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0179	0.0019	0.0022	0.0010	0.1169	0.0067	-0.1370	0.0413
2	285.12	0.2405	0.0093	0.0029	0.0065	0.0012	0.1858	0.0140	-0.2837	0.0539
2	285.12	0.2999	-0.0095	0.0034	-0.0309	0.0023	0.3539	0.0222	-0.3386	0.0865
2	285.12	0.3498	-0.0208	0.0014	-0.0630	0.0047	0.5803	0.0374	-0.2010	0.0687
2	285.12	0.3998	-0.0341	0.0028	-0.1111	0.0060	0.8379	0.0555	-0.2706	0.0653
2	285.12	0.4496	-0.0369	0.0025	-0.1815	0.0092	1.1333	0.0717	-0.2884	0.0734
2	285.12	0.4995	-0.0445	0.0032	-0.2668	0.0127	1.4318	0.0924	-0.5258	0.0773
2	285.12	0.5551	-0.0408	0.0043	-0.3744	0.0179	1.8094	0.1198	-0.6090	0.0844
2	285.12	0.5996	-0.0387	0.0048	-0.4703	0.0217	2.1596	0.1376	-0.4934	0.0821
2	285.12	0.6497	-0.0247	0.0064	-0.5713	0.0275	2.5620	0.1608	-0.4448	0.0807
2	285.12	0.6996	0.0080	0.0073	-0.6859	0.0335	2.9239	0.1815	-0.5819	0.0948
2	285.12	0.7495	0.0142	0.0091	-0.8046	0.0413	3.2788	0.2080	-0.7151	0.1067
2	285.12	0.7996	0.0465	0.0105	-0.9481	0.0490	3.6437	0.2273	-0.6959	0.0843
2	285.12	0.8578	0.0648	0.0119	-1.1012	0.0581	4.1010	0.2571	-0.3203	0.0846
2	285.12	0.9100	0.1032	0.0128	-1.1841	0.0683	4.4773	0.2877	-0.1185	0.1100
2	285.12	0.9727	0.0942	0.0170	-1.3213	0.0788	4.9531	0.3230	-0.2328	0.0991

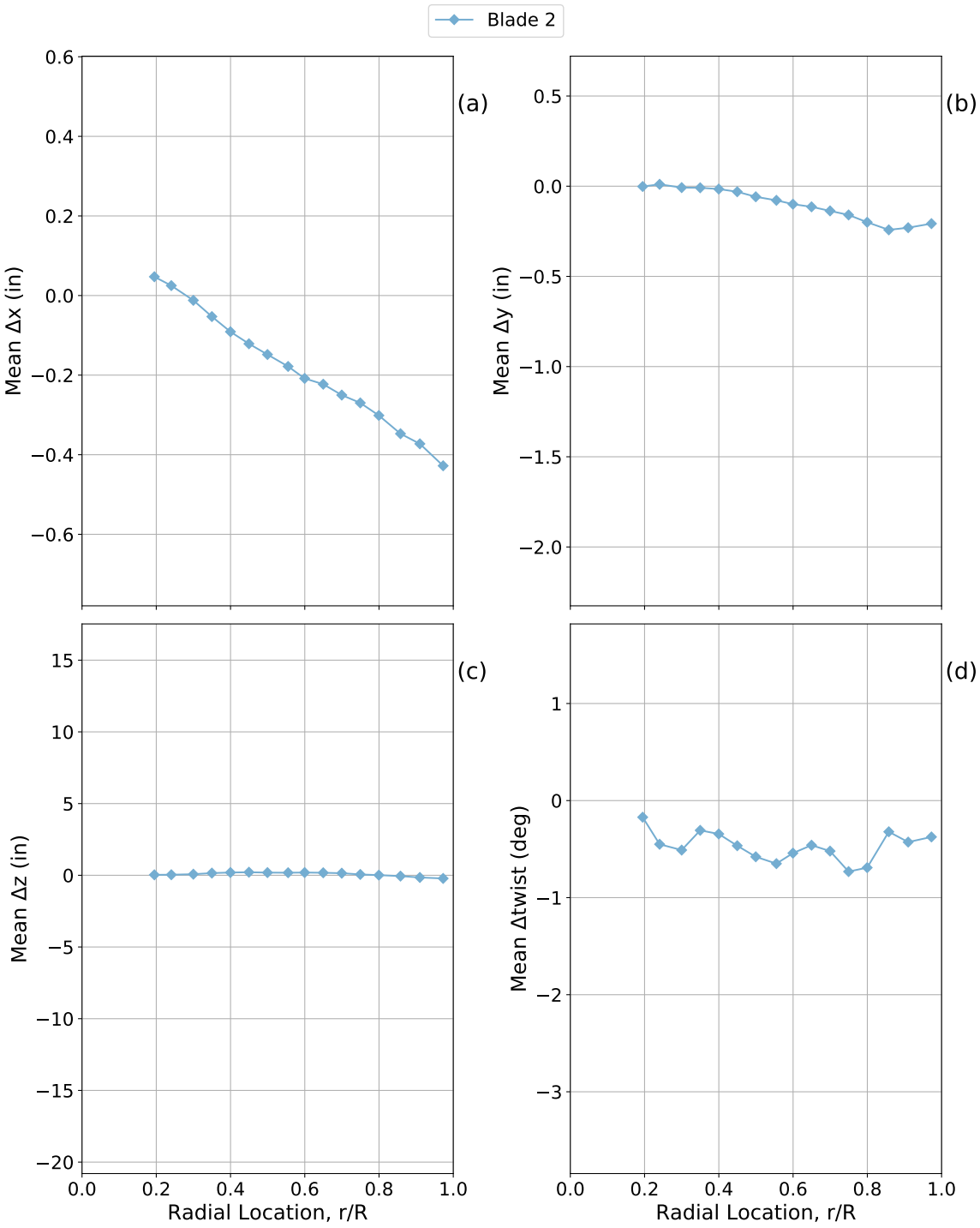


Figure 3.15-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0472	0.0017	-0.0017	0.0017	0.0320	0.0112	-0.1715	0.0893
2	299.88	0.2405	0.0249	0.0023	0.0104	0.0046	0.0386	0.0266	-0.4500	0.0549
2	299.88	0.2999	-0.0121	0.0034	-0.0078	0.0061	0.0750	0.0369	-0.5101	0.1438
2	299.88	0.3498	-0.0529	0.0029	-0.0087	0.0115	0.1523	0.0504	-0.3067	0.1736
2	299.88	0.3998	-0.0910	0.0031	-0.0158	0.0229	0.1926	0.0803	-0.3441	0.0993
2	299.88	0.4496	-0.1212	0.0035	-0.0308	0.0285	0.2132	0.1024	-0.4652	0.1039
2	299.88	0.4995	-0.1482	0.0054	-0.0587	0.0329	0.1869	0.1255	-0.5790	0.1256
2	299.88	0.5551	-0.1782	0.0046	-0.0784	0.0415	0.1793	0.1585	-0.6497	0.1123
2	299.88	0.5996	-0.2083	0.0056	-0.0996	0.0488	0.1914	0.1870	-0.5415	0.0993
2	299.88	0.6497	-0.2228	0.0067	-0.1143	0.0568	0.1757	0.2186	-0.4597	0.0911
2	299.88	0.6996	-0.2501	0.0066	-0.1369	0.0643	0.1454	0.2512	-0.5206	0.1238
2	299.88	0.7495	-0.2698	0.0070	-0.1593	0.0736	0.0593	0.2909	-0.7315	0.1128
2	299.88	0.7996	-0.3014	0.0086	-0.1998	0.0823	0.0102	0.3320	-0.6910	0.0905
2	299.88	0.8578	-0.3472	0.0101	-0.2420	0.0926	-0.0569	0.3793	-0.3213	0.1095
2	299.88	0.9100	-0.3726	0.0116	-0.2301	0.1012	-0.1516	0.4228	-0.4276	0.1146
2	299.88	0.9727	-0.4278	0.0135	-0.2075	0.1131	-0.2198	0.4739	-0.3748	0.1018

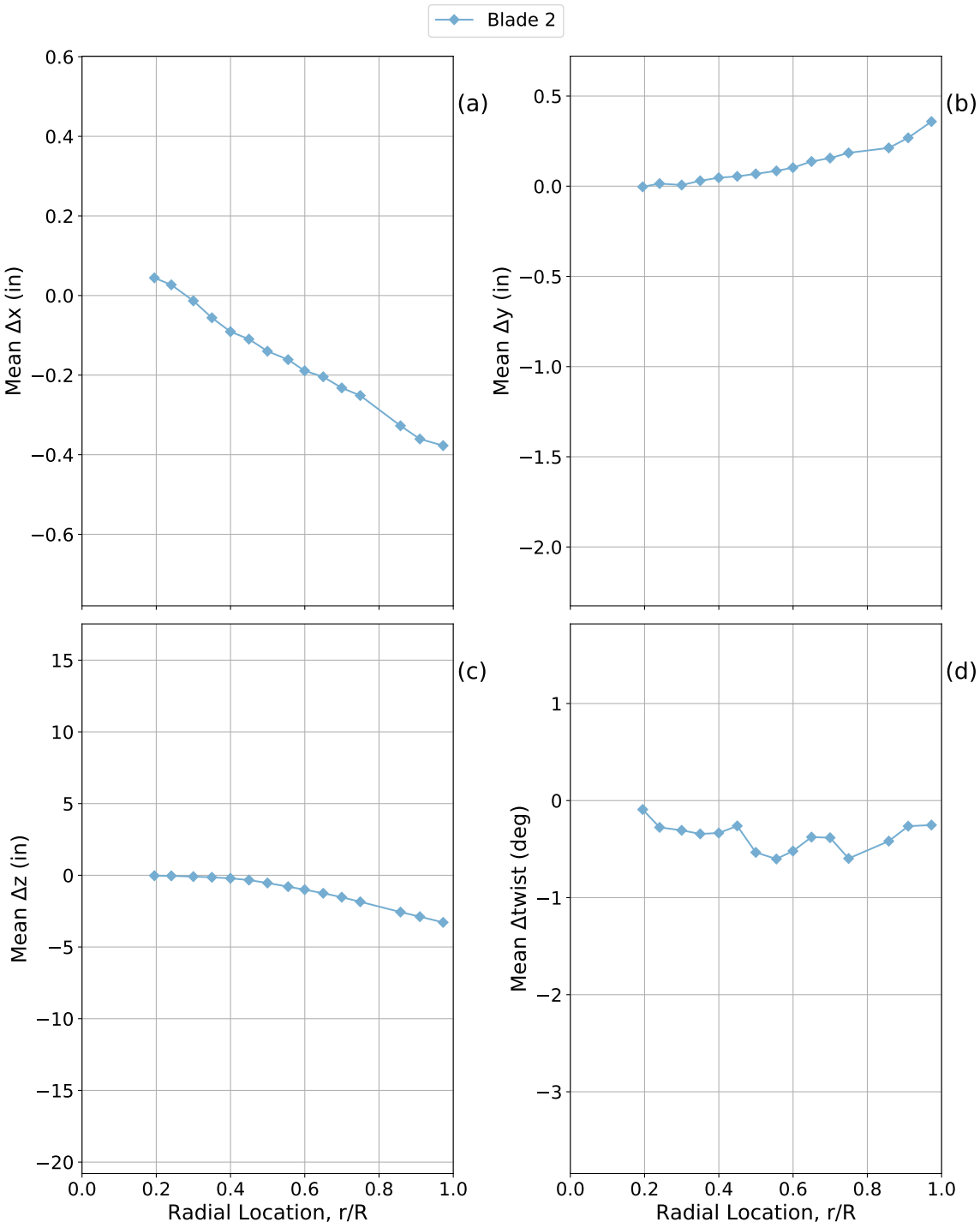


Figure 3.15-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0444	0.0023	-0.0035	0.0014	-0.0284	0.0072	-0.0920	0.0494
2	315	0.2405	0.0269	0.0047	0.0145	0.0037	-0.0407	0.0130	-0.2762	0.0654
2	315	0.2999	-0.0134	0.0041	0.0065	0.0055	-0.0923	0.0240	-0.3063	0.1061
2	315	0.3498	-0.0559	0.0030	0.0299	0.0099	-0.1406	0.0281	-0.3434	0.1004
2	315	0.3998	-0.0908	0.0034	0.0469	0.0168	-0.2117	0.0465	-0.3342	0.0813
2	315	0.4496	-0.1096	0.0047	0.0546	0.0239	-0.3322	0.0526	-0.2610	0.0969
2	315	0.4995	-0.1399	0.0033	0.0682	0.0316	-0.5368	0.0697	-0.5342	0.0691
2	315	0.5551	-0.1611	0.0038	0.0849	0.0406	-0.7946	0.0835	-0.6017	0.0515
2	315	0.5996	-0.1891	0.0046	0.1027	0.0496	-1.0018	0.0921	-0.5198	0.0906
2	315	0.6497	-0.2042	0.0049	0.1370	0.0603	-1.2538	0.1078	-0.3763	0.0696
2	315	0.6996	-0.2321	0.0059	0.1557	0.0717	-1.5282	0.1225	-0.3826	0.0721
2	315	0.7495	-0.2513	0.0064	0.1849	0.0828	-1.8484	0.1402	-0.5964	0.0497
2	315	0.8578	-0.3273	0.0080	0.2123	0.1079	-2.5642	0.1947	-0.4180	0.0561
2	315	0.9100	-0.3605	0.0091	0.2682	0.1195	-2.8866	0.2277	-0.2637	0.0660
2	315	0.9727	-0.3771	0.0100	0.3583	0.1324	-3.2840	0.2701	-0.2522	0.0645

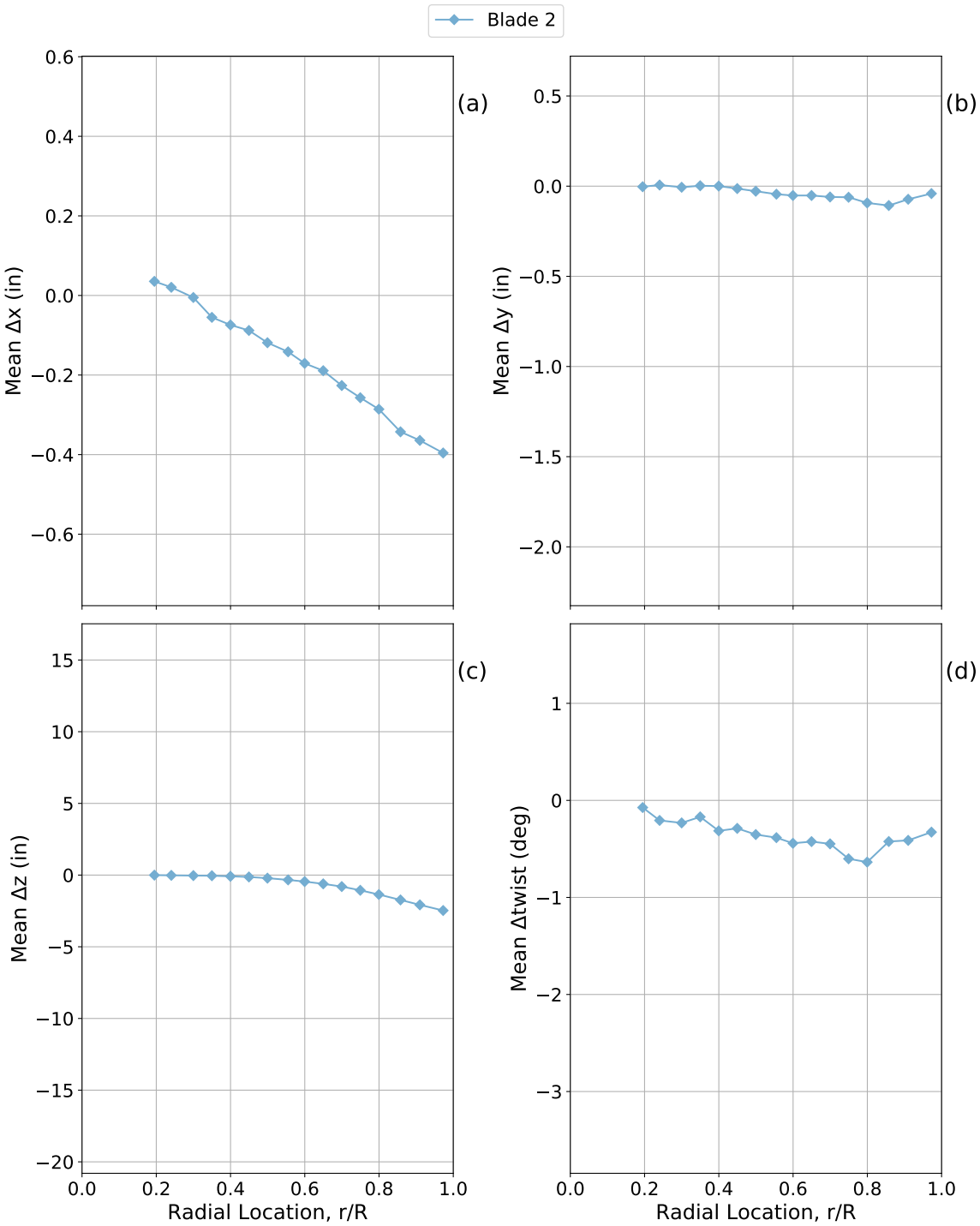


Figure 3.15-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0355	0.0036	-0.0031	0.0009	-0.0043	0.0072	-0.0737	0.0800
2	330.12	0.2405	0.0205	0.0018	0.0063	0.0020	-0.0187	0.0166	-0.2065	0.0891
2	330.12	0.2999	-0.0051	0.0022	-0.0061	0.0064	-0.0356	0.0235	-0.2321	0.1636
2	330.12	0.3498	-0.0550	0.0038	0.0022	0.0085	-0.0454	0.0427	-0.1699	0.1154
2	330.12	0.3998	-0.0741	0.0026	0.0005	0.0150	-0.0866	0.0637	-0.3137	0.1175
2	330.12	0.4496	-0.0880	0.0040	-0.0135	0.0188	-0.1317	0.0765	-0.2884	0.1567
2	330.12	0.4995	-0.1188	0.0037	-0.0280	0.0261	-0.2144	0.1016	-0.3521	0.1217
2	330.12	0.5551	-0.1416	0.0043	-0.0446	0.0351	-0.3359	0.1217	-0.3840	0.1408
2	330.12	0.5996	-0.1706	0.0058	-0.0518	0.0408	-0.4524	0.1416	-0.4419	0.1367
2	330.12	0.6497	-0.1891	0.0068	-0.0518	0.0513	-0.6120	0.1636	-0.4247	0.1515
2	330.12	0.6996	-0.2264	0.0072	-0.0600	0.0623	-0.8004	0.1904	-0.4479	0.1321
2	330.12	0.7495	-0.2570	0.0076	-0.0615	0.0742	-1.0613	0.2157	-0.6017	0.1485
2	330.12	0.7996	-0.2859	0.0082	-0.0930	0.0863	-1.3557	0.2441	-0.6359	0.1412
2	330.12	0.8578	-0.3427	0.0093	-0.1074	0.1021	-1.7329	0.2764	-0.4238	0.1377
2	330.12	0.9100	-0.3643	0.0097	-0.0727	0.1156	-2.0777	0.3070	-0.4122	0.1314
2	330.12	0.9727	-0.3959	0.0134	-0.0411	0.1329	-2.4712	0.3487	-0.3270	0.1363

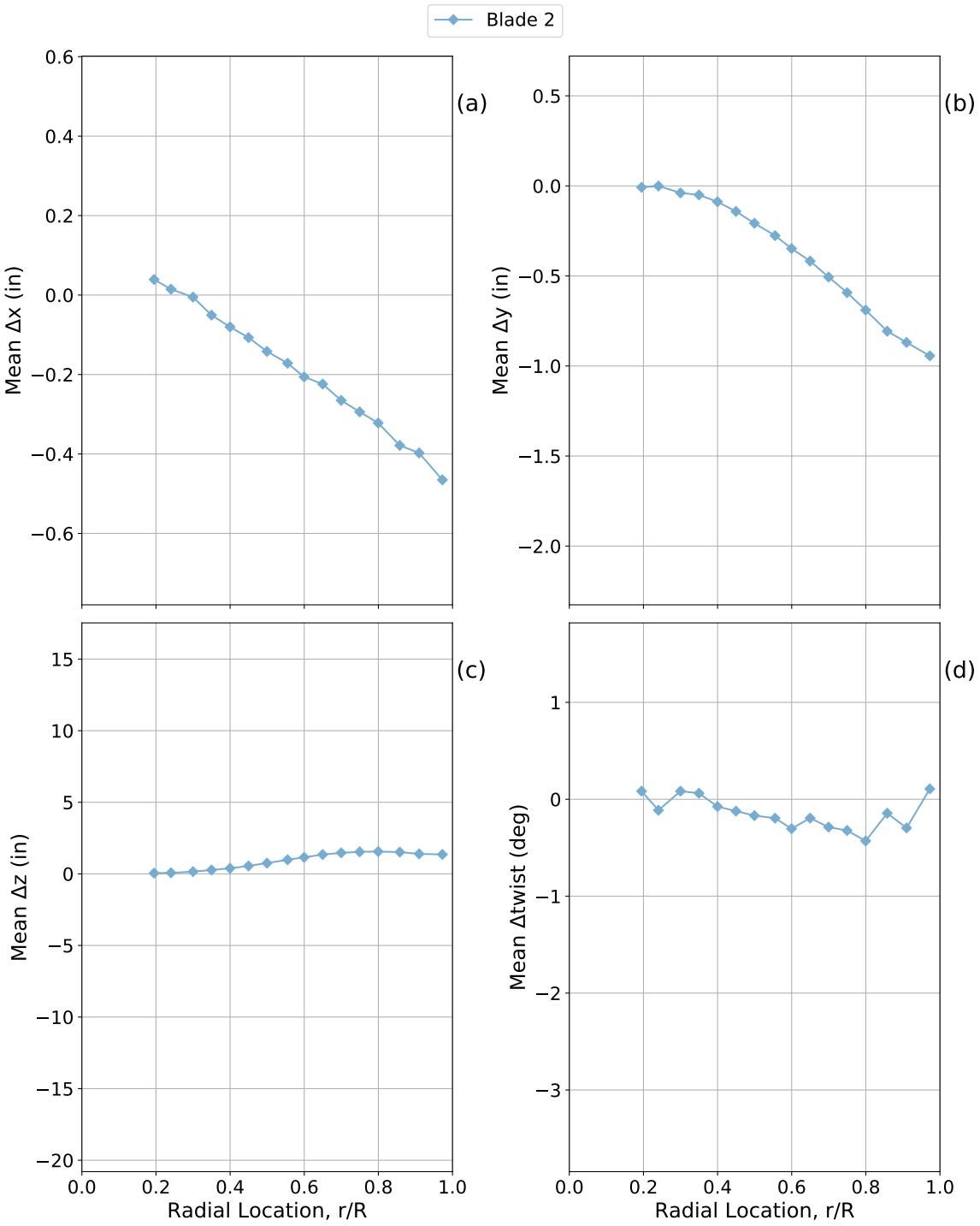


Figure 3.15-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0391	0.0039	-0.0079	0.0012	0.0490	0.0074	0.0838	0.0549
2	344.88	0.2405	0.0147	0.0022	-0.0006	0.0041	0.0732	0.0135	-0.1132	0.0684
2	344.88	0.2999	-0.0053	0.0030	-0.0389	0.0055	0.1532	0.0223	0.0833	0.1161
2	344.88	0.3498	-0.0506	0.0032	-0.0501	0.0129	0.2715	0.0390	0.0623	0.1183
2	344.88	0.3998	-0.0802	0.0029	-0.0881	0.0189	0.3866	0.0574	-0.0750	0.0806
2	344.88	0.4496	-0.1071	0.0041	-0.1418	0.0221	0.5540	0.0718	-0.1221	0.1008
2	344.88	0.4995	-0.1419	0.0048	-0.2074	0.0286	0.7494	0.0903	-0.1684	0.0880
2	344.88	0.5551	-0.1717	0.0054	-0.2760	0.0340	0.9856	0.1104	-0.1953	0.0833
2	344.88	0.5996	-0.2060	0.0058	-0.3477	0.0388	1.1525	0.1254	-0.3040	0.0864
2	344.88	0.6497	-0.2240	0.0066	-0.4176	0.0447	1.3488	0.1459	-0.1943	0.0747
2	344.88	0.6996	-0.2651	0.0069	-0.5062	0.0502	1.4699	0.1635	-0.2873	0.0984
2	344.88	0.7495	-0.2940	0.0075	-0.5927	0.0574	1.5362	0.1858	-0.3224	0.0829
2	344.88	0.7996	-0.3221	0.0077	-0.6896	0.0638	1.5597	0.2094	-0.4301	0.0934
2	344.88	0.8578	-0.3784	0.0084	-0.8067	0.0716	1.5205	0.2417	-0.1440	0.0973
2	344.88	0.9100	-0.3974	0.0087	-0.8694	0.0795	1.3965	0.2716	-0.2963	0.1011
2	344.88	0.9727	-0.4652	0.0111	-0.9437	0.0883	1.3550	0.3072	0.1072	0.1004

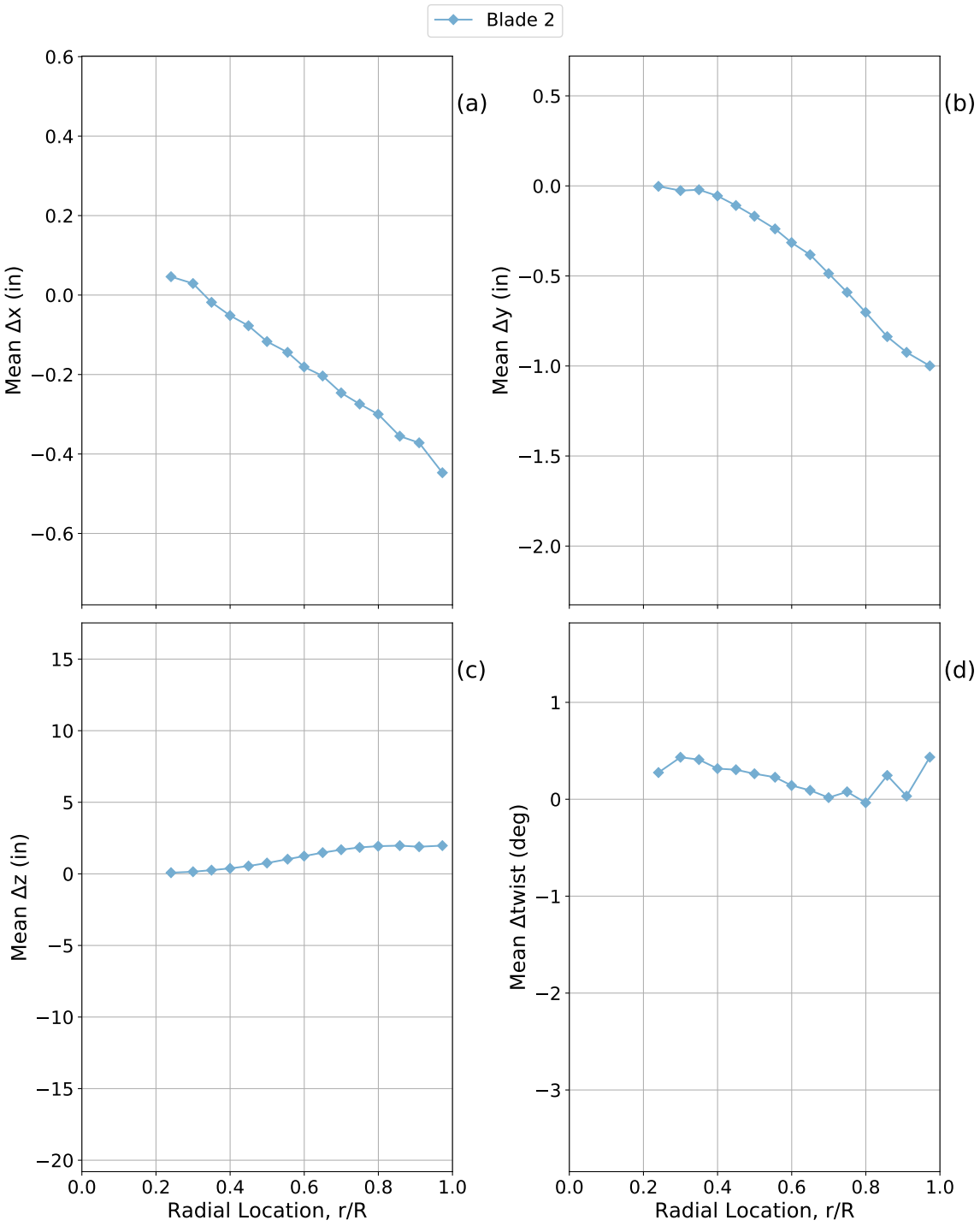


Figure 3.15-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.082$, $\mu = 0.37$, $\alpha = -8.4°$ NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0462	0.0049	-0.0025	0.0036	0.0807	0.0112	0.2756	0.0936
2	350.16	0.2999	0.0291	0.0031	-0.0261	0.0097	0.1480	0.0194	0.4335	0.1437
2	350.16	0.3498	-0.0183	0.0039	-0.0214	0.0162	0.2587	0.0295	0.4093	0.1424
2	350.16	0.3998	-0.0516	0.0045	-0.0556	0.0266	0.3809	0.0442	0.3162	0.1295
2	350.16	0.4496	-0.0773	0.0049	-0.1088	0.0342	0.5479	0.0560	0.3049	0.1301
2	350.16	0.4995	-0.1170	0.0071	-0.1684	0.0410	0.7566	0.0698	0.2634	0.1246
2	350.16	0.5551	-0.1442	0.0073	-0.2388	0.0505	1.0244	0.0912	0.2273	0.1224
2	350.16	0.5996	-0.1809	0.0079	-0.3148	0.0570	1.2389	0.1065	0.1421	0.1115
2	350.16	0.6497	-0.2037	0.0079	-0.3824	0.0650	1.4821	0.1240	0.0922	0.1097
2	350.16	0.6996	-0.2462	0.0087	-0.4868	0.0735	1.6857	0.1409	0.0170	0.1270
2	350.16	0.7495	-0.2743	0.0096	-0.5908	0.0816	1.8466	0.1555	0.0773	0.1178
2	350.16	0.7996	-0.3000	0.0109	-0.7022	0.0905	1.9336	0.1708	-0.0360	0.1196
2	350.16	0.8578	-0.3552	0.0112	-0.8372	0.0999	1.9712	0.1936	0.2461	0.1231
2	350.16	0.9100	-0.3719	0.0122	-0.9243	0.1100	1.8945	0.2175	0.0323	0.1183
2	350.16	0.9727	-0.4472	0.0147	-0.9994	0.1220	1.9716	0.2496	0.4345	0.1317

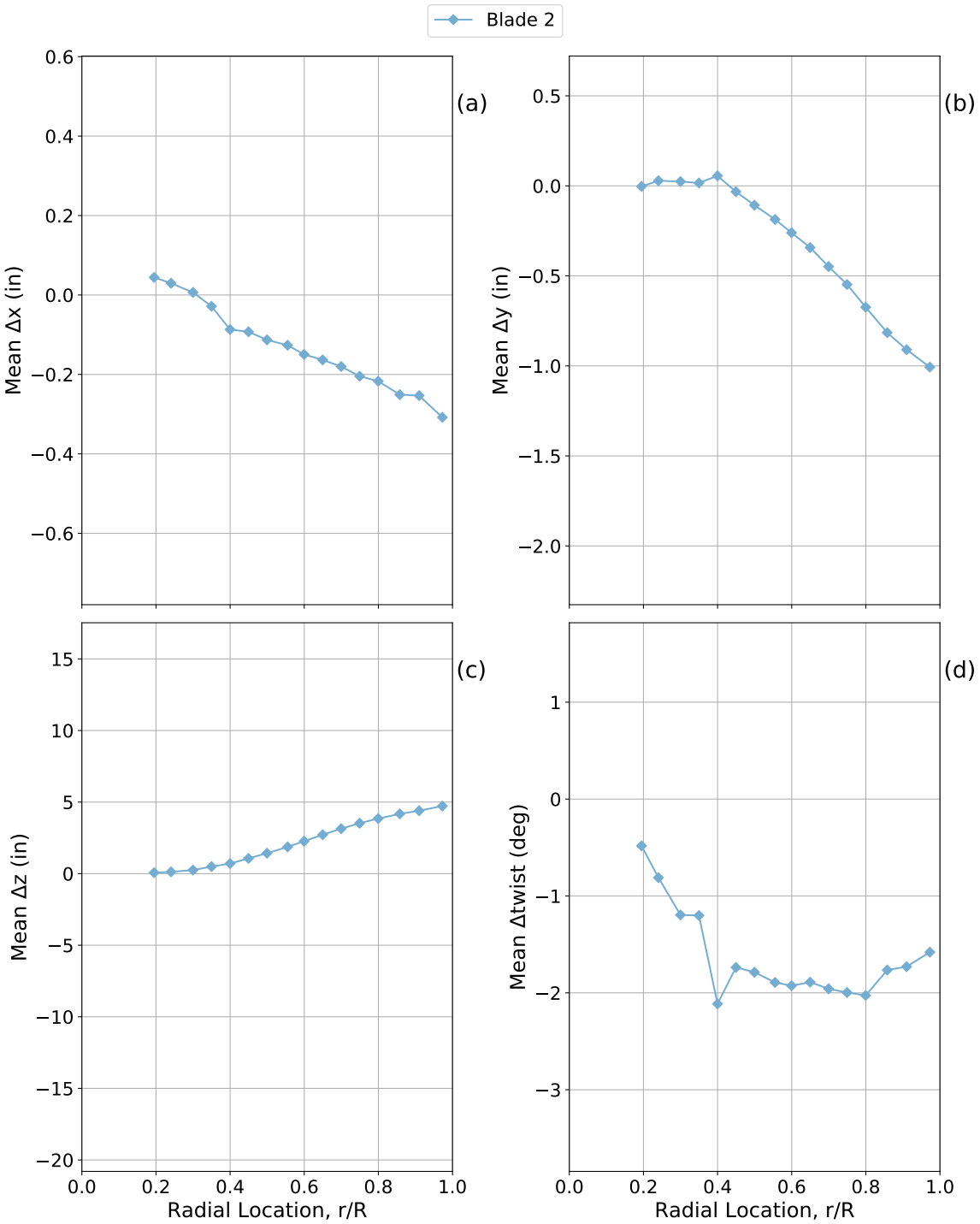


Figure 3.15-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.082, μ = 0.37, α = -8.4° NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Table 3.15-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.082, μ = 0.37, α = -8.4°
NFAC run 53, point 26. BD run 26, points 3262 to 3272.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0444	0.0107	-0.0030	0.0027	0.0685	0.0216	-0.4830	0.1058
2	355.08	0.2405	0.0296	0.0085	0.0285	0.0166	0.1254	0.0336	-0.8110	0.1916
2	355.08	0.2999	0.0065	0.0066	0.0239	0.0346	0.2496	0.0567	-1.1958	0.2625
2	355.08	0.3498	-0.0285	0.0067	0.0159	0.0526	0.4945	0.0814	-1.2016	0.2765
2	355.08	0.3998	-0.0870	0.0024	0.0557	0.0958	0.7065	0.1176	-2.1136	0.2142
2	355.08	0.4496	-0.0926	0.0064	-0.0325	0.1151	1.0650	0.1277	-1.7376	0.2268
2	355.08	0.4995	-0.1130	0.0081	-0.1074	0.1355	1.4272	0.1515	-1.7874	0.2169
2	355.08	0.5551	-0.1266	0.0100	-0.1866	0.1578	1.8687	0.1725	-1.8924	0.2182
2	355.08	0.5996	-0.1497	0.0121	-0.2602	0.1759	2.2655	0.1911	-1.9262	0.2144
2	355.08	0.6497	-0.1635	0.0155	-0.3427	0.1955	2.7191	0.2113	-1.8894	0.2179
2	355.08	0.6996	-0.1801	0.0197	-0.4483	0.2157	3.1392	0.2270	-1.9582	0.2260
2	355.08	0.7495	-0.2045	0.0243	-0.5480	0.2357	3.5244	0.2423	-1.9965	0.2292
2	355.08	0.7996	-0.2170	0.0298	-0.6740	0.2547	3.8491	0.2563	-2.0268	0.2171
2	355.08	0.8578	-0.2509	0.0371	-0.8154	0.2783	4.1742	0.2720	-1.7649	0.2265
2	355.08	0.9100	-0.2533	0.0432	-0.9096	0.2970	4.3968	0.2880	-1.7296	0.2223
2	355.08	0.9727	-0.3081	0.0593	-1.0066	0.3208	4.7230	0.3060	-1.5796	0.2163

3.16 Run 53, Point 32

3.16.1 Pitch, Flap, and Lag

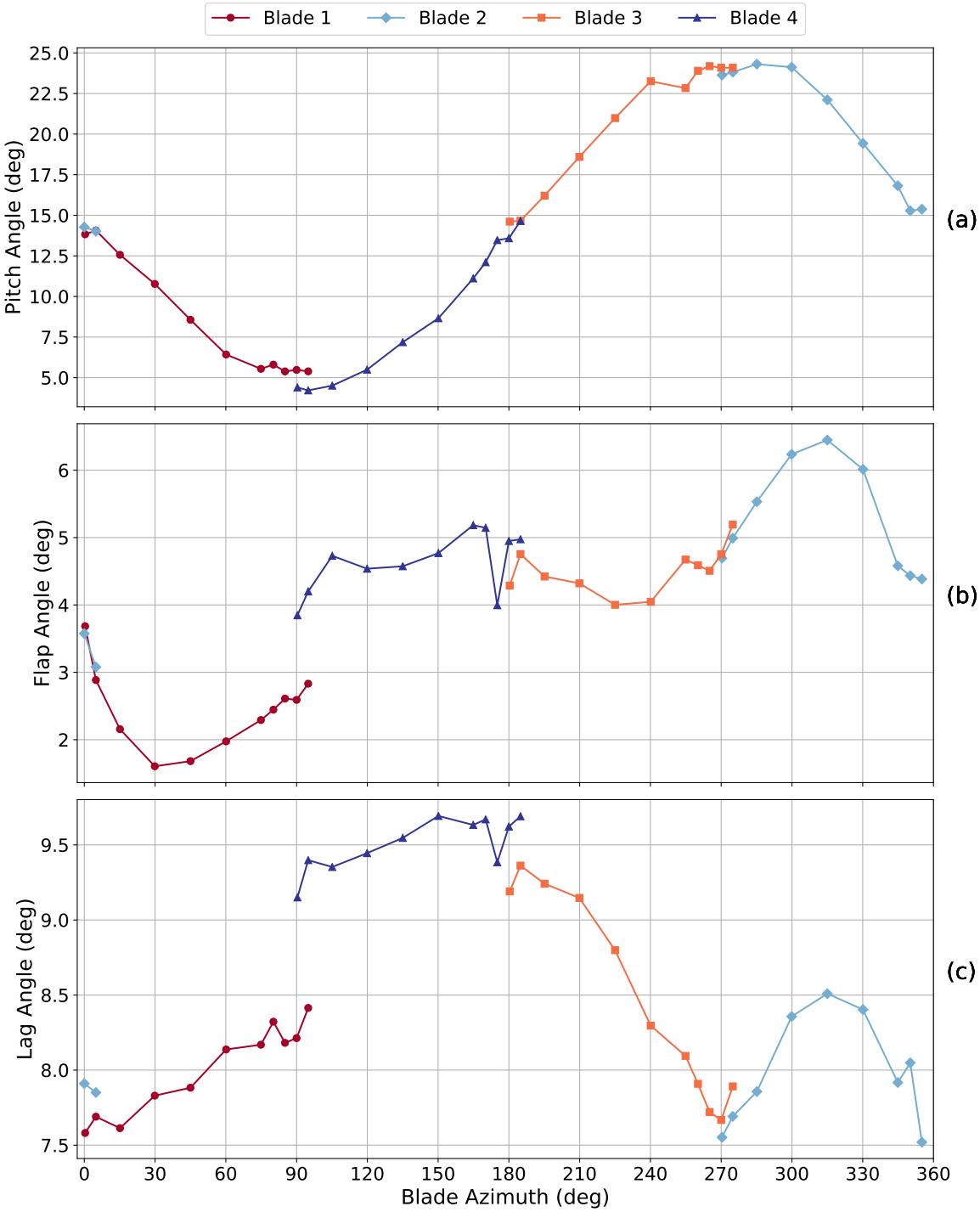


Figure 3.16-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.08$, $\mu = 0.401$, $\alpha = -10°$
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.08$, $\mu = 0.401$, $\alpha = -10°$
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	14.2729	3.5756	7.9100	0.2106	0.1824	0.1658
0.35	1	13.8282	3.6843	7.5811	0.2886	0.2760	0.2538
4.92	1	14.0650	2.8856	7.6897	0.0651	0.0842	0.0870
4.92	2	14.0119	3.0788	7.8505	0.1079	0.0550	0.1311
15.12	1	12.5661	2.1564	7.6132	0.1084	0.1071	0.1051
29.88	1	10.7720	1.6057	7.8298	0.1262	0.1353	0.1270
45	1	8.5626	1.6821	7.8826	0.0683	0.0766	0.0859
60.12	1	6.4267	1.9761	8.1376	0.0701	0.0871	0.1545
74.88	1	5.5424	2.2923	8.1691	0.0842	0.0858	0.0928
80.16	1	5.8006	2.4458	8.3224	0.0509	0.1504	0.0618
85.08	1	5.3845	2.6105	8.1815	0.0731	0.0489	0.1399
90	1	5.4775	2.5914	8.2129	0.0781	0.0926	0.0855
90.35	4	4.3951	3.8462	9.1501	0.1838	0.3251	0.1962
94.92	1	5.3866	2.8312	8.4141	0.1227	0.0680	0.0885
94.92	4	4.2156	4.2006	9.3984	0.0548	0.1054	0.0830
105.12	4	4.5069	4.7294	9.3528	0.0643	0.2459	0.1383
119.88	4	5.4916	4.5375	9.4451	0.0560	0.1209	0.0764
135	4	7.1836	4.5739	9.5465	0.0458	0.2283	0.1027
150.12	4	8.6568	4.7688	9.6929	0.1275	0.4451	0.1354
164.88	4	11.1104	5.1838	9.6330	0.0682	0.1730	0.1023
170.16	4	12.1082	5.1442	9.6701	0.1810	0.2816	0.1158
175.08	4	13.4695	3.9955	9.3840	0.3496	0.4896	0.1846
180	4	13.5839	4.9492	9.6222	0.0497	0.1481	0.0490
180.35	3	14.6084	4.2869	9.1902	0.1776	0.5631	0.1214
184.92	3	14.6634	4.7551	9.3622	0.0285	0.0968	0.0678
184.92	4	14.6480	4.9743	9.6904	0.0691	0.1090	0.1106
195.12	3	16.2088	4.4220	9.2418	0.0926	0.2385	0.1147
209.88	3	18.5978	4.3206	9.1467	0.1023	0.2394	0.1005
225	3	20.9854	4.0018	8.7986	0.0856	0.1933	0.0869
240.12	3	23.2509	4.0471	8.2963	0.1211	0.2214	0.0780
254.88	3	22.8338	4.6734	8.0942	0.3814	0.1458	0.0967
260.16	3	23.8995	4.5896	7.9085	0.0770	0.1281	0.0837
265.08	3	24.1847	4.5067	7.7201	0.0991	0.1302	0.1189
270	3	24.0879	4.7529	7.6681	0.1456	0.0996	0.0533
270.35	2	23.6338	4.6950	7.5520	0.1229	0.1674	0.0862
274.92	2	23.8153	4.9913	7.6917	0.1427	0.0718	0.0884
274.92	3	24.0891	5.1925	7.8915	0.0920	0.0720	0.0780
285.12	2	24.3103	5.5321	7.8568	0.1385	0.1299	0.1123
299.88	2	24.1199	6.2363	8.3570	0.0619	0.0679	0.0785
315	2	22.1118	6.4474	8.5091	0.0945	0.1100	0.0801
330.12	2	19.4270	6.0130	8.4030	0.0830	0.1405	0.0963
344.88	2	16.8196	4.5804	7.9169	0.1303	0.1044	0.1024
350.16	2	15.2762	4.4346	8.0482	0.2025	0.0506	0.0628
355.08	2	15.3770	4.3843	7.5197	0.2025	0.2027	0.1828

3.16.2 Spanwise Elastic Deformations

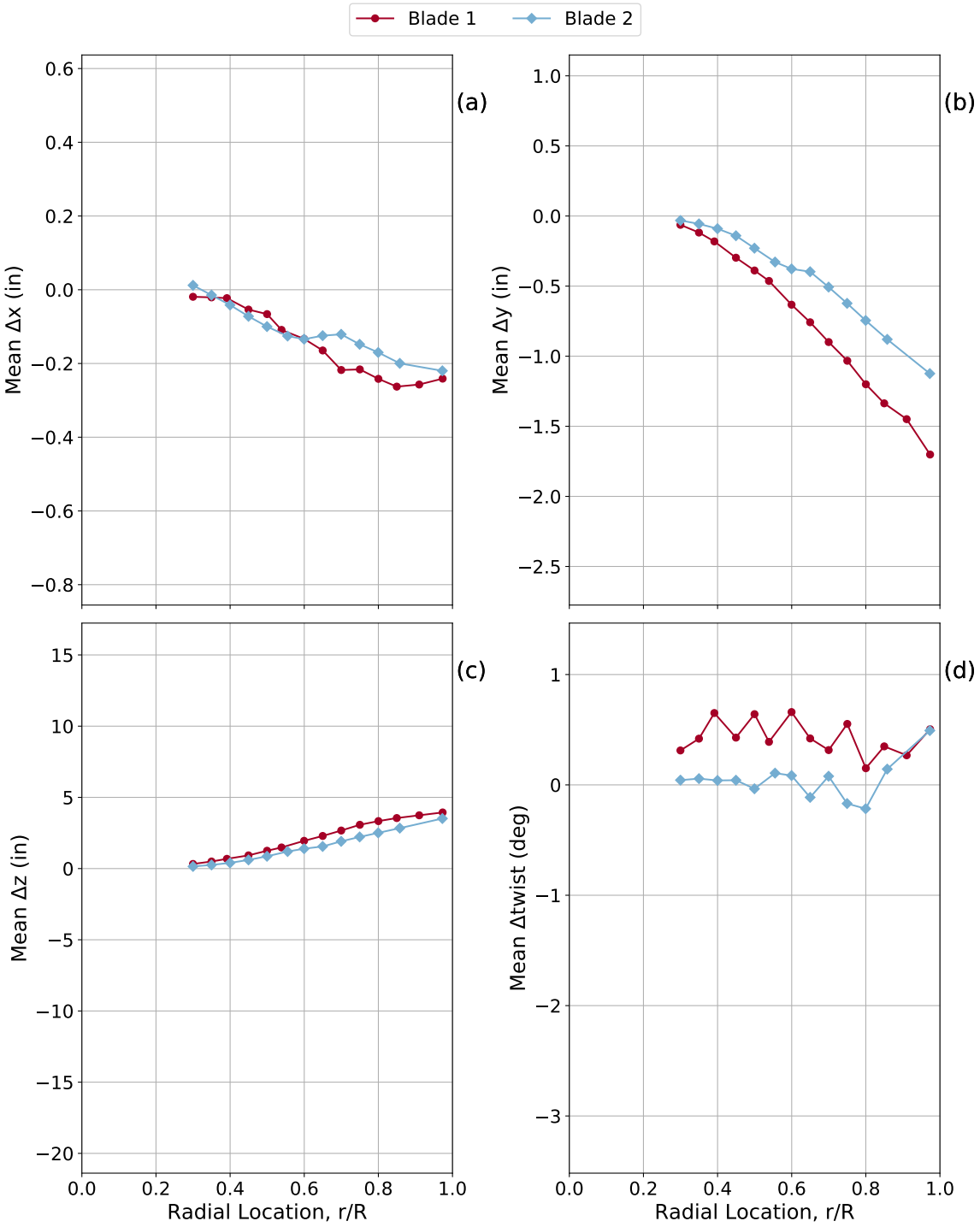


Figure 3.16-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2998	-0.0191	0.0261	-0.0629	0.0541	0.3233	0.1118	0.3121	0.2457
1	0.35	0.3498	-0.0207	0.0242	-0.1180	0.0971	0.4954	0.1630	0.4189	0.3248
1	0.35	0.3913	-0.0228	0.0267	-0.1813	0.1460	0.6828	0.2187	0.6511	0.2932
1	0.35	0.4496	-0.0538	0.0283	-0.2975	0.2059	0.9260	0.2865	0.4284	0.3059
1	0.35	0.4997	-0.0661	0.0298	-0.3887	0.2547	1.2506	0.3462	0.6409	0.2755
1	0.35	0.5387	-0.1089	0.0303	-0.4631	0.2958	1.4820	0.3964	0.3899	0.2848
1	0.35	0.5996	-0.1332	0.0326	-0.6326	0.3591	1.9474	0.4708	0.6598	0.2956
1	0.35	0.6498	-0.1647	0.0354	-0.7581	0.4096	2.2897	0.5281	0.4208	0.3399
1	0.35	0.6998	-0.2177	0.0369	-0.8991	0.4610	2.6703	0.5853	0.3154	0.3716
1	0.35	0.7500	-0.2161	0.0382	-1.0326	0.5150	3.0747	0.6500	0.5524	0.3404
1	0.35	0.8001	-0.2417	0.0409	-1.2003	0.5621	3.3327	0.7147	0.1508	0.3455
1	0.35	0.8497	-0.2628	0.0417	-1.3363	0.6181	3.5469	0.7794	0.3489	0.3328
1	0.35	0.9102	-0.2571	0.0437	-1.4491	0.6826	3.7406	0.8591	0.2681	0.3976
1	0.35	0.9734	-0.2411	0.0640	-1.7014	0.7483	3.9406	0.9555	0.5042	0.3137
2	0	0.2999	0.0120	0.0116	-0.0317	0.0271	0.1497	0.0791	0.0431	0.1425
2	0	0.3498	-0.0145	0.0137	-0.0562	0.0497	0.2546	0.1210	0.0566	0.1895
2	0	0.3998	-0.0414	0.0145	-0.0904	0.0817	0.4000	0.1784	0.0402	0.1729
2	0	0.4496	-0.0721	0.0163	-0.1408	0.1106	0.6067	0.2284	0.0424	0.1676
2	0	0.4995	-0.0999	0.0187	-0.2295	0.1420	0.8622	0.2842	-0.0353	0.1709
2	0	0.5551	-0.1256	0.0212	-0.3282	0.1753	1.1964	0.3490	0.1066	0.1994
2	0	0.5996	-0.1341	0.0262	-0.3774	0.2057	1.3940	0.4017	0.0846	0.1863
2	0	0.6497	-0.1246	0.0313	-0.3974	0.1824	1.5523	0.4491	-0.1133	0.1735
2	0	0.6996	-0.1209	0.0313	-0.5068	0.2139	1.9113	0.5046	0.0785	0.2396
2	0	0.7495	-0.1480	0.0315	-0.6231	0.2422	2.2207	0.5604	-0.1692	0.2340
2	0	0.7996	-0.1701	0.0328	-0.7452	0.2714	2.5074	0.6007	-0.2160	0.1780
2	0	0.8578	-0.1997	0.0328	-0.8800	0.3022	2.8383	0.6720	0.1430	0.2754
2	0	0.9727	-0.2199	0.0429	-1.1240	0.3802	3.5140	0.7952	0.4921	0.1974

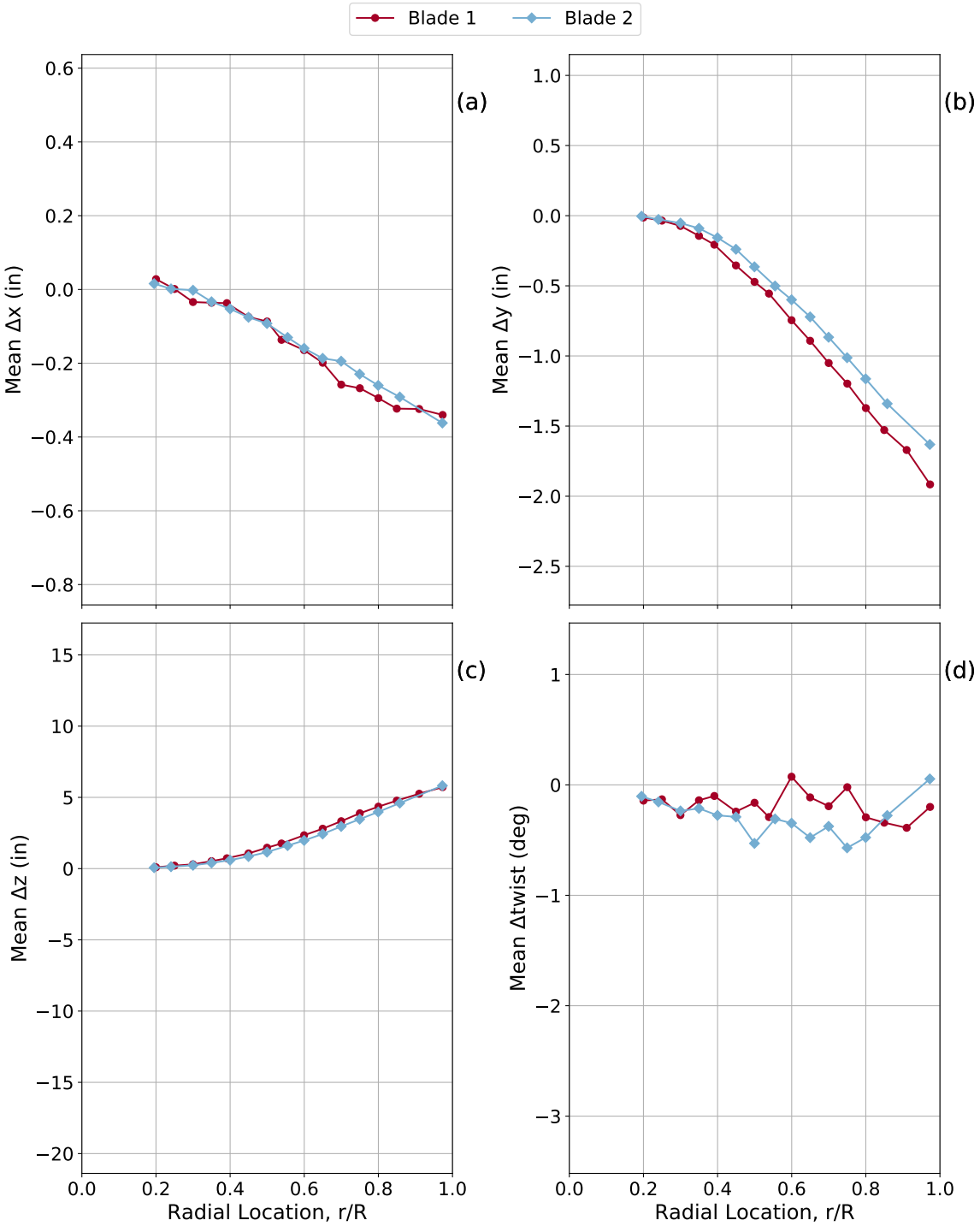


Figure 3.16-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0279	0.0028	-0.0128	0.0016	0.0941	0.0070	-0.1425	0.0579
1	4.92	0.2499	0.0013	0.0025	-0.0354	0.0063	0.2083	0.0129	-0.1305	0.0622
1	4.92	0.2998	-0.0341	0.0018	-0.0731	0.0072	0.3023	0.0169	-0.2739	0.1152
1	4.92	0.3498	-0.0361	0.0032	-0.1438	0.0162	0.5228	0.0320	-0.1395	0.0647
1	4.92	0.3913	-0.0371	0.0042	-0.2067	0.0227	0.7253	0.0389	-0.1004	0.0892
1	4.92	0.4496	-0.0746	0.0030	-0.3548	0.0290	1.0661	0.0441	-0.2420	0.0935
1	4.92	0.4997	-0.0868	0.0047	-0.4719	0.0364	1.4664	0.0497	-0.1619	0.0860
1	4.92	0.5387	-0.1366	0.0047	-0.5556	0.0394	1.7639	0.0612	-0.2914	0.1182
1	4.92	0.5996	-0.1646	0.0060	-0.7452	0.0499	2.3411	0.0751	0.0741	0.0892
1	4.92	0.6498	-0.1987	0.0070	-0.8919	0.0565	2.8016	0.0894	-0.1132	0.0949
1	4.92	0.6998	-0.2580	0.0079	-1.0504	0.0657	3.3276	0.1073	-0.1932	0.0996
1	4.92	0.7500	-0.2677	0.0082	-1.1975	0.0735	3.8830	0.1315	-0.0208	0.1251
1	4.92	0.8001	-0.2947	0.0089	-1.3718	0.0784	4.3484	0.1480	-0.2935	0.1090
1	4.92	0.8497	-0.3231	0.0096	-1.5284	0.0916	4.7712	0.1719	-0.3421	0.0831
1	4.92	0.9102	-0.3240	0.0114	-1.6706	0.0955	5.2554	0.2119	-0.3887	0.1237
1	4.92	0.9734	-0.3402	0.0161	-1.9159	0.1141	5.7172	0.2659	-0.1997	0.1394
2	4.92	0.1949	0.0158	0.0021	-0.0038	0.0020	0.0655	0.0053	-0.1035	0.0460
2	4.92	0.2405	0.0016	0.0027	-0.0269	0.0039	0.1358	0.0102	-0.1545	0.0467
2	4.92	0.2999	-0.0021	0.0029	-0.0528	0.0115	0.2328	0.0174	-0.2358	0.0948
2	4.92	0.3498	-0.0334	0.0030	-0.0901	0.0154	0.4006	0.0284	-0.2130	0.0589
2	4.92	0.3998	-0.0526	0.0030	-0.1569	0.0269	0.5942	0.0414	-0.2760	0.0722
2	4.92	0.4496	-0.0754	0.0044	-0.2394	0.0312	0.8502	0.0520	-0.2901	0.0514
2	4.92	0.4995	-0.0923	0.0049	-0.3647	0.0372	1.1581	0.0667	-0.5297	0.0647
2	4.92	0.5551	-0.1301	0.0054	-0.5014	0.0482	1.6136	0.0898	-0.3082	0.0829
2	4.92	0.5996	-0.1595	0.0055	-0.5994	0.0539	1.9756	0.1036	-0.3467	0.0623
2	4.92	0.6497	-0.1868	0.0069	-0.7215	0.0648	2.4307	0.1249	-0.4779	0.0557
2	4.92	0.6996	-0.1945	0.0073	-0.8666	0.0744	2.9606	0.1476	-0.3754	0.0746
2	4.92	0.7495	-0.2294	0.0089	-1.0127	0.0835	3.4672	0.1758	-0.5704	0.0841
2	4.92	0.7996	-0.2601	0.0091	-1.1634	0.0929	3.9773	0.1972	-0.4765	0.0747
2	4.92	0.8578	-0.2915	0.0095	-1.3405	0.1052	4.5986	0.2094	-0.2773	0.1653
2	4.92	0.9727	-0.3620	0.0134	-1.6312	0.1384	5.8209	0.2524	0.0540	0.0867

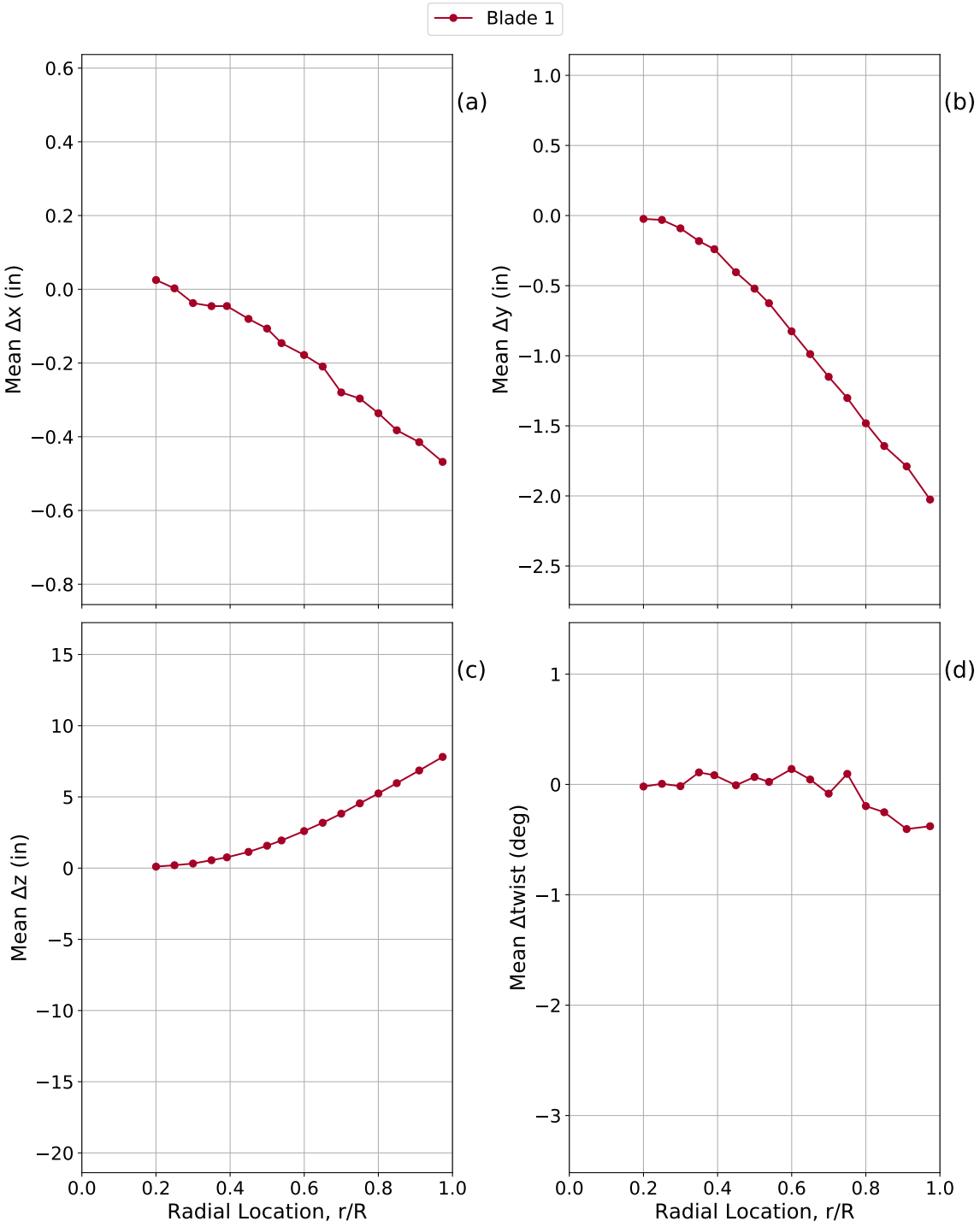


Figure 3.16-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0252	0.0014	-0.0239	0.0012	0.1038	0.0068	-0.0190	0.0400
1	15.12	0.2499	0.0026	0.0020	-0.0311	0.0038	0.2015	0.0136	0.0055	0.0561
1	15.12	0.2998	-0.0374	0.0019	-0.0910	0.0055	0.3196	0.0232	-0.0157	0.0805
1	15.12	0.3498	-0.0457	0.0028	-0.1821	0.0113	0.5558	0.0348	0.1089	0.0872
1	15.12	0.3913	-0.0455	0.0028	-0.2400	0.0159	0.7552	0.0515	0.0838	0.0867
1	15.12	0.4496	-0.0803	0.0039	-0.4043	0.0213	1.1376	0.0666	-0.0074	0.0845
1	15.12	0.4997	-0.1065	0.0050	-0.5213	0.0261	1.5716	0.0807	0.0676	0.0820
1	15.12	0.5387	-0.1461	0.0054	-0.6252	0.0313	1.9414	0.0931	0.0229	0.0915
1	15.12	0.5996	-0.1782	0.0058	-0.8257	0.0400	2.6009	0.1085	0.1397	0.0889
1	15.12	0.6498	-0.2096	0.0062	-0.9883	0.0492	3.1830	0.1215	0.0448	0.0941
1	15.12	0.6998	-0.2798	0.0068	-1.1503	0.0556	3.8229	0.1312	-0.0833	0.1001
1	15.12	0.7500	-0.2963	0.0083	-1.3016	0.0656	4.5471	0.1438	0.0957	0.0976
1	15.12	0.8001	-0.3362	0.0078	-1.4819	0.0739	5.2456	0.1560	-0.1962	0.1120
1	15.12	0.8497	-0.3824	0.0085	-1.6441	0.0838	5.9659	0.1708	-0.2520	0.1089
1	15.12	0.9102	-0.4146	0.0094	-1.7894	0.0975	6.8549	0.1989	-0.4045	0.1517
1	15.12	0.9734	-0.4682	0.0112	-2.0259	0.1040	7.8083	0.2262	-0.3787	0.1375

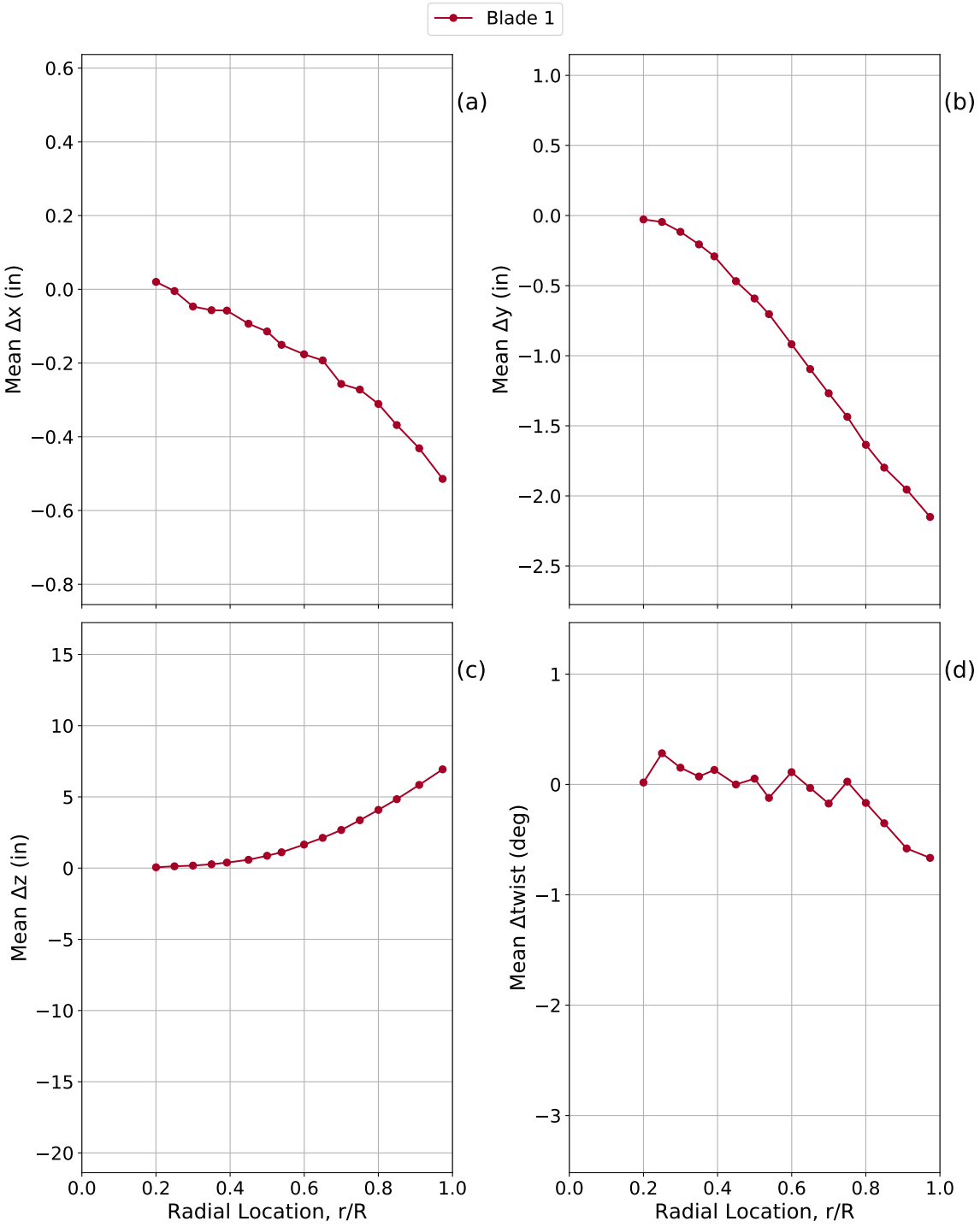


Figure 3.16-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0201	0.0021	-0.0275	0.0014	0.0572	0.0089	0.0174	0.0345
1	29.88	0.2499	-0.0048	0.0026	-0.0458	0.0034	0.1278	0.0190	0.2823	0.0521
1	29.88	0.2998	-0.0467	0.0023	-0.1160	0.0057	0.1754	0.0326	0.1518	0.0754
1	29.88	0.3498	-0.0567	0.0025	-0.2060	0.0101	0.2690	0.0567	0.0717	0.0496
1	29.88	0.3913	-0.0578	0.0027	-0.2913	0.0148	0.3878	0.0802	0.1313	0.0690
1	29.88	0.4496	-0.0934	0.0033	-0.4680	0.0207	0.5844	0.1208	-0.0004	0.0599
1	29.88	0.4997	-0.1144	0.0047	-0.5916	0.0268	0.8672	0.1575	0.0524	0.0885
1	29.88	0.5387	-0.1507	0.0053	-0.7032	0.0328	1.1125	0.1895	-0.1219	0.0930
1	29.88	0.5996	-0.1763	0.0063	-0.9180	0.0413	1.6521	0.2397	0.1114	0.1029
1	29.88	0.6498	-0.1929	0.0073	-1.0952	0.0496	2.1248	0.2805	-0.0318	0.0942
1	29.88	0.6998	-0.2568	0.0092	-1.2678	0.0578	2.6775	0.3232	-0.1733	0.0912
1	29.88	0.7500	-0.2720	0.0106	-1.4355	0.0667	3.3634	0.3640	0.0252	0.0899
1	29.88	0.8001	-0.3110	0.0125	-1.6354	0.0760	4.0889	0.4062	-0.1676	0.1149
1	29.88	0.8497	-0.3682	0.0140	-1.7981	0.0857	4.8400	0.4519	-0.3519	0.1137
1	29.88	0.9102	-0.4313	0.0189	-1.9547	0.0970	5.8419	0.5142	-0.5802	0.0879
1	29.88	0.9734	-0.5143	0.0244	-2.1500	0.1085	6.9350	0.5820	-0.6656	0.1116

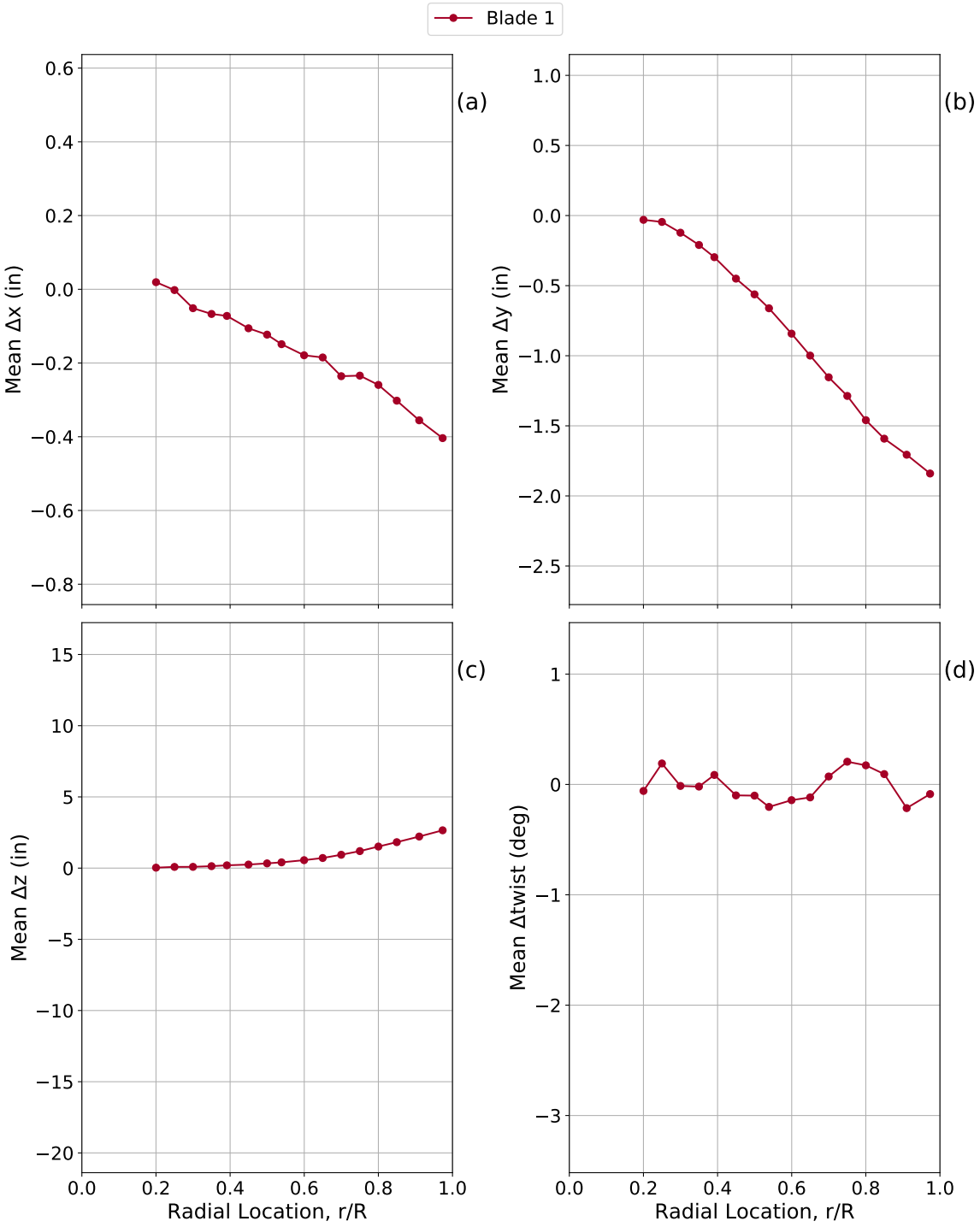


Figure 3.16-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0193	0.0015	-0.0305	0.0012	0.0316	0.0049	-0.0590	0.0194
1	45	0.2499	-0.0021	0.0027	-0.0455	0.0026	0.0843	0.0107	0.1899	0.0368
1	45	0.2998	-0.0513	0.0025	-0.1223	0.0053	0.0878	0.0194	-0.0137	0.0413
1	45	0.3498	-0.0669	0.0032	-0.2099	0.0087	0.1365	0.0325	-0.0195	0.0568
1	45	0.3913	-0.0722	0.0028	-0.2970	0.0128	0.1952	0.0477	0.0860	0.0609
1	45	0.4496	-0.1058	0.0025	-0.4500	0.0169	0.2493	0.0669	-0.0992	0.0713
1	45	0.4997	-0.1230	0.0035	-0.5622	0.0226	0.3316	0.0838	-0.1015	0.0691
1	45	0.5387	-0.1489	0.0036	-0.6614	0.0269	0.4044	0.0984	-0.2037	0.0765
1	45	0.5996	-0.1790	0.0034	-0.8424	0.0343	0.5576	0.1222	-0.1425	0.0812
1	45	0.6498	-0.1849	0.0040	-0.9989	0.0408	0.7091	0.1403	-0.1175	0.0832
1	45	0.6998	-0.2357	0.0044	-1.1537	0.0474	0.9382	0.1561	0.0719	0.0739
1	45	0.7500	-0.2342	0.0049	-1.2867	0.0555	1.1938	0.1738	0.2059	0.0853
1	45	0.8001	-0.2594	0.0053	-1.4597	0.0634	1.5143	0.1913	0.1731	0.0873
1	45	0.8497	-0.3021	0.0055	-1.5916	0.0722	1.8220	0.2104	0.0936	0.0765
1	45	0.9102	-0.3554	0.0059	-1.7061	0.0808	2.2166	0.2371	-0.2147	0.0979
1	45	0.9734	-0.4037	0.0083	-1.8400	0.0931	2.6547	0.2680	-0.0874	0.1025

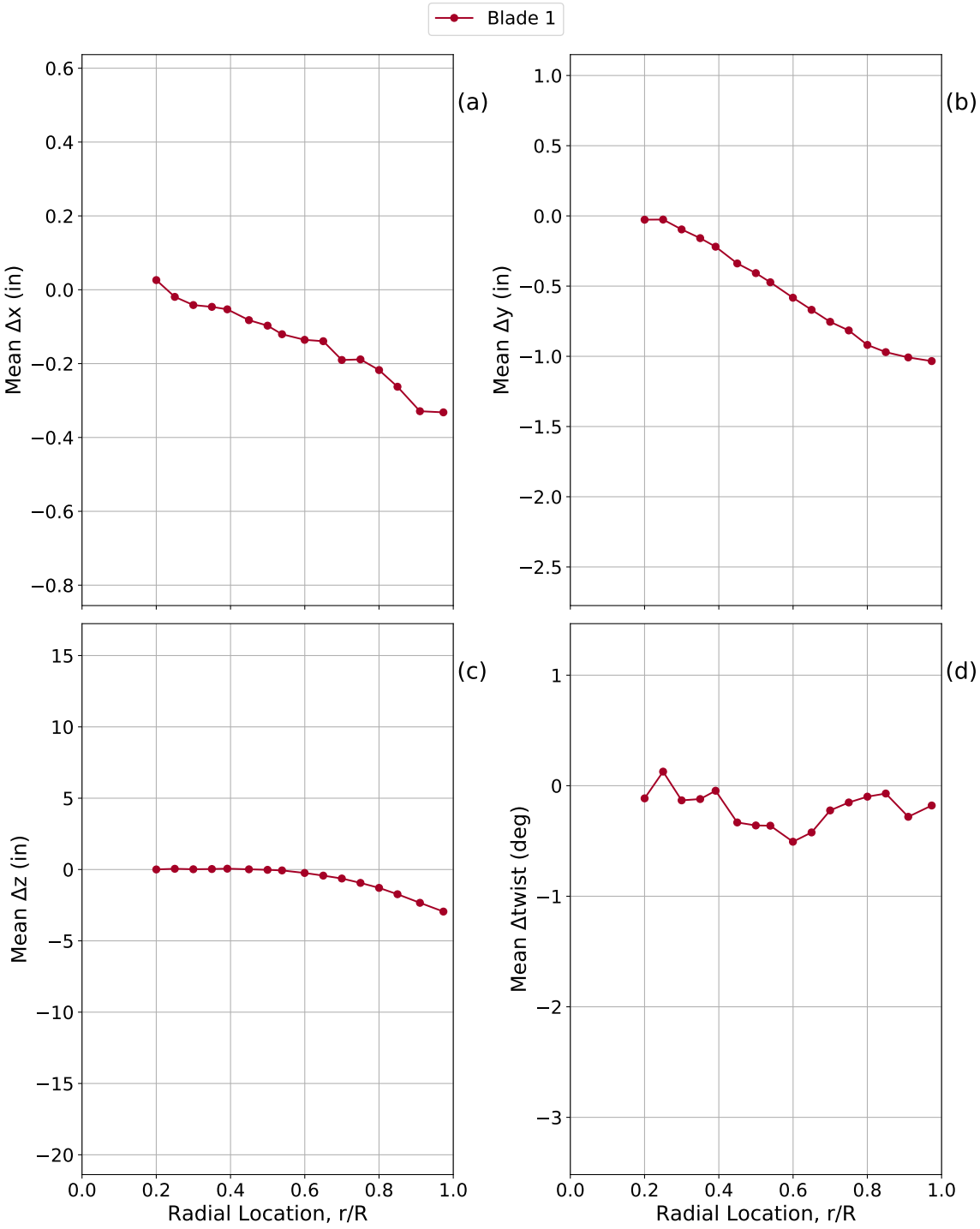


Figure 3.16-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0262	0.0018	-0.0269	0.0013	0.0059	0.0028	-0.1144	0.0347
1	60.12	0.2499	-0.0192	0.0021	-0.0260	0.0029	0.0517	0.0043	0.1273	0.0560
1	60.12	0.2998	-0.0414	0.0030	-0.0964	0.0060	0.0195	0.0091	-0.1324	0.0781
1	60.12	0.3498	-0.0463	0.0029	-0.1584	0.0098	0.0353	0.0146	-0.1207	0.0574
1	60.12	0.3913	-0.0530	0.0029	-0.2194	0.0147	0.0591	0.0200	-0.0455	0.0796
1	60.12	0.4496	-0.0823	0.0041	-0.3386	0.0209	0.0152	0.0276	-0.3324	0.0768
1	60.12	0.4997	-0.0972	0.0041	-0.4074	0.0286	-0.0221	0.0424	-0.3595	0.0725
1	60.12	0.5387	-0.1204	0.0058	-0.4727	0.0351	-0.0625	0.0518	-0.3618	0.0846
1	60.12	0.5996	-0.1356	0.0061	-0.5826	0.0463	-0.2407	0.0654	-0.5069	0.0881
1	60.12	0.6498	-0.1393	0.0065	-0.6689	0.0553	-0.4273	0.0783	-0.4227	0.0805
1	60.12	0.6998	-0.1902	0.0074	-0.7543	0.0660	-0.6298	0.0978	-0.2236	0.0905
1	60.12	0.7500	-0.1886	0.0077	-0.8158	0.0777	-0.9381	0.1201	-0.1516	0.0894
1	60.12	0.8001	-0.2175	0.0089	-0.9189	0.0915	-1.2872	0.1378	-0.0990	0.0738
1	60.12	0.8497	-0.2626	0.0094	-0.9701	0.1048	-1.7320	0.1543	-0.0707	0.0914
1	60.12	0.9102	-0.3289	0.0107	-1.0079	0.1211	-2.3340	0.1708	-0.2812	0.0985
1	60.12	0.9734	-0.3320	0.0145	-1.0339	0.1391	-2.9483	0.1885	-0.1790	0.1125

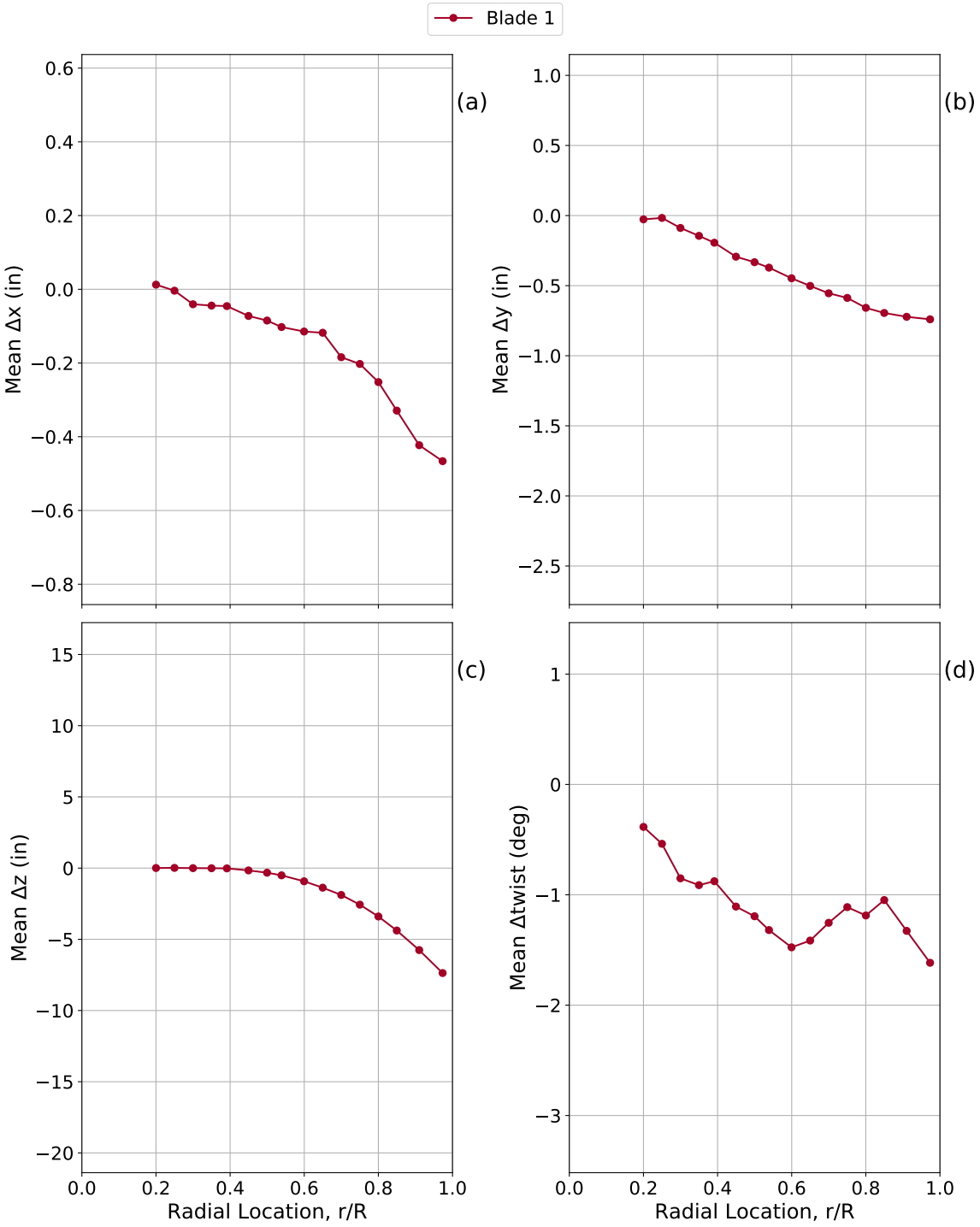


Figure 3.16-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0126	0.0025	-0.0271	0.0011	0.0060	0.0049	-0.3849	0.0236
1	74.88	0.2499	-0.0038	0.0023	-0.0169	0.0033	0.0160	0.0079	-0.5380	0.0329
1	74.88	0.2998	-0.0406	0.0021	-0.0884	0.0057	-0.0029	0.0152	-0.8507	0.0508
1	74.88	0.3498	-0.0442	0.0023	-0.1448	0.0095	-0.0086	0.0292	-0.9125	0.0508
1	74.88	0.3913	-0.0456	0.0029	-0.1937	0.0145	-0.0193	0.0379	-0.8771	0.0537
1	74.88	0.4496	-0.0723	0.0056	-0.2933	0.0176	-0.1619	0.0565	-1.1068	0.0579
1	74.88	0.4997	-0.0848	0.0039	-0.3328	0.0247	-0.3229	0.0689	-1.1945	0.0644
1	74.88	0.5387	-0.1024	0.0046	-0.3716	0.0302	-0.5080	0.0775	-1.3196	0.0593
1	74.88	0.5996	-0.1146	0.0046	-0.4474	0.0388	-0.9264	0.0913	-1.4761	0.0532
1	74.88	0.6498	-0.1179	0.0058	-0.5018	0.0479	-1.3751	0.1057	-1.4148	0.0648
1	74.88	0.6998	-0.1842	0.0072	-0.5544	0.0557	-1.8860	0.1181	-1.2539	0.0665
1	74.88	0.7500	-0.2025	0.0074	-0.5875	0.0665	-2.5679	0.1376	-1.1119	0.0646
1	74.88	0.8001	-0.2517	0.0082	-0.6582	0.0768	-3.3986	0.1575	-1.1874	0.0690
1	74.88	0.8497	-0.3291	0.0105	-0.6949	0.0880	-4.3830	0.1865	-1.0478	0.0579
1	74.88	0.9102	-0.4229	0.0120	-0.7222	0.1017	-5.7572	0.2294	-1.3270	0.0797
1	74.88	0.9734	-0.4662	0.0197	-0.7401	0.1182	-7.3687	0.2821	-1.6161	0.1365

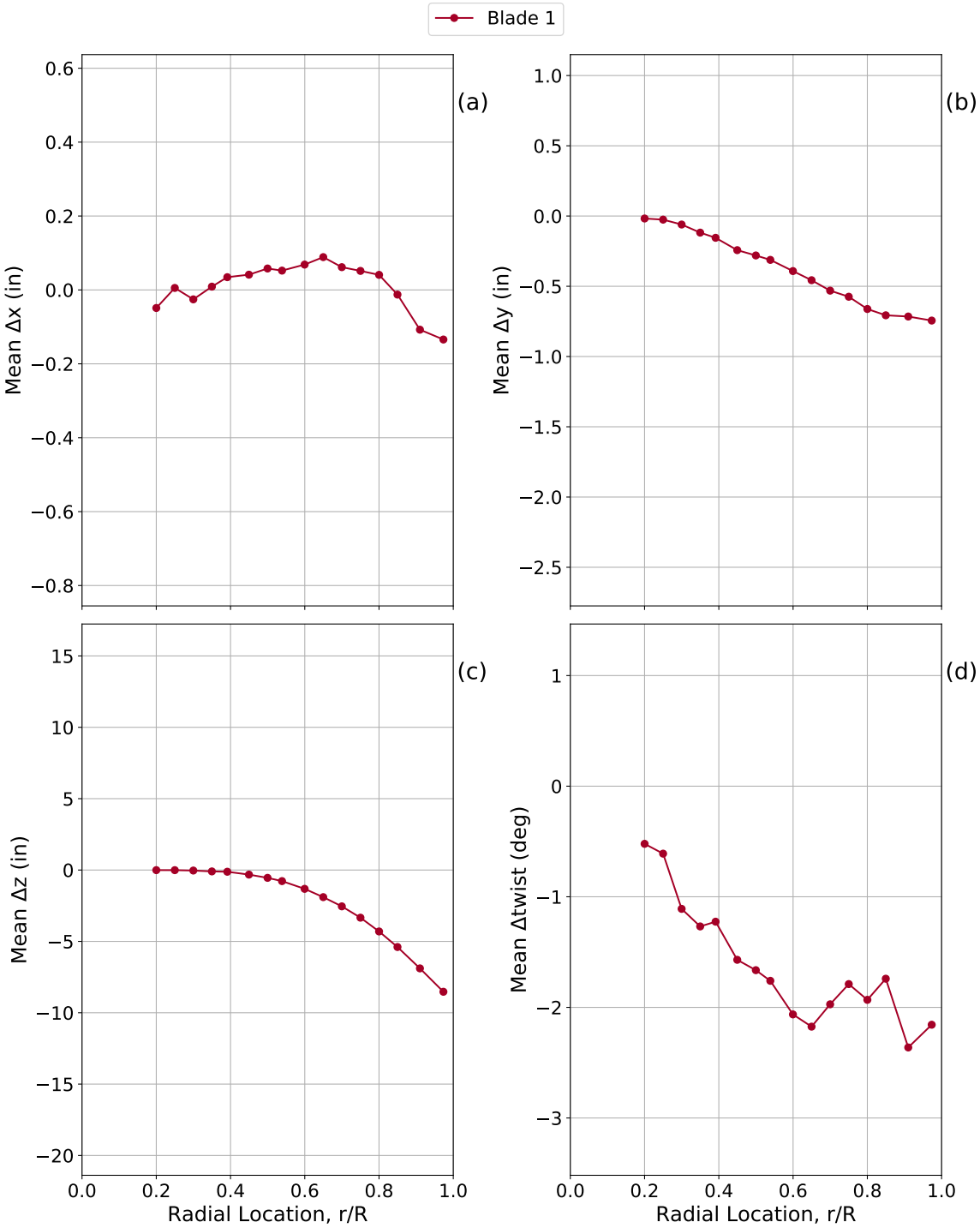


Figure 3.16-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.401$, $\alpha = -10°$
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0489	0.0269	-0.0176	0.0009	-0.0075	0.0038	-0.5214	0.0198
1	80.16	0.2499	0.0054	0.0068	-0.0256	0.0026	-0.0093	0.0077	-0.6101	0.0426
1	80.16	0.2998	-0.0255	0.0105	-0.0605	0.0038	-0.0364	0.0146	-1.1092	0.0478
1	80.16	0.3498	0.0089	0.0244	-0.1181	0.0074	-0.0970	0.0234	-1.2682	0.0522
1	80.16	0.3913	0.0345	0.0320	-0.1549	0.0105	-0.1201	0.0344	-1.2253	0.0711
1	80.16	0.4496	0.0413	0.0408	-0.2429	0.0164	-0.3200	0.0576	-1.5700	0.0928
1	80.16	0.4997	0.0580	0.0432	-0.2806	0.0213	-0.5480	0.0764	-1.6636	0.0888
1	80.16	0.5387	0.0523	0.0440	-0.3121	0.0259	-0.7758	0.0894	-1.7598	0.0896
1	80.16	0.5996	0.0686	0.0398	-0.3917	0.0326	-1.3183	0.1120	-2.0636	0.1081
1	80.16	0.6498	0.0888	0.0340	-0.4568	0.0390	-1.8996	0.1323	-2.1742	0.1292
1	80.16	0.6998	0.0616	0.0270	-0.5310	0.0452	-2.5452	0.1514	-1.9722	0.1331
1	80.16	0.7500	0.0515	0.0265	-0.5744	0.0517	-3.3394	0.1754	-1.7894	0.1450
1	80.16	0.8001	0.0408	0.0365	-0.6617	0.0589	-4.3040	0.1998	-1.9319	0.1616
1	80.16	0.8497	-0.0126	0.0536	-0.7065	0.0681	-5.3946	0.2266	-1.7408	0.1691
1	80.16	0.9102	-0.1076	0.0822	-0.7153	0.0797	-6.8917	0.2632	-2.3624	0.1830
1	80.16	0.9734	-0.1342	0.1184	-0.7440	0.0977	-8.5303	0.3103	-2.1569	0.2103

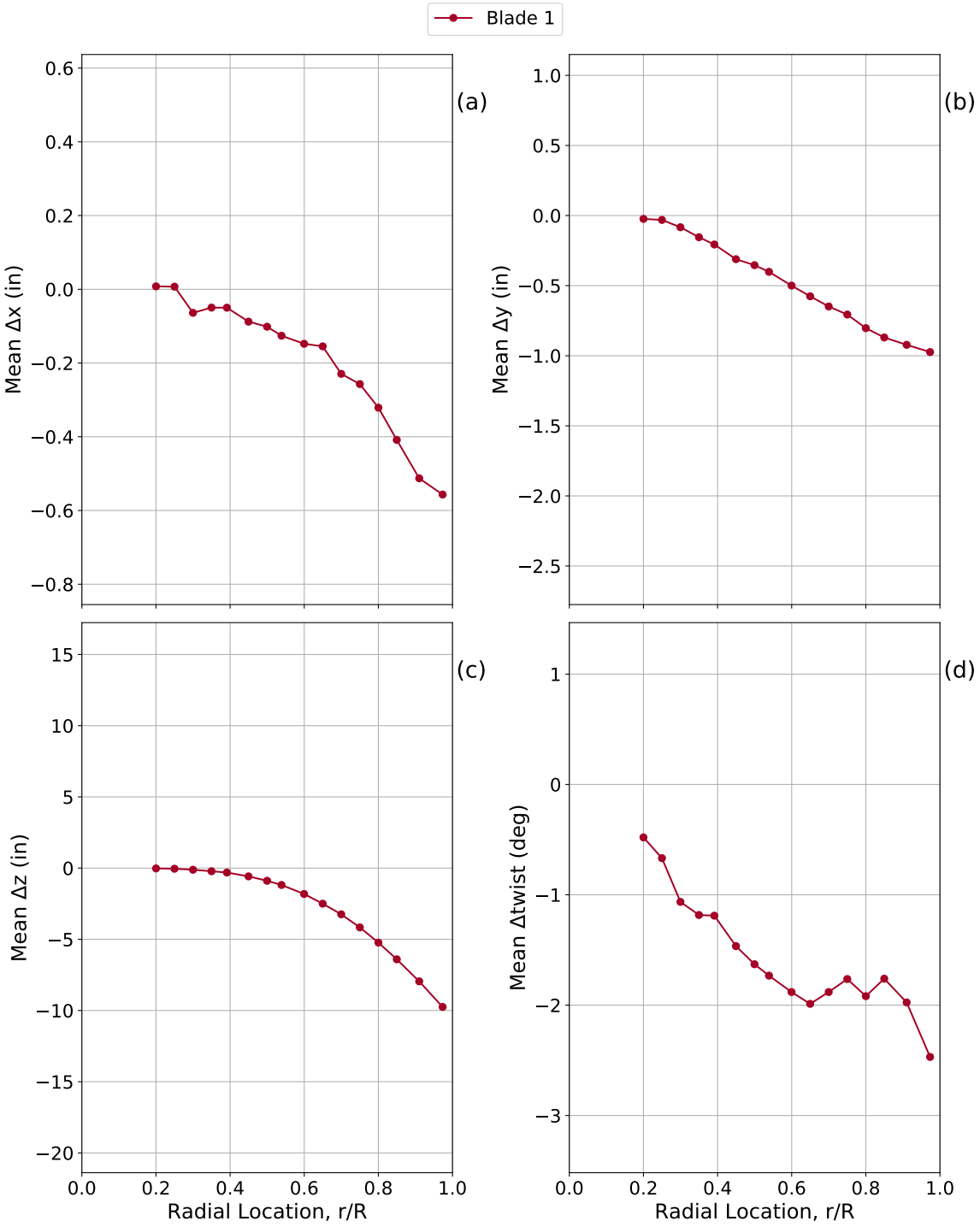


Figure 3.16-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.401$, $\alpha = -10°$ NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0079	0.0014	-0.0238	0.0016	-0.0228	0.0052	-0.4799	0.0314
1	85.08	0.2499	0.0071	0.0021	-0.0311	0.0026	-0.0441	0.0123	-0.6681	0.0740
1	85.08	0.2998	-0.0639	0.0017	-0.0834	0.0060	-0.1149	0.0211	-1.0643	0.0790
1	85.08	0.3498	-0.0497	0.0020	-0.1547	0.0112	-0.2199	0.0352	-1.1831	0.0625
1	85.08	0.3913	-0.0499	0.0026	-0.2064	0.0151	-0.3110	0.0522	-1.1894	0.0877
1	85.08	0.4496	-0.0877	0.0030	-0.3112	0.0201	-0.5807	0.0745	-1.4649	0.0957
1	85.08	0.4997	-0.1015	0.0033	-0.3538	0.0257	-0.8887	0.0933	-1.6294	0.0884
1	85.08	0.5387	-0.1260	0.0048	-0.4015	0.0314	-1.1848	0.1106	-1.7326	0.1009
1	85.08	0.5996	-0.1478	0.0036	-0.4997	0.0391	-1.8166	0.1376	-1.8811	0.1089
1	85.08	0.6498	-0.1548	0.0056	-0.5759	0.0461	-2.4982	0.1645	-1.9882	0.0991
1	85.08	0.6998	-0.2294	0.0072	-0.6485	0.0538	-3.2452	0.1917	-1.8812	0.1230
1	85.08	0.7500	-0.2571	0.0088	-0.7062	0.0614	-4.1630	0.2241	-1.7634	0.1084
1	85.08	0.8001	-0.3211	0.0102	-0.8032	0.0703	-5.2302	0.2558	-1.9188	0.1131
1	85.08	0.8497	-0.4086	0.0139	-0.8697	0.0790	-6.4051	0.2904	-1.7601	0.1245
1	85.08	0.9102	-0.5127	0.0165	-0.9222	0.0902	-7.9525	0.3388	-1.9753	0.1201
1	85.08	0.9734	-0.5568	0.0192	-0.9737	0.1025	-9.7509	0.3859	-2.4693	0.1298

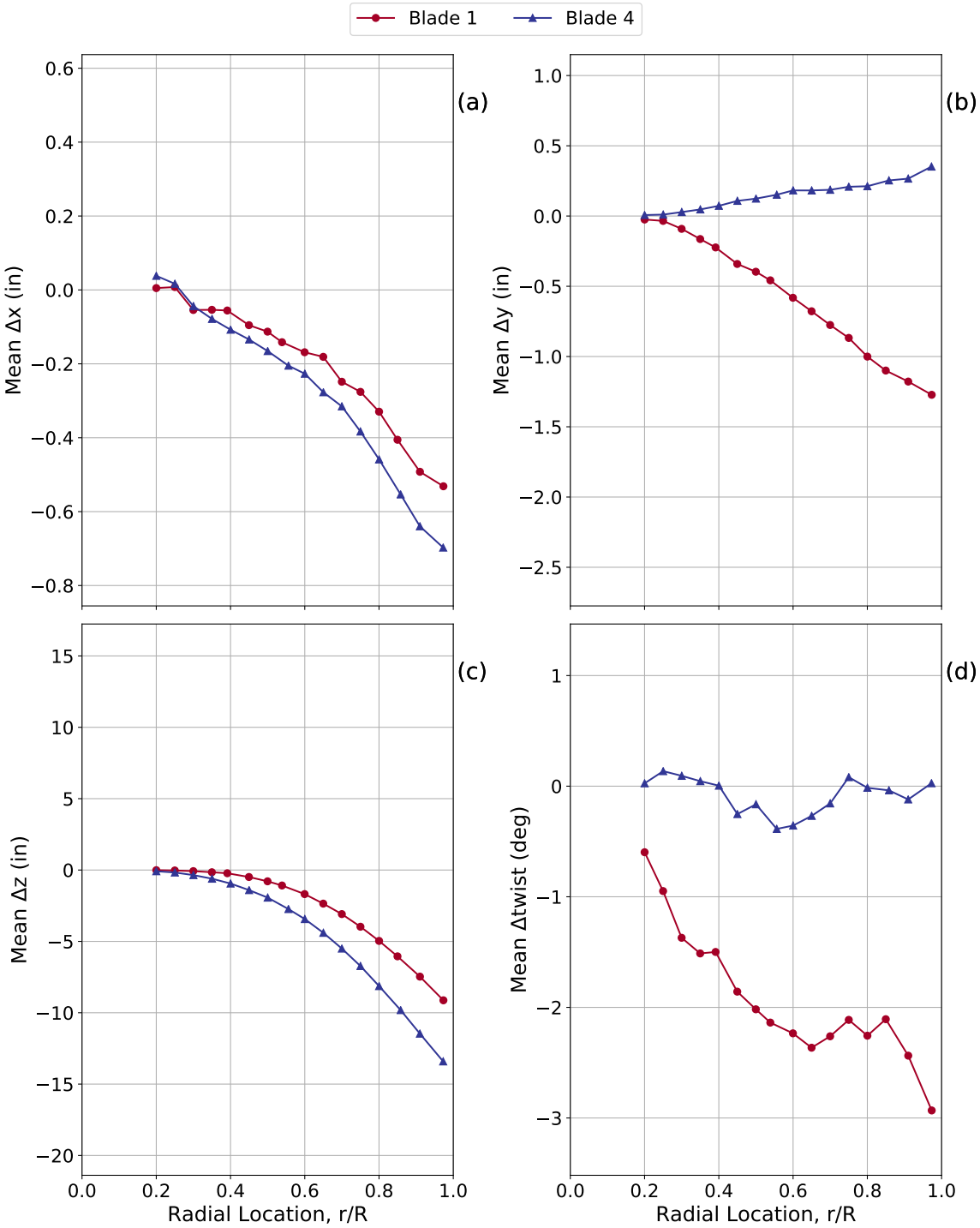


Figure 3.16-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0050	0.0035	-0.0248	0.0017	-0.0106	0.0092	-0.5973	0.0314
1	90	0.2499	0.0078	0.0014	-0.0346	0.0030	-0.0303	0.0172	-0.9486	0.0819
1	90	0.2998	-0.0543	0.0013	-0.0912	0.0065	-0.0776	0.0343	-1.3708	0.0818
1	90	0.3498	-0.0538	0.0018	-0.1638	0.0120	-0.1548	0.0578	-1.5122	0.0737
1	90	0.3913	-0.0557	0.0025	-0.2236	0.0165	-0.2255	0.0823	-1.4990	0.0688
1	90	0.4496	-0.0954	0.0035	-0.3411	0.0221	-0.4887	0.1164	-1.8577	0.0610
1	90	0.4997	-0.1129	0.0031	-0.3965	0.0286	-0.7902	0.1505	-2.0174	0.0669
1	90	0.5387	-0.1415	0.0035	-0.4577	0.0335	-1.0845	0.1764	-2.1375	0.0636
1	90	0.5996	-0.1687	0.0043	-0.5817	0.0414	-1.6863	0.2194	-2.2346	0.0694
1	90	0.6498	-0.1811	0.0050	-0.6778	0.0477	-2.3542	0.2538	-2.3647	0.0610
1	90	0.6998	-0.2485	0.0062	-0.7756	0.0544	-3.0874	0.2884	-2.2614	0.0647
1	90	0.7500	-0.2759	0.0080	-0.8675	0.0616	-3.9732	0.3225	-2.1130	0.0723
1	90	0.8001	-0.3295	0.0096	-1.0005	0.0685	-4.9666	0.3620	-2.2560	0.0661
1	90	0.8497	-0.4055	0.0115	-1.0998	0.0762	-6.0477	0.4020	-2.1069	0.0636
1	90	0.9102	-0.4922	0.0136	-1.1782	0.0849	-7.4694	0.4484	-2.4366	0.0714
1	90	0.9734	-0.5314	0.0152	-1.2724	0.0946	-9.1281	0.4981	-2.9319	0.0700
4	90.35	0.2001	0.0381	0.0027	0.0069	0.0027	-0.0849	0.0132	0.0256	0.0281
4	90.35	0.2502	0.0166	0.0030	0.0102	0.0056	-0.1739	0.0246	0.1357	0.0489
4	90.35	0.3001	-0.0439	0.0035	0.0282	0.0118	-0.3566	0.0512	0.0934	0.0634
4	90.35	0.3502	-0.0785	0.0026	0.0469	0.0204	-0.6078	0.0880	0.0450	0.0758
4	90.35	0.4002	-0.1077	0.0050	0.0727	0.0319	-0.9481	0.1347	0.0043	0.1028
4	90.35	0.4500	-0.1342	0.0053	0.1079	0.0453	-1.4079	0.1883	-0.2526	0.0951
4	90.35	0.5001	-0.1655	0.0069	0.1238	0.0603	-1.9343	0.2449	-0.1639	0.1050
4	90.35	0.5560	-0.2050	0.0085	0.1515	0.0803	-2.7354	0.3145	-0.3867	0.1263
4	90.35	0.6001	-0.2268	0.0112	0.1823	0.0982	-3.4354	0.3755	-0.3562	0.1381
4	90.35	0.6501	-0.2770	0.0134	0.1821	0.1191	-4.4008	0.4473	-0.2685	0.1439
4	90.35	0.6999	-0.3152	0.0182	0.1866	0.1412	-5.5035	0.5207	-0.1560	0.1522
4	90.35	0.7500	-0.3833	0.0234	0.2083	0.1654	-6.7273	0.5980	0.0813	0.1568
4	90.35	0.8002	-0.4588	0.0294	0.2121	0.1912	-8.1340	0.6760	-0.0149	0.1680
4	90.35	0.8582	-0.5536	0.0366	0.2534	0.2212	-9.8164	0.7687	-0.0379	0.1741
4	90.35	0.9101	-0.6398	0.0434	0.2662	0.2491	-11.4663	0.8501	-0.1201	0.1918
4	90.35	0.9728	-0.6974	0.0482	0.3518	0.2828	-13.4101	0.9537	0.0263	0.1971

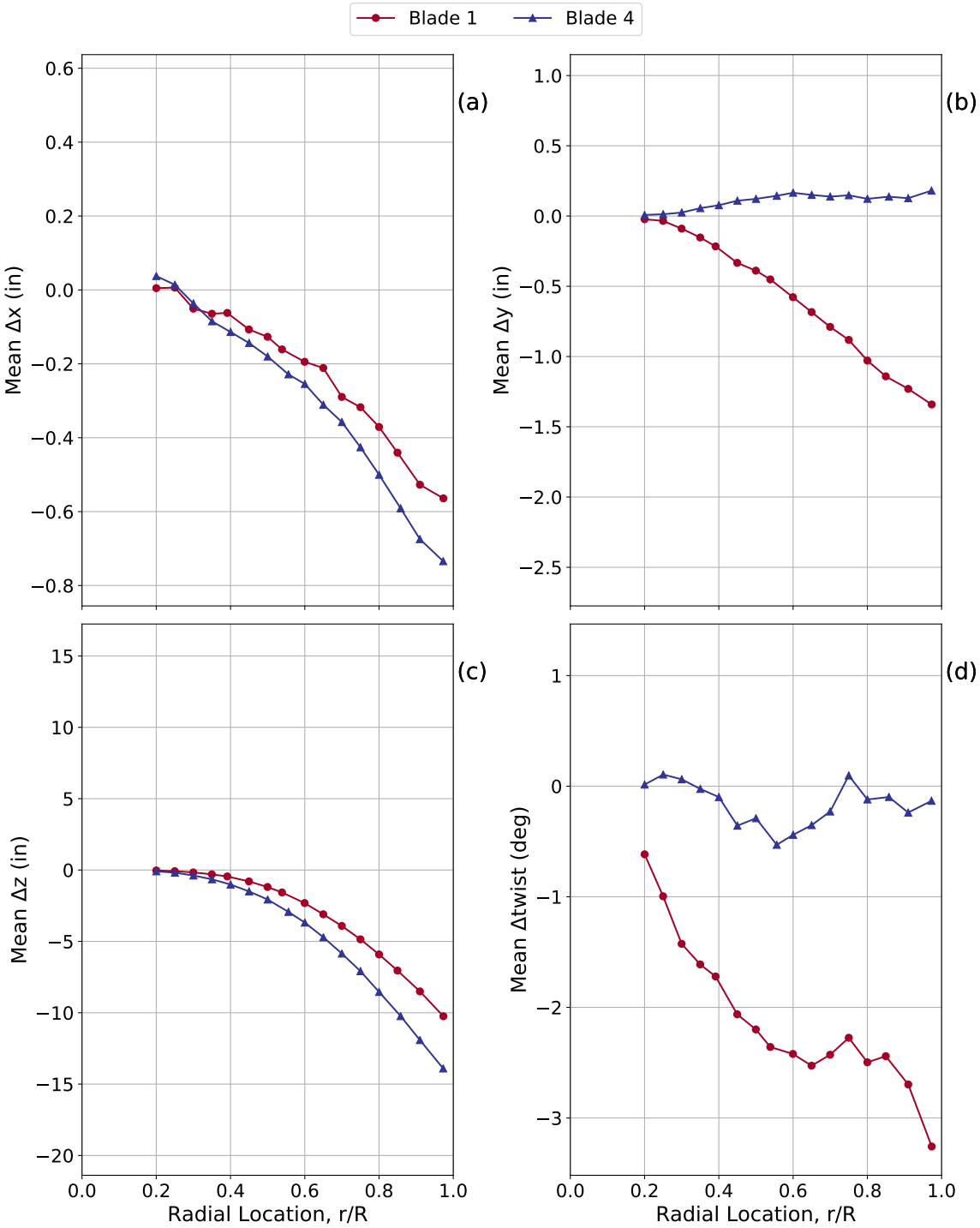


Figure 3.16-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	0.0048	0.0036	-0.0228	0.0022	-0.0302	0.0102	-0.6160	0.0414
1	94.92	0.2499	0.0063	0.0028	-0.0346	0.0043	-0.0815	0.0203	-0.9954	0.0734
1	94.92	0.2998	-0.0507	0.0017	-0.0897	0.0089	-0.1673	0.0383	-1.4252	0.0942
1	94.92	0.3498	-0.0644	0.0028	-0.1526	0.0161	-0.3035	0.0657	-1.6115	0.1041
1	94.92	0.3913	-0.0622	0.0034	-0.2160	0.0226	-0.4495	0.0934	-1.7207	0.0861
1	94.92	0.4496	-0.1070	0.0033	-0.3334	0.0336	-0.7978	0.1350	-2.0629	0.0990
1	94.92	0.4997	-0.1269	0.0044	-0.3888	0.0443	-1.1892	0.1739	-2.1993	0.0966
1	94.92	0.5387	-0.1610	0.0046	-0.4511	0.0535	-1.5714	0.2020	-2.3582	0.1103
1	94.92	0.5996	-0.1945	0.0051	-0.5776	0.0688	-2.3148	0.2474	-2.4210	0.1206
1	94.92	0.6498	-0.2113	0.0066	-0.6834	0.0840	-3.1012	0.2824	-2.5272	0.1107
1	94.92	0.6998	-0.2896	0.0081	-0.7890	0.0977	-3.9168	0.3158	-2.4284	0.1218
1	94.92	0.7500	-0.3175	0.0098	-0.8815	0.1142	-4.8564	0.3507	-2.2747	0.1081
1	94.92	0.8001	-0.3709	0.0120	-1.0288	0.1313	-5.9147	0.3853	-2.4966	0.1198
1	94.92	0.8497	-0.4404	0.0154	-1.1409	0.1496	-7.0443	0.4201	-2.4413	0.1168
1	94.92	0.9102	-0.5272	0.0184	-1.2302	0.1713	-8.5066	0.4659	-2.6969	0.1297
1	94.92	0.9734	-0.5641	0.0236	-1.3412	0.1960	-10.2460	0.5201	-3.2579	0.1366
4	94.92	0.2001	0.0375	0.0016	0.0076	0.0005	-0.0905	0.0033	0.0144	0.0182
4	94.92	0.2502	0.0139	0.0017	0.0129	0.0025	-0.1864	0.0065	0.1050	0.0387
4	94.92	0.3001	-0.0367	0.0017	0.0248	0.0029	-0.3841	0.0124	0.0619	0.0435
4	94.92	0.3502	-0.0849	0.0013	0.0561	0.0053	-0.6492	0.0210	-0.0250	0.0583
4	94.92	0.4002	-0.1139	0.0035	0.0769	0.0089	-1.0174	0.0325	-0.0990	0.0613
4	94.92	0.4500	-0.1437	0.0026	0.1091	0.0107	-1.4994	0.0445	-0.3574	0.0620
4	94.92	0.5001	-0.1803	0.0030	0.1221	0.0156	-2.0674	0.0602	-0.2900	0.0687
4	94.92	0.5560	-0.2285	0.0024	0.1440	0.0206	-2.9337	0.0820	-0.5302	0.0609
4	94.92	0.6001	-0.2545	0.0036	0.1656	0.0253	-3.6834	0.1002	-0.4401	0.0732
4	94.92	0.6501	-0.3108	0.0043	0.1502	0.0300	-4.7137	0.1190	-0.3525	0.0670
4	94.92	0.6999	-0.3577	0.0062	0.1382	0.0361	-5.8543	0.1403	-0.2293	0.0699
4	94.92	0.7500	-0.4260	0.0085	0.1478	0.0422	-7.0884	0.1634	0.0962	0.0800
4	94.92	0.8002	-0.5003	0.0098	0.1225	0.0487	-8.5425	0.1872	-0.1205	0.0706
4	94.92	0.8582	-0.5911	0.0117	0.1377	0.0573	-10.2367	0.2162	-0.0981	0.0738
4	94.92	0.9101	-0.6746	0.0136	0.1269	0.0647	-11.9135	0.2446	-0.2390	0.0779
4	94.92	0.9728	-0.7342	0.0159	0.1808	0.0743	-13.9058	0.2811	-0.1324	0.0798

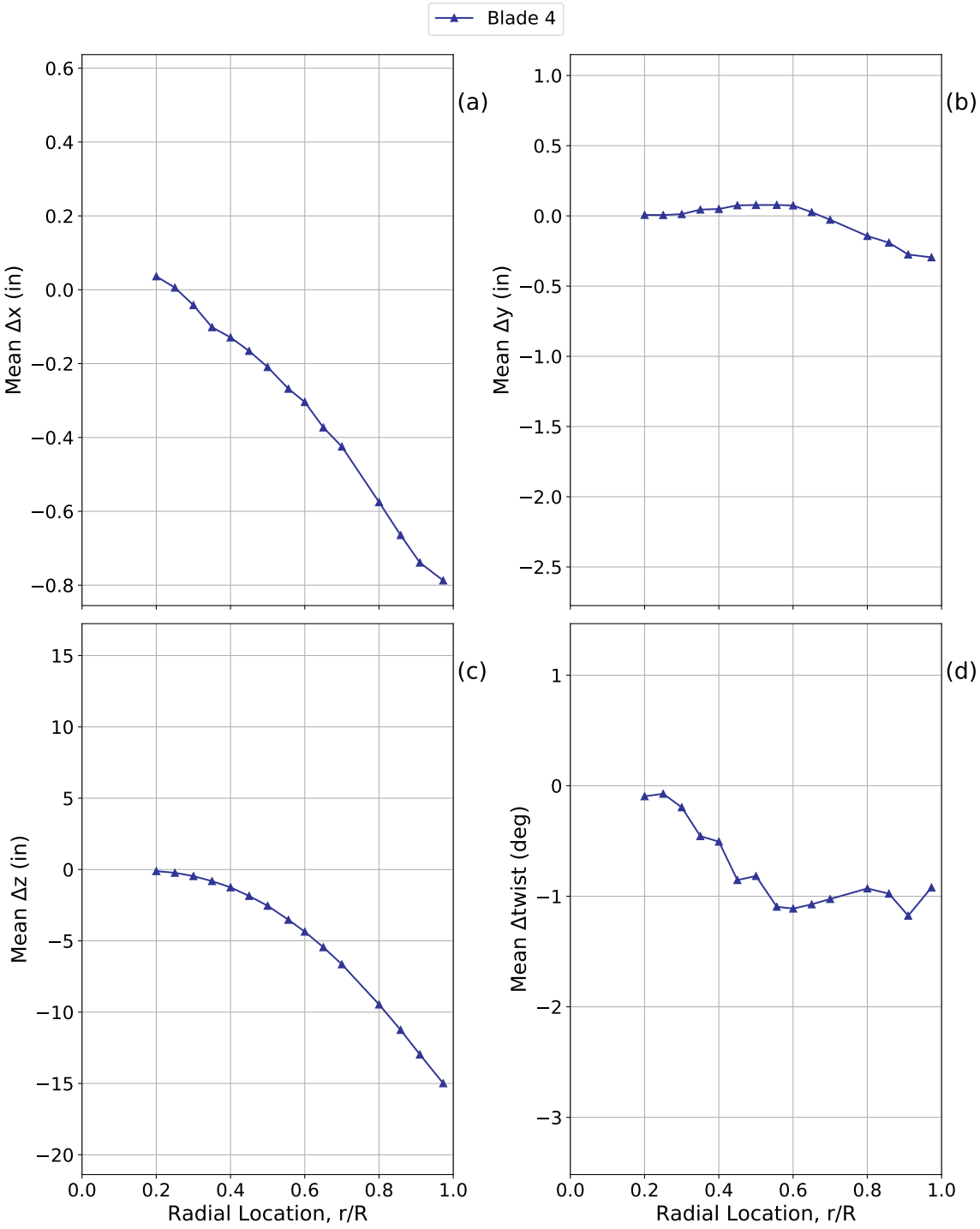


Figure 3.16-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.401$, $\alpha = -10°$
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	0.0363	0.0017	0.0070	0.0014	-0.1125	0.0093	-0.0956	0.0272
4	105.12	0.2502	0.0057	0.0030	0.0059	0.0035	-0.2292	0.0176	-0.0732	0.0517
4	105.12	0.3001	-0.0417	0.0019	0.0124	0.0059	-0.4630	0.0362	-0.1954	0.0536
4	105.12	0.3502	-0.1015	0.0030	0.0450	0.0116	-0.8130	0.0607	-0.4565	0.0596
4	105.12	0.4002	-0.1292	0.0034	0.0490	0.0172	-1.2513	0.0937	-0.5061	0.0548
4	105.12	0.4500	-0.1658	0.0055	0.0754	0.0246	-1.8548	0.1339	-0.8538	0.0533
4	105.12	0.5001	-0.2095	0.0060	0.0774	0.0333	-2.5438	0.1912	-0.8169	0.0808
4	105.12	0.5560	-0.2682	0.0098	0.0779	0.0436	-3.5267	0.2563	-1.0948	0.0828
4	105.12	0.6001	-0.3042	0.0117	0.0743	0.0537	-4.3595	0.3153	-1.1121	0.0792
4	105.12	0.6501	-0.3730	0.0158	0.0265	0.0654	-5.4501	0.3817	-1.0733	0.0998
4	105.12	0.6999	-0.4249	0.0199	-0.0276	0.0774	-6.6471	0.4410	-1.0251	0.1286
4	105.12	0.8002	-0.5753	0.0299	-0.1431	0.1026	-9.4660	0.5744	-0.9295	0.0847
4	105.12	0.8582	-0.6645	0.0365	-0.1909	0.1217	-11.2478	0.6331	-0.9767	0.1416
4	105.12	0.9101	-0.7391	0.0424	-0.2749	0.1377	-12.9713	0.7002	-1.1761	0.1527
4	105.12	0.9728	-0.7874	0.0470	-0.2953	0.1560	-14.9862	0.7797	-0.9209	0.1520

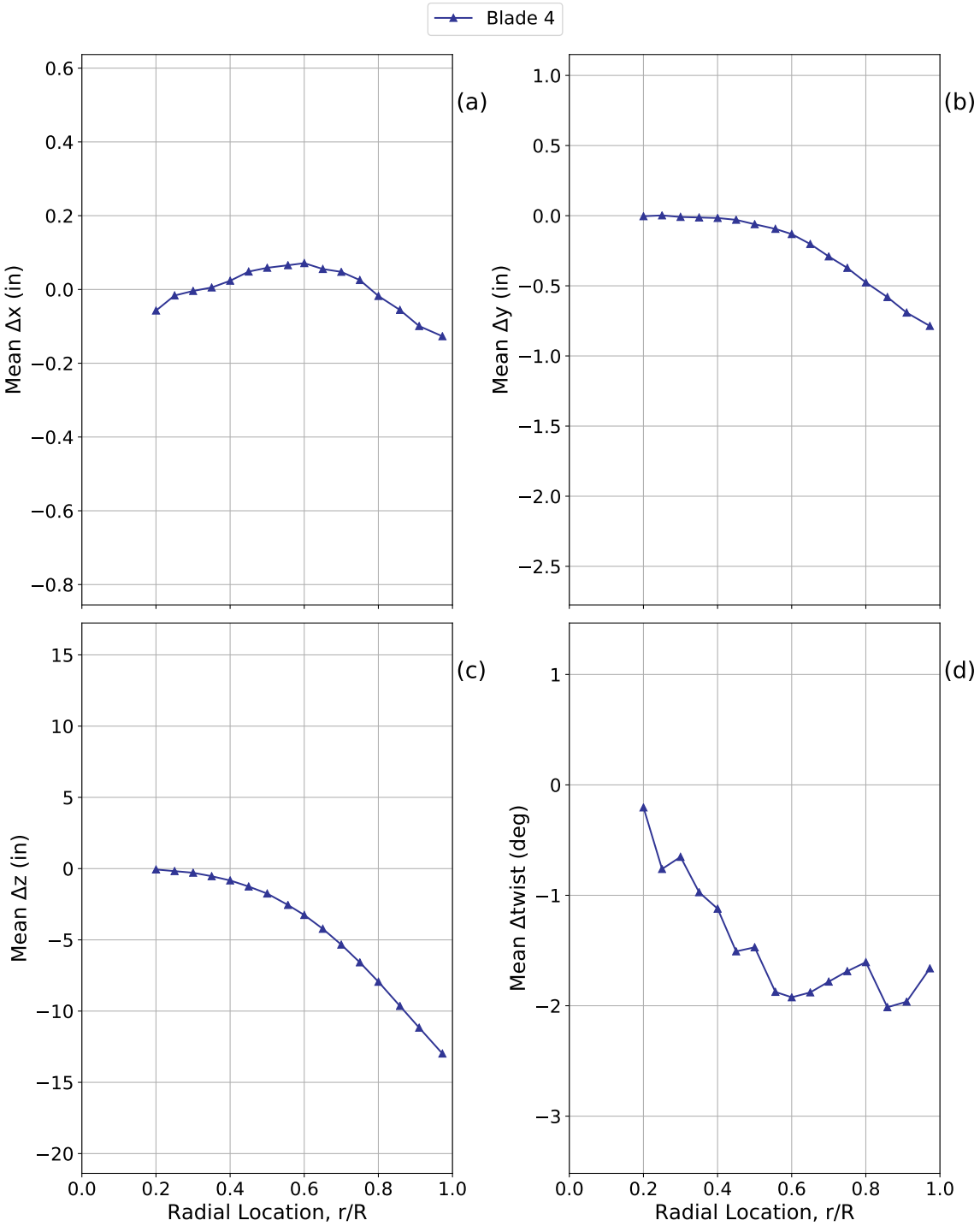


Figure 3.16-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0573	0.0061	-0.0040	0.0014	-0.0629	0.0053	-0.2044	0.0228
4	119.88	0.2502	-0.0164	0.0023	0.0020	0.0020	-0.1764	0.0101	-0.7617	0.0336
4	119.88	0.3001	-0.0041	0.0023	-0.0091	0.0043	-0.2906	0.0197	-0.6522	0.0490
4	119.88	0.3502	0.0053	0.0055	-0.0130	0.0077	-0.5340	0.0347	-0.9726	0.0399
4	119.88	0.4002	0.0236	0.0084	-0.0166	0.0111	-0.8320	0.0525	-1.1218	0.0574
4	119.88	0.4500	0.0484	0.0110	-0.0295	0.0154	-1.2569	0.0740	-1.5079	0.0406
4	119.88	0.5001	0.0587	0.0142	-0.0610	0.0197	-1.7521	0.0949	-1.4710	0.0424
4	119.88	0.5560	0.0656	0.0178	-0.0942	0.0257	-2.5514	0.1160	-1.8749	0.0535
4	119.88	0.6001	0.0713	0.0198	-0.1314	0.0312	-3.2569	0.1341	-1.9237	0.0427
4	119.88	0.6501	0.0554	0.0220	-0.2022	0.0369	-4.2262	0.1492	-1.8794	0.0436
4	119.88	0.6999	0.0477	0.0233	-0.2905	0.0439	-5.3367	0.1622	-1.7821	0.0456
4	119.88	0.7500	0.0254	0.0270	-0.3725	0.0514	-6.5826	0.1767	-1.6873	0.0534
4	119.88	0.8002	-0.0178	0.0309	-0.4763	0.0599	-7.9443	0.1980	-1.6055	0.0478
4	119.88	0.8582	-0.0556	0.0345	-0.5807	0.0702	-9.6418	0.2276	-2.0139	0.0491
4	119.88	0.9101	-0.0993	0.0391	-0.6913	0.0808	-11.1657	0.2666	-1.9634	0.0602
4	119.88	0.9728	-0.1269	0.0466	-0.7863	0.0929	-12.9824	0.3167	-1.6619	0.0892

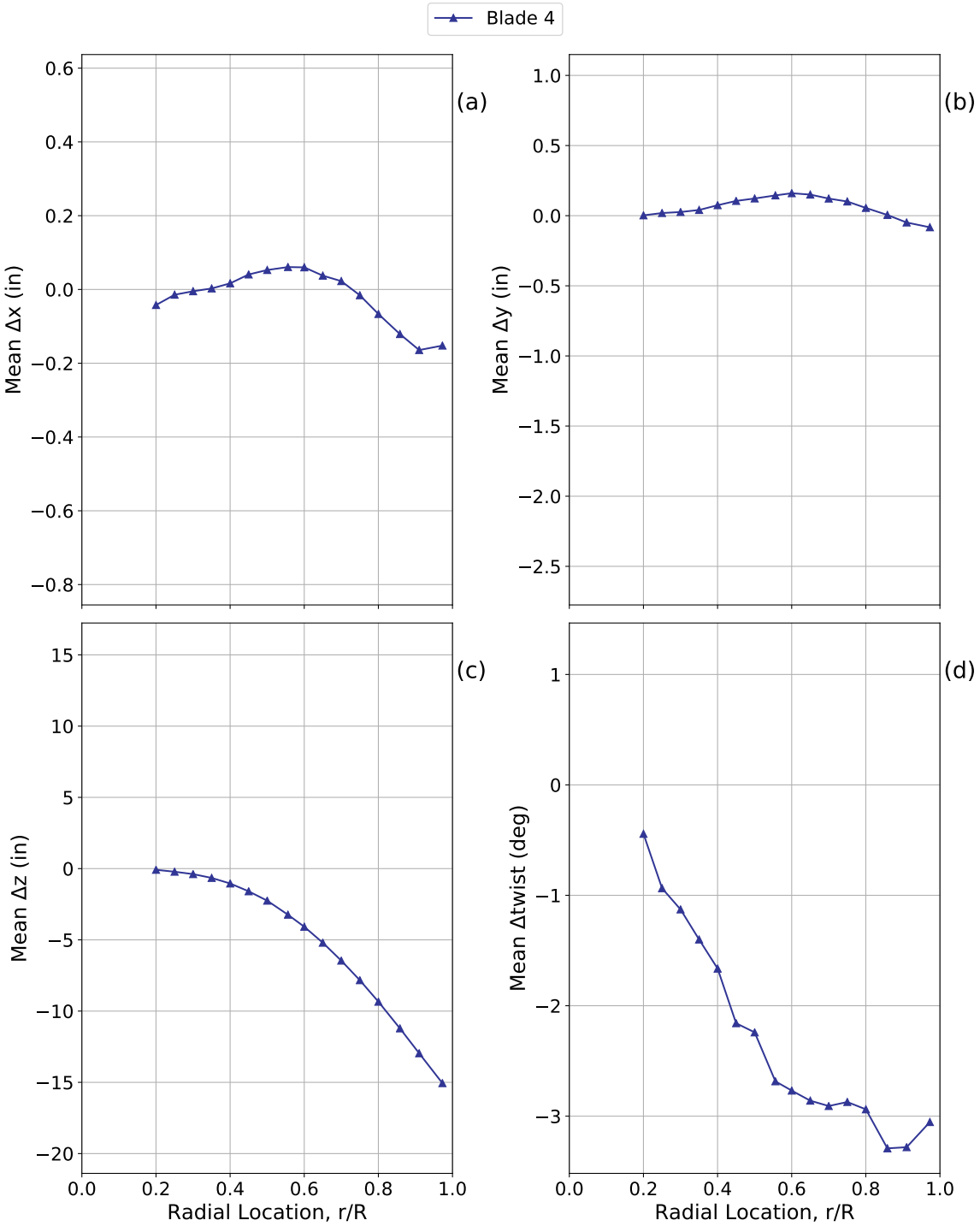


Figure 3.16-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0422	0.0050	0.0024	0.0009	-0.0841	0.0037	-0.4433	0.0230
4	135	0.2502	-0.0143	0.0016	0.0188	0.0022	-0.2190	0.0067	-0.9360	0.0424
4	135	0.3001	-0.0049	0.0023	0.0261	0.0037	-0.3865	0.0132	-1.1281	0.0535
4	135	0.3502	0.0027	0.0056	0.0406	0.0066	-0.6538	0.0237	-1.4004	0.0543
4	135	0.4002	0.0166	0.0074	0.0746	0.0103	-1.0448	0.0354	-1.6641	0.0488
4	135	0.4500	0.0406	0.0103	0.1051	0.0136	-1.5933	0.0519	-2.1585	0.0505
4	135	0.5001	0.0527	0.0138	0.1226	0.0174	-2.2508	0.0769	-2.2412	0.0504
4	135	0.5560	0.0607	0.0166	0.1445	0.0215	-3.2357	0.1072	-2.6845	0.0624
4	135	0.6001	0.0599	0.0192	0.1601	0.0261	-4.0809	0.1380	-2.7686	0.0538
4	135	0.6501	0.0374	0.0226	0.1503	0.0317	-5.2029	0.1802	-2.8598	0.0587
4	135	0.6999	0.0226	0.0261	0.1220	0.0373	-6.4580	0.2252	-2.9082	0.0634
4	135	0.7500	-0.0158	0.0311	0.1010	0.0442	-7.8326	0.2756	-2.8718	0.0644
4	135	0.8002	-0.0666	0.0366	0.0552	0.0505	-9.3437	0.3310	-2.9383	0.0667
4	135	0.8582	-0.1210	0.0433	0.0051	0.0586	-11.2146	0.3962	-3.2916	0.0623
4	135	0.9101	-0.1643	0.0475	-0.0486	0.0658	-12.9623	0.4534	-3.2811	0.0620
4	135	0.9728	-0.1522	0.0539	-0.0827	0.0748	-15.0585	0.5236	-3.0534	0.0593

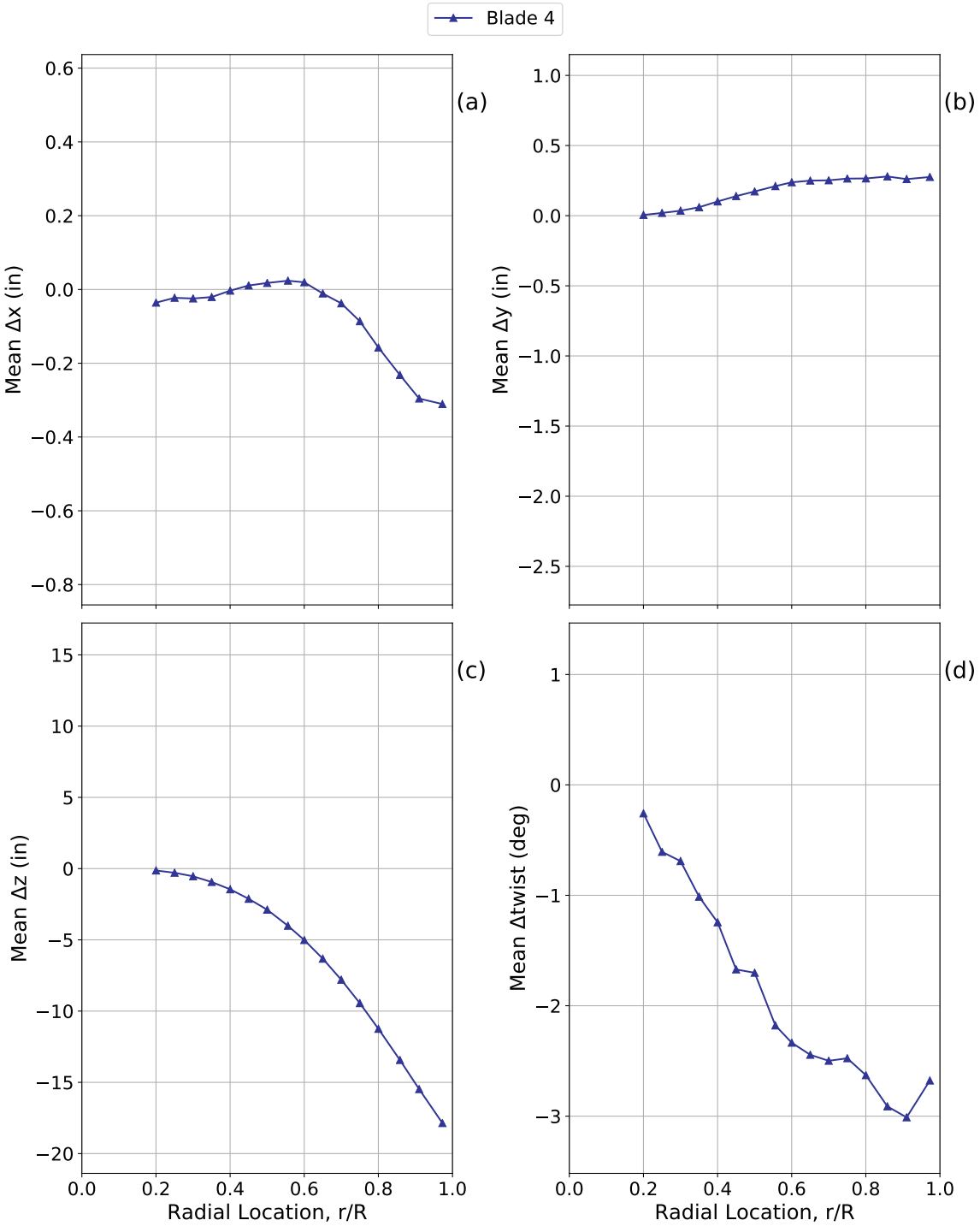


Figure 3.16-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.401$, $\alpha = -10°$
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0358	0.0052	0.0052	0.0007	-0.1324	0.0031	-0.2579	0.0202
4	150.12	0.2502	-0.0227	0.0024	0.0194	0.0026	-0.2922	0.0082	-0.6067	0.0255
4	150.12	0.3001	-0.0245	0.0027	0.0354	0.0036	-0.5402	0.0159	-0.6904	0.0431
4	150.12	0.3502	-0.0206	0.0042	0.0602	0.0063	-0.9404	0.0256	-1.0133	0.0375
4	150.12	0.4002	-0.0033	0.0068	0.1013	0.0103	-1.4534	0.0423	-1.2451	0.0361
4	150.12	0.4500	0.0108	0.0091	0.1392	0.0132	-2.1217	0.0624	-1.6714	0.0400
4	150.12	0.5001	0.0176	0.0112	0.1727	0.0162	-2.8850	0.0944	-1.7016	0.0370
4	150.12	0.5560	0.0237	0.0145	0.2105	0.0208	-4.0137	0.1361	-2.1788	0.0350
4	150.12	0.6001	0.0194	0.0178	0.2379	0.0246	-5.0156	0.1789	-2.3350	0.0464
4	150.12	0.6501	-0.0110	0.0220	0.2499	0.0288	-6.3230	0.2399	-2.4445	0.0359
4	150.12	0.6999	-0.0377	0.0284	0.2521	0.0349	-7.8034	0.3133	-2.4987	0.0581
4	150.12	0.7500	-0.0862	0.0374	0.2645	0.0415	-9.4441	0.4029	-2.4759	0.0520
4	150.12	0.8002	-0.1575	0.0471	0.2654	0.0490	-11.2467	0.5085	-2.6291	0.0581
4	150.12	0.8582	-0.2319	0.0638	0.2795	0.0578	-13.4361	0.6515	-2.9117	0.0618
4	150.12	0.9101	-0.2958	0.0781	0.2607	0.0677	-15.4798	0.7966	-3.0110	0.0706
4	150.12	0.9728	-0.3107	0.0975	0.2758	0.0804	-17.8589	0.9827	-2.6775	0.0947

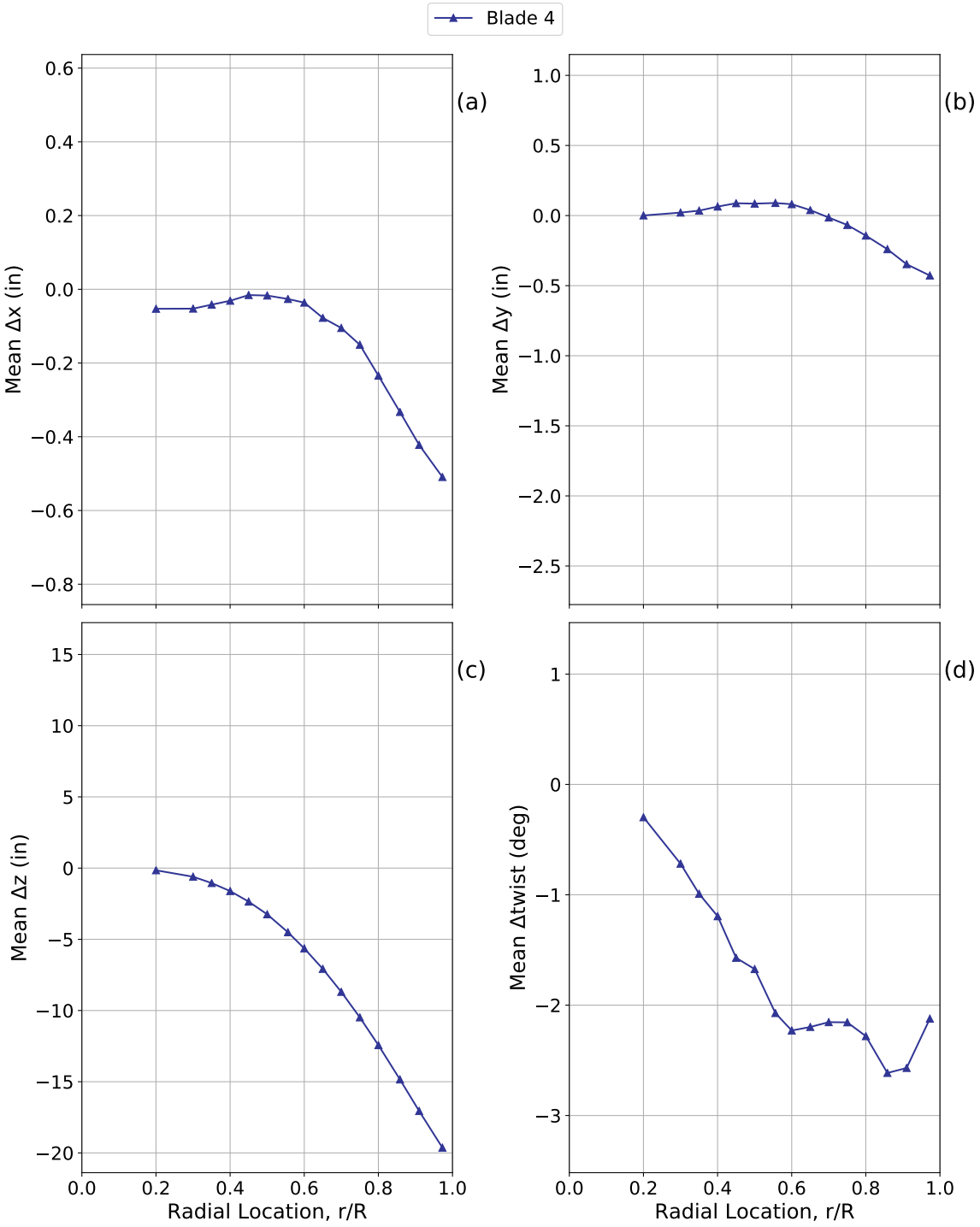


Figure 3.16-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0529	0.0065	0.0006	0.0009	-0.1534	0.0059	-0.2976	0.0226
4	164.88	0.3001	-0.0525	0.0036	0.0210	0.0045	-0.6053	0.0232	-0.7185	0.0528
4	164.88	0.3502	-0.0417	0.0041	0.0350	0.0085	-1.0504	0.0369	-0.9916	0.0393
4	164.88	0.4002	-0.0311	0.0064	0.0640	0.0130	-1.6145	0.0582	-1.1946	0.0628
4	164.88	0.4500	-0.0157	0.0085	0.0879	0.0165	-2.3543	0.0787	-1.5713	0.0459
4	164.88	0.5001	-0.0170	0.0107	0.0849	0.0225	-3.2466	0.1057	-1.6734	0.0470
4	164.88	0.5560	-0.0263	0.0132	0.0896	0.0300	-4.5059	0.1397	-2.0720	0.0602
4	164.88	0.6001	-0.0362	0.0151	0.0809	0.0359	-5.6396	0.1665	-2.2299	0.0502
4	164.88	0.6501	-0.0775	0.0172	0.0388	0.0437	-7.0784	0.1991	-2.1978	0.0574
4	164.88	0.6999	-0.1050	0.0206	-0.0141	0.0512	-8.6932	0.2294	-2.1542	0.0673
4	164.88	0.7500	-0.1505	0.0237	-0.0674	0.0587	-10.4852	0.2580	-2.1558	0.0628
4	164.88	0.8002	-0.2344	0.0269	-0.1432	0.0673	-12.4353	0.2825	-2.2812	0.0718
4	164.88	0.8582	-0.3328	0.0304	-0.2402	0.0776	-14.8422	0.3128	-2.6145	0.0673
4	164.88	0.9101	-0.4222	0.0356	-0.3472	0.0876	-17.0602	0.3424	-2.5694	0.0740
4	164.88	0.9728	-0.5093	0.0409	-0.4279	0.1001	-19.6336	0.3779	-2.1228	0.0733

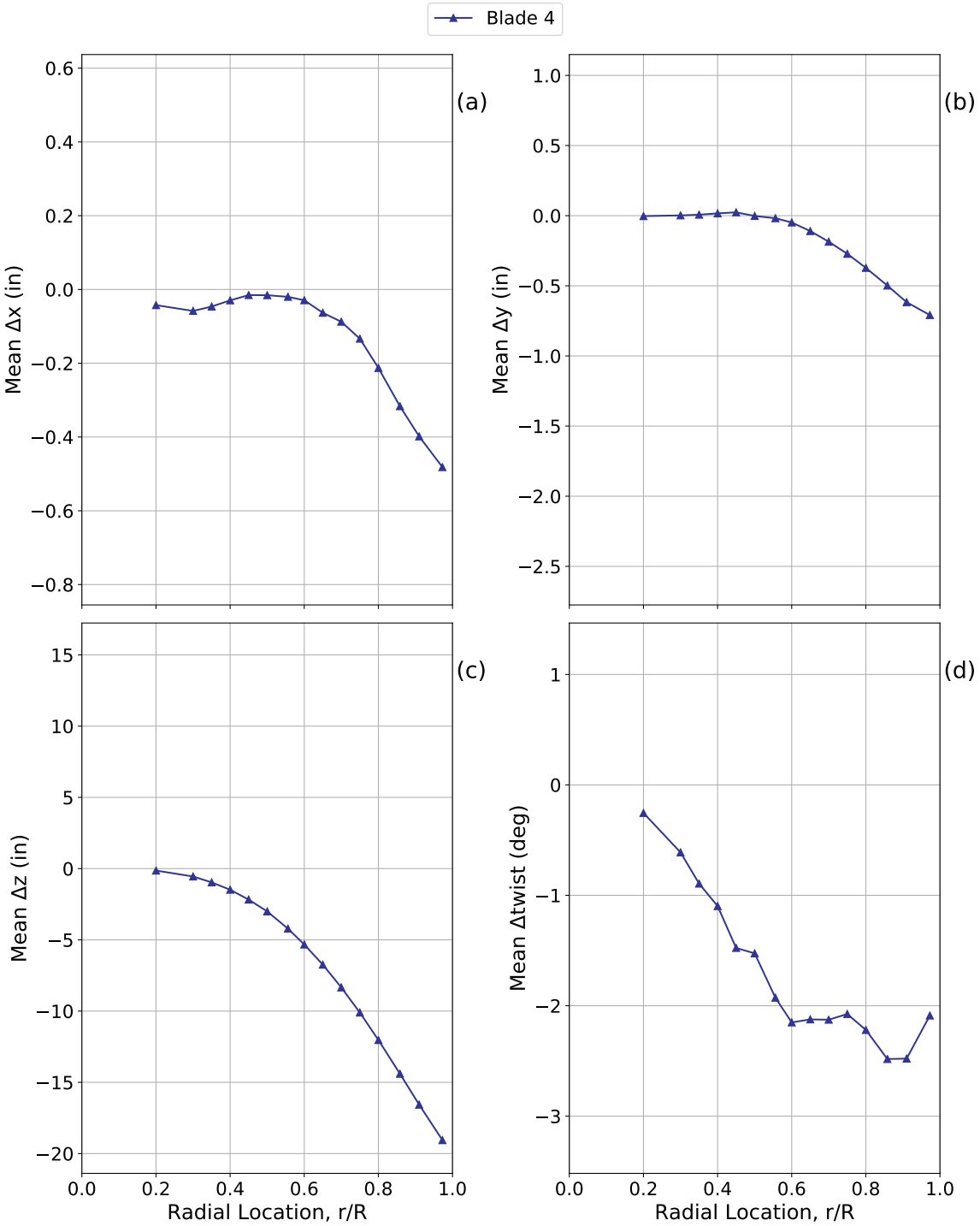


Figure 3.16-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0425	0.0074	-0.0031	0.0011	-0.1382	0.0066	-0.2545	0.0698
4	170.16	0.3001	-0.0582	0.0061	0.0021	0.0055	-0.5518	0.0215	-0.6116	0.1674
4	170.16	0.3502	-0.0463	0.0054	0.0070	0.0109	-0.9662	0.0416	-0.8943	0.1601
4	170.16	0.4002	-0.0296	0.0072	0.0163	0.0165	-1.4842	0.0596	-1.0979	0.1462
4	170.16	0.4500	-0.0153	0.0097	0.0238	0.0214	-2.1750	0.0777	-1.4765	0.1641
4	170.16	0.5001	-0.0156	0.0116	-0.0019	0.0276	-3.0049	0.0974	-1.5259	0.1513
4	170.16	0.5560	-0.0200	0.0138	-0.0182	0.0341	-4.2153	0.1190	-1.9274	0.1585
4	170.16	0.6001	-0.0293	0.0151	-0.0484	0.0414	-5.3286	0.1339	-2.1512	0.1533
4	170.16	0.6501	-0.0632	0.0170	-0.1098	0.0490	-6.7426	0.1516	-2.1237	0.1431
4	170.16	0.6999	-0.0875	0.0187	-0.1855	0.0575	-8.3396	0.1671	-2.1266	0.1468
4	170.16	0.7500	-0.1335	0.0210	-0.2717	0.0657	-10.1025	0.1865	-2.0751	0.1491
4	170.16	0.8002	-0.2129	0.0227	-0.3722	0.0751	-12.0332	0.2045	-2.2195	0.1407
4	170.16	0.8582	-0.3166	0.0250	-0.4983	0.0855	-14.3983	0.2264	-2.4826	0.1421
4	170.16	0.9101	-0.3984	0.0277	-0.6168	0.0955	-16.5677	0.2509	-2.4790	0.1487
4	170.16	0.9728	-0.4817	0.0315	-0.7084	0.1069	-19.0573	0.2863	-2.0887	0.1462

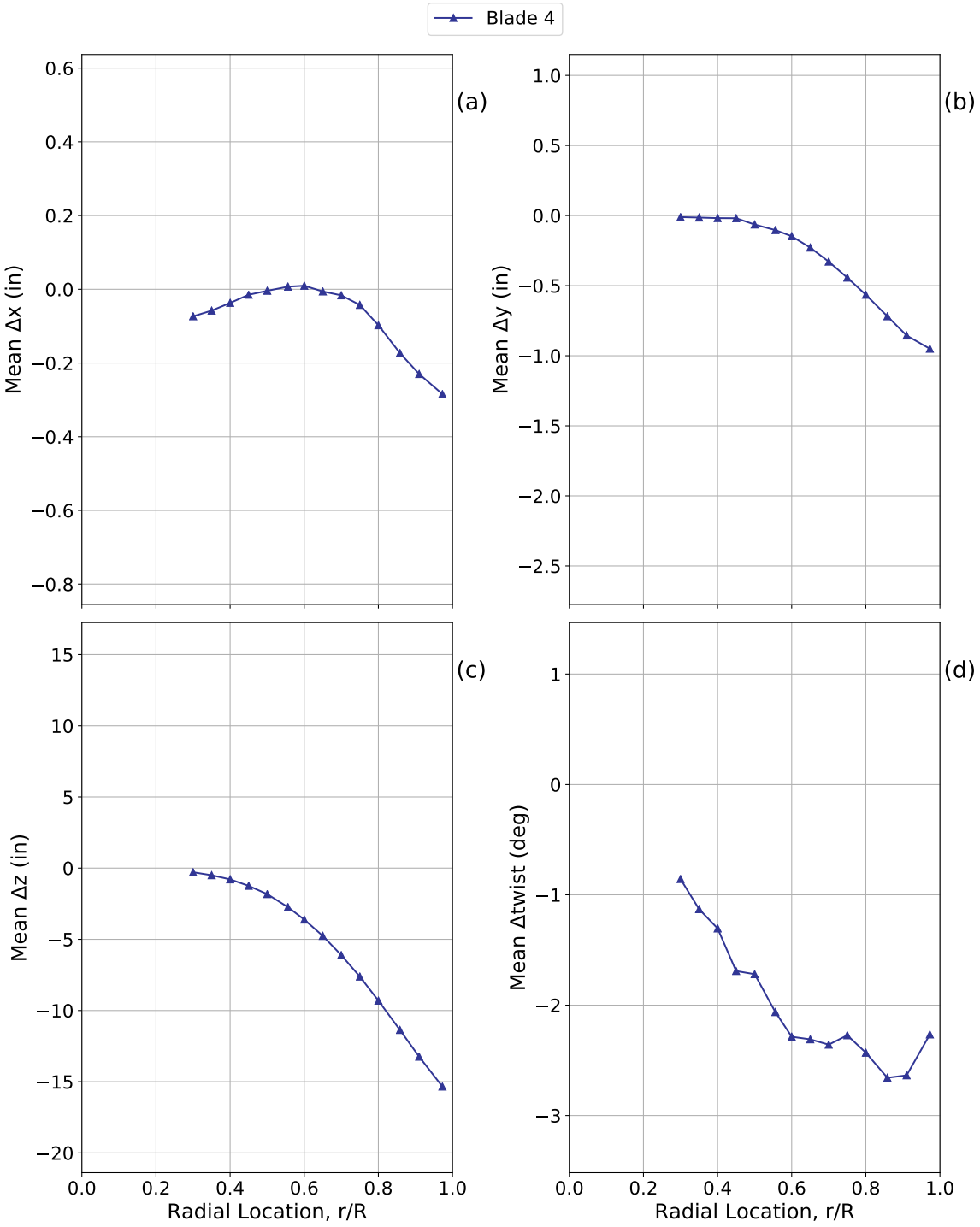


Figure 3.16-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.3001	-0.0733	0.0182	-0.0111	0.0218	-0.2908	0.1071	-0.8572	0.2958
4	175.08	0.3502	-0.0578	0.0324	-0.0144	0.0388	-0.4999	0.1890	-1.1304	0.3962
4	175.08	0.4002	-0.0369	0.0279	-0.0184	0.0626	-0.7904	0.3046	-1.3051	0.3295
4	175.08	0.4500	-0.0148	0.0294	-0.0191	0.0822	-1.2447	0.4014	-1.6908	0.3309
4	175.08	0.5001	-0.0041	0.0308	-0.0643	0.1037	-1.8260	0.5030	-1.7196	0.3056
4	175.08	0.5560	0.0071	0.0346	-0.1039	0.1268	-2.7419	0.6064	-2.0629	0.3486
4	175.08	0.6001	0.0096	0.0398	-0.1478	0.1472	-3.6152	0.6914	-2.2864	0.3322
4	175.08	0.6501	-0.0059	0.0459	-0.2288	0.1696	-4.7629	0.7852	-2.3099	0.3316
4	175.08	0.6999	-0.0164	0.0534	-0.3289	0.1905	-6.1088	0.8841	-2.3582	0.3135
4	175.08	0.7500	-0.0424	0.0626	-0.4431	0.2122	-7.6205	0.9844	-2.2730	0.3165
4	175.08	0.8002	-0.0977	0.0730	-0.5652	0.2344	-9.3102	1.0888	-2.4312	0.3274
4	175.08	0.8582	-0.1730	0.0873	-0.7187	0.2605	-11.3679	1.2168	-2.6579	0.3262
4	175.08	0.9101	-0.2299	0.0991	-0.8557	0.2829	-13.2460	1.3329	-2.6361	0.3431
4	175.08	0.9728	-0.2843	0.1127	-0.9502	0.3100	-15.3433	1.4786	-2.2656	0.3392

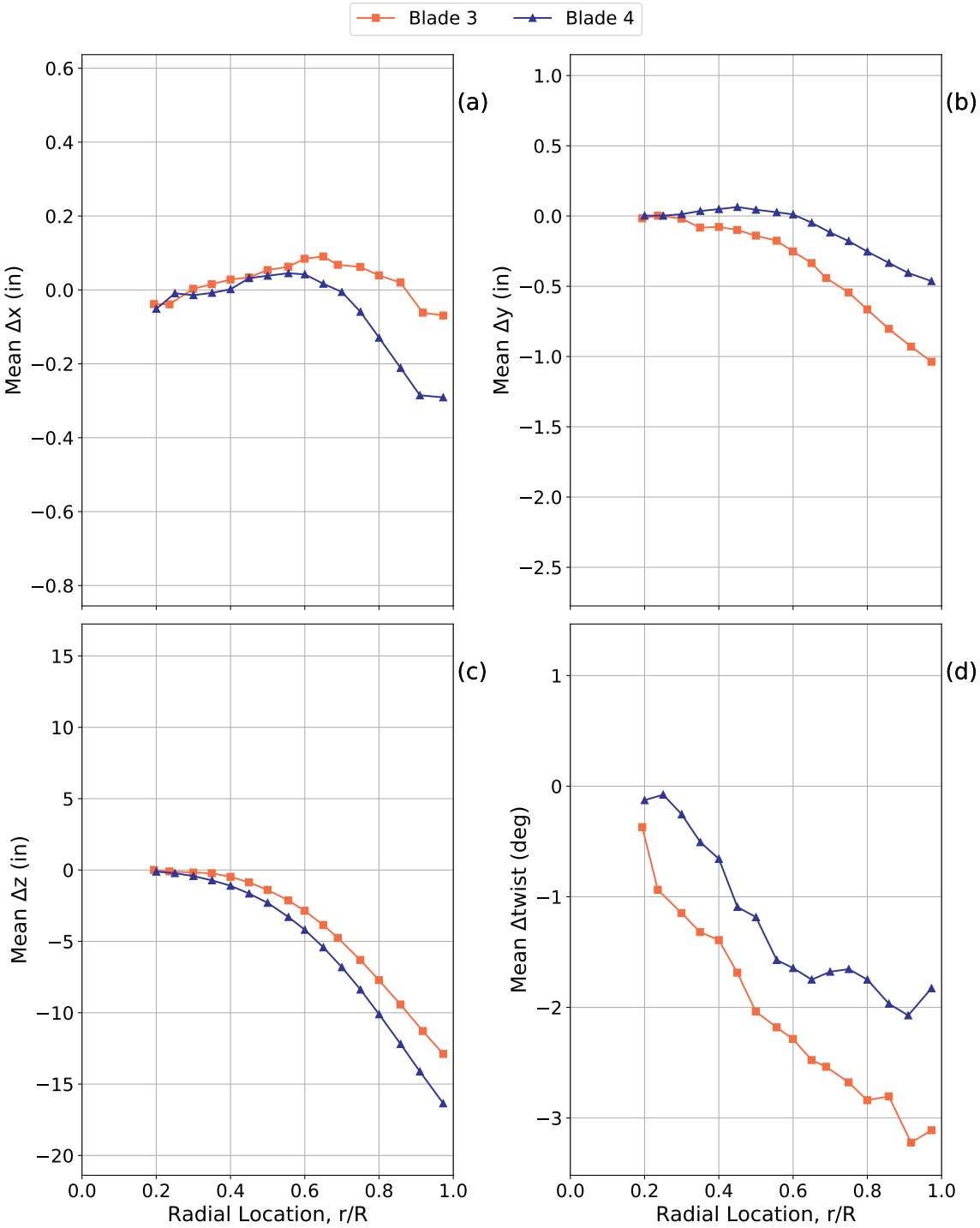


Figure 3.16-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0383	0.0069	-0.0164	0.0053	0.0082	0.0128	-0.3702	0.0436
3	180.35	0.2357	-0.0389	0.0049	0.0022	0.0034	-0.0983	0.0117	-0.9371	0.1175
3	180.35	0.2995	0.0031	0.0049	-0.0183	0.0116	-0.1735	0.0193	-1.1471	0.1269
3	180.35	0.3493	0.0155	0.0155	-0.0823	0.0248	-0.2217	0.0413	-1.3190	0.0917
3	180.35	0.4000	0.0282	0.0094	-0.0778	0.0312	-0.4777	0.0463	-1.3916	0.1380
3	180.35	0.4497	0.0340	0.0108	-0.0994	0.0378	-0.8645	0.0525	-1.6862	0.1494
3	180.35	0.4997	0.0537	0.0101	-0.1398	0.0458	-1.3912	0.0607	-2.0377	0.1480
3	180.35	0.5556	0.0629	0.0095	-0.1759	0.0548	-2.1281	0.0664	-2.1805	0.1523
3	180.35	0.5995	0.0844	0.0100	-0.2519	0.0621	-2.8554	0.0710	-2.2858	0.1354
3	180.35	0.6498	0.0905	0.0110	-0.3348	0.0717	-3.8538	0.0723	-2.4763	0.1521
3	180.35	0.6890	0.0680	0.0114	-0.4412	0.0795	-4.7548	0.0731	-2.5371	0.1691
3	180.35	0.7495	0.0622	0.0131	-0.5438	0.0912	-6.3012	0.0788	-2.6780	0.1671
3	180.35	0.7998	0.0393	0.0140	-0.6648	0.1010	-7.7133	0.0882	-2.8392	0.1852
3	180.35	0.8577	0.0200	0.0171	-0.8032	0.1135	-9.4199	0.1113	-2.8049	0.1719
3	180.35	0.9178	-0.0615	0.0204	-0.9293	0.1264	-11.2784	0.1431	-3.2221	0.1929
3	180.35	0.9729	-0.0692	0.0234	-1.0368	0.1363	-12.8873	0.1747	-3.1109	0.1896
4	180	0.2001	-0.0512	0.0138	0.0027	0.0011	-0.1131	0.0040	-0.1269	0.0276
4	180	0.2502	-0.0092	0.0055	0.0023	0.0028	-0.2217	0.0084	-0.0771	0.0450
4	180	0.3001	-0.0142	0.0038	0.0131	0.0045	-0.4250	0.0139	-0.2551	0.0580
4	180	0.3502	-0.0080	0.0127	0.0359	0.0078	-0.7225	0.0206	-0.5064	0.0689
4	180	0.4002	0.0019	0.0220	0.0492	0.0127	-1.1047	0.0327	-0.6576	0.0644
4	180	0.4500	0.0319	0.0321	0.0641	0.0190	-1.6516	0.0444	-1.0922	0.0576
4	180	0.5001	0.0384	0.0414	0.0451	0.0267	-2.3011	0.0556	-1.1848	0.0713
4	180	0.5560	0.0452	0.0531	0.0270	0.0370	-3.2909	0.0687	-1.5722	0.0764
4	180	0.6001	0.0422	0.0625	0.0115	0.0466	-4.1901	0.0792	-1.6447	0.0837
4	180	0.6501	0.0167	0.0743	-0.0477	0.0582	-5.4199	0.0931	-1.7491	0.0976
4	180	0.6999	-0.0056	0.0867	-0.1171	0.0720	-6.8109	0.1059	-1.6778	0.0882
4	180	0.7500	-0.0593	0.0989	-0.1788	0.0875	-8.3794	0.1218	-1.6541	0.0957
4	180	0.8002	-0.1294	0.1135	-0.2530	0.1055	-10.1079	0.1448	-1.7496	0.1111
4	180	0.8582	-0.2111	0.1283	-0.3340	0.1292	-12.1952	0.1804	-1.9675	0.1228
4	180	0.9101	-0.2852	0.1416	-0.4050	0.1534	-14.1211	0.2198	-2.0724	0.1239
4	180	0.9728	-0.2908	0.1513	-0.4634	0.1765	-16.3494	0.2660	-1.8271	0.1500

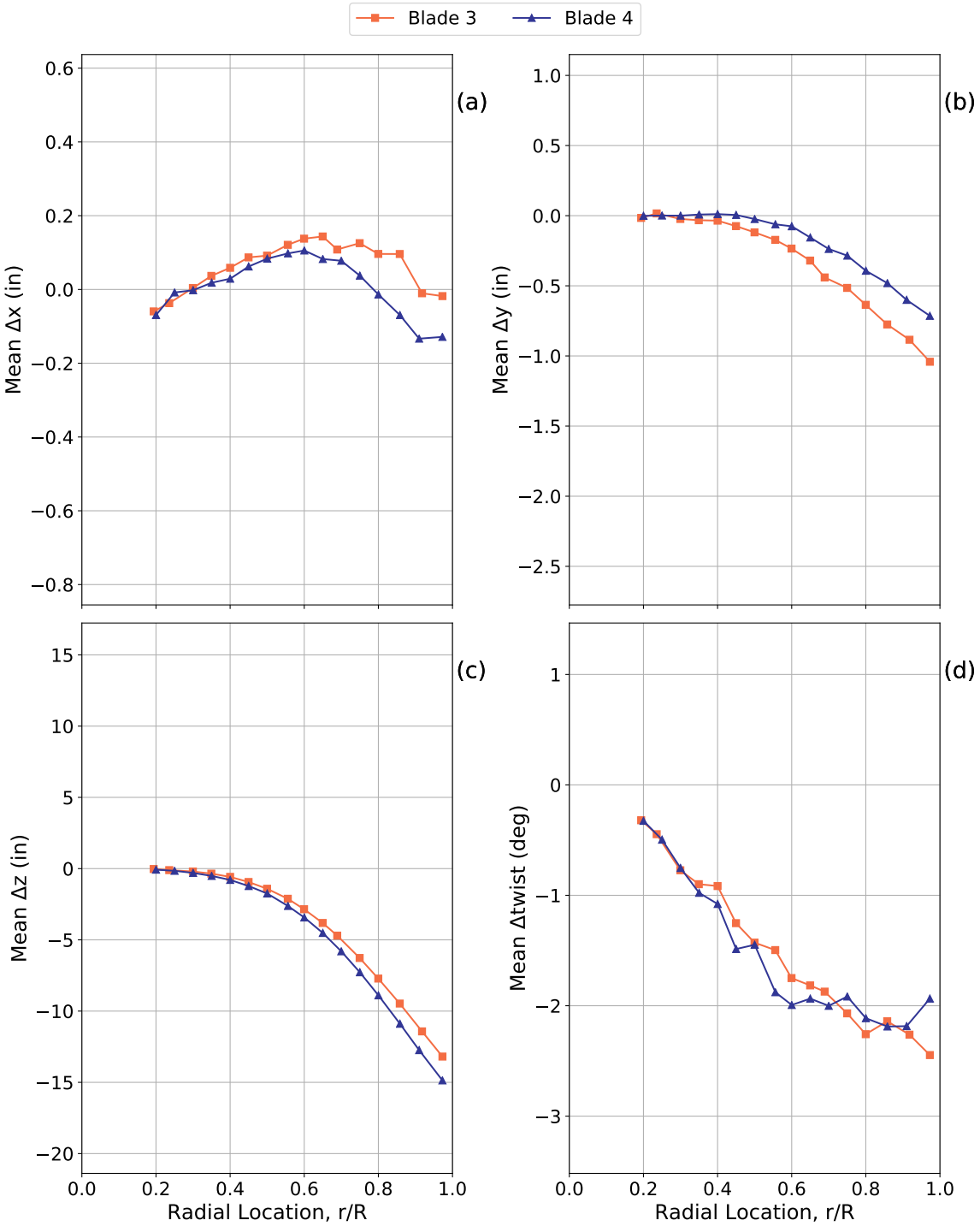


Figure 3.16-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.401$, $\alpha = -10°$
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0595	0.0013	-0.0159	0.0007	-0.0282	0.0038	-0.3202	0.0326
3	184.92	0.2357	-0.0371	0.0011	0.0161	0.0017	-0.1060	0.0088	-0.4464	0.0256
3	184.92	0.2995	0.0038	0.0011	-0.0234	0.0028	-0.2030	0.0158	-0.7732	0.0593
3	184.92	0.3493	0.0368	0.0015	-0.0323	0.0051	-0.3525	0.0250	-0.8993	0.0740
3	184.92	0.4000	0.0587	0.0016	-0.0354	0.0077	-0.5802	0.0401	-0.9161	0.0460
3	184.92	0.4497	0.0869	0.0023	-0.0744	0.0091	-0.9393	0.0537	-1.2521	0.0556
3	184.92	0.4997	0.0917	0.0025	-0.1188	0.0099	-1.4130	0.0678	-1.4284	0.0500
3	184.92	0.5556	0.1210	0.0038	-0.1725	0.0127	-2.1156	0.0845	-1.4960	0.0664
3	184.92	0.5995	0.1377	0.0050	-0.2345	0.0155	-2.8503	0.1011	-1.7494	0.0702
3	184.92	0.6498	0.1436	0.0058	-0.3201	0.0183	-3.8155	0.1185	-1.8158	0.0646
3	184.92	0.6890	0.1083	0.0064	-0.4404	0.0197	-4.7023	0.1354	-1.8722	0.0655
3	184.92	0.7495	0.1255	0.0100	-0.5149	0.0224	-6.2727	0.1568	-2.0690	0.0822
3	184.92	0.7998	0.0963	0.0117	-0.6355	0.0265	-7.7174	0.1750	-2.2578	0.0829
3	184.92	0.8577	0.0961	0.0138	-0.7756	0.0315	-9.4709	0.2004	-2.1406	0.0990
3	184.92	0.9178	-0.0103	0.0148	-0.8845	0.0348	-11.4240	0.2321	-2.2621	0.1318
3	184.92	0.9729	-0.0180	0.0197	-1.0414	0.0416	-13.1911	0.2652	-2.4467	0.1016
4	184.92	0.2001	-0.0694	0.0011	-0.0011	0.0013	-0.0756	0.0076	-0.3258	0.0240
4	184.92	0.2502	-0.0082	0.0014	0.0008	0.0035	-0.1557	0.0140	-0.4964	0.0443
4	184.92	0.3001	-0.0021	0.0008	0.0001	0.0069	-0.3015	0.0244	-0.7529	0.0546
4	184.92	0.3502	0.0182	0.0014	0.0081	0.0114	-0.5136	0.0365	-0.9776	0.0711
4	184.92	0.4002	0.0291	0.0025	0.0111	0.0190	-0.7945	0.0561	-1.0786	0.0648
4	184.92	0.4500	0.0622	0.0029	0.0052	0.0256	-1.2246	0.0712	-1.4866	0.0732
4	184.92	0.5001	0.0835	0.0036	-0.0240	0.0326	-1.7484	0.0855	-1.4479	0.0886
4	184.92	0.5560	0.0977	0.0050	-0.0616	0.0426	-2.6224	0.1029	-1.8778	0.0930
4	184.92	0.6001	0.1056	0.0054	-0.0757	0.0514	-3.4296	0.1150	-1.9933	0.0959
4	184.92	0.6501	0.0825	0.0071	-0.1557	0.0618	-4.5174	0.1292	-1.9356	0.0909
4	184.92	0.6999	0.0778	0.0110	-0.2373	0.0721	-5.8053	0.1444	-2.0010	0.0689
4	184.92	0.7500	0.0374	0.0136	-0.2850	0.0846	-7.2760	0.1669	-1.9166	0.0992
4	184.92	0.8002	-0.0137	0.0190	-0.3927	0.0946	-8.8961	0.2004	-2.1130	0.1031
4	184.92	0.8582	-0.0695	0.0269	-0.4812	0.1072	-10.8898	0.2518	-2.1882	0.1026
4	184.92	0.9101	-0.1334	0.0335	-0.6005	0.1171	-12.7420	0.3060	-2.1850	0.0911
4	184.92	0.9728	-0.1286	0.0428	-0.7142	0.1338	-14.8638	0.3762	-1.9355	0.0928

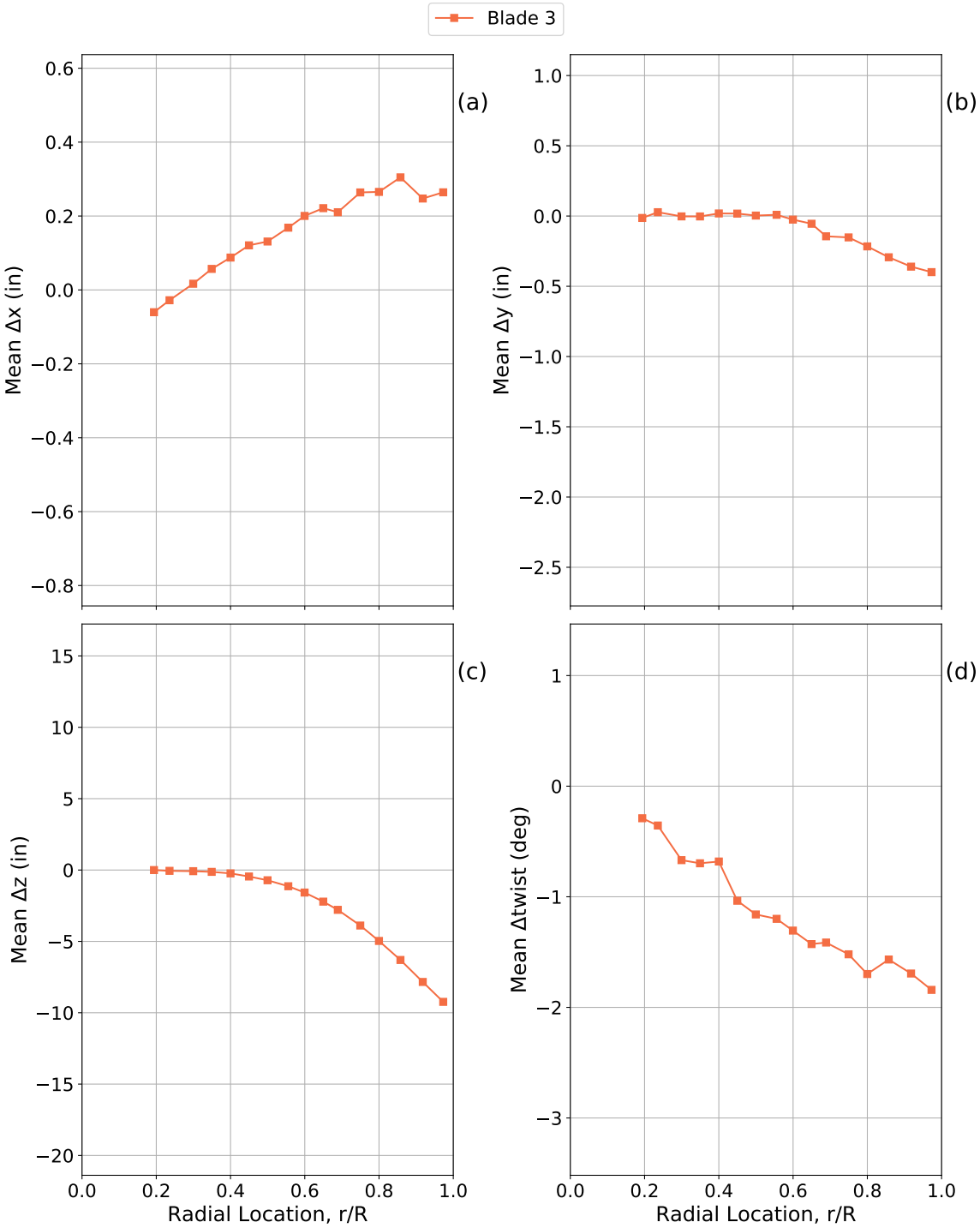


Figure 3.16-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0603	0.0019	-0.0137	0.0015	-0.0024	0.0040	-0.2902	0.0265
3	195.12	0.2357	-0.0279	0.0018	0.0273	0.0022	-0.0564	0.0098	-0.3559	0.0350
3	195.12	0.2995	0.0168	0.0022	-0.0026	0.0062	-0.0807	0.0179	-0.6688	0.0560
3	195.12	0.3493	0.0569	0.0020	-0.0029	0.0097	-0.1289	0.0293	-0.6973	0.0517
3	195.12	0.4000	0.0876	0.0028	0.0184	0.0160	-0.2353	0.0470	-0.6813	0.0493
3	195.12	0.4497	0.1207	0.0035	0.0174	0.0187	-0.4541	0.0638	-1.0358	0.0488
3	195.12	0.4997	0.1310	0.0045	0.0033	0.0242	-0.7168	0.0892	-1.1598	0.0474
3	195.12	0.5556	0.1685	0.0053	0.0088	0.0295	-1.1361	0.1207	-1.1994	0.0538
3	195.12	0.5995	0.2003	0.0060	-0.0254	0.0353	-1.5782	0.1526	-1.3058	0.0548
3	195.12	0.6498	0.2213	0.0071	-0.0549	0.0409	-2.2143	0.1941	-1.4276	0.0706
3	195.12	0.6890	0.2103	0.0091	-0.1443	0.0443	-2.7905	0.2309	-1.4139	0.0645
3	195.12	0.7495	0.2639	0.0126	-0.1521	0.0539	-3.8888	0.2918	-1.5202	0.0703
3	195.12	0.7998	0.2653	0.0167	-0.2161	0.0610	-4.9686	0.3470	-1.6984	0.0823
3	195.12	0.8577	0.3047	0.0221	-0.2935	0.0679	-6.3017	0.4256	-1.5673	0.0824
3	195.12	0.9178	0.2474	0.0270	-0.3602	0.0751	-7.8432	0.5038	-1.6939	0.0951
3	195.12	0.9729	0.2642	0.0330	-0.3992	0.0834	-9.2370	0.5880	-1.8418	0.0974

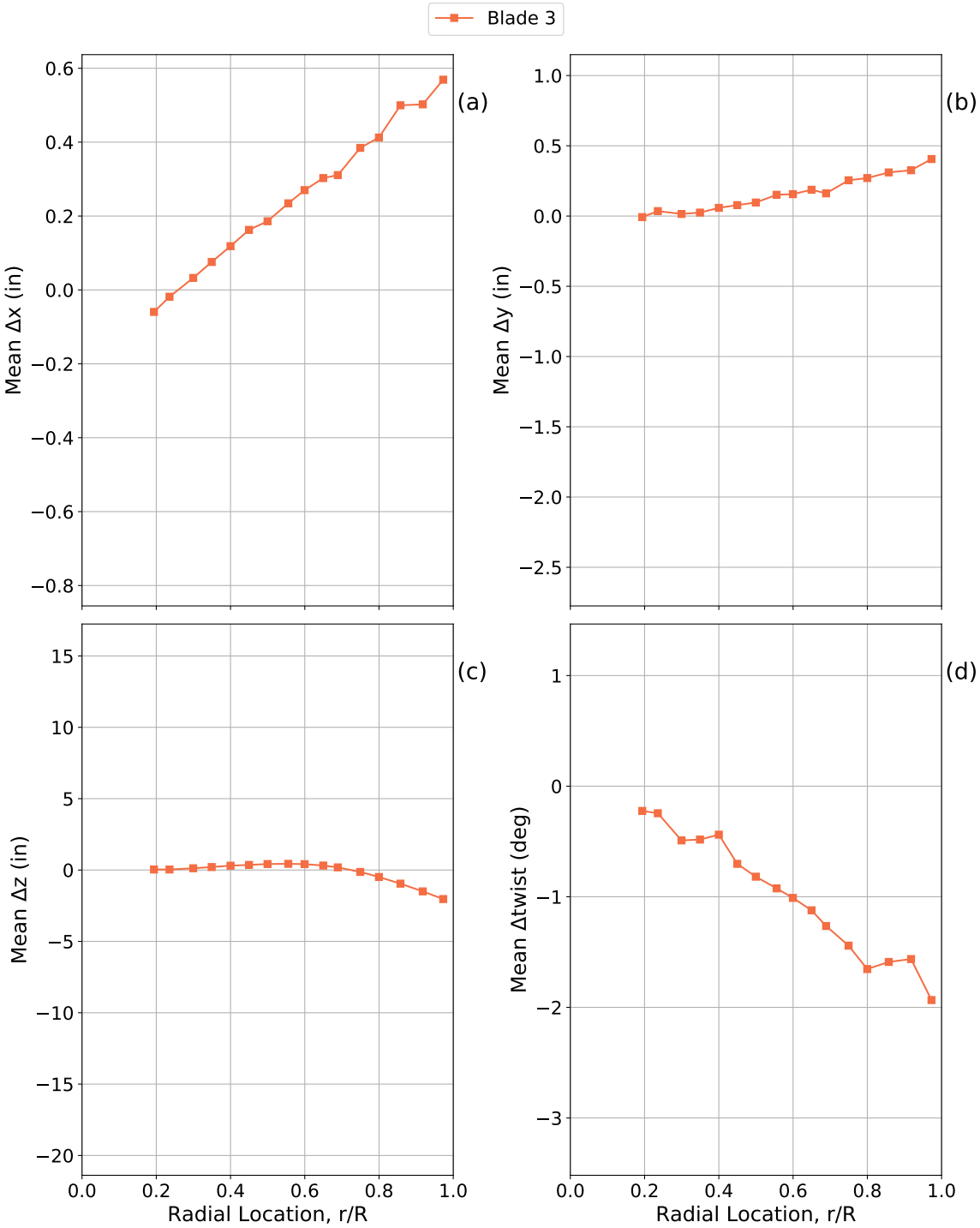


Figure 3.16-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0595	0.0020	-0.0077	0.0007	0.0389	0.0075	-0.2238	0.0367
3	209.88	0.2357	-0.0184	0.0013	0.0349	0.0020	0.0354	0.0156	-0.2447	0.0620
3	209.88	0.2995	0.0325	0.0031	0.0149	0.0037	0.1237	0.0279	-0.4904	0.0886
3	209.88	0.3493	0.0757	0.0018	0.0245	0.0074	0.2081	0.0436	-0.4827	0.0895
3	209.88	0.4000	0.1185	0.0024	0.0583	0.0121	0.3060	0.0680	-0.4385	0.0901
3	209.88	0.4497	0.1625	0.0023	0.0777	0.0168	0.3569	0.0893	-0.7022	0.0912
3	209.88	0.4997	0.1859	0.0027	0.0963	0.0225	0.4202	0.1144	-0.8184	0.0893
3	209.88	0.5556	0.2344	0.0036	0.1512	0.0300	0.4346	0.1500	-0.9239	0.0952
3	209.88	0.5995	0.2701	0.0036	0.1558	0.0363	0.4131	0.1772	-1.0103	0.1064
3	209.88	0.6498	0.3027	0.0041	0.1870	0.0431	0.3154	0.2130	-1.1224	0.1040
3	209.88	0.6890	0.3108	0.0034	0.1615	0.0489	0.1862	0.2419	-1.2643	0.1121
3	209.88	0.7495	0.3845	0.0045	0.2545	0.0589	-0.1336	0.2876	-1.4419	0.1135
3	209.88	0.7998	0.4126	0.0045	0.2703	0.0668	-0.4880	0.3215	-1.6536	0.1093
3	209.88	0.8577	0.4997	0.0053	0.3104	0.0766	-0.9552	0.3611	-1.5893	0.1084
3	209.88	0.9178	0.5022	0.0064	0.3259	0.0881	-1.4971	0.4018	-1.5630	0.1312
3	209.88	0.9729	0.5690	0.0086	0.4058	0.0983	-2.0337	0.4369	-1.9340	0.1162

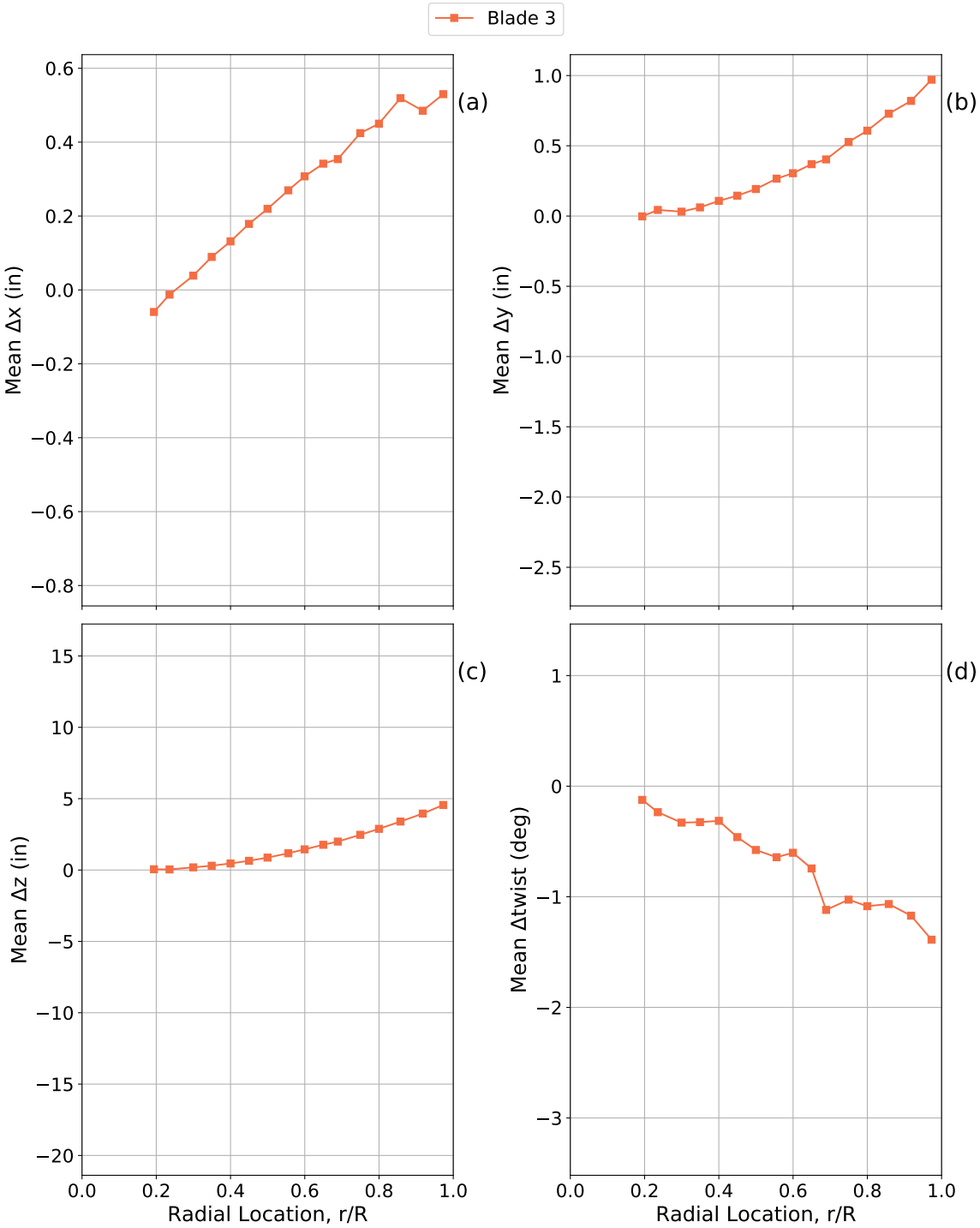


Figure 3.16-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.08$, $\mu = 0.401$, $\alpha = -10°$
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0596	0.0020	-0.0026	0.0007	0.0527	0.0047	-0.1241	0.0315
3	225	0.2357	-0.0127	0.0023	0.0435	0.0016	0.0426	0.0090	-0.2352	0.0538
3	225	0.2995	0.0387	0.0016	0.0311	0.0025	0.1863	0.0186	-0.3296	0.0771
3	225	0.3493	0.0893	0.0027	0.0615	0.0043	0.3007	0.0280	-0.3253	0.0993
3	225	0.4000	0.1314	0.0021	0.1079	0.0071	0.4602	0.0446	-0.3135	0.0944
3	225	0.4497	0.1788	0.0020	0.1449	0.0090	0.6460	0.0582	-0.4608	0.0798
3	225	0.4997	0.2194	0.0017	0.1922	0.0125	0.8709	0.0747	-0.5770	0.0954
3	225	0.5556	0.2696	0.0026	0.2660	0.0173	1.1745	0.0945	-0.6425	0.1018
3	225	0.5995	0.3074	0.0030	0.3047	0.0194	1.4487	0.1097	-0.6020	0.1120
3	225	0.6498	0.3417	0.0029	0.3690	0.0251	1.7677	0.1256	-0.7441	0.1048
3	225	0.6890	0.3540	0.0035	0.4031	0.0288	1.9948	0.1400	-1.1188	0.1153
3	225	0.7495	0.4244	0.0035	0.5274	0.0356	2.4690	0.1639	-1.0262	0.1299
3	225	0.7998	0.4500	0.0037	0.6075	0.0415	2.8860	0.1886	-1.0850	0.1396
3	225	0.8577	0.5191	0.0045	0.7285	0.0490	3.3972	0.2245	-1.0658	0.1317
3	225	0.9178	0.4850	0.0070	0.8195	0.0565	3.9549	0.2683	-1.1709	0.1276
3	225	0.9729	0.5298	0.0087	0.9704	0.0645	4.5565	0.3091	-1.3881	0.1580

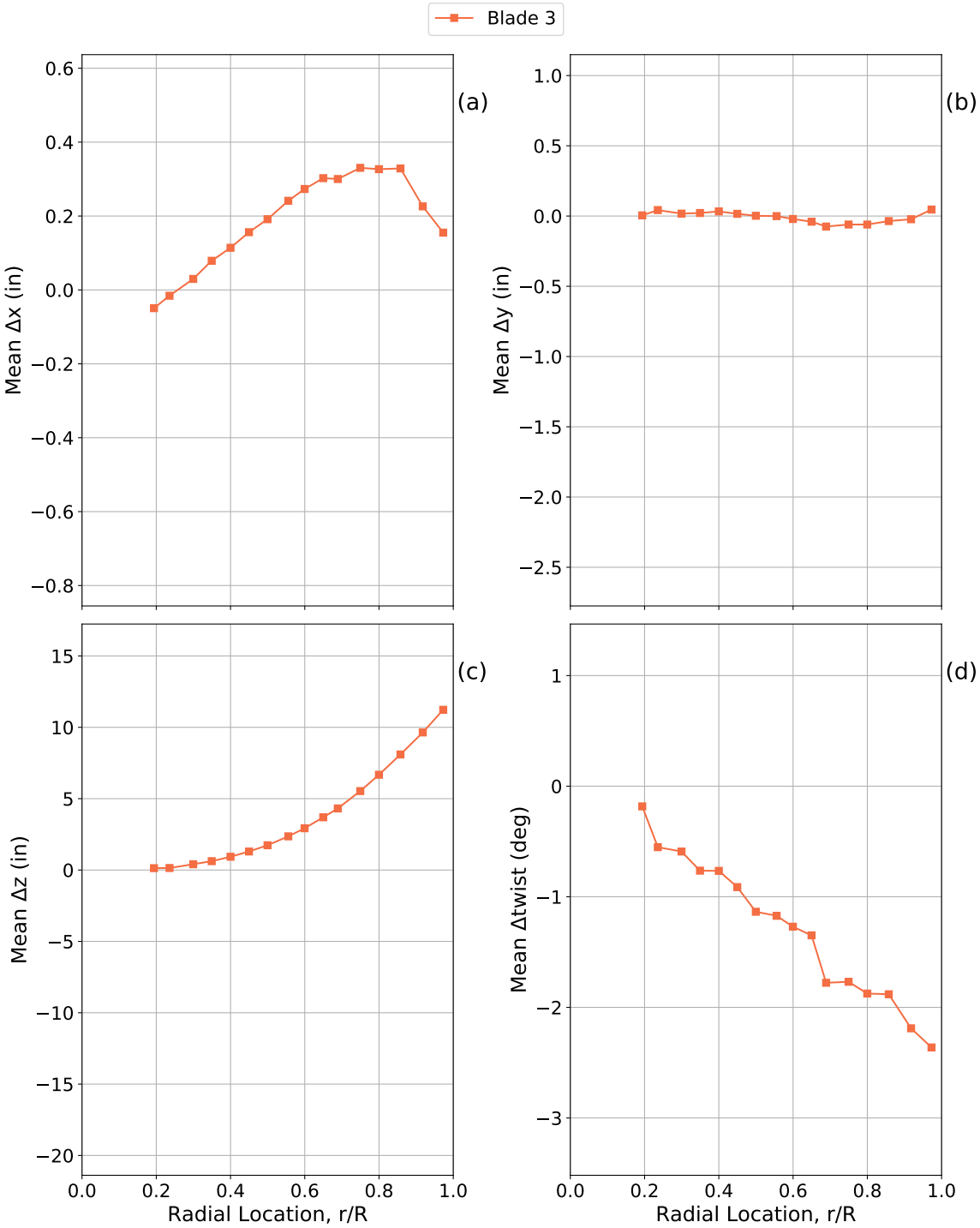


Figure 3.16-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0494	0.0029	0.0047	0.0015	0.1306	0.0096	-0.1829	0.0385
3	240.12	0.2357	-0.0157	0.0014	0.0423	0.0019	0.1405	0.0132	-0.5515	0.0770
3	240.12	0.2995	0.0298	0.0022	0.0172	0.0041	0.4049	0.0257	-0.5910	0.0985
3	240.12	0.3493	0.0789	0.0027	0.0216	0.0081	0.6196	0.0402	-0.7640	0.0928
3	240.12	0.4000	0.1141	0.0020	0.0330	0.0126	0.9290	0.0577	-0.7659	0.0900
3	240.12	0.4497	0.1563	0.0027	0.0157	0.0167	1.2991	0.0762	-0.9125	0.0898
3	240.12	0.4997	0.1914	0.0039	0.0018	0.0222	1.7358	0.0973	-1.1355	0.0884
3	240.12	0.5556	0.2412	0.0050	-0.0006	0.0293	2.3597	0.1238	-1.1720	0.1132
3	240.12	0.5995	0.2732	0.0058	-0.0211	0.0359	2.9277	0.1452	-1.2705	0.0930
3	240.12	0.6498	0.3025	0.0078	-0.0403	0.0435	3.6961	0.1713	-1.3488	0.1037
3	240.12	0.6890	0.3002	0.0086	-0.0748	0.0505	4.3154	0.1924	-1.7777	0.0915
3	240.12	0.7495	0.3304	0.0109	-0.0604	0.0616	5.5331	0.2199	-1.7687	0.1036
3	240.12	0.7998	0.3268	0.0124	-0.0605	0.0725	6.6754	0.2399	-1.8750	0.1154
3	240.12	0.8577	0.3288	0.0139	-0.0359	0.0851	8.0972	0.2635	-1.8815	0.1110
3	240.12	0.9178	0.2261	0.0153	-0.0229	0.0984	9.6410	0.2833	-2.1893	0.1134
3	240.12	0.9729	0.1551	0.0196	0.0462	0.1111	11.2266	0.3035	-2.3622	0.1122

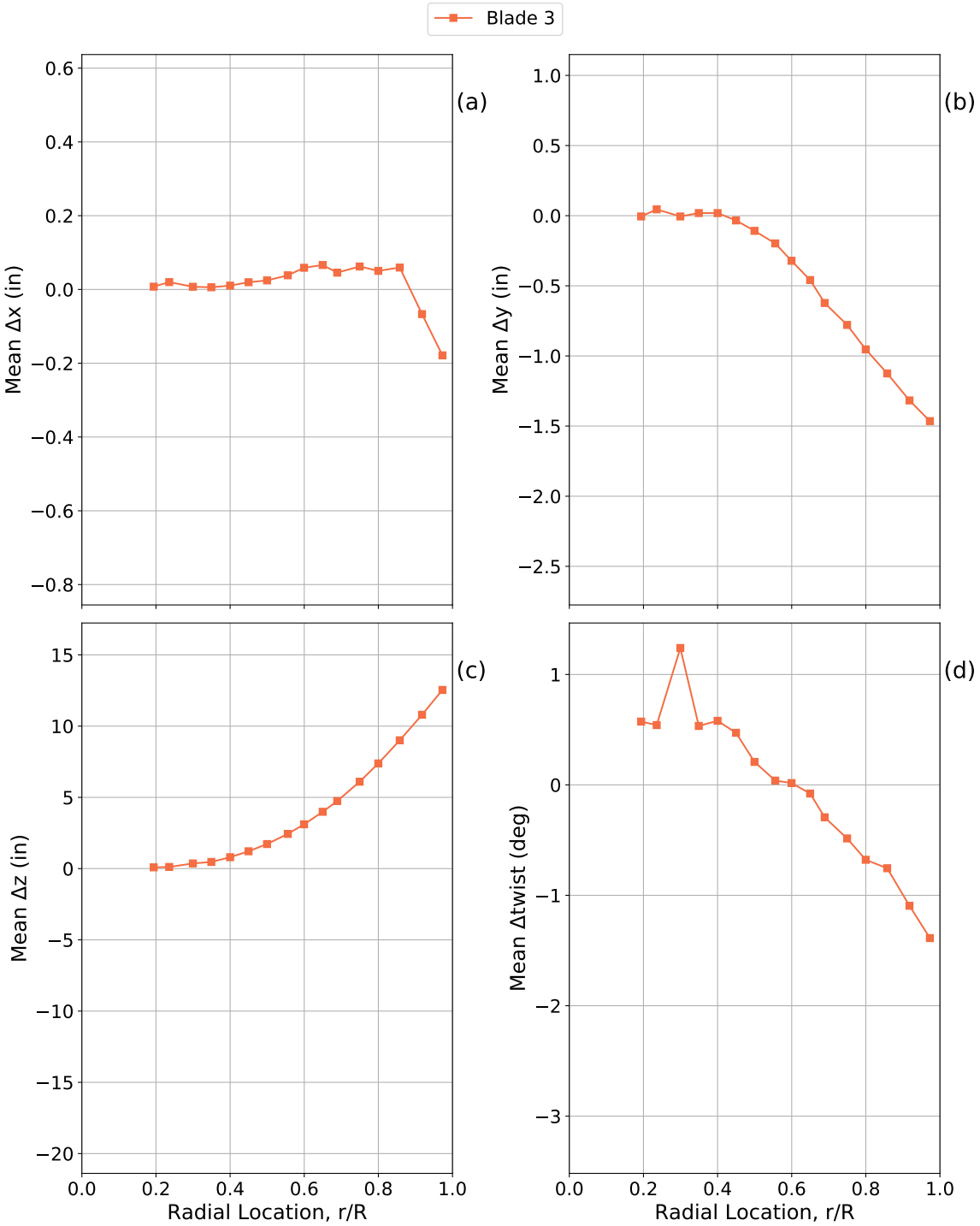


Figure 3.16-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.08$, $\mu = 0.401$, $\alpha = -10°$ NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	0.0076	0.0105	-0.0054	0.0034	0.0888	0.0498	0.5732	0.3587
3	254.88	0.2357	0.0199	0.0090	0.0451	0.0030	0.1147	0.0698	0.5417	0.4418
3	254.88	0.2995	0.0073	0.0029	-0.0055	0.0056	0.3630	0.1092	1.2395	0.8127
3	254.88	0.3493	0.0059	0.0094	0.0188	0.0312	0.4677	0.2345	0.5339	0.3934
3	254.88	0.4000	0.0104	0.0136	0.0185	0.0420	0.7999	0.2880	0.5801	0.3519
3	254.88	0.4497	0.0196	0.0167	-0.0338	0.0506	1.2158	0.3360	0.4719	0.3594
3	254.88	0.4997	0.0245	0.0176	-0.1082	0.0596	1.7243	0.3880	0.2082	0.3584
3	254.88	0.5556	0.0384	0.0194	-0.1977	0.0701	2.4355	0.4484	0.0390	0.3518
3	254.88	0.5995	0.0588	0.0195	-0.3216	0.0768	3.1099	0.4965	0.0167	0.3463
3	254.88	0.6498	0.0663	0.0216	-0.4590	0.0865	3.9863	0.5529	-0.0782	0.3434
3	254.88	0.6890	0.0456	0.0244	-0.6223	0.0925	4.7413	0.5971	-0.2936	0.3457
3	254.88	0.7495	0.0623	0.0297	-0.7789	0.1027	6.0988	0.6640	-0.4849	0.3385
3	254.88	0.7998	0.0504	0.0369	-0.9532	0.1113	7.3808	0.7147	-0.6783	0.3507
3	254.88	0.8577	0.0594	0.0479	-1.1245	0.1201	9.0043	0.7760	-0.7548	0.3438
3	254.88	0.9178	-0.0668	0.0636	-1.3171	0.1293	10.7969	0.8412	-1.0947	0.3346
3	254.88	0.9729	-0.1787	0.0799	-1.4646	0.1391	12.5406	0.8925	-1.3872	0.3449

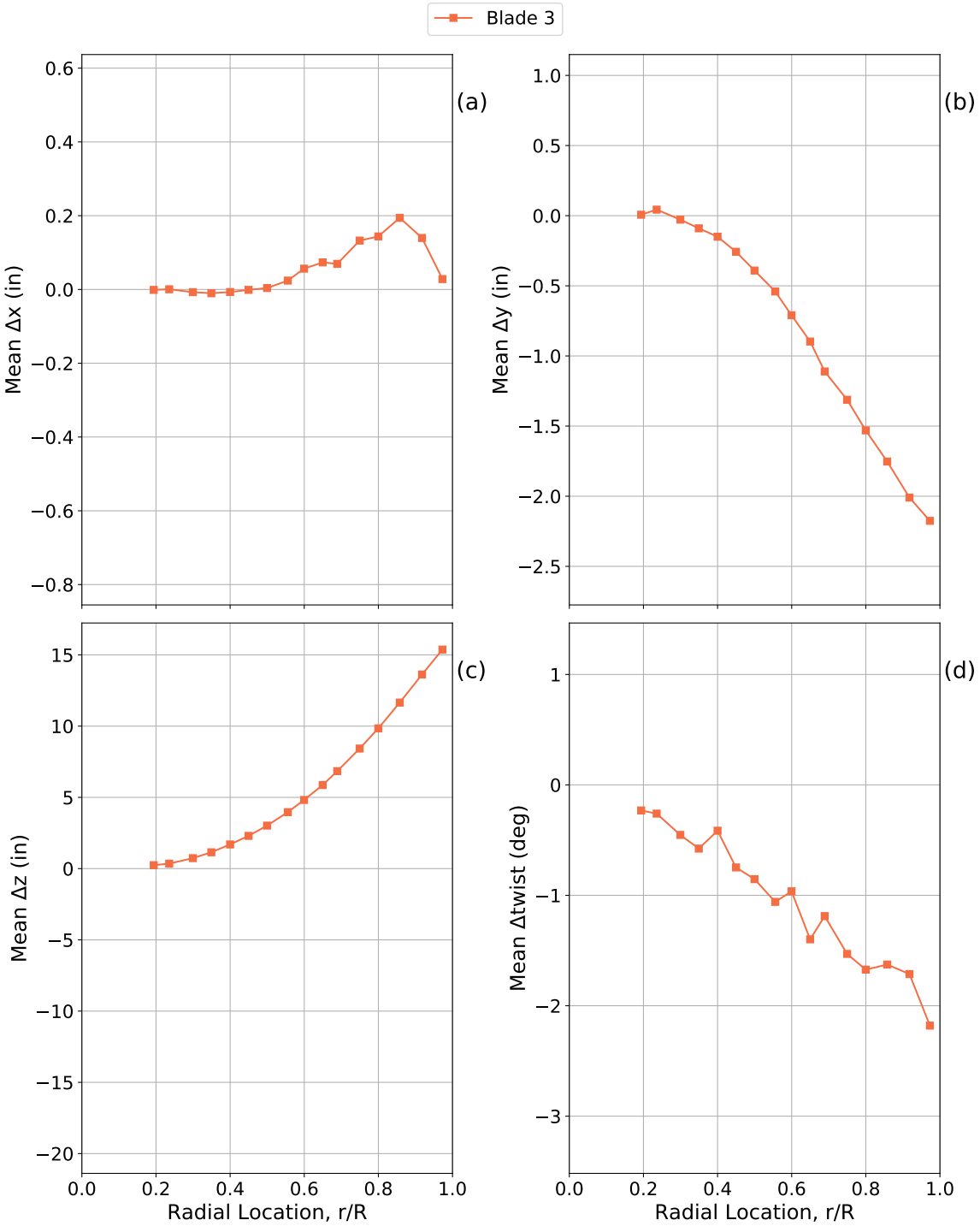


Figure 3.16-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0012	0.0025	0.0069	0.0016	0.2388	0.0073	-0.2318	0.0526
3	260.16	0.2357	0.0005	0.0018	0.0432	0.0033	0.3496	0.0081	-0.2601	0.0945
3	260.16	0.2995	-0.0073	0.0019	-0.0283	0.0045	0.7344	0.0153	-0.4532	0.1256
3	260.16	0.3493	-0.0102	0.0022	-0.0901	0.0059	1.1460	0.0281	-0.5771	0.1667
3	260.16	0.4000	-0.0070	0.0032	-0.1499	0.0100	1.6957	0.0341	-0.4150	0.1456
3	260.16	0.4497	-0.0011	0.0036	-0.2572	0.0131	2.2976	0.0428	-0.7475	0.1538
3	260.16	0.4997	0.0039	0.0043	-0.3912	0.0173	3.0182	0.0555	-0.8536	0.1589
3	260.16	0.5556	0.0240	0.0054	-0.5404	0.0228	3.9612	0.0727	-1.0596	0.1672
3	260.16	0.5995	0.0564	0.0066	-0.7096	0.0280	4.8190	0.0965	-0.9637	0.1708
3	260.16	0.6498	0.0734	0.0083	-0.8973	0.0345	5.8677	0.1188	-1.3987	0.1758
3	260.16	0.6890	0.0694	0.0095	-1.1105	0.0409	6.8389	0.1435	-1.1884	0.1607
3	260.16	0.7495	0.1325	0.0119	-1.3124	0.0488	8.4260	0.1806	-1.5307	0.1634
3	260.16	0.7998	0.1437	0.0149	-1.5306	0.0580	9.8404	0.2150	-1.6732	0.1632
3	260.16	0.8577	0.1942	0.0179	-1.7527	0.0680	11.6522	0.2633	-1.6270	0.2030
3	260.16	0.9178	0.1396	0.0243	-2.0098	0.0794	13.6253	0.3098	-1.7131	0.1790
3	260.16	0.9729	0.0282	0.0322	-2.1757	0.0903	15.3728	0.3605	-2.1799	0.1869

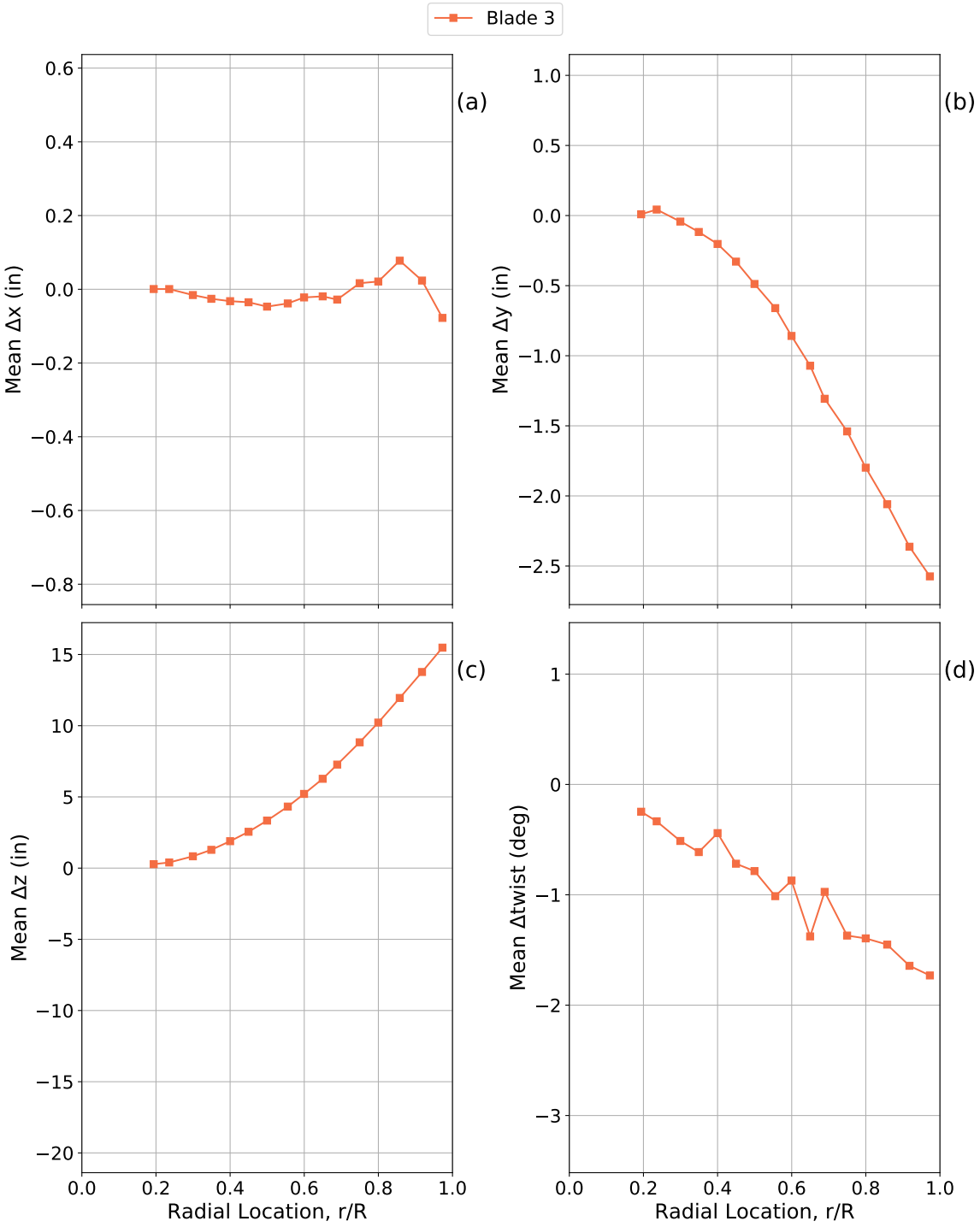


Figure 3.16-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0007	0.0048	0.0093	0.0016	0.2767	0.0101	-0.2474	0.0474
3	265.08	0.2357	0.0006	0.0033	0.0429	0.0026	0.3949	0.0140	-0.3341	0.0604
3	265.08	0.2995	-0.0156	0.0018	-0.0429	0.0030	0.8296	0.0278	-0.5123	0.0990
3	265.08	0.3493	-0.0258	0.0051	-0.1172	0.0089	1.2836	0.0447	-0.6129	0.1295
3	265.08	0.4000	-0.0322	0.0035	-0.2028	0.0100	1.8905	0.0618	-0.4413	0.0934
3	265.08	0.4497	-0.0352	0.0042	-0.3286	0.0148	2.5509	0.0796	-0.7183	0.0711
3	265.08	0.4997	-0.0470	0.0046	-0.4880	0.0189	3.3370	0.1014	-0.7851	0.0605
3	265.08	0.5556	-0.0384	0.0059	-0.6603	0.0246	4.3196	0.1332	-1.0124	0.0956
3	265.08	0.5995	-0.0221	0.0083	-0.8587	0.0299	5.2104	0.1627	-0.8712	0.0867
3	265.08	0.6498	-0.0192	0.0110	-1.0712	0.0354	6.2724	0.1912	-1.3771	0.1169
3	265.08	0.6890	-0.0279	0.0133	-1.3070	0.0407	7.2705	0.2229	-0.9735	0.1007
3	265.08	0.7495	0.0165	0.0177	-1.5396	0.0494	8.8327	0.2653	-1.3695	0.1546
3	265.08	0.7998	0.0211	0.0231	-1.7987	0.0567	10.2209	0.3089	-1.3950	0.1272
3	265.08	0.8577	0.0776	0.0280	-2.0592	0.0654	11.9476	0.3493	-1.4513	0.1188
3	265.08	0.9178	0.0237	0.0349	-2.3624	0.0746	13.7717	0.3900	-1.6434	0.1422
3	265.08	0.9729	-0.0776	0.0423	-2.5739	0.0834	15.4820	0.4387	-1.7309	0.1372

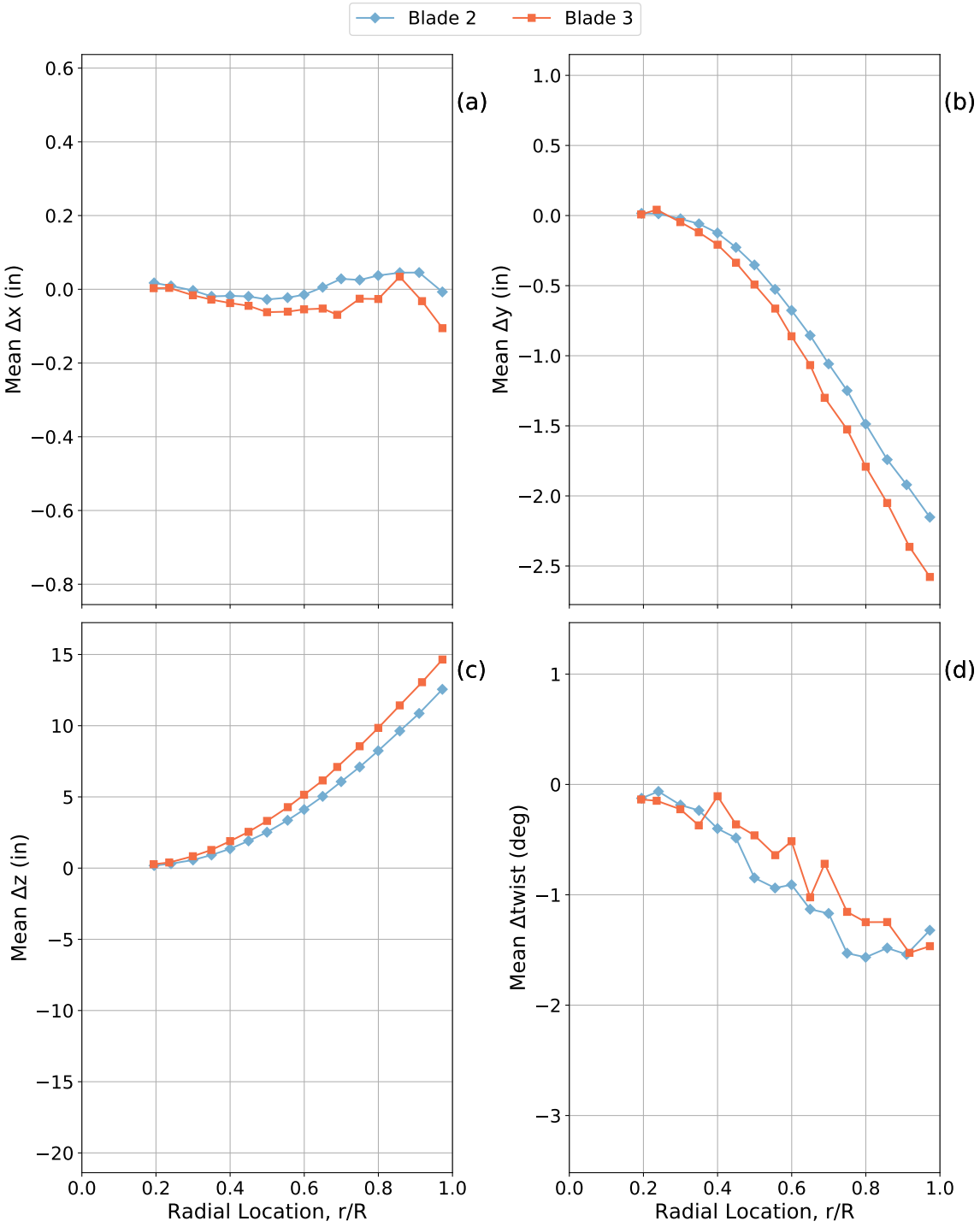


Figure 3.16-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0173	0.0024	0.0158	0.0016	0.1785	0.0134	-0.1254	0.0437
2	270.35	0.2405	0.0091	0.0039	0.0126	0.0038	0.3080	0.0246	-0.0636	0.1383
2	270.35	0.2999	-0.0032	0.0030	-0.0229	0.0059	0.5696	0.0387	-0.1869	0.0860
2	270.35	0.3498	-0.0192	0.0029	-0.0592	0.0117	0.9200	0.0584	-0.2355	0.1128
2	270.35	0.3998	-0.0178	0.0041	-0.1242	0.0194	1.3547	0.0877	-0.4001	0.0671
2	270.35	0.4496	-0.0193	0.0060	-0.2271	0.0276	1.9106	0.1184	-0.4848	0.0851
2	270.35	0.4995	-0.0276	0.0096	-0.3524	0.0367	2.5215	0.1540	-0.8468	0.1011
2	270.35	0.5551	-0.0227	0.0120	-0.5262	0.0474	3.3595	0.1955	-0.9385	0.1104
2	270.35	0.5996	-0.0147	0.0141	-0.6765	0.0564	4.1119	0.2379	-0.9089	0.1205
2	270.35	0.6497	0.0055	0.0178	-0.8552	0.0674	5.0367	0.2904	-1.1307	0.1310
2	270.35	0.6996	0.0284	0.0218	-1.0582	0.0773	6.0708	0.3446	-1.1689	0.1433
2	270.35	0.7495	0.0253	0.0266	-1.2487	0.0876	7.1000	0.4087	-1.5294	0.1450
2	270.35	0.7996	0.0374	0.0322	-1.4872	0.0971	8.2412	0.4777	-1.5663	0.1743
2	270.35	0.8578	0.0451	0.0384	-1.7411	0.1091	9.6295	0.5631	-1.4823	0.1888
2	270.35	0.9100	0.0454	0.0457	-1.9202	0.1188	10.8627	0.6394	-1.5403	0.1792
2	270.35	0.9727	-0.0071	0.0595	-2.1518	0.1301	12.5551	0.7305	-1.3214	0.1860
3	270	0.1938	0.0030	0.0032	0.0080	0.0022	0.2724	0.0082	-0.1362	0.0304
3	270	0.2357	0.0038	0.0017	0.0416	0.0026	0.3948	0.0162	-0.1480	0.0894
3	270	0.2995	-0.0162	0.0021	-0.0467	0.0045	0.8331	0.0286	-0.2249	0.0865
3	270	0.3493	-0.0280	0.0031	-0.1194	0.0077	1.2744	0.0362	-0.3710	0.1361
3	270	0.4000	-0.0374	0.0040	-0.2078	0.0120	1.8943	0.0613	-0.1069	0.1373
3	270	0.4497	-0.0448	0.0040	-0.3364	0.0166	2.5464	0.0731	-0.3619	0.1341
3	270	0.4997	-0.0621	0.0045	-0.4924	0.0214	3.3148	0.0875	-0.4615	0.1194
3	270	0.5556	-0.0607	0.0061	-0.6637	0.0267	4.2800	0.1086	-0.6409	0.1206
3	270	0.5995	-0.0544	0.0077	-0.8610	0.0326	5.1515	0.1326	-0.5148	0.1375
3	270	0.6498	-0.0523	0.0099	-1.0668	0.0389	6.1546	0.1540	-1.0230	0.1418
3	270	0.6890	-0.0691	0.0136	-1.3000	0.0431	7.1030	0.1727	-0.7191	0.1753
3	270	0.7495	-0.0256	0.0169	-1.5257	0.0511	8.5554	0.2054	-1.1547	0.1618
3	270	0.7998	-0.0263	0.0192	-1.7917	0.0580	9.8449	0.2353	-1.2479	0.1489
3	270	0.8577	0.0341	0.0219	-2.0504	0.0668	11.4253	0.2640	-1.2472	0.1950
3	270	0.9178	-0.0321	0.0243	-2.3633	0.0759	13.0533	0.2943	-1.5261	0.1915
3	270	0.9729	-0.1055	0.0289	-2.5781	0.0838	14.6476	0.3251	-1.4655	0.1686

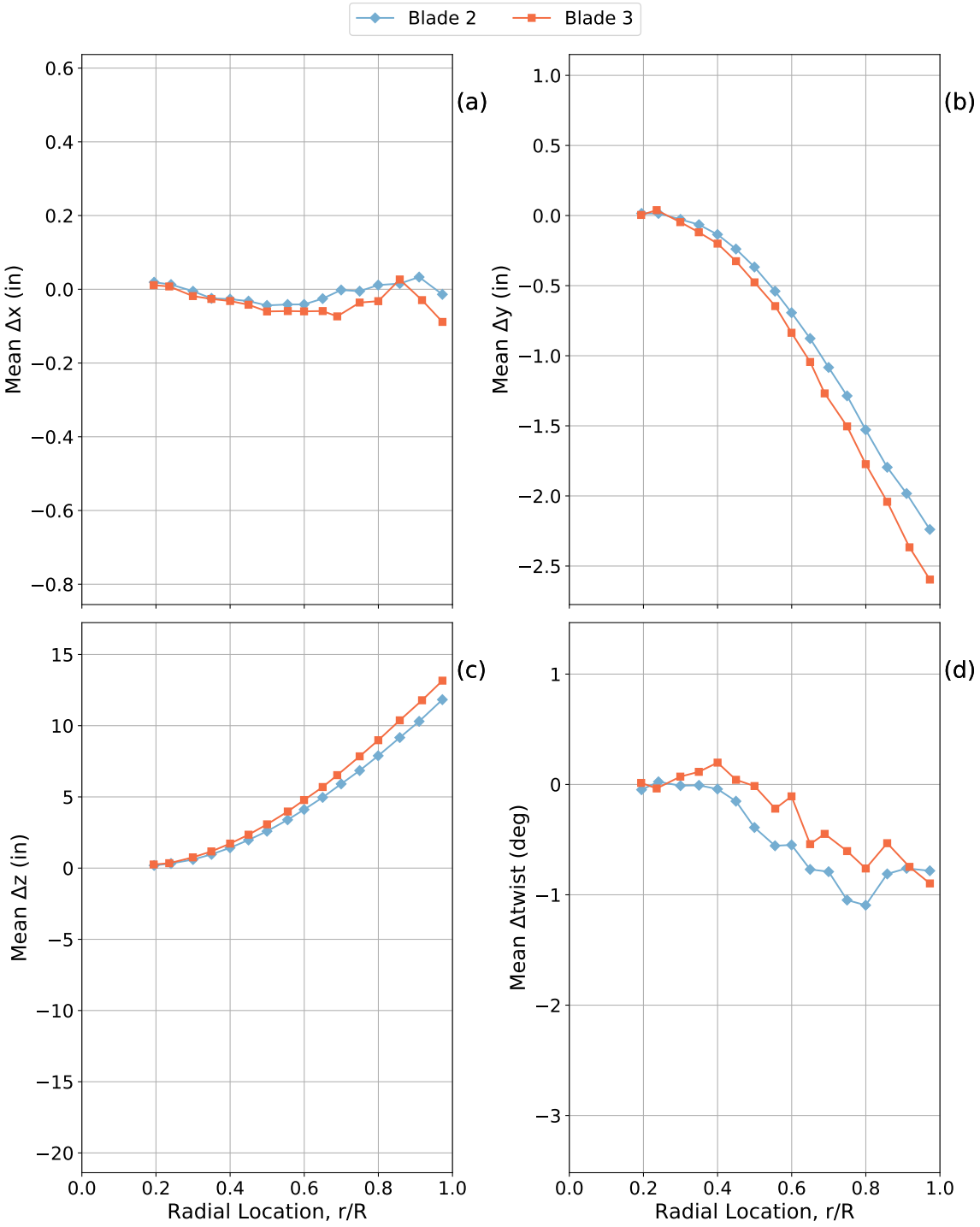


Figure 3.16-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0192	0.0047	0.0154	0.0009	0.1880	0.0130	-0.0480	0.0436
2	274.92	0.2405	0.0129	0.0030	0.0149	0.0032	0.3229	0.0135	0.0240	0.1361
2	274.92	0.2999	-0.0053	0.0020	-0.0272	0.0036	0.6018	0.0294	-0.0113	0.1389
2	274.92	0.3498	-0.0246	0.0061	-0.0650	0.0093	0.9654	0.0453	-0.0079	0.1311
2	274.92	0.3998	-0.0267	0.0072	-0.1351	0.0124	1.4257	0.0602	-0.0420	0.1431
2	274.92	0.4496	-0.0321	0.0109	-0.2387	0.0159	1.9739	0.0835	-0.1521	0.1614
2	274.92	0.4995	-0.0437	0.0164	-0.3671	0.0221	2.5880	0.1054	-0.3901	0.1403
2	274.92	0.5551	-0.0412	0.0248	-0.5396	0.0287	3.3908	0.1341	-0.5558	0.1528
2	274.92	0.5996	-0.0410	0.0336	-0.6931	0.0351	4.1113	0.1566	-0.5483	0.1646
2	274.92	0.6497	-0.0253	0.0467	-0.8769	0.0411	4.9630	0.1853	-0.7701	0.1499
2	274.92	0.6996	-0.0019	0.0622	-1.0835	0.0465	5.9118	0.2106	-0.7905	0.1606
2	274.92	0.7495	-0.0052	0.0800	-1.2863	0.0530	6.8498	0.2404	-1.0479	0.1955
2	274.92	0.7996	0.0115	0.0996	-1.5282	0.0590	7.8894	0.2680	-1.0946	0.1607
2	274.92	0.8578	0.0154	0.1281	-1.7957	0.0664	9.1660	0.3076	-0.8108	0.1848
2	274.92	0.9100	0.0332	0.1564	-1.9829	0.0736	10.3047	0.3431	-0.7607	0.2081
2	274.92	0.9727	-0.0138	0.1980	-2.2391	0.0831	11.8304	0.3878	-0.7824	0.2185
3	274.92	0.1938	0.0112	0.0023	0.0043	0.0016	0.2539	0.0113	0.0137	0.0217
3	274.92	0.2357	0.0077	0.0028	0.0385	0.0025	0.3441	0.0168	-0.0364	0.0612
3	274.92	0.2995	-0.0184	0.0051	-0.0470	0.0070	0.7555	0.0322	0.0708	0.0446
3	274.92	0.3493	-0.0262	0.0046	-0.1192	0.0117	1.1717	0.0479	0.1141	0.1197
3	274.92	0.4000	-0.0318	0.0048	-0.2002	0.0196	1.7220	0.0707	0.1976	0.1005
3	274.92	0.4497	-0.0419	0.0066	-0.3256	0.0284	2.3470	0.0974	0.0420	0.0556
3	274.92	0.4997	-0.0601	0.0090	-0.4765	0.0399	3.0739	0.1265	-0.0147	0.0553
3	274.92	0.5556	-0.0591	0.0114	-0.6459	0.0567	3.9742	0.1624	-0.2195	0.0795
3	274.92	0.5995	-0.0598	0.0142	-0.8362	0.0701	4.7803	0.1984	-0.1079	0.0789
3	274.92	0.6498	-0.0591	0.0168	-1.0444	0.0868	5.6945	0.2400	-0.5410	0.0951
3	274.92	0.6890	-0.0735	0.0194	-1.2686	0.1006	6.5287	0.2756	-0.4480	0.0759
3	274.92	0.7495	-0.0360	0.0254	-1.5039	0.1224	7.8484	0.3347	-0.6042	0.1053
3	274.92	0.7998	-0.0322	0.0289	-1.7735	0.1410	8.9817	0.3941	-0.7616	0.1010
3	274.92	0.8577	0.0266	0.0343	-2.0418	0.1624	10.3766	0.4561	-0.5324	0.1109
3	274.92	0.9178	-0.0294	0.0431	-2.3665	0.1833	11.7855	0.5375	-0.7469	0.1131
3	274.92	0.9729	-0.0885	0.0549	-2.5967	0.2046	13.1637	0.6071	-0.8970	0.0858

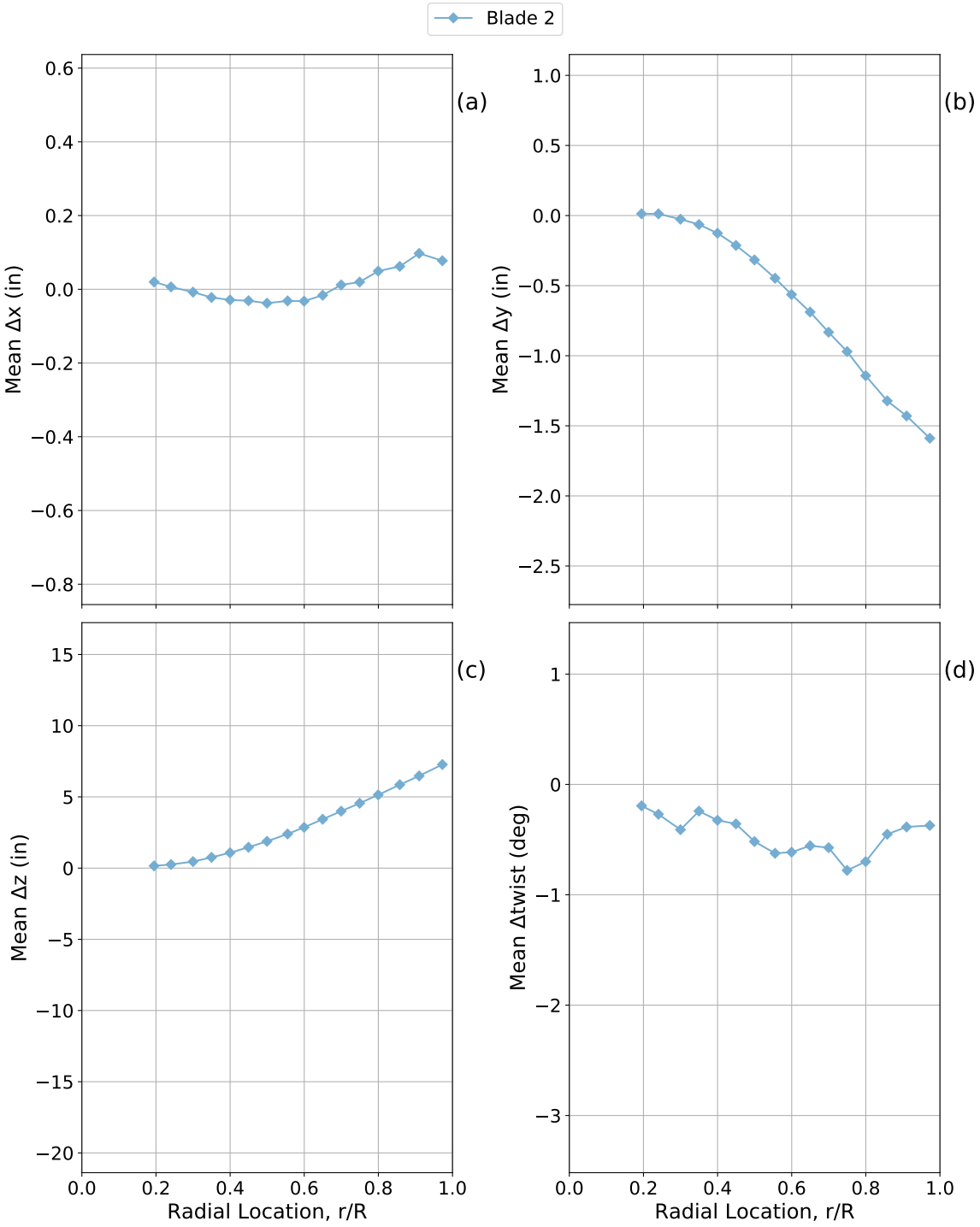


Figure 3.16-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0199	0.0096	0.0124	0.0023	0.1559	0.0122	-0.1938	0.0753
2	285.12	0.2405	0.0065	0.0030	0.0123	0.0019	0.2541	0.0255	-0.2703	0.0905
2	285.12	0.2999	-0.0077	0.0041	-0.0260	0.0033	0.4568	0.0389	-0.4101	0.1640
2	285.12	0.3498	-0.0222	0.0084	-0.0639	0.0055	0.7544	0.0579	-0.2420	0.1747
2	285.12	0.3998	-0.0289	0.0096	-0.1261	0.0123	1.0771	0.0876	-0.3248	0.1303
2	285.12	0.4496	-0.0310	0.0115	-0.2130	0.0182	1.4632	0.1061	-0.3572	0.1568
2	285.12	0.4995	-0.0377	0.0142	-0.3165	0.0244	1.8814	0.1373	-0.5175	0.1356
2	285.12	0.5551	-0.0315	0.0205	-0.4470	0.0316	2.3971	0.1736	-0.6239	0.1478
2	285.12	0.5996	-0.0322	0.0273	-0.5634	0.0389	2.8617	0.2061	-0.6139	0.1460
2	285.12	0.6497	-0.0161	0.0387	-0.6883	0.0481	3.4319	0.2453	-0.5558	0.1633
2	285.12	0.6996	0.0119	0.0541	-0.8322	0.0581	3.9984	0.2902	-0.5732	0.1529
2	285.12	0.7495	0.0197	0.0715	-0.9702	0.0692	4.5560	0.3338	-0.7789	0.1402
2	285.12	0.7996	0.0494	0.0937	-1.1424	0.0808	5.1438	0.3770	-0.6992	0.1700
2	285.12	0.8578	0.0621	0.1223	-1.3220	0.0947	5.8567	0.4353	-0.4514	0.2018
2	285.12	0.9100	0.0974	0.1540	-1.4295	0.1069	6.4755	0.4898	-0.3853	0.1550
2	285.12	0.9727	0.0775	0.1987	-1.5884	0.1255	7.2751	0.5517	-0.3718	0.2070

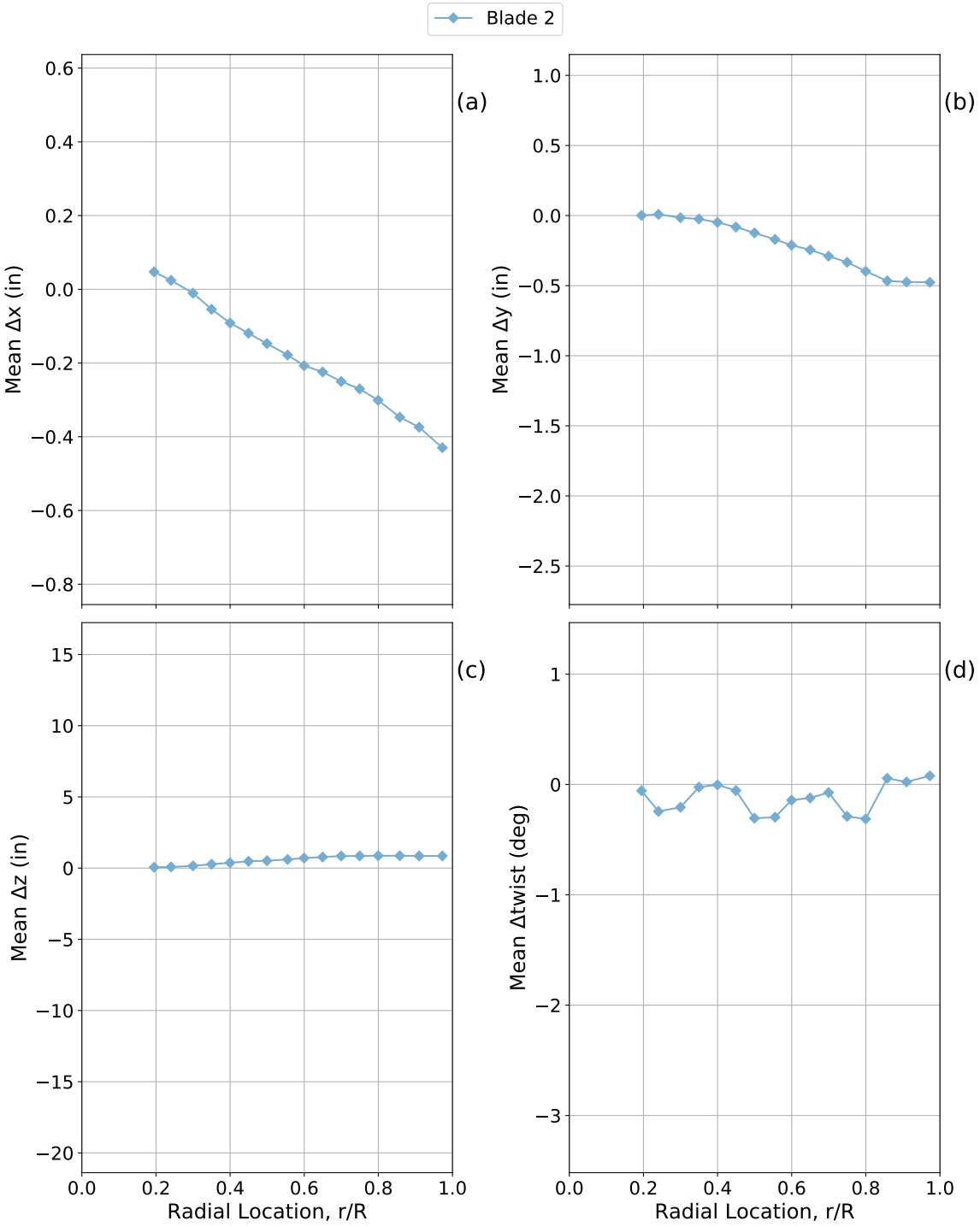


Figure 3.16-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0474	0.0028	0.0012	0.0012	0.0585	0.0109	-0.0571	0.0333
2	299.88	0.2405	0.0242	0.0028	0.0086	0.0032	0.0779	0.0087	-0.2442	0.0824
2	299.88	0.2999	-0.0105	0.0044	-0.0154	0.0031	0.1581	0.0274	-0.2070	0.0893
2	299.88	0.3498	-0.0542	0.0029	-0.0246	0.0103	0.2722	0.0354	-0.0241	0.0885
2	299.88	0.3998	-0.0912	0.0050	-0.0485	0.0143	0.3744	0.0521	-0.0036	0.1161
2	299.88	0.4496	-0.1192	0.0054	-0.0822	0.0189	0.4758	0.0729	-0.0553	0.1083
2	299.88	0.4995	-0.1472	0.0055	-0.1236	0.0257	0.5181	0.0963	-0.3062	0.1076
2	299.88	0.5551	-0.1782	0.0071	-0.1703	0.0338	0.6067	0.1249	-0.2975	0.1364
2	299.88	0.5996	-0.2072	0.0088	-0.2115	0.0416	0.7024	0.1549	-0.1429	0.1253
2	299.88	0.6497	-0.2242	0.0097	-0.2447	0.0511	0.7747	0.1863	-0.1220	0.1079
2	299.88	0.6996	-0.2501	0.0102	-0.2898	0.0598	0.8487	0.2197	-0.0738	0.1290
2	299.88	0.7495	-0.2702	0.0124	-0.3333	0.0700	0.8546	0.2543	-0.2896	0.1174
2	299.88	0.7996	-0.3010	0.0131	-0.3971	0.0803	0.8672	0.2868	-0.3128	0.1207
2	299.88	0.8578	-0.3470	0.0150	-0.4662	0.0917	0.8688	0.3232	0.0556	0.1160
2	299.88	0.9100	-0.3741	0.0162	-0.4739	0.1027	0.8546	0.3536	0.0226	0.1399
2	299.88	0.9727	-0.4298	0.0197	-0.4763	0.1154	0.8538	0.3857	0.0779	0.1523

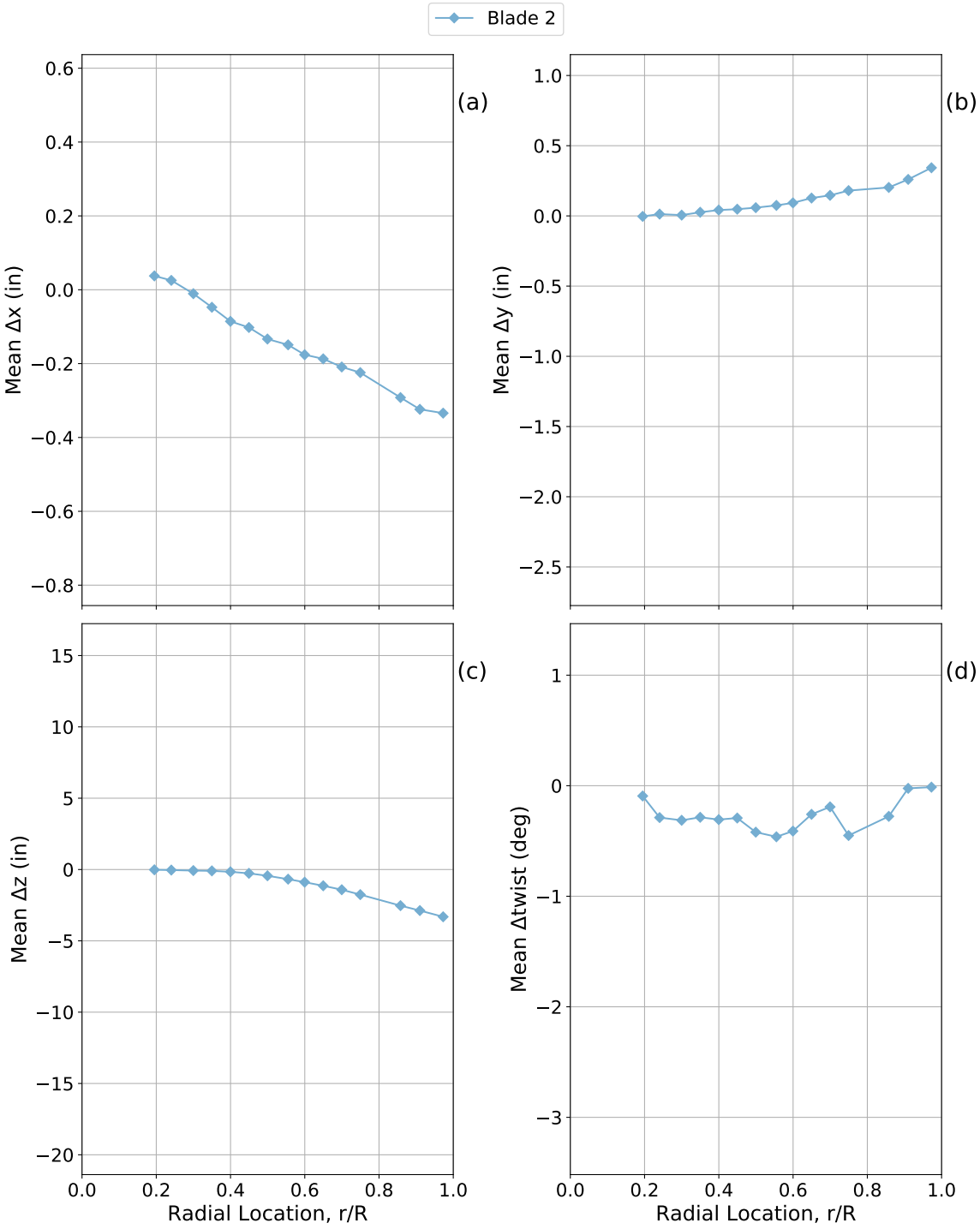


Figure 3.16-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0375	0.0030	-0.0035	0.0011	-0.0193	0.0067	-0.0930	0.0581
2	315	0.2405	0.0254	0.0035	0.0129	0.0043	-0.0371	0.0076	-0.2883	0.0459
2	315	0.2999	-0.0106	0.0057	0.0056	0.0050	-0.0742	0.0228	-0.3129	0.1081
2	315	0.3498	-0.0474	0.0033	0.0260	0.0117	-0.0948	0.0251	-0.2857	0.1128
2	315	0.3998	-0.0856	0.0051	0.0417	0.0185	-0.1591	0.0429	-0.3065	0.1574
2	315	0.4496	-0.1021	0.0027	0.0478	0.0213	-0.2681	0.0499	-0.2922	0.0958
2	315	0.4995	-0.1334	0.0035	0.0587	0.0266	-0.4388	0.0624	-0.4202	0.1001
2	315	0.5551	-0.1492	0.0049	0.0748	0.0332	-0.6770	0.0734	-0.4621	0.0887
2	315	0.5996	-0.1759	0.0045	0.0928	0.0389	-0.8863	0.0837	-0.4105	0.0924
2	315	0.6497	-0.1871	0.0046	0.1272	0.0438	-1.1398	0.0964	-0.2589	0.0792
2	315	0.6996	-0.2091	0.0071	0.1464	0.0502	-1.4159	0.1081	-0.1915	0.1035
2	315	0.7495	-0.2243	0.0063	0.1802	0.0576	-1.7598	0.1233	-0.4507	0.0958
2	315	0.8578	-0.2919	0.0081	0.2026	0.0725	-2.5324	0.1660	-0.2771	0.0699
2	315	0.9100	-0.3238	0.0079	0.2599	0.0799	-2.8778	0.1933	-0.0239	0.0801
2	315	0.9727	-0.3341	0.0093	0.3428	0.0887	-3.3134	0.2297	-0.0127	0.0799

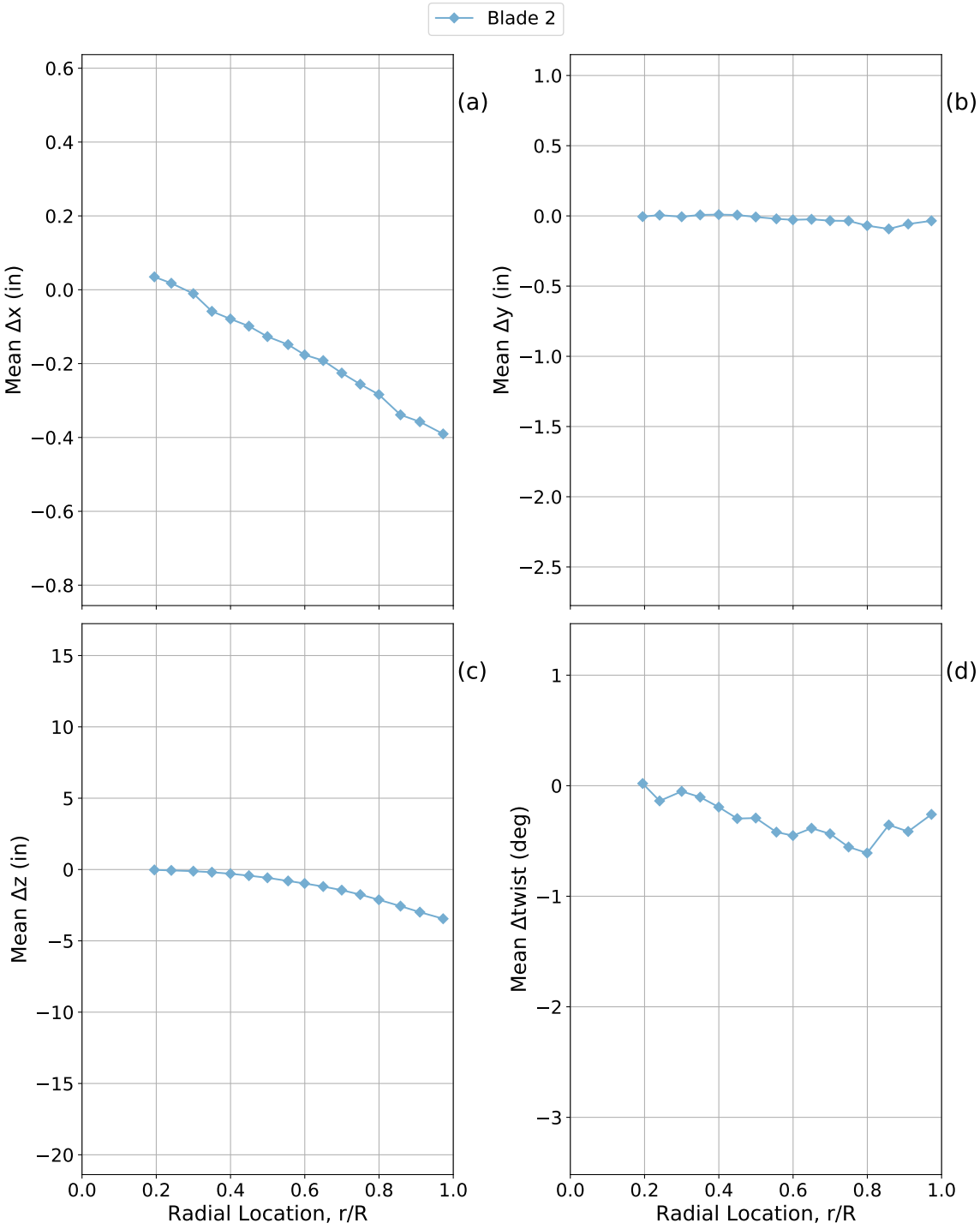


Figure 3.16-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0349	0.0031	-0.0051	0.0016	-0.0278	0.0085	0.0200	0.0392
2	330.12	0.2405	0.0177	0.0029	0.0056	0.0046	-0.0619	0.0151	-0.1376	0.0592
2	330.12	0.2999	-0.0105	0.0041	-0.0062	0.0069	-0.1167	0.0259	-0.0512	0.0895
2	330.12	0.3498	-0.0584	0.0022	0.0070	0.0160	-0.1890	0.0443	-0.1035	0.0641
2	330.12	0.3998	-0.0791	0.0020	0.0093	0.0229	-0.2961	0.0656	-0.1935	0.0783
2	330.12	0.4496	-0.0986	0.0031	0.0063	0.0273	-0.4304	0.0744	-0.2974	0.0772
2	330.12	0.4995	-0.1269	0.0038	-0.0075	0.0327	-0.5800	0.0903	-0.2925	0.1085
2	330.12	0.5551	-0.1485	0.0033	-0.0210	0.0403	-0.8018	0.1162	-0.4199	0.0774
2	330.12	0.5996	-0.1762	0.0044	-0.0280	0.0468	-0.9787	0.1341	-0.4515	0.0819
2	330.12	0.6497	-0.1918	0.0049	-0.0242	0.0541	-1.1933	0.1539	-0.3848	0.0770
2	330.12	0.6996	-0.2255	0.0056	-0.0341	0.0609	-1.4451	0.1739	-0.4350	0.0969
2	330.12	0.7495	-0.2559	0.0061	-0.0356	0.0695	-1.7580	0.1917	-0.5545	0.0762
2	330.12	0.7996	-0.2838	0.0069	-0.0696	0.0777	-2.1207	0.2141	-0.6089	0.0842
2	330.12	0.8578	-0.3387	0.0077	-0.0927	0.0885	-2.5664	0.2405	-0.3551	0.0811
2	330.12	0.9100	-0.3575	0.0095	-0.0578	0.0979	-2.9885	0.2660	-0.4143	0.0857
2	330.12	0.9727	-0.3904	0.0103	-0.0351	0.1096	-3.4512	0.3074	-0.2594	0.0945

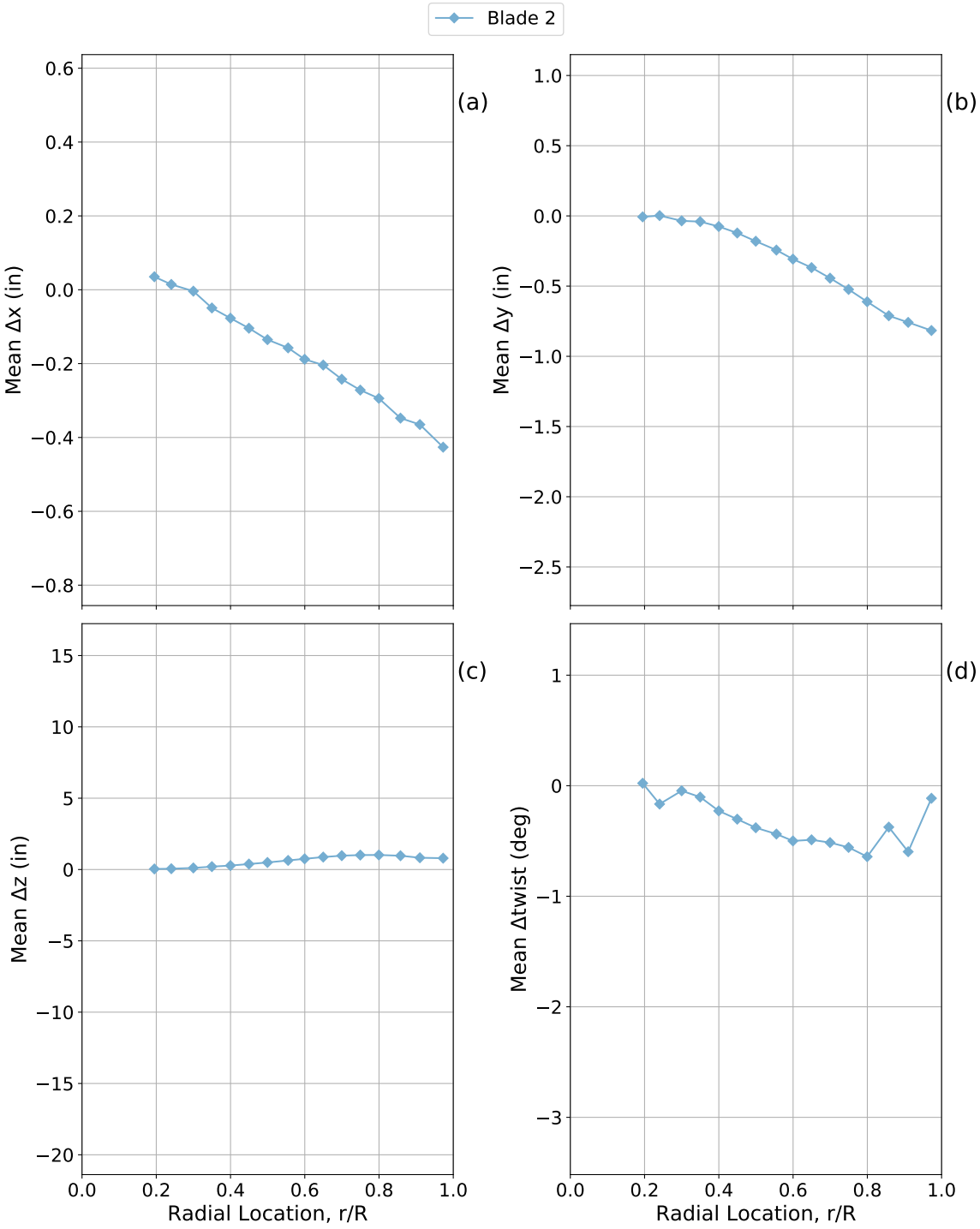


Figure 3.16-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0352	0.0031	-0.0069	0.0011	0.0401	0.0087	0.0223	0.0355
2	344.88	0.2405	0.0144	0.0037	0.0022	0.0032	0.0564	0.0104	-0.1659	0.0963
2	344.88	0.2999	-0.0038	0.0037	-0.0352	0.0075	0.1111	0.0236	-0.0458	0.0889
2	344.88	0.3498	-0.0493	0.0034	-0.0408	0.0124	0.2032	0.0320	-0.1029	0.1022
2	344.88	0.3998	-0.0770	0.0032	-0.0755	0.0205	0.2775	0.0485	-0.2277	0.0880
2	344.88	0.4496	-0.1041	0.0032	-0.1218	0.0259	0.3838	0.0640	-0.3029	0.1085
2	344.88	0.4995	-0.1351	0.0041	-0.1804	0.0317	0.4942	0.0823	-0.3802	0.1018
2	344.88	0.5551	-0.1574	0.0047	-0.2434	0.0411	0.6368	0.1040	-0.4373	0.1037
2	344.88	0.5996	-0.1883	0.0047	-0.3078	0.0492	0.7503	0.1228	-0.4996	0.1001
2	344.88	0.6497	-0.2039	0.0062	-0.3682	0.0584	0.8720	0.1464	-0.4894	0.0844
2	344.88	0.6996	-0.2423	0.0069	-0.4434	0.0684	0.9708	0.1675	-0.5146	0.0941
2	344.88	0.7495	-0.2717	0.0085	-0.5236	0.0796	1.0130	0.1856	-0.5581	0.1070
2	344.88	0.7996	-0.2942	0.0086	-0.6112	0.0910	1.0195	0.2036	-0.6421	0.1080
2	344.88	0.8578	-0.3476	0.0094	-0.7112	0.1061	0.9664	0.2250	-0.3746	0.0965
2	344.88	0.9100	-0.3650	0.0102	-0.7583	0.1196	0.8248	0.2431	-0.5972	0.1057
2	344.88	0.9727	-0.4263	0.0132	-0.8162	0.1356	0.7946	0.2616	-0.1137	0.1077

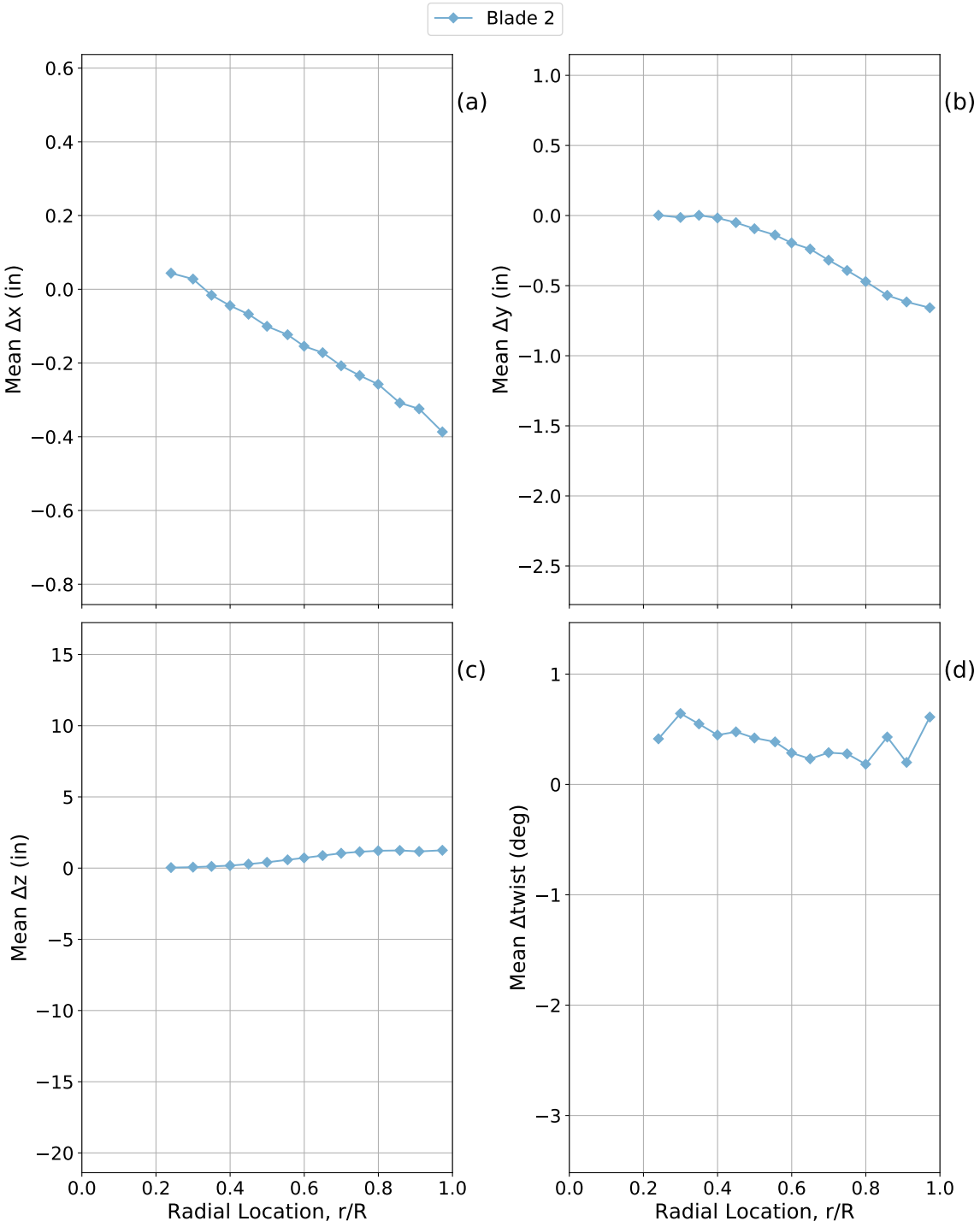


Figure 3.16-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0438	0.0042	0.0021	0.0045	0.0357	0.0147	0.4133	0.1502
2	350.16	0.2999	0.0278	0.0056	-0.0136	0.0104	0.0664	0.0290	0.6429	0.2321
2	350.16	0.3498	-0.0161	0.0045	0.0018	0.0194	0.1192	0.0464	0.5481	0.1744
2	350.16	0.3998	-0.0444	0.0045	-0.0173	0.0307	0.1762	0.0713	0.4478	0.2177
2	350.16	0.4496	-0.0677	0.0050	-0.0504	0.0357	0.2792	0.0947	0.4765	0.2035
2	350.16	0.4995	-0.1004	0.0063	-0.0940	0.0432	0.4082	0.1202	0.4208	0.1926
2	350.16	0.5551	-0.1232	0.0060	-0.1388	0.0500	0.5824	0.1485	0.3855	0.2002
2	350.16	0.5996	-0.1544	0.0059	-0.1950	0.0574	0.7171	0.1749	0.2854	0.1875
2	350.16	0.6497	-0.1719	0.0068	-0.2388	0.0635	0.8810	0.2075	0.2323	0.1834
2	350.16	0.6996	-0.2075	0.0070	-0.3181	0.0710	1.0415	0.2380	0.2879	0.2005
2	350.16	0.7495	-0.2339	0.0080	-0.3918	0.0786	1.1470	0.2743	0.2775	0.1909
2	350.16	0.7996	-0.2576	0.0079	-0.4707	0.0856	1.2176	0.3138	0.1832	0.1905
2	350.16	0.8578	-0.3082	0.0090	-0.5690	0.0946	1.2405	0.3608	0.4296	0.2000
2	350.16	0.9100	-0.3242	0.0092	-0.6162	0.1023	1.1716	0.4074	0.1995	0.2035
2	350.16	0.9727	-0.3868	0.0115	-0.6576	0.1120	1.2504	0.4654	0.6105	0.2134

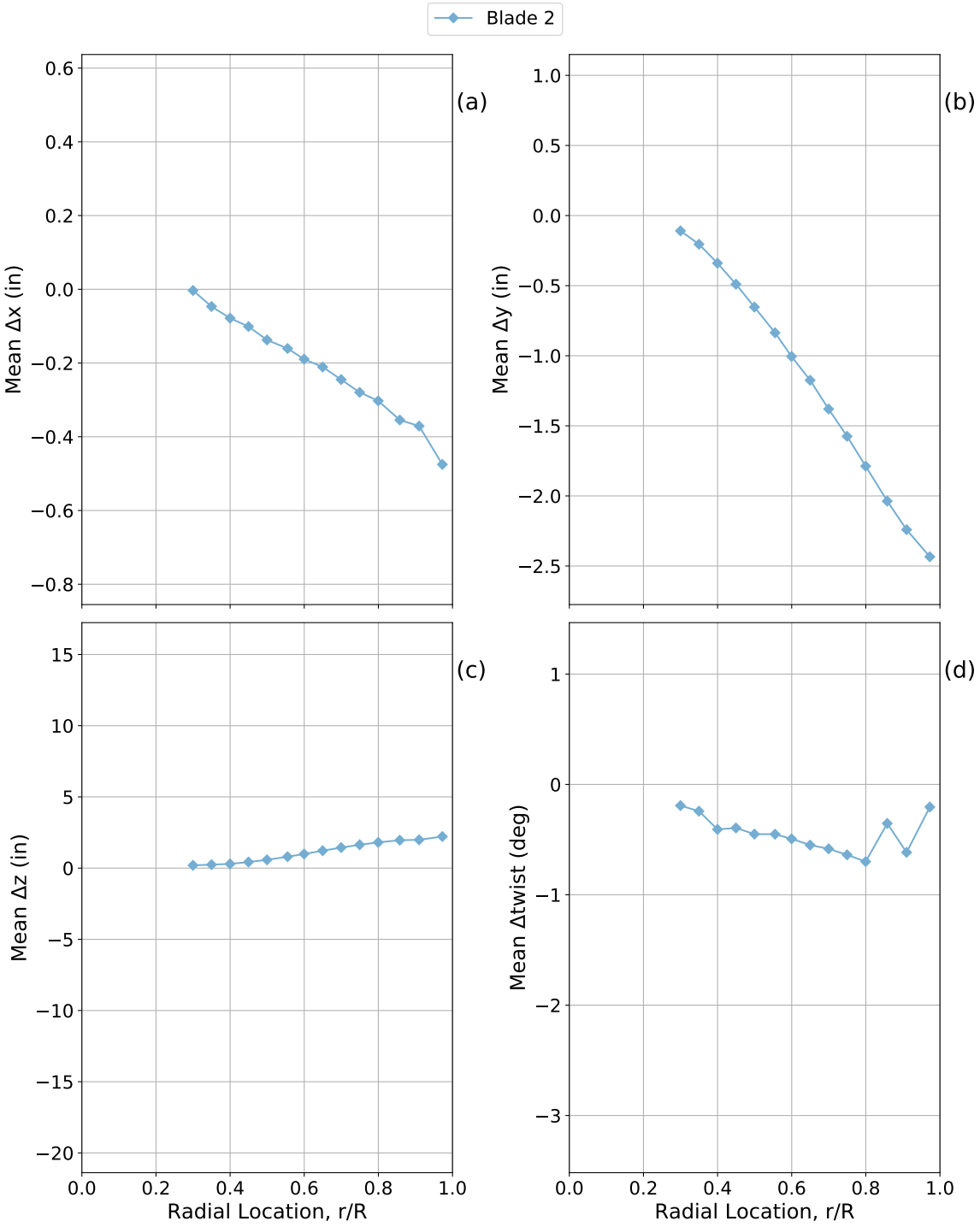


Figure 3.16-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.08, μ = 0.401, α = -10° NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Table 3.16-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.08, μ = 0.401, α = -10°
NFAC run 53, point 32. BD run 26, points 3328 to 3338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2999	-0.0033	0.0213	-0.1093	0.0439	0.1960	0.0912	-0.1920	0.1745
2	355.08	0.3498	-0.0466	0.0236	-0.2046	0.0810	0.2433	0.1340	-0.2424	0.2289
2	355.08	0.3998	-0.0783	0.0227	-0.3396	0.1336	0.2953	0.1938	-0.4075	0.1866
2	355.08	0.4496	-0.1011	0.0243	-0.4897	0.1787	0.4265	0.2417	-0.3943	0.2157
2	355.08	0.4995	-0.1374	0.0244	-0.6528	0.2237	0.5816	0.2978	-0.4502	0.2130
2	355.08	0.5551	-0.1606	0.0262	-0.8360	0.2753	0.8006	0.3579	-0.4512	0.2161
2	355.08	0.5996	-0.1895	0.0272	-1.0051	0.3169	0.9912	0.4085	-0.4931	0.2125
2	355.08	0.6497	-0.2108	0.0280	-1.1749	0.3656	1.2219	0.4627	-0.5495	0.2247
2	355.08	0.6996	-0.2449	0.0285	-1.3803	0.4116	1.4407	0.5193	-0.5833	0.2165
2	355.08	0.7495	-0.2796	0.0290	-1.5748	0.4584	1.6394	0.5747	-0.6377	0.2172
2	355.08	0.7996	-0.3026	0.0299	-1.7876	0.5054	1.8052	0.6297	-0.6994	0.2203
2	355.08	0.8578	-0.3546	0.0320	-2.0369	0.5606	1.9580	0.6948	-0.3535	0.2156
2	355.08	0.9100	-0.3710	0.0326	-2.2408	0.6115	1.9877	0.7507	-0.6157	0.2151
2	355.08	0.9727	-0.4751	0.0487	-2.4340	0.6707	2.2180	0.8199	-0.2047	0.2219

3.17 Run 53, Point 33

3.17.1 Pitch, Flap, and Lag

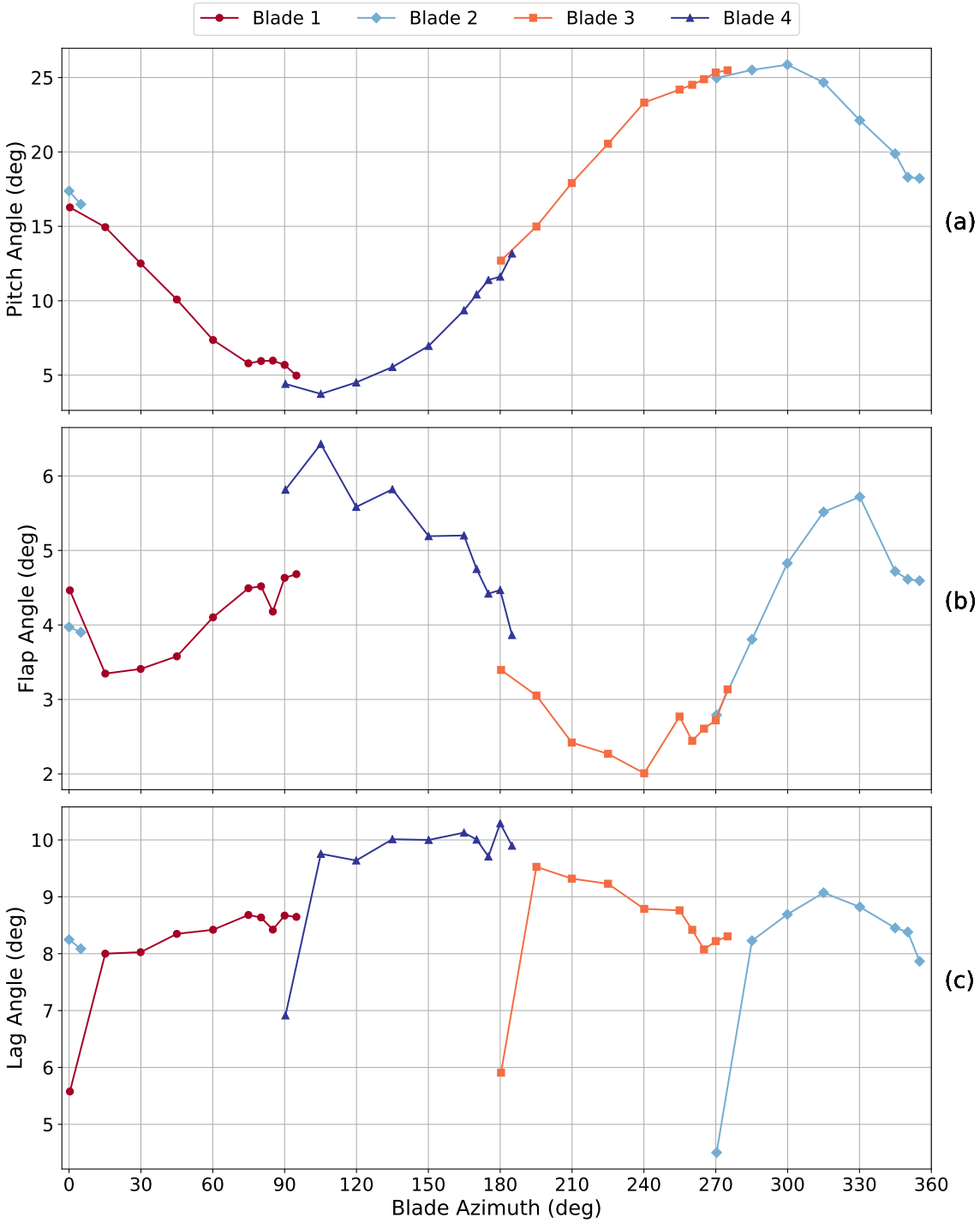


Figure 3.17-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	17.3735	3.9720	8.2476	0.6272	0.2130	0.3617
0.35	1	16.2727	4.4644	5.5773	0.3163	0.2446	2.1333
4.92	2	16.4835	3.9008	8.0870	0.0888	0.0905	0.0703
15.12	1	14.9426	3.3468	8.0008	0.0959	0.1283	0.0797
29.88	1	12.5048	3.4090	8.0263	0.1065	0.1242	0.0835
45	1	10.0792	3.5783	8.3486	0.0594	0.0977	0.0749
60.12	1	7.3606	4.1020	8.4203	0.0744	0.0848	0.1470
74.88	1	5.7947	4.4927	8.6807	0.0854	0.0802	0.1254
80.16	1	5.9481	4.5186	8.6364	0.0589	0.1683	0.0479
85.08	1	5.9747	4.1792	8.4235	0.0770	0.1126	0.0417
90	1	5.6873	4.6321	8.6701	0.0708	0.1666	0.0734
90.35	4	4.4100	5.8154	6.9138	0.4202	0.5545	2.2894
94.92	1	4.9704	4.6820	8.6473	0.0932	0.0722	0.0687
105.12	4	3.7377	6.4285	9.7556	0.0792	0.1553	0.1066
119.88	4	4.5082	5.5842	9.6386	0.0752	0.1867	0.1263
135	4	5.5441	5.8205	10.0125	0.0644	0.3038	0.1313
150.12	4	6.9600	5.1915	9.9998	0.0499	0.1491	0.1591
164.88	4	9.3560	5.2006	10.1282	0.1000	0.2847	0.1416
170.16	4	10.4208	4.7506	10.0058	0.0628	0.1366	0.0665
175.08	4	11.3927	4.4200	9.7085	0.1581	0.2965	0.1168
180	4	11.6164	4.4687	10.2916	0.0995	0.1739	0.0965
180.35	3	12.6983	3.3956	5.9088	0.8282	0.5862	1.7095
184.92	4	13.1703	3.8644	9.8981	0.0519	0.0775	0.0768
195.12	3	14.9886	3.0525	9.5268	0.0693	0.2497	0.0885
209.88	3	17.9112	2.4213	9.3195	0.1120	0.2797	0.1406
225	3	20.5468	2.2697	9.2303	0.0533	0.1468	0.0835
240.12	3	23.3159	2.0091	8.7876	0.2247	0.2263	0.1704
254.88	3	24.1895	2.7704	8.7618	0.1658	0.0898	0.0719
260.16	3	24.5083	2.4440	8.4189	0.0678	0.1013	0.0775
265.08	3	24.8875	2.6078	8.0746	0.1455	0.1039	0.0980
270	3	25.3376	2.7190	8.2211	0.1431	0.0833	0.0656
270.35	2	24.9705	2.7913	4.5034	0.2021	0.2086	2.0352
274.92	3	25.4837	3.1351	8.3050	0.1368	0.1161	0.0667
285.12	2	25.5099	3.8057	8.2284	0.0770	0.0756	0.0496
299.88	2	25.8612	4.8274	8.6906	0.1325	0.0397	0.0933
315	2	24.6716	5.5161	9.0719	0.0941	0.1210	0.0731
330.12	2	22.1216	5.7193	8.8229	0.0825	0.0731	0.1303
344.88	2	19.8767	4.7190	8.4523	0.2250	0.1442	0.1317
350.16	2	18.3018	4.6131	8.3819	0.4851	0.1816	0.0884
355.08	2	18.2231	4.5931	7.8660	0.3131	0.2855	0.1556

3.17.2 Spanwise Elastic Deformations

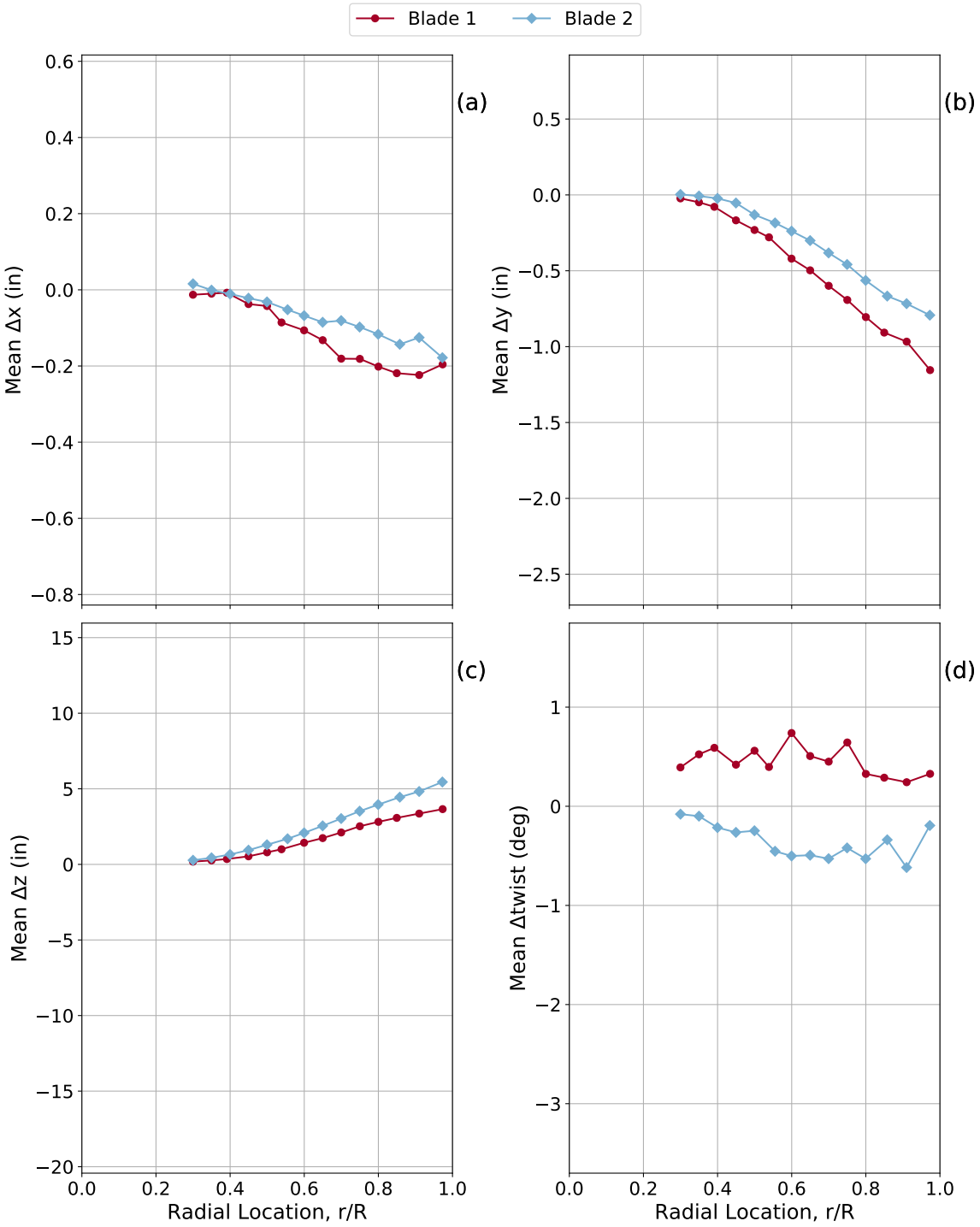


Figure 3.17-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2998	-0.0129	0.0205	-0.0231	0.0485	0.1804	0.1716	0.3921	0.2217
1	0.35	0.3498	-0.0101	0.0200	-0.0487	0.0908	0.2646	0.2552	0.5240	0.2920
1	0.35	0.3913	-0.0076	0.0217	-0.0787	0.1393	0.3546	0.3459	0.5897	0.2388
1	0.35	0.4496	-0.0374	0.0218	-0.1677	0.1940	0.5334	0.4425	0.4197	0.2482
1	0.35	0.4997	-0.0426	0.0267	-0.2313	0.2396	0.7979	0.5229	0.5604	0.2984
1	0.35	0.5387	-0.0857	0.0250	-0.2796	0.2777	1.0005	0.5816	0.3964	0.2332
1	0.35	0.5996	-0.1064	0.0264	-0.4201	0.3314	1.4310	0.6396	0.7387	0.4310
1	0.35	0.6498	-0.1322	0.0292	-0.4971	0.3882	1.7397	0.7422	0.5068	0.2480
1	0.35	0.6998	-0.1808	0.0297	-0.5990	0.4379	2.1114	0.8185	0.4502	0.2675
1	0.35	0.7500	-0.1813	0.0310	-0.6925	0.4890	2.5224	0.8748	0.6436	0.2431
1	0.35	0.8001	-0.2017	0.0317	-0.8053	0.5430	2.8147	0.9361	0.3265	0.2228
1	0.35	0.8497	-0.2189	0.0322	-0.9075	0.5945	3.0763	0.9889	0.2885	0.2642
1	0.35	0.9102	-0.2237	0.0376	-0.9671	0.6573	3.3603	1.0959	0.2428	0.4313
1	0.35	0.9734	-0.1958	0.0467	-1.1547	0.7287	3.6558	1.1987	0.3272	0.4115
2	0	0.2999	0.0158	0.0342	0.0029	0.0455	0.2739	0.1698	-0.0794	0.4614
2	0	0.3498	-0.0008	0.0320	-0.0073	0.0897	0.4357	0.2370	-0.0997	0.6053
2	0	0.3998	-0.0108	0.0313	-0.0232	0.1531	0.6555	0.3231	-0.2149	0.6221
2	0	0.4496	-0.0220	0.0286	-0.0534	0.2156	0.9415	0.4062	-0.2633	0.6369
2	0	0.4995	-0.0318	0.0273	-0.1310	0.2787	1.2987	0.4904	-0.2470	0.6387
2	0	0.5551	-0.0522	0.0298	-0.1847	0.3492	1.6942	0.5864	-0.4538	0.6320
2	0	0.5996	-0.0678	0.0375	-0.2387	0.4044	2.0843	0.6615	-0.5013	0.6382
2	0	0.6497	-0.0852	0.0476	-0.3011	0.4709	2.5500	0.7485	-0.4935	0.6262
2	0	0.6996	-0.0809	0.0624	-0.3824	0.5357	3.0318	0.8332	-0.5286	0.6354
2	0	0.7495	-0.0977	0.0797	-0.4585	0.6009	3.5198	0.9170	-0.4200	0.6322
2	0	0.7996	-0.1166	0.0992	-0.5638	0.6642	3.9560	1.0015	-0.5292	0.6421
2	0	0.8578	-0.1430	0.1251	-0.6669	0.7347	4.4471	1.0963	-0.3382	0.6575
2	0	0.9100	-0.1253	0.1504	-0.7168	0.8027	4.8224	1.1801	-0.6177	0.6742
2	0	0.9727	-0.1782	0.1779	-0.7926	0.8801	5.4503	1.2807	-0.1939	0.6773

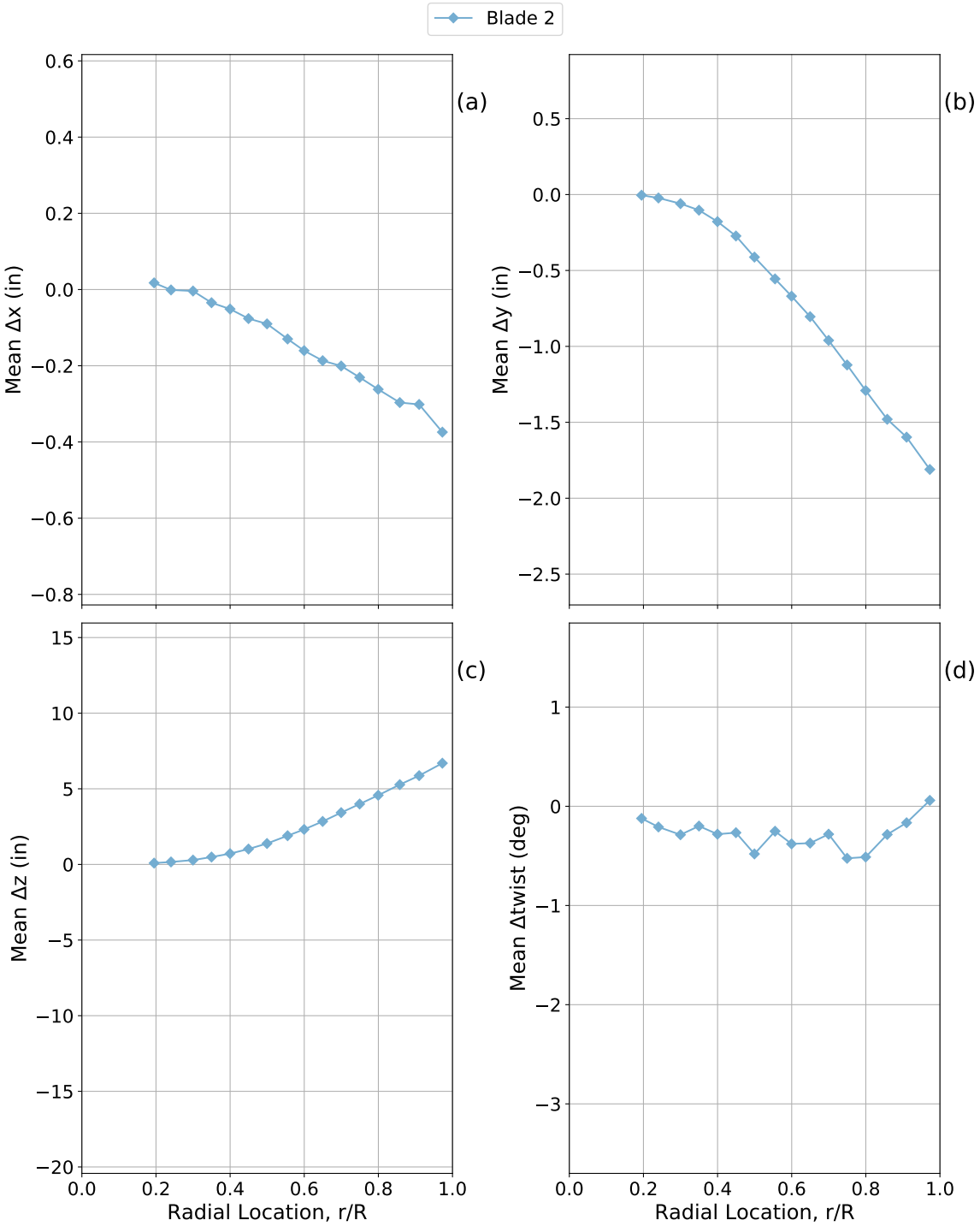


Figure 3.17-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	4.92	0.1949	0.0175	0.0023	-0.0044	0.0011	0.0880	0.0088	-0.1222	0.0566
2	4.92	0.2405	-0.0010	0.0020	-0.0226	0.0049	0.1646	0.0213	-0.2085	0.0493
2	4.92	0.2999	-0.0039	0.0020	-0.0599	0.0073	0.2883	0.0290	-0.2869	0.1116
2	4.92	0.3498	-0.0346	0.0032	-0.1030	0.0165	0.4890	0.0533	-0.1992	0.0923
2	4.92	0.3998	-0.0512	0.0035	-0.1783	0.0253	0.7144	0.0767	-0.2813	0.0879
2	4.92	0.4496	-0.0762	0.0034	-0.2730	0.0301	1.0187	0.0934	-0.2660	0.0780
2	4.92	0.4995	-0.0901	0.0043	-0.4121	0.0376	1.3837	0.1202	-0.4803	0.0769
2	4.92	0.5551	-0.1298	0.0051	-0.5556	0.0448	1.8985	0.1481	-0.2515	0.0731
2	4.92	0.5996	-0.1604	0.0051	-0.6693	0.0512	2.3144	0.1718	-0.3791	0.0746
2	4.92	0.6497	-0.1867	0.0065	-0.8043	0.0588	2.8427	0.1963	-0.3715	0.1065
2	4.92	0.6996	-0.2006	0.0073	-0.9605	0.0681	3.4255	0.2312	-0.2814	0.0806
2	4.92	0.7495	-0.2306	0.0094	-1.1225	0.0778	3.9945	0.2562	-0.5244	0.1056
2	4.92	0.7996	-0.2619	0.0110	-1.2909	0.0840	4.5732	0.2884	-0.5117	0.0819
2	4.92	0.8578	-0.2966	0.0143	-1.4802	0.0952	5.2765	0.3216	-0.2844	0.0838
2	4.92	0.9100	-0.3015	0.0150	-1.5979	0.1206	5.8698	0.3529	-0.1660	0.3357
2	4.92	0.9727	-0.3742	0.0190	-1.8106	0.1196	6.6936	0.3875	0.0596	0.1107

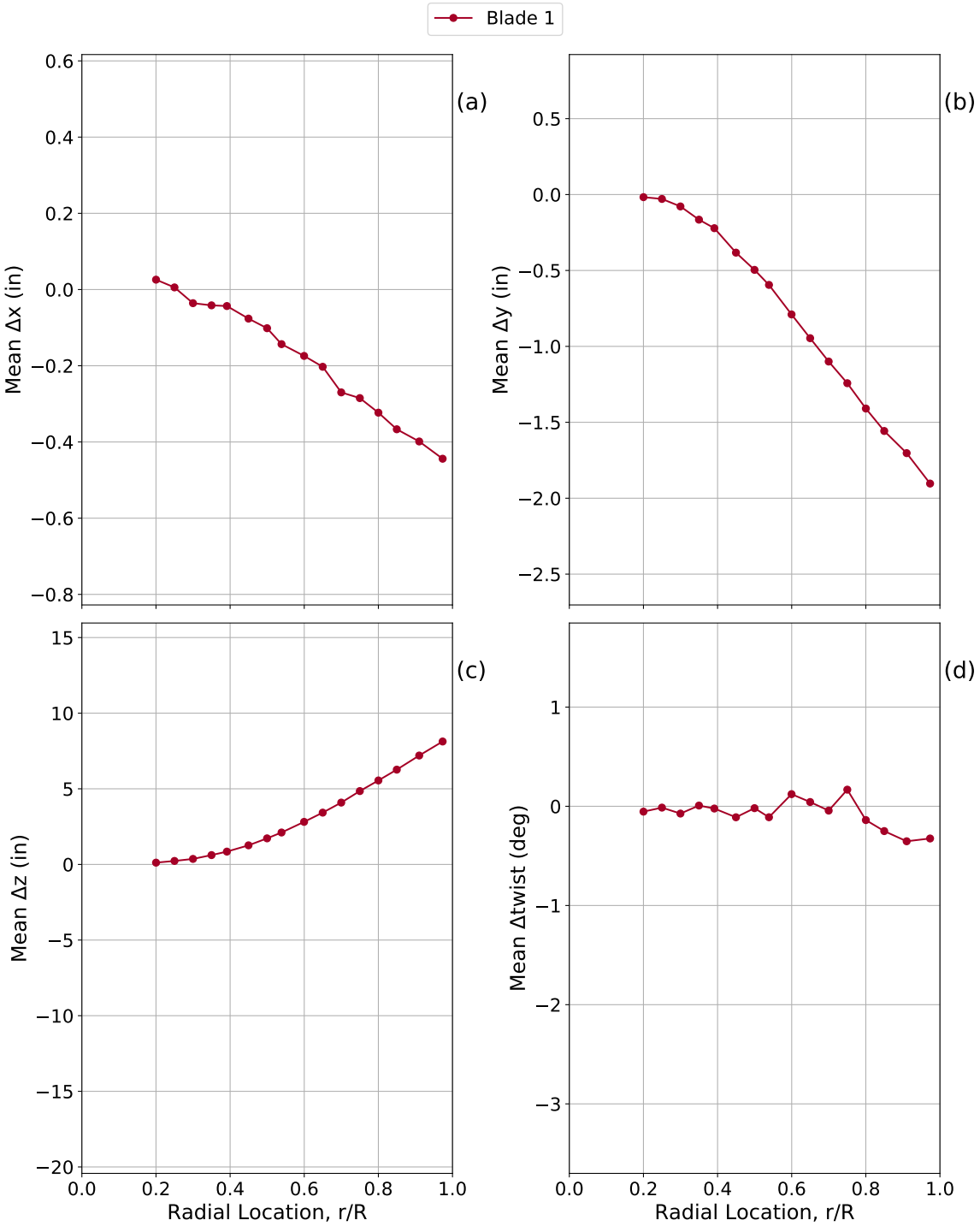


Figure 3.17-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0259	0.0009	-0.0172	0.0009	0.1185	0.0052	-0.0538	0.0438
1	15.12	0.2499	0.0056	0.0019	-0.0289	0.0027	0.2306	0.0113	-0.0134	0.0604
1	15.12	0.2998	-0.0358	0.0018	-0.0783	0.0038	0.3650	0.0216	-0.0733	0.0878
1	15.12	0.3498	-0.0415	0.0018	-0.1654	0.0060	0.6174	0.0301	0.0076	0.0860
1	15.12	0.3913	-0.0433	0.0024	-0.2216	0.0077	0.8479	0.0468	-0.0227	0.0667
1	15.12	0.4496	-0.0763	0.0031	-0.3826	0.0135	1.2633	0.0612	-0.1108	0.0789
1	15.12	0.4997	-0.1015	0.0030	-0.4961	0.0165	1.7243	0.0736	-0.0189	0.0796
1	15.12	0.5387	-0.1433	0.0036	-0.5951	0.0187	2.1113	0.0823	-0.1104	0.0881
1	15.12	0.5996	-0.1742	0.0051	-0.7896	0.0251	2.8148	0.0993	0.1224	0.0835
1	15.12	0.6498	-0.2027	0.0063	-0.9461	0.0313	3.4250	0.1101	0.0430	0.0716
1	15.12	0.6998	-0.2699	0.0061	-1.0998	0.0370	4.0888	0.1251	-0.0434	0.0620
1	15.12	0.7500	-0.2849	0.0080	-1.2425	0.0415	4.8502	0.1386	0.1676	0.0701
1	15.12	0.8001	-0.3231	0.0097	-1.4094	0.0470	5.5525	0.1537	-0.1391	0.0857
1	15.12	0.8497	-0.3667	0.0116	-1.5572	0.0531	6.2676	0.1709	-0.2500	0.1016
1	15.12	0.9102	-0.3987	0.0115	-1.7031	0.0624	7.2004	0.1845	-0.3527	0.0984
1	15.12	0.9734	-0.4440	0.0148	-1.9035	0.0754	8.1278	0.1974	-0.3246	0.1166

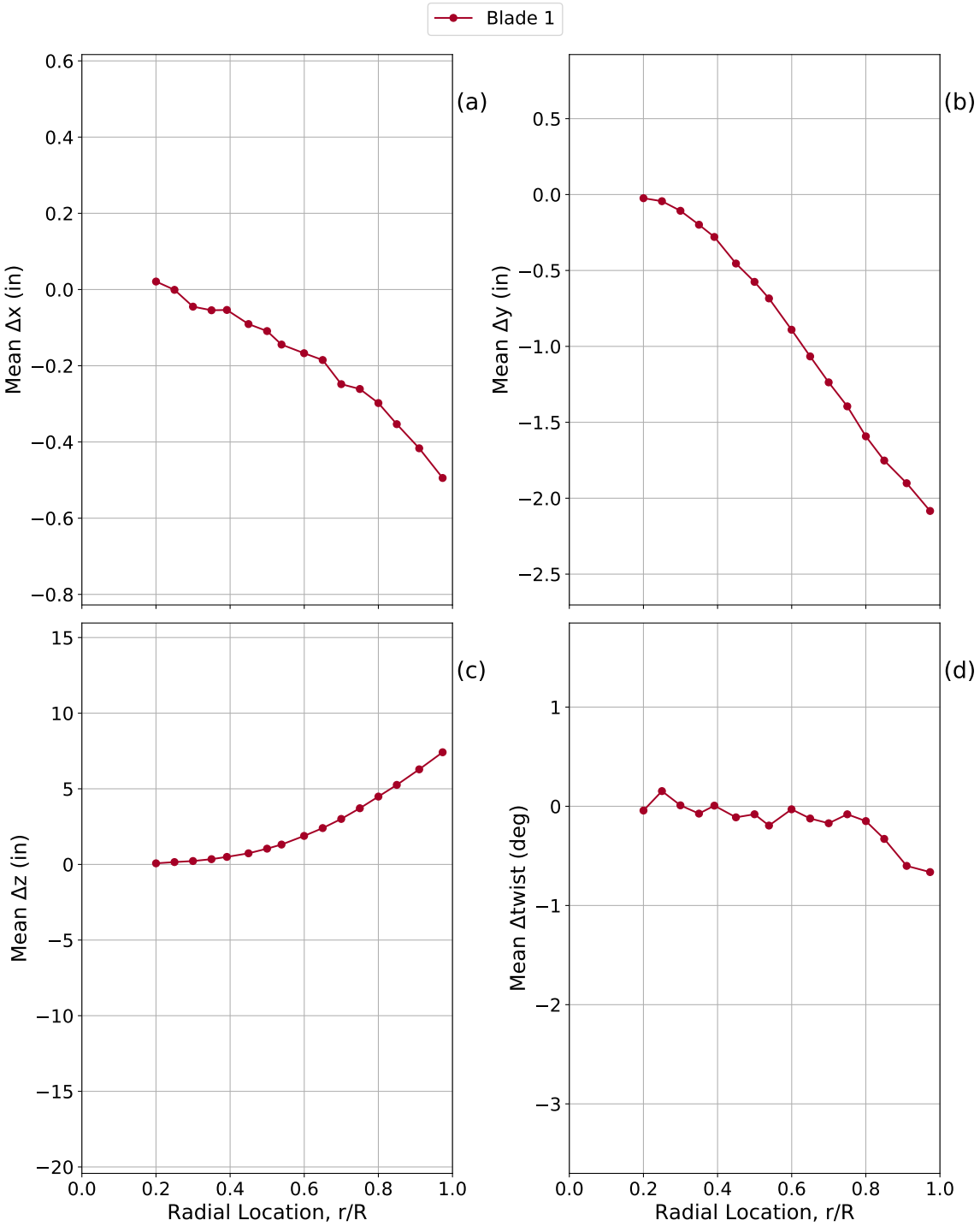


Figure 3.17-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0210	0.0021	-0.0241	0.0009	0.0735	0.0074	-0.0427	0.0253
1	29.88	0.2499	-0.0008	0.0015	-0.0438	0.0031	0.1562	0.0180	0.1531	0.0222
1	29.88	0.2998	-0.0449	0.0026	-0.1070	0.0047	0.2252	0.0313	0.0096	0.0463
1	29.88	0.3498	-0.0544	0.0021	-0.1987	0.0068	0.3486	0.0473	-0.0739	0.0616
1	29.88	0.3913	-0.0536	0.0037	-0.2793	0.0120	0.4983	0.0729	0.0066	0.0482
1	29.88	0.4496	-0.0906	0.0028	-0.4543	0.0151	0.7354	0.0995	-0.1114	0.0588
1	29.88	0.4997	-0.1090	0.0030	-0.5751	0.0191	1.0425	0.1251	-0.0804	0.0509
1	29.88	0.5387	-0.1444	0.0036	-0.6842	0.0227	1.3148	0.1483	-0.1943	0.0540
1	29.88	0.5996	-0.1671	0.0047	-0.8904	0.0293	1.8858	0.1850	-0.0304	0.0570
1	29.88	0.6498	-0.1850	0.0056	-1.0661	0.0358	2.4032	0.2168	-0.1232	0.0573
1	29.88	0.6998	-0.2483	0.0065	-1.2370	0.0427	3.0087	0.2456	-0.1711	0.0658
1	29.88	0.7500	-0.2610	0.0071	-1.3950	0.0513	3.7142	0.2800	-0.0807	0.0610
1	29.88	0.8001	-0.2979	0.0090	-1.5925	0.0598	4.4865	0.3142	-0.1492	0.0752
1	29.88	0.8497	-0.3533	0.0101	-1.7519	0.0679	5.2572	0.3529	-0.3287	0.0604
1	29.88	0.9102	-0.4166	0.0123	-1.9012	0.0785	6.2866	0.4006	-0.6008	0.0756
1	29.88	0.9734	-0.4945	0.0156	-2.0839	0.0903	7.4162	0.4448	-0.6633	0.0724

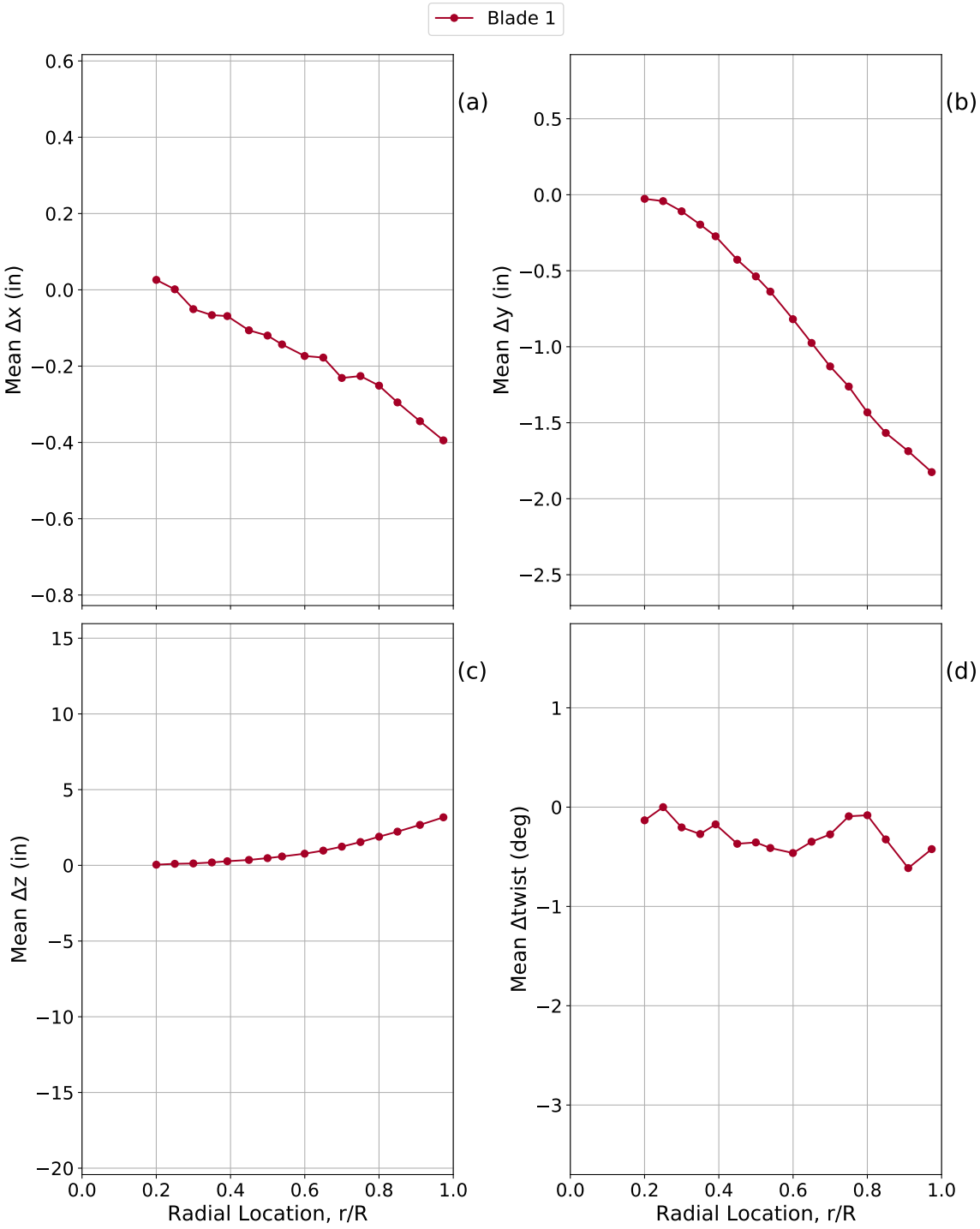


Figure 3.17-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0261	0.0023	-0.0268	0.0008	0.0437	0.0053	-0.1327	0.0372
1	45	0.2499	0.0014	0.0017	-0.0419	0.0028	0.1009	0.0123	0.0000	0.0679
1	45	0.2998	-0.0506	0.0015	-0.1088	0.0031	0.1248	0.0193	-0.2041	0.0851
1	45	0.3498	-0.0663	0.0022	-0.1964	0.0071	0.1912	0.0337	-0.2712	0.0706
1	45	0.3913	-0.0688	0.0024	-0.2735	0.0096	0.2723	0.0477	-0.1735	0.0736
1	45	0.4496	-0.1061	0.0021	-0.4275	0.0136	0.3572	0.0620	-0.3690	0.0871
1	45	0.4997	-0.1199	0.0026	-0.5371	0.0179	0.4760	0.0779	-0.3554	0.0979
1	45	0.5387	-0.1431	0.0031	-0.6374	0.0201	0.5855	0.0910	-0.4116	0.0813
1	45	0.5996	-0.1734	0.0040	-0.8187	0.0258	0.7701	0.1078	-0.4621	0.0915
1	45	0.6498	-0.1776	0.0044	-0.9750	0.0310	0.9731	0.1216	-0.3483	0.0941
1	45	0.6998	-0.2310	0.0032	-1.1295	0.0357	1.2349	0.1343	-0.2745	0.1066
1	45	0.7500	-0.2260	0.0043	-1.2619	0.0422	1.5392	0.1473	-0.0922	0.1038
1	45	0.8001	-0.2512	0.0051	-1.4318	0.0490	1.8923	0.1638	-0.0818	0.1122
1	45	0.8497	-0.2951	0.0053	-1.5672	0.0549	2.2253	0.1827	-0.3251	0.1095
1	45	0.9102	-0.3444	0.0057	-1.6870	0.0631	2.6715	0.2096	-0.6137	0.1219
1	45	0.9734	-0.3946	0.0085	-1.8249	0.0721	3.1715	0.2475	-0.4229	0.1221

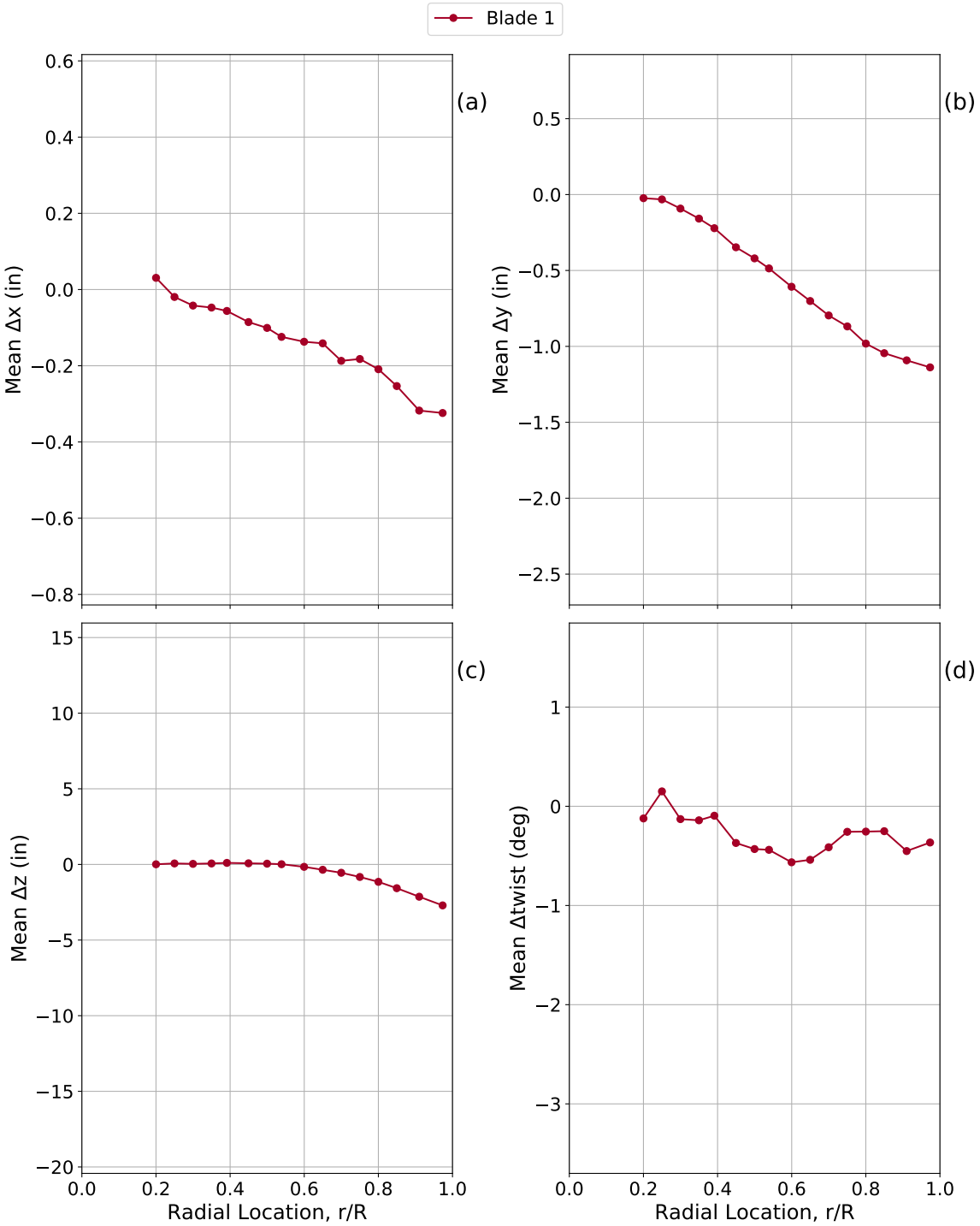


Figure 3.17-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0307	0.0020	-0.0239	0.0012	0.0105	0.0060	-0.1225	0.0268
1	60.12	0.2499	-0.0195	0.0023	-0.0319	0.0031	0.0654	0.0128	0.1503	0.0484
1	60.12	0.2998	-0.0421	0.0016	-0.0923	0.0050	0.0376	0.0236	-0.1293	0.0611
1	60.12	0.3498	-0.0473	0.0015	-0.1585	0.0101	0.0639	0.0381	-0.1413	0.0616
1	60.12	0.3913	-0.0562	0.0028	-0.2216	0.0138	0.1027	0.0561	-0.0950	0.0833
1	60.12	0.4496	-0.0854	0.0031	-0.3473	0.0181	0.0747	0.0747	-0.3698	0.0937
1	60.12	0.4997	-0.1007	0.0026	-0.4203	0.0227	0.0500	0.0980	-0.4310	0.0861
1	60.12	0.5387	-0.1242	0.0028	-0.4864	0.0262	0.0149	0.1140	-0.4389	0.0779
1	60.12	0.5996	-0.1370	0.0032	-0.6073	0.0336	-0.1587	0.1427	-0.5646	0.0922
1	60.12	0.6498	-0.1412	0.0030	-0.7012	0.0393	-0.3529	0.1657	-0.5396	0.1144
1	60.12	0.6998	-0.1871	0.0040	-0.7962	0.0452	-0.5513	0.1855	-0.4131	0.1063
1	60.12	0.7500	-0.1823	0.0046	-0.8685	0.0513	-0.8285	0.2055	-0.2572	0.1206
1	60.12	0.8001	-0.2091	0.0048	-0.9816	0.0578	-1.1504	0.2217	-0.2551	0.1430
1	60.12	0.8497	-0.2533	0.0050	-1.0447	0.0649	-1.5711	0.2396	-0.2510	0.1246
1	60.12	0.9102	-0.3176	0.0061	-1.0919	0.0741	-2.1346	0.2653	-0.4513	0.1274
1	60.12	0.9734	-0.3240	0.0088	-1.1382	0.0831	-2.7082	0.3041	-0.3650	0.1312

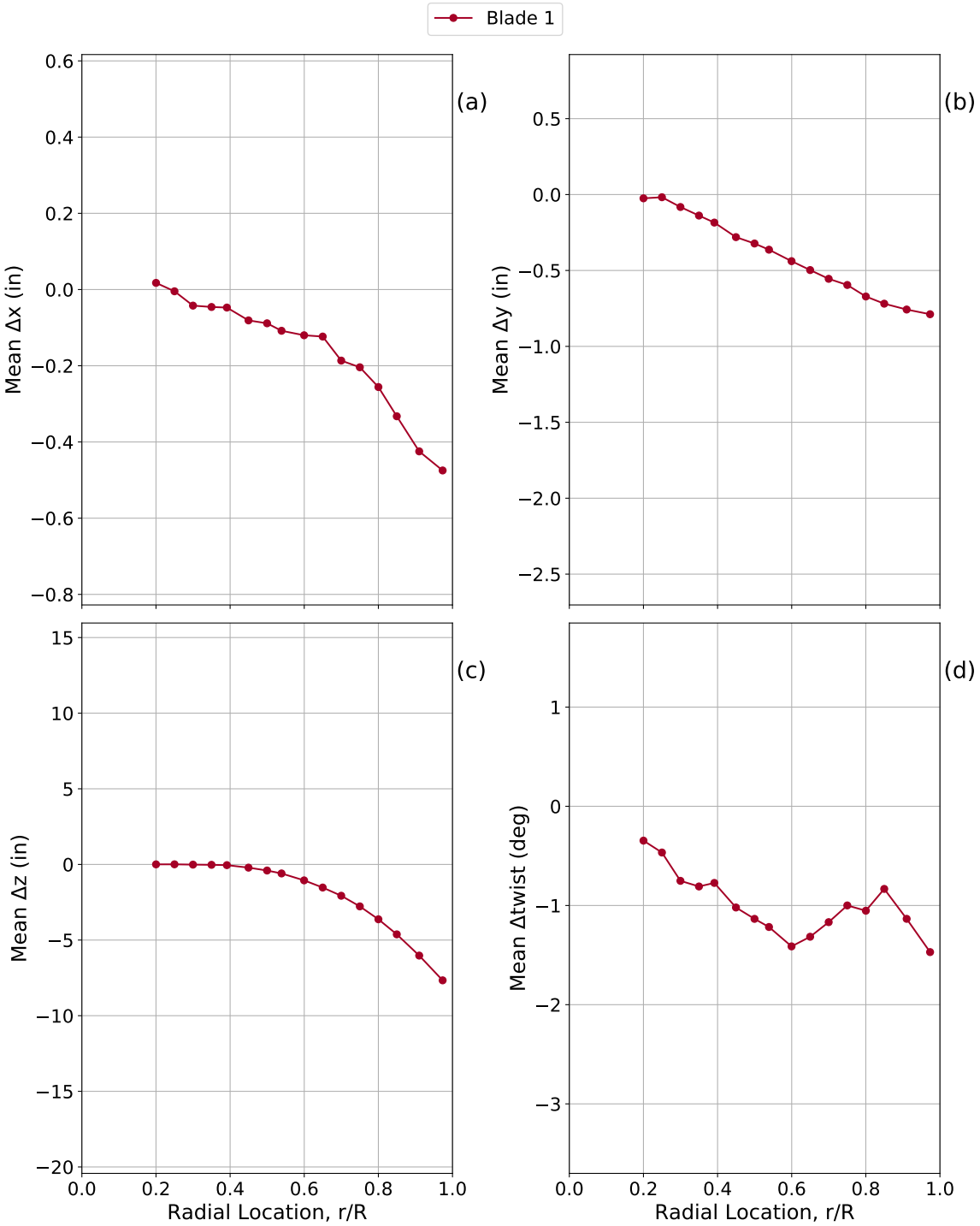


Figure 3.17-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0175	0.0018	-0.0249	0.0016	0.0048	0.0061	-0.3462	0.0238
1	74.88	0.2499	-0.0046	0.0019	-0.0177	0.0035	0.0072	0.0125	-0.4661	0.0346
1	74.88	0.2998	-0.0422	0.0026	-0.0821	0.0078	-0.0122	0.0230	-0.7516	0.0516
1	74.88	0.3498	-0.0458	0.0034	-0.1385	0.0124	-0.0258	0.0389	-0.8083	0.0688
1	74.88	0.3913	-0.0473	0.0040	-0.1846	0.0190	-0.0468	0.0558	-0.7726	0.0558
1	74.88	0.4496	-0.0810	0.0040	-0.2805	0.0244	-0.2119	0.0808	-1.0203	0.0604
1	74.88	0.4997	-0.0886	0.0051	-0.3224	0.0315	-0.4021	0.0977	-1.1349	0.0685
1	74.88	0.5387	-0.1082	0.0045	-0.3632	0.0375	-0.5955	0.1130	-1.2169	0.0752
1	74.88	0.5996	-0.1200	0.0060	-0.4387	0.0476	-1.0535	0.1352	-1.4123	0.0614
1	74.88	0.6498	-0.1234	0.0069	-0.4974	0.0579	-1.5274	0.1585	-1.3152	0.0709
1	74.88	0.6998	-0.1865	0.0083	-0.5550	0.0673	-2.0706	0.1748	-1.1680	0.0706
1	74.88	0.7500	-0.2040	0.0092	-0.5956	0.0795	-2.7739	0.1983	-0.9996	0.0652
1	74.88	0.8001	-0.2559	0.0109	-0.6714	0.0920	-3.6261	0.2207	-1.0527	0.0788
1	74.88	0.8497	-0.3326	0.0114	-0.7188	0.1050	-4.6225	0.2462	-0.8329	0.0676
1	74.88	0.9102	-0.4247	0.0134	-0.7573	0.1223	-6.0252	0.2774	-1.1346	0.0858
1	74.88	0.9734	-0.4748	0.0194	-0.7883	0.1392	-7.6623	0.3207	-1.4698	0.1254

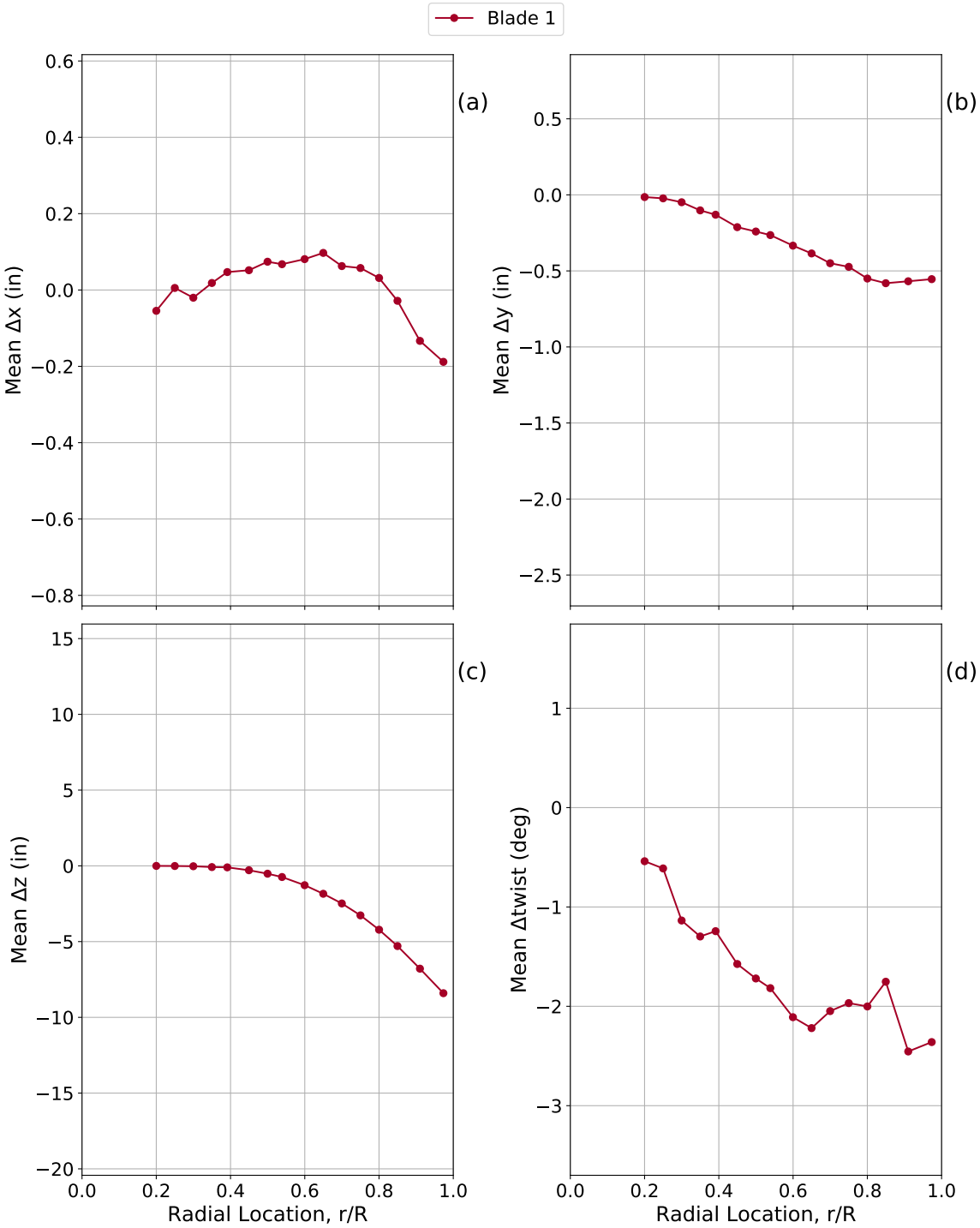


Figure 3.17-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0545	0.0280	-0.0144	0.0015	-0.0042	0.0062	-0.5397	0.0270
1	80.16	0.2499	0.0054	0.0066	-0.0229	0.0034	-0.0101	0.0152	-0.6121	0.0430
1	80.16	0.2998	-0.0202	0.0115	-0.0485	0.0067	-0.0264	0.0252	-1.1364	0.0576
1	80.16	0.3498	0.0184	0.0253	-0.1020	0.0113	-0.0810	0.0441	-1.2972	0.0548
1	80.16	0.3913	0.0470	0.0320	-0.1305	0.0167	-0.0998	0.0638	-1.2436	0.0656
1	80.16	0.4496	0.0518	0.0375	-0.2123	0.0244	-0.2901	0.0910	-1.5741	0.0660
1	80.16	0.4997	0.0741	0.0390	-0.2410	0.0325	-0.5182	0.1161	-1.7199	0.0693
1	80.16	0.5387	0.0676	0.0369	-0.2644	0.0380	-0.7375	0.1387	-1.8171	0.0797
1	80.16	0.5996	0.0809	0.0297	-0.3338	0.0485	-1.2771	0.1732	-2.1095	0.0746
1	80.16	0.6498	0.0972	0.0237	-0.3852	0.0570	-1.8439	0.2019	-2.2193	0.0909
1	80.16	0.6998	0.0627	0.0262	-0.4495	0.0657	-2.4830	0.2297	-2.0481	0.1062
1	80.16	0.7500	0.0576	0.0394	-0.4733	0.0754	-3.2699	0.2664	-1.9678	0.0873
1	80.16	0.8001	0.0316	0.0600	-0.5502	0.0863	-4.2163	0.2994	-2.0014	0.1020
1	80.16	0.8497	-0.0283	0.0841	-0.5809	0.0989	-5.2946	0.3366	-1.7524	0.1163
1	80.16	0.9102	-0.1333	0.1207	-0.5681	0.1151	-6.7870	0.3877	-2.4546	0.1184
1	80.16	0.9734	-0.1882	0.1635	-0.5542	0.1385	-8.4061	0.4351	-2.3599	0.1434

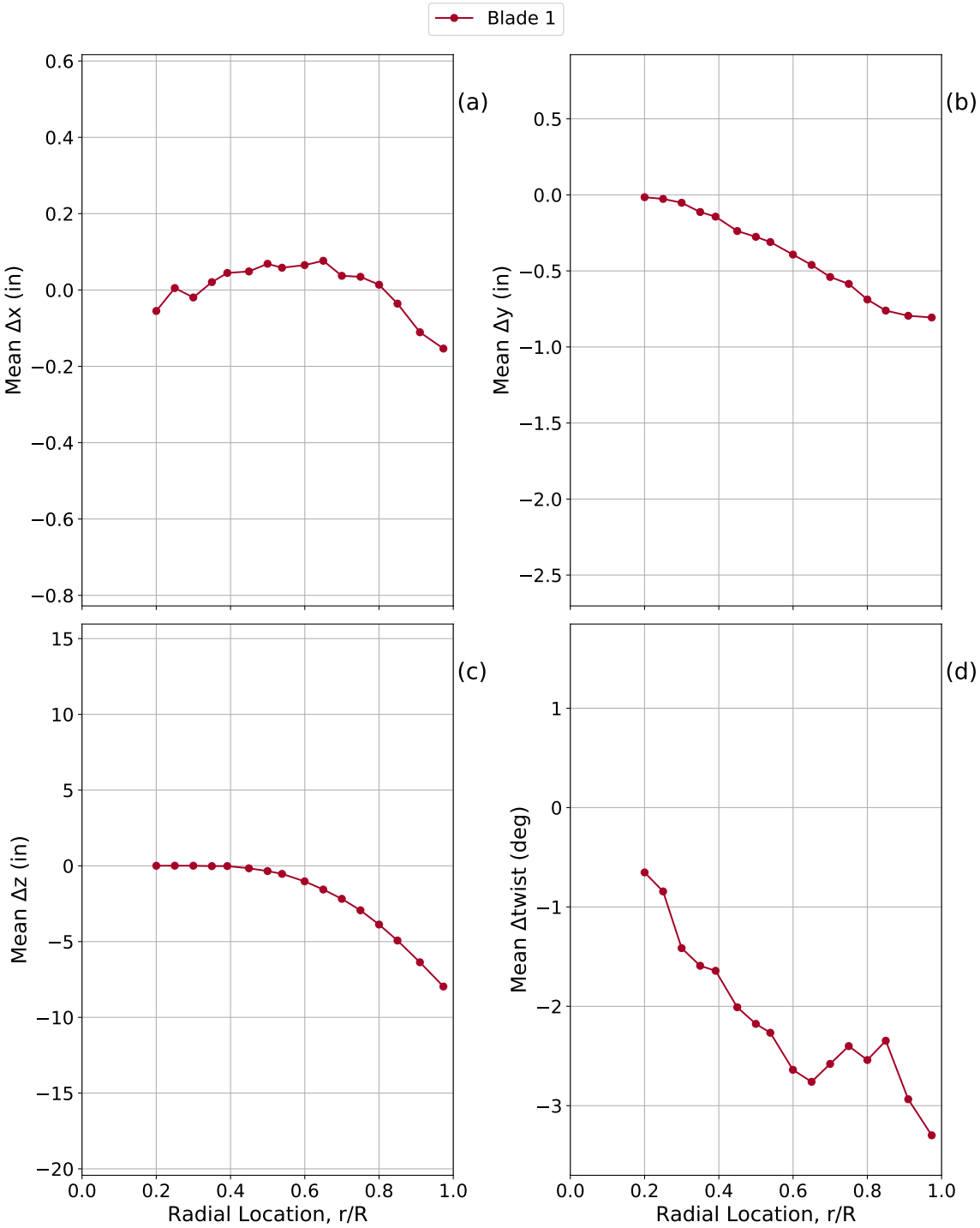


Figure 3.17-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0549	0.0222	-0.0154	0.0012	0.0053	0.0057	-0.6524	0.0249
1	85.08	0.2499	0.0051	0.0047	-0.0266	0.0020	0.0099	0.0084	-0.8437	0.0646
1	85.08	0.2998	-0.0195	0.0091	-0.0518	0.0047	0.0065	0.0183	-1.4145	0.0641
1	85.08	0.3498	0.0207	0.0189	-0.1129	0.0082	-0.0175	0.0309	-1.5919	0.0533
1	85.08	0.3913	0.0447	0.0258	-0.1433	0.0116	-0.0145	0.0423	-1.6425	0.0552
1	85.08	0.4496	0.0486	0.0324	-0.2379	0.0162	-0.1612	0.0565	-2.0096	0.0568
1	85.08	0.4997	0.0687	0.0346	-0.2758	0.0210	-0.3440	0.0697	-2.1767	0.0707
1	85.08	0.5387	0.0584	0.0346	-0.3102	0.0240	-0.5305	0.0789	-2.2661	0.0766
1	85.08	0.5996	0.0652	0.0358	-0.3925	0.0330	-1.0226	0.1033	-2.6390	0.0876
1	85.08	0.6498	0.0766	0.0366	-0.4608	0.0397	-1.5639	0.1230	-2.7601	0.0913
1	85.08	0.6998	0.0372	0.0393	-0.5399	0.0483	-2.1783	0.1455	-2.5796	0.1014
1	85.08	0.7500	0.0346	0.0463	-0.5853	0.0580	-2.9347	0.1718	-2.4003	0.0904
1	85.08	0.8001	0.0138	0.0576	-0.6881	0.0687	-3.8751	0.2030	-2.5405	0.0810
1	85.08	0.8497	-0.0357	0.0730	-0.7610	0.0812	-4.9289	0.2338	-2.3461	0.1121
1	85.08	0.9102	-0.1107	0.0991	-0.7949	0.0985	-6.3656	0.2738	-2.9354	0.1145
1	85.08	0.9734	-0.1535	0.1309	-0.8064	0.1220	-7.9651	0.3217	-3.2984	0.1214

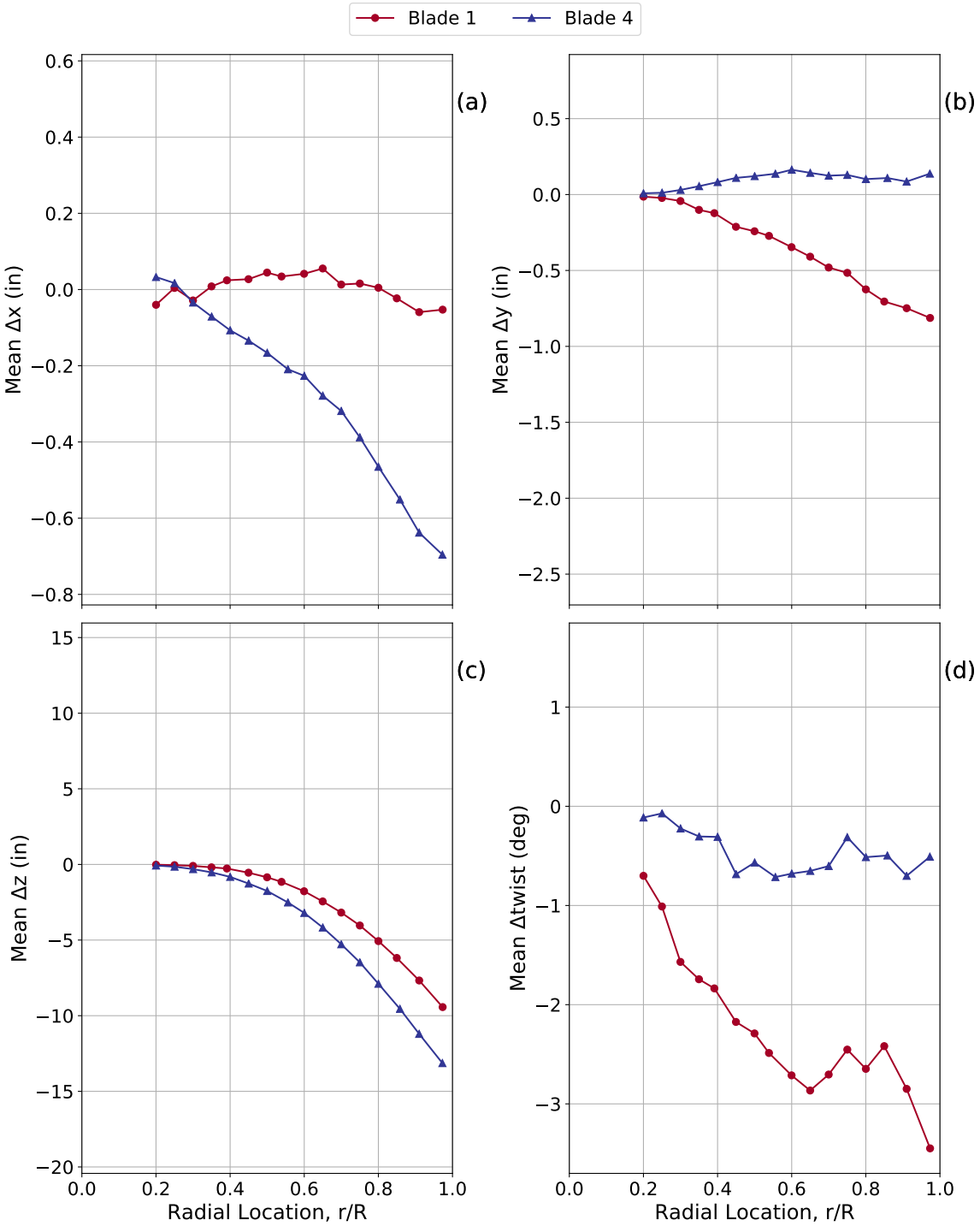


Figure 3.17-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0401	0.0320	-0.0139	0.0011	-0.0188	0.0031	-0.7010	0.0353
1	90	0.2499	0.0042	0.0084	-0.0226	0.0027	-0.0480	0.0061	-1.0103	0.0765
1	90	0.2998	-0.0286	0.0124	-0.0426	0.0046	-0.0955	0.0106	-1.5688	0.0816
1	90	0.3498	0.0082	0.0284	-0.1009	0.0083	-0.1915	0.0169	-1.7437	0.0716
1	90	0.3913	0.0242	0.0393	-0.1225	0.0120	-0.2695	0.0243	-1.8358	0.0671
1	90	0.4496	0.0272	0.0490	-0.2123	0.0183	-0.5458	0.0378	-2.1740	0.0770
1	90	0.4997	0.0445	0.0519	-0.2418	0.0243	-0.8503	0.0530	-2.2899	0.0733
1	90	0.5387	0.0342	0.0492	-0.2722	0.0295	-1.1515	0.0617	-2.4869	0.0814
1	90	0.5996	0.0413	0.0425	-0.3464	0.0389	-1.7726	0.0848	-2.7125	0.0925
1	90	0.6498	0.0552	0.0336	-0.4092	0.0471	-2.4453	0.1001	-2.8652	0.1014
1	90	0.6998	0.0131	0.0258	-0.4807	0.0553	-3.1828	0.1183	-2.7042	0.1015
1	90	0.7500	0.0158	0.0306	-0.5158	0.0647	-4.0367	0.1341	-2.4529	0.1185
1	90	0.8001	0.0047	0.0519	-0.6246	0.0743	-5.0685	0.1610	-2.6470	0.1204
1	90	0.8497	-0.0231	0.0823	-0.7047	0.0849	-6.1824	0.1869	-2.4180	0.1139
1	90	0.9102	-0.0593	0.1294	-0.7486	0.0994	-7.6725	0.2226	-2.8489	0.1325
1	90	0.9734	-0.0528	0.1822	-0.8127	0.1214	-9.4313	0.2673	-3.4485	0.1447
4	90.35	0.2001	0.0328	0.0126	0.0081	0.0064	-0.0734	0.0298	-0.1133	0.4128
4	90.35	0.2502	0.0168	0.0129	0.0117	0.0126	-0.1497	0.0688	-0.0716	0.7523
4	90.35	0.3001	-0.0342	0.0183	0.0304	0.0247	-0.3119	0.1281	-0.2240	0.9887
4	90.35	0.3502	-0.0710	0.0194	0.0551	0.0458	-0.5255	0.2211	-0.3045	1.0696
4	90.35	0.4002	-0.1071	0.0132	0.0819	0.0683	-0.8244	0.3461	-0.3086	1.0184
4	90.35	0.4500	-0.1342	0.0176	0.1098	0.0796	-1.2657	0.4363	-0.6844	1.2461
4	90.35	0.5001	-0.1662	0.0195	0.1212	0.0994	-1.7568	0.5894	-0.5671	1.1772
4	90.35	0.5560	-0.2093	0.0225	0.1369	0.1101	-2.5149	0.8113	-0.7135	0.8178
4	90.35	0.6001	-0.2265	0.0416	0.1633	0.1488	-3.2070	0.9461	-0.6788	0.8436
4	90.35	0.6501	-0.2787	0.0408	0.1429	0.1465	-4.1724	1.1059	-0.6516	0.9428
4	90.35	0.6999	-0.3188	0.0621	0.1243	0.1582	-5.2782	1.2545	-0.6027	1.1423
4	90.35	0.7500	-0.3879	0.0606	0.1291	0.1692	-6.4738	1.4379	-0.3123	1.0742
4	90.35	0.8002	-0.4652	0.0734	0.1017	0.1850	-7.8901	1.6248	-0.5127	1.0645
4	90.35	0.8582	-0.5511	0.0914	0.1088	0.1677	-9.5500	1.7765	-0.4963	1.5471
4	90.35	0.9101	-0.6380	0.0975	0.0854	0.1965	-11.2044	1.9591	-0.7012	1.3567
4	90.35	0.9728	-0.6958	0.1119	0.1376	0.2277	-13.1362	2.1763	-0.5087	0.9789

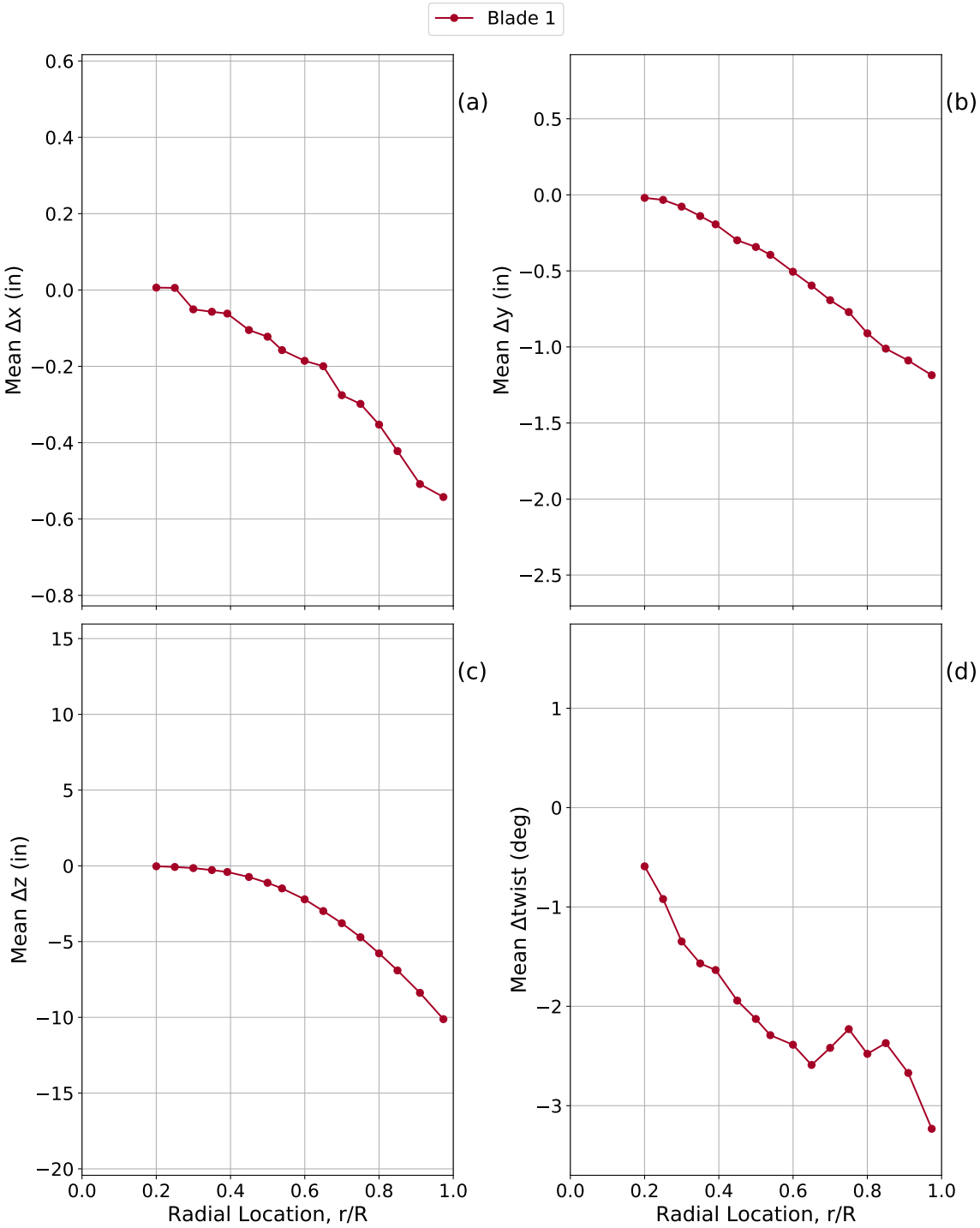


Figure 3.17-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	0.0063	0.0018	-0.0197	0.0013	-0.0283	0.0059	-0.5911	0.0371
1	94.92	0.2499	0.0056	0.0017	-0.0331	0.0024	-0.0740	0.0091	-0.9203	0.0858
1	94.92	0.2998	-0.0507	0.0022	-0.0774	0.0051	-0.1488	0.0188	-1.3475	0.0908
1	94.92	0.3498	-0.0570	0.0016	-0.1393	0.0086	-0.2794	0.0337	-1.5681	0.0806
1	94.92	0.3913	-0.0618	0.0032	-0.1938	0.0125	-0.4054	0.0452	-1.6348	0.0786
1	94.92	0.4496	-0.1049	0.0024	-0.2987	0.0171	-0.7356	0.0668	-1.9425	0.0746
1	94.92	0.4997	-0.1224	0.0031	-0.3427	0.0201	-1.1188	0.0829	-2.1270	0.0736
1	94.92	0.5387	-0.1575	0.0032	-0.3945	0.0239	-1.4894	0.0987	-2.2906	0.0695
1	94.92	0.5996	-0.1855	0.0039	-0.5056	0.0295	-2.2102	0.1238	-2.3867	0.0778
1	94.92	0.6498	-0.1996	0.0045	-0.5961	0.0337	-2.9831	0.1416	-2.5903	0.0774
1	94.92	0.6998	-0.2756	0.0054	-0.6925	0.0381	-3.7869	0.1619	-2.4183	0.0810
1	94.92	0.7500	-0.2984	0.0061	-0.7706	0.0433	-4.7114	0.1813	-2.2297	0.0855
1	94.92	0.8001	-0.3527	0.0077	-0.9104	0.0473	-5.7774	0.1989	-2.4785	0.0872
1	94.92	0.8497	-0.4220	0.0087	-1.0112	0.0514	-6.9025	0.2206	-2.3703	0.0859
1	94.92	0.9102	-0.5084	0.0101	-1.0892	0.0571	-8.3819	0.2434	-2.6708	0.0934
1	94.92	0.9734	-0.5424	0.0118	-1.1857	0.0631	-10.1186	0.2717	-3.2327	0.0942

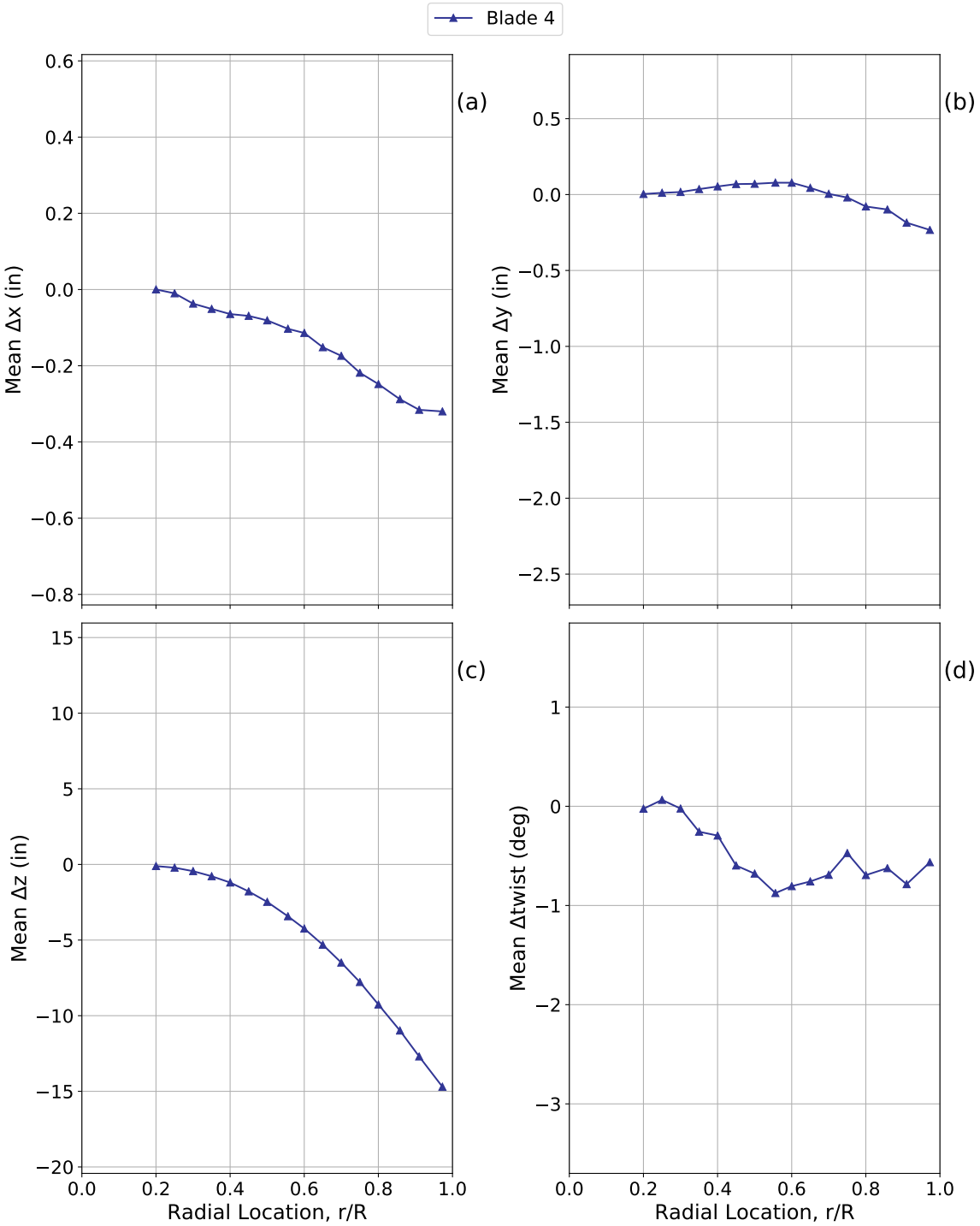


Figure 3.17-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	0.0002	0.0163	0.0035	0.0019	-0.1095	0.0051	-0.0248	0.0404
4	105.12	0.2502	-0.0100	0.0060	0.0111	0.0027	-0.2148	0.0112	0.0645	0.0641
4	105.12	0.3001	-0.0371	0.0088	0.0166	0.0064	-0.4449	0.0221	-0.0231	0.0887
4	105.12	0.3502	-0.0509	0.0149	0.0357	0.0112	-0.7804	0.0380	-0.2566	0.0711
4	105.12	0.4002	-0.0644	0.0196	0.0532	0.0163	-1.1976	0.0597	-0.2954	0.0796
4	105.12	0.4500	-0.0692	0.0240	0.0689	0.0235	-1.7850	0.0845	-0.5972	0.0911
4	105.12	0.5001	-0.0810	0.0252	0.0706	0.0308	-2.4773	0.1042	-0.6790	0.1009
4	105.12	0.5560	-0.1031	0.0258	0.0780	0.0420	-3.4297	0.1338	-0.8750	0.1178
4	105.12	0.6001	-0.1140	0.0249	0.0778	0.0511	-4.2415	0.1522	-0.8054	0.1362
4	105.12	0.6501	-0.1515	0.0240	0.0438	0.0638	-5.3118	0.1708	-0.7579	0.1599
4	105.12	0.6999	-0.1740	0.0284	0.0043	0.0766	-6.4915	0.1876	-0.6914	0.1699
4	105.12	0.7500	-0.2184	0.0383	-0.0196	0.0899	-7.7773	0.2056	-0.4720	0.1707
4	105.12	0.8002	-0.2482	0.0546	-0.0787	0.1055	-9.2633	0.2225	-0.6939	0.1657
4	105.12	0.8582	-0.2879	0.0813	-0.0986	0.1229	-10.9844	0.2425	-0.6238	0.2049
4	105.12	0.9101	-0.3157	0.1111	-0.1855	0.1401	-12.6990	0.2610	-0.7855	0.2058
4	105.12	0.9728	-0.3199	0.1496	-0.2331	0.1468	-14.7010	0.2924	-0.5643	0.2244

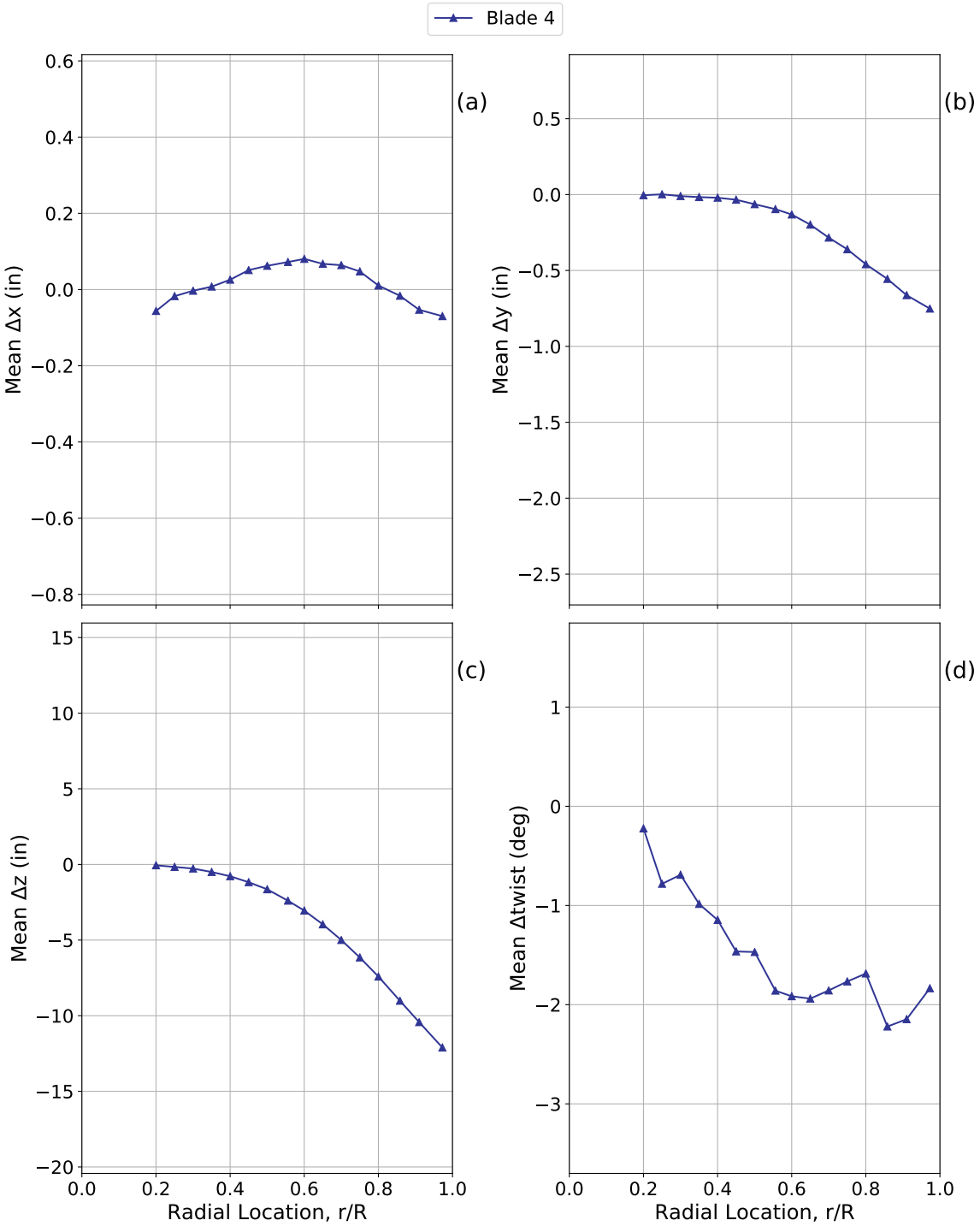


Figure 3.17-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0563	0.0058	-0.0045	0.0009	-0.0580	0.0031	-0.2235	0.0222
4	119.88	0.2502	-0.0174	0.0023	0.0014	0.0016	-0.1662	0.0080	-0.7816	0.0349
4	119.88	0.3001	-0.0032	0.0018	-0.0102	0.0037	-0.2735	0.0129	-0.6907	0.0477
4	119.88	0.3502	0.0076	0.0053	-0.0169	0.0046	-0.4996	0.0230	-0.9846	0.0531
4	119.88	0.4002	0.0258	0.0083	-0.0210	0.0079	-0.7828	0.0355	-1.1464	0.0523
4	119.88	0.4500	0.0510	0.0113	-0.0342	0.0101	-1.1754	0.0486	-1.4636	0.0484
4	119.88	0.5001	0.0622	0.0137	-0.0637	0.0128	-1.6455	0.0644	-1.4693	0.0570
4	119.88	0.5560	0.0722	0.0169	-0.0962	0.0170	-2.3972	0.0873	-1.8590	0.0575
4	119.88	0.6001	0.0804	0.0201	-0.1314	0.0208	-3.0525	0.1043	-1.9152	0.0520
4	119.88	0.6501	0.0674	0.0238	-0.1983	0.0262	-3.9626	0.1279	-1.9390	0.0559
4	119.88	0.6999	0.0639	0.0275	-0.2837	0.0313	-4.9961	0.1564	-1.8567	0.0583
4	119.88	0.7500	0.0474	0.0317	-0.3607	0.0368	-6.1532	0.1845	-1.7663	0.0648
4	119.88	0.8002	0.0105	0.0377	-0.4592	0.0433	-7.4152	0.2167	-1.6858	0.0778
4	119.88	0.8582	-0.0164	0.0433	-0.5559	0.0499	-9.0138	0.2619	-2.2206	0.0819
4	119.88	0.9101	-0.0532	0.0485	-0.6629	0.0570	-10.4278	0.3053	-2.1465	0.0838
4	119.88	0.9728	-0.0699	0.0551	-0.7514	0.0650	-12.1069	0.3633	-1.8350	0.0747

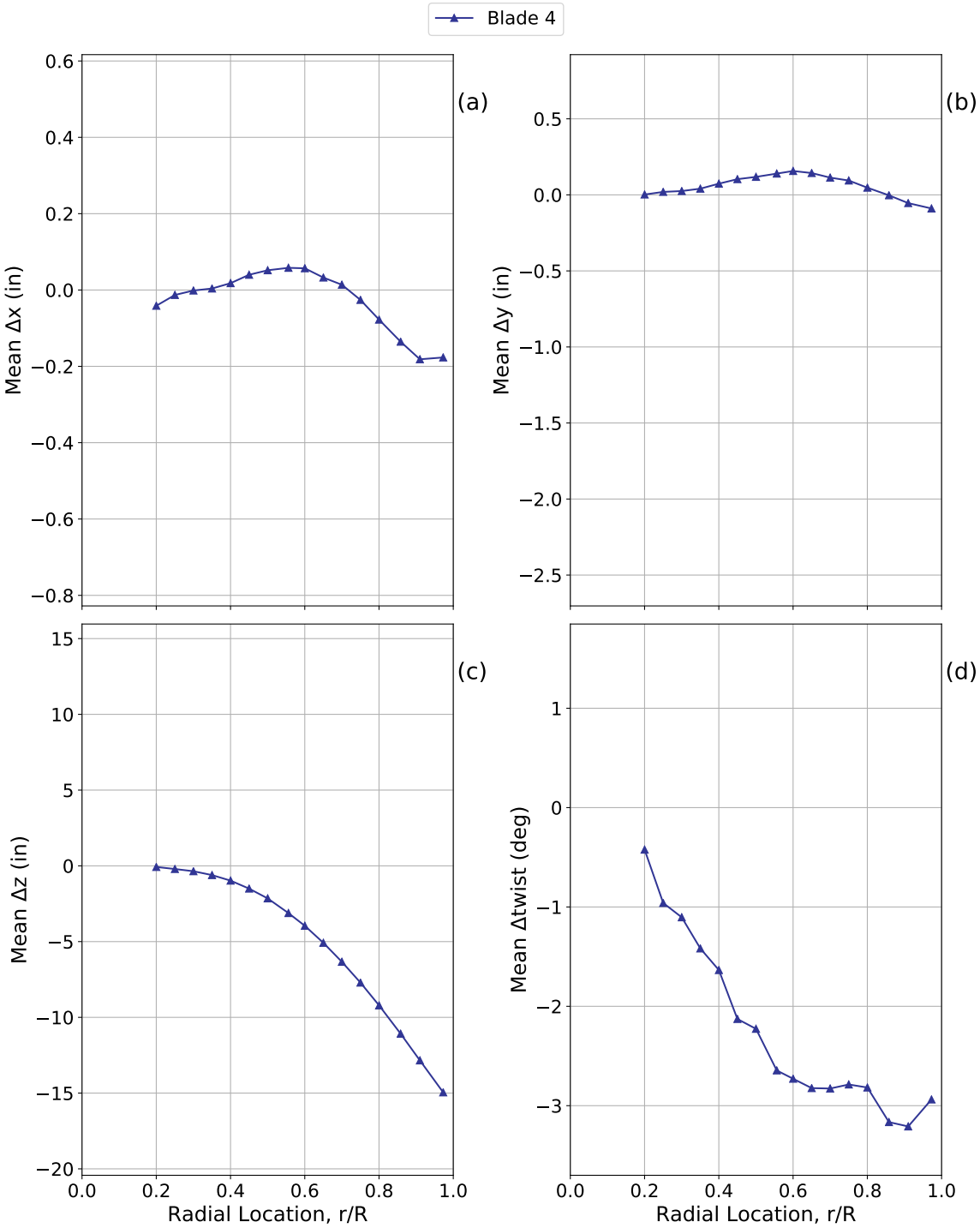


Figure 3.17-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0413	0.0053	0.0023	0.0011	-0.0751	0.0057	-0.4231	0.0234
4	135	0.2502	-0.0130	0.0021	0.0195	0.0023	-0.2085	0.0113	-0.9599	0.0346
4	135	0.3001	-0.0014	0.0032	0.0251	0.0036	-0.3554	0.0207	-1.1042	0.0473
4	135	0.3502	0.0039	0.0049	0.0407	0.0082	-0.6104	0.0386	-1.4177	0.0579
4	135	0.4002	0.0179	0.0083	0.0737	0.0113	-0.9764	0.0568	-1.6354	0.0643
4	135	0.4500	0.0399	0.0119	0.1032	0.0160	-1.5030	0.0786	-2.1275	0.0621
4	135	0.5001	0.0517	0.0142	0.1182	0.0203	-2.1486	0.1082	-2.2266	0.0567
4	135	0.5560	0.0581	0.0181	0.1398	0.0265	-3.1179	0.1500	-2.6453	0.0636
4	135	0.6001	0.0569	0.0212	0.1570	0.0320	-3.9572	0.1889	-2.7291	0.0875
4	135	0.6501	0.0326	0.0238	0.1435	0.0372	-5.0816	0.2376	-2.8233	0.0764
4	135	0.6999	0.0138	0.0278	0.1133	0.0428	-6.3355	0.2922	-2.8274	0.0781
4	135	0.7500	-0.0260	0.0330	0.0943	0.0481	-7.7084	0.3513	-2.7868	0.0841
4	135	0.8002	-0.0777	0.0382	0.0471	0.0535	-9.2135	0.4123	-2.8174	0.0846
4	135	0.8582	-0.1355	0.0455	-0.0029	0.0601	-11.0820	0.4880	-3.1654	0.0834
4	135	0.9101	-0.1815	0.0526	-0.0542	0.0655	-12.8437	0.5606	-3.2091	0.0929
4	135	0.9728	-0.1767	0.0608	-0.0895	0.0728	-14.9515	0.6526	-2.9376	0.0970

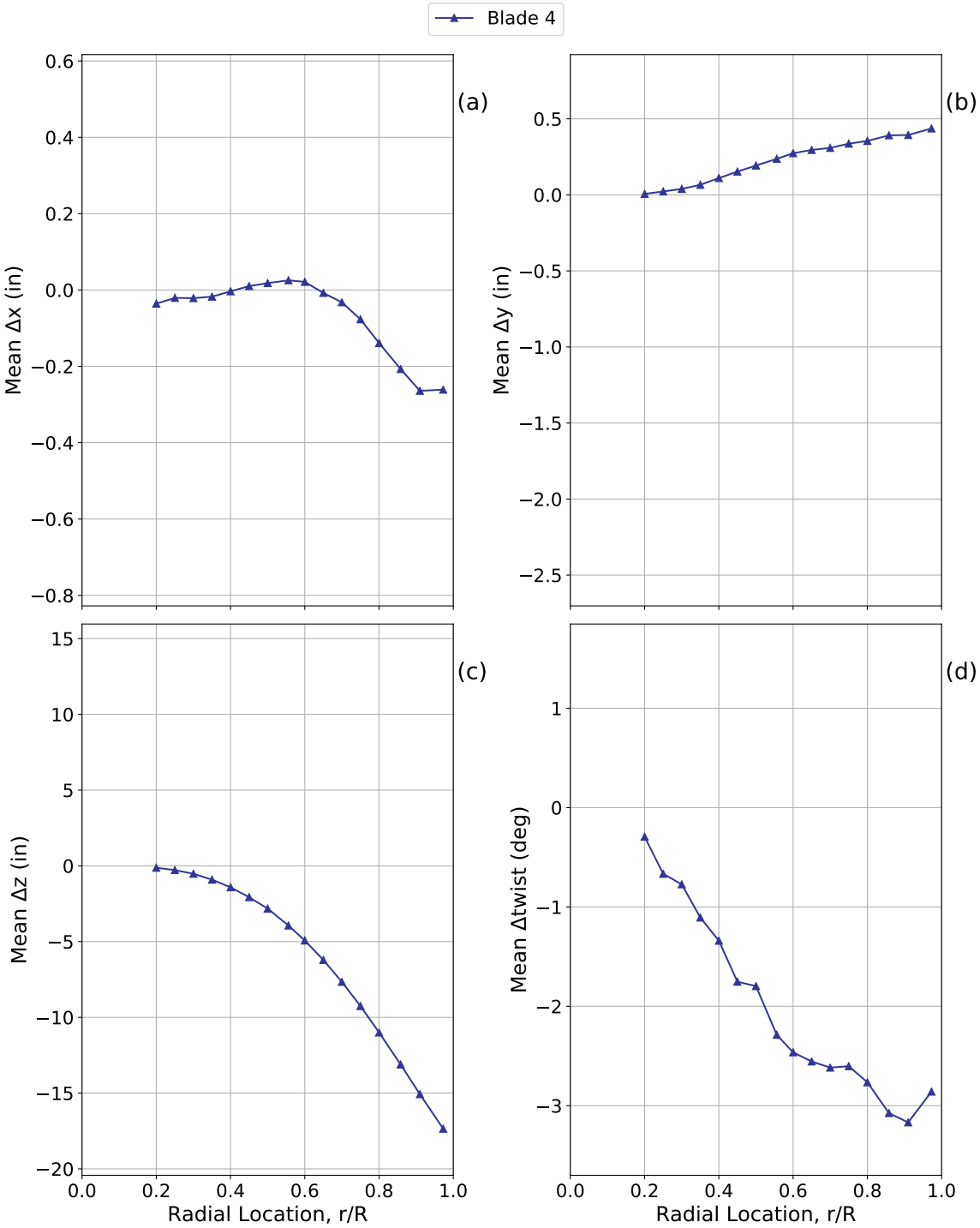


Figure 3.17-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0357	0.0056	0.0064	0.0008	-0.1260	0.0032	-0.2930	0.0102
4	150.12	0.2502	-0.0207	0.0027	0.0222	0.0019	-0.2819	0.0048	-0.6666	0.0324
4	150.12	0.3001	-0.0213	0.0025	0.0391	0.0033	-0.5234	0.0116	-0.7725	0.0252
4	150.12	0.3502	-0.0175	0.0052	0.0662	0.0048	-0.9133	0.0181	-1.1068	0.0294
4	150.12	0.4002	-0.0035	0.0079	0.1103	0.0081	-1.4150	0.0281	-1.3400	0.0371
4	150.12	0.4500	0.0102	0.0112	0.1529	0.0099	-2.0702	0.0376	-1.7525	0.0385
4	150.12	0.5001	0.0180	0.0128	0.1925	0.0126	-2.8249	0.0490	-1.7967	0.0395
4	150.12	0.5560	0.0254	0.0160	0.2369	0.0172	-3.9403	0.0653	-2.2870	0.0258
4	150.12	0.6001	0.0212	0.0179	0.2739	0.0213	-4.9298	0.0752	-2.4633	0.0279
4	150.12	0.6501	-0.0077	0.0198	0.2953	0.0264	-6.2131	0.0898	-2.5553	0.0316
4	150.12	0.6999	-0.0322	0.0219	0.3088	0.0323	-7.6587	0.1005	-2.6170	0.0368
4	150.12	0.7500	-0.0768	0.0237	0.3367	0.0396	-9.2553	0.1069	-2.6026	0.0282
4	150.12	0.8002	-0.1391	0.0260	0.3545	0.0469	-10.9998	0.1137	-2.7650	0.0306
4	150.12	0.8582	-0.2071	0.0292	0.3914	0.0566	-13.1138	0.1233	-3.0750	0.0329
4	150.12	0.9101	-0.2642	0.0314	0.3935	0.0655	-15.0747	0.1388	-3.1682	0.0358
4	150.12	0.9728	-0.2611	0.0354	0.4364	0.0769	-17.3525	0.1689	-2.8586	0.0397

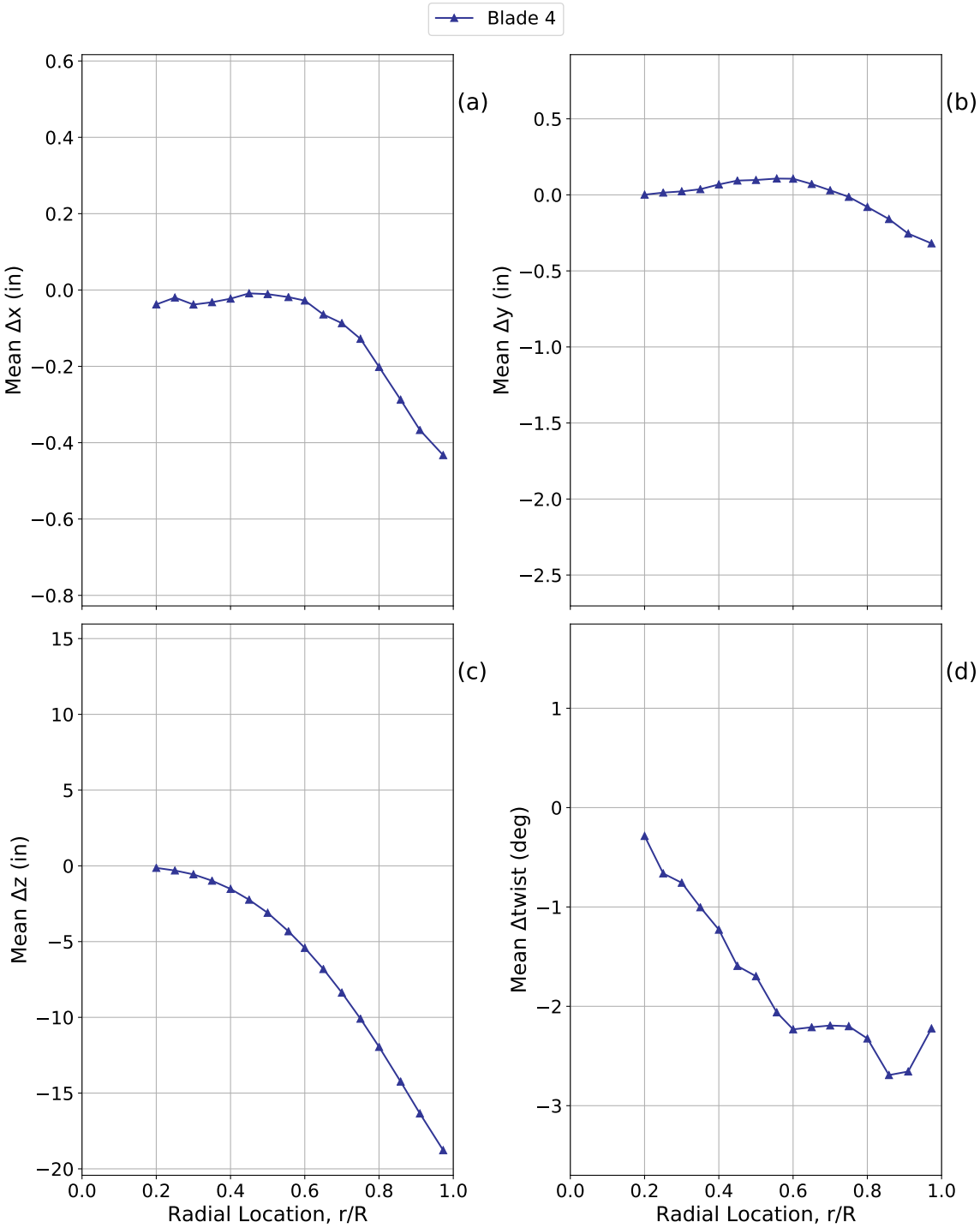


Figure 3.17-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0378	0.0045	0.0013	0.0018	-0.1348	0.0098	-0.2858	0.0464
4	164.88	0.2502	-0.0198	0.0060	0.0147	0.0027	-0.3075	0.0089	-0.6627	0.0795
4	164.88	0.3001	-0.0382	0.0032	0.0228	0.0052	-0.5640	0.0239	-0.7567	0.0658
4	164.88	0.3502	-0.0320	0.0041	0.0372	0.0090	-0.9818	0.0335	-1.0032	0.0582
4	164.88	0.4002	-0.0227	0.0058	0.0685	0.0130	-1.5251	0.0463	-1.2294	0.0693
4	164.88	0.4500	-0.0088	0.0071	0.0939	0.0154	-2.2389	0.0572	-1.5939	0.0661
4	164.88	0.5001	-0.0108	0.0091	0.0977	0.0192	-3.1021	0.0677	-1.6972	0.0650
4	164.88	0.5560	-0.0186	0.0102	0.1071	0.0250	-4.3215	0.0822	-2.0611	0.0767
4	164.88	0.6001	-0.0277	0.0110	0.1061	0.0289	-5.4188	0.0978	-2.2321	0.0715
4	164.88	0.6501	-0.0642	0.0131	0.0713	0.0337	-6.8135	0.1155	-2.2104	0.0652
4	164.88	0.6999	-0.0870	0.0149	0.0299	0.0392	-8.3736	0.1384	-2.1932	0.0582
4	164.88	0.7500	-0.1280	0.0186	-0.0133	0.0468	-10.0915	0.1674	-2.2007	0.0561
4	164.88	0.8002	-0.2017	0.0225	-0.0798	0.0547	-11.9532	0.2015	-2.3245	0.0719
4	164.88	0.8582	-0.2875	0.0295	-0.1592	0.0651	-14.2445	0.2490	-2.6921	0.0763
4	164.88	0.9101	-0.3669	0.0364	-0.2549	0.0753	-16.3476	0.3012	-2.6563	0.0710
4	164.88	0.9728	-0.4327	0.0440	-0.3191	0.0883	-18.7712	0.3642	-2.2231	0.0740

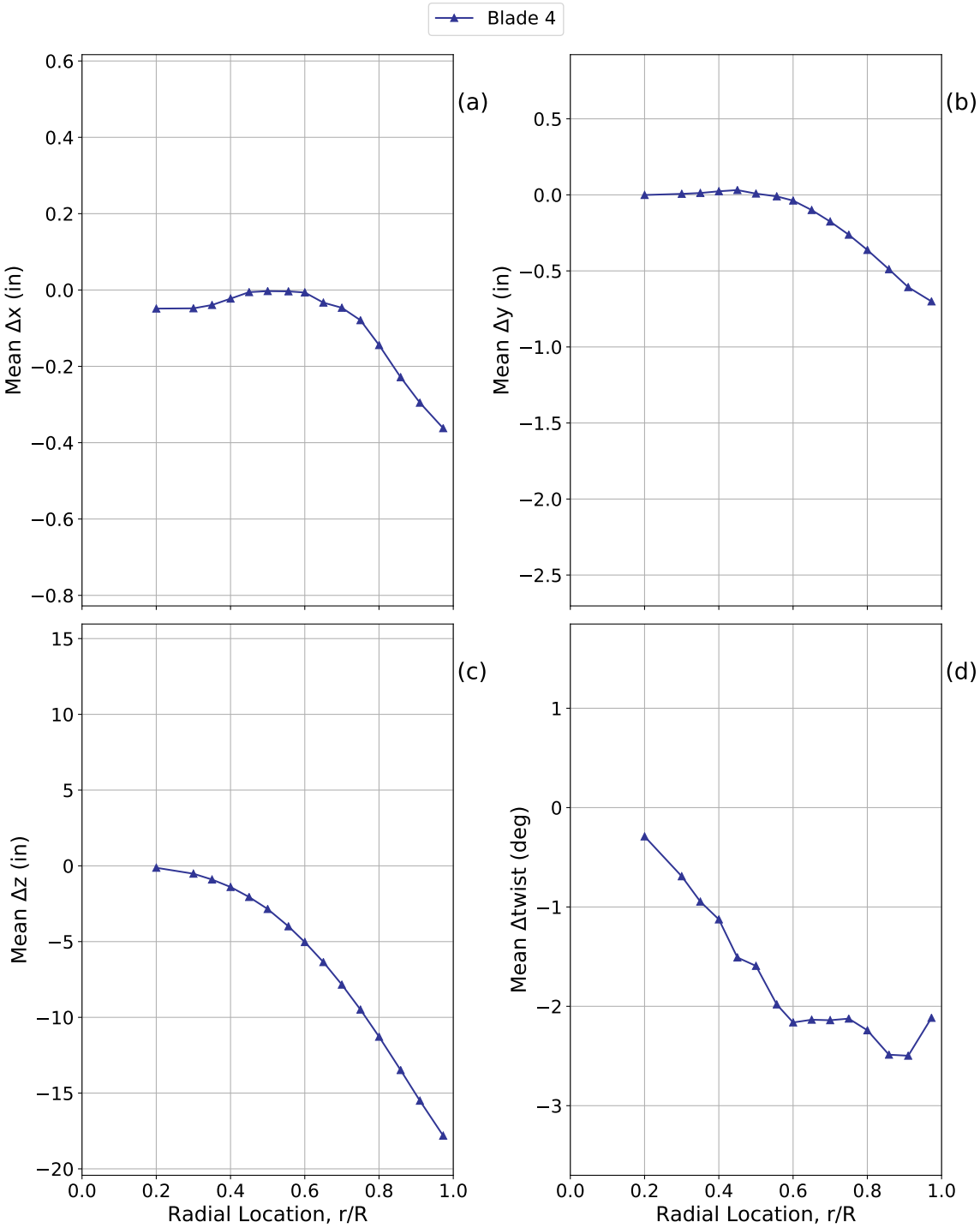


Figure 3.17-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0487	0.0088	-0.0009	0.0009	-0.1270	0.0037	-0.2904	0.0301
4	170.16	0.3001	-0.0480	0.0028	0.0066	0.0047	-0.5191	0.0130	-0.6915	0.0705
4	170.16	0.3502	-0.0393	0.0051	0.0122	0.0079	-0.9046	0.0221	-0.9464	0.0641
4	170.16	0.4002	-0.0226	0.0066	0.0235	0.0129	-1.3978	0.0336	-1.1258	0.0572
4	170.16	0.4500	-0.0056	0.0098	0.0315	0.0174	-2.0571	0.0382	-1.5087	0.0745
4	170.16	0.5001	-0.0029	0.0123	0.0082	0.0218	-2.8500	0.0469	-1.5933	0.0703
4	170.16	0.5560	-0.0036	0.0143	-0.0100	0.0277	-3.9945	0.0595	-1.9814	0.0727
4	170.16	0.6001	-0.0065	0.0170	-0.0377	0.0328	-5.0337	0.0688	-2.1624	0.0638
4	170.16	0.6501	-0.0331	0.0200	-0.0999	0.0394	-6.3549	0.0818	-2.1350	0.0805
4	170.16	0.6999	-0.0466	0.0218	-0.1756	0.0461	-7.8445	0.0970	-2.1400	0.0722
4	170.16	0.7500	-0.0792	0.0248	-0.2622	0.0533	-9.4901	0.1119	-2.1240	0.0807
4	170.16	0.8002	-0.1444	0.0286	-0.3625	0.0610	-11.2824	0.1299	-2.2418	0.0661
4	170.16	0.8582	-0.2286	0.0325	-0.4893	0.0714	-13.4832	0.1562	-2.4870	0.0648
4	170.16	0.9101	-0.2954	0.0366	-0.6070	0.0815	-15.5050	0.1821	-2.4974	0.0573
4	170.16	0.9728	-0.3621	0.0441	-0.7007	0.0927	-17.8110	0.2176	-2.1161	0.0676

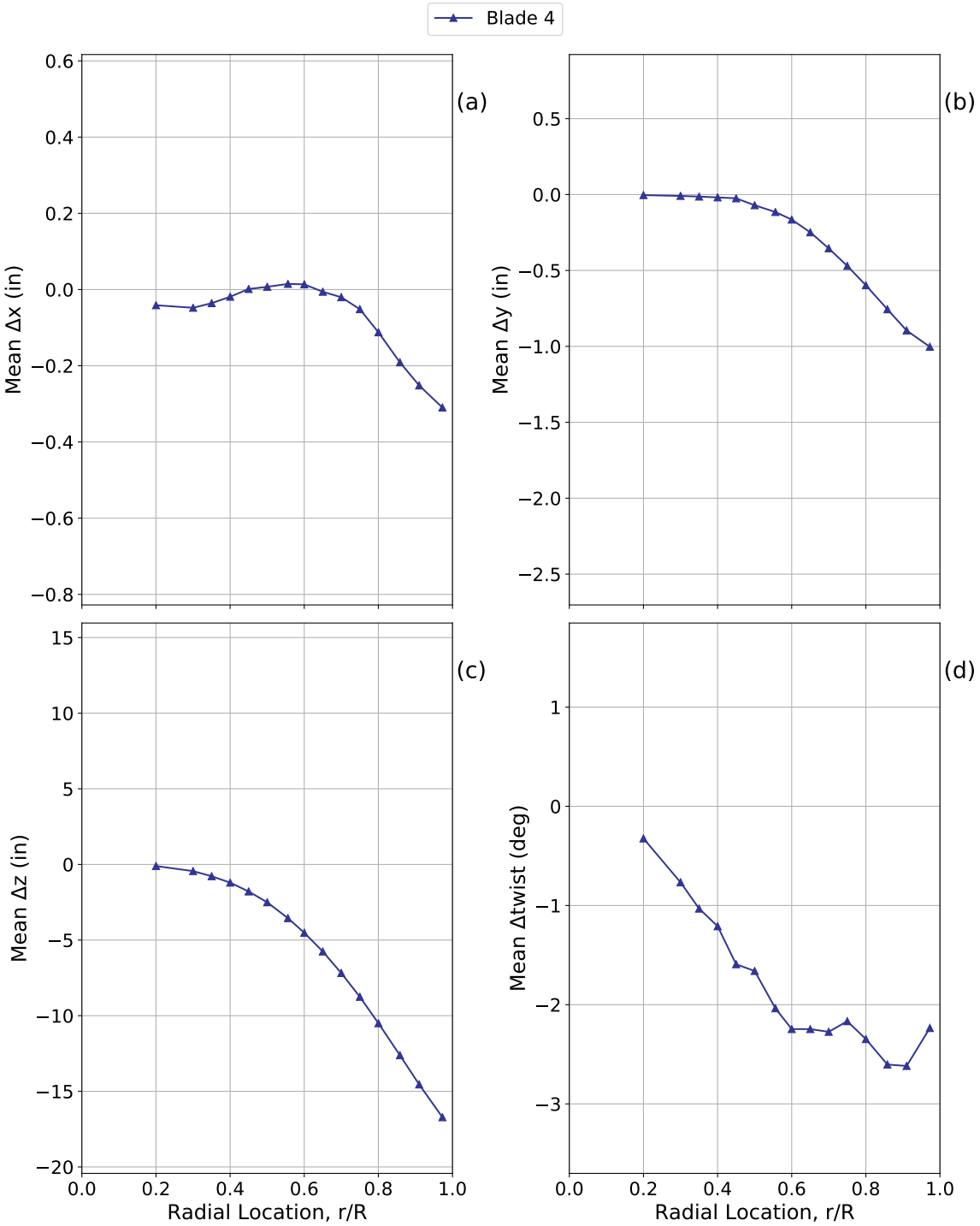


Figure 3.17-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0412	0.0094	-0.0038	0.0009	-0.1067	0.0051	-0.3244	0.0540
4	175.08	0.3001	-0.0479	0.0057	-0.0091	0.0054	-0.4419	0.0163	-0.7668	0.1287
4	175.08	0.3502	-0.0358	0.0065	-0.0135	0.0084	-0.7808	0.0304	-1.0318	0.1286
4	175.08	0.4002	-0.0189	0.0063	-0.0188	0.0141	-1.2039	0.0438	-1.2094	0.1358
4	175.08	0.4500	0.0014	0.0085	-0.0250	0.0181	-1.7893	0.0572	-1.5927	0.1371
4	175.08	0.5001	0.0071	0.0098	-0.0704	0.0238	-2.5022	0.0708	-1.6603	0.1421
4	175.08	0.5560	0.0148	0.0115	-0.1151	0.0298	-3.5536	0.0917	-2.0365	0.1333
4	175.08	0.6001	0.0136	0.0138	-0.1651	0.0355	-4.5176	0.1067	-2.2461	0.1284
4	175.08	0.6501	-0.0059	0.0154	-0.2489	0.0427	-5.7580	0.1283	-2.2464	0.1325
4	175.08	0.6999	-0.0202	0.0185	-0.3544	0.0507	-7.1816	0.1560	-2.2737	0.1247
4	175.08	0.7500	-0.0516	0.0221	-0.4702	0.0599	-8.7536	0.1904	-2.1667	0.1318
4	175.08	0.8002	-0.1122	0.0272	-0.5975	0.0701	-10.5008	0.2317	-2.3469	0.1227
4	175.08	0.8582	-0.1912	0.0339	-0.7558	0.0838	-12.6166	0.2903	-2.6034	0.1216
4	175.08	0.9101	-0.2517	0.0410	-0.8954	0.0958	-14.5463	0.3507	-2.6180	0.1108
4	175.08	0.9728	-0.3097	0.0493	-1.0027	0.1118	-16.7140	0.4346	-2.2354	0.0977

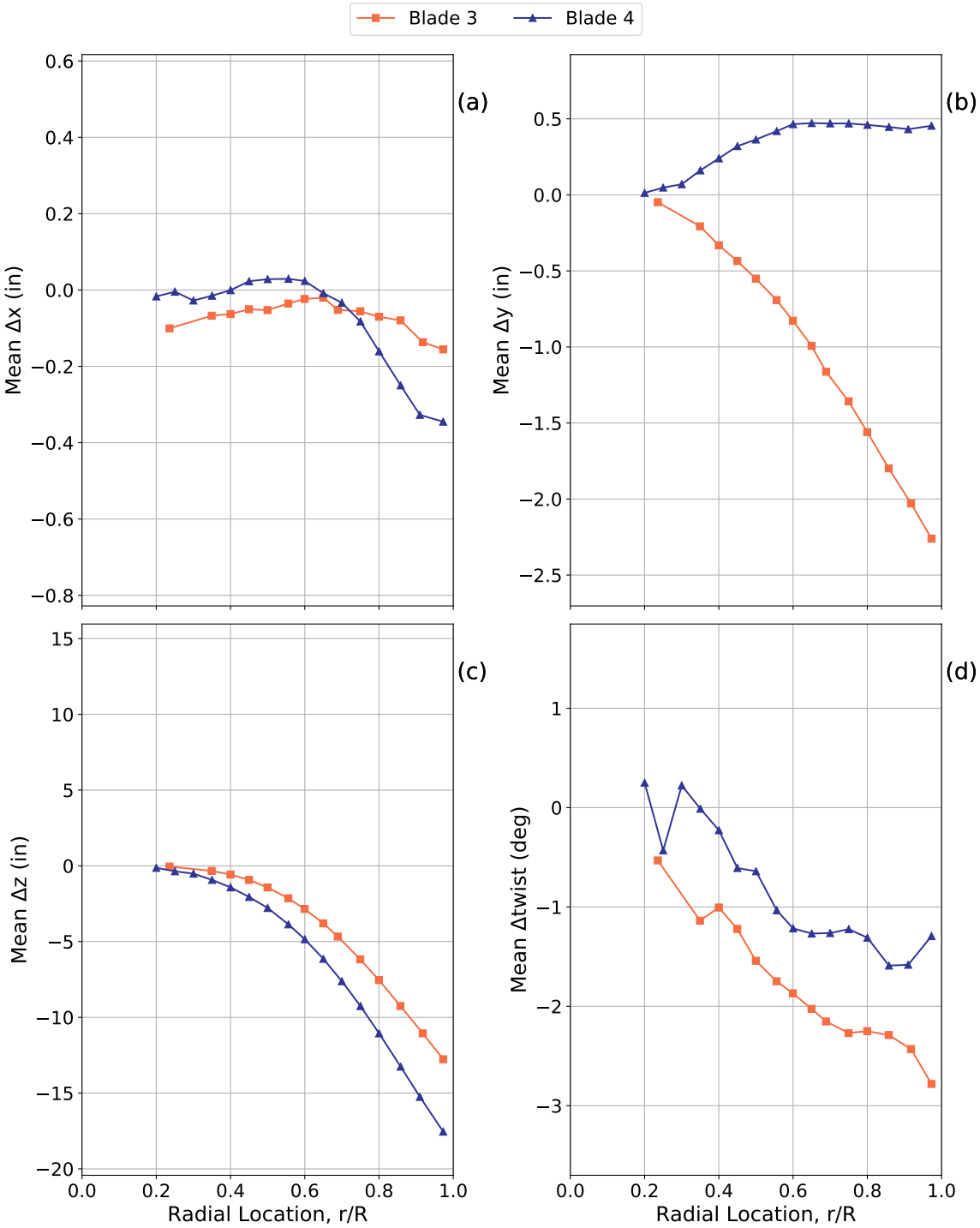


Figure 3.17-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.1005	0.1266	-0.0483	0.0637	-0.0477	0.1234	-0.5317	0.1869
3	180.35	0.3493	-0.0673	0.0538	-0.2068	0.2871	-0.3364	0.2948	-1.1378	0.3739
3	180.35	0.4000	-0.0630	0.0807	-0.3315	0.4642	-0.5739	0.4195	-1.0055	0.2342
3	180.35	0.4497	-0.0505	0.1039	-0.4352	0.5684	-0.9294	0.4575	-1.2214	0.1851
3	180.35	0.4997	-0.0527	0.1311	-0.5509	0.6845	-1.4245	0.5244	-1.5418	0.1926
3	180.35	0.5556	-0.0355	0.1695	-0.6921	0.8258	-2.1434	0.6019	-1.7478	0.2140
3	180.35	0.5995	-0.0235	0.1763	-0.8277	0.9304	-2.8440	0.6668	-1.8695	0.2073
3	180.35	0.6498	-0.0201	0.1875	-0.9926	1.0620	-3.7965	0.7441	-2.0257	0.1890
3	180.35	0.6890	-0.0521	0.1957	-1.1630	1.1617	-4.6660	0.8037	-2.1527	0.2061
3	180.35	0.7495	-0.0558	0.2022	-1.3579	1.3454	-6.1750	0.9031	-2.2692	0.2183
3	180.35	0.7998	-0.0700	0.2056	-1.5598	1.4896	-7.5399	0.9664	-2.2497	0.2367
3	180.35	0.8577	-0.0795	0.2041	-1.7986	1.6589	-9.2499	1.0464	-2.2893	0.1738
3	180.35	0.9178	-0.1367	0.1978	-2.0290	1.8494	-11.0560	1.1467	-2.4304	0.2186
3	180.35	0.9729	-0.1555	0.1797	-2.2605	1.9911	-12.7664	1.2120	-2.7815	0.2656
4	180	0.2001	-0.0169	0.0092	0.0127	0.0020	-0.1316	0.0070	0.2509	0.0833
4	180	0.2502	-0.0045	0.0058	0.0476	0.0082	-0.3599	0.0312	-0.4306	0.1772
4	180	0.3001	-0.0276	0.0103	0.0700	0.0101	-0.5155	0.0205	0.2227	0.1137
4	180	0.3502	-0.0150	0.0054	0.1609	0.0204	-0.9286	0.0447	-0.0113	0.0989
4	180	0.4002	-0.0004	0.0062	0.2399	0.0322	-1.4216	0.0667	-0.2281	0.1007
4	180	0.4500	0.0229	0.0076	0.3203	0.0454	-2.0546	0.0899	-0.6084	0.1161
4	180	0.5001	0.0284	0.0104	0.3638	0.0601	-2.7817	0.1180	-0.6405	0.1170
4	180	0.5560	0.0292	0.0139	0.4192	0.0758	-3.8641	0.1429	-1.0332	0.1117
4	180	0.6001	0.0236	0.0183	0.4649	0.0904	-4.8479	0.1630	-1.2156	0.1185
4	180	0.6501	-0.0084	0.0232	0.4718	0.1048	-6.1389	0.1831	-1.2676	0.1197
4	180	0.6999	-0.0335	0.0285	0.4698	0.1203	-7.6162	0.2009	-1.2629	0.1090
4	180	0.7500	-0.0826	0.0356	0.4693	0.1360	-9.2572	0.2168	-1.2237	0.1236
4	180	0.8002	-0.1609	0.0424	0.4602	0.1532	-11.0593	0.2323	-1.3094	0.1213
4	180	0.8582	-0.2499	0.0525	0.4466	0.1764	-13.2555	0.2481	-1.5902	0.1160
4	180	0.9101	-0.3272	0.0613	0.4316	0.1992	-15.2505	0.2662	-1.5820	0.1356
4	180	0.9728	-0.3450	0.0773	0.4543	0.2315	-17.5438	0.2867	-1.2933	0.1080

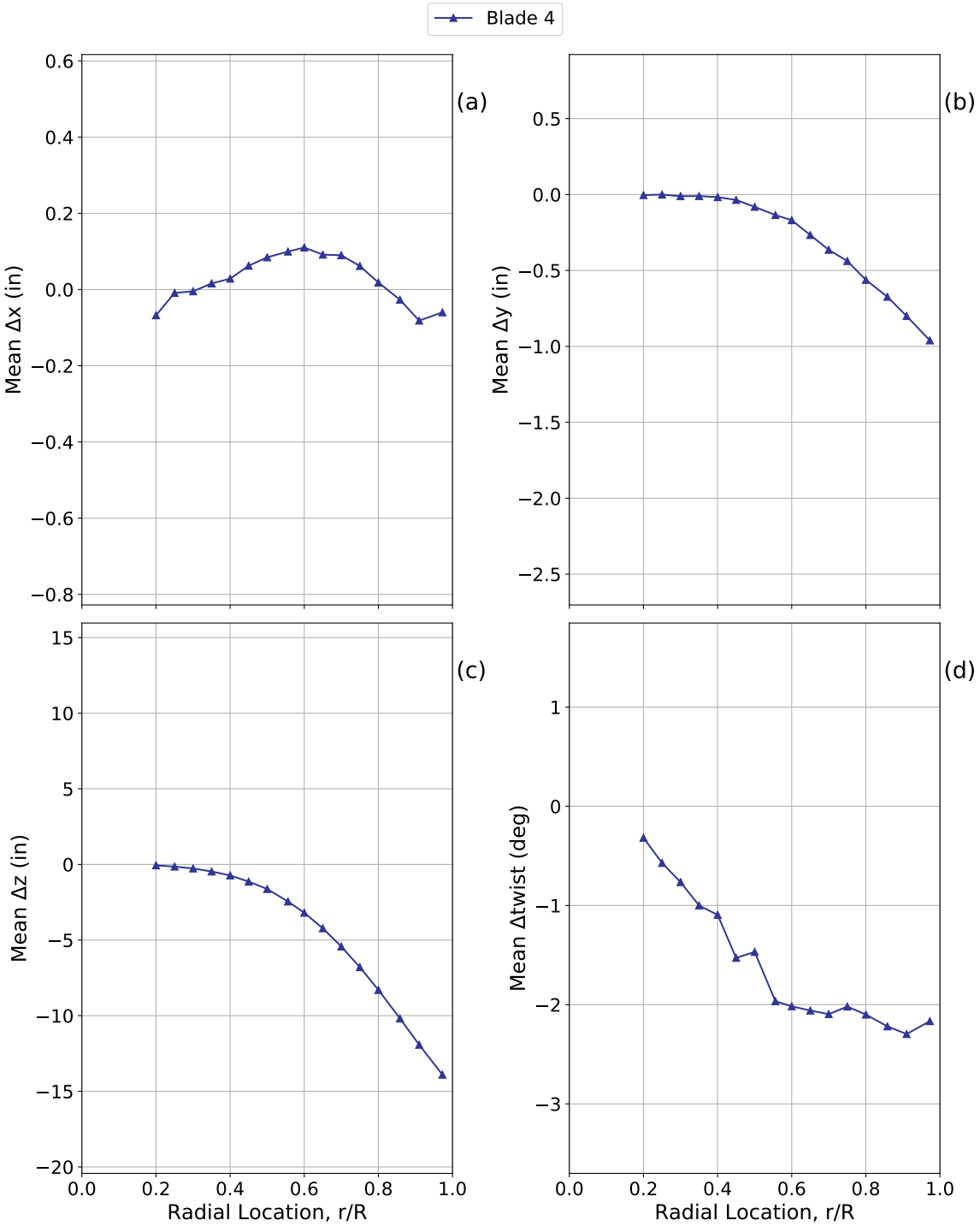


Figure 3.17-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	184.92	0.2001	-0.0676	0.0011	-0.0036	0.0007	-0.0616	0.0045	-0.3173	0.0253
4	184.92	0.2502	-0.0089	0.0012	-0.0004	0.0027	-0.1433	0.0090	-0.5712	0.0321
4	184.92	0.3001	-0.0047	0.0014	-0.0108	0.0043	-0.2667	0.0170	-0.7644	0.0504
4	184.92	0.3502	0.0160	0.0014	-0.0102	0.0062	-0.4670	0.0246	-1.0006	0.0408
4	184.92	0.4002	0.0285	0.0017	-0.0171	0.0112	-0.7282	0.0396	-1.0946	0.0618
4	184.92	0.4500	0.0624	0.0030	-0.0355	0.0121	-1.1341	0.0540	-1.5281	0.0491
4	184.92	0.5001	0.0845	0.0024	-0.0810	0.0153	-1.6242	0.0729	-1.4681	0.0546
4	184.92	0.5560	0.0996	0.0029	-0.1351	0.0189	-2.4496	0.0920	-1.9654	0.0428
4	184.92	0.6001	0.1102	0.0033	-0.1691	0.0235	-3.1934	0.1020	-2.0166	0.0612
4	184.92	0.6501	0.0915	0.0041	-0.2666	0.0285	-4.2238	0.1183	-2.0589	0.0644
4	184.92	0.6999	0.0899	0.0051	-0.3641	0.0324	-5.4272	0.1322	-2.0953	0.0755
4	184.92	0.7500	0.0617	0.0080	-0.4380	0.0368	-6.7930	0.1393	-2.0191	0.0651
4	184.92	0.8002	0.0183	0.0078	-0.5620	0.0423	-8.2997	0.1428	-2.0998	0.0522
4	184.92	0.8582	-0.0267	0.0082	-0.6737	0.0499	-10.1818	0.1501	-2.2189	0.0873
4	184.92	0.9101	-0.0816	0.0108	-0.8002	0.0560	-11.9228	0.1447	-2.2961	0.0474
4	184.92	0.9728	-0.0599	0.0162	-0.9607	0.0593	-13.8990	0.1464	-2.1662	0.0945

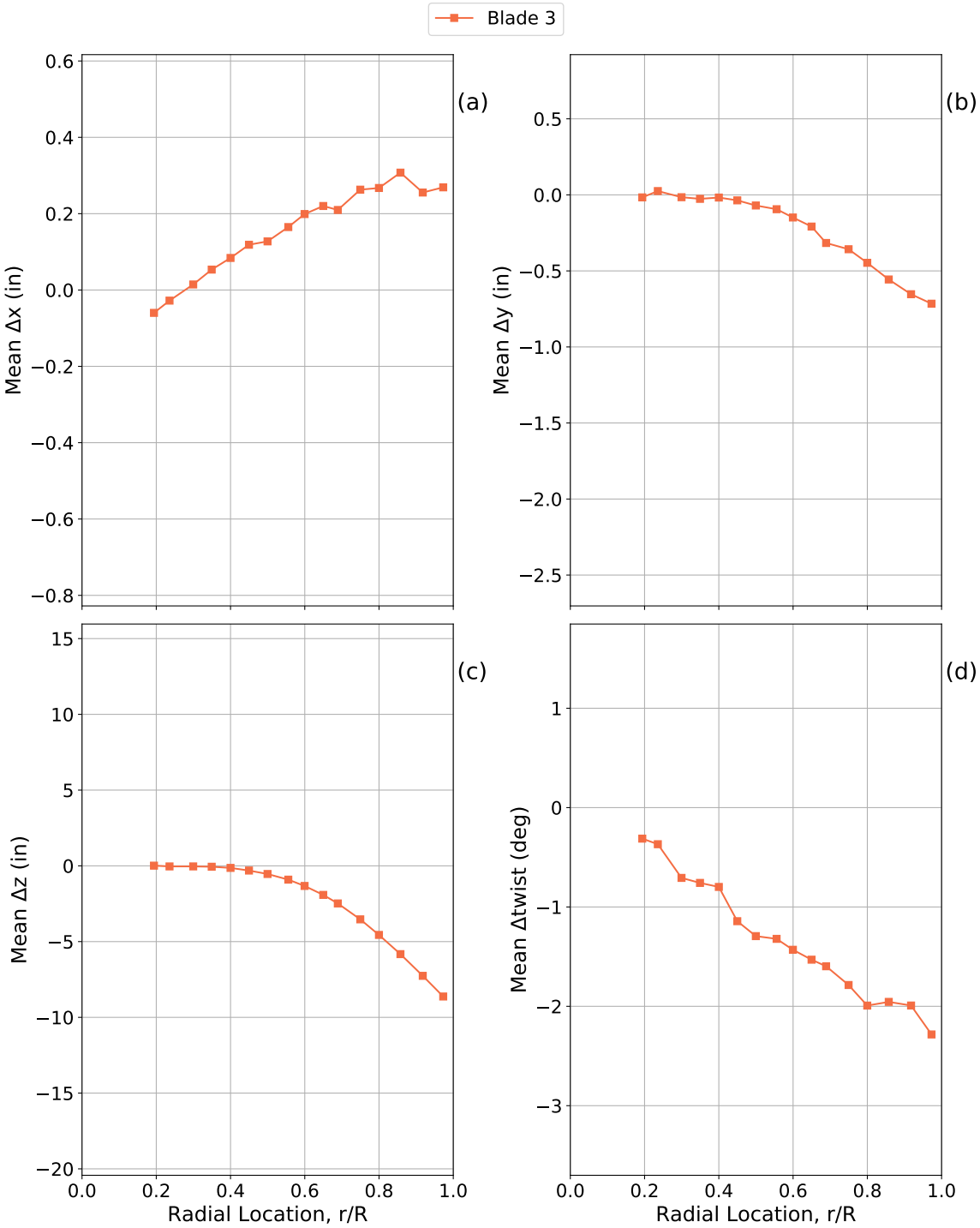


Figure 3.17-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0599	0.0019	-0.0166	0.0012	0.0134	0.0056	-0.3122	0.0201
3	195.12	0.2357	-0.0278	0.0016	0.0250	0.0016	-0.0376	0.0069	-0.3684	0.0301
3	195.12	0.2995	0.0145	0.0011	-0.0154	0.0043	-0.0371	0.0192	-0.7075	0.0437
3	195.12	0.3493	0.0535	0.0014	-0.0262	0.0068	-0.0588	0.0269	-0.7579	0.0408
3	195.12	0.4000	0.0840	0.0015	-0.0176	0.0106	-0.1356	0.0433	-0.7984	0.0438
3	195.12	0.4497	0.1186	0.0023	-0.0361	0.0129	-0.3110	0.0566	-1.1432	0.0513
3	195.12	0.4997	0.1274	0.0027	-0.0699	0.0164	-0.5377	0.0715	-1.2935	0.0443
3	195.12	0.5556	0.1649	0.0022	-0.0943	0.0209	-0.9107	0.0883	-1.3210	0.0466
3	195.12	0.5995	0.1990	0.0034	-0.1488	0.0240	-1.3275	0.1031	-1.4309	0.0529
3	195.12	0.6498	0.2201	0.0033	-0.2085	0.0288	-1.9174	0.1239	-1.5307	0.0593
3	195.12	0.6890	0.2097	0.0041	-0.3164	0.0319	-2.4816	0.1449	-1.5969	0.0535
3	195.12	0.7495	0.2629	0.0062	-0.3576	0.0370	-3.5325	0.1770	-1.7856	0.0519
3	195.12	0.7998	0.2673	0.0081	-0.4467	0.0404	-4.5589	0.2115	-1.9926	0.0631
3	195.12	0.8577	0.3075	0.0122	-0.5564	0.0484	-5.8274	0.2583	-1.9554	0.0554
3	195.12	0.9178	0.2554	0.0173	-0.6534	0.0534	-7.2600	0.3165	-1.9920	0.0755
3	195.12	0.9729	0.2690	0.0185	-0.7156	0.0579	-8.6247	0.3684	-2.2831	0.0700

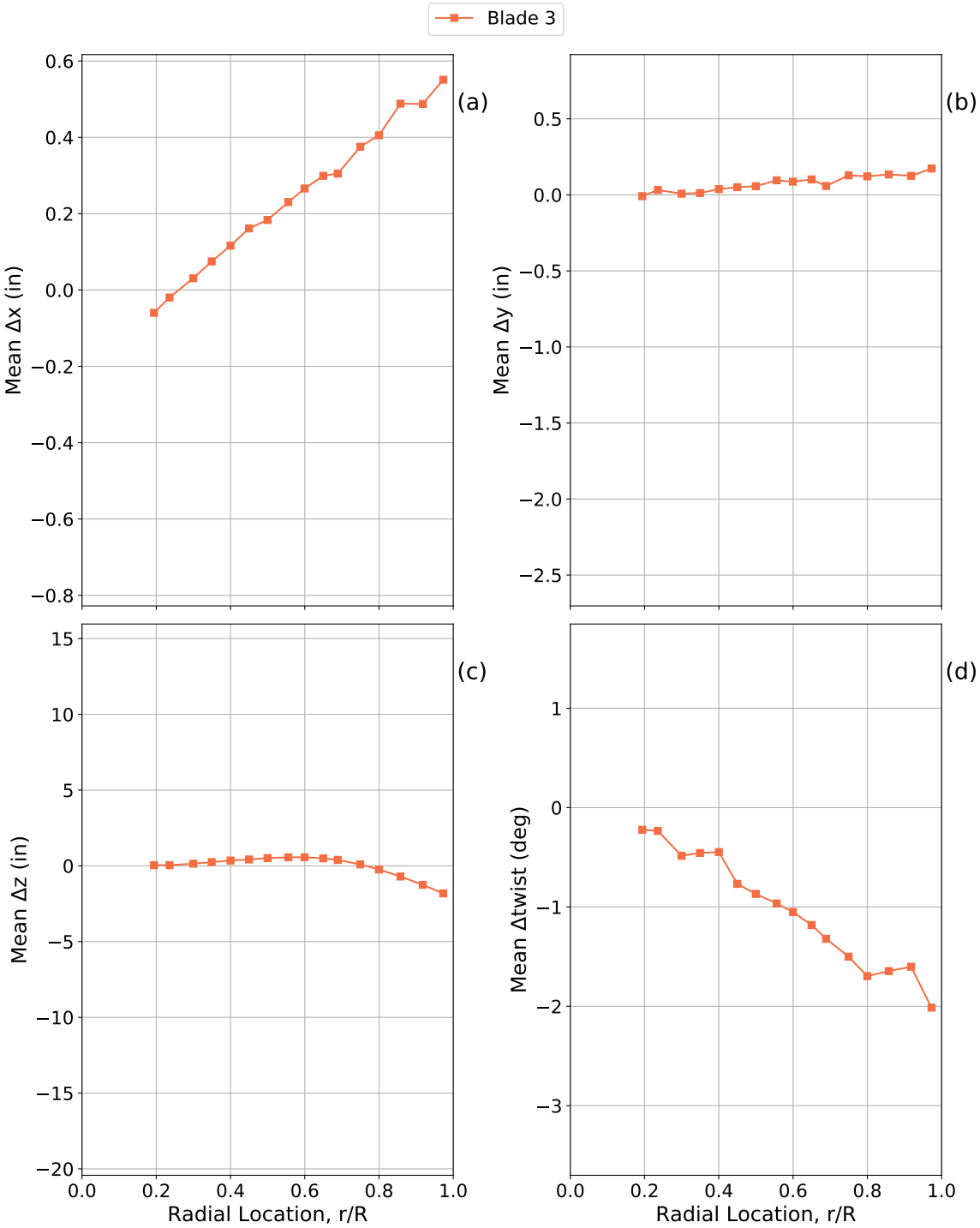


Figure 3.17-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0598	0.0021	-0.0087	0.0011	0.0465	0.0085	-0.2228	0.0300
3	209.88	0.2357	-0.0196	0.0022	0.0319	0.0023	0.0452	0.0133	-0.2352	0.0398
3	209.88	0.2995	0.0308	0.0029	0.0079	0.0051	0.1438	0.0287	-0.4844	0.0676
3	209.88	0.3493	0.0749	0.0024	0.0119	0.0090	0.2435	0.0441	-0.4568	0.0590
3	209.88	0.4000	0.1162	0.0026	0.0378	0.0151	0.3542	0.0676	-0.4473	0.0602
3	209.88	0.4497	0.1614	0.0025	0.0505	0.0215	0.4211	0.0902	-0.7677	0.0685
3	209.88	0.4997	0.1835	0.0035	0.0569	0.0278	0.5108	0.1128	-0.8688	0.0653
3	209.88	0.5556	0.2304	0.0043	0.0956	0.0366	0.5610	0.1438	-0.9644	0.0553
3	209.88	0.5995	0.2659	0.0047	0.0868	0.0444	0.5673	0.1691	-1.0509	0.0551
3	209.88	0.6498	0.2991	0.0055	0.1015	0.0539	0.4956	0.1980	-1.1816	0.0677
3	209.88	0.6890	0.3051	0.0058	0.0586	0.0614	0.3919	0.2229	-1.3203	0.0724
3	209.88	0.7495	0.3753	0.0067	0.1285	0.0741	0.0977	0.2665	-1.5006	0.0642
3	209.88	0.7998	0.4053	0.0082	0.1219	0.0866	-0.2415	0.3065	-1.6962	0.0727
3	209.88	0.8577	0.4882	0.0099	0.1345	0.0999	-0.7039	0.3548	-1.6453	0.0788
3	209.88	0.9178	0.4875	0.0115	0.1249	0.1149	-1.2561	0.4057	-1.6019	0.0663
3	209.88	0.9729	0.5510	0.0162	0.1730	0.1294	-1.8187	0.4605	-2.0135	0.0649

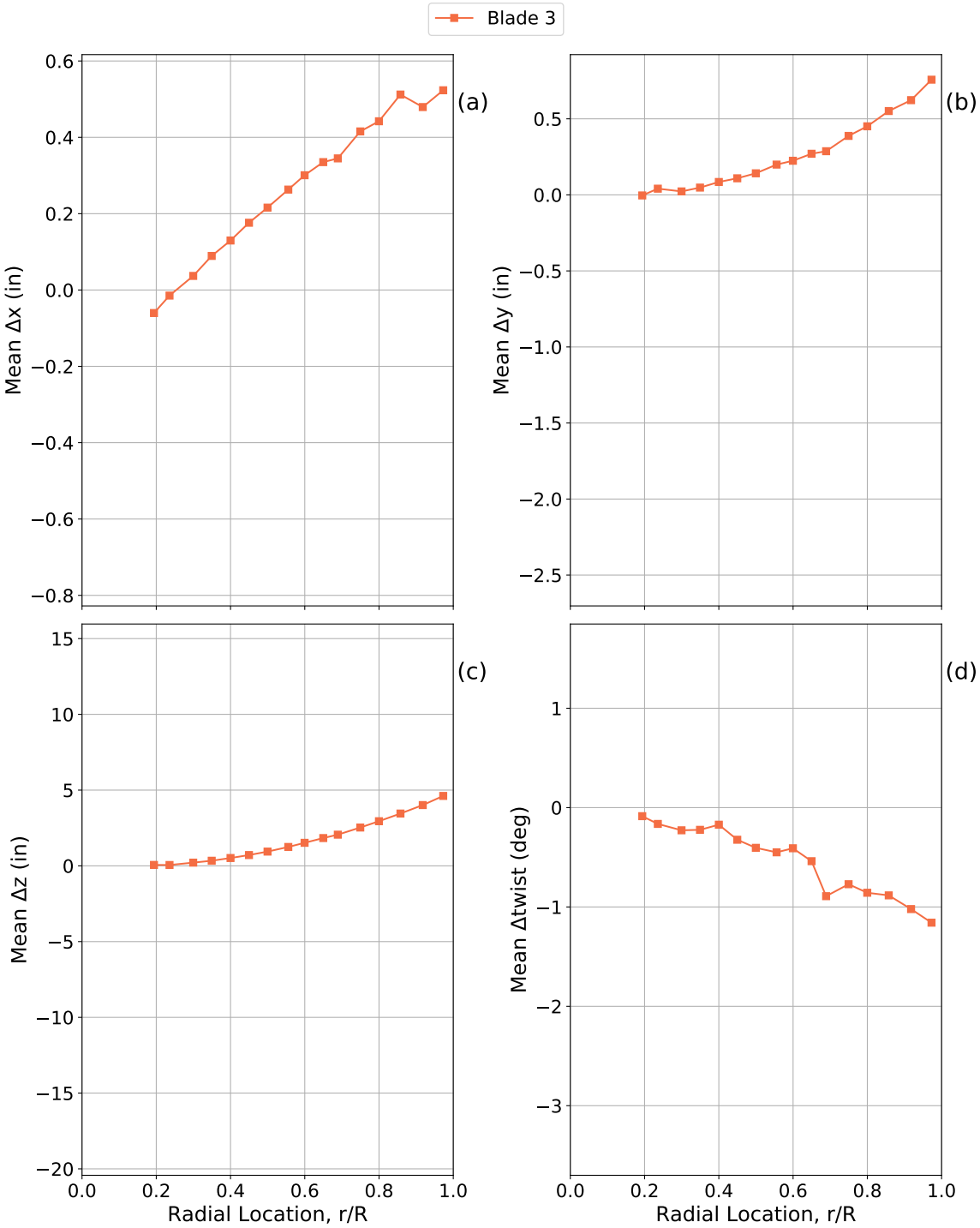


Figure 3.17-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0603	0.0022	-0.0037	0.0011	0.0606	0.0090	-0.0862	0.0199
3	225	0.2357	-0.0146	0.0025	0.0408	0.0018	0.0556	0.0142	-0.1642	0.0298
3	225	0.2995	0.0369	0.0016	0.0227	0.0037	0.2120	0.0293	-0.2284	0.0441
3	225	0.3493	0.0893	0.0028	0.0478	0.0072	0.3377	0.0494	-0.2237	0.0442
3	225	0.4000	0.1297	0.0027	0.0847	0.0113	0.5172	0.0732	-0.1720	0.0446
3	225	0.4497	0.1762	0.0024	0.1090	0.0154	0.7120	0.1020	-0.3235	0.0698
3	225	0.4997	0.2159	0.0030	0.1418	0.0206	0.9407	0.1365	-0.4048	0.0723
3	225	0.5556	0.2631	0.0031	0.1991	0.0264	1.2470	0.1742	-0.4500	0.0674
3	225	0.5995	0.3007	0.0030	0.2243	0.0310	1.5204	0.2087	-0.4093	0.0717
3	225	0.6498	0.3351	0.0036	0.2703	0.0372	1.8338	0.2488	-0.5393	0.0677
3	225	0.6890	0.3448	0.0043	0.2870	0.0421	2.0577	0.2805	-0.8915	0.0754
3	225	0.7495	0.4155	0.0052	0.3877	0.0510	2.5298	0.3301	-0.7711	0.0734
3	225	0.7998	0.4421	0.0065	0.4508	0.0584	2.9455	0.3731	-0.8570	0.0866
3	225	0.8577	0.5121	0.0077	0.5512	0.0674	3.4521	0.4185	-0.8835	0.0834
3	225	0.9178	0.4793	0.0098	0.6227	0.0770	4.0116	0.4711	-1.0213	0.0884
3	225	0.9729	0.5233	0.0133	0.7573	0.0856	4.6146	0.5225	-1.1582	0.0916

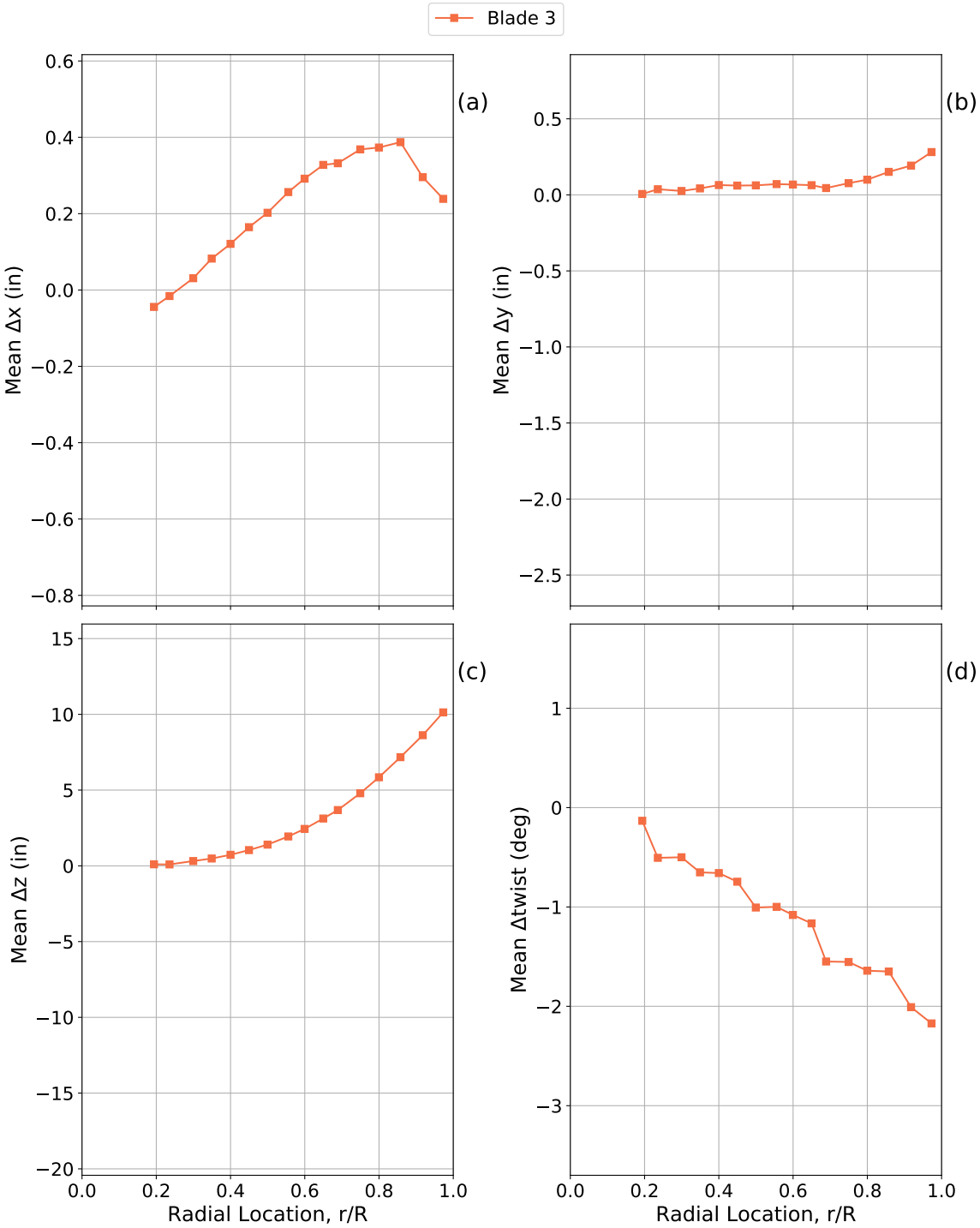


Figure 3.17-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0443	0.0167	0.0058	0.0056	0.1010	0.0299	-0.1328	0.0738
3	240.12	0.2357	-0.0158	0.0017	0.0370	0.0037	0.0929	0.0349	-0.5056	0.1871
3	240.12	0.2995	0.0309	0.0027	0.0256	0.0210	0.3164	0.0645	-0.4997	0.2153
3	240.12	0.3493	0.0823	0.0020	0.0425	0.0416	0.4841	0.0961	-0.6518	0.1888
3	240.12	0.4000	0.1209	0.0043	0.0645	0.0616	0.7295	0.1268	-0.6589	0.1814
3	240.12	0.4497	0.1646	0.0051	0.0611	0.0820	1.0395	0.1578	-0.7459	0.1844
3	240.12	0.4997	0.2024	0.0071	0.0625	0.1027	1.4015	0.1906	-1.0057	0.1798
3	240.12	0.5556	0.2566	0.0073	0.0708	0.1264	1.9398	0.2274	-0.9991	0.1812
3	240.12	0.5995	0.2917	0.0086	0.0679	0.1466	2.4383	0.2611	-1.0805	0.1709
3	240.12	0.6498	0.3278	0.0109	0.0637	0.1684	3.1239	0.2983	-1.1652	0.1776
3	240.12	0.6890	0.3321	0.0122	0.0447	0.1857	3.6810	0.3255	-1.5490	0.1816
3	240.12	0.7495	0.3684	0.0154	0.0770	0.2139	4.7916	0.3667	-1.5538	0.1890
3	240.12	0.7998	0.3733	0.0179	0.0999	0.2366	5.8460	0.4008	-1.6414	0.1793
3	240.12	0.8577	0.3873	0.0202	0.1512	0.2654	7.1729	0.4337	-1.6498	0.1871
3	240.12	0.9178	0.2956	0.0228	0.1925	0.2941	8.6233	0.4666	-2.0086	0.1764
3	240.12	0.9729	0.2388	0.0330	0.2813	0.3214	10.1293	0.4951	-2.1720	0.1825

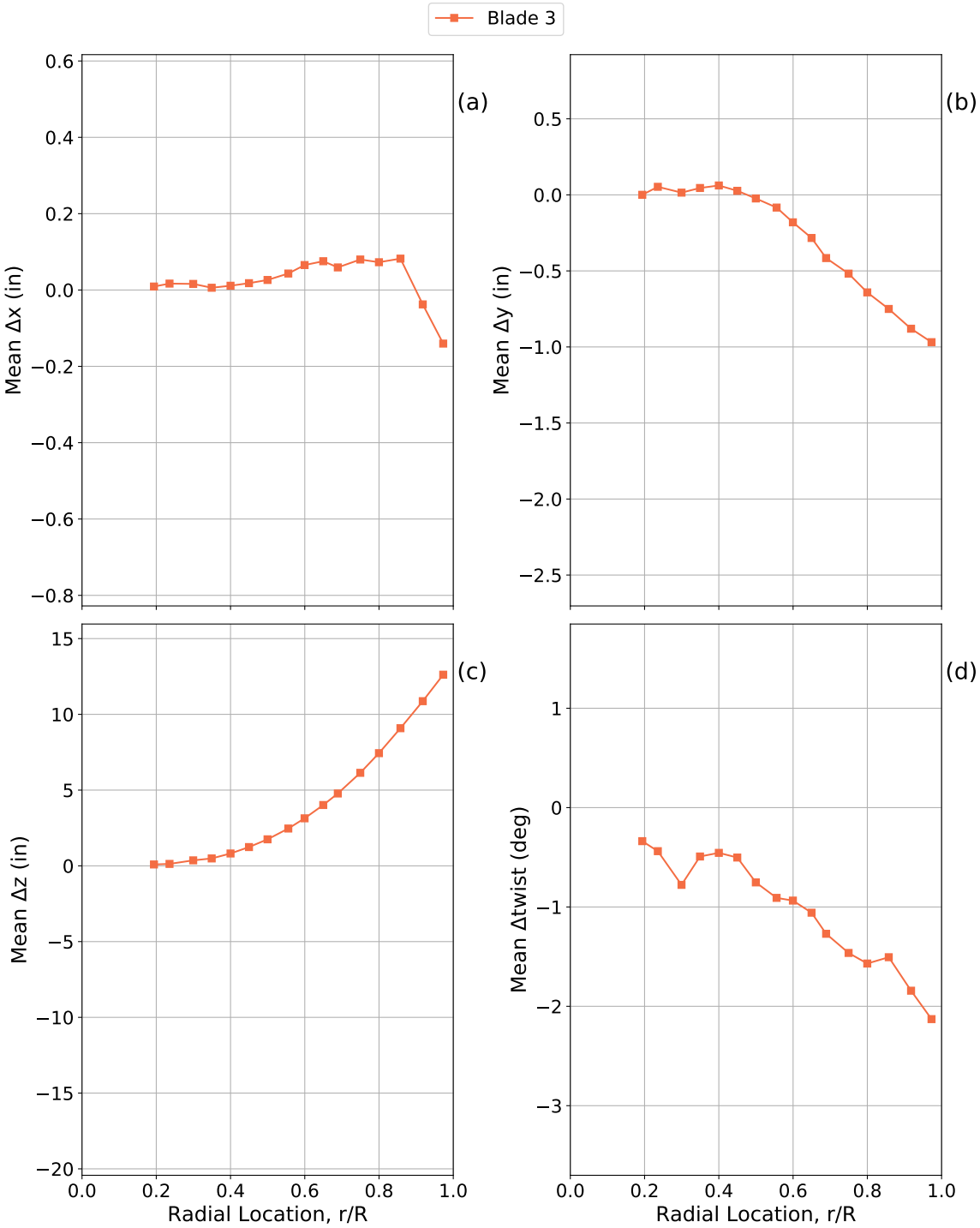


Figure 3.17-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	0.0091	0.0076	0.0004	0.0027	0.0909	0.0359	-0.3377	0.0536
3	254.88	0.2357	0.0168	0.0060	0.0530	0.0035	0.1285	0.0421	-0.4384	0.0689
3	254.88	0.2995	0.0160	0.0044	0.0147	0.0079	0.3627	0.0682	-0.7776	0.0836
3	254.88	0.3493	0.0059	0.0127	0.0452	0.0335	0.4888	0.1643	-0.4921	0.1489
3	254.88	0.4000	0.0112	0.0169	0.0617	0.0390	0.8157	0.1891	-0.4554	0.1295
3	254.88	0.4497	0.0179	0.0213	0.0267	0.0457	1.2392	0.2127	-0.5025	0.1163
3	254.88	0.4997	0.0263	0.0272	-0.0236	0.0535	1.7511	0.2442	-0.7529	0.1239
3	254.88	0.5556	0.0432	0.0325	-0.0835	0.0628	2.4626	0.2749	-0.9086	0.1192
3	254.88	0.5995	0.0654	0.0368	-0.1806	0.0711	3.1369	0.3024	-0.9359	0.1229
3	254.88	0.6498	0.0754	0.0404	-0.2835	0.0812	4.0156	0.3303	-1.0577	0.1261
3	254.88	0.6890	0.0592	0.0441	-0.4155	0.0891	4.7762	0.3524	-1.2699	0.1278
3	254.88	0.7495	0.0799	0.0478	-0.5178	0.1024	6.1392	0.3844	-1.4628	0.1350
3	254.88	0.7998	0.0728	0.0508	-0.6413	0.1149	7.4378	0.4113	-1.5694	0.1328
3	254.88	0.8577	0.0822	0.0532	-0.7502	0.1310	9.0853	0.4403	-1.5058	0.1377
3	254.88	0.9178	-0.0377	0.0572	-0.8801	0.1484	10.8702	0.4693	-1.8429	0.1377
3	254.88	0.9729	-0.1404	0.0623	-0.9686	0.1629	12.6176	0.4972	-2.1288	0.1370

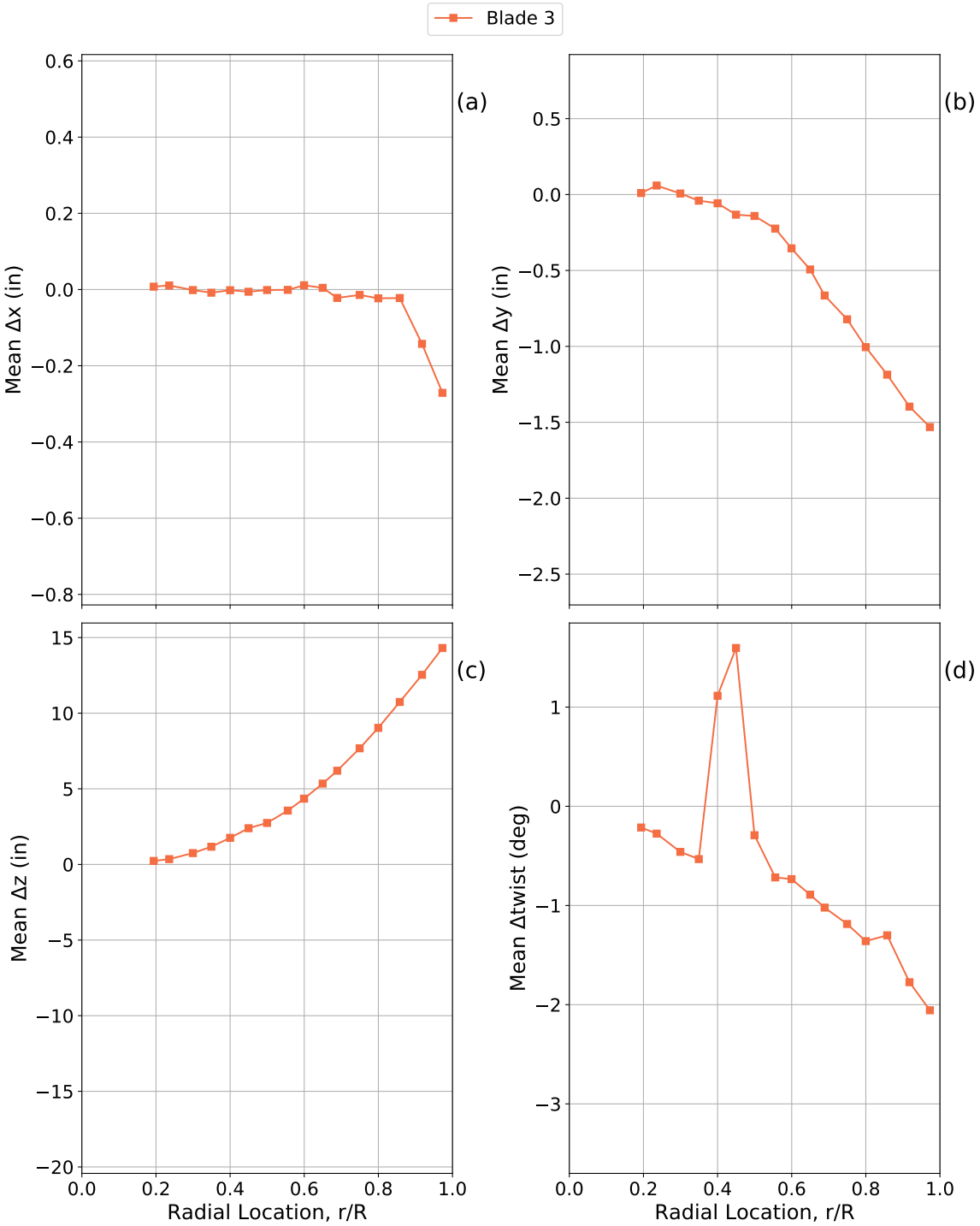


Figure 3.17-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0075	0.0021	0.0102	0.0012	0.2324	0.0080	-0.2139	0.0674
3	260.16	0.2357	0.0107	0.0019	0.0594	0.0033	0.3515	0.0120	-0.2756	0.0673
3	260.16	0.2995	-0.0014	0.0021	0.0069	0.0050	0.7508	0.0255	-0.4597	0.1340
3	260.16	0.3493	-0.0083	0.0021	-0.0403	0.0076	1.1715	0.0361	-0.5321	0.0940
3	260.16	0.4000	-0.0017	0.0050	-0.0574	0.0141	1.7576	0.0561	1.1140	0.1422
3	260.16	0.4497	-0.0058	0.0046	-0.1327	0.0151	2.3954	0.0730	1.5956	0.1298
3	260.16	0.4997	-0.0013	0.0077	-0.1413	0.0201	2.7426	0.0959	-0.2916	0.1422
3	260.16	0.5556	-0.0009	0.0059	-0.2242	0.0239	3.5592	0.1254	-0.7171	0.0873
3	260.16	0.5995	0.0112	0.0060	-0.3542	0.0286	4.3480	0.1523	-0.7342	0.1003
3	260.16	0.6498	0.0044	0.0074	-0.4935	0.0345	5.3436	0.1851	-0.8908	0.1067
3	260.16	0.6890	-0.0220	0.0094	-0.6651	0.0392	6.1960	0.2129	-1.0215	0.1161
3	260.16	0.7495	-0.0142	0.0128	-0.8216	0.0464	7.6773	0.2579	-1.1866	0.0991
3	260.16	0.7998	-0.0230	0.0163	-1.0050	0.0546	9.0288	0.2959	-1.3593	0.1066
3	260.16	0.8577	-0.0223	0.0206	-1.1863	0.0636	10.7415	0.3407	-1.3007	0.0961
3	260.16	0.9178	-0.1426	0.0267	-1.3968	0.0738	12.5354	0.3889	-1.7735	0.1061
3	260.16	0.9729	-0.2711	0.0320	-1.5315	0.0836	14.3083	0.4332	-2.0566	0.0997

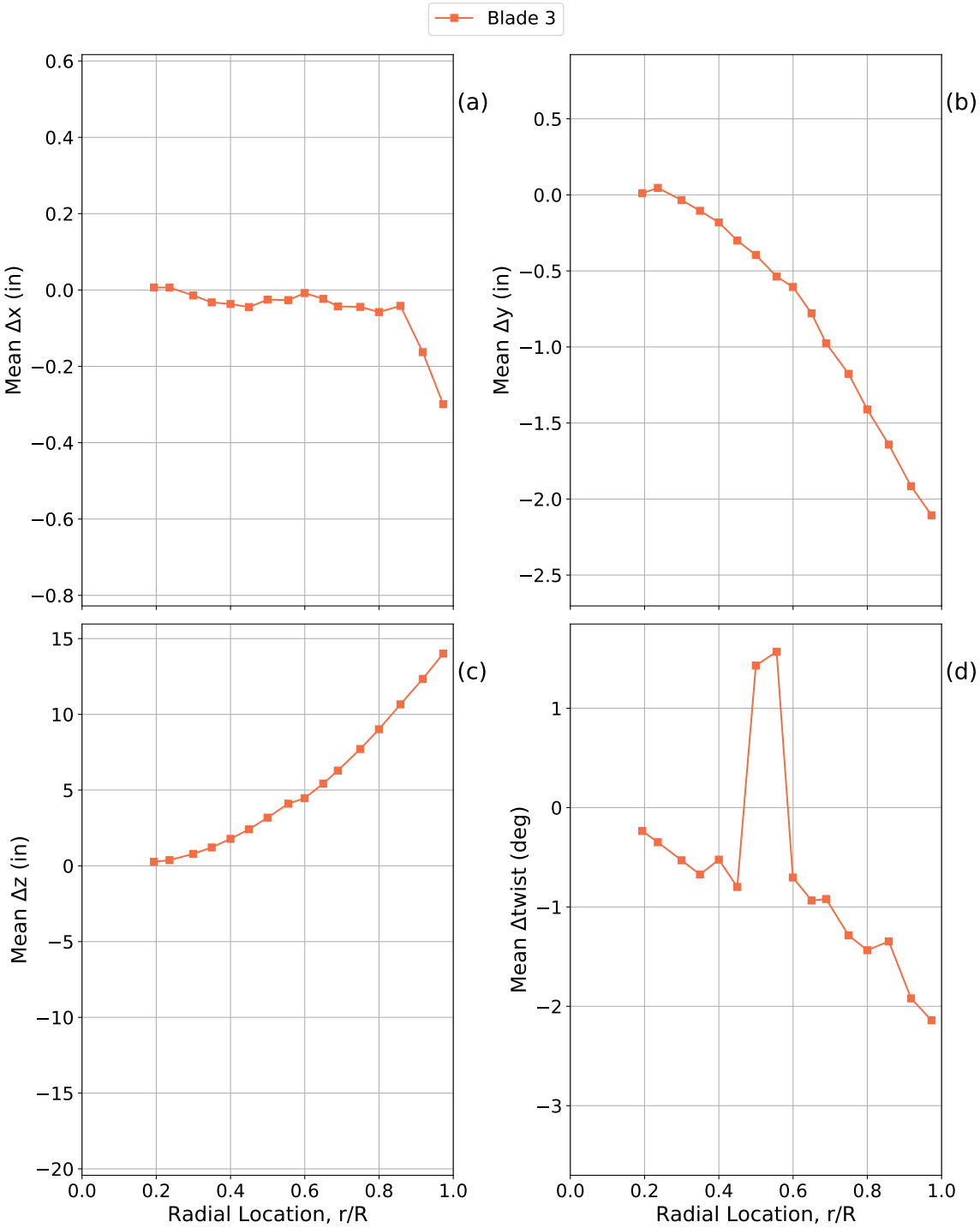


Figure 3.17-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0066	0.0044	0.0109	0.0025	0.2689	0.0112	-0.2354	0.0612
3	265.08	0.2357	0.0065	0.0037	0.0457	0.0024	0.3737	0.0183	-0.3484	0.0796
3	265.08	0.2995	-0.0143	0.0028	-0.0342	0.0055	0.7897	0.0307	-0.5304	0.1405
3	265.08	0.3493	-0.0324	0.0077	-0.1048	0.0099	1.2140	0.0481	-0.6727	0.0871
3	265.08	0.4000	-0.0367	0.0117	-0.1815	0.0148	1.7807	0.0678	-0.5236	0.1303
3	265.08	0.4497	-0.0448	0.0192	-0.3003	0.0189	2.4111	0.0923	-0.7987	0.1437
3	265.08	0.4997	-0.0252	0.0152	-0.3953	0.0204	3.1821	0.1289	1.4297	0.8549
3	265.08	0.5556	-0.0264	0.0223	-0.5370	0.0307	4.1017	0.1642	1.5690	0.9769
3	265.08	0.5995	-0.0080	0.0235	-0.6058	0.0641	4.4636	0.1964	-0.7037	0.1609
3	265.08	0.6498	-0.0232	0.0301	-0.7788	0.0761	5.4316	0.2273	-0.9349	0.1709
3	265.08	0.6890	-0.0430	0.0355	-0.9760	0.0843	6.2886	0.2506	-0.9200	0.1938
3	265.08	0.7495	-0.0442	0.0454	-1.1769	0.1000	7.7111	0.2821	-1.2860	0.1788
3	265.08	0.7998	-0.0578	0.0552	-1.4110	0.1136	9.0155	0.3087	-1.4357	0.1808
3	265.08	0.8577	-0.0416	0.0670	-1.6422	0.1304	10.6591	0.3397	-1.3464	0.1870
3	265.08	0.9178	-0.1629	0.0820	-1.9159	0.1511	12.3393	0.3740	-1.9204	0.1804
3	265.08	0.9729	-0.2991	0.0969	-2.1070	0.1644	14.0120	0.4047	-2.1410	0.1691

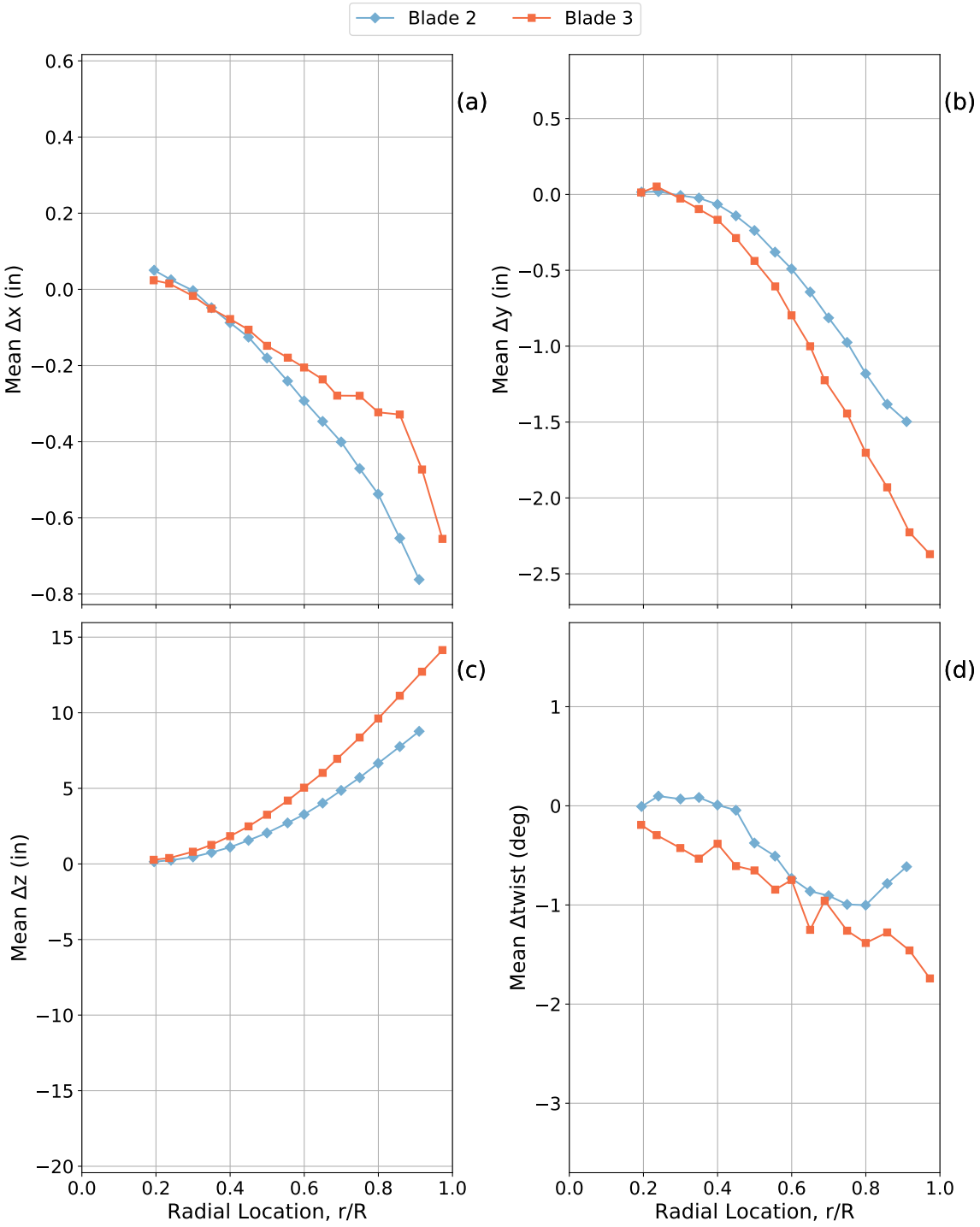


Figure 3.17-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0503	0.0039	0.0155	0.0082	0.1438	0.0291	-0.0067	0.1453
2	270.35	0.2405	0.0252	0.0036	0.0189	0.0110	0.2475	0.0428	0.0982	0.4690
2	270.35	0.2999	-0.0032	0.0132	-0.0071	0.0047	0.4592	0.0538	0.0684	0.4762
2	270.35	0.3498	-0.0482	0.0100	-0.0238	0.0372	0.7562	0.0769	0.0840	0.5377
2	270.35	0.3998	-0.0876	0.0039	-0.0656	0.0291	1.1071	0.1448	0.0079	0.9577
2	270.35	0.4496	-0.1254	0.0074	-0.1409	0.0620	1.5599	0.1424	-0.0445	0.6907
2	270.35	0.4995	-0.1802	0.0095	-0.2378	0.0891	2.0513	0.1725	-0.3753	0.7659
2	270.35	0.5551	-0.2407	0.0090	-0.3802	0.1097	2.7131	0.2063	-0.5075	0.7090
2	270.35	0.5996	-0.2927	0.0108	-0.4906	0.1671	3.2753	0.2613	-0.7319	0.2628
2	270.35	0.6497	-0.3467	0.0141	-0.6429	0.1636	4.0237	0.2983	-0.8613	0.5022
2	270.35	0.6996	-0.4006	0.0159	-0.8132	0.1819	4.8632	0.3606	-0.9062	0.6626
2	270.35	0.7495	-0.4705	0.0228	-0.9751	0.1961	5.7091	0.4246	-0.9947	0.8480
2	270.35	0.7996	-0.5376	0.0290	-1.1810	0.2243	6.6600	0.5010	-1.0024	0.8183
2	270.35	0.8578	-0.6534	0.0358	-1.3827	0.2397	7.7612	0.5897	-0.7843	0.8072
2	270.35	0.9100	-0.7620	0.0609	-1.4971	0.2541	8.7729	0.6620	-0.6142	1.3298
3	270	0.1938	0.0238	0.0065	0.0130	0.0020	0.2750	0.0114	-0.1921	0.0457
3	270	0.2357	0.0152	0.0028	0.0520	0.0034	0.3901	0.0178	-0.2956	0.0690
3	270	0.2995	-0.0173	0.0065	-0.0268	0.0033	0.8073	0.0330	-0.4259	0.1043
3	270	0.3493	-0.0507	0.0078	-0.0963	0.0052	1.2589	0.0502	-0.5328	0.0765
3	270	0.4000	-0.0779	0.0115	-0.1672	0.0106	1.8379	0.0733	-0.3830	0.1041
3	270	0.4497	-0.1059	0.0137	-0.2875	0.0145	2.4839	0.0862	-0.6076	0.0877
3	270	0.4997	-0.1482	0.0169	-0.4383	0.0190	3.2540	0.1040	-0.6518	0.1039
3	270	0.5556	-0.1794	0.0196	-0.6062	0.0258	4.1918	0.1319	-0.8453	0.0875
3	270	0.5995	-0.2052	0.0206	-0.7966	0.0317	5.0459	0.1490	-0.7479	0.1205
3	270	0.6498	-0.2364	0.0223	-1.0007	0.0395	6.0230	0.1825	-1.2510	0.0972
3	270	0.6890	-0.2790	0.0221	-1.2245	0.0464	6.9531	0.2038	-0.9572	0.1095
3	270	0.7495	-0.2794	0.0237	-1.4439	0.0568	8.3637	0.2365	-1.2597	0.1033
3	270	0.7998	-0.3228	0.0295	-1.7020	0.0652	9.6219	0.2571	-1.3833	0.1462
3	270	0.8577	-0.3286	0.0405	-1.9304	0.0757	11.1280	0.2851	-1.2773	0.1217
3	270	0.9178	-0.4730	0.0558	-2.2268	0.0893	12.7174	0.3091	-1.4588	0.1649
3	270	0.9729	-0.6551	0.0772	-2.3706	0.1001	14.1450	0.3378	-1.7411	0.1661

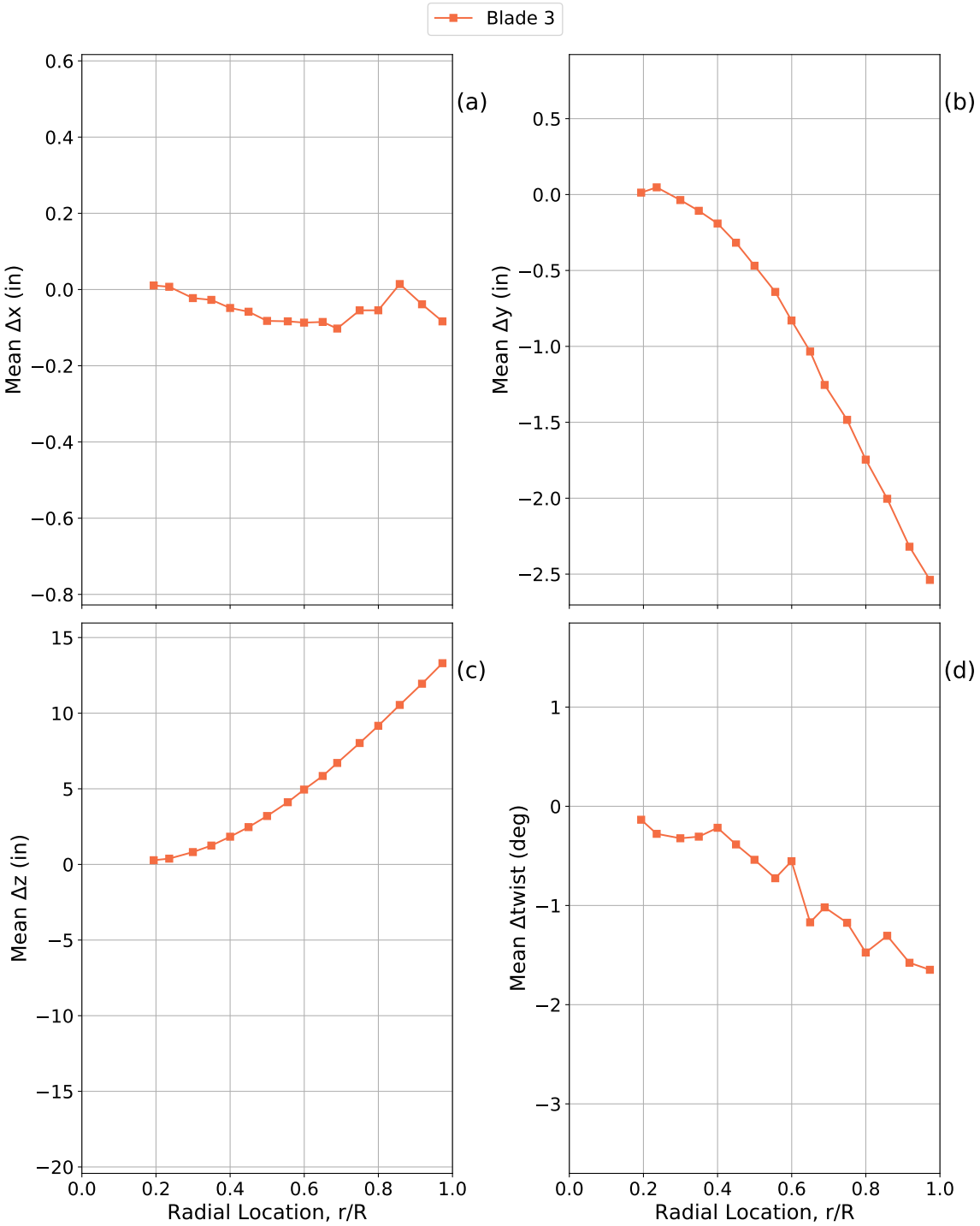


Figure 3.17-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	274.92	0.1938	0.0107	0.0048	0.0128	0.0028	0.2783	0.0156	-0.1355	0.0666
3	274.92	0.2357	0.0072	0.0027	0.0475	0.0030	0.3835	0.0234	-0.2776	0.1532
3	274.92	0.2995	-0.0225	0.0027	-0.0363	0.0054	0.8168	0.0468	-0.3225	0.1818
3	274.92	0.3493	-0.0271	0.0040	-0.1070	0.0088	1.2475	0.0658	-0.3063	0.1658
3	274.92	0.4000	-0.0484	0.0052	-0.1907	0.0131	1.8332	0.1011	-0.2167	0.1396
3	274.92	0.4497	-0.0582	0.0058	-0.3173	0.0167	2.4673	0.1175	-0.3846	0.1709
3	274.92	0.4997	-0.0823	0.0051	-0.4688	0.0236	3.2017	0.1439	-0.5395	0.1677
3	274.92	0.5556	-0.0834	0.0072	-0.6412	0.0317	4.1127	0.1758	-0.7253	0.1533
3	274.92	0.5995	-0.0868	0.0097	-0.8295	0.0385	4.9487	0.2054	-0.5536	0.1585
3	274.92	0.6498	-0.0851	0.0131	-1.0338	0.0493	5.8483	0.2372	-1.1697	0.1693
3	274.92	0.6890	-0.1024	0.0153	-1.2541	0.0576	6.7086	0.2723	-1.0187	0.1648
3	274.92	0.7495	-0.0546	0.0192	-1.4839	0.0719	8.0266	0.3122	-1.1742	0.1614
3	274.92	0.7998	-0.0545	0.0230	-1.7458	0.0841	9.1647	0.3515	-1.4740	0.1503
3	274.92	0.8577	0.0144	0.0258	-2.0037	0.0988	10.5449	0.3881	-1.3053	0.1327
3	274.92	0.9178	-0.0387	0.0312	-2.3195	0.1139	11.9487	0.4354	-1.5773	0.1538
3	274.92	0.9729	-0.0836	0.0386	-2.5381	0.1278	13.3052	0.4688	-1.6482	0.2176

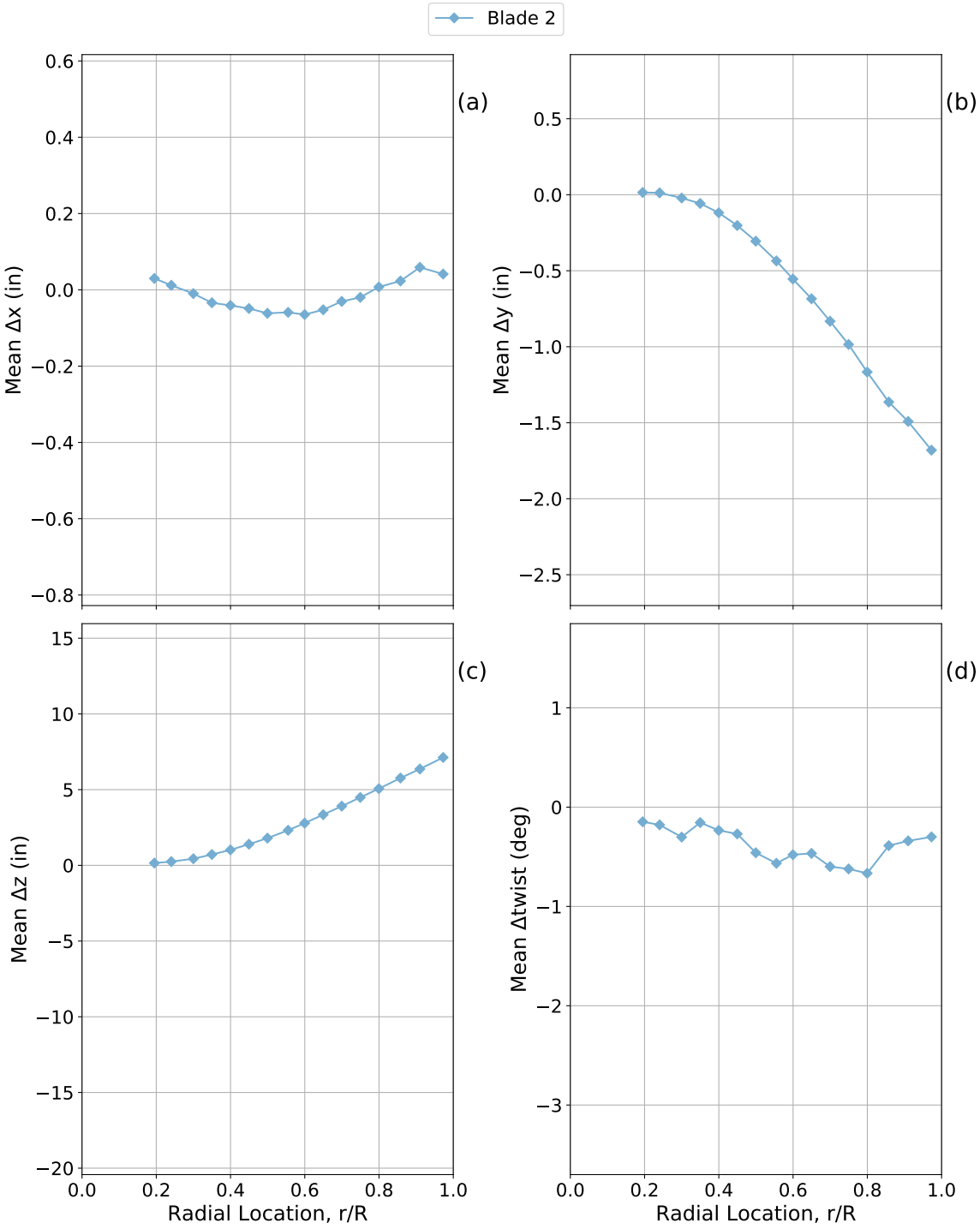


Figure 3.17-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0299	0.0081	0.0151	0.0015	0.1512	0.0056	-0.1475	0.0286
2	285.12	0.2405	0.0119	0.0025	0.0124	0.0019	0.2466	0.0093	-0.1786	0.0384
2	285.12	0.2999	-0.0098	0.0032	-0.0214	0.0051	0.4358	0.0156	-0.3015	0.0636
2	285.12	0.3498	-0.0339	0.0051	-0.0573	0.0097	0.7161	0.0232	-0.1556	0.0617
2	285.12	0.3998	-0.0409	0.0071	-0.1186	0.0151	1.0188	0.0338	-0.2339	0.0747
2	285.12	0.4496	-0.0489	0.0098	-0.2025	0.0195	1.3958	0.0507	-0.2698	0.0614
2	285.12	0.4995	-0.0615	0.0129	-0.3056	0.0256	1.7973	0.0631	-0.4595	0.0517
2	285.12	0.5551	-0.0591	0.0176	-0.4354	0.0324	2.3149	0.0863	-0.5656	0.0549
2	285.12	0.5996	-0.0648	0.0216	-0.5545	0.0381	2.7885	0.1082	-0.4792	0.0562
2	285.12	0.6497	-0.0523	0.0289	-0.6845	0.0445	3.3471	0.1288	-0.4658	0.0874
2	285.12	0.6996	-0.0303	0.0370	-0.8322	0.0519	3.9089	0.1605	-0.5989	0.0673
2	285.12	0.7495	-0.0197	0.0467	-0.9849	0.0594	4.4849	0.1819	-0.6223	0.1024
2	285.12	0.7996	0.0075	0.0576	-1.1664	0.0659	5.0644	0.2088	-0.6665	0.1100
2	285.12	0.8578	0.0232	0.0727	-1.3637	0.0767	5.7659	0.2375	-0.3877	0.1180
2	285.12	0.9100	0.0590	0.0890	-1.4917	0.0849	6.3629	0.2647	-0.3399	0.1229
2	285.12	0.9727	0.0414	0.1134	-1.6805	0.0956	7.1256	0.3003	-0.2998	0.1639

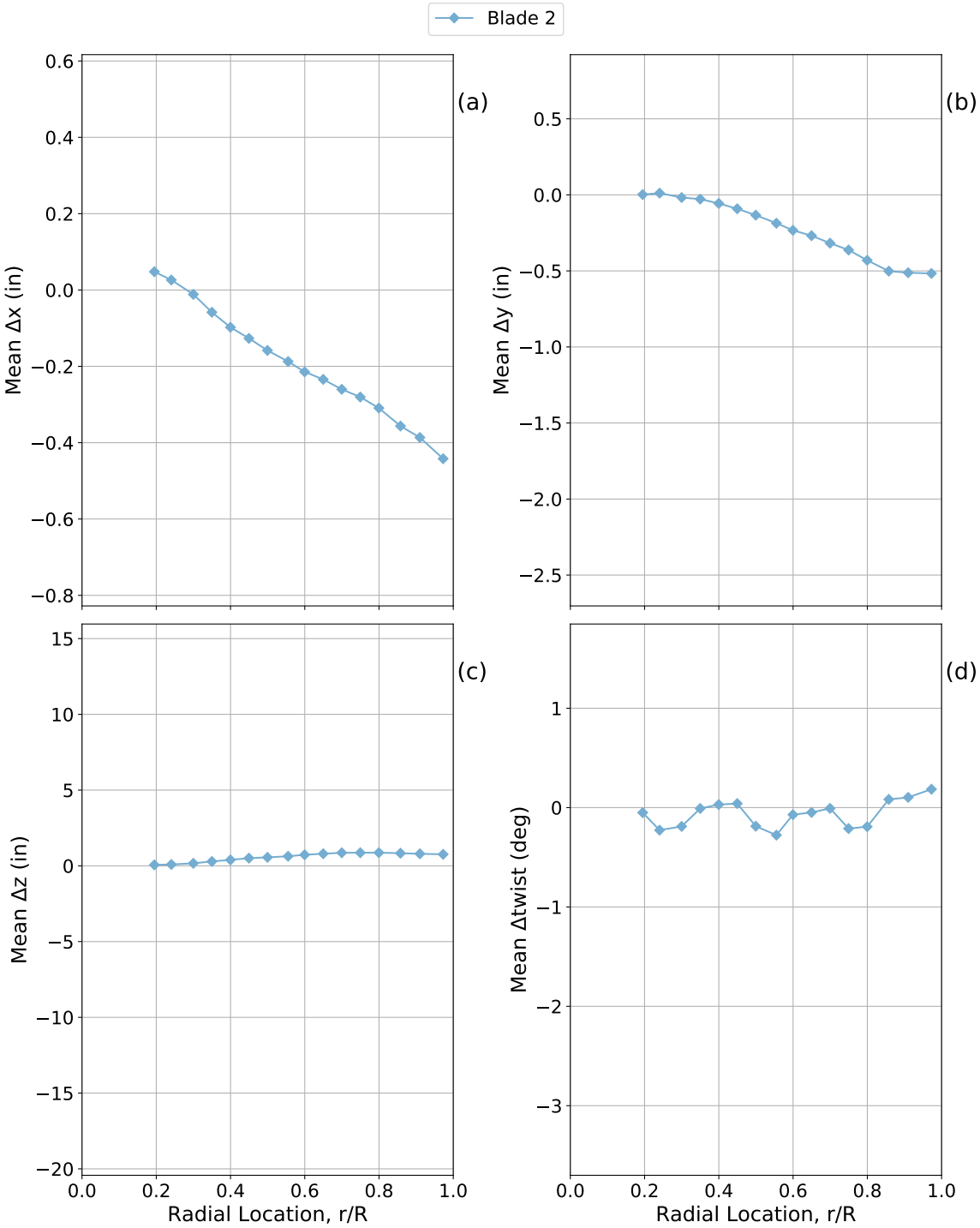


Figure 3.17-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0479	0.0035	0.0020	0.0020	0.0633	0.0150	-0.0506	0.0490
2	299.88	0.2405	0.0263	0.0041	0.0113	0.0033	0.0913	0.0280	-0.2270	0.0566
2	299.88	0.2999	-0.0114	0.0067	-0.0175	0.0063	0.1664	0.0439	-0.1892	0.1030
2	299.88	0.3498	-0.0583	0.0050	-0.0278	0.0132	0.2893	0.0715	-0.0089	0.1040
2	299.88	0.3998	-0.0976	0.0048	-0.0562	0.0220	0.3936	0.1021	0.0306	0.1136
2	299.88	0.4496	-0.1267	0.0040	-0.0915	0.0287	0.5079	0.1168	0.0405	0.1173
2	299.88	0.4995	-0.1583	0.0063	-0.1335	0.0385	0.5604	0.1421	-0.1873	0.1162
2	299.88	0.5551	-0.1874	0.0073	-0.1865	0.0516	0.6326	0.1705	-0.2769	0.1109
2	299.88	0.5996	-0.2144	0.0080	-0.2330	0.0630	0.7303	0.1961	-0.0714	0.1273
2	299.88	0.6497	-0.2342	0.0079	-0.2685	0.0758	0.7990	0.2247	-0.0486	0.1256
2	299.88	0.6996	-0.2602	0.0092	-0.3174	0.0897	0.8635	0.2631	-0.0079	0.1237
2	299.88	0.7495	-0.2804	0.0100	-0.3626	0.1043	0.8651	0.3067	-0.2111	0.1383
2	299.88	0.7996	-0.3093	0.0103	-0.4302	0.1201	0.8687	0.3516	-0.1922	0.1347
2	299.88	0.8578	-0.3564	0.0117	-0.5014	0.1383	0.8324	0.4117	0.0825	0.1541
2	299.88	0.9100	-0.3864	0.0135	-0.5120	0.1549	0.7958	0.4653	0.1028	0.1508
2	299.88	0.9727	-0.4420	0.0171	-0.5167	0.1743	0.7606	0.5367	0.1850	0.1504

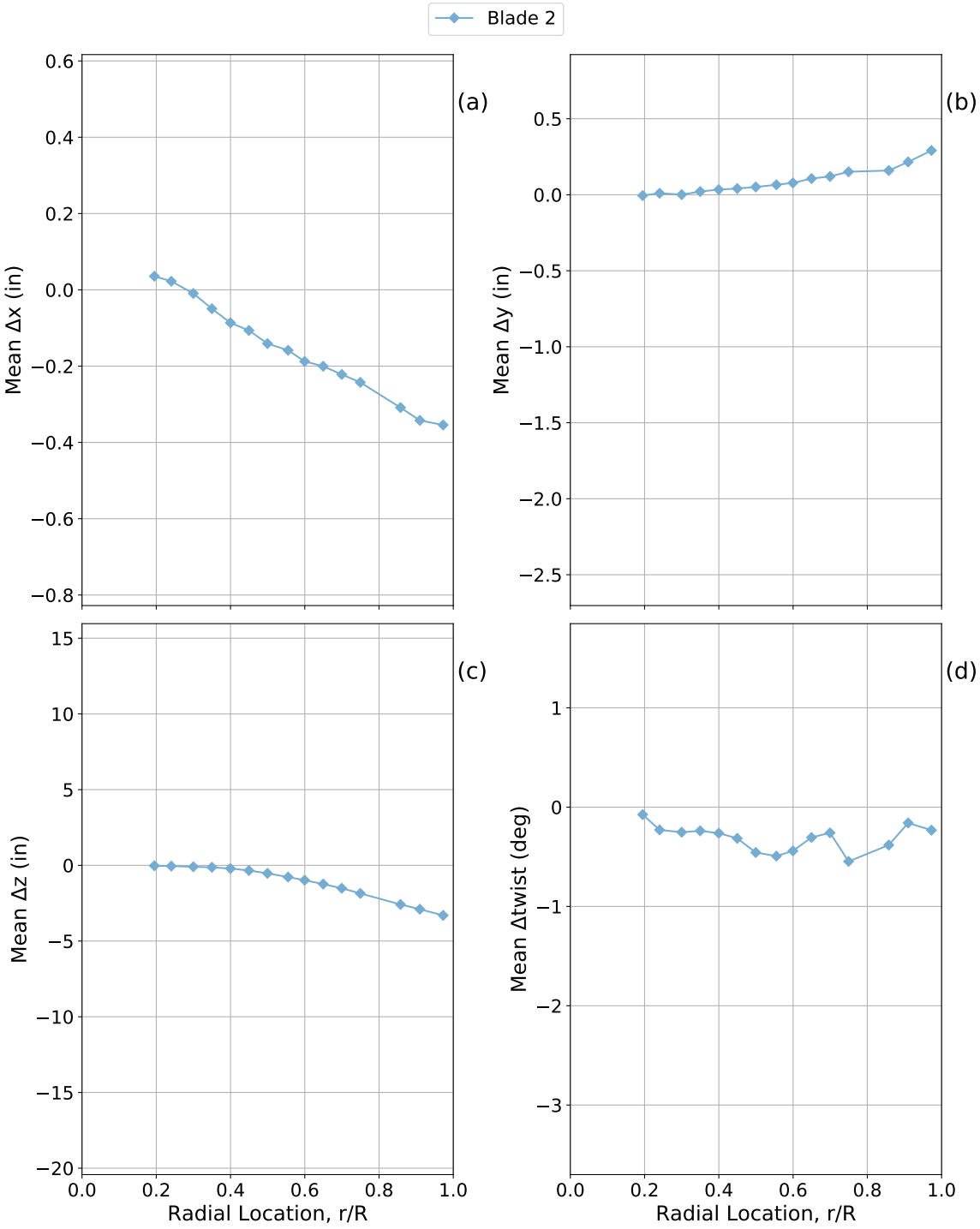


Figure 3.17-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0356	0.0027	-0.0054	0.0020	-0.0256	0.0120	-0.0750	0.0603
2	315	0.2405	0.0225	0.0026	0.0100	0.0034	-0.0503	0.0167	-0.2296	0.0875
2	315	0.2999	-0.0095	0.0054	0.0008	0.0058	-0.0959	0.0307	-0.2527	0.1114
2	315	0.3498	-0.0494	0.0030	0.0212	0.0154	-0.1302	0.0458	-0.2386	0.1273
2	315	0.3998	-0.0865	0.0050	0.0341	0.0214	-0.2121	0.0648	-0.2622	0.0961
2	315	0.4496	-0.1065	0.0060	0.0408	0.0272	-0.3385	0.0790	-0.3145	0.1183
2	315	0.4995	-0.1409	0.0068	0.0511	0.0327	-0.5287	0.0969	-0.4567	0.1036
2	315	0.5551	-0.1584	0.0082	0.0656	0.0397	-0.7721	0.1159	-0.4932	0.1225
2	315	0.5996	-0.1876	0.0087	0.0779	0.0451	-0.9819	0.1322	-0.4407	0.1036
2	315	0.6497	-0.2004	0.0104	0.1066	0.0513	-1.2374	0.1425	-0.3055	0.1222
2	315	0.6996	-0.2218	0.0108	0.1204	0.0584	-1.5144	0.1575	-0.2588	0.1260
2	315	0.7495	-0.2425	0.0117	0.1512	0.0653	-1.8502	0.1746	-0.5468	0.1136
2	315	0.8578	-0.3087	0.0136	0.1594	0.0832	-2.5841	0.2135	-0.3817	0.1286
2	315	0.9100	-0.3423	0.0149	0.2158	0.0910	-2.8984	0.2440	-0.1592	0.1208
2	315	0.9727	-0.3543	0.0158	0.2912	0.1030	-3.3059	0.2885	-0.2322	0.1236

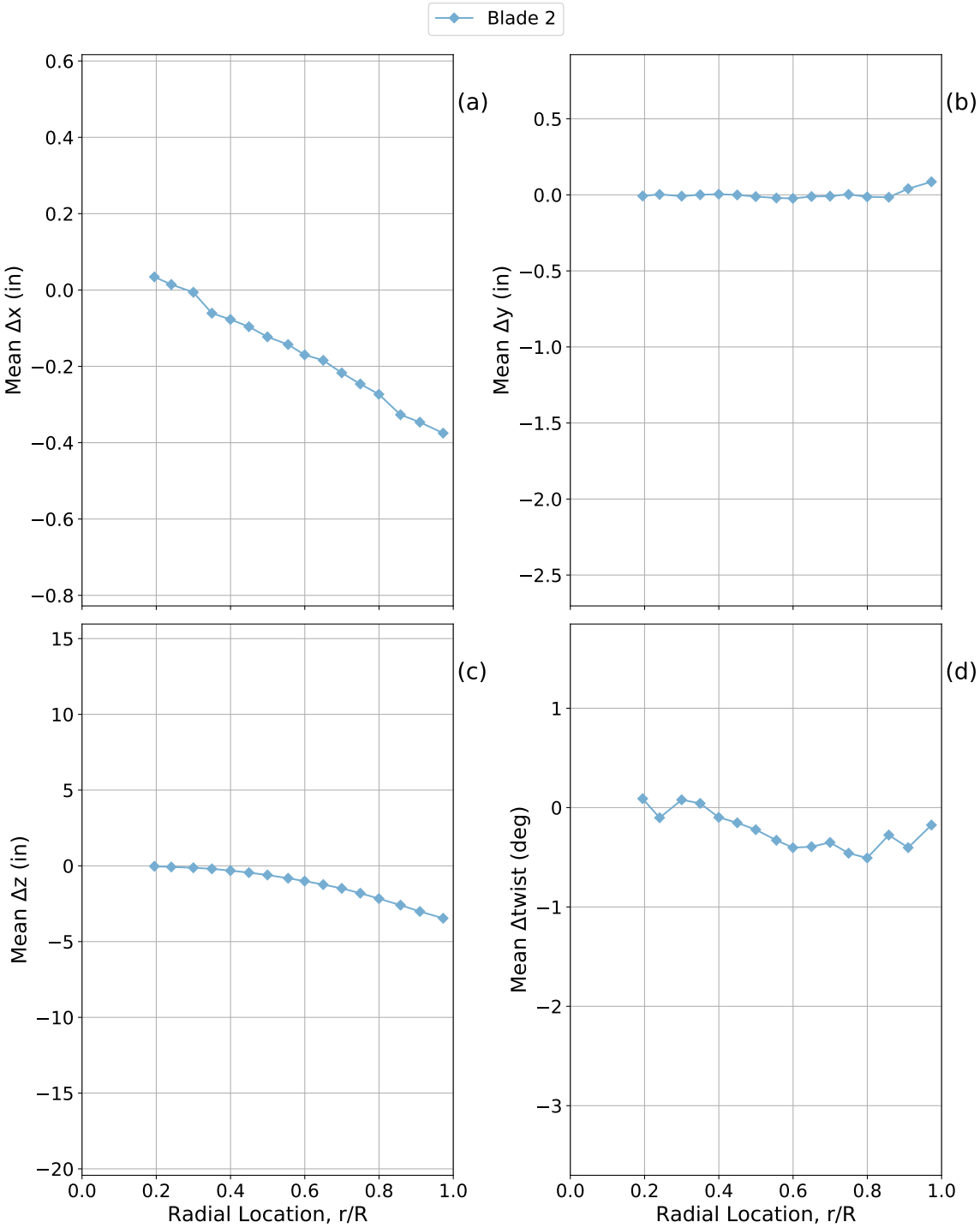


Figure 3.17-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0343	0.0040	-0.0074	0.0015	-0.0294	0.0087	0.0899	0.0318
2	330.12	0.2405	0.0144	0.0022	0.0028	0.0047	-0.0739	0.0063	-0.1024	0.0799
2	330.12	0.2999	-0.0060	0.0042	-0.0085	0.0041	-0.1272	0.0214	0.0785	0.0806
2	330.12	0.3498	-0.0608	0.0032	0.0008	0.0123	-0.1967	0.0291	0.0425	0.0622
2	330.12	0.3998	-0.0772	0.0032	0.0044	0.0176	-0.3152	0.0408	-0.0983	0.0636
2	330.12	0.4496	-0.0962	0.0042	-0.0004	0.0230	-0.4468	0.0497	-0.1530	0.0745
2	330.12	0.4995	-0.1228	0.0042	-0.0115	0.0293	-0.6039	0.0633	-0.2222	0.0876
2	330.12	0.5551	-0.1428	0.0048	-0.0206	0.0379	-0.8190	0.0800	-0.3289	0.0915
2	330.12	0.5996	-0.1699	0.0048	-0.0233	0.0434	-1.0058	0.0931	-0.4035	0.0908
2	330.12	0.6497	-0.1843	0.0049	-0.0109	0.0524	-1.2366	0.1102	-0.3936	0.0808
2	330.12	0.6996	-0.2171	0.0059	-0.0087	0.0642	-1.4881	0.1280	-0.3506	0.0873
2	330.12	0.7495	-0.2462	0.0062	0.0030	0.0733	-1.8052	0.1497	-0.4591	0.0896
2	330.12	0.7996	-0.2732	0.0067	-0.0132	0.0843	-2.1632	0.1712	-0.5069	0.0929
2	330.12	0.8578	-0.3268	0.0069	-0.0157	0.0963	-2.5927	0.2003	-0.2759	0.1073
2	330.12	0.9100	-0.3463	0.0069	0.0406	0.1084	-3.0128	0.2257	-0.4031	0.0829
2	330.12	0.9727	-0.3750	0.0099	0.0859	0.1239	-3.4607	0.2624	-0.1755	0.0981

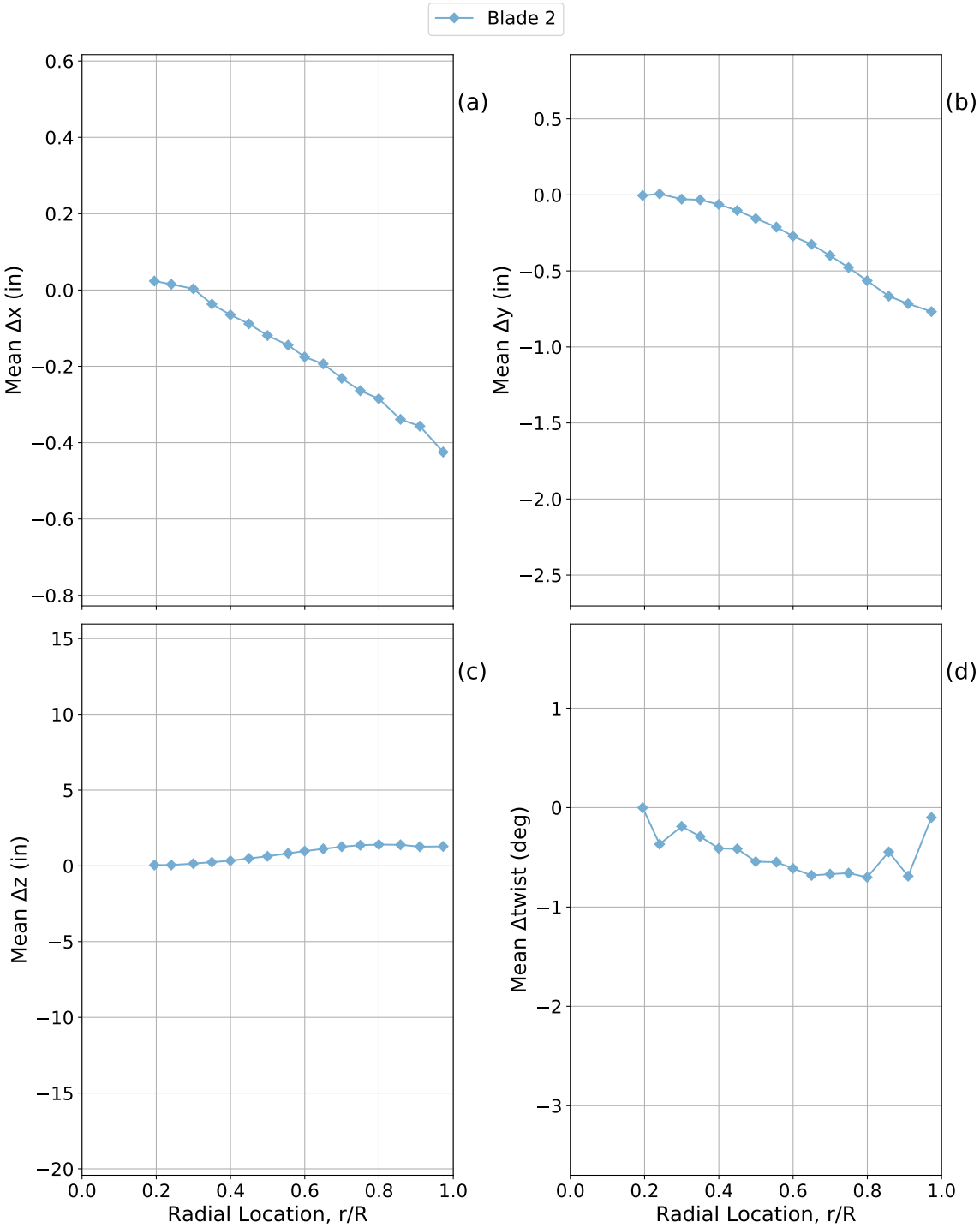


Figure 3.17-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0235	0.0076	-0.0040	0.0021	0.0554	0.0083	-0.0008	0.1017
2	344.88	0.2405	0.0152	0.0053	0.0065	0.0035	0.0592	0.0201	-0.3679	0.1312
2	344.88	0.2999	0.0031	0.0048	-0.0277	0.0096	0.1485	0.0267	-0.1889	0.2198
2	344.88	0.3498	-0.0368	0.0052	-0.0325	0.0171	0.2456	0.0395	-0.2902	0.2033
2	344.88	0.3998	-0.0651	0.0053	-0.0626	0.0259	0.3404	0.0617	-0.4102	0.2000
2	344.88	0.4496	-0.0887	0.0064	-0.1026	0.0352	0.4902	0.0774	-0.4145	0.1767
2	344.88	0.4995	-0.1193	0.0064	-0.1553	0.0451	0.6340	0.0956	-0.5432	0.1923
2	344.88	0.5551	-0.1444	0.0080	-0.2119	0.0567	0.8293	0.1172	-0.5485	0.1856
2	344.88	0.5996	-0.1755	0.0091	-0.2714	0.0682	0.9773	0.1357	-0.6123	0.1917
2	344.88	0.6497	-0.1937	0.0104	-0.3258	0.0804	1.1250	0.1614	-0.6819	0.1835
2	344.88	0.6996	-0.2315	0.0112	-0.3995	0.0950	1.2667	0.1880	-0.6692	0.1770
2	344.88	0.7495	-0.2639	0.0121	-0.4775	0.1078	1.3637	0.2167	-0.6586	0.1859
2	344.88	0.7996	-0.2848	0.0128	-0.5642	0.1234	1.4075	0.2458	-0.7011	0.1822
2	344.88	0.8578	-0.3390	0.0132	-0.6663	0.1410	1.3916	0.2807	-0.4454	0.1757
2	344.88	0.9100	-0.3567	0.0140	-0.7156	0.1576	1.2690	0.3113	-0.6895	0.1795
2	344.88	0.9727	-0.4246	0.0183	-0.7681	0.1777	1.2861	0.3508	-0.0989	0.1888

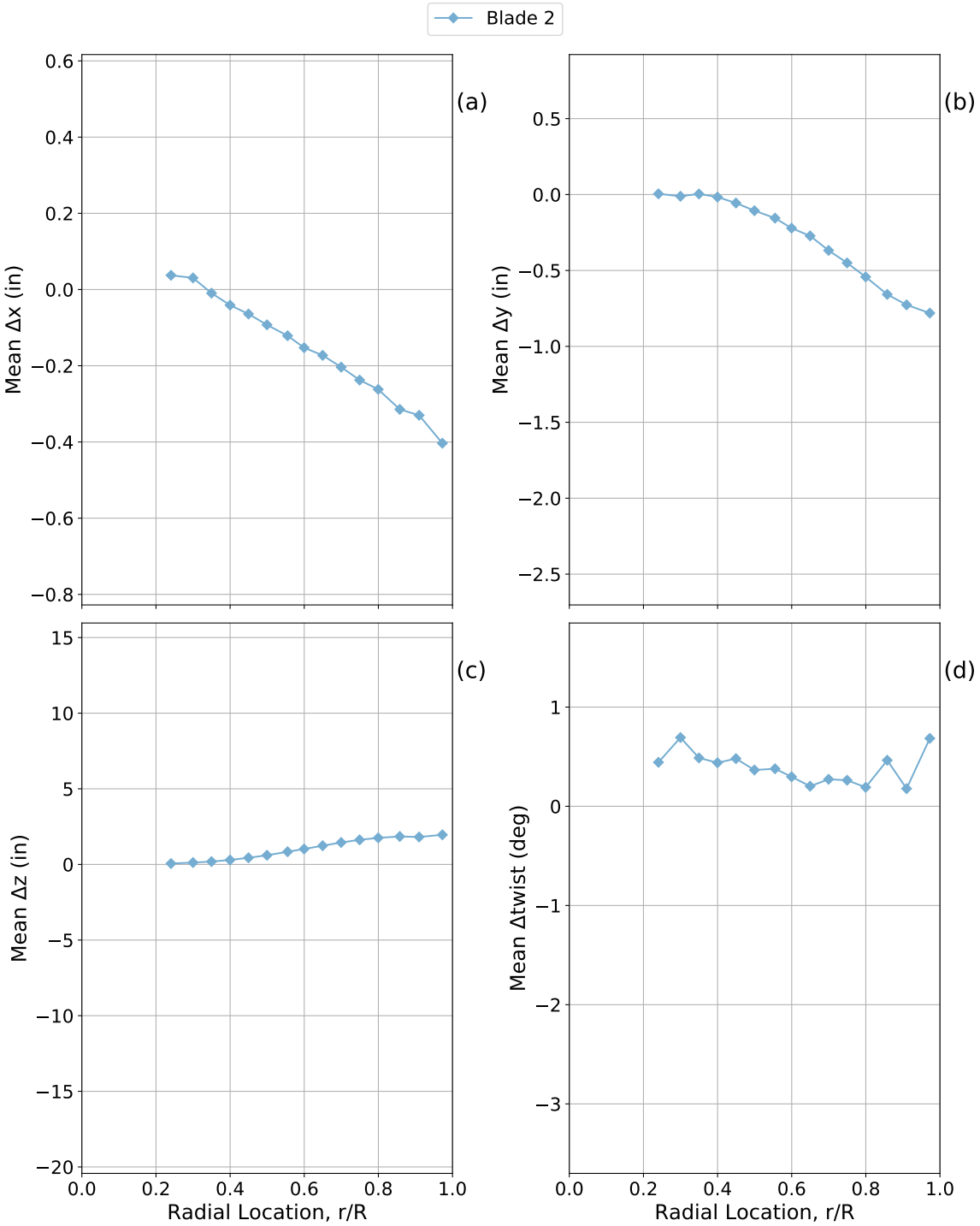


Figure 3.17-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0374	0.0063	0.0047	0.0045	0.0598	0.0324	0.4434	0.2713
2	350.16	0.2999	0.0305	0.0061	-0.0114	0.0093	0.1229	0.0584	0.6929	0.4166
2	350.16	0.3498	-0.0095	0.0058	0.0039	0.0154	0.1891	0.1013	0.4876	0.4366
2	350.16	0.3998	-0.0409	0.0068	-0.0167	0.0244	0.2941	0.1484	0.4389	0.4241
2	350.16	0.4496	-0.0642	0.0059	-0.0558	0.0303	0.4394	0.1949	0.4805	0.4145
2	350.16	0.4995	-0.0926	0.0053	-0.1063	0.0369	0.6052	0.2412	0.3657	0.4149
2	350.16	0.5551	-0.1213	0.0054	-0.1552	0.0479	0.8401	0.2876	0.3782	0.4355
2	350.16	0.5996	-0.1526	0.0050	-0.2213	0.0551	1.0203	0.3280	0.2976	0.4165
2	350.16	0.6497	-0.1727	0.0045	-0.2724	0.0631	1.2373	0.3703	0.2022	0.4163
2	350.16	0.6996	-0.2036	0.0044	-0.3680	0.0728	1.4515	0.4113	0.2723	0.4263
2	350.16	0.7495	-0.2376	0.0057	-0.4503	0.0817	1.6260	0.4536	0.2627	0.4102
2	350.16	0.7996	-0.2620	0.0057	-0.5425	0.0909	1.7566	0.4938	0.1912	0.4100
2	350.16	0.8578	-0.3145	0.0065	-0.6576	0.1024	1.8487	0.5398	0.4638	0.4143
2	350.16	0.9100	-0.3300	0.0066	-0.7267	0.1118	1.8151	0.5833	0.1777	0.4061
2	350.16	0.9727	-0.4033	0.0084	-0.7807	0.1259	1.9593	0.6369	0.6848	0.4048

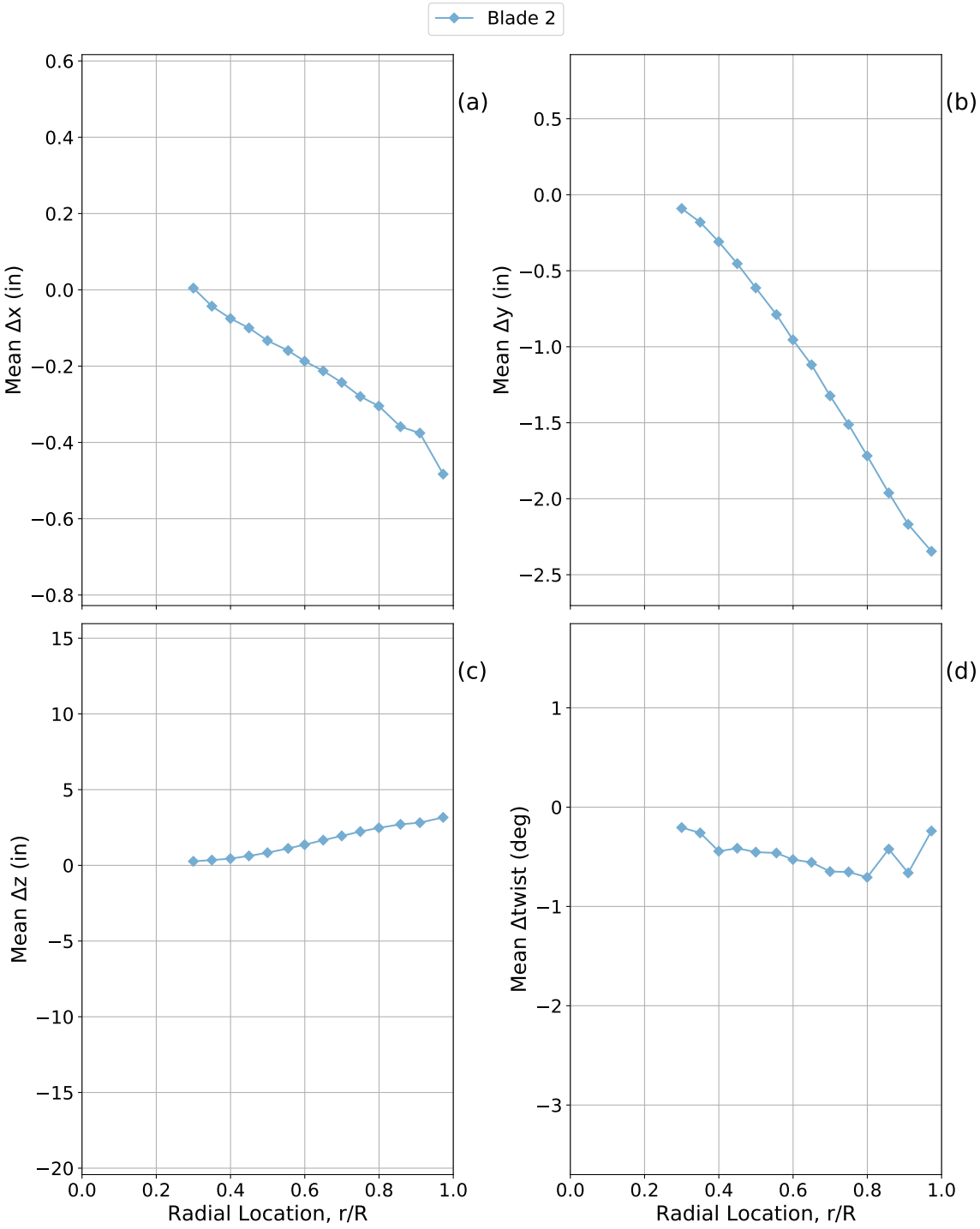


Figure 3.17-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Table 3.17-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.4, α = -10°
NFAC run 53, point 33. BD run 26, points 3339 to 3349.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2999	0.0046	0.0178	-0.0909	0.0388	0.2664	0.0877	-0.2056	0.2607
2	355.08	0.3498	-0.0429	0.0231	-0.1808	0.0715	0.3472	0.1392	-0.2596	0.3444
2	355.08	0.3998	-0.0751	0.0209	-0.3093	0.1180	0.4431	0.2138	-0.4439	0.3127
2	355.08	0.4496	-0.0999	0.0216	-0.4534	0.1558	0.6236	0.2836	-0.4141	0.3165
2	355.08	0.4995	-0.1331	0.0217	-0.6129	0.1967	0.8323	0.3549	-0.4531	0.3297
2	355.08	0.5551	-0.1593	0.0210	-0.7885	0.2422	1.1175	0.4336	-0.4620	0.3153
2	355.08	0.5996	-0.1870	0.0211	-0.9546	0.2755	1.3631	0.4986	-0.5279	0.3163
2	355.08	0.6497	-0.2126	0.0214	-1.1190	0.3150	1.6636	0.5695	-0.5562	0.3252
2	355.08	0.6996	-0.2428	0.0220	-1.3230	0.3536	1.9438	0.6432	-0.6488	0.3292
2	355.08	0.7495	-0.2796	0.0224	-1.5117	0.3913	2.2308	0.7170	-0.6527	0.3279
2	355.08	0.7996	-0.3047	0.0232	-1.7178	0.4295	2.4753	0.7886	-0.7069	0.3284
2	355.08	0.8578	-0.3587	0.0243	-1.9620	0.4734	2.7091	0.8717	-0.4226	0.3321
2	355.08	0.9100	-0.3755	0.0250	-2.1685	0.5140	2.8176	0.9434	-0.6625	0.3385
2	355.08	0.9727	-0.4831	0.0364	-2.3459	0.5590	3.1674	1.0271	-0.2402	0.3382

3.18 Run 53, Point 40

3.18.1 Pitch, Flap, and Lag

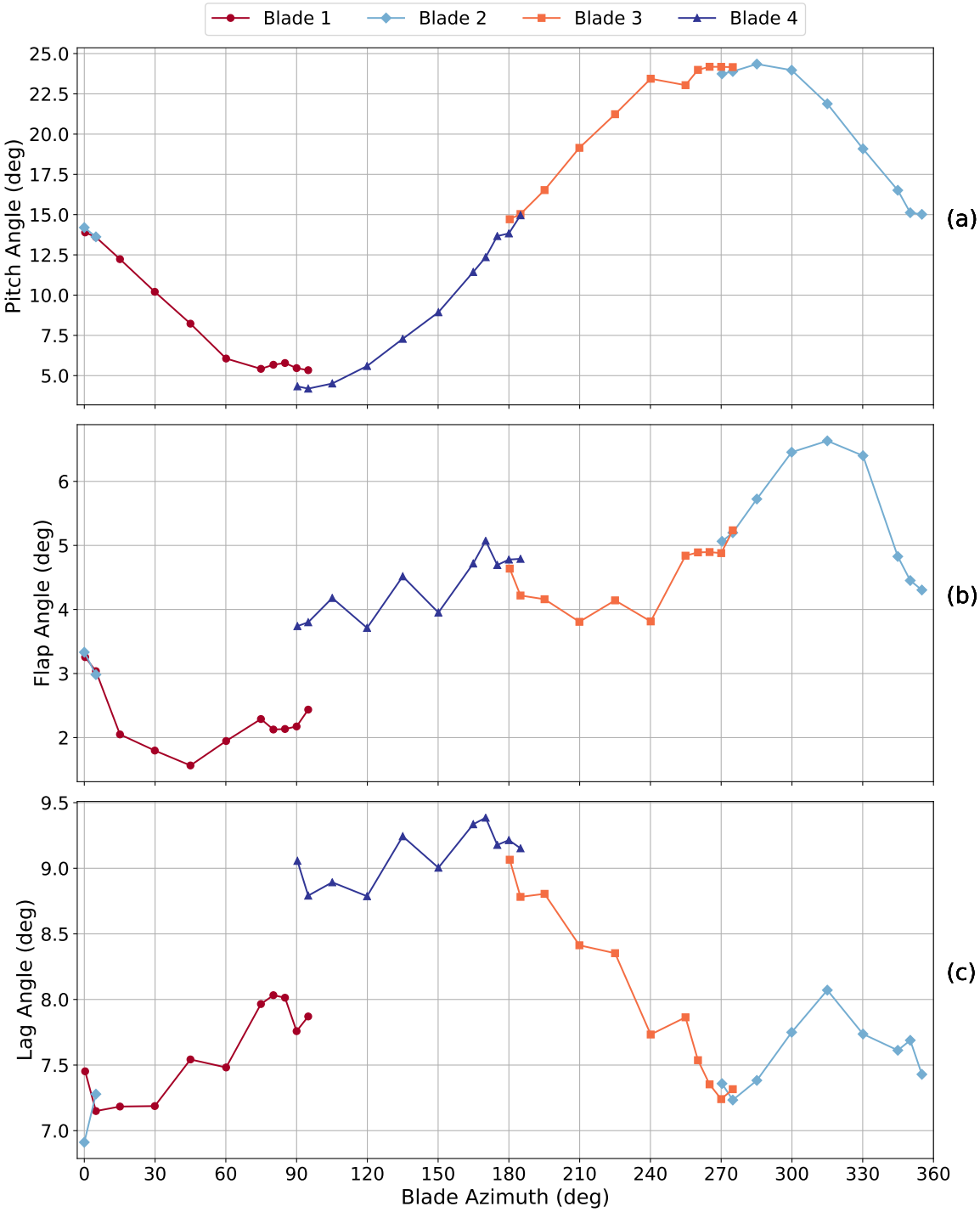


Figure 3.18-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.079, μ = 0.4, α = -10°
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	14.1971	3.3326	6.9114	0.1431	0.0963	0.0971
0.35	1	13.8934	3.2561	7.4522	0.3117	0.2482	0.2062
4.92	1	13.6007	3.0372	7.1495	0.0631	0.1021	0.1029
4.92	2	13.6192	2.9828	7.2786	0.1499	0.2472	0.1487
15.12	1	12.2339	2.0493	7.1838	0.1104	0.2050	0.0975
29.88	1	10.2068	1.7975	7.1873	0.0571	0.1047	0.0656
45	1	8.2263	1.5648	7.5428	0.0597	0.0524	0.0627
60.12	1	6.0608	1.9464	7.4818	0.1147	0.0770	0.1195
74.88	1	5.4203	2.2898	7.9651	0.0964	0.1045	0.0833
80.16	1	5.6761	2.1258	8.0325	0.0603	0.1591	0.0751
85.08	1	5.7828	2.1341	8.0133	0.0671	0.1087	0.0428
90	1	5.4652	2.1736	7.7584	0.0704	0.0559	0.0741
90.35	4	4.3332	3.7399	9.0563	0.0614	0.0876	0.0732
94.92	1	5.3381	2.4365	7.8705	0.0987	0.1124	0.1686
94.92	4	4.1917	3.8004	8.7913	0.0923	0.2207	0.1321
105.12	4	4.5096	4.1794	8.8930	0.1141	0.1873	0.1200
119.88	4	5.5955	3.7123	8.7868	0.0672	0.2242	0.1334
135	4	7.2835	4.5168	9.2436	0.0451	0.1172	0.0890
150.12	4	8.9353	3.9515	9.0041	0.0537	0.2950	0.1025
164.88	4	11.4338	4.7175	9.3351	0.1217	0.4204	0.1616
170.16	4	12.3560	5.0729	9.3855	0.1815	0.3124	0.1083
175.08	4	13.6660	4.6938	9.1778	0.3448	0.3392	0.1559
180	4	13.8334	4.7793	9.2144	0.1106	0.2315	0.0984
180.35	3	14.7118	4.6383	9.0652	0.0706	0.2840	0.0897
184.92	3	15.0365	4.2184	8.7818	0.1065	0.2961	0.0885
184.92	4	14.9580	4.7903	9.1522	0.1402	0.4187	0.1622
195.12	3	16.5237	4.1600	8.8050	0.0578	0.1714	0.0771
209.88	3	19.1461	3.8074	8.4130	0.0895	0.3245	0.1622
225	3	21.2347	4.1421	8.3527	0.0648	0.1234	0.1081
240.12	3	23.4401	3.8138	7.7329	0.1253	0.1785	0.1204
254.88	3	23.0399	4.8401	7.8639	0.2629	0.1088	0.0911
260.16	3	23.9907	4.8916	7.5371	0.0903	0.1020	0.0964
265.08	3	24.1825	4.8963	7.3529	0.1028	0.0539	0.0570
270	3	24.1767	4.8801	7.2404	0.1663	0.0927	0.0890
270.35	2	23.7435	5.0640	7.3585	0.0755	0.1332	0.1116
274.92	2	23.8908	5.1984	7.2335	0.1404	0.1290	0.0863
274.92	3	24.1621	5.2362	7.3160	0.1450	0.1193	0.0852
285.12	2	24.3521	5.7244	7.3829	0.1180	0.0707	0.1162
299.88	2	23.9712	6.4557	7.7498	0.1696	0.0956	0.1004
315	2	21.8831	6.6326	8.0711	0.0556	0.0678	0.0865
330.12	2	19.0862	6.4012	7.7365	0.0956	0.1407	0.0684
344.88	2	16.5119	4.8274	7.6125	0.2089	0.2054	0.1064
350.16	2	15.1172	4.4519	7.6887	0.1625	0.2007	0.0803
355.08	2	15.0179	4.3040	7.4292	0.2721	0.2239	0.2632

3.18.2 Spanwise Elastic Deformations

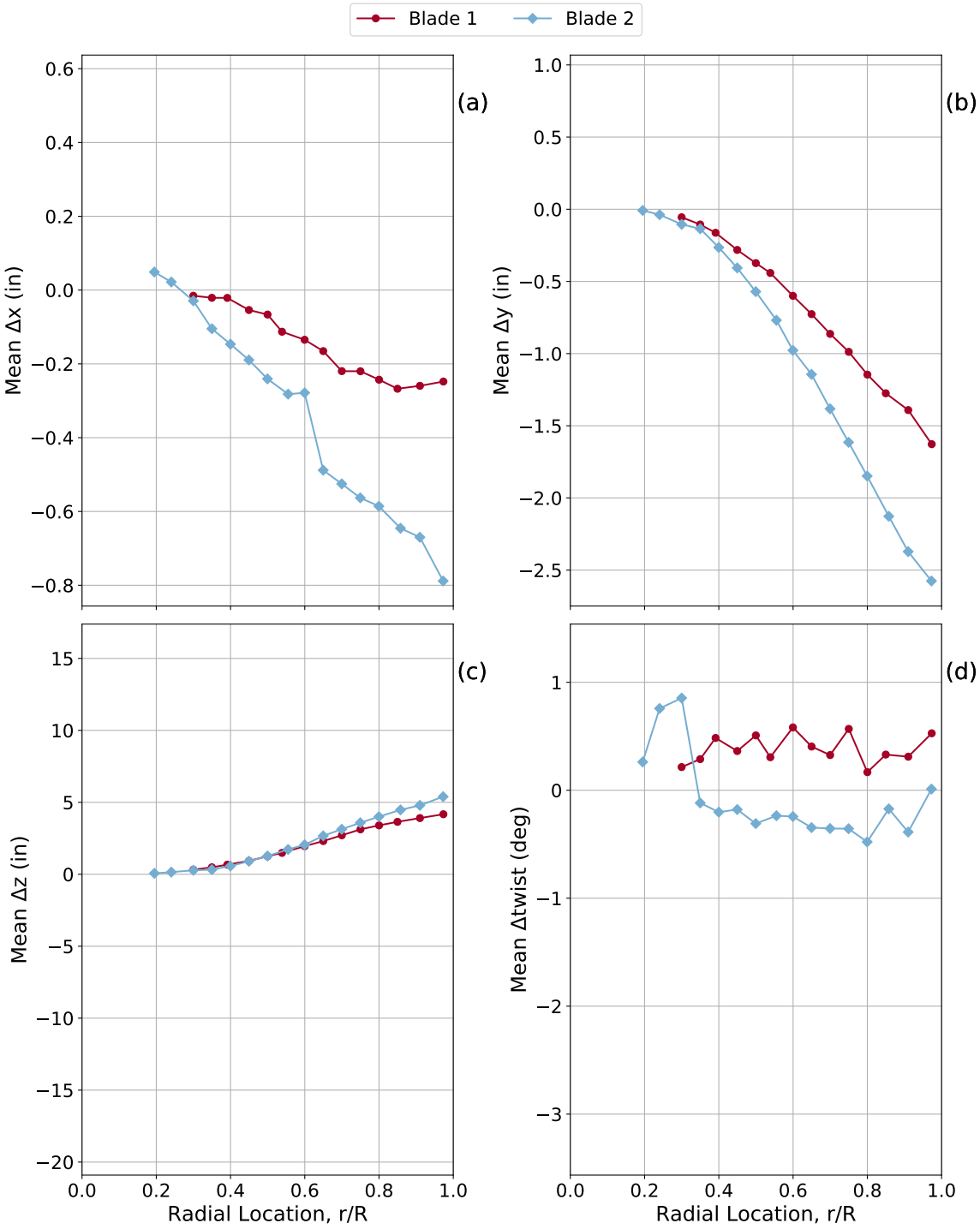


Figure 3.18-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2998	-0.0154	0.0161	-0.0554	0.0373	0.3157	0.1164	0.2146	0.2397
1	0.35	0.3498	-0.0209	0.0157	-0.1055	0.0675	0.4846	0.1787	0.2882	0.3169
1	0.35	0.3913	-0.0212	0.0177	-0.1630	0.1018	0.6686	0.2473	0.4844	0.2924
1	0.35	0.4496	-0.0540	0.0187	-0.2820	0.1392	0.9286	0.3270	0.3632	0.3039
1	0.35	0.4997	-0.0663	0.0206	-0.3731	0.1743	1.2527	0.4063	0.5081	0.2675
1	0.35	0.5387	-0.1129	0.0221	-0.4413	0.2010	1.4860	0.4620	0.3058	0.2743
1	0.35	0.5996	-0.1347	0.0248	-0.5999	0.2444	1.9520	0.5588	0.5820	0.2756
1	0.35	0.6498	-0.1654	0.0273	-0.7266	0.2792	2.3074	0.6346	0.4048	0.2968
1	0.35	0.6998	-0.2197	0.0288	-0.8634	0.3167	2.7080	0.7183	0.3259	0.2784
1	0.35	0.7500	-0.2200	0.0316	-0.9878	0.3540	3.1209	0.8017	0.5683	0.2632
1	0.35	0.8001	-0.2429	0.0327	-1.1455	0.3834	3.3976	0.8800	0.1674	0.2842
1	0.35	0.8497	-0.2674	0.0356	-1.2750	0.4206	3.6431	0.9578	0.3303	0.3289
1	0.35	0.9102	-0.2595	0.0399	-1.3912	0.4651	3.9044	1.0516	0.3109	0.3588
1	0.35	0.9734	-0.2479	0.0574	-1.6275	0.5059	4.1722	1.1520	0.5275	0.3079
2	0	0.1949	0.0490	0.0057	-0.0084	0.0034	0.0670	0.0126	0.2618	0.0498
2	0	0.2405	0.0219	0.0042	-0.0377	0.0034	0.1489	0.0106	0.7575	0.1320
2	0	0.2999	-0.0292	0.0026	-0.1047	0.0093	0.2777	0.0297	0.8542	0.1370
2	0	0.3498	-0.1048	0.0023	-0.1351	0.0163	0.3232	0.0464	-0.1176	0.1276
2	0	0.3998	-0.1466	0.0028	-0.2645	0.0227	0.5744	0.0625	-0.2026	0.1254
2	0	0.4496	-0.1894	0.0038	-0.4064	0.0310	0.9052	0.0779	-0.1787	0.1261
2	0	0.4995	-0.2406	0.0033	-0.5707	0.0393	1.2662	0.0976	-0.3087	0.1317
2	0	0.5551	-0.2820	0.0042	-0.7689	0.0480	1.7239	0.1208	-0.2360	0.1421
2	0	0.5996	-0.2785	0.0043	-0.9775	0.0558	2.0507	0.1415	-0.2431	0.1419
2	0	0.6497	-0.4882	0.0071	-1.1438	0.0544	2.6694	0.1744	-0.3459	0.1183
2	0	0.6996	-0.5252	0.0069	-1.3826	0.0643	3.1299	0.1996	-0.3544	0.1470
2	0	0.7495	-0.5631	0.0082	-1.6144	0.0725	3.5798	0.2299	-0.3564	0.1381
2	0	0.7996	-0.5857	0.0086	-1.8483	0.0817	4.0017	0.2648	-0.4786	0.1375
2	0	0.8578	-0.6455	0.0095	-2.1271	0.0916	4.4730	0.3063	-0.1722	0.1397
2	0	0.9100	-0.6699	0.0099	-2.3717	0.1017	4.7892	0.3459	-0.3872	0.1406
2	0	0.9727	-0.7884	0.0139	-2.5752	0.1141	5.3931	0.3954	0.0111	0.1426

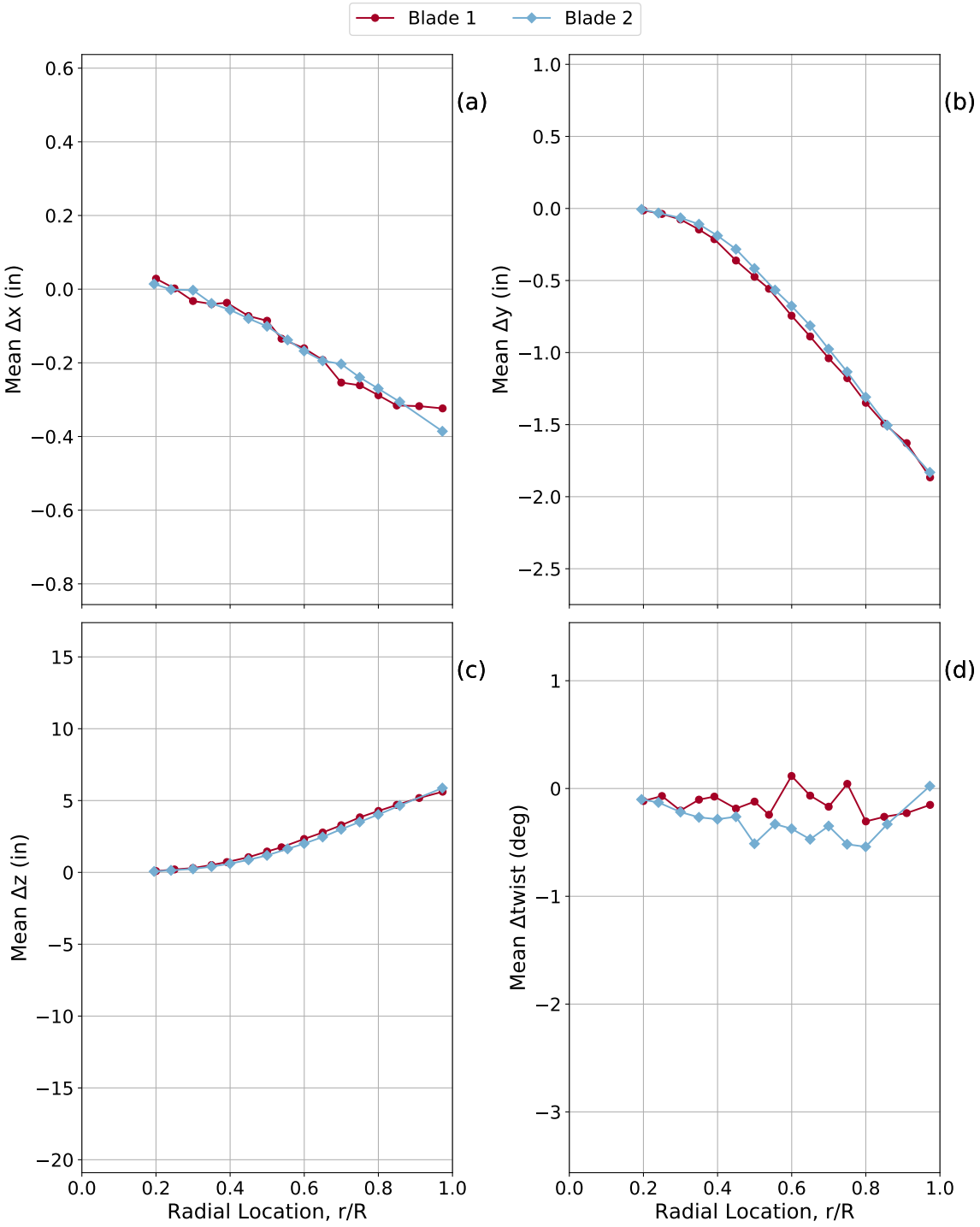


Figure 3.18-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0284	0.0023	-0.0131	0.0016	0.0920	0.0073	-0.1159	0.0521
1	4.92	0.2499	0.0019	0.0012	-0.0381	0.0038	0.2043	0.0132	-0.0697	0.0454
1	4.92	0.2998	-0.0322	0.0020	-0.0763	0.0063	0.3004	0.0231	-0.2046	0.1001
1	4.92	0.3498	-0.0403	0.0020	-0.1460	0.0102	0.5136	0.0381	-0.1034	0.0506
1	4.92	0.3913	-0.0371	0.0028	-0.2132	0.0148	0.7181	0.0518	-0.0750	0.0928
1	4.92	0.4496	-0.0729	0.0032	-0.3613	0.0202	1.0575	0.0779	-0.1863	0.1067
1	4.92	0.4997	-0.0858	0.0039	-0.4739	0.0223	1.4523	0.0932	-0.1215	0.0988
1	4.92	0.5387	-0.1345	0.0040	-0.5572	0.0243	1.7481	0.1083	-0.2436	0.0921
1	4.92	0.5996	-0.1606	0.0047	-0.7441	0.0273	2.3248	0.1305	0.1162	0.0911
1	4.92	0.6498	-0.1922	0.0047	-0.8886	0.0309	2.7766	0.1528	-0.0659	0.1125
1	4.92	0.6998	-0.2536	0.0068	-1.0395	0.0355	3.2840	0.1713	-0.1689	0.1079
1	4.92	0.7500	-0.2609	0.0084	-1.1776	0.0356	3.8315	0.1891	0.0431	0.1327
1	4.92	0.8001	-0.2880	0.0089	-1.3486	0.0420	4.2759	0.2031	-0.3052	0.1251
1	4.92	0.8497	-0.3158	0.0084	-1.4931	0.0488	4.6958	0.2168	-0.2627	0.1337
1	4.92	0.9102	-0.3176	0.0119	-1.6283	0.0545	5.1785	0.2296	-0.2281	0.0834
1	4.92	0.9734	-0.3237	0.0111	-1.8661	0.0637	5.6163	0.2451	-0.1521	0.1754
2	4.92	0.1949	0.0141	0.0022	-0.0059	0.0014	0.0670	0.0065	-0.1018	0.0343
2	4.92	0.2405	-0.0010	0.0021	-0.0317	0.0078	0.1436	0.0159	-0.1293	0.0551
2	4.92	0.2999	-0.0028	0.0026	-0.0652	0.0076	0.2428	0.0235	-0.2184	0.0782
2	4.92	0.3498	-0.0389	0.0030	-0.1094	0.0164	0.4034	0.0395	-0.2676	0.0522
2	4.92	0.3998	-0.0562	0.0048	-0.1891	0.0267	0.6080	0.0598	-0.2850	0.0493
2	4.92	0.4496	-0.0797	0.0041	-0.2827	0.0326	0.8733	0.0750	-0.2618	0.0633
2	4.92	0.4995	-0.1008	0.0046	-0.4168	0.0375	1.1837	0.0919	-0.5122	0.0843
2	4.92	0.5551	-0.1379	0.0045	-0.5666	0.0454	1.6363	0.1104	-0.3303	0.0950
2	4.92	0.5996	-0.1679	0.0059	-0.6765	0.0521	2.0031	0.1299	-0.3731	0.0612
2	4.92	0.6497	-0.1945	0.0064	-0.8135	0.0602	2.4636	0.1501	-0.4711	0.0707
2	4.92	0.6996	-0.2032	0.0063	-0.9757	0.0677	3.0042	0.1716	-0.3483	0.0833
2	4.92	0.7495	-0.2395	0.0076	-1.1336	0.0743	3.5115	0.1864	-0.5174	0.1020
2	4.92	0.7996	-0.2699	0.0087	-1.3089	0.0843	4.0231	0.2054	-0.5406	0.0952
2	4.92	0.8578	-0.3060	0.0096	-1.5048	0.0963	4.6509	0.2205	-0.3313	0.1104
2	4.92	0.9727	-0.3858	0.0156	-1.8310	0.1136	5.8703	0.2726	0.0219	0.0698

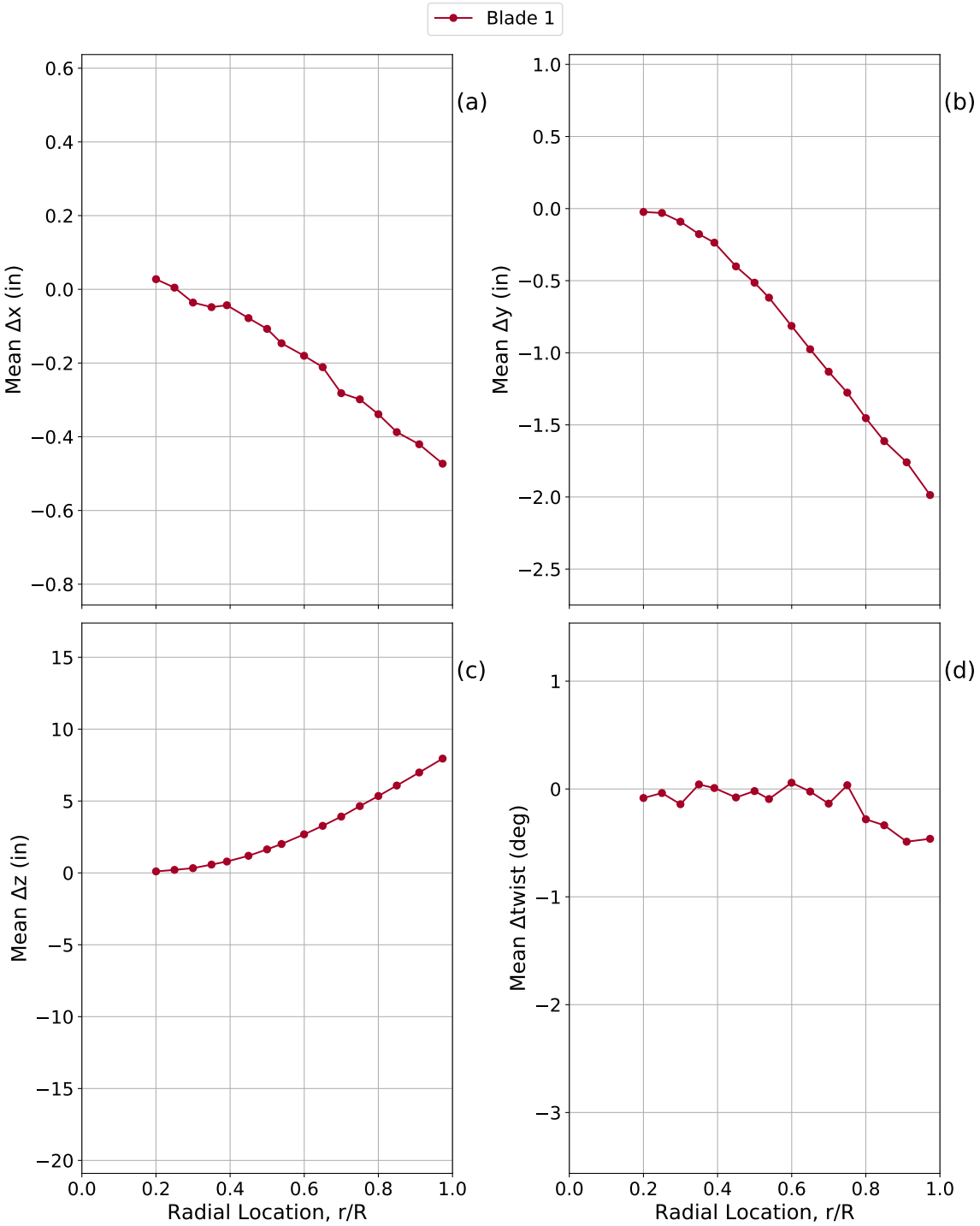


Figure 3.18-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0275	0.0018	-0.0234	0.0011	0.1043	0.0064	-0.0838	0.0595
1	15.12	0.2499	0.0046	0.0017	-0.0304	0.0021	0.2101	0.0132	-0.0377	0.0826
1	15.12	0.2998	-0.0359	0.0012	-0.0909	0.0044	0.3298	0.0209	-0.1415	0.1283
1	15.12	0.3498	-0.0483	0.0015	-0.1771	0.0079	0.5789	0.0376	0.0420	0.0762
1	15.12	0.3913	-0.0432	0.0018	-0.2363	0.0106	0.7904	0.0505	0.0087	0.0938
1	15.12	0.4496	-0.0781	0.0022	-0.4009	0.0162	1.1906	0.0639	-0.0788	0.1077
1	15.12	0.4997	-0.1073	0.0030	-0.5139	0.0237	1.6350	0.0867	-0.0197	0.0989
1	15.12	0.5387	-0.1463	0.0034	-0.6178	0.0268	2.0099	0.0999	-0.0933	0.1195
1	15.12	0.5996	-0.1803	0.0039	-0.8139	0.0346	2.6820	0.1224	0.0577	0.1127
1	15.12	0.6498	-0.2112	0.0043	-0.9757	0.0402	3.2726	0.1411	-0.0240	0.1006
1	15.12	0.6998	-0.2818	0.0063	-1.1314	0.0465	3.9172	0.1656	-0.1359	0.0934
1	15.12	0.7500	-0.2985	0.0069	-1.2765	0.0530	4.6471	0.1897	0.0349	0.1157
1	15.12	0.8001	-0.3389	0.0078	-1.4535	0.0603	5.3493	0.2171	-0.2815	0.1108
1	15.12	0.8497	-0.3874	0.0103	-1.6128	0.0677	6.0781	0.2498	-0.3368	0.1188
1	15.12	0.9102	-0.4204	0.0126	-1.7596	0.0748	6.9827	0.3022	-0.4889	0.0986
1	15.12	0.9734	-0.4731	0.0166	-1.9866	0.0855	7.9507	0.3456	-0.4623	0.0889

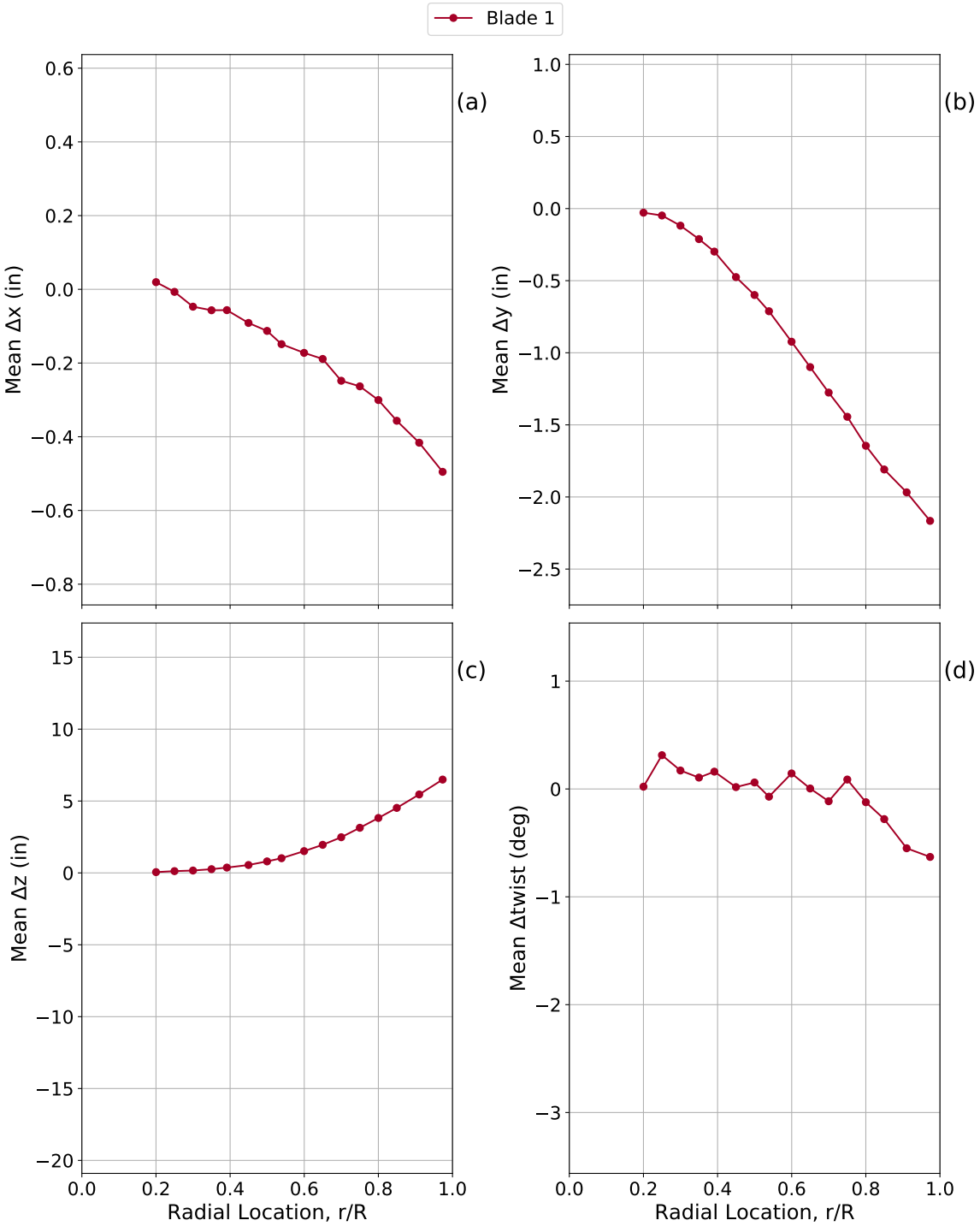


Figure 3.18-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0195	0.0015	-0.0284	0.0009	0.0544	0.0044	0.0211	0.0347
1	29.88	0.2499	-0.0069	0.0023	-0.0480	0.0030	0.1234	0.0113	0.3133	0.0466
1	29.88	0.2998	-0.0471	0.0030	-0.1184	0.0048	0.1649	0.0187	0.1712	0.0725
1	29.88	0.3498	-0.0568	0.0023	-0.2117	0.0086	0.2593	0.0306	0.1054	0.0584
1	29.88	0.3913	-0.0565	0.0032	-0.2983	0.0126	0.3698	0.0455	0.1606	0.0686
1	29.88	0.4496	-0.0912	0.0025	-0.4752	0.0194	0.5492	0.0642	0.0173	0.0713
1	29.88	0.4997	-0.1128	0.0036	-0.5994	0.0256	0.8005	0.0827	0.0602	0.0685
1	29.88	0.5387	-0.1488	0.0035	-0.7119	0.0312	1.0217	0.0967	-0.0715	0.0720
1	29.88	0.5996	-0.1724	0.0036	-0.9233	0.0419	1.5151	0.1270	0.1440	0.0707
1	29.88	0.6498	-0.1889	0.0035	-1.0993	0.0503	1.9533	0.1545	0.0044	0.0784
1	29.88	0.6998	-0.2481	0.0045	-1.2760	0.0602	2.4817	0.1818	-0.1138	0.0888
1	29.88	0.7500	-0.2632	0.0045	-1.4439	0.0708	3.1391	0.2177	0.0874	0.0774
1	29.88	0.8001	-0.3004	0.0063	-1.6451	0.0815	3.8215	0.2541	-0.1228	0.0978
1	29.88	0.8497	-0.3566	0.0080	-1.8094	0.0929	4.5223	0.2977	-0.2795	0.0911
1	29.88	0.9102	-0.4162	0.0099	-1.9680	0.1079	5.4575	0.3499	-0.5498	0.0994
1	29.88	0.9734	-0.4952	0.0129	-2.1658	0.1228	6.4921	0.4039	-0.6302	0.0978

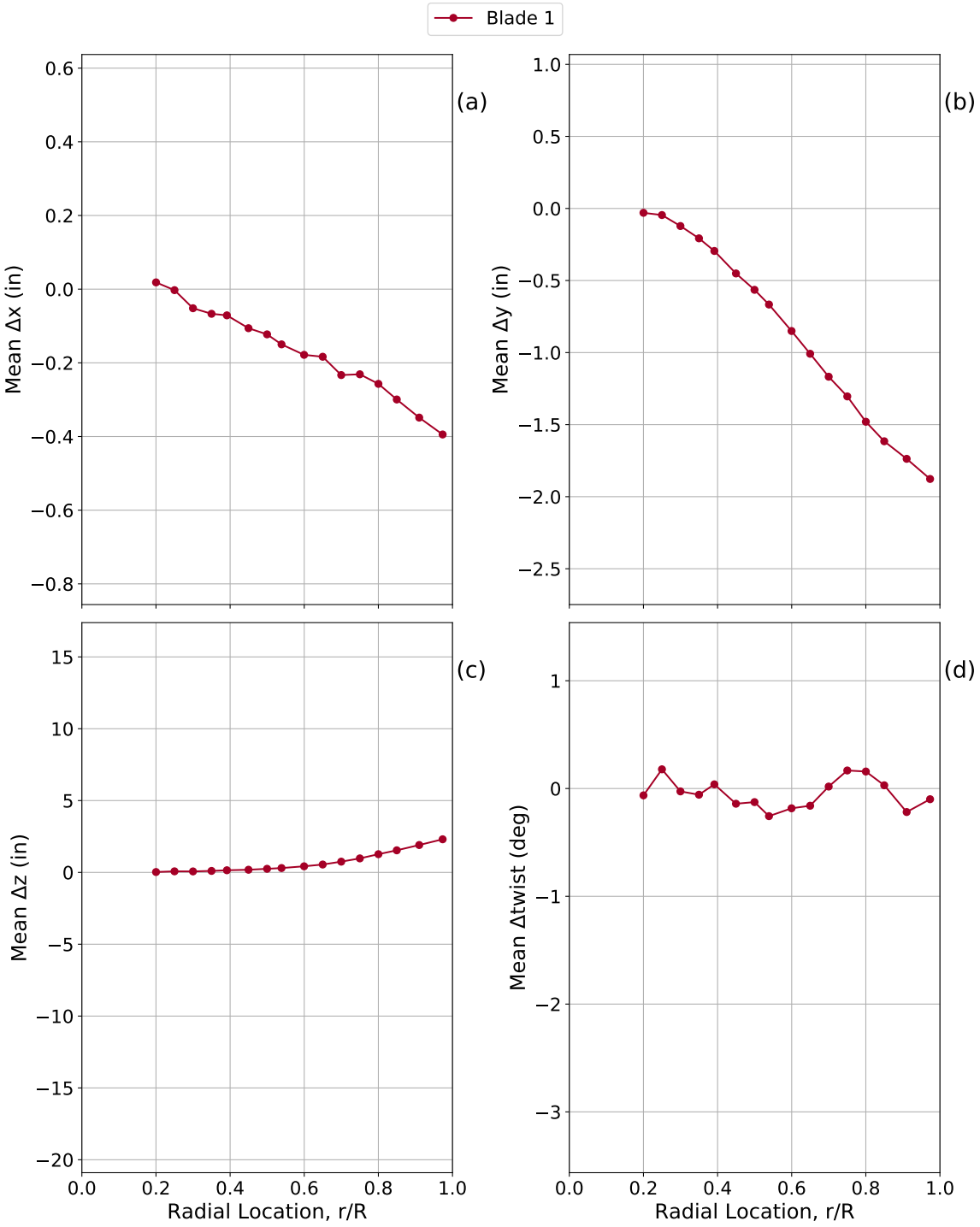


Figure 3.18-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0184	0.0016	-0.0302	0.0011	0.0260	0.0045	-0.0636	0.0247
1	45	0.2499	-0.0027	0.0022	-0.0457	0.0026	0.0736	0.0116	0.1781	0.0311
1	45	0.2998	-0.0518	0.0024	-0.1219	0.0046	0.0684	0.0179	-0.0268	0.0523
1	45	0.3498	-0.0669	0.0022	-0.2074	0.0092	0.1031	0.0316	-0.0576	0.0320
1	45	0.3913	-0.0711	0.0035	-0.2950	0.0124	0.1486	0.0456	0.0385	0.0525
1	45	0.4496	-0.1060	0.0031	-0.4510	0.0153	0.1847	0.0590	-0.1413	0.0261
1	45	0.4997	-0.1227	0.0029	-0.5646	0.0197	0.2494	0.0732	-0.1262	0.0347
1	45	0.5387	-0.1499	0.0047	-0.6667	0.0223	0.3025	0.0827	-0.2564	0.0300
1	45	0.5996	-0.1783	0.0045	-0.8503	0.0296	0.4243	0.0990	-0.1837	0.0329
1	45	0.6498	-0.1835	0.0049	-1.0084	0.0354	0.5480	0.1097	-0.1599	0.0321
1	45	0.6998	-0.2332	0.0050	-1.1676	0.0415	0.7479	0.1206	0.0180	0.0367
1	45	0.7500	-0.2311	0.0044	-1.3042	0.0462	0.9744	0.1298	0.1673	0.0356
1	45	0.8001	-0.2571	0.0060	-1.4800	0.0523	1.2666	0.1403	0.1576	0.0402
1	45	0.8497	-0.2995	0.0058	-1.6155	0.0590	1.5374	0.1515	0.0298	0.0355
1	45	0.9102	-0.3487	0.0062	-1.7373	0.0671	1.9055	0.1651	-0.2183	0.0559
1	45	0.9734	-0.3945	0.0080	-1.8770	0.0747	2.3046	0.1819	-0.0994	0.0580

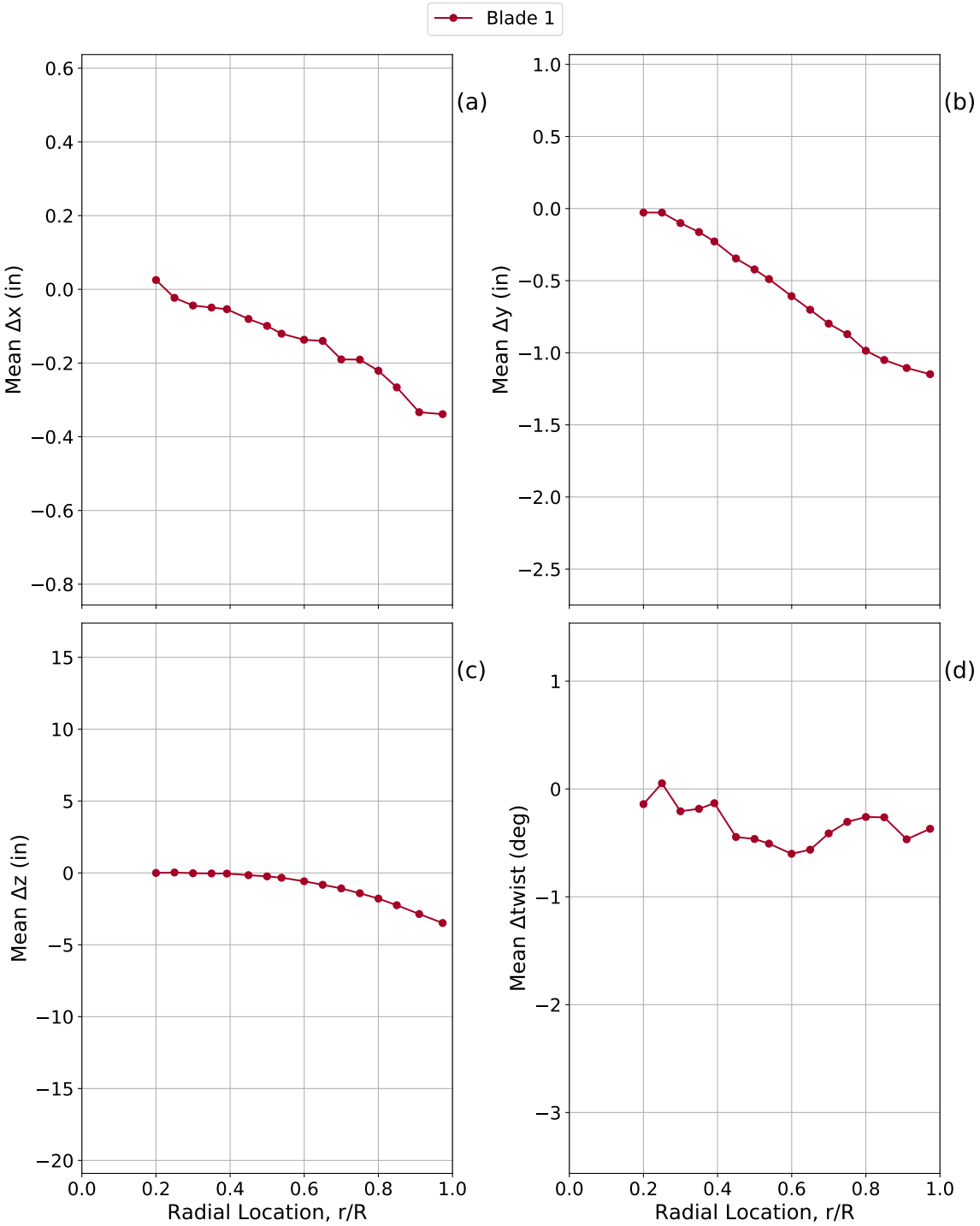


Figure 3.18-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.4, α = -10° NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0252	0.0014	-0.0275	0.0012	-0.0035	0.0061	-0.1405	0.0388
1	60.12	0.2499	-0.0231	0.0017	-0.0277	0.0030	0.0283	0.0136	0.0526	0.0546
1	60.12	0.2998	-0.0439	0.0013	-0.1005	0.0053	-0.0231	0.0236	-0.2067	0.0832
1	60.12	0.3498	-0.0495	0.0020	-0.1626	0.0095	-0.0369	0.0413	-0.1840	0.0789
1	60.12	0.3913	-0.0539	0.0031	-0.2278	0.0137	-0.0481	0.0587	-0.1320	0.0626
1	60.12	0.4496	-0.0804	0.0026	-0.3461	0.0196	-0.1556	0.0772	-0.4453	0.0731
1	60.12	0.4997	-0.0992	0.0038	-0.4221	0.0257	-0.2421	0.0990	-0.4636	0.0583
1	60.12	0.5387	-0.1204	0.0043	-0.4889	0.0316	-0.3371	0.1135	-0.5069	0.0687
1	60.12	0.5996	-0.1368	0.0033	-0.6074	0.0405	-0.5814	0.1392	-0.6011	0.0645
1	60.12	0.6498	-0.1400	0.0047	-0.7016	0.0490	-0.8268	0.1618	-0.5631	0.0843
1	60.12	0.6998	-0.1901	0.0047	-0.7978	0.0592	-1.0790	0.1891	-0.4120	0.0701
1	60.12	0.7500	-0.1907	0.0057	-0.8709	0.0675	-1.4151	0.2117	-0.3052	0.0990
1	60.12	0.8001	-0.2209	0.0053	-0.9858	0.0773	-1.7866	0.2368	-0.2598	0.0644
1	60.12	0.8497	-0.2660	0.0066	-1.0501	0.0860	-2.2472	0.2653	-0.2630	0.0887
1	60.12	0.9102	-0.3334	0.0064	-1.1055	0.0975	-2.8611	0.2951	-0.4666	0.0891
1	60.12	0.9734	-0.3387	0.0068	-1.1485	0.1096	-3.4851	0.3320	-0.3694	0.0960

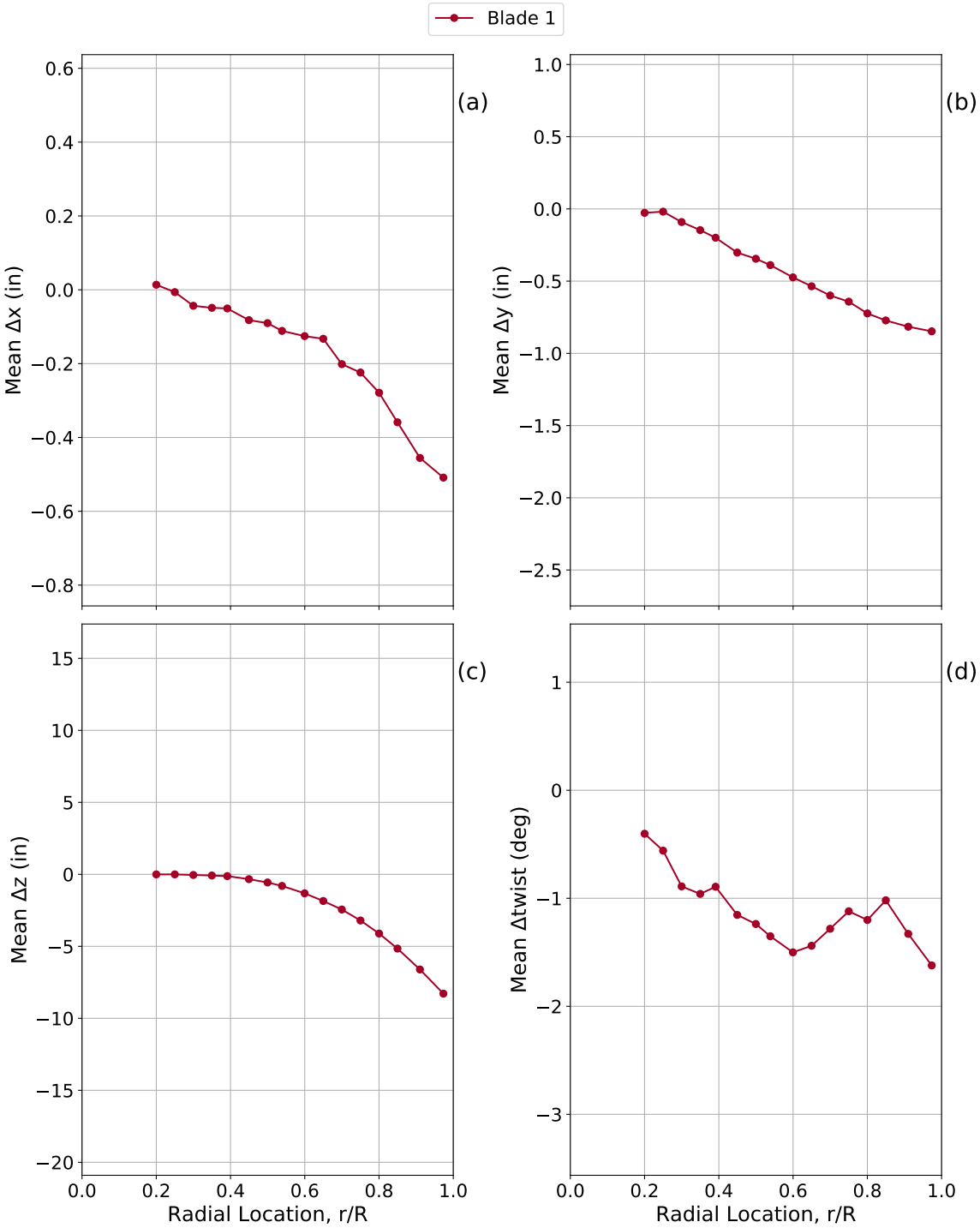


Figure 3.18-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0137	0.0020	-0.0271	0.0015	-0.0046	0.0078	-0.4027	0.0300
1	74.88	0.2499	-0.0063	0.0016	-0.0189	0.0034	-0.0048	0.0135	-0.5591	0.0421
1	74.88	0.2998	-0.0433	0.0020	-0.0909	0.0069	-0.0452	0.0300	-0.8900	0.0623
1	74.88	0.3498	-0.0488	0.0025	-0.1468	0.0108	-0.0828	0.0484	-0.9594	0.0584
1	74.88	0.3913	-0.0505	0.0032	-0.1995	0.0166	-0.1248	0.0700	-0.8934	0.0671
1	74.88	0.4496	-0.0822	0.0042	-0.3024	0.0213	-0.3350	0.0952	-1.1541	0.0579
1	74.88	0.4997	-0.0903	0.0032	-0.3451	0.0270	-0.5666	0.1197	-1.2379	0.0641
1	74.88	0.5387	-0.1113	0.0031	-0.3889	0.0329	-0.8062	0.1357	-1.3514	0.0638
1	74.88	0.5996	-0.1255	0.0039	-0.4739	0.0425	-1.3198	0.1655	-1.5006	0.0646
1	74.88	0.6498	-0.1327	0.0040	-0.5357	0.0509	-1.8518	0.1898	-1.4396	0.0646
1	74.88	0.6998	-0.2014	0.0055	-0.5995	0.0590	-2.4441	0.2130	-1.2824	0.0540
1	74.88	0.7500	-0.2241	0.0064	-0.6420	0.0686	-3.2052	0.2357	-1.1202	0.0619
1	74.88	0.8001	-0.2788	0.0075	-0.7236	0.0785	-4.1114	0.2592	-1.2010	0.0731
1	74.88	0.8497	-0.3589	0.0089	-0.7722	0.0898	-5.1569	0.2848	-1.0187	0.0711
1	74.88	0.9102	-0.4554	0.0090	-0.8157	0.1023	-6.6089	0.3175	-1.3295	0.0713
1	74.88	0.9734	-0.5087	0.0141	-0.8475	0.1173	-8.2863	0.3533	-1.6216	0.0876

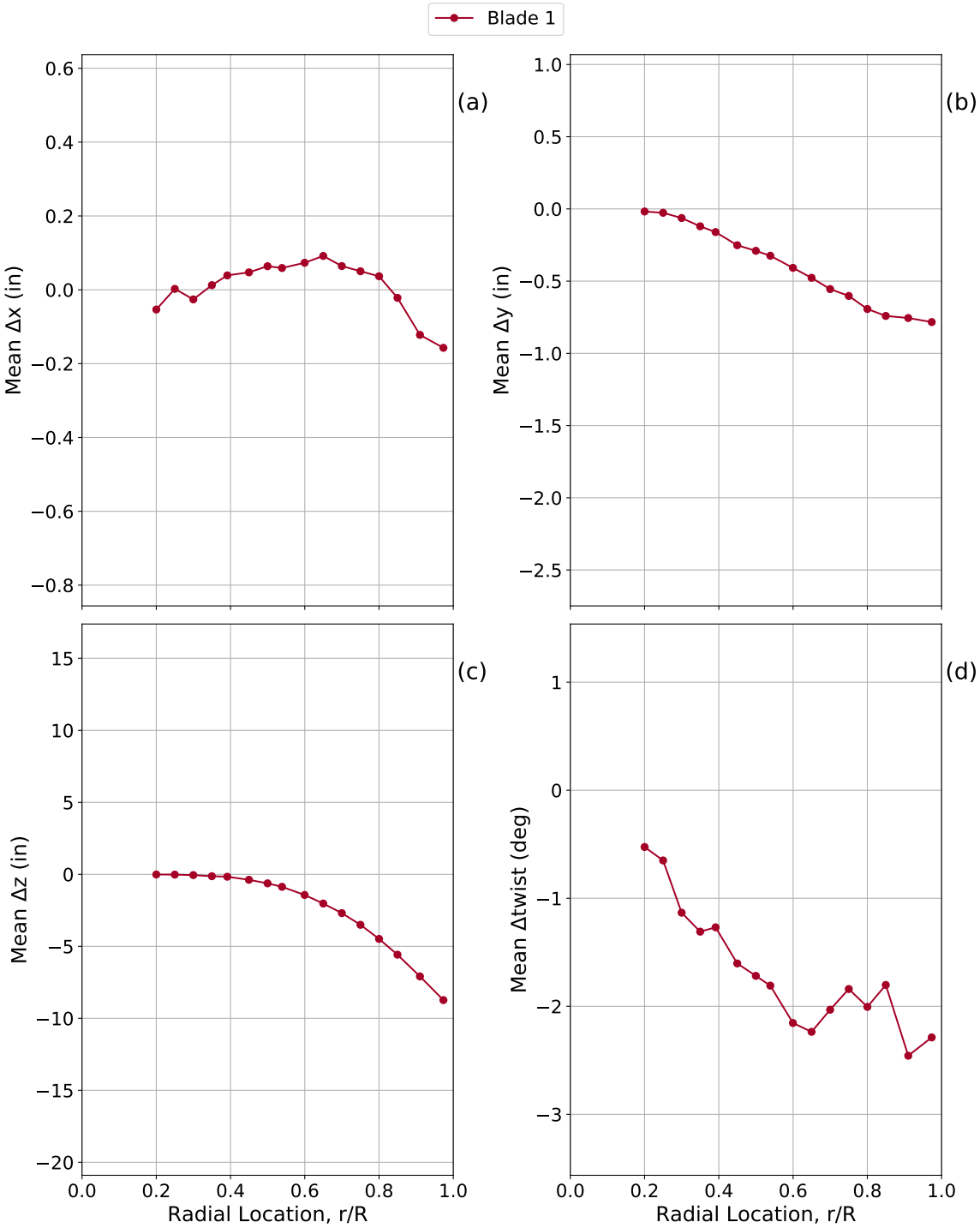


Figure 3.18-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.4, α = -10° NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0534	0.0219	-0.0179	0.0017	-0.0118	0.0067	-0.5254	0.0269
1	80.16	0.2499	0.0025	0.0045	-0.0268	0.0032	-0.0196	0.0140	-0.6499	0.0649
1	80.16	0.2998	-0.0260	0.0095	-0.0632	0.0071	-0.0532	0.0255	-1.1333	0.0663
1	80.16	0.3498	0.0126	0.0197	-0.1205	0.0120	-0.1307	0.0427	-1.3089	0.0802
1	80.16	0.3913	0.0390	0.0241	-0.1604	0.0174	-0.1659	0.0618	-1.2689	0.0897
1	80.16	0.4496	0.0472	0.0292	-0.2514	0.0251	-0.3809	0.0917	-1.6032	0.0887
1	80.16	0.4997	0.0639	0.0308	-0.2901	0.0326	-0.6270	0.1196	-1.7182	0.0967
1	80.16	0.5387	0.0590	0.0279	-0.3243	0.0387	-0.8668	0.1451	-1.8087	0.0857
1	80.16	0.5996	0.0732	0.0212	-0.4081	0.0478	-1.4339	0.1818	-2.1545	0.0990
1	80.16	0.6498	0.0917	0.0179	-0.4771	0.0559	-2.0284	0.2137	-2.2365	0.1041
1	80.16	0.6998	0.0643	0.0174	-0.5549	0.0652	-2.6932	0.2498	-2.0316	0.1044
1	80.16	0.7500	0.0502	0.0258	-0.6025	0.0742	-3.5059	0.2805	-1.8400	0.1070
1	80.16	0.8001	0.0367	0.0413	-0.6929	0.0846	-4.4849	0.3177	-2.0055	0.1116
1	80.16	0.8497	-0.0218	0.0585	-0.7409	0.0959	-5.5815	0.3535	-1.8023	0.1279
1	80.16	0.9102	-0.1221	0.0849	-0.7553	0.1116	-7.0898	0.4026	-2.4575	0.1226
1	80.16	0.9734	-0.1572	0.1172	-0.7834	0.1357	-8.7342	0.4557	-2.2880	0.1350

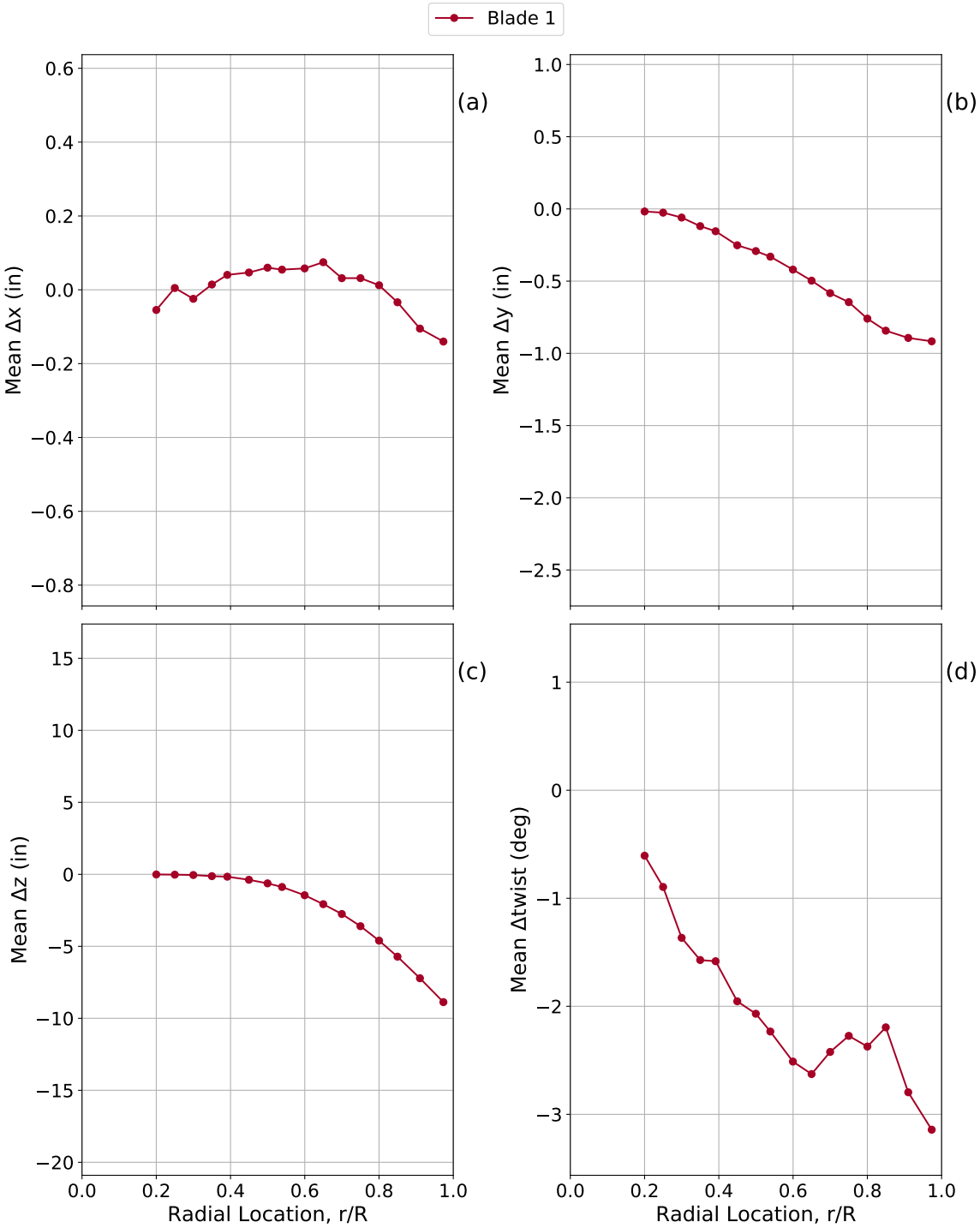


Figure 3.18-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0546	0.0190	-0.0177	0.0012	-0.0092	0.0072	-0.6058	0.0176
1	85.08	0.2499	0.0049	0.0054	-0.0259	0.0019	-0.0241	0.0120	-0.8952	0.0581
1	85.08	0.2998	-0.0244	0.0080	-0.0598	0.0047	-0.0486	0.0270	-1.3659	0.0481
1	85.08	0.3498	0.0143	0.0171	-0.1191	0.0076	-0.1272	0.0427	-1.5717	0.0631
1	85.08	0.3913	0.0404	0.0232	-0.1546	0.0110	-0.1635	0.0621	-1.5829	0.0587
1	85.08	0.4496	0.0468	0.0292	-0.2517	0.0163	-0.3790	0.0917	-1.9539	0.0576
1	85.08	0.4997	0.0599	0.0313	-0.2919	0.0223	-0.6277	0.1173	-2.0690	0.0653
1	85.08	0.5387	0.0546	0.0323	-0.3306	0.0272	-0.8795	0.1388	-2.2337	0.0755
1	85.08	0.5996	0.0579	0.0290	-0.4200	0.0357	-1.4522	0.1680	-2.5118	0.0769
1	85.08	0.6498	0.0747	0.0270	-0.4968	0.0436	-2.0727	0.1936	-2.6275	0.0682
1	85.08	0.6998	0.0315	0.0252	-0.5832	0.0516	-2.7544	0.2159	-2.4225	0.0873
1	85.08	0.7500	0.0316	0.0273	-0.6454	0.0604	-3.6013	0.2425	-2.2737	0.0788
1	85.08	0.8001	0.0123	0.0351	-0.7597	0.0702	-4.6045	0.2668	-2.3727	0.0742
1	85.08	0.8497	-0.0338	0.0475	-0.8430	0.0809	-5.7176	0.2909	-2.1949	0.0837
1	85.08	0.9102	-0.1051	0.0682	-0.8932	0.0944	-7.2175	0.3218	-2.7961	0.1002
1	85.08	0.9734	-0.1402	0.0947	-0.9167	0.1114	-8.8761	0.3622	-3.1424	0.0831

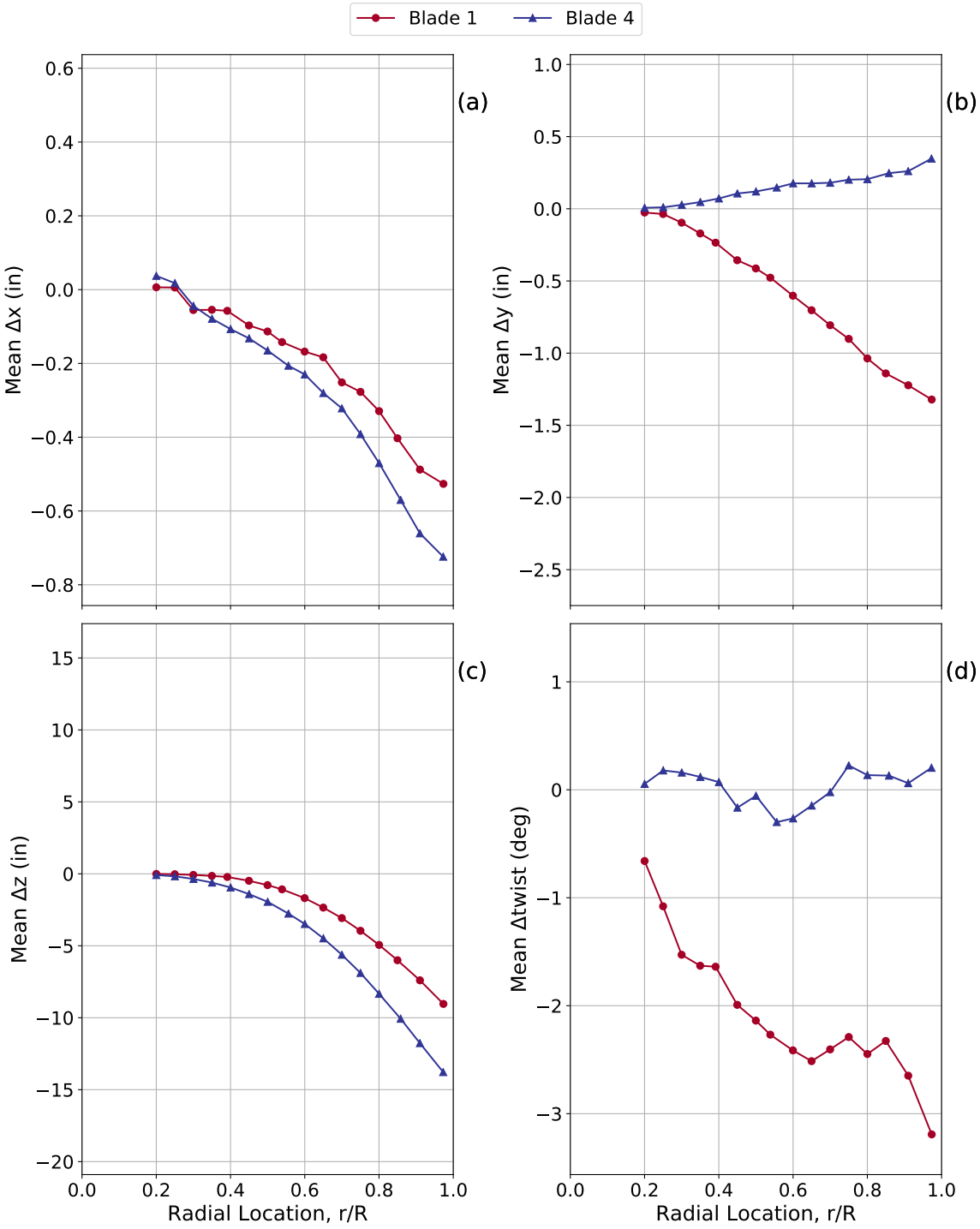


Figure 3.18-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.4, α = -10°
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0064	0.0039	-0.0259	0.0013	-0.0088	0.0035	-0.6596	0.0309
1	90	0.2499	0.0057	0.0018	-0.0364	0.0027	-0.0281	0.0099	-1.0792	0.0915
1	90	0.2998	-0.0553	0.0015	-0.0961	0.0050	-0.0760	0.0155	-1.5280	0.0851
1	90	0.3498	-0.0547	0.0018	-0.1708	0.0084	-0.1455	0.0254	-1.6296	0.0778
1	90	0.3913	-0.0574	0.0023	-0.2346	0.0123	-0.2185	0.0389	-1.6387	0.0649
1	90	0.4496	-0.0971	0.0025	-0.3564	0.0158	-0.4842	0.0537	-1.9918	0.0808
1	90	0.4997	-0.1134	0.0023	-0.4131	0.0204	-0.7846	0.0677	-2.1377	0.0766
1	90	0.5387	-0.1422	0.0022	-0.4770	0.0232	-1.0786	0.0810	-2.2682	0.0723
1	90	0.5996	-0.1679	0.0024	-0.6020	0.0286	-1.6871	0.1012	-2.4137	0.0579
1	90	0.6498	-0.1834	0.0026	-0.7027	0.0337	-2.3469	0.1198	-2.5136	0.0751
1	90	0.6998	-0.2514	0.0041	-0.8064	0.0382	-3.0761	0.1422	-2.4045	0.0776
1	90	0.7500	-0.2771	0.0044	-0.9011	0.0435	-3.9581	0.1662	-2.2902	0.0647
1	90	0.8001	-0.3292	0.0061	-1.0367	0.0491	-4.9400	0.1934	-2.4474	0.0768
1	90	0.8497	-0.4029	0.0077	-1.1405	0.0543	-6.0056	0.2198	-2.3266	0.0809
1	90	0.9102	-0.4877	0.0101	-1.2226	0.0605	-7.4017	0.2560	-2.6481	0.0638
1	90	0.9734	-0.5264	0.0127	-1.3213	0.0680	-9.0414	0.2948	-3.1918	0.0733
4	90.35	0.2001	0.0373	0.0012	0.0069	0.0010	-0.0848	0.0042	0.0545	0.0276
4	90.35	0.2502	0.0175	0.0015	0.0101	0.0019	-0.1756	0.0099	0.1793	0.0362
4	90.35	0.3001	-0.0442	0.0017	0.0273	0.0040	-0.3575	0.0185	0.1592	0.0603
4	90.35	0.3502	-0.0790	0.0019	0.0468	0.0074	-0.6094	0.0299	0.1190	0.0533
4	90.35	0.4002	-0.1070	0.0021	0.0715	0.0110	-0.9514	0.0481	0.0711	0.0407
4	90.35	0.4500	-0.1322	0.0031	0.1060	0.0149	-1.4127	0.0667	-0.1656	0.0403
4	90.35	0.5001	-0.1652	0.0043	0.1199	0.0191	-1.9459	0.0886	-0.0557	0.0574
4	90.35	0.5560	-0.2063	0.0031	0.1471	0.0260	-2.7658	0.1092	-0.2993	0.0442
4	90.35	0.6001	-0.2299	0.0046	0.1763	0.0310	-3.4878	0.1287	-0.2650	0.0583
4	90.35	0.6501	-0.2804	0.0052	0.1761	0.0371	-4.4846	0.1474	-0.1462	0.0529
4	90.35	0.6999	-0.3218	0.0059	0.1803	0.0437	-5.6232	0.1657	-0.0222	0.0538
4	90.35	0.7500	-0.3917	0.0072	0.2016	0.0513	-6.8901	0.1792	0.2254	0.0559
4	90.35	0.8002	-0.4702	0.0081	0.2051	0.0588	-8.3392	0.1948	0.1359	0.0587
4	90.35	0.8582	-0.5700	0.0104	0.2470	0.0671	-10.0707	0.2171	0.1312	0.0565
4	90.35	0.9101	-0.6605	0.0126	0.2607	0.0754	-11.7680	0.2398	0.0612	0.0556
4	90.35	0.9728	-0.7239	0.0137	0.3477	0.0851	-13.7785	0.2696	0.2037	0.0705

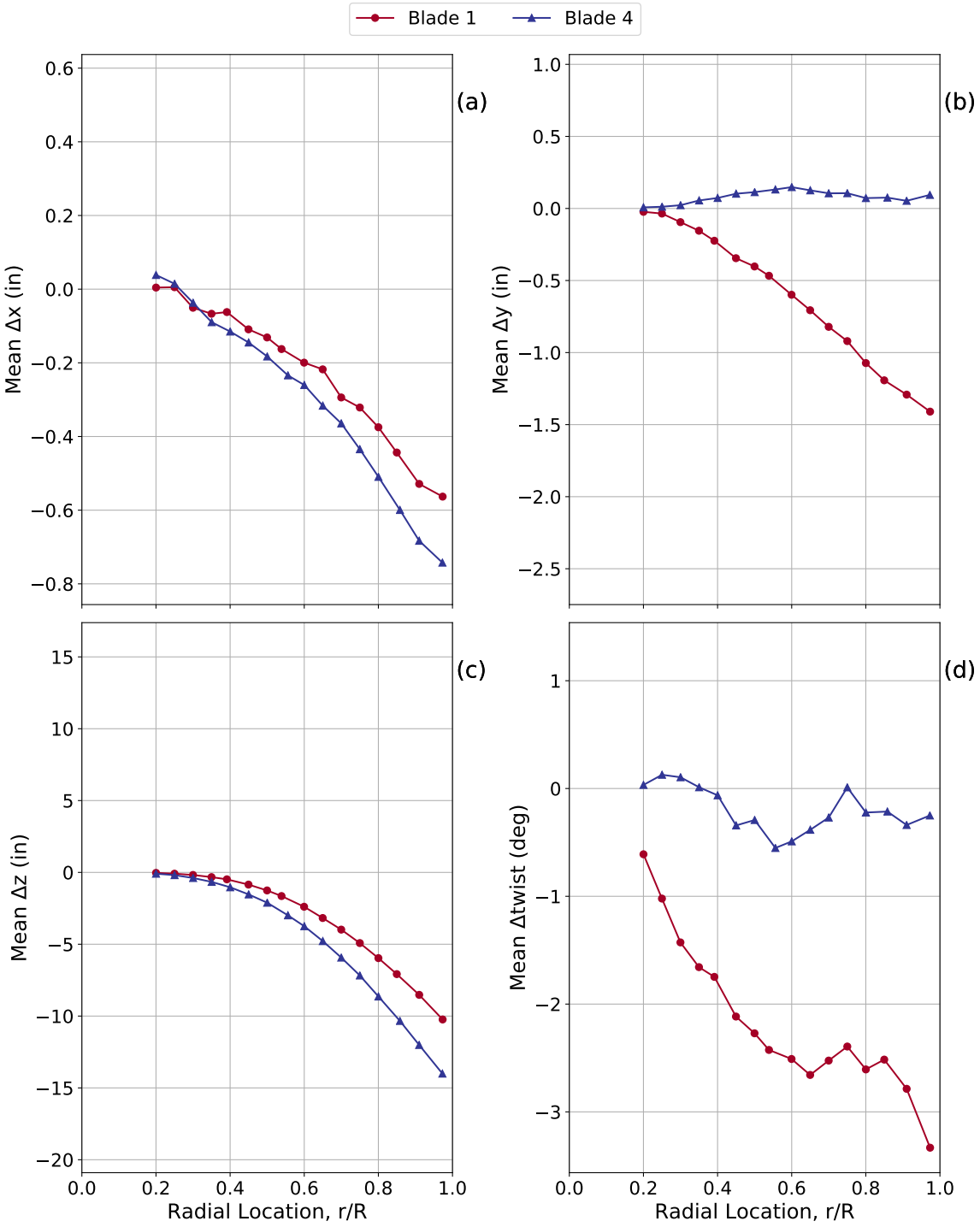


Figure 3.18-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.4, α = -10°
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	0.0043	0.0024	-0.0233	0.0012	-0.0336	0.0063	-0.6101	0.0379
1	94.92	0.2499	0.0053	0.0017	-0.0354	0.0025	-0.0889	0.0120	-1.0212	0.0836
1	94.92	0.2998	-0.0505	0.0021	-0.0949	0.0043	-0.1788	0.0222	-1.4278	0.0941
1	94.92	0.3498	-0.0668	0.0029	-0.1546	0.0088	-0.3293	0.0395	-1.6572	0.0870
1	94.92	0.3913	-0.0622	0.0035	-0.2240	0.0116	-0.4825	0.0546	-1.7476	0.0909
1	94.92	0.4496	-0.1091	0.0041	-0.3451	0.0173	-0.8491	0.0761	-2.1157	0.1049
1	94.92	0.4997	-0.1311	0.0049	-0.4026	0.0242	-1.2563	0.0963	-2.2711	0.0943
1	94.92	0.5387	-0.1626	0.0043	-0.4670	0.0310	-1.6463	0.1143	-2.4255	0.0905
1	94.92	0.5996	-0.1995	0.0042	-0.5988	0.0401	-2.3905	0.1393	-2.5094	0.0961
1	94.92	0.6498	-0.2177	0.0056	-0.7062	0.0493	-3.1751	0.1663	-2.6575	0.0965
1	94.92	0.6998	-0.2940	0.0068	-0.8214	0.0598	-3.9825	0.1927	-2.5243	0.1034
1	94.92	0.7500	-0.3213	0.0084	-0.9204	0.0702	-4.9195	0.2224	-2.3938	0.1174
1	94.92	0.8001	-0.3749	0.0101	-1.0729	0.0811	-5.9670	0.2505	-2.6063	0.1005
1	94.92	0.8497	-0.4435	0.0120	-1.1926	0.0926	-7.0801	0.2786	-2.5151	0.1011
1	94.92	0.9102	-0.5287	0.0151	-1.2918	0.1074	-8.5238	0.3154	-2.7862	0.1192
1	94.92	0.9734	-0.5632	0.0195	-1.4098	0.1245	-10.2367	0.3492	-3.3324	0.1168
4	94.92	0.2001	0.0385	0.0027	0.0076	0.0022	-0.0913	0.0090	0.0332	0.0268
4	94.92	0.2502	0.0146	0.0022	0.0120	0.0045	-0.1909	0.0195	0.1274	0.0451
4	94.92	0.3001	-0.0370	0.0029	0.0225	0.0092	-0.3898	0.0357	0.1042	0.0568
4	94.92	0.3502	-0.0897	0.0026	0.0555	0.0161	-0.6613	0.0635	0.0116	0.0470
4	94.92	0.4002	-0.1151	0.0031	0.0728	0.0250	-1.0366	0.0970	-0.0634	0.0508
4	94.92	0.4500	-0.1449	0.0038	0.1023	0.0349	-1.5336	0.1367	-0.3428	0.0543
4	94.92	0.5001	-0.1828	0.0049	0.1133	0.0472	-2.1111	0.1851	-0.2923	0.0575
4	94.92	0.5560	-0.2341	0.0058	0.1315	0.0628	-2.9890	0.2396	-0.5517	0.0615
4	94.92	0.6001	-0.2602	0.0069	0.1481	0.0760	-3.7468	0.2838	-0.4906	0.0671
4	94.92	0.6501	-0.3164	0.0091	0.1257	0.0920	-4.7826	0.3345	-0.3830	0.0817
4	94.92	0.6999	-0.3645	0.0115	0.1051	0.1096	-5.9301	0.3818	-0.2695	0.0776
4	94.92	0.7500	-0.4346	0.0142	0.1058	0.1285	-7.1760	0.4289	0.0108	0.0825
4	94.92	0.8002	-0.5096	0.0189	0.0720	0.1469	-8.6386	0.4754	-0.2228	0.1018
4	94.92	0.8582	-0.5995	0.0231	0.0751	0.1691	-10.3399	0.5367	-0.2139	0.0862
4	94.92	0.9101	-0.6831	0.0277	0.0530	0.1887	-12.0119	0.5908	-0.3386	0.0949
4	94.92	0.9728	-0.7424	0.0295	0.0941	0.2139	-14.0053	0.6631	-0.2503	0.0939

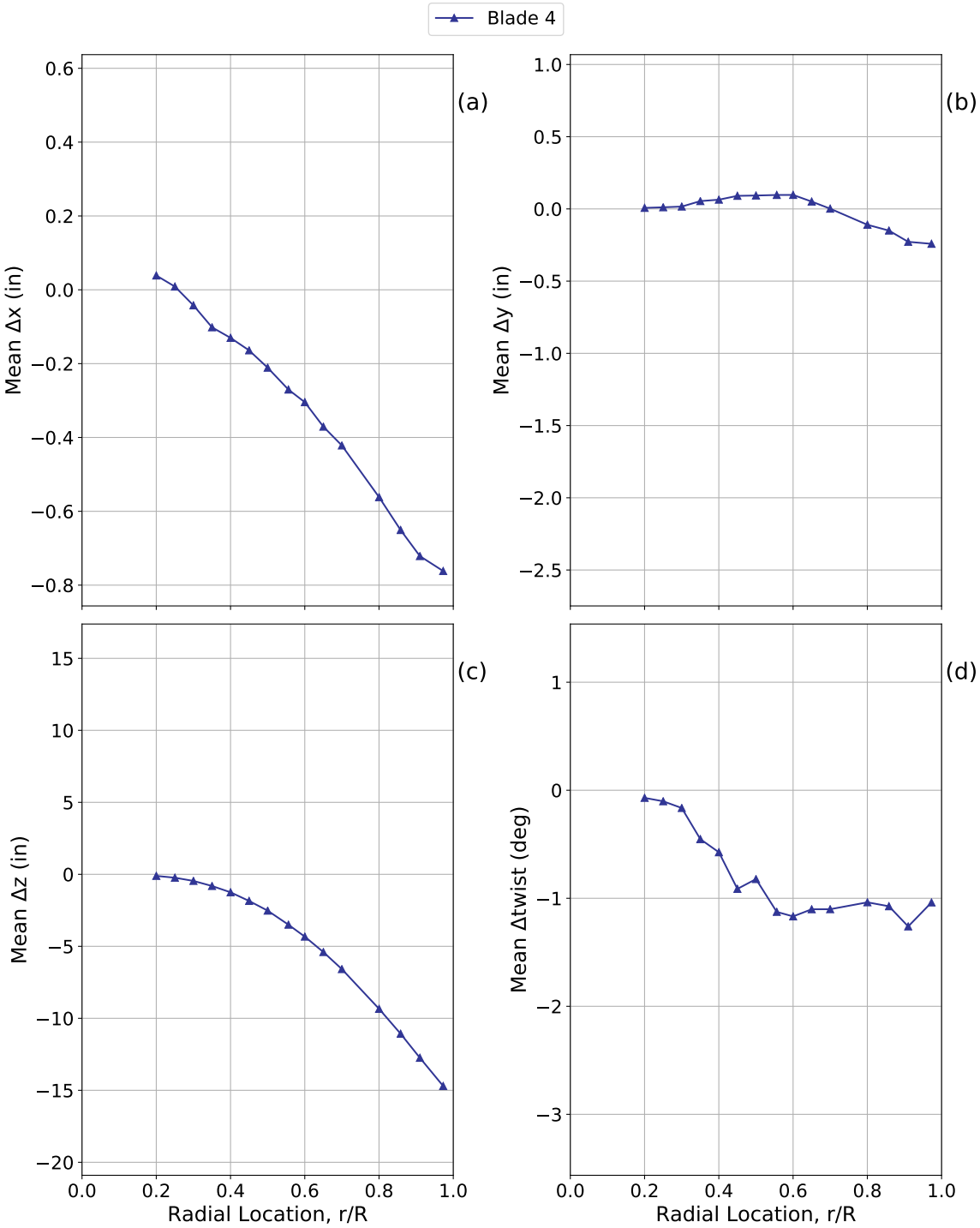


Figure 3.18-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	0.0387	0.0029	0.0071	0.0017	-0.1099	0.0120	-0.0706	0.0328
4	105.12	0.2502	0.0087	0.0034	0.0112	0.0043	-0.2357	0.0257	-0.1022	0.0698
4	105.12	0.3001	-0.0422	0.0033	0.0162	0.0075	-0.4585	0.0492	-0.1644	0.0771
4	105.12	0.3502	-0.1017	0.0047	0.0541	0.0141	-0.8109	0.0860	-0.4527	0.0616
4	105.12	0.4002	-0.1303	0.0059	0.0639	0.0217	-1.2500	0.1328	-0.5742	0.0810
4	105.12	0.4500	-0.1641	0.0073	0.0905	0.0300	-1.8492	0.1897	-0.9132	0.0865
4	105.12	0.5001	-0.2111	0.0090	0.0927	0.0382	-2.5229	0.2463	-0.8224	0.0804
4	105.12	0.5560	-0.2703	0.0124	0.0965	0.0485	-3.4992	0.3195	-1.1259	0.0997
4	105.12	0.6001	-0.3045	0.0147	0.0968	0.0581	-4.3285	0.3801	-1.1679	0.1010
4	105.12	0.6501	-0.3708	0.0186	0.0508	0.0695	-5.4000	0.4487	-1.1018	0.1153
4	105.12	0.6999	-0.4217	0.0226	0.0016	0.0814	-6.5837	0.5154	-1.1014	0.1345
4	105.12	0.8002	-0.5618	0.0324	-0.1098	0.1080	-9.3446	0.6454	-1.0374	0.1591
4	105.12	0.8582	-0.6508	0.0386	-0.1500	0.1233	-11.0745	0.7185	-1.0740	0.1682
4	105.12	0.9101	-0.7214	0.0451	-0.2278	0.1384	-12.7451	0.7896	-1.2608	0.1569
4	105.12	0.9728	-0.7618	0.0501	-0.2417	0.1564	-14.7034	0.8776	-1.0387	0.1481

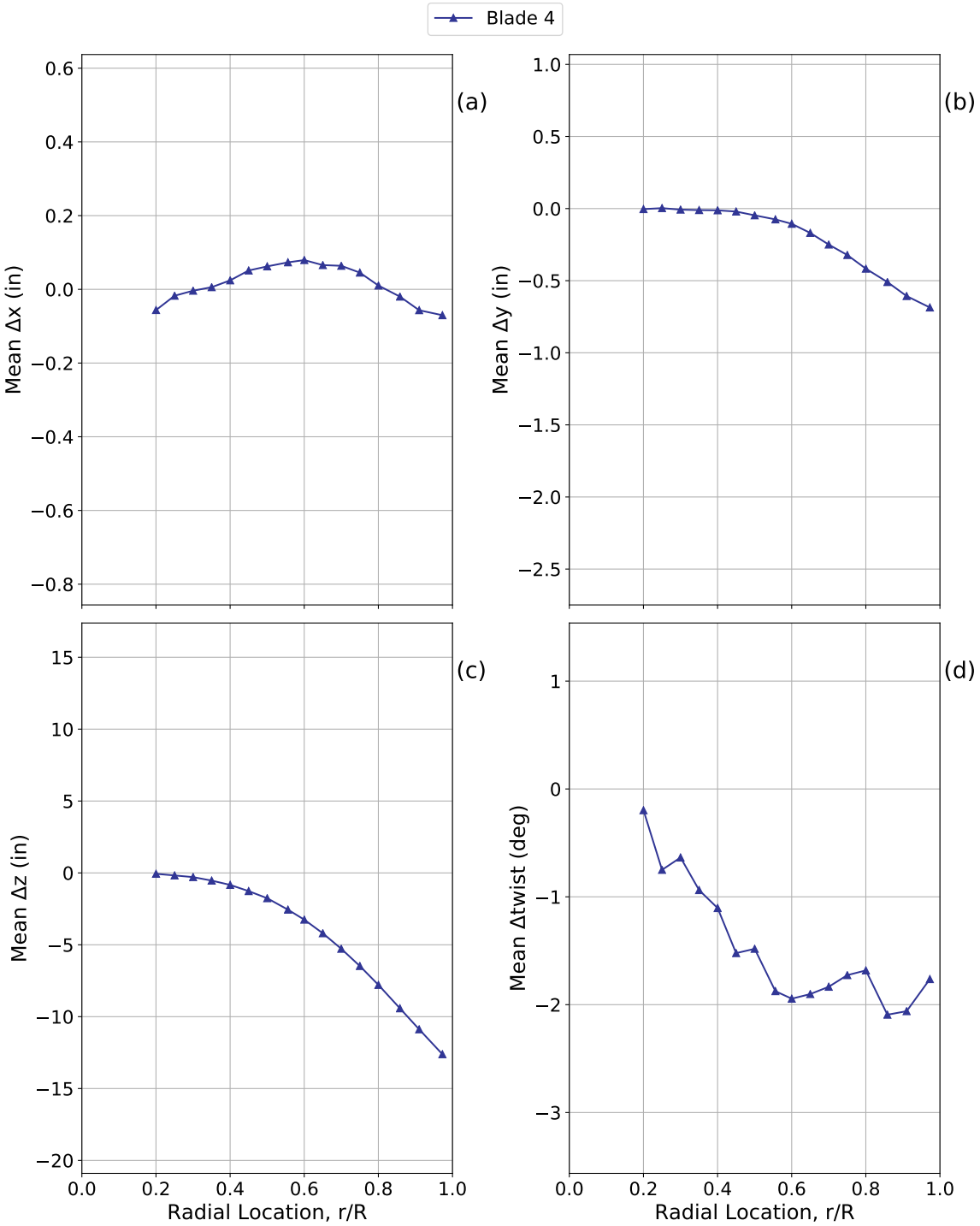


Figure 3.18-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0563	0.0055	-0.0037	0.0009	-0.0633	0.0036	-0.1973	0.0302
4	119.88	0.2502	-0.0174	0.0029	0.0031	0.0014	-0.1774	0.0077	-0.7500	0.0455
4	119.88	0.3001	-0.0038	0.0022	-0.0074	0.0029	-0.2929	0.0140	-0.6357	0.0660
4	119.88	0.3502	0.0058	0.0057	-0.0106	0.0043	-0.5353	0.0248	-0.9380	0.0572
4	119.88	0.4002	0.0243	0.0083	-0.0122	0.0067	-0.8359	0.0380	-1.1046	0.0606
4	119.88	0.4500	0.0511	0.0115	-0.0206	0.0080	-1.2672	0.0491	-1.5223	0.0706
4	119.88	0.5001	0.0622	0.0139	-0.0468	0.0104	-1.7626	0.0627	-1.4822	0.0622
4	119.88	0.5560	0.0732	0.0170	-0.0751	0.0124	-2.5574	0.0813	-1.8749	0.0715
4	119.88	0.6001	0.0793	0.0202	-0.1057	0.0150	-3.2533	0.0930	-1.9448	0.0733
4	119.88	0.6501	0.0657	0.0233	-0.1690	0.0188	-4.1995	0.1085	-1.9018	0.0728
4	119.88	0.6999	0.0638	0.0262	-0.2496	0.0231	-5.2797	0.1253	-1.8342	0.0659
4	119.88	0.7500	0.0453	0.0299	-0.3221	0.0283	-6.4777	0.1402	-1.7264	0.0760
4	119.88	0.8002	0.0102	0.0347	-0.4169	0.0345	-7.7923	0.1577	-1.6825	0.0826
4	119.88	0.8582	-0.0198	0.0398	-0.5096	0.0423	-9.4216	0.1868	-2.0932	0.0758
4	119.88	0.9101	-0.0567	0.0453	-0.6067	0.0506	-10.8826	0.2200	-2.0606	0.0826
4	119.88	0.9728	-0.0703	0.0537	-0.6860	0.0613	-12.6142	0.2683	-1.7632	0.0955

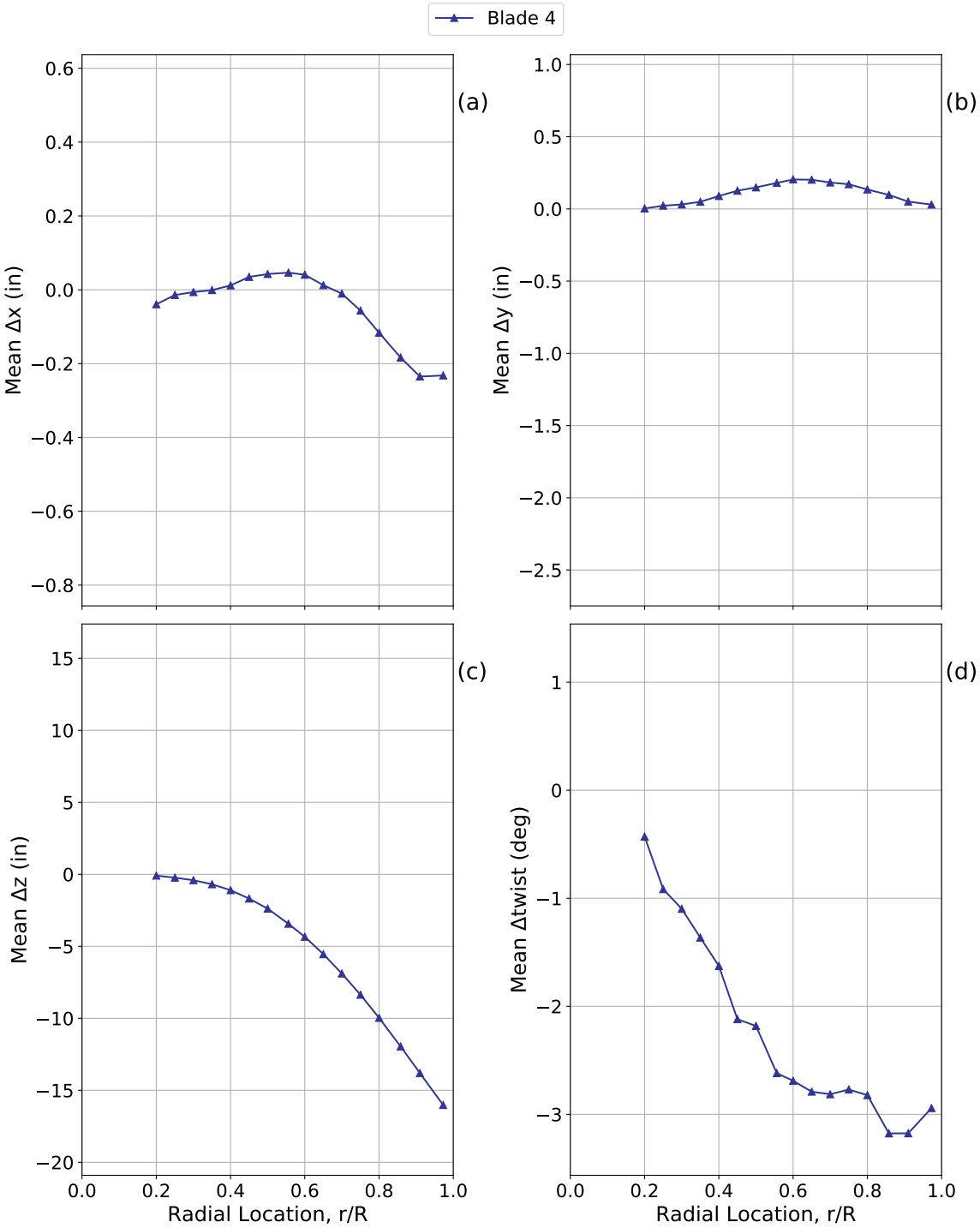


Figure 3.18-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0393	0.0039	0.0030	0.0008	-0.0895	0.0056	-0.4293	0.0175
4	135	0.2502	-0.0141	0.0021	0.0223	0.0024	-0.2327	0.0092	-0.9159	0.0212
4	135	0.3001	-0.0063	0.0026	0.0309	0.0038	-0.4097	0.0209	-1.0978	0.0357
4	135	0.3502	-0.0009	0.0038	0.0492	0.0068	-0.6905	0.0347	-1.3646	0.0285
4	135	0.4002	0.0118	0.0072	0.0892	0.0108	-1.1043	0.0531	-1.6269	0.0286
4	135	0.4500	0.0348	0.0086	0.1260	0.0146	-1.6857	0.0758	-2.1194	0.0227
4	135	0.5001	0.0427	0.0111	0.1490	0.0175	-2.3851	0.1083	-2.1822	0.0438
4	135	0.5560	0.0464	0.0140	0.1799	0.0210	-3.4355	0.1458	-2.6190	0.0335
4	135	0.6001	0.0408	0.0168	0.2038	0.0248	-4.3409	0.1828	-2.6895	0.0368
4	135	0.6501	0.0125	0.0196	0.2021	0.0288	-5.5473	0.2257	-2.7905	0.0428
4	135	0.6999	-0.0104	0.0232	0.1827	0.0324	-6.8917	0.2709	-2.8145	0.0375
4	135	0.7500	-0.0565	0.0280	0.1708	0.0362	-8.3637	0.3193	-2.7703	0.0434
4	135	0.8002	-0.1163	0.0325	0.1344	0.0403	-9.9727	0.3685	-2.8227	0.0390
4	135	0.8582	-0.1836	0.0387	0.0969	0.0451	-11.9559	0.4274	-3.1769	0.0381
4	135	0.9101	-0.2350	0.0451	0.0508	0.0490	-13.8048	0.4827	-3.1759	0.0373
4	135	0.9728	-0.2321	0.0522	0.0299	0.0545	-16.0234	0.5544	-2.9423	0.0446

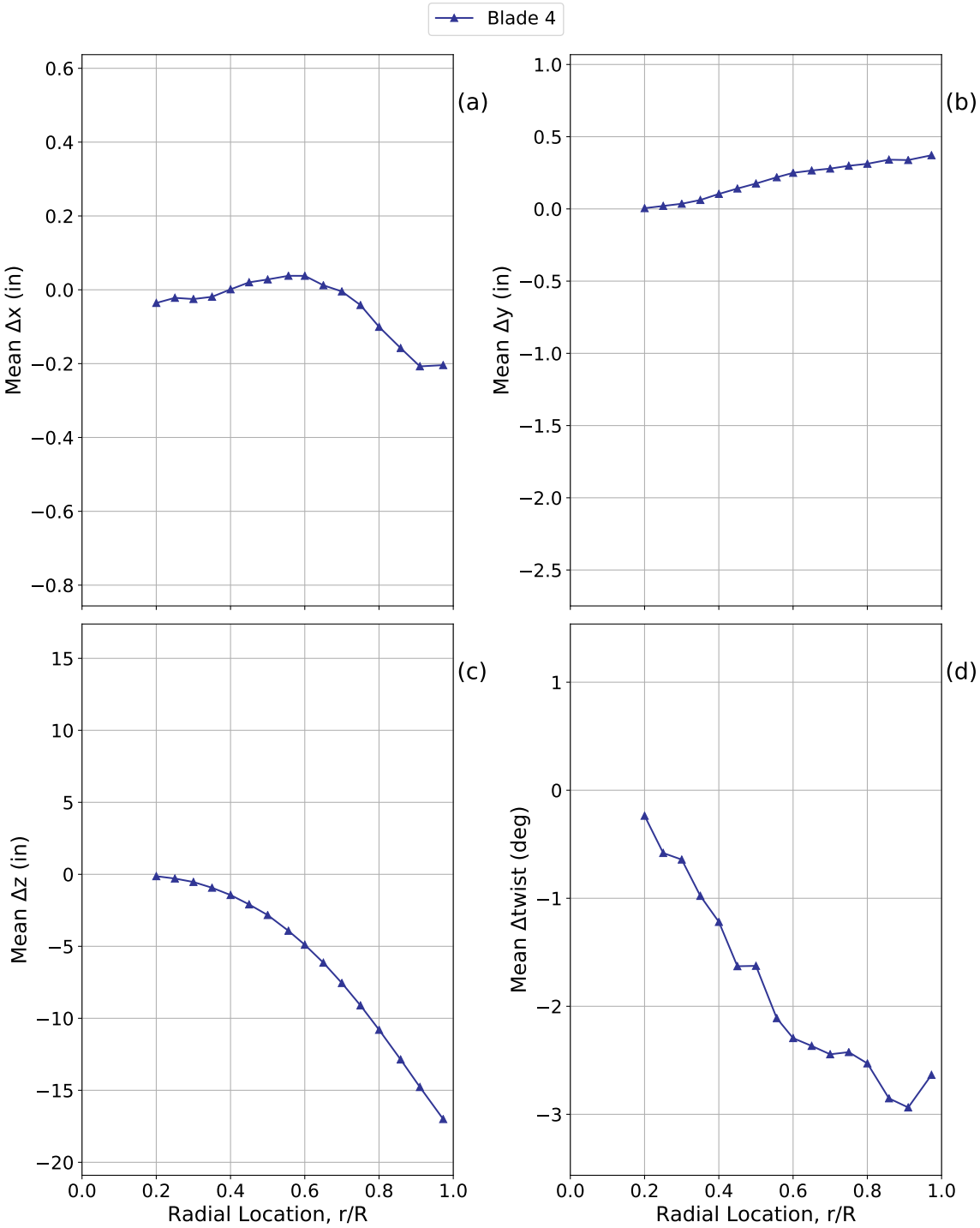


Figure 3.18-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.4, α = -10°
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0357	0.0048	0.0051	0.0006	-0.1313	0.0033	-0.2365	0.0253
4	150.12	0.2502	-0.0218	0.0013	0.0205	0.0017	-0.2925	0.0064	-0.5810	0.0401
4	150.12	0.3001	-0.0251	0.0016	0.0357	0.0027	-0.5331	0.0135	-0.6420	0.0574
4	150.12	0.3502	-0.0190	0.0040	0.0617	0.0047	-0.9331	0.0217	-0.9781	0.0567
4	150.12	0.4002	0.0012	0.0061	0.1037	0.0075	-1.4389	0.0343	-1.2191	0.0556
4	150.12	0.4500	0.0202	0.0079	0.1410	0.0096	-2.0910	0.0529	-1.6292	0.0777
4	150.12	0.5001	0.0280	0.0105	0.1757	0.0123	-2.8290	0.0780	-1.6258	0.0731
4	150.12	0.5560	0.0379	0.0132	0.2190	0.0161	-3.9240	0.1160	-2.1101	0.0845
4	150.12	0.6001	0.0378	0.0163	0.2498	0.0192	-4.8935	0.1521	-2.2947	0.0950
4	150.12	0.6501	0.0122	0.0205	0.2660	0.0242	-6.1403	0.2031	-2.3668	0.0914
4	150.12	0.6999	-0.0045	0.0257	0.2791	0.0289	-7.5515	0.2677	-2.4443	0.0865
4	150.12	0.7500	-0.0414	0.0327	0.2986	0.0334	-9.1052	0.3414	-2.4243	0.1044
4	150.12	0.8002	-0.1005	0.0418	0.3124	0.0395	-10.8015	0.4306	-2.5290	0.1176
4	150.12	0.8582	-0.1579	0.0552	0.3408	0.0456	-12.8628	0.5494	-2.8522	0.1299
4	150.12	0.9101	-0.2074	0.0671	0.3383	0.0530	-14.7770	0.6693	-2.9365	0.1316
4	150.12	0.9728	-0.2041	0.0833	0.3715	0.0620	-16.9992	0.8211	-2.6352	0.1473

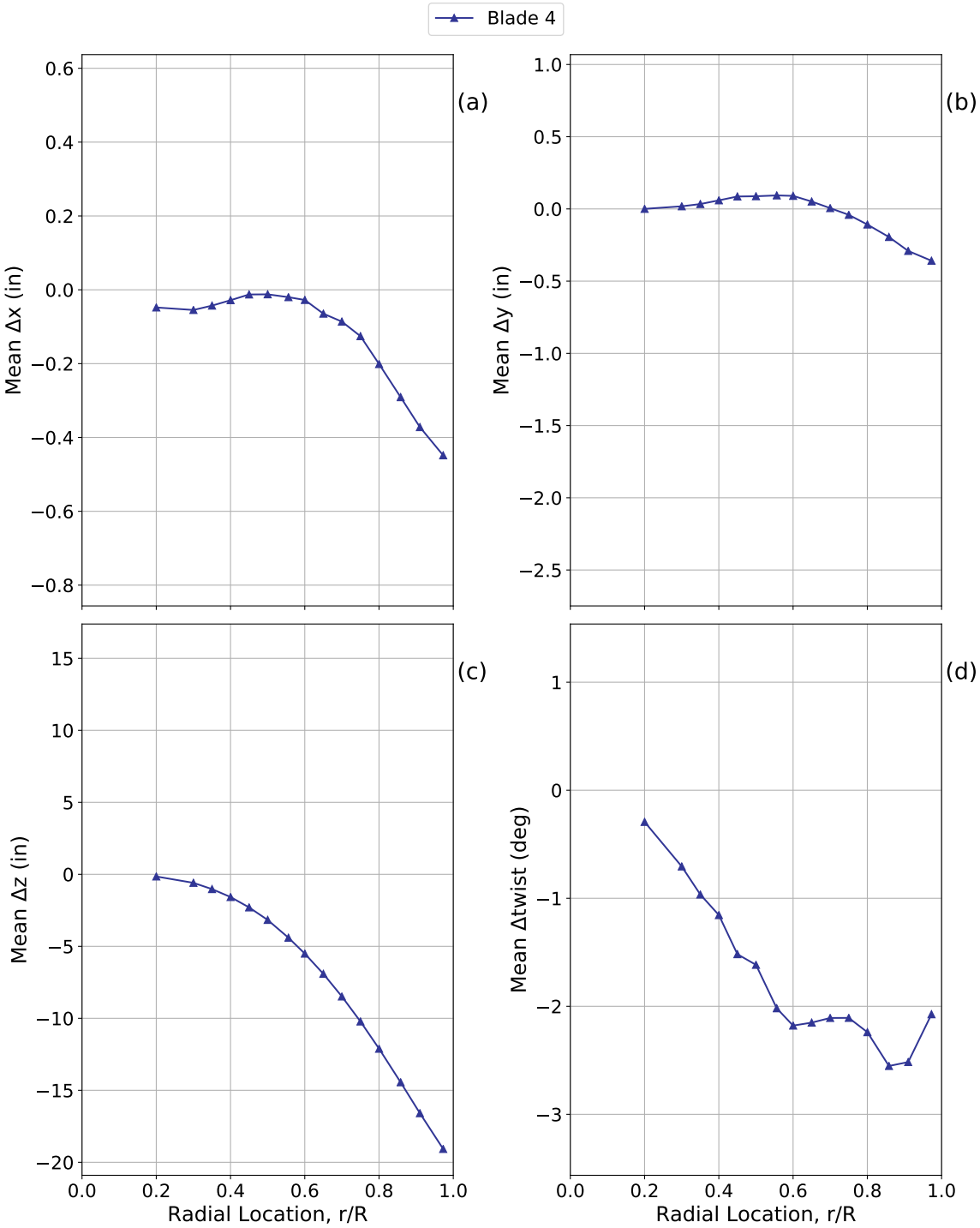


Figure 3.18-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0479	0.0089	0.0003	0.0012	-0.1502	0.0066	-0.2932	0.0274
4	164.88	0.3001	-0.0547	0.0023	0.0181	0.0074	-0.5921	0.0255	-0.7056	0.0632
4	164.88	0.3502	-0.0429	0.0048	0.0338	0.0117	-1.0269	0.0378	-0.9655	0.0727
4	164.88	0.4002	-0.0282	0.0071	0.0594	0.0200	-1.5783	0.0612	-1.1559	0.0679
4	164.88	0.4500	-0.0127	0.0107	0.0860	0.0238	-2.2983	0.0822	-1.5177	0.0739
4	164.88	0.5001	-0.0123	0.0152	0.0877	0.0305	-3.1676	0.1132	-1.6162	0.0793
4	164.88	0.5560	-0.0200	0.0195	0.0934	0.0395	-4.4035	0.1571	-2.0185	0.0720
4	164.88	0.6001	-0.0276	0.0239	0.0902	0.0451	-5.5096	0.2016	-2.1787	0.0678
4	164.88	0.6501	-0.0647	0.0300	0.0511	0.0528	-6.9131	0.2594	-2.1511	0.0705
4	164.88	0.6999	-0.0862	0.0364	0.0055	0.0622	-8.4844	0.3213	-2.1080	0.0638
4	164.88	0.7500	-0.1257	0.0442	-0.0411	0.0706	-10.2224	0.3921	-2.1073	0.0689
4	164.88	0.8002	-0.2012	0.0530	-0.1082	0.0798	-12.1145	0.4648	-2.2398	0.0702
4	164.88	0.8582	-0.2909	0.0628	-0.1945	0.0901	-14.4443	0.5525	-2.5526	0.0788
4	164.88	0.9101	-0.3720	0.0718	-0.2910	0.1002	-16.5919	0.6267	-2.5162	0.0649
4	164.88	0.9728	-0.4484	0.0796	-0.3588	0.1129	-19.0734	0.7217	-2.0738	0.0663

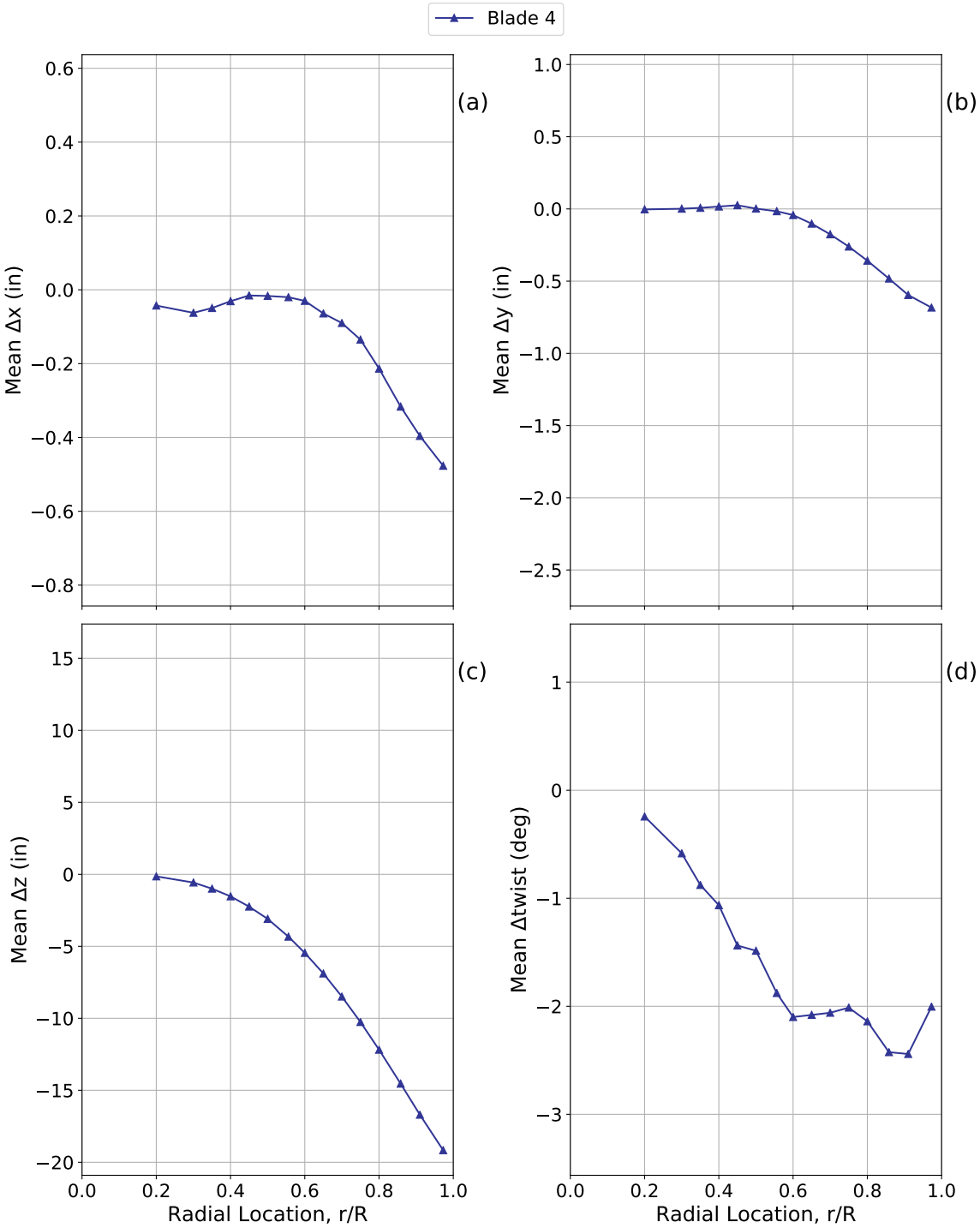


Figure 3.18-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.4, α = -10°
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0427	0.0095	-0.0034	0.0011	-0.1431	0.0052	-0.2433	0.0841
4	170.16	0.3001	-0.0624	0.0066	0.0013	0.0055	-0.5699	0.0170	-0.5840	0.2022
4	170.16	0.3502	-0.0494	0.0059	0.0073	0.0110	-0.9981	0.0340	-0.8769	0.1686
4	170.16	0.4002	-0.0309	0.0073	0.0164	0.0166	-1.5323	0.0473	-1.0647	0.1809
4	170.16	0.4500	-0.0154	0.0099	0.0254	0.0225	-2.2434	0.0603	-1.4372	0.1747
4	170.16	0.5001	-0.0167	0.0103	0.0019	0.0278	-3.0954	0.0766	-1.4859	0.1726
4	170.16	0.5560	-0.0201	0.0134	-0.0161	0.0360	-4.3316	0.0969	-1.8772	0.1829
4	170.16	0.6001	-0.0300	0.0145	-0.0427	0.0414	-5.4590	0.1170	-2.0994	0.1739
4	170.16	0.6501	-0.0641	0.0169	-0.1023	0.0494	-6.8889	0.1426	-2.0798	0.1901
4	170.16	0.6999	-0.0900	0.0193	-0.1760	0.0577	-8.4918	0.1728	-2.0600	0.1874
4	170.16	0.7500	-0.1351	0.0224	-0.2609	0.0676	-10.2594	0.2069	-2.0123	0.1916
4	170.16	0.8002	-0.2136	0.0267	-0.3587	0.0760	-12.1859	0.2485	-2.1394	0.1973
4	170.16	0.8582	-0.3165	0.0331	-0.4824	0.0880	-14.5405	0.2982	-2.4246	0.1798
4	170.16	0.9101	-0.3960	0.0388	-0.5961	0.0993	-16.6981	0.3489	-2.4415	0.1820
4	170.16	0.9728	-0.4768	0.0444	-0.6833	0.1131	-19.1619	0.4178	-2.0034	0.1970

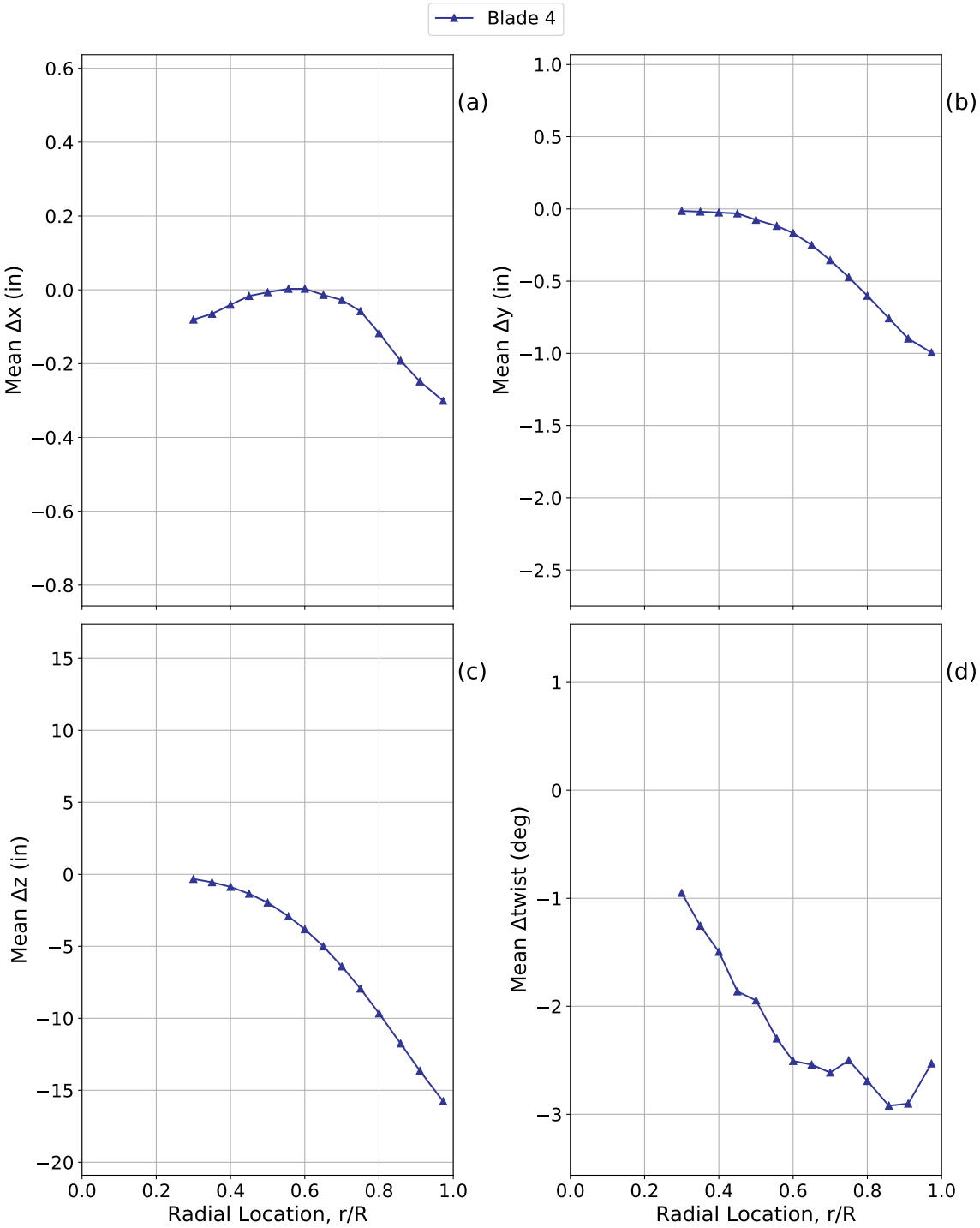


Figure 3.18-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.4, α = -10°
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.3001	-0.0809	0.0136	-0.0138	0.0325	-0.3199	0.0973	-0.9501	0.2815
4	175.08	0.3502	-0.0651	0.0290	-0.0186	0.0579	-0.5496	0.1622	-1.2550	0.3755
4	175.08	0.4002	-0.0405	0.0275	-0.0247	0.0935	-0.8686	0.2545	-1.4964	0.3441
4	175.08	0.4500	-0.0167	0.0282	-0.0311	0.1246	-1.3471	0.3423	-1.8627	0.3263
4	175.08	0.5001	-0.0065	0.0319	-0.0753	0.1588	-1.9601	0.4316	-1.9462	0.3156
4	175.08	0.5560	0.0027	0.0349	-0.1175	0.1949	-2.9147	0.5313	-2.2987	0.3145
4	175.08	0.6001	0.0028	0.0392	-0.1668	0.2245	-3.8190	0.6100	-2.5071	0.3195
4	175.08	0.6501	-0.0139	0.0455	-0.2496	0.2557	-5.0078	0.6987	-2.5404	0.3140
4	175.08	0.6999	-0.0277	0.0514	-0.3552	0.2884	-6.3989	0.7871	-2.6142	0.3219
4	175.08	0.7500	-0.0581	0.0595	-0.4732	0.3210	-7.9417	0.8757	-2.5009	0.3257
4	175.08	0.8002	-0.1175	0.0687	-0.6013	0.3543	-9.6657	0.9686	-2.6920	0.3125
4	175.08	0.8582	-0.1920	0.0802	-0.7578	0.3908	-11.7528	1.0708	-2.9206	0.3151
4	175.08	0.9101	-0.2484	0.0898	-0.8978	0.4235	-13.6502	1.1651	-2.9018	0.3162
4	175.08	0.9728	-0.3008	0.1016	-0.9946	0.4629	-15.7675	1.2815	-2.5301	0.3167

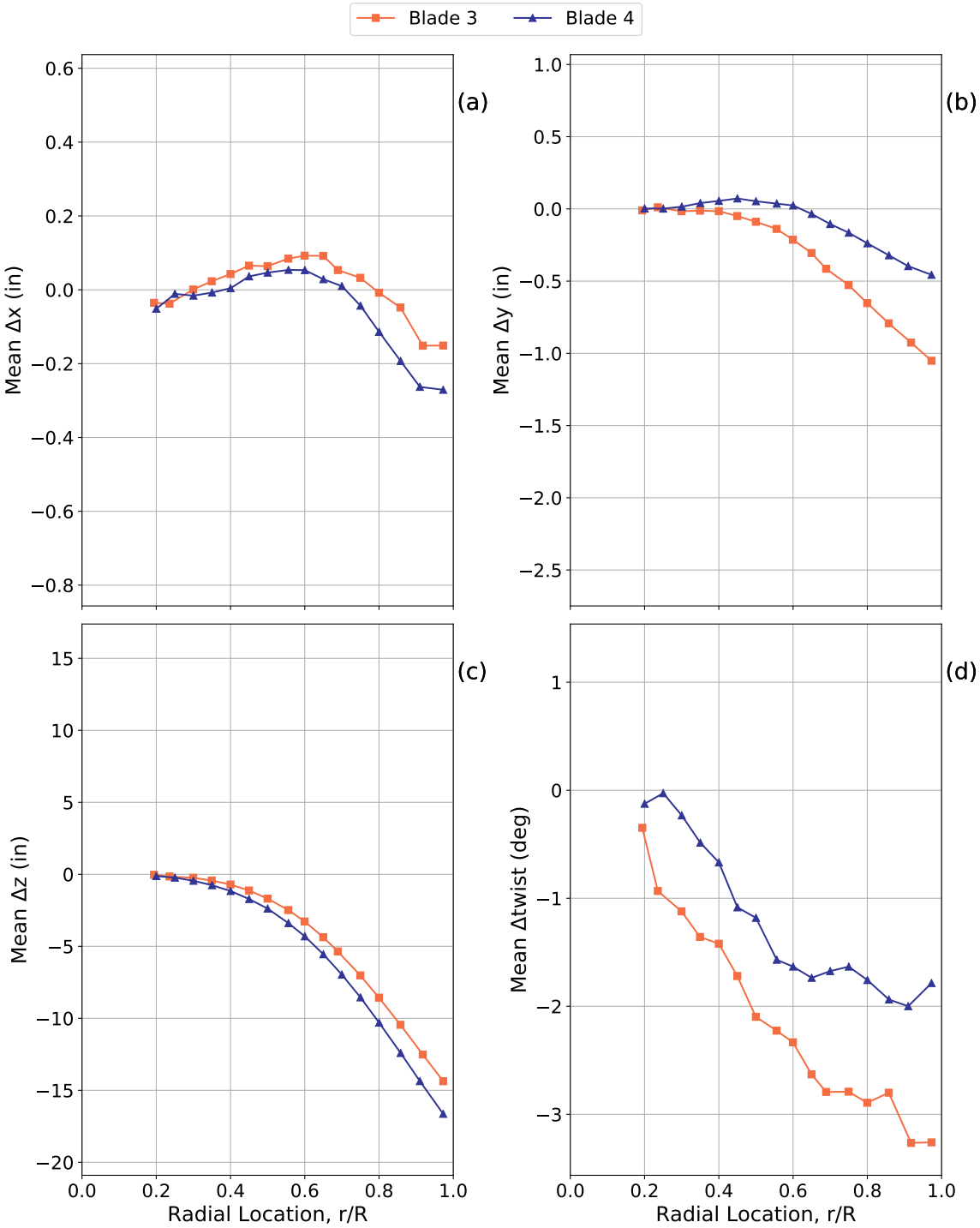


Figure 3.18-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0353	0.0130	-0.0102	0.0025	-0.0298	0.0058	-0.3476	0.0311
3	180.35	0.2357	-0.0376	0.0060	0.0111	0.0027	-0.1527	0.0041	-0.9325	0.0487
3	180.35	0.2995	0.0008	0.0054	-0.0161	0.0069	-0.2407	0.0147	-1.1212	0.0596
3	180.35	0.3493	0.0232	0.0123	-0.0122	0.0119	-0.4307	0.0190	-1.3582	0.0565
3	180.35	0.4000	0.0426	0.0212	-0.0157	0.0176	-0.7062	0.0298	-1.4207	0.0495
3	180.35	0.4497	0.0654	0.0275	-0.0494	0.0227	-1.1228	0.0398	-1.7198	0.0479
3	180.35	0.4997	0.0641	0.0364	-0.0891	0.0279	-1.6867	0.0557	-2.0973	0.0560
3	180.35	0.5556	0.0844	0.0455	-0.1384	0.0341	-2.4818	0.0747	-2.2251	0.0547
3	180.35	0.5995	0.0925	0.0535	-0.2133	0.0401	-3.2734	0.0914	-2.3335	0.0401
3	180.35	0.6498	0.0919	0.0636	-0.3052	0.0464	-4.3658	0.1117	-2.6301	0.0347
3	180.35	0.6890	0.0535	0.0696	-0.4145	0.0516	-5.3566	0.1299	-2.7927	0.0585
3	180.35	0.7495	0.0325	0.0799	-0.5271	0.0602	-7.0200	0.1528	-2.7906	0.0629
3	180.35	0.7998	-0.0079	0.0883	-0.6523	0.0679	-8.5663	0.1761	-2.8928	0.0659
3	180.35	0.8577	-0.0479	0.0976	-0.7921	0.0757	-10.4499	0.2064	-2.7997	0.0737
3	180.35	0.9178	-0.1514	0.1058	-0.9257	0.0864	-12.5160	0.2347	-3.2645	0.0873
3	180.35	0.9729	-0.1510	0.1124	-1.0513	0.0897	-14.3663	0.2477	-3.2594	0.1262
4	180	0.2001	-0.0514	0.0167	0.0033	0.0026	-0.1210	0.0086	-0.1253	0.0459
4	180	0.2502	-0.0111	0.0055	0.0018	0.0031	-0.2315	0.0103	-0.0274	0.1138
4	180	0.3001	-0.0159	0.0050	0.0154	0.0103	-0.4481	0.0207	-0.2329	0.1199
4	180	0.3502	-0.0076	0.0160	0.0404	0.0178	-0.7588	0.0324	-0.4858	0.1057
4	180	0.4002	0.0043	0.0251	0.0555	0.0270	-1.1577	0.0444	-0.6682	0.1129
4	180	0.4500	0.0363	0.0364	0.0721	0.0368	-1.7171	0.0584	-1.0841	0.1006
4	180	0.5001	0.0465	0.0471	0.0531	0.0464	-2.3829	0.0719	-1.1814	0.1172
4	180	0.5560	0.0539	0.0594	0.0364	0.0578	-3.3913	0.0884	-1.5696	0.1238
4	180	0.6001	0.0532	0.0690	0.0240	0.0676	-4.3062	0.1028	-1.6328	0.1210
4	180	0.6501	0.0286	0.0800	-0.0348	0.0766	-5.5542	0.1231	-1.7366	0.1251
4	180	0.6999	0.0100	0.0912	-0.1048	0.0858	-6.9653	0.1442	-1.6744	0.1258
4	180	0.7500	-0.0431	0.1027	-0.1649	0.0956	-8.5497	0.1730	-1.6329	0.1266
4	180	0.8002	-0.1140	0.1146	-0.2384	0.1072	-10.3019	0.2064	-1.7572	0.1105
4	180	0.8582	-0.1930	0.1284	-0.3216	0.1246	-12.4106	0.2518	-1.9373	0.1090
4	180	0.9101	-0.2630	0.1384	-0.3963	0.1451	-14.3630	0.2956	-1.9995	0.1386
4	180	0.9728	-0.2709	0.1520	-0.4563	0.1684	-16.6353	0.3465	-1.7850	0.1578

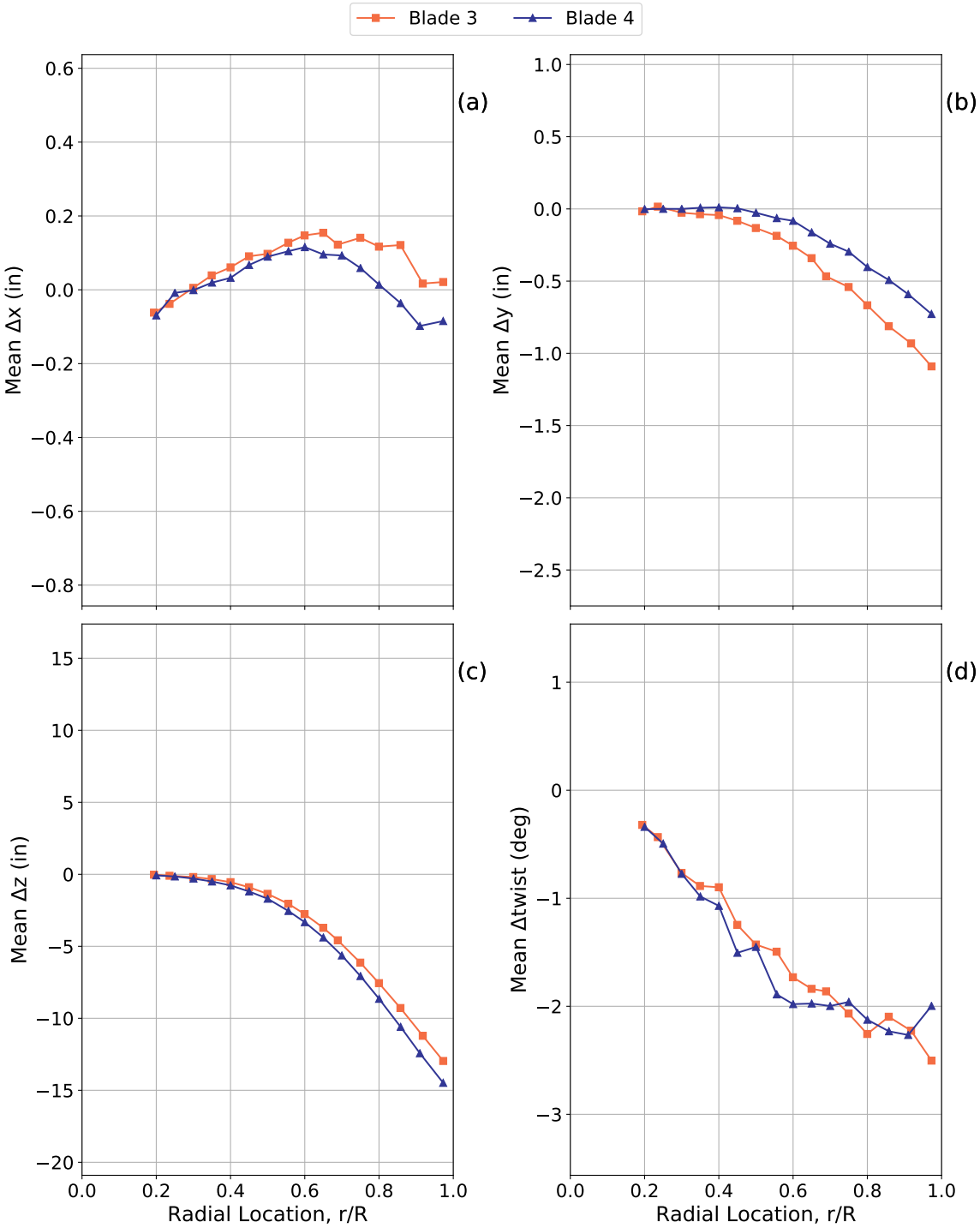


Figure 3.18-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0618	0.0014	-0.0166	0.0011	-0.0241	0.0046	-0.3207	0.0274
3	184.92	0.2357	-0.0381	0.0014	0.0158	0.0017	-0.0994	0.0097	-0.4338	0.0327
3	184.92	0.2995	0.0053	0.0015	-0.0261	0.0042	-0.1886	0.0203	-0.7652	0.0598
3	184.92	0.3493	0.0390	0.0019	-0.0368	0.0081	-0.3283	0.0292	-0.8861	0.0520
3	184.92	0.4000	0.0607	0.0024	-0.0426	0.0122	-0.5441	0.0488	-0.8982	0.0699
3	184.92	0.4497	0.0907	0.0031	-0.0822	0.0168	-0.8957	0.0645	-1.2462	0.0653
3	184.92	0.4997	0.0974	0.0037	-0.1323	0.0227	-1.3545	0.0857	-1.4282	0.0729
3	184.92	0.5556	0.1275	0.0047	-0.1862	0.0285	-2.0433	0.1096	-1.4944	0.0748
3	184.92	0.5995	0.1473	0.0055	-0.2548	0.0336	-2.7594	0.1283	-1.7312	0.0976
3	184.92	0.6498	0.1544	0.0060	-0.3409	0.0402	-3.7143	0.1453	-1.8384	0.0788
3	184.92	0.6890	0.1223	0.0068	-0.4668	0.0453	-4.5821	0.1584	-1.8620	0.0972
3	184.92	0.7495	0.1409	0.0084	-0.5408	0.0526	-6.1334	0.1743	-2.0668	0.1046
3	184.92	0.7998	0.1169	0.0123	-0.6672	0.0593	-7.5575	0.1810	-2.2562	0.1197
3	184.92	0.8577	0.1212	0.0143	-0.8121	0.0704	-9.2871	0.1936	-2.0967	0.1603
3	184.92	0.9178	0.0169	0.0241	-0.9310	0.0811	-11.2128	0.2095	-2.2257	0.1628
3	184.92	0.9729	0.0211	0.0269	-1.0902	0.0901	-12.9625	0.2220	-2.5027	0.1164
4	184.92	0.2001	-0.0695	0.0012	-0.0011	0.0014	-0.0744	0.0068	-0.3391	0.0365
4	184.92	0.2502	-0.0083	0.0016	0.0004	0.0027	-0.1495	0.0118	-0.4944	0.0714
4	184.92	0.3001	-0.0010	0.0012	0.0002	0.0063	-0.2945	0.0204	-0.7739	0.0873
4	184.92	0.3502	0.0194	0.0014	0.0079	0.0103	-0.4990	0.0321	-0.9836	0.0771
4	184.92	0.4002	0.0324	0.0015	0.0108	0.0167	-0.7717	0.0477	-1.0706	0.0569
4	184.92	0.4500	0.0672	0.0019	0.0043	0.0232	-1.1915	0.0619	-1.5050	0.0671
4	184.92	0.5001	0.0897	0.0020	-0.0268	0.0315	-1.6958	0.0782	-1.4505	0.0586
4	184.92	0.5560	0.1045	0.0026	-0.0640	0.0391	-2.5466	0.0904	-1.8898	0.0634
4	184.92	0.6001	0.1155	0.0024	-0.0825	0.0466	-3.3258	0.1046	-1.9800	0.0693
4	184.92	0.6501	0.0957	0.0039	-0.1625	0.0546	-4.3873	0.1181	-1.9746	0.0661
4	184.92	0.6999	0.0929	0.0038	-0.2411	0.0629	-5.6374	0.1316	-1.9976	0.0617
4	184.92	0.7500	0.0589	0.0067	-0.2963	0.0719	-7.0678	0.1493	-1.9595	0.0712
4	184.92	0.8002	0.0139	0.0082	-0.4027	0.0795	-8.6472	0.1668	-2.1247	0.0601
4	184.92	0.8582	-0.0362	0.0122	-0.4926	0.0913	-10.5990	0.1929	-2.2316	0.0896
4	184.92	0.9101	-0.0980	0.0164	-0.5908	0.1011	-12.4286	0.2180	-2.2654	0.1275
4	184.92	0.9728	-0.0847	0.0229	-0.7278	0.1096	-14.4828	0.2544	-1.9965	0.0719

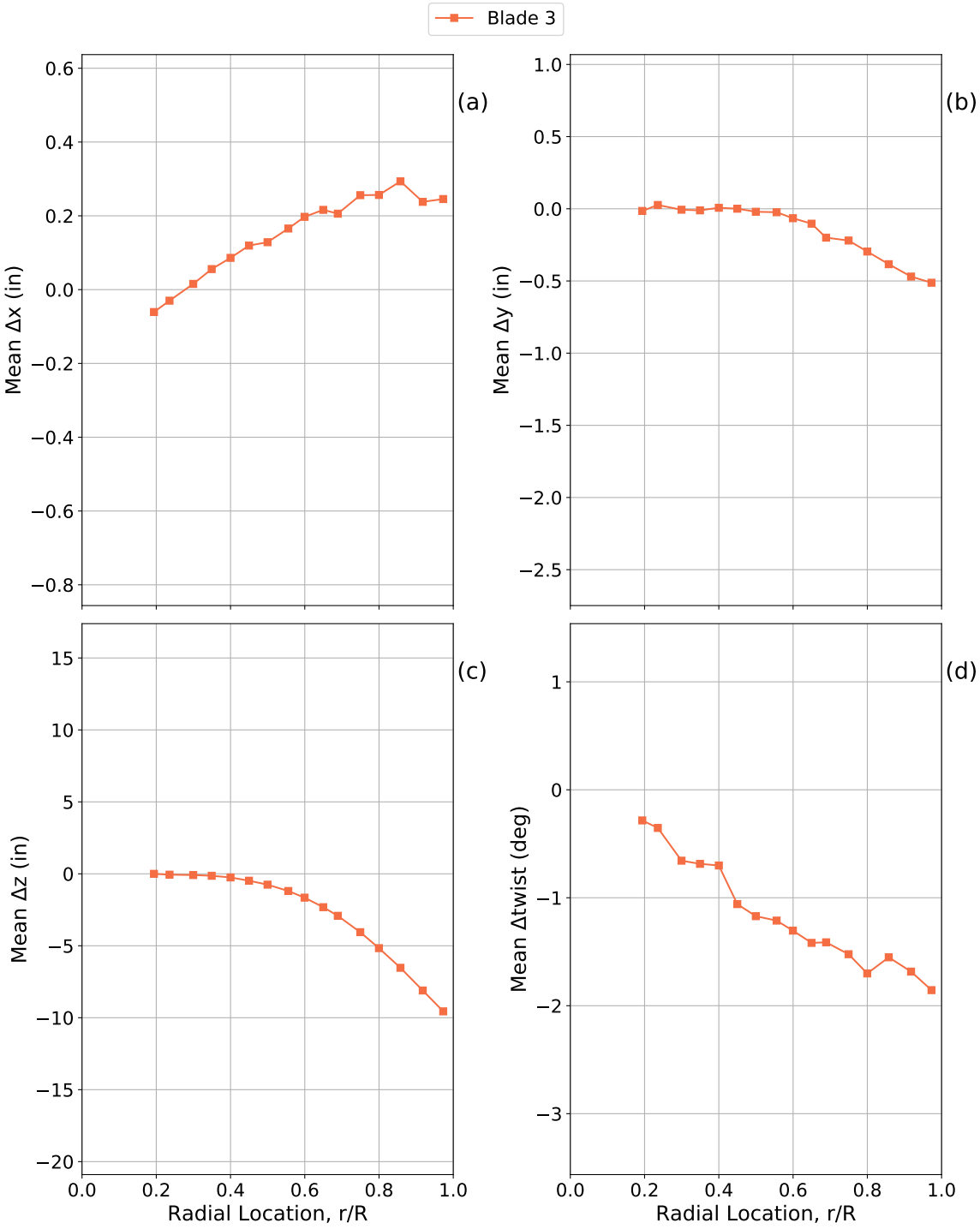


Figure 3.18-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0607	0.0016	-0.0149	0.0011	-0.0012	0.0083	-0.2838	0.0152
3	195.12	0.2357	-0.0299	0.0015	0.0263	0.0030	-0.0590	0.0135	-0.3531	0.0246
3	195.12	0.2995	0.0155	0.0019	-0.0065	0.0078	-0.0848	0.0282	-0.6567	0.0287
3	195.12	0.3493	0.0557	0.0014	-0.0108	0.0135	-0.1358	0.0405	-0.6858	0.0535
3	195.12	0.4000	0.0861	0.0023	0.0071	0.0224	-0.2504	0.0632	-0.7011	0.0271
3	195.12	0.4497	0.1194	0.0030	0.0007	0.0294	-0.4788	0.0806	-1.0588	0.0375
3	195.12	0.4997	0.1285	0.0044	-0.0205	0.0374	-0.7533	0.1005	-1.1706	0.0383
3	195.12	0.5556	0.1656	0.0045	-0.0238	0.0480	-1.1942	0.1256	-1.2116	0.0374
3	195.12	0.5995	0.1973	0.0062	-0.0652	0.0574	-1.6557	0.1459	-1.3044	0.0389
3	195.12	0.6498	0.2162	0.0067	-0.1031	0.0693	-2.3184	0.1684	-1.4179	0.0402
3	195.12	0.6890	0.2059	0.0086	-0.1999	0.0783	-2.9201	0.1942	-1.4128	0.0553
3	195.12	0.7495	0.2560	0.0117	-0.2198	0.0948	-4.0557	0.2316	-1.5230	0.0358
3	195.12	0.7998	0.2566	0.0159	-0.2960	0.1086	-5.1649	0.2740	-1.7009	0.0458
3	195.12	0.8577	0.2935	0.0205	-0.3838	0.1258	-6.5310	0.3332	-1.5516	0.0387
3	195.12	0.9178	0.2379	0.0267	-0.4696	0.1441	-8.1074	0.4006	-1.6841	0.0947
3	195.12	0.9729	0.2455	0.0320	-0.5122	0.1594	-9.5583	0.4579	-1.8556	0.0981

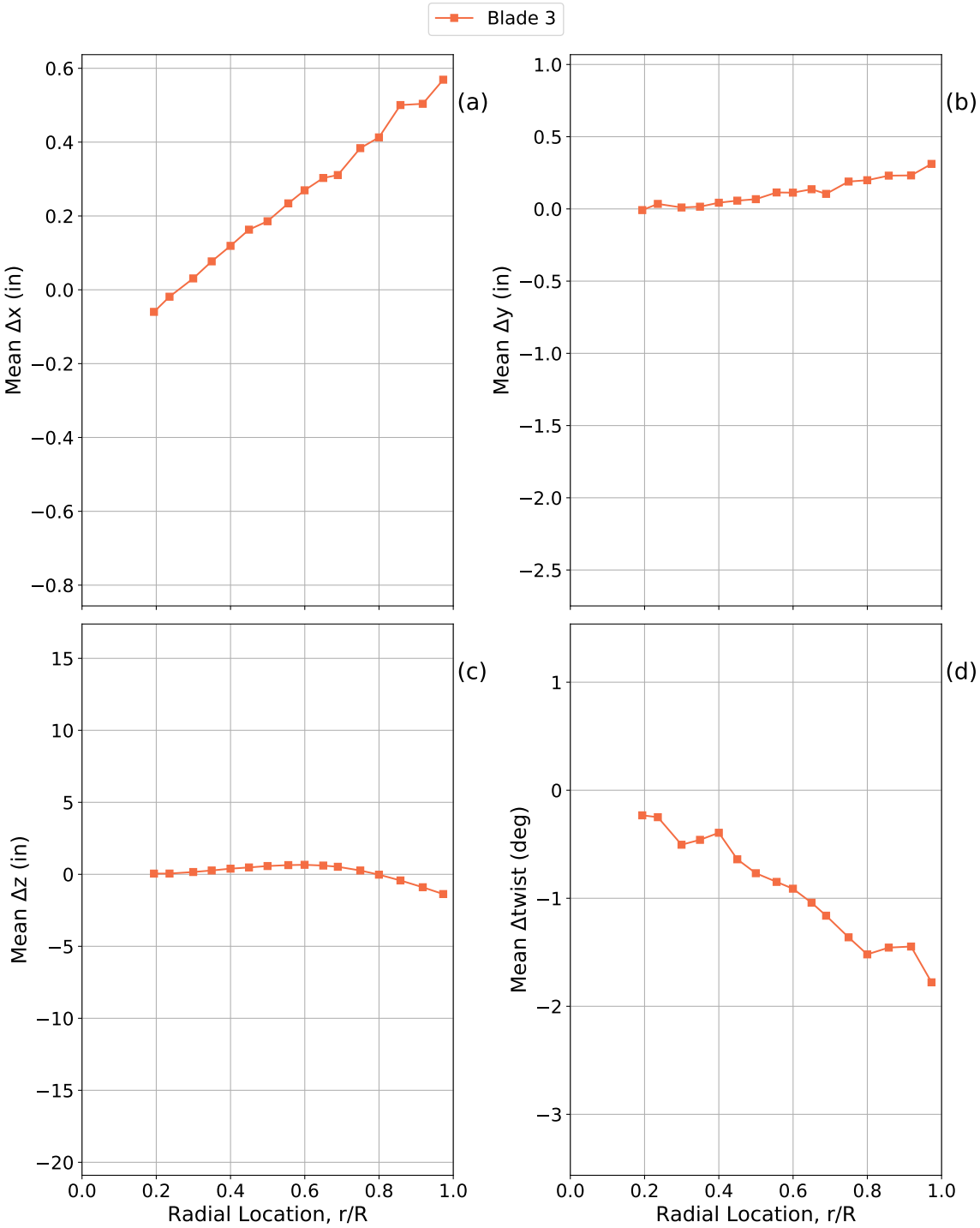


Figure 3.18-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.4, α = -10° NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0598	0.0014	-0.0081	0.0007	0.0502	0.0081	-0.2322	0.0409
3	209.88	0.2357	-0.0187	0.0016	0.0347	0.0018	0.0532	0.0115	-0.2493	0.0486
3	209.88	0.2995	0.0308	0.0022	0.0100	0.0029	0.1602	0.0243	-0.5043	0.0909
3	209.88	0.3493	0.0770	0.0011	0.0154	0.0059	0.2669	0.0435	-0.4591	0.0850
3	209.88	0.4000	0.1190	0.0026	0.0430	0.0091	0.3931	0.0619	-0.3935	0.0821
3	209.88	0.4497	0.1629	0.0024	0.0573	0.0126	0.4774	0.0828	-0.6392	0.0800
3	209.88	0.4997	0.1857	0.0025	0.0674	0.0171	0.5759	0.1072	-0.7680	0.0796
3	209.88	0.5556	0.2341	0.0029	0.1139	0.0219	0.6396	0.1368	-0.8484	0.0986
3	209.88	0.5995	0.2695	0.0028	0.1127	0.0274	0.6611	0.1668	-0.9113	0.1123
3	209.88	0.6498	0.3029	0.0035	0.1362	0.0336	0.6091	0.1953	-1.0409	0.1027
3	209.88	0.6890	0.3108	0.0040	0.1042	0.0381	0.5240	0.2232	-1.1611	0.1071
3	209.88	0.7495	0.3837	0.0035	0.1894	0.0471	0.2665	0.2653	-1.3614	0.0943
3	209.88	0.7998	0.4128	0.0036	0.1987	0.0543	-0.0238	0.3013	-1.5194	0.1162
3	209.88	0.8577	0.5004	0.0046	0.2304	0.0634	-0.4258	0.3392	-1.4566	0.1072
3	209.88	0.9178	0.5038	0.0039	0.2319	0.0739	-0.8978	0.3780	-1.4468	0.1008
3	209.88	0.9729	0.5691	0.0057	0.3117	0.0837	-1.3717	0.4149	-1.7781	0.1100

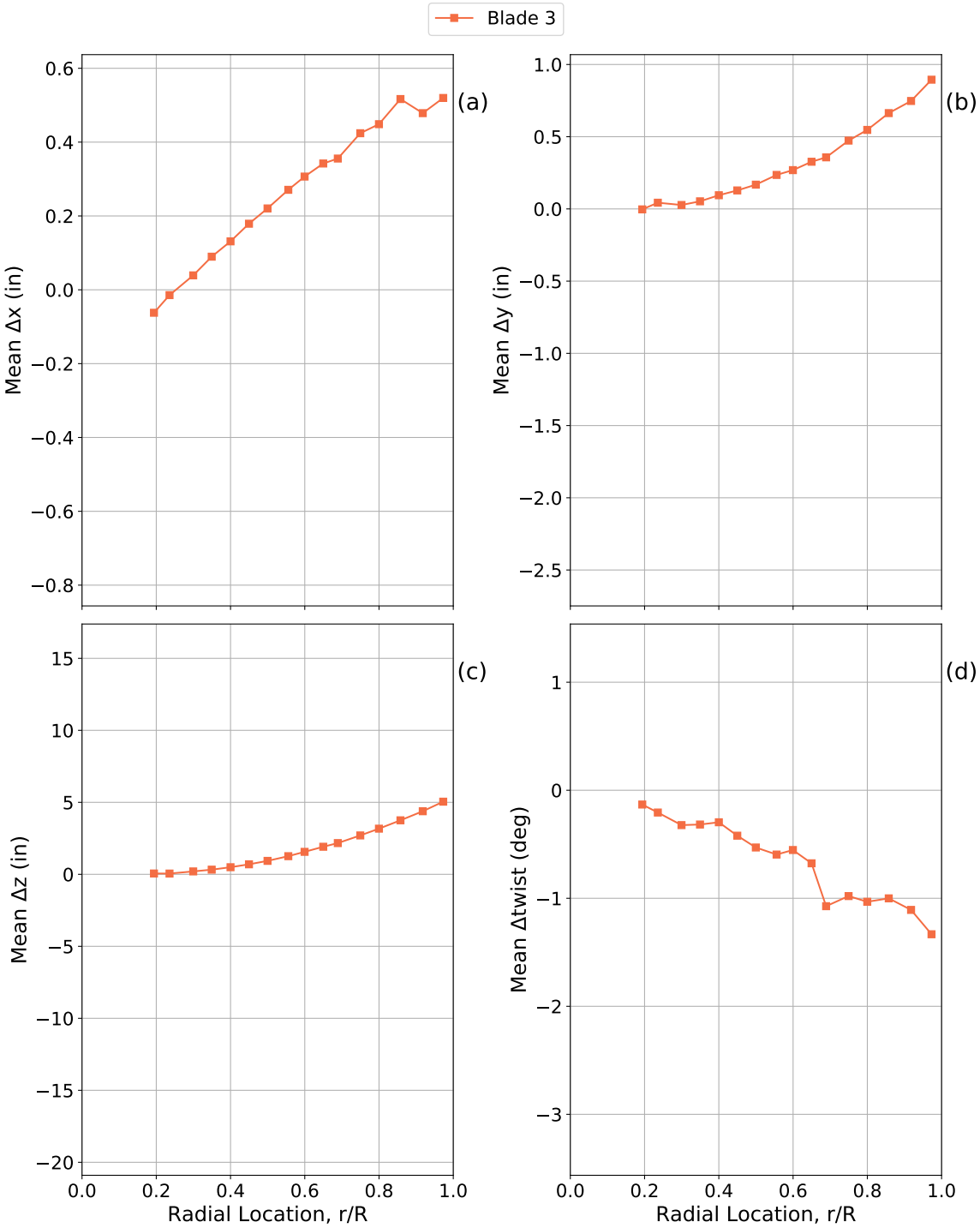


Figure 3.18-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0622	0.0014	-0.0032	0.0008	0.0579	0.0060	-0.1322	0.0393
3	225	0.2357	-0.0144	0.0019	0.0430	0.0018	0.0532	0.0087	-0.2062	0.0372
3	225	0.2995	0.0391	0.0013	0.0272	0.0032	0.2016	0.0179	-0.3228	0.0737
3	225	0.3493	0.0897	0.0023	0.0526	0.0054	0.3236	0.0249	-0.3172	0.0837
3	225	0.4000	0.1312	0.0013	0.0947	0.0099	0.4939	0.0381	-0.2964	0.0695
3	225	0.4497	0.1790	0.0017	0.1280	0.0127	0.6952	0.0463	-0.4206	0.0746
3	225	0.4997	0.2204	0.0021	0.1680	0.0155	0.9340	0.0567	-0.5299	0.0858
3	225	0.5556	0.2708	0.0032	0.2354	0.0220	1.2608	0.0687	-0.5952	0.0696
3	225	0.5995	0.3067	0.0036	0.2686	0.0258	1.5616	0.0816	-0.5533	0.0977
3	225	0.6498	0.3421	0.0038	0.3266	0.0311	1.9153	0.0980	-0.6763	0.0779
3	225	0.6890	0.3555	0.0037	0.3571	0.0364	2.1693	0.1097	-1.0733	0.0888
3	225	0.7495	0.4241	0.0053	0.4731	0.0436	2.7010	0.1389	-0.9796	0.0752
3	225	0.7998	0.4486	0.0056	0.5471	0.0493	3.1710	0.1600	-1.0323	0.0890
3	225	0.8577	0.5167	0.0072	0.6634	0.0563	3.7511	0.1909	-1.0007	0.0819
3	225	0.9178	0.4785	0.0082	0.7473	0.0637	4.3819	0.2206	-1.1077	0.0973
3	225	0.9729	0.5196	0.0124	0.8947	0.0719	5.0457	0.2530	-1.3330	0.0962

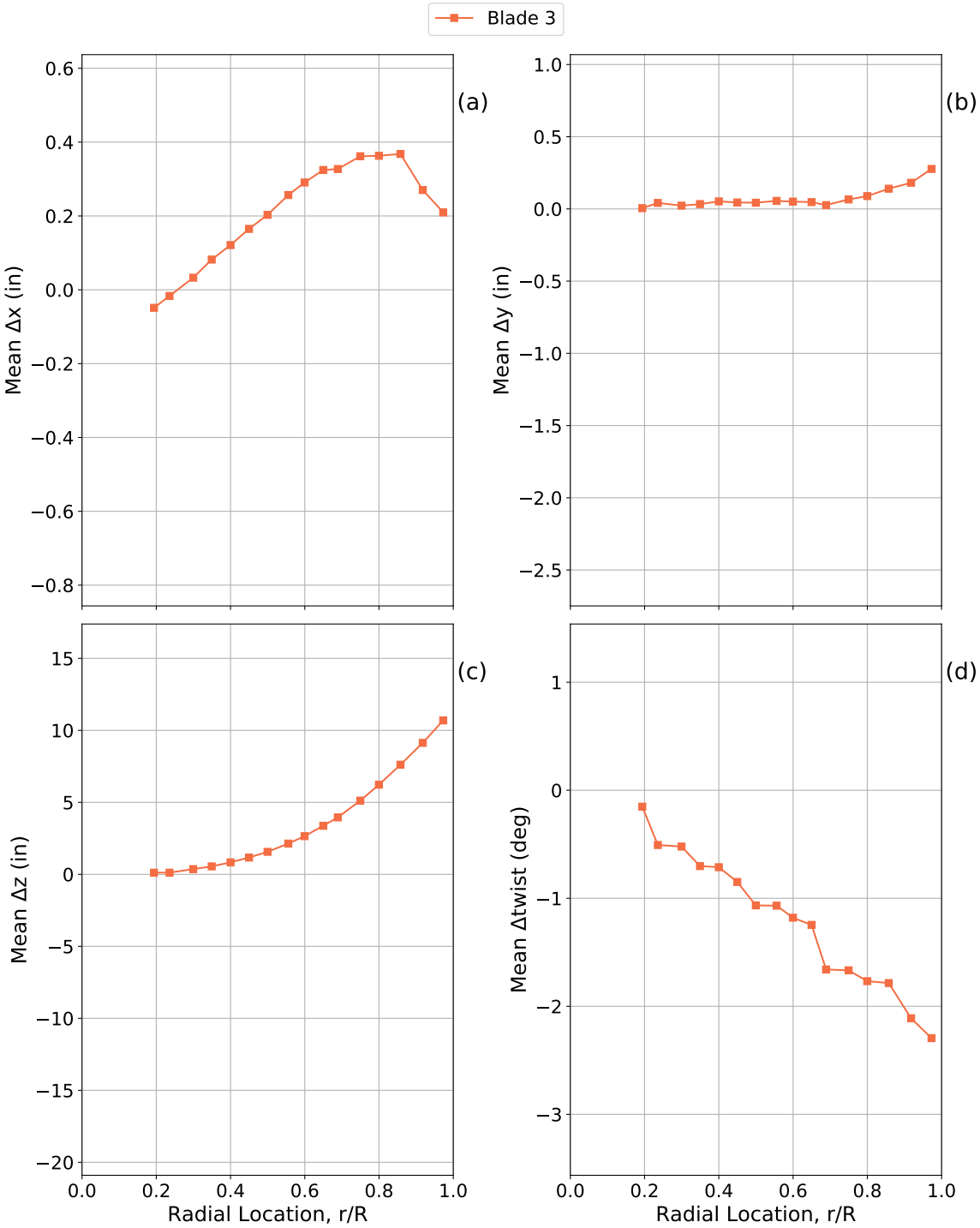


Figure 3.18-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.4, α = -10° NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0488	0.0033	0.0051	0.0016	0.1153	0.0130	-0.1522	0.0226
3	240.12	0.2357	-0.0167	0.0025	0.0415	0.0022	0.1176	0.0147	-0.5067	0.0826
3	240.12	0.2995	0.0328	0.0045	0.0227	0.0058	0.3609	0.0336	-0.5215	0.0770
3	240.12	0.3493	0.0819	0.0036	0.0334	0.0132	0.5512	0.0521	-0.7020	0.0858
3	240.12	0.4000	0.1211	0.0021	0.0522	0.0192	0.8300	0.0739	-0.7124	0.0770
3	240.12	0.4497	0.1650	0.0025	0.0447	0.0259	1.1647	0.0945	-0.8490	0.0934
3	240.12	0.4997	0.2031	0.0032	0.0430	0.0332	1.5634	0.1218	-1.0657	0.0772
3	240.12	0.5556	0.2567	0.0041	0.0556	0.0436	2.1352	0.1525	-1.0685	0.0836
3	240.12	0.5995	0.2907	0.0065	0.0506	0.0516	2.6516	0.1749	-1.1800	0.0958
3	240.12	0.6498	0.3245	0.0072	0.0473	0.0627	3.3722	0.2054	-1.2465	0.0933
3	240.12	0.6890	0.3271	0.0091	0.0263	0.0705	3.9543	0.2289	-1.6595	0.0849
3	240.12	0.7495	0.3617	0.0108	0.0656	0.0843	5.1193	0.2666	-1.6669	0.0774
3	240.12	0.7998	0.3630	0.0137	0.0888	0.0961	6.2269	0.2966	-1.7672	0.0783
3	240.12	0.8577	0.3680	0.0163	0.1400	0.1111	7.6144	0.3284	-1.7849	0.0745
3	240.12	0.9178	0.2702	0.0188	0.1813	0.1272	9.1300	0.3589	-2.1107	0.0840
3	240.12	0.9729	0.2097	0.0243	0.2769	0.1416	10.6893	0.3870	-2.2948	0.0795

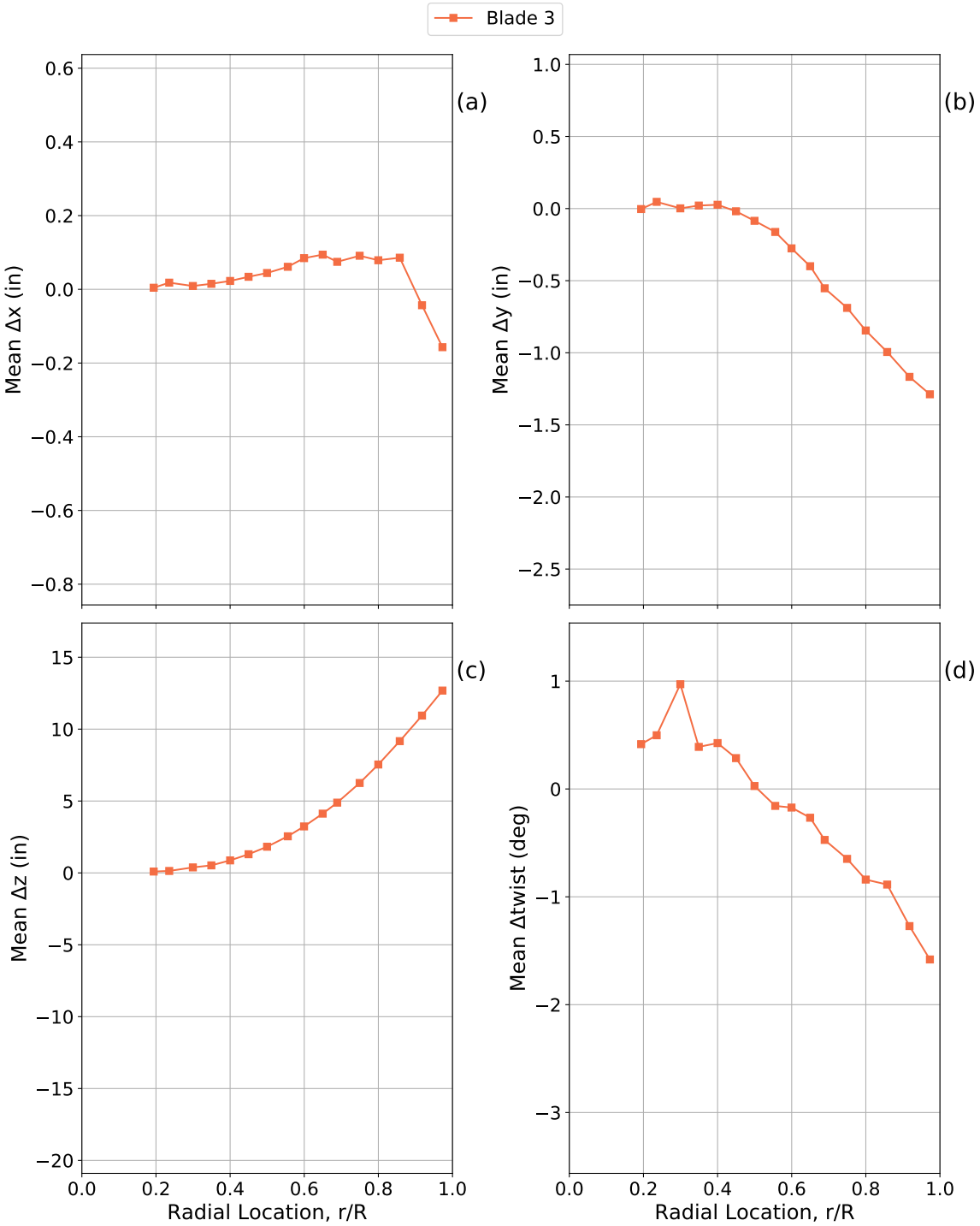


Figure 3.18-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	0.0043	0.0106	-0.0034	0.0029	0.0944	0.0275	0.4154	0.2131
3	254.88	0.2357	0.0181	0.0062	0.0466	0.0066	0.1361	0.0413	0.4980	0.2562
3	254.88	0.2995	0.0090	0.0038	0.0016	0.0055	0.3819	0.0645	0.9714	0.4687
3	254.88	0.3493	0.0150	0.0118	0.0210	0.0138	0.5238	0.1371	0.3901	0.2710
3	254.88	0.4000	0.0227	0.0166	0.0264	0.0183	0.8708	0.1733	0.4253	0.2596
3	254.88	0.4497	0.0340	0.0194	-0.0187	0.0232	1.2976	0.2055	0.2861	0.2470
3	254.88	0.4997	0.0443	0.0229	-0.0849	0.0280	1.8203	0.2390	0.0273	0.2735
3	254.88	0.5556	0.0611	0.0273	-0.1621	0.0345	2.5455	0.2814	-0.1570	0.2582
3	254.88	0.5995	0.0846	0.0291	-0.2758	0.0409	3.2328	0.3147	-0.1725	0.2586
3	254.88	0.6498	0.0941	0.0325	-0.3997	0.0485	4.1228	0.3522	-0.2668	0.2524
3	254.88	0.6890	0.0746	0.0350	-0.5528	0.0553	4.8875	0.3815	-0.4726	0.2598
3	254.88	0.7495	0.0911	0.0393	-0.6888	0.0668	6.2546	0.4237	-0.6483	0.2609
3	254.88	0.7998	0.0789	0.0433	-0.8455	0.0782	7.5400	0.4574	-0.8401	0.2630
3	254.88	0.8577	0.0858	0.0464	-0.9946	0.0925	9.1662	0.4950	-0.8865	0.2603
3	254.88	0.9178	-0.0432	0.0525	-1.1670	0.1074	10.9440	0.5331	-1.2715	0.2656
3	254.88	0.9729	-0.1570	0.0574	-1.2880	0.1226	12.6824	0.5635	-1.5810	0.2712

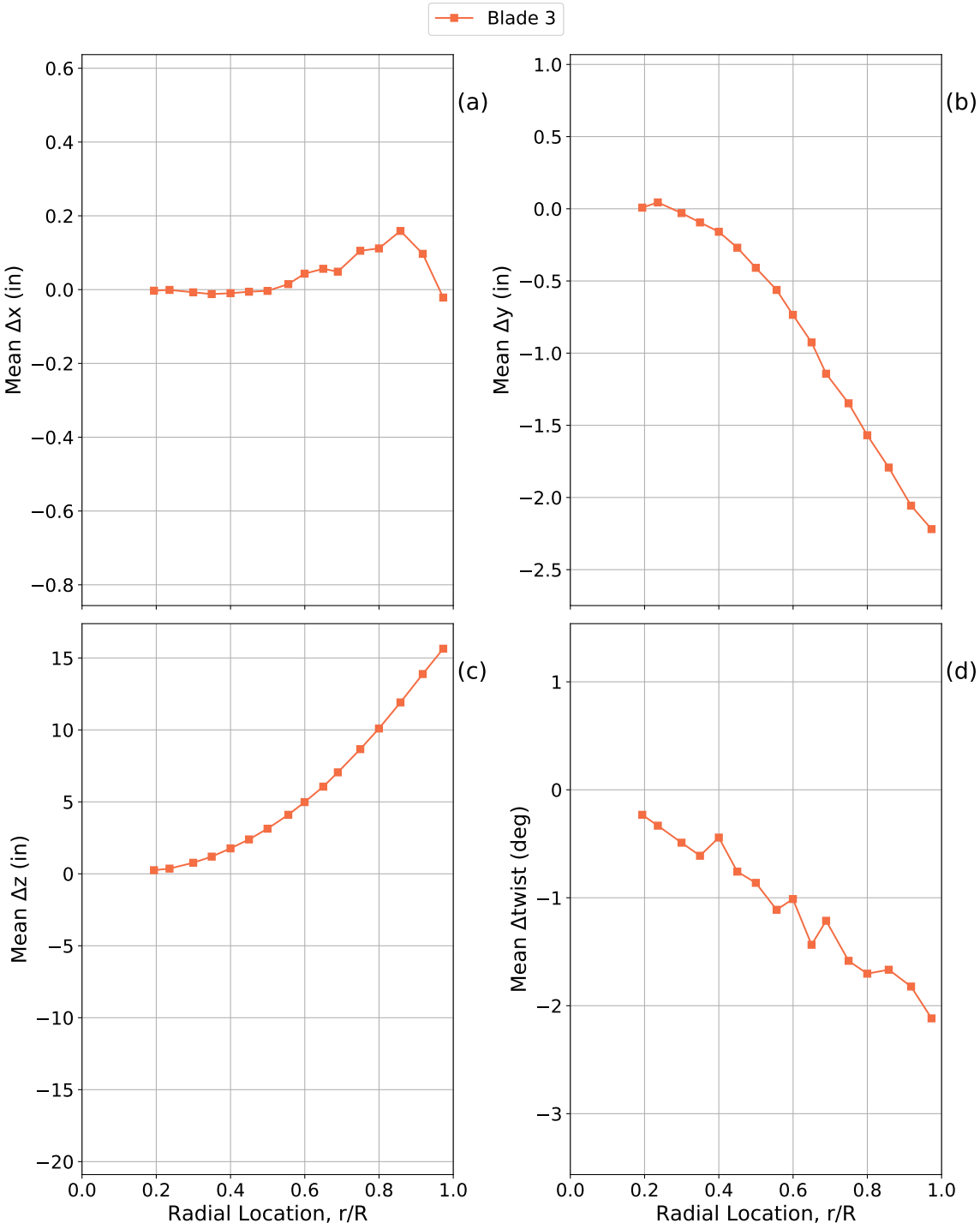


Figure 3.18-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0029	0.0023	0.0082	0.0013	0.2520	0.0106	-0.2320	0.0512
3	260.16	0.2357	-0.0008	0.0008	0.0443	0.0022	0.3630	0.0146	-0.3323	0.0443
3	260.16	0.2995	-0.0073	0.0016	-0.0296	0.0024	0.7685	0.0311	-0.4900	0.0893
3	260.16	0.3493	-0.0121	0.0032	-0.0946	0.0054	1.1960	0.0467	-0.6108	0.1188
3	260.16	0.4000	-0.0097	0.0035	-0.1590	0.0086	1.7673	0.0687	-0.4426	0.0801
3	260.16	0.4497	-0.0057	0.0050	-0.2695	0.0130	2.3911	0.0924	-0.7580	0.0690
3	260.16	0.4997	-0.0034	0.0065	-0.4089	0.0181	3.1361	0.1182	-0.8621	0.0926
3	260.16	0.5556	0.0149	0.0083	-0.5621	0.0240	4.1017	0.1522	-1.1115	0.0744
3	260.16	0.5995	0.0433	0.0111	-0.7346	0.0309	4.9838	0.1775	-1.0120	0.0809
3	260.16	0.6498	0.0564	0.0144	-0.9257	0.0377	6.0592	0.2109	-1.4355	0.0966
3	260.16	0.6890	0.0487	0.0176	-1.1425	0.0453	7.0494	0.2367	-1.2130	0.0617
3	260.16	0.7495	0.1053	0.0213	-1.3475	0.0561	8.6638	0.2738	-1.5842	0.0683
3	260.16	0.7998	0.1117	0.0253	-1.5687	0.0666	10.0978	0.3077	-1.7031	0.0992
3	260.16	0.8577	0.1591	0.0301	-1.7927	0.0792	11.9109	0.3409	-1.6663	0.1074
3	260.16	0.9178	0.0970	0.0345	-2.0565	0.0922	13.8826	0.3662	-1.8224	0.1252
3	260.16	0.9729	-0.0215	0.0445	-2.2191	0.1044	15.6439	0.3923	-2.1169	0.1208

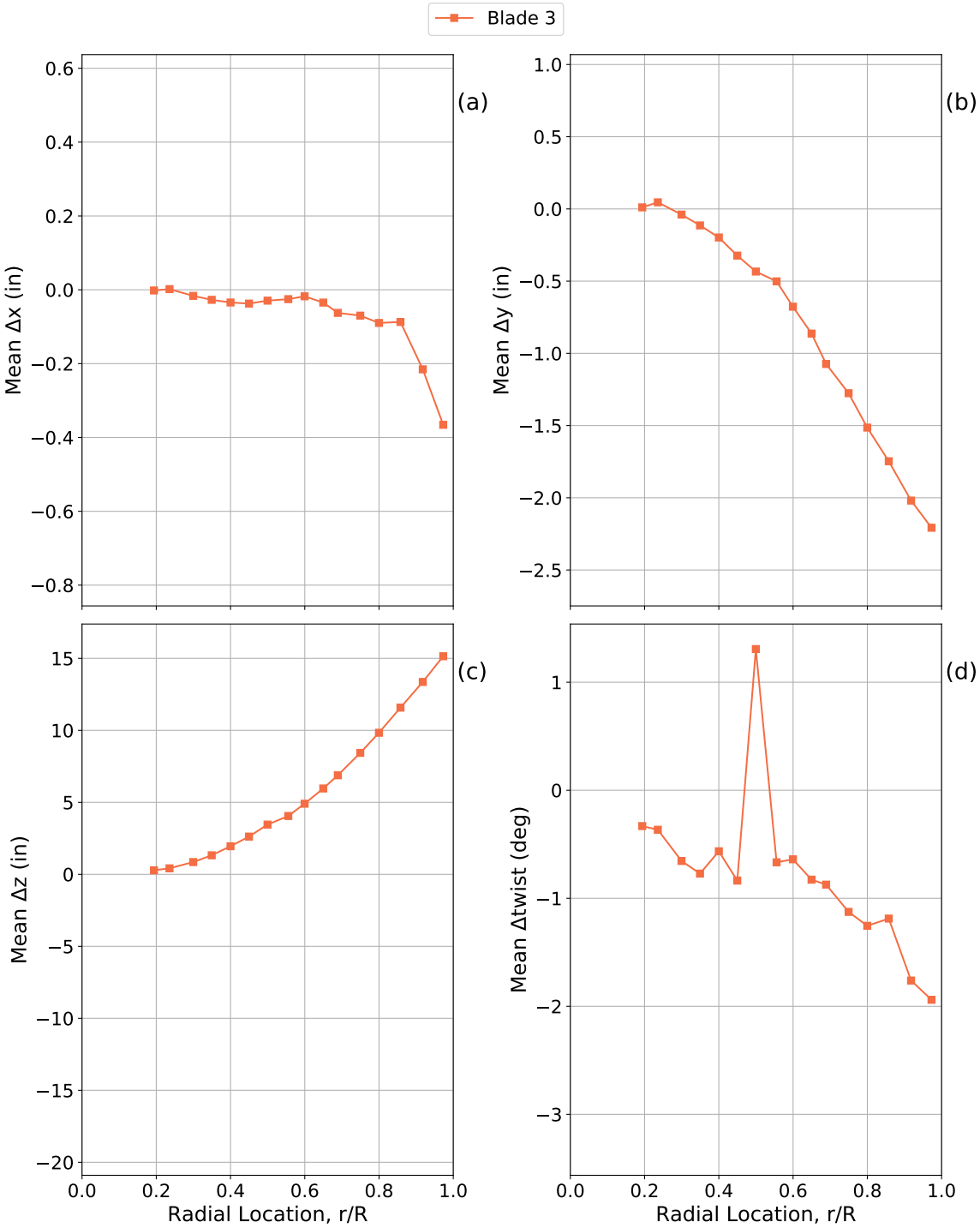


Figure 3.18-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0018	0.0048	0.0108	0.0021	0.2805	0.0146	-0.3317	0.0330
3	265.08	0.2357	0.0018	0.0023	0.0457	0.0021	0.4153	0.0239	-0.3657	0.0642
3	265.08	0.2995	-0.0164	0.0041	-0.0391	0.0026	0.8508	0.0482	-0.6544	0.0794
3	265.08	0.3493	-0.0272	0.0078	-0.1141	0.0057	1.3220	0.0678	-0.7715	0.1010
3	265.08	0.4000	-0.0344	0.0137	-0.1978	0.0112	1.9501	0.1057	-0.5649	0.0879
3	265.08	0.4497	-0.0373	0.0172	-0.3232	0.0158	2.6204	0.1269	-0.8361	0.0979
3	265.08	0.4997	-0.0294	0.0201	-0.4337	0.0179	3.4549	0.1611	1.3069	0.6260
3	265.08	0.5556	-0.0253	0.0264	-0.5015	0.0346	4.0519	0.1289	-0.6671	0.1026
3	265.08	0.5995	-0.0177	0.0300	-0.6771	0.0392	4.9037	0.1439	-0.6393	0.0756
3	265.08	0.6498	-0.0346	0.0341	-0.8631	0.0473	5.9630	0.1568	-0.8277	0.0994
3	265.08	0.6890	-0.0625	0.0363	-1.0736	0.0535	6.8787	0.1704	-0.8736	0.0939
3	265.08	0.7495	-0.0700	0.0418	-1.2759	0.0633	8.4329	0.1875	-1.1259	0.0992
3	265.08	0.7998	-0.0898	0.0460	-1.5141	0.0725	9.8324	0.2006	-1.2551	0.0945
3	265.08	0.8577	-0.0871	0.0488	-1.7471	0.0832	11.5774	0.2129	-1.1880	0.1005
3	265.08	0.9178	-0.2154	0.0524	-2.0193	0.0927	13.3591	0.2220	-1.7617	0.1150
3	265.08	0.9729	-0.3657	0.0574	-2.2074	0.1016	15.1462	0.2318	-1.9396	0.1179

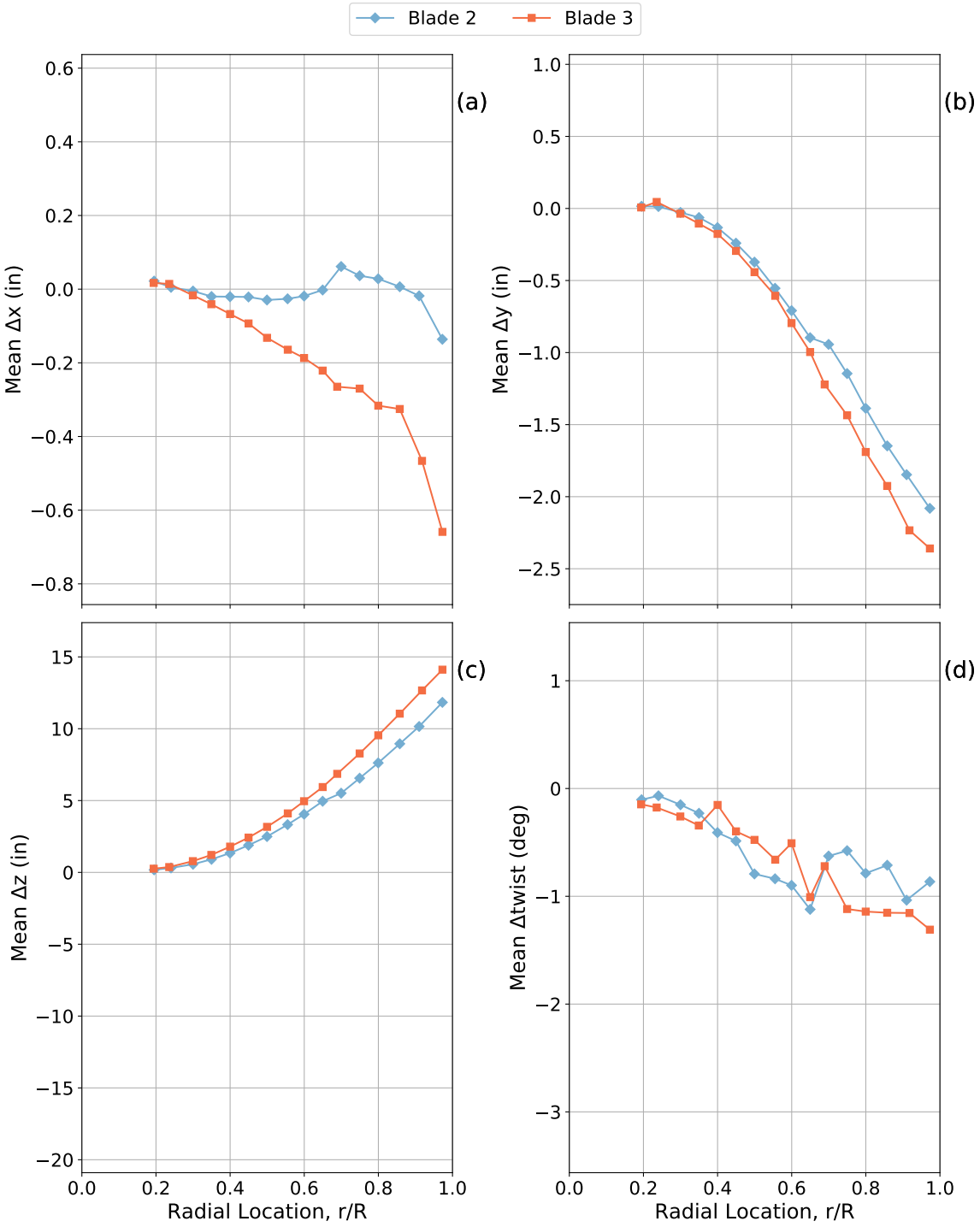


Figure 3.18-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0219	0.0050	0.0152	0.0016	0.1770	0.0048	-0.1040	0.0638
2	270.35	0.2405	0.0050	0.0042	0.0135	0.0013	0.3098	0.0144	-0.0673	0.0765
2	270.35	0.2999	-0.0051	0.0027	-0.0275	0.0030	0.5659	0.0155	-0.1507	0.1356
2	270.35	0.3498	-0.0200	0.0081	-0.0628	0.0055	0.9104	0.0251	-0.2299	0.1603
2	270.35	0.3998	-0.0205	0.0132	-0.1328	0.0076	1.3429	0.0375	-0.4090	0.1405
2	270.35	0.4496	-0.0212	0.0182	-0.2407	0.0112	1.8902	0.0485	-0.4866	0.1190
2	270.35	0.4995	-0.0294	0.0251	-0.3724	0.0153	2.4954	0.0573	-0.7925	0.1260
2	270.35	0.5551	-0.0262	0.0353	-0.5539	0.0203	3.3262	0.0686	-0.8376	0.1240
2	270.35	0.5996	-0.0188	0.0449	-0.7089	0.0257	4.0501	0.0770	-0.8984	0.1312
2	270.35	0.6497	-0.0023	0.0581	-0.8967	0.0318	4.9524	0.0933	-1.1215	0.1210
2	270.35	0.6996	0.0615	0.0336	-0.9432	0.0560	5.5141	0.2526	-0.6266	0.0872
2	270.35	0.7495	0.0364	0.0428	-1.1456	0.0628	6.5575	0.2775	-0.5769	0.1147
2	270.35	0.7996	0.0281	0.0503	-1.3868	0.0679	7.6211	0.2940	-0.7867	0.0868
2	270.35	0.8578	0.0066	0.0628	-1.6477	0.0758	8.9523	0.3245	-0.7118	0.0725
2	270.35	0.9100	-0.0182	0.0745	-1.8474	0.0827	10.1557	0.3375	-1.0360	0.0889
2	270.35	0.9727	-0.1361	0.0933	-2.0809	0.0907	11.8348	0.3623	-0.8642	0.1024
3	270	0.1938	0.0169	0.0072	0.0070	0.0022	0.2584	0.0119	-0.1469	0.0776
3	270	0.2357	0.0142	0.0035	0.0451	0.0017	0.3711	0.0209	-0.1764	0.0994
3	270	0.2995	-0.0168	0.0042	-0.0363	0.0031	0.7836	0.0326	-0.2596	0.1664
3	270	0.3493	-0.0409	0.0064	-0.1049	0.0052	1.2148	0.0542	-0.3434	0.1742
3	270	0.4000	-0.0676	0.0104	-0.1766	0.0098	1.7942	0.0746	-0.1526	0.1364
3	270	0.4497	-0.0931	0.0124	-0.2946	0.0131	2.4238	0.0986	-0.3976	0.1468
3	270	0.4997	-0.1321	0.0141	-0.4421	0.0176	3.1699	0.1210	-0.4767	0.1508
3	270	0.5556	-0.1644	0.0177	-0.6061	0.0226	4.1068	0.1479	-0.6606	0.1727
3	270	0.5995	-0.1869	0.0208	-0.7955	0.0277	4.9553	0.1729	-0.5078	0.1579
3	270	0.6498	-0.2211	0.0278	-0.9963	0.0336	5.9394	0.2061	-1.0078	0.1713
3	270	0.6890	-0.2649	0.0332	-1.2215	0.0383	6.8600	0.2345	-0.7208	0.1475
3	270	0.7495	-0.2700	0.0467	-1.4351	0.0452	8.2771	0.2680	-1.1180	0.1895
3	270	0.7998	-0.3163	0.0597	-1.6898	0.0526	9.5421	0.3109	-1.1418	0.1831
3	270	0.8577	-0.3254	0.0793	-1.9257	0.0591	11.0489	0.3543	-1.1527	0.1962
3	270	0.9178	-0.4662	0.1052	-2.2335	0.0737	12.6659	0.4140	-1.1552	0.1858
3	270	0.9729	-0.6589	0.1258	-2.3594	0.0760	14.1116	0.4623	-1.3095	0.1759

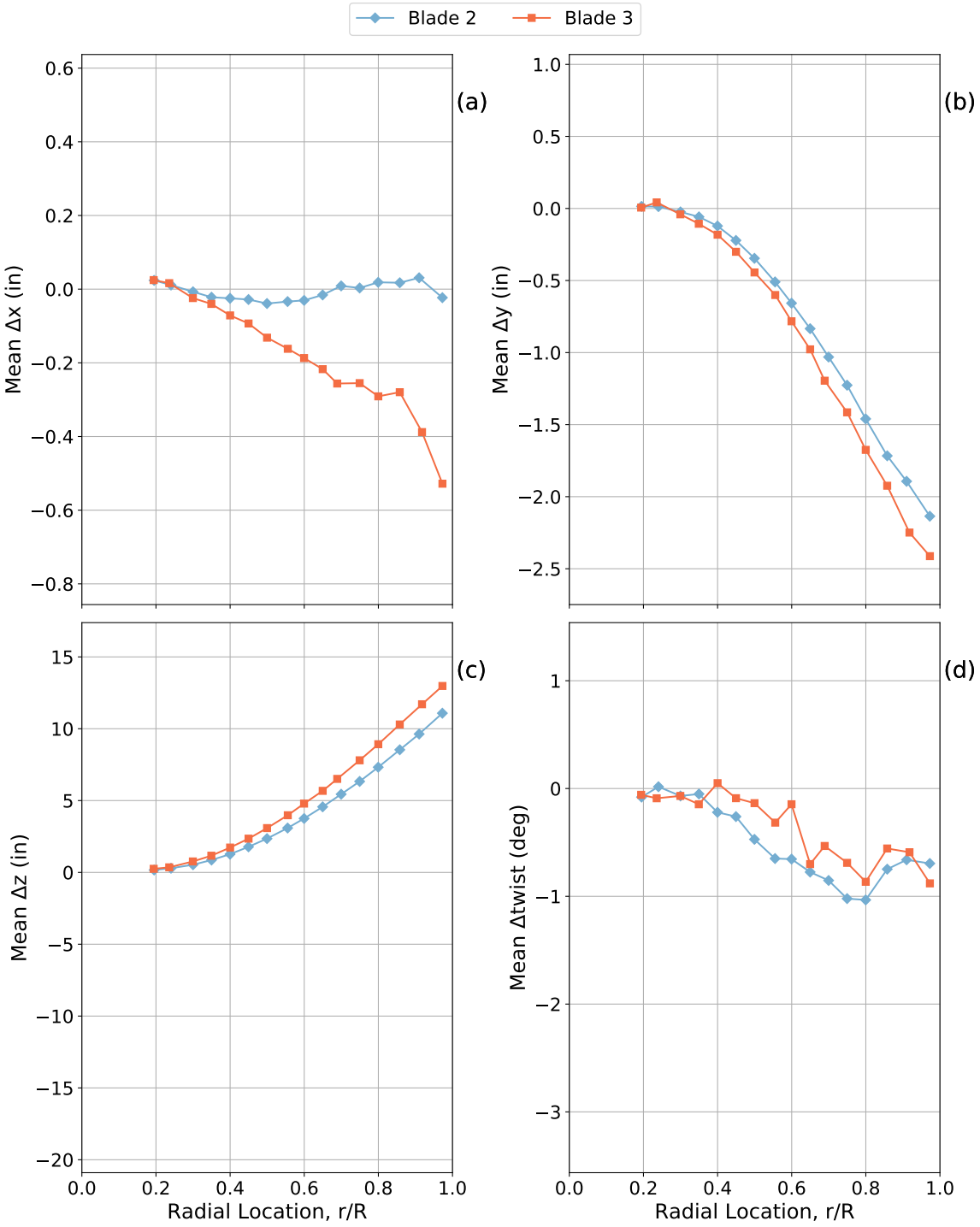


Figure 3.18-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0238	0.0028	0.0145	0.0016	0.1670	0.0102	-0.0798	0.0529
2	274.92	0.2405	0.0111	0.0055	0.0128	0.0026	0.2898	0.0238	0.0165	0.0476
2	274.92	0.2999	-0.0071	0.0028	-0.0238	0.0074	0.5327	0.0315	-0.0692	0.1025
2	274.92	0.3498	-0.0219	0.0033	-0.0583	0.0131	0.8609	0.0413	-0.0509	0.1530
2	274.92	0.3998	-0.0249	0.0050	-0.1217	0.0242	1.2673	0.0657	-0.2208	0.0749
2	274.92	0.4496	-0.0281	0.0066	-0.2217	0.0327	1.7807	0.0819	-0.2607	0.1188
2	274.92	0.4995	-0.0390	0.0077	-0.3460	0.0423	2.3511	0.0952	-0.4718	0.1027
2	274.92	0.5551	-0.0337	0.0094	-0.5097	0.0550	3.0885	0.1172	-0.6498	0.1151
2	274.92	0.5996	-0.0305	0.0101	-0.6574	0.0665	3.7521	0.1350	-0.6550	0.1061
2	274.92	0.6497	-0.0157	0.0116	-0.8341	0.0806	4.5624	0.1538	-0.7751	0.1239
2	274.92	0.6996	0.0088	0.0138	-1.0311	0.0953	5.4426	0.1804	-0.8531	0.1255
2	274.92	0.7495	0.0032	0.0163	-1.2266	0.1104	6.3314	0.2072	-1.0215	0.1313
2	274.92	0.7996	0.0186	0.0182	-1.4601	0.1268	7.3209	0.2363	-1.0337	0.1515
2	274.92	0.8578	0.0174	0.0226	-1.7165	0.1452	8.5352	0.2780	-0.7485	0.1435
2	274.92	0.9100	0.0309	0.0275	-1.8933	0.1618	9.6299	0.3171	-0.6615	0.1373
2	274.92	0.9727	-0.0231	0.0363	-2.1356	0.1815	11.0797	0.3556	-0.6954	0.1763
3	274.92	0.1938	0.0246	0.0062	0.0060	0.0016	0.2495	0.0087	-0.0583	0.0874
3	274.92	0.2357	0.0163	0.0022	0.0421	0.0017	0.3523	0.0150	-0.0906	0.1161
3	274.92	0.2995	-0.0242	0.0030	-0.0408	0.0037	0.7625	0.0210	-0.0690	0.1953
3	274.92	0.3493	-0.0401	0.0041	-0.1063	0.0066	1.1622	0.0297	-0.1462	0.1750
3	274.92	0.4000	-0.0713	0.0072	-0.1821	0.0115	1.7299	0.0425	0.0495	0.2012
3	274.92	0.4497	-0.0932	0.0091	-0.3007	0.0153	2.3482	0.0453	-0.0899	0.2081
3	274.92	0.4997	-0.1317	0.0105	-0.4441	0.0191	3.0840	0.0551	-0.1359	0.2195
3	274.92	0.5556	-0.1619	0.0131	-0.6006	0.0243	3.9780	0.0644	-0.3166	0.2510
3	274.92	0.5995	-0.1870	0.0163	-0.7829	0.0284	4.7892	0.0741	-0.1460	0.2613
3	274.92	0.6498	-0.2172	0.0205	-0.9777	0.0337	5.6755	0.0819	-0.7011	0.2887
3	274.92	0.6890	-0.2562	0.0246	-1.1951	0.0381	6.5077	0.0869	-0.5332	0.2855
3	274.92	0.7495	-0.2551	0.0333	-1.4147	0.0449	7.8026	0.1019	-0.6897	0.3076
3	274.92	0.7998	-0.2910	0.0421	-1.6751	0.0511	8.9211	0.1215	-0.8655	0.2717
3	274.92	0.8577	-0.2797	0.0545	-1.9240	0.0583	10.2963	0.1404	-0.5565	0.3004
3	274.92	0.9178	-0.3880	0.0697	-2.2490	0.0671	11.7030	0.1820	-0.5912	0.3083
3	274.92	0.9729	-0.5281	0.0882	-2.4127	0.0754	12.9760	0.2040	-0.8802	0.2671

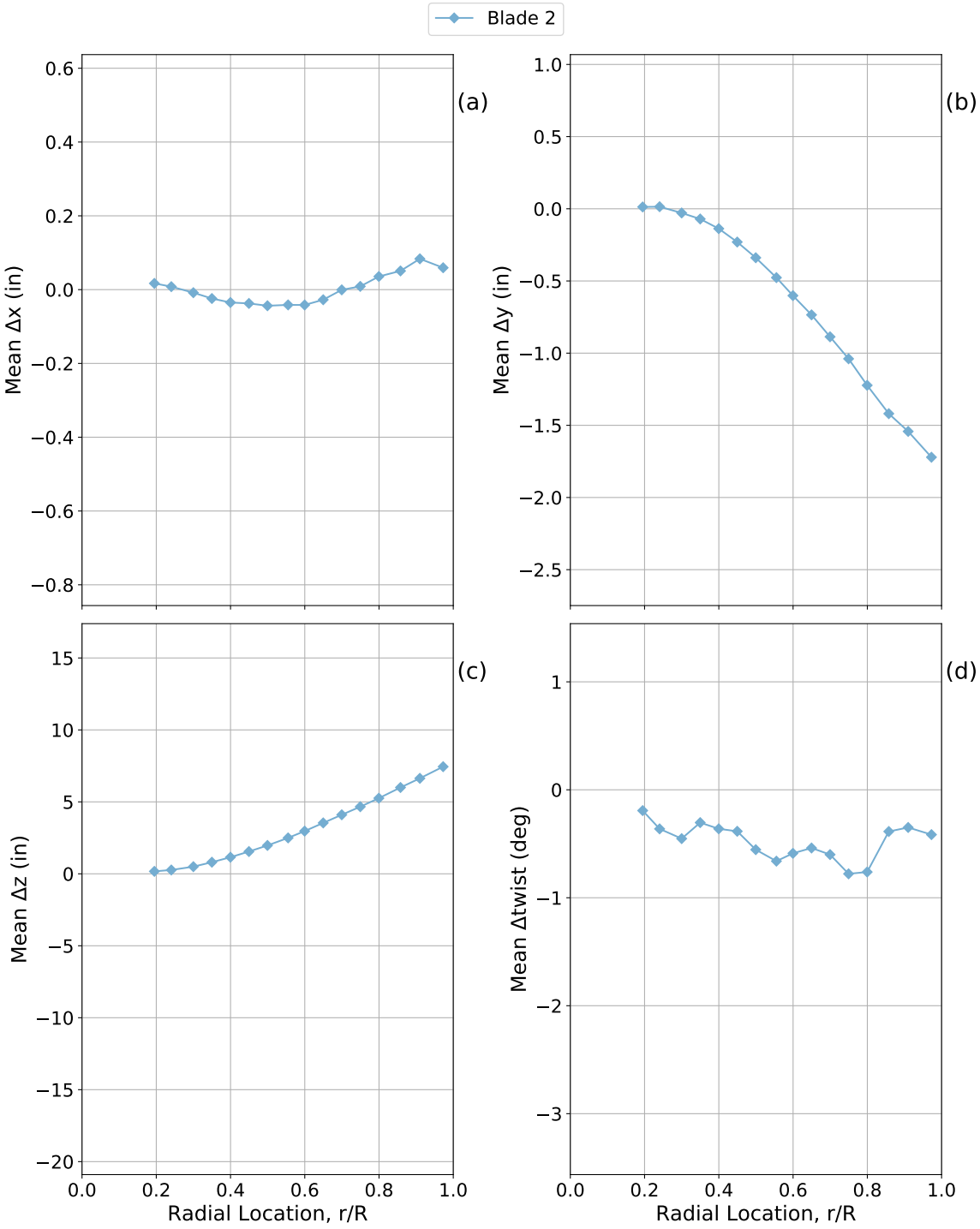


Figure 3.18-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0169	0.0031	0.0127	0.0016	0.1710	0.0124	-0.1927	0.0496
2	285.12	0.2405	0.0081	0.0025	0.0145	0.0018	0.2674	0.0190	-0.3620	0.1040
2	285.12	0.2999	-0.0083	0.0026	-0.0289	0.0031	0.4960	0.0350	-0.4523	0.1290
2	285.12	0.3498	-0.0241	0.0025	-0.0706	0.0058	0.8065	0.0577	-0.3040	0.1219
2	285.12	0.3998	-0.0349	0.0020	-0.1375	0.0104	1.1529	0.0815	-0.3614	0.1105
2	285.12	0.4496	-0.0374	0.0030	-0.2303	0.0156	1.5491	0.1060	-0.3844	0.1032
2	285.12	0.4995	-0.0437	0.0040	-0.3391	0.0227	1.9718	0.1324	-0.5546	0.1284
2	285.12	0.5551	-0.0414	0.0054	-0.4768	0.0318	2.4969	0.1608	-0.6610	0.1449
2	285.12	0.5996	-0.0416	0.0059	-0.6015	0.0405	2.9669	0.1896	-0.5885	0.1422
2	285.12	0.6497	-0.0274	0.0079	-0.7348	0.0527	3.5374	0.2201	-0.5391	0.1424
2	285.12	0.6996	-0.0006	0.0090	-0.8868	0.0659	4.1027	0.2535	-0.6001	0.1697
2	285.12	0.7495	0.0088	0.0106	-1.0391	0.0814	4.6637	0.2895	-0.7784	0.1928
2	285.12	0.7996	0.0356	0.0121	-1.2230	0.0972	5.2562	0.3174	-0.7614	0.1935
2	285.12	0.8578	0.0507	0.0128	-1.4193	0.1171	5.9988	0.3613	-0.3863	0.1741
2	285.12	0.9100	0.0835	0.0156	-1.5422	0.1352	6.6354	0.4023	-0.3490	0.1894
2	285.12	0.9727	0.0593	0.0200	-1.7212	0.1582	7.4458	0.4495	-0.4152	0.1913

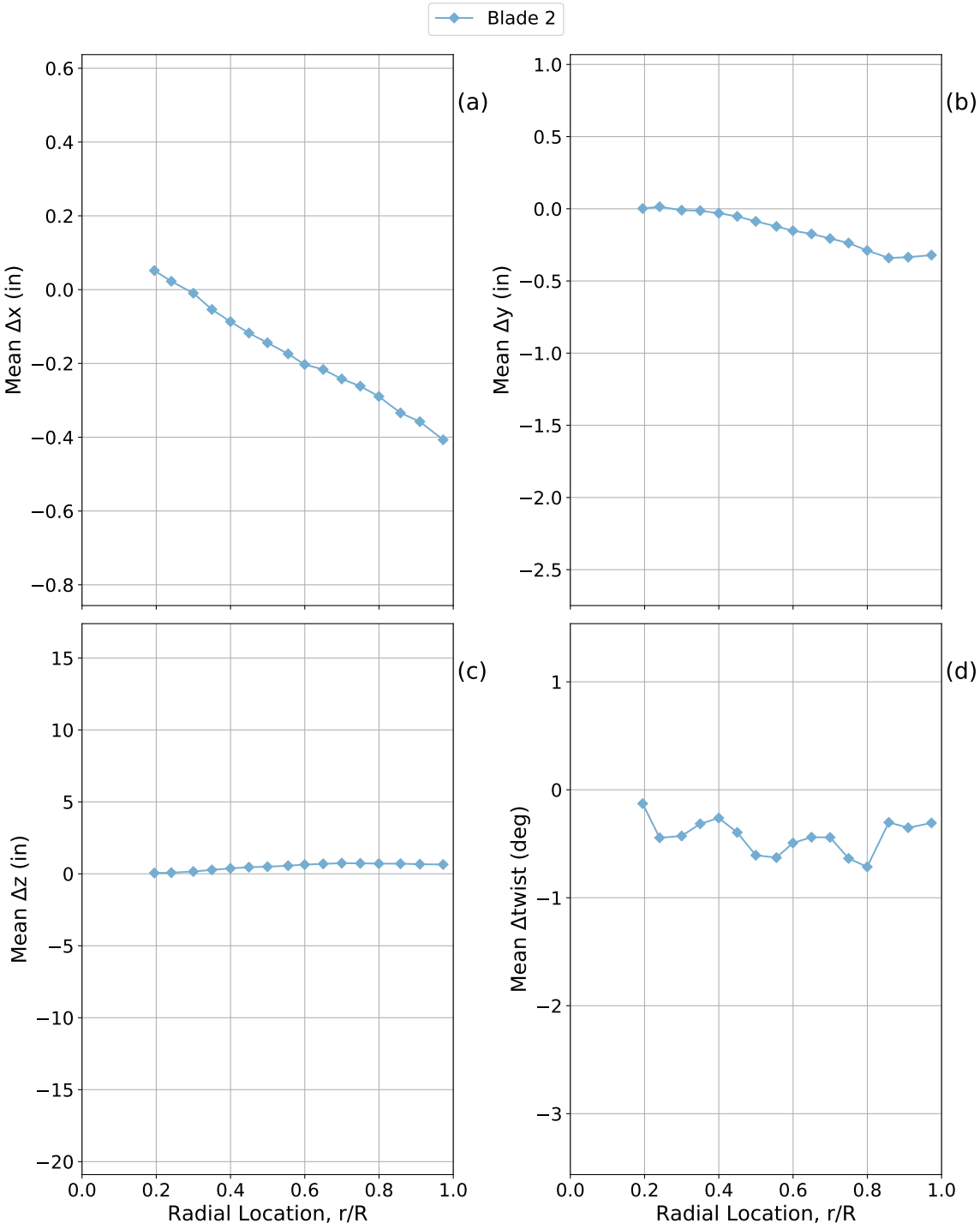


Figure 3.18-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0517	0.0041	0.0018	0.0021	0.0584	0.0163	-0.1279	0.0527
2	299.88	0.2405	0.0226	0.0035	0.0144	0.0048	0.0785	0.0209	-0.4447	0.1796
2	299.88	0.2999	-0.0097	0.0035	-0.0100	0.0062	0.1590	0.0434	-0.4278	0.1732
2	299.88	0.3498	-0.0537	0.0031	-0.0131	0.0125	0.2717	0.0676	-0.3151	0.1840
2	299.88	0.3998	-0.0868	0.0033	-0.0307	0.0198	0.3755	0.0966	-0.2616	0.1183
2	299.88	0.4496	-0.1177	0.0036	-0.0525	0.0253	0.4610	0.1177	-0.3952	0.1203
2	299.88	0.4995	-0.1441	0.0050	-0.0871	0.0307	0.4945	0.1460	-0.6064	0.1181
2	299.88	0.5551	-0.1741	0.0062	-0.1220	0.0409	0.5624	0.1678	-0.6283	0.1293
2	299.88	0.5996	-0.2030	0.0090	-0.1519	0.0492	0.6397	0.1881	-0.4928	0.1366
2	299.88	0.6497	-0.2164	0.0092	-0.1741	0.0596	0.6919	0.2123	-0.4392	0.1447
2	299.88	0.6996	-0.2421	0.0102	-0.2059	0.0689	0.7402	0.2364	-0.4410	0.1351
2	299.88	0.7495	-0.2616	0.0107	-0.2370	0.0792	0.7279	0.2637	-0.6353	0.1425
2	299.88	0.7996	-0.2896	0.0115	-0.2888	0.0906	0.7098	0.2899	-0.7139	0.1549
2	299.88	0.8578	-0.3342	0.0129	-0.3407	0.1036	0.7043	0.3238	-0.3021	0.1322
2	299.88	0.9100	-0.3578	0.0139	-0.3353	0.1146	0.6673	0.3572	-0.3515	0.1331
2	299.88	0.9727	-0.4070	0.0175	-0.3209	0.1277	0.6483	0.4005	-0.3072	0.1361

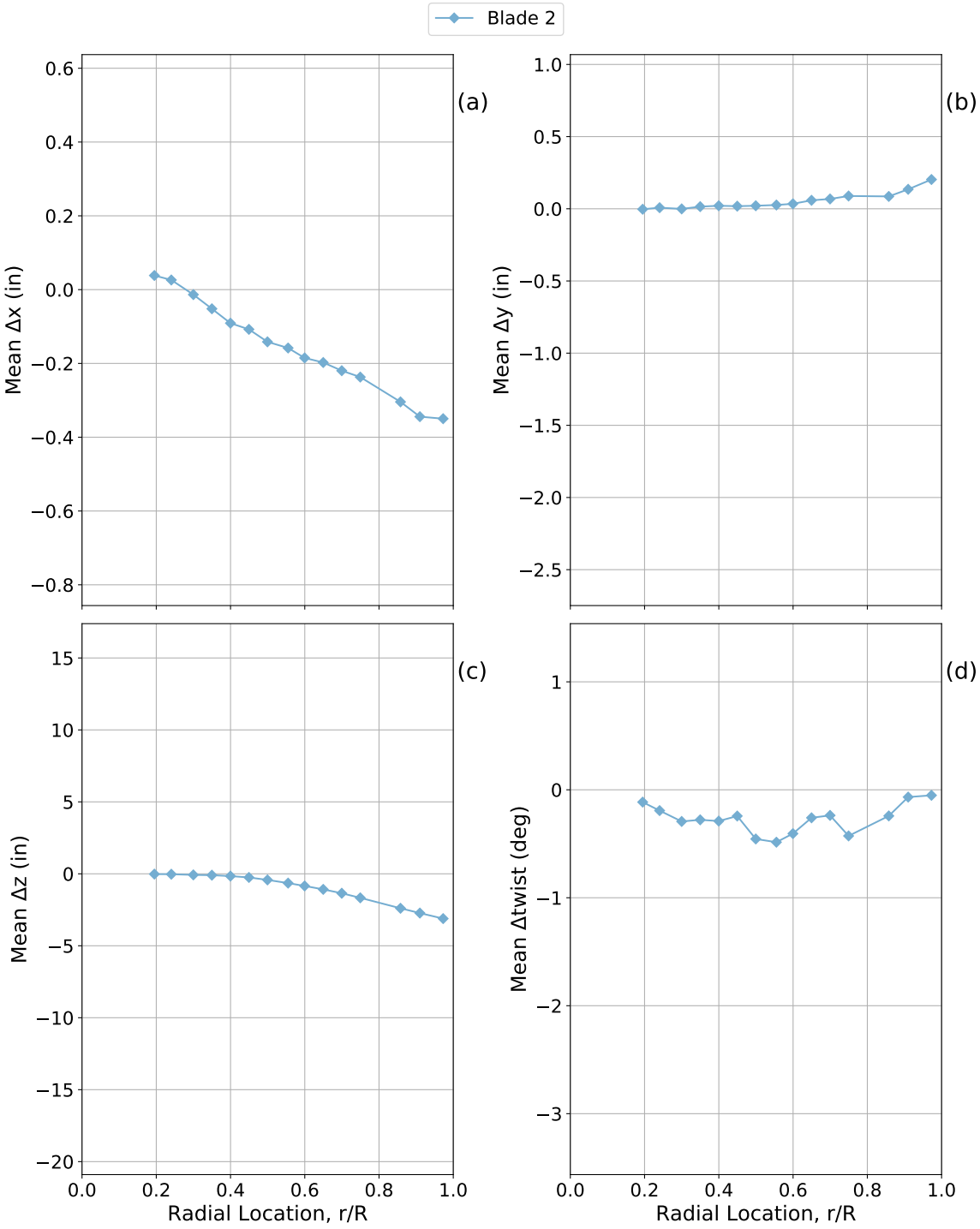


Figure 3.18-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.4, α = -10°
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0383	0.0020	-0.0031	0.0024	-0.0197	0.0065	-0.1141	0.0364
2	315	0.2405	0.0262	0.0030	0.0077	0.0037	-0.0275	0.0106	-0.1928	0.0455
2	315	0.2999	-0.0135	0.0040	-0.0007	0.0075	-0.0746	0.0226	-0.2933	0.0491
2	315	0.3498	-0.0519	0.0029	0.0151	0.0122	-0.0945	0.0253	-0.2782	0.1233
2	315	0.3998	-0.0909	0.0040	0.0210	0.0178	-0.1582	0.0454	-0.2896	0.0751
2	315	0.4496	-0.1077	0.0041	0.0182	0.0218	-0.2517	0.0585	-0.2430	0.0803
2	315	0.4995	-0.1415	0.0062	0.0211	0.0281	-0.4225	0.0745	-0.4556	0.0580
2	315	0.5551	-0.1582	0.0065	0.0263	0.0364	-0.6449	0.0897	-0.4854	0.0820
2	315	0.5996	-0.1851	0.0065	0.0346	0.0434	-0.8428	0.1009	-0.4057	0.0777
2	315	0.6497	-0.1975	0.0074	0.0588	0.0506	-1.0806	0.1170	-0.2594	0.0645
2	315	0.6996	-0.2197	0.0082	0.0681	0.0585	-1.3503	0.1325	-0.2372	0.0532
2	315	0.7495	-0.2370	0.0091	0.0887	0.0663	-1.6685	0.1532	-0.4272	0.0601
2	315	0.8578	-0.3042	0.0102	0.0858	0.0844	-2.3947	0.2059	-0.2420	0.0806
2	315	0.9100	-0.3443	0.0150	0.1350	0.0924	-2.7279	0.2338	-0.0675	0.0721
2	315	0.9727	-0.3498	0.0135	0.2029	0.1049	-3.1122	0.2638	-0.0513	0.0569

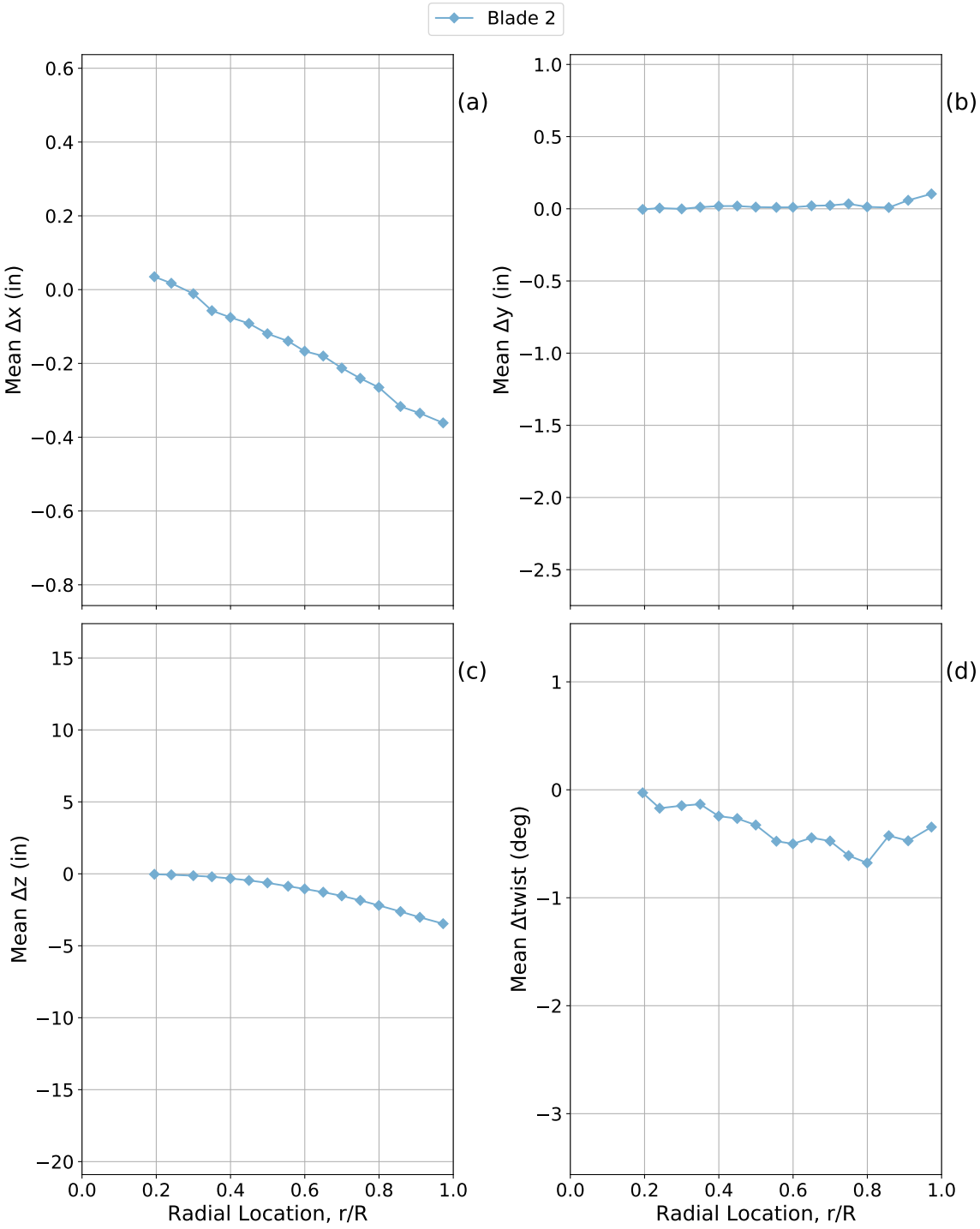


Figure 3.18-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0349	0.0021	-0.0041	0.0012	-0.0312	0.0096	-0.0278	0.0506
2	330.12	0.2405	0.0173	0.0023	0.0049	0.0058	-0.0670	0.0209	-0.1707	0.0400
2	330.12	0.2999	-0.0110	0.0046	-0.0007	0.0080	-0.1295	0.0325	-0.1473	0.0933
2	330.12	0.3498	-0.0570	0.0040	0.0112	0.0212	-0.2049	0.0478	-0.1336	0.0979
2	330.12	0.3998	-0.0754	0.0045	0.0188	0.0308	-0.3229	0.0744	-0.2444	0.0512
2	330.12	0.4496	-0.0917	0.0039	0.0191	0.0391	-0.4594	0.0921	-0.2660	0.0772
2	330.12	0.4995	-0.1195	0.0043	0.0118	0.0504	-0.6296	0.1139	-0.3264	0.0603
2	330.12	0.5551	-0.1395	0.0052	0.0099	0.0624	-0.8641	0.1415	-0.4765	0.0813
2	330.12	0.5996	-0.1669	0.0059	0.0105	0.0735	-1.0491	0.1615	-0.5001	0.0768
2	330.12	0.6497	-0.1800	0.0062	0.0207	0.0865	-1.2763	0.1897	-0.4444	0.0637
2	330.12	0.6996	-0.2125	0.0067	0.0235	0.0995	-1.5324	0.2191	-0.4747	0.0986
2	330.12	0.7495	-0.2405	0.0084	0.0342	0.1142	-1.8459	0.2466	-0.6099	0.0884
2	330.12	0.7996	-0.2651	0.0080	0.0132	0.1297	-2.1984	0.2755	-0.6773	0.0869
2	330.12	0.8578	-0.3167	0.0082	0.0089	0.1488	-2.6226	0.3105	-0.4253	0.0881
2	330.12	0.9100	-0.3349	0.0097	0.0589	0.1663	-3.0235	0.3421	-0.4724	0.0836
2	330.12	0.9727	-0.3612	0.0137	0.1033	0.1864	-3.4661	0.3833	-0.3453	0.0785

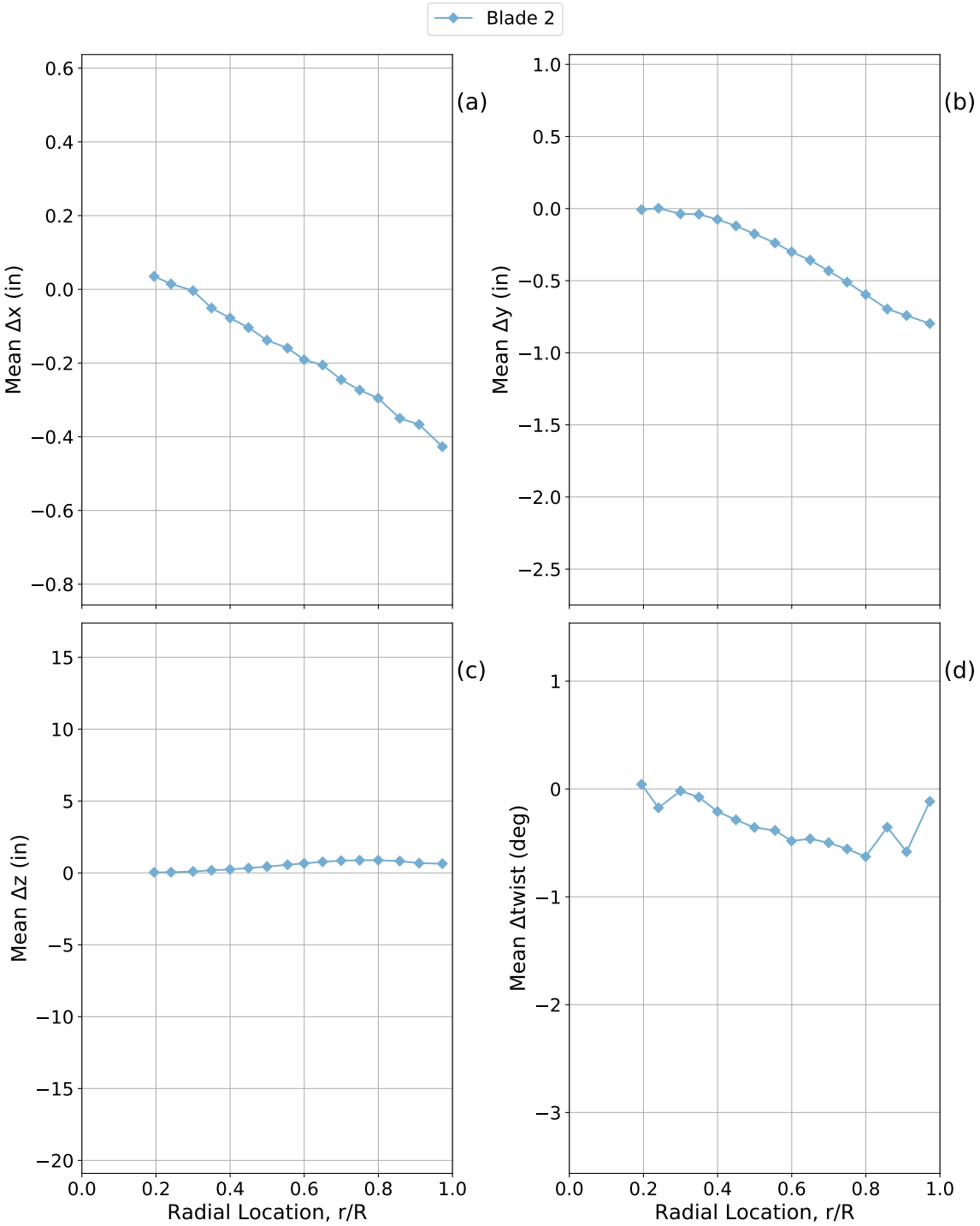


Figure 3.18-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0351	0.0027	-0.0072	0.0018	0.0378	0.0123	0.0427	0.0898
2	344.88	0.2405	0.0147	0.0042	0.0023	0.0034	0.0461	0.0206	-0.1748	0.1345
2	344.88	0.2999	-0.0037	0.0036	-0.0367	0.0076	0.0974	0.0366	-0.0185	0.2087
2	344.88	0.3498	-0.0508	0.0025	-0.0393	0.0167	0.1816	0.0640	-0.0762	0.1709
2	344.88	0.3998	-0.0779	0.0026	-0.0755	0.0240	0.2414	0.0914	-0.2097	0.1501
2	344.88	0.4496	-0.1039	0.0027	-0.1204	0.0310	0.3376	0.1185	-0.2863	0.1518
2	344.88	0.4995	-0.1382	0.0031	-0.1755	0.0379	0.4372	0.1479	-0.3569	0.1484
2	344.88	0.5551	-0.1595	0.0042	-0.2385	0.0444	0.5674	0.1819	-0.3850	0.1391
2	344.88	0.5996	-0.1910	0.0042	-0.2997	0.0502	0.6627	0.2050	-0.4821	0.1730
2	344.88	0.6497	-0.2054	0.0044	-0.3579	0.0589	0.7701	0.2376	-0.4623	0.1470
2	344.88	0.6996	-0.2452	0.0050	-0.4319	0.0658	0.8509	0.2659	-0.4985	0.1639
2	344.88	0.7495	-0.2734	0.0053	-0.5100	0.0744	0.8789	0.2944	-0.5565	0.1508
2	344.88	0.7996	-0.2954	0.0057	-0.5963	0.0830	0.8810	0.3216	-0.6279	0.1658
2	344.88	0.8578	-0.3501	0.0062	-0.6968	0.0921	0.8231	0.3532	-0.3549	0.1608
2	344.88	0.9100	-0.3667	0.0068	-0.7420	0.1022	0.6797	0.3781	-0.5825	0.1662
2	344.88	0.9727	-0.4270	0.0089	-0.7971	0.1135	0.6421	0.4092	-0.1151	0.1687

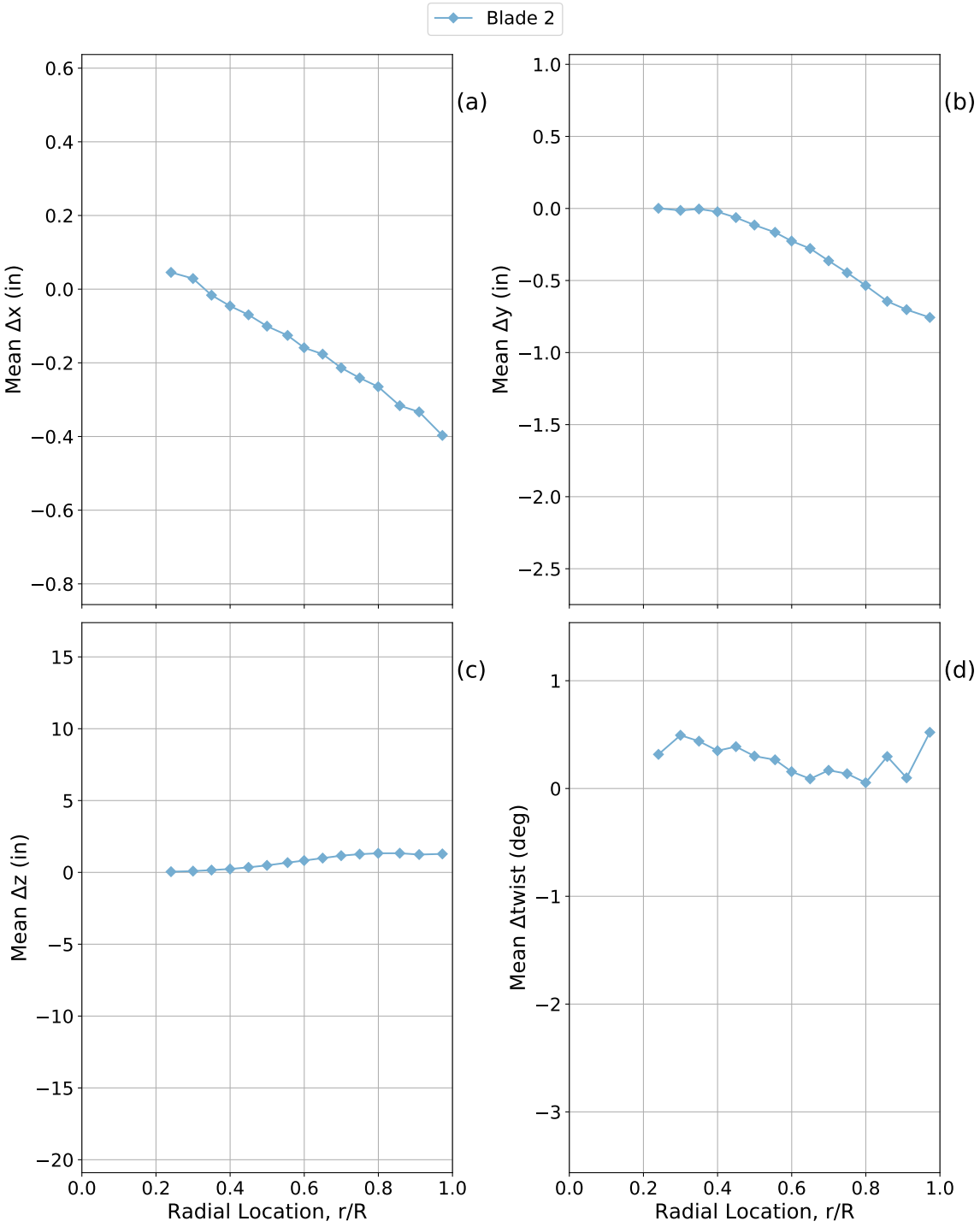


Figure 3.18-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0455	0.0033	0.0010	0.0037	0.0489	0.0141	0.3165	0.1070
2	350.16	0.2999	0.0288	0.0049	-0.0135	0.0073	0.0888	0.0282	0.4941	0.1650
2	350.16	0.3498	-0.0164	0.0035	-0.0038	0.0159	0.1615	0.0464	0.4389	0.1414
2	350.16	0.3998	-0.0457	0.0045	-0.0230	0.0231	0.2365	0.0712	0.3505	0.1190
2	350.16	0.4496	-0.0697	0.0043	-0.0633	0.0305	0.3524	0.0894	0.3884	0.1081
2	350.16	0.4995	-0.1005	0.0041	-0.1152	0.0346	0.4886	0.1083	0.3005	0.1170
2	350.16	0.5551	-0.1256	0.0043	-0.1656	0.0435	0.6790	0.1316	0.2663	0.1204
2	350.16	0.5996	-0.1590	0.0048	-0.2262	0.0477	0.8238	0.1508	0.1565	0.1316
2	350.16	0.6497	-0.1764	0.0056	-0.2779	0.0537	0.9943	0.1730	0.0895	0.1275
2	350.16	0.6996	-0.2136	0.0058	-0.3630	0.0583	1.1640	0.1916	0.1689	0.1258
2	350.16	0.7495	-0.2410	0.0060	-0.4459	0.0638	1.2678	0.2137	0.1372	0.1258
2	350.16	0.7996	-0.2649	0.0062	-0.5350	0.0684	1.3303	0.2308	0.0540	0.1404
2	350.16	0.8578	-0.3164	0.0069	-0.6444	0.0747	1.3330	0.2546	0.2964	0.1207
2	350.16	0.9100	-0.3332	0.0075	-0.7023	0.0805	1.2423	0.2748	0.0987	0.1170
2	350.16	0.9727	-0.3971	0.0092	-0.7564	0.0879	1.2863	0.2986	0.5213	0.1075

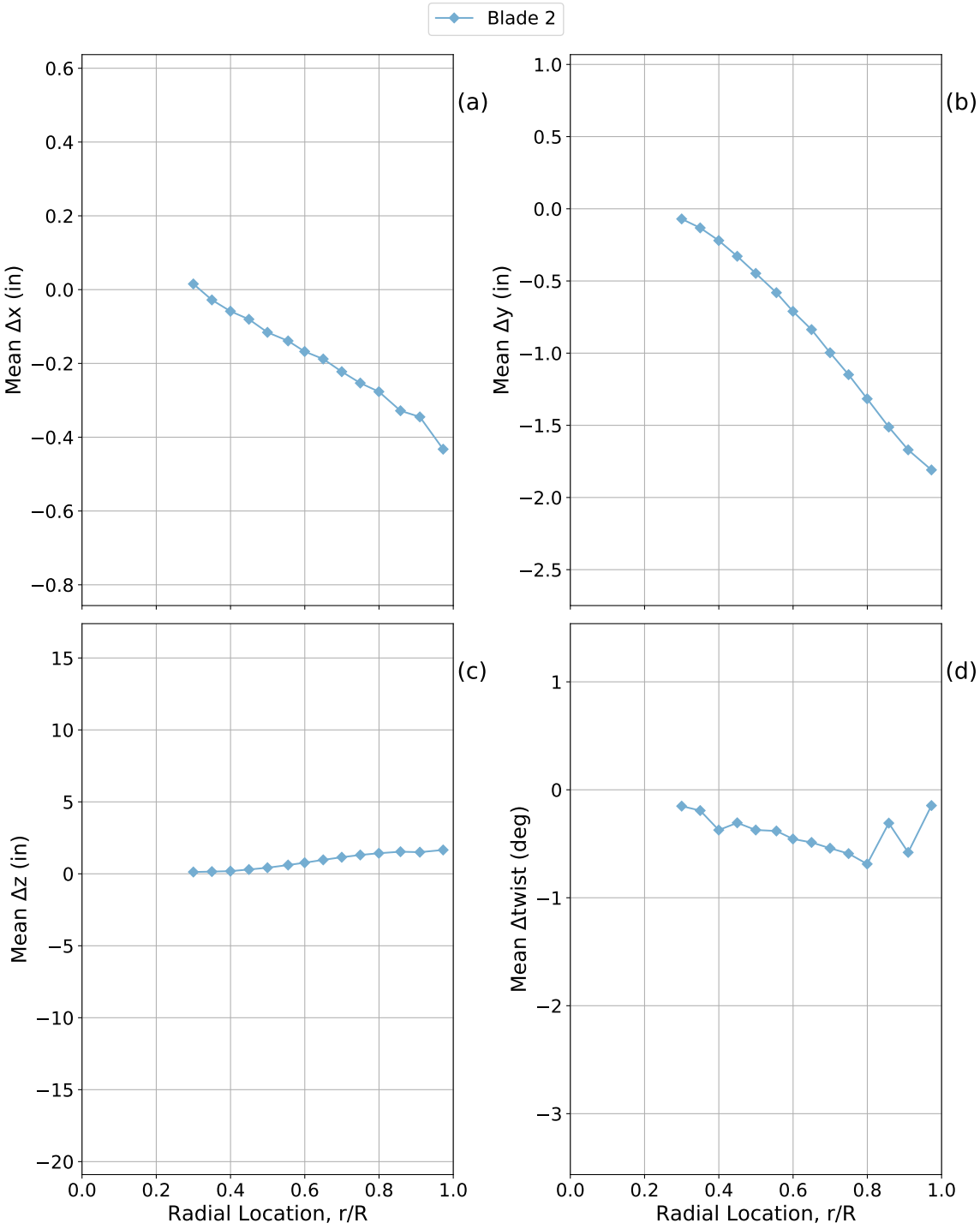


Figure 3.18-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$ NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Table 3.18-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.4$, $\alpha = -10°$
NFAC run 53, point 40. BD run 26, points 3390 to 3400.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2999	0.0154	0.0333	-0.0703	0.0693	0.1261	0.0772	-0.1513	0.2191
2	355.08	0.3498	-0.0279	0.0377	-0.1322	0.1269	0.1549	0.0976	-0.1924	0.2868
2	355.08	0.3998	-0.0586	0.0356	-0.2199	0.2081	0.1859	0.1315	-0.3729	0.2774
2	355.08	0.4496	-0.0804	0.0363	-0.3289	0.2791	0.2996	0.1706	-0.3059	0.2620
2	355.08	0.4995	-0.1158	0.0369	-0.4474	0.3493	0.4230	0.2065	-0.3724	0.2911
2	355.08	0.5551	-0.1390	0.0378	-0.5811	0.4287	0.6109	0.2534	-0.3814	0.2711
2	355.08	0.5996	-0.1677	0.0385	-0.7104	0.4905	0.7705	0.2944	-0.4556	0.2488
2	355.08	0.6497	-0.1880	0.0394	-0.8368	0.5595	0.9704	0.3346	-0.4876	0.2506
2	355.08	0.6996	-0.2224	0.0400	-0.9972	0.6296	1.1513	0.3749	-0.5412	0.2660
2	355.08	0.7495	-0.2532	0.0403	-1.1491	0.6990	1.3103	0.4177	-0.5911	0.2759
2	355.08	0.7996	-0.2766	0.0407	-1.3164	0.7684	1.4306	0.4604	-0.6874	0.2761
2	355.08	0.8578	-0.3283	0.0409	-1.5122	0.8496	1.5361	0.5149	-0.3086	0.2669
2	355.08	0.9100	-0.3450	0.0422	-1.6701	0.9227	1.5042	0.5647	-0.5801	0.2705
2	355.08	0.9727	-0.4325	0.0641	-1.8091	1.0087	1.6570	0.6242	-0.1460	0.2673

3.19 Run 63, Point 10

3.19.1 Pitch, Flap, and Lag

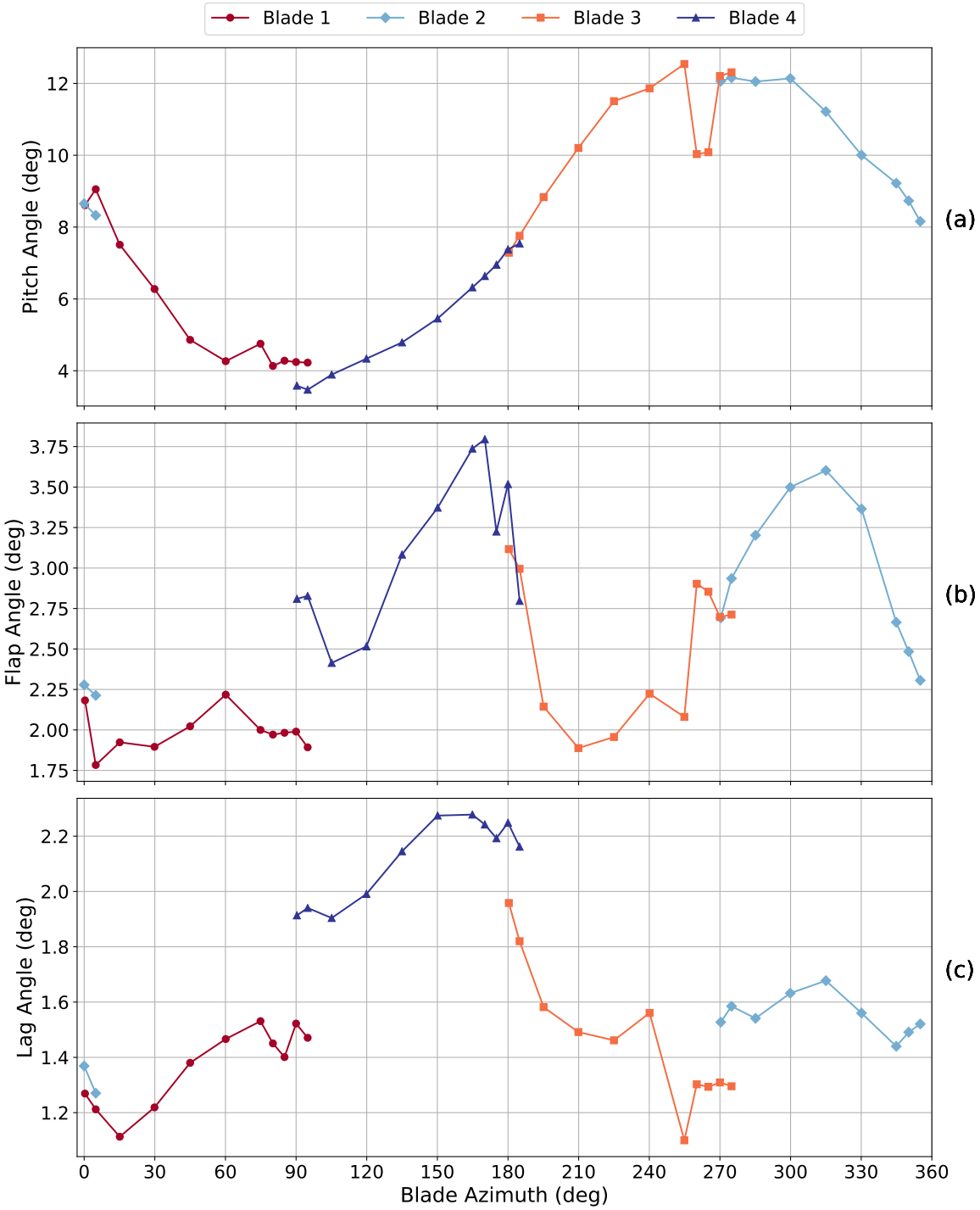


Figure 3.19-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	8.6526	2.2784	1.3689	0.0610	0.0607	0.0289
0.35	1	8.6101	2.1826	1.2691	0.1070	0.0825	0.0436
4.92	1	9.0549	1.7833	1.2120	0.2122	0.1219	0.0754
4.92	2	8.3272	2.2131	1.2703	0.0612	0.1287	0.0524
15.12	1	7.5089	1.9235	1.1130	0.0749	0.0550	0.0359
29.88	1	6.2755	1.8956	1.2191	0.0693	0.0507	0.0170
45	1	4.8606	2.0225	1.3802	0.0627	0.0731	0.0321
60.12	1	4.2663	2.2180	1.4662	0.0638	0.0735	0.0332
74.88	1	4.7526	2.0001	1.5310	0.0515	0.0846	0.0421
80.16	1	4.1331	1.9711	1.4505	0.1980	0.1021	0.0747
85.08	1	4.2807	1.9825	1.4010	0.1296	0.0642	0.0323
90	1	4.2427	1.9896	1.5222	0.1055	0.0617	0.0392
90.35	4	3.5841	2.8093	1.9134	0.0665	0.0392	0.0262
94.92	1	4.2262	1.8926	1.4708	0.2035	0.0681	0.0537
94.92	4	3.4715	2.8278	1.9404	0.0628	0.1060	0.0462
105.12	4	3.8927	2.4137	1.9040	0.0736	0.0722	0.0308
119.88	4	4.3362	2.5157	1.9908	0.0297	0.0441	0.0176
135	4	4.7887	3.0827	2.1451	0.0418	0.1029	0.0198
150.12	4	5.4545	3.3724	2.2744	0.0553	0.2100	0.0225
164.88	4	6.3204	3.7373	2.2780	0.0449	0.1528	0.0321
170.16	4	6.6358	3.7949	2.2421	0.0551	0.0849	0.0272
175.08	4	6.9507	3.2248	2.1923	0.0659	0.0439	0.0249
180	4	7.3789	3.5177	2.2484	0.1011	0.0894	0.0331
180.35	3	7.2857	3.1165	1.9583	0.1960	0.2158	0.0618
184.92	3	7.7572	2.9950	1.8200	0.0965	0.2949	0.0534
184.92	4	7.5435	2.7968	2.1617	0.1526	0.1075	0.0535
195.12	3	8.8342	2.1441	1.5817	0.0420	0.1823	0.0286
209.88	3	10.2035	1.8879	1.4915	0.0336	0.1289	0.0181
225	3	11.5059	1.9563	1.4616	0.0463	0.0727	0.0282
240.12	3	11.8639	2.2238	1.5607	0.0703	0.1398	0.0284
254.88	3	12.5407	2.0804	1.1000	0.2716	0.2317	0.1050
260.16	3	10.0323	2.9026	1.3025	0.0459	0.0887	0.0270
265.08	3	10.0847	2.8537	1.2936	0.1896	0.0783	0.0424
270	3	12.2065	2.6974	1.3094	0.0407	0.0465	0.0333
270.35	2	12.0626	2.6923	1.5273	0.0974	0.0808	0.0221
274.92	2	12.1594	2.9353	1.5850	0.0669	0.0582	0.0351
274.92	3	12.3100	2.7124	1.2955	0.0480	0.0460	0.0383
285.12	2	12.0517	3.2025	1.5412	0.0681	0.0476	0.0158
299.88	2	12.1391	3.4989	1.6321	0.0818	0.0637	0.0215
315	2	11.2167	3.6025	1.6773	0.0554	0.0884	0.0242
330.12	2	10.0045	3.3648	1.5602	0.0622	0.0984	0.0312
344.88	2	9.2213	2.6647	1.4399	0.0540	0.0556	0.0531
350.16	2	8.7327	2.4839	1.4911	0.0592	0.0856	0.0321
355.08	2	8.1581	2.3060	1.5208	0.2054	0.0462	0.0908

3.19.2 Spanwise Elastic Deformations

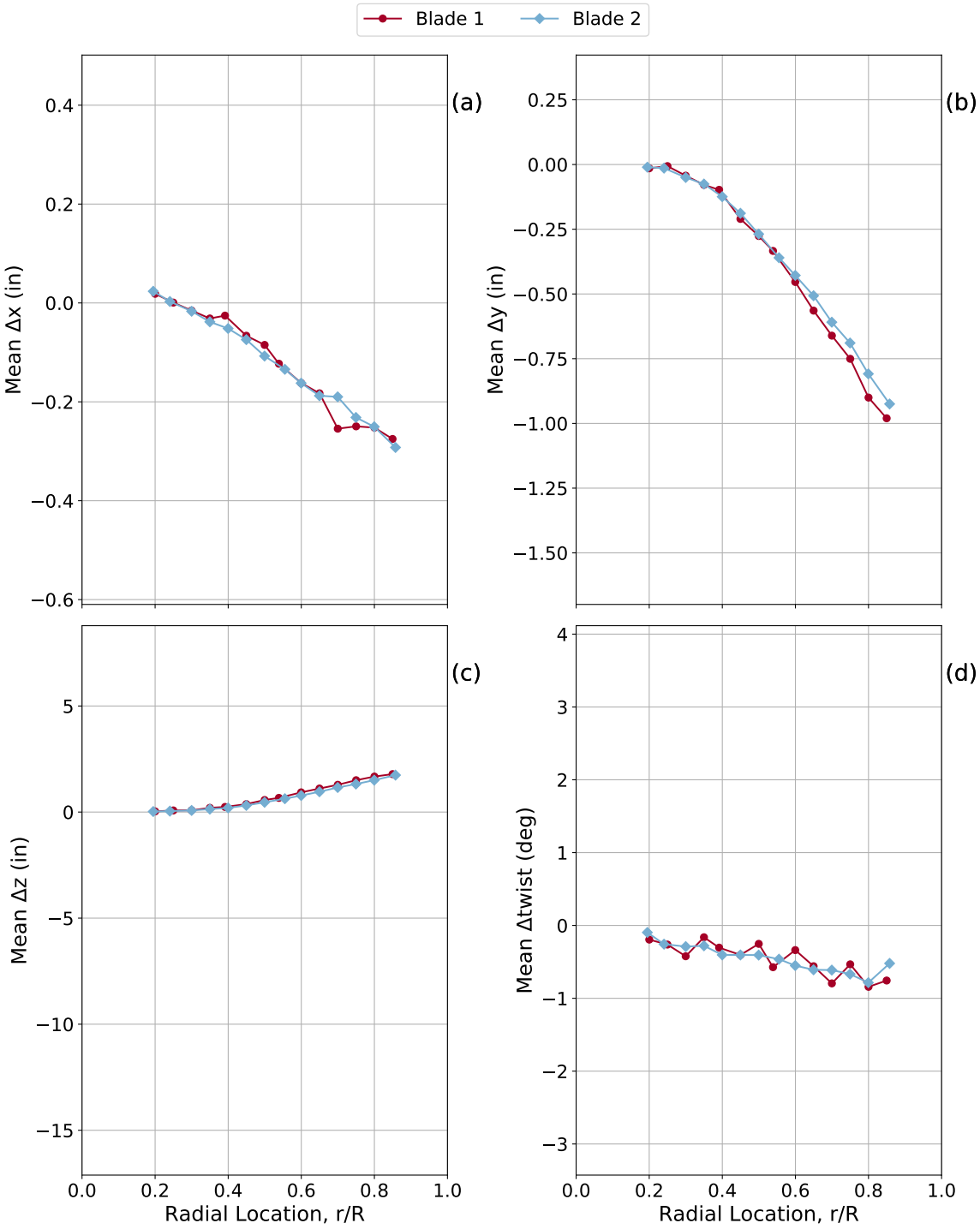


Figure 3.19-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.3, α = -8°
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0185	0.0048	-0.0146	0.0030	0.0310	0.0104	-0.1941	0.0702
1	0.35	0.2499	0.0007	0.0038	-0.0062	0.0100	0.0760	0.0227	-0.2623	0.0897
1	0.35	0.2998	-0.0154	0.0021	-0.0431	0.0143	0.0826	0.0326	-0.4226	0.1428
1	0.35	0.3498	-0.0314	0.0044	-0.0786	0.0280	0.1990	0.0597	-0.1618	0.1064
1	0.35	0.3913	-0.0256	0.0065	-0.0977	0.0400	0.2409	0.0811	-0.3045	0.0907
1	0.35	0.4496	-0.0663	0.0058	-0.2101	0.0519	0.3744	0.1119	-0.4044	0.1051
1	0.35	0.4997	-0.0849	0.0054	-0.2761	0.0599	0.5684	0.1407	-0.2525	0.1173
1	0.35	0.5387	-0.1229	0.0053	-0.3337	0.0685	0.6688	0.1695	-0.5731	0.0600
1	0.35	0.5996	-0.1619	0.0068	-0.4536	0.0810	0.9282	0.2067	-0.3382	0.1182
1	0.35	0.6498	-0.1828	0.0071	-0.5643	0.0929	1.1094	0.2431	-0.5597	0.0956
1	0.35	0.6998	-0.2543	0.0087	-0.6610	0.1050	1.2846	0.2764	-0.7953	0.1325
1	0.35	0.7500	-0.2496	0.0085	-0.7505	0.1199	1.5011	0.3179	-0.5336	0.1279
1	0.35	0.8001	-0.2522	0.0098	-0.9002	0.1316	1.6735	0.3591	-0.8423	0.1467
1	0.35	0.8497	-0.2751	0.0100	-0.9802	0.1391	1.7878	0.3999	-0.7560	0.1260
2	0	0.1949	0.0236	0.0025	-0.0103	0.0016	0.0248	0.0040	-0.0962	0.0480
2	0	0.2405	0.0029	0.0022	-0.0140	0.0050	0.0447	0.0113	-0.2566	0.0525
2	0	0.2999	-0.0168	0.0032	-0.0500	0.0066	0.0761	0.0129	-0.2897	0.0891
2	0	0.3498	-0.0382	0.0027	-0.0754	0.0109	0.1393	0.0252	-0.2792	0.0844
2	0	0.3998	-0.0517	0.0025	-0.1243	0.0169	0.1958	0.0371	-0.4042	0.0695
2	0	0.4496	-0.0742	0.0025	-0.1884	0.0203	0.3132	0.0478	-0.4049	0.0615
2	0	0.4995	-0.1074	0.0026	-0.2686	0.0225	0.4604	0.0597	-0.4065	0.0697
2	0	0.5551	-0.1342	0.0032	-0.3601	0.0269	0.6295	0.0620	-0.4628	0.0826
2	0	0.5996	-0.1622	0.0037	-0.4283	0.0324	0.7781	0.0668	-0.5509	0.0758
2	0	0.6497	-0.1877	0.0025	-0.5068	0.0323	0.9577	0.0739	-0.6085	0.0961
2	0	0.6996	-0.1899	0.0043	-0.6090	0.0372	1.1585	0.0825	-0.6125	0.0669
2	0	0.7495	-0.2316	0.0048	-0.6894	0.0431	1.3196	0.0906	-0.6673	0.0985
2	0	0.7996	-0.2504	0.0033	-0.8086	0.0463	1.5039	0.1055	-0.7852	0.0598
2	0	0.8578	-0.2923	0.0069	-0.9249	0.0533	1.7409	0.1270	-0.5209	0.1400

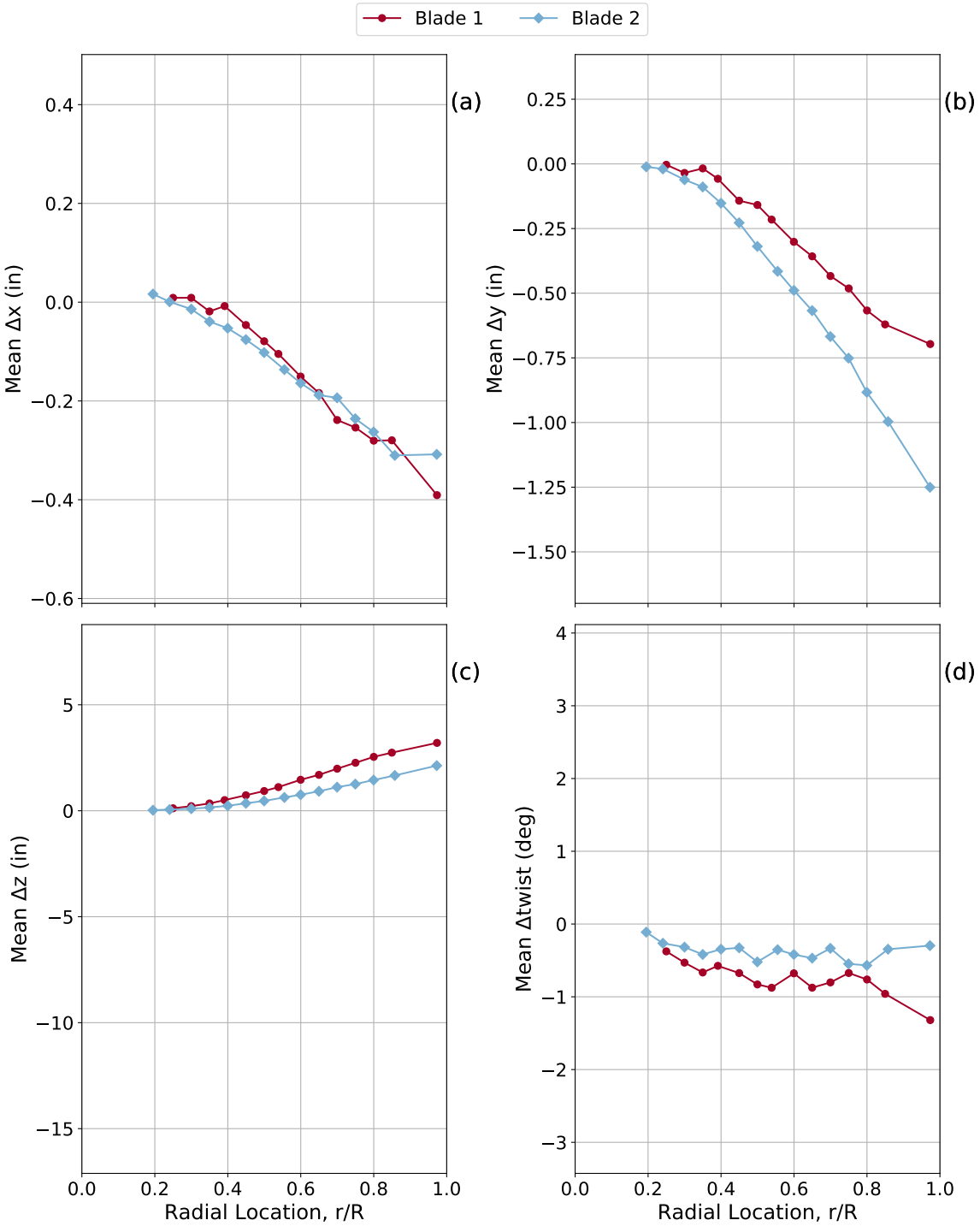


Figure 3.19-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2499	0.0088	0.0080	-0.0034	0.0113	0.1175	0.0214	-0.3756	0.1496
1	4.92	0.2998	0.0089	0.0062	-0.0350	0.0208	0.2165	0.0372	-0.5304	0.2132
1	4.92	0.3498	-0.0187	0.0080	-0.0176	0.0390	0.3448	0.0588	-0.6657	0.1958
1	4.92	0.3913	-0.0079	0.0081	-0.0576	0.0555	0.5020	0.0846	-0.5745	0.1885
1	4.92	0.4496	-0.0463	0.0087	-0.1423	0.0720	0.7311	0.1119	-0.6739	0.1822
1	4.92	0.4997	-0.0791	0.0108	-0.1589	0.0898	0.9312	0.1366	-0.8300	0.1948
1	4.92	0.5387	-0.1048	0.0147	-0.2154	0.1051	1.1158	0.1579	-0.8755	0.1996
1	4.92	0.5996	-0.1506	0.0180	-0.3013	0.1258	1.4618	0.1914	-0.6774	0.2195
1	4.92	0.6498	-0.1839	0.0236	-0.3574	0.1433	1.6945	0.2258	-0.8746	0.1908
1	4.92	0.6998	-0.2386	0.0269	-0.4335	0.1596	1.9840	0.2617	-0.8022	0.2114
1	4.92	0.7500	-0.2539	0.0352	-0.4815	0.1697	2.2637	0.3003	-0.6730	0.1976
1	4.92	0.8001	-0.2804	0.0445	-0.5669	0.1817	2.5435	0.3427	-0.7624	0.2196
1	4.92	0.8497	-0.2797	0.0514	-0.6207	0.1913	2.7412	0.3821	-0.9591	0.2018
1	4.92	0.9734	-0.3907	0.0760	-0.6966	0.2109	3.2020	0.4929	-1.3201	0.2013
2	4.92	0.1949	0.0165	0.0023	-0.0112	0.0022	0.0257	0.0078	-0.1116	0.0454
2	4.92	0.2405	0.0008	0.0024	-0.0196	0.0046	0.0570	0.0196	-0.2640	0.0462
2	4.92	0.2999	-0.0141	0.0026	-0.0613	0.0087	0.0964	0.0332	-0.3174	0.0871
2	4.92	0.3498	-0.0393	0.0023	-0.0892	0.0170	0.1520	0.0583	-0.4182	0.0603
2	4.92	0.3998	-0.0528	0.0025	-0.1521	0.0250	0.2349	0.0893	-0.3457	0.0574
2	4.92	0.4496	-0.0758	0.0030	-0.2277	0.0315	0.3520	0.1134	-0.3270	0.0496
2	4.92	0.4995	-0.1020	0.0027	-0.3190	0.0360	0.4643	0.1383	-0.5204	0.0708
2	4.92	0.5551	-0.1365	0.0032	-0.4154	0.0425	0.6283	0.1699	-0.3526	0.0733
2	4.92	0.5996	-0.1640	0.0042	-0.4892	0.0485	0.7553	0.1947	-0.4186	0.0688
2	4.92	0.6497	-0.1881	0.0045	-0.5673	0.0540	0.9181	0.2224	-0.4688	0.0717
2	4.92	0.6996	-0.1937	0.0056	-0.6676	0.0588	1.1138	0.2451	-0.3338	0.0834
2	4.92	0.7495	-0.2360	0.0060	-0.7511	0.0652	1.2585	0.2753	-0.5474	0.0731
2	4.92	0.7996	-0.2628	0.0061	-0.8831	0.0691	1.4485	0.3042	-0.5678	0.0906
2	4.92	0.8578	-0.3102	0.0058	-0.9964	0.0750	1.6653	0.3429	-0.3463	0.0974
2	4.92	0.9727	-0.3081	0.0296	-1.2504	0.0887	2.1286	0.4529	-0.2967	0.2550

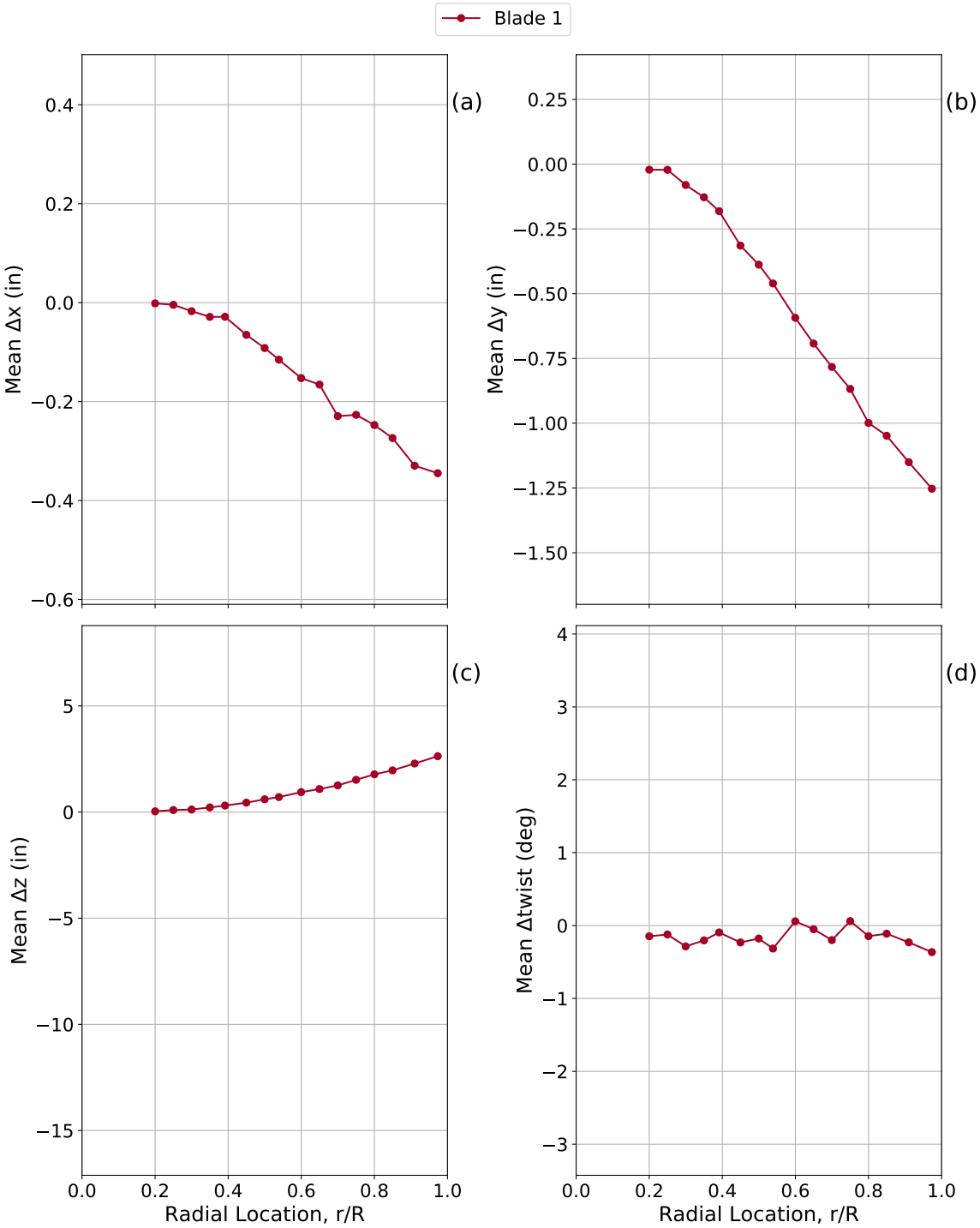


Figure 3.19-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0014	0.0026	-0.0214	0.0018	0.0356	0.0056	-0.1473	0.0420
1	15.12	0.2499	-0.0043	0.0028	-0.0218	0.0042	0.0956	0.0143	-0.1228	0.0491
1	15.12	0.2998	-0.0172	0.0014	-0.0804	0.0068	0.1202	0.0211	-0.2862	0.0797
1	15.12	0.3498	-0.0287	0.0036	-0.1279	0.0129	0.2192	0.0350	-0.2038	0.0757
1	15.12	0.3913	-0.0285	0.0046	-0.1814	0.0178	0.3055	0.0514	-0.0946	0.0744
1	15.12	0.4496	-0.0650	0.0033	-0.3143	0.0212	0.4432	0.0665	-0.2320	0.0733
1	15.12	0.4997	-0.0917	0.0033	-0.3880	0.0263	0.6021	0.0819	-0.1783	0.0696
1	15.12	0.5387	-0.1152	0.0035	-0.4606	0.0309	0.7072	0.0981	-0.3158	0.0813
1	15.12	0.5996	-0.1525	0.0045	-0.5930	0.0373	0.9384	0.1221	0.0584	0.0754
1	15.12	0.6498	-0.1655	0.0050	-0.6925	0.0435	1.0858	0.1467	-0.0504	0.0622
1	15.12	0.6998	-0.2294	0.0052	-0.7827	0.0496	1.2574	0.1696	-0.1999	0.0688
1	15.12	0.7500	-0.2268	0.0069	-0.8677	0.0572	1.5188	0.1955	0.0611	0.1004
1	15.12	0.8001	-0.2474	0.0067	-0.9988	0.0632	1.7787	0.2213	-0.1457	0.0815
1	15.12	0.8497	-0.2737	0.0064	-1.0484	0.0708	1.9643	0.2488	-0.1117	0.1021
1	15.12	0.9102	-0.3296	0.0063	-1.1503	0.0804	2.2875	0.2941	-0.2303	0.0839
1	15.12	0.9734	-0.3448	0.0110	-1.2528	0.0891	2.6325	0.3337	-0.3648	0.0890

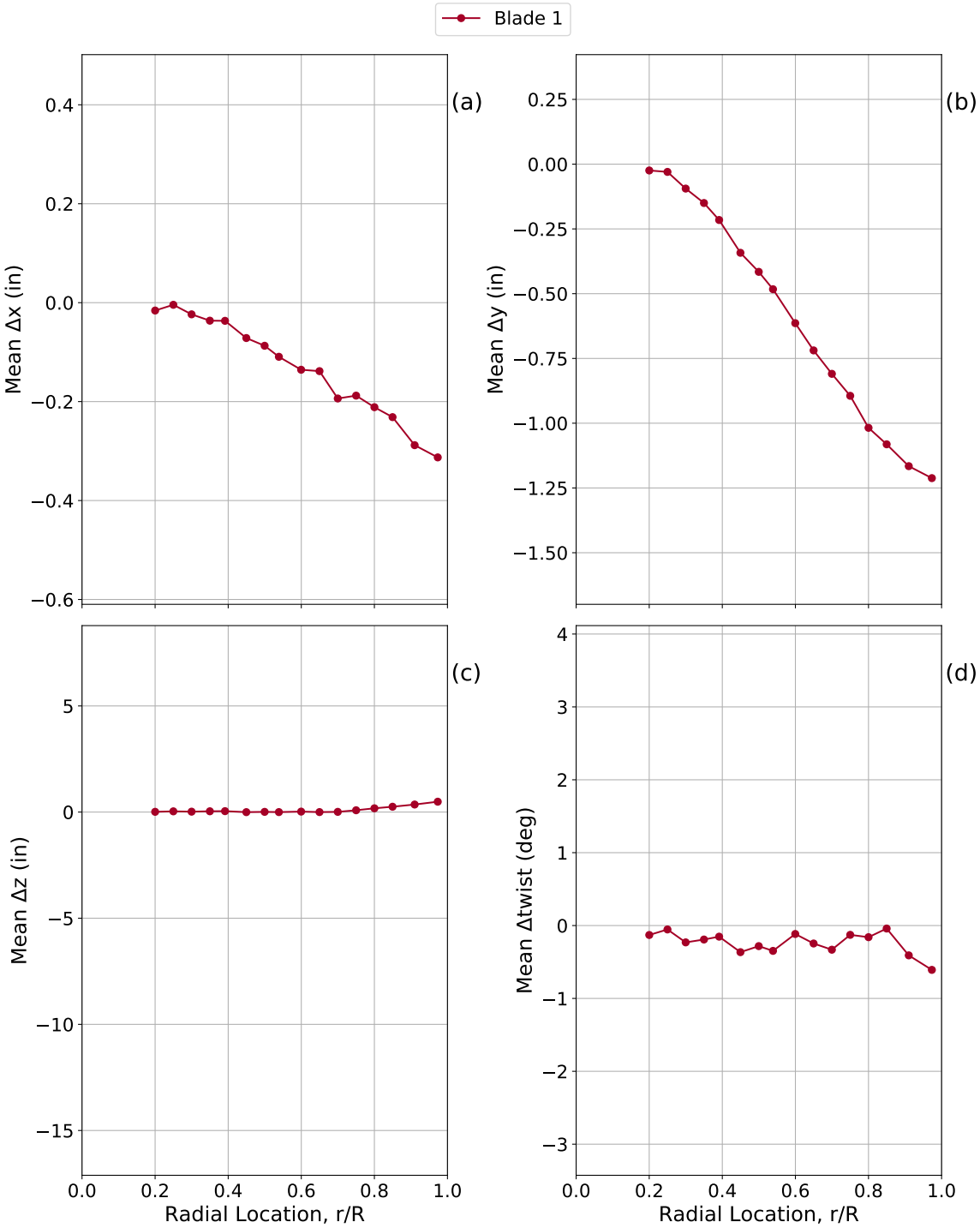


Figure 3.19-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0159	0.0019	-0.0244	0.0014	0.0121	0.0045	-0.1296	0.0450
1	29.88	0.2499	-0.0043	0.0027	-0.0299	0.0034	0.0345	0.0092	-0.0537	0.0431
1	29.88	0.2998	-0.0236	0.0022	-0.0943	0.0054	0.0195	0.0148	-0.2310	0.0870
1	29.88	0.3498	-0.0364	0.0035	-0.1500	0.0103	0.0376	0.0265	-0.1918	0.0709
1	29.88	0.3913	-0.0367	0.0021	-0.2156	0.0142	0.0435	0.0363	-0.1524	0.0626
1	29.88	0.4496	-0.0715	0.0021	-0.3422	0.0184	-0.0029	0.0458	-0.3651	0.0533
1	29.88	0.4997	-0.0871	0.0022	-0.4157	0.0227	0.0100	0.0574	-0.2823	0.0579
1	29.88	0.5387	-0.1094	0.0028	-0.4828	0.0261	-0.0007	0.0679	-0.3476	0.0590
1	29.88	0.5996	-0.1356	0.0033	-0.6138	0.0323	0.0222	0.0834	-0.1158	0.0639
1	29.88	0.6498	-0.1384	0.0041	-0.7190	0.0366	-0.0000	0.0954	-0.2463	0.0757
1	29.88	0.6998	-0.1937	0.0037	-0.8094	0.0421	0.0102	0.1069	-0.3315	0.0663
1	29.88	0.7500	-0.1879	0.0032	-0.8943	0.0467	0.0857	0.1162	-0.1276	0.0583
1	29.88	0.8001	-0.2113	0.0035	-1.0178	0.0523	0.1779	0.1242	-0.1596	0.0652
1	29.88	0.8497	-0.2314	0.0036	-1.0814	0.0573	0.2514	0.1315	-0.0410	0.0675
1	29.88	0.9102	-0.2881	0.0034	-1.1658	0.0636	0.3558	0.1410	-0.4091	0.0861
1	29.88	0.9734	-0.3128	0.0043	-1.2120	0.0690	0.4887	0.1571	-0.6083	0.0627

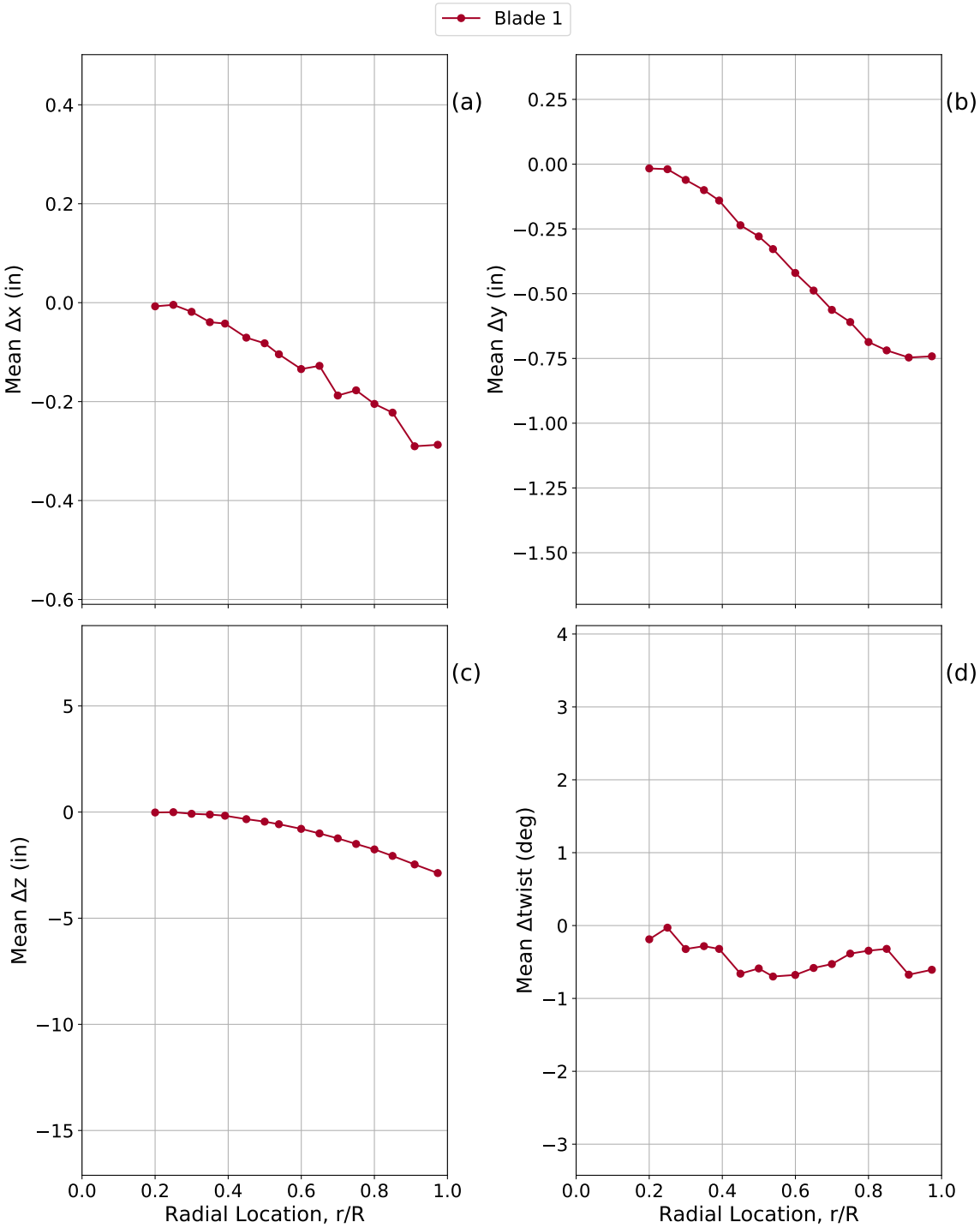


Figure 3.19-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0074	0.0023	-0.0165	0.0010	-0.0191	0.0042	-0.1886	0.0337
1	45	0.2499	-0.0044	0.0023	-0.0195	0.0028	-0.0045	0.0112	-0.0291	0.0480
1	45	0.2998	-0.0185	0.0036	-0.0608	0.0041	-0.0804	0.0162	-0.3222	0.0731
1	45	0.3498	-0.0394	0.0031	-0.1002	0.0081	-0.1168	0.0327	-0.2827	0.0568
1	45	0.3913	-0.0423	0.0048	-0.1404	0.0113	-0.1718	0.0445	-0.3206	0.0629
1	45	0.4496	-0.0707	0.0042	-0.2358	0.0152	-0.3335	0.0620	-0.6604	0.0634
1	45	0.4997	-0.0821	0.0051	-0.2790	0.0182	-0.4499	0.0729	-0.5887	0.0629
1	45	0.5387	-0.1043	0.0050	-0.3279	0.0216	-0.5710	0.0837	-0.6995	0.0685
1	45	0.5996	-0.1342	0.0047	-0.4200	0.0267	-0.7904	0.1010	-0.6778	0.0561
1	45	0.6498	-0.1277	0.0039	-0.4879	0.0309	-1.0071	0.1103	-0.5821	0.0659
1	45	0.6998	-0.1877	0.0040	-0.5625	0.0358	-1.2382	0.1206	-0.5284	0.0422
1	45	0.7500	-0.1772	0.0038	-0.6096	0.0413	-1.5018	0.1312	-0.3850	0.0464
1	45	0.8001	-0.2047	0.0035	-0.6866	0.0464	-1.7591	0.1445	-0.3451	0.0610
1	45	0.8497	-0.2223	0.0036	-0.7189	0.0525	-2.0654	0.1641	-0.3203	0.0687
1	45	0.9102	-0.2903	0.0045	-0.7464	0.0601	-2.4667	0.1918	-0.6742	0.0582
1	45	0.9734	-0.2873	0.0060	-0.7418	0.0700	-2.8729	0.2244	-0.6067	0.0891

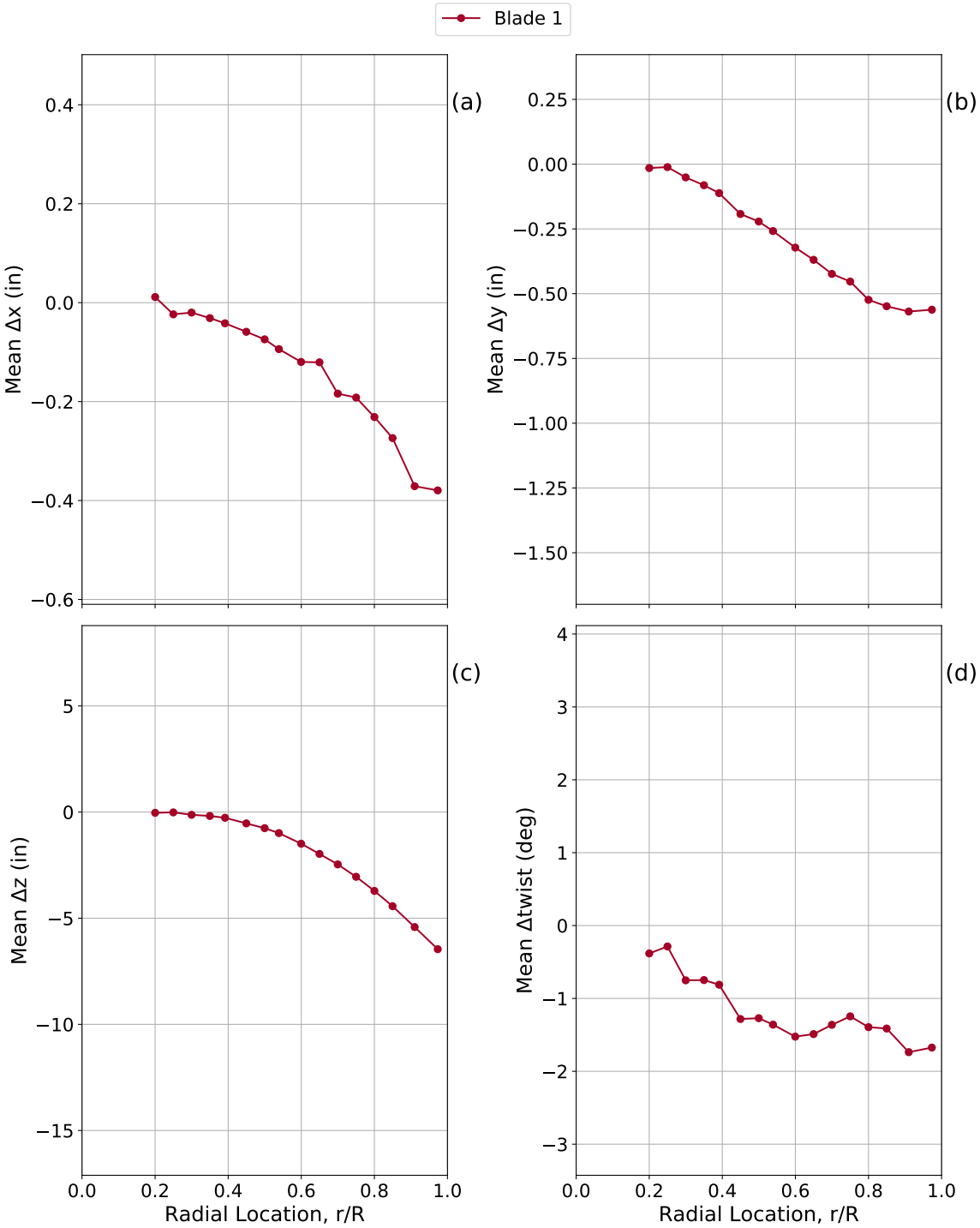


Figure 3.19-7. 60° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0114	0.0015	-0.0150	0.0008	-0.0340	0.0040	-0.3827	0.0451
1	60.12	0.2499	-0.0236	0.0017	-0.0114	0.0024	-0.0145	0.0135	-0.2873	0.0495
1	60.12	0.2998	-0.0200	0.0032	-0.0511	0.0030	-0.1291	0.0204	-0.7515	0.0921
1	60.12	0.3498	-0.0312	0.0035	-0.0813	0.0069	-0.1836	0.0352	-0.7478	0.0639
1	60.12	0.3913	-0.0417	0.0029	-0.1118	0.0088	-0.2676	0.0535	-0.8120	0.0805
1	60.12	0.4496	-0.0589	0.0053	-0.1924	0.0135	-0.5327	0.0685	-1.2824	0.0695
1	60.12	0.4997	-0.0741	0.0037	-0.2215	0.0173	-0.7585	0.0888	-1.2711	0.0743
1	60.12	0.5387	-0.0939	0.0054	-0.2582	0.0209	-0.9903	0.1030	-1.3595	0.0687
1	60.12	0.5996	-0.1198	0.0062	-0.3221	0.0271	-1.4896	0.1273	-1.5243	0.0869
1	60.12	0.6498	-0.1206	0.0065	-0.3693	0.0342	-1.9713	0.1456	-1.4893	0.0767
1	60.12	0.6998	-0.1839	0.0076	-0.4236	0.0401	-2.4648	0.1673	-1.3621	0.0889
1	60.12	0.7500	-0.1918	0.0073	-0.4532	0.0471	-3.0484	0.1896	-1.2458	0.0813
1	60.12	0.8001	-0.2312	0.0084	-0.5238	0.0537	-3.7141	0.2105	-1.3943	0.0741
1	60.12	0.8497	-0.2737	0.0106	-0.5486	0.0624	-4.4334	0.2292	-1.4130	0.0881
1	60.12	0.9102	-0.3710	0.0107	-0.5689	0.0720	-5.4165	0.2526	-1.7372	0.0878
1	60.12	0.9734	-0.3795	0.0137	-0.5618	0.0819	-6.4581	0.2790	-1.6744	0.0929

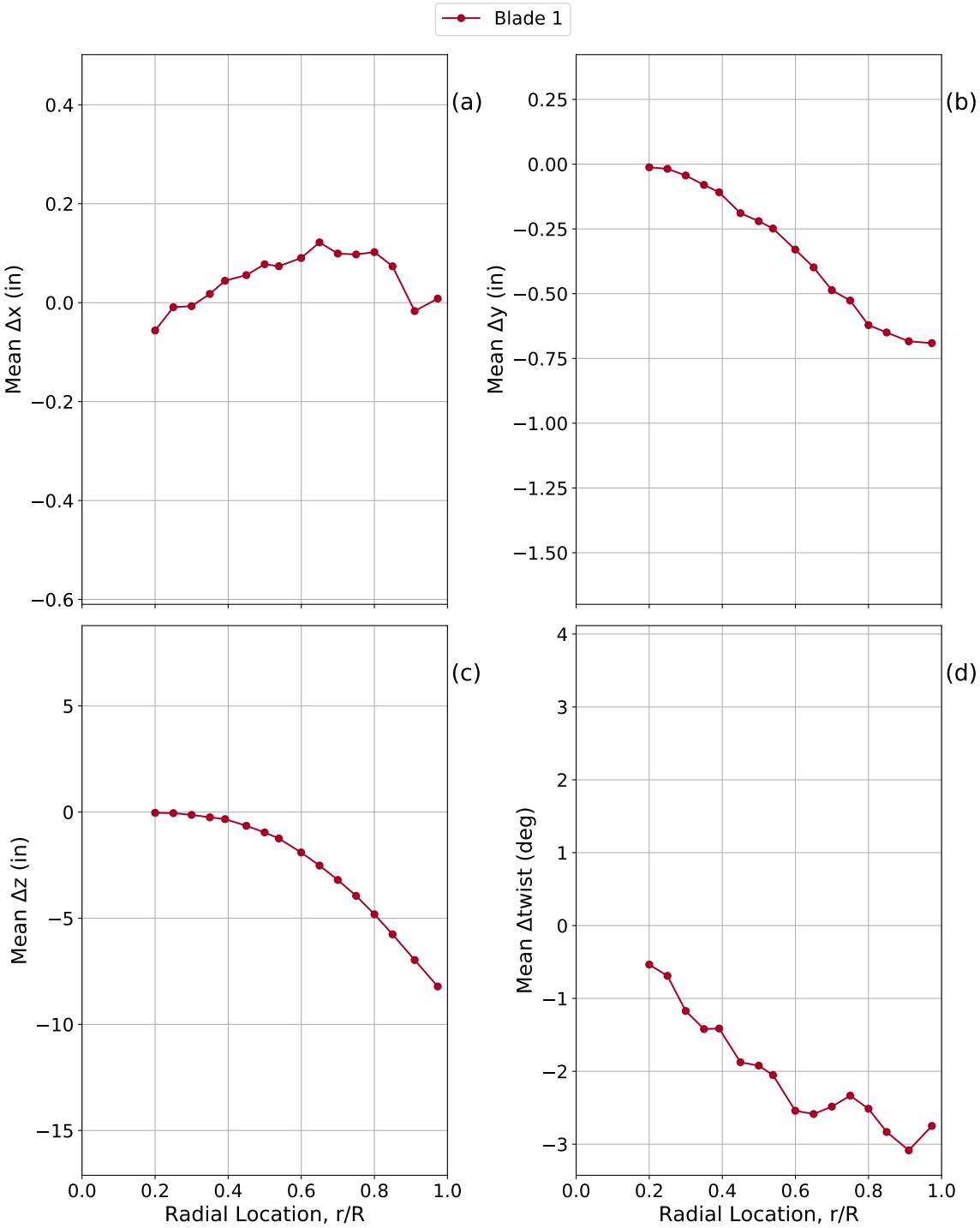


Figure 3.19-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0562	0.0100	-0.0122	0.0009	-0.0350	0.0041	-0.5360	0.0209
1	74.88	0.2499	-0.0091	0.0035	-0.0180	0.0023	-0.0488	0.0080	-0.6901	0.0553
1	74.88	0.2998	-0.0070	0.0036	-0.0437	0.0038	-0.1319	0.0147	-1.1723	0.0517
1	74.88	0.3498	0.0177	0.0092	-0.0801	0.0067	-0.2463	0.0247	-1.4201	0.0589
1	74.88	0.3913	0.0443	0.0128	-0.1084	0.0098	-0.3329	0.0350	-1.4130	0.0582
1	74.88	0.4496	0.0557	0.0141	-0.1891	0.0135	-0.6460	0.0512	-1.8756	0.0644
1	74.88	0.4997	0.0777	0.0143	-0.2201	0.0170	-0.9572	0.0641	-1.9224	0.0634
1	74.88	0.5387	0.0737	0.0138	-0.2485	0.0200	-1.2462	0.0747	-2.0519	0.0730
1	74.88	0.5996	0.0903	0.0140	-0.3298	0.0237	-1.9019	0.0950	-2.5412	0.0791
1	74.88	0.6498	0.1219	0.0131	-0.3984	0.0254	-2.5198	0.1153	-2.5862	0.0700
1	74.88	0.6998	0.0993	0.0149	-0.4865	0.0278	-3.1965	0.1374	-2.4845	0.0812
1	74.88	0.7500	0.0975	0.0183	-0.5266	0.0301	-3.9453	0.1639	-2.3342	0.0860
1	74.88	0.8001	0.1022	0.0236	-0.6214	0.0340	-4.8148	0.1923	-2.5138	0.0926
1	74.88	0.8497	0.0735	0.0270	-0.6497	0.0383	-5.7597	0.2286	-2.8321	0.0737
1	74.88	0.9102	-0.0170	0.0341	-0.6838	0.0454	-6.9697	0.2690	-3.0840	0.0834
1	74.88	0.9734	0.0082	0.0383	-0.6908	0.0552	-8.2152	0.3170	-2.7497	0.1054

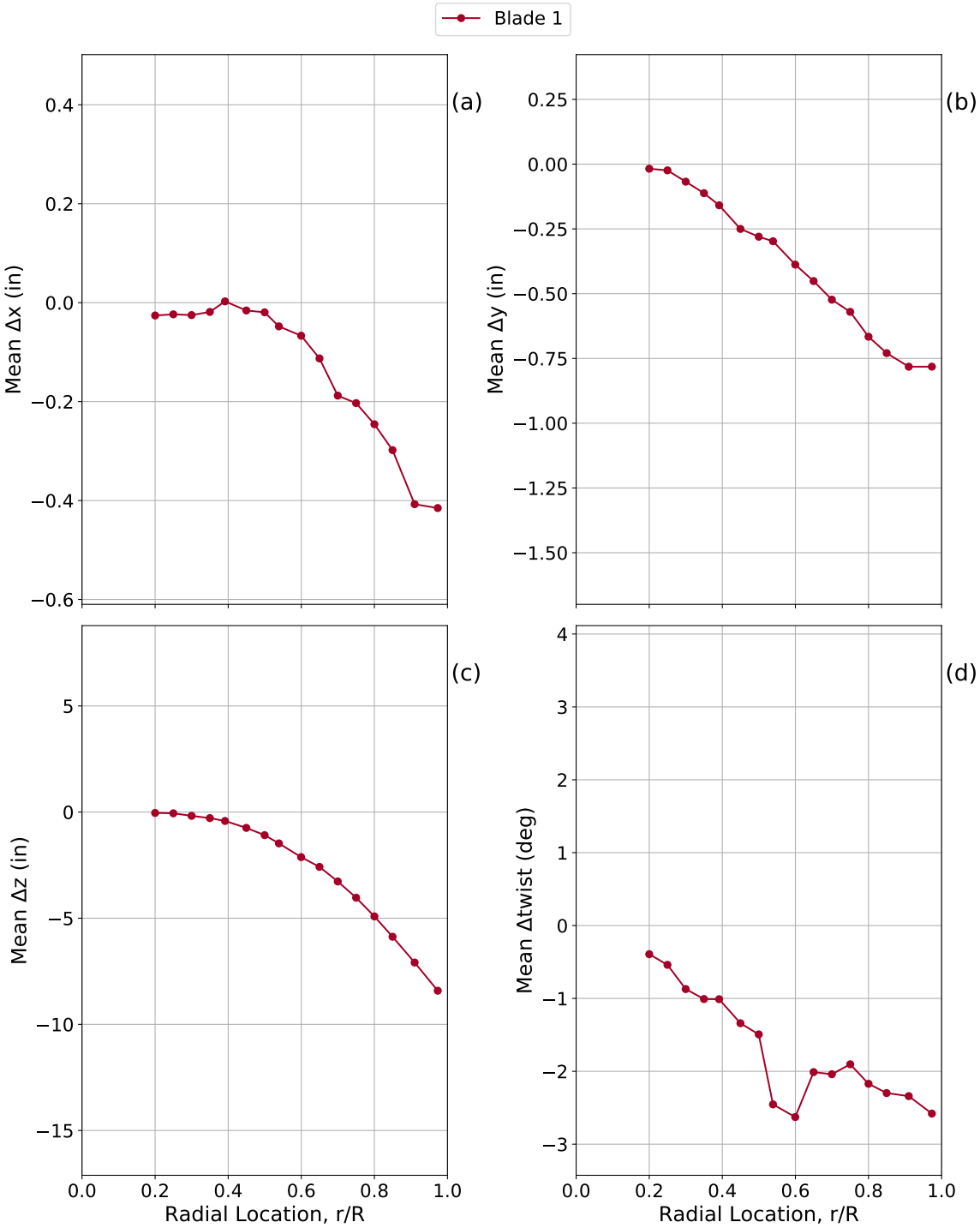


Figure 3.19-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0259	0.0021	-0.0177	0.0050	-0.0402	0.0138	-0.3931	0.0744
1	80.16	0.2499	-0.0236	0.0017	-0.0240	0.0081	-0.0579	0.0169	-0.5392	0.1852
1	80.16	0.2998	-0.0251	0.0043	-0.0676	0.0195	-0.1774	0.0426	-0.8715	0.1960
1	80.16	0.3498	-0.0187	0.0063	-0.1121	0.0343	-0.2838	0.0700	-1.0084	0.2019
1	80.16	0.3913	0.0026	0.0074	-0.1587	0.0479	-0.4191	0.0946	-1.0107	0.2001
1	80.16	0.4496	-0.0158	0.0067	-0.2500	0.0695	-0.7441	0.1313	-1.3404	0.1841
1	80.16	0.4997	-0.0195	0.0047	-0.2801	0.0885	-1.0874	0.1623	-1.4936	0.1812
1	80.16	0.5387	-0.0479	0.0054	-0.2975	0.1095	-1.4755	0.1968	-2.4540	0.1403
1	80.16	0.5996	-0.0668	0.0084	-0.3878	0.1334	-2.1228	0.2343	-2.6279	0.1579
1	80.16	0.6498	-0.1127	0.0180	-0.4513	0.1513	-2.5817	0.2424	-2.0111	0.1995
1	80.16	0.6998	-0.1879	0.0197	-0.5231	0.1708	-3.2678	0.2819	-2.0404	0.2006
1	80.16	0.7500	-0.2031	0.0211	-0.5702	0.1899	-4.0329	0.3264	-1.9037	0.1977
1	80.16	0.8001	-0.2458	0.0232	-0.6662	0.2100	-4.9159	0.3711	-2.1712	0.1878
1	80.16	0.8497	-0.2981	0.0256	-0.7294	0.2298	-5.8731	0.4136	-2.2986	0.2020
1	80.16	0.9102	-0.4074	0.0286	-0.7819	0.2538	-7.0876	0.4699	-2.3405	0.2056
1	80.16	0.9734	-0.4152	0.0264	-0.7817	0.2806	-8.4156	0.5206	-2.5802	0.2297

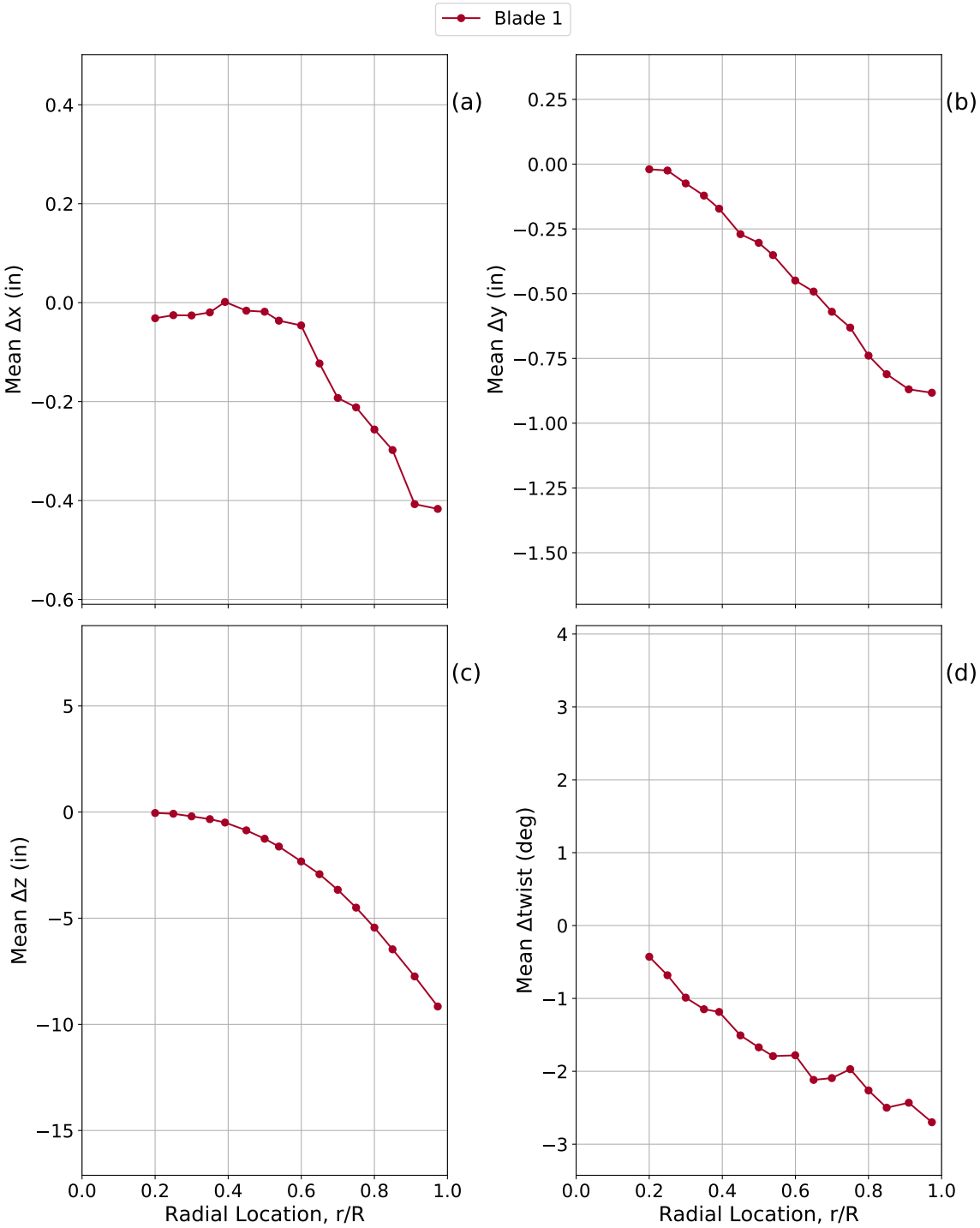


Figure 3.19-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0315	0.0054	-0.0198	0.0032	-0.0443	0.0076	-0.4282	0.0531
1	85.08	0.2499	-0.0253	0.0026	-0.0245	0.0050	-0.0779	0.0099	-0.6818	0.1162
1	85.08	0.2998	-0.0258	0.0017	-0.0744	0.0116	-0.2030	0.0232	-0.9890	0.1332
1	85.08	0.3498	-0.0197	0.0028	-0.1214	0.0210	-0.3329	0.0386	-1.1481	0.1314
1	85.08	0.3913	0.0015	0.0040	-0.1718	0.0287	-0.4934	0.0518	-1.1855	0.1310
1	85.08	0.4496	-0.0162	0.0061	-0.2702	0.0392	-0.8604	0.0717	-1.5071	0.1219
1	85.08	0.4997	-0.0183	0.0067	-0.3037	0.0473	-1.2557	0.0853	-1.6713	0.1364
1	85.08	0.5387	-0.0364	0.0097	-0.3511	0.0522	-1.6238	0.0955	-1.7919	0.1612
1	85.08	0.5996	-0.0460	0.0108	-0.4492	0.0641	-2.3238	0.1147	-1.7801	0.1284
1	85.08	0.6498	-0.1229	0.0090	-0.4918	0.0824	-2.9273	0.1160	-2.1179	0.1403
1	85.08	0.6998	-0.1926	0.0106	-0.5697	0.0916	-3.6624	0.1330	-2.0931	0.1332
1	85.08	0.7500	-0.2116	0.0105	-0.6309	0.1016	-4.5016	0.1560	-1.9706	0.1270
1	85.08	0.8001	-0.2564	0.0116	-0.7392	0.1106	-5.4418	0.1792	-2.2629	0.1378
1	85.08	0.8497	-0.2979	0.0132	-0.8108	0.1208	-6.4655	0.2047	-2.4995	0.1425
1	85.08	0.9102	-0.4073	0.0144	-0.8692	0.1320	-7.7425	0.2387	-2.4313	0.1409
1	85.08	0.9734	-0.4169	0.0157	-0.8824	0.1446	-9.1594	0.2781	-2.6988	0.1344

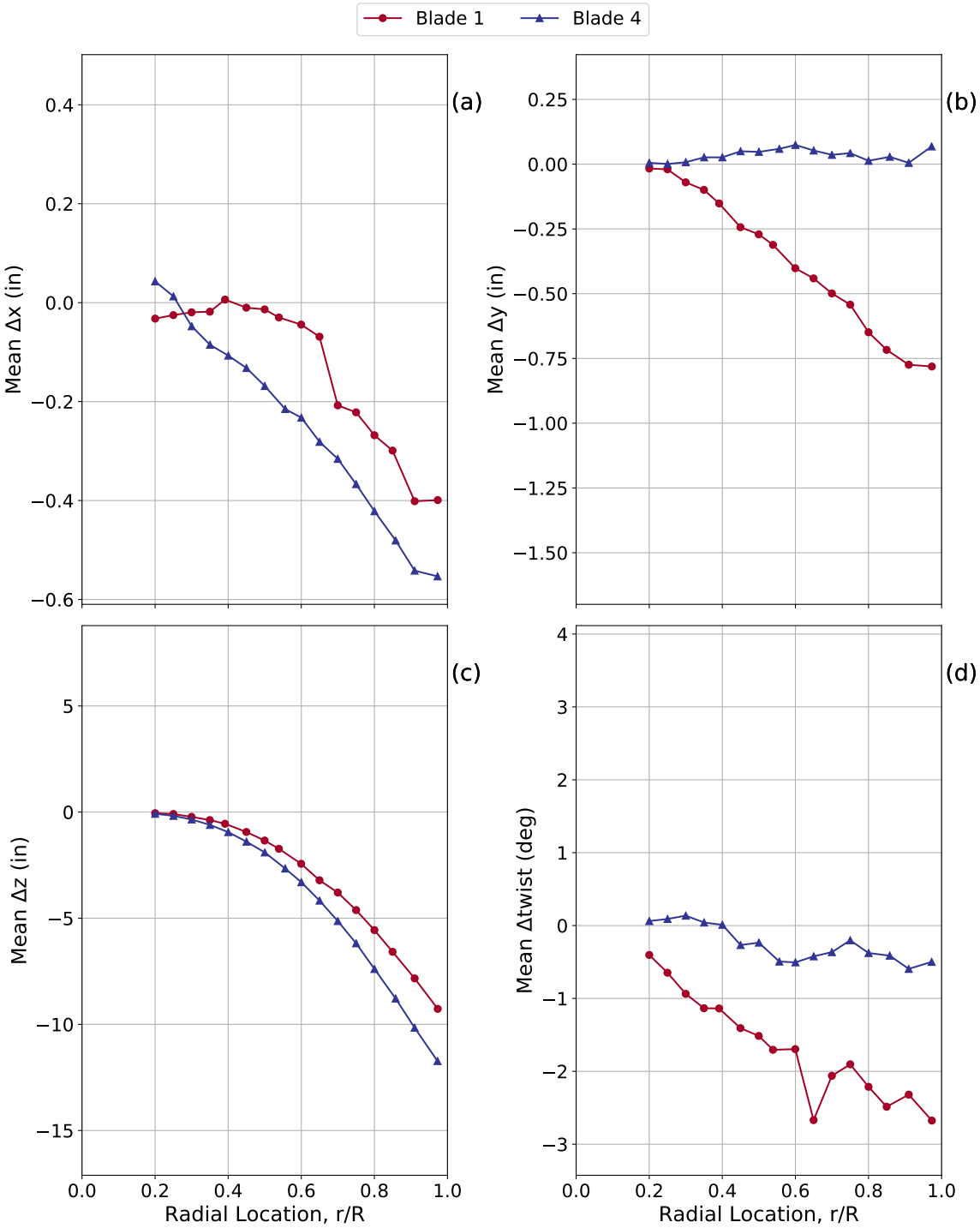


Figure 3.19-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.3, α = -8°
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0322	0.0030	-0.0169	0.0025	-0.0520	0.0073	-0.4034	0.0388
1	90	0.2499	-0.0252	0.0020	-0.0200	0.0041	-0.0909	0.0089	-0.6471	0.1009
1	90	0.2998	-0.0195	0.0018	-0.0702	0.0096	-0.2258	0.0231	-0.9364	0.1021
1	90	0.3498	-0.0182	0.0031	-0.0993	0.0160	-0.3773	0.0364	-1.1346	0.1043
1	90	0.3913	0.0062	0.0047	-0.1517	0.0228	-0.5505	0.0502	-1.1376	0.0957
1	90	0.4496	-0.0101	0.0049	-0.2434	0.0326	-0.9369	0.0685	-1.4075	0.0992
1	90	0.4997	-0.0136	0.0055	-0.2710	0.0411	-1.3411	0.0860	-1.5145	0.1042
1	90	0.5387	-0.0299	0.0090	-0.3115	0.0478	-1.7287	0.0987	-1.7048	0.1149
1	90	0.5996	-0.0443	0.0087	-0.4016	0.0604	-2.4366	0.1215	-1.6956	0.1016
1	90	0.6498	-0.0688	0.0097	-0.4410	0.0759	-3.2126	0.1558	-2.6700	0.2796
1	90	0.6998	-0.2076	0.0122	-0.4989	0.0978	-3.7910	0.1211	-2.0619	0.1085
1	90	0.7500	-0.2217	0.0120	-0.5423	0.1082	-4.6172	0.1378	-1.9041	0.1090
1	90	0.8001	-0.2680	0.0131	-0.6489	0.1191	-5.5617	0.1571	-2.2126	0.1111
1	90	0.8497	-0.2990	0.0149	-0.7169	0.1292	-6.5820	0.1777	-2.4863	0.1099
1	90	0.9102	-0.4014	0.0163	-0.7743	0.1423	-7.8360	0.2065	-2.3200	0.1148
1	90	0.9734	-0.3991	0.0150	-0.7811	0.1557	-9.2700	0.2439	-2.6760	0.1028
4	90.35	0.2001	0.0431	0.0024	0.0051	0.0013	-0.0801	0.0036	0.0613	0.0279
4	90.35	0.2502	0.0127	0.0026	0.0007	0.0031	-0.1777	0.0069	0.0904	0.0468
4	90.35	0.3001	-0.0477	0.0022	0.0075	0.0051	-0.3486	0.0122	0.1357	0.0543
4	90.35	0.3502	-0.0851	0.0022	0.0263	0.0093	-0.6046	0.0193	0.0412	0.0537
4	90.35	0.4002	-0.1070	0.0028	0.0263	0.0141	-0.9453	0.0303	0.0106	0.0492
4	90.35	0.4500	-0.1321	0.0028	0.0498	0.0175	-1.3939	0.0406	-0.2677	0.0564
4	90.35	0.5001	-0.1685	0.0026	0.0474	0.0212	-1.9009	0.0535	-0.2344	0.0546
4	90.35	0.5560	-0.2150	0.0031	0.0591	0.0270	-2.6595	0.0653	-0.4940	0.0505
4	90.35	0.6001	-0.2325	0.0032	0.0741	0.0311	-3.3044	0.0745	-0.5052	0.0514
4	90.35	0.6501	-0.2814	0.0037	0.0527	0.0355	-4.1718	0.0847	-0.4225	0.0597
4	90.35	0.6999	-0.3158	0.0038	0.0359	0.0416	-5.1351	0.0931	-0.3650	0.0437
4	90.35	0.7500	-0.3669	0.0053	0.0426	0.0473	-6.1820	0.1020	-0.2024	0.0632
4	90.35	0.8002	-0.4216	0.0064	0.0129	0.0538	-7.3924	0.1138	-0.3769	0.0490
4	90.35	0.8582	-0.4807	0.0088	0.0284	0.0628	-8.7861	0.1269	-0.4133	0.0452
4	90.35	0.9101	-0.5417	0.0103	0.0049	0.0691	-10.1616	0.1422	-0.5949	0.0524
4	90.35	0.9728	-0.5533	0.0131	0.0683	0.0779	-11.7294	0.1661	-0.4986	0.0555

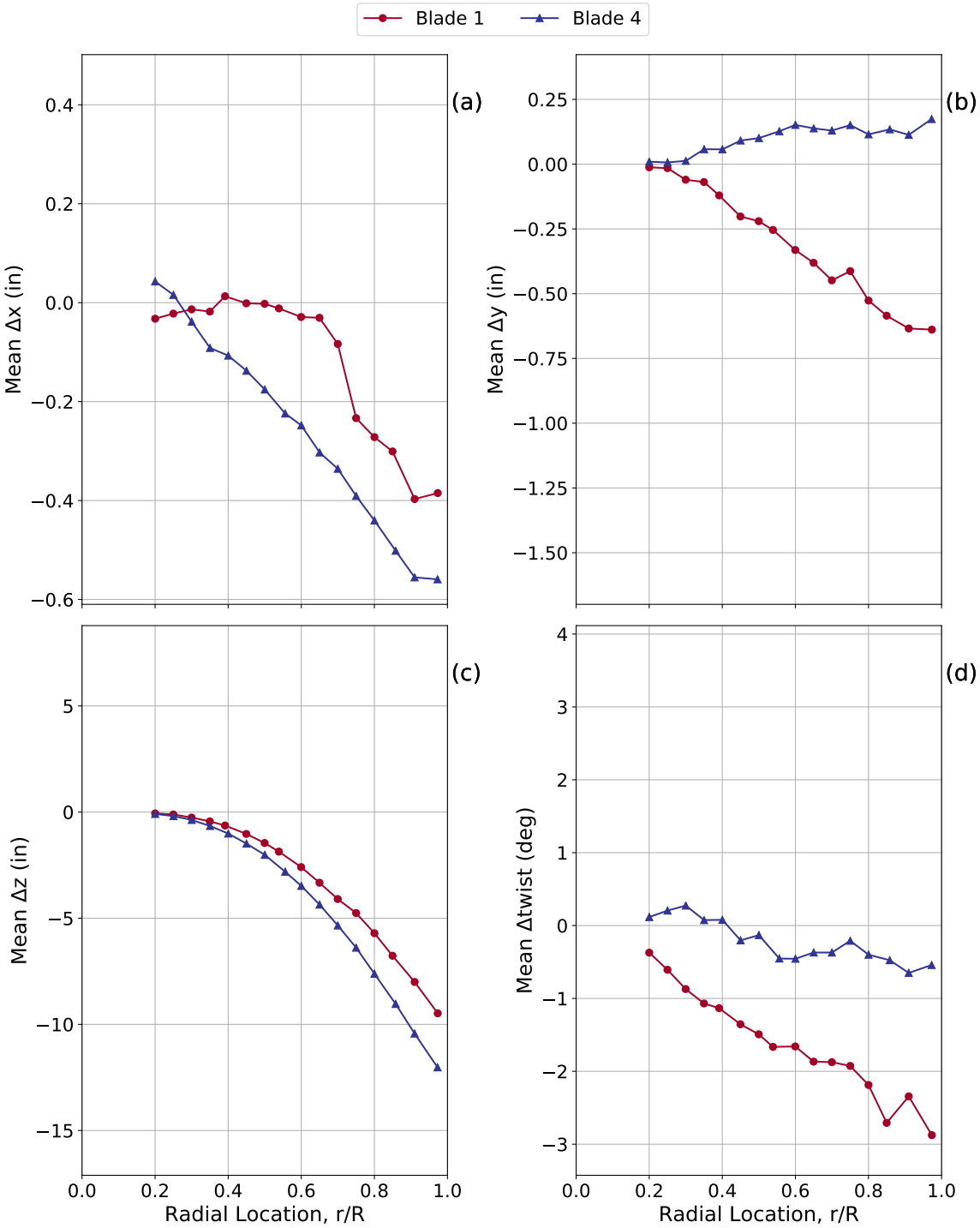


Figure 3.19-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.3, α = -8°
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0324	0.0021	-0.0122	0.0048	-0.0615	0.0126	-0.3719	0.0724
1	94.92	0.2499	-0.0221	0.0024	-0.0154	0.0075	-0.1118	0.0120	-0.6064	0.1972
1	94.92	0.2998	-0.0135	0.0032	-0.0601	0.0186	-0.2575	0.0356	-0.8716	0.1957
1	94.92	0.3498	-0.0180	0.0042	-0.0691	0.0316	-0.4388	0.0581	-1.0690	0.1896
1	94.92	0.3913	0.0130	0.0045	-0.1205	0.0447	-0.6325	0.0757	-1.1335	0.2018
1	94.92	0.4496	-0.0013	0.0052	-0.2020	0.0645	-1.0303	0.1022	-1.3546	0.2035
1	94.92	0.4997	-0.0023	0.0058	-0.2201	0.0842	-1.4567	0.1269	-1.4922	0.2015
1	94.92	0.5387	-0.0116	0.0072	-0.2540	0.0984	-1.8630	0.1450	-1.6649	0.2149
1	94.92	0.5996	-0.0290	0.0078	-0.3315	0.1239	-2.5929	0.1741	-1.6593	0.2207
1	94.92	0.6498	-0.0306	0.0087	-0.3808	0.1446	-3.3288	0.1959	-1.8673	0.2143
1	94.92	0.6998	-0.0835	0.0103	-0.4485	0.1657	-4.0980	0.2196	-1.8746	0.2121
1	94.92	0.7500	-0.2334	0.0131	-0.4129	0.2005	-4.7565	0.2170	-1.9264	0.2035
1	94.92	0.8001	-0.2718	0.0127	-0.5265	0.2208	-5.7075	0.2303	-2.1877	0.2041
1	94.92	0.8497	-0.3008	0.0141	-0.5850	0.2427	-6.7688	0.2419	-2.7076	0.2246
1	94.92	0.9102	-0.3970	0.0151	-0.6344	0.2699	-8.0034	0.2613	-2.3439	0.2112
1	94.92	0.9734	-0.3849	0.0136	-0.6388	0.2989	-9.4792	0.2792	-2.8762	0.2323
4	94.92	0.2001	0.0429	0.0021	0.0094	0.0009	-0.0889	0.0026	0.1163	0.0276
4	94.92	0.2502	0.0157	0.0018	0.0067	0.0026	-0.1894	0.0107	0.2055	0.0563
4	94.92	0.3001	-0.0386	0.0025	0.0127	0.0041	-0.3718	0.0137	0.2736	0.0618
4	94.92	0.3502	-0.0916	0.0019	0.0575	0.0066	-0.6560	0.0238	0.0749	0.0579
4	94.92	0.4002	-0.1070	0.0024	0.0572	0.0110	-1.0122	0.0396	0.0781	0.0523
4	94.92	0.4500	-0.1377	0.0028	0.0911	0.0136	-1.4859	0.0468	-0.2036	0.0657
4	94.92	0.5001	-0.1756	0.0040	0.1006	0.0182	-2.0159	0.0600	-0.1313	0.0634
4	94.92	0.5560	-0.2241	0.0040	0.1270	0.0232	-2.8109	0.0758	-0.4530	0.0659
4	94.92	0.6001	-0.2481	0.0051	0.1515	0.0275	-3.4791	0.0861	-0.4557	0.0721
4	94.92	0.6501	-0.3029	0.0053	0.1380	0.0331	-4.3607	0.1025	-0.3699	0.0786
4	94.92	0.6999	-0.3358	0.0063	0.1297	0.0392	-5.3431	0.1181	-0.3705	0.0835
4	94.92	0.7500	-0.3907	0.0073	0.1507	0.0467	-6.3881	0.1367	-0.2087	0.0725
4	94.92	0.8002	-0.4404	0.0073	0.1149	0.0533	-7.6197	0.1507	-0.4002	0.0990
4	94.92	0.8582	-0.5015	0.0091	0.1342	0.0618	-9.0391	0.1710	-0.4757	0.0692
4	94.92	0.9101	-0.5553	0.0108	0.1130	0.0695	-10.4349	0.1859	-0.6500	0.0908
4	94.92	0.9728	-0.5593	0.0138	0.1740	0.0798	-12.0263	0.2079	-0.5414	0.1035

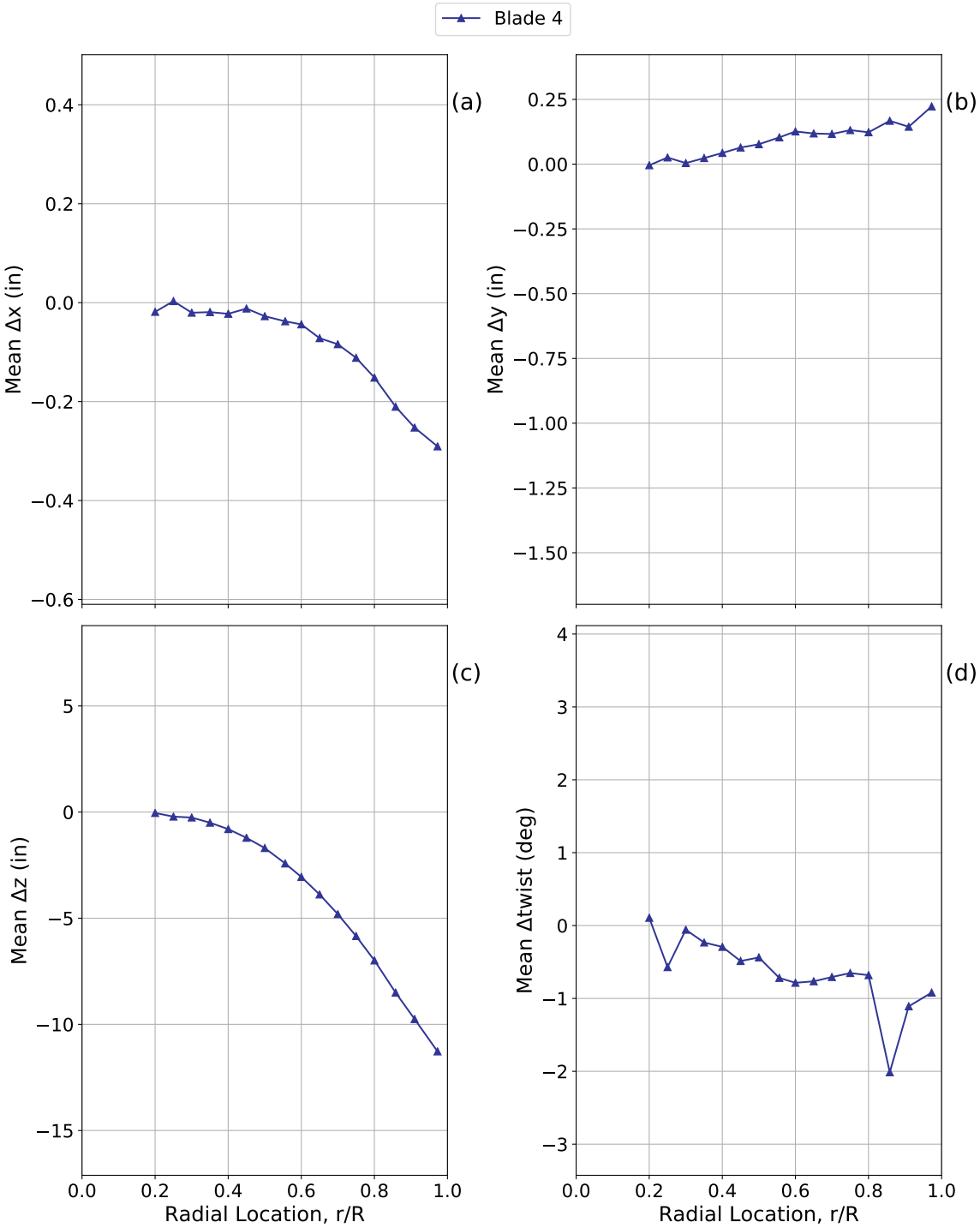


Figure 3.19-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0186	0.0018	-0.0043	0.0046	-0.0432	0.0165	0.1059	0.0695
4	105.12	0.2502	0.0031	0.0040	0.0257	0.0047	-0.2139	0.0120	-0.5711	0.1404
4	105.12	0.3001	-0.0203	0.0018	0.0040	0.0097	-0.2573	0.0373	-0.0575	0.0722
4	105.12	0.3502	-0.0191	0.0029	0.0234	0.0140	-0.5010	0.0515	-0.2326	0.0857
4	105.12	0.4002	-0.0225	0.0022	0.0432	0.0174	-0.8029	0.0667	-0.2930	0.0931
4	105.12	0.4500	-0.0119	0.0020	0.0641	0.0207	-1.2122	0.0777	-0.4870	0.0780
4	105.12	0.5001	-0.0274	0.0033	0.0768	0.0251	-1.6949	0.0949	-0.4379	0.0791
4	105.12	0.5560	-0.0377	0.0042	0.1033	0.0300	-2.4219	0.1149	-0.7190	0.0784
4	105.12	0.6001	-0.0439	0.0063	0.1262	0.0337	-3.0568	0.1289	-0.7855	0.0892
4	105.12	0.6501	-0.0718	0.0083	0.1184	0.0387	-3.8817	0.1424	-0.7653	0.0760
4	105.12	0.6999	-0.0840	0.0116	0.1163	0.0439	-4.8078	0.1545	-0.7066	0.0818
4	105.12	0.7500	-0.1115	0.0136	0.1313	0.0495	-5.8424	0.1647	-0.6519	0.0843
4	105.12	0.8002	-0.1516	0.0162	0.1230	0.0568	-6.9906	0.1748	-0.6812	0.0879
4	105.12	0.8582	-0.2104	0.0126	0.1673	0.0518	-8.5085	0.0968	-2.0139	1.4892
4	105.12	0.9101	-0.2526	0.0181	0.1443	0.0584	-9.7540	0.2852	-1.1086	0.1150
4	105.12	0.9728	-0.2906	0.0332	0.2228	0.0974	-11.2758	0.5221	-0.9203	0.0986

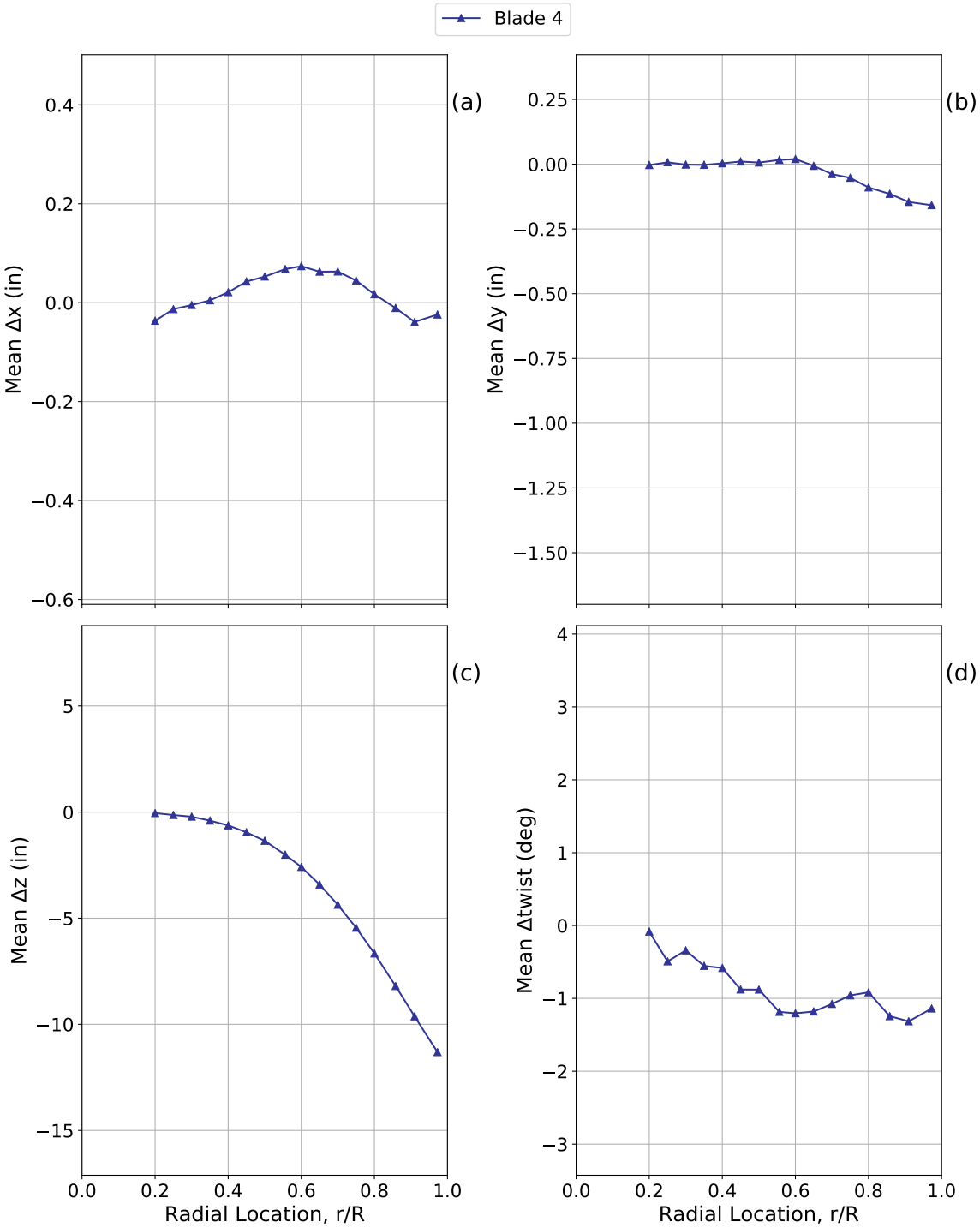


Figure 3.19-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0367	0.0013	-0.0033	0.0008	-0.0464	0.0041	-0.0839	0.0150
4	119.88	0.2502	-0.0131	0.0013	0.0073	0.0018	-0.1376	0.0086	-0.4925	0.0310
4	119.88	0.3001	-0.0048	0.0013	-0.0017	0.0036	-0.2167	0.0157	-0.3421	0.0344
4	119.88	0.3502	0.0047	0.0018	-0.0027	0.0058	-0.4029	0.0283	-0.5547	0.0293
4	119.88	0.4002	0.0213	0.0021	0.0033	0.0092	-0.6276	0.0429	-0.5832	0.0223
4	119.88	0.4500	0.0428	0.0025	0.0103	0.0116	-0.9547	0.0612	-0.8785	0.0258
4	119.88	0.5001	0.0528	0.0027	0.0062	0.0148	-1.3543	0.0825	-0.8798	0.0298
4	119.88	0.5560	0.0680	0.0043	0.0165	0.0201	-2.0101	0.1116	-1.1855	0.0323
4	119.88	0.6001	0.0738	0.0048	0.0197	0.0231	-2.5864	0.1346	-1.2048	0.0346
4	119.88	0.6501	0.0627	0.0066	-0.0067	0.0283	-3.4143	0.1633	-1.1807	0.0267
4	119.88	0.6999	0.0630	0.0067	-0.0383	0.0332	-4.3662	0.1935	-1.0767	0.0339
4	119.88	0.7500	0.0449	0.0091	-0.0527	0.0385	-5.4501	0.2232	-0.9590	0.0328
4	119.88	0.8002	0.0169	0.0110	-0.0899	0.0439	-6.6637	0.2547	-0.9172	0.0335
4	119.88	0.8582	-0.0109	0.0139	-0.1147	0.0503	-8.1987	0.2915	-1.2445	0.0378
4	119.88	0.9101	-0.0390	0.0158	-0.1458	0.0557	-9.6280	0.3277	-1.3149	0.0373
4	119.88	0.9728	-0.0241	0.0182	-0.1584	0.0625	-11.3114	0.3766	-1.1395	0.0375

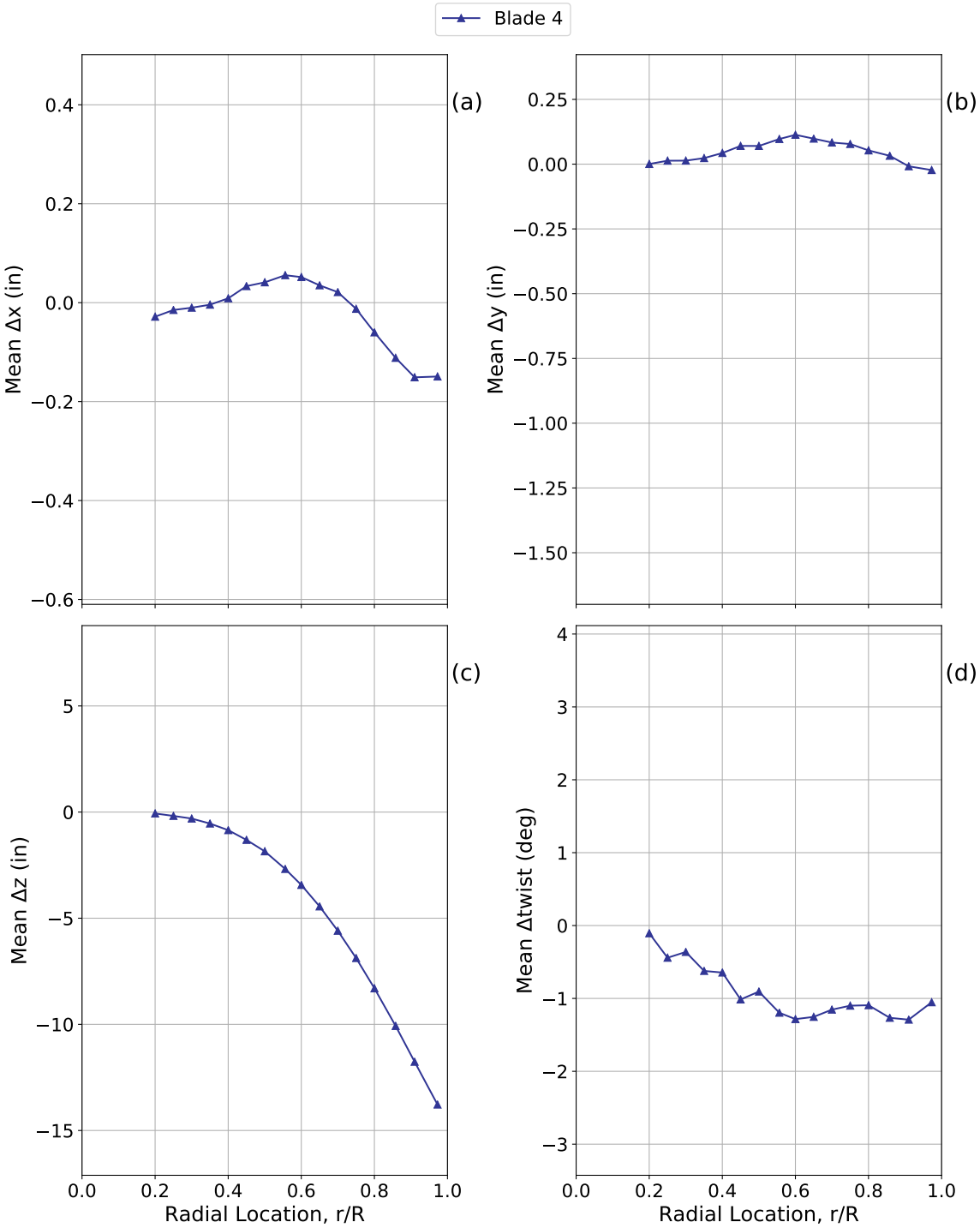


Figure 3.19-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0284	0.0009	0.0006	0.0007	-0.0665	0.0040	-0.1065	0.0139
4	135	0.2502	-0.0148	0.0014	0.0133	0.0019	-0.1809	0.0075	-0.4420	0.0198
4	135	0.3001	-0.0102	0.0009	0.0135	0.0031	-0.3057	0.0150	-0.3625	0.0302
4	135	0.3502	-0.0041	0.0013	0.0233	0.0056	-0.5412	0.0265	-0.6228	0.0260
4	135	0.4002	0.0088	0.0024	0.0430	0.0088	-0.8527	0.0398	-0.6450	0.0265
4	135	0.4500	0.0334	0.0026	0.0704	0.0117	-1.3118	0.0552	-1.0147	0.0341
4	135	0.5001	0.0411	0.0032	0.0702	0.0147	-1.8496	0.0752	-0.9060	0.0427
4	135	0.5560	0.0555	0.0037	0.0970	0.0175	-2.6806	0.0995	-1.1965	0.0458
4	135	0.6001	0.0517	0.0054	0.1132	0.0202	-3.4333	0.1222	-1.2840	0.0455
4	135	0.6501	0.0350	0.0073	0.0984	0.0233	-4.4455	0.1527	-1.2533	0.0555
4	135	0.6999	0.0213	0.0103	0.0834	0.0269	-5.5920	0.1909	-1.1538	0.0541
4	135	0.7500	-0.0125	0.0139	0.0777	0.0306	-6.8779	0.2329	-1.0996	0.0541
4	135	0.8002	-0.0601	0.0185	0.0530	0.0344	-8.3051	0.2821	-1.0936	0.0600
4	135	0.8582	-0.1116	0.0244	0.0322	0.0384	-10.0767	0.3455	-1.2660	0.0666
4	135	0.9101	-0.1509	0.0294	-0.0083	0.0425	-11.7647	0.4060	-1.2916	0.0720
4	135	0.9728	-0.1493	0.0365	-0.0229	0.0469	-13.7803	0.4845	-1.0528	0.0726

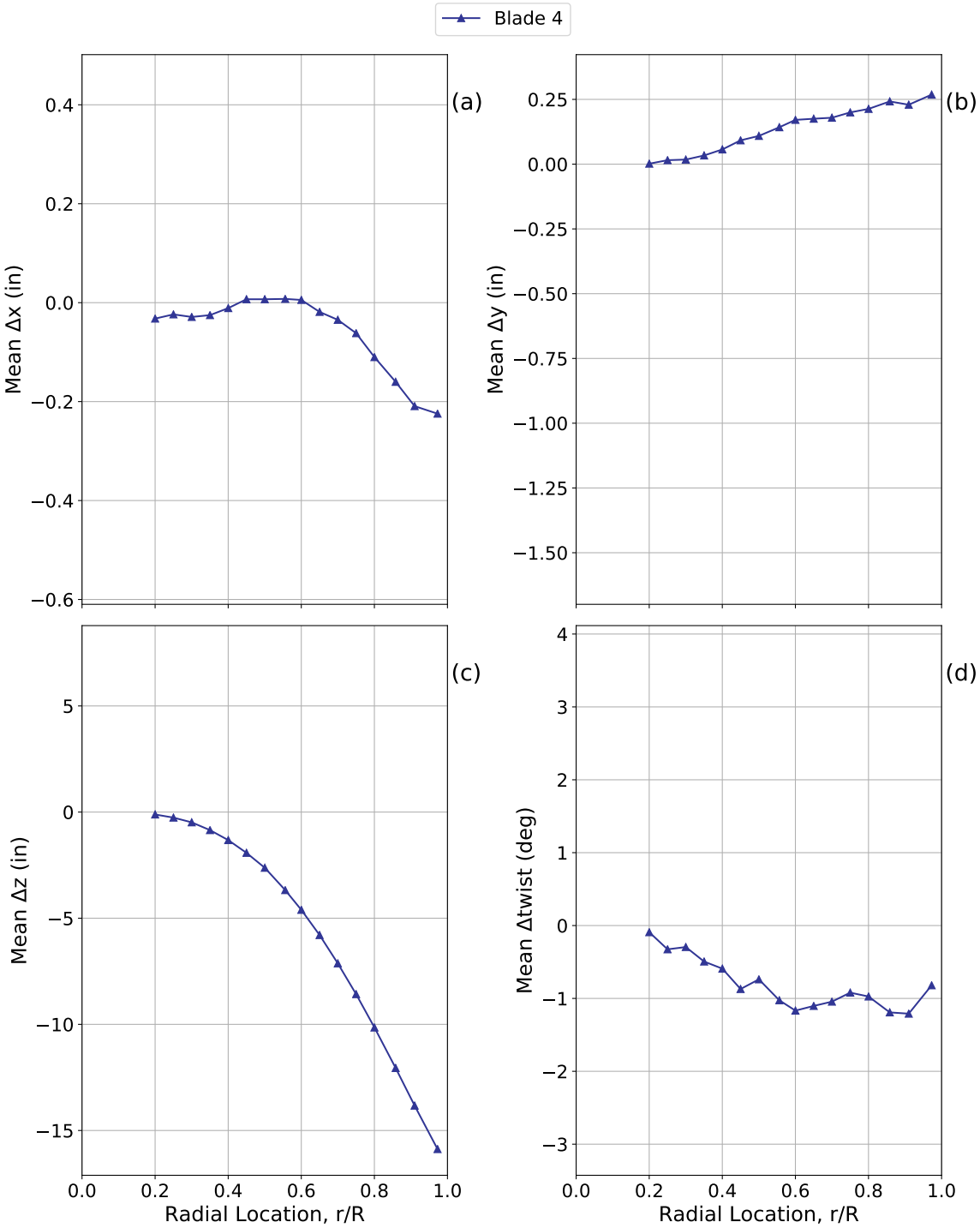


Figure 3.19-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0322	0.0013	0.0018	0.0006	-0.1138	0.0031	-0.0916	0.0065
4	150.12	0.2502	-0.0237	0.0015	0.0153	0.0017	-0.2610	0.0059	-0.3263	0.0233
4	150.12	0.3001	-0.0289	0.0014	0.0176	0.0027	-0.4840	0.0121	-0.2948	0.0182
4	150.12	0.3502	-0.0252	0.0014	0.0335	0.0048	-0.8507	0.0204	-0.4939	0.0202
4	150.12	0.4002	-0.0110	0.0016	0.0568	0.0076	-1.3210	0.0316	-0.5916	0.0245
4	150.12	0.4500	0.0069	0.0018	0.0919	0.0101	-1.9212	0.0435	-0.8711	0.0244
4	150.12	0.5001	0.0069	0.0024	0.1090	0.0131	-2.6243	0.0605	-0.7383	0.0199
4	150.12	0.5560	0.0076	0.0035	0.1424	0.0170	-3.6761	0.0784	-1.0255	0.0338
4	150.12	0.6001	0.0055	0.0047	0.1709	0.0203	-4.6070	0.0974	-1.1673	0.0325
4	150.12	0.6501	-0.0187	0.0066	0.1753	0.0244	-5.7946	0.1195	-1.1030	0.0218
4	150.12	0.6999	-0.0347	0.0083	0.1792	0.0288	-7.1278	0.1470	-1.0443	0.0339
4	150.12	0.7500	-0.0617	0.0111	0.1997	0.0337	-8.5780	0.1760	-0.9206	0.0274
4	150.12	0.8002	-0.1101	0.0152	0.2133	0.0389	-10.1500	0.2107	-0.9738	0.0295
4	150.12	0.8582	-0.1601	0.0199	0.2421	0.0454	-12.0579	0.2599	-1.1917	0.0328
4	150.12	0.9101	-0.2092	0.0247	0.2294	0.0510	-13.8290	0.3067	-1.2094	0.0396
4	150.12	0.9728	-0.2244	0.0306	0.2683	0.0574	-15.8773	0.3734	-0.8198	0.0442

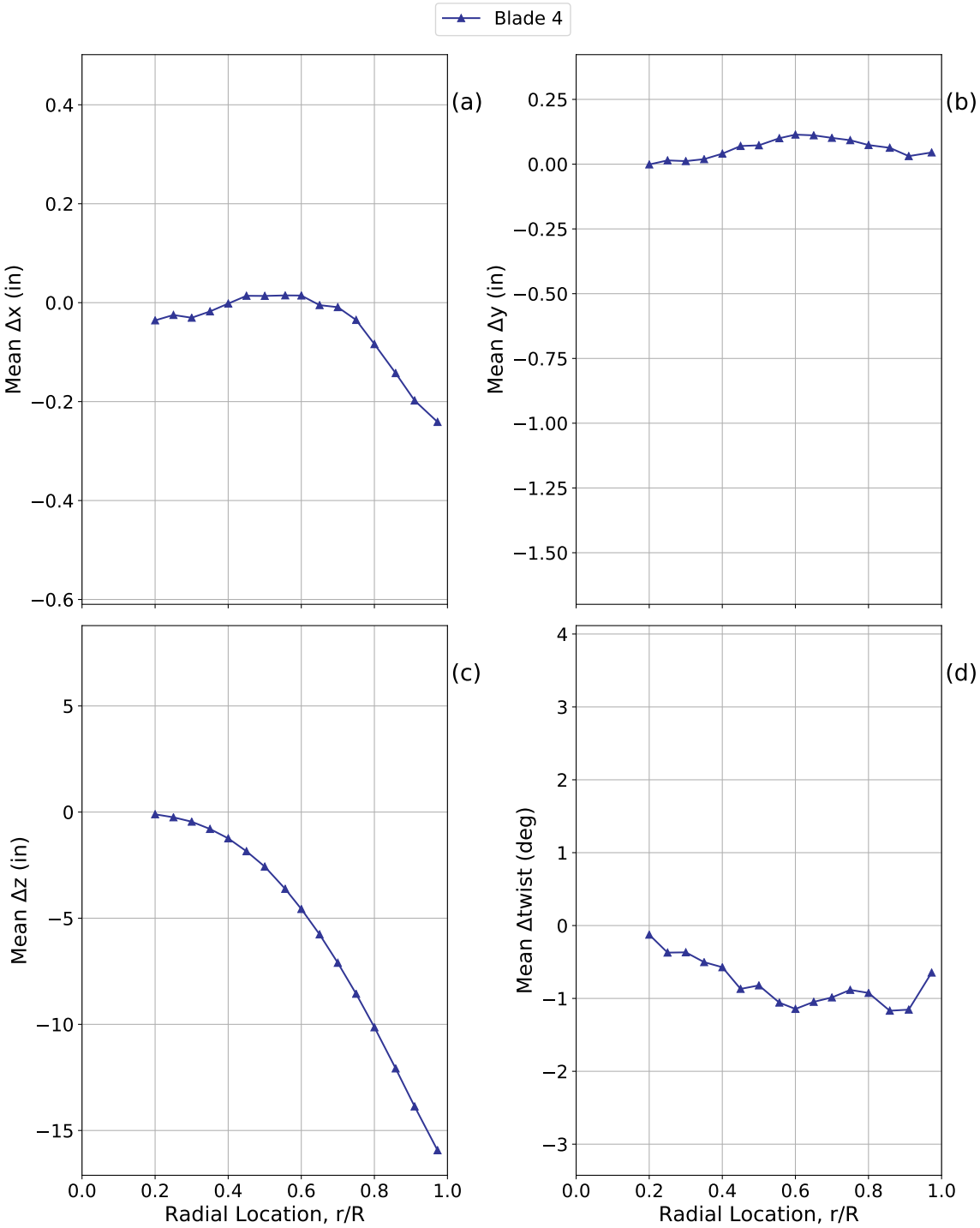


Figure 3.19-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0358	0.0013	-0.0012	0.0011	-0.1055	0.0034	-0.1253	0.0252
4	164.88	0.2502	-0.0249	0.0024	0.0145	0.0018	-0.2465	0.0043	-0.3716	0.0562
4	164.88	0.3001	-0.0305	0.0016	0.0117	0.0041	-0.4536	0.0117	-0.3676	0.0622
4	164.88	0.3502	-0.0177	0.0013	0.0193	0.0071	-0.7967	0.0178	-0.5022	0.0656
4	164.88	0.4002	-0.0018	0.0023	0.0405	0.0107	-1.2401	0.0274	-0.5722	0.0573
4	164.88	0.4500	0.0139	0.0019	0.0700	0.0129	-1.8471	0.0341	-0.8695	0.0801
4	164.88	0.5001	0.0136	0.0024	0.0727	0.0169	-2.5707	0.0413	-0.8214	0.0759
4	164.88	0.5560	0.0147	0.0028	0.1000	0.0202	-3.6190	0.0457	-1.0578	0.0788
4	164.88	0.6001	0.0144	0.0032	0.1140	0.0242	-4.5675	0.0485	-1.1444	0.0756
4	164.88	0.6501	-0.0050	0.0038	0.1112	0.0279	-5.7646	0.0552	-1.0472	0.0708
4	164.88	0.6999	-0.0091	0.0048	0.1014	0.0325	-7.1035	0.0615	-0.9866	0.0852
4	164.88	0.7500	-0.0350	0.0061	0.0924	0.0371	-8.5606	0.0713	-0.8830	0.0812
4	164.88	0.8002	-0.0839	0.0077	0.0737	0.0416	-10.1408	0.0858	-0.9248	0.0811
4	164.88	0.8582	-0.1425	0.0099	0.0631	0.0480	-12.0775	0.1061	-1.1690	0.0792
4	164.88	0.9101	-0.1979	0.0117	0.0310	0.0537	-13.8688	0.1253	-1.1540	0.0838
4	164.88	0.9728	-0.2412	0.0153	0.0451	0.0611	-15.9338	0.1547	-0.6458	0.0828

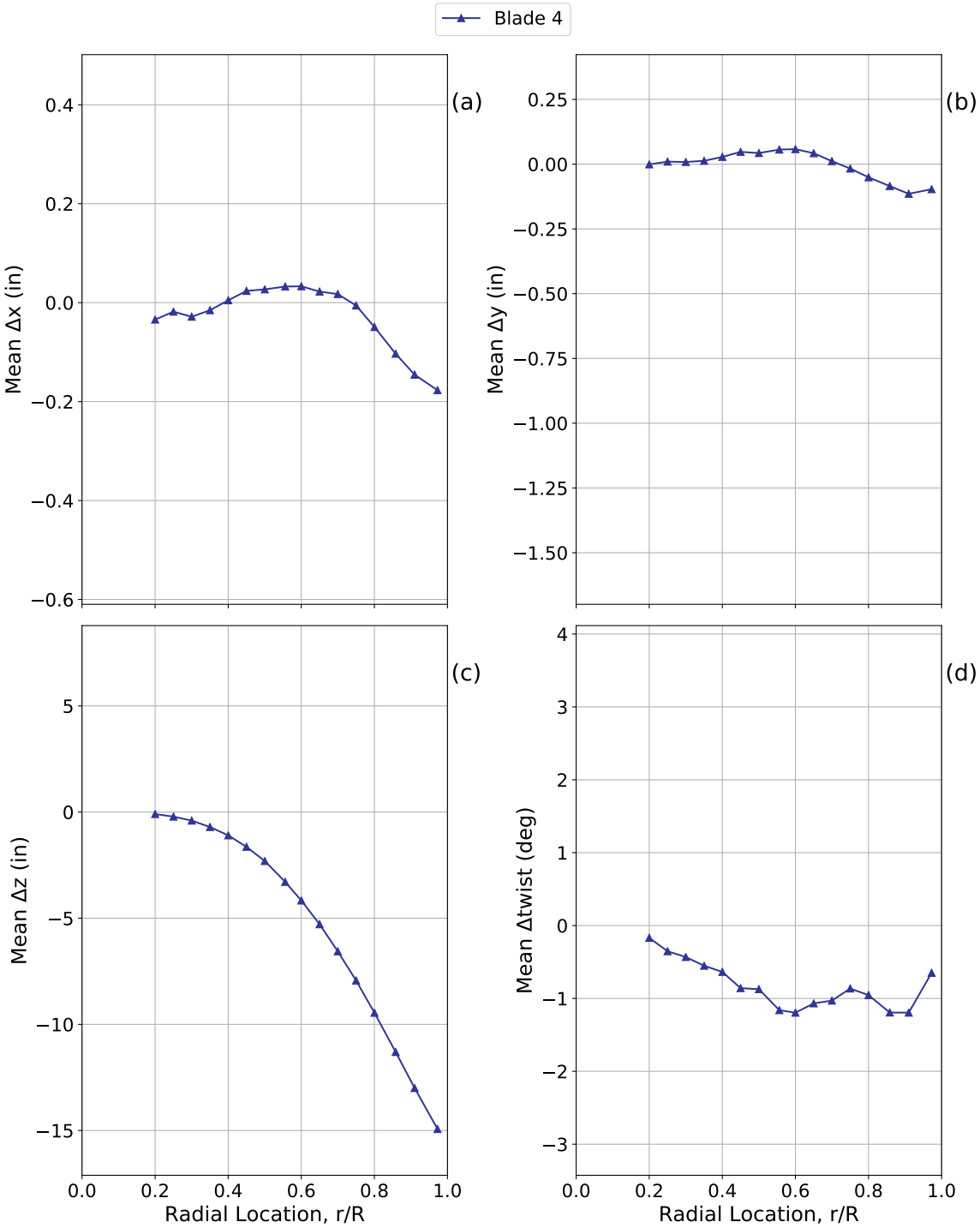


Figure 3.19-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0342	0.0018	-0.0009	0.0009	-0.0939	0.0023	-0.1690	0.0290
4	170.16	0.2502	-0.0182	0.0026	0.0097	0.0021	-0.2151	0.0071	-0.3528	0.0298
4	170.16	0.3001	-0.0284	0.0036	0.0083	0.0029	-0.4026	0.0097	-0.4320	0.0578
4	170.16	0.3502	-0.0153	0.0021	0.0129	0.0061	-0.7051	0.0158	-0.5519	0.0446
4	170.16	0.4002	0.0048	0.0032	0.0279	0.0085	-1.0975	0.0260	-0.6360	0.0534
4	170.16	0.4500	0.0238	0.0025	0.0475	0.0113	-1.6366	0.0344	-0.8591	0.0476
4	170.16	0.5001	0.0269	0.0037	0.0428	0.0141	-2.3068	0.0471	-0.8733	0.0525
4	170.16	0.5560	0.0326	0.0041	0.0562	0.0189	-3.2899	0.0625	-1.1613	0.0566
4	170.16	0.6001	0.0331	0.0046	0.0578	0.0223	-4.1671	0.0809	-1.1956	0.0487
4	170.16	0.6501	0.0224	0.0061	0.0421	0.0271	-5.2854	0.0982	-1.0680	0.0657
4	170.16	0.6999	0.0174	0.0078	0.0114	0.0312	-6.5609	0.1155	-1.0298	0.0594
4	170.16	0.7500	-0.0058	0.0083	-0.0171	0.0359	-7.9373	0.1358	-0.8640	0.0569
4	170.16	0.8002	-0.0492	0.0106	-0.0509	0.0415	-9.4547	0.1553	-0.9551	0.0643
4	170.16	0.8582	-0.1033	0.0130	-0.0847	0.0476	-11.3032	0.1837	-1.1934	0.0631
4	170.16	0.9101	-0.1456	0.0157	-0.1145	0.0528	-13.0006	0.2118	-1.1952	0.0610
4	170.16	0.9728	-0.1770	0.0190	-0.0967	0.0599	-14.9318	0.2457	-0.6491	0.0716

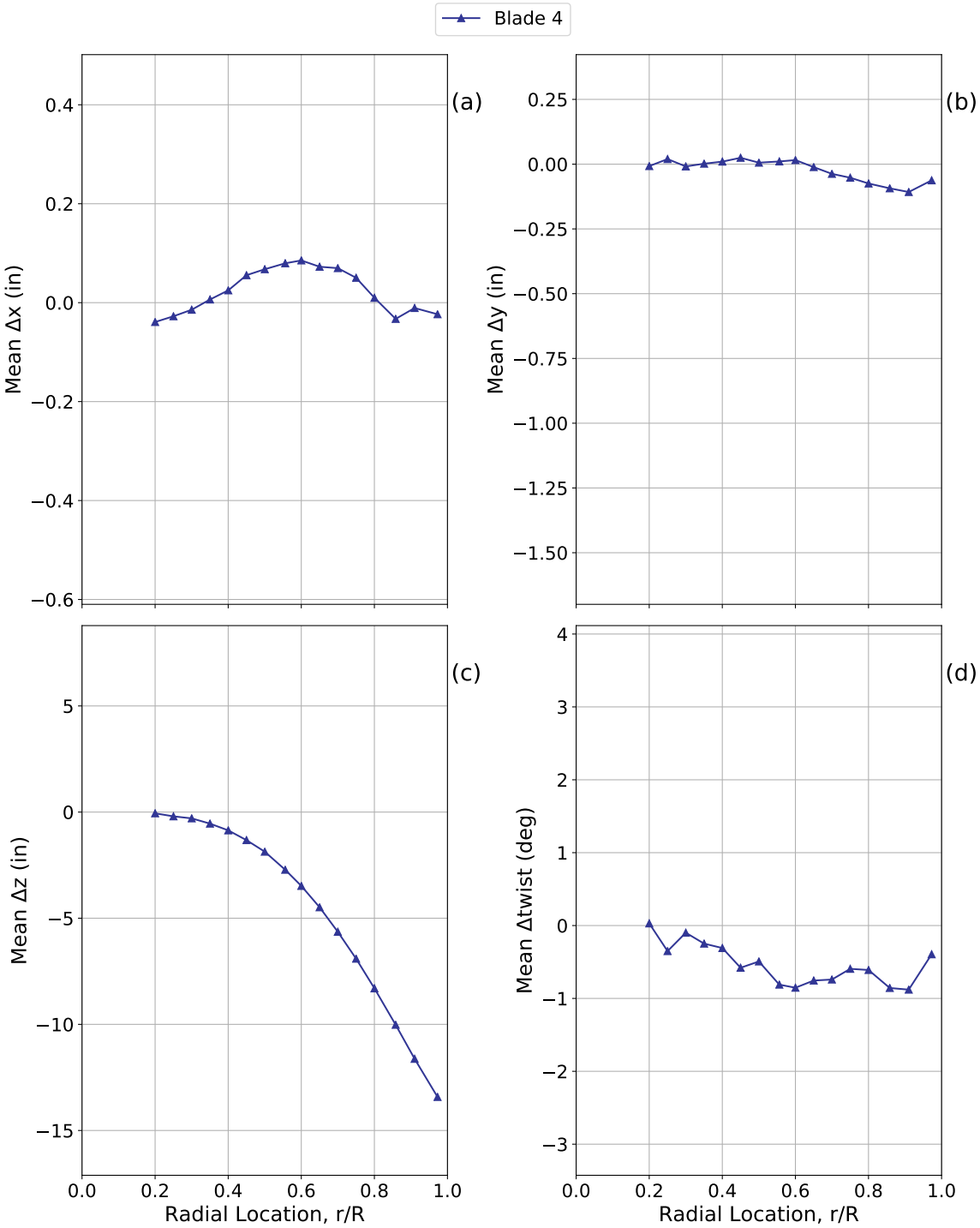


Figure 3.19-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0391	0.0027	-0.0075	0.0015	-0.0592	0.0055	0.0293	0.0410
4	175.08	0.2502	-0.0275	0.0039	0.0196	0.0035	-0.2008	0.0087	-0.3509	0.0591
4	175.08	0.3001	-0.0143	0.0020	-0.0088	0.0039	-0.2965	0.0115	-0.0983	0.0671
4	175.08	0.3502	0.0064	0.0013	0.0018	0.0063	-0.5442	0.0164	-0.2480	0.0657
4	175.08	0.4002	0.0249	0.0011	0.0098	0.0098	-0.8626	0.0223	-0.3088	0.0635
4	175.08	0.4500	0.0555	0.0019	0.0246	0.0132	-1.3217	0.0318	-0.5793	0.0715
4	175.08	0.5001	0.0676	0.0022	0.0057	0.0174	-1.8666	0.0425	-0.4928	0.0697
4	175.08	0.5560	0.0796	0.0033	0.0104	0.0246	-2.7181	0.0588	-0.8108	0.0650
4	175.08	0.6001	0.0854	0.0051	0.0157	0.0296	-3.4793	0.0677	-0.8532	0.0718
4	175.08	0.6501	0.0726	0.0069	-0.0114	0.0362	-4.4850	0.0809	-0.7546	0.0768
4	175.08	0.6999	0.0698	0.0094	-0.0374	0.0423	-5.6411	0.0929	-0.7408	0.0716
4	175.08	0.7500	0.0503	0.0117	-0.0524	0.0493	-6.9069	0.1048	-0.5939	0.0704
4	175.08	0.8002	0.0098	0.0141	-0.0747	0.0560	-8.3056	0.1163	-0.6099	0.0919
4	175.08	0.8582	-0.0328	0.0181	-0.0933	0.0649	-10.0211	0.1241	-0.8568	0.0718
4	175.08	0.9101	-0.0108	0.0108	-0.1076	0.1238	-11.6246	0.1599	-0.8796	0.0857
4	175.08	0.9728	-0.0234	0.0102	-0.0625	0.1348	-13.4210	0.1755	-0.3944	0.0911

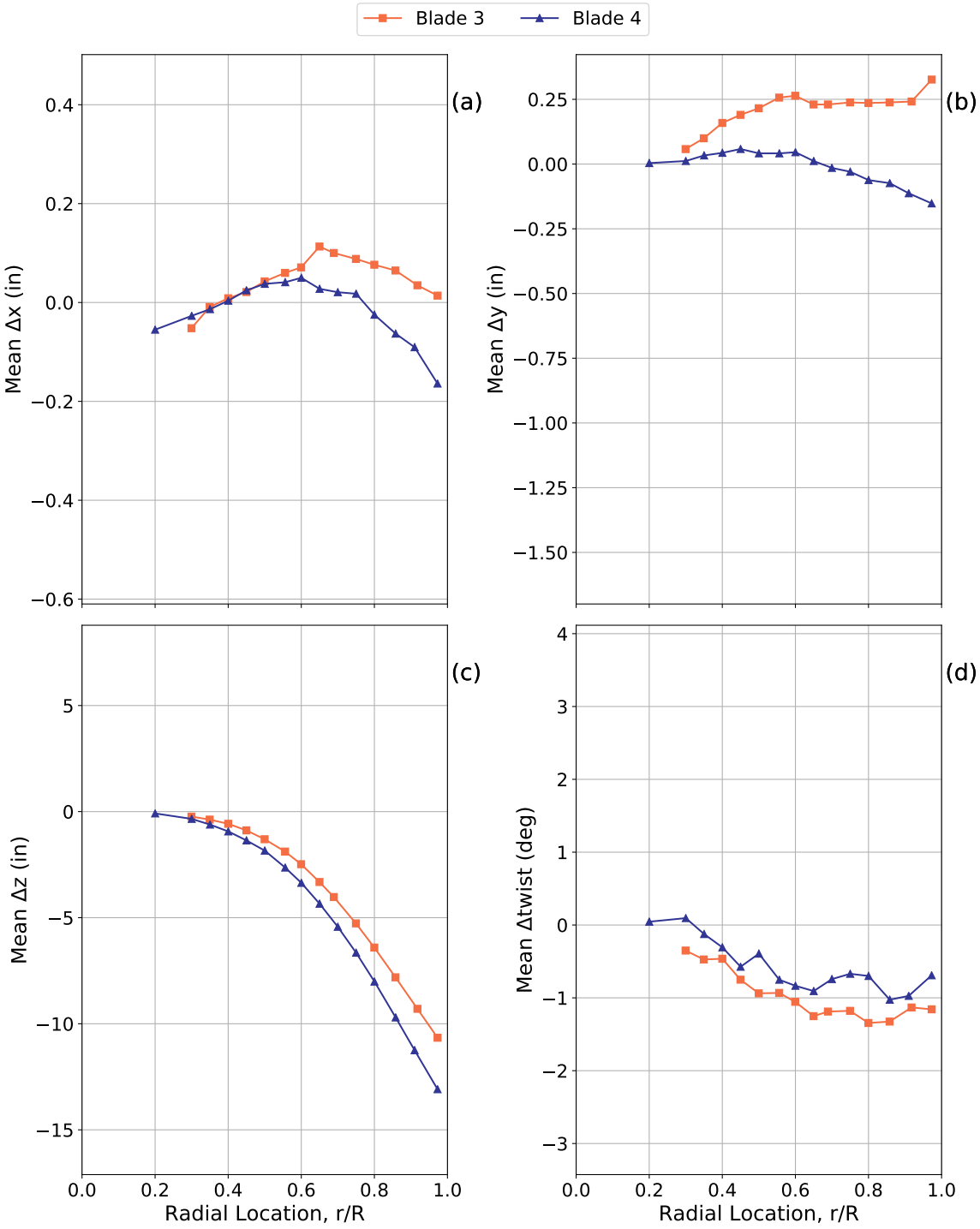


Figure 3.19-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.3, α = -8°
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2995	-0.0520	0.0078	0.0578	0.0170	-0.2350	0.0518	-0.3509	0.1728
3	180.35	0.3493	-0.0091	0.0109	0.0995	0.0291	-0.3767	0.0868	-0.4731	0.2279
3	180.35	0.4000	0.0086	0.0081	0.1588	0.0464	-0.5743	0.1365	-0.4631	0.2072
3	180.35	0.4497	0.0211	0.0098	0.1900	0.0614	-0.8841	0.1788	-0.7505	0.2143
3	180.35	0.4997	0.0427	0.0100	0.2154	0.0768	-1.3022	0.2252	-0.9381	0.2085
3	180.35	0.5556	0.0599	0.0112	0.2567	0.0954	-1.8843	0.2751	-0.9325	0.2245
3	180.35	0.5995	0.0710	0.0127	0.2638	0.1085	-2.4796	0.3153	-1.0548	0.2371
3	180.35	0.6498	0.1132	0.0137	0.2301	0.1261	-3.3187	0.3681	-1.2514	0.2152
3	180.35	0.6890	0.1001	0.0165	0.2301	0.1374	-4.0272	0.4055	-1.1883	0.2204
3	180.35	0.7495	0.0881	0.0198	0.2380	0.1584	-5.2687	0.4669	-1.1785	0.2150
3	180.35	0.7998	0.0764	0.0228	0.2358	0.1751	-6.4085	0.5134	-1.3449	0.2198
3	180.35	0.8577	0.0647	0.0269	0.2381	0.1953	-7.8115	0.5681	-1.3259	0.2282
3	180.35	0.9178	0.0348	0.0303	0.2415	0.2161	-9.2968	0.6229	-1.1322	0.1985
3	180.35	0.9729	0.0139	0.0327	0.3263	0.2358	-10.6589	0.6668	-1.1575	0.2196
4	180	0.2001	-0.0550	0.0025	0.0037	0.0013	-0.0859	0.0044	0.0454	0.0405
4	180	0.3001	-0.0270	0.0030	0.0118	0.0069	-0.3430	0.0145	0.0946	0.0930
4	180	0.3502	-0.0135	0.0026	0.0332	0.0106	-0.6122	0.0252	-0.1242	0.0853
4	180	0.4002	0.0036	0.0018	0.0433	0.0176	-0.9347	0.0371	-0.3067	0.0968
4	180	0.4500	0.0246	0.0027	0.0581	0.0212	-1.3589	0.0467	-0.5733	0.0945
4	180	0.5001	0.0377	0.0026	0.0413	0.0264	-1.8401	0.0587	-0.3933	0.0938
4	180	0.5560	0.0410	0.0024	0.0413	0.0335	-2.6393	0.0719	-0.7517	0.1083
4	180	0.6001	0.0499	0.0029	0.0457	0.0387	-3.3600	0.0839	-0.8345	0.1120
4	180	0.6501	0.0276	0.0031	0.0116	0.0453	-4.3429	0.0958	-0.9071	0.1038
4	180	0.6999	0.0208	0.0040	-0.0149	0.0522	-5.4304	0.1125	-0.7428	0.1037
4	180	0.7500	0.0177	0.0036	-0.0297	0.0597	-6.6526	0.1263	-0.6699	0.1062
4	180	0.8002	-0.0248	0.0073	-0.0619	0.0672	-8.0135	0.1399	-0.6999	0.1194
4	180	0.8582	-0.0630	0.0096	-0.0738	0.0762	-9.7038	0.1558	-1.0259	0.1117
4	180	0.9101	-0.0905	0.0106	-0.1129	0.0831	-11.2495	0.1687	-0.9731	0.1091
4	180	0.9728	-0.1640	0.0122	-0.1520	0.0973	-13.0862	0.1848	-0.6905	0.1077

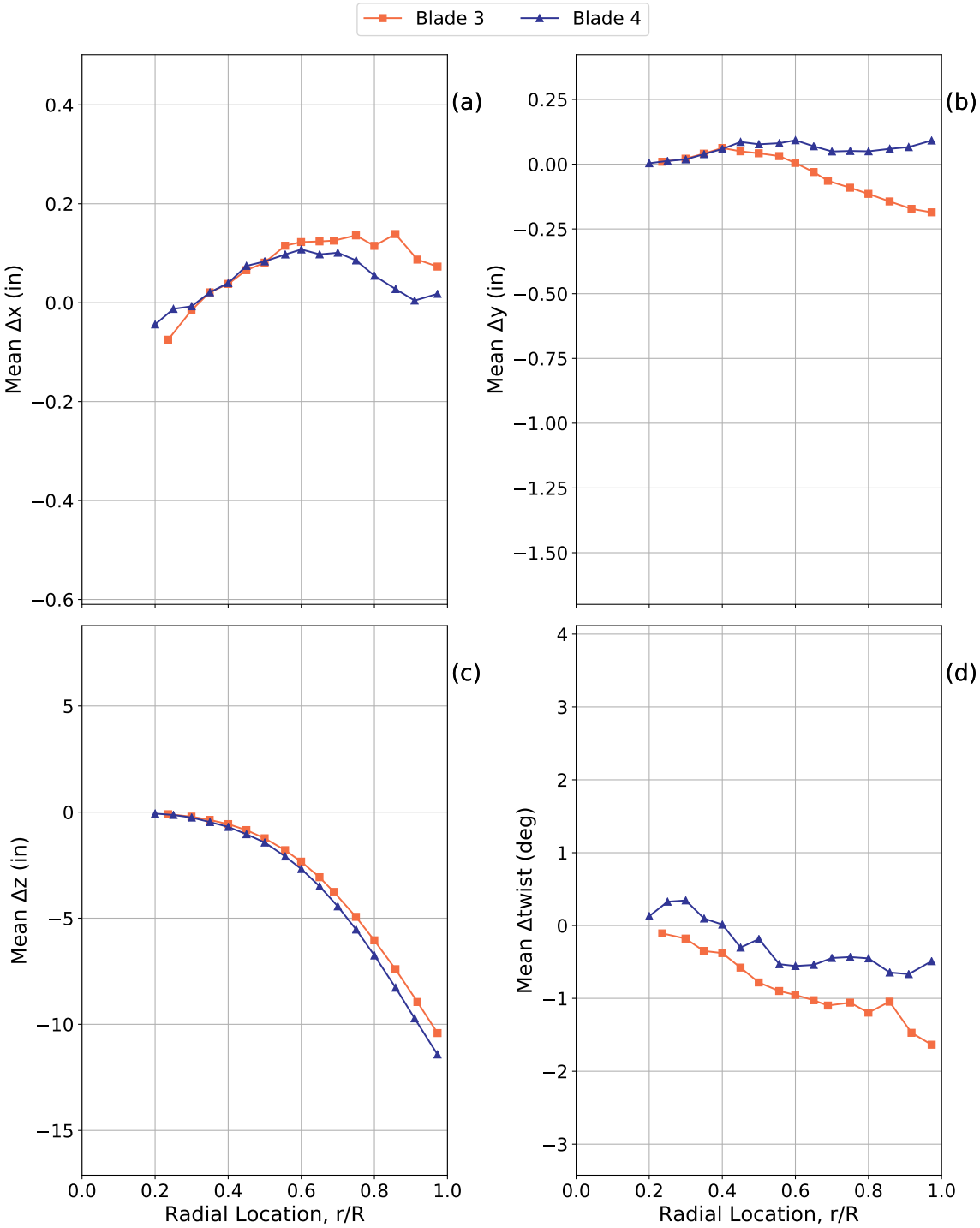


Figure 3.19-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.3, α = -8°
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2357	-0.0749	0.0075	0.0095	0.0026	-0.0984	0.0054	-0.1079	0.0549
3	184.92	0.2995	-0.0155	0.0018	0.0212	0.0058	-0.2129	0.0093	-0.1792	0.0886
3	184.92	0.3493	0.0209	0.0037	0.0407	0.0111	-0.3669	0.0173	-0.3485	0.0842
3	184.92	0.4000	0.0380	0.0054	0.0625	0.0167	-0.5655	0.0243	-0.3785	0.0928
3	184.92	0.4497	0.0657	0.0089	0.0497	0.0236	-0.8479	0.0329	-0.5779	0.0802
3	184.92	0.4997	0.0810	0.0127	0.0421	0.0320	-1.2330	0.0412	-0.7815	0.0859
3	184.92	0.5556	0.1152	0.0173	0.0313	0.0428	-1.7926	0.0503	-0.8989	0.0927
3	184.92	0.5995	0.1226	0.0204	0.0049	0.0532	-2.3343	0.0608	-0.9525	0.0861
3	184.92	0.6498	0.1239	0.0246	-0.0303	0.0654	-3.0688	0.0733	-1.0257	0.0799
3	184.92	0.6890	0.1255	0.0281	-0.0641	0.0773	-3.7613	0.0809	-1.0980	0.0936
3	184.92	0.7495	0.1361	0.0320	-0.0908	0.0963	-4.9365	0.0977	-1.0582	0.0835
3	184.92	0.7998	0.1149	0.0359	-0.1146	0.1145	-6.0431	0.1132	-1.1955	0.0854
3	184.92	0.8577	0.1388	0.0410	-0.1438	0.1394	-7.4022	0.1303	-1.0456	0.0894
3	184.92	0.9178	0.0871	0.0440	-0.1724	0.1675	-8.9487	0.1548	-1.4726	0.0737
3	184.92	0.9729	0.0730	0.0455	-0.1859	0.1925	-10.4131	0.1696	-1.6359	0.1161
4	184.92	0.2001	-0.0440	0.0114	0.0037	0.0051	-0.0701	0.0097	0.1288	0.0525
4	184.92	0.2502	-0.0126	0.0052	0.0125	0.0050	-0.1339	0.0100	0.3275	0.1511
4	184.92	0.3001	-0.0073	0.0039	0.0185	0.0164	-0.2567	0.0274	0.3451	0.1472
4	184.92	0.3502	0.0210	0.0081	0.0387	0.0281	-0.4701	0.0420	0.0962	0.1488
4	184.92	0.4002	0.0398	0.0128	0.0588	0.0407	-0.6983	0.0610	0.0132	0.1441
4	184.92	0.4500	0.0744	0.0179	0.0858	0.0544	-1.0418	0.0780	-0.3024	0.1541
4	184.92	0.5001	0.0835	0.0221	0.0768	0.0693	-1.4325	0.0984	-0.1851	0.1505
4	184.92	0.5560	0.0975	0.0272	0.0810	0.0867	-2.0893	0.1239	-0.5308	0.1432
4	184.92	0.6001	0.1077	0.0305	0.0923	0.1015	-2.6818	0.1455	-0.5558	0.1464
4	184.92	0.6501	0.0977	0.0343	0.0691	0.1193	-3.4965	0.1747	-0.5405	0.1455
4	184.92	0.6999	0.1010	0.0383	0.0491	0.1372	-4.4422	0.2101	-0.4457	0.1454
4	184.92	0.7500	0.0855	0.0416	0.0510	0.1574	-5.5343	0.2550	-0.4328	0.1497
4	184.92	0.8002	0.0545	0.0454	0.0497	0.1801	-6.7572	0.3113	-0.4507	0.1480
4	184.92	0.8582	0.0275	0.0512	0.0593	0.2070	-8.2765	0.3861	-0.6446	0.1575
4	184.92	0.9101	0.0043	0.0555	0.0659	0.2359	-9.7208	0.4631	-0.6670	0.1625
4	184.92	0.9728	0.0179	0.0645	0.0913	0.2727	-11.4232	0.5567	-0.4895	0.1842

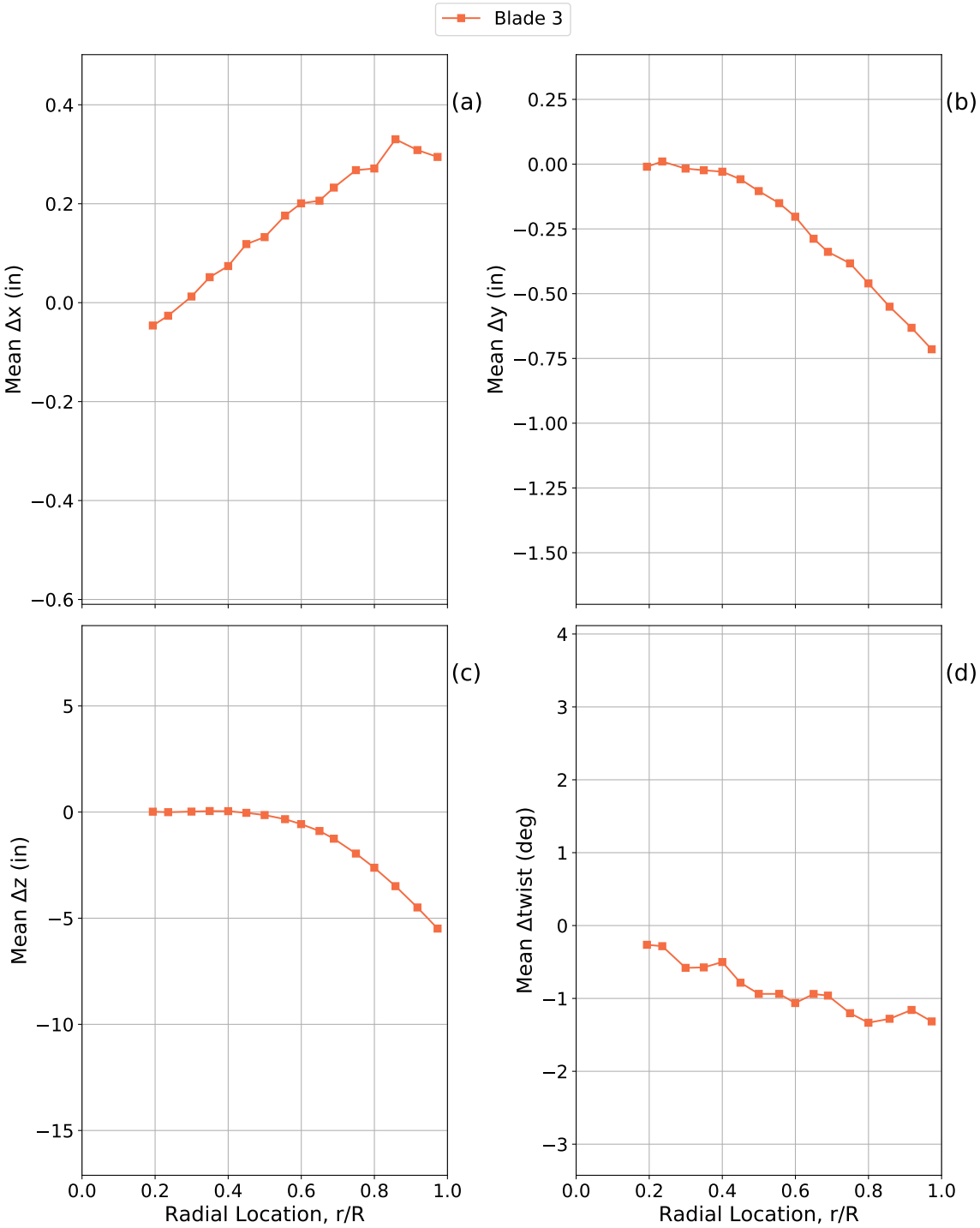


Figure 3.19-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.3, α = -8° NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0462	0.0011	-0.0099	0.0010	0.0191	0.0021	-0.2640	0.0189
3	195.12	0.2357	-0.0264	0.0009	0.0103	0.0018	-0.0050	0.0053	-0.2829	0.0330
3	195.12	0.2995	0.0124	0.0009	-0.0172	0.0017	0.0229	0.0108	-0.5805	0.0481
3	195.12	0.3493	0.0515	0.0009	-0.0235	0.0036	0.0477	0.0152	-0.5745	0.0459
3	195.12	0.4000	0.0740	0.0016	-0.0291	0.0049	0.0433	0.0269	-0.5005	0.0436
3	195.12	0.4497	0.1184	0.0019	-0.0583	0.0052	-0.0355	0.0403	-0.7844	0.0479
3	195.12	0.4997	0.1325	0.0024	-0.1040	0.0069	-0.1399	0.0547	-0.9377	0.0471
3	195.12	0.5556	0.1760	0.0019	-0.1506	0.0093	-0.3346	0.0769	-0.9376	0.0523
3	195.12	0.5995	0.2008	0.0026	-0.2029	0.0116	-0.5678	0.0932	-1.0633	0.0572
3	195.12	0.6498	0.2061	0.0025	-0.2879	0.0125	-0.8918	0.1154	-0.9389	0.0486
3	195.12	0.6890	0.2326	0.0033	-0.3385	0.0148	-1.2544	0.1360	-0.9613	0.0493
3	195.12	0.7495	0.2679	0.0053	-0.3829	0.0185	-1.9537	0.1717	-1.2026	0.0614
3	195.12	0.7998	0.2712	0.0064	-0.4604	0.0221	-2.6215	0.2056	-1.3333	0.0682
3	195.12	0.8577	0.3303	0.0081	-0.5503	0.0266	-3.4900	0.2473	-1.2795	0.0646
3	195.12	0.9178	0.3085	0.0101	-0.6317	0.0332	-4.4937	0.2921	-1.1580	0.0820
3	195.12	0.9729	0.2946	0.0135	-0.7147	0.0384	-5.4878	0.3391	-1.3157	0.0672

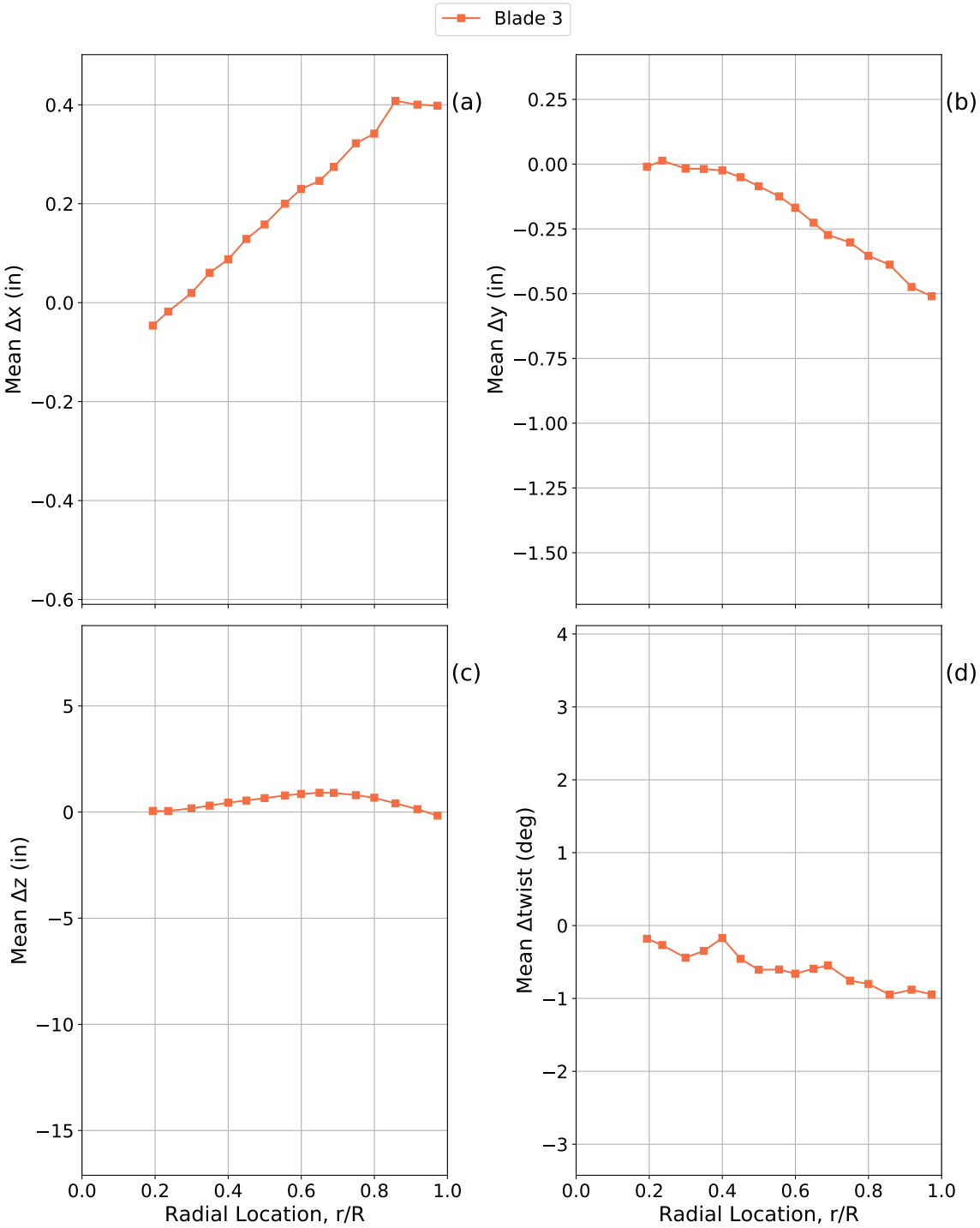


Figure 3.19-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0463	0.0012	-0.0099	0.0007	0.0550	0.0032	-0.1814	0.0146
3	209.88	0.2357	-0.0180	0.0008	0.0134	0.0019	0.0511	0.0067	-0.2683	0.0231
3	209.88	0.2995	0.0196	0.0010	-0.0170	0.0035	0.1765	0.0151	-0.4413	0.0326
3	209.88	0.3493	0.0605	0.0009	-0.0185	0.0053	0.3044	0.0223	-0.3472	0.0258
3	209.88	0.4000	0.0876	0.0014	-0.0242	0.0093	0.4450	0.0371	-0.1715	0.0346
3	209.88	0.4497	0.1288	0.0018	-0.0505	0.0124	0.5439	0.0457	-0.4568	0.0327
3	209.88	0.4997	0.1581	0.0030	-0.0852	0.0160	0.6579	0.0620	-0.6064	0.0316
3	209.88	0.5556	0.2000	0.0033	-0.1242	0.0206	0.7840	0.0799	-0.6035	0.0425
3	209.88	0.5995	0.2300	0.0033	-0.1680	0.0246	0.8539	0.0953	-0.6600	0.0348
3	209.88	0.6498	0.2462	0.0026	-0.2262	0.0297	0.9097	0.1185	-0.5925	0.0339
3	209.88	0.6890	0.2745	0.0035	-0.2730	0.0340	0.9055	0.1399	-0.5468	0.0375
3	209.88	0.7495	0.3223	0.0032	-0.3022	0.0410	0.7953	0.1794	-0.7556	0.0337
3	209.88	0.7998	0.3417	0.0043	-0.3538	0.0480	0.6749	0.2199	-0.8009	0.0473
3	209.88	0.8577	0.4079	0.0043	-0.3880	0.0553	0.4116	0.2675	-0.9474	0.0425
3	209.88	0.9178	0.4004	0.0047	-0.4742	0.0637	0.1376	0.3177	-0.8802	0.0304
3	209.88	0.9729	0.3982	0.0066	-0.5099	0.0715	-0.1682	0.3656	-0.9456	0.0412

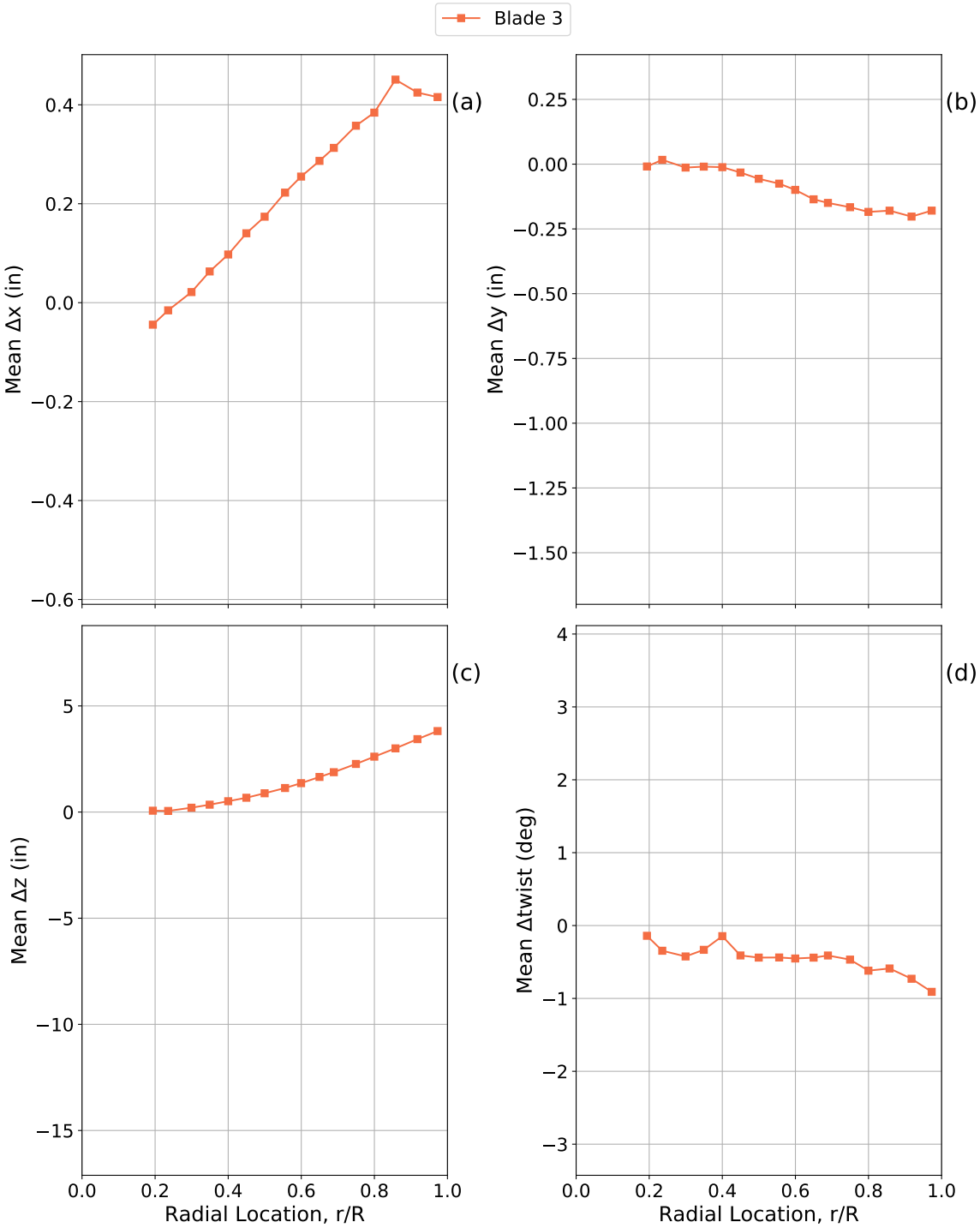


Figure 3.19-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0445	0.0006	-0.0090	0.0006	0.0649	0.0043	-0.1406	0.0140
3	225	0.2357	-0.0155	0.0017	0.0166	0.0019	0.0534	0.0096	-0.3457	0.0390
3	225	0.2995	0.0214	0.0007	-0.0132	0.0039	0.2061	0.0180	-0.4240	0.0434
3	225	0.3493	0.0631	0.0012	-0.0096	0.0068	0.3482	0.0290	-0.3330	0.0279
3	225	0.4000	0.0974	0.0018	-0.0117	0.0113	0.5116	0.0458	-0.1454	0.0417
3	225	0.4497	0.1403	0.0015	-0.0323	0.0152	0.6749	0.0599	-0.4104	0.0476
3	225	0.4997	0.1738	0.0033	-0.0565	0.0214	0.8854	0.0793	-0.4397	0.0565
3	225	0.5556	0.2225	0.0031	-0.0752	0.0279	1.1335	0.0997	-0.4383	0.0559
3	225	0.5995	0.2549	0.0039	-0.0993	0.0341	1.3622	0.1198	-0.4521	0.0741
3	225	0.6498	0.2866	0.0046	-0.1357	0.0419	1.6546	0.1388	-0.4404	0.0457
3	225	0.6890	0.3129	0.0047	-0.1496	0.0484	1.8787	0.1575	-0.4109	0.0461
3	225	0.7495	0.3577	0.0056	-0.1662	0.0578	2.2671	0.1886	-0.4675	0.0366
3	225	0.7998	0.3842	0.0066	-0.1843	0.0668	2.6101	0.2125	-0.6190	0.0390
3	225	0.8577	0.4509	0.0077	-0.1795	0.0776	3.0015	0.2408	-0.5890	0.0512
3	225	0.9178	0.4247	0.0081	-0.2024	0.0888	3.4362	0.2653	-0.7301	0.0311
3	225	0.9729	0.4156	0.0118	-0.1794	0.0995	3.8167	0.2888	-0.9095	0.0487

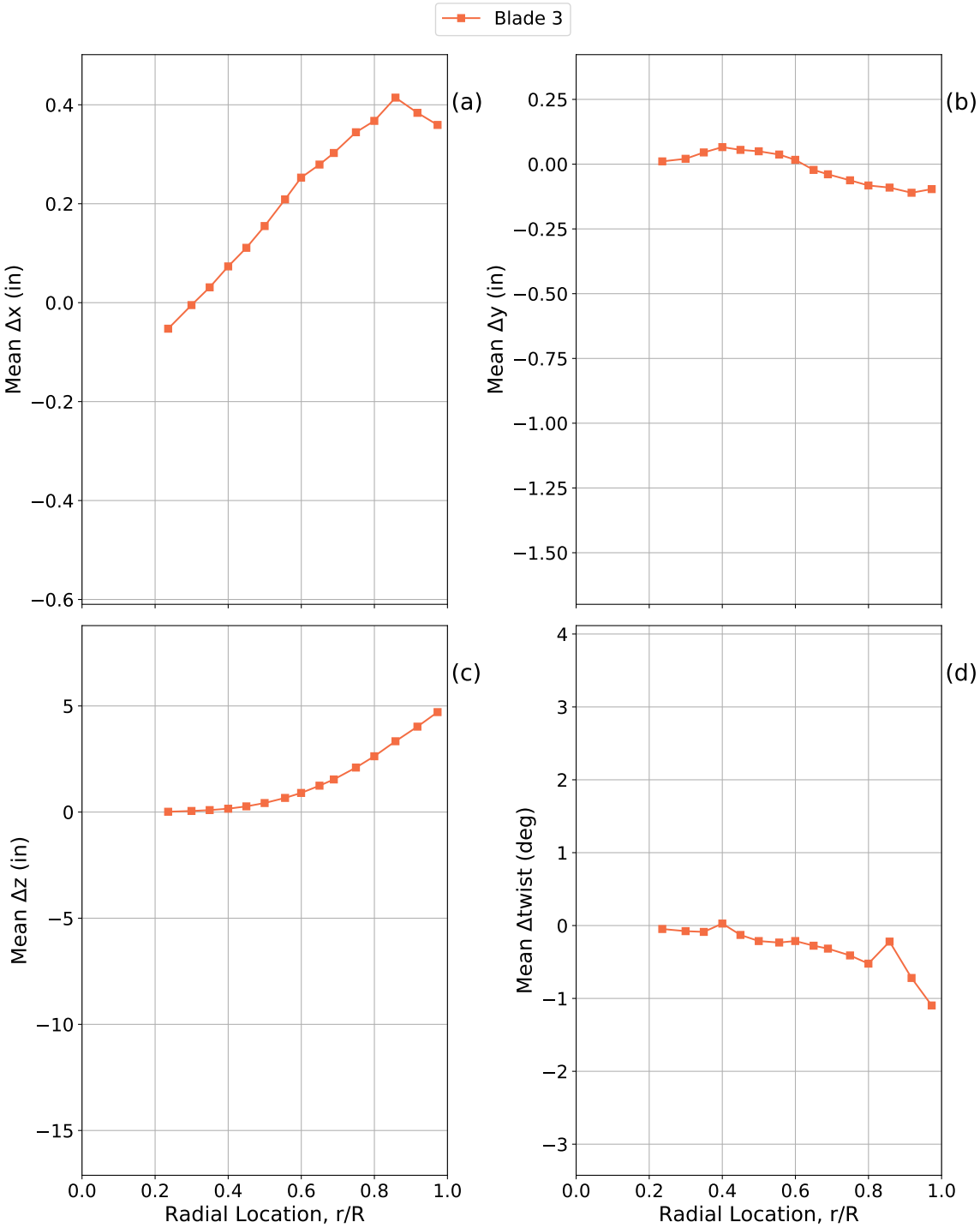


Figure 3.19-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0526	0.0023	0.0107	0.0016	0.0159	0.0081	-0.0473	0.0314
3	240.12	0.2995	-0.0049	0.0008	0.0207	0.0041	0.0522	0.0166	-0.0768	0.0505
3	240.12	0.3493	0.0310	0.0014	0.0452	0.0074	0.0932	0.0257	-0.0872	0.0498
3	240.12	0.4000	0.0733	0.0015	0.0658	0.0118	0.1589	0.0393	0.0272	0.0483
3	240.12	0.4497	0.1109	0.0023	0.0551	0.0168	0.2683	0.0500	-0.1288	0.0479
3	240.12	0.4997	0.1549	0.0029	0.0497	0.0214	0.4265	0.0621	-0.2127	0.0599
3	240.12	0.5556	0.2088	0.0024	0.0371	0.0277	0.6675	0.0746	-0.2333	0.0486
3	240.12	0.5995	0.2528	0.0028	0.0167	0.0320	0.9013	0.0833	-0.2124	0.0534
3	240.12	0.6498	0.2792	0.0033	-0.0222	0.0386	1.2439	0.0919	-0.2765	0.0398
3	240.12	0.6890	0.3026	0.0031	-0.0392	0.0425	1.5373	0.0983	-0.3167	0.0621
3	240.12	0.7495	0.3445	0.0043	-0.0624	0.0511	2.0969	0.1111	-0.4103	0.0557
3	240.12	0.7998	0.3675	0.0047	-0.0823	0.0581	2.6296	0.1193	-0.5227	0.0528
3	240.12	0.8577	0.4145	0.0052	-0.0905	0.0673	3.3365	0.1297	-0.2203	0.0506
3	240.12	0.9178	0.3838	0.0049	-0.1104	0.0762	4.0245	0.1419	-0.7193	0.0506
3	240.12	0.9729	0.3593	0.0073	-0.0963	0.0852	4.7092	0.1543	-1.0965	0.0539

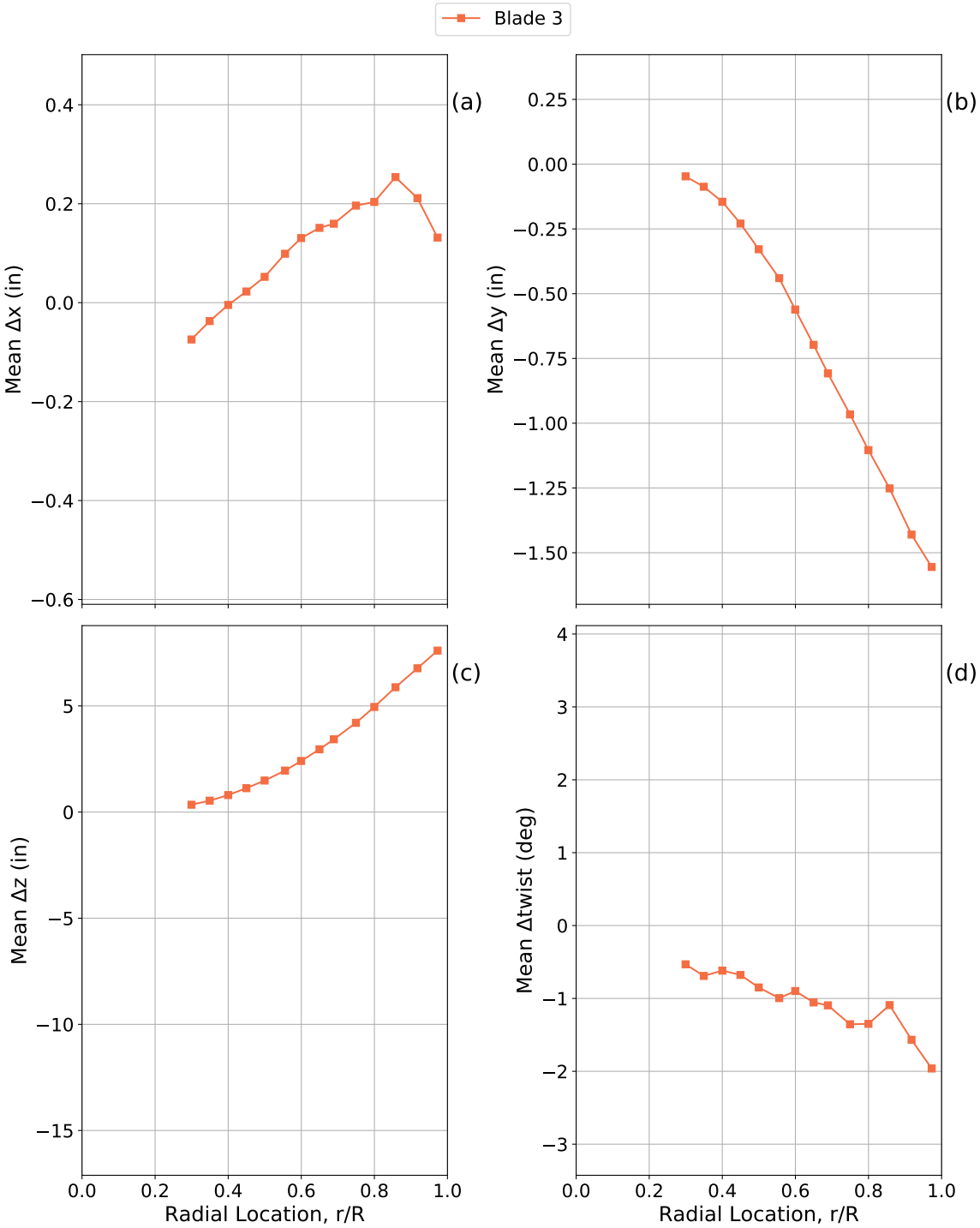


Figure 3.19-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.0744	0.0085	-0.0472	0.0126	0.3470	0.0772	-0.5317	0.1927
3	254.88	0.3493	-0.0372	0.0069	-0.0873	0.0227	0.5380	0.1203	-0.6912	0.2525
3	254.88	0.4000	-0.0046	0.0090	-0.1452	0.0373	0.8011	0.1799	-0.6183	0.2296
3	254.88	0.4497	0.0226	0.0104	-0.2293	0.0489	1.1267	0.2294	-0.6778	0.2367
3	254.88	0.4997	0.0522	0.0122	-0.3285	0.0614	1.4857	0.2839	-0.8495	0.2211
3	254.88	0.5556	0.0989	0.0147	-0.4401	0.0750	1.9554	0.3398	-0.9961	0.2323
3	254.88	0.5995	0.1306	0.0159	-0.5613	0.0859	2.4072	0.3859	-0.8984	0.2300
3	254.88	0.6498	0.1512	0.0180	-0.6975	0.0981	2.9582	0.4357	-1.0551	0.2370
3	254.88	0.6890	0.1596	0.0202	-0.8077	0.1073	3.4287	0.4760	-1.0948	0.2331
3	254.88	0.7495	0.1962	0.0233	-0.9661	0.1218	4.2039	0.5359	-1.3546	0.2294
3	254.88	0.7998	0.2037	0.0256	-1.1038	0.1331	4.9519	0.5848	-1.3489	0.2308
3	254.88	0.8577	0.2538	0.0286	-1.2517	0.1464	5.8795	0.6406	-1.0917	0.2237
3	254.88	0.9178	0.2113	0.0319	-1.4300	0.1608	6.7743	0.6979	-1.5675	0.2283
3	254.88	0.9729	0.1316	0.0400	-1.5550	0.1741	7.6075	0.7494	-1.9614	0.2278

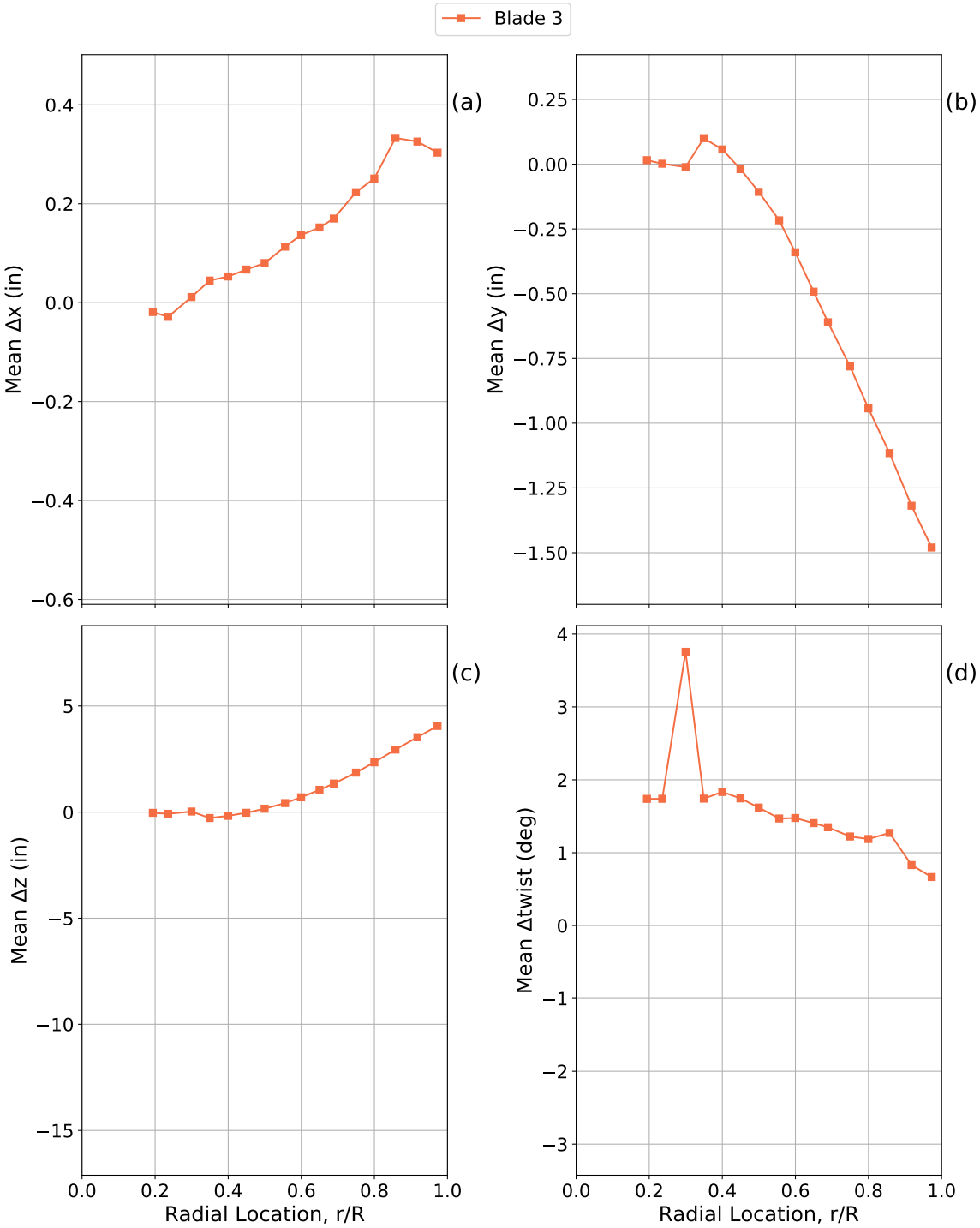


Figure 3.19-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0189	0.0048	0.0154	0.0019	-0.0337	0.0047	1.7388	0.0273
3	260.16	0.2357	-0.0287	0.0021	0.0018	0.0016	-0.0799	0.0085	1.7399	0.0531
3	260.16	0.2995	0.0114	0.0022	-0.0113	0.0042	0.0268	0.0167	3.7562	0.0670
3	260.16	0.3493	0.0448	0.0013	0.1003	0.0099	-0.2783	0.0276	1.7419	0.0436
3	260.16	0.4000	0.0530	0.0025	0.0569	0.0125	-0.1754	0.0439	1.8335	0.0288
3	260.16	0.4497	0.0670	0.0026	-0.0191	0.0153	-0.0312	0.0627	1.7451	0.0279
3	260.16	0.4997	0.0801	0.0029	-0.1071	0.0179	0.1623	0.0825	1.6199	0.0271
3	260.16	0.5556	0.1132	0.0027	-0.2167	0.0205	0.4257	0.1115	1.4697	0.0332
3	260.16	0.5995	0.1367	0.0032	-0.3402	0.0232	0.6979	0.1345	1.4760	0.0278
3	260.16	0.6498	0.1521	0.0038	-0.4919	0.0265	1.0499	0.1612	1.4062	0.0381
3	260.16	0.6890	0.1701	0.0048	-0.6104	0.0305	1.3465	0.1806	1.3492	0.0337
3	260.16	0.7495	0.2233	0.0062	-0.7810	0.0364	1.8613	0.2108	1.2227	0.0376
3	260.16	0.7998	0.2510	0.0072	-0.9428	0.0432	2.3449	0.2339	1.1882	0.0318
3	260.16	0.8577	0.3330	0.0093	-1.1156	0.0512	2.9456	0.2586	1.2718	0.0426
3	260.16	0.9178	0.3257	0.0105	-1.3187	0.0590	3.5273	0.2846	0.8303	0.0525
3	260.16	0.9729	0.3033	0.0128	-1.4799	0.0664	4.0583	0.3084	0.6662	0.0491

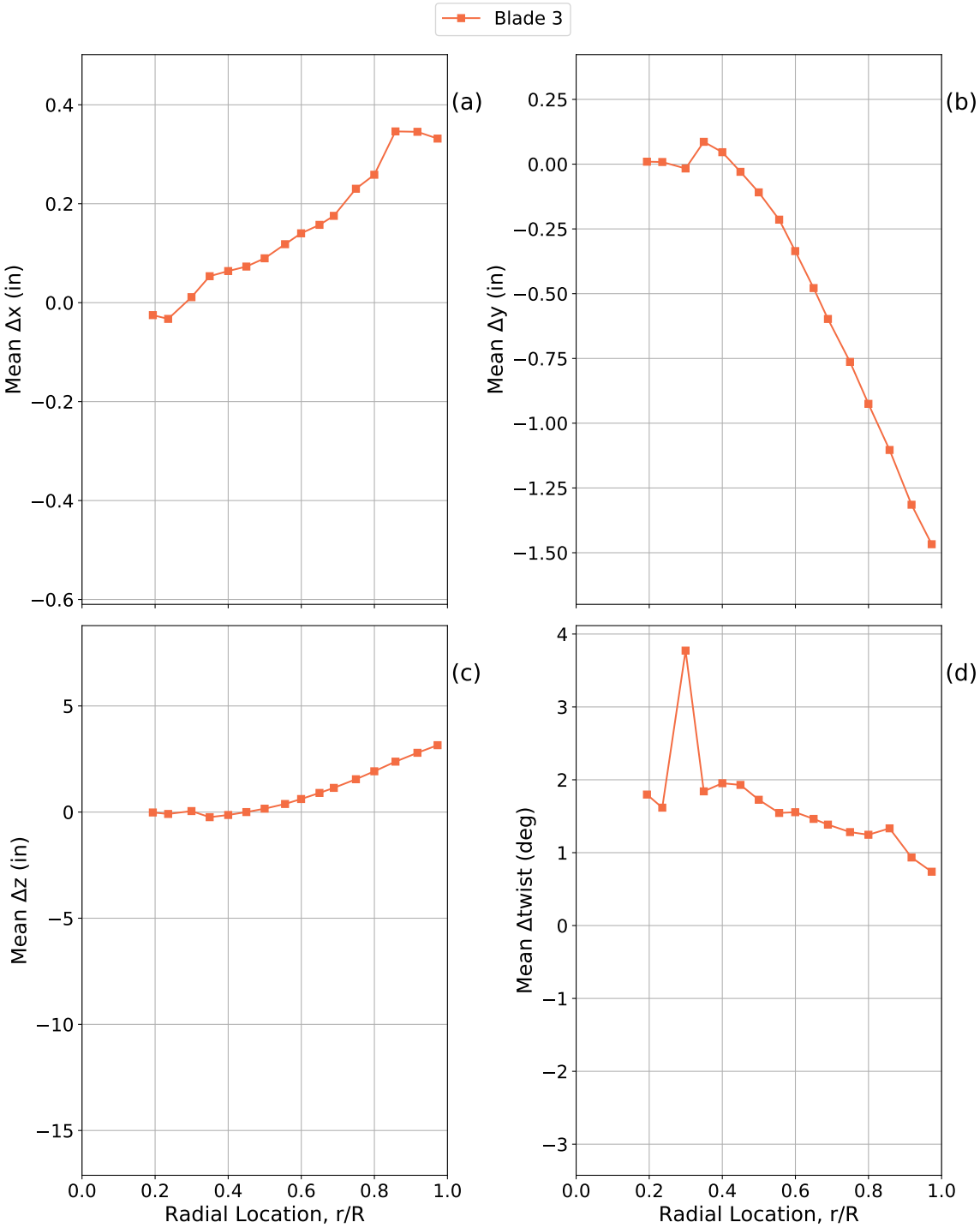


Figure 3.19-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0252	0.0048	0.0095	0.0036	-0.0188	0.0139	1.7974	0.1991
3	265.08	0.2357	-0.0328	0.0022	0.0083	0.0040	-0.0895	0.0274	1.6175	0.1812
3	265.08	0.2995	0.0111	0.0046	-0.0167	0.0088	0.0473	0.0429	3.7728	0.4154
3	265.08	0.3493	0.0535	0.0046	0.0862	0.0284	-0.2405	0.0970	1.8413	0.2477
3	265.08	0.4000	0.0639	0.0027	0.0461	0.0330	-0.1368	0.1278	1.9529	0.1845
3	265.08	0.4497	0.0730	0.0056	-0.0296	0.0360	0.0002	0.1503	1.9295	0.1754
3	265.08	0.4997	0.0897	0.0063	-0.1089	0.0404	0.1610	0.1702	1.7259	0.1915
3	265.08	0.5556	0.1182	0.0071	-0.2143	0.0472	0.3819	0.1996	1.5450	0.1915
3	265.08	0.5995	0.1402	0.0095	-0.3356	0.0542	0.6151	0.2190	1.5551	0.1838
3	265.08	0.6498	0.1573	0.0104	-0.4783	0.0641	0.9018	0.2421	1.4634	0.1734
3	265.08	0.6890	0.1755	0.0111	-0.5976	0.0712	1.1399	0.2581	1.3849	0.1765
3	265.08	0.7495	0.2303	0.0141	-0.7634	0.0835	1.5469	0.2796	1.2824	0.1804
3	265.08	0.7998	0.2586	0.0160	-0.9253	0.0958	1.9216	0.2965	1.2459	0.1691
3	265.08	0.8577	0.3462	0.0190	-1.1033	0.1100	2.3757	0.3147	1.3336	0.1664
3	265.08	0.9178	0.3454	0.0219	-1.3147	0.1255	2.7925	0.3314	0.9339	0.1820
3	265.08	0.9729	0.3317	0.0283	-1.4671	0.1391	3.1518	0.3522	0.7386	0.1656

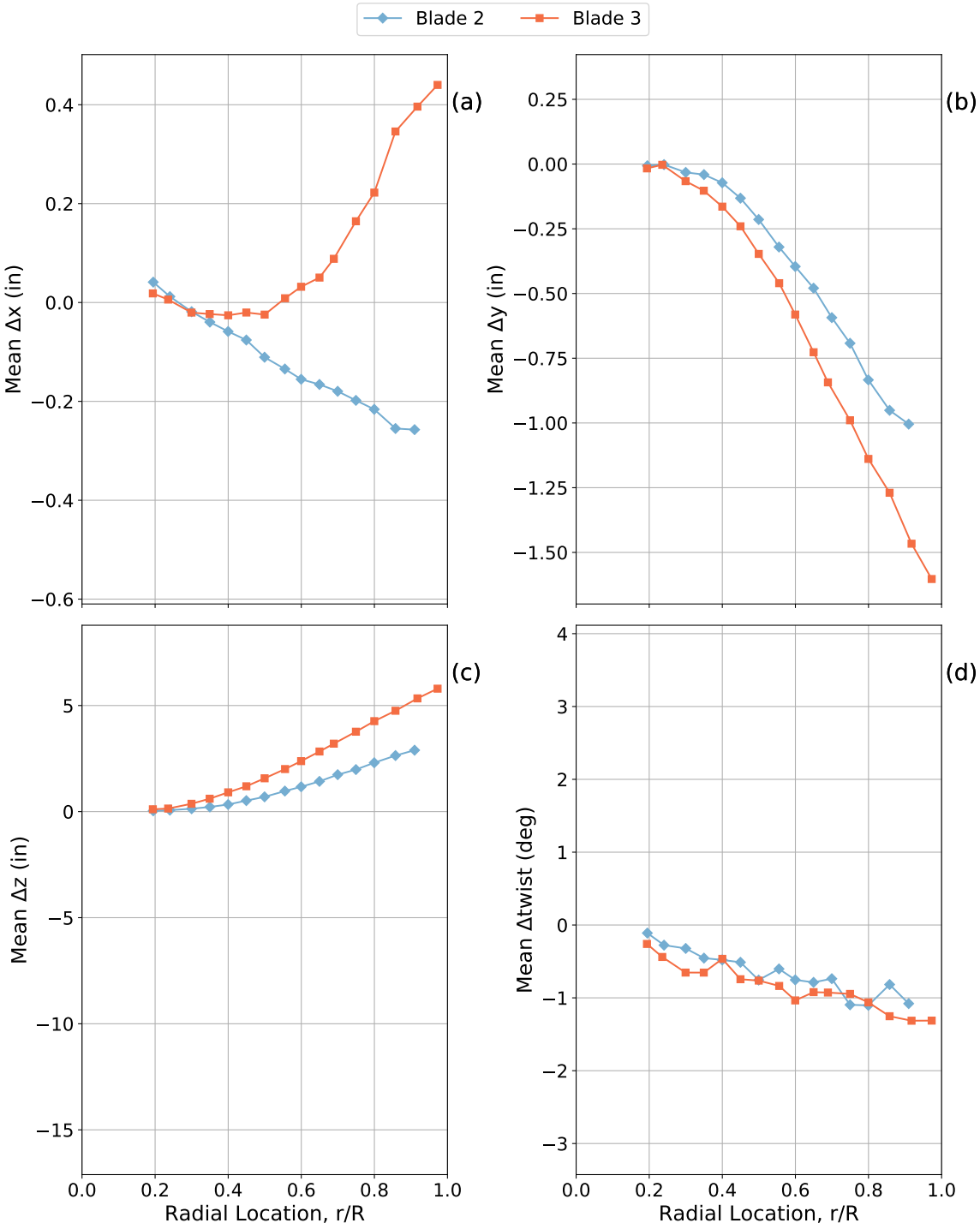


Figure 3.19-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.3, α = -8°
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0412	0.0023	-0.0065	0.0015	0.0362	0.0059	-0.1106	0.0666
2	270.35	0.2405	0.0120	0.0020	-0.0021	0.0042	0.0683	0.0137	-0.2766	0.0761
2	270.35	0.2999	-0.0186	0.0040	-0.0322	0.0060	0.1349	0.0188	-0.3216	0.1349
2	270.35	0.3498	-0.0396	0.0019	-0.0407	0.0129	0.2195	0.0316	-0.4545	0.0962
2	270.35	0.3998	-0.0586	0.0023	-0.0723	0.0190	0.3349	0.0458	-0.4794	0.0912
2	270.35	0.4496	-0.0759	0.0023	-0.1318	0.0226	0.5178	0.0571	-0.5118	0.0809
2	270.35	0.4995	-0.1107	0.0036	-0.2141	0.0295	0.6956	0.0794	-0.7556	0.0696
2	270.35	0.5551	-0.1345	0.0036	-0.3205	0.0350	0.9676	0.1008	-0.6027	0.0866
2	270.35	0.5996	-0.1553	0.0047	-0.3958	0.0409	1.1709	0.1226	-0.7531	0.0875
2	270.35	0.6497	-0.1658	0.0054	-0.4793	0.0479	1.4251	0.1493	-0.7872	0.1034
2	270.35	0.6996	-0.1796	0.0067	-0.5931	0.0555	1.7406	0.1804	-0.7371	0.0898
2	270.35	0.7495	-0.1980	0.0087	-0.6922	0.0627	1.9813	0.2046	-1.0956	0.0915
2	270.35	0.7996	-0.2161	0.0107	-0.8337	0.0727	2.3031	0.2416	-1.1033	0.0999
2	270.35	0.8578	-0.2549	0.0103	-0.9512	0.0824	2.6417	0.2764	-0.8170	0.1201
2	270.35	0.9100	-0.2572	0.0148	-1.0045	0.0902	2.8941	0.3055	-1.0788	0.0898
3	270	0.1938	0.0184	0.0016	-0.0167	0.0008	0.1099	0.0052	-0.2598	0.0215
3	270	0.2357	0.0059	0.0029	-0.0029	0.0016	0.1440	0.0065	-0.4388	0.0403
3	270	0.2995	-0.0204	0.0006	-0.0661	0.0028	0.3694	0.0154	-0.6530	0.0476
3	270	0.3493	-0.0234	0.0016	-0.1029	0.0051	0.6077	0.0265	-0.6533	0.0361
3	270	0.4000	-0.0259	0.0019	-0.1645	0.0080	0.9084	0.0384	-0.4645	0.0459
3	270	0.4497	-0.0203	0.0019	-0.2404	0.0102	1.1940	0.0519	-0.7444	0.0383
3	270	0.4997	-0.0245	0.0024	-0.3471	0.0145	1.5699	0.0686	-0.7631	0.0468
3	270	0.5556	0.0086	0.0027	-0.4601	0.0180	2.0052	0.0858	-0.8366	0.0500
3	270	0.5995	0.0318	0.0039	-0.5812	0.0224	2.3797	0.1018	-1.0353	0.0578
3	270	0.6498	0.0504	0.0053	-0.7268	0.0268	2.8328	0.1241	-0.9219	0.0597
3	270	0.6890	0.0884	0.0052	-0.8432	0.0312	3.2030	0.1390	-0.9273	0.0638
3	270	0.7495	0.1643	0.0064	-0.9896	0.0376	3.7662	0.1608	-0.9460	0.0716
3	270	0.7998	0.2223	0.0084	-1.1389	0.0437	4.2640	0.1773	-1.0626	0.0643
3	270	0.8577	0.3459	0.0095	-1.2696	0.0510	4.7535	0.1972	-1.2521	0.0772
3	270	0.9178	0.3962	0.0103	-1.4664	0.0584	5.3366	0.2112	-1.3140	0.0649
3	270	0.9729	0.4401	0.0124	-1.6027	0.0650	5.7950	0.2276	-1.3126	0.0825

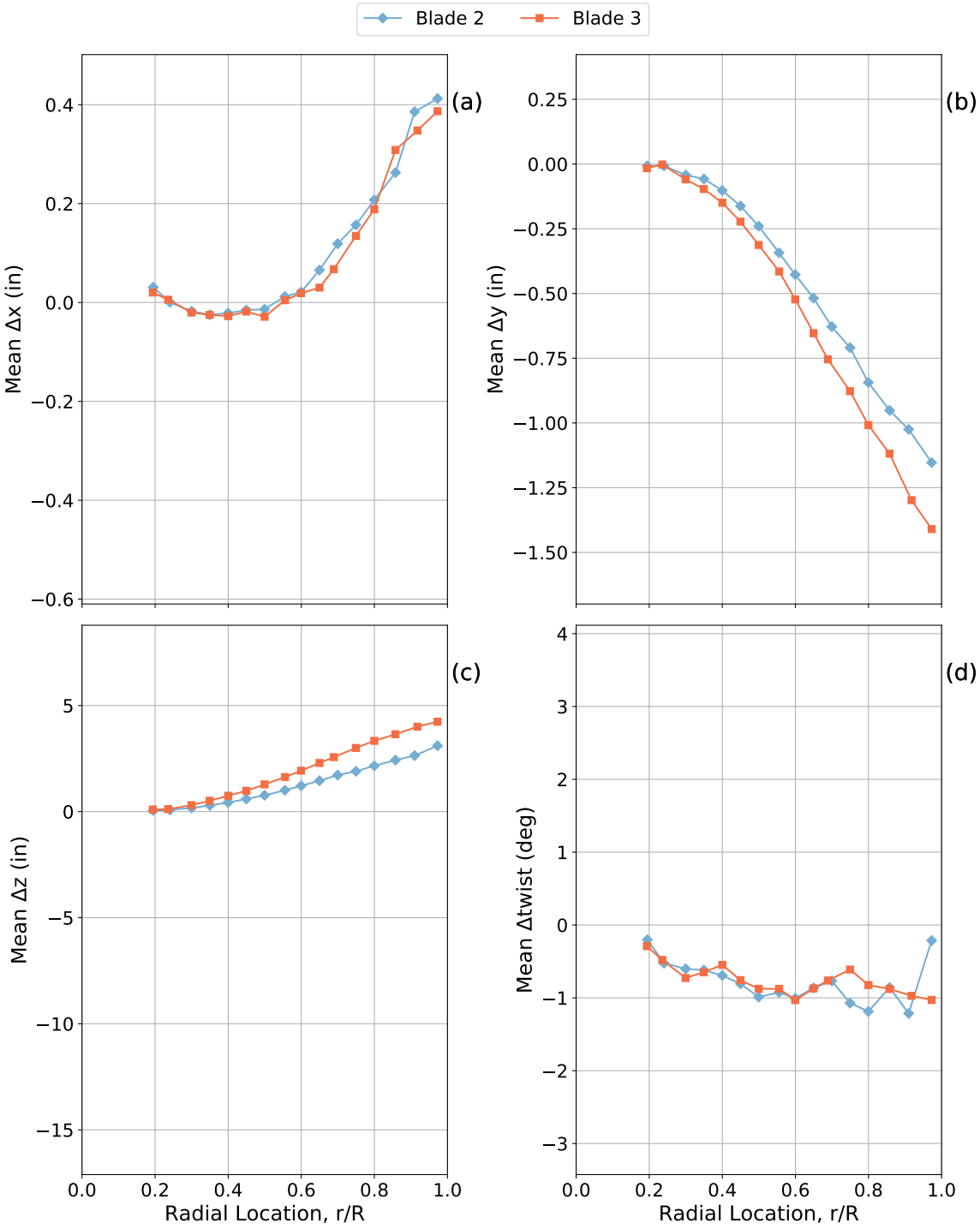


Figure 3.19-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.3, α = -8° NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0308	0.0012	-0.0073	0.0004	0.0527	0.0046	-0.2026	0.0257
2	274.92	0.2405	0.0006	0.0016	-0.0070	0.0012	0.0804	0.0108	-0.5242	0.0378
2	274.92	0.2999	-0.0177	0.0012	-0.0425	0.0026	0.1760	0.0194	-0.6016	0.0580
2	274.92	0.3498	-0.0248	0.0013	-0.0575	0.0042	0.2905	0.0335	-0.6187	0.0742
2	274.92	0.3998	-0.0216	0.0017	-0.1019	0.0072	0.4298	0.0515	-0.6928	0.0634
2	274.92	0.4496	-0.0153	0.0019	-0.1619	0.0106	0.5942	0.0746	-0.8067	0.0653
2	274.92	0.4995	-0.0137	0.0024	-0.2399	0.0145	0.7661	0.1038	-0.9897	0.0746
2	274.92	0.5551	0.0121	0.0032	-0.3426	0.0205	1.0064	0.1368	-0.9238	0.0821
2	274.92	0.5996	0.0211	0.0040	-0.4273	0.0263	1.2164	0.1738	-1.0065	0.0575
2	274.92	0.6497	0.0655	0.0047	-0.5180	0.0330	1.4548	0.2126	-0.8643	0.1060
2	274.92	0.6996	0.1189	0.0055	-0.6280	0.0401	1.7216	0.2468	-0.7670	0.0683
2	274.92	0.7495	0.1570	0.0070	-0.7091	0.0490	1.8998	0.2832	-1.0717	0.0652
2	274.92	0.7996	0.2074	0.0081	-0.8439	0.0578	2.1564	0.3170	-1.1867	0.0855
2	274.92	0.8578	0.2627	0.0106	-0.9514	0.0685	2.4294	0.3480	-0.8584	0.0907
2	274.92	0.9100	0.3858	0.0107	-1.0248	0.0796	2.6387	0.3735	-1.2136	0.0917
2	274.92	0.9727	0.4124	0.0155	-1.1530	0.0910	3.1040	0.4052	-0.2132	0.1116
3	274.92	0.1938	0.0201	0.0051	-0.0160	0.0012	0.0981	0.0048	-0.2903	0.0226
3	274.92	0.2357	0.0056	0.0023	-0.0018	0.0019	0.1142	0.0064	-0.4800	0.0260
3	274.92	0.2995	-0.0202	0.0022	-0.0592	0.0050	0.3061	0.0143	-0.7276	0.0459
3	274.92	0.3493	-0.0252	0.0046	-0.0963	0.0093	0.5108	0.0241	-0.6482	0.0604
3	274.92	0.4000	-0.0276	0.0053	-0.1495	0.0142	0.7466	0.0352	-0.5468	0.0378
3	274.92	0.4497	-0.0184	0.0061	-0.2224	0.0192	0.9804	0.0469	-0.7572	0.0658
3	274.92	0.4997	-0.0288	0.0070	-0.3126	0.0248	1.2816	0.0611	-0.8757	0.0756
3	274.92	0.5556	0.0046	0.0069	-0.4149	0.0332	1.6308	0.0770	-0.8758	0.0630
3	274.92	0.5995	0.0188	0.0070	-0.5226	0.0391	1.9288	0.0898	-1.0319	0.0672
3	274.92	0.6498	0.0301	0.0092	-0.6532	0.0467	2.2920	0.1061	-0.8709	0.0884
3	274.92	0.6890	0.0673	0.0126	-0.7543	0.0526	2.5686	0.1162	-0.7626	0.0651
3	274.92	0.7495	0.1347	0.0189	-0.8772	0.0618	3.0006	0.1313	-0.6114	0.0714
3	274.92	0.7998	0.1884	0.0257	-1.0083	0.0705	3.3360	0.1409	-0.8243	0.0764
3	274.92	0.8577	0.3085	0.0321	-1.1187	0.0796	3.6462	0.1562	-0.8782	0.0872
3	274.92	0.9178	0.3480	0.0419	-1.2983	0.0898	4.0026	0.1685	-0.9716	0.1136
3	274.92	0.9729	0.3869	0.0552	-1.4098	0.0983	4.2387	0.1902	-1.0289	0.0919

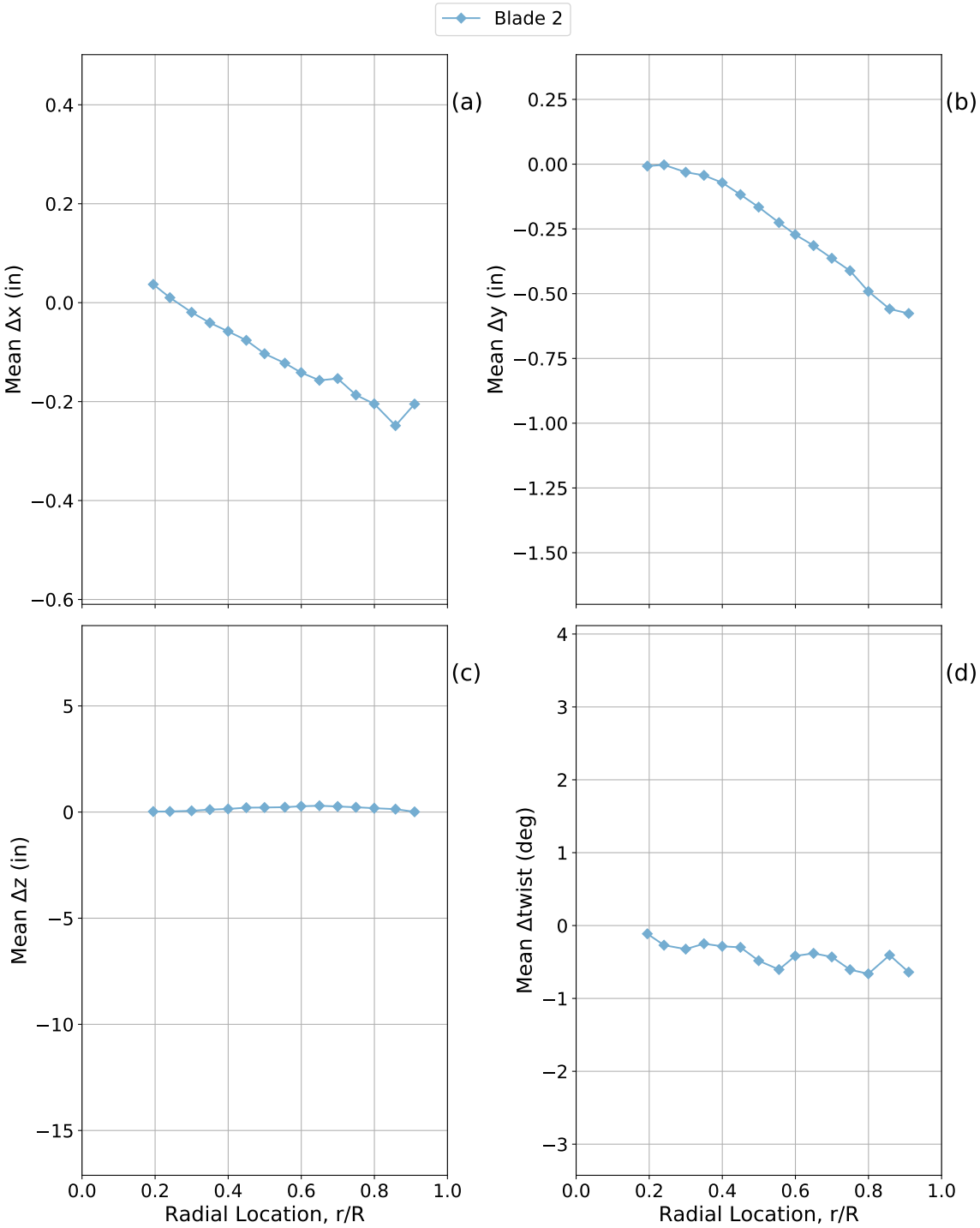


Figure 3.19-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.3, α = -8° NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0370	0.0027	-0.0074	0.0008	0.0247	0.0046	-0.1133	0.0393
2	285.12	0.2405	0.0102	0.0023	-0.0027	0.0014	0.0287	0.0108	-0.2696	0.0479
2	285.12	0.2999	-0.0195	0.0016	-0.0312	0.0027	0.0591	0.0123	-0.3238	0.0760
2	285.12	0.3498	-0.0407	0.0027	-0.0432	0.0053	0.1151	0.0270	-0.2492	0.0529
2	285.12	0.3998	-0.0580	0.0027	-0.0716	0.0075	0.1477	0.0371	-0.2851	0.0614
2	285.12	0.4496	-0.0761	0.0018	-0.1176	0.0087	0.2083	0.0472	-0.2988	0.0822
2	285.12	0.4995	-0.1032	0.0037	-0.1659	0.0138	0.2152	0.0588	-0.4823	0.0617
2	285.12	0.5551	-0.1223	0.0029	-0.2257	0.0150	0.2301	0.0693	-0.6038	0.0789
2	285.12	0.5996	-0.1413	0.0033	-0.2720	0.0179	0.2747	0.0800	-0.4171	0.0536
2	285.12	0.6497	-0.1570	0.0045	-0.3145	0.0217	0.2976	0.0912	-0.3815	0.0689
2	285.12	0.6996	-0.1534	0.0037	-0.3633	0.0251	0.2640	0.0994	-0.4307	0.0567
2	285.12	0.7495	-0.1866	0.0041	-0.4115	0.0291	0.2272	0.1100	-0.6055	0.0654
2	285.12	0.7996	-0.2046	0.0048	-0.4913	0.0335	0.1835	0.1231	-0.6623	0.0592
2	285.12	0.8578	-0.2486	0.0059	-0.5590	0.0371	0.1382	0.1319	-0.4064	0.0536
2	285.12	0.9100	-0.2049	0.0075	-0.5764	0.0440	0.0112	0.1462	-0.6394	0.1216

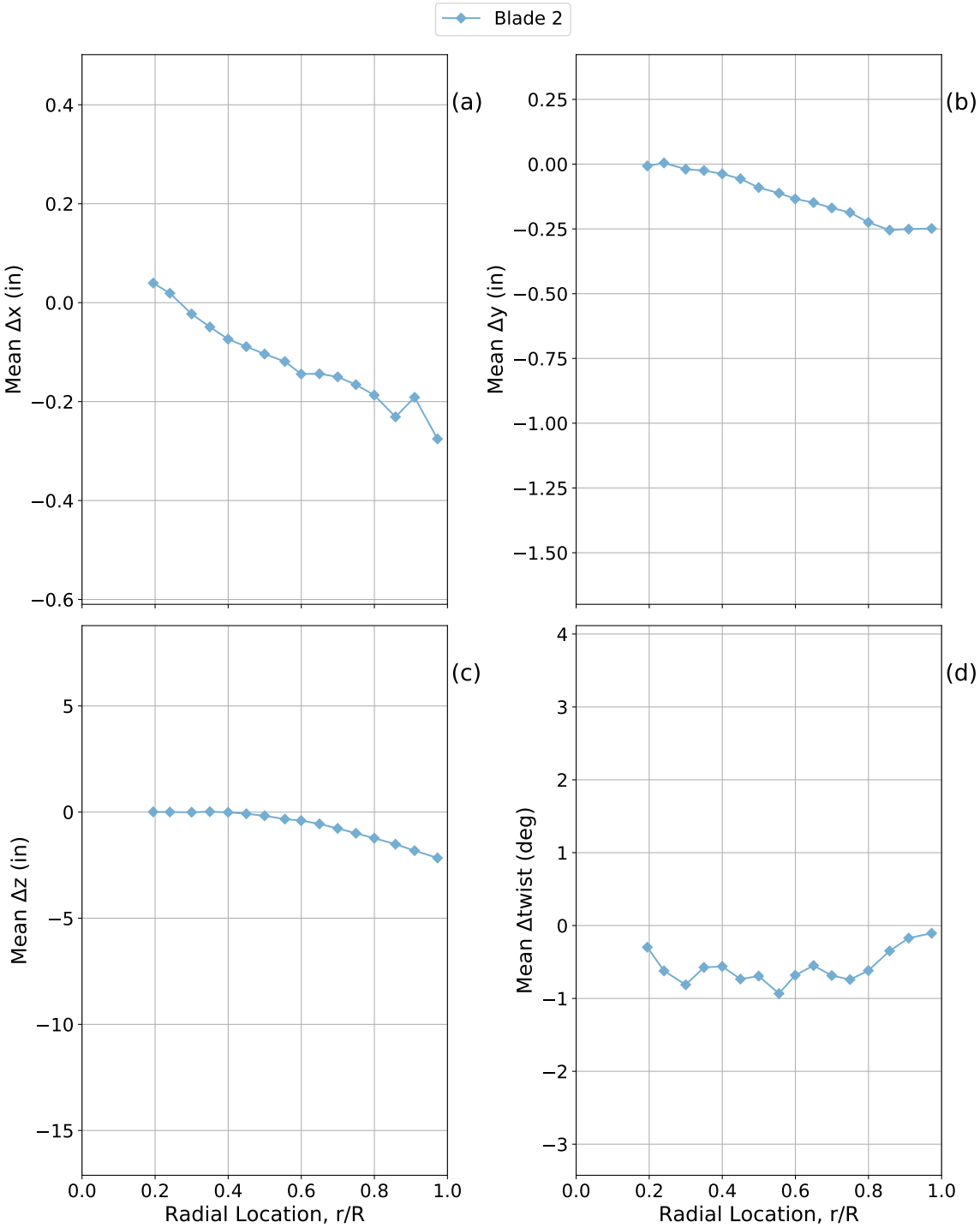


Figure 3.19-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0396	0.0016	-0.0069	0.0010	0.0097	0.0042	-0.2975	0.0398
2	299.88	0.2405	0.0191	0.0022	0.0047	0.0021	0.0026	0.0080	-0.6220	0.0794
2	299.88	0.2999	-0.0228	0.0041	-0.0195	0.0032	-0.0077	0.0105	-0.8127	0.1025
2	299.88	0.3498	-0.0491	0.0024	-0.0247	0.0050	0.0195	0.0164	-0.5741	0.0489
2	299.88	0.3998	-0.0738	0.0035	-0.0376	0.0083	-0.0107	0.0262	-0.5613	0.0697
2	299.88	0.4496	-0.0889	0.0019	-0.0565	0.0095	-0.0810	0.0403	-0.7345	0.0729
2	299.88	0.4995	-0.1038	0.0019	-0.0904	0.0116	-0.1740	0.0473	-0.6933	0.0915
2	299.88	0.5551	-0.1190	0.0023	-0.1118	0.0162	-0.3318	0.0676	-0.9332	0.0705
2	299.88	0.5996	-0.1442	0.0033	-0.1343	0.0198	-0.4015	0.0850	-0.6818	0.0803
2	299.88	0.6497	-0.1438	0.0032	-0.1483	0.0246	-0.5568	0.1077	-0.5488	0.0873
2	299.88	0.6996	-0.1500	0.0033	-0.1691	0.0294	-0.7705	0.1271	-0.6863	0.0731
2	299.88	0.7495	-0.1658	0.0038	-0.1867	0.0345	-0.9982	0.1529	-0.7411	0.0809
2	299.88	0.7996	-0.1869	0.0045	-0.2248	0.0393	-1.2289	0.1777	-0.6178	0.0710
2	299.88	0.8578	-0.2309	0.0055	-0.2545	0.0456	-1.5151	0.2041	-0.3483	0.0637
2	299.88	0.9100	-0.1913	0.0062	-0.2507	0.0514	-1.8169	0.2292	-0.1721	0.0791
2	299.88	0.9727	-0.2754	0.0063	-0.2484	0.0585	-2.1617	0.2591	-0.1058	0.0651

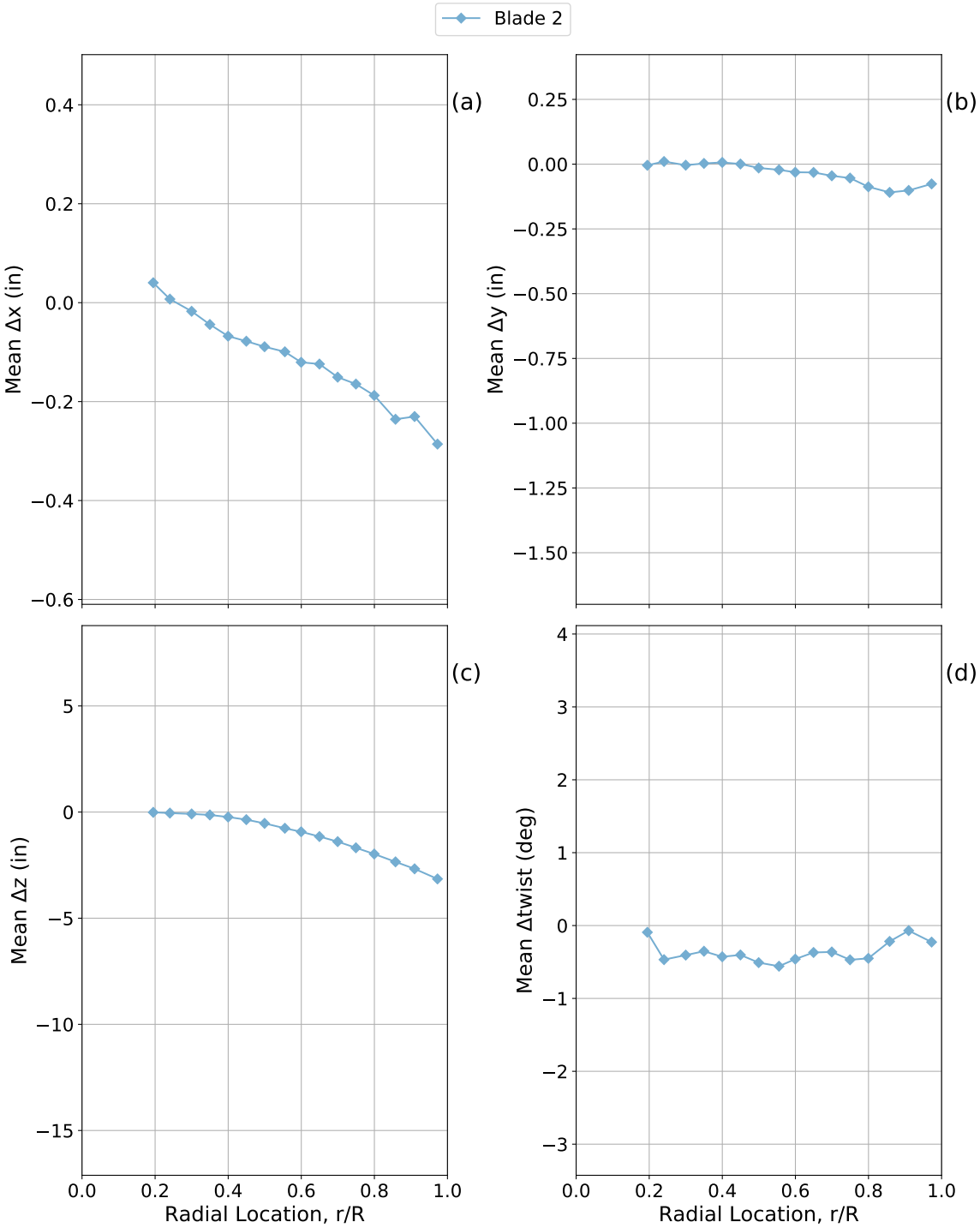


Figure 3.19-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.3, α = -8° NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0403	0.0014	-0.0044	0.0005	-0.0121	0.0027	-0.0925	0.0389
2	315	0.2405	0.0072	0.0022	0.0102	0.0016	-0.0479	0.0086	-0.4678	0.0175
2	315	0.2999	-0.0174	0.0011	-0.0040	0.0025	-0.0876	0.0138	-0.4057	0.0593
2	315	0.3498	-0.0441	0.0033	0.0028	0.0030	-0.1352	0.0171	-0.3526	0.0530
2	315	0.3998	-0.0677	0.0028	0.0067	0.0056	-0.2337	0.0317	-0.4284	0.0288
2	315	0.4496	-0.0779	0.0015	0.0006	0.0063	-0.3569	0.0373	-0.4033	0.0562
2	315	0.4995	-0.0891	0.0021	-0.0147	0.0080	-0.5326	0.0469	-0.5088	0.0500
2	315	0.5551	-0.0993	0.0029	-0.0219	0.0102	-0.7623	0.0593	-0.5583	0.0394
2	315	0.5996	-0.1205	0.0036	-0.0313	0.0124	-0.9282	0.0713	-0.4605	0.0339
2	315	0.6497	-0.1241	0.0040	-0.0320	0.0161	-1.1535	0.0905	-0.3694	0.0536
2	315	0.6996	-0.1506	0.0036	-0.0450	0.0201	-1.3924	0.1153	-0.3624	0.0510
2	315	0.7495	-0.1645	0.0047	-0.0537	0.0246	-1.6826	0.1416	-0.4702	0.0468
2	315	0.7996	-0.1875	0.0054	-0.0874	0.0294	-1.9755	0.1727	-0.4500	0.0478
2	315	0.8578	-0.2357	0.0062	-0.1090	0.0351	-2.3453	0.2125	-0.2179	0.0421
2	315	0.9100	-0.2302	0.0067	-0.1014	0.0408	-2.6733	0.2515	-0.0699	0.0381
2	315	0.9727	-0.2859	0.0072	-0.0763	0.0465	-3.1501	0.2987	-0.2267	0.0489

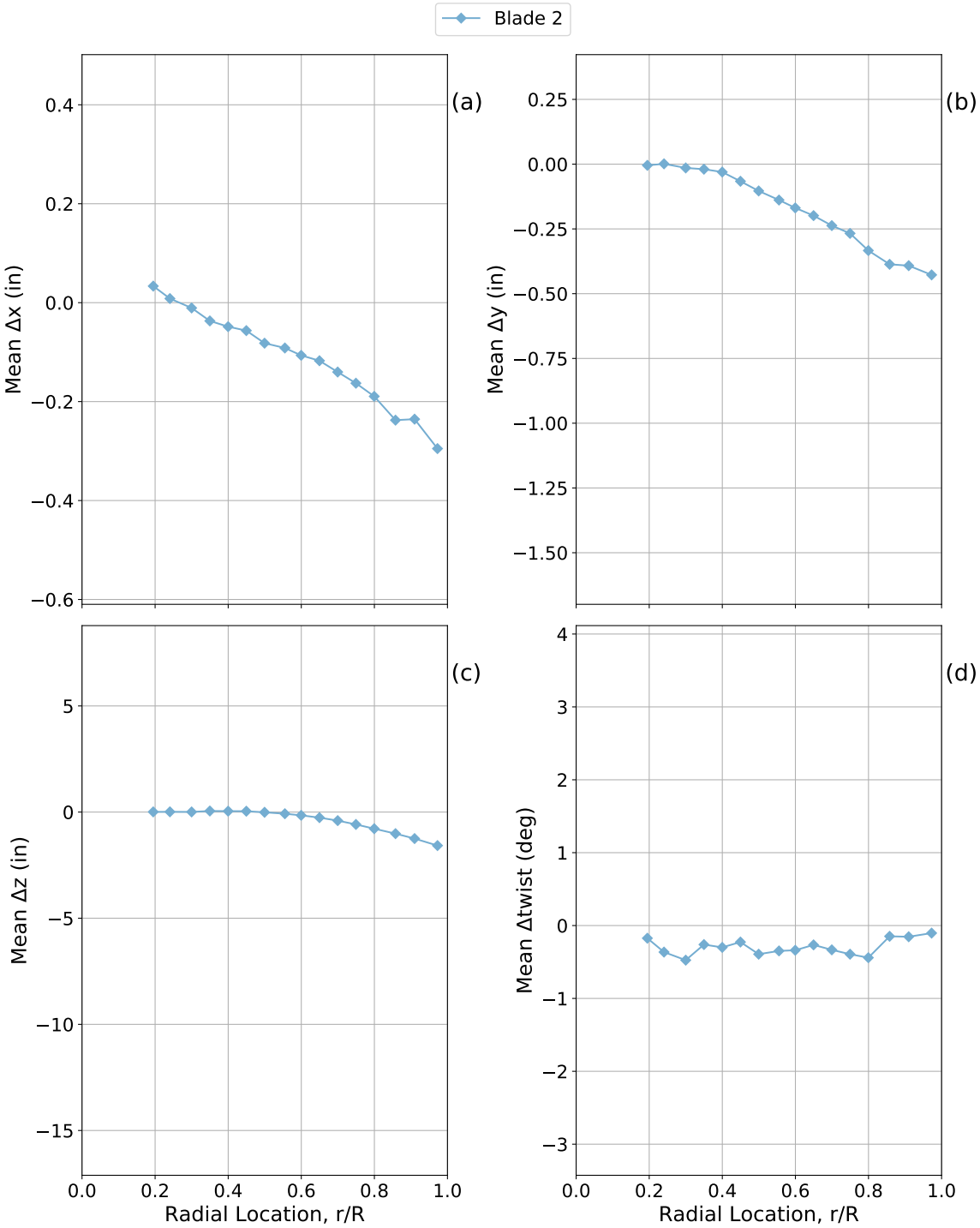


Figure 3.19-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0335	0.0020	-0.0046	0.0007	0.0090	0.0033	-0.1738	0.0345
2	330.12	0.2405	0.0083	0.0021	0.0012	0.0029	0.0124	0.0085	-0.3641	0.0408
2	330.12	0.2999	-0.0107	0.0021	-0.0146	0.0047	0.0073	0.0162	-0.4749	0.0732
2	330.12	0.3498	-0.0369	0.0034	-0.0195	0.0082	0.0509	0.0247	-0.2609	0.0608
2	330.12	0.3998	-0.0485	0.0034	-0.0304	0.0133	0.0435	0.0410	-0.2998	0.0590
2	330.12	0.4496	-0.0565	0.0048	-0.0661	0.0149	0.0407	0.0524	-0.2261	0.0836
2	330.12	0.4995	-0.0819	0.0048	-0.1034	0.0190	-0.0104	0.0632	-0.3928	0.0572
2	330.12	0.5551	-0.0916	0.0039	-0.1385	0.0250	-0.0782	0.0818	-0.3482	0.0886
2	330.12	0.5996	-0.1065	0.0041	-0.1689	0.0279	-0.1532	0.1066	-0.3390	0.0898
2	330.12	0.6497	-0.1174	0.0044	-0.1987	0.0347	-0.2623	0.1323	-0.2653	0.0683
2	330.12	0.6996	-0.1402	0.0052	-0.2372	0.0412	-0.4025	0.1585	-0.3334	0.0916
2	330.12	0.7495	-0.1628	0.0054	-0.2673	0.0469	-0.5821	0.1872	-0.3931	0.0666
2	330.12	0.7996	-0.1894	0.0056	-0.3335	0.0535	-0.7834	0.2184	-0.4412	0.0734
2	330.12	0.8578	-0.2375	0.0062	-0.3866	0.0620	-1.0161	0.2499	-0.1478	0.0761
2	330.12	0.9100	-0.2355	0.0065	-0.3918	0.0696	-1.2479	0.2804	-0.1537	0.0681
2	330.12	0.9727	-0.2950	0.0063	-0.4275	0.0793	-1.5785	0.3153	-0.1037	0.0722

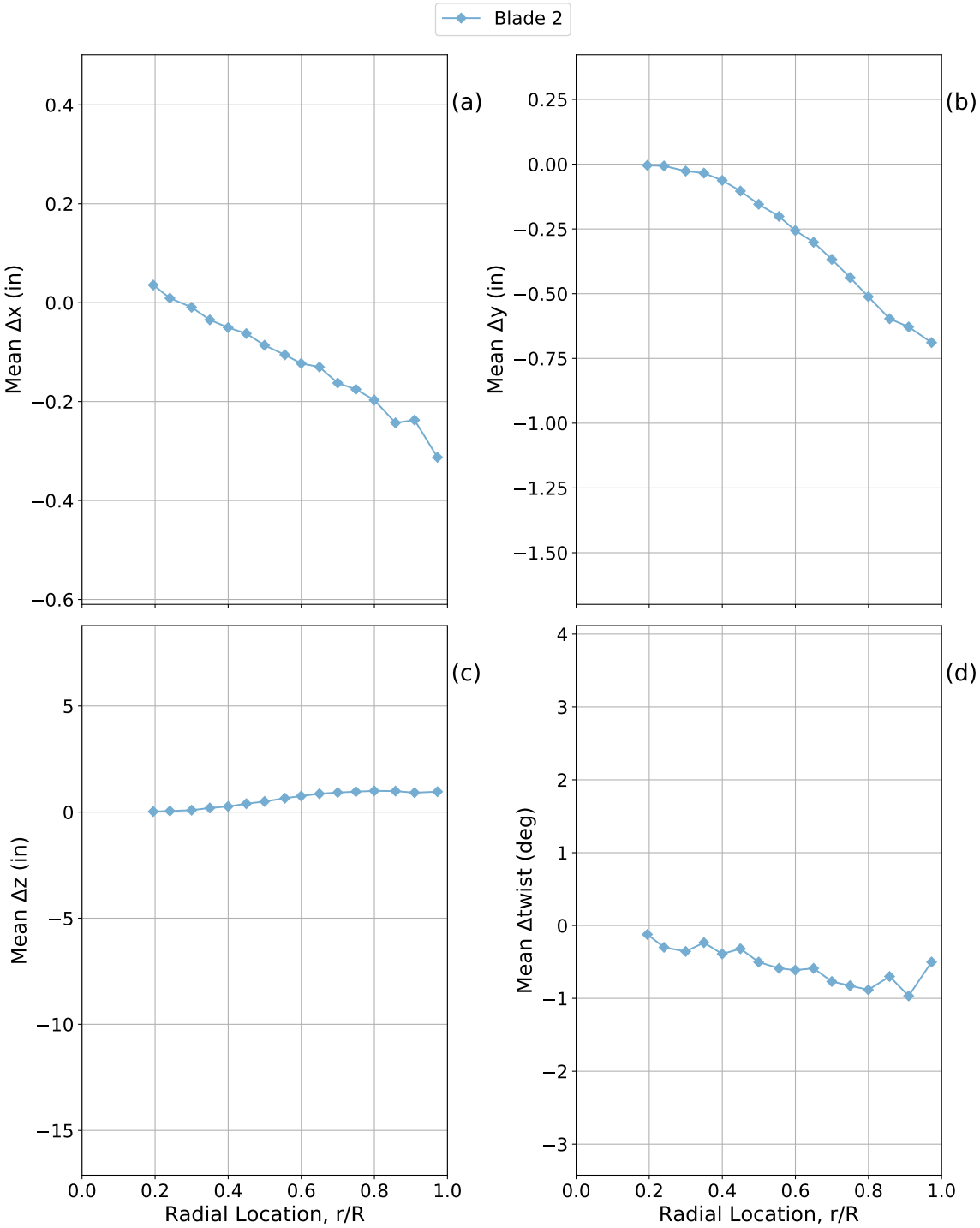


Figure 3.19-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0357	0.0031	-0.0045	0.0013	0.0275	0.0019	-0.1228	0.0341
2	344.88	0.2405	0.0092	0.0018	-0.0068	0.0057	0.0520	0.0066	-0.2993	0.0295
2	344.88	0.2999	-0.0094	0.0015	-0.0265	0.0073	0.0914	0.0078	-0.3563	0.0661
2	344.88	0.3498	-0.0348	0.0015	-0.0345	0.0095	0.1945	0.0144	-0.2355	0.0740
2	344.88	0.3998	-0.0504	0.0026	-0.0625	0.0194	0.2673	0.0209	-0.3903	0.0338
2	344.88	0.4496	-0.0625	0.0029	-0.1037	0.0200	0.3960	0.0277	-0.3192	0.0762
2	344.88	0.4995	-0.0862	0.0027	-0.1547	0.0221	0.5002	0.0332	-0.5018	0.0684
2	344.88	0.5551	-0.1055	0.0036	-0.2016	0.0279	0.6550	0.0395	-0.5877	0.0843
2	344.88	0.5996	-0.1229	0.0035	-0.2561	0.0318	0.7565	0.0479	-0.6119	0.0764
2	344.88	0.6497	-0.1302	0.0028	-0.3015	0.0360	0.8655	0.0573	-0.5879	0.0773
2	344.88	0.6996	-0.1625	0.0036	-0.3676	0.0414	0.9234	0.0657	-0.7684	0.0868
2	344.88	0.7495	-0.1753	0.0046	-0.4375	0.0469	0.9633	0.0765	-0.8262	0.0708
2	344.88	0.7996	-0.1969	0.0055	-0.5116	0.0532	1.0008	0.0908	-0.8827	0.0649
2	344.88	0.8578	-0.2430	0.0055	-0.5969	0.0608	0.9898	0.1102	-0.6994	0.0824
2	344.88	0.9100	-0.2374	0.0060	-0.6285	0.0677	0.9165	0.1319	-0.9665	0.0764
2	344.88	0.9727	-0.3127	0.0072	-0.6889	0.0762	0.9617	0.1646	-0.5011	0.0830

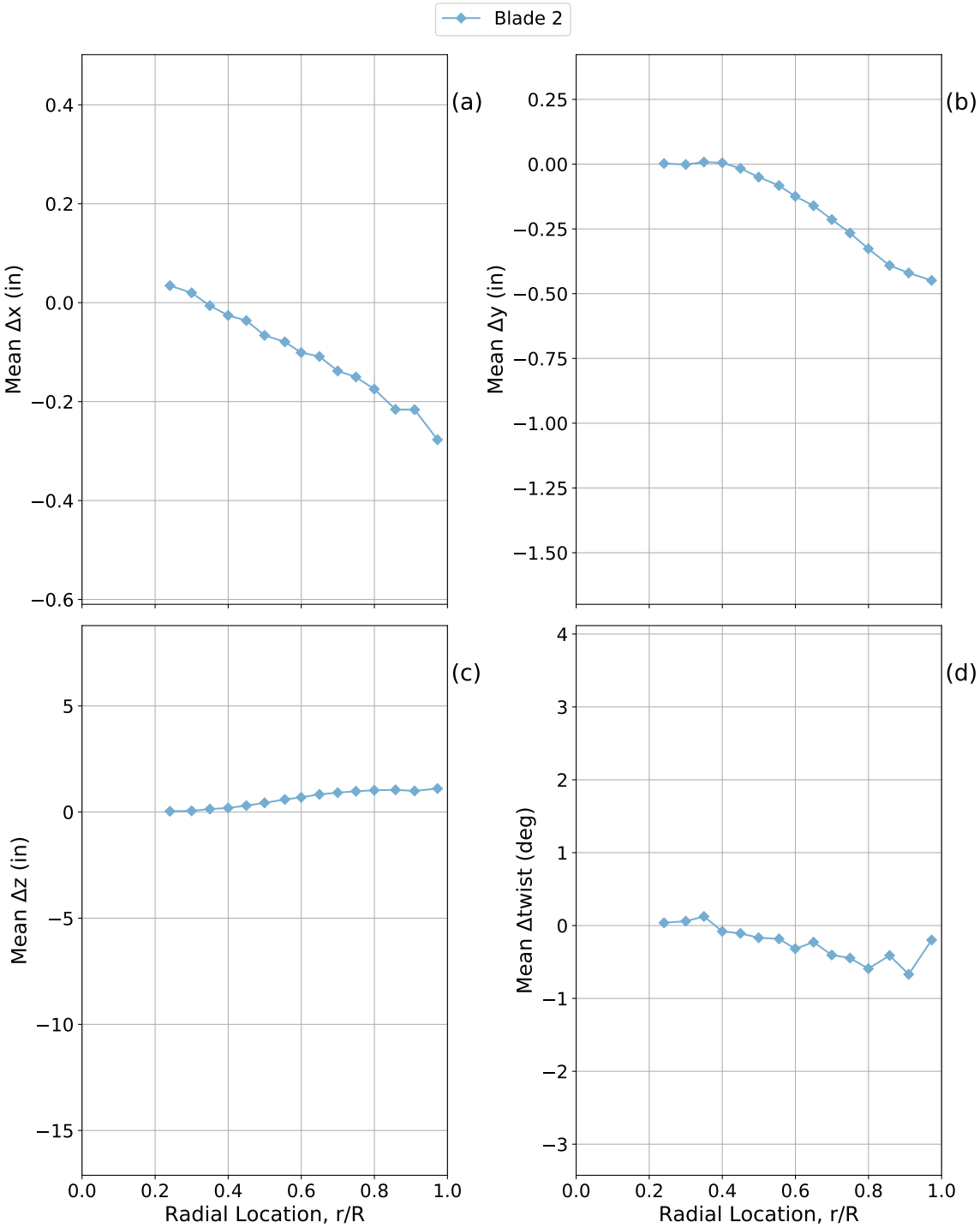


Figure 3.19-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0344	0.0015	0.0024	0.0044	0.0376	0.0136	0.0376	0.0559
2	350.16	0.2999	0.0199	0.0040	-0.0013	0.0117	0.0579	0.0295	0.0600	0.0860
2	350.16	0.3498	-0.0061	0.0045	0.0081	0.0181	0.1409	0.0435	0.1245	0.0964
2	350.16	0.3998	-0.0258	0.0035	0.0051	0.0305	0.1928	0.0692	-0.0798	0.0765
2	350.16	0.4496	-0.0362	0.0045	-0.0164	0.0376	0.3035	0.0874	-0.1073	0.0894
2	350.16	0.4995	-0.0661	0.0053	-0.0500	0.0455	0.4351	0.1125	-0.1679	0.0858
2	350.16	0.5551	-0.0792	0.0057	-0.0826	0.0542	0.5928	0.1297	-0.1828	0.0719
2	350.16	0.5996	-0.1009	0.0059	-0.1242	0.0612	0.6933	0.1429	-0.3182	0.0957
2	350.16	0.6497	-0.1088	0.0064	-0.1606	0.0684	0.8329	0.1669	-0.2284	0.0775
2	350.16	0.6996	-0.1381	0.0058	-0.2138	0.0780	0.9134	0.1924	-0.4044	0.0829
2	350.16	0.7495	-0.1502	0.0063	-0.2659	0.0861	0.9812	0.2073	-0.4466	0.0797
2	350.16	0.7996	-0.1747	0.0064	-0.3266	0.0942	1.0269	0.2274	-0.5914	0.0824
2	350.16	0.8578	-0.2158	0.0075	-0.3912	0.1030	1.0462	0.2583	-0.4103	0.0724
2	350.16	0.9100	-0.2163	0.0073	-0.4200	0.1121	0.9946	0.2767	-0.6696	0.0705
2	350.16	0.9727	-0.2770	0.0094	-0.4489	0.1224	1.1082	0.3042	-0.1991	0.0729

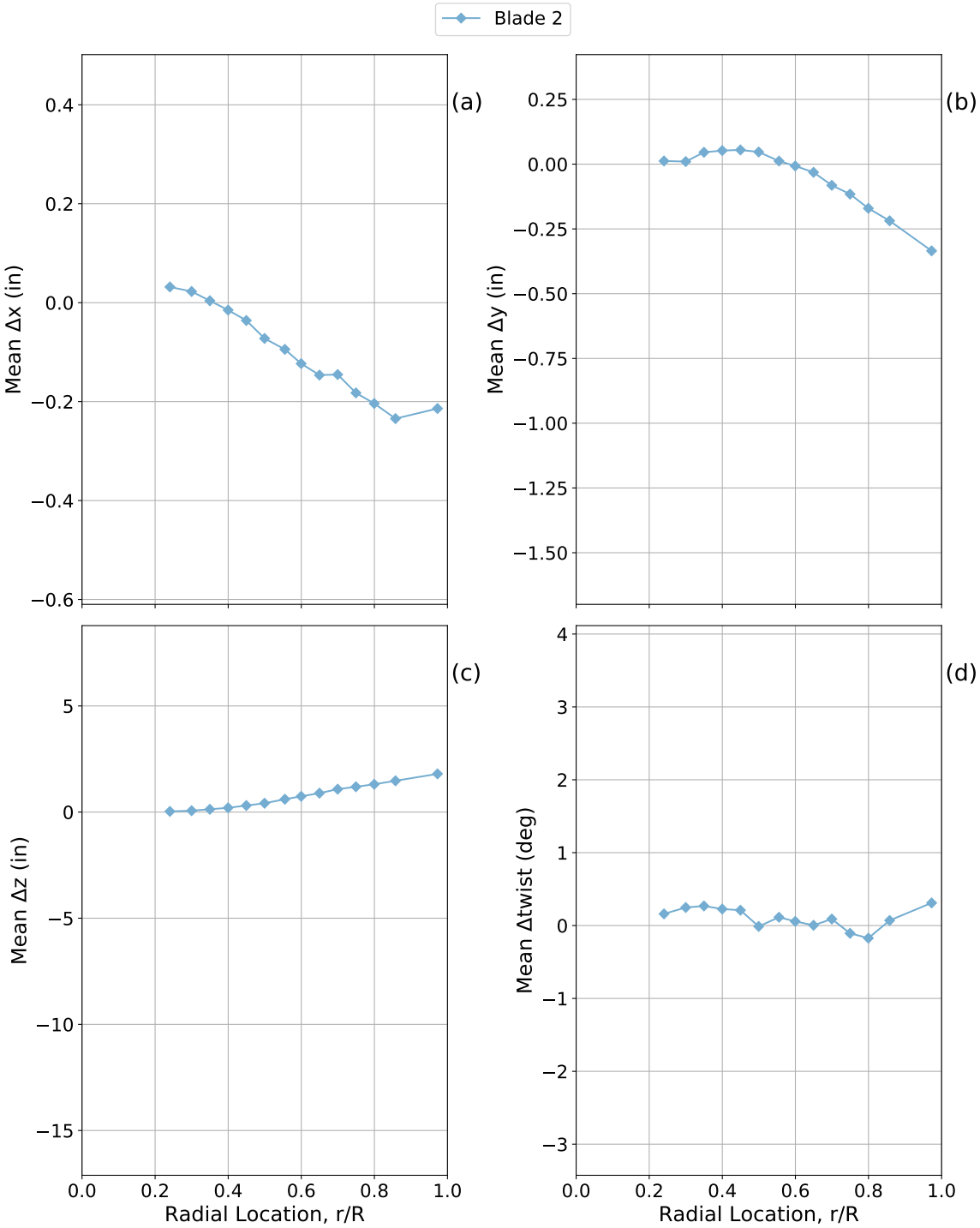


Figure 3.19-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Table 3.19-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 10. BD run 30, points 4350 to 4360.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2405	0.0318	0.0063	0.0122	0.0100	0.0304	0.0213	0.1601	0.1649
2	355.08	0.2999	0.0226	0.0056	0.0100	0.0218	0.0654	0.0382	0.2477	0.2543
2	355.08	0.3498	0.0039	0.0060	0.0458	0.0399	0.1309	0.0619	0.2687	0.2006
2	355.08	0.3998	-0.0150	0.0075	0.0524	0.0619	0.2014	0.0903	0.2266	0.1968
2	355.08	0.4496	-0.0360	0.0069	0.0549	0.0768	0.3085	0.1121	0.2104	0.1926
2	355.08	0.4995	-0.0723	0.0080	0.0470	0.0964	0.4164	0.1337	-0.0121	0.2295
2	355.08	0.5551	-0.0944	0.0067	0.0120	0.1105	0.6054	0.1596	0.1138	0.2066
2	355.08	0.5996	-0.1232	0.0085	-0.0070	0.1285	0.7412	0.1740	0.0570	0.2652
2	355.08	0.6497	-0.1464	0.0069	-0.0316	0.1443	0.8912	0.1981	0.0037	0.2171
2	355.08	0.6996	-0.1453	0.0089	-0.0817	0.1631	1.0789	0.2220	0.0895	0.1751
2	355.08	0.7495	-0.1824	0.0081	-0.1156	0.1818	1.1914	0.2470	-0.1064	0.2373
2	355.08	0.7996	-0.2038	0.0078	-0.1705	0.1961	1.3091	0.2630	-0.1730	0.1680
2	355.08	0.8578	-0.2344	0.0093	-0.2187	0.2220	1.4738	0.2799	0.0700	0.2795
2	355.08	0.9727	-0.2140	0.0192	-0.3347	0.2526	1.7994	0.3133	0.3104	0.3194

3.20 Run 63, Point 11

3.20.1 Pitch, Flap, and Lag

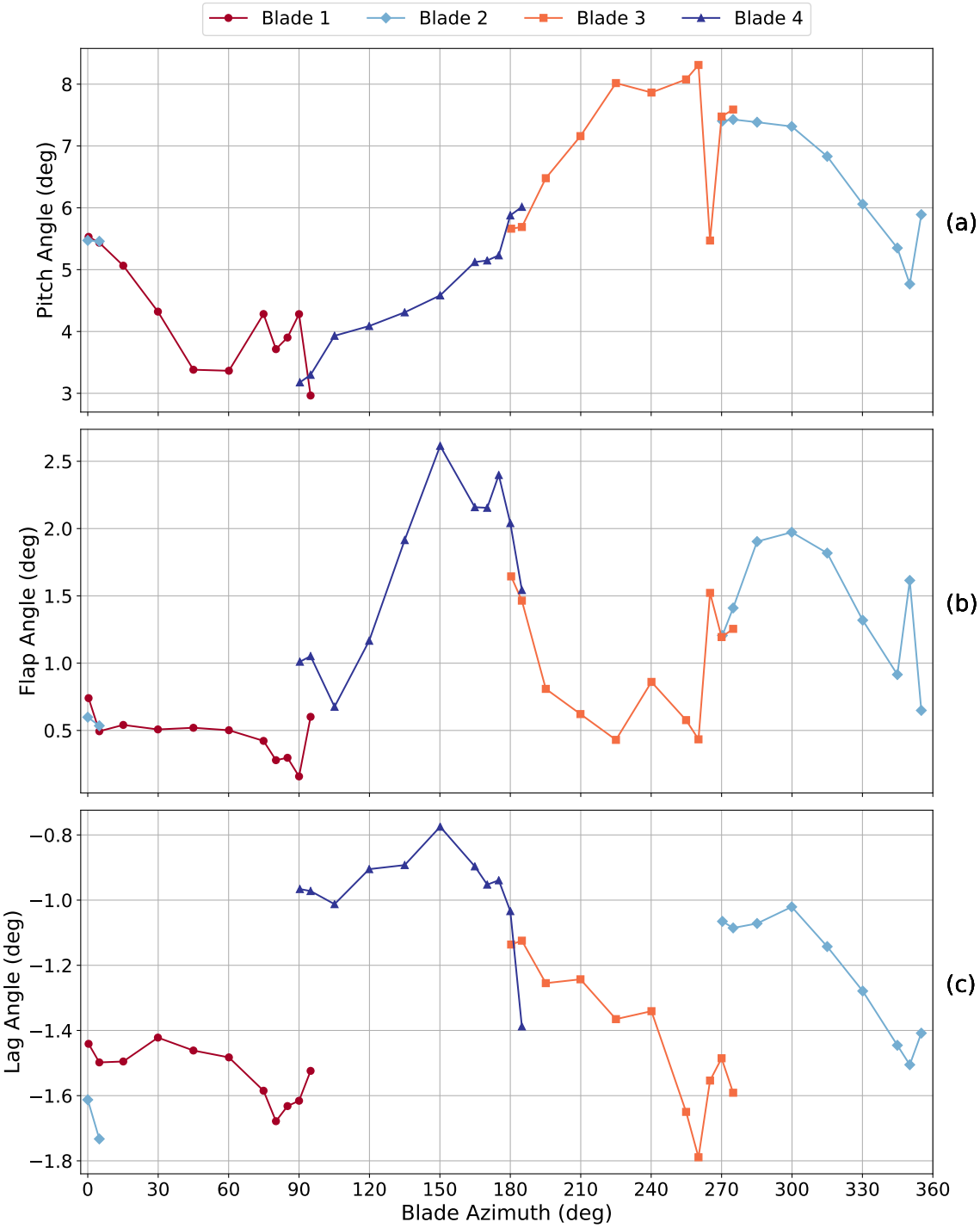


Figure 3.20-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.4730	0.5984	-1.6126	0.0880	0.1203	0.0358
0.35	1	5.5302	0.7401	-1.4410	0.1442	0.1091	0.0338
4.92	1	5.4354	0.4940	-1.4980	0.0937	0.1043	0.0426
4.92	2	5.4589	0.5350	-1.7328	0.0732	0.0951	0.0253
15.12	1	5.0646	0.5409	-1.4952	0.0603	0.0756	0.0371
29.88	1	4.3213	0.5076	-1.4219	0.0626	0.0899	0.0363
45	1	3.3816	0.5198	-1.4615	0.0559	0.0372	0.0303
60.12	1	3.3646	0.5016	-1.4826	0.0785	0.0446	0.0496
74.88	1	4.2826	0.4224	-1.5849	0.1169	0.0968	0.0226
80.16	1	3.7146	0.2791	-1.6784	0.1625	0.0951	0.0692
85.08	1	3.9020	0.2970	-1.6320	0.1648	0.0619	0.0375
90	1	4.2814	0.1585	-1.6157	0.1341	0.0777	0.0349
90.35	4	3.1765	1.0106	-0.9661	0.0719	0.0844	0.0339
94.92	1	2.9642	0.6012	-1.5240	0.0863	0.0624	0.0595
94.92	4	3.2985	1.0519	-0.9722	0.0744	0.0317	0.0394
105.12	4	3.9303	0.6760	-1.0124	0.0371	0.0999	0.0429
119.88	4	4.0880	1.1663	-0.9050	0.0345	0.1602	0.0443
135	4	4.3095	1.9143	-0.8925	0.0269	0.0364	0.0277
150.12	4	4.5838	2.6147	-0.7748	0.0385	0.1597	0.0436
164.88	4	5.1226	2.1588	-0.8965	0.0494	0.0934	0.0262
170.16	4	5.1483	2.1542	-0.9525	0.0639	0.0863	0.0377
175.08	4	5.2314	2.3978	-0.9392	0.0516	0.0918	0.0339
180	4	5.8781	2.0403	-1.0338	0.1244	0.2501	0.0418
180.35	3	5.6624	1.6444	-1.1363	0.1904	0.1988	0.0427
184.92	3	5.6897	1.4643	-1.1244	0.0494	0.0953	0.1047
184.92	4	6.0148	1.5433	-1.3876	0.1501	0.0808	0.0382
195.12	3	6.4792	0.8088	-1.2548	0.0593	0.1826	0.0328
209.88	3	7.1598	0.6216	-1.2430	0.0391	0.1521	0.0298
225	3	8.0175	0.4299	-1.3652	0.0618	0.0819	0.0411
240.12	3	7.8645	0.8605	-1.3408	0.1115	0.0953	0.0315
254.88	3	8.0767	0.5767	-1.6498	0.2613	0.1607	0.0873
260.16	3	8.3104	0.4340	-1.7891	0.4198	0.2980	0.1073
265.08	3	5.4711	1.5219	-1.5537	0.1098	0.0836	0.0283
270	3	7.4763	1.1938	-1.4853	0.0819	0.0825	0.0436
270.35	2	7.4042	1.2060	-1.0653	0.0737	0.0444	0.0246
274.92	2	7.4284	1.4100	-1.0854	0.0772	0.0458	0.0369
274.92	3	7.5899	1.2548	-1.5911	0.0577	0.0357	0.0324
285.12	2	7.3847	1.9037	-1.0717	0.0628	0.0318	0.0372
299.88	2	7.3159	1.9727	-1.0208	0.0884	0.0699	0.0194
315	2	6.8316	1.8179	-1.1426	0.0482	0.0799	0.0357
330.12	2	6.0602	1.3189	-1.2790	0.0716	0.1021	0.0383
344.88	2	5.3502	0.9151	-1.4455	0.0533	0.0544	0.0306
350.16	2	4.7673	1.6148	-1.5052	0.1603	0.0999	0.0898
355.08	2	5.8910	0.6488	-1.4082	0.0652	0.0468	0.0323

3.20.2 Spanwise Elastic Deformations

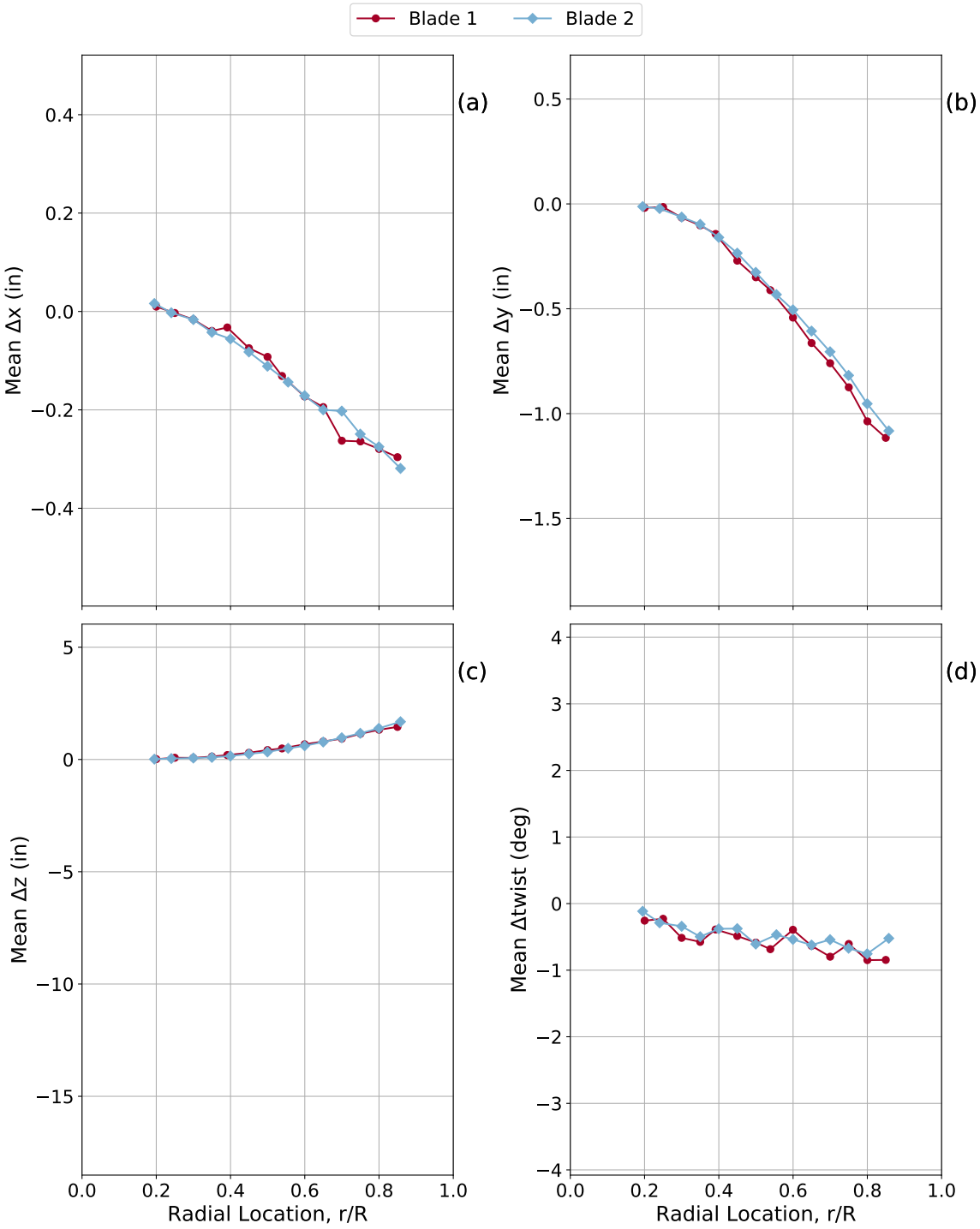


Figure 3.20-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$ NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0099	0.0049	-0.0185	0.0041	0.0153	0.0089	-0.2561	0.0762
1	0.35	0.2499	-0.0031	0.0047	-0.0150	0.0070	0.0759	0.0182	-0.2282	0.1047
1	0.35	0.2998	-0.0162	0.0029	-0.0653	0.0148	0.0698	0.0313	-0.5146	0.1652
1	0.35	0.3498	-0.0395	0.0046	-0.1026	0.0243	0.1287	0.0533	-0.5753	0.1410
1	0.35	0.3913	-0.0325	0.0046	-0.1433	0.0345	0.1953	0.0747	-0.3891	0.0995
1	0.35	0.4496	-0.0746	0.0044	-0.2707	0.0424	0.2981	0.0928	-0.4868	0.1137
1	0.35	0.4997	-0.0923	0.0040	-0.3498	0.0495	0.4187	0.1111	-0.5856	0.1136
1	0.35	0.5387	-0.1311	0.0046	-0.4116	0.0573	0.4899	0.1256	-0.6846	0.1386
1	0.35	0.5996	-0.1728	0.0054	-0.5421	0.0669	0.6771	0.1542	-0.3933	0.1112
1	0.35	0.6498	-0.1944	0.0069	-0.6635	0.0773	0.8009	0.1665	-0.6348	0.1356
1	0.35	0.6998	-0.2627	0.0056	-0.7597	0.0847	0.9267	0.1856	-0.7978	0.1558
1	0.35	0.7500	-0.2641	0.0065	-0.8745	0.0875	1.1422	0.1975	-0.6065	0.1270
1	0.35	0.8001	-0.2794	0.0060	-1.0368	0.1018	1.3222	0.2104	-0.8488	0.1620
1	0.35	0.8497	-0.2961	0.0058	-1.1154	0.1024	1.4495	0.2232	-0.8461	0.1213
2	0	0.1949	0.0162	0.0034	-0.0126	0.0017	0.0142	0.0069	-0.1151	0.0397
2	0	0.2405	-0.0026	0.0031	-0.0221	0.0063	0.0412	0.0155	-0.2887	0.0555
2	0	0.2999	-0.0165	0.0022	-0.0629	0.0082	0.0640	0.0340	-0.3410	0.0838
2	0	0.3498	-0.0424	0.0022	-0.0974	0.0176	0.0930	0.0498	-0.4974	0.0508
2	0	0.3998	-0.0558	0.0035	-0.1599	0.0263	0.1538	0.0837	-0.3788	0.0992
2	0	0.4496	-0.0823	0.0035	-0.2348	0.0320	0.2481	0.1011	-0.3756	0.0772
2	0	0.4995	-0.1113	0.0042	-0.3265	0.0399	0.3346	0.1279	-0.6082	0.0947
2	0	0.5551	-0.1436	0.0049	-0.4323	0.0482	0.4967	0.1597	-0.4675	0.0919
2	0	0.5996	-0.1711	0.0041	-0.5049	0.0538	0.6092	0.1915	-0.5385	0.0876
2	0	0.6497	-0.1999	0.0051	-0.6064	0.0601	0.7770	0.2273	-0.6224	0.0888
2	0	0.6996	-0.2025	0.0040	-0.7051	0.0671	0.9669	0.2622	-0.5417	0.0923
2	0	0.7495	-0.2493	0.0051	-0.8177	0.0765	1.1656	0.3063	-0.6700	0.1068
2	0	0.7996	-0.2750	0.0060	-0.9529	0.0853	1.3873	0.3493	-0.7543	0.1023
2	0	0.8578	-0.3190	0.0074	-1.0823	0.0898	1.6798	0.4016	-0.5218	0.1305

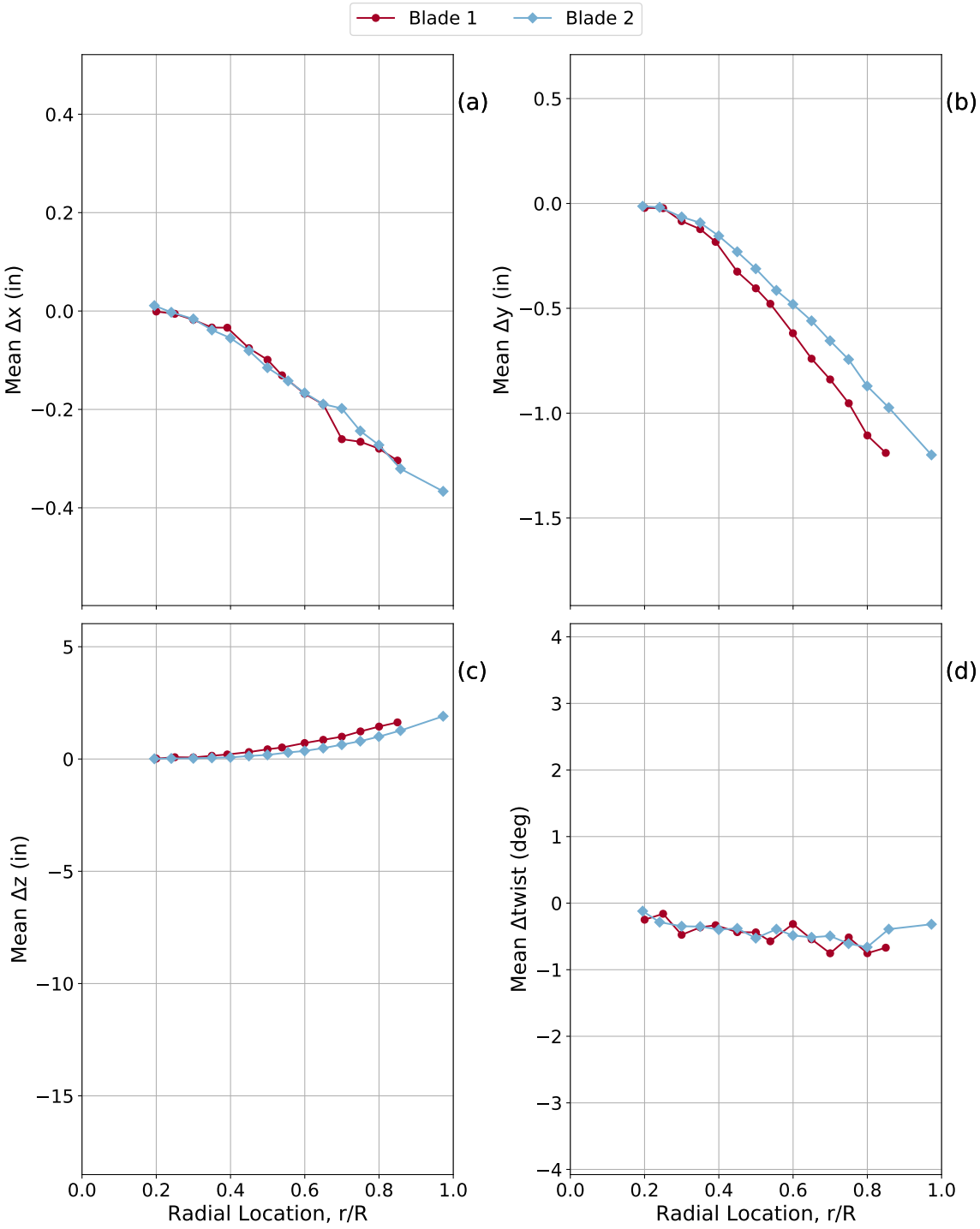


Figure 3.20-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0010	0.0032	-0.0211	0.0022	0.0181	0.0055	-0.2489	0.0511
1	4.92	0.2499	-0.0057	0.0023	-0.0226	0.0045	0.0789	0.0086	-0.1598	0.0640
1	4.92	0.2998	-0.0178	0.0038	-0.0844	0.0090	0.0685	0.0158	-0.4757	0.0917
1	4.92	0.3498	-0.0336	0.0044	-0.1225	0.0129	0.1444	0.0219	-0.3638	0.0795
1	4.92	0.3913	-0.0339	0.0045	-0.1830	0.0183	0.2022	0.0307	-0.3317	0.0829
1	4.92	0.4496	-0.0755	0.0043	-0.3252	0.0191	0.3088	0.0395	-0.4356	0.0789
1	4.92	0.4997	-0.0992	0.0038	-0.4048	0.0225	0.4321	0.0449	-0.4390	0.0828
1	4.92	0.5387	-0.1307	0.0041	-0.4786	0.0263	0.5125	0.0553	-0.5729	0.0892
1	4.92	0.5996	-0.1682	0.0038	-0.6188	0.0290	0.7108	0.0680	-0.3139	0.0887
1	4.92	0.6498	-0.1897	0.0035	-0.7404	0.0338	0.8538	0.0837	-0.5427	0.0835
1	4.92	0.6998	-0.2605	0.0044	-0.8392	0.0361	0.9923	0.0996	-0.7533	0.1117
1	4.92	0.7500	-0.2658	0.0038	-0.9529	0.0361	1.2292	0.1155	-0.5155	0.0928
1	4.92	0.8001	-0.2798	0.0062	-1.1063	0.0434	1.4440	0.1398	-0.7525	0.1143
1	4.92	0.8497	-0.3040	0.0043	-1.1896	0.0437	1.6311	0.1699	-0.6692	0.1026
2	4.92	0.1949	0.0110	0.0022	-0.0133	0.0016	0.0101	0.0027	-0.1200	0.0353
2	4.92	0.2405	-0.0026	0.0029	-0.0184	0.0031	0.0247	0.0074	-0.2856	0.0493
2	4.92	0.2999	-0.0161	0.0025	-0.0644	0.0066	0.0297	0.0140	-0.3472	0.0765
2	4.92	0.3498	-0.0385	0.0030	-0.0921	0.0110	0.0508	0.0208	-0.3519	0.0815
2	4.92	0.3998	-0.0550	0.0044	-0.1549	0.0161	0.0720	0.0353	-0.3982	0.0930
2	4.92	0.4496	-0.0806	0.0037	-0.2303	0.0194	0.1332	0.0494	-0.3795	0.0756
2	4.92	0.4995	-0.1152	0.0039	-0.3114	0.0227	0.1830	0.0636	-0.5259	0.0925
2	4.92	0.5551	-0.1421	0.0042	-0.4146	0.0288	0.2906	0.0822	-0.3916	0.0764
2	4.92	0.5996	-0.1664	0.0040	-0.4806	0.0331	0.3590	0.0953	-0.4860	0.0686
2	4.92	0.6497	-0.1893	0.0038	-0.5598	0.0363	0.4860	0.1096	-0.5128	0.0920
2	4.92	0.6996	-0.1980	0.0038	-0.6549	0.0412	0.6371	0.1271	-0.4932	0.0910
2	4.92	0.7495	-0.2438	0.0038	-0.7438	0.0456	0.7945	0.1377	-0.6091	0.1054
2	4.92	0.7996	-0.2724	0.0049	-0.8709	0.0502	0.9966	0.1591	-0.6603	0.1024
2	4.92	0.8578	-0.3206	0.0054	-0.9736	0.0553	1.2676	0.1723	-0.3910	0.1553
2	4.92	0.9727	-0.3665	0.0085	-1.1990	0.0715	1.9043	0.2094	-0.3172	0.1176

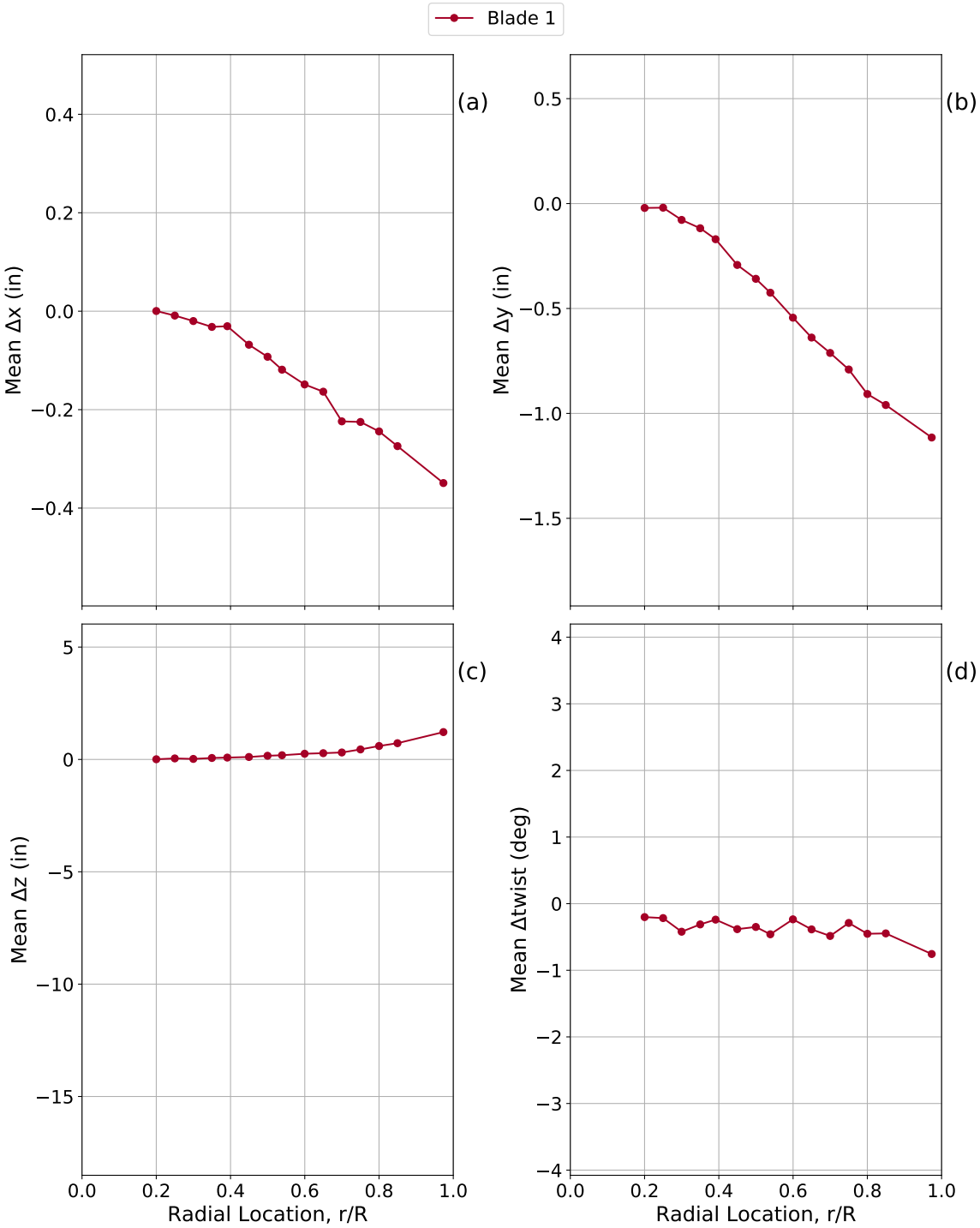


Figure 3.20-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0004	0.0033	-0.0208	0.0020	0.0088	0.0044	-0.2017	0.0571
1	15.12	0.2499	-0.0089	0.0036	-0.0197	0.0048	0.0457	0.0082	-0.2167	0.0484
1	15.12	0.2998	-0.0200	0.0023	-0.0779	0.0068	0.0237	0.0137	-0.4211	0.1064
1	15.12	0.3498	-0.0319	0.0036	-0.1176	0.0125	0.0653	0.0247	-0.3115	0.0533
1	15.12	0.3913	-0.0305	0.0039	-0.1699	0.0172	0.0829	0.0315	-0.2396	0.0727
1	15.12	0.4496	-0.0681	0.0039	-0.2925	0.0229	0.1093	0.0429	-0.3826	0.0623
1	15.12	0.4997	-0.0926	0.0038	-0.3586	0.0271	0.1639	0.0515	-0.3497	0.0676
1	15.12	0.5387	-0.1188	0.0038	-0.4248	0.0311	0.1871	0.0585	-0.4597	0.0570
1	15.12	0.5996	-0.1488	0.0035	-0.5438	0.0373	0.2537	0.0691	-0.2353	0.0741
1	15.12	0.6498	-0.1635	0.0046	-0.6386	0.0432	0.2789	0.0773	-0.3861	0.0789
1	15.12	0.6998	-0.2238	0.0038	-0.7119	0.0482	0.3102	0.0884	-0.4848	0.0784
1	15.12	0.7500	-0.2250	0.0047	-0.7907	0.0564	0.4459	0.1012	-0.2896	0.0630
1	15.12	0.8001	-0.2442	0.0053	-0.9078	0.0626	0.5986	0.1185	-0.4520	0.0655
1	15.12	0.8497	-0.2741	0.0061	-0.9599	0.0712	0.7230	0.1360	-0.4465	0.0722
1	15.12	0.9734	-0.3491	0.0100	-1.1149	0.0917	1.2178	0.1919	-0.7558	0.1316

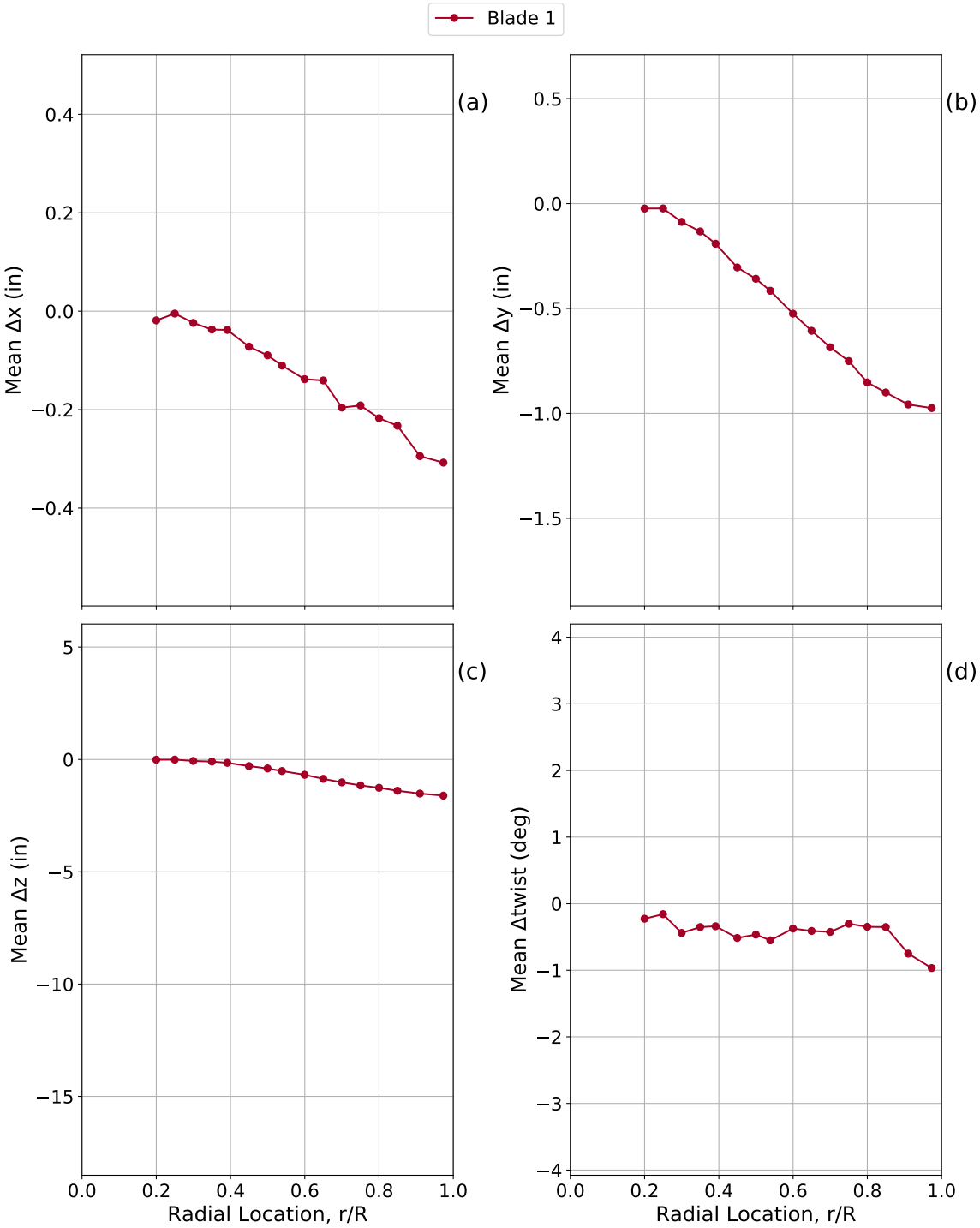


Figure 3.20-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0188	0.0033	-0.0235	0.0017	-0.0114	0.0044	-0.2262	0.0461
1	29.88	0.2499	-0.0049	0.0030	-0.0231	0.0039	-0.0075	0.0077	-0.1578	0.0753
1	29.88	0.2998	-0.0239	0.0034	-0.0873	0.0057	-0.0663	0.0129	-0.4399	0.0975
1	29.88	0.3498	-0.0373	0.0037	-0.1328	0.0126	-0.0942	0.0241	-0.3524	0.0671
1	29.88	0.3913	-0.0381	0.0024	-0.1913	0.0161	-0.1499	0.0310	-0.3398	0.0707
1	29.88	0.4496	-0.0720	0.0037	-0.3044	0.0226	-0.2946	0.0429	-0.5156	0.0604
1	29.88	0.4997	-0.0897	0.0037	-0.3585	0.0273	-0.4005	0.0490	-0.4649	0.0751
1	29.88	0.5387	-0.1105	0.0031	-0.4157	0.0311	-0.5152	0.0551	-0.5516	0.0714
1	29.88	0.5996	-0.1382	0.0029	-0.5248	0.0380	-0.6817	0.0679	-0.3744	0.0684
1	29.88	0.6498	-0.1408	0.0027	-0.6065	0.0441	-0.8621	0.0795	-0.4106	0.0714
1	29.88	0.6998	-0.1959	0.0036	-0.6851	0.0498	-1.0194	0.0923	-0.4249	0.0720
1	29.88	0.7500	-0.1916	0.0032	-0.7509	0.0555	-1.1546	0.1051	-0.3022	0.0554
1	29.88	0.8001	-0.2174	0.0032	-0.8527	0.0616	-1.2599	0.1197	-0.3479	0.0623
1	29.88	0.8497	-0.2328	0.0044	-0.9005	0.0686	-1.3909	0.1332	-0.3522	0.0661
1	29.88	0.9102	-0.2945	0.0043	-0.9578	0.0757	-1.5163	0.1567	-0.7507	0.0443
1	29.88	0.9734	-0.3077	0.0066	-0.9748	0.0845	-1.6092	0.1781	-0.9668	0.0739

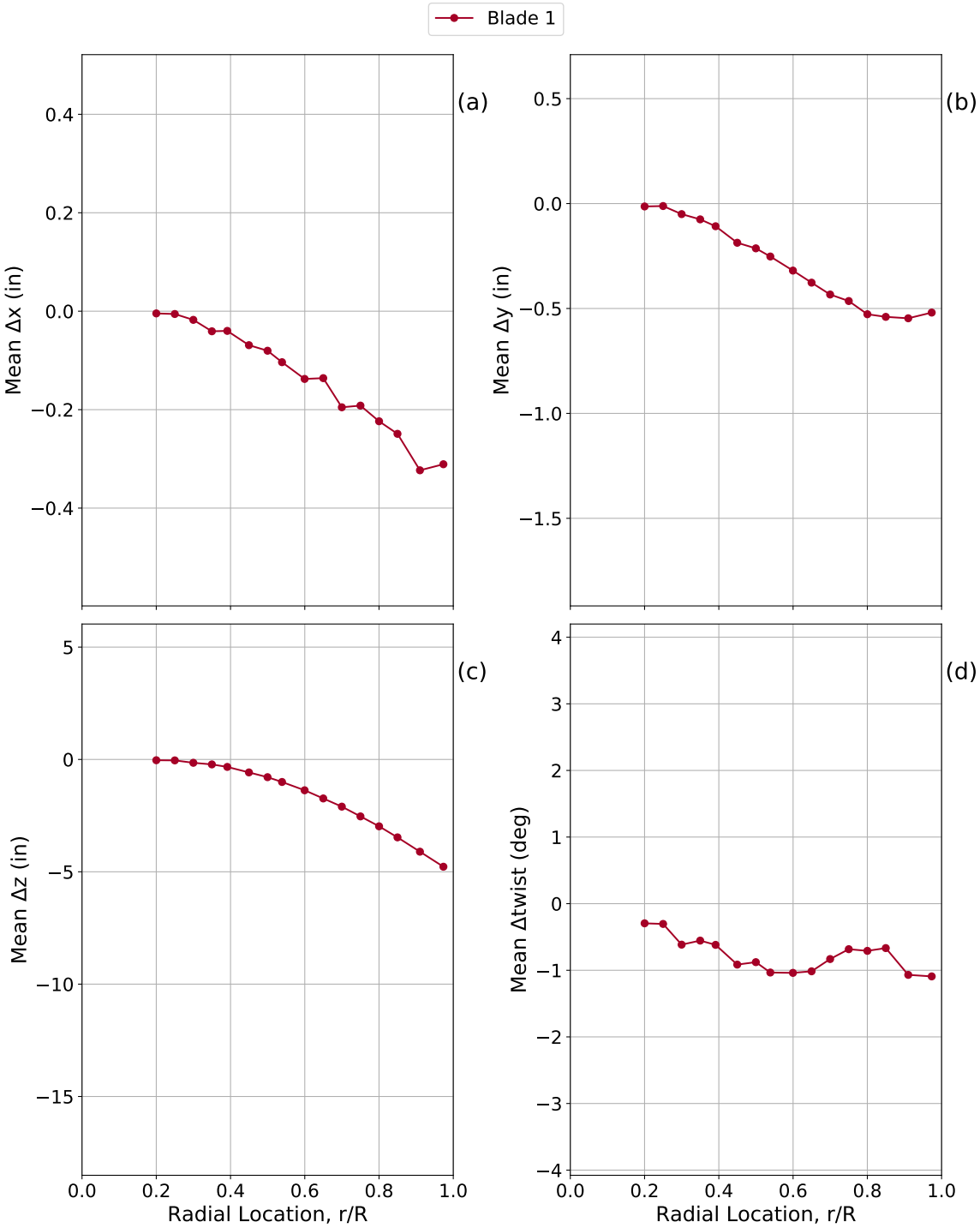


Figure 3.20-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0045	0.0020	-0.0138	0.0015	-0.0348	0.0030	-0.2951	0.0314
1	45	0.2499	-0.0057	0.0023	-0.0118	0.0030	-0.0419	0.0065	-0.3043	0.0578
1	45	0.2998	-0.0176	0.0021	-0.0503	0.0062	-0.1487	0.0118	-0.6152	0.0723
1	45	0.3498	-0.0408	0.0025	-0.0753	0.0107	-0.2209	0.0182	-0.5545	0.0805
1	45	0.3913	-0.0400	0.0030	-0.1081	0.0154	-0.3324	0.0273	-0.6184	0.0662
1	45	0.4496	-0.0690	0.0054	-0.1868	0.0203	-0.5773	0.0393	-0.9146	0.0574
1	45	0.4997	-0.0803	0.0045	-0.2134	0.0256	-0.7888	0.0495	-0.8781	0.0539
1	45	0.5387	-0.1036	0.0036	-0.2523	0.0292	-1.0029	0.0553	-1.0338	0.0692
1	45	0.5996	-0.1376	0.0037	-0.3194	0.0351	-1.3723	0.0672	-1.0390	0.0714
1	45	0.6498	-0.1360	0.0034	-0.3769	0.0425	-1.7359	0.0750	-1.0154	0.0661
1	45	0.6998	-0.1952	0.0036	-0.4334	0.0475	-2.1002	0.0830	-0.8314	0.0488
1	45	0.7500	-0.1918	0.0029	-0.4645	0.0527	-2.5347	0.0907	-0.6834	0.0423
1	45	0.8001	-0.2236	0.0028	-0.5274	0.0586	-2.9757	0.0971	-0.7085	0.0532
1	45	0.8497	-0.2491	0.0040	-0.5399	0.0647	-3.4679	0.1074	-0.6670	0.0507
1	45	0.9102	-0.3232	0.0051	-0.5467	0.0723	-4.1055	0.1210	-1.0689	0.0551
1	45	0.9734	-0.3109	0.0045	-0.5195	0.0817	-4.7747	0.1422	-1.0918	0.0623

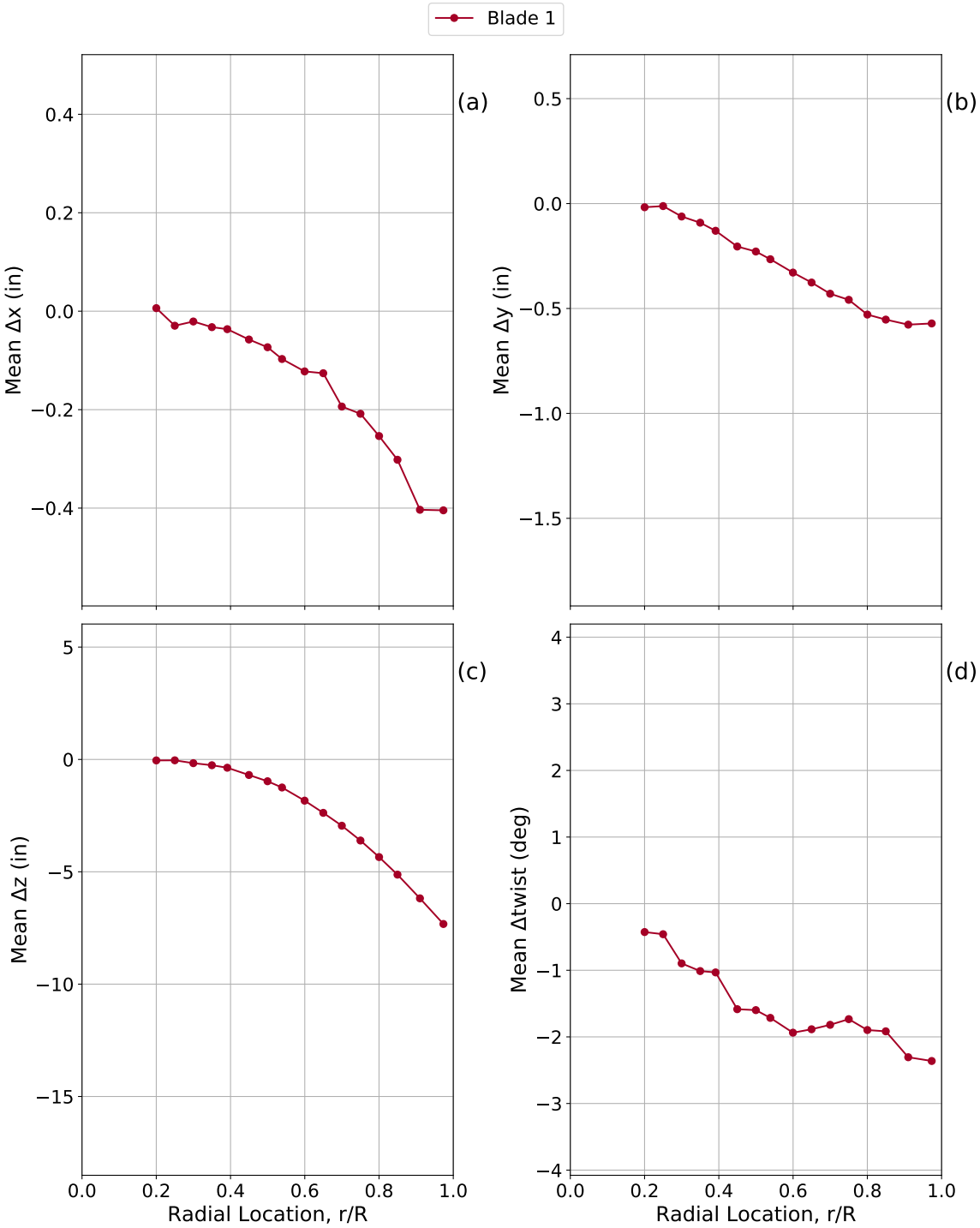


Figure 3.20-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0062	0.0017	-0.0175	0.0015	-0.0431	0.0049	-0.4261	0.0300
1	60.12	0.2499	-0.0295	0.0020	-0.0120	0.0023	-0.0387	0.0096	-0.4586	0.0491
1	60.12	0.2998	-0.0209	0.0033	-0.0617	0.0049	-0.1654	0.0215	-0.8968	0.0659
1	60.12	0.3498	-0.0324	0.0039	-0.0912	0.0095	-0.2574	0.0316	-1.0118	0.0472
1	60.12	0.3913	-0.0365	0.0037	-0.1297	0.0123	-0.3687	0.0488	-1.0322	0.0681
1	60.12	0.4496	-0.0575	0.0037	-0.2047	0.0168	-0.6920	0.0581	-1.5842	0.0571
1	60.12	0.4997	-0.0732	0.0030	-0.2285	0.0209	-0.9704	0.0683	-1.5982	0.0669
1	60.12	0.5387	-0.0971	0.0038	-0.2653	0.0254	-1.2484	0.0758	-1.7147	0.0780
1	60.12	0.5996	-0.1223	0.0039	-0.3289	0.0308	-1.8338	0.0829	-1.9369	0.0605
1	60.12	0.6498	-0.1260	0.0047	-0.3763	0.0374	-2.3767	0.0890	-1.8855	0.0499
1	60.12	0.6998	-0.1937	0.0062	-0.4297	0.0430	-2.9495	0.0985	-1.8189	0.0813
1	60.12	0.7500	-0.2084	0.0049	-0.4587	0.0491	-3.6087	0.1054	-1.7337	0.0670
1	60.12	0.8001	-0.2536	0.0057	-0.5290	0.0551	-4.3446	0.1171	-1.8972	0.0644
1	60.12	0.8497	-0.3018	0.0060	-0.5530	0.0618	-5.1254	0.1325	-1.9164	0.0827
1	60.12	0.9102	-0.4034	0.0076	-0.5770	0.0697	-6.1822	0.1469	-2.3055	0.0971
1	60.12	0.9734	-0.4045	0.0109	-0.5713	0.0794	-7.3231	0.1709	-2.3618	0.1085

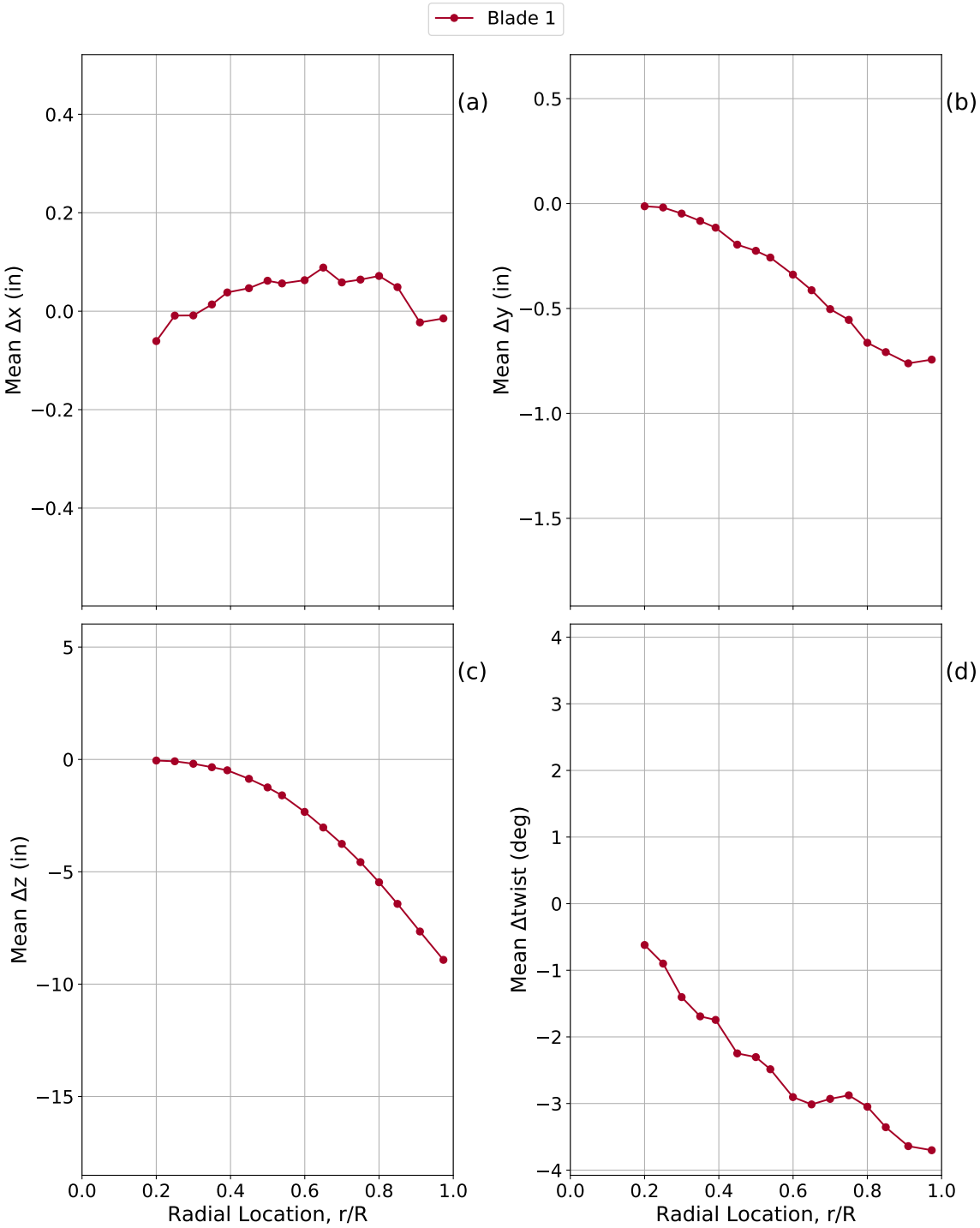


Figure 3.20-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0607	0.0062	-0.0128	0.0019	-0.0482	0.0089	-0.6203	0.0418
1	74.88	0.2499	-0.0089	0.0029	-0.0187	0.0027	-0.0822	0.0128	-0.8994	0.1115
1	74.88	0.2998	-0.0086	0.0028	-0.0476	0.0069	-0.1921	0.0322	-1.4029	0.1117
1	74.88	0.3498	0.0137	0.0051	-0.0828	0.0117	-0.3461	0.0495	-1.6920	0.1158
1	74.88	0.3913	0.0381	0.0070	-0.1149	0.0163	-0.4828	0.0717	-1.7451	0.0963
1	74.88	0.4496	0.0467	0.0104	-0.1957	0.0235	-0.8624	0.0987	-2.2477	0.0971
1	74.88	0.4997	0.0619	0.0133	-0.2251	0.0302	-1.2455	0.1246	-2.3034	0.1077
1	74.88	0.5387	0.0564	0.0157	-0.2572	0.0361	-1.5975	0.1462	-2.4858	0.0906
1	74.88	0.5996	0.0630	0.0168	-0.3386	0.0453	-2.3340	0.1790	-2.9038	0.1047
1	74.88	0.6498	0.0886	0.0185	-0.4130	0.0534	-3.0283	0.2073	-3.0137	0.1008
1	74.88	0.6998	0.0585	0.0191	-0.5030	0.0612	-3.7591	0.2358	-2.9305	0.0975
1	74.88	0.7500	0.0642	0.0199	-0.5542	0.0696	-4.5705	0.2642	-2.8766	0.0979
1	74.88	0.8001	0.0716	0.0192	-0.6635	0.0781	-5.4676	0.2904	-3.0489	0.1044
1	74.88	0.8497	0.0489	0.0189	-0.7079	0.0868	-6.4273	0.3156	-3.3563	0.1109
1	74.88	0.9102	-0.0228	0.0178	-0.7614	0.0976	-7.6578	0.3444	-3.6401	0.1024
1	74.88	0.9734	-0.0147	0.0179	-0.7436	0.1096	-8.9197	0.3726	-3.7016	0.1244

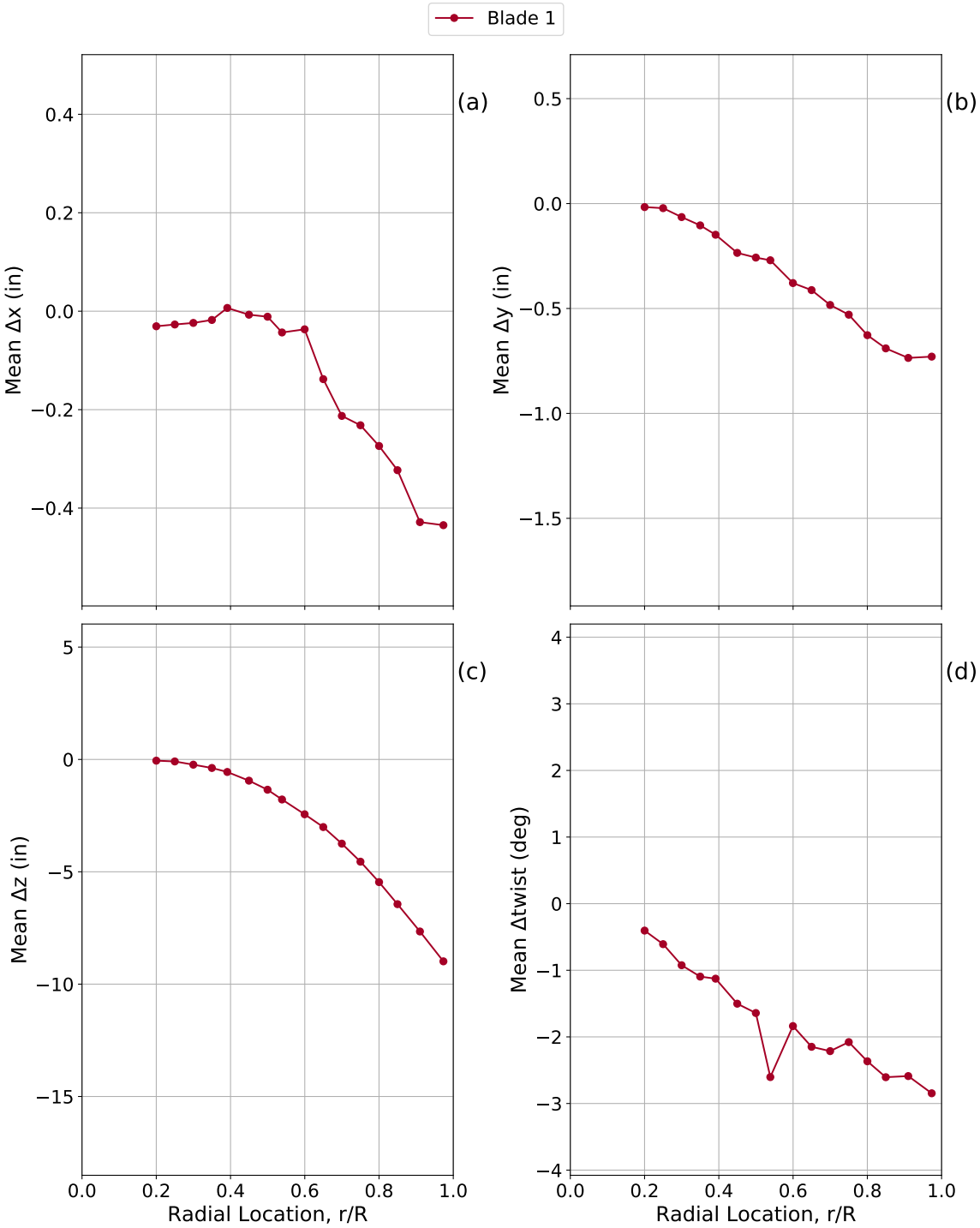


Figure 3.20-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0306	0.0042	-0.0167	0.0040	-0.0538	0.0109	-0.4044	0.0595
1	80.16	0.2499	-0.0270	0.0028	-0.0219	0.0053	-0.0888	0.0139	-0.6079	0.1506
1	80.16	0.2998	-0.0238	0.0028	-0.0644	0.0146	-0.2329	0.0340	-0.9243	0.1575
1	80.16	0.3498	-0.0178	0.0040	-0.1039	0.0246	-0.3793	0.0578	-1.0949	0.1571
1	80.16	0.3913	0.0066	0.0051	-0.1486	0.0342	-0.5573	0.0776	-1.1261	0.1558
1	80.16	0.4496	-0.0071	0.0054	-0.2350	0.0479	-0.9447	0.1045	-1.5017	0.1614
1	80.16	0.4997	-0.0112	0.0081	-0.2574	0.0613	-1.3477	0.1295	-1.6417	0.1363
1	80.16	0.5387	-0.0432	0.0052	-0.2702	0.0776	-1.7824	0.1658	-2.6034	0.2201
1	80.16	0.5996	-0.0368	0.0093	-0.3788	0.0854	-2.4400	0.1816	-1.8377	0.1356
1	80.16	0.6498	-0.1380	0.0126	-0.4124	0.1153	-3.0091	0.1729	-2.1487	0.1443
1	80.16	0.6998	-0.2127	0.0147	-0.4832	0.1292	-3.7473	0.2029	-2.2136	0.1413
1	80.16	0.7500	-0.2317	0.0158	-0.5296	0.1427	-4.5501	0.2369	-2.0782	0.1418
1	80.16	0.8001	-0.2738	0.0174	-0.6272	0.1562	-5.4597	0.2712	-2.3666	0.1407
1	80.16	0.8497	-0.3230	0.0186	-0.6901	0.1698	-6.4405	0.3073	-2.6051	0.1356
1	80.16	0.9102	-0.4285	0.0209	-0.7356	0.1861	-7.6573	0.3548	-2.5883	0.1357
1	80.16	0.9734	-0.4347	0.0208	-0.7294	0.2032	-8.9859	0.4064	-2.8467	0.1351

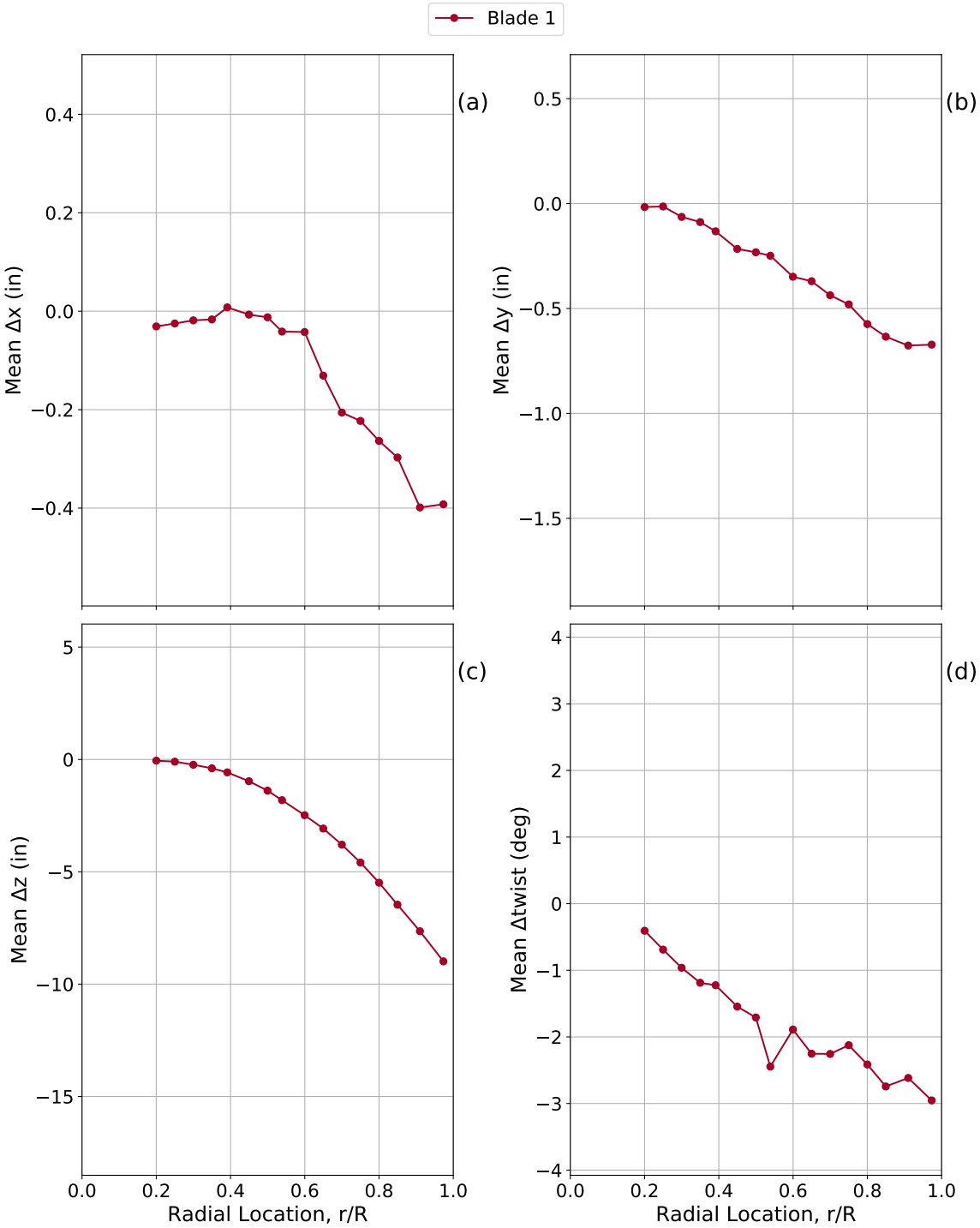


Figure 3.20-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0309	0.0026	-0.0165	0.0034	-0.0540	0.0091	-0.4066	0.0608
1	85.08	0.2499	-0.0250	0.0018	-0.0139	0.0034	-0.0989	0.0099	-0.6901	0.1612
1	85.08	0.2998	-0.0186	0.0019	-0.0635	0.0110	-0.2354	0.0265	-0.9623	0.1641
1	85.08	0.3498	-0.0167	0.0022	-0.0883	0.0194	-0.3932	0.0457	-1.1874	0.1549
1	85.08	0.3913	0.0078	0.0026	-0.1322	0.0256	-0.5752	0.0595	-1.2245	0.1561
1	85.08	0.4496	-0.0069	0.0033	-0.2162	0.0347	-0.9688	0.0795	-1.5453	0.1686
1	85.08	0.4997	-0.0124	0.0042	-0.2322	0.0445	-1.3881	0.0983	-1.7087	0.1622
1	85.08	0.5387	-0.0414	0.0058	-0.2486	0.0593	-1.8124	0.1288	-2.4461	0.1437
1	85.08	0.5996	-0.0423	0.0095	-0.3487	0.0647	-2.4821	0.1341	-1.8896	0.1787
1	85.08	0.6498	-0.1309	0.0146	-0.3701	0.0928	-3.0747	0.1111	-2.2525	0.1808
1	85.08	0.6998	-0.2059	0.0148	-0.4369	0.1039	-3.7917	0.1305	-2.2561	0.1907
1	85.08	0.7500	-0.2229	0.0160	-0.4805	0.1162	-4.5884	0.1522	-2.1245	0.1934
1	85.08	0.8001	-0.2635	0.0173	-0.5743	0.1286	-5.4859	0.1756	-2.4142	0.1917
1	85.08	0.8497	-0.2972	0.0185	-0.6343	0.1405	-6.4638	0.1994	-2.7443	0.1943
1	85.08	0.9102	-0.3987	0.0198	-0.6766	0.1548	-7.6459	0.2281	-2.6163	0.2027
1	85.08	0.9734	-0.3922	0.0194	-0.6723	0.1712	-8.9863	0.2608	-2.9539	0.2082

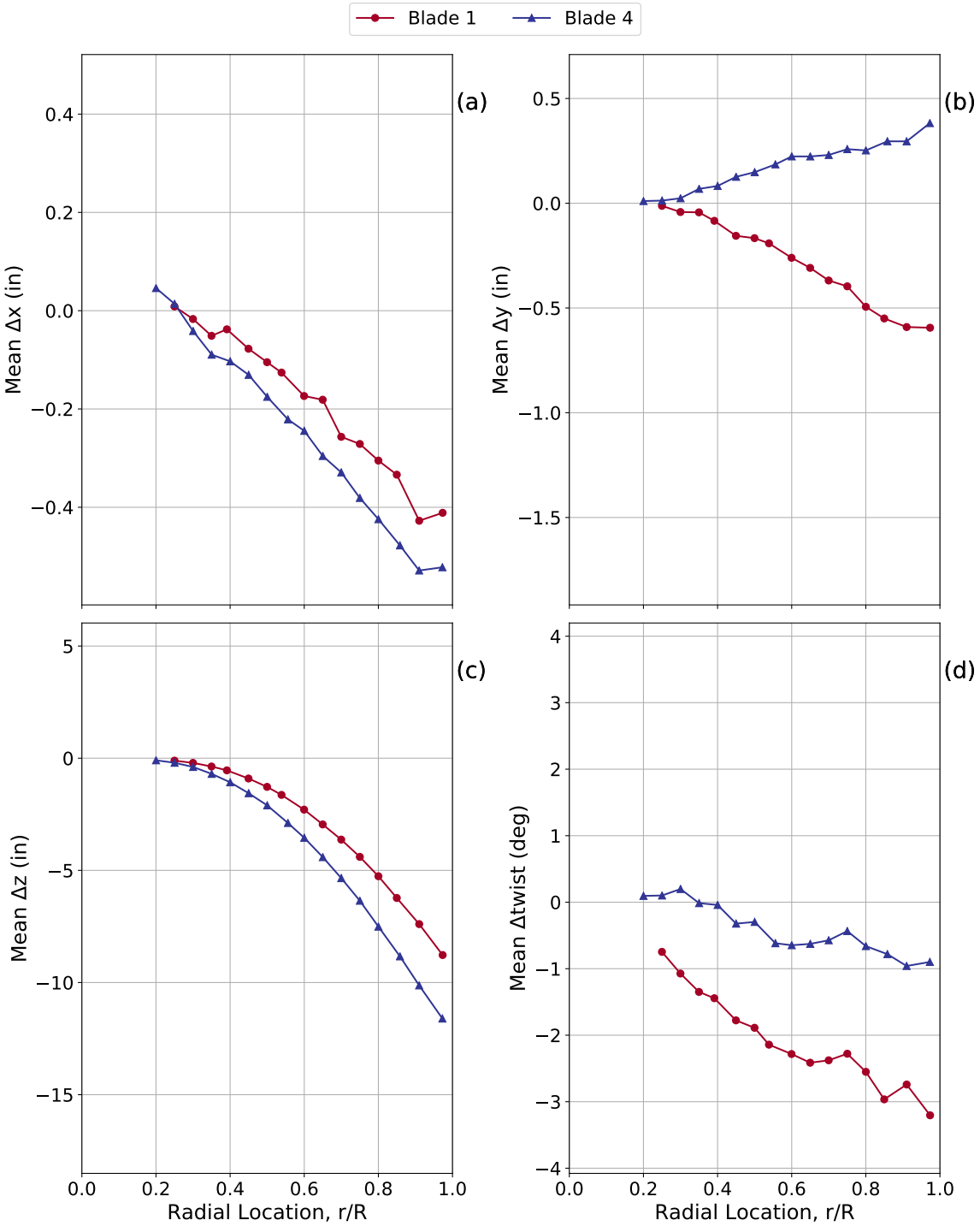


Figure 3.20-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2499	0.0086	0.0034	-0.0125	0.0040	-0.1082	0.0112	-0.7467	0.0915
1	90	0.2998	-0.0169	0.0025	-0.0419	0.0068	-0.2086	0.0207	-1.0728	0.1306
1	90	0.3498	-0.0511	0.0029	-0.0435	0.0134	-0.3697	0.0352	-1.3489	0.1133
1	90	0.3913	-0.0379	0.0023	-0.0840	0.0186	-0.5411	0.0504	-1.4439	0.1143
1	90	0.4496	-0.0774	0.0038	-0.1555	0.0257	-0.9047	0.0707	-1.7769	0.1137
1	90	0.4997	-0.1048	0.0040	-0.1667	0.0321	-1.2777	0.0925	-1.8885	0.1213
1	90	0.5387	-0.1259	0.0034	-0.1914	0.0367	-1.6353	0.1068	-2.1426	0.1368
1	90	0.5996	-0.1736	0.0037	-0.2604	0.0450	-2.2930	0.1317	-2.2830	0.1143
1	90	0.6498	-0.1812	0.0046	-0.3086	0.0525	-2.9519	0.1472	-2.4137	0.1240
1	90	0.6998	-0.2566	0.0053	-0.3688	0.0604	-3.6293	0.1644	-2.3776	0.1343
1	90	0.7500	-0.2712	0.0058	-0.3966	0.0694	-4.3980	0.1782	-2.2784	0.1396
1	90	0.8001	-0.3050	0.0065	-0.4944	0.0774	-5.2612	0.1973	-2.5511	0.1225
1	90	0.8497	-0.3337	0.0081	-0.5500	0.0864	-6.2297	0.2116	-2.9648	0.1241
1	90	0.9102	-0.4274	0.0090	-0.5910	0.0969	-7.3953	0.2300	-2.7417	0.1360
1	90	0.9734	-0.4113	0.0109	-0.5943	0.1085	-8.7744	0.2521	-3.2045	0.1300
4	90.35	0.2001	0.0460	0.0020	0.0103	0.0013	-0.0932	0.0061	0.0946	0.0291
4	90.35	0.2502	0.0138	0.0030	0.0125	0.0031	-0.2037	0.0107	0.1006	0.0690
4	90.35	0.3001	-0.0414	0.0016	0.0238	0.0056	-0.3902	0.0228	0.1980	0.0705
4	90.35	0.3502	-0.0895	0.0028	0.0686	0.0092	-0.6983	0.0395	-0.0143	0.0660
4	90.35	0.4002	-0.1031	0.0028	0.0824	0.0148	-1.0734	0.0600	-0.0418	0.0550
4	90.35	0.4500	-0.1306	0.0031	0.1261	0.0190	-1.5614	0.0782	-0.3226	0.0732
4	90.35	0.5001	-0.1753	0.0045	0.1482	0.0241	-2.1030	0.0996	-0.2969	0.0714
4	90.35	0.5560	-0.2212	0.0056	0.1854	0.0306	-2.8881	0.1259	-0.6174	0.0872
4	90.35	0.6001	-0.2445	0.0070	0.2235	0.0362	-3.5481	0.1476	-0.6472	0.0732
4	90.35	0.6501	-0.2957	0.0088	0.2233	0.0429	-4.4106	0.1755	-0.6270	0.0782
4	90.35	0.6999	-0.3291	0.0111	0.2303	0.0517	-5.3466	0.2056	-0.5729	0.0693
4	90.35	0.7500	-0.3811	0.0136	0.2581	0.0597	-6.3540	0.2384	-0.4347	0.0673
4	90.35	0.8002	-0.4243	0.0158	0.2521	0.0689	-7.5090	0.2726	-0.6608	0.0679
4	90.35	0.8582	-0.4776	0.0184	0.2956	0.0791	-8.8340	0.3092	-0.7812	0.0738
4	90.35	0.9101	-0.5287	0.0204	0.2953	0.0890	-10.1289	0.3404	-0.9594	0.0736
4	90.35	0.9728	-0.5221	0.0242	0.3824	0.1014	-11.6059	0.3797	-0.8988	0.0968

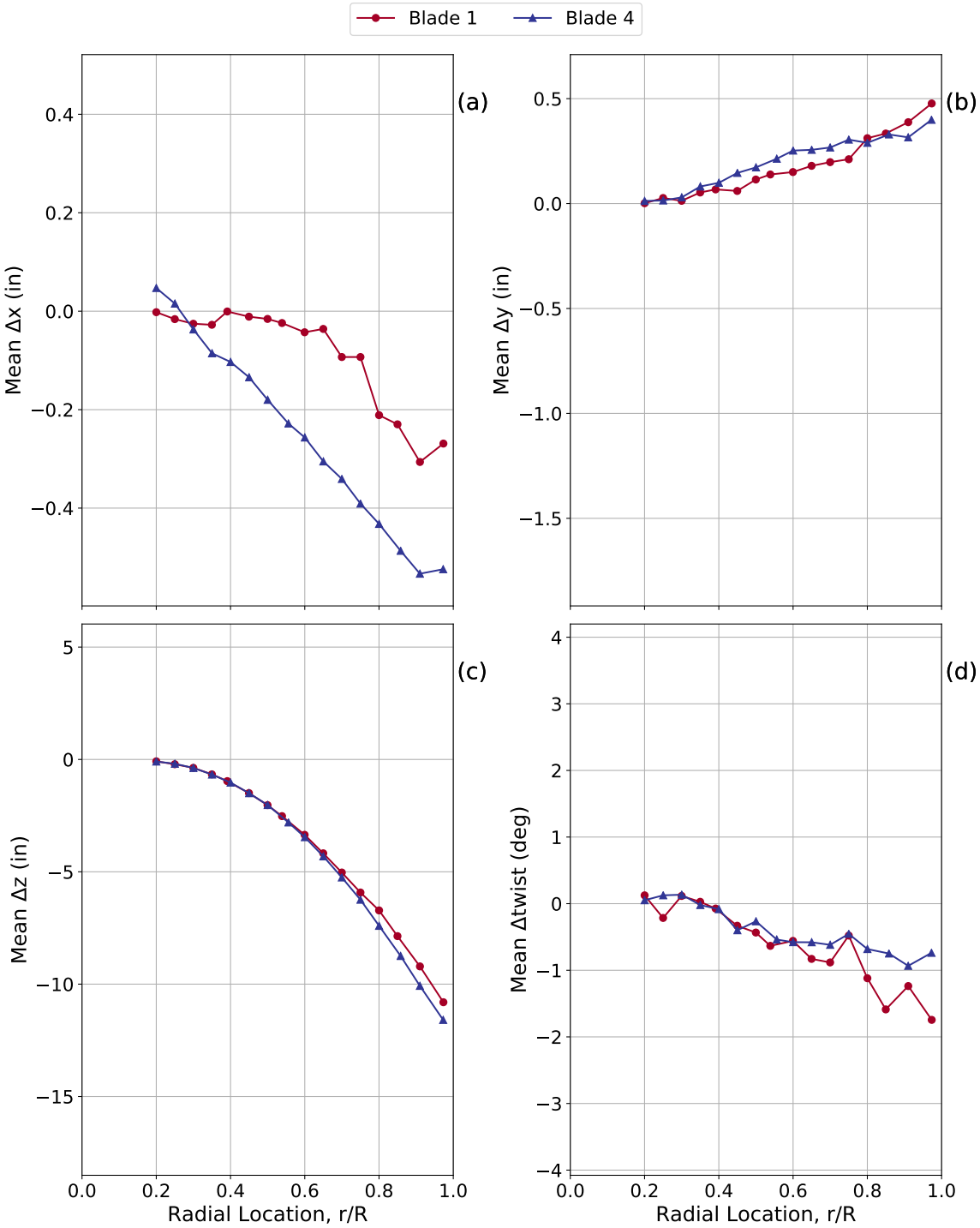


Figure 3.20-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0020	0.0077	0.0016	0.0019	-0.0842	0.0038	0.1248	0.0816
1	94.92	0.2499	-0.0161	0.0026	0.0265	0.0087	-0.2128	0.0223	-0.2145	0.1008
1	94.92	0.2998	-0.0255	0.0018	0.0132	0.0101	-0.3739	0.0159	0.1159	0.1148
1	94.92	0.3498	-0.0276	0.0027	0.0528	0.0222	-0.6622	0.0376	0.0279	0.0842
1	94.92	0.3913	-0.0006	0.0026	0.0674	0.0314	-0.9647	0.0543	-0.0735	0.0887
1	94.92	0.4496	-0.0111	0.0032	0.0601	0.0457	-1.4969	0.0817	-0.3315	0.0882
1	94.92	0.4997	-0.0157	0.0034	0.1146	0.0587	-2.0331	0.1041	-0.4335	0.0903
1	94.92	0.5387	-0.0240	0.0040	0.1386	0.0701	-2.5226	0.1238	-0.6336	0.0778
1	94.92	0.5996	-0.0428	0.0055	0.1501	0.0872	-3.3543	0.1472	-0.5589	0.0779
1	94.92	0.6498	-0.0360	0.0060	0.1798	0.1015	-4.1779	0.1680	-0.8291	0.0870
1	94.92	0.6998	-0.0931	0.0076	0.1974	0.1159	-5.0326	0.1870	-0.8823	0.0955
1	94.92	0.7500	-0.0931	0.0085	0.2112	0.1202	-5.9220	0.2070	-0.4789	0.1023
1	94.92	0.8001	-0.2112	0.0203	0.3115	0.1607	-6.7191	0.1737	-1.1196	0.0962
1	94.92	0.8497	-0.2298	0.0187	0.3338	0.1756	-7.8638	0.1931	-1.5876	0.0711
1	94.92	0.9102	-0.3063	0.0156	0.3878	0.1935	-9.2112	0.2117	-1.2369	0.1093
1	94.92	0.9734	-0.2689	0.0116	0.4770	0.2104	-10.8057	0.2323	-1.7446	0.0992
4	94.92	0.2001	0.0471	0.0030	0.0124	0.0013	-0.0936	0.0053	0.0512	0.0434
4	94.92	0.2502	0.0154	0.0024	0.0146	0.0019	-0.1907	0.0057	0.1254	0.0756
4	94.92	0.3001	-0.0371	0.0025	0.0295	0.0042	-0.3800	0.0166	0.1343	0.0894
4	94.92	0.3502	-0.0855	0.0023	0.0814	0.0066	-0.6734	0.0247	-0.0209	0.0771
4	94.92	0.4002	-0.1032	0.0023	0.0990	0.0100	-1.0311	0.0371	-0.0834	0.0711
4	94.92	0.4500	-0.1343	0.0034	0.1460	0.0128	-1.5022	0.0447	-0.3993	0.0655
4	94.92	0.5001	-0.1801	0.0036	0.1723	0.0157	-2.0290	0.0558	-0.2651	0.0750
4	94.92	0.5560	-0.2282	0.0036	0.2136	0.0200	-2.8045	0.0666	-0.5390	0.0768
4	94.92	0.6001	-0.2566	0.0038	0.2525	0.0235	-3.4606	0.0789	-0.5783	0.0676
4	94.92	0.6501	-0.3052	0.0040	0.2560	0.0276	-4.3145	0.0908	-0.5797	0.0723
4	94.92	0.6999	-0.3408	0.0049	0.2672	0.0327	-5.2526	0.1040	-0.6180	0.0765
4	94.92	0.7500	-0.3909	0.0058	0.3046	0.0381	-6.2445	0.1171	-0.4537	0.0717
4	94.92	0.8002	-0.4322	0.0069	0.2894	0.0439	-7.4063	0.1303	-0.6815	0.0705
4	94.92	0.8582	-0.4868	0.0081	0.3293	0.0510	-8.7477	0.1450	-0.7486	0.0761
4	94.92	0.9101	-0.5333	0.0099	0.3155	0.0574	-10.0779	0.1620	-0.9337	0.0768
4	94.92	0.9728	-0.5242	0.0114	0.3991	0.0660	-11.5931	0.1849	-0.7383	0.0730

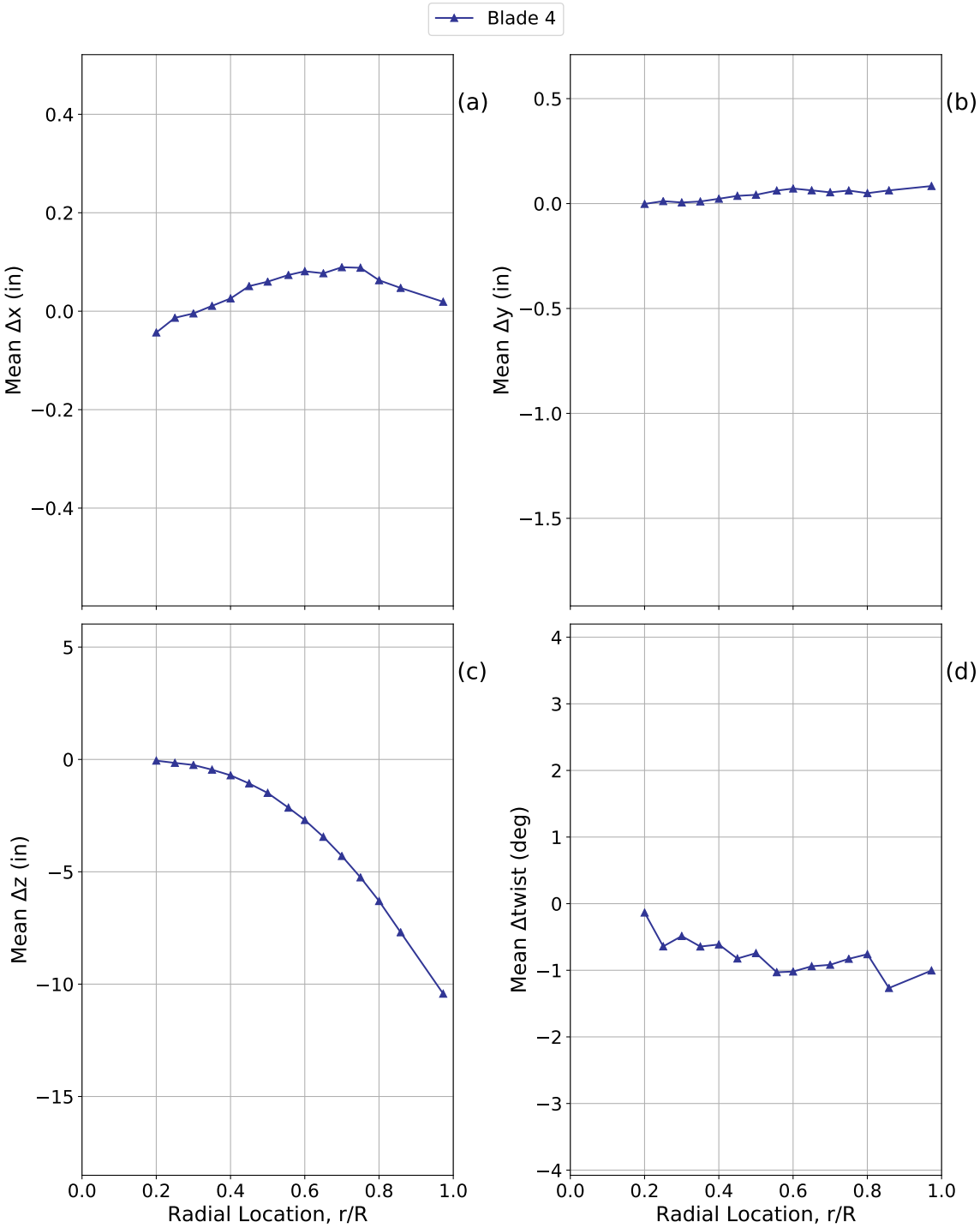


Figure 3.20-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0433	0.0015	-0.0018	0.0009	-0.0543	0.0040	-0.1341	0.0240
4	105.12	0.2502	-0.0134	0.0008	0.0115	0.0017	-0.1533	0.0087	-0.6420	0.0328
4	105.12	0.3001	-0.0046	0.0017	0.0052	0.0035	-0.2464	0.0159	-0.4864	0.0488
4	105.12	0.3502	0.0108	0.0019	0.0099	0.0060	-0.4563	0.0274	-0.6440	0.0427
4	105.12	0.4002	0.0259	0.0019	0.0230	0.0091	-0.7078	0.0424	-0.6130	0.0367
4	105.12	0.4500	0.0509	0.0025	0.0366	0.0119	-1.0687	0.0555	-0.8240	0.0501
4	105.12	0.5001	0.0600	0.0038	0.0416	0.0151	-1.4913	0.0767	-0.7431	0.0429
4	105.12	0.5560	0.0735	0.0043	0.0618	0.0199	-2.1476	0.1015	-1.0298	0.0557
4	105.12	0.6001	0.0811	0.0059	0.0715	0.0235	-2.6973	0.1239	-1.0193	0.0555
4	105.12	0.6501	0.0770	0.0070	0.0629	0.0288	-3.4462	0.1526	-0.9398	0.0666
4	105.12	0.6999	0.0893	0.0093	0.0535	0.0344	-4.2982	0.1874	-0.9180	0.0640
4	105.12	0.7500	0.0882	0.0119	0.0620	0.0396	-5.2500	0.2245	-0.8283	0.0624
4	105.12	0.8002	0.0628	0.0145	0.0495	0.0459	-6.3041	0.2634	-0.7592	0.0816
4	105.12	0.8582	0.0472	0.0186	0.0627	0.0535	-7.6948	0.3113	-1.2667	0.0828
4	105.12	0.9728	0.0191	0.0263	0.0835	0.0699	-10.4267	0.4287	-1.0040	0.1299

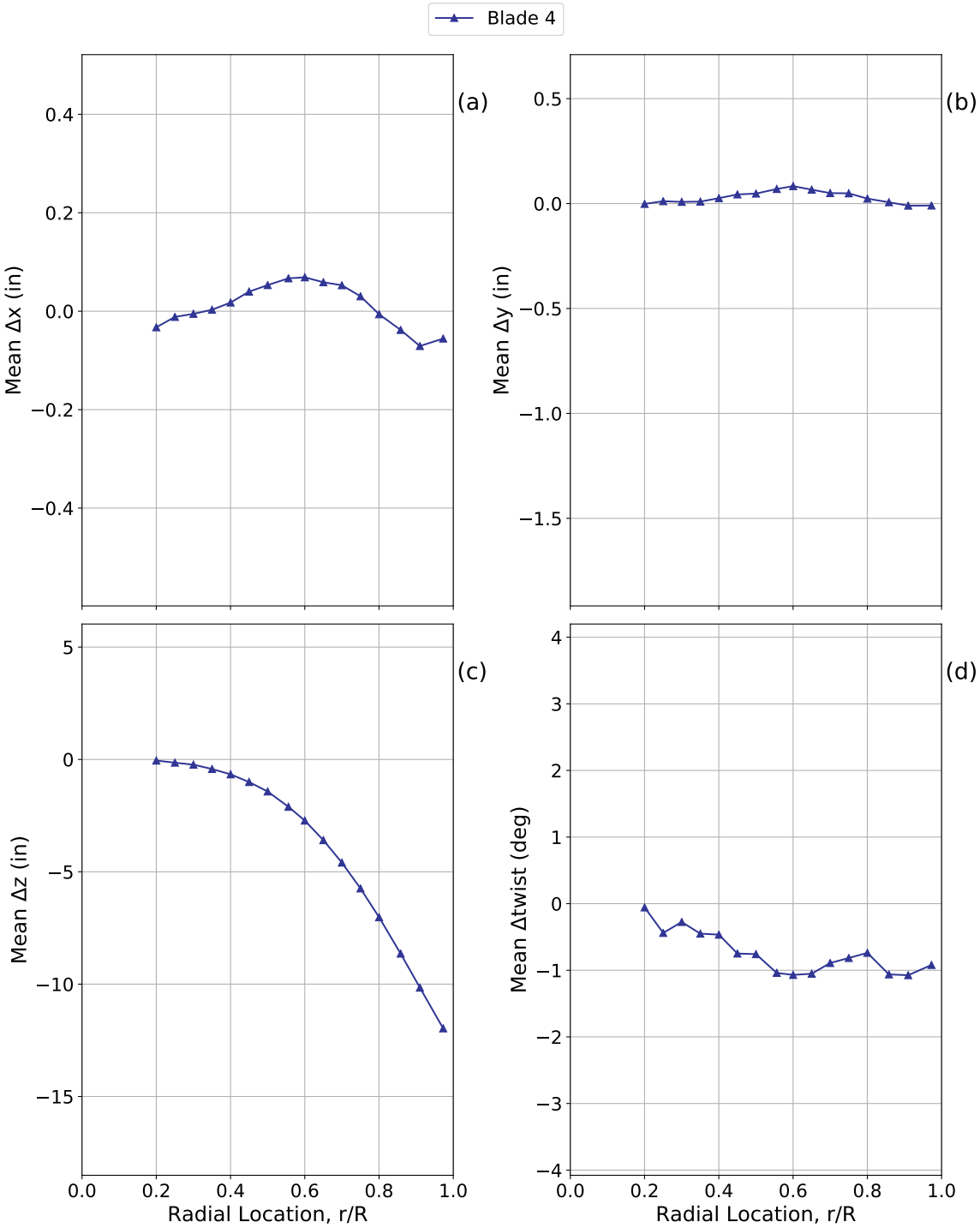


Figure 3.20-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0327	0.0011	-0.0017	0.0007	-0.0508	0.0014	-0.0567	0.0148
4	119.88	0.2502	-0.0116	0.0014	0.0112	0.0016	-0.1435	0.0037	-0.4393	0.0211
4	119.88	0.3001	-0.0054	0.0010	0.0080	0.0029	-0.2323	0.0067	-0.2752	0.0307
4	119.88	0.3502	0.0029	0.0008	0.0093	0.0052	-0.4258	0.0096	-0.4501	0.0301
4	119.88	0.4002	0.0176	0.0019	0.0257	0.0080	-0.6632	0.0165	-0.4653	0.0294
4	119.88	0.4500	0.0397	0.0015	0.0435	0.0109	-1.0053	0.0242	-0.7487	0.0260
4	119.88	0.5001	0.0530	0.0024	0.0475	0.0135	-1.4267	0.0346	-0.7580	0.0290
4	119.88	0.5560	0.0668	0.0021	0.0694	0.0166	-2.1075	0.0490	-1.0399	0.0316
4	119.88	0.6001	0.0688	0.0025	0.0830	0.0200	-2.7208	0.0642	-1.0696	0.0329
4	119.88	0.6501	0.0588	0.0031	0.0662	0.0239	-3.5934	0.0820	-1.0517	0.0344
4	119.88	0.6999	0.0527	0.0049	0.0498	0.0279	-4.5915	0.1027	-0.8911	0.0389
4	119.88	0.7500	0.0303	0.0060	0.0487	0.0313	-5.7411	0.1288	-0.8158	0.0325
4	119.88	0.8002	-0.0062	0.0087	0.0234	0.0352	-7.0243	0.1579	-0.7384	0.0349
4	119.88	0.8582	-0.0381	0.0116	0.0062	0.0402	-8.6423	0.1971	-1.0622	0.0397
4	119.88	0.9101	-0.0708	0.0138	-0.0100	0.0441	-10.1560	0.2324	-1.0739	0.0359
4	119.88	0.9728	-0.0556	0.0164	-0.0094	0.0494	-11.9703	0.2791	-0.9204	0.0340

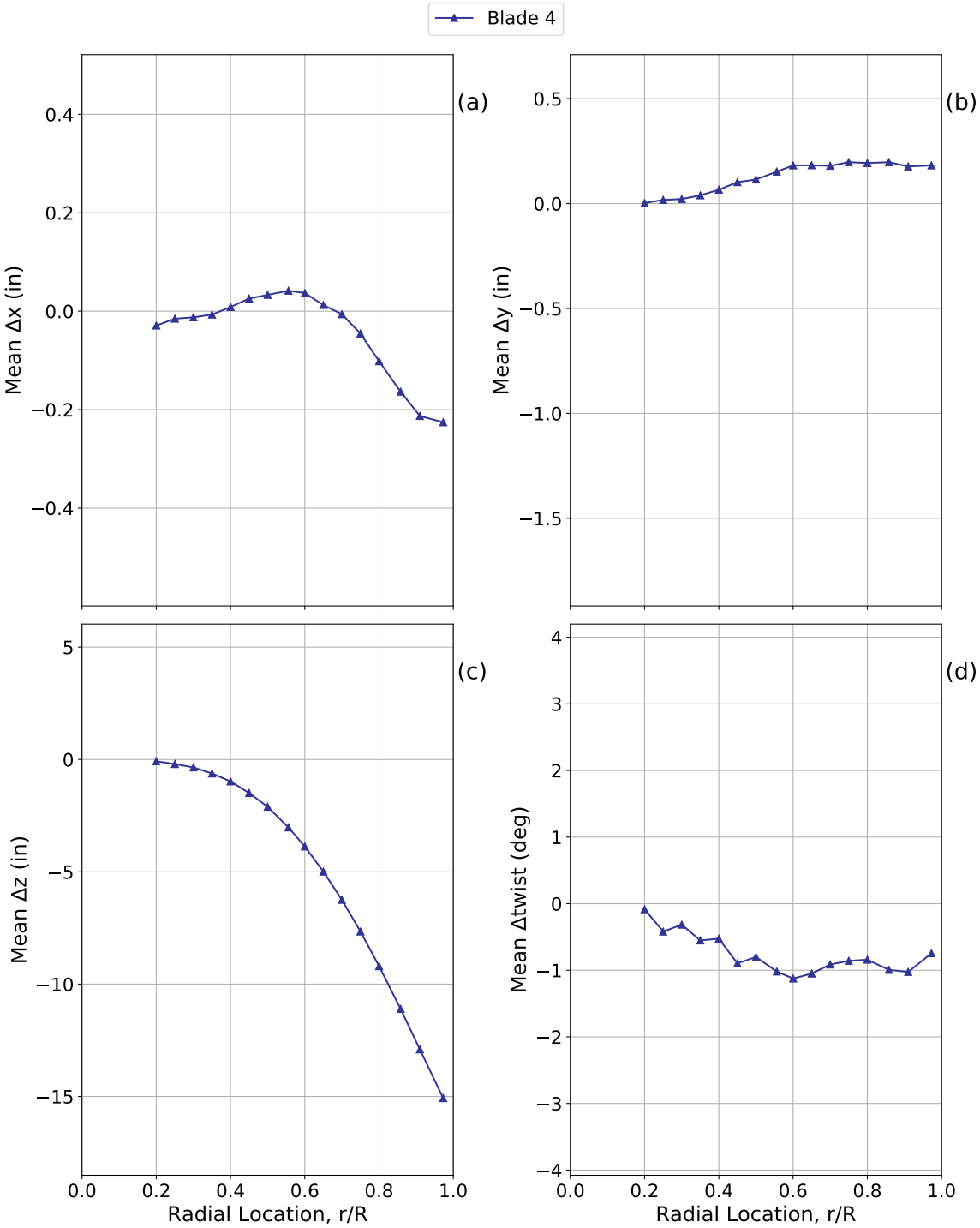


Figure 3.20-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0292	0.0006	0.0028	0.0007	-0.0792	0.0022	-0.0839	0.0105
4	135	0.2502	-0.0153	0.0012	0.0174	0.0010	-0.2032	0.0048	-0.4195	0.0191
4	135	0.3001	-0.0125	0.0012	0.0216	0.0028	-0.3527	0.0093	-0.3158	0.0245
4	135	0.3502	-0.0069	0.0011	0.0392	0.0040	-0.6237	0.0157	-0.5521	0.0174
4	135	0.4002	0.0085	0.0016	0.0660	0.0066	-0.9768	0.0245	-0.5259	0.0271
4	135	0.4500	0.0257	0.0021	0.1020	0.0082	-1.4934	0.0345	-0.8961	0.0200
4	135	0.5001	0.0332	0.0028	0.1149	0.0110	-2.1070	0.0450	-0.8007	0.0186
4	135	0.5560	0.0416	0.0042	0.1521	0.0141	-3.0243	0.0605	-1.0190	0.0257
4	135	0.6001	0.0369	0.0051	0.1819	0.0172	-3.8728	0.0757	-1.1244	0.0233
4	135	0.6501	0.0125	0.0061	0.1826	0.0212	-4.9918	0.0947	-1.0493	0.0236
4	135	0.6999	-0.0062	0.0069	0.1800	0.0252	-6.2480	0.1166	-0.9139	0.0252
4	135	0.7500	-0.0456	0.0104	0.1974	0.0290	-7.6589	0.1430	-0.8587	0.0221
4	135	0.8002	-0.1017	0.0131	0.1934	0.0335	-9.2033	0.1731	-0.8413	0.0191
4	135	0.8582	-0.1636	0.0178	0.1972	0.0382	-11.1059	0.2166	-0.9941	0.0252
4	135	0.9101	-0.2129	0.0222	0.1769	0.0427	-12.9073	0.2604	-1.0253	0.0274
4	135	0.9728	-0.2257	0.0278	0.1819	0.0474	-15.0739	0.3197	-0.7449	0.0289

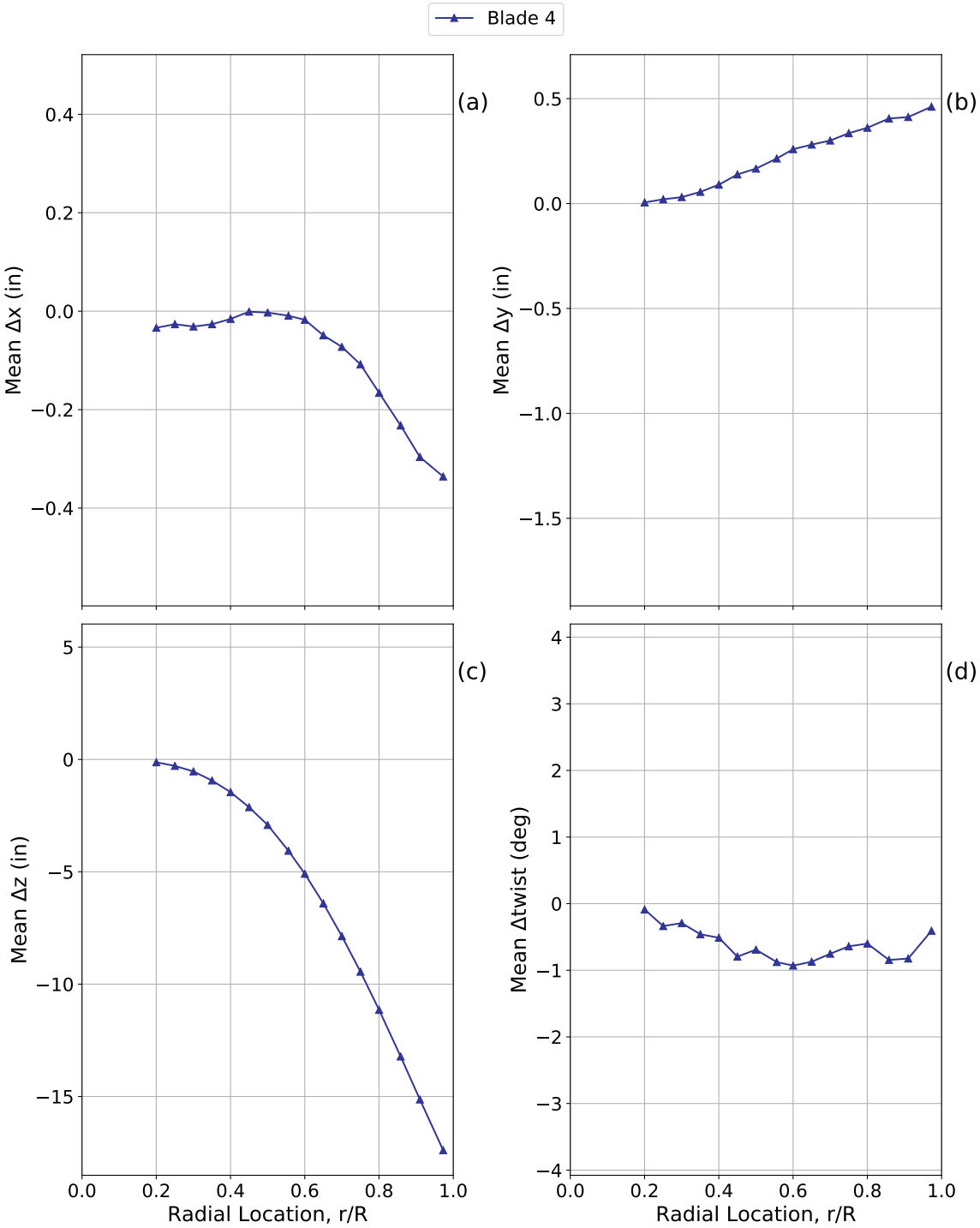


Figure 3.20-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0337	0.0015	0.0054	0.0009	-0.1256	0.0024	-0.0880	0.0141
4	150.12	0.2502	-0.0264	0.0014	0.0203	0.0013	-0.2876	0.0076	-0.3367	0.0220
4	150.12	0.3001	-0.0312	0.0009	0.0306	0.0034	-0.5353	0.0120	-0.2920	0.0306
4	150.12	0.3502	-0.0265	0.0012	0.0556	0.0057	-0.9374	0.0193	-0.4595	0.0163
4	150.12	0.4002	-0.0157	0.0018	0.0899	0.0086	-1.4576	0.0319	-0.5122	0.0244
4	150.12	0.4500	-0.0010	0.0021	0.1387	0.0121	-2.1267	0.0476	-0.7955	0.0277
4	150.12	0.5001	-0.0028	0.0030	0.1665	0.0161	-2.9175	0.0665	-0.6908	0.0216
4	150.12	0.5560	-0.0092	0.0042	0.2147	0.0210	-4.0654	0.0925	-0.8772	0.0334
4	150.12	0.6001	-0.0175	0.0046	0.2590	0.0255	-5.0899	0.1138	-0.9298	0.0276
4	150.12	0.6501	-0.0490	0.0065	0.2809	0.0308	-6.4091	0.1411	-0.8723	0.0444
4	150.12	0.6999	-0.0725	0.0081	0.3003	0.0360	-7.8672	0.1654	-0.7521	0.0334
4	150.12	0.7500	-0.1080	0.0099	0.3352	0.0419	-9.4498	0.1925	-0.6406	0.0486
4	150.12	0.8002	-0.1658	0.0137	0.3612	0.0483	-11.1475	0.2168	-0.5999	0.0408
4	150.12	0.8582	-0.2322	0.0172	0.4052	0.0563	-13.2216	0.2480	-0.8449	0.0374
4	150.12	0.9101	-0.2963	0.0203	0.4123	0.0628	-15.1350	0.2802	-0.8242	0.0453
4	150.12	0.9728	-0.3359	0.0236	0.4615	0.0707	-17.3924	0.3225	-0.4075	0.0497

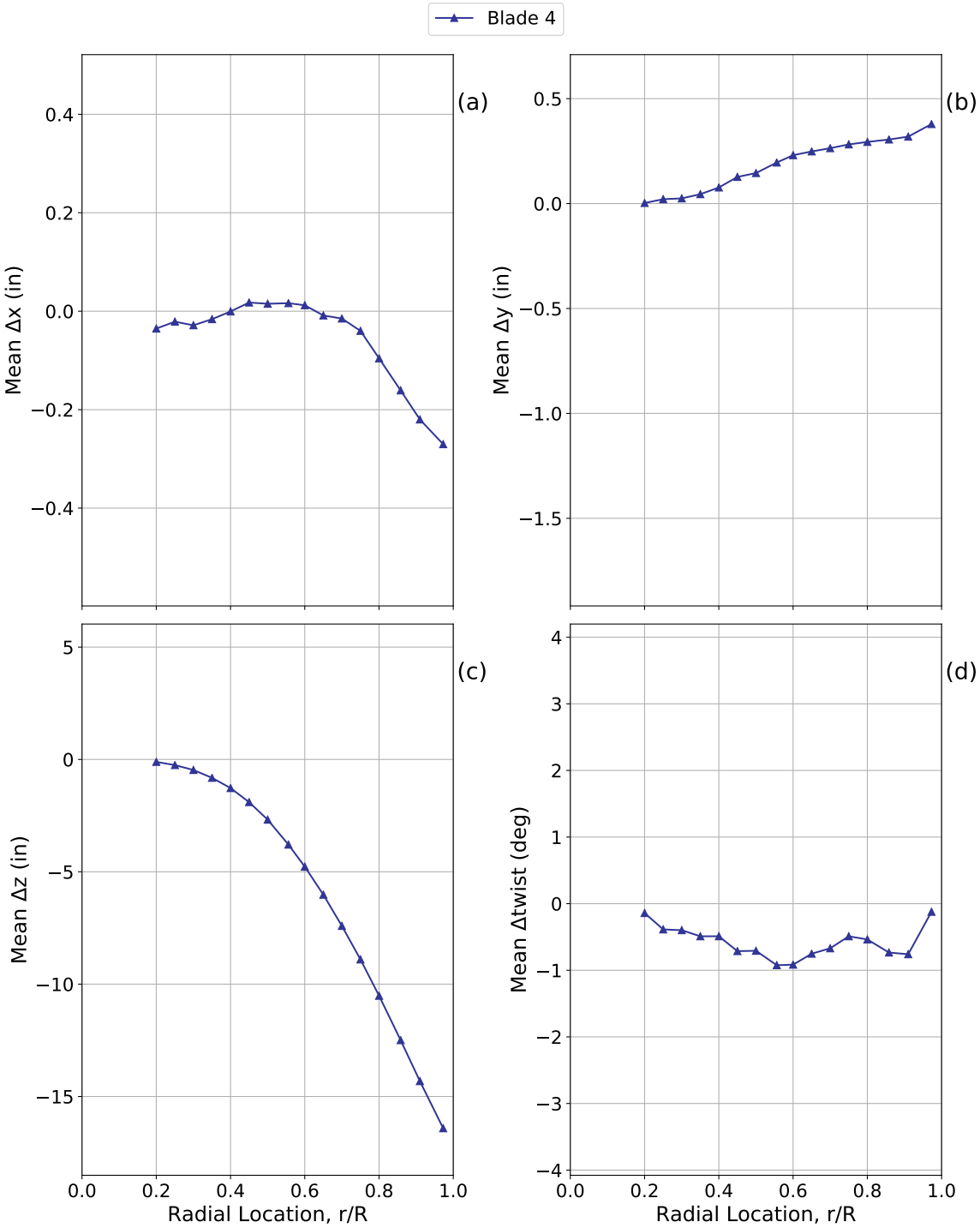


Figure 3.20-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0353	0.0015	0.0027	0.0009	-0.1097	0.0023	-0.1410	0.0171
4	164.88	0.2502	-0.0213	0.0017	0.0208	0.0024	-0.2519	0.0068	-0.3868	0.0503
4	164.88	0.3001	-0.0286	0.0019	0.0246	0.0034	-0.4693	0.0089	-0.3984	0.0441
4	164.88	0.3502	-0.0162	0.0010	0.0447	0.0067	-0.8187	0.0152	-0.4900	0.0357
4	164.88	0.4002	-0.0005	0.0018	0.0766	0.0100	-1.2757	0.0242	-0.4893	0.0501
4	164.88	0.4500	0.0176	0.0020	0.1269	0.0136	-1.9004	0.0339	-0.7128	0.0495
4	164.88	0.5001	0.0151	0.0027	0.1453	0.0170	-2.6809	0.0483	-0.7075	0.0482
4	164.88	0.5560	0.0163	0.0038	0.1955	0.0227	-3.7913	0.0666	-0.9241	0.0542
4	164.88	0.6001	0.0121	0.0041	0.2304	0.0272	-4.7747	0.0812	-0.9158	0.0478
4	164.88	0.6501	-0.0087	0.0060	0.2484	0.0335	-6.0213	0.1022	-0.7514	0.0440
4	164.88	0.6999	-0.0149	0.0075	0.2638	0.0397	-7.4093	0.1239	-0.6704	0.0575
4	164.88	0.7500	-0.0400	0.0096	0.2819	0.0467	-8.9019	0.1444	-0.4900	0.0547
4	164.88	0.8002	-0.0958	0.0128	0.2937	0.0540	-10.5196	0.1686	-0.5373	0.0481
4	164.88	0.8582	-0.1609	0.0165	0.3052	0.0635	-12.4951	0.2020	-0.7338	0.0450
4	164.88	0.9101	-0.2200	0.0201	0.3189	0.0715	-14.3180	0.2355	-0.7590	0.0475
4	164.88	0.9728	-0.2702	0.0236	0.3788	0.0823	-16.4152	0.2792	-0.1222	0.0547

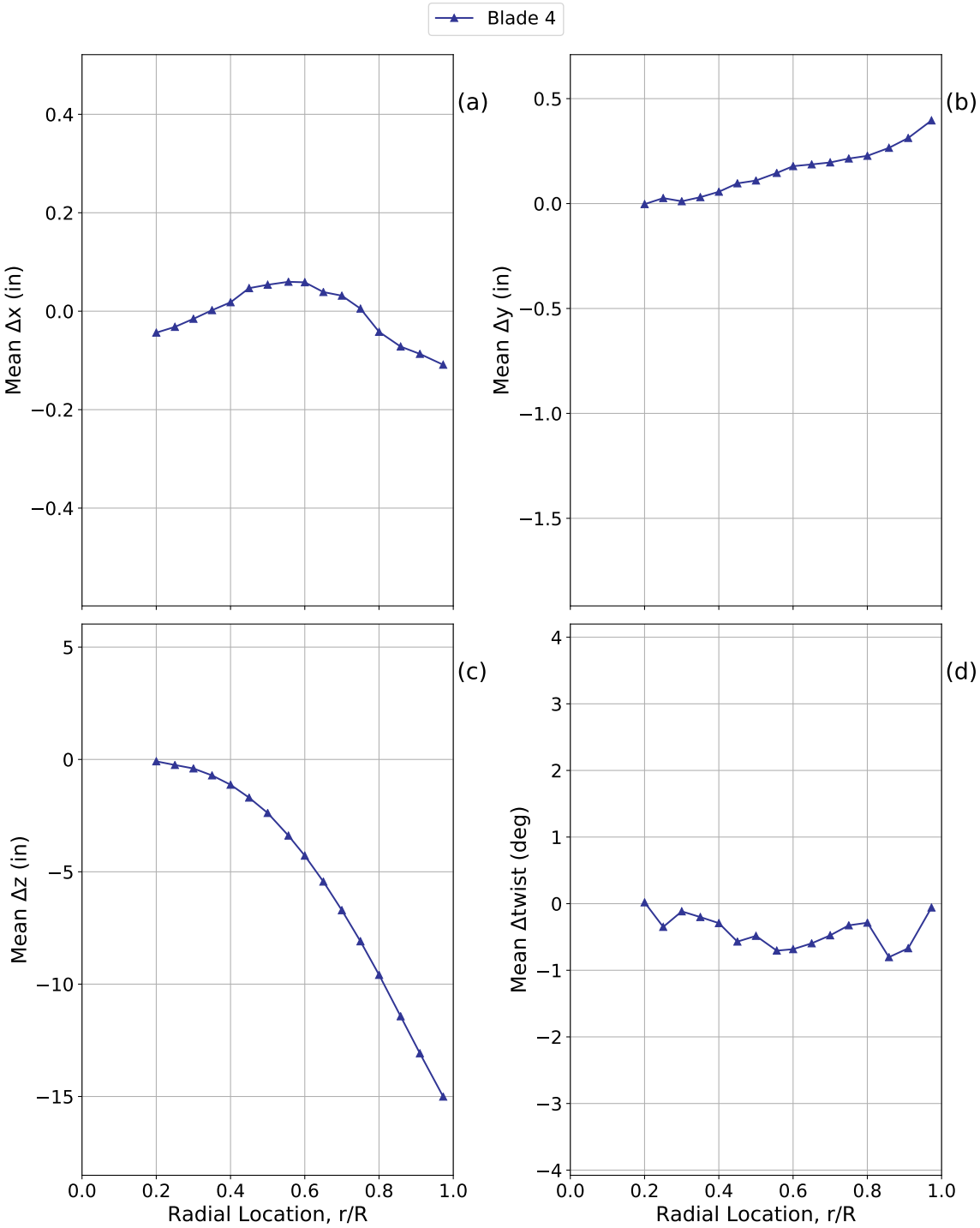


Figure 3.20-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0436	0.0043	-0.0028	0.0029	-0.0849	0.0093	0.0190	0.0414
4	170.16	0.2502	-0.0319	0.0046	0.0260	0.0036	-0.2465	0.0077	-0.3492	0.0696
4	170.16	0.3001	-0.0155	0.0016	0.0109	0.0080	-0.4015	0.0214	-0.1158	0.0533
4	170.16	0.3502	0.0020	0.0016	0.0304	0.0124	-0.7107	0.0302	-0.2016	0.0532
4	170.16	0.4002	0.0181	0.0030	0.0563	0.0179	-1.1266	0.0402	-0.2928	0.0590
4	170.16	0.4500	0.0468	0.0033	0.0963	0.0228	-1.6999	0.0483	-0.5700	0.0552
4	170.16	0.5001	0.0537	0.0048	0.1097	0.0304	-2.3832	0.0574	-0.4839	0.0514
4	170.16	0.5560	0.0597	0.0064	0.1458	0.0379	-3.3910	0.0680	-0.7054	0.0596
4	170.16	0.6001	0.0587	0.0082	0.1782	0.0440	-4.2841	0.0757	-0.6836	0.0657
4	170.16	0.6501	0.0389	0.0111	0.1866	0.0507	-5.4382	0.0831	-0.5956	0.0587
4	170.16	0.6999	0.0315	0.0139	0.1959	0.0559	-6.7130	0.0913	-0.4760	0.0600
4	170.16	0.7500	0.0052	0.0174	0.2145	0.0616	-8.0965	0.0997	-0.3256	0.0638
4	170.16	0.8002	-0.0420	0.0204	0.2274	0.0673	-9.5899	0.1073	-0.2862	0.0927
4	170.16	0.8582	-0.0719	0.0204	0.2654	0.0720	-11.4331	0.0715	-0.8035	0.9780
4	170.16	0.9101	-0.0868	0.0145	0.3124	0.1431	-13.0804	0.2847	-0.6698	0.0600
4	170.16	0.9728	-0.1088	0.0166	0.3960	0.1537	-15.0078	0.3039	-0.0587	0.0619

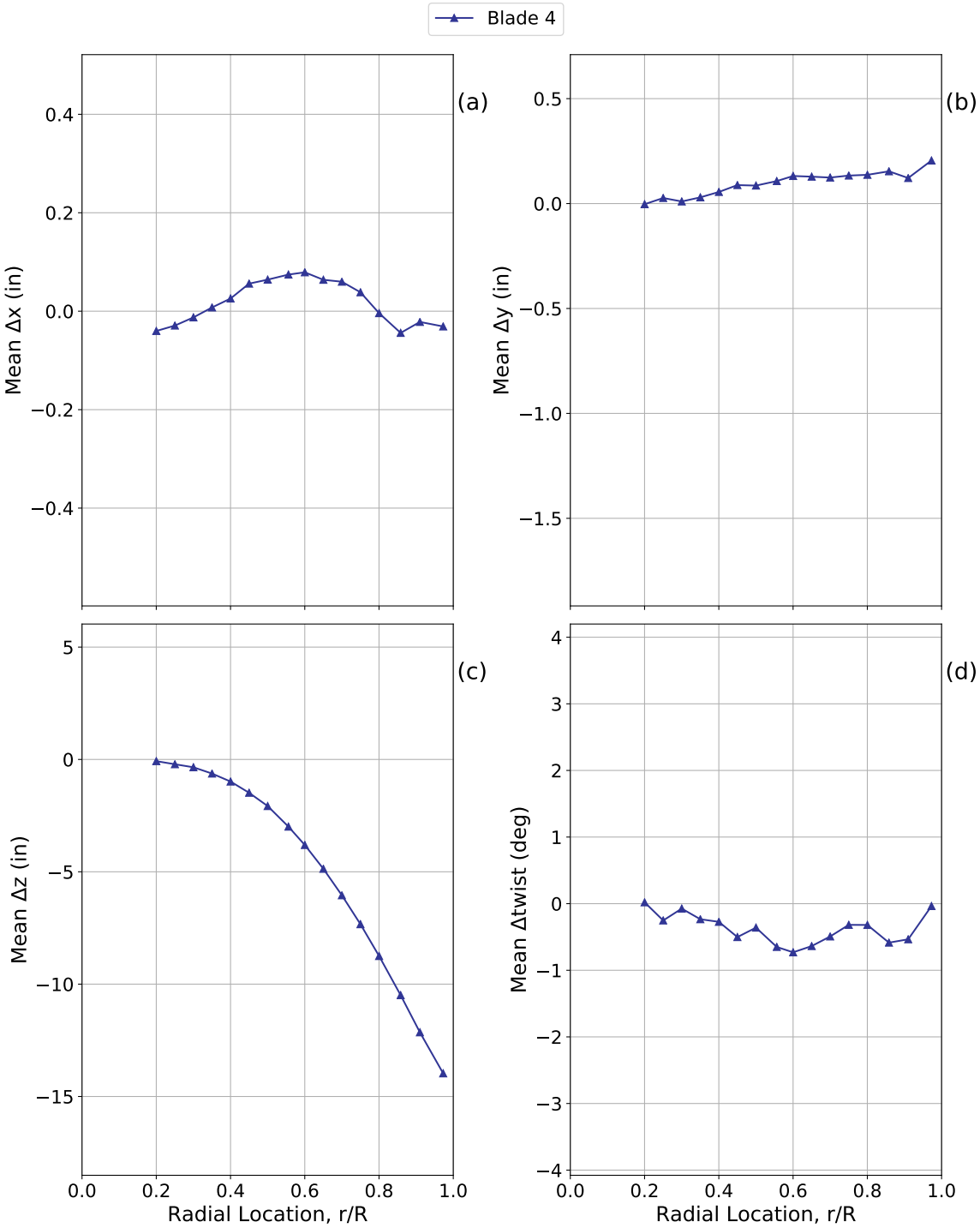


Figure 3.20-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0402	0.0027	-0.0031	0.0018	-0.0760	0.0054	0.0199	0.0327
4	175.08	0.2502	-0.0292	0.0037	0.0265	0.0037	-0.2134	0.0066	-0.2522	0.0451
4	175.08	0.3001	-0.0126	0.0021	0.0100	0.0069	-0.3486	0.0135	-0.0742	0.0506
4	175.08	0.3502	0.0076	0.0018	0.0296	0.0101	-0.6283	0.0181	-0.2337	0.0434
4	175.08	0.4002	0.0258	0.0025	0.0553	0.0168	-0.9846	0.0260	-0.2730	0.0531
4	175.08	0.4500	0.0560	0.0027	0.0880	0.0231	-1.4835	0.0337	-0.5018	0.0487
4	175.08	0.5001	0.0641	0.0031	0.0857	0.0293	-2.0751	0.0394	-0.3599	0.0486
4	175.08	0.5560	0.0744	0.0037	0.1071	0.0366	-2.9908	0.0497	-0.6499	0.0479
4	175.08	0.6001	0.0790	0.0039	0.1314	0.0421	-3.8082	0.0551	-0.7305	0.0494
4	175.08	0.6501	0.0638	0.0055	0.1282	0.0492	-4.8671	0.0646	-0.6369	0.0547
4	175.08	0.6999	0.0599	0.0079	0.1239	0.0567	-6.0459	0.0768	-0.4923	0.0565
4	175.08	0.7500	0.0384	0.0108	0.1334	0.0642	-7.3338	0.0911	-0.3183	0.0630
4	175.08	0.8002	-0.0040	0.0133	0.1369	0.0724	-8.7499	0.1116	-0.3198	0.0705
4	175.08	0.8582	-0.0441	0.0213	0.1537	0.0828	-10.4914	0.1354	-0.5853	0.0516
4	175.08	0.9101	-0.0218	0.0127	0.1217	0.1334	-12.1447	0.1316	-0.5350	0.0689
4	175.08	0.9728	-0.0310	0.0127	0.2051	0.1438	-13.9717	0.1543	-0.0361	0.0630

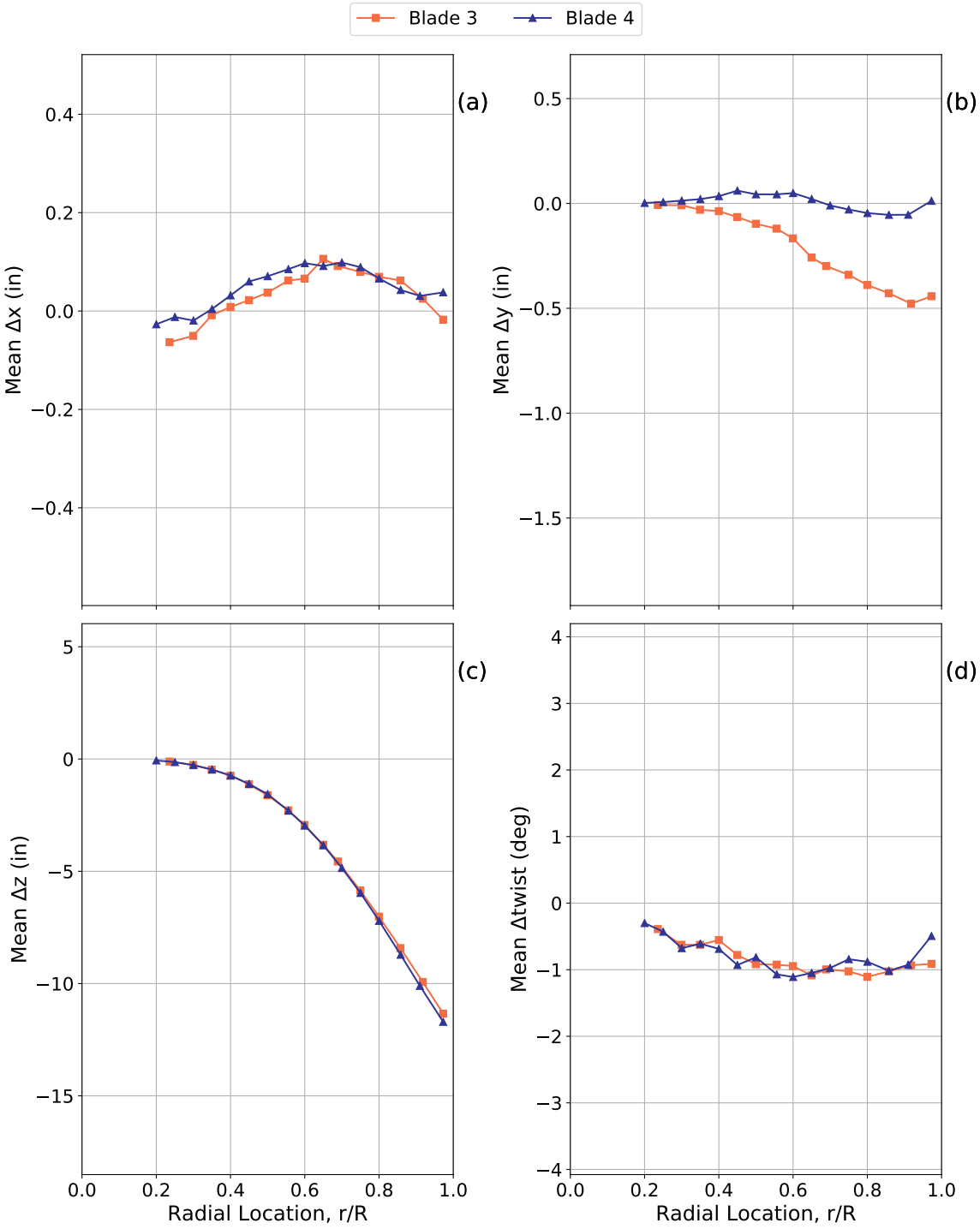


Figure 3.20-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0634	0.0038	-0.0076	0.0039	-0.1143	0.0109	-0.3897	0.1220
3	180.35	0.2995	-0.0504	0.0052	-0.0086	0.0088	-0.2662	0.0240	-0.6260	0.1979
3	180.35	0.3493	-0.0086	0.0052	-0.0300	0.0164	-0.4736	0.0435	-0.6262	0.1823
3	180.35	0.4000	0.0083	0.0050	-0.0367	0.0251	-0.7439	0.0671	-0.5545	0.1890
3	180.35	0.4497	0.0220	0.0054	-0.0649	0.0313	-1.1253	0.0867	-0.7790	0.1803
3	180.35	0.4997	0.0374	0.0052	-0.0969	0.0378	-1.6151	0.1082	-0.9168	0.1902
3	180.35	0.5556	0.0620	0.0053	-0.1201	0.0469	-2.2878	0.1351	-0.9243	0.1796
3	180.35	0.5995	0.0658	0.0065	-0.1666	0.0525	-2.9366	0.1508	-0.9457	0.1963
3	180.35	0.6498	0.1061	0.0073	-0.2578	0.0612	-3.8204	0.1730	-1.0851	0.1858
3	180.35	0.6890	0.0915	0.0086	-0.2984	0.0668	-4.5646	0.1918	-0.9954	0.1839
3	180.35	0.7495	0.0796	0.0112	-0.3402	0.0778	-5.8554	0.2213	-1.0244	0.1773
3	180.35	0.7998	0.0696	0.0136	-0.3887	0.0884	-7.0189	0.2512	-1.1065	0.1870
3	180.35	0.8577	0.0621	0.0174	-0.4282	0.1004	-8.4212	0.2923	-1.0261	0.1804
3	180.35	0.9178	0.0251	0.0216	-0.4776	0.1140	-9.9316	0.3423	-0.9330	0.1805
3	180.35	0.9729	-0.0177	0.0258	-0.4424	0.1269	-11.3395	0.3961	-0.9125	0.1757
4	180	0.2001	-0.0270	0.0039	0.0024	0.0036	-0.0637	0.0062	-0.2994	0.0535
4	180	0.2502	-0.0122	0.0051	0.0064	0.0043	-0.1390	0.0105	-0.4296	0.0867
4	180	0.3001	-0.0194	0.0042	0.0134	0.0113	-0.2742	0.0174	-0.6766	0.1108
4	180	0.3502	0.0041	0.0038	0.0205	0.0198	-0.4687	0.0297	-0.6095	0.0980
4	180	0.4002	0.0318	0.0031	0.0348	0.0284	-0.7347	0.0432	-0.6871	0.1151
4	180	0.4500	0.0600	0.0039	0.0610	0.0347	-1.1125	0.0552	-0.9298	0.1005
4	180	0.5001	0.0707	0.0040	0.0434	0.0426	-1.5662	0.0743	-0.8133	0.0958
4	180	0.5560	0.0851	0.0051	0.0434	0.0516	-2.3028	0.0968	-1.0701	0.1068
4	180	0.6001	0.0972	0.0059	0.0494	0.0576	-2.9677	0.1138	-1.1094	0.1148
4	180	0.6501	0.0915	0.0066	0.0211	0.0648	-3.8459	0.1418	-1.0487	0.1063
4	180	0.6999	0.0985	0.0090	-0.0097	0.0732	-4.8531	0.1654	-0.9741	0.0986
4	180	0.7500	0.0891	0.0112	-0.0289	0.0810	-5.9662	0.1956	-0.8419	0.1151
4	180	0.8002	0.0660	0.0136	-0.0460	0.0907	-7.2094	0.2342	-0.8809	0.1039
4	180	0.8582	0.0427	0.0181	-0.0545	0.0999	-8.7178	0.2770	-1.0161	0.1117
4	180	0.9101	0.0307	0.0203	-0.0540	0.1093	-10.1040	0.3229	-0.9265	0.1092
4	180	0.9728	0.0379	0.0262	0.0124	0.1200	-11.7053	0.3830	-0.4935	0.1146

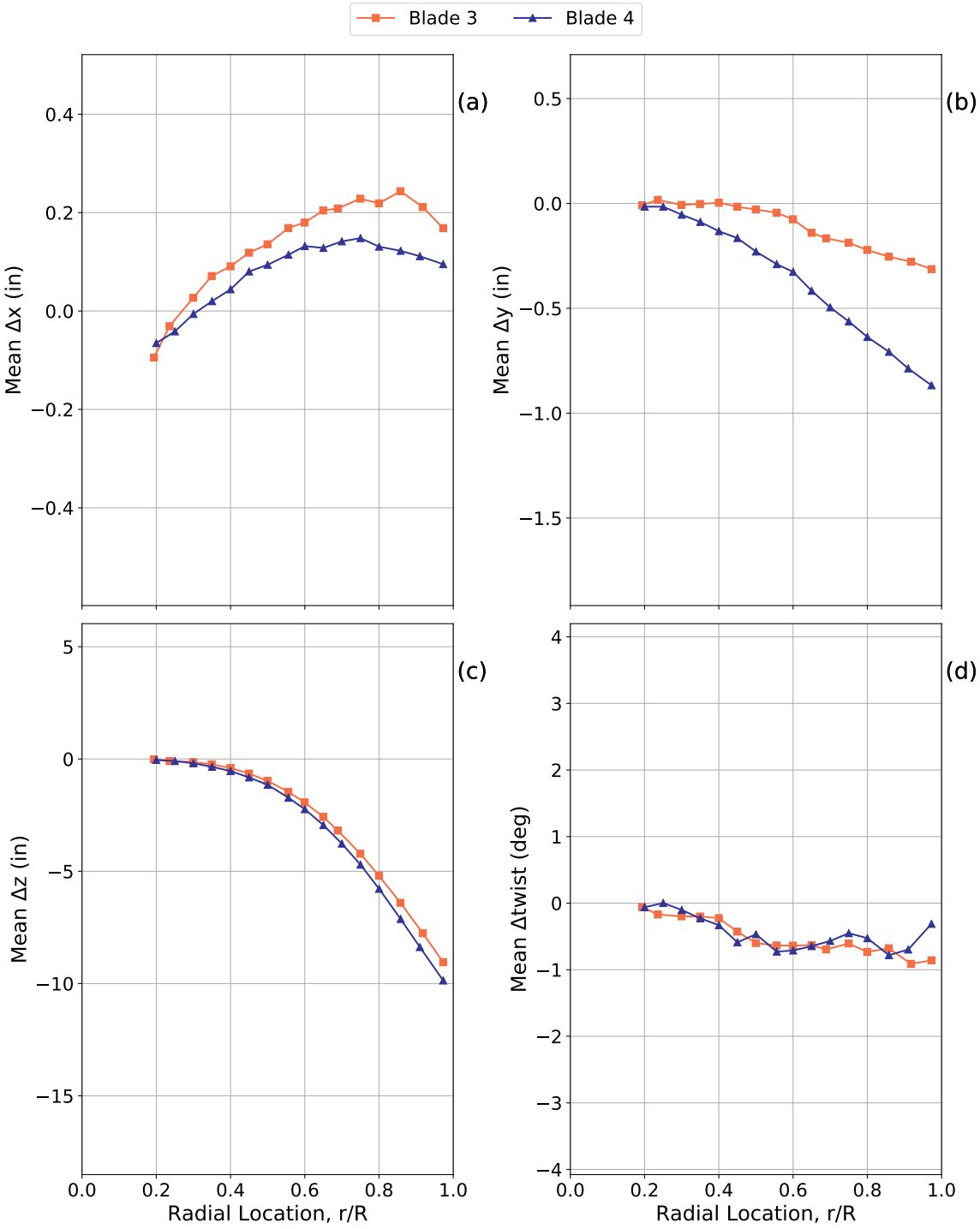


Figure 3.20-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0947	0.0129	-0.0089	0.0121	-0.0126	0.0128	-0.0595	0.0275
3	184.92	0.2357	-0.0308	0.0044	0.0169	0.0048	-0.0912	0.0102	-0.1706	0.0312
3	184.92	0.2995	0.0268	0.0043	-0.0071	0.0339	-0.1372	0.0314	-0.1980	0.0494
3	184.92	0.3493	0.0710	0.0047	-0.0026	0.0599	-0.2360	0.0506	-0.2008	0.0425
3	184.92	0.4000	0.0908	0.0056	0.0037	0.0846	-0.4011	0.0697	-0.2254	0.0466
3	184.92	0.4497	0.1186	0.0067	-0.0159	0.1083	-0.6460	0.0880	-0.4281	0.0435
3	184.92	0.4997	0.1356	0.0075	-0.0290	0.1323	-0.9742	0.1073	-0.5999	0.0439
3	184.92	0.5556	0.1686	0.0094	-0.0441	0.1587	-1.4576	0.1284	-0.6359	0.0477
3	184.92	0.5995	0.1798	0.0106	-0.0756	0.1801	-1.9289	0.1437	-0.6375	0.0431
3	184.92	0.6498	0.2044	0.0127	-0.1399	0.2050	-2.5760	0.1648	-0.6316	0.0559
3	184.92	0.6890	0.2084	0.0142	-0.1665	0.2241	-3.1829	0.1801	-0.6961	0.0511
3	184.92	0.7495	0.2284	0.0169	-0.1871	0.2548	-4.2182	0.2058	-0.6058	0.0560
3	184.92	0.7998	0.2188	0.0186	-0.2218	0.2795	-5.1963	0.2266	-0.7333	0.0574
3	184.92	0.8577	0.2435	0.0204	-0.2539	0.3075	-6.4042	0.2553	-0.6779	0.0497
3	184.92	0.9178	0.2113	0.0239	-0.2781	0.3376	-7.7571	0.2826	-0.9123	0.0614
3	184.92	0.9729	0.1684	0.0353	-0.3134	0.3636	-9.0493	0.3108	-0.8595	0.0729
4	184.92	0.2001	-0.0652	0.0105	-0.0154	0.0105	-0.0427	0.0233	-0.0625	0.1233
4	184.92	0.2502	-0.0415	0.0024	-0.0154	0.0116	-0.0904	0.0264	0.0020	0.2341
4	184.92	0.3001	-0.0060	0.0014	-0.0539	0.0234	-0.1919	0.0422	-0.1028	0.1298
4	184.92	0.3502	0.0200	0.0023	-0.0884	0.0346	-0.3480	0.0499	-0.2289	0.1344
4	184.92	0.4002	0.0441	0.0019	-0.1323	0.0453	-0.5376	0.0548	-0.3314	0.1257
4	184.92	0.4500	0.0803	0.0028	-0.1652	0.0566	-0.8217	0.0597	-0.5883	0.1280
4	184.92	0.5001	0.0940	0.0048	-0.2295	0.0688	-1.1503	0.0638	-0.4672	0.1251
4	184.92	0.5560	0.1144	0.0065	-0.2896	0.0823	-1.7241	0.0691	-0.7284	0.1240
4	184.92	0.6001	0.1319	0.0078	-0.3263	0.0921	-2.2366	0.0736	-0.7117	0.1236
4	184.92	0.6501	0.1282	0.0096	-0.4167	0.1046	-2.9448	0.0808	-0.6461	0.1131
4	184.92	0.6999	0.1416	0.0115	-0.4956	0.1175	-3.7699	0.0898	-0.5684	0.1163
4	184.92	0.7500	0.1481	0.0139	-0.5629	0.1308	-4.7063	0.1015	-0.4518	0.1197
4	184.92	0.8002	0.1308	0.0162	-0.6367	0.1446	-5.7809	0.1166	-0.5269	0.1206
4	184.92	0.8582	0.1223	0.0193	-0.7077	0.1624	-7.1267	0.1309	-0.7820	0.1159
4	184.92	0.9101	0.1113	0.0216	-0.7870	0.1773	-8.3771	0.1455	-0.6974	0.1167
4	184.92	0.9728	0.0952	0.0260	-0.8672	0.1951	-9.8638	0.1684	-0.3113	0.1207

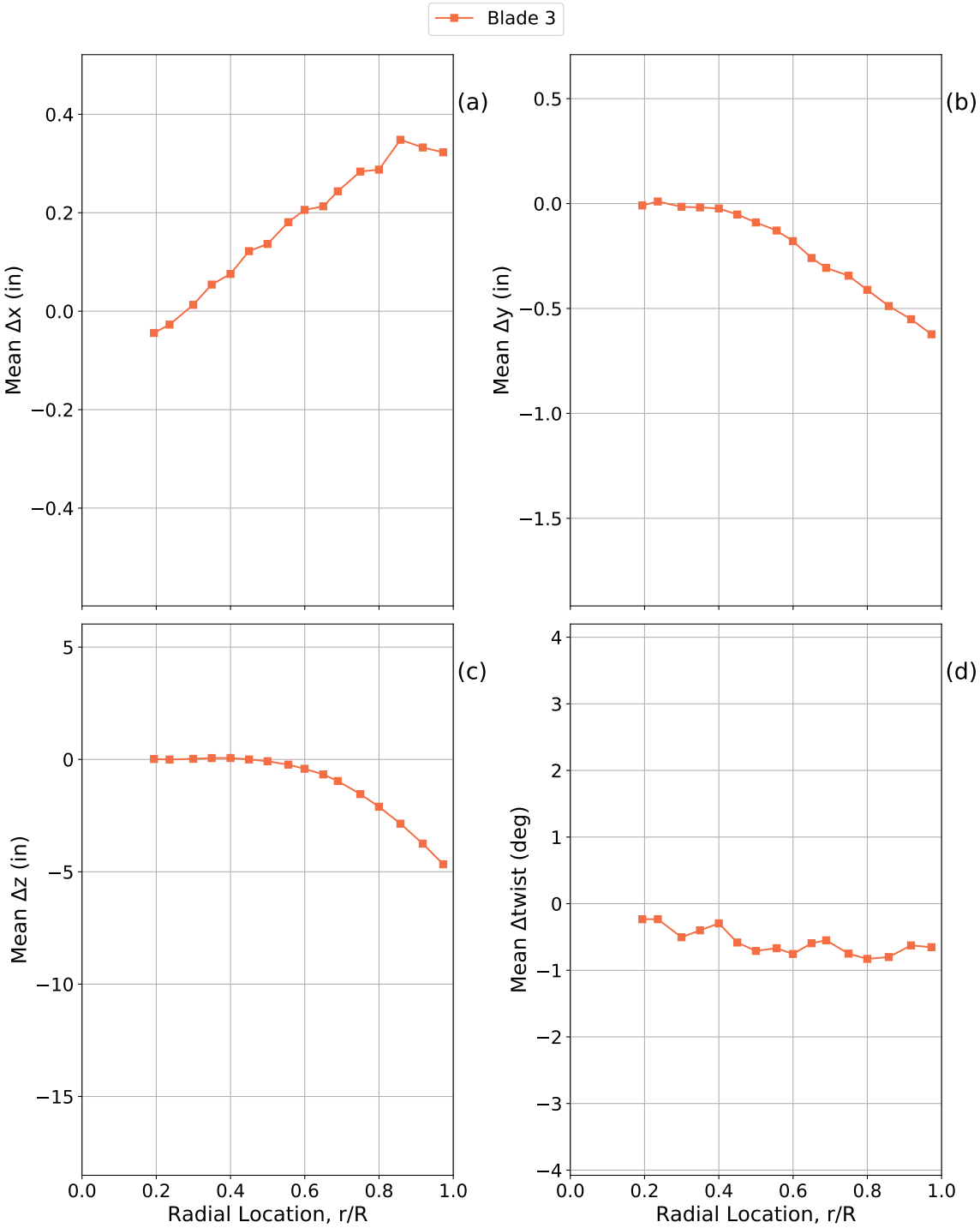


Figure 3.20-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0442	0.0016	-0.0090	0.0011	0.0188	0.0035	-0.2337	0.0185
3	195.12	0.2357	-0.0272	0.0007	0.0098	0.0013	-0.0039	0.0068	-0.2328	0.0231
3	195.12	0.2995	0.0129	0.0007	-0.0154	0.0035	0.0272	0.0139	-0.5043	0.0381
3	195.12	0.3493	0.0541	0.0010	-0.0183	0.0053	0.0619	0.0255	-0.4007	0.0341
3	195.12	0.4000	0.0757	0.0016	-0.0233	0.0081	0.0645	0.0385	-0.2951	0.0383
3	195.12	0.4497	0.1220	0.0013	-0.0522	0.0102	0.0001	0.0562	-0.5832	0.0372
3	195.12	0.4997	0.1366	0.0010	-0.0900	0.0130	-0.0795	0.0771	-0.7095	0.0373
3	195.12	0.5556	0.1808	0.0020	-0.1285	0.0156	-0.2304	0.1008	-0.6688	0.0516
3	195.12	0.5995	0.2058	0.0014	-0.1789	0.0182	-0.4150	0.1215	-0.7554	0.0564
3	195.12	0.6498	0.2130	0.0019	-0.2593	0.0215	-0.6673	0.1443	-0.5944	0.0580
3	195.12	0.6890	0.2436	0.0019	-0.3064	0.0238	-0.9604	0.1626	-0.5503	0.0561
3	195.12	0.7495	0.2837	0.0032	-0.3438	0.0276	-1.5428	0.1903	-0.7503	0.0416
3	195.12	0.7998	0.2876	0.0037	-0.4112	0.0315	-2.1050	0.2158	-0.8293	0.0588
3	195.12	0.8577	0.3483	0.0044	-0.4884	0.0358	-2.8587	0.2463	-0.8014	0.0783
3	195.12	0.9178	0.3326	0.0063	-0.5512	0.0376	-3.7482	0.2716	-0.6264	0.0955
3	195.12	0.9729	0.3228	0.0068	-0.6230	0.0441	-4.6646	0.3025	-0.6533	0.0766

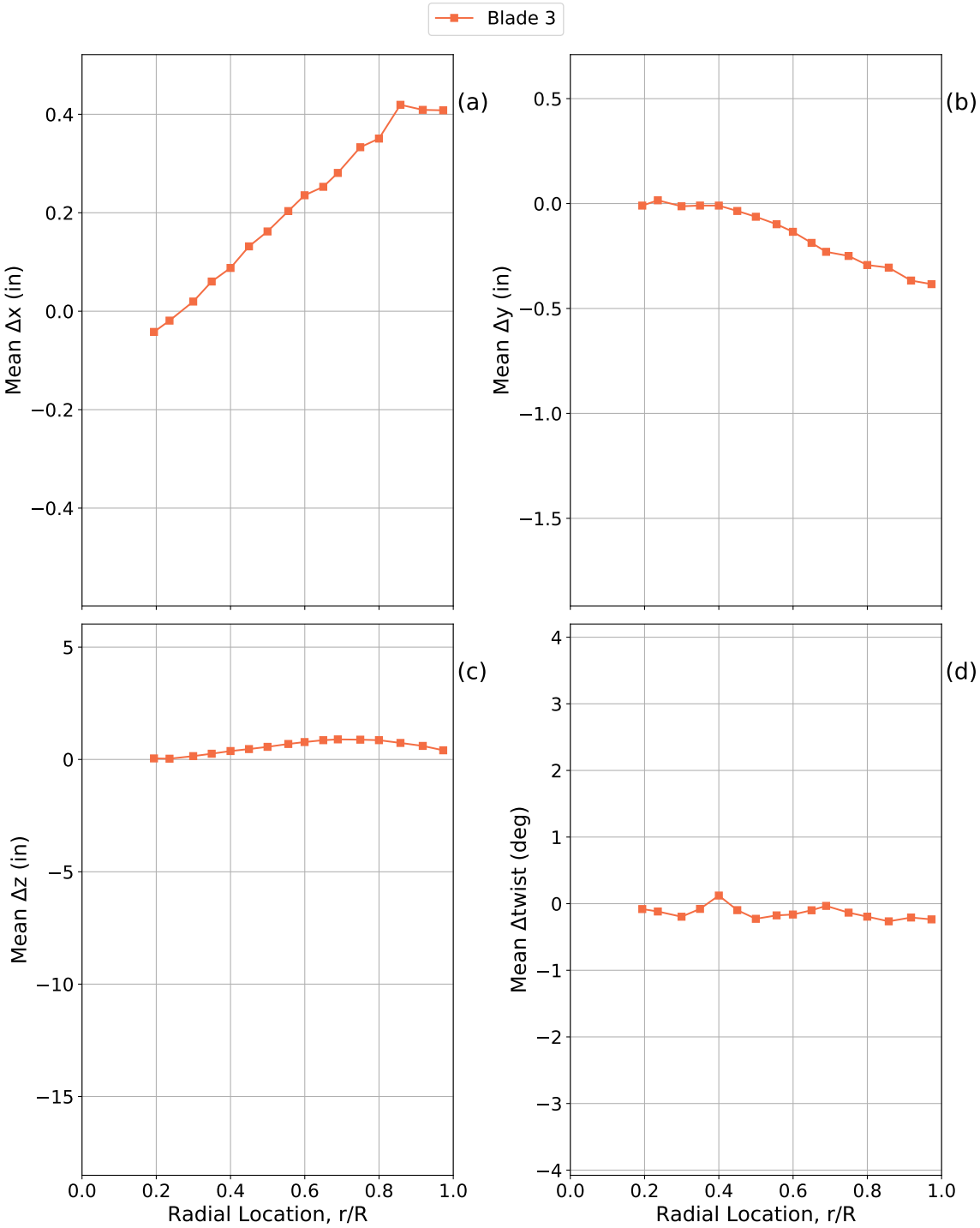


Figure 3.20-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0421	0.0014	-0.0097	0.0009	0.0459	0.0034	-0.0809	0.0194
3	209.88	0.2357	-0.0191	0.0008	0.0155	0.0010	0.0337	0.0059	-0.1176	0.0273
3	209.88	0.2995	0.0196	0.0010	-0.0129	0.0034	0.1479	0.0139	-0.1960	0.0349
3	209.88	0.3493	0.0603	0.0013	-0.0095	0.0051	0.2551	0.0199	-0.0785	0.0369
3	209.88	0.4000	0.0879	0.0023	-0.0097	0.0082	0.3741	0.0337	0.1218	0.0552
3	209.88	0.4497	0.1317	0.0025	-0.0353	0.0092	0.4620	0.0412	-0.0973	0.0408
3	209.88	0.4997	0.1620	0.0030	-0.0629	0.0126	0.5609	0.0560	-0.2273	0.0436
3	209.88	0.5556	0.2034	0.0024	-0.0985	0.0157	0.6889	0.0760	-0.1760	0.0573
3	209.88	0.5995	0.2355	0.0031	-0.1346	0.0187	0.7739	0.0935	-0.1630	0.0502
3	209.88	0.6498	0.2527	0.0027	-0.1874	0.0231	0.8570	0.1153	-0.0992	0.0441
3	209.88	0.6890	0.2809	0.0016	-0.2300	0.0248	0.8925	0.1398	-0.0335	0.0541
3	209.88	0.7495	0.3331	0.0028	-0.2496	0.0310	0.8805	0.1702	-0.1347	0.0430
3	209.88	0.7998	0.3507	0.0025	-0.2929	0.0348	0.8578	0.2014	-0.1952	0.0388
3	209.88	0.8577	0.4193	0.0025	-0.3054	0.0402	0.7346	0.2402	-0.2652	0.0565
3	209.88	0.9178	0.4090	0.0028	-0.3669	0.0460	0.6021	0.2780	-0.2080	0.0238
3	209.88	0.9729	0.4081	0.0040	-0.3840	0.0514	0.4072	0.3174	-0.2360	0.0319

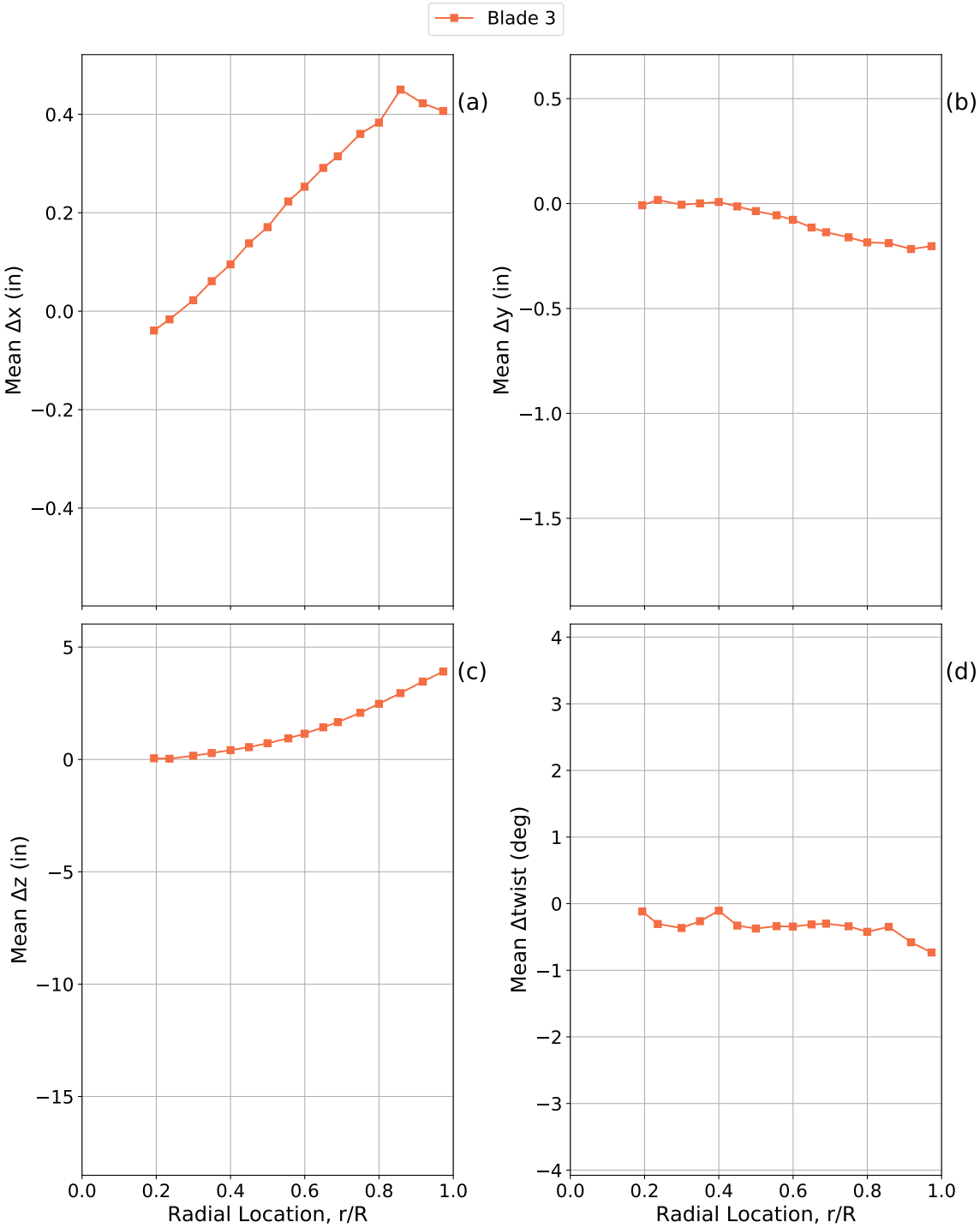


Figure 3.20-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0393	0.0022	-0.0079	0.0015	0.0532	0.0039	-0.1169	0.0228
3	225	0.2357	-0.0166	0.0014	0.0171	0.0020	0.0328	0.0074	-0.3051	0.0420
3	225	0.2995	0.0222	0.0013	-0.0056	0.0057	0.1639	0.0135	-0.3655	0.0584
3	225	0.3493	0.0610	0.0018	0.0009	0.0094	0.2859	0.0260	-0.2632	0.0487
3	225	0.4000	0.0952	0.0018	0.0075	0.0147	0.4137	0.0373	-0.1056	0.0564
3	225	0.4497	0.1379	0.0021	-0.0137	0.0194	0.5461	0.0491	-0.3286	0.0651
3	225	0.4997	0.1708	0.0031	-0.0360	0.0260	0.7219	0.0669	-0.3732	0.0615
3	225	0.5556	0.2230	0.0022	-0.0556	0.0342	0.9397	0.0877	-0.3385	0.0487
3	225	0.5995	0.2529	0.0040	-0.0775	0.0408	1.1465	0.1014	-0.3433	0.0705
3	225	0.6498	0.2911	0.0044	-0.1142	0.0511	1.4283	0.1206	-0.3121	0.0649
3	225	0.6890	0.3147	0.0047	-0.1367	0.0583	1.6609	0.1349	-0.2998	0.0621
3	225	0.7495	0.3603	0.0062	-0.1609	0.0718	2.0767	0.1545	-0.3397	0.0527
3	225	0.7998	0.3831	0.0065	-0.1850	0.0826	2.4765	0.1723	-0.4225	0.0630
3	225	0.8577	0.4501	0.0075	-0.1886	0.0961	2.9518	0.1945	-0.3481	0.0679
3	225	0.9178	0.4223	0.0087	-0.2166	0.1099	3.4657	0.2179	-0.5795	0.0609
3	225	0.9729	0.4067	0.0132	-0.2031	0.1235	3.9124	0.2378	-0.7327	0.0691

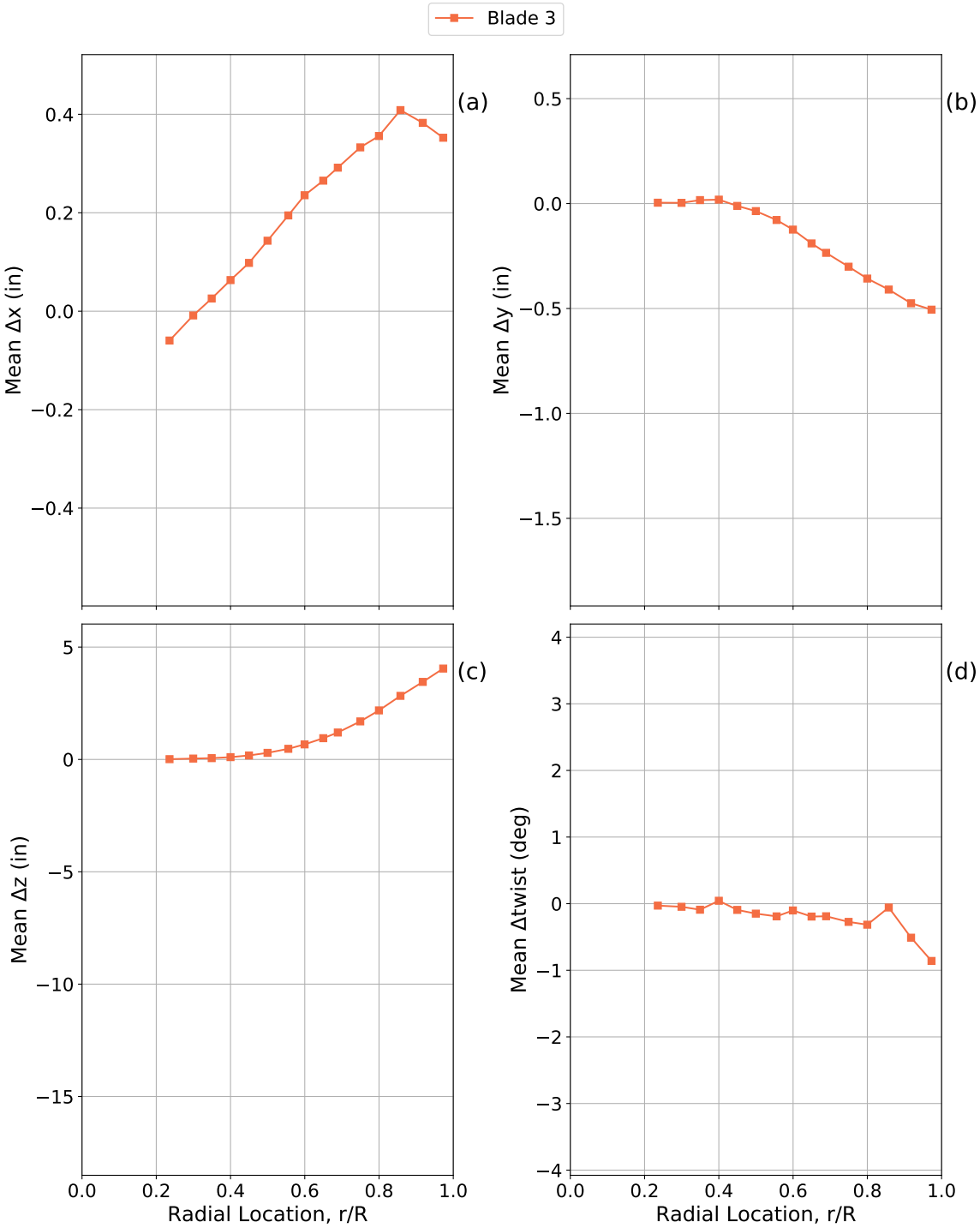


Figure 3.20-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0596	0.0027	0.0041	0.0019	0.0126	0.0085	-0.0292	0.0705
3	240.12	0.2995	-0.0086	0.0014	0.0034	0.0048	0.0393	0.0169	-0.0468	0.1133
3	240.12	0.3493	0.0258	0.0015	0.0165	0.0080	0.0583	0.0302	-0.0910	0.1158
3	240.12	0.4000	0.0632	0.0011	0.0187	0.0129	0.1023	0.0448	0.0436	0.1024
3	240.12	0.4497	0.0981	0.0018	-0.0112	0.0170	0.1779	0.0588	-0.0938	0.1017
3	240.12	0.4997	0.1432	0.0019	-0.0359	0.0211	0.2929	0.0722	-0.1497	0.1108
3	240.12	0.5556	0.1946	0.0022	-0.0783	0.0248	0.4732	0.0874	-0.1908	0.1070
3	240.12	0.5995	0.2356	0.0024	-0.1241	0.0289	0.6701	0.0990	-0.1020	0.1061
3	240.12	0.6498	0.2652	0.0026	-0.1899	0.0329	0.9459	0.1106	-0.1936	0.1162
3	240.12	0.6890	0.2916	0.0026	-0.2348	0.0362	1.1992	0.1194	-0.1891	0.1115
3	240.12	0.7495	0.3328	0.0029	-0.3008	0.0418	1.6925	0.1344	-0.2736	0.1046
3	240.12	0.7998	0.3559	0.0035	-0.3574	0.0461	2.1823	0.1436	-0.3156	0.1144
3	240.12	0.8577	0.4085	0.0042	-0.4098	0.0516	2.8303	0.1600	-0.0578	0.1103
3	240.12	0.9178	0.3826	0.0052	-0.4751	0.0574	3.4511	0.1781	-0.5107	0.1034
3	240.12	0.9729	0.3524	0.0071	-0.5056	0.0630	4.0450	0.1950	-0.8600	0.1054

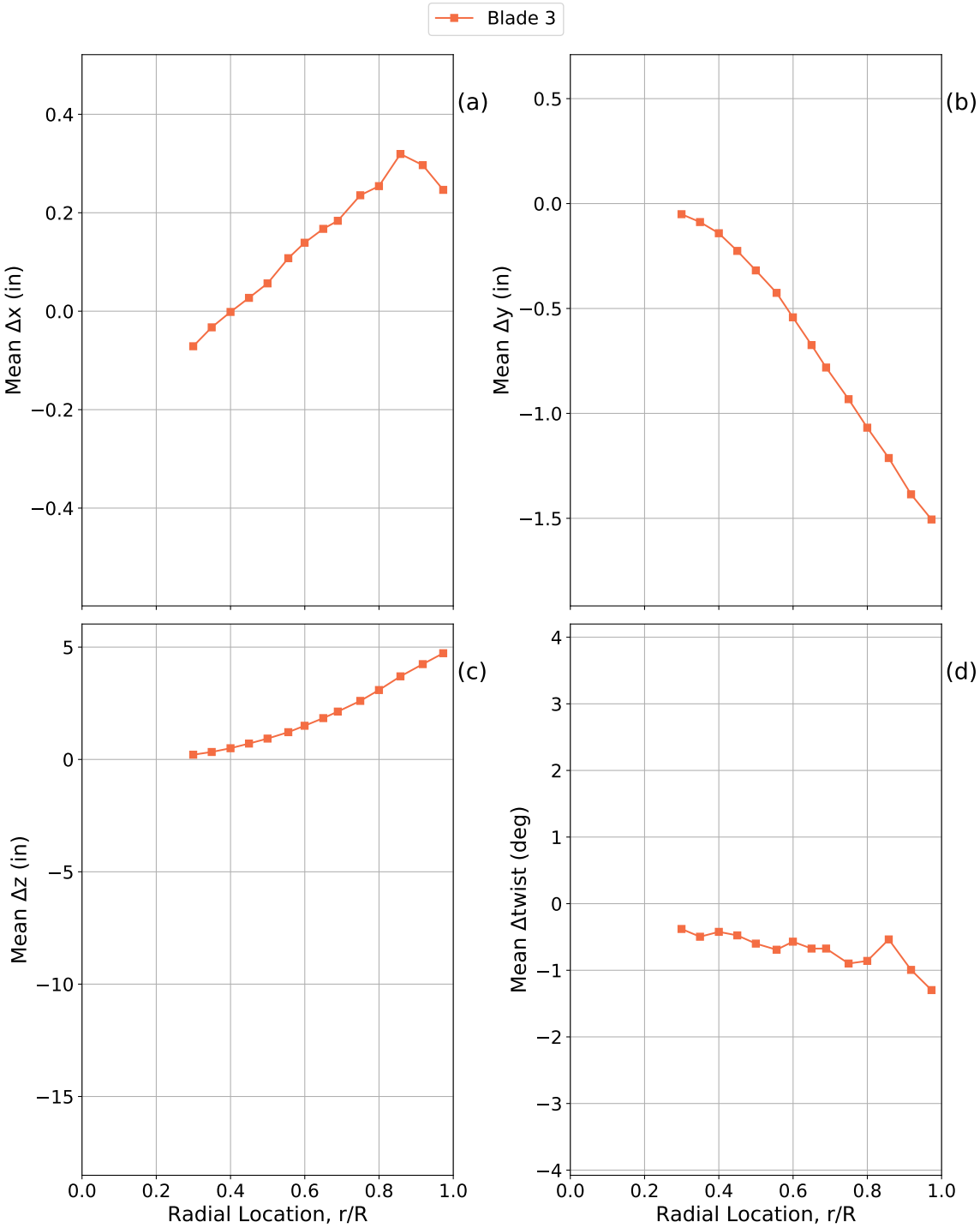


Figure 3.20-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.0712	0.0100	-0.0507	0.0201	0.2115	0.0678	-0.3798	0.1829
3	254.88	0.3493	-0.0328	0.0074	-0.0881	0.0348	0.3323	0.1056	-0.4963	0.2397
3	254.88	0.4000	-0.0015	0.0090	-0.1414	0.0557	0.4995	0.1578	-0.4232	0.2262
3	254.88	0.4497	0.0271	0.0099	-0.2256	0.0728	0.7071	0.2043	-0.4762	0.2286
3	254.88	0.4997	0.0565	0.0112	-0.3185	0.0913	0.9282	0.2538	-0.5995	0.2161
3	254.88	0.5556	0.1077	0.0130	-0.4256	0.1123	1.2134	0.3058	-0.6914	0.2220
3	254.88	0.5995	0.1391	0.0146	-0.5422	0.1281	1.4997	0.3469	-0.5706	0.2194
3	254.88	0.6498	0.1673	0.0154	-0.6743	0.1466	1.8392	0.3920	-0.6743	0.2242
3	254.88	0.6890	0.1837	0.0167	-0.7814	0.1613	2.1307	0.4278	-0.6742	0.2245
3	254.88	0.7495	0.2355	0.0186	-0.9322	0.1827	2.6058	0.4825	-0.8988	0.2265
3	254.88	0.7998	0.2541	0.0199	-1.0680	0.2011	3.0893	0.5282	-0.8595	0.2228
3	254.88	0.8577	0.3194	0.0223	-1.2127	0.2224	3.6984	0.5820	-0.5367	0.2165
3	254.88	0.9178	0.2967	0.0246	-1.3857	0.2447	4.2418	0.6364	-0.9943	0.2258
3	254.88	0.9729	0.2465	0.0330	-1.5055	0.2645	4.7280	0.6882	-1.2976	0.2228

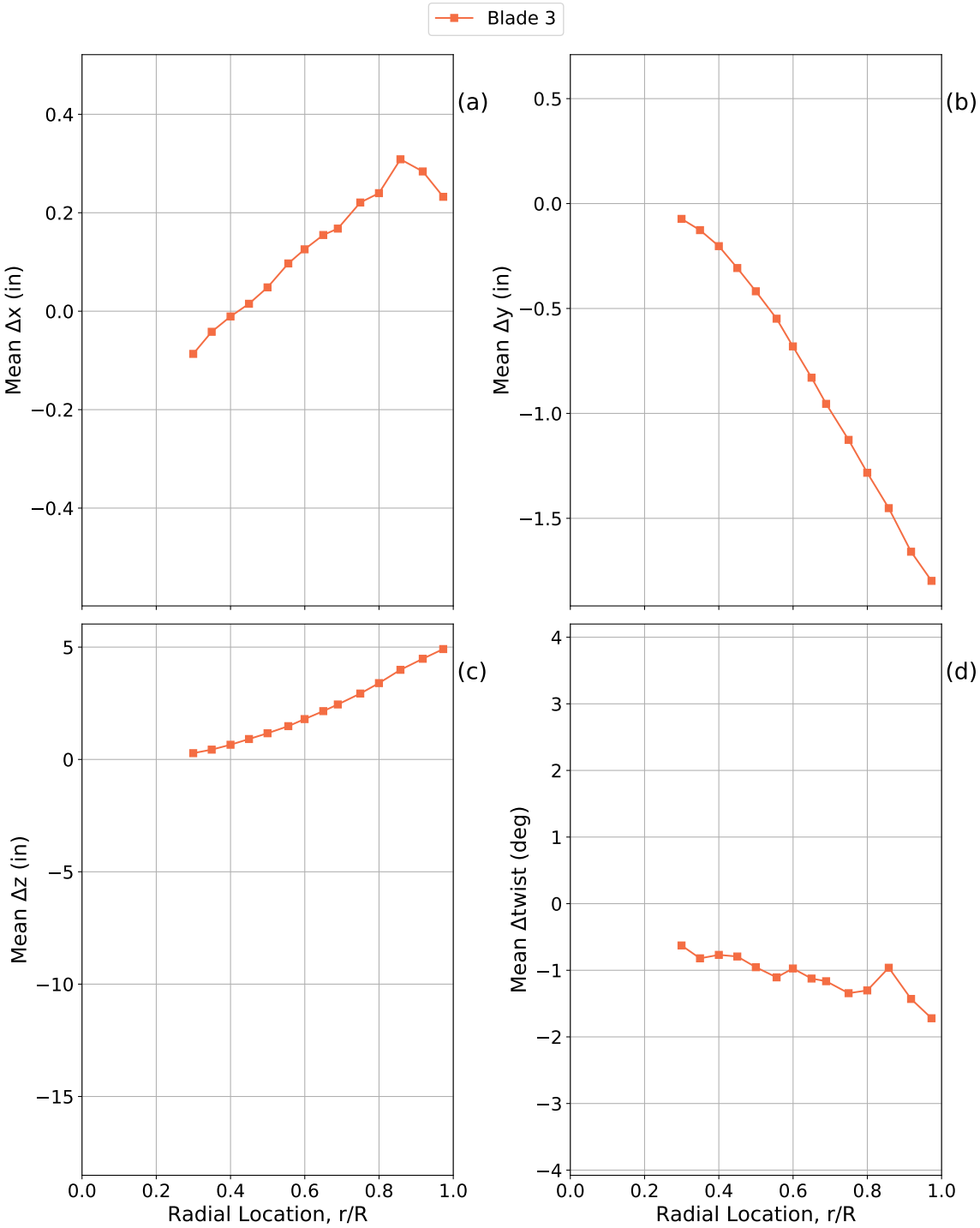


Figure 3.20-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2995	-0.0867	0.0114	-0.0730	0.0165	0.2798	0.1073	-0.6275	0.3334
3	260.16	0.3493	-0.0418	0.0089	-0.1266	0.0287	0.4371	0.1694	-0.8208	0.4369
3	260.16	0.4000	-0.0107	0.0118	-0.2029	0.0460	0.6544	0.2554	-0.7689	0.4243
3	260.16	0.4497	0.0151	0.0133	-0.3072	0.0620	0.9085	0.3371	-0.7932	0.4017
3	260.16	0.4997	0.0484	0.0158	-0.4180	0.0787	1.1659	0.4193	-0.9539	0.4105
3	260.16	0.5556	0.0970	0.0184	-0.5487	0.0969	1.4815	0.5134	-1.1064	0.4060
3	260.16	0.5995	0.1257	0.0209	-0.6807	0.1106	1.7967	0.5858	-0.9731	0.4104
3	260.16	0.6498	0.1548	0.0234	-0.8298	0.1268	2.1499	0.6688	-1.1241	0.4118
3	260.16	0.6890	0.1678	0.0256	-0.9544	0.1396	2.4473	0.7337	-1.1643	0.4087
3	260.16	0.7495	0.2208	0.0292	-1.1261	0.1590	2.9329	0.8326	-1.3441	0.4074
3	260.16	0.7998	0.2398	0.0318	-1.2829	0.1747	3.3972	0.9134	-1.3024	0.4075
3	260.16	0.8577	0.3086	0.0353	-1.4515	0.1925	3.9895	1.0064	-0.9618	0.4048
3	260.16	0.9178	0.2839	0.0398	-1.6591	0.2122	4.4811	1.1046	-1.4304	0.4013
3	260.16	0.9729	0.2324	0.0501	-1.7980	0.2295	4.9124	1.1930	-1.7204	0.4025

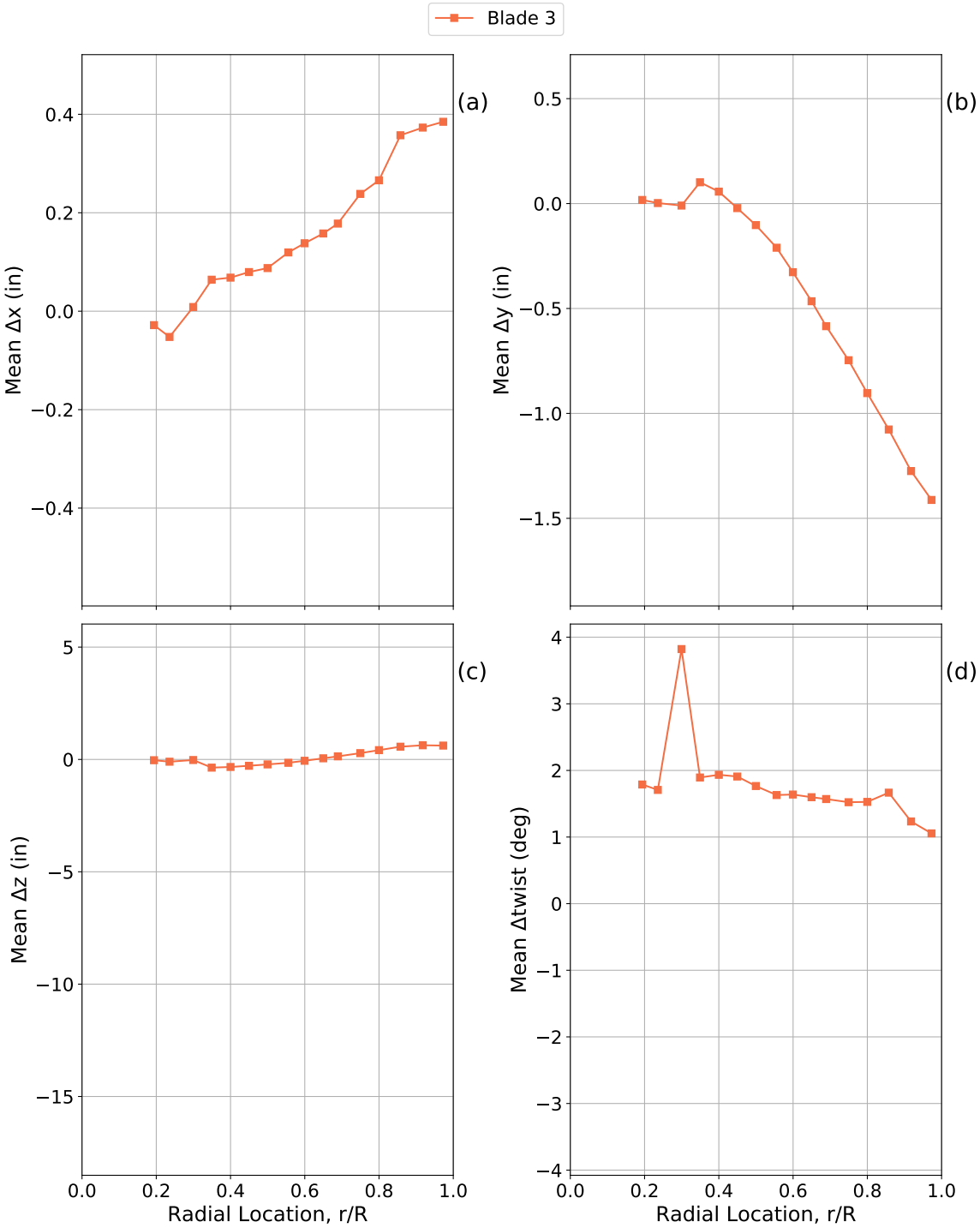


Figure 3.20-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0283	0.0030	0.0171	0.0025	-0.0337	0.0064	1.7889	0.1144
3	265.08	0.2357	-0.0523	0.0031	0.0024	0.0024	-0.1008	0.0098	1.7075	0.1153
3	265.08	0.2995	0.0085	0.0025	-0.0096	0.0046	-0.0257	0.0163	3.8220	0.2476
3	265.08	0.3493	0.0640	0.0030	0.1014	0.0151	-0.3640	0.0451	1.8941	0.1405
3	265.08	0.4000	0.0682	0.0038	0.0569	0.0165	-0.3351	0.0546	1.9347	0.1276
3	265.08	0.4497	0.0795	0.0037	-0.0217	0.0169	-0.2817	0.0560	1.9088	0.1468
3	265.08	0.4997	0.0876	0.0054	-0.1026	0.0197	-0.2209	0.0660	1.7661	0.1302
3	265.08	0.5556	0.1194	0.0075	-0.2104	0.0234	-0.1491	0.0747	1.6307	0.1301
3	265.08	0.5995	0.1380	0.0095	-0.3270	0.0269	-0.0593	0.0834	1.6384	0.1201
3	265.08	0.6498	0.1579	0.0121	-0.4655	0.0313	0.0507	0.1001	1.5982	0.1298
3	265.08	0.6890	0.1780	0.0135	-0.5843	0.0347	0.1373	0.1128	1.5706	0.1075
3	265.08	0.7495	0.2383	0.0186	-0.7466	0.0416	0.2806	0.1414	1.5230	0.1217
3	265.08	0.7998	0.2659	0.0211	-0.9033	0.0482	0.4141	0.1695	1.5278	0.1103
3	265.08	0.8577	0.3574	0.0246	-1.0767	0.0578	0.5676	0.2054	1.6664	0.1276
3	265.08	0.9178	0.3730	0.0291	-1.2747	0.0686	0.6310	0.2482	1.2341	0.1216
3	265.08	0.9729	0.3848	0.0316	-1.4124	0.0774	0.6171	0.2917	1.0549	0.1156

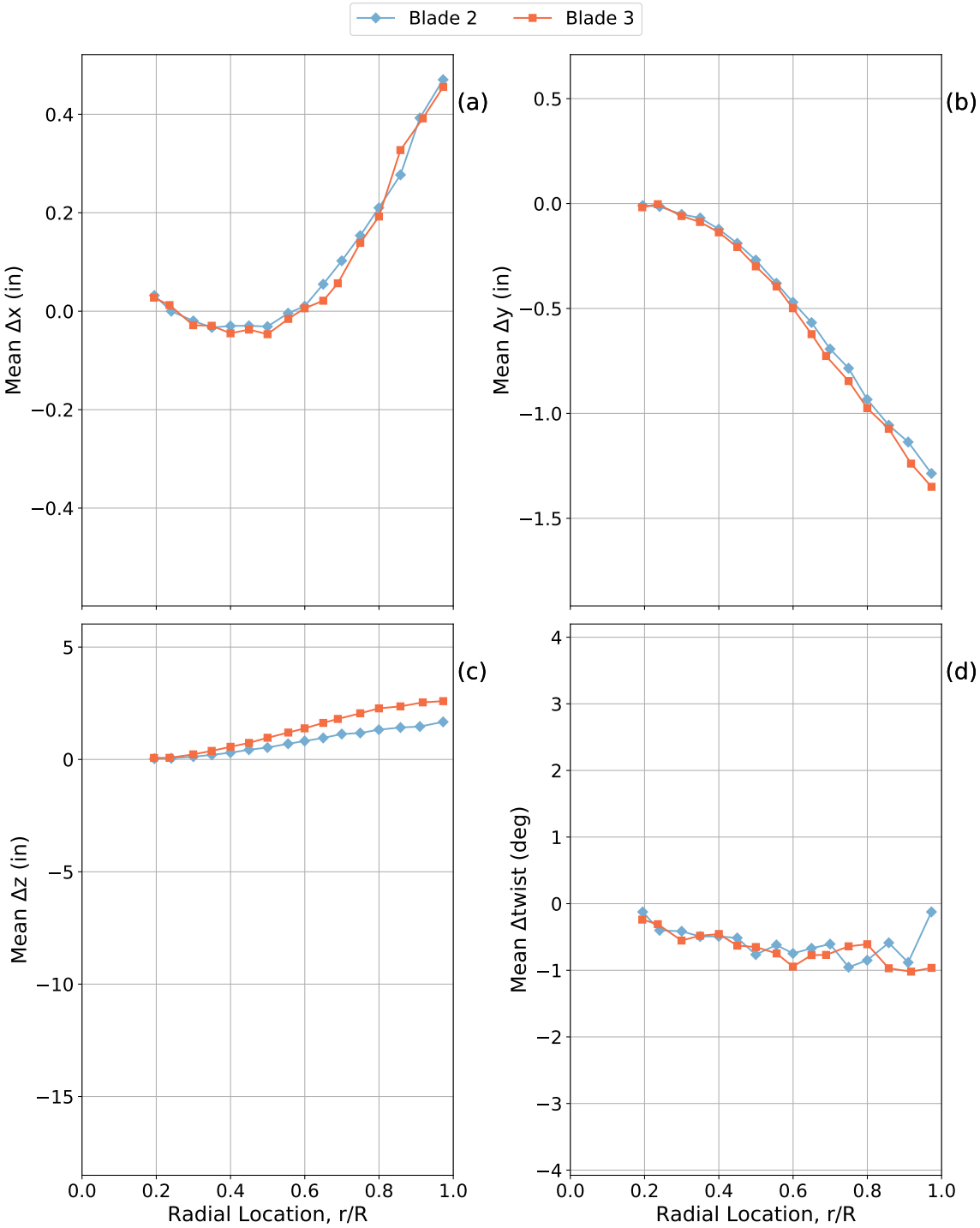


Figure 3.20-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0320	0.0044	-0.0091	0.0012	0.0360	0.0041	-0.1239	0.0358
2	270.35	0.2405	-0.0001	0.0016	-0.0143	0.0023	0.0503	0.0090	-0.4011	0.0542
2	270.35	0.2999	-0.0197	0.0021	-0.0517	0.0059	0.1218	0.0174	-0.4145	0.0853
2	270.35	0.3498	-0.0332	0.0037	-0.0683	0.0093	0.2036	0.0270	-0.4930	0.0512
2	270.35	0.3998	-0.0300	0.0067	-0.1219	0.0153	0.3009	0.0425	-0.4914	0.0760
2	270.35	0.4496	-0.0296	0.0090	-0.1893	0.0204	0.4308	0.0517	-0.5146	0.0733
2	270.35	0.4995	-0.0312	0.0108	-0.2693	0.0286	0.5294	0.0706	-0.7647	0.0853
2	270.35	0.5551	-0.0041	0.0133	-0.3798	0.0387	0.6968	0.0919	-0.6197	0.0812
2	270.35	0.5996	0.0101	0.0133	-0.4703	0.0465	0.8199	0.1083	-0.7474	0.0800
2	270.35	0.6497	0.0548	0.0151	-0.5670	0.0566	0.9560	0.1295	-0.6702	0.0937
2	270.35	0.6996	0.1024	0.0173	-0.6931	0.0673	1.1315	0.1588	-0.6066	0.0944
2	270.35	0.7495	0.1536	0.0197	-0.7849	0.0800	1.1771	0.1860	-0.9540	0.0745
2	270.35	0.7996	0.2100	0.0216	-0.9337	0.0916	1.3250	0.2183	-0.8501	0.0772
2	270.35	0.8578	0.2770	0.0246	-1.0560	0.1075	1.4209	0.2582	-0.5872	0.0892
2	270.35	0.9100	0.3925	0.0290	-1.1364	0.1214	1.4647	0.2930	-0.8831	0.0884
2	270.35	0.9727	0.4703	0.0368	-1.2862	0.1384	1.6716	0.3427	-0.1234	0.0667
3	270	0.1938	0.0275	0.0035	-0.0177	0.0011	0.0681	0.0062	-0.2392	0.0378
3	270	0.2357	0.0124	0.0021	-0.0030	0.0027	0.0727	0.0125	-0.3084	0.0415
3	270	0.2995	-0.0285	0.0017	-0.0593	0.0058	0.2257	0.0253	-0.5538	0.0807
3	270	0.3493	-0.0296	0.0013	-0.0878	0.0098	0.3801	0.0439	-0.4815	0.0812
3	270	0.4000	-0.0449	0.0059	-0.1373	0.0160	0.5636	0.0671	-0.4557	0.0563
3	270	0.4497	-0.0373	0.0041	-0.2074	0.0208	0.7360	0.0836	-0.6296	0.0804
3	270	0.4997	-0.0467	0.0050	-0.2994	0.0270	0.9651	0.1118	-0.6508	0.0684
3	270	0.5556	-0.0156	0.0041	-0.3950	0.0342	1.1963	0.1372	-0.7475	0.0725
3	270	0.5995	0.0059	0.0049	-0.4985	0.0418	1.3841	0.1663	-0.9451	0.0951
3	270	0.6498	0.0213	0.0050	-0.6224	0.0496	1.6263	0.1977	-0.7719	0.0831
3	270	0.6890	0.0567	0.0060	-0.7264	0.0569	1.8027	0.2219	-0.7693	0.0924
3	270	0.7495	0.1388	0.0065	-0.8458	0.0687	2.0544	0.2613	-0.6407	0.0955
3	270	0.7998	0.1924	0.0080	-0.9750	0.0792	2.2730	0.2951	-0.6096	0.0727
3	270	0.8577	0.3273	0.0082	-1.0733	0.0911	2.3617	0.3369	-0.9697	0.0939
3	270	0.9178	0.3917	0.0100	-1.2393	0.1028	2.5394	0.3799	-1.0203	0.0982
3	270	0.9729	0.4556	0.0139	-1.3498	0.1161	2.5954	0.4235	-0.9644	0.0667

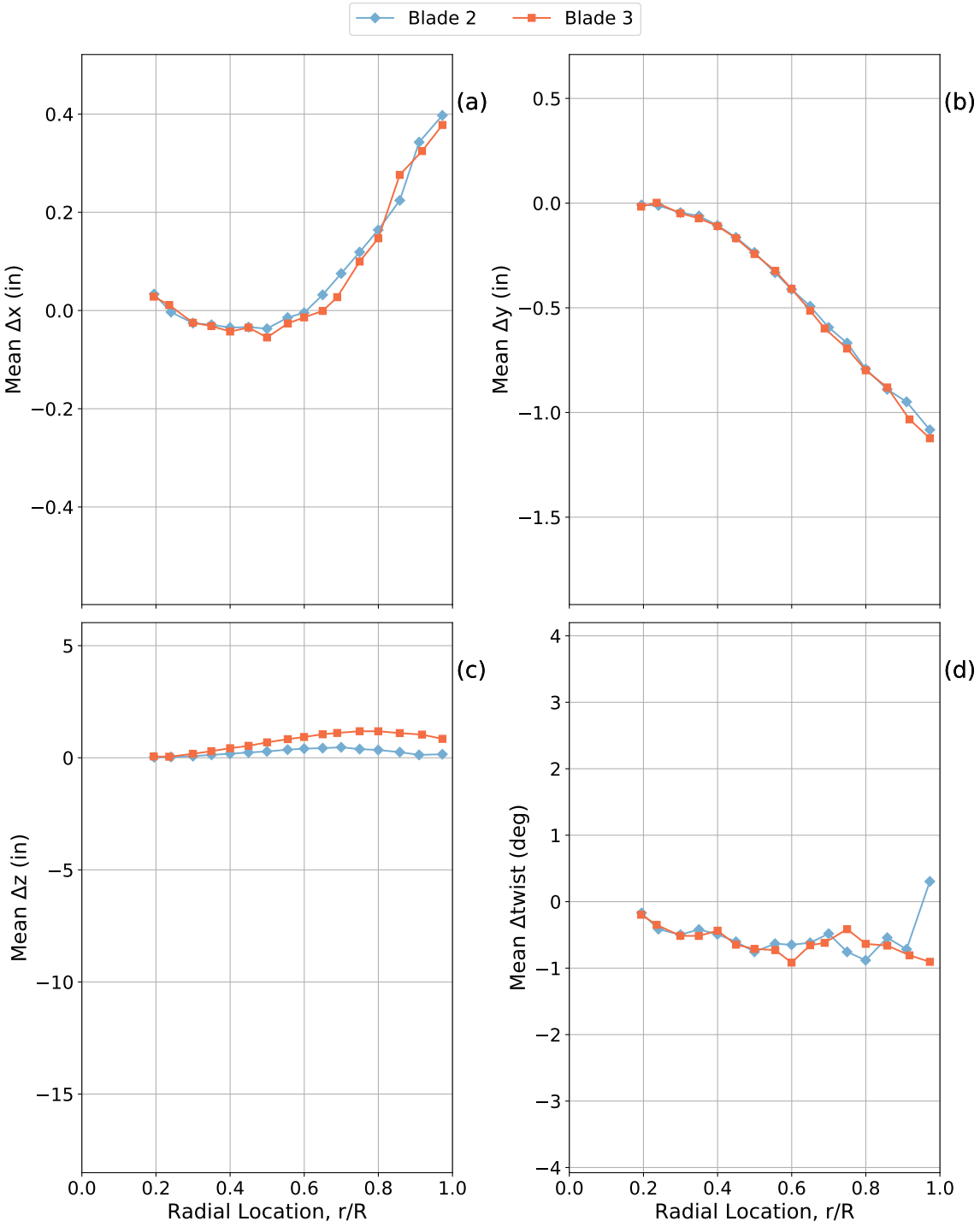


Figure 3.20-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0334	0.0009	-0.0087	0.0008	0.0237	0.0039	-0.1707	0.0352
2	274.92	0.2405	-0.0032	0.0014	-0.0114	0.0020	0.0353	0.0083	-0.4137	0.0368
2	274.92	0.2999	-0.0257	0.0016	-0.0454	0.0042	0.0700	0.0159	-0.4966	0.0725
2	274.92	0.3498	-0.0291	0.0018	-0.0612	0.0074	0.1295	0.0281	-0.4188	0.0432
2	274.92	0.3998	-0.0347	0.0030	-0.1067	0.0117	0.1796	0.0422	-0.4909	0.0635
2	274.92	0.4496	-0.0337	0.0027	-0.1636	0.0154	0.2378	0.0562	-0.6029	0.0627
2	274.92	0.4995	-0.0370	0.0024	-0.2355	0.0203	0.2814	0.0740	-0.7550	0.0461
2	274.92	0.5551	-0.0143	0.0024	-0.3324	0.0262	0.3604	0.0917	-0.6323	0.0675
2	274.92	0.5996	-0.0046	0.0028	-0.4118	0.0311	0.4061	0.1055	-0.6490	0.0549
2	274.92	0.6497	0.0319	0.0048	-0.4924	0.0373	0.4300	0.1209	-0.6182	0.0653
2	274.92	0.6996	0.0753	0.0054	-0.5935	0.0438	0.4672	0.1373	-0.4817	0.0666
2	274.92	0.7495	0.1189	0.0057	-0.6680	0.0509	0.3863	0.1448	-0.7552	0.0726
2	274.92	0.7996	0.1640	0.0078	-0.7922	0.0582	0.3481	0.1541	-0.8815	0.0614
2	274.92	0.8578	0.2242	0.0084	-0.8894	0.0683	0.2499	0.1667	-0.5417	0.0913
2	274.92	0.9100	0.3428	0.0095	-0.9491	0.0752	0.1291	0.1704	-0.7164	0.1263
2	274.92	0.9727	0.3973	0.0114	-1.0826	0.0885	0.1568	0.1848	0.3040	0.0631
3	274.92	0.1938	0.0282	0.0013	-0.0165	0.0009	0.0591	0.0033	-0.1967	0.0346
3	274.92	0.2357	0.0113	0.0011	0.0017	0.0015	0.0462	0.0089	-0.3483	0.0601
3	274.92	0.2995	-0.0249	0.0016	-0.0487	0.0050	0.1766	0.0161	-0.5139	0.0860
3	274.92	0.3493	-0.0317	0.0014	-0.0725	0.0065	0.2941	0.0243	-0.5154	0.0919
3	274.92	0.4000	-0.0428	0.0013	-0.1097	0.0119	0.4267	0.0403	-0.4366	0.0459
3	274.92	0.4497	-0.0347	0.0030	-0.1679	0.0140	0.5331	0.0478	-0.6472	0.0614
3	274.92	0.4997	-0.0549	0.0034	-0.2431	0.0186	0.6872	0.0672	-0.7106	0.0519
3	274.92	0.5556	-0.0264	0.0035	-0.3235	0.0231	0.8305	0.0821	-0.7287	0.0453
3	274.92	0.5995	-0.0140	0.0045	-0.4092	0.0270	0.9267	0.0929	-0.9169	0.0455
3	274.92	0.6498	-0.0008	0.0029	-0.5138	0.0316	1.0480	0.1075	-0.6558	0.0785
3	274.92	0.6890	0.0272	0.0043	-0.5987	0.0364	1.1073	0.1208	-0.6191	0.0454
3	274.92	0.7495	0.0997	0.0051	-0.6946	0.0440	1.1829	0.1428	-0.4138	0.0532
3	274.92	0.7998	0.1470	0.0039	-0.7985	0.0495	1.1820	0.1526	-0.6349	0.0680
3	274.92	0.8577	0.2761	0.0056	-0.8802	0.0577	1.1013	0.1773	-0.6607	0.0584
3	274.92	0.9178	0.3246	0.0059	-1.0330	0.0664	1.0338	0.1990	-0.8068	0.0715
3	274.92	0.9729	0.3778	0.0080	-1.1233	0.0749	0.8434	0.2202	-0.9053	0.0725

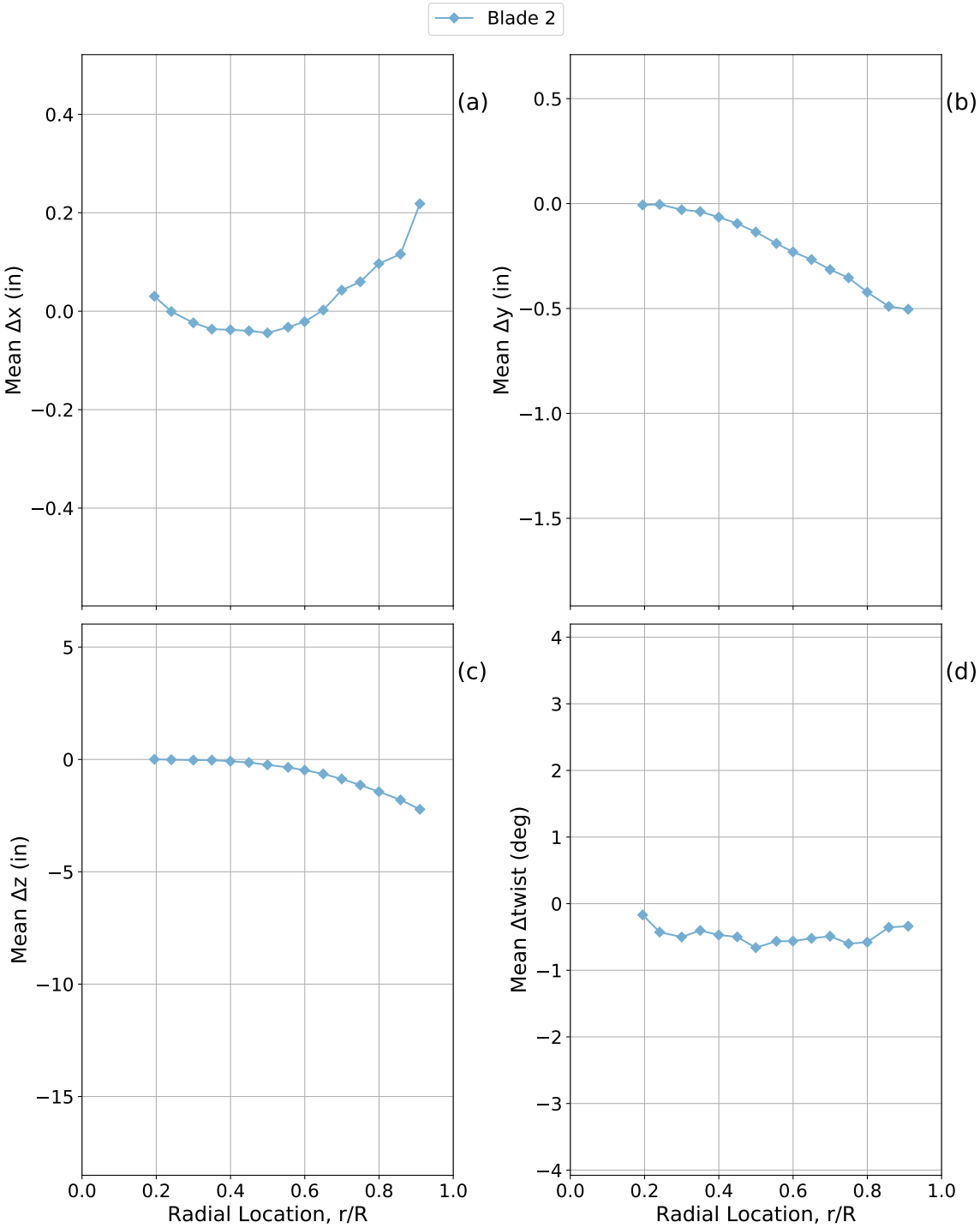


Figure 3.20-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0303	0.0015	-0.0068	0.0009	0.0039	0.0042	-0.1682	0.0288
2	285.12	0.2405	-0.0006	0.0012	-0.0041	0.0020	-0.0119	0.0107	-0.4269	0.0401
2	285.12	0.2999	-0.0236	0.0032	-0.0293	0.0041	-0.0286	0.0169	-0.5005	0.0636
2	285.12	0.3498	-0.0365	0.0015	-0.0381	0.0074	-0.0308	0.0324	-0.4033	0.0648
2	285.12	0.3998	-0.0378	0.0016	-0.0649	0.0115	-0.0789	0.0481	-0.4699	0.0460
2	285.12	0.4496	-0.0399	0.0017	-0.0953	0.0146	-0.1359	0.0618	-0.4991	0.0487
2	285.12	0.4995	-0.0441	0.0018	-0.1355	0.0183	-0.2398	0.0781	-0.6608	0.0474
2	285.12	0.5551	-0.0325	0.0020	-0.1901	0.0225	-0.3531	0.0903	-0.5646	0.0649
2	285.12	0.5996	-0.0213	0.0025	-0.2303	0.0259	-0.4773	0.1014	-0.5621	0.0714
2	285.12	0.6497	0.0023	0.0016	-0.2668	0.0302	-0.6448	0.1163	-0.5210	0.0606
2	285.12	0.6996	0.0427	0.0022	-0.3145	0.0353	-0.8683	0.1288	-0.4891	0.0673
2	285.12	0.7495	0.0597	0.0022	-0.3539	0.0403	-1.1396	0.1419	-0.6010	0.0686
2	285.12	0.7996	0.0966	0.0033	-0.4222	0.0457	-1.4338	0.1572	-0.5780	0.0590
2	285.12	0.8578	0.1159	0.0030	-0.4903	0.0526	-1.7985	0.1779	-0.3554	0.0666
2	285.12	0.9100	0.2183	0.0053	-0.5036	0.0579	-2.2209	0.2003	-0.3382	0.0790

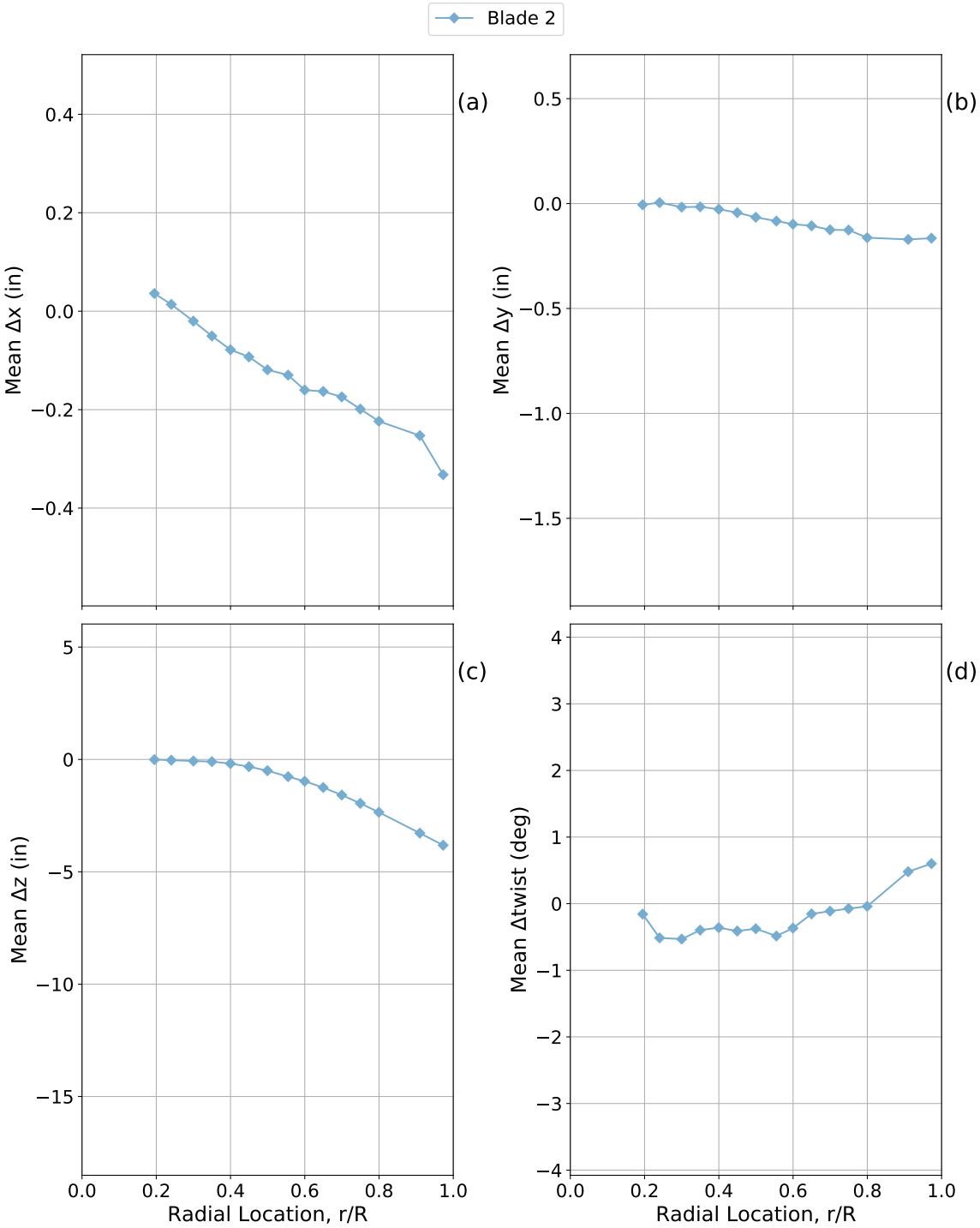


Figure 3.20-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0360	0.0053	-0.0058	0.0009	-0.0069	0.0024	-0.1567	0.0493
2	299.88	0.2405	0.0138	0.0011	0.0045	0.0023	-0.0328	0.0065	-0.5140	0.0348
2	299.88	0.2999	-0.0201	0.0028	-0.0170	0.0043	-0.0705	0.0146	-0.5317	0.0925
2	299.88	0.3498	-0.0504	0.0060	-0.0155	0.0080	-0.0978	0.0160	-0.3970	0.0746
2	299.88	0.3998	-0.0783	0.0019	-0.0270	0.0120	-0.1827	0.0299	-0.3601	0.0494
2	299.88	0.4496	-0.0928	0.0023	-0.0432	0.0152	-0.3213	0.0372	-0.4112	0.0866
2	299.88	0.4995	-0.1190	0.0030	-0.0654	0.0192	-0.5000	0.0518	-0.3762	0.0565
2	299.88	0.5551	-0.1298	0.0034	-0.0834	0.0232	-0.7669	0.0632	-0.4859	0.0496
2	299.88	0.5996	-0.1601	0.0034	-0.0982	0.0287	-0.9713	0.0755	-0.3676	0.0539
2	299.88	0.6497	-0.1630	0.0048	-0.1059	0.0316	-1.2500	0.0838	-0.1540	0.0730
2	299.88	0.6996	-0.1741	0.0047	-0.1251	0.0384	-1.5839	0.0966	-0.1125	0.0507
2	299.88	0.7495	-0.1988	0.0097	-0.1262	0.0398	-1.9537	0.1008	-0.0739	0.0740
2	299.88	0.7996	-0.2236	0.0054	-0.1626	0.0495	-2.3501	0.1180	-0.0399	0.0681
2	299.88	0.9100	-0.2527	0.0069	-0.1710	0.0623	-3.2803	0.1468	0.4802	0.0705
2	299.88	0.9727	-0.3321	0.0087	-0.1650	0.0702	-3.8181	0.1661	0.6008	0.0804

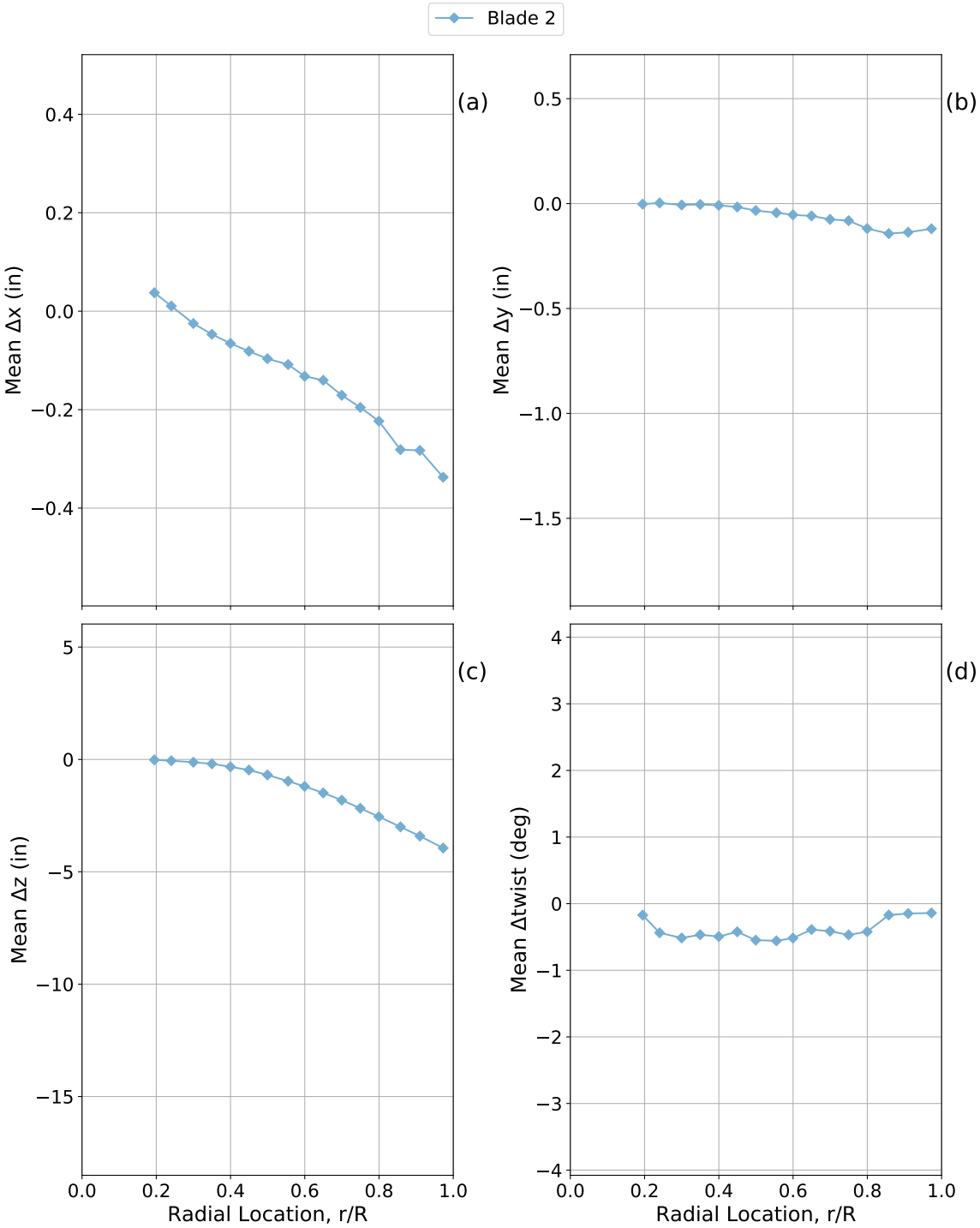


Figure 3.20-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0375	0.0013	-0.0026	0.0008	-0.0197	0.0042	-0.1716	0.0463
2	315	0.2405	0.0105	0.0018	0.0029	0.0019	-0.0579	0.0088	-0.4375	0.0456
2	315	0.2999	-0.0250	0.0025	-0.0068	0.0036	-0.1235	0.0172	-0.5152	0.0795
2	315	0.3498	-0.0469	0.0021	-0.0043	0.0060	-0.1939	0.0229	-0.4668	0.0562
2	315	0.3998	-0.0654	0.0025	-0.0084	0.0086	-0.3273	0.0399	-0.4937	0.0545
2	315	0.4496	-0.0814	0.0035	-0.0165	0.0110	-0.4716	0.0517	-0.4229	0.0605
2	315	0.4995	-0.0965	0.0026	-0.0332	0.0134	-0.6895	0.0630	-0.5478	0.0850
2	315	0.5551	-0.1083	0.0032	-0.0438	0.0180	-0.9671	0.0829	-0.5580	0.0603
2	315	0.5996	-0.1322	0.0037	-0.0537	0.0218	-1.2006	0.1001	-0.5171	0.0559
2	315	0.6497	-0.1403	0.0036	-0.0589	0.0264	-1.4899	0.1239	-0.3890	0.0701
2	315	0.6996	-0.1708	0.0046	-0.0753	0.0317	-1.8126	0.1476	-0.4138	0.0595
2	315	0.7495	-0.1955	0.0049	-0.0815	0.0380	-2.1732	0.1778	-0.4691	0.0616
2	315	0.7996	-0.2233	0.0047	-0.1191	0.0451	-2.5488	0.2039	-0.4206	0.0595
2	315	0.8578	-0.2813	0.0046	-0.1431	0.0538	-3.0011	0.2352	-0.1710	0.0708
2	315	0.9100	-0.2828	0.0053	-0.1368	0.0617	-3.4108	0.2575	-0.1480	0.0622
2	315	0.9727	-0.3372	0.0073	-0.1201	0.0713	-3.9424	0.2857	-0.1399	0.0678

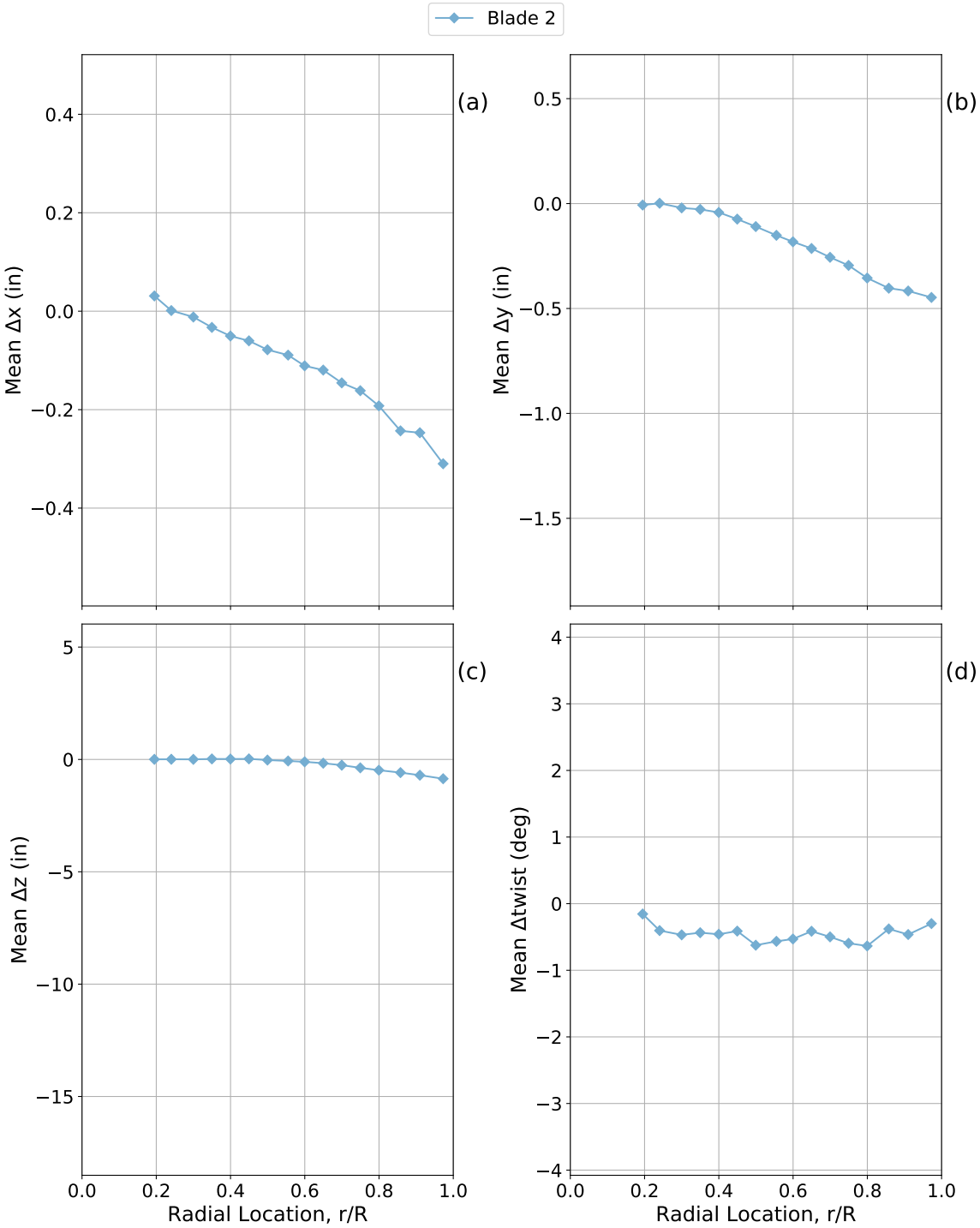


Figure 3.20-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0310	0.0030	-0.0070	0.0012	0.0048	0.0033	-0.1551	0.0432
2	330.12	0.2405	0.0013	0.0020	0.0014	0.0030	0.0076	0.0134	-0.4041	0.0331
2	330.12	0.2999	-0.0118	0.0032	-0.0207	0.0074	0.0037	0.0175	-0.4682	0.0781
2	330.12	0.3498	-0.0329	0.0021	-0.0277	0.0090	0.0230	0.0319	-0.4359	0.0423
2	330.12	0.3998	-0.0504	0.0027	-0.0422	0.0170	0.0187	0.0515	-0.4594	0.0495
2	330.12	0.4496	-0.0602	0.0037	-0.0742	0.0175	0.0257	0.0651	-0.4120	0.0575
2	330.12	0.4995	-0.0783	0.0037	-0.1097	0.0247	-0.0267	0.0737	-0.6237	0.0650
2	330.12	0.5551	-0.0892	0.0018	-0.1514	0.0296	-0.0678	0.0896	-0.5657	0.0485
2	330.12	0.5996	-0.1110	0.0043	-0.1822	0.0335	-0.1054	0.1038	-0.5304	0.0487
2	330.12	0.6497	-0.1196	0.0031	-0.2140	0.0403	-0.1677	0.1213	-0.4143	0.0418
2	330.12	0.6996	-0.1456	0.0042	-0.2561	0.0461	-0.2559	0.1330	-0.4987	0.0458
2	330.12	0.7495	-0.1615	0.0043	-0.2948	0.0534	-0.3731	0.1436	-0.5947	0.0517
2	330.12	0.7996	-0.1923	0.0049	-0.3549	0.0604	-0.4785	0.1513	-0.6351	0.0616
2	330.12	0.8578	-0.2431	0.0044	-0.4033	0.0691	-0.5858	0.1623	-0.3793	0.0537
2	330.12	0.9100	-0.2469	0.0050	-0.4166	0.0772	-0.7012	0.1672	-0.4633	0.0521
2	330.12	0.9727	-0.3099	0.0072	-0.4474	0.0874	-0.8583	0.1766	-0.2991	0.0530

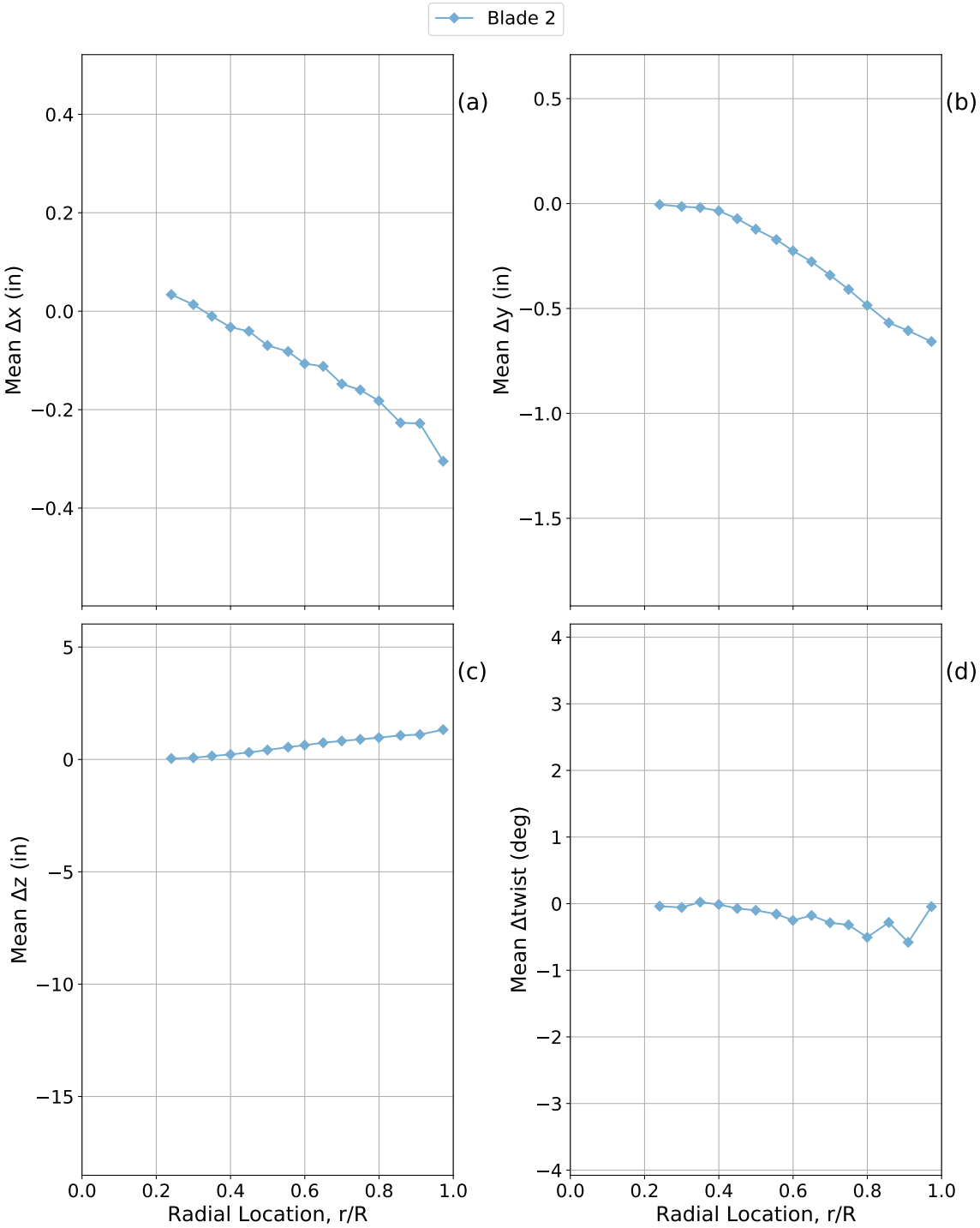


Figure 3.20-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.2405	0.0338	0.0029	-0.0048	0.0035	0.0423	0.0074	-0.0380	0.0307
2	344.88	0.2999	0.0135	0.0030	-0.0145	0.0101	0.0754	0.0188	-0.0572	0.0476
2	344.88	0.3498	-0.0103	0.0045	-0.0194	0.0140	0.1531	0.0261	0.0231	0.0221
2	344.88	0.3998	-0.0326	0.0025	-0.0349	0.0244	0.2215	0.0442	-0.0128	0.0760
2	344.88	0.4496	-0.0407	0.0046	-0.0723	0.0275	0.3119	0.0551	-0.0726	0.0479
2	344.88	0.4995	-0.0696	0.0041	-0.1221	0.0327	0.4204	0.0696	-0.0994	0.0617
2	344.88	0.5551	-0.0819	0.0046	-0.1718	0.0407	0.5461	0.0893	-0.1568	0.0801
2	344.88	0.5996	-0.1066	0.0045	-0.2252	0.0448	0.6345	0.1068	-0.2509	0.0560
2	344.88	0.6497	-0.1121	0.0064	-0.2768	0.0513	0.7434	0.1279	-0.1777	0.0497
2	344.88	0.6996	-0.1478	0.0061	-0.3414	0.0576	0.8245	0.1495	-0.2870	0.0925
2	344.88	0.7495	-0.1599	0.0056	-0.4091	0.0649	0.8962	0.1738	-0.3184	0.0832
2	344.88	0.7996	-0.1822	0.0053	-0.4852	0.0715	0.9709	0.1967	-0.5058	0.0570
2	344.88	0.8578	-0.2267	0.0070	-0.5681	0.0801	1.0681	0.2265	-0.2818	0.0665
2	344.88	0.9100	-0.2280	0.0069	-0.6057	0.0878	1.1068	0.2531	-0.5801	0.0581
2	344.88	0.9727	-0.3048	0.0101	-0.6577	0.0969	1.3245	0.2854	-0.0450	0.0585

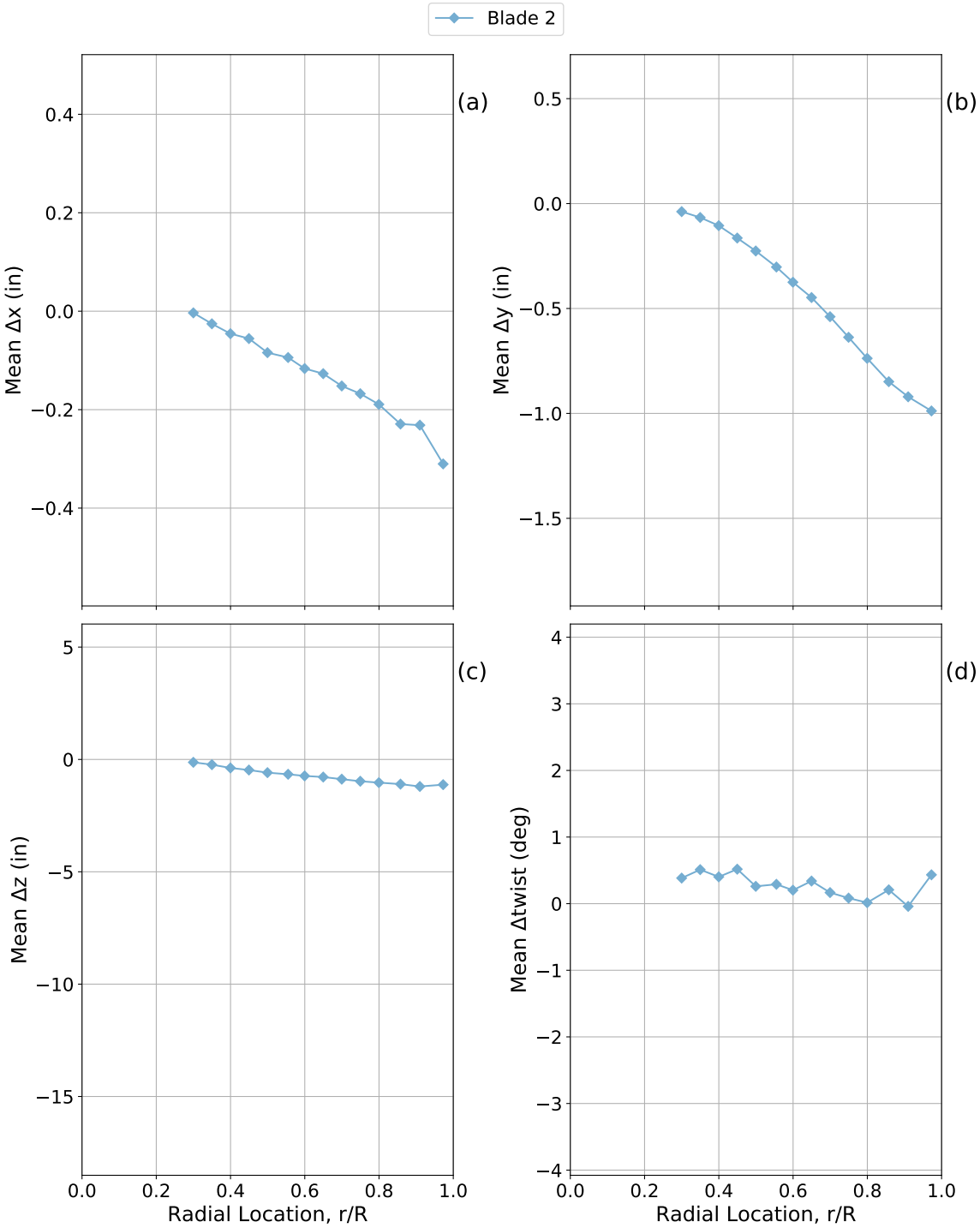


Figure 3.20-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2999	-0.0034	0.0086	-0.0384	0.0280	-0.1278	0.0340	0.3839	0.1315
2	350.16	0.3498	-0.0256	0.0100	-0.0664	0.0484	-0.2319	0.0563	0.5106	0.1739
2	350.16	0.3998	-0.0457	0.0103	-0.1053	0.0769	-0.3785	0.0873	0.4022	0.1483
2	350.16	0.4496	-0.0556	0.0087	-0.1643	0.0947	-0.4708	0.1186	0.5175	0.1293
2	350.16	0.4995	-0.0842	0.0100	-0.2259	0.1169	-0.5876	0.1463	0.2601	0.1768
2	350.16	0.5551	-0.0941	0.0104	-0.3025	0.1432	-0.6597	0.1856	0.2907	0.1373
2	350.16	0.5996	-0.1165	0.0111	-0.3748	0.1627	-0.7330	0.2103	0.2023	0.1639
2	350.16	0.6497	-0.1269	0.0104	-0.4478	0.1874	-0.7832	0.2441	0.3395	0.1588
2	350.16	0.6996	-0.1519	0.0113	-0.5391	0.2093	-0.8776	0.2767	0.1664	0.1609
2	350.16	0.7495	-0.1676	0.0112	-0.6373	0.2317	-0.9707	0.3188	0.0836	0.1564
2	350.16	0.7996	-0.1893	0.0121	-0.7377	0.2551	-1.0310	0.3564	0.0150	0.1601
2	350.16	0.8578	-0.2292	0.0120	-0.8488	0.2822	-1.0984	0.4008	0.2080	0.1465
2	350.16	0.9100	-0.2315	0.0126	-0.9208	0.3072	-1.2031	0.4360	-0.0408	0.1445
2	350.16	0.9727	-0.3102	0.0205	-0.9883	0.3350	-1.1225	0.4765	0.4332	0.1556

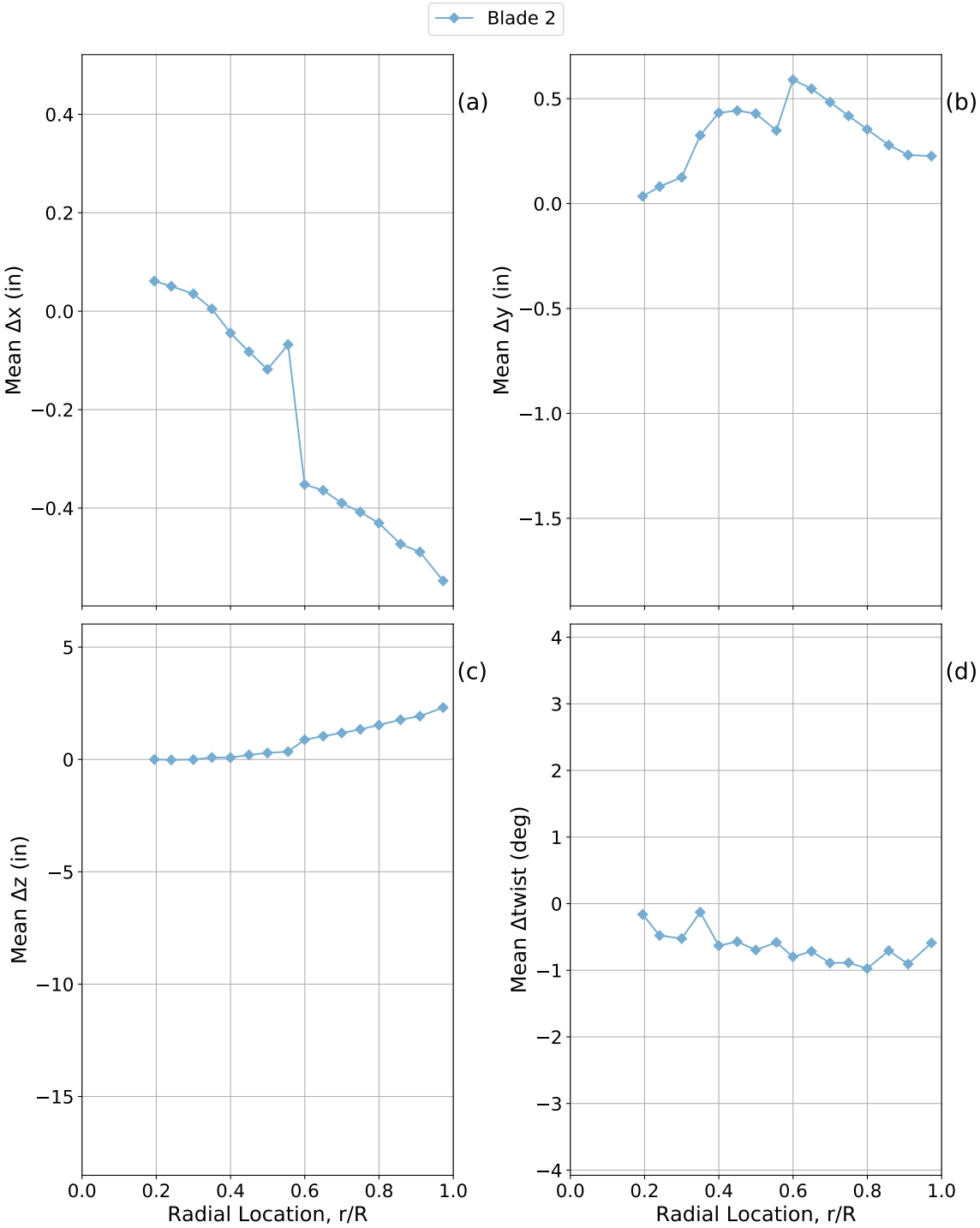


Figure 3.20-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Table 3.20-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 11. BD run 30, points 4361 to 4371.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0612	0.0009	0.0343	0.0009	-0.0006	0.0038	-0.1616	0.0149
2	355.08	0.2405	0.0507	0.0010	0.0810	0.0032	-0.0217	0.0094	-0.4782	0.0274
2	355.08	0.2999	0.0354	0.0016	0.1248	0.0050	-0.0065	0.0176	-0.5243	0.0369
2	355.08	0.3498	0.0047	0.0014	0.3250	0.0087	0.0880	0.0313	-0.1280	0.0360
2	355.08	0.3998	-0.0443	0.0013	0.4325	0.0142	0.0815	0.0483	-0.6301	0.0348
2	355.08	0.4496	-0.0824	0.0021	0.4428	0.0170	0.1996	0.0629	-0.5708	0.0339
2	355.08	0.4995	-0.1181	0.0019	0.4288	0.0214	0.2892	0.0839	-0.6958	0.0504
2	355.08	0.5551	-0.0679	0.0026	0.3482	0.0262	0.3468	0.1021	-0.5809	0.0672
2	355.08	0.5996	-0.3521	0.0035	0.5903	0.0283	0.8781	0.1200	-0.7981	0.0419
2	355.08	0.6497	-0.3640	0.0032	0.5470	0.0326	1.0382	0.1422	-0.7163	0.0269
2	355.08	0.6996	-0.3898	0.0031	0.4832	0.0368	1.1766	0.1658	-0.8904	0.0338
2	355.08	0.7495	-0.4081	0.0034	0.4177	0.0415	1.3390	0.1895	-0.8865	0.0582
2	355.08	0.7996	-0.4304	0.0036	0.3538	0.0464	1.5324	0.2136	-0.9742	0.0408
2	355.08	0.8578	-0.4730	0.0040	0.2786	0.0514	1.7672	0.2444	-0.7064	0.0495
2	355.08	0.9100	-0.4891	0.0034	0.2313	0.0565	1.9262	0.2766	-0.9070	0.0508
2	355.08	0.9727	-0.5478	0.0056	0.2262	0.0625	2.3092	0.3168	-0.5896	0.0393

3.21 Run 63, Point 12

3.21.1 Pitch, Flap, and Lag

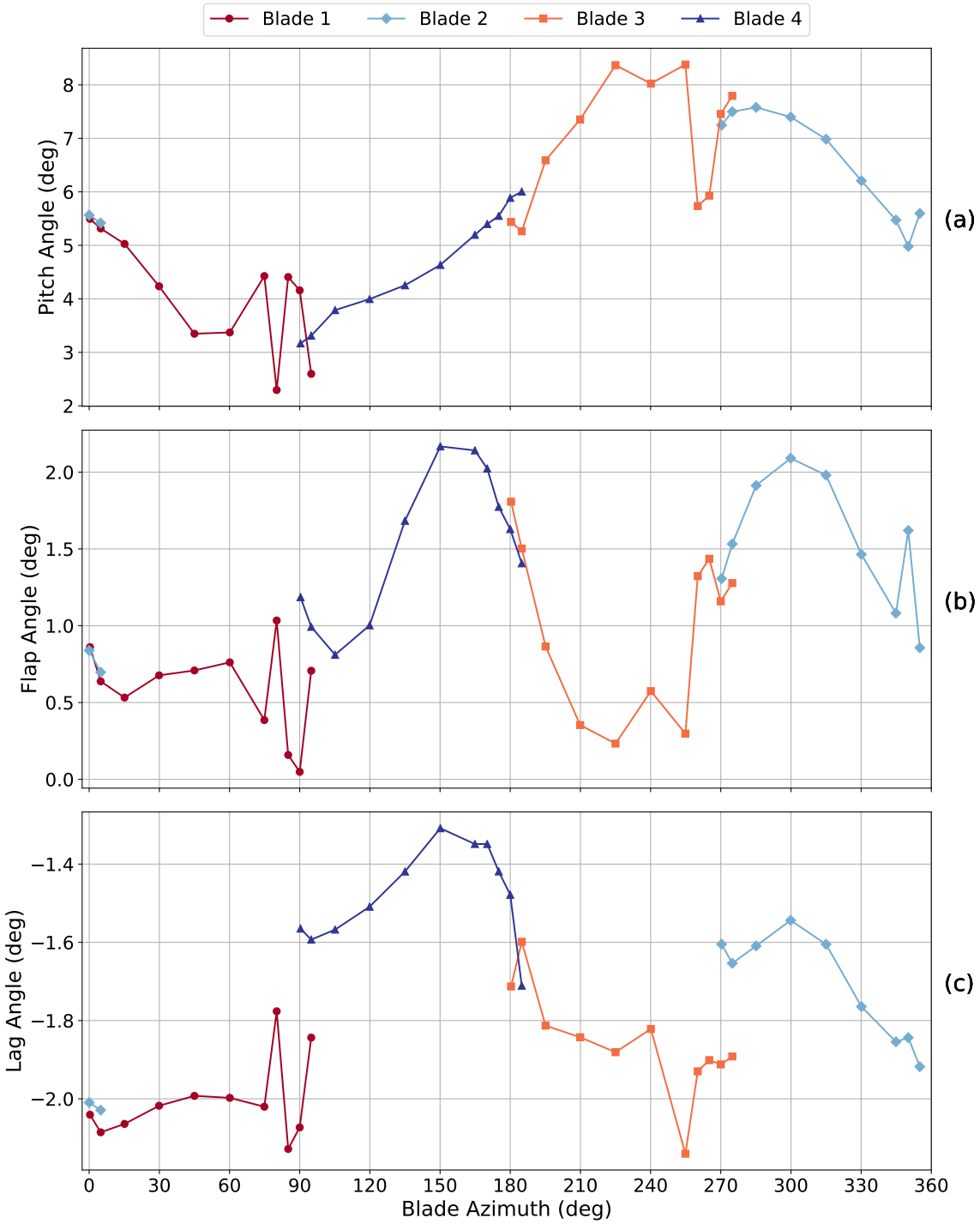


Figure 3.21-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.5662	0.8391	-2.0096	0.0510	0.0458	0.0509
0.35	1	5.4951	0.8606	-2.0407	0.1381	0.1238	0.0447
4.92	1	5.3153	0.6379	-2.0857	0.0771	0.0778	0.0418
4.92	2	5.4181	0.6973	-2.0290	0.1288	0.0563	0.0272
15.12	1	5.0280	0.5323	-2.0642	0.0652	0.0396	0.0326
29.88	1	4.2350	0.6769	-2.0178	0.1034	0.0863	0.0348
45	1	3.3478	0.7087	-1.9925	0.1252	0.0548	0.0364
60.12	1	3.3719	0.7615	-1.9976	0.0981	0.1219	0.0447
74.88	1	4.4258	0.3856	-2.0202	0.0586	0.0724	0.0333
80.16	1	2.2958	1.0339	-1.7763	0.2518	0.1127	0.0649
85.08	1	4.4079	0.1584	-2.1283	0.2074	0.0757	0.0458
90	1	4.1581	0.0486	-2.0731	0.2403	0.1120	0.0409
90.35	4	3.1669	1.1858	-1.5649	0.1714	0.0996	0.0314
94.92	1	2.5979	0.7070	-1.8436	0.1328	0.0584	0.0310
94.92	4	3.3106	0.9927	-1.5932	0.1183	0.0759	0.0277
105.12	4	3.7885	0.8109	-1.5675	0.0861	0.0826	0.0074
119.88	4	3.9959	1.0025	-1.5090	0.1573	0.1245	0.0331
135	4	4.2533	1.6832	-1.4191	0.0856	0.1033	0.0312
150.12	4	4.6337	2.1674	-1.3084	0.0516	0.1727	0.0405
164.88	4	5.1960	2.1413	-1.3487	0.0999	0.1543	0.0414
170.16	4	5.3986	2.0228	-1.3487	0.1183	0.1851	0.0384
175.08	4	5.5504	1.7735	-1.4189	0.1015	0.1447	0.0427
180	4	5.8876	1.6287	-1.4785	0.2044	0.2083	0.0482
180.35	3	5.4385	1.8071	-1.7128	0.1881	0.1973	0.0331
184.92	3	5.2638	1.5027	-1.5986	0.2714	0.2267	0.0684
184.92	4	6.0042	1.4062	-1.7109	0.1037	0.0602	0.0415
195.12	3	6.5902	0.8649	-1.8129	0.0830	0.1408	0.0230
209.88	3	7.3531	0.3536	-1.8427	0.0661	0.1922	0.0376
225	3	8.3683	0.2327	-1.8809	0.0681	0.0919	0.0256
240.12	3	8.0247	0.5741	-1.8214	0.1284	0.1030	0.0442
254.88	3	8.3797	0.2974	-2.1404	0.2381	0.1707	0.0742
260.16	3	5.7341	1.3228	-1.9298	0.1339	0.1132	0.0526
265.08	3	5.9295	1.4356	-1.9012	0.0554	0.0871	0.0511
270	3	7.4563	1.1587	-1.9121	0.1485	0.0529	0.0380
270.35	2	7.2477	1.3065	-1.6048	0.1517	0.1308	0.0496
274.92	2	7.5001	1.5323	-1.6536	0.1156	0.0925	0.0276
274.92	3	7.7940	1.2777	-1.8918	0.1101	0.0739	0.0338
285.12	2	7.5788	1.9131	-1.6092	0.0537	0.0580	0.0211
299.88	2	7.3993	2.0904	-1.5438	0.0870	0.0586	0.0240
315	2	6.9849	1.9802	-1.6050	0.0678	0.0549	0.0322
330.12	2	6.2068	1.4643	-1.7644	0.0615	0.0944	0.0375
344.88	2	5.4731	1.0817	-1.8543	0.1041	0.0671	0.0453
350.16	2	4.9810	1.6200	-1.8437	0.1134	0.1353	0.0902
355.08	2	5.5974	0.8563	-1.9180	0.0336	0.0722	0.0764

3.21.2 Spanwise Elastic Deformations

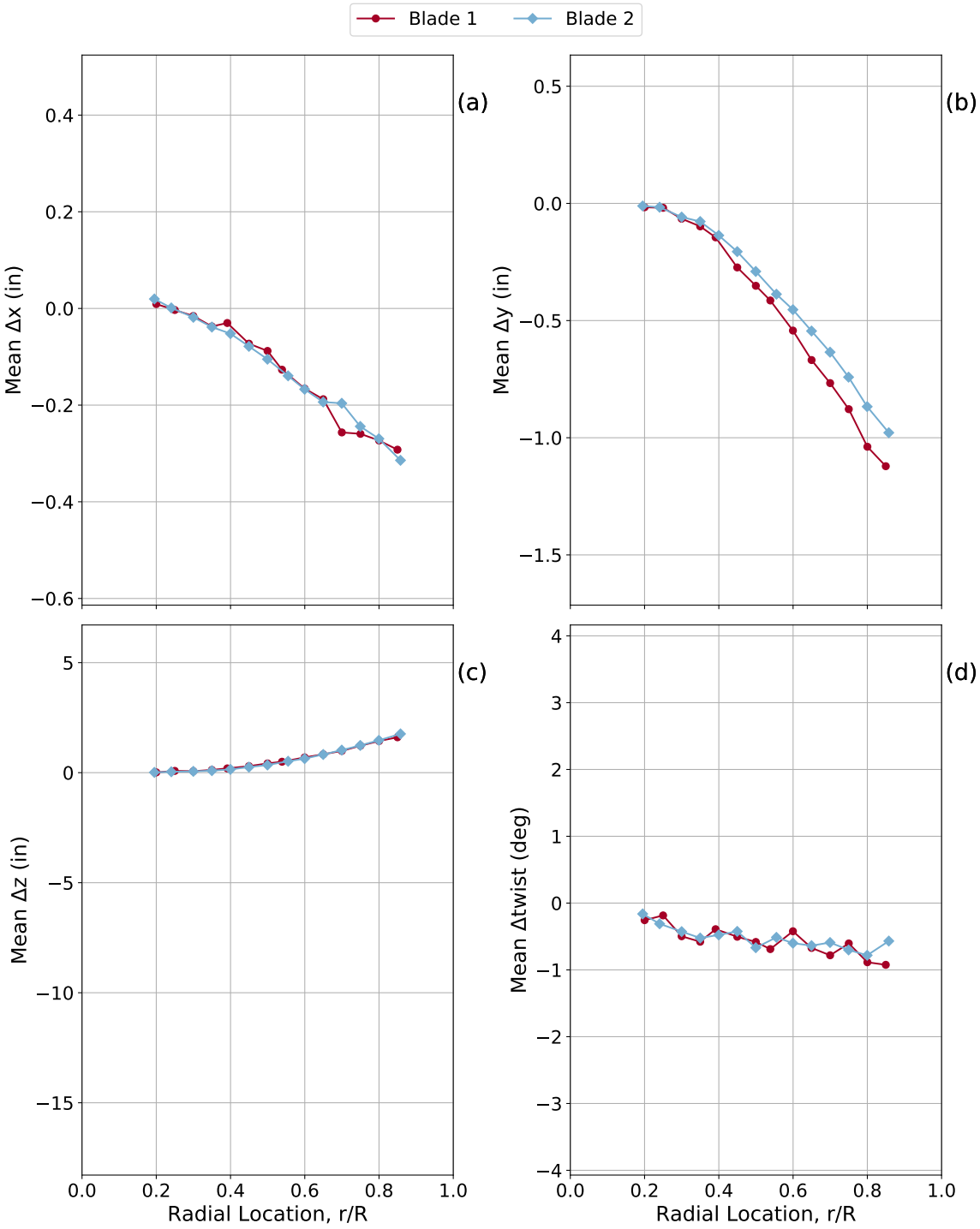


Figure 3.21-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$ NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0091	0.0041	-0.0164	0.0029	0.0125	0.0084	-0.2560	0.0624
1	0.35	0.2499	-0.0032	0.0045	-0.0188	0.0096	0.0801	0.0193	-0.1847	0.0668
1	0.35	0.2998	-0.0156	0.0026	-0.0653	0.0145	0.0660	0.0345	-0.4965	0.1135
1	0.35	0.3498	-0.0372	0.0026	-0.0981	0.0234	0.1251	0.0513	-0.5784	0.0871
1	0.35	0.3913	-0.0301	0.0056	-0.1449	0.0365	0.1941	0.0788	-0.3909	0.0851
1	0.35	0.4496	-0.0729	0.0074	-0.2733	0.0467	0.2960	0.1030	-0.5039	0.0906
1	0.35	0.4997	-0.0879	0.0092	-0.3516	0.0566	0.4200	0.1283	-0.5819	0.1081
1	0.35	0.5387	-0.1267	0.0094	-0.4143	0.0681	0.4967	0.1437	-0.6887	0.0898
1	0.35	0.5996	-0.1658	0.0082	-0.5427	0.0806	0.6931	0.1649	-0.4218	0.0751
1	0.35	0.6498	-0.1878	0.0106	-0.6685	0.0939	0.8340	0.1860	-0.6713	0.0805
1	0.35	0.6998	-0.2565	0.0115	-0.7669	0.1060	0.9889	0.1991	-0.7814	0.0939
1	0.35	0.7500	-0.2594	0.0121	-0.8781	0.1143	1.2253	0.2161	-0.6041	0.0969
1	0.35	0.8001	-0.2732	0.0116	-1.0384	0.1300	1.4370	0.2356	-0.8857	0.1891
1	0.35	0.8497	-0.2922	0.0118	-1.1215	0.1393	1.6074	0.2517	-0.9240	0.0889
2	0	0.1949	0.0196	0.0023	-0.0109	0.0016	0.0128	0.0062	-0.1621	0.0469
2	0	0.2405	0.0011	0.0018	-0.0164	0.0049	0.0399	0.0161	-0.3098	0.0717
2	0	0.2999	-0.0183	0.0017	-0.0583	0.0062	0.0597	0.0274	-0.4272	0.1056
2	0	0.3498	-0.0385	0.0026	-0.0774	0.0136	0.0915	0.0524	-0.5228	0.0860
2	0	0.3998	-0.0521	0.0031	-0.1366	0.0196	0.1493	0.0784	-0.4765	0.0846
2	0	0.4496	-0.0784	0.0032	-0.2058	0.0252	0.2525	0.1047	-0.4239	0.0765
2	0	0.4995	-0.1050	0.0040	-0.2904	0.0297	0.3482	0.1353	-0.6680	0.0892
2	0	0.5551	-0.1394	0.0030	-0.3875	0.0386	0.5186	0.1690	-0.5128	0.0904
2	0	0.5996	-0.1672	0.0047	-0.4535	0.0423	0.6381	0.1887	-0.5997	0.1320
2	0	0.6497	-0.1936	0.0049	-0.5446	0.0503	0.8265	0.2211	-0.6371	0.1156
2	0	0.6996	-0.1962	0.0047	-0.6349	0.0560	1.0258	0.2478	-0.5903	0.1256
2	0	0.7495	-0.2441	0.0063	-0.7414	0.0631	1.2381	0.2763	-0.7014	0.0919
2	0	0.7996	-0.2695	0.0051	-0.8673	0.0766	1.4697	0.3092	-0.7813	0.1258
2	0	0.8578	-0.3142	0.0087	-0.9785	0.0840	1.7624	0.3368	-0.5684	0.1855

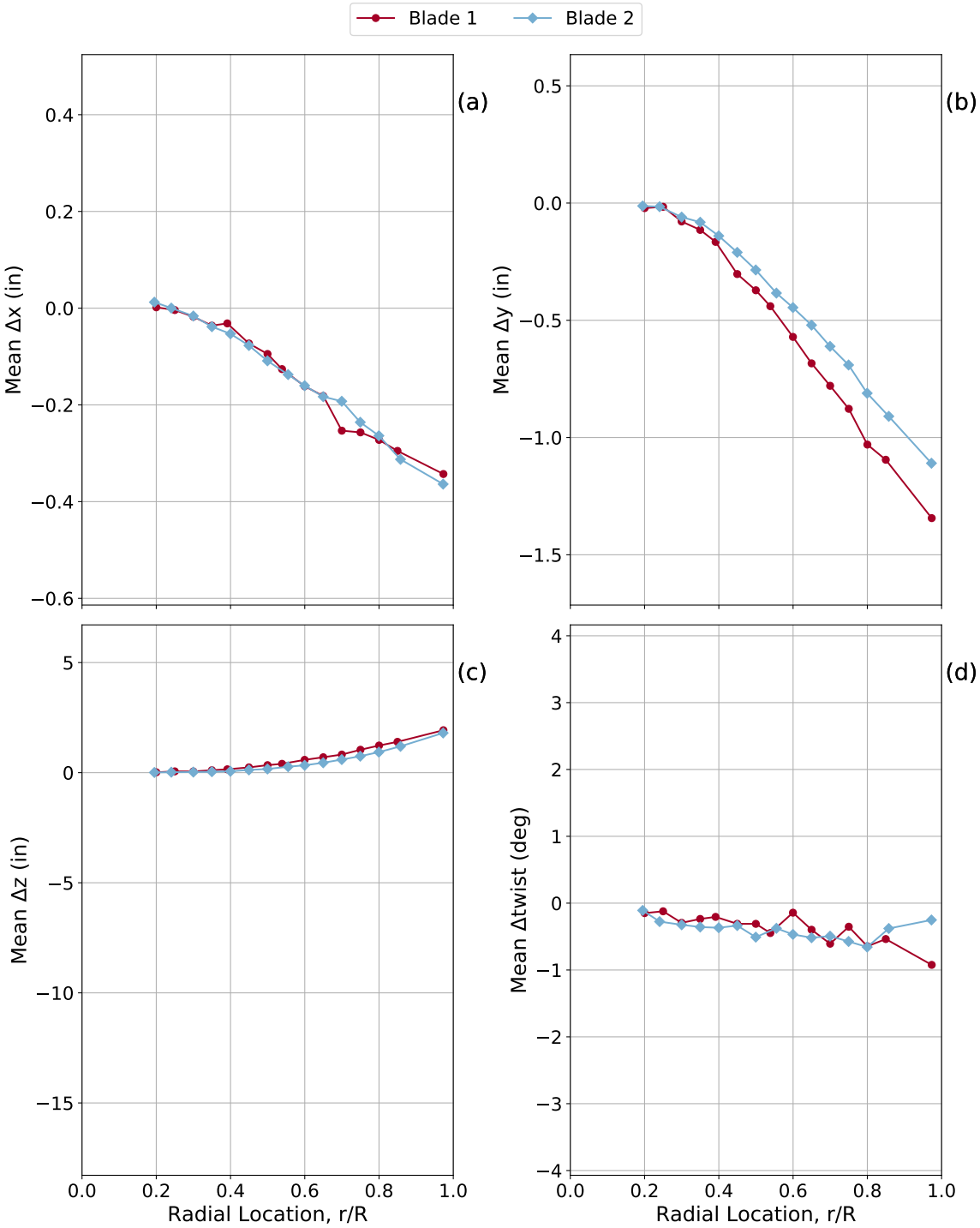


Figure 3.21-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0018	0.0034	-0.0215	0.0025	0.0163	0.0039	-0.1490	0.0625
1	4.92	0.2499	-0.0039	0.0023	-0.0160	0.0055	0.0582	0.0103	-0.1219	0.0619
1	4.92	0.2998	-0.0177	0.0033	-0.0785	0.0092	0.0547	0.0142	-0.2944	0.1233
1	4.92	0.3498	-0.0360	0.0041	-0.1145	0.0179	0.1110	0.0266	-0.2363	0.0673
1	4.92	0.3913	-0.0315	0.0031	-0.1655	0.0235	0.1527	0.0365	-0.2054	0.0852
1	4.92	0.4496	-0.0730	0.0028	-0.3028	0.0321	0.2396	0.0489	-0.3090	0.1009
1	4.92	0.4997	-0.0947	0.0039	-0.3720	0.0406	0.3406	0.0611	-0.3094	0.0692
1	4.92	0.5387	-0.1260	0.0042	-0.4399	0.0475	0.4006	0.0725	-0.4469	0.0781
1	4.92	0.5996	-0.1614	0.0040	-0.5708	0.0583	0.5811	0.0883	-0.1426	0.0533
1	4.92	0.6498	-0.1815	0.0045	-0.6837	0.0689	0.6999	0.0982	-0.3978	0.0813
1	4.92	0.6998	-0.2533	0.0057	-0.7793	0.0786	0.8216	0.1127	-0.6067	0.0929
1	4.92	0.7500	-0.2568	0.0059	-0.8775	0.0889	1.0397	0.1287	-0.3530	0.0910
1	4.92	0.8001	-0.2724	0.0070	-1.0301	0.1028	1.2322	0.1438	-0.6456	0.1524
1	4.92	0.8497	-0.2951	0.0074	-1.0948	0.1166	1.4001	0.1637	-0.5369	0.0908
1	4.92	0.9734	-0.3429	0.0109	-1.3437	0.1553	1.9272	0.2356	-0.9233	0.1799
2	4.92	0.1949	0.0124	0.0022	-0.0123	0.0019	0.0090	0.0063	-0.1087	0.0522
2	4.92	0.2405	0.0002	0.0017	-0.0156	0.0032	0.0213	0.0109	-0.2760	0.0691
2	4.92	0.2999	-0.0162	0.0028	-0.0598	0.0090	0.0261	0.0231	-0.3236	0.1076
2	4.92	0.3498	-0.0383	0.0027	-0.0817	0.0131	0.0429	0.0382	-0.3575	0.0762
2	4.92	0.3998	-0.0530	0.0037	-0.1401	0.0212	0.0614	0.0578	-0.3681	0.0694
2	4.92	0.4496	-0.0772	0.0039	-0.2103	0.0242	0.1238	0.0734	-0.3354	0.0675
2	4.92	0.4995	-0.1089	0.0039	-0.2853	0.0288	0.1669	0.0935	-0.5085	0.0818
2	4.92	0.5551	-0.1373	0.0031	-0.3840	0.0329	0.2696	0.1183	-0.3765	0.0574
2	4.92	0.5996	-0.1603	0.0038	-0.4457	0.0385	0.3340	0.1412	-0.4674	0.0669
2	4.92	0.6497	-0.1830	0.0035	-0.5206	0.0423	0.4499	0.1668	-0.5170	0.0618
2	4.92	0.6996	-0.1925	0.0052	-0.6112	0.0492	0.5948	0.1911	-0.4935	0.0932
2	4.92	0.7495	-0.2359	0.0047	-0.6906	0.0543	0.7477	0.2228	-0.5734	0.0726
2	4.92	0.7996	-0.2638	0.0051	-0.8111	0.0578	0.9328	0.2484	-0.6568	0.0869
2	4.92	0.8578	-0.3126	0.0045	-0.9096	0.0597	1.1953	0.2919	-0.3791	0.0770
2	4.92	0.9727	-0.3638	0.0130	-1.1096	0.0698	1.8028	0.3783	-0.2518	0.1043

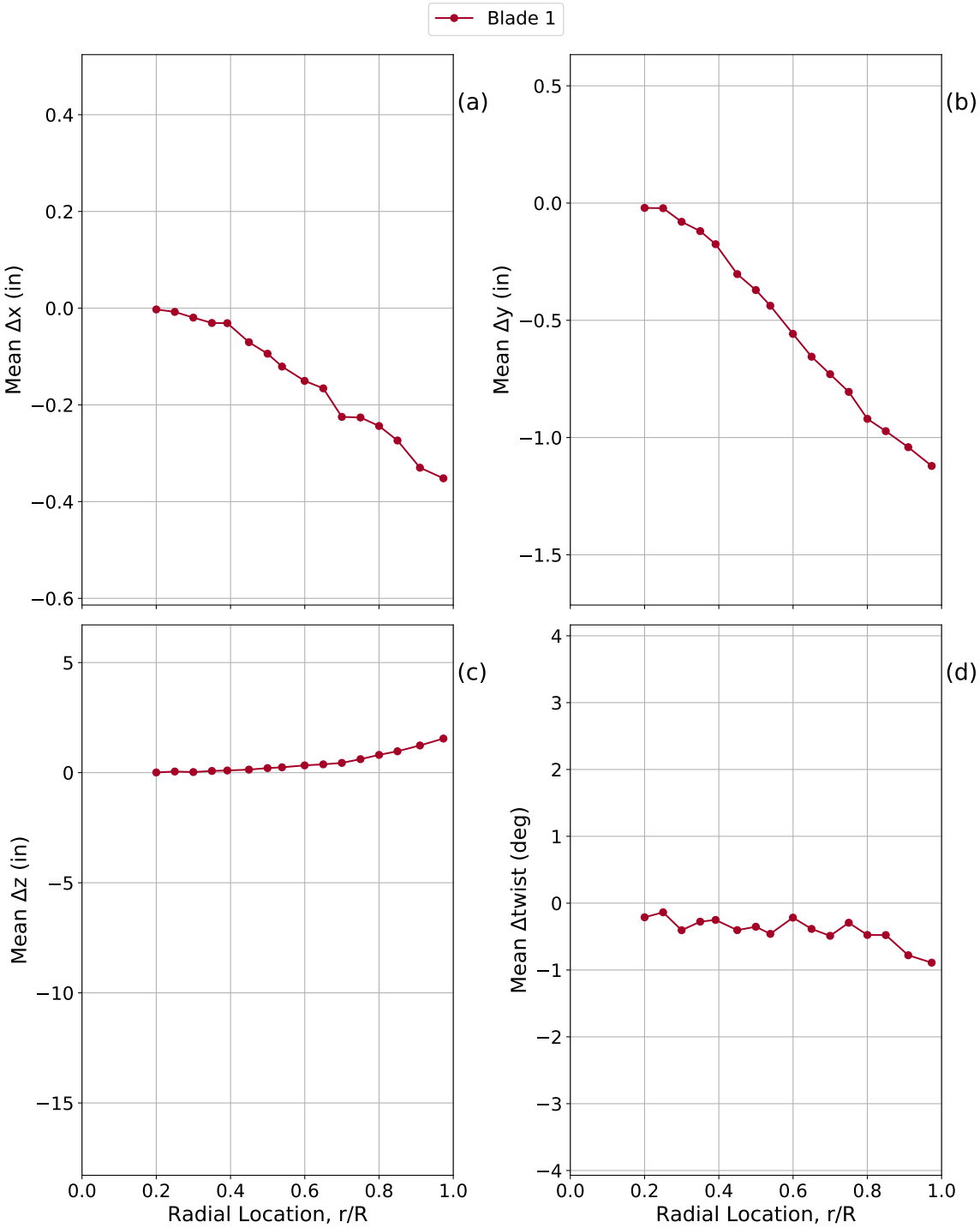


Figure 3.21-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0026	0.0035	-0.0206	0.0015	0.0094	0.0045	-0.2115	0.0539
1	15.12	0.2499	-0.0077	0.0036	-0.0219	0.0042	0.0517	0.0085	-0.1370	0.0793
1	15.12	0.2998	-0.0195	0.0026	-0.0799	0.0067	0.0274	0.0130	-0.4050	0.1141
1	15.12	0.3498	-0.0306	0.0022	-0.1196	0.0098	0.0771	0.0266	-0.2769	0.0709
1	15.12	0.3913	-0.0310	0.0030	-0.1753	0.0158	0.0986	0.0333	-0.2510	0.0800
1	15.12	0.4496	-0.0703	0.0037	-0.3030	0.0210	0.1382	0.0447	-0.4036	0.0879
1	15.12	0.4997	-0.0941	0.0029	-0.3710	0.0253	0.2074	0.0513	-0.3531	0.0976
1	15.12	0.5387	-0.1207	0.0047	-0.4379	0.0308	0.2430	0.0547	-0.4595	0.0937
1	15.12	0.5996	-0.1503	0.0052	-0.5578	0.0378	0.3300	0.0605	-0.2166	0.0814
1	15.12	0.6498	-0.1658	0.0052	-0.6552	0.0445	0.3774	0.0686	-0.3854	0.0959
1	15.12	0.6998	-0.2248	0.0051	-0.7299	0.0529	0.4428	0.0793	-0.4888	0.1001
1	15.12	0.7500	-0.2260	0.0056	-0.8052	0.0598	0.6130	0.0910	-0.2929	0.1078
1	15.12	0.8001	-0.2436	0.0058	-0.9203	0.0702	0.8072	0.0999	-0.4759	0.1324
1	15.12	0.8497	-0.2736	0.0051	-0.9728	0.0789	0.9710	0.1121	-0.4773	0.1124
1	15.12	0.9102	-0.3298	0.0070	-1.0412	0.0883	1.2349	0.1337	-0.7793	0.0770
1	15.12	0.9734	-0.3518	0.0097	-1.1212	0.1018	1.5483	0.1424	-0.8906	0.1857

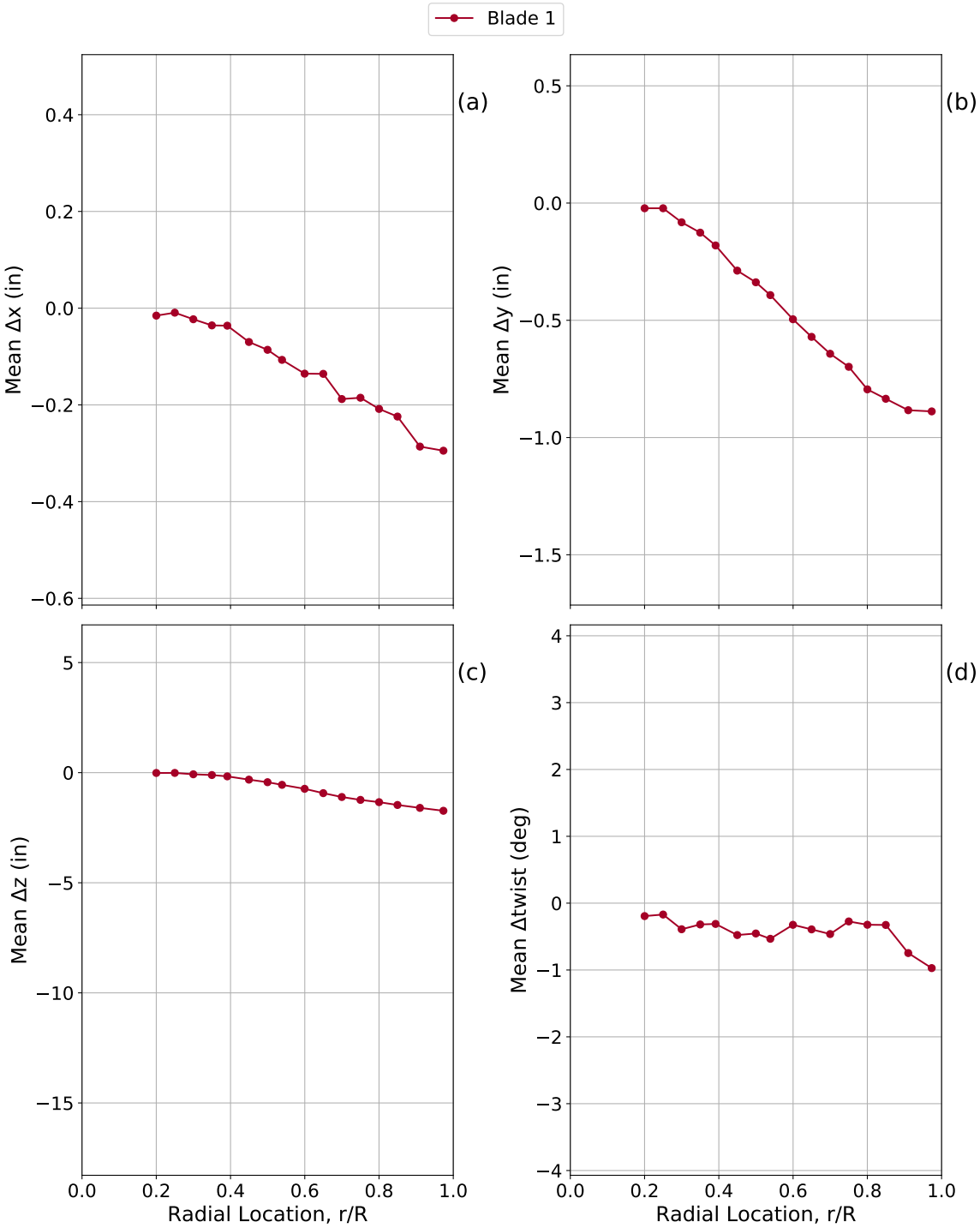


Figure 3.21-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0154	0.0028	-0.0222	0.0017	-0.0139	0.0050	-0.1936	0.0298
1	29.88	0.2499	-0.0093	0.0036	-0.0222	0.0021	-0.0116	0.0082	-0.1703	0.0471
1	29.88	0.2998	-0.0229	0.0019	-0.0820	0.0053	-0.0739	0.0165	-0.3905	0.0624
1	29.88	0.3498	-0.0356	0.0044	-0.1262	0.0094	-0.1081	0.0267	-0.3189	0.0659
1	29.88	0.3913	-0.0362	0.0040	-0.1808	0.0122	-0.1683	0.0375	-0.3108	0.0619
1	29.88	0.4496	-0.0699	0.0032	-0.2882	0.0154	-0.3168	0.0496	-0.4771	0.0824
1	29.88	0.4997	-0.0861	0.0039	-0.3379	0.0198	-0.4332	0.0609	-0.4539	0.0780
1	29.88	0.5387	-0.1069	0.0046	-0.3926	0.0239	-0.5533	0.0703	-0.5332	0.0736
1	29.88	0.5996	-0.1354	0.0040	-0.4955	0.0292	-0.7332	0.0808	-0.3241	0.0711
1	29.88	0.6498	-0.1358	0.0038	-0.5706	0.0333	-0.9306	0.0902	-0.3923	0.0842
1	29.88	0.6998	-0.1879	0.0040	-0.6427	0.0373	-1.1056	0.0989	-0.4624	0.0855
1	29.88	0.7500	-0.1852	0.0041	-0.6984	0.0424	-1.2370	0.1079	-0.2736	0.0903
1	29.88	0.8001	-0.2083	0.0044	-0.7946	0.0480	-1.3394	0.1203	-0.3232	0.0932
1	29.88	0.8497	-0.2241	0.0048	-0.8347	0.0531	-1.4676	0.1296	-0.3261	0.0869
1	29.88	0.9102	-0.2862	0.0049	-0.8835	0.0591	-1.5996	0.1347	-0.7465	0.1309
1	29.88	0.9734	-0.2947	0.0053	-0.8885	0.0662	-1.7311	0.1517	-0.9716	0.1261

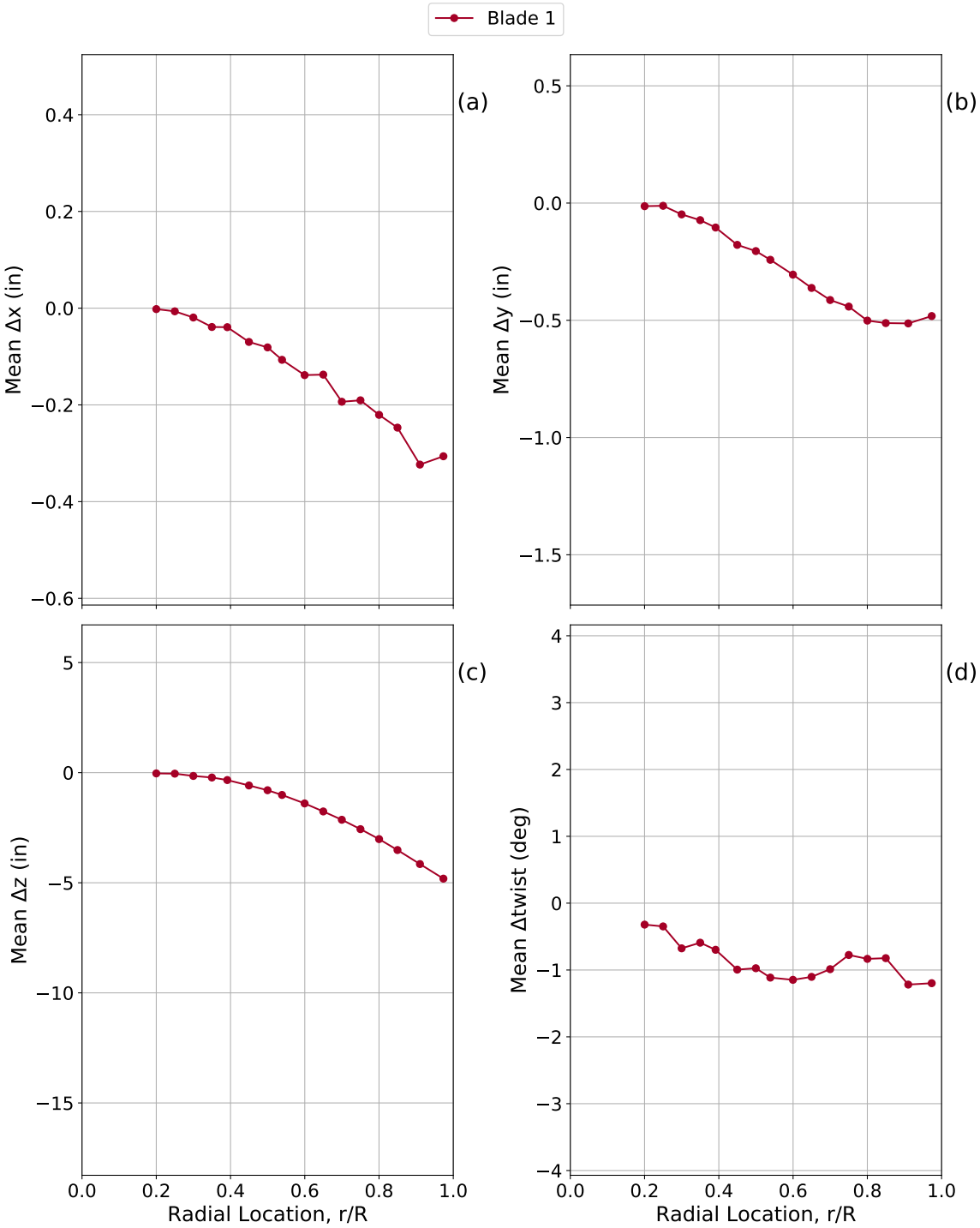


Figure 3.21-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0019	0.0021	-0.0133	0.0011	-0.0340	0.0035	-0.3211	0.0385
1	45	0.2499	-0.0065	0.0016	-0.0117	0.0020	-0.0448	0.0100	-0.3479	0.0574
1	45	0.2998	-0.0193	0.0023	-0.0483	0.0041	-0.1493	0.0137	-0.6760	0.0834
1	45	0.3498	-0.0389	0.0020	-0.0729	0.0073	-0.2207	0.0265	-0.5916	0.0557
1	45	0.3913	-0.0393	0.0037	-0.1043	0.0101	-0.3356	0.0373	-0.6978	0.0493
1	45	0.4496	-0.0698	0.0040	-0.1783	0.0139	-0.5811	0.0491	-0.9943	0.0623
1	45	0.4997	-0.0811	0.0029	-0.2048	0.0184	-0.7979	0.0620	-0.9736	0.0531
1	45	0.5387	-0.1068	0.0032	-0.2420	0.0221	-1.0122	0.0698	-1.1137	0.0881
1	45	0.5996	-0.1384	0.0035	-0.3052	0.0288	-1.3974	0.0868	-1.1472	0.0863
1	45	0.6498	-0.1374	0.0035	-0.3620	0.0359	-1.7621	0.1016	-1.1027	0.0839
1	45	0.6998	-0.1935	0.0039	-0.4135	0.0434	-2.1395	0.1128	-0.9878	0.0939
1	45	0.7500	-0.1905	0.0042	-0.4415	0.0514	-2.5659	0.1268	-0.7752	0.0938
1	45	0.8001	-0.2206	0.0054	-0.5013	0.0608	-3.0168	0.1394	-0.8335	0.1013
1	45	0.8497	-0.2470	0.0049	-0.5119	0.0693	-3.5142	0.1599	-0.8228	0.1018
1	45	0.9102	-0.3234	0.0064	-0.5133	0.0806	-4.1505	0.1879	-1.2182	0.0973
1	45	0.9734	-0.3062	0.0076	-0.4819	0.0920	-4.8134	0.2211	-1.1974	0.1115

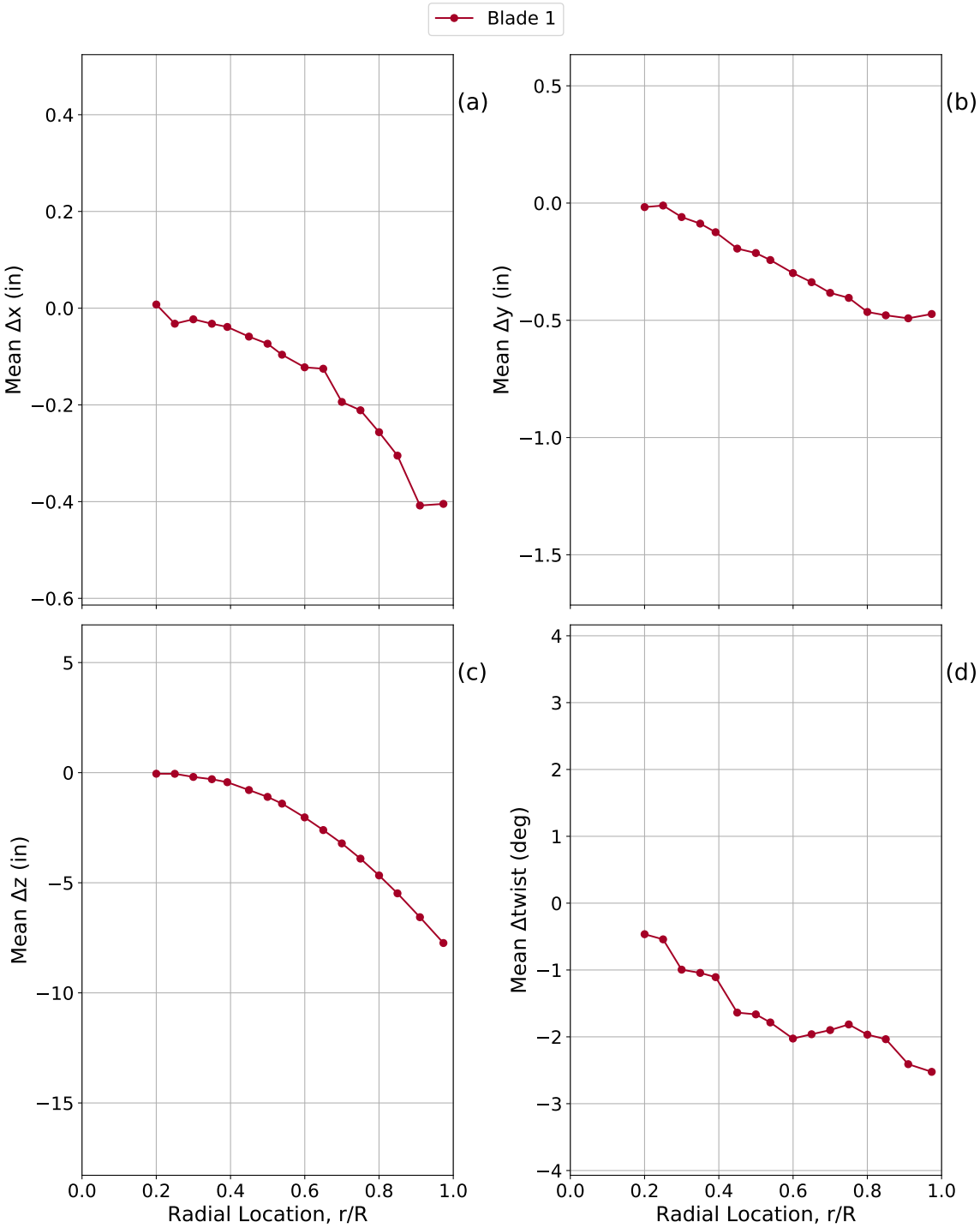


Figure 3.21-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0076	0.0021	-0.0172	0.0006	-0.0487	0.0064	-0.4646	0.0362
1	60.12	0.2499	-0.0321	0.0013	-0.0106	0.0021	-0.0517	0.0134	-0.5415	0.0450
1	60.12	0.2998	-0.0230	0.0033	-0.0597	0.0032	-0.1942	0.0259	-0.9949	0.0764
1	60.12	0.3498	-0.0322	0.0036	-0.0876	0.0051	-0.2972	0.0447	-1.0436	0.0759
1	60.12	0.3913	-0.0388	0.0037	-0.1243	0.0079	-0.4342	0.0645	-1.1069	0.0766
1	60.12	0.4496	-0.0588	0.0048	-0.1942	0.0092	-0.7894	0.0961	-1.6375	0.0699
1	60.12	0.4997	-0.0735	0.0053	-0.2131	0.0104	-1.1006	0.1251	-1.6639	0.0784
1	60.12	0.5387	-0.0962	0.0044	-0.2430	0.0127	-1.4068	0.1481	-1.7848	0.0695
1	60.12	0.5996	-0.1223	0.0043	-0.2986	0.0156	-2.0320	0.1837	-2.0258	0.0768
1	60.12	0.6498	-0.1252	0.0068	-0.3375	0.0187	-2.6076	0.2104	-1.9611	0.0787
1	60.12	0.6998	-0.1939	0.0069	-0.3830	0.0229	-3.2125	0.2409	-1.8990	0.0751
1	60.12	0.7500	-0.2111	0.0080	-0.4044	0.0282	-3.9045	0.2692	-1.8146	0.0769
1	60.12	0.8001	-0.2564	0.0098	-0.4645	0.0332	-4.6671	0.3022	-1.9673	0.0805
1	60.12	0.8497	-0.3049	0.0110	-0.4787	0.0394	-5.4807	0.3261	-2.0352	0.0773
1	60.12	0.9102	-0.4080	0.0141	-0.4915	0.0473	-6.5647	0.3661	-2.4090	0.0978
1	60.12	0.9734	-0.4047	0.0167	-0.4732	0.0562	-7.7367	0.4032	-2.5237	0.1347

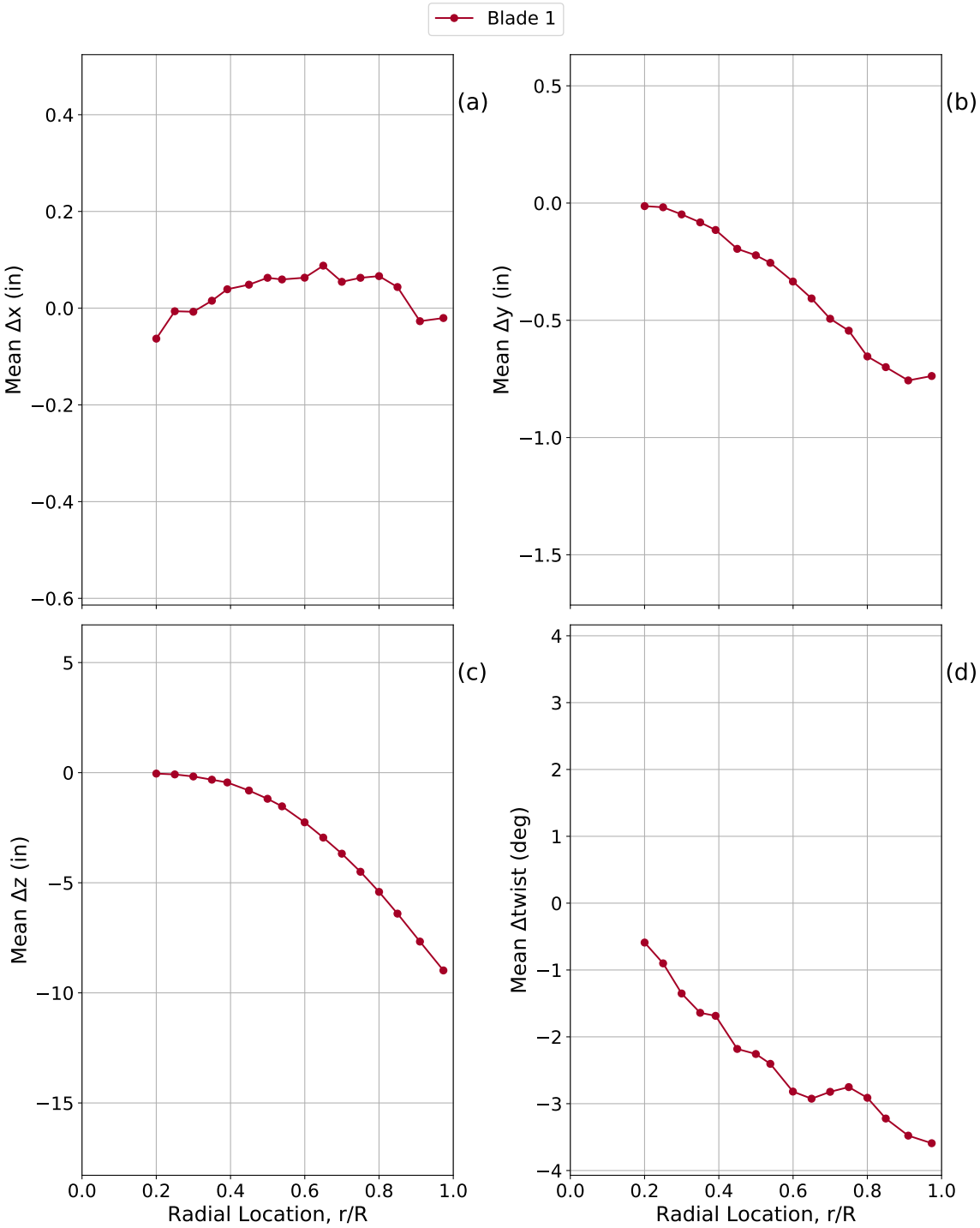


Figure 3.21-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0630	0.0131	-0.0130	0.0014	-0.0422	0.0069	-0.5895	0.0261
1	74.88	0.2499	-0.0063	0.0034	-0.0180	0.0028	-0.0800	0.0147	-0.9005	0.0519
1	74.88	0.2998	-0.0074	0.0049	-0.0484	0.0051	-0.1731	0.0262	-1.3514	0.0573
1	74.88	0.3498	0.0154	0.0125	-0.0824	0.0094	-0.3190	0.0453	-1.6405	0.0529
1	74.88	0.3913	0.0391	0.0205	-0.1149	0.0131	-0.4454	0.0646	-1.6858	0.0608
1	74.88	0.4496	0.0486	0.0299	-0.1953	0.0199	-0.8117	0.0946	-2.1810	0.0674
1	74.88	0.4997	0.0628	0.0367	-0.2227	0.0268	-1.1861	0.1223	-2.2566	0.0728
1	74.88	0.5387	0.0594	0.0413	-0.2550	0.0323	-1.5292	0.1477	-2.4039	0.0768
1	74.88	0.5996	0.0630	0.0459	-0.3347	0.0421	-2.2562	0.1923	-2.8189	0.0810
1	74.88	0.6498	0.0879	0.0478	-0.4068	0.0510	-2.9482	0.2317	-2.9252	0.0549
1	74.88	0.6998	0.0545	0.0462	-0.4934	0.0605	-3.6794	0.2727	-2.8224	0.0473
1	74.88	0.7500	0.0628	0.0416	-0.5443	0.0704	-4.5009	0.3150	-2.7518	0.0623
1	74.88	0.8001	0.0663	0.0356	-0.6542	0.0806	-5.4148	0.3598	-2.9119	0.0593
1	74.88	0.8497	0.0437	0.0277	-0.6998	0.0907	-6.4016	0.4052	-3.2220	0.0632
1	74.88	0.9102	-0.0269	0.0237	-0.7565	0.1042	-7.6711	0.4606	-3.4778	0.0704
1	74.88	0.9734	-0.0204	0.0331	-0.7376	0.1239	-8.9815	0.5183	-3.5916	0.1055

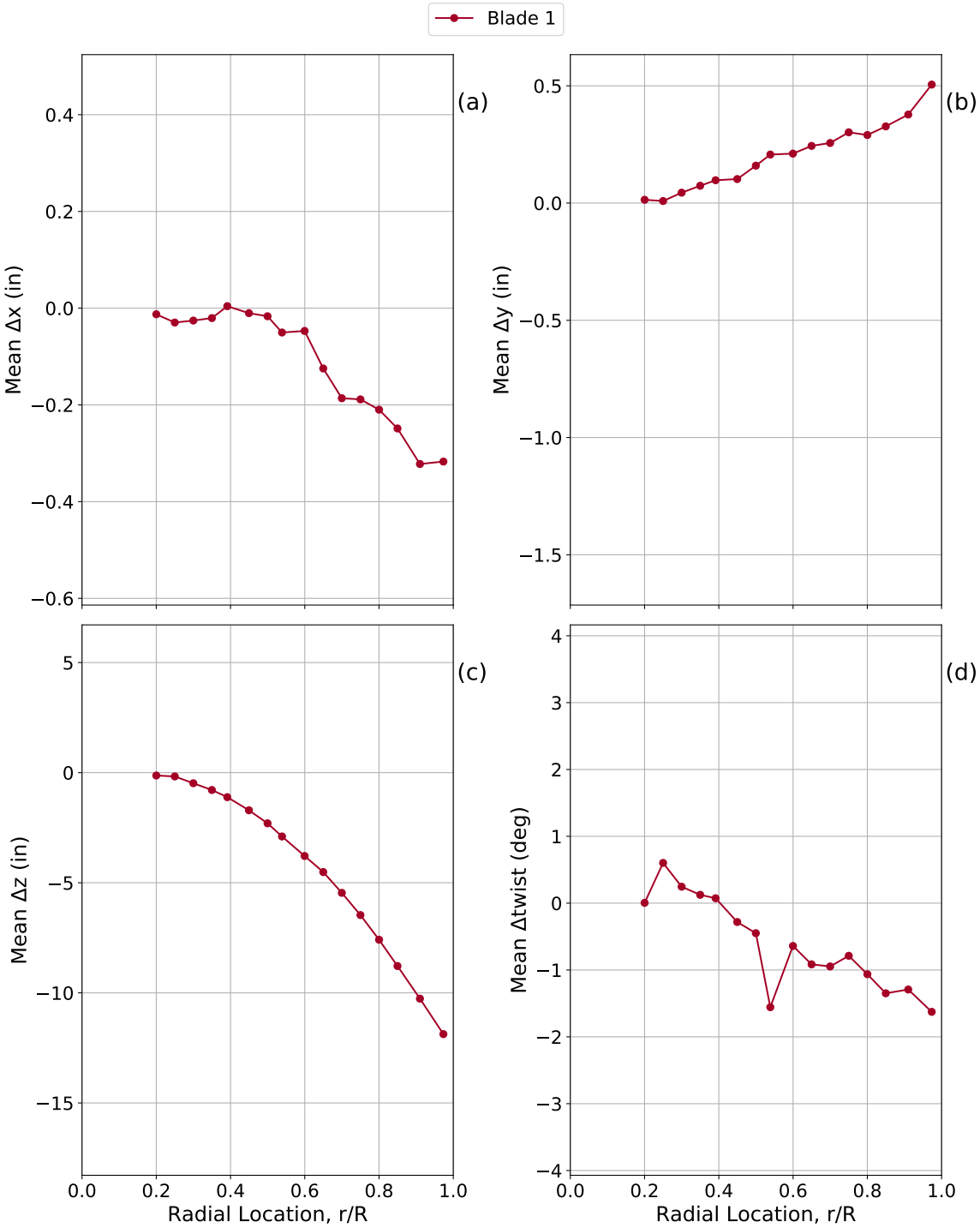


Figure 3.21-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0126	0.0056	0.0140	0.0057	-0.1297	0.0136	0.0045	0.0775
1	80.16	0.2499	-0.0297	0.0028	0.0087	0.0067	-0.1716	0.0140	0.6023	0.2350
1	80.16	0.2998	-0.0256	0.0024	0.0443	0.0208	-0.4802	0.0461	0.2462	0.2234
1	80.16	0.3498	-0.0205	0.0032	0.0738	0.0341	-0.7879	0.0752	0.1244	0.2358
1	80.16	0.3913	0.0041	0.0039	0.0973	0.0478	-1.1122	0.1033	0.0733	0.2260
1	80.16	0.4496	-0.0103	0.0052	0.1023	0.0679	-1.7084	0.1413	-0.2819	0.2306
1	80.16	0.4997	-0.0167	0.0050	0.1595	0.0855	-2.3009	0.1740	-0.4492	0.2275
1	80.16	0.5387	-0.0503	0.0160	0.2069	0.1048	-2.8972	0.2279	-1.5568	0.4174
1	80.16	0.5996	-0.0471	0.0108	0.2109	0.1211	-3.7848	0.2349	-0.6403	0.2120
1	80.16	0.6498	-0.1247	0.0420	0.2438	0.1413	-4.5134	0.2055	-0.9155	0.2110
1	80.16	0.6998	-0.1862	0.0403	0.2562	0.1580	-5.4586	0.2355	-0.9469	0.2126
1	80.16	0.7500	-0.1886	0.0375	0.3017	0.1752	-6.4674	0.2640	-0.7874	0.2207
1	80.16	0.8001	-0.2099	0.0354	0.2902	0.1924	-7.5885	0.2976	-1.0632	0.2154
1	80.16	0.8497	-0.2487	0.0336	0.3270	0.2092	-8.7816	0.3305	-1.3486	0.2170
1	80.16	0.9102	-0.3222	0.0322	0.3775	0.2300	-10.2627	0.3768	-1.2920	0.2233
1	80.16	0.9734	-0.3172	0.0302	0.5053	0.2518	-11.8748	0.4284	-1.6263	0.2162

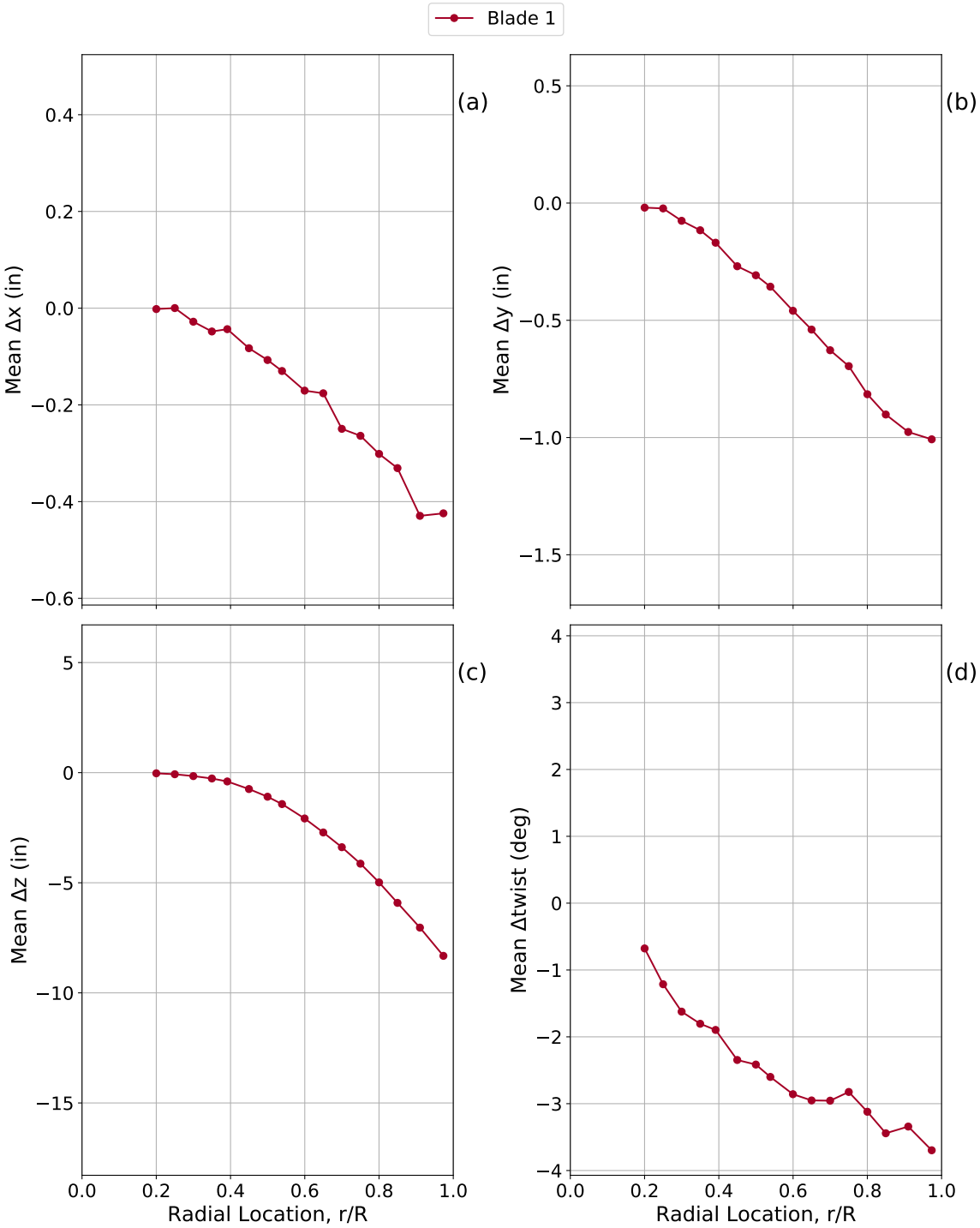


Figure 3.21-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0018	0.0083	-0.0194	0.0021	-0.0297	0.0086	-0.6774	0.0763
1	85.08	0.2499	0.0002	0.0022	-0.0229	0.0036	-0.0722	0.0106	-1.2130	0.1734
1	85.08	0.2998	-0.0280	0.0036	-0.0756	0.0084	-0.1563	0.0255	-1.6230	0.1933
1	85.08	0.3498	-0.0482	0.0039	-0.1160	0.0141	-0.2646	0.0448	-1.8045	0.1830
1	85.08	0.3913	-0.0434	0.0044	-0.1691	0.0202	-0.3995	0.0583	-1.8968	0.1902
1	85.08	0.4496	-0.0828	0.0044	-0.2695	0.0267	-0.7438	0.0790	-2.3463	0.1847
1	85.08	0.4997	-0.1072	0.0047	-0.3079	0.0327	-1.0926	0.0951	-2.4147	0.1811
1	85.08	0.5387	-0.1299	0.0053	-0.3566	0.0382	-1.4265	0.1043	-2.5997	0.1889
1	85.08	0.5996	-0.1705	0.0053	-0.4593	0.0471	-2.0808	0.1238	-2.8581	0.1851
1	85.08	0.6498	-0.1760	0.0064	-0.5396	0.0535	-2.7158	0.1393	-2.9514	0.1873
1	85.08	0.6998	-0.2495	0.0072	-0.6277	0.0614	-3.3853	0.1542	-2.9551	0.1913
1	85.08	0.7500	-0.2639	0.0084	-0.6955	0.0689	-4.1339	0.1728	-2.8245	0.1908
1	85.08	0.8001	-0.3013	0.0100	-0.8154	0.0773	-4.9839	0.1943	-3.1208	0.1814
1	85.08	0.8497	-0.3307	0.0113	-0.9018	0.0868	-5.9126	0.2164	-3.4427	0.1823
1	85.08	0.9102	-0.4294	0.0127	-0.9763	0.0977	-7.0372	0.2460	-3.3420	0.1934
1	85.08	0.9734	-0.4242	0.0148	-1.0076	0.1094	-8.3197	0.2784	-3.6970	0.1964

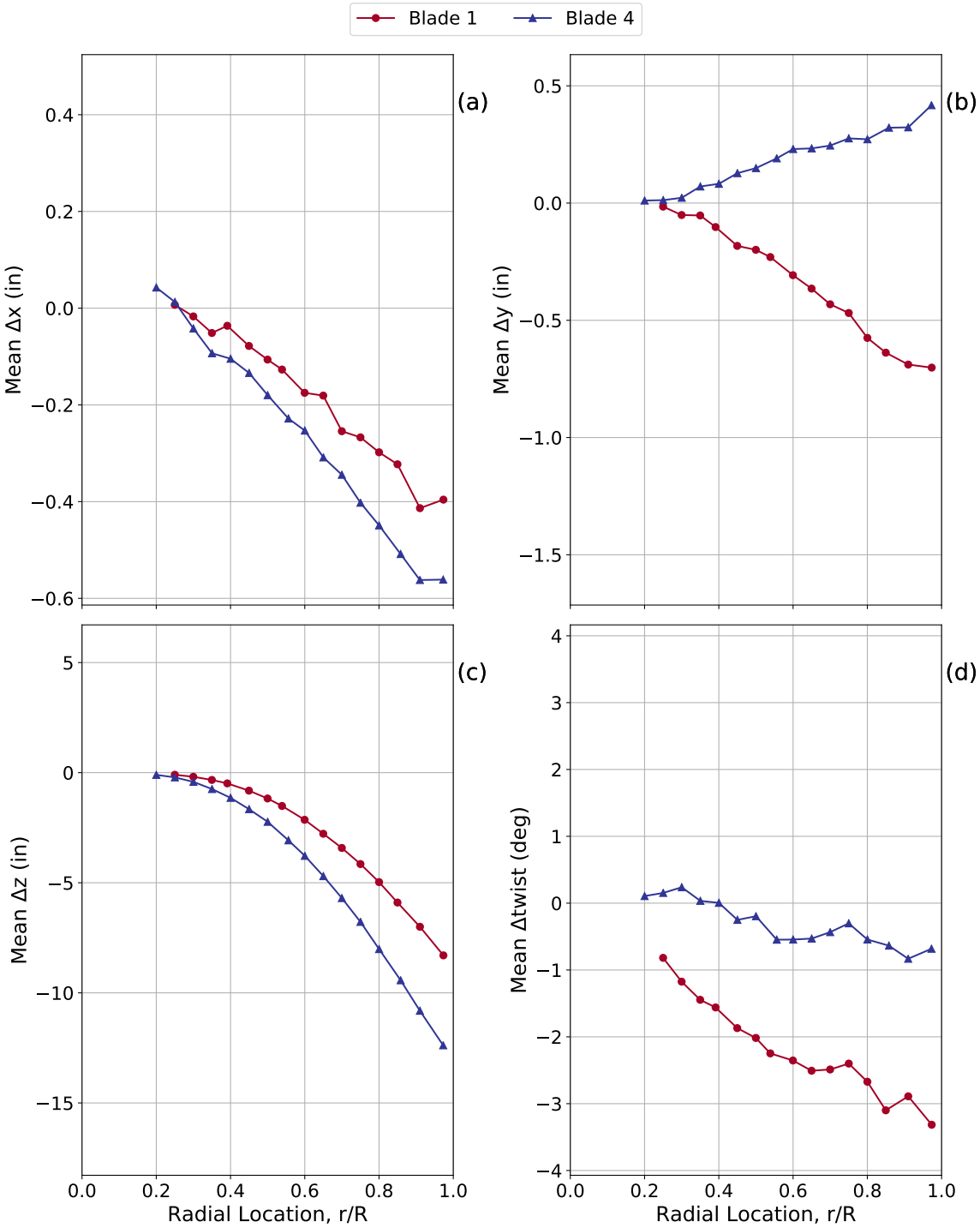


Figure 3.21-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2499	0.0069	0.0033	-0.0152	0.0031	-0.0956	0.0118	-0.8181	0.0864
1	90	0.2998	-0.0170	0.0031	-0.0510	0.0067	-0.1872	0.0221	-1.1744	0.1235
1	90	0.3498	-0.0513	0.0026	-0.0529	0.0105	-0.3309	0.0376	-1.4461	0.1167
1	90	0.3913	-0.0364	0.0019	-0.1023	0.0161	-0.4869	0.0545	-1.5603	0.1278
1	90	0.4496	-0.0781	0.0026	-0.1827	0.0198	-0.8167	0.0745	-1.8694	0.1298
1	90	0.4997	-0.1063	0.0034	-0.1994	0.0232	-1.1722	0.0956	-2.0165	0.1200
1	90	0.5387	-0.1269	0.0044	-0.2303	0.0267	-1.5123	0.1097	-2.2476	0.1138
1	90	0.5996	-0.1750	0.0044	-0.3075	0.0322	-2.1401	0.1315	-2.3538	0.1161
1	90	0.6498	-0.1808	0.0045	-0.3648	0.0368	-2.7745	0.1482	-2.5070	0.1161
1	90	0.6998	-0.2544	0.0051	-0.4317	0.0415	-3.4192	0.1659	-2.4886	0.1108
1	90	0.7500	-0.2671	0.0068	-0.4688	0.0463	-4.1506	0.1832	-2.4001	0.1197
1	90	0.8001	-0.2980	0.0074	-0.5751	0.0511	-4.9702	0.2028	-2.6717	0.1175
1	90	0.8497	-0.3228	0.0076	-0.6380	0.0553	-5.8980	0.2280	-3.0993	0.1139
1	90	0.9102	-0.4135	0.0097	-0.6888	0.0613	-6.9988	0.2548	-2.8898	0.1217
1	90	0.9734	-0.3959	0.0112	-0.7018	0.0680	-8.2981	0.2859	-3.3148	0.1018
4	90.35	0.2001	0.0427	0.0018	0.0107	0.0010	-0.1003	0.0038	0.1060	0.0293
4	90.35	0.2502	0.0127	0.0019	0.0124	0.0027	-0.2150	0.0084	0.1529	0.0411
4	90.35	0.3001	-0.0421	0.0023	0.0225	0.0047	-0.4182	0.0149	0.2377	0.0610
4	90.35	0.3502	-0.0932	0.0030	0.0707	0.0080	-0.7447	0.0244	0.0344	0.0565
4	90.35	0.4002	-0.1046	0.0034	0.0821	0.0127	-1.1452	0.0386	0.0044	0.0475
4	90.35	0.4500	-0.1340	0.0040	0.1274	0.0139	-1.6596	0.0495	-0.2502	0.0622
4	90.35	0.5001	-0.1799	0.0044	0.1490	0.0177	-2.2331	0.0665	-0.1957	0.0615
4	90.35	0.5560	-0.2282	0.0043	0.1907	0.0220	-3.0742	0.0880	-0.5468	0.0644
4	90.35	0.6001	-0.2531	0.0052	0.2302	0.0253	-3.7772	0.1045	-0.5447	0.0601
4	90.35	0.6501	-0.3086	0.0058	0.2331	0.0310	-4.7002	0.1253	-0.5298	0.0514
4	90.35	0.6999	-0.3445	0.0075	0.2451	0.0354	-5.6966	0.1456	-0.4336	0.0627
4	90.35	0.7500	-0.4023	0.0090	0.2758	0.0407	-6.7776	0.1632	-0.3021	0.0591
4	90.35	0.8002	-0.4492	0.0105	0.2720	0.0471	-8.0135	0.1824	-0.5443	0.0644
4	90.35	0.8582	-0.5084	0.0127	0.3213	0.0554	-9.4300	0.2059	-0.6359	0.0669
4	90.35	0.9101	-0.5621	0.0139	0.3229	0.0622	-10.8140	0.2318	-0.8320	0.0664
4	90.35	0.9728	-0.5613	0.0183	0.4173	0.0703	-12.3830	0.2646	-0.6822	0.0803

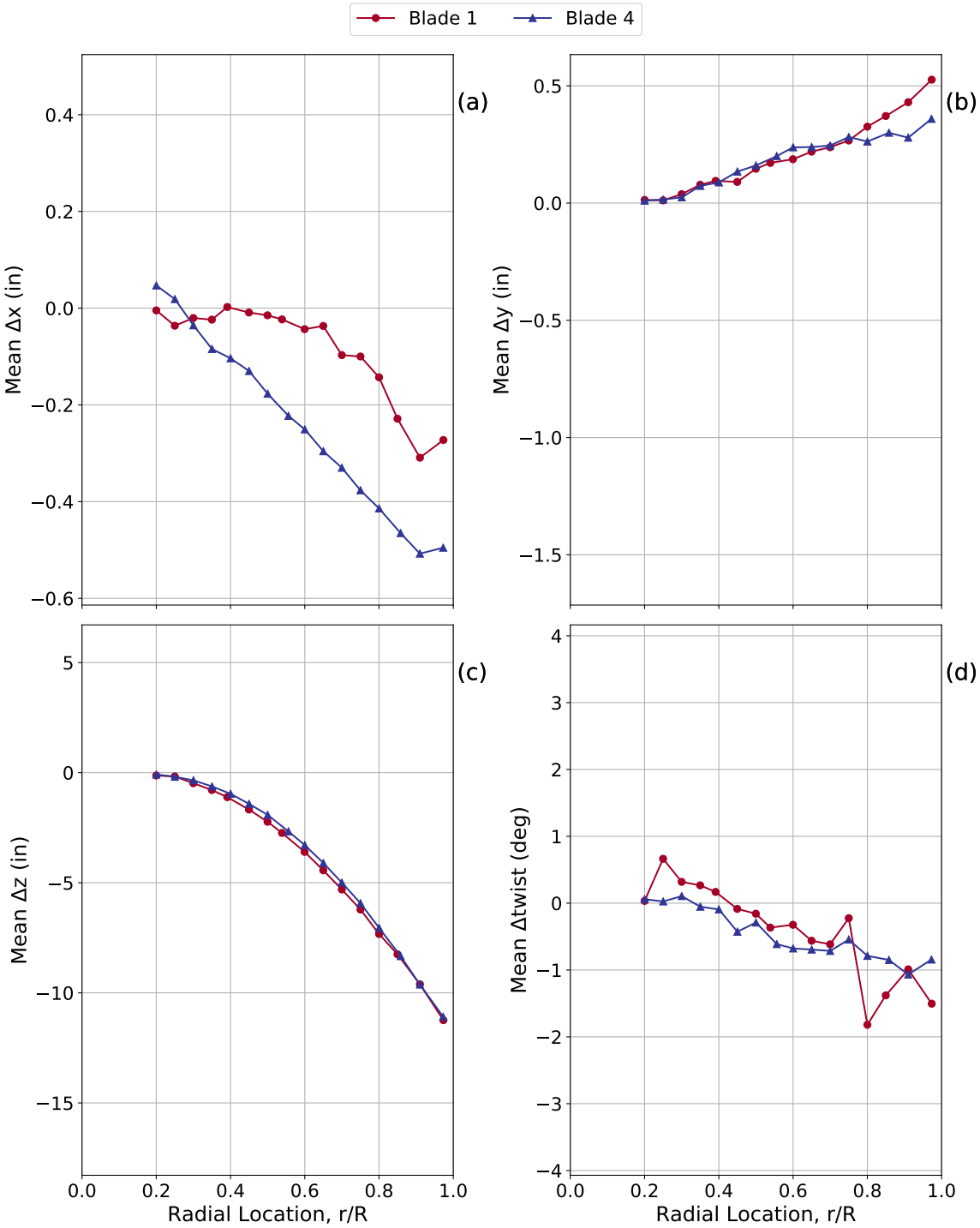


Figure 3.21-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0046	0.0023	0.0133	0.0022	-0.1304	0.0060	0.0338	0.0574
1	94.92	0.2499	-0.0363	0.0013	0.0114	0.0036	-0.1721	0.0086	0.6640	0.1190
1	94.92	0.2998	-0.0204	0.0014	0.0380	0.0083	-0.4804	0.0202	0.3186	0.1401
1	94.92	0.3498	-0.0237	0.0017	0.0780	0.0147	-0.7893	0.0349	0.2668	0.1236
1	94.92	0.3913	0.0024	0.0028	0.0946	0.0203	-1.1123	0.0477	0.1680	0.1176
1	94.92	0.4496	-0.0090	0.0022	0.0901	0.0278	-1.6754	0.0644	-0.0857	0.1159
1	94.92	0.4997	-0.0147	0.0037	0.1462	0.0348	-2.2308	0.0771	-0.1578	0.1208
1	94.92	0.5387	-0.0232	0.0031	0.1712	0.0394	-2.7383	0.0877	-0.3658	0.1216
1	94.92	0.5996	-0.0434	0.0041	0.1870	0.0483	-3.5983	0.1030	-0.3234	0.1237
1	94.92	0.6498	-0.0368	0.0062	0.2191	0.0548	-4.4354	0.1147	-0.5623	0.1399
1	94.92	0.6998	-0.0971	0.0053	0.2382	0.0617	-5.3051	0.1300	-0.6155	0.1275
1	94.92	0.7500	-0.0999	0.0106	0.2667	0.0554	-6.2161	0.1424	-0.2254	0.1135
1	94.92	0.8001	-0.1430	0.0051	0.3258	0.0861	-7.3275	0.1954	-1.8196	0.6170
1	94.92	0.8497	-0.2285	0.0152	0.3712	0.1115	-8.2495	0.1143	-1.3796	0.1605
1	94.92	0.9102	-0.3091	0.0101	0.4301	0.1236	-9.6128	0.1296	-0.9905	0.1377
1	94.92	0.9734	-0.2726	0.0082	0.5263	0.1333	-11.2403	0.1412	-1.5041	0.1386
4	94.92	0.2001	0.0469	0.0028	0.0103	0.0009	-0.0832	0.0060	0.0586	0.0546
4	94.92	0.2502	0.0187	0.0046	0.0151	0.0034	-0.1873	0.0114	0.0250	0.0832
4	94.92	0.3001	-0.0355	0.0017	0.0243	0.0037	-0.3493	0.0183	0.1056	0.1144
4	94.92	0.3502	-0.0845	0.0026	0.0731	0.0058	-0.6250	0.0313	-0.0535	0.1105
4	94.92	0.4002	-0.1037	0.0036	0.0881	0.0104	-0.9621	0.0472	-0.0939	0.1119
4	94.92	0.4500	-0.1300	0.0036	0.1341	0.0132	-1.4195	0.0649	-0.4273	0.1082
4	94.92	0.5001	-0.1769	0.0043	0.1604	0.0177	-1.9191	0.0823	-0.2895	0.0934
4	94.92	0.5560	-0.2227	0.0042	0.2003	0.0221	-2.6675	0.1124	-0.6124	0.1173
4	94.92	0.6001	-0.2507	0.0060	0.2376	0.0267	-3.2922	0.1325	-0.6777	0.1202
4	94.92	0.6501	-0.2958	0.0070	0.2388	0.0318	-4.1032	0.1572	-0.6944	0.1093
4	94.92	0.6999	-0.3300	0.0084	0.2453	0.0379	-4.9938	0.1813	-0.7147	0.1157
4	94.92	0.7500	-0.3766	0.0098	0.2815	0.0445	-5.9291	0.2052	-0.5449	0.1159
4	94.92	0.8002	-0.4142	0.0117	0.2625	0.0495	-7.0478	0.2320	-0.7883	0.1148
4	94.92	0.8582	-0.4651	0.0137	0.2997	0.0560	-8.3341	0.2626	-0.8500	0.1031
4	94.92	0.9101	-0.5076	0.0150	0.2789	0.0622	-9.6223	0.2887	-1.0677	0.1154
4	94.92	0.9728	-0.4953	0.0165	0.3591	0.0698	-11.0868	0.3151	-0.8442	0.1222

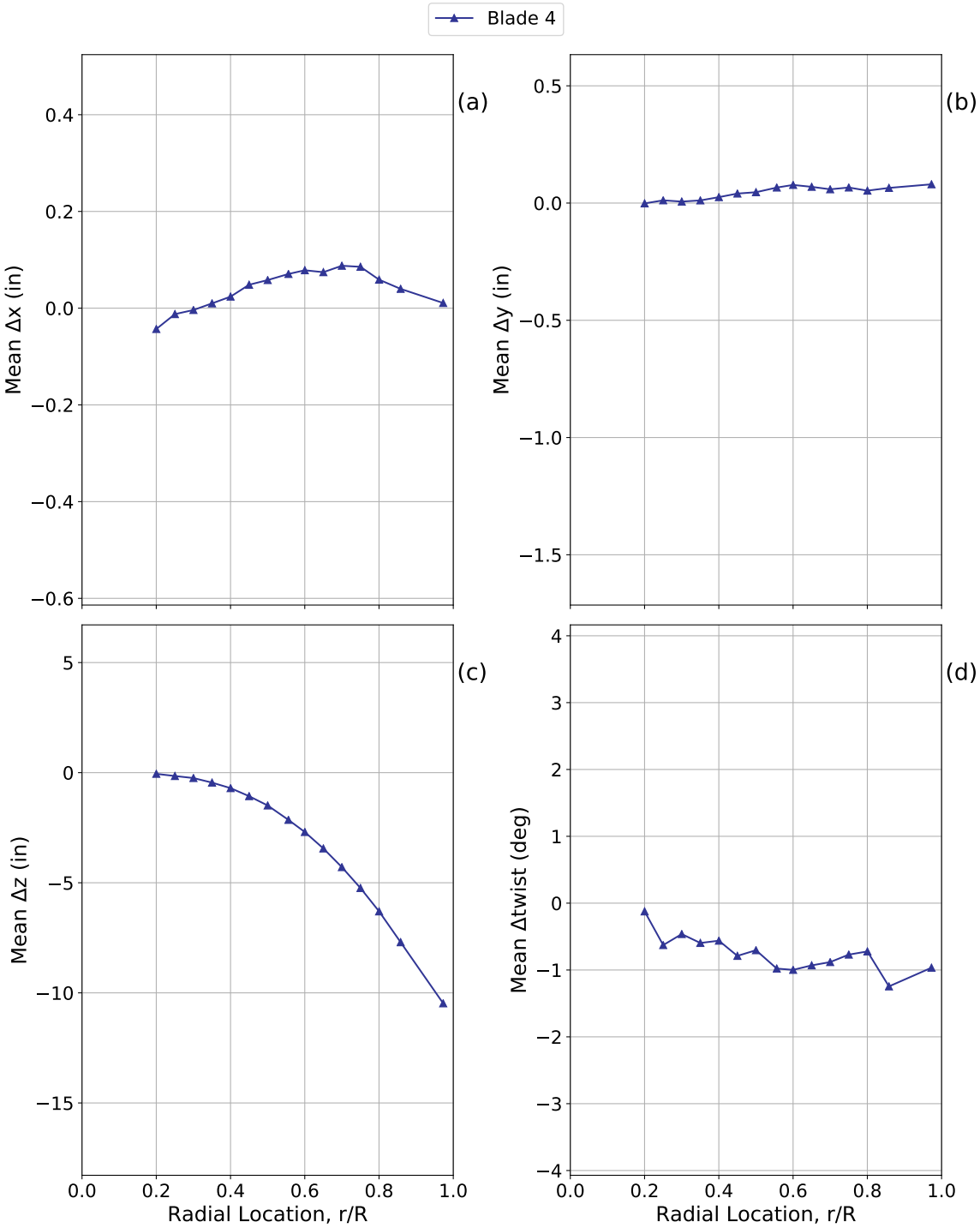


Figure 3.21-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0431	0.0013	-0.0015	0.0007	-0.0536	0.0025	-0.1235	0.0147
4	105.12	0.2502	-0.0123	0.0011	0.0116	0.0019	-0.1531	0.0076	-0.6273	0.0261
4	105.12	0.3001	-0.0038	0.0010	0.0063	0.0032	-0.2448	0.0122	-0.4626	0.0333
4	105.12	0.3502	0.0099	0.0021	0.0113	0.0056	-0.4524	0.0209	-0.5957	0.0276
4	105.12	0.4002	0.0239	0.0018	0.0252	0.0088	-0.7032	0.0337	-0.5615	0.0273
4	105.12	0.4500	0.0484	0.0027	0.0405	0.0113	-1.0680	0.0491	-0.7890	0.0349
4	105.12	0.5001	0.0581	0.0033	0.0462	0.0146	-1.4910	0.0684	-0.7040	0.0307
4	105.12	0.5560	0.0707	0.0036	0.0661	0.0178	-2.1445	0.0920	-0.9787	0.0333
4	105.12	0.6001	0.0784	0.0050	0.0773	0.0205	-2.6959	0.1135	-0.9981	0.0364
4	105.12	0.6501	0.0744	0.0071	0.0692	0.0239	-3.4432	0.1411	-0.9309	0.0404
4	105.12	0.6999	0.0877	0.0081	0.0587	0.0279	-4.2910	0.1729	-0.8816	0.0321
4	105.12	0.7500	0.0855	0.0096	0.0663	0.0315	-5.2402	0.2097	-0.7699	0.0481
4	105.12	0.8002	0.0589	0.0138	0.0529	0.0350	-6.3009	0.2473	-0.7224	0.0734
4	105.12	0.8582	0.0399	0.0168	0.0646	0.0399	-7.7016	0.2977	-1.2455	0.0867
4	105.12	0.9728	0.0107	0.0256	0.0800	0.0472	-10.4761	0.4042	-0.9661	0.1070

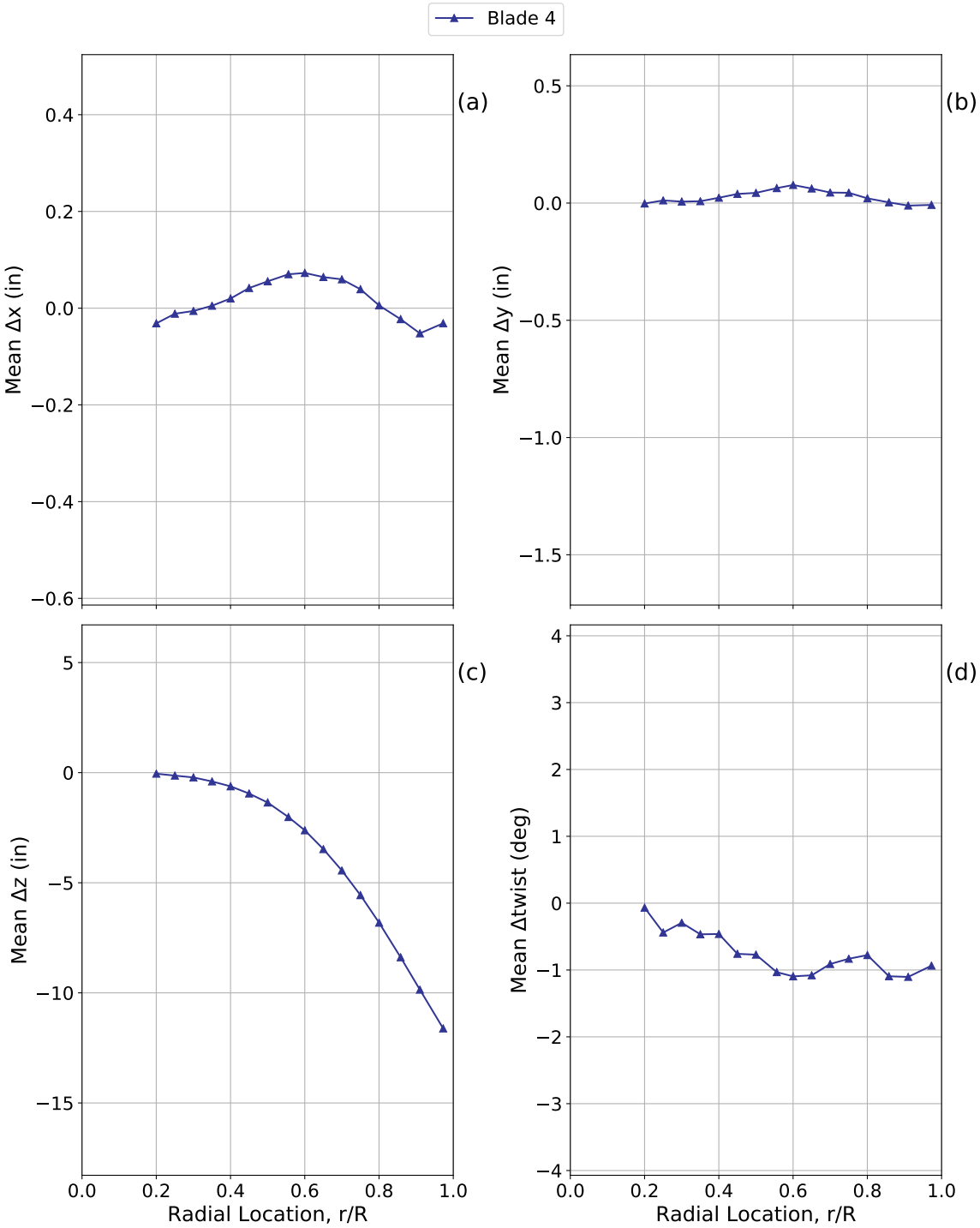


Figure 3.21-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0314	0.0011	-0.0020	0.0005	-0.0472	0.0022	-0.0679	0.0102
4	119.88	0.2502	-0.0115	0.0009	0.0112	0.0015	-0.1350	0.0041	-0.4398	0.0221
4	119.88	0.3001	-0.0058	0.0014	0.0062	0.0023	-0.2167	0.0090	-0.2937	0.0249
4	119.88	0.3502	0.0050	0.0012	0.0078	0.0042	-0.3992	0.0140	-0.4660	0.0323
4	119.88	0.4002	0.0200	0.0016	0.0227	0.0065	-0.6216	0.0224	-0.4617	0.0371
4	119.88	0.4500	0.0416	0.0016	0.0388	0.0092	-0.9493	0.0300	-0.7584	0.0369
4	119.88	0.5001	0.0555	0.0021	0.0434	0.0120	-1.3574	0.0370	-0.7708	0.0399
4	119.88	0.5560	0.0701	0.0024	0.0636	0.0162	-2.0172	0.0495	-1.0323	0.0436
4	119.88	0.6001	0.0728	0.0034	0.0770	0.0197	-2.6199	0.0607	-1.0954	0.0414
4	119.88	0.6501	0.0643	0.0039	0.0619	0.0249	-3.4736	0.0759	-1.0797	0.0447
4	119.88	0.6999	0.0596	0.0055	0.0448	0.0302	-4.4433	0.0960	-0.9108	0.0430
4	119.88	0.7500	0.0391	0.0072	0.0438	0.0359	-5.5642	0.1228	-0.8319	0.0482
4	119.88	0.8002	0.0057	0.0105	0.0201	0.0417	-6.8147	0.1580	-0.7770	0.0518
4	119.88	0.8582	-0.0228	0.0148	0.0029	0.0483	-8.3870	0.2070	-1.0939	0.0580
4	119.88	0.9101	-0.0521	0.0185	-0.0108	0.0548	-9.8572	0.2585	-1.1035	0.0457
4	119.88	0.9728	-0.0313	0.0235	-0.0080	0.0620	-11.6168	0.3243	-0.9352	0.0532

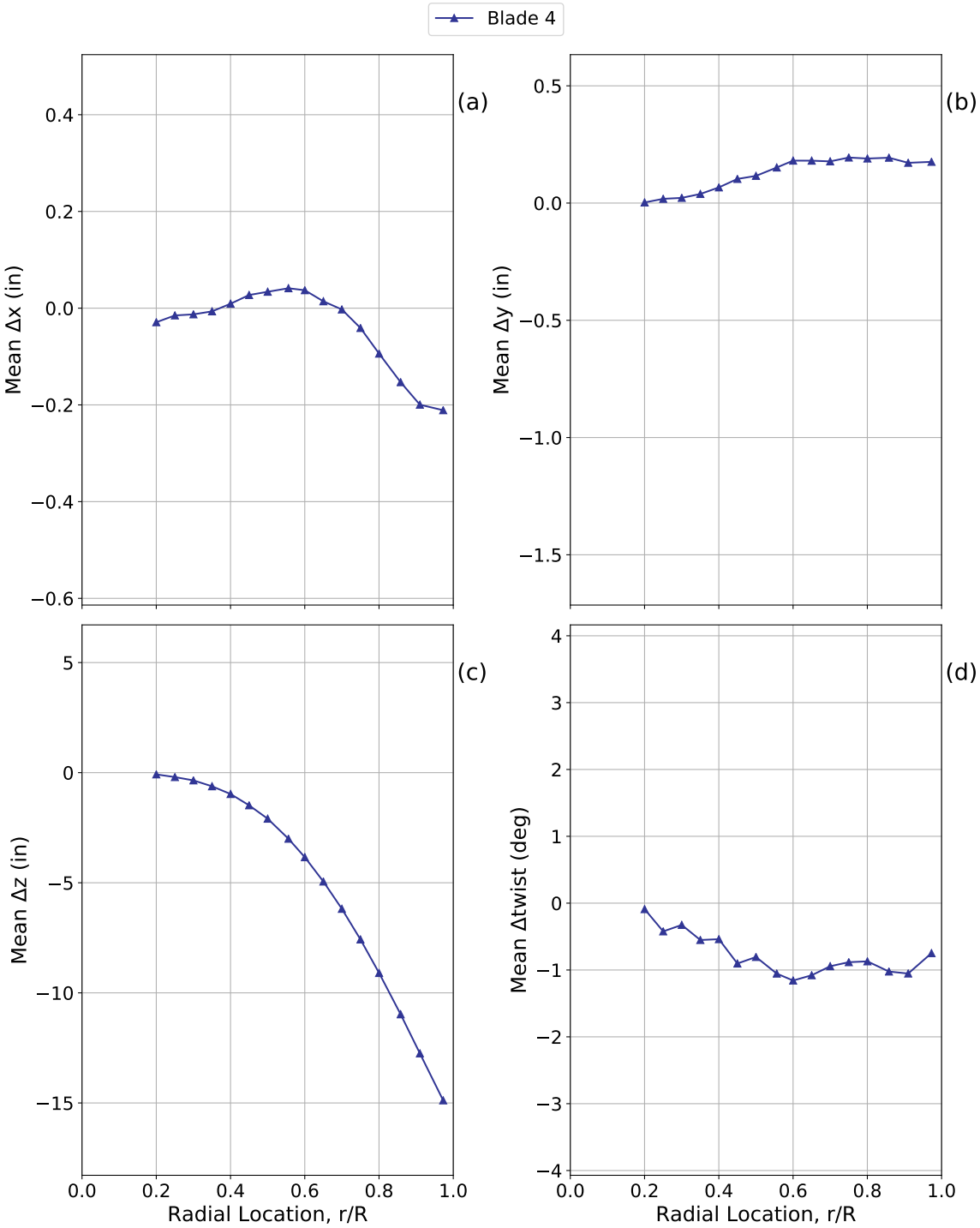


Figure 3.21-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0291	0.0012	0.0026	0.0008	-0.0787	0.0014	-0.0898	0.0160
4	135	0.2502	-0.0150	0.0014	0.0180	0.0013	-0.2013	0.0041	-0.4225	0.0267
4	135	0.3001	-0.0128	0.0009	0.0221	0.0032	-0.3511	0.0072	-0.3260	0.0357
4	135	0.3502	-0.0066	0.0013	0.0387	0.0048	-0.6195	0.0109	-0.5514	0.0290
4	135	0.4002	0.0092	0.0013	0.0668	0.0076	-0.9710	0.0186	-0.5390	0.0240
4	135	0.4500	0.0272	0.0022	0.1028	0.0098	-1.4829	0.0254	-0.9036	0.0244
4	135	0.5001	0.0339	0.0025	0.1159	0.0126	-2.0918	0.0369	-0.8053	0.0287
4	135	0.5560	0.0412	0.0021	0.1516	0.0152	-3.0012	0.0512	-1.0540	0.0342
4	135	0.6001	0.0371	0.0033	0.1809	0.0182	-3.8397	0.0635	-1.1575	0.0444
4	135	0.6501	0.0142	0.0044	0.1807	0.0216	-4.9451	0.0830	-1.0788	0.0442
4	135	0.6999	-0.0027	0.0056	0.1777	0.0251	-6.1847	0.1022	-0.9439	0.0345
4	135	0.7500	-0.0410	0.0078	0.1941	0.0288	-7.5761	0.1260	-0.8832	0.0518
4	135	0.8002	-0.0940	0.0105	0.1899	0.0326	-9.0990	0.1526	-0.8708	0.0494
4	135	0.8582	-0.1531	0.0136	0.1933	0.0377	-10.9747	0.1847	-1.0231	0.0427
4	135	0.9101	-0.1996	0.0167	0.1716	0.0426	-12.7503	0.2164	-1.0529	0.0486
4	135	0.9728	-0.2110	0.0205	0.1758	0.0482	-14.8835	0.2562	-0.7483	0.0482

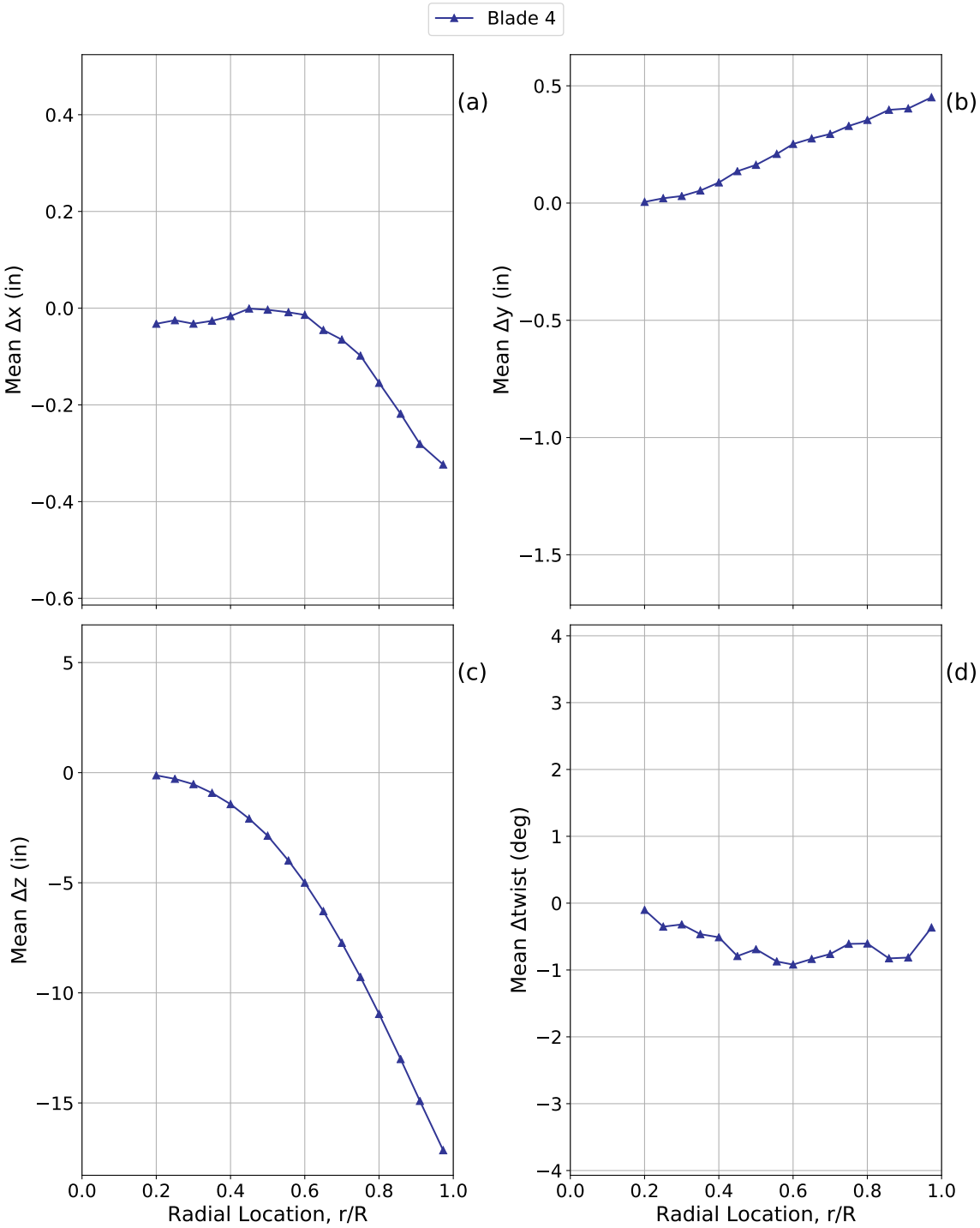


Figure 3.21-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0323	0.0014	0.0049	0.0011	-0.1234	0.0037	-0.1011	0.0183
4	150.12	0.2502	-0.0250	0.0013	0.0204	0.0016	-0.2825	0.0060	-0.3520	0.0360
4	150.12	0.3001	-0.0322	0.0008	0.0299	0.0034	-0.5257	0.0128	-0.3187	0.0418
4	150.12	0.3502	-0.0262	0.0011	0.0532	0.0066	-0.9215	0.0218	-0.4641	0.0373
4	150.12	0.4002	-0.0164	0.0019	0.0877	0.0094	-1.4324	0.0328	-0.5107	0.0380
4	150.12	0.4500	-0.0009	0.0027	0.1358	0.0138	-2.0906	0.0476	-0.7920	0.0387
4	150.12	0.5001	-0.0033	0.0025	0.1627	0.0179	-2.8674	0.0647	-0.6894	0.0408
4	150.12	0.5560	-0.0085	0.0038	0.2094	0.0234	-3.9939	0.0816	-0.8724	0.0476
4	150.12	0.6001	-0.0139	0.0059	0.2519	0.0293	-5.0003	0.0974	-0.9193	0.0486
4	150.12	0.6501	-0.0452	0.0061	0.2754	0.0359	-6.2937	0.1137	-0.8354	0.0546
4	150.12	0.6999	-0.0651	0.0072	0.2945	0.0439	-7.7318	0.1289	-0.7613	0.0475
4	150.12	0.7500	-0.0982	0.0097	0.3287	0.0522	-9.2836	0.1479	-0.6093	0.0507
4	150.12	0.8002	-0.1545	0.0127	0.3543	0.0618	-10.9609	0.1636	-0.6046	0.0448
4	150.12	0.8582	-0.2184	0.0161	0.3975	0.0734	-13.0096	0.1904	-0.8263	0.0634
4	150.12	0.9101	-0.2808	0.0188	0.4033	0.0842	-14.9098	0.2170	-0.8141	0.0553
4	150.12	0.9728	-0.3234	0.0241	0.4508	0.0971	-17.1488	0.2534	-0.3657	0.0612

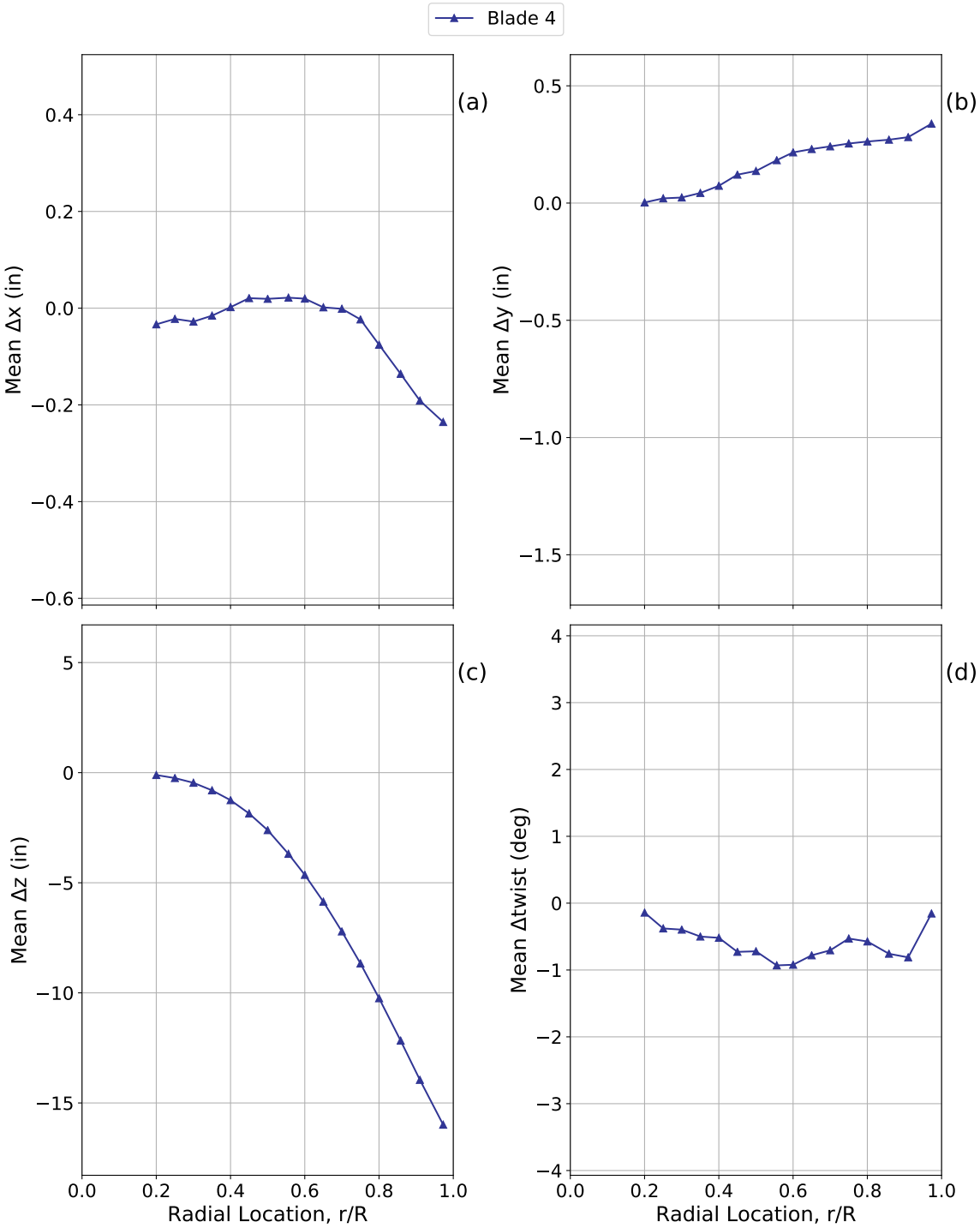


Figure 3.21-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0335	0.0016	0.0026	0.0012	-0.1077	0.0038	-0.1419	0.0266
4	164.88	0.2502	-0.0222	0.0019	0.0200	0.0023	-0.2463	0.0080	-0.3785	0.0378
4	164.88	0.3001	-0.0278	0.0019	0.0236	0.0043	-0.4604	0.0147	-0.3963	0.0575
4	164.88	0.3502	-0.0155	0.0020	0.0430	0.0077	-0.8032	0.0251	-0.4997	0.0624
4	164.88	0.4002	0.0021	0.0024	0.0736	0.0116	-1.2511	0.0388	-0.5188	0.0589
4	164.88	0.4500	0.0207	0.0027	0.1210	0.0148	-1.8549	0.0548	-0.7287	0.0646
4	164.88	0.5001	0.0193	0.0038	0.1367	0.0194	-2.6115	0.0761	-0.7201	0.0688
4	164.88	0.5560	0.0217	0.0046	0.1827	0.0246	-3.6884	0.1008	-0.9311	0.0754
4	164.88	0.6001	0.0197	0.0055	0.2161	0.0298	-4.6433	0.1194	-0.9217	0.0697
4	164.88	0.6501	0.0017	0.0074	0.2302	0.0365	-5.8602	0.1426	-0.7805	0.0746
4	164.88	0.6999	-0.0013	0.0085	0.2417	0.0431	-7.2119	0.1661	-0.7057	0.0837
4	164.88	0.7500	-0.0233	0.0115	0.2539	0.0502	-8.6676	0.1882	-0.5298	0.0700
4	164.88	0.8002	-0.0757	0.0139	0.2624	0.0573	-10.2462	0.2158	-0.5732	0.0956
4	164.88	0.8582	-0.1359	0.0171	0.2701	0.0669	-12.1708	0.2472	-0.7572	0.1102
4	164.88	0.9101	-0.1912	0.0201	0.2811	0.0749	-13.9524	0.2777	-0.8112	0.1013
4	164.88	0.9728	-0.2354	0.0241	0.3383	0.0851	-15.9883	0.3176	-0.1553	0.1078

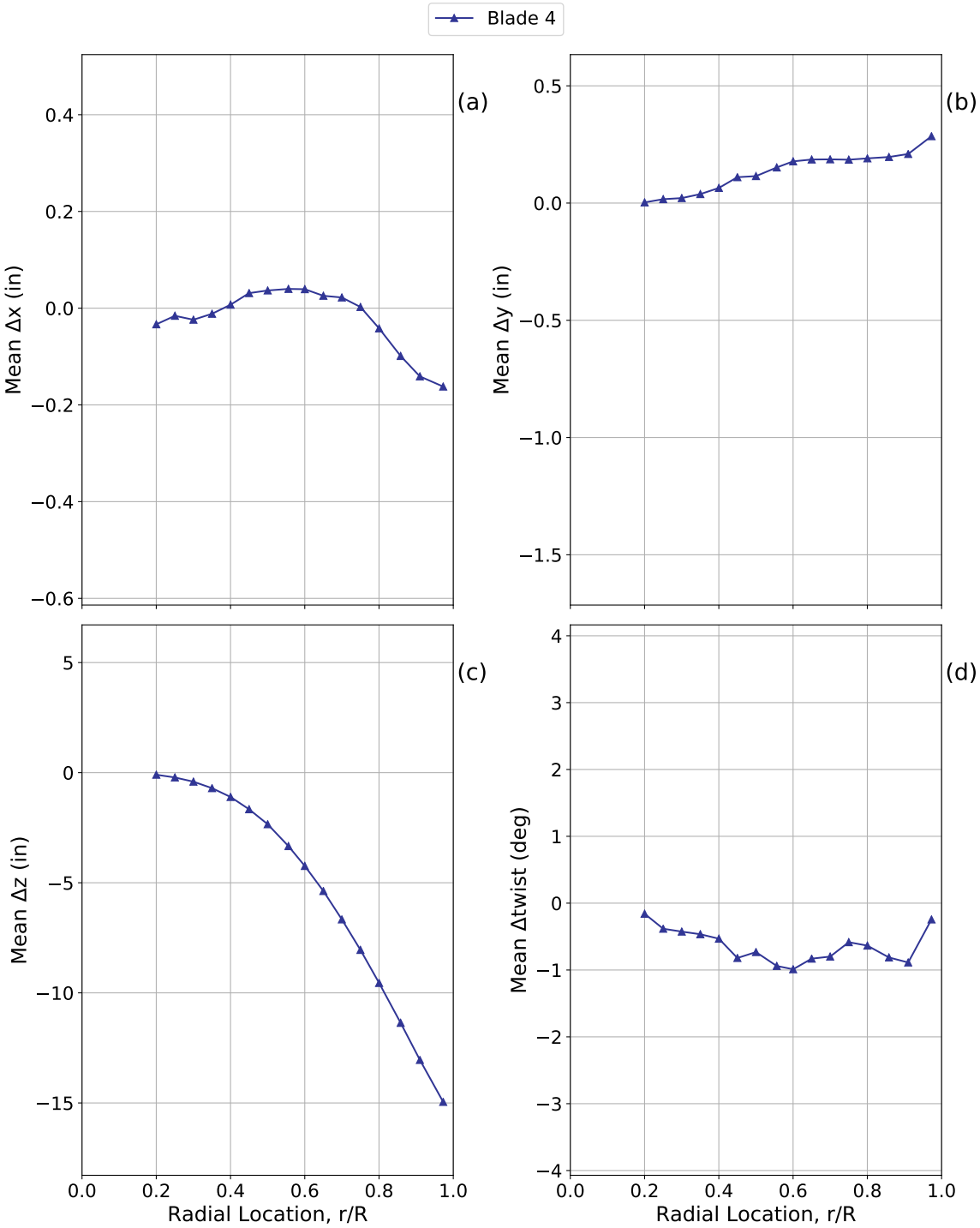


Figure 3.21-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0334	0.0016	0.0028	0.0022	-0.0942	0.0040	-0.1590	0.0238
4	170.16	0.2502	-0.0158	0.0032	0.0165	0.0025	-0.2184	0.0064	-0.3829	0.0572
4	170.16	0.3001	-0.0239	0.0027	0.0212	0.0066	-0.4093	0.0116	-0.4257	0.0553
4	170.16	0.3502	-0.0116	0.0026	0.0382	0.0120	-0.7044	0.0191	-0.4652	0.0485
4	170.16	0.4002	0.0072	0.0031	0.0645	0.0170	-1.1053	0.0278	-0.5321	0.0512
4	170.16	0.4500	0.0311	0.0031	0.1103	0.0209	-1.6632	0.0399	-0.8206	0.0491
4	170.16	0.5001	0.0366	0.0038	0.1149	0.0269	-2.3424	0.0543	-0.7321	0.0541
4	170.16	0.5560	0.0398	0.0045	0.1518	0.0329	-3.3367	0.0707	-0.9397	0.0593
4	170.16	0.6001	0.0392	0.0059	0.1778	0.0372	-4.2384	0.0840	-0.9893	0.0586
4	170.16	0.6501	0.0256	0.0072	0.1857	0.0439	-5.3762	0.1014	-0.8304	0.0598
4	170.16	0.6999	0.0221	0.0085	0.1864	0.0496	-6.6654	0.1252	-0.7994	0.0777
4	170.16	0.7500	0.0024	0.0109	0.1850	0.0555	-8.0517	0.1462	-0.5842	0.0599
4	170.16	0.8002	-0.0418	0.0135	0.1906	0.0614	-9.5518	0.1767	-0.6354	0.0821
4	170.16	0.8582	-0.0989	0.0182	0.1964	0.0688	-11.3636	0.2100	-0.8125	0.0636
4	170.16	0.9101	-0.1411	0.0214	0.2093	0.0763	-13.0474	0.2464	-0.8876	0.0852
4	170.16	0.9728	-0.1621	0.0263	0.2851	0.0844	-14.9525	0.2940	-0.2440	0.0758

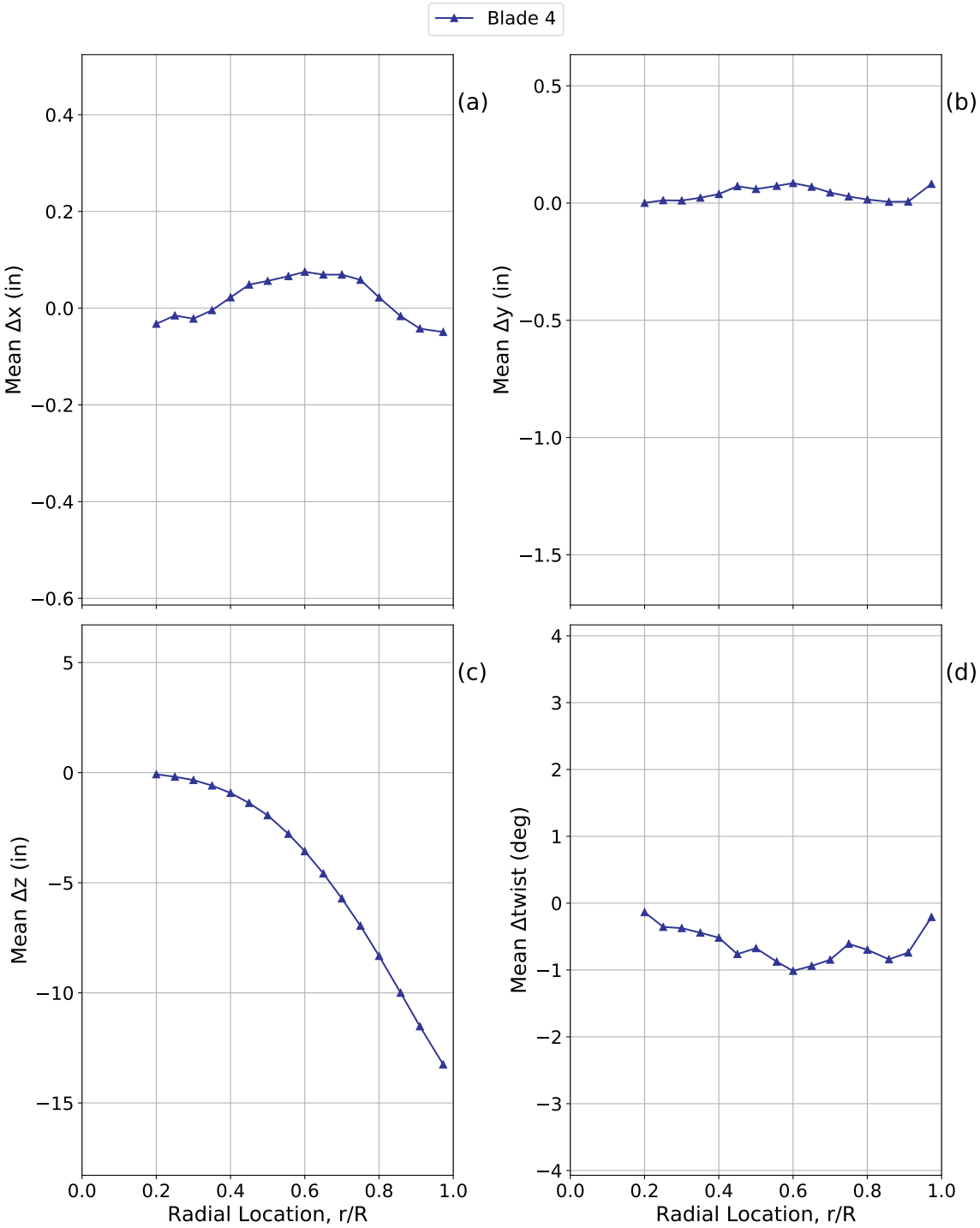


Figure 3.21-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0324	0.0035	0.0007	0.0031	-0.0755	0.0040	-0.1359	0.0425
4	175.08	0.2502	-0.0152	0.0045	0.0119	0.0028	-0.1866	0.0068	-0.3557	0.0533
4	175.08	0.3001	-0.0218	0.0036	0.0107	0.0093	-0.3357	0.0132	-0.3738	0.0859
4	175.08	0.3502	-0.0042	0.0027	0.0228	0.0153	-0.5888	0.0211	-0.4423	0.0932
4	175.08	0.4002	0.0223	0.0026	0.0381	0.0218	-0.9231	0.0326	-0.5179	0.0934
4	175.08	0.4500	0.0486	0.0027	0.0718	0.0273	-1.3787	0.0379	-0.7622	0.0870
4	175.08	0.5001	0.0563	0.0028	0.0597	0.0331	-1.9386	0.0458	-0.6743	0.0998
4	175.08	0.5560	0.0662	0.0034	0.0730	0.0401	-2.7806	0.0545	-0.8763	0.0897
4	175.08	0.6001	0.0752	0.0039	0.0851	0.0461	-3.5702	0.0599	-1.0138	0.1066
4	175.08	0.6501	0.0693	0.0042	0.0693	0.0524	-4.5796	0.0687	-0.9392	0.1051
4	175.08	0.6999	0.0693	0.0045	0.0448	0.0601	-5.7164	0.0782	-0.8467	0.0918
4	175.08	0.7500	0.0585	0.0052	0.0279	0.0679	-6.9551	0.0894	-0.6092	0.0957
4	175.08	0.8002	0.0221	0.0063	0.0151	0.0764	-8.3273	0.1017	-0.6980	0.0990
4	175.08	0.8582	-0.0165	0.0082	0.0052	0.0849	-9.9987	0.1145	-0.8410	0.1139
4	175.08	0.9101	-0.0423	0.0087	0.0062	0.0933	-11.5213	0.1315	-0.7399	0.1143
4	175.08	0.9728	-0.0493	0.0116	0.0814	0.1039	-13.2515	0.1554	-0.2084	0.1070

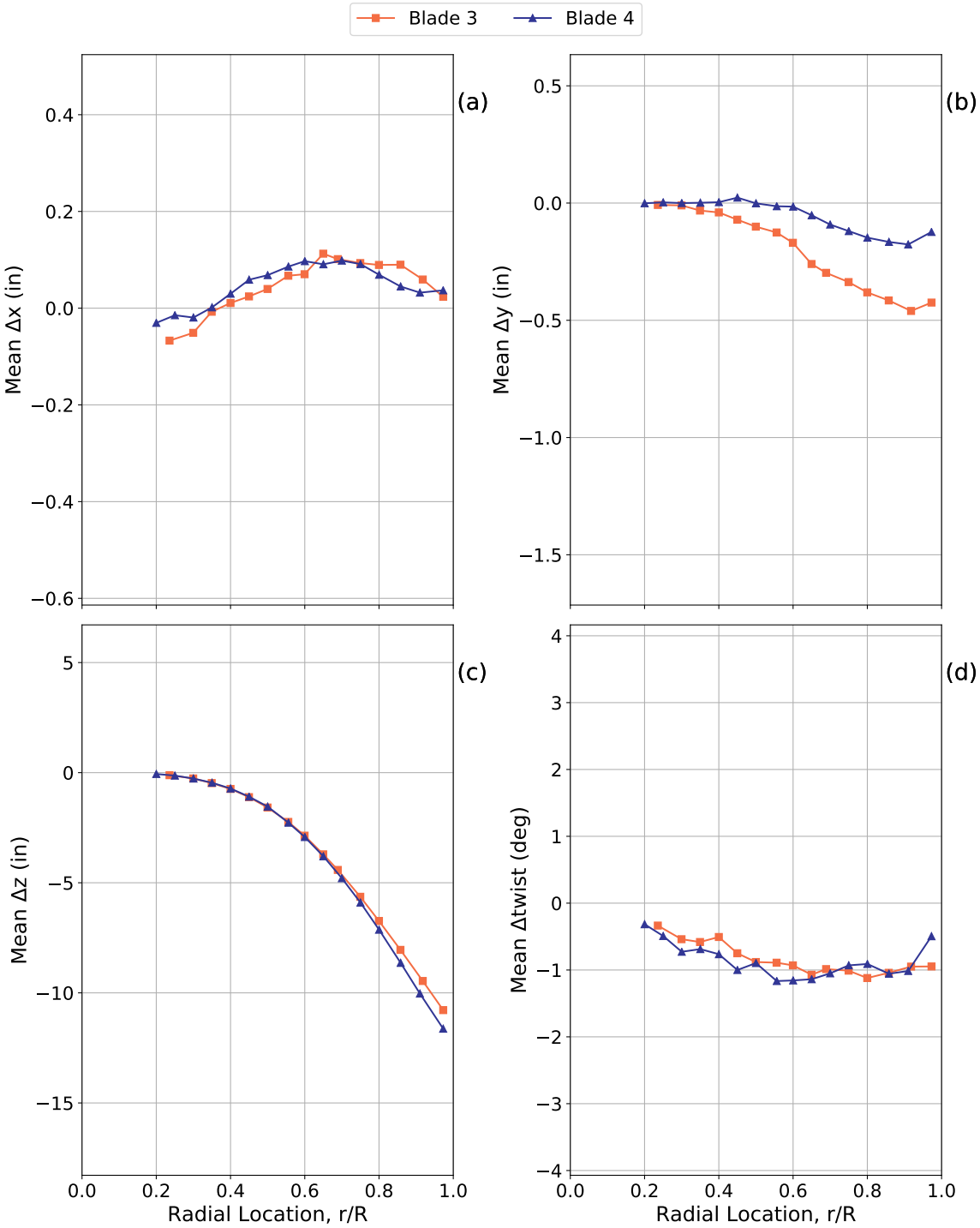


Figure 3.21-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0671	0.0049	-0.0080	0.0019	-0.1145	0.0102	-0.3353	0.1307
3	180.35	0.2995	-0.0510	0.0032	-0.0099	0.0049	-0.2628	0.0238	-0.5393	0.2110
3	180.35	0.3493	-0.0074	0.0050	-0.0320	0.0080	-0.4733	0.0420	-0.5815	0.2062
3	180.35	0.4000	0.0107	0.0045	-0.0400	0.0125	-0.7390	0.0661	-0.5064	0.2040
3	180.35	0.4497	0.0243	0.0059	-0.0709	0.0166	-1.1119	0.0842	-0.7497	0.2067
3	180.35	0.4997	0.0397	0.0061	-0.1006	0.0196	-1.5834	0.1099	-0.8807	0.2143
3	180.35	0.5556	0.0671	0.0068	-0.1255	0.0234	-2.2370	0.1387	-0.8907	0.2357
3	180.35	0.5995	0.0702	0.0087	-0.1694	0.0276	-2.8615	0.1698	-0.9305	0.2270
3	180.35	0.6498	0.1127	0.0113	-0.2599	0.0326	-3.7093	0.2062	-1.0708	0.2404
3	180.35	0.6890	0.1014	0.0133	-0.2976	0.0365	-4.4178	0.2348	-0.9866	0.2549
3	180.35	0.7495	0.0933	0.0158	-0.3370	0.0434	-5.6367	0.2935	-1.0096	0.2485
3	180.35	0.7998	0.0894	0.0196	-0.3810	0.0509	-6.7346	0.3455	-1.1203	0.2679
3	180.35	0.8577	0.0899	0.0252	-0.4153	0.0579	-8.0483	0.4102	-1.0418	0.2590
3	180.35	0.9178	0.0593	0.0307	-0.4601	0.0687	-9.4605	0.4862	-0.9492	0.2345
3	180.35	0.9729	0.0236	0.0377	-0.4244	0.0772	-10.7834	0.5495	-0.9470	0.2566
4	180	0.2001	-0.0304	0.0049	-0.0009	0.0050	-0.0607	0.0061	-0.3157	0.0550
4	180	0.2502	-0.0146	0.0064	0.0029	0.0043	-0.1348	0.0084	-0.4917	0.1345
4	180	0.3001	-0.0194	0.0034	-0.0001	0.0140	-0.2681	0.0155	-0.7275	0.1390
4	180	0.3502	0.0017	0.0042	0.0013	0.0250	-0.4578	0.0279	-0.6877	0.1261
4	180	0.4002	0.0299	0.0060	0.0037	0.0343	-0.7212	0.0374	-0.7641	0.1296
4	180	0.4500	0.0588	0.0058	0.0231	0.0448	-1.0910	0.0473	-1.0003	0.1292
4	180	0.5001	0.0683	0.0053	-0.0012	0.0541	-1.5425	0.0557	-0.8962	0.1294
4	180	0.5560	0.0860	0.0057	-0.0136	0.0660	-2.2736	0.0673	-1.1652	0.1355
4	180	0.6001	0.0972	0.0068	-0.0152	0.0745	-2.9244	0.0789	-1.1563	0.1150
4	180	0.6501	0.0907	0.0081	-0.0521	0.0851	-3.7983	0.0891	-1.1380	0.1445
4	180	0.6999	0.0983	0.0092	-0.0917	0.0936	-4.7942	0.1095	-1.0499	0.1265
4	180	0.7500	0.0911	0.0109	-0.1197	0.1040	-5.9018	0.1328	-0.9304	0.1211
4	180	0.8002	0.0691	0.0137	-0.1476	0.1140	-7.1338	0.1625	-0.9101	0.1257
4	180	0.8582	0.0448	0.0182	-0.1658	0.1257	-8.6392	0.2049	-1.0560	0.1244
4	180	0.9101	0.0321	0.0213	-0.1765	0.1371	-10.0325	0.2512	-1.0149	0.1353
4	180	0.9728	0.0369	0.0286	-0.1232	0.1499	-11.6283	0.3072	-0.4950	0.1324

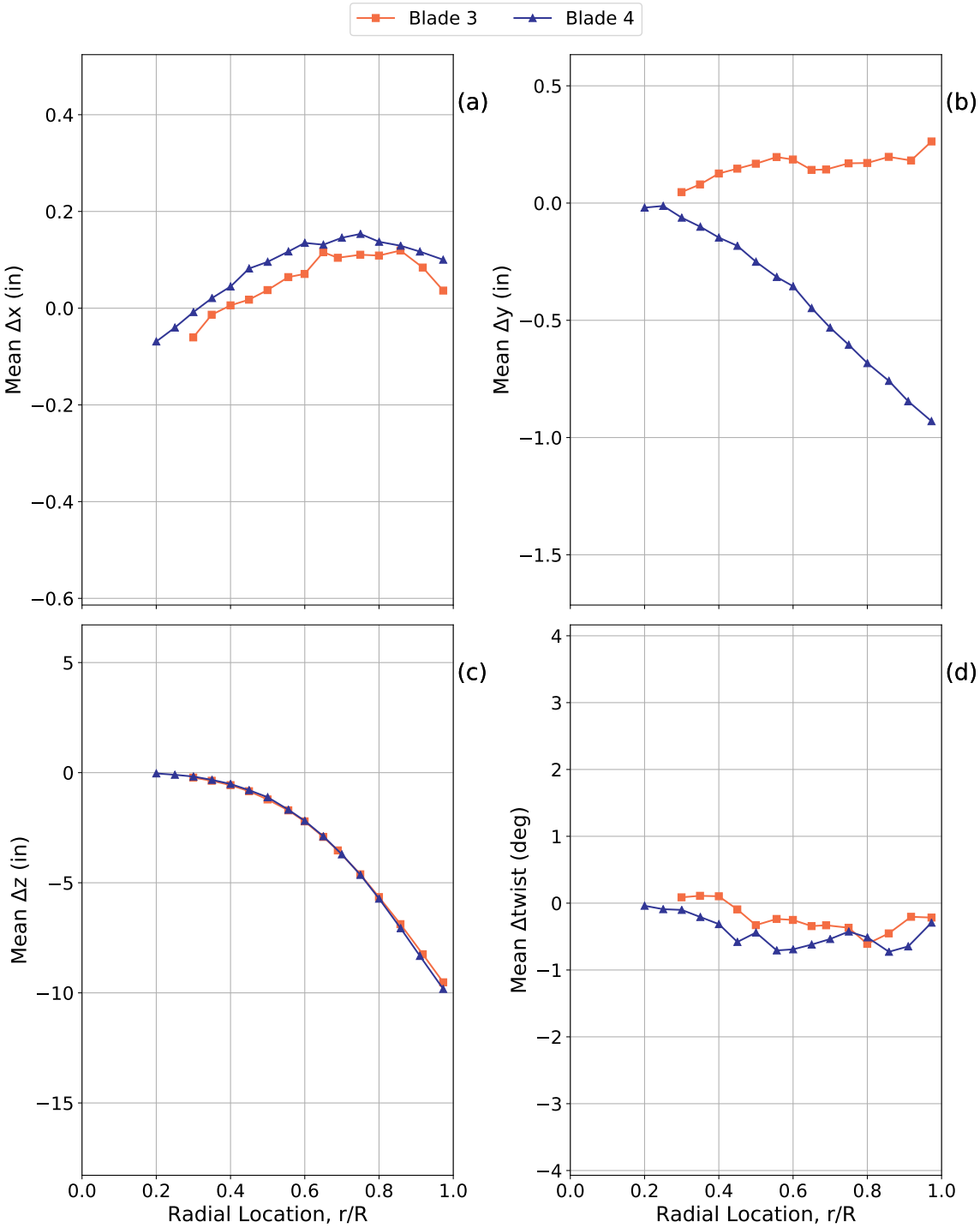


Figure 3.21-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0604	0.0136	0.0466	0.0199	-0.2238	0.0628	0.0873	0.2081
3	184.92	0.3493	-0.0136	0.0146	0.0794	0.0339	-0.3666	0.1067	0.1099	0.2744
3	184.92	0.4000	0.0058	0.0117	0.1260	0.0538	-0.5671	0.1692	0.1030	0.2443
3	184.92	0.4497	0.0176	0.0127	0.1467	0.0700	-0.8420	0.2237	-0.0936	0.2302
3	184.92	0.4997	0.0374	0.0131	0.1678	0.0872	-1.2160	0.2789	-0.3288	0.2410
3	184.92	0.5556	0.0642	0.0147	0.1962	0.1060	-1.7120	0.3402	-0.2366	0.2362
3	184.92	0.5995	0.0708	0.0162	0.1858	0.1222	-2.2127	0.3872	-0.2510	0.2441
3	184.92	0.6498	0.1157	0.0179	0.1414	0.1400	-2.9177	0.4370	-0.3431	0.2521
3	184.92	0.6890	0.1042	0.0188	0.1432	0.1521	-3.5315	0.4814	-0.3308	0.2336
3	184.92	0.7495	0.1105	0.0212	0.1695	0.1746	-4.6162	0.5393	-0.3681	0.2362
3	184.92	0.7998	0.1088	0.0243	0.1709	0.1932	-5.6505	0.5831	-0.6090	0.2358
3	184.92	0.8577	0.1192	0.0268	0.1970	0.2152	-6.8798	0.6328	-0.4525	0.2256
3	184.92	0.9178	0.0840	0.0291	0.1816	0.2373	-8.2463	0.6791	-0.2041	0.2314
3	184.92	0.9729	0.0364	0.0327	0.2627	0.2578	-9.5213	0.7189	-0.2155	0.2318
4	184.92	0.2001	-0.0689	0.0124	-0.0195	0.0112	-0.0346	0.0246	-0.0391	0.1219
4	184.92	0.2502	-0.0401	0.0027	-0.0123	0.0086	-0.0962	0.0204	-0.0905	0.2201
4	184.92	0.3001	-0.0081	0.0017	-0.0624	0.0277	-0.1766	0.0496	-0.1009	0.1279
4	184.92	0.3502	0.0209	0.0017	-0.1011	0.0417	-0.3274	0.0590	-0.2076	0.1252
4	184.92	0.4002	0.0448	0.0019	-0.1473	0.0562	-0.5147	0.0715	-0.3140	0.1339
4	184.92	0.4500	0.0820	0.0035	-0.1824	0.0683	-0.7956	0.0802	-0.5805	0.1288
4	184.92	0.5001	0.0958	0.0053	-0.2505	0.0820	-1.1153	0.0907	-0.4402	0.1363
4	184.92	0.5560	0.1172	0.0071	-0.3154	0.0962	-1.6830	0.1038	-0.7074	0.1350
4	184.92	0.6001	0.1350	0.0084	-0.3549	0.1067	-2.1895	0.1141	-0.6910	0.1353
4	184.92	0.6501	0.1312	0.0117	-0.4482	0.1191	-2.8900	0.1239	-0.6196	0.1348
4	184.92	0.6999	0.1456	0.0144	-0.5316	0.1311	-3.7109	0.1359	-0.5363	0.1351
4	184.92	0.7500	0.1535	0.0176	-0.6047	0.1450	-4.6444	0.1482	-0.4250	0.1507
4	184.92	0.8002	0.1373	0.0208	-0.6828	0.1601	-5.7233	0.1600	-0.5118	0.1396
4	184.92	0.8582	0.1291	0.0257	-0.7586	0.1789	-7.0657	0.1786	-0.7276	0.1506
4	184.92	0.9101	0.1170	0.0294	-0.8455	0.1961	-8.3237	0.1953	-0.6472	0.1504
4	184.92	0.9728	0.1002	0.0353	-0.9304	0.2177	-9.8224	0.2178	-0.2920	0.1454

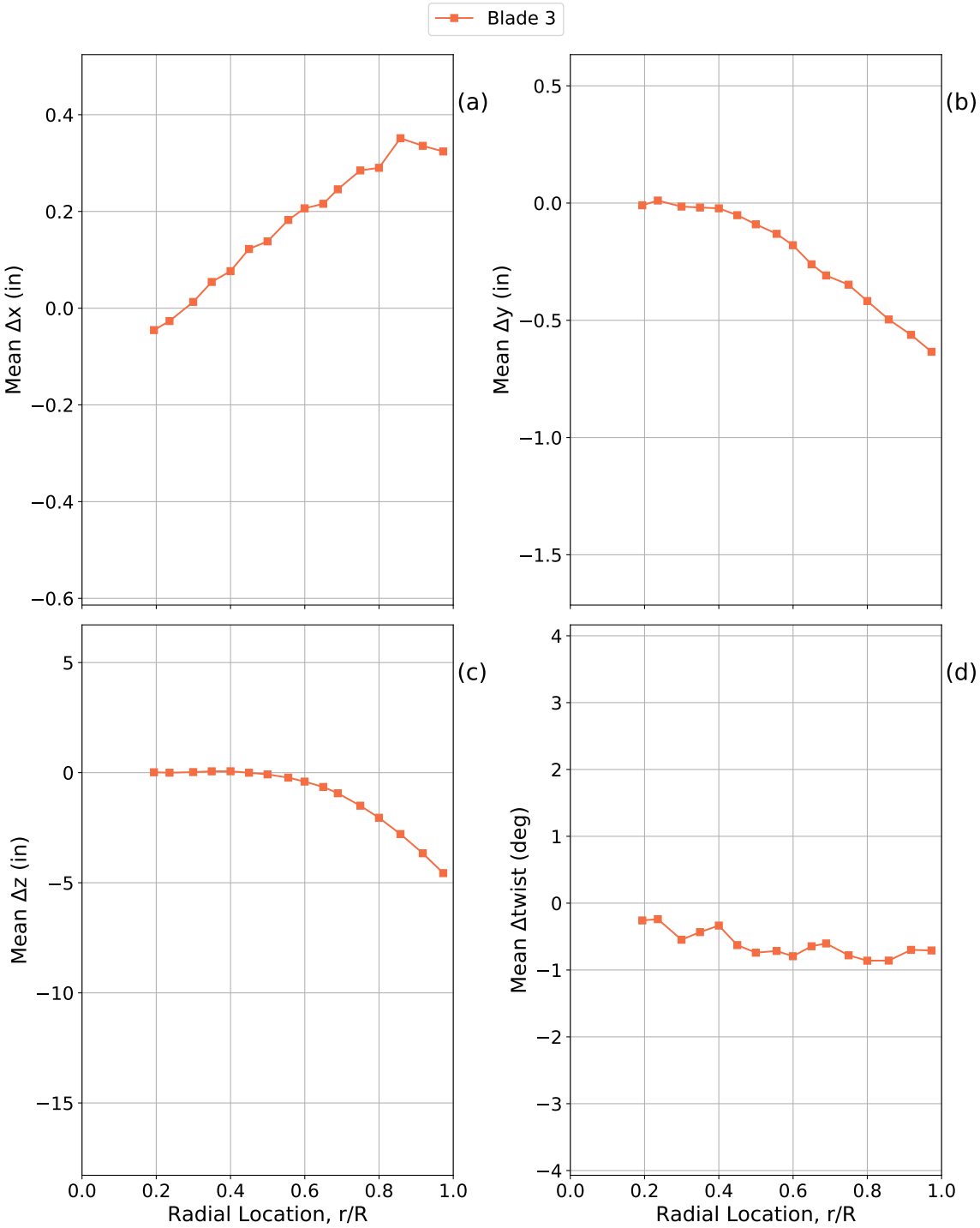


Figure 3.21-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0453	0.0019	-0.0095	0.0010	0.0179	0.0039	-0.2587	0.0257
3	195.12	0.2357	-0.0266	0.0013	0.0108	0.0021	-0.0022	0.0057	-0.2395	0.0343
3	195.12	0.2995	0.0129	0.0008	-0.0150	0.0049	0.0257	0.0149	-0.5470	0.0573
3	195.12	0.3493	0.0542	0.0008	-0.0190	0.0073	0.0608	0.0231	-0.4334	0.0456
3	195.12	0.4000	0.0766	0.0015	-0.0225	0.0124	0.0630	0.0366	-0.3352	0.0490
3	195.12	0.4497	0.1224	0.0019	-0.0517	0.0163	-0.0035	0.0491	-0.6277	0.0511
3	195.12	0.4997	0.1381	0.0020	-0.0906	0.0209	-0.0788	0.0632	-0.7408	0.0566
3	195.12	0.5556	0.1824	0.0024	-0.1312	0.0262	-0.2256	0.0778	-0.7152	0.0492
3	195.12	0.5995	0.2064	0.0026	-0.1798	0.0299	-0.4060	0.0893	-0.7943	0.0576
3	195.12	0.6498	0.2158	0.0028	-0.2612	0.0354	-0.6500	0.1056	-0.6450	0.0475
3	195.12	0.6890	0.2458	0.0033	-0.3088	0.0404	-0.9344	0.1185	-0.6026	0.0576
3	195.12	0.7495	0.2848	0.0042	-0.3481	0.0482	-1.4999	0.1430	-0.7799	0.0579
3	195.12	0.7998	0.2902	0.0061	-0.4179	0.0541	-2.0483	0.1644	-0.8607	0.0594
3	195.12	0.8577	0.3514	0.0073	-0.4964	0.0642	-2.7888	0.1931	-0.8592	0.0680
3	195.12	0.9178	0.3357	0.0087	-0.5621	0.0707	-3.6605	0.2232	-0.6986	0.0905
3	195.12	0.9729	0.3240	0.0113	-0.6343	0.0790	-4.5629	0.2530	-0.7076	0.0729

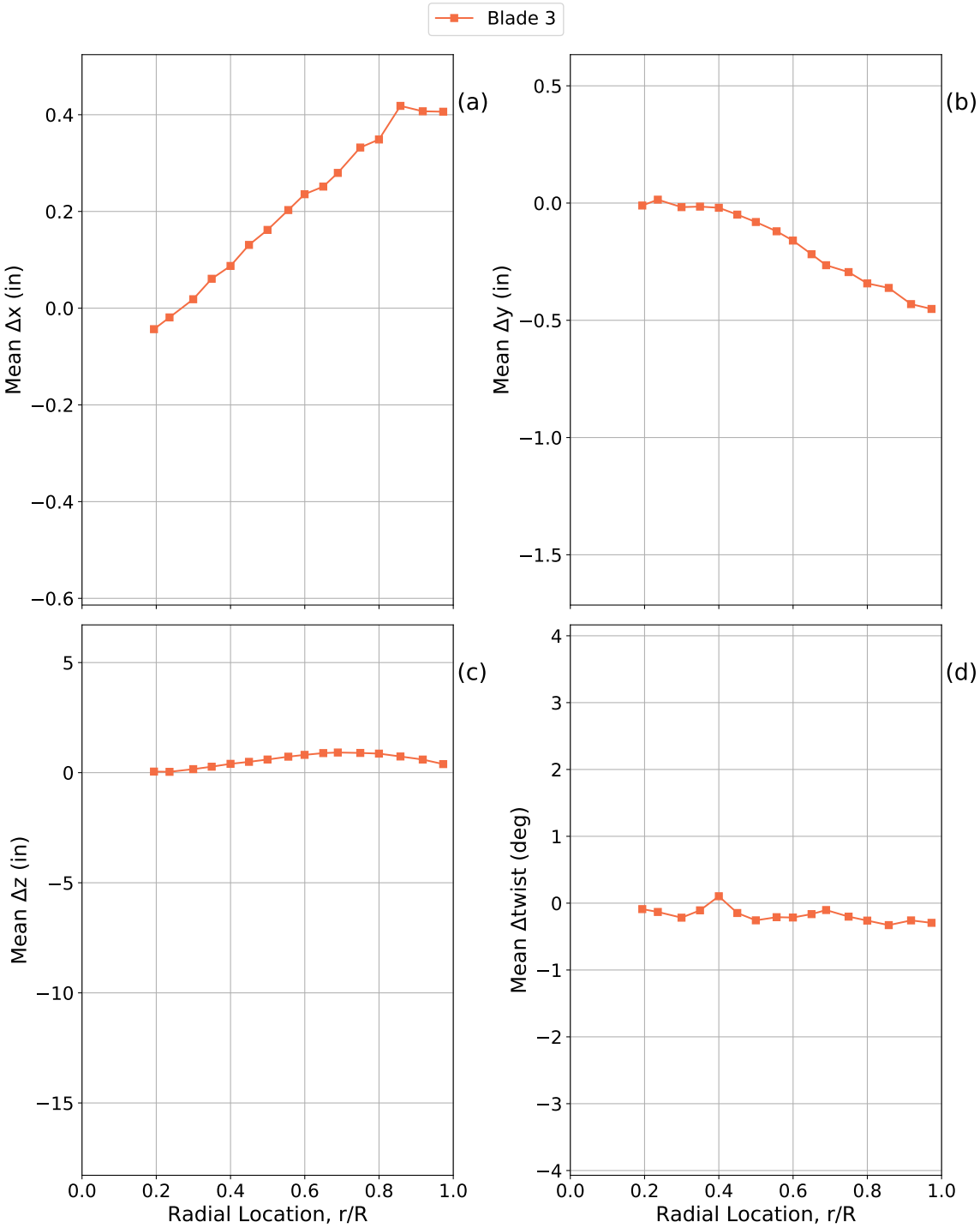


Figure 3.21-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0434	0.0012	-0.0105	0.0009	0.0488	0.0038	-0.0890	0.0187
3	209.88	0.2357	-0.0191	0.0013	0.0145	0.0020	0.0381	0.0060	-0.1317	0.0231
3	209.88	0.2995	0.0185	0.0009	-0.0174	0.0035	0.1595	0.0149	-0.2172	0.0370
3	209.88	0.3493	0.0608	0.0013	-0.0151	0.0070	0.2709	0.0232	-0.1076	0.0372
3	209.88	0.4000	0.0873	0.0021	-0.0201	0.0101	0.4005	0.0368	0.1033	0.0344
3	209.88	0.4497	0.1308	0.0022	-0.0493	0.0130	0.4916	0.0492	-0.1475	0.0342
3	209.88	0.4997	0.1618	0.0019	-0.0808	0.0156	0.5966	0.0648	-0.2570	0.0503
3	209.88	0.5556	0.2029	0.0021	-0.1204	0.0193	0.7256	0.0846	-0.2100	0.0535
3	209.88	0.5995	0.2356	0.0032	-0.1600	0.0226	0.8078	0.0984	-0.2146	0.0340
3	209.88	0.6498	0.2514	0.0030	-0.2182	0.0260	0.8884	0.1195	-0.1641	0.0395
3	209.88	0.6890	0.2797	0.0026	-0.2651	0.0287	0.9150	0.1357	-0.1030	0.0409
3	209.88	0.7495	0.3322	0.0021	-0.2944	0.0335	0.8957	0.1636	-0.2016	0.0488
3	209.88	0.7998	0.3488	0.0028	-0.3426	0.0368	0.8650	0.1861	-0.2609	0.0405
3	209.88	0.8577	0.4183	0.0029	-0.3619	0.0413	0.7347	0.2121	-0.3286	0.0341
3	209.88	0.9178	0.4071	0.0028	-0.4310	0.0455	0.5954	0.2414	-0.2579	0.0580
3	209.88	0.9729	0.4062	0.0039	-0.4516	0.0504	0.3888	0.2687	-0.2945	0.0606

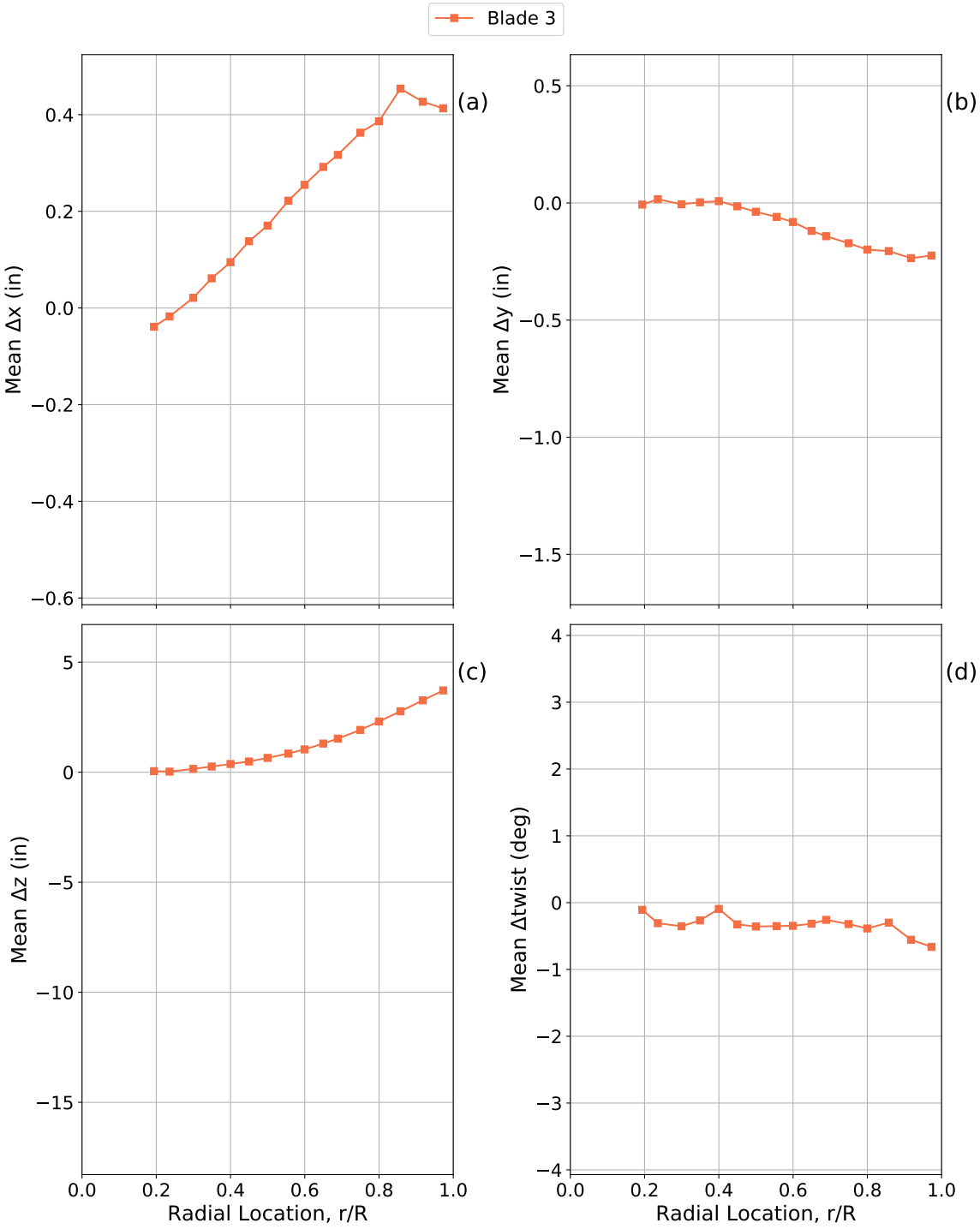


Figure 3.21-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0388	0.0019	-0.0070	0.0016	0.0496	0.0055	-0.1079	0.0222
3	225	0.2357	-0.0175	0.0007	0.0160	0.0012	0.0265	0.0060	-0.3080	0.0471
3	225	0.2995	0.0211	0.0013	-0.0057	0.0048	0.1503	0.0177	-0.3537	0.0537
3	225	0.3493	0.0613	0.0016	0.0028	0.0083	0.2577	0.0291	-0.2662	0.0487
3	225	0.4000	0.0948	0.0012	0.0076	0.0122	0.3736	0.0434	-0.0943	0.0564
3	225	0.4497	0.1381	0.0022	-0.0145	0.0167	0.4885	0.0595	-0.3251	0.0428
3	225	0.4997	0.1703	0.0023	-0.0376	0.0210	0.6500	0.0782	-0.3576	0.0413
3	225	0.5556	0.2219	0.0030	-0.0597	0.0281	0.8480	0.1009	-0.3512	0.0617
3	225	0.5995	0.2548	0.0031	-0.0813	0.0329	1.0366	0.1173	-0.3472	0.0550
3	225	0.6498	0.2919	0.0044	-0.1193	0.0393	1.3026	0.1375	-0.3160	0.0771
3	225	0.6890	0.3168	0.0045	-0.1419	0.0442	1.5249	0.1546	-0.2579	0.0455
3	225	0.7495	0.3627	0.0047	-0.1719	0.0534	1.9204	0.1767	-0.3204	0.0575
3	225	0.7998	0.3862	0.0052	-0.1992	0.0623	2.3052	0.1966	-0.3866	0.0585
3	225	0.8577	0.4538	0.0058	-0.2054	0.0723	2.7671	0.2197	-0.2997	0.0574
3	225	0.9178	0.4267	0.0068	-0.2357	0.0831	3.2645	0.2421	-0.5559	0.0516
3	225	0.9729	0.4131	0.0101	-0.2245	0.0930	3.7152	0.2638	-0.6624	0.0477

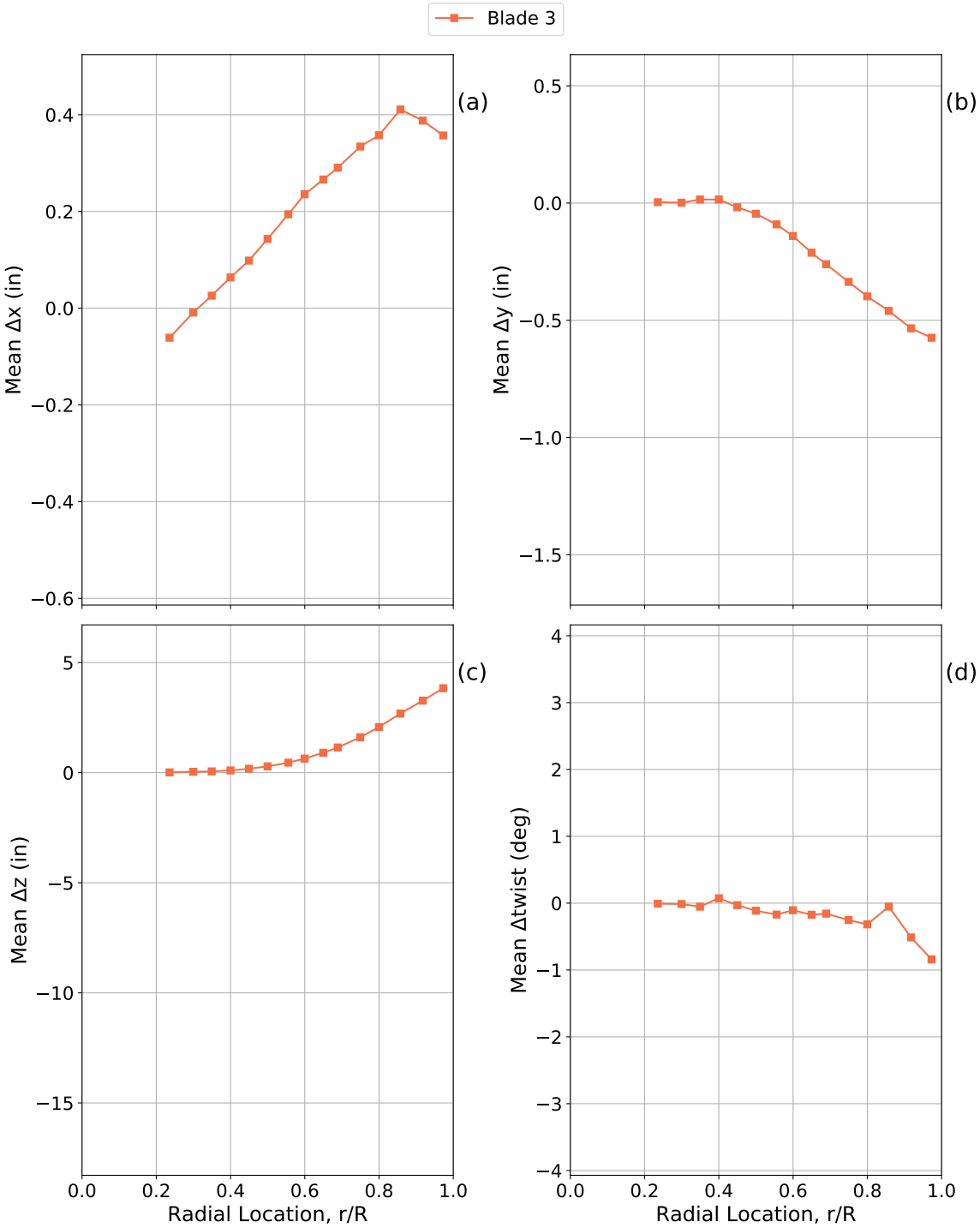


Figure 3.21-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0611	0.0031	0.0038	0.0025	0.0127	0.0092	-0.0082	0.0749
3	240.12	0.2995	-0.0091	0.0011	0.0016	0.0050	0.0392	0.0171	-0.0130	0.1205
3	240.12	0.3493	0.0259	0.0011	0.0152	0.0105	0.0581	0.0308	-0.0524	0.1162
3	240.12	0.4000	0.0636	0.0018	0.0152	0.0154	0.1016	0.0447	0.0729	0.1166
3	240.12	0.4497	0.0984	0.0023	-0.0180	0.0203	0.1782	0.0577	-0.0296	0.1158
3	240.12	0.4997	0.1431	0.0023	-0.0456	0.0251	0.2855	0.0706	-0.1132	0.1224
3	240.12	0.5556	0.1941	0.0025	-0.0909	0.0316	0.4547	0.0877	-0.1708	0.1310
3	240.12	0.5995	0.2355	0.0032	-0.1405	0.0366	0.6380	0.1016	-0.1062	0.1271
3	240.12	0.6498	0.2660	0.0032	-0.2117	0.0437	0.9039	0.1184	-0.1734	0.1290
3	240.12	0.6890	0.2905	0.0038	-0.2607	0.0494	1.1440	0.1307	-0.1565	0.1269
3	240.12	0.7495	0.3342	0.0047	-0.3361	0.0589	1.6082	0.1476	-0.2525	0.1252
3	240.12	0.7998	0.3575	0.0054	-0.3979	0.0673	2.0703	0.1604	-0.3173	0.1264
3	240.12	0.8577	0.4108	0.0060	-0.4600	0.0781	2.6867	0.1767	-0.0522	0.1294
3	240.12	0.9178	0.3878	0.0071	-0.5342	0.0894	3.2714	0.1938	-0.5129	0.1243
3	240.12	0.9729	0.3572	0.0108	-0.5744	0.1007	3.8338	0.2105	-0.8406	0.1282

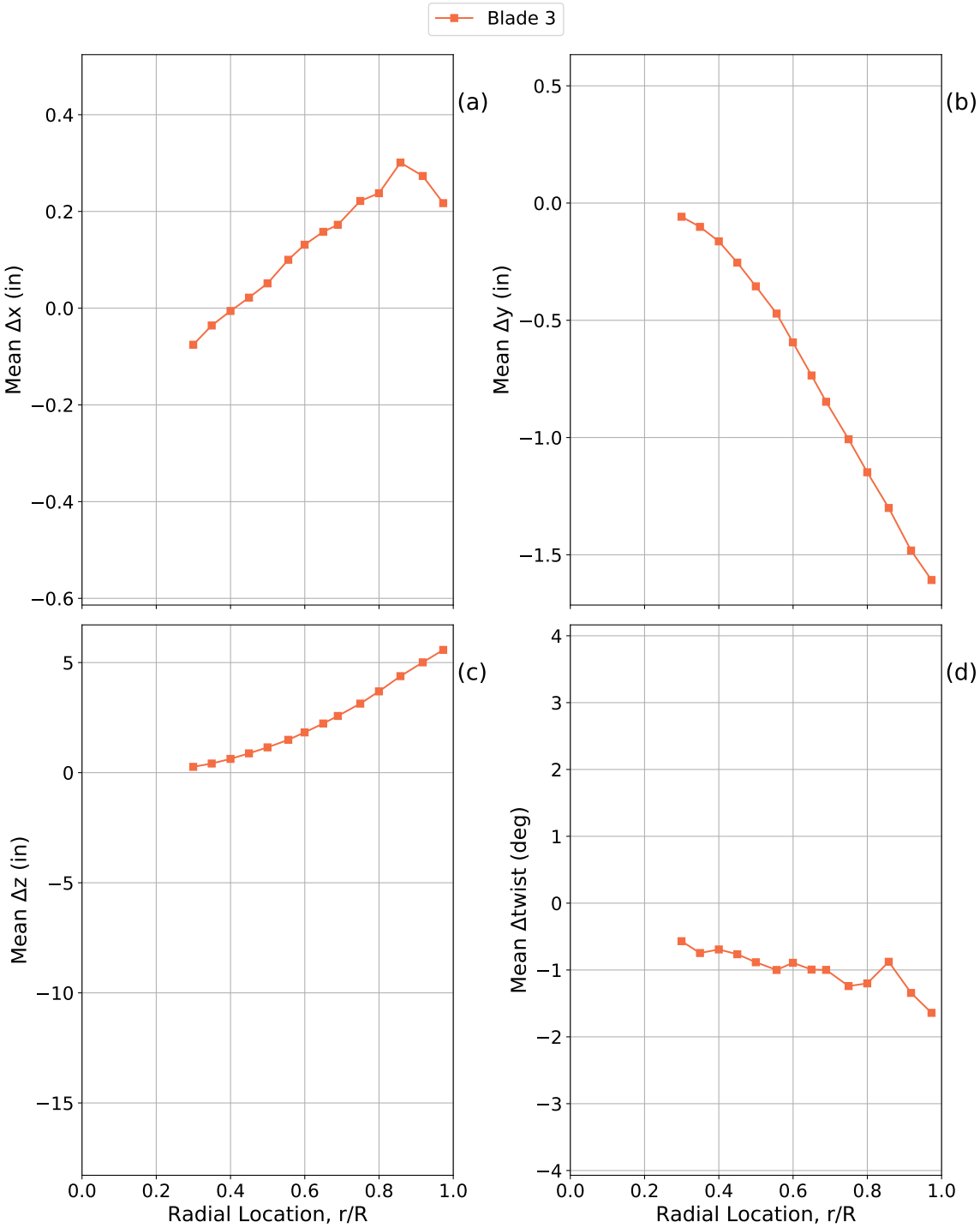


Figure 3.21-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.0756	0.0074	-0.0584	0.0133	0.2634	0.0652	-0.5693	0.1886
3	254.88	0.3493	-0.0358	0.0048	-0.1016	0.0228	0.4152	0.1041	-0.7459	0.2477
3	254.88	0.4000	-0.0058	0.0070	-0.1633	0.0364	0.6254	0.1582	-0.6926	0.2252
3	254.88	0.4497	0.0218	0.0076	-0.2540	0.0478	0.8769	0.2033	-0.7643	0.2306
3	254.88	0.4997	0.0513	0.0091	-0.3551	0.0616	1.1487	0.2518	-0.8842	0.2178
3	254.88	0.5556	0.1001	0.0105	-0.4713	0.0752	1.4915	0.3045	-0.9993	0.2128
3	254.88	0.5995	0.1312	0.0119	-0.5942	0.0861	1.8283	0.3444	-0.8921	0.2197
3	254.88	0.6498	0.1579	0.0133	-0.7353	0.0993	2.2321	0.3900	-0.9940	0.2223
3	254.88	0.6890	0.1724	0.0143	-0.8475	0.1100	2.5756	0.4255	-0.9985	0.2247
3	254.88	0.7495	0.2217	0.0167	-1.0073	0.1267	3.1354	0.4781	-1.2403	0.2228
3	254.88	0.7998	0.2377	0.0185	-1.1481	0.1405	3.6911	0.5217	-1.2004	0.2262
3	254.88	0.8577	0.3010	0.0208	-1.3004	0.1570	4.3828	0.5714	-0.8771	0.2208
3	254.88	0.9178	0.2733	0.0238	-1.4819	0.1741	5.0092	0.6231	-1.3427	0.2244
3	254.88	0.9729	0.2172	0.0309	-1.6077	0.1902	5.5747	0.6712	-1.6410	0.2270

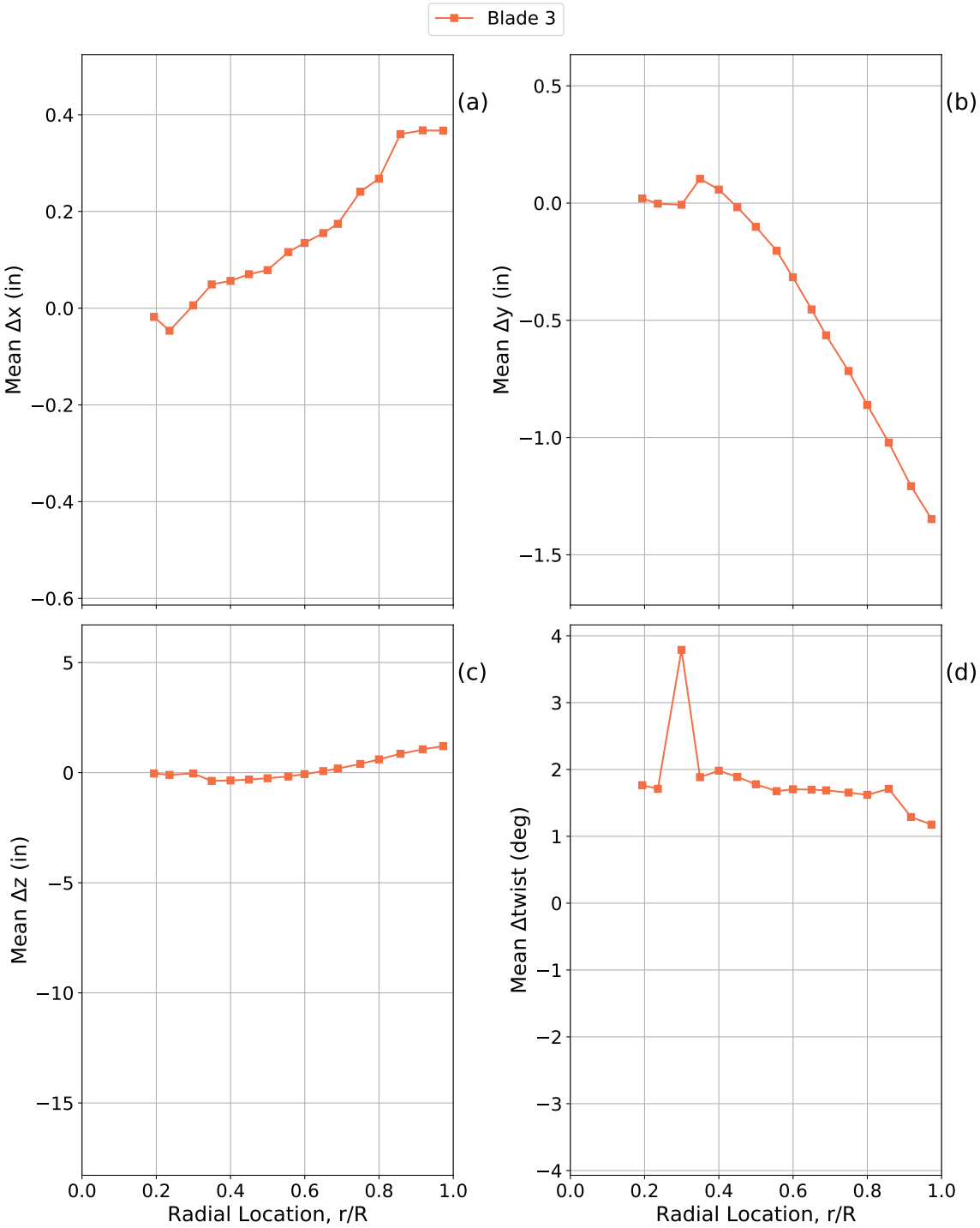


Figure 3.21-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0180	0.0035	0.0197	0.0014	-0.0375	0.0039	1.7654	0.0547
3	260.16	0.2357	-0.0466	0.0027	-0.0023	0.0027	-0.0998	0.0079	1.7114	0.0635
3	260.16	0.2995	0.0059	0.0019	-0.0073	0.0046	-0.0358	0.0142	3.7887	0.1219
3	260.16	0.3493	0.0491	0.0025	0.1035	0.0097	-0.3754	0.0271	1.8848	0.0850
3	260.16	0.4000	0.0564	0.0025	0.0575	0.0135	-0.3533	0.0391	1.9813	0.0995
3	260.16	0.4497	0.0703	0.0030	-0.0176	0.0168	-0.3151	0.0485	1.8891	0.0779
3	260.16	0.4997	0.0787	0.0035	-0.1011	0.0209	-0.2527	0.0593	1.7787	0.0751
3	260.16	0.5556	0.1160	0.0032	-0.2031	0.0272	-0.1731	0.0751	1.6754	0.0692
3	260.16	0.5995	0.1348	0.0034	-0.3164	0.0332	-0.0669	0.0886	1.7039	0.0698
3	260.16	0.6498	0.1553	0.0033	-0.4536	0.0393	0.0702	0.1061	1.6978	0.0668
3	260.16	0.6890	0.1744	0.0044	-0.5640	0.0456	0.1848	0.1239	1.6879	0.0618
3	260.16	0.7495	0.2408	0.0040	-0.7163	0.0561	0.3955	0.1508	1.6536	0.0699
3	260.16	0.7998	0.2678	0.0048	-0.8611	0.0645	0.6035	0.1739	1.6208	0.0638
3	260.16	0.8577	0.3599	0.0057	-1.0215	0.0744	0.8595	0.1997	1.7108	0.0767
3	260.16	0.9178	0.3677	0.0078	-1.2076	0.0854	1.0595	0.2231	1.2893	0.0688
3	260.16	0.9729	0.3671	0.0100	-1.3479	0.0945	1.2045	0.2476	1.1748	0.0874

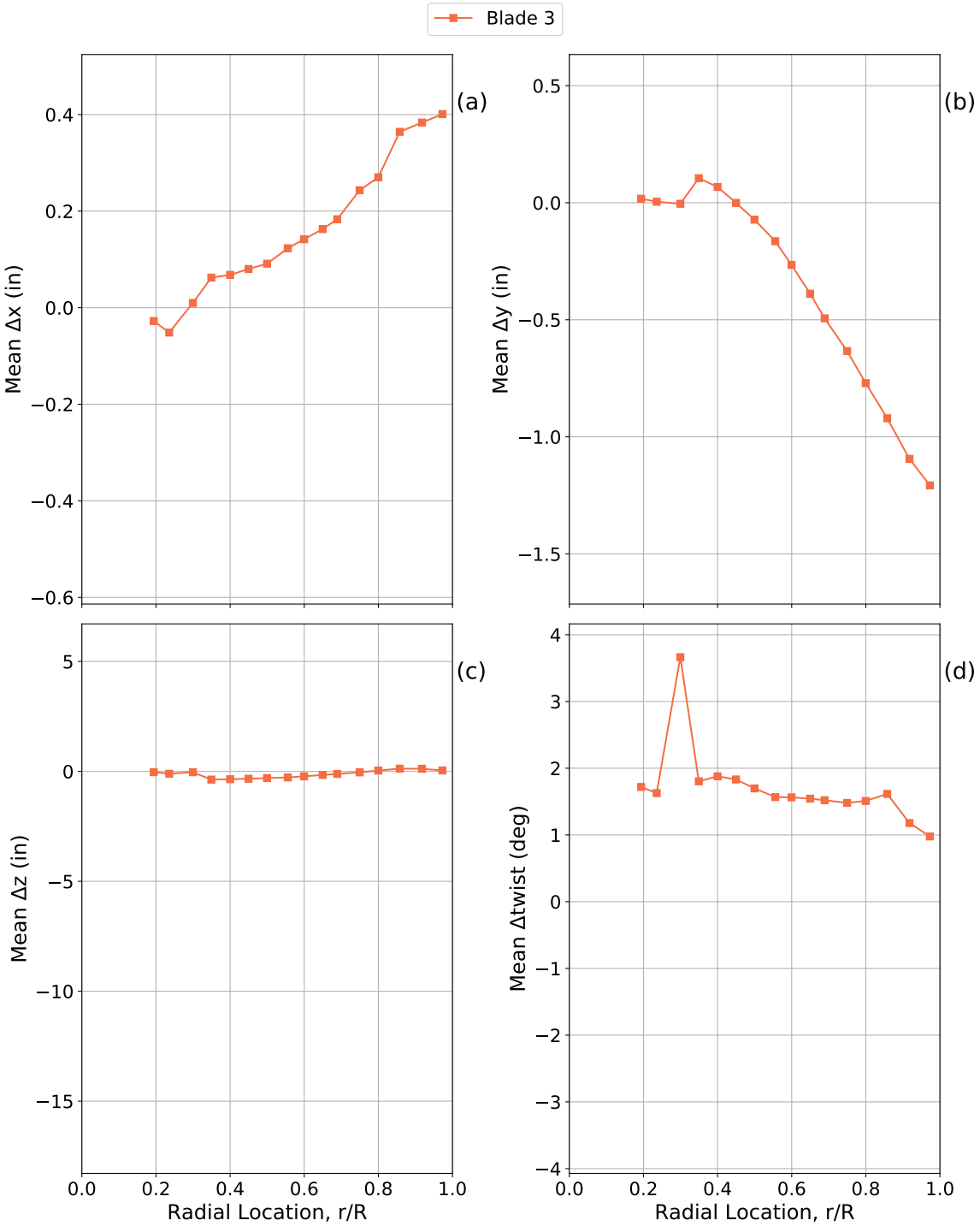


Figure 3.21-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0277	0.0037	0.0171	0.0023	-0.0346	0.0070	1.7186	0.0307
3	265.08	0.2357	-0.0515	0.0032	0.0043	0.0027	-0.1066	0.0077	1.6272	0.0610
3	265.08	0.2995	0.0099	0.0022	-0.0045	0.0087	-0.0365	0.0232	3.6640	0.0743
3	265.08	0.3493	0.0622	0.0030	0.1048	0.0142	-0.3723	0.0375	1.8032	0.0729
3	265.08	0.4000	0.0679	0.0033	0.0673	0.0222	-0.3564	0.0563	1.8787	0.0701
3	265.08	0.4497	0.0801	0.0041	-0.0007	0.0286	-0.3332	0.0756	1.8315	0.0717
3	265.08	0.4997	0.0911	0.0042	-0.0724	0.0383	-0.3040	0.0973	1.6978	0.0690
3	265.08	0.5556	0.1230	0.0038	-0.1644	0.0473	-0.2752	0.1227	1.5674	0.0668
3	265.08	0.5995	0.1417	0.0033	-0.2655	0.0570	-0.2238	0.1429	1.5639	0.0542
3	265.08	0.6498	0.1629	0.0040	-0.3887	0.0679	-0.1621	0.1661	1.5439	0.0596
3	265.08	0.6890	0.1831	0.0044	-0.4939	0.0767	-0.1172	0.1824	1.5202	0.0670
3	265.08	0.7495	0.2432	0.0047	-0.6338	0.0915	-0.0421	0.2095	1.4801	0.0600
3	265.08	0.7998	0.2700	0.0061	-0.7708	0.1042	0.0404	0.2342	1.5097	0.0629
3	265.08	0.8577	0.3642	0.0055	-0.9208	0.1197	0.1238	0.2587	1.6153	0.0680
3	265.08	0.9178	0.3834	0.0070	-1.0943	0.1354	0.1198	0.2891	1.1781	0.0573
3	265.08	0.9729	0.4009	0.0111	-1.2073	0.1507	0.0433	0.3162	0.9778	0.0758

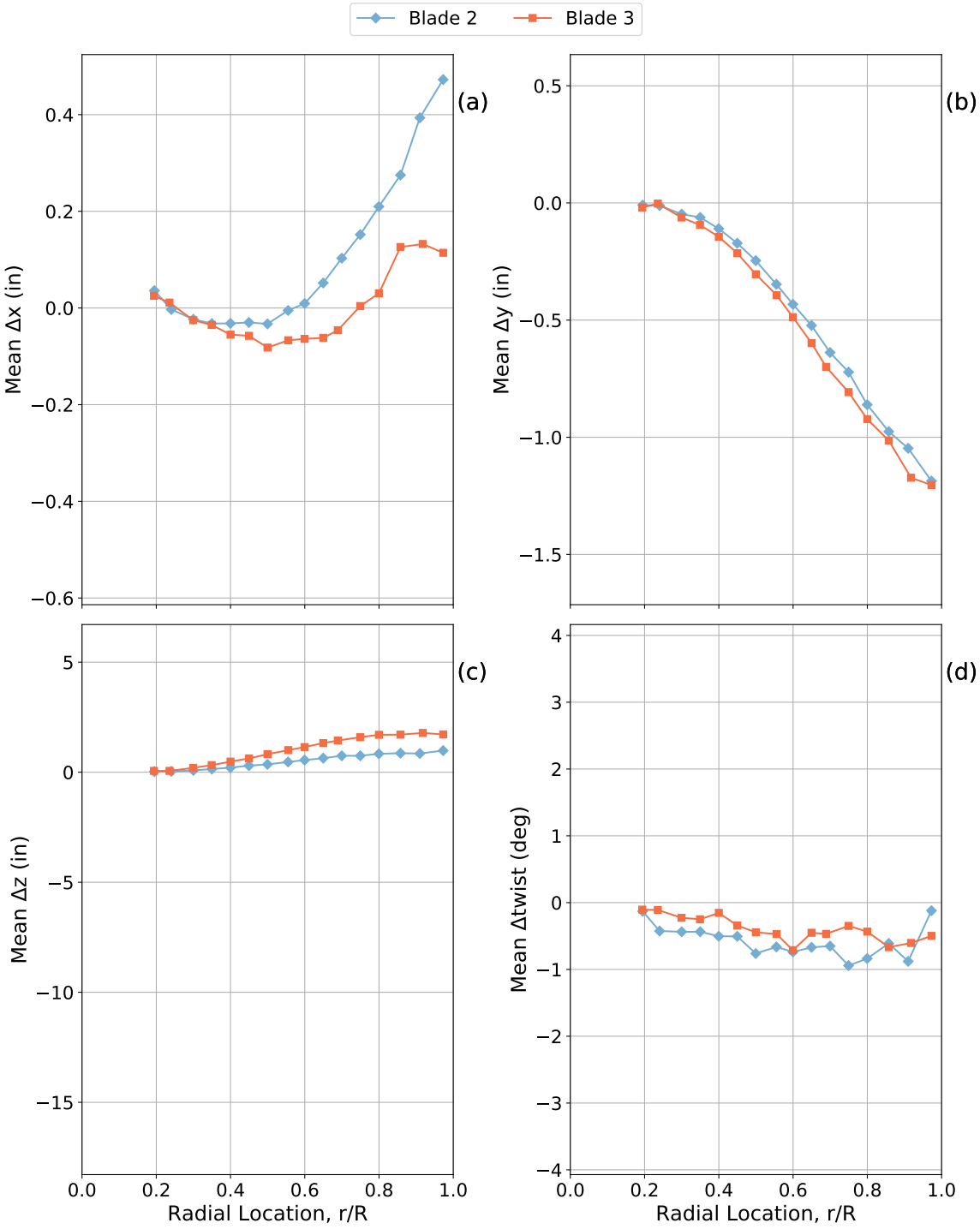


Figure 3.21-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0360	0.0014	-0.0090	0.0008	0.0263	0.0051	-0.1295	0.0398
2	270.35	0.2405	-0.0030	0.0017	-0.0114	0.0023	0.0371	0.0145	-0.4251	0.0460
2	270.35	0.2999	-0.0233	0.0013	-0.0477	0.0043	0.0822	0.0248	-0.4369	0.0803
2	270.35	0.3498	-0.0322	0.0015	-0.0617	0.0078	0.1444	0.0438	-0.4353	0.0629
2	270.35	0.3998	-0.0318	0.0019	-0.1099	0.0124	0.2061	0.0684	-0.5036	0.0793
2	270.35	0.4496	-0.0299	0.0033	-0.1718	0.0167	0.2981	0.0912	-0.5048	0.0744
2	270.35	0.4995	-0.0329	0.0034	-0.2460	0.0216	0.3560	0.1150	-0.7614	0.0763
2	270.35	0.5551	-0.0051	0.0033	-0.3472	0.0287	0.4648	0.1468	-0.6632	0.0833
2	270.35	0.5996	0.0093	0.0034	-0.4325	0.0339	0.5507	0.1705	-0.7383	0.0762
2	270.35	0.6497	0.0518	0.0052	-0.5228	0.0418	0.6387	0.2023	-0.6691	0.0730
2	270.35	0.6996	0.1030	0.0060	-0.6383	0.0493	0.7456	0.2366	-0.6505	0.0721
2	270.35	0.7495	0.1519	0.0058	-0.7219	0.0576	0.7467	0.2757	-0.9425	0.0763
2	270.35	0.7996	0.2098	0.0070	-0.8610	0.0665	0.8363	0.3116	-0.8365	0.0874
2	270.35	0.8578	0.2750	0.0069	-0.9757	0.0758	0.8642	0.3628	-0.6108	0.0722
2	270.35	0.9100	0.3935	0.0084	-1.0469	0.0852	0.8493	0.4093	-0.8794	0.0900
2	270.35	0.9727	0.4725	0.0136	-1.1868	0.0992	0.9824	0.4777	-0.1205	0.1294
3	270	0.1938	0.0252	0.0042	-0.0195	0.0008	0.0604	0.0055	-0.1055	0.0201
3	270	0.2357	0.0112	0.0020	-0.0026	0.0015	0.0612	0.0061	-0.1098	0.0631
3	270	0.2995	-0.0252	0.0018	-0.0622	0.0035	0.1974	0.0193	-0.2268	0.0467
3	270	0.3493	-0.0351	0.0030	-0.0942	0.0051	0.3222	0.0286	-0.2496	0.0511
3	270	0.4000	-0.0551	0.0077	-0.1445	0.0085	0.4810	0.0454	-0.1536	0.0559
3	270	0.4497	-0.0575	0.0065	-0.2146	0.0091	0.6262	0.0531	-0.3418	0.1013
3	270	0.4997	-0.0819	0.0088	-0.3043	0.0132	0.8193	0.0752	-0.4446	0.0714
3	270	0.5556	-0.0668	0.0094	-0.3935	0.0160	1.0043	0.0951	-0.4705	0.0879
3	270	0.5995	-0.0639	0.0106	-0.4875	0.0195	1.1426	0.1198	-0.7120	0.0923
3	270	0.6498	-0.0618	0.0120	-0.5981	0.0233	1.3237	0.1493	-0.4510	0.0519
3	270	0.6890	-0.0460	0.0138	-0.6996	0.0274	1.4397	0.1700	-0.4676	0.1175
3	270	0.7495	0.0040	0.0132	-0.8075	0.0333	1.5906	0.2130	-0.3483	0.0687
3	270	0.7998	0.0304	0.0143	-0.9227	0.0397	1.7007	0.2508	-0.4338	0.0862
3	270	0.8577	0.1261	0.0148	-1.0138	0.0465	1.7081	0.2929	-0.6673	0.0812
3	270	0.9178	0.1324	0.0190	-1.1726	0.0549	1.7839	0.3421	-0.6035	0.0957
3	270	0.9729	0.1142	0.0287	-1.2041	0.0642	1.7166	0.3988	-0.4981	0.0814

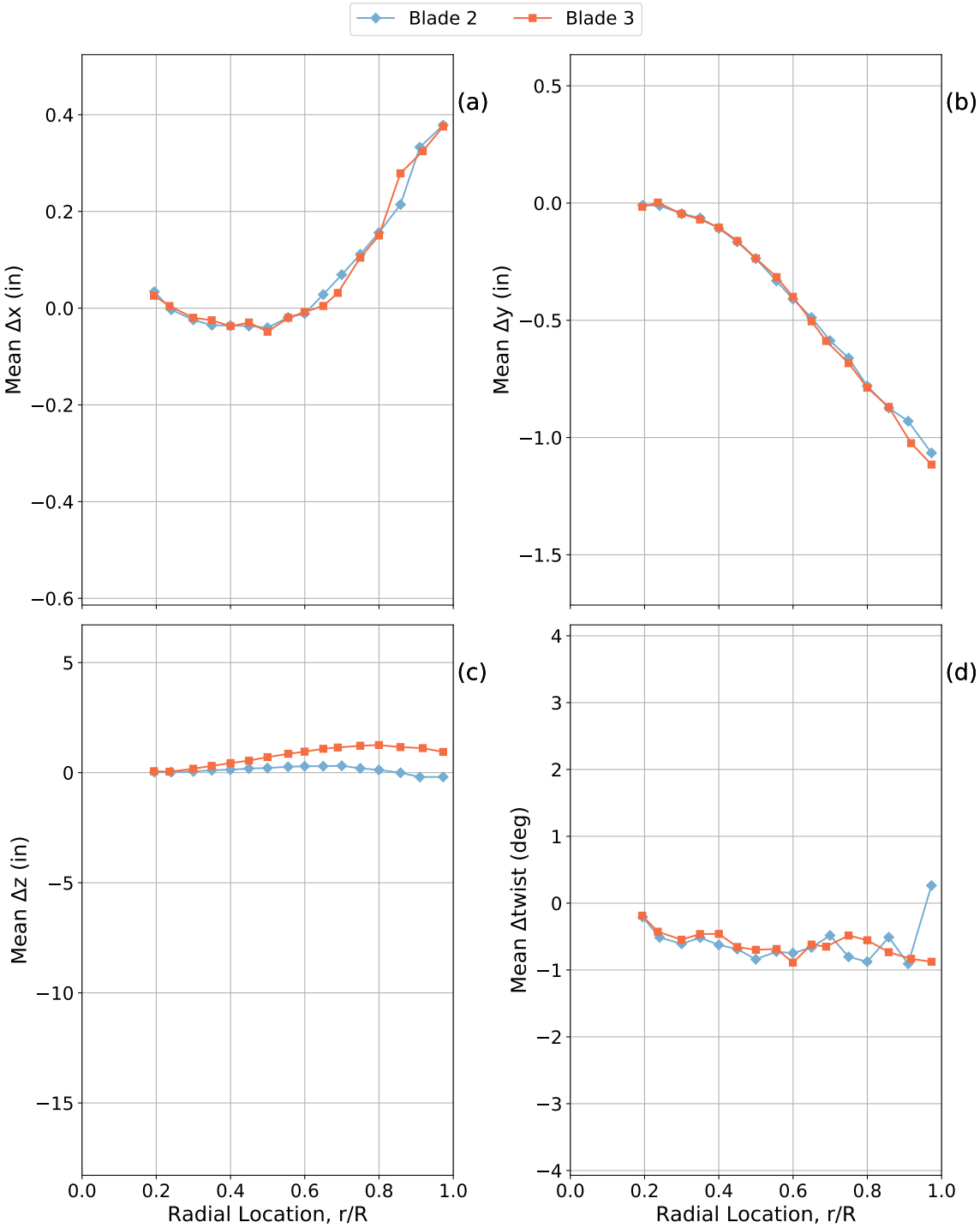


Figure 3.21-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0341	0.0020	-0.0092	0.0007	0.0237	0.0042	-0.2069	0.0645
2	274.92	0.2405	-0.0032	0.0020	-0.0112	0.0013	0.0254	0.0104	-0.5134	0.0868
2	274.92	0.2999	-0.0243	0.0019	-0.0453	0.0035	0.0528	0.0183	-0.6087	0.1480
2	274.92	0.3498	-0.0353	0.0024	-0.0635	0.0052	0.1097	0.0345	-0.5162	0.1048
2	274.92	0.3998	-0.0360	0.0020	-0.1079	0.0085	0.1356	0.0507	-0.6247	0.1017
2	274.92	0.4496	-0.0371	0.0021	-0.1656	0.0114	0.1855	0.0619	-0.6868	0.1153
2	274.92	0.4995	-0.0403	0.0029	-0.2367	0.0152	0.2111	0.0787	-0.8395	0.0913
2	274.92	0.5551	-0.0191	0.0024	-0.3318	0.0205	0.2672	0.0968	-0.7261	0.1083
2	274.92	0.5996	-0.0114	0.0022	-0.4095	0.0244	0.2922	0.1086	-0.7475	0.0862
2	274.92	0.6497	0.0281	0.0033	-0.4884	0.0298	0.2924	0.1221	-0.6626	0.1082
2	274.92	0.6996	0.0693	0.0033	-0.5869	0.0349	0.3131	0.1314	-0.4838	0.1012
2	274.92	0.7495	0.1114	0.0043	-0.6610	0.0409	0.1958	0.1437	-0.8030	0.0975
2	274.92	0.7996	0.1560	0.0050	-0.7802	0.0456	0.1248	0.1497	-0.8763	0.1146
2	274.92	0.8578	0.2143	0.0053	-0.8739	0.0528	-0.0057	0.1648	-0.5098	0.0794
2	274.92	0.9100	0.3329	0.0065	-0.9303	0.0586	-0.1991	0.1693	-0.9069	0.1139
2	274.92	0.9727	0.3784	0.0070	-1.0657	0.0667	-0.1943	0.1910	0.2632	0.1114
3	274.92	0.1938	0.0257	0.0013	-0.0160	0.0008	0.0630	0.0049	-0.1871	0.0418
3	274.92	0.2357	0.0045	0.0024	0.0021	0.0016	0.0435	0.0087	-0.4266	0.0476
3	274.92	0.2995	-0.0198	0.0015	-0.0460	0.0027	0.1784	0.0166	-0.5468	0.0918
3	274.92	0.3493	-0.0250	0.0014	-0.0700	0.0062	0.3066	0.0341	-0.4622	0.0404
3	274.92	0.4000	-0.0373	0.0014	-0.1044	0.0086	0.4346	0.0476	-0.4597	0.0756
3	274.92	0.4497	-0.0297	0.0035	-0.1616	0.0108	0.5466	0.0596	-0.6558	0.0754
3	274.92	0.4997	-0.0487	0.0033	-0.2360	0.0148	0.7063	0.0858	-0.6980	0.0363
3	274.92	0.5556	-0.0198	0.0019	-0.3155	0.0180	0.8571	0.1043	-0.6857	0.0363
3	274.92	0.5995	-0.0078	0.0034	-0.3997	0.0215	0.9539	0.1201	-0.8891	0.0471
3	274.92	0.6498	0.0046	0.0037	-0.5045	0.0255	1.0838	0.1387	-0.6196	0.0791
3	274.92	0.6890	0.0315	0.0053	-0.5883	0.0298	1.1429	0.1637	-0.6511	0.0694
3	274.92	0.7495	0.1044	0.0047	-0.6829	0.0356	1.2218	0.1968	-0.4836	0.0878
3	274.92	0.7998	0.1503	0.0048	-0.7874	0.0413	1.2546	0.2270	-0.5544	0.0911
3	274.92	0.8577	0.2788	0.0050	-0.8697	0.0480	1.1602	0.2628	-0.7336	0.0809
3	274.92	0.9178	0.3246	0.0059	-1.0240	0.0561	1.1139	0.3040	-0.8332	0.0742
3	274.92	0.9729	0.3757	0.0074	-1.1154	0.0621	0.9420	0.3408	-0.8766	0.0624

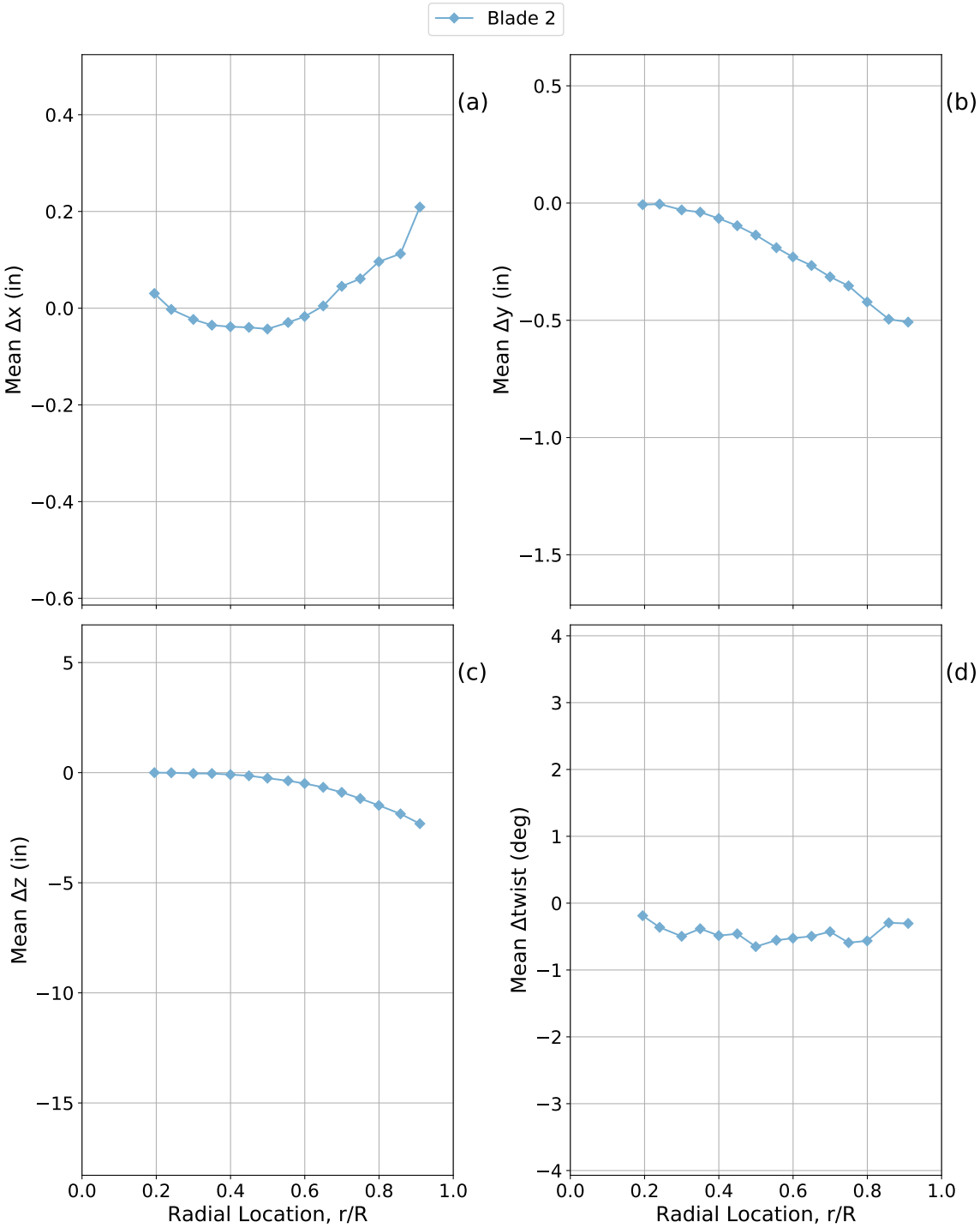


Figure 3.21-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0304	0.0011	-0.0068	0.0006	-0.0010	0.0032	-0.1878	0.0314
2	285.12	0.2405	-0.0026	0.0011	-0.0044	0.0018	-0.0050	0.0048	-0.3616	0.0374
2	285.12	0.2999	-0.0233	0.0031	-0.0293	0.0028	-0.0373	0.0092	-0.4961	0.0642
2	285.12	0.3498	-0.0352	0.0025	-0.0388	0.0055	-0.0380	0.0183	-0.3827	0.0694
2	285.12	0.3998	-0.0384	0.0020	-0.0656	0.0085	-0.0879	0.0252	-0.4851	0.0685
2	285.12	0.4496	-0.0397	0.0020	-0.0967	0.0113	-0.1407	0.0332	-0.4587	0.0568
2	285.12	0.4995	-0.0431	0.0031	-0.1366	0.0155	-0.2498	0.0455	-0.6506	0.0614
2	285.12	0.5551	-0.0296	0.0032	-0.1904	0.0194	-0.3688	0.0537	-0.5545	0.0707
2	285.12	0.5996	-0.0173	0.0036	-0.2299	0.0237	-0.4929	0.0649	-0.5248	0.0565
2	285.12	0.6497	0.0046	0.0043	-0.2665	0.0278	-0.6659	0.0758	-0.4950	0.0780
2	285.12	0.6996	0.0452	0.0050	-0.3147	0.0328	-0.8949	0.0870	-0.4271	0.0542
2	285.12	0.7495	0.0609	0.0053	-0.3531	0.0376	-1.1766	0.0967	-0.5916	0.0784
2	285.12	0.7996	0.0962	0.0057	-0.4218	0.0435	-1.4880	0.1143	-0.5638	0.0806
2	285.12	0.8578	0.1125	0.0065	-0.4954	0.0489	-1.8721	0.1330	-0.2943	0.0843
2	285.12	0.9100	0.2091	0.0074	-0.5076	0.0544	-2.3178	0.1543	-0.3039	0.1002

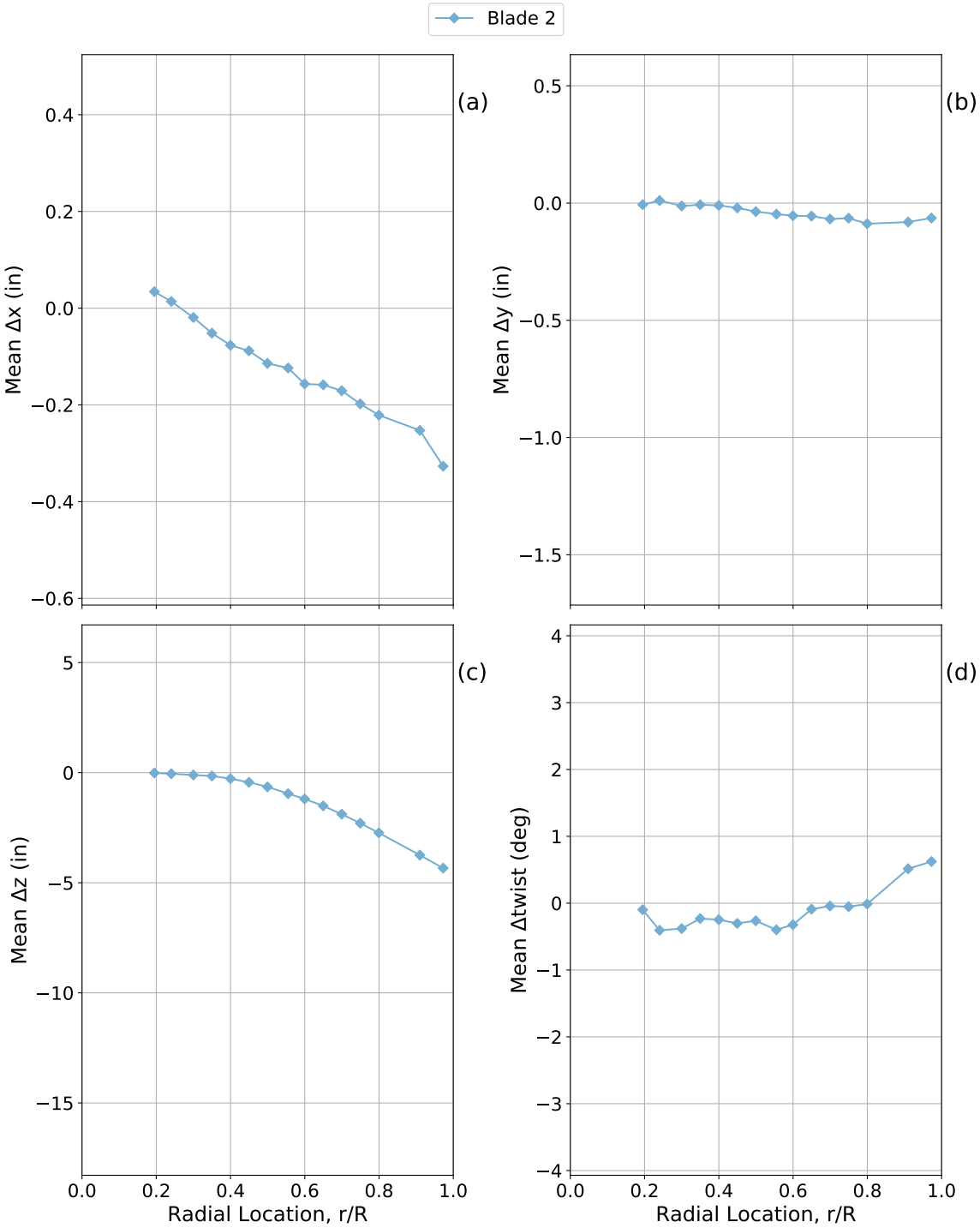


Figure 3.21-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0341	0.0018	-0.0068	0.0011	-0.0139	0.0027	-0.0985	0.0437
2	299.88	0.2405	0.0139	0.0016	0.0107	0.0017	-0.0497	0.0069	-0.4060	0.0412
2	299.88	0.2999	-0.0192	0.0017	-0.0123	0.0031	-0.1058	0.0100	-0.3804	0.0903
2	299.88	0.3498	-0.0516	0.0022	-0.0072	0.0057	-0.1516	0.0163	-0.2308	0.0835
2	299.88	0.3998	-0.0767	0.0019	-0.0100	0.0076	-0.2716	0.0261	-0.2469	0.0593
2	299.88	0.4496	-0.0881	0.0018	-0.0208	0.0080	-0.4378	0.0300	-0.3031	0.0953
2	299.88	0.4995	-0.1142	0.0030	-0.0363	0.0089	-0.6450	0.0392	-0.2639	0.0699
2	299.88	0.5551	-0.1237	0.0026	-0.0473	0.0127	-0.9532	0.0479	-0.3986	0.0661
2	299.88	0.5996	-0.1566	0.0036	-0.0541	0.0149	-1.1926	0.0539	-0.3228	0.0606
2	299.88	0.6497	-0.1585	0.0040	-0.0557	0.0175	-1.5095	0.0640	-0.0902	0.0691
2	299.88	0.6996	-0.1707	0.0039	-0.0682	0.0207	-1.8844	0.0739	-0.0429	0.0708
2	299.88	0.7495	-0.1979	0.0055	-0.0646	0.0246	-2.2957	0.0856	-0.0526	0.0533
2	299.88	0.7996	-0.2212	0.0054	-0.0882	0.0290	-2.7357	0.1032	-0.0133	0.0675
2	299.88	0.9100	-0.2527	0.0082	-0.0809	0.0393	-3.7452	0.1440	0.5143	0.0610
2	299.88	0.9727	-0.3268	0.0099	-0.0639	0.0464	-4.3356	0.1677	0.6225	0.0748

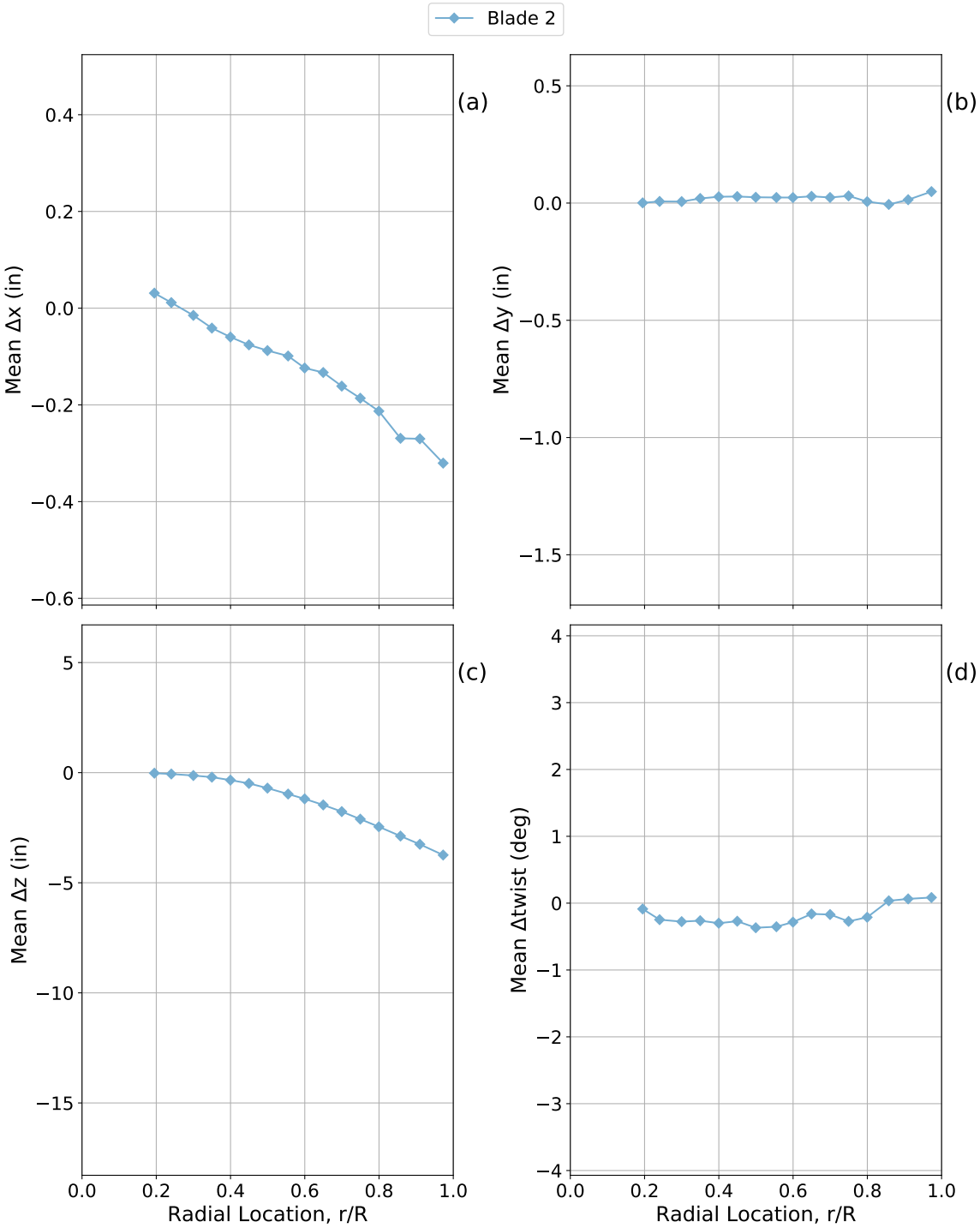


Figure 3.21-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0311	0.0027	0.0009	0.0009	-0.0237	0.0039	-0.0871	0.0478
2	315	0.2405	0.0115	0.0027	0.0069	0.0032	-0.0615	0.0117	-0.2472	0.0408
2	315	0.2999	-0.0149	0.0023	0.0063	0.0054	-0.1301	0.0174	-0.2764	0.0934
2	315	0.3498	-0.0412	0.0017	0.0196	0.0091	-0.2049	0.0280	-0.2624	0.1147
2	315	0.3998	-0.0597	0.0030	0.0269	0.0153	-0.3392	0.0459	-0.2996	0.0605
2	315	0.4496	-0.0759	0.0035	0.0279	0.0181	-0.4885	0.0587	-0.2704	0.0689
2	315	0.4995	-0.0877	0.0035	0.0247	0.0231	-0.7027	0.0736	-0.3681	0.0614
2	315	0.5551	-0.0989	0.0032	0.0238	0.0291	-0.9715	0.0927	-0.3527	0.0664
2	315	0.5996	-0.1237	0.0036	0.0235	0.0349	-1.1898	0.1072	-0.2837	0.0721
2	315	0.6497	-0.1330	0.0048	0.0287	0.0409	-1.4657	0.1228	-0.1609	0.0688
2	315	0.6996	-0.1612	0.0043	0.0238	0.0486	-1.7687	0.1422	-0.1703	0.0827
2	315	0.7495	-0.1862	0.0061	0.0305	0.0559	-2.1113	0.1635	-0.2725	0.0746
2	315	0.7996	-0.2129	0.0072	0.0061	0.0639	-2.4577	0.1852	-0.2110	0.0840
2	315	0.8578	-0.2691	0.0076	-0.0060	0.0740	-2.8799	0.2093	0.0352	0.0851
2	315	0.9100	-0.2701	0.0083	0.0142	0.0823	-3.2533	0.2310	0.0640	0.0918
2	315	0.9727	-0.3204	0.0083	0.0489	0.0933	-3.7408	0.2592	0.0845	0.0955

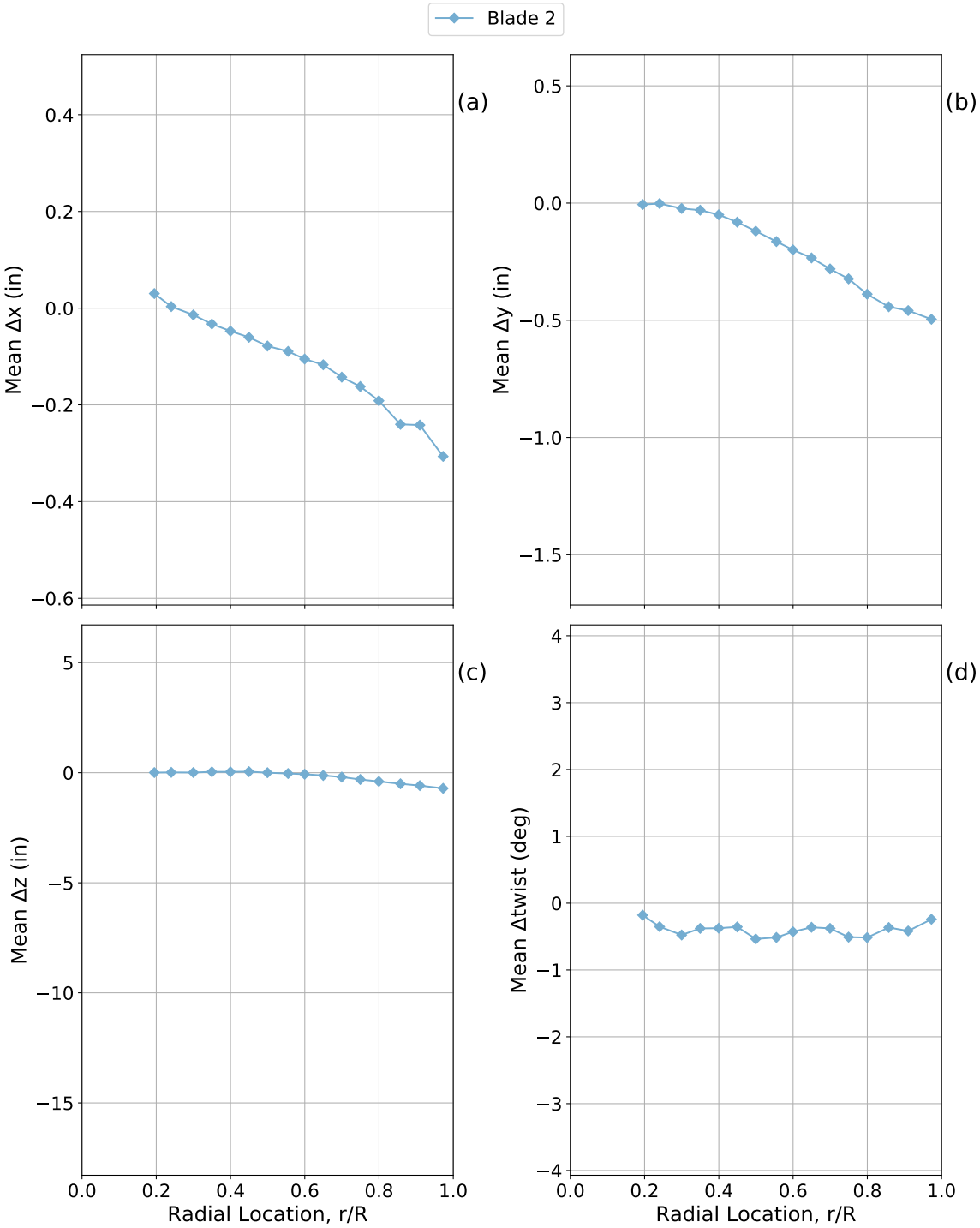


Figure 3.21-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0302	0.0020	-0.0061	0.0010	0.0057	0.0043	-0.1787	0.0376
2	330.12	0.2405	0.0033	0.0017	-0.0020	0.0024	0.0140	0.0112	-0.3524	0.0367
2	330.12	0.2999	-0.0140	0.0027	-0.0230	0.0042	0.0073	0.0198	-0.4772	0.0737
2	330.12	0.3498	-0.0328	0.0022	-0.0303	0.0074	0.0387	0.0352	-0.3785	0.0599
2	330.12	0.3998	-0.0474	0.0033	-0.0498	0.0113	0.0378	0.0553	-0.3752	0.0627
2	330.12	0.4496	-0.0603	0.0043	-0.0813	0.0135	0.0464	0.0576	-0.3561	0.0683
2	330.12	0.4995	-0.0783	0.0036	-0.1197	0.0157	-0.0003	0.0783	-0.5365	0.0516
2	330.12	0.5551	-0.0894	0.0028	-0.1641	0.0217	-0.0376	0.0980	-0.5141	0.0543
2	330.12	0.5996	-0.1052	0.0046	-0.1996	0.0253	-0.0681	0.1246	-0.4288	0.0701
2	330.12	0.6497	-0.1171	0.0032	-0.2340	0.0285	-0.1252	0.1445	-0.3620	0.0722
2	330.12	0.6996	-0.1427	0.0035	-0.2809	0.0346	-0.1976	0.1683	-0.3780	0.0698
2	330.12	0.7495	-0.1621	0.0040	-0.3232	0.0410	-0.3074	0.1840	-0.5091	0.0619
2	330.12	0.7996	-0.1915	0.0047	-0.3885	0.0471	-0.3971	0.1984	-0.5156	0.0699
2	330.12	0.8578	-0.2403	0.0050	-0.4423	0.0553	-0.5035	0.2106	-0.3651	0.0688
2	330.12	0.9100	-0.2418	0.0054	-0.4586	0.0628	-0.5865	0.2199	-0.4168	0.0622
2	330.12	0.9727	-0.3066	0.0072	-0.4957	0.0733	-0.7107	0.2353	-0.2413	0.0636

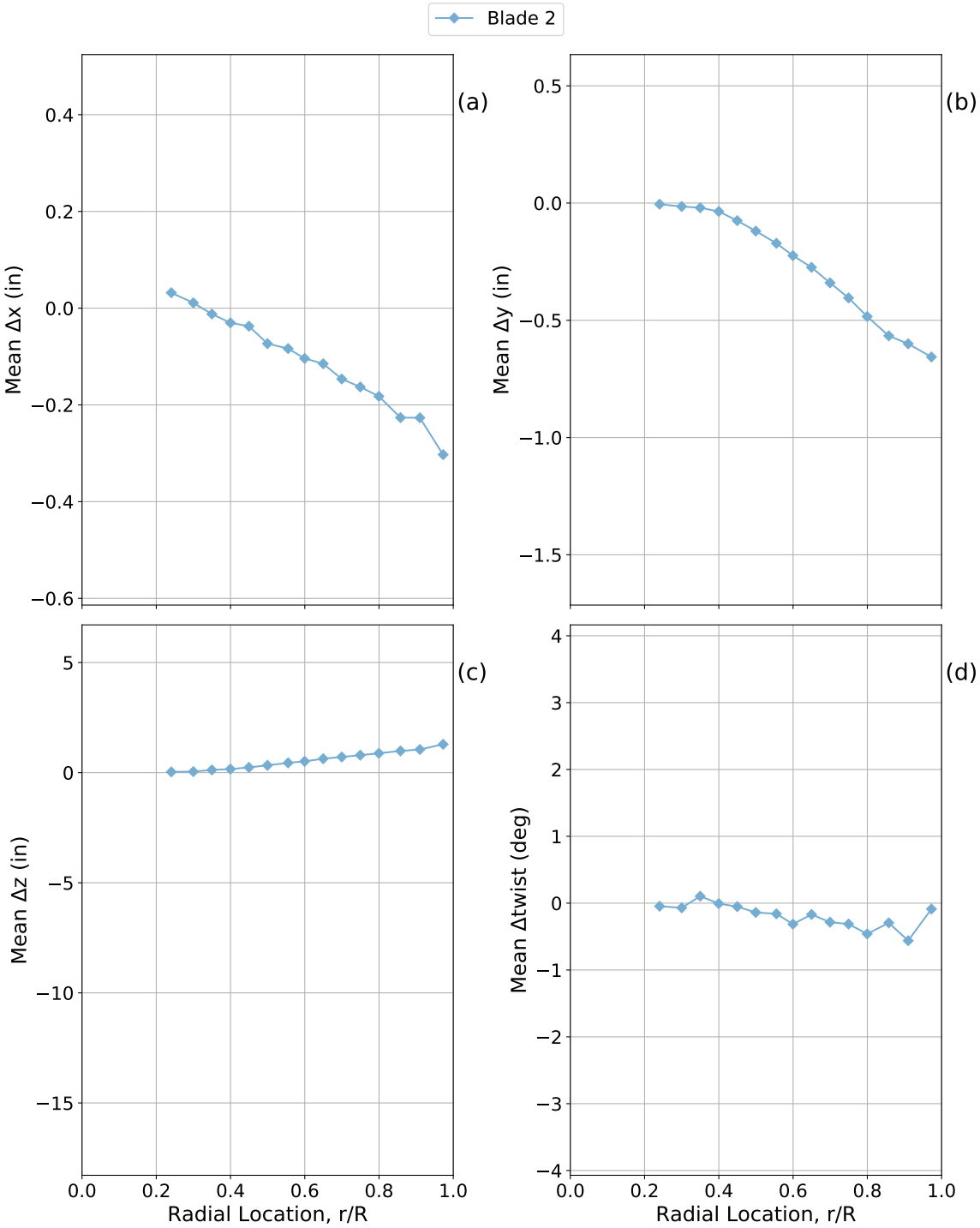


Figure 3.21-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.2405	0.0319	0.0037	-0.0050	0.0031	0.0347	0.0116	-0.0459	0.0657
2	344.88	0.2999	0.0110	0.0030	-0.0148	0.0078	0.0483	0.0239	-0.0696	0.1012
2	344.88	0.3498	-0.0121	0.0031	-0.0201	0.0123	0.1239	0.0416	0.1036	0.0902
2	344.88	0.3998	-0.0303	0.0017	-0.0358	0.0201	0.1633	0.0639	-0.0065	0.0490
2	344.88	0.4496	-0.0373	0.0032	-0.0750	0.0232	0.2378	0.0790	-0.0521	0.0774
2	344.88	0.4995	-0.0733	0.0030	-0.1195	0.0327	0.3323	0.0908	-0.1392	0.0966
2	344.88	0.5551	-0.0836	0.0039	-0.1715	0.0370	0.4446	0.1122	-0.1596	0.0929
2	344.88	0.5996	-0.1039	0.0048	-0.2242	0.0422	0.5140	0.1314	-0.3136	0.0776
2	344.88	0.6497	-0.1149	0.0039	-0.2742	0.0485	0.6327	0.1494	-0.1691	0.0865
2	344.88	0.6996	-0.1465	0.0047	-0.3403	0.0565	0.7122	0.1685	-0.2848	0.1037
2	344.88	0.7495	-0.1629	0.0101	-0.4045	0.0671	0.7940	0.1855	-0.3125	0.2166
2	344.88	0.7996	-0.1823	0.0045	-0.4839	0.0719	0.8797	0.2068	-0.4601	0.0716
2	344.88	0.8578	-0.2263	0.0055	-0.5663	0.0813	0.9871	0.2286	-0.2945	0.1031
2	344.88	0.9100	-0.2267	0.0056	-0.6002	0.0897	1.0523	0.2523	-0.5615	0.1082
2	344.88	0.9727	-0.3029	0.0082	-0.6564	0.0996	1.2880	0.2865	-0.0875	0.0981

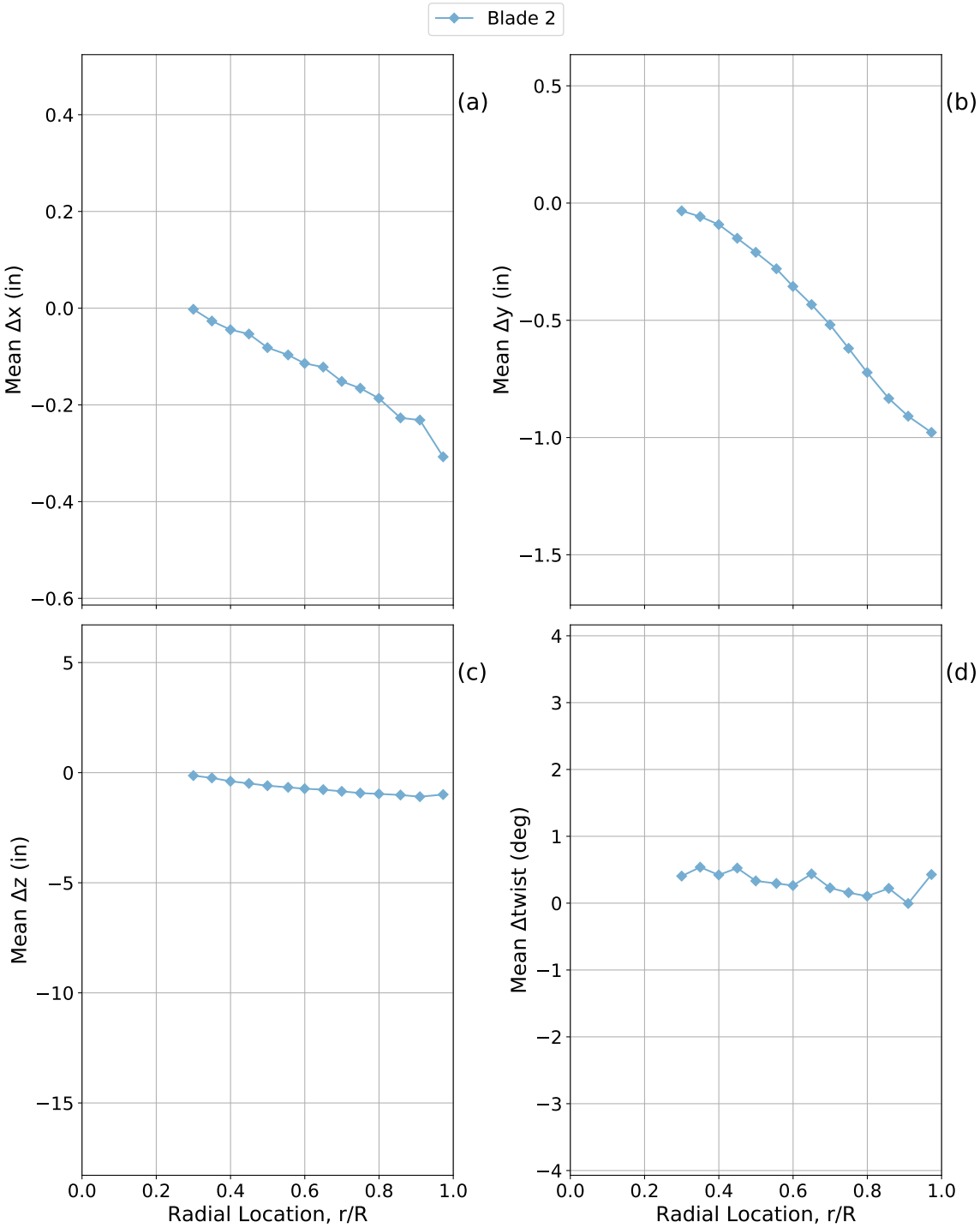


Figure 3.21-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.299, α = -8°
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2999	-0.0023	0.0126	-0.0333	0.0273	-0.1326	0.0346	0.4049	0.0804
2	350.16	0.3498	-0.0266	0.0133	-0.0577	0.0472	-0.2400	0.0621	0.5382	0.1066
2	350.16	0.3998	-0.0445	0.0119	-0.0916	0.0749	-0.3912	0.1010	0.4215	0.1030
2	350.16	0.4496	-0.0534	0.0127	-0.1502	0.0877	-0.4890	0.1265	0.5250	0.1033
2	350.16	0.4995	-0.0816	0.0132	-0.2100	0.1117	-0.5923	0.1579	0.3327	0.1124
2	350.16	0.5551	-0.0967	0.0127	-0.2802	0.1348	-0.6667	0.1934	0.2950	0.1159
2	350.16	0.5996	-0.1142	0.0122	-0.3555	0.1545	-0.7287	0.2249	0.2634	0.1075
2	350.16	0.6497	-0.1218	0.0123	-0.4329	0.1747	-0.7706	0.2584	0.4374	0.1144
2	350.16	0.6996	-0.1515	0.0120	-0.5192	0.1980	-0.8486	0.2891	0.2280	0.1156
2	350.16	0.7495	-0.1655	0.0112	-0.6196	0.2196	-0.9273	0.3287	0.1565	0.1132
2	350.16	0.7996	-0.1864	0.0131	-0.7227	0.2396	-0.9647	0.3681	0.1046	0.1019
2	350.16	0.8578	-0.2269	0.0133	-0.8334	0.2657	-1.0144	0.4221	0.2212	0.1138
2	350.16	0.9100	-0.2313	0.0131	-0.9091	0.2891	-1.0921	0.4739	-0.0054	0.1335
2	350.16	0.9727	-0.3073	0.0195	-0.9782	0.3164	-0.9940	0.5340	0.4284	0.1327

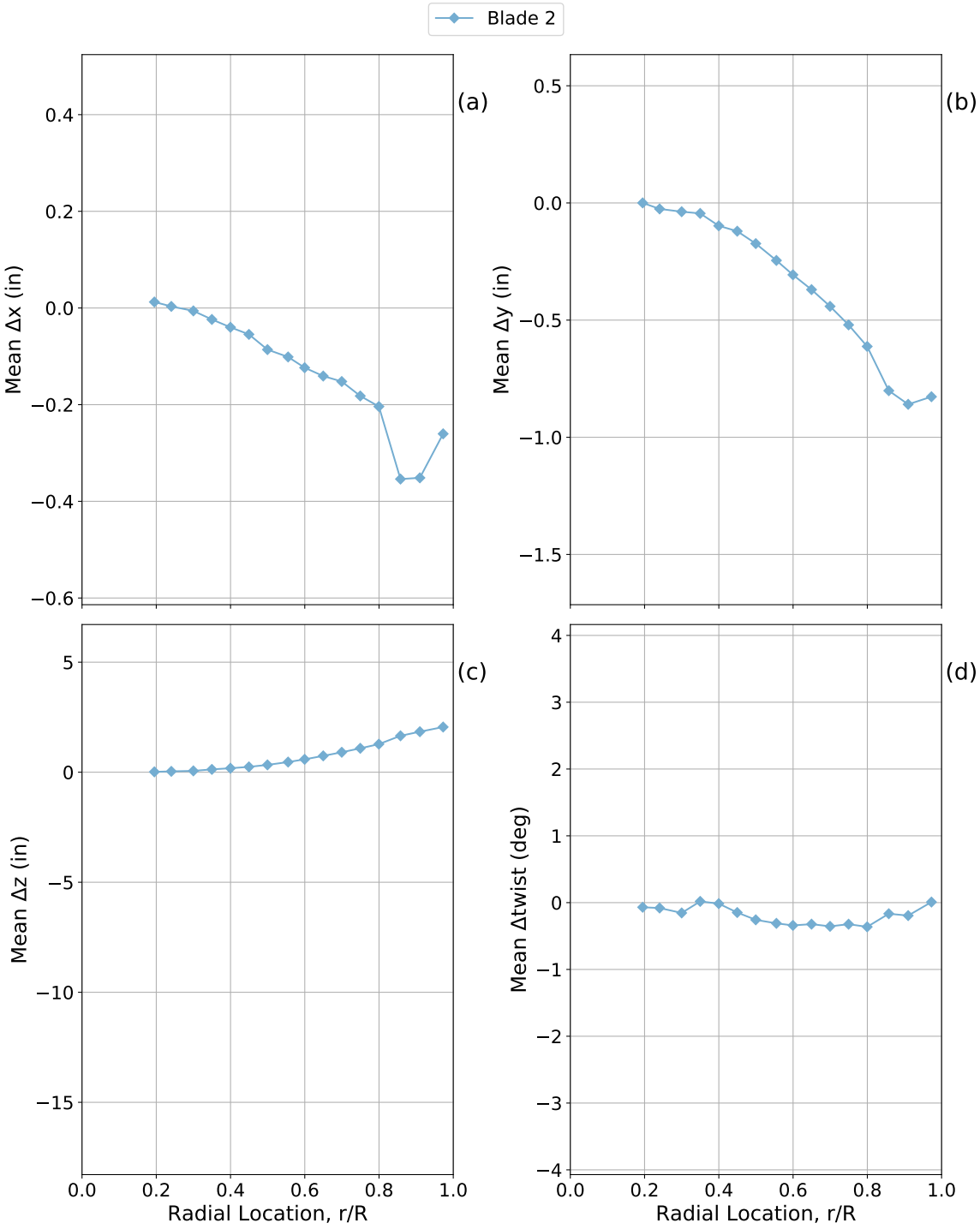


Figure 3.21-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.299, α = -8° NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Table 3.21-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.299$, $\alpha = -8°$
NFAC run 63, point 12. BD run 30, points 4372 to 4382.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0124	0.0038	0.0002	0.0048	0.0164	0.0041	-0.0691	0.0366
2	355.08	0.2405	0.0033	0.0043	-0.0255	0.0121	0.0390	0.0061	-0.0808	0.0509
2	355.08	0.2999	-0.0060	0.0042	-0.0374	0.0215	0.0602	0.0145	-0.1543	0.0822
2	355.08	0.3498	-0.0237	0.0141	-0.0447	0.0455	0.1290	0.0222	0.0184	0.0698
2	355.08	0.3998	-0.0399	0.0207	-0.0976	0.0660	0.1808	0.0365	-0.0149	0.0950
2	355.08	0.4496	-0.0546	0.0218	-0.1206	0.0774	0.2423	0.0465	-0.1482	0.0668
2	355.08	0.4995	-0.0861	0.0232	-0.1735	0.0888	0.3327	0.0567	-0.2574	0.0675
2	355.08	0.5551	-0.1013	0.0249	-0.2454	0.1041	0.4617	0.0757	-0.3102	0.0912
2	355.08	0.5996	-0.1235	0.0254	-0.3067	0.1180	0.5848	0.0905	-0.3409	0.0890
2	355.08	0.6497	-0.1408	0.0252	-0.3699	0.1303	0.7423	0.1086	-0.3222	0.0936
2	355.08	0.6996	-0.1521	0.0231	-0.4412	0.1459	0.9068	0.1235	-0.3550	0.0724
2	355.08	0.7495	-0.1820	0.0231	-0.5204	0.1631	1.0857	0.1486	-0.3228	0.0926
2	355.08	0.7996	-0.2038	0.0234	-0.6124	0.1816	1.2758	0.1748	-0.3625	0.1072
2	355.08	0.8578	-0.3539	0.0050	-0.8011	0.2229	1.6543	0.2330	-0.1663	0.0880
2	355.08	0.9100	-0.3514	0.0057	-0.8594	0.2433	1.8406	0.2663	-0.1941	0.0903
2	355.08	0.9727	-0.2603	0.0372	-0.8269	0.2535	2.0532	0.2867	0.0088	0.2281

3.22 Run 63, Point 13

3.22.1 Pitch, Flap, and Lag

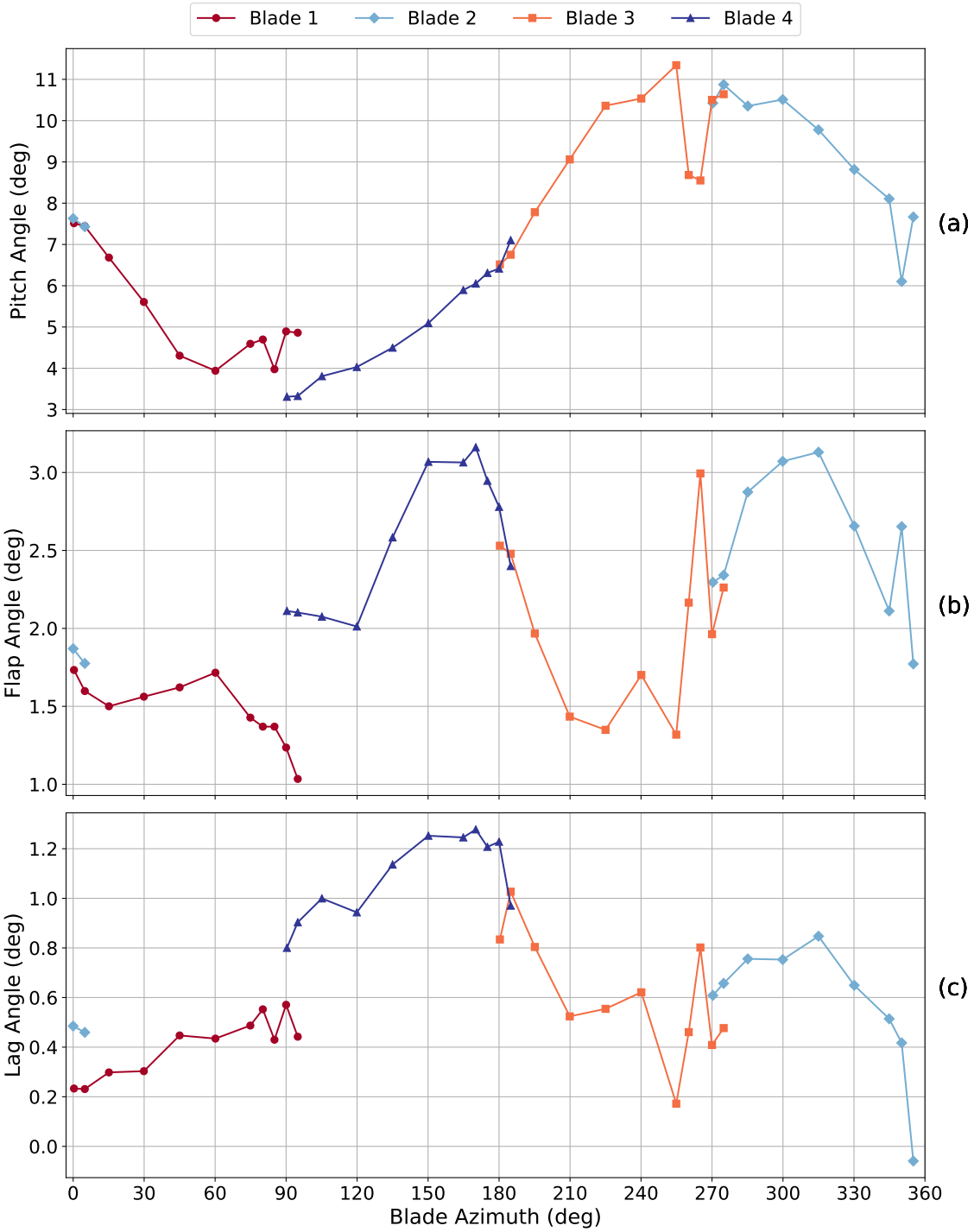


Figure 3.22-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	7.6295	1.8698	0.4850	0.1083	0.0905	0.0233
0.35	1	7.5145	1.7332	0.2332	0.0804	0.0809	0.0261
4.92	1	7.4434	1.5981	0.2311	0.1397	0.0924	0.0382
4.92	2	7.4292	1.7752	0.4595	0.0990	0.0525	0.0648
15.12	1	6.6822	1.5004	0.2982	0.0920	0.1224	0.0345
29.88	1	5.6064	1.5619	0.3032	0.1185	0.0727	0.0404
45	1	4.3059	1.6217	0.4472	0.0788	0.0744	0.0381
60.12	1	3.9397	1.7157	0.4345	0.0965	0.0571	0.0539
74.88	1	4.5926	1.4278	0.4871	0.0739	0.0611	0.0192
80.16	1	4.6974	1.3698	0.5525	0.1644	0.0970	0.0279
85.08	1	3.9766	1.3697	0.4299	0.1637	0.0553	0.0478
90	1	4.8936	1.2357	0.5708	0.1445	0.0703	0.0291
90.35	4	3.3085	2.1118	0.8000	0.1003	0.0563	0.0357
94.92	1	4.8619	1.0344	0.4421	0.1950	0.0955	0.0387
94.92	4	3.3275	2.1017	0.9033	0.0776	0.0810	0.0292
105.12	4	3.8072	2.0752	0.9995	0.1740	0.0694	0.0226
119.88	4	4.0300	2.0121	0.9433	0.0804	0.1206	0.0400
135	4	4.4983	2.5833	1.1361	0.0579	0.1009	0.0464
150.12	4	5.0923	3.0683	1.2522	0.1470	0.1376	0.0390
164.88	4	5.8955	3.0643	1.2454	0.1350	0.1851	0.0210
170.16	4	6.0509	3.1615	1.2778	0.0789	0.1004	0.0460
175.08	4	6.3094	2.9465	1.2073	0.0665	0.0527	0.0372
180	4	6.4152	2.7793	1.2280	0.0968	0.1753	0.0394
180.35	3	6.5171	2.5305	0.8341	0.2013	0.1863	0.0634
184.92	3	6.7510	2.4790	1.0268	0.2115	0.1949	0.0905
184.92	4	7.1033	2.3995	0.9702	0.0906	0.1181	0.0573
195.12	3	7.7816	1.9670	0.8038	0.0747	0.1971	0.0462
209.88	3	9.0602	1.4340	0.5240	0.0560	0.1286	0.0427
225	3	10.3611	1.3492	0.5544	0.0459	0.0963	0.0328
240.12	3	10.5367	1.7012	0.6212	0.0778	0.0913	0.0357
254.88	3	11.3436	1.3183	0.1719	0.2907	0.1384	0.0839
260.16	3	8.6823	2.1651	0.4606	0.0886	0.1266	0.0577
265.08	3	8.5509	2.9939	0.8018	0.1920	0.1286	0.0544
270	3	10.5035	1.9628	0.4086	0.0249	0.1000	0.0397
270.35	2	10.4255	2.2958	0.6086	0.1017	0.0989	0.0280
274.92	2	10.8733	2.3412	0.6571	0.0826	0.0431	0.0326
274.92	3	10.6413	2.2620	0.4768	0.1061	0.0652	0.0485
285.12	2	10.3537	2.8745	0.7560	0.0468	0.0476	0.0159
299.88	2	10.5112	3.0715	0.7530	0.1011	0.0665	0.0410
315	2	9.7775	3.1302	0.8472	0.0689	0.0472	0.0440
330.12	2	8.8156	2.6564	0.6493	0.0552	0.0589	0.0348
344.88	2	8.1059	2.1116	0.5142	0.0682	0.0876	0.0224
350.16	2	6.1029	2.6529	0.4172	0.1691	0.0556	0.0624
355.08	2	7.6670	1.7720	-0.0592	0.0404	0.0426	0.0413

3.22.2 Spanwise Elastic Deformations

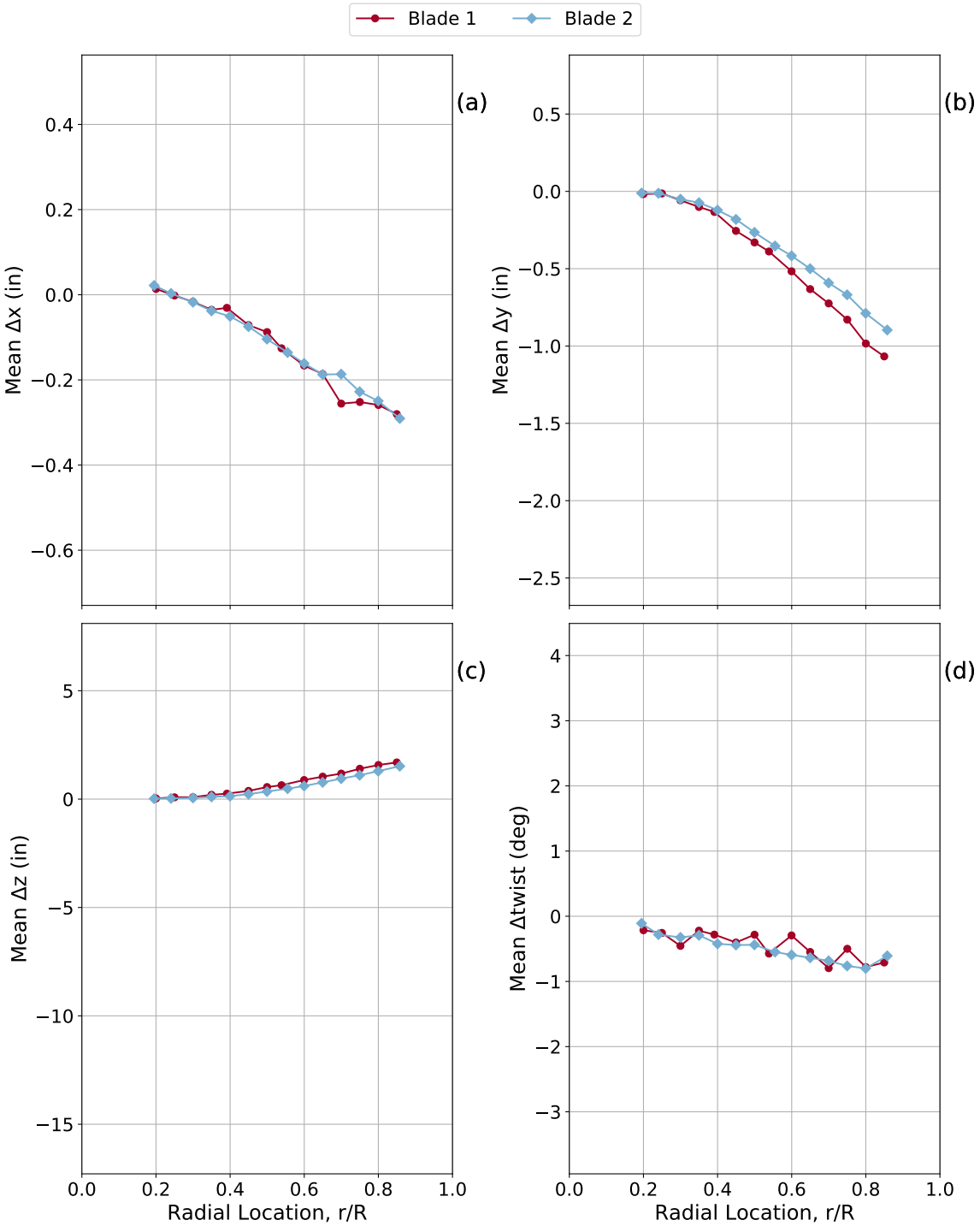


Figure 3.22-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.04, μ = 0.3, α = -8°
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0137	0.0035	-0.0176	0.0022	0.0304	0.0068	-0.2148	0.0531
1	0.35	0.2499	-0.0019	0.0023	-0.0135	0.0052	0.0823	0.0172	-0.2555	0.0617
1	0.35	0.2998	-0.0166	0.0019	-0.0578	0.0083	0.0884	0.0293	-0.4544	0.0994
1	0.35	0.3498	-0.0354	0.0038	-0.1009	0.0161	0.1984	0.0440	-0.2213	0.0902
1	0.35	0.3913	-0.0308	0.0038	-0.1329	0.0213	0.2514	0.0679	-0.2815	0.1051
1	0.35	0.4496	-0.0712	0.0046	-0.2555	0.0271	0.3781	0.0850	-0.4026	0.0926
1	0.35	0.4997	-0.0877	0.0044	-0.3303	0.0319	0.5556	0.1130	-0.2832	0.0830
1	0.35	0.5387	-0.1257	0.0044	-0.3887	0.0371	0.6408	0.1296	-0.5726	0.1023
1	0.35	0.5996	-0.1662	0.0044	-0.5169	0.0411	0.8798	0.1529	-0.2945	0.0852
1	0.35	0.6498	-0.1862	0.0044	-0.6320	0.0446	1.0354	0.1739	-0.5478	0.0832
1	0.35	0.6998	-0.2557	0.0064	-0.7246	0.0514	1.1764	0.1940	-0.7957	0.0977
1	0.35	0.7500	-0.2519	0.0055	-0.8296	0.0582	1.4010	0.2119	-0.4992	0.1102
1	0.35	0.8001	-0.2589	0.0082	-0.9841	0.0703	1.5727	0.2344	-0.7801	0.1583
1	0.35	0.8497	-0.2803	0.0083	-1.0672	0.0706	1.6911	0.2722	-0.7095	0.1262
2	0	0.1949	0.0218	0.0017	-0.0111	0.0013	0.0200	0.0037	-0.1087	0.0648
2	0	0.2405	0.0030	0.0026	-0.0123	0.0061	0.0317	0.0137	-0.2812	0.0539
2	0	0.2999	-0.0175	0.0019	-0.0506	0.0075	0.0538	0.0169	-0.3242	0.1259
2	0	0.3498	-0.0379	0.0022	-0.0732	0.0131	0.1033	0.0308	-0.2919	0.0734
2	0	0.3998	-0.0507	0.0028	-0.1213	0.0216	0.1382	0.0482	-0.4229	0.0870
2	0	0.4496	-0.0748	0.0019	-0.1810	0.0261	0.2295	0.0616	-0.4413	0.0645
2	0	0.4995	-0.1042	0.0037	-0.2651	0.0308	0.3495	0.0729	-0.4386	0.0889
2	0	0.5551	-0.1356	0.0040	-0.3532	0.0341	0.4811	0.0918	-0.5488	0.0989
2	0	0.5996	-0.1614	0.0034	-0.4168	0.0393	0.6055	0.1055	-0.5926	0.0921
2	0	0.6497	-0.1874	0.0042	-0.5000	0.0416	0.7720	0.1171	-0.6368	0.0830
2	0	0.6996	-0.1865	0.0037	-0.5918	0.0473	0.9456	0.1278	-0.6838	0.1100
2	0	0.7495	-0.2278	0.0054	-0.6688	0.0507	1.1018	0.1379	-0.7625	0.0999
2	0	0.7996	-0.2495	0.0051	-0.7884	0.0607	1.2904	0.1603	-0.8006	0.1186
2	0	0.8578	-0.2906	0.0085	-0.8965	0.0641	1.5194	0.1795	-0.6073	0.2048

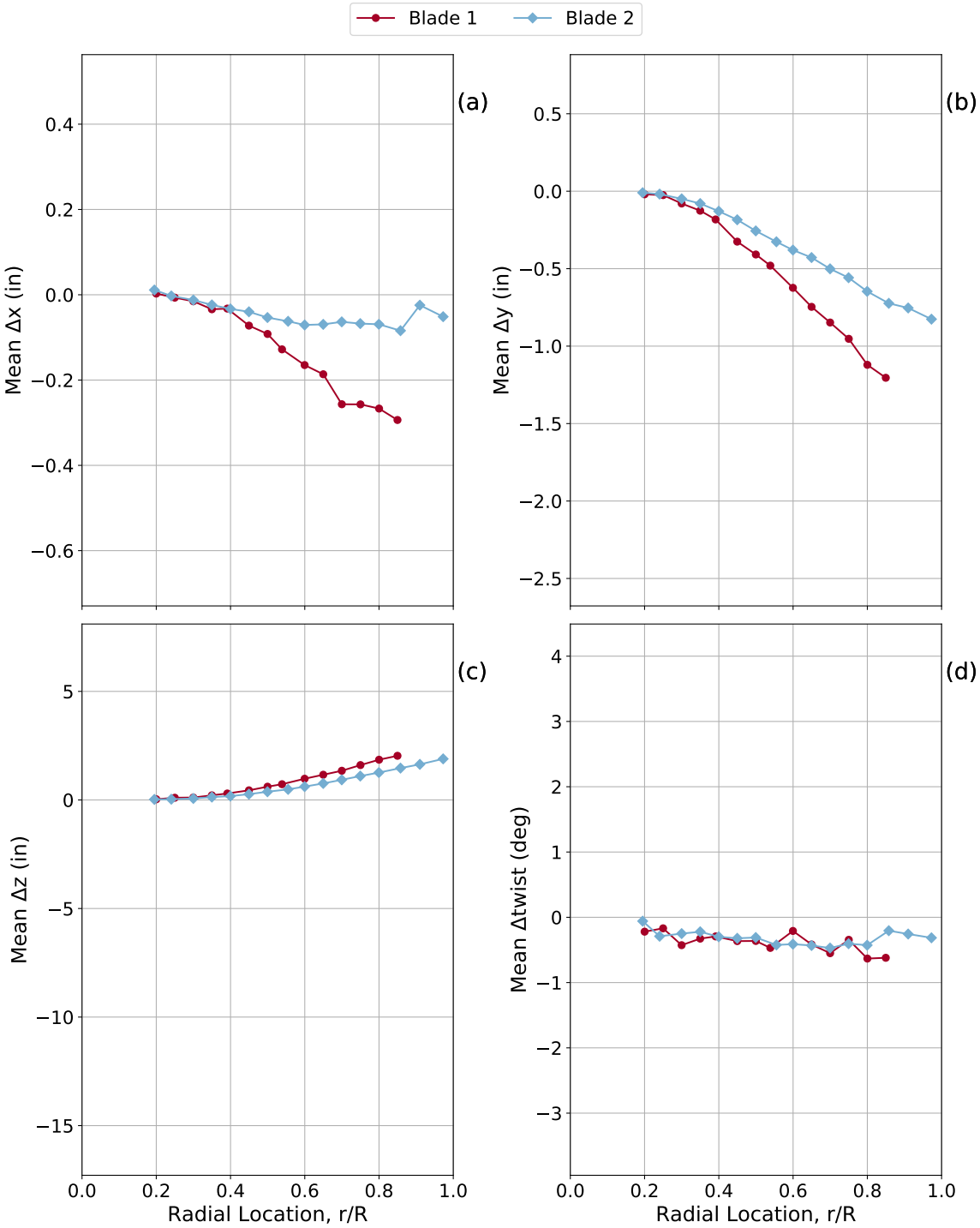


Figure 3.22-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0028	0.0041	-0.0198	0.0030	0.0318	0.0064	-0.2201	0.0852
1	4.92	0.2499	-0.0068	0.0030	-0.0250	0.0040	0.1018	0.0141	-0.1690	0.0945
1	4.92	0.2998	-0.0152	0.0030	-0.0793	0.0107	0.1113	0.0222	-0.4270	0.1742
1	4.92	0.3498	-0.0340	0.0045	-0.1257	0.0176	0.2130	0.0347	-0.3267	0.1264
1	4.92	0.3913	-0.0324	0.0039	-0.1822	0.0237	0.2975	0.0491	-0.2930	0.1355
1	4.92	0.4496	-0.0723	0.0059	-0.3255	0.0314	0.4433	0.0616	-0.3647	0.1330
1	4.92	0.4997	-0.0919	0.0040	-0.4084	0.0368	0.6106	0.0748	-0.3626	0.1083
1	4.92	0.5387	-0.1280	0.0044	-0.4803	0.0414	0.7248	0.0848	-0.4687	0.1173
1	4.92	0.5996	-0.1648	0.0055	-0.6236	0.0493	0.9769	0.0987	-0.2092	0.1169
1	4.92	0.6498	-0.1864	0.0056	-0.7464	0.0556	1.1613	0.1095	-0.4163	0.1269
1	4.92	0.6998	-0.2567	0.0064	-0.8477	0.0618	1.3448	0.1228	-0.5498	0.1144
1	4.92	0.7500	-0.2570	0.0061	-0.9528	0.0679	1.6060	0.1346	-0.3447	0.1146
1	4.92	0.8001	-0.2668	0.0061	-1.1208	0.0749	1.8530	0.1522	-0.6322	0.0882
1	4.92	0.8497	-0.2936	0.0071	-1.2044	0.0810	2.0339	0.1572	-0.6202	0.1413
2	4.92	0.1949	0.0112	0.0102	-0.0095	0.0014	0.0251	0.0038	-0.0589	0.0435
2	4.92	0.2405	-0.0027	0.0030	-0.0186	0.0054	0.0343	0.0099	-0.2906	0.0763
2	4.92	0.2999	-0.0124	0.0033	-0.0492	0.0088	0.0689	0.0142	-0.2496	0.1061
2	4.92	0.3498	-0.0238	0.0098	-0.0796	0.0154	0.1327	0.0252	-0.2216	0.0867
2	4.92	0.3998	-0.0332	0.0168	-0.1291	0.0252	0.1782	0.0377	-0.2985	0.0798
2	4.92	0.4496	-0.0399	0.0232	-0.1843	0.0299	0.2664	0.0479	-0.3217	0.0678
2	4.92	0.4995	-0.0534	0.0294	-0.2561	0.0359	0.3781	0.0551	-0.3096	0.0834
2	4.92	0.5551	-0.0622	0.0380	-0.3264	0.0445	0.4867	0.0714	-0.4235	0.0686
2	4.92	0.5996	-0.0708	0.0430	-0.3798	0.0533	0.6146	0.0807	-0.4114	0.0825
2	4.92	0.6497	-0.0694	0.0498	-0.4282	0.0618	0.7608	0.0958	-0.4320	0.0798
2	4.92	0.6996	-0.0635	0.0560	-0.5010	0.0700	0.9278	0.1103	-0.4707	0.0963
2	4.92	0.7495	-0.0676	0.0611	-0.5583	0.0774	1.0992	0.1245	-0.4043	0.0967
2	4.92	0.7996	-0.0692	0.0662	-0.6467	0.0840	1.2609	0.1479	-0.4271	0.0818
2	4.92	0.8578	-0.0842	0.0726	-0.7237	0.1002	1.4671	0.1777	-0.2051	0.0833
2	4.92	0.9100	-0.0244	0.0768	-0.7537	0.1192	1.6394	0.2128	-0.2562	0.0838
2	4.92	0.9727	-0.0514	0.0704	-0.8260	0.1485	1.8921	0.2666	-0.3141	0.1133

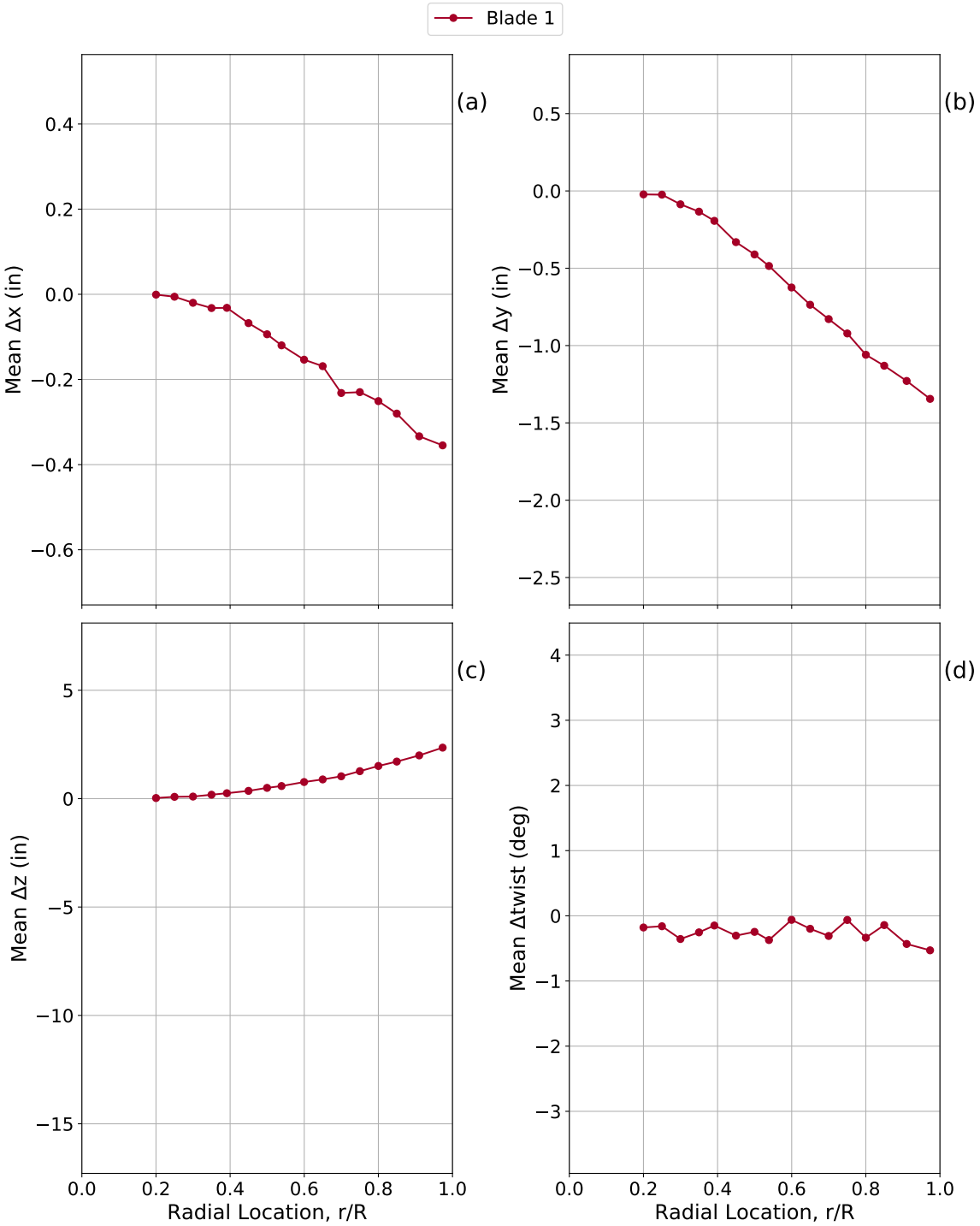


Figure 3.22-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0008	0.0021	-0.0225	0.0019	0.0289	0.0064	-0.1792	0.0553
1	15.12	0.2499	-0.0057	0.0033	-0.0242	0.0051	0.0844	0.0129	-0.1602	0.0814
1	15.12	0.2998	-0.0200	0.0024	-0.0865	0.0078	0.0961	0.0231	-0.3561	0.1160
1	15.12	0.3498	-0.0323	0.0039	-0.1341	0.0150	0.1815	0.0375	-0.2541	0.0849
1	15.12	0.3913	-0.0318	0.0044	-0.1935	0.0205	0.2509	0.0535	-0.1489	0.0880
1	15.12	0.4496	-0.0677	0.0042	-0.3312	0.0254	0.3587	0.0763	-0.3044	0.0856
1	15.12	0.4997	-0.0939	0.0041	-0.4108	0.0291	0.4972	0.0951	-0.2464	0.0880
1	15.12	0.5387	-0.1199	0.0044	-0.4854	0.0337	0.5815	0.1169	-0.3720	0.0771
1	15.12	0.5996	-0.1536	0.0038	-0.6245	0.0401	0.7667	0.1491	-0.0621	0.0821
1	15.12	0.6498	-0.1688	0.0043	-0.7362	0.0463	0.8868	0.1726	-0.1990	0.0714
1	15.12	0.6998	-0.2318	0.0045	-0.8288	0.0528	1.0306	0.1978	-0.3092	0.0892
1	15.12	0.7500	-0.2298	0.0052	-0.9217	0.0597	1.2669	0.2279	-0.0641	0.1055
1	15.12	0.8001	-0.2509	0.0046	-1.0595	0.0658	1.5072	0.2599	-0.3358	0.1069
1	15.12	0.8497	-0.2802	0.0051	-1.1305	0.0710	1.7103	0.2981	-0.1423	0.0988
1	15.12	0.9102	-0.3335	0.0060	-1.2289	0.0801	1.9945	0.3447	-0.4318	0.1513
1	15.12	0.9734	-0.3548	0.0096	-1.3447	0.0894	2.3531	0.3909	-0.5295	0.0908

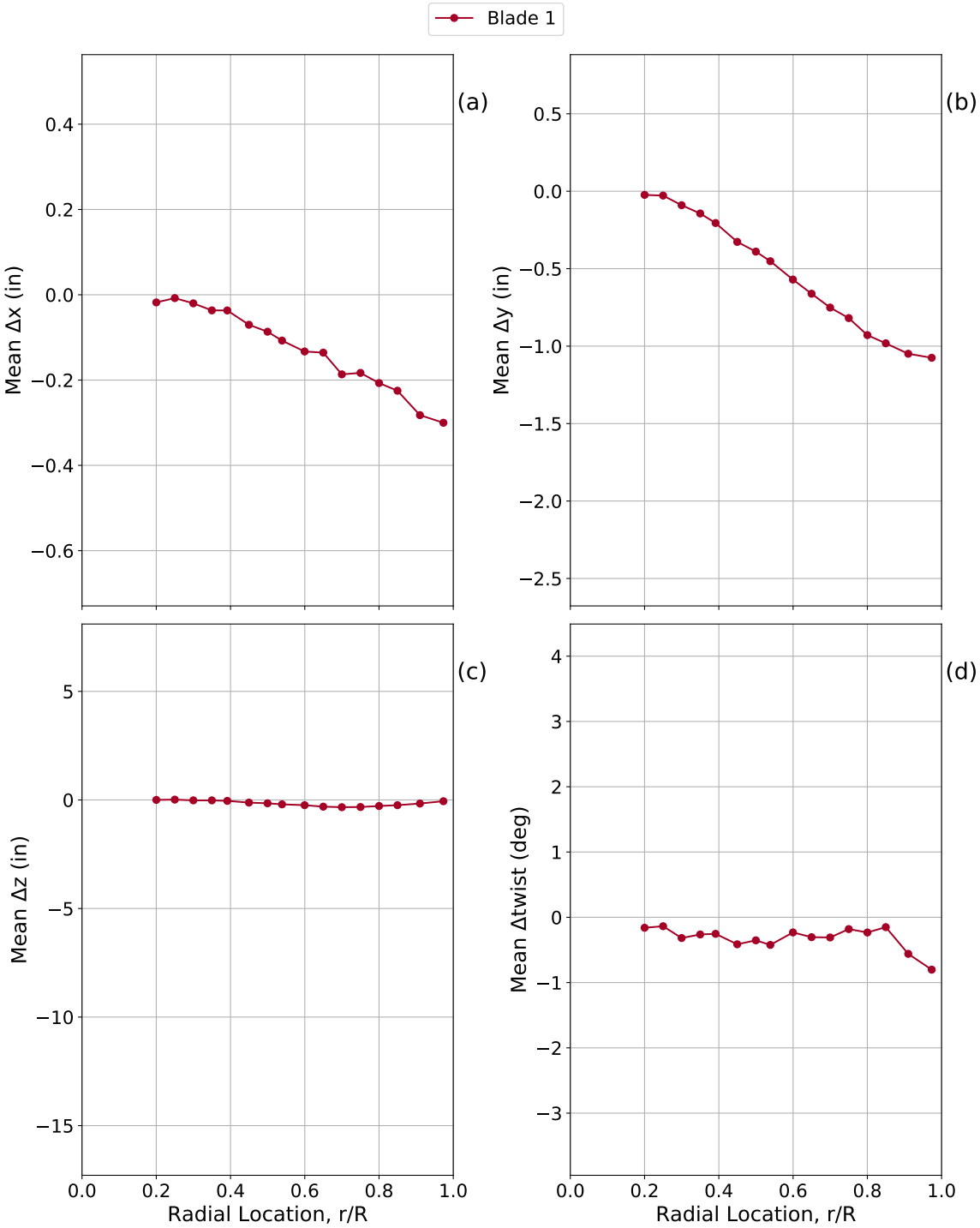


Figure 3.22-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0179	0.0019	-0.0237	0.0015	0.0026	0.0045	-0.1602	0.0290
1	29.88	0.2499	-0.0078	0.0025	-0.0281	0.0022	0.0150	0.0081	-0.1368	0.0766
1	29.88	0.2998	-0.0201	0.0017	-0.0902	0.0047	-0.0184	0.0154	-0.3176	0.0752
1	29.88	0.3498	-0.0366	0.0030	-0.1436	0.0091	-0.0189	0.0242	-0.2630	0.0494
1	29.88	0.3913	-0.0368	0.0022	-0.2053	0.0116	-0.0427	0.0349	-0.2533	0.0651
1	29.88	0.4496	-0.0703	0.0030	-0.3270	0.0166	-0.1222	0.0483	-0.4136	0.0543
1	29.88	0.4997	-0.0866	0.0027	-0.3898	0.0218	-0.1546	0.0650	-0.3528	0.0636
1	29.88	0.5387	-0.1074	0.0034	-0.4518	0.0274	-0.2020	0.0801	-0.4232	0.0541
1	29.88	0.5996	-0.1330	0.0038	-0.5704	0.0358	-0.2409	0.1072	-0.2319	0.0746
1	29.88	0.6498	-0.1357	0.0035	-0.6617	0.0434	-0.3088	0.1326	-0.3045	0.0742
1	29.88	0.6998	-0.1866	0.0041	-0.7512	0.0530	-0.3329	0.1593	-0.3091	0.0832
1	29.88	0.7500	-0.1832	0.0039	-0.8190	0.0608	-0.3254	0.1888	-0.1806	0.0845
1	29.88	0.8001	-0.2070	0.0050	-0.9290	0.0708	-0.2789	0.2213	-0.2328	0.0860
1	29.88	0.8497	-0.2250	0.0050	-0.9818	0.0805	-0.2408	0.2556	-0.1509	0.0878
1	29.88	0.9102	-0.2822	0.0076	-1.0492	0.0948	-0.1647	0.2985	-0.5599	0.1120
1	29.88	0.9734	-0.3001	0.0109	-1.0753	0.1062	-0.0581	0.3429	-0.8021	0.0944

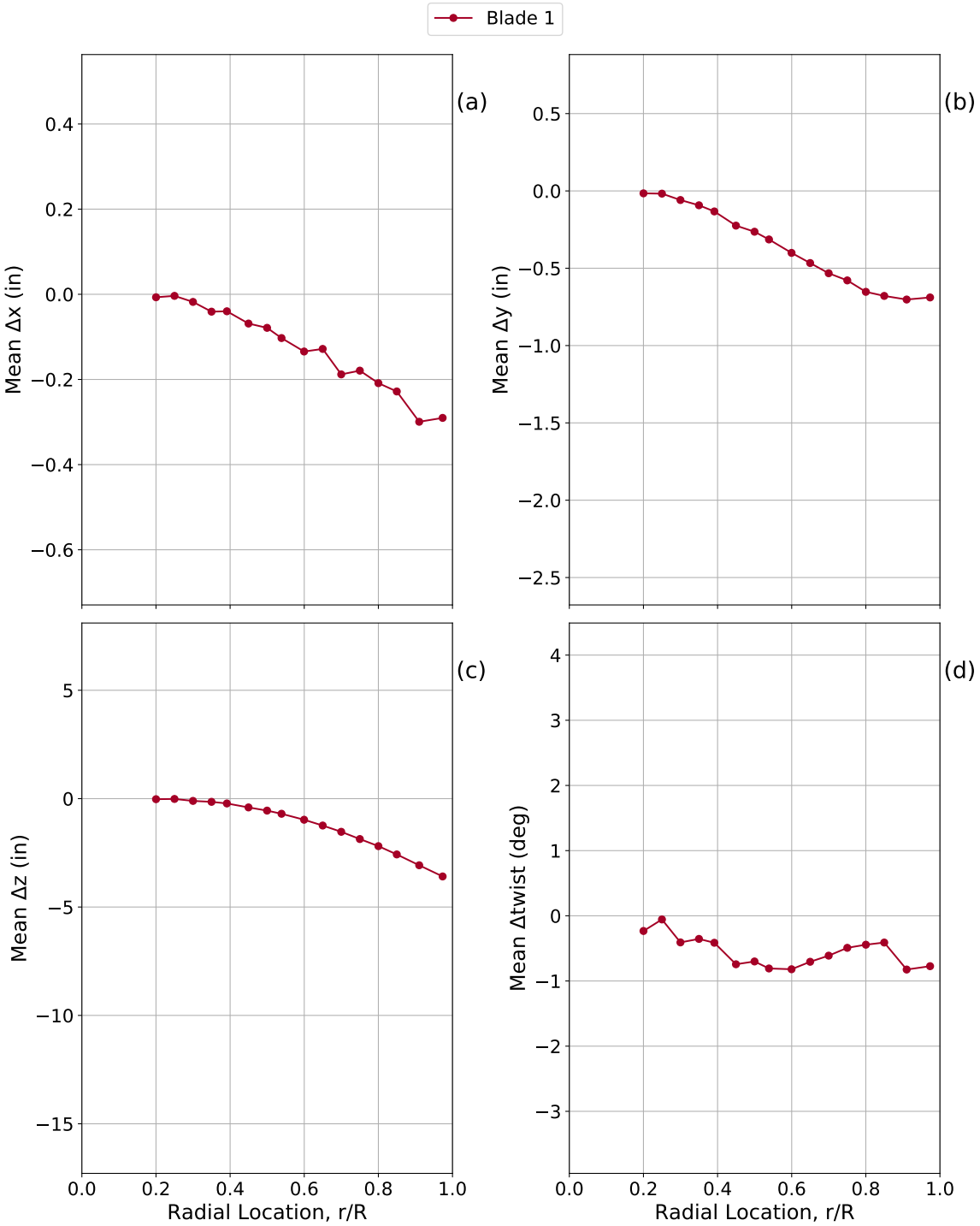


Figure 3.22-6. 45° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0070	0.0018	-0.0157	0.0012	-0.0248	0.0037	-0.2329	0.0260
1	45	0.2499	-0.0037	0.0027	-0.0176	0.0012	-0.0140	0.0074	-0.0559	0.0261
1	45	0.2998	-0.0179	0.0037	-0.0589	0.0039	-0.1044	0.0139	-0.4081	0.0465
1	45	0.3498	-0.0408	0.0025	-0.0929	0.0059	-0.1474	0.0233	-0.3546	0.0372
1	45	0.3913	-0.0399	0.0027	-0.1327	0.0080	-0.2218	0.0334	-0.4137	0.0443
1	45	0.4496	-0.0687	0.0033	-0.2244	0.0112	-0.4049	0.0486	-0.7436	0.0602
1	45	0.4997	-0.0788	0.0034	-0.2639	0.0142	-0.5516	0.0624	-0.7007	0.0639
1	45	0.5387	-0.1028	0.0038	-0.3139	0.0160	-0.6975	0.0773	-0.8081	0.0711
1	45	0.5996	-0.1344	0.0048	-0.4007	0.0222	-0.9734	0.0966	-0.8199	0.0816
1	45	0.6498	-0.1283	0.0039	-0.4664	0.0276	-1.2402	0.1131	-0.7054	0.0762
1	45	0.6998	-0.1881	0.0046	-0.5325	0.0326	-1.5298	0.1304	-0.6114	0.0744
1	45	0.7500	-0.1793	0.0049	-0.5787	0.0387	-1.8637	0.1441	-0.4914	0.0903
1	45	0.8001	-0.2087	0.0039	-0.6526	0.0436	-2.1906	0.1599	-0.4434	0.0989
1	45	0.8497	-0.2282	0.0037	-0.6790	0.0503	-2.5736	0.1751	-0.4103	0.1011
1	45	0.9102	-0.2994	0.0049	-0.7023	0.0578	-3.0736	0.1932	-0.8244	0.1050
1	45	0.9734	-0.2903	0.0060	-0.6889	0.0649	-3.5894	0.2183	-0.7731	0.0981

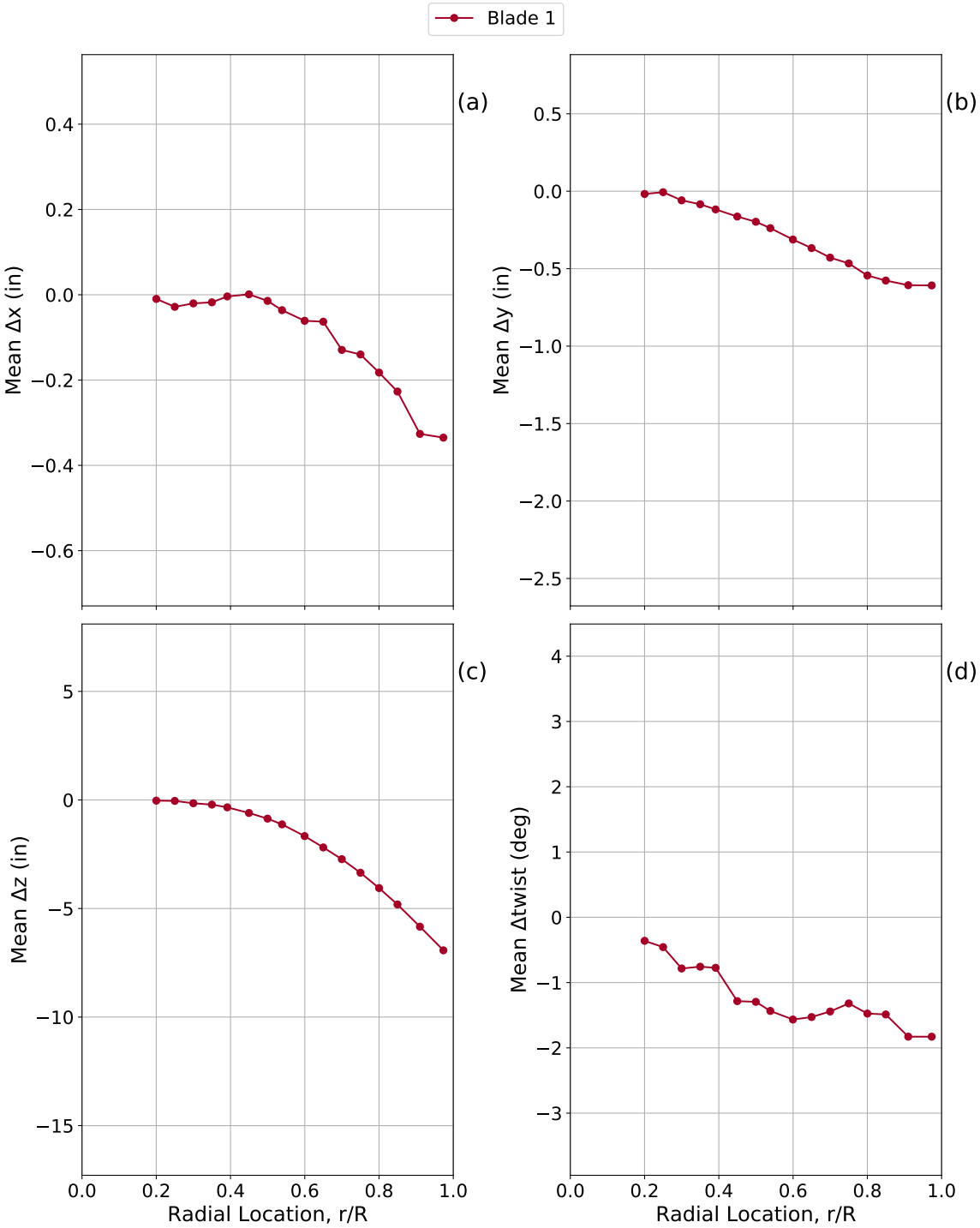


Figure 3.22-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0097	0.0051	-0.0178	0.0012	-0.0315	0.0038	-0.3604	0.0375
1	60.12	0.2499	-0.0283	0.0039	-0.0063	0.0030	-0.0441	0.0090	-0.4570	0.0580
1	60.12	0.2998	-0.0202	0.0031	-0.0588	0.0055	-0.1528	0.0165	-0.7842	0.0814
1	60.12	0.3498	-0.0177	0.0068	-0.0841	0.0081	-0.2144	0.0236	-0.7568	0.1041
1	60.12	0.3913	-0.0039	0.0092	-0.1174	0.0128	-0.3401	0.0375	-0.7736	0.0917
1	60.12	0.4496	0.0010	0.0216	-0.1635	0.0273	-0.5997	0.0885	-1.2843	0.0932
1	60.12	0.4997	-0.0143	0.0214	-0.1971	0.0317	-0.8602	0.1065	-1.2951	0.0625
1	60.12	0.5387	-0.0361	0.0208	-0.2382	0.0366	-1.1249	0.1150	-1.4344	0.1021
1	60.12	0.5996	-0.0610	0.0203	-0.3119	0.0415	-1.6648	0.1270	-1.5659	0.0917
1	60.12	0.6498	-0.0631	0.0209	-0.3673	0.0471	-2.1868	0.1342	-1.5280	0.0849
1	60.12	0.6998	-0.1293	0.0207	-0.4285	0.0521	-2.7275	0.1387	-1.4428	0.0872
1	60.12	0.7500	-0.1400	0.0208	-0.4661	0.0578	-3.3534	0.1455	-1.3193	0.0924
1	60.12	0.8001	-0.1824	0.0223	-0.5441	0.0644	-4.0591	0.1529	-1.4745	0.0909
1	60.12	0.8497	-0.2269	0.0226	-0.5767	0.0698	-4.8140	0.1625	-1.4882	0.0820
1	60.12	0.9102	-0.3262	0.0230	-0.6066	0.0780	-5.8367	0.1778	-1.8284	0.0904
1	60.12	0.9734	-0.3350	0.0254	-0.6082	0.0856	-6.9263	0.1858	-1.8289	0.1179

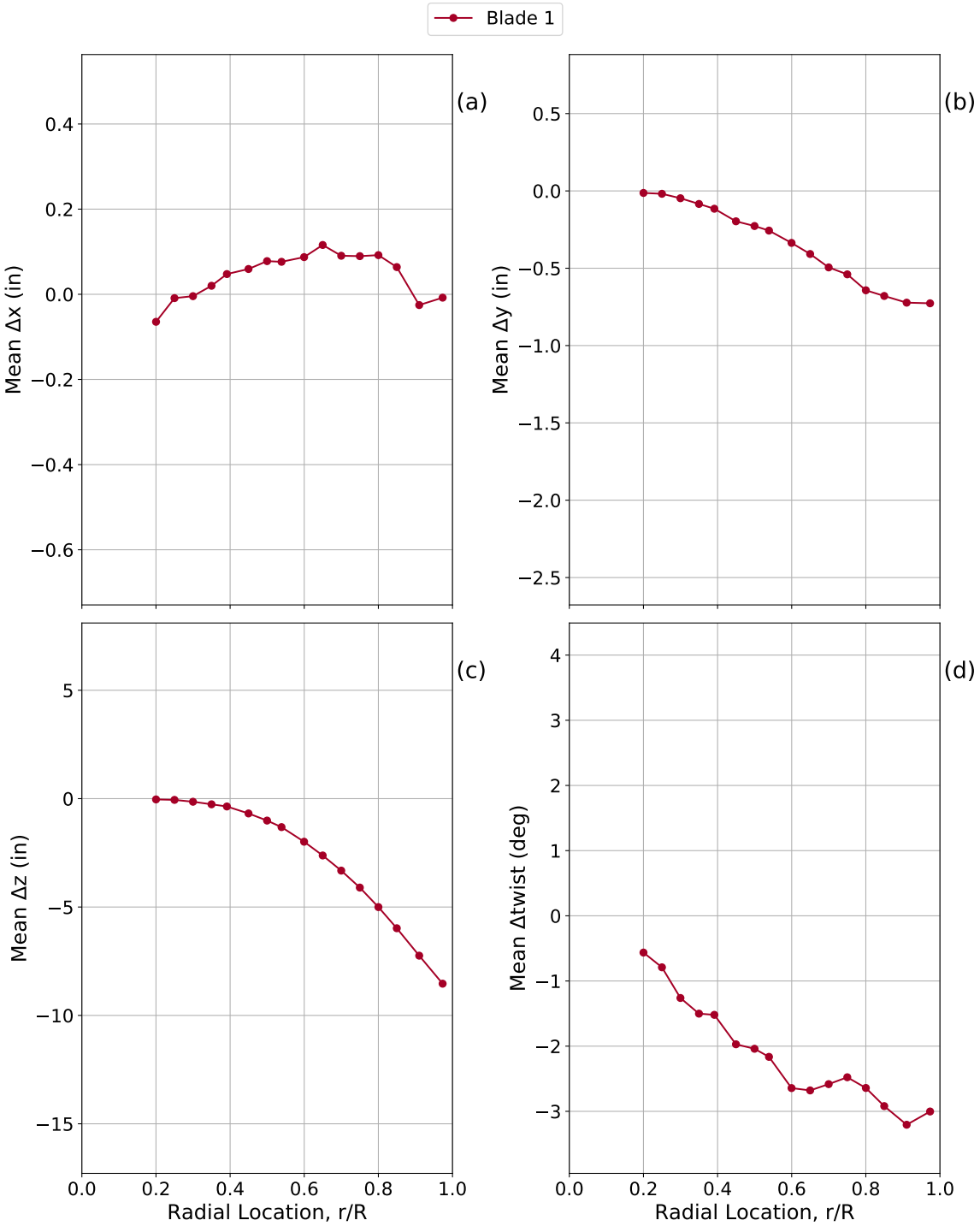


Figure 3.22-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0646	0.0070	-0.0131	0.0012	-0.0359	0.0059	-0.5641	0.0337
1	74.88	0.2499	-0.0090	0.0036	-0.0186	0.0025	-0.0571	0.0107	-0.7904	0.0537
1	74.88	0.2998	-0.0044	0.0025	-0.0474	0.0048	-0.1427	0.0210	-1.2611	0.0731
1	74.88	0.3498	0.0200	0.0064	-0.0843	0.0086	-0.2612	0.0358	-1.5013	0.0664
1	74.88	0.3913	0.0475	0.0094	-0.1153	0.0122	-0.3609	0.0502	-1.5195	0.0561
1	74.88	0.4496	0.0594	0.0117	-0.1966	0.0173	-0.6828	0.0687	-1.9713	0.0747
1	74.88	0.4997	0.0779	0.0135	-0.2270	0.0221	-1.0115	0.0877	-2.0400	0.0748
1	74.88	0.5387	0.0763	0.0151	-0.2566	0.0258	-1.3136	0.1022	-2.1643	0.0718
1	74.88	0.5996	0.0873	0.0170	-0.3362	0.0328	-1.9875	0.1284	-2.6433	0.0720
1	74.88	0.6498	0.1158	0.0176	-0.4080	0.0388	-2.6221	0.1488	-2.6791	0.0805
1	74.88	0.6998	0.0905	0.0185	-0.4946	0.0449	-3.3199	0.1710	-2.5826	0.0930
1	74.88	0.7500	0.0896	0.0205	-0.5396	0.0512	-4.1029	0.1950	-2.4773	0.0910
1	74.88	0.8001	0.0920	0.0237	-0.6426	0.0573	-5.0023	0.2184	-2.6415	0.0984
1	74.88	0.8497	0.0639	0.0283	-0.6793	0.0651	-5.9786	0.2459	-2.9198	0.0794
1	74.88	0.9102	-0.0253	0.0371	-0.7226	0.0750	-7.2434	0.2807	-3.2058	0.0793
1	74.88	0.9734	-0.0079	0.0517	-0.7267	0.0893	-8.5364	0.3077	-3.0026	0.1274

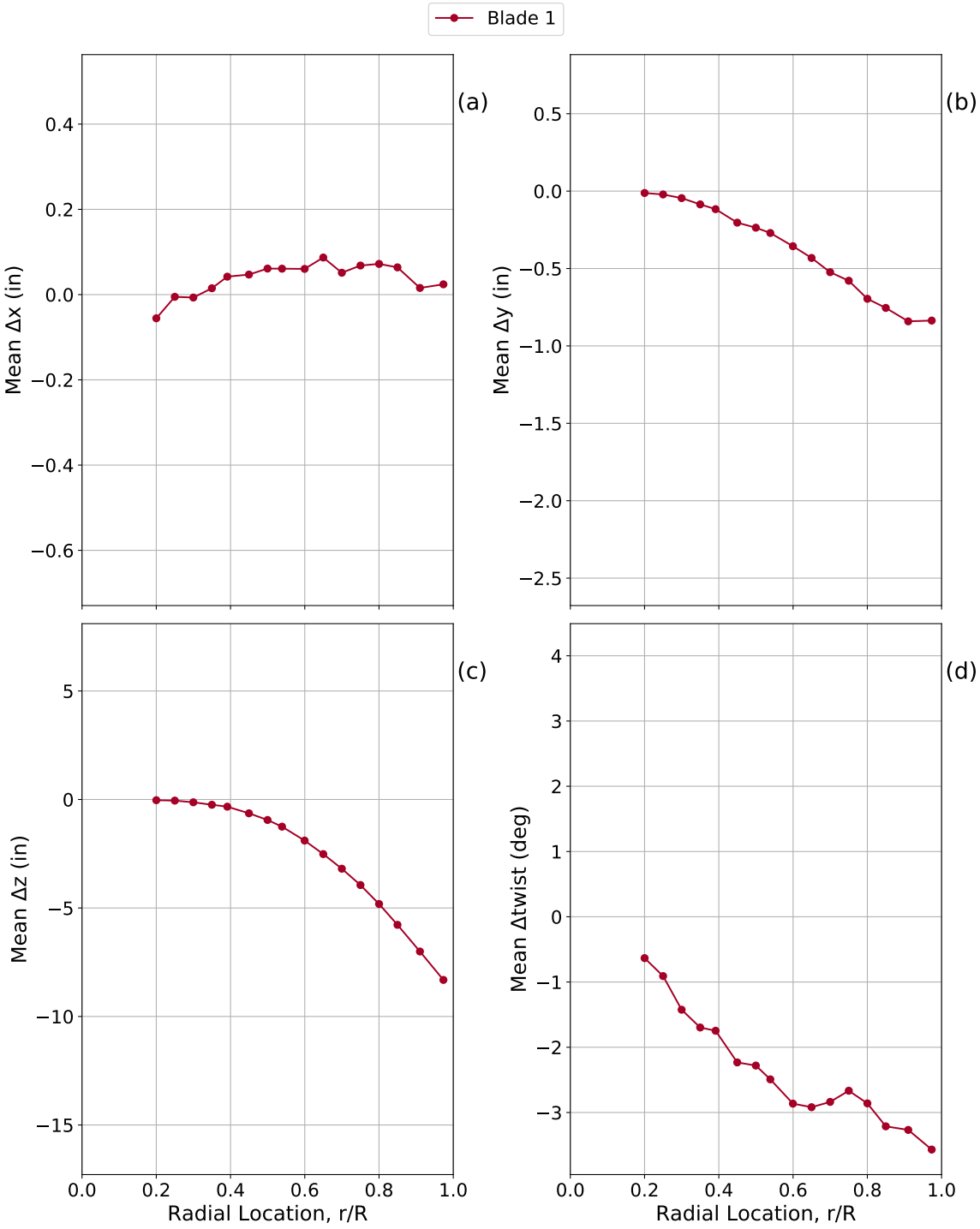


Figure 3.22-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0556	0.0145	-0.0121	0.0017	-0.0330	0.0104	-0.6340	0.0447
1	80.16	0.2499	-0.0052	0.0045	-0.0217	0.0036	-0.0513	0.0204	-0.9091	0.0807
1	80.16	0.2998	-0.0069	0.0067	-0.0452	0.0069	-0.1290	0.0386	-1.4247	0.1013
1	80.16	0.3498	0.0149	0.0120	-0.0857	0.0125	-0.2432	0.0665	-1.6972	0.0950
1	80.16	0.3913	0.0421	0.0181	-0.1165	0.0176	-0.3311	0.0940	-1.7470	0.0866
1	80.16	0.4496	0.0470	0.0255	-0.2037	0.0251	-0.6364	0.1312	-2.2322	0.1054
1	80.16	0.4997	0.0611	0.0304	-0.2363	0.0331	-0.9445	0.1682	-2.2806	0.1120
1	80.16	0.5387	0.0608	0.0328	-0.2705	0.0387	-1.2517	0.1959	-2.4920	0.1222
1	80.16	0.5996	0.0603	0.0328	-0.3559	0.0477	-1.8937	0.2402	-2.8639	0.1195
1	80.16	0.6498	0.0870	0.0317	-0.4317	0.0554	-2.5166	0.2750	-2.9188	0.1251
1	80.16	0.6998	0.0513	0.0300	-0.5237	0.0625	-3.1904	0.3105	-2.8376	0.1317
1	80.16	0.7500	0.0682	0.0286	-0.5789	0.0689	-3.9429	0.3456	-2.6663	0.1335
1	80.16	0.8001	0.0720	0.0289	-0.6955	0.0763	-4.8160	0.3893	-2.8601	0.1301
1	80.16	0.8497	0.0639	0.0315	-0.7545	0.0838	-5.7769	0.4340	-3.2120	0.1344
1	80.16	0.9102	0.0156	0.0388	-0.8412	0.0943	-7.0058	0.4940	-3.2669	0.1515
1	80.16	0.9734	0.0241	0.0511	-0.8362	0.1078	-8.3147	0.5625	-3.5681	0.1591

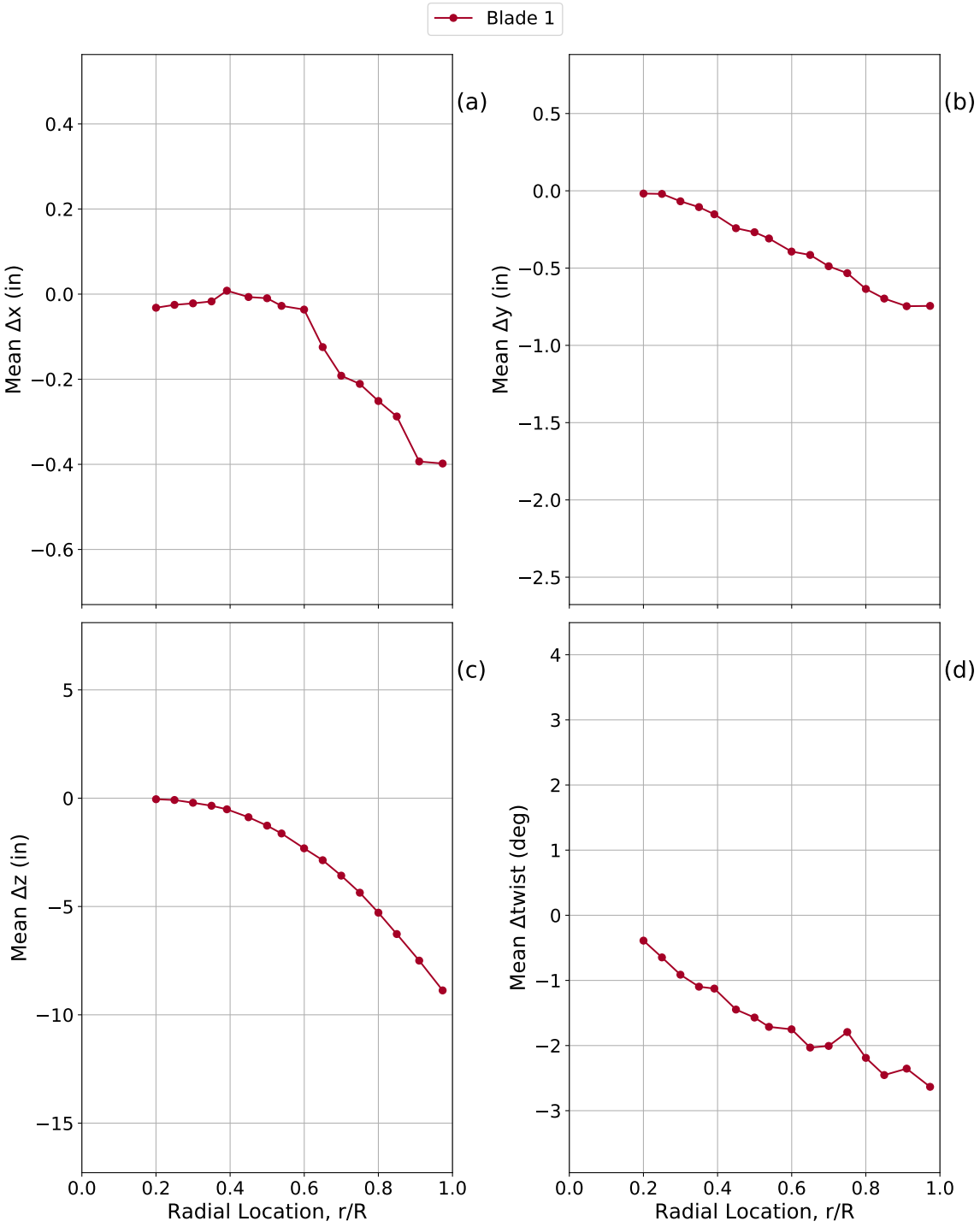


Figure 3.22-10. 85° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0320	0.0034	-0.0179	0.0035	-0.0478	0.0087	-0.3893	0.0512
1	85.08	0.2499	-0.0252	0.0025	-0.0201	0.0057	-0.0833	0.0094	-0.6469	0.1325
1	85.08	0.2998	-0.0217	0.0028	-0.0679	0.0132	-0.2116	0.0264	-0.9125	0.1362
1	85.08	0.3498	-0.0171	0.0034	-0.1054	0.0228	-0.3488	0.0428	-1.0965	0.1346
1	85.08	0.3913	0.0081	0.0061	-0.1519	0.0322	-0.5131	0.0575	-1.1254	0.1323
1	85.08	0.4496	-0.0068	0.0103	-0.2420	0.0460	-0.8796	0.0770	-1.4471	0.1352
1	85.08	0.4997	-0.0097	0.0156	-0.2679	0.0567	-1.2668	0.0952	-1.5703	0.1377
1	85.08	0.5387	-0.0276	0.0188	-0.3086	0.0671	-1.6292	0.1107	-1.7131	0.1190
1	85.08	0.5996	-0.0363	0.0232	-0.3931	0.0804	-2.3147	0.1296	-1.7508	0.1292
1	85.08	0.6498	-0.1245	0.0102	-0.4151	0.0976	-2.8632	0.1268	-2.0309	0.1321
1	85.08	0.6998	-0.1918	0.0117	-0.4881	0.1104	-3.5754	0.1422	-2.0061	0.1282
1	85.08	0.7500	-0.2110	0.0124	-0.5328	0.1222	-4.3626	0.1562	-1.7927	0.1343
1	85.08	0.8001	-0.2512	0.0122	-0.6350	0.1341	-5.2850	0.1697	-2.1890	0.1272
1	85.08	0.8497	-0.2875	0.0124	-0.6973	0.1463	-6.2720	0.1838	-2.4532	0.1242
1	85.08	0.9102	-0.3933	0.0134	-0.7467	0.1610	-7.4981	0.1966	-2.3543	0.1261
1	85.08	0.9734	-0.3981	0.0132	-0.7447	0.1759	-8.8729	0.2102	-2.6339	0.1232

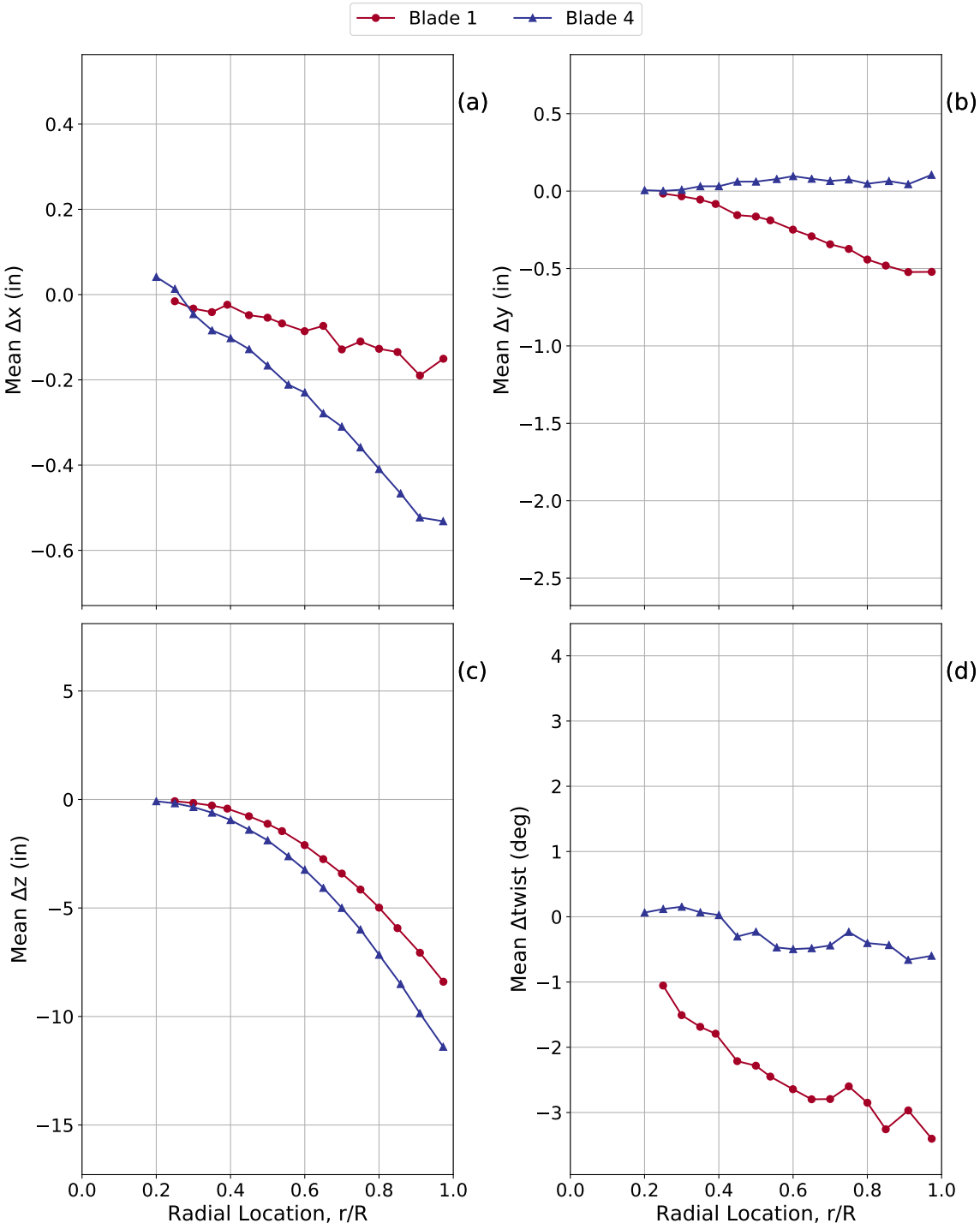


Figure 3.22-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2499	-0.0156	0.0052	-0.0160	0.0037	-0.0787	0.0181	-1.0543	0.1024
1	90	0.2998	-0.0328	0.0025	-0.0335	0.0072	-0.1639	0.0325	-1.5082	0.1457
1	90	0.3498	-0.0411	0.0055	-0.0548	0.0124	-0.2792	0.0570	-1.6871	0.1453
1	90	0.3913	-0.0238	0.0090	-0.0831	0.0183	-0.4212	0.0814	-1.7923	0.1320
1	90	0.4496	-0.0482	0.0120	-0.1552	0.0257	-0.7719	0.1117	-2.2131	0.1412
1	90	0.4997	-0.0542	0.0142	-0.1644	0.0325	-1.1199	0.1415	-2.2827	0.1287
1	90	0.5387	-0.0677	0.0154	-0.1887	0.0382	-1.4582	0.1603	-2.4498	0.1416
1	90	0.5996	-0.0858	0.0153	-0.2489	0.0476	-2.1030	0.1901	-2.6427	0.1472
1	90	0.6498	-0.0734	0.0147	-0.2920	0.0571	-2.7476	0.2124	-2.7974	0.1469
1	90	0.6998	-0.1286	0.0139	-0.3435	0.0673	-3.4128	0.2344	-2.7940	0.1298
1	90	0.7500	-0.1101	0.0120	-0.3734	0.0792	-4.1499	0.2515	-2.5996	0.1377
1	90	0.8001	-0.1272	0.0113	-0.4422	0.0903	-4.9843	0.2655	-2.8505	0.1515
1	90	0.8497	-0.1348	0.0117	-0.4811	0.1037	-5.9303	0.2815	-3.2569	0.1440
1	90	0.9102	-0.1898	0.0162	-0.5229	0.1201	-7.0626	0.2954	-2.9684	0.1472
1	90	0.9734	-0.1505	0.0247	-0.5217	0.1390	-8.3989	0.3066	-3.4018	0.1613
4	90.35	0.2001	0.0414	0.0028	0.0059	0.0010	-0.0813	0.0026	0.0643	0.0168
4	90.35	0.2502	0.0134	0.0022	0.0016	0.0028	-0.1766	0.0063	0.1183	0.0224
4	90.35	0.3001	-0.0459	0.0028	0.0087	0.0048	-0.3500	0.0108	0.1532	0.0333
4	90.35	0.3502	-0.0839	0.0022	0.0311	0.0073	-0.6092	0.0191	0.0678	0.0381
4	90.35	0.4002	-0.1023	0.0016	0.0313	0.0124	-0.9490	0.0298	0.0253	0.0445
4	90.35	0.4500	-0.1281	0.0021	0.0610	0.0149	-1.3964	0.0434	-0.3031	0.0481
4	90.35	0.5001	-0.1665	0.0035	0.0612	0.0182	-1.8842	0.0612	-0.2294	0.0550
4	90.35	0.5560	-0.2113	0.0038	0.0778	0.0225	-2.6164	0.0835	-0.4707	0.0432
4	90.35	0.6001	-0.2297	0.0036	0.0966	0.0275	-3.2394	0.1013	-0.4964	0.0603
4	90.35	0.6501	-0.2786	0.0039	0.0797	0.0322	-4.0746	0.1254	-0.4824	0.0483
4	90.35	0.6999	-0.3099	0.0056	0.0653	0.0379	-4.9990	0.1481	-0.4400	0.0556
4	90.35	0.7500	-0.3585	0.0068	0.0748	0.0440	-5.9955	0.1704	-0.2328	0.0585
4	90.35	0.8002	-0.4093	0.0084	0.0474	0.0506	-7.1581	0.1917	-0.4033	0.0523
4	90.35	0.8582	-0.4666	0.0101	0.0648	0.0595	-8.5057	0.2195	-0.4345	0.0464
4	90.35	0.9101	-0.5229	0.0110	0.0445	0.0671	-9.8538	0.2448	-0.6608	0.0592
4	90.35	0.9728	-0.5318	0.0123	0.1048	0.0770	-11.3981	0.2782	-0.5989	0.0568

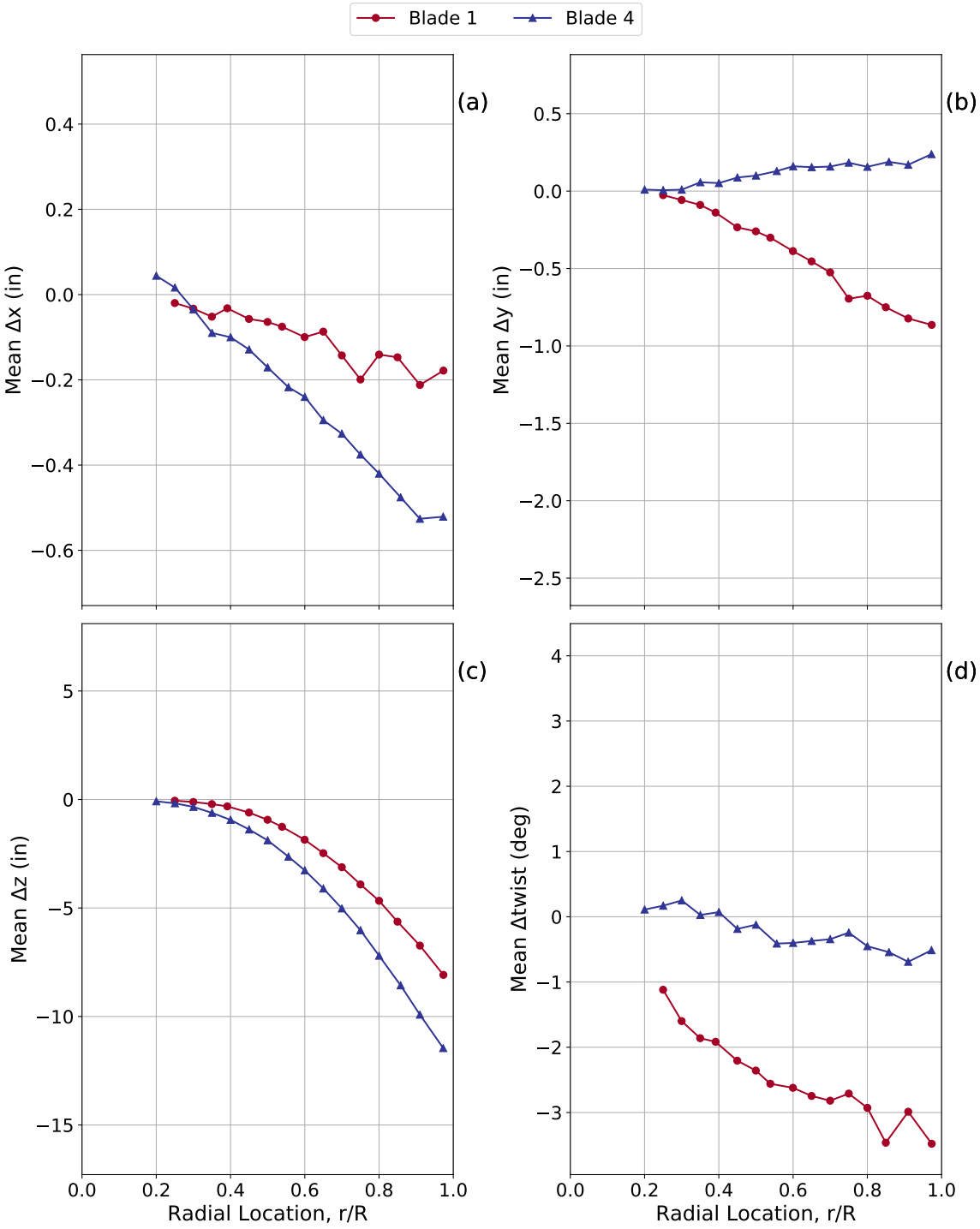


Figure 3.22-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.04, μ = 0.3, α = -8°
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2499	-0.0198	0.0058	-0.0261	0.0024	-0.0557	0.0172	-1.1187	0.1426
1	94.92	0.2998	-0.0329	0.0032	-0.0573	0.0040	-0.1153	0.0285	-1.5988	0.2030
1	94.92	0.3498	-0.0518	0.0059	-0.0893	0.0079	-0.2126	0.0533	-1.8612	0.1726
1	94.92	0.3913	-0.0321	0.0105	-0.1387	0.0108	-0.3169	0.0732	-1.9165	0.1789
1	94.92	0.4496	-0.0571	0.0172	-0.2340	0.0156	-0.6027	0.0978	-2.2057	0.1844
1	94.92	0.4997	-0.0641	0.0222	-0.2600	0.0200	-0.9353	0.1191	-2.3572	0.1898
1	94.92	0.5387	-0.0753	0.0257	-0.3006	0.0243	-1.2593	0.1388	-2.5597	0.1812
1	94.92	0.5996	-0.0997	0.0303	-0.3875	0.0301	-1.8541	0.1701	-2.6216	0.1999
1	94.92	0.6498	-0.0869	0.0327	-0.4538	0.0371	-2.4734	0.2026	-2.7460	0.1734
1	94.92	0.6998	-0.1427	0.0329	-0.5249	0.0432	-3.1206	0.2299	-2.8189	0.2009
1	94.92	0.7500	-0.1992	0.0155	-0.6948	0.0616	-3.9145	0.2744	-2.7103	0.2218
1	94.92	0.8001	-0.1407	0.0271	-0.6761	0.0578	-4.6677	0.2988	-2.9291	0.2024
1	94.92	0.8497	-0.1471	0.0216	-0.7502	0.0662	-5.6302	0.3319	-3.4629	0.1998
1	94.92	0.9102	-0.2119	0.0155	-0.8229	0.0756	-6.7333	0.3772	-2.9883	0.2048
1	94.92	0.9734	-0.1783	0.0195	-0.8642	0.0856	-8.0828	0.4191	-3.4789	0.2030
4	94.92	0.2001	0.0442	0.0034	0.0095	0.0007	-0.0837	0.0035	0.1104	0.0467
4	94.92	0.2502	0.0165	0.0027	0.0059	0.0017	-0.1765	0.0070	0.1694	0.0465
4	94.92	0.3001	-0.0347	0.0025	0.0092	0.0032	-0.3427	0.0122	0.2500	0.0932
4	94.92	0.3502	-0.0899	0.0022	0.0571	0.0048	-0.6161	0.0205	0.0273	0.0770
4	94.92	0.4002	-0.1001	0.0027	0.0518	0.0079	-0.9413	0.0314	0.0714	0.0704
4	94.92	0.4500	-0.1289	0.0028	0.0878	0.0105	-1.3824	0.0440	-0.1860	0.1009
4	94.92	0.5001	-0.1709	0.0037	0.1000	0.0124	-1.8841	0.0628	-0.1218	0.0899
4	94.92	0.5560	-0.2174	0.0038	0.1294	0.0161	-2.6365	0.0822	-0.4112	0.0995
4	94.92	0.6001	-0.2401	0.0034	0.1602	0.0194	-3.2663	0.0993	-0.4014	0.1034
4	94.92	0.6501	-0.2946	0.0046	0.1546	0.0245	-4.1034	0.1169	-0.3711	0.0875
4	94.92	0.6999	-0.3264	0.0052	0.1584	0.0296	-5.0213	0.1333	-0.3439	0.1034
4	94.92	0.7500	-0.3754	0.0059	0.1832	0.0352	-6.0273	0.1510	-0.2429	0.0874
4	94.92	0.8002	-0.4201	0.0063	0.1569	0.0416	-7.2014	0.1680	-0.4516	0.1131
4	94.92	0.8582	-0.4756	0.0077	0.1892	0.0492	-8.5668	0.1855	-0.5427	0.0952
4	94.92	0.9101	-0.5260	0.0089	0.1701	0.0562	-9.9165	0.1993	-0.6906	0.0968
4	94.92	0.9728	-0.5211	0.0090	0.2386	0.0645	-11.4568	0.2134	-0.5126	0.1098

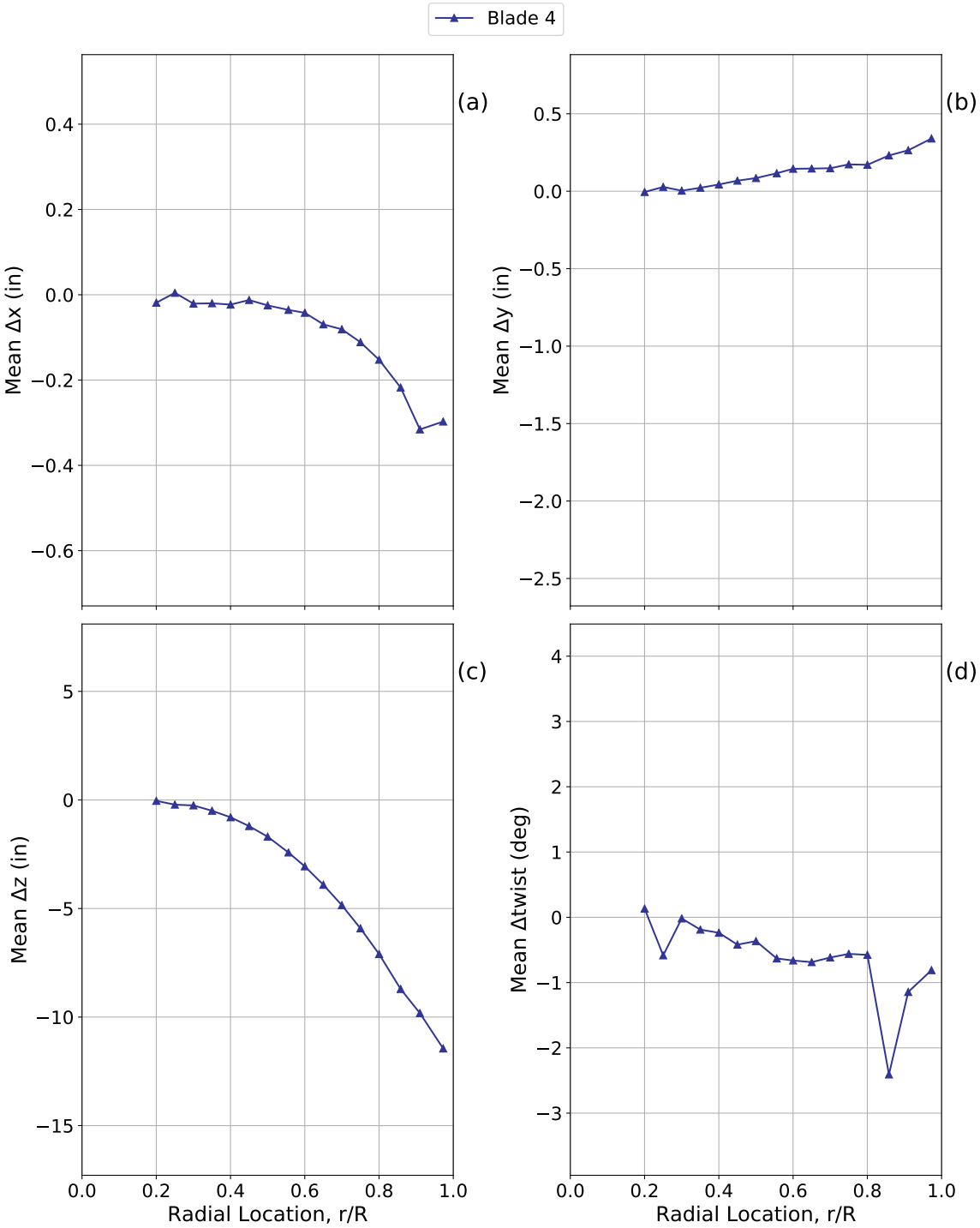


Figure 3.22-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0187	0.0036	-0.0052	0.0045	-0.0411	0.0163	0.1323	0.0909
4	105.12	0.2502	0.0045	0.0039	0.0276	0.0055	-0.2173	0.0189	-0.5834	0.1511
4	105.12	0.3001	-0.0208	0.0032	0.0034	0.0096	-0.2527	0.0323	-0.0179	0.1082
4	105.12	0.3502	-0.0200	0.0023	0.0222	0.0113	-0.4980	0.0383	-0.1891	0.0990
4	105.12	0.4002	-0.0231	0.0032	0.0435	0.0145	-0.7989	0.0455	-0.2373	0.0888
4	105.12	0.4500	-0.0123	0.0037	0.0680	0.0178	-1.2063	0.0572	-0.4192	0.1142
4	105.12	0.5001	-0.0250	0.0025	0.0849	0.0210	-1.6928	0.0638	-0.3651	0.0968
4	105.12	0.5560	-0.0355	0.0040	0.1159	0.0243	-2.4209	0.0715	-0.6309	0.0964
4	105.12	0.6001	-0.0423	0.0041	0.1447	0.0286	-3.0598	0.0825	-0.6618	0.0991
4	105.12	0.6501	-0.0694	0.0059	0.1464	0.0320	-3.9091	0.0936	-0.6871	0.1098
4	105.12	0.6999	-0.0810	0.0079	0.1482	0.0354	-4.8505	0.1052	-0.6162	0.1089
4	105.12	0.7500	-0.1113	0.0110	0.1732	0.0393	-5.9163	0.1186	-0.5607	0.0822
4	105.12	0.8002	-0.1524	0.0142	0.1706	0.0442	-7.0998	0.1391	-0.5754	0.0973
4	105.12	0.8582	-0.2175	0.0137	0.2308	0.0531	-8.7093	0.1402	-2.4079	1.3726
4	105.12	0.9101	-0.3158	0.0129	0.2641	0.1182	-9.8203	0.3944	-1.1444	0.1500
4	105.12	0.9728	-0.2973	0.0228	0.3402	0.1225	-11.4493	0.4300	-0.8100	0.1281

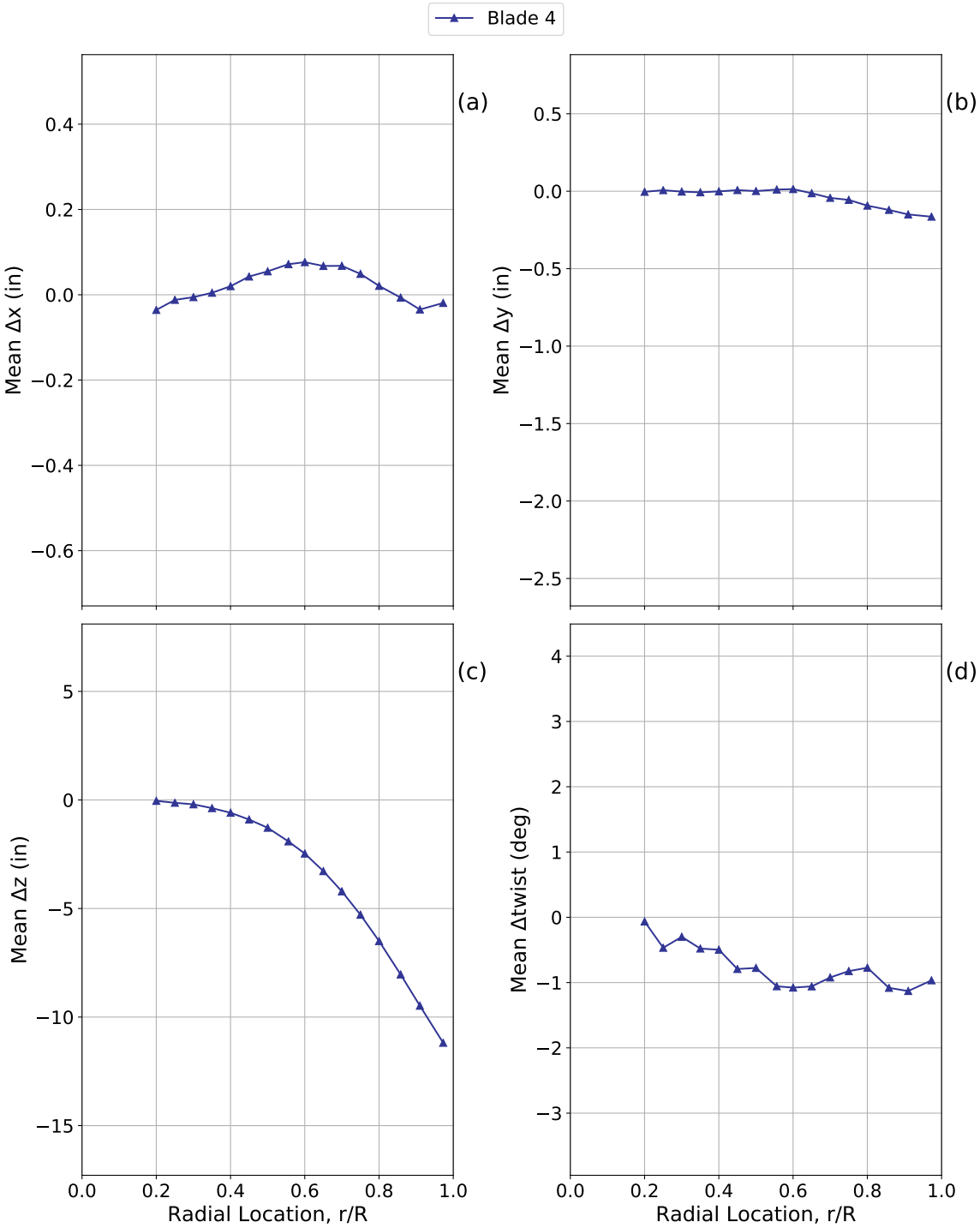


Figure 3.22-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0356	0.0013	-0.0039	0.0009	-0.0427	0.0028	-0.0646	0.0144
4	119.88	0.2502	-0.0120	0.0011	0.0066	0.0017	-0.1307	0.0047	-0.4673	0.0287
4	119.88	0.3001	-0.0056	0.0007	-0.0026	0.0034	-0.2030	0.0100	-0.2993	0.0331
4	119.88	0.3502	0.0047	0.0017	-0.0071	0.0060	-0.3781	0.0169	-0.4790	0.0293
4	119.88	0.4002	0.0201	0.0020	-0.0012	0.0092	-0.5904	0.0255	-0.4966	0.0325
4	119.88	0.4500	0.0427	0.0023	0.0071	0.0133	-0.9028	0.0364	-0.7922	0.0418
4	119.88	0.5001	0.0549	0.0025	0.0011	0.0187	-1.2822	0.0502	-0.7758	0.0482
4	119.88	0.5560	0.0717	0.0029	0.0106	0.0250	-1.9114	0.0701	-1.0569	0.0581
4	119.88	0.6001	0.0764	0.0042	0.0137	0.0302	-2.4708	0.0880	-1.0771	0.0690
4	119.88	0.6501	0.0675	0.0054	-0.0131	0.0376	-3.2796	0.1115	-1.0586	0.0703
4	119.88	0.6999	0.0678	0.0062	-0.0429	0.0462	-4.2117	0.1391	-0.9218	0.0641
4	119.88	0.7500	0.0489	0.0087	-0.0561	0.0550	-5.2881	0.1694	-0.8246	0.0766
4	119.88	0.8002	0.0208	0.0107	-0.0932	0.0643	-6.5024	0.2017	-0.7730	0.0777
4	119.88	0.8582	-0.0067	0.0138	-0.1209	0.0759	-8.0399	0.2398	-1.0812	0.0811
4	119.88	0.9101	-0.0346	0.0163	-0.1499	0.0863	-9.4795	0.2721	-1.1294	0.0957
4	119.88	0.9728	-0.0192	0.0172	-0.1645	0.0988	-11.1865	0.3153	-0.9660	0.0878

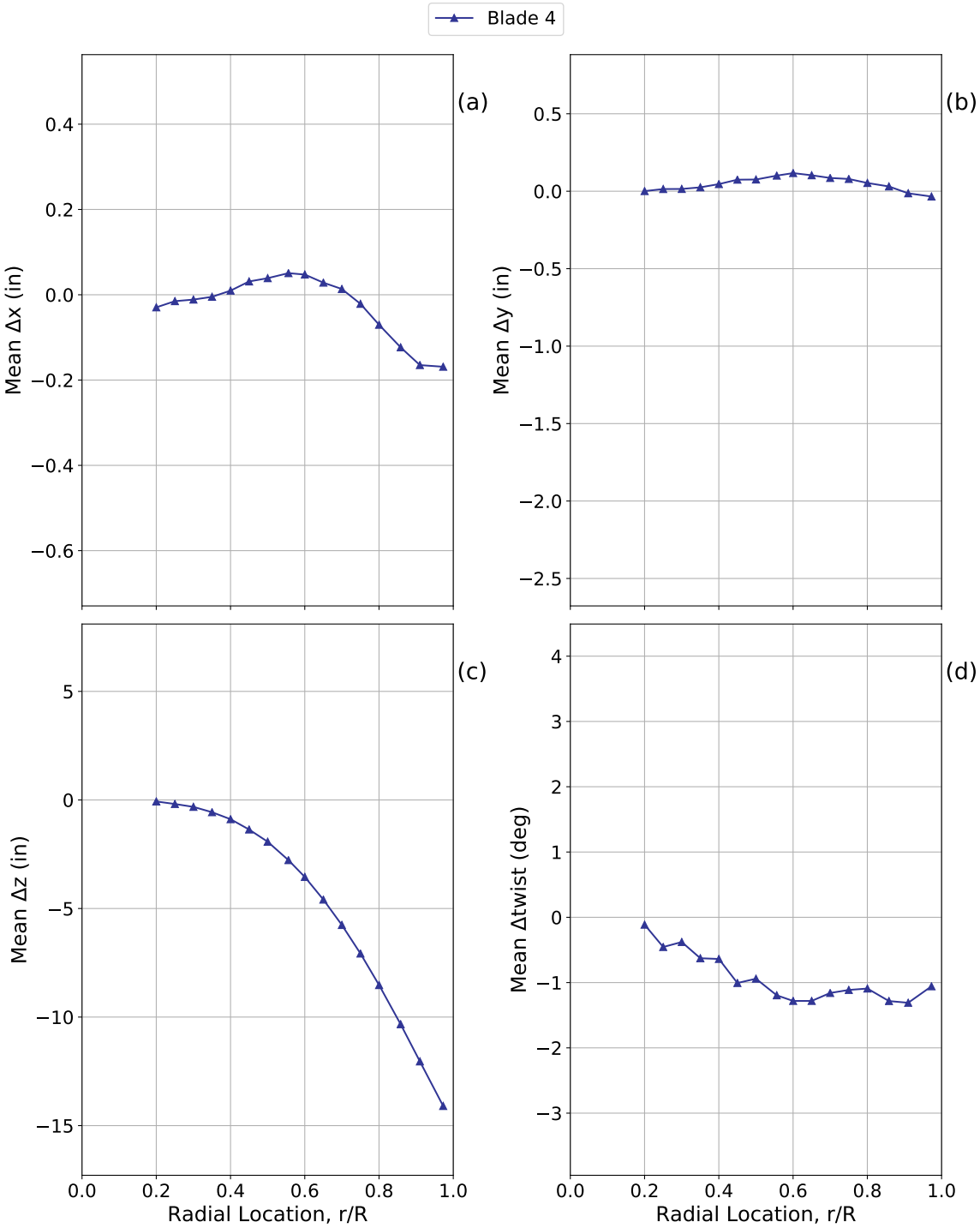


Figure 3.22-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0295	0.0012	0.0008	0.0007	-0.0702	0.0021	-0.1133	0.0136
4	135	0.2502	-0.0150	0.0014	0.0140	0.0014	-0.1862	0.0041	-0.4553	0.0282
4	135	0.3001	-0.0113	0.0011	0.0146	0.0027	-0.3191	0.0078	-0.3787	0.0325
4	135	0.3502	-0.0048	0.0012	0.0251	0.0052	-0.5649	0.0135	-0.6273	0.0257
4	135	0.4002	0.0097	0.0016	0.0460	0.0077	-0.8879	0.0207	-0.6384	0.0274
4	135	0.4500	0.0312	0.0023	0.0745	0.0099	-1.3623	0.0296	-1.0067	0.0314
4	135	0.5001	0.0389	0.0026	0.0755	0.0137	-1.9243	0.0395	-0.9408	0.0331
4	135	0.5560	0.0507	0.0026	0.1006	0.0174	-2.7725	0.0523	-1.1950	0.0440
4	135	0.6001	0.0474	0.0032	0.1170	0.0213	-3.5469	0.0640	-1.2811	0.0429
4	135	0.6501	0.0284	0.0045	0.1029	0.0262	-4.5904	0.0794	-1.2811	0.0450
4	135	0.6999	0.0135	0.0049	0.0856	0.0314	-5.7597	0.0974	-1.1593	0.0555
4	135	0.7500	-0.0213	0.0061	0.0791	0.0375	-7.0747	0.1187	-1.1129	0.0444
4	135	0.8002	-0.0704	0.0083	0.0532	0.0441	-8.5277	0.1420	-1.0914	0.0396
4	135	0.8582	-0.1233	0.0103	0.0308	0.0510	-10.3316	0.1699	-1.2829	0.0474
4	135	0.9101	-0.1649	0.0125	-0.0135	0.0574	-12.0433	0.1971	-1.3094	0.0450
4	135	0.9728	-0.1688	0.0160	-0.0342	0.0651	-14.0961	0.2327	-1.0572	0.0519

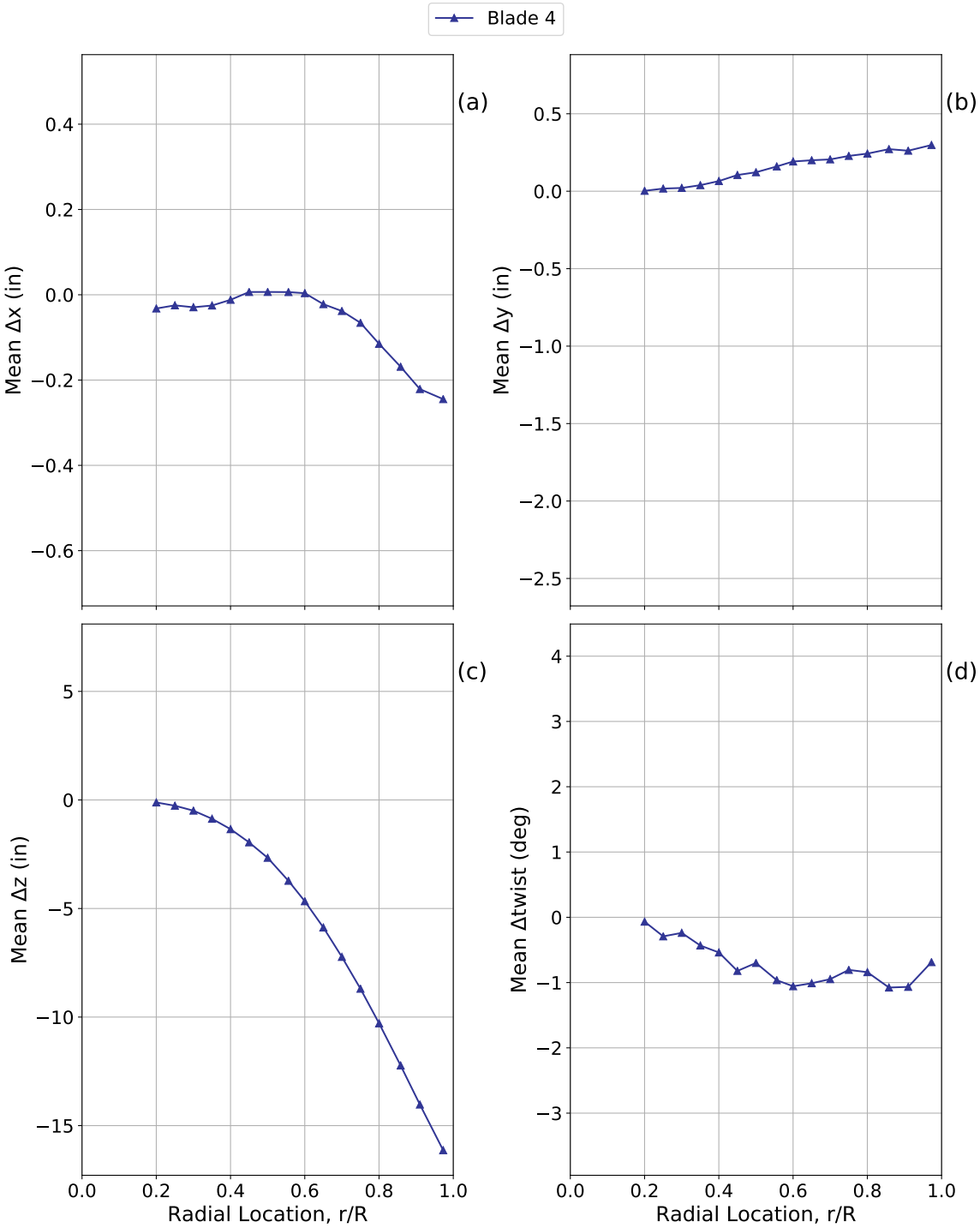


Figure 3.22-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0322	0.0013	0.0026	0.0007	-0.1159	0.0036	-0.0668	0.0175
4	150.12	0.2502	-0.0248	0.0015	0.0170	0.0019	-0.2660	0.0104	-0.2920	0.0394
4	150.12	0.3001	-0.0293	0.0013	0.0211	0.0034	-0.4932	0.0165	-0.2388	0.0433
4	150.12	0.3502	-0.0252	0.0020	0.0390	0.0058	-0.8674	0.0286	-0.4325	0.0485
4	150.12	0.4002	-0.0118	0.0025	0.0656	0.0093	-1.3465	0.0457	-0.5389	0.0635
4	150.12	0.4500	0.0065	0.0042	0.1046	0.0129	-1.9544	0.0679	-0.8216	0.0550
4	150.12	0.5001	0.0066	0.0049	0.1223	0.0178	-2.6655	0.0934	-0.6995	0.0629
4	150.12	0.5560	0.0063	0.0065	0.1598	0.0239	-3.7244	0.1300	-0.9634	0.0591
4	150.12	0.6001	0.0037	0.0096	0.1919	0.0300	-4.6655	0.1625	-1.0565	0.0547
4	150.12	0.6501	-0.0221	0.0116	0.1999	0.0358	-5.8753	0.2048	-1.0103	0.0667
4	150.12	0.6999	-0.0381	0.0151	0.2054	0.0432	-7.2293	0.2512	-0.9475	0.0730
4	150.12	0.7500	-0.0658	0.0196	0.2279	0.0514	-8.6959	0.2978	-0.8059	0.0738
4	150.12	0.8002	-0.1151	0.0238	0.2428	0.0604	-10.2903	0.3471	-0.8407	0.0779
4	150.12	0.8582	-0.1689	0.0295	0.2716	0.0709	-12.2316	0.4036	-1.0760	0.0713
4	150.12	0.9101	-0.2212	0.0336	0.2616	0.0803	-14.0305	0.4530	-1.0660	0.0756
4	150.12	0.9728	-0.2447	0.0366	0.2983	0.0919	-16.1335	0.5119	-0.6871	0.0682

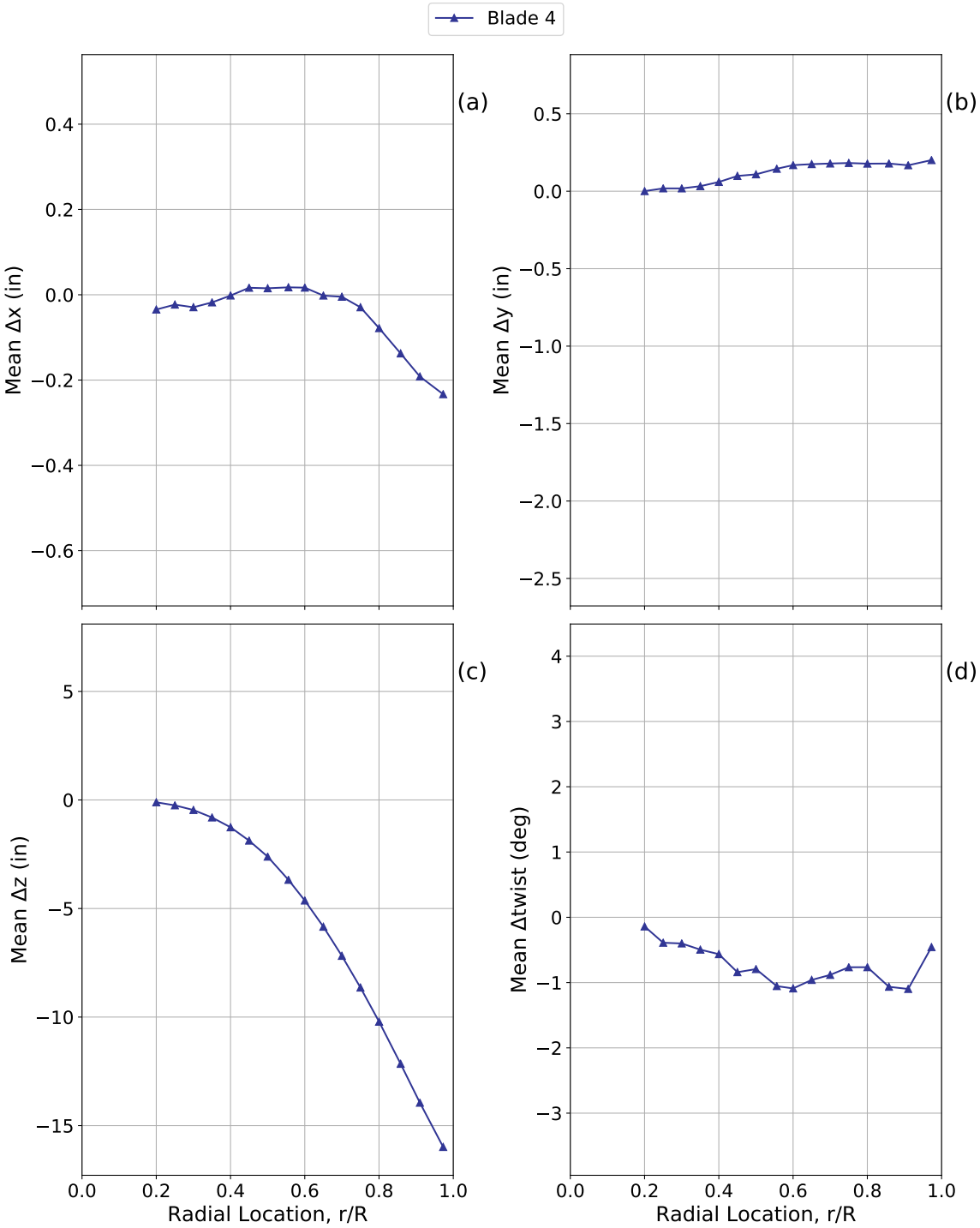


Figure 3.22-17. 165° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0346	0.0014	0.0006	0.0011	-0.1083	0.0057	-0.1407	0.0184
4	164.88	0.2502	-0.0231	0.0036	0.0183	0.0014	-0.2489	0.0056	-0.3900	0.0516
4	164.88	0.3001	-0.0293	0.0016	0.0182	0.0041	-0.4640	0.0194	-0.4009	0.0445
4	164.88	0.3502	-0.0179	0.0013	0.0325	0.0065	-0.8083	0.0295	-0.4957	0.0506
4	164.88	0.4002	-0.0018	0.0016	0.0597	0.0098	-1.2601	0.0447	-0.5652	0.0533
4	164.88	0.4500	0.0164	0.0016	0.0985	0.0127	-1.8744	0.0617	-0.8410	0.0515
4	164.88	0.5001	0.0152	0.0020	0.1089	0.0189	-2.6124	0.0781	-0.7935	0.0472
4	164.88	0.5560	0.0174	0.0034	0.1448	0.0222	-3.6798	0.1033	-1.0540	0.0519
4	164.88	0.6001	0.0167	0.0039	0.1684	0.0276	-4.6329	0.1188	-1.0897	0.0532
4	164.88	0.6501	-0.0019	0.0058	0.1748	0.0325	-5.8398	0.1425	-0.9597	0.0566
4	164.88	0.6999	-0.0047	0.0072	0.1788	0.0398	-7.1815	0.1627	-0.8826	0.0576
4	164.88	0.7500	-0.0294	0.0094	0.1821	0.0464	-8.6419	0.1839	-0.7650	0.0560
4	164.88	0.8002	-0.0783	0.0114	0.1779	0.0533	-10.2156	0.2058	-0.7645	0.0547
4	164.88	0.8582	-0.1376	0.0136	0.1787	0.0627	-12.1552	0.2323	-1.0646	0.0516
4	164.88	0.9101	-0.1918	0.0169	0.1675	0.0700	-13.9460	0.2572	-1.0978	0.0626
4	164.88	0.9728	-0.2332	0.0196	0.2008	0.0801	-15.9841	0.2906	-0.4567	0.0565

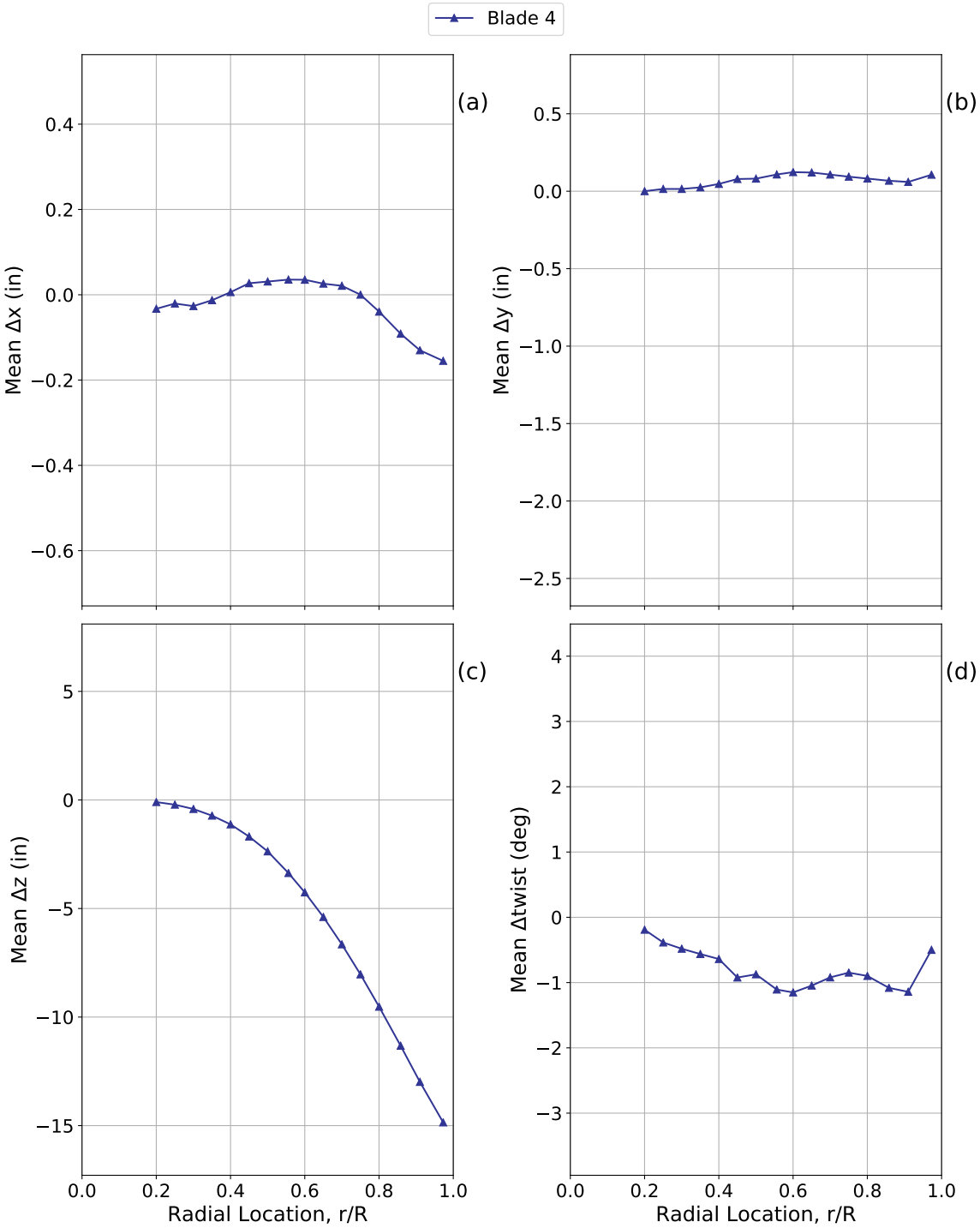


Figure 3.22-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0329	0.0019	0.0002	0.0015	-0.0979	0.0036	-0.1907	0.0238
4	170.16	0.2502	-0.0206	0.0029	0.0146	0.0029	-0.2181	0.0074	-0.3861	0.0504
4	170.16	0.3001	-0.0266	0.0016	0.0146	0.0054	-0.4171	0.0128	-0.4819	0.0541
4	170.16	0.3502	-0.0128	0.0021	0.0248	0.0098	-0.7228	0.0189	-0.5627	0.0590
4	170.16	0.4002	0.0061	0.0014	0.0471	0.0147	-1.1267	0.0307	-0.6396	0.0520
4	170.16	0.4500	0.0270	0.0021	0.0787	0.0187	-1.6868	0.0401	-0.9226	0.0544
4	170.16	0.5001	0.0310	0.0022	0.0812	0.0234	-2.3698	0.0536	-0.8737	0.0609
4	170.16	0.5560	0.0355	0.0030	0.1080	0.0294	-3.3667	0.0699	-1.1068	0.0611
4	170.16	0.6001	0.0352	0.0036	0.1232	0.0349	-4.2587	0.0831	-1.1512	0.0504
4	170.16	0.6501	0.0260	0.0040	0.1207	0.0417	-5.3919	0.0965	-1.0465	0.0524
4	170.16	0.6999	0.0210	0.0056	0.1073	0.0483	-6.6525	0.1097	-0.9206	0.0622
4	170.16	0.7500	0.0002	0.0074	0.0938	0.0551	-8.0355	0.1260	-0.8479	0.0698
4	170.16	0.8002	-0.0396	0.0097	0.0816	0.0620	-9.5241	0.1400	-0.8987	0.0656
4	170.16	0.8582	-0.0914	0.0124	0.0676	0.0710	-11.3230	0.1605	-1.0813	0.0656
4	170.16	0.9101	-0.1302	0.0144	0.0598	0.0790	-12.9872	0.1836	-1.1418	0.0720
4	170.16	0.9728	-0.1550	0.0190	0.1064	0.0887	-14.8523	0.2100	-0.4994	0.0803

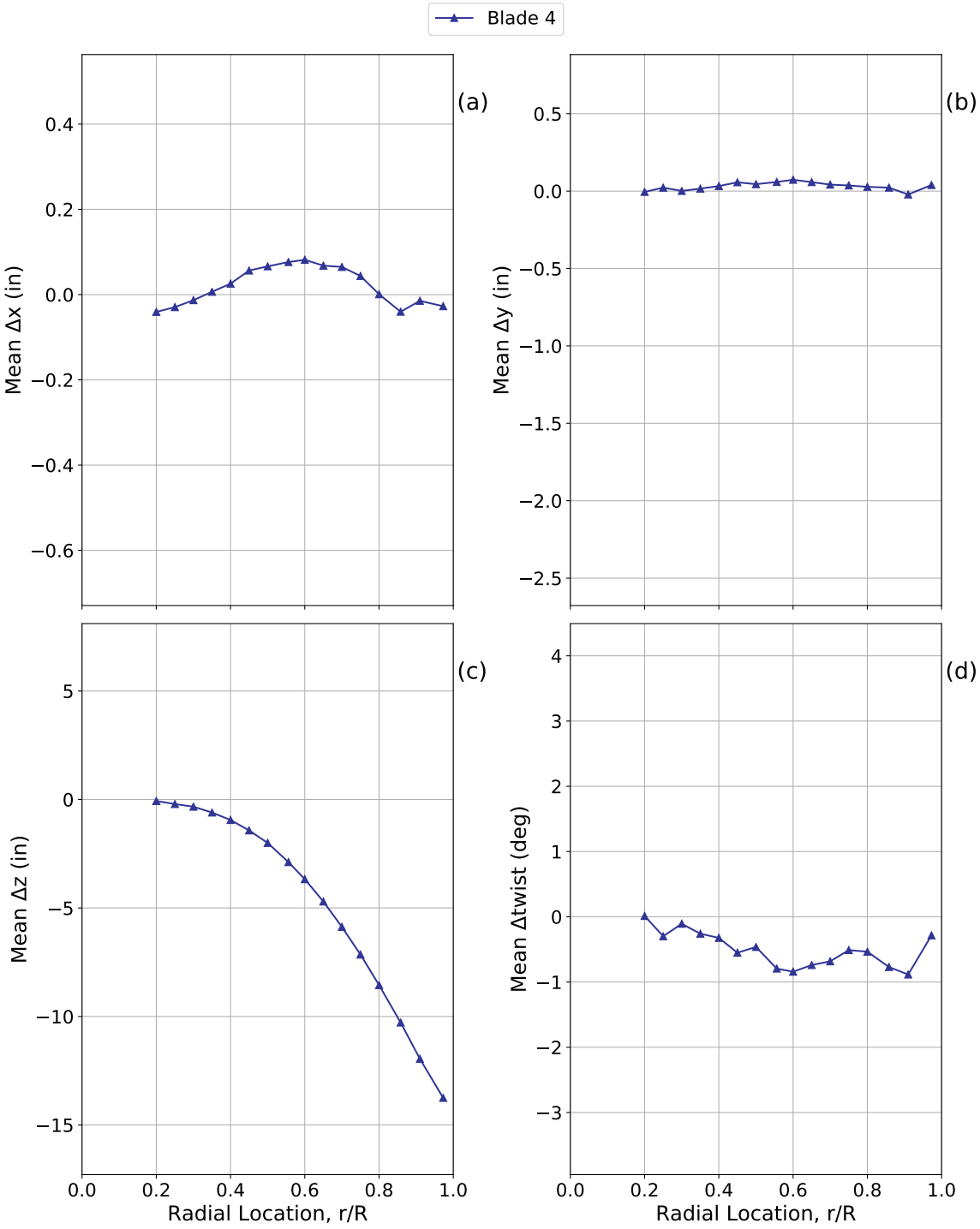


Figure 3.22-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0406	0.0031	-0.0050	0.0026	-0.0708	0.0076	0.0120	0.0443
4	175.08	0.2502	-0.0294	0.0046	0.0220	0.0036	-0.2100	0.0087	-0.2992	0.0785
4	175.08	0.3001	-0.0131	0.0018	0.0012	0.0061	-0.3328	0.0169	-0.1073	0.0712
4	175.08	0.3502	0.0066	0.0016	0.0159	0.0093	-0.6012	0.0226	-0.2598	0.0682
4	175.08	0.4002	0.0257	0.0020	0.0326	0.0128	-0.9463	0.0302	-0.3241	0.0566
4	175.08	0.4500	0.0564	0.0014	0.0569	0.0180	-1.4258	0.0374	-0.5517	0.0646
4	175.08	0.5001	0.0663	0.0029	0.0448	0.0237	-2.0010	0.0464	-0.4626	0.0738
4	175.08	0.5560	0.0763	0.0037	0.0589	0.0310	-2.8865	0.0570	-0.7946	0.0608
4	175.08	0.6001	0.0816	0.0054	0.0732	0.0380	-3.6738	0.0670	-0.8420	0.0665
4	175.08	0.6501	0.0679	0.0079	0.0581	0.0465	-4.7024	0.0800	-0.7401	0.0728
4	175.08	0.6999	0.0649	0.0108	0.0420	0.0555	-5.8729	0.0905	-0.6832	0.0725
4	175.08	0.7500	0.0437	0.0138	0.0364	0.0640	-7.1462	0.1039	-0.5112	0.0695
4	175.08	0.8002	0.0008	0.0166	0.0277	0.0731	-8.5566	0.1188	-0.5351	0.0801
4	175.08	0.8582	-0.0402	0.0220	0.0224	0.0847	-10.2802	0.1374	-0.7707	0.0835
4	175.08	0.9101	-0.0147	0.0125	-0.0218	0.1554	-11.9534	0.2702	-0.8850	0.0556
4	175.08	0.9728	-0.0272	0.0162	0.0394	0.1673	-13.7515	0.2967	-0.2851	0.0624

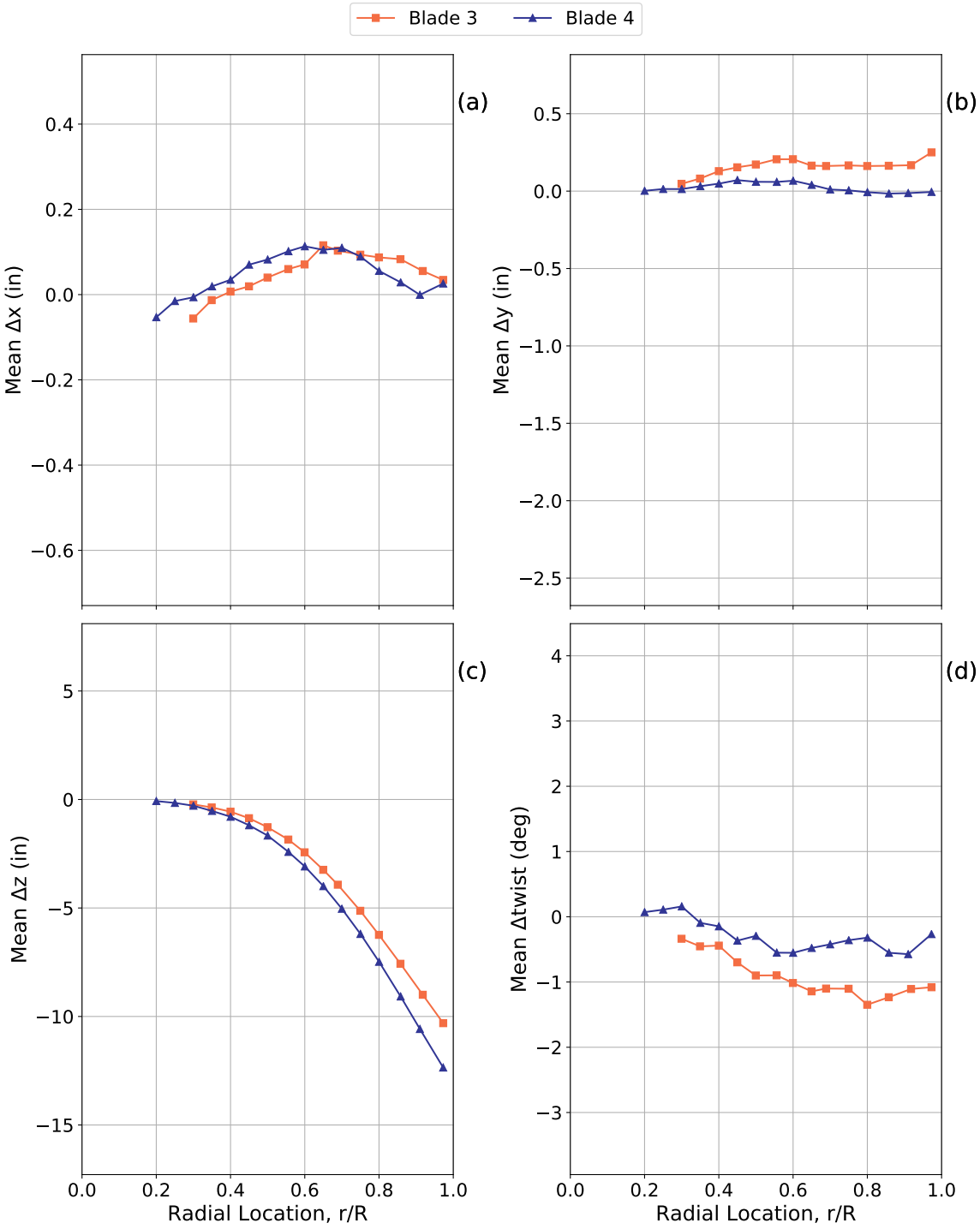


Figure 3.22-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2995	-0.0561	0.0077	0.0472	0.0130	-0.2258	0.0273	-0.3370	0.0964
3	180.35	0.3493	-0.0130	0.0085	0.0809	0.0222	-0.3659	0.0469	-0.4534	0.1273
3	180.35	0.4000	0.0071	0.0077	0.1289	0.0353	-0.5620	0.0749	-0.4422	0.1102
3	180.35	0.4497	0.0194	0.0077	0.1538	0.0469	-0.8628	0.0960	-0.6983	0.1233
3	180.35	0.4997	0.0400	0.0083	0.1719	0.0585	-1.2769	0.1226	-0.9001	0.1061
3	180.35	0.5556	0.0599	0.0087	0.2057	0.0704	-1.8467	0.1463	-0.8977	0.1108
3	180.35	0.5995	0.0707	0.0098	0.2060	0.0812	-2.4347	0.1654	-1.0149	0.0942
3	180.35	0.6498	0.1157	0.0114	0.1646	0.0934	-3.2412	0.1891	-1.1433	0.1063
3	180.35	0.6890	0.1031	0.0124	0.1621	0.1020	-3.9274	0.2118	-1.1003	0.0966
3	180.35	0.7495	0.0937	0.0137	0.1661	0.1168	-5.1296	0.2449	-1.1033	0.0875
3	180.35	0.7998	0.0873	0.0162	0.1620	0.1269	-6.2389	0.2732	-1.3487	0.0929
3	180.35	0.8577	0.0831	0.0188	0.1638	0.1419	-7.5709	0.3121	-1.2334	0.0971
3	180.35	0.9178	0.0553	0.0211	0.1674	0.1555	-8.9991	0.3515	-1.1067	0.1026
3	180.35	0.9729	0.0344	0.0263	0.2502	0.1680	-10.3080	0.3933	-1.0802	0.0958
4	180	0.2001	-0.0531	0.0046	0.0020	0.0023	-0.0733	0.0048	0.0706	0.0342
4	180	0.2502	-0.0152	0.0022	0.0135	0.0039	-0.1585	0.0088	0.1090	0.0629
4	180	0.3001	-0.0062	0.0021	0.0132	0.0081	-0.2881	0.0148	0.1581	0.0805
4	180	0.3502	0.0193	0.0020	0.0317	0.0155	-0.5280	0.0288	-0.0938	0.0696
4	180	0.4002	0.0348	0.0024	0.0483	0.0225	-0.7970	0.0410	-0.1470	0.0780
4	180	0.4500	0.0702	0.0032	0.0710	0.0293	-1.1890	0.0557	-0.3662	0.0875
4	180	0.5001	0.0823	0.0032	0.0600	0.0375	-1.6636	0.0725	-0.2927	0.0919
4	180	0.5560	0.1017	0.0048	0.0593	0.0478	-2.4165	0.0934	-0.5507	0.0959
4	180	0.6001	0.1133	0.0061	0.0671	0.0557	-3.0870	0.1115	-0.5526	0.1044
4	180	0.6501	0.1049	0.0073	0.0402	0.0656	-3.9941	0.1344	-0.4784	0.1049
4	180	0.6999	0.1096	0.0088	0.0104	0.0763	-5.0370	0.1591	-0.4226	0.1073
4	180	0.7500	0.0892	0.0115	0.0049	0.0873	-6.1984	0.1834	-0.3590	0.1091
4	180	0.8002	0.0555	0.0147	-0.0071	0.1002	-7.4817	0.2125	-0.3202	0.1253
4	180	0.8582	0.0287	0.0174	-0.0159	0.1136	-9.0799	0.2482	-0.5520	0.1473
4	180	0.9101	-0.0006	0.0213	-0.0130	0.1285	-10.5780	0.2895	-0.5734	0.1310
4	180	0.9728	0.0259	0.0305	-0.0055	0.1442	-12.3541	0.3403	-0.2659	0.1501

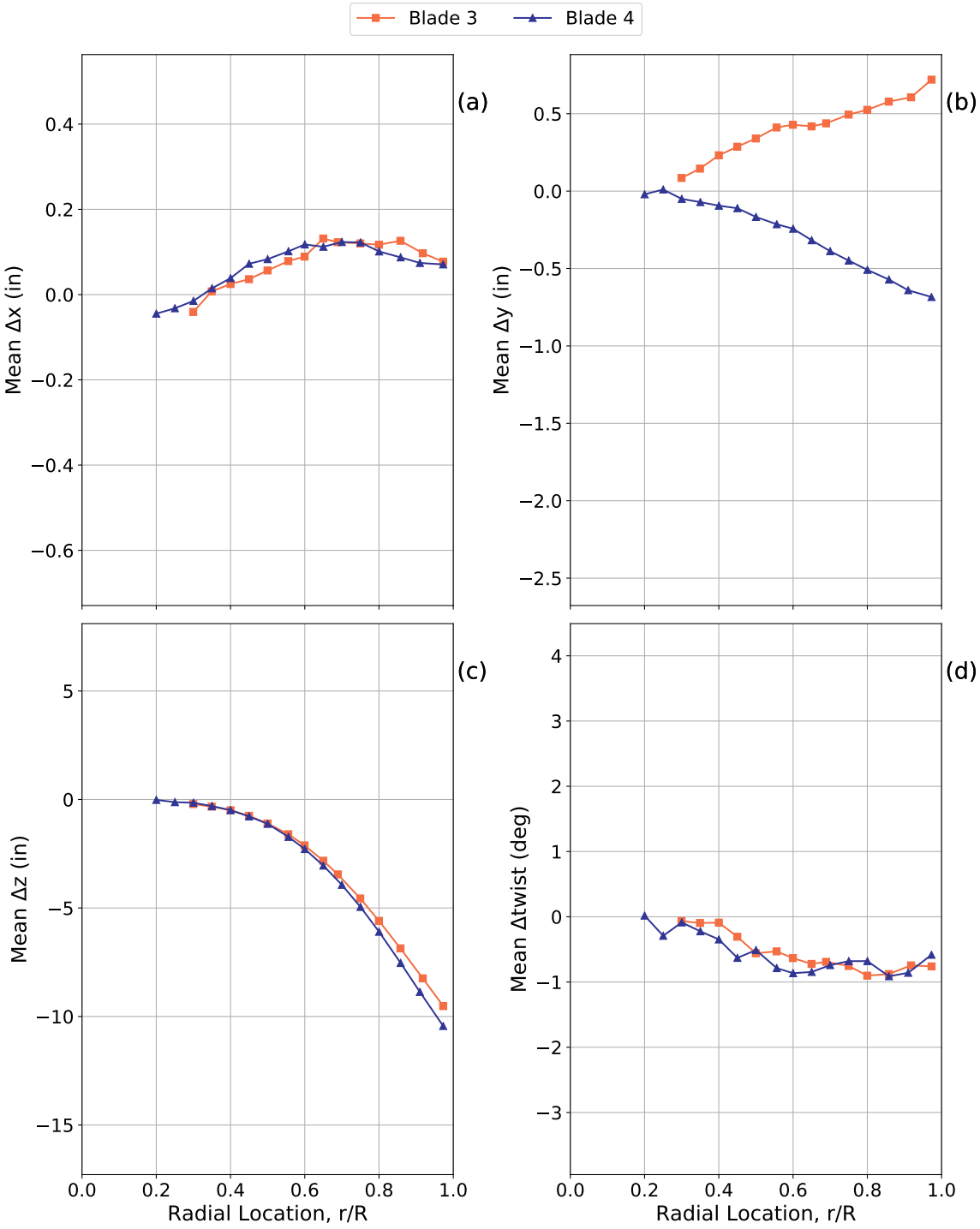


Figure 3.22-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0407	0.0096	0.0850	0.0207	-0.2106	0.0555	-0.0661	0.1629
3	184.92	0.3493	0.0075	0.0125	0.1454	0.0351	-0.3304	0.0921	-0.0956	0.2145
3	184.92	0.4000	0.0248	0.0099	0.2313	0.0556	-0.4962	0.1441	-0.0904	0.1933
3	184.92	0.4497	0.0362	0.0097	0.2868	0.0761	-0.7518	0.1883	-0.3062	0.1942
3	184.92	0.4997	0.0566	0.0108	0.3400	0.0940	-1.1076	0.2381	-0.5591	0.1966
3	184.92	0.5556	0.0786	0.0117	0.4110	0.1132	-1.6003	0.2935	-0.5306	0.1744
3	184.92	0.5995	0.0891	0.0126	0.4289	0.1287	-2.1159	0.3338	-0.6335	0.1927
3	184.92	0.6498	0.1315	0.0139	0.4181	0.1482	-2.8230	0.3825	-0.7231	0.2133
3	184.92	0.6890	0.1229	0.0152	0.4377	0.1626	-3.4520	0.4228	-0.6907	0.1786
3	184.92	0.7495	0.1201	0.0179	0.4943	0.1841	-4.5616	0.4818	-0.7535	0.1914
3	184.92	0.7998	0.1171	0.0206	0.5248	0.2025	-5.5944	0.5311	-0.9029	0.1885
3	184.92	0.8577	0.1263	0.0241	0.5782	0.2232	-6.8618	0.5896	-0.8786	0.1903
3	184.92	0.9178	0.0971	0.0277	0.6060	0.2470	-8.2422	0.6458	-0.7451	0.2010
3	184.92	0.9729	0.0773	0.0312	0.7200	0.2666	-9.5201	0.7041	-0.7606	0.1951
4	184.92	0.2001	-0.0447	0.0057	-0.0206	0.0033	-0.0202	0.0081	0.0175	0.0424
4	184.92	0.2502	-0.0321	0.0028	0.0100	0.0035	-0.1227	0.0116	-0.2916	0.0827
4	184.92	0.3001	-0.0149	0.0029	-0.0504	0.0094	-0.1517	0.0233	-0.0872	0.0959
4	184.92	0.3502	0.0148	0.0029	-0.0711	0.0169	-0.3041	0.0396	-0.2229	0.0830
4	184.92	0.4002	0.0386	0.0025	-0.0943	0.0235	-0.4930	0.0570	-0.3482	0.0881
4	184.92	0.4500	0.0723	0.0026	-0.1106	0.0299	-0.7827	0.0766	-0.6304	0.0994
4	184.92	0.5001	0.0832	0.0037	-0.1671	0.0377	-1.1225	0.0971	-0.5108	0.0998
4	184.92	0.5560	0.1016	0.0035	-0.2140	0.0467	-1.7260	0.1275	-0.7875	0.0879
4	184.92	0.6001	0.1176	0.0038	-0.2430	0.0545	-2.2854	0.1522	-0.8648	0.0845
4	184.92	0.6501	0.1122	0.0053	-0.3175	0.0634	-3.0477	0.1833	-0.8460	0.0984
4	184.92	0.6999	0.1234	0.0074	-0.3882	0.0727	-3.9347	0.2190	-0.7413	0.1074
4	184.92	0.7500	0.1224	0.0104	-0.4489	0.0823	-4.9529	0.2623	-0.6803	0.1032
4	184.92	0.8002	0.1012	0.0134	-0.5088	0.0924	-6.0986	0.3123	-0.6799	0.1064
4	184.92	0.8582	0.0873	0.0186	-0.5716	0.1045	-7.5358	0.3749	-0.9122	0.1166
4	184.92	0.9101	0.0742	0.0231	-0.6404	0.1153	-8.8701	0.4405	-0.8591	0.1087
4	184.92	0.9728	0.0708	0.0298	-0.6842	0.1312	-10.4399	0.5215	-0.5827	0.1373

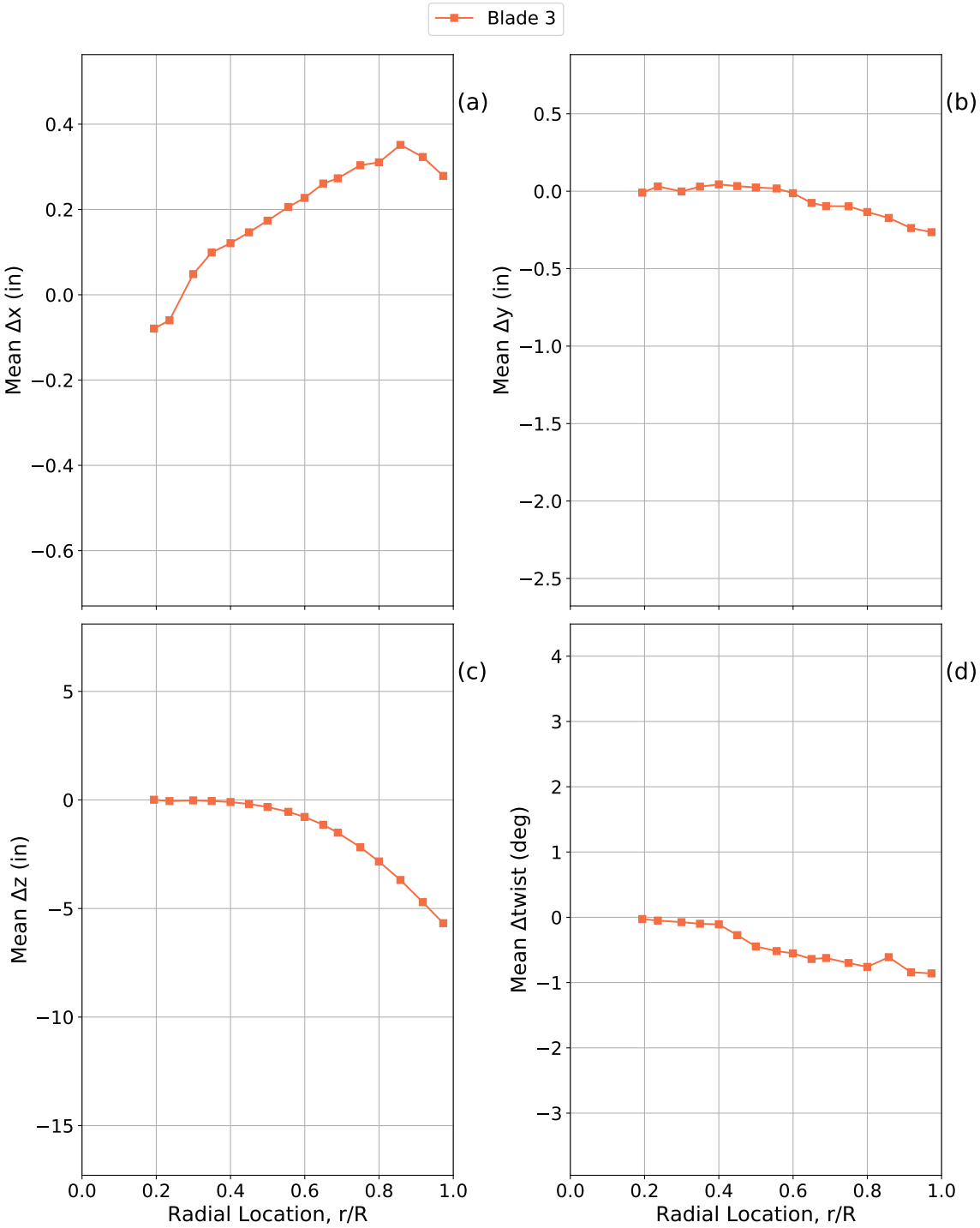


Figure 3.22-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0793	0.0032	-0.0091	0.0018	0.0101	0.0064	-0.0272	0.0450
3	195.12	0.2357	-0.0598	0.0028	0.0310	0.0052	-0.0517	0.0135	-0.0504	0.0488
3	195.12	0.2995	0.0484	0.0059	-0.0014	0.0094	-0.0206	0.0250	-0.0742	0.0962
3	195.12	0.3493	0.0992	0.0050	0.0296	0.0167	-0.0492	0.0438	-0.0994	0.0626
3	195.12	0.4000	0.1209	0.0025	0.0440	0.0264	-0.0950	0.0661	-0.1075	0.0497
3	195.12	0.4497	0.1464	0.0027	0.0332	0.0309	-0.1861	0.0839	-0.2738	0.0633
3	195.12	0.4997	0.1737	0.0035	0.0242	0.0379	-0.3249	0.1070	-0.4465	0.0626
3	195.12	0.5556	0.2058	0.0043	0.0177	0.0470	-0.5473	0.1385	-0.5176	0.0671
3	195.12	0.5995	0.2271	0.0046	-0.0128	0.0511	-0.7837	0.1606	-0.5525	0.0750
3	195.12	0.6498	0.2608	0.0052	-0.0755	0.0589	-1.1432	0.1934	-0.6387	0.0923
3	195.12	0.6890	0.2731	0.0061	-0.0961	0.0651	-1.5070	0.2234	-0.6236	0.0821
3	195.12	0.7495	0.3037	0.0083	-0.0975	0.0764	-2.1781	0.2740	-0.7000	0.0668
3	195.12	0.7998	0.3105	0.0098	-0.1344	0.0843	-2.8328	0.3169	-0.7601	0.0791
3	195.12	0.8577	0.3514	0.0124	-0.1725	0.0963	-3.6880	0.3714	-0.6111	0.0698
3	195.12	0.9178	0.3231	0.0152	-0.2376	0.1086	-4.7074	0.4321	-0.8422	0.0817
3	195.12	0.9729	0.2787	0.0183	-0.2646	0.1183	-5.6750	0.4855	-0.8593	0.0972

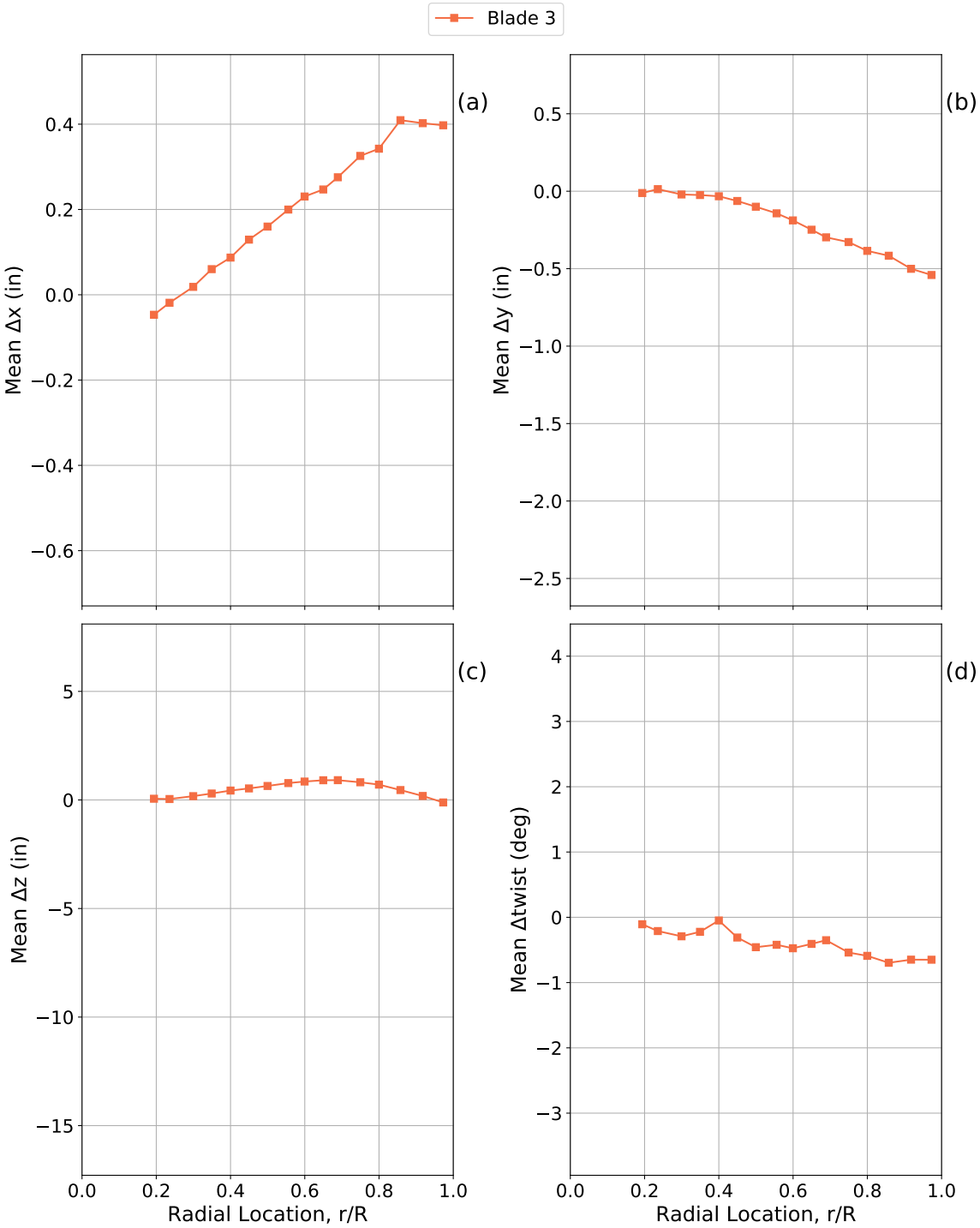


Figure 3.22-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.04, μ = 0.3, α = -8°
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0469	0.0017	-0.0116	0.0009	0.0563	0.0042	-0.1066	0.0263
3	209.88	0.2357	-0.0187	0.0008	0.0134	0.0018	0.0425	0.0067	-0.2109	0.0395
3	209.88	0.2995	0.0185	0.0012	-0.0210	0.0030	0.1750	0.0146	-0.2912	0.0614
3	209.88	0.3493	0.0601	0.0017	-0.0246	0.0069	0.2963	0.0264	-0.2226	0.0483
3	209.88	0.4000	0.0872	0.0014	-0.0326	0.0094	0.4329	0.0391	-0.0488	0.0549
3	209.88	0.4497	0.1293	0.0019	-0.0630	0.0125	0.5308	0.0506	-0.3099	0.0611
3	209.88	0.4997	0.1599	0.0020	-0.1001	0.0158	0.6441	0.0669	-0.4581	0.0509
3	209.88	0.5556	0.1998	0.0032	-0.1427	0.0196	0.7766	0.0873	-0.4212	0.0647
3	209.88	0.5995	0.2304	0.0028	-0.1884	0.0232	0.8477	0.1057	-0.4742	0.0666
3	209.88	0.6498	0.2469	0.0018	-0.2484	0.0271	0.9074	0.1321	-0.4074	0.0575
3	209.88	0.6890	0.2755	0.0024	-0.2977	0.0301	0.9110	0.1512	-0.3510	0.0755
3	209.88	0.7495	0.3256	0.0022	-0.3283	0.0357	0.8130	0.1837	-0.5400	0.0777
3	209.88	0.7998	0.3425	0.0022	-0.3851	0.0398	0.7064	0.2077	-0.5905	0.0765
3	209.88	0.8577	0.4094	0.0023	-0.4164	0.0451	0.4555	0.2372	-0.6967	0.0708
3	209.88	0.9178	0.4023	0.0026	-0.5008	0.0514	0.1833	0.2675	-0.6489	0.0732
3	209.88	0.9729	0.3974	0.0036	-0.5408	0.0561	-0.1158	0.2963	-0.6499	0.0779

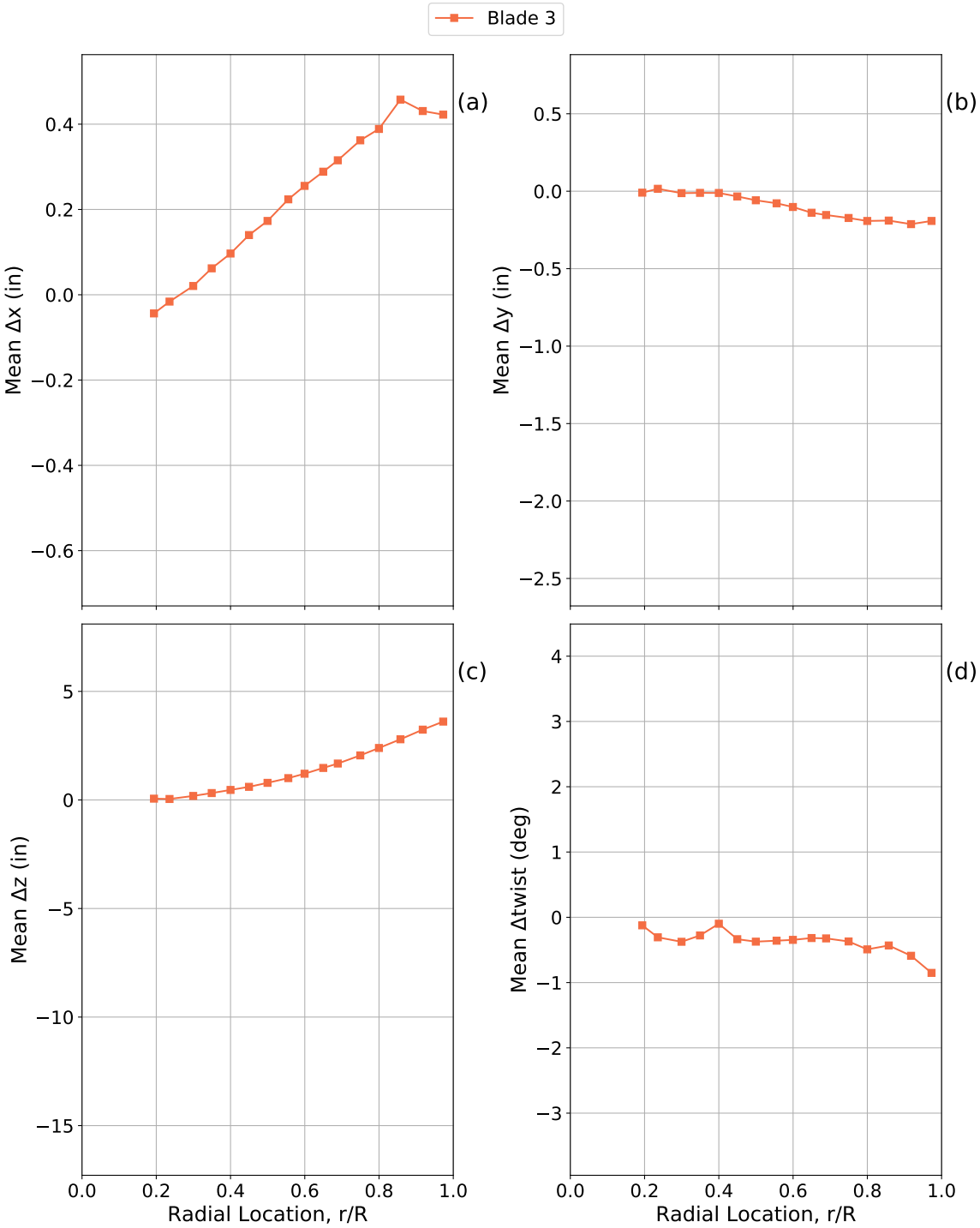


Figure 3.22-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0437	0.0008	-0.0093	0.0005	0.0594	0.0026	-0.1233	0.0150
3	225	0.2357	-0.0160	0.0006	0.0157	0.0011	0.0443	0.0048	-0.3067	0.0308
3	225	0.2995	0.0206	0.0008	-0.0124	0.0022	0.1846	0.0083	-0.3750	0.0339
3	225	0.3493	0.0620	0.0009	-0.0107	0.0038	0.3170	0.0161	-0.2779	0.0287
3	225	0.4000	0.0967	0.0017	-0.0113	0.0060	0.4610	0.0230	-0.0986	0.0365
3	225	0.4497	0.1400	0.0010	-0.0338	0.0084	0.6037	0.0336	-0.3354	0.0426
3	225	0.4997	0.1731	0.0018	-0.0585	0.0116	0.7878	0.0430	-0.3731	0.0440
3	225	0.5556	0.2238	0.0027	-0.0780	0.0151	1.0053	0.0568	-0.3583	0.0444
3	225	0.5995	0.2553	0.0035	-0.1018	0.0183	1.2079	0.0685	-0.3458	0.0680
3	225	0.6498	0.2886	0.0024	-0.1389	0.0206	1.4742	0.0771	-0.3177	0.0387
3	225	0.6890	0.3153	0.0022	-0.1536	0.0239	1.6770	0.0860	-0.3232	0.0376
3	225	0.7495	0.3621	0.0026	-0.1728	0.0292	2.0519	0.0967	-0.3701	0.0421
3	225	0.7998	0.3888	0.0027	-0.1920	0.0333	2.3936	0.1062	-0.4913	0.0420
3	225	0.8577	0.4576	0.0027	-0.1895	0.0387	2.7944	0.1224	-0.4316	0.0422
3	225	0.9178	0.4308	0.0032	-0.2125	0.0446	3.2388	0.1435	-0.5895	0.0423
3	225	0.9729	0.4224	0.0047	-0.1919	0.0496	3.6091	0.1678	-0.8516	0.0383

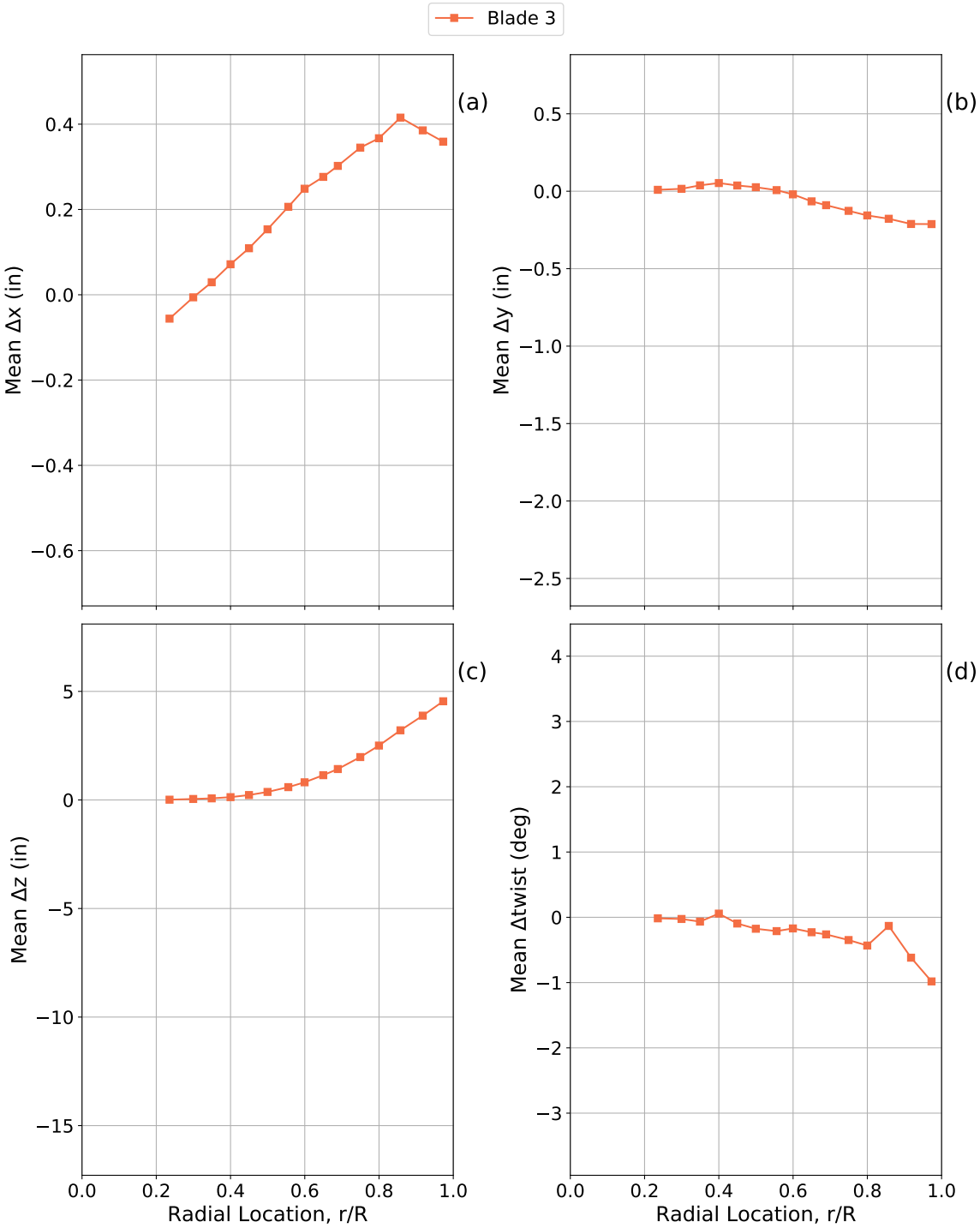


Figure 3.22-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0560	0.0015	0.0091	0.0013	0.0126	0.0092	-0.0158	0.0599
3	240.12	0.2995	-0.0060	0.0011	0.0155	0.0031	0.0449	0.0186	-0.0257	0.0963
3	240.12	0.3493	0.0293	0.0015	0.0380	0.0057	0.0733	0.0321	-0.0661	0.0880
3	240.12	0.4000	0.0715	0.0013	0.0528	0.0089	0.1295	0.0481	0.0565	0.0927
3	240.12	0.4497	0.1091	0.0016	0.0370	0.0116	0.2255	0.0651	-0.0953	0.1014
3	240.12	0.4997	0.1535	0.0023	0.0258	0.0155	0.3694	0.0848	-0.1756	0.0958
3	240.12	0.5556	0.2062	0.0017	0.0070	0.0194	0.5904	0.1070	-0.2117	0.1002
3	240.12	0.5995	0.2487	0.0018	-0.0202	0.0229	0.8126	0.1253	-0.1707	0.0908
3	240.12	0.6498	0.2764	0.0032	-0.0654	0.0246	1.1412	0.1425	-0.2291	0.0931
3	240.12	0.6890	0.3022	0.0027	-0.0902	0.0290	1.4236	0.1574	-0.2620	0.0975
3	240.12	0.7495	0.3450	0.0033	-0.1267	0.0341	1.9746	0.1847	-0.3485	0.0859
3	240.12	0.7998	0.3670	0.0038	-0.1563	0.0383	2.5049	0.2075	-0.4327	0.0885
3	240.12	0.8577	0.4154	0.0052	-0.1778	0.0430	3.2074	0.2396	-0.1321	0.0898
3	240.12	0.9178	0.3855	0.0075	-0.2115	0.0484	3.8830	0.2734	-0.6186	0.0954
3	240.12	0.9729	0.3590	0.0106	-0.2122	0.0530	4.5447	0.3094	-0.9821	0.0950

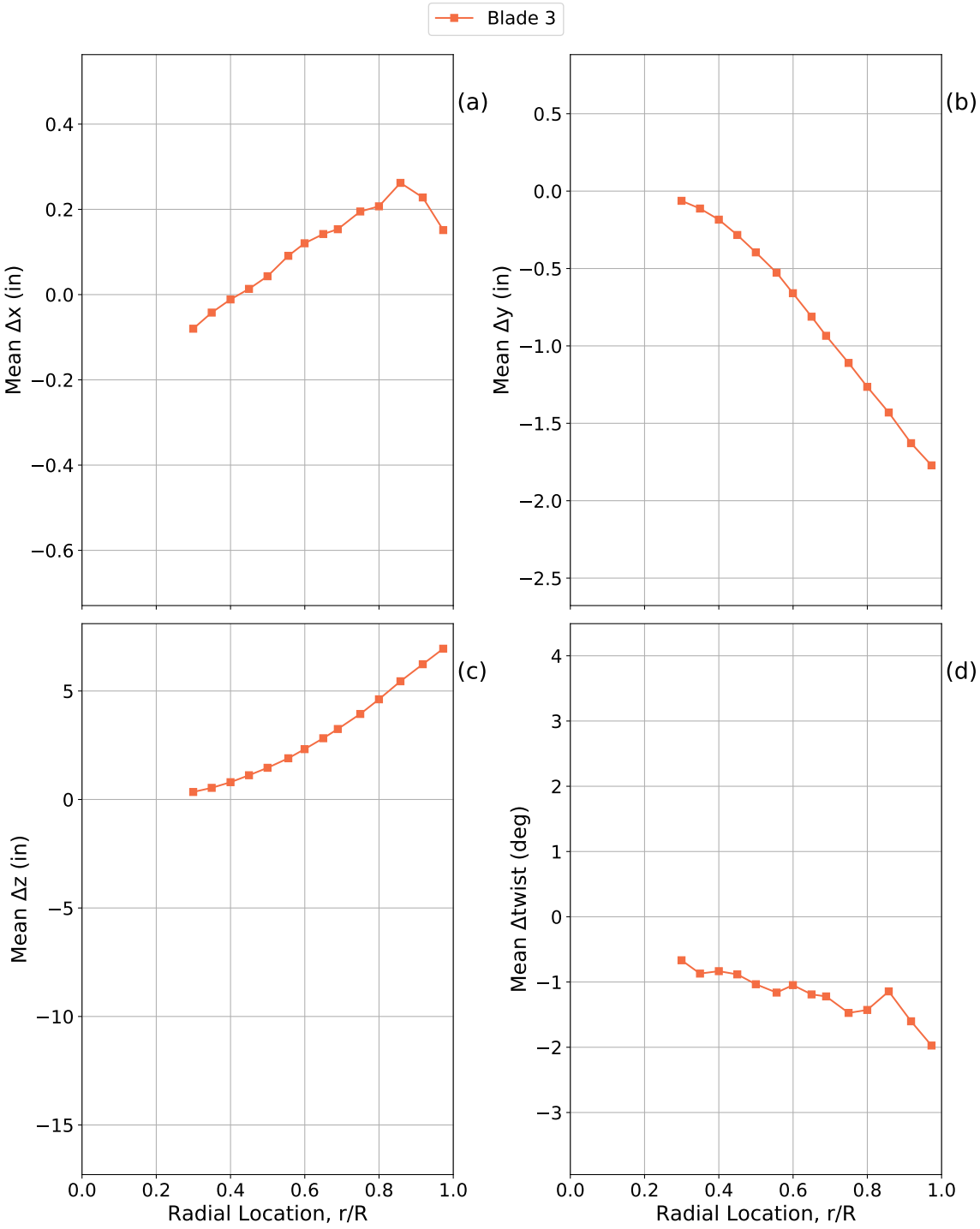


Figure 3.22-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.04, μ = 0.3, α = -8°
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.0800	0.0090	-0.0627	0.0145	0.3465	0.0654	-0.6668	0.2214
3	254.88	0.3493	-0.0422	0.0068	-0.1126	0.0255	0.5359	0.1020	-0.8707	0.2907
3	254.88	0.4000	-0.0113	0.0086	-0.1843	0.0412	0.7965	0.1528	-0.8338	0.2853
3	254.88	0.4497	0.0134	0.0092	-0.2834	0.0534	1.1175	0.1969	-0.8830	0.2866
3	254.88	0.4997	0.0431	0.0109	-0.3957	0.0669	1.4608	0.2428	-1.0345	0.2896
3	254.88	0.5556	0.0910	0.0120	-0.5270	0.0816	1.8991	0.2949	-1.1620	0.2827
3	254.88	0.5995	0.1204	0.0133	-0.6595	0.0928	2.3206	0.3346	-1.0475	0.2806
3	254.88	0.6498	0.1421	0.0154	-0.8112	0.1059	2.8222	0.3807	-1.1900	0.2748
3	254.88	0.6890	0.1534	0.0167	-0.9345	0.1161	3.2482	0.4158	-1.2209	0.2832
3	254.88	0.7495	0.1950	0.0191	-1.1098	0.1308	3.9413	0.4730	-1.4735	0.2858
3	254.88	0.7998	0.2071	0.0218	-1.2643	0.1433	4.6169	0.5219	-1.4284	0.2864
3	254.88	0.8577	0.2621	0.0245	-1.4301	0.1579	5.4477	0.5785	-1.1434	0.2859
3	254.88	0.9178	0.2279	0.0286	-1.6283	0.1729	6.2333	0.6404	-1.6022	0.2876
3	254.88	0.9729	0.1514	0.0362	-1.7715	0.1864	6.9492	0.6982	-1.9737	0.2898

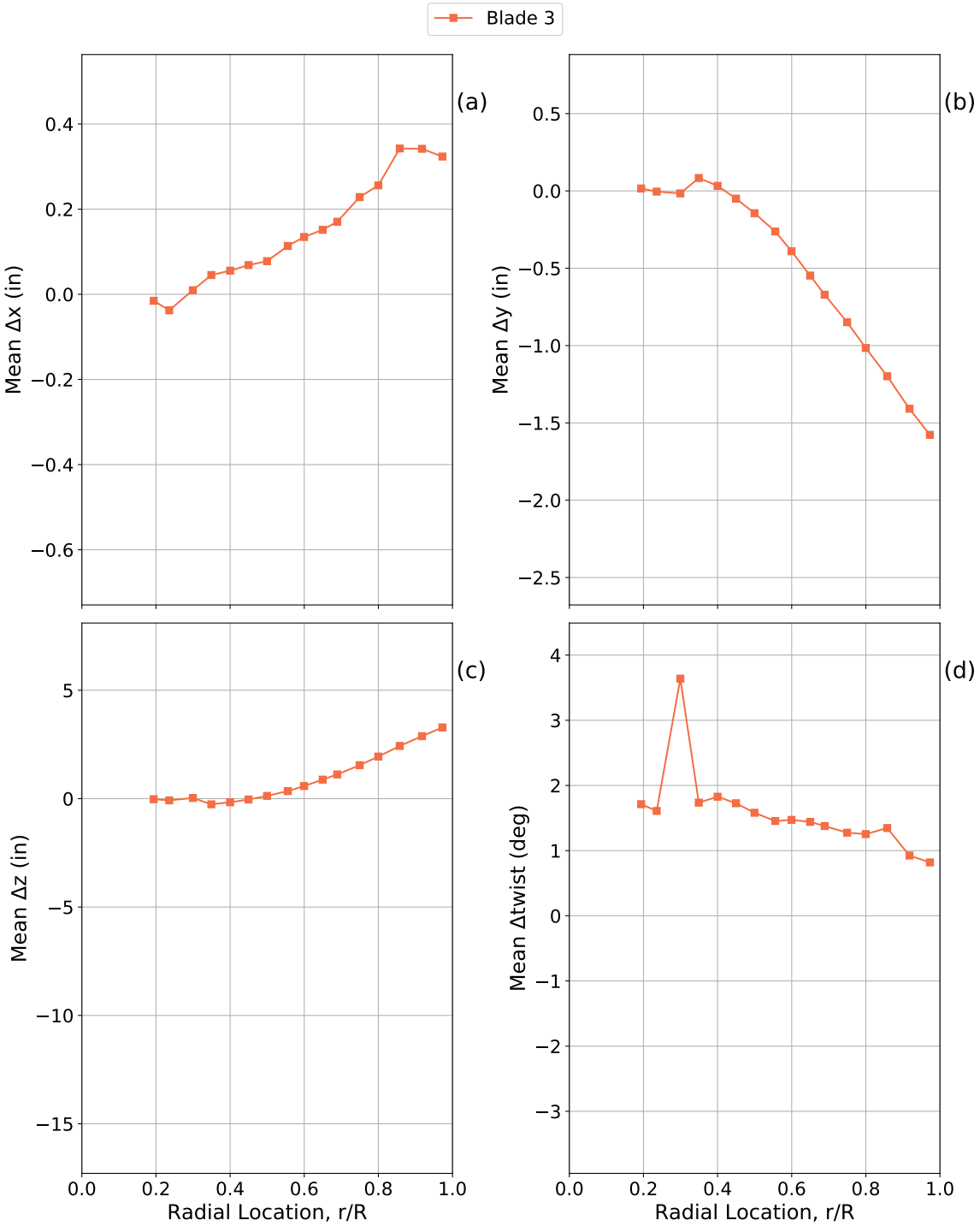


Figure 3.22-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0153	0.0035	0.0156	0.0020	-0.0252	0.0100	1.7125	0.0420
3	260.16	0.2357	-0.0375	0.0022	-0.0045	0.0016	-0.0784	0.0046	1.6086	0.0801
3	260.16	0.2995	0.0096	0.0007	-0.0161	0.0060	0.0312	0.0267	3.6384	0.0861
3	260.16	0.3493	0.0452	0.0021	0.0834	0.0109	-0.2607	0.0428	1.7366	0.0507
3	260.16	0.4000	0.0555	0.0019	0.0328	0.0156	-0.1684	0.0611	1.8272	0.0646
3	260.16	0.4497	0.0686	0.0021	-0.0499	0.0209	-0.0407	0.0808	1.7267	0.0642
3	260.16	0.4997	0.0778	0.0017	-0.1440	0.0282	0.1268	0.1082	1.5811	0.0494
3	260.16	0.5556	0.1136	0.0024	-0.2622	0.0366	0.3484	0.1400	1.4544	0.0522
3	260.16	0.5995	0.1346	0.0030	-0.3901	0.0446	0.5809	0.1695	1.4718	0.0522
3	260.16	0.6498	0.1515	0.0046	-0.5474	0.0539	0.8770	0.2031	1.4413	0.0553
3	260.16	0.6890	0.1704	0.0056	-0.6715	0.0619	1.1183	0.2297	1.3771	0.0576
3	260.16	0.7495	0.2283	0.0072	-0.8488	0.0756	1.5423	0.2703	1.2753	0.0602
3	260.16	0.7998	0.2558	0.0080	-1.0156	0.0874	1.9425	0.3011	1.2537	0.0569
3	260.16	0.8577	0.3425	0.0100	-1.1984	0.1028	2.4308	0.3370	1.3464	0.0535
3	260.16	0.9178	0.3417	0.0118	-1.4086	0.1172	2.8835	0.3669	0.9247	0.0599
3	260.16	0.9729	0.3235	0.0162	-1.5775	0.1334	3.2852	0.3923	0.8193	0.0676

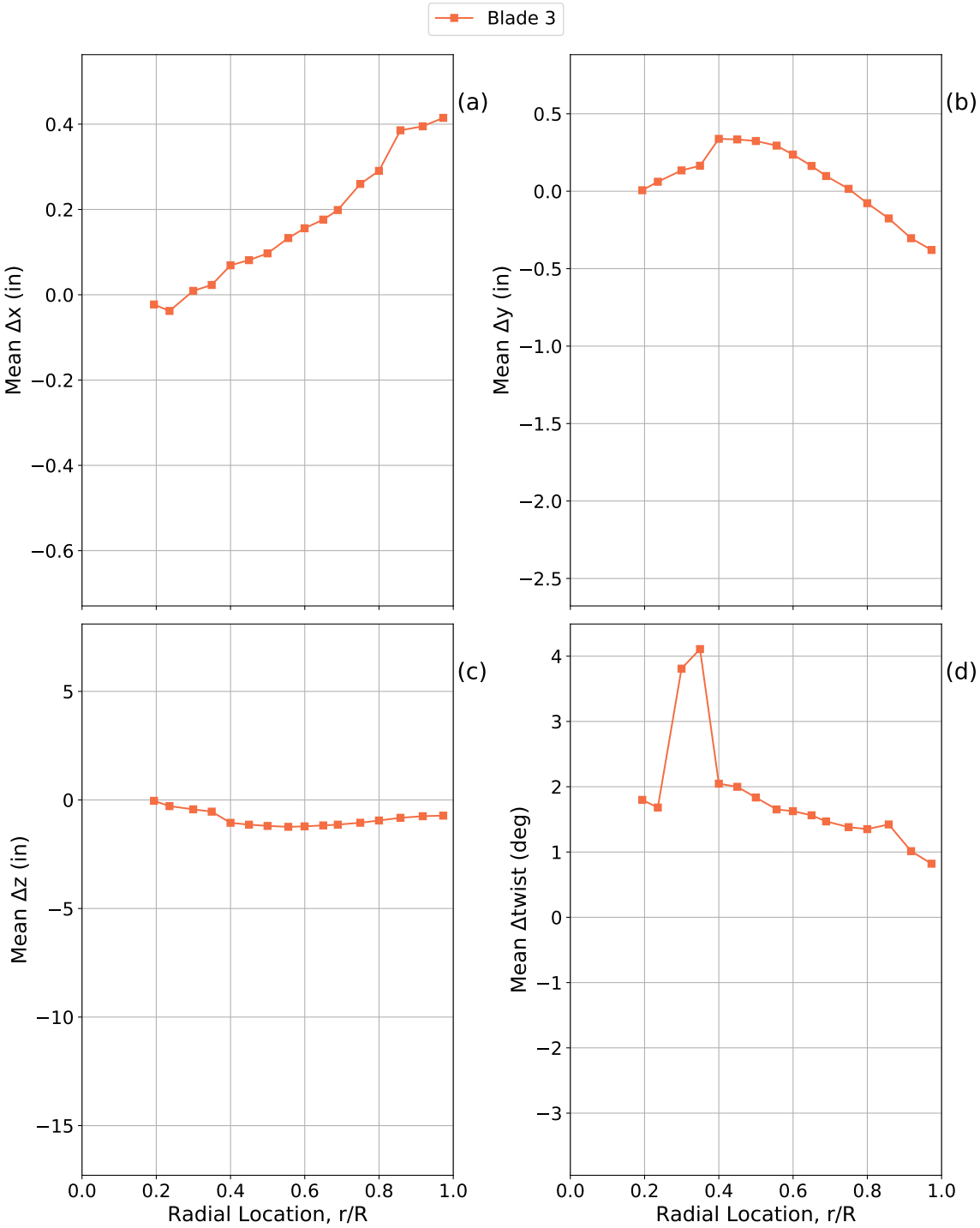


Figure 3.22-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0228	0.0034	0.0063	0.0022	-0.0403	0.0116	1.7985	0.0698
3	265.08	0.2357	-0.0379	0.0051	0.0613	0.0038	-0.2839	0.0120	1.6812	0.2022
3	265.08	0.2995	0.0091	0.0033	0.1343	0.0095	-0.4328	0.0391	3.8086	0.2201
3	265.08	0.3493	0.0230	0.0046	0.1643	0.0130	-0.5388	0.0582	4.1086	0.2142
3	265.08	0.4000	0.0691	0.0067	0.3382	0.0225	-1.0521	0.0913	2.0467	0.2014
3	265.08	0.4497	0.0812	0.0050	0.3344	0.0269	-1.1384	0.1205	1.9988	0.1986
3	265.08	0.4997	0.0971	0.0052	0.3242	0.0311	-1.1965	0.1469	1.8354	0.1860
3	265.08	0.5556	0.1330	0.0052	0.2942	0.0367	-1.2385	0.1809	1.6525	0.1912
3	265.08	0.5995	0.1559	0.0053	0.2367	0.0419	-1.2163	0.2099	1.6256	0.1873
3	265.08	0.6498	0.1762	0.0049	0.1633	0.0481	-1.1724	0.2428	1.5627	0.1905
3	265.08	0.6890	0.1987	0.0052	0.0981	0.0535	-1.1367	0.2691	1.4687	0.1922
3	265.08	0.7495	0.2599	0.0051	0.0154	0.0633	-1.0492	0.3093	1.3811	0.1963
3	265.08	0.7998	0.2905	0.0058	-0.0773	0.0709	-0.9473	0.3417	1.3506	0.1774
3	265.08	0.8577	0.3856	0.0054	-0.1757	0.0809	-0.8217	0.3788	1.4224	0.1809
3	265.08	0.9178	0.3950	0.0061	-0.3034	0.0912	-0.7488	0.4146	1.0134	0.1799
3	265.08	0.9729	0.4148	0.0084	-0.3792	0.1020	-0.7225	0.4459	0.8205	0.1817

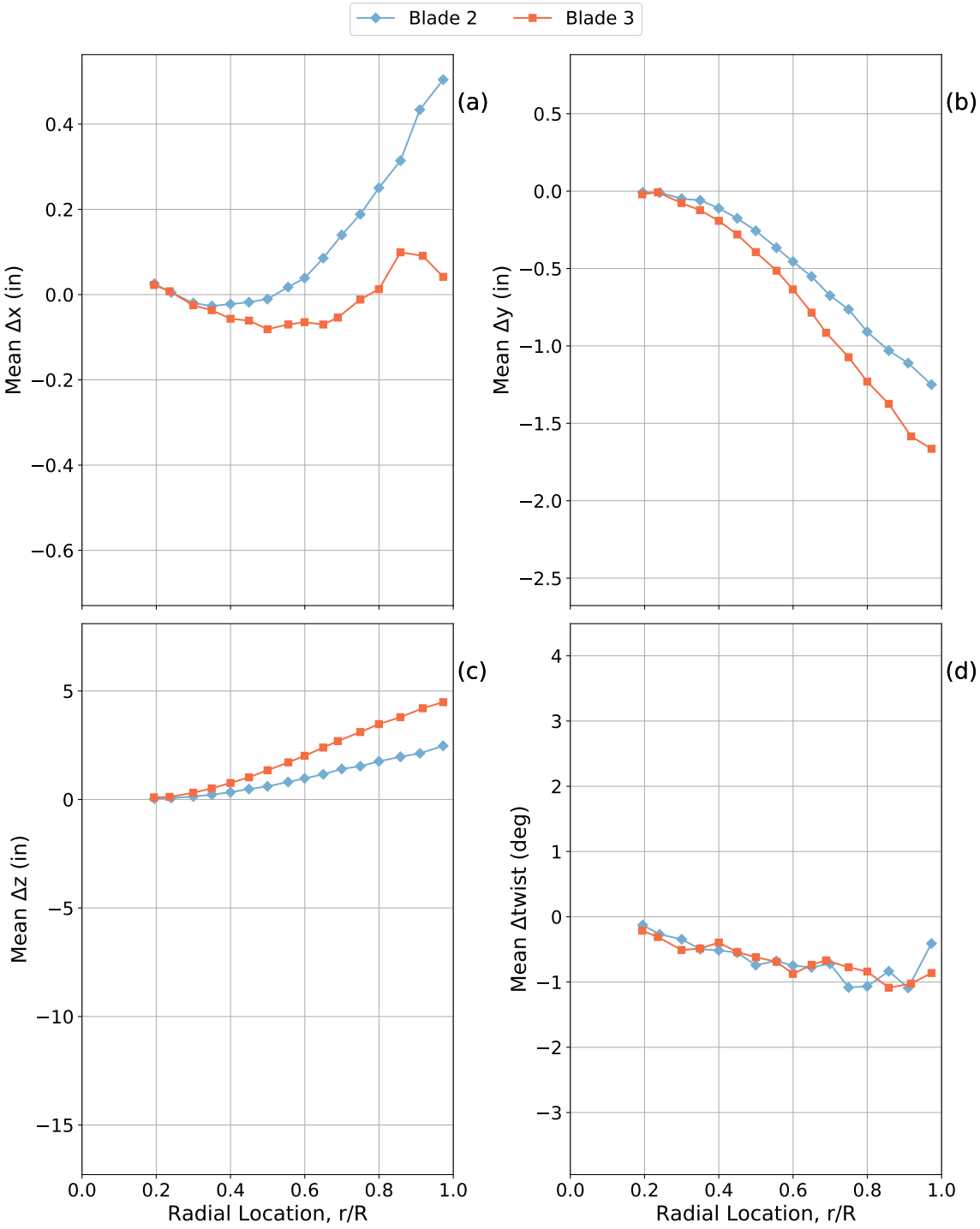


Figure 3.22-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0254	0.0015	-0.0083	0.0007	0.0384	0.0032	-0.1274	0.0549
2	270.35	0.2405	0.0050	0.0015	-0.0095	0.0023	0.0661	0.0133	-0.2689	0.0459
2	270.35	0.2999	-0.0199	0.0017	-0.0490	0.0033	0.1375	0.0156	-0.3448	0.1079
2	270.35	0.3498	-0.0267	0.0013	-0.0595	0.0045	0.2206	0.0248	-0.4963	0.1218
2	270.35	0.3998	-0.0223	0.0029	-0.1108	0.0085	0.3350	0.0421	-0.5151	0.0719
2	270.35	0.4496	-0.0178	0.0035	-0.1756	0.0105	0.4806	0.0489	-0.5494	0.0933
2	270.35	0.4995	-0.0105	0.0023	-0.2565	0.0131	0.6041	0.0600	-0.7418	0.0959
2	270.35	0.5551	0.0176	0.0031	-0.3659	0.0170	0.8056	0.0778	-0.6758	0.0742
2	270.35	0.5996	0.0388	0.0038	-0.4552	0.0202	0.9732	0.0966	-0.7489	0.0691
2	270.35	0.6497	0.0854	0.0040	-0.5514	0.0241	1.1611	0.1122	-0.7745	0.0819
2	270.35	0.6996	0.1398	0.0051	-0.6747	0.0281	1.4047	0.1334	-0.7212	0.0787
2	270.35	0.7495	0.1883	0.0050	-0.7641	0.0323	1.5320	0.1547	-1.0838	0.0810
2	270.35	0.7996	0.2503	0.0059	-0.9087	0.0370	1.7584	0.1785	-1.0667	0.0546
2	270.35	0.8578	0.3142	0.0071	-1.0304	0.0418	1.9666	0.2068	-0.8350	0.0788
2	270.35	0.9100	0.4338	0.0072	-1.1109	0.0479	2.1265	0.2307	-1.0897	0.0759
2	270.35	0.9727	0.5043	0.0100	-1.2499	0.0528	2.4717	0.2649	-0.4097	0.0894
3	270	0.1938	0.0228	0.0092	-0.0209	0.0014	0.0938	0.0071	-0.2141	0.0362
3	270	0.2357	0.0077	0.0031	-0.0079	0.0028	0.1189	0.0108	-0.3102	0.0750
3	270	0.2995	-0.0250	0.0029	-0.0772	0.0052	0.3110	0.0188	-0.5091	0.0948
3	270	0.3493	-0.0366	0.0058	-0.1231	0.0101	0.5125	0.0347	-0.4867	0.0750
3	270	0.4000	-0.0566	0.0087	-0.1920	0.0152	0.7633	0.0489	-0.3950	0.0923
3	270	0.4497	-0.0610	0.0114	-0.2803	0.0199	1.0214	0.0648	-0.5421	0.0767
3	270	0.4997	-0.0812	0.0137	-0.3941	0.0259	1.3469	0.0822	-0.6195	0.0897
3	270	0.5556	-0.0701	0.0125	-0.5141	0.0336	1.7100	0.1040	-0.6908	0.0878
3	270	0.5995	-0.0647	0.0123	-0.6351	0.0401	2.0128	0.1197	-0.8754	0.0910
3	270	0.6498	-0.0702	0.0121	-0.7850	0.0499	2.3938	0.1428	-0.7367	0.0890
3	270	0.6890	-0.0539	0.0109	-0.9153	0.0576	2.6928	0.1587	-0.6687	0.1106
3	270	0.7495	-0.0116	0.0116	-1.0730	0.0708	3.1077	0.1908	-0.7731	0.1172
3	270	0.7998	0.0128	0.0162	-1.2308	0.0814	3.4740	0.2165	-0.8398	0.1415
3	270	0.8577	0.0992	0.0270	-1.3742	0.0948	3.7925	0.2460	-1.0874	0.1598
3	270	0.9178	0.0910	0.0426	-1.5843	0.1092	4.2050	0.2974	-1.0249	0.1197
3	270	0.9729	0.0416	0.0609	-1.6644	0.1218	4.4838	0.3308	-0.8623	0.1810

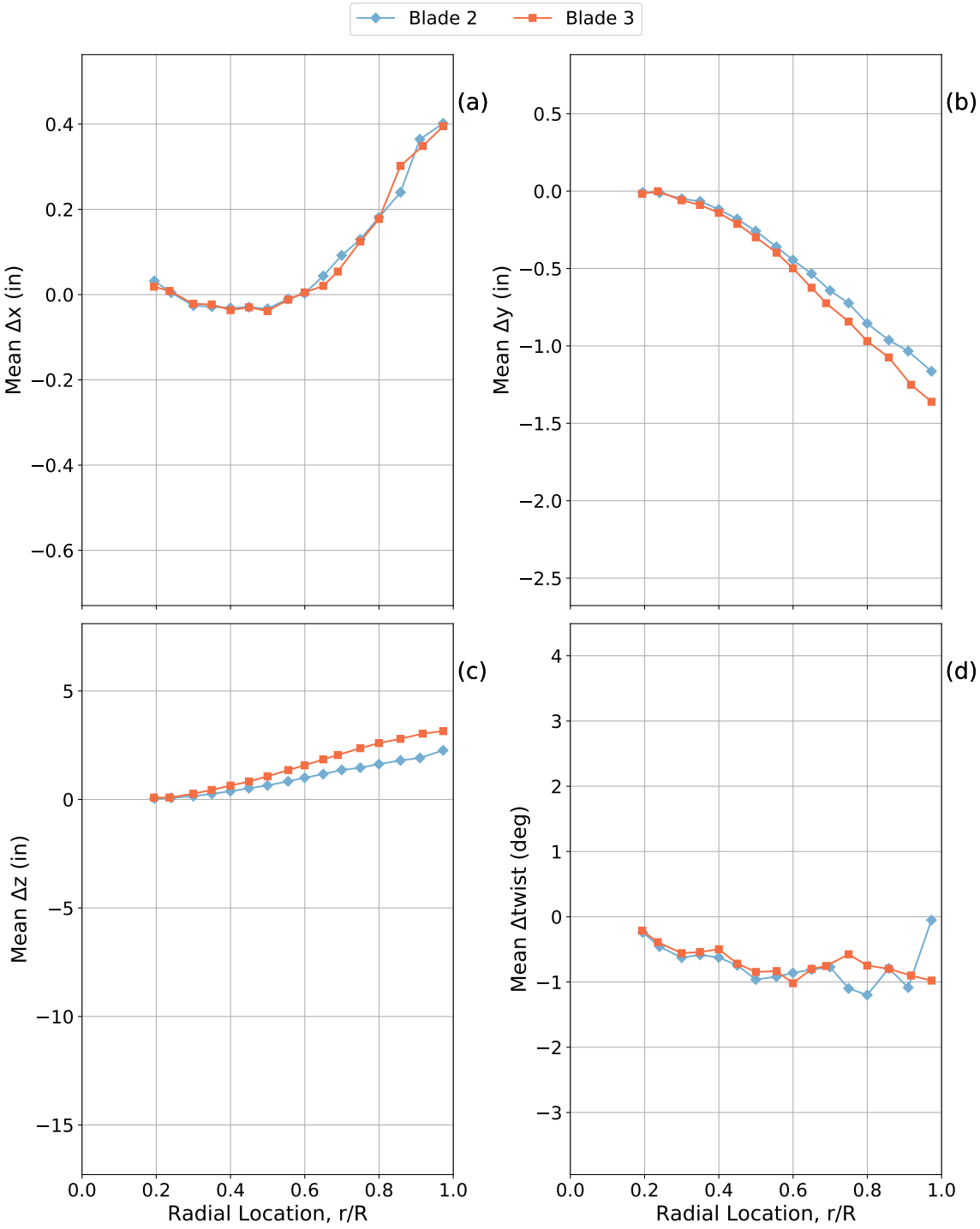


Figure 3.22-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0321	0.0057	-0.0083	0.0010	0.0460	0.0051	-0.2396	0.0296
2	274.92	0.2405	0.0042	0.0038	-0.0112	0.0017	0.0747	0.0103	-0.4576	0.0306
2	274.92	0.2999	-0.0260	0.0032	-0.0494	0.0051	0.1526	0.0200	-0.6262	0.0557
2	274.92	0.3498	-0.0284	0.0076	-0.0660	0.0079	0.2602	0.0330	-0.5851	0.0577
2	274.92	0.3998	-0.0312	0.0118	-0.1180	0.0132	0.3804	0.0510	-0.6233	0.0563
2	274.92	0.4496	-0.0296	0.0150	-0.1804	0.0176	0.5166	0.0665	-0.7437	0.0554
2	274.92	0.4995	-0.0332	0.0176	-0.2580	0.0227	0.6481	0.0850	-0.9616	0.0640
2	274.92	0.5551	-0.0103	0.0212	-0.3598	0.0292	0.8361	0.1083	-0.9184	0.0843
2	274.92	0.5996	0.0028	0.0224	-0.4448	0.0353	1.0011	0.1359	-0.8612	0.0635
2	274.92	0.6497	0.0437	0.0235	-0.5339	0.0424	1.1701	0.1611	-0.8088	0.0723
2	274.92	0.6996	0.0921	0.0242	-0.6425	0.0493	1.3621	0.1905	-0.7715	0.0676
2	274.92	0.7495	0.1296	0.0265	-0.7236	0.0574	1.4631	0.2177	-1.0983	0.0851
2	274.92	0.7996	0.1811	0.0317	-0.8549	0.0661	1.6301	0.2455	-1.1993	0.1213
2	274.92	0.8578	0.2399	0.0406	-0.9625	0.0754	1.7991	0.2856	-0.7918	0.0973
2	274.92	0.9100	0.3644	0.0544	-1.0339	0.0875	1.9151	0.3220	-1.0844	0.1122
2	274.92	0.9727	0.4017	0.0786	-1.1637	0.1072	2.2645	0.3623	-0.0508	0.1413
3	274.92	0.1938	0.0187	0.0077	-0.0172	0.0008	0.0856	0.0057	-0.2130	0.0412
3	274.92	0.2357	0.0085	0.0038	-0.0009	0.0021	0.0862	0.0099	-0.3899	0.0550
3	274.92	0.2995	-0.0216	0.0027	-0.0588	0.0040	0.2641	0.0187	-0.5579	0.0949
3	274.92	0.3493	-0.0233	0.0098	-0.0899	0.0083	0.4375	0.0347	-0.5403	0.0728
3	274.92	0.4000	-0.0365	0.0118	-0.1401	0.0122	0.6401	0.0499	-0.4973	0.0908
3	274.92	0.4497	-0.0298	0.0151	-0.2109	0.0186	0.8292	0.0729	-0.7189	0.0574
3	274.92	0.4997	-0.0387	0.0175	-0.2982	0.0248	1.0679	0.0897	-0.8457	0.1069
3	274.92	0.5556	-0.0117	0.0194	-0.3977	0.0331	1.3551	0.1228	-0.8332	0.0861
3	274.92	0.5995	0.0050	0.0173	-0.4990	0.0395	1.5730	0.1382	-1.0181	0.0979
3	274.92	0.6498	0.0205	0.0177	-0.6242	0.0478	1.8490	0.1633	-0.7995	0.1140
3	274.92	0.6890	0.0541	0.0170	-0.7240	0.0548	2.0504	0.1899	-0.7547	0.1259
3	274.92	0.7495	0.1246	0.0161	-0.8426	0.0654	2.3630	0.2223	-0.5750	0.1201
3	274.92	0.7998	0.1774	0.0219	-0.9689	0.0746	2.5993	0.2515	-0.7469	0.1189
3	274.92	0.8577	0.3020	0.0359	-1.0744	0.0871	2.7958	0.2922	-0.7985	0.1536
3	274.92	0.9178	0.3486	0.0572	-1.2507	0.0992	3.0351	0.3408	-0.9008	0.1438
3	274.92	0.9729	0.3950	0.0856	-1.3606	0.1158	3.1507	0.3816	-0.9784	0.1713

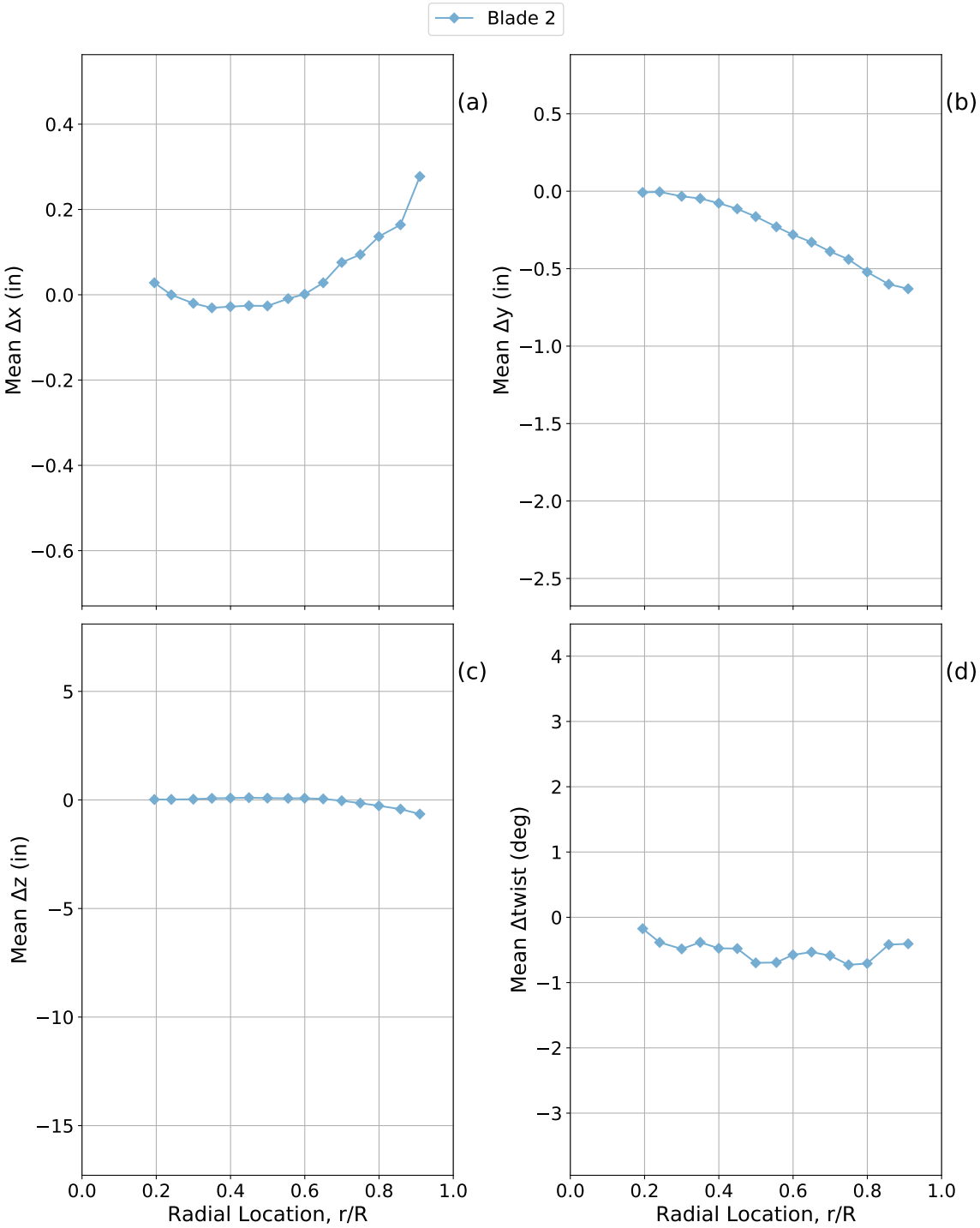


Figure 3.22-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.04, μ = 0.3, α = -8°
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0281	0.0017	-0.0078	0.0009	0.0179	0.0031	-0.1741	0.0187
2	285.12	0.2405	-0.0002	0.0018	-0.0043	0.0018	0.0226	0.0064	-0.3845	0.0279
2	285.12	0.2999	-0.0201	0.0017	-0.0329	0.0039	0.0334	0.0110	-0.4845	0.0377
2	285.12	0.3498	-0.0307	0.0014	-0.0470	0.0078	0.0745	0.0204	-0.3836	0.0450
2	285.12	0.3998	-0.0277	0.0017	-0.0769	0.0115	0.0852	0.0296	-0.4747	0.0477
2	285.12	0.4496	-0.0256	0.0016	-0.1139	0.0147	0.1034	0.0412	-0.4791	0.0511
2	285.12	0.4995	-0.0262	0.0016	-0.1640	0.0190	0.0843	0.0562	-0.6981	0.0478
2	285.12	0.5551	-0.0091	0.0022	-0.2298	0.0249	0.0745	0.0774	-0.6923	0.0581
2	285.12	0.5996	0.0014	0.0021	-0.2805	0.0297	0.0782	0.0941	-0.5751	0.0625
2	285.12	0.6497	0.0281	0.0023	-0.3292	0.0358	0.0475	0.1125	-0.5330	0.0751
2	285.12	0.6996	0.0758	0.0027	-0.3888	0.0411	-0.0365	0.1344	-0.5868	0.0587
2	285.12	0.7495	0.0943	0.0040	-0.4402	0.0477	-0.1470	0.1535	-0.7283	0.0834
2	285.12	0.7996	0.1366	0.0041	-0.5217	0.0547	-0.2703	0.1778	-0.7074	0.0895
2	285.12	0.8578	0.1641	0.0056	-0.6006	0.0614	-0.4214	0.2064	-0.4188	0.0967
2	285.12	0.9100	0.2774	0.0054	-0.6299	0.0677	-0.6495	0.2275	-0.4060	0.0868

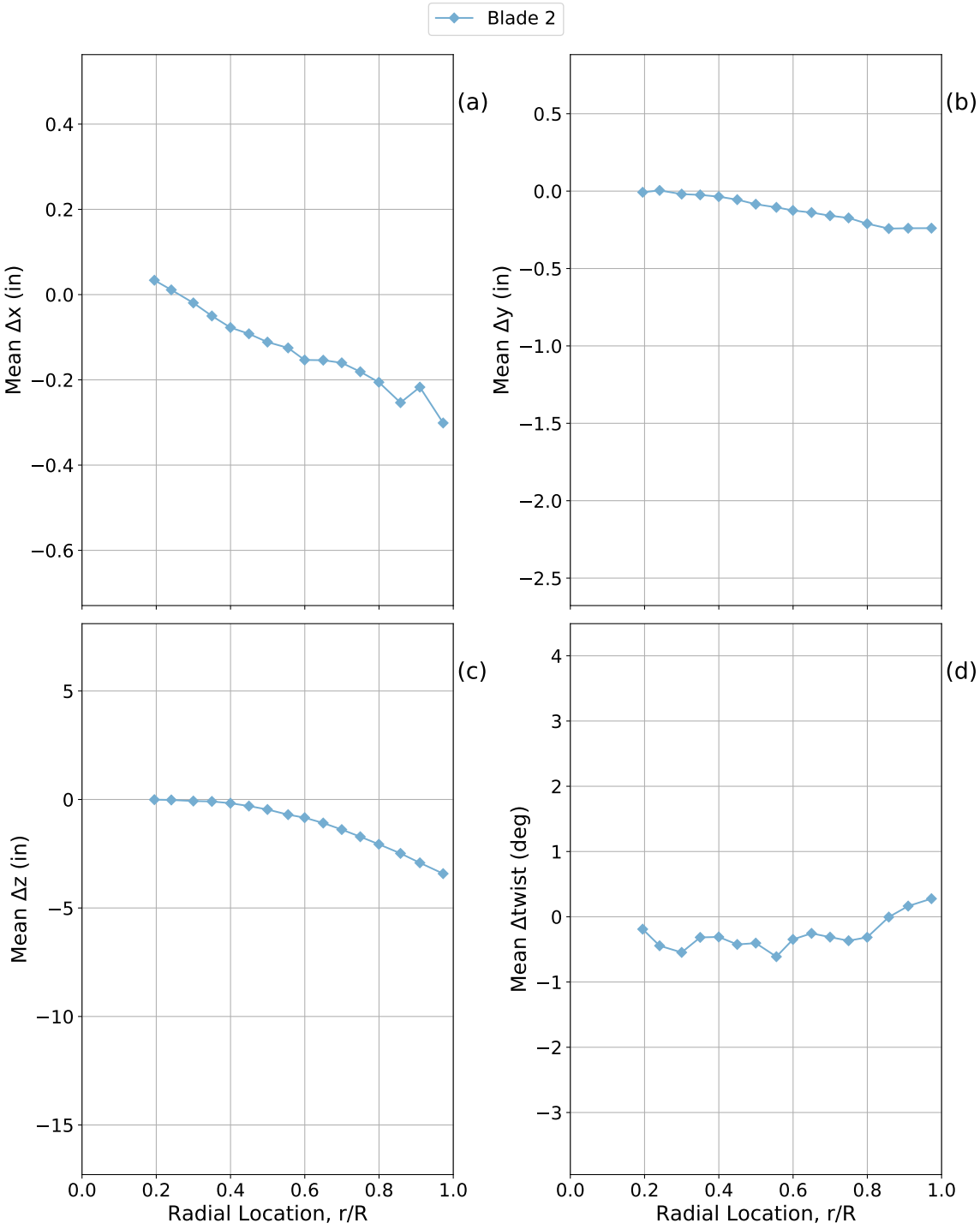


Figure 3.22-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.04, μ = 0.3, α = -8°
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0337	0.0021	-0.0075	0.0010	-0.0087	0.0049	-0.1900	0.0275
2	299.88	0.2405	0.0111	0.0028	0.0045	0.0041	-0.0212	0.0111	-0.4444	0.0701
2	299.88	0.2999	-0.0195	0.0017	-0.0194	0.0047	-0.0722	0.0192	-0.5464	0.0766
2	299.88	0.3498	-0.0501	0.0022	-0.0244	0.0082	-0.0894	0.0293	-0.3162	0.0461
2	299.88	0.3998	-0.0773	0.0037	-0.0358	0.0143	-0.1726	0.0478	-0.3097	0.0591
2	299.88	0.4496	-0.0920	0.0022	-0.0552	0.0172	-0.3022	0.0594	-0.4244	0.0721
2	299.88	0.4995	-0.1114	0.0020	-0.0846	0.0216	-0.4619	0.0741	-0.4038	0.0943
2	299.88	0.5551	-0.1251	0.0021	-0.1049	0.0264	-0.6991	0.0906	-0.6118	0.0685
2	299.88	0.5996	-0.1534	0.0020	-0.1249	0.0314	-0.8379	0.1041	-0.3473	0.0904
2	299.88	0.6497	-0.1539	0.0030	-0.1386	0.0375	-1.0854	0.1232	-0.2545	0.0727
2	299.88	0.6996	-0.1601	0.0038	-0.1589	0.0443	-1.3862	0.1397	-0.3123	0.1149
2	299.88	0.7495	-0.1810	0.0031	-0.1732	0.0509	-1.7164	0.1605	-0.3669	0.0799
2	299.88	0.7996	-0.2056	0.0035	-0.2105	0.0581	-2.0643	0.1826	-0.3150	0.0893
2	299.88	0.8578	-0.2535	0.0045	-0.2421	0.0664	-2.4844	0.2105	-0.0045	0.0991
2	299.88	0.9100	-0.2171	0.0053	-0.2398	0.0747	-2.9194	0.2346	0.1639	0.0897
2	299.88	0.9727	-0.3012	0.0054	-0.2394	0.0845	-3.4175	0.2671	0.2771	0.0982

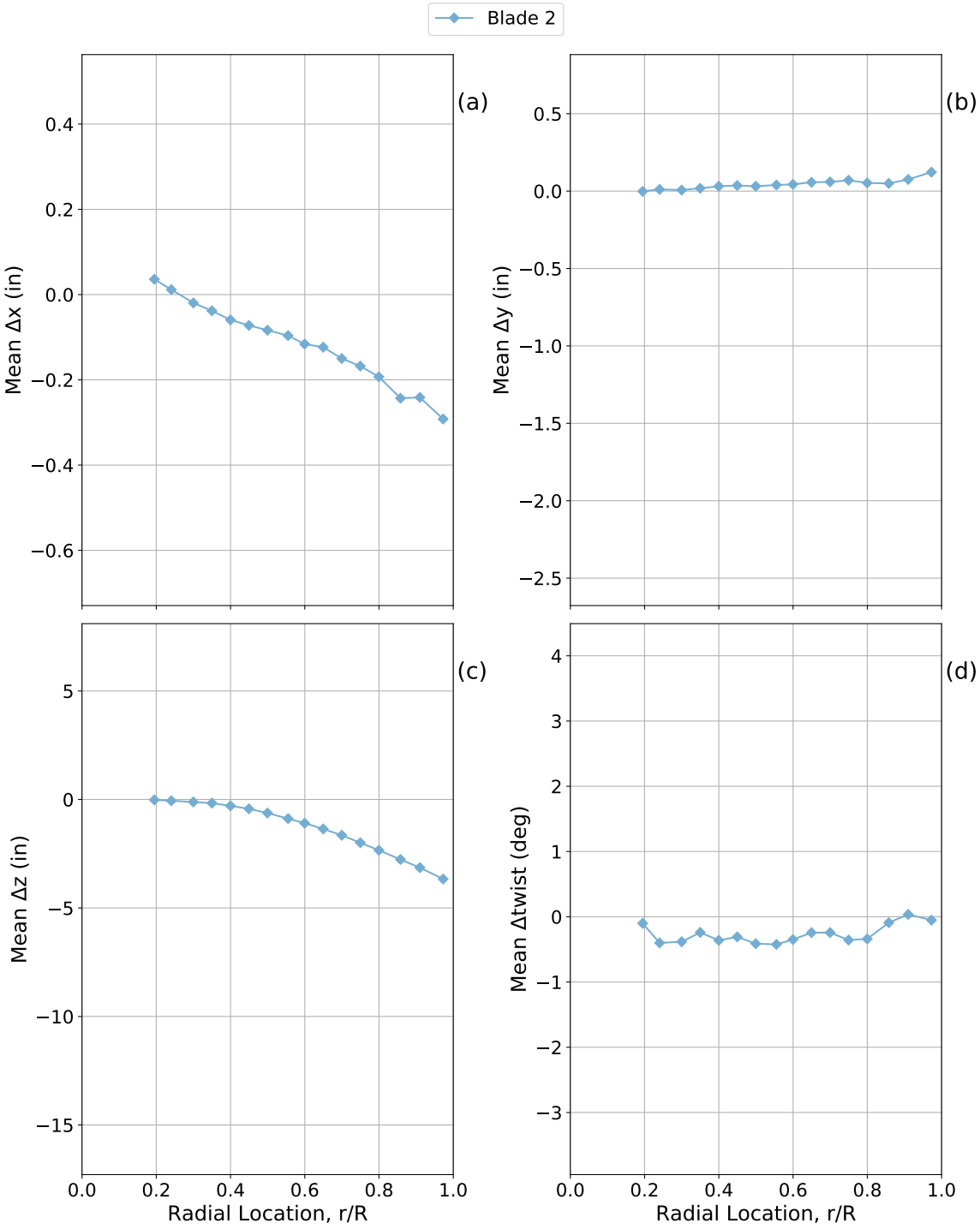


Figure 3.22-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0360	0.0017	-0.0015	0.0006	-0.0180	0.0038	-0.1001	0.0240
2	315	0.2405	0.0117	0.0021	0.0111	0.0030	-0.0598	0.0060	-0.4010	0.0550
2	315	0.2999	-0.0195	0.0035	0.0071	0.0046	-0.1153	0.0143	-0.3827	0.0578
2	315	0.3498	-0.0380	0.0034	0.0181	0.0084	-0.1681	0.0188	-0.2407	0.0828
2	315	0.3998	-0.0593	0.0032	0.0314	0.0135	-0.2931	0.0314	-0.3616	0.0548
2	315	0.4496	-0.0723	0.0022	0.0362	0.0156	-0.4298	0.0387	-0.3084	0.0723
2	315	0.4995	-0.0835	0.0026	0.0315	0.0210	-0.6234	0.0512	-0.4126	0.0692
2	315	0.5551	-0.0962	0.0028	0.0394	0.0244	-0.8836	0.0632	-0.4234	0.0414
2	315	0.5996	-0.1160	0.0034	0.0436	0.0291	-1.0909	0.0755	-0.3490	0.0561
2	315	0.6497	-0.1234	0.0041	0.0570	0.0344	-1.3561	0.0873	-0.2431	0.0769
2	315	0.6996	-0.1500	0.0051	0.0595	0.0401	-1.6494	0.1097	-0.2428	0.0600
2	315	0.7495	-0.1677	0.0053	0.0700	0.0451	-1.9919	0.1289	-0.3569	0.0725
2	315	0.7996	-0.1930	0.0060	0.0528	0.0515	-2.3402	0.1528	-0.3399	0.0635
2	315	0.8578	-0.2431	0.0072	0.0497	0.0592	-2.7645	0.1827	-0.0906	0.0568
2	315	0.9100	-0.2413	0.0074	0.0755	0.0657	-3.1429	0.2122	0.0360	0.0578
2	315	0.9727	-0.2919	0.0087	0.1224	0.0737	-3.6643	0.2549	-0.0516	0.0639

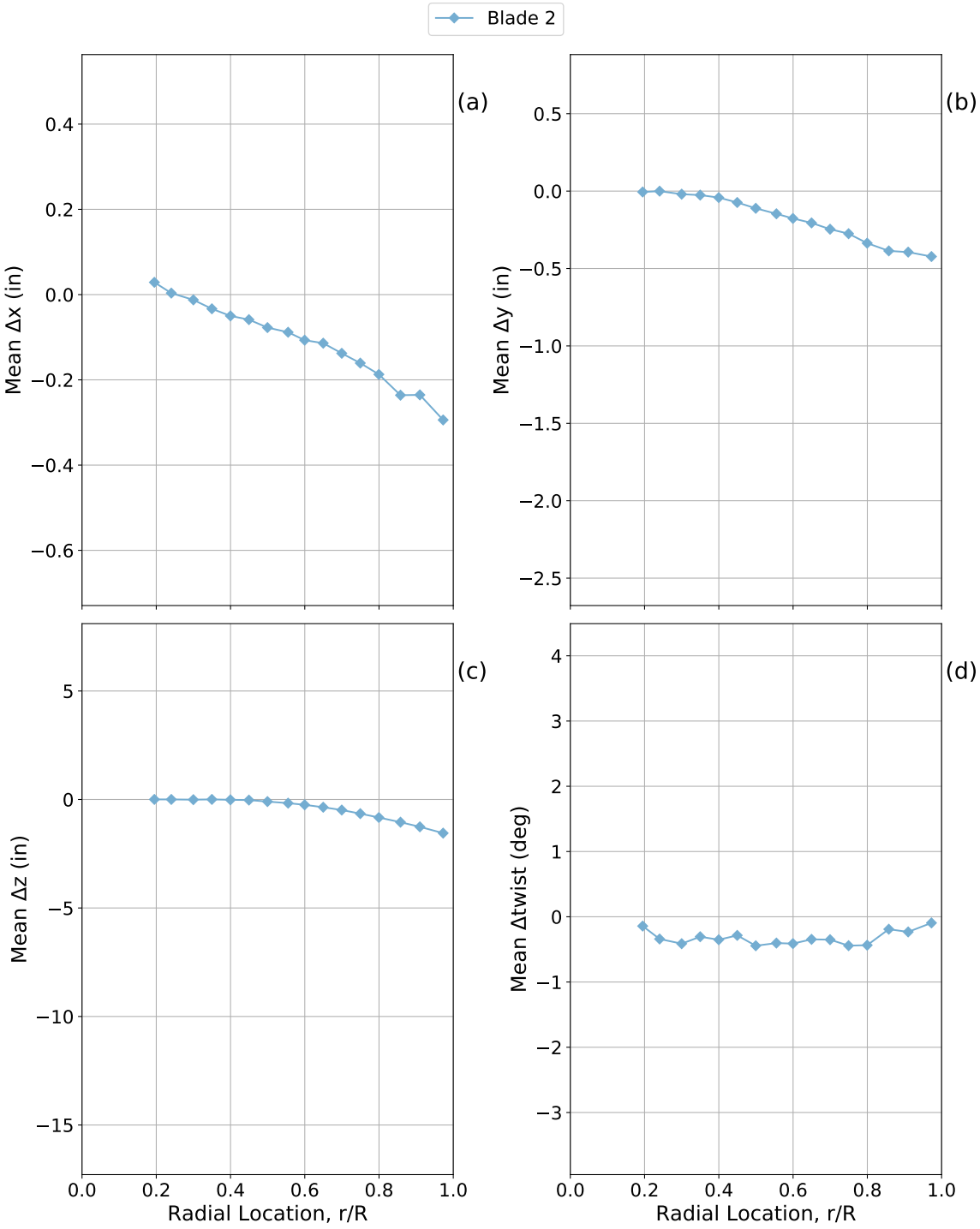


Figure 3.22-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0288	0.0020	-0.0056	0.0013	0.0035	0.0058	-0.1426	0.0272
2	330.12	0.2405	0.0035	0.0020	-0.0003	0.0024	0.0023	0.0076	-0.3408	0.0856
2	330.12	0.2999	-0.0124	0.0030	-0.0198	0.0033	-0.0086	0.0204	-0.4127	0.0752
2	330.12	0.3498	-0.0333	0.0021	-0.0258	0.0072	0.0040	0.0374	-0.3059	0.0823
2	330.12	0.3998	-0.0500	0.0026	-0.0418	0.0092	-0.0149	0.0546	-0.3521	0.0796
2	330.12	0.4496	-0.0587	0.0017	-0.0735	0.0140	-0.0273	0.0571	-0.2853	0.0562
2	330.12	0.4995	-0.0774	0.0039	-0.1110	0.0185	-0.0960	0.0750	-0.4444	0.0876
2	330.12	0.5551	-0.0883	0.0038	-0.1465	0.0227	-0.1689	0.0920	-0.4032	0.0766
2	330.12	0.5996	-0.1069	0.0035	-0.1765	0.0264	-0.2458	0.1083	-0.4115	0.1026
2	330.12	0.6497	-0.1140	0.0049	-0.2054	0.0326	-0.3572	0.1262	-0.3461	0.1099
2	330.12	0.6996	-0.1377	0.0051	-0.2460	0.0383	-0.4856	0.1420	-0.3511	0.0840
2	330.12	0.7495	-0.1607	0.0065	-0.2750	0.0450	-0.6521	0.1625	-0.4427	0.0969
2	330.12	0.7996	-0.1872	0.0069	-0.3362	0.0517	-0.8314	0.1782	-0.4358	0.0915
2	330.12	0.8578	-0.2360	0.0067	-0.3862	0.0606	-1.0464	0.2082	-0.1908	0.1040
2	330.12	0.9100	-0.2353	0.0076	-0.3940	0.0682	-1.2597	0.2344	-0.2323	0.0995
2	330.12	0.9727	-0.2941	0.0099	-0.4227	0.0773	-1.5510	0.2639	-0.0944	0.1054

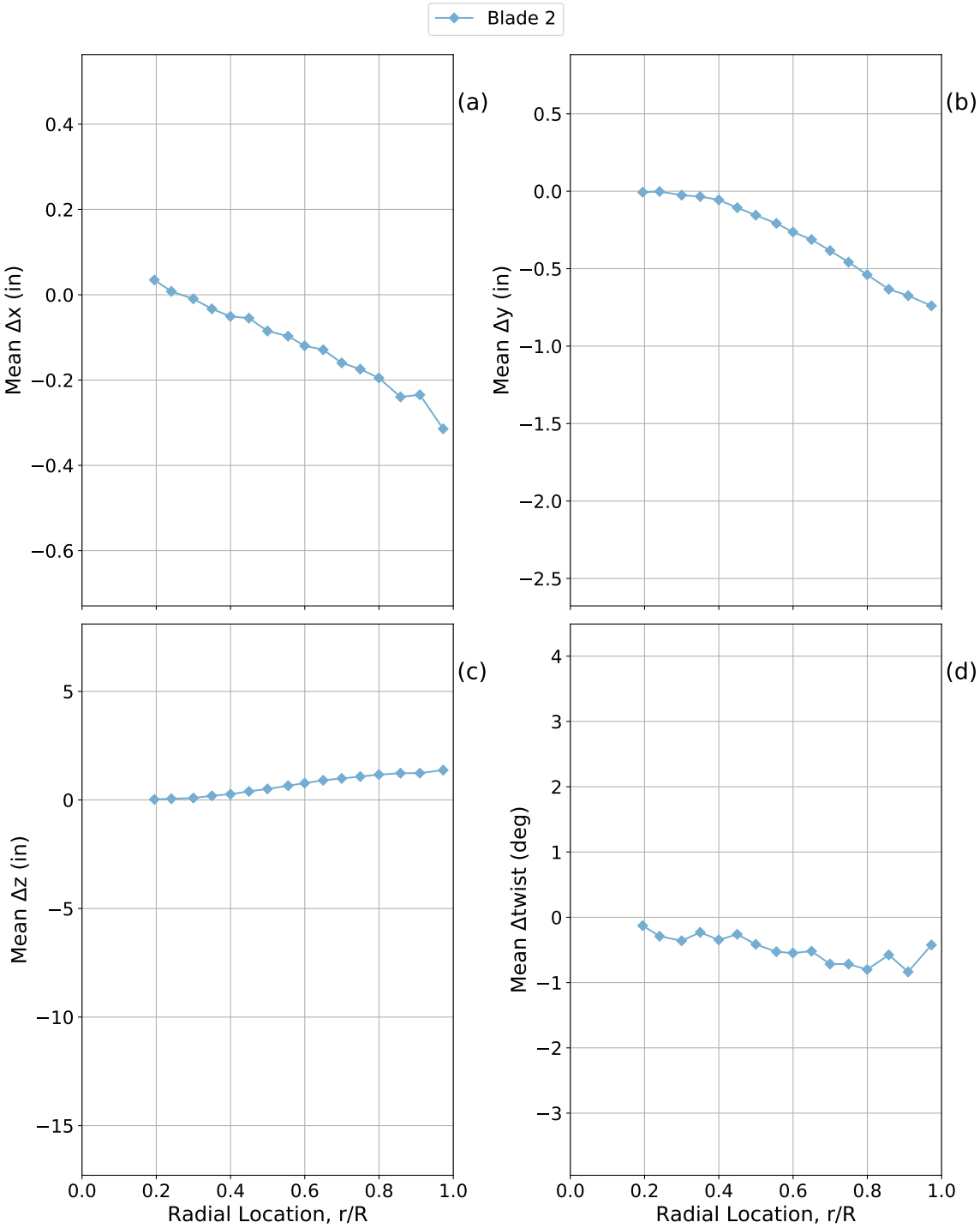


Figure 3.22-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0347	0.0018	-0.0067	0.0007	0.0240	0.0036	-0.1275	0.0430
2	344.88	0.2405	0.0079	0.0021	-0.0017	0.0019	0.0553	0.0062	-0.2901	0.0498
2	344.88	0.2999	-0.0096	0.0015	-0.0256	0.0047	0.0884	0.0129	-0.3599	0.0930
2	344.88	0.3498	-0.0331	0.0021	-0.0342	0.0063	0.1896	0.0191	-0.2307	0.0946
2	344.88	0.3998	-0.0507	0.0020	-0.0561	0.0112	0.2657	0.0313	-0.3454	0.0767
2	344.88	0.4496	-0.0549	0.0030	-0.1064	0.0112	0.3925	0.0378	-0.2610	0.0661
2	344.88	0.4995	-0.0849	0.0044	-0.1548	0.0155	0.5062	0.0479	-0.4143	0.0733
2	344.88	0.5551	-0.0971	0.0034	-0.2079	0.0181	0.6553	0.0618	-0.5275	0.0844
2	344.88	0.5996	-0.1196	0.0032	-0.2633	0.0217	0.7745	0.0687	-0.5469	0.0637
2	344.88	0.6497	-0.1290	0.0043	-0.3122	0.0263	0.9045	0.0780	-0.5196	0.0768
2	344.88	0.6996	-0.1598	0.0058	-0.3836	0.0316	0.9913	0.0892	-0.7159	0.0612
2	344.88	0.7495	-0.1744	0.0050	-0.4581	0.0364	1.0769	0.0942	-0.7171	0.0614
2	344.88	0.7996	-0.1950	0.0055	-0.5393	0.0426	1.1649	0.1017	-0.8000	0.0550
2	344.88	0.8578	-0.2396	0.0057	-0.6328	0.0507	1.2322	0.1091	-0.5759	0.0628
2	344.88	0.9100	-0.2345	0.0062	-0.6743	0.0578	1.2351	0.1207	-0.8357	0.0682
2	344.88	0.9727	-0.3143	0.0084	-0.7400	0.0664	1.3729	0.1413	-0.4232	0.0588

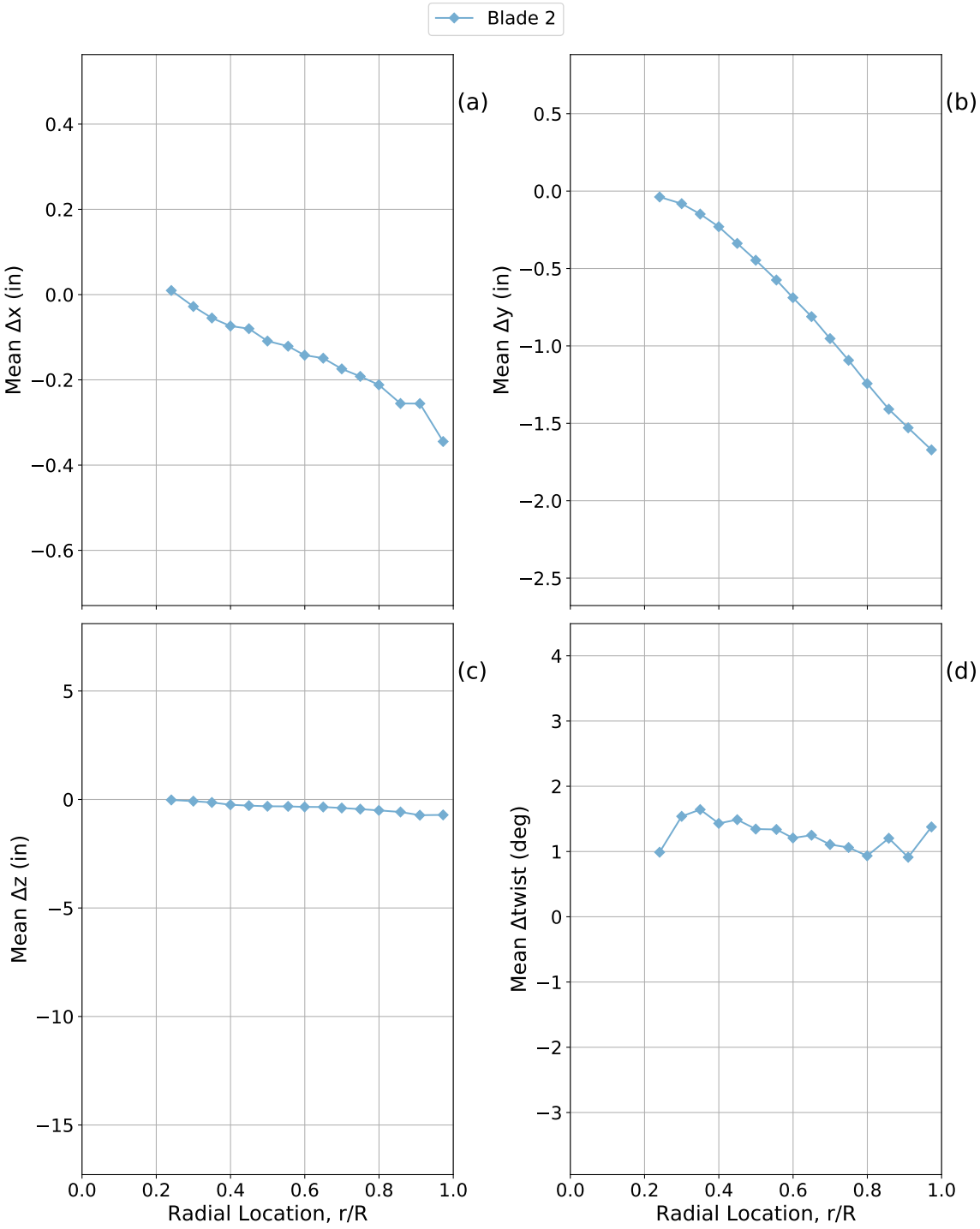


Figure 3.22-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.04, μ = 0.3, α = -8°
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0096	0.0049	-0.0378	0.0053	-0.0211	0.0125	0.9889	0.1322
2	350.16	0.2999	-0.0279	0.0072	-0.0812	0.0144	-0.0778	0.0309	1.5390	0.2064
2	350.16	0.3498	-0.0549	0.0082	-0.1483	0.0213	-0.1379	0.0520	1.6430	0.2026
2	350.16	0.3998	-0.0738	0.0072	-0.2301	0.0361	-0.2431	0.0850	1.4312	0.1919
2	350.16	0.4496	-0.0800	0.0079	-0.3377	0.0476	-0.2824	0.1039	1.4878	0.2084
2	350.16	0.4995	-0.1090	0.0082	-0.4465	0.0590	-0.3133	0.1289	1.3441	0.2360
2	350.16	0.5551	-0.1211	0.0074	-0.5742	0.0715	-0.3182	0.1606	1.3381	0.2083
2	350.16	0.5996	-0.1422	0.0082	-0.6885	0.0803	-0.3417	0.1818	1.2072	0.2029
2	350.16	0.6497	-0.1492	0.0073	-0.8108	0.0920	-0.3463	0.2050	1.2500	0.2252
2	350.16	0.6996	-0.1743	0.0080	-0.9527	0.1034	-0.3926	0.2333	1.1072	0.2098
2	350.16	0.7495	-0.1919	0.0082	-1.0928	0.1149	-0.4449	0.2589	1.0615	0.2166
2	350.16	0.7996	-0.2118	0.0078	-1.2431	0.1254	-0.5022	0.2937	0.9341	0.1951
2	350.16	0.8578	-0.2555	0.0086	-1.4088	0.1382	-0.5767	0.3316	1.2031	0.2168
2	350.16	0.9100	-0.2557	0.0086	-1.5290	0.1497	-0.7237	0.3729	0.9124	0.2002
2	350.16	0.9727	-0.3447	0.0125	-1.6715	0.1640	-0.7110	0.4181	1.3769	0.2116

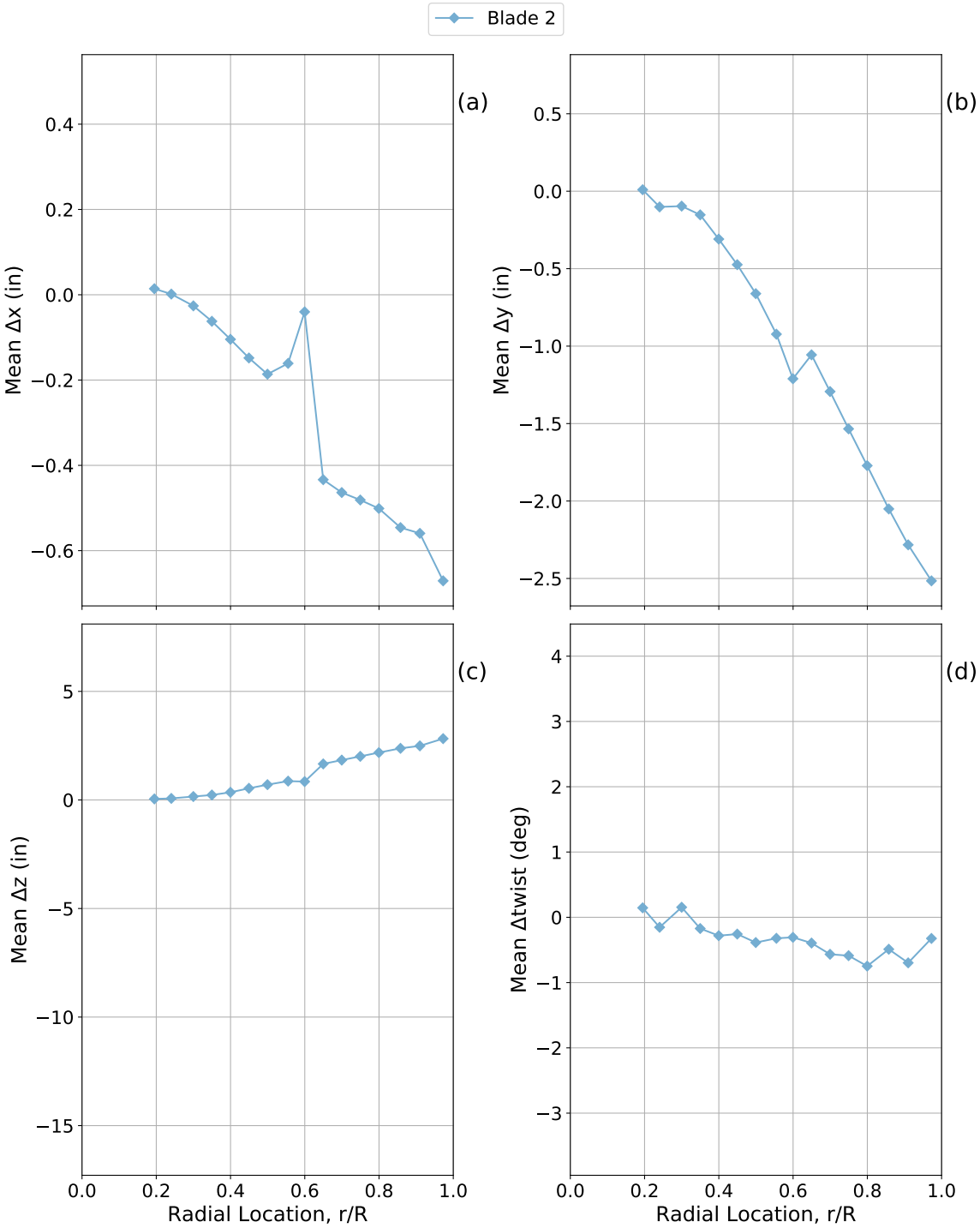


Figure 3.22-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$ NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Table 3.22-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.04$, $\mu = 0.3$, $\alpha = -8°$
NFAC run 63, point 13. BD run 30, points 4383 to 4393.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0142	0.0037	0.0098	0.0022	0.0468	0.0036	0.1449	0.0337
2	355.08	0.2405	0.0016	0.0025	-0.1014	0.0060	0.0713	0.0079	-0.1531	0.0335
2	355.08	0.2999	-0.0260	0.0021	-0.0962	0.0070	0.1568	0.0137	0.1537	0.0711
2	355.08	0.3498	-0.0622	0.0046	-0.1525	0.0120	0.2286	0.0252	-0.1722	0.0509
2	355.08	0.3998	-0.1045	0.0062	-0.3091	0.0202	0.3526	0.0370	-0.2817	0.0437
2	355.08	0.4496	-0.1482	0.0085	-0.4742	0.0267	0.5360	0.0490	-0.2570	0.0420
2	355.08	0.4995	-0.1862	0.0109	-0.6613	0.0333	0.7039	0.0585	-0.3867	0.0560
2	355.08	0.5551	-0.1609	0.0124	-0.9229	0.0448	0.8669	0.0747	-0.3217	0.0729
2	355.08	0.5996	-0.0401	0.0174	-1.2107	0.0500	0.8459	0.0828	-0.3072	0.0731
2	355.08	0.6497	-0.4336	0.0123	-1.0562	0.0559	1.6600	0.1322	-0.3945	0.0656
2	355.08	0.6996	-0.4637	0.0122	-1.2932	0.0613	1.8360	0.1479	-0.5666	0.0716
2	355.08	0.7495	-0.4812	0.0117	-1.5341	0.0655	2.0072	0.1655	-0.5875	0.0694
2	355.08	0.7996	-0.5011	0.0118	-1.7717	0.0708	2.1818	0.1871	-0.7478	0.0779
2	355.08	0.8578	-0.5459	0.0120	-2.0511	0.0788	2.3777	0.2112	-0.4894	0.0711
2	355.08	0.9100	-0.5594	0.0120	-2.2828	0.0845	2.4902	0.2374	-0.6977	0.0599
2	355.08	0.9727	-0.6708	0.0131	-2.5154	0.0908	2.8240	0.2649	-0.3240	0.0694

3.23 Run 63, Point 22

3.23.1 Pitch, Flap, and Lag

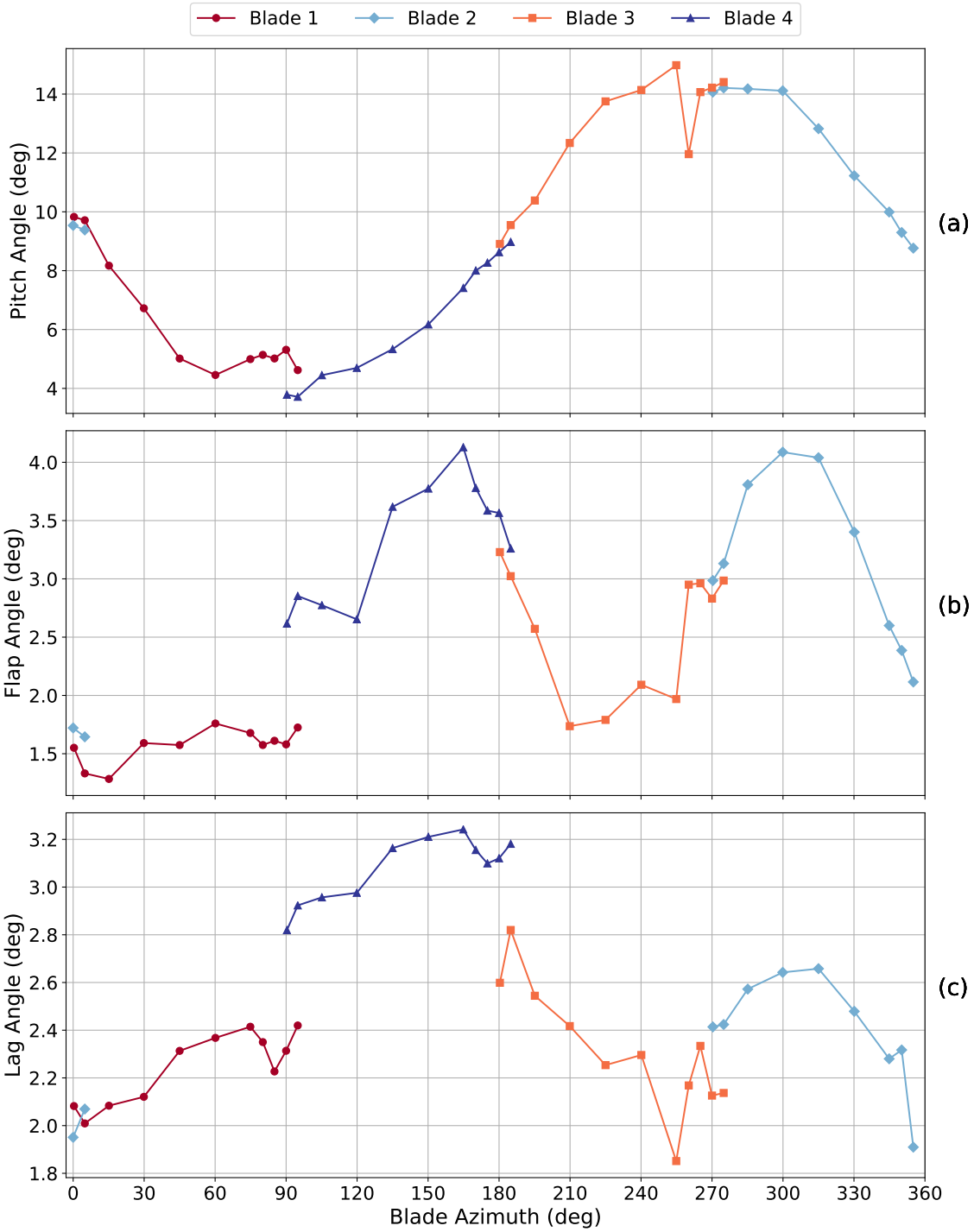


Figure 3.23-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.051, μ = 0.35, α = -8°
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	9.5372	1.7211	1.9508	0.0726	0.0678	0.0514
0.35	1	9.8271	1.5509	2.0820	0.1209	0.0616	0.0674
4.92	1	9.7135	1.3311	2.0091	0.1689	0.1052	0.0789
4.92	2	9.3835	1.6448	2.0695	0.0559	0.0654	0.0459
15.12	1	8.1707	1.2837	2.0835	0.0988	0.0581	0.0237
29.88	1	6.7221	1.5915	2.1206	0.0566	0.0617	0.0829
45	1	5.0153	1.5744	2.3133	0.0647	0.0637	0.0643
60.12	1	4.4559	1.7594	2.3678	0.0373	0.0473	0.0538
74.88	1	4.9947	1.6776	2.4145	0.0541	0.0849	0.0490
80.16	1	5.1405	1.5748	2.3501	0.1021	0.0888	0.0528
85.08	1	5.0170	1.6112	2.2270	0.1415	0.0701	0.0481
90	1	5.3123	1.5801	2.3137	0.0967	0.0913	0.0450
90.35	4	3.7852	2.6160	2.8194	0.0498	0.0414	0.0515
94.92	1	4.6210	1.7249	2.4198	0.1292	0.0592	0.0179
94.92	4	3.7140	2.8527	2.9232	0.0646	0.0833	0.0401
105.12	4	4.4480	2.7740	2.9569	0.0695	0.1199	0.0668
119.88	4	4.6960	2.6530	2.9759	0.0266	0.0553	0.0454
135	4	5.3339	3.6181	3.1634	0.0449	0.2011	0.0716
150.12	4	6.1734	3.7744	3.2104	0.0500	0.0901	0.0427
164.88	4	7.4110	4.1286	3.2418	0.0555	0.2200	0.0358
170.16	4	8.0025	3.7798	3.1554	0.0733	0.1197	0.0593
175.08	4	8.2697	3.5854	3.0992	0.0588	0.2708	0.0399
180	4	8.6267	3.5653	3.1206	0.1012	0.1711	0.0628
180.35	3	8.9084	3.2296	2.5988	0.0764	0.1959	0.1558
184.92	3	9.5493	3.0232	2.8201	0.0576	0.2654	0.0576
184.92	4	8.9757	3.2599	3.1813	0.1481	0.0874	0.0619
195.12	3	10.3843	2.5714	2.5444	0.0882	0.1898	0.0479
209.88	3	12.3394	1.7363	2.4172	0.0537	0.0960	0.0365
225	3	13.7523	1.7900	2.2536	0.0469	0.1589	0.0430
240.12	3	14.1389	2.0917	2.2960	0.1493	0.1393	0.0606
254.88	3	14.9821	1.9691	1.8514	0.2583	0.1973	0.1148
260.16	3	11.9597	2.9506	2.1684	0.3103	0.1347	0.0851
265.08	3	14.0679	2.9622	2.3342	0.0838	0.0863	0.0622
270	3	14.2189	2.8306	2.1259	0.0875	0.0864	0.0393
270.35	2	14.0681	2.9855	2.4138	0.0753	0.1034	0.0741
274.92	2	14.2096	3.1316	2.4239	0.0525	0.0550	0.0461
274.92	3	14.4082	2.9854	2.1368	0.0367	0.0343	0.0243
285.12	2	14.1776	3.8076	2.5723	0.0891	0.0639	0.0560
299.88	2	14.1123	4.0869	2.6424	0.0896	0.1431	0.0807
315	2	12.8248	4.0392	2.6579	0.0892	0.0903	0.0645
330.12	2	11.2252	3.4013	2.4790	0.0551	0.0870	0.0561
344.88	2	9.9929	2.5993	2.2801	0.0892	0.1266	0.0459
350.16	2	9.2973	2.3862	2.3171	0.1343	0.0997	0.0701
355.08	2	8.7661	2.1155	1.9097	0.1488	0.1050	0.0408

3.23.2 Spanwise Elastic Deformations

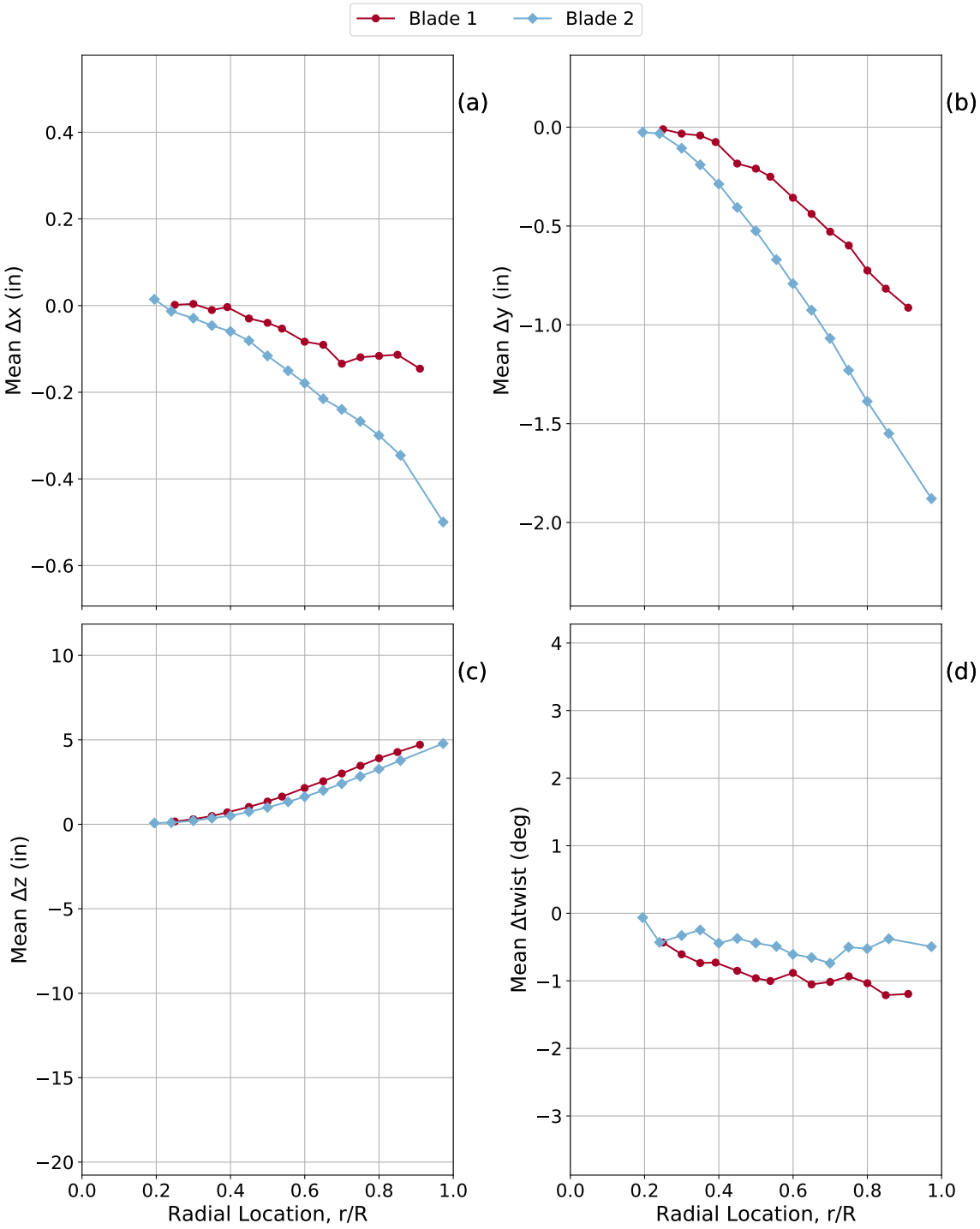


Figure 3.23-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$ NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2499	0.0017	0.0056	-0.0105	0.0050	0.1662	0.0173	-0.4327	0.0908
1	0.35	0.2998	0.0038	0.0030	-0.0329	0.0101	0.3029	0.0283	-0.6075	0.1293
1	0.35	0.3498	-0.0103	0.0035	-0.0420	0.0174	0.4886	0.0453	-0.7356	0.1157
1	0.35	0.3913	-0.0035	0.0047	-0.0753	0.0258	0.7075	0.0624	-0.7295	0.1180
1	0.35	0.4496	-0.0298	0.0065	-0.1842	0.0360	1.0274	0.0859	-0.8513	0.1055
1	0.35	0.4997	-0.0397	0.0089	-0.2098	0.0474	1.3467	0.1050	-0.9613	0.1250
1	0.35	0.5387	-0.0532	0.0112	-0.2508	0.0567	1.6399	0.1265	-1.0017	0.1147
1	0.35	0.5996	-0.0833	0.0152	-0.3569	0.0701	2.1471	0.1520	-0.8828	0.1073
1	0.35	0.6498	-0.0905	0.0203	-0.4390	0.0814	2.5446	0.1694	-1.0533	0.1210
1	0.35	0.6998	-0.1341	0.0241	-0.5289	0.0938	3.0061	0.1910	-1.0159	0.1150
1	0.35	0.7500	-0.1193	0.0289	-0.5986	0.1076	3.4642	0.2131	-0.9332	0.1016
1	0.35	0.8001	-0.1161	0.0335	-0.7253	0.1235	3.9106	0.2336	-1.0352	0.1303
1	0.35	0.8497	-0.1135	0.0398	-0.8170	0.1361	4.2748	0.2544	-1.2118	0.1134
1	0.35	0.9102	-0.1456	0.0488	-0.9133	0.1518	4.7087	0.2774	-1.1937	0.1307
2	0	0.1949	0.0145	0.0051	-0.0257	0.0031	0.0727	0.0076	-0.0632	0.0388
2	0	0.2405	-0.0130	0.0035	-0.0324	0.0071	0.0998	0.0108	-0.4310	0.0940
2	0	0.2999	-0.0292	0.0057	-0.1066	0.0159	0.2079	0.0202	-0.3287	0.1031
2	0	0.3498	-0.0461	0.0087	-0.1903	0.0262	0.3615	0.0336	-0.2467	0.1035
2	0	0.3998	-0.0596	0.0093	-0.2875	0.0426	0.5048	0.0483	-0.4418	0.0783
2	0	0.4496	-0.0810	0.0133	-0.4063	0.0546	0.7391	0.0616	-0.3731	0.0963
2	0	0.4995	-0.1160	0.0179	-0.5246	0.0714	0.9975	0.0744	-0.4411	0.0866
2	0	0.5551	-0.1503	0.0226	-0.6703	0.0906	1.3303	0.0929	-0.4905	0.0726
2	0	0.5996	-0.1790	0.0299	-0.7918	0.1068	1.6309	0.1097	-0.6079	0.0825
2	0	0.6497	-0.2151	0.0378	-0.9257	0.1269	2.0012	0.1278	-0.6547	0.0945
2	0	0.6996	-0.2396	0.0494	-1.0687	0.1497	2.4025	0.1511	-0.7387	0.0975
2	0	0.7495	-0.2673	0.0615	-1.2298	0.1700	2.8374	0.1743	-0.5014	0.0857
2	0	0.7996	-0.2995	0.0746	-1.3872	0.1921	3.2661	0.1982	-0.5242	0.0927
2	0	0.8578	-0.3456	0.0918	-1.5497	0.2223	3.7740	0.2433	-0.3775	0.1497
2	0	0.9727	-0.4995	0.1278	-1.8794	0.2642	4.7820	0.3130	-0.4941	0.0759

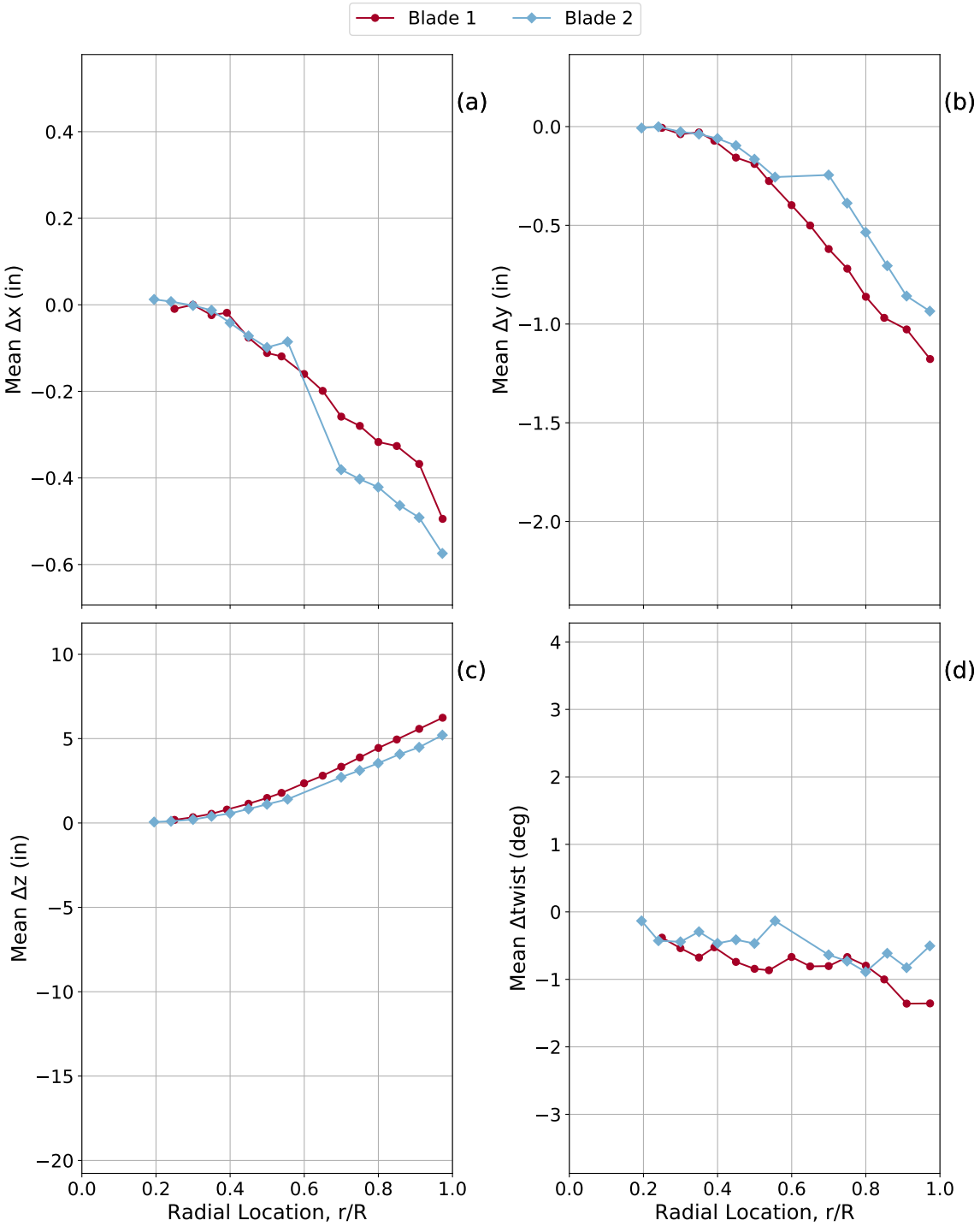


Figure 3.23-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$ NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2499	-0.0094	0.0084	-0.0065	0.0095	0.1828	0.0294	-0.3820	0.1438
1	4.92	0.2998	-0.0000	0.0076	-0.0385	0.0179	0.3417	0.0520	-0.5379	0.2045
1	4.92	0.3498	-0.0239	0.0086	-0.0293	0.0331	0.5419	0.0823	-0.6764	0.1926
1	4.92	0.3913	-0.0184	0.0119	-0.0718	0.0477	0.7937	0.1184	-0.5251	0.1595
1	4.92	0.4496	-0.0759	0.0176	-0.1570	0.0686	1.1396	0.1504	-0.7413	0.1758
1	4.92	0.4997	-0.1113	0.0226	-0.1892	0.0855	1.4823	0.1827	-0.8438	0.1791
1	4.92	0.5387	-0.1192	0.0285	-0.2757	0.1022	1.7830	0.2067	-0.8651	0.1880
1	4.92	0.5996	-0.1599	0.0434	-0.3979	0.1976	2.3514	0.2294	-0.6685	0.1798
1	4.92	0.6498	-0.1988	0.0526	-0.5009	0.2179	2.8019	0.2601	-0.8077	0.1647
1	4.92	0.6998	-0.2584	0.0632	-0.6200	0.2401	3.3296	0.2914	-0.8030	0.1776
1	4.92	0.7500	-0.2798	0.0753	-0.7197	0.2648	3.8830	0.3203	-0.6694	0.1852
1	4.92	0.8001	-0.3170	0.0906	-0.8620	0.2861	4.4453	0.3544	-0.7973	0.1740
1	4.92	0.8497	-0.3263	0.1062	-0.9686	0.3121	4.9468	0.3850	-1.0010	0.1435
1	4.92	0.9102	-0.3677	0.1219	-1.0273	0.3430	5.5766	0.4088	-1.3597	0.2585
1	4.92	0.9734	-0.4946	0.1556	-1.1772	0.3669	6.2350	0.4448	-1.3566	0.1946
2	4.92	0.1949	0.0125	0.0039	-0.0072	0.0022	0.0575	0.0058	-0.1334	0.0178
2	4.92	0.2405	0.0074	0.0034	-0.0009	0.0030	0.1007	0.0072	-0.4276	0.0530
2	4.92	0.2999	-0.0016	0.0026	-0.0264	0.0083	0.2055	0.0208	-0.4439	0.0485
2	4.92	0.3498	-0.0127	0.0036	-0.0383	0.0139	0.3928	0.0312	-0.2942	0.0606
2	4.92	0.3998	-0.0416	0.0062	-0.0604	0.0210	0.5646	0.0486	-0.4656	0.0335
2	4.92	0.4496	-0.0719	0.0096	-0.0963	0.0259	0.8290	0.0588	-0.4135	0.0477
2	4.92	0.4995	-0.0985	0.0138	-0.1653	0.0333	1.1059	0.0680	-0.4680	0.0668
2	4.92	0.5551	-0.0854	0.0152	-0.2558	0.0448	1.4069	0.0890	-0.1346	0.0853
2	4.92	0.6996	-0.3809	0.0155	-0.2451	0.1866	2.7116	0.1693	-0.6369	0.0657
2	4.92	0.7495	-0.4027	0.0152	-0.3877	0.1995	3.1140	0.1876	-0.7294	0.0710
2	4.92	0.7996	-0.4213	0.0162	-0.5356	0.2127	3.5418	0.2010	-0.8884	0.0488
2	4.92	0.8578	-0.4636	0.0165	-0.7049	0.2286	4.0779	0.2181	-0.6136	0.0668
2	4.92	0.9100	-0.4914	0.0164	-0.8583	0.2419	4.4854	0.2326	-0.8270	0.0824
2	4.92	0.9727	-0.5744	0.0173	-0.9347	0.2603	5.2059	0.2617	-0.5049	0.0725

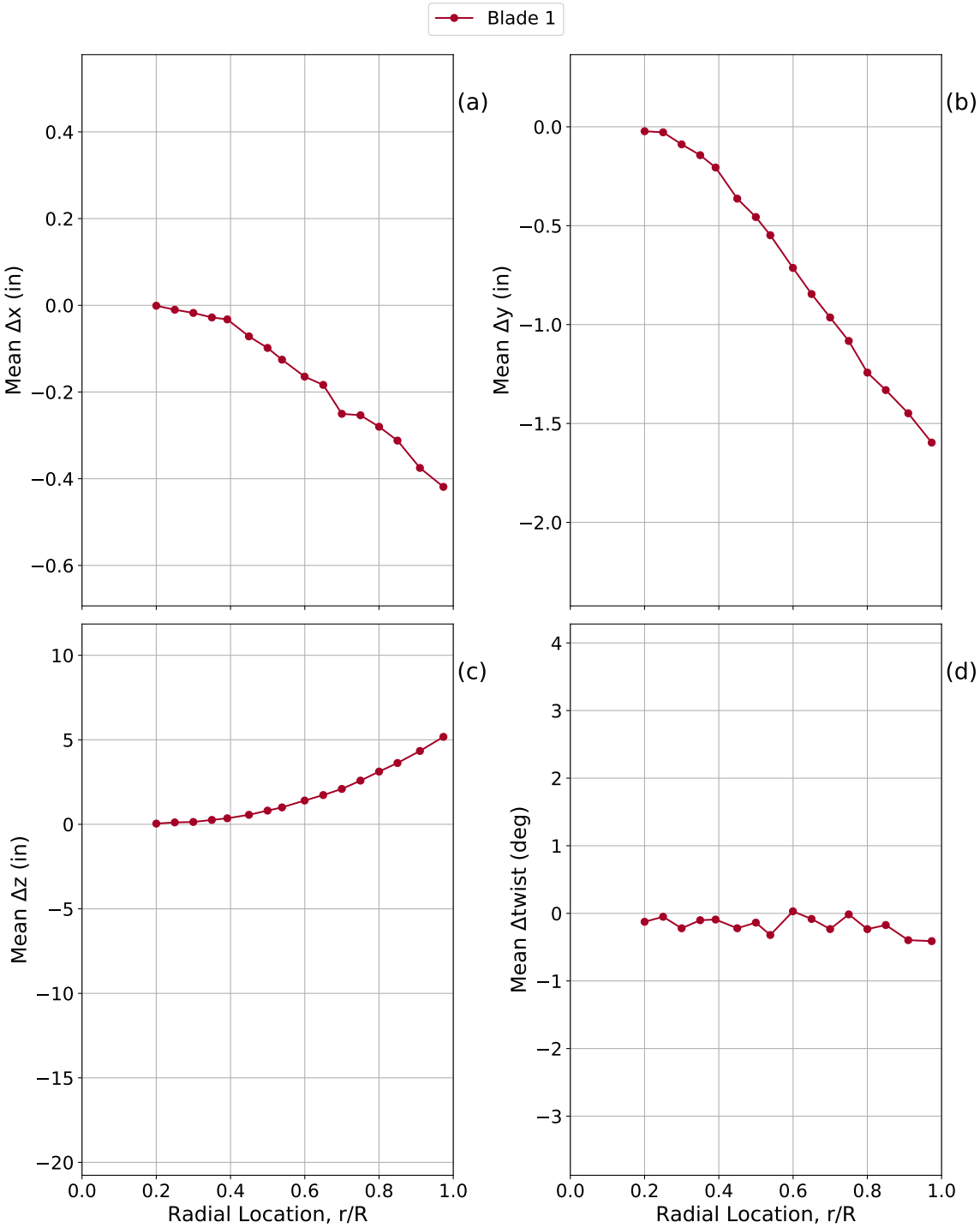


Figure 3.23-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0010	0.0047	-0.0225	0.0026	0.0419	0.0071	-0.1248	0.0496
1	15.12	0.2499	-0.0102	0.0023	-0.0280	0.0043	0.1133	0.0106	-0.0505	0.0547
1	15.12	0.2998	-0.0176	0.0035	-0.0888	0.0094	0.1382	0.0191	-0.2208	0.0990
1	15.12	0.3498	-0.0280	0.0036	-0.1435	0.0167	0.2588	0.0364	-0.1013	0.0715
1	15.12	0.3913	-0.0325	0.0042	-0.2058	0.0229	0.3560	0.0452	-0.0914	0.0811
1	15.12	0.4496	-0.0717	0.0027	-0.3633	0.0296	0.5620	0.0585	-0.2201	0.0951
1	15.12	0.4997	-0.0983	0.0051	-0.4563	0.0373	0.8104	0.0742	-0.1371	0.0890
1	15.12	0.5387	-0.1254	0.0055	-0.5483	0.0428	1.0012	0.0850	-0.3201	0.0922
1	15.12	0.5996	-0.1645	0.0054	-0.7134	0.0534	1.4064	0.0993	0.0301	0.1094
1	15.12	0.6498	-0.1836	0.0060	-0.8455	0.0616	1.7303	0.1121	-0.0825	0.1196
1	15.12	0.6998	-0.2503	0.0057	-0.9642	0.0721	2.0933	0.1256	-0.2325	0.1316
1	15.12	0.7500	-0.2536	0.0060	-1.0829	0.0824	2.5850	0.1458	-0.0151	0.1339
1	15.12	0.8001	-0.2801	0.0069	-1.2429	0.0939	3.1195	0.1698	-0.2335	0.1388
1	15.12	0.8497	-0.3120	0.0070	-1.3313	0.1059	3.6268	0.1994	-0.1727	0.1463
1	15.12	0.9102	-0.3751	0.0087	-1.4485	0.1239	4.3387	0.2465	-0.3963	0.1534
1	15.12	0.9734	-0.4188	0.0111	-1.5968	0.1415	5.1741	0.2992	-0.4108	0.1888

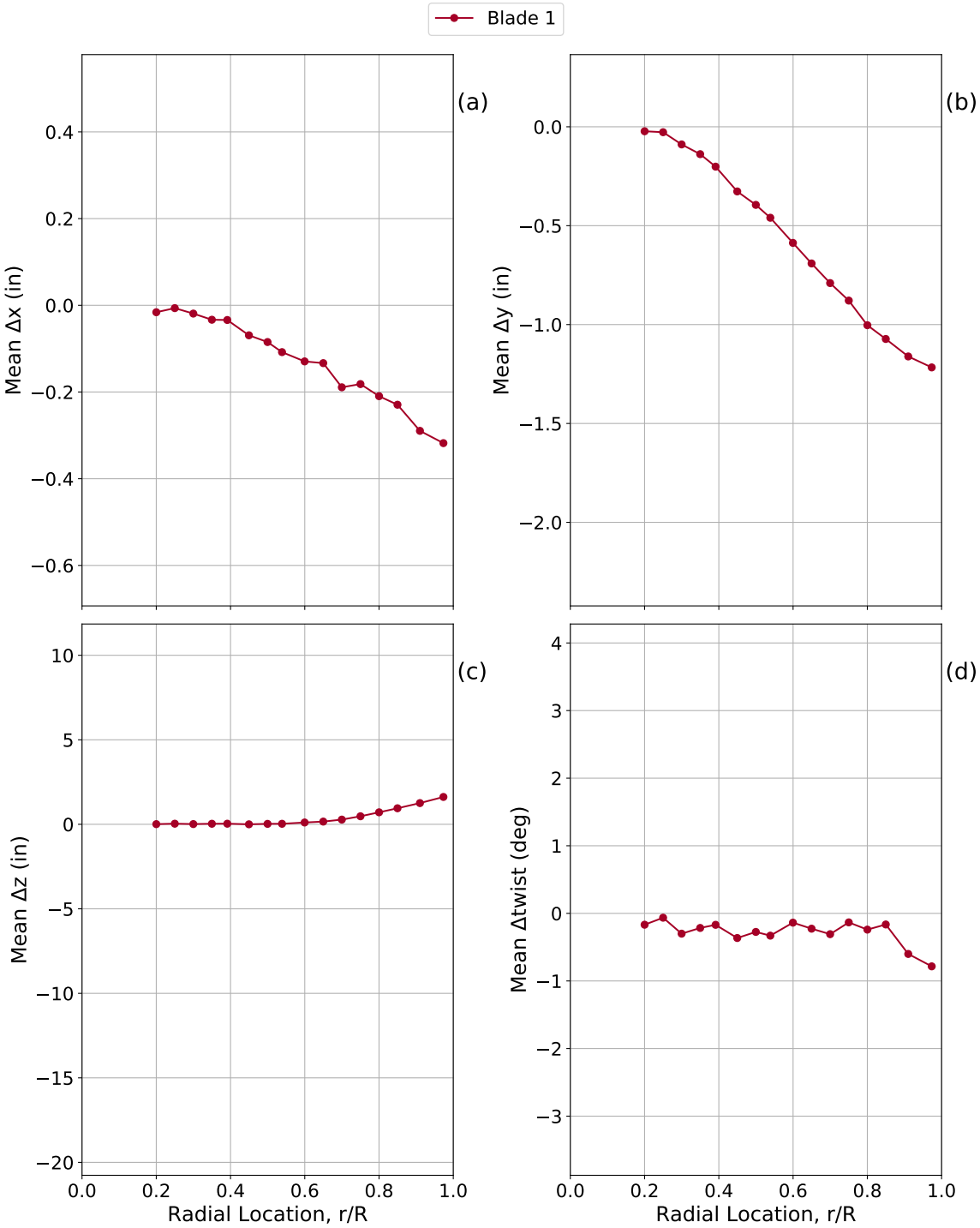


Figure 3.23-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$ NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0160	0.0025	-0.0226	0.0015	0.0101	0.0058	-0.1679	0.0344
1	29.88	0.2499	-0.0065	0.0021	-0.0274	0.0034	0.0362	0.0150	-0.0644	0.0458
1	29.88	0.2998	-0.0191	0.0036	-0.0892	0.0050	0.0136	0.0257	-0.3005	0.0709
1	29.88	0.3498	-0.0333	0.0044	-0.1384	0.0105	0.0327	0.0438	-0.2159	0.0563
1	29.88	0.3913	-0.0339	0.0055	-0.2015	0.0136	0.0360	0.0646	-0.1695	0.0636
1	29.88	0.4496	-0.0692	0.0060	-0.3269	0.0198	0.0005	0.0927	-0.3648	0.0598
1	29.88	0.4997	-0.0847	0.0059	-0.3948	0.0239	0.0265	0.1215	-0.2747	0.0556
1	29.88	0.5387	-0.1080	0.0064	-0.4599	0.0295	0.0310	0.1432	-0.3299	0.0714
1	29.88	0.5996	-0.1294	0.0058	-0.5871	0.0370	0.1073	0.1797	-0.1374	0.0610
1	29.88	0.6498	-0.1334	0.0053	-0.6910	0.0433	0.1610	0.2094	-0.2267	0.0679
1	29.88	0.6998	-0.1891	0.0054	-0.7903	0.0505	0.2783	0.2409	-0.3079	0.0704
1	29.88	0.7500	-0.1817	0.0054	-0.8787	0.0576	0.4758	0.2753	-0.1336	0.0675
1	29.88	0.8001	-0.2096	0.0057	-1.0033	0.0650	0.7100	0.3116	-0.2406	0.0592
1	29.88	0.8497	-0.2293	0.0048	-1.0728	0.0723	0.9492	0.3514	-0.1645	0.0543
1	29.88	0.9102	-0.2896	0.0056	-1.1612	0.0804	1.2558	0.4017	-0.6005	0.0941
1	29.88	0.9734	-0.3179	0.0082	-1.2166	0.0910	1.6184	0.4491	-0.7839	0.0888

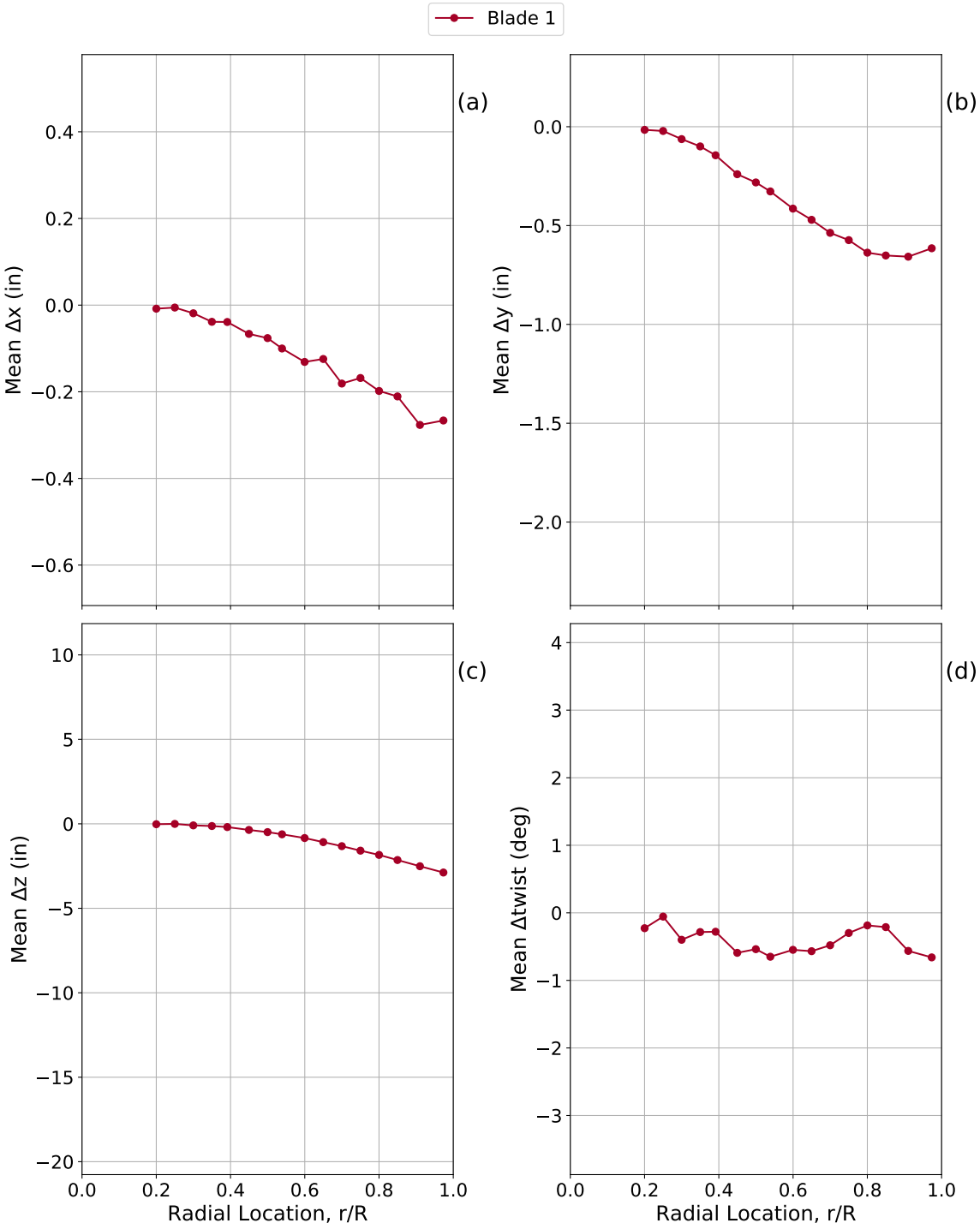


Figure 3.23-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$ NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0082	0.0026	-0.0158	0.0009	-0.0225	0.0045	-0.2276	0.0349
1	45	0.2499	-0.0056	0.0035	-0.0216	0.0028	-0.0042	0.0102	-0.0557	0.0667
1	45	0.2998	-0.0188	0.0026	-0.0627	0.0041	-0.0922	0.0156	-0.3990	0.0798
1	45	0.3498	-0.0385	0.0022	-0.0996	0.0075	-0.1298	0.0299	-0.2845	0.0714
1	45	0.3913	-0.0389	0.0033	-0.1445	0.0109	-0.1921	0.0404	-0.2798	0.0852
1	45	0.4496	-0.0664	0.0024	-0.2403	0.0165	-0.3610	0.0576	-0.5922	0.0727
1	45	0.4997	-0.0761	0.0020	-0.2819	0.0209	-0.4899	0.0765	-0.5379	0.0693
1	45	0.5387	-0.1001	0.0029	-0.3274	0.0251	-0.6197	0.0915	-0.6499	0.0666
1	45	0.5996	-0.1311	0.0031	-0.4143	0.0319	-0.8409	0.1161	-0.5477	0.0787
1	45	0.6498	-0.1243	0.0027	-0.4710	0.0378	-1.0828	0.1352	-0.5679	0.0904
1	45	0.6998	-0.1810	0.0028	-0.5369	0.0427	-1.3215	0.1580	-0.4800	0.0772
1	45	0.7500	-0.1682	0.0030	-0.5738	0.0481	-1.5879	0.1789	-0.2985	0.0666
1	45	0.8001	-0.1981	0.0030	-0.6372	0.0530	-1.8395	0.2026	-0.1865	0.0648
1	45	0.8497	-0.2107	0.0038	-0.6515	0.0577	-2.1425	0.2227	-0.2116	0.0819
1	45	0.9102	-0.2765	0.0033	-0.6575	0.0635	-2.5100	0.2502	-0.5635	0.0709
1	45	0.9734	-0.2663	0.0044	-0.6150	0.0714	-2.8821	0.2812	-0.6597	0.0584

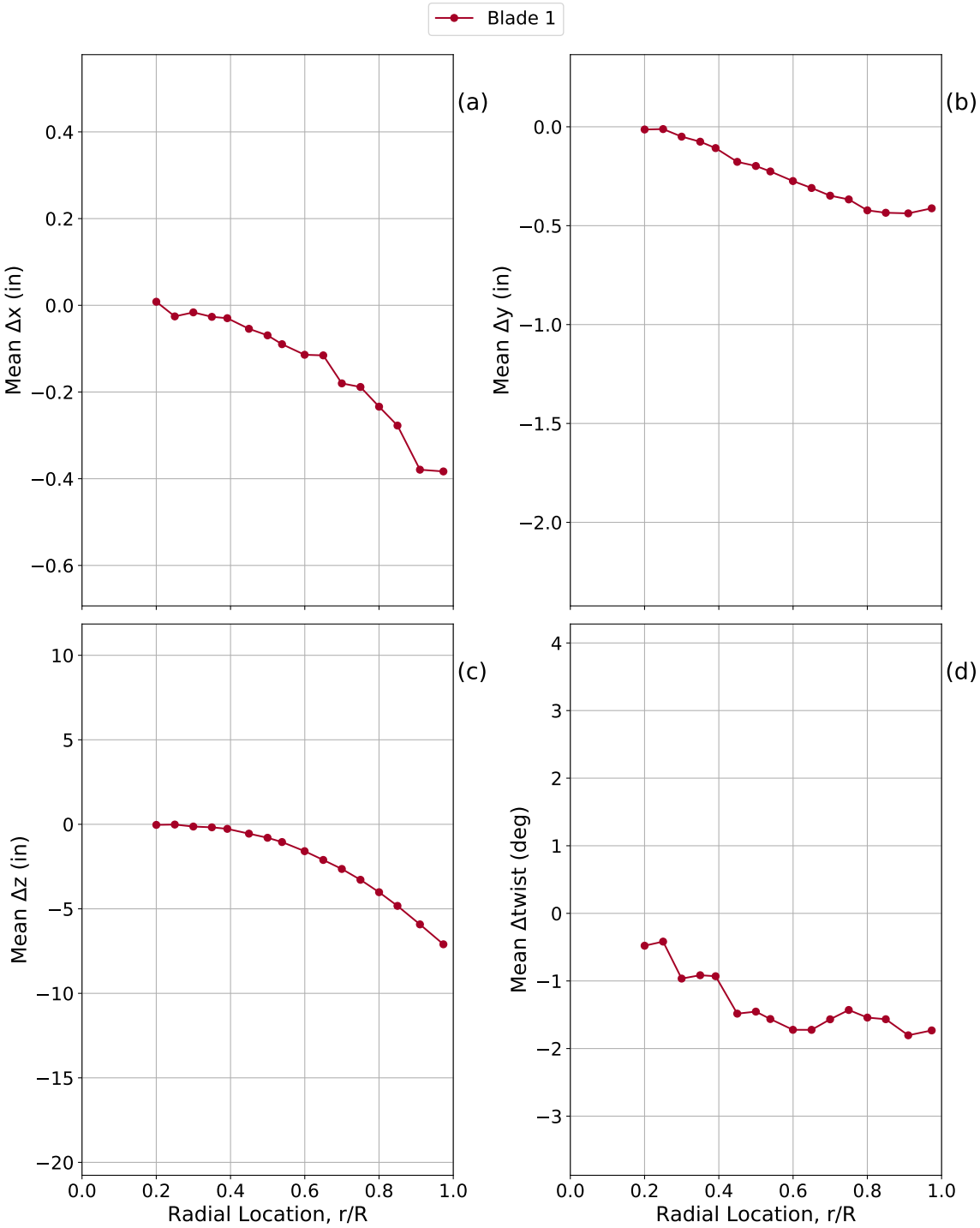


Figure 3.23-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0082	0.0023	-0.0137	0.0013	-0.0334	0.0053	-0.4787	0.0245
1	60.12	0.2499	-0.0256	0.0021	-0.0116	0.0025	-0.0141	0.0131	-0.4178	0.0538
1	60.12	0.2998	-0.0163	0.0034	-0.0498	0.0045	-0.1322	0.0230	-0.9649	0.0598
1	60.12	0.3498	-0.0266	0.0028	-0.0754	0.0092	-0.1784	0.0389	-0.9152	0.0573
1	60.12	0.3913	-0.0297	0.0018	-0.1077	0.0121	-0.2687	0.0578	-0.9299	0.0635
1	60.12	0.4496	-0.0542	0.0042	-0.1773	0.0160	-0.5529	0.0807	-1.4837	0.0778
1	60.12	0.4997	-0.0693	0.0039	-0.1981	0.0209	-0.7966	0.1047	-1.4535	0.0715
1	60.12	0.5387	-0.0897	0.0041	-0.2257	0.0247	-1.0493	0.1263	-1.5631	0.0733
1	60.12	0.5996	-0.1141	0.0041	-0.2743	0.0311	-1.5892	0.1579	-1.7227	0.0690
1	60.12	0.6498	-0.1155	0.0055	-0.3095	0.0367	-2.1089	0.1876	-1.7232	0.0739
1	60.12	0.6998	-0.1801	0.0062	-0.3483	0.0426	-2.6414	0.2182	-1.5673	0.0900
1	60.12	0.7500	-0.1884	0.0067	-0.3672	0.0511	-3.2825	0.2455	-1.4295	0.0790
1	60.12	0.8001	-0.2338	0.0081	-0.4225	0.0573	-4.0163	0.2753	-1.5418	0.1112
1	60.12	0.8497	-0.2774	0.0098	-0.4347	0.0647	-4.8265	0.3038	-1.5661	0.0773
1	60.12	0.9102	-0.3792	0.0125	-0.4377	0.0736	-5.9214	0.3484	-1.8039	0.0785
1	60.12	0.9734	-0.3832	0.0136	-0.4122	0.0827	-7.0986	0.3896	-1.7317	0.0855

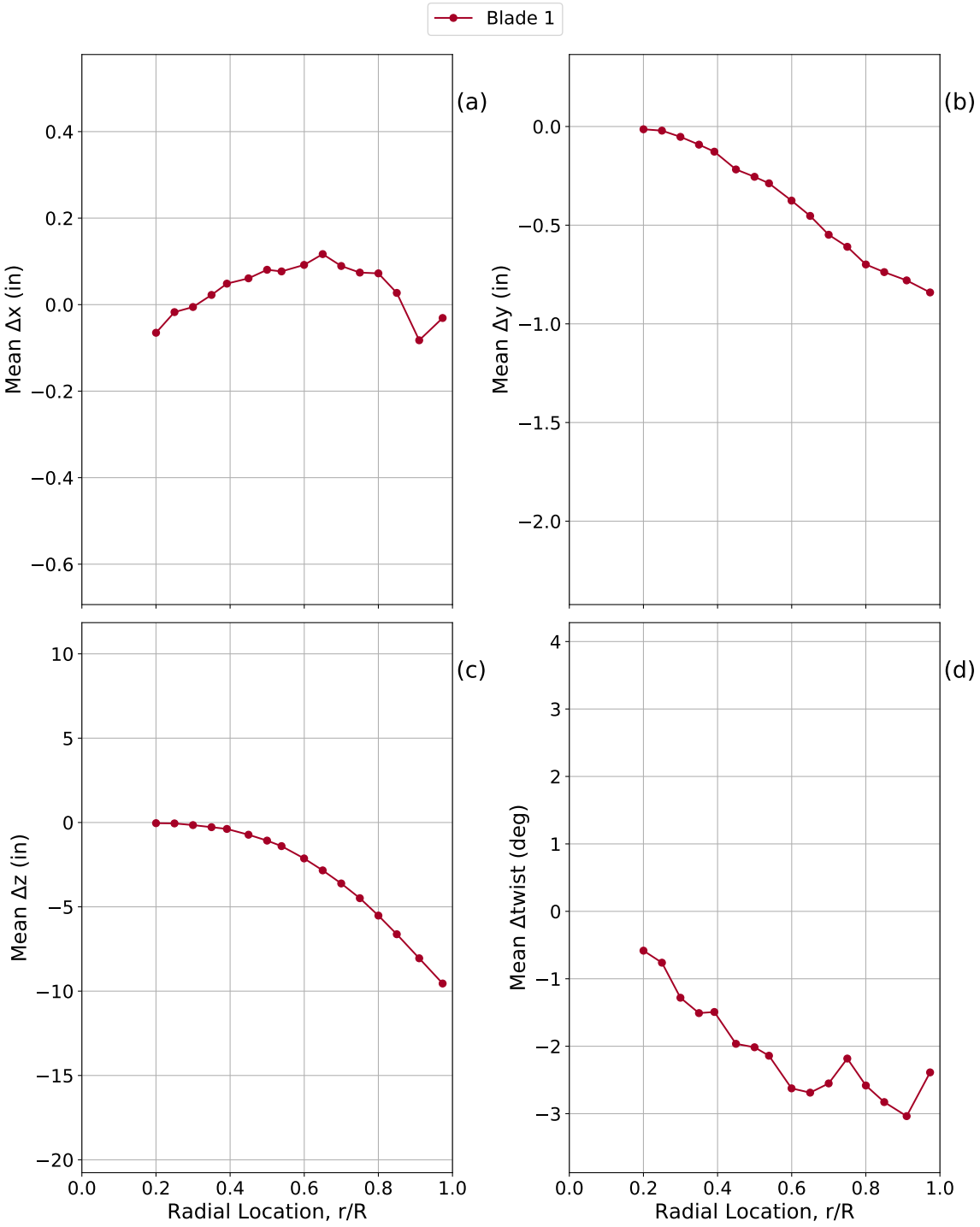


Figure 3.23-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$ NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0650	0.0125	-0.0140	0.0010	-0.0400	0.0059	-0.5832	0.0256
1	74.88	0.2499	-0.0173	0.0034	-0.0209	0.0019	-0.0543	0.0116	-0.7612	0.0596
1	74.88	0.2998	-0.0055	0.0049	-0.0525	0.0039	-0.1540	0.0220	-1.2810	0.0646
1	74.88	0.3498	0.0224	0.0090	-0.0919	0.0067	-0.2783	0.0369	-1.5087	0.0711
1	74.88	0.3913	0.0485	0.0127	-0.1275	0.0095	-0.3819	0.0530	-1.4921	0.0728
1	74.88	0.4496	0.0608	0.0163	-0.2175	0.0147	-0.7253	0.0801	-1.9641	0.0784
1	74.88	0.4997	0.0806	0.0193	-0.2548	0.0204	-1.0740	0.1097	-2.0152	0.0729
1	74.88	0.5387	0.0768	0.0209	-0.2879	0.0262	-1.4007	0.1349	-2.1405	0.0669
1	74.88	0.5996	0.0918	0.0219	-0.3755	0.0346	-2.1320	0.1751	-2.6245	0.0783
1	74.88	0.6498	0.1168	0.0255	-0.4530	0.0413	-2.8396	0.2104	-2.6882	0.0752
1	74.88	0.6998	0.0893	0.0280	-0.5485	0.0500	-3.6151	0.2457	-2.5512	0.0786
1	74.88	0.7500	0.0741	0.0309	-0.6095	0.0576	-4.4885	0.2832	-2.1824	0.0716
1	74.88	0.8001	0.0723	0.0342	-0.6991	0.0661	-5.5197	0.3193	-2.5822	0.0831
1	74.88	0.8497	0.0271	0.0389	-0.7378	0.0757	-6.6260	0.3556	-2.8279	0.0792
1	74.88	0.9102	-0.0824	0.0474	-0.7798	0.0859	-8.0525	0.3996	-3.0365	0.0747
1	74.88	0.9734	-0.0309	0.0590	-0.8408	0.0995	-9.5473	0.4446	-2.3877	0.1460

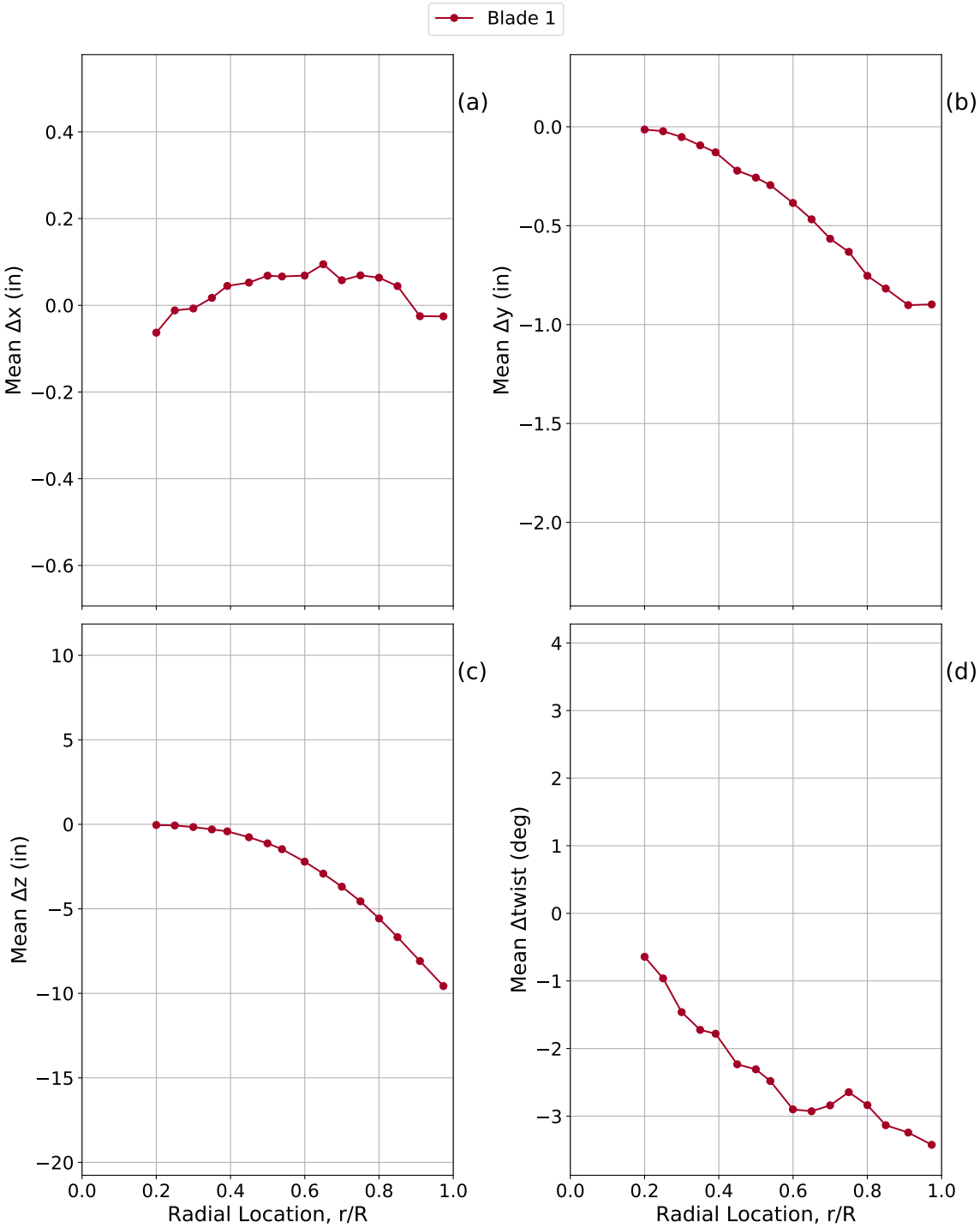


Figure 3.23-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$ NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0631	0.0086	-0.0139	0.0017	-0.0400	0.0095	-0.6422	0.0398
1	80.16	0.2499	-0.0117	0.0031	-0.0224	0.0041	-0.0682	0.0195	-0.9620	0.0904
1	80.16	0.2998	-0.0074	0.0035	-0.0519	0.0070	-0.1618	0.0351	-1.4613	0.0975
1	80.16	0.3498	0.0172	0.0090	-0.0939	0.0130	-0.3009	0.0617	-1.7240	0.0855
1	80.16	0.3913	0.0447	0.0142	-0.1291	0.0185	-0.4159	0.0867	-1.7806	0.0930
1	80.16	0.4496	0.0524	0.0211	-0.2219	0.0262	-0.7644	0.1236	-2.2331	0.0833
1	80.16	0.4997	0.0683	0.0281	-0.2569	0.0333	-1.1275	0.1570	-2.3074	0.0894
1	80.16	0.5387	0.0665	0.0325	-0.2949	0.0390	-1.4707	0.1839	-2.4803	0.0934
1	80.16	0.5996	0.0686	0.0373	-0.3850	0.0470	-2.2088	0.2235	-2.8996	0.0971
1	80.16	0.6498	0.0947	0.0394	-0.4678	0.0536	-2.9176	0.2531	-2.9275	0.0986
1	80.16	0.6998	0.0578	0.0404	-0.5661	0.0611	-3.6902	0.2807	-2.8403	0.1092
1	80.16	0.7500	0.0691	0.0410	-0.6323	0.0685	-4.5586	0.3072	-2.6454	0.0994
1	80.16	0.8001	0.0637	0.0400	-0.7537	0.0776	-5.5701	0.3356	-2.8370	0.1199
1	80.16	0.8497	0.0443	0.0400	-0.8180	0.0875	-6.6748	0.3639	-3.1340	0.1268
1	80.16	0.9102	-0.0251	0.0437	-0.9016	0.1004	-8.0888	0.3985	-3.2426	0.1380
1	80.16	0.9734	-0.0255	0.0526	-0.8982	0.1222	-9.5696	0.4360	-3.4240	0.1397

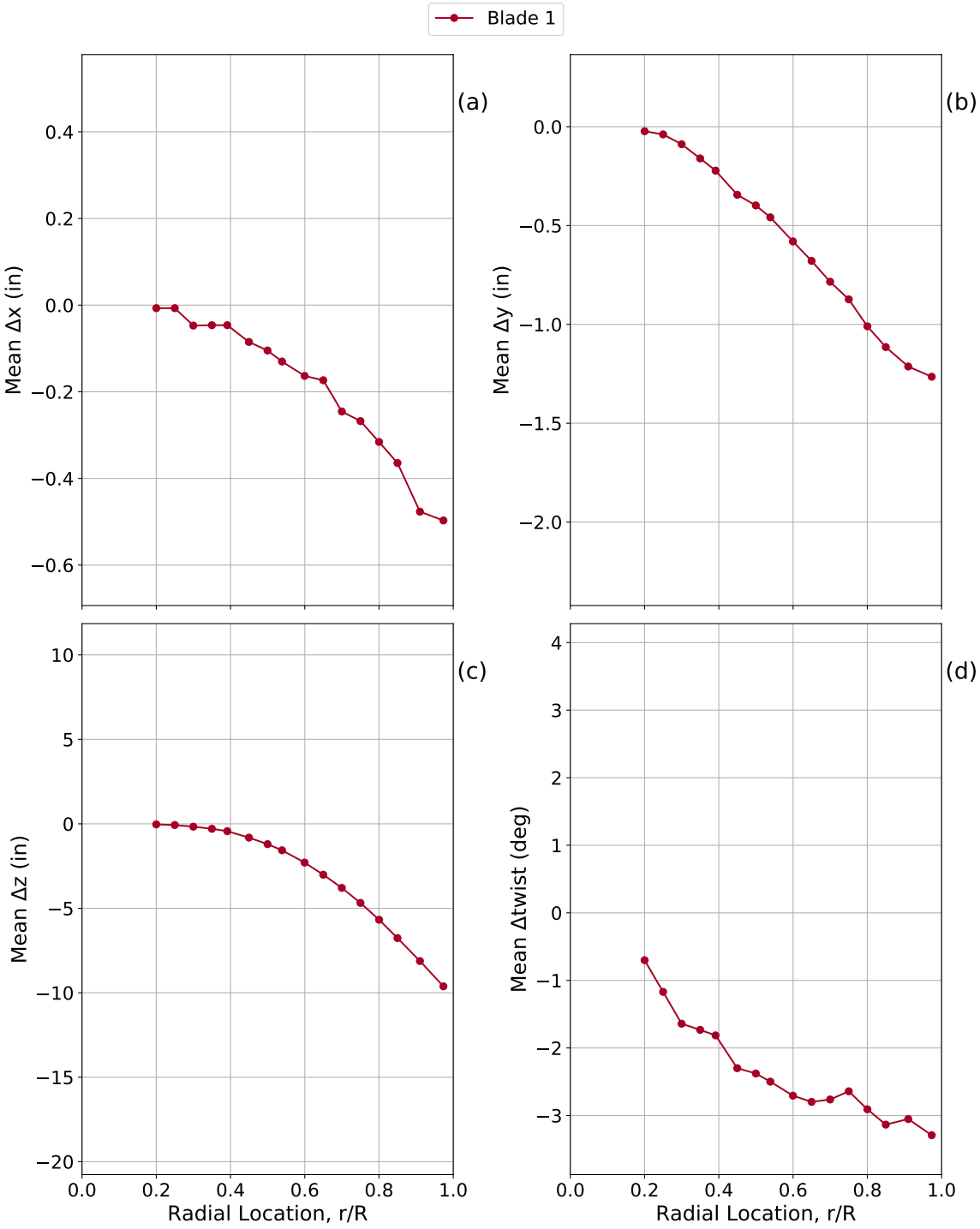


Figure 3.23-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0070	0.0052	-0.0229	0.0019	-0.0323	0.0098	-0.7010	0.0603
1	85.08	0.2499	-0.0070	0.0026	-0.0389	0.0027	-0.0711	0.0143	-1.1702	0.1265
1	85.08	0.2998	-0.0472	0.0026	-0.0887	0.0075	-0.1680	0.0325	-1.6416	0.1487
1	85.08	0.3498	-0.0463	0.0038	-0.1604	0.0122	-0.2935	0.0559	-1.7325	0.1447
1	85.08	0.3913	-0.0463	0.0030	-0.2223	0.0175	-0.4346	0.0760	-1.8142	0.1463
1	85.08	0.4496	-0.0850	0.0038	-0.3443	0.0258	-0.8162	0.1021	-2.2996	0.1683
1	85.08	0.4997	-0.1047	0.0029	-0.3982	0.0326	-1.2011	0.1286	-2.3778	0.1611
1	85.08	0.5387	-0.1302	0.0035	-0.4585	0.0393	-1.5654	0.1479	-2.4989	0.1566
1	85.08	0.5996	-0.1634	0.0051	-0.5804	0.0493	-2.2927	0.1833	-2.7064	0.1541
1	85.08	0.6498	-0.1734	0.0057	-0.6788	0.0584	-3.0113	0.2128	-2.7985	0.1581
1	85.08	0.6998	-0.2455	0.0065	-0.7844	0.0679	-3.7908	0.2409	-2.7632	0.1656
1	85.08	0.7500	-0.2677	0.0065	-0.8734	0.0777	-4.6821	0.2695	-2.6418	0.1577
1	85.08	0.8001	-0.3158	0.0079	-1.0098	0.0891	-5.6780	0.2950	-2.9078	0.1697
1	85.08	0.8497	-0.3644	0.0099	-1.1148	0.1004	-6.7643	0.3243	-3.1350	0.1555
1	85.08	0.9102	-0.4767	0.0113	-1.2131	0.1149	-8.1218	0.3601	-3.0519	0.1558
1	85.08	0.9734	-0.4970	0.0121	-1.2649	0.1301	-9.6199	0.3965	-3.2920	0.1705

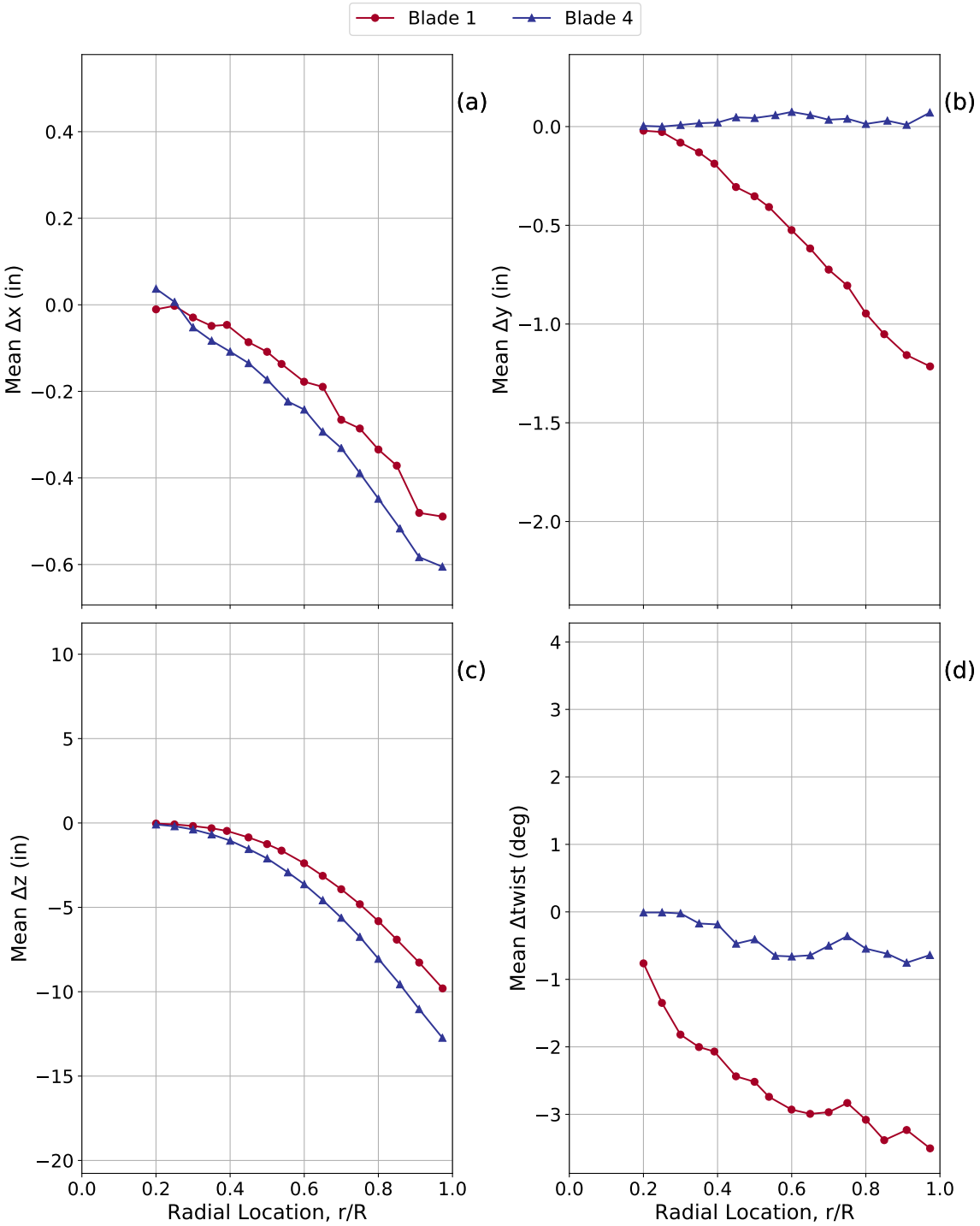


Figure 3.23-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0105	0.0035	-0.0208	0.0011	-0.0340	0.0075	-0.7627	0.0333
1	90	0.2499	-0.0024	0.0022	-0.0275	0.0027	-0.0848	0.0149	-1.3491	0.0684
1	90	0.2998	-0.0293	0.0022	-0.0814	0.0046	-0.1825	0.0279	-1.8184	0.0764
1	90	0.3498	-0.0488	0.0029	-0.1304	0.0078	-0.3122	0.0471	-2.0030	0.0838
1	90	0.3913	-0.0464	0.0021	-0.1877	0.0115	-0.4708	0.0673	-2.0695	0.0811
1	90	0.4496	-0.0863	0.0023	-0.3061	0.0162	-0.8571	0.0960	-2.4369	0.0994
1	90	0.4997	-0.1086	0.0032	-0.3531	0.0208	-1.2516	0.1251	-2.5182	0.0849
1	90	0.5387	-0.1367	0.0030	-0.4074	0.0259	-1.6375	0.1475	-2.7404	0.0903
1	90	0.5996	-0.1777	0.0036	-0.5242	0.0334	-2.3863	0.1865	-2.9298	0.0947
1	90	0.6498	-0.1895	0.0047	-0.6172	0.0405	-3.1331	0.2188	-2.9930	0.0926
1	90	0.6998	-0.2657	0.0058	-0.7244	0.0477	-3.9264	0.2490	-2.9684	0.1040
1	90	0.7500	-0.2858	0.0074	-0.8054	0.0560	-4.8160	0.2802	-2.8319	0.1038
1	90	0.8001	-0.3344	0.0095	-0.9466	0.0645	-5.8194	0.3170	-3.0807	0.1033
1	90	0.8497	-0.3716	0.0121	-1.0516	0.0739	-6.9143	0.3569	-3.3829	0.1074
1	90	0.9102	-0.4808	0.0157	-1.1572	0.0845	-8.2715	0.4130	-3.2321	0.1106
1	90	0.9734	-0.4893	0.0173	-1.2146	0.0954	-9.8044	0.4773	-3.5042	0.1238
4	90.35	0.2001	0.0371	0.0023	0.0035	0.0008	-0.0903	0.0045	-0.0093	0.0198
4	90.35	0.2502	0.0065	0.0021	0.0002	0.0014	-0.1959	0.0112	-0.0089	0.0441
4	90.35	0.3001	-0.0521	0.0026	0.0080	0.0031	-0.3858	0.0179	-0.0226	0.0455
4	90.35	0.3502	-0.0831	0.0022	0.0169	0.0047	-0.6771	0.0328	-0.1721	0.0467
4	90.35	0.4002	-0.1083	0.0021	0.0206	0.0074	-1.0507	0.0506	-0.1863	0.0491
4	90.35	0.4500	-0.1349	0.0023	0.0470	0.0096	-1.5453	0.0689	-0.4717	0.0475
4	90.35	0.5001	-0.1729	0.0033	0.0433	0.0119	-2.1049	0.0898	-0.4063	0.0462
4	90.35	0.5560	-0.2235	0.0045	0.0578	0.0156	-2.9274	0.1141	-0.6508	0.0548
4	90.35	0.6001	-0.2421	0.0052	0.0743	0.0192	-3.6321	0.1329	-0.6613	0.0481
4	90.35	0.6501	-0.2932	0.0053	0.0580	0.0231	-4.5809	0.1512	-0.6437	0.0435
4	90.35	0.6999	-0.3309	0.0063	0.0346	0.0293	-5.6163	0.1651	-0.5017	0.0477
4	90.35	0.7500	-0.3889	0.0063	0.0397	0.0355	-6.7515	0.1769	-0.3597	0.0449
4	90.35	0.8002	-0.4481	0.0065	0.0133	0.0432	-8.0506	0.1833	-0.5450	0.0477
4	90.35	0.8582	-0.5167	0.0066	0.0298	0.0522	-9.5630	0.1921	-0.6213	0.0475
4	90.35	0.9101	-0.5830	0.0075	0.0087	0.0611	-11.0346	0.1975	-0.7535	0.0507
4	90.35	0.9728	-0.6051	0.0078	0.0708	0.0716	-12.7320	0.2101	-0.6401	0.0289

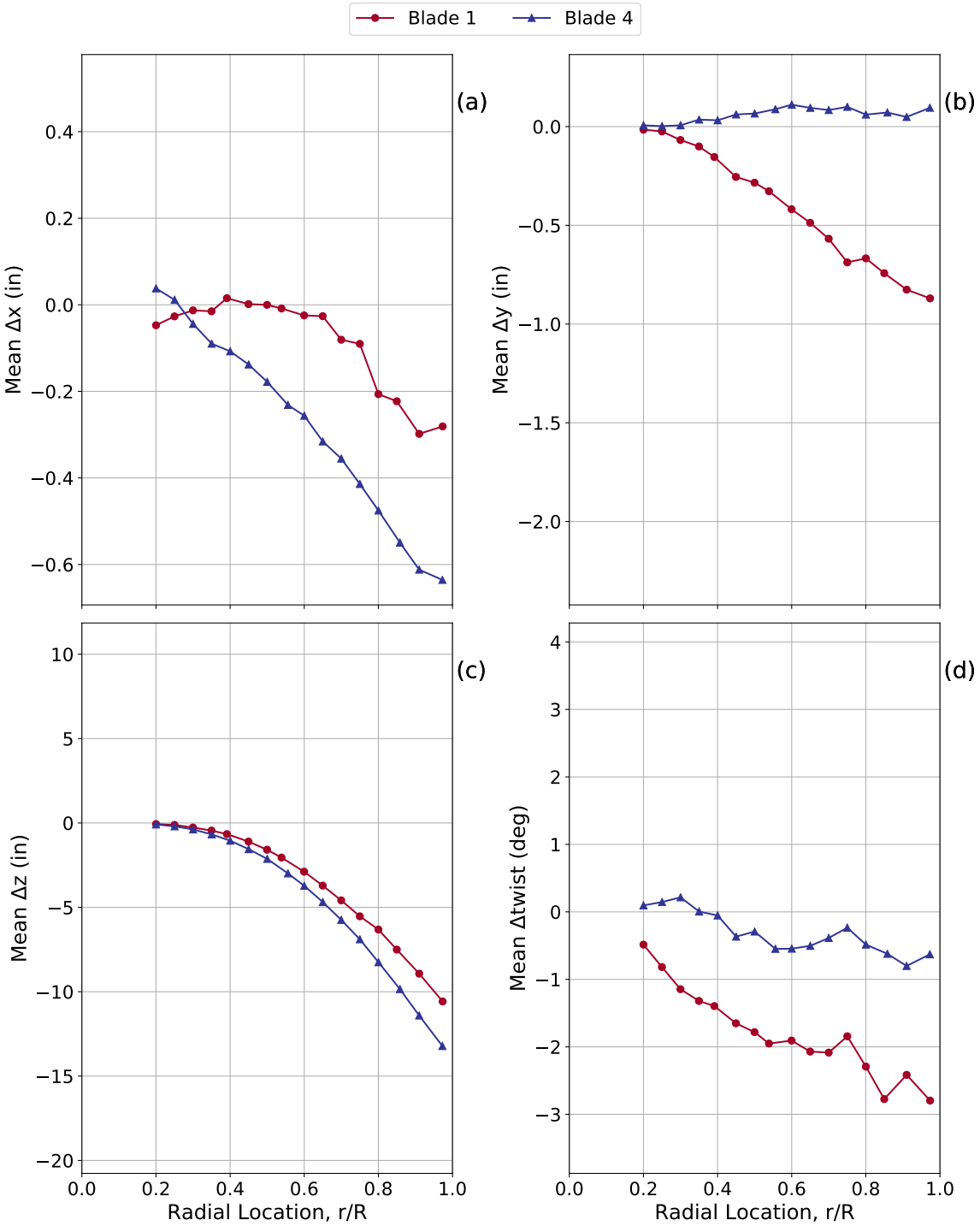


Figure 3.23-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$ NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0472	0.0040	-0.0156	0.0025	-0.0616	0.0087	-0.4853	0.0539
1	94.92	0.2499	-0.0267	0.0028	-0.0245	0.0030	-0.1147	0.0101	-0.8180	0.1349
1	94.92	0.2998	-0.0128	0.0023	-0.0681	0.0082	-0.2694	0.0254	-1.1455	0.1406
1	94.92	0.3498	-0.0150	0.0031	-0.1008	0.0142	-0.4509	0.0448	-1.3199	0.1255
1	94.92	0.3913	0.0153	0.0033	-0.1541	0.0190	-0.6599	0.0579	-1.3959	0.1287
1	94.92	0.4496	0.0016	0.0040	-0.2549	0.0271	-1.1019	0.0787	-1.6511	0.1206
1	94.92	0.4997	-0.0001	0.0044	-0.2841	0.0341	-1.5852	0.0949	-1.7818	0.1357
1	94.92	0.5387	-0.0085	0.0056	-0.3275	0.0410	-2.0497	0.1108	-1.9512	0.1292
1	94.92	0.5996	-0.0245	0.0063	-0.4185	0.0518	-2.8870	0.1353	-1.9070	0.1293
1	94.92	0.6498	-0.0263	0.0076	-0.4872	0.0616	-3.7124	0.1574	-2.0701	0.1484
1	94.92	0.6998	-0.0807	0.0086	-0.5679	0.0723	-4.5870	0.1796	-2.0853	0.1548
1	94.92	0.7500	-0.0902	0.0165	-0.6876	0.0937	-5.5309	0.2126	-1.8434	0.1082
1	94.92	0.8001	-0.2064	0.0160	-0.6673	0.0933	-6.3151	0.2716	-2.2927	0.1491
1	94.92	0.8497	-0.2228	0.0150	-0.7425	0.1036	-7.5036	0.3047	-2.7741	0.1570
1	94.92	0.9102	-0.2981	0.0151	-0.8259	0.1165	-8.9296	0.3477	-2.4150	0.1459
1	94.92	0.9734	-0.2810	0.0169	-0.8700	0.1318	-10.5782	0.3859	-2.7963	0.1584
4	94.92	0.2001	0.0379	0.0020	0.0063	0.0010	-0.0895	0.0042	0.0960	0.0474
4	94.92	0.2502	0.0115	0.0019	0.0021	0.0024	-0.2002	0.0073	0.1458	0.0741
4	94.92	0.3001	-0.0442	0.0016	0.0063	0.0044	-0.3835	0.0160	0.2152	0.1038
4	94.92	0.3502	-0.0898	0.0026	0.0354	0.0071	-0.6775	0.0256	0.0050	0.0917
4	94.92	0.4002	-0.1074	0.0027	0.0317	0.0113	-1.0505	0.0397	-0.0539	0.0881
4	94.92	0.4500	-0.1380	0.0024	0.0613	0.0146	-1.5529	0.0576	-0.3670	0.0794
4	94.92	0.5001	-0.1781	0.0037	0.0661	0.0186	-2.1294	0.0801	-0.2920	0.0755
4	94.92	0.5560	-0.2314	0.0045	0.0879	0.0230	-2.9884	0.1083	-0.5482	0.0890
4	94.92	0.6001	-0.2563	0.0045	0.1108	0.0269	-3.7240	0.1288	-0.5455	0.0933
4	94.92	0.6501	-0.3158	0.0054	0.0948	0.0326	-4.6896	0.1438	-0.5035	0.0865
4	94.92	0.6999	-0.3554	0.0067	0.0838	0.0378	-5.7459	0.1532	-0.3871	0.0936
4	94.92	0.7500	-0.4140	0.0072	0.0998	0.0441	-6.8941	0.1619	-0.2347	0.0810
4	94.92	0.8002	-0.4753	0.0075	0.0607	0.0506	-8.2518	0.1672	-0.4847	0.0984
4	94.92	0.8582	-0.5495	0.0086	0.0712	0.0583	-9.8473	0.1780	-0.6216	0.0893
4	94.92	0.9101	-0.6120	0.0096	0.0487	0.0654	-11.4122	0.1894	-0.8018	0.0895
4	94.92	0.9728	-0.6356	0.0130	0.0951	0.0746	-13.2191	0.2089	-0.6289	0.0985

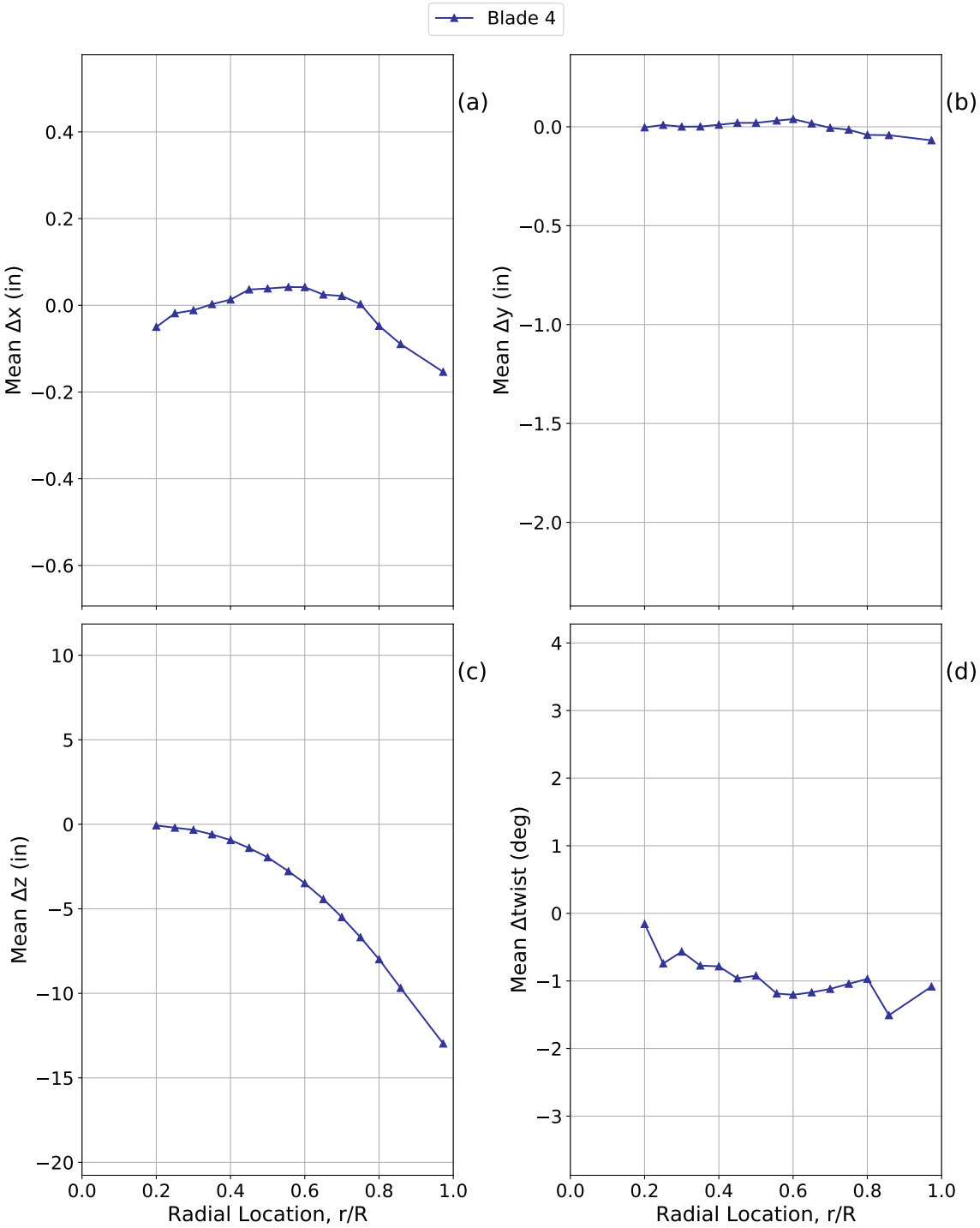


Figure 3.23-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0499	0.0026	-0.0030	0.0009	-0.0705	0.0054	-0.1568	0.0223
4	105.12	0.2502	-0.0185	0.0022	0.0091	0.0018	-0.2024	0.0103	-0.7420	0.0387
4	105.12	0.3001	-0.0114	0.0019	0.0006	0.0036	-0.3287	0.0208	-0.5667	0.0494
4	105.12	0.3502	0.0026	0.0022	0.0012	0.0058	-0.5978	0.0365	-0.7732	0.0465
4	105.12	0.4002	0.0132	0.0032	0.0102	0.0091	-0.9367	0.0555	-0.7842	0.0686
4	105.12	0.4500	0.0364	0.0047	0.0197	0.0127	-1.4012	0.0762	-0.9615	0.0621
4	105.12	0.5001	0.0387	0.0054	0.0198	0.0164	-1.9564	0.0992	-0.9222	0.0631
4	105.12	0.5560	0.0421	0.0069	0.0312	0.0219	-2.7760	0.1248	-1.1866	0.0640
4	105.12	0.6001	0.0418	0.0077	0.0389	0.0267	-3.4848	0.1431	-1.2049	0.0787
4	105.12	0.6501	0.0246	0.0087	0.0166	0.0326	-4.4297	0.1607	-1.1688	0.0762
4	105.12	0.6999	0.0215	0.0095	-0.0052	0.0399	-5.4950	0.1743	-1.1181	0.0810
4	105.12	0.7500	0.0026	0.0118	-0.0149	0.0472	-6.6845	0.1862	-1.0422	0.0893
4	105.12	0.8002	-0.0474	0.0139	-0.0410	0.0547	-7.9874	0.2050	-0.9701	0.0800
4	105.12	0.8582	-0.0895	0.0170	-0.0425	0.0638	-9.6851	0.2293	-1.5071	0.1637
4	105.12	0.9728	-0.1536	0.0277	-0.0685	0.0826	-12.9729	0.3072	-1.0830	0.1873

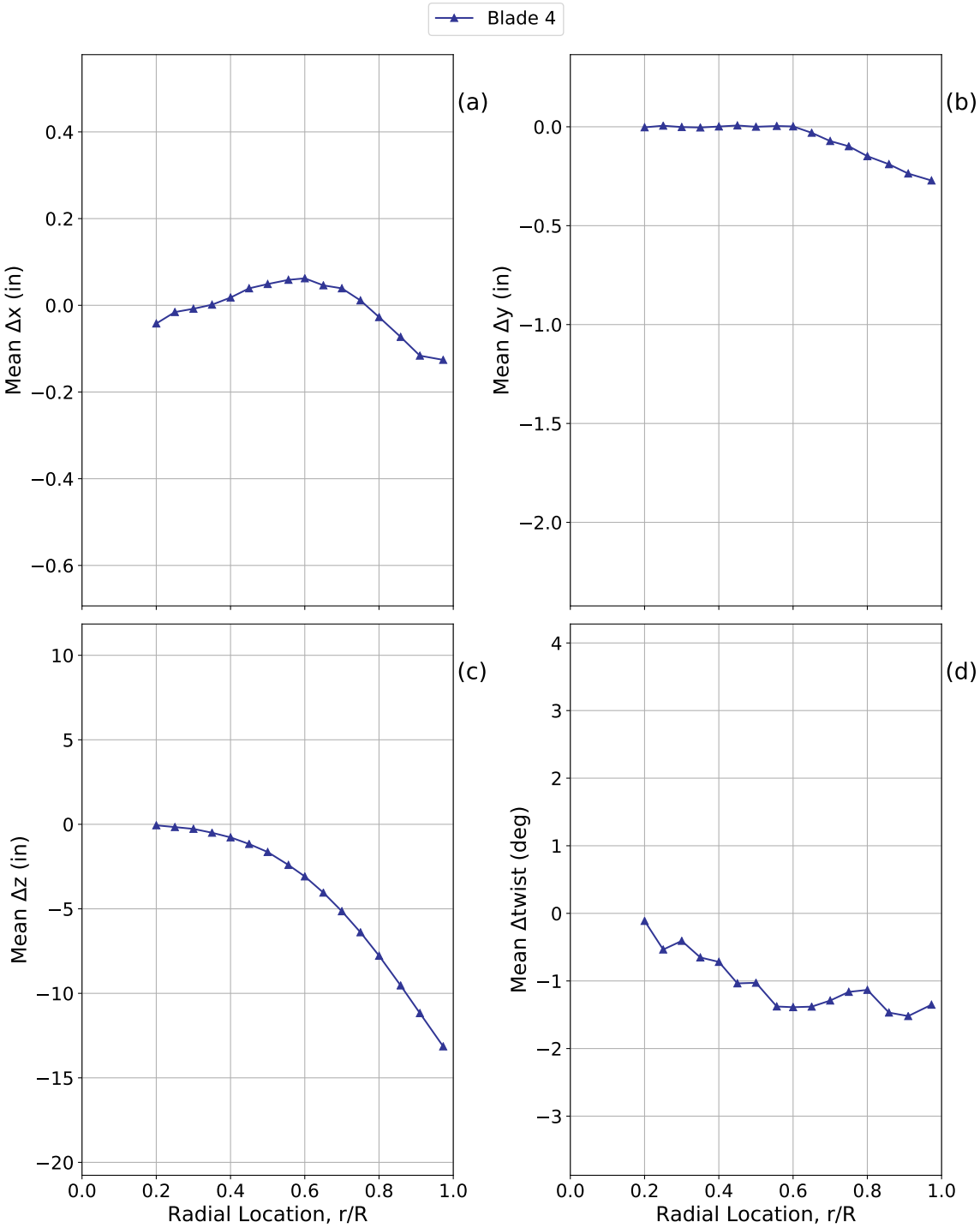


Figure 3.23-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$ NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0420	0.0012	-0.0028	0.0006	-0.0602	0.0027	-0.1120	0.0170
4	119.88	0.2502	-0.0156	0.0010	0.0055	0.0013	-0.1638	0.0066	-0.5355	0.0315
4	119.88	0.3001	-0.0080	0.0016	-0.0014	0.0026	-0.2715	0.0126	-0.4073	0.0391
4	119.88	0.3502	0.0014	0.0032	-0.0037	0.0042	-0.4995	0.0195	-0.6526	0.0367
4	119.88	0.4002	0.0179	0.0037	0.0014	0.0065	-0.7748	0.0324	-0.7183	0.0445
4	119.88	0.4500	0.0391	0.0042	0.0065	0.0079	-1.1658	0.0449	-1.0360	0.0514
4	119.88	0.5001	0.0490	0.0053	0.0001	0.0100	-1.6403	0.0587	-1.0272	0.0578
4	119.88	0.5560	0.0587	0.0060	0.0039	0.0119	-2.4062	0.0764	-1.3779	0.0551
4	119.88	0.6001	0.0622	0.0072	0.0018	0.0143	-3.0842	0.0913	-1.3882	0.0665
4	119.88	0.6501	0.0460	0.0079	-0.0304	0.0166	-4.0433	0.1090	-1.3802	0.0665
4	119.88	0.6999	0.0391	0.0098	-0.0721	0.0183	-5.1460	0.1273	-1.2903	0.0721
4	119.88	0.7500	0.0112	0.0108	-0.0985	0.0217	-6.3905	0.1475	-1.1620	0.0723
4	119.88	0.8002	-0.0273	0.0128	-0.1488	0.0242	-7.7789	0.1691	-1.1324	0.0745
4	119.88	0.8582	-0.0730	0.0154	-0.1893	0.0282	-9.5359	0.1952	-1.4683	0.0804
4	119.88	0.9101	-0.1162	0.0174	-0.2365	0.0315	-11.1740	0.2203	-1.5198	0.0653
4	119.88	0.9728	-0.1259	0.0218	-0.2717	0.0368	-13.1407	0.2546	-1.3518	0.0763

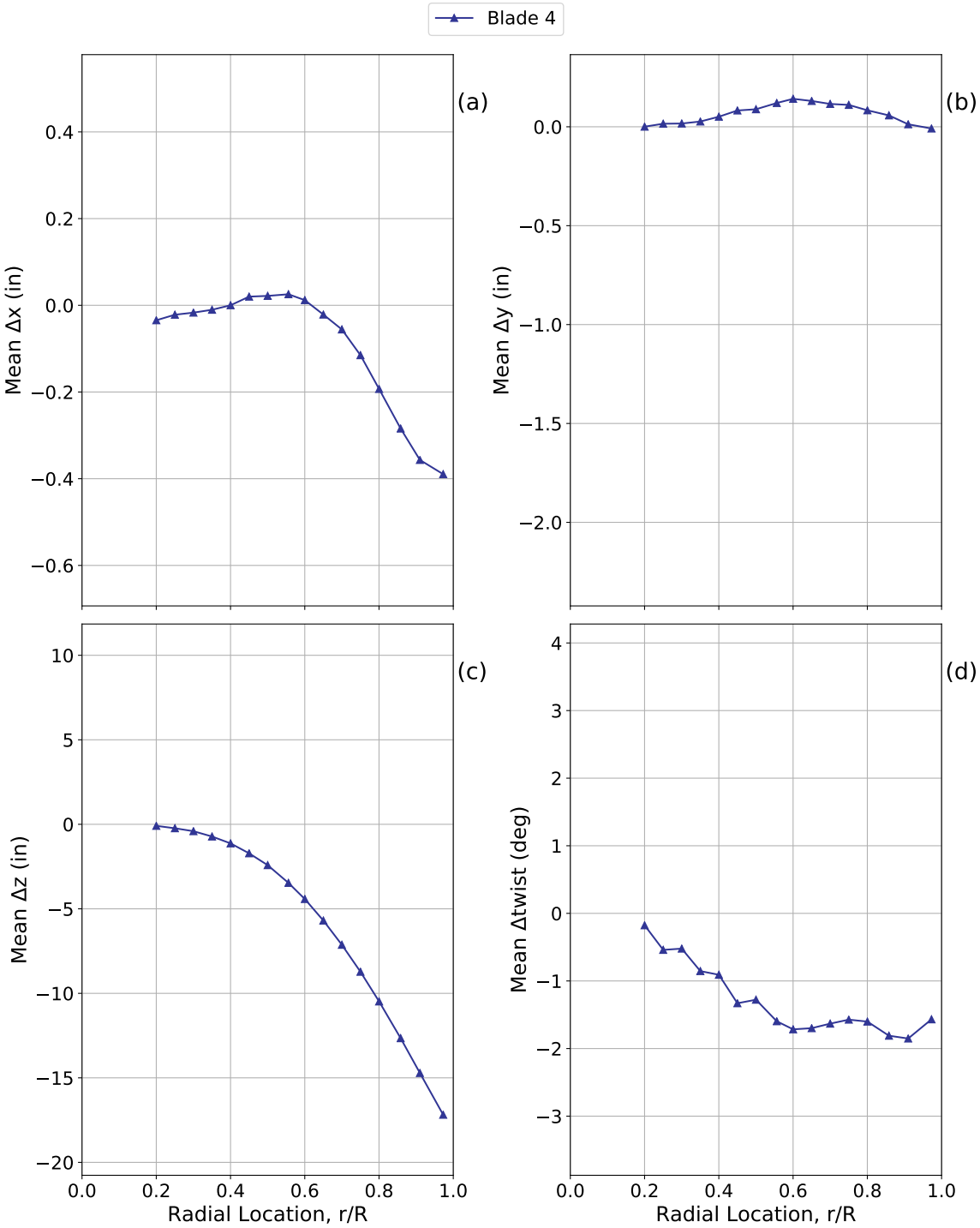


Figure 3.23-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0345	0.0015	0.0006	0.0009	-0.0917	0.0053	-0.1764	0.0204
4	135	0.2502	-0.0217	0.0018	0.0154	0.0023	-0.2334	0.0117	-0.5404	0.0232
4	135	0.3001	-0.0169	0.0026	0.0165	0.0038	-0.4079	0.0226	-0.5217	0.0417
4	135	0.3502	-0.0103	0.0027	0.0267	0.0069	-0.7218	0.0378	-0.8541	0.0298
4	135	0.4002	0.0001	0.0042	0.0510	0.0106	-1.1296	0.0597	-0.9088	0.0376
4	135	0.4500	0.0200	0.0064	0.0824	0.0139	-1.7154	0.0860	-1.3298	0.0500
4	135	0.5001	0.0217	0.0079	0.0886	0.0173	-2.4166	0.1206	-1.2776	0.0416
4	135	0.5560	0.0255	0.0106	0.1202	0.0214	-3.4661	0.1672	-1.5961	0.0481
4	135	0.6001	0.0119	0.0142	0.1414	0.0259	-4.4206	0.2117	-1.7158	0.0469
4	135	0.6501	-0.0214	0.0190	0.1305	0.0302	-5.6940	0.2711	-1.6986	0.0420
4	135	0.6999	-0.0557	0.0253	0.1155	0.0345	-7.1289	0.3397	-1.6316	0.0357
4	135	0.7500	-0.1151	0.0330	0.1106	0.0395	-8.7252	0.4152	-1.5724	0.0420
4	135	0.8002	-0.1930	0.0427	0.0833	0.0441	-10.4811	0.4979	-1.6011	0.0395
4	135	0.8582	-0.2843	0.0540	0.0576	0.0506	-12.6548	0.5986	-1.8101	0.0390
4	135	0.9101	-0.3567	0.0646	0.0126	0.0565	-14.7137	0.6947	-1.8516	0.0385
4	135	0.9728	-0.3895	0.0783	-0.0087	0.0636	-17.1834	0.8153	-1.5679	0.0438

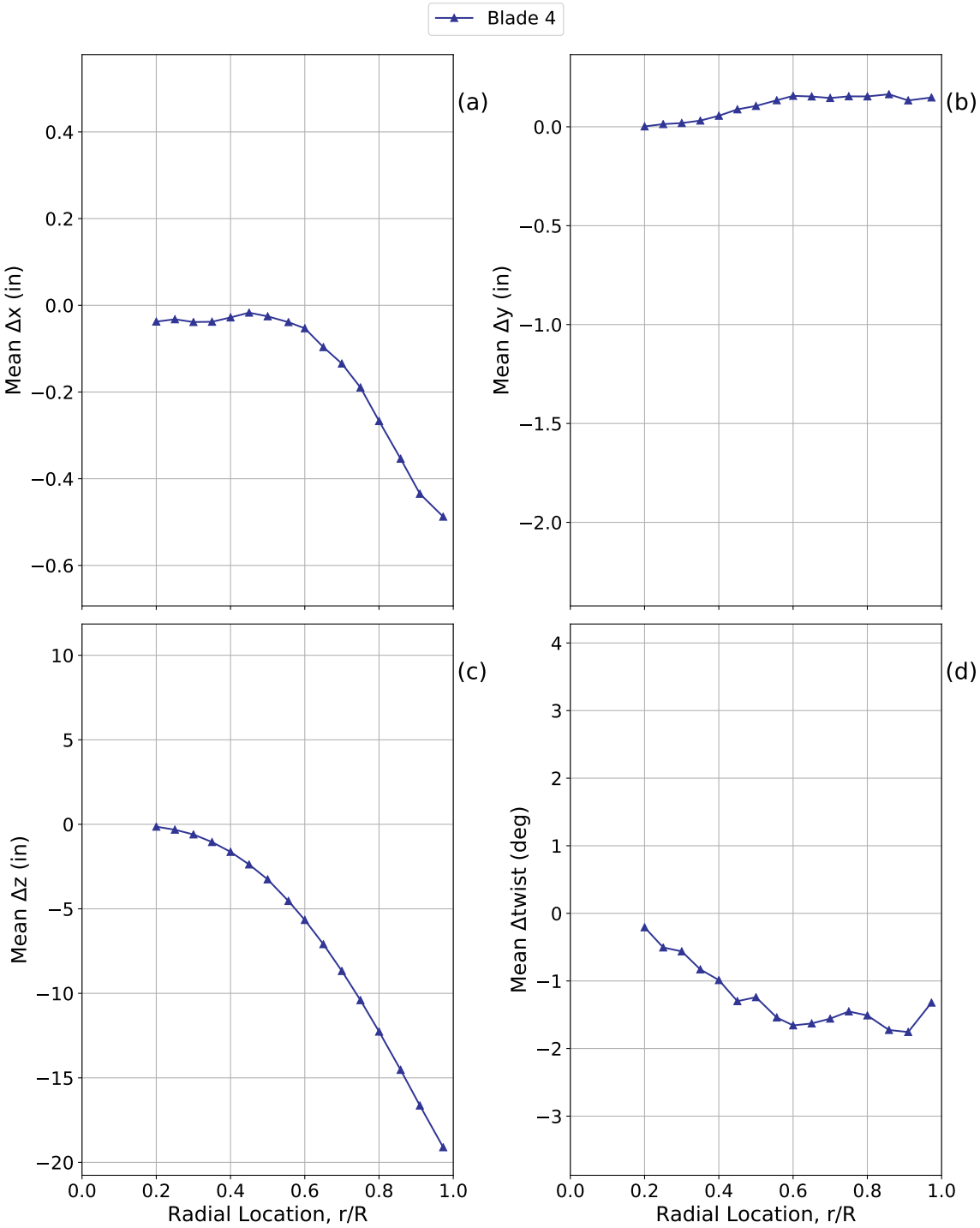


Figure 3.23-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0376	0.0015	0.0018	0.0004	-0.1415	0.0021	-0.2066	0.0205
4	150.12	0.2502	-0.0323	0.0013	0.0134	0.0012	-0.3200	0.0048	-0.5050	0.0270
4	150.12	0.3001	-0.0386	0.0009	0.0189	0.0014	-0.6004	0.0067	-0.5627	0.0431
4	150.12	0.3502	-0.0380	0.0012	0.0312	0.0027	-1.0504	0.0136	-0.8293	0.0453
4	150.12	0.4002	-0.0280	0.0020	0.0557	0.0040	-1.6320	0.0196	-0.9879	0.0455
4	150.12	0.4500	-0.0170	0.0019	0.0880	0.0057	-2.3768	0.0275	-1.2995	0.0378
4	150.12	0.5001	-0.0255	0.0027	0.1053	0.0077	-3.2600	0.0394	-1.2403	0.0440
4	150.12	0.5560	-0.0389	0.0039	0.1340	0.0103	-4.5380	0.0568	-1.5410	0.0537
4	150.12	0.6001	-0.0531	0.0064	0.1563	0.0132	-5.6613	0.0759	-1.6576	0.0421
4	150.12	0.6501	-0.0965	0.0076	0.1532	0.0167	-7.0937	0.0983	-1.6289	0.0563
4	150.12	0.6999	-0.1345	0.0110	0.1454	0.0206	-8.6799	0.1336	-1.5575	0.0460
4	150.12	0.7500	-0.1896	0.0165	0.1539	0.0245	-10.4073	0.1767	-1.4514	0.0477
4	150.12	0.8002	-0.2671	0.0224	0.1535	0.0298	-12.2680	0.2295	-1.5102	0.0418
4	150.12	0.8582	-0.3540	0.0325	0.1644	0.0366	-14.5315	0.2999	-1.7257	0.0465
4	150.12	0.9101	-0.4348	0.0409	0.1332	0.0438	-16.6397	0.3716	-1.7556	0.0539
4	150.12	0.9728	-0.4876	0.0523	0.1480	0.0524	-19.1081	0.4669	-1.3208	0.0600

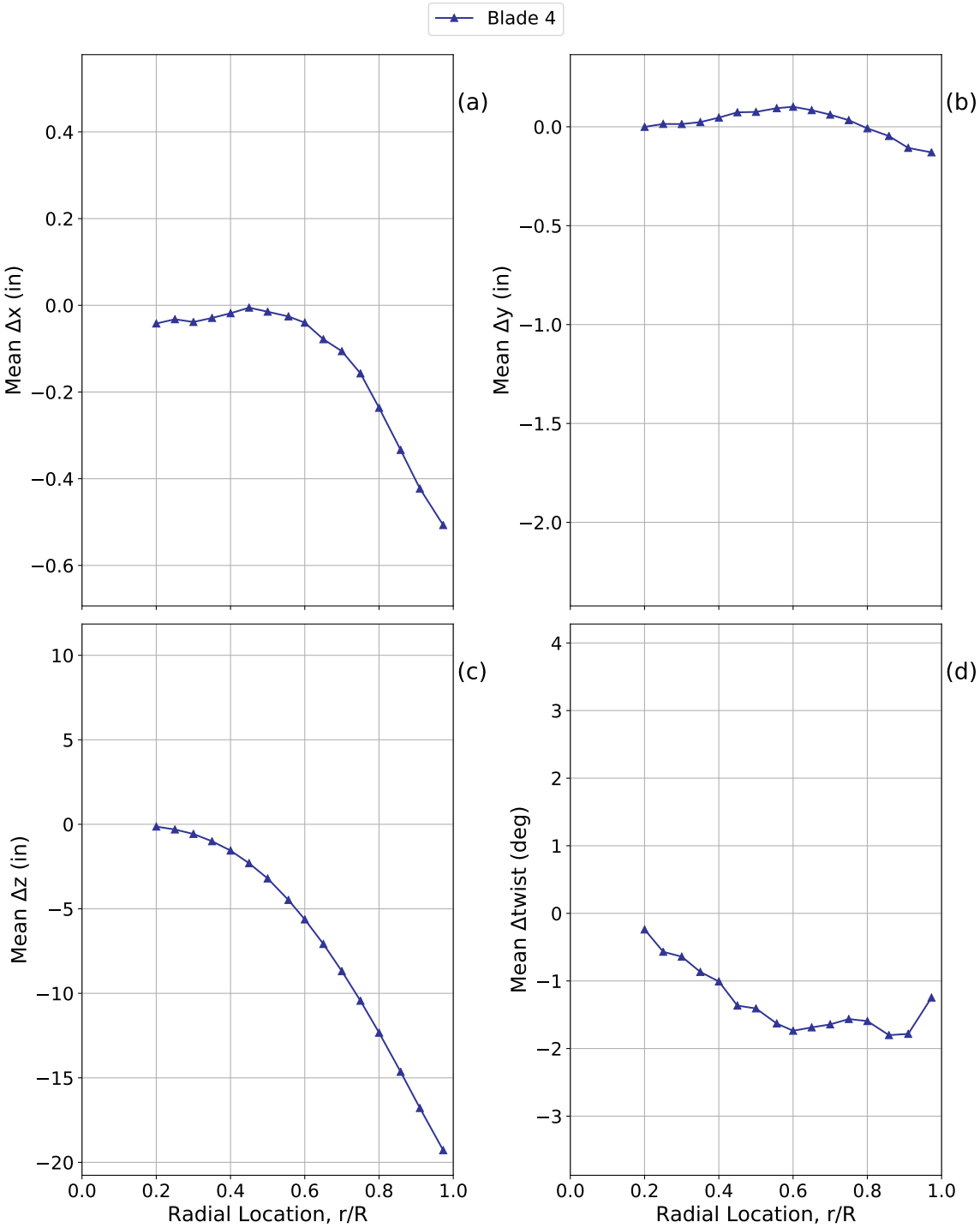


Figure 3.23-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0420	0.0032	-0.0006	0.0011	-0.1353	0.0038	-0.2387	0.0263
4	164.88	0.2502	-0.0322	0.0044	0.0143	0.0013	-0.3071	0.0051	-0.5685	0.0447
4	164.88	0.3001	-0.0385	0.0022	0.0137	0.0033	-0.5715	0.0117	-0.6409	0.0553
4	164.88	0.3502	-0.0292	0.0026	0.0236	0.0061	-1.0025	0.0198	-0.8669	0.0485
4	164.88	0.4002	-0.0183	0.0052	0.0464	0.0085	-1.5554	0.0286	-1.0084	0.0564
4	164.88	0.4500	-0.0055	0.0059	0.0731	0.0103	-2.3046	0.0398	-1.3651	0.0627
4	164.88	0.5001	-0.0148	0.0072	0.0752	0.0125	-3.2064	0.0515	-1.4067	0.0551
4	164.88	0.5560	-0.0257	0.0083	0.0940	0.0171	-4.4792	0.0656	-1.6296	0.0600
4	164.88	0.6001	-0.0401	0.0094	0.1011	0.0172	-5.6287	0.0768	-1.7370	0.0611
4	164.88	0.6501	-0.0783	0.0111	0.0840	0.0215	-7.0815	0.0928	-1.6874	0.0667
4	164.88	0.6999	-0.1059	0.0130	0.0612	0.0253	-8.6914	0.1069	-1.6429	0.0790
4	164.88	0.7500	-0.1571	0.0149	0.0333	0.0291	-10.4422	0.1221	-1.5635	0.0709
4	164.88	0.8002	-0.2365	0.0179	-0.0080	0.0339	-12.3317	0.1386	-1.5938	0.0698
4	164.88	0.8582	-0.3337	0.0214	-0.0468	0.0388	-14.6445	0.1676	-1.8016	0.0582
4	164.88	0.9101	-0.4228	0.0250	-0.1068	0.0444	-16.7881	0.1948	-1.7834	0.0628
4	164.88	0.9728	-0.5070	0.0297	-0.1294	0.0506	-19.2825	0.2302	-1.2466	0.0624

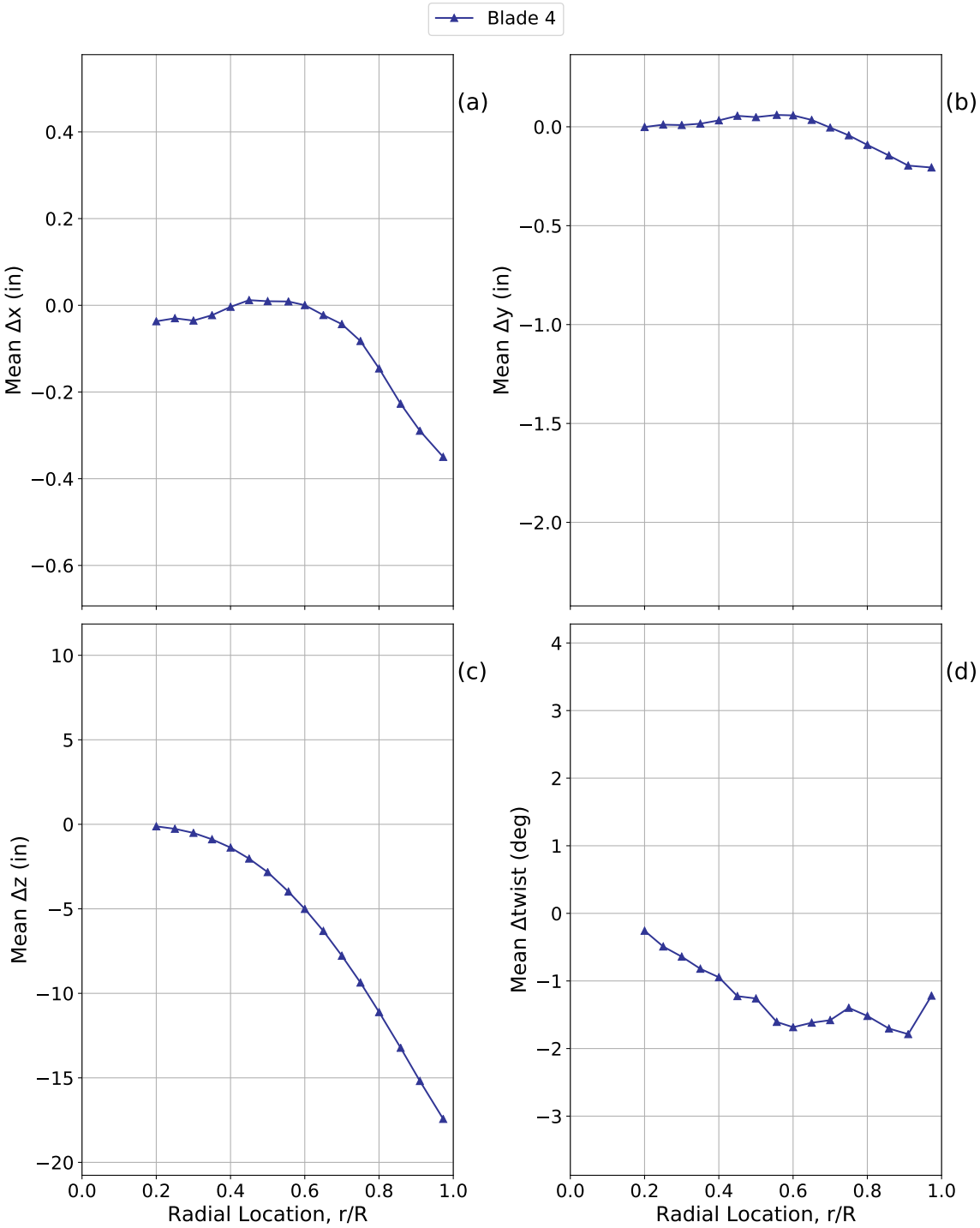


Figure 3.23-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0369	0.0034	-0.0013	0.0033	-0.1218	0.0079	-0.2580	0.0515
4	170.16	0.2502	-0.0299	0.0095	0.0107	0.0040	-0.2672	0.0084	-0.4909	0.0663
4	170.16	0.3001	-0.0353	0.0036	0.0087	0.0073	-0.5097	0.0188	-0.6408	0.0889
4	170.16	0.3502	-0.0228	0.0030	0.0156	0.0108	-0.8891	0.0295	-0.8199	0.0871
4	170.16	0.4002	-0.0036	0.0045	0.0323	0.0142	-1.3784	0.0391	-0.9460	0.1015
4	170.16	0.4500	0.0119	0.0043	0.0554	0.0186	-2.0326	0.0478	-1.2250	0.1042
4	170.16	0.5001	0.0094	0.0051	0.0486	0.0226	-2.8312	0.0532	-1.2593	0.1036
4	170.16	0.5560	0.0088	0.0058	0.0599	0.0281	-3.9841	0.0608	-1.6064	0.1094
4	170.16	0.6001	0.0003	0.0065	0.0576	0.0322	-5.0078	0.0677	-1.6842	0.0850
4	170.16	0.6501	-0.0226	0.0068	0.0346	0.0366	-6.3124	0.0734	-1.6182	0.1165
4	170.16	0.6999	-0.0435	0.0077	-0.0040	0.0421	-7.7787	0.0784	-1.5803	0.1247
4	170.16	0.7500	-0.0825	0.0096	-0.0434	0.0477	-9.3663	0.0848	-1.3982	0.1002
4	170.16	0.8002	-0.1458	0.0107	-0.0918	0.0542	-11.1135	0.0965	-1.5183	0.1043
4	170.16	0.8582	-0.2272	0.0139	-0.1454	0.0618	-13.2246	0.1166	-1.7039	0.1210
4	170.16	0.9101	-0.2895	0.0160	-0.1962	0.0687	-15.1894	0.1425	-1.7871	0.1060
4	170.16	0.9728	-0.3498	0.0203	-0.2060	0.0761	-17.4307	0.1784	-1.2182	0.1274

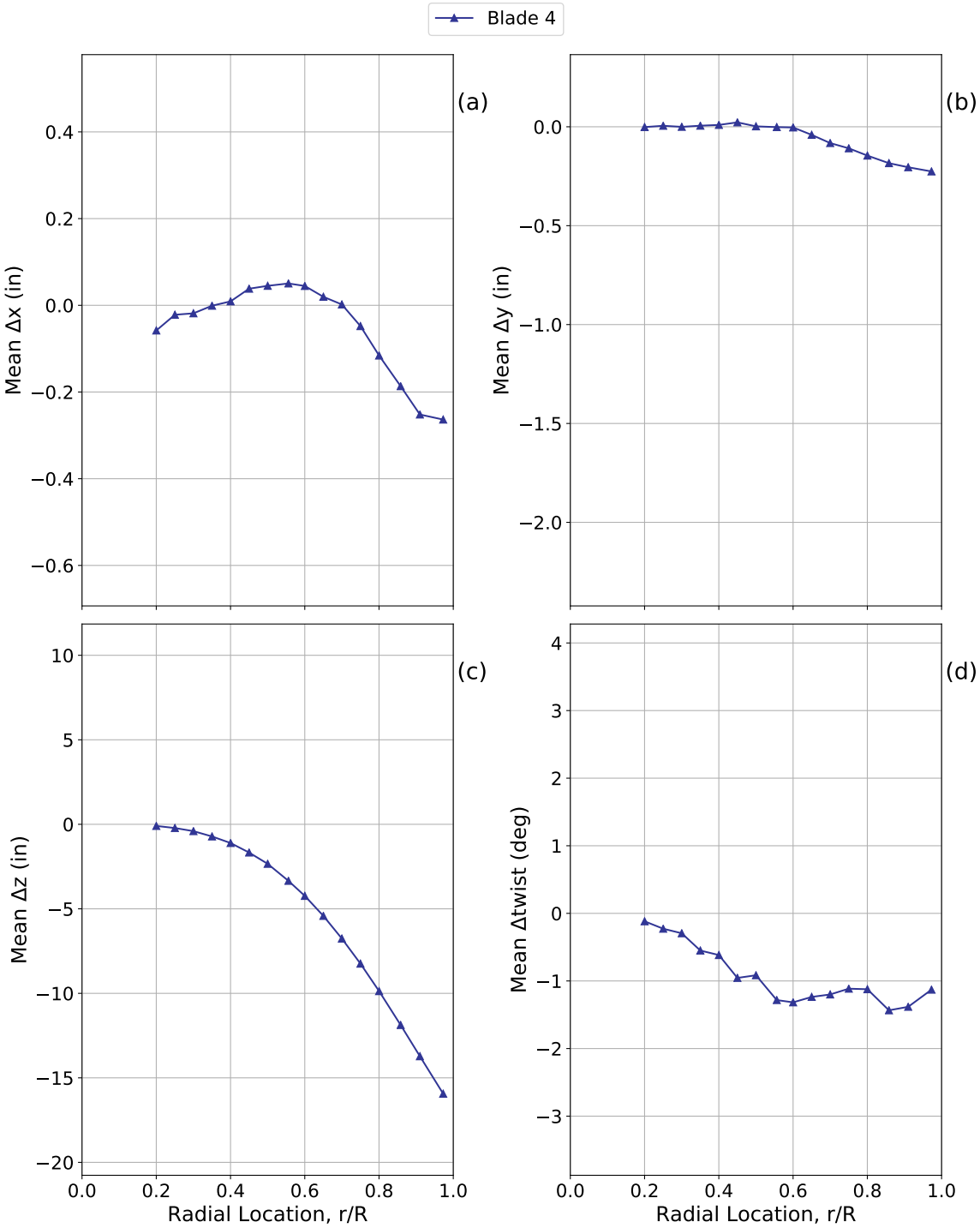


Figure 3.23-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0581	0.0120	-0.0015	0.0013	-0.0973	0.0038	-0.1177	0.0280
4	175.08	0.2502	-0.0218	0.0045	0.0051	0.0032	-0.2193	0.0056	-0.2272	0.0591
4	175.08	0.3001	-0.0185	0.0036	-0.0003	0.0058	-0.4049	0.0108	-0.2948	0.0677
4	175.08	0.3502	-0.0010	0.0099	0.0055	0.0099	-0.7186	0.0191	-0.5500	0.0665
4	175.08	0.4002	0.0091	0.0172	0.0094	0.0158	-1.1078	0.0267	-0.6170	0.0708
4	175.08	0.4500	0.0383	0.0253	0.0224	0.0220	-1.6702	0.0344	-0.9551	0.0745
4	175.08	0.5001	0.0449	0.0328	0.0022	0.0287	-2.3383	0.0430	-0.9158	0.0630
4	175.08	0.5560	0.0504	0.0409	-0.0017	0.0355	-3.3451	0.0515	-1.2828	0.0889
4	175.08	0.6001	0.0446	0.0476	-0.0034	0.0421	-4.2354	0.0573	-1.3164	0.1044
4	175.08	0.6501	0.0196	0.0539	-0.0408	0.0496	-5.4182	0.0682	-1.2364	0.0893
4	175.08	0.6999	0.0019	0.0593	-0.0823	0.0586	-6.7608	0.0754	-1.1999	0.1141
4	175.08	0.7500	-0.0480	0.0645	-0.1089	0.0674	-8.2451	0.0863	-1.1143	0.1111
4	175.08	0.8002	-0.1159	0.0675	-0.1457	0.0772	-9.8709	0.0982	-1.1226	0.1206
4	175.08	0.8582	-0.1866	0.0687	-0.1840	0.0892	-11.8744	0.1233	-1.4343	0.0799
4	175.08	0.9101	-0.2519	0.0714	-0.2046	0.1037	-13.7232	0.1439	-1.3825	0.1362
4	175.08	0.9728	-0.2636	0.0756	-0.2258	0.1160	-15.9395	0.1853	-1.1290	0.1896

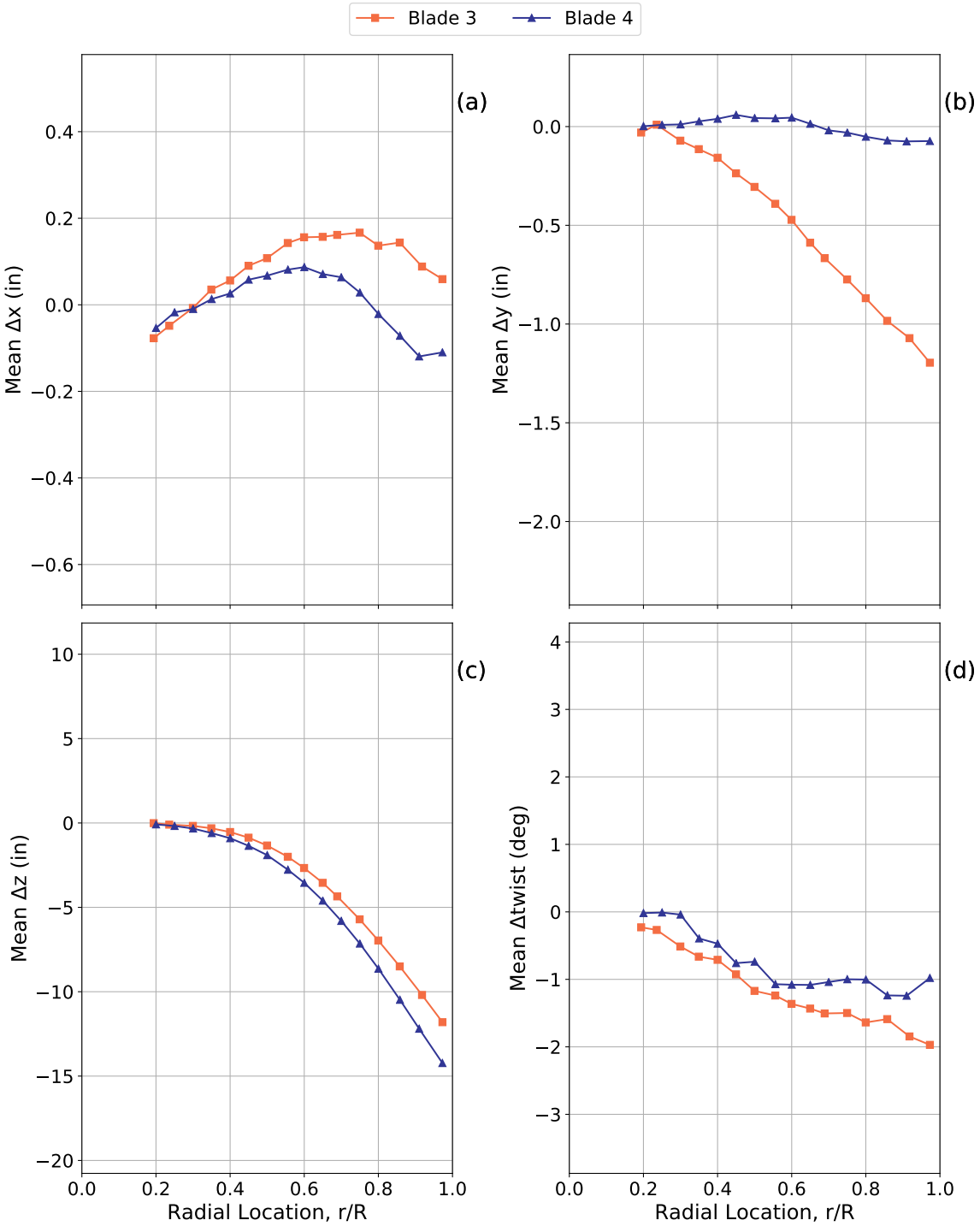


Figure 3.23-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0772	0.0318	-0.0301	0.0141	-0.0102	0.0259	-0.2289	0.0219
3	180.35	0.2357	-0.0484	0.0074	0.0096	0.0041	-0.0981	0.0171	-0.2679	0.0586
3	180.35	0.2995	-0.0073	0.0113	-0.0713	0.0416	-0.1735	0.0638	-0.5130	0.0667
3	180.35	0.3493	0.0352	0.0210	-0.1144	0.0719	-0.3146	0.1009	-0.6637	0.0574
3	180.35	0.4000	0.0562	0.0313	-0.1578	0.1038	-0.5368	0.1404	-0.7107	0.0636
3	180.35	0.4497	0.0902	0.0411	-0.2366	0.1337	-0.8705	0.1775	-0.9261	0.0610
3	180.35	0.4997	0.1078	0.0505	-0.3055	0.1638	-1.3359	0.2161	-1.1710	0.0560
3	180.35	0.5556	0.1428	0.0601	-0.3910	0.1973	-2.0048	0.2567	-1.2395	0.0522
3	180.35	0.5995	0.1560	0.0673	-0.4723	0.2235	-2.6684	0.2884	-1.3633	0.0556
3	180.35	0.6498	0.1570	0.0748	-0.5880	0.2534	-3.5467	0.3216	-1.4330	0.0592
3	180.35	0.6890	0.1615	0.0791	-0.6662	0.2780	-4.3517	0.3485	-1.5051	0.0625
3	180.35	0.7495	0.1667	0.0856	-0.7742	0.3163	-5.7097	0.3885	-1.4985	0.0530
3	180.35	0.7998	0.1366	0.0895	-0.8691	0.3509	-6.9654	0.4236	-1.6384	0.0621
3	180.35	0.8577	0.1438	0.0943	-0.9837	0.3908	-8.5001	0.4689	-1.5892	0.0678
3	180.35	0.9178	0.0884	0.0969	-1.0714	0.4392	-10.1932	0.5224	-1.8459	0.0706
3	180.35	0.9729	0.0593	0.1051	-1.1958	0.4774	-11.8056	0.5680	-1.9708	0.1646
4	180	0.2001	-0.0536	0.0087	0.0019	0.0025	-0.0854	0.0065	-0.0182	0.0341
4	180	0.2502	-0.0174	0.0040	0.0088	0.0027	-0.1785	0.0108	-0.0099	0.0798
4	180	0.3001	-0.0097	0.0031	0.0109	0.0090	-0.3303	0.0215	-0.0405	0.0882
4	180	0.3502	0.0132	0.0084	0.0266	0.0150	-0.6005	0.0358	-0.3944	0.0694
4	180	0.4002	0.0262	0.0146	0.0394	0.0225	-0.9054	0.0536	-0.4716	0.0881
4	180	0.4500	0.0581	0.0198	0.0591	0.0316	-1.3573	0.0755	-0.7594	0.0797
4	180	0.5001	0.0674	0.0256	0.0432	0.0405	-1.9080	0.0994	-0.7385	0.0902
4	180	0.5560	0.0813	0.0318	0.0417	0.0512	-2.7733	0.1262	-1.0716	0.0897
4	180	0.6001	0.0870	0.0368	0.0452	0.0607	-3.5475	0.1473	-1.0796	0.0951
4	180	0.6501	0.0710	0.0421	0.0141	0.0721	-4.6037	0.1711	-1.0825	0.0874
4	180	0.6999	0.0636	0.0486	-0.0192	0.0850	-5.8060	0.1942	-1.0392	0.0976
4	180	0.7500	0.0283	0.0548	-0.0307	0.1007	-7.1501	0.2117	-0.9988	0.1021
4	180	0.8002	-0.0213	0.0626	-0.0514	0.1188	-8.6379	0.2282	-1.0028	0.1076
4	180	0.8582	-0.0716	0.0725	-0.0703	0.1443	-10.4801	0.2496	-1.2379	0.1093
4	180	0.9101	-0.1193	0.0801	-0.0750	0.1694	-12.1954	0.2757	-1.2427	0.1011
4	180	0.9728	-0.1099	0.0952	-0.0733	0.2030	-14.2283	0.3093	-0.9794	0.1489

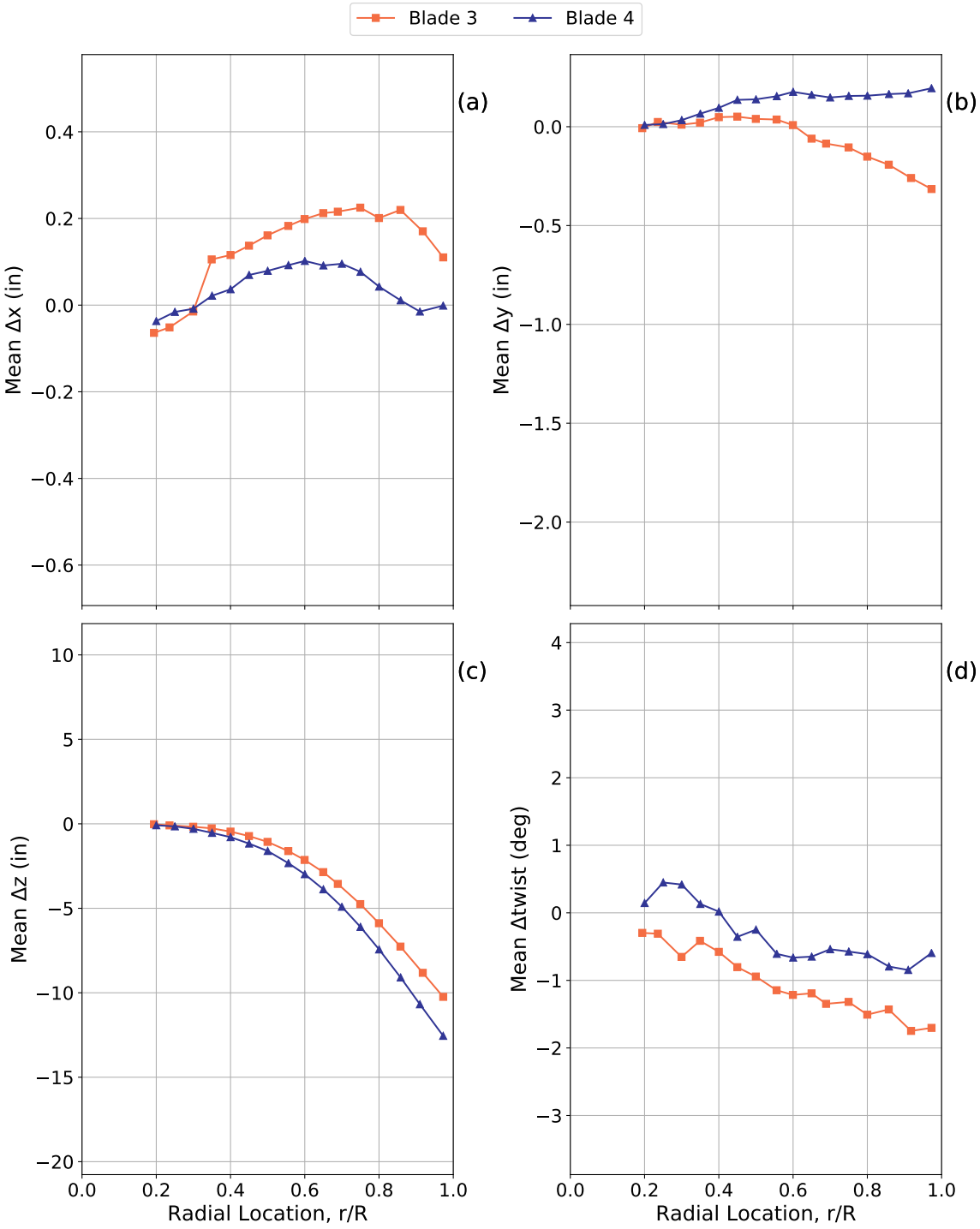


Figure 3.23-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0640	0.0055	-0.0073	0.0158	-0.0239	0.0422	-0.2969	0.0098
3	184.92	0.2357	-0.0514	0.0052	0.0239	0.0247	-0.0923	0.0610	-0.3092	0.0334
3	184.92	0.2995	-0.0147	0.0059	0.0104	0.0373	-0.1727	0.0906	-0.6526	0.0273
3	184.92	0.3493	0.1055	0.0225	0.0207	0.1401	-0.2664	0.2280	-0.4145	0.0748
3	184.92	0.4000	0.1157	0.0289	0.0483	0.1626	-0.4592	0.2714	-0.5779	0.0766
3	184.92	0.4497	0.1372	0.0306	0.0509	0.1826	-0.7249	0.3111	-0.8040	0.0487
3	184.92	0.4997	0.1610	0.0341	0.0395	0.2035	-1.0675	0.3570	-0.9432	0.0493
3	184.92	0.5556	0.1828	0.0361	0.0363	0.2238	-1.6112	0.4035	-1.1459	0.0442
3	184.92	0.5995	0.1987	0.0371	0.0082	0.2392	-2.1373	0.4411	-1.2147	0.0462
3	184.92	0.6498	0.2123	0.0379	-0.0604	0.2528	-2.8586	0.4828	-1.1916	0.0504
3	184.92	0.6890	0.2157	0.0386	-0.0854	0.2614	-3.5562	0.5201	-1.3469	0.0570
3	184.92	0.7495	0.2250	0.0379	-0.1048	0.2716	-4.7511	0.5696	-1.3183	0.0425
3	184.92	0.7998	0.2010	0.0366	-0.1514	0.2779	-5.8839	0.6162	-1.5071	0.0452
3	184.92	0.8577	0.2197	0.0347	-0.1923	0.2837	-7.2673	0.6732	-1.4301	0.1101
3	184.92	0.9178	0.1704	0.0319	-0.2595	0.2876	-8.8198	0.7242	-1.7476	0.0674
3	184.92	0.9729	0.1102	0.0325	-0.3152	0.2934	-10.2429	0.7813	-1.7031	0.0863
4	184.92	0.2001	-0.0368	0.0068	0.0089	0.0034	-0.0854	0.0073	0.1446	0.0607
4	184.92	0.2502	-0.0157	0.0048	0.0132	0.0049	-0.1519	0.0110	0.4489	0.1247
4	184.92	0.3001	-0.0084	0.0032	0.0333	0.0095	-0.2972	0.0205	0.4186	0.1462
4	184.92	0.3502	0.0216	0.0049	0.0660	0.0176	-0.5361	0.0334	0.1307	0.1478
4	184.92	0.4002	0.0366	0.0085	0.0955	0.0246	-0.7902	0.0487	0.0175	0.1427
4	184.92	0.4500	0.0696	0.0108	0.1358	0.0309	-1.1710	0.0631	-0.3556	0.1499
4	184.92	0.5001	0.0791	0.0149	0.1384	0.0382	-1.6083	0.0795	-0.2493	0.1443
4	184.92	0.5560	0.0922	0.0204	0.1543	0.0464	-2.3298	0.0970	-0.6076	0.1567
4	184.92	0.6001	0.1020	0.0229	0.1762	0.0532	-2.9833	0.1111	-0.6631	0.1545
4	184.92	0.6501	0.0915	0.0274	0.1615	0.0619	-3.8778	0.1277	-0.6485	0.1605
4	184.92	0.6999	0.0954	0.0311	0.1479	0.0725	-4.9095	0.1423	-0.5393	0.1577
4	184.92	0.7500	0.0768	0.0348	0.1556	0.0846	-6.1044	0.1576	-0.5733	0.1601
4	184.92	0.8002	0.0427	0.0371	0.1569	0.1003	-7.4362	0.1688	-0.6124	0.1697
4	184.92	0.8582	0.0110	0.0422	0.1651	0.1220	-9.0977	0.1840	-0.7951	0.1711
4	184.92	0.9101	-0.0149	0.0439	0.1688	0.1447	-10.6832	0.2024	-0.8462	0.1589
4	184.92	0.9728	-0.0012	0.0492	0.1946	0.1755	-12.5519	0.2210	-0.5954	0.1702

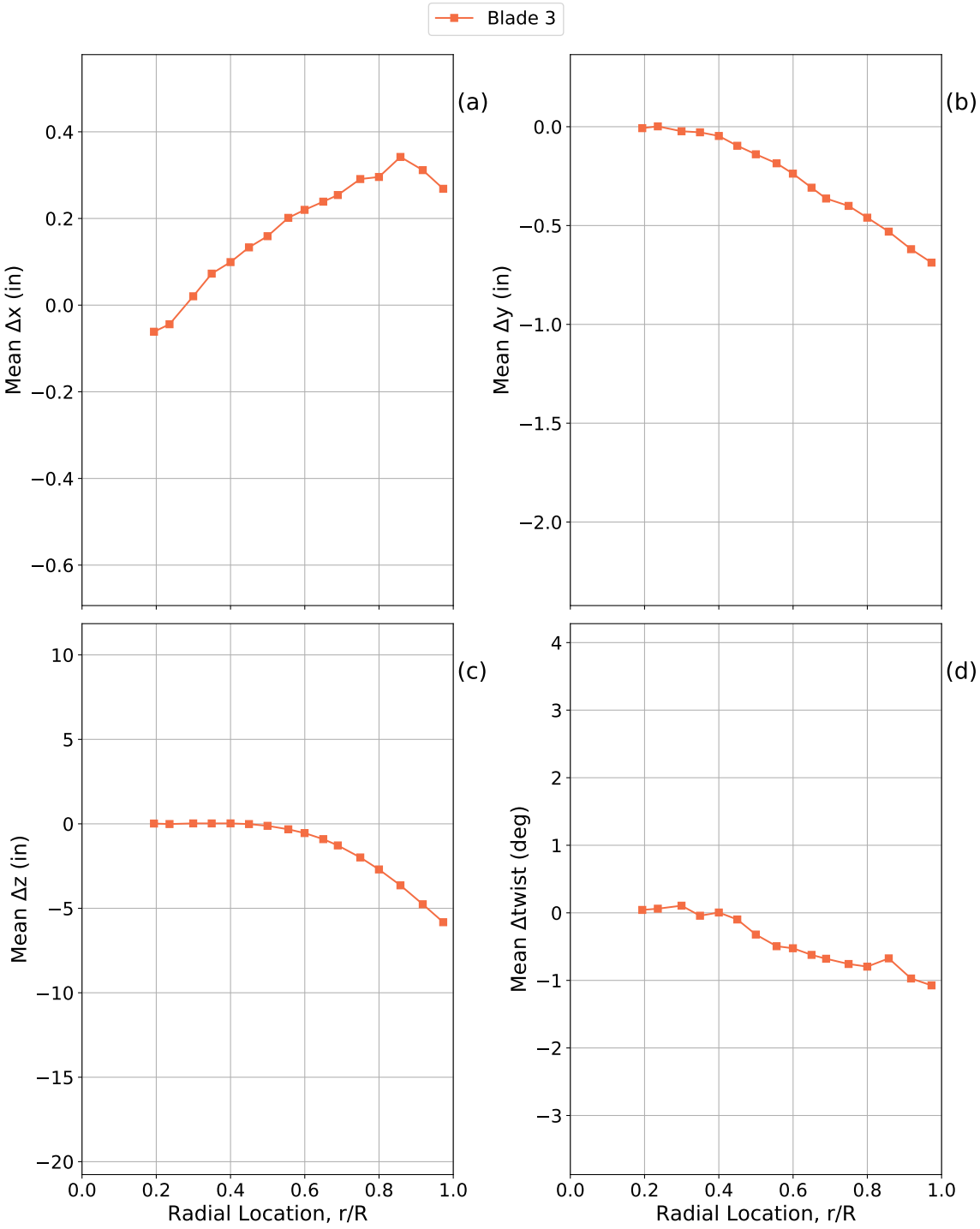


Figure 3.23-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0614	0.0045	-0.0073	0.0010	0.0178	0.0068	0.0430	0.0667
3	195.12	0.2357	-0.0441	0.0032	0.0018	0.0043	-0.0125	0.0119	0.0612	0.0759
3	195.12	0.2995	0.0204	0.0029	-0.0230	0.0074	0.0256	0.0294	0.1059	0.1485
3	195.12	0.3493	0.0727	0.0061	-0.0283	0.0089	0.0241	0.0435	-0.0426	0.0871
3	195.12	0.4000	0.0993	0.0065	-0.0468	0.0183	0.0260	0.0704	0.0047	0.0953
3	195.12	0.4497	0.1333	0.0077	-0.0964	0.0235	-0.0146	0.0951	-0.0985	0.0868
3	195.12	0.4997	0.1591	0.0078	-0.1395	0.0271	-0.1181	0.1245	-0.3214	0.0715
3	195.12	0.5556	0.2014	0.0080	-0.1851	0.0348	-0.3239	0.1640	-0.4942	0.0816
3	195.12	0.5995	0.2199	0.0091	-0.2374	0.0392	-0.5464	0.1963	-0.5243	0.0820
3	195.12	0.6498	0.2388	0.0098	-0.3084	0.0455	-0.9063	0.2355	-0.6225	0.0805
3	195.12	0.6890	0.2541	0.0100	-0.3633	0.0493	-1.2791	0.2675	-0.6797	0.0807
3	195.12	0.7495	0.2910	0.0127	-0.4006	0.0582	-1.9899	0.3301	-0.7574	0.0818
3	195.12	0.7998	0.2958	0.0147	-0.4601	0.0643	-2.7006	0.3846	-0.7964	0.0784
3	195.12	0.8577	0.3420	0.0186	-0.5307	0.0731	-3.6411	0.4581	-0.6741	0.0692
3	195.12	0.9178	0.3116	0.0222	-0.6196	0.0823	-4.7613	0.5411	-0.9722	0.0649
3	195.12	0.9729	0.2685	0.0273	-0.6875	0.0906	-5.8237	0.6218	-1.0742	0.0812

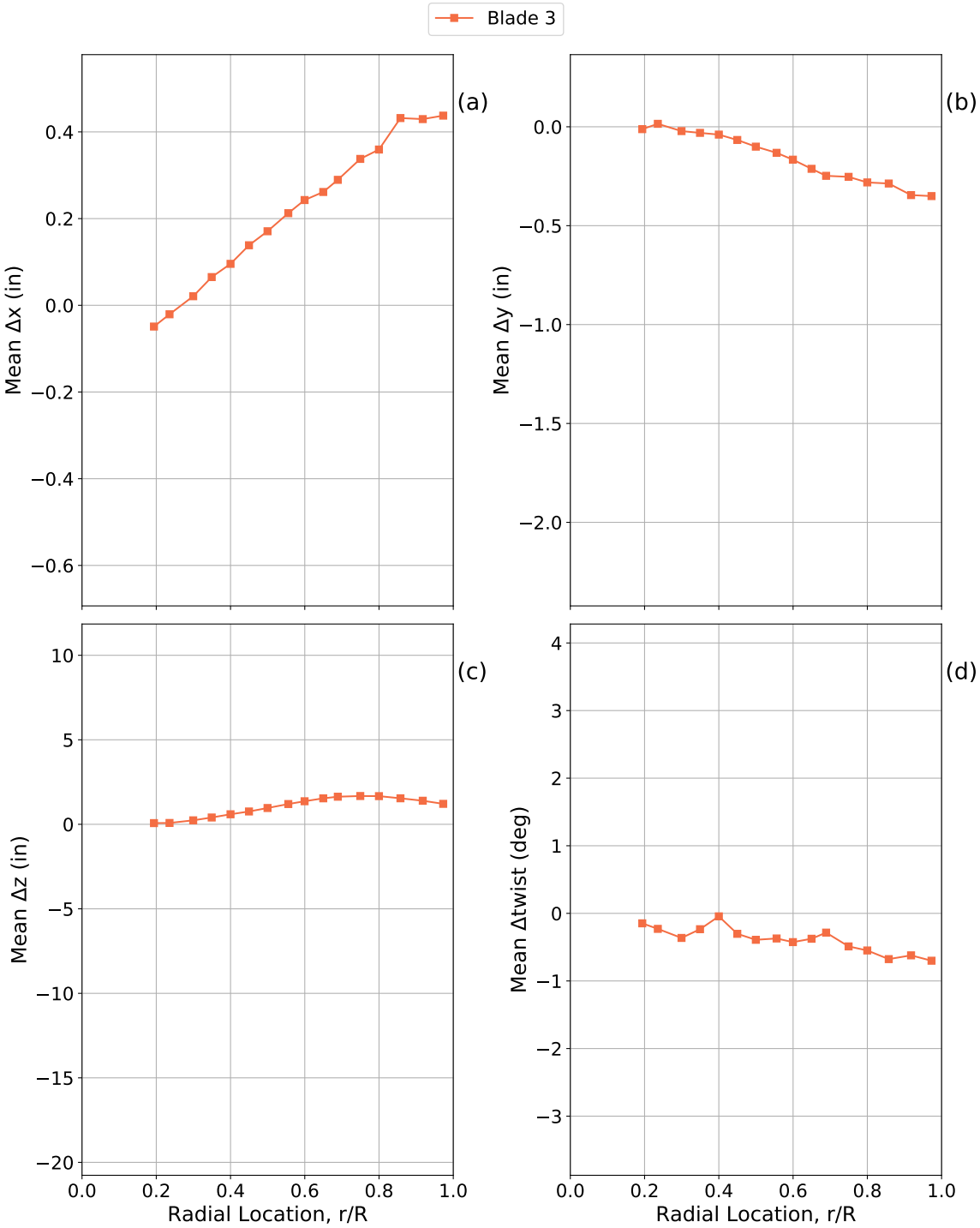


Figure 3.23-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0490	0.0017	-0.0119	0.0004	0.0713	0.0034	-0.1475	0.0196
3	209.88	0.2357	-0.0207	0.0012	0.0150	0.0019	0.0794	0.0078	-0.2295	0.0160
3	209.88	0.2995	0.0209	0.0008	-0.0218	0.0036	0.2355	0.0138	-0.3636	0.0350
3	209.88	0.3493	0.0651	0.0014	-0.0307	0.0065	0.4030	0.0220	-0.2346	0.0381
3	209.88	0.4000	0.0956	0.0025	-0.0395	0.0107	0.5938	0.0343	-0.0442	0.0304
3	209.88	0.4497	0.1385	0.0028	-0.0667	0.0124	0.7590	0.0395	-0.3027	0.0393
3	209.88	0.4997	0.1708	0.0032	-0.1004	0.0162	0.9641	0.0476	-0.3912	0.0495
3	209.88	0.5556	0.2125	0.0031	-0.1316	0.0203	1.1995	0.0610	-0.3715	0.0469
3	209.88	0.5995	0.2428	0.0026	-0.1663	0.0240	1.3641	0.0699	-0.4255	0.0632
3	209.88	0.6498	0.2614	0.0029	-0.2125	0.0278	1.5372	0.0779	-0.3756	0.0430
3	209.88	0.6890	0.2894	0.0034	-0.2479	0.0317	1.6329	0.0885	-0.2849	0.0427
3	209.88	0.7495	0.3377	0.0036	-0.2531	0.0389	1.6735	0.1020	-0.4889	0.0377
3	209.88	0.7998	0.3593	0.0038	-0.2813	0.0447	1.6672	0.1175	-0.5489	0.0466
3	209.88	0.8577	0.4319	0.0040	-0.2868	0.0517	1.5393	0.1376	-0.6769	0.0402
3	209.88	0.9178	0.4295	0.0041	-0.3453	0.0594	1.3947	0.1634	-0.6212	0.0537
3	209.88	0.9729	0.4375	0.0055	-0.3504	0.0661	1.2106	0.1873	-0.7006	0.0425

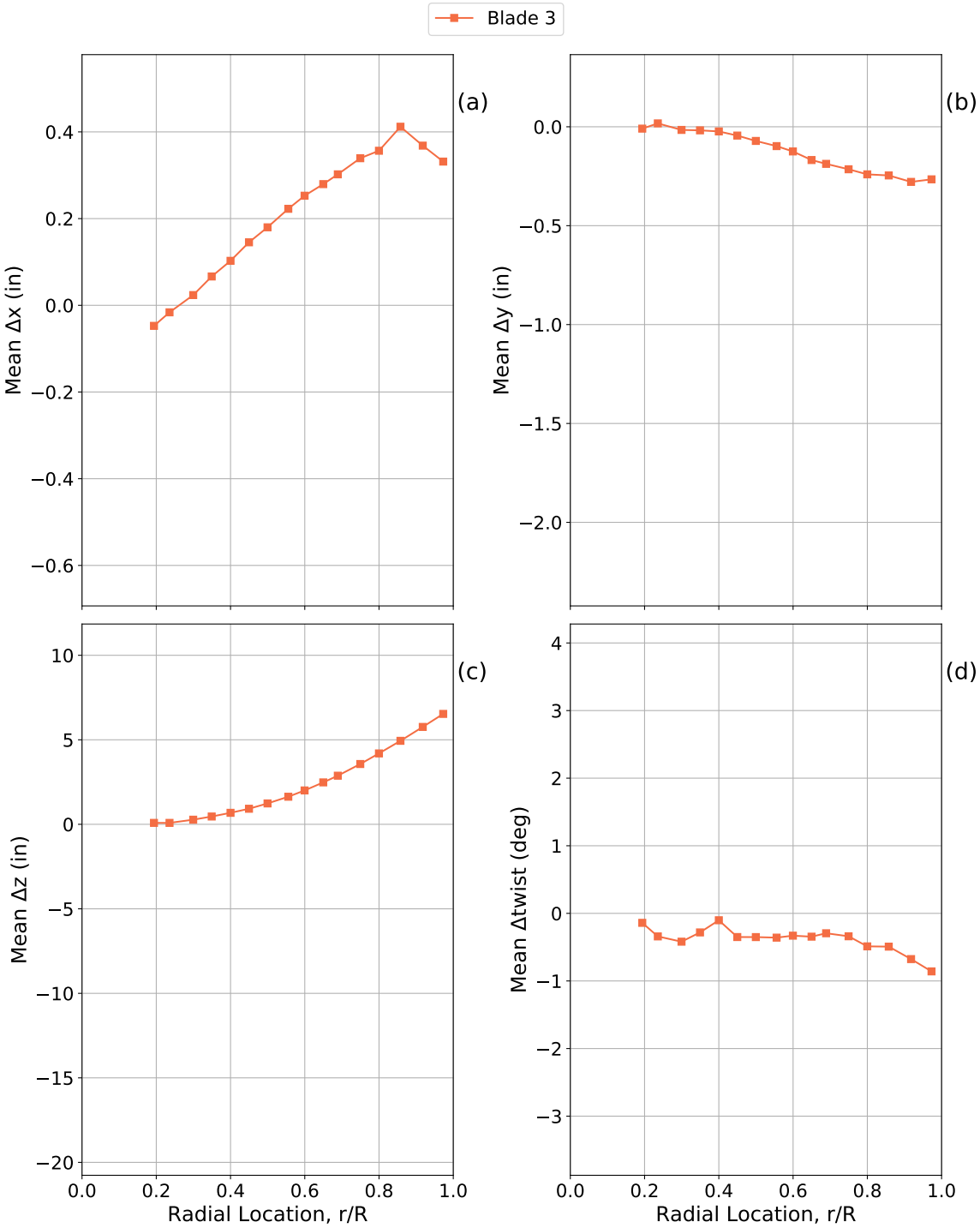


Figure 3.23-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0474	0.0009	-0.0093	0.0005	0.0845	0.0027	-0.1404	0.0175
3	225	0.2357	-0.0162	0.0014	0.0172	0.0009	0.0840	0.0058	-0.3411	0.0297
3	225	0.2995	0.0236	0.0013	-0.0158	0.0012	0.2735	0.0113	-0.4190	0.0427
3	225	0.3493	0.0665	0.0015	-0.0180	0.0027	0.4611	0.0181	-0.2820	0.0425
3	225	0.4000	0.1026	0.0015	-0.0235	0.0038	0.6799	0.0290	-0.1021	0.0399
3	225	0.4497	0.1453	0.0019	-0.0444	0.0056	0.9206	0.0409	-0.3504	0.0516
3	225	0.4997	0.1799	0.0023	-0.0715	0.0076	1.2356	0.0550	-0.3511	0.0425
3	225	0.5556	0.2226	0.0024	-0.0977	0.0113	1.6320	0.0750	-0.3591	0.0191
3	225	0.5995	0.2528	0.0026	-0.1247	0.0151	2.0037	0.0973	-0.3301	0.0501
3	225	0.6498	0.2795	0.0039	-0.1681	0.0186	2.4801	0.1204	-0.3449	0.0507
3	225	0.6890	0.3021	0.0044	-0.1874	0.0208	2.8762	0.1448	-0.2943	0.0355
3	225	0.7495	0.3393	0.0058	-0.2148	0.0262	3.5674	0.1823	-0.3391	0.0563
3	225	0.7998	0.3565	0.0077	-0.2405	0.0308	4.1944	0.2195	-0.4883	0.0476
3	225	0.8577	0.4119	0.0099	-0.2460	0.0359	4.9392	0.2697	-0.4921	0.0507
3	225	0.9178	0.3683	0.0124	-0.2786	0.0413	5.7615	0.3271	-0.6765	0.0524
3	225	0.9729	0.3315	0.0169	-0.2657	0.0462	6.5323	0.3888	-0.8586	0.0551

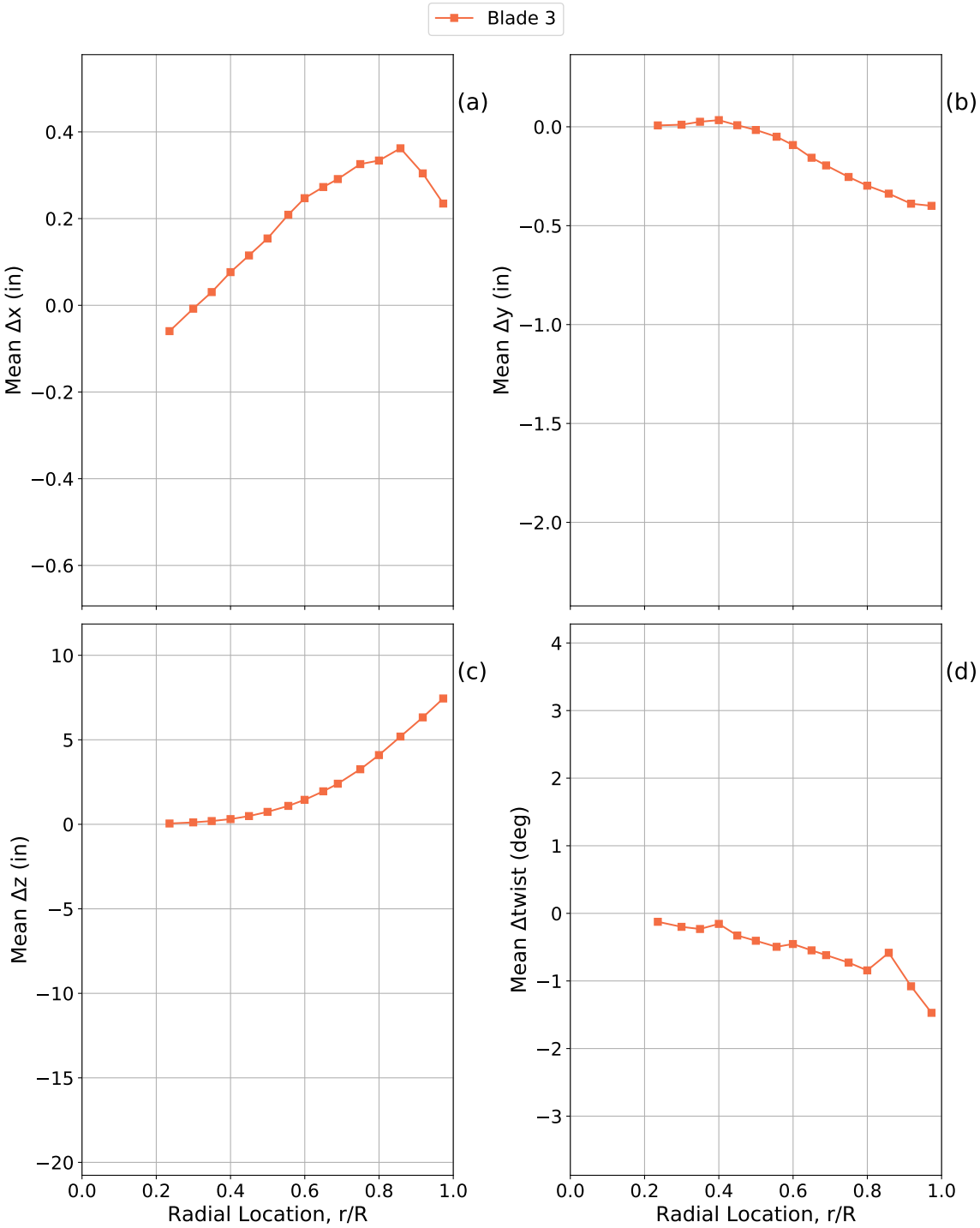


Figure 3.23-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0596	0.0012	0.0070	0.0011	0.0478	0.0172	-0.1247	0.0701
3	240.12	0.2995	-0.0078	0.0013	0.0105	0.0034	0.1136	0.0354	-0.1994	0.1123
3	240.12	0.3493	0.0305	0.0020	0.0254	0.0057	0.1934	0.0597	-0.2312	0.1084
3	240.12	0.4000	0.0765	0.0015	0.0337	0.0095	0.3076	0.0906	-0.1558	0.1008
3	240.12	0.4497	0.1150	0.0024	0.0079	0.0123	0.4871	0.1245	-0.3277	0.0994
3	240.12	0.4997	0.1542	0.0026	-0.0161	0.0161	0.7357	0.1673	-0.4054	0.0886
3	240.12	0.5556	0.2089	0.0037	-0.0502	0.0202	1.0892	0.2171	-0.4950	0.0915
3	240.12	0.5995	0.2471	0.0034	-0.0923	0.0241	1.4477	0.2595	-0.4535	0.0860
3	240.12	0.6498	0.2728	0.0053	-0.1565	0.0301	1.9516	0.3098	-0.5473	0.0968
3	240.12	0.6890	0.2912	0.0073	-0.1954	0.0352	2.4017	0.3514	-0.6182	0.0917
3	240.12	0.7495	0.3257	0.0108	-0.2538	0.0424	3.2572	0.4160	-0.7280	0.0946
3	240.12	0.7998	0.3339	0.0146	-0.2977	0.0497	4.0958	0.4726	-0.8437	0.0960
3	240.12	0.8577	0.3622	0.0180	-0.3380	0.0583	5.1911	0.5375	-0.5831	0.0996
3	240.12	0.9178	0.3043	0.0237	-0.3889	0.0676	6.3262	0.6068	-1.0790	0.1003
3	240.12	0.9729	0.2347	0.0314	-0.3997	0.0764	7.4442	0.6718	-1.4717	0.0973

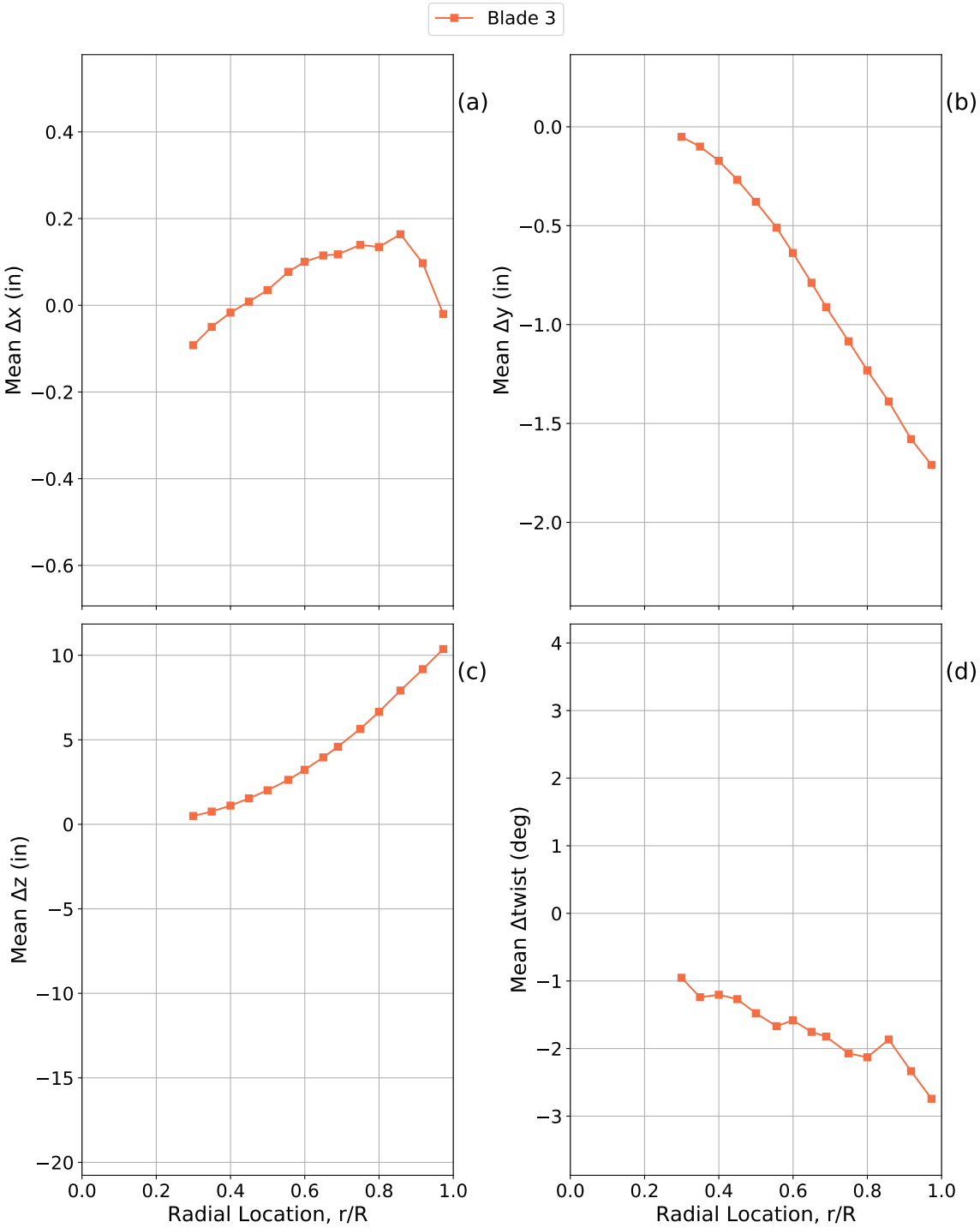


Figure 3.23-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.0921	0.0095	-0.0510	0.0112	0.4931	0.0900	-0.9526	0.1946
3	254.88	0.3493	-0.0497	0.0091	-0.1002	0.0210	0.7526	0.1381	-1.2403	0.2541
3	254.88	0.4000	-0.0168	0.0111	-0.1720	0.0352	1.1075	0.2044	-1.2049	0.2288
3	254.88	0.4497	0.0085	0.0134	-0.2683	0.0483	1.5376	0.2679	-1.2689	0.2343
3	254.88	0.4997	0.0350	0.0157	-0.3795	0.0620	2.0146	0.3337	-1.4770	0.2405
3	254.88	0.5556	0.0772	0.0193	-0.5103	0.0780	2.6307	0.4109	-1.6692	0.2387
3	254.88	0.5995	0.1004	0.0215	-0.6379	0.0904	3.2248	0.4709	-1.5821	0.2501
3	254.88	0.6498	0.1150	0.0258	-0.7888	0.1056	3.9592	0.5414	-1.7528	0.2446
3	254.88	0.6890	0.1175	0.0293	-0.9117	0.1174	4.5857	0.5949	-1.8233	0.2505
3	254.88	0.7495	0.1393	0.0349	-1.0845	0.1353	5.6478	0.6762	-2.0715	0.2561
3	254.88	0.7998	0.1345	0.0394	-1.2314	0.1503	6.6522	0.7406	-2.1294	0.2559
3	254.88	0.8577	0.1640	0.0450	-1.3891	0.1671	7.9144	0.8121	-1.8662	0.2575
3	254.88	0.9178	0.0972	0.0512	-1.5791	0.1849	9.1758	0.8833	-2.3347	0.2558
3	254.88	0.9729	-0.0199	0.0626	-1.7097	0.2019	10.3676	0.9470	-2.7433	0.2550

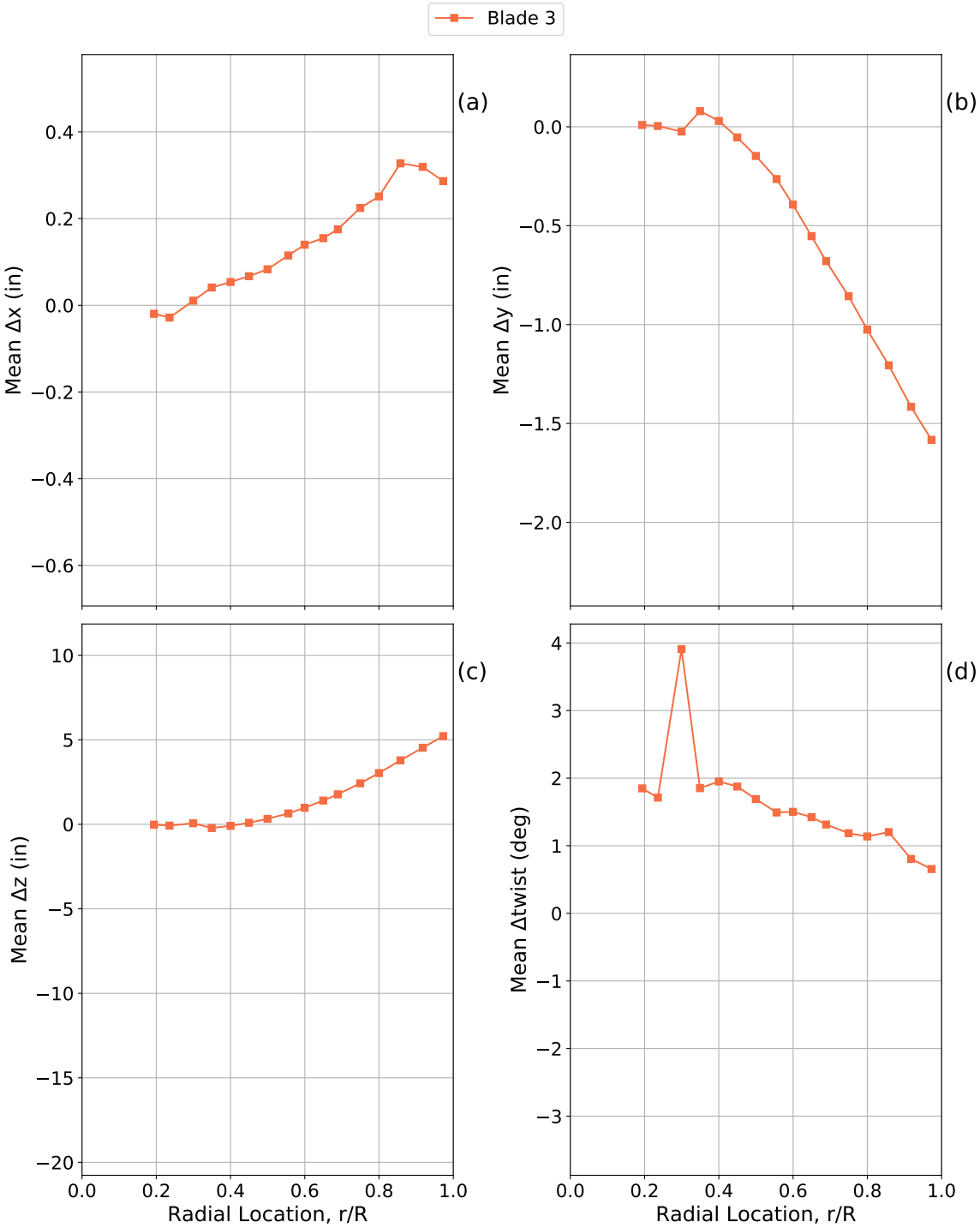


Figure 3.23-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0195	0.0073	0.0091	0.0059	-0.0207	0.0280	1.8487	0.3419
3	260.16	0.2357	-0.0284	0.0041	0.0040	0.0067	-0.0787	0.0454	1.7120	0.3316
3	260.16	0.2995	0.0107	0.0046	-0.0241	0.0148	0.0634	0.0638	3.9097	0.7286
3	260.16	0.3493	0.0410	0.0081	0.0791	0.0490	-0.2204	0.1752	1.8525	0.2953
3	260.16	0.4000	0.0538	0.0114	0.0297	0.0581	-0.0910	0.2095	1.9506	0.3247
3	260.16	0.4497	0.0671	0.0124	-0.0536	0.0672	0.0914	0.2472	1.8758	0.3166
3	260.16	0.4997	0.0831	0.0153	-0.1475	0.0794	0.3253	0.2886	1.6910	0.3090
3	260.16	0.5556	0.1150	0.0165	-0.2644	0.0919	0.6443	0.3353	1.4927	0.3155
3	260.16	0.5995	0.1398	0.0166	-0.3933	0.1032	0.9752	0.3739	1.5023	0.3141
3	260.16	0.6498	0.1548	0.0185	-0.5533	0.1142	1.4070	0.4181	1.4230	0.3151
3	260.16	0.6890	0.1753	0.0203	-0.6792	0.1243	1.7729	0.4528	1.3146	0.3114
3	260.16	0.7495	0.2246	0.0232	-0.8567	0.1379	2.4262	0.5035	1.1857	0.3118
3	260.16	0.7998	0.2510	0.0262	-1.0256	0.1485	3.0342	0.5439	1.1378	0.3173
3	260.16	0.8577	0.3274	0.0314	-1.2057	0.1608	3.7854	0.5882	1.2021	0.3164
3	260.16	0.9178	0.3192	0.0397	-1.4159	0.1729	4.5312	0.6315	0.8047	0.3144
3	260.16	0.9729	0.2864	0.0529	-1.5830	0.1820	5.2184	0.6713	0.6560	0.3034

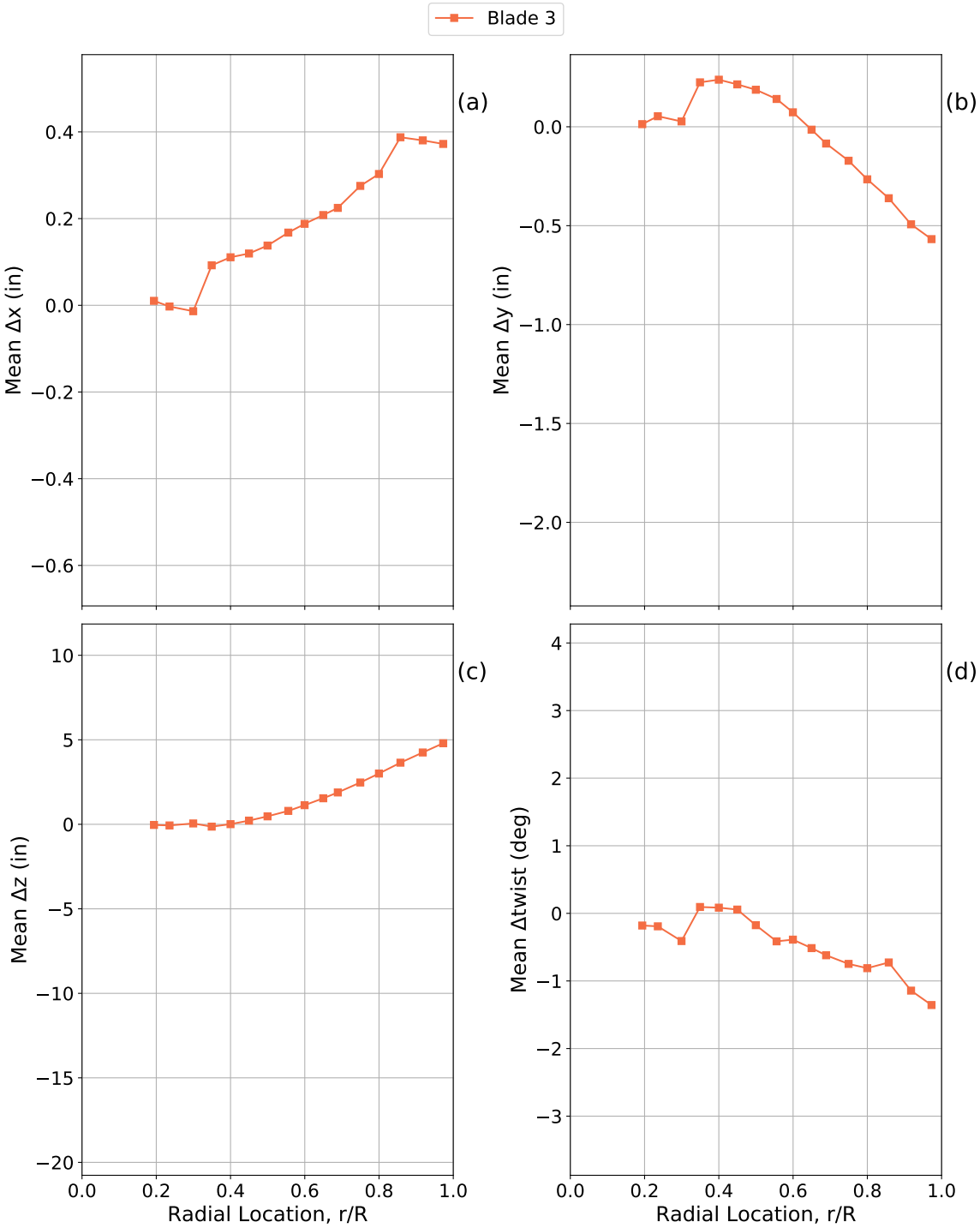


Figure 3.23-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0103	0.0037	0.0133	0.0029	-0.0370	0.0173	-0.1800	0.0440
3	265.08	0.2357	-0.0028	0.0024	0.0534	0.0063	-0.0667	0.0294	-0.1919	0.0389
3	265.08	0.2995	-0.0136	0.0036	0.0270	0.0150	0.0507	0.0580	-0.4094	0.0543
3	265.08	0.3493	0.0923	0.0070	0.2247	0.0299	-0.1368	0.0913	0.0942	0.1978
3	265.08	0.4000	0.1108	0.0058	0.2381	0.0436	0.0090	0.1345	0.0843	0.1144
3	265.08	0.4497	0.1195	0.0043	0.2144	0.0505	0.2194	0.1573	0.0559	0.0803
3	265.08	0.4997	0.1378	0.0057	0.1873	0.0588	0.4712	0.1840	-0.1749	0.0699
3	265.08	0.5556	0.1677	0.0099	0.1406	0.0693	0.7939	0.2165	-0.4139	0.0626
3	265.08	0.5995	0.1880	0.0120	0.0732	0.0768	1.1322	0.2429	-0.3888	0.0576
3	265.08	0.6498	0.2082	0.0150	-0.0146	0.0860	1.5407	0.2750	-0.5142	0.0598
3	265.08	0.6890	0.2247	0.0170	-0.0847	0.0934	1.8845	0.2999	-0.6199	0.0628
3	265.08	0.7495	0.2754	0.0193	-0.1716	0.1049	2.4734	0.3397	-0.7478	0.0607
3	265.08	0.7998	0.3029	0.0219	-0.2656	0.1142	3.0045	0.3716	-0.8110	0.0709
3	265.08	0.8577	0.3876	0.0255	-0.3612	0.1259	3.6459	0.4070	-0.7263	0.0566
3	265.08	0.9178	0.3804	0.0293	-0.4931	0.1376	4.2496	0.4420	-1.1431	0.0790
3	265.08	0.9729	0.3722	0.0353	-0.5680	0.1498	4.7966	0.4794	-1.3563	0.0729

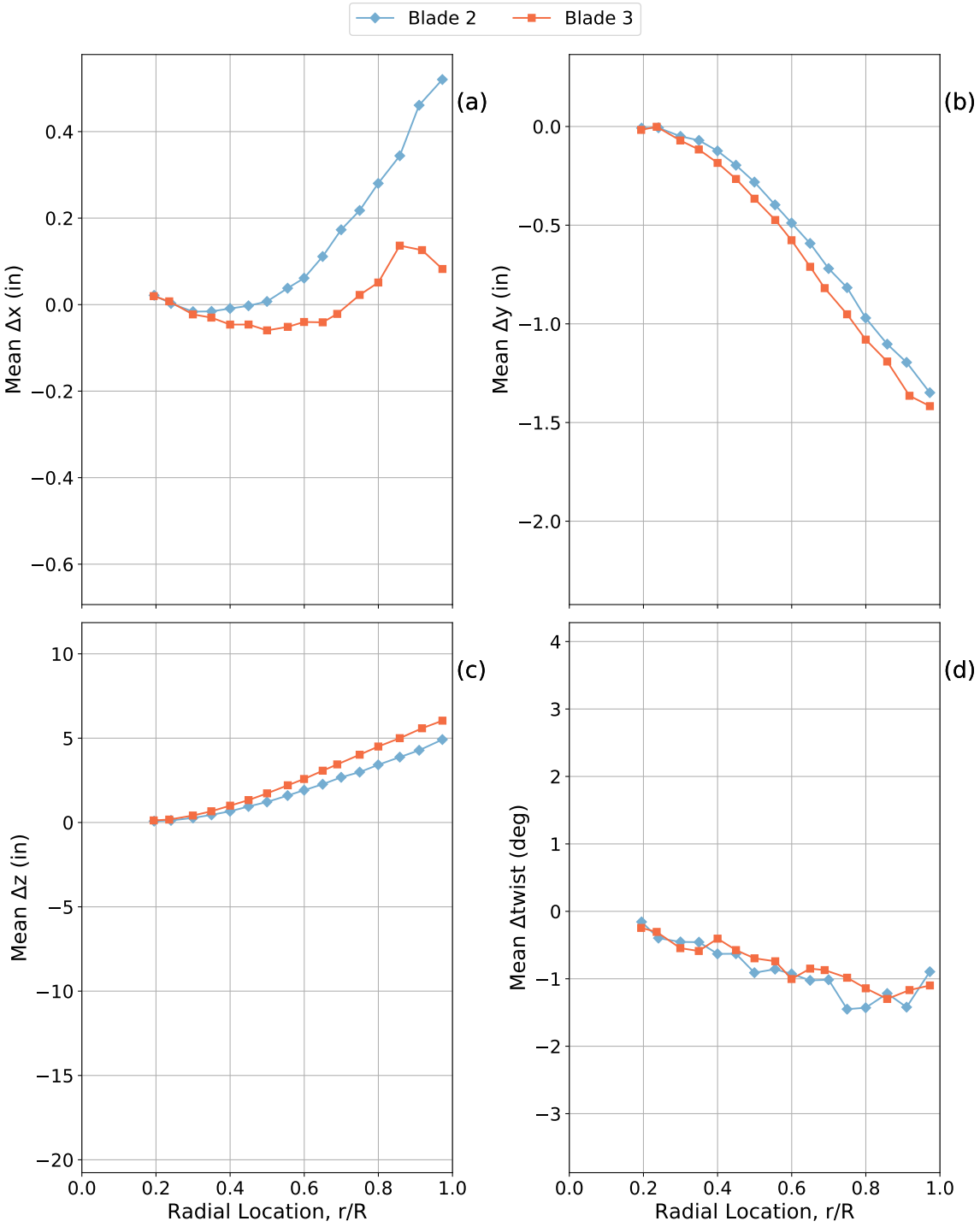


Figure 3.23-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$ NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0215	0.0029	-0.0079	0.0010	0.0817	0.0061	-0.1565	0.0201
2	270.35	0.2405	0.0027	0.0011	-0.0065	0.0019	0.1234	0.0083	-0.3969	0.0515
2	270.35	0.2999	-0.0162	0.0016	-0.0498	0.0036	0.2697	0.0184	-0.4534	0.0575
2	270.35	0.3498	-0.0156	0.0020	-0.0702	0.0063	0.4526	0.0336	-0.4570	0.0842
2	270.35	0.3998	-0.0090	0.0025	-0.1237	0.0099	0.6641	0.0475	-0.6306	0.0587
2	270.35	0.4496	-0.0027	0.0027	-0.1961	0.0136	0.9495	0.0664	-0.6289	0.0476
2	270.35	0.4995	0.0073	0.0023	-0.2816	0.0180	1.2170	0.0802	-0.9101	0.0619
2	270.35	0.5551	0.0380	0.0029	-0.3970	0.0243	1.5968	0.1012	-0.8577	0.0636
2	270.35	0.5996	0.0613	0.0035	-0.4890	0.0294	1.9154	0.1179	-0.9272	0.0521
2	270.35	0.6497	0.1112	0.0042	-0.5925	0.0367	2.2679	0.1334	-1.0235	0.0609
2	270.35	0.6996	0.1731	0.0052	-0.7198	0.0439	2.6795	0.1489	-1.0143	0.0537
2	270.35	0.7495	0.2177	0.0061	-0.8166	0.0523	2.9873	0.1700	-1.4503	0.0616
2	270.35	0.7996	0.2803	0.0069	-0.9703	0.0609	3.4196	0.1898	-1.4294	0.0677
2	270.35	0.8578	0.3441	0.0074	-1.1029	0.0721	3.8765	0.2285	-1.2180	0.0656
2	270.35	0.9100	0.4610	0.0088	-1.1952	0.0832	4.2810	0.2617	-1.4206	0.0791
2	270.35	0.9727	0.5204	0.0139	-1.3487	0.0955	4.9175	0.3100	-0.8949	0.0994
3	270	0.1938	0.0196	0.0045	-0.0171	0.0010	0.1235	0.0063	-0.2456	0.0322
3	270	0.2357	0.0076	0.0023	-0.0013	0.0020	0.1729	0.0112	-0.3052	0.0485
3	270	0.2995	-0.0226	0.0029	-0.0709	0.0038	0.4130	0.0217	-0.5460	0.0741
3	270	0.3493	-0.0300	0.0039	-0.1164	0.0082	0.6653	0.0372	-0.5877	0.0602
3	270	0.4000	-0.0461	0.0066	-0.1844	0.0123	0.9988	0.0558	-0.4047	0.0712
3	270	0.4497	-0.0460	0.0089	-0.2659	0.0171	1.3286	0.0757	-0.5744	0.0709
3	270	0.4997	-0.0595	0.0097	-0.3659	0.0217	1.7272	0.1025	-0.6966	0.0585
3	270	0.5556	-0.0514	0.0100	-0.4737	0.0287	2.2063	0.1327	-0.7403	0.0647
3	270	0.5995	-0.0401	0.0100	-0.5763	0.0354	2.5797	0.1662	-1.0035	0.0696
3	270	0.6498	-0.0409	0.0110	-0.7109	0.0437	3.0713	0.2030	-0.8492	0.0714
3	270	0.6890	-0.0214	0.0116	-0.8190	0.0503	3.4445	0.2289	-0.8712	0.1073
3	270	0.7495	0.0224	0.0156	-0.9515	0.0626	4.0188	0.2812	-0.9842	0.0963
3	270	0.7998	0.0511	0.0194	-1.0799	0.0726	4.5048	0.3178	-1.1413	0.0797
3	270	0.8577	0.1364	0.0271	-1.1909	0.0854	4.9998	0.3595	-1.2987	0.1209
3	270	0.9178	0.1260	0.0381	-1.3644	0.0979	5.5861	0.4046	-1.1675	0.0950
3	270	0.9729	0.0824	0.0488	-1.4170	0.1119	6.0378	0.4439	-1.0987	0.0934

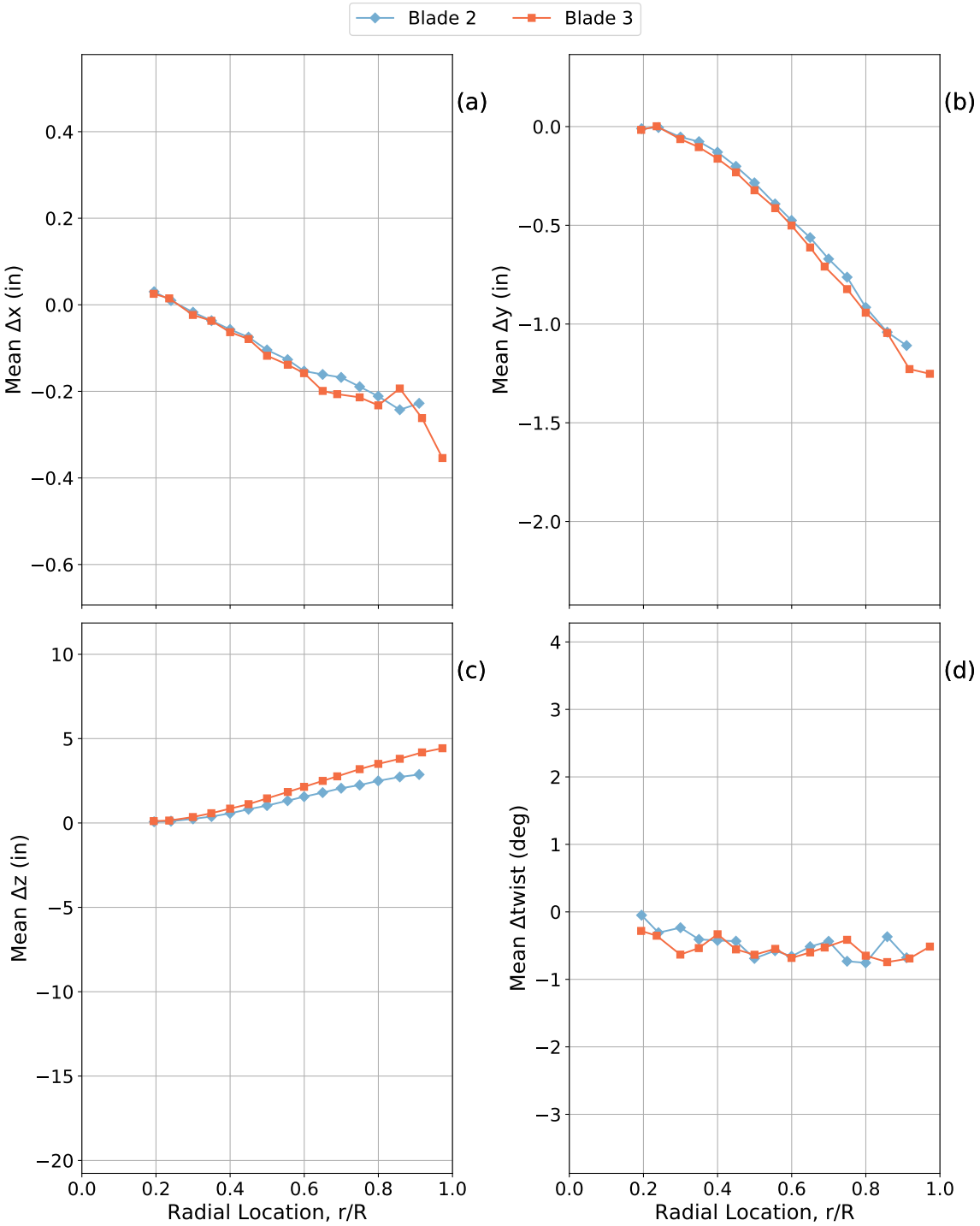


Figure 3.23-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0303	0.0036	-0.0103	0.0017	0.0734	0.0064	-0.0496	0.0486
2	274.92	0.2405	0.0098	0.0023	-0.0047	0.0029	0.1060	0.0091	-0.3079	0.0844
2	274.92	0.2999	-0.0171	0.0021	-0.0531	0.0058	0.2410	0.0181	-0.2344	0.1016
2	274.92	0.3498	-0.0366	0.0025	-0.0762	0.0082	0.3802	0.0261	-0.4079	0.0758
2	274.92	0.3998	-0.0569	0.0024	-0.1294	0.0131	0.5680	0.0389	-0.4243	0.0612
2	274.92	0.4496	-0.0747	0.0033	-0.2013	0.0145	0.8126	0.0429	-0.4339	0.0791
2	274.92	0.4995	-0.1043	0.0050	-0.2848	0.0190	1.0294	0.0534	-0.6901	0.0820
2	274.92	0.5551	-0.1266	0.0035	-0.3916	0.0228	1.3193	0.0646	-0.5754	0.0696
2	274.92	0.5996	-0.1532	0.0042	-0.4753	0.0262	1.5563	0.0775	-0.6593	0.0725
2	274.92	0.6497	-0.1609	0.0049	-0.5623	0.0319	1.7996	0.0880	-0.5154	0.0774
2	274.92	0.6996	-0.1677	0.0058	-0.6704	0.0368	2.0584	0.0990	-0.4359	0.1140
2	274.92	0.7495	-0.1892	0.0071	-0.7626	0.0443	2.2433	0.1214	-0.7317	0.0885
2	274.92	0.7996	-0.2112	0.0076	-0.9154	0.0479	2.4956	0.1383	-0.7551	0.0917
2	274.92	0.8578	-0.2425	0.0078	-1.0410	0.0560	2.7275	0.1641	-0.3685	0.1062
2	274.92	0.9100	-0.2276	0.0107	-1.1089	0.0603	2.8704	0.1906	-0.6803	0.0808
3	274.92	0.1938	0.0254	0.0019	-0.0166	0.0009	0.1109	0.0051	-0.2823	0.0320
3	274.92	0.2357	0.0148	0.0021	0.0016	0.0015	0.1433	0.0083	-0.3534	0.0603
3	274.92	0.2995	-0.0234	0.0015	-0.0633	0.0032	0.3516	0.0176	-0.6332	0.0797
3	274.92	0.3493	-0.0370	0.0020	-0.1041	0.0062	0.5770	0.0286	-0.5368	0.0851
3	274.92	0.4000	-0.0632	0.0026	-0.1625	0.0095	0.8499	0.0420	-0.3317	0.0853
3	274.92	0.4497	-0.0791	0.0024	-0.2318	0.0112	1.1147	0.0568	-0.5564	0.0794
3	274.92	0.4997	-0.1177	0.0041	-0.3226	0.0134	1.4569	0.0739	-0.6352	0.0884
3	274.92	0.5556	-0.1385	0.0036	-0.4132	0.0162	1.8368	0.0987	-0.5483	0.0977
3	274.92	0.5995	-0.1579	0.0047	-0.5011	0.0198	2.1412	0.1167	-0.6825	0.1083
3	274.92	0.6498	-0.1990	0.0053	-0.6122	0.0248	2.4936	0.1387	-0.6010	0.1145
3	274.92	0.6890	-0.2064	0.0050	-0.7089	0.0291	2.7629	0.1580	-0.5281	0.1030
3	274.92	0.7495	-0.2138	0.0064	-0.8232	0.0357	3.1884	0.1881	-0.4138	0.1134
3	274.92	0.7998	-0.2323	0.0078	-0.9424	0.0421	3.5007	0.2163	-0.6494	0.1271
3	274.92	0.8577	-0.1934	0.0100	-1.0453	0.0496	3.8023	0.2459	-0.7441	0.1242
3	274.92	0.9178	-0.2617	0.0115	-1.2283	0.0595	4.1815	0.2745	-0.6904	0.1495
3	274.92	0.9729	-0.3541	0.0160	-1.2520	0.0726	4.4275	0.3049	-0.5144	0.1290

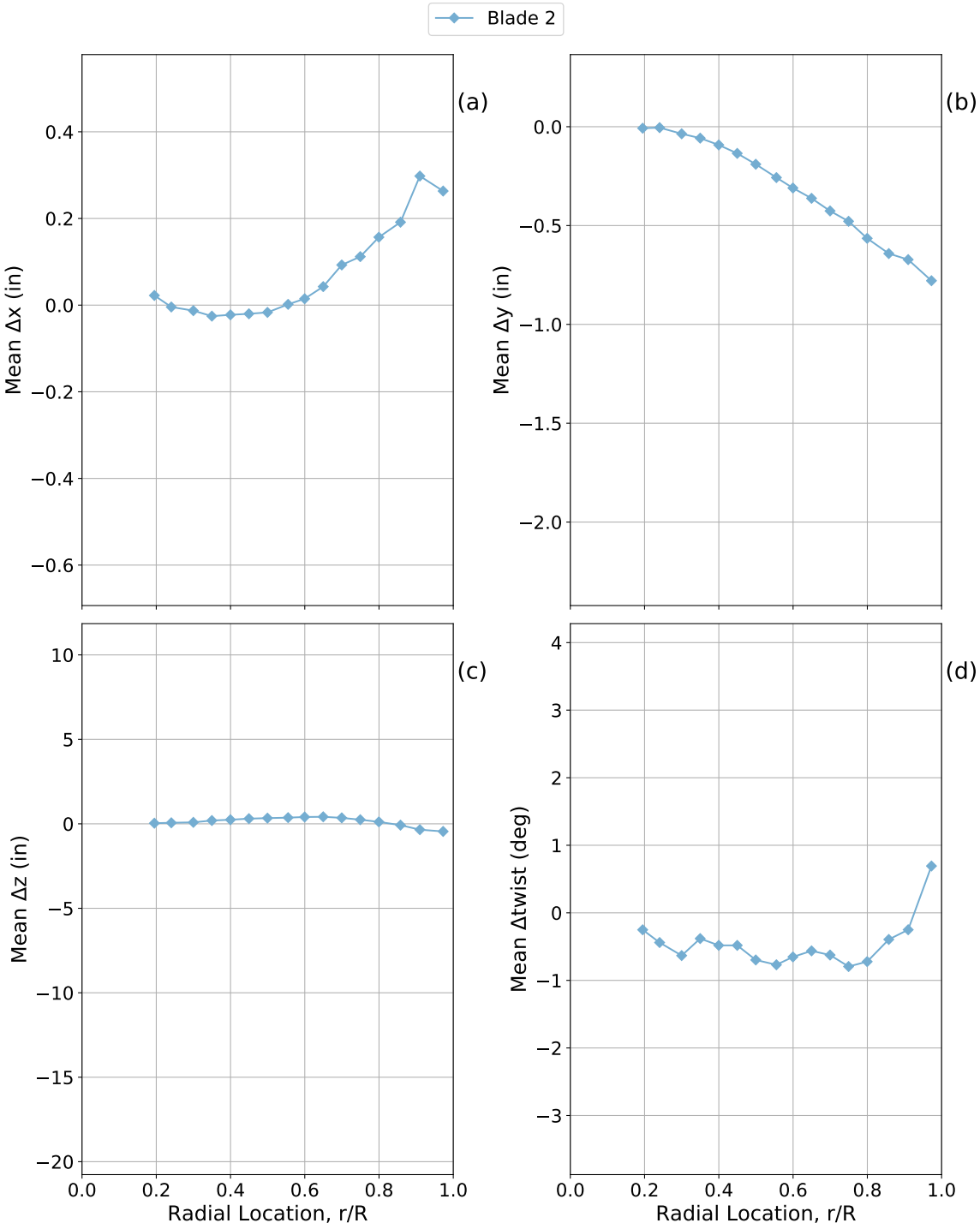


Figure 3.23-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0223	0.0017	-0.0076	0.0005	0.0378	0.0049	-0.2511	0.0358
2	285.12	0.2405	-0.0043	0.0011	-0.0047	0.0015	0.0619	0.0132	-0.4396	0.0388
2	285.12	0.2999	-0.0128	0.0019	-0.0358	0.0027	0.0879	0.0206	-0.6327	0.0750
2	285.12	0.3498	-0.0254	0.0013	-0.0578	0.0047	0.1957	0.0364	-0.3810	0.0707
2	285.12	0.3998	-0.0224	0.0018	-0.0923	0.0079	0.2428	0.0557	-0.4818	0.0633
2	285.12	0.4496	-0.0200	0.0022	-0.1349	0.0109	0.3068	0.0765	-0.4819	0.0449
2	285.12	0.4995	-0.0168	0.0026	-0.1899	0.0150	0.3375	0.1002	-0.6974	0.0610
2	285.12	0.5551	0.0018	0.0026	-0.2573	0.0202	0.3658	0.1274	-0.7692	0.0421
2	285.12	0.5996	0.0147	0.0025	-0.3101	0.0247	0.4040	0.1478	-0.6528	0.0758
2	285.12	0.6497	0.0427	0.0037	-0.3623	0.0307	0.4160	0.1768	-0.5630	0.0637
2	285.12	0.6996	0.0927	0.0052	-0.4261	0.0363	0.3532	0.2007	-0.6250	0.0830
2	285.12	0.7495	0.1119	0.0052	-0.4786	0.0431	0.2447	0.2288	-0.7948	0.0807
2	285.12	0.7996	0.1568	0.0052	-0.5648	0.0484	0.1152	0.2506	-0.7223	0.0812
2	285.12	0.8578	0.1914	0.0064	-0.6417	0.0570	-0.0775	0.2836	-0.3942	0.0828
2	285.12	0.9100	0.2979	0.0071	-0.6724	0.0643	-0.3465	0.3105	-0.2504	0.0925
2	285.12	0.9727	0.2633	0.0088	-0.7791	0.0720	-0.4505	0.3508	0.6929	0.0921

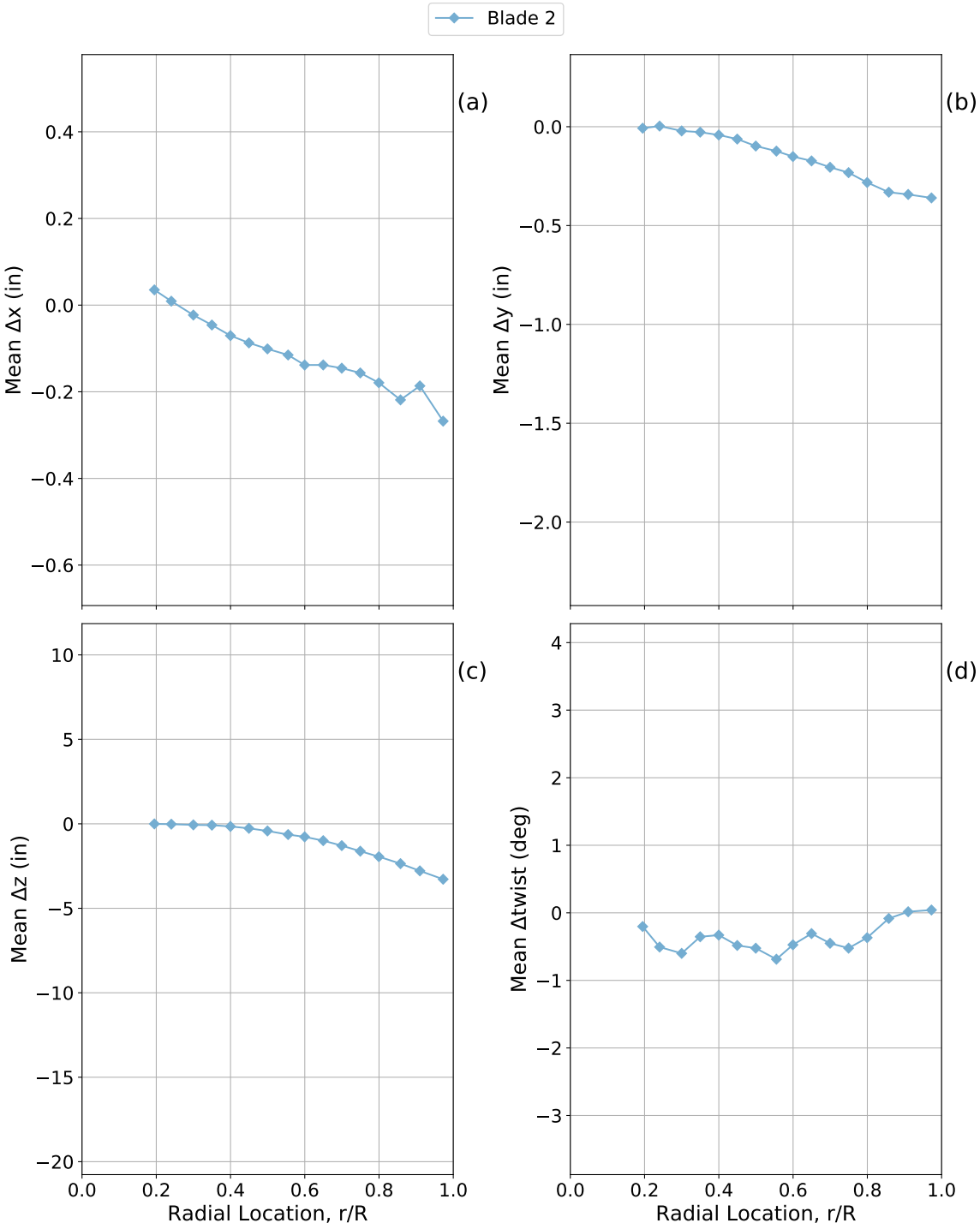


Figure 3.23-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0352	0.0016	-0.0075	0.0009	-0.0044	0.0064	-0.2026	0.0552
2	299.88	0.2405	0.0091	0.0027	0.0031	0.0035	-0.0208	0.0171	-0.5063	0.1063
2	299.88	0.2999	-0.0229	0.0034	-0.0213	0.0067	-0.0615	0.0288	-0.6002	0.1406
2	299.88	0.3498	-0.0459	0.0043	-0.0276	0.0105	-0.0781	0.0409	-0.3544	0.1174
2	299.88	0.3998	-0.0704	0.0040	-0.0419	0.0189	-0.1551	0.0688	-0.3298	0.0919
2	299.88	0.4496	-0.0872	0.0038	-0.0625	0.0213	-0.2660	0.0814	-0.4829	0.0982
2	299.88	0.4995	-0.1010	0.0041	-0.0978	0.0270	-0.4219	0.1033	-0.5234	0.1307
2	299.88	0.5551	-0.1151	0.0049	-0.1234	0.0326	-0.6354	0.1297	-0.6868	0.1167
2	299.88	0.5996	-0.1382	0.0054	-0.1511	0.0382	-0.7706	0.1552	-0.4733	0.0996
2	299.88	0.6497	-0.1381	0.0062	-0.1730	0.0439	-0.9960	0.1869	-0.3071	0.1089
2	299.88	0.6996	-0.1455	0.0072	-0.2051	0.0496	-1.2899	0.2220	-0.4509	0.1060
2	299.88	0.7495	-0.1565	0.0079	-0.2324	0.0552	-1.6196	0.2634	-0.5227	0.1039
2	299.88	0.7996	-0.1792	0.0088	-0.2822	0.0607	-1.9450	0.3068	-0.3681	0.1199
2	299.88	0.8578	-0.2187	0.0102	-0.3314	0.0677	-2.3561	0.3623	-0.0835	0.1234
2	299.88	0.9100	-0.1864	0.0113	-0.3427	0.0742	-2.7845	0.4159	0.0162	0.1152
2	299.88	0.9727	-0.2678	0.0135	-0.3602	0.0814	-3.2806	0.4851	0.0418	0.1214

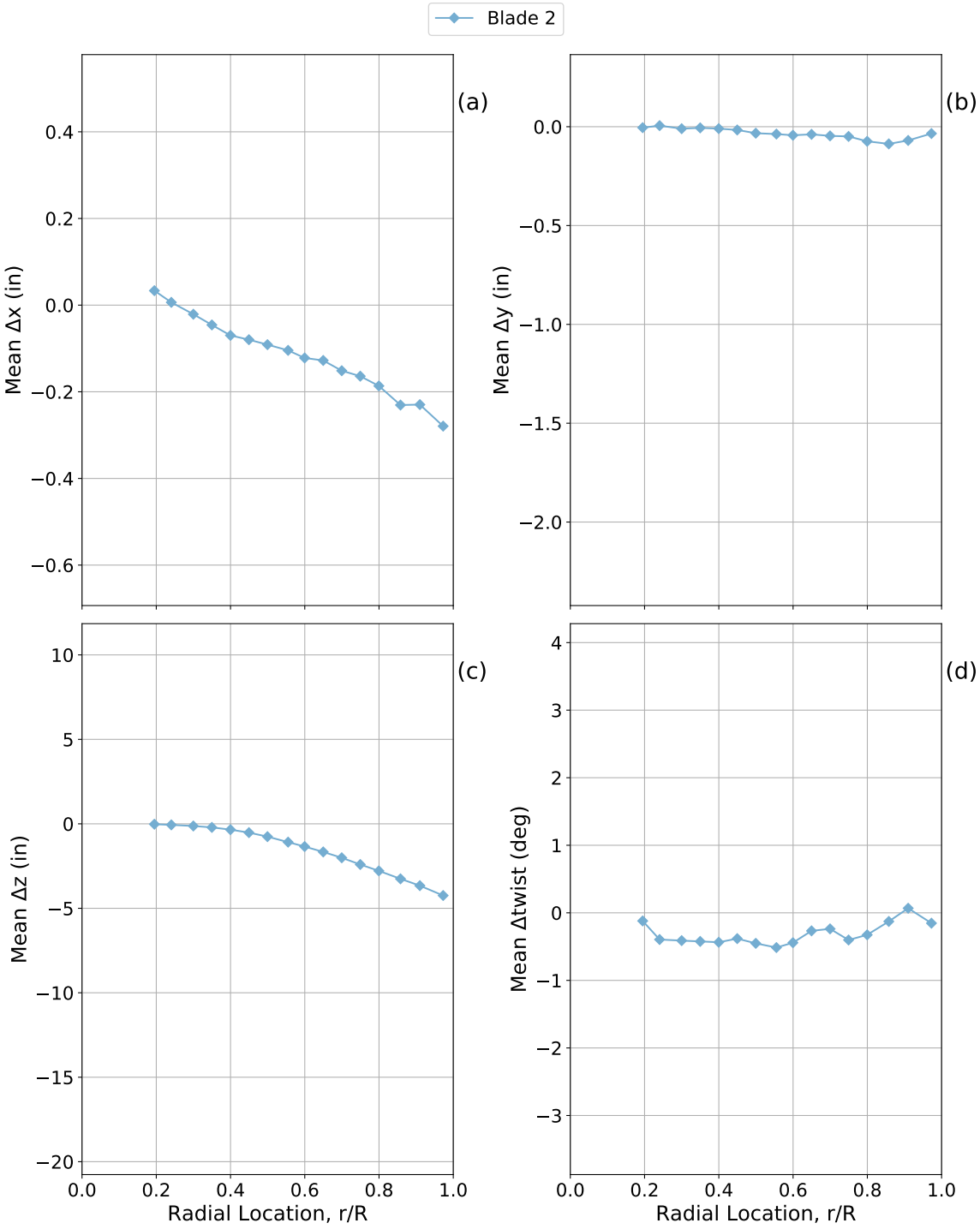


Figure 3.23-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0334	0.0029	-0.0048	0.0009	-0.0227	0.0058	-0.1201	0.0435
2	315	0.2405	0.0064	0.0019	0.0055	0.0029	-0.0624	0.0114	-0.3952	0.0737
2	315	0.2999	-0.0210	0.0032	-0.0100	0.0048	-0.1279	0.0179	-0.4112	0.1000
2	315	0.3498	-0.0457	0.0024	-0.0058	0.0100	-0.2105	0.0331	-0.4233	0.0646
2	315	0.3998	-0.0699	0.0032	-0.0097	0.0153	-0.3439	0.0459	-0.4355	0.0607
2	315	0.4496	-0.0798	0.0047	-0.0164	0.0193	-0.5200	0.0568	-0.3818	0.0670
2	315	0.4995	-0.0912	0.0044	-0.0328	0.0253	-0.7583	0.0658	-0.4517	0.1028
2	315	0.5551	-0.1044	0.0035	-0.0372	0.0301	-1.0832	0.0769	-0.5141	0.1059
2	315	0.5996	-0.1219	0.0051	-0.0432	0.0358	-1.3449	0.0880	-0.4424	0.0917
2	315	0.6497	-0.1277	0.0058	-0.0386	0.0419	-1.6635	0.1007	-0.2668	0.0975
2	315	0.6996	-0.1514	0.0062	-0.0464	0.0489	-2.0092	0.1168	-0.2374	0.0798
2	315	0.7495	-0.1640	0.0071	-0.0491	0.0554	-2.4072	0.1319	-0.4021	0.0927
2	315	0.7996	-0.1865	0.0077	-0.0738	0.0634	-2.7852	0.1438	-0.3257	0.0949
2	315	0.8578	-0.2306	0.0093	-0.0869	0.0735	-3.2557	0.1640	-0.1277	0.0943
2	315	0.9100	-0.2296	0.0099	-0.0695	0.0821	-3.6599	0.1819	0.0679	0.1040
2	315	0.9727	-0.2793	0.0126	-0.0345	0.0925	-4.2439	0.2029	-0.1535	0.0928

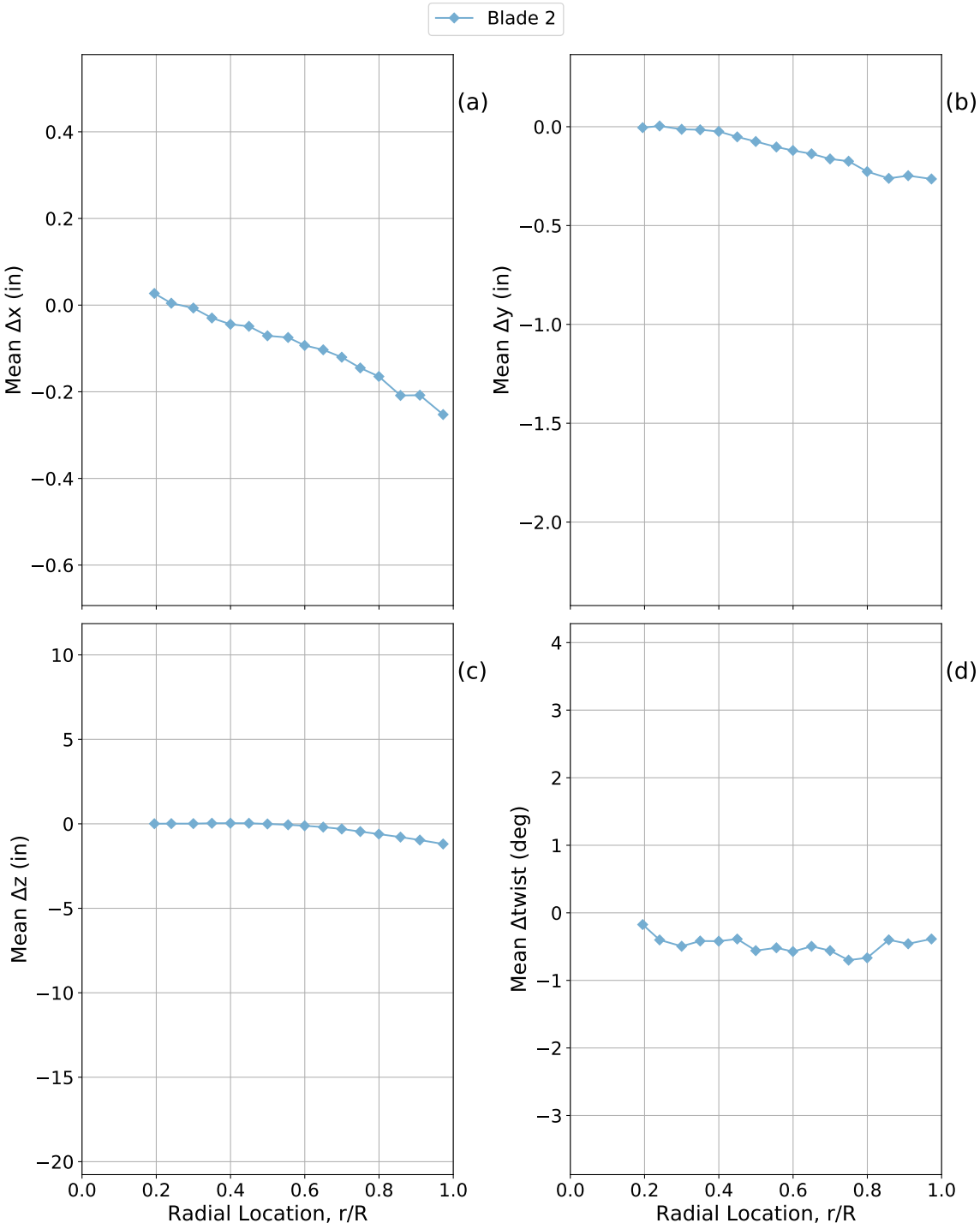


Figure 3.23-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0270	0.0021	-0.0047	0.0012	0.0068	0.0051	-0.1736	0.0495
2	330.12	0.2405	0.0044	0.0016	0.0036	0.0038	0.0123	0.0133	-0.4011	0.0617
2	330.12	0.2999	-0.0067	0.0024	-0.0131	0.0066	0.0120	0.0224	-0.4948	0.0898
2	330.12	0.3498	-0.0297	0.0037	-0.0155	0.0099	0.0345	0.0369	-0.4173	0.0766
2	330.12	0.3998	-0.0442	0.0035	-0.0240	0.0171	0.0377	0.0600	-0.4197	0.0608
2	330.12	0.4496	-0.0489	0.0049	-0.0514	0.0191	0.0345	0.0740	-0.3877	0.0588
2	330.12	0.4995	-0.0708	0.0064	-0.0748	0.0227	-0.0071	0.0891	-0.5594	0.0635
2	330.12	0.5551	-0.0747	0.0069	-0.1027	0.0317	-0.0570	0.1079	-0.5175	0.0496
2	330.12	0.5996	-0.0930	0.0067	-0.1203	0.0342	-0.1134	0.1275	-0.5732	0.0687
2	330.12	0.6497	-0.1031	0.0072	-0.1371	0.0432	-0.1948	0.1481	-0.4962	0.0726
2	330.12	0.6996	-0.1202	0.0073	-0.1630	0.0504	-0.3048	0.1662	-0.5593	0.0724
2	330.12	0.7495	-0.1450	0.0072	-0.1746	0.0586	-0.4587	0.1860	-0.7003	0.0750
2	330.12	0.7996	-0.1647	0.0076	-0.2270	0.0675	-0.6076	0.2107	-0.6663	0.0701
2	330.12	0.8578	-0.2085	0.0083	-0.2613	0.0772	-0.7854	0.2405	-0.3999	0.0751
2	330.12	0.9100	-0.2079	0.0090	-0.2477	0.0863	-0.9597	0.2698	-0.4582	0.0678
2	330.12	0.9727	-0.2525	0.0106	-0.2643	0.0980	-1.1934	0.3087	-0.3870	0.0710

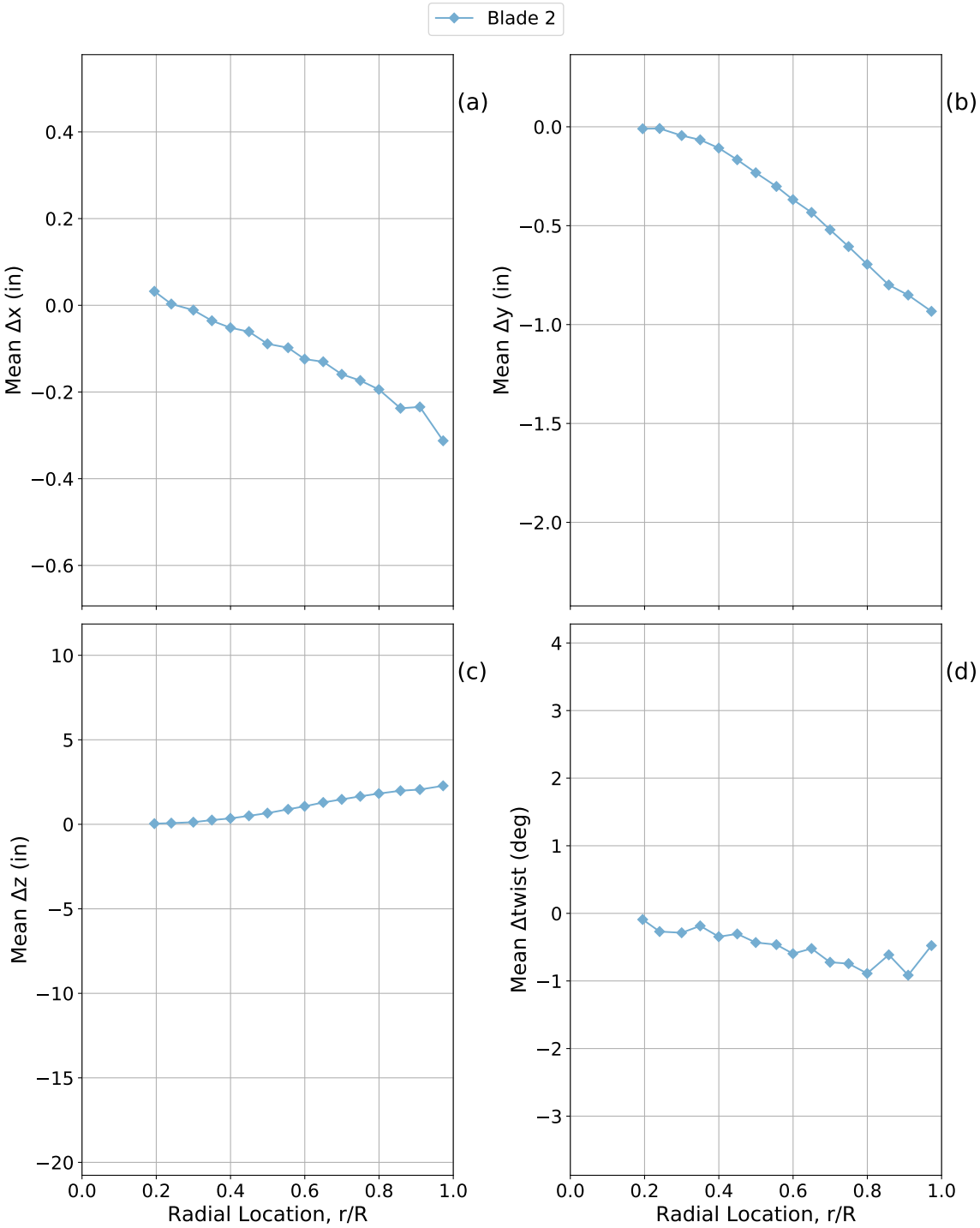


Figure 3.23-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$ NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0323	0.0023	-0.0099	0.0022	0.0388	0.0045	-0.0911	0.0263
2	344.88	0.2405	0.0030	0.0030	-0.0087	0.0037	0.0705	0.0062	-0.2693	0.0494
2	344.88	0.2999	-0.0111	0.0028	-0.0445	0.0110	0.1255	0.0138	-0.2873	0.0609
2	344.88	0.3498	-0.0356	0.0046	-0.0658	0.0142	0.2513	0.0226	-0.1853	0.0583
2	344.88	0.3998	-0.0518	0.0028	-0.1076	0.0251	0.3490	0.0333	-0.3451	0.0536
2	344.88	0.4496	-0.0608	0.0032	-0.1667	0.0304	0.5019	0.0447	-0.3043	0.0442
2	344.88	0.4995	-0.0889	0.0025	-0.2324	0.0378	0.6624	0.0563	-0.4316	0.0715
2	344.88	0.5551	-0.0979	0.0038	-0.3018	0.0426	0.8881	0.0673	-0.4627	0.0621
2	344.88	0.5996	-0.1241	0.0042	-0.3682	0.0473	1.0642	0.0776	-0.5968	0.0674
2	344.88	0.6497	-0.1302	0.0052	-0.4331	0.0535	1.2932	0.0887	-0.5205	0.0730
2	344.88	0.6996	-0.1592	0.0049	-0.5207	0.0602	1.4750	0.1008	-0.7233	0.0609
2	344.88	0.7495	-0.1735	0.0064	-0.6058	0.0667	1.6547	0.1132	-0.7436	0.0725
2	344.88	0.7996	-0.1942	0.0066	-0.6955	0.0731	1.8192	0.1333	-0.8890	0.0799
2	344.88	0.8578	-0.2375	0.0070	-0.7998	0.0819	1.9866	0.1559	-0.6133	0.0761
2	344.88	0.9100	-0.2344	0.0078	-0.8508	0.0901	2.0562	0.1799	-0.9151	0.0778
2	344.88	0.9727	-0.3125	0.0102	-0.9330	0.0984	2.2783	0.2120	-0.4768	0.0613

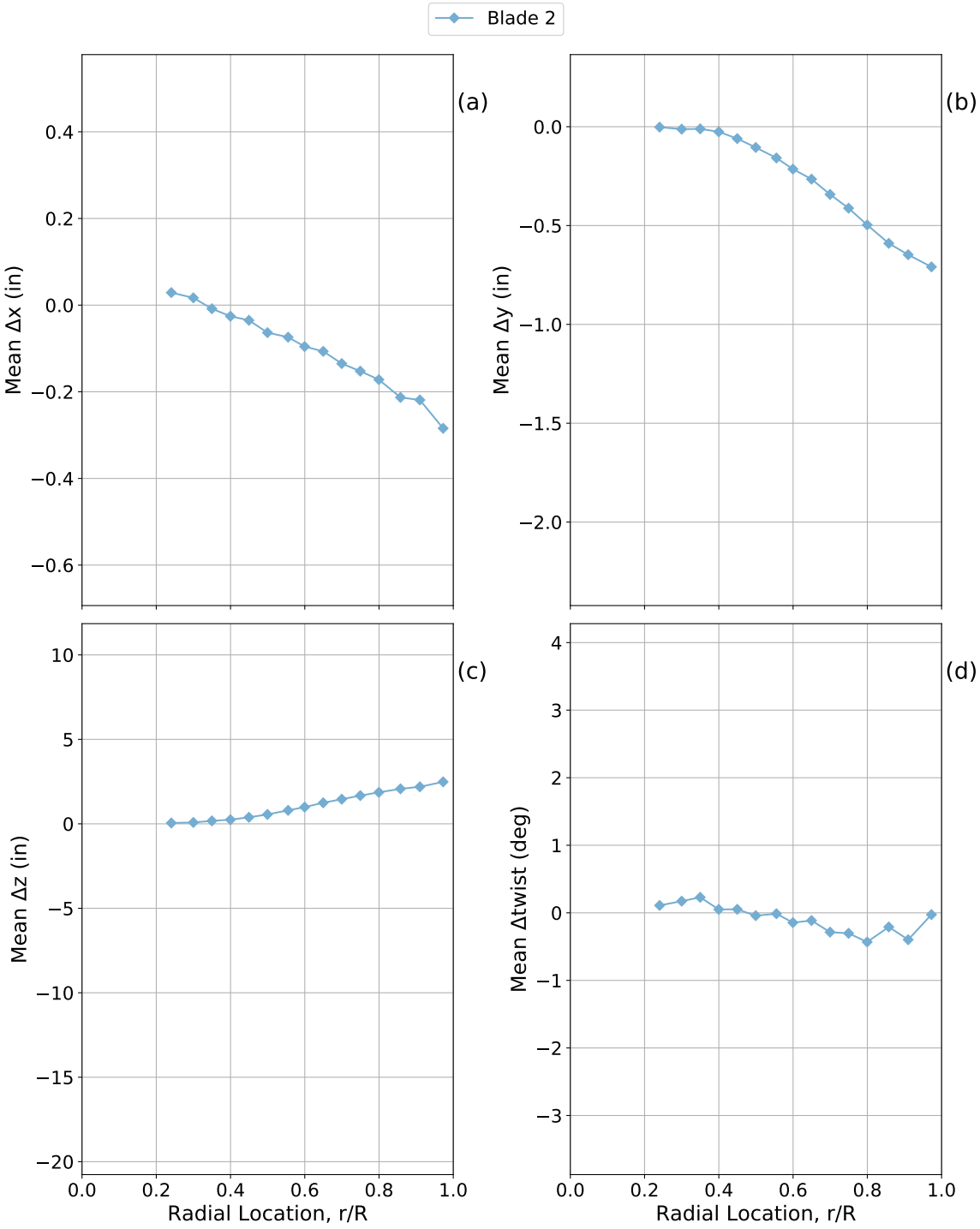


Figure 3.23-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0289	0.0036	-0.0022	0.0036	0.0495	0.0126	0.1097	0.0703
2	350.16	0.2999	0.0168	0.0039	-0.0124	0.0090	0.0818	0.0266	0.1726	0.1084
2	350.16	0.3498	-0.0083	0.0049	-0.0110	0.0147	0.1745	0.0454	0.2294	0.1066
2	350.16	0.3998	-0.0257	0.0032	-0.0257	0.0240	0.2451	0.0707	0.0506	0.1087
2	350.16	0.4496	-0.0350	0.0025	-0.0602	0.0319	0.3861	0.0890	0.0518	0.1192
2	350.16	0.4995	-0.0635	0.0040	-0.1050	0.0373	0.5566	0.1177	-0.0420	0.1001
2	350.16	0.5551	-0.0740	0.0042	-0.1581	0.0457	0.7985	0.1466	-0.0133	0.1106
2	350.16	0.5996	-0.0956	0.0055	-0.2144	0.0511	0.9900	0.1757	-0.1451	0.1078
2	350.16	0.6497	-0.1067	0.0057	-0.2652	0.0589	1.2462	0.2082	-0.1141	0.1101
2	350.16	0.6996	-0.1349	0.0070	-0.3426	0.0653	1.4580	0.2501	-0.2858	0.0983
2	350.16	0.7495	-0.1524	0.0071	-0.4121	0.0736	1.6708	0.2871	-0.3032	0.1247
2	350.16	0.7996	-0.1720	0.0075	-0.4969	0.0811	1.8638	0.3342	-0.4315	0.1040
2	350.16	0.8578	-0.2130	0.0081	-0.5900	0.0898	2.0714	0.3897	-0.2091	0.1122
2	350.16	0.9100	-0.2189	0.0094	-0.6476	0.0985	2.1915	0.4400	-0.3980	0.1185
2	350.16	0.9727	-0.2843	0.0115	-0.7092	0.1080	2.4842	0.5017	-0.0263	0.1242

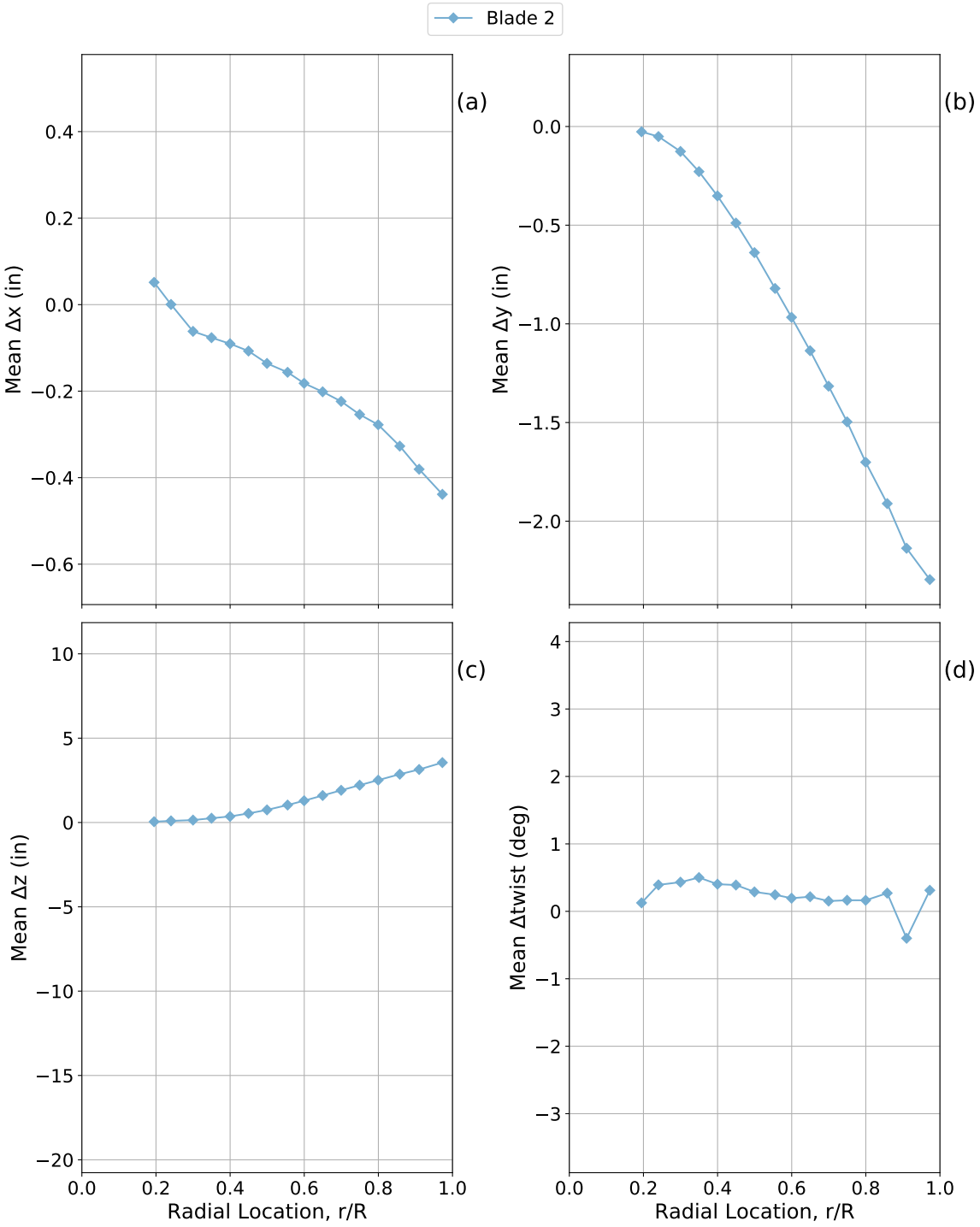


Figure 3.23-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.35, α = -8° NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Table 3.23-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 22. BD run 30, points 4482 to 4492.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0515	0.0138	-0.0267	0.0032	0.0461	0.0040	0.1258	0.0533
2	355.08	0.2405	0.0004	0.0088	-0.0508	0.0111	0.0951	0.0068	0.3924	0.0326
2	355.08	0.2999	-0.0618	0.0030	-0.1264	0.0163	0.1422	0.0104	0.4326	0.0982
2	355.08	0.3498	-0.0764	0.0071	-0.2285	0.0365	0.2530	0.0183	0.5012	0.1121
2	355.08	0.3998	-0.0904	0.0108	-0.3518	0.0530	0.3589	0.0317	0.4028	0.1049
2	355.08	0.4496	-0.1073	0.0147	-0.4893	0.0684	0.5367	0.0443	0.3901	0.1132
2	355.08	0.4995	-0.1359	0.0179	-0.6391	0.0841	0.7467	0.0613	0.2883	0.1104
2	355.08	0.5551	-0.1564	0.0210	-0.8206	0.0996	1.0348	0.0793	0.2457	0.1401
2	355.08	0.5996	-0.1818	0.0229	-0.9669	0.1113	1.2909	0.0990	0.1947	0.1182
2	355.08	0.6497	-0.2015	0.0259	-1.1362	0.1251	1.5999	0.1185	0.2164	0.1331
2	355.08	0.6996	-0.2237	0.0289	-1.3159	0.1361	1.9086	0.1392	0.1524	0.1437
2	355.08	0.7495	-0.2540	0.0312	-1.4965	0.1464	2.2131	0.1640	0.1645	0.1312
2	355.08	0.7996	-0.2777	0.0338	-1.7011	0.1608	2.5122	0.1911	0.1635	0.1289
2	355.08	0.8578	-0.3271	0.0342	-1.9108	0.1704	2.8621	0.2208	0.2701	0.1698
2	355.08	0.9100	-0.3805	0.0231	-2.1371	0.1614	3.1426	0.2665	-0.3993	0.5035
2	355.08	0.9727	-0.4385	0.0484	-2.2958	0.1896	3.5517	0.2923	0.3121	0.1648

3.24 Run 63, Point 23

3.24.1 Pitch, Flap, and Lag

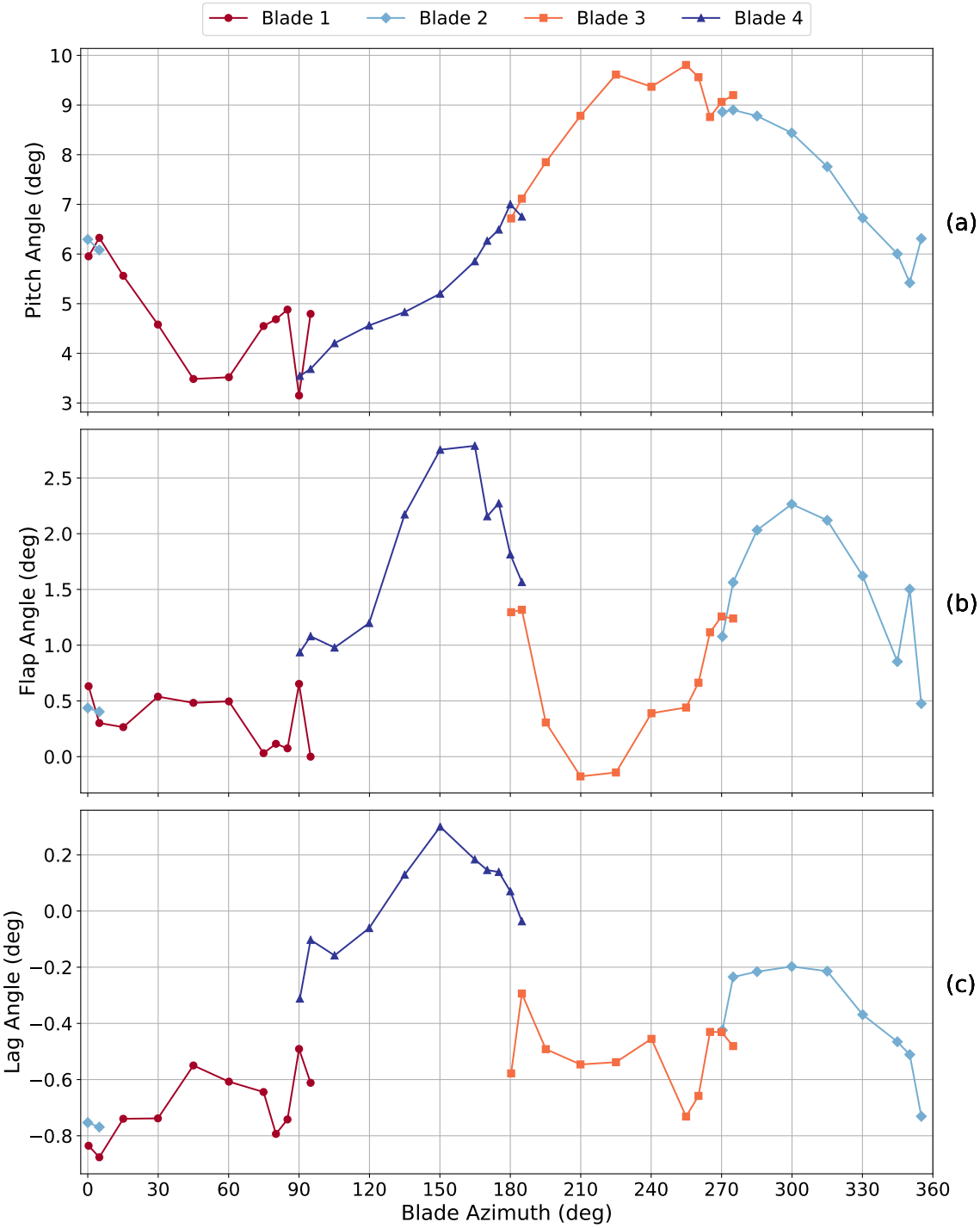


Figure 3.24-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.019, μ = 0.35, α = -8°
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	6.2941	0.4370	-0.7531	0.0606	0.1085	0.1348
0.35	1	5.9535	0.6316	-0.8355	0.1196	0.1383	0.0483
4.92	1	6.3265	0.3015	-0.8766	0.0753	0.0336	0.0407
4.92	2	6.0817	0.4029	-0.7690	0.0909	0.1011	0.0885
15.12	1	5.5611	0.2647	-0.7395	0.1004	0.1539	0.0844
29.88	1	4.5792	0.5385	-0.7381	0.0792	0.0613	0.0358
45	1	3.4830	0.4827	-0.5498	0.0719	0.0338	0.0530
60.12	1	3.5184	0.4958	-0.6074	0.1041	0.0713	0.0521
74.88	1	4.5491	0.0314	-0.6443	0.1189	0.1063	0.0461
80.16	1	4.6859	0.1153	-0.7933	0.1073	0.0485	0.0366
85.08	1	4.8800	0.0745	-0.7419	0.2129	0.0981	0.0709
90	1	3.1498	0.6527	-0.4910	0.2201	0.1948	0.1009
90.35	4	3.5457	0.9358	-0.3118	0.0565	0.1104	0.0481
94.92	1	4.7948	-0.0001	-0.6115	0.2812	0.1049	0.0363
94.92	4	3.6844	1.0798	-0.1027	0.0922	0.0490	0.0342
105.12	4	4.2040	0.9782	-0.1581	0.0580	0.1034	0.0869
119.88	4	4.5612	1.1986	-0.0607	0.0333	0.0924	0.0507
135	4	4.8308	2.1725	0.1292	0.0579	0.2538	0.0870
150.12	4	5.2012	2.7533	0.3001	0.0584	0.2176	0.0815
164.88	4	5.8528	2.7882	0.1835	0.0678	0.2391	0.0466
170.16	4	6.2659	2.1561	0.1458	0.0905	0.1632	0.0396
175.08	4	6.4913	2.2726	0.1390	0.0898	0.3771	0.0775
180	4	7.0006	1.8141	0.0702	0.1715	0.1966	0.0981
180.35	3	6.7151	1.2958	-0.5780	0.0691	0.2108	0.1874
184.92	3	7.1144	1.3177	-0.2937	0.0542	0.1081	0.0294
184.92	4	6.7532	1.5657	-0.0366	0.2659	0.3577	0.1373
195.12	3	7.8494	0.3065	-0.4917	0.0515	0.3348	0.0690
209.88	3	8.7832	-0.1772	-0.5462	0.0608	0.0952	0.0411
225	3	9.6129	-0.1419	-0.5381	0.0652	0.1859	0.0595
240.12	3	9.3681	0.3895	-0.4551	0.1951	0.1503	0.0695
254.88	3	9.8072	0.4410	-0.7315	0.3202	0.1921	0.0979
260.16	3	9.5611	0.6636	-0.6580	0.4999	0.3214	0.1409
265.08	3	8.7592	1.1154	-0.4303	0.1209	0.1467	0.0790
270	3	9.0633	1.2574	-0.4310	0.0563	0.1717	0.0749
270.35	2	8.8614	1.0777	-0.4245	0.0786	0.0767	0.0526
274.92	2	8.9012	1.5629	-0.2348	0.0452	0.0632	0.0348
274.92	3	9.2006	1.2393	-0.4808	0.0811	0.0749	0.0213
285.12	2	8.7796	2.0324	-0.2159	0.0442	0.1259	0.0642
299.88	2	8.4388	2.2650	-0.1976	0.0748	0.0567	0.0386
315	2	7.7582	2.1203	-0.2142	0.0638	0.0538	0.0611
330.12	2	6.7251	1.6211	-0.3689	0.0893	0.0717	0.0554
344.88	2	6.0032	0.8524	-0.4654	0.0806	0.1915	0.0557
350.16	2	5.4196	1.5022	-0.5111	0.1565	0.1472	0.0987
355.08	2	6.3103	0.4761	-0.7309	0.0803	0.1663	0.1251

3.24.2 Spanwise Elastic Deformations

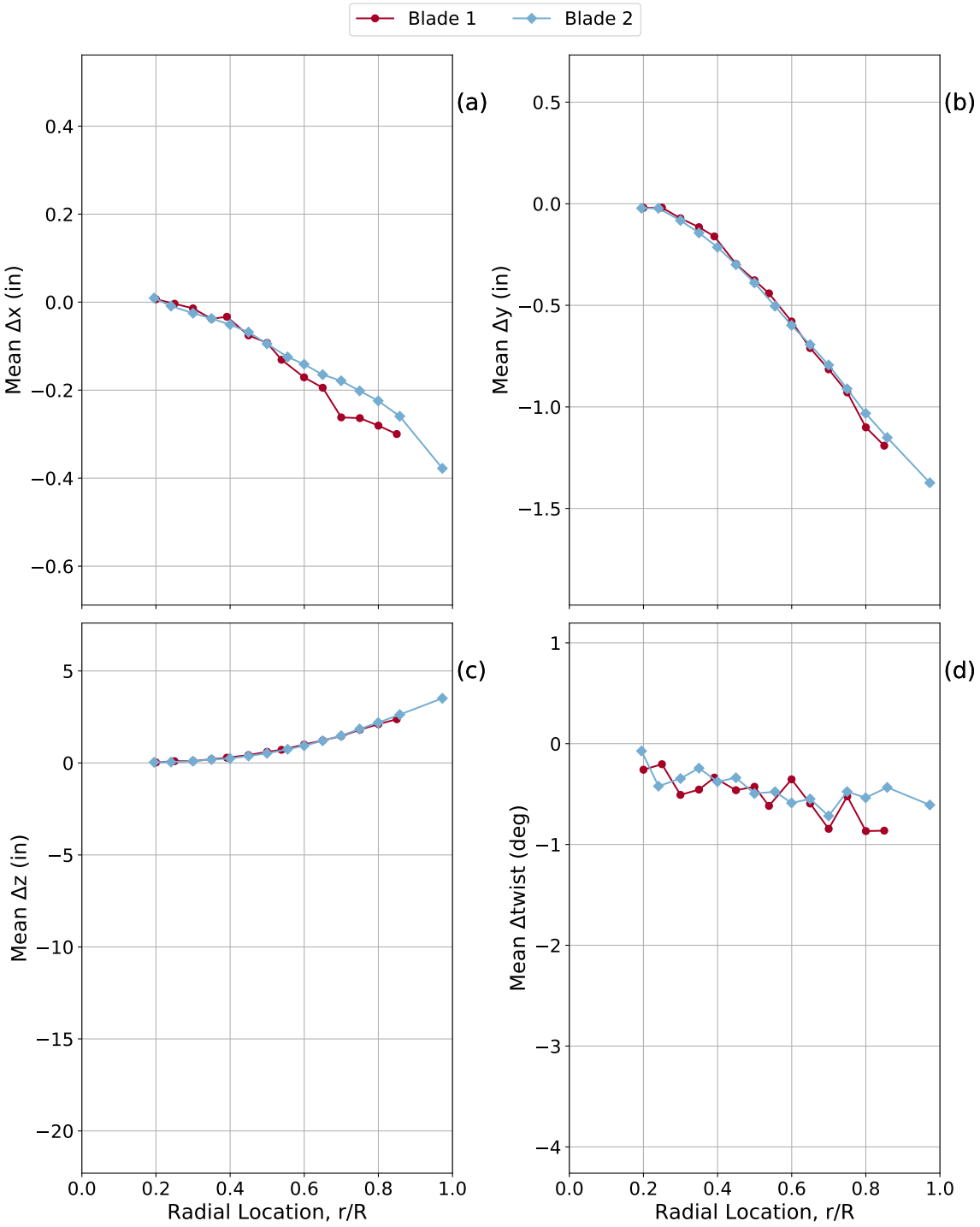


Figure 3.24-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$ NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0067	0.0027	-0.0199	0.0020	0.0268	0.0074	-0.2584	0.0870
1	0.35	0.2499	-0.0036	0.0022	-0.0189	0.0052	0.0962	0.0156	-0.2036	0.0806
1	0.35	0.2998	-0.0141	0.0028	-0.0714	0.0089	0.1024	0.0320	-0.5079	0.1636
1	0.35	0.3498	-0.0379	0.0036	-0.1154	0.0143	0.2025	0.0439	-0.4555	0.1049
1	0.35	0.3913	-0.0332	0.0042	-0.1608	0.0199	0.2852	0.0689	-0.3365	0.1393
1	0.35	0.4496	-0.0755	0.0046	-0.2963	0.0260	0.4284	0.0866	-0.4618	0.1224
1	0.35	0.4997	-0.0925	0.0038	-0.3768	0.0318	0.6044	0.1142	-0.4274	0.1167
1	0.35	0.5387	-0.1309	0.0047	-0.4411	0.0374	0.7141	0.1321	-0.6173	0.1177
1	0.35	0.5996	-0.1709	0.0049	-0.5795	0.0427	0.9989	0.1612	-0.3540	0.1468
1	0.35	0.6498	-0.1945	0.0051	-0.7104	0.0513	1.2233	0.1846	-0.5938	0.1307
1	0.35	0.6998	-0.2619	0.0043	-0.8150	0.0564	1.4568	0.1977	-0.8448	0.1237
1	0.35	0.7500	-0.2636	0.0063	-0.9288	0.0613	1.8033	0.2163	-0.5228	0.1376
1	0.35	0.8001	-0.2807	0.0075	-1.1007	0.0756	2.1077	0.2195	-0.8672	0.1146
1	0.35	0.8497	-0.2998	0.0074	-1.1908	0.0727	2.3775	0.2361	-0.8629	0.1692
2	0	0.1949	0.0093	0.0057	-0.0219	0.0020	0.0364	0.0043	-0.0723	0.0230
2	0	0.2405	-0.0089	0.0032	-0.0224	0.0085	0.0478	0.0058	-0.4214	0.0474
2	0	0.2999	-0.0251	0.0065	-0.0823	0.0137	0.0948	0.0136	-0.3457	0.0562
2	0	0.3498	-0.0372	0.0095	-0.1434	0.0237	0.1843	0.0234	-0.2425	0.0420
2	0	0.3998	-0.0510	0.0138	-0.2140	0.0390	0.2434	0.0340	-0.3775	0.0481
2	0	0.4496	-0.0681	0.0151	-0.2999	0.0539	0.3773	0.0410	-0.3377	0.0578
2	0	0.4995	-0.0947	0.0184	-0.3894	0.0696	0.5233	0.0522	-0.4947	0.0579
2	0	0.5551	-0.1246	0.0216	-0.5039	0.0849	0.7434	0.0664	-0.4768	0.0721
2	0	0.5996	-0.1411	0.0260	-0.5985	0.1059	0.9348	0.0768	-0.5878	0.0697
2	0	0.6497	-0.1648	0.0326	-0.6935	0.1263	1.2058	0.0917	-0.5485	0.0781
2	0	0.6996	-0.1787	0.0403	-0.7936	0.1449	1.4825	0.1047	-0.7166	0.0855
2	0	0.7495	-0.2017	0.0514	-0.9111	0.1658	1.8449	0.1177	-0.4755	0.0880
2	0	0.7996	-0.2243	0.0635	-1.0319	0.1877	2.1930	0.1371	-0.5365	0.0944
2	0	0.8578	-0.2594	0.0828	-1.1509	0.2211	2.6281	0.1528	-0.4339	0.1044
2	0	0.9727	-0.3778	0.1220	-1.3735	0.2723	3.5132	0.2076	-0.6076	0.0742

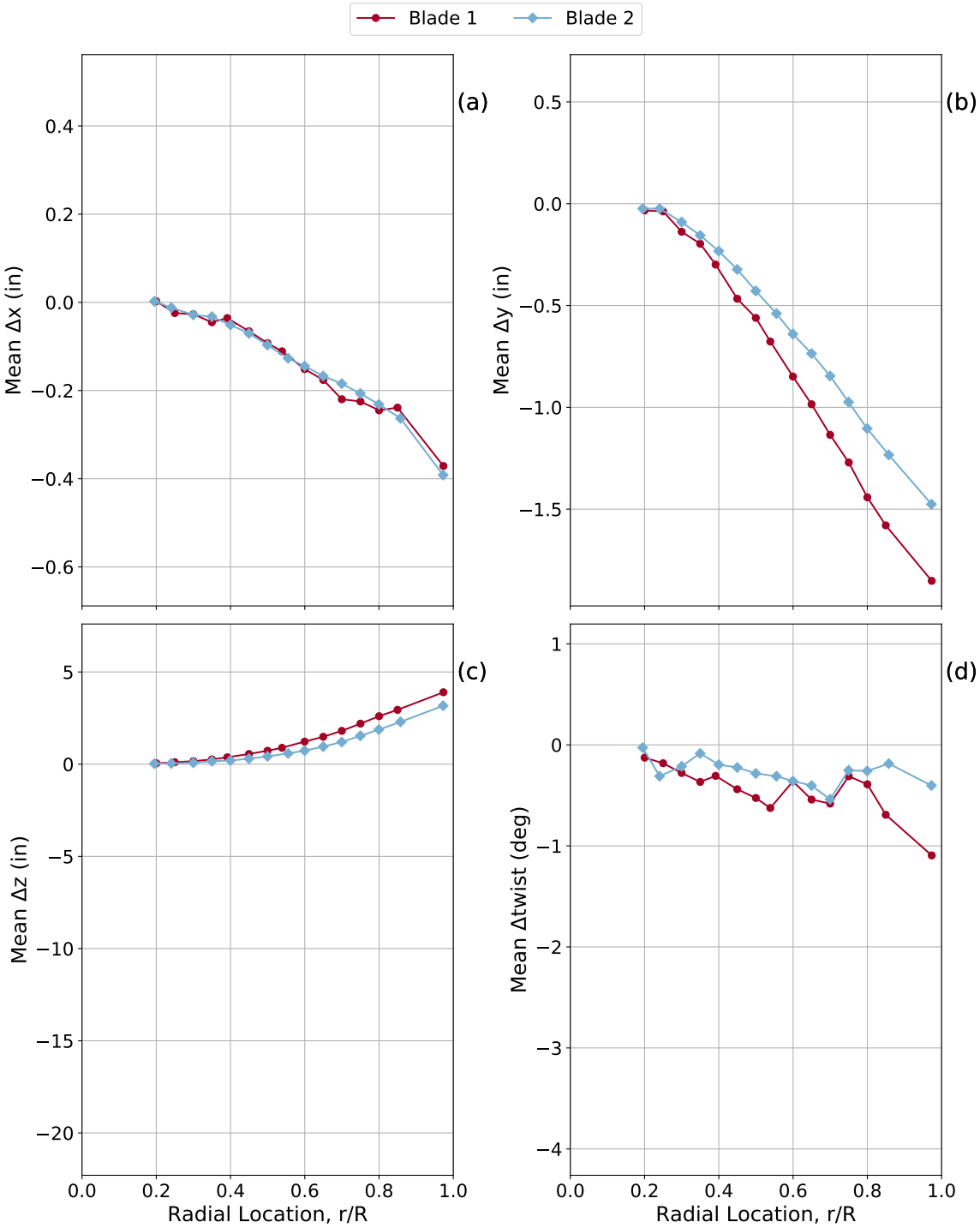


Figure 3.24-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0024	0.0061	-0.0330	0.0044	0.0484	0.0033	-0.1265	0.0425
1	4.92	0.2499	-0.0243	0.0054	-0.0374	0.0064	0.1070	0.0085	-0.1816	0.0554
1	4.92	0.2998	-0.0268	0.0058	-0.1376	0.0151	0.1620	0.0080	-0.2783	0.0865
1	4.92	0.3498	-0.0451	0.0060	-0.1963	0.0282	0.2595	0.0160	-0.3667	0.0603
1	4.92	0.3913	-0.0357	0.0080	-0.2987	0.0374	0.3738	0.0191	-0.3071	0.0699
1	4.92	0.4496	-0.0654	0.0133	-0.4667	0.0483	0.5526	0.0213	-0.4394	0.0768
1	4.92	0.4997	-0.0925	0.0165	-0.5607	0.0548	0.7290	0.0273	-0.5257	0.0801
1	4.92	0.5387	-0.1110	0.0207	-0.6767	0.0594	0.8890	0.0324	-0.6250	0.0621
1	4.92	0.5996	-0.1513	0.0283	-0.8486	0.0685	1.2252	0.0404	-0.3611	0.0743
1	4.92	0.6498	-0.1760	0.0362	-0.9849	0.0743	1.4858	0.0548	-0.5414	0.0888
1	4.92	0.6998	-0.2197	0.0443	-1.1351	0.0809	1.8076	0.0650	-0.5815	0.0828
1	4.92	0.7500	-0.2248	0.0502	-1.2707	0.0874	2.1991	0.0825	-0.3109	0.0830
1	4.92	0.8001	-0.2448	0.0614	-1.4419	0.0983	2.6029	0.1048	-0.3905	0.0536
1	4.92	0.8497	-0.2387	0.0713	-1.5796	0.1058	2.9460	0.1321	-0.6919	0.0717
1	4.92	0.9734	-0.3711	0.1093	-1.8521	0.1323	3.8999	0.2085	-1.0943	0.1392
2	4.92	0.1949	0.0023	0.0051	-0.0241	0.0035	0.0324	0.0040	-0.0271	0.0352
2	4.92	0.2405	-0.0121	0.0027	-0.0242	0.0057	0.0435	0.0086	-0.3098	0.0554
2	4.92	0.2999	-0.0284	0.0046	-0.0899	0.0116	0.0748	0.0138	-0.2122	0.0808
2	4.92	0.3498	-0.0325	0.0071	-0.1557	0.0187	0.1589	0.0259	-0.0846	0.0602
2	4.92	0.3998	-0.0512	0.0087	-0.2325	0.0289	0.1982	0.0369	-0.1962	0.0533
2	4.92	0.4496	-0.0703	0.0114	-0.3225	0.0392	0.2989	0.0430	-0.2236	0.0690
2	4.92	0.4995	-0.0968	0.0148	-0.4281	0.0526	0.4228	0.0546	-0.2825	0.0851
2	4.92	0.5551	-0.1268	0.0174	-0.5392	0.0738	0.5809	0.0717	-0.3105	0.0752
2	4.92	0.5996	-0.1446	0.0224	-0.6399	0.0876	0.7364	0.0786	-0.3585	0.0840
2	4.92	0.6497	-0.1671	0.0279	-0.7356	0.1086	0.9515	0.0874	-0.4028	0.0748
2	4.92	0.6996	-0.1844	0.0377	-0.8460	0.1278	1.2029	0.0997	-0.5385	0.0673
2	4.92	0.7495	-0.2067	0.0498	-0.9739	0.1482	1.5390	0.1097	-0.2522	0.0789
2	4.92	0.7996	-0.2313	0.0645	-1.1043	0.1726	1.8759	0.1192	-0.2581	0.0810
2	4.92	0.8578	-0.2630	0.0817	-1.2332	0.2011	2.2939	0.1218	-0.1858	0.1160
2	4.92	0.9727	-0.3916	0.1273	-1.4757	0.2570	3.1680	0.1401	-0.4026	0.0827

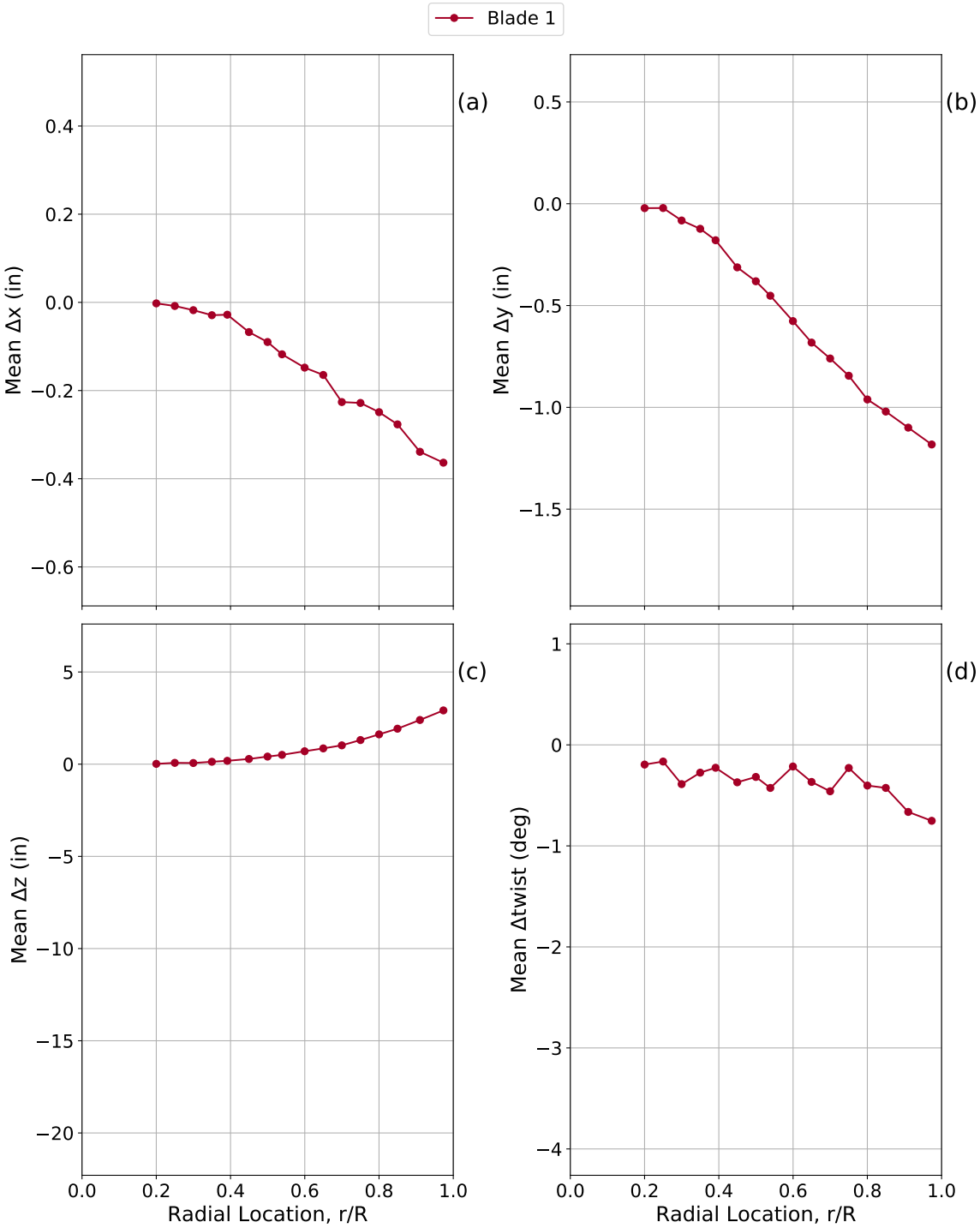


Figure 3.24-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0023	0.0025	-0.0216	0.0019	0.0174	0.0048	-0.1949	0.0557
1	15.12	0.2499	-0.0082	0.0033	-0.0211	0.0040	0.0713	0.0121	-0.1650	0.0604
1	15.12	0.2998	-0.0177	0.0028	-0.0823	0.0074	0.0630	0.0177	-0.3887	0.1100
1	15.12	0.3498	-0.0291	0.0023	-0.1230	0.0122	0.1310	0.0332	-0.2750	0.0874
1	15.12	0.3913	-0.0280	0.0034	-0.1793	0.0180	0.1824	0.0460	-0.2266	0.0738
1	15.12	0.4496	-0.0674	0.0031	-0.3124	0.0237	0.2821	0.0648	-0.3706	0.0811
1	15.12	0.4997	-0.0899	0.0046	-0.3807	0.0298	0.4119	0.0787	-0.3175	0.0670
1	15.12	0.5387	-0.1178	0.0053	-0.4518	0.0331	0.5049	0.0906	-0.4264	0.0823
1	15.12	0.5996	-0.1480	0.0058	-0.5764	0.0397	0.7015	0.1067	-0.2141	0.0797
1	15.12	0.6498	-0.1646	0.0065	-0.6819	0.0466	0.8558	0.1218	-0.3670	0.0853
1	15.12	0.6998	-0.2261	0.0070	-0.7600	0.0531	1.0215	0.1347	-0.4595	0.0730
1	15.12	0.7500	-0.2281	0.0070	-0.8447	0.0608	1.3086	0.1435	-0.2285	0.0856
1	15.12	0.8001	-0.2490	0.0063	-0.9613	0.0662	1.6172	0.1612	-0.4028	0.0902
1	15.12	0.8497	-0.2767	0.0068	-1.0206	0.0754	1.9246	0.1812	-0.4261	0.0649
1	15.12	0.9102	-0.3389	0.0084	-1.0996	0.0883	2.3968	0.2094	-0.6639	0.1382
1	15.12	0.9734	-0.3636	0.0107	-1.1823	0.0995	2.9161	0.2286	-0.7517	0.1440

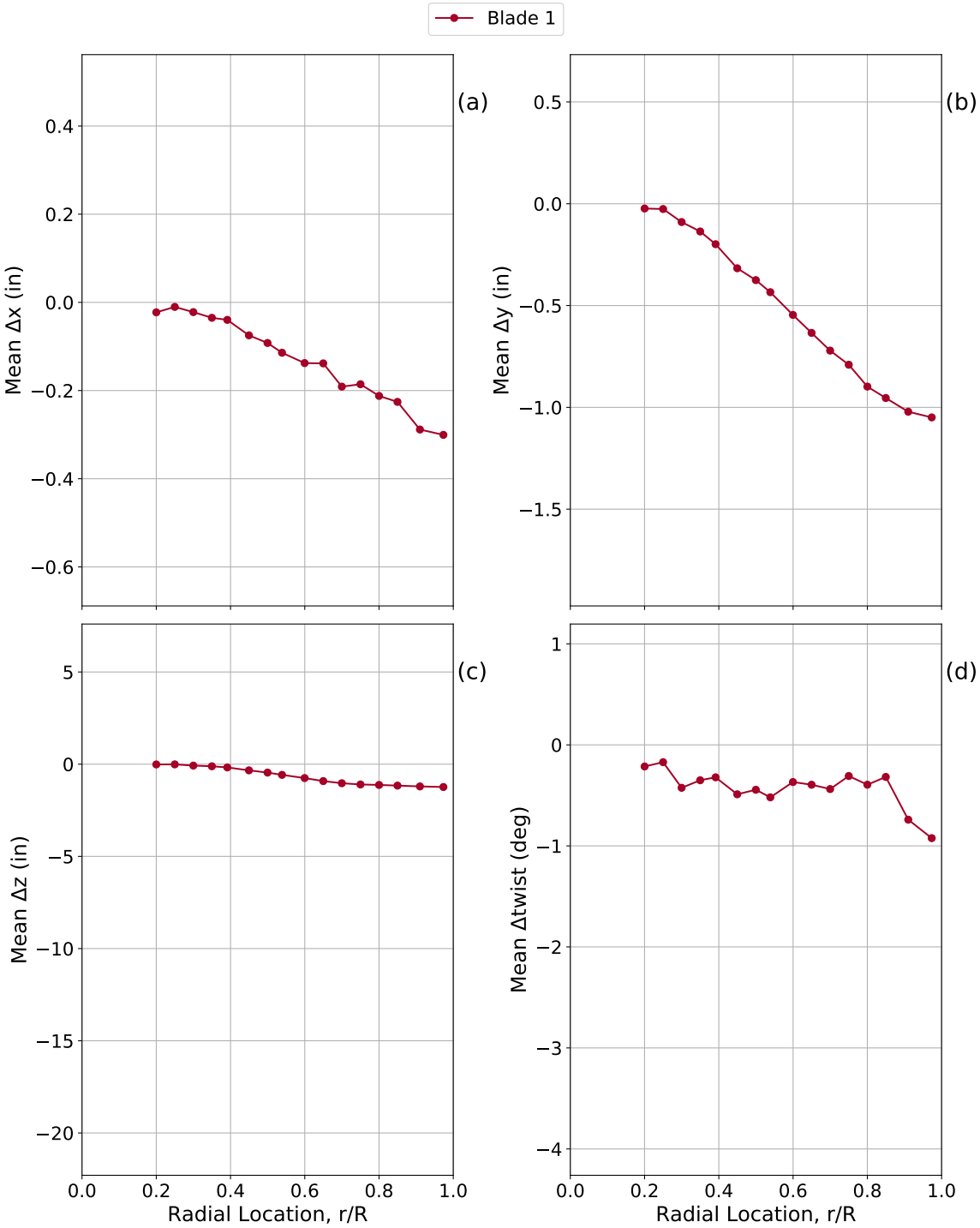


Figure 3.24-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0226	0.0035	-0.0234	0.0016	-0.0141	0.0036	-0.2139	0.0412
1	29.88	0.2499	-0.0103	0.0036	-0.0259	0.0017	-0.0105	0.0088	-0.1713	0.0674
1	29.88	0.2998	-0.0221	0.0033	-0.0899	0.0044	-0.0764	0.0111	-0.4250	0.0897
1	29.88	0.3498	-0.0350	0.0032	-0.1362	0.0085	-0.1134	0.0215	-0.3503	0.0960
1	29.88	0.3913	-0.0397	0.0036	-0.1987	0.0102	-0.1756	0.0292	-0.3212	0.0713
1	29.88	0.4496	-0.0748	0.0046	-0.3169	0.0153	-0.3348	0.0383	-0.4893	0.0615
1	29.88	0.4997	-0.0921	0.0041	-0.3751	0.0187	-0.4557	0.0462	-0.4443	0.0740
1	29.88	0.5387	-0.1142	0.0047	-0.4344	0.0226	-0.5793	0.0548	-0.5194	0.0744
1	29.88	0.5996	-0.1377	0.0052	-0.5460	0.0296	-0.7533	0.0664	-0.3680	0.0657
1	29.88	0.6498	-0.1384	0.0046	-0.6343	0.0349	-0.9168	0.0763	-0.3946	0.0511
1	29.88	0.6998	-0.1911	0.0051	-0.7213	0.0413	-1.0325	0.0831	-0.4373	0.0618
1	29.88	0.7500	-0.1857	0.0045	-0.7906	0.0478	-1.1000	0.0924	-0.3083	0.0627
1	29.88	0.8001	-0.2122	0.0055	-0.8980	0.0550	-1.1256	0.1003	-0.3943	0.0596
1	29.88	0.8497	-0.2257	0.0055	-0.9541	0.0620	-1.1608	0.1110	-0.3174	0.0613
1	29.88	0.9102	-0.2884	0.0047	-1.0214	0.0702	-1.2060	0.1227	-0.7404	0.0773
1	29.88	0.9734	-0.3005	0.0071	-1.0494	0.0787	-1.2383	0.1416	-0.9233	0.0639

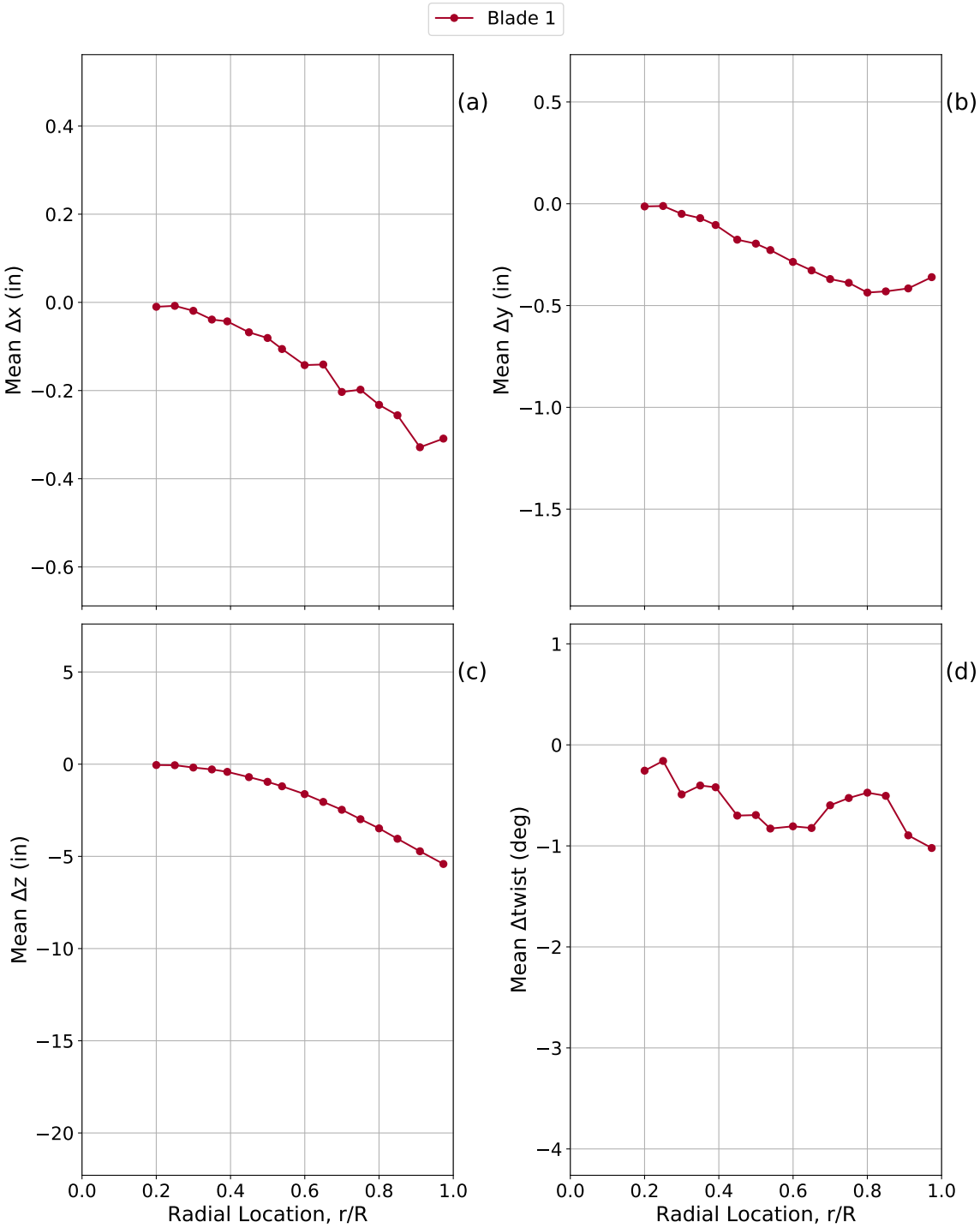


Figure 3.24-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0100	0.0023	-0.0132	0.0013	-0.0454	0.0048	-0.2553	0.0408
1	45	0.2499	-0.0079	0.0027	-0.0112	0.0026	-0.0555	0.0092	-0.1591	0.0502
1	45	0.2998	-0.0191	0.0029	-0.0497	0.0047	-0.1823	0.0183	-0.4904	0.0835
1	45	0.3498	-0.0390	0.0022	-0.0707	0.0087	-0.2853	0.0302	-0.4023	0.0633
1	45	0.3913	-0.0431	0.0028	-0.1044	0.0117	-0.4157	0.0433	-0.4198	0.0810
1	45	0.4496	-0.0679	0.0035	-0.1765	0.0171	-0.7022	0.0616	-0.7002	0.0657
1	45	0.4997	-0.0808	0.0030	-0.1960	0.0222	-0.9578	0.0769	-0.6948	0.0611
1	45	0.5387	-0.1058	0.0041	-0.2275	0.0264	-1.1992	0.0914	-0.8286	0.0735
1	45	0.5996	-0.1423	0.0039	-0.2857	0.0325	-1.6219	0.1136	-0.8063	0.0790
1	45	0.6498	-0.1409	0.0030	-0.3274	0.0400	-2.0465	0.1332	-0.8231	0.0771
1	45	0.6998	-0.2032	0.0042	-0.3699	0.0448	-2.4727	0.1486	-0.5982	0.0842
1	45	0.7500	-0.1980	0.0040	-0.3884	0.0513	-2.9832	0.1714	-0.5260	0.0816
1	45	0.8001	-0.2324	0.0040	-0.4362	0.0586	-3.4822	0.1965	-0.4732	0.0774
1	45	0.8497	-0.2561	0.0039	-0.4304	0.0662	-4.0446	0.2269	-0.5046	0.0774
1	45	0.9102	-0.3286	0.0050	-0.4159	0.0750	-4.7222	0.2659	-0.8958	0.0850
1	45	0.9734	-0.3090	0.0062	-0.3606	0.0837	-5.4120	0.3052	-1.0210	0.1010

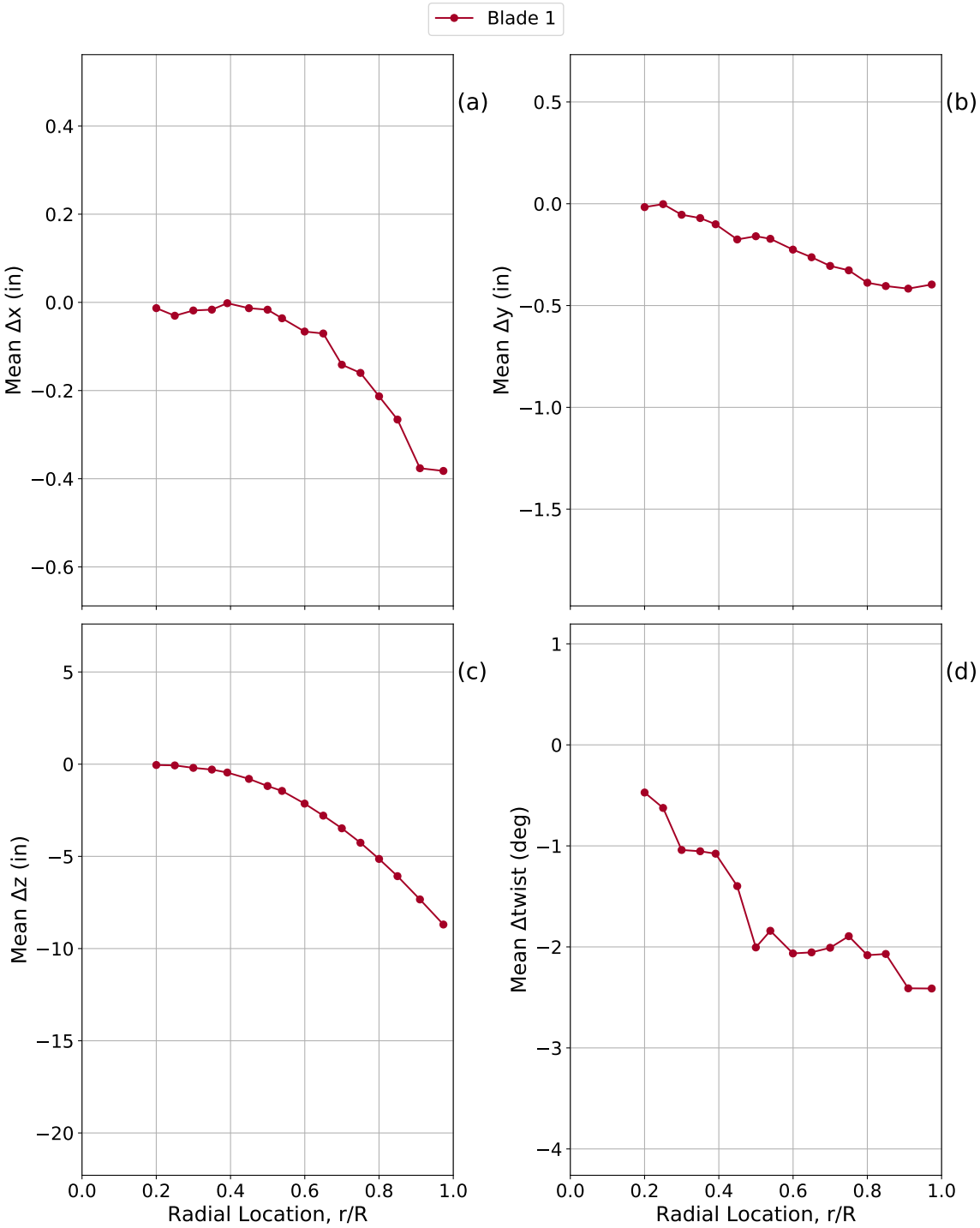


Figure 3.24-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0131	0.0088	-0.0165	0.0018	-0.0436	0.0069	-0.4718	0.0502
1	60.12	0.2499	-0.0303	0.0045	-0.0020	0.0038	-0.0661	0.0154	-0.6244	0.0880
1	60.12	0.2998	-0.0184	0.0045	-0.0541	0.0077	-0.1997	0.0284	-1.0405	0.1176
1	60.12	0.3498	-0.0165	0.0059	-0.0704	0.0130	-0.2927	0.0483	-1.0532	0.1004
1	60.12	0.3913	-0.0019	0.0107	-0.1008	0.0188	-0.4524	0.0703	-1.0772	0.0817
1	60.12	0.4496	-0.0132	0.0141	-0.1754	0.0232	-0.7980	0.0897	-1.3982	0.1704
1	60.12	0.4997	-0.0166	0.0136	-0.1596	0.0313	-1.1847	0.1282	-2.0051	0.4819
1	60.12	0.5387	-0.0361	0.0325	-0.1722	0.0428	-1.4498	0.1513	-1.8404	0.1270
1	60.12	0.5996	-0.0662	0.0321	-0.2253	0.0499	-2.1390	0.1831	-2.0645	0.1197
1	60.12	0.6498	-0.0706	0.0335	-0.2628	0.0557	-2.7906	0.2097	-2.0541	0.1137
1	60.12	0.6998	-0.1414	0.0344	-0.3054	0.0628	-3.4783	0.2356	-2.0085	0.1018
1	60.12	0.7500	-0.1600	0.0345	-0.3271	0.0688	-4.2612	0.2603	-1.8940	0.1036
1	60.12	0.8001	-0.2131	0.0348	-0.3880	0.0750	-5.1391	0.2857	-2.0822	0.1063
1	60.12	0.8497	-0.2658	0.0349	-0.4042	0.0815	-6.0736	0.3065	-2.0698	0.1093
1	60.12	0.9102	-0.3762	0.0357	-0.4169	0.0909	-7.3350	0.3358	-2.4101	0.1042
1	60.12	0.9734	-0.3823	0.0355	-0.3967	0.1002	-8.6965	0.3666	-2.4119	0.1407

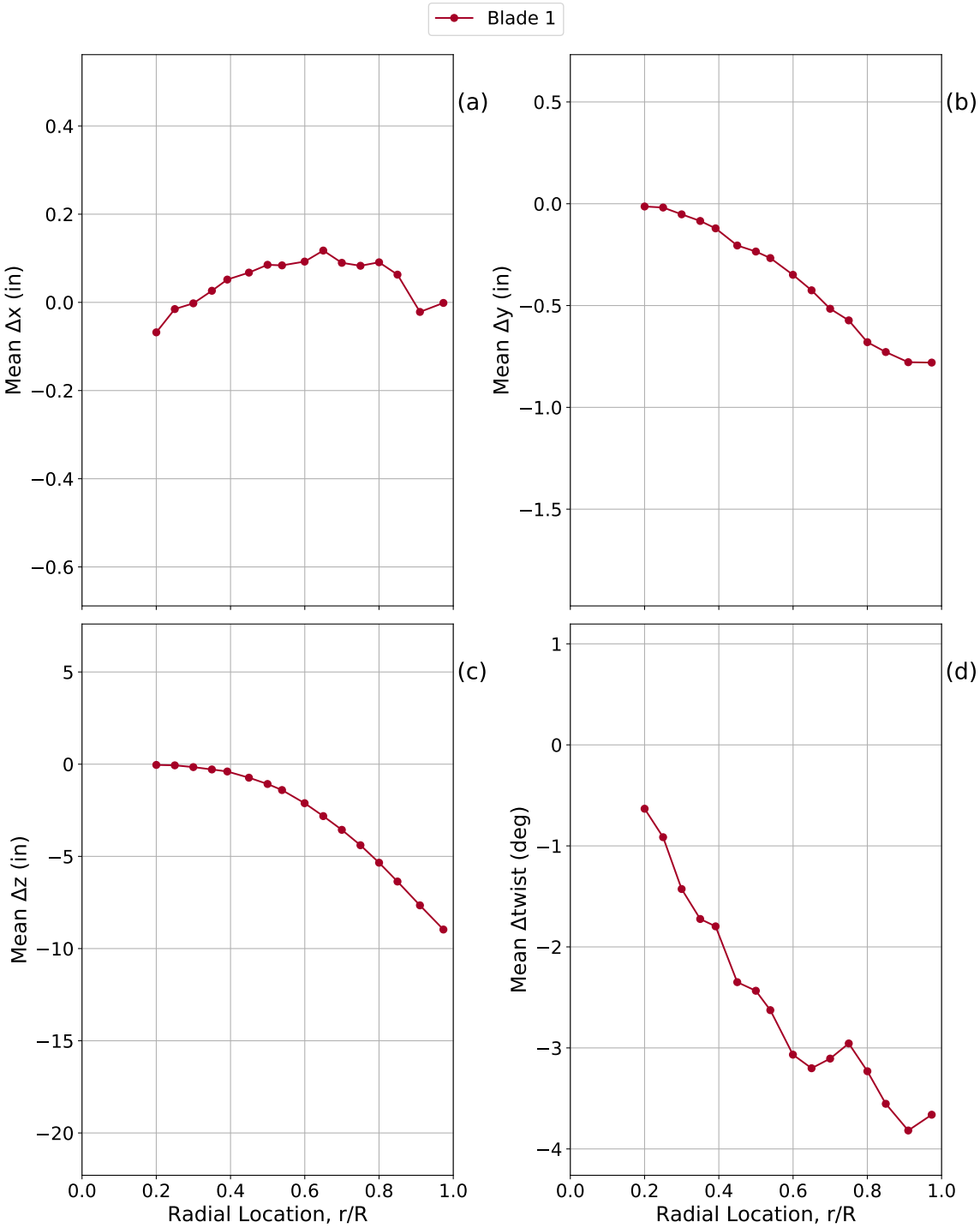


Figure 3.24-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0680	0.0137	-0.0135	0.0026	-0.0400	0.0081	-0.6322	0.0401
1	74.88	0.2499	-0.0152	0.0038	-0.0186	0.0053	-0.0622	0.0169	-0.9140	0.1190
1	74.88	0.2998	-0.0022	0.0063	-0.0520	0.0107	-0.1582	0.0296	-1.4270	0.1111
1	74.88	0.3498	0.0263	0.0136	-0.0846	0.0185	-0.2861	0.0507	-1.7237	0.1175
1	74.88	0.3913	0.0517	0.0200	-0.1209	0.0267	-0.3964	0.0722	-1.7966	0.1126
1	74.88	0.4496	0.0675	0.0277	-0.2050	0.0389	-0.7330	0.1041	-2.3490	0.1201
1	74.88	0.4997	0.0852	0.0336	-0.2347	0.0508	-1.0743	0.1336	-2.4342	0.1283
1	74.88	0.5387	0.0839	0.0371	-0.2668	0.0607	-1.4029	0.1575	-2.6262	0.1232
1	74.88	0.5996	0.0925	0.0422	-0.3490	0.0773	-2.1154	0.1939	-3.0667	0.1480
1	74.88	0.6498	0.1175	0.0450	-0.4252	0.0904	-2.8157	0.2217	-3.2012	0.1320
1	74.88	0.6998	0.0897	0.0471	-0.5157	0.1036	-3.5611	0.2507	-3.1057	0.1468
1	74.88	0.7500	0.0830	0.0504	-0.5729	0.1175	-4.3957	0.2806	-2.9558	0.1541
1	74.88	0.8001	0.0909	0.0536	-0.6799	0.1312	-5.3428	0.3100	-3.2308	0.1456
1	74.88	0.8497	0.0629	0.0597	-0.7283	0.1450	-6.3641	0.3404	-3.5531	0.1545
1	74.88	0.9102	-0.0217	0.0696	-0.7783	0.1625	-7.6557	0.3797	-3.8174	0.1612
1	74.88	0.9734	-0.0013	0.0853	-0.7801	0.1846	-8.9674	0.4093	-3.6612	0.2313

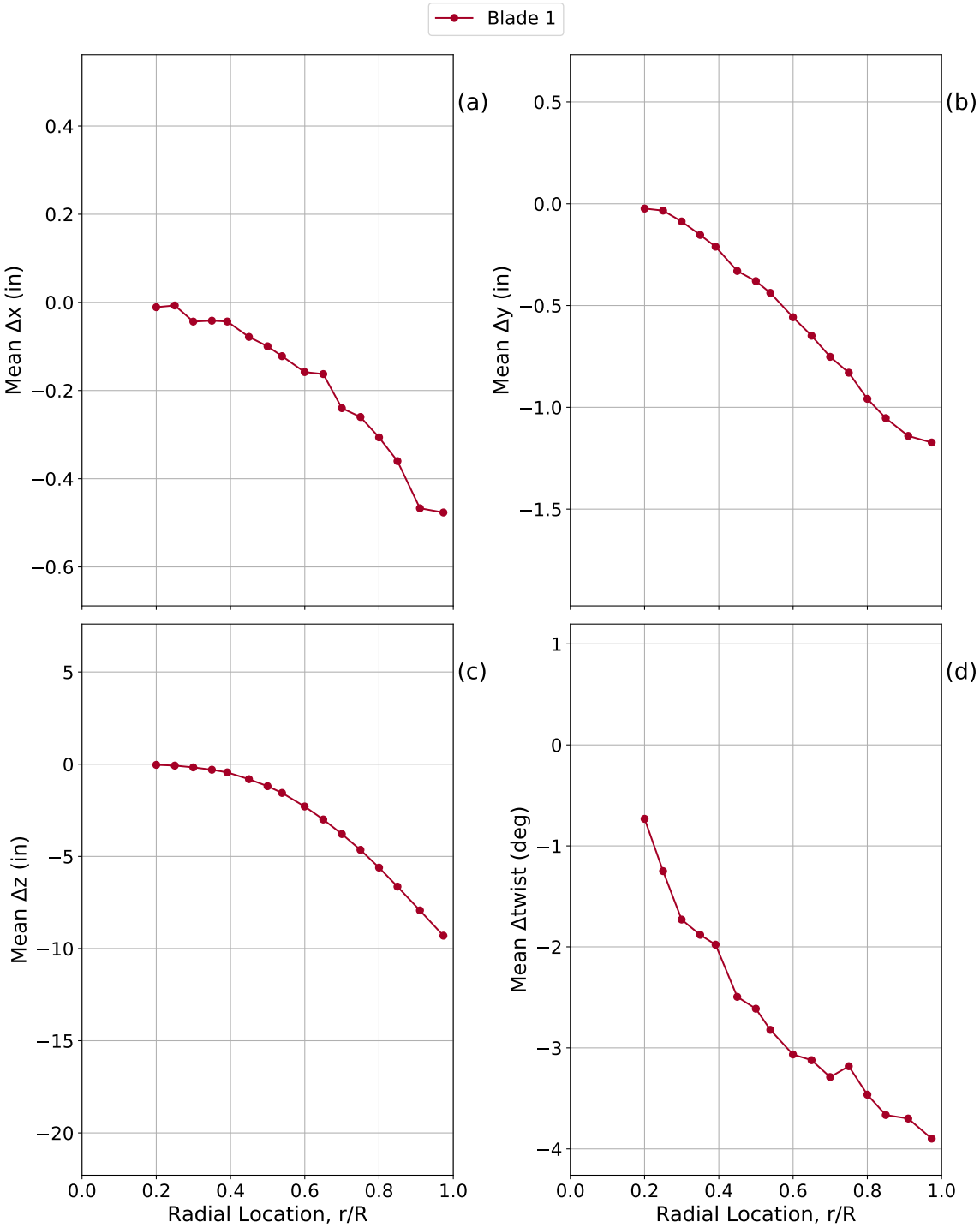


Figure 3.24-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0110	0.0059	-0.0234	0.0023	-0.0338	0.0074	-0.7318	0.0233
1	80.16	0.2499	-0.0071	0.0019	-0.0335	0.0036	-0.0740	0.0067	-1.2498	0.0910
1	80.16	0.2998	-0.0436	0.0025	-0.0868	0.0084	-0.1718	0.0206	-1.7293	0.0731
1	80.16	0.3498	-0.0416	0.0024	-0.1531	0.0152	-0.2992	0.0346	-1.8809	0.0677
1	80.16	0.3913	-0.0435	0.0036	-0.2109	0.0207	-0.4424	0.0446	-1.9780	0.0846
1	80.16	0.4496	-0.0784	0.0040	-0.3301	0.0265	-0.8111	0.0606	-2.4946	0.0817
1	80.16	0.4997	-0.0997	0.0022	-0.3798	0.0332	-1.1908	0.0709	-2.6123	0.0699
1	80.16	0.5387	-0.1221	0.0027	-0.4378	0.0394	-1.5564	0.0783	-2.8215	0.0804
1	80.16	0.5996	-0.1582	0.0028	-0.5576	0.0476	-2.2918	0.0952	-3.0652	0.0731
1	80.16	0.6498	-0.1627	0.0033	-0.6483	0.0554	-2.9973	0.1091	-3.1218	0.0736
1	80.16	0.6998	-0.2400	0.0039	-0.7521	0.0622	-3.7866	0.1251	-3.2890	0.0758
1	80.16	0.7500	-0.2601	0.0052	-0.8300	0.0706	-4.6459	0.1417	-3.1816	0.0803
1	80.16	0.8001	-0.3063	0.0061	-0.9584	0.0781	-5.6077	0.1609	-3.4628	0.0720
1	80.16	0.8497	-0.3601	0.0070	-1.0532	0.0858	-6.6389	0.1798	-3.6645	0.0728
1	80.16	0.9102	-0.4670	0.0081	-1.1406	0.0950	-7.9296	0.2014	-3.6995	0.0948
1	80.16	0.9734	-0.4766	0.0090	-1.1728	0.1052	-9.3015	0.2245	-3.8986	0.0773

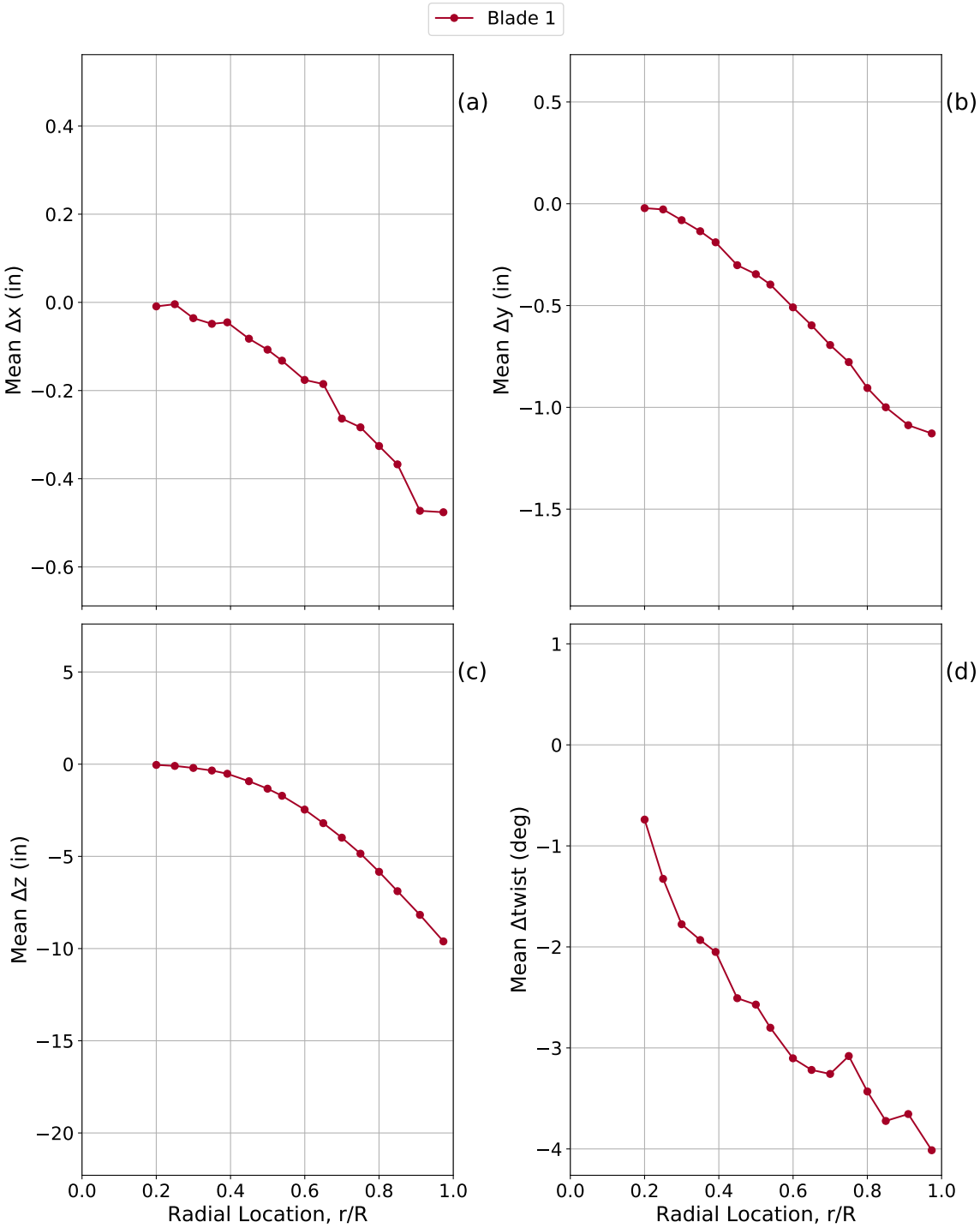


Figure 3.24-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0091	0.0068	-0.0216	0.0030	-0.0394	0.0136	-0.7397	0.0726
1	85.08	0.2499	-0.0042	0.0027	-0.0279	0.0044	-0.0938	0.0193	-1.3262	0.1833
1	85.08	0.2998	-0.0358	0.0035	-0.0807	0.0118	-0.2040	0.0447	-1.7760	0.1891
1	85.08	0.3498	-0.0487	0.0027	-0.1350	0.0191	-0.3438	0.0746	-1.9320	0.1913
1	85.08	0.3913	-0.0453	0.0042	-0.1894	0.0275	-0.5187	0.1024	-2.0498	0.1660
1	85.08	0.4496	-0.0824	0.0049	-0.3018	0.0388	-0.9239	0.1460	-2.5079	0.1600
1	85.08	0.4997	-0.1073	0.0053	-0.3458	0.0477	-1.3289	0.1843	-2.5710	0.1766
1	85.08	0.5387	-0.1322	0.0056	-0.3969	0.0565	-1.7136	0.2141	-2.8001	0.1822
1	85.08	0.5996	-0.1759	0.0071	-0.5088	0.0701	-2.4631	0.2662	-3.1027	0.1678
1	85.08	0.6498	-0.1852	0.0089	-0.5972	0.0828	-3.1983	0.3052	-3.2180	0.1689
1	85.08	0.6998	-0.2636	0.0111	-0.6939	0.0950	-3.9842	0.3462	-3.2575	0.1784
1	85.08	0.7500	-0.2834	0.0130	-0.7776	0.1072	-4.8534	0.3892	-3.0803	0.1755
1	85.08	0.8001	-0.3258	0.0147	-0.9050	0.1206	-5.8371	0.4333	-3.4314	0.1689
1	85.08	0.8497	-0.3674	0.0164	-0.9996	0.1344	-6.8869	0.4770	-3.7230	0.1626
1	85.08	0.9102	-0.4727	0.0193	-1.0877	0.1520	-8.1718	0.5252	-3.6545	0.1776
1	85.08	0.9734	-0.4760	0.0171	-1.1281	0.1711	-9.6112	0.5747	-4.0128	0.1948

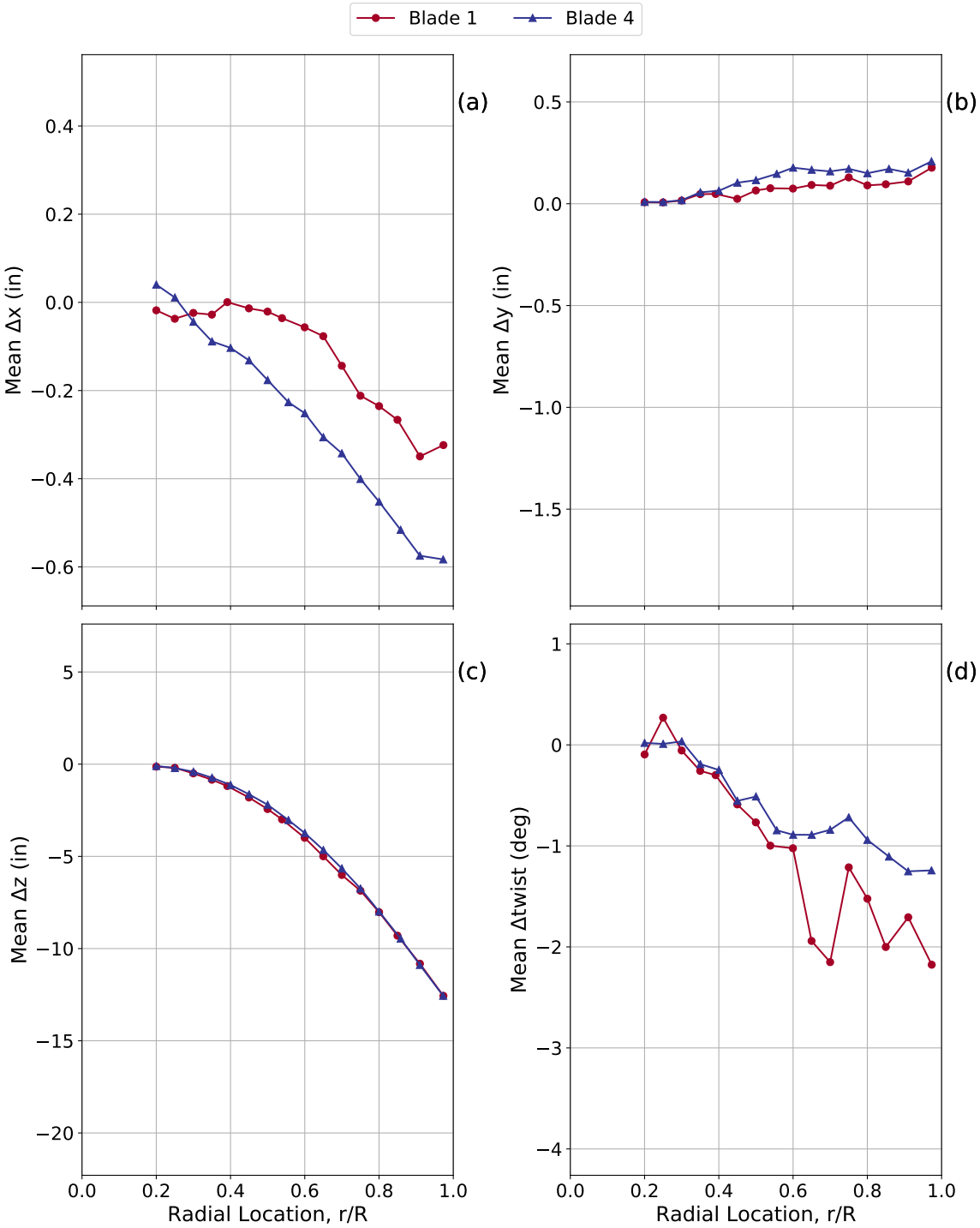


Figure 3.24-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0180	0.0030	0.0075	0.0049	-0.1327	0.0147	-0.0951	0.0751
1	90	0.2499	-0.0372	0.0027	0.0067	0.0058	-0.1975	0.0178	0.2689	0.2167
1	90	0.2998	-0.0239	0.0036	0.0156	0.0175	-0.4986	0.0505	-0.0554	0.2115
1	90	0.3498	-0.0278	0.0030	0.0471	0.0299	-0.8438	0.0850	-0.2574	0.2163
1	90	0.3913	0.0005	0.0043	0.0481	0.0409	-1.1863	0.1164	-0.2996	0.2086
1	90	0.4496	-0.0136	0.0043	0.0241	0.0577	-1.8073	0.1657	-0.5894	0.2160
1	90	0.4997	-0.0209	0.0049	0.0651	0.0739	-2.4334	0.2114	-0.7674	0.2123
1	90	0.5387	-0.0358	0.0059	0.0762	0.0869	-2.9946	0.2506	-0.9977	0.2082
1	90	0.5996	-0.0566	0.0069	0.0744	0.1095	-3.9903	0.3135	-1.0235	0.2147
1	90	0.6498	-0.0767	0.0235	0.0922	0.1415	-4.9951	0.4142	-1.9411	0.5927
1	90	0.6998	-0.1439	0.0219	0.0886	0.1616	-6.0084	0.4725	-2.1506	0.6451
1	90	0.7500	-0.2118	0.0533	0.1291	0.1919	-6.8612	0.3436	-1.2125	0.2261
1	90	0.8001	-0.2353	0.0512	0.0902	0.2152	-8.0260	0.3938	-1.5232	0.2349
1	90	0.8497	-0.2664	0.0487	0.0956	0.2374	-9.3004	0.4466	-2.0008	0.2244
1	90	0.9102	-0.3494	0.0447	0.1095	0.2636	-10.8217	0.5037	-1.7068	0.2270
1	90	0.9734	-0.3237	0.0352	0.1769	0.2888	-12.5645	0.5691	-2.1762	0.2199
4	90.35	0.2001	0.0402	0.0033	0.0089	0.0012	-0.0998	0.0053	0.0194	0.0176
4	90.35	0.2502	0.0109	0.0034	0.0085	0.0025	-0.2098	0.0082	0.0096	0.0652
4	90.35	0.3001	-0.0440	0.0013	0.0174	0.0044	-0.4122	0.0208	0.0345	0.0466
4	90.35	0.3502	-0.0887	0.0021	0.0563	0.0074	-0.7349	0.0307	-0.1907	0.0616
4	90.35	0.4002	-0.1033	0.0028	0.0636	0.0117	-1.1273	0.0496	-0.2488	0.0595
4	90.35	0.4500	-0.1317	0.0024	0.1033	0.0143	-1.6347	0.0662	-0.5546	0.0618
4	90.35	0.5001	-0.1764	0.0025	0.1159	0.0181	-2.2029	0.0844	-0.5114	0.0498
4	90.35	0.5560	-0.2265	0.0031	0.1468	0.0226	-3.0336	0.1051	-0.8459	0.0517
4	90.35	0.6001	-0.2515	0.0043	0.1771	0.0265	-3.7362	0.1195	-0.8899	0.0510
4	90.35	0.6501	-0.3059	0.0046	0.1667	0.0318	-4.6543	0.1368	-0.8904	0.0498
4	90.35	0.6999	-0.3424	0.0052	0.1588	0.0368	-5.6563	0.1531	-0.8408	0.0494
4	90.35	0.7500	-0.4006	0.0057	0.1714	0.0433	-6.7432	0.1706	-0.7177	0.0622
4	90.35	0.8002	-0.4521	0.0067	0.1497	0.0497	-7.9918	0.1858	-0.9409	0.0596
4	90.35	0.8582	-0.5160	0.0083	0.1711	0.0570	-9.4607	0.2097	-1.1061	0.0603
4	90.35	0.9101	-0.5746	0.0106	0.1522	0.0647	-10.8907	0.2351	-1.2519	0.0545
4	90.35	0.9728	-0.5830	0.0129	0.2080	0.0744	-12.5615	0.2723	-1.2424	0.0628

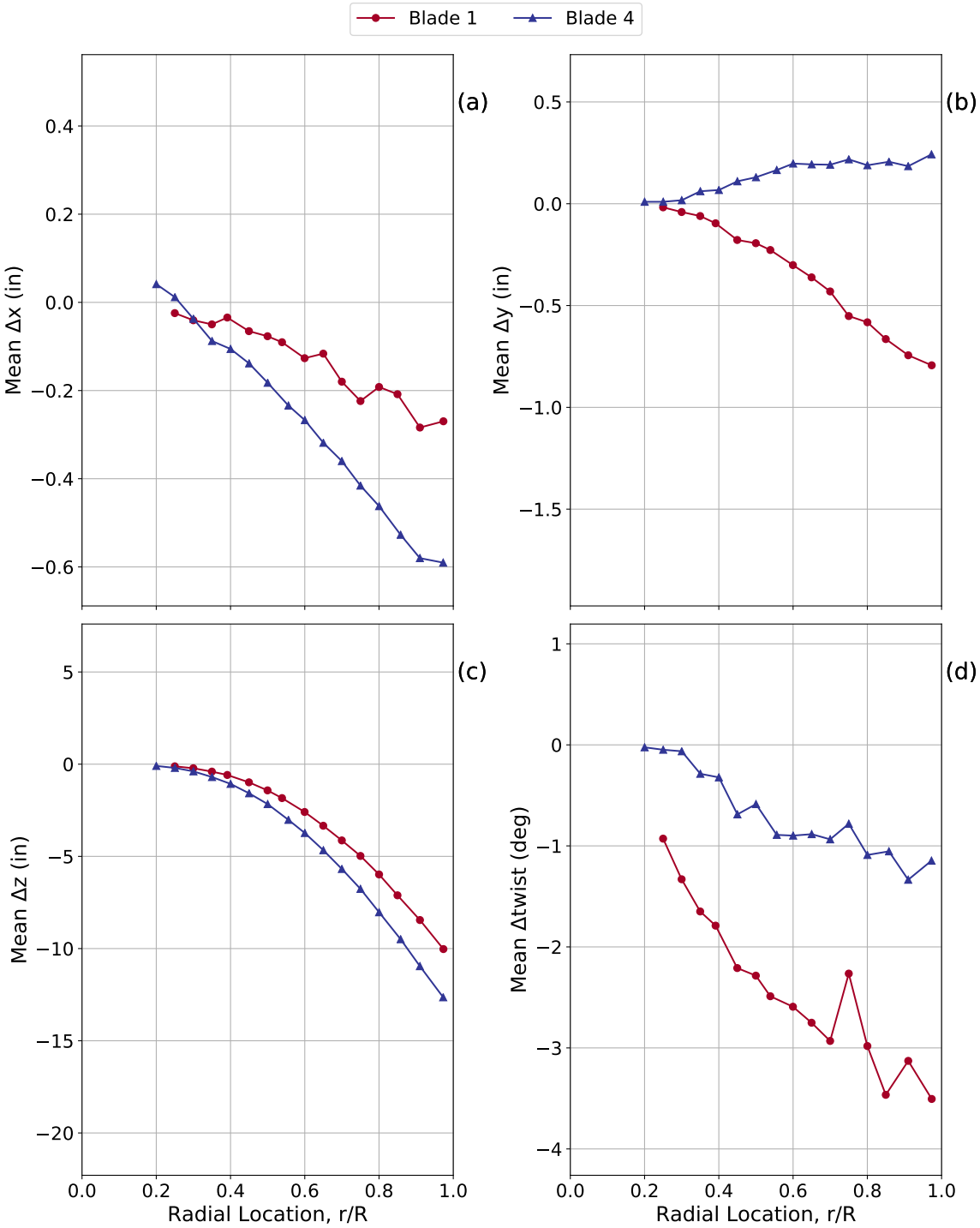


Figure 3.24-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2499	-0.0244	0.0037	-0.0177	0.0042	-0.1164	0.0253	-0.9282	0.2207
1	94.92	0.2998	-0.0406	0.0035	-0.0407	0.0069	-0.2206	0.0420	-1.3304	0.3148
1	94.92	0.3498	-0.0499	0.0043	-0.0604	0.0142	-0.4030	0.0790	-1.6492	0.2848
1	94.92	0.3913	-0.0344	0.0061	-0.0960	0.0195	-0.5848	0.1087	-1.7894	0.2772
1	94.92	0.4496	-0.0653	0.0095	-0.1780	0.0274	-0.9836	0.1458	-2.2094	0.2797
1	94.92	0.4997	-0.0768	0.0117	-0.1938	0.0345	-1.4206	0.1811	-2.2844	0.2801
1	94.92	0.5387	-0.0904	0.0128	-0.2273	0.0397	-1.8393	0.2116	-2.4884	0.2707
1	94.92	0.5996	-0.1266	0.0154	-0.3013	0.0484	-2.5924	0.2597	-2.5923	0.2759
1	94.92	0.6498	-0.1163	0.0167	-0.3616	0.0564	-3.3384	0.3009	-2.7506	0.2881
1	94.92	0.6998	-0.1799	0.0167	-0.4307	0.0641	-4.1345	0.3425	-2.9309	0.2958
1	94.92	0.7500	-0.2238	0.0172	-0.5516	0.1174	-4.9766	0.3933	-2.2643	0.2978
1	94.92	0.8001	-0.1919	0.0158	-0.5822	0.0797	-5.9804	0.4361	-2.9813	0.2982
1	94.92	0.8497	-0.2083	0.0165	-0.6646	0.0882	-7.1118	0.4861	-3.4642	0.2861
1	94.92	0.9102	-0.2839	0.0223	-0.7442	0.0991	-8.4530	0.5431	-3.1282	0.2990
1	94.92	0.9734	-0.2697	0.0302	-0.7934	0.1120	-10.0273	0.6177	-3.5052	0.2948
4	94.92	0.2001	0.0413	0.0022	0.0095	0.0010	-0.0952	0.0040	-0.0243	0.0486
4	94.92	0.2502	0.0118	0.0034	0.0096	0.0024	-0.2019	0.0071	-0.0484	0.0851
4	94.92	0.3001	-0.0373	0.0029	0.0172	0.0044	-0.3903	0.0136	-0.0635	0.1098
4	94.92	0.3502	-0.0877	0.0023	0.0613	0.0068	-0.6986	0.0199	-0.2864	0.1150
4	94.92	0.4002	-0.1057	0.0026	0.0674	0.0111	-1.0691	0.0318	-0.3220	0.0955
4	94.92	0.4500	-0.1385	0.0019	0.1101	0.0141	-1.5787	0.0386	-0.6882	0.1083
4	94.92	0.5001	-0.1824	0.0023	0.1301	0.0182	-2.1656	0.0486	-0.5865	0.1132
4	94.92	0.5560	-0.2341	0.0027	0.1654	0.0221	-3.0201	0.0593	-0.8911	0.1212
4	94.92	0.6001	-0.2671	0.0019	0.1973	0.0270	-3.7329	0.0715	-0.8983	0.1157
4	94.92	0.6501	-0.3185	0.0033	0.1933	0.0320	-4.6673	0.0856	-0.8840	0.1109
4	94.92	0.6999	-0.3600	0.0039	0.1916	0.0372	-5.6834	0.1005	-0.9353	0.1187
4	94.92	0.7500	-0.4156	0.0044	0.2178	0.0433	-6.7646	0.1205	-0.7812	0.1257
4	94.92	0.8002	-0.4622	0.0062	0.1889	0.0501	-8.0311	0.1430	-1.0899	0.1230
4	94.92	0.8582	-0.5272	0.0081	0.2062	0.0581	-9.4948	0.1688	-1.0541	0.1236
4	94.92	0.9101	-0.5801	0.0110	0.1844	0.0650	-10.9557	0.1928	-1.3353	0.1210
4	94.92	0.9728	-0.5903	0.0126	0.2424	0.0743	-12.6421	0.2239	-1.1466	0.1115

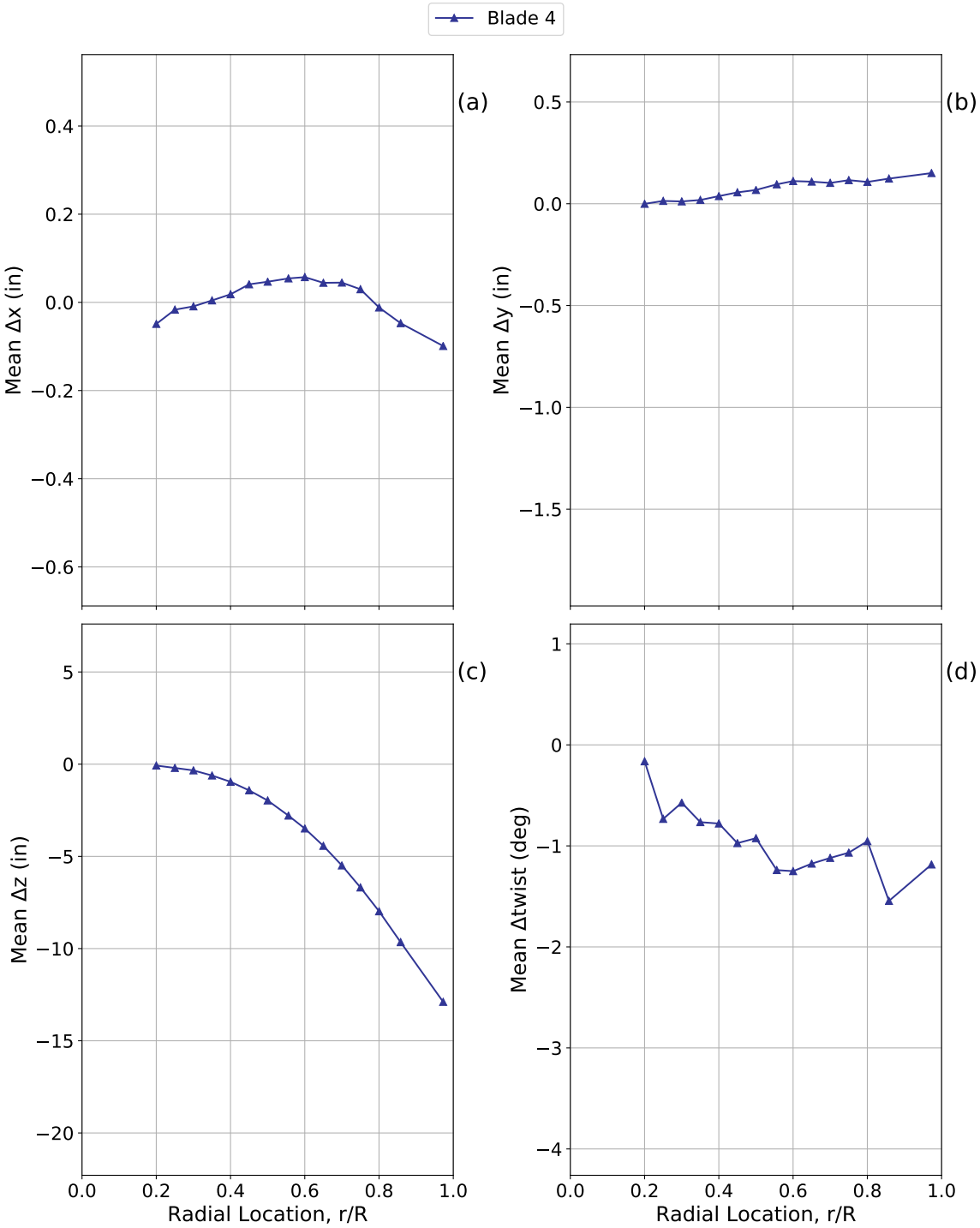


Figure 3.24-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0489	0.0021	-0.0005	0.0007	-0.0750	0.0021	-0.1630	0.0348
4	105.12	0.2502	-0.0166	0.0018	0.0137	0.0033	-0.2044	0.0074	-0.7329	0.0540
4	105.12	0.3001	-0.0091	0.0014	0.0113	0.0041	-0.3378	0.0100	-0.5727	0.0783
4	105.12	0.3502	0.0044	0.0021	0.0184	0.0075	-0.6153	0.0185	-0.7651	0.0764
4	105.12	0.4002	0.0183	0.0033	0.0374	0.0124	-0.9575	0.0292	-0.7789	0.0611
4	105.12	0.4500	0.0409	0.0041	0.0558	0.0155	-1.4203	0.0400	-0.9729	0.0728
4	105.12	0.5001	0.0468	0.0049	0.0675	0.0194	-1.9688	0.0540	-0.9240	0.0877
4	105.12	0.5560	0.0543	0.0063	0.0951	0.0247	-2.7895	0.0767	-1.2397	0.0764
4	105.12	0.6001	0.0572	0.0084	0.1113	0.0293	-3.4889	0.0996	-1.2502	0.0667
4	105.12	0.6501	0.0443	0.0103	0.1084	0.0347	-4.4298	0.1312	-1.1759	0.0823
4	105.12	0.6999	0.0448	0.0129	0.1022	0.0409	-5.4930	0.1707	-1.1194	0.0858
4	105.12	0.7500	0.0297	0.0167	0.1158	0.0477	-6.6869	0.2141	-1.0672	0.0694
4	105.12	0.8002	-0.0117	0.0201	0.1071	0.0546	-7.9801	0.2615	-0.9537	0.0827
4	105.12	0.8582	-0.0473	0.0269	0.1234	0.0636	-9.6542	0.3124	-1.5451	0.0832
4	105.12	0.9728	-0.0990	0.0347	0.1505	0.0809	-12.8921	0.4258	-1.1843	0.1463

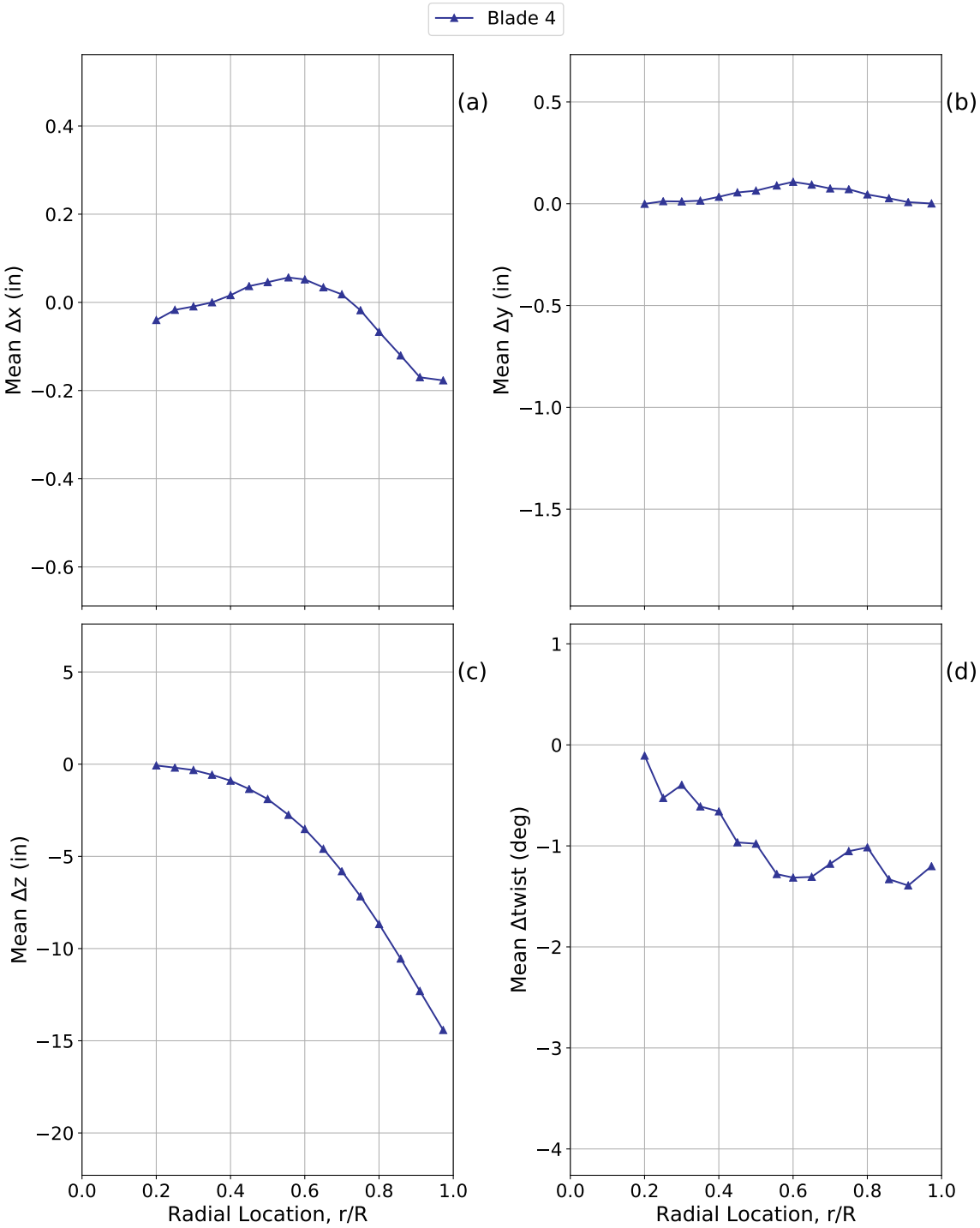


Figure 3.24-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0402	0.0033	-0.0007	0.0011	-0.0715	0.0045	-0.1071	0.0195
4	119.88	0.2502	-0.0171	0.0011	0.0122	0.0025	-0.1892	0.0103	-0.5264	0.0324
4	119.88	0.3001	-0.0093	0.0019	0.0111	0.0046	-0.3199	0.0184	-0.3958	0.0448
4	119.88	0.3502	0.0000	0.0021	0.0150	0.0080	-0.5771	0.0316	-0.6099	0.0262
4	119.88	0.4002	0.0162	0.0037	0.0340	0.0126	-0.8993	0.0492	-0.6589	0.0439
4	119.88	0.4500	0.0368	0.0050	0.0553	0.0175	-1.3456	0.0720	-0.9657	0.0498
4	119.88	0.5001	0.0457	0.0057	0.0641	0.0228	-1.8934	0.1020	-0.9788	0.0554
4	119.88	0.5560	0.0564	0.0071	0.0893	0.0296	-2.7530	0.1391	-1.2796	0.0503
4	119.88	0.6001	0.0519	0.0081	0.1073	0.0355	-3.5205	0.1760	-1.3144	0.0600
4	119.88	0.6501	0.0340	0.0112	0.0935	0.0423	-4.5915	0.2163	-1.3070	0.0394
4	119.88	0.6999	0.0181	0.0126	0.0748	0.0495	-5.8074	0.2632	-1.1779	0.0425
4	119.88	0.7500	-0.0180	0.0162	0.0712	0.0575	-7.1706	0.3099	-1.0528	0.0406
4	119.88	0.8002	-0.0670	0.0200	0.0454	0.0655	-8.6743	0.3590	-1.0149	0.0512
4	119.88	0.8582	-0.1204	0.0249	0.0267	0.0754	-10.5472	0.4157	-1.3304	0.0520
4	119.88	0.9101	-0.1699	0.0298	0.0078	0.0840	-12.3064	0.4667	-1.3924	0.0527
4	119.88	0.9728	-0.1770	0.0340	0.0010	0.0938	-14.4196	0.5310	-1.2013	0.0507

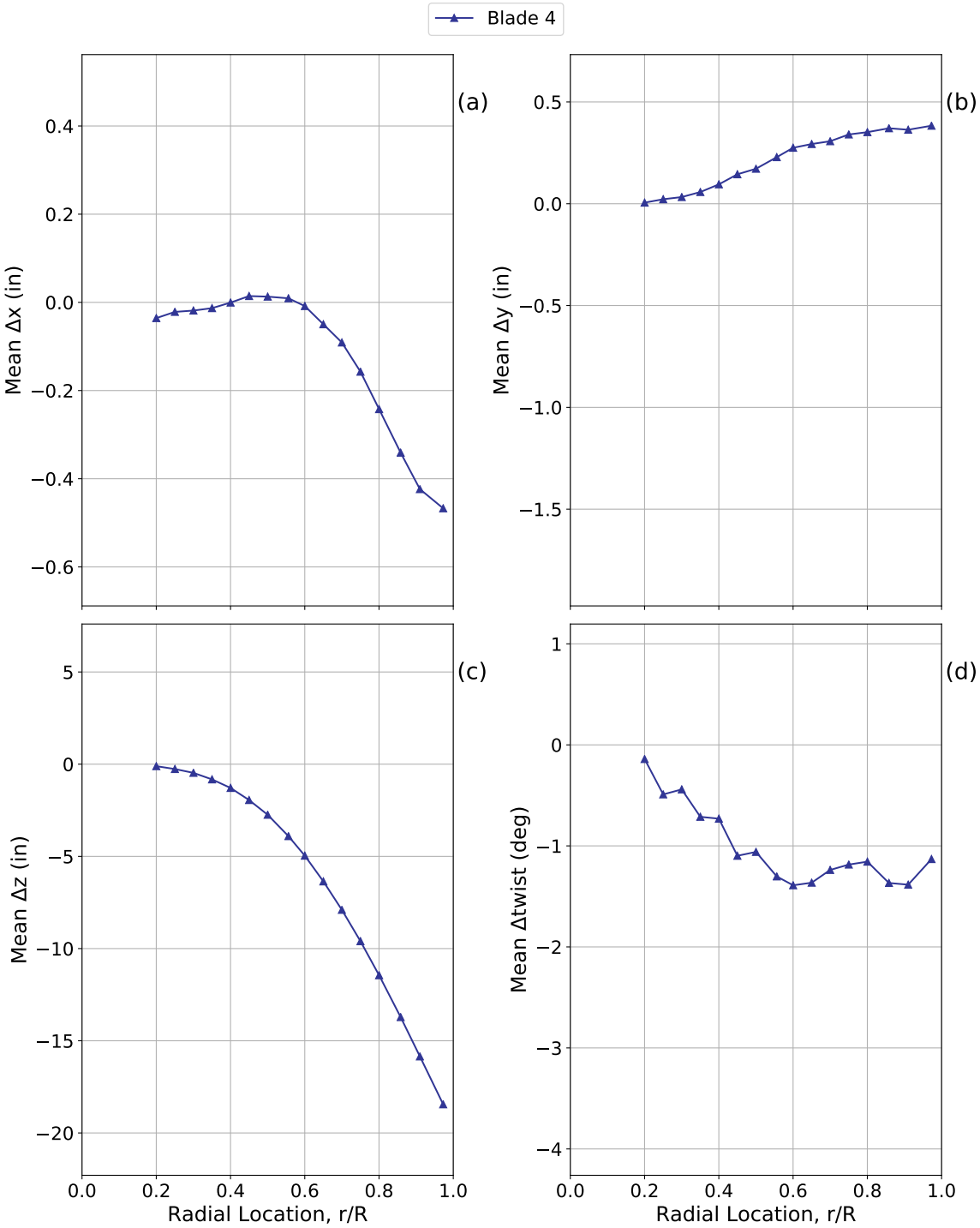


Figure 3.24-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0357	0.0013	0.0054	0.0008	-0.1081	0.0048	-0.1402	0.0119
4	135	0.2502	-0.0216	0.0016	0.0221	0.0023	-0.2634	0.0080	-0.4904	0.0334
4	135	0.3001	-0.0186	0.0016	0.0328	0.0040	-0.4709	0.0167	-0.4409	0.0317
4	135	0.3502	-0.0131	0.0018	0.0575	0.0068	-0.8251	0.0298	-0.7123	0.0295
4	135	0.4002	-0.0005	0.0032	0.0952	0.0109	-1.2897	0.0442	-0.7307	0.0417
4	135	0.4500	0.0143	0.0044	0.1446	0.0145	-1.9458	0.0670	-1.0981	0.0342
4	135	0.5001	0.0130	0.0058	0.1718	0.0188	-2.7436	0.0883	-1.0597	0.0433
4	135	0.5560	0.0092	0.0079	0.2287	0.0252	-3.9034	0.1241	-1.3023	0.0374
4	135	0.6001	-0.0084	0.0101	0.2748	0.0290	-4.9631	0.1572	-1.3901	0.0488
4	135	0.6501	-0.0497	0.0144	0.2932	0.0353	-6.3581	0.2049	-1.3645	0.0433
4	135	0.6999	-0.0910	0.0200	0.3070	0.0409	-7.8996	0.2596	-1.2382	0.0571
4	135	0.7500	-0.1573	0.0269	0.3402	0.0472	-9.6024	0.3269	-1.1850	0.0594
4	135	0.8002	-0.2422	0.0364	0.3516	0.0536	-11.4473	0.4038	-1.1563	0.0693
4	135	0.8582	-0.3409	0.0491	0.3707	0.0601	-13.7171	0.5070	-1.3672	0.0726
4	135	0.9101	-0.4236	0.0609	0.3634	0.0662	-15.8491	0.6088	-1.3840	0.0841
4	135	0.9728	-0.4671	0.0759	0.3831	0.0727	-18.4467	0.7395	-1.1307	0.0954

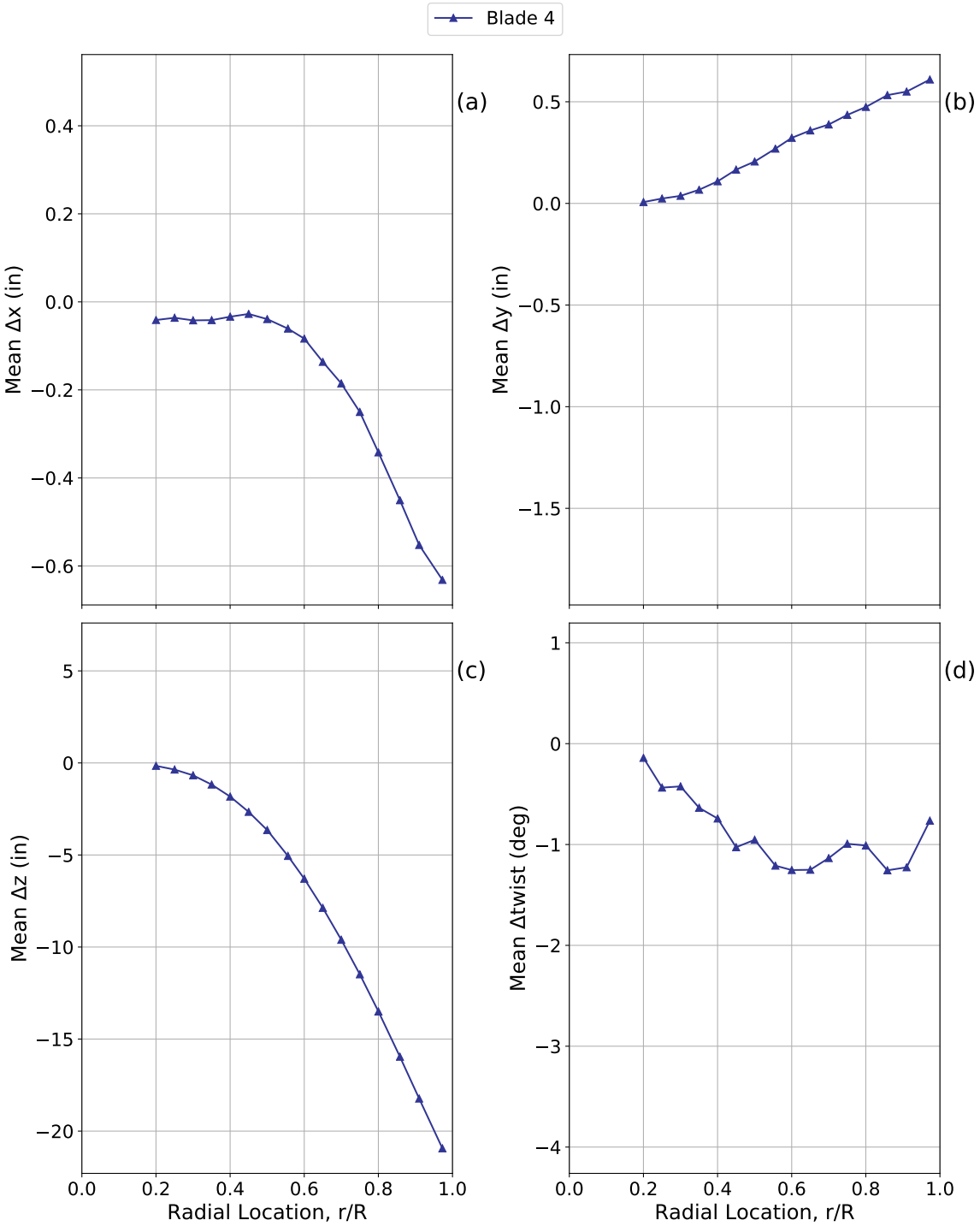


Figure 3.24-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0412	0.0025	0.0065	0.0007	-0.1587	0.0033	-0.1410	0.0170
4	150.12	0.2502	-0.0362	0.0020	0.0240	0.0018	-0.3615	0.0074	-0.4360	0.0273
4	150.12	0.3001	-0.0420	0.0011	0.0371	0.0032	-0.6738	0.0125	-0.4238	0.0380
4	150.12	0.3502	-0.0415	0.0026	0.0671	0.0056	-1.1766	0.0242	-0.6363	0.0318
4	150.12	0.4002	-0.0337	0.0025	0.1086	0.0087	-1.8298	0.0358	-0.7424	0.0343
4	150.12	0.4500	-0.0274	0.0045	0.1660	0.0115	-2.6602	0.0495	-1.0271	0.0412
4	150.12	0.5001	-0.0392	0.0050	0.2060	0.0157	-3.6472	0.0649	-0.9535	0.0484
4	150.12	0.5560	-0.0608	0.0065	0.2693	0.0203	-5.0531	0.0862	-1.2099	0.0468
4	150.12	0.6001	-0.0835	0.0088	0.3224	0.0249	-6.2925	0.1038	-1.2534	0.0413
4	150.12	0.6501	-0.1363	0.0099	0.3588	0.0305	-7.8756	0.1258	-1.2506	0.0364
4	150.12	0.6999	-0.1853	0.0126	0.3881	0.0367	-9.6082	0.1526	-1.1349	0.0426
4	150.12	0.7500	-0.2502	0.0159	0.4351	0.0436	-11.4850	0.1812	-0.9930	0.0527
4	150.12	0.8002	-0.3420	0.0198	0.4744	0.0506	-13.5024	0.2156	-1.0100	0.0391
4	150.12	0.8582	-0.4506	0.0258	0.5326	0.0601	-15.9605	0.2548	-1.2559	0.0469
4	150.12	0.9101	-0.5523	0.0304	0.5500	0.0695	-18.2327	0.2977	-1.2262	0.0454
4	150.12	0.9728	-0.6316	0.0384	0.6092	0.0804	-20.9367	0.3477	-0.7639	0.0551

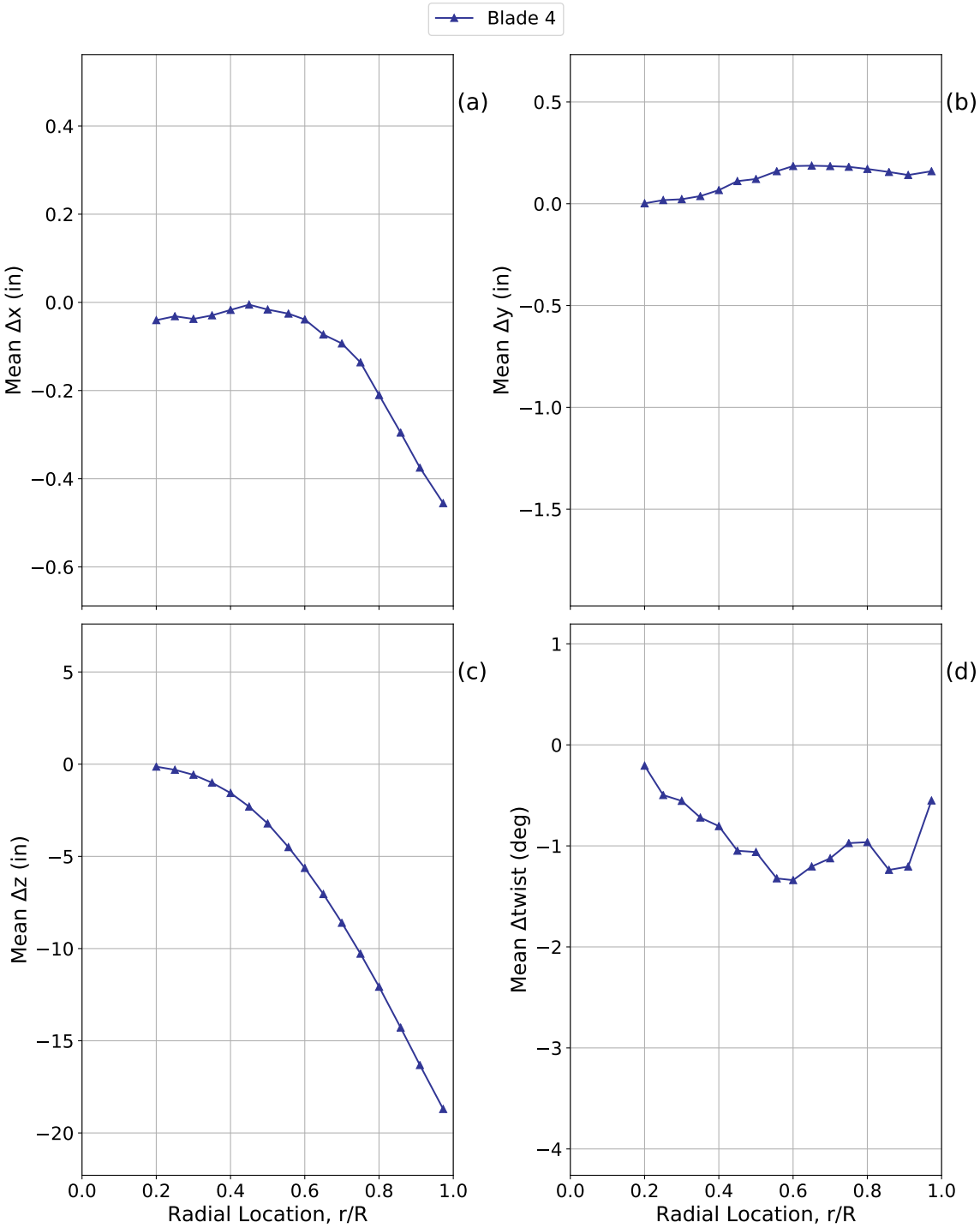


Figure 3.24-17. 165° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.019, μ = 0.35, α = -8°
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.35, α = -8°
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0404	0.0024	0.0019	0.0014	-0.1354	0.0036	-0.2064	0.0427
4	164.88	0.2502	-0.0315	0.0021	0.0177	0.0021	-0.3061	0.0061	-0.4971	0.0492
4	164.88	0.3001	-0.0376	0.0020	0.0221	0.0046	-0.5768	0.0125	-0.5550	0.0872
4	164.88	0.3502	-0.0295	0.0026	0.0375	0.0082	-1.0050	0.0169	-0.7200	0.0883
4	164.88	0.4002	-0.0172	0.0029	0.0669	0.0121	-1.5646	0.0279	-0.8049	0.0850
4	164.88	0.4500	-0.0052	0.0037	0.1110	0.0163	-2.3033	0.0394	-1.0483	0.0916
4	164.88	0.5001	-0.0163	0.0041	0.1215	0.0211	-3.2186	0.0551	-1.0610	0.1009
4	164.88	0.5560	-0.0256	0.0053	0.1596	0.0287	-4.5014	0.0815	-1.3221	0.0975
4	164.88	0.6001	-0.0388	0.0074	0.1850	0.0357	-5.6307	0.1089	-1.3393	0.0924
4	164.88	0.6501	-0.0730	0.0096	0.1868	0.0427	-7.0468	0.1423	-1.2041	0.0995
4	164.88	0.6999	-0.0932	0.0136	0.1847	0.0506	-8.6039	0.1839	-1.1232	0.1074
4	164.88	0.7500	-0.1361	0.0179	0.1813	0.0592	-10.2816	0.2324	-0.9726	0.1161
4	164.88	0.8002	-0.2103	0.0229	0.1707	0.0685	-12.0737	0.2807	-0.9633	0.1126
4	164.88	0.8582	-0.2955	0.0297	0.1559	0.0798	-14.2876	0.3384	-1.2381	0.1156
4	164.88	0.9101	-0.3749	0.0354	0.1410	0.0899	-16.3187	0.3898	-1.2049	0.1058
4	164.88	0.9728	-0.4555	0.0395	0.1596	0.1027	-18.7018	0.4529	-0.5509	0.1026

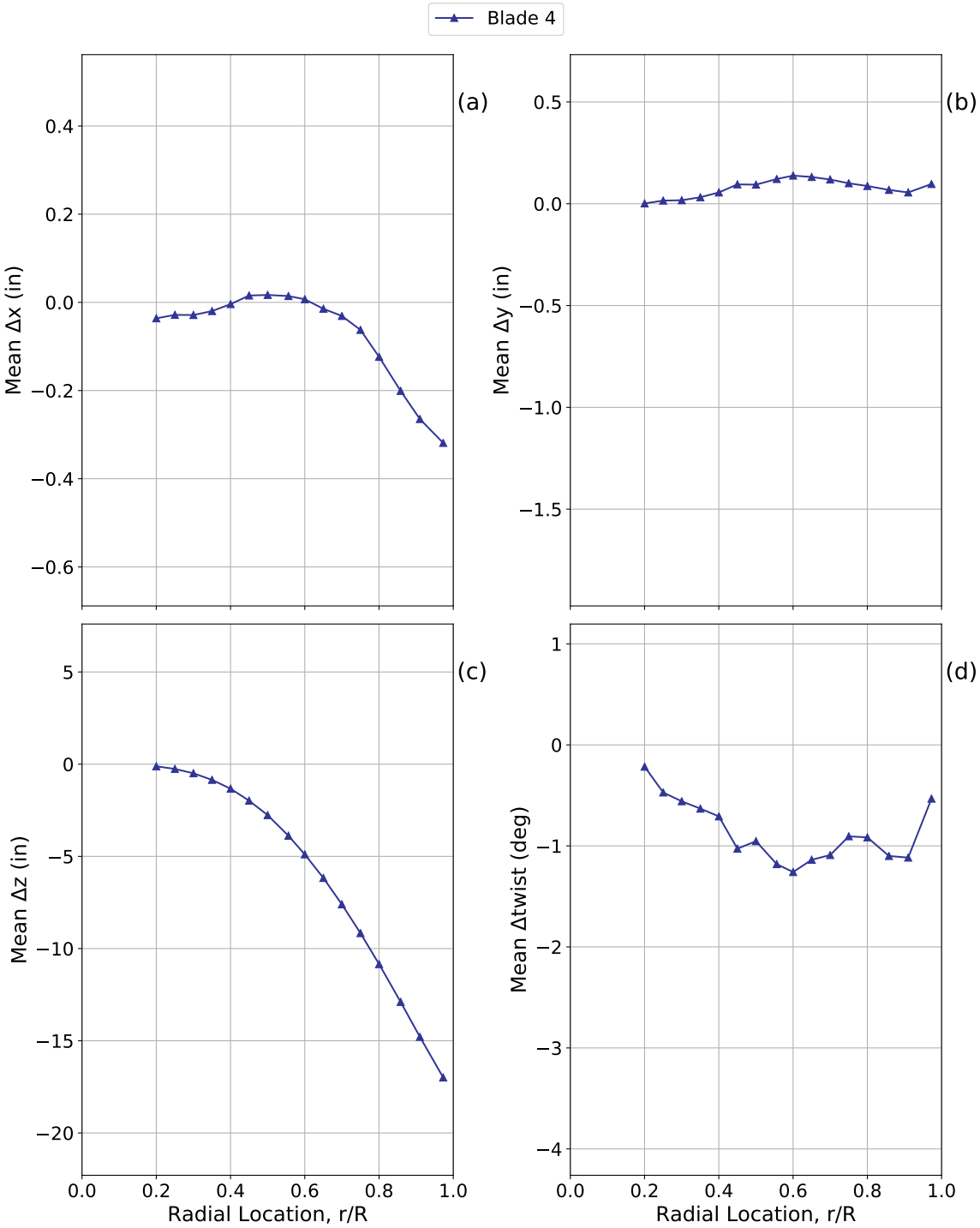


Figure 3.24-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0362	0.0026	0.0014	0.0010	-0.1158	0.0041	-0.2160	0.0414
4	170.16	0.2502	-0.0284	0.0023	0.0154	0.0029	-0.2585	0.0064	-0.4714	0.0783
4	170.16	0.3001	-0.0287	0.0023	0.0172	0.0040	-0.4940	0.0133	-0.5585	0.0953
4	170.16	0.3502	-0.0198	0.0029	0.0318	0.0070	-0.8518	0.0220	-0.6313	0.0889
4	170.16	0.4002	-0.0040	0.0041	0.0554	0.0111	-1.3305	0.0328	-0.7083	0.0853
4	170.16	0.4500	0.0155	0.0050	0.0950	0.0139	-1.9805	0.0412	-1.0276	0.0868
4	170.16	0.5001	0.0168	0.0057	0.0937	0.0173	-2.7644	0.0518	-0.9534	0.0833
4	170.16	0.5560	0.0143	0.0072	0.1213	0.0224	-3.8825	0.0694	-1.1806	0.0820
4	170.16	0.6001	0.0070	0.0086	0.1381	0.0249	-4.8933	0.0883	-1.2591	0.0806
4	170.16	0.6501	-0.0146	0.0110	0.1314	0.0290	-6.1713	0.1153	-1.1375	0.0824
4	170.16	0.6999	-0.0308	0.0136	0.1189	0.0336	-7.6026	0.1484	-1.0908	0.0848
4	170.16	0.7500	-0.0625	0.0174	0.1005	0.0377	-9.1637	0.1848	-0.9054	0.0768
4	170.16	0.8002	-0.1236	0.0210	0.0870	0.0422	-10.8450	0.2266	-0.9160	0.0725
4	170.16	0.8582	-0.2009	0.0256	0.0679	0.0488	-12.8952	0.2740	-1.1001	0.0858
4	170.16	0.9101	-0.2647	0.0299	0.0554	0.0536	-14.7907	0.3197	-1.1162	0.0661
4	170.16	0.9728	-0.3188	0.0356	0.0969	0.0608	-16.9915	0.3726	-0.5326	0.0836

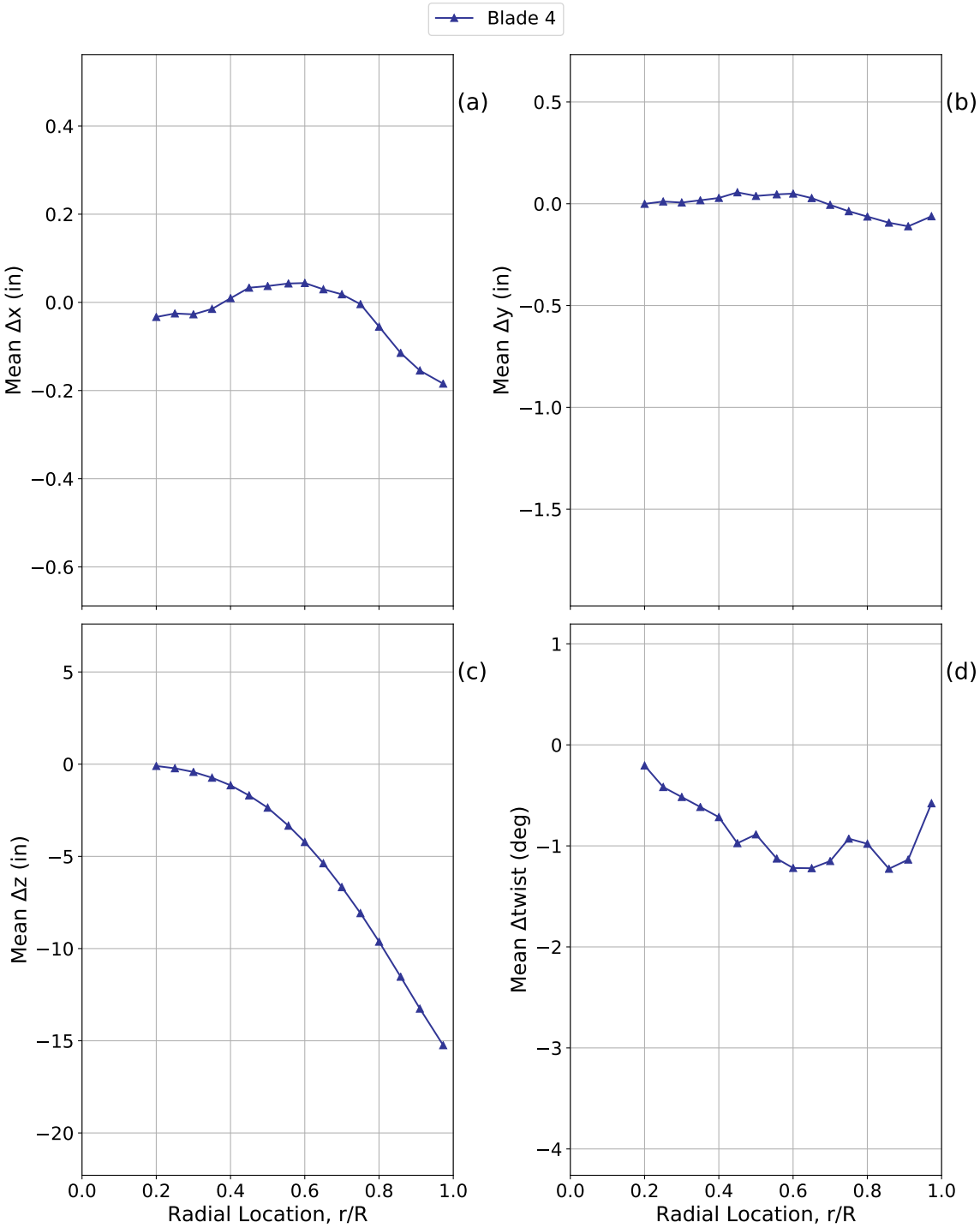


Figure 3.24-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.35, α = -8°
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0332	0.0021	-0.0006	0.0021	-0.0982	0.0054	-0.2050	0.0291
4	175.08	0.2502	-0.0252	0.0068	0.0109	0.0050	-0.2230	0.0101	-0.4179	0.0651
4	175.08	0.3001	-0.0272	0.0033	0.0058	0.0070	-0.4231	0.0181	-0.5163	0.0558
4	175.08	0.3502	-0.0149	0.0046	0.0170	0.0111	-0.7356	0.0280	-0.6151	0.0675
4	175.08	0.4002	0.0094	0.0042	0.0284	0.0180	-1.1482	0.0436	-0.7157	0.0840
4	175.08	0.4500	0.0332	0.0054	0.0558	0.0221	-1.6977	0.0533	-0.9736	0.0683
4	175.08	0.5001	0.0370	0.0046	0.0382	0.0264	-2.3613	0.0689	-0.8866	0.0896
4	175.08	0.5560	0.0428	0.0063	0.0460	0.0324	-3.3382	0.0842	-1.1260	0.1075
4	175.08	0.6001	0.0438	0.0073	0.0496	0.0370	-4.2249	0.0991	-1.2191	0.0811
4	175.08	0.6501	0.0296	0.0087	0.0277	0.0434	-5.3769	0.1185	-1.2211	0.1125
4	175.08	0.6999	0.0182	0.0106	-0.0056	0.0473	-6.6700	0.1413	-1.1502	0.1115
4	175.08	0.7500	-0.0041	0.0123	-0.0370	0.0531	-8.0814	0.1711	-0.9285	0.1281
4	175.08	0.8002	-0.0552	0.0147	-0.0632	0.0593	-9.6295	0.2017	-0.9793	0.1212
4	175.08	0.8582	-0.1147	0.0188	-0.0932	0.0653	-11.5298	0.2414	-1.2269	0.1549
4	175.08	0.9101	-0.1547	0.0223	-0.1109	0.0715	-13.2595	0.2829	-1.1359	0.1530
4	175.08	0.9728	-0.1844	0.0267	-0.0618	0.0788	-15.2425	0.3446	-0.5788	0.1718

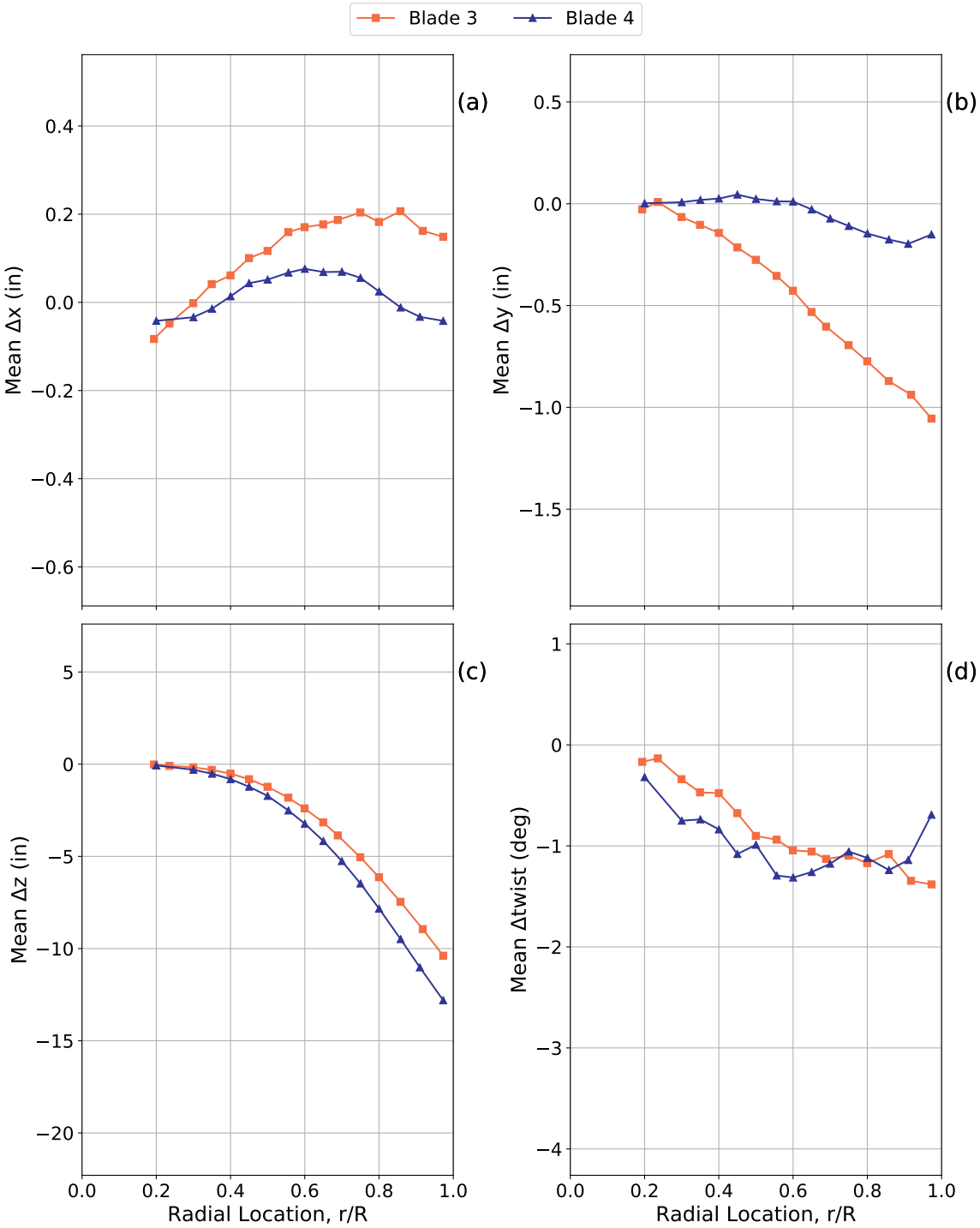


Figure 3.24-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0830	0.0241	-0.0279	0.0193	-0.0172	0.0331	-0.1684	0.0231
3	180.35	0.2357	-0.0481	0.0069	0.0087	0.0045	-0.0904	0.0183	-0.1337	0.0504
3	180.35	0.2995	-0.0018	0.0137	-0.0655	0.0545	-0.1697	0.0815	-0.3402	0.0485
3	180.35	0.3493	0.0414	0.0204	-0.1037	0.0939	-0.3073	0.1317	-0.4703	0.0472
3	180.35	0.4000	0.0611	0.0276	-0.1432	0.1337	-0.5107	0.1818	-0.4779	0.0479
3	180.35	0.4497	0.1004	0.0351	-0.2146	0.1733	-0.8145	0.2305	-0.6759	0.0436
3	180.35	0.4997	0.1166	0.0430	-0.2754	0.2123	-1.2281	0.2803	-0.9013	0.0405
3	180.35	0.5556	0.1593	0.0508	-0.3544	0.2557	-1.8170	0.3358	-0.9383	0.0424
3	180.35	0.5995	0.1705	0.0569	-0.4272	0.2897	-2.3998	0.3795	-1.0444	0.0420
3	180.35	0.6498	0.1768	0.0636	-0.5317	0.3291	-3.1561	0.4304	-1.0562	0.0498
3	180.35	0.6890	0.1868	0.0675	-0.6035	0.3603	-3.8645	0.4697	-1.1292	0.0493
3	180.35	0.7495	0.2039	0.0738	-0.6946	0.4062	-5.0469	0.5283	-1.0966	0.0561
3	180.35	0.7998	0.1824	0.0791	-0.7739	0.4444	-6.1326	0.5766	-1.1706	0.0608
3	180.35	0.8577	0.2067	0.0835	-0.8707	0.4881	-7.4640	0.6292	-1.0811	0.0693
3	180.35	0.9178	0.1621	0.0864	-0.9382	0.5344	-8.9453	0.6815	-1.3461	0.1181
3	180.35	0.9729	0.1487	0.1004	-1.0551	0.5760	-10.3881	0.7313	-1.3812	0.0950
4	180	0.2001	-0.0419	0.0040	0.0021	0.0040	-0.0704	0.0071	-0.3198	0.0690
4	180	0.3001	-0.0337	0.0085	0.0074	0.0161	-0.3029	0.0235	-0.7507	0.1598
4	180	0.3502	-0.0145	0.0048	0.0187	0.0324	-0.5181	0.0369	-0.7379	0.1469
4	180	0.4002	0.0138	0.0046	0.0254	0.0476	-0.8130	0.0571	-0.8372	0.1527
4	180	0.4500	0.0435	0.0049	0.0449	0.0611	-1.2232	0.0735	-1.0803	0.1601
4	180	0.5001	0.0516	0.0066	0.0236	0.0740	-1.7209	0.0960	-0.9891	0.1436
4	180	0.5560	0.0675	0.0069	0.0117	0.0908	-2.5136	0.1175	-1.2934	0.1531
4	180	0.6001	0.0761	0.0076	0.0107	0.1047	-3.2264	0.1413	-1.3135	0.1422
4	180	0.6501	0.0688	0.0086	-0.0282	0.1195	-4.1702	0.1721	-1.2592	0.1567
4	180	0.6999	0.0693	0.0108	-0.0727	0.1352	-5.2567	0.2102	-1.1765	0.1528
4	180	0.7500	0.0556	0.0144	-0.1094	0.1514	-6.4723	0.2502	-1.0559	0.1516
4	180	0.8002	0.0246	0.0183	-0.1462	0.1673	-7.8355	0.3003	-1.1194	0.1695
4	180	0.8582	-0.0117	0.0243	-0.1758	0.1867	-9.4909	0.3638	-1.2395	0.1561
4	180	0.9101	-0.0328	0.0303	-0.1970	0.2034	-11.0214	0.4295	-1.1403	0.1700
4	180	0.9728	-0.0420	0.0390	-0.1510	0.2256	-12.8019	0.5072	-0.6915	0.1885

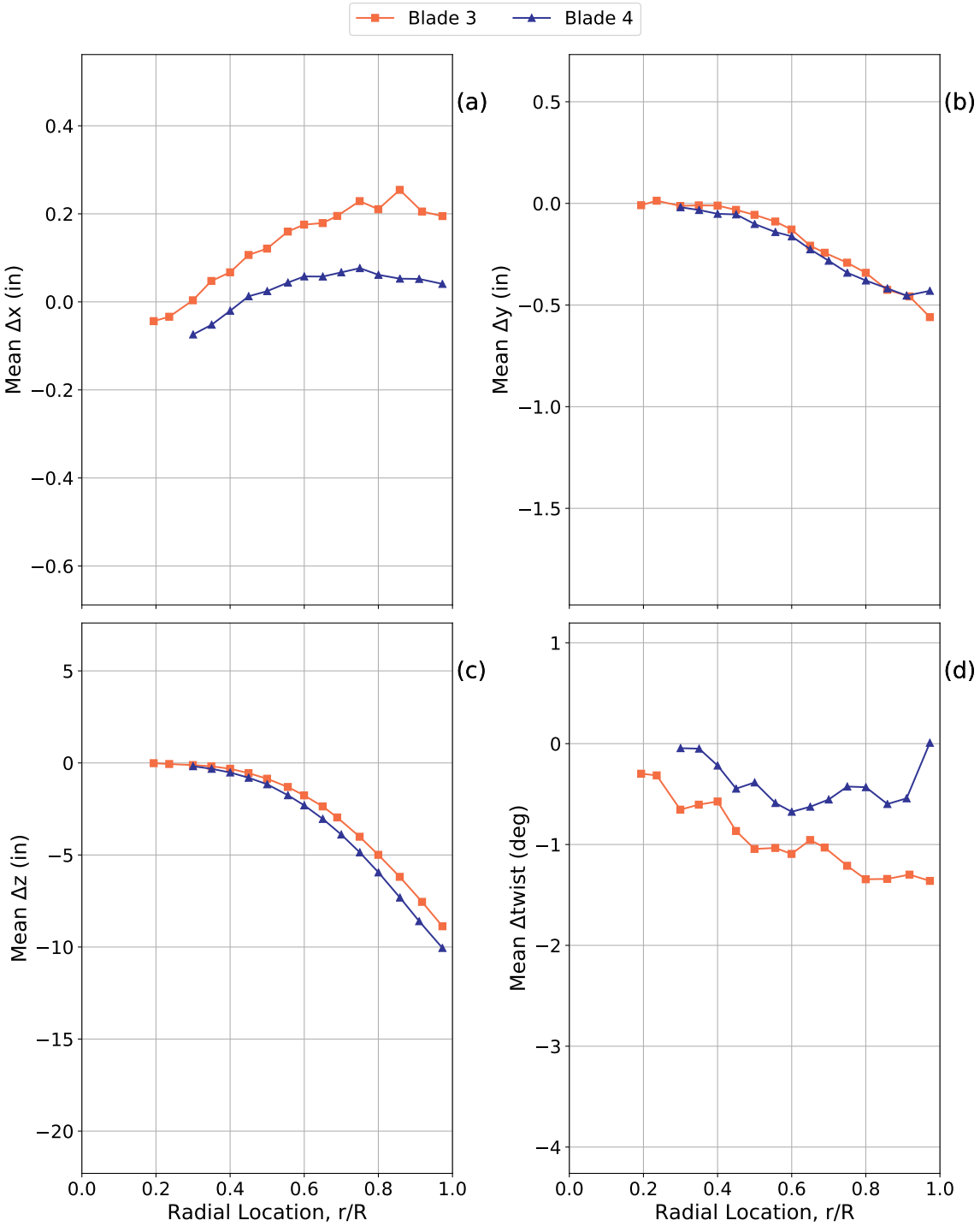


Figure 3.24-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0438	0.0015	-0.0088	0.0014	-0.0133	0.0038	-0.2981	0.0211
3	184.92	0.2357	-0.0338	0.0014	0.0132	0.0027	-0.0582	0.0068	-0.3146	0.0413
3	184.92	0.2995	0.0036	0.0012	-0.0123	0.0060	-0.1151	0.0144	-0.6544	0.0546
3	184.92	0.3493	0.0475	0.0013	-0.0096	0.0099	-0.1820	0.0240	-0.6049	0.0408
3	184.92	0.4000	0.0671	0.0020	-0.0107	0.0161	-0.3162	0.0372	-0.5735	0.0492
3	184.92	0.4497	0.1066	0.0016	-0.0319	0.0193	-0.5525	0.0500	-0.8658	0.0496
3	184.92	0.4997	0.1210	0.0024	-0.0562	0.0245	-0.8573	0.0632	-1.0438	0.0513
3	184.92	0.5556	0.1597	0.0027	-0.0891	0.0297	-1.3057	0.0810	-1.0344	0.0596
3	184.92	0.5995	0.1755	0.0036	-0.1284	0.0340	-1.7626	0.0934	-1.0932	0.0642
3	184.92	0.6498	0.1790	0.0039	-0.2080	0.0412	-2.3614	0.1125	-0.9555	0.0780
3	184.92	0.6890	0.1952	0.0048	-0.2427	0.0448	-2.9609	0.1279	-1.0301	0.0704
3	184.92	0.7495	0.2289	0.0075	-0.2915	0.0544	-4.0088	0.1546	-1.2108	0.0736
3	184.92	0.7998	0.2105	0.0084	-0.3414	0.0629	-4.9903	0.1831	-1.3445	0.0836
3	184.92	0.8577	0.2544	0.0130	-0.4252	0.0713	-6.1880	0.2233	-1.3414	0.1223
3	184.92	0.9178	0.2052	0.0141	-0.4575	0.0834	-7.5465	0.2525	-1.2985	0.1440
3	184.92	0.9729	0.1949	0.0199	-0.5593	0.0879	-8.8728	0.3142	-1.3608	0.1357
4	184.92	0.3001	-0.0741	0.0208	-0.0190	0.0380	-0.1783	0.0528	-0.0449	0.1897
4	184.92	0.3502	-0.0519	0.0230	-0.0326	0.0659	-0.3205	0.0959	-0.0497	0.2544
4	184.92	0.4002	-0.0202	0.0218	-0.0514	0.1048	-0.5200	0.1575	-0.2176	0.2385
4	184.92	0.4500	0.0127	0.0230	-0.0541	0.1377	-0.8061	0.2170	-0.4463	0.2445
4	184.92	0.5001	0.0244	0.0249	-0.1014	0.1718	-1.1600	0.2807	-0.3848	0.2293
4	184.92	0.5560	0.0438	0.0264	-0.1409	0.2107	-1.7556	0.3536	-0.5886	0.2381
4	184.92	0.6001	0.0578	0.0293	-0.1620	0.2408	-2.3056	0.4093	-0.6756	0.2657
4	184.92	0.6501	0.0575	0.0314	-0.2260	0.2753	-3.0412	0.4810	-0.6254	0.2399
4	184.92	0.6999	0.0670	0.0333	-0.2822	0.3087	-3.8908	0.5486	-0.5540	0.2409
4	184.92	0.7500	0.0766	0.0374	-0.3411	0.3418	-4.8619	0.6195	-0.4255	0.2433
4	184.92	0.8002	0.0614	0.0419	-0.3793	0.3753	-5.9470	0.6876	-0.4317	0.2386
4	184.92	0.8582	0.0527	0.0472	-0.4183	0.4146	-7.3142	0.7681	-0.5987	0.2512
4	184.92	0.9101	0.0521	0.0523	-0.4536	0.4490	-8.5983	0.8470	-0.5423	0.2522
4	184.92	0.9728	0.0408	0.0653	-0.4301	0.4894	-10.0515	0.9399	0.0085	0.2417

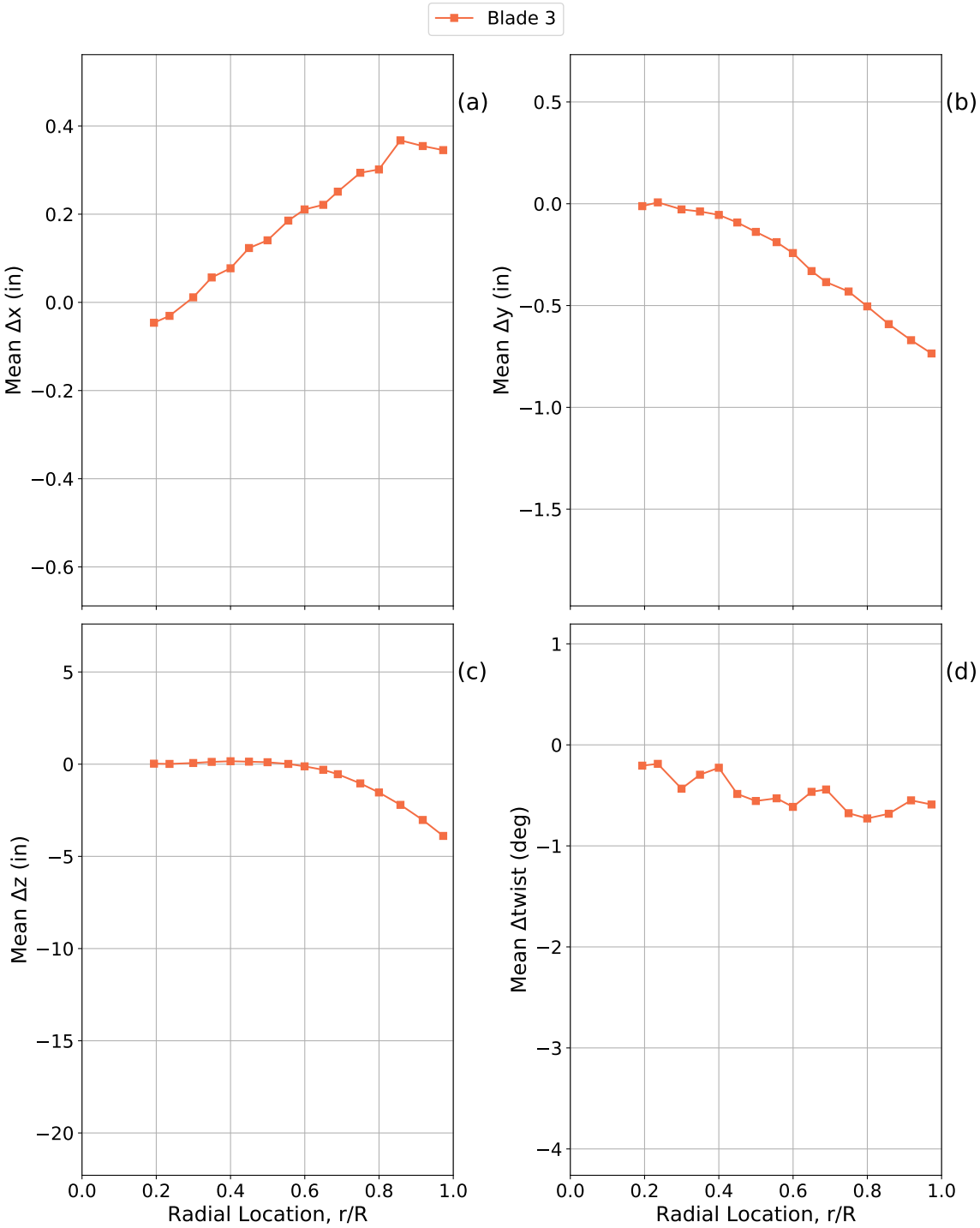


Figure 3.24-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0462	0.0020	-0.0118	0.0011	0.0282	0.0039	-0.2056	0.0185
3	195.12	0.2357	-0.0306	0.0014	0.0067	0.0023	0.0141	0.0059	-0.1880	0.0289
3	195.12	0.2995	0.0114	0.0007	-0.0278	0.0045	0.0638	0.0140	-0.4335	0.0413
3	195.12	0.3493	0.0565	0.0010	-0.0380	0.0086	0.1242	0.0222	-0.2954	0.0338
3	195.12	0.4000	0.0773	0.0018	-0.0549	0.0129	0.1593	0.0344	-0.2264	0.0399
3	195.12	0.4497	0.1232	0.0021	-0.0921	0.0178	0.1358	0.0458	-0.4861	0.0416
3	195.12	0.4997	0.1407	0.0022	-0.1382	0.0219	0.1061	0.0595	-0.5554	0.0356
3	195.12	0.5556	0.1854	0.0021	-0.1887	0.0269	0.0132	0.0759	-0.5290	0.0491
3	195.12	0.5995	0.2108	0.0024	-0.2422	0.0322	-0.1174	0.0932	-0.6139	0.0473
3	195.12	0.6498	0.2212	0.0031	-0.3308	0.0381	-0.3051	0.1104	-0.4648	0.0417
3	195.12	0.6890	0.2511	0.0036	-0.3848	0.0433	-0.5445	0.1281	-0.4418	0.0404
3	195.12	0.7495	0.2939	0.0040	-0.4310	0.0517	-1.0418	0.1574	-0.6766	0.0377
3	195.12	0.7998	0.3014	0.0052	-0.5041	0.0574	-1.5338	0.1852	-0.7284	0.0644
3	195.12	0.8577	0.3674	0.0070	-0.5914	0.0658	-2.2063	0.2149	-0.6819	0.0574
3	195.12	0.9178	0.3545	0.0075	-0.6702	0.0767	-3.0259	0.2486	-0.5493	0.0481
3	195.12	0.9729	0.3453	0.0096	-0.7354	0.0806	-3.8908	0.2913	-0.5905	0.0757

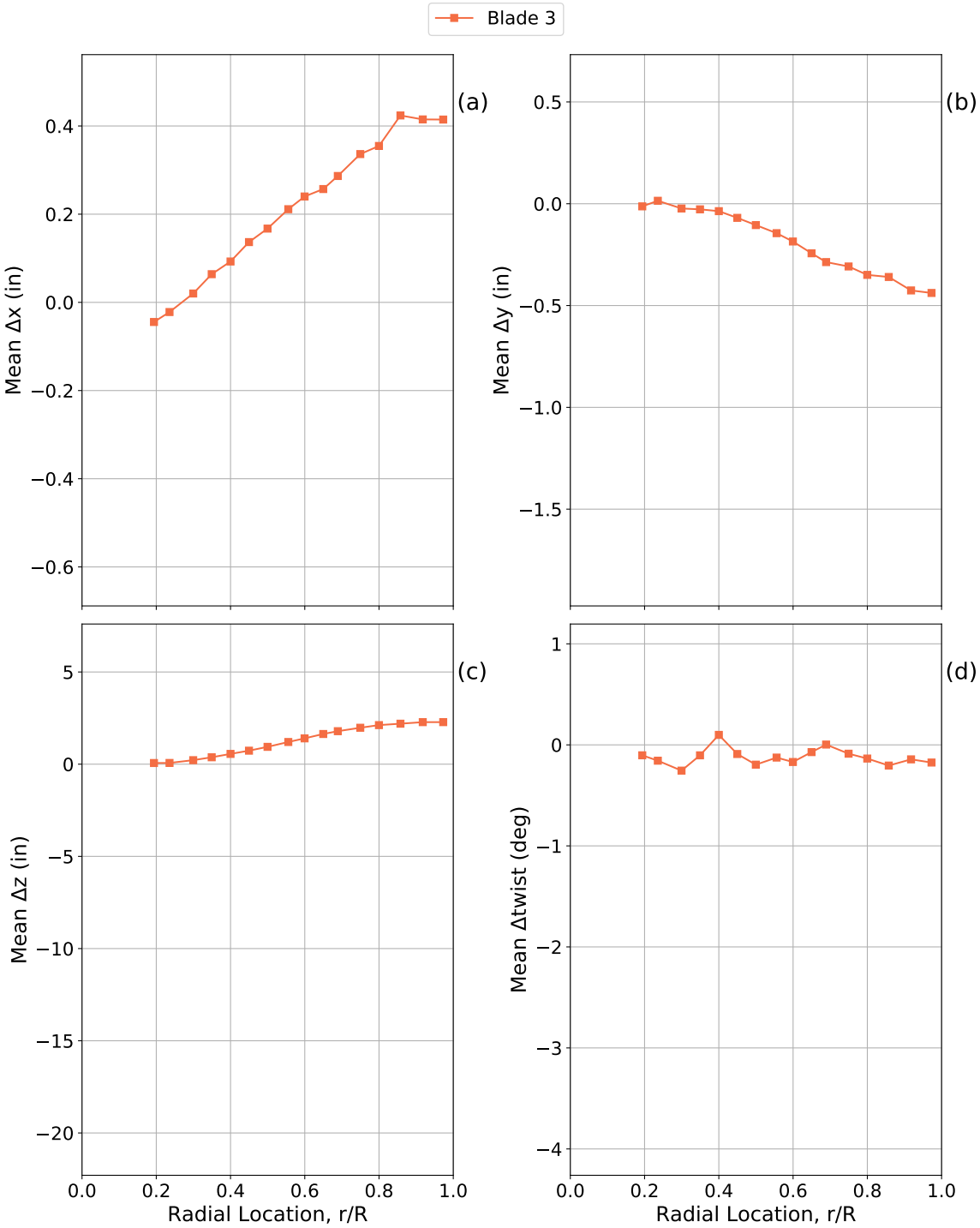


Figure 3.24-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0445	0.0014	-0.0129	0.0013	0.0632	0.0035	-0.1033	0.0196
3	209.88	0.2357	-0.0219	0.0009	0.0146	0.0015	0.0665	0.0057	-0.1566	0.0342
3	209.88	0.2995	0.0201	0.0014	-0.0233	0.0050	0.2180	0.0127	-0.2549	0.0479
3	209.88	0.3493	0.0639	0.0018	-0.0275	0.0086	0.3745	0.0200	-0.1036	0.0497
3	209.88	0.4000	0.0927	0.0026	-0.0364	0.0132	0.5574	0.0314	0.0988	0.0510
3	209.88	0.4497	0.1367	0.0030	-0.0693	0.0183	0.7323	0.0407	-0.0905	0.0555
3	209.88	0.4997	0.1673	0.0029	-0.1048	0.0223	0.9401	0.0522	-0.1959	0.0608
3	209.88	0.5556	0.2113	0.0045	-0.1445	0.0287	1.2026	0.0645	-0.1258	0.0635
3	209.88	0.5995	0.2401	0.0024	-0.1855	0.0334	1.4003	0.0782	-0.1695	0.0475
3	209.88	0.6498	0.2570	0.0043	-0.2433	0.0400	1.6373	0.0960	-0.0716	0.0678
3	209.88	0.6890	0.2866	0.0040	-0.2866	0.0451	1.7899	0.1115	0.0030	0.0588
3	209.88	0.7495	0.3363	0.0033	-0.3081	0.0532	1.9759	0.1409	-0.0874	0.0670
3	209.88	0.7998	0.3547	0.0038	-0.3494	0.0609	2.1195	0.1710	-0.1354	0.0581
3	209.88	0.8577	0.4239	0.0042	-0.3597	0.0697	2.1957	0.2092	-0.2049	0.0716
3	209.88	0.9178	0.4149	0.0046	-0.4258	0.0787	2.2799	0.2572	-0.1434	0.0750
3	209.88	0.9729	0.4146	0.0069	-0.4382	0.0881	2.2806	0.3046	-0.1750	0.0800

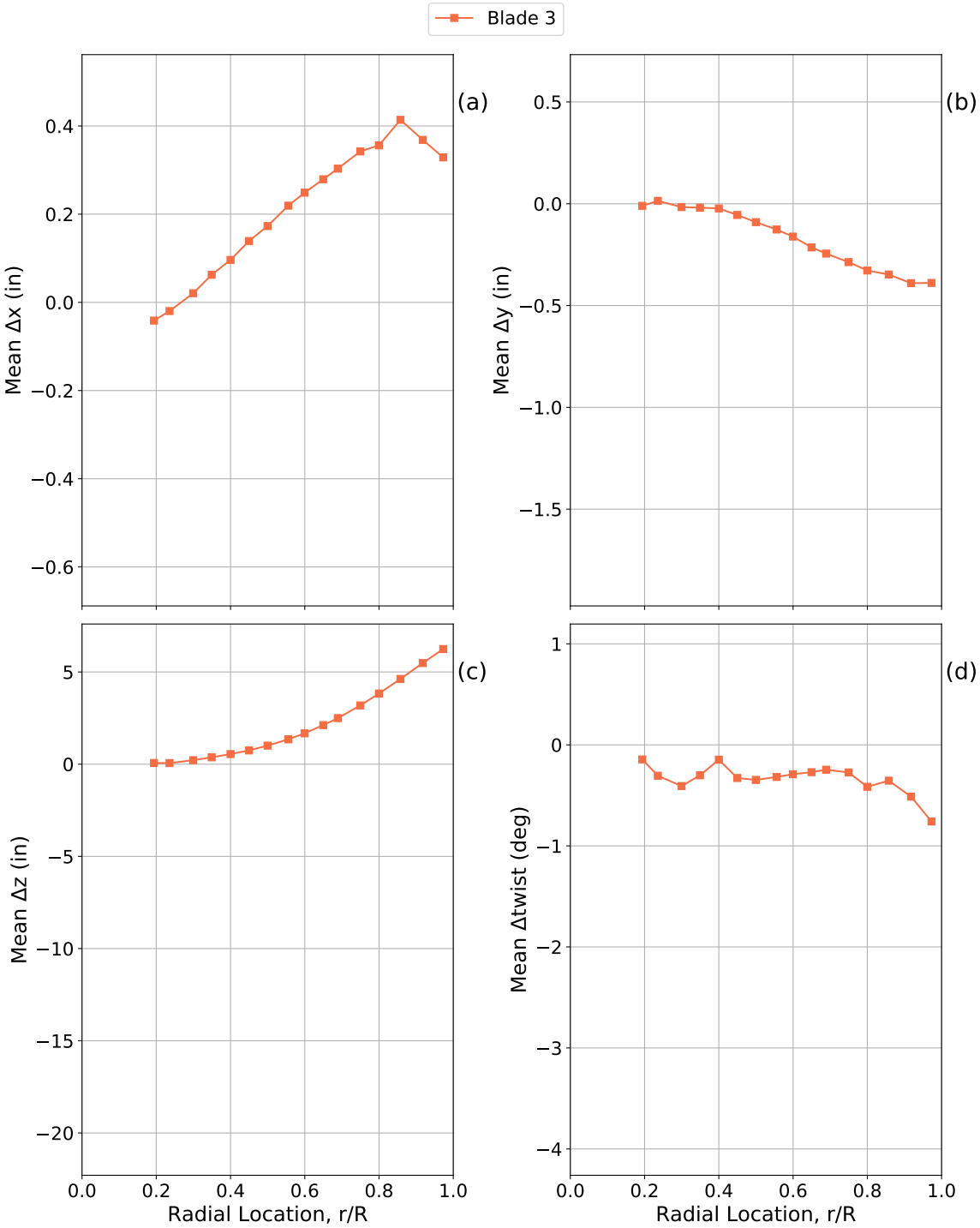


Figure 3.24-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0413	0.0014	-0.0104	0.0011	0.0663	0.0055	-0.1441	0.0215
3	225	0.2357	-0.0197	0.0006	0.0141	0.0018	0.0595	0.0084	-0.3055	0.0545
3	225	0.2995	0.0208	0.0017	-0.0163	0.0044	0.2163	0.0199	-0.4078	0.0606
3	225	0.3493	0.0626	0.0016	-0.0194	0.0080	0.3727	0.0323	-0.3010	0.0623
3	225	0.4000	0.0962	0.0022	-0.0231	0.0123	0.5475	0.0494	-0.1467	0.0495
3	225	0.4497	0.1391	0.0032	-0.0551	0.0172	0.7466	0.0699	-0.3279	0.0519
3	225	0.4997	0.1730	0.0030	-0.0904	0.0226	1.0060	0.0889	-0.3474	0.0634
3	225	0.5556	0.2193	0.0040	-0.1264	0.0299	1.3492	0.1160	-0.3174	0.0661
3	225	0.5995	0.2488	0.0062	-0.1613	0.0371	1.6734	0.1451	-0.2908	0.0788
3	225	0.6498	0.2792	0.0058	-0.2145	0.0446	2.1187	0.1739	-0.2703	0.0678
3	225	0.6890	0.3033	0.0070	-0.2448	0.0516	2.4977	0.2018	-0.2460	0.0600
3	225	0.7495	0.3423	0.0089	-0.2866	0.0621	3.1860	0.2428	-0.2729	0.0735
3	225	0.7998	0.3561	0.0107	-0.3277	0.0720	3.8306	0.2800	-0.4153	0.0620
3	225	0.8577	0.4140	0.0123	-0.3478	0.0819	4.6211	0.3185	-0.3544	0.0610
3	225	0.9178	0.3685	0.0154	-0.3901	0.0934	5.4851	0.3596	-0.5126	0.0700
3	225	0.9729	0.3288	0.0212	-0.3888	0.1038	6.2427	0.3994	-0.7584	0.0800

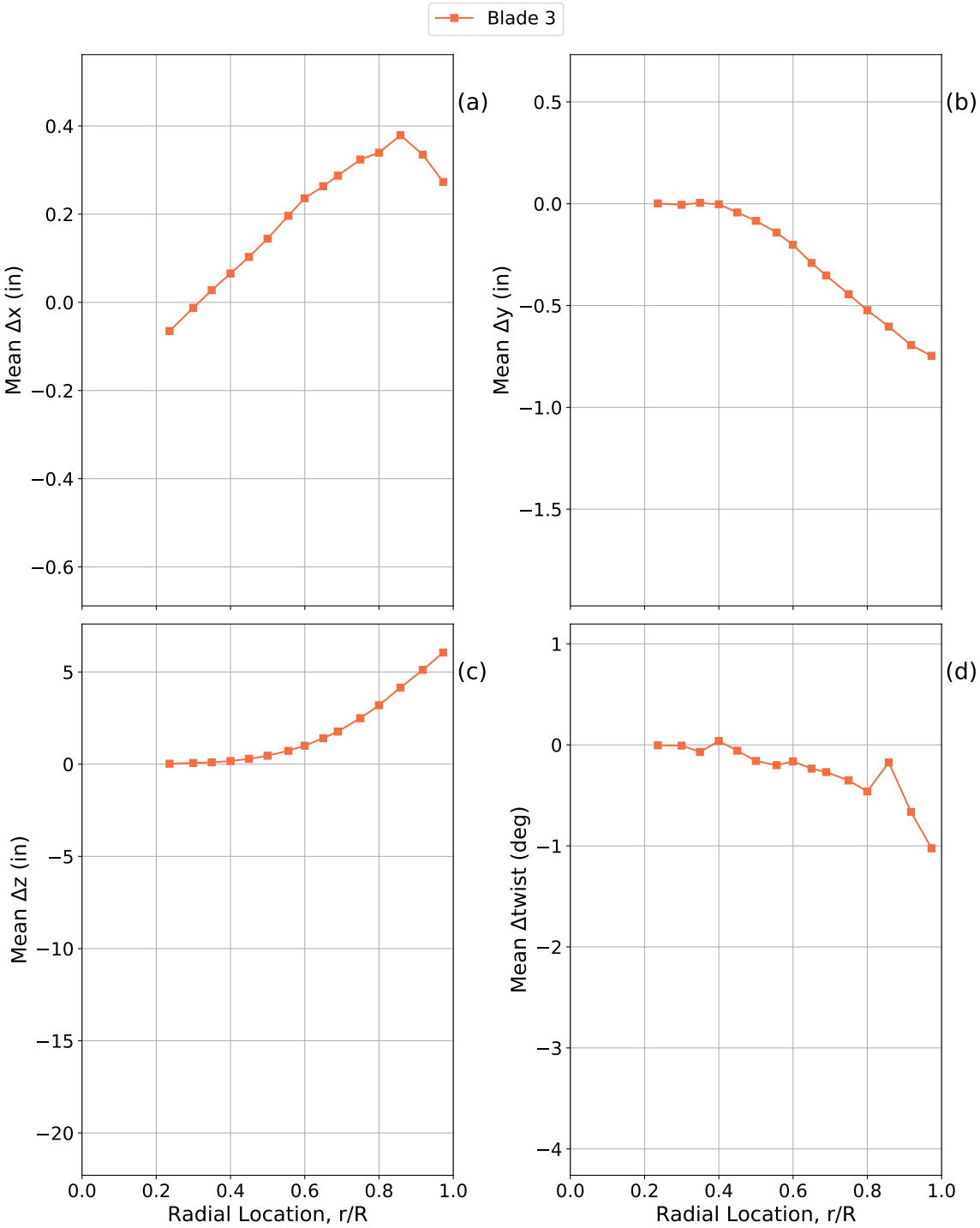


Figure 3.24-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0649	0.0033	0.0014	0.0031	0.0258	0.0113	-0.0049	0.1255
3	240.12	0.2995	-0.0124	0.0021	-0.0051	0.0070	0.0680	0.0206	-0.0072	0.2020
3	240.12	0.3493	0.0276	0.0024	0.0045	0.0134	0.1020	0.0382	-0.0697	0.1870
3	240.12	0.4000	0.0655	0.0031	-0.0027	0.0204	0.1708	0.0549	0.0387	0.1984
3	240.12	0.4497	0.1030	0.0034	-0.0428	0.0269	0.2896	0.0709	-0.0573	0.2045
3	240.12	0.4997	0.1445	0.0037	-0.0838	0.0350	0.4586	0.0912	-0.1594	0.2083
3	240.12	0.5556	0.1963	0.0032	-0.1412	0.0435	0.7271	0.1103	-0.2015	0.2037
3	240.12	0.5995	0.2360	0.0043	-0.2018	0.0512	1.0034	0.1257	-0.1635	0.2042
3	240.12	0.6498	0.2635	0.0049	-0.2906	0.0607	1.4067	0.1446	-0.2351	0.2074
3	240.12	0.6890	0.2874	0.0054	-0.3522	0.0685	1.7723	0.1598	-0.2694	0.1937
3	240.12	0.7495	0.3240	0.0060	-0.4442	0.0808	2.4925	0.1796	-0.3520	0.2098
3	240.12	0.7998	0.3395	0.0072	-0.5230	0.0924	3.1969	0.2001	-0.4611	0.1938
3	240.12	0.8577	0.3791	0.0081	-0.6035	0.1054	4.1515	0.2176	-0.1739	0.1886
3	240.12	0.9178	0.3350	0.0093	-0.6944	0.1195	5.1154	0.2359	-0.6640	0.1941
3	240.12	0.9729	0.2730	0.0130	-0.7471	0.1330	6.0547	0.2528	-1.0240	0.1937

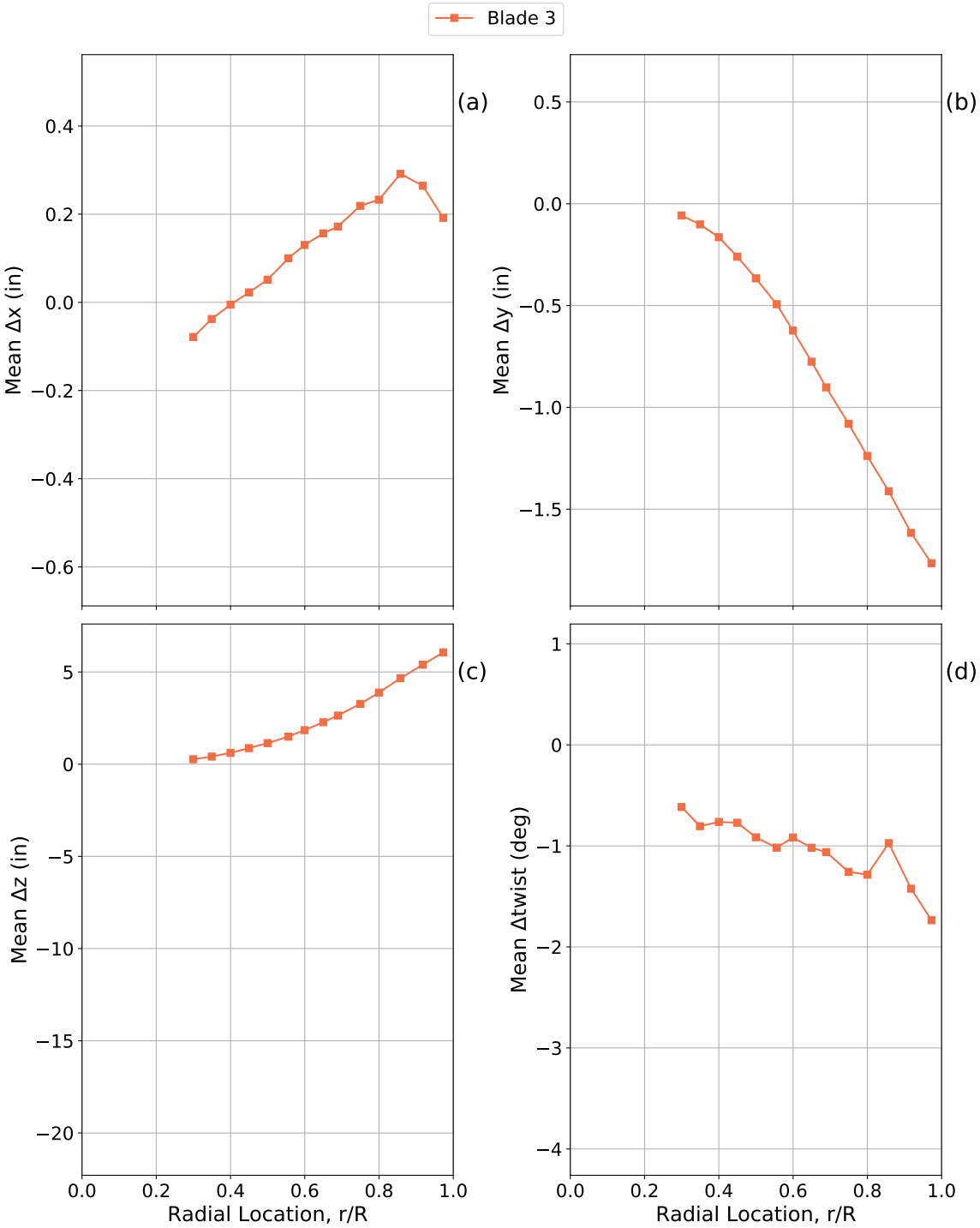


Figure 3.24-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.0786	0.0048	-0.0577	0.0091	0.2659	0.0528	-0.6146	0.2013
3	254.88	0.3493	-0.0377	0.0050	-0.1016	0.0161	0.4126	0.0832	-0.8054	0.2646
3	254.88	0.4000	-0.0052	0.0053	-0.1645	0.0261	0.6148	0.1255	-0.7630	0.2768
3	254.88	0.4497	0.0226	0.0065	-0.2602	0.0342	0.8709	0.1689	-0.7709	0.2722
3	254.88	0.4997	0.0513	0.0072	-0.3665	0.0437	1.1412	0.2148	-0.9150	0.2671
3	254.88	0.5556	0.0998	0.0093	-0.4934	0.0556	1.4928	0.2665	-1.0179	0.2716
3	254.88	0.5995	0.1301	0.0103	-0.6227	0.0643	1.8436	0.3068	-0.9165	0.2689
3	254.88	0.6498	0.1566	0.0122	-0.7757	0.0753	2.2727	0.3533	-1.0186	0.2650
3	254.88	0.6890	0.1719	0.0135	-0.9019	0.0838	2.6387	0.3884	-1.0617	0.2634
3	254.88	0.7495	0.2188	0.0158	-1.0805	0.0979	3.2683	0.4416	-1.2570	0.2627
3	254.88	0.7998	0.2329	0.0179	-1.2386	0.1095	3.8847	0.4861	-1.2848	0.2633
3	254.88	0.8577	0.2915	0.0206	-1.4123	0.1236	4.6636	0.5391	-0.9733	0.2539
3	254.88	0.9178	0.2644	0.0236	-1.6164	0.1386	5.3947	0.5928	-1.4239	0.2587
3	254.88	0.9729	0.1917	0.0311	-1.7653	0.1528	6.0636	0.6436	-1.7357	0.2623

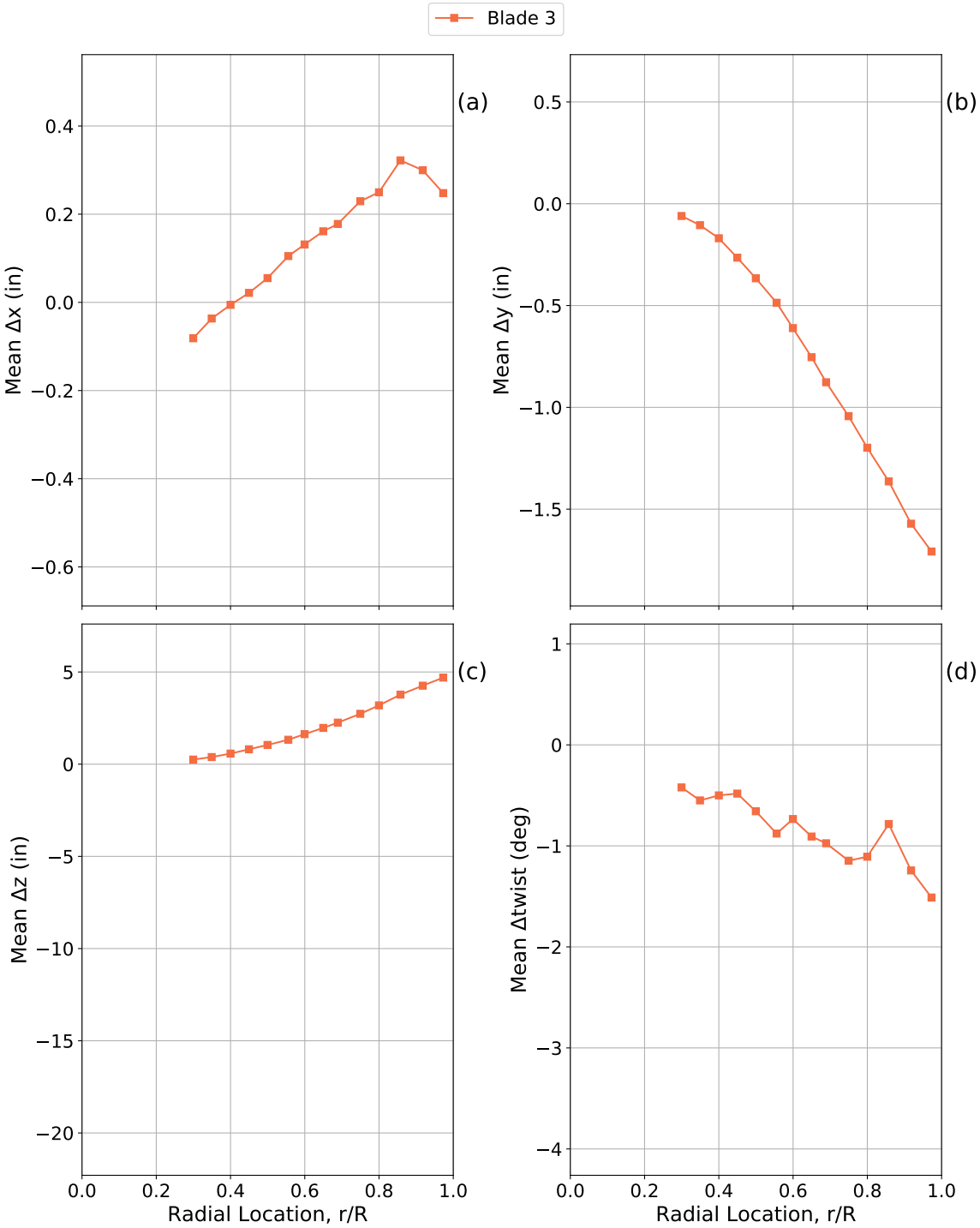


Figure 3.24-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.35, α = -8°
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2995	-0.0814	0.0124	-0.0601	0.0230	0.2495	0.1250	-0.4213	0.3552
3	260.16	0.3493	-0.0366	0.0083	-0.1052	0.0398	0.3863	0.1961	-0.5498	0.4662
3	260.16	0.4000	-0.0056	0.0131	-0.1695	0.0639	0.5747	0.2944	-0.5002	0.4590
3	260.16	0.4497	0.0215	0.0148	-0.2649	0.0843	0.8071	0.3800	-0.4823	0.4653
3	260.16	0.4997	0.0550	0.0162	-0.3661	0.1058	1.0427	0.4677	-0.6573	0.4703
3	260.16	0.5556	0.1050	0.0193	-0.4863	0.1299	1.3247	0.5656	-0.8780	0.4667
3	260.16	0.5995	0.1313	0.0219	-0.6108	0.1477	1.6289	0.6382	-0.7342	0.4677
3	260.16	0.6498	0.1612	0.0247	-0.7537	0.1690	1.9675	0.7188	-0.9074	0.4665
3	260.16	0.6890	0.1778	0.0272	-0.8767	0.1847	2.2529	0.7806	-0.9740	0.4601
3	260.16	0.7495	0.2294	0.0306	-1.0434	0.2094	2.7316	0.8714	-1.1468	0.4624
3	260.16	0.7998	0.2496	0.0330	-1.1984	0.2293	3.1904	0.9475	-1.1071	0.4560
3	260.16	0.8577	0.3220	0.0363	-1.3637	0.2522	3.7726	1.0358	-0.7836	0.4567
3	260.16	0.9178	0.2997	0.0401	-1.5713	0.2759	4.2581	1.1305	-1.2432	0.4616
3	260.16	0.9729	0.2478	0.0519	-1.7080	0.2976	4.6963	1.2195	-1.5111	0.4683

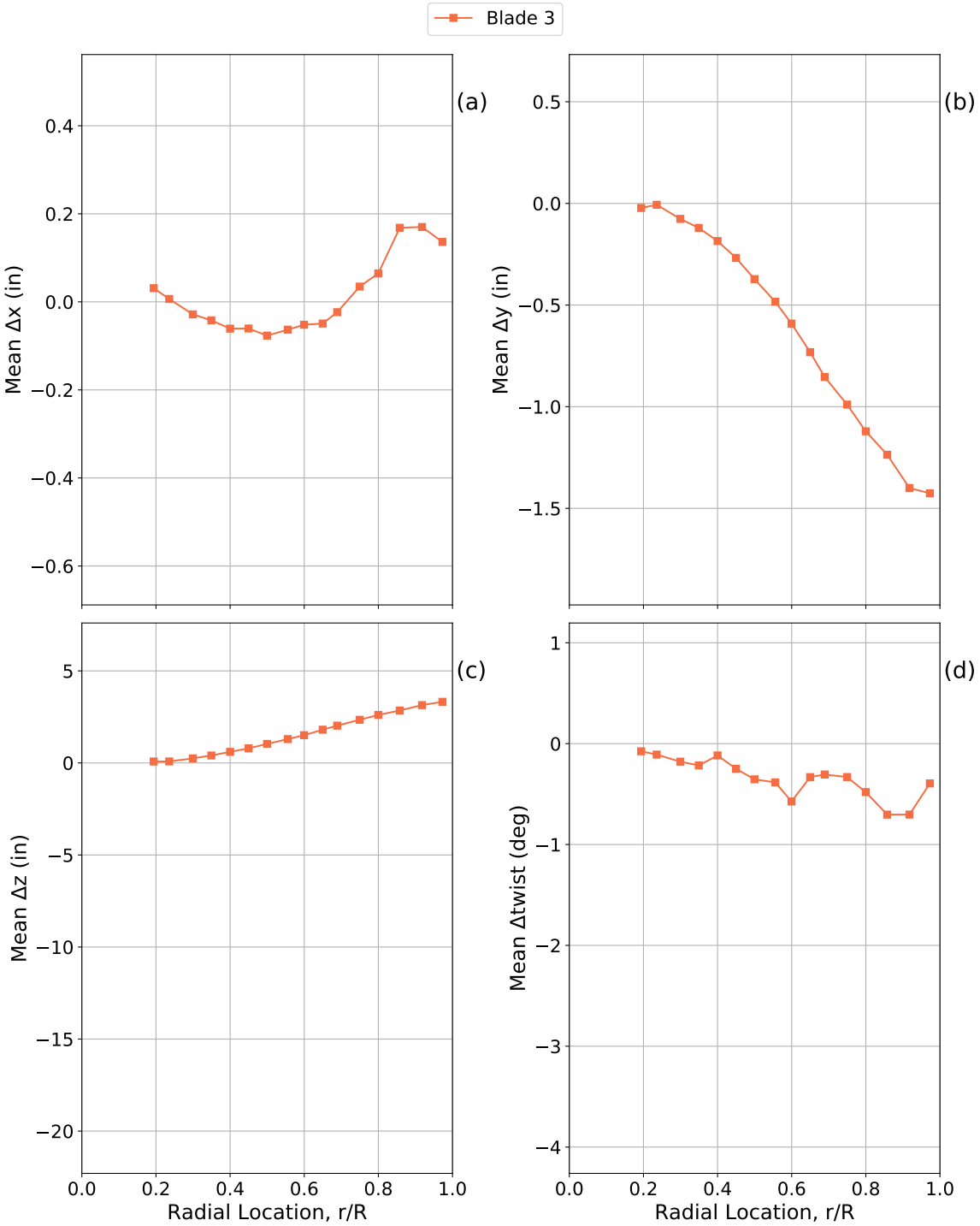


Figure 3.24-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0311	0.0075	-0.0225	0.0014	0.0770	0.0054	-0.0758	0.0483
3	265.08	0.2357	0.0066	0.0037	-0.0067	0.0038	0.0824	0.0167	-0.1085	0.0349
3	265.08	0.2995	-0.0284	0.0038	-0.0763	0.0064	0.2476	0.0261	-0.1786	0.0911
3	265.08	0.3493	-0.0420	0.0073	-0.1206	0.0103	0.4050	0.0411	-0.2162	0.0754
3	265.08	0.4000	-0.0608	0.0124	-0.1852	0.0175	0.6012	0.0692	-0.1168	0.0769
3	265.08	0.4497	-0.0605	0.0156	-0.2680	0.0226	0.7922	0.0878	-0.2491	0.0679
3	265.08	0.4997	-0.0766	0.0177	-0.3725	0.0286	1.0335	0.1066	-0.3539	0.0625
3	265.08	0.5556	-0.0632	0.0202	-0.4836	0.0382	1.2944	0.1408	-0.3838	0.0629
3	265.08	0.5995	-0.0520	0.0210	-0.5913	0.0461	1.5059	0.1689	-0.5734	0.0803
3	265.08	0.6498	-0.0491	0.0195	-0.7321	0.0550	1.8049	0.2051	-0.3319	0.0732
3	265.08	0.6890	-0.0234	0.0191	-0.8538	0.0633	2.0264	0.2342	-0.3059	0.0811
3	265.08	0.7495	0.0347	0.0171	-0.9897	0.0768	2.3436	0.2864	-0.3312	0.0877
3	265.08	0.7998	0.0646	0.0180	-1.1210	0.0894	2.6066	0.3345	-0.4805	0.0798
3	265.08	0.8577	0.1683	0.0246	-1.2363	0.1036	2.8478	0.3886	-0.7033	0.1217
3	265.08	0.9178	0.1701	0.0393	-1.4001	0.1194	3.1414	0.4520	-0.7032	0.1589
3	265.08	0.9729	0.1362	0.0578	-1.4261	0.1385	3.3201	0.5237	-0.3942	0.1129

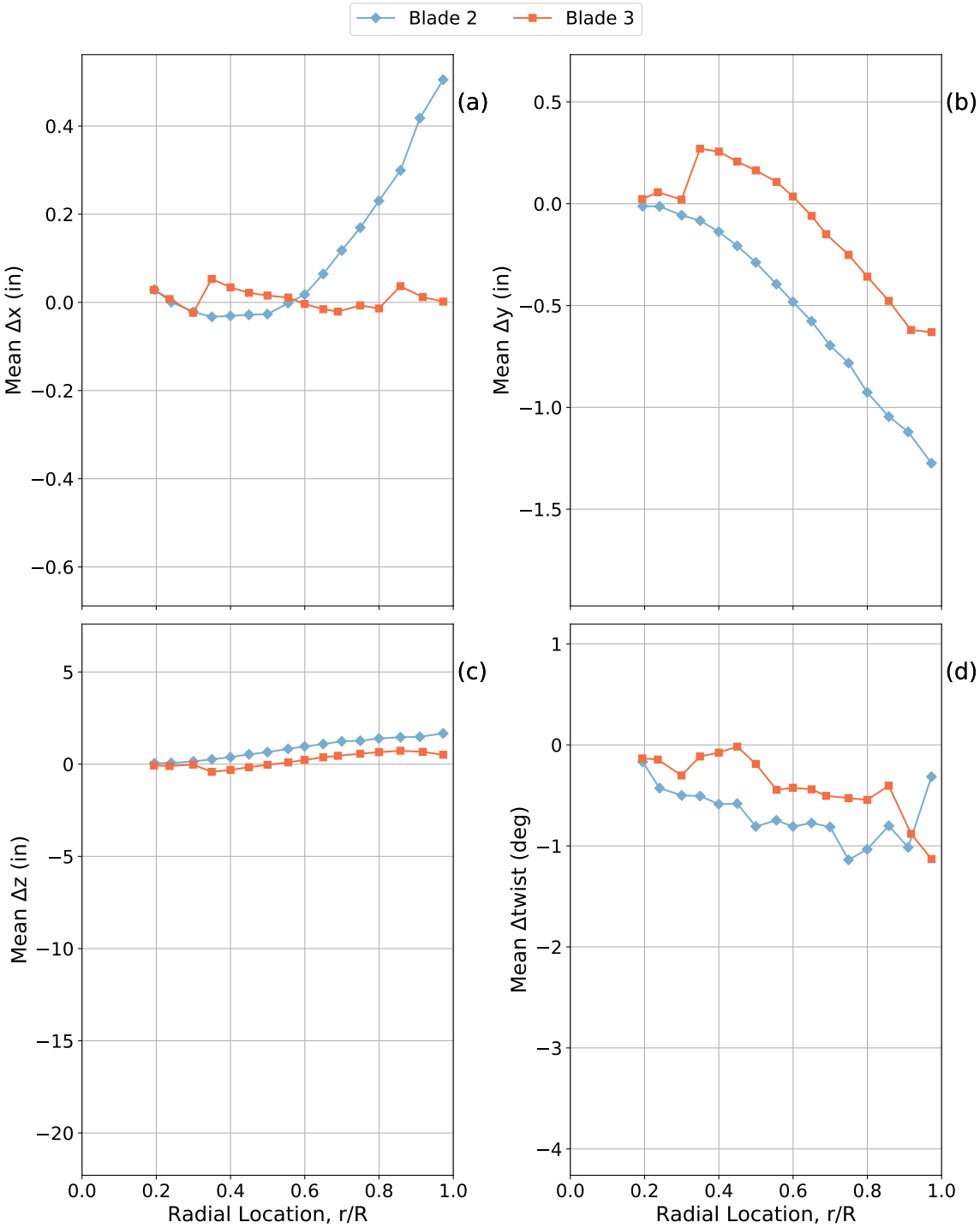


Figure 3.24-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0290	0.0024	-0.0121	0.0010	0.0469	0.0033	-0.1685	0.0329
2	270.35	0.2405	0.0005	0.0024	-0.0130	0.0017	0.0679	0.0060	-0.4286	0.0746
2	270.35	0.2999	-0.0215	0.0030	-0.0565	0.0050	0.1503	0.0121	-0.5004	0.0913
2	270.35	0.3498	-0.0329	0.0023	-0.0831	0.0070	0.2631	0.0184	-0.5070	0.0384
2	270.35	0.3998	-0.0307	0.0016	-0.1374	0.0120	0.3784	0.0284	-0.5868	0.0982
2	270.35	0.4496	-0.0282	0.0025	-0.2071	0.0160	0.5325	0.0431	-0.5820	0.1029
2	270.35	0.4995	-0.0266	0.0032	-0.2882	0.0210	0.6542	0.0556	-0.8071	0.1011
2	270.35	0.5551	-0.0017	0.0037	-0.3949	0.0278	0.8318	0.0783	-0.7471	0.1177
2	270.35	0.5996	0.0177	0.0043	-0.4823	0.0330	0.9619	0.0991	-0.8084	0.0733
2	270.35	0.6497	0.0645	0.0046	-0.5769	0.0400	1.0936	0.1225	-0.7736	0.1291
2	270.35	0.6996	0.1177	0.0066	-0.6959	0.0475	1.2366	0.1439	-0.8127	0.0992
2	270.35	0.7495	0.1694	0.0071	-0.7828	0.0564	1.2689	0.1684	-1.1380	0.1319
2	270.35	0.7996	0.2303	0.0072	-0.9263	0.0646	1.3942	0.1874	-1.0340	0.1052
2	270.35	0.8578	0.2992	0.0083	-1.0454	0.0747	1.4604	0.2150	-0.8011	0.1105
2	270.35	0.9100	0.4177	0.0085	-1.1203	0.0836	1.4854	0.2370	-1.0146	0.1163
2	270.35	0.9727	0.5050	0.0116	-1.2744	0.0953	1.6681	0.2635	-0.3152	0.1151
3	270	0.1938	0.0284	0.0060	0.0230	0.0065	-0.0684	0.0238	-0.1336	0.0581
3	270	0.2357	0.0075	0.0062	0.0564	0.0126	-0.0989	0.0385	-0.1455	0.0718
3	270	0.2995	-0.0236	0.0040	0.0204	0.0220	-0.0208	0.0686	-0.3027	0.1250
3	270	0.3493	0.0532	0.0179	0.2701	0.0592	-0.4153	0.1437	-0.1149	0.1941
3	270	0.4000	0.0341	0.0163	0.2560	0.0768	-0.3120	0.1906	-0.0774	0.1214
3	270	0.4497	0.0216	0.0193	0.2070	0.0889	-0.1647	0.2124	-0.0173	0.1107
3	270	0.4997	0.0155	0.0159	0.1634	0.1051	-0.0336	0.2518	-0.1892	0.0950
3	270	0.5556	0.0110	0.0162	0.1073	0.1218	0.0948	0.2927	-0.4446	0.1041
3	270	0.5995	-0.0036	0.0154	0.0357	0.1358	0.2330	0.3260	-0.4249	0.0983
3	270	0.6498	-0.0155	0.0145	-0.0594	0.1501	0.3722	0.3638	-0.4398	0.1037
3	270	0.6890	-0.0210	0.0151	-0.1492	0.1613	0.4561	0.3941	-0.5049	0.1148
3	270	0.7495	-0.0069	0.0154	-0.2505	0.1787	0.5690	0.4423	-0.5269	0.1216
3	270	0.7998	-0.0138	0.0167	-0.3581	0.1924	0.6530	0.4831	-0.5447	0.1159
3	270	0.8577	0.0367	0.0176	-0.4768	0.2070	0.7274	0.5327	-0.4043	0.1040
3	270	0.9178	0.0119	0.0190	-0.6202	0.2228	0.6672	0.5935	-0.8805	0.1044
3	270	0.9729	0.0017	0.0224	-0.6305	0.2426	0.5116	0.6508	-1.1299	0.1269

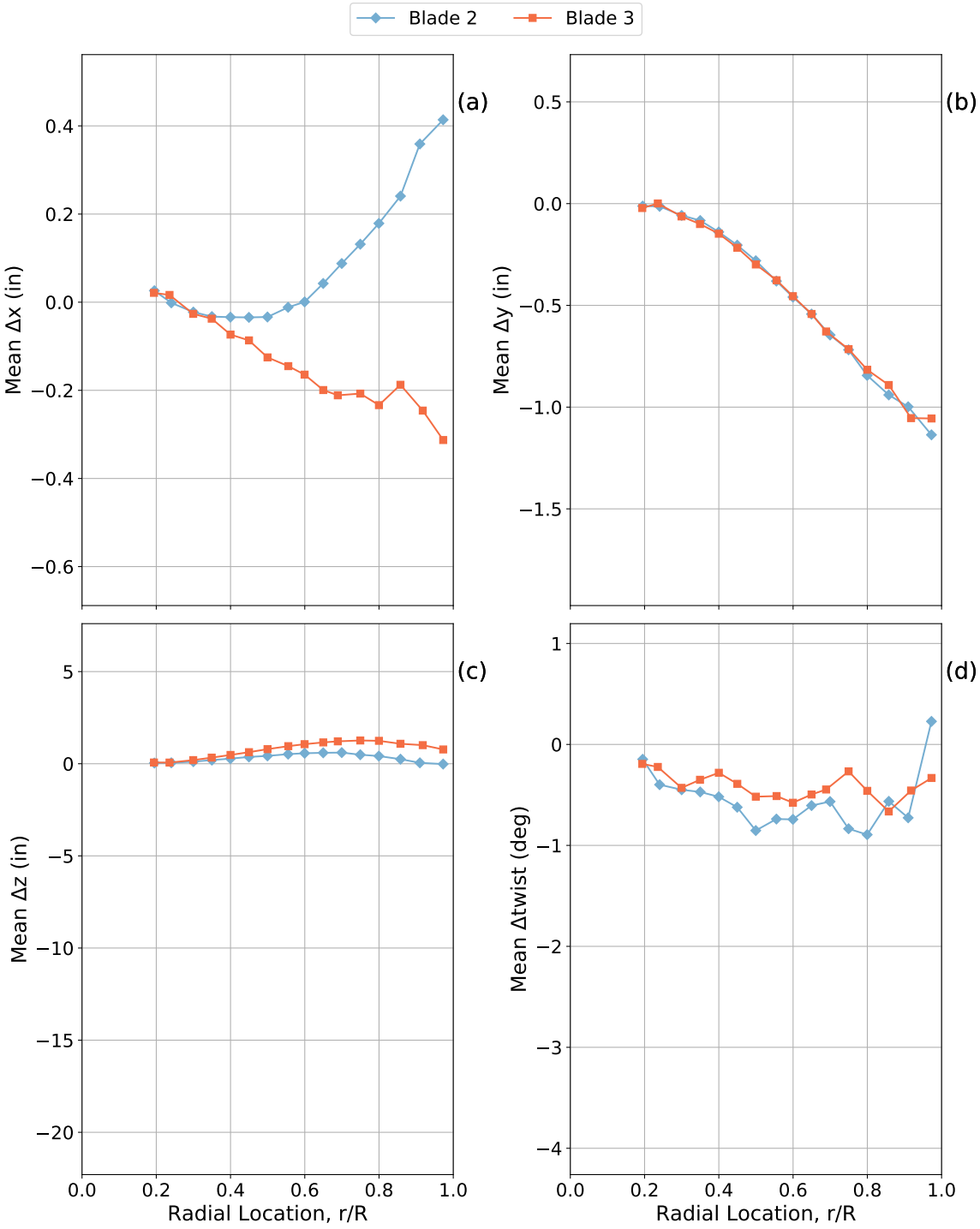


Figure 3.24-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0261	0.0065	-0.0121	0.0010	0.0387	0.0032	-0.1471	0.0374
2	274.92	0.2405	-0.0015	0.0018	-0.0134	0.0016	0.0514	0.0063	-0.3987	0.0404
2	274.92	0.2999	-0.0224	0.0018	-0.0580	0.0047	0.1133	0.0103	-0.4489	0.0733
2	274.92	0.3498	-0.0327	0.0079	-0.0831	0.0066	0.1977	0.0209	-0.4706	0.0525
2	274.92	0.3998	-0.0340	0.0076	-0.1394	0.0113	0.2777	0.0283	-0.5186	0.0453
2	274.92	0.4496	-0.0345	0.0095	-0.2041	0.0155	0.3681	0.0380	-0.6220	0.0567
2	274.92	0.4995	-0.0336	0.0100	-0.2807	0.0203	0.4252	0.0510	-0.8529	0.0492
2	274.92	0.5551	-0.0116	0.0134	-0.3807	0.0264	0.5200	0.0636	-0.7390	0.0490
2	274.92	0.5996	0.0007	0.0154	-0.4594	0.0322	0.5694	0.0769	-0.7423	0.0640
2	274.92	0.6497	0.0425	0.0189	-0.5428	0.0391	0.5929	0.0868	-0.6056	0.0533
2	274.92	0.6996	0.0878	0.0249	-0.6456	0.0466	0.6048	0.1053	-0.5657	0.0865
2	274.92	0.7495	0.1316	0.0320	-0.7184	0.0538	0.4895	0.1182	-0.8351	0.0650
2	274.92	0.7996	0.1788	0.0424	-0.8443	0.0615	0.4159	0.1303	-0.8938	0.0949
2	274.92	0.8578	0.2407	0.0554	-0.9400	0.0724	0.2476	0.1521	-0.5638	0.0610
2	274.92	0.9100	0.3590	0.0702	-0.9983	0.0807	0.0497	0.1644	-0.7266	0.0705
2	274.92	0.9727	0.4139	0.0939	-1.1362	0.0958	-0.0173	0.1933	0.2283	0.0695
3	274.92	0.1938	0.0212	0.0018	-0.0216	0.0010	0.0666	0.0062	-0.1927	0.0438
3	274.92	0.2357	0.0164	0.0025	0.0008	0.0022	0.0632	0.0088	-0.2230	0.0759
3	274.92	0.2995	-0.0265	0.0017	-0.0629	0.0048	0.1963	0.0220	-0.4301	0.1095
3	274.92	0.3493	-0.0374	0.0023	-0.1003	0.0078	0.3319	0.0345	-0.3501	0.0981
3	274.92	0.4000	-0.0735	0.0033	-0.1479	0.0123	0.4769	0.0522	-0.2805	0.1120
3	274.92	0.4497	-0.0867	0.0057	-0.2168	0.0148	0.6273	0.0728	-0.3902	0.0990
3	274.92	0.4997	-0.1253	0.0042	-0.2990	0.0197	0.7918	0.0952	-0.5175	0.1009
3	274.92	0.5556	-0.1451	0.0052	-0.3766	0.0248	0.9538	0.1135	-0.5114	0.1168
3	274.92	0.5995	-0.1644	0.0064	-0.4549	0.0277	1.0612	0.1344	-0.5775	0.1026
3	274.92	0.6498	-0.1994	0.0070	-0.5422	0.0333	1.1572	0.1562	-0.4958	0.1170
3	274.92	0.6890	-0.2113	0.0089	-0.6283	0.0381	1.2154	0.1805	-0.4463	0.1040
3	274.92	0.7495	-0.2074	0.0098	-0.7152	0.0448	1.2623	0.2189	-0.2667	0.0900
3	274.92	0.7998	-0.2336	0.0103	-0.8164	0.0509	1.2439	0.2508	-0.4597	0.0981
3	274.92	0.8577	-0.1874	0.0100	-0.8914	0.0588	1.0834	0.2989	-0.6641	0.0962
3	274.92	0.9178	-0.2460	0.0134	-1.0540	0.0661	1.0089	0.3468	-0.4564	0.1276
3	274.92	0.9729	-0.3128	0.0149	-1.0558	0.0761	0.7748	0.3749	-0.3323	0.2644

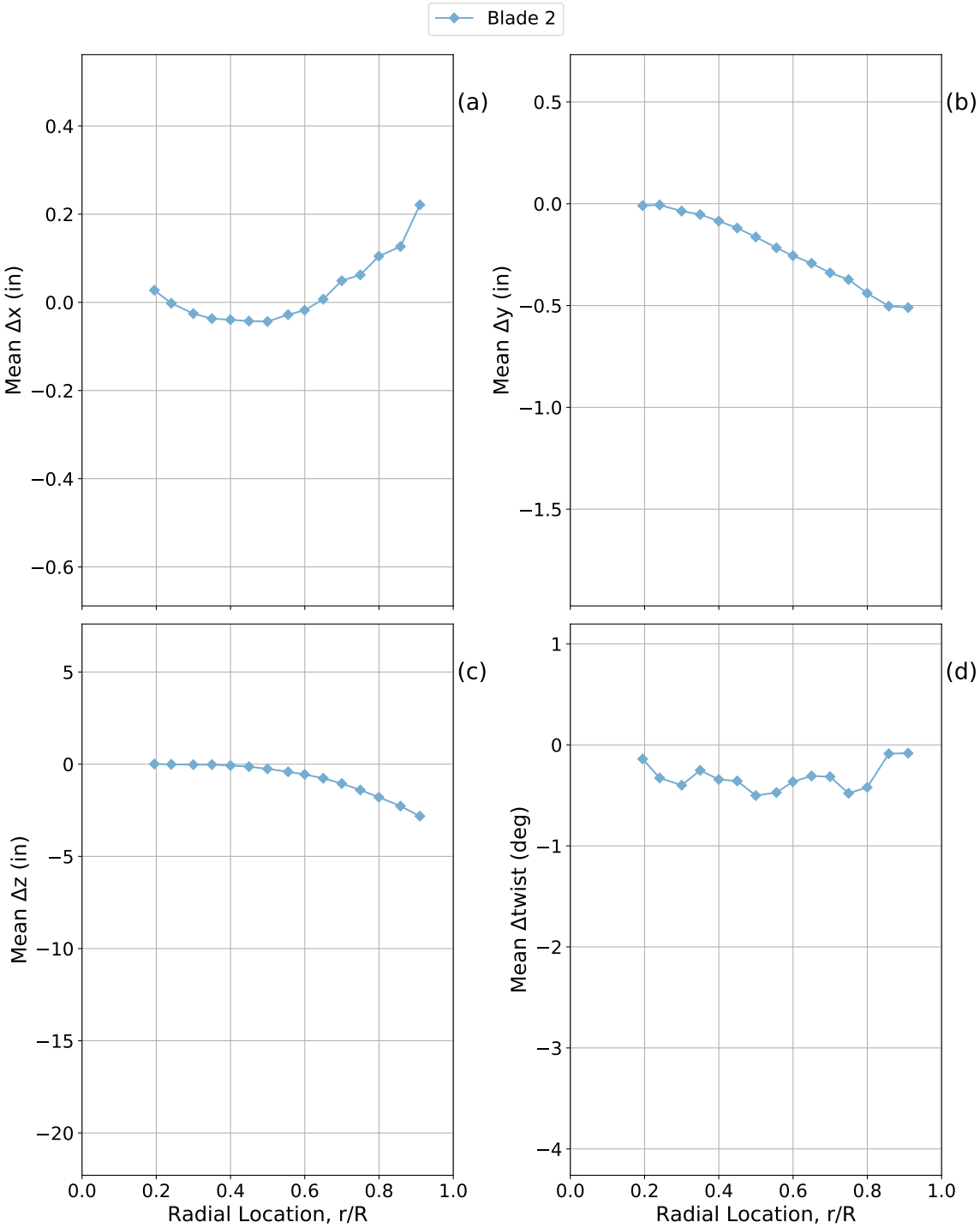


Figure 3.24-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0275	0.0020	-0.0090	0.0007	0.0075	0.0035	-0.1395	0.0317
2	285.12	0.2405	-0.0021	0.0025	-0.0060	0.0020	-0.0095	0.0133	-0.3272	0.0317
2	285.12	0.2999	-0.0255	0.0020	-0.0361	0.0029	-0.0256	0.0204	-0.3995	0.0529
2	285.12	0.3498	-0.0369	0.0021	-0.0531	0.0061	-0.0212	0.0339	-0.2521	0.0574
2	285.12	0.3998	-0.0394	0.0026	-0.0851	0.0091	-0.0725	0.0558	-0.3427	0.0519
2	285.12	0.4496	-0.0424	0.0024	-0.1194	0.0130	-0.1341	0.0744	-0.3575	0.0613
2	285.12	0.4995	-0.0434	0.0033	-0.1634	0.0179	-0.2542	0.1008	-0.5016	0.0501
2	285.12	0.5551	-0.0279	0.0024	-0.2164	0.0244	-0.4121	0.1319	-0.4719	0.0572
2	285.12	0.5996	-0.0179	0.0031	-0.2553	0.0295	-0.5557	0.1611	-0.3646	0.0571
2	285.12	0.6497	0.0071	0.0037	-0.2924	0.0364	-0.7638	0.1947	-0.3079	0.0576
2	285.12	0.6996	0.0491	0.0040	-0.3393	0.0446	-1.0490	0.2324	-0.3152	0.0617
2	285.12	0.7495	0.0623	0.0048	-0.3724	0.0532	-1.4004	0.2705	-0.4795	0.0750
2	285.12	0.7996	0.1047	0.0059	-0.4397	0.0625	-1.7918	0.3168	-0.4208	0.0792
2	285.12	0.8578	0.1267	0.0078	-0.5027	0.0736	-2.2727	0.3612	-0.0872	0.0882
2	285.12	0.9100	0.2211	0.0090	-0.5101	0.0830	-2.8197	0.4081	-0.0824	0.0972

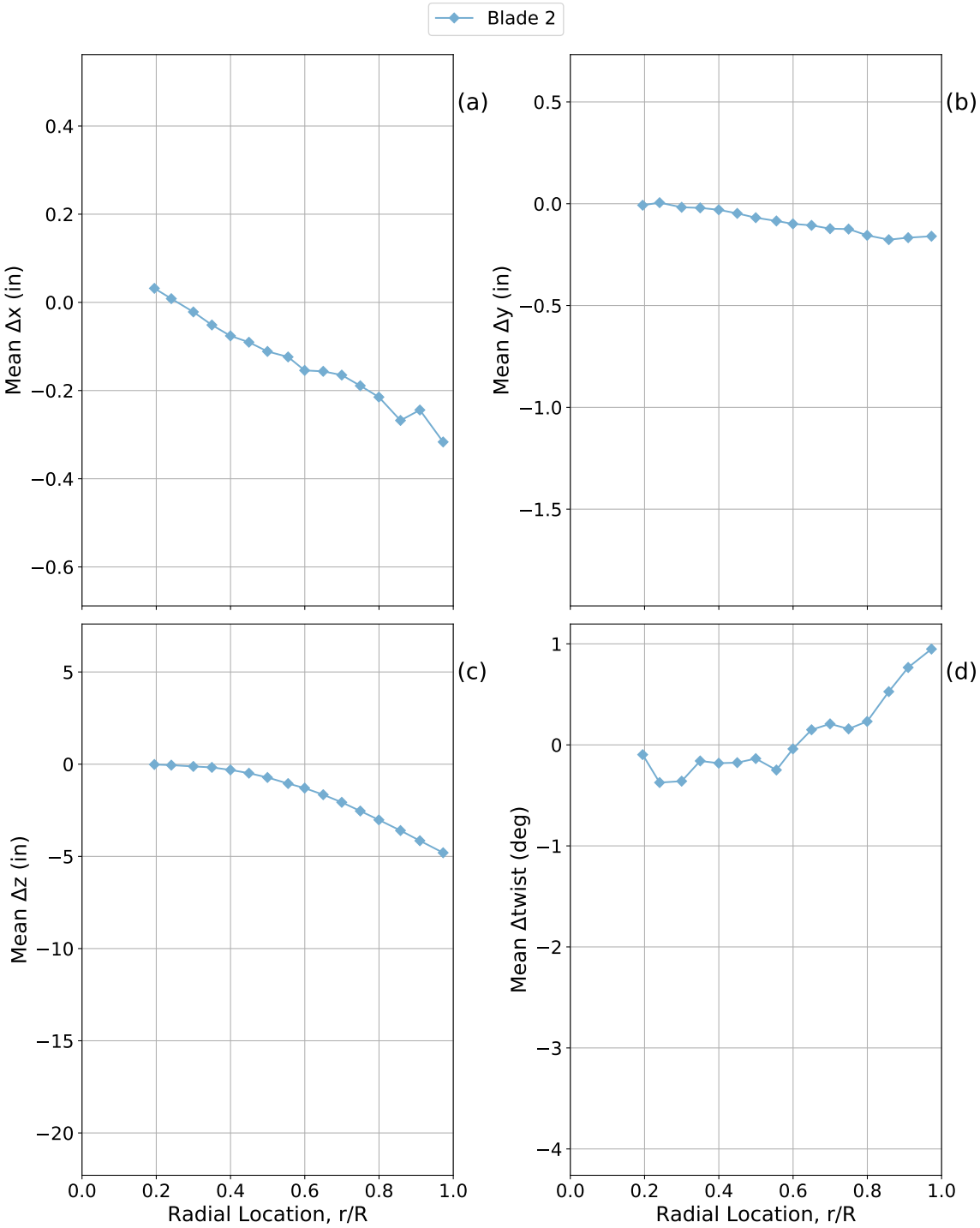


Figure 3.24-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0318	0.0027	-0.0072	0.0011	-0.0171	0.0045	-0.0967	0.0298
2	299.88	0.2405	0.0084	0.0034	0.0052	0.0021	-0.0522	0.0072	-0.3733	0.0412
2	299.88	0.2999	-0.0217	0.0030	-0.0174	0.0056	-0.1222	0.0188	-0.3595	0.0664
2	299.88	0.3498	-0.0513	0.0019	-0.0204	0.0076	-0.1744	0.0247	-0.1592	0.0730
2	299.88	0.3998	-0.0760	0.0029	-0.0297	0.0132	-0.3108	0.0418	-0.1814	0.0671
2	299.88	0.4496	-0.0904	0.0026	-0.0474	0.0182	-0.4874	0.0604	-0.1761	0.0548
2	299.88	0.4995	-0.1113	0.0024	-0.0686	0.0212	-0.7214	0.0746	-0.1359	0.0678
2	299.88	0.5551	-0.1238	0.0031	-0.0845	0.0270	-1.0496	0.0863	-0.2491	0.0707
2	299.88	0.5996	-0.1543	0.0039	-0.0988	0.0323	-1.2967	0.1023	-0.0399	0.0618
2	299.88	0.6497	-0.1564	0.0039	-0.1062	0.0386	-1.6542	0.1209	0.1496	0.0597
2	299.88	0.6996	-0.1649	0.0046	-0.1225	0.0447	-2.0685	0.1347	0.2078	0.0754
2	299.88	0.7495	-0.1891	0.0060	-0.1244	0.0526	-2.5391	0.1587	0.1583	0.0584
2	299.88	0.7996	-0.2148	0.0063	-0.1553	0.0600	-3.0217	0.1794	0.2318	0.0558
2	299.88	0.8578	-0.2678	0.0080	-0.1765	0.0689	-3.5987	0.2042	0.5271	0.0746
2	299.88	0.9100	-0.2441	0.0079	-0.1667	0.0765	-4.1517	0.2302	0.7661	0.0716
2	299.88	0.9727	-0.3166	0.0097	-0.1597	0.0870	-4.8032	0.2704	0.9483	0.0674

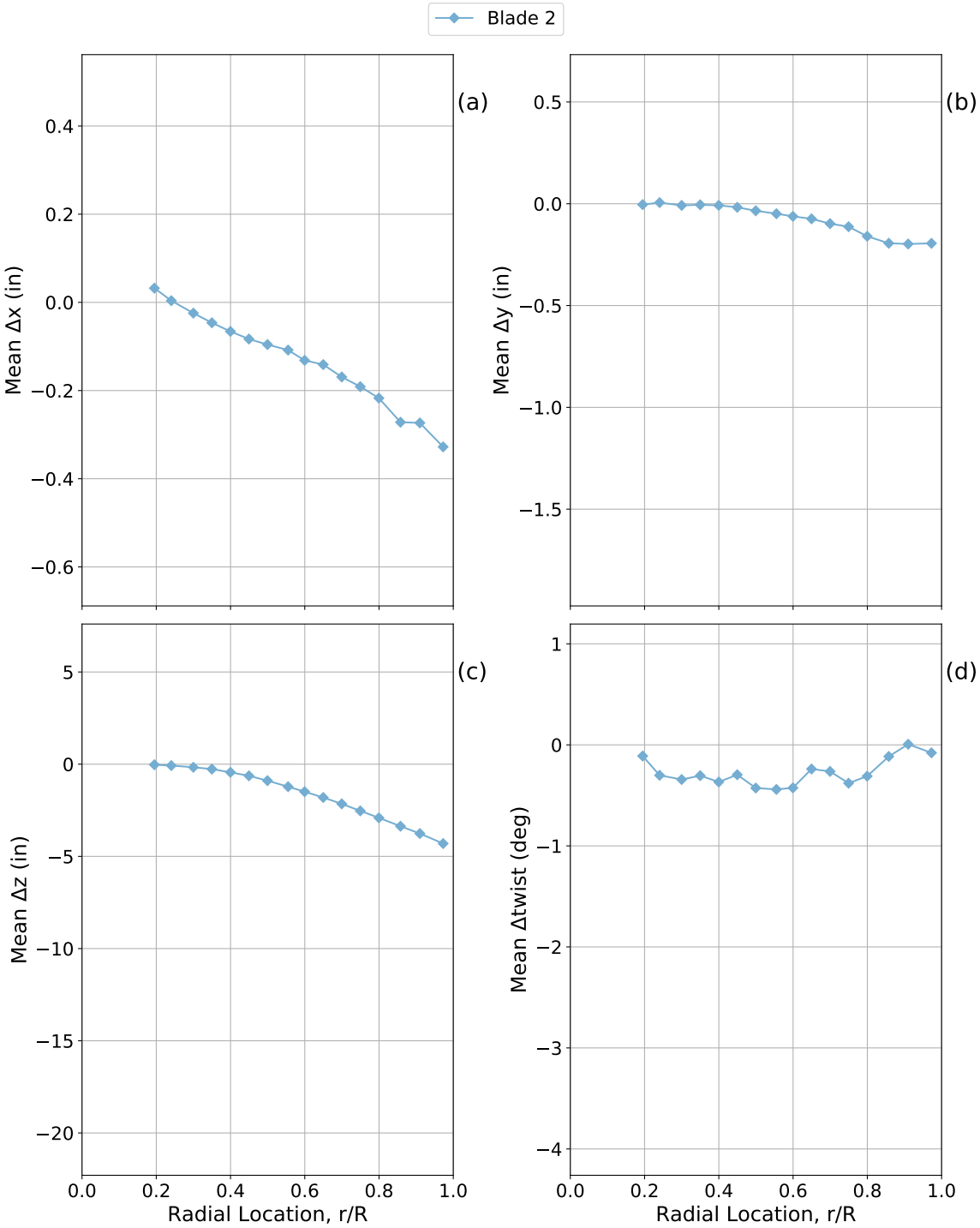


Figure 3.24-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0322	0.0032	-0.0042	0.0015	-0.0290	0.0043	-0.1105	0.0418
2	315	0.2405	0.0038	0.0033	0.0056	0.0025	-0.0767	0.0110	-0.3012	0.0422
2	315	0.2999	-0.0244	0.0035	-0.0082	0.0067	-0.1660	0.0219	-0.3430	0.0835
2	315	0.3498	-0.0463	0.0041	-0.0052	0.0076	-0.2673	0.0346	-0.3048	0.0616
2	315	0.3998	-0.0659	0.0050	-0.0080	0.0138	-0.4413	0.0565	-0.3672	0.0928
2	315	0.4496	-0.0832	0.0037	-0.0175	0.0136	-0.6302	0.0647	-0.2957	0.0376
2	315	0.4995	-0.0957	0.0051	-0.0345	0.0179	-0.8942	0.0785	-0.4271	0.0540
2	315	0.5551	-0.1082	0.0052	-0.0490	0.0218	-1.2208	0.0956	-0.4409	0.0606
2	315	0.5996	-0.1315	0.0061	-0.0619	0.0257	-1.4924	0.1080	-0.4253	0.0406
2	315	0.6497	-0.1411	0.0063	-0.0742	0.0308	-1.8068	0.1273	-0.2389	0.0565
2	315	0.6996	-0.1692	0.0081	-0.0977	0.0354	-2.1515	0.1483	-0.2630	0.0309
2	315	0.7495	-0.1911	0.0088	-0.1129	0.0411	-2.5332	0.1709	-0.3794	0.0507
2	315	0.7996	-0.2172	0.0095	-0.1599	0.0475	-2.9093	0.1951	-0.3100	0.0404
2	315	0.8578	-0.2718	0.0116	-0.1941	0.0547	-3.3652	0.2232	-0.1148	0.0534
2	315	0.9100	-0.2734	0.0122	-0.1976	0.0620	-3.7612	0.2514	0.0062	0.0635
2	315	0.9727	-0.3277	0.0141	-0.1944	0.0704	-4.3037	0.2880	-0.0788	0.0759

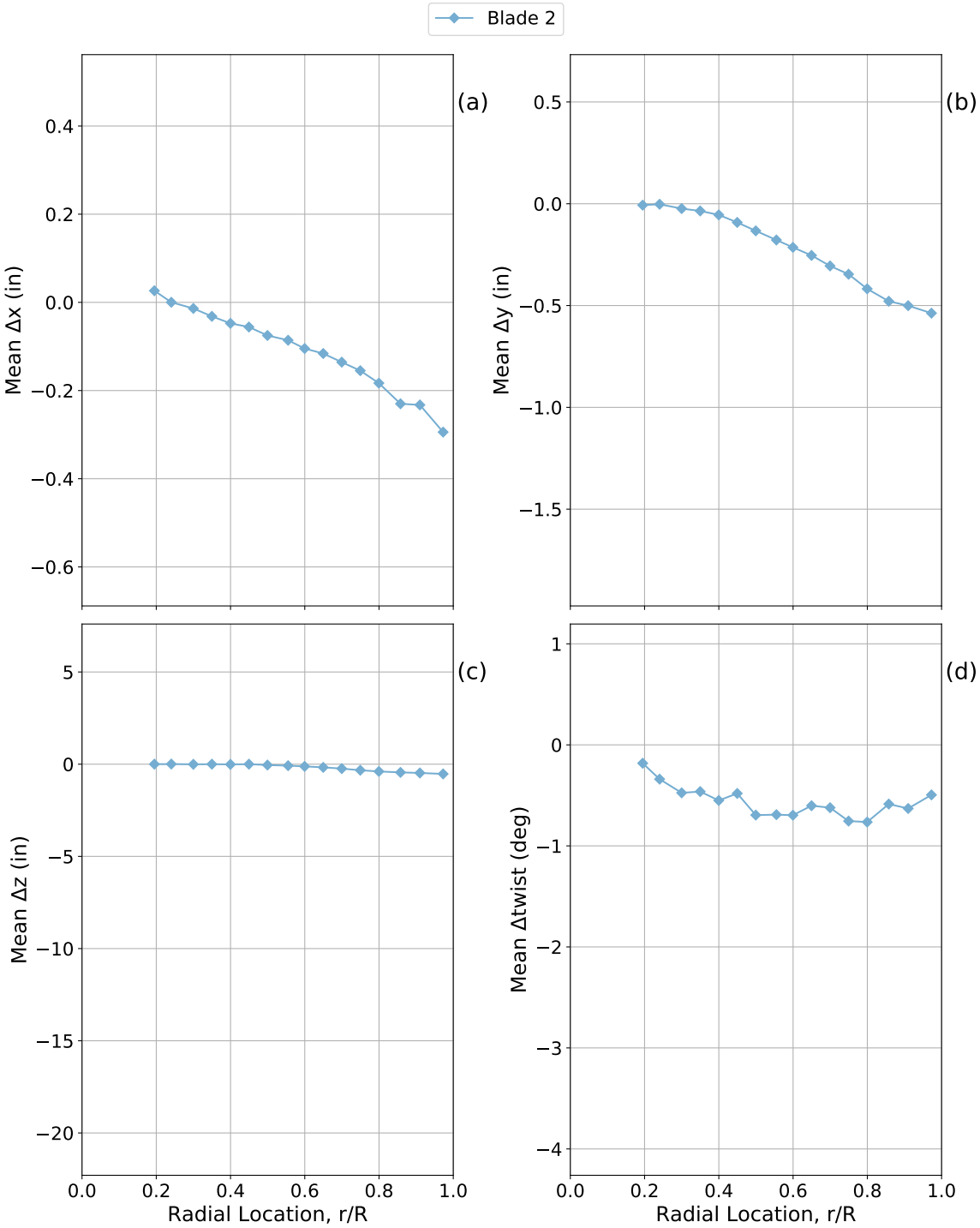


Figure 3.24-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0264	0.0023	-0.0069	0.0014	0.0010	0.0040	-0.1817	0.0544
2	330.12	0.2405	0.0002	0.0024	-0.0025	0.0018	0.0075	0.0085	-0.3394	0.0417
2	330.12	0.2999	-0.0138	0.0026	-0.0239	0.0049	-0.0069	0.0146	-0.4749	0.0957
2	330.12	0.3498	-0.0317	0.0028	-0.0354	0.0085	0.0001	0.0202	-0.4623	0.0654
2	330.12	0.3998	-0.0476	0.0030	-0.0547	0.0122	-0.0115	0.0338	-0.5504	0.0758
2	330.12	0.4496	-0.0559	0.0058	-0.0918	0.0121	0.0006	0.0433	-0.4808	0.0905
2	330.12	0.4995	-0.0751	0.0033	-0.1331	0.0164	-0.0462	0.0505	-0.6951	0.0645
2	330.12	0.5551	-0.0859	0.0070	-0.1781	0.0185	-0.0808	0.0662	-0.6910	0.0893
2	330.12	0.5996	-0.1047	0.0051	-0.2143	0.0210	-0.1197	0.0815	-0.6961	0.1023
2	330.12	0.6497	-0.1160	0.0053	-0.2538	0.0245	-0.1716	0.0997	-0.6022	0.1028
2	330.12	0.6996	-0.1356	0.0053	-0.3055	0.0281	-0.2397	0.1237	-0.6219	0.0726
2	330.12	0.7495	-0.1549	0.0063	-0.3462	0.0317	-0.3285	0.1502	-0.7543	0.0754
2	330.12	0.7996	-0.1832	0.0067	-0.4179	0.0368	-0.3943	0.1791	-0.7639	0.1018
2	330.12	0.8578	-0.2300	0.0074	-0.4790	0.0432	-0.4451	0.2152	-0.5858	0.0966
2	330.12	0.9100	-0.2326	0.0076	-0.5006	0.0496	-0.4764	0.2501	-0.6299	0.1000
2	330.12	0.9727	-0.2942	0.0082	-0.5374	0.0567	-0.5280	0.2897	-0.4952	0.0946

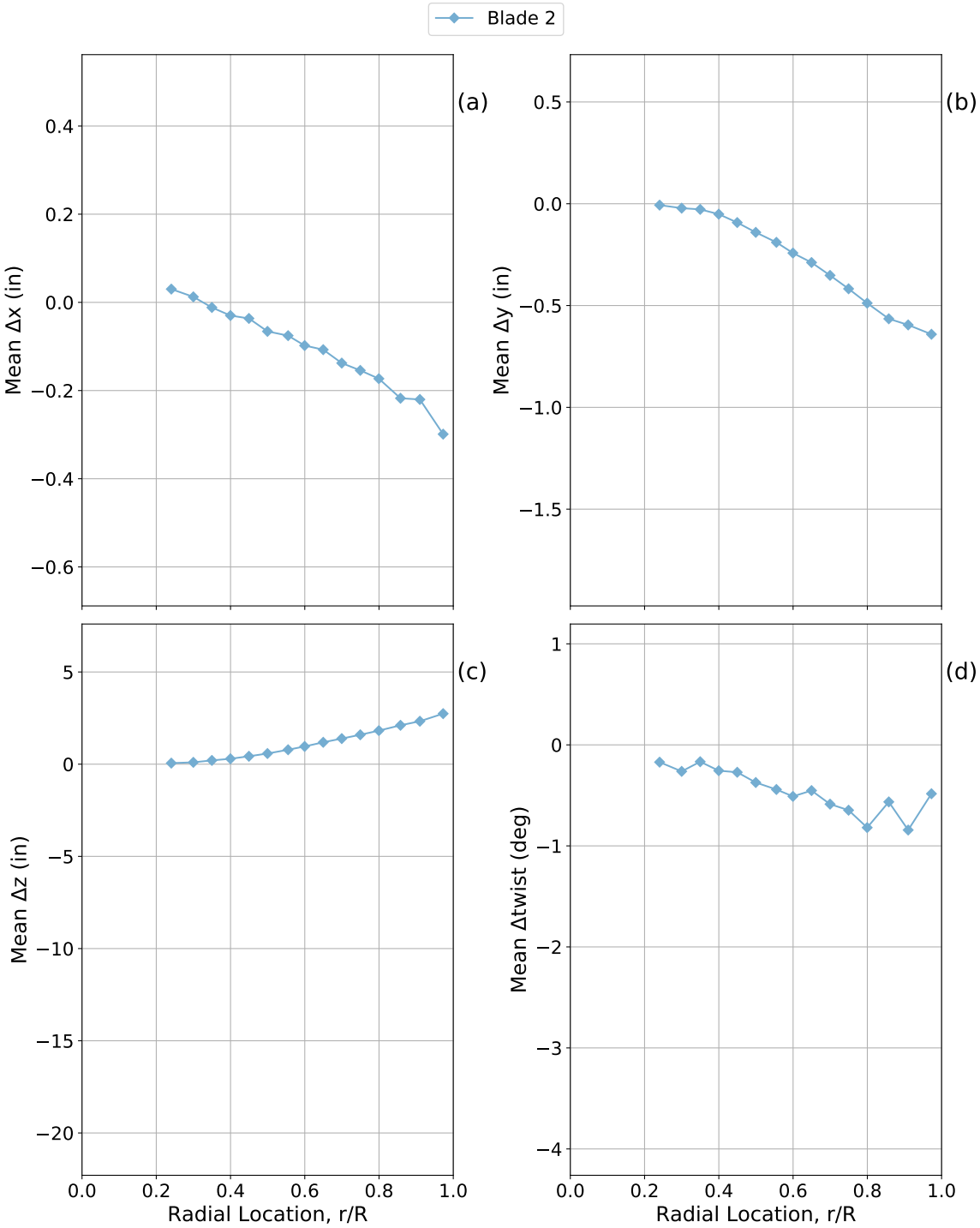


Figure 3.24-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.2405	0.0301	0.0034	-0.0068	0.0039	0.0577	0.0069	-0.1711	0.0807
2	344.88	0.2999	0.0125	0.0032	-0.0217	0.0117	0.1001	0.0156	-0.2625	0.1245
2	344.88	0.3498	-0.0116	0.0040	-0.0277	0.0155	0.2050	0.0216	-0.1667	0.1222
2	344.88	0.3998	-0.0299	0.0039	-0.0512	0.0276	0.2935	0.0350	-0.2556	0.1336
2	344.88	0.4496	-0.0365	0.0050	-0.0924	0.0319	0.4290	0.0430	-0.2712	0.1277
2	344.88	0.4995	-0.0658	0.0051	-0.1406	0.0378	0.5778	0.0576	-0.3727	0.1295
2	344.88	0.5551	-0.0755	0.0050	-0.1896	0.0457	0.7828	0.0729	-0.4417	0.1184
2	344.88	0.5996	-0.0979	0.0064	-0.2421	0.0520	0.9617	0.0837	-0.5101	0.1060
2	344.88	0.6497	-0.1073	0.0067	-0.2886	0.0605	1.1870	0.0948	-0.4524	0.1147
2	344.88	0.6996	-0.1377	0.0072	-0.3519	0.0679	1.3885	0.1100	-0.5867	0.1291
2	344.88	0.7495	-0.1543	0.0103	-0.4177	0.0757	1.5947	0.1238	-0.6469	0.1344
2	344.88	0.7996	-0.1731	0.0094	-0.4882	0.0847	1.8199	0.1385	-0.8190	0.1406
2	344.88	0.8578	-0.2175	0.0095	-0.5650	0.0947	2.1092	0.1587	-0.5645	0.1272
2	344.88	0.9100	-0.2202	0.0105	-0.5952	0.1051	2.3284	0.1786	-0.8431	0.1209
2	344.88	0.9727	-0.2989	0.0132	-0.6411	0.1176	2.7405	0.2038	-0.4837	0.1073

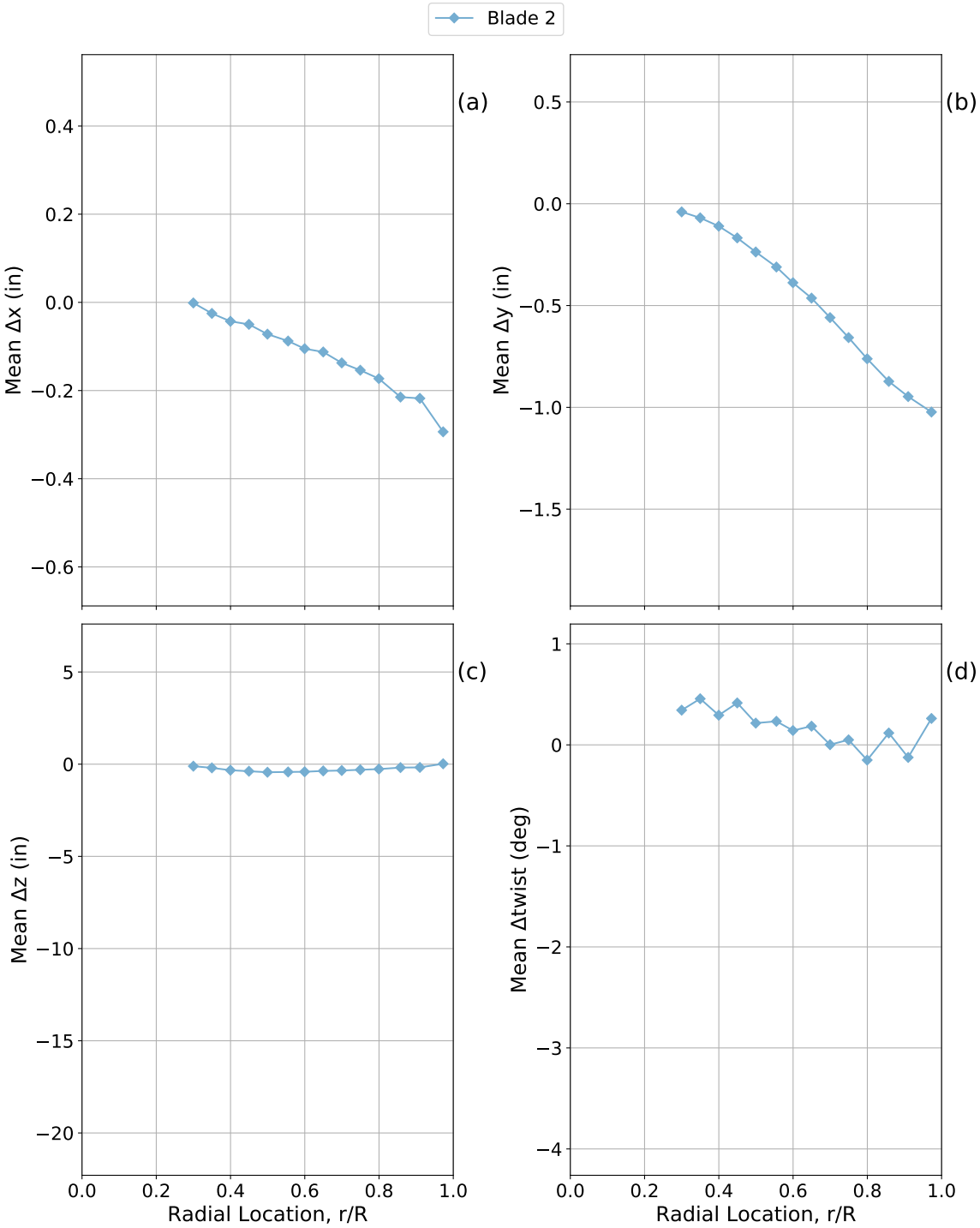


Figure 3.24-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.019$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2999	-0.0013	0.0121	-0.0400	0.0257	-0.1087	0.0407	0.3435	0.0970
2	350.16	0.3498	-0.0251	0.0135	-0.0693	0.0446	-0.1996	0.0697	0.4566	0.1285
2	350.16	0.3998	-0.0430	0.0122	-0.1102	0.0710	-0.3278	0.1105	0.2935	0.1063
2	350.16	0.4496	-0.0499	0.0116	-0.1679	0.0967	-0.3821	0.1440	0.4152	0.1150
2	350.16	0.4995	-0.0721	0.0116	-0.2369	0.1201	-0.4375	0.1822	0.2153	0.1061
2	350.16	0.5551	-0.0877	0.0130	-0.3108	0.1464	-0.4221	0.2203	0.2331	0.1128
2	350.16	0.5996	-0.1051	0.0120	-0.3879	0.1674	-0.4123	0.2522	0.1419	0.1378
2	350.16	0.6497	-0.1125	0.0131	-0.4635	0.1910	-0.3660	0.2937	0.1851	0.0862
2	350.16	0.6996	-0.1373	0.0145	-0.5592	0.2136	-0.3441	0.3268	0.0019	0.1145
2	350.16	0.7495	-0.1539	0.0130	-0.6574	0.2379	-0.3035	0.3654	0.0498	0.1259
2	350.16	0.7996	-0.1730	0.0145	-0.7616	0.2601	-0.2667	0.4065	-0.1507	0.1208
2	350.16	0.8578	-0.2148	0.0131	-0.8725	0.2857	-0.1840	0.4557	0.1176	0.1274
2	350.16	0.9100	-0.2177	0.0138	-0.9471	0.3101	-0.1749	0.5047	-0.1244	0.1215
2	350.16	0.9727	-0.2936	0.0210	-1.0230	0.3395	0.0217	0.5603	0.2615	0.1290

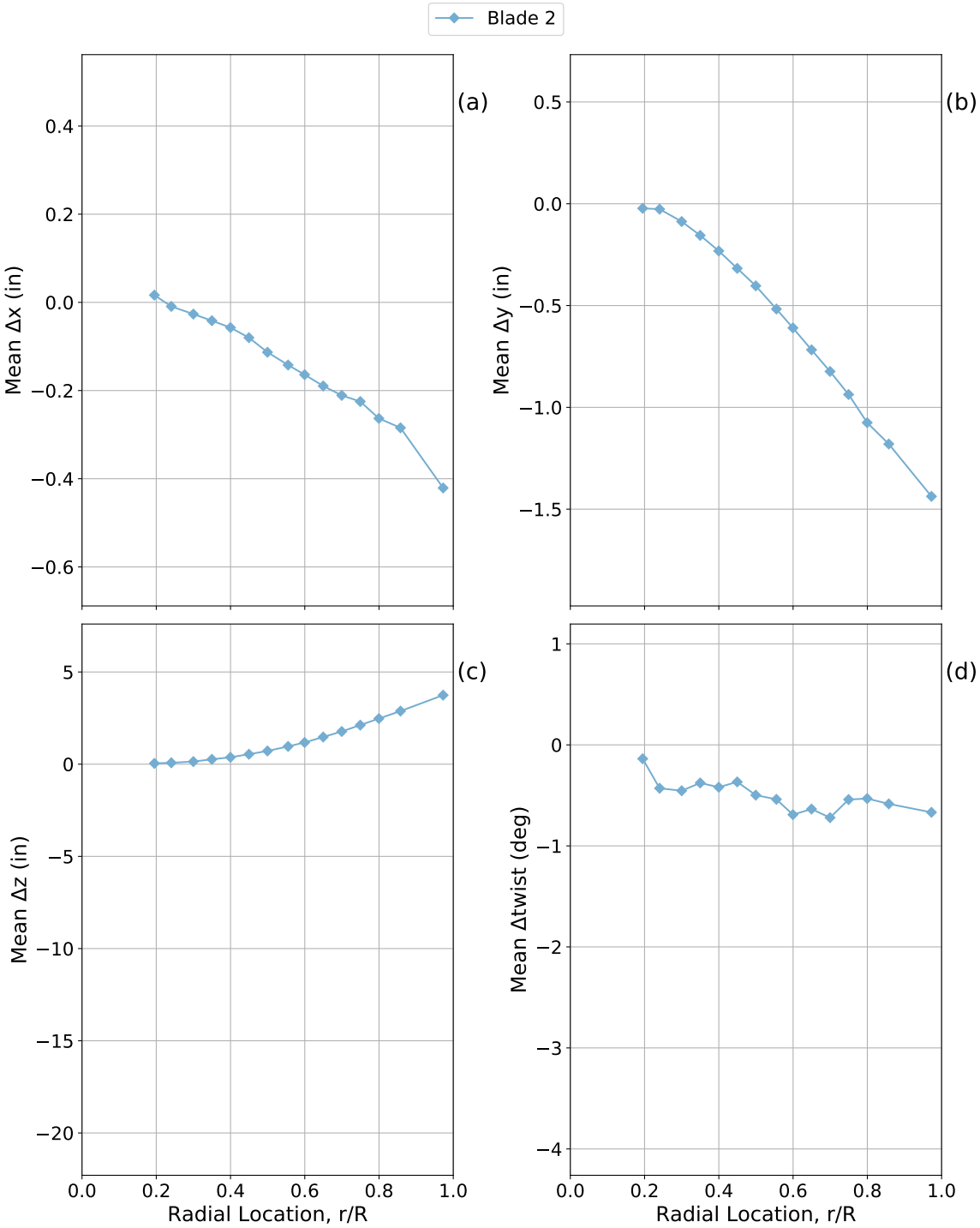


Figure 3.24-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.35, α = -8° NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Table 3.24-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.35, α = -8°
NFAC run 63, point 23. BD run 30, points 4493 to 4503.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0164	0.0084	-0.0226	0.0025	0.0433	0.0043	-0.1374	0.0419
2	355.08	0.2405	-0.0092	0.0034	-0.0266	0.0096	0.0770	0.0095	-0.4297	0.0393
2	355.08	0.2999	-0.0266	0.0078	-0.0874	0.0140	0.1412	0.0145	-0.4542	0.0851
2	355.08	0.3498	-0.0416	0.0121	-0.1554	0.0254	0.2636	0.0221	-0.3769	0.0656
2	355.08	0.3998	-0.0572	0.0146	-0.2319	0.0408	0.3739	0.0332	-0.4191	0.0704
2	355.08	0.4496	-0.0801	0.0172	-0.3174	0.0525	0.5397	0.0442	-0.3667	0.0679
2	355.08	0.4995	-0.1131	0.0183	-0.4033	0.0653	0.7168	0.0545	-0.4975	0.0774
2	355.08	0.5551	-0.1421	0.0212	-0.5171	0.0869	0.9638	0.0664	-0.5393	0.0820
2	355.08	0.5996	-0.1640	0.0233	-0.6099	0.1025	1.1781	0.0780	-0.6908	0.0658
2	355.08	0.6497	-0.1896	0.0300	-0.7175	0.1242	1.4735	0.0879	-0.6354	0.0805
2	355.08	0.6996	-0.2110	0.0413	-0.8237	0.1470	1.7731	0.0965	-0.7206	0.0781
2	355.08	0.7495	-0.2249	0.0541	-0.9368	0.1724	2.1192	0.1046	-0.5413	0.1031
2	355.08	0.7996	-0.2632	0.0709	-1.0752	0.1978	2.4739	0.1097	-0.5314	0.0880
2	355.08	0.8578	-0.2845	0.0895	-1.1800	0.2304	2.8802	0.1234	-0.5842	0.2579
2	355.08	0.9727	-0.4209	0.1476	-1.4372	0.2950	3.7433	0.1439	-0.6678	0.1501

3.25 Run 63, Point 24

3.25.1 Pitch, Flap, and Lag

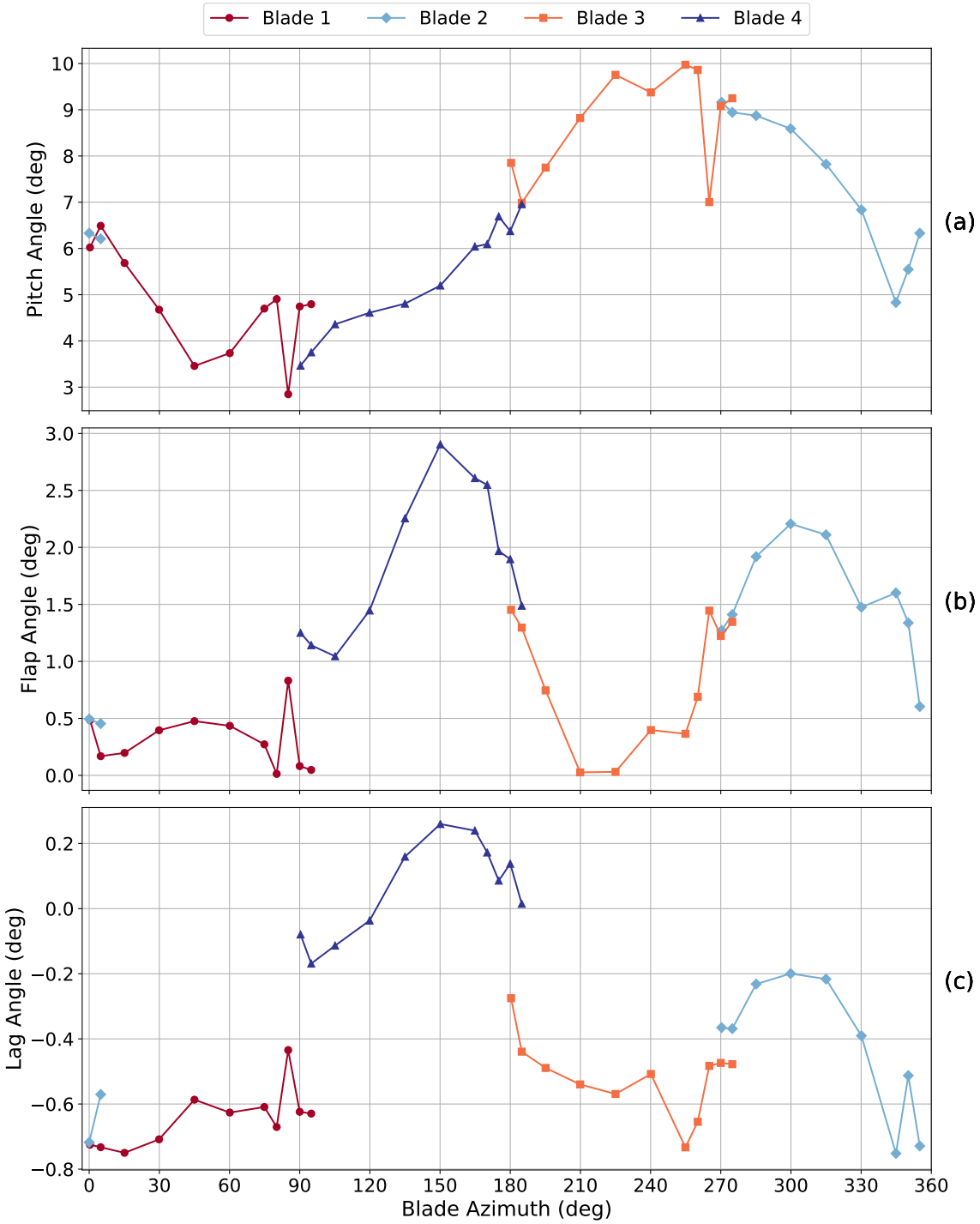


Figure 3.25-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	6.3302	0.4944	-0.7178	0.0737	0.0997	0.0717
0.35	1	6.0218	0.4843	-0.7250	0.0798	0.0703	0.0530
4.92	1	6.4899	0.1683	-0.7327	0.1178	0.0844	0.0804
4.92	2	6.2083	0.4537	-0.5706	0.0784	0.1019	0.0835
15.12	1	5.6839	0.1970	-0.7499	0.1054	0.0816	0.0629
29.88	1	4.6764	0.3955	-0.7085	0.0692	0.0850	0.0439
45	1	3.4584	0.4758	-0.5867	0.1136	0.1057	0.0359
60.12	1	3.7354	0.4349	-0.6263	0.0718	0.1064	0.0329
74.88	1	4.6996	0.2722	-0.6092	0.1143	0.0750	0.0434
80.16	1	4.9056	0.0131	-0.6706	0.2606	0.0902	0.0243
85.08	1	2.8467	0.8306	-0.4345	0.3002	0.2038	0.0847
90	1	4.7439	0.0812	-0.6239	0.1497	0.0725	0.0326
90.35	4	3.4646	1.2505	-0.0794	0.1028	0.0668	0.0280
94.92	1	4.7948	0.0478	-0.6294	0.1317	0.0951	0.0200
94.92	4	3.7529	1.1420	-0.1688	0.0844	0.1366	0.0544
105.12	4	4.3598	1.0448	-0.1136	0.1196	0.1146	0.0615
119.88	4	4.6103	1.4466	-0.0367	0.0870	0.1331	0.0526
135	4	4.8058	2.2549	0.1594	0.0868	0.1500	0.0493
150.12	4	5.1980	2.9038	0.2598	0.0448	0.1066	0.0193
164.88	4	6.0396	2.6079	0.2395	0.0865	0.1986	0.0533
170.16	4	6.0937	2.5484	0.1723	0.0963	0.1761	0.0396
175.08	4	6.6913	1.9679	0.0859	0.1134	0.1906	0.0495
180	4	6.3742	1.8965	0.1378	0.1055	0.1352	0.0264
180.35	3	7.8512	1.4525	-0.2751	0.1921	0.0997	0.0794
184.92	3	6.9868	1.2962	-0.4392	0.0865	0.1192	0.0474
184.92	4	6.9565	1.4883	0.0148	0.0557	0.1324	0.0446
195.12	3	7.7487	0.7458	-0.4893	0.0995	0.1965	0.0698
209.88	3	8.8209	0.0263	-0.5398	0.0765	0.1045	0.0333
225	3	9.7552	0.0310	-0.5692	0.1275	0.1650	0.0471
240.12	3	9.3761	0.3974	-0.5078	0.1489	0.1105	0.0430
254.88	3	9.9733	0.3646	-0.7331	0.2472	0.1855	0.1057
260.16	3	9.8615	0.6884	-0.6546	0.4097	0.3469	0.1193
265.08	3	7.0032	1.4454	-0.4828	0.1773	0.0581	0.0400
270	3	9.0809	1.2230	-0.4738	0.0773	0.1756	0.0874
270.35	2	9.1631	1.2710	-0.3654	0.1323	0.1314	0.0534
274.92	2	8.9424	1.4107	-0.3687	0.0611	0.0744	0.0328
274.92	3	9.2481	1.3465	-0.4777	0.1716	0.0798	0.0434
285.12	2	8.8728	1.9193	-0.2317	0.0724	0.1226	0.0546
299.88	2	8.5900	2.2069	-0.1995	0.0740	0.0622	0.0549
315	2	7.8226	2.1109	-0.2163	0.1346	0.1240	0.0556
330.12	2	6.8350	1.4751	-0.3905	0.0780	0.0671	0.0310
344.88	2	4.8313	1.6008	-0.7520	0.1663	0.0567	0.0471
350.16	2	5.5456	1.3378	-0.5127	0.1917	0.1573	0.0858
355.08	2	6.3307	0.6035	-0.7290	0.0895	0.0731	0.0482

3.25.2 Spanwise Elastic Deformations

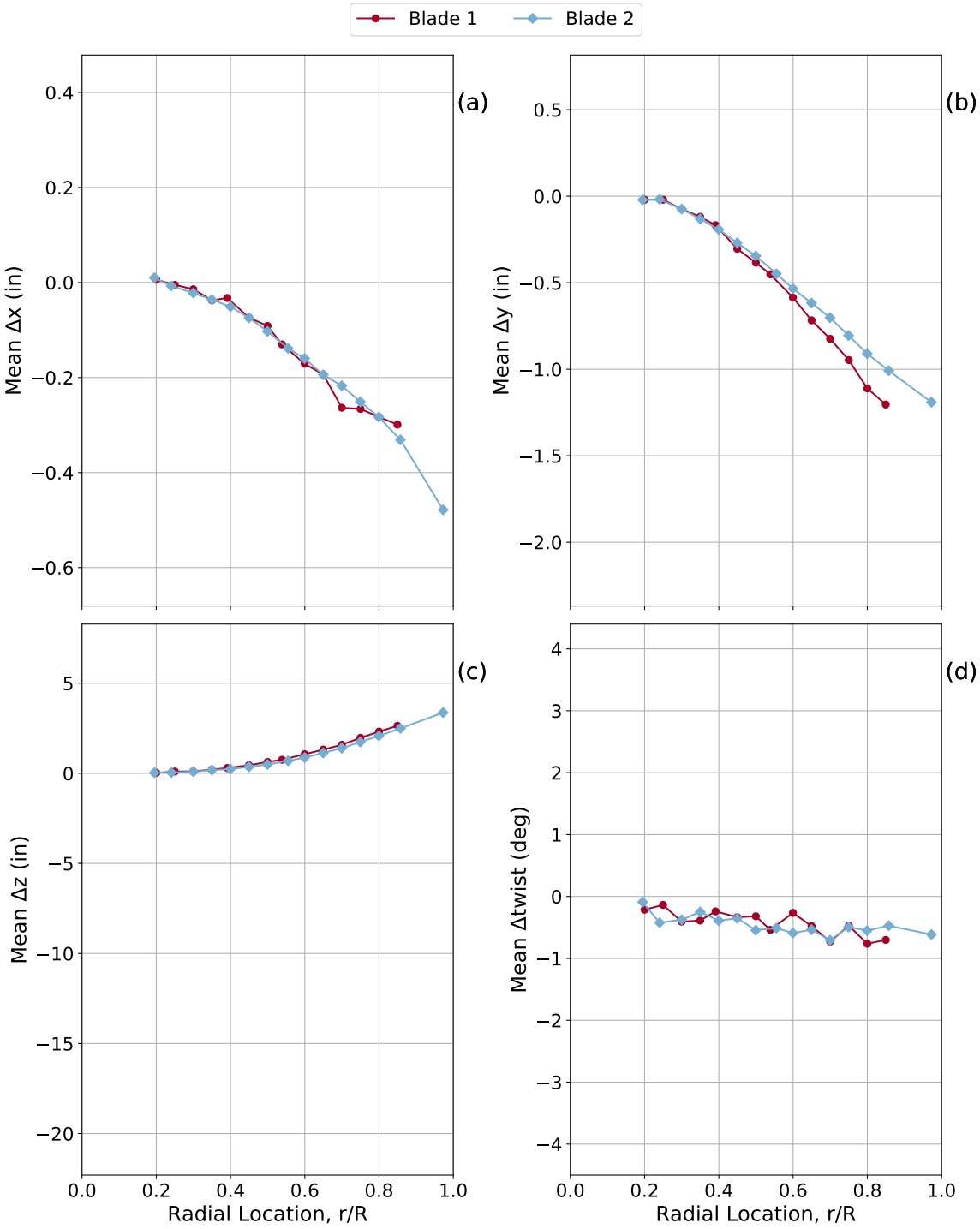


Figure 3.25-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0059	0.0034	-0.0203	0.0020	0.0275	0.0068	-0.2134	0.0753
1	0.35	0.2499	-0.0050	0.0042	-0.0203	0.0080	0.0987	0.0077	-0.1367	0.0638
1	0.35	0.2998	-0.0142	0.0024	-0.0744	0.0073	0.1066	0.0241	-0.4062	0.1352
1	0.35	0.3498	-0.0374	0.0030	-0.1193	0.0148	0.2062	0.0312	-0.3893	0.0779
1	0.35	0.3913	-0.0326	0.0032	-0.1677	0.0225	0.2934	0.0459	-0.2407	0.1118
1	0.35	0.4496	-0.0739	0.0022	-0.3040	0.0280	0.4472	0.0590	-0.3340	0.1087
1	0.35	0.4997	-0.0914	0.0033	-0.3842	0.0322	0.6312	0.0767	-0.3197	0.0994
1	0.35	0.5387	-0.1303	0.0046	-0.4517	0.0384	0.7507	0.0864	-0.5397	0.0815
1	0.35	0.5996	-0.1708	0.0035	-0.5859	0.0446	1.0582	0.1081	-0.2639	0.0944
1	0.35	0.6498	-0.1937	0.0043	-0.7174	0.0532	1.3145	0.1255	-0.4790	0.0983
1	0.35	0.6998	-0.2635	0.0037	-0.8245	0.0584	1.5822	0.1470	-0.7277	0.1278
1	0.35	0.7500	-0.2660	0.0052	-0.9470	0.0663	1.9659	0.1680	-0.4714	0.1075
1	0.35	0.8001	-0.2831	0.0047	-1.1108	0.0699	2.3130	0.1815	-0.7628	0.1922
1	0.35	0.8497	-0.2990	0.0047	-1.2038	0.0779	2.6364	0.2090	-0.7017	0.1191
2	0	0.1949	0.0100	0.0058	-0.0212	0.0036	0.0342	0.0057	-0.0906	0.0367
2	0	0.2405	-0.0073	0.0058	-0.0180	0.0080	0.0460	0.0100	-0.4235	0.0549
2	0	0.2999	-0.0222	0.0055	-0.0743	0.0157	0.0885	0.0155	-0.3758	0.0856
2	0	0.3498	-0.0360	0.0073	-0.1318	0.0308	0.1775	0.0328	-0.2497	0.0424
2	0	0.3998	-0.0509	0.0112	-0.1926	0.0458	0.2322	0.0442	-0.3909	0.0475
2	0	0.4496	-0.0744	0.0149	-0.2697	0.0599	0.3587	0.0551	-0.3509	0.0583
2	0	0.4995	-0.1028	0.0191	-0.3453	0.0732	0.4894	0.0643	-0.5436	0.0736
2	0	0.5551	-0.1387	0.0258	-0.4484	0.0890	0.6946	0.0802	-0.5108	0.0845
2	0	0.5996	-0.1599	0.0302	-0.5343	0.1053	0.8761	0.0944	-0.5915	0.0636
2	0	0.6497	-0.1941	0.0371	-0.6177	0.1187	1.1304	0.1071	-0.5360	0.0896
2	0	0.6996	-0.2173	0.0449	-0.7023	0.1368	1.3920	0.1184	-0.7052	0.0620
2	0	0.7495	-0.2509	0.0518	-0.8054	0.1548	1.7374	0.1289	-0.4948	0.0877
2	0	0.7996	-0.2833	0.0601	-0.9096	0.1752	2.0757	0.1448	-0.5512	0.0916
2	0	0.8578	-0.3310	0.0716	-1.0085	0.2024	2.4925	0.1713	-0.4720	0.1075
2	0	0.9727	-0.4785	0.0990	-1.1905	0.2532	3.3690	0.2073	-0.6147	0.1151

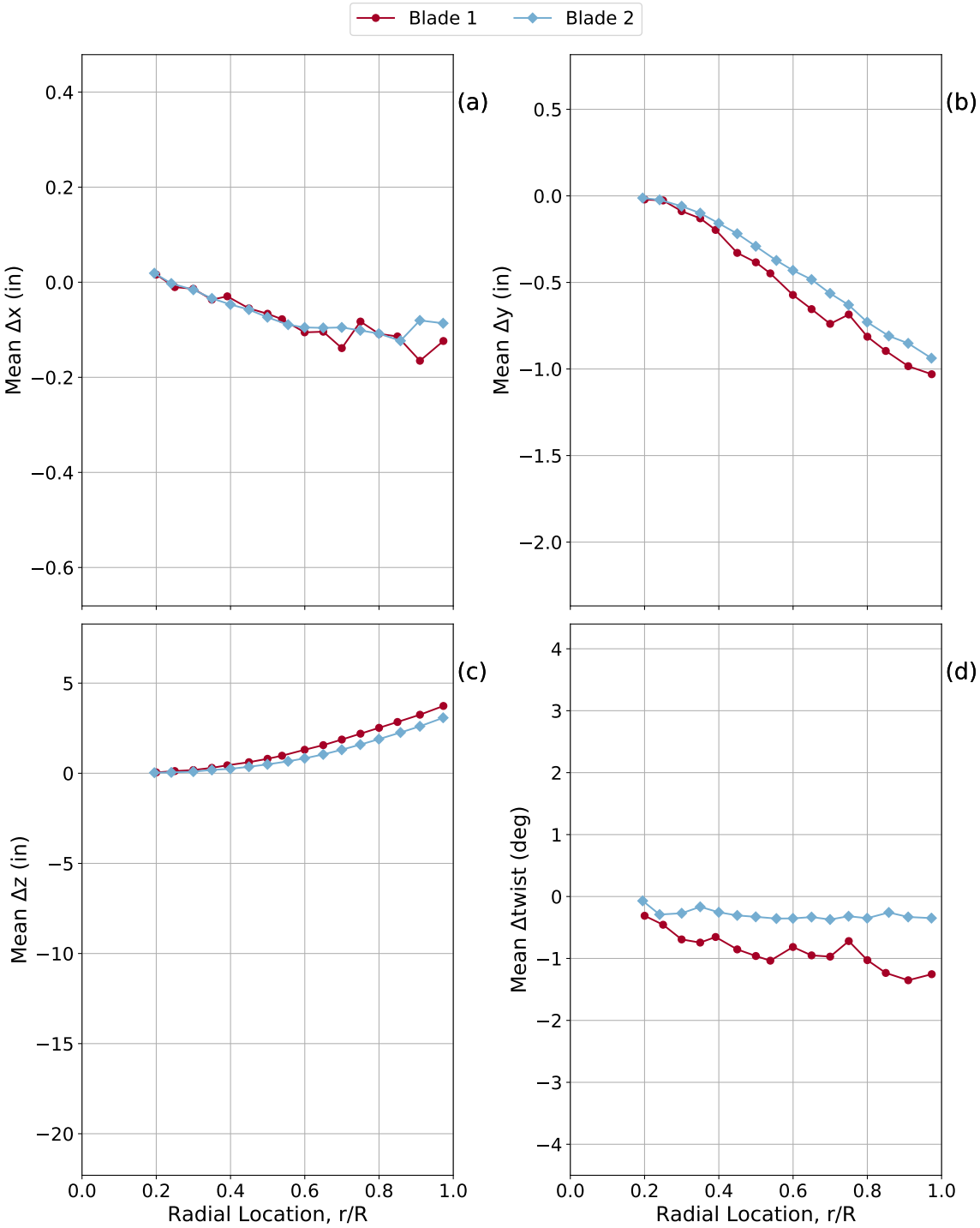


Figure 3.25-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0161	0.0114	-0.0209	0.0034	0.0461	0.0074	-0.3108	0.0330
1	4.92	0.2499	-0.0103	0.0037	-0.0267	0.0085	0.1220	0.0131	-0.4559	0.0669
1	4.92	0.2998	-0.0138	0.0026	-0.0884	0.0161	0.1789	0.0260	-0.6926	0.0716
1	4.92	0.3498	-0.0366	0.0075	-0.1299	0.0268	0.3014	0.0358	-0.7439	0.0762
1	4.92	0.3913	-0.0297	0.0121	-0.1966	0.0403	0.4419	0.0545	-0.6535	0.0615
1	4.92	0.4496	-0.0550	0.0178	-0.3294	0.0556	0.6149	0.0719	-0.8539	0.0609
1	4.92	0.4997	-0.0663	0.0227	-0.3840	0.0701	0.8027	0.0873	-0.9600	0.0757
1	4.92	0.5387	-0.0778	0.0263	-0.4478	0.0801	0.9739	0.0966	-1.0359	0.0802
1	4.92	0.5996	-0.1054	0.0312	-0.5723	0.0977	1.3033	0.1170	-0.8151	0.0757
1	4.92	0.6498	-0.1041	0.0336	-0.6543	0.1123	1.5607	0.1317	-0.9503	0.0842
1	4.92	0.6998	-0.1386	0.0383	-0.7393	0.1281	1.8706	0.1433	-0.9704	0.0925
1	4.92	0.7500	-0.0827	0.0198	-0.6852	0.1805	2.1961	0.1656	-0.7196	0.0743
1	4.92	0.8001	-0.1086	0.0204	-0.8136	0.1998	2.5212	0.1735	-1.0274	0.1053
1	4.92	0.8497	-0.1140	0.0200	-0.8958	0.2213	2.8452	0.1956	-1.2338	0.0775
1	4.92	0.9102	-0.1652	0.0208	-0.9838	0.2486	3.2487	0.2244	-1.3521	0.0872
1	4.92	0.9734	-0.1236	0.0231	-1.0302	0.2803	3.7350	0.2708	-1.2542	0.1289
2	4.92	0.1949	0.0190	0.0125	-0.0123	0.0026	0.0307	0.0054	-0.0700	0.0275
2	4.92	0.2405	-0.0026	0.0050	-0.0230	0.0068	0.0474	0.0090	-0.2909	0.0574
2	4.92	0.2999	-0.0159	0.0054	-0.0598	0.0140	0.0904	0.0171	-0.2703	0.0665
2	4.92	0.3498	-0.0340	0.0138	-0.0998	0.0220	0.1845	0.0295	-0.1661	0.0646
2	4.92	0.3998	-0.0468	0.0246	-0.1586	0.0367	0.2492	0.0419	-0.2544	0.0625
2	4.92	0.4496	-0.0576	0.0357	-0.2185	0.0492	0.3582	0.0576	-0.3051	0.0714
2	4.92	0.4995	-0.0737	0.0474	-0.2912	0.0627	0.4935	0.0757	-0.3280	0.0602
2	4.92	0.5551	-0.0893	0.0602	-0.3731	0.0801	0.6624	0.0907	-0.3557	0.0771
2	4.92	0.5996	-0.0951	0.0709	-0.4303	0.0961	0.8288	0.1087	-0.3533	0.0643
2	4.92	0.6497	-0.0960	0.0798	-0.4833	0.1111	1.0463	0.1267	-0.3317	0.0515
2	4.92	0.6996	-0.0951	0.0900	-0.5632	0.1254	1.3056	0.1460	-0.3711	0.0483
2	4.92	0.7495	-0.1013	0.0999	-0.6300	0.1393	1.5905	0.1679	-0.3183	0.0731
2	4.92	0.7996	-0.1080	0.1085	-0.7292	0.1541	1.8939	0.1959	-0.3500	0.0683
2	4.92	0.8578	-0.1232	0.1178	-0.8091	0.1717	2.2604	0.2245	-0.2577	0.0597
2	4.92	0.9100	-0.0803	0.1228	-0.8518	0.1886	2.6050	0.2552	-0.3304	0.0724
2	4.92	0.9727	-0.0863	0.1061	-0.9376	0.2155	3.0786	0.2912	-0.3485	0.0950

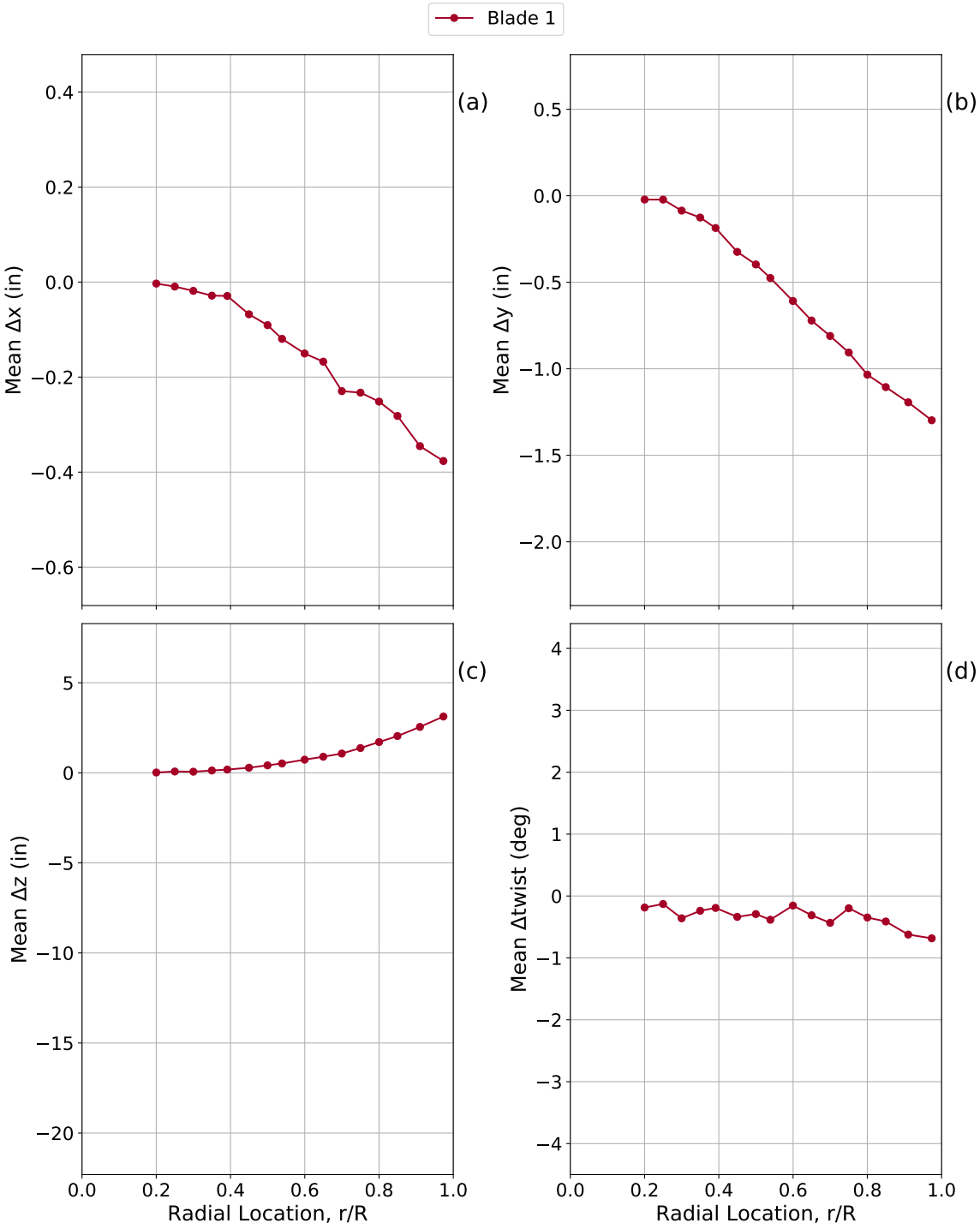


Figure 3.25-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$ NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0032	0.0037	-0.0220	0.0020	0.0169	0.0041	-0.1863	0.0579
1	15.12	0.2499	-0.0095	0.0023	-0.0223	0.0043	0.0726	0.0091	-0.1292	0.0479
1	15.12	0.2998	-0.0185	0.0017	-0.0860	0.0070	0.0620	0.0175	-0.3603	0.1107
1	15.12	0.3498	-0.0286	0.0047	-0.1261	0.0143	0.1283	0.0253	-0.2392	0.0822
1	15.12	0.3913	-0.0292	0.0039	-0.1864	0.0186	0.1801	0.0396	-0.1926	0.0875
1	15.12	0.4496	-0.0678	0.0038	-0.3245	0.0242	0.2823	0.0554	-0.3371	0.0901
1	15.12	0.4997	-0.0906	0.0039	-0.3969	0.0292	0.4147	0.0687	-0.2918	0.0732
1	15.12	0.5387	-0.1195	0.0039	-0.4753	0.0334	0.5191	0.0836	-0.3837	0.0988
1	15.12	0.5996	-0.1503	0.0033	-0.6082	0.0400	0.7292	0.1082	-0.1544	0.0879
1	15.12	0.6498	-0.1675	0.0039	-0.7213	0.0468	0.8935	0.1335	-0.3111	0.0889
1	15.12	0.6998	-0.2295	0.0037	-0.8104	0.0523	1.0693	0.1587	-0.4335	0.1001
1	15.12	0.7500	-0.2327	0.0047	-0.9061	0.0588	1.3751	0.1869	-0.1979	0.0823
1	15.12	0.8001	-0.2516	0.0058	-1.0342	0.0652	1.7088	0.2181	-0.3472	0.0904
1	15.12	0.8497	-0.2817	0.0058	-1.1059	0.0740	2.0408	0.2502	-0.4116	0.1146
1	15.12	0.9102	-0.3453	0.0067	-1.1939	0.0886	2.5488	0.2935	-0.6229	0.1318
1	15.12	0.9734	-0.3766	0.0105	-1.2977	0.1003	3.1260	0.3431	-0.6836	0.1907

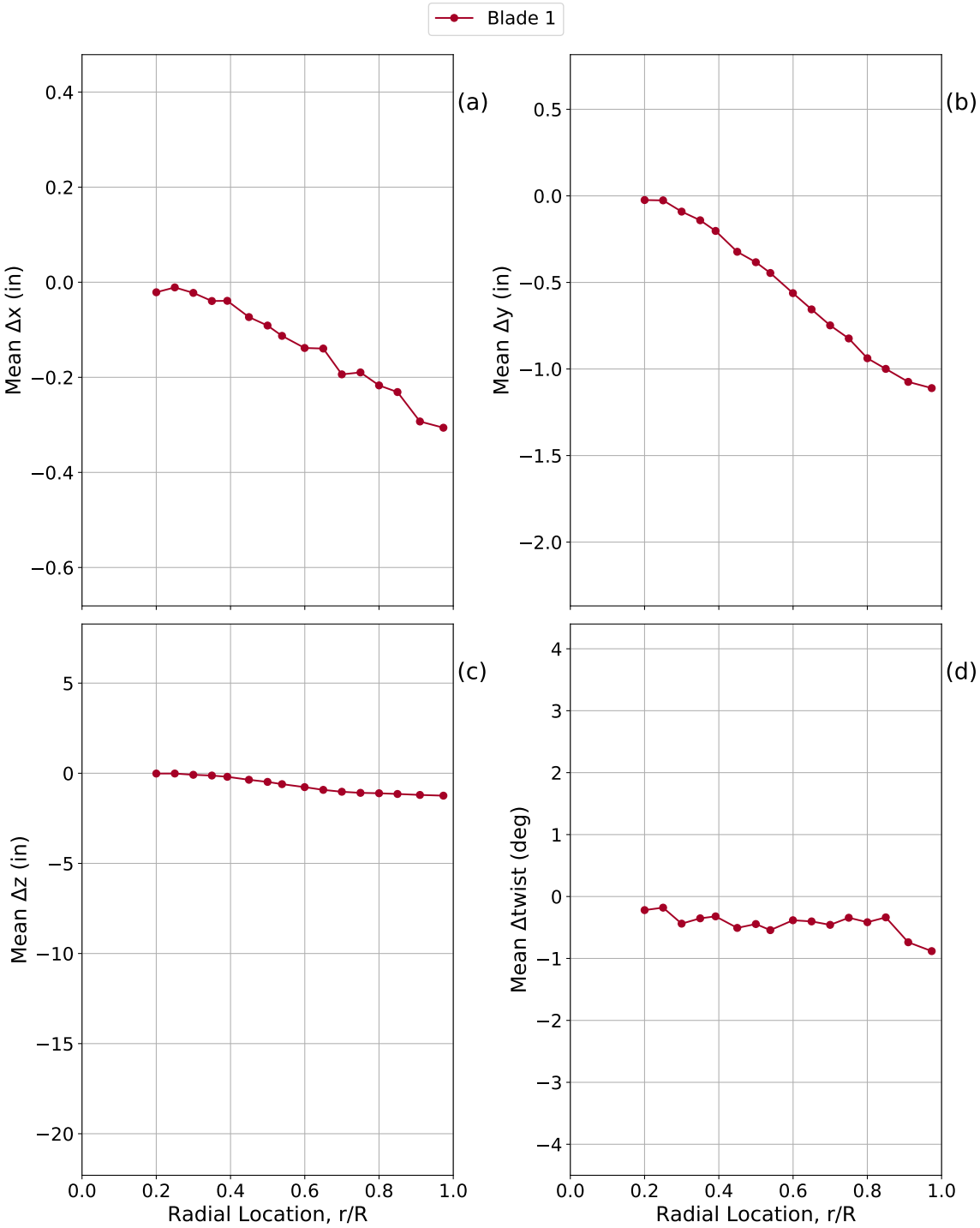


Figure 3.25-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0211	0.0018	-0.0242	0.0016	-0.0155	0.0062	-0.2193	0.0383
1	29.88	0.2499	-0.0109	0.0045	-0.0261	0.0027	-0.0141	0.0090	-0.1798	0.0750
1	29.88	0.2998	-0.0224	0.0038	-0.0910	0.0045	-0.0849	0.0208	-0.4381	0.0921
1	29.88	0.3498	-0.0395	0.0031	-0.1410	0.0093	-0.1260	0.0357	-0.3521	0.0657
1	29.88	0.3913	-0.0391	0.0025	-0.2026	0.0114	-0.1961	0.0486	-0.3204	0.0702
1	29.88	0.4496	-0.0733	0.0023	-0.3230	0.0153	-0.3610	0.0664	-0.5068	0.0805
1	29.88	0.4997	-0.0911	0.0026	-0.3833	0.0191	-0.4791	0.0878	-0.4444	0.0861
1	29.88	0.5387	-0.1128	0.0030	-0.4455	0.0222	-0.6034	0.1039	-0.5428	0.0770
1	29.88	0.5996	-0.1383	0.0023	-0.5619	0.0272	-0.7693	0.1323	-0.3831	0.0854
1	29.88	0.6498	-0.1395	0.0032	-0.6557	0.0325	-0.9212	0.1582	-0.4018	0.0923
1	29.88	0.6998	-0.1938	0.0023	-0.7481	0.0371	-1.0259	0.1868	-0.4574	0.0932
1	29.88	0.7500	-0.1897	0.0024	-0.8237	0.0414	-1.0865	0.2221	-0.3426	0.1035
1	29.88	0.8001	-0.2170	0.0023	-0.9380	0.0468	-1.1087	0.2604	-0.4148	0.0913
1	29.88	0.8497	-0.2310	0.0028	-0.9994	0.0522	-1.1487	0.3040	-0.3366	0.0904
1	29.88	0.9102	-0.2929	0.0044	-1.0744	0.0594	-1.2022	0.3608	-0.7386	0.0868
1	29.88	0.9734	-0.3060	0.0049	-1.1105	0.0672	-1.2428	0.4298	-0.8815	0.0914

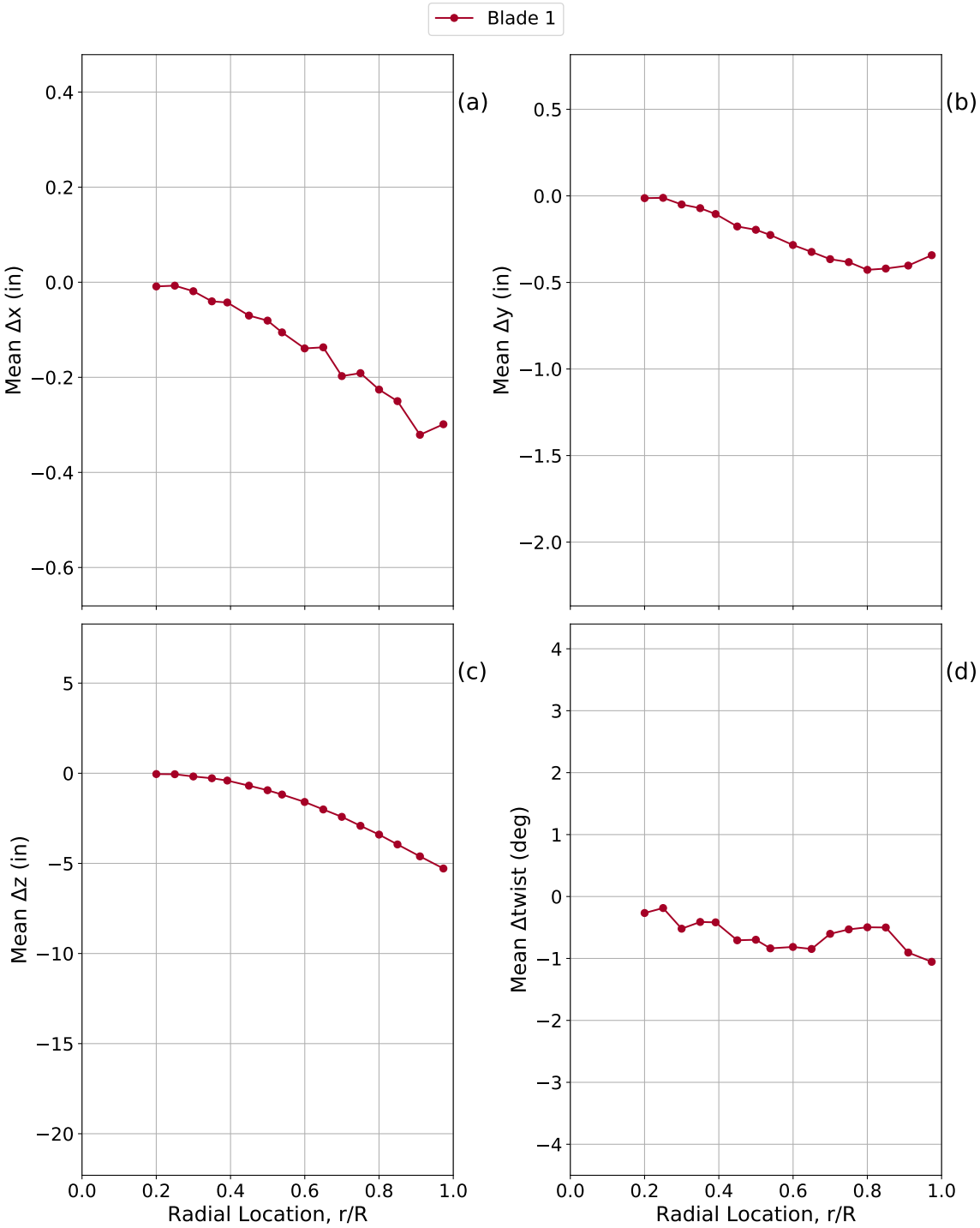


Figure 3.25-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0088	0.0022	-0.0132	0.0014	-0.0441	0.0045	-0.2663	0.0504
1	45	0.2499	-0.0072	0.0036	-0.0115	0.0033	-0.0532	0.0083	-0.1860	0.0562
1	45	0.2998	-0.0189	0.0034	-0.0497	0.0055	-0.1783	0.0160	-0.5196	0.1023
1	45	0.3498	-0.0402	0.0037	-0.0711	0.0108	-0.2762	0.0271	-0.4109	0.0704
1	45	0.3913	-0.0426	0.0031	-0.1049	0.0149	-0.4044	0.0378	-0.4168	0.0898
1	45	0.4496	-0.0701	0.0038	-0.1768	0.0193	-0.6881	0.0543	-0.7066	0.0894
1	45	0.4997	-0.0807	0.0031	-0.1959	0.0249	-0.9410	0.0715	-0.6977	0.0979
1	45	0.5387	-0.1055	0.0032	-0.2261	0.0280	-1.1806	0.0853	-0.8371	0.0821
1	45	0.5996	-0.1392	0.0042	-0.2838	0.0346	-1.5927	0.1069	-0.8142	0.0898
1	45	0.6498	-0.1369	0.0048	-0.3238	0.0409	-2.0074	0.1269	-0.8469	0.1065
1	45	0.6998	-0.1974	0.0062	-0.3656	0.0468	-2.4180	0.1474	-0.6026	0.1025
1	45	0.7500	-0.1912	0.0053	-0.3827	0.0525	-2.9154	0.1722	-0.5306	0.1081
1	45	0.8001	-0.2258	0.0075	-0.4273	0.0600	-3.4037	0.2017	-0.4966	0.0942
1	45	0.8497	-0.2501	0.0091	-0.4199	0.0665	-3.9489	0.2357	-0.5000	0.1062
1	45	0.9102	-0.3209	0.0091	-0.4027	0.0743	-4.6107	0.2867	-0.9047	0.1125
1	45	0.9734	-0.2987	0.0094	-0.3427	0.0836	-5.2841	0.3393	-1.0542	0.1359

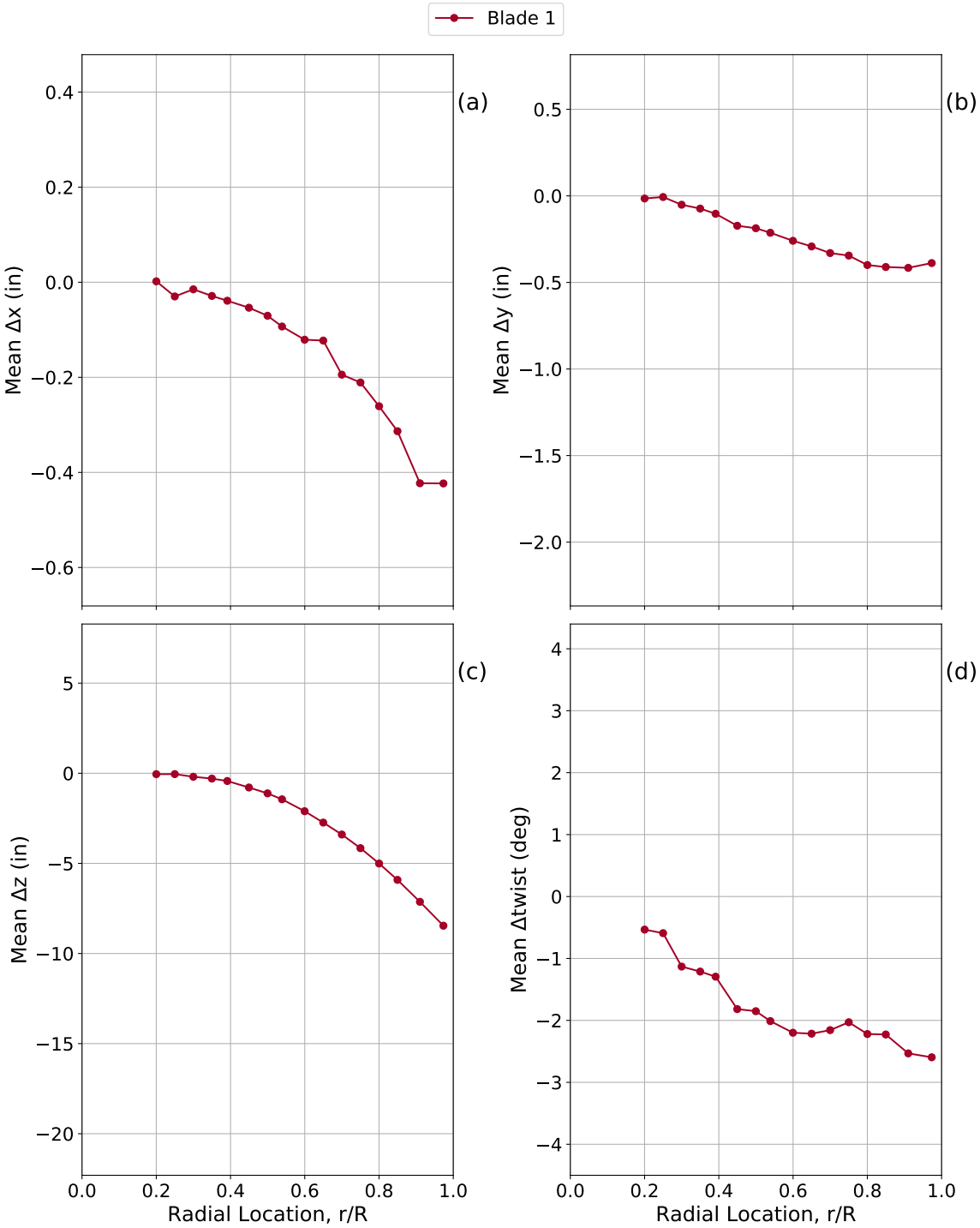


Figure 3.25-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$ NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0019	0.0028	-0.0152	0.0009	-0.0499	0.0068	-0.5341	0.0308
1	60.12	0.2499	-0.0299	0.0023	-0.0067	0.0021	-0.0471	0.0152	-0.5916	0.0446
1	60.12	0.2998	-0.0149	0.0026	-0.0513	0.0040	-0.1948	0.0294	-1.1313	0.0663
1	60.12	0.3498	-0.0288	0.0023	-0.0734	0.0056	-0.2946	0.0481	-1.2116	0.0475
1	60.12	0.3913	-0.0389	0.0030	-0.1034	0.0092	-0.4290	0.0717	-1.2940	0.0545
1	60.12	0.4496	-0.0536	0.0050	-0.1727	0.0125	-0.7898	0.1013	-1.8180	0.0608
1	60.12	0.4997	-0.0705	0.0043	-0.1870	0.0151	-1.1148	0.1333	-1.8515	0.0573
1	60.12	0.5387	-0.0931	0.0052	-0.2131	0.0176	-1.4447	0.1523	-2.0112	0.0718
1	60.12	0.5996	-0.1209	0.0054	-0.2595	0.0239	-2.1053	0.1842	-2.1994	0.0578
1	60.12	0.6498	-0.1227	0.0071	-0.2921	0.0275	-2.7373	0.2076	-2.2143	0.0581
1	60.12	0.6998	-0.1944	0.0068	-0.3304	0.0316	-3.3988	0.2314	-2.1572	0.0785
1	60.12	0.7500	-0.2109	0.0069	-0.3449	0.0361	-4.1546	0.2547	-2.0300	0.0668
1	60.12	0.8001	-0.2608	0.0078	-0.3996	0.0413	-5.0063	0.2785	-2.2200	0.0642
1	60.12	0.8497	-0.3133	0.0083	-0.4109	0.0468	-5.9154	0.2997	-2.2277	0.0590
1	60.12	0.9102	-0.4228	0.0106	-0.4158	0.0536	-7.1326	0.3246	-2.5327	0.0833
1	60.12	0.9734	-0.4232	0.0092	-0.3881	0.0597	-8.4581	0.3492	-2.5958	0.0886

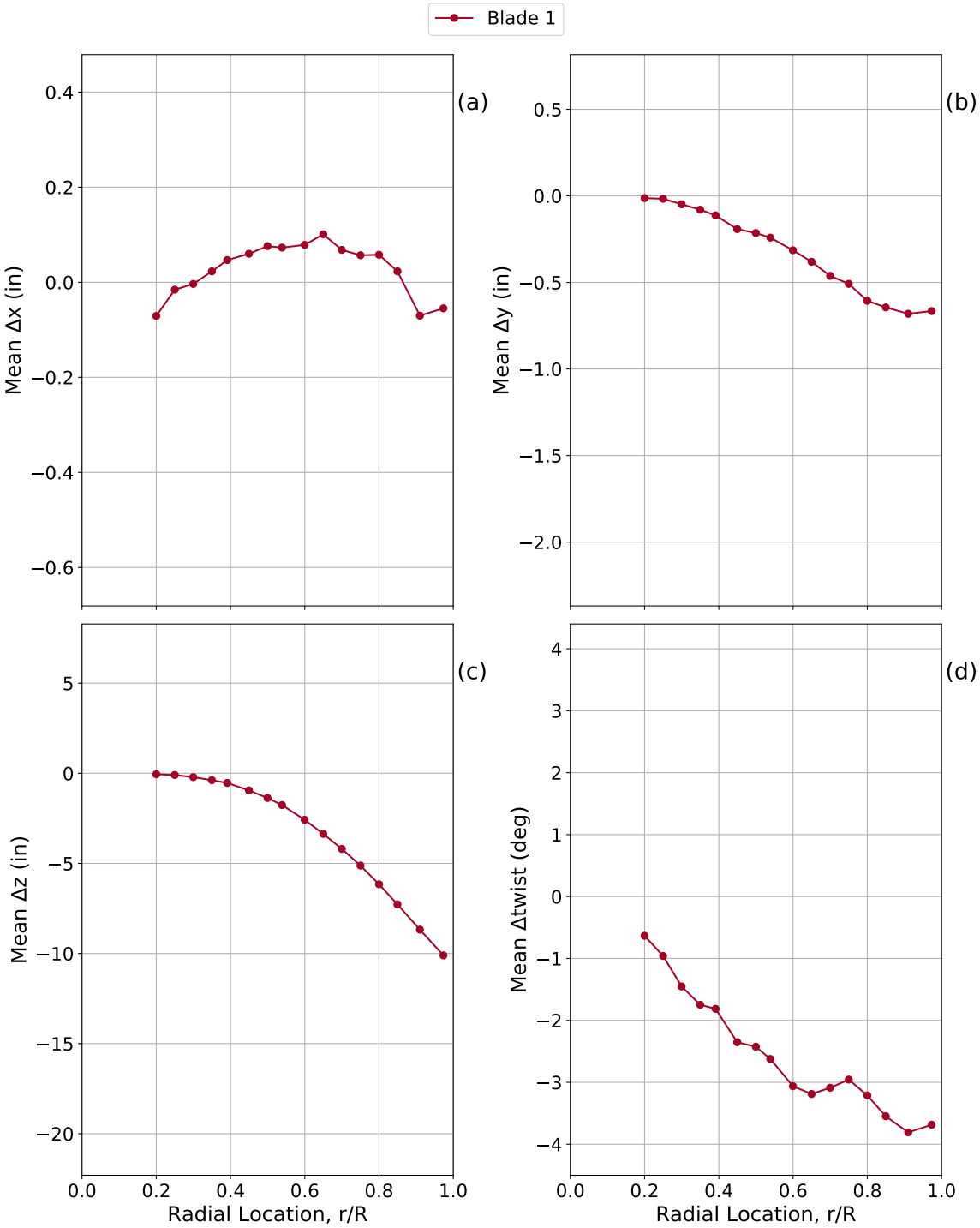


Figure 3.25-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0710	0.0218	-0.0129	0.0011	-0.0527	0.0062	-0.6342	0.0354
1	74.88	0.2499	-0.0156	0.0069	-0.0168	0.0019	-0.0934	0.0128	-0.9599	0.0593
1	74.88	0.2998	-0.0035	0.0078	-0.0485	0.0044	-0.2130	0.0228	-1.4521	0.0807
1	74.88	0.3498	0.0230	0.0204	-0.0797	0.0076	-0.3805	0.0389	-1.7484	0.0873
1	74.88	0.3913	0.0467	0.0291	-0.1126	0.0106	-0.5348	0.0555	-1.8142	0.0869
1	74.88	0.4496	0.0600	0.0376	-0.1918	0.0148	-0.9496	0.0771	-2.3533	0.0872
1	74.88	0.4997	0.0760	0.0409	-0.2144	0.0185	-1.3686	0.0925	-2.4259	0.0889
1	74.88	0.5387	0.0729	0.0412	-0.2412	0.0217	-1.7628	0.1081	-2.6234	0.0876
1	74.88	0.5996	0.0786	0.0402	-0.3141	0.0260	-2.5793	0.1306	-3.0631	0.0873
1	74.88	0.6498	0.1009	0.0360	-0.3805	0.0305	-3.3635	0.1481	-3.1887	0.1023
1	74.88	0.6998	0.0681	0.0312	-0.4619	0.0353	-4.1952	0.1716	-3.0879	0.1040
1	74.88	0.7500	0.0568	0.0254	-0.5080	0.0415	-5.1203	0.1942	-2.9562	0.1154
1	74.88	0.8001	0.0578	0.0241	-0.6059	0.0486	-6.1596	0.2210	-3.2125	0.1125
1	74.88	0.8497	0.0230	0.0297	-0.6442	0.0559	-7.2750	0.2456	-3.5484	0.1287
1	74.88	0.9102	-0.0703	0.0459	-0.6811	0.0658	-8.6770	0.2768	-3.8083	0.1334
1	74.88	0.9734	-0.0549	0.0685	-0.6654	0.0820	-10.1058	0.3056	-3.6852	0.1824

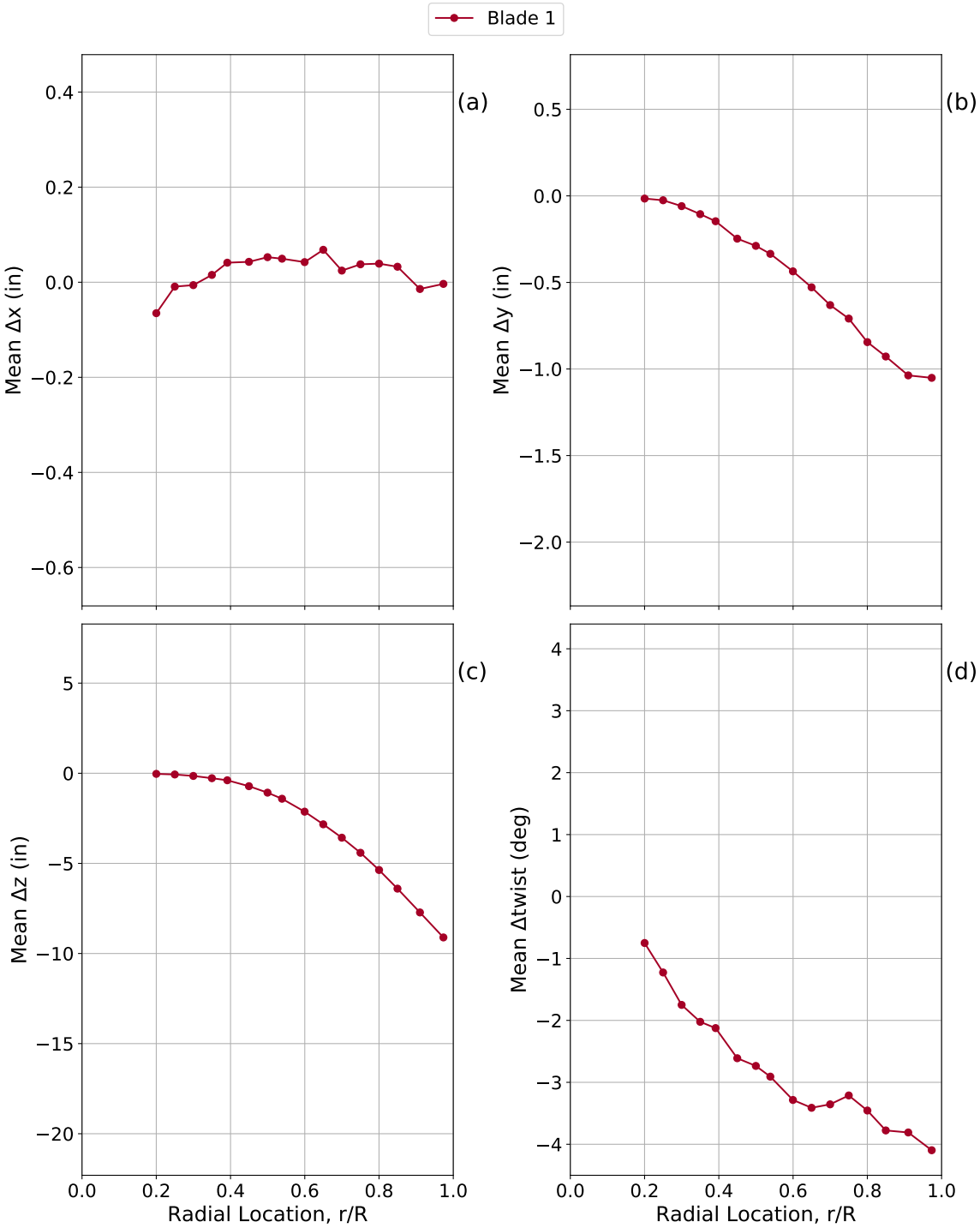


Figure 3.25-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0651	0.0112	-0.0156	0.0018	-0.0333	0.0135	-0.7505	0.0662
1	80.16	0.2499	-0.0092	0.0056	-0.0255	0.0035	-0.0671	0.0205	-1.2264	0.1734
1	80.16	0.2998	-0.0061	0.0041	-0.0593	0.0071	-0.1487	0.0462	-1.7498	0.1742
1	80.16	0.3498	0.0154	0.0090	-0.1056	0.0127	-0.2742	0.0761	-2.0230	0.1764
1	80.16	0.3913	0.0411	0.0145	-0.1466	0.0178	-0.3885	0.1063	-2.1244	0.1793
1	80.16	0.4496	0.0429	0.0200	-0.2472	0.0253	-0.7170	0.1506	-2.6109	0.1844
1	80.16	0.4997	0.0527	0.0235	-0.2888	0.0334	-1.0755	0.1913	-2.7352	0.1875
1	80.16	0.5387	0.0495	0.0254	-0.3349	0.0389	-1.4139	0.2233	-2.9082	0.1930
1	80.16	0.5996	0.0423	0.0263	-0.4360	0.0496	-2.1309	0.2728	-3.2847	0.1964
1	80.16	0.6498	0.0682	0.0260	-0.5283	0.0582	-2.8322	0.3119	-3.4112	0.1958
1	80.16	0.6998	0.0245	0.0248	-0.6308	0.0667	-3.5744	0.3467	-3.3554	0.1979
1	80.16	0.7500	0.0377	0.0249	-0.7088	0.0760	-4.4118	0.3849	-3.2120	0.1974
1	80.16	0.8001	0.0391	0.0282	-0.8448	0.0863	-5.3679	0.4223	-3.4554	0.2103
1	80.16	0.8497	0.0326	0.0366	-0.9279	0.0960	-6.4016	0.4658	-3.7767	0.1962
1	80.16	0.9102	-0.0142	0.0518	-1.0370	0.1100	-7.7224	0.5098	-3.8096	0.2238
1	80.16	0.9734	-0.0035	0.0712	-1.0512	0.1315	-9.1091	0.5649	-4.0964	0.1981

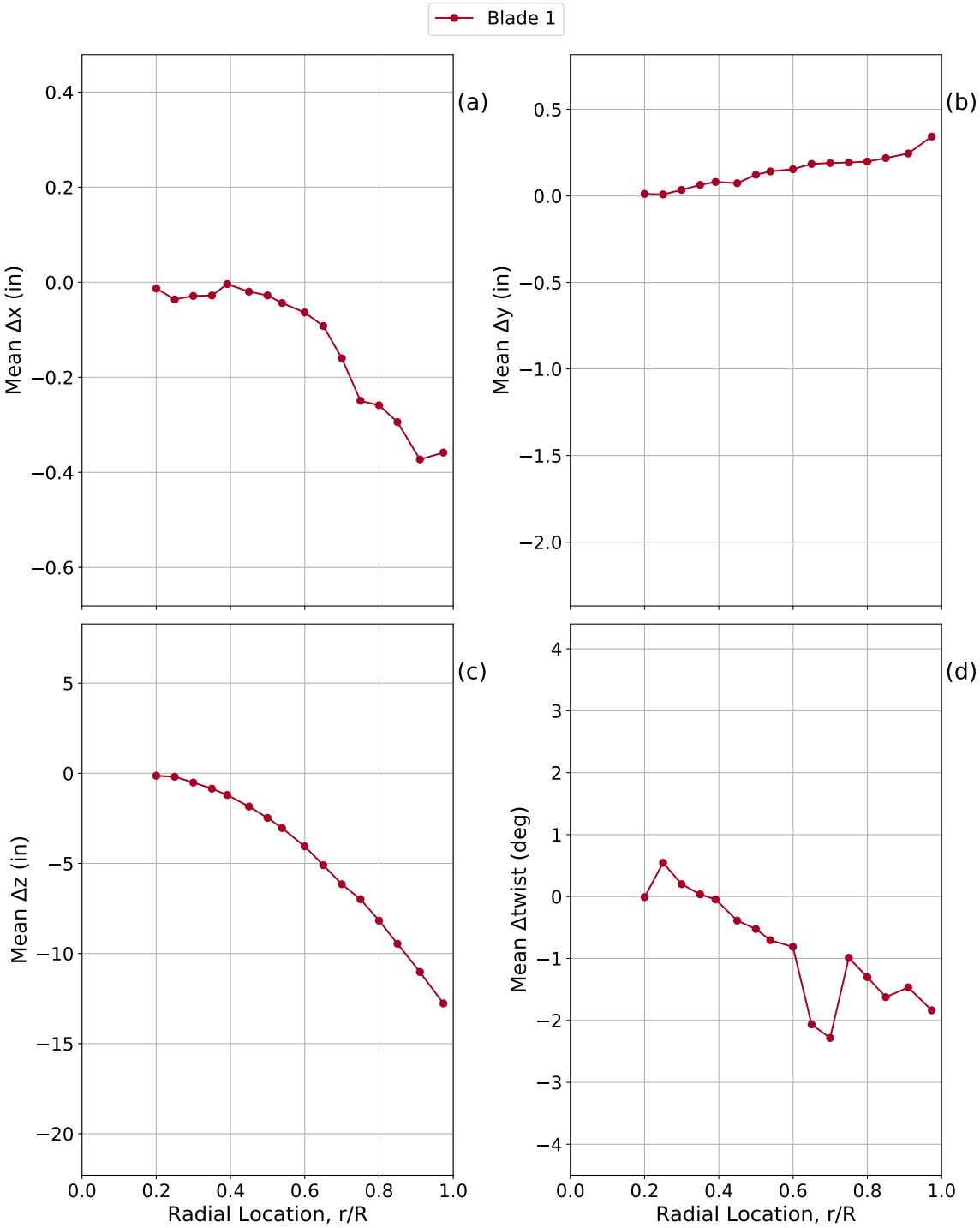


Figure 3.25-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0131	0.0044	0.0114	0.0081	-0.1370	0.0189	-0.0095	0.1025
1	85.08	0.2499	-0.0361	0.0028	0.0084	0.0105	-0.1929	0.0241	0.5453	0.3012
1	85.08	0.2998	-0.0288	0.0028	0.0348	0.0295	-0.5141	0.0634	0.2000	0.2911
1	85.08	0.3498	-0.0278	0.0025	0.0636	0.0504	-0.8518	0.1082	0.0356	0.2900
1	85.08	0.3913	-0.0039	0.0035	0.0809	0.0698	-1.2041	0.1473	-0.0468	0.2940
1	85.08	0.4496	-0.0198	0.0059	0.0733	0.0974	-1.8439	0.2048	-0.3891	0.2724
1	85.08	0.4997	-0.0277	0.0079	0.1224	0.1237	-2.4759	0.2536	-0.5252	0.2749
1	85.08	0.5387	-0.0437	0.0101	0.1415	0.1435	-3.0379	0.2912	-0.7055	0.2875
1	85.08	0.5996	-0.0637	0.0120	0.1542	0.1779	-4.0529	0.3488	-0.8136	0.2879
1	85.08	0.6498	-0.0921	0.0218	0.1847	0.2111	-5.0984	0.4072	-2.0664	0.3693
1	85.08	0.6998	-0.1602	0.0217	0.1898	0.2408	-6.1548	0.4464	-2.2849	0.4408
1	85.08	0.7500	-0.2495	0.0329	0.1929	0.2658	-6.9868	0.4617	-0.9902	0.2527
1	85.08	0.8001	-0.2589	0.0368	0.1981	0.3008	-8.1755	0.5086	-1.3027	0.2370
1	85.08	0.8497	-0.2942	0.0365	0.2183	0.3313	-9.4613	0.5561	-1.6258	0.2391
1	85.08	0.9102	-0.3728	0.0375	0.2450	0.3695	-11.0290	0.6191	-1.4674	0.2387
1	85.08	0.9734	-0.3584	0.0328	0.3425	0.4084	-12.7749	0.6883	-1.8381	0.2261

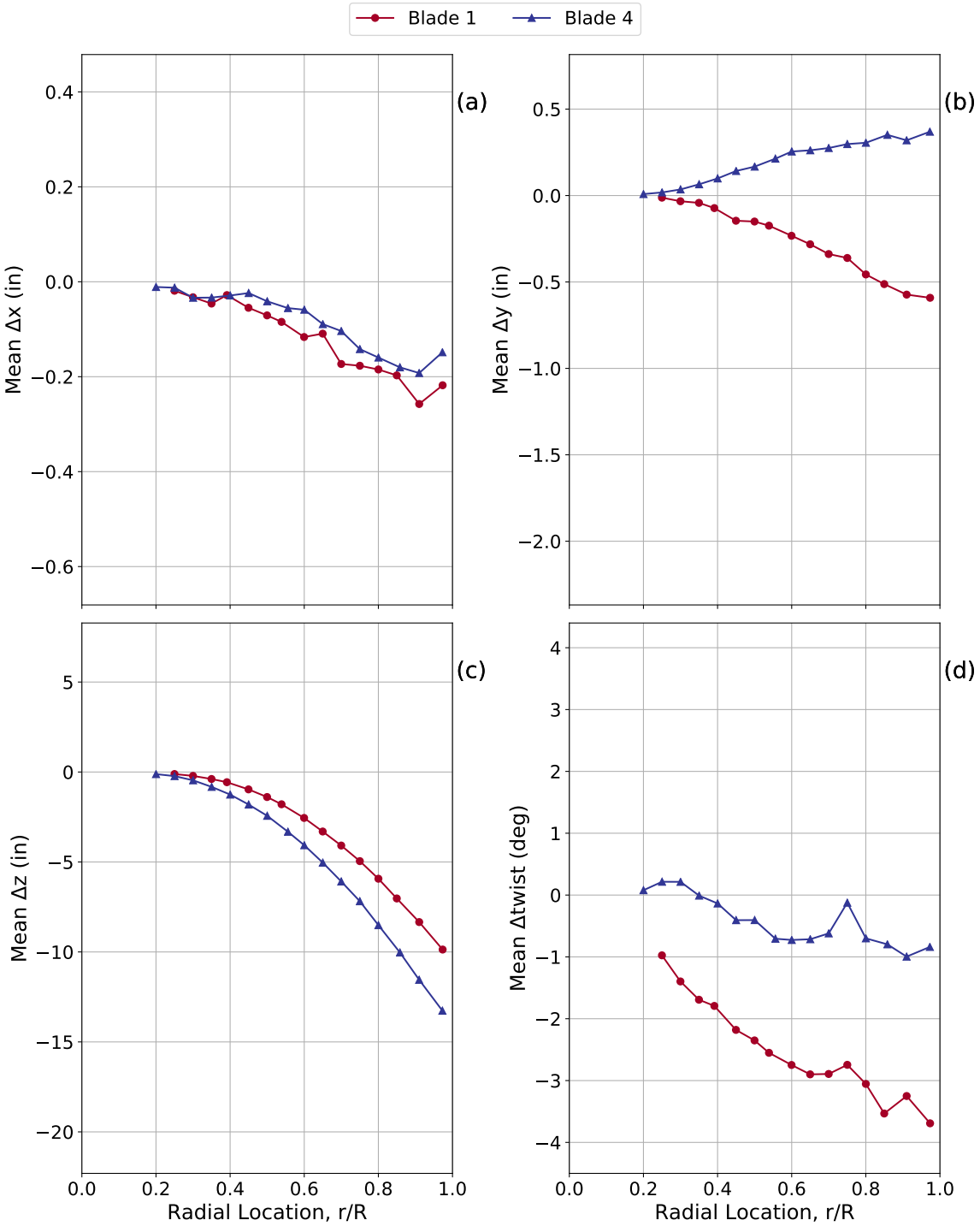


Figure 3.25-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2499	-0.0189	0.0046	-0.0123	0.0022	-0.1129	0.0111	-0.9748	0.1071
1	90	0.2998	-0.0326	0.0030	-0.0330	0.0043	-0.2165	0.0221	-1.3970	0.1531
1	90	0.3498	-0.0459	0.0045	-0.0423	0.0073	-0.3882	0.0352	-1.6927	0.1364
1	90	0.3913	-0.0281	0.0064	-0.0726	0.0108	-0.5667	0.0527	-1.7929	0.1361
1	90	0.4496	-0.0548	0.0083	-0.1458	0.0154	-0.9657	0.0773	-2.1805	0.1281
1	90	0.4997	-0.0708	0.0104	-0.1504	0.0201	-1.3904	0.1014	-2.3507	0.1478
1	90	0.5387	-0.0845	0.0112	-0.1743	0.0233	-1.7931	0.1211	-2.5509	0.1437
1	90	0.5996	-0.1164	0.0106	-0.2327	0.0301	-2.5529	0.1520	-2.7480	0.1336
1	90	0.6498	-0.1093	0.0107	-0.2819	0.0361	-3.3075	0.1764	-2.8996	0.1471
1	90	0.6998	-0.1732	0.0107	-0.3385	0.0429	-4.0869	0.2027	-2.8933	0.1474
1	90	0.7500	-0.1769	0.0112	-0.3612	0.0508	-4.9526	0.2260	-2.7454	0.1531
1	90	0.8001	-0.1848	0.0120	-0.4565	0.0576	-5.9305	0.2521	-3.0545	0.1531
1	90	0.8497	-0.1972	0.0140	-0.5123	0.0657	-7.0273	0.2814	-3.5327	0.1469
1	90	0.9102	-0.2575	0.0173	-0.5732	0.0751	-8.3401	0.3188	-3.2499	0.1575
1	90	0.9734	-0.2180	0.0248	-0.5916	0.0842	-9.8674	0.3713	-3.6915	0.1708
4	90.35	0.2001	-0.0110	0.0153	0.0084	0.0019	-0.1172	0.0083	0.0782	0.0383
4	90.35	0.2502	-0.0125	0.0061	0.0181	0.0038	-0.2279	0.0113	0.2150	0.0911
4	90.35	0.3001	-0.0337	0.0054	0.0353	0.0074	-0.4622	0.0282	0.2138	0.0939
4	90.35	0.3502	-0.0333	0.0125	0.0650	0.0134	-0.8275	0.0490	-0.0093	0.0968
4	90.35	0.4002	-0.0289	0.0186	0.0990	0.0202	-1.2549	0.0720	-0.1364	0.0916
4	90.35	0.4500	-0.0238	0.0250	0.1420	0.0277	-1.8088	0.0964	-0.4061	0.1005
4	90.35	0.5001	-0.0412	0.0296	0.1673	0.0363	-2.4349	0.1252	-0.4050	0.1009
4	90.35	0.5560	-0.0555	0.0339	0.2133	0.0471	-3.3220	0.1584	-0.7063	0.1193
4	90.35	0.6001	-0.0589	0.0356	0.2547	0.0570	-4.0704	0.1900	-0.7263	0.1056
4	90.35	0.6501	-0.0893	0.0354	0.2618	0.0685	-5.0400	0.2194	-0.7144	0.1230
4	90.35	0.6999	-0.1038	0.0323	0.2749	0.0814	-6.0856	0.2551	-0.6199	0.1342
4	90.35	0.7500	-0.1419	0.0290	0.2977	0.0904	-7.1828	0.2817	-0.1238	0.1361
4	90.35	0.8002	-0.1597	0.0241	0.3053	0.1107	-8.5135	0.3102	-0.7002	0.1380
4	90.35	0.8582	-0.1803	0.0284	0.3510	0.1290	-10.0312	0.3395	-0.7968	0.1632
4	90.35	0.9101	-0.1923	0.0429	0.3194	0.1479	-11.5494	0.3630	-0.9958	0.1597
4	90.35	0.9728	-0.1485	0.0695	0.3692	0.1719	-13.2659	0.3938	-0.8388	0.1813

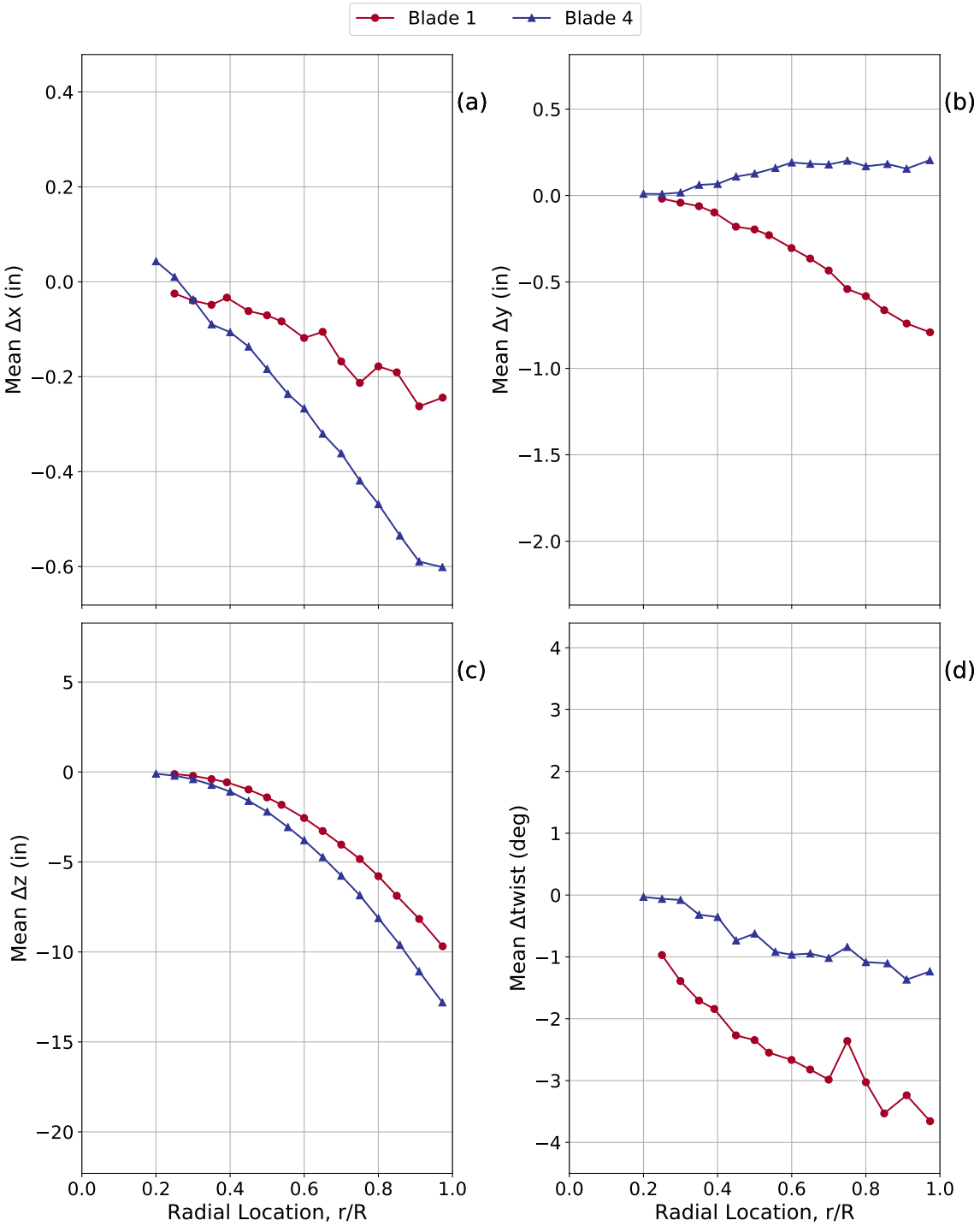


Figure 3.25-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2499	-0.0249	0.0066	-0.0181	0.0017	-0.1136	0.0134	-0.9702	0.1194
1	94.92	0.2998	-0.0396	0.0057	-0.0412	0.0032	-0.2167	0.0220	-1.3905	0.1706
1	94.92	0.3498	-0.0486	0.0072	-0.0616	0.0058	-0.3939	0.0438	-1.7062	0.1410
1	94.92	0.3913	-0.0334	0.0122	-0.0976	0.0083	-0.5729	0.0594	-1.8421	0.1457
1	94.92	0.4496	-0.0617	0.0186	-0.1802	0.0122	-0.9739	0.0759	-2.2692	0.1605
1	94.92	0.4997	-0.0707	0.0224	-0.1961	0.0162	-1.4106	0.0940	-2.3450	0.1499
1	94.92	0.5387	-0.0834	0.0242	-0.2295	0.0188	-1.8231	0.1073	-2.5484	0.1627
1	94.92	0.5996	-0.1184	0.0255	-0.3039	0.0239	-2.5567	0.1280	-2.6664	0.1620
1	94.92	0.6498	-0.1055	0.0246	-0.3645	0.0281	-3.2787	0.1493	-2.8211	0.1593
1	94.92	0.6998	-0.1679	0.0231	-0.4337	0.0327	-4.0375	0.1731	-2.9854	0.1637
1	94.92	0.7500	-0.2130	0.0199	-0.5409	0.0768	-4.8363	0.2000	-2.3599	0.2102
1	94.92	0.8001	-0.1782	0.0152	-0.5823	0.0412	-5.7896	0.2191	-3.0272	0.1545
1	94.92	0.8497	-0.1908	0.0136	-0.6633	0.0452	-6.8790	0.2375	-3.5310	0.1826
1	94.92	0.9102	-0.2624	0.0202	-0.7404	0.0507	-8.1676	0.2691	-3.2376	0.1802
1	94.92	0.9734	-0.2441	0.0357	-0.7911	0.0534	-9.6860	0.3062	-3.6572	0.1762
4	94.92	0.2001	0.0432	0.0019	0.0099	0.0009	-0.0979	0.0071	-0.0304	0.0316
4	94.92	0.2502	0.0102	0.0034	0.0087	0.0018	-0.2044	0.0135	-0.0615	0.0716
4	94.92	0.3001	-0.0376	0.0029	0.0174	0.0029	-0.3992	0.0277	-0.0791	0.0723
4	94.92	0.3502	-0.0898	0.0036	0.0617	0.0058	-0.7141	0.0460	-0.3183	0.0655
4	94.92	0.4002	-0.1063	0.0030	0.0670	0.0080	-1.0916	0.0716	-0.3555	0.0530
4	94.92	0.4500	-0.1368	0.0043	0.1096	0.0108	-1.6131	0.0940	-0.7361	0.0546
4	94.92	0.5001	-0.1839	0.0057	0.1270	0.0116	-2.2031	0.1171	-0.6236	0.0738
4	94.92	0.5560	-0.2364	0.0067	0.1595	0.0139	-3.0669	0.1417	-0.9181	0.0697
4	94.92	0.6001	-0.2670	0.0077	0.1910	0.0153	-3.7956	0.1644	-0.9648	0.0675
4	94.92	0.6501	-0.3202	0.0086	0.1834	0.0168	-4.7345	0.1911	-0.9454	0.0725
4	94.92	0.6999	-0.3614	0.0104	0.1797	0.0185	-5.7650	0.2130	-1.0169	0.0812
4	94.92	0.7500	-0.4189	0.0126	0.2014	0.0200	-6.8538	0.2446	-0.8402	0.0696
4	94.92	0.8002	-0.4685	0.0151	0.1693	0.0224	-8.1226	0.2737	-1.0843	0.0842
4	94.92	0.8582	-0.5347	0.0192	0.1824	0.0247	-9.6108	0.3183	-1.1040	0.0750
4	94.92	0.9101	-0.5894	0.0225	0.1551	0.0275	-11.0859	0.3603	-1.3674	0.0845
4	94.92	0.9728	-0.6012	0.0253	0.2049	0.0304	-12.8056	0.4139	-1.2362	0.1318

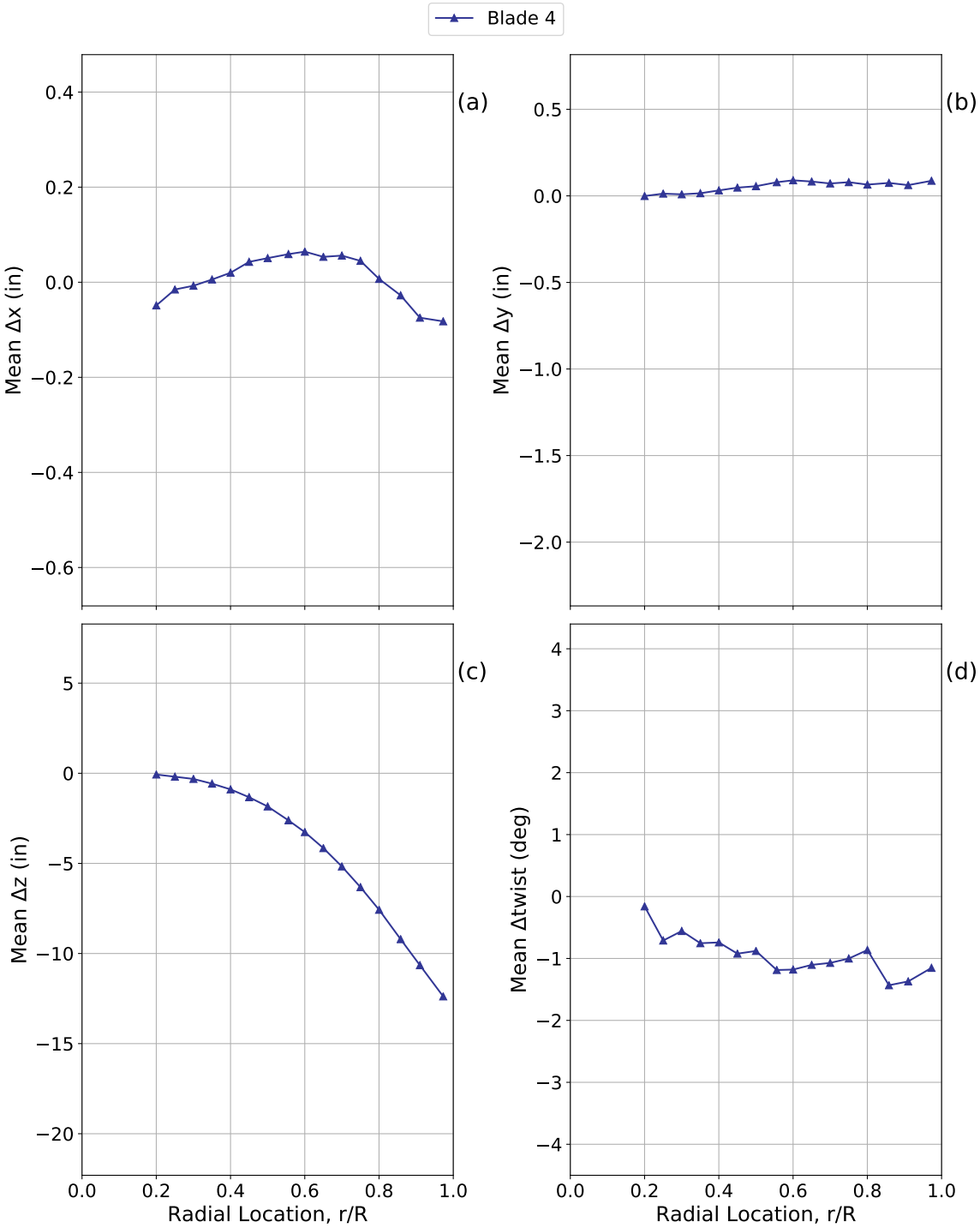


Figure 3.25-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0488	0.0021	-0.0010	0.0009	-0.0702	0.0029	-0.1591	0.0237
4	105.12	0.2502	-0.0153	0.0015	0.0127	0.0025	-0.1917	0.0060	-0.7108	0.0329
4	105.12	0.3001	-0.0074	0.0018	0.0088	0.0036	-0.3150	0.0120	-0.5572	0.0502
4	105.12	0.3502	0.0057	0.0022	0.0150	0.0068	-0.5771	0.0186	-0.7541	0.0415
4	105.12	0.4002	0.0200	0.0026	0.0315	0.0104	-0.8960	0.0300	-0.7411	0.0357
4	105.12	0.4500	0.0428	0.0033	0.0475	0.0138	-1.3299	0.0431	-0.9225	0.0522
4	105.12	0.5001	0.0507	0.0039	0.0556	0.0175	-1.8434	0.0582	-0.8791	0.0479
4	105.12	0.5560	0.0591	0.0040	0.0787	0.0227	-2.6125	0.0773	-1.1868	0.0541
4	105.12	0.6001	0.0643	0.0057	0.0899	0.0270	-3.2662	0.0937	-1.1796	0.0623
4	105.12	0.6501	0.0534	0.0060	0.0827	0.0326	-4.1540	0.1148	-1.1037	0.0573
4	105.12	0.6999	0.0560	0.0070	0.0715	0.0383	-5.1718	0.1357	-1.0719	0.0576
4	105.12	0.7500	0.0449	0.0075	0.0790	0.0451	-6.3213	0.1612	-1.0014	0.0506
4	105.12	0.8002	0.0069	0.0095	0.0650	0.0521	-7.5758	0.1857	-0.8641	0.0560
4	105.12	0.8582	-0.0276	0.0108	0.0747	0.0602	-9.2082	0.2161	-1.4329	0.0563
4	105.12	0.9101	-0.0746	0.0110	0.0620	0.0686	-10.6512	0.2524	-1.3707	0.0895
4	105.12	0.9728	-0.0823	0.0152	0.0870	0.0766	-12.3807	0.2904	-1.1523	0.0741

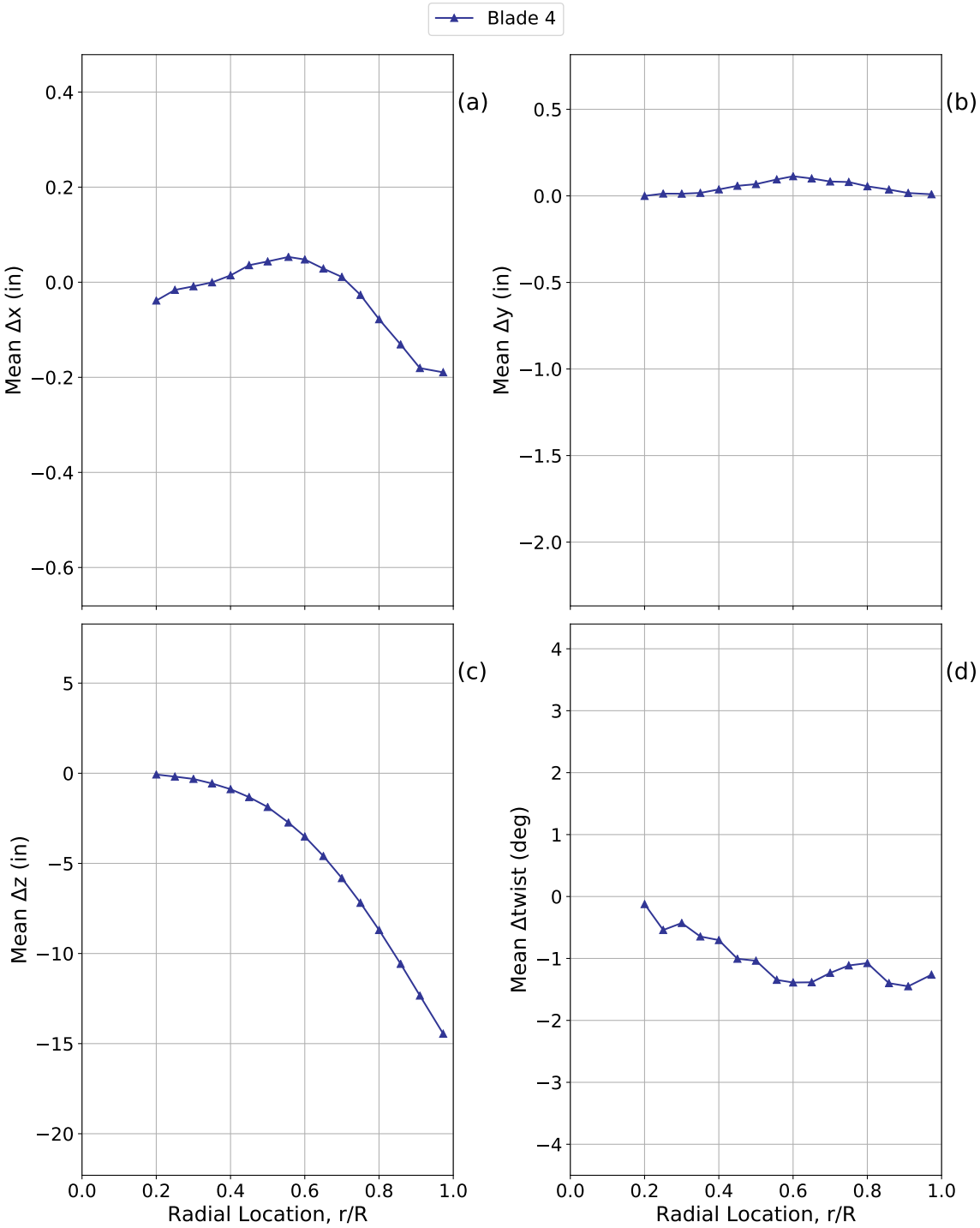


Figure 3.25-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0386	0.0024	-0.0005	0.0011	-0.0702	0.0054	-0.1228	0.0264
4	119.88	0.2502	-0.0162	0.0015	0.0129	0.0027	-0.1865	0.0119	-0.5409	0.0414
4	119.88	0.3001	-0.0086	0.0012	0.0123	0.0052	-0.3148	0.0232	-0.4281	0.0597
4	119.88	0.3502	-0.0003	0.0018	0.0170	0.0089	-0.5671	0.0369	-0.6457	0.0545
4	119.88	0.4002	0.0144	0.0032	0.0372	0.0141	-0.8845	0.0592	-0.7040	0.0639
4	119.88	0.4500	0.0358	0.0043	0.0579	0.0189	-1.3250	0.0849	-1.0054	0.0596
4	119.88	0.5001	0.0437	0.0045	0.0676	0.0253	-1.8736	0.1189	-1.0368	0.0579
4	119.88	0.5560	0.0532	0.0056	0.0947	0.0333	-2.7369	0.1599	-1.3462	0.0637
4	119.88	0.6001	0.0478	0.0068	0.1133	0.0406	-3.5123	0.1949	-1.3886	0.0686
4	119.88	0.6501	0.0286	0.0085	0.1004	0.0482	-4.5943	0.2329	-1.3850	0.0632
4	119.88	0.6999	0.0111	0.0099	0.0828	0.0566	-5.8194	0.2700	-1.2340	0.0725
4	119.88	0.7500	-0.0267	0.0119	0.0799	0.0655	-7.1916	0.3036	-1.1129	0.0705
4	119.88	0.8002	-0.0779	0.0145	0.0551	0.0750	-8.7008	0.3354	-1.0755	0.0639
4	119.88	0.8582	-0.1309	0.0169	0.0365	0.0855	-10.5780	0.3723	-1.3993	0.0690
4	119.88	0.9101	-0.1806	0.0204	0.0164	0.0960	-12.3372	0.4056	-1.4497	0.0692
4	119.88	0.9728	-0.1895	0.0225	0.0091	0.1077	-14.4523	0.4481	-1.2629	0.0725

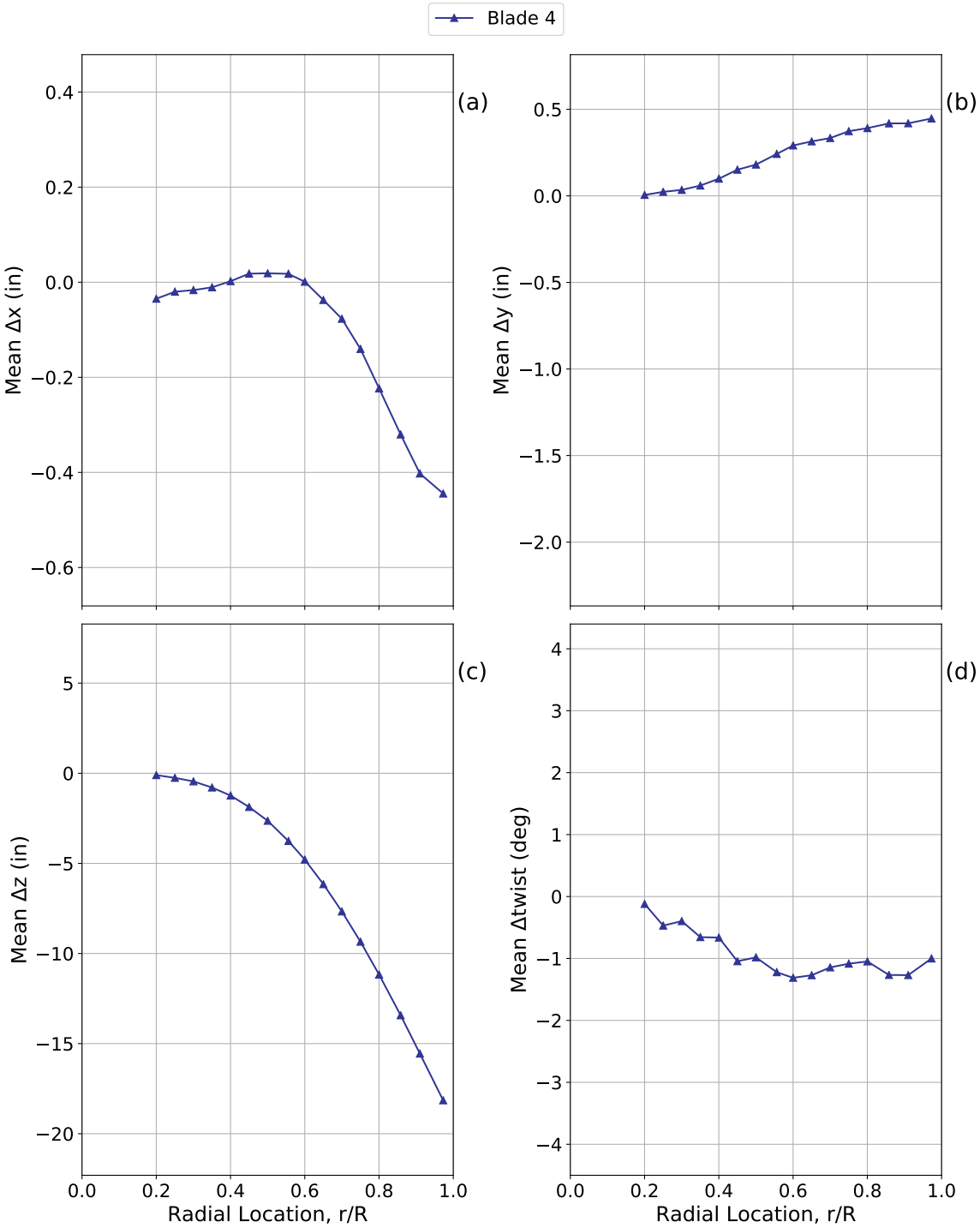


Figure 3.25-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0347	0.0017	0.0055	0.0005	-0.1035	0.0020	-0.1192	0.0170
4	135	0.2502	-0.0200	0.0014	0.0231	0.0012	-0.2544	0.0037	-0.4699	0.0233
4	135	0.3001	-0.0166	0.0010	0.0344	0.0018	-0.4512	0.0068	-0.3974	0.0341
4	135	0.3502	-0.0107	0.0014	0.0594	0.0034	-0.7918	0.0119	-0.6554	0.0357
4	135	0.4002	0.0022	0.0018	0.0992	0.0049	-1.2375	0.0180	-0.6636	0.0331
4	135	0.4500	0.0180	0.0022	0.1509	0.0068	-1.8716	0.0250	-1.0450	0.0405
4	135	0.5001	0.0188	0.0027	0.1805	0.0083	-2.6373	0.0350	-0.9828	0.0444
4	135	0.5560	0.0177	0.0038	0.2421	0.0111	-3.7609	0.0459	-1.2222	0.0343
4	135	0.6001	0.0010	0.0039	0.2910	0.0129	-4.7931	0.0563	-1.3125	0.0444
4	135	0.6501	-0.0374	0.0049	0.3146	0.0164	-6.1547	0.0723	-1.2709	0.0481
4	135	0.6999	-0.0769	0.0071	0.3338	0.0193	-7.6680	0.0935	-1.1445	0.0482
4	135	0.7500	-0.1404	0.0096	0.3734	0.0222	-9.3475	0.1210	-1.0846	0.0525
4	135	0.8002	-0.2233	0.0134	0.3911	0.0260	-11.1719	0.1534	-1.0486	0.0538
4	135	0.8582	-0.3203	0.0188	0.4184	0.0296	-13.4295	0.1966	-1.2666	0.0516
4	135	0.9101	-0.4024	0.0223	0.4190	0.0337	-15.5551	0.2376	-1.2692	0.0591
4	135	0.9728	-0.4445	0.0264	0.4468	0.0392	-18.1478	0.2866	-1.0005	0.0524

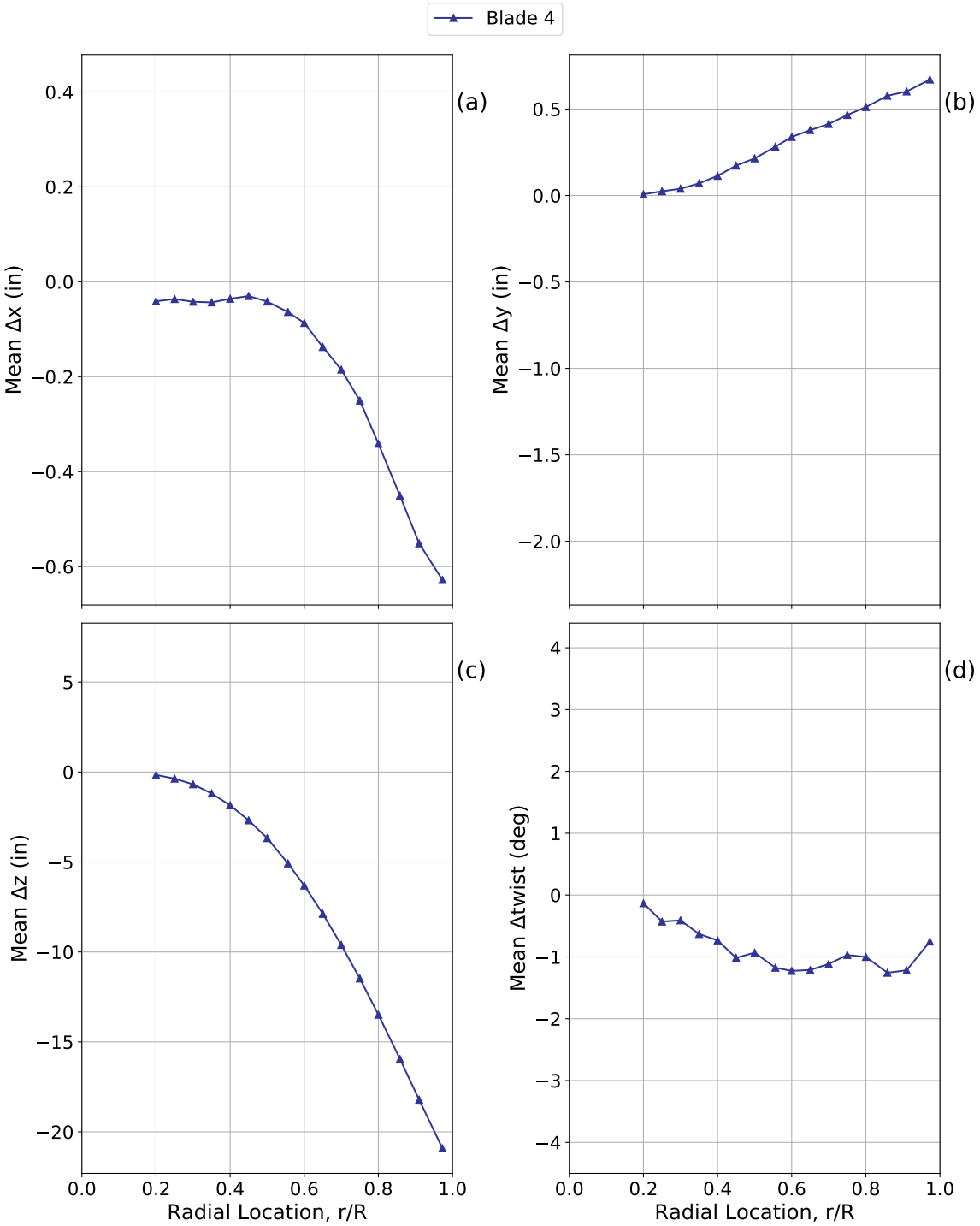


Figure 3.25-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0411	0.0031	0.0070	0.0007	-0.1615	0.0033	-0.1336	0.0107
4	150.12	0.2502	-0.0364	0.0018	0.0247	0.0015	-0.3657	0.0057	-0.4285	0.0343
4	150.12	0.3001	-0.0421	0.0017	0.0392	0.0031	-0.6823	0.0118	-0.4090	0.0293
4	150.12	0.3502	-0.0435	0.0019	0.0706	0.0045	-1.1936	0.0203	-0.6303	0.0422
4	150.12	0.4002	-0.0358	0.0030	0.1141	0.0077	-1.8534	0.0307	-0.7334	0.0418
4	150.12	0.4500	-0.0300	0.0037	0.1732	0.0110	-2.6883	0.0403	-1.0159	0.0470
4	150.12	0.5001	-0.0417	0.0052	0.2152	0.0145	-3.6768	0.0507	-0.9313	0.0545
4	150.12	0.5560	-0.0637	0.0067	0.2825	0.0201	-5.0775	0.0625	-1.1757	0.0483
4	150.12	0.6001	-0.0868	0.0068	0.3389	0.0237	-6.3123	0.0696	-1.2266	0.0438
4	150.12	0.6501	-0.1375	0.0082	0.3786	0.0281	-7.8847	0.0768	-1.2118	0.0558
4	150.12	0.6999	-0.1851	0.0095	0.4137	0.0337	-9.6102	0.0823	-1.1144	0.0522
4	150.12	0.7500	-0.2503	0.0120	0.4658	0.0396	-11.4768	0.0919	-0.9694	0.0612
4	150.12	0.8002	-0.3413	0.0148	0.5119	0.0457	-13.4907	0.1051	-1.0009	0.0389
4	150.12	0.8582	-0.4506	0.0190	0.5774	0.0531	-15.9455	0.1314	-1.2568	0.0593
4	150.12	0.9101	-0.5511	0.0260	0.6022	0.0598	-18.2154	0.1618	-1.2174	0.0566
4	150.12	0.9728	-0.6281	0.0319	0.6710	0.0684	-20.9158	0.2097	-0.7517	0.0486

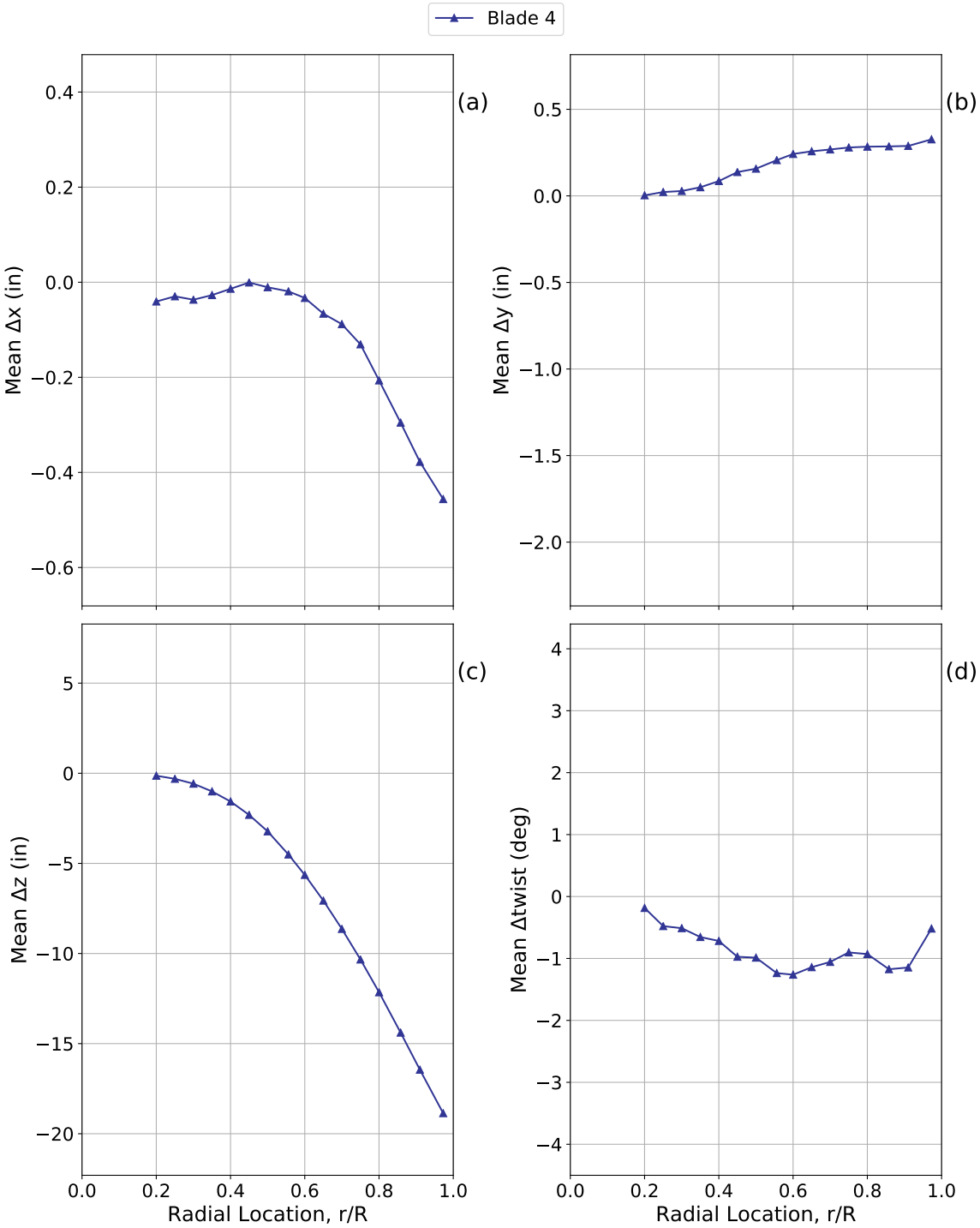


Figure 3.25-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0406	0.0032	0.0031	0.0010	-0.1367	0.0034	-0.1849	0.0179
4	164.88	0.2502	-0.0297	0.0021	0.0221	0.0015	-0.3090	0.0070	-0.4779	0.0450
4	164.88	0.3001	-0.0368	0.0021	0.0279	0.0035	-0.5790	0.0124	-0.5115	0.0441
4	164.88	0.3502	-0.0271	0.0032	0.0496	0.0053	-1.0076	0.0211	-0.6543	0.0420
4	164.88	0.4002	-0.0138	0.0045	0.0854	0.0082	-1.5678	0.0325	-0.7178	0.0518
4	164.88	0.4500	-0.0006	0.0060	0.1373	0.0104	-2.3101	0.0480	-0.9730	0.0514
4	164.88	0.5001	-0.0106	0.0070	0.1569	0.0126	-3.2256	0.0640	-0.9871	0.0630
4	164.88	0.5560	-0.0192	0.0089	0.2062	0.0146	-4.5083	0.0860	-1.2366	0.0565
4	164.88	0.6001	-0.0331	0.0102	0.2419	0.0178	-5.6415	0.1027	-1.2622	0.0544
4	164.88	0.6501	-0.0662	0.0120	0.2573	0.0189	-7.0677	0.1219	-1.1412	0.0594
4	164.88	0.6999	-0.0882	0.0140	0.2679	0.0209	-8.6381	0.1411	-1.0563	0.0821
4	164.88	0.7500	-0.1307	0.0153	0.2794	0.0231	-10.3340	0.1585	-0.9027	0.0841
4	164.88	0.8002	-0.2066	0.0176	0.2840	0.0255	-12.1534	0.1697	-0.9294	0.0657
4	164.88	0.8582	-0.2954	0.0193	0.2857	0.0296	-14.3925	0.1866	-1.1740	0.0736
4	164.88	0.9101	-0.3779	0.0213	0.2882	0.0318	-16.4502	0.2042	-1.1462	0.0864
4	164.88	0.9728	-0.4562	0.0253	0.3263	0.0358	-18.8614	0.2341	-0.5178	0.0798

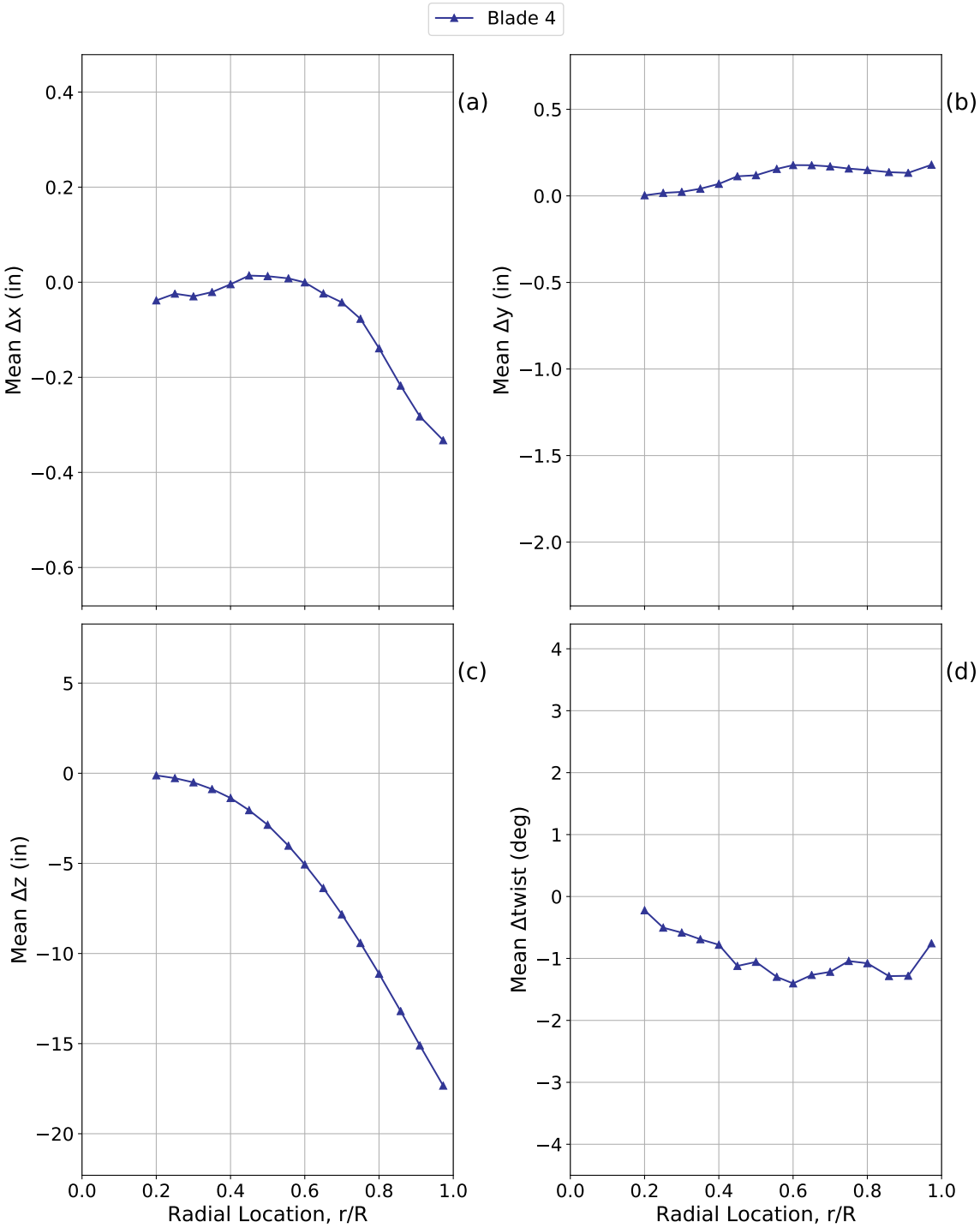


Figure 3.25-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0383	0.0027	0.0030	0.0010	-0.1187	0.0050	-0.2227	0.0305
4	170.16	0.2502	-0.0241	0.0035	0.0169	0.0020	-0.2712	0.0058	-0.5033	0.0587
4	170.16	0.3001	-0.0298	0.0033	0.0228	0.0035	-0.5078	0.0134	-0.5835	0.0633
4	170.16	0.3502	-0.0207	0.0016	0.0412	0.0062	-0.8805	0.0238	-0.6905	0.0601
4	170.16	0.4002	-0.0043	0.0009	0.0692	0.0089	-1.3745	0.0330	-0.7795	0.0452
4	170.16	0.4500	0.0140	0.0014	0.1130	0.0110	-2.0522	0.0423	-1.1216	0.0432
4	170.16	0.5001	0.0127	0.0033	0.1189	0.0143	-2.8639	0.0514	-1.0558	0.0462
4	170.16	0.5560	0.0081	0.0034	0.1554	0.0174	-4.0219	0.0677	-1.2979	0.0508
4	170.16	0.6001	-0.0004	0.0042	0.1776	0.0207	-5.0662	0.0811	-1.4035	0.0432
4	170.16	0.6501	-0.0238	0.0062	0.1769	0.0249	-6.3730	0.1001	-1.2669	0.0628
4	170.16	0.6999	-0.0424	0.0071	0.1699	0.0279	-7.8336	0.1217	-1.2165	0.0615
4	170.16	0.7500	-0.0770	0.0101	0.1577	0.0327	-9.4221	0.1458	-1.0419	0.0672
4	170.16	0.8002	-0.1391	0.0134	0.1489	0.0372	-11.1279	0.1701	-1.0780	0.0560
4	170.16	0.8582	-0.2176	0.0166	0.1369	0.0421	-13.1991	0.2050	-1.2852	0.0668
4	170.16	0.9101	-0.2824	0.0197	0.1329	0.0484	-15.1035	0.2382	-1.2801	0.0696
4	170.16	0.9728	-0.3324	0.0246	0.1793	0.0546	-17.3345	0.2756	-0.7561	0.0662

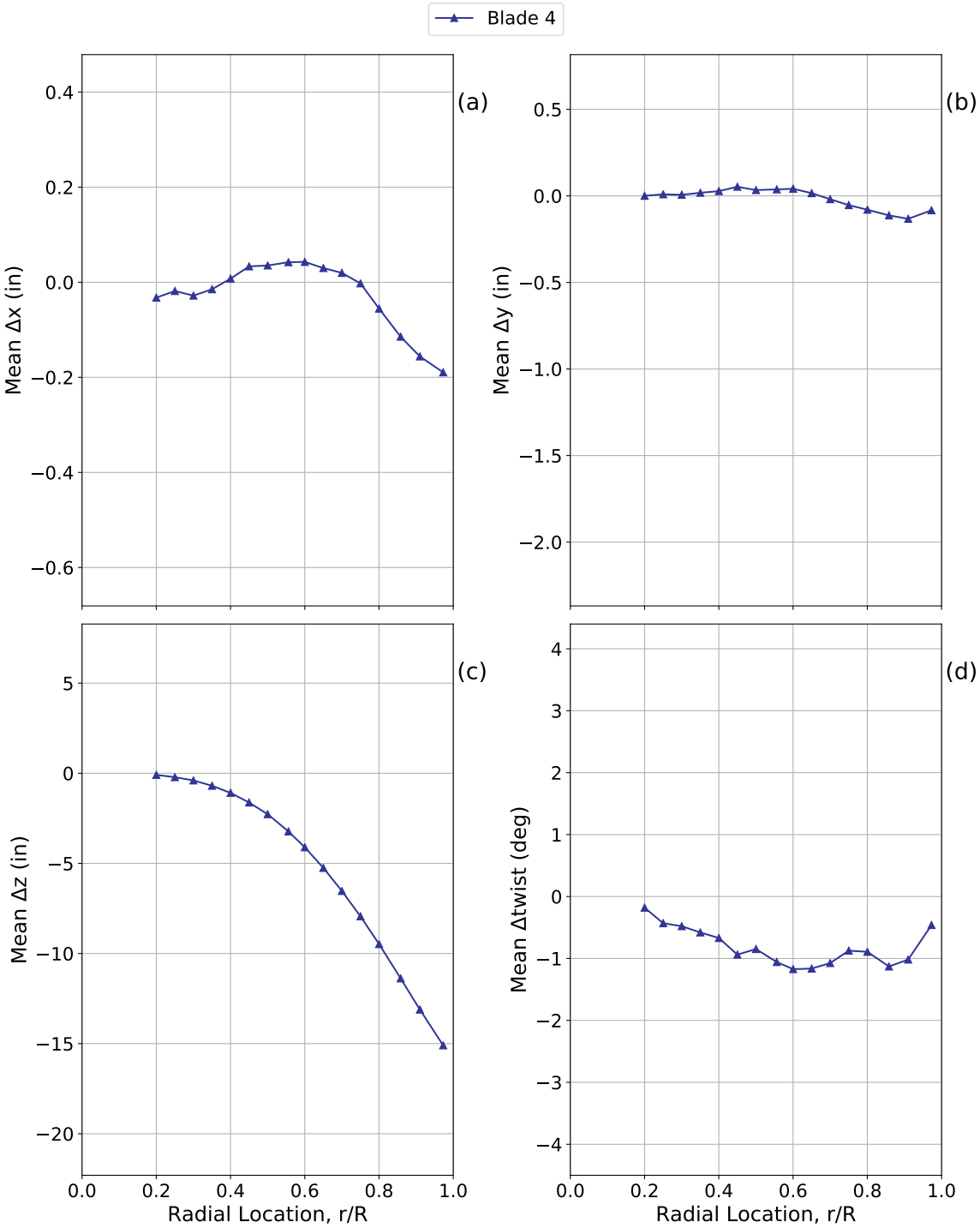


Figure 3.25-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0324	0.0034	0.0003	0.0017	-0.0902	0.0085	-0.1802	0.0570
4	175.08	0.2502	-0.0185	0.0061	0.0089	0.0037	-0.2182	0.0079	-0.4317	0.0677
4	175.08	0.3001	-0.0282	0.0031	0.0063	0.0062	-0.3974	0.0214	-0.4792	0.1013
4	175.08	0.3502	-0.0148	0.0037	0.0176	0.0104	-0.6949	0.0324	-0.5802	0.1287
4	175.08	0.4002	0.0076	0.0032	0.0274	0.0161	-1.0884	0.0451	-0.6703	0.1132
4	175.08	0.4500	0.0333	0.0040	0.0525	0.0206	-1.6245	0.0583	-0.9385	0.1273
4	175.08	0.5001	0.0352	0.0045	0.0333	0.0250	-2.2711	0.0775	-0.8483	0.1326
4	175.08	0.5560	0.0421	0.0045	0.0373	0.0313	-3.2297	0.0974	-1.0577	0.1442
4	175.08	0.6001	0.0427	0.0044	0.0411	0.0360	-4.1079	0.1138	-1.1727	0.1261
4	175.08	0.6501	0.0298	0.0046	0.0154	0.0425	-5.2507	0.1328	-1.1635	0.1425
4	175.08	0.6999	0.0196	0.0051	-0.0195	0.0471	-6.5314	0.1523	-1.0748	0.1576
4	175.08	0.7500	-0.0024	0.0063	-0.0536	0.0528	-7.9404	0.1704	-0.8742	0.1514
4	175.08	0.8002	-0.0556	0.0097	-0.0800	0.0592	-9.4783	0.1910	-0.8930	0.1568
4	175.08	0.8582	-0.1146	0.0133	-0.1129	0.0661	-11.3830	0.2239	-1.1299	0.1728
4	175.08	0.9101	-0.1561	0.0172	-0.1325	0.0733	-13.1127	0.2603	-1.0180	0.1702
4	175.08	0.9728	-0.1896	0.0228	-0.0834	0.0809	-15.0974	0.3084	-0.4610	0.1961

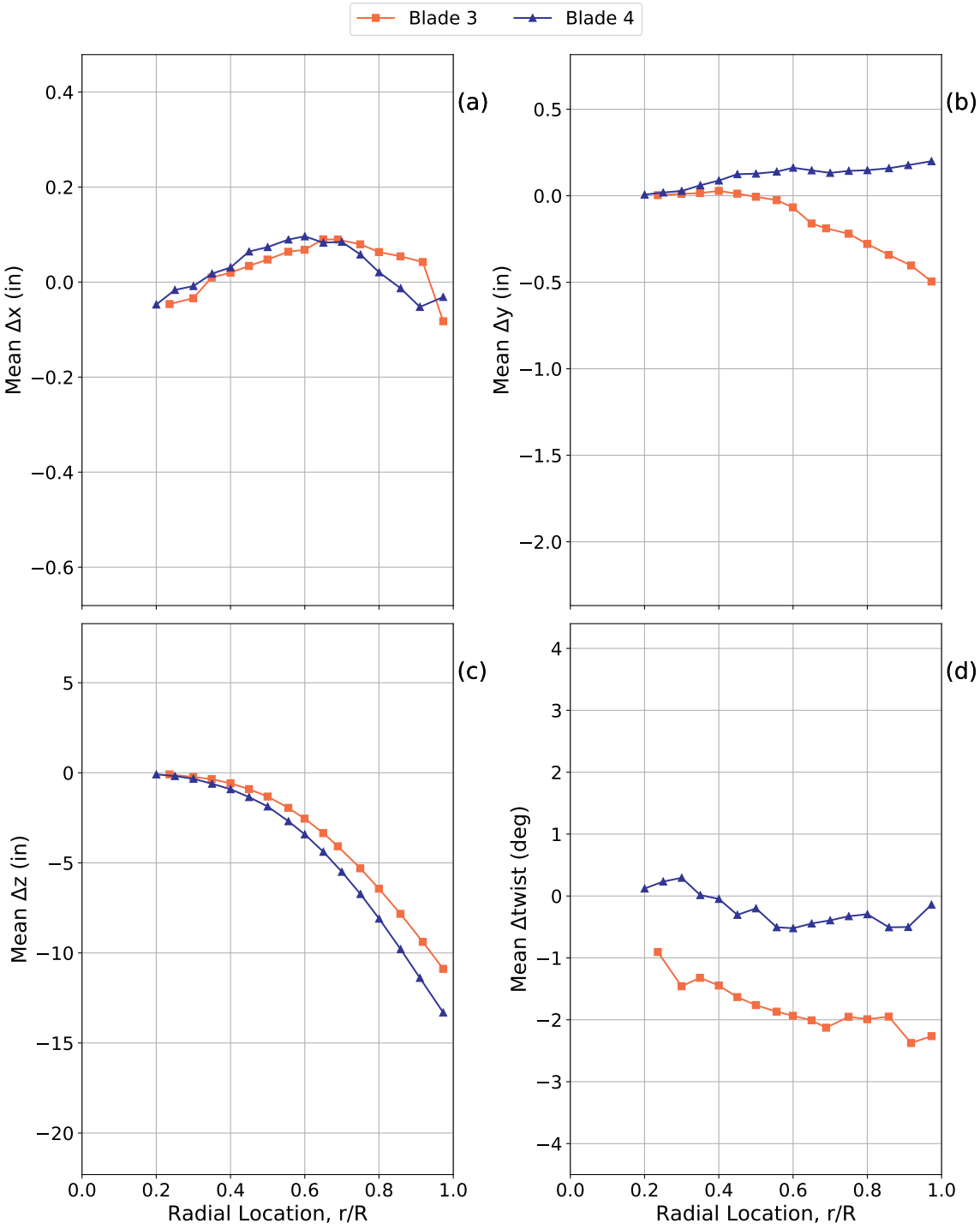


Figure 3.25-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0463	0.0047	0.0033	0.0058	-0.0877	0.0138	-0.9044	0.1407
3	180.35	0.2995	-0.0341	0.0062	0.0111	0.0125	-0.2327	0.0249	-1.4580	0.2266
3	180.35	0.3493	0.0096	0.0042	0.0154	0.0246	-0.3484	0.0433	-1.3217	0.1678
3	180.35	0.4000	0.0198	0.0044	0.0278	0.0370	-0.5847	0.0620	-1.4464	0.1523
3	180.35	0.4497	0.0340	0.0045	0.0120	0.0479	-0.9039	0.0757	-1.6326	0.1739
3	180.35	0.4997	0.0474	0.0038	-0.0059	0.0604	-1.3184	0.0932	-1.7626	0.1589
3	180.35	0.5556	0.0638	0.0039	-0.0256	0.0749	-1.9452	0.1117	-1.8684	0.1632
3	180.35	0.5995	0.0680	0.0047	-0.0671	0.0850	-2.5446	0.1258	-1.9345	0.1621
3	180.35	0.6498	0.0899	0.0046	-0.1602	0.0989	-3.3443	0.1431	-2.0089	0.1501
3	180.35	0.6890	0.0895	0.0050	-0.1884	0.1091	-4.0787	0.1546	-2.1274	0.1485
3	180.35	0.7495	0.0795	0.0054	-0.2194	0.1252	-5.3007	0.1751	-1.9508	0.1482
3	180.35	0.7998	0.0632	0.0073	-0.2785	0.1385	-6.4323	0.1951	-1.9908	0.1363
3	180.35	0.8577	0.0542	0.0104	-0.3417	0.1545	-7.8302	0.2178	-1.9487	0.1483
3	180.35	0.9178	0.0422	0.0155	-0.4028	0.1719	-9.3849	0.2484	-2.3746	0.1463
3	180.35	0.9729	-0.0824	0.0142	-0.4957	0.1845	-10.8835	0.2756	-2.2638	0.1627
4	180	0.2001	-0.0473	0.0056	0.0066	0.0036	-0.0867	0.0066	0.1204	0.0328
4	180	0.2502	-0.0166	0.0024	0.0187	0.0027	-0.1804	0.0085	0.2332	0.0710
4	180	0.3001	-0.0084	0.0017	0.0275	0.0108	-0.3318	0.0207	0.2937	0.0751
4	180	0.3502	0.0177	0.0012	0.0604	0.0178	-0.6063	0.0325	0.0144	0.0730
4	180	0.4002	0.0308	0.0017	0.0879	0.0252	-0.9109	0.0483	-0.0476	0.0704
4	180	0.4500	0.0643	0.0021	0.1245	0.0332	-1.3493	0.0625	-0.3050	0.0778
4	180	0.5001	0.0736	0.0028	0.1276	0.0412	-1.8716	0.0787	-0.2001	0.0756
4	180	0.5560	0.0895	0.0043	0.1390	0.0507	-2.6900	0.0980	-0.5051	0.0708
4	180	0.6001	0.0962	0.0050	0.1619	0.0591	-3.4188	0.1138	-0.5210	0.0666
4	180	0.6501	0.0829	0.0058	0.1467	0.0679	-4.3862	0.1312	-0.4446	0.0770
4	180	0.6999	0.0846	0.0074	0.1320	0.0774	-5.4981	0.1502	-0.3930	0.0791
4	180	0.7500	0.0579	0.0095	0.1437	0.0862	-6.7317	0.1709	-0.3266	0.0789
4	180	0.8002	0.0205	0.0107	0.1476	0.0953	-8.0974	0.1944	-0.2951	0.0892
4	180	0.8582	-0.0131	0.0133	0.1590	0.1053	-9.7943	0.2258	-0.5056	0.0920
4	180	0.9101	-0.0524	0.0187	0.1768	0.1158	-11.3877	0.2561	-0.5015	0.0898
4	180	0.9728	-0.0314	0.0209	0.1996	0.1282	-13.3056	0.3094	-0.1398	0.1164

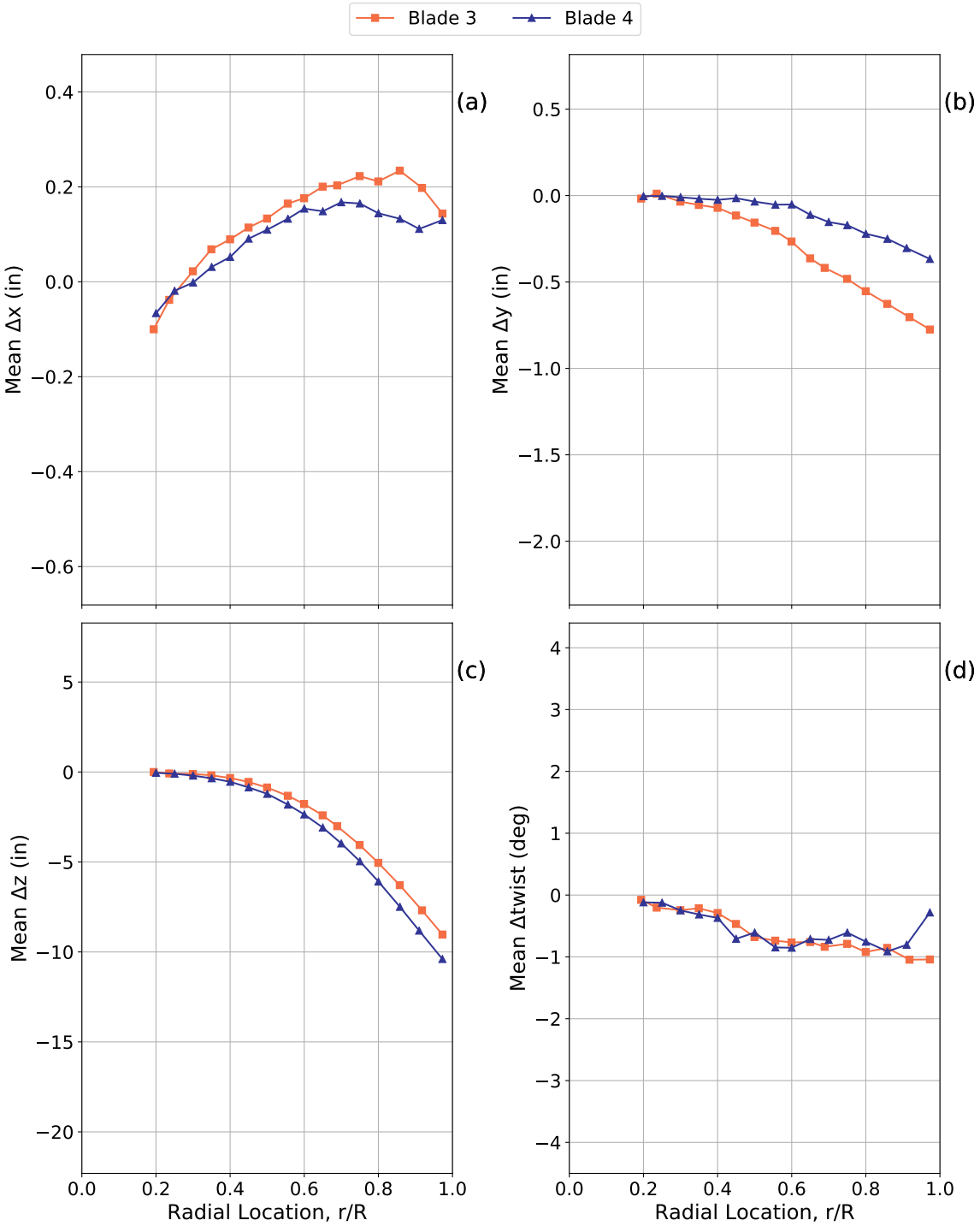


Figure 3.25-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.1001	0.0052	-0.0176	0.0048	0.0008	0.0075	-0.0777	0.0350
3	184.92	0.2357	-0.0381	0.0034	0.0107	0.0021	-0.0815	0.0067	-0.2030	0.0379
3	184.92	0.2995	0.0221	0.0014	-0.0353	0.0127	-0.1079	0.0180	-0.2443	0.0617
3	184.92	0.3493	0.0684	0.0025	-0.0544	0.0209	-0.1831	0.0304	-0.2136	0.0506
3	184.92	0.4000	0.0894	0.0028	-0.0710	0.0296	-0.3333	0.0418	-0.2907	0.0520
3	184.92	0.4497	0.1143	0.0035	-0.1153	0.0382	-0.5511	0.0562	-0.4674	0.0537
3	184.92	0.4997	0.1332	0.0040	-0.1565	0.0476	-0.8616	0.0706	-0.6791	0.0532
3	184.92	0.5556	0.1647	0.0029	-0.2045	0.0589	-1.3213	0.0883	-0.7374	0.0564
3	184.92	0.5995	0.1760	0.0040	-0.2659	0.0671	-1.7765	0.1001	-0.7659	0.0630
3	184.92	0.6498	0.2004	0.0045	-0.3635	0.0784	-2.4091	0.1164	-0.7595	0.0666
3	184.92	0.6890	0.2031	0.0045	-0.4186	0.0856	-3.0105	0.1247	-0.8370	0.0727
3	184.92	0.7495	0.2225	0.0054	-0.4821	0.0993	-4.0548	0.1431	-0.7888	0.0703
3	184.92	0.7998	0.2114	0.0067	-0.5535	0.1105	-5.0483	0.1566	-0.9204	0.0773
3	184.92	0.8577	0.2341	0.0085	-0.6267	0.1238	-6.2866	0.1781	-0.8546	0.0814
3	184.92	0.9178	0.1978	0.0102	-0.7038	0.1359	-7.6873	0.2035	-1.0448	0.0736
3	184.92	0.9729	0.1438	0.0152	-0.7751	0.1497	-9.0322	0.2301	-1.0416	0.0909
4	184.92	0.2001	-0.0661	0.0013	-0.0036	0.0009	-0.0474	0.0031	-0.1179	0.0173
4	184.92	0.2502	-0.0190	0.0008	-0.0023	0.0032	-0.0985	0.0080	-0.1239	0.0282
4	184.92	0.3001	-0.0016	0.0010	-0.0099	0.0047	-0.2019	0.0141	-0.2481	0.0377
4	184.92	0.3502	0.0312	0.0014	-0.0186	0.0073	-0.3491	0.0202	-0.3145	0.0415
4	184.92	0.4002	0.0522	0.0010	-0.0251	0.0127	-0.5433	0.0342	-0.3696	0.0435
4	184.92	0.4500	0.0908	0.0014	-0.0152	0.0145	-0.8572	0.0441	-0.7082	0.0424
4	184.92	0.5001	0.1097	0.0024	-0.0351	0.0178	-1.2156	0.0592	-0.6068	0.0326
4	184.92	0.5560	0.1328	0.0032	-0.0529	0.0199	-1.8132	0.0776	-0.8474	0.0471
4	184.92	0.6001	0.1541	0.0029	-0.0519	0.0221	-2.3604	0.0929	-0.8522	0.0339
4	184.92	0.6501	0.1485	0.0035	-0.1114	0.0252	-3.0890	0.1146	-0.7111	0.0553
4	184.92	0.6999	0.1675	0.0048	-0.1534	0.0291	-3.9691	0.1427	-0.7256	0.0599
4	184.92	0.7500	0.1649	0.0071	-0.1716	0.0316	-4.9627	0.1704	-0.6075	0.0639
4	184.92	0.8002	0.1443	0.0093	-0.2212	0.0346	-6.0891	0.2005	-0.7547	0.0508
4	184.92	0.8582	0.1327	0.0112	-0.2506	0.0406	-7.4956	0.2373	-0.9113	0.0737
4	184.92	0.9101	0.1114	0.0114	-0.3042	0.0412	-8.8172	0.2721	-0.8053	0.0875
4	184.92	0.9728	0.1299	0.0165	-0.3668	0.0470	-10.3938	0.3169	-0.2821	0.1008

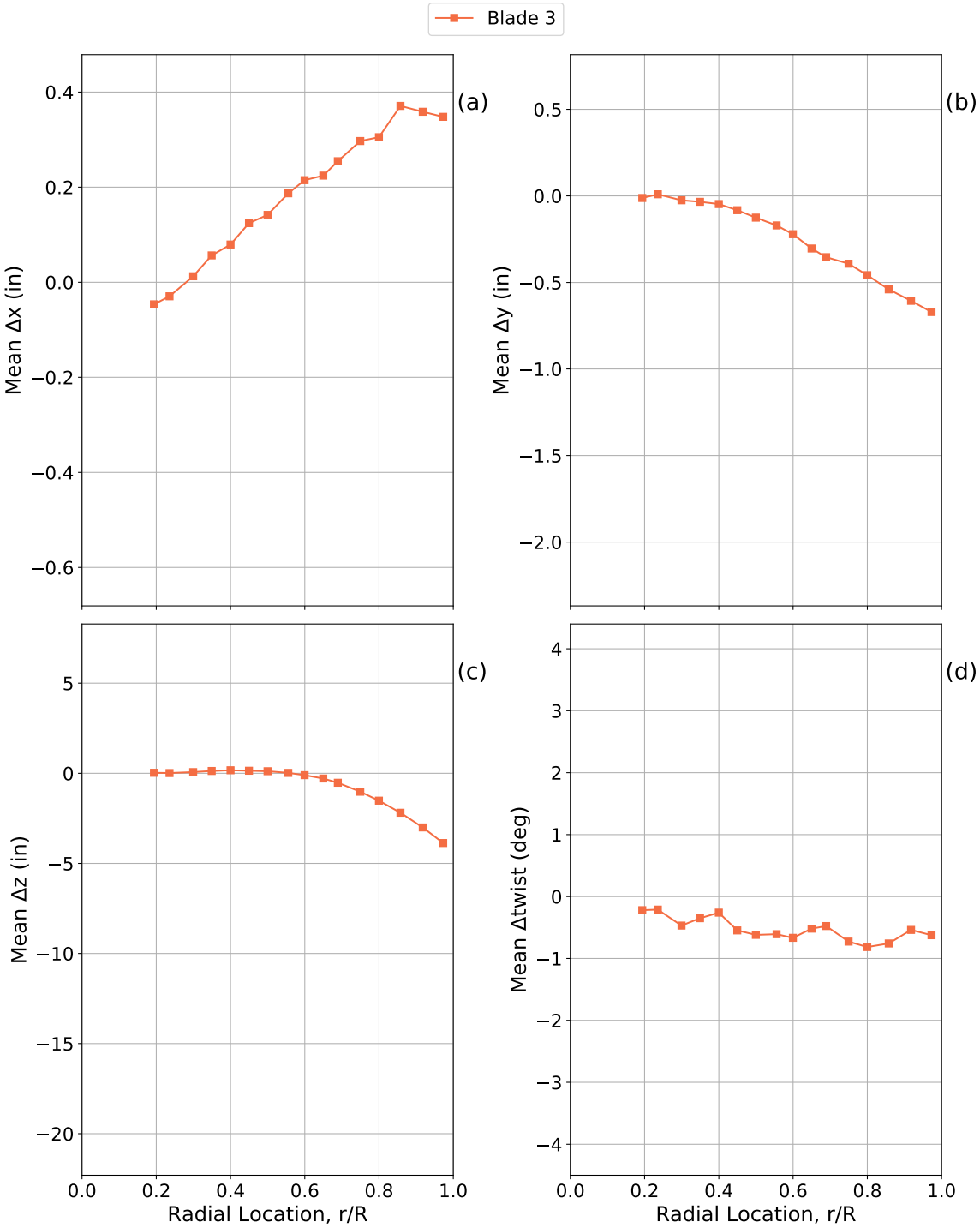


Figure 3.25-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0464	0.0020	-0.0121	0.0012	0.0287	0.0027	-0.2198	0.0082
3	195.12	0.2357	-0.0295	0.0009	0.0093	0.0020	0.0148	0.0054	-0.2107	0.0228
3	195.12	0.2995	0.0126	0.0013	-0.0253	0.0051	0.0668	0.0110	-0.4690	0.0222
3	195.12	0.3493	0.0565	0.0018	-0.0342	0.0087	0.1294	0.0176	-0.3501	0.0267
3	195.12	0.4000	0.0794	0.0025	-0.0471	0.0137	0.1677	0.0281	-0.2598	0.0371
3	195.12	0.4497	0.1244	0.0021	-0.0826	0.0189	0.1421	0.0430	-0.5474	0.0251
3	195.12	0.4997	0.1417	0.0032	-0.1256	0.0247	0.1156	0.0571	-0.6195	0.0289
3	195.12	0.5556	0.1871	0.0039	-0.1704	0.0318	0.0226	0.0724	-0.6081	0.0331
3	195.12	0.5995	0.2147	0.0038	-0.2211	0.0375	-0.1030	0.0872	-0.6672	0.0274
3	195.12	0.6498	0.2243	0.0049	-0.3039	0.0447	-0.2885	0.1008	-0.5190	0.0515
3	195.12	0.6890	0.2546	0.0055	-0.3539	0.0513	-0.5237	0.1187	-0.4768	0.0379
3	195.12	0.7495	0.2970	0.0067	-0.3916	0.0628	-1.0236	0.1444	-0.7282	0.0419
3	195.12	0.7998	0.3051	0.0085	-0.4578	0.0727	-1.5179	0.1745	-0.8159	0.0375
3	195.12	0.8577	0.3709	0.0099	-0.5399	0.0856	-2.1890	0.2151	-0.7579	0.0492
3	195.12	0.9178	0.3586	0.0121	-0.6061	0.1000	-3.0042	0.2623	-0.5393	0.0648
3	195.12	0.9729	0.3479	0.0158	-0.6710	0.1086	-3.8681	0.3161	-0.6250	0.0481

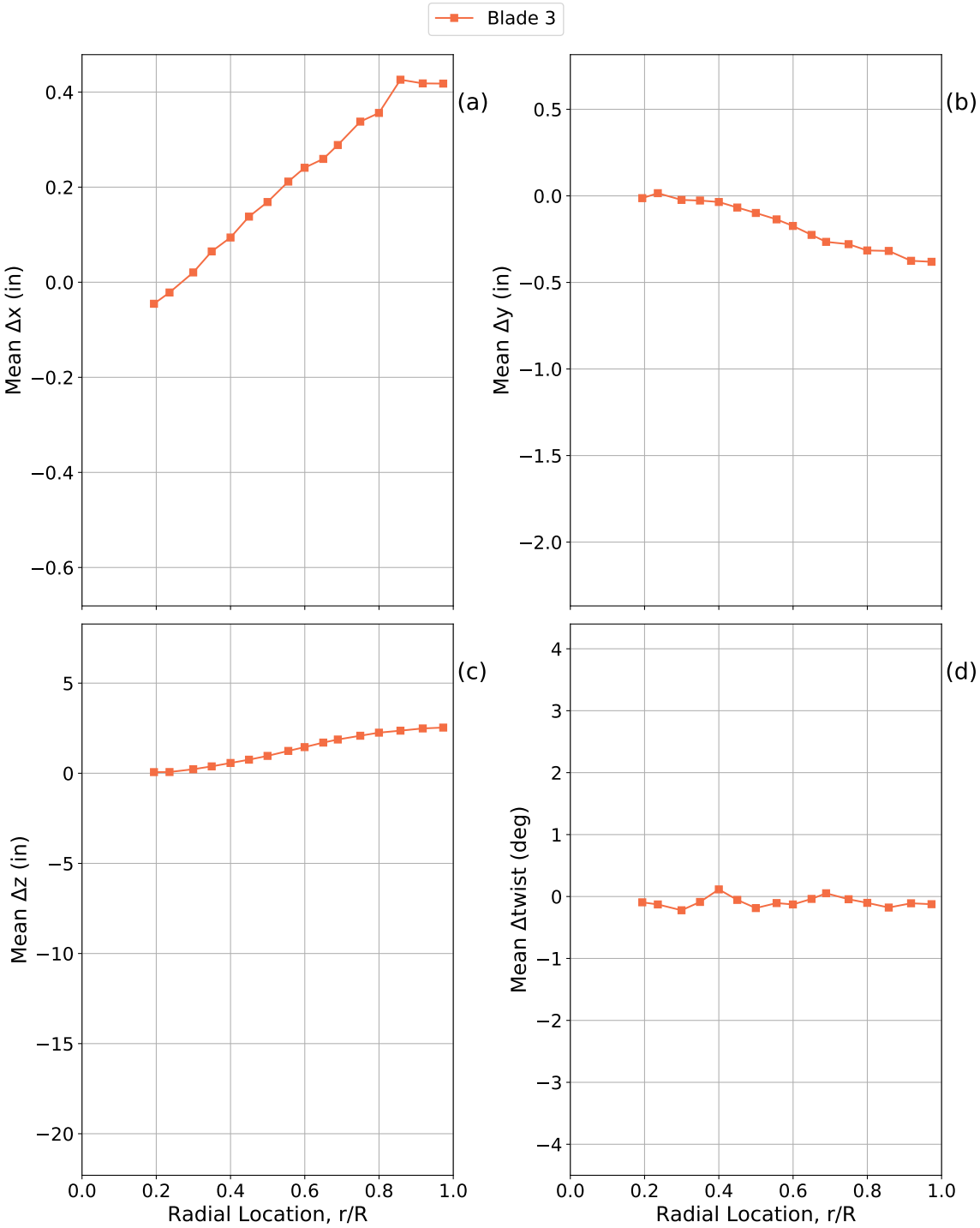


Figure 3.25-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0453	0.0013	-0.0132	0.0008	0.0644	0.0033	-0.0936	0.0227
3	209.88	0.2357	-0.0216	0.0014	0.0155	0.0016	0.0680	0.0065	-0.1279	0.0327
3	209.88	0.2995	0.0206	0.0007	-0.0234	0.0034	0.2234	0.0128	-0.2220	0.0496
3	209.88	0.3493	0.0648	0.0014	-0.0270	0.0055	0.3823	0.0204	-0.0876	0.0545
3	209.88	0.4000	0.0941	0.0023	-0.0354	0.0089	0.5705	0.0322	0.1148	0.0544
3	209.88	0.4497	0.1380	0.0033	-0.0674	0.0109	0.7537	0.0442	-0.0548	0.0518
3	209.88	0.4997	0.1687	0.0025	-0.0988	0.0151	0.9639	0.0586	-0.1865	0.0551
3	209.88	0.5556	0.2117	0.0052	-0.1358	0.0202	1.2399	0.0727	-0.1057	0.0583
3	209.88	0.5995	0.2408	0.0031	-0.1737	0.0228	1.4504	0.0867	-0.1279	0.0495
3	209.88	0.6498	0.2594	0.0041	-0.2254	0.0271	1.7024	0.1058	-0.0386	0.0448
3	209.88	0.6890	0.2886	0.0041	-0.2657	0.0310	1.8727	0.1166	0.0524	0.0586
3	209.88	0.7495	0.3378	0.0048	-0.2791	0.0370	2.0830	0.1377	-0.0441	0.0537
3	209.88	0.7998	0.3561	0.0055	-0.3154	0.0427	2.2532	0.1562	-0.1023	0.0531
3	209.88	0.8577	0.4260	0.0061	-0.3181	0.0500	2.3639	0.1775	-0.1780	0.0585
3	209.88	0.9178	0.4182	0.0055	-0.3751	0.0566	2.4876	0.2000	-0.1092	0.0539
3	209.88	0.9729	0.4178	0.0080	-0.3808	0.0624	2.5351	0.2219	-0.1238	0.0477

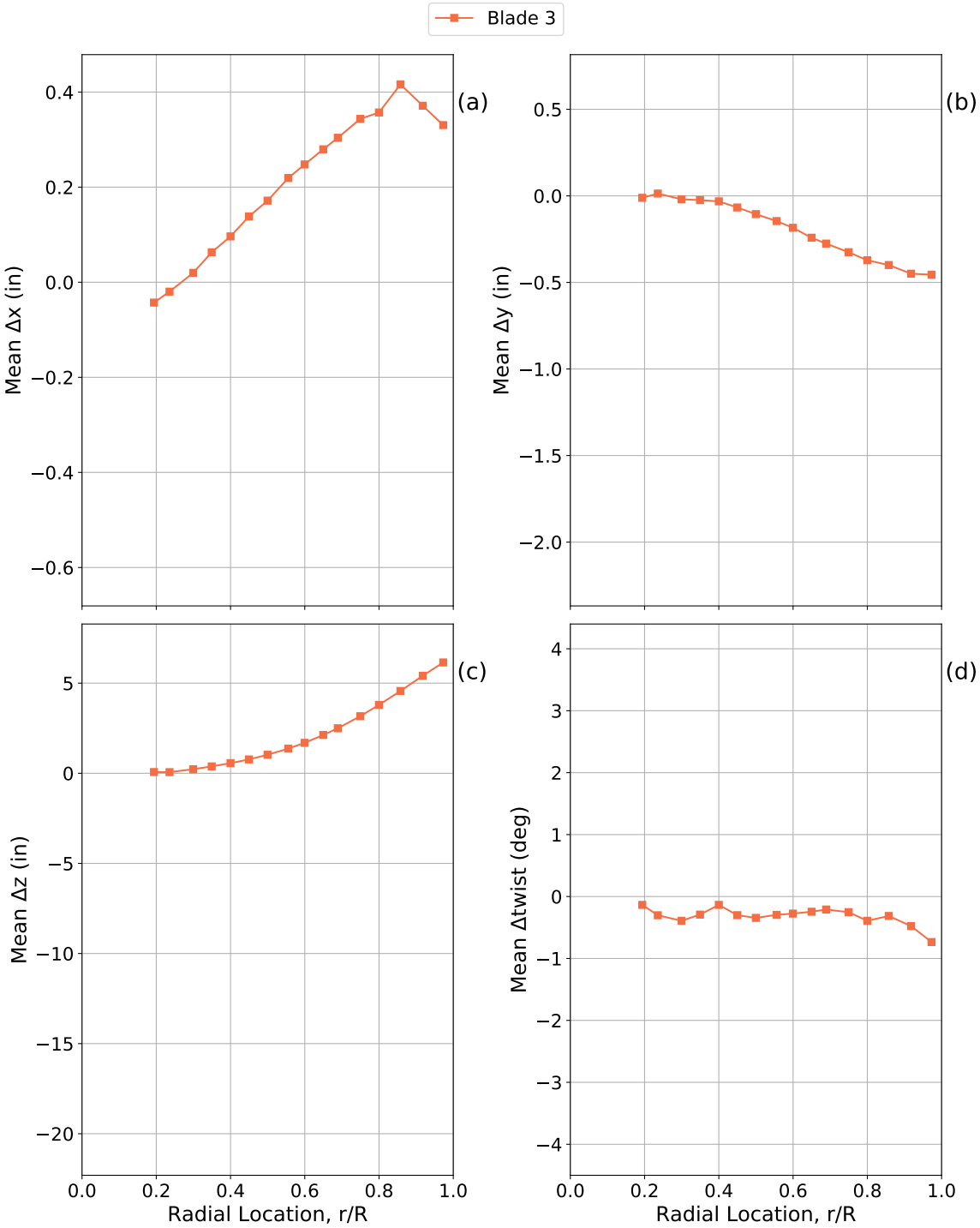


Figure 3.25-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0428	0.0012	-0.0111	0.0010	0.0684	0.0038	-0.1353	0.0184
3	225	0.2357	-0.0198	0.0012	0.0132	0.0018	0.0621	0.0076	-0.3024	0.0389
3	225	0.2995	0.0198	0.0014	-0.0196	0.0041	0.2237	0.0144	-0.3918	0.0447
3	225	0.3493	0.0630	0.0015	-0.0247	0.0069	0.3811	0.0249	-0.2918	0.0466
3	225	0.4000	0.0964	0.0022	-0.0317	0.0108	0.5621	0.0380	-0.1352	0.0523
3	225	0.4497	0.1384	0.0018	-0.0670	0.0134	0.7679	0.0505	-0.3011	0.0440
3	225	0.4997	0.1716	0.0020	-0.1054	0.0169	1.0262	0.0605	-0.3445	0.0587
3	225	0.5556	0.2192	0.0018	-0.1456	0.0212	1.3687	0.0761	-0.2961	0.0641
3	225	0.5995	0.2477	0.0026	-0.1845	0.0246	1.6888	0.0886	-0.2756	0.0738
3	225	0.6498	0.2796	0.0029	-0.2417	0.0292	2.1255	0.1019	-0.2457	0.0645
3	225	0.6890	0.3038	0.0035	-0.2757	0.0332	2.4961	0.1167	-0.2101	0.0567
3	225	0.7495	0.3436	0.0033	-0.3254	0.0386	3.1663	0.1393	-0.2523	0.0654
3	225	0.7998	0.3570	0.0037	-0.3719	0.0445	3.7933	0.1661	-0.3917	0.0695
3	225	0.8577	0.4162	0.0054	-0.3996	0.0505	4.5654	0.1994	-0.3138	0.0666
3	225	0.9178	0.3712	0.0076	-0.4495	0.0570	5.4105	0.2414	-0.4769	0.0651
3	225	0.9729	0.3305	0.0107	-0.4553	0.0634	6.1487	0.2845	-0.7352	0.0601

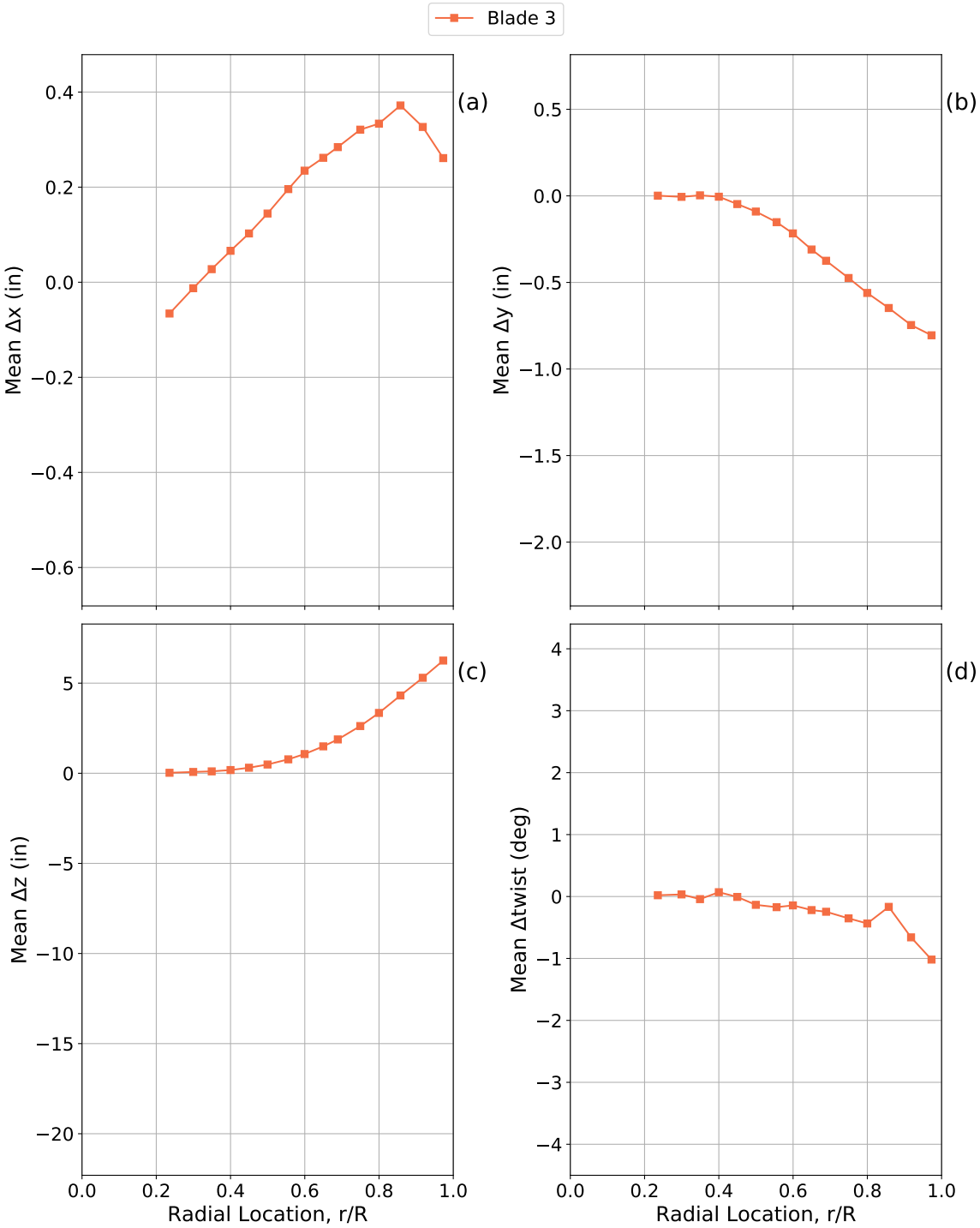


Figure 3.25-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0658	0.0025	0.0011	0.0023	0.0270	0.0131	0.0204	0.1112
3	240.12	0.2995	-0.0126	0.0015	-0.0058	0.0044	0.0724	0.0236	0.0338	0.1790
3	240.12	0.3493	0.0275	0.0007	0.0030	0.0099	0.1056	0.0453	-0.0420	0.1521
3	240.12	0.4000	0.0661	0.0016	-0.0049	0.0141	0.1787	0.0646	0.0698	0.1708
3	240.12	0.4497	0.1026	0.0017	-0.0474	0.0192	0.3073	0.0847	-0.0066	0.1781
3	240.12	0.4997	0.1445	0.0020	-0.0907	0.0253	0.4858	0.1100	-0.1345	0.1718
3	240.12	0.5556	0.1959	0.0023	-0.1520	0.0316	0.7731	0.1377	-0.1719	0.1714
3	240.12	0.5995	0.2347	0.0031	-0.2168	0.0371	1.0664	0.1581	-0.1433	0.1916
3	240.12	0.6498	0.2617	0.0039	-0.3098	0.0431	1.4924	0.1840	-0.2189	0.1757
3	240.12	0.6890	0.2842	0.0047	-0.3748	0.0474	1.8777	0.2017	-0.2460	0.1925
3	240.12	0.7495	0.3209	0.0059	-0.4745	0.0554	2.6200	0.2283	-0.3526	0.1872
3	240.12	0.7998	0.3336	0.0070	-0.5608	0.0624	3.3479	0.2509	-0.4353	0.1913
3	240.12	0.8577	0.3718	0.0081	-0.6478	0.0704	4.3168	0.2764	-0.1671	0.1841
3	240.12	0.9178	0.3266	0.0104	-0.7462	0.0786	5.2977	0.3046	-0.6594	0.1898
3	240.12	0.9729	0.2611	0.0148	-0.8053	0.0869	6.2531	0.3331	-1.0182	0.1943

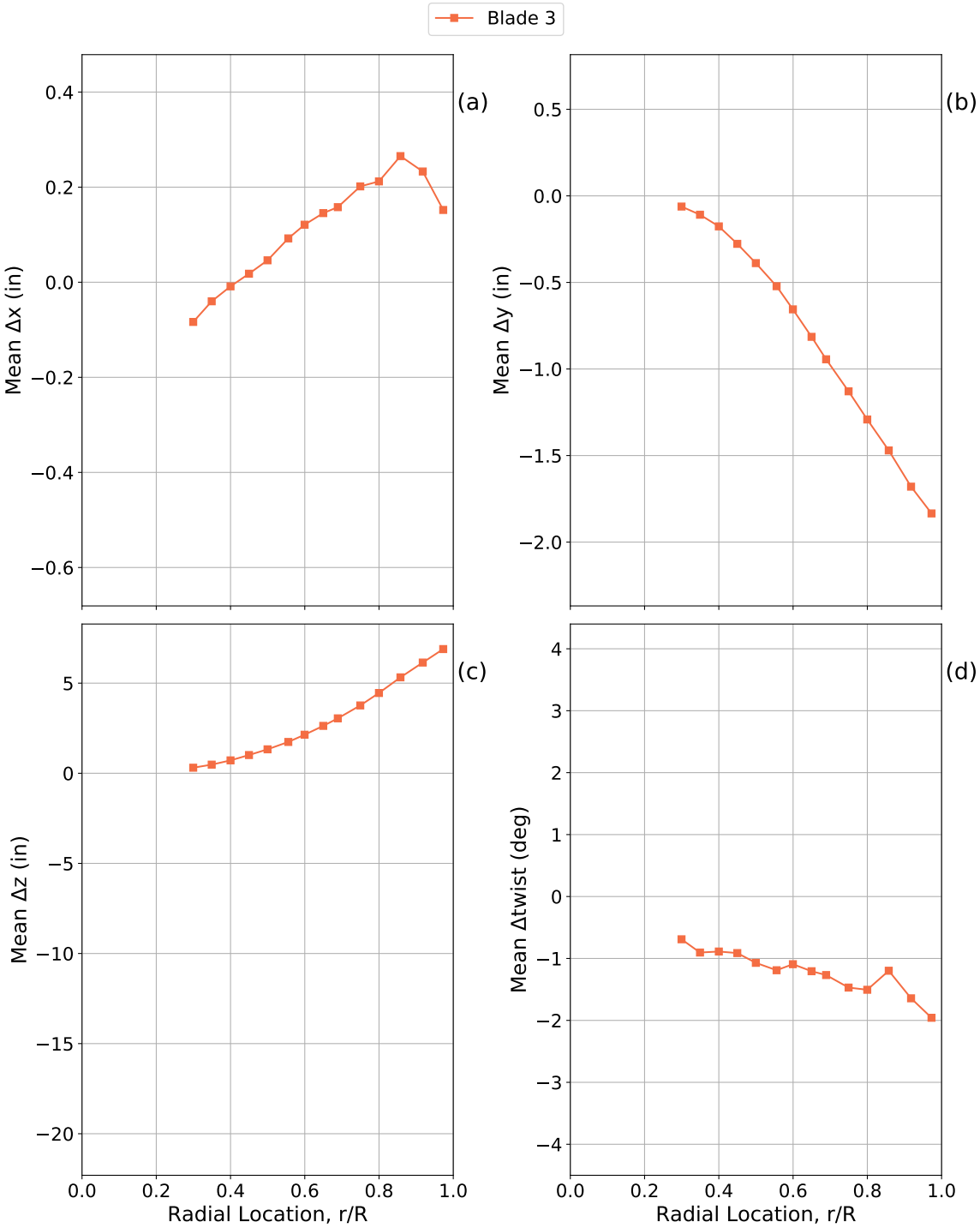


Figure 3.25-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.0835	0.0097	-0.0618	0.0177	0.3082	0.0863	-0.6904	0.1812
3	254.88	0.3493	-0.0401	0.0083	-0.1089	0.0308	0.4793	0.1355	-0.9043	0.2376
3	254.88	0.4000	-0.0087	0.0108	-0.1763	0.0497	0.7151	0.2038	-0.8881	0.2196
3	254.88	0.4497	0.0179	0.0127	-0.2771	0.0657	1.0116	0.2643	-0.9130	0.2445
3	254.88	0.4997	0.0461	0.0141	-0.3885	0.0829	1.3282	0.3296	-1.0707	0.2401
3	254.88	0.5556	0.0922	0.0168	-0.5219	0.1011	1.7374	0.4042	-1.1902	0.2421
3	254.88	0.5995	0.1210	0.0178	-0.6556	0.1164	2.1387	0.4636	-1.0927	0.2378
3	254.88	0.6498	0.1454	0.0211	-0.8143	0.1330	2.6298	0.5339	-1.2063	0.2280
3	254.88	0.6890	0.1579	0.0234	-0.9440	0.1455	3.0471	0.5865	-1.2679	0.2418
3	254.88	0.7495	0.2016	0.0271	-1.1290	0.1655	3.7635	0.6697	-1.4701	0.2464
3	254.88	0.7998	0.2121	0.0308	-1.2916	0.1819	4.4543	0.7394	-1.5056	0.2472
3	254.88	0.8577	0.2653	0.0350	-1.4704	0.2006	5.3219	0.8202	-1.1983	0.2450
3	254.88	0.9178	0.2329	0.0397	-1.6798	0.2199	6.1430	0.9044	-1.6435	0.2330
3	254.88	0.9729	0.1520	0.0507	-1.8343	0.2382	6.8909	0.9811	-1.9577	0.2434

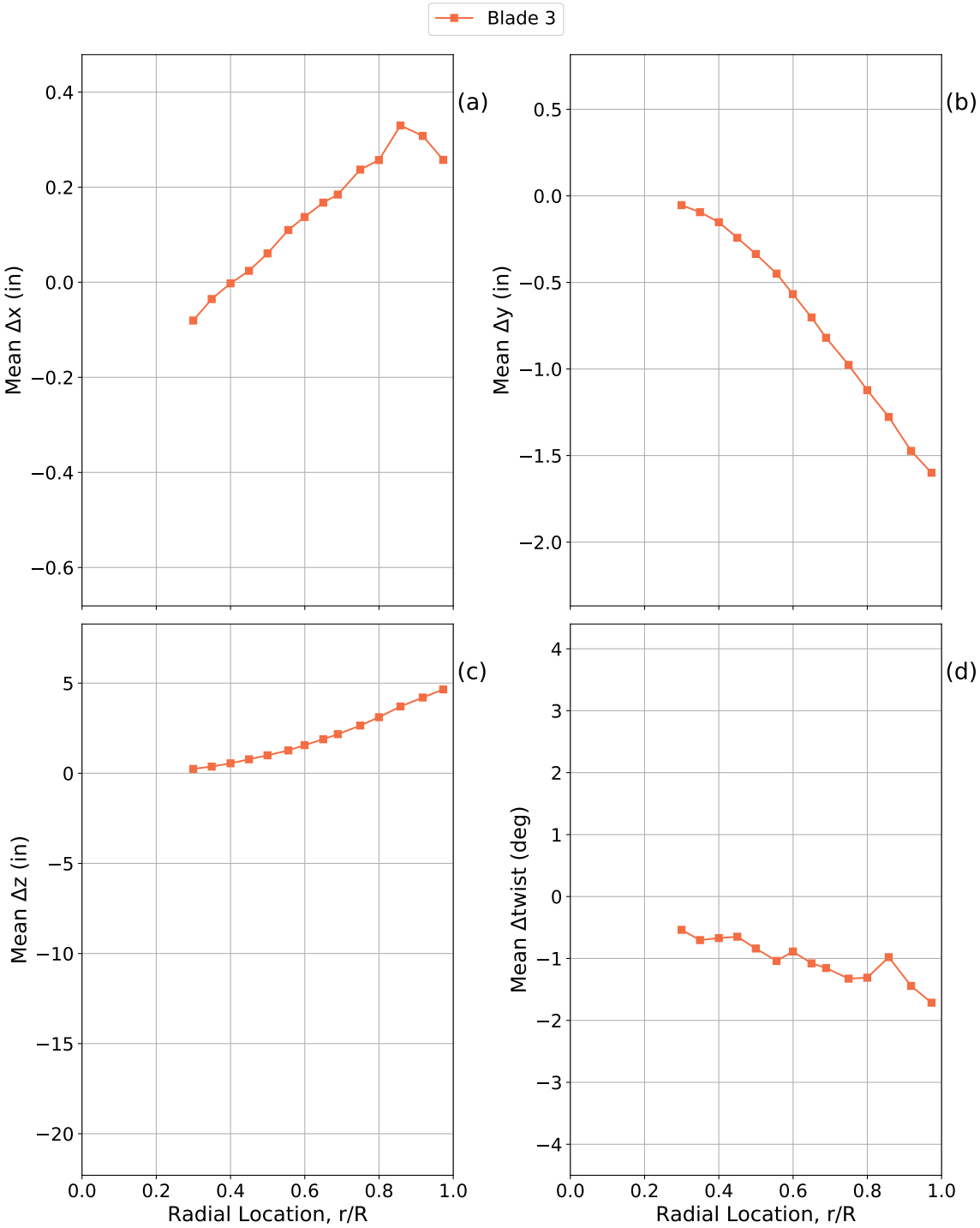


Figure 3.25-27. 260° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2995	-0.0805	0.0117	-0.0536	0.0227	0.2403	0.1389	-0.5376	0.3425
3	260.16	0.3493	-0.0353	0.0084	-0.0942	0.0397	0.3714	0.2193	-0.7034	0.4486
3	260.16	0.4000	-0.0024	0.0130	-0.1522	0.0639	0.5516	0.3310	-0.6712	0.3791
3	260.16	0.4497	0.0240	0.0127	-0.2420	0.0829	0.7757	0.4219	-0.6486	0.4082
3	260.16	0.4997	0.0607	0.0161	-0.3359	0.1048	0.9962	0.5223	-0.8395	0.3972
3	260.16	0.5556	0.1098	0.0187	-0.4491	0.1275	1.2658	0.6322	-1.0400	0.4005
3	260.16	0.5995	0.1372	0.0211	-0.5676	0.1453	1.5598	0.7209	-0.8877	0.3857
3	260.16	0.6498	0.1675	0.0241	-0.7024	0.1661	1.8868	0.8188	-1.0791	0.3910
3	260.16	0.6890	0.1844	0.0266	-0.8196	0.1823	2.1688	0.8969	-1.1543	0.3822
3	260.16	0.7495	0.2369	0.0303	-0.9765	0.2067	2.6487	1.0134	-1.3258	0.3869
3	260.16	0.7998	0.2570	0.0339	-1.1222	0.2267	3.1108	1.1125	-1.3105	0.3810
3	260.16	0.8577	0.3298	0.0381	-1.2772	0.2503	3.7049	1.2280	-0.9789	0.3814
3	260.16	0.9178	0.3077	0.0432	-1.4731	0.2747	4.2013	1.3509	-1.4429	0.3874
3	260.16	0.9729	0.2574	0.0558	-1.5993	0.2973	4.6521	1.4651	-1.7138	0.3907

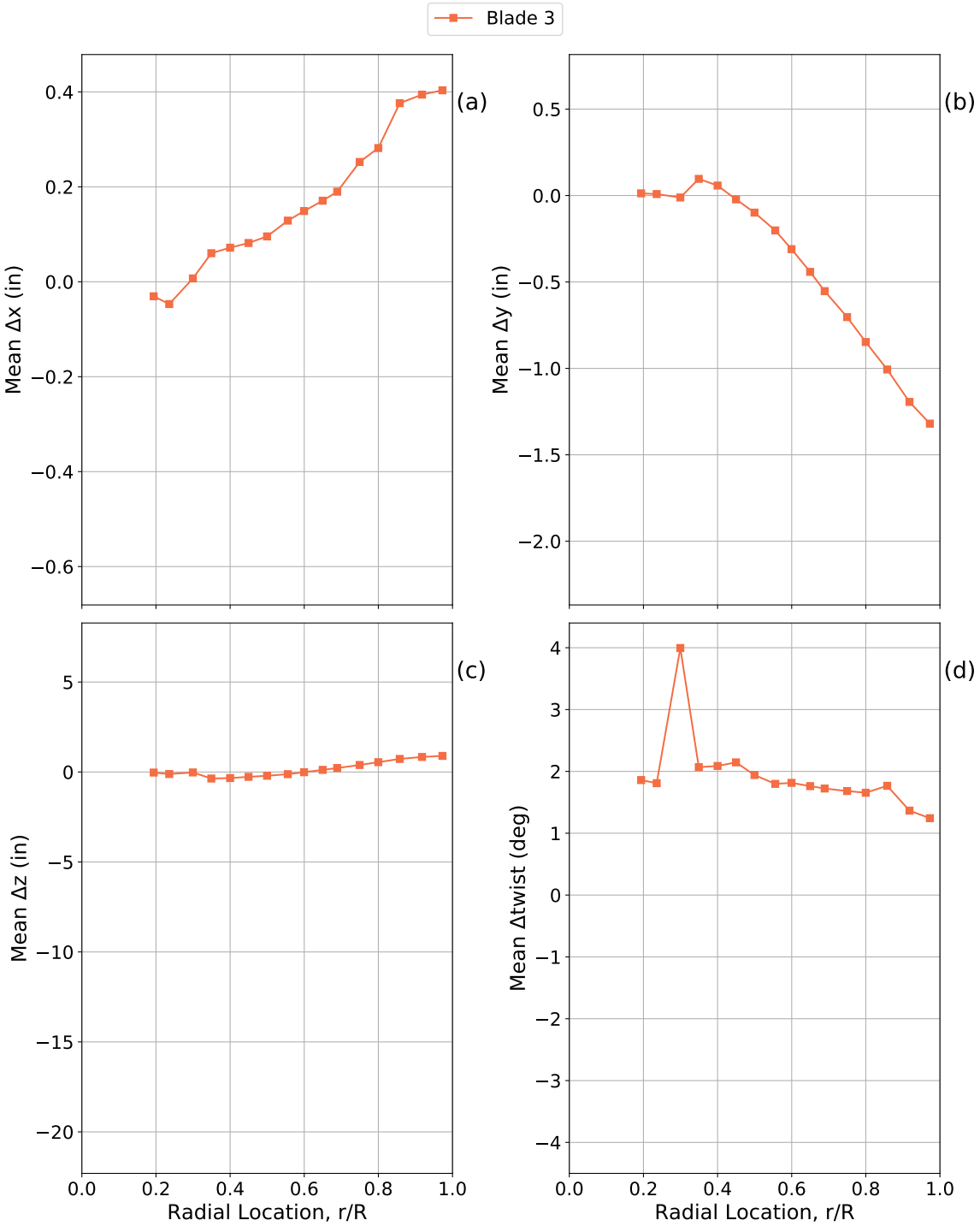


Figure 3.25-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0306	0.0038	0.0127	0.0015	-0.0309	0.0044	1.8597	0.0982
3	265.08	0.2357	-0.0470	0.0037	0.0085	0.0031	-0.1130	0.0135	1.8090	0.0800
3	265.08	0.2995	0.0070	0.0032	-0.0113	0.0056	-0.0246	0.0212	3.9953	0.1946
3	265.08	0.3493	0.0602	0.0039	0.0964	0.0119	-0.3624	0.0417	2.0684	0.1002
3	265.08	0.4000	0.0718	0.0043	0.0577	0.0164	-0.3364	0.0607	2.0875	0.0877
3	265.08	0.4497	0.0817	0.0053	-0.0221	0.0211	-0.2699	0.0790	2.1463	0.0906
3	265.08	0.4997	0.0956	0.0051	-0.0988	0.0287	-0.2081	0.0973	1.9412	0.0959
3	265.08	0.5556	0.1288	0.0064	-0.2019	0.0404	-0.1210	0.1276	1.7980	0.0832
3	265.08	0.5995	0.1490	0.0063	-0.3100	0.0501	-0.0108	0.1524	1.8151	0.0923
3	265.08	0.6498	0.1708	0.0081	-0.4417	0.0631	0.1180	0.1843	1.7617	0.0982
3	265.08	0.6890	0.1898	0.0093	-0.5531	0.0737	0.2205	0.2097	1.7230	0.0974
3	265.08	0.7495	0.2524	0.0102	-0.7031	0.0920	0.3907	0.2505	1.6820	0.0956
3	265.08	0.7998	0.2817	0.0113	-0.8475	0.1081	0.5455	0.2878	1.6550	0.0932
3	265.08	0.8577	0.3763	0.0129	-1.0065	0.1270	0.7275	0.3279	1.7669	0.1051
3	265.08	0.9178	0.3943	0.0144	-1.1941	0.1480	0.8360	0.3775	1.3657	0.0892
3	265.08	0.9729	0.4034	0.0210	-1.3196	0.1680	0.8946	0.4155	1.2427	0.1129

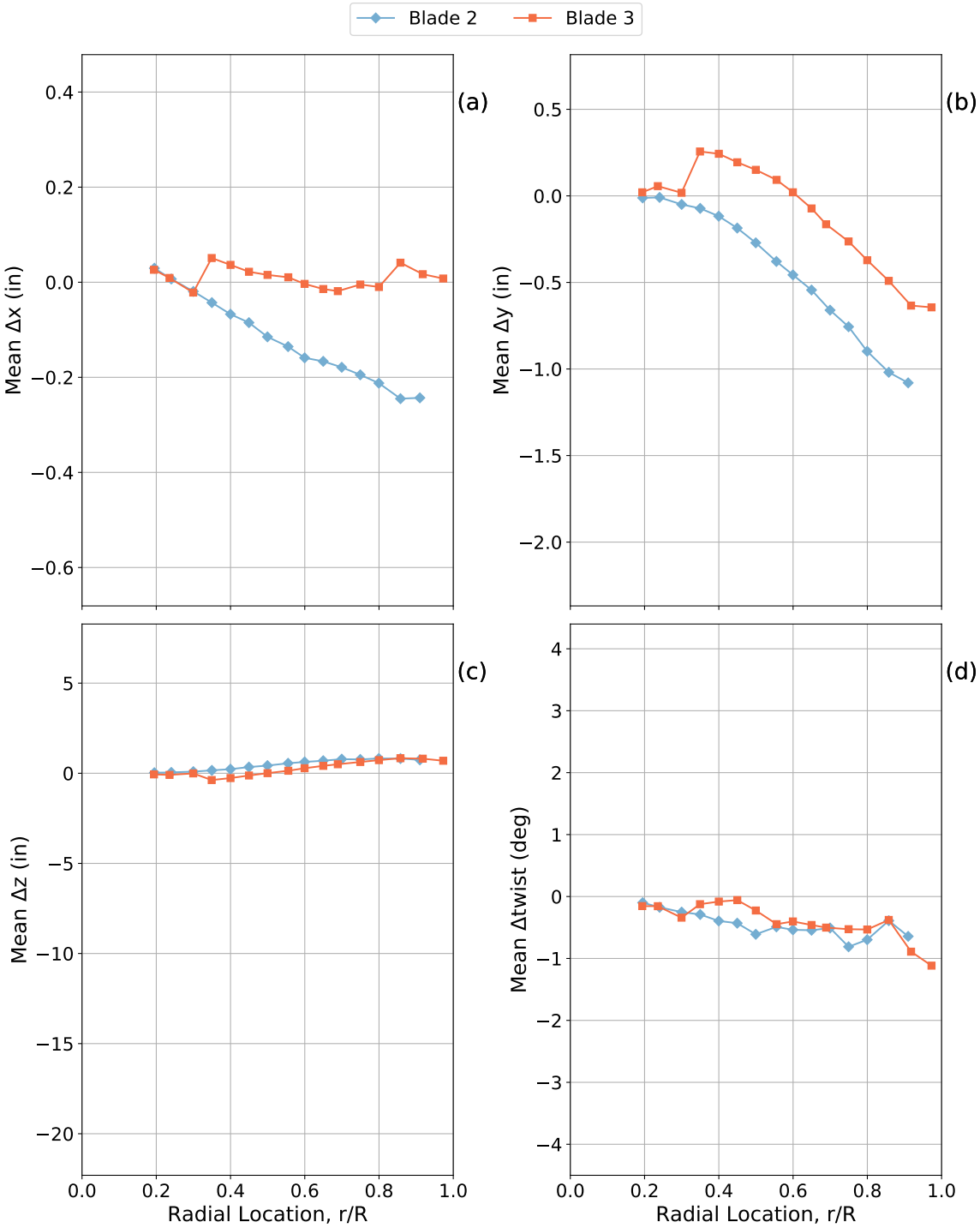


Figure 3.25-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0295	0.0017	-0.0117	0.0016	0.0294	0.0108	-0.0994	0.0624
2	270.35	0.2405	0.0068	0.0030	-0.0090	0.0042	0.0485	0.0159	-0.1741	0.0921
2	270.35	0.2999	-0.0193	0.0016	-0.0495	0.0069	0.0900	0.0310	-0.2513	0.1468
2	270.35	0.3498	-0.0429	0.0022	-0.0723	0.0160	0.1614	0.0666	-0.2899	0.0757
2	270.35	0.3998	-0.0672	0.0029	-0.1175	0.0224	0.2280	0.0876	-0.3948	0.1037
2	270.35	0.4496	-0.0850	0.0030	-0.1860	0.0294	0.3439	0.1120	-0.4304	0.1175
2	270.35	0.4995	-0.1149	0.0032	-0.2712	0.0373	0.4264	0.1392	-0.6101	0.1062
2	270.35	0.5551	-0.1354	0.0041	-0.3789	0.0471	0.5541	0.1690	-0.4900	0.1230
2	270.35	0.5996	-0.1590	0.0055	-0.4565	0.0554	0.6285	0.1969	-0.5376	0.1094
2	270.35	0.6497	-0.1664	0.0064	-0.5438	0.0652	0.6954	0.2264	-0.5447	0.1334
2	270.35	0.6996	-0.1789	0.0068	-0.6601	0.0746	0.7830	0.2586	-0.5080	0.1309
2	270.35	0.7495	-0.1947	0.0079	-0.7560	0.0860	0.7671	0.2995	-0.8114	0.1358
2	270.35	0.7996	-0.2123	0.0092	-0.8979	0.0971	0.8210	0.3429	-0.6974	0.1235
2	270.35	0.8578	-0.2449	0.0118	-1.0191	0.1108	0.8156	0.3912	-0.3900	0.1382
2	270.35	0.9100	-0.2432	0.0135	-1.0801	0.1202	0.7434	0.4353	-0.6434	0.1487
3	270	0.1938	0.0262	0.0093	0.0205	0.0080	-0.0620	0.0292	-0.1544	0.0412
3	270	0.2357	0.0090	0.0024	0.0561	0.0142	-0.0906	0.0452	-0.1562	0.0788
3	270	0.2995	-0.0217	0.0053	0.0177	0.0279	-0.0076	0.0816	-0.3413	0.0959
3	270	0.3493	0.0509	0.0083	0.2562	0.0740	-0.3762	0.1752	-0.1238	0.1088
3	270	0.4000	0.0365	0.0089	0.2430	0.0967	-0.2669	0.2285	-0.0815	0.1196
3	270	0.4497	0.0220	0.0070	0.1939	0.1154	-0.1242	0.2673	-0.0584	0.1175
3	270	0.4997	0.0154	0.0105	0.1502	0.1380	0.0065	0.3188	-0.2257	0.0982
3	270	0.5556	0.0104	0.0128	0.0922	0.1640	0.1393	0.3763	-0.4462	0.0754
3	270	0.5995	-0.0035	0.0159	0.0207	0.1865	0.2792	0.4291	-0.4027	0.0758
3	270	0.6498	-0.0143	0.0190	-0.0727	0.2110	0.4115	0.4882	-0.4599	0.0581
3	270	0.6890	-0.0187	0.0226	-0.1641	0.2301	0.4999	0.5356	-0.5020	0.0738
3	270	0.7495	-0.0048	0.0280	-0.2633	0.2597	0.6260	0.6104	-0.5277	0.0777
3	270	0.7998	-0.0100	0.0331	-0.3717	0.2848	0.7289	0.6705	-0.5324	0.0676
3	270	0.8577	0.0411	0.0391	-0.4909	0.3129	0.8361	0.7363	-0.3780	0.0843
3	270	0.9178	0.0169	0.0486	-0.6337	0.3417	0.8089	0.8044	-0.8903	0.0716
3	270	0.9729	0.0078	0.0625	-0.6439	0.3670	0.6947	0.8682	-1.1160	0.0784

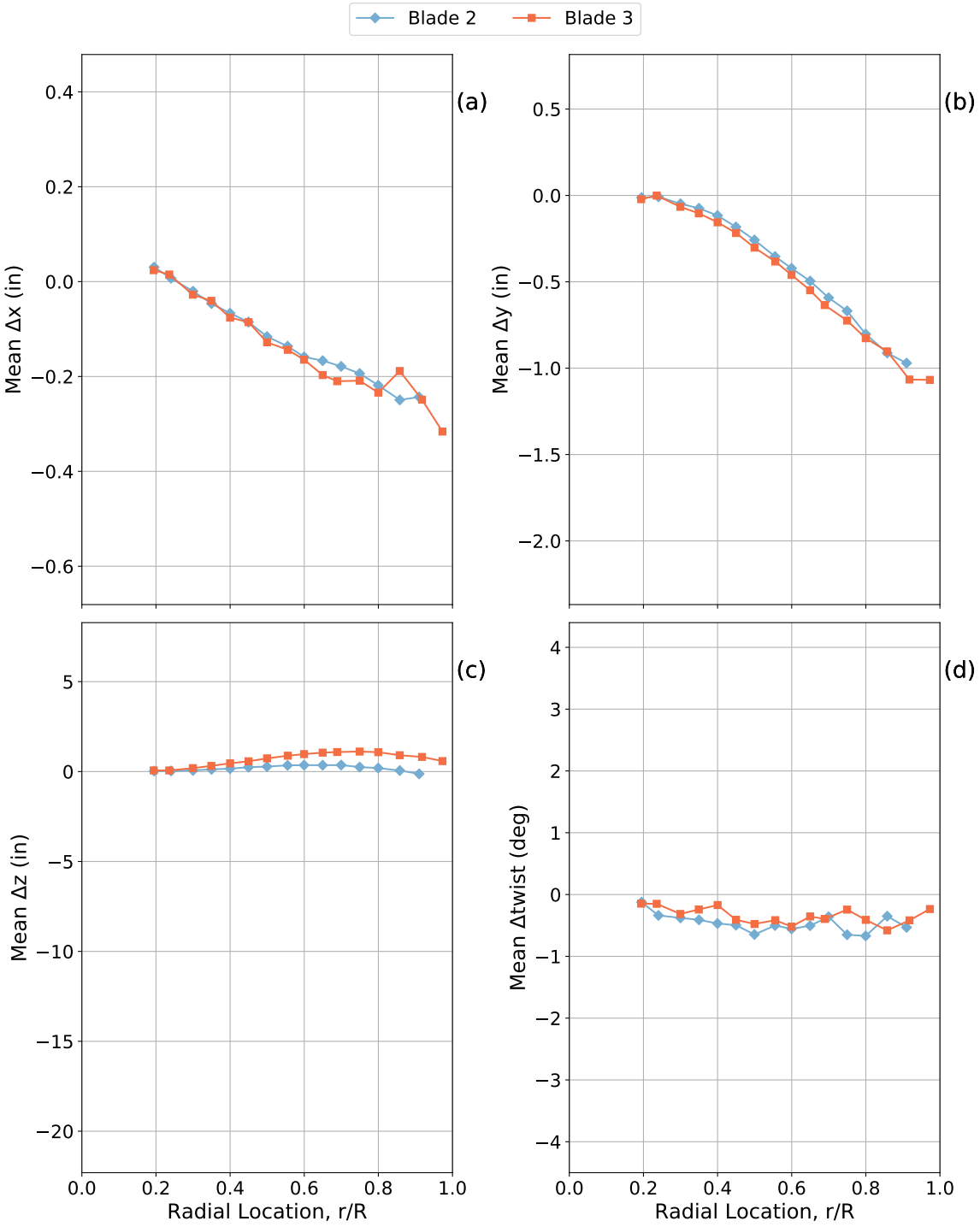


Figure 3.25-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0306	0.0039	-0.0126	0.0009	0.0264	0.0047	-0.1229	0.0383
2	274.92	0.2405	0.0071	0.0028	-0.0079	0.0039	0.0333	0.0138	-0.3378	0.0579
2	274.92	0.2999	-0.0204	0.0023	-0.0484	0.0061	0.0652	0.0236	-0.3780	0.0741
2	274.92	0.3498	-0.0463	0.0031	-0.0743	0.0108	0.1227	0.0382	-0.4096	0.0682
2	274.92	0.3998	-0.0666	0.0032	-0.1163	0.0176	0.1605	0.0617	-0.4679	0.0669
2	274.92	0.4496	-0.0852	0.0024	-0.1825	0.0228	0.2409	0.0843	-0.4960	0.0988
2	274.92	0.4995	-0.1159	0.0034	-0.2579	0.0281	0.2767	0.1068	-0.6466	0.0606
2	274.92	0.5551	-0.1362	0.0042	-0.3536	0.0362	0.3451	0.1360	-0.5010	0.0591
2	274.92	0.5996	-0.1587	0.0047	-0.4217	0.0434	0.3575	0.1630	-0.5556	0.0683
2	274.92	0.6497	-0.1667	0.0051	-0.4956	0.0508	0.3535	0.1940	-0.5039	0.0788
2	274.92	0.6996	-0.1787	0.0058	-0.5924	0.0585	0.3600	0.2224	-0.3595	0.0872
2	274.92	0.7495	-0.1937	0.0065	-0.6685	0.0676	0.2497	0.2493	-0.6502	0.0847
2	274.92	0.7996	-0.2185	0.0077	-0.8027	0.0780	0.1949	0.2820	-0.6700	0.0932
2	274.92	0.8578	-0.2494	0.0078	-0.9122	0.0892	0.0557	0.3187	-0.3501	0.1057
2	274.92	0.9100	-0.2432	0.0093	-0.9708	0.0979	-0.1278	0.3486	-0.5317	0.0734
3	274.92	0.1938	0.0241	0.0031	-0.0216	0.0015	0.0637	0.0092	-0.1469	0.0702
3	274.92	0.2357	0.0150	0.0027	-0.0009	0.0024	0.0621	0.0138	-0.1498	0.0973
3	274.92	0.2995	-0.0275	0.0023	-0.0661	0.0054	0.1904	0.0285	-0.3140	0.1574
3	274.92	0.3493	-0.0405	0.0026	-0.1036	0.0081	0.3158	0.0514	-0.2419	0.0983
3	274.92	0.4000	-0.0760	0.0033	-0.1556	0.0126	0.4578	0.0737	-0.1700	0.1284
3	274.92	0.4497	-0.0855	0.0051	-0.2174	0.0191	0.5707	0.0974	-0.4081	0.1288
3	274.92	0.4997	-0.1280	0.0047	-0.3022	0.0220	0.7338	0.1166	-0.4764	0.1202
3	274.92	0.5556	-0.1438	0.0053	-0.3827	0.0312	0.8811	0.1478	-0.4147	0.1078
3	274.92	0.5995	-0.1646	0.0056	-0.4601	0.0353	0.9701	0.1612	-0.5189	0.1250
3	274.92	0.6498	-0.1970	0.0061	-0.5492	0.0422	1.0533	0.1870	-0.3547	0.1253
3	274.92	0.6890	-0.2100	0.0079	-0.6346	0.0485	1.0848	0.2004	-0.3950	0.1184
3	274.92	0.7495	-0.2088	0.0082	-0.7247	0.0577	1.1115	0.2287	-0.2437	0.1436
3	274.92	0.7998	-0.2340	0.0087	-0.8265	0.0666	1.0773	0.2610	-0.4098	0.1260
3	274.92	0.8577	-0.1885	0.0115	-0.9028	0.0764	0.9078	0.2873	-0.5793	0.1481
3	274.92	0.9178	-0.2489	0.0126	-1.0658	0.0866	0.8143	0.3213	-0.4176	0.1324
3	274.92	0.9729	-0.3161	0.0163	-1.0679	0.0922	0.5823	0.3529	-0.2342	0.1961

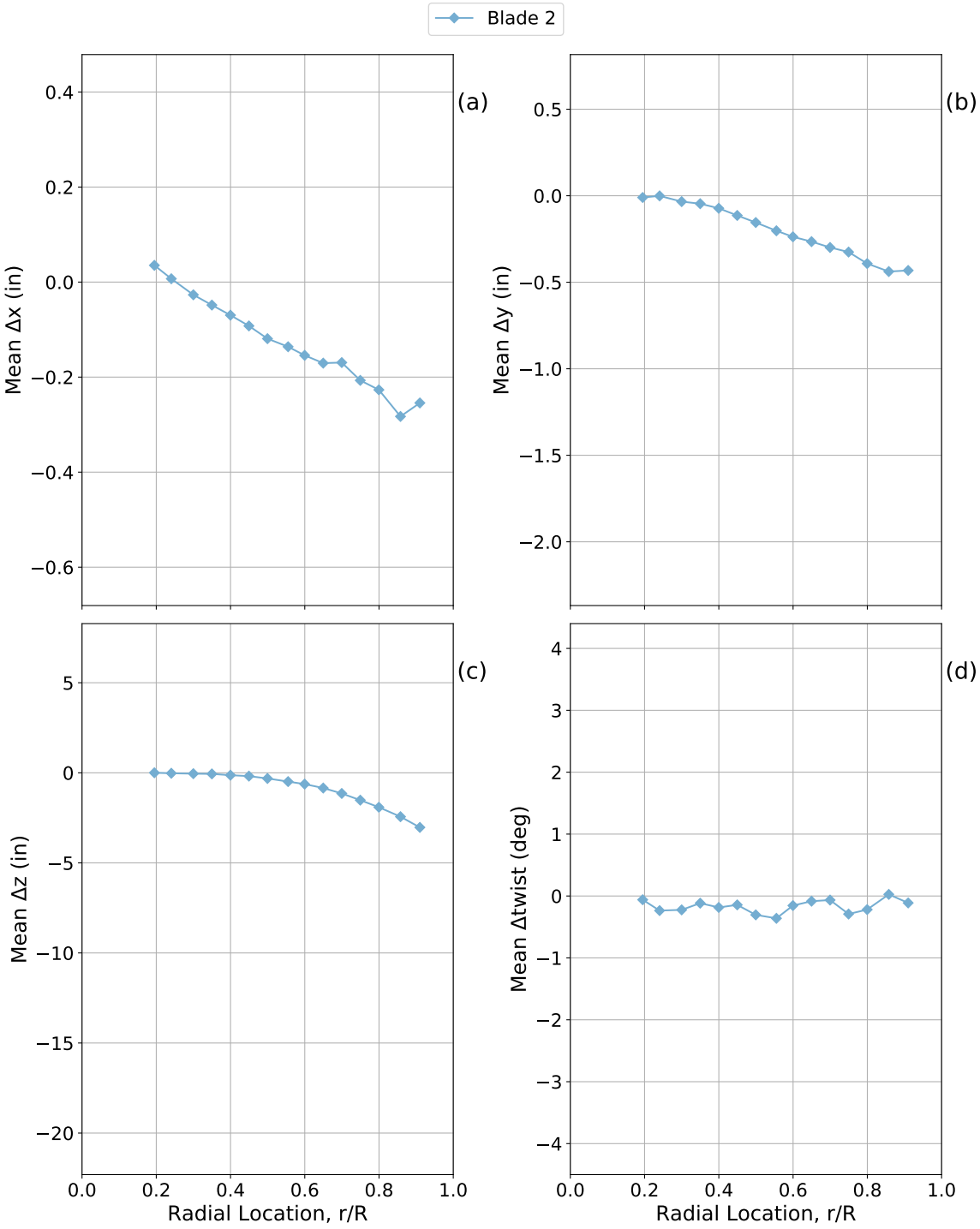


Figure 3.25-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0352	0.0023	-0.0101	0.0011	0.0024	0.0060	-0.0602	0.0718
2	285.12	0.2405	0.0070	0.0032	-0.0008	0.0025	-0.0248	0.0142	-0.2358	0.0962
2	285.12	0.2999	-0.0268	0.0023	-0.0339	0.0030	-0.0473	0.0210	-0.2238	0.1635
2	285.12	0.3498	-0.0484	0.0019	-0.0459	0.0081	-0.0607	0.0453	-0.1160	0.1206
2	285.12	0.3998	-0.0697	0.0030	-0.0725	0.0104	-0.1322	0.0630	-0.1849	0.1040
2	285.12	0.4496	-0.0923	0.0035	-0.1139	0.0114	-0.1826	0.0725	-0.1434	0.1456
2	285.12	0.4995	-0.1191	0.0030	-0.1547	0.0157	-0.3132	0.0946	-0.3047	0.1282
2	285.12	0.5551	-0.1361	0.0043	-0.2024	0.0172	-0.4869	0.1101	-0.3609	0.1232
2	285.12	0.5996	-0.1542	0.0055	-0.2373	0.0195	-0.6266	0.1246	-0.1547	0.1313
2	285.12	0.6497	-0.1706	0.0046	-0.2652	0.0217	-0.8444	0.1393	-0.0839	0.1496
2	285.12	0.6996	-0.1694	0.0058	-0.2989	0.0246	-1.1454	0.1550	-0.0654	0.1259
2	285.12	0.7495	-0.2069	0.0078	-0.3253	0.0283	-1.5180	0.1693	-0.2912	0.1321
2	285.12	0.7996	-0.2268	0.0083	-0.3919	0.0322	-1.9112	0.1894	-0.2194	0.1281
2	285.12	0.8578	-0.2828	0.0093	-0.4381	0.0387	-2.4357	0.2112	0.0262	0.1349
2	285.12	0.9100	-0.2544	0.0092	-0.4318	0.0421	-3.0304	0.2402	-0.1119	0.1339

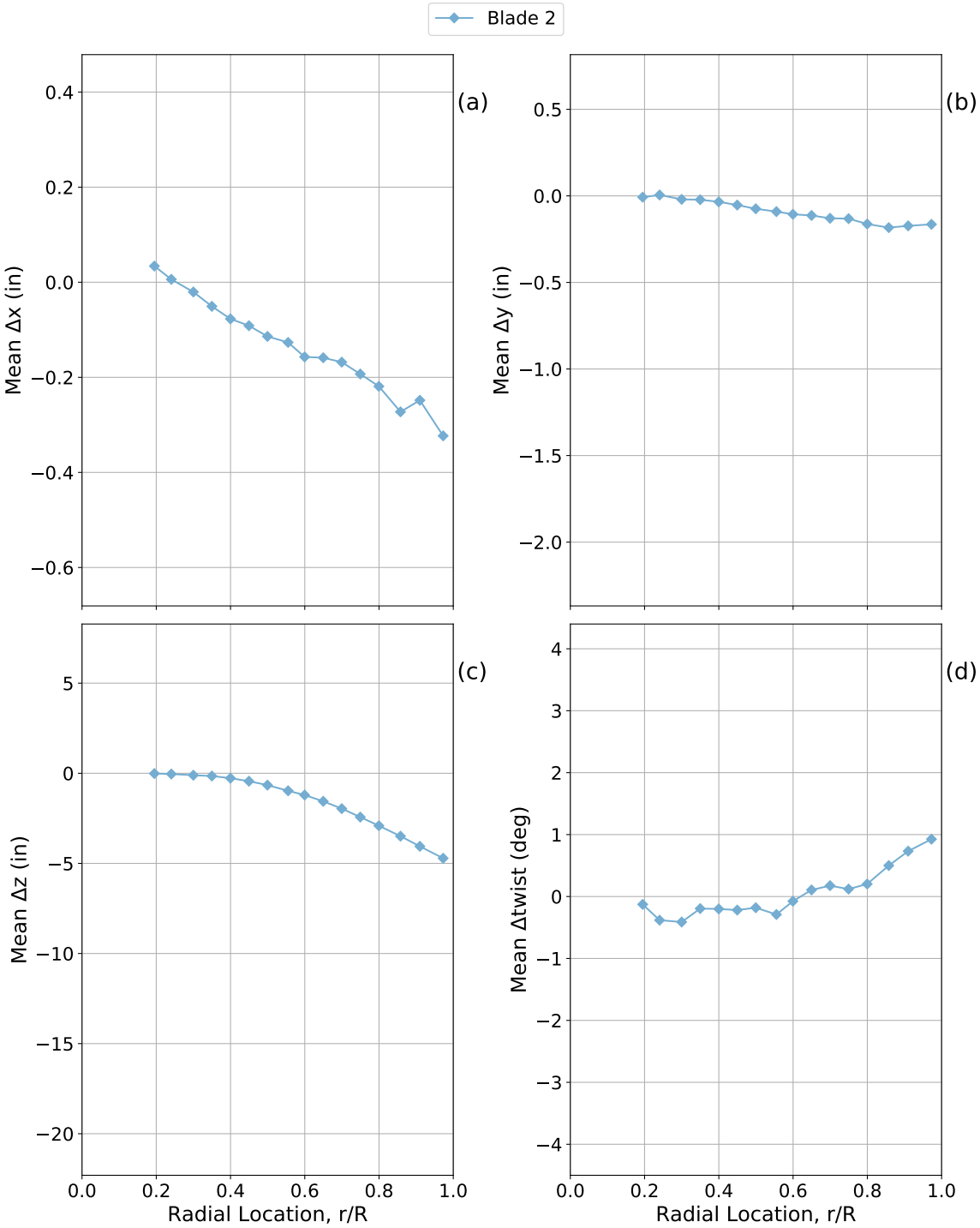


Figure 3.25-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0340	0.0029	-0.0076	0.0011	-0.0160	0.0063	-0.1266	0.0413
2	299.88	0.2405	0.0061	0.0027	0.0050	0.0042	-0.0418	0.0123	-0.3820	0.0535
2	299.88	0.2999	-0.0205	0.0045	-0.0202	0.0061	-0.1092	0.0259	-0.4118	0.0884
2	299.88	0.3498	-0.0507	0.0029	-0.0222	0.0110	-0.1526	0.0398	-0.1950	0.0955
2	299.88	0.3998	-0.0771	0.0032	-0.0345	0.0178	-0.2728	0.0631	-0.2002	0.0893
2	299.88	0.4496	-0.0914	0.0032	-0.0530	0.0223	-0.4397	0.0821	-0.2187	0.1075
2	299.88	0.4995	-0.1140	0.0043	-0.0746	0.0293	-0.6578	0.1081	-0.1807	0.0781
2	299.88	0.5551	-0.1266	0.0046	-0.0909	0.0361	-0.9719	0.1343	-0.2898	0.0883
2	299.88	0.5996	-0.1571	0.0044	-0.1065	0.0426	-1.2078	0.1588	-0.0758	0.0952
2	299.88	0.6497	-0.1588	0.0052	-0.1132	0.0501	-1.5561	0.1907	0.1062	0.1039
2	299.88	0.6996	-0.1681	0.0060	-0.1295	0.0589	-1.9619	0.2288	0.1752	0.0948
2	299.88	0.7495	-0.1930	0.0065	-0.1315	0.0681	-2.4308	0.2645	0.1201	0.0930
2	299.88	0.7996	-0.2190	0.0069	-0.1626	0.0770	-2.9115	0.3031	0.2018	0.1066
2	299.88	0.8578	-0.2726	0.0080	-0.1835	0.0884	-3.4916	0.3495	0.5001	0.1000
2	299.88	0.9100	-0.2483	0.0084	-0.1731	0.0993	-4.0541	0.3862	0.7325	0.1177
2	299.88	0.9727	-0.3231	0.0094	-0.1645	0.1126	-4.7158	0.4399	0.9261	0.0997

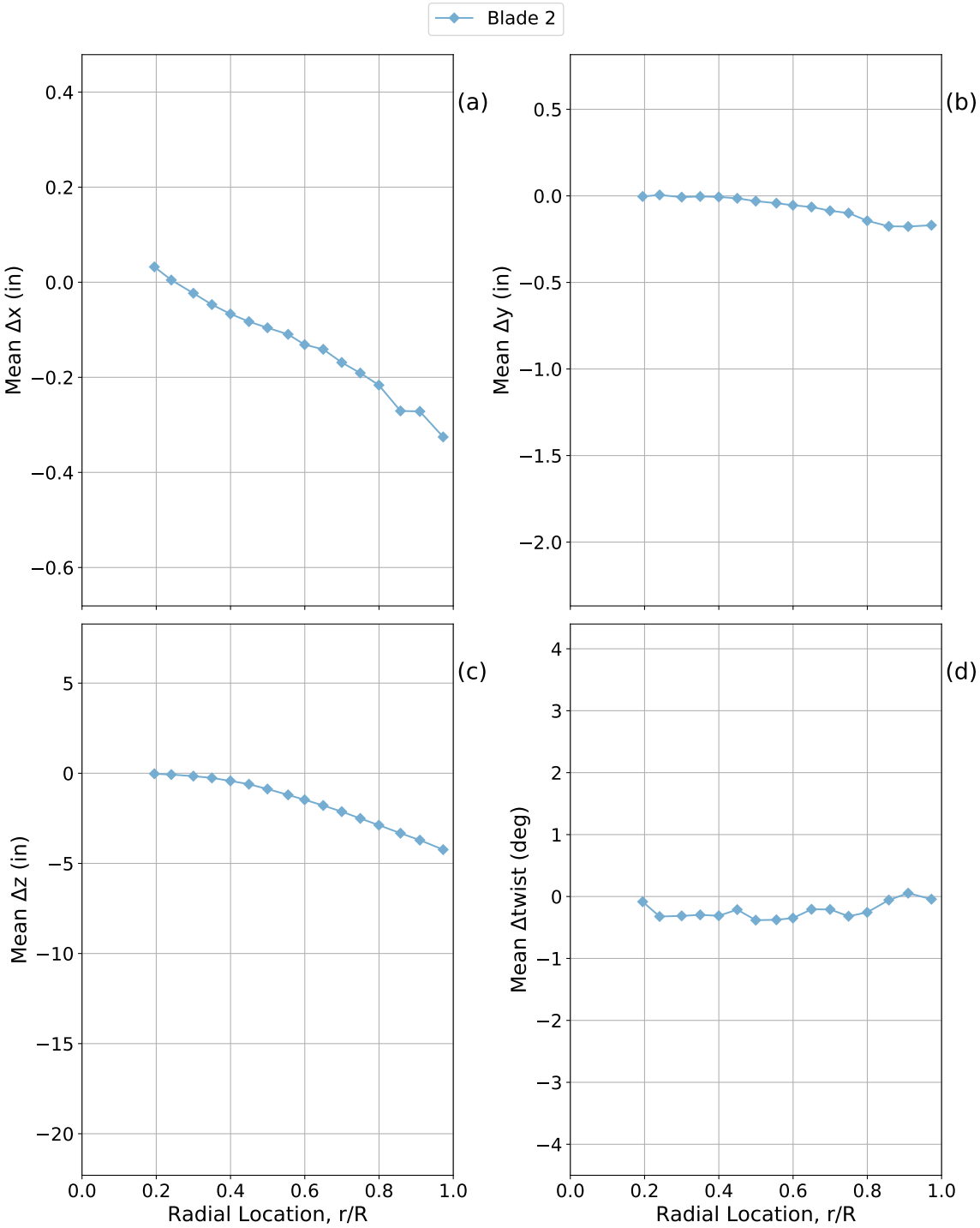


Figure 3.25-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0323	0.0039	-0.0036	0.0022	-0.0289	0.0041	-0.0841	0.0248
2	315	0.2405	0.0046	0.0066	0.0052	0.0021	-0.0724	0.0106	-0.3228	0.0572
2	315	0.2999	-0.0231	0.0028	-0.0074	0.0066	-0.1595	0.0223	-0.3124	0.0470
2	315	0.3498	-0.0470	0.0019	-0.0035	0.0077	-0.2588	0.0297	-0.2967	0.0664
2	315	0.3998	-0.0667	0.0044	-0.0063	0.0126	-0.4239	0.0529	-0.3107	0.0762
2	315	0.4496	-0.0828	0.0050	-0.0142	0.0132	-0.6065	0.0572	-0.2117	0.0480
2	315	0.4995	-0.0958	0.0049	-0.0305	0.0156	-0.8750	0.0666	-0.3818	0.0620
2	315	0.5551	-0.1096	0.0050	-0.0423	0.0188	-1.1995	0.0839	-0.3760	0.0597
2	315	0.5996	-0.1313	0.0056	-0.0543	0.0212	-1.4707	0.0964	-0.3481	0.0584
2	315	0.6497	-0.1411	0.0063	-0.0644	0.0244	-1.7879	0.1178	-0.2064	0.0484
2	315	0.6996	-0.1688	0.0084	-0.0860	0.0285	-2.1289	0.1382	-0.2085	0.0733
2	315	0.7495	-0.1910	0.0095	-0.0994	0.0326	-2.5066	0.1619	-0.3186	0.0482
2	315	0.7996	-0.2164	0.0100	-0.1437	0.0369	-2.8794	0.1893	-0.2557	0.0551
2	315	0.8578	-0.2707	0.0105	-0.1758	0.0423	-3.3265	0.2160	-0.0568	0.0573
2	315	0.9100	-0.2717	0.0113	-0.1771	0.0490	-3.7105	0.2411	0.0542	0.0432
2	315	0.9727	-0.3254	0.0130	-0.1697	0.0562	-4.2368	0.2703	-0.0432	0.0499

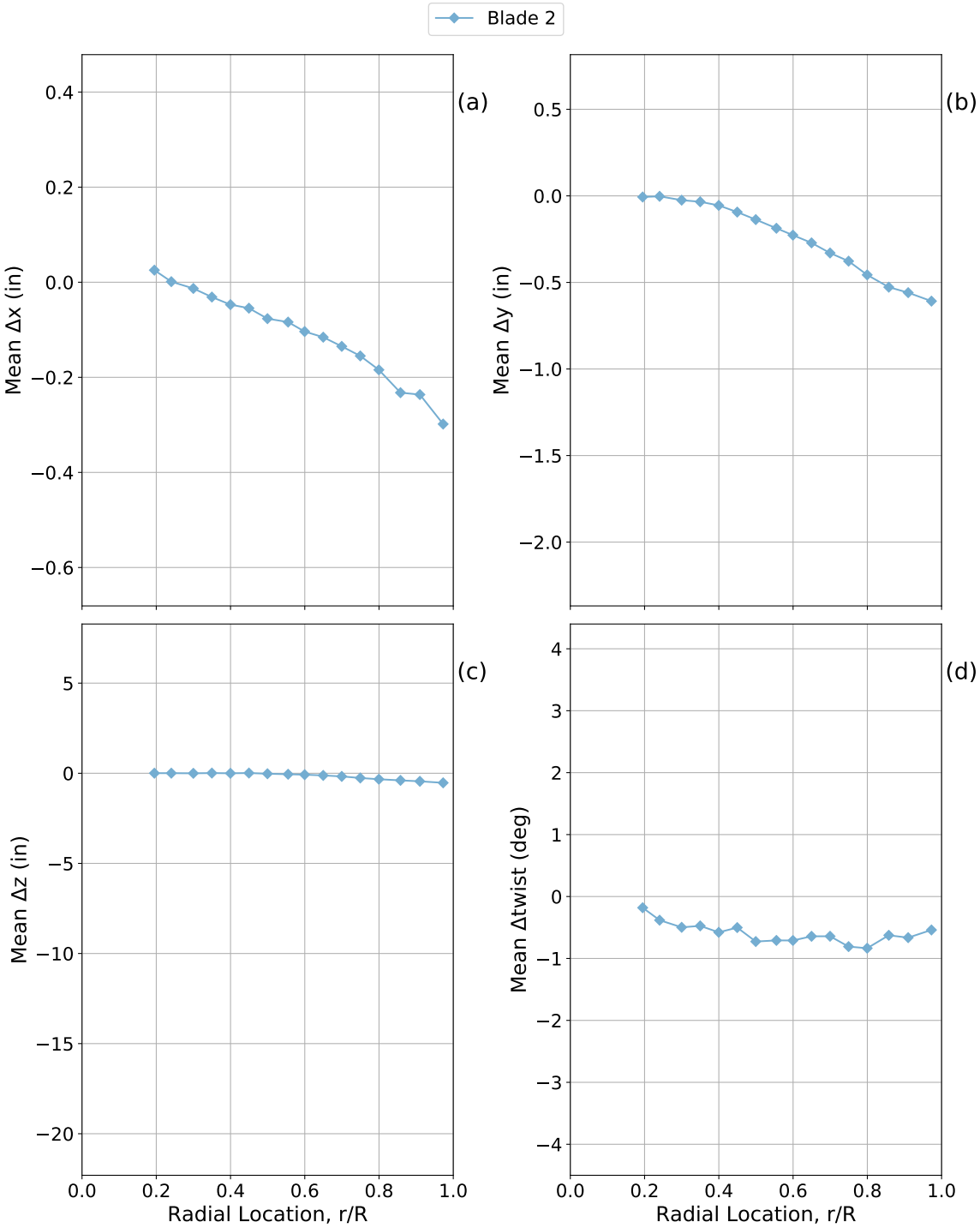


Figure 3.25-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0254	0.0008	-0.0066	0.0008	0.0045	0.0039	-0.1810	0.0503
2	330.12	0.2405	0.0012	0.0014	-0.0027	0.0035	0.0051	0.0065	-0.3821	0.0594
2	330.12	0.2999	-0.0131	0.0017	-0.0248	0.0067	-0.0026	0.0128	-0.4972	0.1029
2	330.12	0.3498	-0.0312	0.0034	-0.0342	0.0077	0.0106	0.0178	-0.4741	0.0560
2	330.12	0.3998	-0.0471	0.0025	-0.0552	0.0161	-0.0020	0.0286	-0.5779	0.0692
2	330.12	0.4496	-0.0546	0.0044	-0.0937	0.0181	0.0127	0.0350	-0.5015	0.0945
2	330.12	0.4995	-0.0766	0.0027	-0.1371	0.0241	-0.0260	0.0447	-0.7268	0.0671
2	330.12	0.5551	-0.0838	0.0043	-0.1871	0.0293	-0.0544	0.0524	-0.7086	0.0810
2	330.12	0.5996	-0.1037	0.0028	-0.2269	0.0373	-0.0785	0.0685	-0.7097	0.0685
2	330.12	0.6497	-0.1156	0.0039	-0.2715	0.0437	-0.1194	0.0859	-0.6424	0.0731
2	330.12	0.6996	-0.1349	0.0047	-0.3300	0.0522	-0.1744	0.0982	-0.6416	0.0625
2	330.12	0.7495	-0.1550	0.0056	-0.3772	0.0617	-0.2621	0.1120	-0.8087	0.0623
2	330.12	0.7996	-0.1843	0.0057	-0.4565	0.0719	-0.3310	0.1268	-0.8347	0.0752
2	330.12	0.8578	-0.2323	0.0067	-0.5273	0.0848	-0.3948	0.1412	-0.6258	0.0567
2	330.12	0.9100	-0.2363	0.0076	-0.5591	0.0963	-0.4463	0.1573	-0.6641	0.0685
2	330.12	0.9727	-0.2983	0.0104	-0.6080	0.1099	-0.5302	0.1771	-0.5398	0.0596

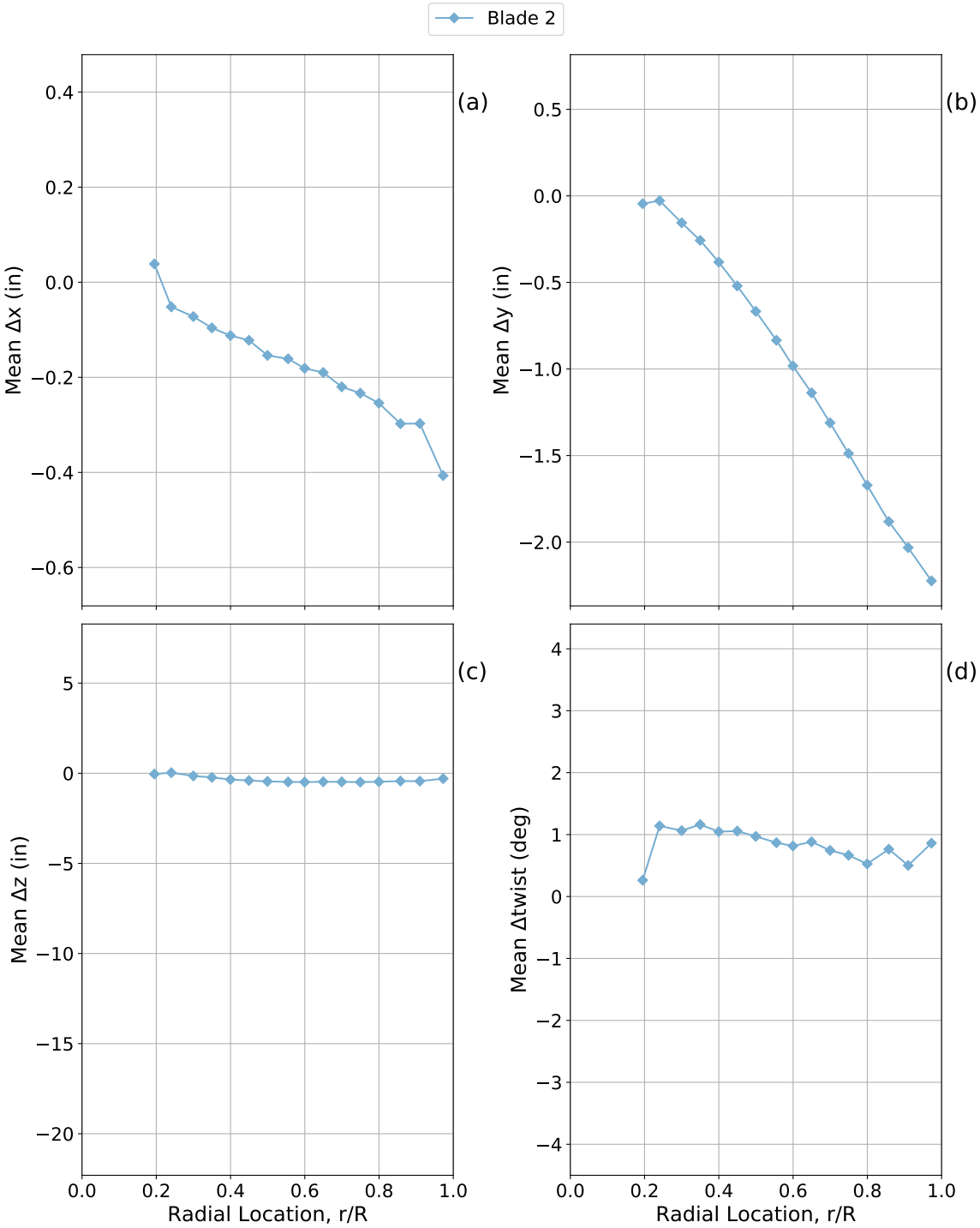


Figure 3.25-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.02$, $\mu = 0.35$, $\alpha = -8°$
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0385	0.0026	-0.0453	0.0020	-0.0440	0.0063	0.2629	0.0633
2	344.88	0.2405	-0.0518	0.0043	-0.0281	0.0050	0.0309	0.0072	1.1403	0.1521
2	344.88	0.2999	-0.0722	0.0038	-0.1556	0.0080	-0.1473	0.0230	1.0637	0.1850
2	344.88	0.3498	-0.0961	0.0038	-0.2573	0.0117	-0.2305	0.0411	1.1621	0.1801
2	344.88	0.3998	-0.1122	0.0068	-0.3825	0.0208	-0.3454	0.0605	1.0471	0.1594
2	344.88	0.4496	-0.1221	0.0048	-0.5201	0.0256	-0.4025	0.0807	1.0568	0.1370
2	344.88	0.4995	-0.1539	0.0055	-0.6671	0.0320	-0.4508	0.0940	0.9709	0.1585
2	344.88	0.5551	-0.1611	0.0061	-0.8340	0.0408	-0.4802	0.1095	0.8687	0.1695
2	344.88	0.5996	-0.1811	0.0058	-0.9824	0.0486	-0.4883	0.1198	0.8163	0.1708
2	344.88	0.6497	-0.1898	0.0053	-1.1376	0.0572	-0.4713	0.1335	0.8838	0.1563
2	344.88	0.6996	-0.2200	0.0060	-1.3110	0.0674	-0.4784	0.1434	0.7444	0.1803
2	344.88	0.7495	-0.2333	0.0069	-1.4880	0.0762	-0.4892	0.1537	0.6666	0.1640
2	344.88	0.7996	-0.2542	0.0069	-1.6712	0.0875	-0.4697	0.1664	0.5265	0.1705
2	344.88	0.8578	-0.2976	0.0071	-1.8814	0.0995	-0.4325	0.1776	0.7641	0.1669
2	344.88	0.9100	-0.2972	0.0074	-2.0318	0.1107	-0.4381	0.1919	0.5018	0.1619
2	344.88	0.9727	-0.4067	0.0095	-2.2238	0.1238	-0.2982	0.2113	0.8612	0.1708

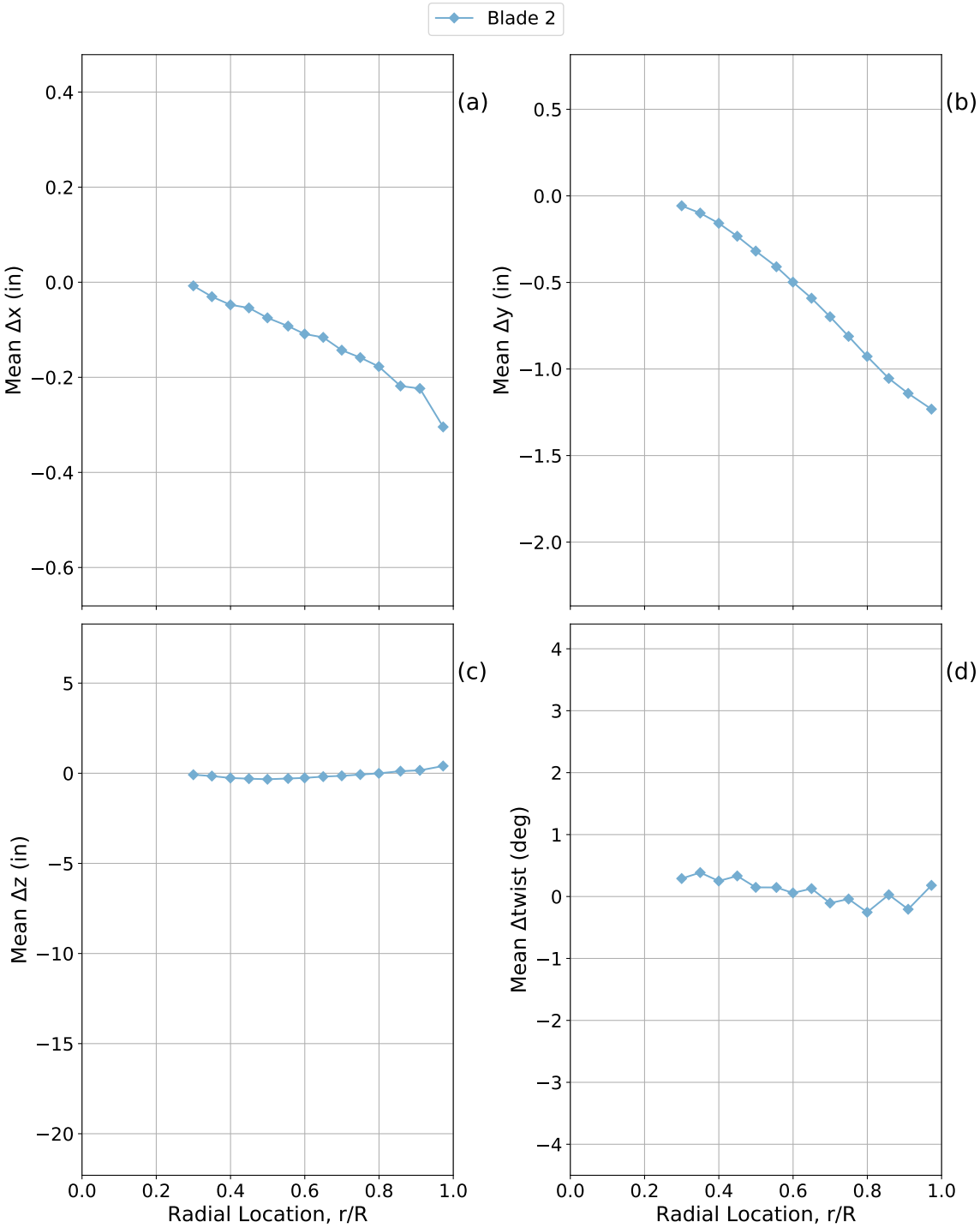


Figure 3.25-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2999	-0.0076	0.0090	-0.0574	0.0201	-0.0809	0.0377	0.2903	0.1343
2	350.16	0.3498	-0.0304	0.0101	-0.0995	0.0350	-0.1558	0.0639	0.3864	0.1781
2	350.16	0.3998	-0.0475	0.0102	-0.1583	0.0557	-0.2622	0.1004	0.2505	0.1708
2	350.16	0.4496	-0.0540	0.0091	-0.2333	0.0769	-0.3010	0.1250	0.3323	0.1709
2	350.16	0.4995	-0.0749	0.0097	-0.3189	0.0937	-0.3326	0.1516	0.1478	0.1795
2	350.16	0.5551	-0.0923	0.0099	-0.4095	0.1145	-0.2910	0.1843	0.1462	0.1692
2	350.16	0.5996	-0.1089	0.0094	-0.4983	0.1321	-0.2576	0.2100	0.0577	0.1720
2	350.16	0.6497	-0.1160	0.0105	-0.5913	0.1511	-0.1862	0.2415	0.1276	0.1665
2	350.16	0.6996	-0.1429	0.0097	-0.6982	0.1703	-0.1419	0.2709	-0.1057	0.1826
2	350.16	0.7495	-0.1585	0.0099	-0.8116	0.1885	-0.0722	0.3050	-0.0401	0.1820
2	350.16	0.7996	-0.1774	0.0098	-0.9276	0.2084	-0.0045	0.3463	-0.2542	0.1849
2	350.16	0.8578	-0.2183	0.0107	-1.0544	0.2322	0.1149	0.3954	0.0288	0.1947
2	350.16	0.9100	-0.2235	0.0103	-1.1412	0.2529	0.1620	0.4431	-0.2057	0.1987
2	350.16	0.9727	-0.3043	0.0158	-1.2319	0.2771	0.4026	0.5078	0.1802	0.1797

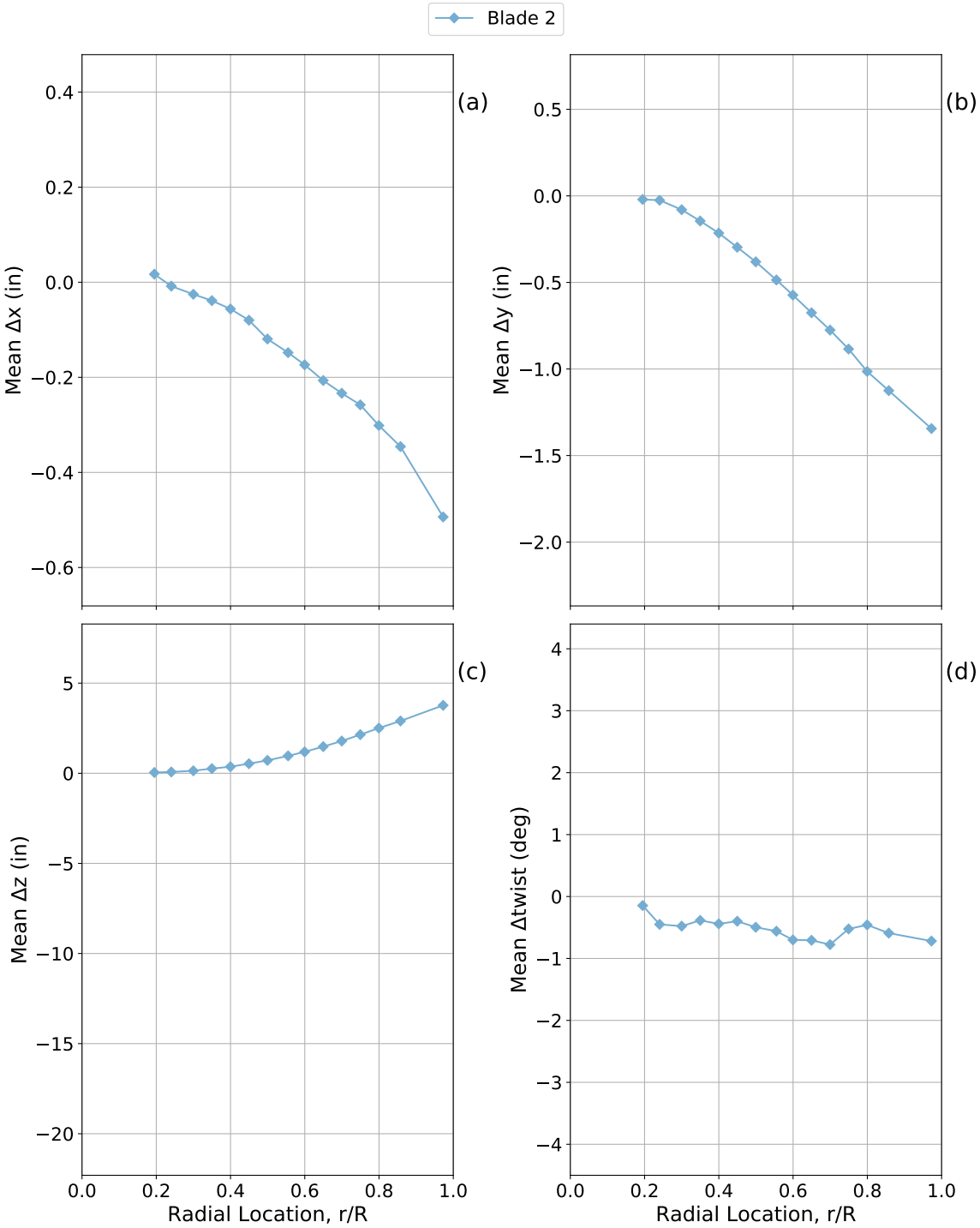


Figure 3.25-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.02, μ = 0.35, α = -8° NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Table 3.25-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.02, μ = 0.35, α = -8°
NFAC run 63, point 24. BD run 30, points 4504 to 4514.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0169	0.0065	-0.0208	0.0027	0.0423	0.0046	-0.1459	0.0410
2	355.08	0.2405	-0.0082	0.0034	-0.0253	0.0046	0.0735	0.0054	-0.4496	0.0634
2	355.08	0.2999	-0.0253	0.0037	-0.0800	0.0106	0.1375	0.0119	-0.4783	0.0921
2	355.08	0.3498	-0.0387	0.0075	-0.1452	0.0203	0.2574	0.0204	-0.3855	0.0657
2	355.08	0.3998	-0.0562	0.0098	-0.2151	0.0292	0.3645	0.0290	-0.4408	0.0699
2	355.08	0.4496	-0.0799	0.0122	-0.2969	0.0388	0.5300	0.0399	-0.3992	0.0724
2	355.08	0.4995	-0.1194	0.0154	-0.3810	0.0445	0.7151	0.0479	-0.4960	0.0772
2	355.08	0.5551	-0.1481	0.0169	-0.4858	0.0595	0.9649	0.0612	-0.5598	0.0673
2	355.08	0.5996	-0.1737	0.0224	-0.5733	0.0671	1.1873	0.0682	-0.7007	0.0821
2	355.08	0.6497	-0.2067	0.0267	-0.6753	0.0778	1.4799	0.0750	-0.7067	0.0949
2	355.08	0.6996	-0.2335	0.0293	-0.7752	0.0880	1.7878	0.0842	-0.7761	0.0886
2	355.08	0.7495	-0.2579	0.0370	-0.8849	0.0967	2.1443	0.0981	-0.5236	0.0885
2	355.08	0.7996	-0.3013	0.0444	-1.0142	0.1134	2.5075	0.1109	-0.4586	0.0948
2	355.08	0.8578	-0.3457	0.0595	-1.1250	0.1278	2.9011	0.1358	-0.5909	0.2615
2	355.08	0.9727	-0.4937	0.0819	-1.3442	0.1475	3.7692	0.1890	-0.7188	0.1195

3.26 Run 66, Point 20

3.26.1 Pitch, Flap, and Lag

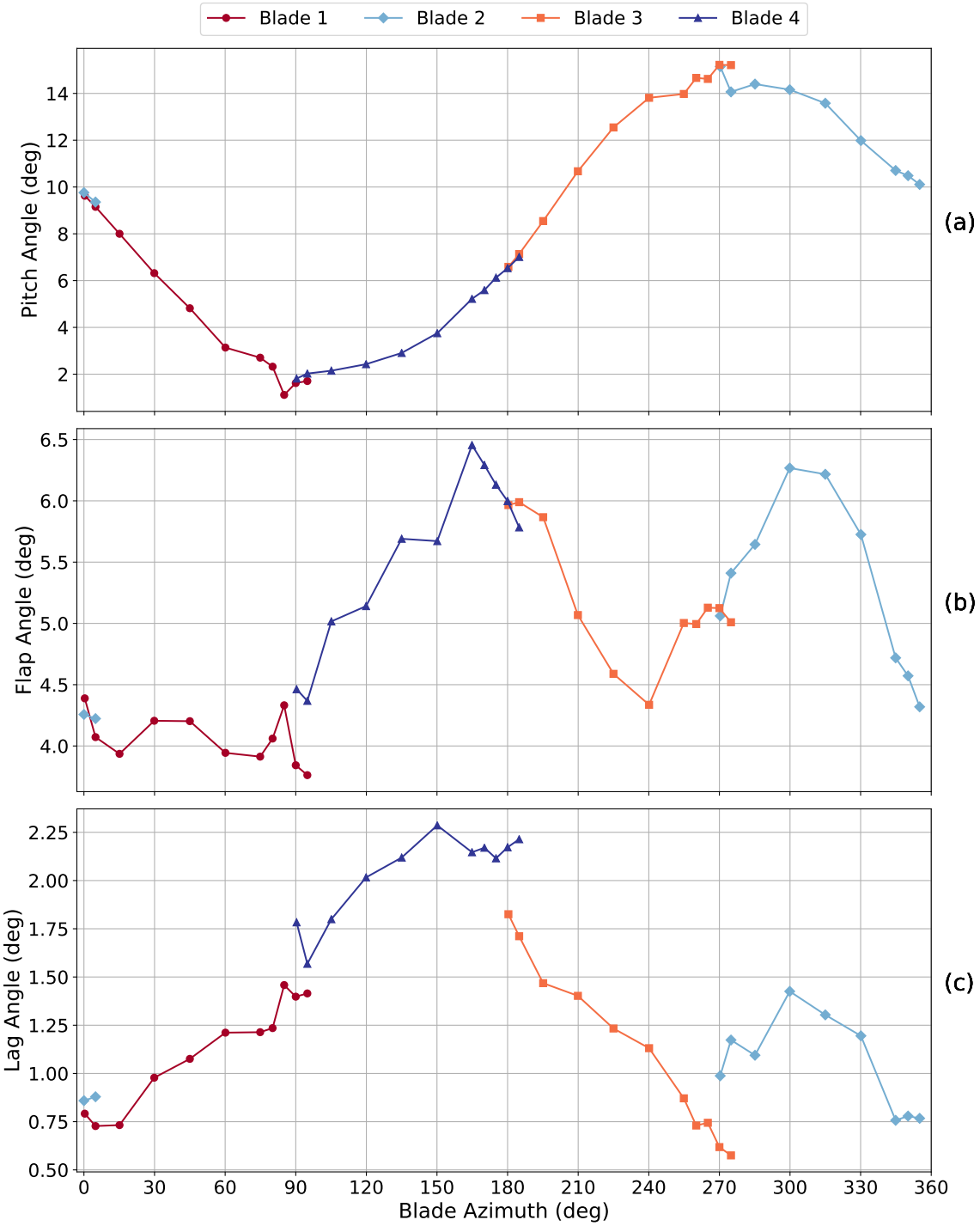


Figure 3.26-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	9.7608	4.2571	0.8589	0.2091	0.1546	0.0893
0.35	1	9.6274	4.3887	0.7916	0.1180	0.0935	0.0559
4.92	1	9.1525	4.0722	0.7273	0.1347	0.0931	0.0969
4.92	2	9.3570	4.2232	0.8792	0.0913	0.1011	0.0491
15.12	1	8.0011	3.9358	0.7323	0.1558	0.0560	0.0563
29.88	1	6.3180	4.2056	0.9780	0.1613	0.0759	0.0566
45	1	4.8189	4.2023	1.0756	0.0939	0.0690	0.0677
60.12	1	3.1376	3.9439	1.2115	0.0942	0.0825	0.0261
74.88	1	2.7059	3.9129	1.2139	0.1903	0.1629	0.0794
80.16	1	2.3212	4.0606	1.2351	0.1187	0.0747	0.0355
85.08	1	1.1154	4.3321	1.4582	0.2363	0.0903	0.0552
90	1	1.6212	3.8428	1.3980	0.0867	0.1277	0.0685
90.35	4	1.8120	4.4628	1.7833	0.0536	0.0721	0.0229
94.92	1	1.7076	3.7620	1.4148	0.0658	0.0662	0.0515
94.92	4	2.0274	4.3680	1.5682	0.1122	0.0643	0.0452
105.12	4	2.1482	5.0162	1.7995	0.0361	0.0994	0.0391
119.88	4	2.4273	5.1411	2.0162	0.0397	0.1377	0.0824
135	4	2.9068	5.6903	2.1191	0.0475	0.1293	0.0523
150.12	4	3.7514	5.6712	2.2860	0.0364	0.1875	0.0607
164.88	4	5.2189	6.4546	2.1466	0.1131	0.2607	0.0503
170.16	4	5.5926	6.2916	2.1700	0.0403	0.1272	0.0412
175.08	4	6.1239	6.1311	2.1150	0.1095	0.1813	0.0574
180	4	6.5315	5.9977	2.1723	0.1271	0.1534	0.0588
180.35	3	6.5869	5.9654	1.8254	0.3590	0.1137	0.1081
184.92	3	7.1369	5.9892	1.7113	0.4013	0.1490	0.1319
184.92	4	7.0100	5.7832	2.2141	0.0481	0.1025	0.0361
195.12	3	8.5439	5.8666	1.4681	0.0977	0.1149	0.0433
209.88	3	10.6726	5.0680	1.4023	0.1026	0.1561	0.0409
225	3	12.5466	4.5884	1.2331	0.0532	0.1155	0.0518
240.12	3	13.8122	4.3359	1.1310	0.0697	0.1407	0.0641
254.88	3	13.9757	5.0034	0.8710	0.0850	0.1803	0.1009
260.16	3	14.6627	4.9947	0.7301	0.1795	0.1916	0.0468
265.08	3	14.6191	5.1282	0.7442	0.2726	0.1818	0.0818
270	3	15.2200	5.1246	0.6183	0.2968	0.1824	0.1322
270.35	2	15.1485	5.0611	0.9878	0.4785	0.3650	0.1536
274.92	2	14.0654	5.4101	1.1733	0.1101	0.0940	0.1077
274.92	3	15.2093	5.0093	0.5752	0.3769	0.3079	0.1472
285.12	2	14.3990	5.6445	1.0943	0.0898	0.0719	0.1048
299.88	2	14.1596	6.2676	1.4255	0.1159	0.0742	0.0775
315	2	13.5795	6.2167	1.3036	0.0900	0.0848	0.0439
330.12	2	11.9834	5.7254	1.1949	0.0650	0.0921	0.0953
344.88	2	10.7054	4.7189	0.7570	0.0796	0.1257	0.1209
350.16	2	10.4834	4.5720	0.7791	0.0697	0.1191	0.0530
355.08	2	10.1086	4.3192	0.7673	0.1067	0.0971	0.0374

3.26.2 Spanwise Elastic Deformations

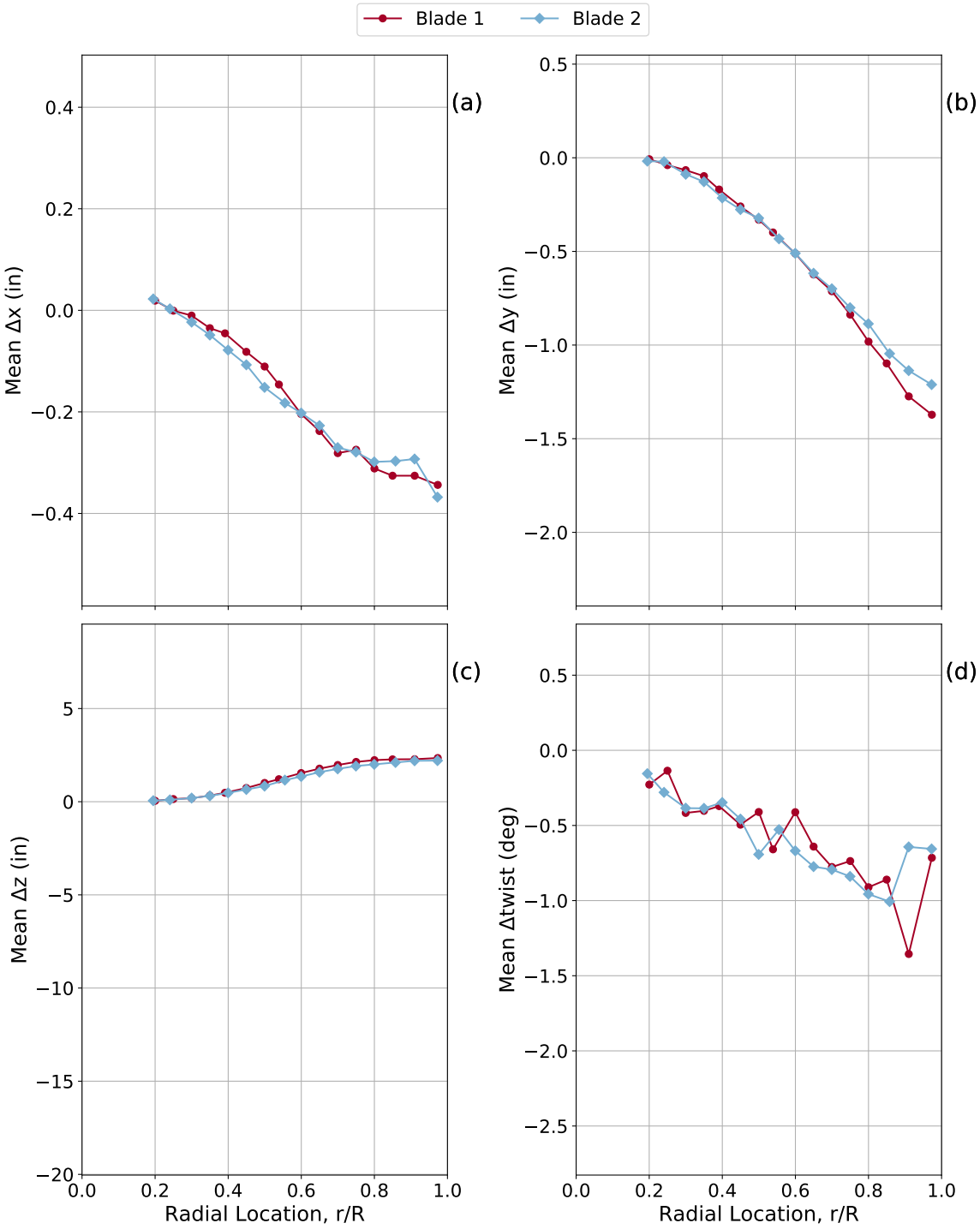


Figure 3.26-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0191	0.0032	-0.0076	0.0027	0.0478	0.0103	-0.2281	0.0699
1	0.35	0.2499	-0.0007	0.0020	-0.0393	0.0036	0.1424	0.0163	-0.1357	0.1183
1	0.35	0.2998	-0.0103	0.0017	-0.0660	0.0083	0.1878	0.0289	-0.4167	0.1520
1	0.35	0.3498	-0.0351	0.0037	-0.0980	0.0160	0.3282	0.0521	-0.4028	0.1289
1	0.35	0.3913	-0.0453	0.0031	-0.1695	0.0205	0.4792	0.0683	-0.3714	0.1364
1	0.35	0.4496	-0.0817	0.0038	-0.2597	0.0274	0.7357	0.0933	-0.4949	0.1326
1	0.35	0.4997	-0.1107	0.0040	-0.3309	0.0335	1.0074	0.1115	-0.4104	0.1360
1	0.35	0.5387	-0.1461	0.0043	-0.3988	0.0395	1.2080	0.1271	-0.6590	0.1442
1	0.35	0.5996	-0.2042	0.0038	-0.5110	0.0454	1.5372	0.1507	-0.4116	0.1263
1	0.35	0.6498	-0.2377	0.0052	-0.6232	0.0509	1.7756	0.1707	-0.6407	0.1400
1	0.35	0.6998	-0.2812	0.0049	-0.7127	0.0579	1.9706	0.1984	-0.7765	0.1213
1	0.35	0.7500	-0.2745	0.0059	-0.8374	0.0633	2.1364	0.2263	-0.7368	0.1362
1	0.35	0.8001	-0.3115	0.0062	-0.9816	0.0689	2.2305	0.2585	-0.9110	0.1420
1	0.35	0.8497	-0.3257	0.0069	-1.0981	0.0737	2.2737	0.2888	-0.8604	0.1340
1	0.35	0.9102	-0.3257	0.0200	-1.2741	0.0783	2.2811	0.3227	-1.3554	0.1746
1	0.35	0.9734	-0.3438	0.0100	-1.3720	0.0892	2.3451	0.3598	-0.7151	0.1340
2	0	0.1949	0.0224	0.0046	-0.0179	0.0020	0.0551	0.0078	-0.1551	0.0757
2	0	0.2405	0.0030	0.0013	-0.0208	0.0039	0.0999	0.0160	-0.2797	0.1148
2	0	0.2999	-0.0232	0.0015	-0.0880	0.0068	0.1958	0.0288	-0.3848	0.1727
2	0	0.3498	-0.0487	0.0022	-0.1279	0.0125	0.3132	0.0497	-0.3861	0.1385
2	0	0.3998	-0.0783	0.0023	-0.2144	0.0188	0.4753	0.0751	-0.3472	0.1531
2	0	0.4496	-0.1073	0.0027	-0.2765	0.0244	0.6562	0.1023	-0.4575	0.1398
2	0	0.4995	-0.1517	0.0036	-0.3222	0.0287	0.8377	0.1317	-0.6928	0.1463
2	0	0.5551	-0.1824	0.0041	-0.4327	0.0326	1.1593	0.1710	-0.5276	0.1561
2	0	0.5996	-0.2022	0.0044	-0.5101	0.0369	1.3516	0.2033	-0.6688	0.1450
2	0	0.6497	-0.2270	0.0056	-0.6168	0.0431	1.5858	0.2398	-0.7739	0.1573
2	0	0.6996	-0.2703	0.0058	-0.6995	0.0495	1.7618	0.2746	-0.7937	0.1607
2	0	0.7495	-0.2791	0.0067	-0.8005	0.0546	1.9143	0.3099	-0.8391	0.1533
2	0	0.7996	-0.2985	0.0067	-0.8865	0.0601	2.0045	0.3499	-0.9566	0.1572
2	0	0.8578	-0.2969	0.0072	-1.0459	0.0661	2.1062	0.4054	-1.0068	0.1732
2	0	0.9100	-0.2928	0.0138	-1.1364	0.0710	2.1967	0.4642	-0.6427	0.2114
2	0	0.9727	-0.3679	0.0107	-1.2110	0.0786	2.2058	0.5237	-0.6562	0.1979

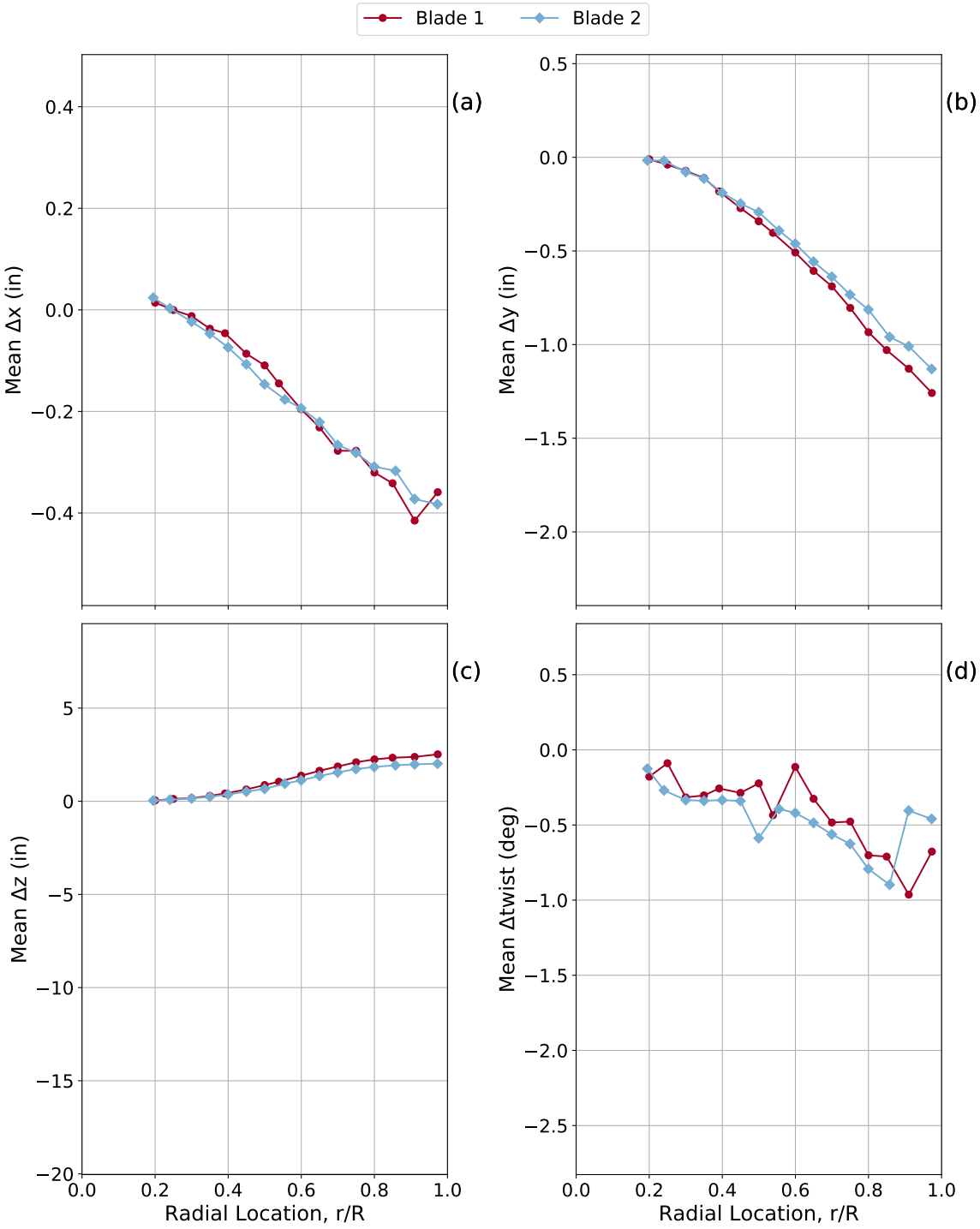


Figure 3.26-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0142	0.0043	-0.0108	0.0024	0.0448	0.0100	-0.1782	0.0420
1	4.92	0.2499	-0.0002	0.0026	-0.0390	0.0046	0.1246	0.0140	-0.0889	0.1157
1	4.92	0.2998	-0.0122	0.0021	-0.0721	0.0094	0.1648	0.0312	-0.3163	0.1073
1	4.92	0.3498	-0.0371	0.0021	-0.1105	0.0172	0.2906	0.0504	-0.3031	0.1023
1	4.92	0.3913	-0.0460	0.0020	-0.1819	0.0239	0.4168	0.0695	-0.2569	0.1053
1	4.92	0.4496	-0.0863	0.0026	-0.2713	0.0333	0.6332	0.0986	-0.2862	0.1018
1	4.92	0.4997	-0.1093	0.0024	-0.3416	0.0430	0.8689	0.1250	-0.2232	0.0965
1	4.92	0.5387	-0.1449	0.0028	-0.4034	0.0506	1.0484	0.1477	-0.4350	0.1020
1	4.92	0.5996	-0.1956	0.0038	-0.5081	0.0639	1.3715	0.1839	-0.1134	0.1177
1	4.92	0.6498	-0.2315	0.0043	-0.6066	0.0751	1.6351	0.2122	-0.3256	0.1380
1	4.92	0.6998	-0.2775	0.0050	-0.6890	0.0859	1.8667	0.2434	-0.4833	0.1289
1	4.92	0.7500	-0.2775	0.0065	-0.8040	0.1018	2.0926	0.2756	-0.4773	0.1590
1	4.92	0.8001	-0.3203	0.0076	-0.9340	0.1145	2.2471	0.3121	-0.7016	0.1794
1	4.92	0.8497	-0.3415	0.0077	-1.0293	0.1291	2.3359	0.3476	-0.7103	0.1787
1	4.92	0.9102	-0.4150	0.0095	-1.1288	0.1458	2.3784	0.4049	-0.9631	0.1693
1	4.92	0.9734	-0.3590	0.0140	-1.2584	0.1649	2.5188	0.4602	-0.6770	0.1655
2	4.92	0.1949	0.0240	0.0040	-0.0162	0.0021	0.0412	0.0067	-0.1254	0.0484
2	4.92	0.2405	0.0029	0.0020	-0.0184	0.0042	0.0827	0.0124	-0.2695	0.0770
2	4.92	0.2999	-0.0233	0.0020	-0.0780	0.0065	0.1493	0.0241	-0.3343	0.1131
2	4.92	0.3498	-0.0469	0.0014	-0.1135	0.0114	0.2402	0.0425	-0.3388	0.1137
2	4.92	0.3998	-0.0739	0.0017	-0.1894	0.0175	0.3657	0.0631	-0.3345	0.1031
2	4.92	0.4496	-0.1071	0.0019	-0.2469	0.0247	0.5182	0.0841	-0.3399	0.1093
2	4.92	0.4995	-0.1465	0.0030	-0.2928	0.0300	0.6649	0.1048	-0.5877	0.1054
2	4.92	0.5551	-0.1765	0.0034	-0.3915	0.0367	0.9457	0.1279	-0.3930	0.1112
2	4.92	0.5996	-0.1937	0.0034	-0.4615	0.0419	1.1226	0.1448	-0.4197	0.1145
2	4.92	0.6497	-0.2212	0.0044	-0.5577	0.0491	1.3609	0.1654	-0.4857	0.1060
2	4.92	0.6996	-0.2662	0.0042	-0.6381	0.0550	1.5464	0.1898	-0.5626	0.1226
2	4.92	0.7495	-0.2814	0.0053	-0.7336	0.0619	1.7284	0.2210	-0.6254	0.1089
2	4.92	0.7996	-0.3088	0.0053	-0.8131	0.0697	1.8396	0.2480	-0.7924	0.1342
2	4.92	0.8578	-0.3170	0.0049	-0.9594	0.0788	1.9310	0.2818	-0.8974	0.1262
2	4.92	0.9100	-0.3726	0.0036	-1.0092	0.0893	1.9815	0.3218	-0.4043	0.1078
2	4.92	0.9727	-0.3827	0.0079	-1.1303	0.0976	2.0150	0.3613	-0.4596	0.1209

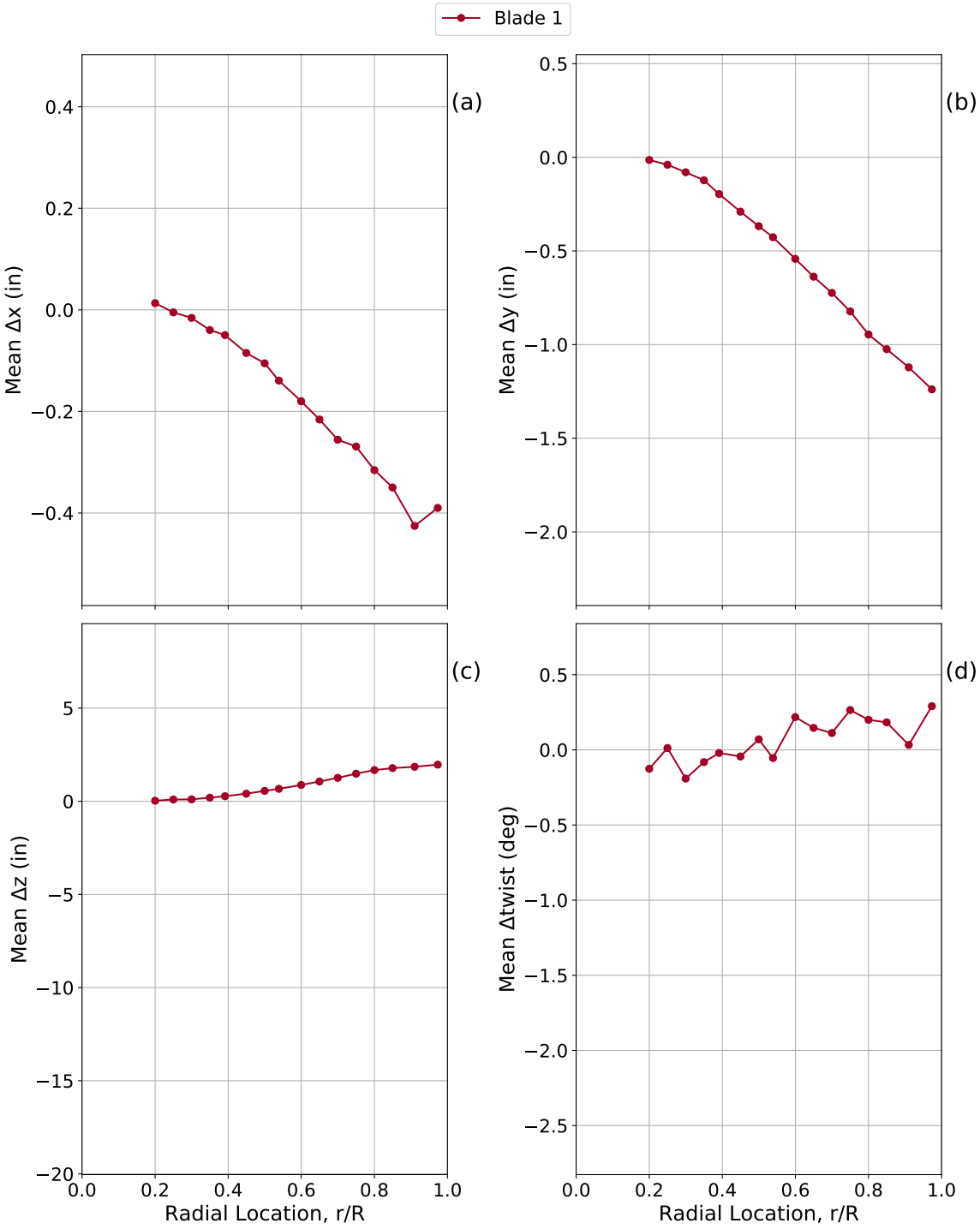


Figure 3.26-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0133	0.0071	-0.0141	0.0024	0.0283	0.0087	-0.1259	0.0640
1	15.12	0.2499	-0.0049	0.0029	-0.0397	0.0054	0.0941	0.0161	0.0121	0.1321
1	15.12	0.2998	-0.0158	0.0024	-0.0798	0.0098	0.1016	0.0266	-0.1911	0.1548
1	15.12	0.3498	-0.0397	0.0030	-0.1226	0.0181	0.1922	0.0474	-0.0815	0.1266
1	15.12	0.3913	-0.0497	0.0031	-0.1963	0.0255	0.2717	0.0641	-0.0205	0.1151
1	15.12	0.4496	-0.0848	0.0032	-0.2902	0.0362	0.4064	0.0910	-0.0441	0.1328
1	15.12	0.4997	-0.1052	0.0035	-0.3677	0.0464	0.5567	0.1188	0.0701	0.1324
1	15.12	0.5387	-0.1393	0.0037	-0.4267	0.0550	0.6681	0.1383	-0.0544	0.1421
1	15.12	0.5996	-0.1799	0.0045	-0.5422	0.0677	0.8730	0.1681	0.2181	0.1349
1	15.12	0.6498	-0.2159	0.0049	-0.6376	0.0789	1.0617	0.1890	0.1465	0.1424
1	15.12	0.6998	-0.2558	0.0054	-0.7239	0.0911	1.2562	0.2054	0.1121	0.1560
1	15.12	0.7500	-0.2692	0.0063	-0.8228	0.1033	1.4778	0.2184	0.2650	0.1553
1	15.12	0.8001	-0.3156	0.0074	-0.9461	0.1170	1.6729	0.2312	0.1999	0.1619
1	15.12	0.8497	-0.3497	0.0081	-1.0243	0.1314	1.7784	0.2391	0.1831	0.1684
1	15.12	0.9102	-0.4255	0.0087	-1.1215	0.1484	1.8498	0.2495	0.0327	0.1710
1	15.12	0.9734	-0.3900	0.0124	-1.2390	0.1666	1.9640	0.2638	0.2907	0.1693

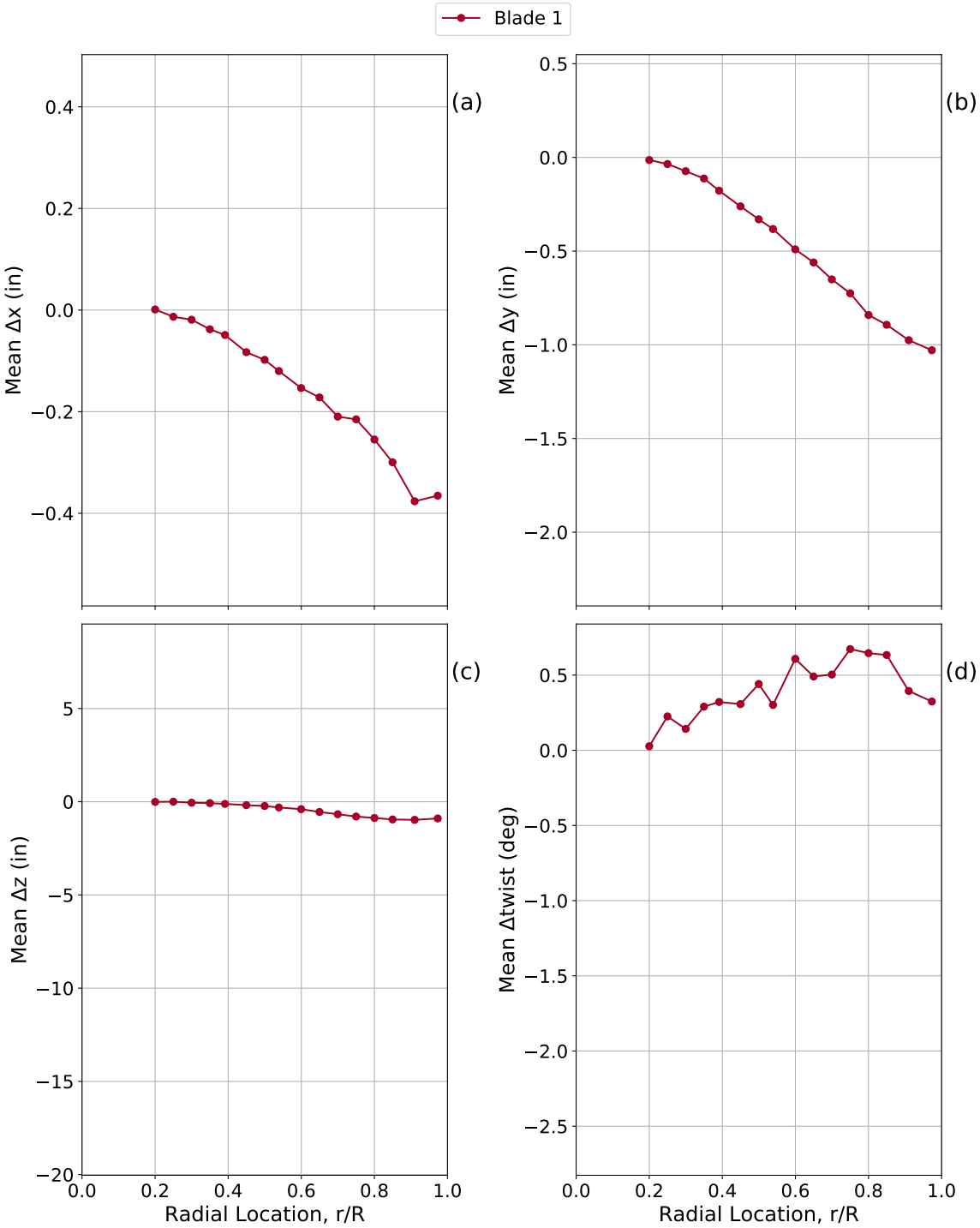


Figure 3.26-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0011	0.0041	-0.0140	0.0016	-0.0103	0.0051	0.0269	0.0333
1	29.88	0.2499	-0.0132	0.0028	-0.0354	0.0025	0.0023	0.0083	0.2254	0.0790
1	29.88	0.2998	-0.0190	0.0022	-0.0733	0.0058	-0.0528	0.0189	0.1425	0.0795
1	29.88	0.3498	-0.0378	0.0028	-0.1126	0.0101	-0.0767	0.0293	0.2903	0.0704
1	29.88	0.3913	-0.0491	0.0028	-0.1777	0.0139	-0.1161	0.0430	0.3215	0.0805
1	29.88	0.4496	-0.0829	0.0024	-0.2611	0.0194	-0.1847	0.0678	0.3072	0.0741
1	29.88	0.4997	-0.0980	0.0034	-0.3303	0.0241	-0.2283	0.0894	0.4406	0.0766
1	29.88	0.5387	-0.1200	0.0032	-0.3822	0.0282	-0.3103	0.1045	0.3016	0.0777
1	29.88	0.5996	-0.1535	0.0044	-0.4906	0.0353	-0.4006	0.1288	0.6082	0.0762
1	29.88	0.6498	-0.1720	0.0041	-0.5606	0.0417	-0.5499	0.1461	0.4907	0.0666
1	29.88	0.6998	-0.2097	0.0053	-0.6510	0.0491	-0.6717	0.1659	0.5039	0.0704
1	29.88	0.7500	-0.2151	0.0053	-0.7254	0.0559	-0.7949	0.1860	0.6732	0.0671
1	29.88	0.8001	-0.2548	0.0049	-0.8411	0.0645	-0.8716	0.2082	0.6462	0.0705
1	29.88	0.8497	-0.2996	0.0049	-0.8931	0.0718	-0.9519	0.2334	0.6338	0.0806
1	29.88	0.9102	-0.3764	0.0043	-0.9754	0.0810	-0.9728	0.2704	0.3944	0.0921
1	29.88	0.9734	-0.3653	0.0067	-1.0290	0.0914	-0.8981	0.3161	0.3245	0.0771

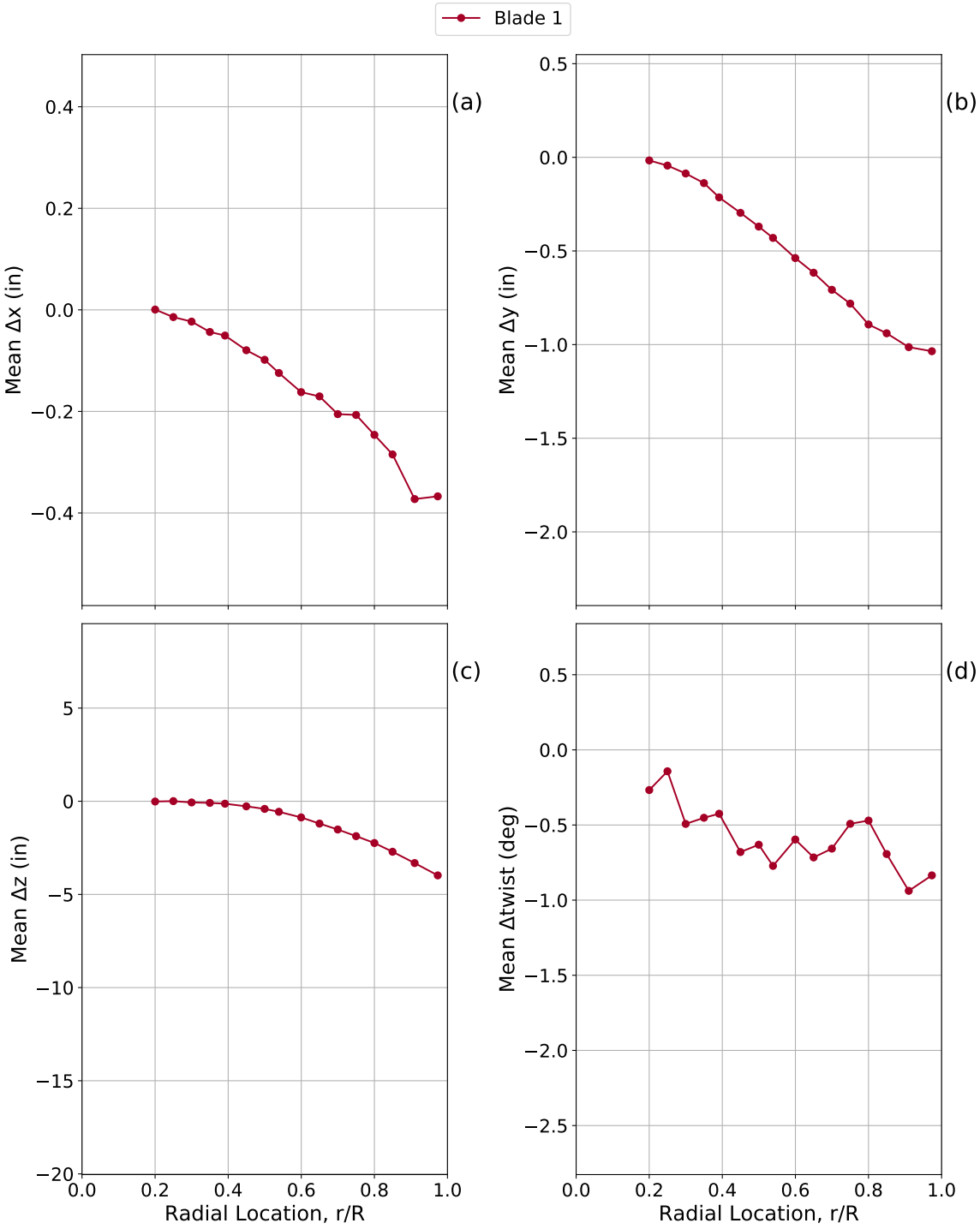


Figure 3.26-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0006	0.0033	-0.0167	0.0016	-0.0141	0.0049	-0.2675	0.0291
1	45	0.2499	-0.0142	0.0028	-0.0441	0.0037	0.0072	0.0113	-0.1425	0.0641
1	45	0.2998	-0.0231	0.0019	-0.0863	0.0069	-0.0645	0.0192	-0.4928	0.0693
1	45	0.3498	-0.0435	0.0016	-0.1377	0.0118	-0.0873	0.0322	-0.4519	0.0834
1	45	0.3913	-0.0506	0.0022	-0.2139	0.0174	-0.1318	0.0470	-0.4250	0.0811
1	45	0.4496	-0.0795	0.0023	-0.2965	0.0257	-0.2730	0.0698	-0.6800	0.0855
1	45	0.4997	-0.0983	0.0028	-0.3699	0.0333	-0.4102	0.0946	-0.6311	0.0813
1	45	0.5387	-0.1243	0.0032	-0.4303	0.0411	-0.5656	0.1104	-0.7721	0.0994
1	45	0.5996	-0.1620	0.0040	-0.5378	0.0520	-0.8675	0.1357	-0.5966	0.0988
1	45	0.6498	-0.1704	0.0052	-0.6162	0.0612	-1.1987	0.1547	-0.7158	0.0976
1	45	0.6998	-0.2053	0.0057	-0.7074	0.0706	-1.5162	0.1732	-0.6573	0.1081
1	45	0.7500	-0.2069	0.0063	-0.7812	0.0813	-1.8731	0.1924	-0.4921	0.0955
1	45	0.8001	-0.2462	0.0069	-0.8925	0.0914	-2.2411	0.2169	-0.4705	0.1141
1	45	0.8497	-0.2847	0.0081	-0.9396	0.1018	-2.7104	0.2501	-0.6932	0.1054
1	45	0.9102	-0.3726	0.0107	-1.0136	0.1140	-3.3173	0.2999	-0.9381	0.1137
1	45	0.9734	-0.3672	0.0137	-1.0354	0.1274	-3.9789	0.3656	-0.8352	0.1129

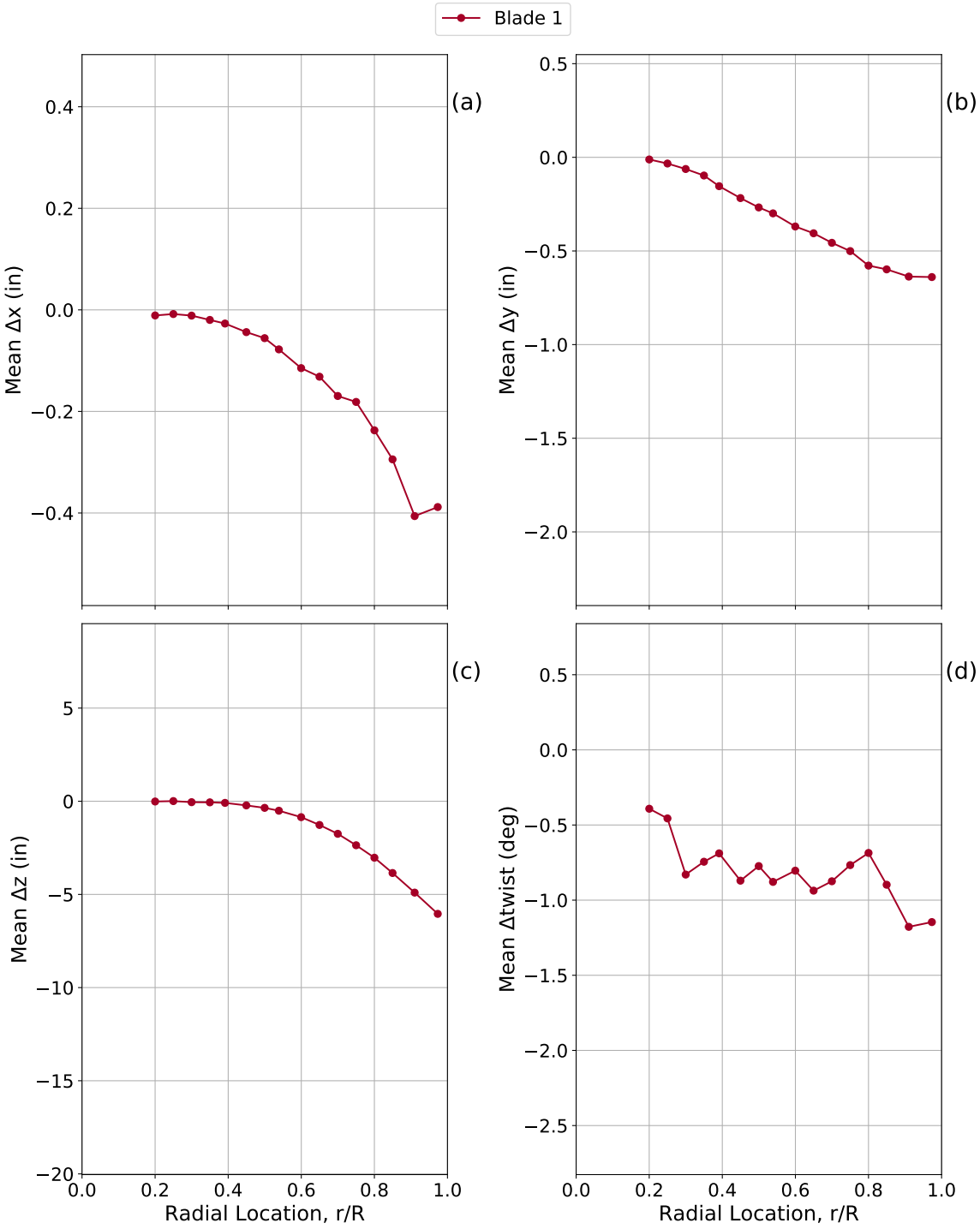


Figure 3.26-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0110	0.0021	-0.0115	0.0012	-0.0134	0.0027	-0.3918	0.0291
1	60.12	0.2499	-0.0082	0.0018	-0.0331	0.0014	0.0091	0.0081	-0.4561	0.0620
1	60.12	0.2998	-0.0113	0.0012	-0.0624	0.0044	-0.0495	0.0102	-0.8298	0.0634
1	60.12	0.3498	-0.0198	0.0018	-0.0972	0.0065	-0.0586	0.0186	-0.7445	0.0626
1	60.12	0.3913	-0.0269	0.0018	-0.1541	0.0093	-0.0876	0.0271	-0.6887	0.0835
1	60.12	0.4496	-0.0438	0.0026	-0.2177	0.0140	-0.2228	0.0422	-0.8704	0.0671
1	60.12	0.4997	-0.0557	0.0033	-0.2676	0.0194	-0.3545	0.0588	-0.7734	0.0735
1	60.12	0.5387	-0.0778	0.0022	-0.2992	0.0237	-0.5079	0.0730	-0.8786	0.0905
1	60.12	0.5996	-0.1147	0.0033	-0.3694	0.0315	-0.8533	0.0929	-0.8039	0.0832
1	60.12	0.6498	-0.1316	0.0038	-0.4056	0.0381	-1.2727	0.1108	-0.9369	0.0869
1	60.12	0.6998	-0.1696	0.0039	-0.4565	0.0463	-1.7470	0.1279	-0.8744	0.0816
1	60.12	0.7500	-0.1813	0.0043	-0.5007	0.0558	-2.3610	0.1453	-0.7668	0.0716
1	60.12	0.8001	-0.2372	0.0052	-0.5782	0.0645	-3.0297	0.1634	-0.6860	0.0746
1	60.12	0.8497	-0.2944	0.0061	-0.5983	0.0739	-3.8511	0.1777	-0.8976	0.0792
1	60.12	0.9102	-0.4061	0.0072	-0.6369	0.0860	-4.9027	0.2014	-1.1776	0.0745
1	60.12	0.9734	-0.3883	0.0107	-0.6394	0.0988	-6.0432	0.2339	-1.1460	0.0630

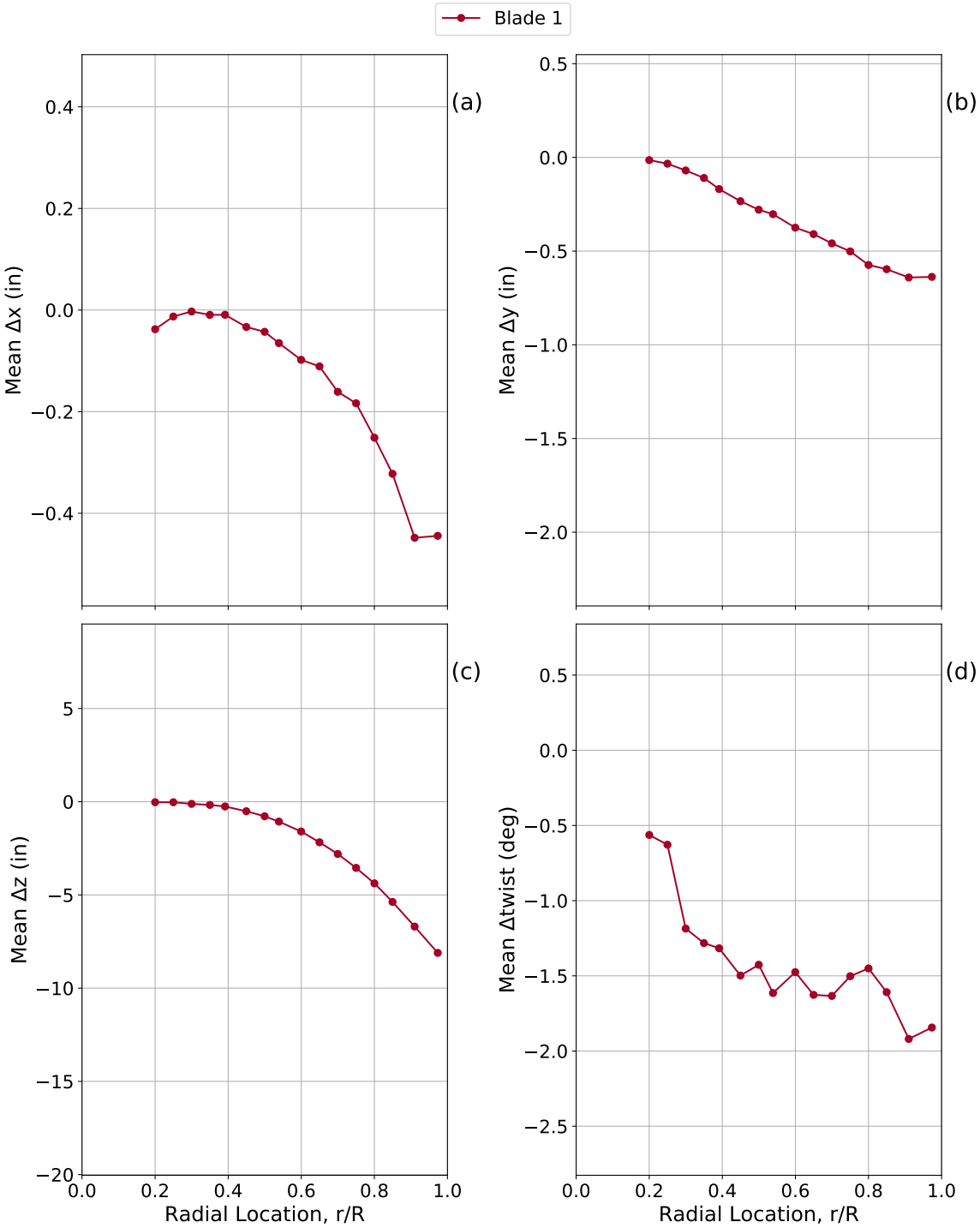


Figure 3.26-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0377	0.0064	-0.0144	0.0032	-0.0275	0.0089	-0.5632	0.0644
1	74.88	0.2499	-0.0127	0.0022	-0.0335	0.0044	-0.0277	0.0162	-0.6279	0.1286
1	74.88	0.2998	-0.0028	0.0015	-0.0697	0.0113	-0.1153	0.0321	-1.1857	0.1545
1	74.88	0.3498	-0.0095	0.0026	-0.1097	0.0192	-0.1708	0.0554	-1.2822	0.1582
1	74.88	0.3913	-0.0093	0.0028	-0.1689	0.0265	-0.2552	0.0777	-1.3166	0.1506
1	74.88	0.4496	-0.0333	0.0027	-0.2337	0.0372	-0.5112	0.1115	-1.4980	0.1499
1	74.88	0.4997	-0.0428	0.0029	-0.2792	0.0462	-0.7813	0.1430	-1.4264	0.1592
1	74.88	0.5387	-0.0650	0.0031	-0.3029	0.0543	-1.0663	0.1709	-1.6145	0.1710
1	74.88	0.5996	-0.0980	0.0041	-0.3749	0.0678	-1.5974	0.2165	-1.4754	0.1620
1	74.88	0.6498	-0.1109	0.0047	-0.4093	0.0800	-2.1759	0.2555	-1.6266	0.1733
1	74.88	0.6998	-0.1609	0.0060	-0.4587	0.0920	-2.8019	0.2949	-1.6337	0.1769
1	74.88	0.7500	-0.1835	0.0069	-0.5016	0.1050	-3.5491	0.3350	-1.5023	0.1811
1	74.88	0.8001	-0.2512	0.0082	-0.5740	0.1184	-4.3793	0.3730	-1.4506	0.1739
1	74.88	0.8497	-0.3223	0.0107	-0.5966	0.1322	-5.3753	0.4045	-1.6087	0.1895
1	74.88	0.9102	-0.4482	0.0128	-0.6408	0.1494	-6.6971	0.4422	-1.9196	0.1954
1	74.88	0.9734	-0.4444	0.0114	-0.6376	0.1680	-8.1077	0.4797	-1.8438	0.1939

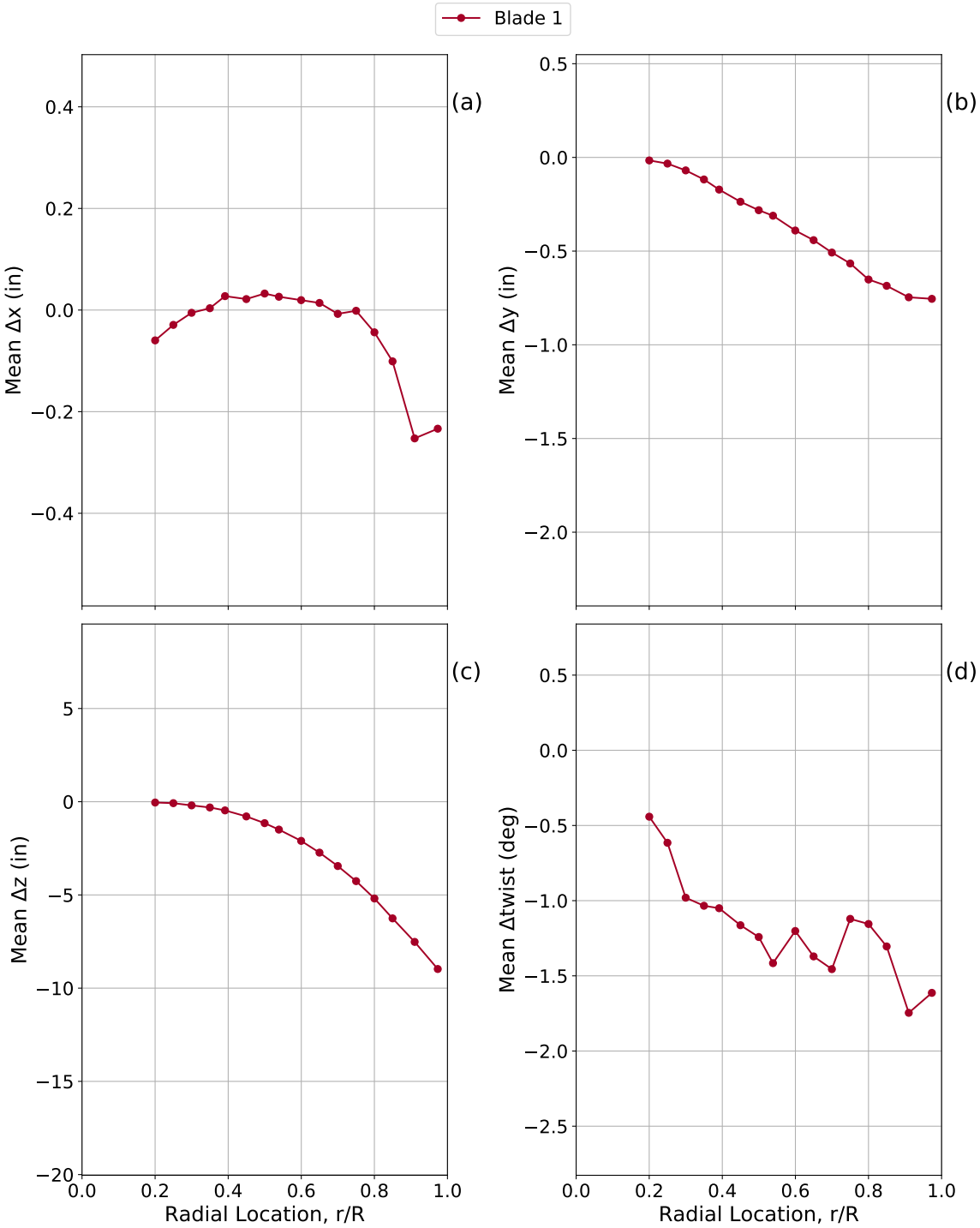


Figure 3.26-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0597	0.0051	-0.0161	0.0018	-0.0437	0.0063	-0.4416	0.0251
1	80.16	0.2499	-0.0292	0.0017	-0.0330	0.0033	-0.0776	0.0122	-0.6151	0.0755
1	80.16	0.2998	-0.0054	0.0021	-0.0693	0.0073	-0.1971	0.0238	-0.9803	0.0658
1	80.16	0.3498	0.0036	0.0041	-0.1177	0.0118	-0.3085	0.0398	-1.0340	0.0702
1	80.16	0.3913	0.0274	0.0053	-0.1717	0.0173	-0.4654	0.0573	-1.0503	0.0671
1	80.16	0.4496	0.0216	0.0083	-0.2366	0.0252	-0.7893	0.0833	-1.1633	0.0710
1	80.16	0.4997	0.0325	0.0113	-0.2818	0.0332	-1.1496	0.1091	-1.2418	0.0756
1	80.16	0.5387	0.0262	0.0129	-0.3111	0.0398	-1.4950	0.1309	-1.4156	0.0711
1	80.16	0.5996	0.0195	0.0169	-0.3901	0.0502	-2.1010	0.1637	-1.2018	0.0720
1	80.16	0.6498	0.0140	0.0201	-0.4416	0.0590	-2.7309	0.1894	-1.3708	0.0672
1	80.16	0.6998	-0.0075	0.0241	-0.5077	0.0669	-3.4498	0.2127	-1.4553	0.1073
1	80.16	0.7500	-0.0014	0.0252	-0.5660	0.0776	-4.2591	0.2413	-1.1212	0.0897
1	80.16	0.8001	-0.0438	0.0260	-0.6516	0.0900	-5.1899	0.2707	-1.1552	0.1450
1	80.16	0.8497	-0.1010	0.0317	-0.6852	0.0975	-6.2574	0.2911	-1.3045	0.1002
1	80.16	0.9102	-0.2526	0.0208	-0.7465	0.1135	-7.5192	0.4378	-1.7460	0.0925
1	80.16	0.9734	-0.2335	0.0378	-0.7547	0.1336	-8.9729	0.4752	-1.6131	0.0956

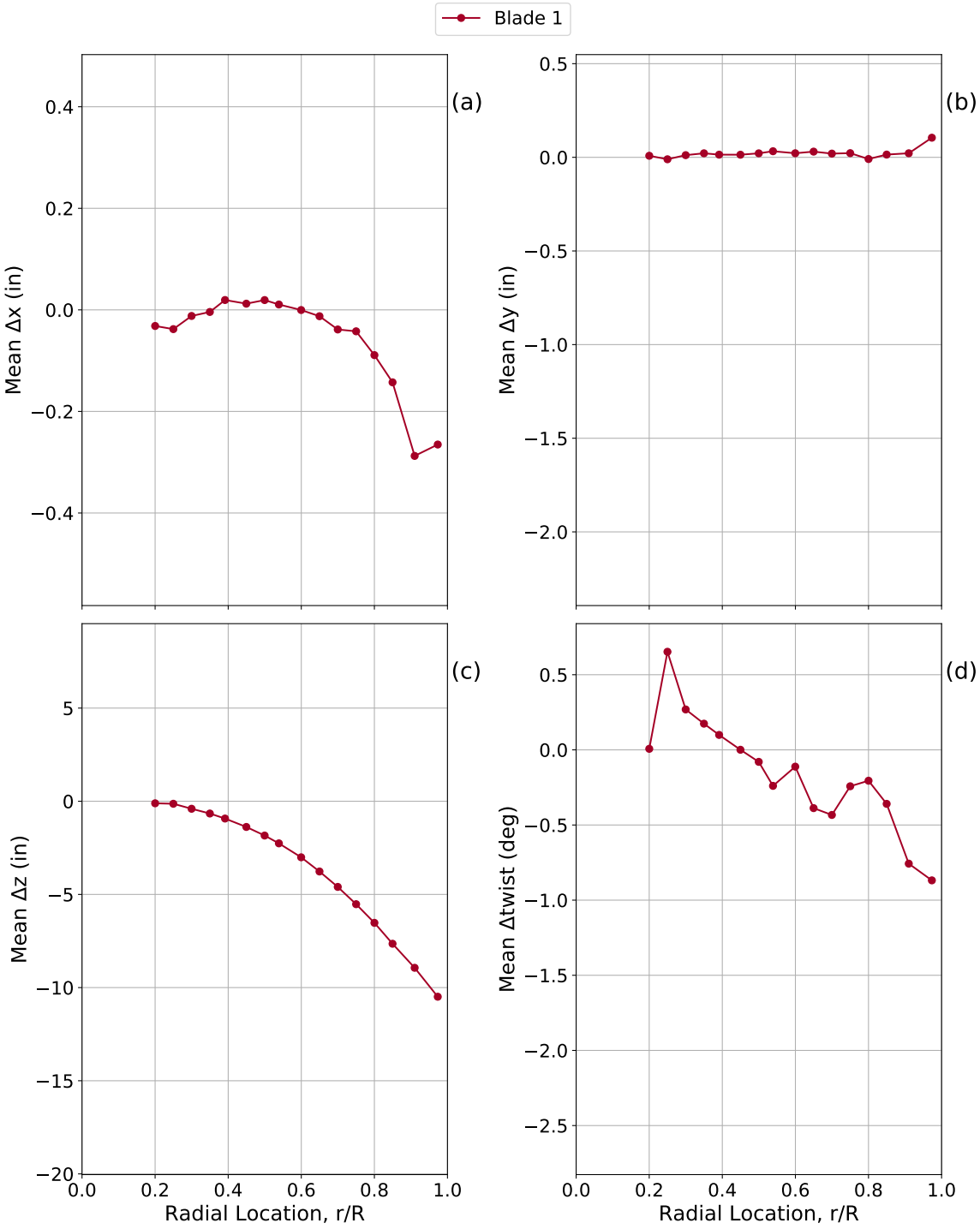


Figure 3.26-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0317	0.0070	0.0083	0.0029	-0.1092	0.0097	0.0069	0.0847
1	85.08	0.2499	-0.0379	0.0028	-0.0104	0.0031	-0.1347	0.0097	0.6527	0.2246
1	85.08	0.2998	-0.0120	0.0013	0.0116	0.0096	-0.4031	0.0316	0.2689	0.2291
1	85.08	0.3498	-0.0041	0.0037	0.0215	0.0163	-0.6583	0.0537	0.1742	0.2272
1	85.08	0.3913	0.0194	0.0052	0.0142	0.0221	-0.9277	0.0719	0.0994	0.2299
1	85.08	0.4496	0.0122	0.0071	0.0139	0.0304	-1.3794	0.0966	0.0006	0.2261
1	85.08	0.4997	0.0193	0.0077	0.0213	0.0381	-1.8400	0.1171	-0.0798	0.2248
1	85.08	0.5387	0.0106	0.0084	0.0325	0.0437	-2.2593	0.1341	-0.2396	0.2316
1	85.08	0.5996	-0.0003	0.0091	0.0217	0.0530	-3.0076	0.1596	-0.1117	0.2296
1	85.08	0.6498	-0.0125	0.0104	0.0304	0.0614	-3.7696	0.1818	-0.3877	0.2278
1	85.08	0.6998	-0.0386	0.0114	0.0198	0.0704	-4.5970	0.2022	-0.4331	0.2239
1	85.08	0.7500	-0.0422	0.0125	0.0222	0.0785	-5.5242	0.2184	-0.2422	0.2516
1	85.08	0.8001	-0.0891	0.0145	-0.0091	0.0861	-6.5253	0.2382	-0.2053	0.2273
1	85.08	0.8497	-0.1427	0.0149	0.0146	0.0961	-7.6474	0.2594	-0.3593	0.2451
1	85.08	0.9102	-0.2876	0.0085	0.0216	0.1414	-8.9382	0.1489	-0.7572	0.2480
1	85.08	0.9734	-0.2652	0.0244	0.1047	0.1464	-10.4909	0.1612	-0.8684	0.2501

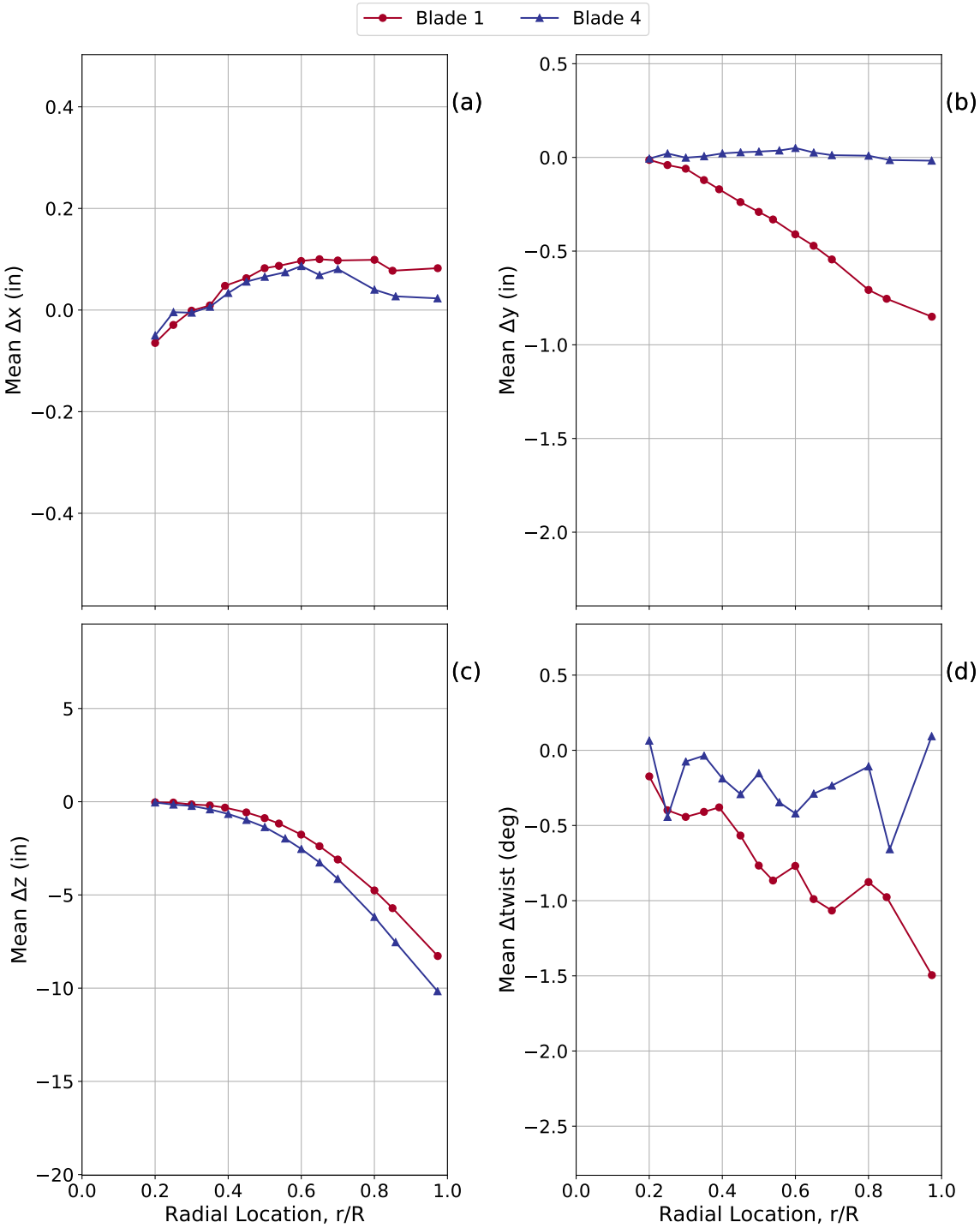


Figure 3.26-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0648	0.0010	-0.0134	0.0009	-0.0308	0.0032	-0.1735	0.0276
1	90	0.2499	-0.0293	0.0014	-0.0408	0.0026	-0.0452	0.0085	-0.3988	0.0392
1	90	0.2998	-0.0012	0.0010	-0.0603	0.0044	-0.1447	0.0132	-0.4431	0.0578
1	90	0.3498	0.0091	0.0015	-0.1210	0.0072	-0.1986	0.0242	-0.4095	0.0480
1	90	0.3913	0.0477	0.0012	-0.1701	0.0110	-0.3171	0.0347	-0.3796	0.0496
1	90	0.4496	0.0627	0.0022	-0.2384	0.0145	-0.5730	0.0485	-0.5670	0.0602
1	90	0.4997	0.0824	0.0020	-0.2908	0.0193	-0.8803	0.0615	-0.7668	0.0593
1	90	0.5387	0.0870	0.0023	-0.3312	0.0230	-1.1707	0.0741	-0.8660	0.0649
1	90	0.5996	0.0966	0.0025	-0.4104	0.0299	-1.7645	0.0941	-0.7689	0.0736
1	90	0.6498	0.1001	0.0031	-0.4716	0.0356	-2.3868	0.1097	-0.9896	0.0805
1	90	0.6998	0.0976	0.0038	-0.5445	0.0419	-3.1006	0.1237	-1.0657	0.0888
1	90	0.8001	0.0989	0.0069	-0.7072	0.0552	-4.7579	0.1673	-0.8763	0.0934
1	90	0.8497	0.0774	0.0090	-0.7544	0.0617	-5.7104	0.1889	-0.9766	0.1141
1	90	0.9734	0.0824	0.0103	-0.8500	0.0799	-8.2760	0.2832	-1.4953	0.2523
4	90.35	0.2001	-0.0502	0.0012	-0.0063	0.0010	-0.0424	0.0031	0.0639	0.0224
4	90.35	0.2502	-0.0042	0.0010	0.0208	0.0021	-0.1544	0.0062	-0.4433	0.0379
4	90.35	0.3001	-0.0052	0.0010	-0.0015	0.0038	-0.2254	0.0123	-0.0749	0.0510
4	90.35	0.3502	0.0064	0.0018	0.0058	0.0076	-0.4102	0.0209	-0.0357	0.0578
4	90.35	0.4002	0.0336	0.0032	0.0213	0.0110	-0.6581	0.0324	-0.1874	0.0548
4	90.35	0.4500	0.0559	0.0023	0.0273	0.0141	-0.9787	0.0410	-0.2919	0.0609
4	90.35	0.5001	0.0654	0.0028	0.0309	0.0182	-1.3630	0.0469	-0.1535	0.0594
4	90.35	0.5560	0.0744	0.0038	0.0367	0.0227	-1.9743	0.0573	-0.3464	0.0631
4	90.35	0.6001	0.0866	0.0035	0.0501	0.0273	-2.5353	0.0672	-0.4203	0.0579
4	90.35	0.6501	0.0688	0.0044	0.0260	0.0325	-3.2614	0.0735	-0.2887	0.0641
4	90.35	0.6999	0.0807	0.0046	0.0118	0.0382	-4.1406	0.0831	-0.2349	0.0821
4	90.35	0.8002	0.0401	0.0076	0.0090	0.0513	-6.1807	0.0990	-0.1074	0.0744
4	90.35	0.8582	0.0270	0.0066	-0.0142	0.0589	-7.5389	0.1103	-0.6583	0.1341
4	90.35	0.9728	0.0230	0.0081	-0.0174	0.0740	-10.1646	0.1576	0.0935	0.1563

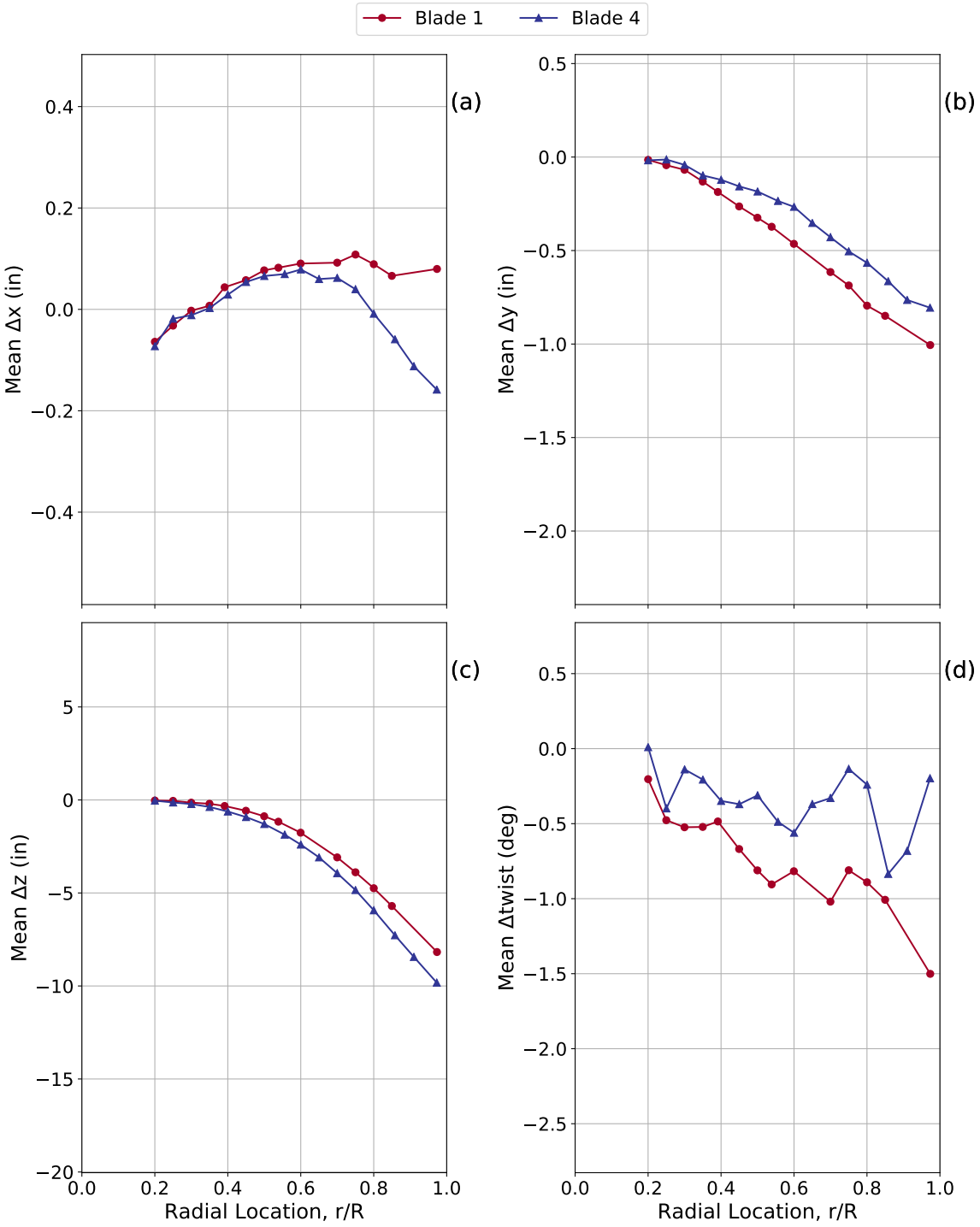


Figure 3.26-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0639	0.0011	-0.0150	0.0011	-0.0302	0.0030	-0.2034	0.0208
1	94.92	0.2499	-0.0321	0.0016	-0.0435	0.0019	-0.0488	0.0058	-0.4770	0.0391
1	94.92	0.2998	-0.0026	0.0014	-0.0680	0.0046	-0.1448	0.0109	-0.5240	0.0453
1	94.92	0.3498	0.0071	0.0020	-0.1312	0.0070	-0.2048	0.0175	-0.5219	0.0434
1	94.92	0.3913	0.0436	0.0026	-0.1867	0.0107	-0.3248	0.0257	-0.4853	0.0518
1	94.92	0.4496	0.0576	0.0025	-0.2640	0.0151	-0.5805	0.0367	-0.6691	0.0503
1	94.92	0.4997	0.0770	0.0035	-0.3244	0.0211	-0.8769	0.0489	-0.8114	0.0533
1	94.92	0.5387	0.0822	0.0037	-0.3727	0.0252	-1.1684	0.0553	-0.9051	0.0540
1	94.92	0.5996	0.0904	0.0038	-0.4641	0.0324	-1.7600	0.0698	-0.8170	0.0525
1	94.92	0.6998	0.0921	0.0061	-0.6149	0.0459	-3.0881	0.0918	-1.0198	0.0665
1	94.92	0.7500	0.1081	0.0080	-0.6868	0.0536	-3.8884	0.1044	-0.8105	0.0750
1	94.92	0.8001	0.0891	0.0071	-0.7947	0.0616	-4.7450	0.1164	-0.8908	0.0857
1	94.92	0.8497	0.0661	0.0093	-0.8491	0.0692	-5.7012	0.1292	-1.0076	0.0964
1	94.92	0.9734	0.0797	0.0146	-1.0054	0.0902	-8.1756	0.1733	-1.5011	0.1372
4	94.92	0.2001	-0.0727	0.0117	-0.0175	0.0012	-0.0391	0.0041	0.0098	0.0355
4	94.92	0.2502	-0.0184	0.0032	-0.0132	0.0033	-0.1372	0.0076	-0.3985	0.0526
4	94.92	0.3001	-0.0115	0.0049	-0.0419	0.0061	-0.2204	0.0158	-0.1385	0.0788
4	94.92	0.3502	0.0026	0.0123	-0.0984	0.0100	-0.3791	0.0266	-0.2063	0.0605
4	94.92	0.4002	0.0291	0.0176	-0.1217	0.0164	-0.6235	0.0407	-0.3486	0.0888
4	94.92	0.4500	0.0540	0.0223	-0.1570	0.0225	-0.9203	0.0556	-0.3703	0.0956
4	94.92	0.5001	0.0658	0.0251	-0.1844	0.0297	-1.2945	0.0769	-0.3114	0.0970
4	94.92	0.5560	0.0696	0.0283	-0.2349	0.0385	-1.8665	0.0977	-0.4877	0.0950
4	94.92	0.6001	0.0787	0.0284	-0.2662	0.0465	-2.4009	0.1151	-0.5607	0.1165
4	94.92	0.6501	0.0598	0.0299	-0.3524	0.0560	-3.0876	0.1338	-0.3695	0.1207
4	94.92	0.6999	0.0621	0.0343	-0.4289	0.0664	-3.9382	0.1533	-0.3294	0.1343
4	94.92	0.7500	0.0397	0.0436	-0.5043	0.0773	-4.8446	0.1731	-0.1353	0.1278
4	94.92	0.8002	-0.0086	0.0585	-0.5658	0.0892	-5.9328	0.1943	-0.2404	0.1641
4	94.92	0.8582	-0.0590	0.0800	-0.6641	0.1053	-7.2754	0.2211	-0.8352	0.1754
4	94.92	0.9101	-0.1123	0.1057	-0.7643	0.1201	-8.4395	0.2586	-0.6816	0.2022
4	94.92	0.9728	-0.1583	0.1507	-0.8057	0.1528	-9.8221	0.3032	-0.1976	0.1779

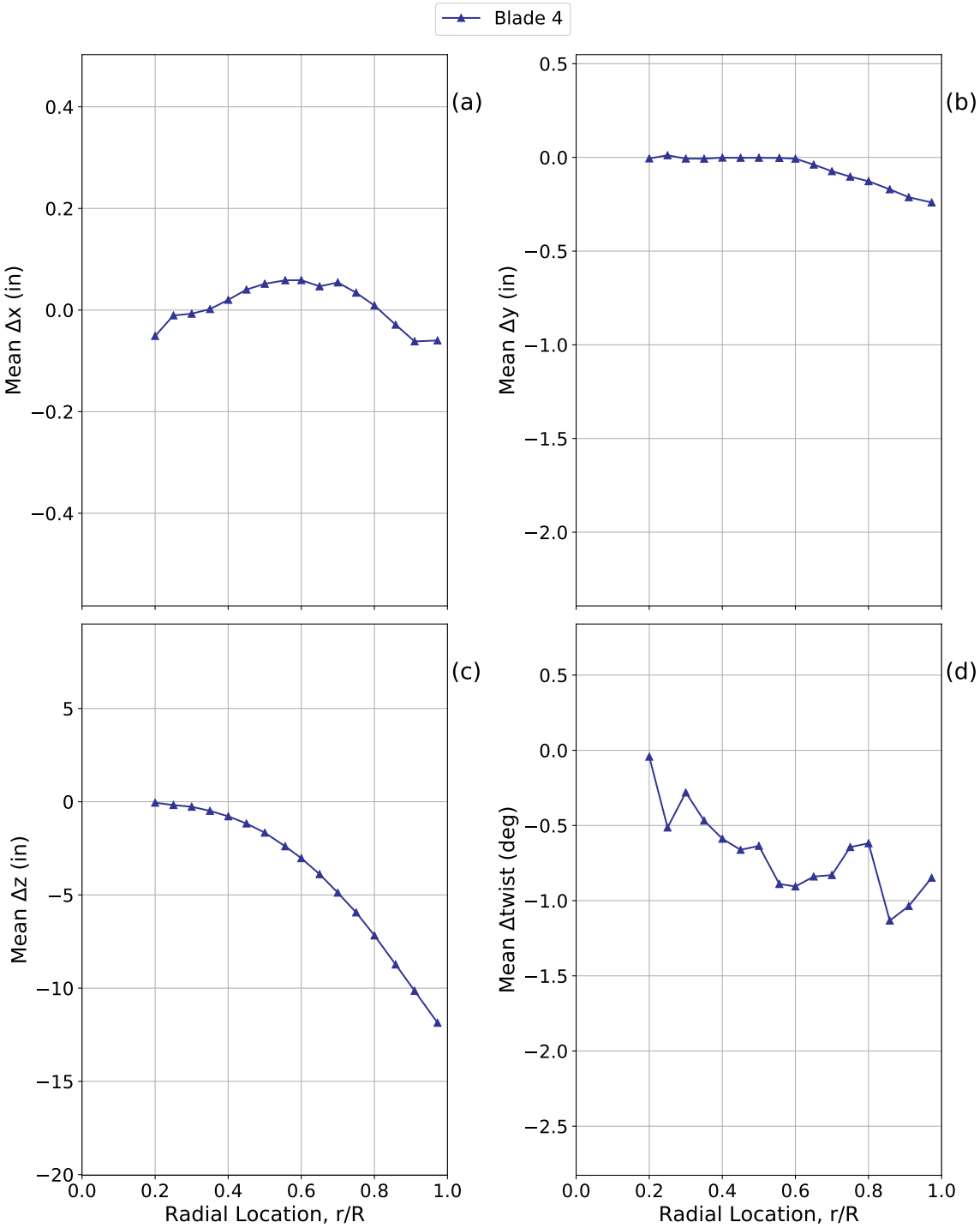


Figure 3.26-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0510	0.0011	-0.0057	0.0007	-0.0524	0.0029	-0.0424	0.0202
4	105.12	0.2502	-0.0106	0.0008	0.0111	0.0017	-0.1792	0.0053	-0.5137	0.0220
4	105.12	0.3001	-0.0072	0.0010	-0.0064	0.0029	-0.2706	0.0082	-0.2805	0.0394
4	105.12	0.3502	0.0019	0.0010	-0.0070	0.0057	-0.4910	0.0194	-0.4678	0.0421
4	105.12	0.4002	0.0201	0.0015	-0.0014	0.0083	-0.7843	0.0254	-0.5885	0.0365
4	105.12	0.4500	0.0402	0.0018	-0.0022	0.0118	-1.1696	0.0352	-0.6621	0.0467
4	105.12	0.5001	0.0517	0.0020	-0.0020	0.0156	-1.6605	0.0464	-0.6359	0.0385
4	105.12	0.5560	0.0585	0.0030	-0.0029	0.0207	-2.3934	0.0595	-0.8894	0.0367
4	105.12	0.6001	0.0588	0.0029	-0.0068	0.0249	-3.0301	0.0714	-0.9055	0.0484
4	105.12	0.6501	0.0466	0.0033	-0.0386	0.0308	-3.8891	0.0823	-0.8396	0.0523
4	105.12	0.6999	0.0543	0.0038	-0.0737	0.0365	-4.8795	0.0928	-0.8299	0.0441
4	105.12	0.7500	0.0341	0.0045	-0.1028	0.0430	-5.9380	0.1055	-0.6438	0.0501
4	105.12	0.8002	0.0089	0.0059	-0.1273	0.0500	-7.1764	0.1162	-0.6184	0.0576
4	105.12	0.8582	-0.0289	0.0069	-0.1704	0.0582	-8.7331	0.1321	-1.1328	0.0692
4	105.12	0.9101	-0.0617	0.0083	-0.2126	0.0651	-10.1454	0.1500	-1.0362	0.0574
4	105.12	0.9728	-0.0599	0.0100	-0.2406	0.0747	-11.8590	0.1699	-0.8480	0.0567

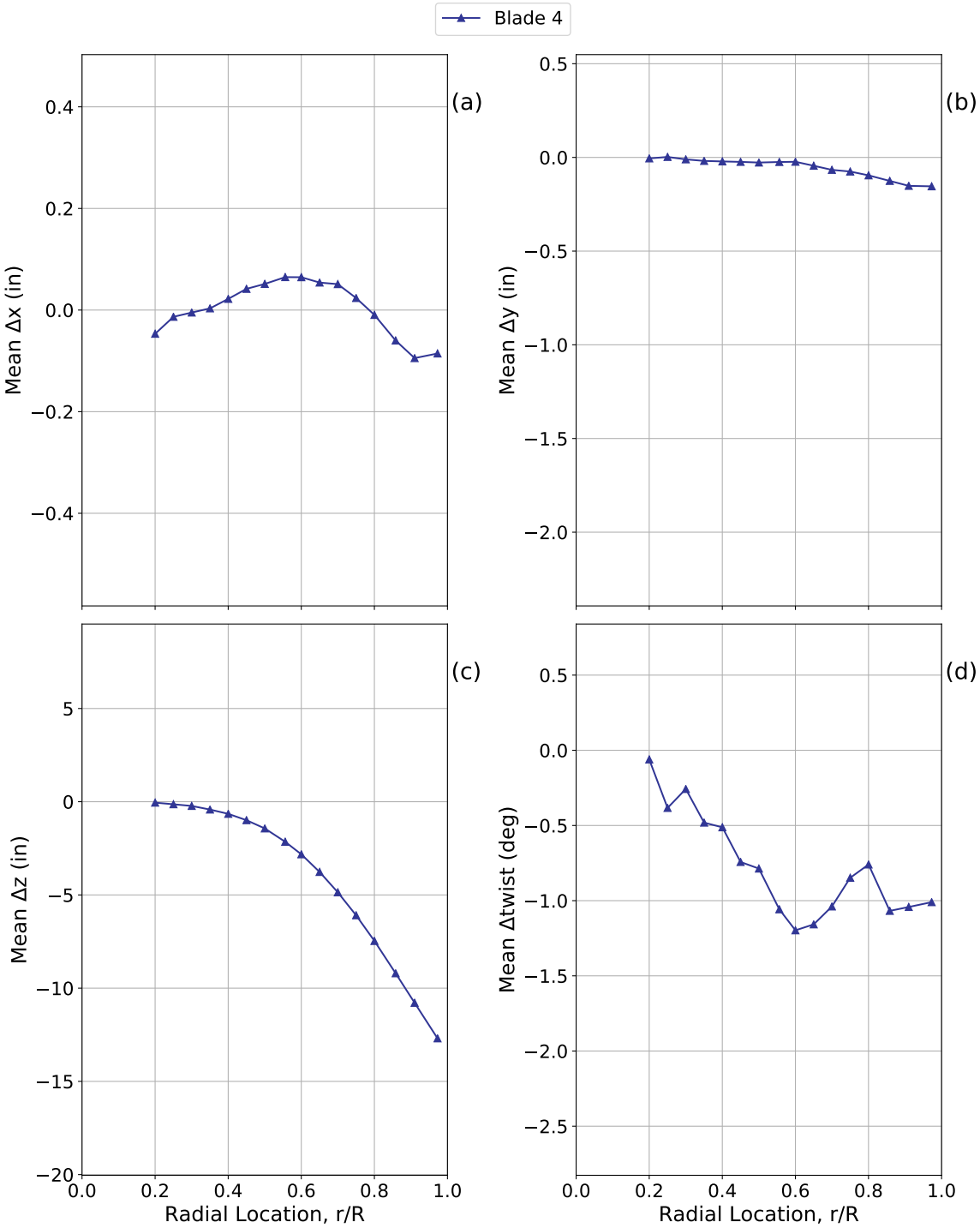


Figure 3.26-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0467	0.0020	-0.0053	0.0011	-0.0501	0.0042	-0.0609	0.0445
4	119.88	0.2502	-0.0133	0.0014	0.0025	0.0026	-0.1365	0.0094	-0.3834	0.0717
4	119.88	0.3001	-0.0049	0.0015	-0.0105	0.0054	-0.2266	0.0162	-0.2573	0.1020
4	119.88	0.3502	0.0033	0.0018	-0.0187	0.0083	-0.4206	0.0304	-0.4811	0.0873
4	119.88	0.4002	0.0220	0.0019	-0.0215	0.0138	-0.6509	0.0455	-0.5122	0.0679
4	119.88	0.4500	0.0417	0.0028	-0.0239	0.0162	-0.9912	0.0596	-0.7428	0.0827
4	119.88	0.5001	0.0514	0.0032	-0.0274	0.0203	-1.4330	0.0744	-0.7867	0.0955
4	119.88	0.5560	0.0648	0.0047	-0.0245	0.0253	-2.1494	0.0981	-1.0577	0.0990
4	119.88	0.6001	0.0646	0.0052	-0.0233	0.0289	-2.8219	0.1173	-1.1973	0.0994
4	119.88	0.6501	0.0541	0.0062	-0.0446	0.0346	-3.7682	0.1438	-1.1577	0.1027
4	119.88	0.6999	0.0510	0.0090	-0.0665	0.0393	-4.8595	0.1753	-1.0386	0.1006
4	119.88	0.7500	0.0237	0.0118	-0.0754	0.0452	-6.0920	0.2122	-0.8479	0.1005
4	119.88	0.8002	-0.0096	0.0157	-0.0958	0.0509	-7.4700	0.2543	-0.7595	0.1163
4	119.88	0.8582	-0.0600	0.0207	-0.1254	0.0580	-9.2035	0.3118	-1.0680	0.1186
4	119.88	0.9101	-0.0946	0.0251	-0.1518	0.0647	-10.7881	0.3664	-1.0421	0.1218
4	119.88	0.9728	-0.0855	0.0312	-0.1543	0.0727	-12.6929	0.4376	-1.0100	0.1127

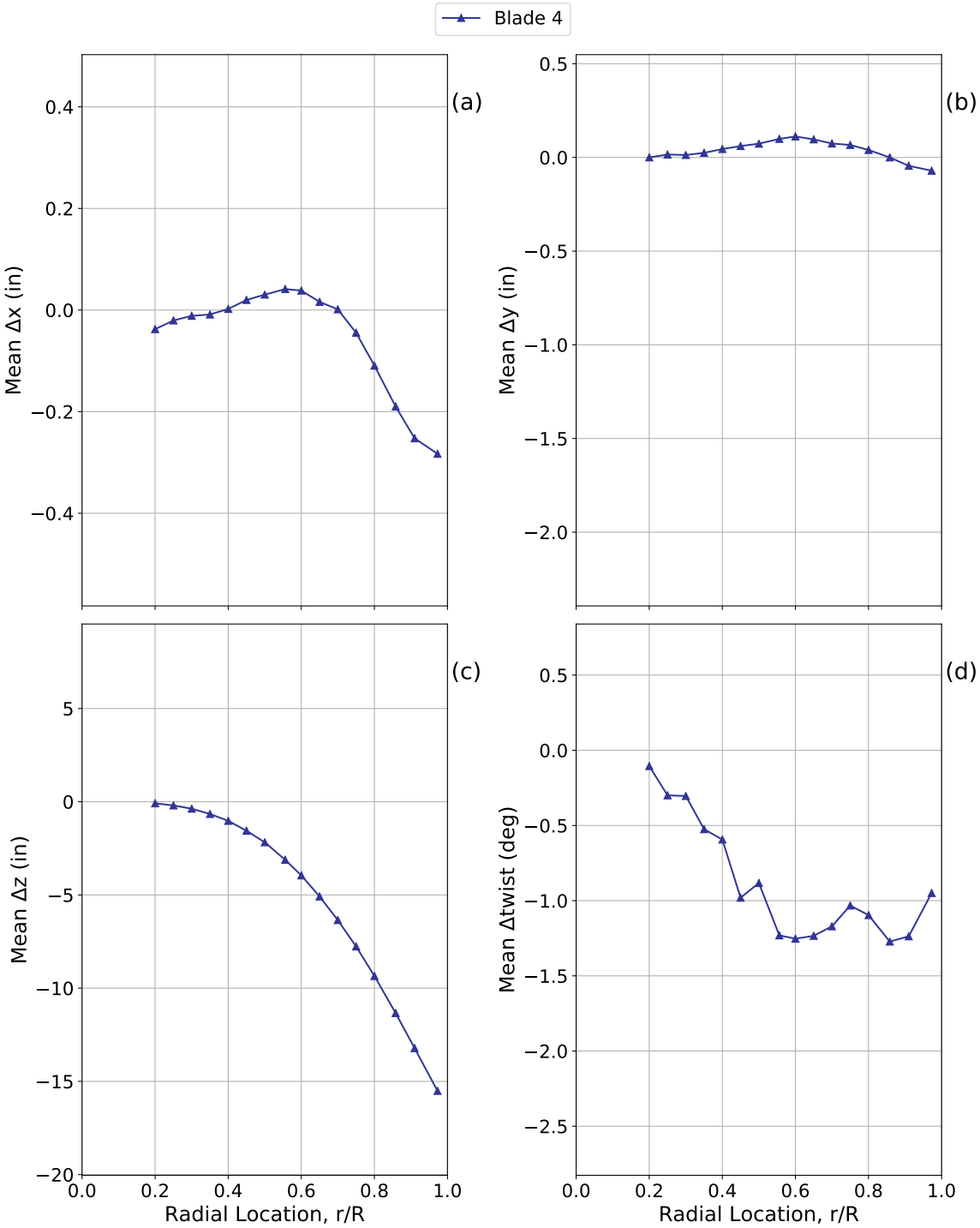


Figure 3.26-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0376	0.0009	0.0001	0.0007	-0.0866	0.0029	-0.1050	0.0265
4	135	0.2502	-0.0205	0.0010	0.0151	0.0030	-0.1996	0.0083	-0.2999	0.0360
4	135	0.3001	-0.0114	0.0015	0.0128	0.0038	-0.3756	0.0127	-0.3038	0.0558
4	135	0.3502	-0.0088	0.0016	0.0244	0.0065	-0.6585	0.0206	-0.5248	0.0534
4	135	0.4002	0.0022	0.0017	0.0445	0.0107	-1.0264	0.0341	-0.5939	0.0626
4	135	0.4500	0.0198	0.0024	0.0606	0.0139	-1.5585	0.0435	-0.9806	0.0479
4	135	0.5001	0.0304	0.0030	0.0732	0.0164	-2.1760	0.0618	-0.8828	0.0538
4	135	0.5560	0.0413	0.0039	0.0988	0.0222	-3.1187	0.0877	-1.2310	0.0545
4	135	0.6001	0.0383	0.0046	0.1117	0.0255	-3.9537	0.1130	-1.2528	0.0703
4	135	0.6501	0.0160	0.0054	0.0962	0.0313	-5.0841	0.1468	-1.2340	0.0588
4	135	0.6999	0.0014	0.0092	0.0742	0.0383	-6.3498	0.1827	-1.1707	0.0580
4	135	0.7500	-0.0447	0.0122	0.0664	0.0441	-7.7642	0.2238	-1.0325	0.0767
4	135	0.8002	-0.1095	0.0167	0.0396	0.0516	-9.3513	0.2701	-1.0963	0.0699
4	135	0.8582	-0.1899	0.0228	-0.0001	0.0605	-11.3398	0.3300	-1.2722	0.0772
4	135	0.9101	-0.2524	0.0292	-0.0448	0.0683	-13.2203	0.3899	-1.2372	0.0852
4	135	0.9728	-0.2830	0.0366	-0.0710	0.0782	-15.5128	0.4673	-0.9493	0.0912

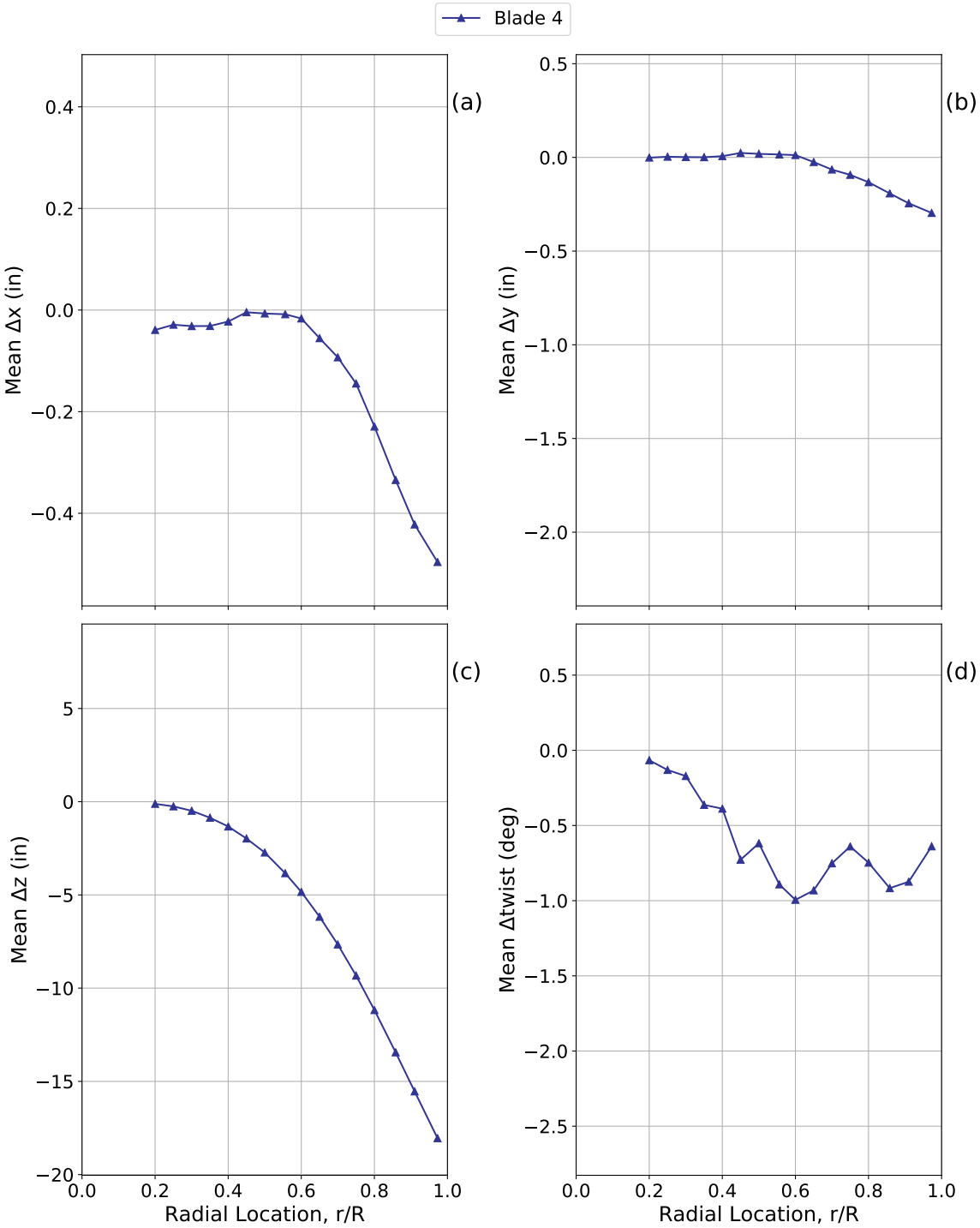


Figure 3.26-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0392	0.0016	-0.0012	0.0009	-0.1151	0.0030	-0.0662	0.0188
4	150.12	0.2502	-0.0289	0.0019	0.0035	0.0026	-0.2512	0.0063	-0.1308	0.0212
4	150.12	0.3001	-0.0316	0.0016	0.0017	0.0039	-0.4873	0.0124	-0.1713	0.0376
4	150.12	0.3502	-0.0314	0.0015	0.0010	0.0076	-0.8602	0.0191	-0.3633	0.0523
4	150.12	0.4002	-0.0226	0.0020	0.0066	0.0110	-1.3307	0.0309	-0.3883	0.0323
4	150.12	0.4500	-0.0043	0.0024	0.0238	0.0130	-1.9748	0.0370	-0.7279	0.0582
4	150.12	0.5001	-0.0068	0.0024	0.0188	0.0166	-2.7263	0.0464	-0.6186	0.0371
4	150.12	0.5560	-0.0083	0.0032	0.0156	0.0195	-3.8366	0.0553	-0.8921	0.0443
4	150.12	0.6001	-0.0166	0.0034	0.0123	0.0222	-4.8401	0.0580	-0.9947	0.0558
4	150.12	0.6501	-0.0554	0.0041	-0.0249	0.0243	-6.1715	0.0686	-0.9317	0.0460
4	150.12	0.6999	-0.0931	0.0048	-0.0650	0.0291	-7.6579	0.0788	-0.7519	0.0935
4	150.12	0.7500	-0.1447	0.0061	-0.0932	0.0317	-9.3281	0.0809	-0.6395	0.0456
4	150.12	0.8002	-0.2294	0.0075	-0.1325	0.0351	-11.1774	0.0880	-0.7475	0.0501
4	150.12	0.8582	-0.3345	0.0088	-0.1923	0.0397	-13.4447	0.0973	-0.9169	0.0479
4	150.12	0.9101	-0.4221	0.0103	-0.2450	0.0438	-15.5387	0.1070	-0.8740	0.0439
4	150.12	0.9728	-0.4960	0.0121	-0.2964	0.0481	-18.0501	0.1234	-0.6388	0.0481

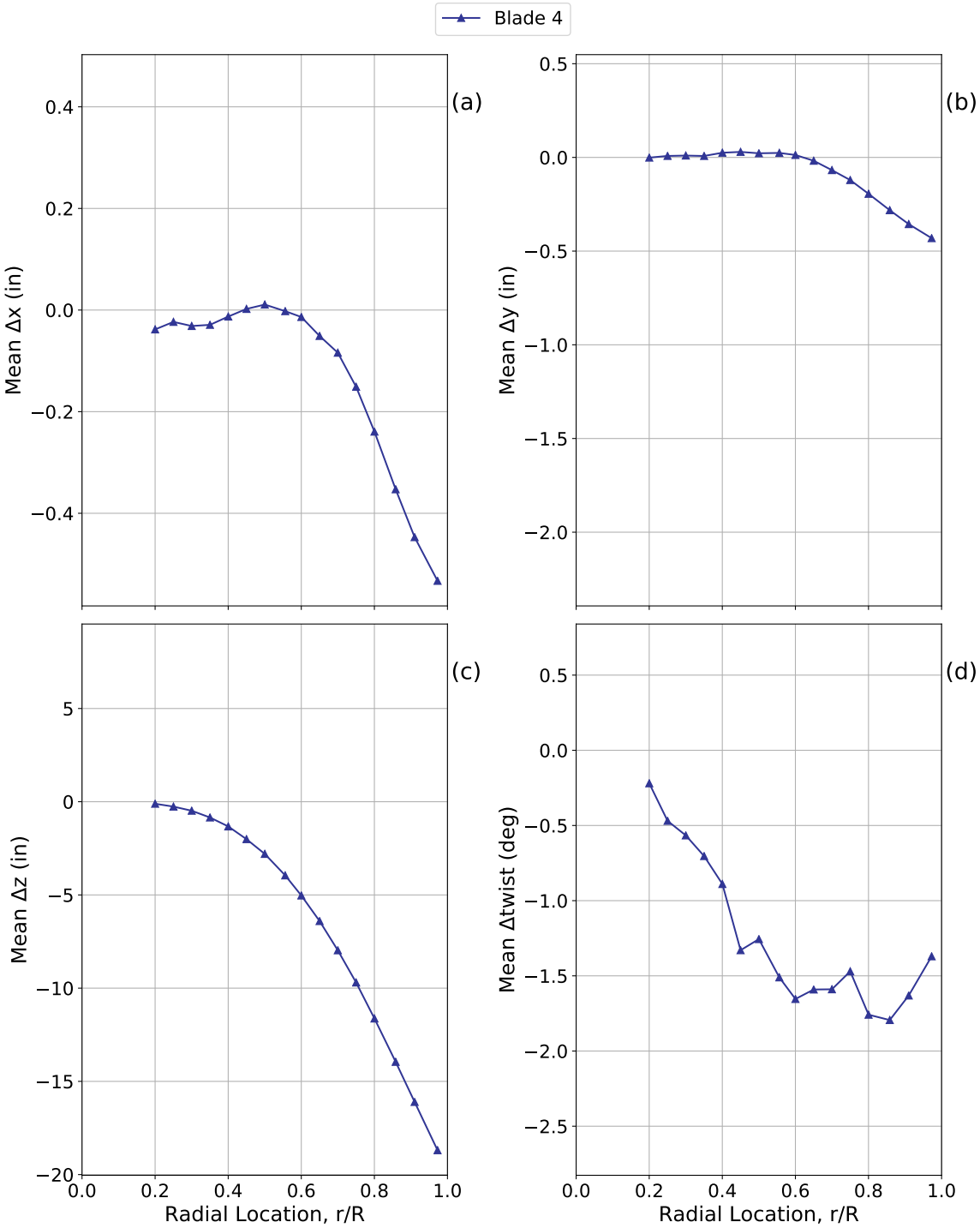


Figure 3.26-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0381	0.0014	-0.0012	0.0011	-0.1092	0.0051	-0.2196	0.0255
4	164.88	0.2502	-0.0233	0.0029	0.0078	0.0027	-0.2622	0.0063	-0.4693	0.0364
4	164.88	0.3001	-0.0314	0.0017	0.0098	0.0062	-0.4836	0.0176	-0.5661	0.0542
4	164.88	0.3502	-0.0291	0.0016	0.0077	0.0084	-0.8466	0.0286	-0.7035	0.0538
4	164.88	0.4002	-0.0128	0.0034	0.0250	0.0144	-1.3261	0.0429	-0.8895	0.0708
4	164.88	0.4500	0.0022	0.0040	0.0294	0.0184	-2.0081	0.0580	-1.3296	0.0618
4	164.88	0.5001	0.0108	0.0047	0.0220	0.0237	-2.7995	0.0802	-1.2557	0.0815
4	164.88	0.5560	-0.0022	0.0070	0.0239	0.0303	-3.9527	0.1128	-1.5103	0.0896
4	164.88	0.6001	-0.0137	0.0094	0.0129	0.0357	-5.0311	0.1414	-1.6540	0.0913
4	164.88	0.6501	-0.0510	0.0113	-0.0179	0.0418	-6.4023	0.1772	-1.5909	0.0894
4	164.88	0.6999	-0.0840	0.0155	-0.0679	0.0496	-7.9703	0.2148	-1.5895	0.0906
4	164.88	0.7500	-0.1511	0.0199	-0.1209	0.0584	-9.6971	0.2544	-1.4702	0.0751
4	164.88	0.8002	-0.2393	0.0250	-0.1943	0.0652	-11.6285	0.2978	-1.7585	0.0934
4	164.88	0.8582	-0.3528	0.0326	-0.2818	0.0772	-13.9532	0.3542	-1.7941	0.0869
4	164.88	0.9101	-0.4470	0.0393	-0.3560	0.0867	-16.1035	0.4100	-1.6308	0.0760
4	164.88	0.9728	-0.5330	0.0474	-0.4309	0.0986	-18.6935	0.4831	-1.3702	0.0728

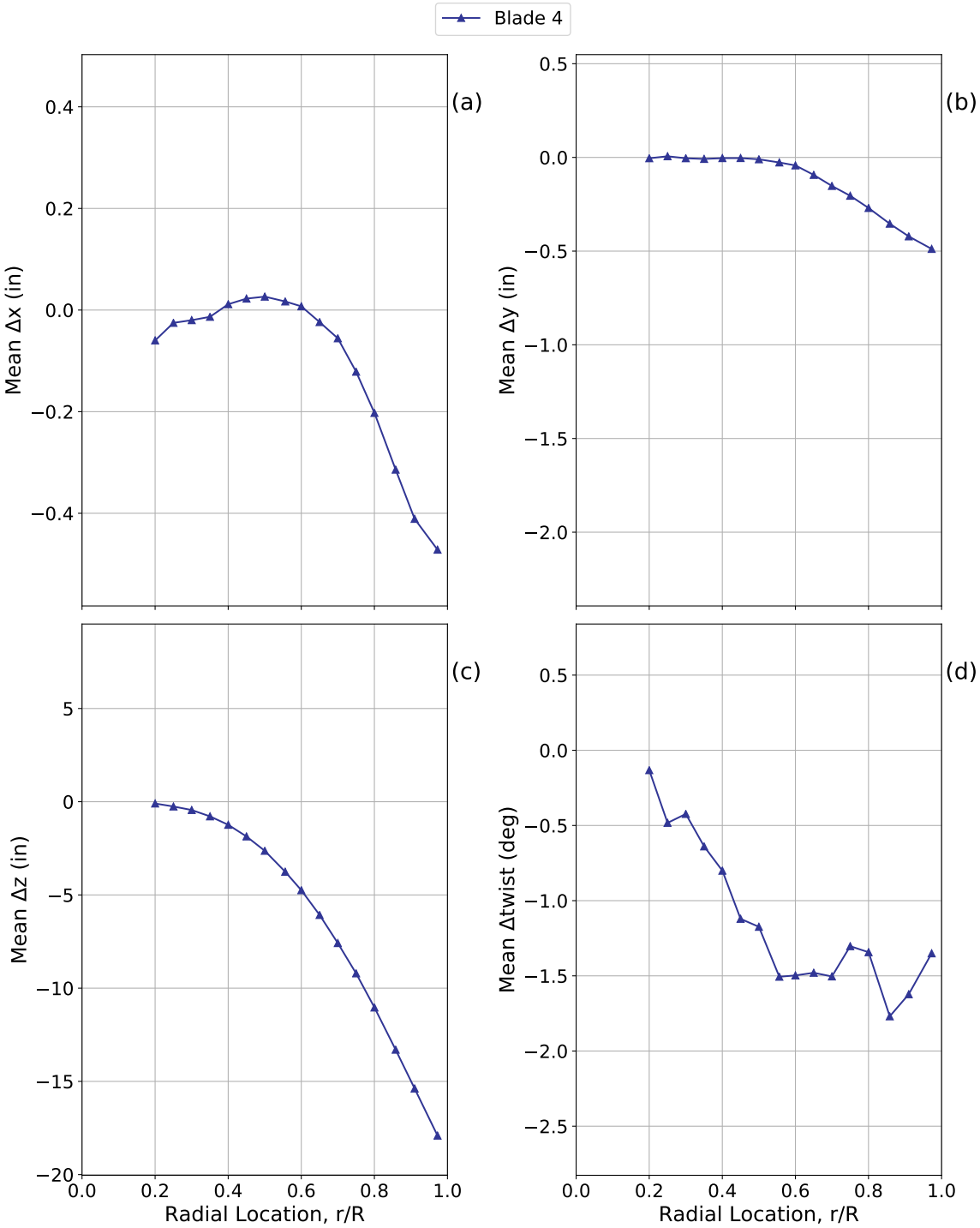


Figure 3.26-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0598	0.0160	-0.0045	0.0013	-0.0965	0.0021	-0.1322	0.0215
4	170.16	0.2502	-0.0252	0.0052	0.0060	0.0029	-0.2560	0.0043	-0.4827	0.0303
4	170.16	0.3001	-0.0199	0.0050	-0.0045	0.0060	-0.4454	0.0067	-0.4234	0.0458
4	170.16	0.3502	-0.0133	0.0140	-0.0082	0.0097	-0.7860	0.0118	-0.6391	0.0397
4	170.16	0.4002	0.0115	0.0253	-0.0039	0.0157	-1.2391	0.0175	-0.8009	0.0583
4	170.16	0.4500	0.0225	0.0350	-0.0036	0.0214	-1.8631	0.0225	-1.1210	0.0767
4	170.16	0.5001	0.0264	0.0439	-0.0101	0.0259	-2.6330	0.0290	-1.1740	0.0847
4	170.16	0.5560	0.0169	0.0544	-0.0271	0.0323	-3.7570	0.0373	-1.5061	0.0776
4	170.16	0.6001	0.0073	0.0614	-0.0428	0.0381	-4.7483	0.0447	-1.4972	0.0944
4	170.16	0.6501	-0.0237	0.0679	-0.0934	0.0443	-6.0746	0.0575	-1.4796	0.0984
4	170.16	0.6999	-0.0556	0.0729	-0.1523	0.0510	-7.5836	0.0716	-1.5040	0.0960
4	170.16	0.7500	-0.1214	0.0787	-0.2048	0.0574	-9.2075	0.0861	-1.3029	0.1188
4	170.16	0.8002	-0.2025	0.0819	-0.2699	0.0648	-11.0386	0.1071	-1.3429	0.1068
4	170.16	0.8582	-0.3141	0.0827	-0.3539	0.0751	-13.3025	0.1301	-1.7694	0.1347
4	170.16	0.9101	-0.4110	0.0790	-0.4214	0.0847	-15.3831	0.1590	-1.6225	0.1263
4	170.16	0.9728	-0.4717	0.0715	-0.4884	0.0908	-17.9097	0.1884	-1.3504	0.1141

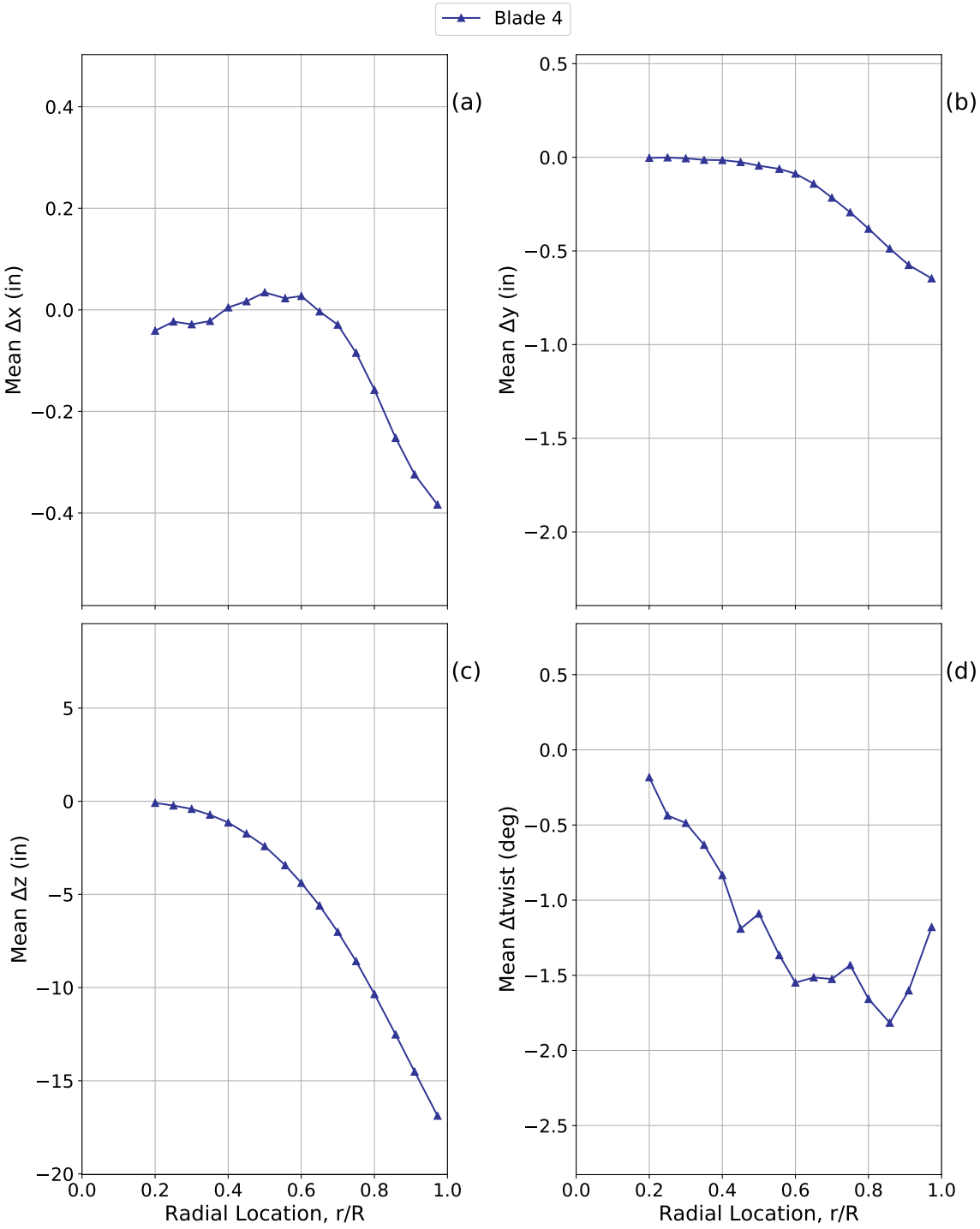


Figure 3.26-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0411	0.0023	-0.0031	0.0018	-0.0898	0.0055	-0.1828	0.0483
4	175.08	0.2502	-0.0231	0.0046	-0.0009	0.0037	-0.2316	0.0101	-0.4367	0.0628
4	175.08	0.3001	-0.0285	0.0031	-0.0056	0.0057	-0.4131	0.0140	-0.4870	0.0927
4	175.08	0.3502	-0.0220	0.0027	-0.0137	0.0115	-0.7270	0.0254	-0.6327	0.0620
4	175.08	0.4002	0.0048	0.0033	-0.0150	0.0163	-1.1457	0.0356	-0.8337	0.0673
4	175.08	0.4500	0.0169	0.0029	-0.0255	0.0198	-1.7359	0.0451	-1.1906	0.0621
4	175.08	0.5001	0.0344	0.0029	-0.0447	0.0237	-2.4134	0.0530	-1.0904	0.0618
4	175.08	0.5560	0.0227	0.0039	-0.0618	0.0277	-3.4358	0.0615	-1.3667	0.0616
4	175.08	0.6001	0.0273	0.0045	-0.0875	0.0317	-4.3845	0.0693	-1.5492	0.0614
4	175.08	0.6501	-0.0032	0.0042	-0.1411	0.0360	-5.6032	0.0798	-1.5144	0.0680
4	175.08	0.6999	-0.0293	0.0054	-0.2157	0.0400	-7.0132	0.0886	-1.5251	0.0645
4	175.08	0.7500	-0.0847	0.0054	-0.2938	0.0443	-8.5866	0.0988	-1.4325	0.0717
4	175.08	0.8002	-0.1575	0.0074	-0.3813	0.0485	-10.3530	0.1121	-1.6579	0.0696
4	175.08	0.8582	-0.2523	0.0092	-0.4876	0.0538	-12.5220	0.1259	-1.8161	0.0597
4	175.08	0.9101	-0.3242	0.0112	-0.5750	0.0590	-14.5141	0.1406	-1.6014	0.0588
4	175.08	0.9728	-0.3836	0.0134	-0.6467	0.0641	-16.8823	0.1612	-1.1796	0.0718

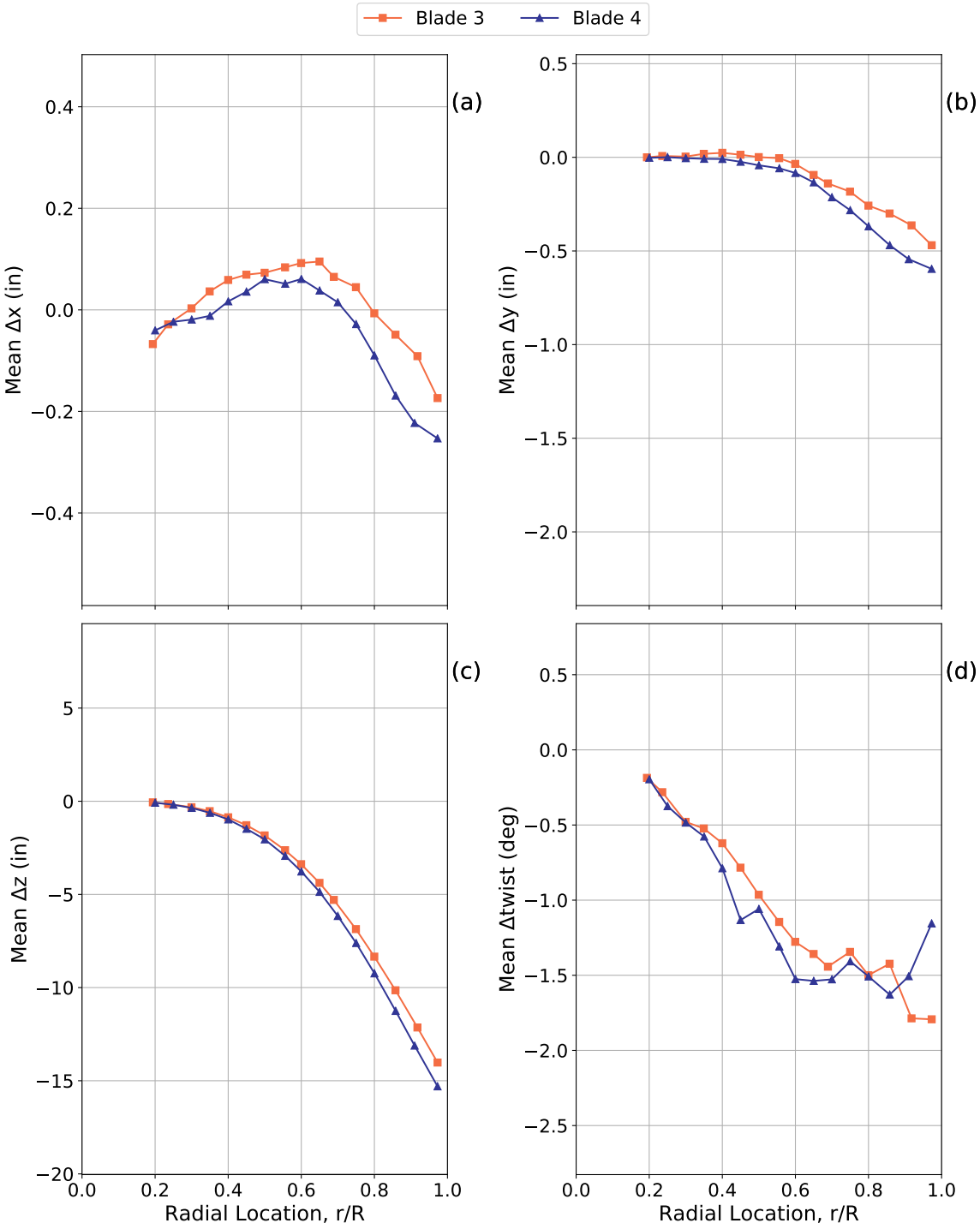


Figure 3.26-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0674	0.0057	-0.0000	0.0032	-0.0587	0.0061	-0.1864	0.1717
3	180.35	0.2357	-0.0285	0.0046	0.0070	0.0121	-0.1495	0.0291	-0.2816	0.1471
3	180.35	0.2995	0.0030	0.0034	0.0038	0.0203	-0.3191	0.0327	-0.4790	0.3452
3	180.35	0.3493	0.0364	0.0062	0.0186	0.0405	-0.5298	0.0613	-0.5230	0.3580
3	180.35	0.4000	0.0589	0.0092	0.0239	0.0629	-0.8599	0.0943	-0.6213	0.3484
3	180.35	0.4497	0.0693	0.0135	0.0137	0.0861	-1.2847	0.1229	-0.7838	0.3636
3	180.35	0.4997	0.0731	0.0172	0.0011	0.1114	-1.8334	0.1535	-0.9643	0.3607
3	180.35	0.5556	0.0838	0.0229	-0.0046	0.1421	-2.6265	0.1873	-1.1453	0.3582
3	180.35	0.5995	0.0922	0.0270	-0.0352	0.1678	-3.3770	0.2135	-1.2775	0.3614
3	180.35	0.6498	0.0952	0.0311	-0.0941	0.1977	-4.3820	0.2413	-1.3583	0.3682
3	180.35	0.6890	0.0650	0.0362	-0.1395	0.2226	-5.2953	0.2641	-1.4428	0.3619
3	180.35	0.7495	0.0447	0.0432	-0.1833	0.2597	-6.8614	0.2952	-1.3444	0.3681
3	180.35	0.7998	-0.0068	0.0493	-0.2580	0.2921	-8.3387	0.3203	-1.4994	0.3727
3	180.35	0.8577	-0.0489	0.0569	-0.2999	0.3299	-10.1445	0.3509	-1.4234	0.3664
3	180.35	0.9178	-0.0912	0.0803	-0.3634	0.3424	-12.1417	0.3752	-1.7866	0.2786
3	180.35	0.9729	-0.1737	0.0702	-0.4693	0.4069	-14.0229	0.4086	-1.7929	0.4032
4	180	0.2001	-0.0404	0.0030	-0.0025	0.0027	-0.0813	0.0096	-0.1961	0.0711
4	180	0.2502	-0.0234	0.0106	0.0006	0.0043	-0.1882	0.0147	-0.3748	0.0785
4	180	0.3001	-0.0191	0.0051	-0.0046	0.0070	-0.3587	0.0266	-0.4842	0.1115
4	180	0.3502	-0.0117	0.0033	-0.0081	0.0122	-0.6236	0.0267	-0.5770	0.1166
4	180	0.4002	0.0168	0.0040	-0.0090	0.0160	-0.9775	0.0450	-0.7881	0.1158
4	180	0.4500	0.0358	0.0033	-0.0239	0.0199	-1.4799	0.0549	-1.1327	0.1304
4	180	0.5001	0.0604	0.0032	-0.0427	0.0241	-2.0489	0.0692	-1.0587	0.1199
4	180	0.5560	0.0514	0.0048	-0.0587	0.0298	-2.9330	0.0853	-1.3087	0.1204
4	180	0.6001	0.0608	0.0050	-0.0838	0.0347	-3.7718	0.1022	-1.5255	0.1212
4	180	0.6501	0.0380	0.0045	-0.1340	0.0404	-4.8662	0.1193	-1.5375	0.1364
4	180	0.6999	0.0149	0.0062	-0.2135	0.0436	-6.1600	0.1384	-1.5271	0.1352
4	180	0.7500	-0.0281	0.0081	-0.2826	0.0499	-7.6097	0.1612	-1.4074	0.1479
4	180	0.8002	-0.0898	0.0104	-0.3688	0.0554	-9.2382	0.1873	-1.5082	0.1538
4	180	0.8582	-0.1689	0.0147	-0.4694	0.0620	-11.2540	0.2220	-1.6290	0.1486
4	180	0.9101	-0.2228	0.0189	-0.5441	0.0687	-13.1149	0.2594	-1.5064	0.1515
4	180	0.9728	-0.2531	0.0223	-0.5958	0.0763	-15.3018	0.3043	-1.1550	0.1633

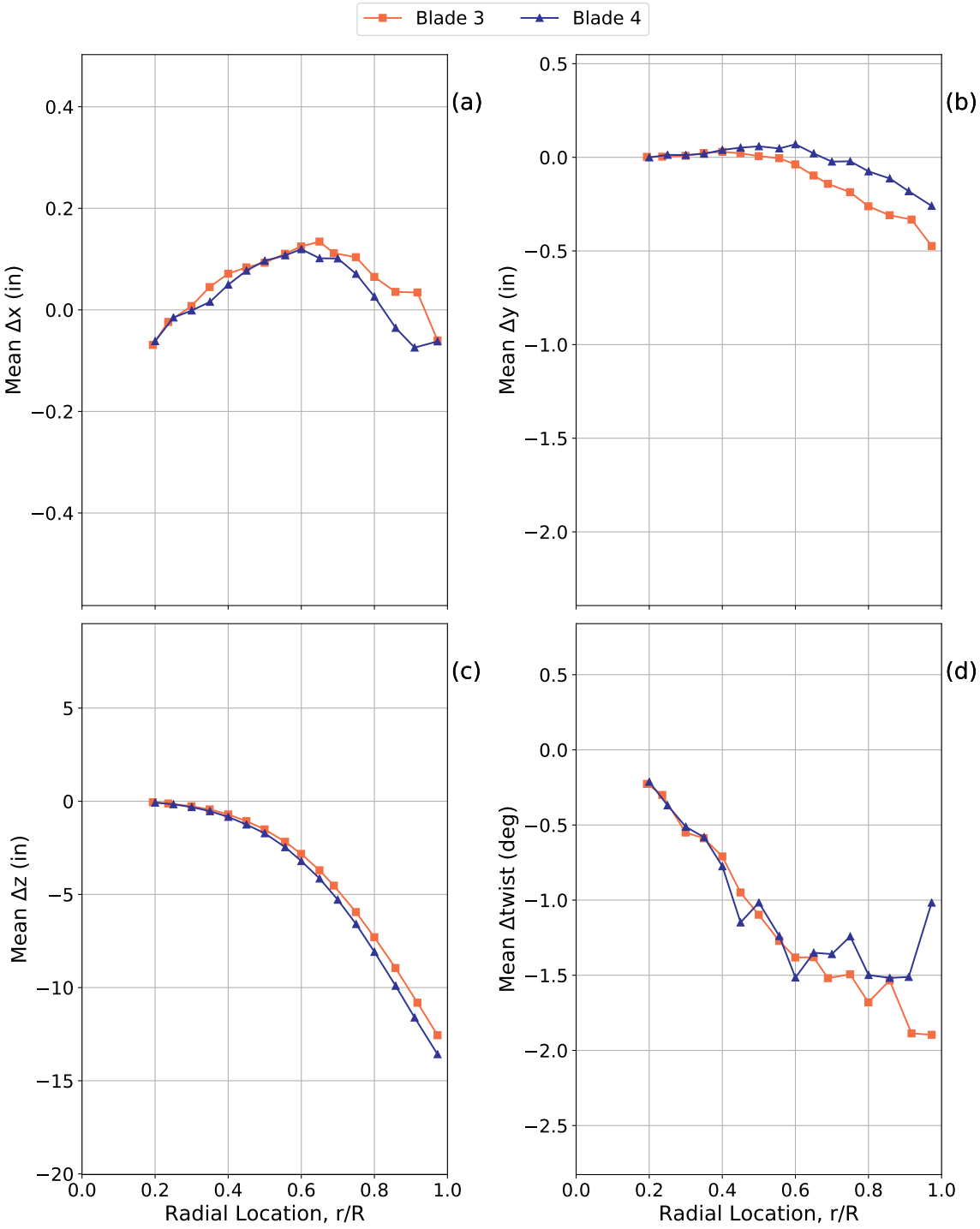


Figure 3.26-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0690	0.0064	0.0027	0.0040	-0.0509	0.0065	-0.2267	0.2269
3	184.92	0.2357	-0.0238	0.0066	0.0035	0.0128	-0.1192	0.0339	-0.2999	0.1863
3	184.92	0.2995	0.0076	0.0041	0.0081	0.0221	-0.2654	0.0341	-0.5498	0.4524
3	184.92	0.3493	0.0450	0.0063	0.0227	0.0443	-0.4355	0.0669	-0.5880	0.4538
3	184.92	0.4000	0.0712	0.0092	0.0291	0.0679	-0.7061	0.1013	-0.7093	0.4583
3	184.92	0.4497	0.0838	0.0125	0.0216	0.0953	-1.0629	0.1366	-0.9487	0.4490
3	184.92	0.4997	0.0928	0.0168	0.0063	0.1223	-1.5079	0.1662	-1.0972	0.4559
3	184.92	0.5556	0.1105	0.0227	-0.0047	0.1543	-2.1757	0.2027	-1.2714	0.4512
3	184.92	0.5995	0.1249	0.0270	-0.0378	0.1798	-2.8246	0.2289	-1.3816	0.4540
3	184.92	0.6498	0.1345	0.0322	-0.0973	0.2121	-3.7034	0.2619	-1.3799	0.4489
3	184.92	0.6890	0.1117	0.0369	-0.1414	0.2382	-4.5285	0.2868	-1.5192	0.4503
3	184.92	0.7495	0.1038	0.0454	-0.1860	0.2802	-5.9475	0.3234	-1.4934	0.4495
3	184.92	0.7998	0.0649	0.0523	-0.2616	0.3144	-7.2966	0.3538	-1.6799	0.4503
3	184.92	0.8577	0.0354	0.0630	-0.3092	0.3590	-8.9491	0.3884	-1.5340	0.4702
3	184.92	0.9178	0.0343	0.0714	-0.3324	0.4037	-10.8125	0.4254	-1.8866	0.4495
3	184.92	0.9729	-0.0601	0.0849	-0.4735	0.4536	-12.5565	0.4566	-1.8959	0.4805
4	184.92	0.2001	-0.0616	0.0008	-0.0007	0.0008	-0.0738	0.0029	-0.2127	0.0249
4	184.92	0.2502	-0.0150	0.0010	0.0131	0.0028	-0.1617	0.0059	-0.3692	0.0340
4	184.92	0.3001	-0.0013	0.0011	0.0121	0.0048	-0.3150	0.0108	-0.5120	0.0519
4	184.92	0.3502	0.0158	0.0013	0.0189	0.0066	-0.5349	0.0171	-0.5816	0.0605
4	184.92	0.4002	0.0497	0.0015	0.0394	0.0118	-0.8395	0.0266	-0.7748	0.0661
4	184.92	0.4500	0.0772	0.0012	0.0516	0.0135	-1.2514	0.0366	-1.1486	0.0531
4	184.92	0.5001	0.0967	0.0016	0.0587	0.0155	-1.7196	0.0477	-1.0163	0.0578
4	184.92	0.5560	0.1074	0.0020	0.0473	0.0190	-2.4667	0.0631	-1.2392	0.0667
4	184.92	0.6001	0.1195	0.0029	0.0695	0.0202	-3.2126	0.0756	-1.5153	0.0702
4	184.92	0.6501	0.1016	0.0031	0.0208	0.0235	-4.1491	0.0927	-1.3500	0.0681
4	184.92	0.6999	0.1012	0.0046	-0.0231	0.0272	-5.2867	0.1090	-1.3591	0.0752
4	184.92	0.7500	0.0709	0.0065	-0.0214	0.0296	-6.5929	0.1277	-1.2414	0.0599
4	184.92	0.8002	0.0259	0.0085	-0.0751	0.0307	-8.0869	0.1513	-1.4983	0.1396
4	184.92	0.8582	-0.0355	0.0125	-0.1131	0.0393	-9.9063	0.1867	-1.5176	0.1006
4	184.92	0.9101	-0.0743	0.0151	-0.1812	0.0463	-11.6092	0.2155	-1.5113	0.1182
4	184.92	0.9728	-0.0621	0.0179	-0.2594	0.0549	-13.5772	0.2484	-1.0169	0.1444

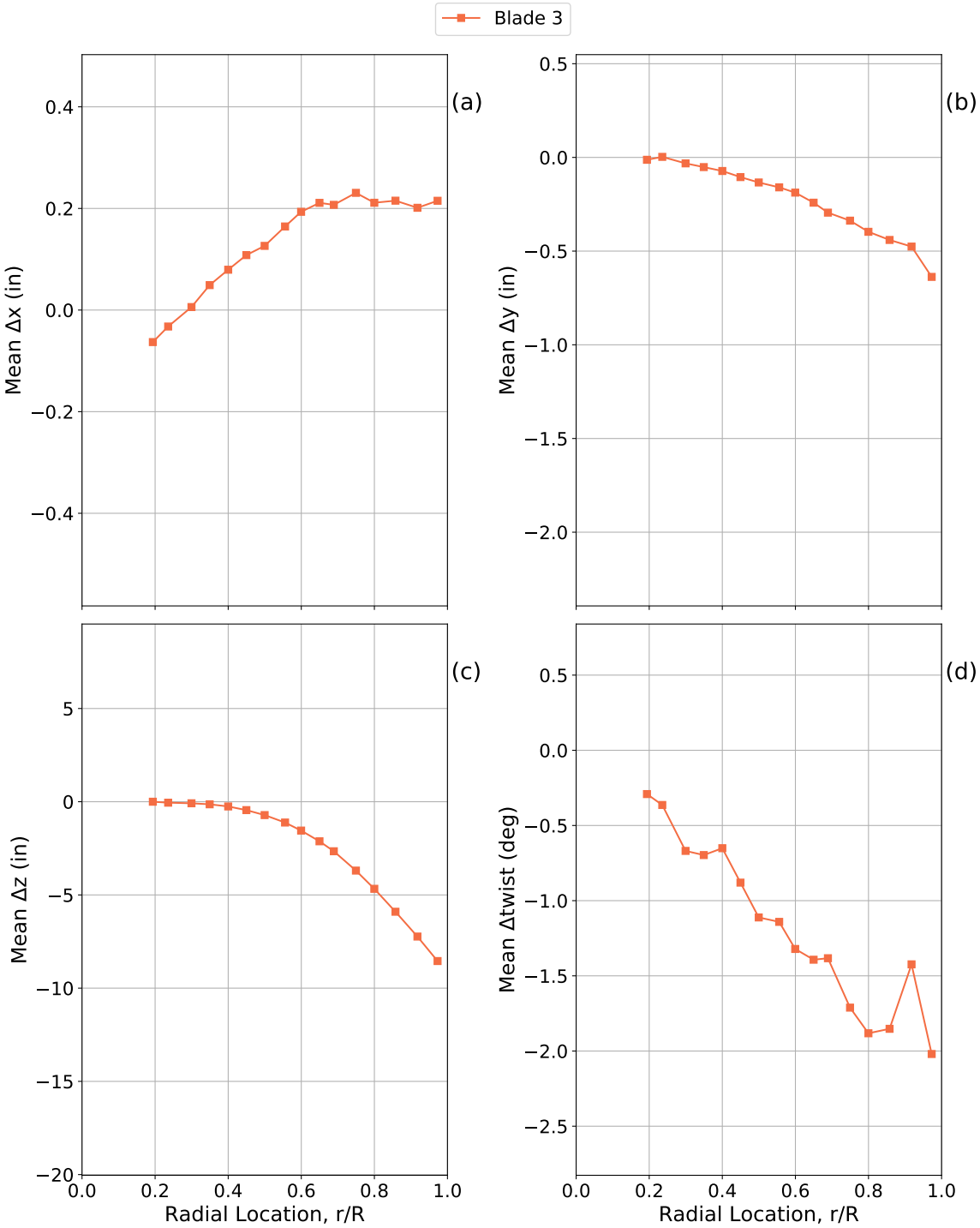


Figure 3.26-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0630	0.0011	-0.0127	0.0010	-0.0003	0.0029	-0.2911	0.0274
3	195.12	0.2357	-0.0324	0.0007	0.0029	0.0021	-0.0516	0.0051	-0.3637	0.0434
3	195.12	0.2995	0.0059	0.0012	-0.0318	0.0046	-0.0838	0.0099	-0.6691	0.0659
3	195.12	0.3493	0.0491	0.0019	-0.0517	0.0082	-0.1384	0.0175	-0.6968	0.0500
3	195.12	0.4000	0.0794	0.0016	-0.0725	0.0128	-0.2540	0.0261	-0.6512	0.0609
3	195.12	0.4497	0.1082	0.0014	-0.1050	0.0178	-0.4503	0.0326	-0.8801	0.0608
3	195.12	0.4997	0.1263	0.0023	-0.1338	0.0201	-0.7167	0.0399	-1.1116	0.0654
3	195.12	0.5556	0.1645	0.0030	-0.1598	0.0276	-1.1164	0.0522	-1.1411	0.0340
3	195.12	0.5995	0.1934	0.0026	-0.1878	0.0320	-1.5479	0.0615	-1.3213	0.0600
3	195.12	0.6498	0.2110	0.0033	-0.2416	0.0372	-2.1234	0.0741	-1.3928	0.0514
3	195.12	0.6890	0.2071	0.0040	-0.2947	0.0411	-2.6572	0.0827	-1.3828	0.0681
3	195.12	0.7495	0.2307	0.0047	-0.3375	0.0491	-3.6945	0.0975	-1.7114	0.0765
3	195.12	0.7998	0.2112	0.0051	-0.3970	0.0551	-4.6711	0.1110	-1.8820	0.0670
3	195.12	0.8577	0.2153	0.0058	-0.4405	0.0601	-5.9012	0.1222	-1.8523	0.0745
3	195.12	0.9178	0.2013	0.0067	-0.4759	0.0706	-7.2324	0.1348	-1.4235	0.1068
3	195.12	0.9729	0.2151	0.0071	-0.6376	0.0782	-8.5463	0.1454	-2.0198	0.1005

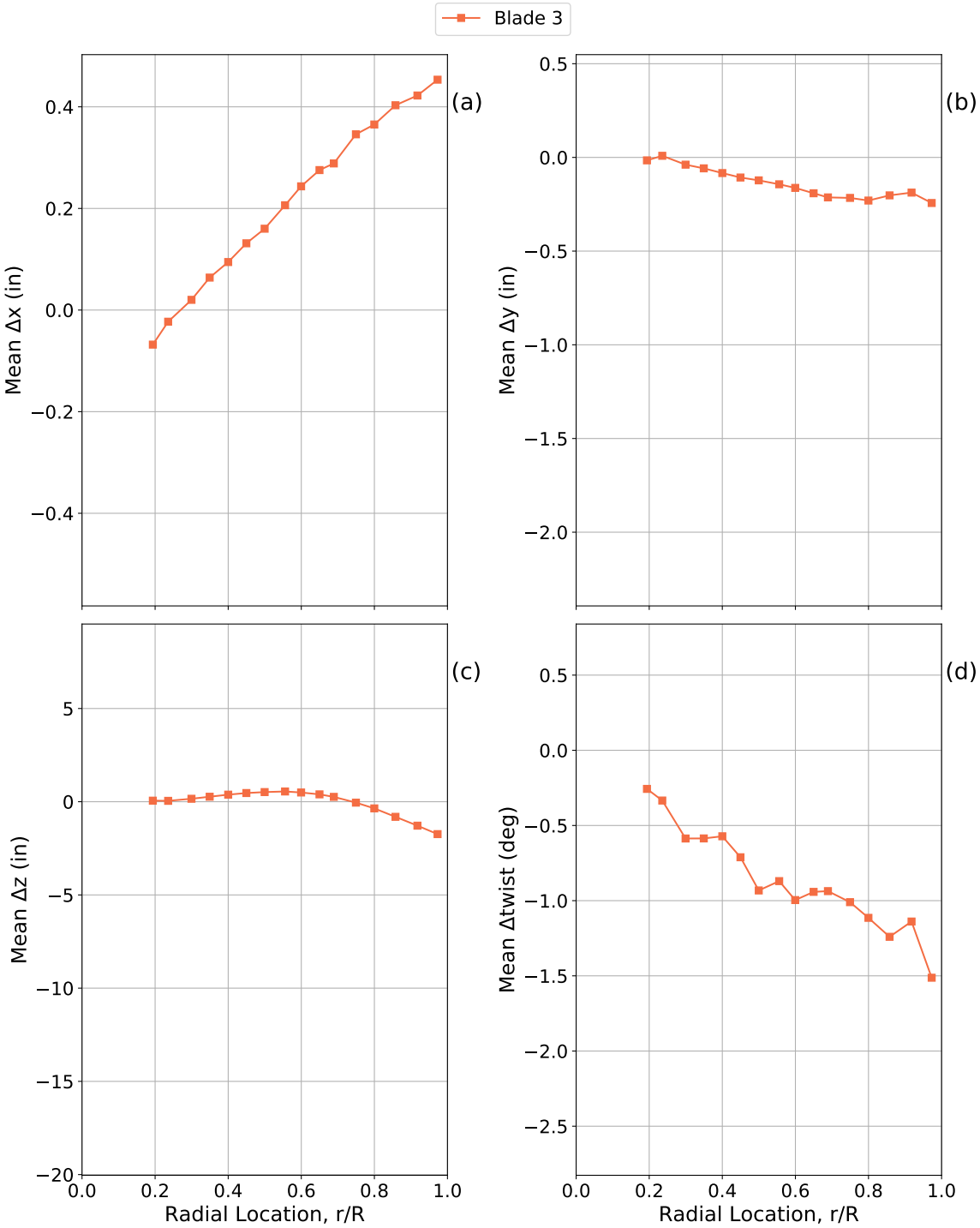


Figure 3.26-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0680	0.0014	-0.0157	0.0006	0.0568	0.0065	-0.2567	0.0684
3	209.88	0.2357	-0.0229	0.0014	0.0086	0.0033	0.0473	0.0153	-0.3341	0.0840
3	209.88	0.2995	0.0201	0.0014	-0.0387	0.0052	0.1587	0.0290	-0.5866	0.1551
3	209.88	0.3493	0.0639	0.0015	-0.0584	0.0092	0.2674	0.0464	-0.5861	0.0915
3	209.88	0.4000	0.0945	0.0026	-0.0835	0.0158	0.3788	0.0736	-0.5719	0.0804
3	209.88	0.4497	0.1314	0.0020	-0.1073	0.0180	0.4657	0.0894	-0.7114	0.0930
3	209.88	0.4997	0.1601	0.0031	-0.1225	0.0223	0.5169	0.1124	-0.9321	0.1150
3	209.88	0.5556	0.2063	0.0026	-0.1434	0.0270	0.5497	0.1458	-0.8700	0.1157
3	209.88	0.5995	0.2435	0.0026	-0.1627	0.0291	0.4949	0.1647	-0.9961	0.1203
3	209.88	0.6498	0.2755	0.0039	-0.1913	0.0330	0.3944	0.1951	-0.9416	0.1107
3	209.88	0.6890	0.2886	0.0025	-0.2134	0.0365	0.2601	0.2164	-0.9366	0.1173
3	209.88	0.7495	0.3459	0.0030	-0.2161	0.0424	-0.0487	0.2477	-1.0100	0.1085
3	209.88	0.7998	0.3652	0.0028	-0.2302	0.0479	-0.3584	0.2736	-1.1142	0.0988
3	209.88	0.8577	0.4031	0.0036	-0.2026	0.0543	-0.8107	0.3049	-1.2404	0.1028
3	209.88	0.9178	0.4223	0.0041	-0.1878	0.0611	-1.2843	0.3410	-1.1388	0.1011
3	209.88	0.9729	0.4534	0.0054	-0.2433	0.0685	-1.7377	0.3741	-1.5125	0.1151

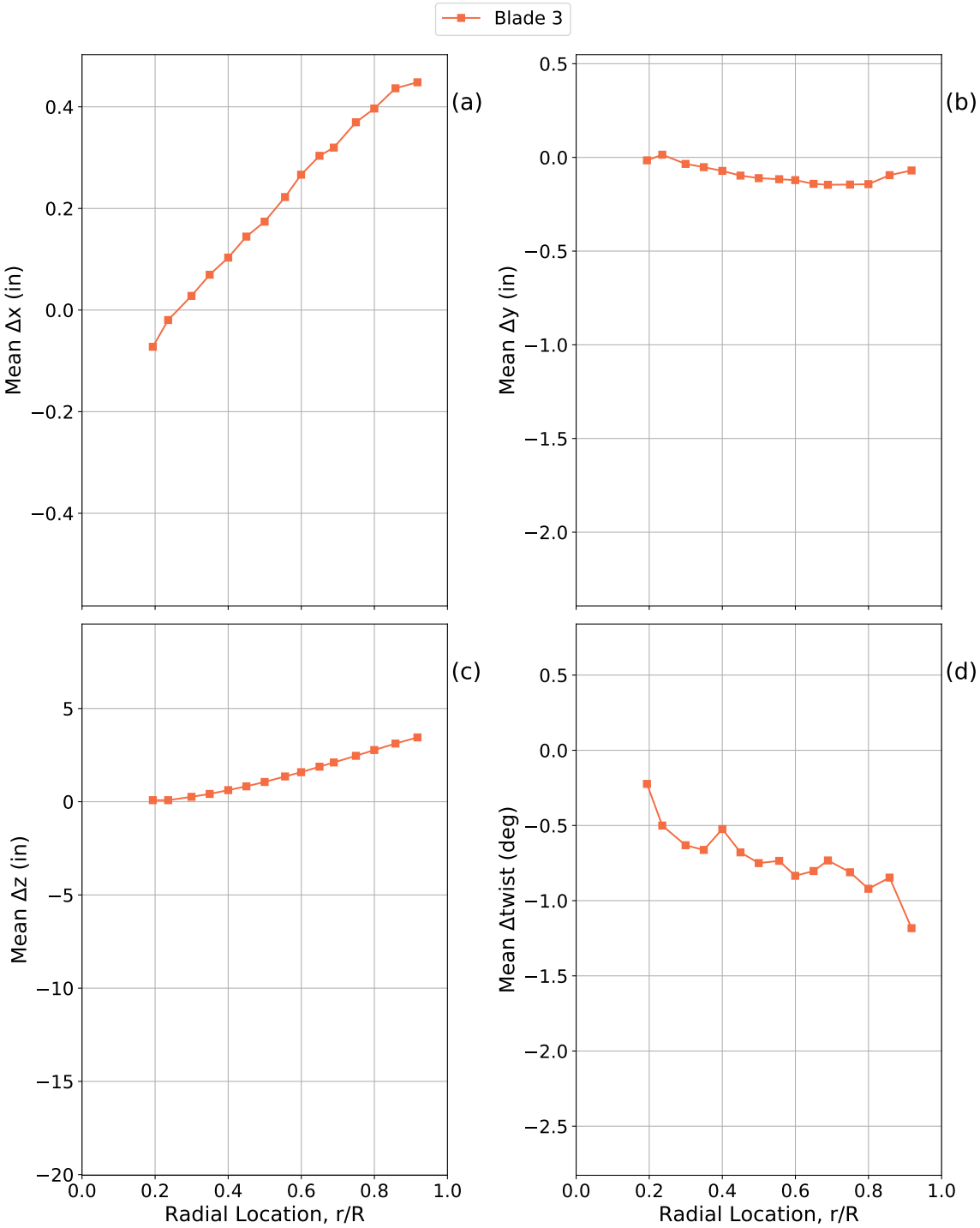


Figure 3.26-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0723	0.0015	-0.0156	0.0008	0.0831	0.0086	-0.2235	0.0285
3	225	0.2357	-0.0196	0.0015	0.0145	0.0027	0.0818	0.0158	-0.5007	0.0385
3	225	0.2995	0.0279	0.0013	-0.0347	0.0063	0.2616	0.0336	-0.6315	0.0650
3	225	0.3493	0.0695	0.0014	-0.0520	0.0104	0.4171	0.0552	-0.6625	0.0618
3	225	0.4000	0.1032	0.0027	-0.0720	0.0176	0.6209	0.0849	-0.5239	0.0640
3	225	0.4497	0.1446	0.0044	-0.0970	0.0247	0.8244	0.1164	-0.6789	0.0668
3	225	0.4997	0.1740	0.0042	-0.1107	0.0323	1.0597	0.1500	-0.7501	0.0805
3	225	0.5556	0.2224	0.0054	-0.1163	0.0438	1.3551	0.1941	-0.7353	0.0522
3	225	0.5995	0.2664	0.0052	-0.1211	0.0529	1.5840	0.2296	-0.8347	0.0490
3	225	0.6498	0.3036	0.0071	-0.1410	0.0643	1.8788	0.2709	-0.8030	0.0578
3	225	0.6890	0.3198	0.0076	-0.1460	0.0736	2.1057	0.2948	-0.7326	0.0886
3	225	0.7495	0.3696	0.0090	-0.1449	0.0889	2.4622	0.3427	-0.8113	0.0730
3	225	0.7998	0.3966	0.0109	-0.1427	0.1023	2.7722	0.3797	-0.9208	0.0783
3	225	0.8577	0.4365	0.0118	-0.0948	0.1191	3.1193	0.4302	-0.8466	0.0645
3	225	0.9178	0.4483	0.0136	-0.0697	0.1357	3.4493	0.4792	-1.1828	0.0737

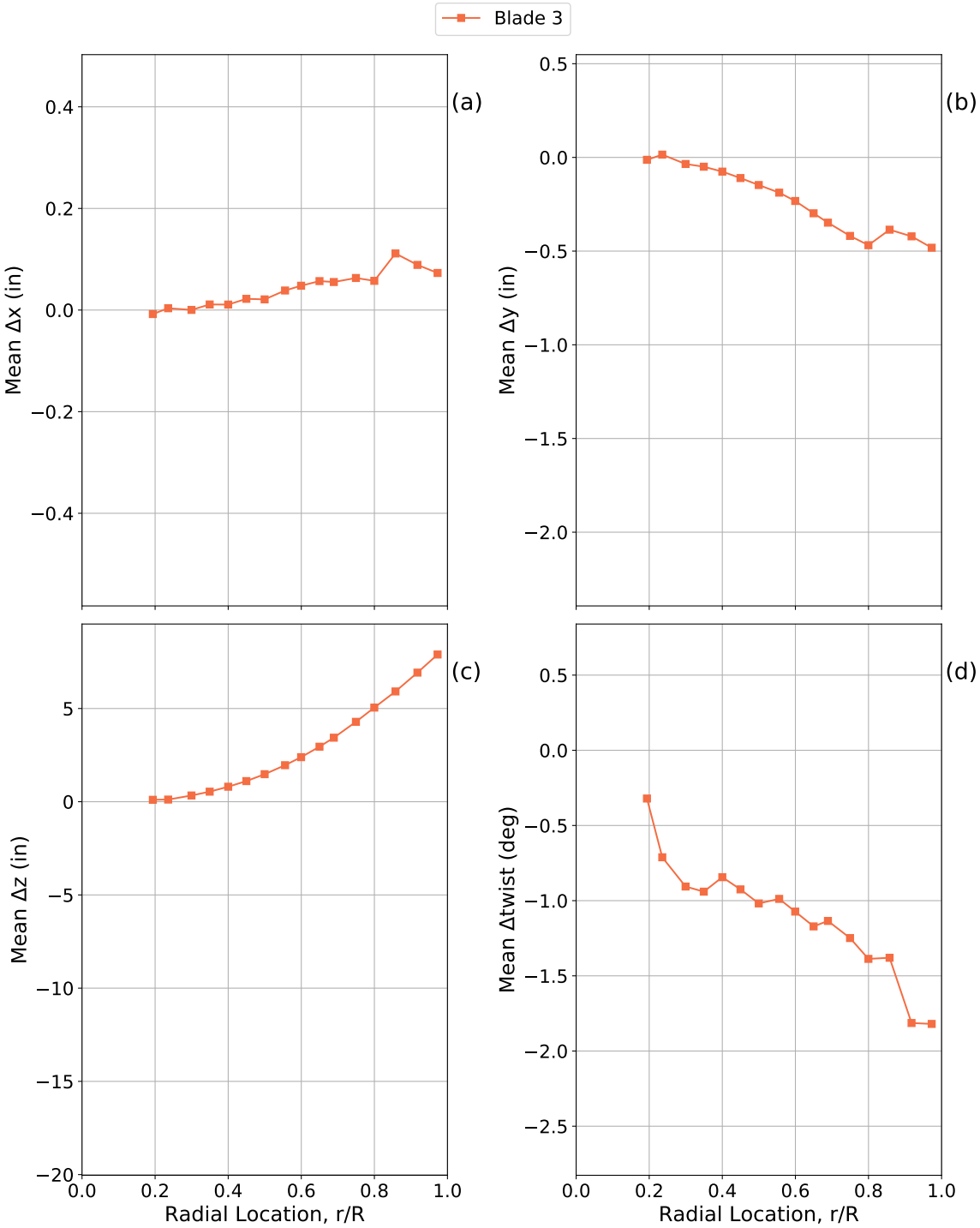


Figure 3.26-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0079	0.0015	-0.0128	0.0008	0.1031	0.0048	-0.3208	0.0245
3	240.12	0.2357	0.0036	0.0010	0.0149	0.0016	0.1156	0.0080	-0.7115	0.0357
3	240.12	0.2995	0.0003	0.0012	-0.0351	0.0040	0.3342	0.0166	-0.9060	0.0559
3	240.12	0.3493	0.0110	0.0016	-0.0496	0.0072	0.5393	0.0266	-0.9401	0.0603
3	240.12	0.4000	0.0108	0.0020	-0.0758	0.0113	0.8049	0.0409	-0.8440	0.0658
3	240.12	0.4497	0.0221	0.0017	-0.1102	0.0148	1.1066	0.0548	-0.9250	0.0739
3	240.12	0.4997	0.0210	0.0023	-0.1474	0.0202	1.4761	0.0699	-1.0183	0.0667
3	240.12	0.5556	0.0385	0.0034	-0.1881	0.0273	1.9586	0.0909	-0.9882	0.0667
3	240.12	0.5995	0.0479	0.0038	-0.2325	0.0318	2.3899	0.1075	-1.0727	0.0674
3	240.12	0.6498	0.0570	0.0051	-0.2982	0.0386	2.9514	0.1229	-1.1712	0.0635
3	240.12	0.6890	0.0552	0.0043	-0.3482	0.0431	3.4346	0.1350	-1.1349	0.0867
3	240.12	0.7495	0.0631	0.0051	-0.4189	0.0513	4.2852	0.1548	-1.2486	0.0602
3	240.12	0.7998	0.0575	0.0080	-0.4684	0.0606	5.0496	0.1782	-1.3872	0.0796
3	240.12	0.8577	0.1114	0.0090	-0.3857	0.0664	5.9142	0.1995	-1.3797	0.0579
3	240.12	0.9178	0.0889	0.0104	-0.4213	0.0754	6.9242	0.2291	-1.8136	0.0659
3	240.12	0.9729	0.0730	0.0125	-0.4819	0.0820	7.8957	0.2586	-1.8198	0.0595

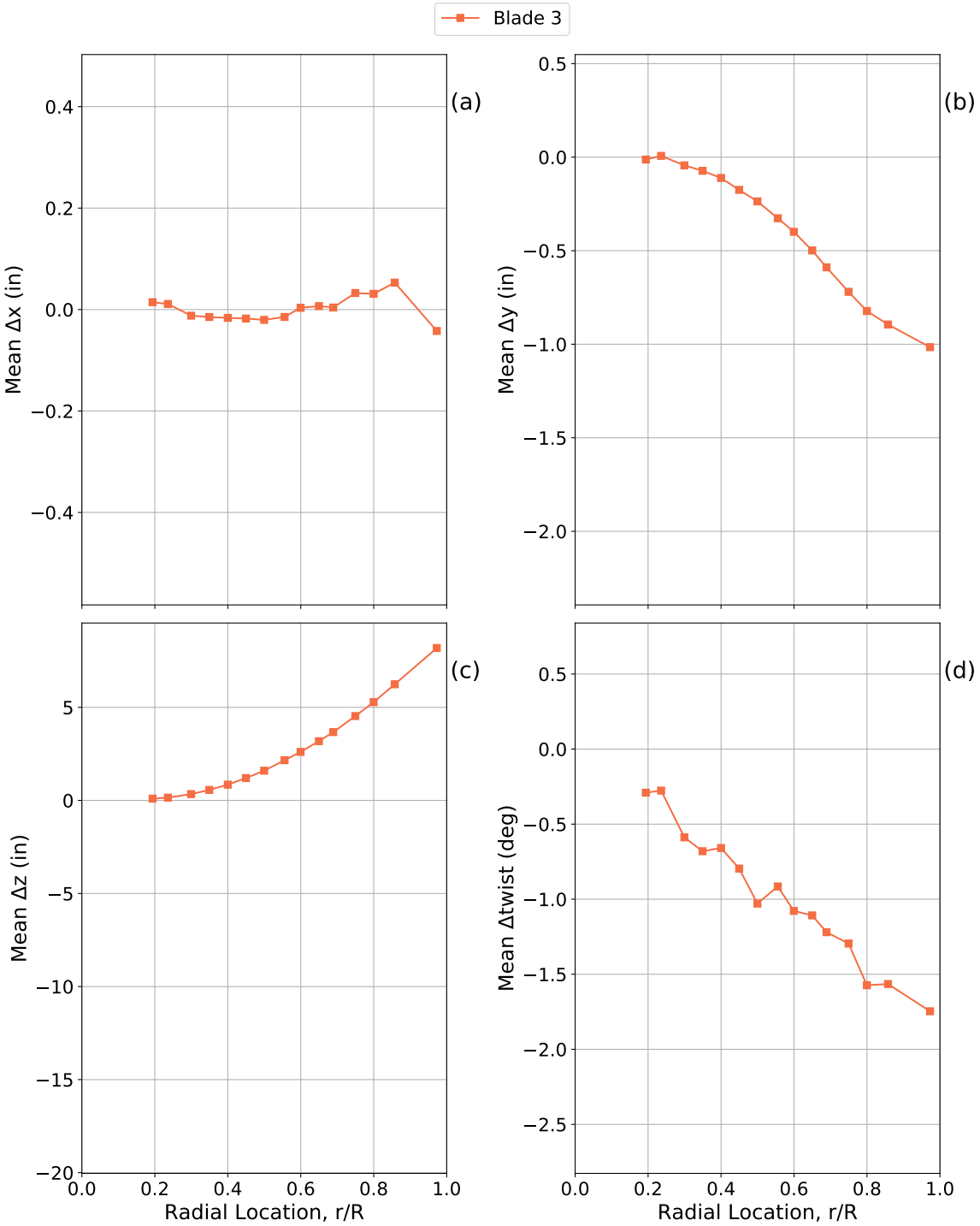


Figure 3.26-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	0.0145	0.0014	-0.0129	0.0009	0.0960	0.0100	-0.2904	0.0698
3	254.88	0.2357	0.0110	0.0016	0.0069	0.0021	0.1481	0.0238	-0.2766	0.0527
3	254.88	0.2995	-0.0121	0.0029	-0.0439	0.0076	0.3389	0.0442	-0.5882	0.1340
3	254.88	0.3493	-0.0147	0.0023	-0.0729	0.0087	0.5623	0.0708	-0.6805	0.0943
3	254.88	0.4000	-0.0164	0.0036	-0.1112	0.0179	0.8466	0.1122	-0.6591	0.1039
3	254.88	0.4497	-0.0177	0.0044	-0.1749	0.0234	1.1999	0.1470	-0.7961	0.1252
3	254.88	0.4997	-0.0204	0.0056	-0.2364	0.0274	1.5977	0.1868	-1.0291	0.0954
3	254.88	0.5556	-0.0146	0.0074	-0.3266	0.0362	2.1595	0.2416	-0.9153	0.1003
3	254.88	0.5995	0.0035	0.0089	-0.3992	0.0428	2.6054	0.2874	-1.0778	0.1044
3	254.88	0.6498	0.0068	0.0113	-0.4985	0.0512	3.1820	0.3390	-1.1081	0.1183
3	254.88	0.6890	0.0040	0.0129	-0.5889	0.0582	3.6695	0.3865	-1.2197	0.1525
3	254.88	0.7495	0.0326	0.0159	-0.7198	0.0690	4.5316	0.4655	-1.2953	0.1077
3	254.88	0.7998	0.0310	0.0190	-0.8225	0.0806	5.2802	0.5370	-1.5733	0.1431
3	254.88	0.8577	0.0531	0.0242	-0.8945	0.0893	6.2404	0.6092	-1.5650	0.1421
3	254.88	0.9729	-0.0422	0.0386	-1.0157	0.1056	8.1876	0.7704	-1.7465	0.4133

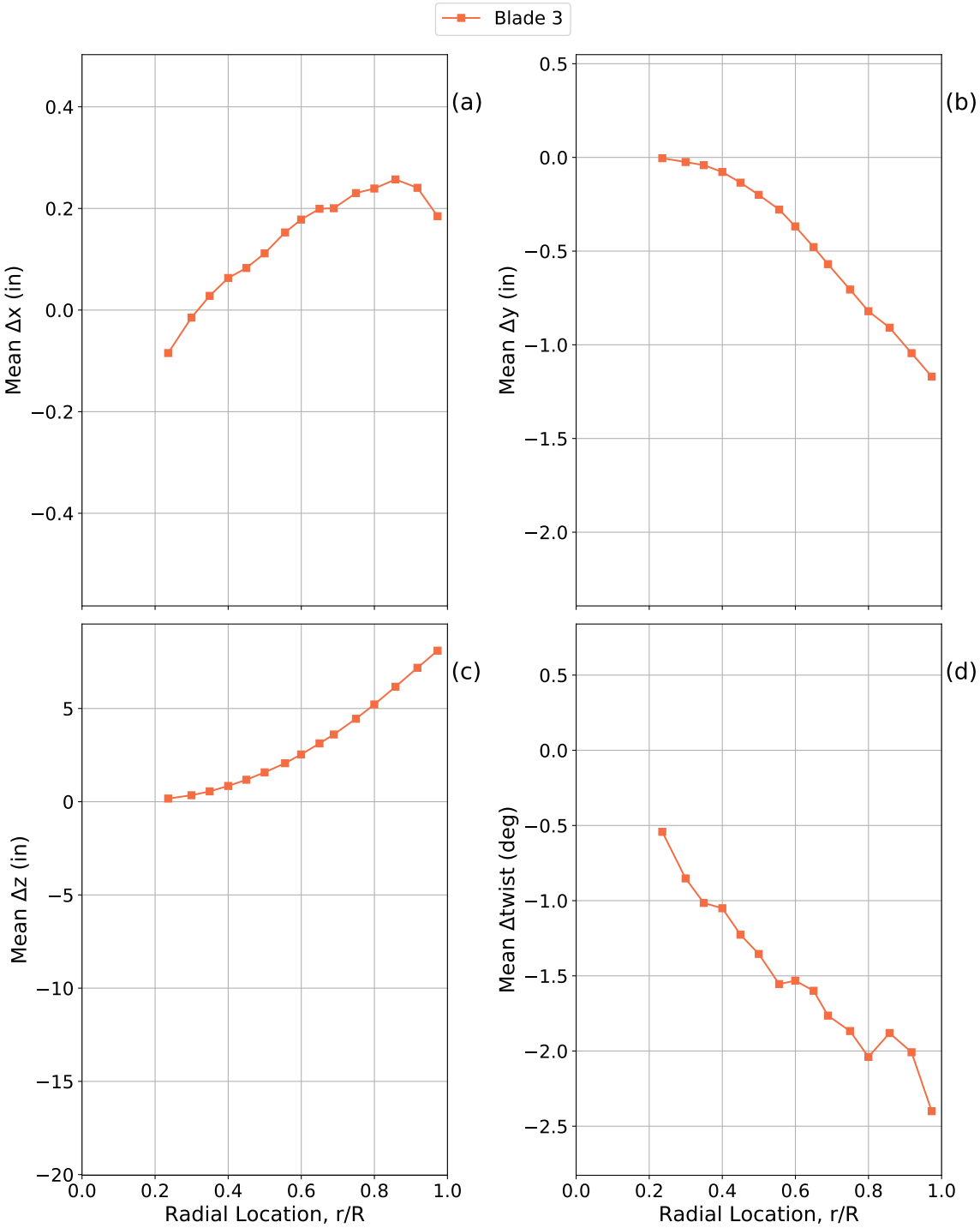


Figure 3.26-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2357	-0.0846	0.0034	-0.0042	0.0018	0.1693	0.0153	-0.5420	0.1048
3	260.16	0.2995	-0.0148	0.0018	-0.0245	0.0047	0.3467	0.0278	-0.8520	0.1668
3	260.16	0.3493	0.0279	0.0028	-0.0414	0.0090	0.5542	0.0474	-1.0151	0.1609
3	260.16	0.4000	0.0631	0.0029	-0.0777	0.0144	0.8451	0.0686	-1.0504	0.1758
3	260.16	0.4497	0.0828	0.0041	-0.1347	0.0187	1.1774	0.0946	-1.2262	0.1893
3	260.16	0.4997	0.1116	0.0040	-0.2000	0.0249	1.5753	0.1228	-1.3544	0.1900
3	260.16	0.5556	0.1528	0.0050	-0.2783	0.0320	2.0654	0.1572	-1.5550	0.2244
3	260.16	0.5995	0.1781	0.0057	-0.3681	0.0379	2.5352	0.1840	-1.5320	0.2235
3	260.16	0.6498	0.1993	0.0062	-0.4786	0.0453	3.1264	0.2191	-1.5992	0.2208
3	260.16	0.6890	0.2004	0.0071	-0.5696	0.0512	3.6078	0.2474	-1.7645	0.2266
3	260.16	0.7495	0.2302	0.0087	-0.7052	0.0613	4.4496	0.2943	-1.8671	0.2265
3	260.16	0.7998	0.2392	0.0103	-0.8207	0.0704	5.2173	0.3353	-2.0394	0.2295
3	260.16	0.8577	0.2571	0.0128	-0.9085	0.0807	6.1669	0.3848	-1.8806	0.2244
3	260.16	0.9178	0.2406	0.0159	-1.0445	0.0923	7.1823	0.4382	-2.0082	0.2345
3	260.16	0.9729	0.1847	0.0205	-1.1696	0.1026	8.1029	0.4834	-2.3999	0.2292

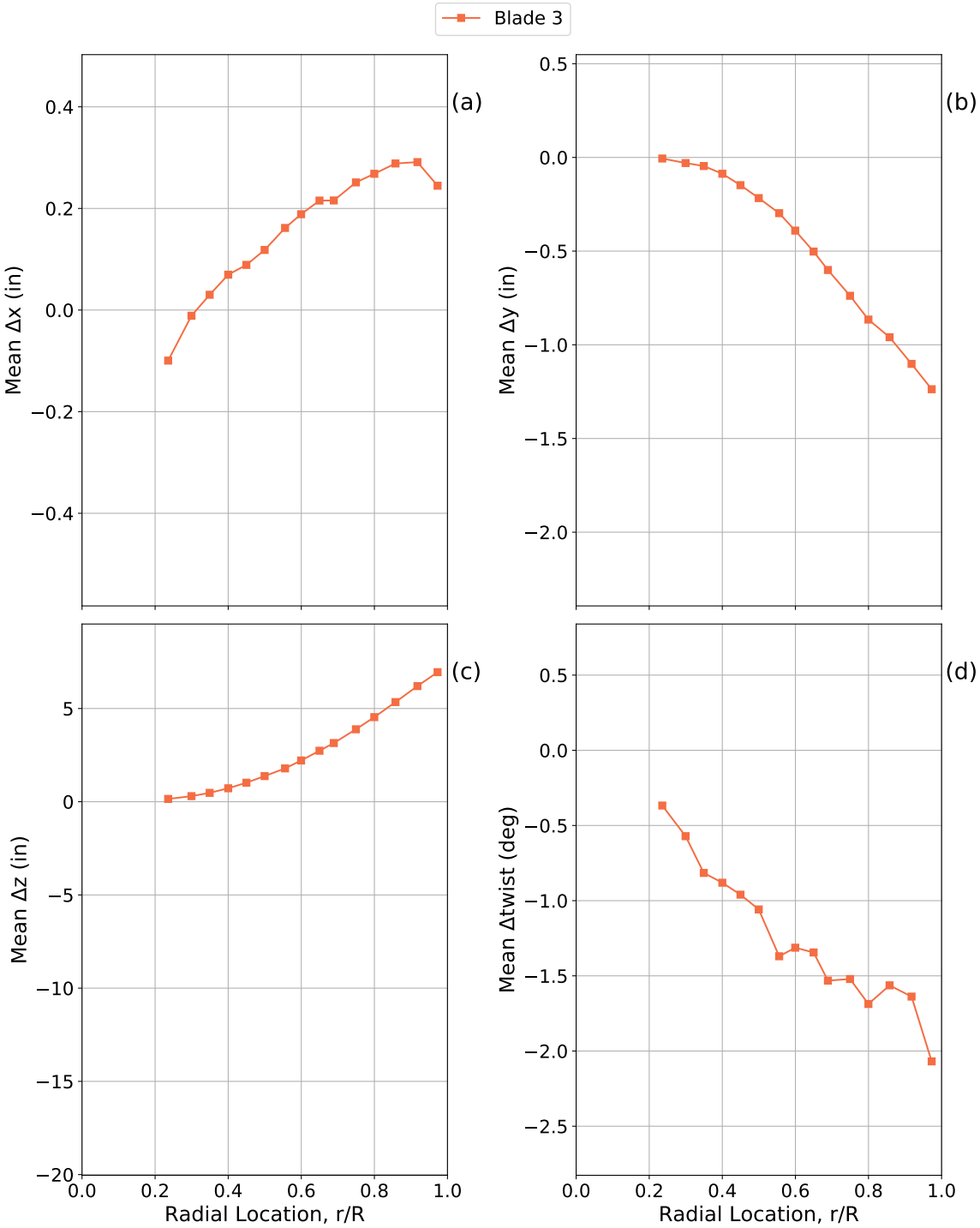


Figure 3.26-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0995	0.0067	-0.0059	0.0015	0.1492	0.0289	-0.3674	0.1647
3	265.08	0.2995	-0.0112	0.0016	-0.0300	0.0047	0.2983	0.0559	-0.5712	0.2618
3	265.08	0.3493	0.0301	0.0022	-0.0460	0.0097	0.4765	0.0913	-0.8155	0.2559
3	265.08	0.4000	0.0696	0.0033	-0.0872	0.0159	0.7199	0.1359	-0.8806	0.2477
3	265.08	0.4497	0.0889	0.0033	-0.1481	0.0222	1.0196	0.1760	-0.9601	0.2494
3	265.08	0.4997	0.1183	0.0049	-0.2171	0.0278	1.3741	0.2236	-1.0584	0.2485
3	265.08	0.5556	0.1616	0.0065	-0.2977	0.0357	1.7868	0.2800	-1.3699	0.2503
3	265.08	0.5995	0.1886	0.0084	-0.3906	0.0418	2.2115	0.3244	-1.3129	0.2434
3	265.08	0.6498	0.2155	0.0100	-0.5024	0.0490	2.7349	0.3766	-1.3445	0.2403
3	265.08	0.6890	0.2157	0.0125	-0.6008	0.0550	3.1480	0.4185	-1.5318	0.2484
3	265.08	0.7495	0.2512	0.0156	-0.7383	0.0643	3.8852	0.4785	-1.5211	0.2448
3	265.08	0.7998	0.2682	0.0183	-0.8654	0.0728	4.5360	0.5271	-1.6872	0.2443
3	265.08	0.8577	0.2885	0.0210	-0.9595	0.0827	5.3439	0.5777	-1.5632	0.2400
3	265.08	0.9178	0.2912	0.0230	-1.1018	0.0935	6.2020	0.6285	-1.6380	0.2422
3	265.08	0.9729	0.2447	0.0303	-1.2371	0.1031	6.9485	0.6730	-2.0689	0.2457

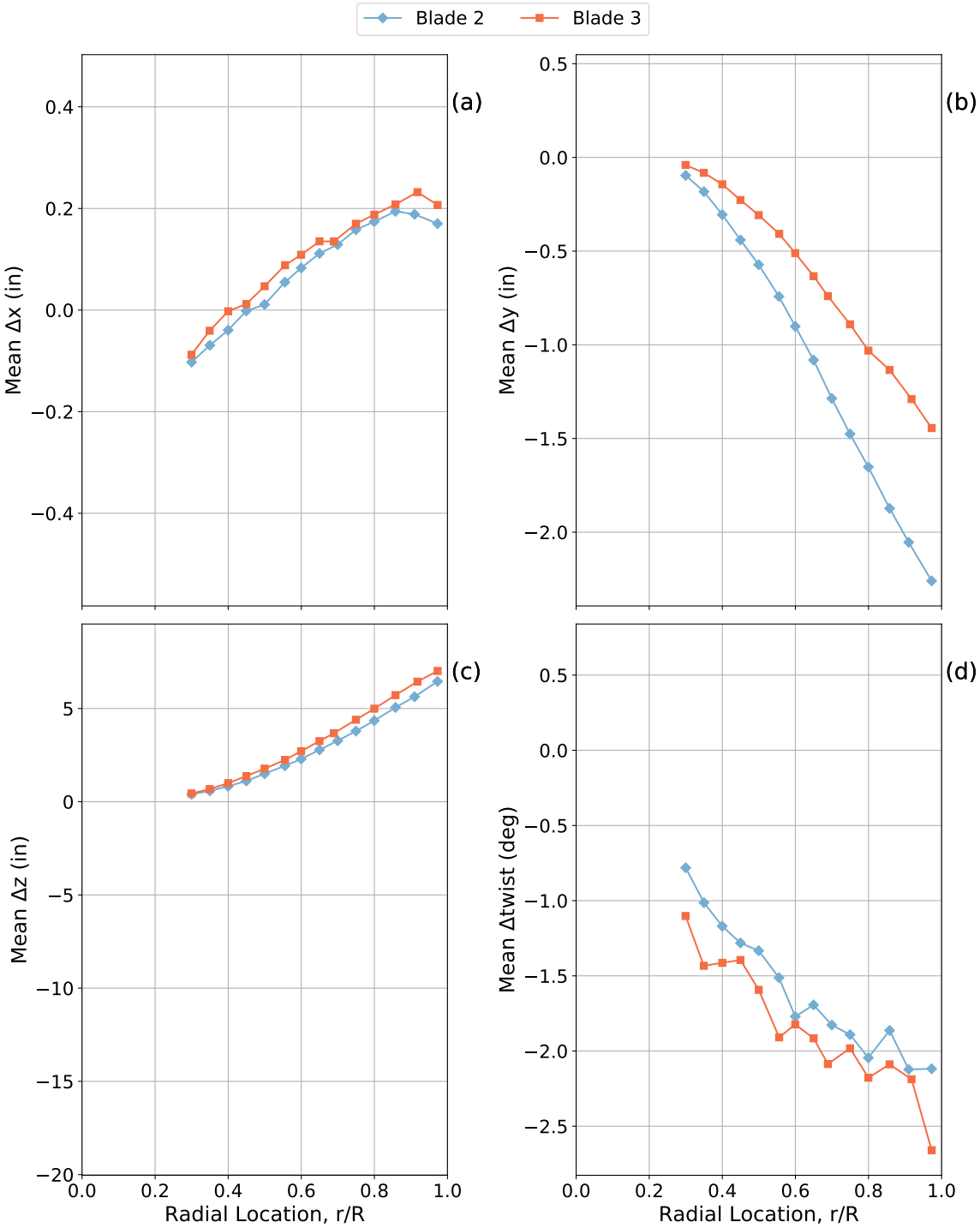


Figure 3.26-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2999	-0.1025	0.0099	-0.0963	0.0078	0.3978	0.1324	-0.7813	0.3730
2	270.35	0.3498	-0.0693	0.0078	-0.1827	0.0144	0.5833	0.2099	-1.0132	0.4893
2	270.35	0.3998	-0.0396	0.0110	-0.3053	0.0245	0.8263	0.3152	-1.1697	0.4617
2	270.35	0.4496	-0.0017	0.0128	-0.4405	0.0329	1.1141	0.4130	-1.2811	0.4780
2	270.35	0.4995	0.0109	0.0159	-0.5726	0.0418	1.4998	0.5111	-1.3329	0.4816
2	270.35	0.5551	0.0549	0.0200	-0.7424	0.0531	1.9273	0.6272	-1.5125	0.4683
2	270.35	0.5996	0.0828	0.0231	-0.9018	0.0617	2.2871	0.7179	-1.7708	0.4741
2	270.35	0.6497	0.1114	0.0264	-1.0814	0.0709	2.7832	0.8219	-1.6932	0.4834
2	270.35	0.6996	0.1289	0.0309	-1.2864	0.0816	3.2697	0.9291	-1.8271	0.4726
2	270.35	0.7495	0.1581	0.0355	-1.4759	0.0916	3.7893	1.0382	-1.8910	0.4815
2	270.35	0.7996	0.1741	0.0389	-1.6522	0.1016	4.3483	1.1472	-2.0451	0.4917
2	270.35	0.8578	0.1942	0.0437	-1.8730	0.1134	5.0537	1.2759	-1.8632	0.4836
2	270.35	0.9100	0.1885	0.0495	-2.0538	0.1242	5.6311	1.3919	-2.1223	0.4755
2	270.35	0.9727	0.1700	0.0613	-2.2597	0.1360	6.4530	1.5285	-2.1181	0.4886
3	270	0.2995	-0.0879	0.0089	-0.0405	0.0065	0.4442	0.0882	-1.1018	0.2287
3	270	0.3493	-0.0407	0.0060	-0.0822	0.0126	0.6776	0.1348	-1.4331	0.2977
3	270	0.4000	-0.0024	0.0095	-0.1436	0.0216	0.9968	0.1988	-1.4134	0.3116
3	270	0.4497	0.0120	0.0108	-0.2275	0.0314	1.3768	0.2599	-1.3948	0.3090
3	270	0.4997	0.0469	0.0129	-0.3080	0.0411	1.7752	0.3226	-1.5932	0.3238
3	270	0.5556	0.0883	0.0153	-0.4080	0.0537	2.2434	0.3882	-1.9090	0.3432
3	270	0.5995	0.1089	0.0189	-0.5108	0.0639	2.7102	0.4451	-1.8231	0.3309
3	270	0.6498	0.1353	0.0211	-0.6337	0.0760	3.2531	0.5005	-1.9154	0.3514
3	270	0.6890	0.1350	0.0231	-0.7402	0.0864	3.6724	0.5455	-2.0864	0.3495
3	270	0.7495	0.1699	0.0260	-0.8907	0.1026	4.3973	0.6110	-1.9819	0.3547
3	270	0.7998	0.1878	0.0283	-1.0309	0.1164	4.9913	0.6675	-2.1777	0.3509
3	270	0.8577	0.2080	0.0308	-1.1344	0.1333	5.7187	0.7346	-2.0884	0.3403
3	270	0.9178	0.2321	0.0345	-1.2897	0.1510	6.4402	0.8049	-2.1876	0.3523
3	270	0.9729	0.2068	0.0431	-1.4444	0.1684	7.0131	0.8697	-2.6598	0.3648

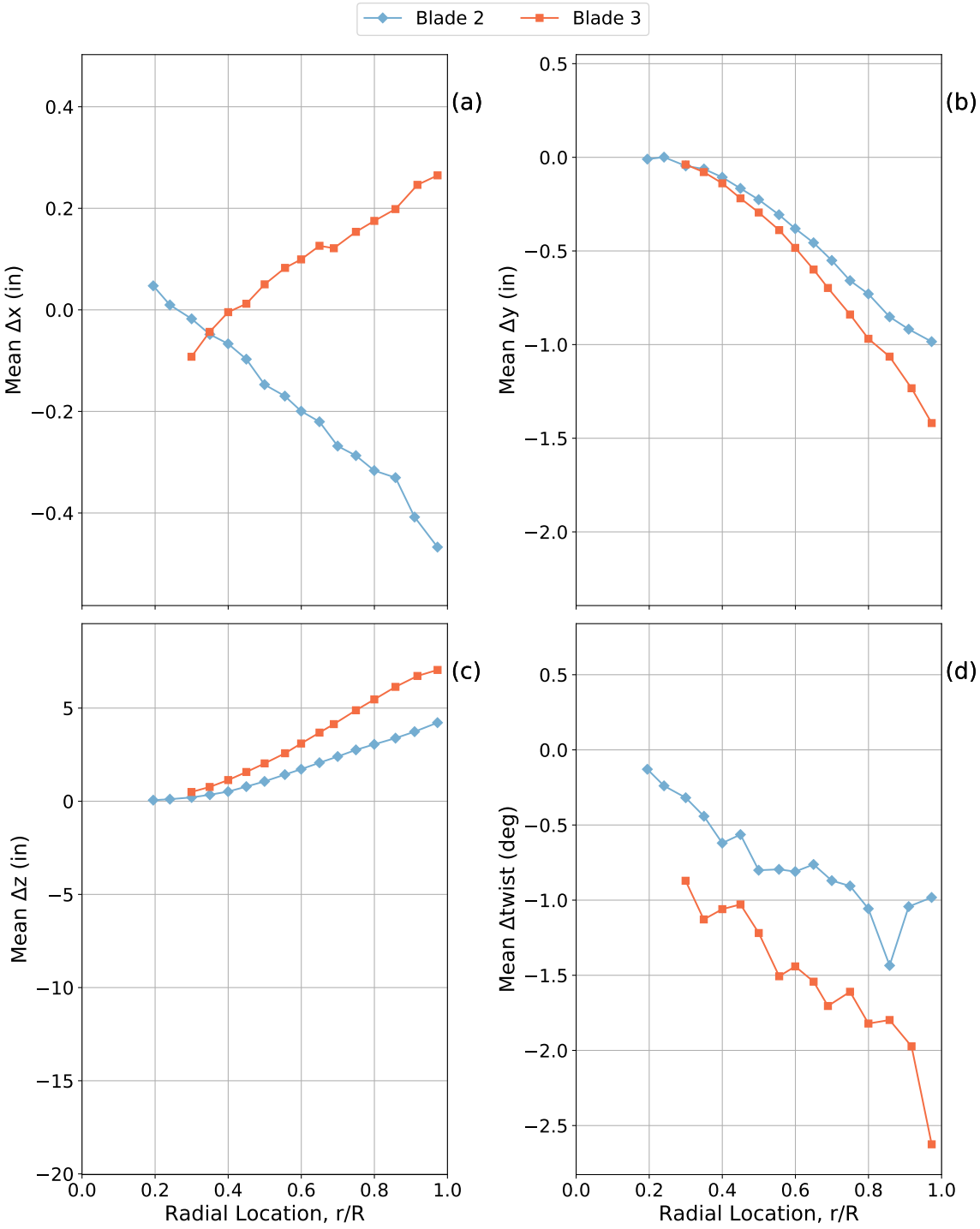


Figure 3.26-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0474	0.0035	-0.0097	0.0023	0.0582	0.0160	-0.1291	0.0537
2	274.92	0.2405	0.0097	0.0026	0.0009	0.0037	0.1110	0.0224	-0.2394	0.1245
2	274.92	0.2999	-0.0176	0.0033	-0.0460	0.0087	0.2048	0.0436	-0.3186	0.1255
2	274.92	0.3498	-0.0483	0.0062	-0.0622	0.0209	0.3492	0.0802	-0.4419	0.0888
2	274.92	0.3998	-0.0668	0.0064	-0.1065	0.0288	0.5181	0.1102	-0.6204	0.0845
2	274.92	0.4496	-0.0971	0.0076	-0.1660	0.0393	0.7859	0.1374	-0.5636	0.1338
2	274.92	0.4995	-0.1472	0.0080	-0.2260	0.0475	1.0646	0.1594	-0.8010	0.1913
2	274.92	0.5551	-0.1698	0.0104	-0.3067	0.0609	1.4311	0.2064	-0.7952	0.1218
2	274.92	0.5996	-0.1995	0.0123	-0.3809	0.0708	1.7200	0.2297	-0.8101	0.1495
2	274.92	0.6497	-0.2203	0.0129	-0.4562	0.0857	2.0675	0.2608	-0.7625	0.1724
2	274.92	0.6996	-0.2682	0.0132	-0.5507	0.1003	2.4003	0.2937	-0.8703	0.1279
2	274.92	0.7495	-0.2870	0.0160	-0.6584	0.1170	2.7562	0.3299	-0.9057	0.1395
2	274.92	0.7996	-0.3165	0.0179	-0.7295	0.1341	3.0541	0.3640	-1.0570	0.1626
2	274.92	0.8578	-0.3304	0.0196	-0.8519	0.1546	3.3864	0.4110	-1.4351	0.1502
2	274.92	0.9100	-0.4080	0.0220	-0.9179	0.1736	3.7344	0.4484	-1.0429	0.1688
2	274.92	0.9727	-0.4672	0.0298	-0.9842	0.1961	4.2176	0.5015	-0.9822	0.1798
3	274.92	0.2995	-0.0923	0.0185	-0.0383	0.0089	0.4973	0.1366	-0.8710	0.3025
3	274.92	0.3493	-0.0433	0.0077	-0.0789	0.0158	0.7670	0.2101	-1.1284	0.3911
3	274.92	0.4000	-0.0045	0.0120	-0.1387	0.0259	1.1375	0.3112	-1.0600	0.3717
3	274.92	0.4497	0.0121	0.0139	-0.2190	0.0344	1.5705	0.3958	-1.0286	0.3889
3	274.92	0.4997	0.0503	0.0165	-0.2946	0.0434	2.0316	0.4912	-1.2189	0.3856
3	274.92	0.5556	0.0827	0.0207	-0.3887	0.0541	2.5763	0.5913	-1.5066	0.3971
3	274.92	0.5995	0.0994	0.0247	-0.4836	0.0619	3.0987	0.6748	-1.4410	0.3923
3	274.92	0.6498	0.1262	0.0285	-0.5993	0.0714	3.6845	0.7661	-1.5425	0.4002
3	274.92	0.6890	0.1214	0.0313	-0.6976	0.0787	4.1388	0.8378	-1.7044	0.4061
3	274.92	0.7495	0.1537	0.0367	-0.8393	0.0901	4.8820	0.9492	-1.6098	0.4123
3	274.92	0.7998	0.1752	0.0404	-0.9689	0.0997	5.4662	1.0421	-1.8212	0.4053
3	274.92	0.8577	0.1985	0.0445	-1.0642	0.1121	6.1383	1.1513	-1.7976	0.3758
3	274.92	0.9178	0.2462	0.0498	-1.2331	0.1248	6.7244	1.2604	-1.9728	0.4044
3	274.92	0.9729	0.2649	0.0581	-1.4190	0.1375	7.0473	1.3612	-2.6248	0.4204

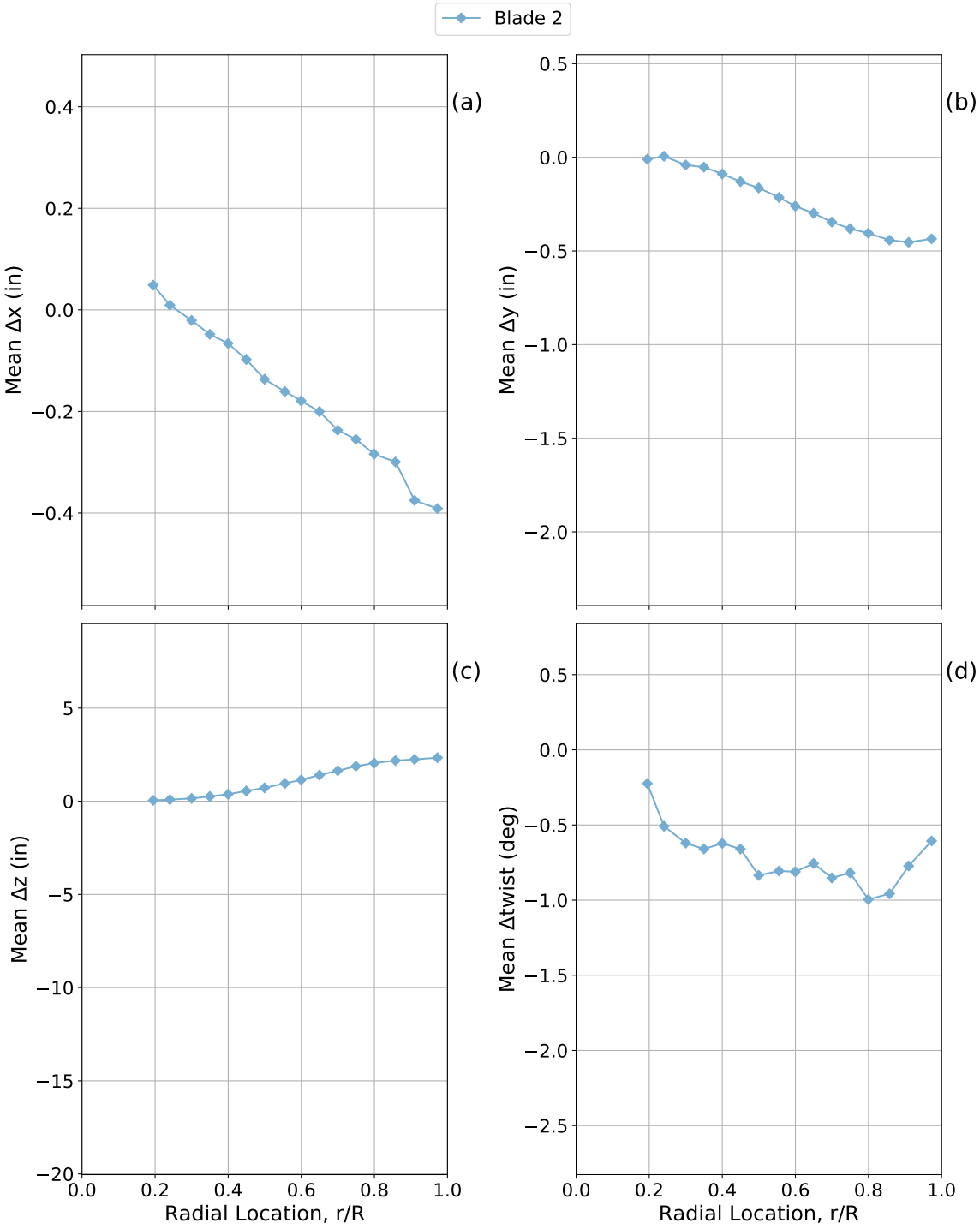


Figure 3.26-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0486	0.0024	-0.0100	0.0014	0.0457	0.0072	-0.2244	0.0400
2	285.12	0.2405	0.0093	0.0016	0.0056	0.0021	0.0853	0.0132	-0.5086	0.0423
2	285.12	0.2999	-0.0208	0.0025	-0.0410	0.0074	0.1506	0.0275	-0.6202	0.0744
2	285.12	0.3498	-0.0481	0.0015	-0.0524	0.0112	0.2561	0.0359	-0.6597	0.0715
2	285.12	0.3998	-0.0660	0.0020	-0.0888	0.0188	0.3744	0.0596	-0.6223	0.0659
2	285.12	0.4496	-0.0977	0.0062	-0.1299	0.0229	0.5503	0.0692	-0.6598	0.1021
2	285.12	0.4995	-0.1366	0.0034	-0.1635	0.0289	0.7196	0.0895	-0.8349	0.0691
2	285.12	0.5551	-0.1608	0.0055	-0.2140	0.0361	0.9542	0.1198	-0.8061	0.0741
2	285.12	0.5996	-0.1792	0.0054	-0.2608	0.0416	1.1476	0.1354	-0.8110	0.0775
2	285.12	0.6497	-0.2002	0.0062	-0.2988	0.0477	1.4048	0.1523	-0.7560	0.0772
2	285.12	0.6996	-0.2370	0.0057	-0.3456	0.0531	1.6386	0.1736	-0.8520	0.0841
2	285.12	0.7495	-0.2549	0.0076	-0.3813	0.0599	1.8790	0.2020	-0.8182	0.0864
2	285.12	0.7996	-0.2840	0.0080	-0.4049	0.0665	2.0495	0.2238	-0.9953	0.0898
2	285.12	0.8578	-0.2995	0.0086	-0.4422	0.0734	2.1836	0.2515	-0.9576	0.1028
2	285.12	0.9100	-0.3752	0.0108	-0.4536	0.0796	2.2448	0.2783	-0.7729	0.0958
2	285.12	0.9727	-0.3913	0.0120	-0.4353	0.0859	2.3375	0.3086	-0.6064	0.0978

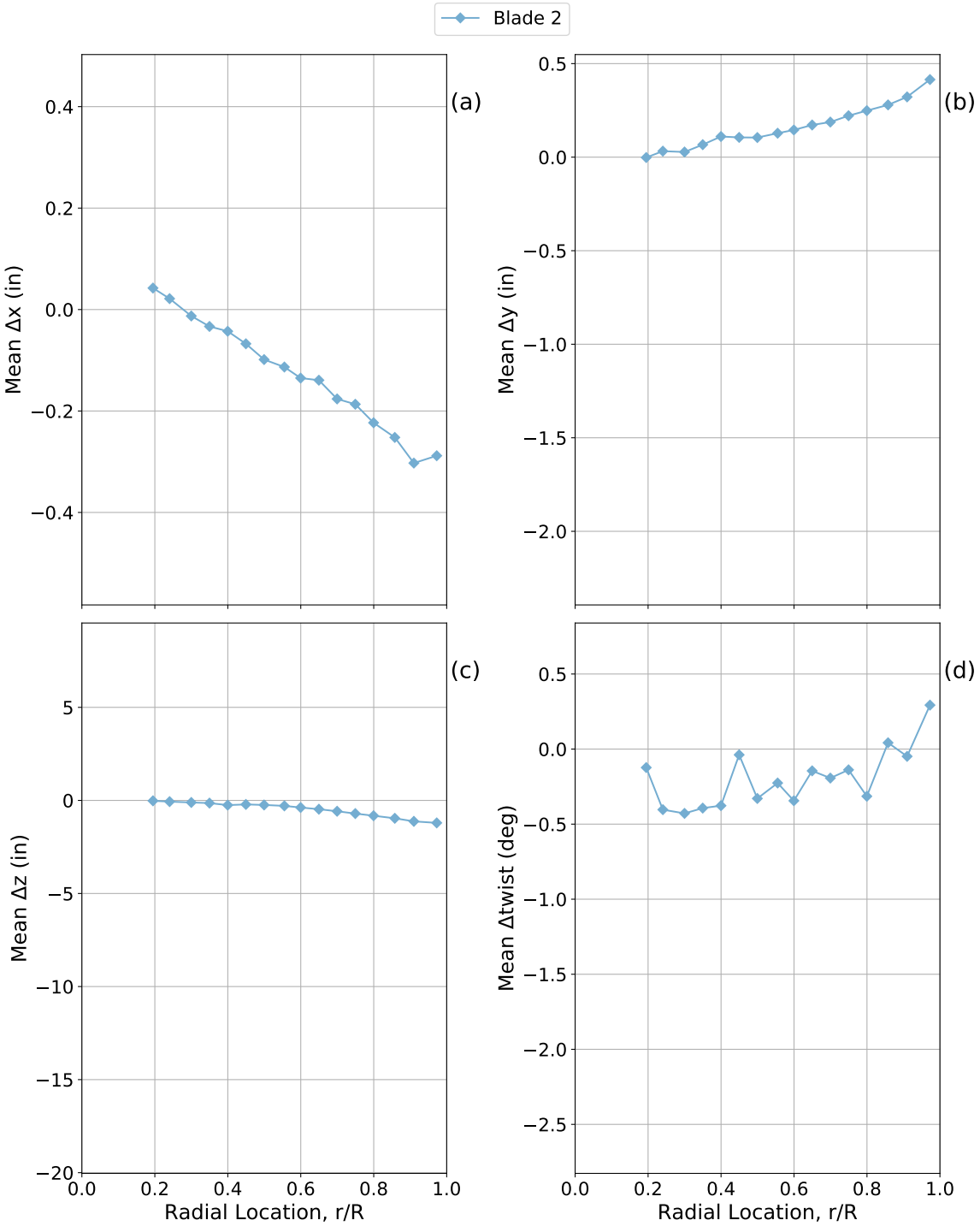


Figure 3.26-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0424	0.0038	-0.0020	0.0009	-0.0221	0.0078	-0.1232	0.0534
2	299.88	0.2405	0.0215	0.0028	0.0321	0.0034	-0.0652	0.0175	-0.4036	0.1040
2	299.88	0.2999	-0.0127	0.0022	0.0275	0.0060	-0.1098	0.0305	-0.4285	0.1371
2	299.88	0.3498	-0.0333	0.0026	0.0667	0.0097	-0.1438	0.0483	-0.3932	0.1014
2	299.88	0.3998	-0.0428	0.0036	0.1103	0.0172	-0.2526	0.0733	-0.3770	0.0870
2	299.88	0.4496	-0.0675	0.0039	0.1055	0.0228	-0.2150	0.0901	-0.0382	0.1191
2	299.88	0.4995	-0.0986	0.0048	0.1048	0.0253	-0.2442	0.1003	-0.3291	0.1056
2	299.88	0.5551	-0.1133	0.0038	0.1279	0.0306	-0.2936	0.1264	-0.2260	0.1085
2	299.88	0.5996	-0.1351	0.0050	0.1453	0.0370	-0.3813	0.1540	-0.3443	0.1020
2	299.88	0.6497	-0.1393	0.0051	0.1719	0.0443	-0.4722	0.1831	-0.1450	0.1029
2	299.88	0.6996	-0.1762	0.0067	0.1876	0.0513	-0.5824	0.2173	-0.1932	0.0920
2	299.88	0.7495	-0.1867	0.0079	0.2215	0.0587	-0.7068	0.2464	-0.1383	0.0963
2	299.88	0.7996	-0.2232	0.0074	0.2486	0.0680	-0.8227	0.2815	-0.3146	0.0713
2	299.88	0.8578	-0.2521	0.0078	0.2793	0.0784	-0.9610	0.3182	0.0421	0.0761
2	299.88	0.9100	-0.3027	0.0080	0.3220	0.0884	-1.1254	0.3485	-0.0486	0.0869
2	299.88	0.9727	-0.2882	0.0117	0.4147	0.0997	-1.2079	0.3898	0.2929	0.0885

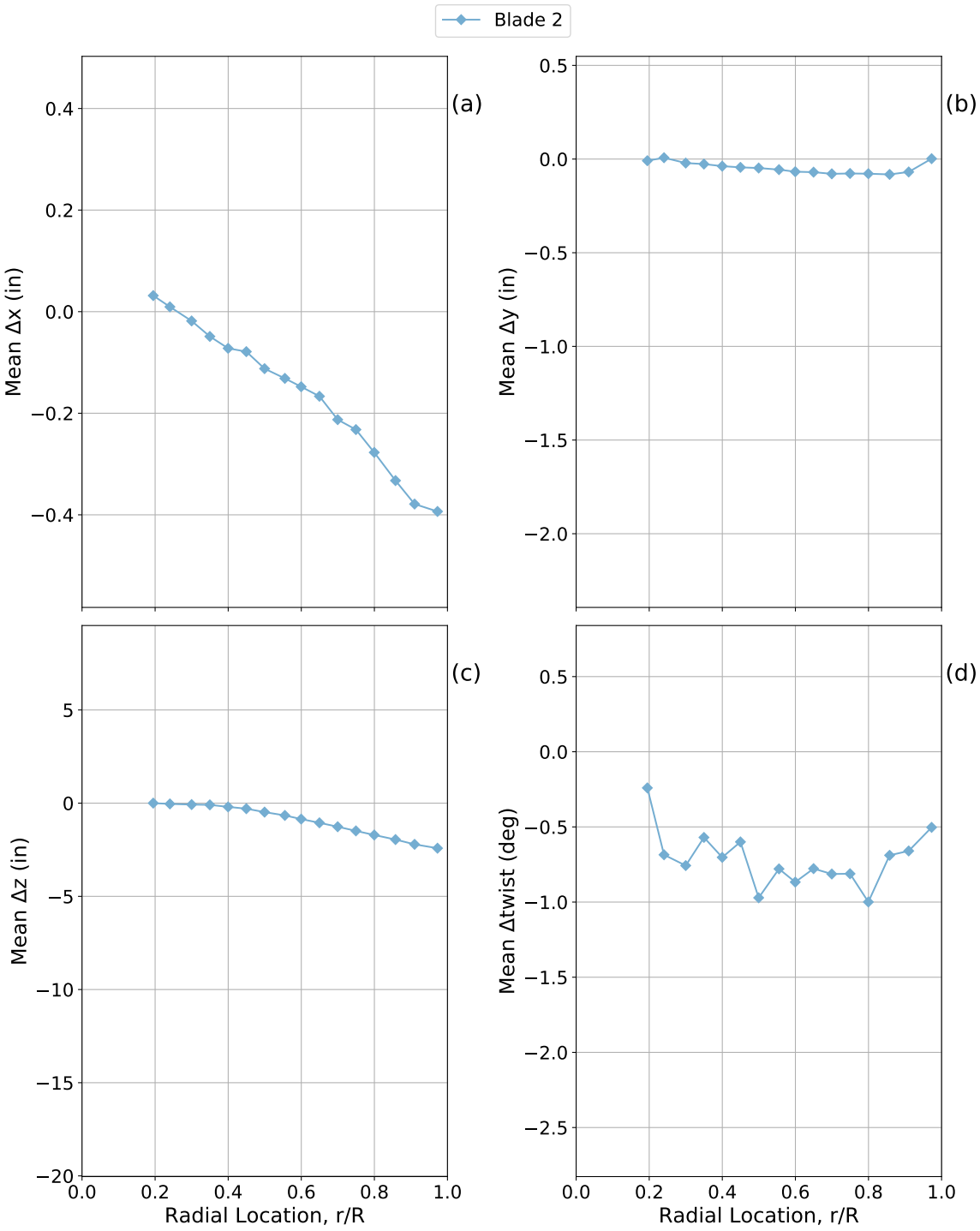


Figure 3.26-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0316	0.0017	-0.0088	0.0005	0.0016	0.0053	-0.2405	0.0370
2	315	0.2405	0.0095	0.0017	0.0072	0.0027	-0.0409	0.0115	-0.6854	0.0426
2	315	0.2999	-0.0183	0.0029	-0.0212	0.0050	-0.0759	0.0203	-0.7573	0.0765
2	315	0.3498	-0.0488	0.0016	-0.0267	0.0077	-0.0911	0.0333	-0.5700	0.0874
2	315	0.3998	-0.0722	0.0052	-0.0379	0.0137	-0.2008	0.0510	-0.7026	0.0754
2	315	0.4496	-0.0787	0.0050	-0.0442	0.0146	-0.2965	0.0642	-0.5998	0.0485
2	315	0.4995	-0.1122	0.0034	-0.0478	0.0201	-0.4809	0.0754	-0.9715	0.0882
2	315	0.5551	-0.1314	0.0032	-0.0564	0.0260	-0.6584	0.0978	-0.7792	0.0517
2	315	0.5996	-0.1478	0.0043	-0.0675	0.0300	-0.8541	0.1106	-0.8671	0.0839
2	315	0.6497	-0.1666	0.0034	-0.0699	0.0357	-1.0548	0.1301	-0.7776	0.0696
2	315	0.6996	-0.2126	0.0043	-0.0788	0.0435	-1.2656	0.1504	-0.8134	0.0818
2	315	0.7495	-0.2322	0.0036	-0.0769	0.0512	-1.4881	0.1779	-0.8116	0.0781
2	315	0.7996	-0.2772	0.0048	-0.0781	0.0599	-1.7078	0.2102	-0.9994	0.0821
2	315	0.8578	-0.3326	0.0051	-0.0820	0.0699	-1.9538	0.2525	-0.6888	0.0857
2	315	0.9100	-0.3788	0.0053	-0.0688	0.0797	-2.2095	0.2973	-0.6599	0.0909
2	315	0.9727	-0.3934	0.0064	0.0021	0.0919	-2.4175	0.3524	-0.5031	0.0930

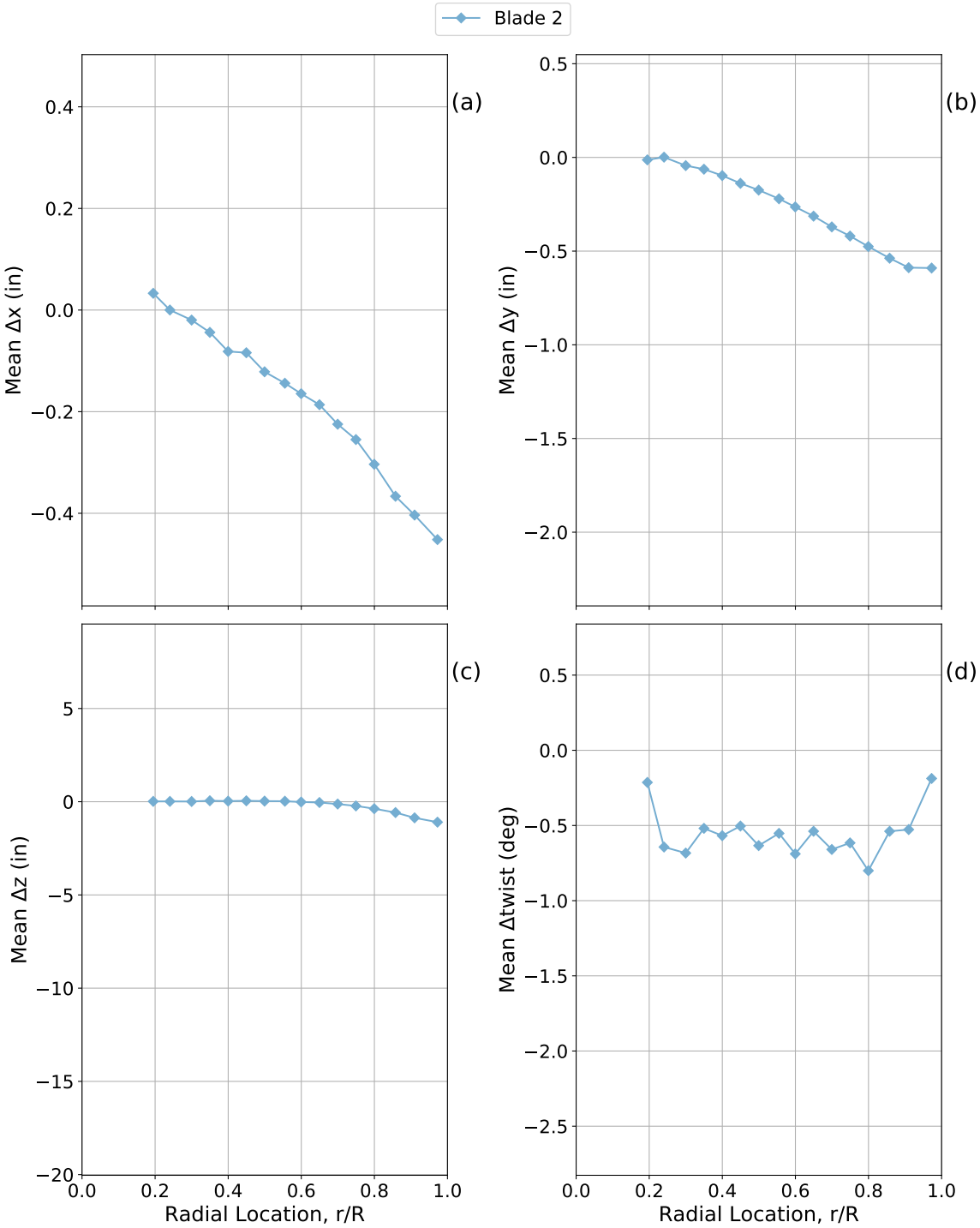


Figure 3.26-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0330	0.0025	-0.0132	0.0017	0.0180	0.0026	-0.2136	0.0512
2	330.12	0.2405	0.0001	0.0029	0.0013	0.0029	0.0174	0.0062	-0.6433	0.0852
2	330.12	0.2999	-0.0197	0.0037	-0.0438	0.0053	0.0124	0.0127	-0.6835	0.1246
2	330.12	0.3498	-0.0439	0.0031	-0.0630	0.0113	0.0518	0.0174	-0.5191	0.0593
2	330.12	0.3998	-0.0815	0.0050	-0.0970	0.0154	0.0329	0.0278	-0.5679	0.1052
2	330.12	0.4496	-0.0840	0.0054	-0.1384	0.0214	0.0490	0.0394	-0.5038	0.0544
2	330.12	0.4995	-0.1215	0.0057	-0.1744	0.0243	0.0322	0.0575	-0.6338	0.0821
2	330.12	0.5551	-0.1440	0.0043	-0.2208	0.0307	0.0267	0.0896	-0.5524	0.0932
2	330.12	0.5996	-0.1646	0.0058	-0.2642	0.0348	-0.0148	0.1168	-0.6889	0.1013
2	330.12	0.6497	-0.1863	0.0065	-0.3135	0.0418	-0.0421	0.1535	-0.5385	0.0915
2	330.12	0.6996	-0.2247	0.0077	-0.3708	0.0478	-0.1240	0.1924	-0.6595	0.0924
2	330.12	0.7495	-0.2549	0.0084	-0.4197	0.0549	-0.2261	0.2301	-0.6159	0.0963
2	330.12	0.7996	-0.3036	0.0093	-0.4757	0.0618	-0.3738	0.2659	-0.8007	0.0872
2	330.12	0.8578	-0.3665	0.0104	-0.5379	0.0715	-0.5817	0.3104	-0.5386	0.0942
2	330.12	0.9100	-0.4035	0.0110	-0.5883	0.0802	-0.8647	0.3502	-0.5272	0.0825
2	330.12	0.9727	-0.4518	0.0131	-0.5904	0.0908	-1.0968	0.4002	-0.1874	0.0791

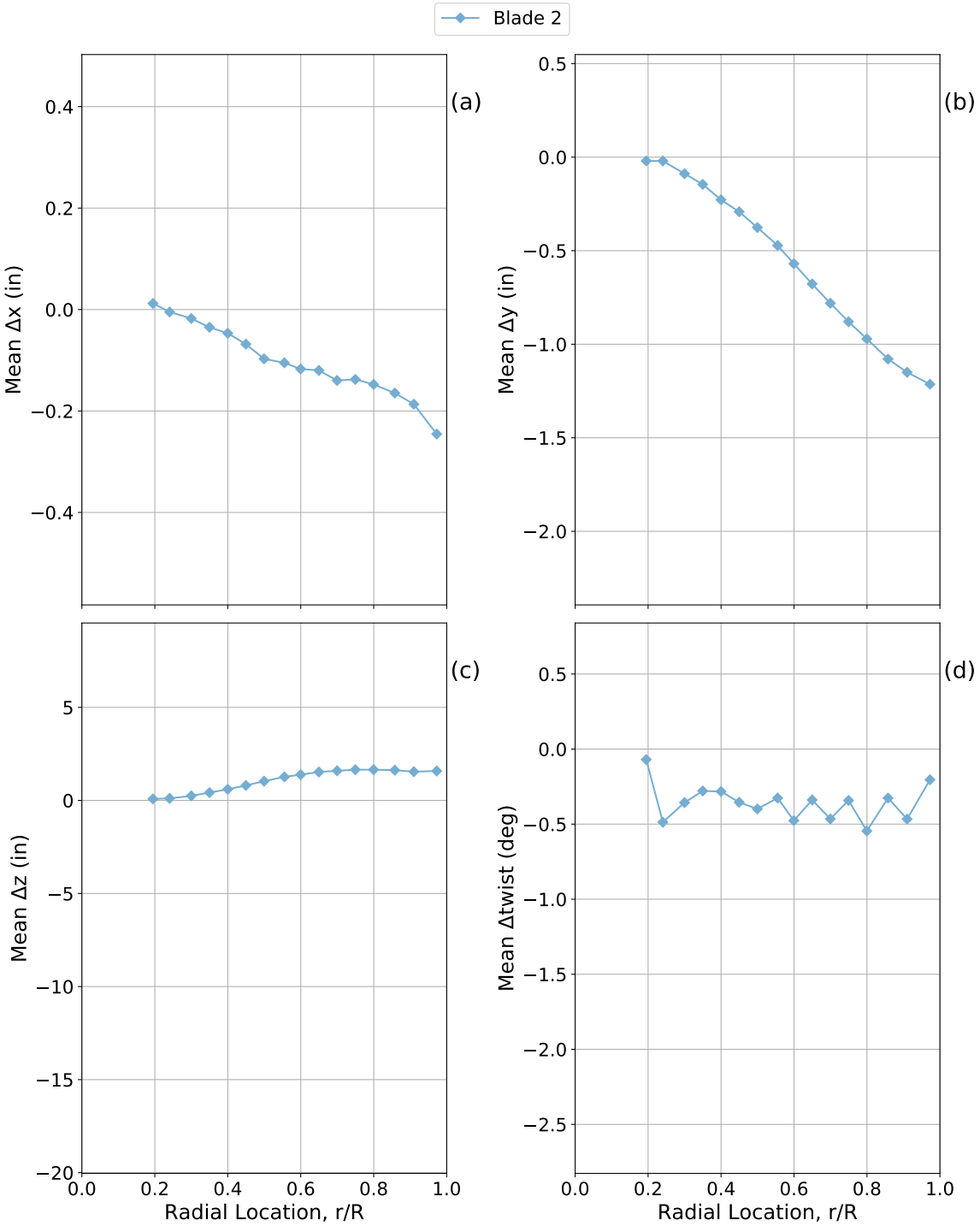


Figure 3.26-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0121	0.0051	-0.0202	0.0025	0.0803	0.0065	-0.0697	0.0181
2	344.88	0.2405	-0.0047	0.0025	-0.0204	0.0052	0.1090	0.0077	-0.4871	0.0428
2	344.88	0.2999	-0.0177	0.0028	-0.0886	0.0127	0.2447	0.0180	-0.3564	0.0451
2	344.88	0.3498	-0.0349	0.0037	-0.1452	0.0216	0.4201	0.0276	-0.2790	0.0530
2	344.88	0.3998	-0.0467	0.0048	-0.2280	0.0345	0.5994	0.0407	-0.2825	0.0540
2	344.88	0.4496	-0.0682	0.0061	-0.2920	0.0489	0.8050	0.0529	-0.3542	0.0530
2	344.88	0.4995	-0.0972	0.0096	-0.3760	0.0607	1.0331	0.0643	-0.3990	0.0608
2	344.88	0.5551	-0.1050	0.0134	-0.4721	0.0740	1.2643	0.0760	-0.3260	0.0614
2	344.88	0.5996	-0.1172	0.0177	-0.5697	0.0830	1.3846	0.0837	-0.4767	0.0636
2	344.88	0.6497	-0.1200	0.0234	-0.6778	0.0964	1.5261	0.0963	-0.3388	0.0673
2	344.88	0.6996	-0.1398	0.0299	-0.7809	0.1086	1.5931	0.1106	-0.4654	0.0768
2	344.88	0.7495	-0.1377	0.0390	-0.8796	0.1264	1.6485	0.1256	-0.3422	0.0756
2	344.88	0.7996	-0.1476	0.0465	-0.9712	0.1432	1.6512	0.1453	-0.5457	0.0768
2	344.88	0.8578	-0.1646	0.0602	-1.0793	0.1634	1.6235	0.1715	-0.3262	0.0840
2	344.88	0.9100	-0.1866	0.0724	-1.1500	0.1825	1.5425	0.2025	-0.4663	0.0800
2	344.88	0.9727	-0.2454	0.0882	-1.2136	0.2029	1.5801	0.2292	-0.2042	0.0947

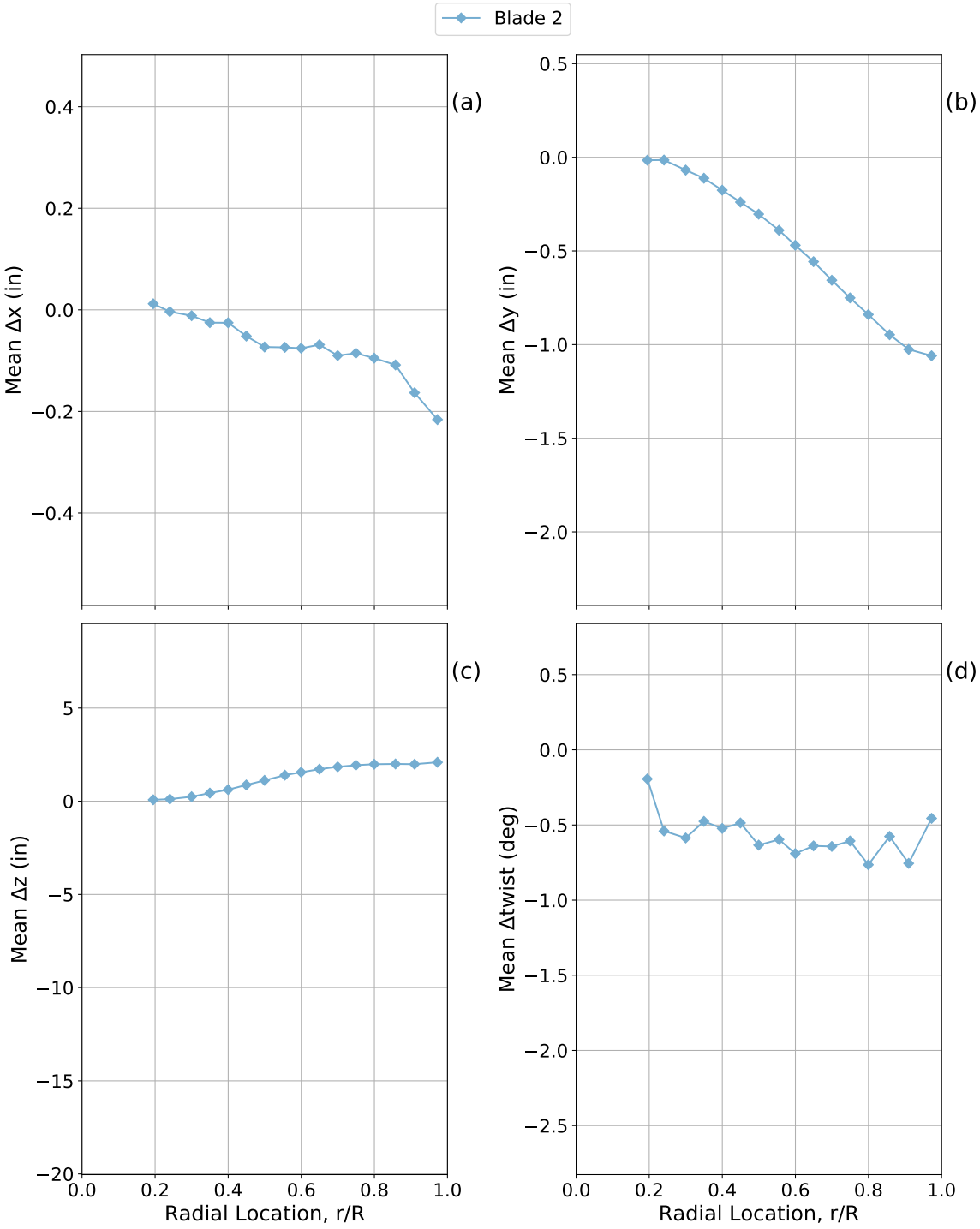


Figure 3.26-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0120	0.0102	-0.0156	0.0007	0.0764	0.0039	-0.1935	0.0225
2	350.16	0.2405	-0.0036	0.0044	-0.0146	0.0032	0.1129	0.0084	-0.5398	0.0348
2	350.16	0.2999	-0.0116	0.0038	-0.0683	0.0054	0.2418	0.0163	-0.5862	0.0540
2	350.16	0.3498	-0.0252	0.0107	-0.1117	0.0080	0.4361	0.0275	-0.4760	0.0880
2	350.16	0.3998	-0.0254	0.0180	-0.1755	0.0142	0.6198	0.0424	-0.5229	0.0631
2	350.16	0.4496	-0.0516	0.0235	-0.2393	0.0205	0.8726	0.0550	-0.4866	0.0656
2	350.16	0.4995	-0.0731	0.0334	-0.3036	0.0261	1.1195	0.0715	-0.6340	0.0850
2	350.16	0.5551	-0.0738	0.0421	-0.3894	0.0324	1.4001	0.0879	-0.5965	0.0802
2	350.16	0.5996	-0.0756	0.0499	-0.4694	0.0404	1.5570	0.1007	-0.6902	0.0906
2	350.16	0.6497	-0.0686	0.0591	-0.5574	0.0447	1.7219	0.1155	-0.6391	0.0780
2	350.16	0.6996	-0.0900	0.0682	-0.6564	0.0510	1.8472	0.1324	-0.6429	0.1005
2	350.16	0.7495	-0.0853	0.0774	-0.7506	0.0576	1.9367	0.1540	-0.6063	0.1105
2	350.16	0.7996	-0.0950	0.0836	-0.8396	0.0621	1.9875	0.1779	-0.7649	0.1025
2	350.16	0.8578	-0.1084	0.0892	-0.9472	0.0665	2.0019	0.2143	-0.5759	0.1065
2	350.16	0.9100	-0.1631	0.0941	-1.0254	0.0695	1.9900	0.2514	-0.7554	0.1248
2	350.16	0.9727	-0.2160	0.1020	-1.0596	0.0739	2.0908	0.2968	-0.4557	0.1267

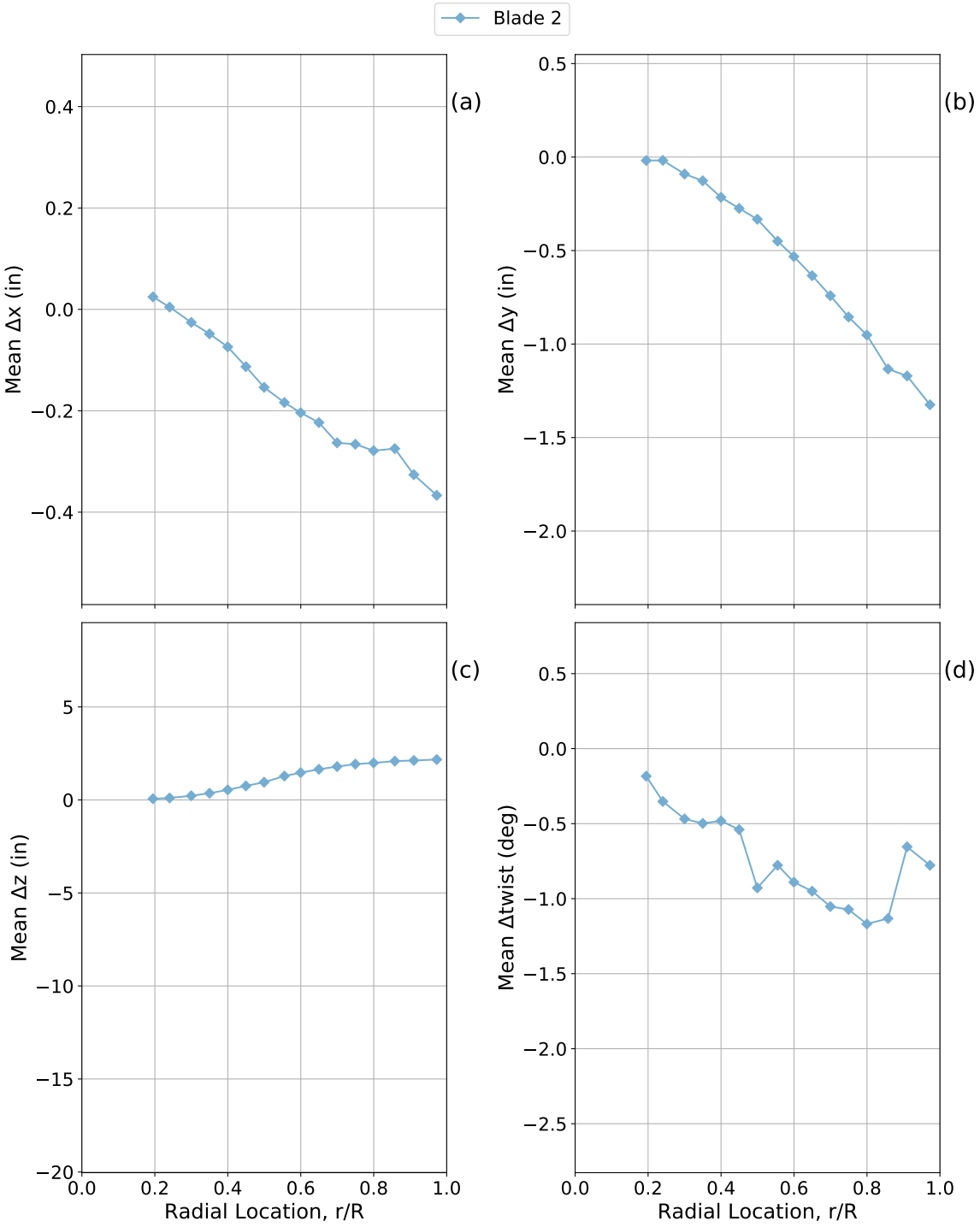


Figure 3.26-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.101, μ = 0.301, α = -0° NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Table 3.26-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.101, μ = 0.301, α = -0°
NFAC run 66, point 20. BD run 31, points 4784 to 4794.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0246	0.0029	-0.0186	0.0023	0.0653	0.0078	-0.1835	0.0387
2	355.08	0.2405	0.0045	0.0013	-0.0177	0.0021	0.1069	0.0058	-0.3520	0.1151
2	355.08	0.2999	-0.0257	0.0016	-0.0908	0.0058	0.2243	0.0194	-0.4684	0.1067
2	355.08	0.3498	-0.0483	0.0019	-0.1267	0.0104	0.3605	0.0316	-0.4981	0.1074
2	355.08	0.3998	-0.0740	0.0022	-0.2153	0.0142	0.5417	0.0436	-0.4816	0.1041
2	355.08	0.4496	-0.1130	0.0034	-0.2744	0.0177	0.7529	0.0553	-0.5396	0.1004
2	355.08	0.4995	-0.1538	0.0032	-0.3325	0.0201	0.9533	0.0643	-0.9282	0.1101
2	355.08	0.5551	-0.1837	0.0034	-0.4498	0.0252	1.2840	0.0781	-0.7773	0.1133
2	355.08	0.5996	-0.2038	0.0027	-0.5322	0.0282	1.4666	0.0866	-0.8901	0.1258
2	355.08	0.6497	-0.2232	0.0026	-0.6344	0.0317	1.6489	0.1000	-0.9500	0.1285
2	355.08	0.6996	-0.2632	0.0028	-0.7415	0.0359	1.7940	0.1165	-1.0524	0.1035
2	355.08	0.7495	-0.2660	0.0032	-0.8555	0.0391	1.9249	0.1334	-1.0722	0.1130
2	355.08	0.7996	-0.2788	0.0037	-0.9517	0.0430	1.9884	0.1571	-1.1688	0.1239
2	355.08	0.8578	-0.2747	0.0048	-1.1335	0.0452	2.0884	0.1845	-1.1321	0.1697
2	355.08	0.9100	-0.3261	0.0063	-1.1708	0.0707	2.1224	0.2193	-0.6543	0.1770
2	355.08	0.9727	-0.3668	0.0082	-1.3247	0.0548	2.1729	0.2475	-0.7776	0.1497

3.27 Run 66, Point 36

3.27.1 Pitch, Flap, and Lag

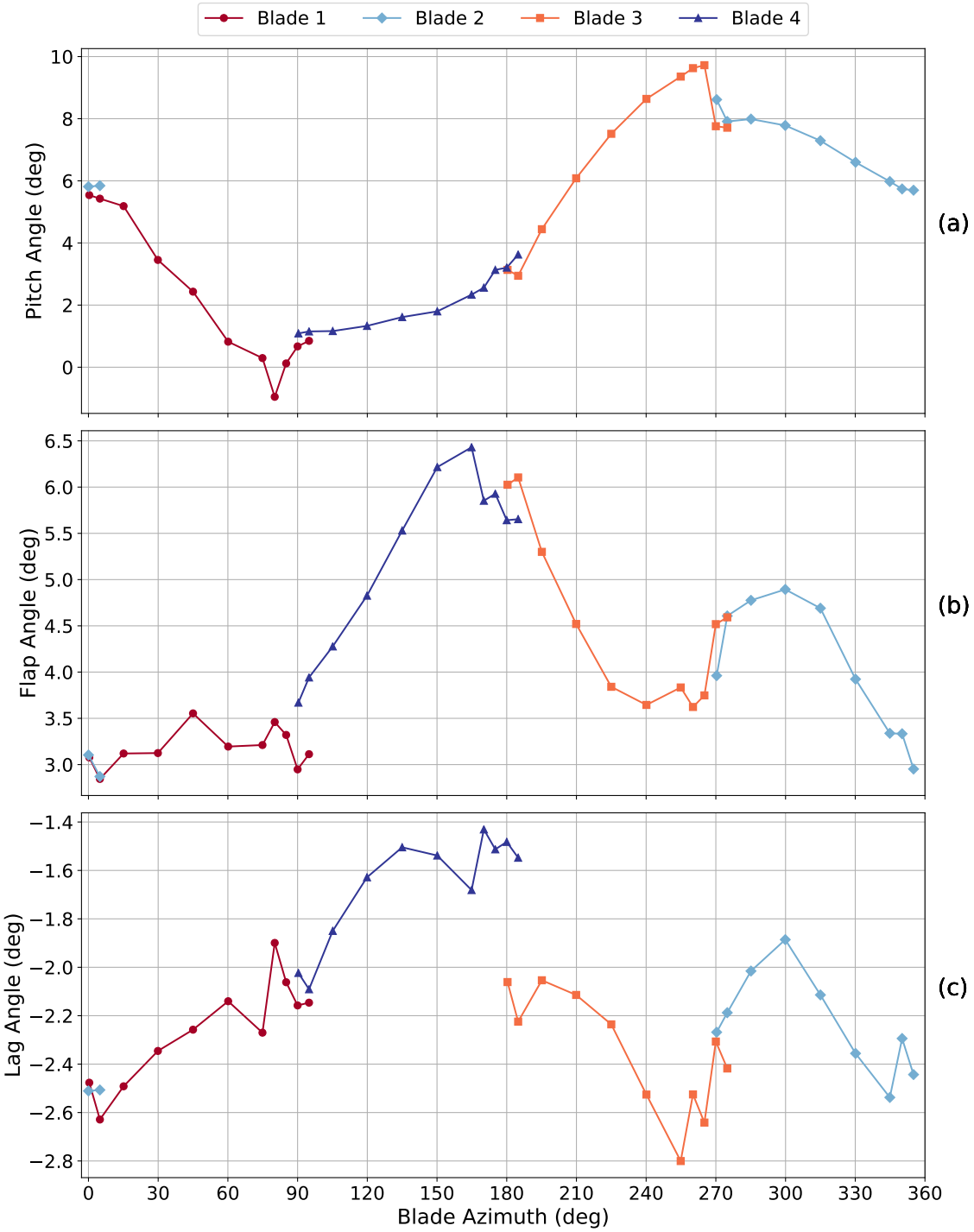


Figure 3.27-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.8135	3.1037	-2.5107	0.0830	0.1386	0.0640
0.35	1	5.5411	3.0775	-2.4767	0.1132	0.1242	0.0540
4.92	1	5.4264	2.8448	-2.6288	0.1409	0.0898	0.0299
4.92	2	5.8437	2.8710	-2.5067	0.0872	0.0810	0.0400
15.12	1	5.1857	3.1198	-2.4916	0.1190	0.0642	0.0441
29.88	1	3.4532	3.1244	-2.3456	0.0697	0.0724	0.0340
45	1	2.4321	3.5535	-2.2577	0.0941	0.0560	0.0376
60.12	1	0.8217	3.1947	-2.1402	0.3041	0.1461	0.0784
74.88	1	0.2947	3.2114	-2.2701	0.0688	0.0620	0.0357
80.16	1	-0.9527	3.4596	-1.8994	0.3264	0.0809	0.0435
85.08	1	0.1221	3.3204	-2.0618	0.1122	0.0668	0.0448
90	1	0.6708	2.9483	-2.1576	0.0663	0.0832	0.0477
90.35	4	1.0885	3.6696	-2.0234	0.0977	0.0277	0.0570
94.92	1	0.8486	3.1126	-2.1462	0.0798	0.0739	0.0368
94.92	4	1.1518	3.9420	-2.0908	0.0675	0.0762	0.0209
105.12	4	1.1637	4.2775	-1.8498	0.0392	0.0425	0.0418
119.88	4	1.3299	4.8262	-1.6284	0.0436	0.0842	0.0407
135	4	1.6134	5.5300	-1.5045	0.0440	0.0533	0.0374
150.12	4	1.7980	6.2162	-1.5385	0.0673	0.1183	0.0267
164.88	4	2.3358	6.4304	-1.6811	0.0580	0.1166	0.0300
170.16	4	2.5606	5.8523	-1.4306	0.0425	0.0724	0.0276
175.08	4	3.1323	5.9282	-1.5129	0.0431	0.2293	0.0609
180	4	3.2062	5.6420	-1.4822	0.0880	0.3600	0.1329
180.35	3	3.1331	6.0256	-2.0611	0.0789	0.2143	0.0709
184.92	3	2.9437	6.1044	-2.2245	0.4684	0.3181	0.0549
184.92	4	3.6272	5.6532	-1.5476	0.0552	0.0486	0.0551
195.12	3	4.4427	5.2999	-2.0537	0.0432	0.0635	0.0276
209.88	3	6.0826	4.5203	-2.1143	0.0447	0.0676	0.0363
225	3	7.5138	3.8409	-2.2358	0.0721	0.0595	0.0356
240.12	3	8.6373	3.6449	-2.5257	0.0763	0.0895	0.0513
254.88	3	9.3550	3.8339	-2.8003	0.0874	0.1100	0.0471
260.16	3	9.6269	3.6227	-2.5251	0.1000	0.0772	0.0371
265.08	3	9.7228	3.7480	-2.6414	0.1129	0.0807	0.0946
270	3	7.7578	4.5183	-2.3067	0.0795	0.0779	0.0895
270.35	2	8.6145	3.9613	-2.2682	0.1286	0.0507	0.0972
274.92	2	7.9100	4.6072	-2.1876	0.1064	0.0717	0.0579
274.92	3	7.7097	4.5918	-2.4180	0.0557	0.0966	0.0351
285.12	2	7.9883	4.7759	-2.0156	0.0490	0.1024	0.0503
299.88	2	7.7820	4.8936	-1.8858	0.0555	0.0349	0.0414
315	2	7.2919	4.6906	-2.1142	0.0460	0.0525	0.0564
330.12	2	6.5978	3.9235	-2.3558	0.0617	0.1372	0.0397
344.88	2	5.9786	3.3382	-2.5376	0.0556	0.0880	0.0421
350.16	2	5.7389	3.3334	-2.2941	0.0784	0.0878	0.0406
355.08	2	5.6977	2.9521	-2.4431	0.1421	0.0445	0.0534

3.27.2 Spanwise Elastic Deformations

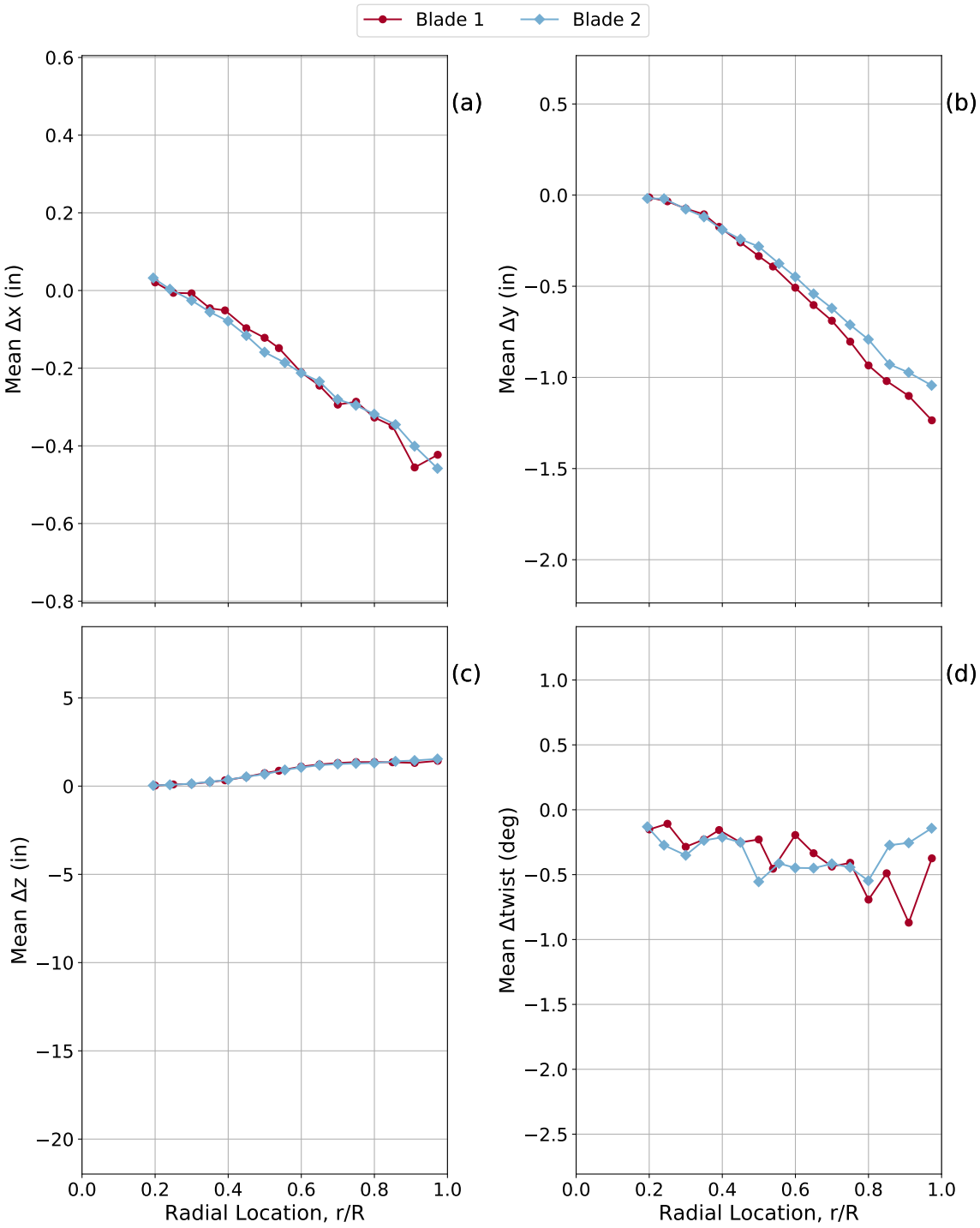


Figure 3.27-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0208	0.0036	-0.0131	0.0029	0.0314	0.0070	-0.1518	0.0355
1	0.35	0.2499	-0.0060	0.0024	-0.0340	0.0035	0.0945	0.0105	-0.1081	0.0724
1	0.35	0.2998	-0.0073	0.0031	-0.0740	0.0092	0.1245	0.0223	-0.2857	0.0816
1	0.35	0.3498	-0.0458	0.0024	-0.1054	0.0159	0.2294	0.0384	-0.2292	0.0871
1	0.35	0.3913	-0.0512	0.0033	-0.1740	0.0212	0.3285	0.0521	-0.1565	0.0861
1	0.35	0.4496	-0.0971	0.0043	-0.2596	0.0308	0.5207	0.0689	-0.2514	0.0968
1	0.35	0.4997	-0.1218	0.0043	-0.3345	0.0386	0.7351	0.0801	-0.2290	0.0867
1	0.35	0.5387	-0.1483	0.0045	-0.3916	0.0451	0.8700	0.0896	-0.4546	0.0753
1	0.35	0.5996	-0.2107	0.0055	-0.5079	0.0553	1.1057	0.1074	-0.1949	0.0764
1	0.35	0.6498	-0.2450	0.0068	-0.6030	0.0639	1.2288	0.1261	-0.3351	0.0835
1	0.35	0.6998	-0.2938	0.0069	-0.6889	0.0765	1.3084	0.1489	-0.4379	0.0820
1	0.35	0.7500	-0.2864	0.0065	-0.8038	0.0844	1.3593	0.1708	-0.4089	0.0803
1	0.35	0.8001	-0.3271	0.0066	-0.9343	0.0965	1.3634	0.1930	-0.6925	0.0834
1	0.35	0.8497	-0.3489	0.0072	-1.0199	0.1080	1.3507	0.2158	-0.4895	0.1071
1	0.35	0.9102	-0.4556	0.0074	-1.1016	0.1208	1.3144	0.2492	-0.8701	0.1223
1	0.35	0.9734	-0.4230	0.0130	-1.2354	0.1326	1.4334	0.3151	-0.3744	0.1372
2	0	0.1949	0.0323	0.0046	-0.0181	0.0020	0.0360	0.0077	-0.1311	0.0452
2	0	0.2405	0.0034	0.0017	-0.0197	0.0036	0.0741	0.0097	-0.2731	0.0770
2	0	0.2999	-0.0256	0.0014	-0.0767	0.0082	0.1352	0.0259	-0.3508	0.1059
2	0	0.3498	-0.0552	0.0020	-0.1194	0.0148	0.2454	0.0442	-0.2360	0.1056
2	0	0.3998	-0.0789	0.0021	-0.1897	0.0225	0.3622	0.0657	-0.2126	0.1059
2	0	0.4496	-0.1160	0.0031	-0.2418	0.0290	0.5293	0.0884	-0.2510	0.1088
2	0	0.4995	-0.1588	0.0035	-0.2821	0.0347	0.6749	0.1088	-0.5549	0.1267
2	0	0.5551	-0.1858	0.0046	-0.3755	0.0426	0.9172	0.1316	-0.4135	0.1146
2	0	0.5996	-0.2123	0.0043	-0.4481	0.0482	1.0571	0.1477	-0.4480	0.1108
2	0	0.6497	-0.2345	0.0049	-0.5416	0.0541	1.1845	0.1637	-0.4500	0.1069
2	0	0.6996	-0.2804	0.0049	-0.6206	0.0614	1.2499	0.1764	-0.4167	0.1074
2	0	0.7495	-0.2956	0.0052	-0.7113	0.0683	1.2864	0.1894	-0.4436	0.1151
2	0	0.7996	-0.3183	0.0054	-0.7914	0.0737	1.3093	0.2061	-0.5472	0.1302
2	0	0.8578	-0.3454	0.0057	-0.9289	0.0834	1.4056	0.2261	-0.2730	0.1243
2	0	0.9100	-0.4009	0.0063	-0.9728	0.0889	1.4508	0.2487	-0.2553	0.1707
2	0	0.9727	-0.4581	0.0094	-1.0437	0.1001	1.5390	0.2726	-0.1424	0.1394

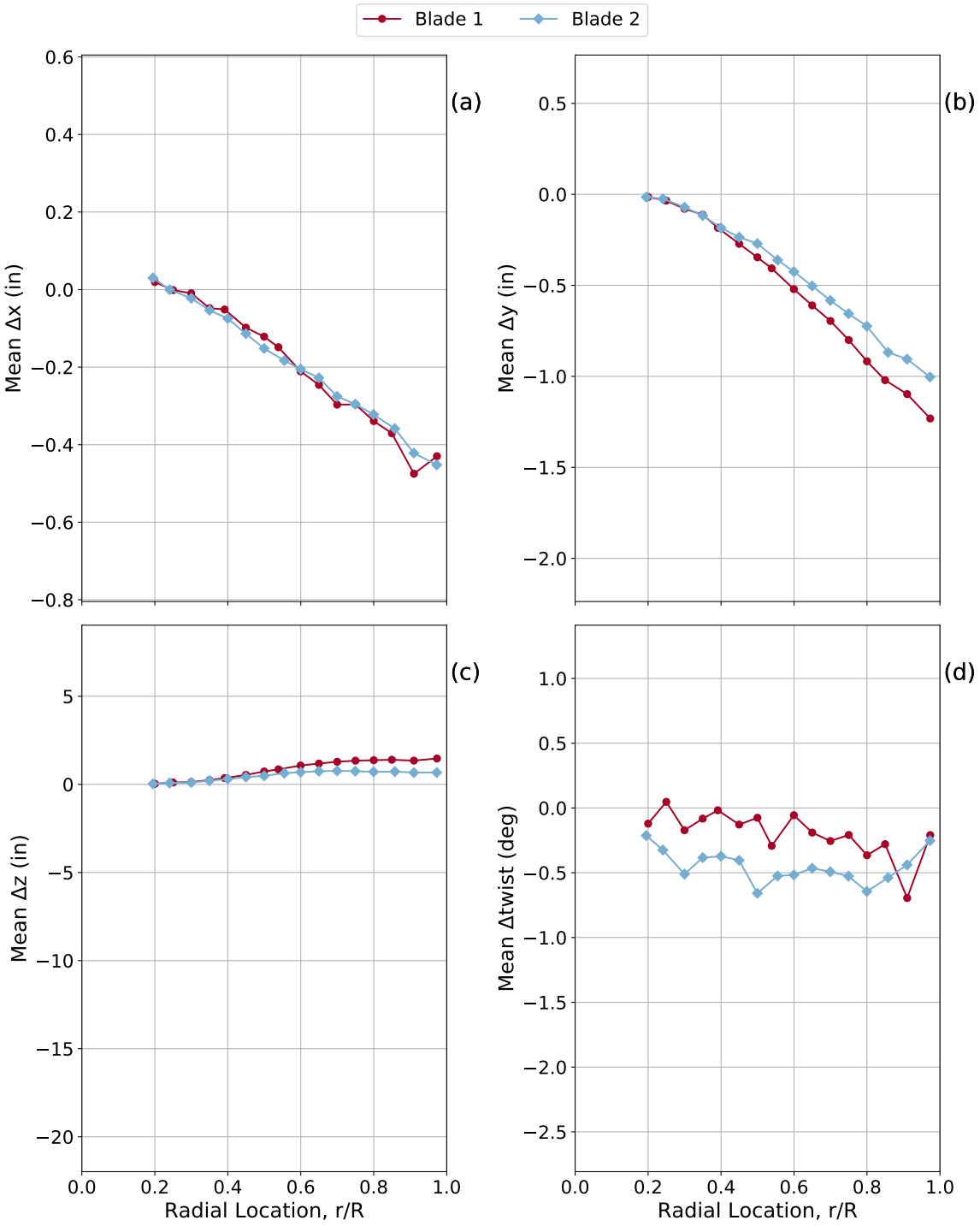


Figure 3.27-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0194	0.0034	-0.0146	0.0016	0.0308	0.0052	-0.1209	0.0559
1	4.92	0.2499	-0.0013	0.0017	-0.0344	0.0027	0.1063	0.0111	0.0473	0.0841
1	4.92	0.2998	-0.0097	0.0019	-0.0793	0.0061	0.1301	0.0223	-0.1718	0.1216
1	4.92	0.3498	-0.0479	0.0025	-0.1118	0.0099	0.2457	0.0368	-0.0823	0.0990
1	4.92	0.3913	-0.0514	0.0028	-0.1838	0.0141	0.3547	0.0543	-0.0178	0.1005
1	4.92	0.4496	-0.0982	0.0033	-0.2717	0.0193	0.5378	0.0868	-0.1281	0.0985
1	4.92	0.4997	-0.1215	0.0034	-0.3462	0.0239	0.7325	0.1154	-0.0755	0.1023
1	4.92	0.5387	-0.1486	0.0044	-0.4066	0.0275	0.8535	0.1391	-0.2923	0.0975
1	4.92	0.5996	-0.2110	0.0038	-0.5209	0.0328	1.0701	0.1786	-0.0560	0.0962
1	4.92	0.6498	-0.2458	0.0033	-0.6103	0.0383	1.1820	0.2098	-0.1900	0.0988
1	4.92	0.6998	-0.2968	0.0034	-0.6958	0.0444	1.2839	0.2433	-0.2552	0.1012
1	4.92	0.7500	-0.2962	0.0040	-0.8005	0.0508	1.3460	0.2758	-0.2084	0.1114
1	4.92	0.8001	-0.3392	0.0037	-0.9176	0.0565	1.3725	0.3096	-0.3649	0.1156
1	4.92	0.8497	-0.3707	0.0045	-1.0212	0.0648	1.3958	0.3423	-0.2794	0.1154
1	4.92	0.9102	-0.4750	0.0068	-1.0977	0.0719	1.3474	0.3799	-0.6950	0.1167
1	4.92	0.9734	-0.4298	0.0062	-1.2315	0.0874	1.4691	0.4295	-0.2094	0.1243
2	4.92	0.1949	0.0301	0.0036	-0.0153	0.0022	0.0274	0.0076	-0.2130	0.0452
2	4.92	0.2405	-0.0002	0.0018	-0.0244	0.0037	0.0737	0.0115	-0.3246	0.0768
2	4.92	0.2999	-0.0225	0.0015	-0.0706	0.0093	0.1051	0.0275	-0.5106	0.1084
2	4.92	0.3498	-0.0534	0.0023	-0.1167	0.0163	0.2099	0.0475	-0.3834	0.0936
2	4.92	0.3998	-0.0747	0.0032	-0.1845	0.0250	0.3025	0.0710	-0.3727	0.1018
2	4.92	0.4496	-0.1137	0.0040	-0.2355	0.0324	0.4153	0.0963	-0.4037	0.0968
2	4.92	0.4995	-0.1519	0.0046	-0.2706	0.0416	0.4836	0.1217	-0.6588	0.0936
2	4.92	0.5551	-0.1831	0.0052	-0.3612	0.0517	0.6337	0.1461	-0.5243	0.1011
2	4.92	0.5996	-0.2051	0.0051	-0.4247	0.0606	0.6937	0.1633	-0.5167	0.0923
2	4.92	0.6497	-0.2276	0.0061	-0.5034	0.0720	0.7460	0.1767	-0.4651	0.0934
2	4.92	0.6996	-0.2755	0.0069	-0.5828	0.0818	0.7674	0.1849	-0.4928	0.0988
2	4.92	0.7495	-0.2956	0.0074	-0.6558	0.0949	0.7496	0.1939	-0.5266	0.1106
2	4.92	0.7996	-0.3221	0.0077	-0.7244	0.1069	0.7112	0.2039	-0.6442	0.1186
2	4.92	0.8578	-0.3587	0.0081	-0.8682	0.1209	0.7238	0.2211	-0.5382	0.1144
2	4.92	0.9100	-0.4216	0.0076	-0.9052	0.1342	0.6710	0.2407	-0.4397	0.1431
2	4.92	0.9727	-0.4521	0.0127	-1.0035	0.1504	0.6743	0.2716	-0.2519	0.1400

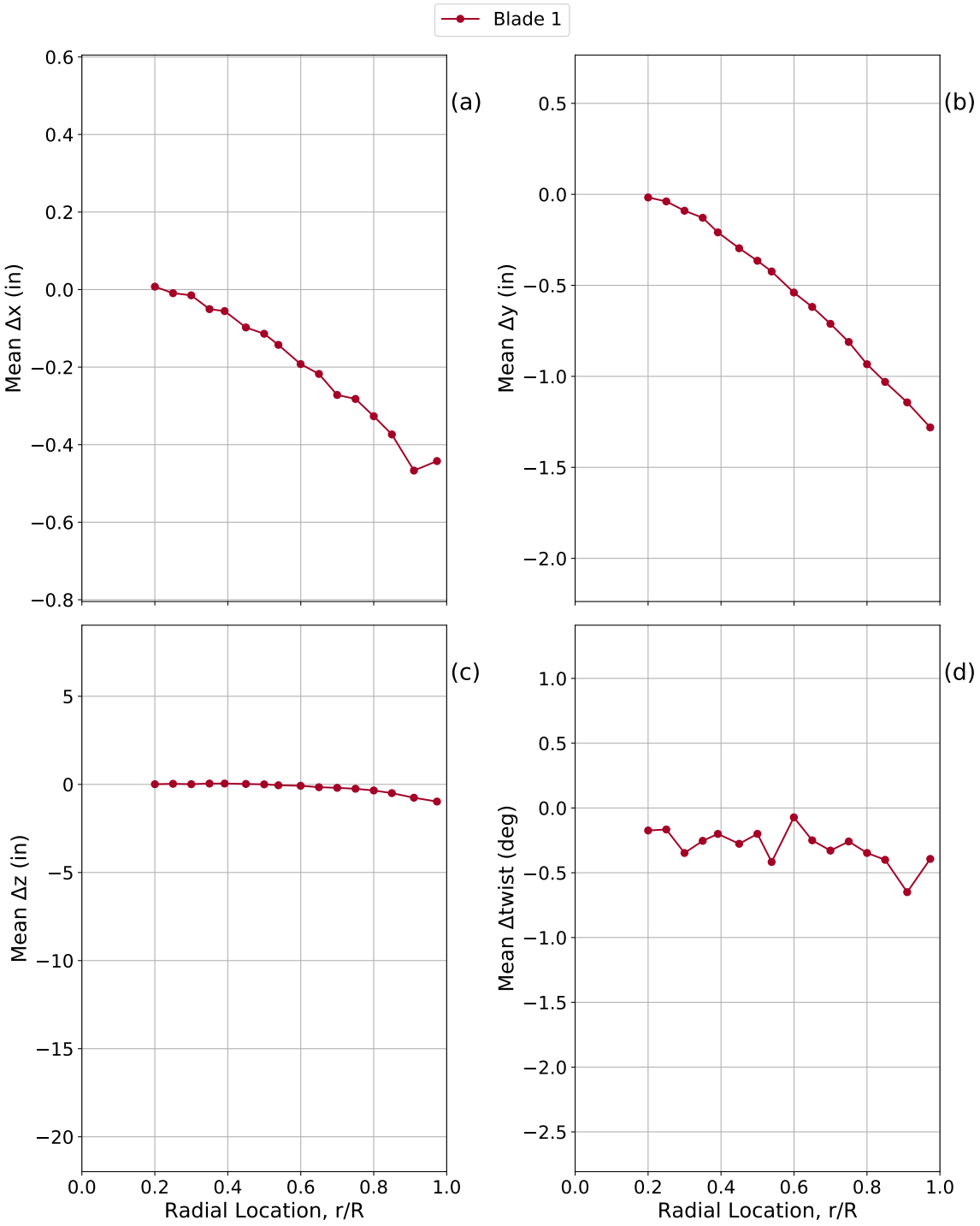


Figure 3.27-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0075	0.0037	-0.0171	0.0023	0.0094	0.0073	-0.1737	0.0406
1	15.12	0.2499	-0.0093	0.0019	-0.0388	0.0033	0.0325	0.0119	-0.1661	0.0855
1	15.12	0.2998	-0.0148	0.0016	-0.0901	0.0085	0.0122	0.0246	-0.3474	0.0995
1	15.12	0.3498	-0.0504	0.0019	-0.1286	0.0142	0.0464	0.0428	-0.2537	0.0994
1	15.12	0.3913	-0.0555	0.0032	-0.2089	0.0199	0.0460	0.0587	-0.2002	0.1066
1	15.12	0.4496	-0.0977	0.0029	-0.2962	0.0286	0.0238	0.0794	-0.2765	0.1087
1	15.12	0.4997	-0.1140	0.0025	-0.3649	0.0357	0.0022	0.0948	-0.1997	0.1106
1	15.12	0.5387	-0.1426	0.0035	-0.4238	0.0423	-0.0515	0.1068	-0.4169	0.1190
1	15.12	0.5996	-0.1922	0.0035	-0.5396	0.0514	-0.0787	0.1264	-0.0724	0.1282
1	15.12	0.6498	-0.2176	0.0034	-0.6185	0.0619	-0.1606	0.1452	-0.2496	0.1204
1	15.12	0.6998	-0.2718	0.0042	-0.7114	0.0710	-0.1962	0.1604	-0.3290	0.1236
1	15.12	0.7500	-0.2820	0.0054	-0.8111	0.0827	-0.2484	0.1792	-0.2586	0.1175
1	15.12	0.8001	-0.3267	0.0053	-0.9336	0.0940	-0.3463	0.2015	-0.3472	0.1351
1	15.12	0.8497	-0.3736	0.0055	-1.0307	0.1049	-0.4967	0.2211	-0.4003	0.1369
1	15.12	0.9102	-0.4668	0.0057	-1.1431	0.1179	-0.7579	0.2504	-0.6498	0.1375
1	15.12	0.9734	-0.4423	0.0090	-1.2808	0.1322	-0.9756	0.2803	-0.3932	0.1455

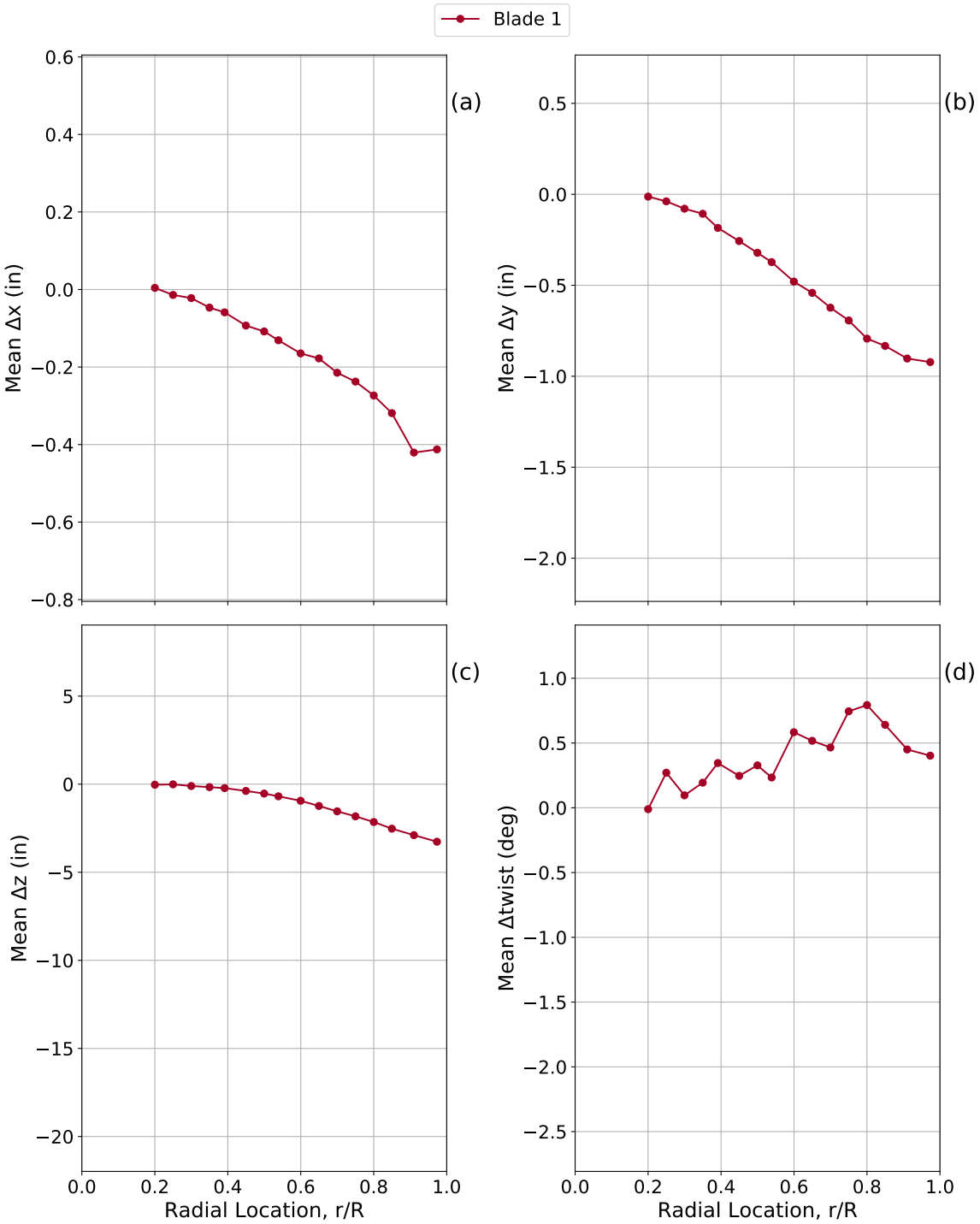


Figure 3.27-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0042	0.0039	-0.0127	0.0017	-0.0311	0.0065	-0.0107	0.0290
1	29.88	0.2499	-0.0140	0.0022	-0.0387	0.0019	-0.0096	0.0092	0.2708	0.0610
1	29.88	0.2998	-0.0221	0.0021	-0.0792	0.0052	-0.1037	0.0222	0.0960	0.0711
1	29.88	0.3498	-0.0467	0.0032	-0.1071	0.0098	-0.1662	0.0385	0.1938	0.0732
1	29.88	0.3913	-0.0590	0.0034	-0.1846	0.0126	-0.2228	0.0526	0.3455	0.0766
1	29.88	0.4496	-0.0930	0.0034	-0.2570	0.0178	-0.3827	0.0733	0.2466	0.0797
1	29.88	0.4997	-0.1082	0.0027	-0.3215	0.0221	-0.5322	0.0908	0.3273	0.0877
1	29.88	0.5387	-0.1310	0.0034	-0.3727	0.0260	-0.6884	0.1031	0.2339	0.0913
1	29.88	0.5996	-0.1648	0.0047	-0.4797	0.0315	-0.9419	0.1215	0.5831	0.0827
1	29.88	0.6498	-0.1777	0.0030	-0.5415	0.0366	-1.2355	0.1353	0.5172	0.0892
1	29.88	0.6998	-0.2147	0.0036	-0.6231	0.0420	-1.5404	0.1523	0.4654	0.1003
1	29.88	0.7500	-0.2376	0.0034	-0.6934	0.0469	-1.8261	0.1712	0.7448	0.1003
1	29.88	0.8001	-0.2735	0.0026	-0.7932	0.0519	-2.1472	0.1967	0.7928	0.1102
1	29.88	0.8497	-0.3189	0.0034	-0.8331	0.0564	-2.5250	0.2206	0.6406	0.1173
1	29.88	0.9102	-0.4207	0.0036	-0.9025	0.0626	-2.8925	0.2562	0.4503	0.1225
1	29.88	0.9734	-0.4125	0.0045	-0.9222	0.0696	-3.2662	0.2859	0.4021	0.1330

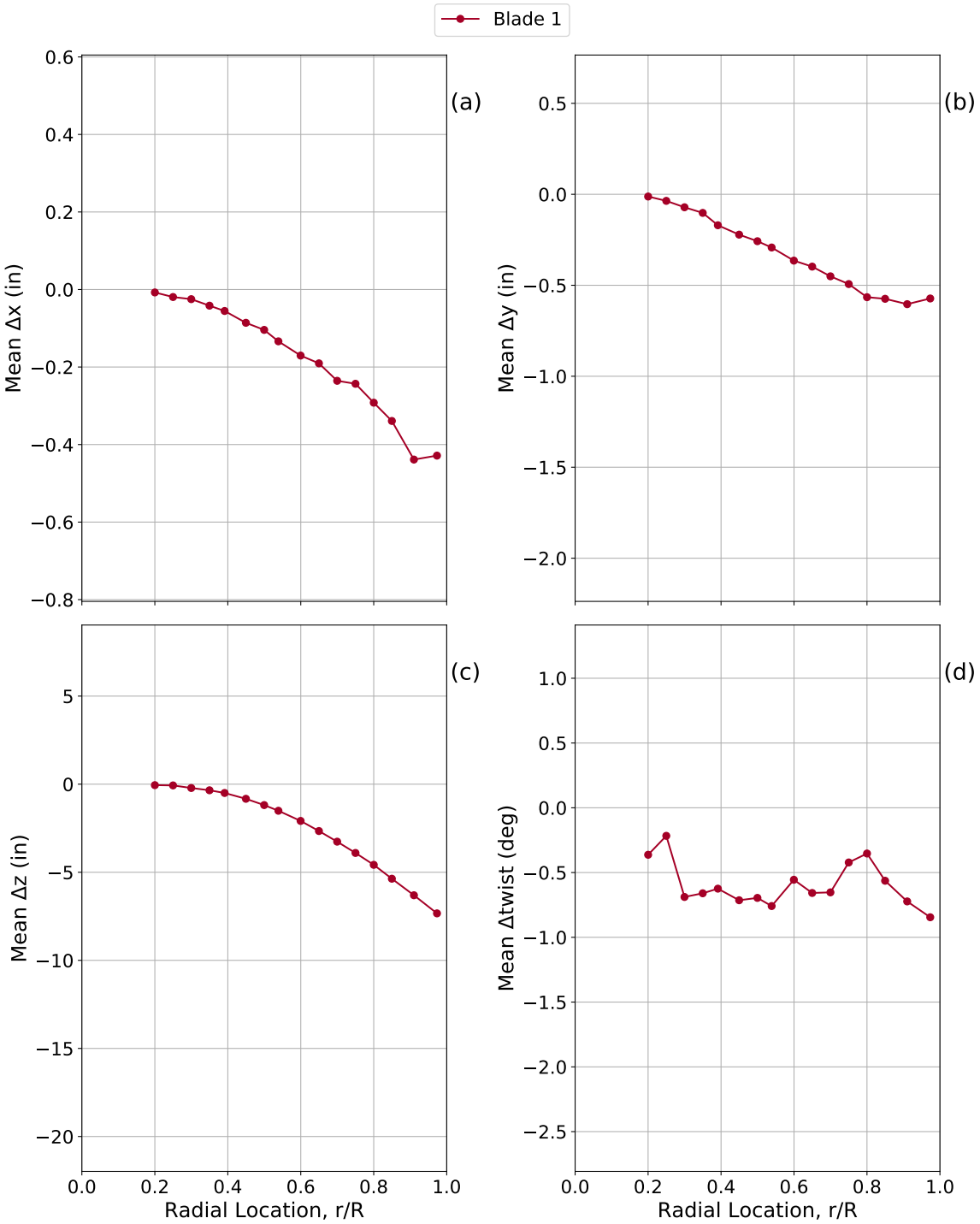


Figure 3.27-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0076	0.0039	-0.0122	0.0022	-0.0545	0.0064	-0.3628	0.0334
1	45	0.2499	-0.0194	0.0022	-0.0361	0.0035	-0.0697	0.0101	-0.2166	0.0732
1	45	0.2998	-0.0249	0.0015	-0.0713	0.0085	-0.2159	0.0224	-0.6886	0.0816
1	45	0.3498	-0.0417	0.0018	-0.1022	0.0145	-0.3457	0.0387	-0.6601	0.0825
1	45	0.3913	-0.0554	0.0031	-0.1701	0.0204	-0.4985	0.0534	-0.6244	0.0842
1	45	0.4496	-0.0859	0.0027	-0.2217	0.0285	-0.8293	0.0752	-0.7139	0.0908
1	45	0.4997	-0.1042	0.0023	-0.2578	0.0358	-1.1861	0.0924	-0.6957	0.0984
1	45	0.5387	-0.1337	0.0024	-0.2924	0.0426	-1.5084	0.1051	-0.7586	0.0946
1	45	0.5996	-0.1704	0.0031	-0.3645	0.0531	-2.0852	0.1243	-0.5556	0.0925
1	45	0.6498	-0.1905	0.0037	-0.3974	0.0610	-2.6593	0.1390	-0.6577	0.0912
1	45	0.6998	-0.2355	0.0037	-0.4507	0.0700	-3.2629	0.1543	-0.6530	0.0967
1	45	0.7500	-0.2432	0.0039	-0.4933	0.0810	-3.9037	0.1761	-0.4222	0.1023
1	45	0.8001	-0.2920	0.0048	-0.5655	0.0908	-4.5779	0.1987	-0.3531	0.1090
1	45	0.8497	-0.3391	0.0061	-0.5743	0.1024	-5.3657	0.2279	-0.5633	0.0943
1	45	0.9102	-0.4387	0.0070	-0.6038	0.1146	-6.3044	0.2586	-0.7229	0.0965
1	45	0.9734	-0.4285	0.0065	-0.5726	0.1285	-7.3335	0.2886	-0.8452	0.1059

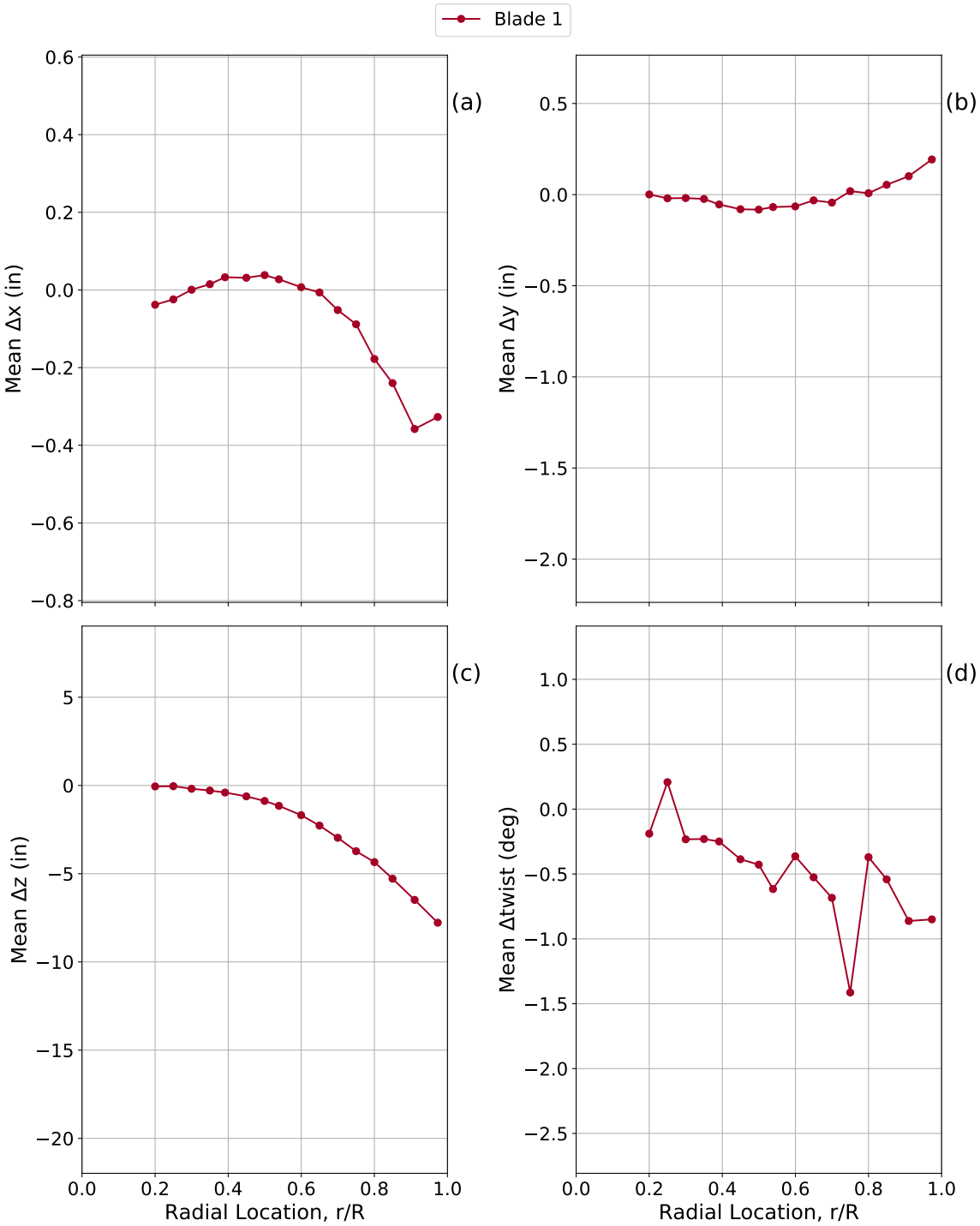


Figure 3.27-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0380	0.0038	0.0010	0.0063	-0.0547	0.0160	-0.1894	0.1126
1	60.12	0.2499	-0.0242	0.0013	-0.0203	0.0074	-0.0403	0.0189	0.2077	0.3026
1	60.12	0.2998	0.0006	0.0023	-0.0188	0.0221	-0.1869	0.0536	-0.2327	0.3059
1	60.12	0.3498	0.0149	0.0059	-0.0238	0.0378	-0.2866	0.0910	-0.2304	0.3124
1	60.12	0.3913	0.0328	0.0072	-0.0539	0.0516	-0.3995	0.1235	-0.2498	0.3128
1	60.12	0.4496	0.0314	0.0093	-0.0802	0.0713	-0.6176	0.1698	-0.3865	0.3127
1	60.12	0.4997	0.0383	0.0112	-0.0824	0.0903	-0.8760	0.2084	-0.4282	0.3282
1	60.12	0.5387	0.0275	0.0132	-0.0683	0.1056	-1.1535	0.2391	-0.6160	0.3298
1	60.12	0.5996	0.0071	0.0142	-0.0647	0.1302	-1.6834	0.2825	-0.3639	0.3437
1	60.12	0.6498	-0.0064	0.0145	-0.0315	0.1524	-2.2731	0.3249	-0.5258	0.3086
1	60.12	0.6998	-0.0517	0.0383	-0.0438	0.1565	-2.9637	0.3583	-0.6837	0.3494
1	60.12	0.7500	-0.0884	0.0089	0.0190	0.1764	-3.7250	0.4100	-1.4137	0.5477
1	60.12	0.8001	-0.1777	0.0241	0.0077	0.1917	-4.3441	0.3749	-0.3706	0.2879
1	60.12	0.8497	-0.2399	0.0259	0.0540	0.2126	-5.2827	0.4150	-0.5415	0.2878
1	60.12	0.9102	-0.3580	0.0276	0.1011	0.2387	-6.4856	0.4608	-0.8622	0.2798
1	60.12	0.9734	-0.3271	0.0239	0.1929	0.2656	-7.7784	0.5016	-0.8500	0.2644

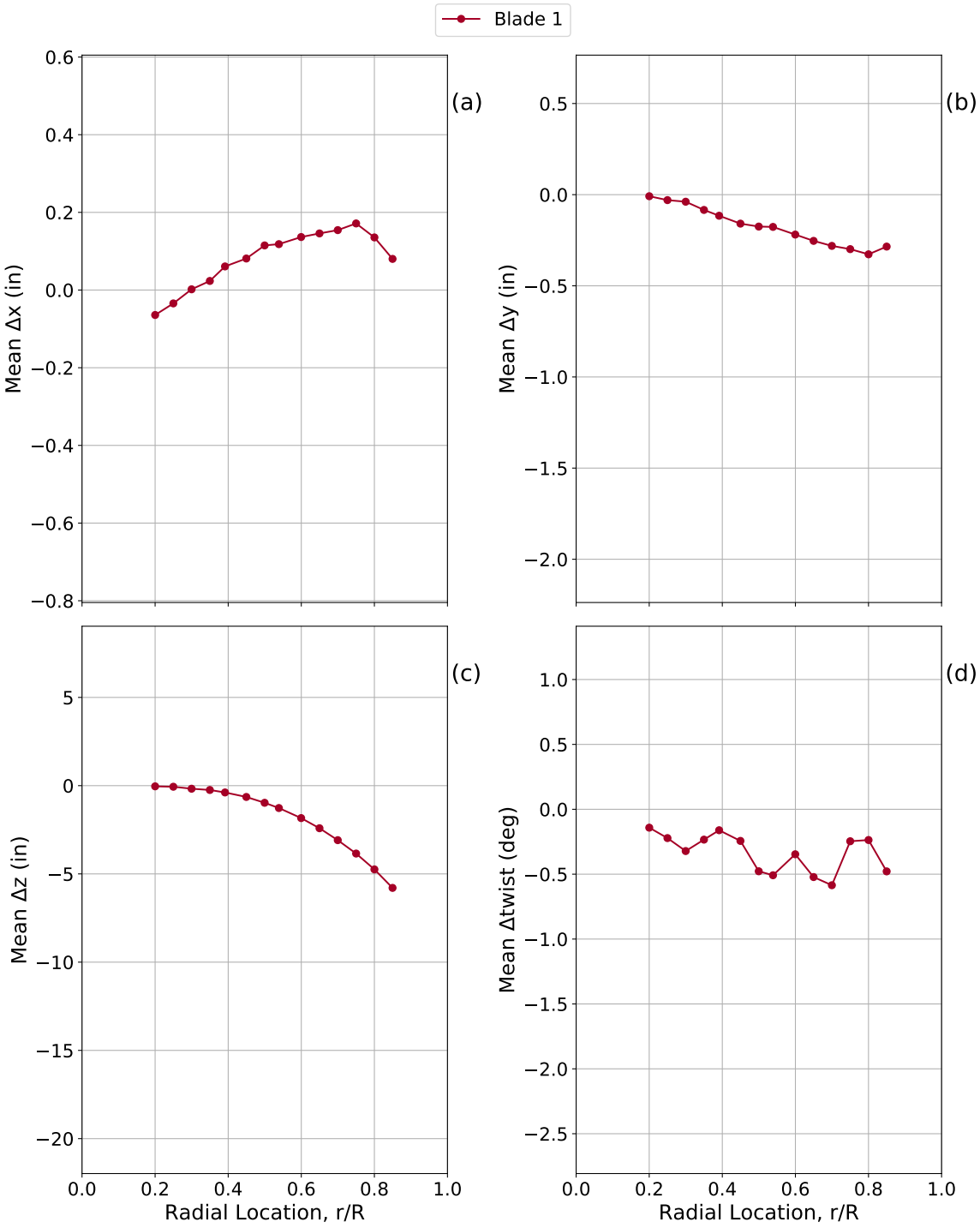


Figure 3.27-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0642	0.0013	-0.0085	0.0007	-0.0388	0.0026	-0.1416	0.0225
1	74.88	0.2499	-0.0344	0.0008	-0.0299	0.0017	-0.0618	0.0065	-0.2219	0.0244
1	74.88	0.2998	0.0019	0.0012	-0.0387	0.0030	-0.1738	0.0104	-0.3218	0.0451
1	74.88	0.3498	0.0234	0.0020	-0.0838	0.0052	-0.2456	0.0201	-0.2338	0.0483
1	74.88	0.3913	0.0608	0.0023	-0.1156	0.0075	-0.3852	0.0276	-0.1614	0.0570
1	74.88	0.4496	0.0812	0.0025	-0.1589	0.0102	-0.6406	0.0453	-0.2436	0.0606
1	74.88	0.4997	0.1149	0.0039	-0.1750	0.0127	-0.9708	0.0576	-0.4777	0.0533
1	74.88	0.5387	0.1182	0.0044	-0.1769	0.0146	-1.2678	0.0719	-0.5083	0.0819
1	74.88	0.5996	0.1365	0.0053	-0.2189	0.0173	-1.8379	0.0887	-0.3466	0.0641
1	74.88	0.6498	0.1458	0.0050	-0.2535	0.0197	-2.4127	0.1058	-0.5222	0.0917
1	74.88	0.6998	0.1543	0.0055	-0.2810	0.0228	-3.0887	0.1147	-0.5851	0.0811
1	74.88	0.7500	0.1715	0.0069	-0.2988	0.0250	-3.8469	0.1261	-0.2462	0.1090
1	74.88	0.8001	0.1355	0.0079	-0.3272	0.0295	-4.7452	0.1391	-0.2368	0.1300
1	74.88	0.8497	0.0802	0.0111	-0.2848	0.0333	-5.7930	0.1494	-0.4785	0.1811

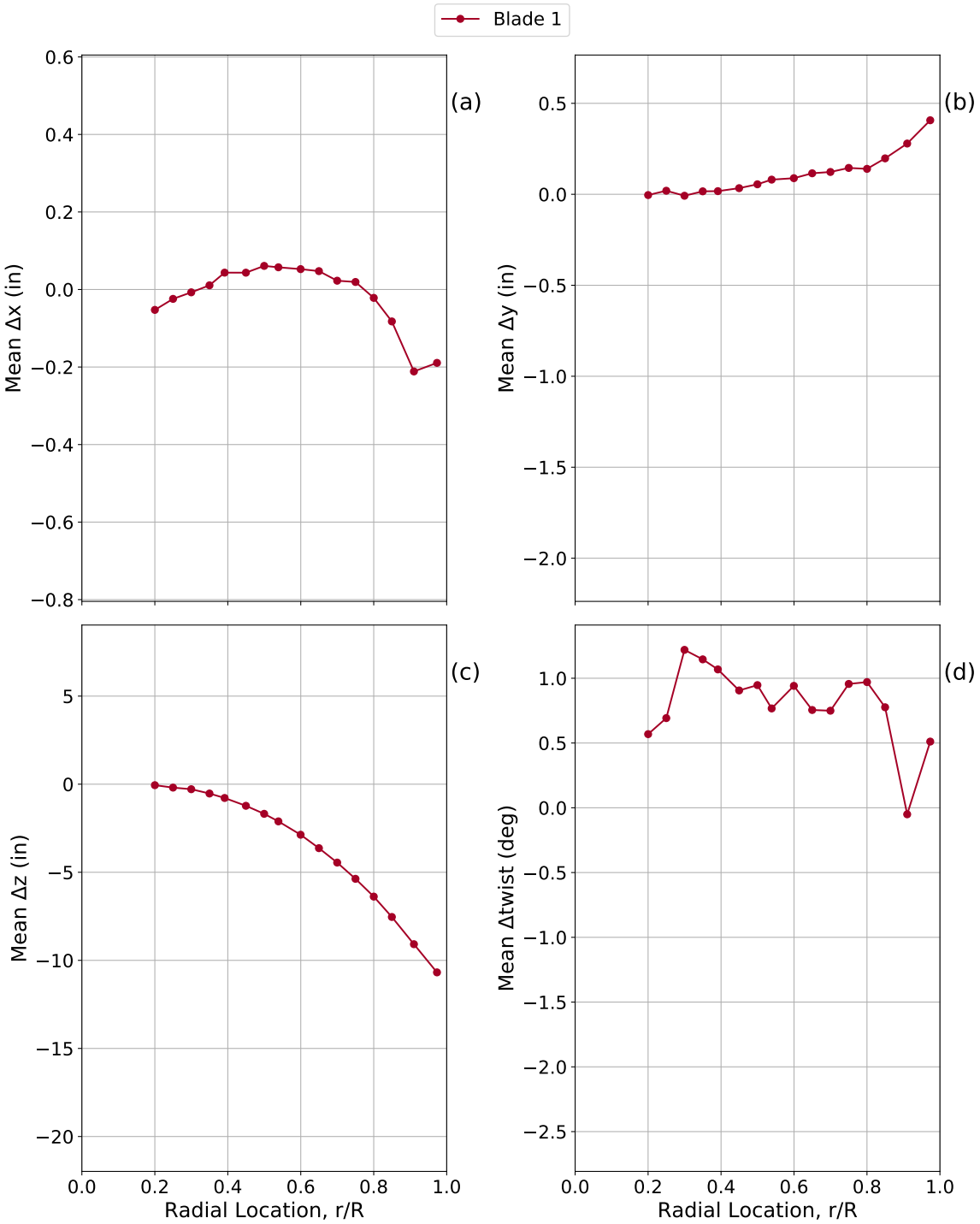


Figure 3.27-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0526	0.0070	-0.0042	0.0022	-0.0560	0.0041	0.5684	0.1606
1	80.16	0.2499	-0.0242	0.0037	0.0195	0.0090	-0.1936	0.0205	0.6923	0.1470
1	80.16	0.2998	-0.0073	0.0036	-0.0080	0.0091	-0.2854	0.0143	1.2191	0.3235
1	80.16	0.3498	0.0108	0.0053	0.0163	0.0170	-0.5297	0.0292	1.1458	0.3257
1	80.16	0.3913	0.0435	0.0075	0.0173	0.0261	-0.7830	0.0470	1.0682	0.3276
1	80.16	0.4496	0.0434	0.0090	0.0337	0.0384	-1.2269	0.0706	0.9058	0.3261
1	80.16	0.4997	0.0609	0.0113	0.0550	0.0495	-1.6822	0.0901	0.9470	0.3322
1	80.16	0.5387	0.0573	0.0124	0.0806	0.0594	-2.1111	0.1050	0.7669	0.3206
1	80.16	0.5996	0.0526	0.0134	0.0885	0.0740	-2.8700	0.1276	0.9412	0.3273
1	80.16	0.6498	0.0474	0.0139	0.1155	0.0874	-3.6315	0.1473	0.7549	0.3203
1	80.16	0.6998	0.0227	0.0127	0.1227	0.1017	-4.4500	0.1647	0.7494	0.3385
1	80.16	0.7500	0.0194	0.0135	0.1449	0.1181	-5.3717	0.1869	0.9561	0.3128
1	80.16	0.8001	-0.0216	0.0141	0.1398	0.1336	-6.3813	0.2074	0.9703	0.3431
1	80.16	0.8497	-0.0824	0.0131	0.1975	0.1498	-7.5375	0.2305	0.7760	0.3134
1	80.16	0.9102	-0.2114	0.0147	0.2789	0.1726	-9.0829	0.2711	-0.0504	0.5343
1	80.16	0.9734	-0.1893	0.0235	0.4069	0.1868	-10.6832	0.2905	0.5110	0.3276

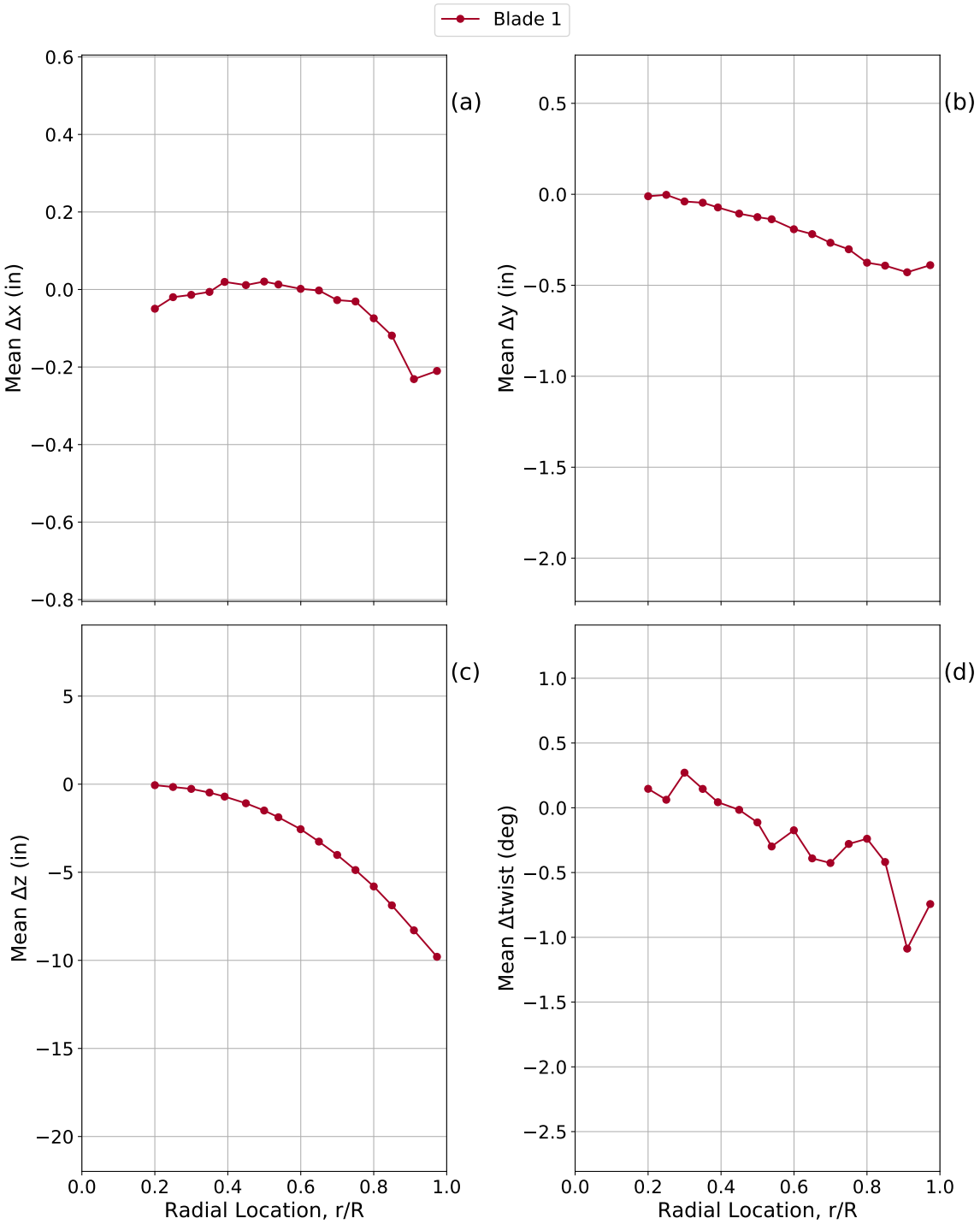


Figure 3.27-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0496	0.0092	-0.0107	0.0020	-0.0560	0.0036	0.1464	0.0738
1	85.08	0.2499	-0.0198	0.0019	-0.0030	0.0060	-0.1594	0.0155	0.0619	0.0872
1	85.08	0.2998	-0.0138	0.0040	-0.0394	0.0076	-0.2669	0.0122	0.2711	0.1249
1	85.08	0.3498	-0.0062	0.0041	-0.0463	0.0155	-0.4774	0.0258	0.1456	0.1218
1	85.08	0.3913	0.0196	0.0055	-0.0722	0.0216	-0.7035	0.0380	0.0431	0.1190
1	85.08	0.4496	0.0114	0.0063	-0.1063	0.0309	-1.0836	0.0566	-0.0159	0.1148
1	85.08	0.4997	0.0205	0.0065	-0.1254	0.0392	-1.4943	0.0724	-0.1129	0.1187
1	85.08	0.5387	0.0130	0.0065	-0.1371	0.0462	-1.8779	0.0838	-0.2987	0.1217
1	85.08	0.5996	0.0017	0.0063	-0.1920	0.0569	-2.5546	0.1004	-0.1737	0.1299
1	85.08	0.6498	-0.0025	0.0069	-0.2188	0.0663	-3.2596	0.1139	-0.3906	0.1322
1	85.08	0.6998	-0.0273	0.0075	-0.2664	0.0760	-4.0168	0.1297	-0.4263	0.1449
1	85.08	0.7500	-0.0309	0.0090	-0.3021	0.0862	-4.8751	0.1505	-0.2792	0.1406
1	85.08	0.8001	-0.0743	0.0124	-0.3759	0.0959	-5.8054	0.1712	-0.2390	0.1363
1	85.08	0.8497	-0.1189	0.0157	-0.3921	0.1057	-6.8772	0.1928	-0.4186	0.1655
1	85.08	0.9102	-0.2312	0.0153	-0.4285	0.1203	-8.2966	0.2388	-1.0876	0.7895
1	85.08	0.9734	-0.2101	0.0248	-0.3894	0.1292	-9.7977	0.2541	-0.7432	0.1810

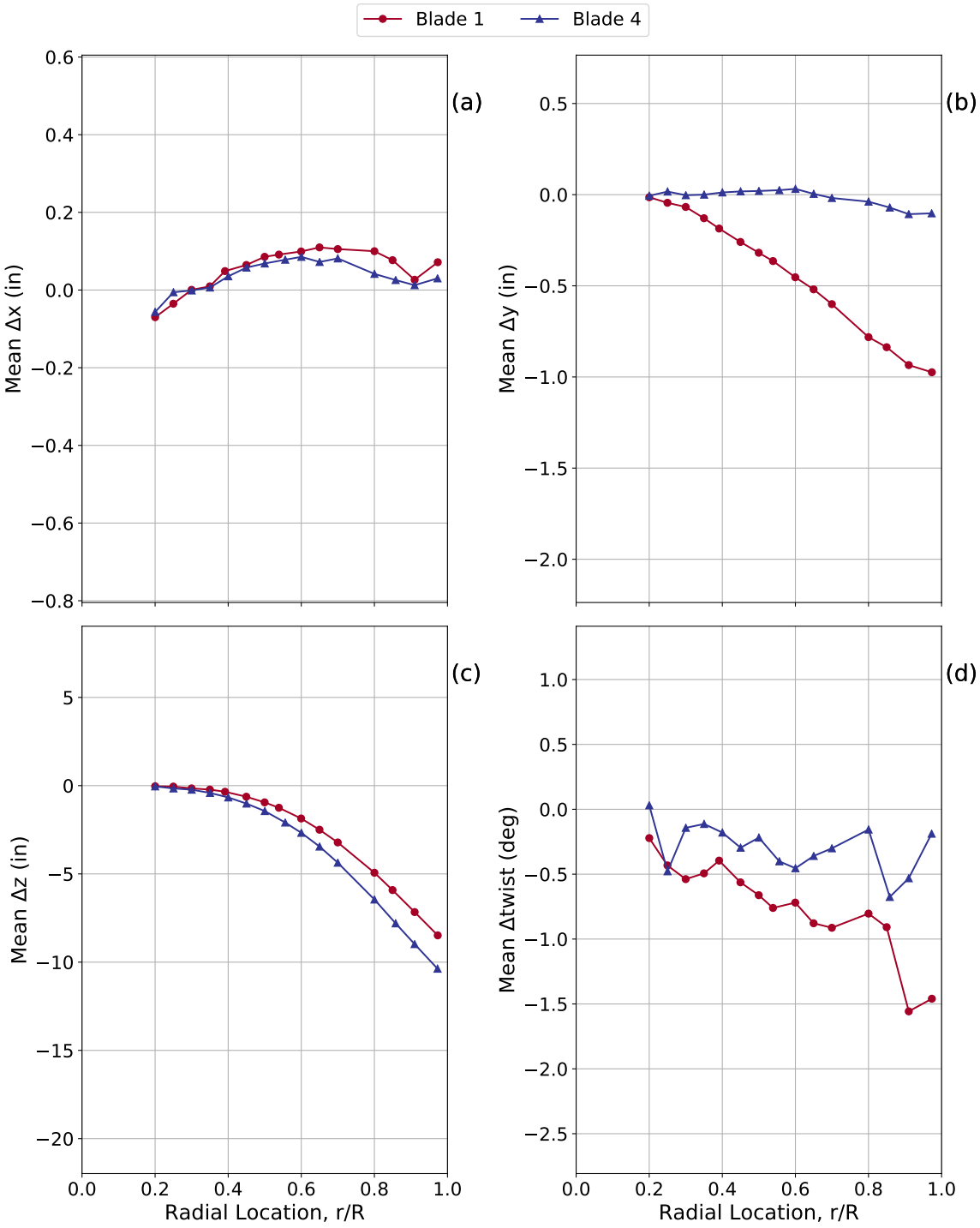


Figure 3.27-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0699	0.0009	-0.0143	0.0011	-0.0353	0.0048	-0.2220	0.0181
1	90	0.2499	-0.0352	0.0011	-0.0446	0.0024	-0.0525	0.0093	-0.4324	0.0304
1	90	0.2998	0.0005	0.0008	-0.0674	0.0046	-0.1555	0.0186	-0.5382	0.0407
1	90	0.3498	0.0095	0.0023	-0.1292	0.0082	-0.2231	0.0330	-0.4937	0.0401
1	90	0.3913	0.0488	0.0015	-0.1858	0.0116	-0.3455	0.0464	-0.3955	0.0353
1	90	0.4496	0.0645	0.0027	-0.2595	0.0163	-0.6276	0.0649	-0.5629	0.0450
1	90	0.4997	0.0856	0.0033	-0.3186	0.0210	-0.9464	0.0796	-0.6618	0.0429
1	90	0.5387	0.0913	0.0029	-0.3642	0.0253	-1.2526	0.0915	-0.7602	0.0577
1	90	0.5996	0.0993	0.0034	-0.4532	0.0323	-1.8604	0.1083	-0.7192	0.0619
1	90	0.6498	0.1098	0.0040	-0.5194	0.0384	-2.4974	0.1213	-0.8783	0.0543
1	90	0.6998	0.1055	0.0042	-0.6005	0.0456	-3.2176	0.1347	-0.9129	0.0690
1	90	0.8001	0.1000	0.0063	-0.7817	0.0601	-4.9341	0.1546	-0.8038	0.0813
1	90	0.8497	0.0769	0.0071	-0.8368	0.0679	-5.9164	0.1686	-0.9083	0.0938
1	90	0.9102	0.0265	0.0079	-0.9348	0.0782	-7.1635	0.1870	-1.5571	0.1283
1	90	0.9734	0.0716	0.0123	-0.9743	0.0888	-8.4827	0.1954	-1.4598	0.1165
4	90.35	0.2001	-0.0564	0.0012	-0.0061	0.0010	-0.0413	0.0030	0.0306	0.0229
4	90.35	0.2502	-0.0057	0.0012	0.0168	0.0020	-0.1586	0.0080	-0.4780	0.0311
4	90.35	0.3001	-0.0011	0.0013	-0.0030	0.0038	-0.2290	0.0127	-0.1429	0.0475
4	90.35	0.3502	0.0065	0.0012	0.0000	0.0074	-0.4114	0.0235	-0.1132	0.0398
4	90.35	0.4002	0.0354	0.0013	0.0122	0.0108	-0.6673	0.0359	-0.1796	0.0453
4	90.35	0.4500	0.0578	0.0015	0.0177	0.0137	-1.0159	0.0464	-0.2960	0.0465
4	90.35	0.5001	0.0684	0.0025	0.0202	0.0175	-1.4402	0.0608	-0.2183	0.0519
4	90.35	0.5560	0.0781	0.0021	0.0246	0.0218	-2.0903	0.0726	-0.4012	0.0507
4	90.35	0.6001	0.0854	0.0031	0.0316	0.0253	-2.6736	0.0832	-0.4542	0.0585
4	90.35	0.6501	0.0723	0.0037	0.0043	0.0297	-3.4525	0.0963	-0.3597	0.0603
4	90.35	0.6999	0.0814	0.0044	-0.0183	0.0346	-4.3672	0.1090	-0.3007	0.0586
4	90.35	0.8002	0.0416	0.0075	-0.0384	0.0452	-6.4523	0.1397	-0.1562	0.0736
4	90.35	0.8582	0.0257	0.0096	-0.0707	0.0522	-7.8029	0.1689	-0.6757	0.1214
4	90.35	0.9101	0.0125	0.0113	-0.1069	0.0584	-8.9785	0.1843	-0.5314	0.0944
4	90.35	0.9728	0.0301	0.0140	-0.1025	0.0652	-10.3726	0.2273	-0.1881	0.1151

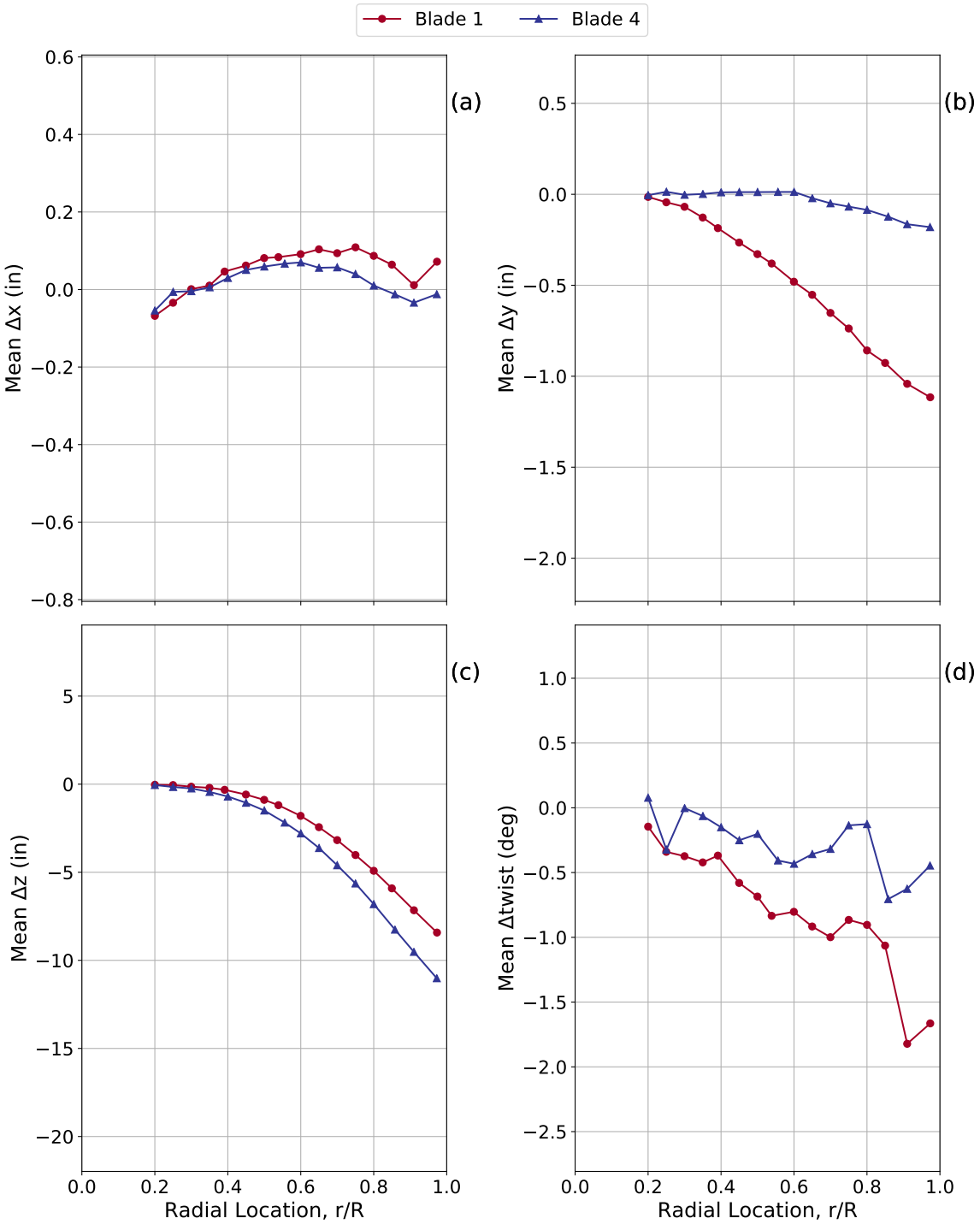


Figure 3.27-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0680	0.0014	-0.0144	0.0006	-0.0319	0.0026	-0.1457	0.0243
1	94.92	0.2499	-0.0342	0.0014	-0.0439	0.0012	-0.0496	0.0050	-0.3401	0.0303
1	94.92	0.2998	0.0009	0.0014	-0.0687	0.0026	-0.1412	0.0107	-0.3736	0.0500
1	94.92	0.3498	0.0101	0.0009	-0.1277	0.0040	-0.2072	0.0168	-0.4217	0.0395
1	94.92	0.3913	0.0463	0.0018	-0.1860	0.0061	-0.3187	0.0251	-0.3691	0.0489
1	94.92	0.4496	0.0618	0.0023	-0.2652	0.0091	-0.5888	0.0355	-0.5802	0.0604
1	94.92	0.4997	0.0811	0.0022	-0.3288	0.0125	-0.8894	0.0482	-0.6853	0.0451
1	94.92	0.5387	0.0835	0.0030	-0.3804	0.0154	-1.1917	0.0594	-0.8341	0.0599
1	94.92	0.5996	0.0912	0.0034	-0.4803	0.0206	-1.7981	0.0763	-0.8030	0.0613
1	94.92	0.6498	0.1037	0.0058	-0.5523	0.0256	-2.4405	0.0909	-0.9166	0.0673
1	94.92	0.6998	0.0937	0.0061	-0.6520	0.0306	-3.1750	0.1053	-0.9991	0.0865
1	94.92	0.7500	0.1088	0.0071	-0.7375	0.0364	-4.0216	0.1270	-0.8656	0.0867
1	94.92	0.8001	0.0868	0.0093	-0.8582	0.0427	-4.9166	0.1473	-0.9041	0.0737
1	94.92	0.8497	0.0641	0.0102	-0.9269	0.0495	-5.9123	0.1731	-1.0640	0.0884
1	94.92	0.9102	0.0112	0.0123	-1.0415	0.0588	-7.1571	0.2080	-1.8221	0.0956
1	94.92	0.9734	0.0718	0.0179	-1.1155	0.0681	-8.4235	0.2388	-1.6645	0.1302
4	94.92	0.2001	-0.0543	0.0012	-0.0047	0.0009	-0.0475	0.0023	0.0775	0.0309
4	94.92	0.2502	-0.0062	0.0007	0.0138	0.0024	-0.1598	0.0073	-0.3230	0.0544
4	94.92	0.3001	-0.0043	0.0018	-0.0028	0.0042	-0.2428	0.0122	-0.0026	0.0729
4	94.92	0.3502	0.0056	0.0019	0.0018	0.0071	-0.4396	0.0194	-0.0641	0.0645
4	94.92	0.4002	0.0298	0.0027	0.0107	0.0114	-0.7016	0.0324	-0.1505	0.0855
4	94.92	0.4500	0.0505	0.0033	0.0120	0.0162	-1.0548	0.0476	-0.2508	0.0720
4	94.92	0.5001	0.0592	0.0041	0.0121	0.0219	-1.4952	0.0680	-0.2015	0.0860
4	94.92	0.5560	0.0667	0.0059	0.0128	0.0286	-2.1802	0.0897	-0.4071	0.0885
4	94.92	0.6001	0.0699	0.0069	0.0129	0.0349	-2.7946	0.1078	-0.4324	0.0946
4	94.92	0.6501	0.0560	0.0081	-0.0214	0.0465	-3.6259	0.1202	-0.3577	0.2722
4	94.92	0.6999	0.0571	0.0105	-0.0495	0.0507	-4.6033	0.1418	-0.3176	0.1055
4	94.92	0.7500	0.0398	0.0120	-0.0678	0.0589	-5.6373	0.1574	-0.1357	0.1005
4	94.92	0.8002	0.0102	0.0129	-0.0857	0.0684	-6.8107	0.1692	-0.1263	0.0915
4	94.92	0.8582	-0.0125	0.0149	-0.1232	0.0791	-8.2561	0.1817	-0.7051	0.1031
4	94.92	0.9101	-0.0340	0.0163	-0.1644	0.0892	-9.5187	0.1931	-0.6256	0.0856
4	94.92	0.9728	-0.0122	0.0199	-0.1805	0.1010	-11.0156	0.2092	-0.4463	0.1101

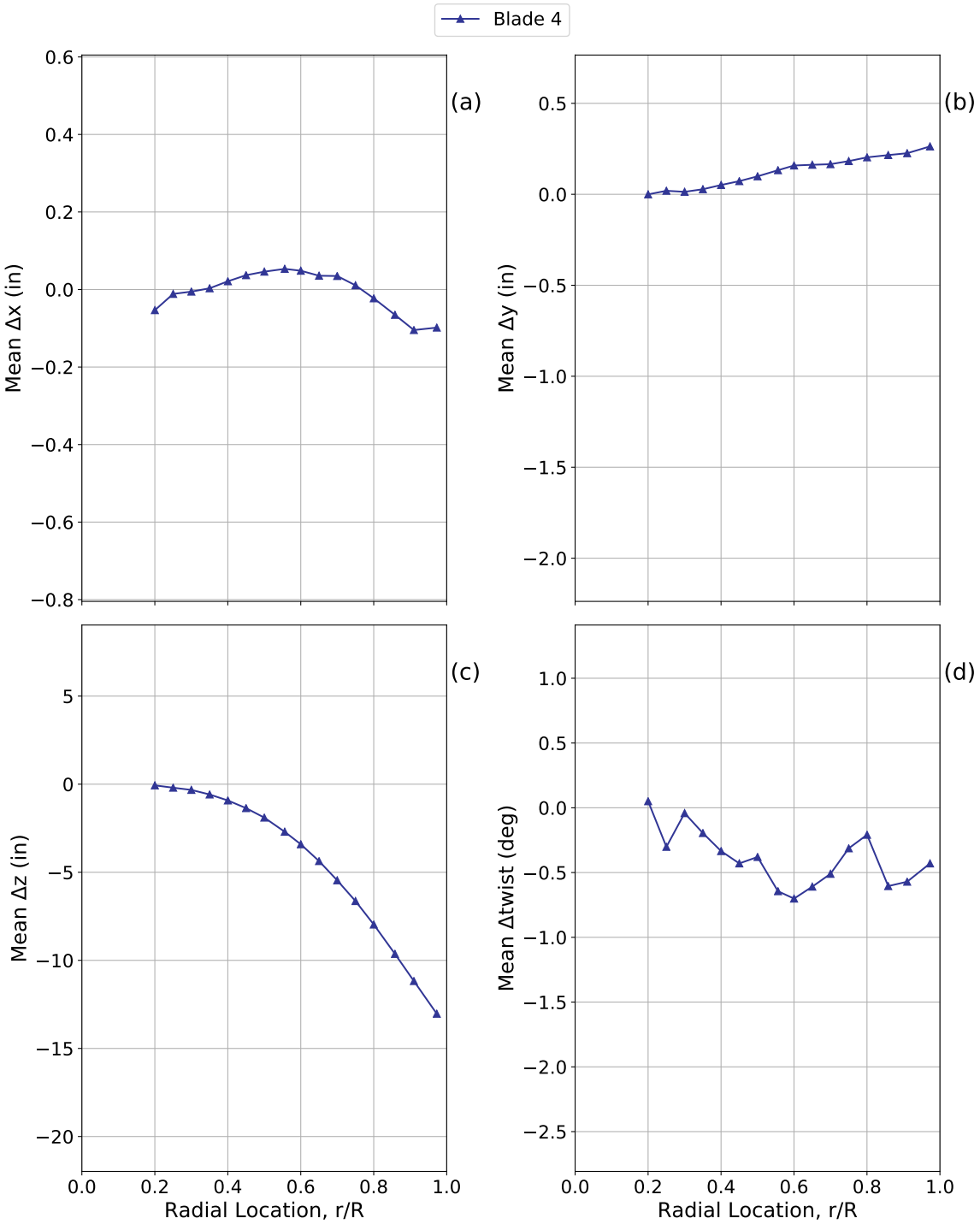


Figure 3.27-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0533	0.0014	-0.0004	0.0009	-0.0681	0.0023	0.0506	0.0265
4	105.12	0.2502	-0.0114	0.0006	0.0193	0.0031	-0.2000	0.0088	-0.3017	0.0406
4	105.12	0.3001	-0.0055	0.0015	0.0136	0.0042	-0.3254	0.0134	-0.0414	0.0585
4	105.12	0.3502	0.0031	0.0023	0.0278	0.0089	-0.5851	0.0214	-0.1952	0.0538
4	105.12	0.4002	0.0212	0.0027	0.0511	0.0131	-0.9240	0.0359	-0.3346	0.0525
4	105.12	0.4500	0.0369	0.0034	0.0723	0.0172	-1.3594	0.0461	-0.4296	0.0611
4	105.12	0.5001	0.0460	0.0035	0.0987	0.0227	-1.8975	0.0575	-0.3799	0.0780
4	105.12	0.5560	0.0532	0.0050	0.1323	0.0303	-2.7014	0.0742	-0.6442	0.0741
4	105.12	0.6001	0.0484	0.0051	0.1582	0.0363	-3.4121	0.0861	-0.7012	0.0737
4	105.12	0.6501	0.0355	0.0053	0.1622	0.0443	-4.3659	0.1035	-0.6090	0.0914
4	105.12	0.6999	0.0348	0.0064	0.1654	0.0530	-5.4582	0.1201	-0.5101	0.0923
4	105.12	0.7500	0.0108	0.0069	0.1824	0.0625	-6.6351	0.1348	-0.3130	0.1002
4	105.12	0.8002	-0.0228	0.0087	0.2031	0.0716	-7.9679	0.1532	-0.2086	0.1049
4	105.12	0.8582	-0.0654	0.0110	0.2155	0.0828	-9.6352	0.1805	-0.6048	0.1089
4	105.12	0.9101	-0.1046	0.0133	0.2257	0.0932	-11.1754	0.2095	-0.5708	0.0978
4	105.12	0.9728	-0.0983	0.0161	0.2631	0.1052	-13.0313	0.2509	-0.4297	0.1124

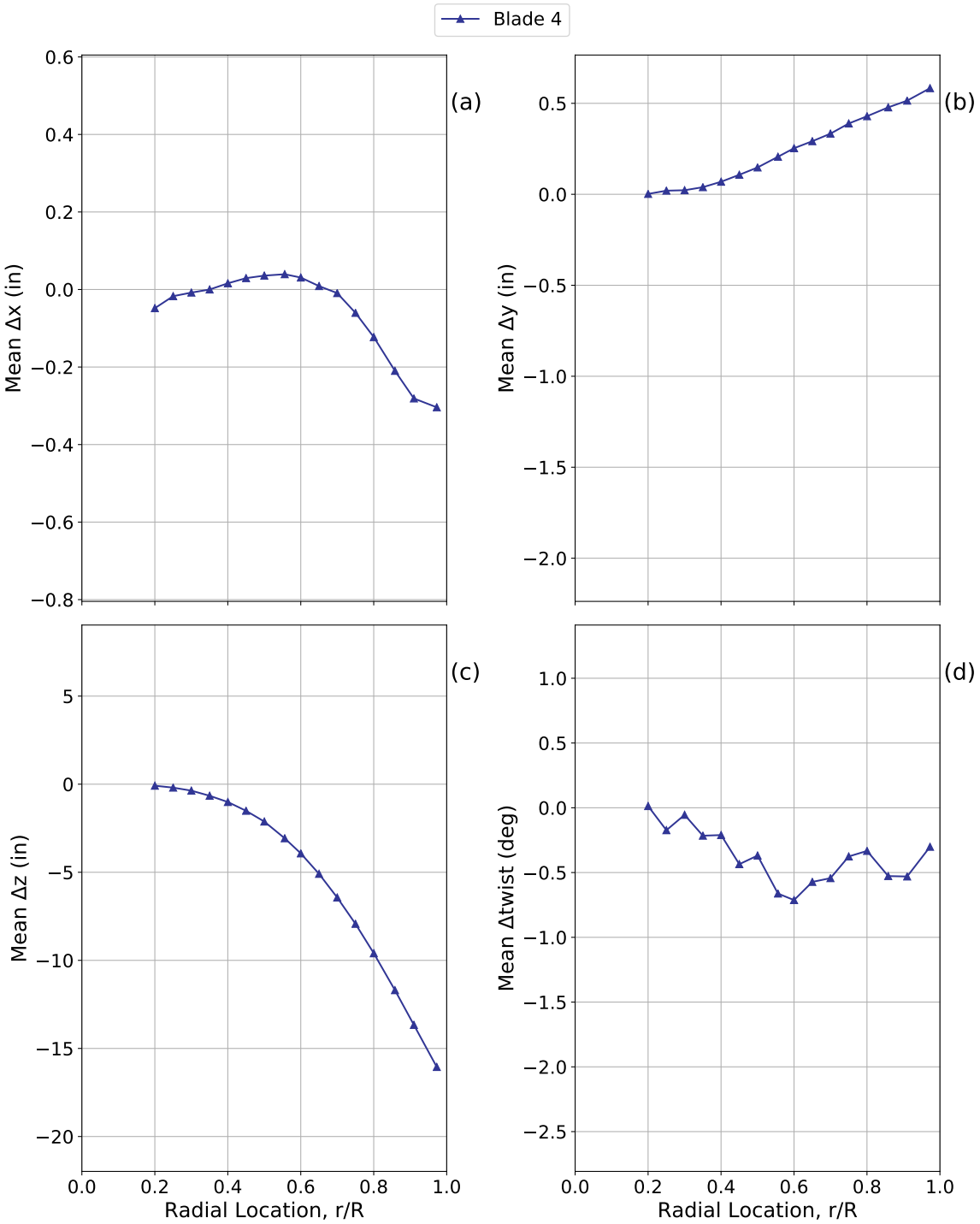


Figure 3.27-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0482	0.0017	0.0021	0.0005	-0.0873	0.0028	0.0130	0.0176
4	119.88	0.2502	-0.0172	0.0013	0.0199	0.0025	-0.1956	0.0069	-0.1733	0.0242
4	119.88	0.3001	-0.0080	0.0022	0.0223	0.0031	-0.3669	0.0120	-0.0546	0.0374
4	119.88	0.3502	0.0000	0.0020	0.0391	0.0056	-0.6584	0.0220	-0.2156	0.0377
4	119.88	0.4002	0.0160	0.0016	0.0690	0.0093	-1.0126	0.0336	-0.2107	0.0458
4	119.88	0.4500	0.0293	0.0030	0.1072	0.0107	-1.5104	0.0458	-0.4355	0.0502
4	119.88	0.5001	0.0358	0.0032	0.1475	0.0119	-2.1226	0.0580	-0.3689	0.0641
4	119.88	0.5560	0.0394	0.0047	0.2063	0.0139	-3.0718	0.0778	-0.6623	0.0485
4	119.88	0.6001	0.0308	0.0050	0.2532	0.0147	-3.9300	0.0912	-0.7126	0.0522
4	119.88	0.6501	0.0088	0.0059	0.2917	0.0150	-5.0909	0.1121	-0.5724	0.0478
4	119.88	0.6999	-0.0093	0.0075	0.3333	0.0164	-6.4337	0.1353	-0.5433	0.0651
4	119.88	0.7500	-0.0603	0.0099	0.3891	0.0171	-7.9287	0.1594	-0.3758	0.0543
4	119.88	0.8002	-0.1229	0.0141	0.4290	0.0176	-9.6009	0.1856	-0.3330	0.0520
4	119.88	0.8582	-0.2099	0.0188	0.4777	0.0180	-11.6945	0.2264	-0.5273	0.0647
4	119.88	0.9101	-0.2811	0.0243	0.5147	0.0192	-13.6661	0.2678	-0.5305	0.0636
4	119.88	0.9728	-0.3039	0.0317	0.5831	0.0205	-16.0538	0.3274	-0.3013	0.0761

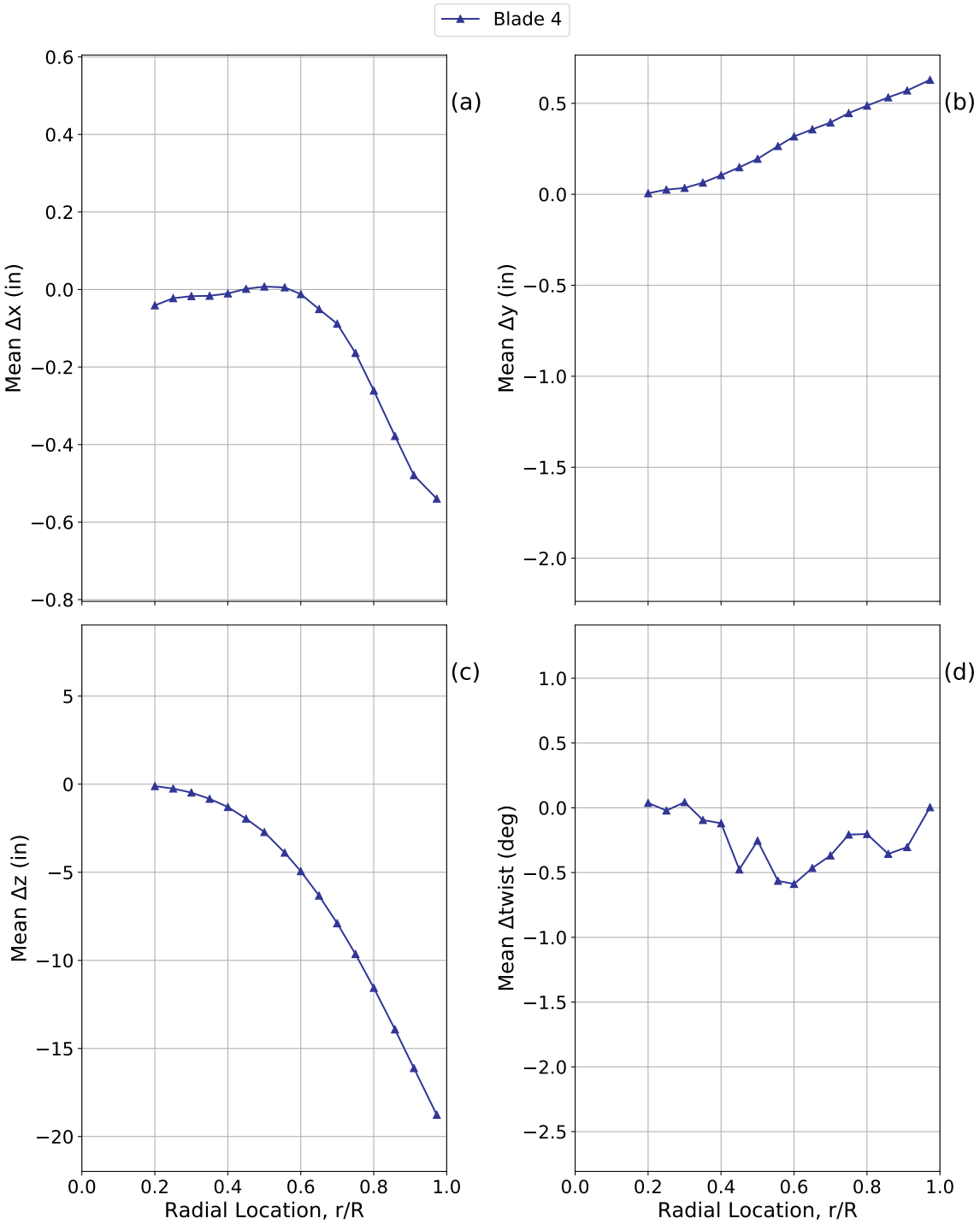


Figure 3.27-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0410	0.0015	0.0056	0.0006	-0.1110	0.0017	0.0376	0.0287
4	135	0.2502	-0.0225	0.0011	0.0256	0.0019	-0.2485	0.0036	-0.0217	0.0425
4	135	0.3001	-0.0172	0.0014	0.0349	0.0045	-0.4785	0.0067	0.0431	0.0635
4	135	0.3502	-0.0163	0.0011	0.0639	0.0046	-0.8310	0.0112	-0.0945	0.0536
4	135	0.4002	-0.0103	0.0015	0.1048	0.0093	-1.2972	0.0159	-0.1198	0.0783
4	135	0.4500	0.0017	0.0026	0.1483	0.0111	-1.9587	0.0220	-0.4767	0.0648
4	135	0.5001	0.0075	0.0031	0.1947	0.0136	-2.7195	0.0330	-0.2543	0.0746
4	135	0.5560	0.0054	0.0035	0.2648	0.0160	-3.8883	0.0473	-0.5640	0.0535
4	135	0.6001	-0.0120	0.0048	0.3177	0.0188	-4.9422	0.0593	-0.5884	0.0642
4	135	0.6501	-0.0507	0.0063	0.3570	0.0216	-6.3274	0.0770	-0.4651	0.0545
4	135	0.6999	-0.0884	0.0077	0.3945	0.0257	-7.8981	0.0965	-0.3686	0.0510
4	135	0.7500	-0.1639	0.0103	0.4460	0.0277	-9.6461	0.1173	-0.2072	0.0570
4	135	0.8002	-0.2608	0.0135	0.4869	0.0313	-11.5645	0.1398	-0.2029	0.0576
4	135	0.8582	-0.3781	0.0173	0.5323	0.0348	-13.9225	0.1682	-0.3562	0.0572
4	135	0.9101	-0.4792	0.0208	0.5701	0.0386	-16.1184	0.1959	-0.3039	0.0602
4	135	0.9728	-0.5397	0.0257	0.6289	0.0429	-18.7692	0.2333	0.0040	0.0556

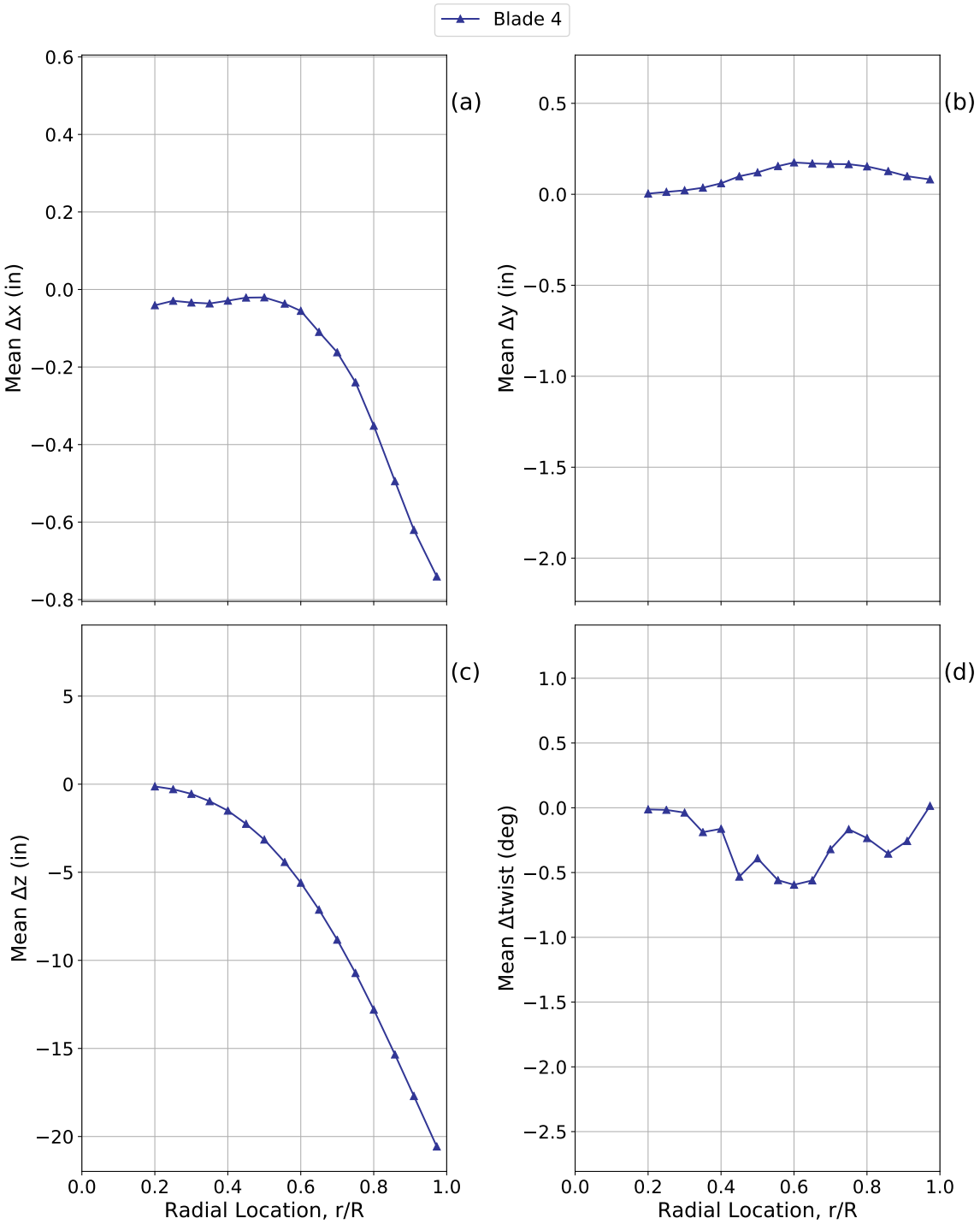


Figure 3.27-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0407	0.0017	0.0036	0.0013	-0.1287	0.0033	-0.0128	0.0300
4	150.12	0.2502	-0.0292	0.0013	0.0130	0.0026	-0.2855	0.0084	-0.0162	0.0520
4	150.12	0.3001	-0.0337	0.0020	0.0217	0.0059	-0.5512	0.0143	-0.0374	0.0696
4	150.12	0.3502	-0.0361	0.0030	0.0360	0.0095	-0.9689	0.0252	-0.1882	0.0720
4	150.12	0.4002	-0.0289	0.0036	0.0605	0.0152	-1.5041	0.0394	-0.1624	0.0660
4	150.12	0.4500	-0.0210	0.0042	0.0990	0.0187	-2.2538	0.0478	-0.5322	0.0681
4	150.12	0.5001	-0.0204	0.0050	0.1201	0.0243	-3.1469	0.0590	-0.3906	0.0710
4	150.12	0.5560	-0.0366	0.0062	0.1547	0.0310	-4.4209	0.0749	-0.5592	0.0827
4	150.12	0.6001	-0.0552	0.0077	0.1749	0.0376	-5.5962	0.0887	-0.5944	0.0713
4	150.12	0.6501	-0.1095	0.0096	0.1693	0.0413	-7.1272	0.1025	-0.5609	0.0874
4	150.12	0.6999	-0.1621	0.0117	0.1665	0.0478	-8.8301	0.1186	-0.3201	0.0856
4	150.12	0.7500	-0.2396	0.0155	0.1654	0.0549	-10.7225	0.1374	-0.1663	0.0938
4	150.12	0.8002	-0.3515	0.0195	0.1531	0.0624	-12.8003	0.1642	-0.2344	0.1019
4	150.12	0.8582	-0.4946	0.0255	0.1272	0.0714	-15.3488	0.2057	-0.3546	0.1018
4	150.12	0.9101	-0.6203	0.0309	0.0994	0.0795	-17.7043	0.2463	-0.2568	0.1137
4	150.12	0.9728	-0.7405	0.0402	0.0817	0.0895	-20.5702	0.2996	0.0144	0.1227

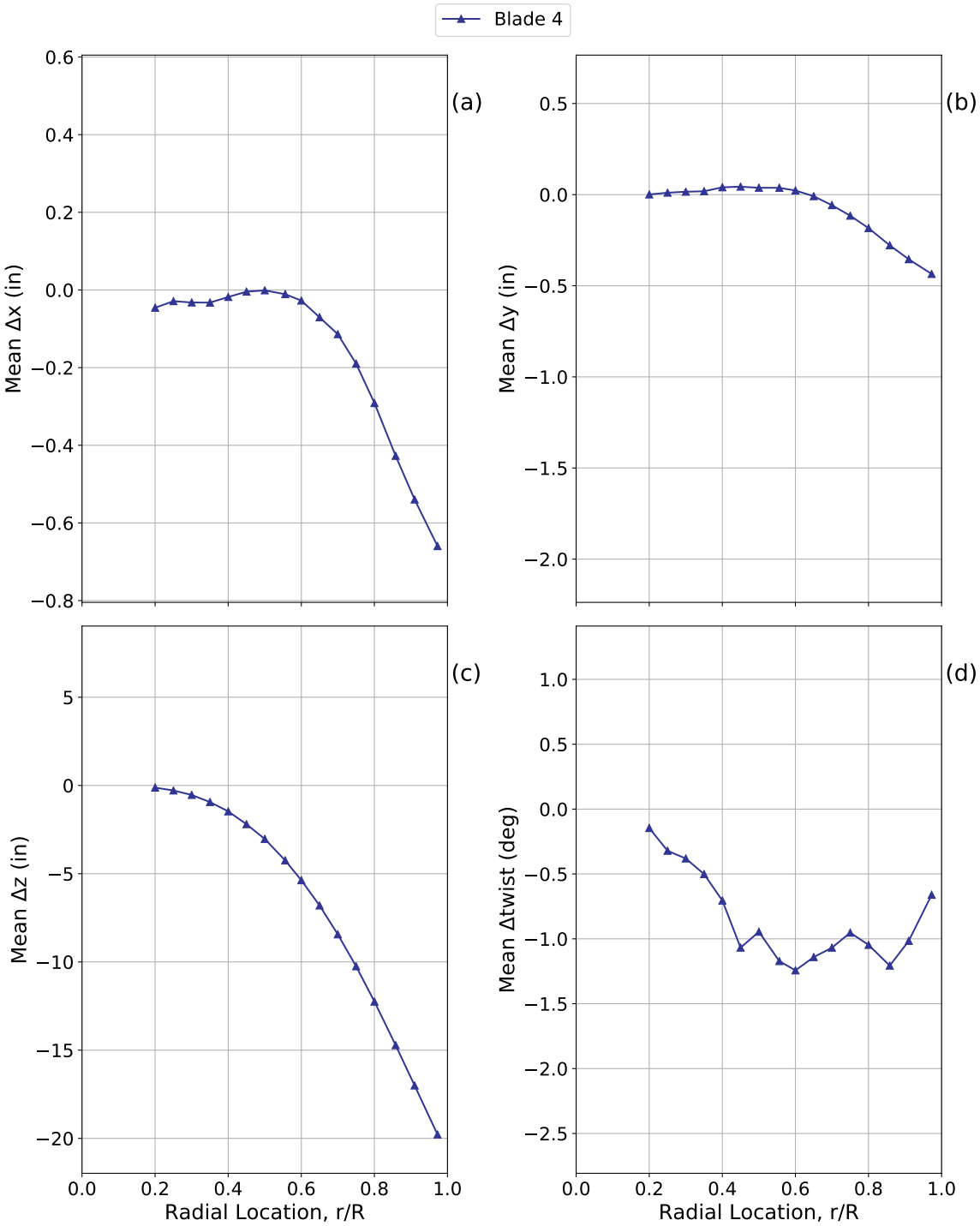


Figure 3.27-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0458	0.0013	0.0008	0.0009	-0.1225	0.0024	-0.1458	0.0291
4	164.88	0.2502	-0.0288	0.0011	0.0104	0.0025	-0.2847	0.0067	-0.3215	0.0312
4	164.88	0.3001	-0.0322	0.0016	0.0157	0.0049	-0.5371	0.0082	-0.3809	0.0579
4	164.88	0.3502	-0.0326	0.0022	0.0185	0.0070	-0.9413	0.0185	-0.5013	0.0474
4	164.88	0.4002	-0.0180	0.0026	0.0401	0.0122	-1.4703	0.0260	-0.7052	0.0491
4	164.88	0.4500	-0.0044	0.0028	0.0435	0.0143	-2.1956	0.0336	-1.0681	0.0775
4	164.88	0.5001	-0.0010	0.0032	0.0375	0.0177	-3.0316	0.0438	-0.9455	0.0690
4	164.88	0.5560	-0.0109	0.0039	0.0372	0.0214	-4.2497	0.0526	-1.1717	0.0894
4	164.88	0.6001	-0.0274	0.0049	0.0225	0.0243	-5.3719	0.0628	-1.2431	0.0816
4	164.88	0.6501	-0.0705	0.0054	-0.0089	0.0287	-6.8039	0.0699	-1.1410	0.0857
4	164.88	0.6999	-0.1140	0.0059	-0.0579	0.0329	-8.4391	0.0749	-1.0683	0.0875
4	164.88	0.7500	-0.1898	0.0075	-0.1157	0.0377	-10.2501	0.0821	-0.9526	0.0842
4	164.88	0.8002	-0.2913	0.0078	-0.1840	0.0438	-12.2503	0.0855	-1.0469	0.0832
4	164.88	0.8582	-0.4273	0.0086	-0.2783	0.0509	-14.7207	0.0905	-1.2065	0.0933
4	164.88	0.9101	-0.5397	0.0097	-0.3546	0.0576	-17.0042	0.0950	-1.0160	0.0908
4	164.88	0.9728	-0.6597	0.0119	-0.4354	0.0658	-19.7848	0.1026	-0.6607	0.0954

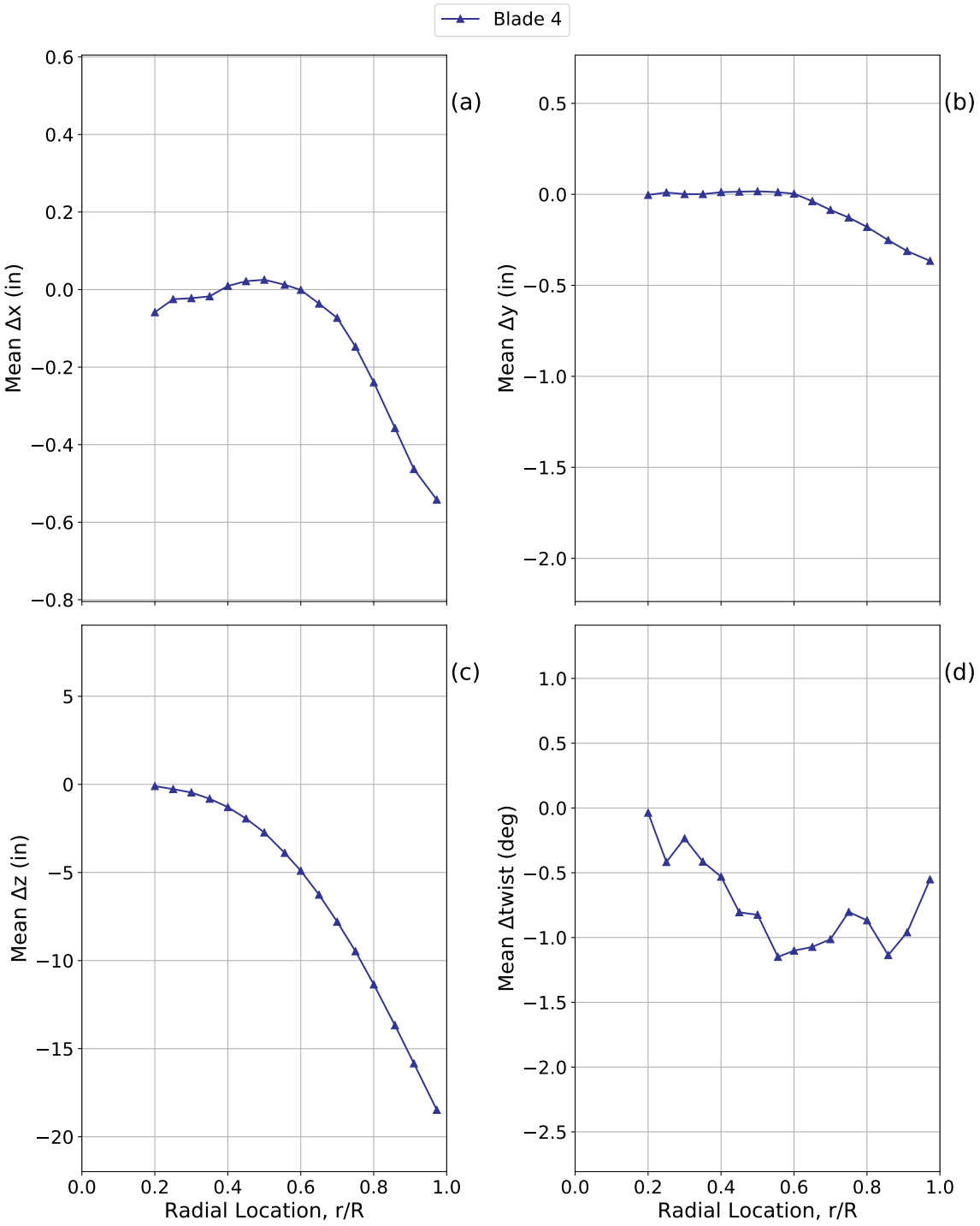


Figure 3.27-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0586	0.0104	-0.0034	0.0009	-0.0983	0.0019	-0.0371	0.0239
4	170.16	0.2502	-0.0248	0.0040	0.0102	0.0015	-0.2691	0.0048	-0.4175	0.0327
4	170.16	0.3001	-0.0223	0.0029	0.0012	0.0032	-0.4628	0.0092	-0.2346	0.0504
4	170.16	0.3502	-0.0175	0.0090	0.0012	0.0049	-0.8171	0.0128	-0.4149	0.0534
4	170.16	0.4002	0.0094	0.0155	0.0120	0.0074	-1.2928	0.0217	-0.5309	0.0546
4	170.16	0.4500	0.0216	0.0204	0.0144	0.0112	-1.9396	0.0283	-0.8055	0.0645
4	170.16	0.5001	0.0253	0.0252	0.0167	0.0146	-2.7319	0.0351	-0.8245	0.0510
4	170.16	0.5560	0.0124	0.0296	0.0118	0.0184	-3.8891	0.0440	-1.1496	0.0785
4	170.16	0.6001	-0.0009	0.0335	0.0035	0.0230	-4.9040	0.0537	-1.1013	0.0578
4	170.16	0.6501	-0.0364	0.0364	-0.0378	0.0285	-6.2631	0.0701	-1.0727	0.0635
4	170.16	0.6999	-0.0730	0.0376	-0.0860	0.0330	-7.8007	0.0884	-1.0130	0.0522
4	170.16	0.7500	-0.1475	0.0385	-0.1275	0.0383	-9.4750	0.1117	-0.8026	0.0660
4	170.16	0.8002	-0.2394	0.0378	-0.1793	0.0448	-11.3594	0.1396	-0.8675	0.0663
4	170.16	0.8582	-0.3573	0.0380	-0.2516	0.0539	-13.6768	0.1758	-1.1359	0.0997
4	170.16	0.9101	-0.4630	0.0376	-0.3118	0.0618	-15.8366	0.2178	-0.9598	0.0934
4	170.16	0.9728	-0.5419	0.0422	-0.3656	0.0707	-18.4762	0.2741	-0.5514	0.1138

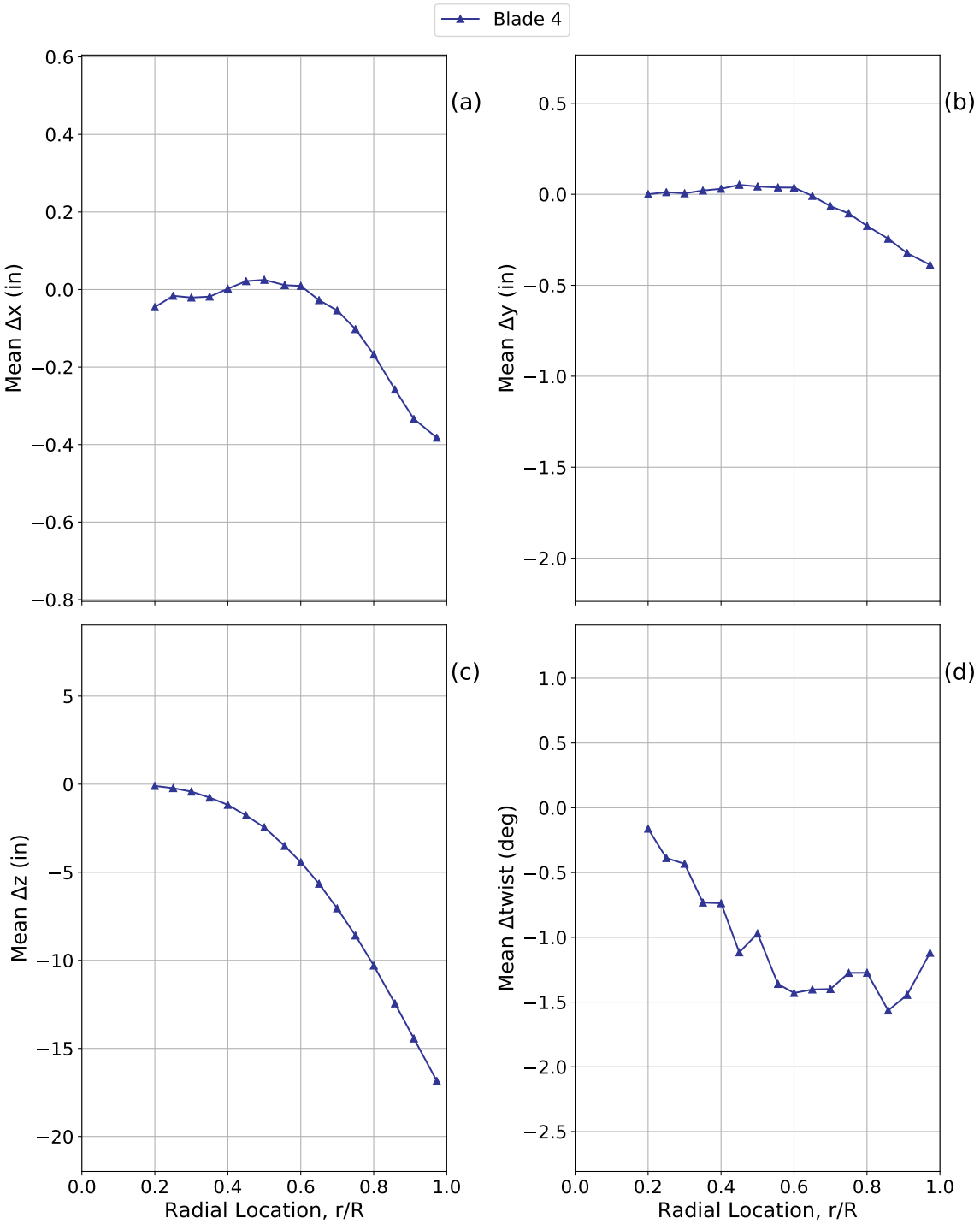


Figure 3.27-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0454	0.0011	0.0001	0.0011	-0.1001	0.0032	-0.1616	0.0255
4	175.08	0.2502	-0.0162	0.0015	0.0116	0.0028	-0.2267	0.0073	-0.3883	0.0440
4	175.08	0.3001	-0.0207	0.0010	0.0053	0.0042	-0.4239	0.0123	-0.4327	0.0575
4	175.08	0.3502	-0.0183	0.0013	0.0205	0.0083	-0.7631	0.0216	-0.7317	0.0572
4	175.08	0.4002	0.0020	0.0014	0.0300	0.0122	-1.1742	0.0332	-0.7368	0.0710
4	175.08	0.4500	0.0216	0.0018	0.0517	0.0155	-1.7725	0.0456	-1.1165	0.0698
4	175.08	0.5001	0.0250	0.0025	0.0427	0.0193	-2.4542	0.0554	-0.9708	0.0880
4	175.08	0.5560	0.0113	0.0030	0.0372	0.0240	-3.5044	0.0681	-1.3604	0.0738
4	175.08	0.6001	0.0093	0.0032	0.0366	0.0270	-4.4295	0.0768	-1.4299	0.0820
4	175.08	0.6501	-0.0274	0.0046	-0.0089	0.0317	-5.6536	0.0881	-1.4030	0.0830
4	175.08	0.6999	-0.0541	0.0060	-0.0654	0.0352	-7.0514	0.1004	-1.3996	0.0808
4	175.08	0.7500	-0.1022	0.0073	-0.1052	0.0396	-8.5907	0.1140	-1.2745	0.0806
4	175.08	0.8002	-0.1677	0.0093	-0.1741	0.0431	-10.2980	0.1315	-1.2736	0.0765
4	175.08	0.8582	-0.2581	0.0133	-0.2442	0.0489	-12.4470	0.1570	-1.5650	0.0756
4	175.08	0.9101	-0.3338	0.0162	-0.3235	0.0515	-14.4372	0.1843	-1.4445	0.0712
4	175.08	0.9728	-0.3822	0.0219	-0.3873	0.0587	-16.8427	0.2249	-1.1198	0.0699

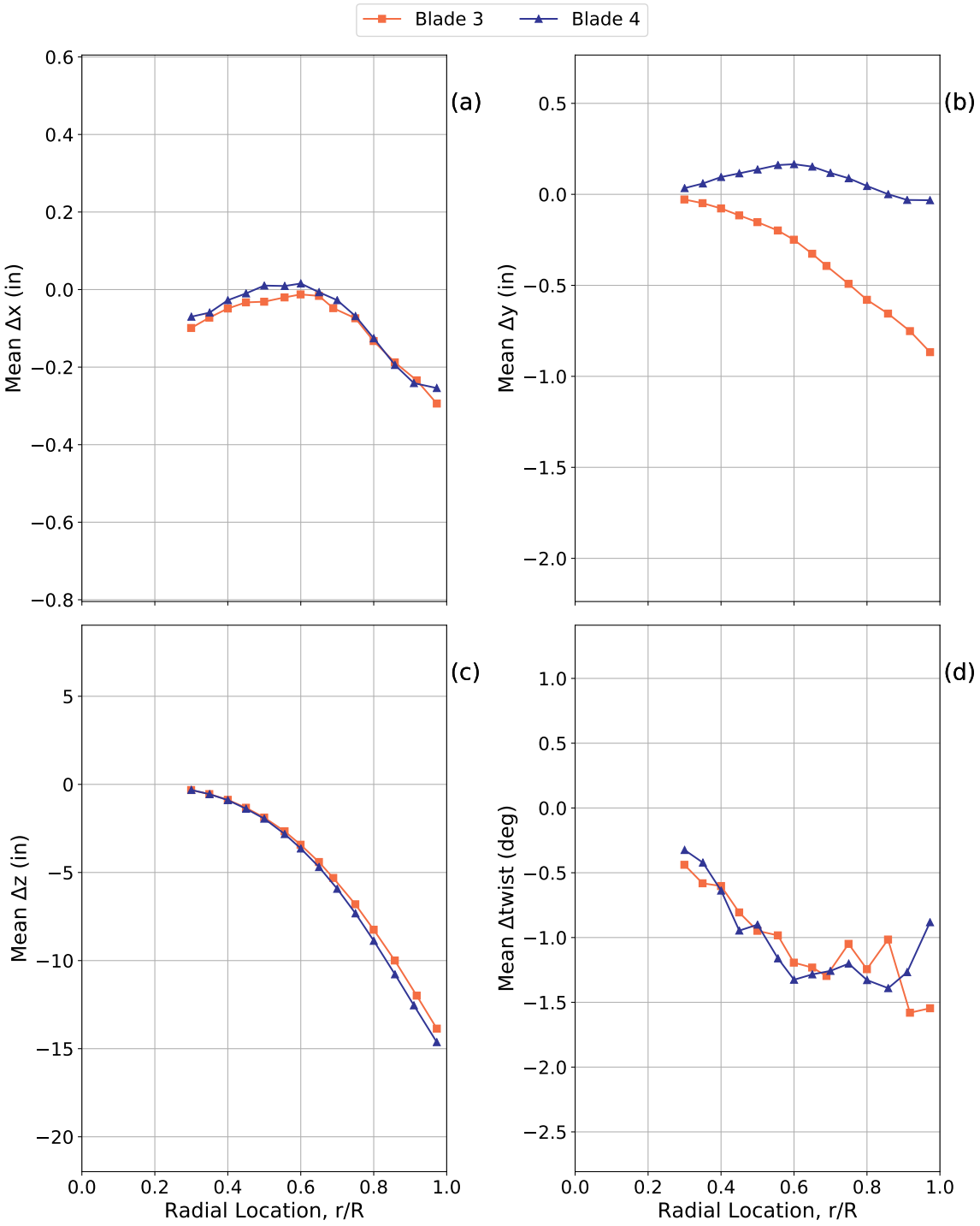


Figure 3.27-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2995	-0.0991	0.0079	-0.0282	0.0129	-0.3224	0.0428	-0.4386	0.0868
3	180.35	0.3493	-0.0724	0.0088	-0.0485	0.0222	-0.5511	0.0723	-0.5813	0.1143
3	180.35	0.4000	-0.0488	0.0093	-0.0774	0.0354	-0.8761	0.1141	-0.6024	0.0871
3	180.35	0.4497	-0.0330	0.0093	-0.1156	0.0470	-1.3262	0.1487	-0.8062	0.0945
3	180.35	0.4997	-0.0313	0.0105	-0.1527	0.0579	-1.8820	0.1850	-0.9482	0.1045
3	180.35	0.5556	-0.0202	0.0124	-0.1986	0.0713	-2.6597	0.2297	-0.9833	0.1060
3	180.35	0.5995	-0.0125	0.0139	-0.2493	0.0819	-3.4252	0.2635	-1.1937	0.1188
3	180.35	0.6498	-0.0163	0.0165	-0.3264	0.0937	-4.4067	0.3051	-1.2317	0.1239
3	180.35	0.6890	-0.0479	0.0186	-0.3933	0.1040	-5.3096	0.3395	-1.2966	0.1307
3	180.35	0.7495	-0.0740	0.0231	-0.4917	0.1187	-6.8043	0.3901	-1.0489	0.1234
3	180.35	0.7998	-0.1327	0.0261	-0.5795	0.1322	-8.2485	0.4299	-1.2443	0.1342
3	180.35	0.8577	-0.1877	0.0299	-0.6552	0.1488	-9.9949	0.4788	-1.0154	0.1285
3	180.35	0.9178	-0.2341	0.0343	-0.7514	0.1652	-11.9882	0.5247	-1.5804	0.1210
3	180.35	0.9729	-0.2940	0.0387	-0.8670	0.1804	-13.8618	0.5657	-1.5458	0.1281
4	180	0.3001	-0.0700	0.0188	0.0341	0.0330	-0.3172	0.0309	-0.3244	0.0655
4	180	0.3502	-0.0594	0.0183	0.0596	0.0574	-0.5586	0.0576	-0.4218	0.0867
4	180	0.4002	-0.0274	0.0195	0.0951	0.0914	-0.8960	0.0957	-0.6379	0.0716
4	180	0.4500	-0.0099	0.0200	0.1154	0.1206	-1.3836	0.1252	-0.9465	0.0740
4	180	0.5001	0.0103	0.0197	0.1364	0.1497	-1.9486	0.1580	-0.9004	0.0611
4	180	0.5560	0.0092	0.0214	0.1609	0.1852	-2.8215	0.1971	-1.1612	0.0867
4	180	0.6001	0.0156	0.0222	0.1656	0.2114	-3.6412	0.2295	-1.3258	0.0814
4	180	0.6501	-0.0069	0.0241	0.1522	0.2412	-4.6941	0.2646	-1.2845	0.0843
4	180	0.6999	-0.0274	0.0269	0.1176	0.2735	-5.9269	0.2975	-1.2575	0.0896
4	180	0.7500	-0.0685	0.0295	0.0882	0.3048	-7.3227	0.3320	-1.2016	0.0844
4	180	0.8002	-0.1258	0.0331	0.0457	0.3366	-8.8790	0.3631	-1.3287	0.1004
4	180	0.8582	-0.1945	0.0369	0.0007	0.3732	-10.7815	0.4004	-1.3908	0.1075
4	180	0.9101	-0.2413	0.0409	-0.0308	0.4066	-12.5424	0.4317	-1.2673	0.0920
4	180	0.9728	-0.2540	0.0532	-0.0323	0.4466	-14.6293	0.4747	-0.8821	0.0900

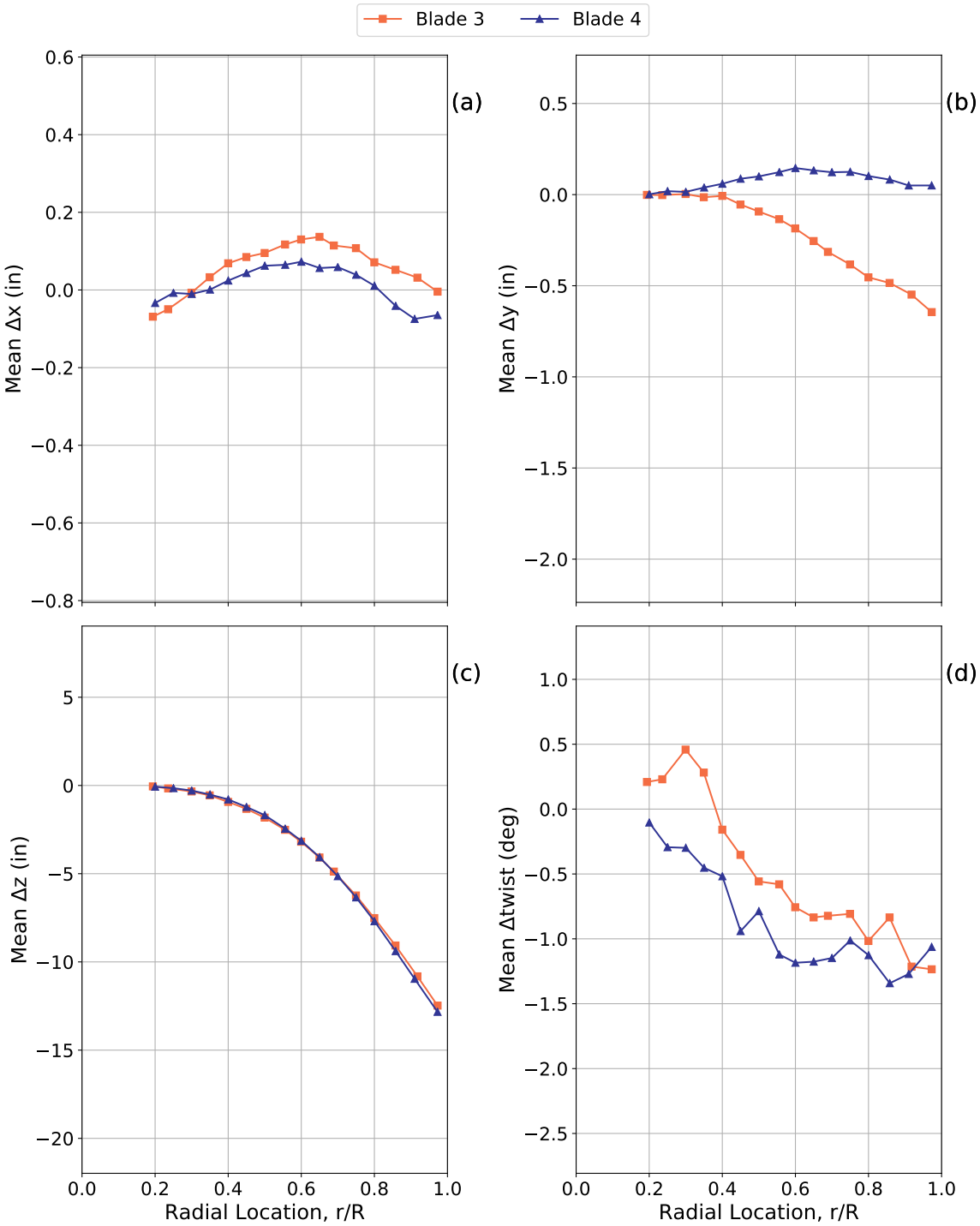


Figure 3.27-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0688	0.0127	-0.0015	0.0097	-0.0528	0.0229	0.2089	0.4114
3	184.92	0.2357	-0.0496	0.0121	-0.0025	0.0164	-0.1669	0.0774	0.2298	0.4132
3	184.92	0.2995	-0.0070	0.0156	0.0033	0.0579	-0.3399	0.1586	0.4585	0.8755
3	184.92	0.3493	0.0328	0.0213	-0.0143	0.0735	-0.5622	0.2240	0.2816	0.9430
3	184.92	0.4000	0.0687	0.0430	-0.0070	0.1355	-0.9324	0.3992	-0.1586	0.4199
3	184.92	0.4497	0.0848	0.0507	-0.0544	0.1583	-1.3257	0.4775	-0.3531	0.4224
3	184.92	0.4997	0.0952	0.0589	-0.0928	0.1817	-1.8210	0.5573	-0.5574	0.4162
3	184.92	0.5556	0.1171	0.0670	-0.1348	0.2096	-2.5133	0.6463	-0.5798	0.4193
3	184.92	0.5995	0.1301	0.0729	-0.1854	0.2317	-3.1879	0.7176	-0.7565	0.4109
3	184.92	0.6498	0.1368	0.0804	-0.2548	0.2568	-4.0803	0.7984	-0.8349	0.4026
3	184.92	0.6890	0.1146	0.0844	-0.3142	0.2781	-4.8810	0.8604	-0.8225	0.4160
3	184.92	0.7495	0.1077	0.0921	-0.3831	0.3096	-6.2344	0.9607	-0.8075	0.3990
3	184.92	0.7998	0.0712	0.0963	-0.4539	0.3386	-7.5179	1.0435	-1.0165	0.3899
3	184.92	0.8577	0.0519	0.0907	-0.4847	0.3849	-9.0694	1.1089	-0.8348	0.8409
3	184.92	0.9178	0.0317	0.0724	-0.5486	0.4546	-10.8175	1.3282	-1.2140	0.3693
3	184.92	0.9729	-0.0043	0.0710	-0.6446	0.4940	-12.4749	1.4268	-1.2347	0.3592
4	184.92	0.2001	-0.0335	0.0154	0.0017	0.0019	-0.0691	0.0044	-0.1037	0.0312
4	184.92	0.2502	-0.0075	0.0043	0.0188	0.0056	-0.1538	0.0070	-0.2938	0.0531
4	184.92	0.3001	-0.0103	0.0046	0.0149	0.0071	-0.2876	0.0124	-0.2986	0.0533
4	184.92	0.3502	0.0009	0.0135	0.0388	0.0146	-0.5170	0.0172	-0.4524	0.0588
4	184.92	0.4002	0.0242	0.0212	0.0595	0.0215	-0.7932	0.0255	-0.5180	0.0508
4	184.92	0.4500	0.0436	0.0285	0.0870	0.0281	-1.2196	0.0300	-0.9406	0.0463
4	184.92	0.5001	0.0624	0.0350	0.0999	0.0350	-1.6840	0.0363	-0.7870	0.0560
4	184.92	0.5560	0.0648	0.0404	0.1234	0.0468	-2.4525	0.0449	-1.1207	0.0393
4	184.92	0.6001	0.0727	0.0432	0.1457	0.0563	-3.1388	0.0539	-1.1844	0.0382
4	184.92	0.6501	0.0565	0.0463	0.1329	0.0681	-4.0708	0.0648	-1.1761	0.0591
4	184.92	0.6999	0.0589	0.0483	0.1228	0.0831	-5.1445	0.0739	-1.1478	0.0492
4	184.92	0.7500	0.0391	0.0503	0.1247	0.0971	-6.3437	0.0902	-1.0125	0.0497
4	184.92	0.8002	0.0108	0.0499	0.1018	0.1119	-7.6930	0.1064	-1.1263	0.0495
4	184.92	0.8582	-0.0410	0.0500	0.0823	0.1263	-9.3895	0.1318	-1.3421	0.0570
4	184.92	0.9101	-0.0746	0.0495	0.0501	0.1417	-10.9580	0.1566	-1.2708	0.0565
4	184.92	0.9728	-0.0647	0.0534	0.0502	0.1563	-12.8318	0.1895	-1.0625	0.0443

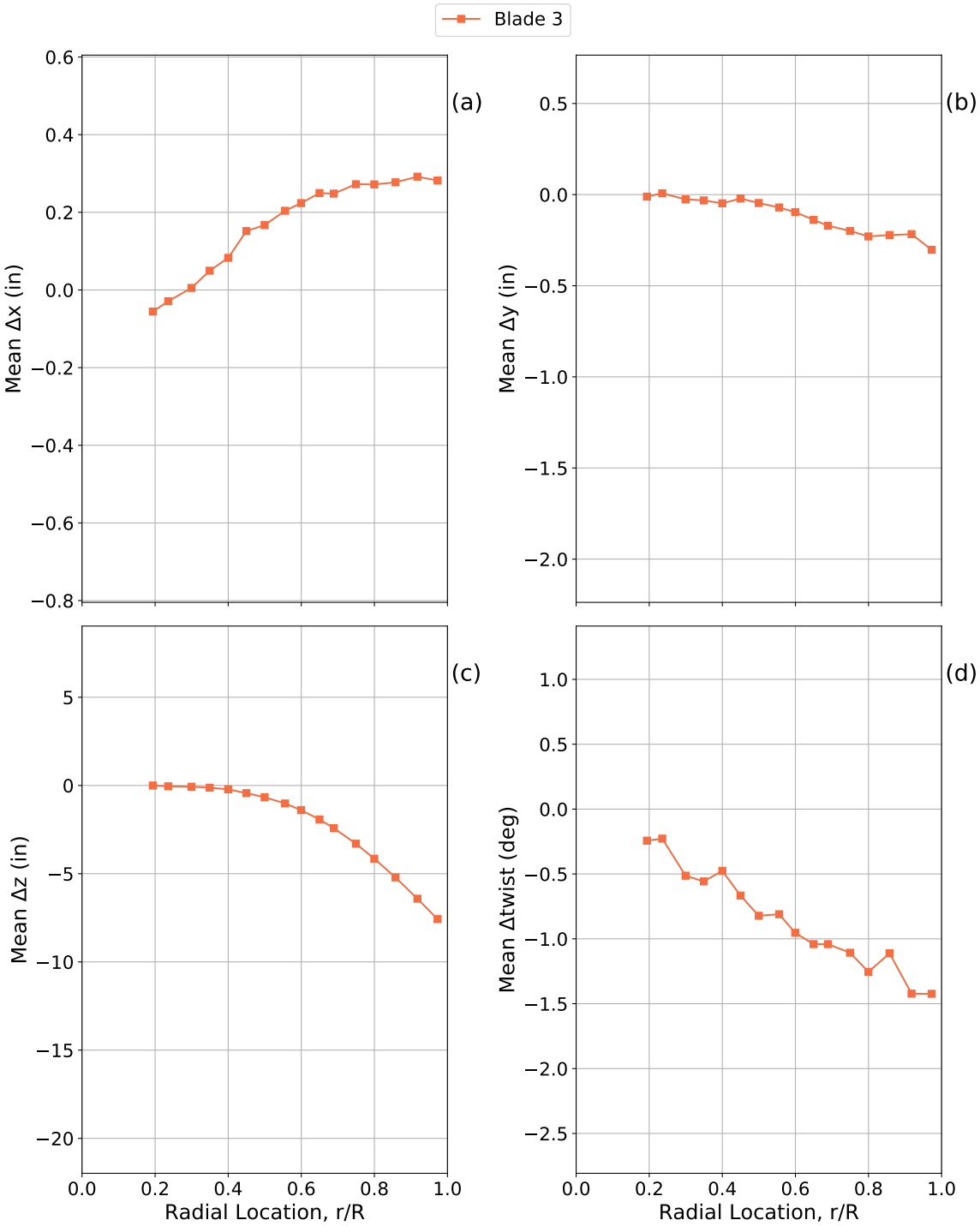


Figure 3.27-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0556	0.0015	-0.0110	0.0012	-0.0035	0.0032	-0.2433	0.0221
3	195.12	0.2357	-0.0290	0.0010	0.0072	0.0027	-0.0485	0.0065	-0.2277	0.0415
3	195.12	0.2995	0.0053	0.0009	-0.0260	0.0059	-0.0713	0.0129	-0.5133	0.0529
3	195.12	0.3493	0.0496	0.0014	-0.0318	0.0097	-0.1265	0.0231	-0.5572	0.0534
3	195.12	0.4000	0.0827	0.0017	-0.0478	0.0156	-0.2184	0.0349	-0.4760	0.0438
3	195.12	0.4497	0.1518	0.0036	-0.0214	0.0193	-0.4344	0.0433	-0.6665	0.0487
3	195.12	0.4997	0.1671	0.0037	-0.0461	0.0243	-0.6676	0.0564	-0.8222	0.0518
3	195.12	0.5556	0.2040	0.0040	-0.0705	0.0305	-1.0195	0.0722	-0.8104	0.0481
3	195.12	0.5995	0.2237	0.0042	-0.0962	0.0356	-1.3977	0.0874	-0.9535	0.0501
3	195.12	0.6498	0.2496	0.0044	-0.1384	0.0422	-1.9267	0.1052	-1.0409	0.0602
3	195.12	0.6890	0.2482	0.0052	-0.1708	0.0471	-2.4189	0.1189	-1.0409	0.0478
3	195.12	0.7495	0.2724	0.0067	-0.1992	0.0555	-3.3001	0.1415	-1.1070	0.0620
3	195.12	0.7998	0.2719	0.0084	-0.2294	0.0622	-4.1501	0.1611	-1.2545	0.0629
3	195.12	0.8577	0.2773	0.0101	-0.2219	0.0710	-5.2104	0.1908	-1.1114	0.0987
3	195.12	0.9178	0.2918	0.0125	-0.2168	0.0785	-6.4185	0.2153	-1.4224	0.0879
3	195.12	0.9729	0.2819	0.0149	-0.3028	0.0882	-7.5727	0.2500	-1.4237	0.0852

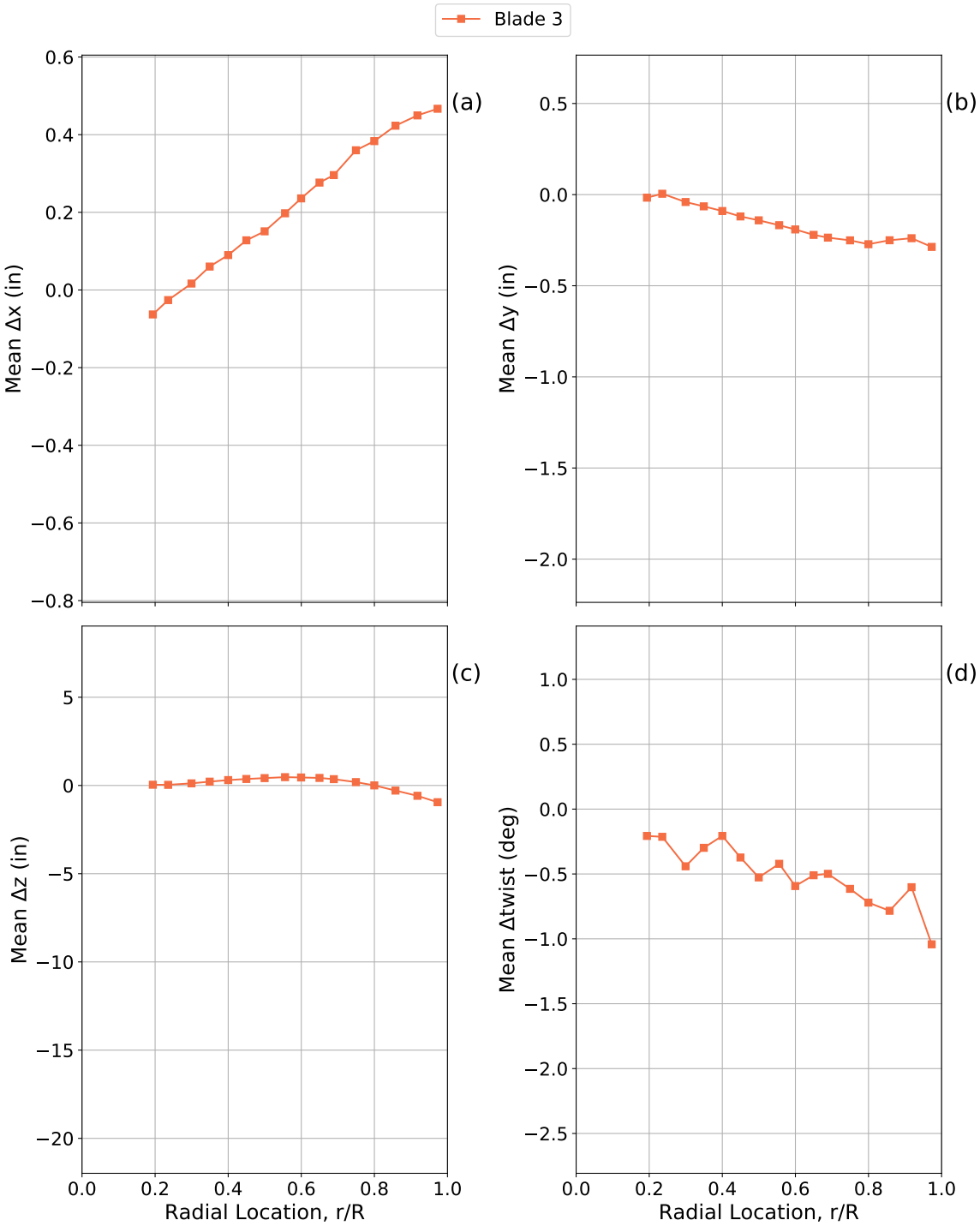


Figure 3.27-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0630	0.0008	-0.0167	0.0008	0.0412	0.0027	-0.2068	0.0198
3	209.88	0.2357	-0.0260	0.0012	0.0048	0.0023	0.0357	0.0053	-0.2136	0.0242
3	209.88	0.2995	0.0165	0.0011	-0.0406	0.0039	0.1199	0.0091	-0.4407	0.0416
3	209.88	0.3493	0.0603	0.0015	-0.0644	0.0056	0.2170	0.0216	-0.2984	0.0464
3	209.88	0.4000	0.0899	0.0021	-0.0900	0.0097	0.3052	0.0291	-0.2065	0.0365
3	209.88	0.4497	0.1279	0.0016	-0.1197	0.0110	0.3680	0.0432	-0.3730	0.0382
3	209.88	0.4997	0.1510	0.0014	-0.1410	0.0132	0.4179	0.0553	-0.5265	0.0441
3	209.88	0.5556	0.1975	0.0014	-0.1679	0.0173	0.4712	0.0759	-0.4216	0.0384
3	209.88	0.5995	0.2359	0.0015	-0.1911	0.0194	0.4534	0.0853	-0.5929	0.0671
3	209.88	0.6498	0.2766	0.0017	-0.2208	0.0251	0.4271	0.0974	-0.5099	0.0485
3	209.88	0.6890	0.2959	0.0016	-0.2360	0.0267	0.3575	0.1095	-0.4990	0.0578
3	209.88	0.7495	0.3598	0.0020	-0.2509	0.0326	0.1905	0.1234	-0.6147	0.0543
3	209.88	0.7998	0.3834	0.0019	-0.2721	0.0374	0.0034	0.1371	-0.7206	0.0581
3	209.88	0.8577	0.4231	0.0022	-0.2504	0.0433	-0.2890	0.1559	-0.7837	0.0583
3	209.88	0.9178	0.4496	0.0046	-0.2392	0.0482	-0.5857	0.1763	-0.6020	0.0790
3	209.88	0.9729	0.4667	0.0029	-0.2868	0.0526	-0.9486	0.2040	-1.0421	0.0712

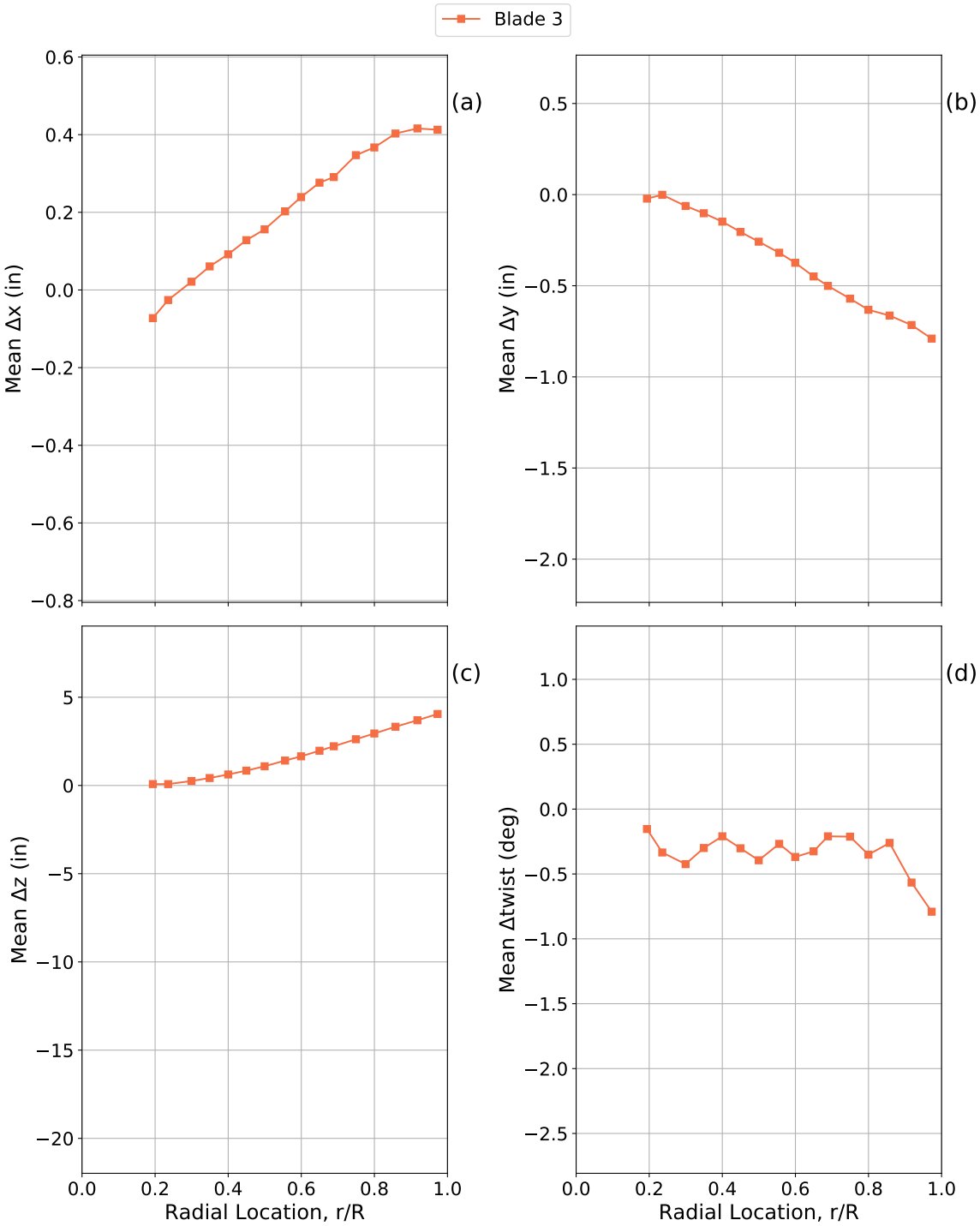


Figure 3.27-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0725	0.0012	-0.0220	0.0008	0.0791	0.0035	-0.1536	0.0347
3	225	0.2357	-0.0259	0.0011	-0.0012	0.0023	0.0769	0.0072	-0.3343	0.0433
3	225	0.2995	0.0213	0.0019	-0.0624	0.0044	0.2539	0.0123	-0.4241	0.0754
3	225	0.3493	0.0607	0.0021	-0.1022	0.0069	0.4214	0.0220	-0.3000	0.0683
3	225	0.4000	0.0919	0.0020	-0.1482	0.0115	0.6232	0.0324	-0.2095	0.0889
3	225	0.4497	0.1283	0.0022	-0.2048	0.0135	0.8399	0.0412	-0.3019	0.0677
3	225	0.4997	0.1561	0.0035	-0.2582	0.0154	1.0876	0.0552	-0.3944	0.0819
3	225	0.5556	0.2025	0.0033	-0.3189	0.0207	1.4112	0.0683	-0.2681	0.0379
3	225	0.5995	0.2393	0.0034	-0.3740	0.0240	1.6518	0.0700	-0.3687	0.0829
3	225	0.6498	0.2764	0.0028	-0.4490	0.0278	1.9691	0.0801	-0.3256	0.0927
3	225	0.6890	0.2908	0.0039	-0.5009	0.0311	2.2214	0.0866	-0.2098	0.0733
3	225	0.7495	0.3472	0.0041	-0.5706	0.0371	2.6190	0.0992	-0.2124	0.0796
3	225	0.7998	0.3671	0.0043	-0.6320	0.0433	2.9461	0.1139	-0.3510	0.0765
3	225	0.8577	0.4029	0.0048	-0.6636	0.0496	3.3288	0.1292	-0.2607	0.0676
3	225	0.9178	0.4160	0.0050	-0.7157	0.0574	3.6958	0.1489	-0.5660	0.0674
3	225	0.9729	0.4127	0.0075	-0.7900	0.0644	4.0492	0.1653	-0.7909	0.0803

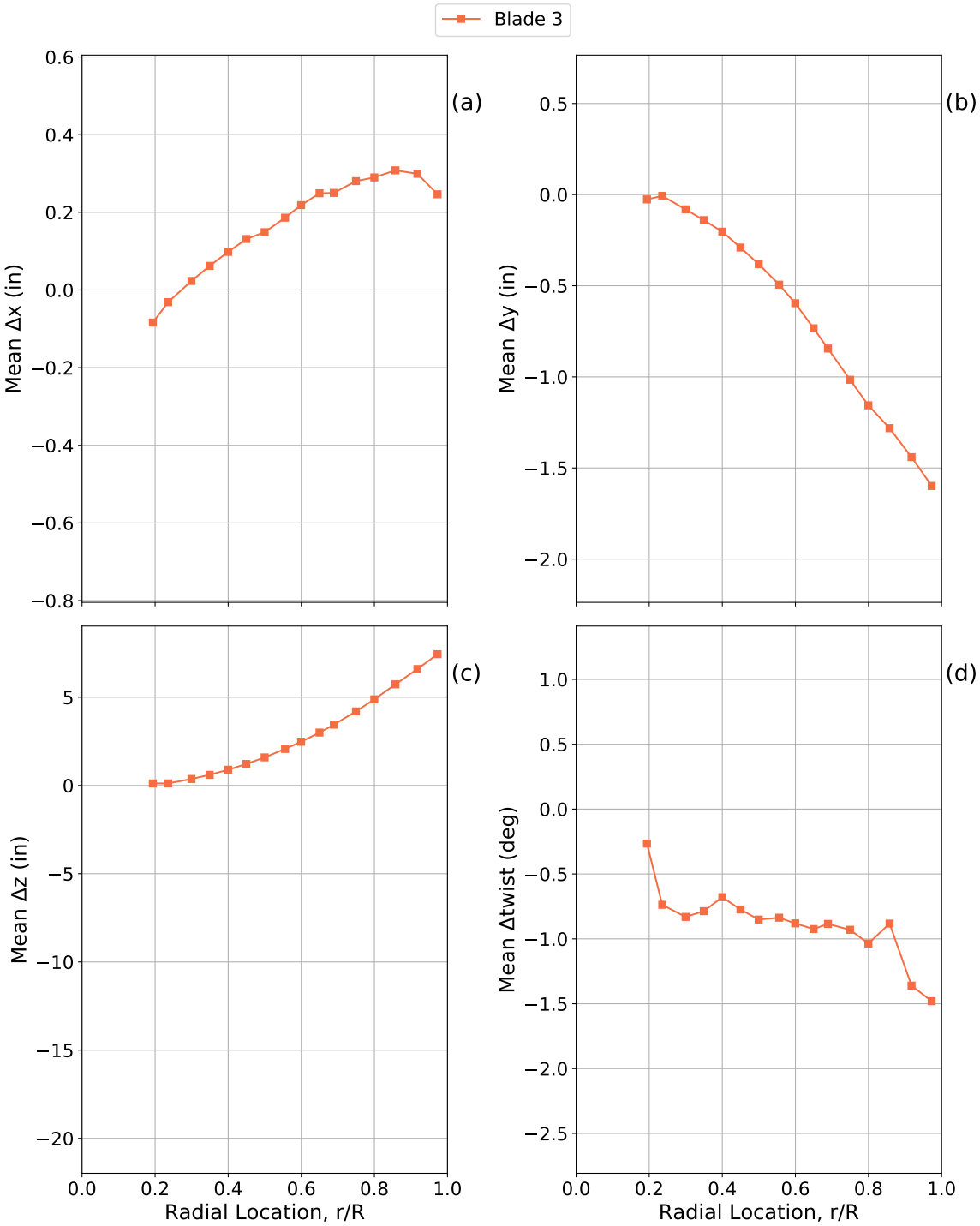


Figure 3.27-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0839	0.0014	-0.0267	0.0011	0.1154	0.0058	-0.2654	0.0274
3	240.12	0.2357	-0.0313	0.0012	-0.0072	0.0023	0.1176	0.0088	-0.7376	0.0318
3	240.12	0.2995	0.0231	0.0017	-0.0811	0.0058	0.3667	0.0210	-0.8308	0.0599
3	240.12	0.3493	0.0620	0.0019	-0.1401	0.0091	0.6027	0.0366	-0.7867	0.0356
3	240.12	0.4000	0.0981	0.0028	-0.2034	0.0151	0.8909	0.0549	-0.6789	0.0650
3	240.12	0.4497	0.1312	0.0033	-0.2907	0.0195	1.2191	0.0742	-0.7737	0.0565
3	240.12	0.4997	0.1488	0.0035	-0.3820	0.0255	1.5922	0.1005	-0.8511	0.0466
3	240.12	0.5556	0.1861	0.0040	-0.4941	0.0319	2.0724	0.1260	-0.8371	0.0665
3	240.12	0.5995	0.2184	0.0044	-0.5960	0.0378	2.4774	0.1490	-0.8808	0.0721
3	240.12	0.6498	0.2490	0.0054	-0.7336	0.0445	2.9980	0.1721	-0.9244	0.0702
3	240.12	0.6890	0.2499	0.0058	-0.8447	0.0510	3.4431	0.1898	-0.8849	0.0629
3	240.12	0.7495	0.2802	0.0071	-1.0158	0.0609	4.1959	0.2182	-0.9301	0.0679
3	240.12	0.7998	0.2898	0.0080	-1.1561	0.0697	4.8809	0.2424	-1.0357	0.0882
3	240.12	0.8577	0.3080	0.0088	-1.2816	0.0788	5.7305	0.2708	-0.8825	0.0805
3	240.12	0.9178	0.2991	0.0099	-1.4404	0.0891	6.5989	0.3023	-1.3601	0.0804
3	240.12	0.9729	0.2463	0.0132	-1.5986	0.0981	7.4374	0.3315	-1.4803	0.0730

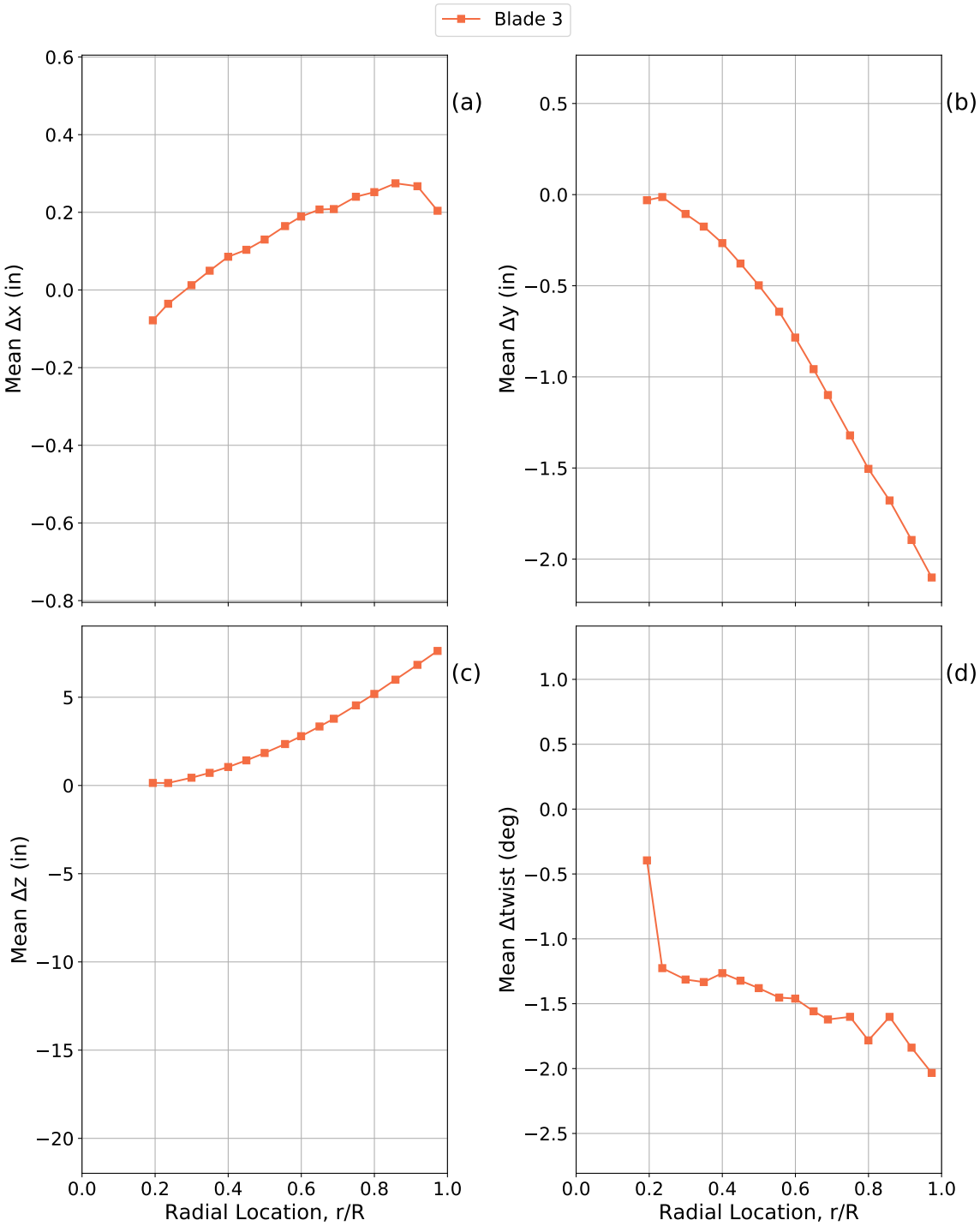


Figure 3.27-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0782	0.0055	-0.0307	0.0015	0.1442	0.0090	-0.3953	0.0225
3	254.88	0.2357	-0.0355	0.0013	-0.0133	0.0015	0.1397	0.0123	-1.2258	0.0461
3	254.88	0.2995	0.0123	0.0010	-0.1062	0.0059	0.4381	0.0310	-1.3137	0.0562
3	254.88	0.3493	0.0496	0.0016	-0.1755	0.0096	0.7152	0.0504	-1.3330	0.0569
3	254.88	0.4000	0.0856	0.0020	-0.2661	0.0150	1.0468	0.0762	-1.2645	0.0535
3	254.88	0.4497	0.1035	0.0021	-0.3782	0.0205	1.4223	0.1050	-1.3224	0.0503
3	254.88	0.4997	0.1299	0.0028	-0.4976	0.0260	1.8401	0.1334	-1.3800	0.0457
3	254.88	0.5556	0.1645	0.0039	-0.6426	0.0326	2.3474	0.1716	-1.4526	0.0688
3	254.88	0.5995	0.1892	0.0047	-0.7843	0.0376	2.7931	0.2032	-1.4606	0.0672
3	254.88	0.6498	0.2073	0.0065	-0.9577	0.0437	3.3424	0.2384	-1.5584	0.0595
3	254.88	0.6890	0.2084	0.0067	-1.0996	0.0480	3.7822	0.2669	-1.6214	0.0550
3	254.88	0.7495	0.2401	0.0091	-1.3211	0.0554	4.5392	0.3116	-1.6011	0.0555
3	254.88	0.7998	0.2520	0.0105	-1.5047	0.0616	5.1880	0.3509	-1.7827	0.0655
3	254.88	0.8577	0.2747	0.0127	-1.6781	0.0697	5.9986	0.3935	-1.6014	0.0621
3	254.88	0.9178	0.2672	0.0150	-1.8950	0.0774	6.8362	0.4360	-1.8387	0.0659
3	254.88	0.9729	0.2040	0.0183	-2.1008	0.0850	7.6247	0.4718	-2.0335	0.0658

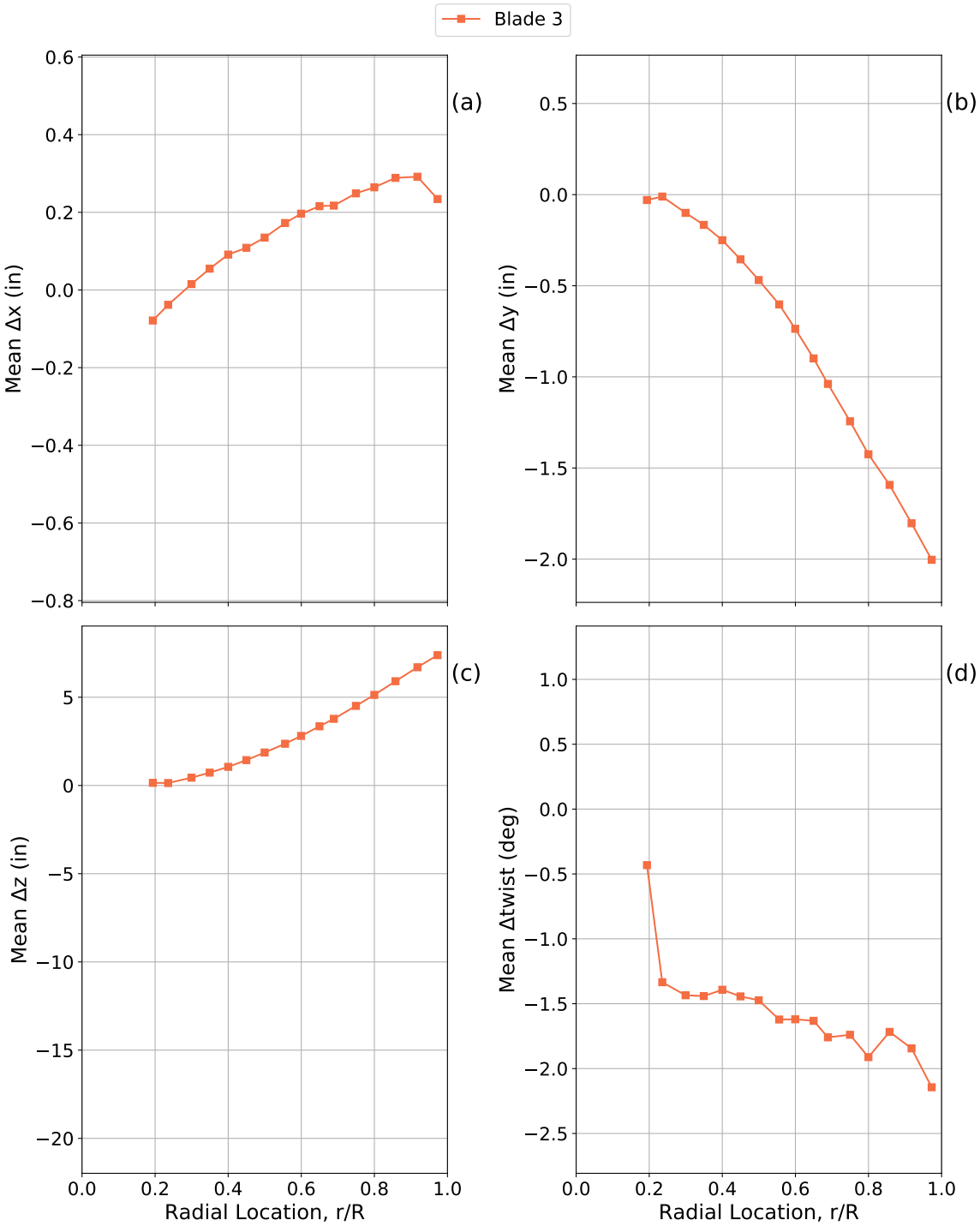


Figure 3.27-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0786	0.0039	-0.0297	0.0012	0.1482	0.0076	-0.4319	0.0229
3	260.16	0.2357	-0.0382	0.0014	-0.0107	0.0014	0.1382	0.0098	-1.3345	0.0616
3	260.16	0.2995	0.0151	0.0013	-0.1001	0.0043	0.4412	0.0243	-1.4348	0.0639
3	260.16	0.3493	0.0549	0.0011	-0.1660	0.0072	0.7268	0.0387	-1.4411	0.0603
3	260.16	0.4000	0.0912	0.0024	-0.2502	0.0112	1.0551	0.0587	-1.3926	0.0685
3	260.16	0.4497	0.1086	0.0019	-0.3552	0.0150	1.4370	0.0762	-1.4436	0.0714
3	260.16	0.4997	0.1349	0.0020	-0.4688	0.0194	1.8672	0.0946	-1.4737	0.0763
3	260.16	0.5556	0.1724	0.0033	-0.6025	0.0235	2.3648	0.1147	-1.6217	0.0752
3	260.16	0.5995	0.1965	0.0040	-0.7364	0.0273	2.8081	0.1366	-1.6202	0.0700
3	260.16	0.6498	0.2158	0.0043	-0.8988	0.0320	3.3530	0.1612	-1.6318	0.0681
3	260.16	0.6890	0.2173	0.0051	-1.0385	0.0358	3.7763	0.1804	-1.7592	0.0624
3	260.16	0.7495	0.2488	0.0062	-1.2439	0.0413	4.5098	0.2108	-1.7395	0.0649
3	260.16	0.7998	0.2644	0.0072	-1.4247	0.0473	5.1340	0.2370	-1.9117	0.0771
3	260.16	0.8577	0.2887	0.0085	-1.5929	0.0542	5.9079	0.2657	-1.7172	0.0753
3	260.16	0.9178	0.2917	0.0099	-1.8033	0.0621	6.6994	0.2960	-1.8442	0.0727
3	260.16	0.9729	0.2342	0.0130	-2.0036	0.0695	7.3856	0.3242	-2.1439	0.0729

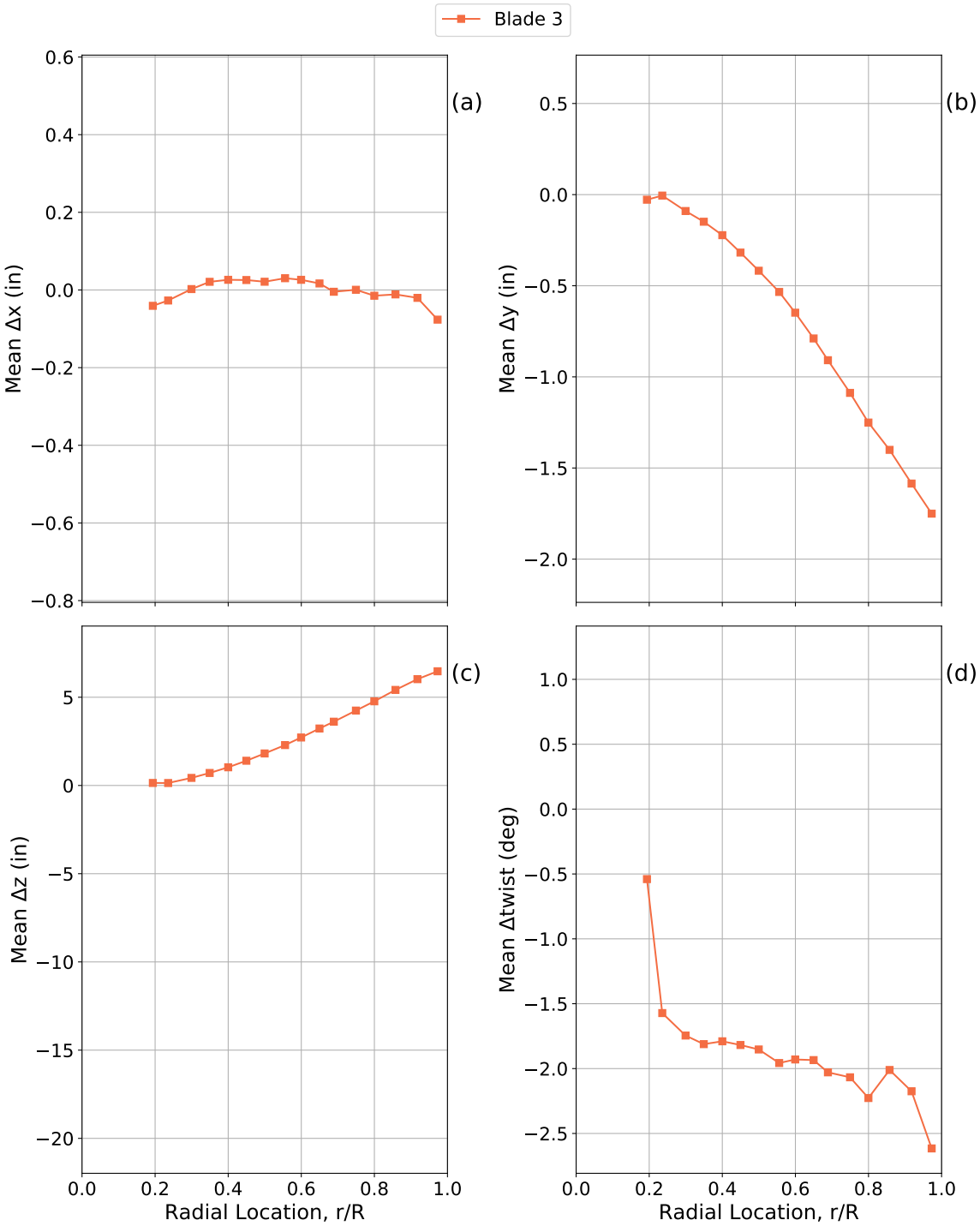


Figure 3.27-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0408	0.0082	-0.0279	0.0020	0.1426	0.0097	-0.5395	0.0298
3	265.08	0.2357	-0.0271	0.0022	-0.0053	0.0025	0.1390	0.0095	-1.5722	0.1054
3	265.08	0.2995	0.0023	0.0021	-0.0900	0.0063	0.4288	0.0260	-1.7453	0.0954
3	265.08	0.3493	0.0210	0.0040	-0.1488	0.0102	0.7087	0.0429	-1.8116	0.0886
3	265.08	0.4000	0.0262	0.0042	-0.2225	0.0155	1.0304	0.0615	-1.7897	0.0976
3	265.08	0.4497	0.0256	0.0043	-0.3181	0.0202	1.4012	0.0840	-1.8183	0.1006
3	265.08	0.4997	0.0212	0.0043	-0.4176	0.0257	1.8140	0.1122	-1.8527	0.0967
3	265.08	0.5556	0.0303	0.0048	-0.5341	0.0304	2.2894	0.1443	-1.9572	0.1001
3	265.08	0.5995	0.0262	0.0053	-0.6479	0.0354	2.7189	0.1715	-1.9297	0.1044
3	265.08	0.6498	0.0168	0.0062	-0.7892	0.0418	3.2281	0.2076	-1.9346	0.1058
3	265.08	0.6890	-0.0046	0.0074	-0.9086	0.0469	3.6144	0.2405	-2.0290	0.1028
3	265.08	0.7495	0.0005	0.0097	-1.0879	0.0554	4.2444	0.2919	-2.0672	0.1021
3	265.08	0.7998	-0.0148	0.0127	-1.2508	0.0635	4.7698	0.3402	-2.2268	0.1050
3	265.08	0.8577	-0.0114	0.0159	-1.4005	0.0733	5.4152	0.3990	-2.0108	0.1114
3	265.08	0.9178	-0.0203	0.0206	-1.5854	0.0847	6.0254	0.4649	-2.1748	0.1140
3	265.08	0.9729	-0.0764	0.0284	-1.7504	0.0949	6.4720	0.5272	-2.6154	0.1173

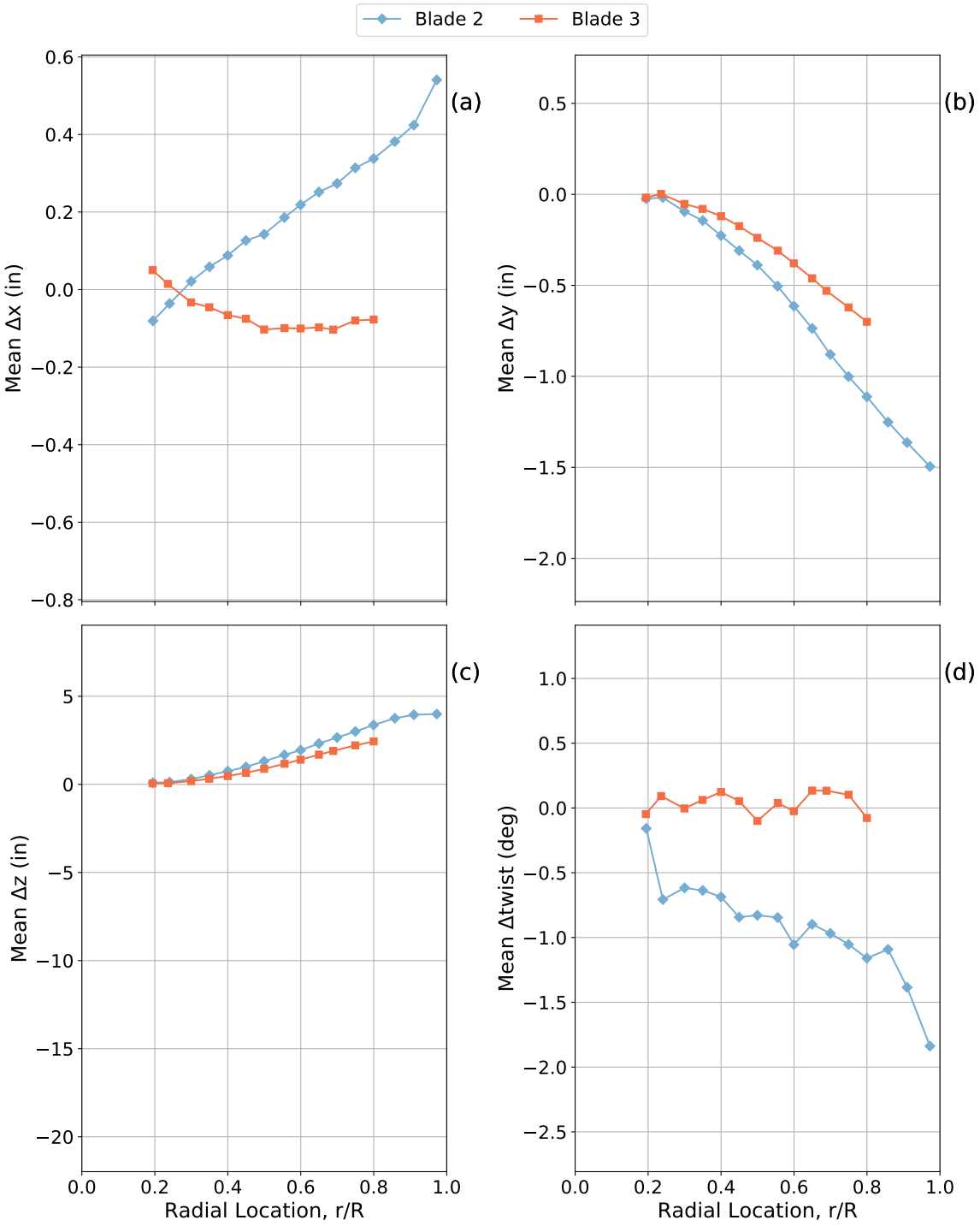


Figure 3.27-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0807	0.0058	-0.0240	0.0013	0.0908	0.0082	-0.1576	0.0574
2	270.35	0.2405	-0.0361	0.0019	-0.0175	0.0014	0.1259	0.0079	-0.7067	0.1430
2	270.35	0.2999	0.0213	0.0023	-0.0944	0.0037	0.2999	0.0206	-0.6169	0.1594
2	270.35	0.3498	0.0586	0.0019	-0.1439	0.0056	0.5155	0.0350	-0.6363	0.1530
2	270.35	0.3998	0.0879	0.0016	-0.2267	0.0083	0.7508	0.0479	-0.6862	0.1601
2	270.35	0.4496	0.1266	0.0024	-0.3090	0.0107	0.9888	0.0627	-0.8429	0.1551
2	270.35	0.4995	0.1427	0.0022	-0.3889	0.0137	1.3130	0.0782	-0.8283	0.1616
2	270.35	0.5551	0.1859	0.0023	-0.5046	0.0176	1.6729	0.1010	-0.8455	0.1599
2	270.35	0.5996	0.2188	0.0028	-0.6141	0.0215	1.9419	0.1215	-1.0549	0.1535
2	270.35	0.6497	0.2515	0.0030	-0.7368	0.0259	2.3170	0.1467	-0.8975	0.1585
2	270.35	0.6996	0.2736	0.0038	-0.8798	0.0308	2.6598	0.1774	-0.9678	0.1516
2	270.35	0.7495	0.3138	0.0043	-1.0013	0.0362	3.0002	0.2096	-1.0533	0.1485
2	270.35	0.7996	0.3376	0.0046	-1.1121	0.0424	3.3660	0.2480	-1.1592	0.1425
2	270.35	0.8578	0.3817	0.0056	-1.2515	0.0494	3.7513	0.2896	-1.0917	0.1606
2	270.35	0.9100	0.4241	0.0061	-1.3638	0.0560	3.9516	0.3301	-1.3846	0.1575
2	270.35	0.9727	0.5408	0.0096	-1.4957	0.0636	3.9909	0.3768	-1.8380	0.1652
3	270	0.1938	0.0501	0.0025	-0.0180	0.0013	0.0540	0.0058	-0.0473	0.0337
3	270	0.2357	0.0146	0.0015	0.0022	0.0022	0.0662	0.0110	0.0919	0.0721
3	270	0.2995	-0.0332	0.0018	-0.0528	0.0051	0.1879	0.0238	-0.0037	0.0921
3	270	0.3493	-0.0456	0.0025	-0.0799	0.0082	0.3171	0.0366	0.0617	0.0846
3	270	0.4000	-0.0659	0.0033	-0.1201	0.0133	0.4748	0.0593	0.1236	0.0820
3	270	0.4497	-0.0751	0.0034	-0.1745	0.0150	0.6537	0.0759	0.0531	0.0887
3	270	0.4997	-0.1029	0.0032	-0.2391	0.0182	0.8818	0.0948	-0.1003	0.0909
3	270	0.5556	-0.0995	0.0036	-0.3094	0.0228	1.1666	0.1227	0.0382	0.0956
3	270	0.5995	-0.1004	0.0044	-0.3793	0.0278	1.4008	0.1470	-0.0246	0.0955
3	270	0.6498	-0.0975	0.0053	-0.4615	0.0325	1.6888	0.1652	0.1342	0.0940
3	270	0.6890	-0.1032	0.0055	-0.5301	0.0364	1.8962	0.1769	0.1335	0.0919
3	270	0.7495	-0.0797	0.0072	-0.6214	0.0443	2.2137	0.2040	0.1019	0.0716
3	270	0.7998	-0.0774	0.0080	-0.7004	0.0503	2.4380	0.2168	-0.0773	0.0944

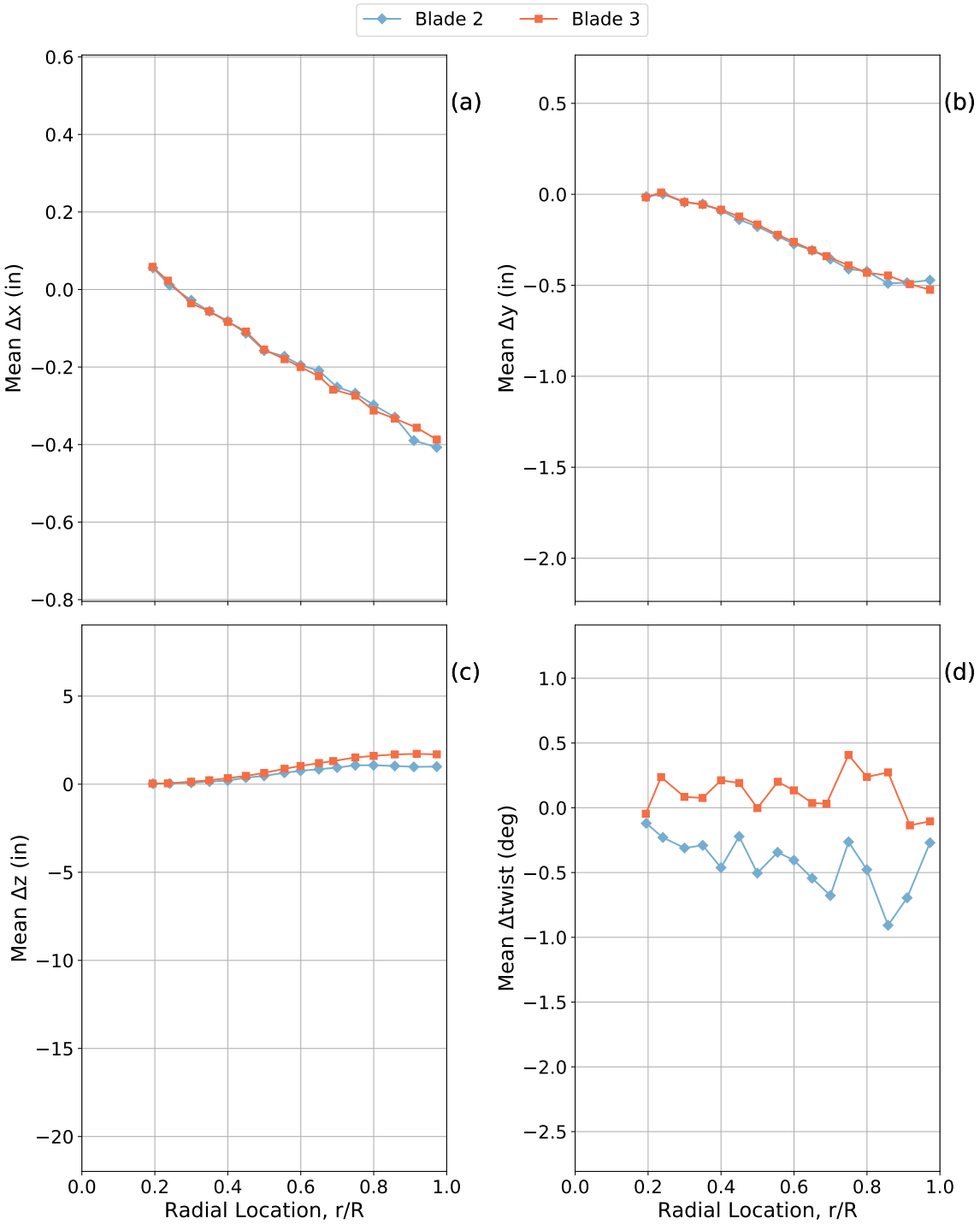


Figure 3.27-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0556	0.0025	-0.0124	0.0012	0.0237	0.0029	-0.1203	0.0505
2	274.92	0.2405	0.0112	0.0020	0.0014	0.0023	0.0412	0.0116	-0.2294	0.0389
2	274.92	0.2999	-0.0278	0.0022	-0.0441	0.0046	0.0771	0.0161	-0.3104	0.0849
2	274.92	0.3498	-0.0562	0.0022	-0.0532	0.0072	0.1462	0.0305	-0.2900	0.0547
2	274.92	0.3998	-0.0814	0.0033	-0.0891	0.0102	0.2063	0.0476	-0.4624	0.0677
2	274.92	0.4496	-0.1128	0.0026	-0.1391	0.0126	0.3679	0.0644	-0.2212	0.0776
2	274.92	0.4995	-0.1578	0.0027	-0.1776	0.0155	0.4710	0.0818	-0.5043	0.0614
2	274.92	0.5551	-0.1723	0.0028	-0.2302	0.0200	0.6447	0.1076	-0.3435	0.0642
2	274.92	0.5996	-0.1955	0.0026	-0.2736	0.0229	0.7592	0.1269	-0.4049	0.0739
2	274.92	0.6497	-0.2095	0.0023	-0.3076	0.0285	0.8476	0.1536	-0.5438	0.0761
2	274.92	0.6996	-0.2519	0.0034	-0.3562	0.0318	0.9425	0.1781	-0.6778	0.0926
2	274.92	0.7495	-0.2676	0.0035	-0.4105	0.0372	1.0751	0.2090	-0.2630	0.0886
2	274.92	0.7996	-0.2978	0.0037	-0.4233	0.0414	1.0736	0.2350	-0.4779	0.0983
2	274.92	0.8578	-0.3293	0.0037	-0.4895	0.0479	1.0349	0.2758	-0.9074	0.0913
2	274.92	0.9100	-0.3896	0.0064	-0.4858	0.0554	0.9819	0.3095	-0.6952	0.0809
2	274.92	0.9727	-0.4071	0.0075	-0.4716	0.0647	0.9990	0.3424	-0.2696	0.1513
3	274.92	0.1938	0.0584	0.0036	-0.0169	0.0014	0.0385	0.0053	-0.0456	0.0438
3	274.92	0.2357	0.0229	0.0036	0.0097	0.0039	0.0466	0.0140	0.2369	0.0759
3	274.92	0.2995	-0.0356	0.0026	-0.0426	0.0066	0.1394	0.0204	0.0842	0.0925
3	274.92	0.3493	-0.0563	0.0028	-0.0567	0.0139	0.2218	0.0381	0.0758	0.1074
3	274.92	0.4000	-0.0833	0.0030	-0.0848	0.0200	0.3417	0.0571	0.2120	0.0678
3	274.92	0.4497	-0.1084	0.0032	-0.1222	0.0253	0.4727	0.0801	0.1913	0.0771
3	274.92	0.4997	-0.1551	0.0033	-0.1660	0.0313	0.6363	0.0996	-0.0023	0.0717
3	274.92	0.5556	-0.1797	0.0039	-0.2228	0.0366	0.8773	0.1139	0.2009	0.0956
3	274.92	0.5995	-0.2000	0.0028	-0.2615	0.0425	1.0343	0.1370	0.1344	0.0866
3	274.92	0.6498	-0.2237	0.0036	-0.3080	0.0493	1.1980	0.1609	0.0363	0.0701
3	274.92	0.6890	-0.2584	0.0058	-0.3400	0.0558	1.3089	0.1792	0.0315	0.0869
3	274.92	0.7495	-0.2739	0.0042	-0.3905	0.0635	1.5197	0.2073	0.4076	0.0710
3	274.92	0.7998	-0.3123	0.0052	-0.4311	0.0726	1.6056	0.2291	0.2377	0.0867
3	274.92	0.8577	-0.3331	0.0042	-0.4459	0.0808	1.6895	0.2612	0.2734	0.1350
3	274.92	0.9178	-0.3565	0.0093	-0.4936	0.0909	1.7208	0.2995	-0.1356	0.2281
3	274.92	0.9729	-0.3871	0.0126	-0.5247	0.1045	1.6928	0.3329	-0.1044	0.2233

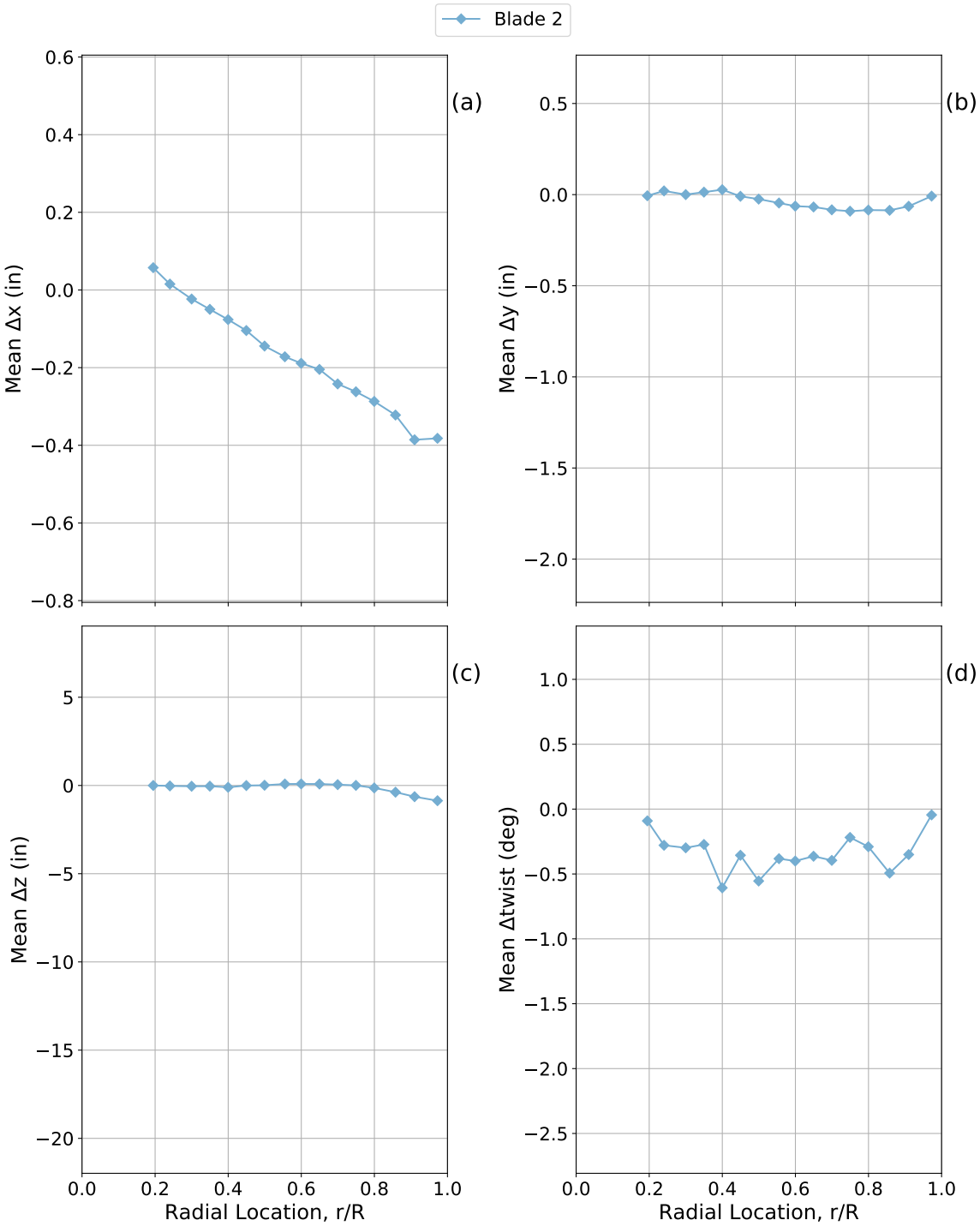


Figure 3.27-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0574	0.0025	-0.0062	0.0013	0.0001	0.0049	-0.0907	0.0526
2	285.12	0.2405	0.0152	0.0019	0.0204	0.0051	-0.0263	0.0157	-0.2789	0.0808
2	285.12	0.2999	-0.0233	0.0022	0.0001	0.0081	-0.0444	0.0297	-0.2984	0.1232
2	285.12	0.3498	-0.0499	0.0041	0.0136	0.0121	-0.0399	0.0385	-0.2726	0.1027
2	285.12	0.3998	-0.0763	0.0045	0.0271	0.0214	-0.1023	0.0709	-0.6069	0.1089
2	285.12	0.4496	-0.1045	0.0042	-0.0092	0.0266	-0.0049	0.0835	-0.3558	0.1080
2	285.12	0.4995	-0.1444	0.0037	-0.0246	0.0339	0.0122	0.0995	-0.5543	0.1125
2	285.12	0.5551	-0.1720	0.0048	-0.0460	0.0423	0.0826	0.1289	-0.3821	0.0659
2	285.12	0.5996	-0.1887	0.0043	-0.0632	0.0508	0.0872	0.1474	-0.4002	0.1002
2	285.12	0.6497	-0.2046	0.0057	-0.0678	0.0607	0.0813	0.1793	-0.3633	0.1315
2	285.12	0.6996	-0.2420	0.0060	-0.0833	0.0724	0.0475	0.2134	-0.3954	0.1249
2	285.12	0.7495	-0.2621	0.0048	-0.0910	0.0825	0.0041	0.2379	-0.2183	0.1387
2	285.12	0.7996	-0.2870	0.0057	-0.0848	0.0945	-0.1383	0.2712	-0.2899	0.1122
2	285.12	0.8578	-0.3221	0.0061	-0.0862	0.1084	-0.3808	0.3124	-0.4933	0.1195
2	285.12	0.9100	-0.3858	0.0073	-0.0640	0.1220	-0.6358	0.3542	-0.3504	0.1559
2	285.12	0.9727	-0.3821	0.0089	-0.0083	0.1371	-0.8640	0.3956	-0.0444	0.1551

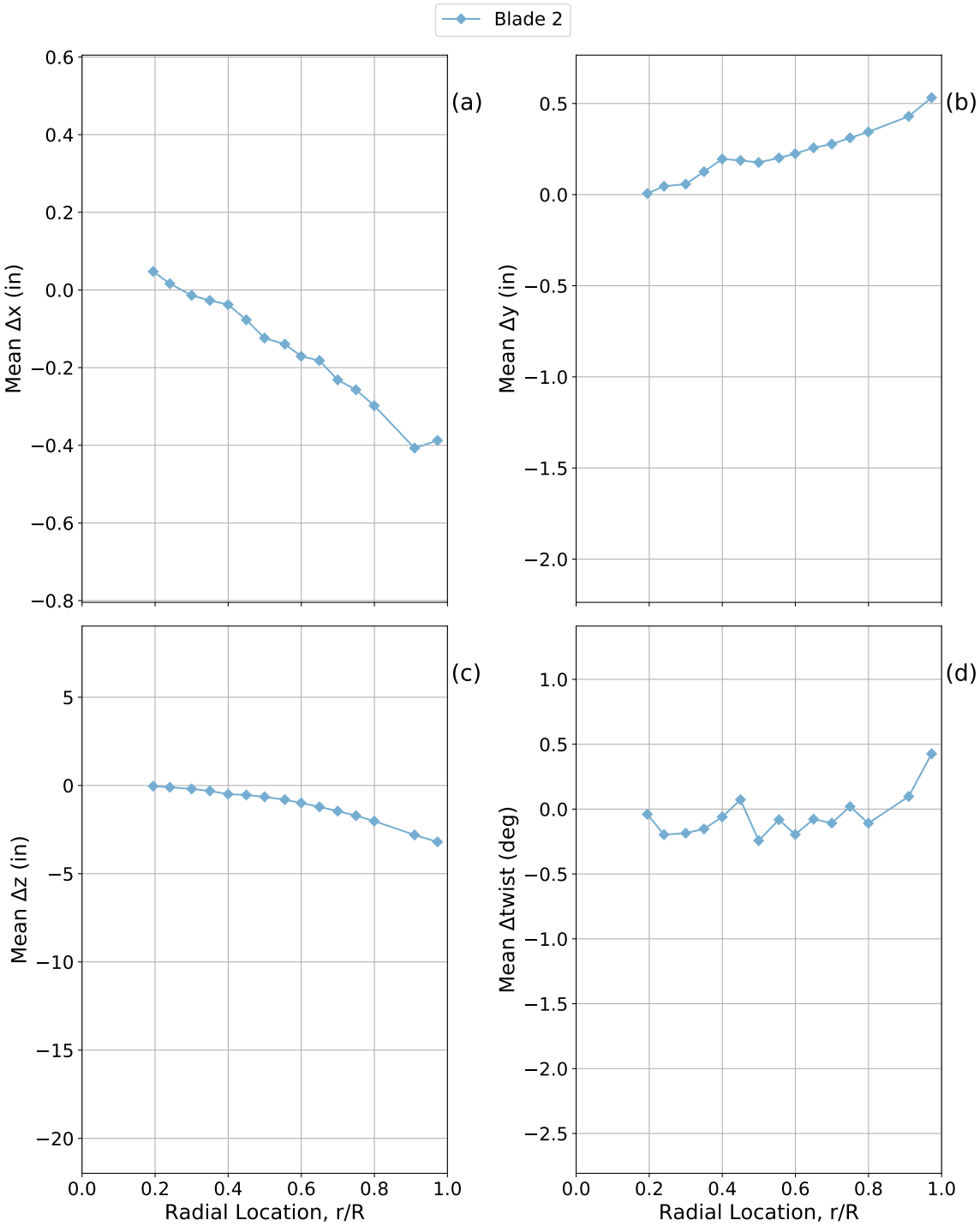


Figure 3.27-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0475	0.0026	0.0060	0.0011	-0.0426	0.0038	-0.0397	0.0480
2	299.88	0.2405	0.0162	0.0022	0.0458	0.0027	-0.1030	0.0107	-0.1970	0.0598
2	299.88	0.2999	-0.0140	0.0021	0.0577	0.0049	-0.1931	0.0198	-0.1855	0.1076
2	299.88	0.3498	-0.0270	0.0024	0.1258	0.0096	-0.3091	0.0299	-0.1528	0.1117
2	299.88	0.3998	-0.0378	0.0028	0.1954	0.0145	-0.4933	0.0497	-0.0605	0.0983
2	299.88	0.4496	-0.0769	0.0044	0.1877	0.0178	-0.5385	0.0521	0.0720	0.1145
2	299.88	0.4995	-0.1239	0.0050	0.1763	0.0191	-0.6467	0.0617	-0.2427	0.0894
2	299.88	0.5551	-0.1396	0.0047	0.2015	0.0219	-0.8048	0.0719	-0.0817	0.0793
2	299.88	0.5996	-0.1707	0.0048	0.2247	0.0259	-0.9895	0.0804	-0.1958	0.0858
2	299.88	0.6497	-0.1818	0.0059	0.2571	0.0277	-1.2116	0.0868	-0.0775	0.1073
2	299.88	0.6996	-0.2315	0.0066	0.2773	0.0345	-1.4531	0.0970	-0.1078	0.0862
2	299.88	0.7495	-0.2571	0.0063	0.3114	0.0372	-1.7138	0.1054	0.0194	0.0633
2	299.88	0.7996	-0.2980	0.0078	0.3440	0.0431	-2.0211	0.1157	-0.1091	0.0767
2	299.88	0.9100	-0.4072	0.0072	0.4296	0.0517	-2.8028	0.1404	0.0974	0.0836
2	299.88	0.9727	-0.3876	0.0098	0.5320	0.0574	-3.1996	0.1604	0.4264	0.0698

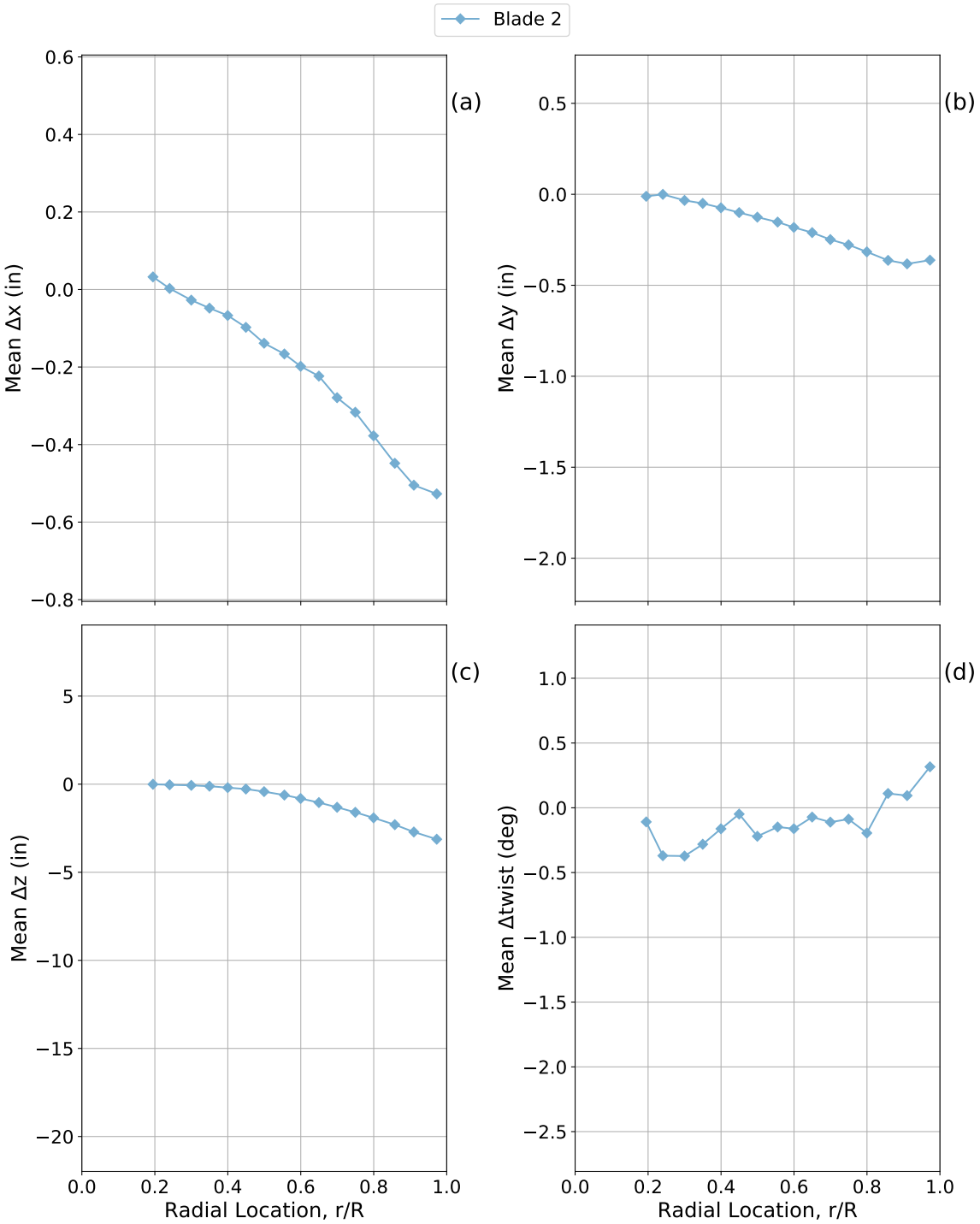


Figure 3.27-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0325	0.0023	-0.0110	0.0007	-0.0051	0.0031	-0.1090	0.0488
2	315	0.2405	0.0027	0.0015	-0.0004	0.0029	-0.0348	0.0088	-0.3701	0.0372
2	315	0.2999	-0.0274	0.0028	-0.0335	0.0043	-0.0662	0.0125	-0.3727	0.0916
2	315	0.3498	-0.0481	0.0026	-0.0500	0.0094	-0.1139	0.0282	-0.2816	0.0467
2	315	0.3998	-0.0671	0.0019	-0.0742	0.0140	-0.1967	0.0372	-0.1623	0.0447
2	315	0.4496	-0.0976	0.0043	-0.1006	0.0143	-0.2754	0.0427	-0.0486	0.1050
2	315	0.4995	-0.1386	0.0025	-0.1256	0.0179	-0.4228	0.0642	-0.2201	0.0561
2	315	0.5551	-0.1663	0.0039	-0.1527	0.0245	-0.6175	0.0821	-0.1483	0.0587
2	315	0.5996	-0.1981	0.0049	-0.1820	0.0277	-0.8129	0.0964	-0.1618	0.0589
2	315	0.6497	-0.2234	0.0046	-0.2105	0.0351	-1.0432	0.1194	-0.0717	0.0639
2	315	0.6996	-0.2791	0.0046	-0.2488	0.0405	-1.3118	0.1401	-0.1108	0.0673
2	315	0.7495	-0.3167	0.0044	-0.2779	0.0473	-1.5970	0.1628	-0.0880	0.0797
2	315	0.7996	-0.3774	0.0059	-0.3163	0.0553	-1.9115	0.1894	-0.1950	0.0509
2	315	0.8578	-0.4483	0.0064	-0.3631	0.0629	-2.2995	0.2176	0.1104	0.0621
2	315	0.9100	-0.5048	0.0071	-0.3823	0.0700	-2.7136	0.2460	0.0940	0.0680
2	315	0.9727	-0.5272	0.0073	-0.3618	0.0792	-3.1249	0.2843	0.3164	0.0610

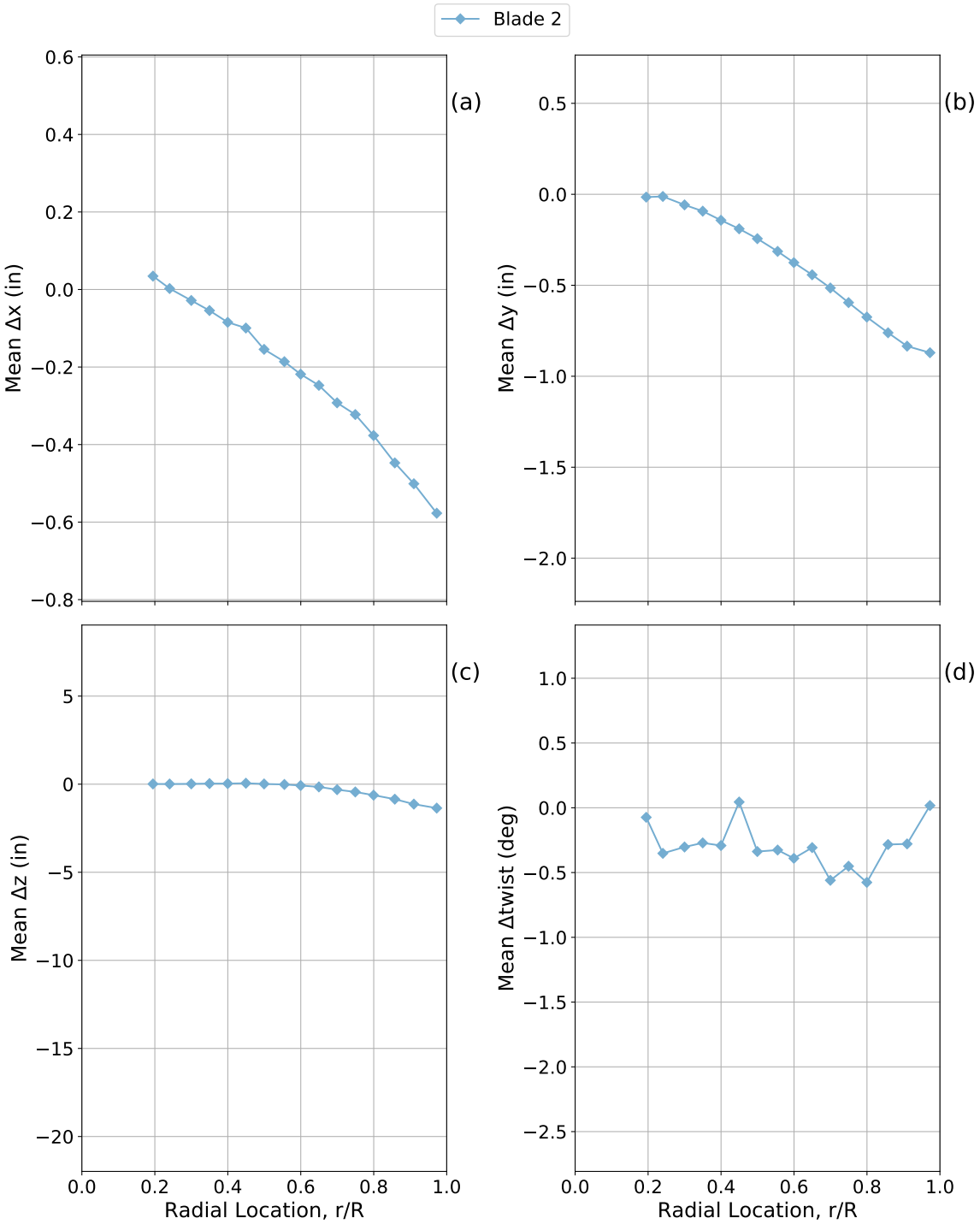


Figure 3.27-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0345	0.0024	-0.0154	0.0011	0.0133	0.0039	-0.0738	0.0199
2	330.12	0.2405	0.0025	0.0018	-0.0119	0.0040	0.0107	0.0094	-0.3519	0.0421
2	330.12	0.2999	-0.0283	0.0041	-0.0582	0.0084	0.0188	0.0178	-0.3027	0.0493
2	330.12	0.3498	-0.0543	0.0024	-0.0927	0.0117	0.0346	0.0282	-0.2712	0.0609
2	330.12	0.3998	-0.0846	0.0045	-0.1427	0.0213	0.0336	0.0451	-0.2917	0.0535
2	330.12	0.4496	-0.0994	0.0048	-0.1897	0.0282	0.0541	0.0607	0.0445	0.0631
2	330.12	0.4995	-0.1544	0.0040	-0.2439	0.0346	0.0137	0.0765	-0.3379	0.0580
2	330.12	0.5551	-0.1862	0.0038	-0.3138	0.0448	-0.0155	0.0930	-0.3262	0.0956
2	330.12	0.5996	-0.2185	0.0040	-0.3755	0.0539	-0.0769	0.1184	-0.3902	0.0861
2	330.12	0.6497	-0.2473	0.0055	-0.4424	0.0644	-0.1535	0.1434	-0.3074	0.0698
2	330.12	0.6996	-0.2923	0.0056	-0.5147	0.0779	-0.3113	0.1728	-0.5601	0.1020
2	330.12	0.7495	-0.3226	0.0066	-0.5952	0.0892	-0.4406	0.1939	-0.4513	0.0855
2	330.12	0.7996	-0.3767	0.0081	-0.6748	0.1008	-0.6235	0.2191	-0.5762	0.0777
2	330.12	0.8578	-0.4473	0.0075	-0.7610	0.1171	-0.8510	0.2482	-0.2836	0.0791
2	330.12	0.9100	-0.5011	0.0078	-0.8346	0.1311	-1.1321	0.2760	-0.2789	0.0792
2	330.12	0.9727	-0.5771	0.0119	-0.8706	0.1494	-1.3575	0.3084	0.0171	0.0796

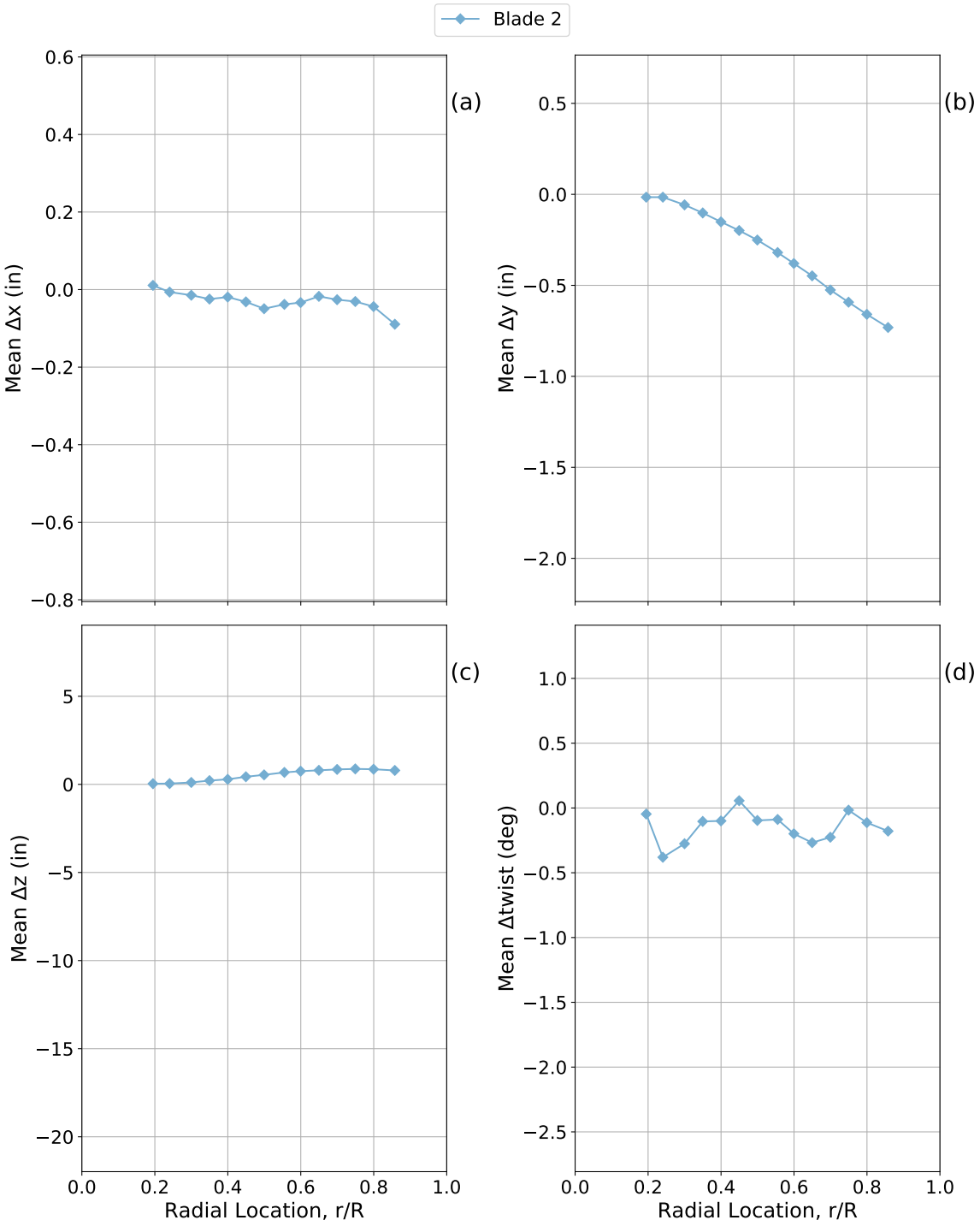


Figure 3.27-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0108	0.0097	-0.0156	0.0019	0.0387	0.0043	-0.0468	0.0214
2	344.88	0.2405	-0.0064	0.0037	-0.0156	0.0037	0.0445	0.0068	-0.3805	0.0433
2	344.88	0.2999	-0.0146	0.0023	-0.0578	0.0092	0.1088	0.0165	-0.2759	0.0496
2	344.88	0.3498	-0.0245	0.0073	-0.1021	0.0143	0.2137	0.0261	-0.1039	0.0452
2	344.88	0.3998	-0.0193	0.0098	-0.1513	0.0236	0.2876	0.0407	-0.0999	0.0482
2	344.88	0.4496	-0.0317	0.0137	-0.1987	0.0259	0.4319	0.0510	0.0561	0.0554
2	344.88	0.4995	-0.0494	0.0177	-0.2510	0.0294	0.5401	0.0639	-0.0963	0.0574
2	344.88	0.5551	-0.0382	0.0216	-0.3197	0.0347	0.6787	0.0811	-0.0888	0.0526
2	344.88	0.5996	-0.0335	0.0257	-0.3799	0.0397	0.7487	0.0953	-0.1990	0.0765
2	344.88	0.6497	-0.0175	0.0291	-0.4479	0.0459	0.7980	0.1117	-0.2678	0.0669
2	344.88	0.6996	-0.0261	0.0332	-0.5255	0.0524	0.8489	0.1291	-0.2259	0.0662
2	344.88	0.7495	-0.0308	0.0378	-0.5925	0.0593	0.8775	0.1495	-0.0168	0.0741
2	344.88	0.7996	-0.0439	0.0433	-0.6593	0.0665	0.8591	0.1660	-0.1130	0.0761
2	344.88	0.8578	-0.0894	0.0473	-0.7316	0.0737	0.7909	0.1921	-0.1787	0.1293

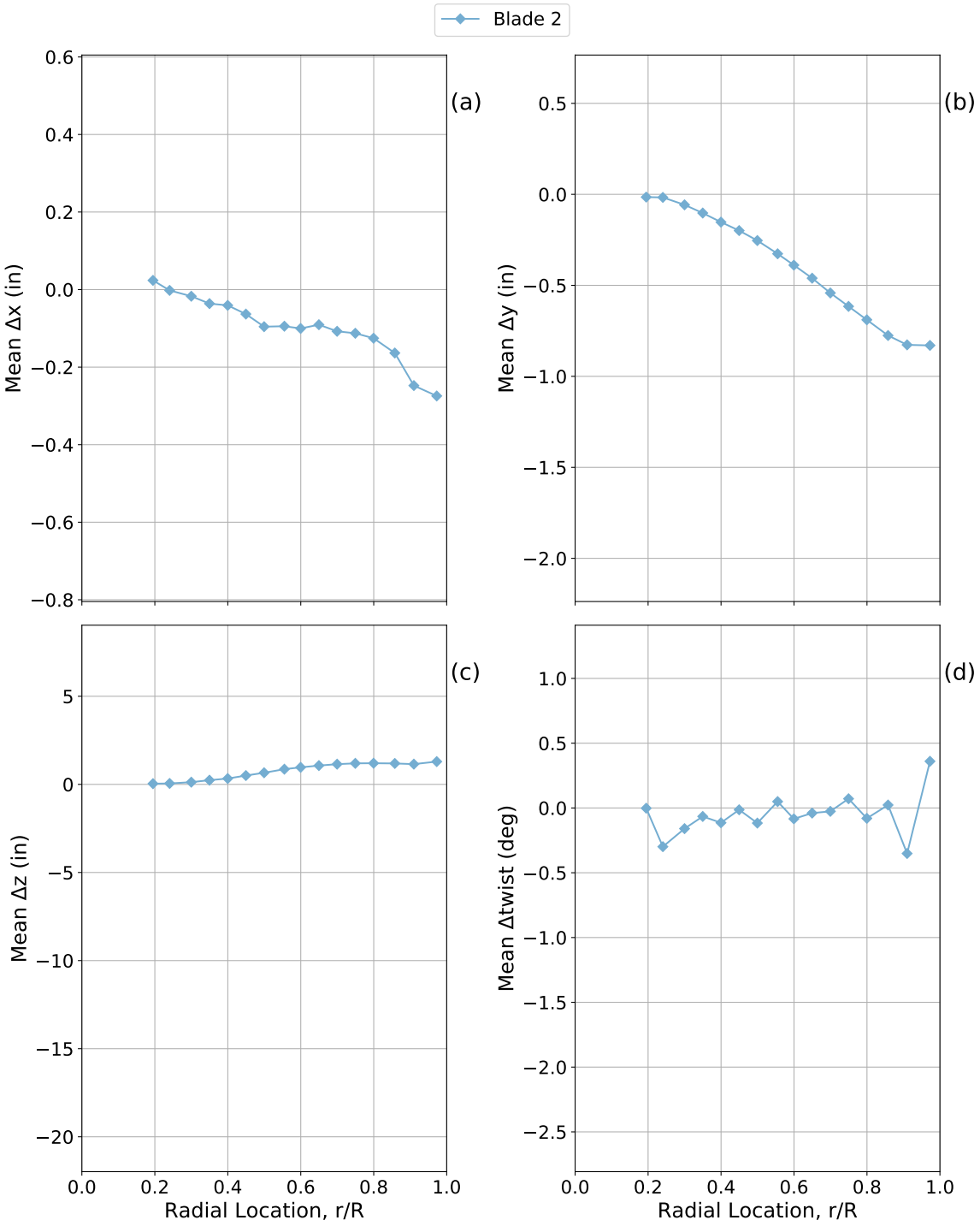


Figure 3.27-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0237	0.0075	-0.0151	0.0016	0.0402	0.0040	-0.0019	0.0258
2	350.16	0.2405	-0.0021	0.0024	-0.0169	0.0025	0.0525	0.0052	-0.2988	0.0537
2	350.16	0.2999	-0.0172	0.0028	-0.0576	0.0053	0.1255	0.0136	-0.1595	0.0666
2	350.16	0.3498	-0.0362	0.0063	-0.1027	0.0092	0.2373	0.0223	-0.0654	0.0686
2	350.16	0.3998	-0.0407	0.0125	-0.1526	0.0139	0.3316	0.0334	-0.1142	0.0669
2	350.16	0.4496	-0.0632	0.0153	-0.1991	0.0186	0.5009	0.0443	-0.0139	0.0614
2	350.16	0.4995	-0.0957	0.0195	-0.2539	0.0248	0.6588	0.0578	-0.1167	0.0687
2	350.16	0.5551	-0.0945	0.0236	-0.3266	0.0306	0.8620	0.0740	0.0494	0.0659
2	350.16	0.5996	-0.1003	0.0274	-0.3890	0.0371	0.9661	0.0896	-0.0840	0.0619
2	350.16	0.6497	-0.0906	0.0303	-0.4607	0.0423	1.0669	0.1060	-0.0395	0.0631
2	350.16	0.6996	-0.1076	0.0375	-0.5419	0.0523	1.1466	0.1257	-0.0262	0.0794
2	350.16	0.7495	-0.1127	0.0437	-0.6157	0.0571	1.1933	0.1413	0.0713	0.0863
2	350.16	0.7996	-0.1255	0.0534	-0.6894	0.0642	1.1998	0.1582	-0.0802	0.1020
2	350.16	0.8578	-0.1636	0.0586	-0.7756	0.0727	1.1879	0.1805	0.0228	0.1222
2	350.16	0.9100	-0.2476	0.0711	-0.8270	0.0813	1.1481	0.2076	-0.3515	0.0805
2	350.16	0.9727	-0.2744	0.0870	-0.8301	0.0896	1.2928	0.2395	0.3602	0.2374

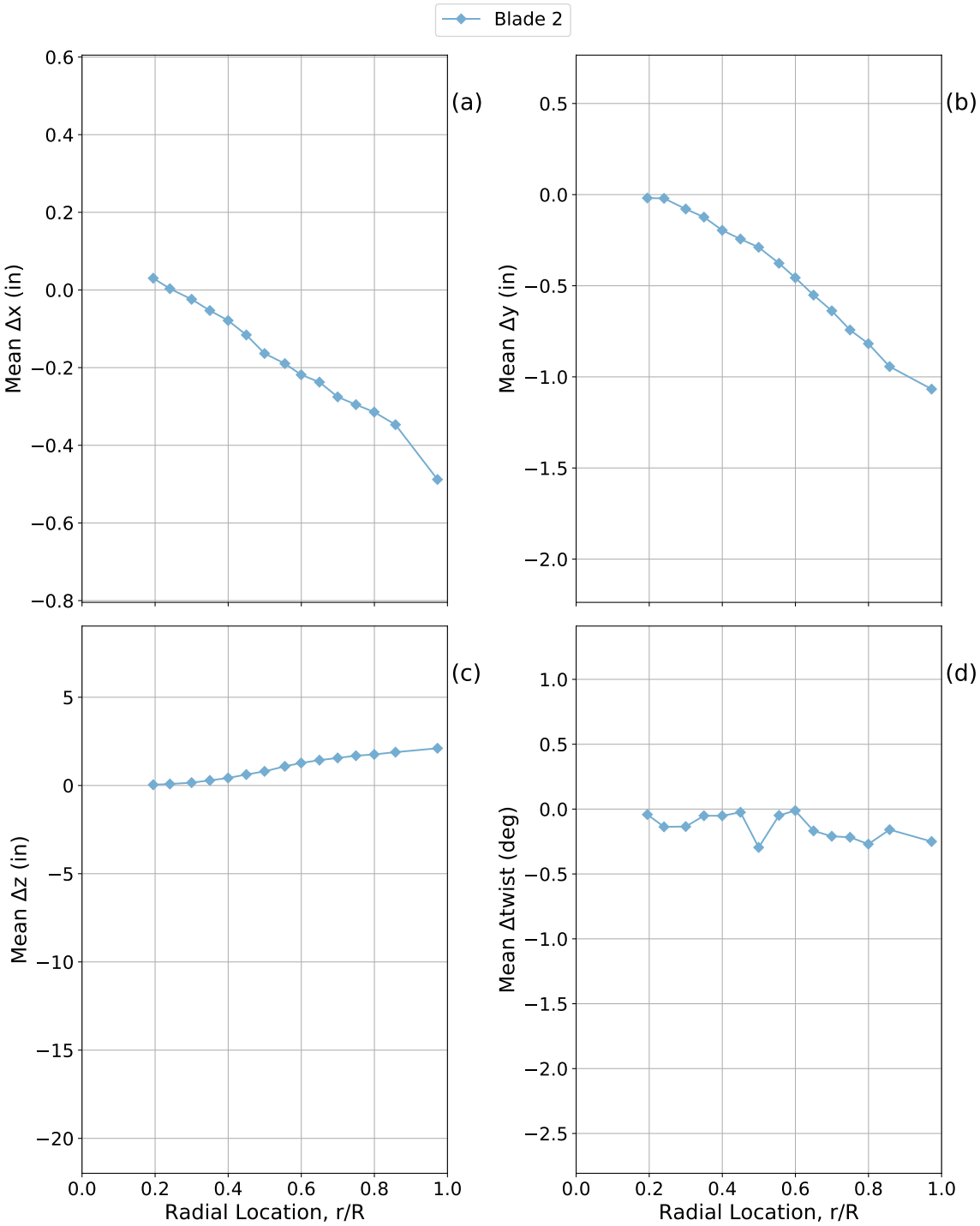


Figure 3.27-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Table 3.27-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.086$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 66, point 36. BD run 31, points 4960 to 4970.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0303	0.0035	-0.0187	0.0029	0.0412	0.0078	-0.0421	0.0483
2	355.08	0.2405	0.0033	0.0017	-0.0206	0.0035	0.0827	0.0118	-0.1367	0.0950
2	355.08	0.2999	-0.0240	0.0019	-0.0790	0.0099	0.1598	0.0257	-0.1347	0.1185
2	355.08	0.3498	-0.0530	0.0030	-0.1234	0.0187	0.2847	0.0455	-0.0512	0.1193
2	355.08	0.3998	-0.0787	0.0038	-0.1958	0.0266	0.4252	0.0662	-0.0516	0.1218
2	355.08	0.4496	-0.1158	0.0045	-0.2437	0.0331	0.6195	0.0880	-0.0245	0.1183
2	355.08	0.4995	-0.1636	0.0053	-0.2890	0.0422	0.8005	0.1077	-0.2955	0.1219
2	355.08	0.5551	-0.1896	0.0056	-0.3768	0.0514	1.0830	0.1296	-0.0486	0.1210
2	355.08	0.5996	-0.2184	0.0060	-0.4561	0.0614	1.2757	0.1474	-0.0116	0.1192
2	355.08	0.6497	-0.2373	0.0078	-0.5512	0.0715	1.4347	0.1706	-0.1680	0.1156
2	355.08	0.6996	-0.2754	0.0086	-0.6376	0.0844	1.5594	0.1926	-0.2095	0.1174
2	355.08	0.7495	-0.2953	0.0101	-0.7426	0.0956	1.6853	0.2139	-0.2171	0.1222
2	355.08	0.7996	-0.3144	0.0117	-0.8179	0.1092	1.7595	0.2327	-0.2699	0.1217
2	355.08	0.8578	-0.3470	0.0119	-0.9436	0.1260	1.8872	0.2555	-0.1585	0.1158
2	355.08	0.9727	-0.4881	0.0164	-1.0671	0.1616	2.1074	0.3015	-0.2498	0.1808

3.28 Run 67, Point 11

3.28.1 Pitch, Flap, and Lag

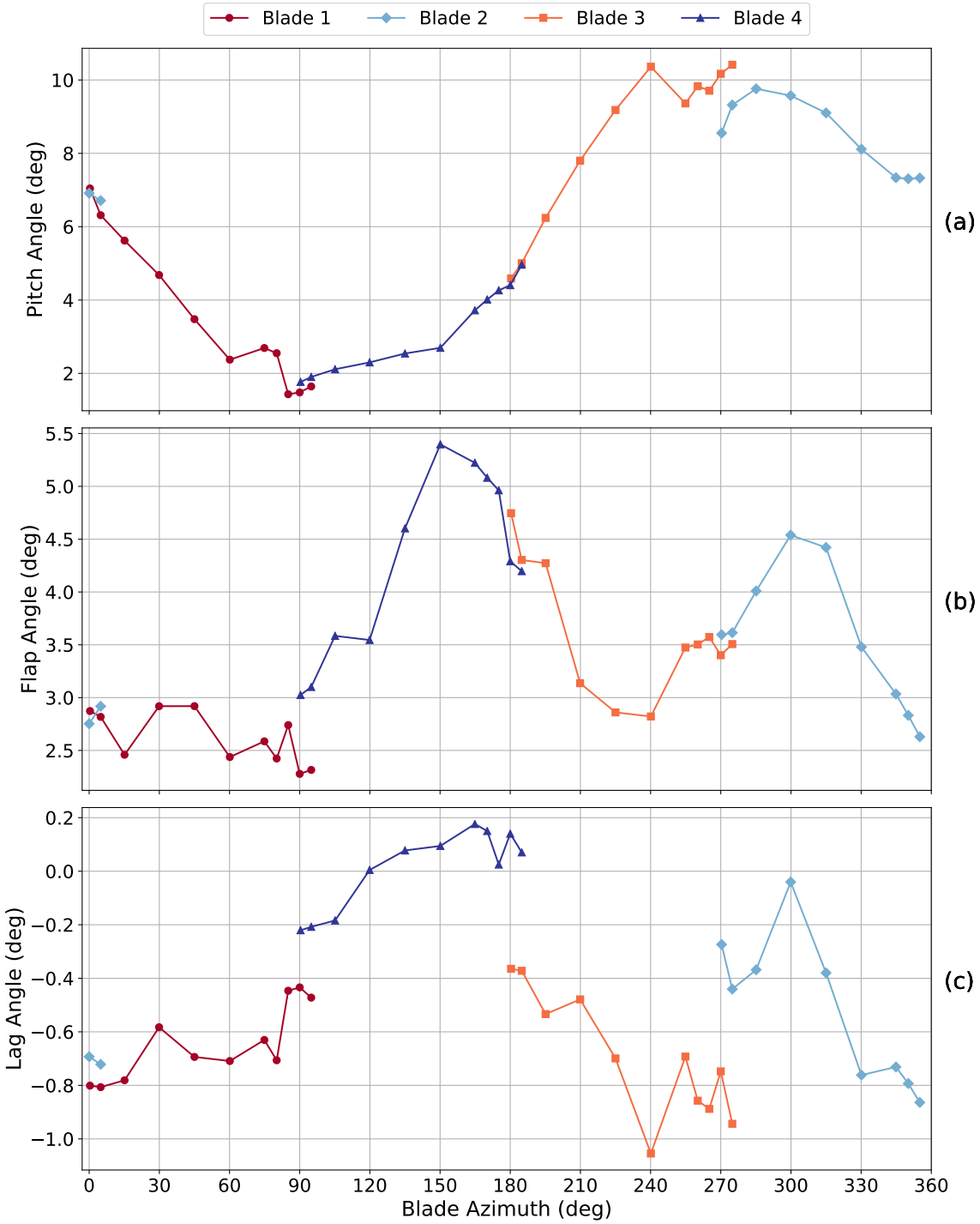


Figure 3.28-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.071$, $\mu = 0.301$, $\alpha = -0.6°$
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	6.9133	2.7526	-0.6929	0.1154	0.1044	0.0474
0.35	1	7.0425	2.8731	-0.8010	0.2359	0.1003	0.0736
4.92	1	6.3132	2.8176	-0.8067	0.1347	0.0967	0.0312
4.92	2	6.7116	2.9180	-0.7215	0.0813	0.0607	0.0289
15.12	1	5.6205	2.4589	-0.7810	0.0829	0.0655	0.0246
29.88	1	4.6820	2.9187	-0.5828	0.1622	0.0761	0.0412
45	1	3.4781	2.9193	-0.6938	0.0806	0.0716	0.0486
60.12	1	2.3733	2.4375	-0.7091	0.0726	0.0529	0.0281
74.88	1	2.6918	2.5863	-0.6304	0.1491	0.0751	0.0333
80.16	1	2.5496	2.4234	-0.7063	0.3160	0.1195	0.0605
85.08	1	1.4309	2.7398	-0.4465	0.1819	0.0839	0.0450
90	1	1.4809	2.2781	-0.4340	0.0423	0.0646	0.0335
90.35	4	1.7657	3.0248	-0.2206	0.0564	0.1176	0.0211
94.92	1	1.6433	2.3156	-0.4723	0.0488	0.0514	0.0268
94.92	4	1.9011	3.1002	-0.2079	0.0559	0.0704	0.0233
105.12	4	2.1123	3.5845	-0.1840	0.0922	0.0541	0.0194
119.88	4	2.2992	3.5453	0.0045	0.0279	0.0564	0.0425
135	4	2.5415	4.6018	0.0776	0.0377	0.1596	0.0416
150.12	4	2.6962	5.3971	0.0944	0.0574	0.1088	0.0295
164.88	4	3.7190	5.2226	0.1763	0.0491	0.2263	0.0356
170.16	4	4.0126	5.0810	0.1501	0.0229	0.0422	0.0810
175.08	4	4.2635	4.9621	0.0248	0.0643	0.0709	0.0283
180	4	4.4050	4.2904	0.1401	0.0732	0.1503	0.0272
180.35	3	4.5893	4.7460	-0.3646	0.0976	0.1855	0.0390
184.92	3	5.0044	4.3031	-0.3720	0.0642	0.1570	0.0280
184.92	4	4.9626	4.1968	0.0703	0.0487	0.1443	0.0352
195.12	3	6.2392	4.2725	-0.5338	0.0401	0.1108	0.0394
209.88	3	7.8002	3.1366	-0.4789	0.0576	0.0947	0.0541
225	3	9.1820	2.8601	-0.6993	0.0565	0.1147	0.0685
240.12	3	10.3610	2.8215	-1.0546	0.0601	0.0743	0.0410
254.88	3	9.3608	3.4741	-0.6925	0.1010	0.0926	0.0840
260.16	3	9.8311	3.5032	-0.8572	0.1032	0.0949	0.0568
265.08	3	9.7064	3.5737	-0.8879	0.2472	0.0720	0.0461
270	3	10.1686	3.4012	-0.7478	0.4428	0.2103	0.0903
270.35	2	8.5531	3.5956	-0.2737	1.1561	0.3789	0.1462
274.92	2	9.3182	3.6144	-0.4405	0.1196	0.0955	0.0391
274.92	3	10.4150	3.5068	-0.9436	0.4481	0.3439	0.1086
285.12	2	9.7603	4.0094	-0.3683	0.1162	0.1121	0.0555
299.88	2	9.5736	4.5382	-0.0402	0.1244	0.0857	0.0728
315	2	9.1023	4.4215	-0.3797	0.0465	0.0500	0.0565
330.12	2	8.1132	3.4795	-0.7615	0.0453	0.0429	0.0319
344.88	2	7.3349	3.0340	-0.7313	0.1022	0.0837	0.0286
350.16	2	7.3066	2.8323	-0.7931	0.0550	0.0567	0.0486
355.08	2	7.3265	2.6296	-0.8638	0.0647	0.0656	0.0611

3.28.2 Spanwise Elastic Deformations

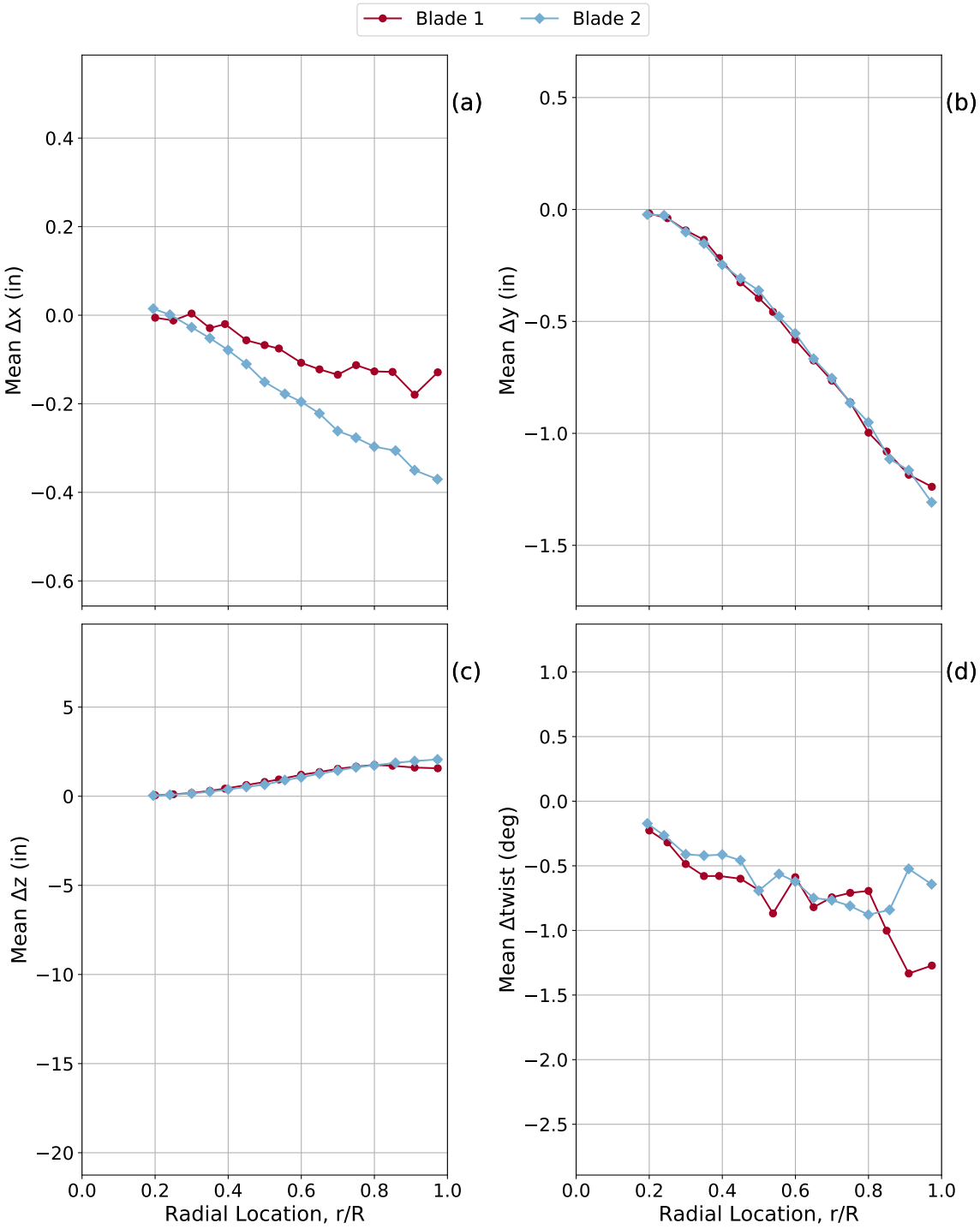


Figure 3.28-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.301$, $\alpha = -0.6°$ NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	-0.0056	0.0125	-0.0181	0.0055	0.0520	0.0160	-0.2265	0.0805
1	0.35	0.2499	-0.0119	0.0049	-0.0388	0.0058	0.1082	0.0166	-0.3187	0.2359
1	0.35	0.2998	0.0038	0.0045	-0.0932	0.0197	0.1790	0.0438	-0.4860	0.2220
1	0.35	0.3498	-0.0291	0.0101	-0.1354	0.0325	0.3017	0.0664	-0.5792	0.2378
1	0.35	0.3913	-0.0200	0.0156	-0.2169	0.0450	0.4261	0.0885	-0.5787	0.2337
1	0.35	0.4496	-0.0566	0.0223	-0.3258	0.0644	0.6264	0.1208	-0.5998	0.2316
1	0.35	0.4997	-0.0675	0.0279	-0.3955	0.0813	0.7995	0.1434	-0.6881	0.2360
1	0.35	0.5387	-0.0752	0.0327	-0.4574	0.0964	0.9396	0.1641	-0.8684	0.2329
1	0.35	0.5996	-0.1074	0.0390	-0.5816	0.1203	1.2036	0.1951	-0.5881	0.2272
1	0.35	0.6498	-0.1223	0.0445	-0.6748	0.1391	1.3573	0.2197	-0.8201	0.2268
1	0.35	0.6998	-0.1344	0.0495	-0.7644	0.1540	1.5370	0.2375	-0.7437	0.2560
1	0.35	0.7500	-0.1127	0.0556	-0.8615	0.1754	1.6596	0.2678	-0.7091	0.2055
1	0.35	0.8001	-0.1268	0.0624	-0.9968	0.1942	1.7538	0.2881	-0.6942	0.2185
1	0.35	0.8497	-0.1280	0.0680	-1.0808	0.2159	1.7084	0.3119	-1.0021	0.2275
1	0.35	0.9102	-0.1795	0.0751	-1.1848	0.2431	1.6079	0.3408	-1.3331	0.2371
1	0.35	0.9734	-0.1289	0.0756	-1.2386	0.2704	1.5671	0.3800	-1.2719	0.2263
2	0	0.1949	0.0147	0.0036	-0.0226	0.0031	0.0427	0.0095	-0.1725	0.0420
2	0	0.2405	0.0011	0.0020	-0.0262	0.0045	0.0807	0.0147	-0.2647	0.0774
2	0	0.2999	-0.0273	0.0026	-0.1006	0.0118	0.1525	0.0313	-0.4110	0.0946
2	0	0.3498	-0.0517	0.0025	-0.1521	0.0216	0.2517	0.0537	-0.4206	0.0884
2	0	0.3998	-0.0787	0.0036	-0.2466	0.0321	0.3788	0.0792	-0.4133	0.0888
2	0	0.4496	-0.1103	0.0034	-0.3082	0.0406	0.5204	0.1068	-0.4575	0.0933
2	0	0.4995	-0.1507	0.0045	-0.3617	0.0510	0.6497	0.1372	-0.6928	0.0853
2	0	0.5551	-0.1777	0.0058	-0.4781	0.0633	0.9029	0.1649	-0.5633	0.0925
2	0	0.5996	-0.1954	0.0061	-0.5535	0.0721	1.0589	0.1883	-0.6216	0.0858
2	0	0.6497	-0.2219	0.0067	-0.6667	0.0833	1.2648	0.2125	-0.7495	0.0927
2	0	0.6996	-0.2615	0.0071	-0.7538	0.0959	1.4399	0.2376	-0.7655	0.0882
2	0	0.7495	-0.2766	0.0081	-0.8643	0.1083	1.6203	0.2641	-0.8107	0.0922
2	0	0.7996	-0.2968	0.0077	-0.9507	0.1186	1.7338	0.2894	-0.8780	0.0921
2	0	0.8578	-0.3058	0.0085	-1.1146	0.1323	1.8725	0.3256	-0.8410	0.1098
2	0	0.9100	-0.3501	0.0092	-1.1647	0.1528	1.9732	0.3443	-0.5236	0.2588
2	0	0.9727	-0.3703	0.0136	-1.3079	0.1614	2.0625	0.3823	-0.6424	0.1029

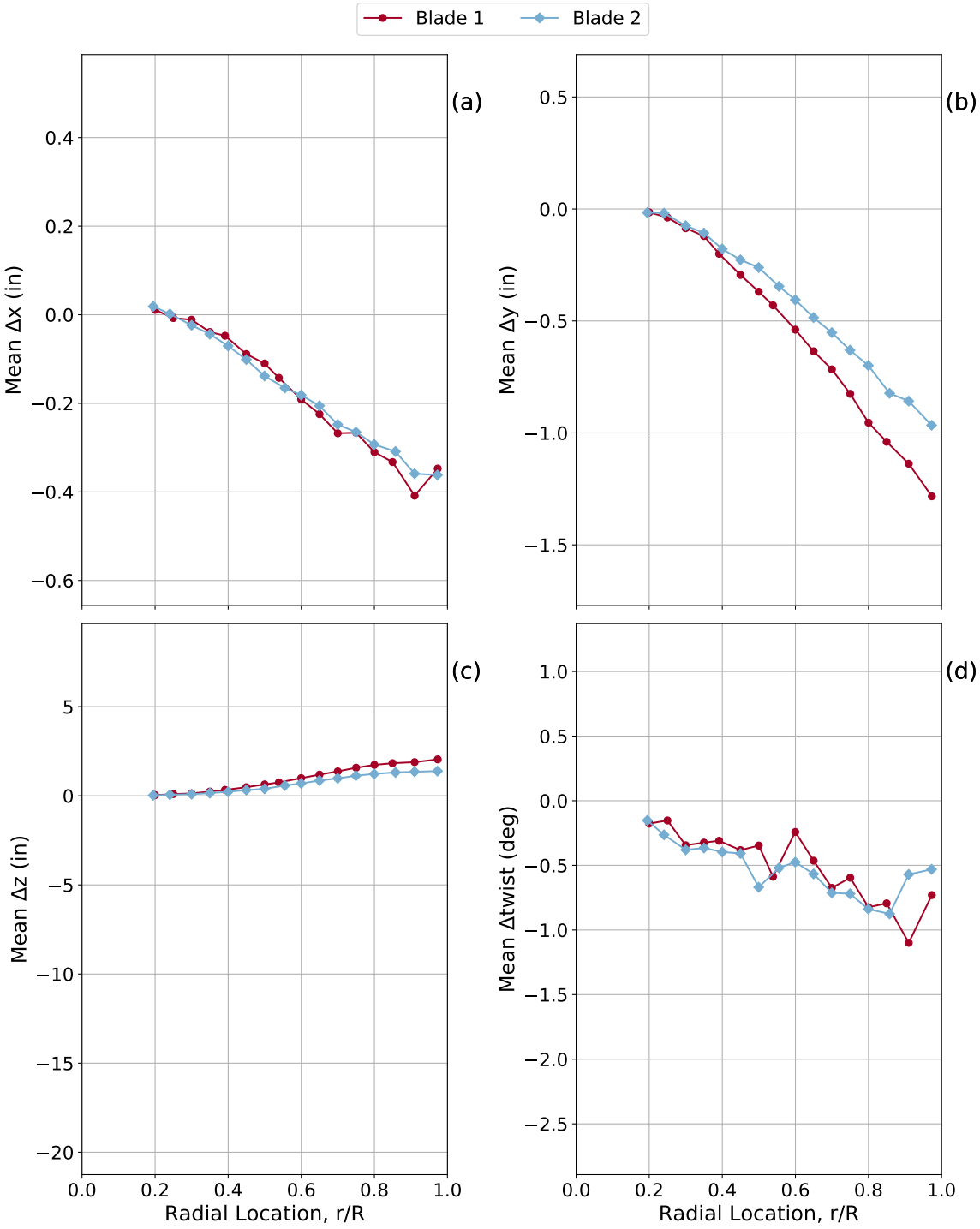


Figure 3.28-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0111	0.0031	-0.0152	0.0017	0.0359	0.0062	-0.1766	0.0406
1	4.92	0.2499	-0.0075	0.0024	-0.0382	0.0039	0.0945	0.0095	-0.1527	0.0829
1	4.92	0.2998	-0.0113	0.0017	-0.0859	0.0070	0.1298	0.0225	-0.3445	0.0911
1	4.92	0.3498	-0.0390	0.0029	-0.1207	0.0099	0.2339	0.0315	-0.3241	0.1115
1	4.92	0.3913	-0.0474	0.0024	-0.2002	0.0153	0.3302	0.0478	-0.3097	0.0960
1	4.92	0.4496	-0.0888	0.0031	-0.2945	0.0218	0.4796	0.0664	-0.3822	0.1082
1	4.92	0.4997	-0.1101	0.0026	-0.3696	0.0287	0.6370	0.0825	-0.3468	0.1084
1	4.92	0.5387	-0.1425	0.0031	-0.4302	0.0352	0.7501	0.0974	-0.5879	0.1035
1	4.92	0.5996	-0.1908	0.0038	-0.5388	0.0444	0.9895	0.1205	-0.2419	0.1109
1	4.92	0.6498	-0.2244	0.0041	-0.6355	0.0534	1.1885	0.1403	-0.4640	0.1105
1	4.92	0.6998	-0.2675	0.0053	-0.7163	0.0636	1.3685	0.1599	-0.6741	0.1199
1	4.92	0.7500	-0.2663	0.0061	-0.8255	0.0744	1.5746	0.1800	-0.5957	0.1367
1	4.92	0.8001	-0.3102	0.0067	-0.9543	0.0851	1.7332	0.2041	-0.8238	0.1429
1	4.92	0.8497	-0.3326	0.0074	-1.0396	0.0967	1.8271	0.2352	-0.7937	0.1055
1	4.92	0.9102	-0.4086	0.0080	-1.1376	0.1124	1.8873	0.2739	-1.0991	0.1478
1	4.92	0.9734	-0.3473	0.0109	-1.2831	0.1231	2.0411	0.3129	-0.7299	0.1469
2	4.92	0.1949	0.0188	0.0032	-0.0162	0.0018	0.0240	0.0056	-0.1520	0.0231
2	4.92	0.2405	0.0018	0.0016	-0.0186	0.0017	0.0553	0.0076	-0.2636	0.0691
2	4.92	0.2999	-0.0238	0.0013	-0.0744	0.0061	0.0880	0.0182	-0.3798	0.0593
2	4.92	0.3498	-0.0439	0.0013	-0.1075	0.0090	0.1498	0.0301	-0.3658	0.0690
2	4.92	0.3998	-0.0705	0.0024	-0.1784	0.0138	0.2244	0.0456	-0.3961	0.0592
2	4.92	0.4496	-0.1012	0.0026	-0.2271	0.0186	0.3174	0.0589	-0.4084	0.0499
2	4.92	0.4995	-0.1382	0.0030	-0.2616	0.0229	0.3888	0.0745	-0.6688	0.0597
2	4.92	0.5551	-0.1653	0.0037	-0.3457	0.0303	0.5759	0.0969	-0.5198	0.0571
2	4.92	0.5996	-0.1814	0.0043	-0.4057	0.0358	0.6940	0.1153	-0.4752	0.0499
2	4.92	0.6497	-0.2054	0.0037	-0.4849	0.0412	0.8550	0.1393	-0.5665	0.0503
2	4.92	0.6996	-0.2478	0.0039	-0.5521	0.0467	0.9787	0.1641	-0.7125	0.0658
2	4.92	0.7495	-0.2648	0.0041	-0.6307	0.0531	1.1250	0.1909	-0.7196	0.0591
2	4.92	0.7996	-0.2928	0.0046	-0.6990	0.0607	1.2273	0.2144	-0.8382	0.0507
2	4.92	0.8578	-0.3088	0.0054	-0.8228	0.0692	1.3108	0.2462	-0.8754	0.0563
2	4.92	0.9100	-0.3589	0.0051	-0.8578	0.0772	1.3492	0.2790	-0.5704	0.1407
2	4.92	0.9727	-0.3618	0.0079	-0.9657	0.0848	1.3856	0.3255	-0.5306	0.0939

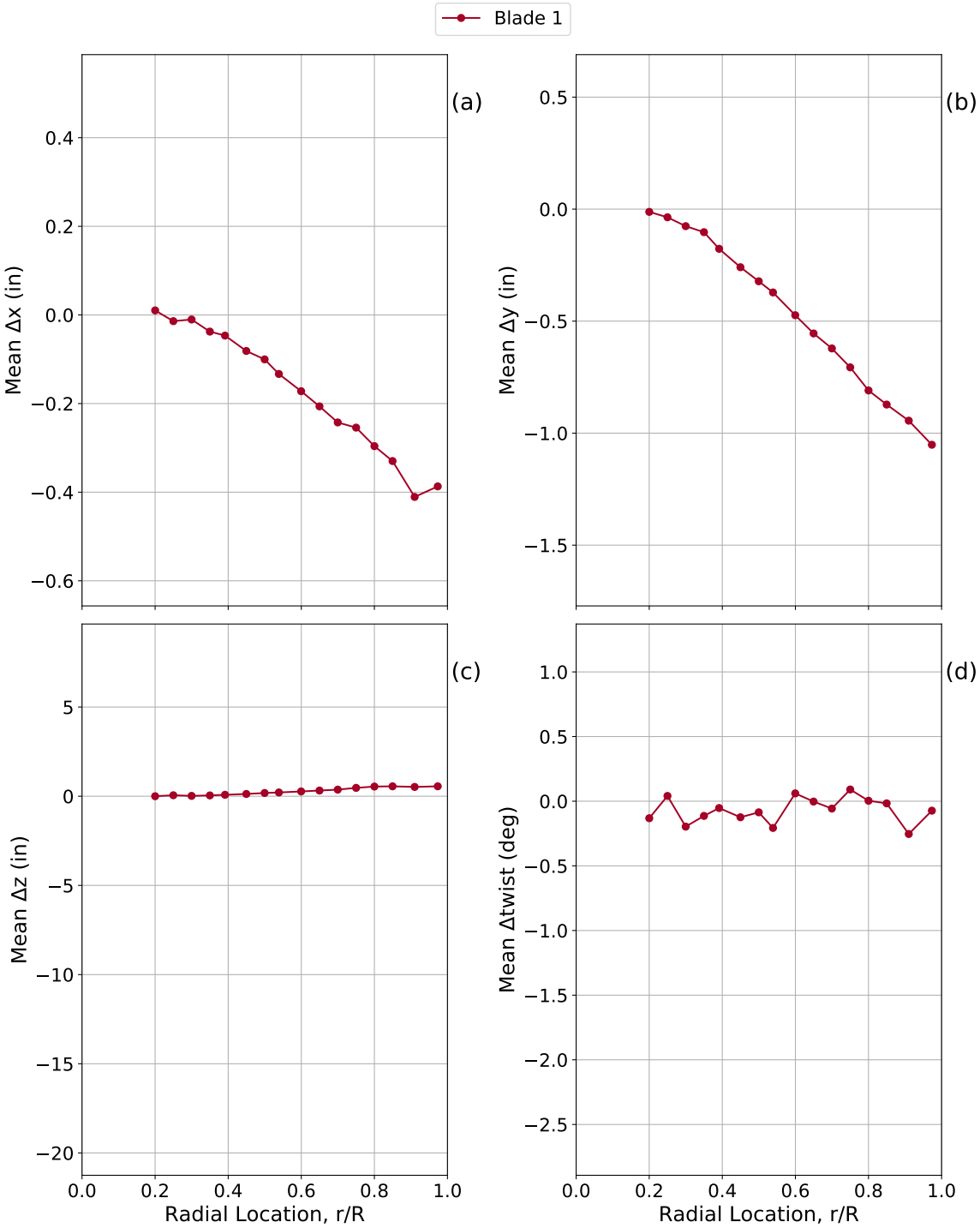


Figure 3.28-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0102	0.0024	-0.0122	0.0017	0.0008	0.0075	-0.1315	0.0304
1	15.12	0.2499	-0.0140	0.0019	-0.0364	0.0025	0.0547	0.0097	0.0408	0.0798
1	15.12	0.2998	-0.0103	0.0015	-0.0760	0.0058	0.0196	0.0237	-0.1965	0.0758
1	15.12	0.3498	-0.0376	0.0016	-0.1028	0.0096	0.0459	0.0396	-0.1135	0.0726
1	15.12	0.3913	-0.0466	0.0021	-0.1771	0.0135	0.0799	0.0537	-0.0527	0.0656
1	15.12	0.4496	-0.0813	0.0019	-0.2593	0.0189	0.1270	0.0759	-0.1241	0.0606
1	15.12	0.4997	-0.1003	0.0019	-0.3220	0.0227	0.1812	0.0954	-0.0859	0.0681
1	15.12	0.5387	-0.1332	0.0025	-0.3719	0.0281	0.2109	0.1146	-0.2067	0.0760
1	15.12	0.5996	-0.1721	0.0023	-0.4735	0.0347	0.2685	0.1429	0.0605	0.0768
1	15.12	0.6498	-0.2063	0.0027	-0.5549	0.0393	0.3191	0.1652	-0.0027	0.0909
1	15.12	0.6998	-0.2426	0.0024	-0.6218	0.0450	0.3704	0.1894	-0.0568	0.0900
1	15.12	0.7500	-0.2543	0.0030	-0.7063	0.0510	0.4683	0.2145	0.0906	0.0984
1	15.12	0.8001	-0.2961	0.0031	-0.8094	0.0582	0.5425	0.2448	0.0036	0.0992
1	15.12	0.8497	-0.3297	0.0033	-0.8723	0.0640	0.5557	0.2789	-0.0167	0.1027
1	15.12	0.9102	-0.4107	0.0041	-0.9443	0.0739	0.5216	0.3305	-0.2535	0.1136
1	15.12	0.9734	-0.3869	0.0058	-1.0517	0.0815	0.5564	0.3929	-0.0731	0.1151

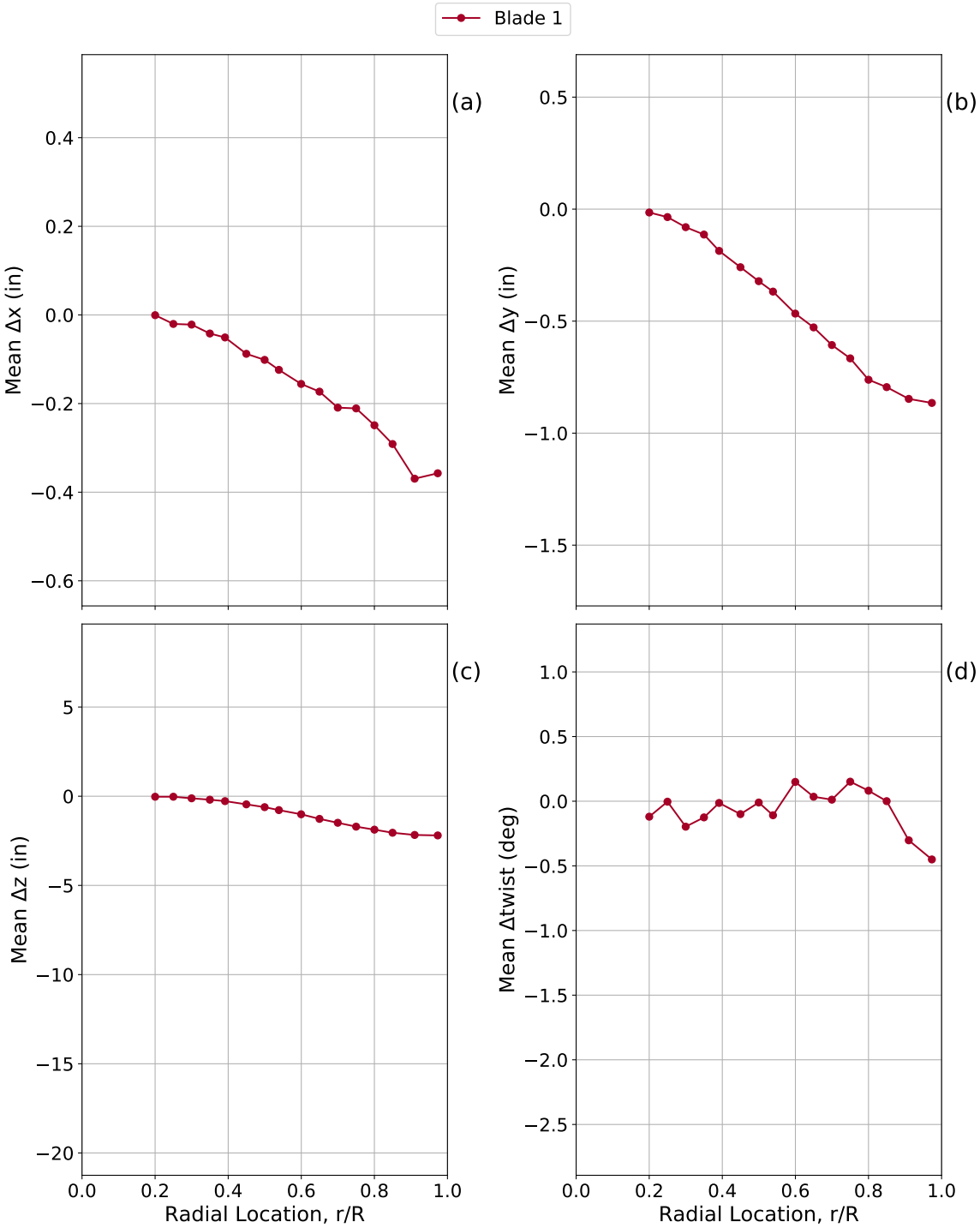


Figure 3.28-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0005	0.0038	-0.0150	0.0017	-0.0288	0.0081	-0.1197	0.0478
1	29.88	0.2499	-0.0203	0.0018	-0.0355	0.0022	-0.0280	0.0132	-0.0036	0.1322
1	29.88	0.2998	-0.0218	0.0018	-0.0805	0.0062	-0.1166	0.0290	-0.1970	0.1293
1	29.88	0.3498	-0.0419	0.0019	-0.1134	0.0103	-0.1948	0.0474	-0.1251	0.1401
1	29.88	0.3913	-0.0508	0.0024	-0.1863	0.0143	-0.2748	0.0674	-0.0133	0.1364
1	29.88	0.4496	-0.0877	0.0024	-0.2592	0.0199	-0.4547	0.0980	-0.0999	0.1347
1	29.88	0.4997	-0.1014	0.0024	-0.3216	0.0259	-0.6125	0.1272	-0.0101	0.1323
1	29.88	0.5387	-0.1239	0.0031	-0.3681	0.0284	-0.7783	0.1507	-0.1085	0.1253
1	29.88	0.5996	-0.1557	0.0030	-0.4663	0.0339	-1.0119	0.1895	0.1493	0.1323
1	29.88	0.6498	-0.1731	0.0034	-0.5279	0.0400	-1.2698	0.2280	0.0347	0.1471
1	29.88	0.6998	-0.2092	0.0036	-0.6066	0.0434	-1.4888	0.2610	0.0120	0.1433
1	29.88	0.7500	-0.2109	0.0039	-0.6661	0.0482	-1.7049	0.2965	0.1512	0.1523
1	29.88	0.8001	-0.2490	0.0039	-0.7616	0.0528	-1.8744	0.3328	0.0814	0.1720
1	29.88	0.8497	-0.2913	0.0040	-0.7945	0.0588	-2.0471	0.3710	0.0005	0.1745
1	29.88	0.9102	-0.3695	0.0034	-0.8470	0.0653	-2.1711	0.4176	-0.3024	0.1781
1	29.88	0.9734	-0.3573	0.0024	-0.8651	0.0724	-2.1973	0.4682	-0.4503	0.2024

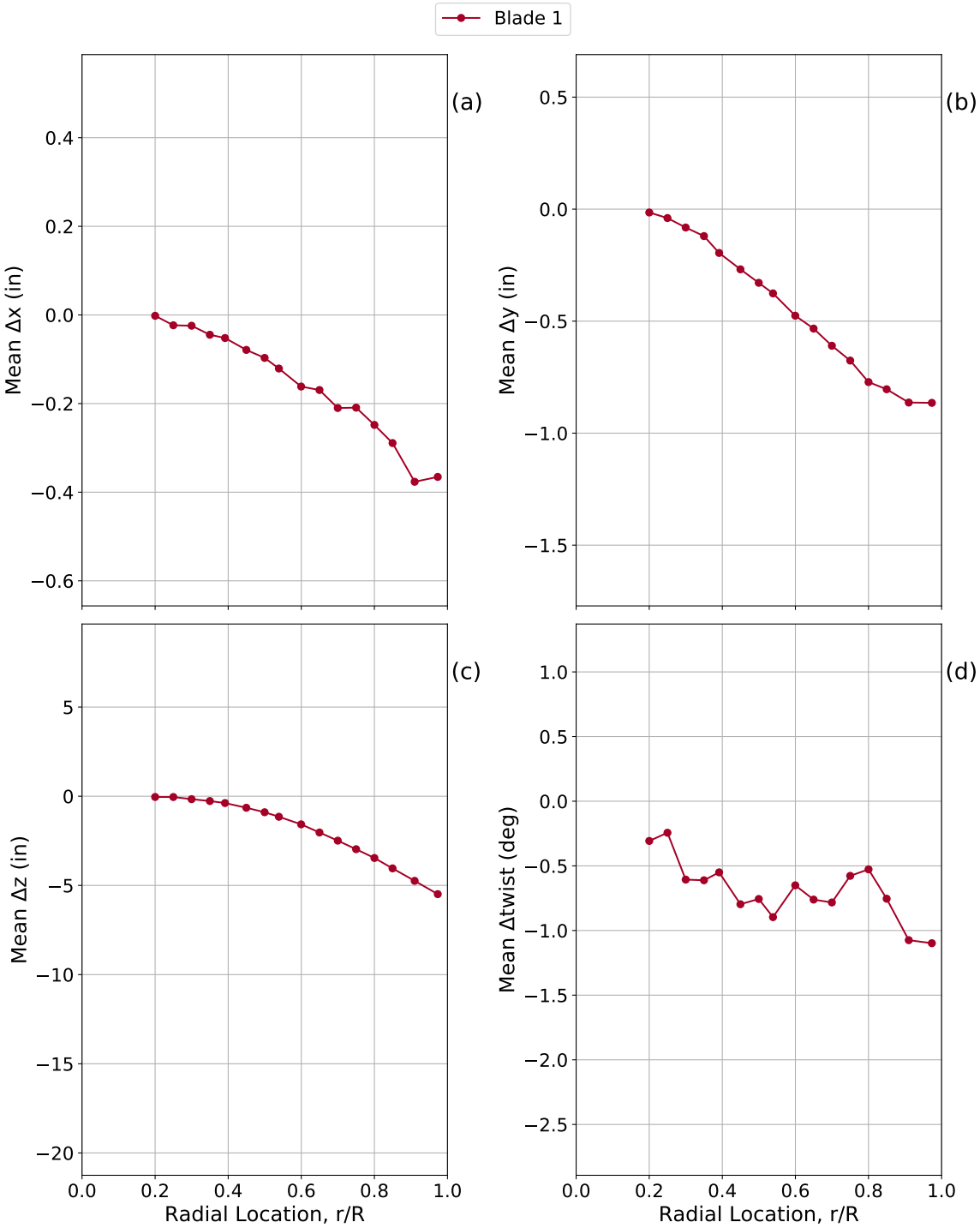


Figure 3.28-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0019	0.0038	-0.0150	0.0014	-0.0420	0.0053	-0.3073	0.0376
1	45	0.2499	-0.0233	0.0033	-0.0398	0.0027	-0.0444	0.0115	-0.2438	0.0760
1	45	0.2998	-0.0243	0.0023	-0.0821	0.0054	-0.1654	0.0198	-0.6061	0.0850
1	45	0.3498	-0.0447	0.0022	-0.1203	0.0098	-0.2689	0.0357	-0.6114	0.0778
1	45	0.3913	-0.0521	0.0021	-0.1956	0.0135	-0.3823	0.0501	-0.5502	0.0855
1	45	0.4496	-0.0789	0.0018	-0.2687	0.0187	-0.6463	0.0724	-0.7967	0.0712
1	45	0.4997	-0.0969	0.0023	-0.3289	0.0232	-0.8980	0.0887	-0.7561	0.0887
1	45	0.5387	-0.1209	0.0026	-0.3760	0.0284	-1.1510	0.1045	-0.8966	0.0862
1	45	0.5996	-0.1616	0.0027	-0.4756	0.0355	-1.5761	0.1208	-0.6505	0.0793
1	45	0.6498	-0.1694	0.0030	-0.5332	0.0409	-2.0334	0.1333	-0.7608	0.0886
1	45	0.6998	-0.2100	0.0030	-0.6098	0.0473	-2.4903	0.1464	-0.7831	0.0888
1	45	0.7500	-0.2092	0.0033	-0.6760	0.0542	-2.9700	0.1614	-0.5772	0.0880
1	45	0.8001	-0.2482	0.0025	-0.7720	0.0610	-3.4631	0.1783	-0.5270	0.0896
1	45	0.8497	-0.2891	0.0028	-0.8040	0.0686	-4.0450	0.1949	-0.7541	0.0880
1	45	0.9102	-0.3765	0.0041	-0.8633	0.0774	-4.7439	0.2158	-1.0746	0.0919
1	45	0.9734	-0.3655	0.0051	-0.8647	0.0872	-5.4891	0.2403	-1.0981	0.0929

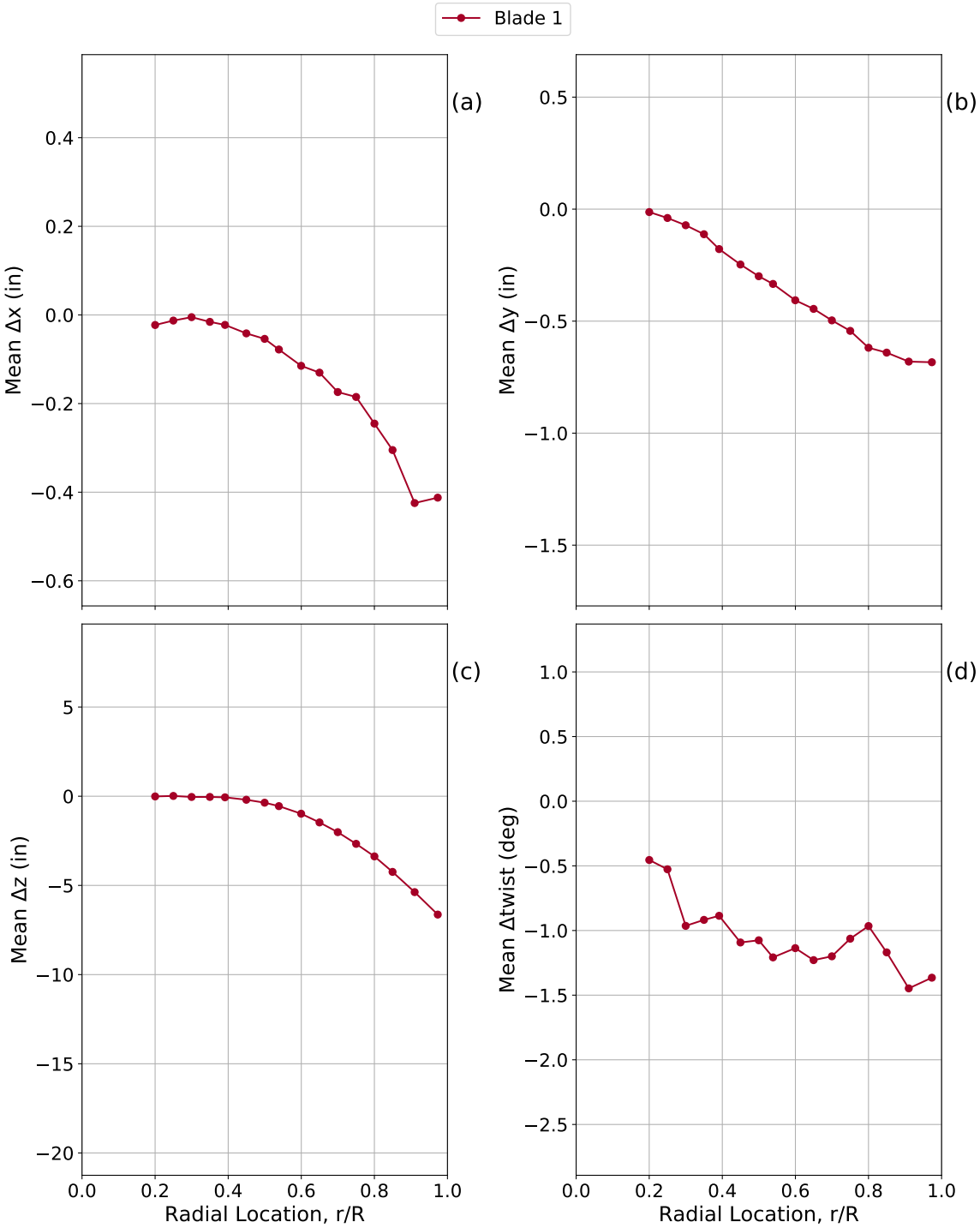


Figure 3.28-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.301$, $\alpha = -0.6°$
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0227	0.0019	-0.0131	0.0018	-0.0120	0.0047	-0.4546	0.0240
1	60.12	0.2499	-0.0127	0.0022	-0.0395	0.0027	0.0162	0.0064	-0.5265	0.0737
1	60.12	0.2998	-0.0050	0.0020	-0.0719	0.0070	-0.0411	0.0140	-0.9639	0.0638
1	60.12	0.3498	-0.0156	0.0026	-0.1120	0.0112	-0.0401	0.0233	-0.9178	0.0647
1	60.12	0.3913	-0.0225	0.0019	-0.1783	0.0162	-0.0612	0.0310	-0.8861	0.0698
1	60.12	0.4496	-0.0416	0.0026	-0.2472	0.0210	-0.1974	0.0430	-1.0925	0.0703
1	60.12	0.4997	-0.0540	0.0034	-0.2995	0.0265	-0.3618	0.0542	-1.0755	0.0868
1	60.12	0.5387	-0.0780	0.0028	-0.3339	0.0305	-0.5547	0.0634	-1.2078	0.0936
1	60.12	0.5996	-0.1148	0.0022	-0.4068	0.0380	-0.9797	0.0817	-1.1363	0.0792
1	60.12	0.6498	-0.1302	0.0023	-0.4453	0.0453	-1.4696	0.0980	-1.2290	0.0741
1	60.12	0.6998	-0.1740	0.0028	-0.4966	0.0527	-2.0141	0.1156	-1.1995	0.0714
1	60.12	0.7500	-0.1851	0.0031	-0.5434	0.0604	-2.6693	0.1321	-1.0633	0.0740
1	60.12	0.8001	-0.2452	0.0029	-0.6187	0.0676	-3.3736	0.1492	-0.9655	0.0759
1	60.12	0.8497	-0.3049	0.0035	-0.6405	0.0756	-4.2423	0.1658	-1.1690	0.0652
1	60.12	0.9102	-0.4245	0.0046	-0.6806	0.0855	-5.3763	0.1858	-1.4475	0.0618
1	60.12	0.9734	-0.4123	0.0055	-0.6834	0.0958	-6.6348	0.2086	-1.3649	0.0532

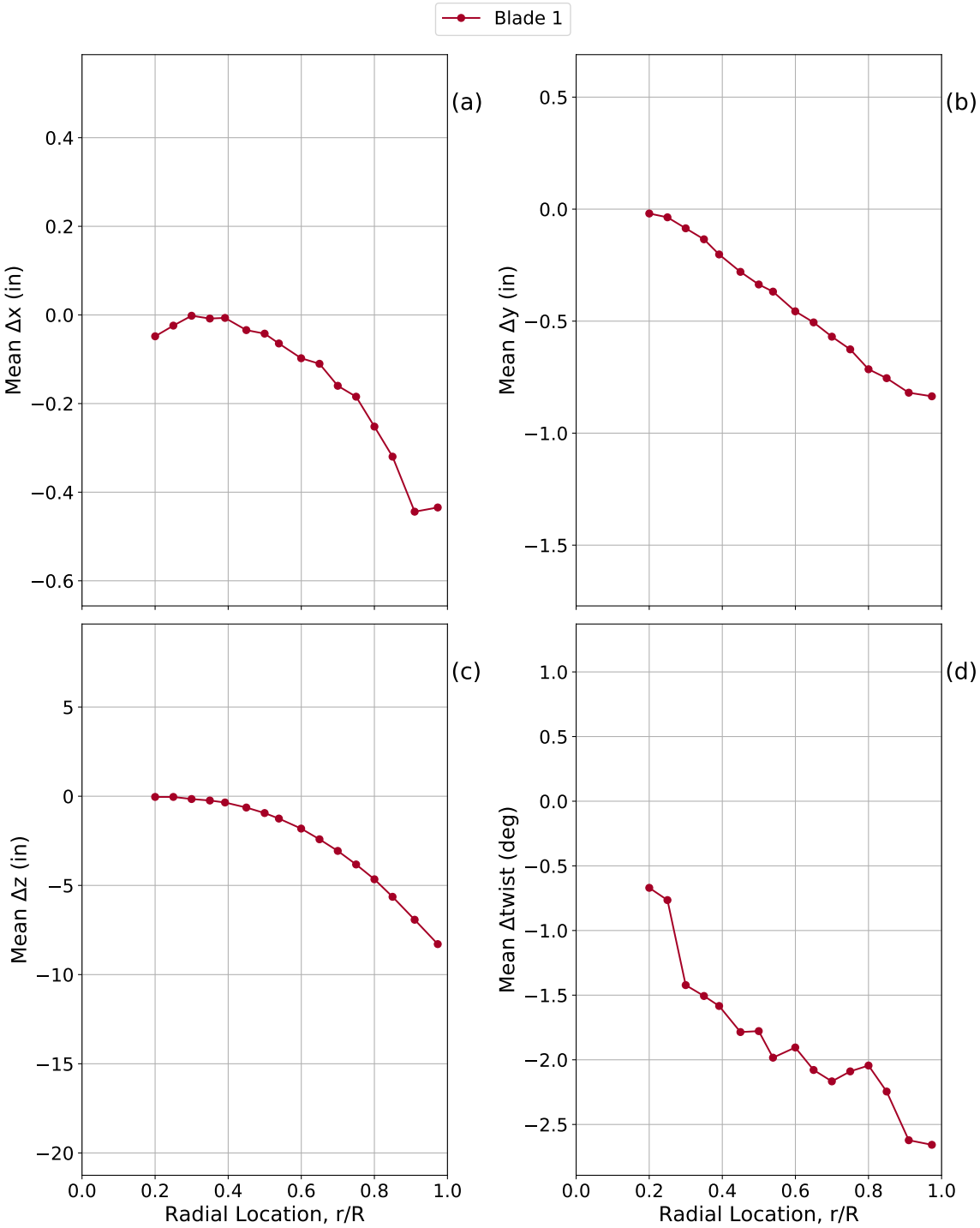


Figure 3.28-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0482	0.0061	-0.0195	0.0028	-0.0391	0.0083	-0.6699	0.0685
1	74.88	0.2499	-0.0241	0.0023	-0.0365	0.0031	-0.0393	0.0105	-0.7648	0.1634
1	74.88	0.2998	-0.0018	0.0014	-0.0856	0.0090	-0.1573	0.0243	-1.4222	0.1764
1	74.88	0.3498	-0.0081	0.0020	-0.1346	0.0151	-0.2397	0.0434	-1.5064	0.1580
1	74.88	0.3913	-0.0067	0.0019	-0.2023	0.0202	-0.3509	0.0563	-1.5837	0.1597
1	74.88	0.4496	-0.0342	0.0030	-0.2800	0.0274	-0.6340	0.0776	-1.7853	0.1699
1	74.88	0.4997	-0.0422	0.0032	-0.3363	0.0344	-0.9430	0.0999	-1.7780	0.1722
1	74.88	0.5387	-0.0644	0.0034	-0.3682	0.0400	-1.2520	0.1179	-1.9834	0.1658
1	74.88	0.5996	-0.0977	0.0051	-0.4561	0.0498	-1.8141	0.1500	-1.9046	0.1659
1	74.88	0.6498	-0.1102	0.0048	-0.5056	0.0581	-2.4145	0.1778	-2.0786	0.1597
1	74.88	0.6998	-0.1599	0.0057	-0.5693	0.0659	-3.0657	0.2061	-2.1667	0.1449
1	74.88	0.7500	-0.1845	0.0069	-0.6260	0.0748	-3.8259	0.2340	-2.0894	0.1496
1	74.88	0.8001	-0.2520	0.0082	-0.7147	0.0835	-4.6563	0.2631	-2.0442	0.1483
1	74.88	0.8497	-0.3198	0.0100	-0.7546	0.0928	-5.6383	0.2922	-2.2455	0.1569
1	74.88	0.9102	-0.4440	0.0120	-0.8194	0.1043	-6.9246	0.3279	-2.6219	0.1524
1	74.88	0.9734	-0.4345	0.0128	-0.8355	0.1161	-8.2914	0.3669	-2.6573	0.1478

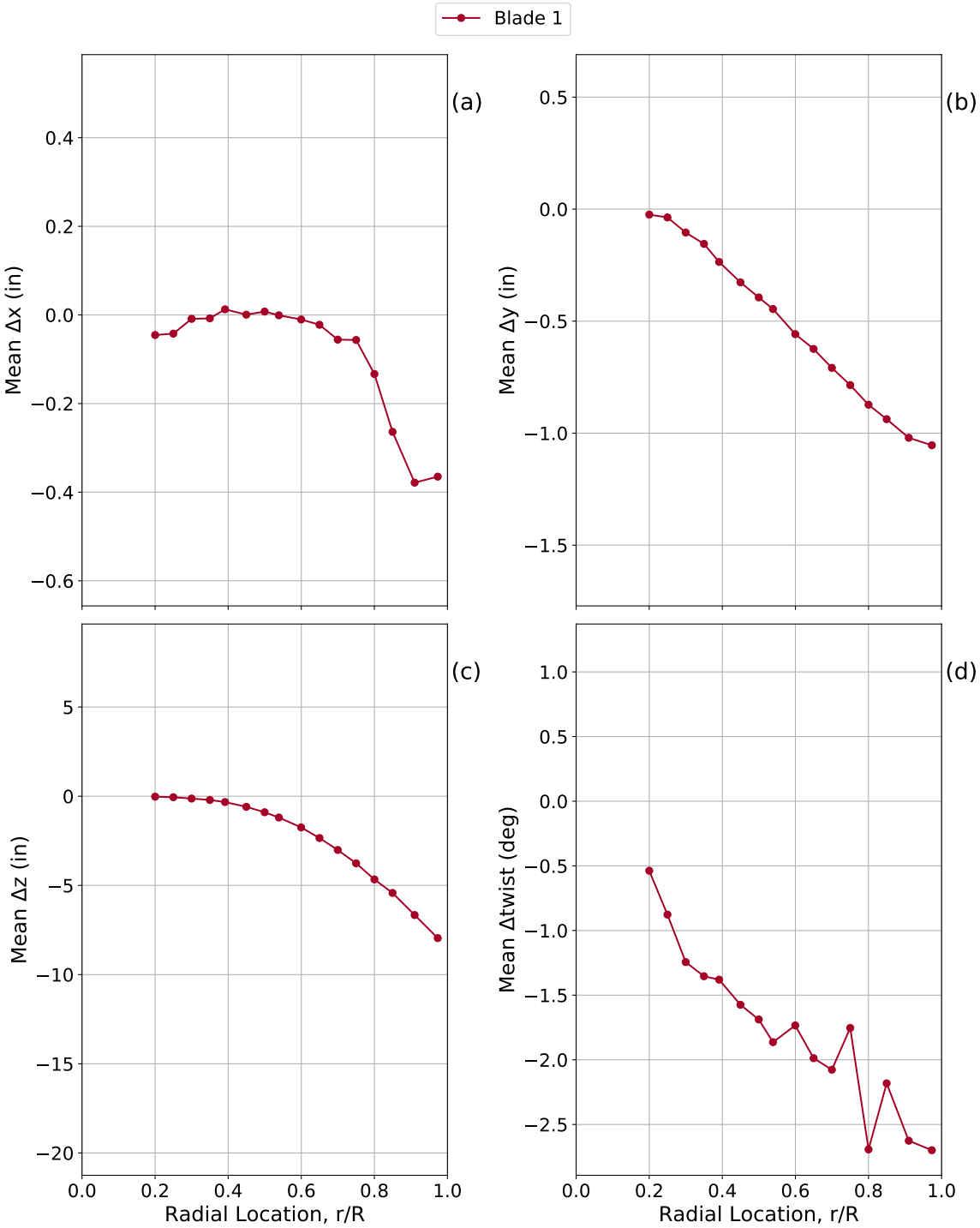


Figure 3.28-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0453	0.0024	-0.0244	0.0059	-0.0237	0.0162	-0.5377	0.1084
1	80.16	0.2499	-0.0422	0.0027	-0.0370	0.0075	-0.0568	0.0194	-0.8771	0.2729
1	80.16	0.2998	-0.0088	0.0042	-0.1044	0.0213	-0.1313	0.0521	-1.2440	0.2875
1	80.16	0.3498	-0.0077	0.0050	-0.1550	0.0362	-0.2100	0.0852	-1.3536	0.2959
1	80.16	0.3913	0.0126	0.0064	-0.2357	0.0502	-0.3265	0.1164	-1.3800	0.2812
1	80.16	0.4496	0.0007	0.0085	-0.3268	0.0693	-0.5944	0.1571	-1.5746	0.2882
1	80.16	0.4997	0.0076	0.0103	-0.3942	0.0868	-0.8982	0.1938	-1.6879	0.2885
1	80.16	0.5387	-0.0008	0.0125	-0.4458	0.1002	-1.1940	0.2232	-1.8635	0.2820
1	80.16	0.5996	-0.0103	0.0136	-0.5580	0.1227	-1.7477	0.2670	-1.7340	0.2939
1	80.16	0.6498	-0.0222	0.0151	-0.6241	0.1411	-2.3446	0.3066	-1.9874	0.2708
1	80.16	0.6998	-0.0557	0.0170	-0.7085	0.1596	-3.0130	0.3406	-2.0766	0.3114
1	80.16	0.7500	-0.0565	0.0172	-0.7855	0.1775	-3.7623	0.3769	-1.7535	0.3405
1	80.16	0.8001	-0.1333	0.0196	-0.8731	0.2161	-4.6647	0.4729	-2.6929	0.5922
1	80.16	0.8497	-0.2638	0.0239	-0.9375	0.2740	-5.4223	0.3342	-2.1820	0.2695
1	80.16	0.9102	-0.3785	0.0261	-1.0207	0.3008	-6.6589	0.3715	-2.6259	0.2737
1	80.16	0.9734	-0.3649	0.0241	-1.0540	0.3289	-7.9542	0.4127	-2.6993	0.2769

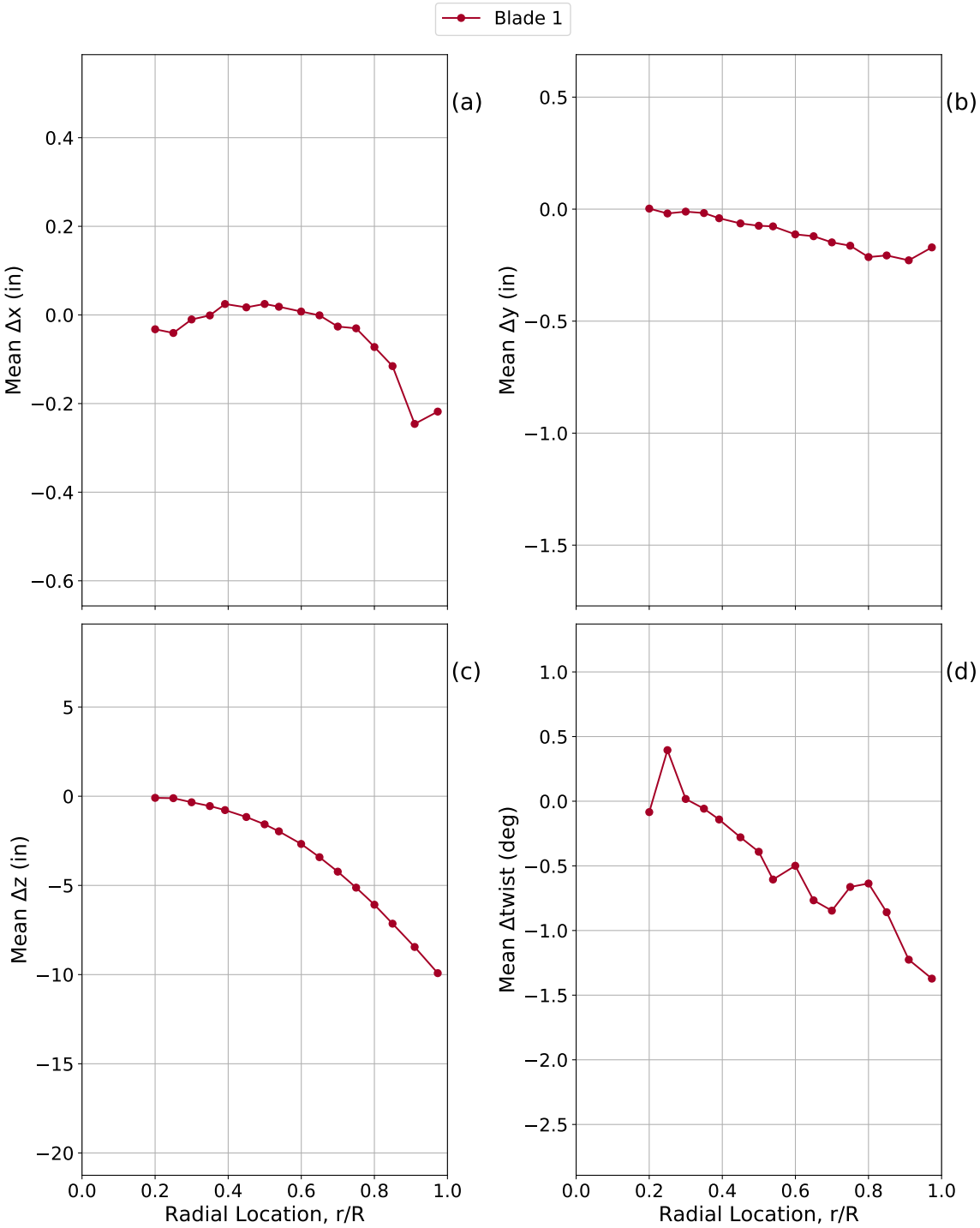


Figure 3.28-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0323	0.0041	0.0024	0.0036	-0.0917	0.0092	-0.0842	0.0667
1	85.08	0.2499	-0.0407	0.0017	-0.0193	0.0044	-0.1099	0.0103	0.3949	0.1721
1	85.08	0.2998	-0.0102	0.0013	-0.0111	0.0127	-0.3387	0.0309	0.0175	0.1779
1	85.08	0.3498	-0.0011	0.0031	-0.0175	0.0216	-0.5515	0.0524	-0.0578	0.1702
1	85.08	0.3913	0.0247	0.0047	-0.0406	0.0298	-0.7772	0.0710	-0.1414	0.1687
1	85.08	0.4496	0.0171	0.0064	-0.0638	0.0412	-1.1653	0.0979	-0.2791	0.1706
1	85.08	0.4997	0.0248	0.0076	-0.0742	0.0515	-1.5756	0.1200	-0.3909	0.1795
1	85.08	0.5387	0.0185	0.0085	-0.0769	0.0601	-1.9680	0.1381	-0.6056	0.1892
1	85.08	0.5996	0.0077	0.0084	-0.1126	0.0740	-2.6756	0.1668	-0.4992	0.1795
1	85.08	0.6498	-0.0009	0.0085	-0.1209	0.0863	-3.4180	0.1903	-0.7665	0.1870
1	85.08	0.6998	-0.0262	0.0099	-0.1484	0.0986	-4.2289	0.2154	-0.8464	0.1707
1	85.08	0.7500	-0.0302	0.0109	-0.1633	0.1110	-5.1251	0.2380	-0.6631	0.1825
1	85.08	0.8001	-0.0724	0.0134	-0.2140	0.1232	-6.0813	0.2645	-0.6364	0.1999
1	85.08	0.8497	-0.1155	0.0129	-0.2067	0.1357	-7.1450	0.2878	-0.8585	0.2431
1	85.08	0.9102	-0.2459	0.0123	-0.2285	0.1703	-8.4517	0.2856	-1.2256	0.1924
1	85.08	0.9734	-0.2181	0.0165	-0.1708	0.1834	-9.9188	0.3161	-1.3721	0.1961

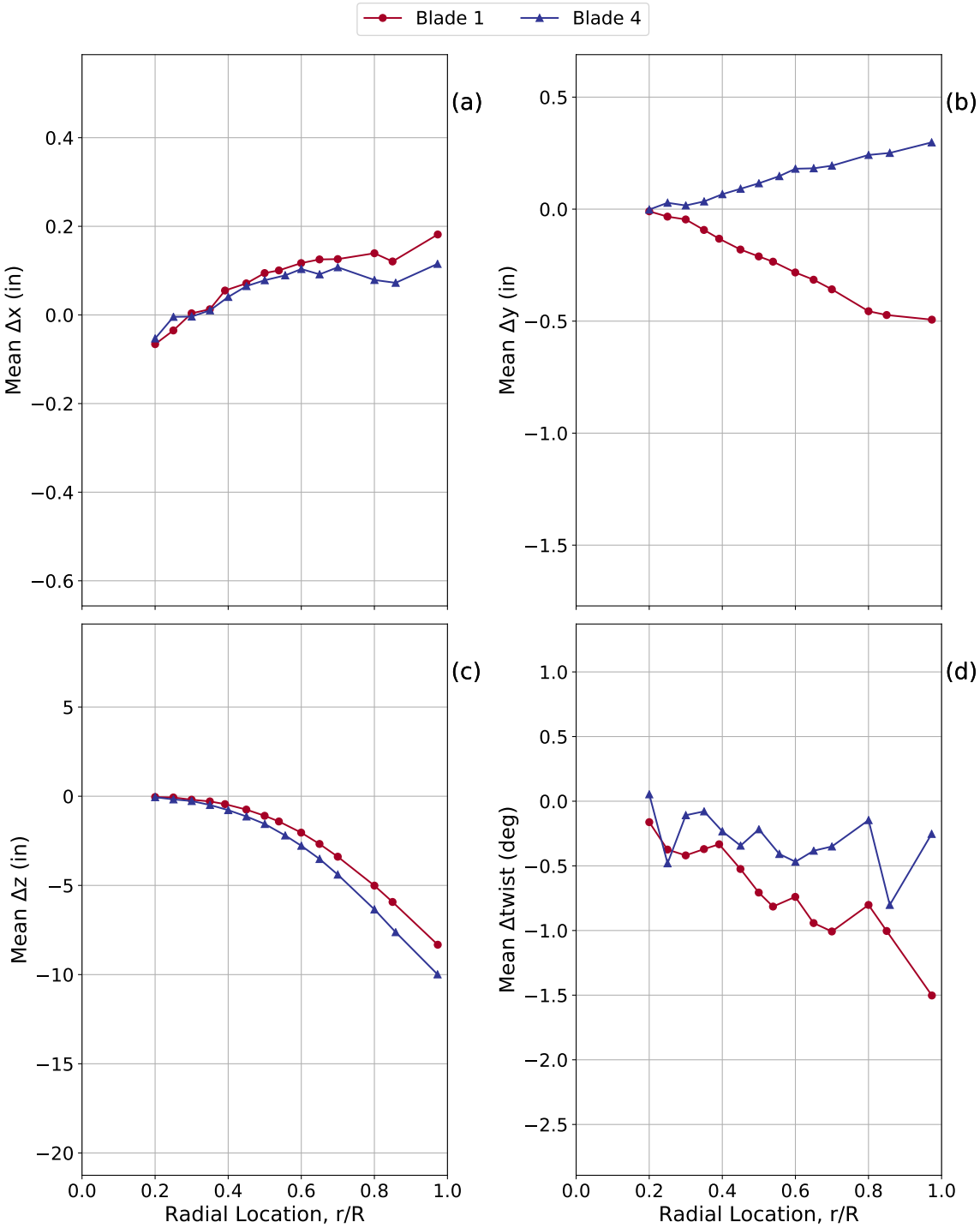


Figure 3.28-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0659	0.0018	-0.0097	0.0010	-0.0447	0.0039	-0.1620	0.0220
1	90	0.2499	-0.0350	0.0016	-0.0334	0.0022	-0.0694	0.0068	-0.3739	0.0336
1	90	0.2998	0.0037	0.0015	-0.0460	0.0042	-0.1954	0.0147	-0.4190	0.0464
1	90	0.3498	0.0128	0.0014	-0.0929	0.0075	-0.2900	0.0254	-0.3703	0.0483
1	90	0.3913	0.0551	0.0019	-0.1320	0.0106	-0.4428	0.0355	-0.3330	0.0346
1	90	0.4496	0.0712	0.0018	-0.1803	0.0145	-0.7489	0.0500	-0.5241	0.0406
1	90	0.4997	0.0945	0.0018	-0.2111	0.0189	-1.0962	0.0642	-0.7064	0.0499
1	90	0.5387	0.1005	0.0024	-0.2345	0.0225	-1.4142	0.0709	-0.8148	0.0617
1	90	0.5996	0.1170	0.0034	-0.2827	0.0275	-2.0397	0.0793	-0.7398	0.0562
1	90	0.6498	0.1253	0.0044	-0.3151	0.0325	-2.6753	0.0883	-0.9423	0.0569
1	90	0.6998	0.1260	0.0042	-0.3580	0.0385	-3.3903	0.0955	-1.0074	0.0514
1	90	0.8001	0.1392	0.0066	-0.4557	0.0503	-5.0122	0.1098	-0.8021	0.0758
1	90	0.8497	0.1207	0.0083	-0.4726	0.0572	-5.9279	0.1309	-1.0037	0.0917
1	90	0.9734	0.1816	0.0275	-0.4934	0.0809	-8.3253	0.1428	-1.5024	0.2528
4	90.35	0.2001	-0.0531	0.0016	-0.0021	0.0006	-0.0538	0.0018	0.0534	0.0218
4	90.35	0.2502	-0.0043	0.0014	0.0283	0.0017	-0.1780	0.0062	-0.4804	0.0307
4	90.35	0.3001	-0.0037	0.0018	0.0163	0.0031	-0.2695	0.0096	-0.1084	0.0449
4	90.35	0.3502	0.0104	0.0008	0.0343	0.0049	-0.4910	0.0147	-0.0787	0.0488
4	90.35	0.4002	0.0406	0.0021	0.0666	0.0080	-0.7798	0.0255	-0.2332	0.0417
4	90.35	0.4500	0.0651	0.0020	0.0908	0.0099	-1.1360	0.0348	-0.3437	0.0457
4	90.35	0.5001	0.0783	0.0017	0.1154	0.0123	-1.5561	0.0454	-0.2172	0.0493
4	90.35	0.5560	0.0893	0.0027	0.1472	0.0147	-2.2000	0.0605	-0.4083	0.0585
4	90.35	0.6001	0.1036	0.0027	0.1803	0.0172	-2.7781	0.0717	-0.4681	0.0582
4	90.35	0.6501	0.0916	0.0041	0.1822	0.0201	-3.5194	0.0856	-0.3829	0.0604
4	90.35	0.6999	0.1076	0.0042	0.1938	0.0232	-4.3958	0.1026	-0.3501	0.0556
4	90.35	0.8002	0.0789	0.0075	0.2418	0.0314	-6.3484	0.1420	-0.1462	0.1241
4	90.35	0.8582	0.0725	0.0103	0.2508	0.0363	-7.6218	0.1603	-0.8021	0.1141
4	90.35	0.9728	0.1152	0.0121	0.2979	0.0417	-9.9883	0.2230	-0.2529	0.0737

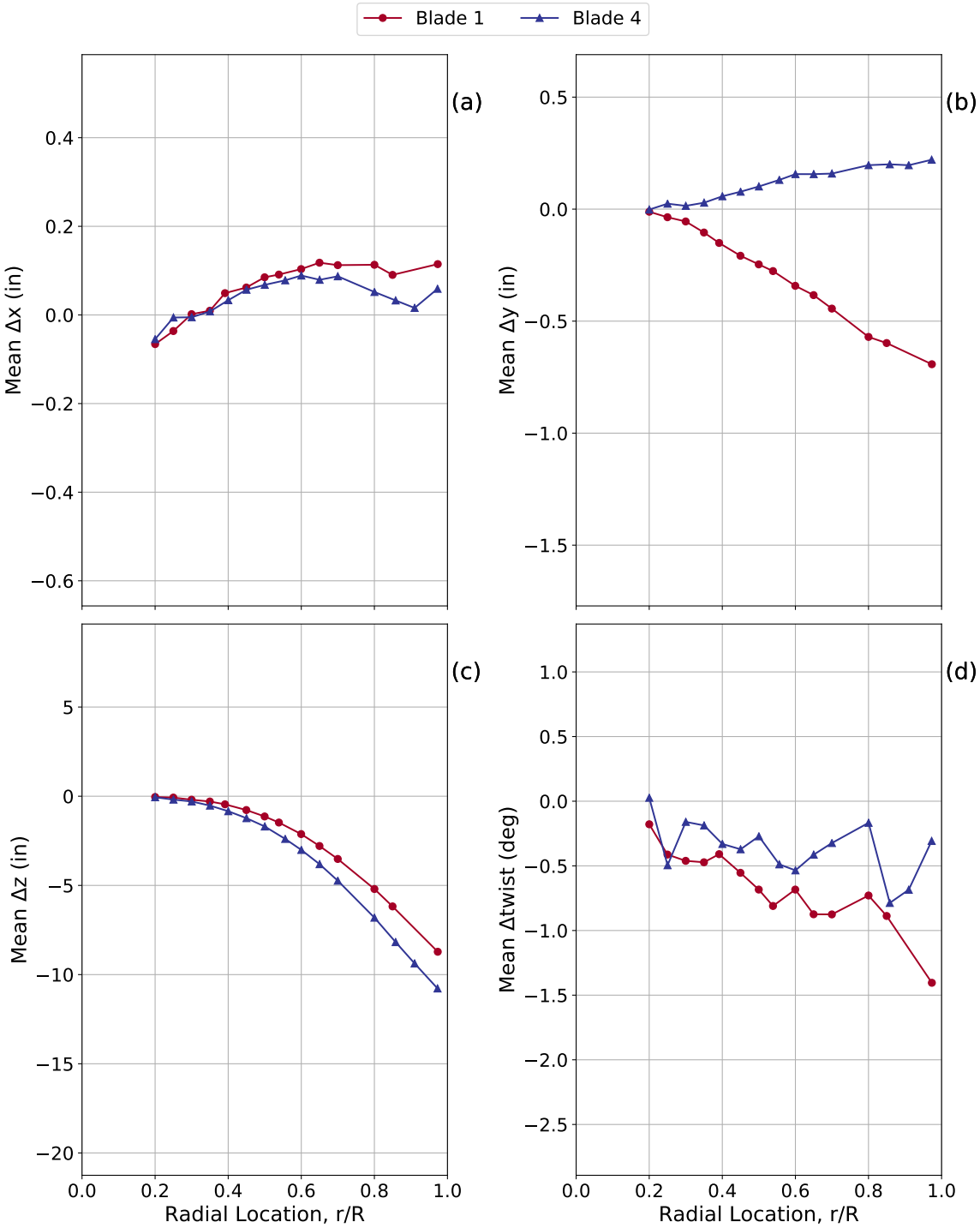


Figure 3.28-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0658	0.0012	-0.0116	0.0004	-0.0434	0.0022	-0.1783	0.0165
1	94.92	0.2499	-0.0363	0.0008	-0.0361	0.0012	-0.0753	0.0051	-0.4125	0.0343
1	94.92	0.2998	0.0018	0.0012	-0.0550	0.0019	-0.1958	0.0089	-0.4611	0.0399
1	94.92	0.3498	0.0095	0.0010	-0.1044	0.0032	-0.2966	0.0161	-0.4722	0.0398
1	94.92	0.3913	0.0492	0.0013	-0.1509	0.0046	-0.4533	0.0228	-0.4095	0.0420
1	94.92	0.4496	0.0619	0.0021	-0.2081	0.0056	-0.7750	0.0315	-0.5537	0.0415
1	94.92	0.4997	0.0850	0.0018	-0.2466	0.0065	-1.1341	0.0388	-0.6833	0.0507
1	94.92	0.5387	0.0911	0.0033	-0.2765	0.0081	-1.4748	0.0455	-0.8103	0.0494
1	94.92	0.5996	0.1035	0.0033	-0.3423	0.0115	-2.1222	0.0564	-0.6833	0.0580
1	94.92	0.6498	0.1179	0.0030	-0.3838	0.0145	-2.7898	0.0672	-0.8744	0.0598
1	94.92	0.6998	0.1124	0.0036	-0.4440	0.0179	-3.5175	0.0766	-0.8754	0.0554
1	94.92	0.8001	0.1132	0.0058	-0.5705	0.0262	-5.2019	0.0945	-0.7292	0.0556
1	94.92	0.8497	0.0904	0.0071	-0.5978	0.0309	-6.1771	0.1112	-0.8875	0.0716
1	94.92	0.9734	0.1147	0.0111	-0.6923	0.0436	-8.7192	0.1525	-1.4043	0.1533
4	94.92	0.2001	-0.0546	0.0017	-0.0020	0.0007	-0.0581	0.0027	0.0265	0.0195
4	94.92	0.2502	-0.0058	0.0009	0.0243	0.0012	-0.1903	0.0038	-0.4952	0.0235
4	94.92	0.3001	-0.0052	0.0013	0.0146	0.0023	-0.2936	0.0097	-0.1598	0.0401
4	94.92	0.3502	0.0079	0.0016	0.0287	0.0042	-0.5260	0.0159	-0.1875	0.0302
4	94.92	0.4002	0.0333	0.0017	0.0574	0.0058	-0.8406	0.0240	-0.3307	0.0357
4	94.92	0.4500	0.0569	0.0027	0.0778	0.0075	-1.2304	0.0326	-0.3718	0.0282
4	94.92	0.5001	0.0679	0.0034	0.1012	0.0091	-1.6963	0.0419	-0.2714	0.0319
4	94.92	0.5560	0.0781	0.0033	0.1304	0.0121	-2.3935	0.0576	-0.4884	0.0291
4	94.92	0.6001	0.0889	0.0038	0.1563	0.0140	-3.0111	0.0703	-0.5348	0.0332
4	94.92	0.6501	0.0793	0.0055	0.1562	0.0167	-3.8108	0.0825	-0.4134	0.0352
4	94.92	0.6999	0.0872	0.0056	0.1587	0.0198	-4.7368	0.0961	-0.3233	0.0418
4	94.92	0.8002	0.0518	0.0073	0.1963	0.0285	-6.8096	0.1294	-0.1670	0.0552
4	94.92	0.8582	0.0327	0.0096	0.2001	0.0348	-8.1798	0.1490	-0.7867	0.0809
4	94.92	0.9101	0.0158	0.0144	0.1960	0.0399	-9.3758	0.1686	-0.6848	0.0637
4	94.92	0.9728	0.0590	0.0141	0.2204	0.0487	-10.7781	0.1879	-0.3075	0.0905

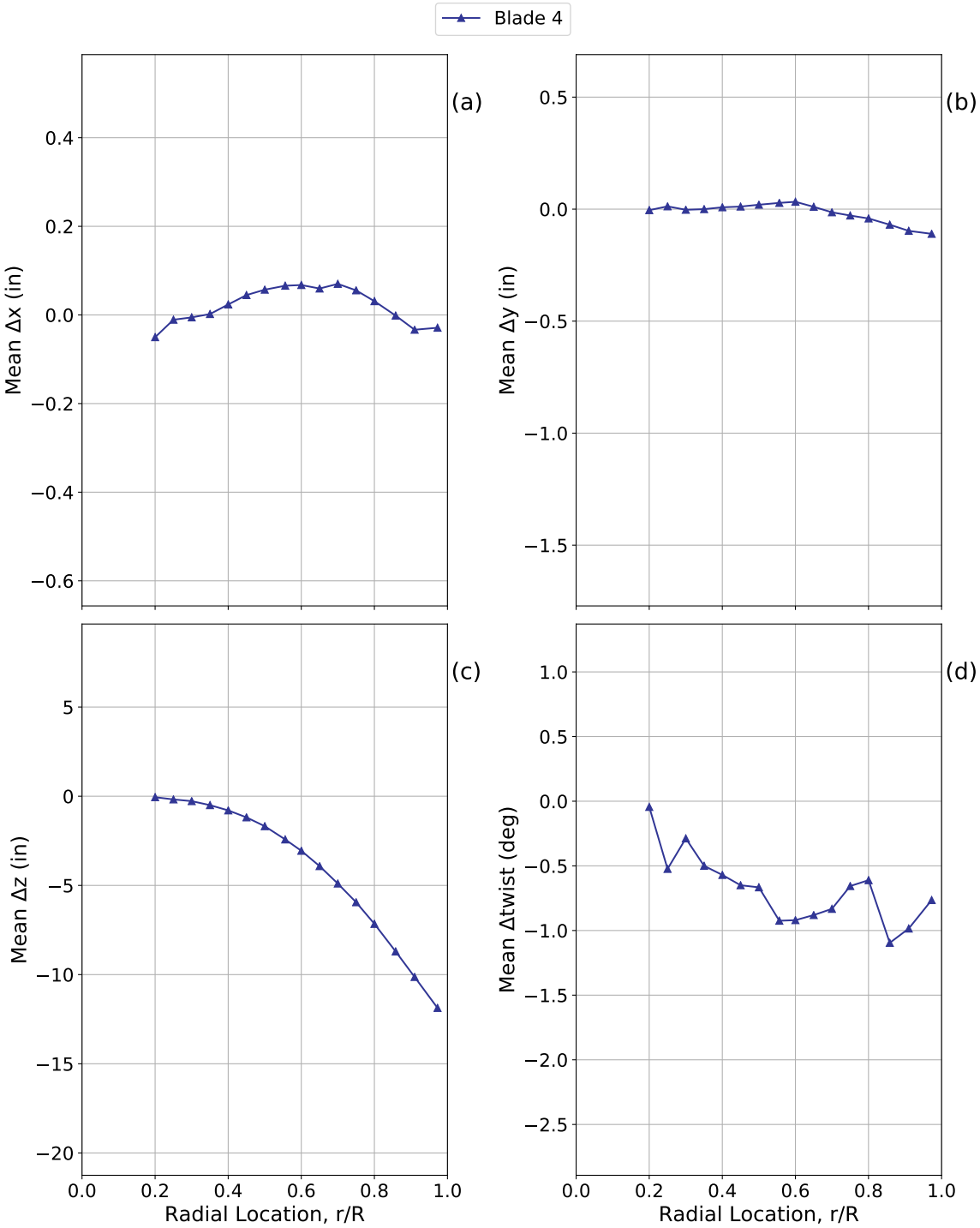


Figure 3.28-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0502	0.0009	-0.0046	0.0010	-0.0548	0.0027	-0.0442	0.0178
4	105.12	0.2502	-0.0108	0.0009	0.0124	0.0021	-0.1788	0.0046	-0.5236	0.0286
4	105.12	0.3001	-0.0055	0.0011	-0.0029	0.0033	-0.2755	0.0100	-0.2878	0.0395
4	105.12	0.3502	0.0020	0.0016	-0.0001	0.0067	-0.5001	0.0166	-0.5000	0.0341
4	105.12	0.4002	0.0237	0.0009	0.0082	0.0097	-0.7950	0.0254	-0.5703	0.0488
4	105.12	0.4500	0.0448	0.0017	0.0114	0.0137	-1.1853	0.0373	-0.6499	0.0466
4	105.12	0.5001	0.0570	0.0020	0.0197	0.0178	-1.6815	0.0489	-0.6661	0.0527
4	105.12	0.5560	0.0659	0.0029	0.0278	0.0239	-2.4235	0.0616	-0.9245	0.0583
4	105.12	0.6001	0.0675	0.0028	0.0328	0.0291	-3.0594	0.0714	-0.9199	0.0634
4	105.12	0.6501	0.0596	0.0039	0.0103	0.0354	-3.9193	0.0795	-0.8805	0.0599
4	105.12	0.6999	0.0701	0.0048	-0.0141	0.0423	-4.8960	0.0874	-0.8327	0.0661
4	105.12	0.7500	0.0555	0.0057	-0.0286	0.0500	-5.9449	0.0959	-0.6562	0.0700
4	105.12	0.8002	0.0310	0.0082	-0.0417	0.0582	-7.1585	0.1089	-0.6108	0.0793
4	105.12	0.8582	-0.0015	0.0110	-0.0695	0.0686	-8.7042	0.1322	-1.0955	0.0869
4	105.12	0.9101	-0.0334	0.0137	-0.0970	0.0778	-10.1340	0.1632	-0.9849	0.0766
4	105.12	0.9728	-0.0289	0.0175	-0.1103	0.0892	-11.8716	0.2025	-0.7647	0.0928

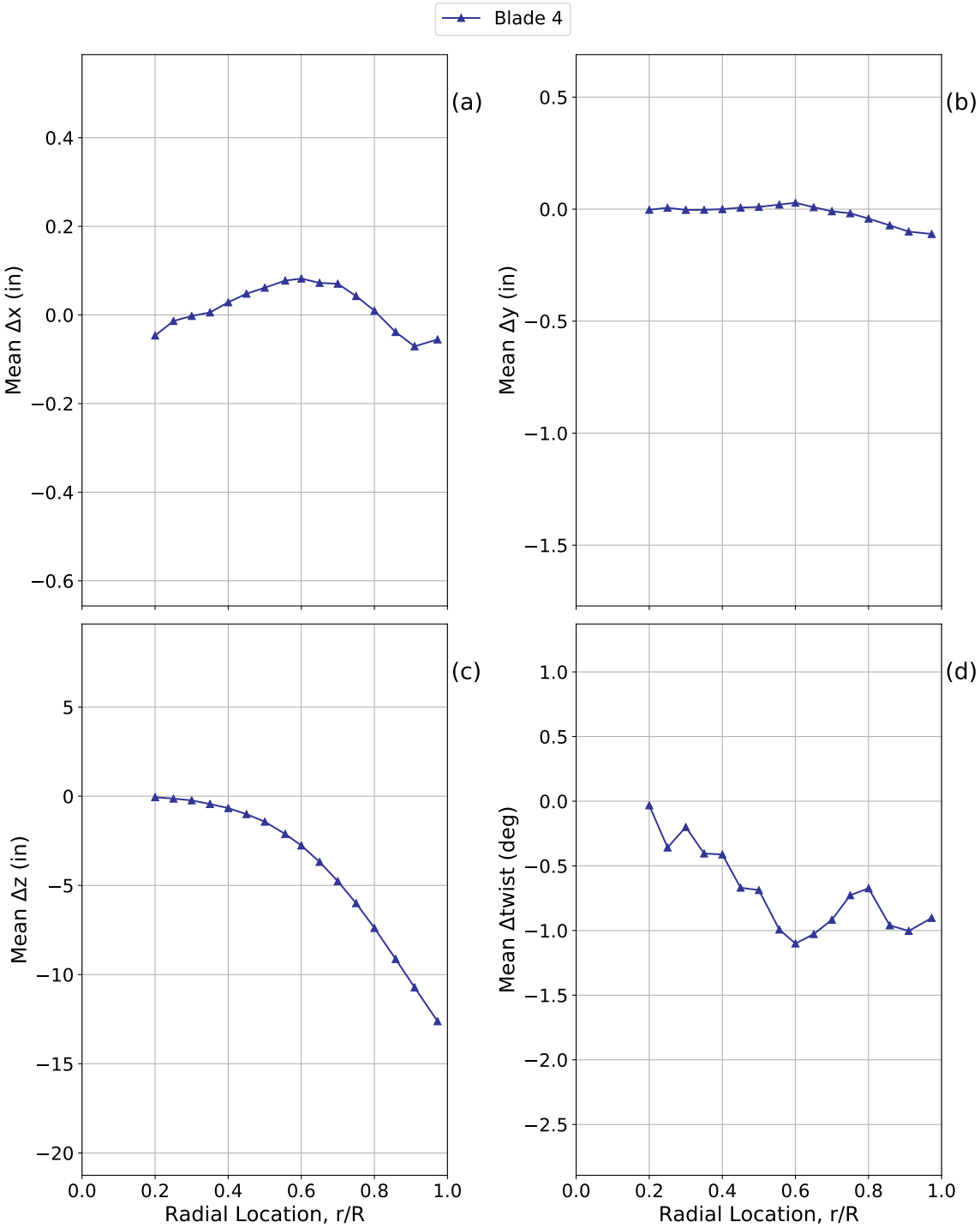


Figure 3.28-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0464	0.0017	-0.0030	0.0008	-0.0543	0.0022	-0.0320	0.0207
4	119.88	0.2502	-0.0137	0.0013	0.0061	0.0028	-0.1369	0.0060	-0.3585	0.0282
4	119.88	0.3001	-0.0023	0.0018	-0.0035	0.0035	-0.2327	0.0092	-0.1999	0.0405
4	119.88	0.3502	0.0056	0.0021	-0.0031	0.0069	-0.4376	0.0171	-0.4045	0.0368
4	119.88	0.4002	0.0285	0.0020	-0.0002	0.0105	-0.6675	0.0264	-0.4121	0.0227
4	119.88	0.4500	0.0480	0.0026	0.0067	0.0139	-1.0053	0.0345	-0.6691	0.0281
4	119.88	0.5001	0.0614	0.0028	0.0099	0.0166	-1.4274	0.0435	-0.6877	0.0424
4	119.88	0.5560	0.0775	0.0026	0.0203	0.0212	-2.1169	0.0555	-0.9927	0.0289
4	119.88	0.6001	0.0820	0.0036	0.0283	0.0259	-2.7647	0.0648	-1.1005	0.0424
4	119.88	0.6501	0.0723	0.0042	0.0085	0.0299	-3.6840	0.0771	-1.0277	0.0410
4	119.88	0.6999	0.0704	0.0052	-0.0097	0.0355	-4.7658	0.0973	-0.9171	0.0442
4	119.88	0.7500	0.0426	0.0068	-0.0186	0.0414	-5.9992	0.1202	-0.7269	0.0434
4	119.88	0.8002	0.0094	0.0096	-0.0422	0.0477	-7.3901	0.1492	-0.6734	0.0472
4	119.88	0.8582	-0.0386	0.0129	-0.0725	0.0560	-9.1288	0.1912	-0.9600	0.0484
4	119.88	0.9101	-0.0709	0.0157	-0.1002	0.0630	-10.7230	0.2340	-1.0037	0.0567
4	119.88	0.9728	-0.0554	0.0215	-0.1111	0.0715	-12.6160	0.2925	-0.9027	0.0607

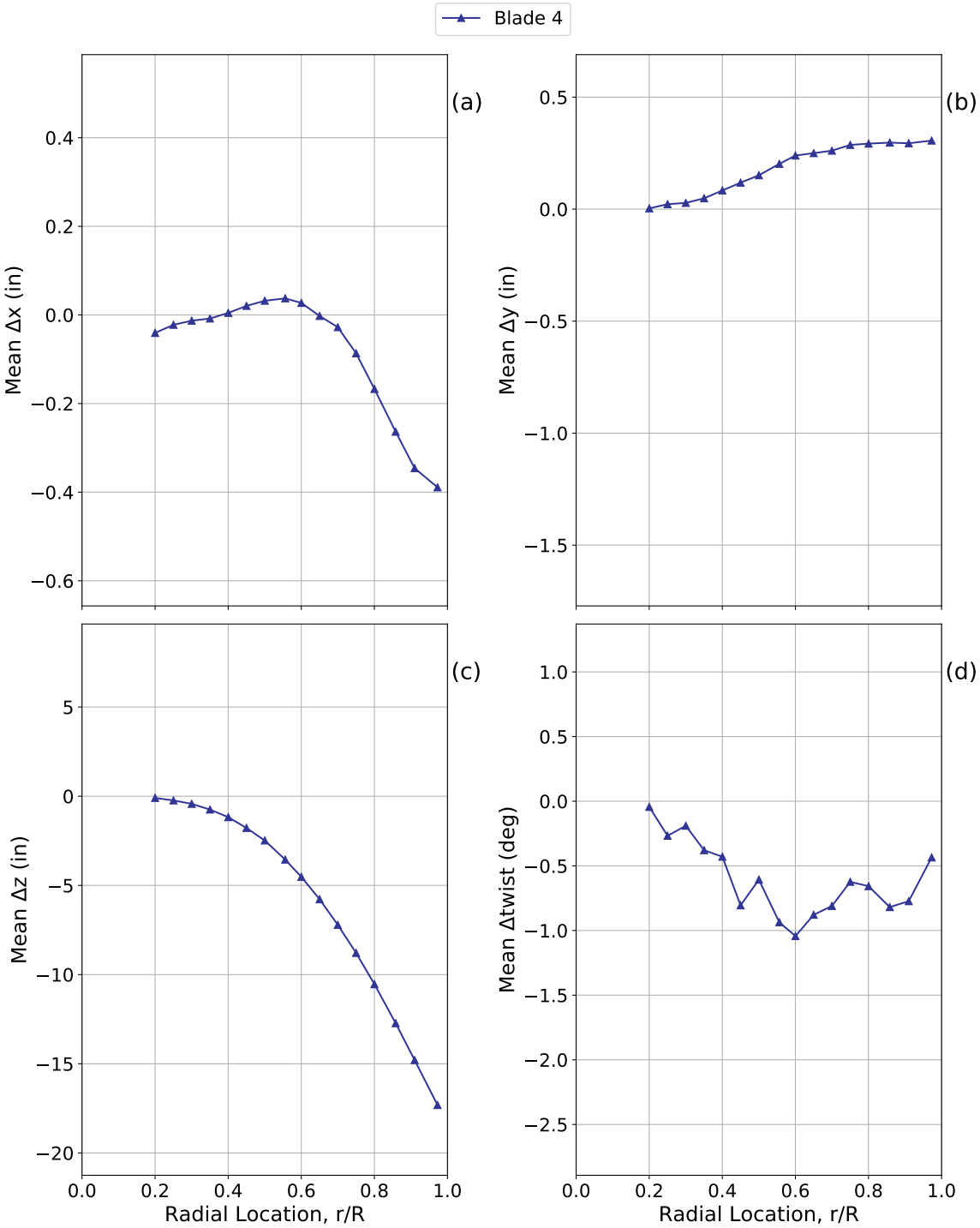


Figure 3.28-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0406	0.0010	0.0034	0.0010	-0.0962	0.0015	-0.0439	0.0277
4	135	0.2502	-0.0223	0.0016	0.0221	0.0018	-0.2352	0.0052	-0.2674	0.0264
4	135	0.3001	-0.0130	0.0011	0.0278	0.0038	-0.4281	0.0071	-0.1899	0.0562
4	135	0.3502	-0.0081	0.0012	0.0483	0.0065	-0.7478	0.0127	-0.3791	0.0525
4	135	0.4002	0.0046	0.0016	0.0834	0.0099	-1.1738	0.0201	-0.4293	0.0532
4	135	0.4500	0.0204	0.0018	0.1181	0.0122	-1.7805	0.0267	-0.8055	0.0600
4	135	0.5001	0.0320	0.0022	0.1512	0.0161	-2.4824	0.0380	-0.6068	0.0634
4	135	0.5560	0.0374	0.0038	0.2020	0.0209	-3.5540	0.0502	-0.9365	0.0868
4	135	0.6001	0.0271	0.0037	0.2392	0.0229	-4.5218	0.0700	-1.0431	0.0726
4	135	0.6501	-0.0023	0.0052	0.2499	0.0287	-5.7792	0.0841	-0.8784	0.0763
4	135	0.6999	-0.0277	0.0061	0.2609	0.0326	-7.2107	0.1074	-0.8103	0.0793
4	135	0.7500	-0.0866	0.0087	0.2866	0.0382	-8.7879	0.1292	-0.6235	0.0795
4	135	0.8002	-0.1671	0.0121	0.2924	0.0429	-10.5412	0.1542	-0.6572	0.0852
4	135	0.8582	-0.2636	0.0165	0.2969	0.0482	-12.7267	0.1895	-0.8190	0.0866
4	135	0.9101	-0.3459	0.0205	0.2940	0.0539	-14.7949	0.2222	-0.7733	0.0933
4	135	0.9728	-0.3891	0.0252	0.3059	0.0603	-17.3146	0.2664	-0.4348	0.0953

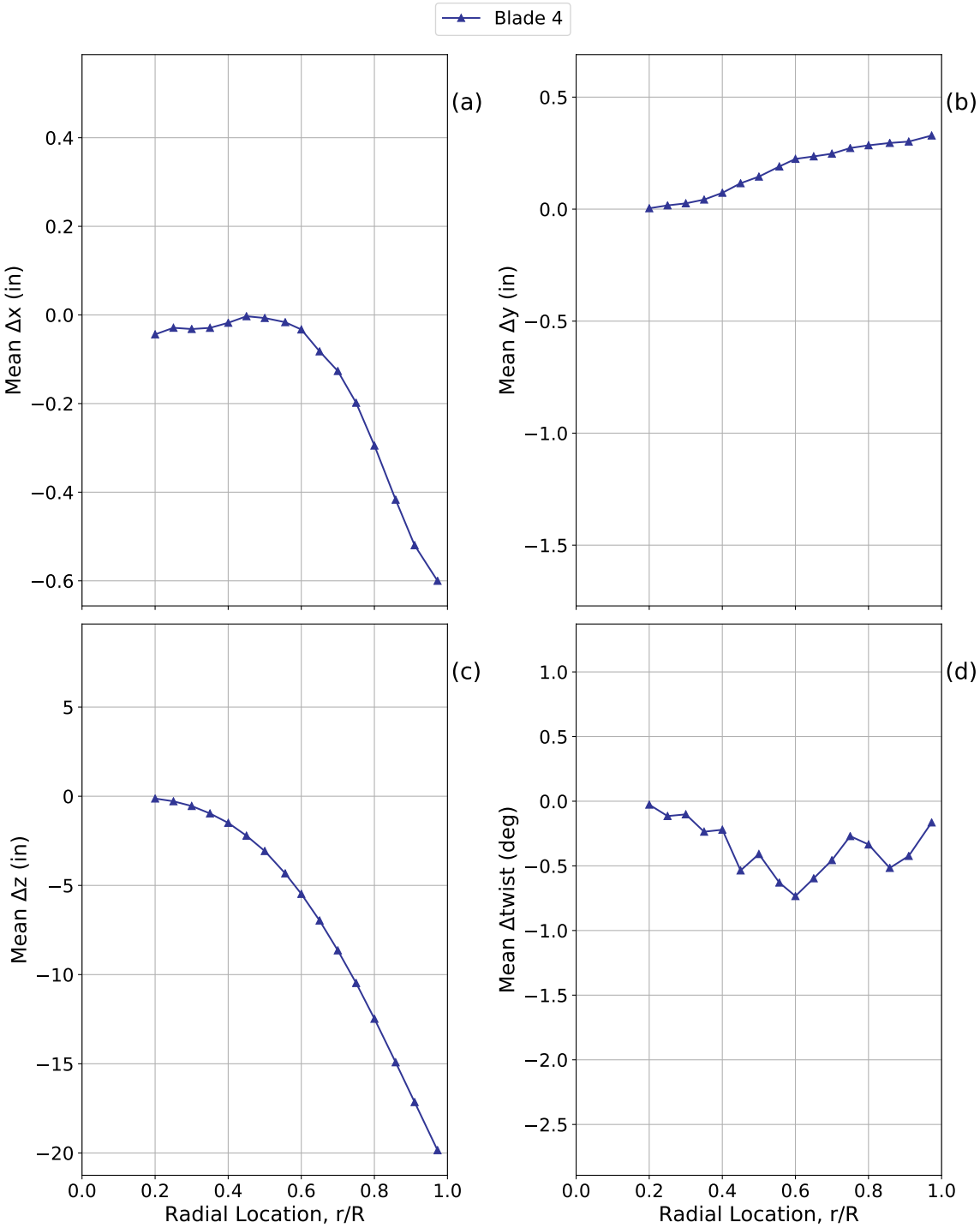


Figure 3.28-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0439	0.0021	0.0038	0.0011	-0.1301	0.0030	-0.0267	0.0305
4	150.12	0.2502	-0.0290	0.0016	0.0167	0.0027	-0.2836	0.0071	-0.1149	0.0532
4	150.12	0.3001	-0.0318	0.0016	0.0257	0.0038	-0.5491	0.0123	-0.1017	0.0701
4	150.12	0.3502	-0.0292	0.0019	0.0426	0.0088	-0.9664	0.0214	-0.2360	0.0403
4	150.12	0.4002	-0.0177	0.0026	0.0728	0.0118	-1.4955	0.0335	-0.2206	0.0618
4	150.12	0.4500	-0.0030	0.0035	0.1155	0.0144	-2.2145	0.0445	-0.5357	0.0762
4	150.12	0.5001	-0.0069	0.0034	0.1451	0.0193	-3.0738	0.0580	-0.4088	0.0829
4	150.12	0.5560	-0.0164	0.0045	0.1903	0.0235	-4.3288	0.0735	-0.6297	0.0653
4	150.12	0.6001	-0.0329	0.0054	0.2242	0.0276	-5.4785	0.0848	-0.7340	0.0797
4	150.12	0.6501	-0.0823	0.0071	0.2353	0.0326	-6.9719	0.0986	-0.5964	0.0744
4	150.12	0.6999	-0.1266	0.0081	0.2474	0.0384	-8.6448	0.1083	-0.4559	0.0857
4	150.12	0.7500	-0.1983	0.0090	0.2727	0.0454	-10.4744	0.1208	-0.2701	0.0820
4	150.12	0.8002	-0.2949	0.0117	0.2849	0.0510	-12.4791	0.1339	-0.3349	0.0823
4	150.12	0.8582	-0.4170	0.0132	0.2954	0.0594	-14.9186	0.1534	-0.5162	0.0790
4	150.12	0.9101	-0.5198	0.0159	0.3015	0.0669	-17.1503	0.1733	-0.4235	0.0782
4	150.12	0.9728	-0.6001	0.0191	0.3285	0.0755	-19.8476	0.1991	-0.1644	0.0783

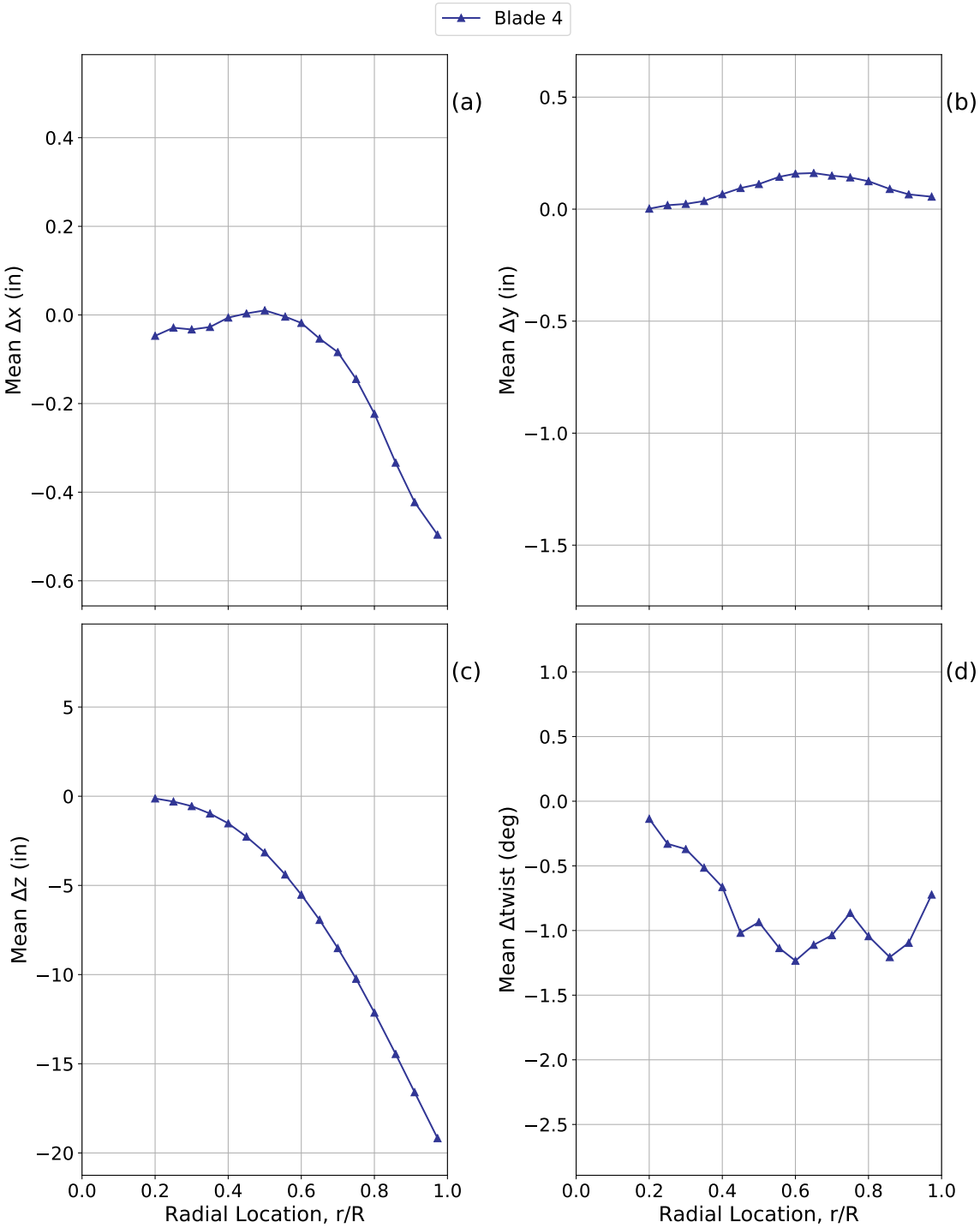


Figure 3.28-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0471	0.0009	0.0020	0.0006	-0.1263	0.0032	-0.1364	0.0201
4	164.88	0.2502	-0.0288	0.0019	0.0175	0.0020	-0.2995	0.0063	-0.3295	0.0323
4	164.88	0.3001	-0.0328	0.0016	0.0232	0.0030	-0.5566	0.0138	-0.3705	0.0442
4	164.88	0.3502	-0.0272	0.0023	0.0360	0.0052	-0.9720	0.0217	-0.5144	0.0459
4	164.88	0.4002	-0.0060	0.0027	0.0666	0.0083	-1.5223	0.0350	-0.6641	0.0572
4	164.88	0.4500	0.0033	0.0038	0.0941	0.0099	-2.2703	0.0489	-1.0182	0.0579
4	164.88	0.5001	0.0103	0.0046	0.1118	0.0118	-3.1501	0.0674	-0.9352	0.0656
4	164.88	0.5560	-0.0039	0.0059	0.1443	0.0180	-4.3918	0.0850	-1.1363	0.0606
4	164.88	0.6001	-0.0181	0.0069	0.1583	0.0199	-5.5235	0.1014	-1.2340	0.0573
4	164.88	0.6501	-0.0534	0.0083	0.1611	0.0254	-6.9361	0.1226	-1.1112	0.0496
4	164.88	0.6999	-0.0840	0.0095	0.1495	0.0299	-8.5193	0.1417	-1.0366	0.0701
4	164.88	0.7500	-0.1446	0.0118	0.1414	0.0351	-10.2375	0.1603	-0.8642	0.0681
4	164.88	0.8002	-0.2231	0.0144	0.1245	0.0411	-12.1349	0.1809	-1.0442	0.0613
4	164.88	0.8582	-0.3335	0.0188	0.0899	0.0481	-14.4554	0.2116	-1.2062	0.0528
4	164.88	0.9101	-0.4226	0.0232	0.0659	0.0549	-16.5976	0.2435	-1.0953	0.0736
4	164.88	0.9728	-0.4960	0.0290	0.0555	0.0627	-19.1737	0.2885	-0.7226	0.0774

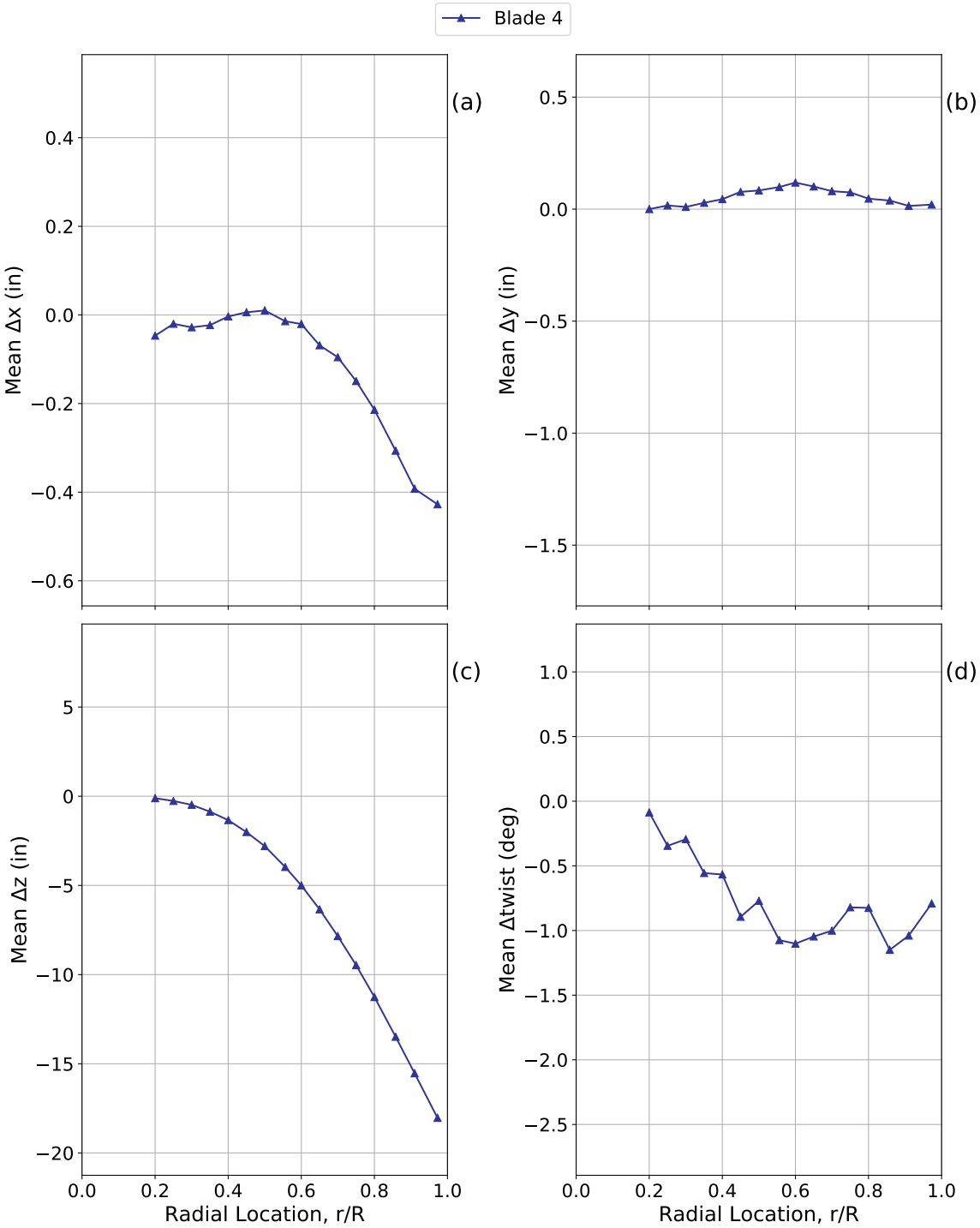


Figure 3.28-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0468	0.0068	0.0001	0.0015	-0.1124	0.0020	-0.0872	0.0135
4	170.16	0.2502	-0.0200	0.0033	0.0163	0.0034	-0.2653	0.0032	-0.3455	0.0285
4	170.16	0.3001	-0.0280	0.0022	0.0098	0.0068	-0.4842	0.0063	-0.2940	0.0265
4	170.16	0.3502	-0.0230	0.0067	0.0280	0.0107	-0.8672	0.0098	-0.5558	0.0289
4	170.16	0.4002	-0.0034	0.0124	0.0446	0.0176	-1.3419	0.0149	-0.5669	0.0334
4	170.16	0.4500	0.0060	0.0174	0.0771	0.0257	-2.0117	0.0210	-0.8941	0.0322
4	170.16	0.5001	0.0101	0.0230	0.0833	0.0346	-2.8003	0.0293	-0.7709	0.0345
4	170.16	0.5560	-0.0142	0.0290	0.0987	0.0458	-3.9693	0.0425	-1.0743	0.0344
4	170.16	0.6001	-0.0205	0.0329	0.1184	0.0543	-5.0019	0.0520	-1.1018	0.0364
4	170.16	0.6501	-0.0686	0.0376	0.1009	0.0650	-6.3466	0.0634	-1.0465	0.0396
4	170.16	0.6999	-0.0955	0.0420	0.0801	0.0761	-7.8457	0.0735	-1.0015	0.0495
4	170.16	0.7500	-0.1492	0.0442	0.0747	0.0881	-9.4702	0.0839	-0.8207	0.0481
4	170.16	0.8002	-0.2142	0.0482	0.0467	0.0990	-11.2626	0.0929	-0.8253	0.0536
4	170.16	0.8582	-0.3065	0.0493	0.0383	0.1164	-13.4882	0.1021	-1.1498	0.0570
4	170.16	0.9101	-0.3924	0.0513	0.0144	0.1298	-15.5359	0.1074	-1.0394	0.0522
4	170.16	0.9728	-0.4274	0.0542	0.0202	0.1558	-18.0358	0.1131	-0.7913	0.0746

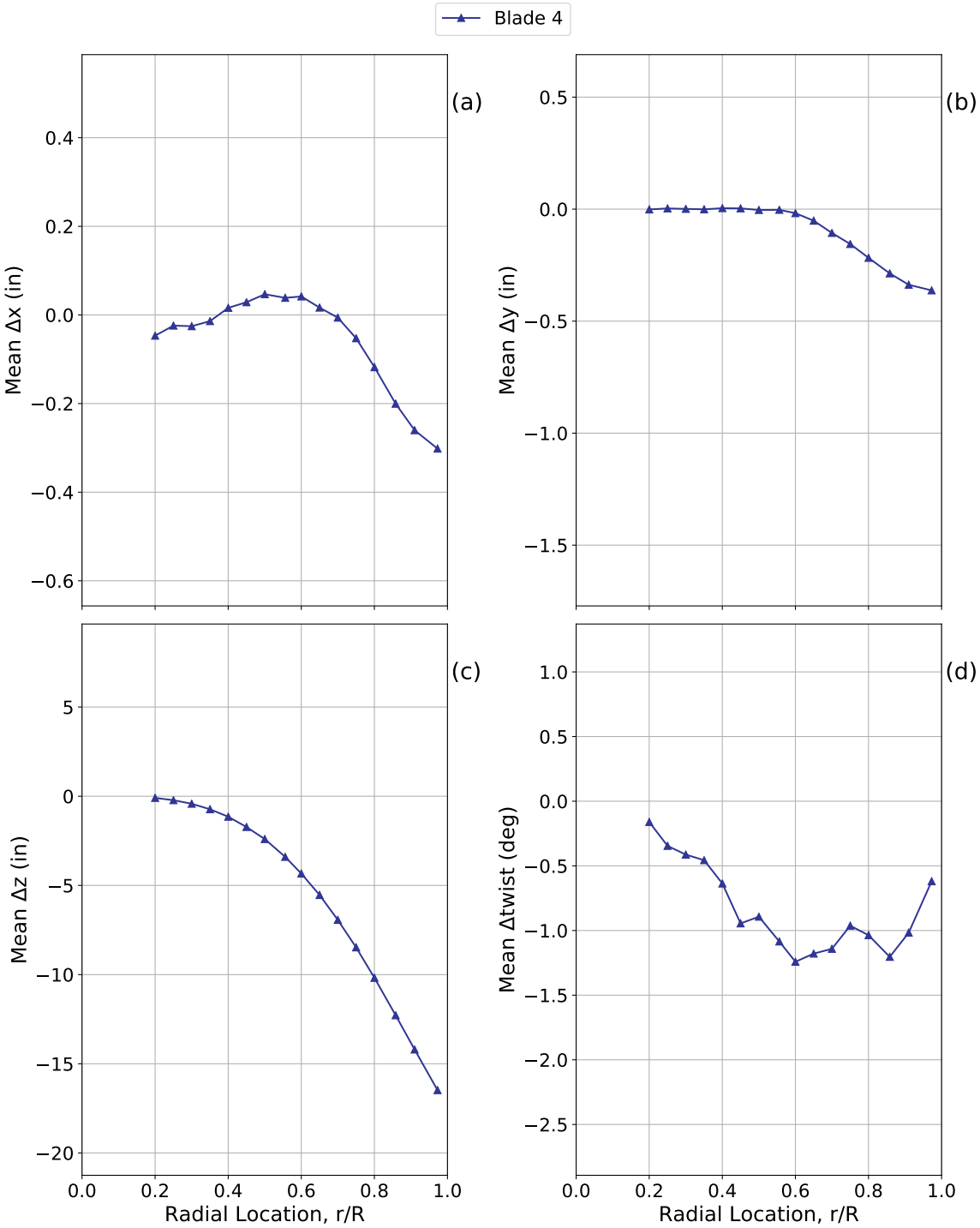


Figure 3.28-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0468	0.0018	-0.0014	0.0014	-0.0947	0.0032	-0.1610	0.0341
4	175.08	0.2502	-0.0241	0.0021	0.0032	0.0029	-0.2229	0.0065	-0.3456	0.0400
4	175.08	0.3001	-0.0254	0.0024	0.0011	0.0059	-0.4221	0.0102	-0.4130	0.0674
4	175.08	0.3502	-0.0140	0.0026	-0.0009	0.0097	-0.7314	0.0162	-0.4562	0.0625
4	175.08	0.4002	0.0160	0.0032	0.0042	0.0153	-1.1500	0.0247	-0.6367	0.0602
4	175.08	0.4500	0.0287	0.0028	0.0034	0.0182	-1.7255	0.0332	-0.9450	0.0665
4	175.08	0.5001	0.0467	0.0032	-0.0039	0.0235	-2.4027	0.0425	-0.8931	0.0569
4	175.08	0.5560	0.0386	0.0032	-0.0032	0.0269	-3.4007	0.0542	-1.0849	0.0641
4	175.08	0.6001	0.0417	0.0030	-0.0181	0.0312	-4.3381	0.0581	-1.2417	0.0631
4	175.08	0.6501	0.0165	0.0034	-0.0517	0.0364	-5.5388	0.0659	-1.1785	0.0783
4	175.08	0.6999	-0.0061	0.0033	-0.1063	0.0410	-6.9339	0.0675	-1.1417	0.0734
4	175.08	0.7500	-0.0526	0.0044	-0.1557	0.0477	-8.4753	0.0761	-0.9628	0.0648
4	175.08	0.8002	-0.1179	0.0064	-0.2175	0.0539	-10.1839	0.0839	-1.0364	0.0757
4	175.08	0.8582	-0.2004	0.0079	-0.2870	0.0610	-12.2820	0.0972	-1.2038	0.0671
4	175.08	0.9101	-0.2602	0.0097	-0.3376	0.0684	-14.2012	0.1114	-1.0165	0.0702
4	175.08	0.9728	-0.3017	0.0113	-0.3627	0.0763	-16.4803	0.1296	-0.6192	0.0754

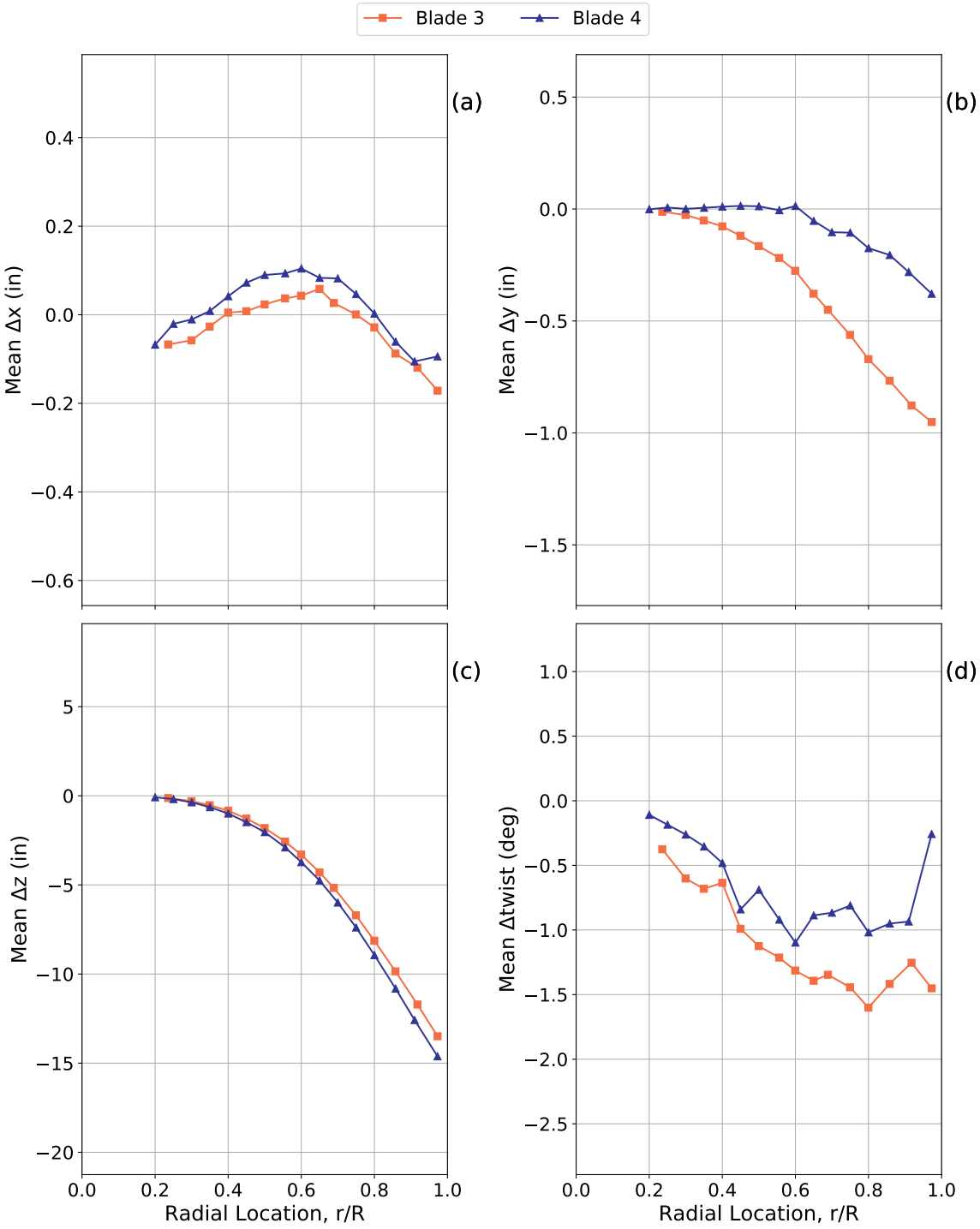


Figure 3.28-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0671	0.0030	-0.0124	0.0031	-0.1257	0.0058	-0.3755	0.0590
3	180.35	0.2995	-0.0577	0.0030	-0.0267	0.0080	-0.3000	0.0152	-0.6015	0.0961
3	180.35	0.3493	-0.0267	0.0037	-0.0511	0.0130	-0.5278	0.0230	-0.6814	0.1030
3	180.35	0.4000	0.0049	0.0033	-0.0777	0.0213	-0.8362	0.0381	-0.6350	0.0906
3	180.35	0.4497	0.0079	0.0032	-0.1195	0.0248	-1.2803	0.0515	-0.9905	0.0996
3	180.35	0.4997	0.0233	0.0032	-0.1656	0.0312	-1.8103	0.0709	-1.1248	0.0828
3	180.35	0.5556	0.0369	0.0046	-0.2186	0.0373	-2.5701	0.0919	-1.2135	0.0906
3	180.35	0.5995	0.0431	0.0050	-0.2759	0.0425	-3.3005	0.1151	-1.3140	0.0761
3	180.35	0.6498	0.0584	0.0071	-0.3784	0.0489	-4.2957	0.1410	-1.3929	0.0881
3	180.35	0.6890	0.0265	0.0080	-0.4499	0.0534	-5.1643	0.1597	-1.3465	0.0869
3	180.35	0.7495	0.0008	0.0091	-0.5623	0.0592	-6.7078	0.1917	-1.4436	0.0761
3	180.35	0.7998	-0.0284	0.0115	-0.6707	0.0656	-8.1306	0.2200	-1.6010	0.0880
3	180.35	0.8577	-0.0877	0.0145	-0.7665	0.0731	-9.8485	0.2548	-1.4177	0.0768
3	180.35	0.9178	-0.1194	0.0181	-0.8777	0.0810	-11.7092	0.2914	-1.2534	0.0851
3	180.35	0.9729	-0.1713	0.0207	-0.9514	0.0867	-13.4903	0.3261	-1.4515	0.0868
4	180	0.2001	-0.0676	0.0011	-0.0013	0.0009	-0.0871	0.0037	-0.1094	0.0190
4	180	0.2502	-0.0206	0.0011	0.0064	0.0041	-0.1878	0.0081	-0.1856	0.0404
4	180	0.3001	-0.0106	0.0012	0.0006	0.0048	-0.3694	0.0134	-0.2616	0.0453
4	180	0.3502	0.0086	0.0012	0.0056	0.0088	-0.6430	0.0240	-0.3541	0.0368
4	180	0.4002	0.0418	0.0015	0.0104	0.0146	-0.9991	0.0362	-0.4824	0.0533
4	180	0.4500	0.0725	0.0019	0.0140	0.0177	-1.4826	0.0460	-0.8409	0.0540
4	180	0.5001	0.0898	0.0021	0.0121	0.0219	-2.0399	0.0561	-0.6894	0.0447
4	180	0.5560	0.0935	0.0028	-0.0055	0.0269	-2.8993	0.0691	-0.9202	0.0470
4	180	0.6001	0.1044	0.0039	0.0135	0.0301	-3.7272	0.0776	-1.0977	0.0451
4	180	0.6501	0.0833	0.0043	-0.0531	0.0360	-4.7552	0.0883	-0.8869	0.0635
4	180	0.6999	0.0821	0.0043	-0.1037	0.0393	-5.9922	0.0963	-0.8666	0.0726
4	180	0.7500	0.0466	0.0064	-0.1056	0.0454	-7.3911	0.1065	-0.8106	0.0725
4	180	0.8002	0.0026	0.0081	-0.1750	0.0543	-8.9416	0.1148	-1.0187	0.1107
4	180	0.8582	-0.0608	0.0108	-0.2057	0.0639	-10.8205	0.1374	-0.9506	0.1254
4	180	0.9101	-0.1054	0.0140	-0.2816	0.0667	-12.5834	0.1613	-0.9348	0.2048
4	180	0.9728	-0.0942	0.0141	-0.3787	0.0749	-14.6191	0.1708	-0.2578	0.1242

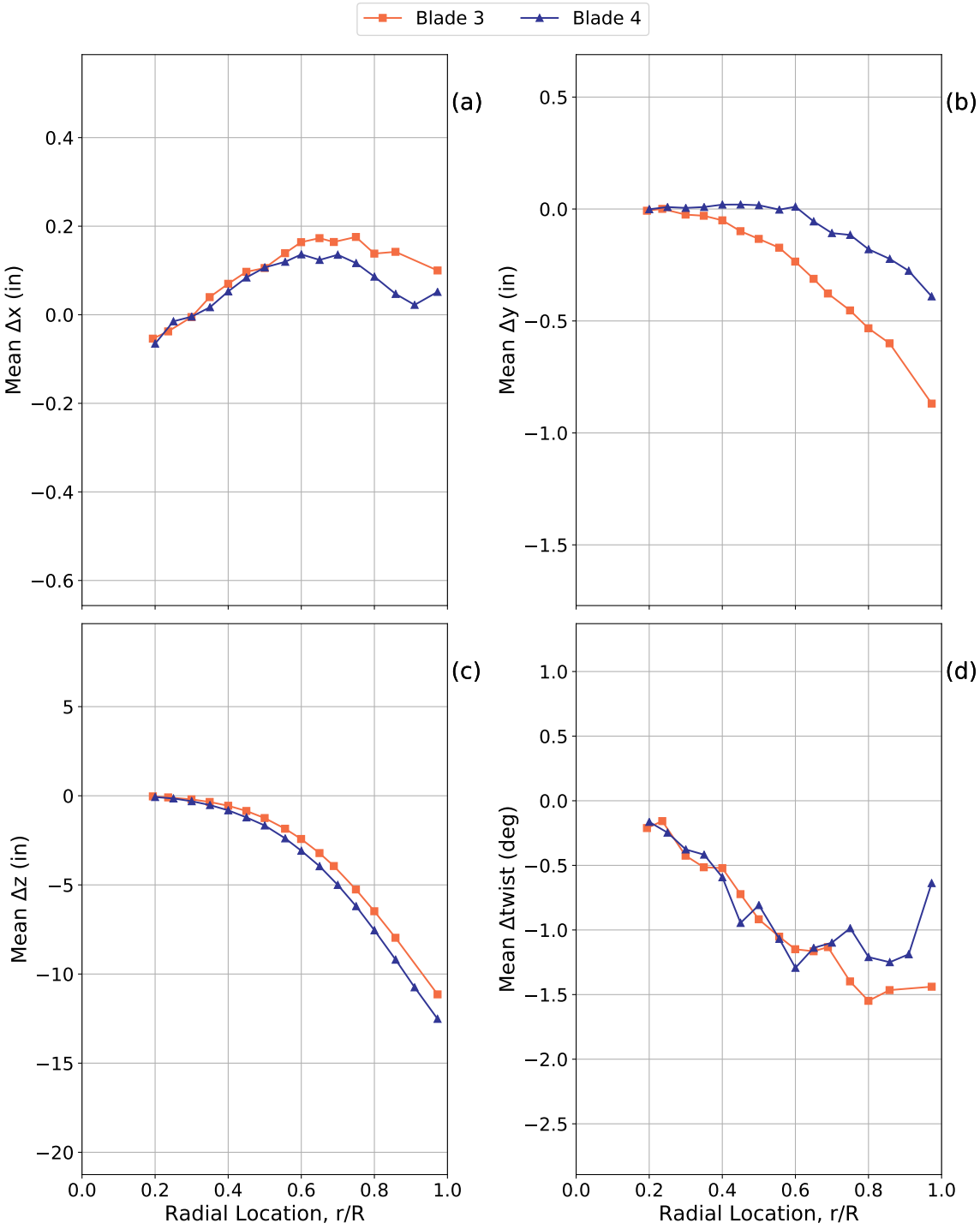


Figure 3.28-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0539	0.0011	-0.0076	0.0013	-0.0349	0.0038	-0.2114	0.0239
3	184.92	0.2357	-0.0376	0.0011	0.0006	0.0028	-0.0917	0.0055	-0.1575	0.0324
3	184.92	0.2995	-0.0052	0.0013	-0.0250	0.0060	-0.2014	0.0153	-0.4251	0.0519
3	184.92	0.3493	0.0398	0.0013	-0.0301	0.0094	-0.3468	0.0235	-0.5147	0.0504
3	184.92	0.4000	0.0699	0.0014	-0.0506	0.0156	-0.5599	0.0374	-0.5212	0.0554
3	184.92	0.4497	0.0970	0.0022	-0.0990	0.0171	-0.8523	0.0485	-0.7227	0.0644
3	184.92	0.4997	0.1055	0.0024	-0.1335	0.0206	-1.2495	0.0640	-0.9173	0.0584
3	184.92	0.5556	0.1391	0.0030	-0.1728	0.0245	-1.8483	0.0844	-1.0517	0.0680
3	184.92	0.5995	0.1639	0.0026	-0.2348	0.0299	-2.4233	0.1001	-1.1491	0.0622
3	184.92	0.6498	0.1730	0.0039	-0.3118	0.0345	-3.2148	0.1194	-1.1647	0.0704
3	184.92	0.6890	0.1643	0.0052	-0.3774	0.0373	-3.9413	0.1340	-1.1326	0.1100
3	184.92	0.7495	0.1757	0.0060	-0.4530	0.0434	-5.2559	0.1525	-1.3980	0.0955
3	184.92	0.7998	0.1381	0.0078	-0.5326	0.0477	-6.4776	0.1681	-1.5482	0.0856
3	184.92	0.8577	0.1421	0.0094	-0.5999	0.0610	-7.9663	0.1922	-1.4653	0.1117
3	184.92	0.9729	0.1000	0.0155	-0.8690	0.0699	-11.1411	0.2376	-1.4390	0.1272
4	184.92	0.2001	-0.0652	0.0012	-0.0011	0.0010	-0.0717	0.0032	-0.1637	0.0208
4	184.92	0.2502	-0.0149	0.0010	0.0087	0.0029	-0.1526	0.0072	-0.2469	0.0485
4	184.92	0.3001	-0.0042	0.0014	0.0049	0.0052	-0.3064	0.0130	-0.3770	0.0518
4	184.92	0.3502	0.0170	0.0014	0.0089	0.0079	-0.5224	0.0209	-0.4172	0.0490
4	184.92	0.4002	0.0528	0.0018	0.0196	0.0134	-0.8181	0.0332	-0.5922	0.0558
4	184.92	0.4500	0.0841	0.0017	0.0200	0.0157	-1.2153	0.0399	-0.9456	0.0548
4	184.92	0.5001	0.1068	0.0024	0.0169	0.0206	-1.6682	0.0548	-0.8076	0.0537
4	184.92	0.5560	0.1196	0.0024	-0.0028	0.0254	-2.3901	0.0709	-1.0691	0.0570
4	184.92	0.6001	0.1363	0.0028	0.0102	0.0277	-3.0867	0.0828	-1.2930	0.0626
4	184.92	0.6501	0.1238	0.0033	-0.0556	0.0338	-3.9539	0.0972	-1.1384	0.0654
4	184.92	0.6999	0.1354	0.0045	-0.1076	0.0392	-5.0031	0.1171	-1.0982	0.0640
4	184.92	0.7500	0.1166	0.0058	-0.1158	0.0449	-6.1955	0.1349	-0.9862	0.1004
4	184.92	0.8002	0.0860	0.0073	-0.1798	0.0512	-7.5506	0.1549	-1.2099	0.1120
4	184.92	0.8582	0.0470	0.0094	-0.2229	0.0559	-9.1966	0.1823	-1.2495	0.1152
4	184.92	0.9101	0.0223	0.0124	-0.2760	0.0670	-10.7460	0.2052	-1.1880	0.1680
4	184.92	0.9728	0.0516	0.0149	-0.3903	0.0748	-12.5159	0.2387	-0.6373	0.1201

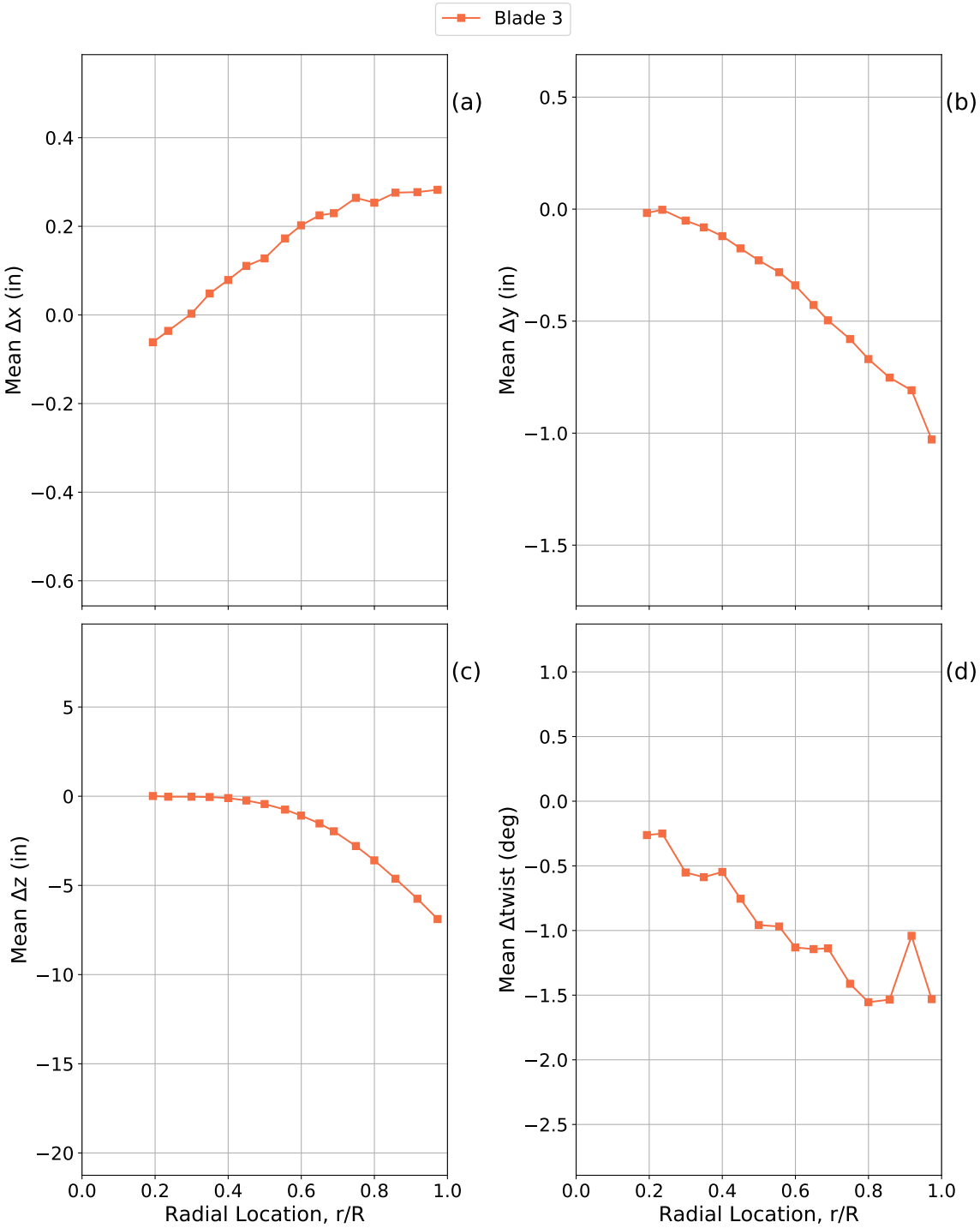


Figure 3.28-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0616	0.0013	-0.0170	0.0007	0.0119	0.0037	-0.2618	0.0246
3	195.12	0.2357	-0.0360	0.0014	-0.0028	0.0018	-0.0275	0.0081	-0.2499	0.0329
3	195.12	0.2995	0.0029	0.0014	-0.0510	0.0025	-0.0277	0.0173	-0.5510	0.0558
3	195.12	0.3493	0.0484	0.0016	-0.0814	0.0055	-0.0440	0.0303	-0.5874	0.0511
3	195.12	0.4000	0.0788	0.0023	-0.1206	0.0081	-0.1052	0.0473	-0.5469	0.0545
3	195.12	0.4497	0.1107	0.0028	-0.1752	0.0111	-0.2390	0.0675	-0.7540	0.0579
3	195.12	0.4997	0.1276	0.0020	-0.2286	0.0129	-0.4374	0.0878	-0.9578	0.0559
3	195.12	0.5556	0.1727	0.0032	-0.2817	0.0153	-0.7505	0.1159	-0.9688	0.0680
3	195.12	0.5995	0.2022	0.0043	-0.3402	0.0189	-1.0843	0.1412	-1.1308	0.0660
3	195.12	0.6498	0.2248	0.0046	-0.4280	0.0217	-1.5271	0.1737	-1.1440	0.0616
3	195.12	0.6890	0.2296	0.0054	-0.4964	0.0262	-1.9642	0.1997	-1.1378	0.0672
3	195.12	0.7495	0.2642	0.0069	-0.5799	0.0314	-2.7943	0.2427	-1.4119	0.0730
3	195.12	0.7998	0.2534	0.0090	-0.6693	0.0353	-3.5953	0.2782	-1.5544	0.0651
3	195.12	0.8577	0.2760	0.0110	-0.7520	0.0444	-4.6243	0.3165	-1.5345	0.0976
3	195.12	0.9178	0.2772	0.0125	-0.8087	0.0531	-5.7499	0.3613	-1.0409	0.1985
3	195.12	0.9729	0.2824	0.0150	-1.0283	0.0535	-6.8854	0.4021	-1.5308	0.1022

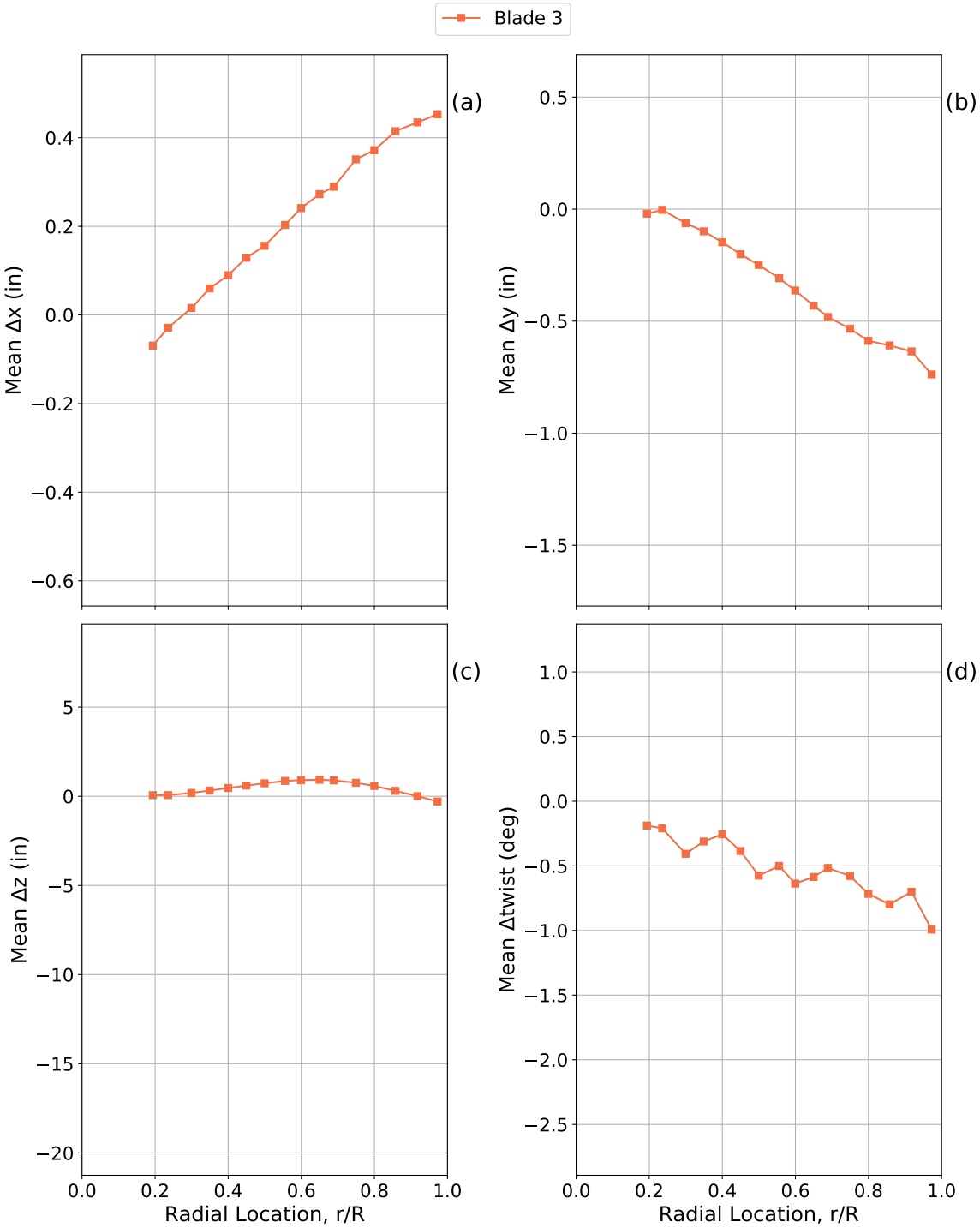


Figure 3.28-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0692	0.0014	-0.0205	0.0007	0.0611	0.0034	-0.1878	0.0358
3	209.88	0.2357	-0.0290	0.0011	-0.0031	0.0024	0.0619	0.0070	-0.2092	0.0412
3	209.88	0.2995	0.0156	0.0017	-0.0624	0.0048	0.1878	0.0138	-0.4060	0.0771
3	209.88	0.3493	0.0600	0.0019	-0.0990	0.0077	0.3183	0.0248	-0.3111	0.0524
3	209.88	0.4000	0.0897	0.0020	-0.1476	0.0129	0.4620	0.0368	-0.2555	0.0766
3	209.88	0.4497	0.1292	0.0026	-0.2012	0.0138	0.6000	0.0495	-0.3849	0.0594
3	209.88	0.4997	0.1560	0.0036	-0.2490	0.0168	0.7269	0.0654	-0.5751	0.0802
3	209.88	0.5556	0.2033	0.0033	-0.3085	0.0215	0.8620	0.0882	-0.5004	0.0704
3	209.88	0.5995	0.2412	0.0036	-0.3631	0.0215	0.9057	0.1062	-0.6365	0.0675
3	209.88	0.6498	0.2726	0.0023	-0.4306	0.0266	0.9258	0.1270	-0.5856	0.0836
3	209.88	0.6890	0.2893	0.0026	-0.4816	0.0286	0.8946	0.1456	-0.5161	0.0702
3	209.88	0.7495	0.3512	0.0026	-0.5339	0.0330	0.7543	0.1718	-0.5779	0.0727
3	209.88	0.7998	0.3718	0.0024	-0.5879	0.0378	0.5794	0.1947	-0.7161	0.0697
3	209.88	0.8577	0.4147	0.0032	-0.6084	0.0425	0.3029	0.2250	-0.7972	0.0877
3	209.88	0.9178	0.4345	0.0034	-0.6350	0.0485	0.0058	0.2559	-0.6999	0.0758
3	209.88	0.9729	0.4530	0.0047	-0.7380	0.0534	-0.2915	0.2849	-0.9928	0.0838

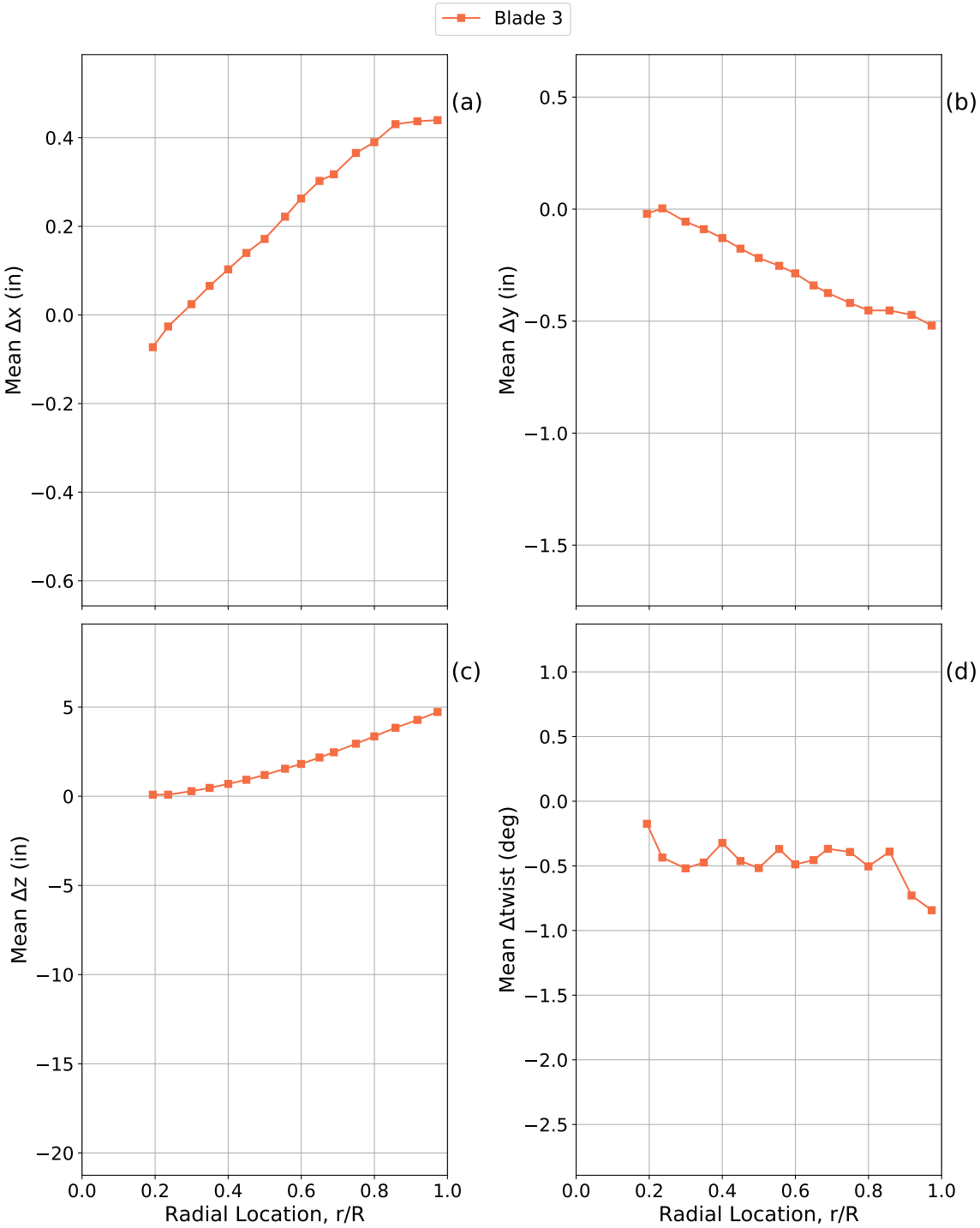


Figure 3.28-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0727	0.0011	-0.0208	0.0007	0.0884	0.0041	-0.1745	0.0333
3	225	0.2357	-0.0260	0.0012	0.0036	0.0023	0.0879	0.0073	-0.4355	0.0468
3	225	0.2995	0.0243	0.0011	-0.0562	0.0034	0.2825	0.0148	-0.5193	0.0767
3	225	0.3493	0.0656	0.0016	-0.0894	0.0070	0.4659	0.0279	-0.4741	0.0521
3	225	0.4000	0.1028	0.0027	-0.1291	0.0105	0.6892	0.0398	-0.3225	0.0802
3	225	0.4497	0.1399	0.0029	-0.1763	0.0116	0.9224	0.0610	-0.4626	0.0659
3	225	0.4997	0.1715	0.0023	-0.2179	0.0122	1.1910	0.0745	-0.5170	0.0765
3	225	0.5556	0.2217	0.0034	-0.2530	0.0161	1.5428	0.1015	-0.3695	0.0988
3	225	0.5995	0.2627	0.0046	-0.2866	0.0184	1.8103	0.1159	-0.4886	0.0743
3	225	0.6498	0.3025	0.0044	-0.3405	0.0210	2.1697	0.1395	-0.4554	0.0708
3	225	0.6890	0.3174	0.0039	-0.3744	0.0235	2.4620	0.1495	-0.3682	0.0887
3	225	0.7495	0.3656	0.0046	-0.4189	0.0271	2.9425	0.1750	-0.3927	0.0751
3	225	0.7998	0.3899	0.0051	-0.4520	0.0309	3.3575	0.1939	-0.5041	0.0959
3	225	0.8577	0.4305	0.0061	-0.4523	0.0349	3.8373	0.2172	-0.3901	0.0891
3	225	0.9178	0.4371	0.0069	-0.4722	0.0396	4.2802	0.2401	-0.7293	0.0805
3	225	0.9729	0.4396	0.0093	-0.5199	0.0444	4.7228	0.2605	-0.8429	0.0722

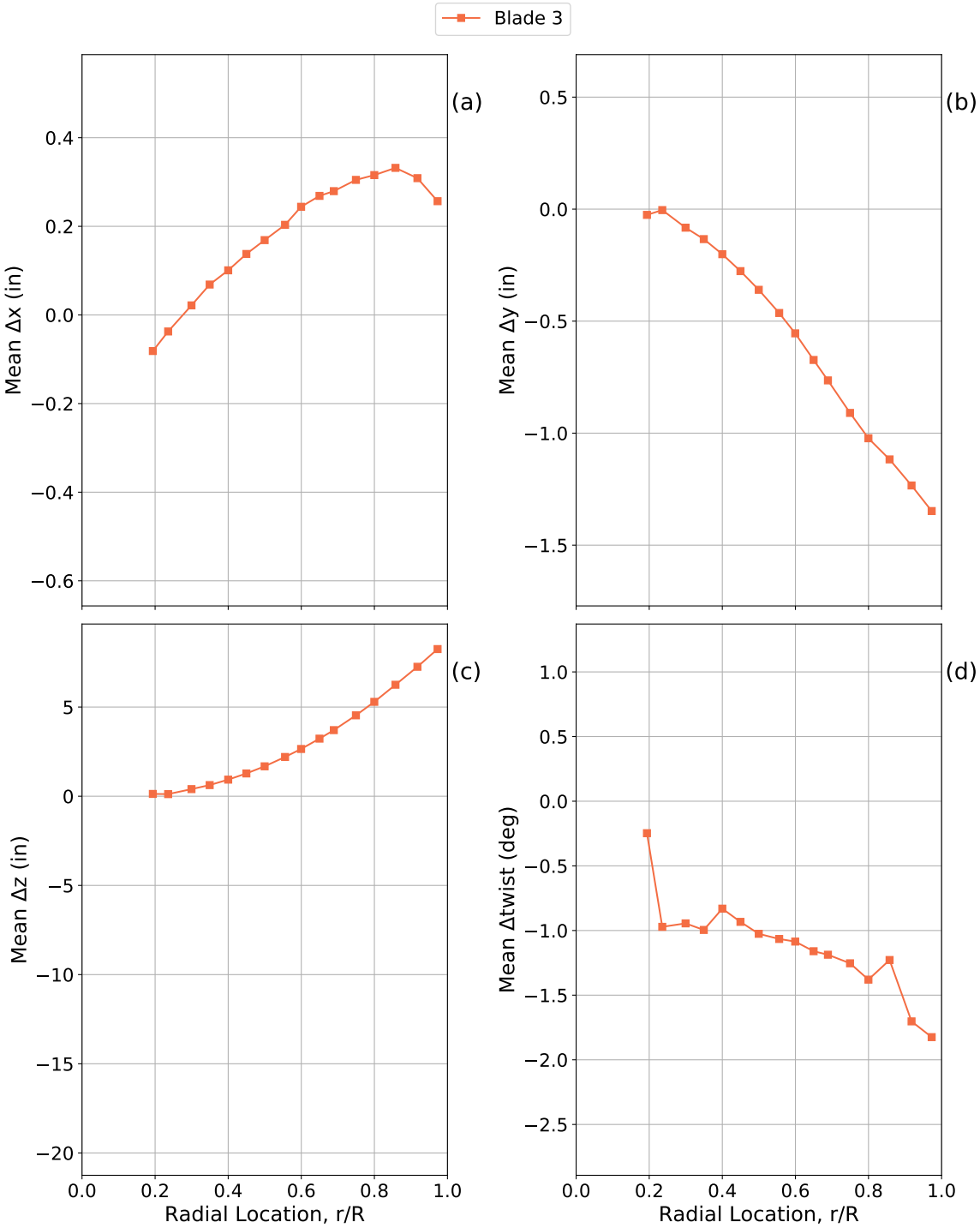


Figure 3.28-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0814	0.0016	-0.0257	0.0012	0.1295	0.0059	-0.2473	0.0306
3	240.12	0.2357	-0.0373	0.0012	-0.0042	0.0024	0.1183	0.0077	-0.9716	0.0360
3	240.12	0.2995	0.0216	0.0023	-0.0827	0.0065	0.3989	0.0203	-0.9448	0.0635
3	240.12	0.3493	0.0686	0.0023	-0.1338	0.0107	0.6252	0.0297	-0.9955	0.0608
3	240.12	0.4000	0.1007	0.0022	-0.2011	0.0174	0.9307	0.0466	-0.8309	0.0748
3	240.12	0.4497	0.1376	0.0025	-0.2767	0.0212	1.2774	0.0589	-0.9331	0.0755
3	240.12	0.4997	0.1689	0.0024	-0.3601	0.0261	1.6767	0.0758	-1.0254	0.0645
3	240.12	0.5556	0.2034	0.0034	-0.4636	0.0332	2.2007	0.0922	-1.0654	0.0570
3	240.12	0.5995	0.2441	0.0042	-0.5545	0.0391	2.6495	0.1082	-1.0855	0.0451
3	240.12	0.6498	0.2687	0.0048	-0.6732	0.0452	3.2283	0.1247	-1.1601	0.0571
3	240.12	0.6890	0.2794	0.0051	-0.7645	0.0497	3.7061	0.1341	-1.1872	0.0609
3	240.12	0.7495	0.3048	0.0061	-0.9097	0.0577	4.5351	0.1540	-1.2535	0.0890
3	240.12	0.7998	0.3156	0.0066	-1.0228	0.0655	5.2918	0.1690	-1.3798	0.0869
3	240.12	0.8577	0.3319	0.0077	-1.1171	0.0742	6.2503	0.1882	-1.2281	0.0491
3	240.12	0.9178	0.3087	0.0091	-1.2335	0.0835	7.2572	0.2072	-1.7028	0.0512
3	240.12	0.9729	0.2567	0.0124	-1.3477	0.0918	8.2506	0.2270	-1.8246	0.0509

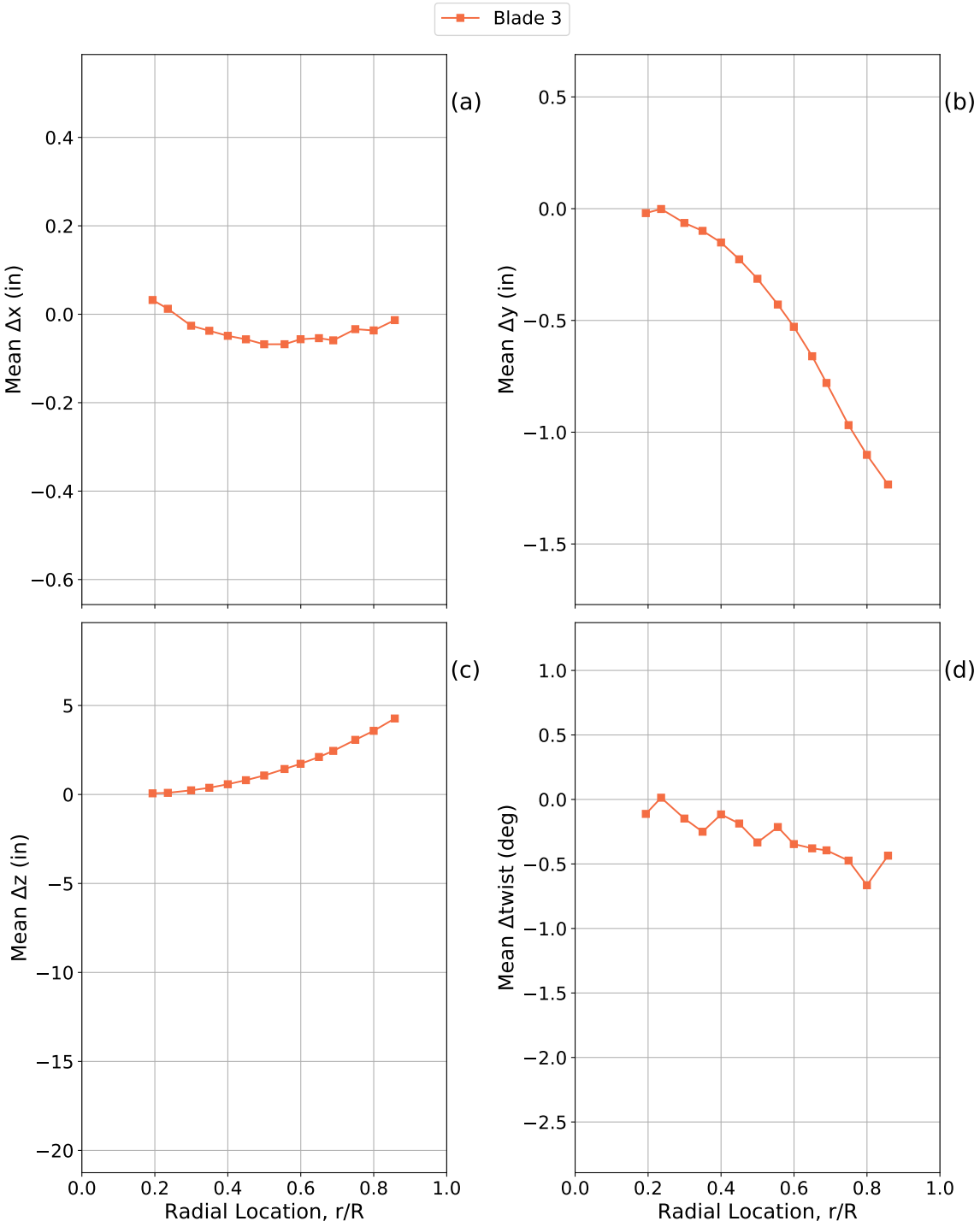


Figure 3.28-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	0.0322	0.0039	-0.0198	0.0011	0.0640	0.0077	-0.1121	0.0744
3	254.88	0.2357	0.0124	0.0020	-0.0015	0.0057	0.0918	0.0212	0.0136	0.1011
3	254.88	0.2995	-0.0260	0.0024	-0.0638	0.0077	0.2331	0.0340	-0.1481	0.1732
3	254.88	0.3493	-0.0374	0.0061	-0.0992	0.0161	0.3754	0.0600	-0.2503	0.1492
3	254.88	0.4000	-0.0488	0.0078	-0.1513	0.0255	0.5755	0.0921	-0.1160	0.0709
3	254.88	0.4497	-0.0567	0.0062	-0.2265	0.0308	0.8022	0.1080	-0.1867	0.1101
3	254.88	0.4997	-0.0679	0.0065	-0.3136	0.0391	1.0661	0.1339	-0.3331	0.1062
3	254.88	0.5556	-0.0678	0.0046	-0.4288	0.0470	1.4304	0.1646	-0.2139	0.0943
3	254.88	0.5995	-0.0565	0.0051	-0.5284	0.0536	1.7235	0.1878	-0.3459	0.0858
3	254.88	0.6498	-0.0541	0.0100	-0.6602	0.0624	2.1059	0.2142	-0.3789	0.1096
3	254.88	0.6890	-0.0590	0.0152	-0.7797	0.0699	2.4492	0.2373	-0.3945	0.1004
3	254.88	0.7495	-0.0337	0.0256	-0.9683	0.0834	3.0690	0.2706	-0.4740	0.1291
3	254.88	0.7998	-0.0366	0.0359	-1.1014	0.0961	3.5768	0.3017	-0.6650	0.1363
3	254.88	0.8577	-0.0133	0.0532	-1.2340	0.0990	4.2694	0.3558	-0.4356	0.6975

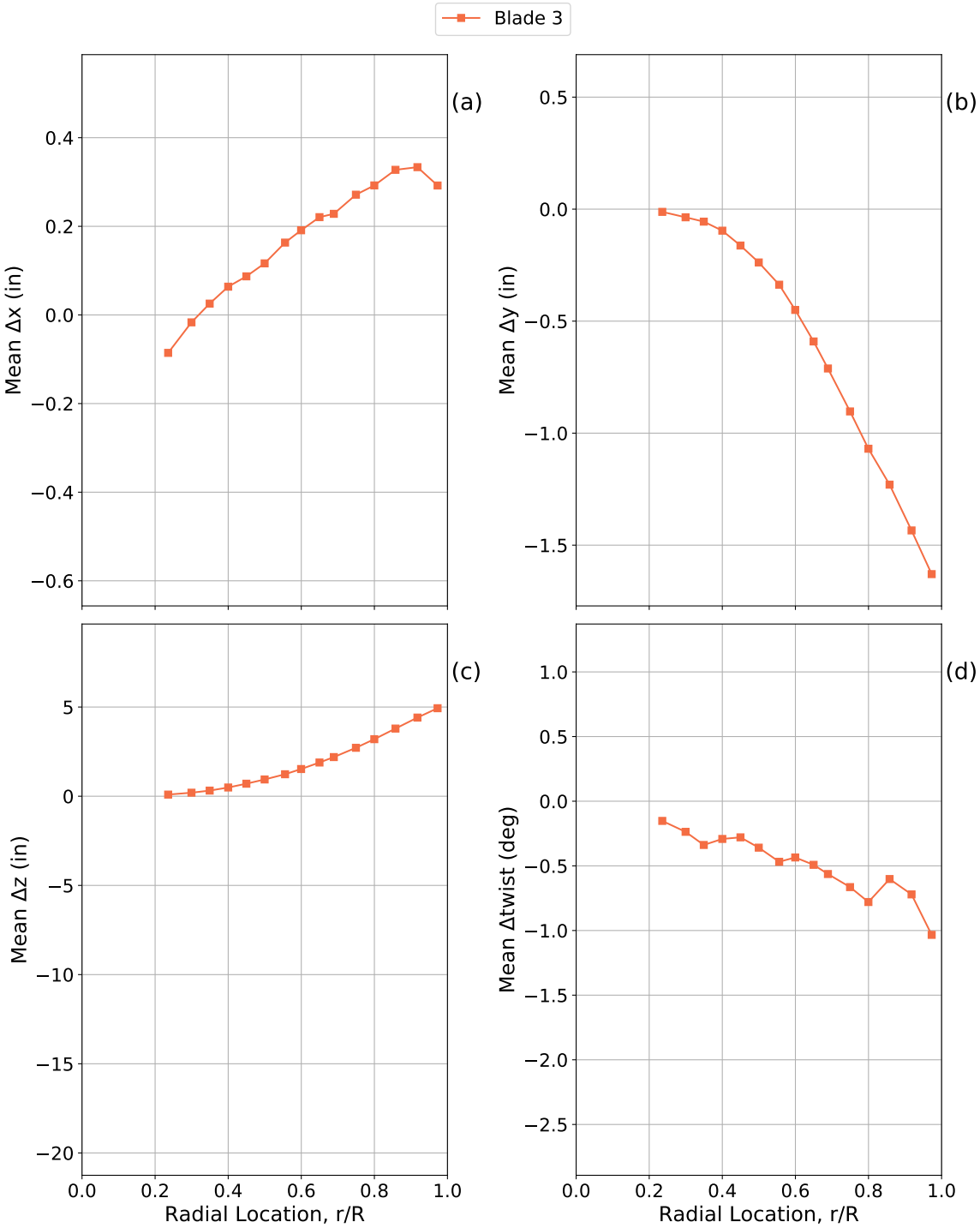


Figure 3.28-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2357	-0.0856	0.0034	-0.0122	0.0018	0.0925	0.0102	-0.1523	0.0672
3	260.16	0.2995	-0.0167	0.0012	-0.0364	0.0039	0.1980	0.0205	-0.2367	0.1078
3	260.16	0.3493	0.0256	0.0018	-0.0558	0.0079	0.3157	0.0339	-0.3383	0.1026
3	260.16	0.4000	0.0638	0.0012	-0.0961	0.0119	0.4895	0.0511	-0.2918	0.0999
3	260.16	0.4497	0.0871	0.0027	-0.1625	0.0173	0.7024	0.0687	-0.2794	0.1043
3	260.16	0.4997	0.1164	0.0027	-0.2380	0.0218	0.9403	0.0860	-0.3591	0.0967
3	260.16	0.5556	0.1633	0.0024	-0.3373	0.0286	1.2325	0.1093	-0.4683	0.1160
3	260.16	0.5995	0.1911	0.0028	-0.4499	0.0345	1.5251	0.1320	-0.4350	0.1003
3	260.16	0.6498	0.2207	0.0036	-0.5907	0.0421	1.8904	0.1587	-0.4919	0.1012
3	260.16	0.6890	0.2282	0.0038	-0.7113	0.0486	2.1945	0.1792	-0.5631	0.0952
3	260.16	0.7495	0.2714	0.0048	-0.9030	0.0588	2.7165	0.2134	-0.6642	0.0956
3	260.16	0.7998	0.2923	0.0060	-1.0695	0.0685	3.1985	0.2428	-0.7796	0.1017
3	260.16	0.8577	0.3275	0.0073	-1.2298	0.0797	3.7935	0.2817	-0.6019	0.0979
3	260.16	0.9178	0.3335	0.0086	-1.4342	0.0914	4.4101	0.3218	-0.7207	0.1049
3	260.16	0.9729	0.2921	0.0129	-1.6292	0.1026	4.9345	0.3622	-1.0336	0.1071

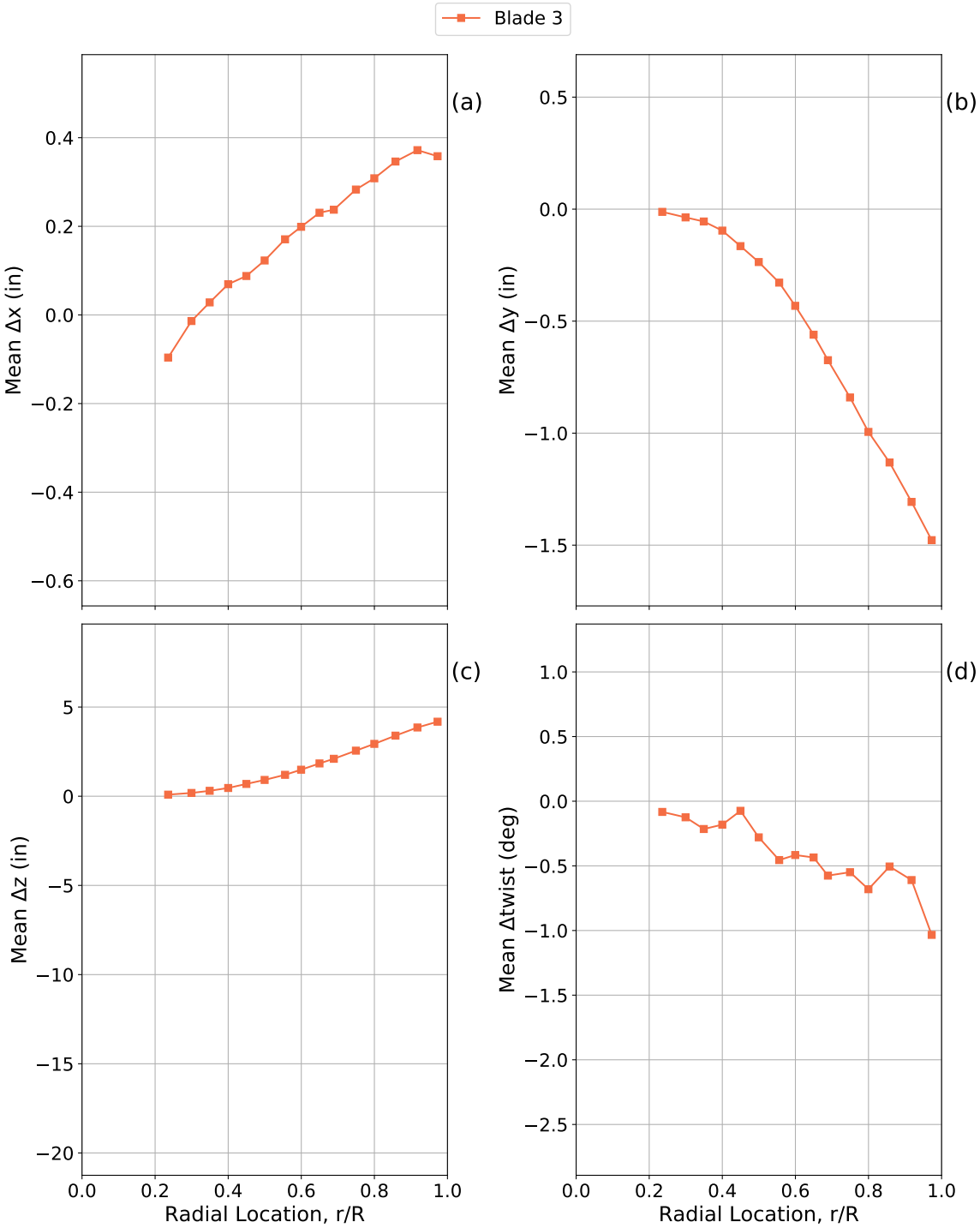


Figure 3.28-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0962	0.0033	-0.0122	0.0020	0.0892	0.0161	-0.0828	0.1482
3	265.08	0.2995	-0.0137	0.0013	-0.0369	0.0043	0.1839	0.0300	-0.1244	0.2371
3	265.08	0.3493	0.0283	0.0026	-0.0552	0.0089	0.3037	0.0538	-0.2150	0.2383
3	265.08	0.4000	0.0694	0.0017	-0.0958	0.0133	0.4626	0.0781	-0.1812	0.2400
3	265.08	0.4497	0.0879	0.0036	-0.1651	0.0175	0.6896	0.0989	-0.0742	0.2368
3	265.08	0.4997	0.1229	0.0031	-0.2362	0.0221	0.9141	0.1187	-0.2795	0.2476
3	265.08	0.5556	0.1707	0.0041	-0.3280	0.0261	1.2006	0.1398	-0.4551	0.2550
3	265.08	0.5995	0.1989	0.0042	-0.4316	0.0307	1.4869	0.1558	-0.4161	0.2500
3	265.08	0.6498	0.2307	0.0050	-0.5605	0.0349	1.8391	0.1739	-0.4351	0.2518
3	265.08	0.6890	0.2375	0.0054	-0.6743	0.0389	2.0989	0.1898	-0.5754	0.2503
3	265.08	0.7495	0.2830	0.0057	-0.8407	0.0452	2.5559	0.2144	-0.5490	0.2481
3	265.08	0.7998	0.3084	0.0069	-0.9944	0.0509	2.9356	0.2355	-0.6805	0.2548
3	265.08	0.8577	0.3462	0.0076	-1.1309	0.0577	3.3973	0.2615	-0.5051	0.2517
3	265.08	0.9178	0.3719	0.0087	-1.3068	0.0646	3.8540	0.2908	-0.6098	0.2533
3	265.08	0.9729	0.3582	0.0118	-1.4776	0.0714	4.1794	0.3182	-1.0337	0.2571

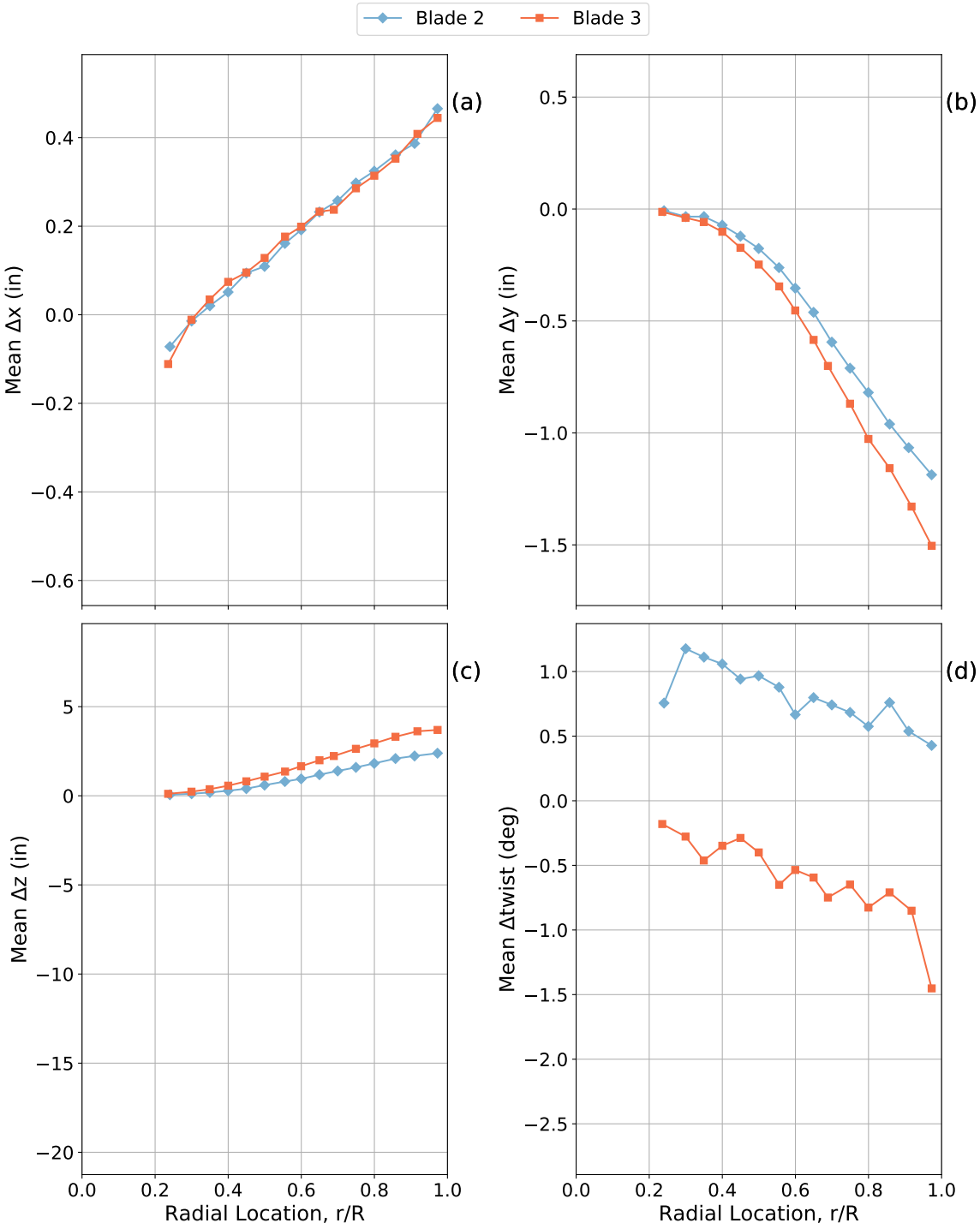


Figure 3.28-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2405	-0.0720	0.0170	-0.0079	0.0120	0.0568	0.0762	0.7558	0.7371
2	270.35	0.2999	-0.0142	0.0065	-0.0341	0.0235	0.1141	0.1340	1.1767	1.1378
2	270.35	0.3498	0.0202	0.0053	-0.0338	0.0490	0.1840	0.2484	1.1113	1.0963
2	270.35	0.3998	0.0512	0.0046	-0.0721	0.0730	0.2824	0.3588	1.0587	1.0906
2	270.35	0.4496	0.0941	0.0053	-0.1215	0.0967	0.3981	0.4681	0.9414	1.0894
2	270.35	0.4995	0.1092	0.0071	-0.1764	0.1182	0.5970	0.5761	0.9670	1.0923
2	270.35	0.5551	0.1611	0.0092	-0.2618	0.1428	0.7990	0.6953	0.8786	1.0901
2	270.35	0.5996	0.1916	0.0113	-0.3536	0.1627	0.9487	0.7905	0.6664	1.0867
2	270.35	0.6497	0.2321	0.0142	-0.4614	0.1846	1.1826	0.8950	0.7981	1.0860
2	270.35	0.6996	0.2575	0.0165	-0.5944	0.2067	1.3908	0.9980	0.7416	1.0744
2	270.35	0.7495	0.2975	0.0190	-0.7110	0.2291	1.5928	1.1000	0.6837	1.0700
2	270.35	0.7996	0.3243	0.0205	-0.8196	0.2509	1.8160	1.1995	0.5751	1.0695
2	270.35	0.8578	0.3611	0.0235	-0.9606	0.2767	2.0879	1.3155	0.7596	1.0762
2	270.35	0.9100	0.3868	0.0262	-1.0660	0.3019	2.2325	1.4216	0.5380	1.0751
2	270.35	0.9727	0.4654	0.0372	-1.1869	0.3312	2.3872	1.5478	0.4281	1.0751
3	270	0.2357	-0.1113	0.0089	-0.0128	0.0041	0.1089	0.0370	-0.1800	0.2992
3	270	0.2995	-0.0111	0.0018	-0.0392	0.0087	0.2300	0.0663	-0.2773	0.4766
3	270	0.3493	0.0346	0.0027	-0.0582	0.0186	0.3672	0.1195	-0.4623	0.4545
3	270	0.4000	0.0743	0.0026	-0.1016	0.0278	0.5665	0.1709	-0.3484	0.4596
3	270	0.4497	0.0954	0.0041	-0.1731	0.0367	0.8111	0.2211	-0.2879	0.4675
3	270	0.4997	0.1283	0.0050	-0.2481	0.0465	1.0722	0.2748	-0.4000	0.4689
3	270	0.5556	0.1765	0.0074	-0.3457	0.0572	1.3577	0.3382	-0.6504	0.4653
3	270	0.5995	0.1989	0.0085	-0.4531	0.0662	1.6580	0.3874	-0.5357	0.4726
3	270	0.6498	0.2329	0.0106	-0.5846	0.0766	1.9913	0.4480	-0.5943	0.4676
3	270	0.6890	0.2371	0.0125	-0.7009	0.0853	2.2297	0.4950	-0.7491	0.4653
3	270	0.7495	0.2855	0.0147	-0.8696	0.0992	2.6348	0.5676	-0.6485	0.4639
3	270	0.7998	0.3140	0.0162	-1.0270	0.1111	2.9392	0.6283	-0.8266	0.4655
3	270	0.8577	0.3525	0.0181	-1.1573	0.1254	3.3098	0.6982	-0.7093	0.4675
3	270	0.9178	0.4084	0.0205	-1.3291	0.1408	3.6174	0.7715	-0.8509	0.4608
3	270	0.9729	0.4445	0.0263	-1.5042	0.1563	3.6930	0.8332	-1.4520	0.4806

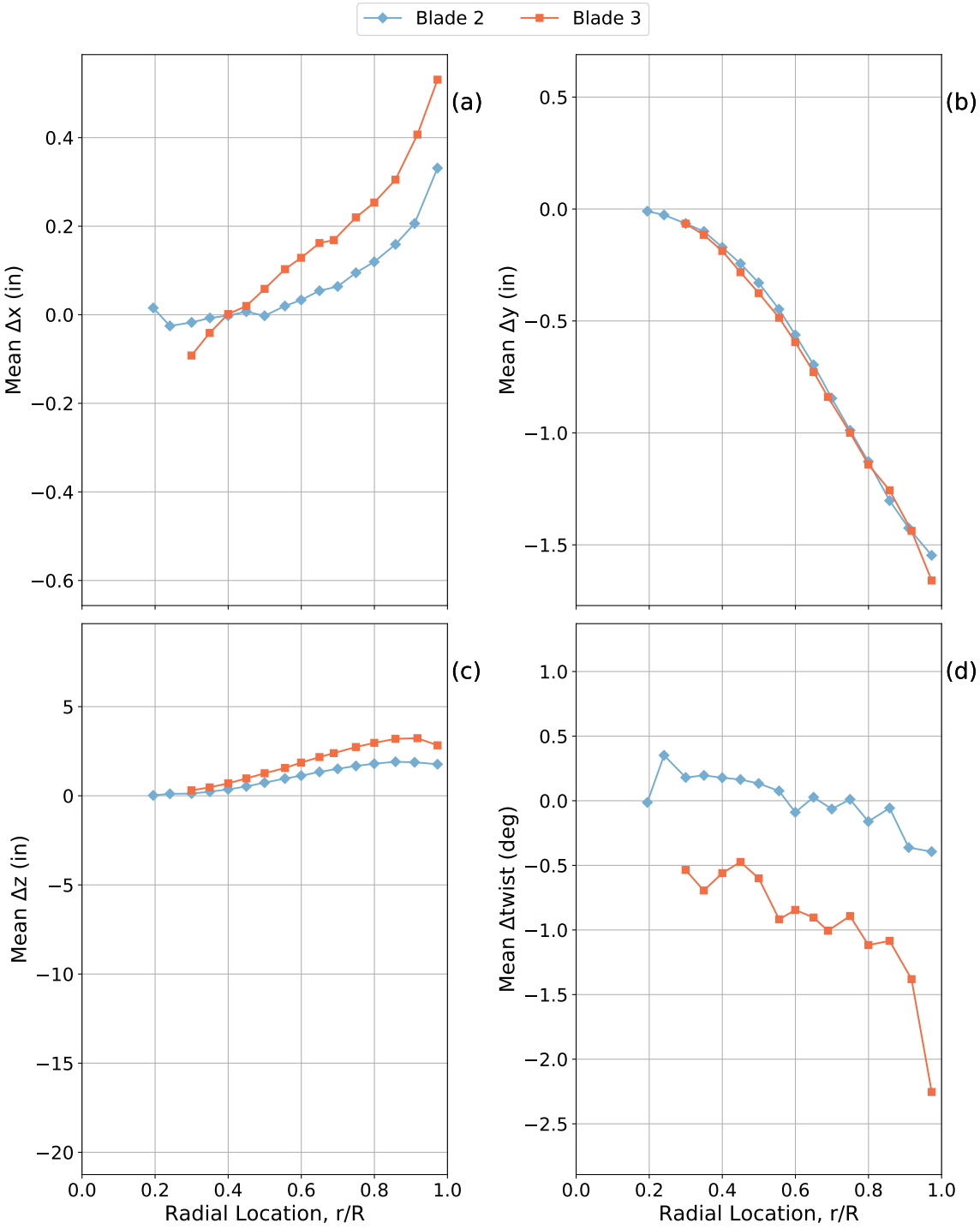


Figure 3.28-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0155	0.0053	-0.0098	0.0018	0.0212	0.0062	-0.0129	0.0746
2	274.92	0.2405	-0.0252	0.0032	-0.0266	0.0043	0.1094	0.0162	0.3517	0.0753
2	274.92	0.2999	-0.0172	0.0039	-0.0649	0.0082	0.1215	0.0249	0.1801	0.1547
2	274.92	0.3498	-0.0072	0.0032	-0.1000	0.0161	0.2288	0.0446	0.1962	0.1009
2	274.92	0.3998	-0.0020	0.0051	-0.1710	0.0242	0.3576	0.0666	0.1781	0.0979
2	274.92	0.4496	0.0070	0.0059	-0.2438	0.0303	0.5215	0.0826	0.1643	0.0881
2	274.92	0.4995	-0.0023	0.0046	-0.3296	0.0375	0.7361	0.1041	0.1336	0.1126
2	274.92	0.5551	0.0198	0.0053	-0.4475	0.0461	0.9657	0.1247	0.0762	0.0851
2	274.92	0.5996	0.0334	0.0057	-0.5621	0.0529	1.1243	0.1429	-0.0893	0.0877
2	274.92	0.6497	0.0543	0.0066	-0.6959	0.0629	1.3388	0.1641	0.0273	0.0892
2	274.92	0.6996	0.0639	0.0061	-0.8452	0.0727	1.5097	0.1831	-0.0639	0.0838
2	274.92	0.7495	0.0949	0.0072	-0.9886	0.0830	1.6738	0.2028	0.0107	0.0920
2	274.92	0.7996	0.1196	0.0073	-1.1281	0.0948	1.7975	0.2230	-0.1605	0.0950
2	274.92	0.8578	0.1589	0.0077	-1.3024	0.1081	1.9077	0.2476	-0.0564	0.0890
2	274.92	0.9100	0.2060	0.0085	-1.4251	0.1212	1.8778	0.2741	-0.3622	0.0838
2	274.92	0.9727	0.3312	0.0140	-1.5468	0.1370	1.7688	0.3039	-0.3936	0.0914
3	274.92	0.2995	-0.0920	0.0079	-0.0652	0.0092	0.3046	0.1247	-0.5356	0.3093
3	274.92	0.3493	-0.0410	0.0047	-0.1155	0.0164	0.4704	0.1974	-0.6944	0.4039
3	274.92	0.4000	0.0015	0.0090	-0.1875	0.0269	0.6983	0.2984	-0.5602	0.3890
3	274.92	0.4497	0.0199	0.0119	-0.2824	0.0374	0.9728	0.3942	-0.4736	0.3740
3	274.92	0.4997	0.0585	0.0142	-0.3755	0.0481	1.2608	0.4888	-0.6002	0.3856
3	274.92	0.5556	0.1031	0.0164	-0.4858	0.0612	1.5601	0.5990	-0.9178	0.3861
3	274.92	0.5995	0.1286	0.0190	-0.5948	0.0718	1.8599	0.6880	-0.8448	0.3863
3	274.92	0.6498	0.1619	0.0215	-0.7279	0.0845	2.1715	0.7925	-0.9039	0.3819
3	274.92	0.6890	0.1687	0.0241	-0.8394	0.0950	2.3908	0.8754	-1.0057	0.3851
3	274.92	0.7495	0.2198	0.0273	-0.9993	0.1118	2.7348	1.0041	-0.8919	0.3844
3	274.92	0.7998	0.2535	0.0299	-1.1411	0.1272	2.9674	1.1130	-1.1168	0.3803
3	274.92	0.8577	0.3050	0.0323	-1.2563	0.1450	3.1949	1.2346	-1.0840	0.3951
3	274.92	0.9178	0.4069	0.0354	-1.4377	0.1657	3.2296	1.3672	-1.3806	0.3855
3	274.92	0.9729	0.5309	0.0427	-1.6593	0.1862	2.8304	1.4845	-2.2537	0.4114

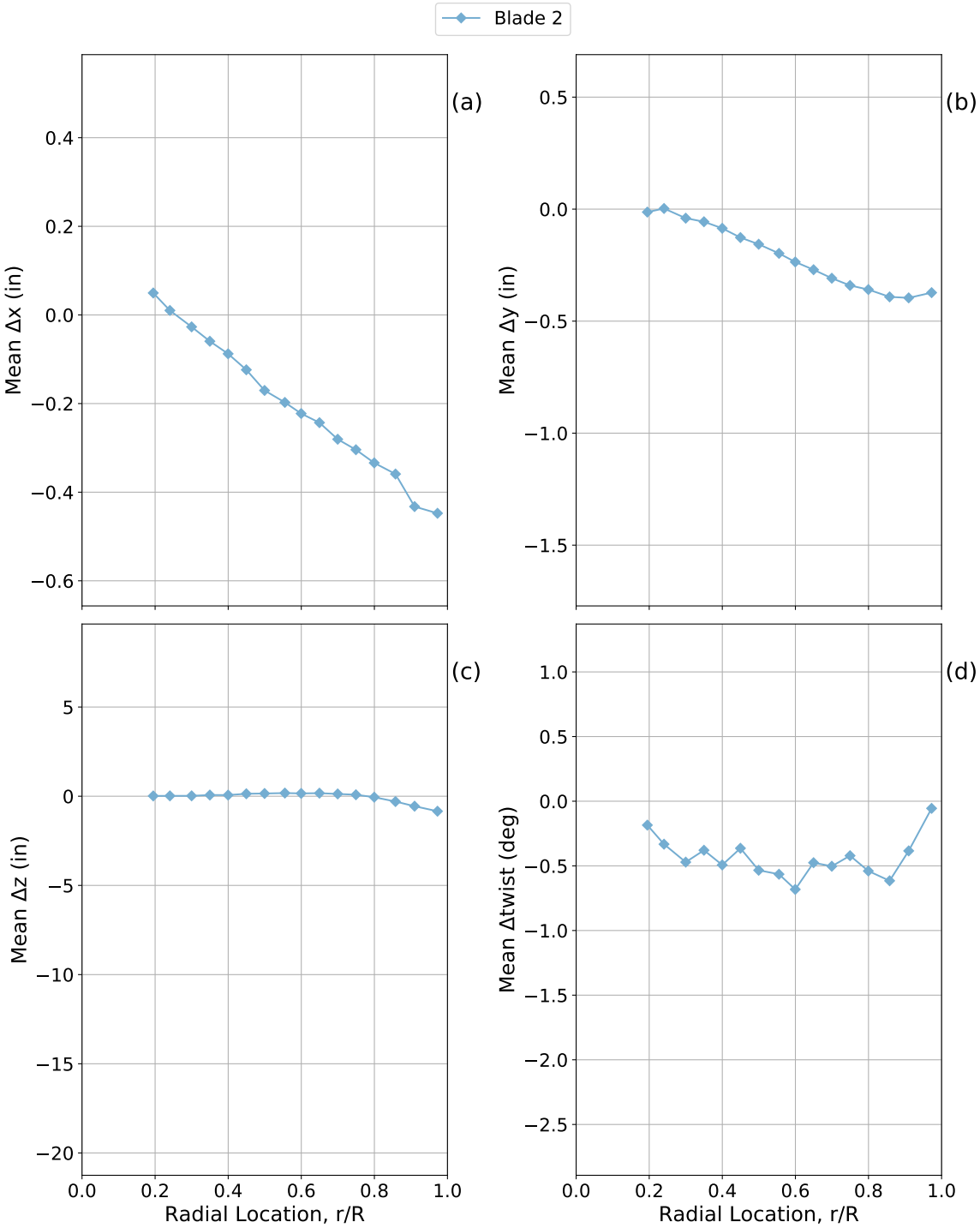


Figure 3.28-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0496	0.0020	-0.0132	0.0011	0.0166	0.0068	-0.1849	0.0817
2	285.12	0.2405	0.0101	0.0018	0.0029	0.0037	0.0205	0.0186	-0.3324	0.0797
2	285.12	0.2999	-0.0269	0.0023	-0.0404	0.0061	0.0218	0.0313	-0.4710	0.1673
2	285.12	0.3498	-0.0594	0.0026	-0.0563	0.0095	0.0676	0.0549	-0.3792	0.1039
2	285.12	0.3998	-0.0877	0.0033	-0.0855	0.0169	0.0647	0.0844	-0.4929	0.1543
2	285.12	0.4496	-0.1238	0.0038	-0.1269	0.0205	0.1381	0.1113	-0.3639	0.1150
2	285.12	0.4995	-0.1704	0.0035	-0.1567	0.0279	0.1536	0.1528	-0.5341	0.0785
2	285.12	0.5551	-0.1974	0.0046	-0.1975	0.0363	0.1777	0.1945	-0.5647	0.1105
2	285.12	0.5996	-0.2225	0.0054	-0.2358	0.0449	0.1580	0.2336	-0.6821	0.1068
2	285.12	0.6497	-0.2431	0.0066	-0.2704	0.0540	0.1718	0.2818	-0.4755	0.1111
2	285.12	0.6996	-0.2805	0.0062	-0.3084	0.0648	0.1287	0.3283	-0.5029	0.0999
2	285.12	0.7495	-0.3042	0.0079	-0.3407	0.0768	0.0834	0.3848	-0.4213	0.0946
2	285.12	0.7996	-0.3339	0.0087	-0.3590	0.0883	-0.0535	0.4363	-0.5396	0.1090
2	285.12	0.8578	-0.3590	0.0079	-0.3917	0.1024	-0.2985	0.5002	-0.6154	0.1219
2	285.12	0.9100	-0.4325	0.0089	-0.3961	0.1155	-0.5585	0.5654	-0.3840	0.1018
2	285.12	0.9727	-0.4476	0.0126	-0.3728	0.1305	-0.8412	0.6465	-0.0552	0.1138

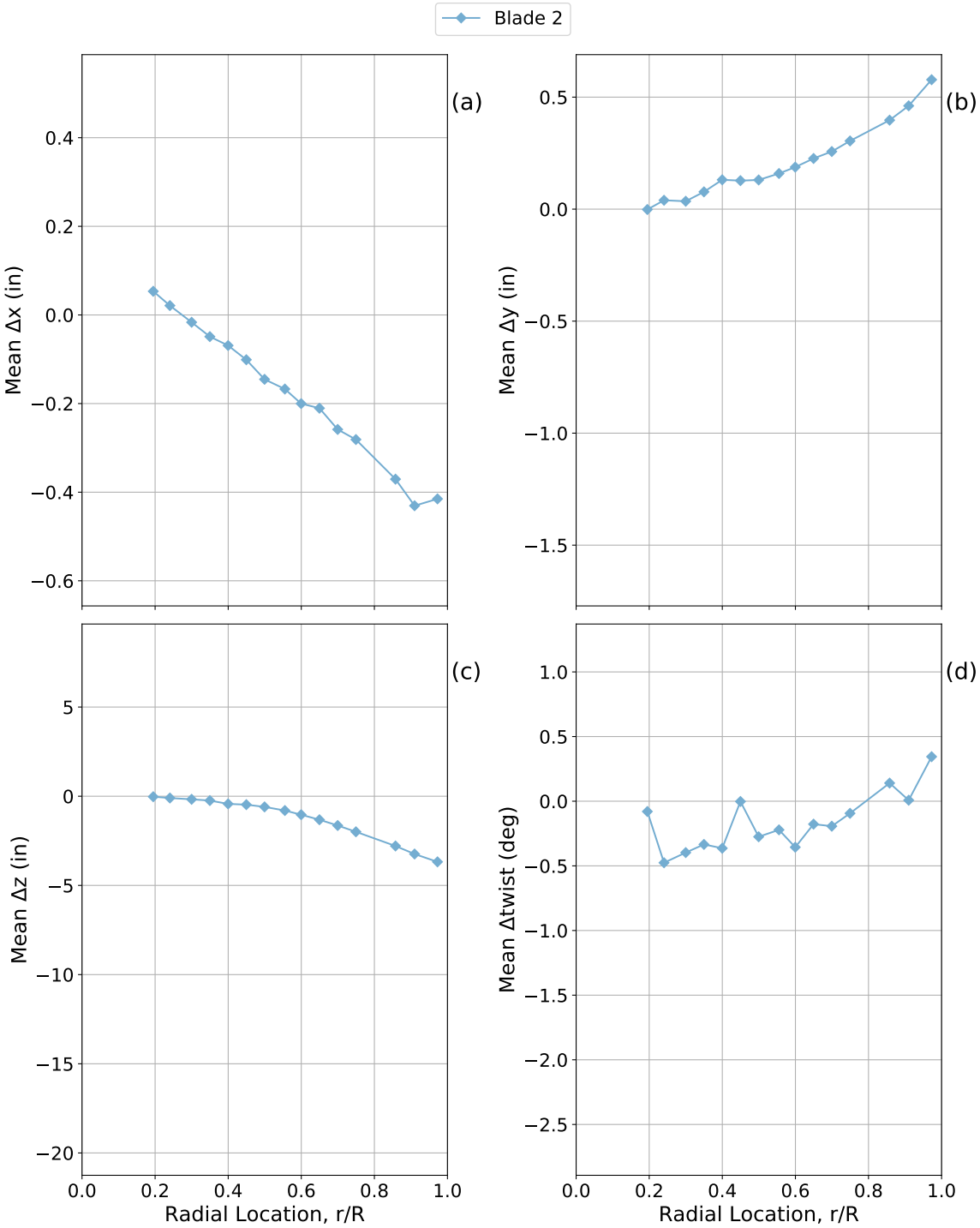


Figure 3.28-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0534	0.0029	-0.0017	0.0014	-0.0273	0.0075	-0.0796	0.0886
2	299.88	0.2405	0.0211	0.0023	0.0396	0.0042	-0.0995	0.0104	-0.4759	0.1244
2	299.88	0.2999	-0.0165	0.0030	0.0352	0.0058	-0.1728	0.0205	-0.3973	0.2064
2	299.88	0.3498	-0.0489	0.0030	0.0772	0.0135	-0.2430	0.0417	-0.3341	0.1520
2	299.88	0.3998	-0.0690	0.0045	0.1310	0.0192	-0.4299	0.0554	-0.3637	0.1555
2	299.88	0.4496	-0.1011	0.0057	0.1272	0.0244	-0.4719	0.0773	-0.0020	0.1546
2	299.88	0.4995	-0.1453	0.0067	0.1303	0.0325	-0.5980	0.0994	-0.2749	0.1397
2	299.88	0.5551	-0.1672	0.0055	0.1591	0.0421	-0.8017	0.1304	-0.2213	0.1357
2	299.88	0.5996	-0.2001	0.0060	0.1876	0.0506	-1.0358	0.1547	-0.3559	0.1346
2	299.88	0.6497	-0.2105	0.0070	0.2262	0.0582	-1.3177	0.1894	-0.1773	0.1568
2	299.88	0.6996	-0.2584	0.0068	0.2572	0.0690	-1.6413	0.2260	-0.1932	0.1277
2	299.88	0.7495	-0.2812	0.0074	0.3044	0.0796	-1.9940	0.2643	-0.0936	0.1420
2	299.88	0.8578	-0.3706	0.0091	0.3972	0.1022	-2.7902	0.3450	0.1402	0.1481
2	299.88	0.9100	-0.4306	0.0102	0.4612	0.1136	-3.2400	0.3841	0.0078	0.1547
2	299.88	0.9727	-0.4151	0.0116	0.5778	0.1270	-3.6798	0.4318	0.3444	0.1679

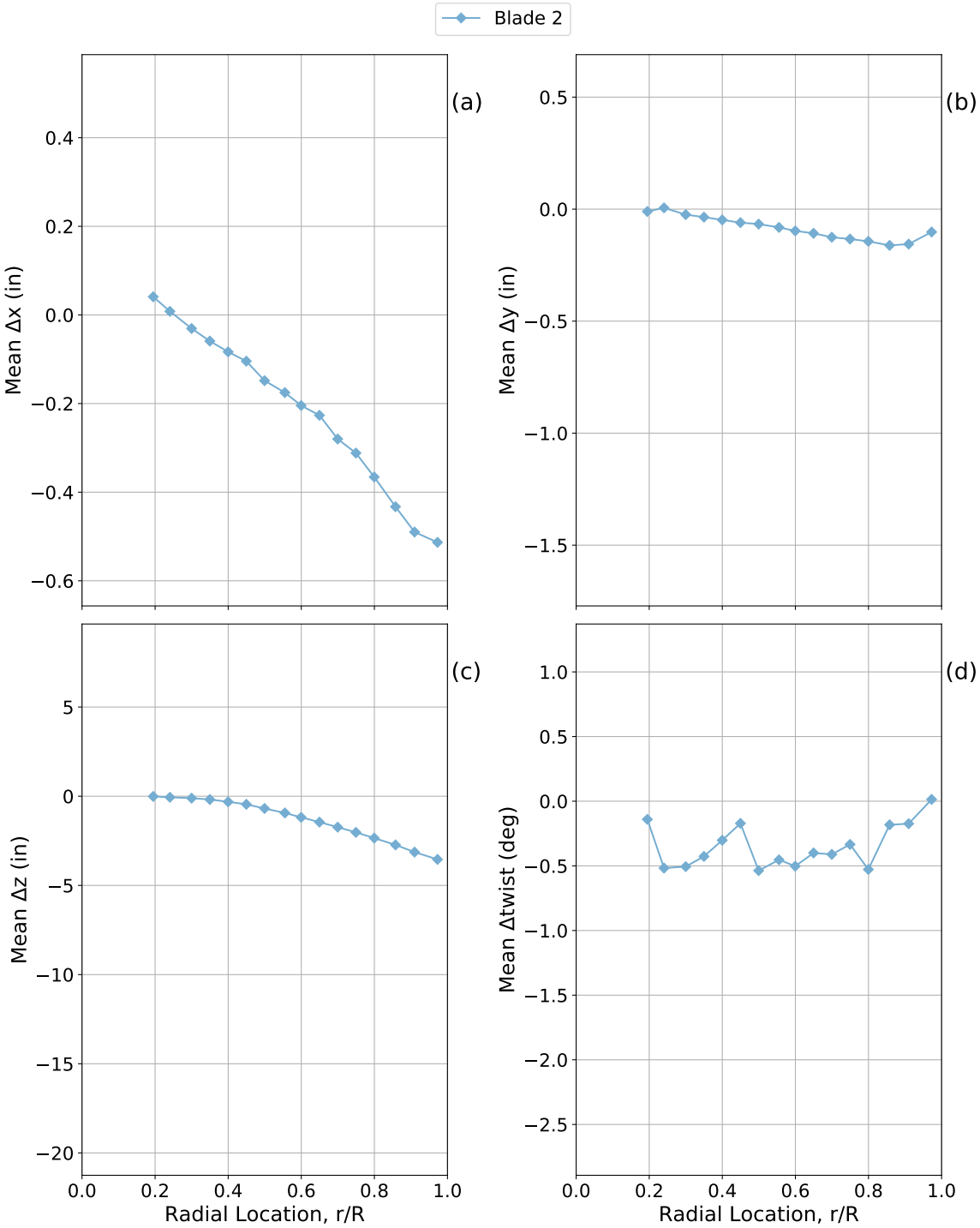


Figure 3.28-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0410	0.0026	-0.0105	0.0014	-0.0117	0.0028	-0.1403	0.0376
2	315	0.2405	0.0081	0.0025	0.0057	0.0018	-0.0593	0.0067	-0.5171	0.0385
2	315	0.2999	-0.0306	0.0020	-0.0244	0.0054	-0.1085	0.0102	-0.5059	0.0732
2	315	0.3498	-0.0590	0.0058	-0.0357	0.0085	-0.1831	0.0204	-0.4268	0.0658
2	315	0.3998	-0.0833	0.0035	-0.0481	0.0131	-0.3121	0.0287	-0.3020	0.0763
2	315	0.4496	-0.1043	0.0024	-0.0603	0.0177	-0.4540	0.0337	-0.1713	0.0889
2	315	0.4995	-0.1483	0.0019	-0.0668	0.0207	-0.6862	0.0413	-0.5369	0.0740
2	315	0.5551	-0.1752	0.0030	-0.0815	0.0239	-0.9369	0.0455	-0.4531	0.0672
2	315	0.5996	-0.2044	0.0037	-0.0970	0.0259	-1.1841	0.0500	-0.5024	0.0728
2	315	0.6497	-0.2265	0.0044	-0.1079	0.0277	-1.4514	0.0554	-0.3999	0.0625
2	315	0.6996	-0.2800	0.0048	-0.1254	0.0296	-1.7337	0.0630	-0.4111	0.0576
2	315	0.7495	-0.3117	0.0056	-0.1335	0.0325	-2.0253	0.0697	-0.3342	0.0616
2	315	0.7996	-0.3657	0.0056	-0.1438	0.0339	-2.3460	0.0797	-0.5276	0.0773
2	315	0.8578	-0.4328	0.0065	-0.1618	0.0366	-2.7287	0.0969	-0.1824	0.0604
2	315	0.9100	-0.4899	0.0075	-0.1560	0.0384	-3.1330	0.1127	-0.1737	0.0578
2	315	0.9727	-0.5132	0.0086	-0.1021	0.0405	-3.5420	0.1374	0.0140	0.0542

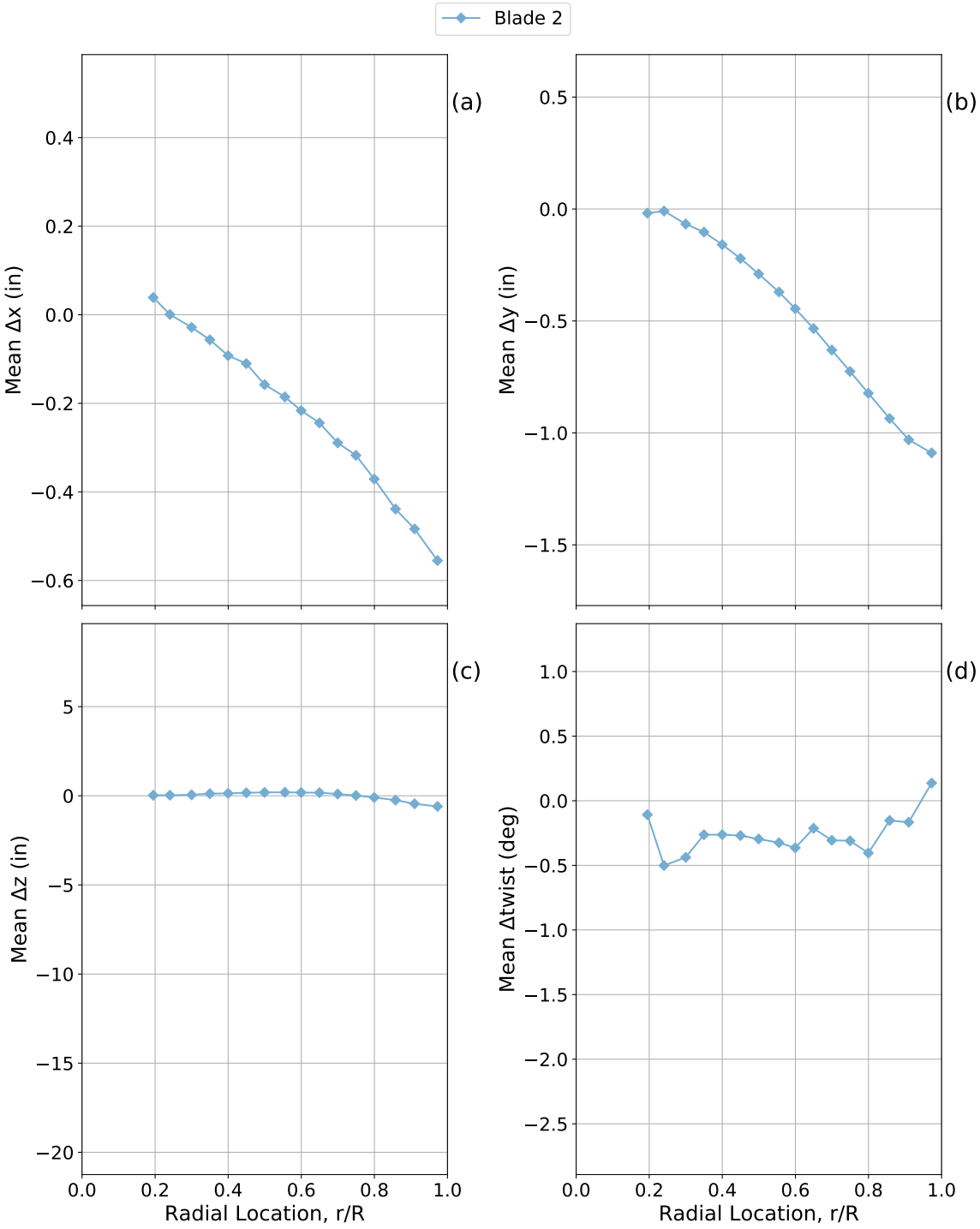


Figure 3.28-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0389	0.0021	-0.0185	0.0008	0.0268	0.0023	-0.1079	0.0430
2	330.12	0.2405	0.0007	0.0012	-0.0092	0.0017	0.0309	0.0082	-0.5013	0.0422
2	330.12	0.2999	-0.0284	0.0025	-0.0672	0.0026	0.0526	0.0136	-0.4380	0.0894
2	330.12	0.3498	-0.0565	0.0025	-0.1030	0.0060	0.1161	0.0214	-0.2629	0.0865
2	330.12	0.3998	-0.0923	0.0035	-0.1590	0.0080	0.1355	0.0346	-0.2623	0.0472
2	330.12	0.4496	-0.1102	0.0053	-0.2208	0.0090	0.1665	0.0370	-0.2697	0.0600
2	330.12	0.4995	-0.1578	0.0035	-0.2900	0.0138	0.1891	0.0406	-0.2961	0.0848
2	330.12	0.5551	-0.1855	0.0056	-0.3707	0.0147	0.1948	0.0420	-0.3246	0.0938
2	330.12	0.5996	-0.2163	0.0041	-0.4455	0.0181	0.1806	0.0455	-0.3647	0.0660
2	330.12	0.6497	-0.2443	0.0050	-0.5339	0.0204	0.1722	0.0527	-0.2131	0.0642
2	330.12	0.6996	-0.2892	0.0062	-0.6298	0.0239	0.0971	0.0561	-0.3061	0.0803
2	330.12	0.7495	-0.3174	0.0058	-0.7254	0.0270	0.0120	0.0577	-0.3099	0.0781
2	330.12	0.7996	-0.3710	0.0063	-0.8228	0.0306	-0.0963	0.0629	-0.4045	0.0880
2	330.12	0.8578	-0.4386	0.0063	-0.9356	0.0349	-0.2437	0.0748	-0.1527	0.0875
2	330.12	0.9100	-0.4836	0.0073	-1.0306	0.0391	-0.4497	0.0901	-0.1662	0.0843
2	330.12	0.9727	-0.5550	0.0073	-1.0894	0.0440	-0.5995	0.1100	0.1367	0.0782

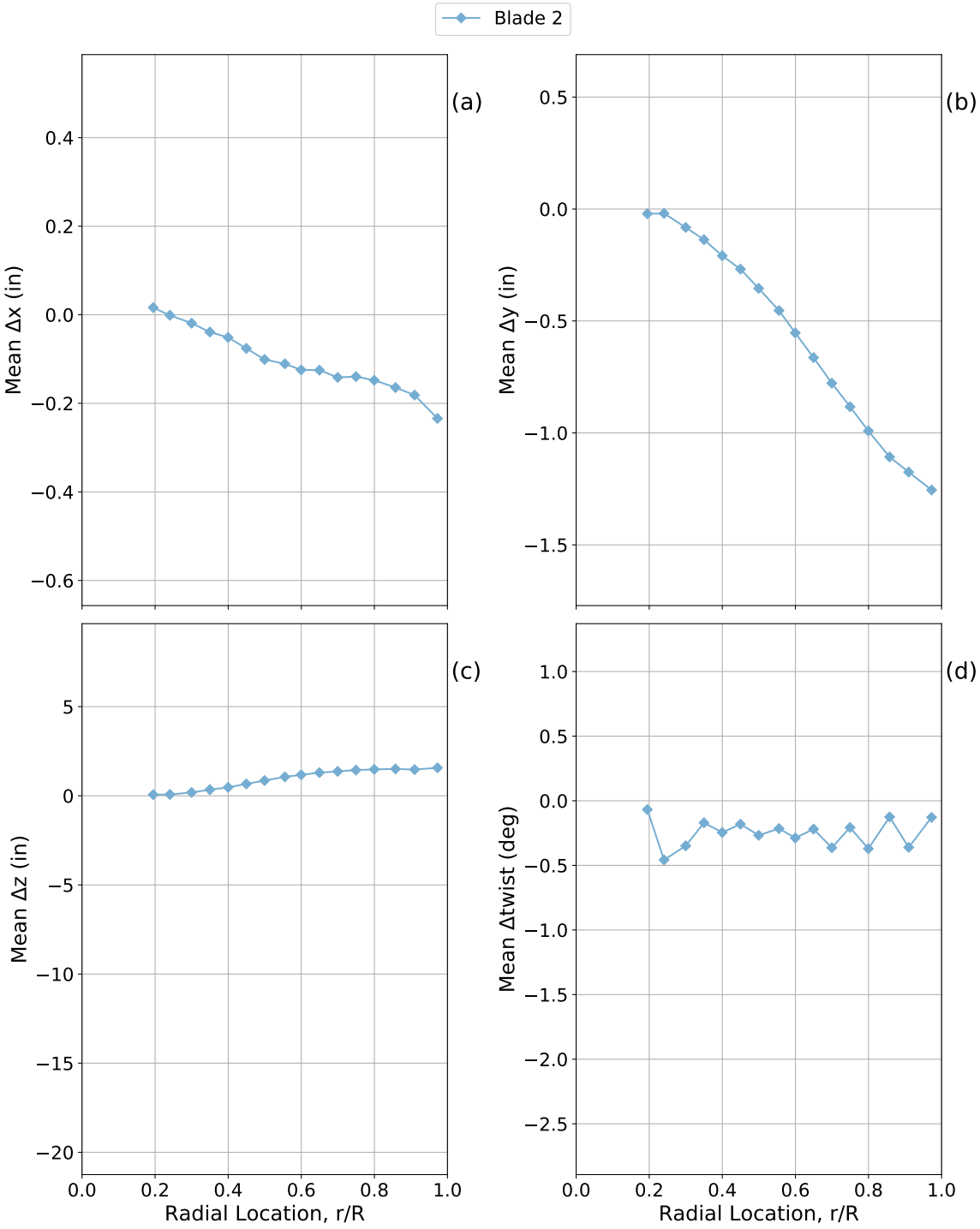


Figure 3.28-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0161	0.0020	-0.0212	0.0028	0.0628	0.0045	-0.0682	0.0314
2	344.88	0.2405	-0.0012	0.0022	-0.0197	0.0035	0.0737	0.0054	-0.4577	0.0973
2	344.88	0.2999	-0.0190	0.0028	-0.0823	0.0104	0.1851	0.0122	-0.3490	0.1002
2	344.88	0.3498	-0.0390	0.0032	-0.1368	0.0172	0.3412	0.0201	-0.1703	0.0939
2	344.88	0.3998	-0.0512	0.0025	-0.2088	0.0263	0.4729	0.0281	-0.2455	0.0972
2	344.88	0.4496	-0.0760	0.0052	-0.2684	0.0377	0.6647	0.0370	-0.1812	0.1081
2	344.88	0.4995	-0.1009	0.0055	-0.3545	0.0466	0.8559	0.0479	-0.2674	0.1053
2	344.88	0.5551	-0.1108	0.0079	-0.4535	0.0577	1.0586	0.0591	-0.2152	0.1170
2	344.88	0.5996	-0.1245	0.0092	-0.5533	0.0709	1.1755	0.0706	-0.2877	0.1040
2	344.88	0.6497	-0.1251	0.0110	-0.6638	0.0835	1.2970	0.0832	-0.2192	0.1058
2	344.88	0.6996	-0.1415	0.0131	-0.7777	0.1003	1.3664	0.0941	-0.3635	0.1233
2	344.88	0.7495	-0.1396	0.0153	-0.8830	0.1201	1.4416	0.1111	-0.2069	0.1145
2	344.88	0.7996	-0.1479	0.0181	-0.9910	0.1440	1.4806	0.1320	-0.3709	0.1145
2	344.88	0.8578	-0.1643	0.0210	-1.1074	0.1733	1.5059	0.1611	-0.1254	0.1258
2	344.88	0.9100	-0.1814	0.0265	-1.1750	0.1947	1.4688	0.1921	-0.3608	0.1099
2	344.88	0.9727	-0.2342	0.0276	-1.2551	0.2218	1.5690	0.2332	-0.1284	0.1140

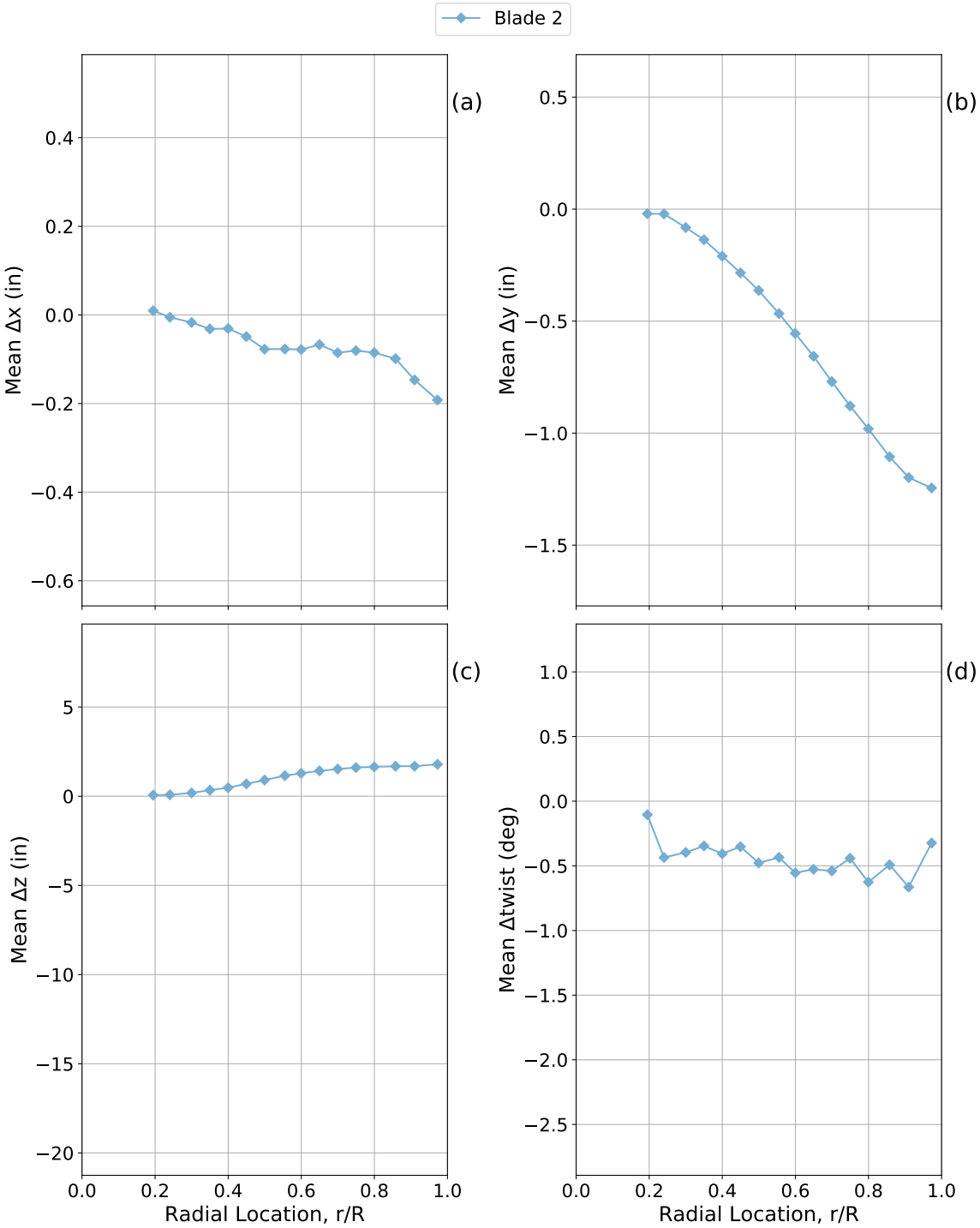


Figure 3.28-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0096	0.0109	-0.0204	0.0015	0.0603	0.0027	-0.1049	0.0200
2	350.16	0.2405	-0.0053	0.0037	-0.0213	0.0035	0.0807	0.0051	-0.4353	0.0345
2	350.16	0.2999	-0.0170	0.0048	-0.0822	0.0065	0.1867	0.0103	-0.3959	0.0475
2	350.16	0.3498	-0.0316	0.0098	-0.1364	0.0124	0.3400	0.0139	-0.3460	0.0630
2	350.16	0.3998	-0.0307	0.0145	-0.2099	0.0189	0.4791	0.0234	-0.4064	0.0565
2	350.16	0.4496	-0.0489	0.0173	-0.2845	0.0229	0.6934	0.0349	-0.3517	0.0414
2	350.16	0.4995	-0.0773	0.0194	-0.3630	0.0271	0.9055	0.0467	-0.4775	0.0591
2	350.16	0.5551	-0.0769	0.0222	-0.4663	0.0308	1.1545	0.0566	-0.4343	0.0429
2	350.16	0.5996	-0.0781	0.0229	-0.5550	0.0329	1.2872	0.0691	-0.5543	0.0415
2	350.16	0.6497	-0.0669	0.0255	-0.6568	0.0362	1.4199	0.0833	-0.5262	0.0626
2	350.16	0.6996	-0.0853	0.0274	-0.7700	0.0403	1.5243	0.0975	-0.5392	0.0518
2	350.16	0.7495	-0.0805	0.0313	-0.8786	0.0453	1.6057	0.1140	-0.4411	0.0419
2	350.16	0.7996	-0.0851	0.0350	-0.9806	0.0506	1.6475	0.1358	-0.6256	0.0639
2	350.16	0.8578	-0.0987	0.0410	-1.1056	0.0557	1.6803	0.1546	-0.4920	0.0669
2	350.16	0.9100	-0.1466	0.0450	-1.1981	0.0599	1.6838	0.1779	-0.6643	0.0719
2	350.16	0.9727	-0.1920	0.0540	-1.2446	0.0653	1.7899	0.2086	-0.3232	0.1156

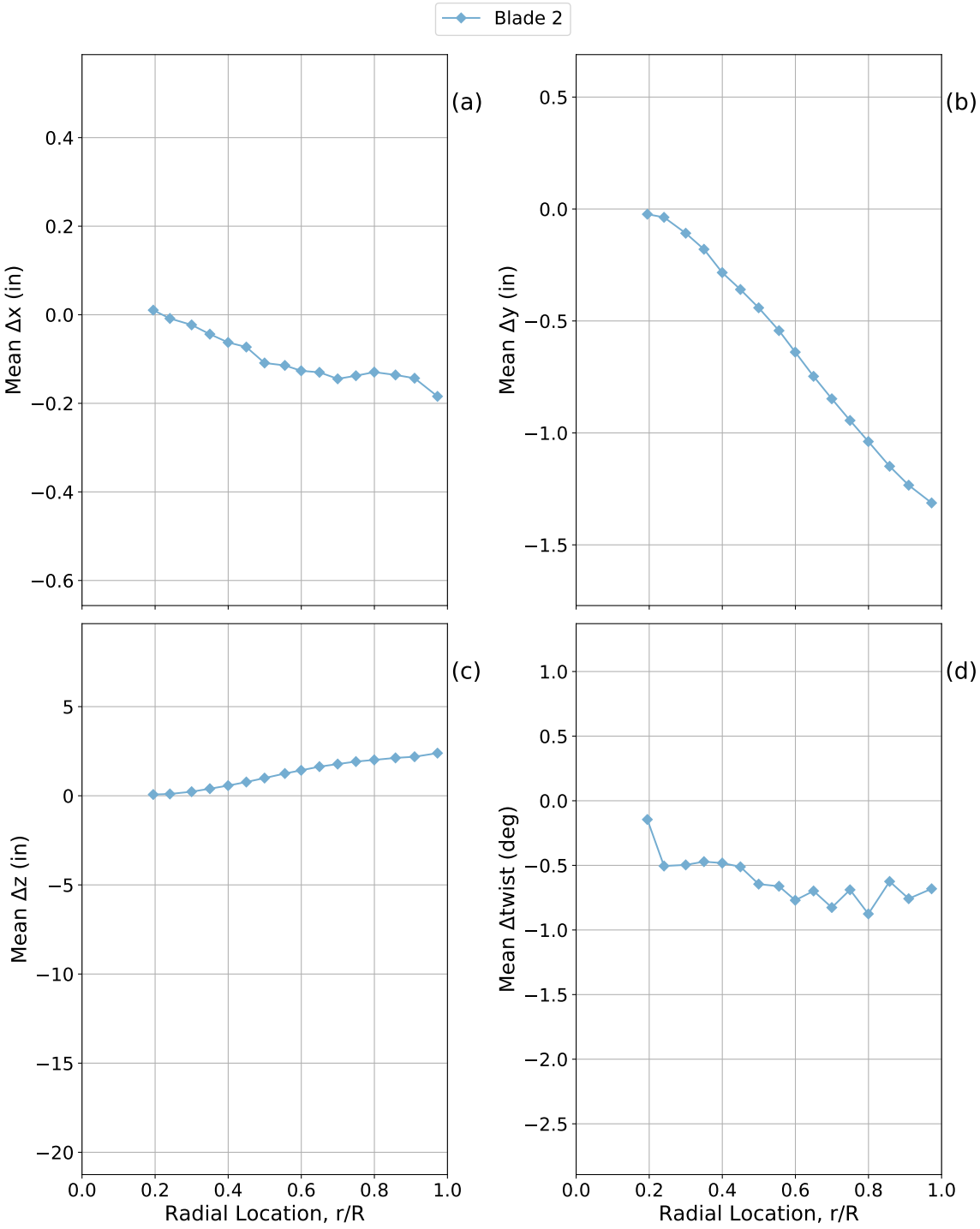


Figure 3.28-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.301, α = -0.6° NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Table 3.28-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.301, α = -0.6°
NFAC run 67, point 11. BD run 32, points 5004 to 5014.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0104	0.0071	-0.0232	0.0017	0.0706	0.0032	-0.1452	0.0325
2	355.08	0.2405	-0.0084	0.0029	-0.0371	0.0035	0.1011	0.0067	-0.5052	0.0498
2	355.08	0.2999	-0.0229	0.0026	-0.1081	0.0064	0.2277	0.0090	-0.4964	0.0747
2	355.08	0.3498	-0.0438	0.0060	-0.1798	0.0134	0.3958	0.0175	-0.4713	0.0737
2	355.08	0.3998	-0.0625	0.0094	-0.2840	0.0193	0.5713	0.0247	-0.4822	0.0725
2	355.08	0.4496	-0.0729	0.0110	-0.3595	0.0256	0.7711	0.0301	-0.5112	0.0641
2	355.08	0.4995	-0.1089	0.0145	-0.4412	0.0308	0.9936	0.0365	-0.6451	0.0711
2	355.08	0.5551	-0.1144	0.0172	-0.5432	0.0398	1.2492	0.0461	-0.6617	0.0676
2	355.08	0.5996	-0.1265	0.0211	-0.6392	0.0443	1.4277	0.0539	-0.7701	0.0664
2	355.08	0.6497	-0.1300	0.0246	-0.7473	0.0493	1.6337	0.0612	-0.6982	0.0663
2	355.08	0.6996	-0.1447	0.0290	-0.8476	0.0563	1.7785	0.0701	-0.8264	0.0777
2	355.08	0.7495	-0.1377	0.0331	-0.9445	0.0634	1.9182	0.0806	-0.6891	0.0597
2	355.08	0.7996	-0.1295	0.0378	-1.0386	0.0717	2.0116	0.0921	-0.8757	0.0656
2	355.08	0.8578	-0.1359	0.0413	-1.1491	0.0793	2.1247	0.1088	-0.6246	0.0886
2	355.08	0.9100	-0.1433	0.0453	-1.2336	0.0861	2.1889	0.1215	-0.7578	0.0753
2	355.08	0.9727	-0.1843	0.0491	-1.3127	0.0948	2.3916	0.1390	-0.6812	0.0928

3.29 Run 67, Point 13

3.29.1 Pitch, Flap, and Lag

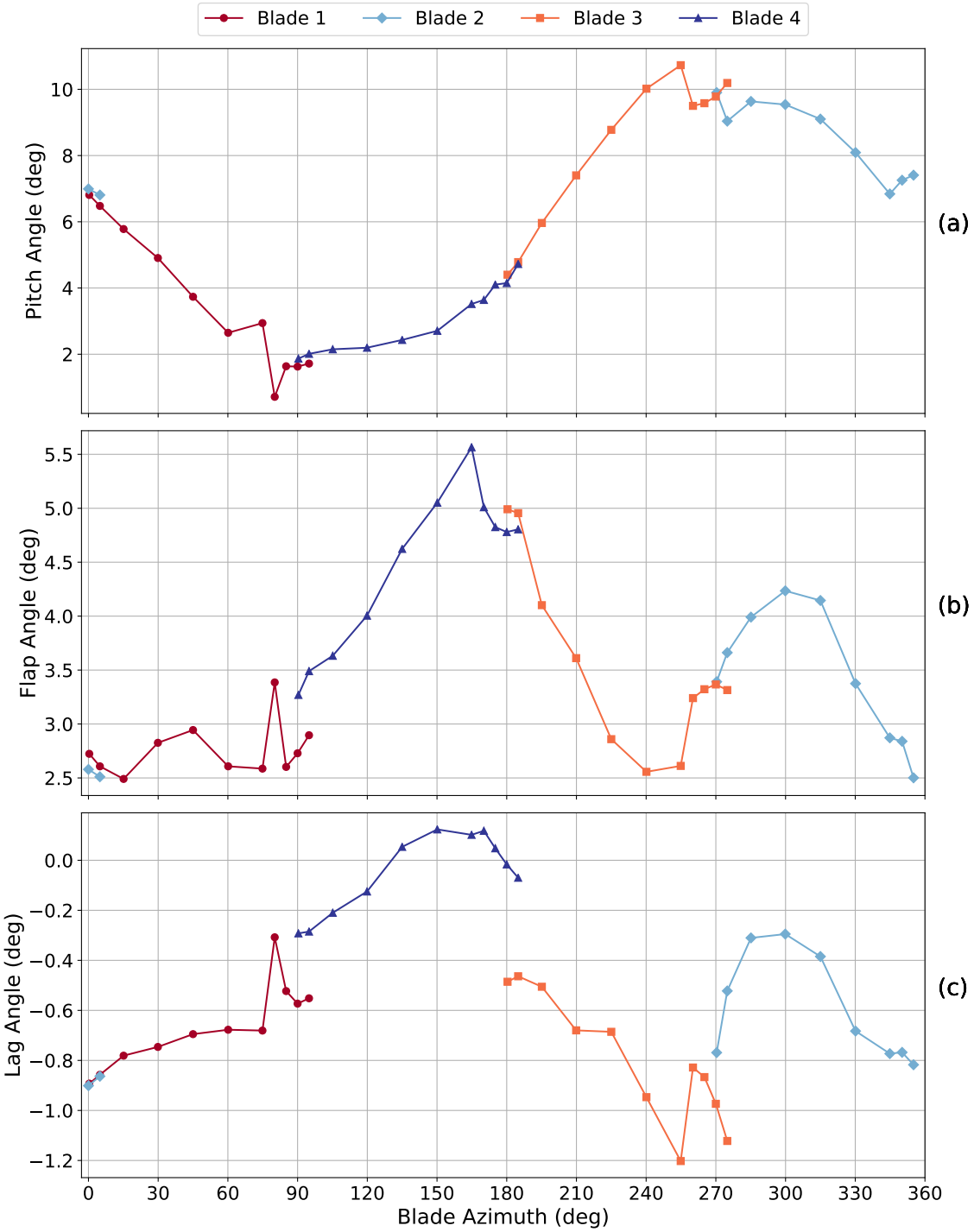


Figure 3.29-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	6.9923	2.5793	-0.9011	0.1193	0.1348	0.0408
0.35	1	6.8100	2.7237	-0.8927	0.1631	0.0730	0.0369
4.92	1	6.4790	2.6077	-0.8574	0.1195	0.1283	0.0432
4.92	2	6.8084	2.5107	-0.8634	0.1002	0.0847	0.0351
15.12	1	5.7805	2.4908	-0.7810	0.0835	0.0548	0.0339
29.88	1	4.9059	2.8257	-0.7461	0.0570	0.0528	0.0383
45	1	3.7354	2.9441	-0.6950	0.0514	0.0934	0.0287
60.12	1	2.6480	2.6078	-0.6774	0.0944	0.1055	0.0283
74.88	1	2.9405	2.5864	-0.6807	0.1211	0.0873	0.0383
80.16	1	0.7141	3.3858	-0.3078	0.1324	0.0699	0.0439
85.08	1	1.6370	2.6023	-0.5229	0.0550	0.0312	0.0305
90	1	1.6276	2.7287	-0.5730	0.0638	0.0760	0.0299
90.35	4	1.8677	3.2695	-0.2922	0.0610	0.0582	0.0304
94.92	1	1.7177	2.8960	-0.5517	0.0538	0.0962	0.0375
94.92	4	2.0122	3.4899	-0.2850	0.0862	0.1067	0.0292
105.12	4	2.1490	3.6325	-0.2099	0.0477	0.0353	0.0262
119.88	4	2.1963	4.0045	-0.1248	0.0300	0.0402	0.0284
135	4	2.4316	4.6232	0.0536	0.0446	0.0694	0.0204
150.12	4	2.7067	5.0517	0.1234	0.0763	0.1250	0.0253
164.88	4	3.5171	5.5653	0.1017	0.0387	0.1426	0.0242
170.16	4	3.6399	5.0094	0.1178	0.0344	0.1252	0.0253
175.08	4	4.1020	4.8251	0.0479	0.0696	0.1413	0.0299
180	4	4.1487	4.7797	-0.0166	0.0596	0.1211	0.0428
180.35	3	4.4020	4.9909	-0.4856	0.1825	0.1686	0.0438
184.92	3	4.7818	4.9549	-0.4637	0.0473	0.2623	0.0399
184.92	4	4.7254	4.8045	-0.0698	0.0611	0.1325	0.0327
195.12	3	5.9636	4.1018	-0.5056	0.0472	0.0785	0.0282
209.88	3	7.4015	3.6106	-0.6799	0.0538	0.0522	0.0426
225	3	8.7763	2.8596	-0.6857	0.0700	0.0856	0.0367
240.12	3	10.0183	2.5568	-0.9469	0.0705	0.0855	0.0398
254.88	3	10.7288	2.6116	-1.2023	0.1546	0.1384	0.0387
260.16	3	9.5008	3.2402	-0.8284	0.1478	0.1012	0.0556
265.08	3	9.5806	3.3224	-0.8667	0.2418	0.1151	0.0472
270	3	9.7819	3.3666	-0.9735	0.4088	0.1716	0.0855
270.35	2	9.9012	3.3919	-0.7689	0.2038	0.1435	0.0708
274.92	2	9.0388	3.6617	-0.5223	0.0907	0.0698	0.0633
274.92	3	10.1914	3.3146	-1.1220	0.2809	0.2912	0.0624
285.12	2	9.6346	3.9909	-0.3103	0.0672	0.0635	0.0621
299.88	2	9.5399	4.2346	-0.2950	0.0776	0.0521	0.0577
315	2	9.1015	4.1452	-0.3846	0.0483	0.0457	0.0511
330.12	2	8.0909	3.3748	-0.6827	0.0659	0.1848	0.0367
344.88	2	6.8404	2.8715	-0.7729	0.0936	0.0401	0.0294
350.16	2	7.2556	2.8397	-0.7678	0.0431	0.0709	0.0176
355.08	2	7.4081	2.5011	-0.8174	0.0507	0.0335	0.0350

3.29.2 Spanwise Elastic Deformations

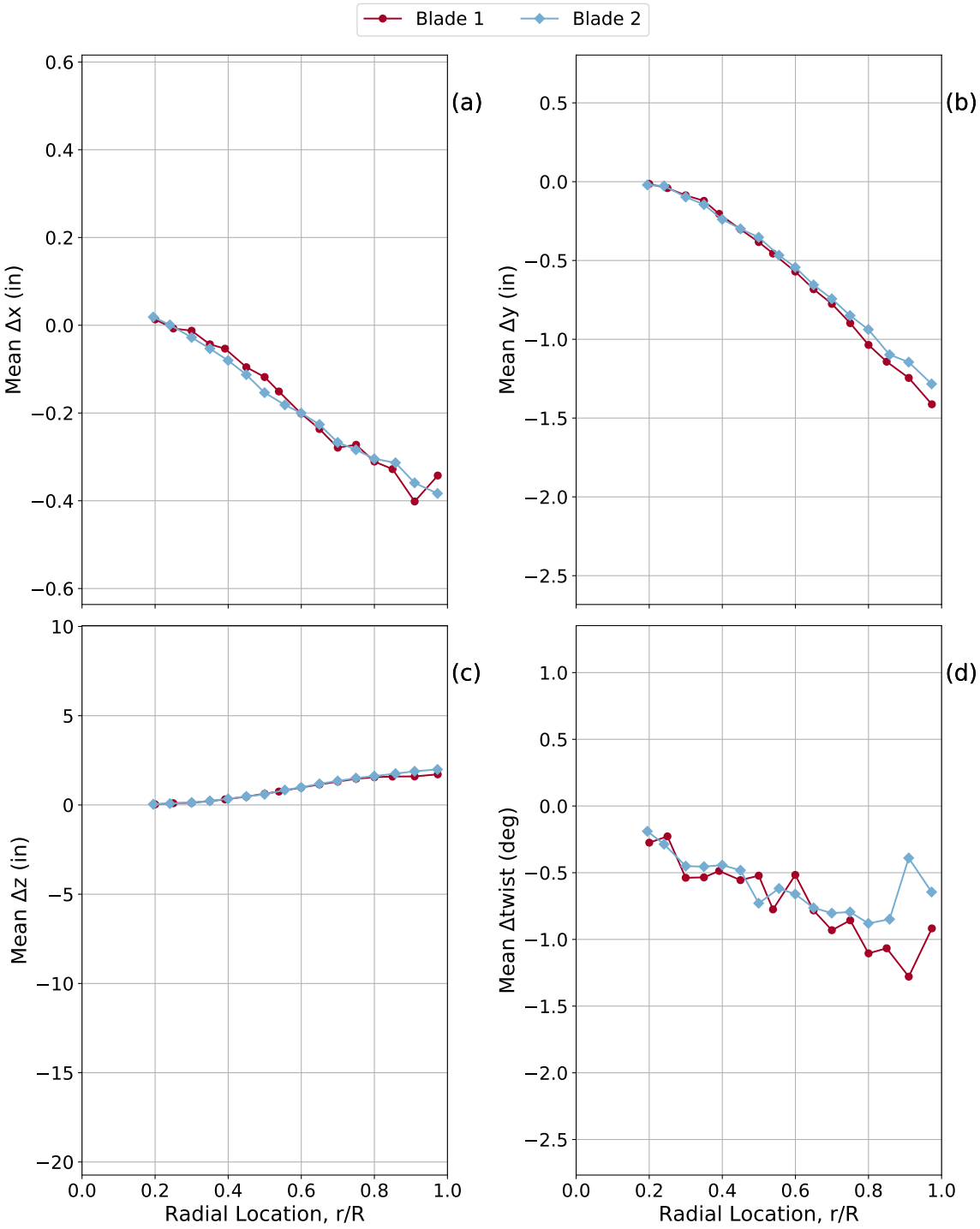


Figure 3.29-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0133	0.0053	-0.0144	0.0034	0.0330	0.0120	-0.2747	0.0625
1	0.35	0.2499	-0.0074	0.0026	-0.0409	0.0055	0.0977	0.0176	-0.2277	0.1279
1	0.35	0.2998	-0.0124	0.0018	-0.0866	0.0118	0.1207	0.0379	-0.5379	0.1478
1	0.35	0.3498	-0.0434	0.0022	-0.1216	0.0214	0.2184	0.0614	-0.5350	0.1407
1	0.35	0.3913	-0.0533	0.0029	-0.2045	0.0289	0.3114	0.0848	-0.4867	0.1506
1	0.35	0.4496	-0.0956	0.0031	-0.3023	0.0379	0.4660	0.1125	-0.5555	0.1465
1	0.35	0.4997	-0.1180	0.0034	-0.3830	0.0460	0.6292	0.1375	-0.5221	0.1357
1	0.35	0.5387	-0.1509	0.0034	-0.4560	0.0528	0.7511	0.1557	-0.7751	0.1327
1	0.35	0.5996	-0.2013	0.0050	-0.5704	0.0640	0.9753	0.1866	-0.5165	0.1368
1	0.35	0.6498	-0.2365	0.0051	-0.6825	0.0728	1.1474	0.2107	-0.7827	0.1491
1	0.35	0.6998	-0.2789	0.0051	-0.7753	0.0814	1.3073	0.2364	-0.9310	0.1444
1	0.35	0.7500	-0.2724	0.0057	-0.8976	0.0923	1.4652	0.2683	-0.8569	0.1293
1	0.35	0.8001	-0.3106	0.0058	-1.0358	0.0989	1.5535	0.2986	-1.1046	0.1649
1	0.35	0.8497	-0.3279	0.0056	-1.1421	0.1091	1.5910	0.3338	-1.0664	0.1551
1	0.35	0.9102	-0.4016	0.0054	-1.2451	0.1205	1.5991	0.3817	-1.2791	0.1921
1	0.35	0.9734	-0.3425	0.0108	-1.4126	0.1317	1.7139	0.4326	-0.9175	0.1940
2	0	0.1949	0.0187	0.0031	-0.0208	0.0021	0.0387	0.0060	-0.1893	0.0447
2	0	0.2405	0.0009	0.0015	-0.0270	0.0043	0.0763	0.0128	-0.2862	0.0771
2	0	0.2999	-0.0278	0.0013	-0.0974	0.0084	0.1392	0.0219	-0.4504	0.1076
2	0	0.3498	-0.0532	0.0022	-0.1453	0.0152	0.2284	0.0413	-0.4544	0.0816
2	0	0.3998	-0.0803	0.0029	-0.2391	0.0232	0.3449	0.0603	-0.4430	0.0860
2	0	0.4496	-0.1126	0.0035	-0.2990	0.0305	0.4760	0.0829	-0.4816	0.0828
2	0	0.4995	-0.1536	0.0037	-0.3528	0.0391	0.5953	0.1035	-0.7290	0.0835
2	0	0.5551	-0.1815	0.0044	-0.4669	0.0460	0.8372	0.1246	-0.6180	0.0880
2	0	0.5996	-0.2003	0.0053	-0.5434	0.0539	0.9883	0.1366	-0.6605	0.0862
2	0	0.6497	-0.2262	0.0053	-0.6550	0.0637	1.1856	0.1510	-0.7633	0.0943
2	0	0.6996	-0.2670	0.0055	-0.7432	0.0726	1.3428	0.1619	-0.8030	0.0942
2	0	0.7495	-0.2837	0.0065	-0.8492	0.0831	1.5073	0.1745	-0.7943	0.1002
2	0	0.7996	-0.3043	0.0067	-0.9381	0.0923	1.6168	0.1901	-0.8797	0.0839
2	0	0.8578	-0.3134	0.0058	-1.0980	0.1046	1.7558	0.2108	-0.8486	0.1245
2	0	0.9100	-0.3592	0.0082	-1.1449	0.1254	1.8867	0.2451	-0.3897	0.2467
2	0	0.9727	-0.3834	0.0112	-1.2832	0.1337	1.9900	0.2778	-0.6446	0.0811

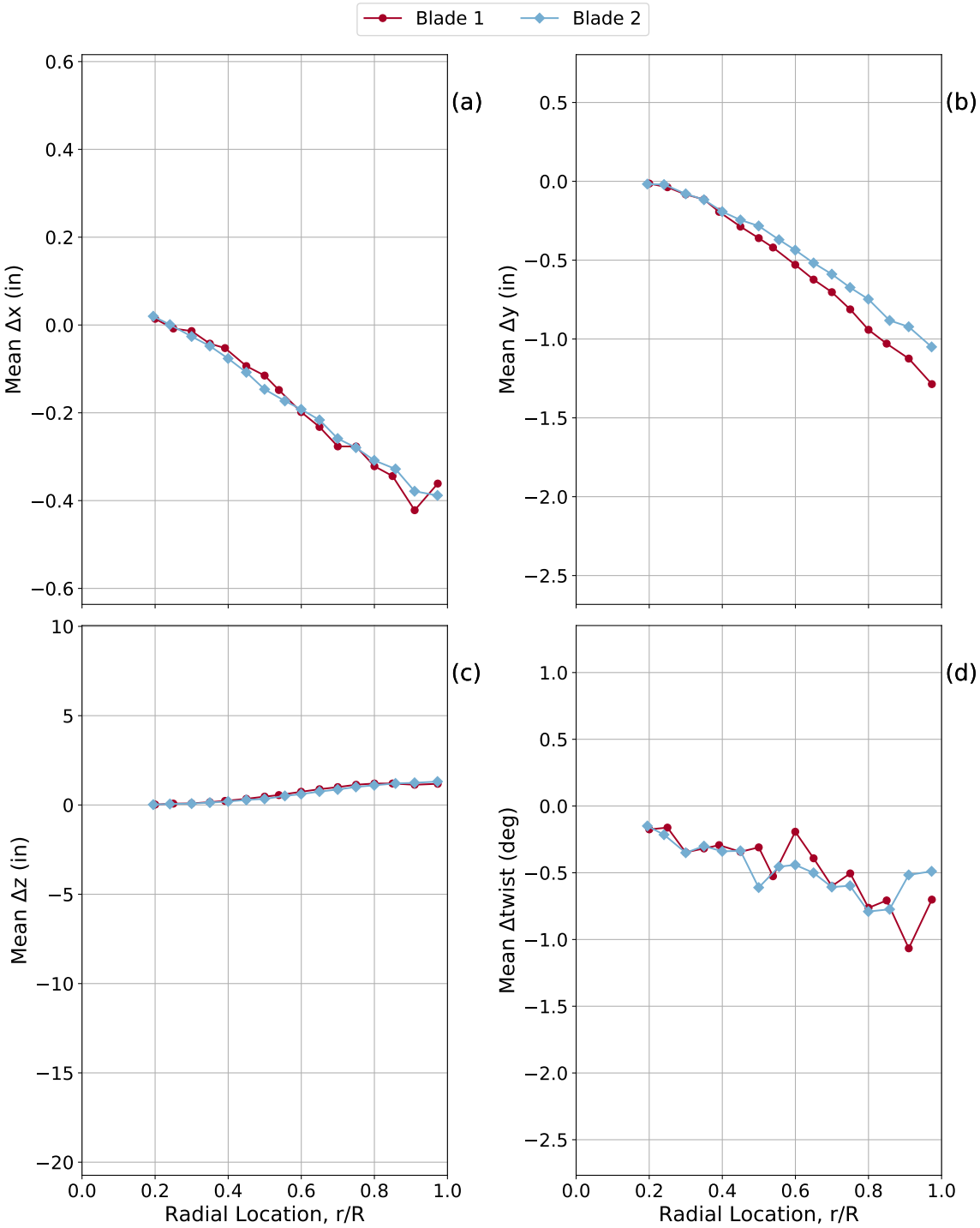


Figure 3.29-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0141	0.0038	-0.0143	0.0029	0.0244	0.0090	-0.1749	0.0451
1	4.92	0.2499	-0.0081	0.0023	-0.0375	0.0040	0.0760	0.0150	-0.1617	0.0912
1	4.92	0.2998	-0.0138	0.0027	-0.0831	0.0098	0.0882	0.0301	-0.3472	0.1062
1	4.92	0.3498	-0.0425	0.0021	-0.1152	0.0147	0.1592	0.0519	-0.3180	0.0959
1	4.92	0.3913	-0.0526	0.0027	-0.1934	0.0209	0.2280	0.0711	-0.2929	0.0938
1	4.92	0.4496	-0.0936	0.0024	-0.2870	0.0277	0.3444	0.0988	-0.3430	0.0843
1	4.92	0.4997	-0.1152	0.0027	-0.3602	0.0347	0.4685	0.1207	-0.3098	0.1007
1	4.92	0.5387	-0.1481	0.0026	-0.4197	0.0407	0.5541	0.1382	-0.5262	0.0954
1	4.92	0.5996	-0.1983	0.0038	-0.5292	0.0492	0.7397	0.1656	-0.1926	0.0959
1	4.92	0.6498	-0.2322	0.0043	-0.6232	0.0574	0.8825	0.1874	-0.3917	0.0985
1	4.92	0.6998	-0.2765	0.0045	-0.7029	0.0659	0.9998	0.2116	-0.5998	0.1020
1	4.92	0.7500	-0.2768	0.0051	-0.8120	0.0746	1.1333	0.2376	-0.5048	0.0921
1	4.92	0.8001	-0.3217	0.0065	-0.9415	0.0835	1.2005	0.2673	-0.7627	0.0845
1	4.92	0.8497	-0.3441	0.0054	-1.0294	0.0928	1.2013	0.3030	-0.7073	0.1200
1	4.92	0.9102	-0.4219	0.0064	-1.1240	0.1044	1.1325	0.3588	-1.0660	0.1074
1	4.92	0.9734	-0.3612	0.0083	-1.2860	0.1138	1.1854	0.4168	-0.7012	0.1437
2	4.92	0.1949	0.0199	0.0046	-0.0174	0.0025	0.0208	0.0060	-0.1495	0.0241
2	4.92	0.2405	0.0008	0.0028	-0.0205	0.0033	0.0555	0.0092	-0.2149	0.0877
2	4.92	0.2999	-0.0262	0.0021	-0.0794	0.0080	0.0762	0.0211	-0.3500	0.0774
2	4.92	0.3498	-0.0479	0.0023	-0.1167	0.0153	0.1324	0.0362	-0.3002	0.0777
2	4.92	0.3998	-0.0764	0.0016	-0.1922	0.0214	0.1972	0.0537	-0.3394	0.0656
2	4.92	0.4496	-0.1078	0.0023	-0.2451	0.0273	0.2828	0.0668	-0.3357	0.0793
2	4.92	0.4995	-0.1465	0.0028	-0.2830	0.0358	0.3403	0.0819	-0.6109	0.0849
2	4.92	0.5551	-0.1730	0.0036	-0.3703	0.0437	0.5067	0.0931	-0.4546	0.0769
2	4.92	0.5996	-0.1921	0.0030	-0.4363	0.0507	0.6085	0.0997	-0.4409	0.0807
2	4.92	0.6497	-0.2163	0.0044	-0.5178	0.0607	0.7511	0.1081	-0.5007	0.0723
2	4.92	0.6996	-0.2586	0.0042	-0.5888	0.0707	0.8656	0.1132	-0.6070	0.0684
2	4.92	0.7495	-0.2794	0.0048	-0.6734	0.0816	1.0089	0.1213	-0.5975	0.0707
2	4.92	0.7996	-0.3084	0.0047	-0.7473	0.0918	1.1027	0.1356	-0.7904	0.0826
2	4.92	0.8578	-0.3280	0.0052	-0.8825	0.1043	1.2047	0.1600	-0.7737	0.0631
2	4.92	0.9100	-0.3787	0.0057	-0.9223	0.1155	1.2416	0.1911	-0.5163	0.1037
2	4.92	0.9727	-0.3882	0.0087	-1.0501	0.1309	1.3098	0.2470	-0.4892	0.0933

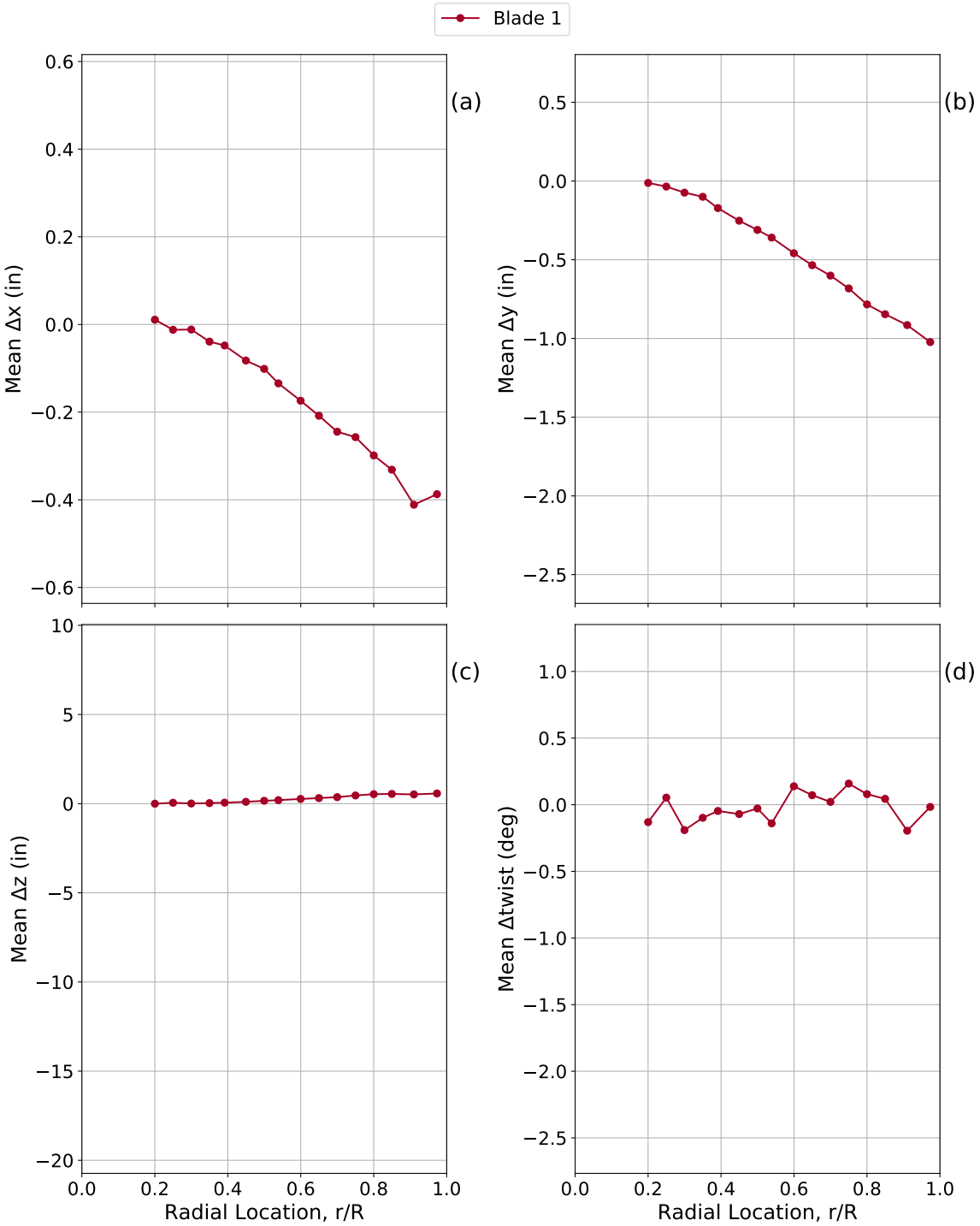


Figure 3.29-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0109	0.0042	-0.0119	0.0020	-0.0013	0.0062	-0.1306	0.0398
1	15.12	0.2499	-0.0122	0.0022	-0.0352	0.0046	0.0498	0.0119	0.0530	0.0786
1	15.12	0.2998	-0.0116	0.0022	-0.0737	0.0075	0.0102	0.0206	-0.1903	0.0879
1	15.12	0.3498	-0.0391	0.0027	-0.1001	0.0131	0.0302	0.0379	-0.0983	0.0767
1	15.12	0.3913	-0.0480	0.0037	-0.1719	0.0187	0.0565	0.0512	-0.0470	0.0842
1	15.12	0.4496	-0.0823	0.0041	-0.2522	0.0255	0.1045	0.0684	-0.0702	0.0842
1	15.12	0.4997	-0.1013	0.0043	-0.3106	0.0313	0.1611	0.0790	-0.0281	0.0919
1	15.12	0.5387	-0.1344	0.0048	-0.3593	0.0363	0.1974	0.0875	-0.1399	0.0861
1	15.12	0.5996	-0.1740	0.0051	-0.4585	0.0448	0.2639	0.0971	0.1386	0.0870
1	15.12	0.6498	-0.2082	0.0049	-0.5346	0.0511	0.3135	0.1058	0.0714	0.0975
1	15.12	0.6998	-0.2447	0.0049	-0.6006	0.0580	0.3655	0.1169	0.0212	0.1005
1	15.12	0.7500	-0.2571	0.0049	-0.6822	0.0660	0.4592	0.1265	0.1586	0.0950
1	15.12	0.8001	-0.2988	0.0047	-0.7838	0.0719	0.5322	0.1407	0.0791	0.0896
1	15.12	0.8497	-0.3314	0.0051	-0.8459	0.0802	0.5455	0.1576	0.0441	0.1084
1	15.12	0.9102	-0.4113	0.0053	-0.9150	0.0900	0.5184	0.1878	-0.1953	0.0996
1	15.12	0.9734	-0.3872	0.0073	-1.0230	0.1009	0.5716	0.2275	-0.0166	0.1240

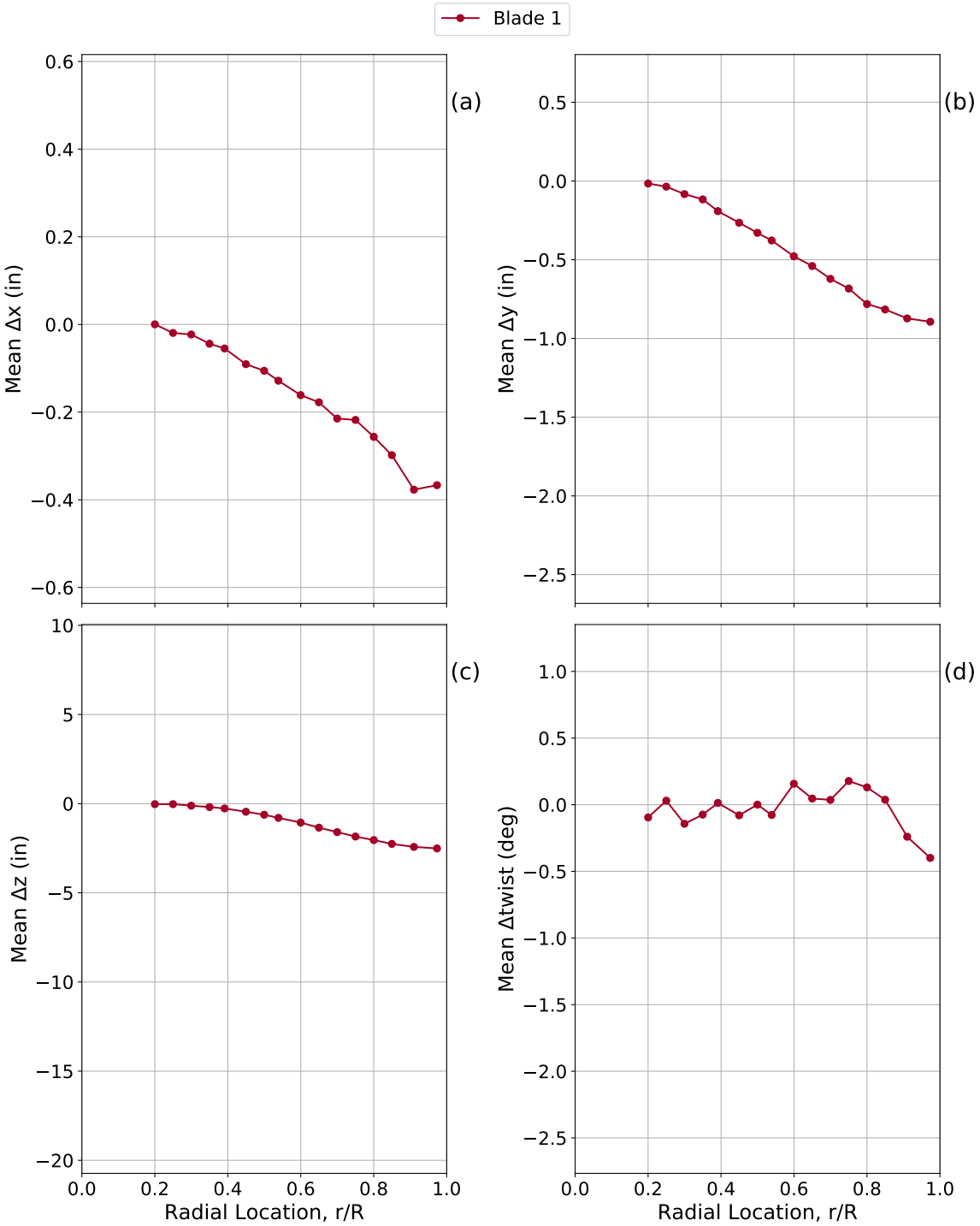


Figure 3.29-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0003	0.0036	-0.0157	0.0013	-0.0269	0.0033	-0.0956	0.0349
1	29.88	0.2499	-0.0193	0.0021	-0.0357	0.0032	-0.0281	0.0086	0.0301	0.0600
1	29.88	0.2998	-0.0229	0.0016	-0.0831	0.0054	-0.1128	0.0129	-0.1433	0.0805
1	29.88	0.3498	-0.0439	0.0025	-0.1166	0.0096	-0.1894	0.0230	-0.0744	0.0867
1	29.88	0.3913	-0.0548	0.0029	-0.1912	0.0140	-0.2688	0.0332	0.0133	0.0820
1	29.88	0.4496	-0.0906	0.0039	-0.2651	0.0194	-0.4538	0.0489	-0.0795	0.0938
1	29.88	0.4997	-0.1057	0.0045	-0.3291	0.0250	-0.6212	0.0662	0.0006	0.0899
1	29.88	0.5387	-0.1284	0.0041	-0.3777	0.0304	-0.7954	0.0806	-0.0769	0.1076
1	29.88	0.5996	-0.1612	0.0046	-0.4780	0.0388	-1.0587	0.1001	0.1572	0.1011
1	29.88	0.6498	-0.1776	0.0050	-0.5400	0.0451	-1.3453	0.1177	0.0463	0.1014
1	29.88	0.6998	-0.2147	0.0040	-0.6212	0.0532	-1.5959	0.1319	0.0360	0.1083
1	29.88	0.7500	-0.2178	0.0049	-0.6830	0.0611	-1.8428	0.1460	0.1778	0.0994
1	29.88	0.8001	-0.2564	0.0057	-0.7814	0.0697	-2.0424	0.1633	0.1301	0.0958
1	29.88	0.8497	-0.2982	0.0062	-0.8159	0.0778	-2.2550	0.1778	0.0376	0.0897
1	29.88	0.9102	-0.3769	0.0061	-0.8726	0.0872	-2.4252	0.1979	-0.2403	0.0875
1	29.88	0.9734	-0.3667	0.0079	-0.8938	0.0983	-2.5093	0.2283	-0.3993	0.0910

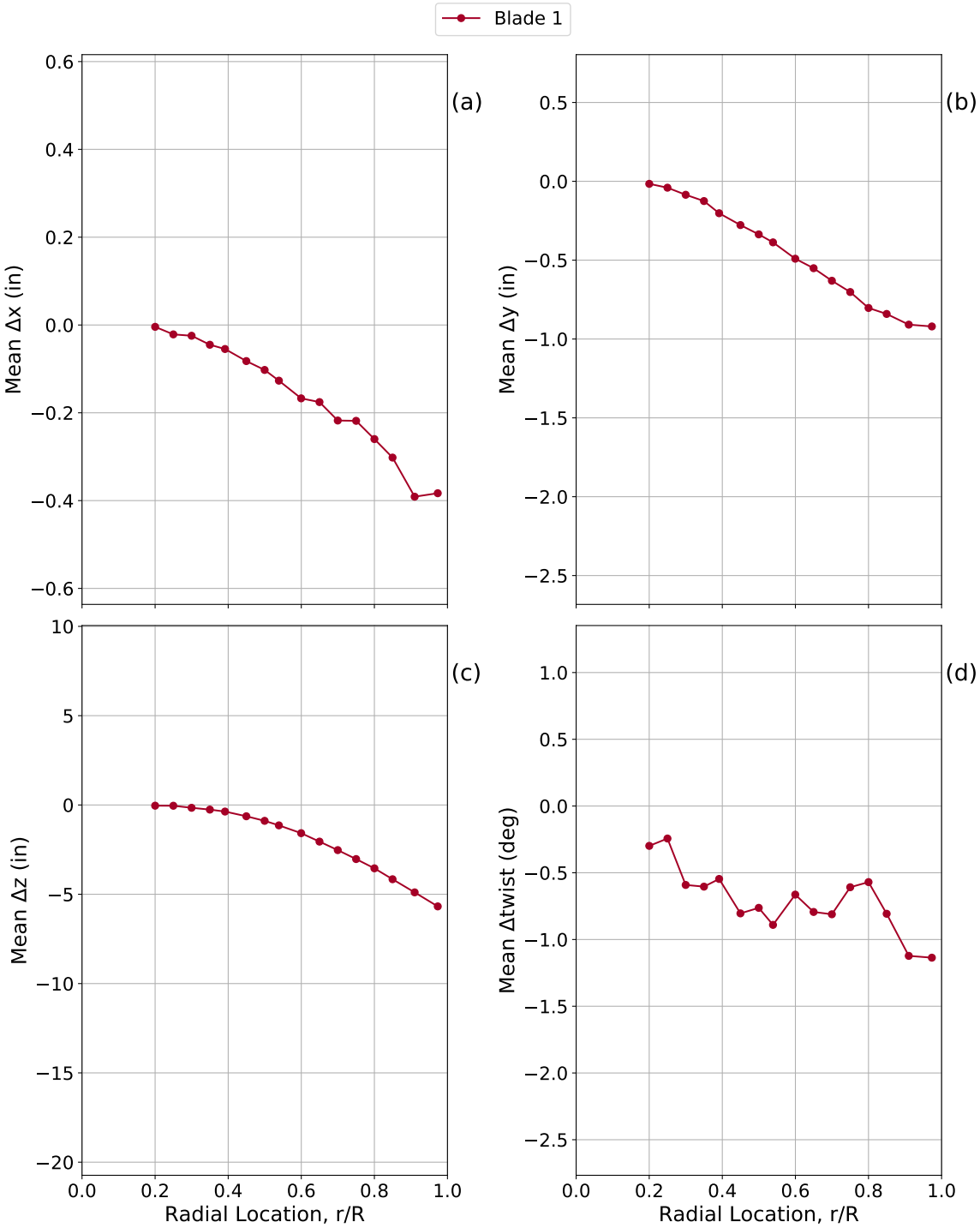


Figure 3.29-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0042	0.0035	-0.0159	0.0012	-0.0394	0.0045	-0.2985	0.0340
1	45	0.2499	-0.0214	0.0027	-0.0404	0.0032	-0.0431	0.0098	-0.2434	0.0681
1	45	0.2998	-0.0245	0.0021	-0.0853	0.0054	-0.1579	0.0168	-0.5912	0.0792
1	45	0.3498	-0.0450	0.0030	-0.1251	0.0098	-0.2588	0.0300	-0.6039	0.0704
1	45	0.3913	-0.0547	0.0025	-0.2023	0.0141	-0.3685	0.0421	-0.5463	0.0710
1	45	0.4496	-0.0822	0.0028	-0.2774	0.0189	-0.6320	0.0668	-0.8043	0.0687
1	45	0.4997	-0.1024	0.0033	-0.3364	0.0228	-0.8880	0.0899	-0.7629	0.0732
1	45	0.5387	-0.1268	0.0036	-0.3871	0.0281	-1.1412	0.1093	-0.8904	0.0667
1	45	0.5996	-0.1671	0.0041	-0.4908	0.0346	-1.5785	0.1367	-0.6636	0.0702
1	45	0.6498	-0.1756	0.0042	-0.5510	0.0412	-2.0511	0.1593	-0.7936	0.0684
1	45	0.6998	-0.2176	0.0036	-0.6304	0.0475	-2.5274	0.1785	-0.8110	0.0783
1	45	0.7500	-0.2183	0.0040	-0.7021	0.0525	-3.0284	0.1982	-0.6084	0.0693
1	45	0.8001	-0.2599	0.0040	-0.8031	0.0600	-3.5477	0.2202	-0.5700	0.0780
1	45	0.8497	-0.3020	0.0049	-0.8410	0.0668	-4.1576	0.2410	-0.8073	0.0786
1	45	0.9102	-0.3911	0.0055	-0.9088	0.0762	-4.8935	0.2645	-1.1226	0.0818
1	45	0.9734	-0.3832	0.0064	-0.9203	0.0882	-5.6786	0.2889	-1.1362	0.0854

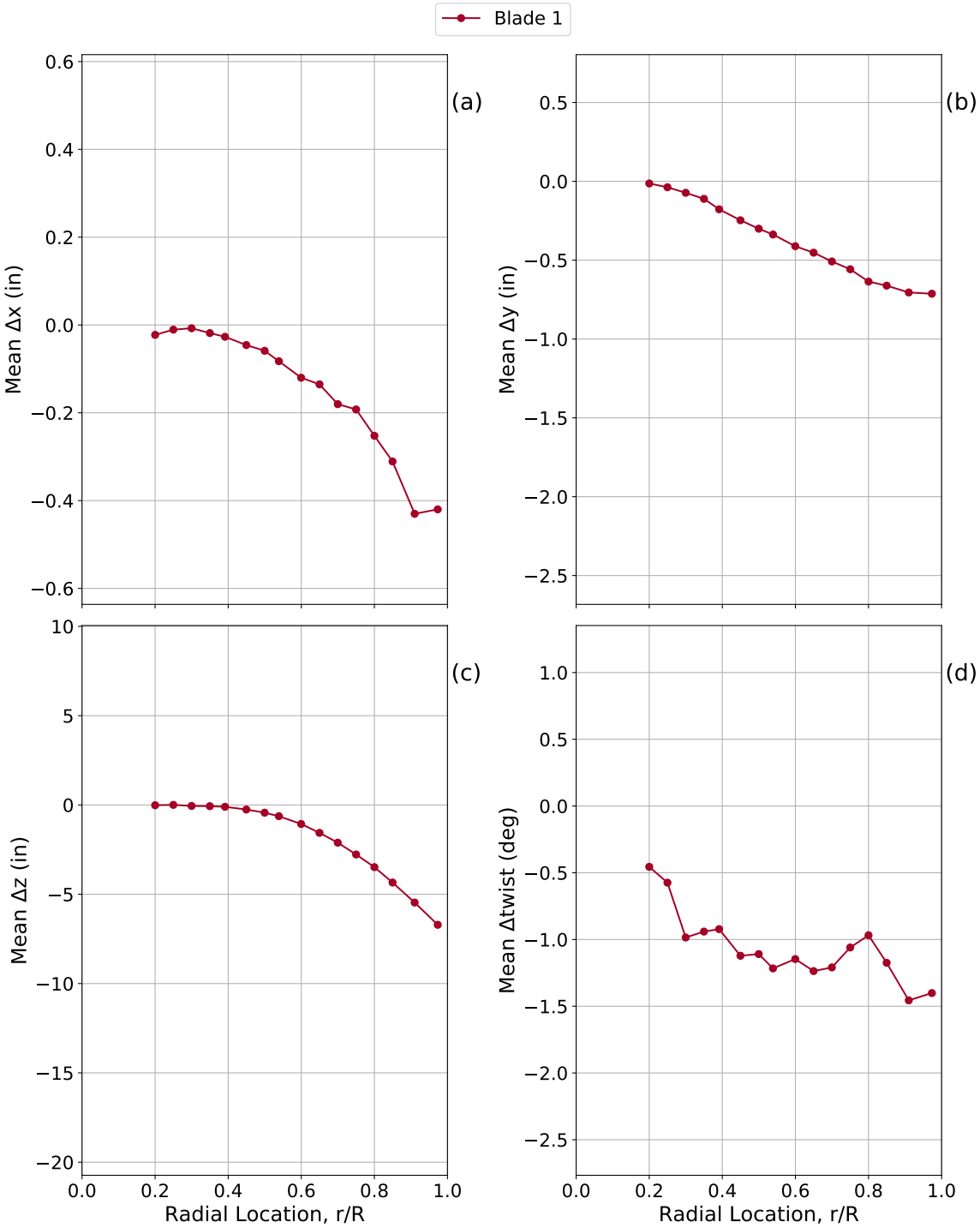


Figure 3.29-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0225	0.0022	-0.0136	0.0012	-0.0140	0.0039	-0.4555	0.0366
1	60.12	0.2499	-0.0106	0.0027	-0.0376	0.0026	0.0051	0.0087	-0.5742	0.0613
1	60.12	0.2998	-0.0074	0.0024	-0.0727	0.0046	-0.0541	0.0154	-0.9849	0.0801
1	60.12	0.3498	-0.0184	0.0017	-0.1112	0.0075	-0.0675	0.0275	-0.9407	0.0798
1	60.12	0.3913	-0.0269	0.0030	-0.1772	0.0108	-0.1015	0.0390	-0.9223	0.0759
1	60.12	0.4496	-0.0457	0.0028	-0.2469	0.0154	-0.2553	0.0577	-1.1217	0.0742
1	60.12	0.4997	-0.0587	0.0027	-0.3005	0.0188	-0.4322	0.0730	-1.1093	0.0845
1	60.12	0.5387	-0.0825	0.0029	-0.3373	0.0230	-0.6288	0.0832	-1.2165	0.0832
1	60.12	0.5996	-0.1201	0.0032	-0.4115	0.0298	-1.0635	0.0991	-1.1465	0.0848
1	60.12	0.6498	-0.1352	0.0036	-0.4525	0.0344	-1.5606	0.1089	-1.2366	0.0924
1	60.12	0.6998	-0.1803	0.0046	-0.5082	0.0409	-2.1106	0.1174	-1.2092	0.0976
1	60.12	0.7500	-0.1924	0.0053	-0.5576	0.0468	-2.7717	0.1285	-1.0598	0.0944
1	60.12	0.8001	-0.2524	0.0053	-0.6358	0.0536	-3.4804	0.1400	-0.9681	0.1058
1	60.12	0.8497	-0.3109	0.0060	-0.6615	0.0608	-4.3413	0.1547	-1.1746	0.1004
1	60.12	0.9102	-0.4300	0.0075	-0.7048	0.0690	-5.4627	0.1762	-1.4560	0.1084
1	60.12	0.9734	-0.4200	0.0095	-0.7128	0.0778	-6.7092	0.1995	-1.4012	0.0998

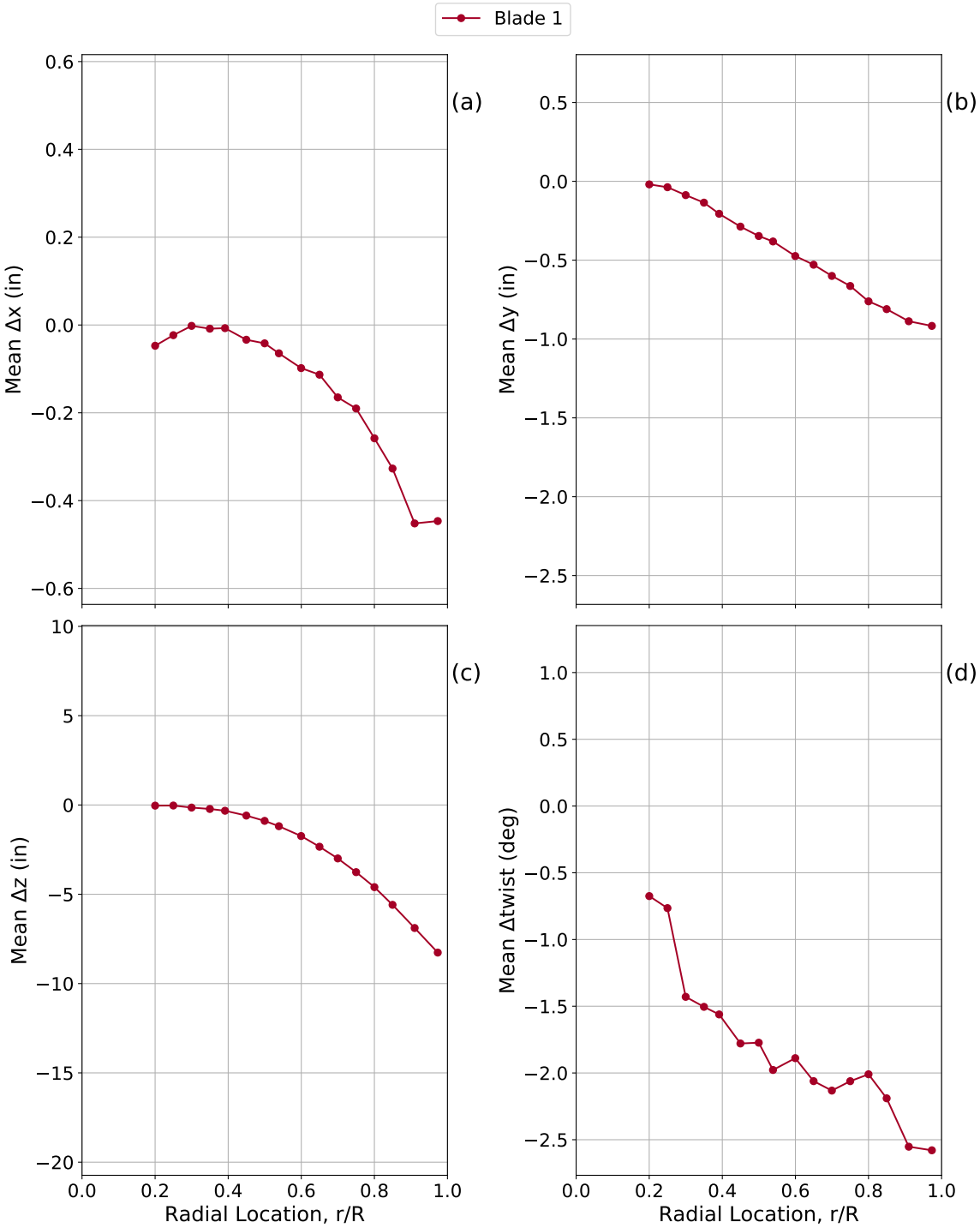


Figure 3.29-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0473	0.0038	-0.0194	0.0020	-0.0372	0.0088	-0.6747	0.0419
1	74.88	0.2499	-0.0232	0.0016	-0.0374	0.0025	-0.0313	0.0112	-0.7648	0.1462
1	74.88	0.2998	-0.0020	0.0022	-0.0874	0.0066	-0.1459	0.0283	-1.4296	0.1241
1	74.88	0.3498	-0.0084	0.0016	-0.1352	0.0099	-0.2231	0.0481	-1.5045	0.1274
1	74.88	0.3913	-0.0072	0.0021	-0.2058	0.0141	-0.3227	0.0650	-1.5614	0.1288
1	74.88	0.4496	-0.0336	0.0018	-0.2872	0.0208	-0.5936	0.0879	-1.7790	0.1446
1	74.88	0.4997	-0.0418	0.0016	-0.3468	0.0266	-0.8896	0.1083	-1.7731	0.1398
1	74.88	0.5387	-0.0645	0.0017	-0.3814	0.0311	-1.1882	0.1263	-1.9775	0.1382
1	74.88	0.5996	-0.0982	0.0020	-0.4738	0.0398	-1.7394	0.1533	-1.8890	0.1524
1	74.88	0.6498	-0.1132	0.0027	-0.5289	0.0476	-2.3377	0.1792	-2.0611	0.1346
1	74.88	0.6998	-0.1649	0.0032	-0.5999	0.0561	-2.9934	0.2067	-2.1319	0.1409
1	74.88	0.7500	-0.1902	0.0048	-0.6637	0.0644	-3.7609	0.2359	-2.0614	0.1421
1	74.88	0.8001	-0.2581	0.0057	-0.7611	0.0731	-4.6008	0.2680	-2.0097	0.1395
1	74.88	0.8497	-0.3270	0.0076	-0.8105	0.0824	-5.5912	0.2986	-2.1898	0.1472
1	74.88	0.9102	-0.4520	0.0093	-0.8874	0.0937	-6.8881	0.3370	-2.5523	0.1481
1	74.88	0.9734	-0.4466	0.0094	-0.9169	0.1067	-8.2638	0.3752	-2.5793	0.1476

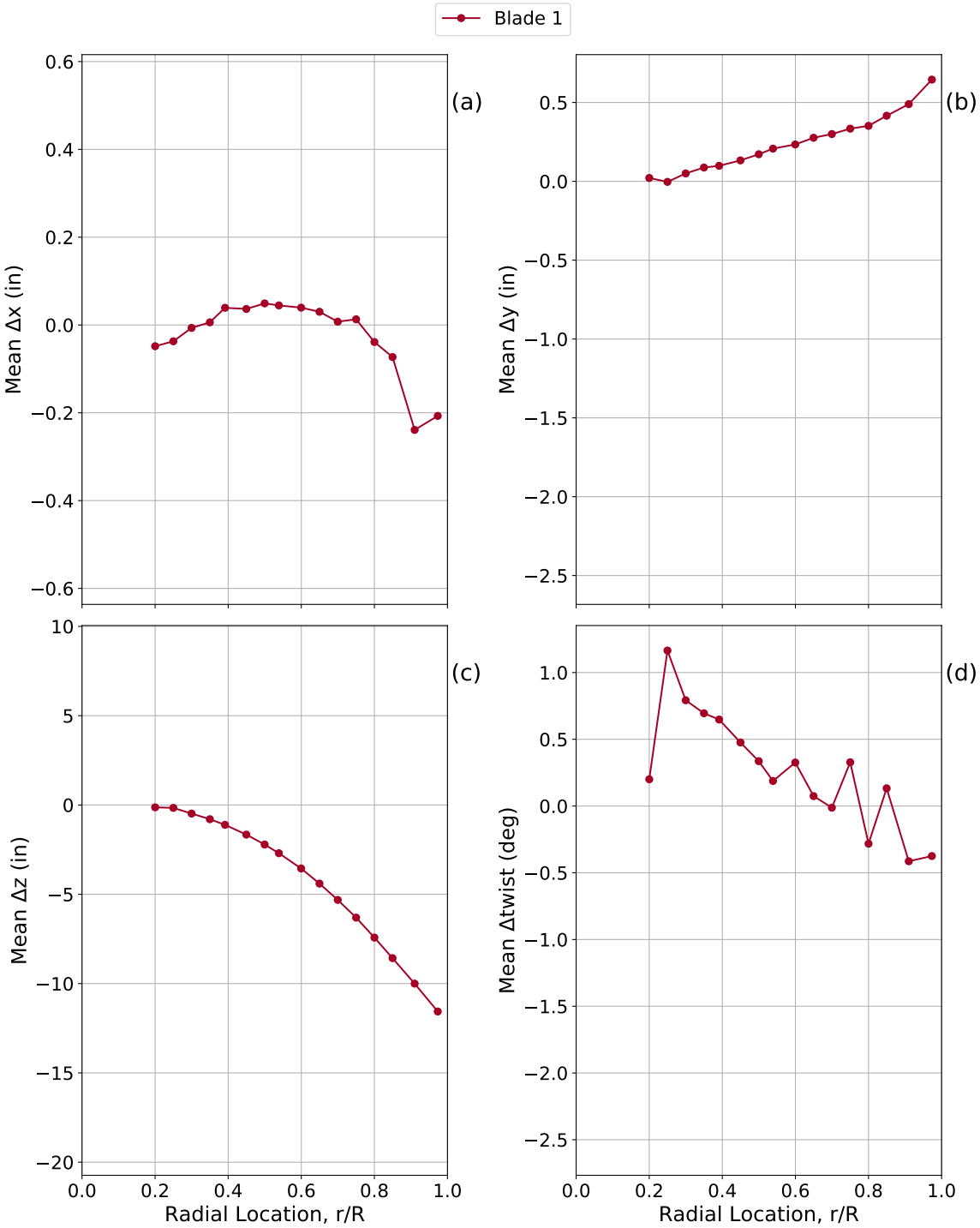


Figure 3.29-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0484	0.0041	0.0213	0.0038	-0.1327	0.0083	0.2004	0.0521
1	80.16	0.2499	-0.0371	0.0021	-0.0036	0.0042	-0.1632	0.0102	1.1650	0.1531
1	80.16	0.2998	-0.0066	0.0024	0.0501	0.0127	-0.4809	0.0289	0.7924	0.1443
1	80.16	0.3498	0.0061	0.0028	0.0874	0.0222	-0.7957	0.0485	0.6950	0.1428
1	80.16	0.3913	0.0392	0.0039	0.0983	0.0297	-1.1114	0.0667	0.6479	0.1415
1	80.16	0.4496	0.0365	0.0047	0.1328	0.0401	-1.6591	0.0925	0.4762	0.1538
1	80.16	0.4997	0.0492	0.0056	0.1717	0.0506	-2.2143	0.1175	0.3362	0.1475
1	80.16	0.5387	0.0446	0.0062	0.2073	0.0591	-2.7011	0.1361	0.1878	0.1563
1	80.16	0.5996	0.0395	0.0075	0.2339	0.0722	-3.5550	0.1685	0.3258	0.1598
1	80.16	0.6498	0.0301	0.0082	0.2763	0.0850	-4.4005	0.1960	0.0744	0.1506
1	80.16	0.6998	0.0075	0.0100	0.2997	0.0979	-5.3150	0.2252	-0.0124	0.1471
1	80.16	0.7500	0.0130	0.0104	0.3340	0.1122	-6.3061	0.2542	0.3279	0.1926
1	80.16	0.8001	-0.0388	0.0133	0.3518	0.1275	-7.4254	0.3009	-0.2824	0.4008
1	80.16	0.8497	-0.0730	0.0182	0.4159	0.1446	-8.5764	0.3186	0.1326	0.1971
1	80.16	0.9102	-0.2390	0.0140	0.4895	0.1632	-10.0030	0.3337	-0.4139	0.1565
1	80.16	0.9734	-0.2071	0.0162	0.6449	0.1815	-11.5634	0.3661	-0.3747	0.1580

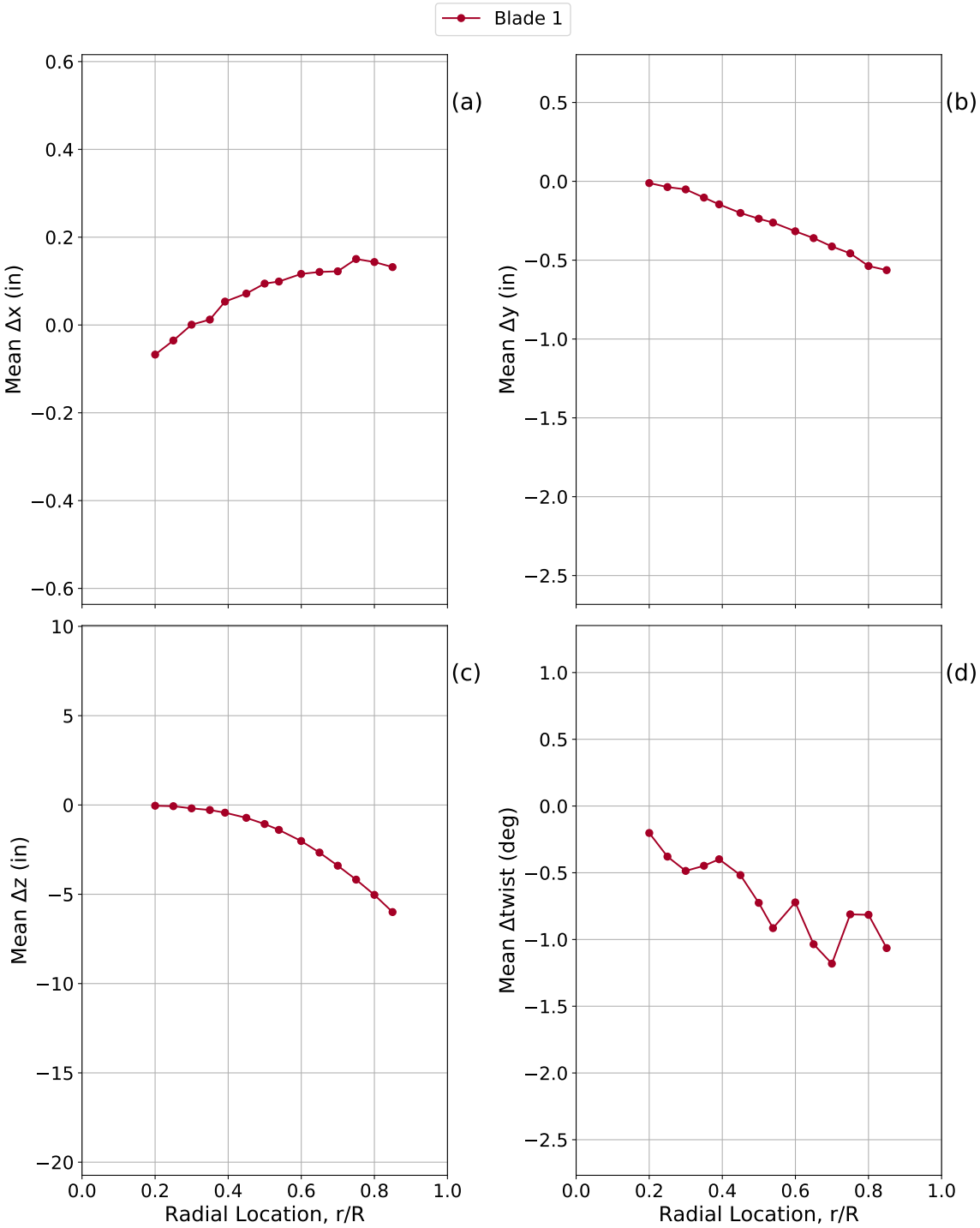


Figure 3.29-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0674	0.0017	-0.0110	0.0004	-0.0430	0.0031	-0.2020	0.0184
1	85.08	0.2499	-0.0354	0.0014	-0.0364	0.0015	-0.0667	0.0068	-0.3789	0.0318
1	85.08	0.2998	0.0007	0.0012	-0.0513	0.0015	-0.1902	0.0139	-0.4861	0.0409
1	85.08	0.3498	0.0123	0.0015	-0.1033	0.0032	-0.2814	0.0217	-0.4476	0.0364
1	85.08	0.3913	0.0533	0.0020	-0.1461	0.0045	-0.4312	0.0330	-0.3987	0.0379
1	85.08	0.4496	0.0716	0.0018	-0.2007	0.0075	-0.7205	0.0510	-0.5177	0.0392
1	85.08	0.4997	0.0943	0.0022	-0.2370	0.0101	-1.0663	0.0656	-0.7254	0.0325
1	85.08	0.5387	0.0990	0.0028	-0.2617	0.0117	-1.3951	0.0775	-0.9148	0.0425
1	85.08	0.5996	0.1163	0.0028	-0.3167	0.0151	-2.0164	0.0960	-0.7220	0.0377
1	85.08	0.6498	0.1208	0.0038	-0.3603	0.0184	-2.6649	0.1119	-1.0354	0.0545
1	85.08	0.6998	0.1223	0.0043	-0.4131	0.0213	-3.4003	0.1190	-1.1809	0.0512
1	85.08	0.7500	0.1503	0.0053	-0.4569	0.0249	-4.1800	0.1352	-0.8116	0.0474
1	85.08	0.8001	0.1434	0.0063	-0.5370	0.0286	-5.0337	0.1498	-0.8150	0.1838
1	85.08	0.8497	0.1319	0.0093	-0.5633	0.0329	-5.9959	0.1597	-1.0643	0.1216

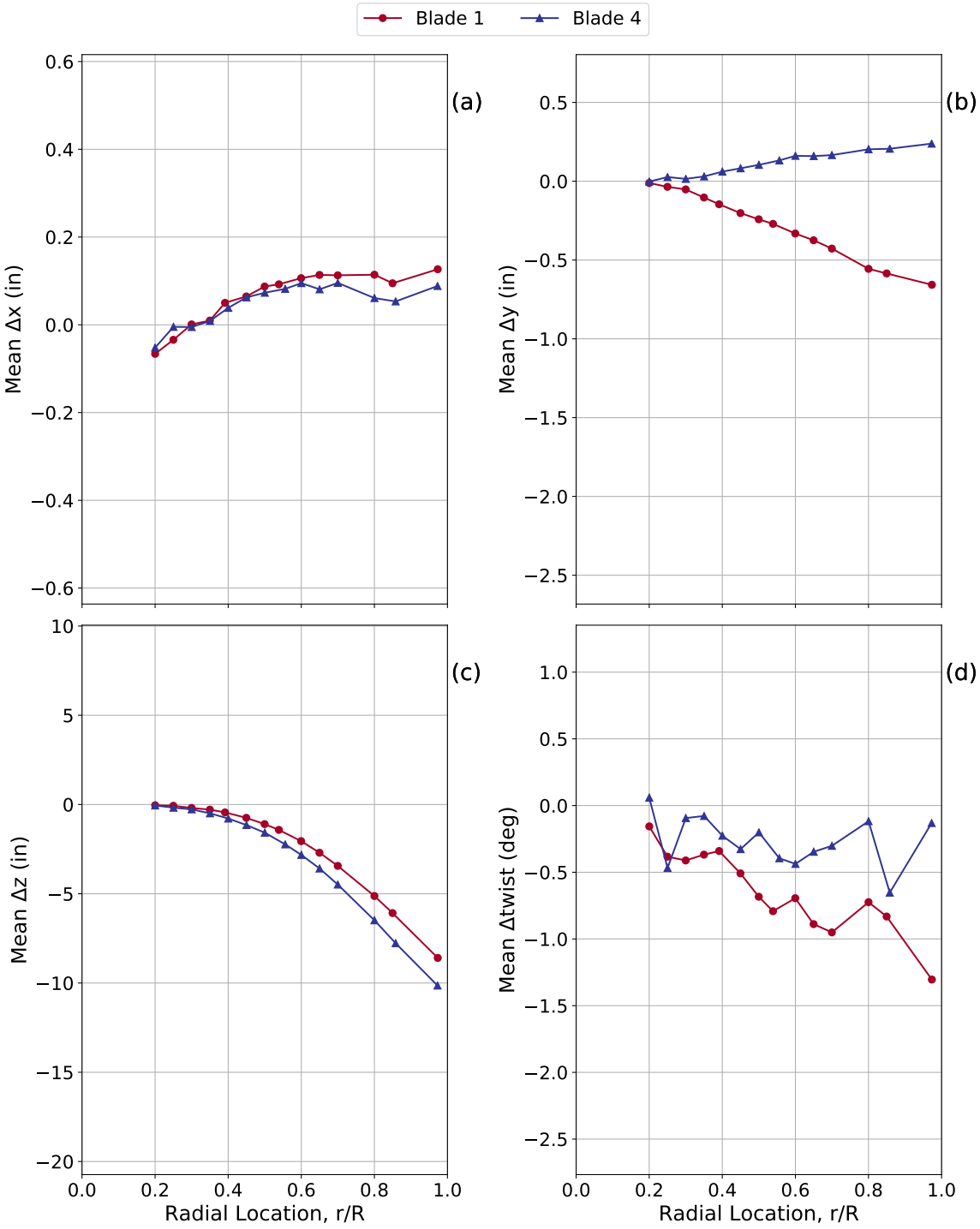


Figure 3.29-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0662	0.0013	-0.0113	0.0009	-0.0428	0.0046	-0.1561	0.0251
1	90	0.2499	-0.0342	0.0007	-0.0356	0.0020	-0.0716	0.0098	-0.3832	0.0315
1	90	0.2998	0.0009	0.0017	-0.0520	0.0036	-0.1928	0.0184	-0.4115	0.0503
1	90	0.3498	0.0096	0.0013	-0.1035	0.0067	-0.2871	0.0327	-0.3681	0.0541
1	90	0.3913	0.0501	0.0021	-0.1463	0.0093	-0.4414	0.0463	-0.3408	0.0530
1	90	0.4496	0.0646	0.0016	-0.2023	0.0139	-0.7467	0.0661	-0.5084	0.0504
1	90	0.4997	0.0873	0.0016	-0.2416	0.0187	-1.0981	0.0836	-0.6833	0.0576
1	90	0.5387	0.0923	0.0020	-0.2707	0.0221	-1.4226	0.0956	-0.7919	0.0771
1	90	0.5996	0.1063	0.0027	-0.3318	0.0286	-2.0517	0.1133	-0.6945	0.0576
1	90	0.6498	0.1137	0.0032	-0.3747	0.0339	-2.7007	0.1203	-0.8887	0.0790
1	90	0.6998	0.1128	0.0054	-0.4275	0.0402	-3.4381	0.1297	-0.9508	0.0779
1	90	0.8001	0.1142	0.0070	-0.5560	0.0534	-5.1268	0.1489	-0.7244	0.1258
1	90	0.8497	0.0947	0.0081	-0.5852	0.0607	-6.0818	0.1589	-0.8318	0.0978
1	90	0.9734	0.1266	0.0162	-0.6571	0.0772	-8.5943	0.2420	-1.3044	0.2745
4	90.35	0.2001	-0.0520	0.0013	-0.0024	0.0010	-0.0540	0.0029	0.0593	0.0187
4	90.35	0.2502	-0.0047	0.0013	0.0265	0.0021	-0.1799	0.0053	-0.4681	0.0279
4	90.35	0.3001	-0.0051	0.0012	0.0148	0.0039	-0.2727	0.0118	-0.0939	0.0394
4	90.35	0.3502	0.0088	0.0018	0.0304	0.0069	-0.4944	0.0185	-0.0781	0.0397
4	90.35	0.4002	0.0386	0.0021	0.0608	0.0105	-0.7874	0.0296	-0.2261	0.0523
4	90.35	0.4500	0.0625	0.0031	0.0821	0.0139	-1.1512	0.0424	-0.3268	0.0384
4	90.35	0.5001	0.0731	0.0034	0.1038	0.0181	-1.5784	0.0547	-0.2010	0.0361
4	90.35	0.5560	0.0819	0.0052	0.1319	0.0230	-2.2328	0.0686	-0.3951	0.0574
4	90.35	0.6001	0.0950	0.0052	0.1610	0.0268	-2.8236	0.0823	-0.4373	0.0597
4	90.35	0.6501	0.0808	0.0059	0.1593	0.0317	-3.5859	0.0980	-0.3465	0.0547
4	90.35	0.6999	0.0955	0.0077	0.1657	0.0363	-4.4849	0.1107	-0.3020	0.0659
4	90.35	0.8002	0.0609	0.0108	0.2025	0.0468	-6.4868	0.1324	-0.1175	0.0635
4	90.35	0.8582	0.0533	0.0110	0.2061	0.0540	-7.7720	0.1507	-0.6529	0.1324
4	90.35	0.9728	0.0884	0.0164	0.2385	0.0667	-10.1430	0.2045	-0.1312	0.1876

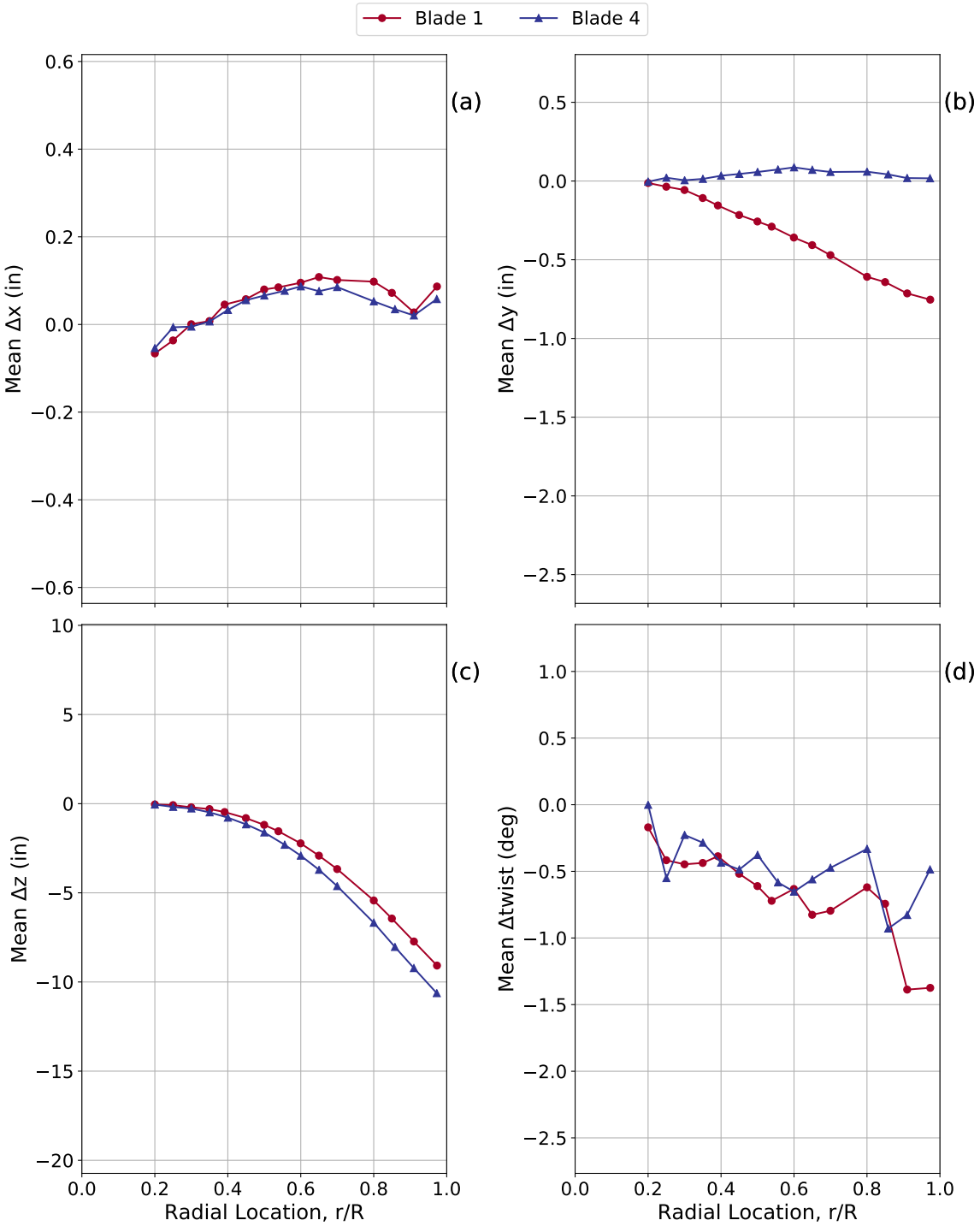


Figure 3.29-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0661	0.0017	-0.0124	0.0006	-0.0431	0.0025	-0.1697	0.0199
1	94.92	0.2499	-0.0364	0.0009	-0.0361	0.0023	-0.0809	0.0052	-0.4166	0.0228
1	94.92	0.2998	0.0006	0.0016	-0.0571	0.0032	-0.2021	0.0118	-0.4472	0.0397
1	94.92	0.3498	0.0078	0.0019	-0.1081	0.0060	-0.3029	0.0167	-0.4370	0.0421
1	94.92	0.3913	0.0454	0.0017	-0.1552	0.0088	-0.4696	0.0264	-0.3866	0.0267
1	94.92	0.4496	0.0577	0.0028	-0.2159	0.0113	-0.8099	0.0402	-0.5180	0.0240
1	94.92	0.4997	0.0798	0.0023	-0.2570	0.0148	-1.1892	0.0508	-0.6107	0.0432
1	94.92	0.5387	0.0847	0.0027	-0.2897	0.0168	-1.5471	0.0621	-0.7212	0.0392
1	94.92	0.5996	0.0952	0.0043	-0.3590	0.0212	-2.2250	0.0806	-0.6321	0.0514
1	94.92	0.6498	0.1082	0.0044	-0.4071	0.0250	-2.9156	0.0973	-0.8261	0.0387
1	94.92	0.6998	0.1015	0.0050	-0.4708	0.0288	-3.6689	0.1137	-0.7956	0.0430
1	94.92	0.8001	0.0977	0.0084	-0.6083	0.0385	-5.4288	0.1520	-0.6198	0.0482
1	94.92	0.8497	0.0721	0.0092	-0.6420	0.0435	-6.4417	0.1736	-0.7436	0.0990
1	94.92	0.9102	0.0275	0.0184	-0.7137	0.0494	-7.7296	0.2015	-1.3874	0.1983
1	94.92	0.9734	0.0866	0.0126	-0.7535	0.0570	-9.0784	0.2029	-1.3743	0.1396
4	94.92	0.2001	-0.0540	0.0014	-0.0044	0.0010	-0.0512	0.0041	-0.0010	0.0307
4	94.92	0.2502	-0.0064	0.0014	0.0210	0.0027	-0.1825	0.0088	-0.5510	0.0394
4	94.92	0.3001	-0.0050	0.0015	0.0049	0.0039	-0.2713	0.0150	-0.2272	0.0651
4	94.92	0.3502	0.0068	0.0014	0.0135	0.0080	-0.4877	0.0294	-0.2852	0.0482
4	94.92	0.4002	0.0331	0.0025	0.0337	0.0117	-0.7850	0.0430	-0.4351	0.0539
4	94.92	0.4500	0.0554	0.0019	0.0449	0.0160	-1.1603	0.0570	-0.4865	0.0653
4	94.92	0.5001	0.0660	0.0028	0.0574	0.0202	-1.6162	0.0698	-0.3772	0.0542
4	94.92	0.5560	0.0768	0.0041	0.0732	0.0266	-2.3063	0.0857	-0.5831	0.0661
4	94.92	0.6001	0.0869	0.0049	0.0867	0.0313	-2.9180	0.0990	-0.6526	0.0724
4	94.92	0.6501	0.0758	0.0057	0.0709	0.0386	-3.7098	0.1137	-0.5602	0.1187
4	94.92	0.6999	0.0853	0.0061	0.0575	0.0436	-4.6248	0.1325	-0.4736	0.0936
4	94.92	0.8002	0.0527	0.0081	0.0593	0.0564	-6.6793	0.1579	-0.3319	0.1105
4	94.92	0.8582	0.0347	0.0093	0.0419	0.0637	-8.0371	0.1749	-0.9294	0.1421
4	94.92	0.9101	0.0205	0.0113	0.0187	0.0710	-9.2234	0.1912	-0.8276	0.1114
4	94.92	0.9728	0.0579	0.0113	0.0172	0.0802	-10.6273	0.2028	-0.4866	0.1604

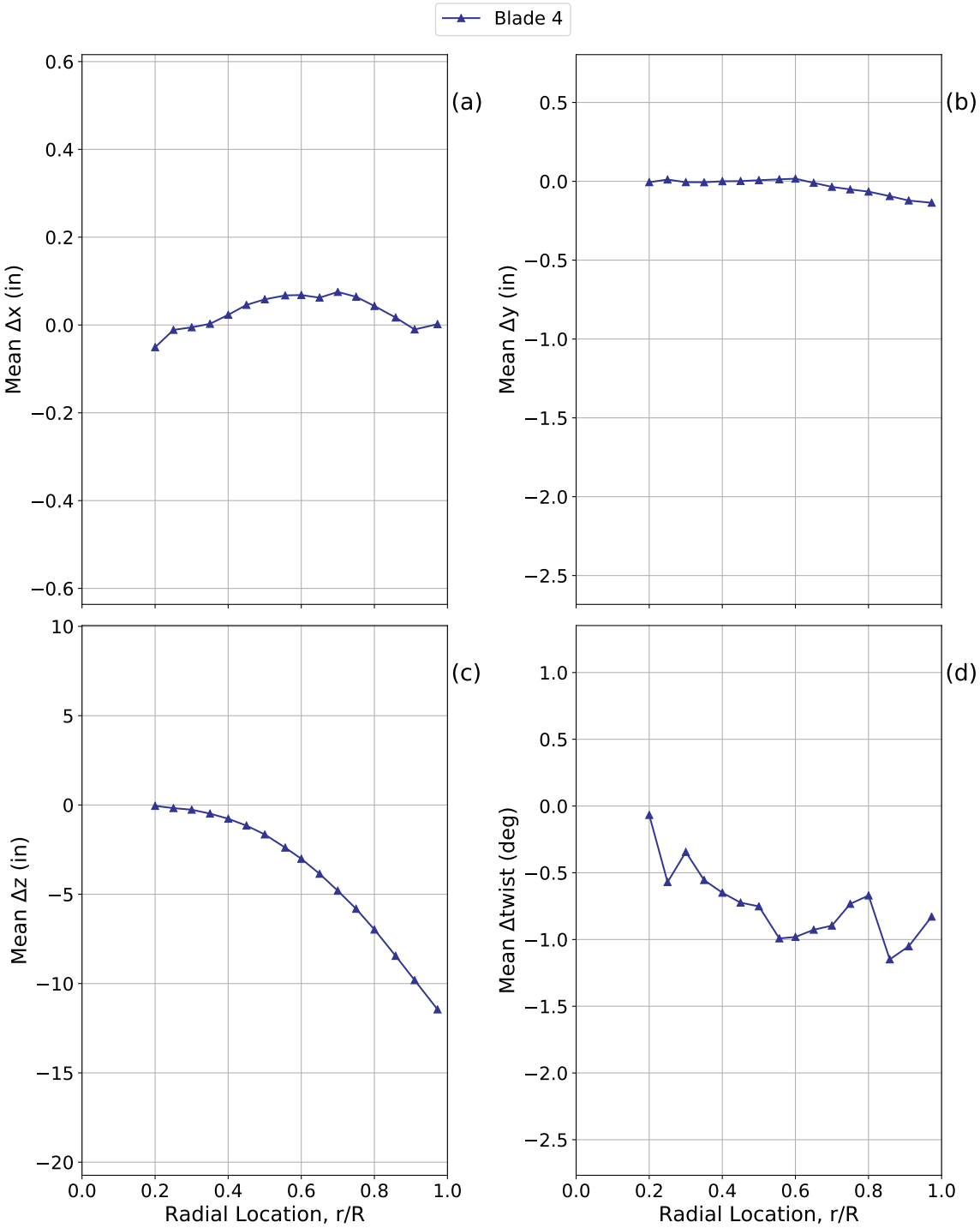


Figure 3.29-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0507	0.0011	-0.0055	0.0009	-0.0516	0.0012	-0.0671	0.0313
4	105.12	0.2502	-0.0112	0.0014	0.0111	0.0025	-0.1766	0.0058	-0.5701	0.0354
4	105.12	0.3001	-0.0053	0.0016	-0.0054	0.0045	-0.2652	0.0080	-0.3445	0.0658
4	105.12	0.3502	0.0026	0.0011	-0.0061	0.0074	-0.4845	0.0126	-0.5548	0.0638
4	105.12	0.4002	0.0232	0.0012	0.0003	0.0120	-0.7716	0.0218	-0.6497	0.0670
4	105.12	0.4500	0.0457	0.0018	0.0014	0.0156	-1.1558	0.0311	-0.7240	0.0530
4	105.12	0.5001	0.0584	0.0023	0.0070	0.0211	-1.6514	0.0474	-0.7517	0.0589
4	105.12	0.5560	0.0674	0.0031	0.0126	0.0284	-2.3880	0.0672	-0.9919	0.0620
4	105.12	0.6001	0.0682	0.0038	0.0168	0.0340	-3.0141	0.0825	-0.9811	0.0493
4	105.12	0.6501	0.0622	0.0052	-0.0098	0.0406	-3.8547	0.1002	-0.9269	0.0507
4	105.12	0.6999	0.0753	0.0054	-0.0352	0.0479	-4.8034	0.1184	-0.8961	0.0617
4	105.12	0.7500	0.0642	0.0052	-0.0514	0.0561	-5.8144	0.1317	-0.7332	0.0701
4	105.12	0.8002	0.0432	0.0062	-0.0654	0.0646	-6.9765	0.1425	-0.6703	0.0794
4	105.12	0.8582	0.0169	0.0070	-0.0940	0.0747	-8.4518	0.1527	-1.1489	0.0852
4	105.12	0.9101	-0.0102	0.0079	-0.1219	0.0843	-9.8091	0.1571	-1.0510	0.0829
4	105.12	0.9728	0.0019	0.0093	-0.1359	0.0961	-11.4481	0.1671	-0.8289	0.0770

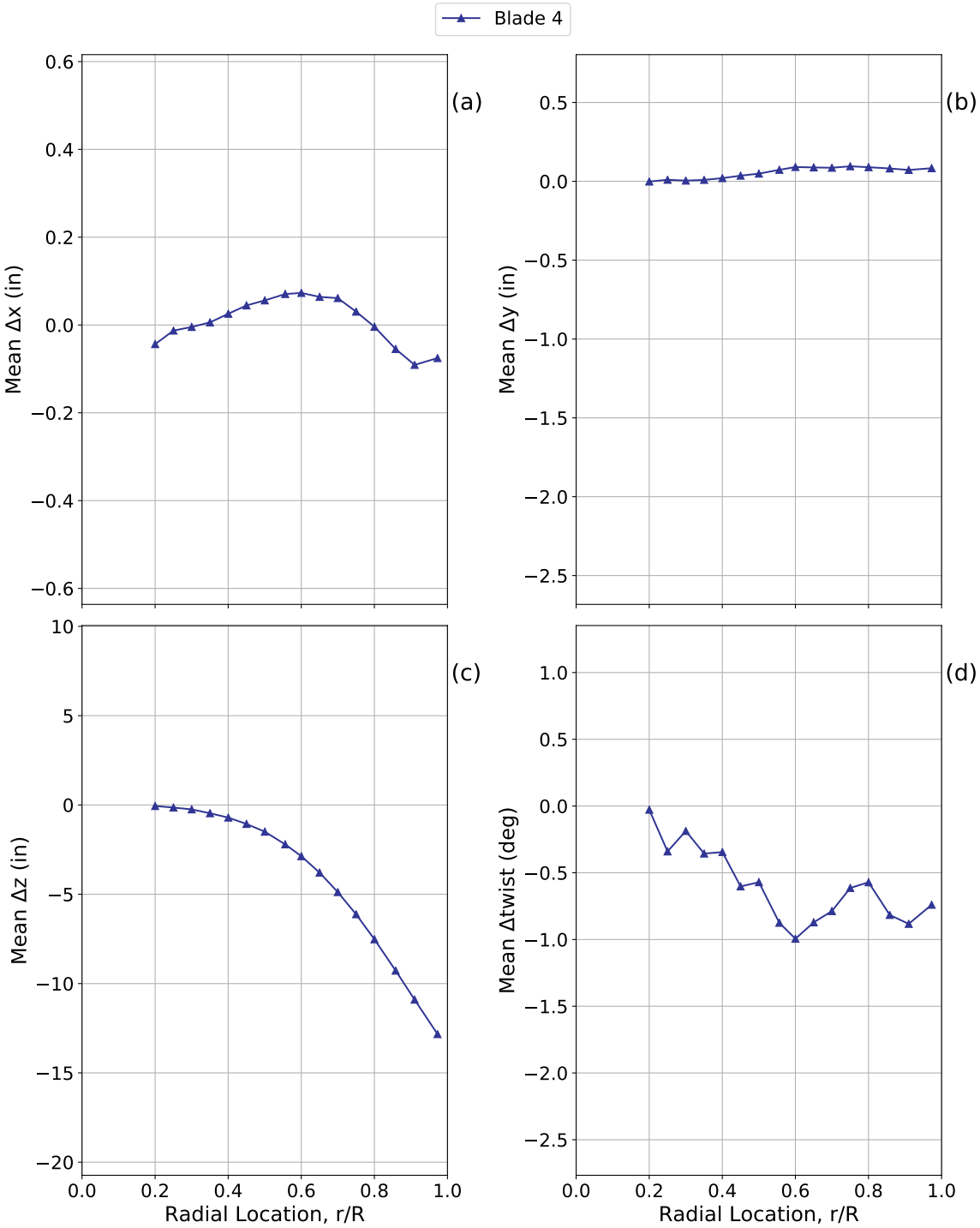


Figure 3.29-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0436	0.0008	-0.0014	0.0008	-0.0583	0.0018	-0.0279	0.0177
4	119.88	0.2502	-0.0128	0.0008	0.0098	0.0013	-0.1443	0.0054	-0.3404	0.0253
4	119.88	0.3001	-0.0045	0.0016	0.0045	0.0024	-0.2474	0.0088	-0.1871	0.0359
4	119.88	0.3502	0.0059	0.0017	0.0090	0.0053	-0.4637	0.0138	-0.3562	0.0267
4	119.88	0.4002	0.0256	0.0015	0.0201	0.0070	-0.7065	0.0229	-0.3452	0.0366
4	119.88	0.4500	0.0445	0.0022	0.0358	0.0097	-1.0620	0.0307	-0.6023	0.0310
4	119.88	0.5001	0.0560	0.0026	0.0488	0.0115	-1.4959	0.0425	-0.5708	0.0325
4	119.88	0.5560	0.0705	0.0024	0.0728	0.0144	-2.2065	0.0564	-0.8749	0.0404
4	119.88	0.6001	0.0730	0.0033	0.0906	0.0164	-2.8685	0.0690	-0.9945	0.0432
4	119.88	0.6501	0.0640	0.0039	0.0880	0.0201	-3.7900	0.0838	-0.8717	0.0346
4	119.88	0.6999	0.0612	0.0051	0.0860	0.0236	-4.8792	0.0987	-0.7873	0.0383
4	119.88	0.7500	0.0304	0.0056	0.0953	0.0272	-6.1203	0.1139	-0.6140	0.0356
4	119.88	0.8002	-0.0041	0.0077	0.0895	0.0305	-7.5233	0.1325	-0.5714	0.0467
4	119.88	0.8582	-0.0548	0.0098	0.0815	0.0351	-9.2754	0.1585	-0.8161	0.0459
4	119.88	0.9101	-0.0909	0.0119	0.0720	0.0397	-10.9022	0.1830	-0.8830	0.0514
4	119.88	0.9728	-0.0754	0.0141	0.0832	0.0450	-12.8305	0.2207	-0.7397	0.0486

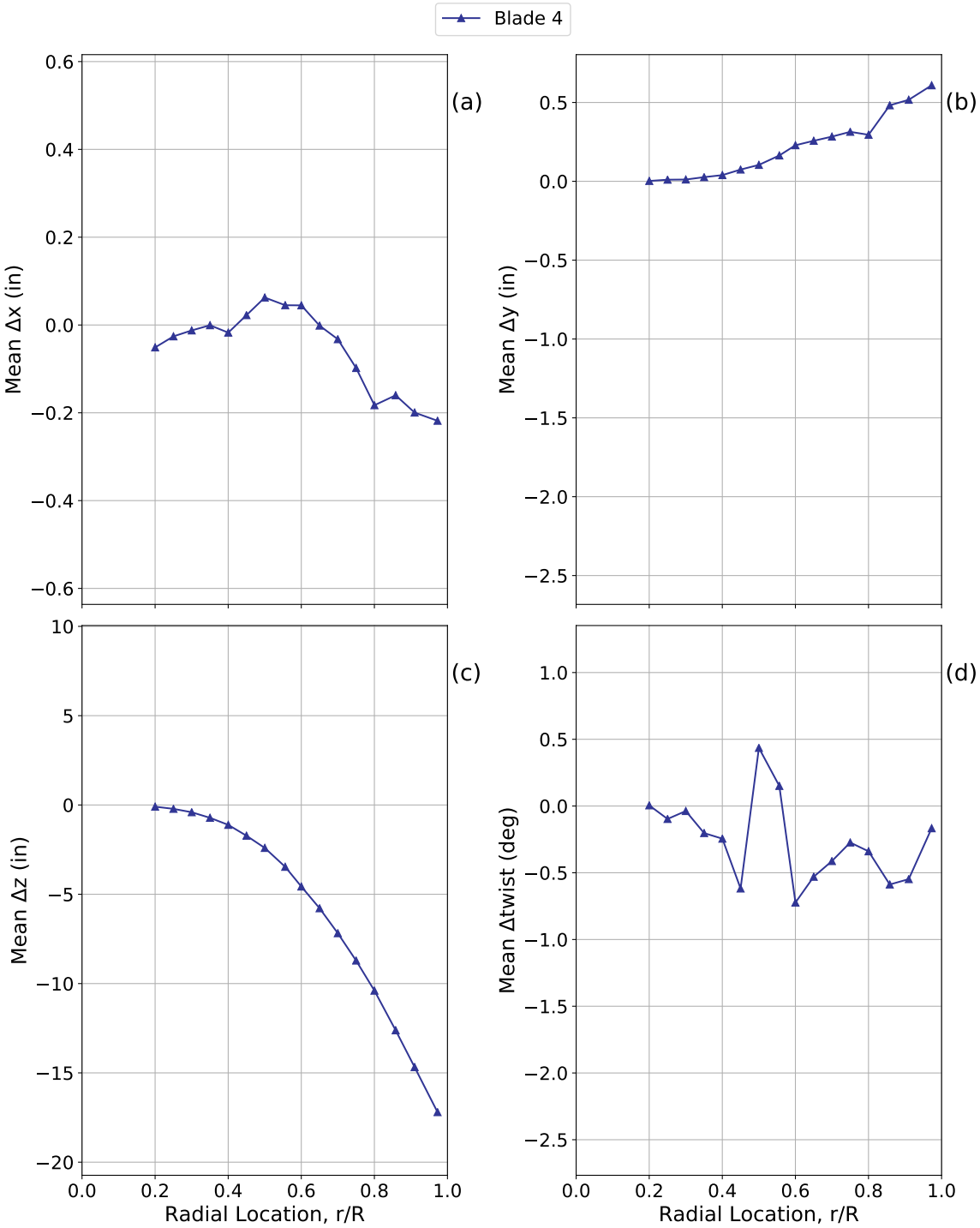


Figure 3.29-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0511	0.0049	0.0023	0.0009	-0.0954	0.0030	0.0049	0.0241
4	135	0.2502	-0.0259	0.0019	0.0103	0.0025	-0.2170	0.0069	-0.0970	0.0341
4	135	0.3001	-0.0124	0.0031	0.0113	0.0041	-0.4068	0.0118	-0.0375	0.0526
4	135	0.3502	-0.0006	0.0042	0.0265	0.0076	-0.7192	0.0224	-0.2028	0.0495
4	135	0.4002	-0.0174	0.0055	0.0393	0.0117	-1.1147	0.0336	-0.2447	0.0506
4	135	0.4500	0.0224	0.0083	0.0745	0.0152	-1.7215	0.0455	-0.6180	0.0775
4	135	0.5001	0.0625	0.0214	0.1041	0.0195	-2.4056	0.0649	0.4356	0.3441
4	135	0.5560	0.0450	0.0256	0.1639	0.0259	-3.4633	0.0873	0.1505	0.3483
4	135	0.6001	0.0447	0.0356	0.2287	0.0327	-4.5672	0.1113	-0.7233	0.1312
4	135	0.6501	-0.0015	0.0362	0.2570	0.0392	-5.7844	0.1416	-0.5300	0.1203
4	135	0.6999	-0.0324	0.0429	0.2834	0.0454	-7.1809	0.1679	-0.4124	0.0780
4	135	0.7500	-0.0980	0.0462	0.3139	0.0547	-8.7127	0.1946	-0.2734	0.1297
4	135	0.8002	-0.1828	0.0500	0.2951	0.0637	-10.3979	0.2429	-0.3395	0.1250
4	135	0.8582	-0.1601	0.0936	0.4819	0.1021	-12.6162	0.3020	-0.5879	0.1125
4	135	0.9101	-0.1995	0.0909	0.5170	0.1128	-14.6792	0.3136	-0.5478	0.3963
4	135	0.9728	-0.2182	0.0854	0.6088	0.1418	-17.1995	0.4063	-0.1666	0.2031

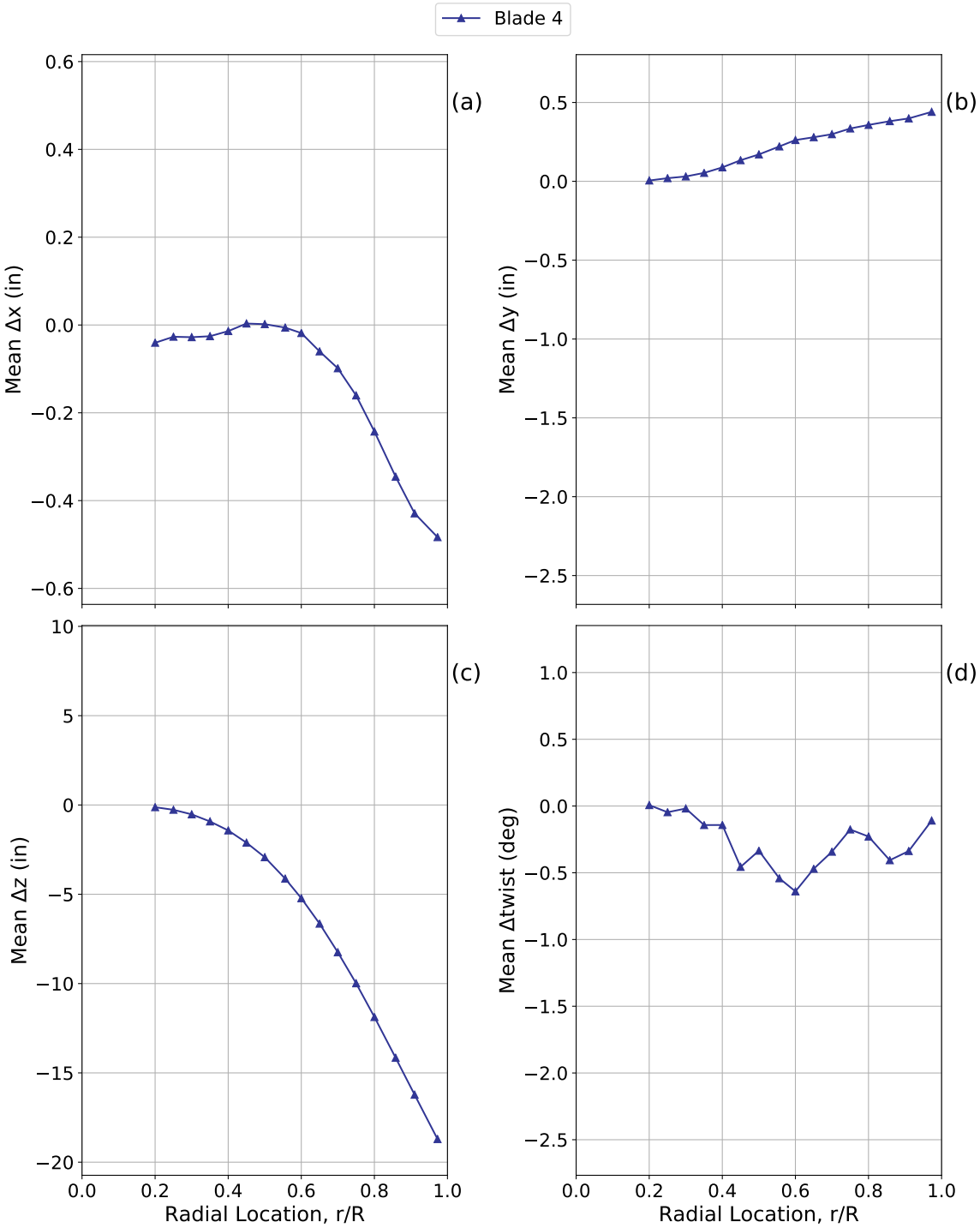


Figure 3.29-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0405	0.0015	0.0052	0.0009	-0.1252	0.0028	0.0068	0.0245
4	150.12	0.2502	-0.0268	0.0012	0.0199	0.0029	-0.2701	0.0062	-0.0465	0.0422
4	150.12	0.3001	-0.0278	0.0019	0.0308	0.0038	-0.5255	0.0096	-0.0187	0.0559
4	150.12	0.3502	-0.0256	0.0021	0.0534	0.0082	-0.9229	0.0198	-0.1426	0.0473
4	150.12	0.4002	-0.0139	0.0035	0.0884	0.0121	-1.4274	0.0286	-0.1422	0.0520
4	150.12	0.4500	0.0033	0.0040	0.1337	0.0158	-2.1119	0.0384	-0.4562	0.0477
4	150.12	0.5001	0.0019	0.0043	0.1705	0.0194	-2.9267	0.0513	-0.3349	0.0515
4	150.12	0.5560	-0.0060	0.0059	0.2211	0.0261	-4.1254	0.0695	-0.5416	0.0590
4	150.12	0.6001	-0.0184	0.0074	0.2617	0.0305	-5.2235	0.0846	-0.6396	0.0566
4	150.12	0.6501	-0.0602	0.0089	0.2795	0.0355	-6.6467	0.1065	-0.4704	0.0707
4	150.12	0.6999	-0.0986	0.0119	0.2986	0.0411	-8.2472	0.1313	-0.3425	0.0565
4	150.12	0.7500	-0.1605	0.0154	0.3350	0.0470	-9.9852	0.1660	-0.1760	0.0662
4	150.12	0.8002	-0.2428	0.0204	0.3576	0.0537	-11.8752	0.2054	-0.2289	0.0677
4	150.12	0.8582	-0.3457	0.0273	0.3813	0.0607	-14.1572	0.2596	-0.4062	0.0666
4	150.12	0.9101	-0.4292	0.0330	0.3988	0.0669	-16.2242	0.3143	-0.3374	0.0690
4	150.12	0.9728	-0.4833	0.0410	0.4403	0.0746	-18.7075	0.3842	-0.1092	0.0734

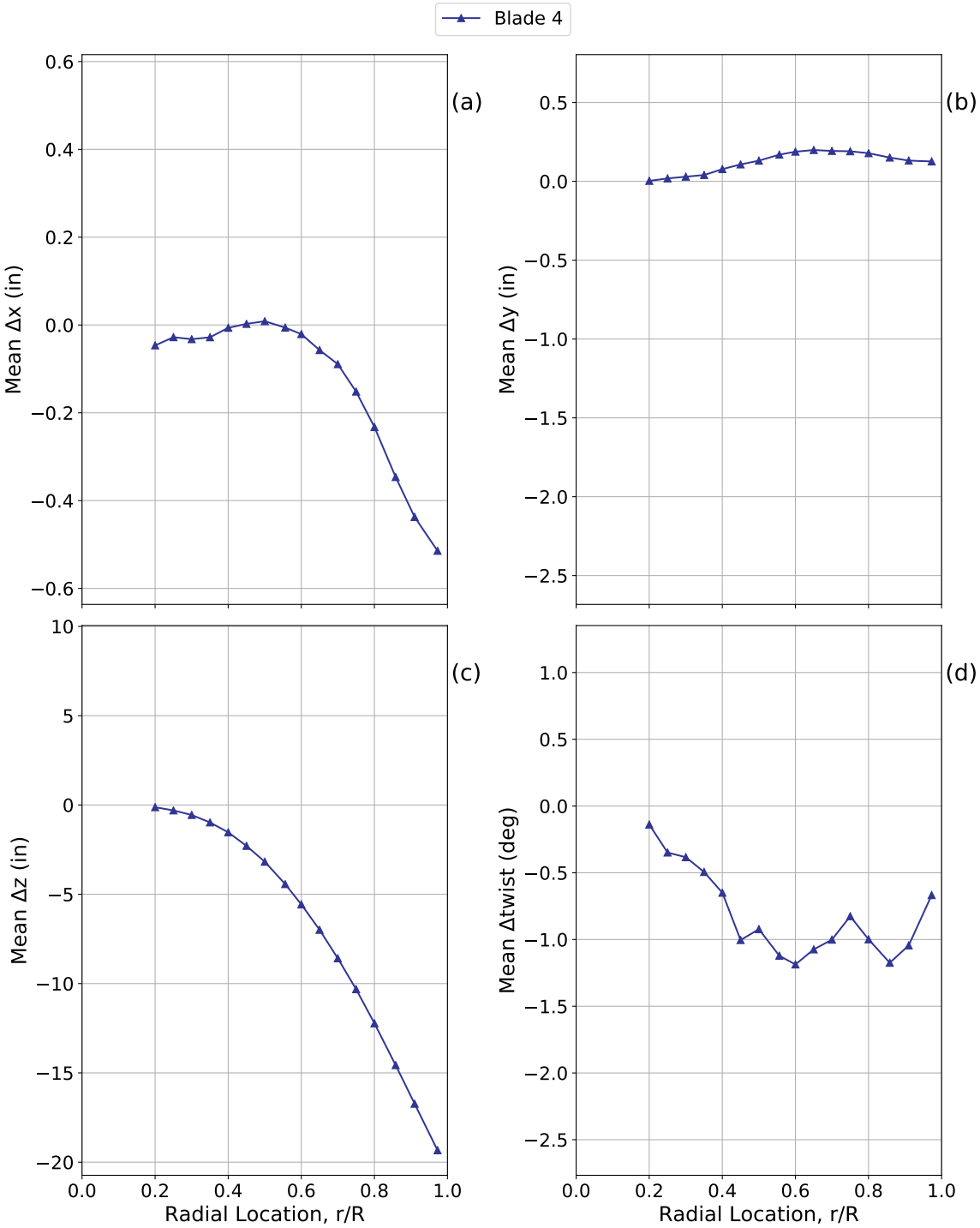


Figure 3.29-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0465	0.0018	0.0028	0.0008	-0.1261	0.0032	-0.1388	0.0208
4	164.88	0.2502	-0.0278	0.0013	0.0183	0.0030	-0.3041	0.0068	-0.3485	0.0310
4	164.88	0.3001	-0.0323	0.0015	0.0294	0.0045	-0.5602	0.0115	-0.3835	0.0424
4	164.88	0.3502	-0.0280	0.0017	0.0399	0.0076	-0.9773	0.0217	-0.4942	0.0484
4	164.88	0.4002	-0.0064	0.0016	0.0773	0.0124	-1.5335	0.0318	-0.6499	0.0533
4	164.88	0.4500	0.0025	0.0018	0.1071	0.0135	-2.2901	0.0410	-1.0042	0.0562
4	164.88	0.5001	0.0086	0.0027	0.1309	0.0149	-3.1779	0.0563	-0.9227	0.0439
4	164.88	0.5560	-0.0060	0.0039	0.1691	0.0204	-4.4312	0.0694	-1.1218	0.0500
4	164.88	0.6001	-0.0208	0.0045	0.1879	0.0231	-5.5689	0.0838	-1.1870	0.0446
4	164.88	0.6501	-0.0572	0.0058	0.1984	0.0250	-6.9920	0.0986	-1.0743	0.0528
4	164.88	0.6999	-0.0893	0.0069	0.1927	0.0287	-8.5876	0.1134	-1.0014	0.0508
4	164.88	0.7500	-0.1518	0.0090	0.1905	0.0314	-10.3170	0.1311	-0.8259	0.0546
4	164.88	0.8002	-0.2326	0.0120	0.1783	0.0336	-12.2277	0.1540	-0.9991	0.0461
4	164.88	0.8582	-0.3464	0.0163	0.1506	0.0373	-14.5676	0.1840	-1.1745	0.0596
4	164.88	0.9101	-0.4374	0.0202	0.1314	0.0397	-16.7284	0.2154	-1.0443	0.0603
4	164.88	0.9728	-0.5144	0.0251	0.1260	0.0429	-19.3348	0.2567	-0.6675	0.0656

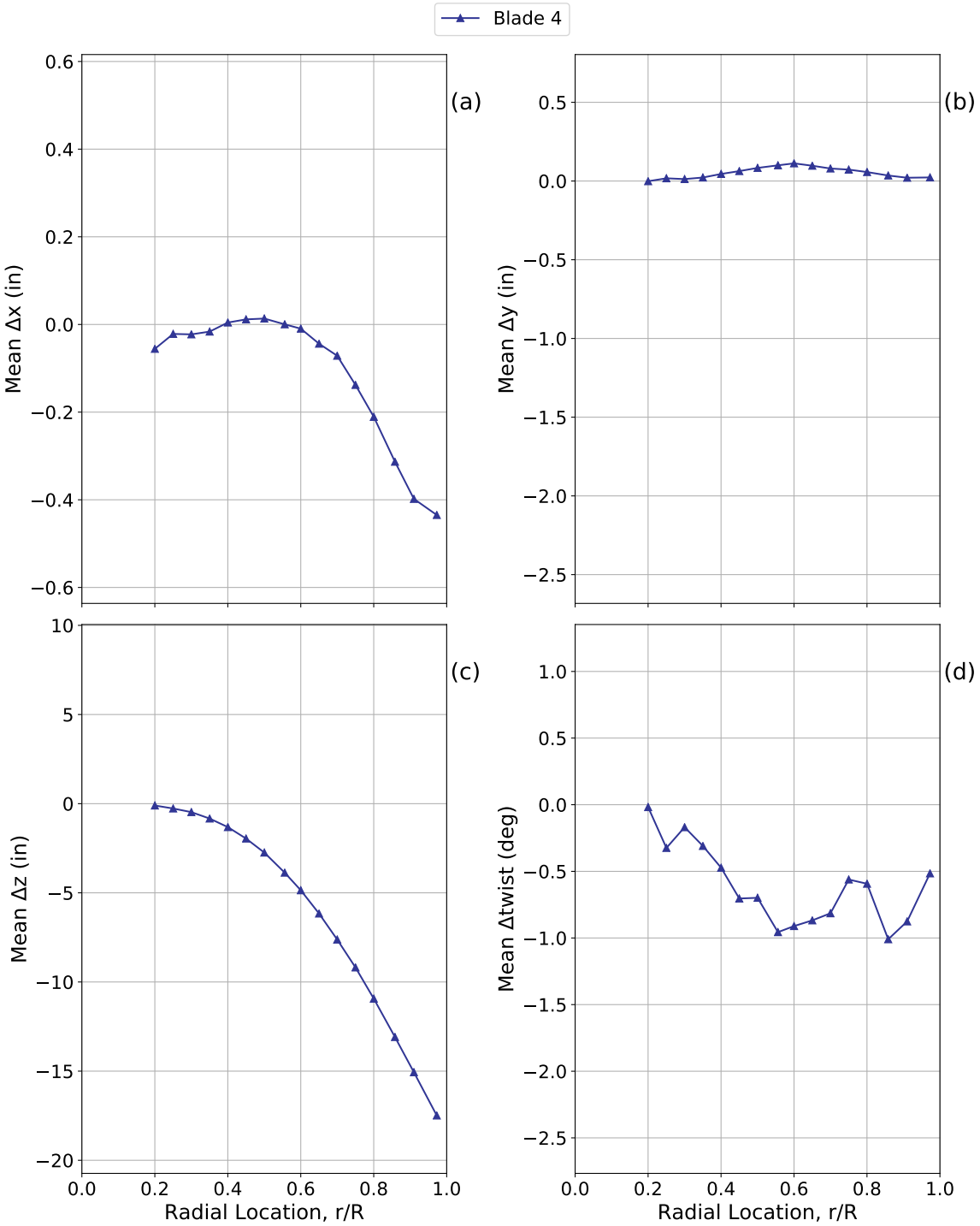


Figure 3.29-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0556	0.0075	-0.0012	0.0009	-0.1036	0.0020	-0.0181	0.0102
4	170.16	0.2502	-0.0216	0.0031	0.0173	0.0017	-0.2710	0.0052	-0.3244	0.0179
4	170.16	0.3001	-0.0226	0.0025	0.0123	0.0034	-0.4748	0.0085	-0.1689	0.0215
4	170.16	0.3502	-0.0163	0.0065	0.0223	0.0059	-0.8346	0.0136	-0.3094	0.0195
4	170.16	0.4002	0.0044	0.0118	0.0449	0.0090	-1.3158	0.0222	-0.4733	0.0239
4	170.16	0.4500	0.0116	0.0169	0.0630	0.0122	-1.9569	0.0291	-0.7039	0.0229
4	170.16	0.5001	0.0135	0.0211	0.0833	0.0175	-2.7435	0.0414	-0.6986	0.0410
4	170.16	0.5560	0.0003	0.0246	0.0997	0.0216	-3.8701	0.0548	-0.9564	0.0598
4	170.16	0.6001	-0.0096	0.0269	0.1122	0.0268	-4.8583	0.0724	-0.9108	0.0493
4	170.16	0.6501	-0.0439	0.0300	0.0971	0.0328	-6.1620	0.0931	-0.8680	0.0356
4	170.16	0.6999	-0.0714	0.0329	0.0795	0.0379	-7.6216	0.1144	-0.8148	0.0530
4	170.16	0.7500	-0.1380	0.0335	0.0725	0.0462	-9.1854	0.1407	-0.5614	0.0570
4	170.16	0.8002	-0.2109	0.0360	0.0570	0.0524	-10.9373	0.1628	-0.5931	0.1019
4	170.16	0.8582	-0.3132	0.0374	0.0350	0.0629	-13.0878	0.1952	-1.0097	0.1227
4	170.16	0.9101	-0.3980	0.0395	0.0209	0.0712	-15.0629	0.2312	-0.8759	0.0644
4	170.16	0.9728	-0.4347	0.0368	0.0228	0.0819	-17.4886	0.2758	-0.5153	0.1088

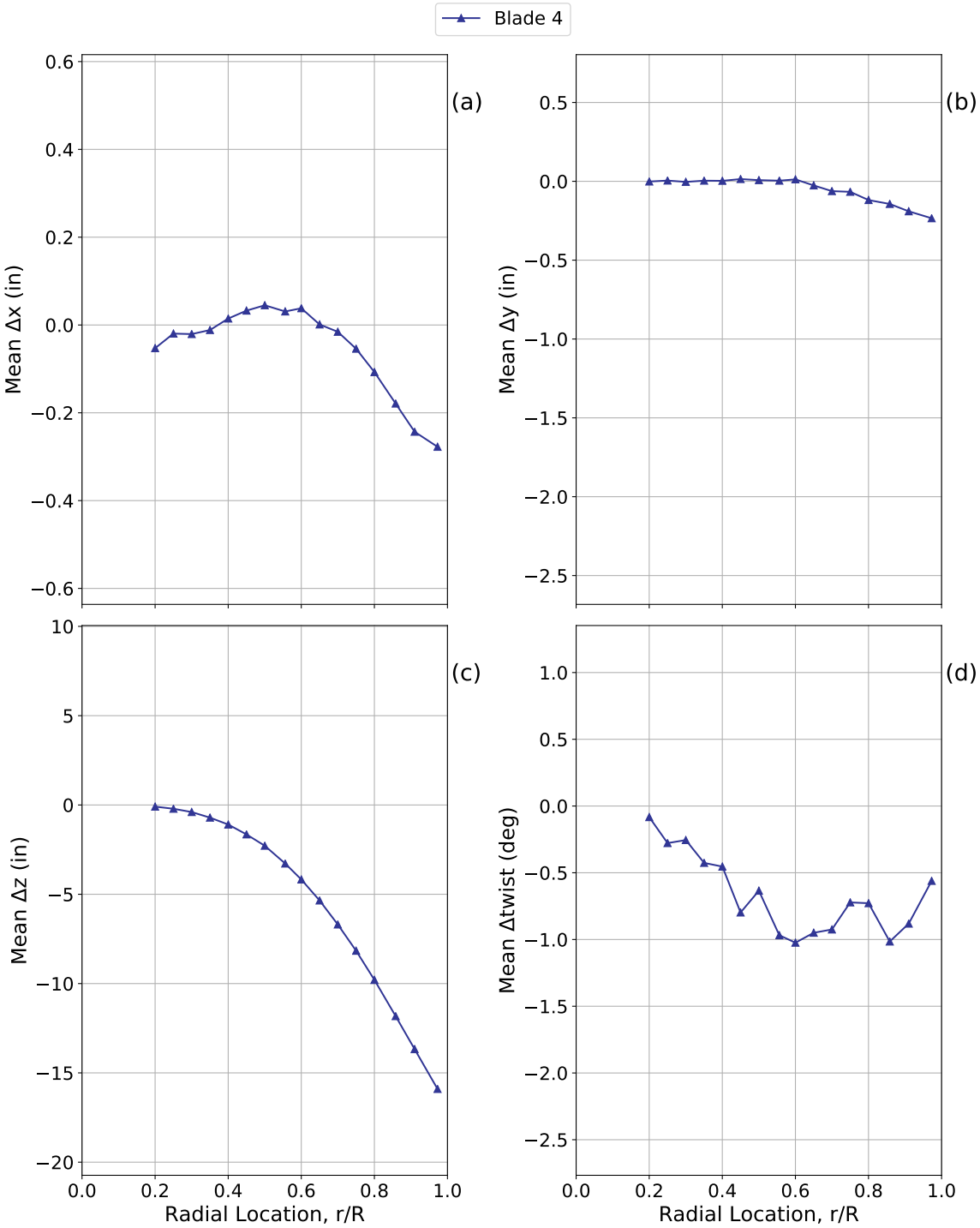


Figure 3.29-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0528	0.0014	-0.0013	0.0009	-0.0927	0.0027	-0.0833	0.0217
4	175.08	0.2502	-0.0196	0.0008	0.0048	0.0019	-0.2116	0.0052	-0.2778	0.0369
4	175.08	0.3001	-0.0207	0.0012	-0.0036	0.0032	-0.3965	0.0095	-0.2550	0.0485
4	175.08	0.3502	-0.0115	0.0008	0.0041	0.0055	-0.7093	0.0166	-0.4260	0.0483
4	175.08	0.4002	0.0147	0.0018	0.0031	0.0083	-1.0957	0.0248	-0.4538	0.0488
4	175.08	0.4500	0.0327	0.0020	0.0143	0.0104	-1.6475	0.0332	-0.7977	0.0532
4	175.08	0.5001	0.0449	0.0024	0.0075	0.0140	-2.2836	0.0424	-0.6344	0.0424
4	175.08	0.5560	0.0308	0.0023	0.0041	0.0172	-3.2791	0.0521	-0.9680	0.0487
4	175.08	0.6001	0.0381	0.0033	0.0123	0.0210	-4.1738	0.0587	-1.0240	0.0504
4	175.08	0.6501	0.0012	0.0037	-0.0261	0.0246	-5.3481	0.0679	-0.9495	0.0456
4	175.08	0.6999	-0.0155	0.0056	-0.0622	0.0312	-6.6915	0.0757	-0.9250	0.0551
4	175.08	0.7500	-0.0541	0.0063	-0.0666	0.0359	-8.1632	0.0847	-0.7221	0.0718
4	175.08	0.8002	-0.1074	0.0080	-0.1188	0.0402	-9.7969	0.0968	-0.7281	0.0684
4	175.08	0.8582	-0.1790	0.0097	-0.1436	0.0451	-11.8244	0.1157	-1.0153	0.0713
4	175.08	0.9101	-0.2432	0.0175	-0.1902	0.0571	-13.6716	0.1396	-0.8811	0.0777
4	175.08	0.9728	-0.2775	0.0217	-0.2342	0.0635	-15.9011	0.1827	-0.5609	0.0693

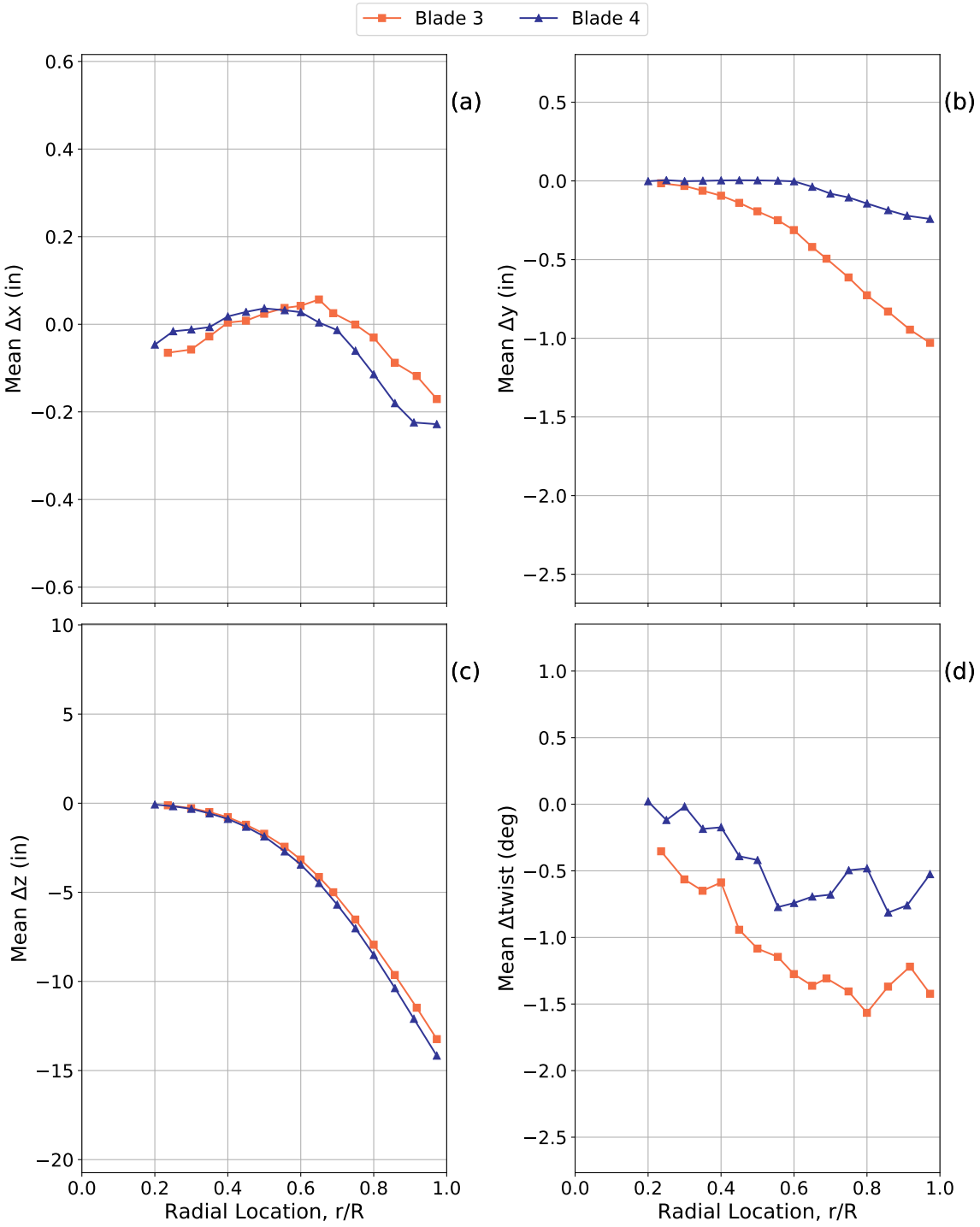


Figure 3.29-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0650	0.0013	-0.0150	0.0043	-0.1170	0.0116	-0.3532	0.1071
3	180.35	0.2995	-0.0577	0.0070	-0.0320	0.0092	-0.2784	0.0268	-0.5643	0.1750
3	180.35	0.3493	-0.0278	0.0076	-0.0620	0.0180	-0.4958	0.0486	-0.6497	0.1781
3	180.35	0.4000	0.0038	0.0067	-0.0940	0.0273	-0.7835	0.0760	-0.5871	0.1732
3	180.35	0.4497	0.0082	0.0087	-0.1394	0.0338	-1.2072	0.0985	-0.9423	0.1748
3	180.35	0.4997	0.0241	0.0094	-0.1931	0.0422	-1.7148	0.1231	-1.0838	0.1886
3	180.35	0.5556	0.0373	0.0103	-0.2495	0.0501	-2.4423	0.1553	-1.1461	0.1804
3	180.35	0.5995	0.0420	0.0109	-0.3125	0.0562	-3.1606	0.1787	-1.2753	0.1844
3	180.35	0.6498	0.0566	0.0123	-0.4198	0.0653	-4.1406	0.2063	-1.3628	0.1848
3	180.35	0.6890	0.0253	0.0135	-0.4942	0.0716	-4.9971	0.2264	-1.3073	0.1792
3	180.35	0.7495	-0.0007	0.0150	-0.6135	0.0803	-6.5289	0.2579	-1.4055	0.1753
3	180.35	0.7998	-0.0303	0.0177	-0.7268	0.0881	-7.9394	0.2843	-1.5660	0.1717
3	180.35	0.8577	-0.0879	0.0201	-0.8300	0.0970	-9.6411	0.3107	-1.3693	0.1679
3	180.35	0.9178	-0.1179	0.0217	-0.9453	0.1060	-11.4769	0.3379	-1.2195	0.1833
3	180.35	0.9729	-0.1707	0.0249	-1.0292	0.1137	-13.2385	0.3664	-1.4230	0.1704
4	180	0.2001	-0.0465	0.0113	-0.0019	0.0012	-0.0755	0.0046	0.0205	0.0173
4	180	0.2502	-0.0160	0.0045	0.0049	0.0029	-0.1722	0.0086	-0.1187	0.0295
4	180	0.3001	-0.0120	0.0034	-0.0017	0.0054	-0.3191	0.0166	-0.0171	0.0394
4	180	0.3502	-0.0065	0.0107	0.0003	0.0098	-0.5758	0.0298	-0.1853	0.0388
4	180	0.4002	0.0179	0.0172	0.0031	0.0150	-0.8853	0.0445	-0.1732	0.0470
4	180	0.4500	0.0282	0.0242	0.0044	0.0200	-1.3242	0.0607	-0.3905	0.0508
4	180	0.5001	0.0363	0.0296	0.0035	0.0269	-1.8676	0.0775	-0.4191	0.0583
4	180	0.5560	0.0320	0.0355	0.0011	0.0355	-2.7101	0.0996	-0.7723	0.0678
4	180	0.6001	0.0276	0.0403	-0.0026	0.0441	-3.4504	0.1162	-0.7417	0.0860
4	180	0.6501	0.0039	0.0443	-0.0375	0.0549	-4.4844	0.1350	-0.6937	0.0875
4	180	0.6999	-0.0134	0.0472	-0.0808	0.0678	-5.6949	0.1524	-0.6788	0.0961
4	180	0.7500	-0.0605	0.0503	-0.1052	0.0845	-7.0232	0.1683	-0.4955	0.1118
4	180	0.8002	-0.1143	0.0533	-0.1437	0.1034	-8.5210	0.1859	-0.4819	0.0901
4	180	0.8582	-0.1803	0.0547	-0.1863	0.1289	-10.3801	0.2059	-0.8134	0.1066
4	180	0.9101	-0.2242	0.0535	-0.2211	0.1542	-12.1010	0.2254	-0.7591	0.1246
4	180	0.9728	-0.2281	0.0507	-0.2415	0.1857	-14.1681	0.2535	-0.5253	0.1341

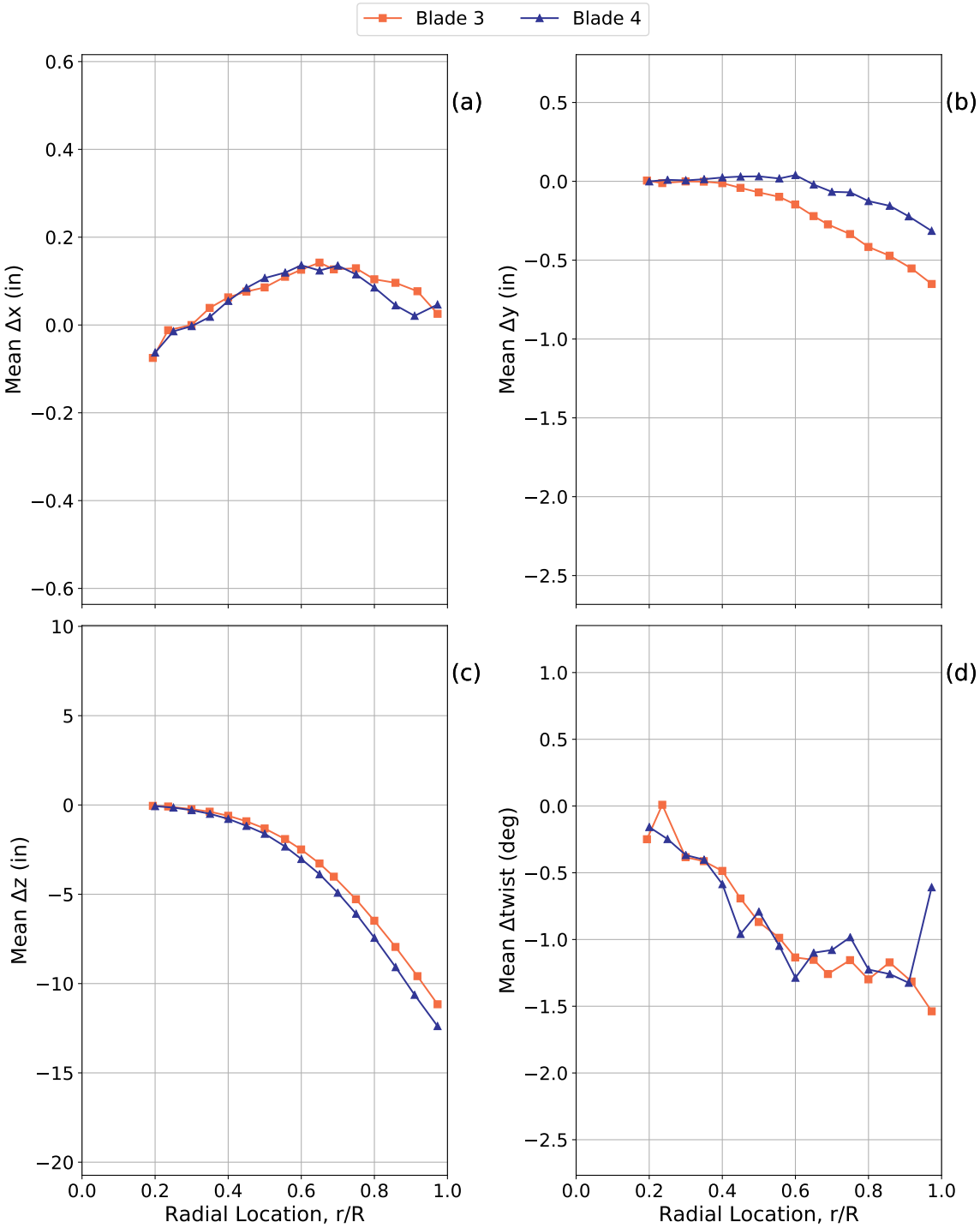


Figure 3.29-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0750	0.0016	0.0048	0.0029	-0.0488	0.0058	-0.2489	0.0343
3	184.92	0.2357	-0.0118	0.0028	-0.0112	0.0033	-0.0842	0.0082	0.0094	0.0646
3	184.92	0.2995	-0.0001	0.0018	-0.0007	0.0082	-0.2327	0.0134	-0.3833	0.0567
3	184.92	0.3493	0.0389	0.0020	-0.0020	0.0118	-0.3740	0.0175	-0.4131	0.0425
3	184.92	0.4000	0.0629	0.0024	-0.0116	0.0187	-0.6045	0.0285	-0.4862	0.0458
3	184.92	0.4497	0.0761	0.0018	-0.0415	0.0221	-0.9132	0.0368	-0.6924	0.0470
3	184.92	0.4997	0.0856	0.0019	-0.0702	0.0272	-1.3154	0.0444	-0.8689	0.0513
3	184.92	0.5556	0.1098	0.0020	-0.0982	0.0320	-1.9088	0.0545	-0.9873	0.0483
3	184.92	0.5995	0.1259	0.0018	-0.1468	0.0366	-2.4911	0.0618	-1.1345	0.0550
3	184.92	0.6498	0.1421	0.0027	-0.2206	0.0415	-3.2762	0.0704	-1.1522	0.0497
3	184.92	0.6890	0.1267	0.0025	-0.2732	0.0460	-4.0142	0.0782	-1.2586	0.0639
3	184.92	0.7495	0.1292	0.0034	-0.3345	0.0511	-5.2784	0.0913	-1.1547	0.0567
3	184.92	0.7998	0.1041	0.0046	-0.4162	0.0558	-6.4806	0.1010	-1.2986	0.0565
3	184.92	0.8577	0.0961	0.0079	-0.4716	0.0603	-7.9486	0.1126	-1.1714	0.0433
3	184.92	0.9178	0.0769	0.0074	-0.5524	0.0669	-9.5842	0.1255	-1.3151	0.0725
3	184.92	0.9729	0.0255	0.0087	-0.6511	0.0725	-11.1580	0.1366	-1.5379	0.0622
4	184.92	0.2001	-0.0629	0.0015	-0.0005	0.0008	-0.0672	0.0045	-0.1577	0.0216
4	184.92	0.2502	-0.0144	0.0010	0.0095	0.0015	-0.1483	0.0078	-0.2477	0.0299
4	184.92	0.3001	-0.0026	0.0017	0.0058	0.0027	-0.2916	0.0169	-0.3676	0.0452
4	184.92	0.3502	0.0186	0.0020	0.0134	0.0044	-0.4968	0.0294	-0.4022	0.0441
4	184.92	0.4002	0.0548	0.0020	0.0243	0.0064	-0.7811	0.0445	-0.5856	0.0602
4	184.92	0.4500	0.0845	0.0024	0.0302	0.0086	-1.1721	0.0566	-0.9590	0.0654
4	184.92	0.5001	0.1069	0.0026	0.0316	0.0121	-1.6143	0.0706	-0.7914	0.0665
4	184.92	0.5560	0.1194	0.0025	0.0179	0.0162	-2.3297	0.0838	-1.0477	0.0692
4	184.92	0.6001	0.1361	0.0026	0.0394	0.0204	-3.0256	0.0912	-1.2869	0.0605
4	184.92	0.6501	0.1240	0.0031	-0.0208	0.0245	-3.8800	0.0953	-1.0992	0.0866
4	184.92	0.6999	0.1354	0.0045	-0.0666	0.0324	-4.9159	0.1004	-1.0787	0.0957
4	184.92	0.7500	0.1152	0.0065	-0.0699	0.0406	-6.0940	0.1097	-0.9829	0.1014
4	184.92	0.8002	0.0853	0.0099	-0.1255	0.0495	-7.4404	0.1213	-1.2253	0.1282
4	184.92	0.8582	0.0447	0.0152	-0.1554	0.0560	-9.0823	0.1605	-1.2589	0.1164
4	184.92	0.9101	0.0208	0.0182	-0.2222	0.0785	-10.6327	0.2000	-1.3247	0.1882
4	184.92	0.9728	0.0465	0.0255	-0.3145	0.0822	-12.3822	0.2669	-0.6090	0.1048

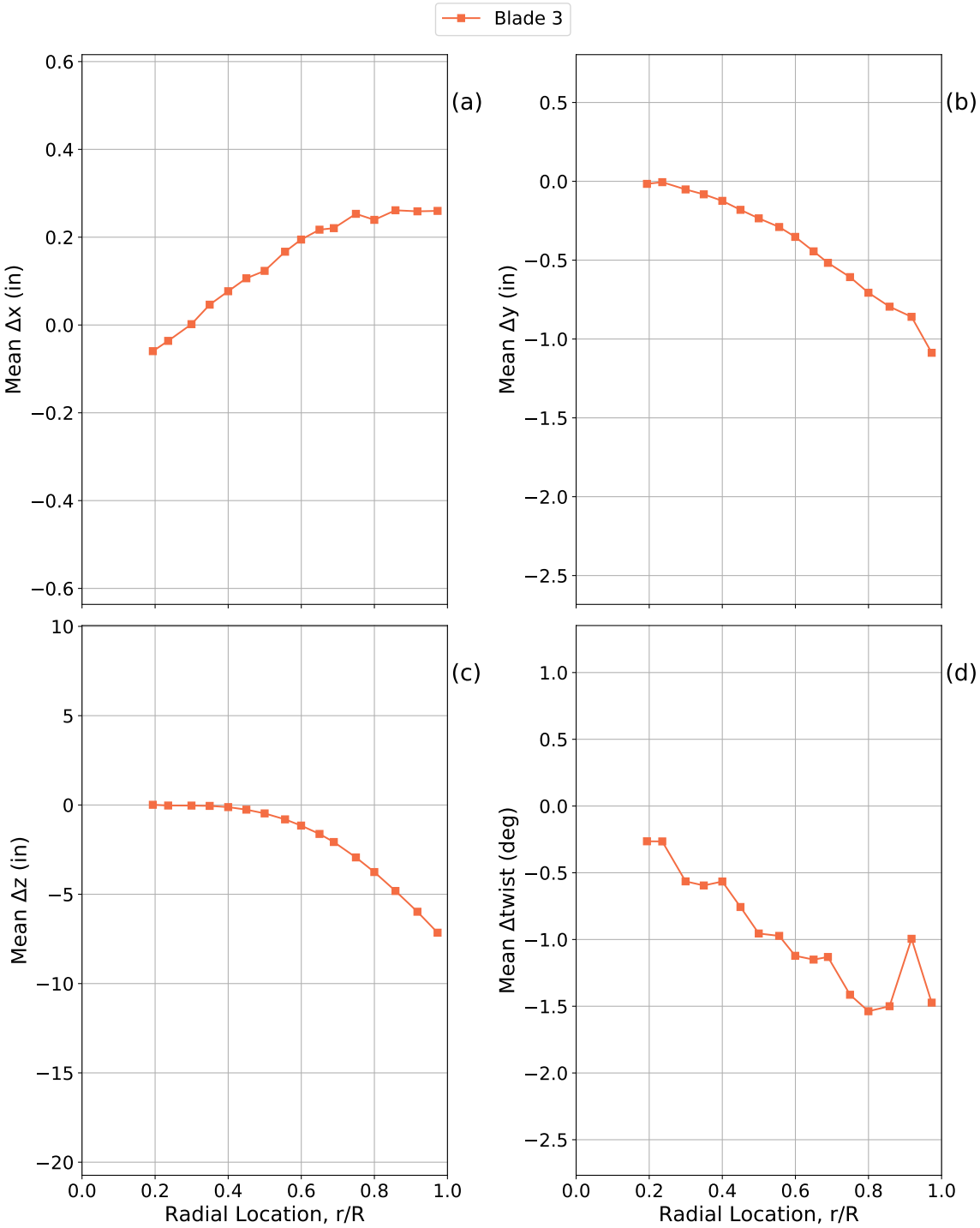


Figure 3.29-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0596	0.0012	-0.0161	0.0011	0.0111	0.0031	-0.2642	0.0226
3	195.12	0.2357	-0.0362	0.0010	-0.0053	0.0021	-0.0306	0.0059	-0.2653	0.0260
3	195.12	0.2995	0.0019	0.0014	-0.0514	0.0049	-0.0335	0.0128	-0.5645	0.0478
3	195.12	0.3493	0.0463	0.0015	-0.0825	0.0082	-0.0517	0.0211	-0.5952	0.0521
3	195.12	0.4000	0.0769	0.0013	-0.1239	0.0129	-0.1194	0.0332	-0.5656	0.0600
3	195.12	0.4497	0.1064	0.0018	-0.1808	0.0174	-0.2617	0.0474	-0.7566	0.0588
3	195.12	0.4997	0.1233	0.0019	-0.2348	0.0229	-0.4717	0.0614	-0.9550	0.0528
3	195.12	0.5556	0.1669	0.0023	-0.2897	0.0282	-0.8055	0.0777	-0.9729	0.0682
3	195.12	0.5995	0.1946	0.0026	-0.3524	0.0344	-1.1536	0.0861	-1.1221	0.0717
3	195.12	0.6498	0.2171	0.0027	-0.4441	0.0409	-1.6218	0.0964	-1.1506	0.0705
3	195.12	0.6890	0.2206	0.0034	-0.5169	0.0468	-2.0737	0.0999	-1.1309	0.0784
3	195.12	0.7495	0.2532	0.0043	-0.6075	0.0564	-2.9356	0.1077	-1.4139	0.0673
3	195.12	0.7998	0.2395	0.0055	-0.7064	0.0653	-3.7551	0.1130	-1.5374	0.0853
3	195.12	0.8577	0.2613	0.0077	-0.7949	0.0780	-4.8141	0.1240	-1.4997	0.1233
3	195.12	0.9178	0.2589	0.0101	-0.8593	0.0978	-5.9778	0.1399	-0.9946	0.2690
3	195.12	0.9729	0.2599	0.0109	-1.0873	0.0974	-7.1509	0.1494	-1.4731	0.0771

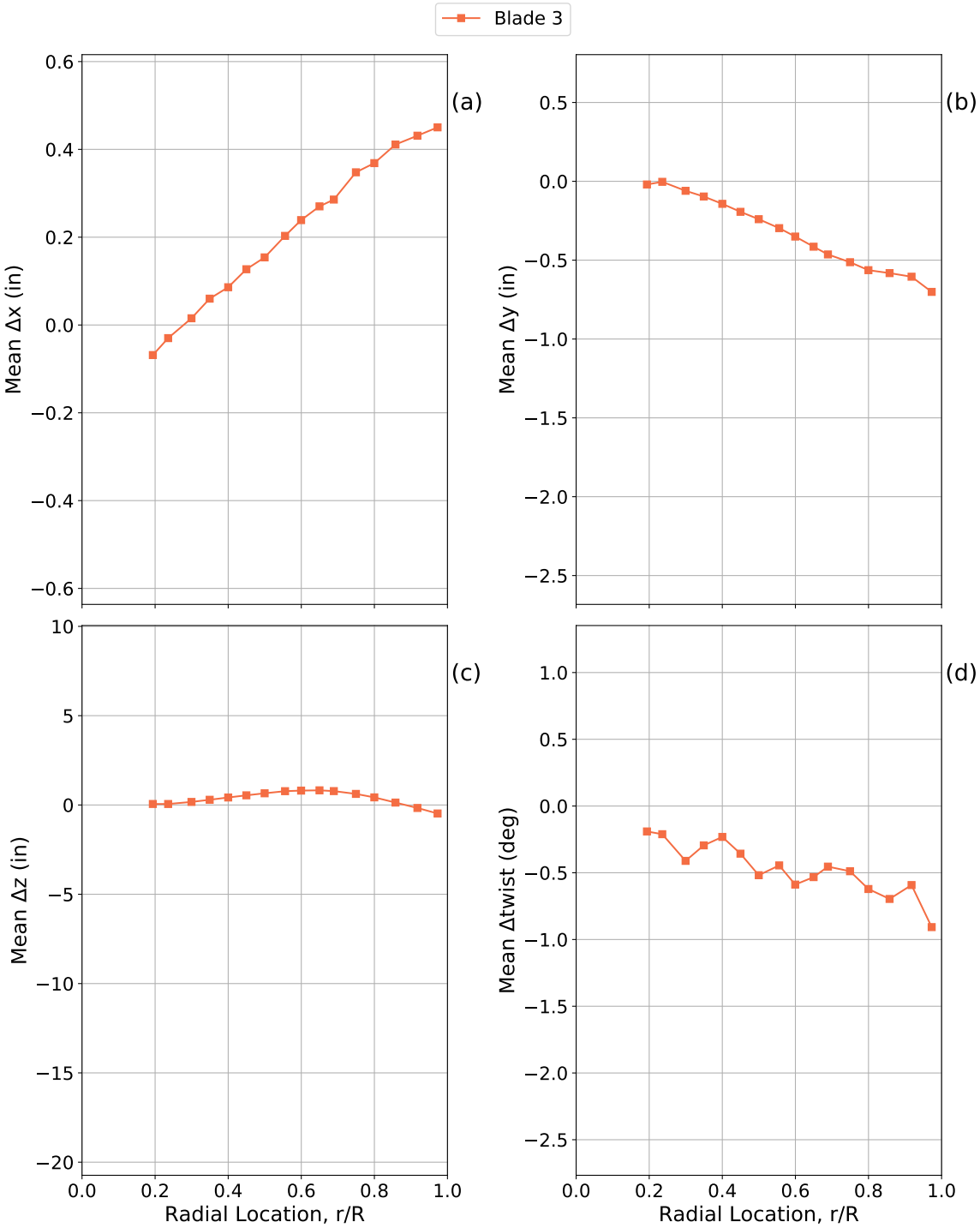


Figure 3.29-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0685	0.0017	-0.0200	0.0009	0.0565	0.0043	-0.1905	0.0461
3	209.88	0.2357	-0.0299	0.0015	-0.0032	0.0033	0.0550	0.0132	-0.2111	0.0467
3	209.88	0.2995	0.0153	0.0007	-0.0601	0.0054	0.1702	0.0210	-0.4109	0.0977
3	209.88	0.3493	0.0600	0.0013	-0.0964	0.0104	0.2916	0.0370	-0.2947	0.0869
3	209.88	0.4000	0.0860	0.0026	-0.1428	0.0163	0.4198	0.0579	-0.2314	0.0793
3	209.88	0.4497	0.1270	0.0018	-0.1934	0.0187	0.5405	0.0727	-0.3569	0.0848
3	209.88	0.4997	0.1540	0.0030	-0.2402	0.0205	0.6542	0.0854	-0.5184	0.0668
3	209.88	0.5556	0.2030	0.0027	-0.2969	0.0247	0.7731	0.1076	-0.4449	0.0681
3	209.88	0.5995	0.2389	0.0029	-0.3503	0.0293	0.8052	0.1238	-0.5885	0.0869
3	209.88	0.6498	0.2702	0.0028	-0.4146	0.0333	0.8199	0.1397	-0.5326	0.0585
3	209.88	0.6890	0.2857	0.0032	-0.4637	0.0371	0.7774	0.1557	-0.4540	0.0740
3	209.88	0.7495	0.3478	0.0032	-0.5129	0.0435	0.6199	0.1758	-0.4886	0.0760
3	209.88	0.7998	0.3687	0.0037	-0.5634	0.0491	0.4258	0.1949	-0.6218	0.0728
3	209.88	0.8577	0.4111	0.0036	-0.5820	0.0554	0.1352	0.2175	-0.6961	0.0695
3	209.88	0.9178	0.4312	0.0042	-0.6049	0.0623	-0.1682	0.2414	-0.5921	0.0845
3	209.88	0.9729	0.4502	0.0061	-0.7011	0.0696	-0.4764	0.2670	-0.9072	0.0859

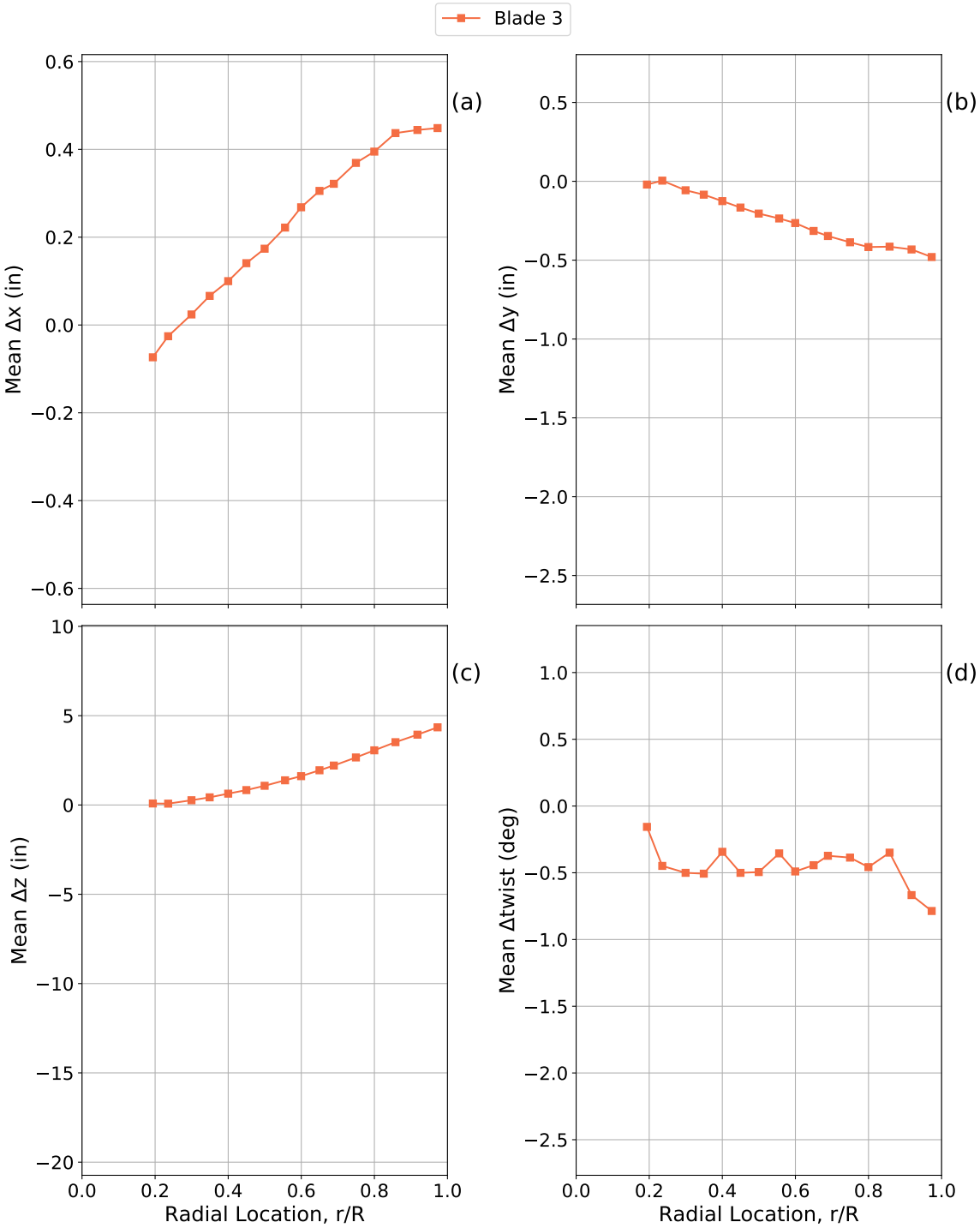


Figure 3.29-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0736	0.0015	-0.0205	0.0008	0.0844	0.0047	-0.1563	0.0330
3	225	0.2357	-0.0256	0.0009	0.0043	0.0020	0.0743	0.0073	-0.4486	0.0389
3	225	0.2995	0.0240	0.0017	-0.0567	0.0048	0.2648	0.0153	-0.5005	0.0734
3	225	0.3493	0.0663	0.0011	-0.0846	0.0070	0.4275	0.0294	-0.5068	0.0482
3	225	0.4000	0.0999	0.0028	-0.1255	0.0121	0.6342	0.0413	-0.3430	0.0509
3	225	0.4497	0.1408	0.0031	-0.1663	0.0153	0.8338	0.0543	-0.5007	0.0610
3	225	0.4997	0.1738	0.0029	-0.2045	0.0193	1.0745	0.0725	-0.4948	0.0515
3	225	0.5556	0.2219	0.0029	-0.2356	0.0249	1.3811	0.0909	-0.3549	0.0721
3	225	0.5995	0.2681	0.0034	-0.2646	0.0302	1.6133	0.1066	-0.4903	0.0532
3	225	0.6498	0.3054	0.0038	-0.3147	0.0367	1.9423	0.1289	-0.4433	0.0547
3	225	0.6890	0.3216	0.0043	-0.3469	0.0409	2.2072	0.1410	-0.3727	0.0484
3	225	0.7495	0.3692	0.0052	-0.3866	0.0491	2.6603	0.1620	-0.3864	0.0608
3	225	0.7998	0.3949	0.0055	-0.4168	0.0559	3.0597	0.1818	-0.4577	0.0521
3	225	0.8577	0.4371	0.0066	-0.4144	0.0637	3.5164	0.2057	-0.3492	0.0490
3	225	0.9178	0.4442	0.0073	-0.4321	0.0727	3.9365	0.2314	-0.6673	0.0562
3	225	0.9729	0.4485	0.0099	-0.4801	0.0802	4.3473	0.2537	-0.7863	0.0539

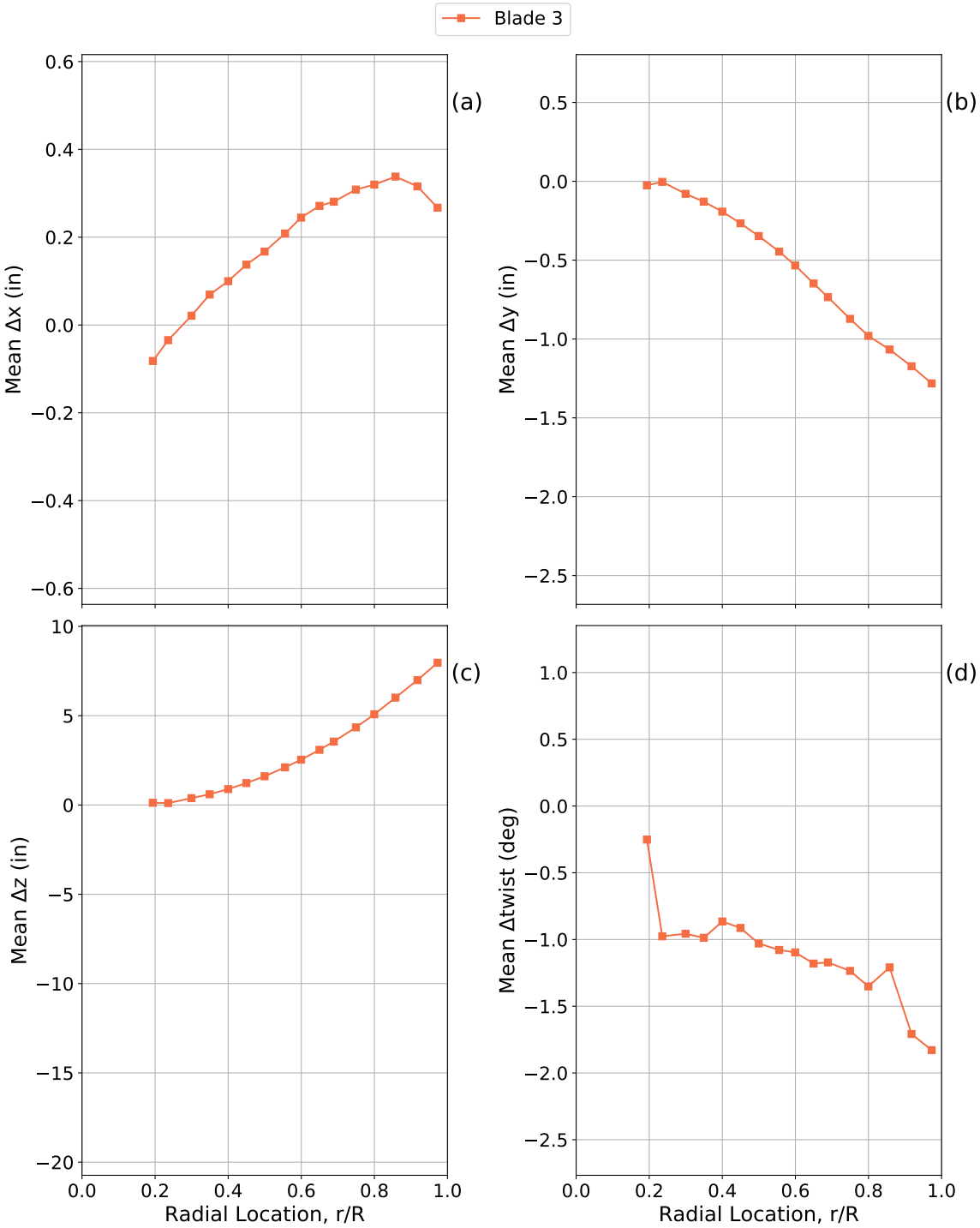


Figure 3.29-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0820	0.0017	-0.0255	0.0014	0.1249	0.0031	-0.2514	0.0333
3	240.12	0.2357	-0.0346	0.0012	-0.0034	0.0029	0.1084	0.0040	-0.9760	0.0449
3	240.12	0.2995	0.0212	0.0019	-0.0794	0.0061	0.3806	0.0063	-0.9567	0.0719
3	240.12	0.3493	0.0692	0.0021	-0.1290	0.0112	0.5993	0.0113	-0.9873	0.0679
3	240.12	0.4000	0.0998	0.0022	-0.1922	0.0174	0.8886	0.0166	-0.8650	0.0744
3	240.12	0.4497	0.1375	0.0020	-0.2662	0.0226	1.2262	0.0239	-0.9135	0.0888
3	240.12	0.4997	0.1672	0.0021	-0.3472	0.0299	1.6075	0.0283	-1.0299	0.0780
3	240.12	0.5556	0.2084	0.0029	-0.4456	0.0371	2.1045	0.0341	-1.0785	0.0669
3	240.12	0.5995	0.2446	0.0032	-0.5335	0.0440	2.5360	0.0435	-1.0967	0.0651
3	240.12	0.6498	0.2713	0.0041	-0.6478	0.0524	3.0874	0.0559	-1.1802	0.0775
3	240.12	0.6890	0.2808	0.0035	-0.7346	0.0589	3.5505	0.0699	-1.1716	0.0981
3	240.12	0.7495	0.3085	0.0052	-0.8721	0.0703	4.3449	0.0950	-1.2352	0.0743
3	240.12	0.7998	0.3198	0.0058	-0.9802	0.0800	5.0774	0.1155	-1.3513	0.0915
3	240.12	0.8577	0.3380	0.0071	-1.0666	0.0926	6.0100	0.1447	-1.2091	0.0897
3	240.12	0.9178	0.3158	0.0087	-1.1729	0.1053	6.9930	0.1732	-1.7080	0.0960
3	240.12	0.9729	0.2671	0.0119	-1.2816	0.1170	7.9628	0.2014	-1.8290	0.0960

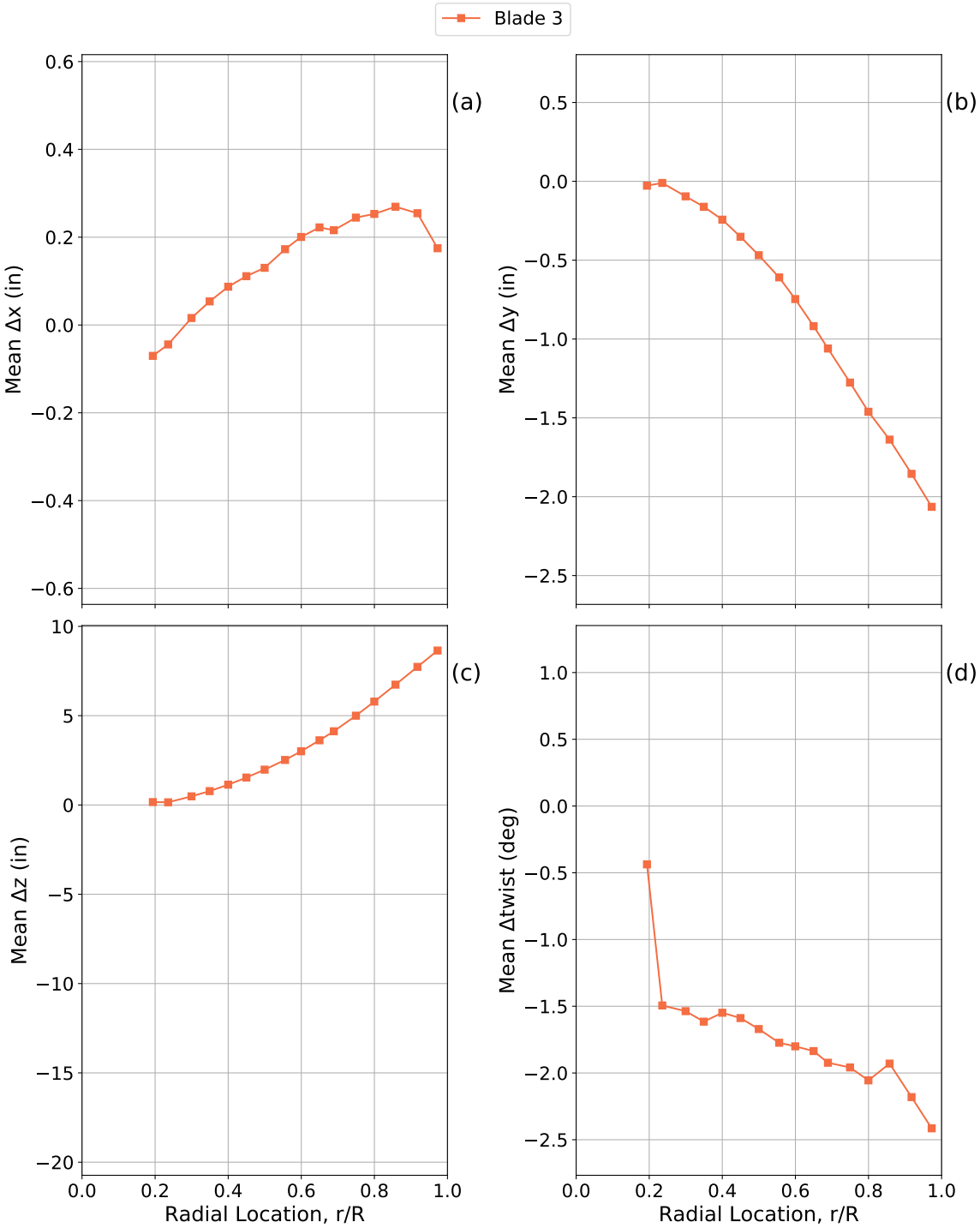


Figure 3.29-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0703	0.0096	-0.0276	0.0030	0.1620	0.0124	-0.4370	0.0364
3	254.88	0.2357	-0.0443	0.0012	-0.0104	0.0021	0.1505	0.0119	-1.4942	0.1289
3	254.88	0.2995	0.0159	0.0019	-0.0953	0.0089	0.4833	0.0342	-1.5369	0.1277
3	254.88	0.3493	0.0537	0.0019	-0.1614	0.0154	0.7760	0.0547	-1.6153	0.1229
3	254.88	0.4000	0.0872	0.0035	-0.2431	0.0225	1.1357	0.0789	-1.5487	0.1277
3	254.88	0.4497	0.1112	0.0039	-0.3515	0.0294	1.5355	0.1057	-1.5886	0.1297
3	254.88	0.4997	0.1302	0.0033	-0.4686	0.0371	1.9789	0.1372	-1.6709	0.1202
3	254.88	0.5556	0.1726	0.0055	-0.6094	0.0458	2.5198	0.1768	-1.7736	0.1158
3	254.88	0.5995	0.2005	0.0067	-0.7466	0.0525	3.0060	0.2058	-1.8003	0.1269
3	254.88	0.6498	0.2223	0.0083	-0.9184	0.0606	3.6211	0.2410	-1.8359	0.1273
3	254.88	0.6890	0.2159	0.0096	-1.0602	0.0669	4.1259	0.2694	-1.9232	0.1147
3	254.88	0.7495	0.2446	0.0114	-1.2762	0.0772	5.0006	0.3103	-1.9587	0.1201
3	254.88	0.7998	0.2530	0.0136	-1.4614	0.0858	5.7881	0.3456	-2.0554	0.1257
3	254.88	0.8577	0.2694	0.0158	-1.6379	0.0963	6.7365	0.3875	-1.9296	0.1318
3	254.88	0.9178	0.2546	0.0184	-1.8549	0.1072	7.7325	0.4331	-2.1808	0.1285
3	254.88	0.9729	0.1748	0.0245	-2.0643	0.1175	8.6477	0.4744	-2.4146	0.1360

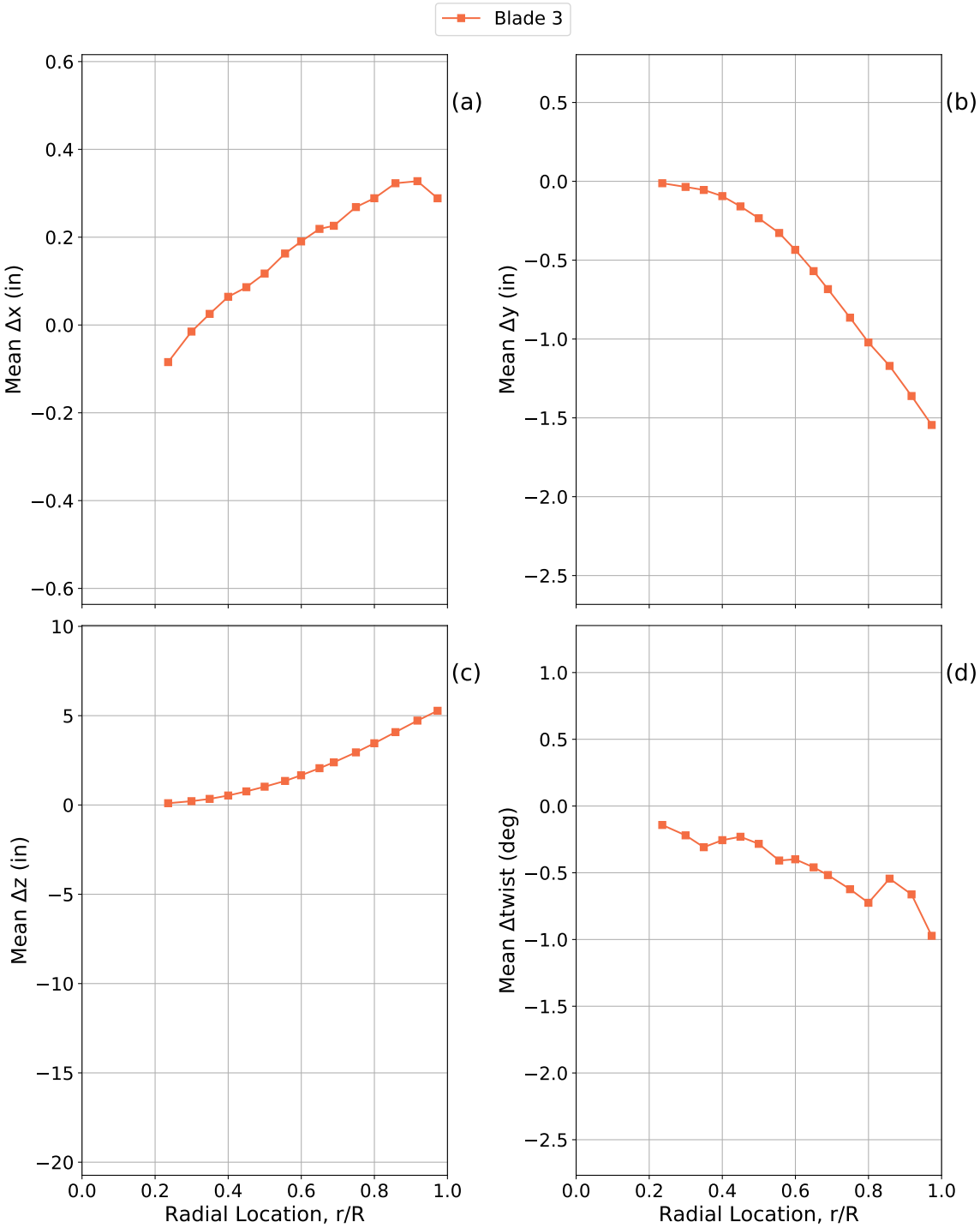


Figure 3.29-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2357	-0.0845	0.0031	-0.0121	0.0019	0.0983	0.0116	-0.1419	0.0917
3	260.16	0.2995	-0.0150	0.0017	-0.0355	0.0047	0.2123	0.0235	-0.2196	0.1466
3	260.16	0.3493	0.0253	0.0014	-0.0548	0.0082	0.3407	0.0401	-0.3085	0.1471
3	260.16	0.4000	0.0642	0.0013	-0.0938	0.0132	0.5296	0.0604	-0.2558	0.1379
3	260.16	0.4497	0.0861	0.0020	-0.1591	0.0159	0.7614	0.0784	-0.2302	0.1376
3	260.16	0.4997	0.1172	0.0020	-0.2342	0.0197	1.0233	0.0980	-0.2835	0.1522
3	260.16	0.5556	0.1628	0.0022	-0.3276	0.0240	1.3450	0.1232	-0.4082	0.1317
3	260.16	0.5995	0.1903	0.0030	-0.4346	0.0272	1.6626	0.1428	-0.3990	0.1405
3	260.16	0.6498	0.2189	0.0038	-0.5695	0.0316	2.0590	0.1654	-0.4594	0.1474
3	260.16	0.6890	0.2260	0.0044	-0.6837	0.0346	2.3880	0.1816	-0.5172	0.1550
3	260.16	0.7495	0.2686	0.0052	-0.8646	0.0399	2.9448	0.2053	-0.6232	0.1569
3	260.16	0.7998	0.2887	0.0060	-1.0215	0.0440	3.4550	0.2211	-0.7249	0.1544
3	260.16	0.8577	0.3229	0.0066	-1.1705	0.0492	4.0784	0.2357	-0.5441	0.1621
3	260.16	0.9178	0.3276	0.0068	-1.3614	0.0545	4.7234	0.2501	-0.6621	0.1626
3	260.16	0.9729	0.2886	0.0091	-1.5452	0.0594	5.2744	0.2640	-0.9724	0.1622

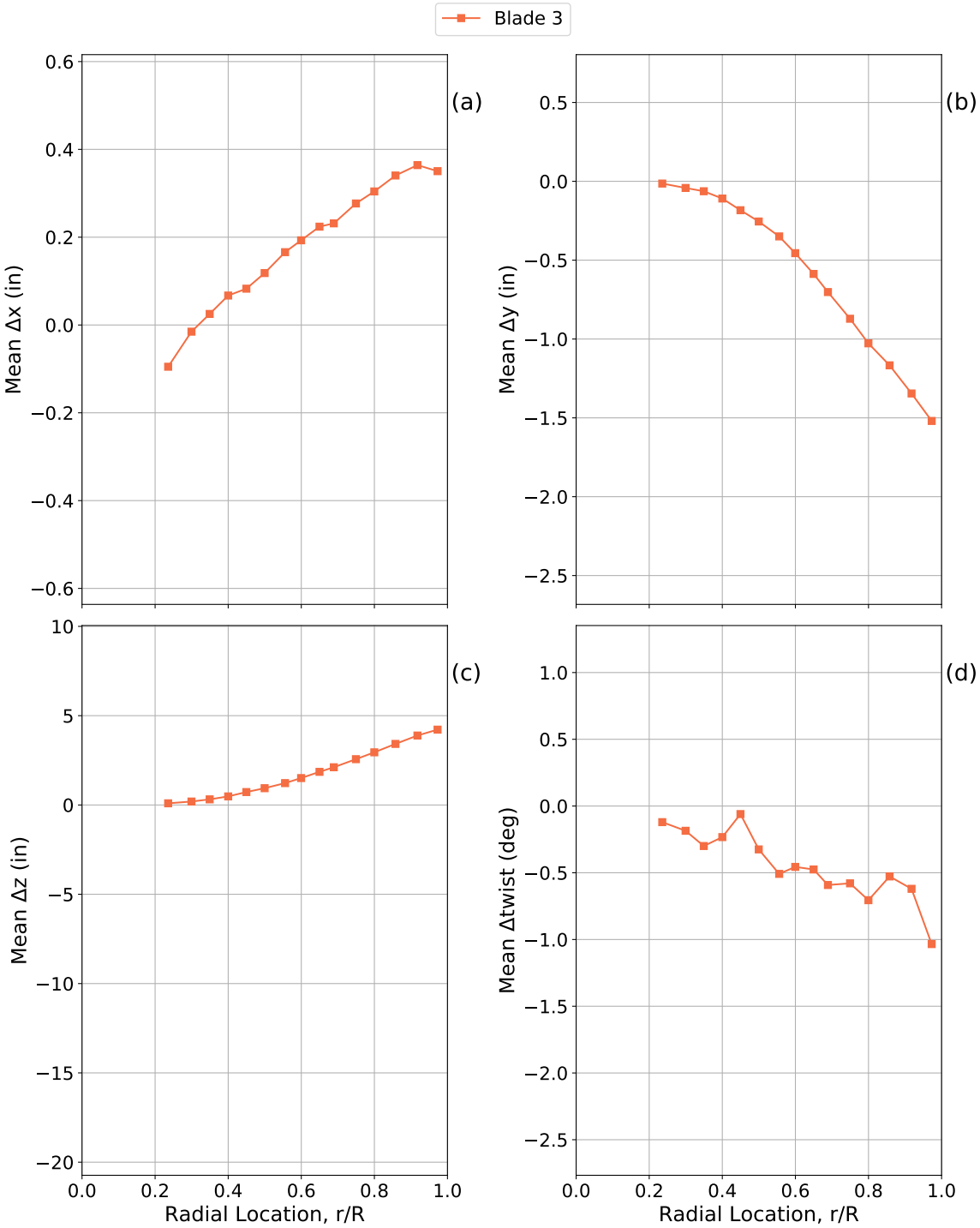


Figure 3.29-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0951	0.0037	-0.0141	0.0029	0.0929	0.0170	-0.1207	0.1432
3	265.08	0.2995	-0.0152	0.0027	-0.0421	0.0069	0.1927	0.0288	-0.1854	0.2291
3	265.08	0.3493	0.0252	0.0020	-0.0629	0.0126	0.3140	0.0554	-0.2996	0.2036
3	265.08	0.4000	0.0671	0.0021	-0.1091	0.0198	0.4800	0.0770	-0.2329	0.2139
3	265.08	0.4497	0.0827	0.0027	-0.1832	0.0259	0.7234	0.1043	-0.0603	0.1986
3	265.08	0.4997	0.1183	0.0034	-0.2548	0.0321	0.9393	0.1298	-0.3250	0.2086
3	265.08	0.5556	0.1659	0.0041	-0.3494	0.0394	1.2240	0.1634	-0.5084	0.1995
3	265.08	0.5995	0.1929	0.0047	-0.4555	0.0453	1.5067	0.1892	-0.4560	0.2071
3	265.08	0.6498	0.2240	0.0057	-0.5872	0.0527	1.8543	0.2229	-0.4753	0.2021
3	265.08	0.6890	0.2315	0.0064	-0.7023	0.0592	2.1119	0.2504	-0.5917	0.1981
3	265.08	0.7495	0.2768	0.0078	-0.8715	0.0690	2.5644	0.2926	-0.5792	0.2047
3	265.08	0.7998	0.3042	0.0094	-1.0275	0.0775	2.9480	0.3284	-0.7055	0.1997
3	265.08	0.8577	0.3405	0.0102	-1.1669	0.0876	3.4198	0.3689	-0.5275	0.2121
3	265.08	0.9178	0.3642	0.0126	-1.3453	0.0985	3.8882	0.4168	-0.6202	0.2030
3	265.08	0.9729	0.3504	0.0174	-1.5195	0.1092	4.2184	0.4612	-1.0343	0.2074

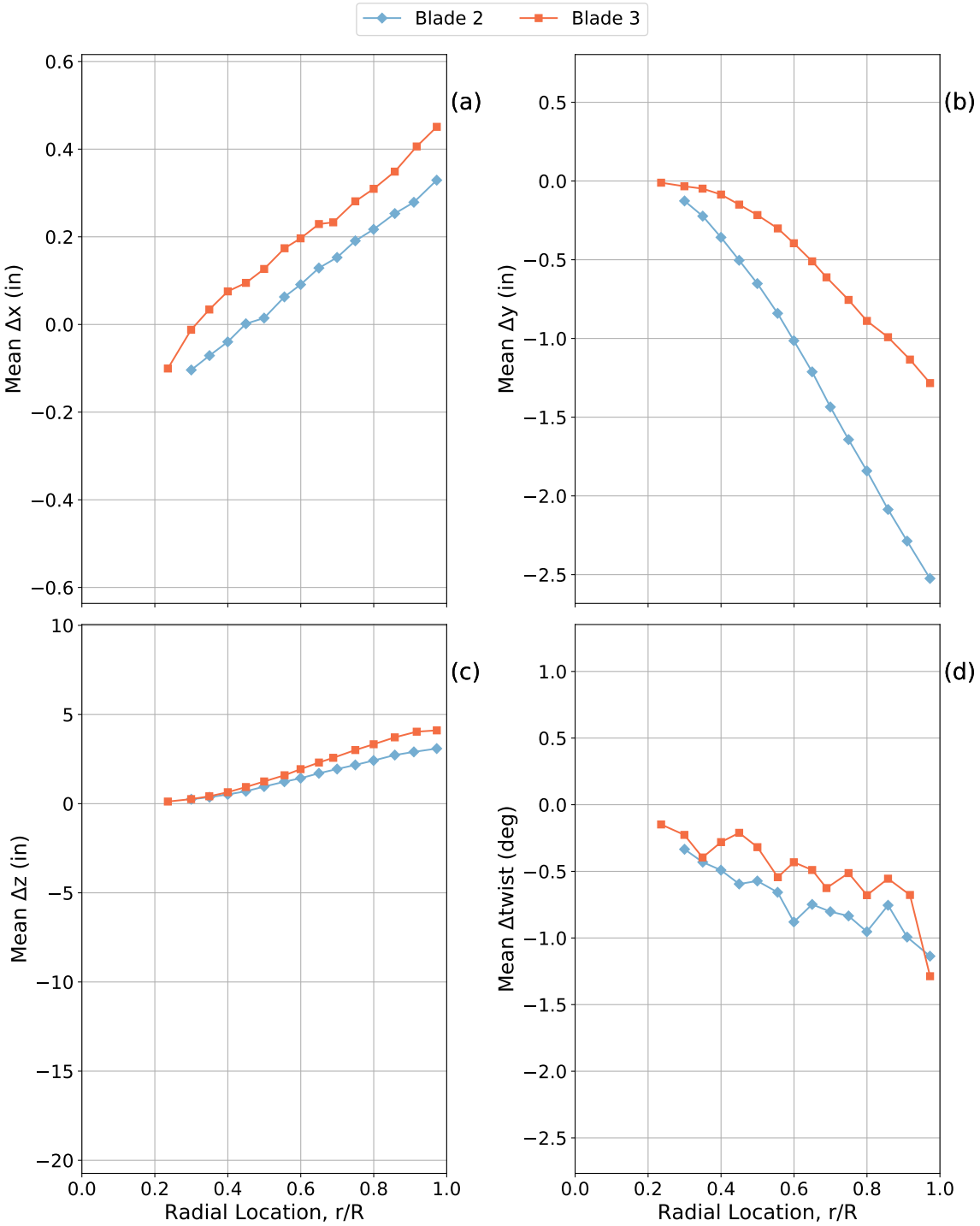


Figure 3.29-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2999	-0.1038	0.0054	-0.1265	0.0085	0.2468	0.0526	-0.3345	0.1573
2	270.35	0.3498	-0.0710	0.0024	-0.2229	0.0149	0.3629	0.0842	-0.4310	0.2070
2	270.35	0.3998	-0.0397	0.0043	-0.3578	0.0238	0.5152	0.1273	-0.4912	0.2052
2	270.35	0.4496	0.0017	0.0048	-0.5034	0.0317	0.6941	0.1678	-0.5948	0.2096
2	270.35	0.4995	0.0146	0.0063	-0.6514	0.0404	0.9571	0.2132	-0.5724	0.2121
2	270.35	0.5551	0.0629	0.0065	-0.8405	0.0488	1.2292	0.2624	-0.6573	0.2156
2	270.35	0.5996	0.0910	0.0082	-1.0143	0.0570	1.4271	0.3049	-0.8800	0.2112
2	270.35	0.6497	0.1288	0.0089	-1.2121	0.0657	1.7036	0.3523	-0.7482	0.2088
2	270.35	0.6996	0.1529	0.0103	-1.4352	0.0746	1.9416	0.3995	-0.8026	0.2058
2	270.35	0.7495	0.1908	0.0108	-1.6423	0.0838	2.1718	0.4451	-0.8347	0.2119
2	270.35	0.7996	0.2170	0.0121	-1.8411	0.0934	2.4188	0.4918	-0.9529	0.2144
2	270.35	0.8578	0.2531	0.0133	-2.0863	0.1040	2.7263	0.5454	-0.7544	0.2099
2	270.35	0.9100	0.2788	0.0144	-2.2870	0.1142	2.9037	0.5919	-0.9934	0.2004
2	270.35	0.9727	0.3292	0.0201	-2.5244	0.1262	3.0893	0.6445	-1.1366	0.2209
3	270	0.2357	-0.1005	0.0098	-0.0105	0.0039	0.1182	0.0324	-0.1482	0.2448
3	270	0.2995	-0.0121	0.0031	-0.0335	0.0083	0.2556	0.0565	-0.2266	0.3886
3	270	0.3493	0.0341	0.0018	-0.0483	0.0175	0.4136	0.1039	-0.3960	0.3406
3	270	0.4000	0.0755	0.0033	-0.0858	0.0261	0.6423	0.1467	-0.2807	0.3484
3	270	0.4497	0.0949	0.0038	-0.1498	0.0346	0.9323	0.1932	-0.2109	0.3520
3	270	0.4997	0.1266	0.0044	-0.2163	0.0439	1.2459	0.2447	-0.3185	0.3483
3	270	0.5556	0.1739	0.0063	-0.3011	0.0556	1.5934	0.3059	-0.5440	0.3501
3	270	0.5995	0.1965	0.0077	-0.3953	0.0649	1.9351	0.3551	-0.4318	0.3461
3	270	0.6498	0.2291	0.0100	-0.5102	0.0763	2.3071	0.4104	-0.4900	0.3500
3	270	0.6890	0.2330	0.0113	-0.6117	0.0859	2.5719	0.4546	-0.6256	0.3458
3	270	0.7495	0.2810	0.0143	-0.7550	0.1009	3.0069	0.5220	-0.5129	0.3466
3	270	0.7998	0.3095	0.0156	-0.8885	0.1140	3.3321	0.5738	-0.6788	0.3606
3	270	0.8577	0.3487	0.0174	-0.9920	0.1298	3.7185	0.6345	-0.5549	0.3519
3	270	0.9178	0.4061	0.0194	-1.1340	0.1469	4.0368	0.6966	-0.6772	0.3472
3	270	0.9729	0.4509	0.0270	-1.2836	0.1644	4.1100	0.7522	-1.2870	0.3410

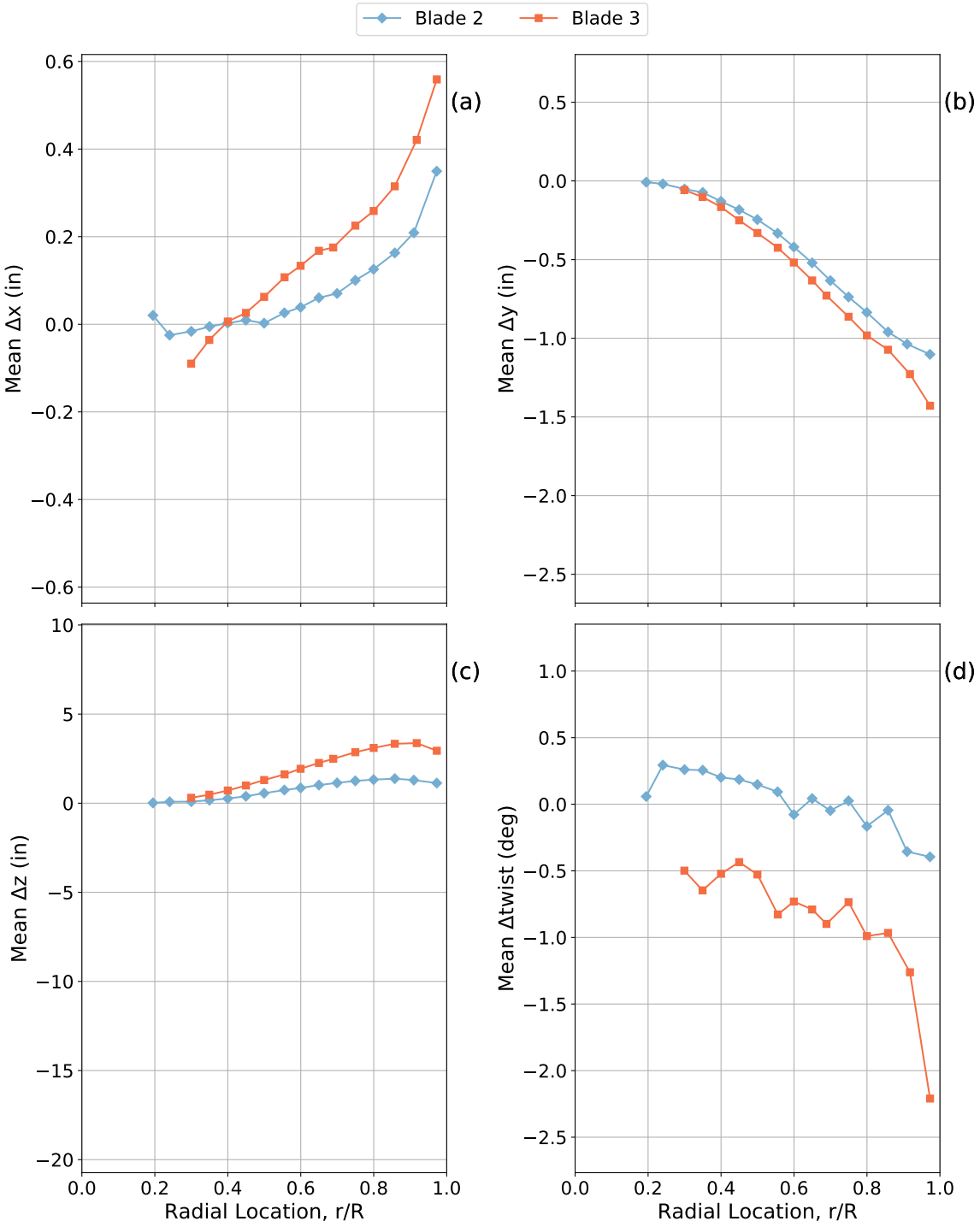


Figure 3.29-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0203	0.0023	-0.0078	0.0014	0.0151	0.0041	0.0584	0.0822
2	274.92	0.2405	-0.0248	0.0031	-0.0190	0.0056	0.0799	0.0153	0.2939	0.0918
2	274.92	0.2999	-0.0162	0.0036	-0.0514	0.0049	0.0876	0.0155	0.2601	0.1702
2	274.92	0.3498	-0.0053	0.0037	-0.0735	0.0114	0.1672	0.0355	0.2557	0.0982
2	274.92	0.3998	0.0027	0.0043	-0.1297	0.0167	0.2605	0.0484	0.2014	0.1013
2	274.92	0.4496	0.0094	0.0054	-0.1833	0.0209	0.3884	0.0597	0.1859	0.1079
2	274.92	0.4995	0.0025	0.0055	-0.2457	0.0279	0.5609	0.0749	0.1480	0.0893
2	274.92	0.5551	0.0261	0.0073	-0.3328	0.0367	0.7392	0.0897	0.0931	0.0961
2	274.92	0.5996	0.0388	0.0083	-0.4200	0.0438	0.8548	0.1036	-0.0777	0.1022
2	274.92	0.6497	0.0605	0.0089	-0.5207	0.0524	1.0183	0.1193	0.0428	0.1003
2	274.92	0.6996	0.0703	0.0094	-0.6334	0.0623	1.1385	0.1363	-0.0478	0.0949
2	274.92	0.7495	0.1003	0.0106	-0.7375	0.0722	1.2531	0.1506	0.0260	0.1077
2	274.92	0.7996	0.1256	0.0116	-0.8356	0.0837	1.3218	0.1683	-0.1656	0.1009
2	274.92	0.8578	0.1629	0.0121	-0.9600	0.0974	1.3766	0.1874	-0.0450	0.1075
2	274.92	0.9100	0.2088	0.0155	-1.0369	0.1094	1.2955	0.2031	-0.3556	0.1043
2	274.92	0.9727	0.3495	0.0186	-1.1021	0.1243	1.1300	0.2254	-0.3949	0.1054
3	274.92	0.2995	-0.0898	0.0086	-0.0580	0.0120	0.3049	0.1035	-0.4984	0.2811
3	274.92	0.3493	-0.0357	0.0060	-0.1023	0.0208	0.4760	0.1627	-0.6467	0.3677
3	274.92	0.4000	0.0063	0.0100	-0.1658	0.0335	0.7123	0.2448	-0.5220	0.3501
3	274.92	0.4497	0.0260	0.0118	-0.2502	0.0457	0.9926	0.3198	-0.4345	0.3752
3	274.92	0.4997	0.0626	0.0138	-0.3308	0.0574	1.2996	0.3964	-0.5273	0.3730
3	274.92	0.5556	0.1073	0.0167	-0.4248	0.0722	1.6170	0.4869	-0.8277	0.3850
3	274.92	0.5995	0.1335	0.0189	-0.5186	0.0838	1.9327	0.5599	-0.7305	0.3851
3	274.92	0.6498	0.1678	0.0219	-0.6326	0.0979	2.2596	0.6436	-0.7899	0.3956
3	274.92	0.6890	0.1753	0.0240	-0.7287	0.1092	2.4902	0.7105	-0.8987	0.3930
3	274.92	0.7495	0.2252	0.0269	-0.8633	0.1268	2.8601	0.8099	-0.7348	0.4072
3	274.92	0.7998	0.2587	0.0289	-0.9821	0.1418	3.1018	0.8938	-0.9900	0.4136
3	274.92	0.8577	0.3149	0.0313	-1.0729	0.1593	3.3334	0.9900	-0.9662	0.4215
3	274.92	0.9178	0.4209	0.0342	-1.2277	0.1782	3.3721	1.0958	-1.2616	0.4137
3	274.92	0.9729	0.5589	0.0417	-1.4288	0.1967	2.9440	1.1814	-2.2099	0.4300

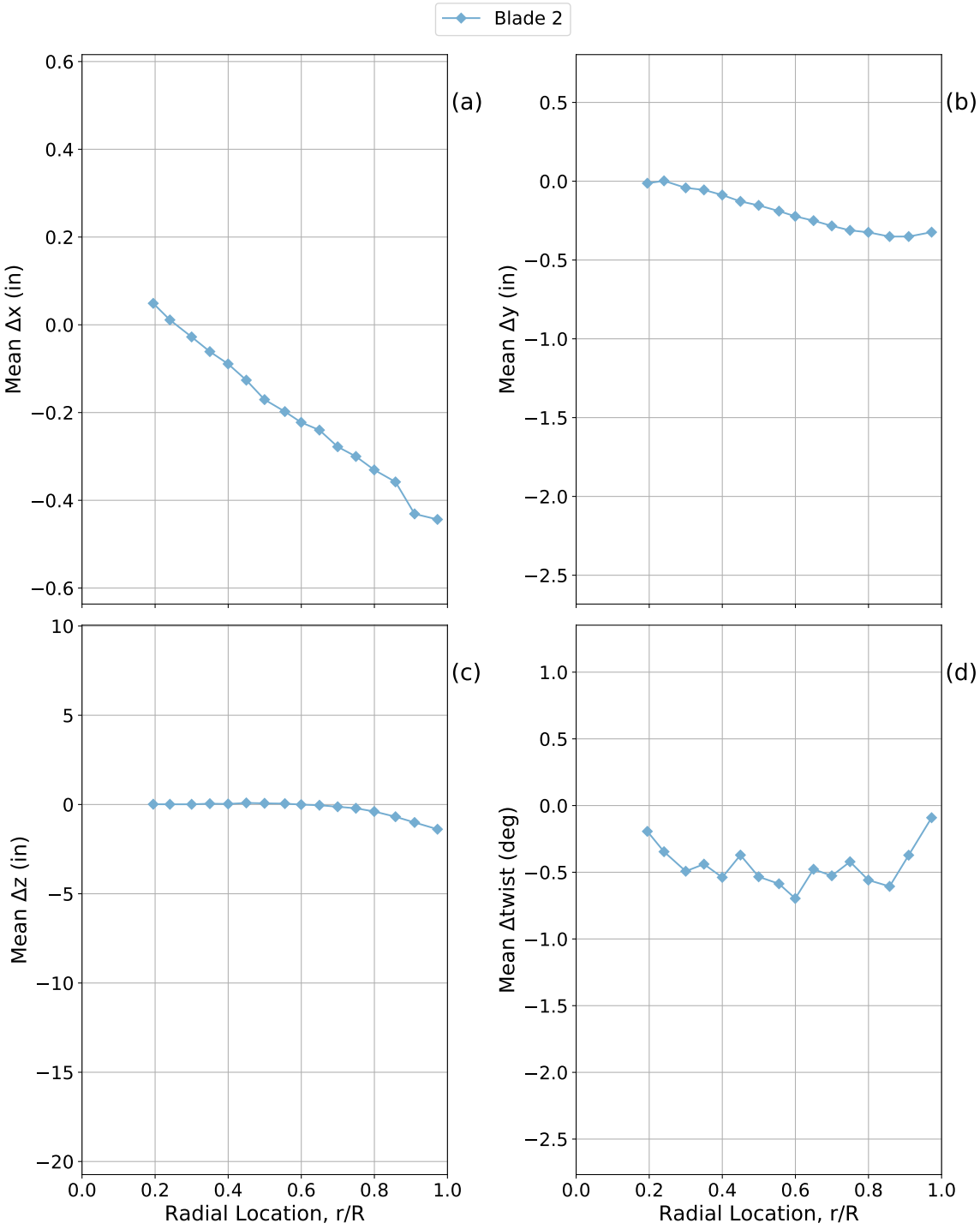


Figure 3.29-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0489	0.0045	-0.0129	0.0021	0.0153	0.0083	-0.1935	0.0227
2	285.12	0.2405	0.0111	0.0025	0.0023	0.0050	0.0119	0.0203	-0.3460	0.0402
2	285.12	0.2999	-0.0276	0.0027	-0.0422	0.0127	0.0114	0.0388	-0.4924	0.0484
2	285.12	0.3498	-0.0611	0.0031	-0.0551	0.0189	0.0456	0.0573	-0.4392	0.0567
2	285.12	0.3998	-0.0892	0.0034	-0.0875	0.0328	0.0306	0.0950	-0.5384	0.0690
2	285.12	0.4496	-0.1262	0.0042	-0.1281	0.0399	0.0884	0.1234	-0.3710	0.0934
2	285.12	0.4995	-0.1705	0.0041	-0.1533	0.0472	0.0664	0.1561	-0.5340	0.0653
2	285.12	0.5551	-0.1978	0.0055	-0.1898	0.0583	0.0497	0.1960	-0.5865	0.0755
2	285.12	0.5996	-0.2224	0.0047	-0.2228	0.0689	-0.0062	0.2343	-0.6965	0.0842
2	285.12	0.6497	-0.2400	0.0051	-0.2503	0.0781	-0.0409	0.2741	-0.4775	0.0842
2	285.12	0.6996	-0.2780	0.0051	-0.2836	0.0896	-0.1256	0.3082	-0.5265	0.0705
2	285.12	0.7495	-0.3001	0.0056	-0.3117	0.1007	-0.2119	0.3434	-0.4211	0.0734
2	285.12	0.7996	-0.3307	0.0060	-0.3242	0.1118	-0.3912	0.3748	-0.5588	0.0737
2	285.12	0.8578	-0.3581	0.0069	-0.3512	0.1254	-0.6857	0.4130	-0.6061	0.0917
2	285.12	0.9100	-0.4310	0.0068	-0.3510	0.1378	-1.0067	0.4484	-0.3721	0.1116
2	285.12	0.9727	-0.4436	0.0085	-0.3233	0.1516	-1.3854	0.4818	-0.0911	0.1134

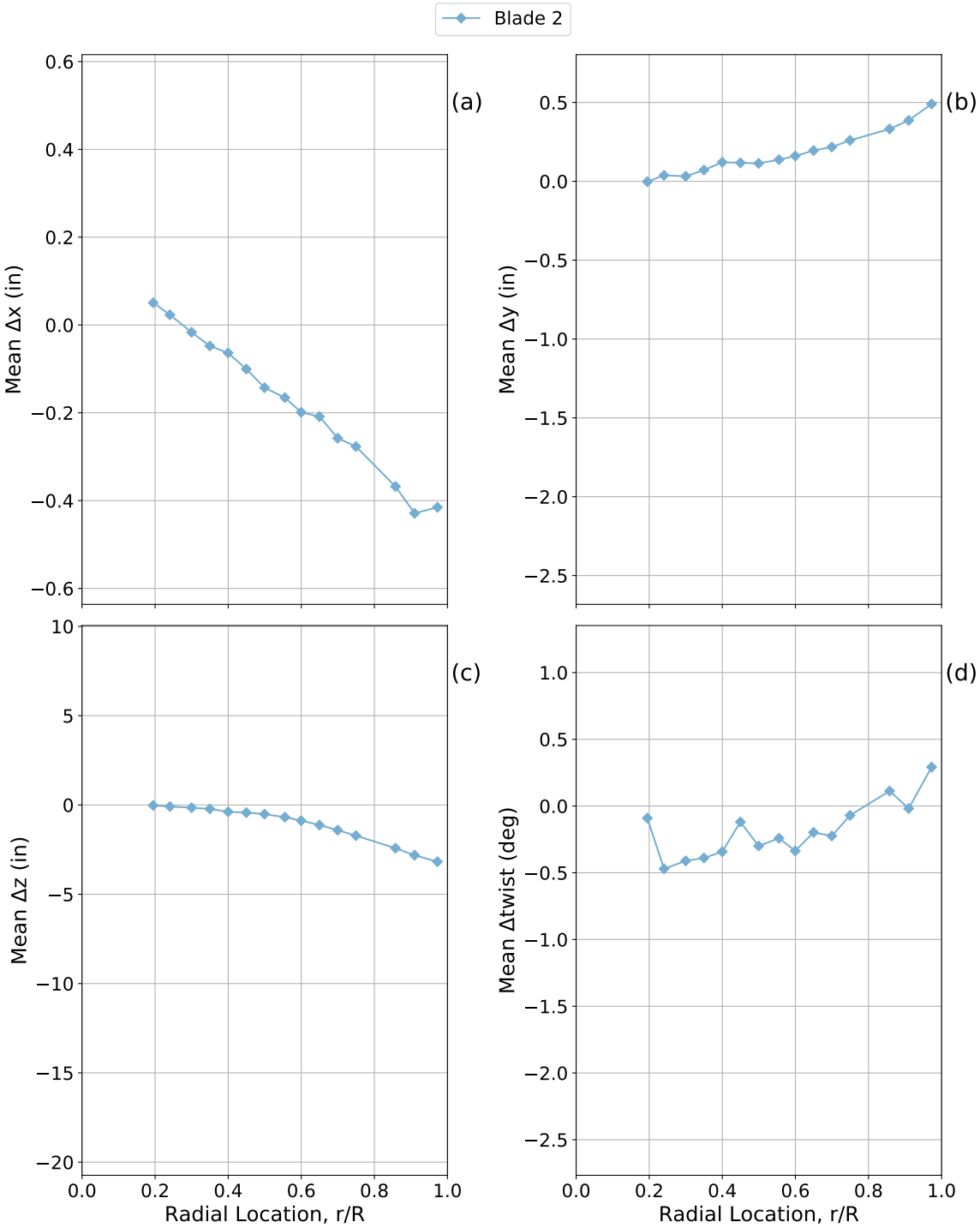


Figure 3.29-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0506	0.0026	-0.0021	0.0011	-0.0256	0.0032	-0.0907	0.0557
2	299.88	0.2405	0.0232	0.0025	0.0380	0.0034	-0.0875	0.0125	-0.4704	0.0540
2	299.88	0.2999	-0.0166	0.0034	0.0317	0.0051	-0.1523	0.0242	-0.4107	0.1157
2	299.88	0.3498	-0.0479	0.0056	0.0714	0.0058	-0.2211	0.0261	-0.3892	0.1279
2	299.88	0.3998	-0.0636	0.0028	0.1211	0.0114	-0.3827	0.0508	-0.3422	0.0831
2	299.88	0.4496	-0.1004	0.0031	0.1173	0.0135	-0.4261	0.0544	-0.1196	0.1325
2	299.88	0.4995	-0.1429	0.0041	0.1139	0.0187	-0.5139	0.0716	-0.2994	0.0801
2	299.88	0.5551	-0.1654	0.0042	0.1375	0.0228	-0.6827	0.0836	-0.2412	0.1236
2	299.88	0.5996	-0.1989	0.0034	0.1604	0.0305	-0.8773	0.1057	-0.3366	0.1117
2	299.88	0.6497	-0.2086	0.0049	0.1952	0.0343	-1.1252	0.1215	-0.1978	0.0744
2	299.88	0.6996	-0.2578	0.0045	0.2174	0.0407	-1.4096	0.1422	-0.2242	0.1263
2	299.88	0.7495	-0.2768	0.0101	0.2598	0.0502	-1.7175	0.1653	-0.0703	0.1143
2	299.88	0.8578	-0.3679	0.0053	0.3318	0.0606	-2.4207	0.2079	0.1129	0.1087
2	299.88	0.9100	-0.4290	0.0055	0.3865	0.0673	-2.8123	0.2293	-0.0186	0.1143
2	299.88	0.9727	-0.4152	0.0072	0.4906	0.0755	-3.1782	0.2543	0.2915	0.1097

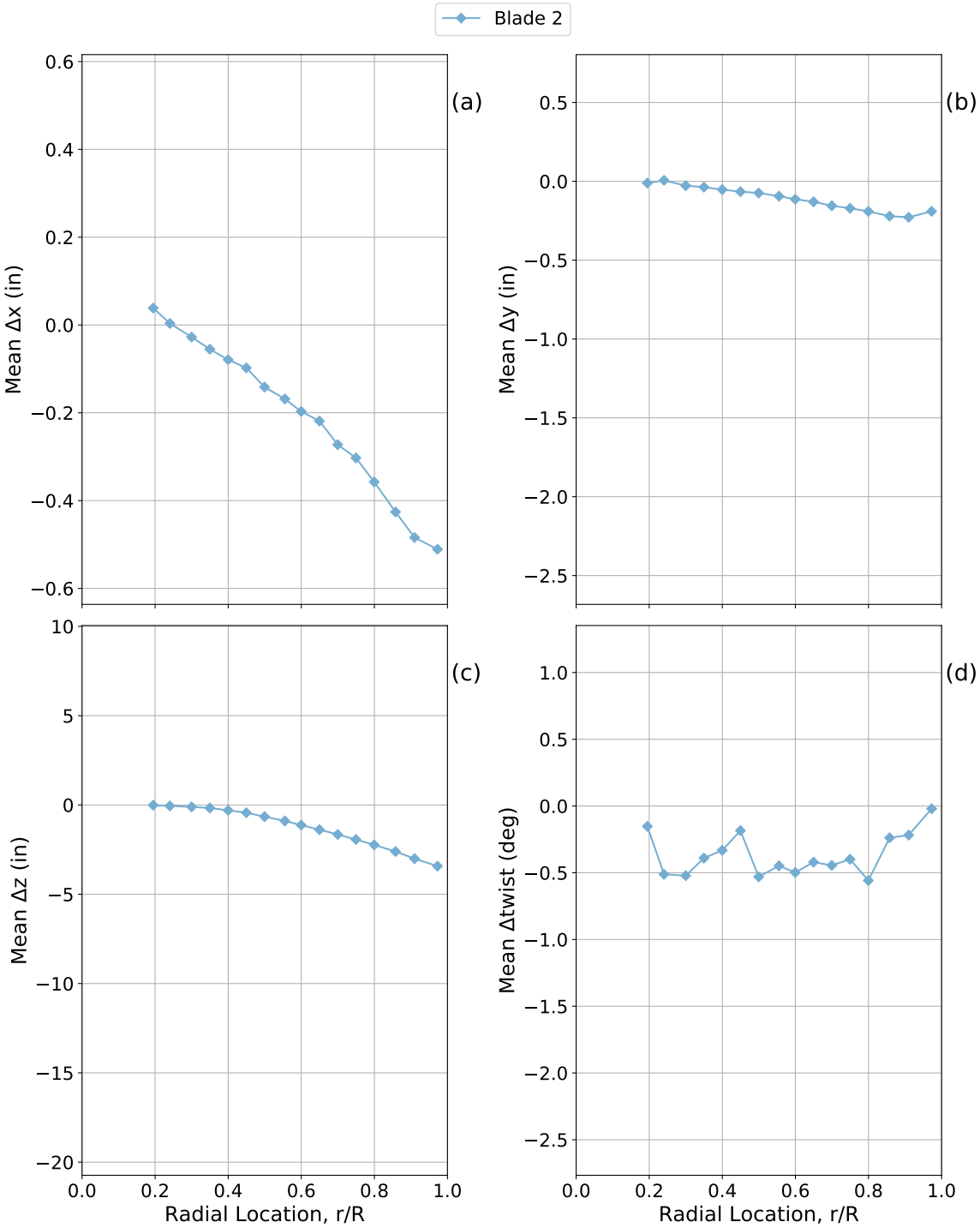


Figure 3.29-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0384	0.0026	-0.0111	0.0010	-0.0116	0.0036	-0.1522	0.0355
2	315	0.2405	0.0035	0.0016	0.0061	0.0047	-0.0528	0.0052	-0.5114	0.0192
2	315	0.2999	-0.0275	0.0036	-0.0278	0.0092	-0.1087	0.0131	-0.5215	0.0610
2	315	0.3498	-0.0551	0.0052	-0.0370	0.0135	-0.1695	0.0150	-0.3898	0.0430
2	315	0.3998	-0.0791	0.0040	-0.0527	0.0244	-0.2988	0.0253	-0.3321	0.0390
2	315	0.4496	-0.0976	0.0044	-0.0656	0.0277	-0.4329	0.0330	-0.1843	0.0600
2	315	0.4995	-0.1414	0.0039	-0.0740	0.0341	-0.6538	0.0415	-0.5304	0.0716
2	315	0.5551	-0.1685	0.0044	-0.0941	0.0420	-0.8937	0.0467	-0.4479	0.0890
2	315	0.5996	-0.1969	0.0051	-0.1136	0.0482	-1.1279	0.0550	-0.4979	0.0488
2	315	0.6497	-0.2188	0.0063	-0.1300	0.0555	-1.3836	0.0603	-0.4204	0.0618
2	315	0.6996	-0.2725	0.0066	-0.1549	0.0635	-1.6514	0.0641	-0.4445	0.0845
2	315	0.7495	-0.3028	0.0073	-0.1709	0.0709	-1.9328	0.0728	-0.3992	0.0542
2	315	0.7996	-0.3576	0.0084	-0.1906	0.0798	-2.2337	0.0864	-0.5582	0.0736
2	315	0.8578	-0.4258	0.0098	-0.2209	0.0910	-2.6059	0.1071	-0.2383	0.0558
2	315	0.9100	-0.4841	0.0107	-0.2280	0.0999	-3.0077	0.1273	-0.2176	0.0607
2	315	0.9727	-0.5109	0.0123	-0.1904	0.1112	-3.4233	0.1529	-0.0204	0.0523

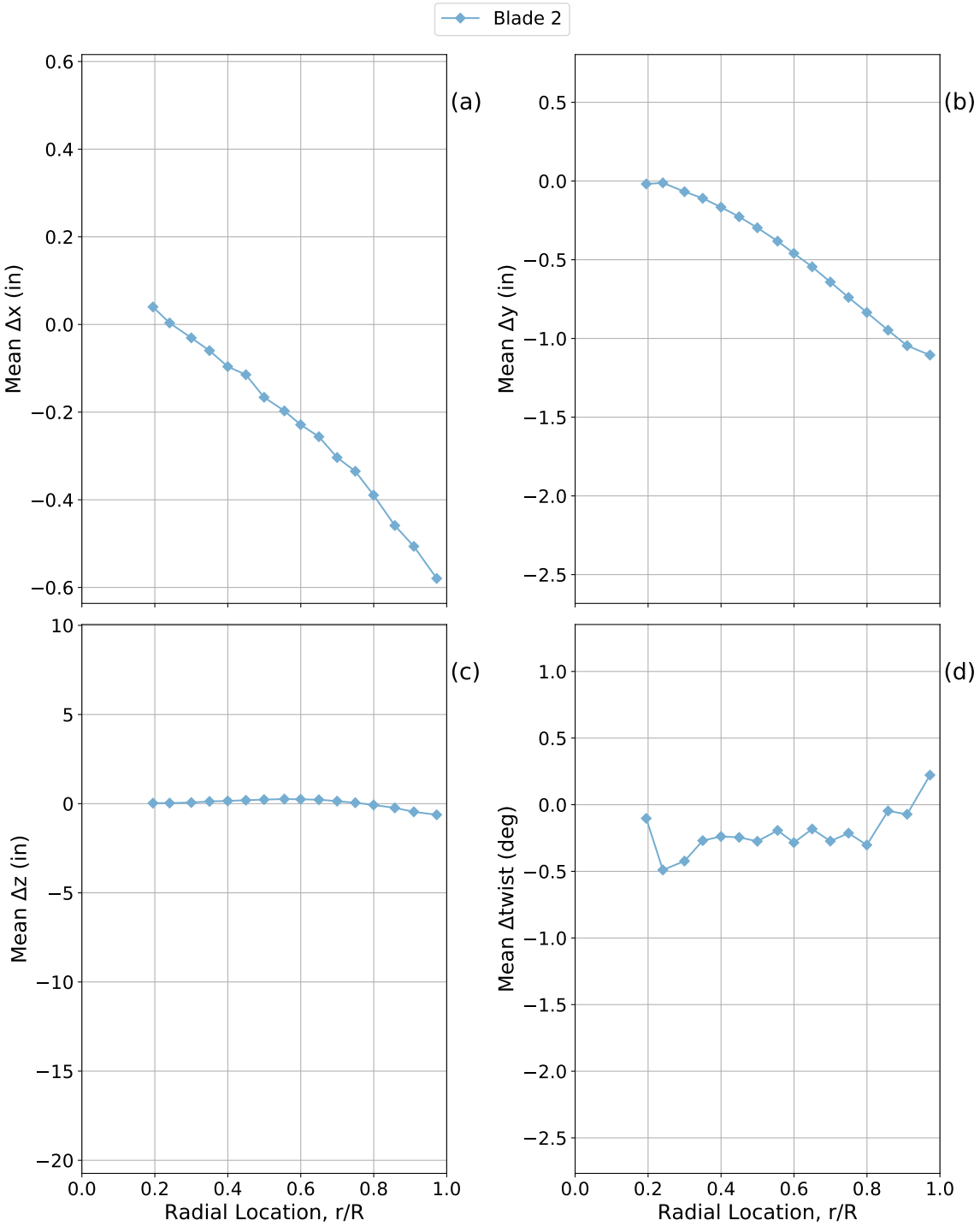


Figure 3.29-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0400	0.0021	-0.0187	0.0011	0.0286	0.0044	-0.1025	0.0388
2	330.12	0.2405	0.0034	0.0027	-0.0117	0.0029	0.0335	0.0115	-0.4895	0.0475
2	330.12	0.2999	-0.0306	0.0023	-0.0677	0.0046	0.0615	0.0191	-0.4228	0.0828
2	330.12	0.3498	-0.0597	0.0042	-0.1096	0.0072	0.1248	0.0384	-0.2694	0.0530
2	330.12	0.3998	-0.0961	0.0037	-0.1661	0.0123	0.1531	0.0556	-0.2386	0.0710
2	330.12	0.4496	-0.1147	0.0058	-0.2270	0.0160	0.1927	0.0727	-0.2451	0.0402
2	330.12	0.4995	-0.1662	0.0044	-0.2970	0.0223	0.2285	0.0989	-0.2745	0.0703
2	330.12	0.5551	-0.1972	0.0051	-0.3820	0.0291	0.2574	0.1218	-0.1932	0.0574
2	330.12	0.5996	-0.2287	0.0052	-0.4594	0.0331	0.2443	0.1519	-0.2846	0.0665
2	330.12	0.6497	-0.2561	0.0046	-0.5449	0.0408	0.2218	0.1857	-0.1822	0.0633
2	330.12	0.6996	-0.3036	0.0047	-0.6415	0.0480	0.1425	0.2219	-0.2732	0.0805
2	330.12	0.7495	-0.3349	0.0061	-0.7393	0.0543	0.0502	0.2472	-0.2134	0.0729
2	330.12	0.7996	-0.3894	0.0066	-0.8348	0.0631	-0.0722	0.2783	-0.3026	0.0643
2	330.12	0.8578	-0.4587	0.0056	-0.9476	0.0724	-0.2363	0.3081	-0.0467	0.0609
2	330.12	0.9100	-0.5063	0.0063	-1.0459	0.0809	-0.4570	0.3384	-0.0718	0.0561
2	330.12	0.9727	-0.5795	0.0088	-1.1054	0.0925	-0.6233	0.3736	0.2221	0.0613

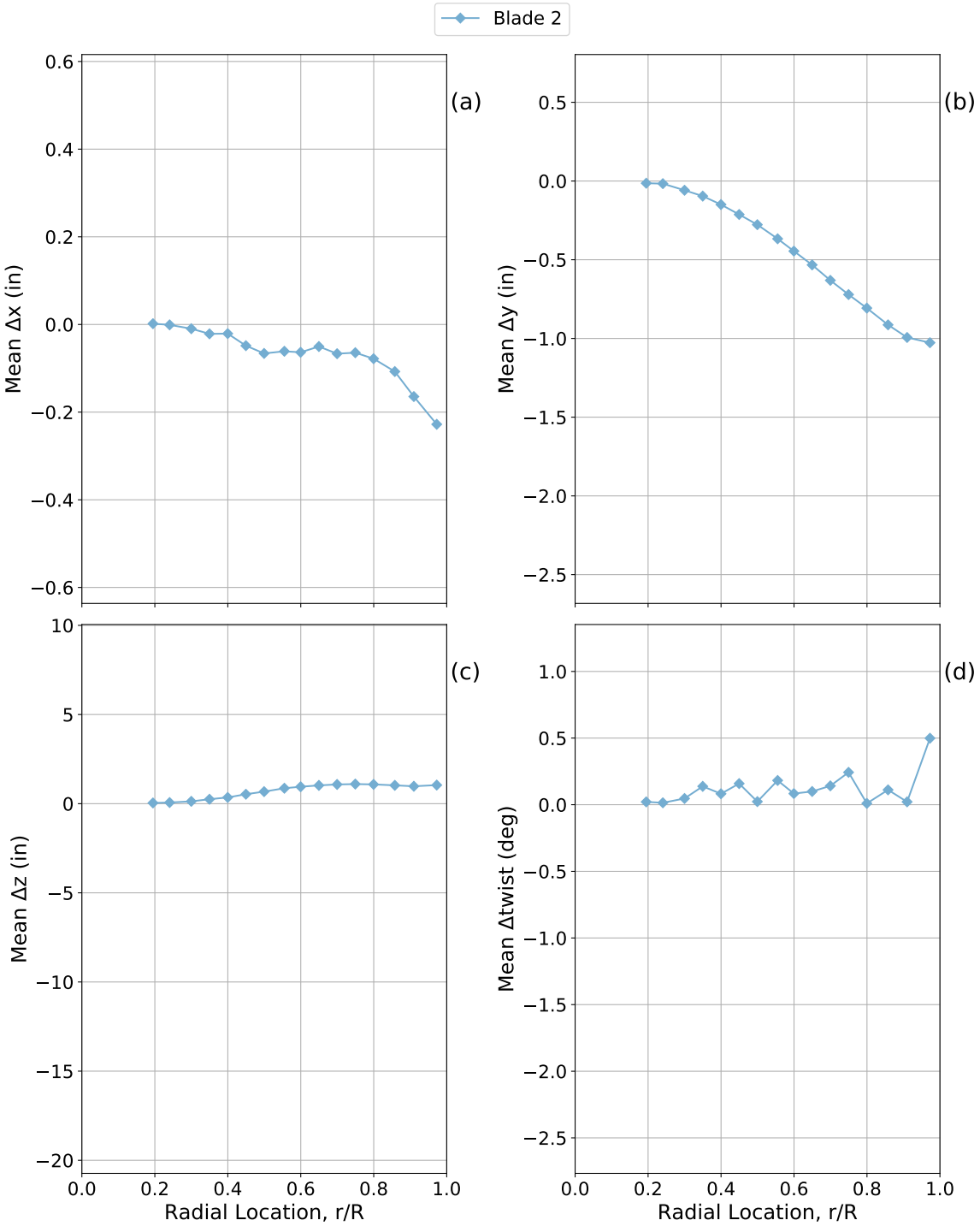


Figure 3.29-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0018	0.0067	-0.0139	0.0011	0.0400	0.0028	0.0212	0.0275
2	344.88	0.2405	-0.0009	0.0025	-0.0167	0.0021	0.0631	0.0048	0.0145	0.0850
2	344.88	0.2999	-0.0097	0.0036	-0.0587	0.0047	0.1302	0.0098	0.0468	0.0871
2	344.88	0.3498	-0.0214	0.0060	-0.0958	0.0083	0.2482	0.0151	0.1378	0.0817
2	344.88	0.3998	-0.0209	0.0089	-0.1495	0.0127	0.3499	0.0236	0.0821	0.0809
2	344.88	0.4496	-0.0484	0.0136	-0.2125	0.0169	0.5291	0.0300	0.1586	0.0997
2	344.88	0.4995	-0.0661	0.0161	-0.2773	0.0201	0.6750	0.0389	0.0233	0.0817
2	344.88	0.5551	-0.0612	0.0208	-0.3669	0.0260	0.8656	0.0461	0.1820	0.0802
2	344.88	0.5996	-0.0635	0.0240	-0.4452	0.0301	0.9482	0.0538	0.0835	0.0885
2	344.88	0.6497	-0.0503	0.0288	-0.5328	0.0356	1.0254	0.0627	0.0993	0.0818
2	344.88	0.6996	-0.0667	0.0325	-0.6309	0.0410	1.0777	0.0711	0.1415	0.0866
2	344.88	0.7495	-0.0644	0.0381	-0.7211	0.0468	1.0992	0.0823	0.2429	0.1040
2	344.88	0.7996	-0.0781	0.0431	-0.8072	0.0537	1.0802	0.0944	0.0099	0.1149
2	344.88	0.8578	-0.1074	0.0460	-0.9135	0.0632	1.0279	0.1105	0.1115	0.1007
2	344.88	0.9100	-0.1645	0.0550	-0.9937	0.0711	0.9755	0.1224	0.0215	0.1929
2	344.88	0.9727	-0.2278	0.0601	-1.0269	0.0814	1.0419	0.1453	0.4989	0.1582

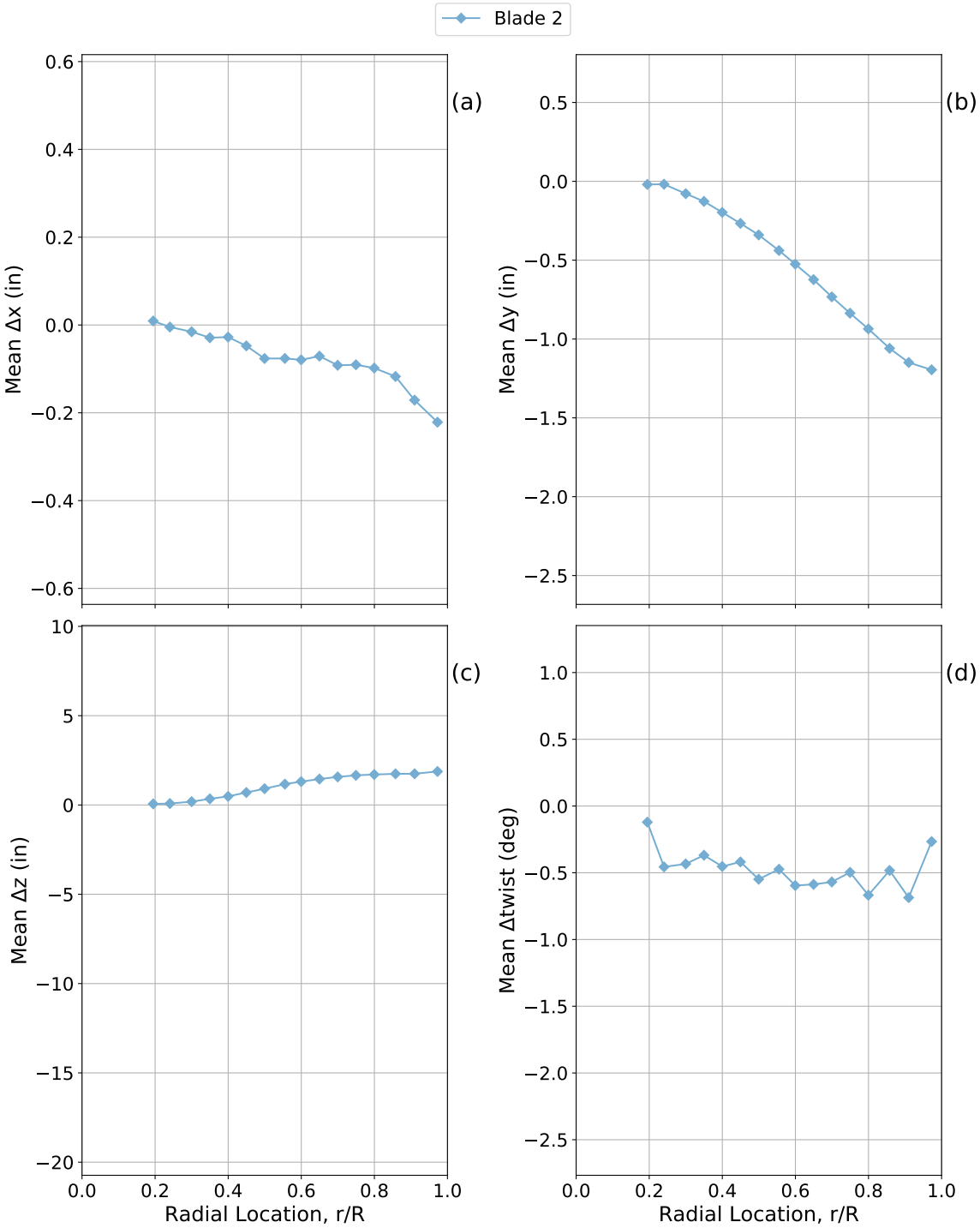


Figure 3.29-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.071, μ = 0.3, α = -0.6° NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0091	0.0058	-0.0198	0.0016	0.0596	0.0031	-0.1210	0.0330
2	350.16	0.2405	-0.0047	0.0034	-0.0184	0.0032	0.0810	0.0042	-0.4561	0.0342
2	350.16	0.2999	-0.0154	0.0015	-0.0784	0.0072	0.1864	0.0098	-0.4337	0.0676
2	350.16	0.3498	-0.0290	0.0048	-0.1273	0.0124	0.3425	0.0157	-0.3686	0.0850
2	350.16	0.3998	-0.0275	0.0083	-0.1968	0.0194	0.4826	0.0235	-0.4529	0.0807
2	350.16	0.4496	-0.0476	0.0135	-0.2669	0.0276	0.6978	0.0330	-0.4188	0.0864
2	350.16	0.4995	-0.0764	0.0185	-0.3400	0.0376	0.9103	0.0425	-0.5485	0.0677
2	350.16	0.5551	-0.0762	0.0243	-0.4388	0.0452	1.1680	0.0531	-0.4735	0.0647
2	350.16	0.5996	-0.0794	0.0278	-0.5251	0.0541	1.3085	0.0679	-0.5958	0.0669
2	350.16	0.6497	-0.0709	0.0338	-0.6233	0.0629	1.4515	0.0825	-0.5872	0.0855
2	350.16	0.6996	-0.0918	0.0401	-0.7327	0.0738	1.5717	0.0994	-0.5690	0.0683
2	350.16	0.7495	-0.0906	0.0456	-0.8363	0.0852	1.6592	0.1177	-0.4967	0.0780
2	350.16	0.7996	-0.0981	0.0516	-0.9359	0.0970	1.7060	0.1334	-0.6681	0.0771
2	350.16	0.8578	-0.1173	0.0587	-1.0593	0.1111	1.7441	0.1598	-0.4830	0.0851
2	350.16	0.9100	-0.1711	0.0666	-1.1490	0.1240	1.7476	0.1777	-0.6863	0.0869
2	350.16	0.9727	-0.2214	0.0725	-1.1952	0.1367	1.8756	0.1982	-0.2663	0.1484

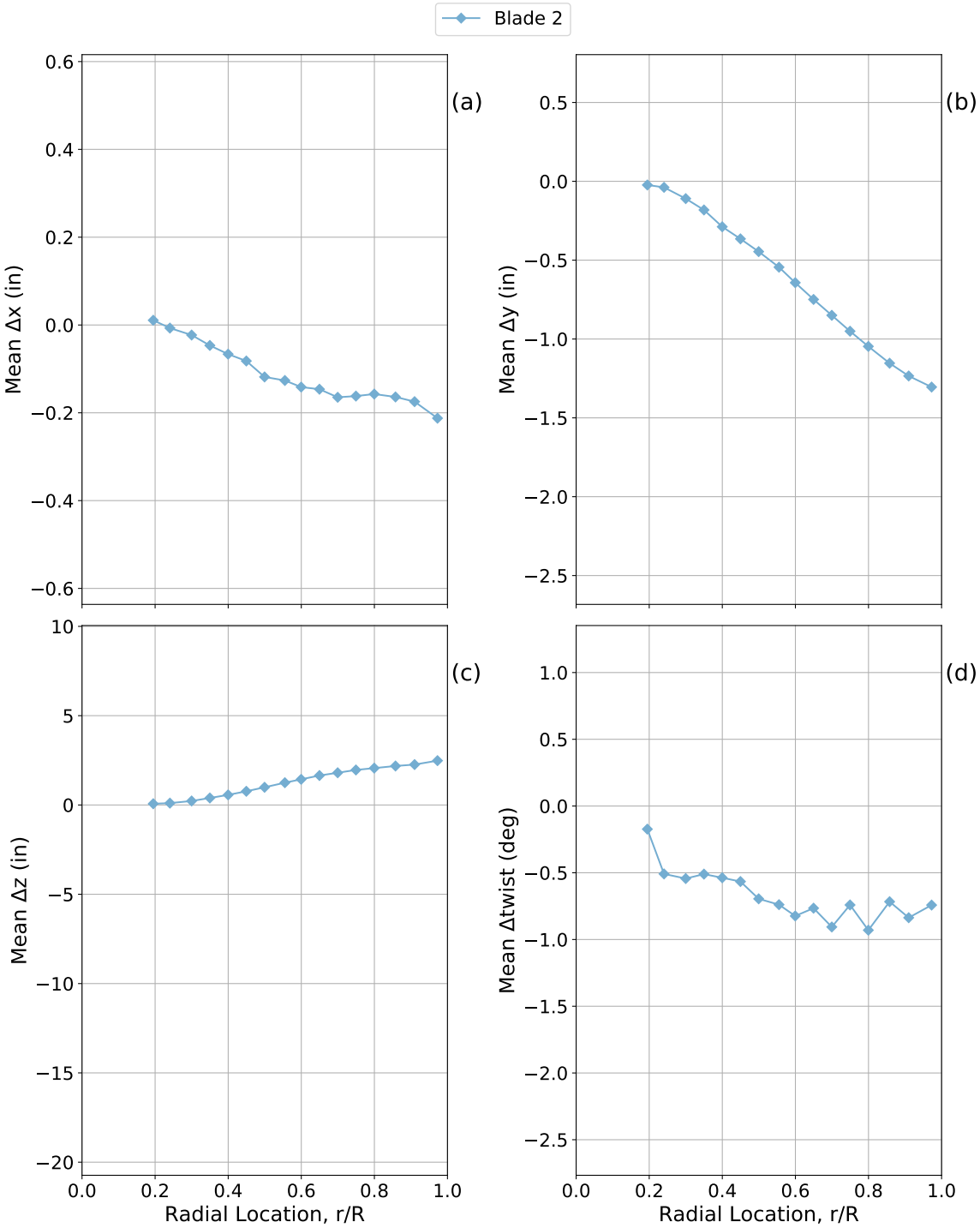


Figure 3.29-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.3$, $\alpha = -0.6°$ NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Table 3.29-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.3, α = -0.6°
NFAC run 67, point 13. BD run 32, points 5021 to 5031.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0108	0.0035	-0.0232	0.0029	0.0689	0.0057	-0.1732	0.0296
2	355.08	0.2405	-0.0070	0.0028	-0.0382	0.0050	0.1038	0.0105	-0.5087	0.0597
2	355.08	0.2999	-0.0229	0.0033	-0.1097	0.0123	0.2235	0.0187	-0.5433	0.0713
2	355.08	0.3498	-0.0466	0.0052	-0.1816	0.0215	0.3917	0.0321	-0.5101	0.0530
2	355.08	0.3998	-0.0664	0.0087	-0.2882	0.0332	0.5649	0.0480	-0.5375	0.0521
2	355.08	0.4496	-0.0820	0.0116	-0.3649	0.0463	0.7663	0.0603	-0.5657	0.0722
2	355.08	0.4995	-0.1183	0.0149	-0.4459	0.0582	0.9905	0.0724	-0.6952	0.0660
2	355.08	0.5551	-0.1264	0.0178	-0.5446	0.0714	1.2475	0.0909	-0.7391	0.0674
2	355.08	0.5996	-0.1414	0.0194	-0.6428	0.0781	1.4363	0.1019	-0.8237	0.0768
2	355.08	0.6497	-0.1463	0.0225	-0.7490	0.0867	1.6495	0.1164	-0.7653	0.0700
2	355.08	0.6996	-0.1647	0.0249	-0.8497	0.0966	1.8037	0.1310	-0.9061	0.0724
2	355.08	0.7495	-0.1619	0.0284	-0.9506	0.1046	1.9606	0.1474	-0.7411	0.0674
2	355.08	0.7996	-0.1573	0.0295	-1.0469	0.1115	2.0640	0.1613	-0.9303	0.0846
2	355.08	0.8578	-0.1639	0.0320	-1.1536	0.1192	2.1822	0.1801	-0.7166	0.0861
2	355.08	0.9100	-0.1746	0.0327	-1.2343	0.1269	2.2621	0.1959	-0.8367	0.0740
2	355.08	0.9727	-0.2123	0.0366	-1.3047	0.1374	2.4817	0.2146	-0.7420	0.0989

3.30 Run 67, Point 33

3.30.1 Pitch, Flap, and Lag

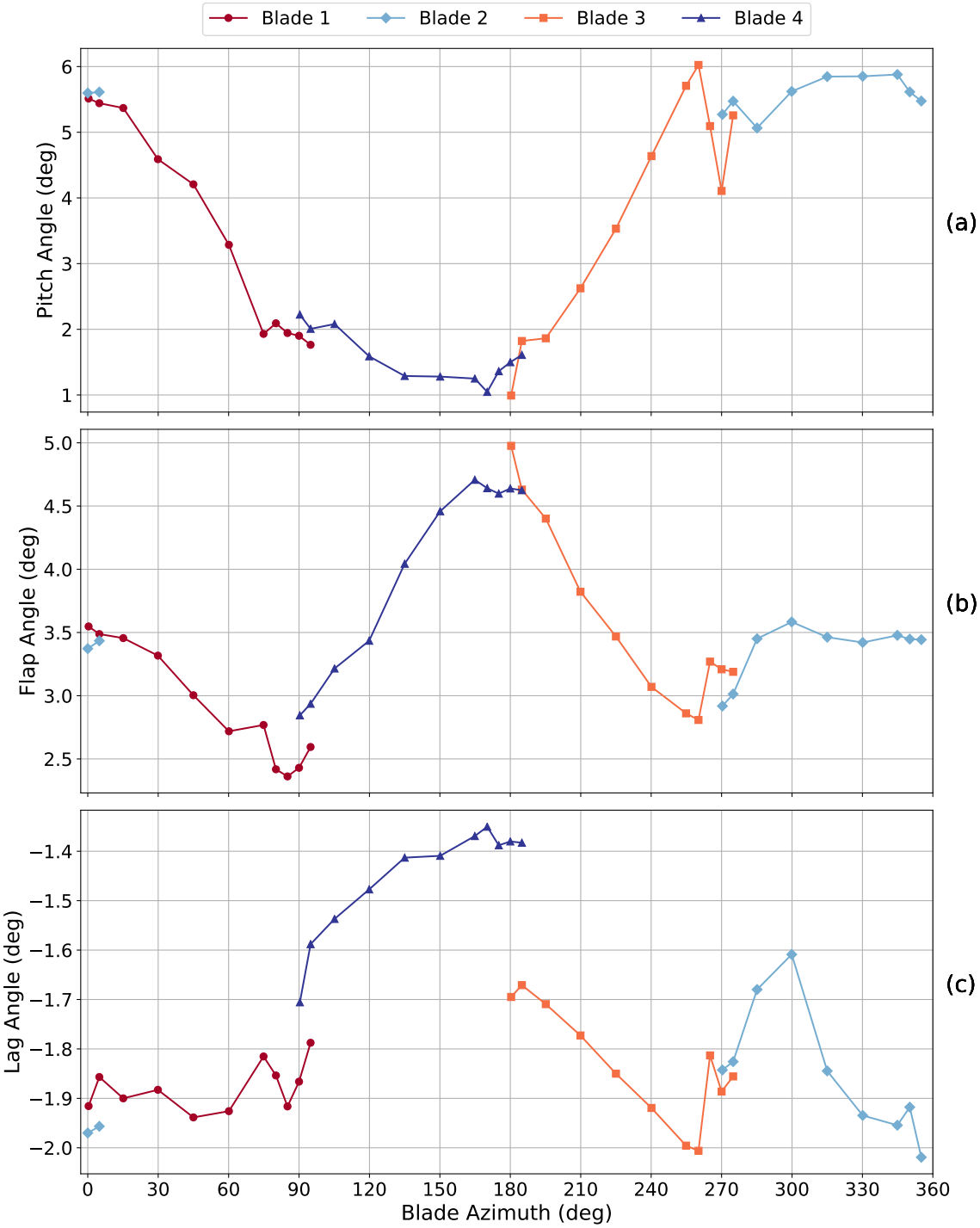


Figure 3.30-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.5970	3.3724	-1.9700	0.0770	0.0314	0.0161
0.35	1	5.5129	3.5479	-1.9156	0.0983	0.0450	0.0352
4.92	1	5.4422	3.4876	-1.8568	0.1180	0.0294	0.0251
4.92	2	5.6120	3.4340	-1.9566	0.0914	0.0378	0.0234
15.12	1	5.3691	3.4557	-1.9000	0.0789	0.0392	0.0267
29.88	1	4.5897	3.3171	-1.8827	0.0862	0.0332	0.0248
45	1	4.2072	3.0040	-1.9385	0.0757	0.0386	0.0240
60.12	1	3.2860	2.7188	-1.9259	0.0841	0.0501	0.0267
74.88	1	1.9300	2.7686	-1.8152	0.0630	0.0490	0.0385
80.16	1	2.0915	2.4182	-1.8537	0.0946	0.0294	0.0150
85.08	1	1.9434	2.3619	-1.9163	0.0426	0.0411	0.0231
90	1	1.9013	2.4299	-1.8662	0.0276	0.0471	0.0136
90.35	4	2.2237	2.8447	-1.7057	0.0326	0.0353	0.0088
94.92	1	1.7639	2.5946	-1.7875	0.0250	0.0245	0.0103
94.92	4	2.0071	2.9361	-1.5881	0.0286	0.0190	0.0188
105.12	4	2.0799	3.2150	-1.5370	0.0235	0.0151	0.0149
119.88	4	1.5883	3.4349	-1.4772	0.0232	0.0144	0.0160
135	4	1.2891	4.0436	-1.4130	0.0214	0.0106	0.0106
150.12	4	1.2800	4.4586	-1.4093	0.0273	0.0149	0.0198
164.88	4	1.2497	4.7075	-1.3693	0.0322	0.0294	0.0185
170.16	4	1.0464	4.6411	-1.3504	0.0289	0.0285	0.0169
175.08	4	1.3614	4.5980	-1.3880	0.0260	0.0141	0.0190
180	4	1.4989	4.6390	-1.3802	0.0454	0.0600	0.0361
180.35	3	0.9917	4.9762	-1.6949	0.0729	0.0741	0.0224
184.92	3	1.8220	4.6302	-1.6709	0.0861	0.0427	0.0346
184.92	4	1.6099	4.6251	-1.3828	0.0304	0.0196	0.0126
195.12	3	1.8631	4.4009	-1.7094	0.0442	0.0197	0.0226
209.88	3	2.6244	3.8225	-1.7728	0.0228	0.0191	0.0132
225	3	3.5321	3.4684	-1.8500	0.0256	0.0129	0.0120
240.12	3	4.6367	3.0701	-1.9194	0.0303	0.0193	0.0126
254.88	3	5.7071	2.8605	-1.9957	0.0447	0.0308	0.0167
260.16	3	6.0243	2.8084	-2.0061	0.0489	0.0270	0.0170
265.08	3	5.0938	3.2696	-1.8131	0.0753	0.0277	0.0269
270	3	4.1067	3.2091	-1.8862	0.0325	0.0543	0.0243
270.35	2	5.2710	2.9182	-1.8425	0.0845	0.0349	0.0189
274.92	2	5.4732	3.0134	-1.8257	0.0792	0.0336	0.0201
274.92	3	5.2574	3.1889	-1.8556	0.1120	0.0424	0.0161
285.12	2	5.0647	3.4506	-1.6798	0.0323	0.0179	0.0146
299.88	2	5.6217	3.5835	-1.6088	0.0276	0.0243	0.0220
315	2	5.8472	3.4629	-1.8445	0.0289	0.0337	0.0114
330.12	2	5.8517	3.4210	-1.9346	0.0366	0.0373	0.0121
344.88	2	5.8793	3.4774	-1.9544	0.0308	0.0133	0.0122
350.16	2	5.6142	3.4477	-1.9178	0.0803	0.0352	0.0273
355.08	2	5.4749	3.4432	-2.0192	0.1007	0.0327	0.0207

3.30.2 Spanwise Elastic Deformations

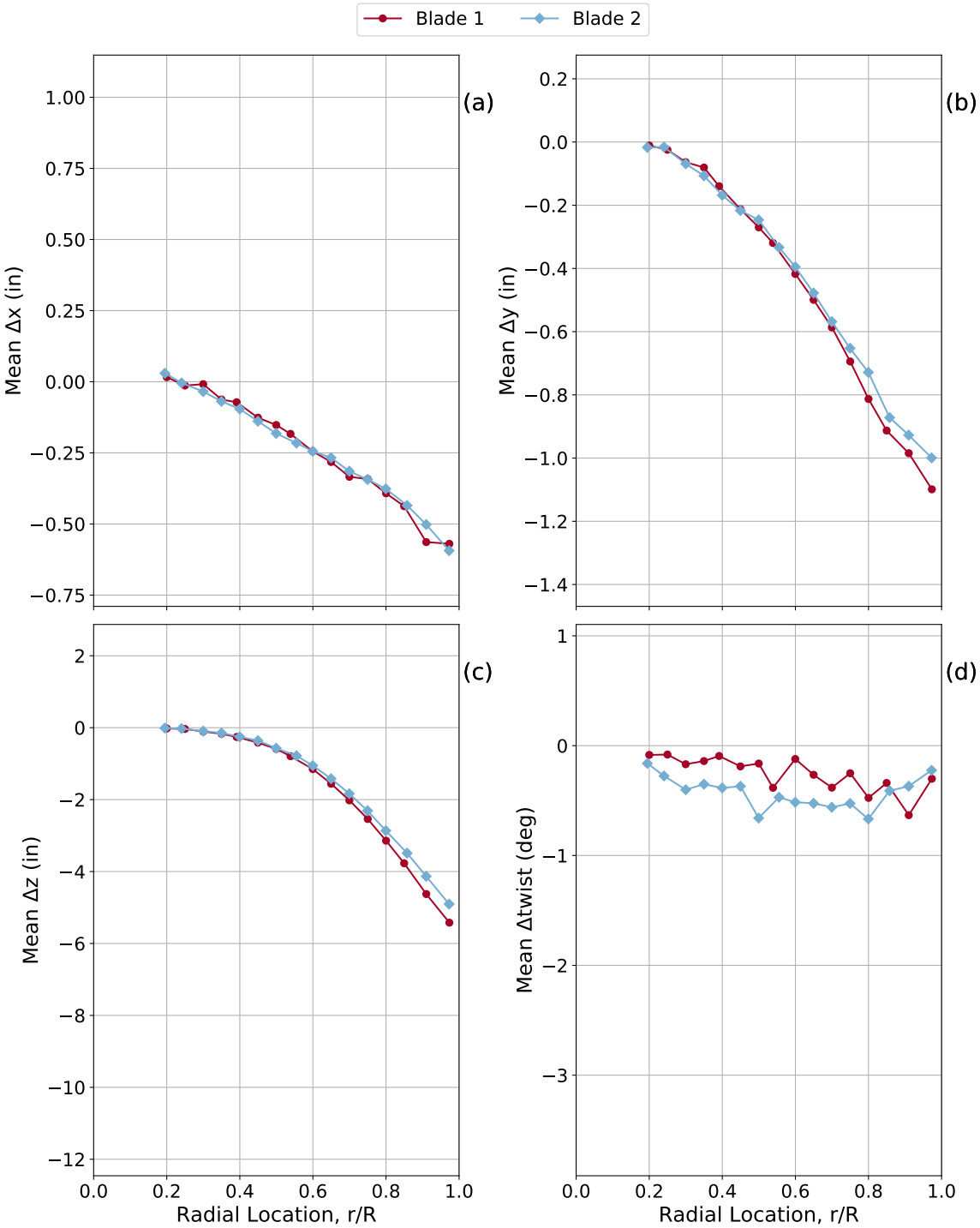


Figure 3.30-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0161	0.0041	-0.0112	0.0029	-0.0215	0.0061	-0.0843	0.0411
1	0.35	0.2499	-0.0134	0.0029	-0.0246	0.0037	-0.0356	0.0087	-0.0811	0.0762
1	0.35	0.2998	-0.0085	0.0015	-0.0637	0.0092	-0.1080	0.0193	-0.1692	0.0929
1	0.35	0.3498	-0.0624	0.0013	-0.0807	0.0161	-0.1697	0.0303	-0.1403	0.1012
1	0.35	0.3913	-0.0720	0.0016	-0.1399	0.0213	-0.2588	0.0422	-0.0940	0.0889
1	0.35	0.4496	-0.1263	0.0020	-0.2126	0.0292	-0.4158	0.0584	-0.1888	0.0874
1	0.35	0.4997	-0.1521	0.0019	-0.2701	0.0350	-0.5902	0.0725	-0.1627	0.0884
1	0.35	0.5387	-0.1833	0.0019	-0.3195	0.0411	-0.7933	0.0831	-0.3835	0.0880
1	0.35	0.5996	-0.2448	0.0020	-0.4174	0.0498	-1.1511	0.0980	-0.1213	0.0894
1	0.35	0.6498	-0.2820	0.0014	-0.4993	0.0561	-1.5587	0.1109	-0.2653	0.0917
1	0.35	0.6998	-0.3342	0.0019	-0.5865	0.0624	-2.0212	0.1225	-0.3822	0.0773
1	0.35	0.7500	-0.3420	0.0016	-0.6945	0.0704	-2.5382	0.1318	-0.2512	0.0826
1	0.35	0.8001	-0.3922	0.0024	-0.8130	0.0781	-3.1418	0.1431	-0.4756	0.0955
1	0.35	0.8497	-0.4376	0.0023	-0.9130	0.0841	-3.7705	0.1544	-0.3395	0.0773
1	0.35	0.9102	-0.5637	0.0047	-0.9846	0.0907	-4.6260	0.1689	-0.6327	0.1013
1	0.35	0.9734	-0.5696	0.0062	-1.0988	0.1030	-5.4212	0.1888	-0.3013	0.1208
2	0	0.1949	0.0298	0.0025	-0.0172	0.0014	-0.0124	0.0028	-0.1616	0.0360
2	0	0.2405	-0.0041	0.0016	-0.0160	0.0023	-0.0260	0.0039	-0.2758	0.0785
2	0	0.2999	-0.0346	0.0011	-0.0690	0.0049	-0.0947	0.0075	-0.4011	0.0947
2	0	0.3498	-0.0691	0.0017	-0.1069	0.0089	-0.1471	0.0128	-0.3509	0.0876
2	0	0.3998	-0.0957	0.0019	-0.1683	0.0129	-0.2545	0.0181	-0.3846	0.0872
2	0	0.4496	-0.1388	0.0018	-0.2170	0.0158	-0.3594	0.0220	-0.3699	0.0876
2	0	0.4995	-0.1817	0.0024	-0.2464	0.0199	-0.5704	0.0289	-0.6591	0.0883
2	0	0.5551	-0.2156	0.0014	-0.3334	0.0236	-0.7819	0.0382	-0.4698	0.0900
2	0	0.5996	-0.2444	0.0014	-0.3949	0.0270	-1.0549	0.0455	-0.5152	0.0998
2	0	0.6497	-0.2672	0.0017	-0.4778	0.0298	-1.4183	0.0561	-0.5252	0.0803
2	0	0.6996	-0.3144	0.0019	-0.5683	0.0335	-1.8346	0.0629	-0.5608	0.0699
2	0	0.7495	-0.3435	0.0017	-0.6525	0.0376	-2.3102	0.0692	-0.5264	0.0863
2	0	0.7996	-0.3765	0.0025	-0.7287	0.0413	-2.8633	0.0739	-0.6671	0.0862
2	0	0.8578	-0.4350	0.0028	-0.8719	0.0469	-3.4882	0.0836	-0.4107	0.0984
2	0	0.9100	-0.5019	0.0044	-0.9273	0.0518	-4.1334	0.0909	-0.3694	0.0983
2	0	0.9727	-0.5937	0.0096	-0.9993	0.0596	-4.9044	0.1000	-0.2242	0.0973

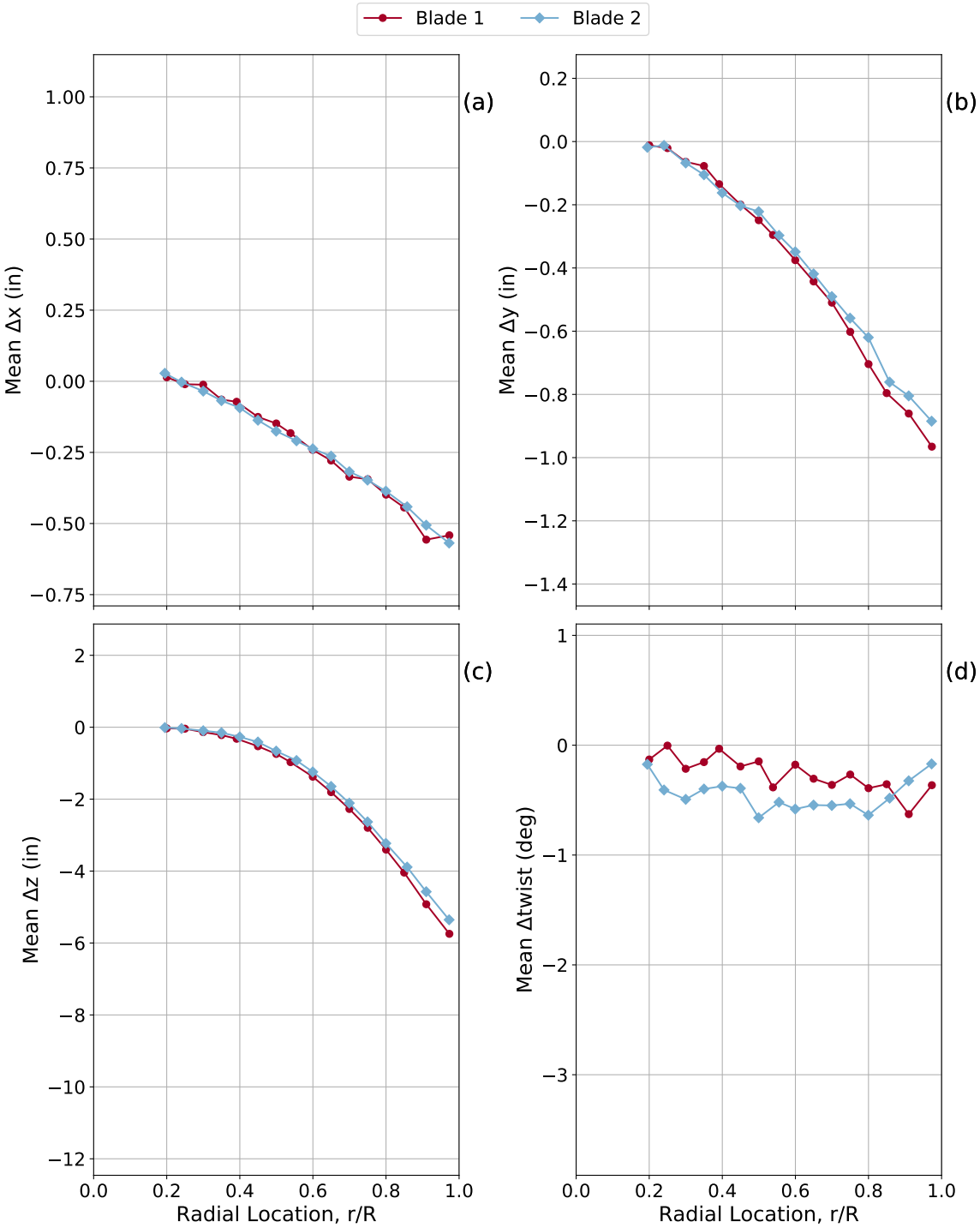


Figure 3.30-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0140	0.0039	-0.0120	0.0019	-0.0318	0.0039	-0.1302	0.0556
1	4.92	0.2499	-0.0103	0.0016	-0.0208	0.0029	-0.0405	0.0052	-0.0036	0.0812
1	4.92	0.2998	-0.0120	0.0020	-0.0640	0.0062	-0.1369	0.0119	-0.2148	0.1208
1	4.92	0.3498	-0.0643	0.0018	-0.0773	0.0110	-0.2192	0.0190	-0.1540	0.1049
1	4.92	0.3913	-0.0720	0.0012	-0.1348	0.0148	-0.3209	0.0255	-0.0325	0.1014
1	4.92	0.4496	-0.1253	0.0017	-0.1993	0.0201	-0.5290	0.0348	-0.1938	0.0953
1	4.92	0.4997	-0.1483	0.0020	-0.2489	0.0248	-0.7427	0.0406	-0.1470	0.0986
1	4.92	0.5387	-0.1823	0.0016	-0.2955	0.0289	-0.9713	0.0475	-0.3842	0.1052
1	4.92	0.5996	-0.2412	0.0025	-0.3753	0.0343	-1.3760	0.0553	-0.1774	0.1087
1	4.92	0.6498	-0.2786	0.0023	-0.4426	0.0394	-1.8053	0.0641	-0.3052	0.1017
1	4.92	0.6998	-0.3354	0.0020	-0.5097	0.0449	-2.2730	0.0713	-0.3616	0.0962
1	4.92	0.7500	-0.3443	0.0024	-0.6021	0.0498	-2.7971	0.0794	-0.2673	0.1036
1	4.92	0.8001	-0.3985	0.0027	-0.7042	0.0548	-3.4034	0.0910	-0.3913	0.0848
1	4.92	0.8497	-0.4437	0.0027	-0.7959	0.0609	-4.0415	0.1001	-0.3552	0.0951
1	4.92	0.9102	-0.5568	0.0040	-0.8606	0.0671	-4.9221	0.1156	-0.6277	0.0910
1	4.92	0.9734	-0.5414	0.0042	-0.9653	0.0743	-5.7448	0.1264	-0.3641	0.0802
2	4.92	0.1949	0.0281	0.0028	-0.0183	0.0016	-0.0097	0.0042	-0.1741	0.0299
2	4.92	0.2405	-0.0030	0.0009	-0.0123	0.0016	-0.0353	0.0059	-0.4076	0.0687
2	4.92	0.2999	-0.0346	0.0010	-0.0678	0.0042	-0.0975	0.0134	-0.4931	0.0816
2	4.92	0.3498	-0.0681	0.0010	-0.1050	0.0090	-0.1522	0.0250	-0.3990	0.0740
2	4.92	0.3998	-0.0933	0.0016	-0.1623	0.0119	-0.2693	0.0353	-0.3730	0.0819
2	4.92	0.4496	-0.1369	0.0016	-0.2029	0.0165	-0.4109	0.0457	-0.3927	0.0811
2	4.92	0.4995	-0.1754	0.0015	-0.2217	0.0206	-0.6633	0.0584	-0.6606	0.0707
2	4.92	0.5551	-0.2093	0.0019	-0.2970	0.0248	-0.9256	0.0695	-0.5190	0.0746
2	4.92	0.5996	-0.2372	0.0024	-0.3489	0.0280	-1.2423	0.0781	-0.5814	0.0789
2	4.92	0.6497	-0.2630	0.0022	-0.4187	0.0317	-1.6463	0.0892	-0.5450	0.0863
2	4.92	0.6996	-0.3179	0.0025	-0.4905	0.0357	-2.1099	0.1015	-0.5488	0.0817
2	4.92	0.7495	-0.3475	0.0021	-0.5587	0.0393	-2.6323	0.1125	-0.5331	0.0777
2	4.92	0.7996	-0.3861	0.0016	-0.6198	0.0435	-3.2285	0.1220	-0.6370	0.0812
2	4.92	0.8578	-0.4412	0.0031	-0.7611	0.0482	-3.8890	0.1325	-0.4822	0.1004
2	4.92	0.9100	-0.5059	0.0038	-0.8047	0.0536	-4.5735	0.1481	-0.3244	0.0833
2	4.92	0.9727	-0.5687	0.0056	-0.8847	0.0584	-5.3539	0.1543	-0.1703	0.1189

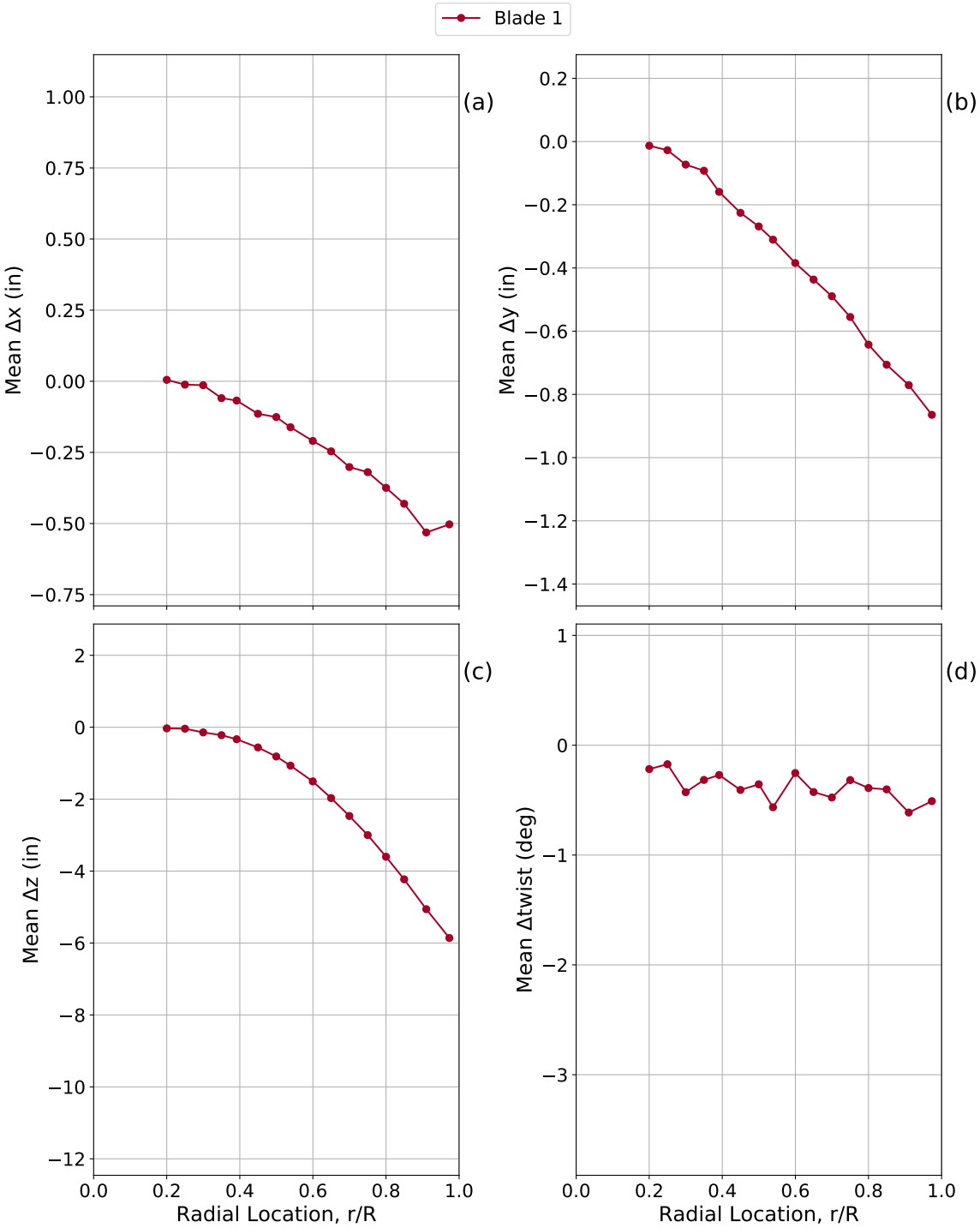


Figure 3.30-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0050	0.0031	-0.0132	0.0021	-0.0313	0.0057	-0.2175	0.0352
1	15.12	0.2499	-0.0118	0.0019	-0.0274	0.0024	-0.0411	0.0082	-0.1732	0.0757
1	15.12	0.2998	-0.0138	0.0013	-0.0729	0.0068	-0.1441	0.0184	-0.4278	0.0822
1	15.12	0.3498	-0.0593	0.0011	-0.0923	0.0115	-0.2208	0.0296	-0.3164	0.0760
1	15.12	0.3913	-0.0677	0.0021	-0.1592	0.0155	-0.3333	0.0411	-0.2711	0.0686
1	15.12	0.4496	-0.1143	0.0021	-0.2255	0.0201	-0.5623	0.0555	-0.4074	0.0706
1	15.12	0.4997	-0.1258	0.0026	-0.2686	0.0244	-0.8136	0.0679	-0.3559	0.0713
1	15.12	0.5387	-0.1616	0.0023	-0.3104	0.0282	-1.0679	0.0757	-0.5653	0.0754
1	15.12	0.5996	-0.2097	0.0027	-0.3844	0.0328	-1.5062	0.0863	-0.2536	0.0593
1	15.12	0.6498	-0.2464	0.0026	-0.4367	0.0389	-1.9700	0.0961	-0.4264	0.0677
1	15.12	0.6998	-0.3016	0.0030	-0.4894	0.0435	-2.4672	0.1050	-0.4762	0.0558
1	15.12	0.7500	-0.3195	0.0031	-0.5551	0.0479	-2.9995	0.1163	-0.3176	0.0664
1	15.12	0.8001	-0.3745	0.0032	-0.6426	0.0522	-3.6019	0.1286	-0.3900	0.0612
1	15.12	0.8497	-0.4307	0.0033	-0.7060	0.0580	-4.2293	0.1406	-0.4023	0.0742
1	15.12	0.9102	-0.5315	0.0035	-0.7706	0.0637	-5.0595	0.1559	-0.6130	0.0661
1	15.12	0.9734	-0.5030	0.0035	-0.8646	0.0710	-5.8602	0.1675	-0.5095	0.0623

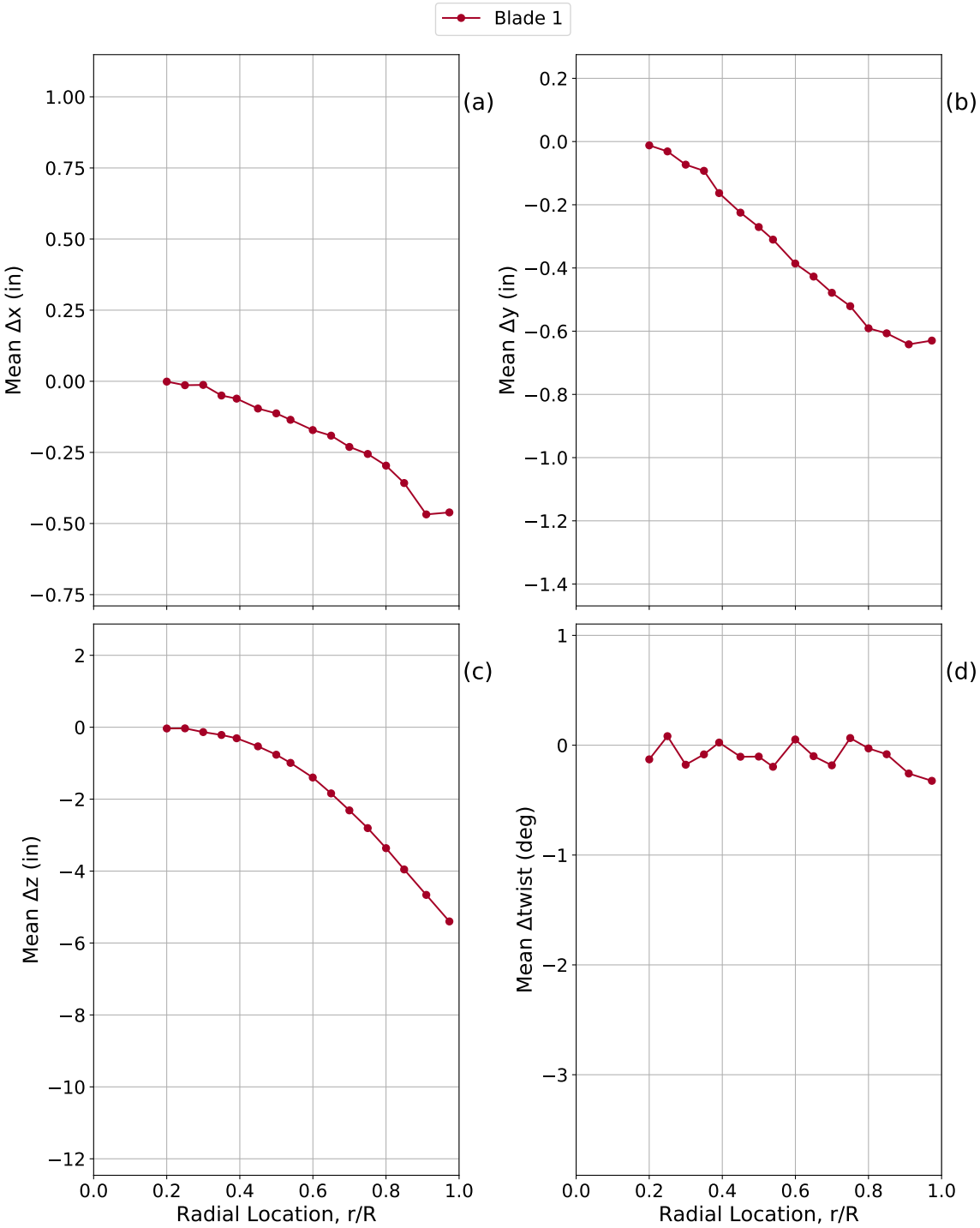


Figure 3.30-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0011	0.0025	-0.0121	0.0011	-0.0344	0.0040	-0.1290	0.0282
1	29.88	0.2499	-0.0138	0.0019	-0.0312	0.0017	-0.0314	0.0060	0.0822	0.0838
1	29.88	0.2998	-0.0128	0.0014	-0.0731	0.0041	-0.1350	0.0135	-0.1777	0.0777
1	29.88	0.3498	-0.0500	0.0020	-0.0926	0.0067	-0.2151	0.0225	-0.0837	0.0749
1	29.88	0.3913	-0.0610	0.0028	-0.1631	0.0095	-0.3068	0.0312	0.0241	0.0827
1	29.88	0.4496	-0.0958	0.0032	-0.2249	0.0122	-0.5316	0.0430	-0.1052	0.0826
1	29.88	0.4997	-0.1128	0.0033	-0.2705	0.0159	-0.7642	0.0539	-0.1037	0.0749
1	29.88	0.5387	-0.1354	0.0034	-0.3102	0.0187	-0.9917	0.0618	-0.1965	0.0871
1	29.88	0.5996	-0.1715	0.0036	-0.3859	0.0231	-1.3983	0.0743	0.0521	0.0884
1	29.88	0.6498	-0.1911	0.0034	-0.4272	0.0261	-1.8400	0.0860	-0.1000	0.0880
1	29.88	0.6998	-0.2308	0.0034	-0.4784	0.0294	-2.3125	0.0973	-0.1833	0.0852
1	29.88	0.7500	-0.2555	0.0039	-0.5208	0.0339	-2.8055	0.1065	0.0651	0.1007
1	29.88	0.8001	-0.2965	0.0038	-0.5908	0.0380	-3.3628	0.1178	-0.0293	0.0900
1	29.88	0.8497	-0.3577	0.0039	-0.6067	0.0417	-3.9545	0.1272	-0.0824	0.0959
1	29.88	0.9102	-0.4680	0.0042	-0.6416	0.0460	-4.6624	0.1382	-0.2578	0.1006
1	29.88	0.9734	-0.4610	0.0049	-0.6297	0.0504	-5.3998	0.1531	-0.3244	0.0941

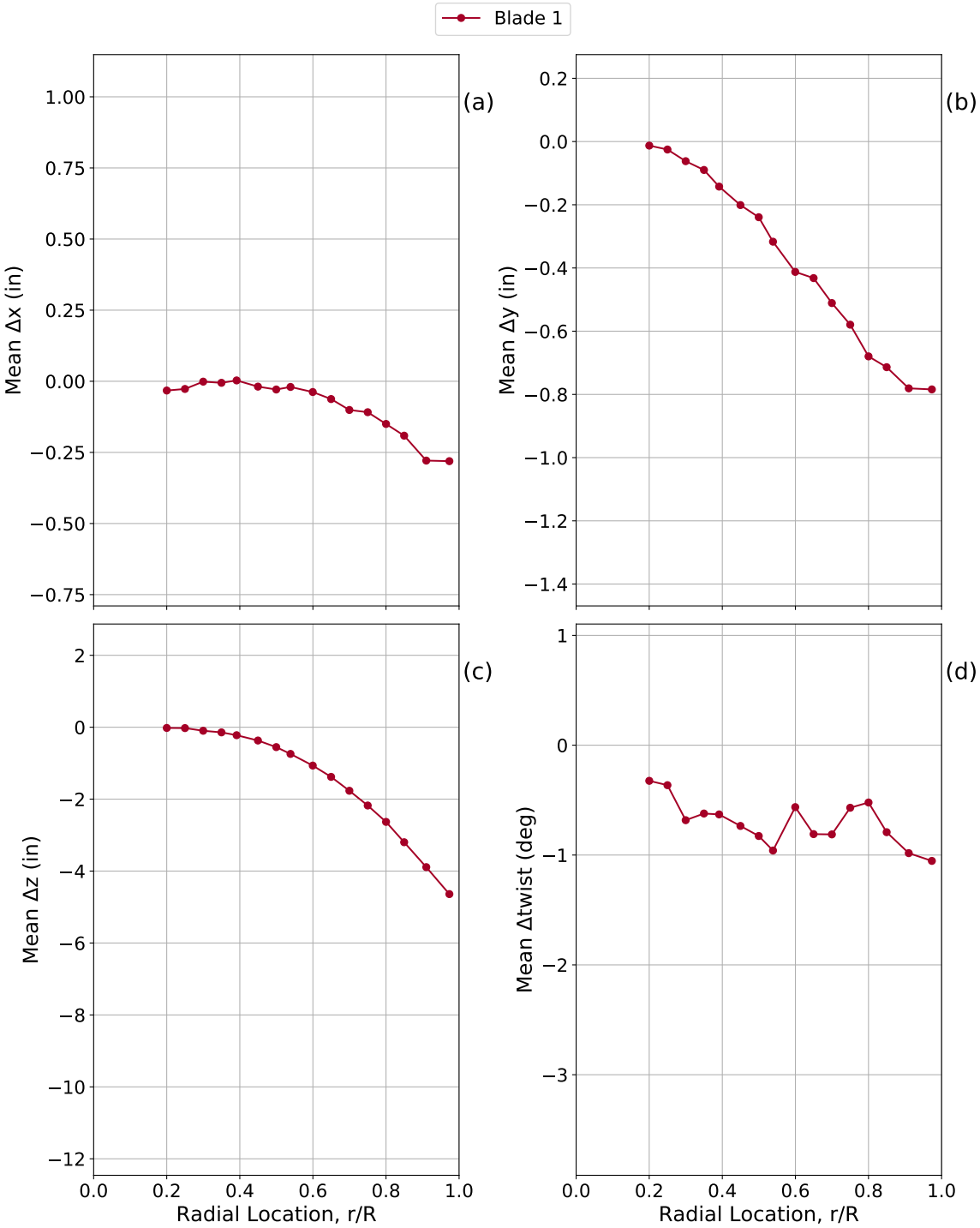


Figure 3.30-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0325	0.0021	-0.0128	0.0021	-0.0202	0.0052	-0.3244	0.0307
1	45	0.2499	-0.0270	0.0012	-0.0252	0.0018	-0.0239	0.0055	-0.3640	0.0774
1	45	0.2998	-0.0013	0.0018	-0.0621	0.0068	-0.0981	0.0154	-0.6827	0.0776
1	45	0.3498	-0.0054	0.0018	-0.0899	0.0114	-0.1431	0.0250	-0.6221	0.0722
1	45	0.3913	0.0030	0.0030	-0.1425	0.0151	-0.2219	0.0333	-0.6302	0.0827
1	45	0.4496	-0.0188	0.0037	-0.2010	0.0214	-0.3695	0.0446	-0.7351	0.0801
1	45	0.4997	-0.0289	0.0050	-0.2394	0.0267	-0.5529	0.0542	-0.8266	0.0898
1	45	0.5387	-0.0199	0.0118	-0.3169	0.0269	-0.7422	0.0644	-0.9589	0.0954
1	45	0.5996	-0.0378	0.0134	-0.4124	0.0333	-1.0664	0.0770	-0.5638	0.0856
1	45	0.6498	-0.0625	0.0036	-0.4320	0.0374	-1.3807	0.0829	-0.8096	0.0872
1	45	0.6998	-0.1009	0.0032	-0.5110	0.0417	-1.7665	0.0915	-0.8121	0.0818
1	45	0.7500	-0.1087	0.0033	-0.5794	0.0473	-2.1766	0.1013	-0.5695	0.0757
1	45	0.8001	-0.1500	0.0039	-0.6797	0.0516	-2.6319	0.1092	-0.5217	0.0823
1	45	0.8497	-0.1912	0.0039	-0.7139	0.0570	-3.1978	0.1154	-0.7919	0.0745
1	45	0.9102	-0.2788	0.0037	-0.7808	0.0633	-3.8904	0.1240	-0.9827	0.0787
1	45	0.9734	-0.2808	0.0039	-0.7842	0.0701	-4.6398	0.1341	-1.0533	0.0797

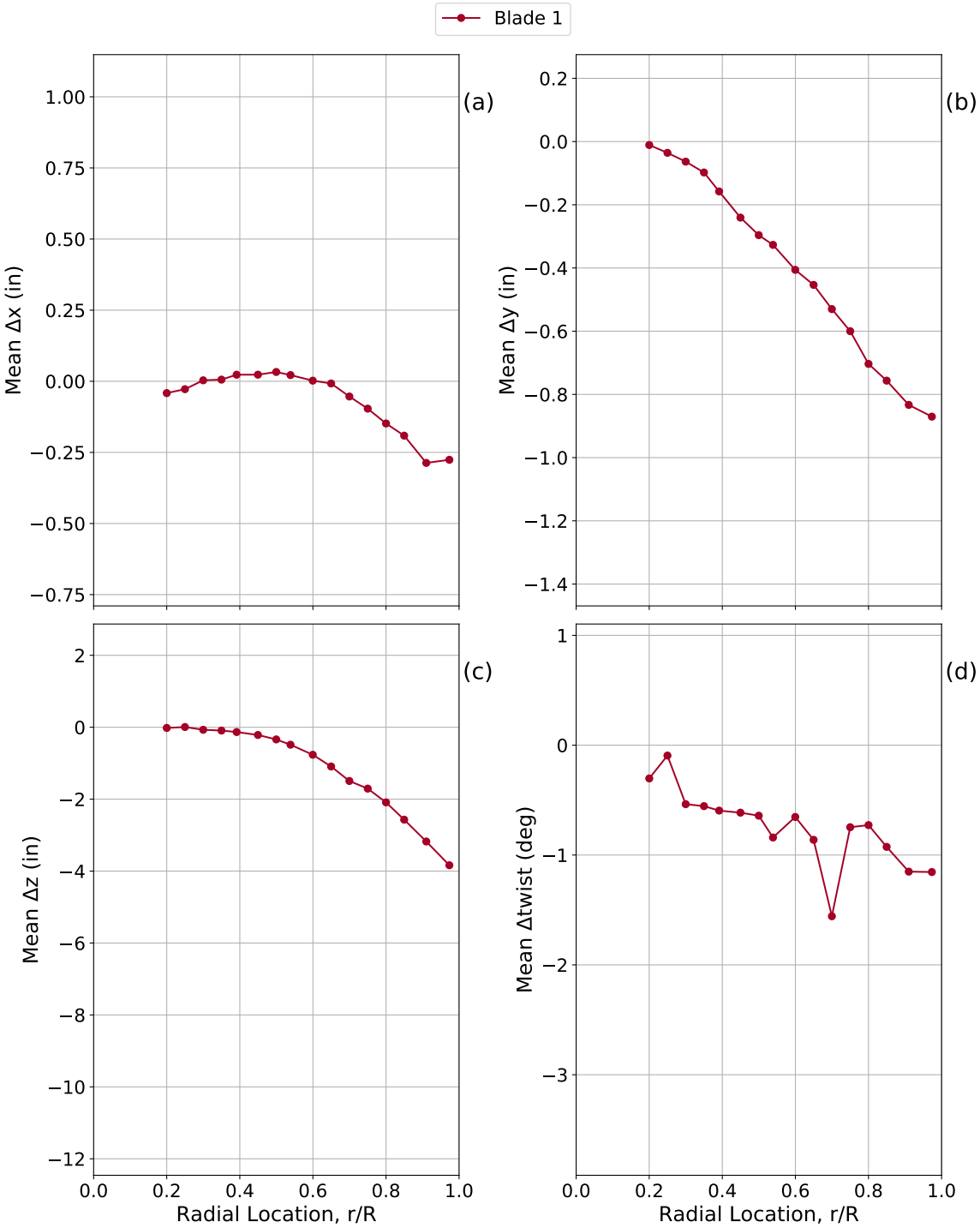


Figure 3.30-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0415	0.0030	-0.0110	0.0026	-0.0198	0.0070	-0.3027	0.0266
1	60.12	0.2499	-0.0278	0.0017	-0.0357	0.0031	0.0058	0.0069	-0.0943	0.0972
1	60.12	0.2998	0.0034	0.0012	-0.0635	0.0091	-0.0710	0.0221	-0.5370	0.0767
1	60.12	0.3498	0.0058	0.0019	-0.0978	0.0152	-0.0925	0.0336	-0.5548	0.0912
1	60.12	0.3913	0.0231	0.0021	-0.1579	0.0209	-0.1337	0.0464	-0.5954	0.0824
1	60.12	0.4496	0.0232	0.0025	-0.2406	0.0284	-0.2153	0.0619	-0.6142	0.0817
1	60.12	0.4997	0.0327	0.0030	-0.2961	0.0350	-0.3394	0.0766	-0.6418	0.0790
1	60.12	0.5387	0.0218	0.0030	-0.3269	0.0407	-0.4865	0.0860	-0.8403	0.0888
1	60.12	0.5996	0.0022	0.0046	-0.4059	0.0481	-0.7654	0.1001	-0.6534	0.0929
1	60.12	0.6498	-0.0077	0.0047	-0.4535	0.0556	-1.0916	0.1174	-0.8614	0.0917
1	60.12	0.6998	-0.0535	0.0095	-0.5301	0.0502	-1.4949	0.1305	-1.5573	0.1815
1	60.12	0.7500	-0.0962	0.0023	-0.6000	0.0537	-1.7070	0.1511	-0.7466	0.0852
1	60.12	0.8001	-0.1483	0.0025	-0.7035	0.0578	-2.0899	0.1645	-0.7275	0.0769
1	60.12	0.8497	-0.1911	0.0026	-0.7564	0.0635	-2.5700	0.1772	-0.9257	0.0760
1	60.12	0.9102	-0.2870	0.0035	-0.8332	0.0699	-3.1770	0.1926	-1.1511	0.0635
1	60.12	0.9734	-0.2760	0.0036	-0.8703	0.0767	-3.8376	0.2030	-1.1547	0.0712

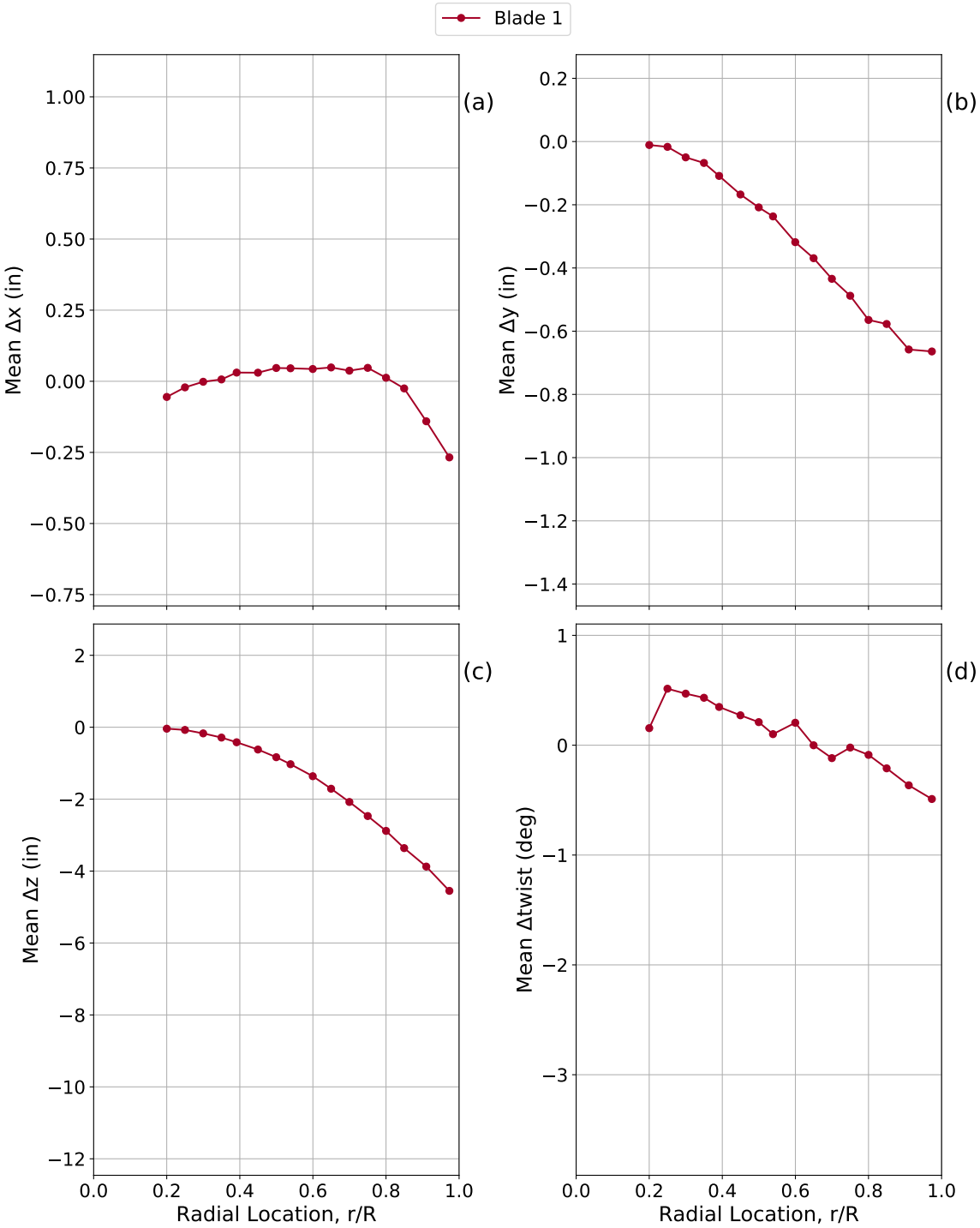


Figure 3.30-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0551	0.0070	-0.0109	0.0024	-0.0405	0.0026	0.1552	0.0514
1	74.88	0.2499	-0.0214	0.0020	-0.0168	0.0060	-0.0749	0.0132	0.5143	0.0382
1	74.88	0.2998	-0.0017	0.0016	-0.0500	0.0097	-0.1713	0.0119	0.4693	0.0852
1	74.88	0.3498	0.0065	0.0019	-0.0677	0.0192	-0.2877	0.0269	0.4317	0.0736
1	74.88	0.3913	0.0306	0.0024	-0.1087	0.0264	-0.4181	0.0382	0.3481	0.0713
1	74.88	0.4496	0.0302	0.0026	-0.1675	0.0377	-0.6199	0.0534	0.2722	0.0655
1	74.88	0.4997	0.0467	0.0028	-0.2083	0.0461	-0.8337	0.0655	0.2100	0.0640
1	74.88	0.5387	0.0457	0.0031	-0.2368	0.0533	-1.0280	0.0749	0.1006	0.0677
1	74.88	0.5996	0.0432	0.0035	-0.3184	0.0644	-1.3618	0.0900	0.2043	0.0666
1	74.88	0.6498	0.0486	0.0040	-0.3691	0.0736	-1.7101	0.1018	-0.0008	0.0640
1	74.88	0.6998	0.0373	0.0037	-0.4343	0.0826	-2.0780	0.1139	-0.1177	0.0709
1	74.88	0.7500	0.0472	0.0049	-0.4879	0.0920	-2.4695	0.1271	-0.0216	0.0603
1	74.88	0.8001	0.0124	0.0061	-0.5644	0.1020	-2.8819	0.1368	-0.0882	0.0776
1	74.88	0.8497	-0.0251	0.0063	-0.5772	0.1115	-3.3610	0.1514	-0.2106	0.0492
1	74.88	0.9102	-0.1406	0.0088	-0.6579	0.1165	-3.8748	0.1428	-0.3650	0.0592
1	74.88	0.9734	-0.2676	0.0052	-0.6641	0.0988	-4.5499	0.1805	-0.4899	0.0658

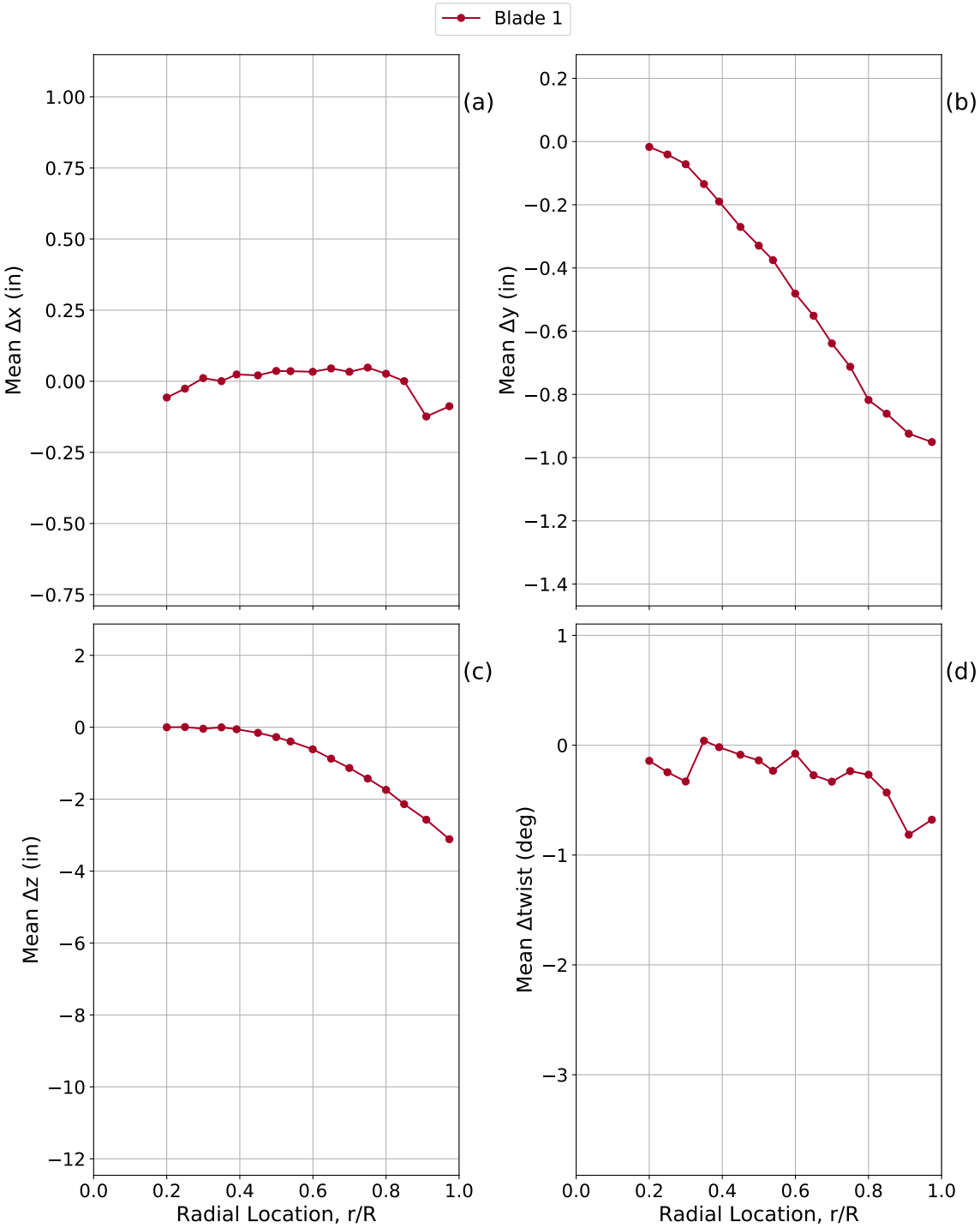


Figure 3.30-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0572	0.0030	-0.0170	0.0016	-0.0019	0.0055	-0.1422	0.0666
1	80.16	0.2499	-0.0259	0.0035	-0.0408	0.0023	0.0055	0.0099	-0.2459	0.0866
1	80.16	0.2998	0.0111	0.0020	-0.0718	0.0043	-0.0425	0.0166	-0.3306	0.1444
1	80.16	0.3498	0.0006	0.0046	-0.1345	0.0099	-0.0032	0.0369	0.0414	0.0877
1	80.16	0.3913	0.0241	0.0050	-0.1898	0.0117	-0.0552	0.0456	-0.0181	0.0876
1	80.16	0.4496	0.0208	0.0056	-0.2702	0.0135	-0.1558	0.0571	-0.0871	0.0881
1	80.16	0.4997	0.0363	0.0053	-0.3293	0.0146	-0.2750	0.0654	-0.1387	0.0898
1	80.16	0.5387	0.0356	0.0051	-0.3753	0.0156	-0.3960	0.0727	-0.2331	0.0886
1	80.16	0.5996	0.0334	0.0047	-0.4810	0.0167	-0.6130	0.0811	-0.0771	0.0854
1	80.16	0.6498	0.0452	0.0043	-0.5511	0.0182	-0.8743	0.0879	-0.2735	0.0863
1	80.16	0.6998	0.0332	0.0043	-0.6387	0.0192	-1.1335	0.0945	-0.3321	0.0892
1	80.16	0.7500	0.0481	0.0041	-0.7125	0.0207	-1.4273	0.1026	-0.2363	0.0902
1	80.16	0.8001	0.0265	0.0043	-0.8177	0.0214	-1.7419	0.1057	-0.2688	0.1192
1	80.16	0.8497	0.0006	0.0039	-0.8610	0.0233	-2.1390	0.1145	-0.4311	0.1138
1	80.16	0.9102	-0.1239	0.0086	-0.9243	0.0238	-2.5713	0.1424	-0.8149	0.1115
1	80.16	0.9734	-0.0878	0.0095	-0.9507	0.0257	-3.1133	0.1537	-0.6784	0.1087

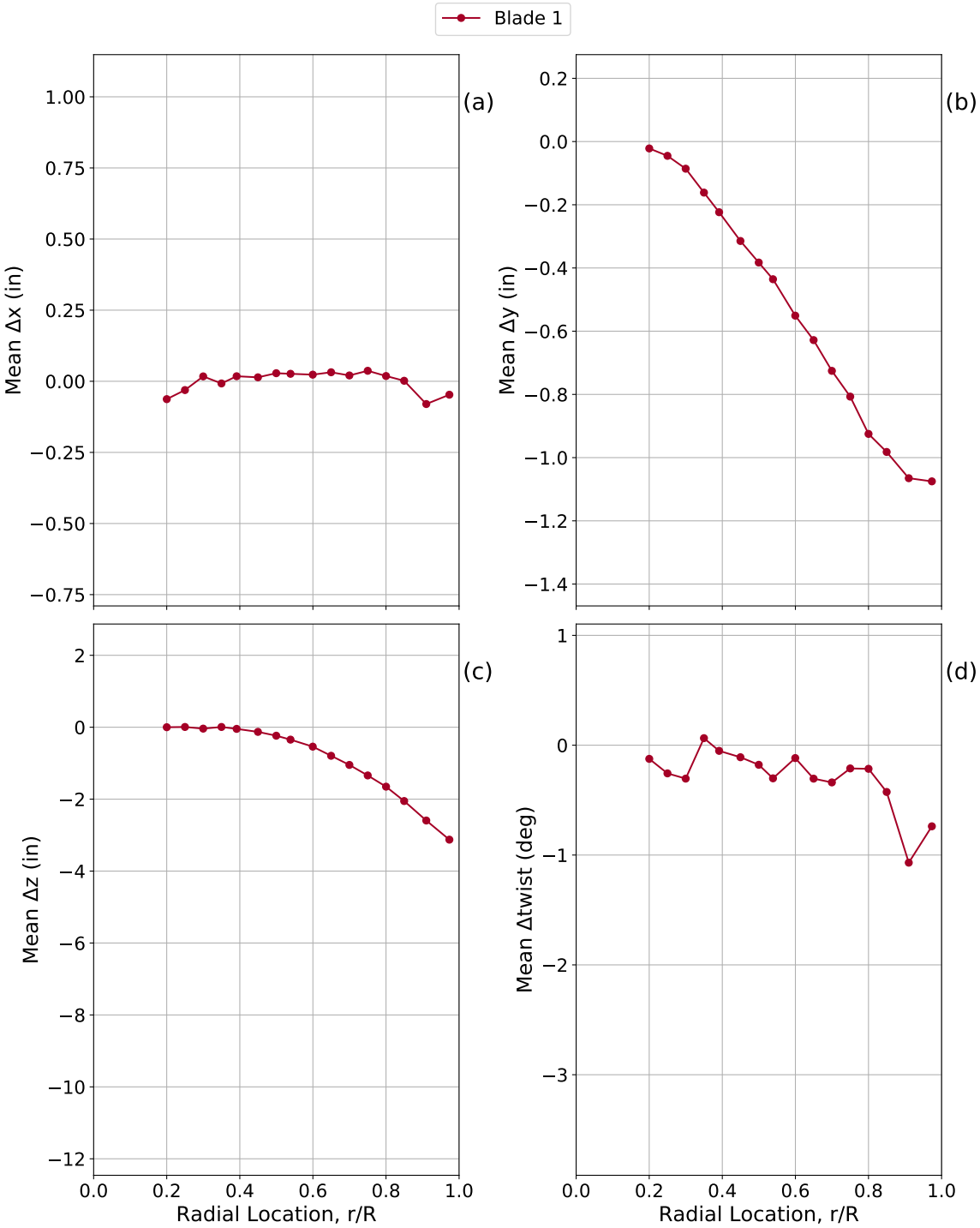


Figure 3.30-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0628	0.0016	-0.0218	0.0021	0.0002	0.0044	-0.1243	0.0138
1	85.08	0.2499	-0.0309	0.0011	-0.0452	0.0039	0.0070	0.0075	-0.2565	0.0364
1	85.08	0.2998	0.0172	0.0015	-0.0859	0.0069	-0.0390	0.0138	-0.3042	0.0350
1	85.08	0.3498	-0.0076	0.0056	-0.1615	0.0150	0.0070	0.0275	0.0640	0.0443
1	85.08	0.3913	0.0177	0.0055	-0.2236	0.0190	-0.0456	0.0351	-0.0515	0.0358
1	85.08	0.4496	0.0139	0.0053	-0.3146	0.0238	-0.1293	0.0434	-0.1096	0.0455
1	85.08	0.4997	0.0284	0.0056	-0.3828	0.0282	-0.2356	0.0542	-0.1784	0.0410
1	85.08	0.5387	0.0263	0.0054	-0.4356	0.0311	-0.3449	0.0602	-0.3017	0.0366
1	85.08	0.5996	0.0233	0.0048	-0.5508	0.0367	-0.5397	0.0711	-0.1172	0.0385
1	85.08	0.6498	0.0317	0.0041	-0.6282	0.0415	-0.7940	0.0793	-0.3045	0.0296
1	85.08	0.6998	0.0205	0.0038	-0.7255	0.0463	-1.0481	0.0878	-0.3388	0.0346
1	85.08	0.7500	0.0369	0.0030	-0.8070	0.0514	-1.3407	0.0967	-0.2116	0.0374
1	85.08	0.8001	0.0185	0.0024	-0.9250	0.0562	-1.6527	0.1092	-0.2150	0.0363
1	85.08	0.8497	0.0018	0.0020	-0.9821	0.0614	-2.0523	0.1203	-0.4257	0.0316
1	85.08	0.9102	-0.0800	0.0027	-1.0651	0.0665	-2.5939	0.1283	-1.0694	0.1941
1	85.08	0.9734	-0.0472	0.0045	-1.0751	0.0735	-3.1262	0.1501	-0.7384	0.0550

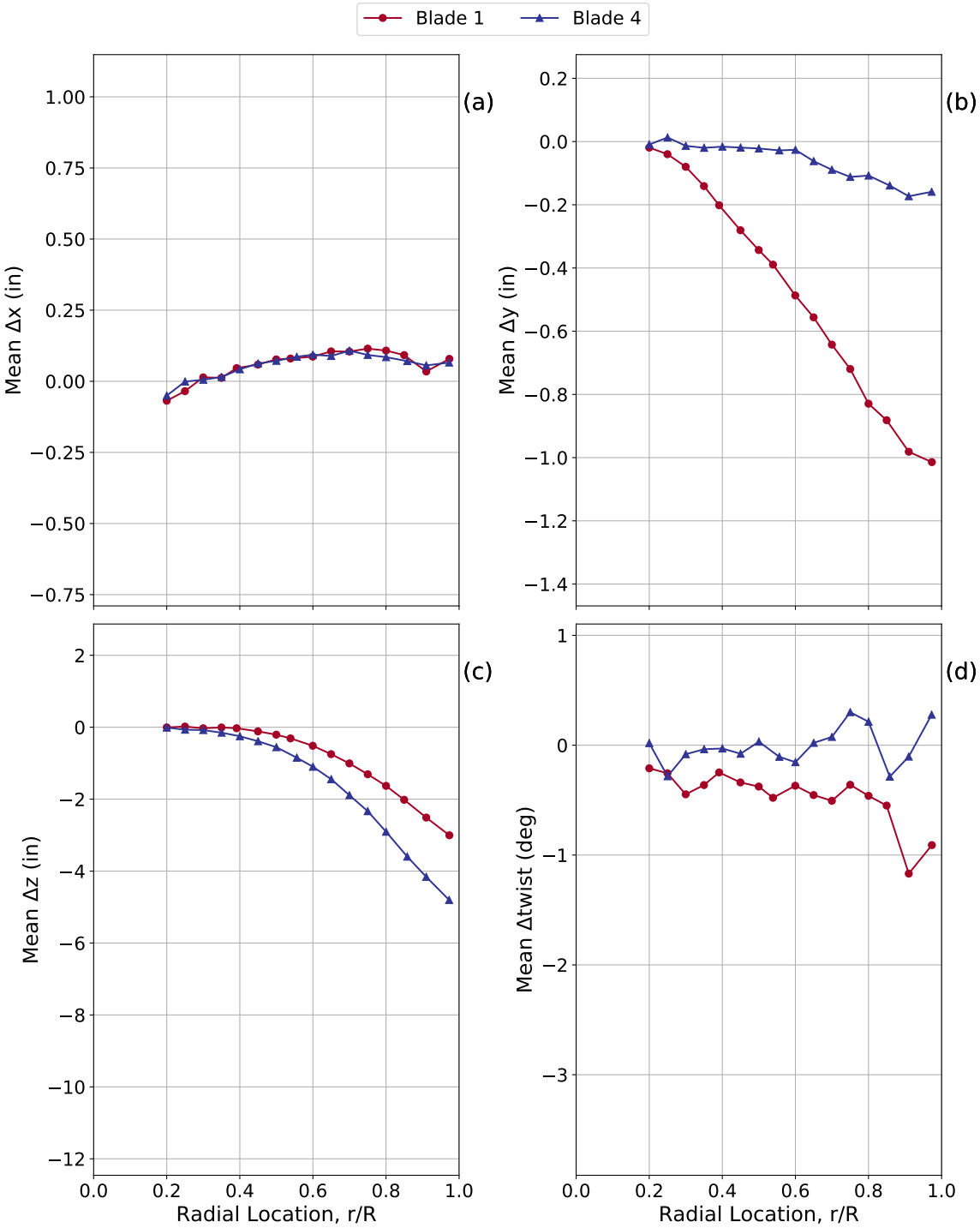


Figure 3.30-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0684	0.0023	-0.0192	0.0006	-0.0055	0.0017	-0.2106	0.0156
1	90	0.2499	-0.0347	0.0011	-0.0400	0.0016	0.0184	0.0044	-0.2553	0.0277
1	90	0.2998	0.0138	0.0013	-0.0798	0.0031	-0.0285	0.0072	-0.4472	0.0350
1	90	0.3498	0.0121	0.0027	-0.1409	0.0046	-0.0068	0.0123	-0.3629	0.0267
1	90	0.3913	0.0463	0.0034	-0.2016	0.0074	-0.0283	0.0180	-0.2480	0.0339
1	90	0.4496	0.0586	0.0051	-0.2806	0.0090	-0.1153	0.0242	-0.3390	0.0286
1	90	0.4997	0.0769	0.0066	-0.3432	0.0111	-0.2071	0.0298	-0.3766	0.0357
1	90	0.5387	0.0799	0.0074	-0.3894	0.0130	-0.3098	0.0354	-0.4789	0.0350
1	90	0.5996	0.0866	0.0070	-0.4869	0.0162	-0.5156	0.0437	-0.3688	0.0298
1	90	0.6498	0.1051	0.0061	-0.5561	0.0187	-0.7491	0.0484	-0.4539	0.0351
1	90	0.6998	0.1045	0.0058	-0.6425	0.0212	-1.0057	0.0556	-0.5060	0.0440
1	90	0.7500	0.1148	0.0052	-0.7197	0.0299	-1.3083	0.0818	-0.3606	0.3243
1	90	0.8001	0.1079	0.0029	-0.8294	0.0262	-1.6300	0.0669	-0.4610	0.0471
1	90	0.8497	0.0921	0.0037	-0.8817	0.0285	-2.0179	0.0746	-0.5495	0.0517
1	90	0.9102	0.0344	0.0080	-0.9814	0.0314	-2.5122	0.0775	-1.1691	0.0933
1	90	0.9734	0.0788	0.0136	-1.0143	0.0345	-3.0046	0.0935	-0.9097	0.0900
4	90.35	0.2001	-0.0504	0.0022	-0.0094	0.0005	-0.0107	0.0018	0.0187	0.0190
4	90.35	0.2502	-0.0010	0.0007	0.0128	0.0012	-0.0686	0.0044	-0.2830	0.0241
4	90.35	0.3001	0.0053	0.0007	-0.0137	0.0020	-0.0794	0.0070	-0.0821	0.0389
4	90.35	0.3502	0.0151	0.0026	-0.0198	0.0035	-0.1519	0.0126	-0.0368	0.0383
4	90.35	0.4002	0.0421	0.0036	-0.0162	0.0055	-0.2511	0.0194	-0.0300	0.0290
4	90.35	0.4500	0.0627	0.0047	-0.0191	0.0070	-0.3901	0.0244	-0.0778	0.0345
4	90.35	0.5001	0.0719	0.0054	-0.0220	0.0092	-0.5557	0.0310	0.0320	0.0352
4	90.35	0.5560	0.0861	0.0061	-0.0280	0.0114	-0.8483	0.0371	-0.1060	0.0325
4	90.35	0.6001	0.0936	0.0058	-0.0262	0.0133	-1.0990	0.0427	-0.1546	0.0394
4	90.35	0.6501	0.0889	0.0056	-0.0621	0.0155	-1.4459	0.0482	0.0210	0.0301
4	90.35	0.6999	0.1075	0.0046	-0.0893	0.0180	-1.8895	0.0551	0.0754	0.0266
4	90.35	0.7500	0.0926	0.0055	-0.1119	0.0242	-2.3347	0.0591	0.3005	0.0308
4	90.35	0.8002	0.0848	0.0034	-0.1077	0.0237	-2.9067	0.0709	0.2131	0.0361
4	90.35	0.8582	0.0709	0.0045	-0.1392	0.0271	-3.5986	0.0808	-0.2868	0.0627
4	90.35	0.9101	0.0557	0.0076	-0.1731	0.0304	-4.1602	0.0947	-0.1042	0.0441
4	90.35	0.9728	0.0658	0.0125	-0.1590	0.0360	-4.8038	0.1087	0.2776	0.0486

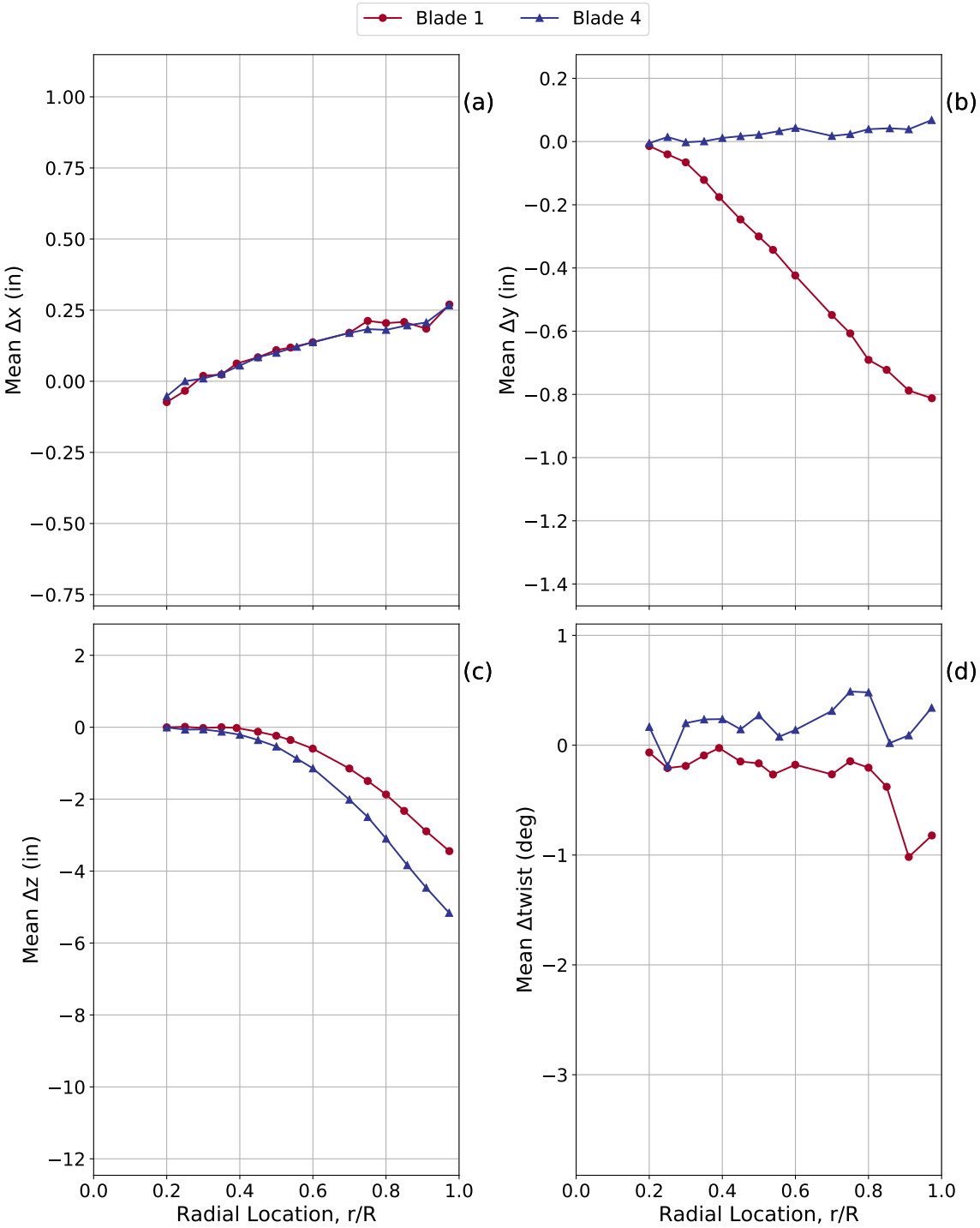


Figure 3.30-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0733	0.0007	-0.0143	0.0004	-0.0022	0.0019	-0.0664	0.0122
1	94.92	0.2499	-0.0335	0.0008	-0.0404	0.0010	0.0113	0.0042	-0.2082	0.0252
1	94.92	0.2998	0.0192	0.0008	-0.0657	0.0020	-0.0215	0.0079	-0.1891	0.0277
1	94.92	0.3498	0.0237	0.0006	-0.1214	0.0032	0.0010	0.0127	-0.0932	0.0297
1	94.92	0.3913	0.0624	0.0011	-0.1758	0.0049	-0.0207	0.0189	-0.0254	0.0276
1	94.92	0.4496	0.0843	0.0011	-0.2464	0.0068	-0.1253	0.0255	-0.1484	0.0357
1	94.92	0.4997	0.1096	0.0011	-0.3002	0.0089	-0.2372	0.0328	-0.1655	0.0292
1	94.92	0.5387	0.1185	0.0012	-0.3427	0.0106	-0.3561	0.0368	-0.2668	0.0326
1	94.92	0.5996	0.1369	0.0010	-0.4238	0.0136	-0.5957	0.0461	-0.1780	0.0285
1	94.92	0.6998	0.1704	0.0013	-0.5488	0.0183	-1.1481	0.0575	-0.2656	0.0329
1	94.92	0.7500	0.2123	0.0014	-0.6070	0.0207	-1.4941	0.0630	-0.1459	0.0376
1	94.92	0.8001	0.2046	0.0016	-0.6908	0.0235	-1.8704	0.0682	-0.2049	0.0366
1	94.92	0.8497	0.2084	0.0016	-0.7224	0.0259	-2.3267	0.0717	-0.3789	0.0377
1	94.92	0.9102	0.1848	0.0022	-0.7878	0.0298	-2.8937	0.0794	-1.0174	0.0590
1	94.92	0.9734	0.2700	0.0024	-0.8121	0.0332	-3.4445	0.0873	-0.8220	0.0443
4	94.92	0.2001	-0.0528	0.0006	-0.0051	0.0003	-0.0054	0.0016	0.1665	0.0201
4	94.92	0.2502	0.0003	0.0007	0.0144	0.0010	-0.0667	0.0020	-0.1900	0.0244
4	94.92	0.3001	0.0098	0.0007	-0.0022	0.0013	-0.0605	0.0061	0.2012	0.0403
4	94.92	0.3502	0.0267	0.0005	0.0008	0.0019	-0.1236	0.0089	0.2347	0.0204
4	94.92	0.4002	0.0553	0.0008	0.0114	0.0028	-0.2079	0.0136	0.2376	0.0274
4	94.92	0.4500	0.0845	0.0009	0.0170	0.0029	-0.3559	0.0167	0.1447	0.0292
4	94.92	0.5001	0.1002	0.0008	0.0216	0.0040	-0.5361	0.0218	0.2720	0.0248
4	94.92	0.5560	0.1212	0.0008	0.0332	0.0052	-0.8726	0.0262	0.0776	0.0264
4	94.92	0.6001	0.1377	0.0009	0.0433	0.0056	-1.1433	0.0297	0.1399	0.0331
4	94.92	0.6999	0.1698	0.0009	0.0177	0.0082	-2.0133	0.0337	0.3126	0.0351
4	94.92	0.7500	0.1833	0.0012	0.0236	0.0090	-2.4970	0.0369	0.4886	0.0335
4	94.92	0.8002	0.1807	0.0012	0.0392	0.0103	-3.0979	0.0396	0.4808	0.0504
4	94.92	0.8582	0.1965	0.0014	0.0420	0.0121	-3.8366	0.0476	0.0197	0.0555
4	94.92	0.9101	0.2066	0.0022	0.0388	0.0137	-4.4636	0.0543	0.0899	0.0480
4	94.92	0.9728	0.2667	0.0026	0.0680	0.0151	-5.1616	0.0667	0.3407	0.0498

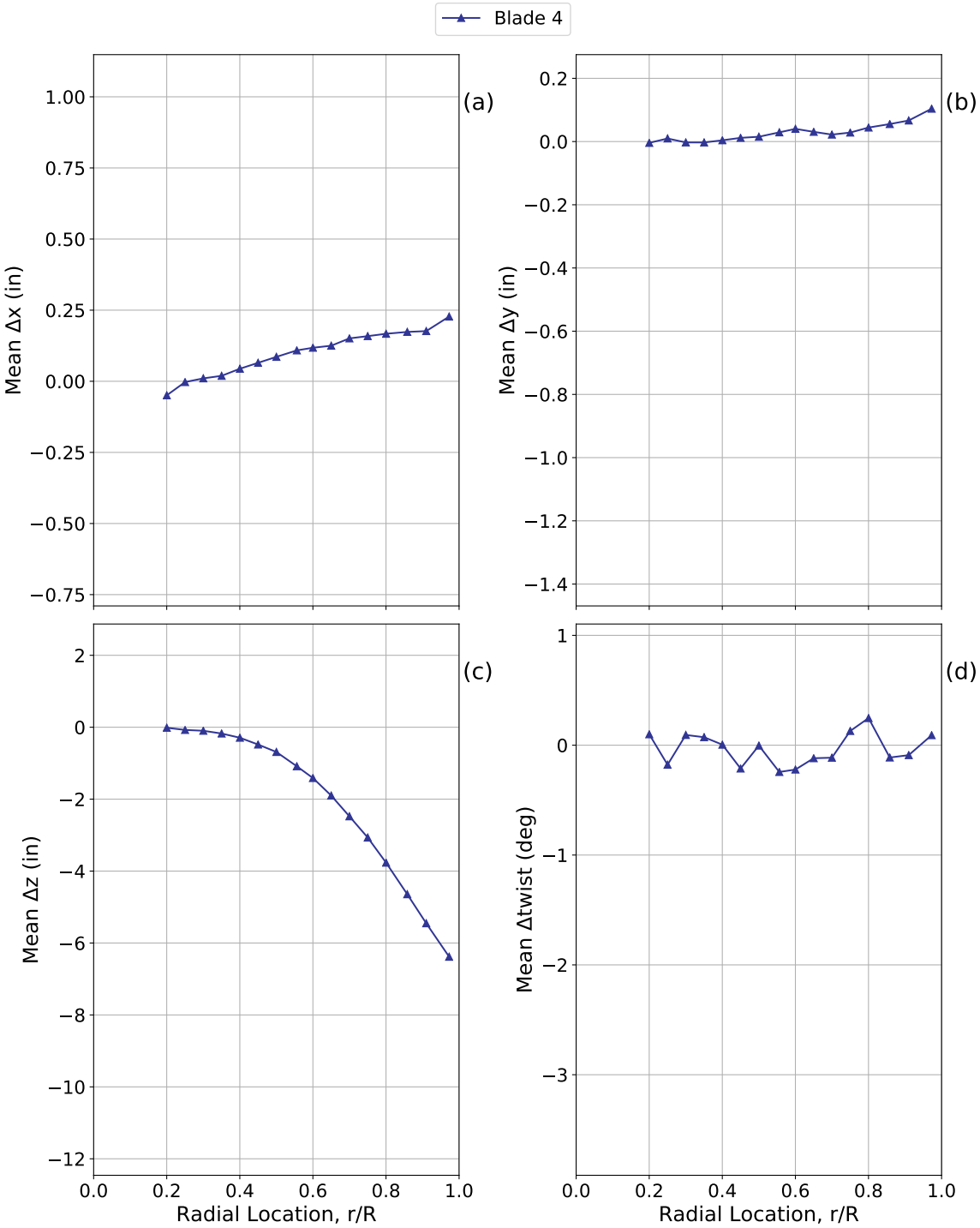


Figure 3.30-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0494	0.0005	-0.0042	0.0004	-0.0150	0.0011	0.0992	0.0116
4	105.12	0.2502	-0.0028	0.0007	0.0097	0.0012	-0.0755	0.0035	-0.1779	0.0122
4	105.12	0.3001	0.0103	0.0006	-0.0028	0.0014	-0.0984	0.0057	0.0932	0.0200
4	105.12	0.3502	0.0191	0.0006	-0.0029	0.0019	-0.1754	0.0088	0.0727	0.0218
4	105.12	0.4002	0.0441	0.0010	0.0040	0.0036	-0.2925	0.0149	0.0046	0.0196
4	105.12	0.4500	0.0649	0.0009	0.0117	0.0040	-0.4814	0.0190	-0.2125	0.0175
4	105.12	0.5001	0.0858	0.0013	0.0152	0.0061	-0.6885	0.0230	-0.0037	0.0219
4	105.12	0.5560	0.1086	0.0011	0.0291	0.0071	-1.0861	0.0307	-0.2439	0.0301
4	105.12	0.6001	0.1179	0.0014	0.0401	0.0082	-1.4129	0.0365	-0.2218	0.0332
4	105.12	0.6501	0.1250	0.0016	0.0307	0.0090	-1.9007	0.0378	-0.1186	0.0237
4	105.12	0.6999	0.1508	0.0014	0.0220	0.0104	-2.4778	0.0418	-0.1139	0.0300
4	105.12	0.7500	0.1587	0.0022	0.0284	0.0124	-3.0682	0.0484	0.1294	0.0230
4	105.12	0.8002	0.1670	0.0024	0.0443	0.0135	-3.7661	0.0533	0.2468	0.0267
4	105.12	0.8582	0.1735	0.0023	0.0553	0.0152	-4.6443	0.0610	-0.1123	0.0289
4	105.12	0.9101	0.1764	0.0031	0.0666	0.0167	-5.4519	0.0679	-0.0905	0.0317
4	105.12	0.9728	0.2275	0.0036	0.1039	0.0189	-6.3830	0.0770	0.0912	0.0234

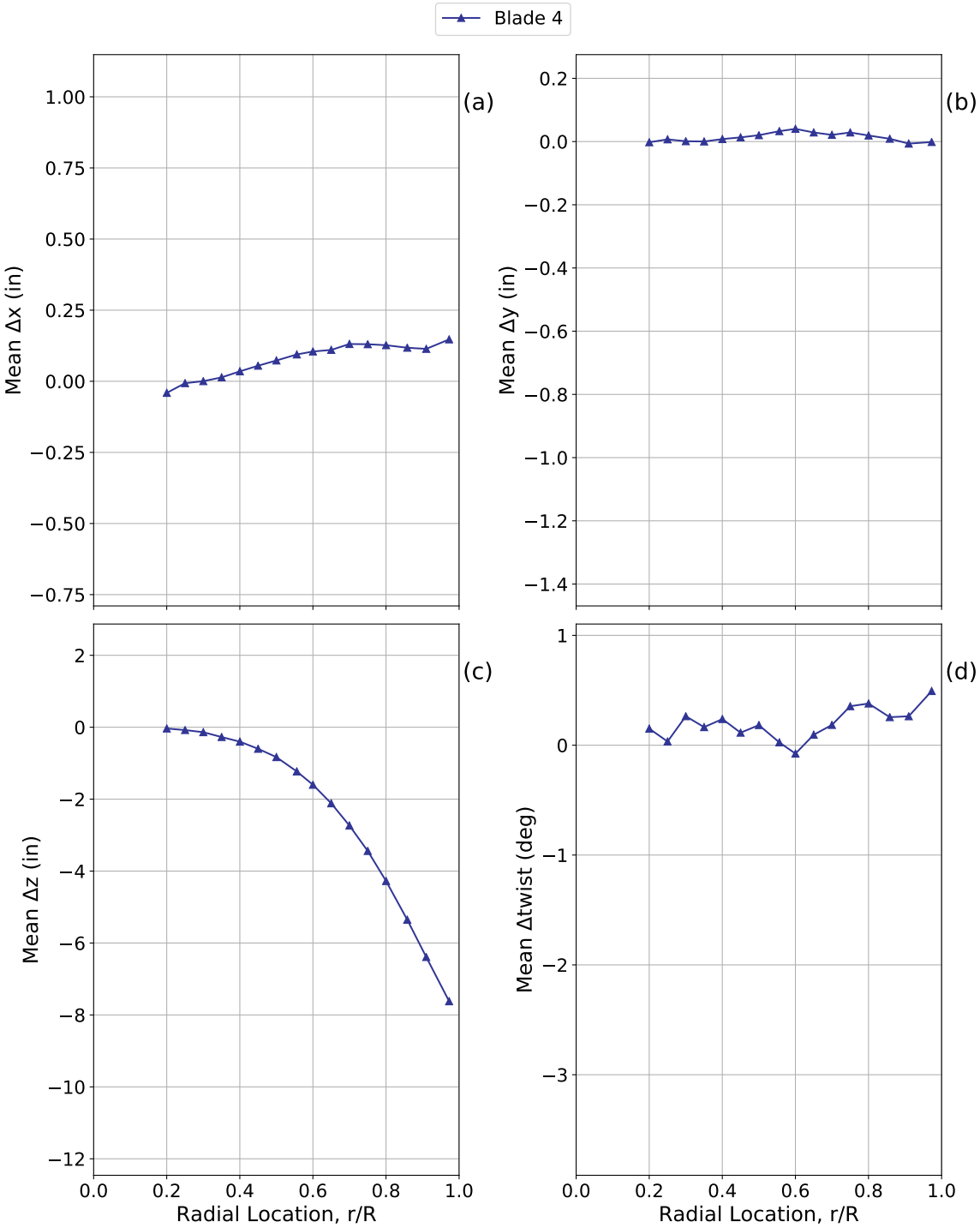


Figure 3.30-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0408	0.0005	-0.0023	0.0005	-0.0360	0.0012	0.1506	0.0113
4	119.88	0.2502	-0.0067	0.0006	0.0069	0.0013	-0.0790	0.0039	0.0335	0.0199
4	119.88	0.3001	0.0004	0.0014	0.0010	0.0023	-0.1383	0.0072	0.2638	0.0251
4	119.88	0.3502	0.0137	0.0012	0.0002	0.0040	-0.2732	0.0100	0.1643	0.0242
4	119.88	0.4002	0.0349	0.0008	0.0078	0.0060	-0.4018	0.0177	0.2379	0.0208
4	119.88	0.4500	0.0547	0.0011	0.0132	0.0067	-0.6000	0.0216	0.1137	0.0219
4	119.88	0.5001	0.0731	0.0018	0.0201	0.0071	-0.8313	0.0273	0.1829	0.0303
4	119.88	0.5560	0.0943	0.0013	0.0328	0.0096	-1.2299	0.0345	0.0256	0.0355
4	119.88	0.6001	0.1047	0.0016	0.0401	0.0106	-1.6001	0.0398	-0.0767	0.0279
4	119.88	0.6501	0.1102	0.0017	0.0287	0.0131	-2.1163	0.0466	0.0950	0.0342
4	119.88	0.6999	0.1310	0.0016	0.0211	0.0151	-2.7337	0.0488	0.1843	0.0232
4	119.88	0.7500	0.1303	0.0015	0.0287	0.0177	-3.4411	0.0535	0.3548	0.0240
4	119.88	0.8002	0.1268	0.0013	0.0191	0.0199	-4.2772	0.0571	0.3793	0.0284
4	119.88	0.8582	0.1179	0.0027	0.0088	0.0236	-5.3536	0.0633	0.2551	0.0275
4	119.88	0.9101	0.1139	0.0027	-0.0066	0.0267	-6.3897	0.0718	0.2632	0.0269
4	119.88	0.9728	0.1472	0.0031	-0.0015	0.0301	-7.6204	0.0817	0.4929	0.0281

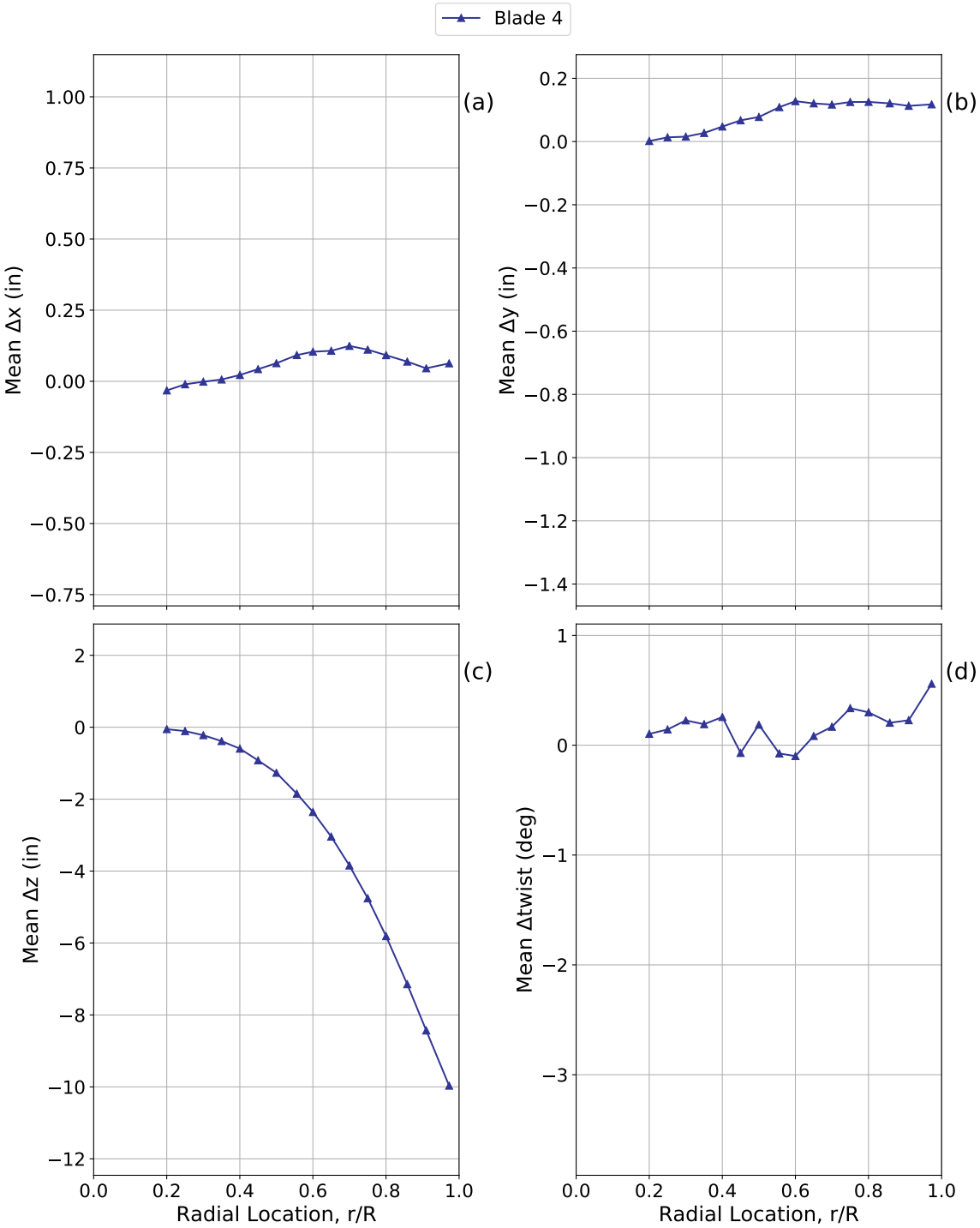


Figure 3.30-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0323	0.0007	0.0016	0.0004	-0.0542	0.0010	0.1028	0.0103
4	135	0.2502	-0.0107	0.0009	0.0133	0.0020	-0.1081	0.0048	0.1431	0.0187
4	135	0.3001	-0.0015	0.0013	0.0155	0.0028	-0.2217	0.0042	0.2256	0.0230
4	135	0.3502	0.0061	0.0012	0.0271	0.0045	-0.3871	0.0080	0.1909	0.0215
4	135	0.4002	0.0221	0.0017	0.0474	0.0079	-0.5960	0.0140	0.2564	0.0260
4	135	0.4500	0.0426	0.0012	0.0671	0.0102	-0.9224	0.0187	-0.0707	0.0169
4	135	0.5001	0.0634	0.0016	0.0777	0.0118	-1.2678	0.0233	0.1864	0.0159
4	135	0.5560	0.0920	0.0017	0.1087	0.0150	-1.8489	0.0303	-0.0756	0.0327
4	135	0.6001	0.1039	0.0019	0.1277	0.0171	-2.3588	0.0335	-0.0991	0.0233
4	135	0.6501	0.1071	0.0016	0.1207	0.0200	-3.0432	0.0363	0.0836	0.0182
4	135	0.6999	0.1243	0.0019	0.1169	0.0233	-3.8461	0.0390	0.1674	0.0297
4	135	0.7500	0.1111	0.0025	0.1250	0.0264	-4.7567	0.0401	0.3368	0.0285
4	135	0.8002	0.0917	0.0024	0.1254	0.0292	-5.8109	0.0423	0.2989	0.0234
4	135	0.8582	0.0690	0.0032	0.1208	0.0335	-7.1467	0.0482	0.2041	0.0278
4	135	0.9101	0.0456	0.0041	0.1129	0.0385	-8.4326	0.0548	0.2271	0.0299
4	135	0.9728	0.0630	0.0051	0.1176	0.0429	-9.9676	0.0617	0.5588	0.0374

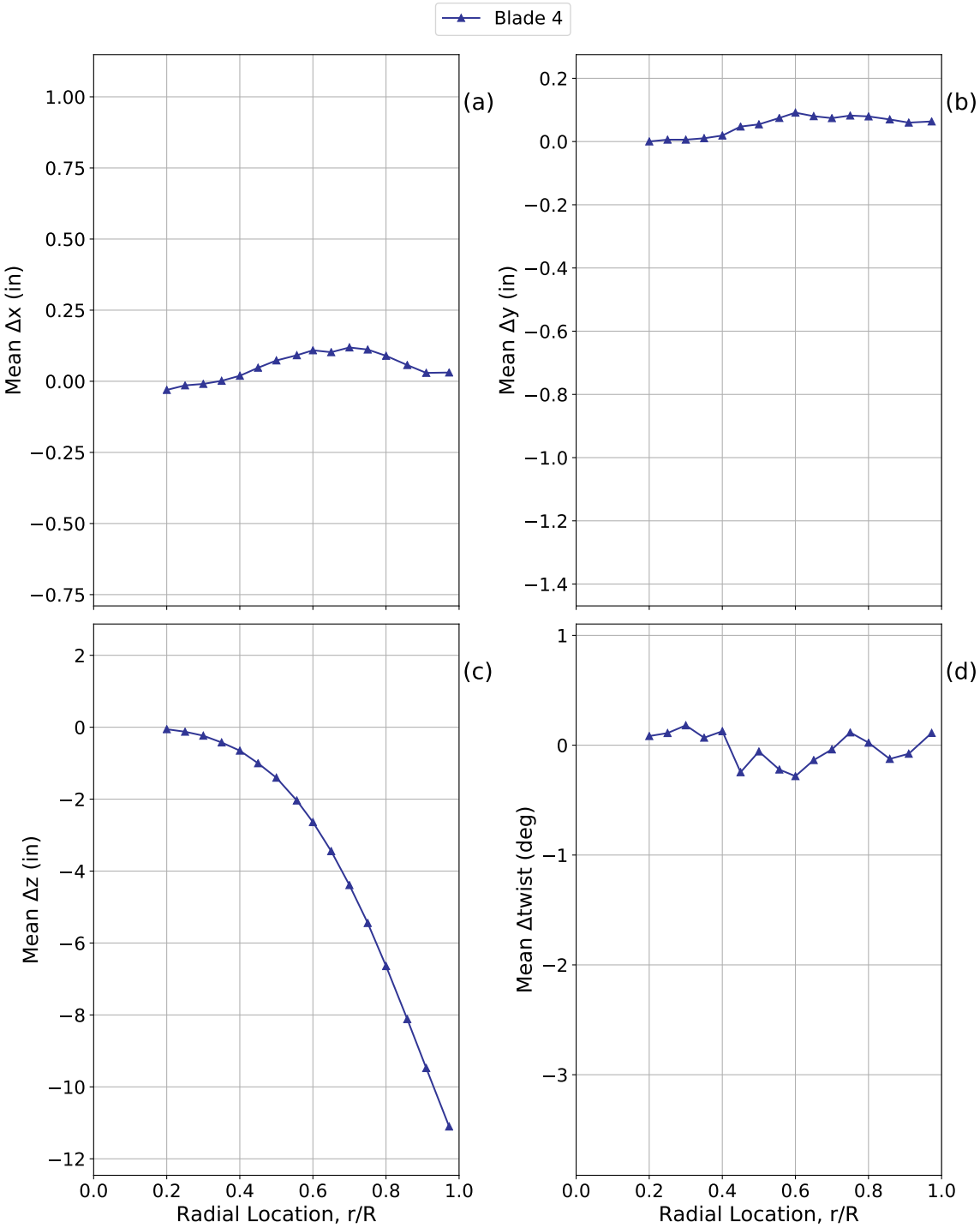


Figure 3.30-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0305	0.0007	0.0003	0.0006	-0.0556	0.0013	0.0830	0.0184
4	150.12	0.2502	-0.0144	0.0005	0.0059	0.0030	-0.1252	0.0037	0.1104	0.0235
4	150.12	0.3001	-0.0093	0.0009	0.0059	0.0038	-0.2355	0.0062	0.1806	0.0378
4	150.12	0.3502	0.0016	0.0010	0.0104	0.0064	-0.4238	0.0094	0.0681	0.0295
4	150.12	0.4002	0.0194	0.0010	0.0190	0.0110	-0.6520	0.0158	0.1269	0.0287
4	150.12	0.4500	0.0476	0.0014	0.0474	0.0126	-1.0023	0.0164	-0.2463	0.0340
4	150.12	0.5001	0.0732	0.0012	0.0544	0.0153	-1.4041	0.0221	-0.0574	0.0305
4	150.12	0.5560	0.0915	0.0015	0.0746	0.0195	-2.0387	0.0264	-0.2219	0.0417
4	150.12	0.6001	0.1089	0.0017	0.0914	0.0197	-2.6391	0.0326	-0.2819	0.0347
4	150.12	0.6501	0.1022	0.0014	0.0802	0.0261	-3.4471	0.0370	-0.1358	0.0413
4	150.12	0.6999	0.1189	0.0021	0.0741	0.0282	-4.3897	0.0381	-0.0385	0.0394
4	150.12	0.7500	0.1115	0.0021	0.0822	0.0317	-5.4442	0.0413	0.1161	0.0398
4	150.12	0.8002	0.0895	0.0021	0.0795	0.0365	-6.6428	0.0452	0.0226	0.0357
4	150.12	0.8582	0.0570	0.0024	0.0699	0.0405	-8.1160	0.0476	-0.1251	0.0450
4	150.12	0.9101	0.0295	0.0026	0.0599	0.0444	-9.4776	0.0510	-0.0780	0.0373
4	150.12	0.9728	0.0308	0.0034	0.0636	0.0491	-11.1034	0.0561	0.1114	0.0398

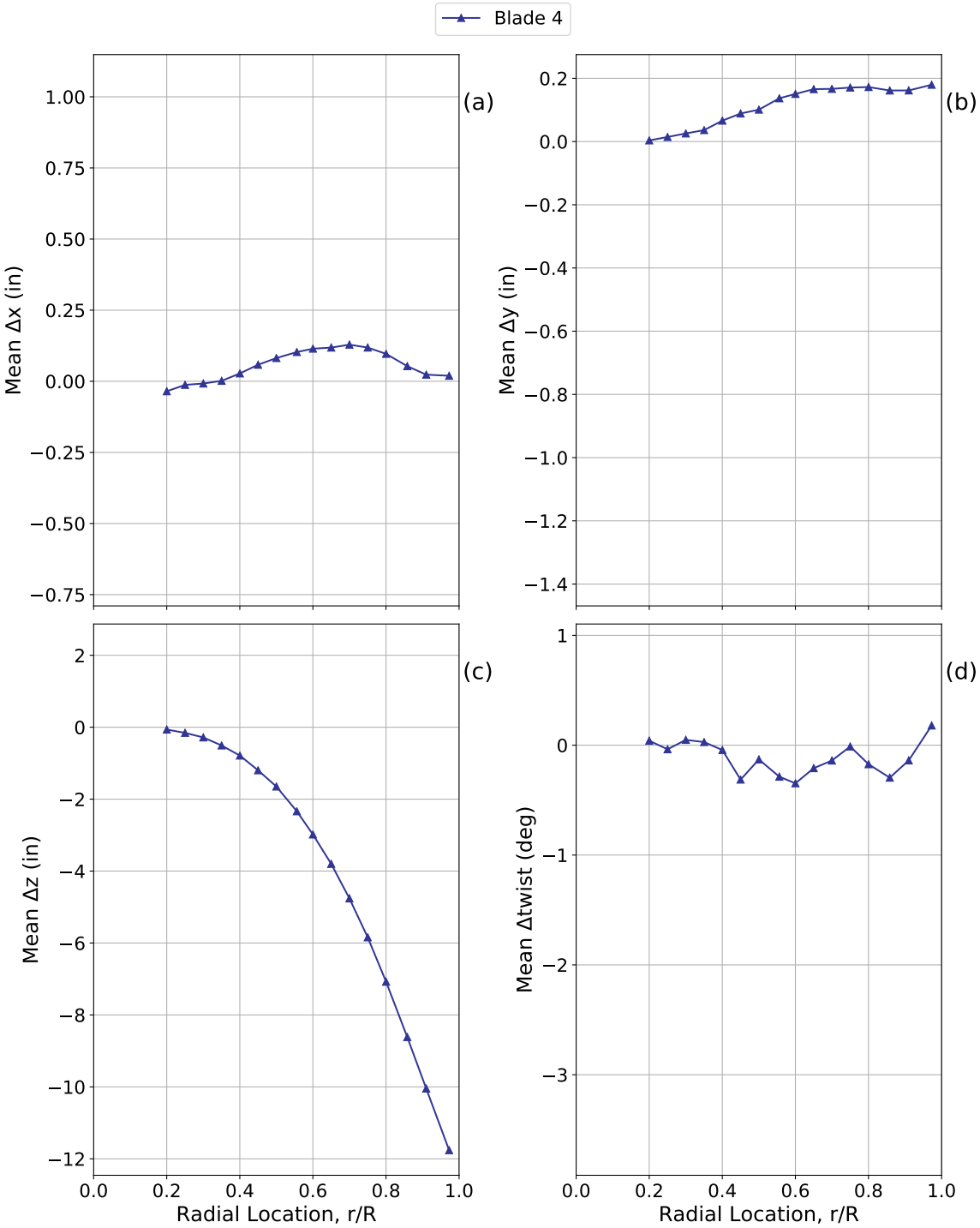


Figure 3.30-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0352	0.0011	0.0036	0.0008	-0.0647	0.0017	0.0408	0.0227
4	164.88	0.2502	-0.0126	0.0014	0.0144	0.0021	-0.1571	0.0027	-0.0373	0.0256
4	164.88	0.3001	-0.0079	0.0011	0.0256	0.0032	-0.2837	0.0047	0.0485	0.0444
4	164.88	0.3502	0.0015	0.0011	0.0362	0.0063	-0.5078	0.0074	0.0284	0.0361
4	164.88	0.4002	0.0276	0.0014	0.0661	0.0093	-0.7886	0.0102	-0.0440	0.0350
4	164.88	0.4500	0.0581	0.0011	0.0887	0.0104	-1.1984	0.0144	-0.3134	0.0659
4	164.88	0.5001	0.0816	0.0013	0.1009	0.0146	-1.6495	0.0171	-0.1298	0.0412
4	164.88	0.5560	0.1027	0.0014	0.1368	0.0163	-2.3377	0.0208	-0.2869	0.0473
4	164.88	0.6001	0.1146	0.0015	0.1507	0.0183	-2.9833	0.0249	-0.3470	0.0222
4	164.88	0.6501	0.1184	0.0016	0.1657	0.0215	-3.8000	0.0275	-0.2093	0.0337
4	164.88	0.6999	0.1287	0.0020	0.1667	0.0248	-4.7605	0.0306	-0.1397	0.0280
4	164.88	0.7500	0.1185	0.0020	0.1708	0.0284	-5.8423	0.0336	-0.0119	0.0334
4	164.88	0.8002	0.0964	0.0022	0.1724	0.0309	-7.0764	0.0364	-0.1734	0.0382
4	164.88	0.8582	0.0531	0.0026	0.1615	0.0356	-8.6158	0.0388	-0.2957	0.0388
4	164.88	0.9101	0.0233	0.0030	0.1617	0.0392	-10.0470	0.0431	-0.1386	0.0347
4	164.88	0.9728	0.0193	0.0039	0.1796	0.0435	-11.7618	0.0486	0.1792	0.0284

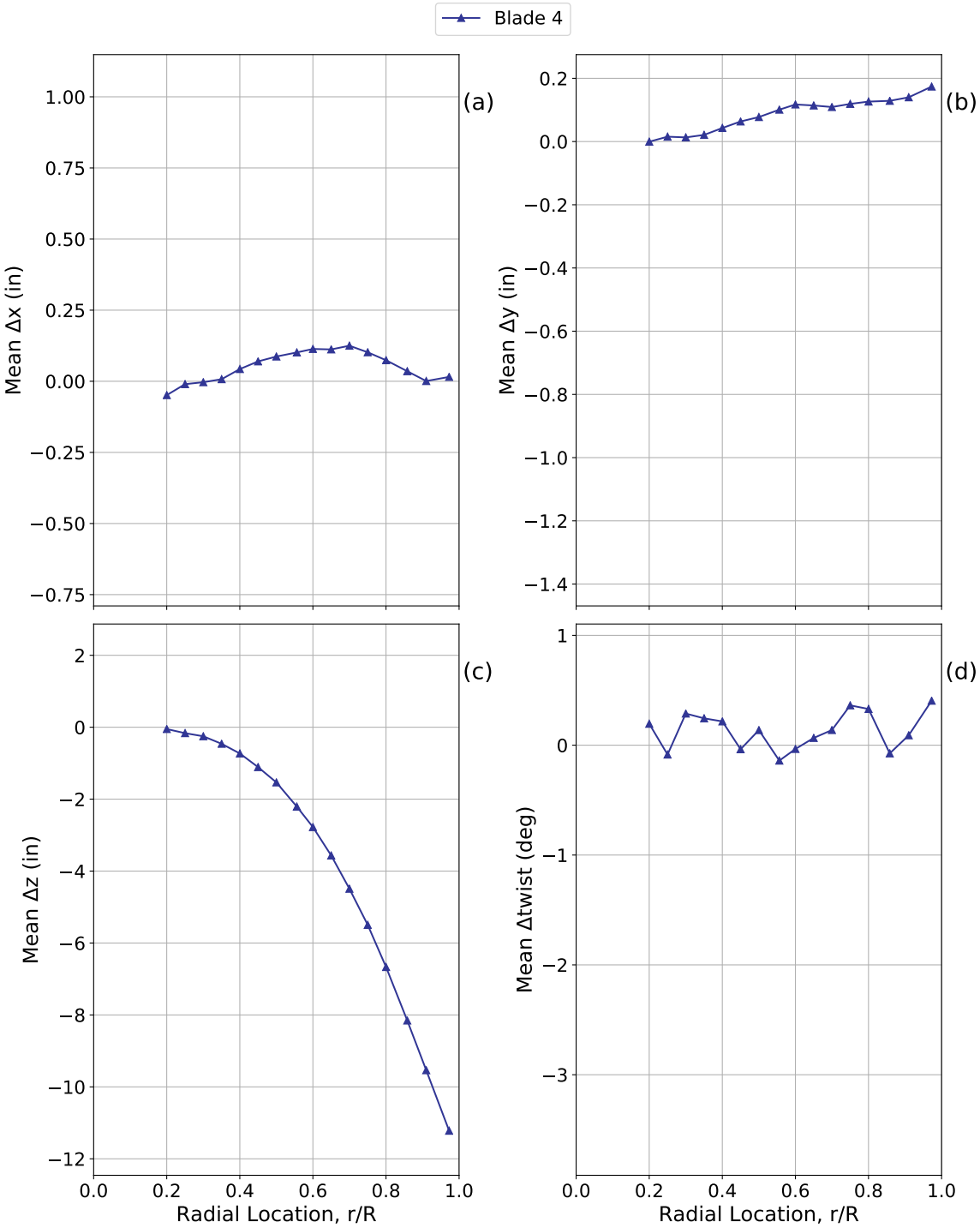


Figure 3.30-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0487	0.0022	-0.0005	0.0005	-0.0505	0.0010	0.1948	0.0171
4	170.16	0.2502	-0.0101	0.0013	0.0154	0.0018	-0.1650	0.0039	-0.0854	0.0270
4	170.16	0.3001	-0.0033	0.0011	0.0131	0.0021	-0.2518	0.0041	0.2879	0.0377
4	170.16	0.3502	0.0073	0.0019	0.0210	0.0035	-0.4612	0.0093	0.2444	0.0274
4	170.16	0.4002	0.0430	0.0026	0.0429	0.0059	-0.7304	0.0137	0.2165	0.0413
4	170.16	0.4500	0.0699	0.0026	0.0635	0.0078	-1.1096	0.0163	-0.0370	0.0383
4	170.16	0.5001	0.0870	0.0035	0.0775	0.0088	-1.5349	0.0179	0.1374	0.0295
4	170.16	0.5560	0.1014	0.0028	0.1008	0.0140	-2.2077	0.0235	-0.1405	0.0263
4	170.16	0.6001	0.1136	0.0034	0.1173	0.0157	-2.7774	0.0255	-0.0344	0.0288
4	170.16	0.6501	0.1120	0.0036	0.1141	0.0180	-3.5674	0.0281	0.0659	0.0458
4	170.16	0.6999	0.1250	0.0050	0.1092	0.0228	-4.4914	0.0306	0.1379	0.0268
4	170.16	0.7500	0.1019	0.0073	0.1191	0.0273	-5.4966	0.0320	0.3626	0.0380
4	170.16	0.8002	0.0740	0.0090	0.1264	0.0301	-6.6683	0.0348	0.3295	0.0562
4	170.16	0.8582	0.0353	0.0132	0.1288	0.0349	-8.1550	0.0387	-0.0747	0.0379
4	170.16	0.9101	0.0008	0.0162	0.1400	0.0373	-9.5372	0.0458	0.0901	0.0404
4	170.16	0.9728	0.0154	0.0236	0.1739	0.0416	-11.2205	0.0580	0.4049	0.0804

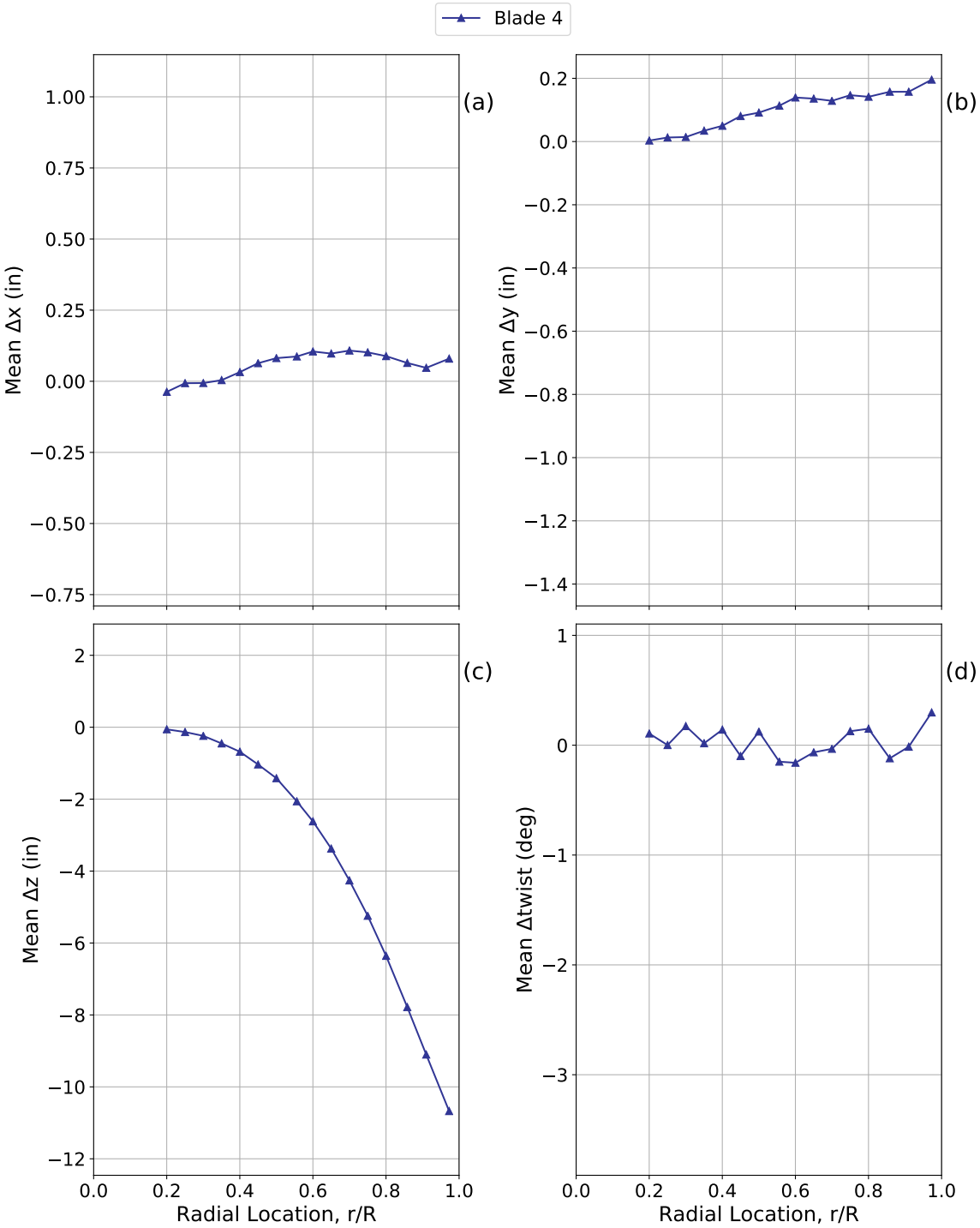


Figure 3.30-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0373	0.0031	0.0031	0.0008	-0.0588	0.0015	0.1061	0.0108
4	175.08	0.2502	-0.0067	0.0014	0.0128	0.0025	-0.1337	0.0023	0.0010	0.0213
4	175.08	0.3001	-0.0063	0.0011	0.0142	0.0027	-0.2406	0.0044	0.1736	0.0224
4	175.08	0.3502	0.0040	0.0029	0.0343	0.0057	-0.4514	0.0074	0.0172	0.0202
4	175.08	0.4002	0.0323	0.0049	0.0498	0.0086	-0.6819	0.0103	0.1414	0.0290
4	175.08	0.4500	0.0635	0.0072	0.0806	0.0124	-1.0362	0.0129	-0.0988	0.0184
4	175.08	0.5001	0.0814	0.0098	0.0915	0.0173	-1.4184	0.0163	0.1235	0.0249
4	175.08	0.5560	0.0871	0.0124	0.1135	0.0234	-2.0612	0.0192	-0.1502	0.0248
4	175.08	0.6001	0.1047	0.0142	0.1393	0.0267	-2.6176	0.0223	-0.1600	0.0236
4	175.08	0.6501	0.0974	0.0164	0.1358	0.0313	-3.3748	0.0246	-0.0649	0.0188
4	175.08	0.6999	0.1079	0.0185	0.1288	0.0350	-4.2608	0.0270	-0.0332	0.0199
4	175.08	0.7500	0.1017	0.0205	0.1467	0.0387	-5.2437	0.0286	0.1273	0.0177
4	175.08	0.8002	0.0884	0.0219	0.1416	0.0420	-6.3580	0.0309	0.1496	0.0239
4	175.08	0.8582	0.0644	0.0252	0.1575	0.0462	-7.7823	0.0351	-0.1196	0.0255
4	175.08	0.9101	0.0472	0.0275	0.1575	0.0491	-9.1025	0.0400	-0.0144	0.0236
4	175.08	0.9728	0.0795	0.0296	0.1957	0.0550	-10.6739	0.0425	0.2978	0.0191

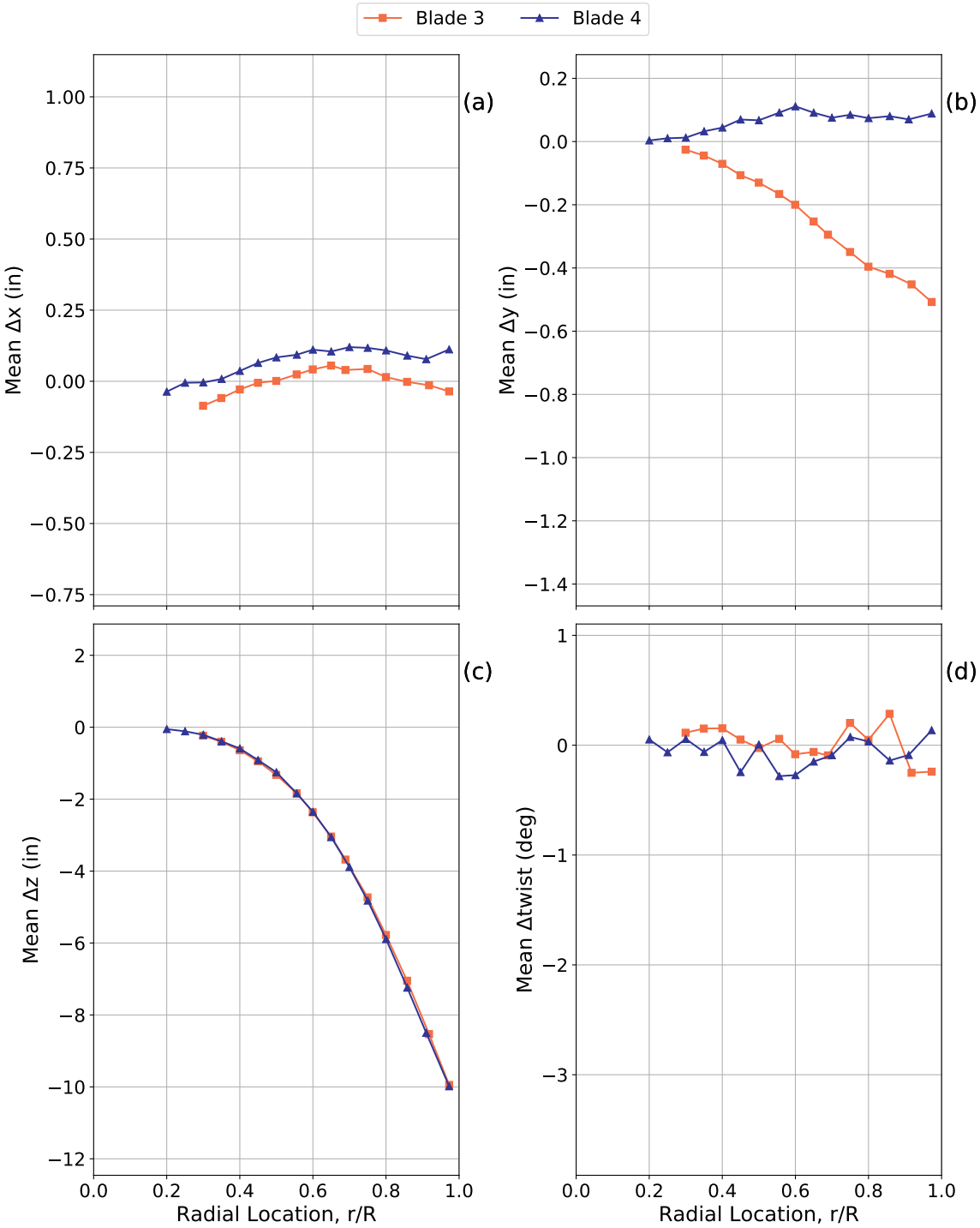


Figure 3.30-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2995	-0.0861	0.0030	-0.0257	0.0040	-0.2347	0.0158	0.1136	0.0633
3	180.35	0.3493	-0.0590	0.0022	-0.0442	0.0069	-0.4022	0.0268	0.1517	0.0834
3	180.35	0.4000	-0.0287	0.0027	-0.0705	0.0110	-0.6405	0.0425	0.1539	0.0835
3	180.35	0.4497	-0.0053	0.0027	-0.1064	0.0149	-0.9478	0.0546	0.0511	0.0871
3	180.35	0.4997	0.0012	0.0034	-0.1299	0.0193	-1.3238	0.0702	-0.0260	0.0787
3	180.35	0.5556	0.0241	0.0043	-0.1660	0.0245	-1.8354	0.0870	0.0579	0.0742
3	180.35	0.5995	0.0417	0.0050	-0.2000	0.0281	-2.3634	0.0991	-0.0824	0.0753
3	180.35	0.6498	0.0554	0.0053	-0.2529	0.0333	-3.0396	0.1145	-0.0617	0.0747
3	180.35	0.6890	0.0397	0.0061	-0.2947	0.0371	-3.6800	0.1245	-0.0927	0.0819
3	180.35	0.7495	0.0433	0.0076	-0.3494	0.0433	-4.7310	0.1418	0.2027	0.0773
3	180.35	0.7998	0.0149	0.0108	-0.3959	0.0493	-5.7767	0.1553	0.0484	0.0812
3	180.35	0.8577	-0.0020	0.0140	-0.4187	0.0563	-7.0487	0.1710	0.2857	0.0810
3	180.35	0.9178	-0.0139	0.0184	-0.4520	0.0625	-8.5338	0.1863	-0.2512	0.0974
3	180.35	0.9729	-0.0357	0.0243	-0.5077	0.0697	-9.9456	0.2003	-0.2410	0.0926
4	180	0.2001	-0.0366	0.0063	0.0035	0.0011	-0.0522	0.0020	0.0517	0.0131
4	180	0.2502	-0.0052	0.0035	0.0104	0.0020	-0.1144	0.0023	-0.0649	0.0380
4	180	0.3001	-0.0041	0.0018	0.0123	0.0044	-0.2098	0.0065	0.0566	0.0349
4	180	0.3502	0.0081	0.0053	0.0323	0.0070	-0.3939	0.0108	-0.0616	0.0342
4	180	0.4002	0.0364	0.0090	0.0441	0.0110	-0.5925	0.0158	0.0458	0.0343
4	180	0.4500	0.0645	0.0126	0.0696	0.0145	-0.9144	0.0195	-0.2451	0.0339
4	180	0.5001	0.0839	0.0161	0.0672	0.0181	-1.2522	0.0242	0.0062	0.0364
4	180	0.5560	0.0933	0.0198	0.0915	0.0242	-1.8410	0.0298	-0.2818	0.0390
4	180	0.6001	0.1111	0.0218	0.1113	0.0287	-2.3539	0.0343	-0.2725	0.0352
4	180	0.6501	0.1047	0.0249	0.0912	0.0347	-3.0579	0.0405	-0.1495	0.0312
4	180	0.6999	0.1201	0.0269	0.0754	0.0408	-3.8889	0.0465	-0.0915	0.0385
4	180	0.7500	0.1174	0.0293	0.0848	0.0472	-4.8223	0.0502	0.0749	0.0371
4	180	0.8002	0.1084	0.0303	0.0740	0.0533	-5.8927	0.0578	0.0331	0.0363
4	180	0.8582	0.0901	0.0331	0.0803	0.0624	-7.2419	0.0648	-0.1397	0.0403
4	180	0.9101	0.0776	0.0335	0.0701	0.0703	-8.4993	0.0712	-0.0892	0.0407
4	180	0.9728	0.1120	0.0349	0.0885	0.0809	-9.9848	0.0808	0.1362	0.0432

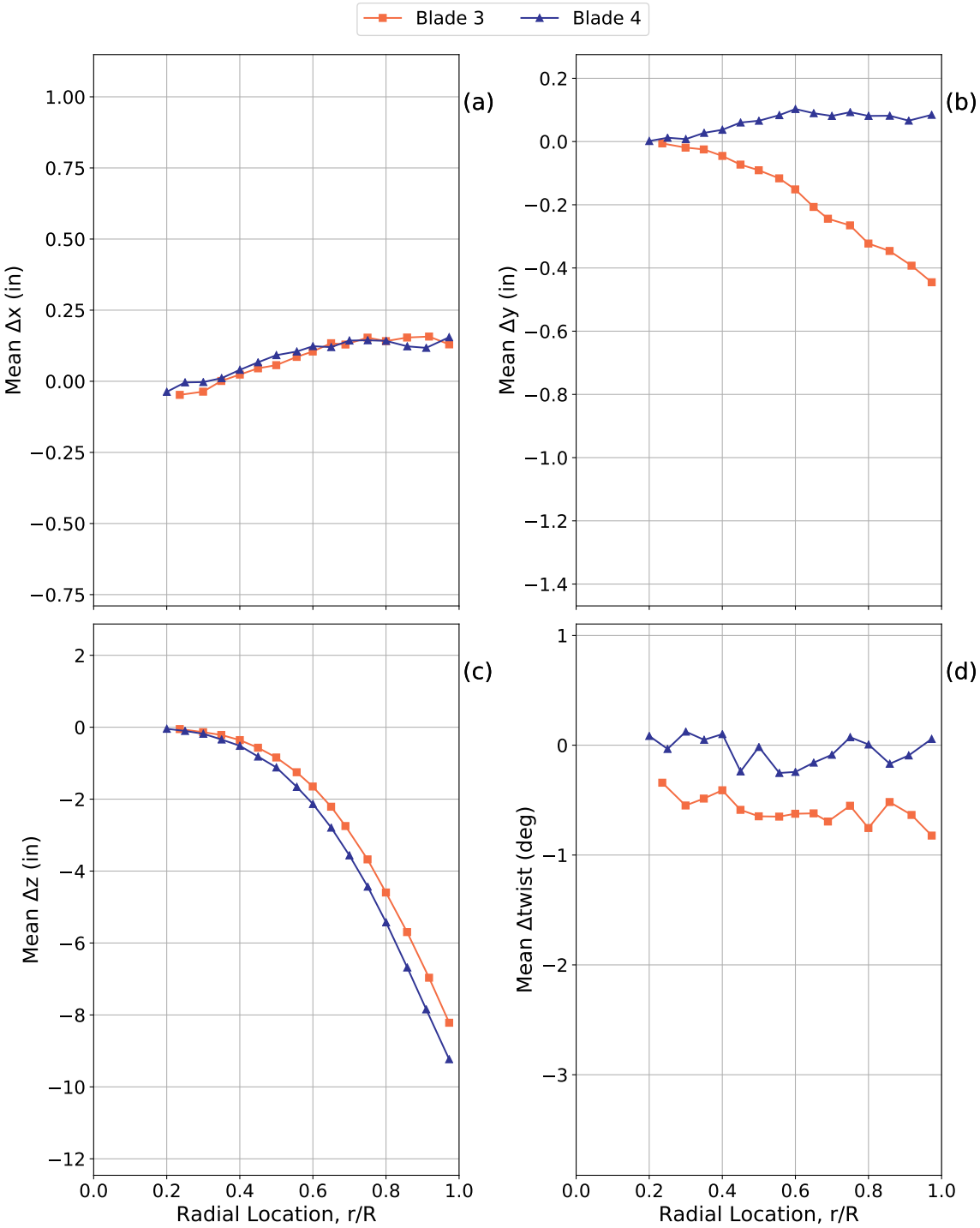


Figure 3.30-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2357	-0.0478	0.0064	-0.0059	0.0041	-0.0515	0.0071	-0.3415	0.0530
3	184.92	0.2995	-0.0365	0.0025	-0.0191	0.0091	-0.1371	0.0156	-0.5489	0.0846
3	184.92	0.3493	0.0011	0.0019	-0.0249	0.0169	-0.2148	0.0275	-0.4860	0.0871
3	184.92	0.4000	0.0236	0.0030	-0.0455	0.0260	-0.3579	0.0425	-0.4103	0.0777
3	184.92	0.4497	0.0455	0.0061	-0.0729	0.0337	-0.5699	0.0552	-0.5886	0.0729
3	184.92	0.4997	0.0567	0.0085	-0.0908	0.0428	-0.8414	0.0689	-0.6474	0.0696
3	184.92	0.5556	0.0857	0.0127	-0.1164	0.0530	-1.2512	0.0821	-0.6502	0.0813
3	184.92	0.5995	0.1047	0.0151	-0.1514	0.0603	-1.6489	0.0932	-0.6241	0.0813
3	184.92	0.6498	0.1338	0.0184	-0.2069	0.0696	-2.2103	0.1090	-0.6205	0.0732
3	184.92	0.6890	0.1292	0.0216	-0.2442	0.0772	-2.7474	0.1174	-0.6949	0.0870
3	184.92	0.7495	0.1535	0.0264	-0.2652	0.0891	-3.6747	0.1359	-0.5513	0.0818
3	184.92	0.7998	0.1412	0.0305	-0.3227	0.0998	-4.5951	0.1498	-0.7539	0.0844
3	184.92	0.8577	0.1538	0.0349	-0.3462	0.1121	-5.6963	0.1695	-0.5175	0.0874
3	184.92	0.9178	0.1572	0.0405	-0.3927	0.1248	-6.9654	0.1902	-0.6350	0.0820
3	184.92	0.9729	0.1297	0.0460	-0.4452	0.1379	-8.2167	0.2116	-0.8228	0.0705
4	184.92	0.2001	-0.0372	0.0025	0.0016	0.0012	-0.0439	0.0024	0.0841	0.0135
4	184.92	0.2502	-0.0040	0.0019	0.0121	0.0026	-0.1036	0.0030	-0.0343	0.0339
4	184.92	0.3001	-0.0028	0.0012	0.0077	0.0047	-0.1824	0.0065	0.1233	0.0302
4	184.92	0.3502	0.0110	0.0024	0.0275	0.0085	-0.3416	0.0111	0.0489	0.0247
4	184.92	0.4002	0.0402	0.0035	0.0372	0.0125	-0.5182	0.0150	0.1008	0.0277
4	184.92	0.4500	0.0668	0.0050	0.0602	0.0158	-0.8162	0.0194	-0.2388	0.0311
4	184.92	0.5001	0.0918	0.0062	0.0658	0.0180	-1.1197	0.0203	-0.0163	0.0278
4	184.92	0.5560	0.1046	0.0082	0.0835	0.0220	-1.6607	0.0246	-0.2530	0.0246
4	184.92	0.6001	0.1233	0.0094	0.1029	0.0248	-2.1350	0.0264	-0.2432	0.0333
4	184.92	0.6501	0.1201	0.0116	0.0896	0.0277	-2.7931	0.0300	-0.1587	0.0302
4	184.92	0.6999	0.1431	0.0128	0.0810	0.0315	-3.5645	0.0340	-0.0872	0.0277
4	184.92	0.7500	0.1441	0.0145	0.0930	0.0351	-4.4335	0.0382	0.0726	0.0295
4	184.92	0.8002	0.1420	0.0166	0.0811	0.0396	-5.4259	0.0422	0.0063	0.0368
4	184.92	0.8582	0.1228	0.0195	0.0816	0.0441	-6.6811	0.0453	-0.1692	0.0356
4	184.92	0.9101	0.1175	0.0226	0.0661	0.0485	-7.8457	0.0515	-0.0934	0.0434
4	184.92	0.9728	0.1548	0.0275	0.0845	0.0558	-9.2317	0.0604	0.0569	0.0251

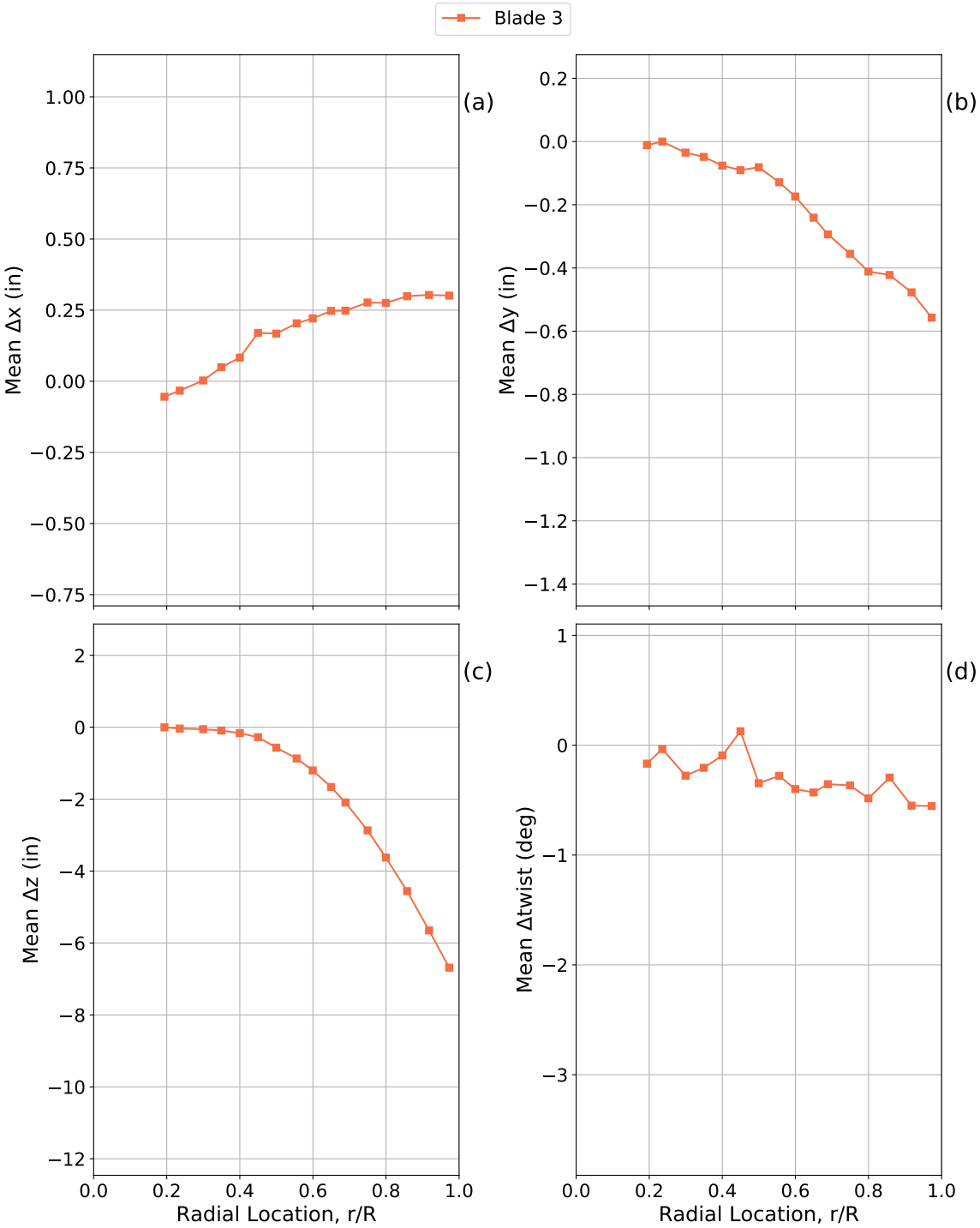


Figure 3.30-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0544	0.0011	-0.0114	0.0010	-0.0024	0.0016	-0.1678	0.0167
3	195.12	0.2357	-0.0329	0.0011	-0.0002	0.0025	-0.0371	0.0036	-0.0349	0.0331
3	195.12	0.2995	0.0028	0.0010	-0.0351	0.0045	-0.0563	0.0066	-0.2773	0.0410
3	195.12	0.3493	0.0494	0.0013	-0.0485	0.0079	-0.0915	0.0100	-0.2060	0.0503
3	195.12	0.4000	0.0830	0.0014	-0.0761	0.0125	-0.1645	0.0167	-0.0937	0.0473
3	195.12	0.4497	0.1701	0.0042	-0.0905	0.0267	-0.2770	0.0192	0.1268	0.1452
3	195.12	0.4997	0.1676	0.0046	-0.0812	0.0427	-0.5677	0.0438	-0.3462	0.0410
3	195.12	0.5556	0.2037	0.0045	-0.1289	0.0482	-0.8686	0.0504	-0.2789	0.0453
3	195.12	0.5995	0.2209	0.0045	-0.1737	0.0518	-1.2023	0.0559	-0.3995	0.0406
3	195.12	0.6498	0.2476	0.0039	-0.2409	0.0563	-1.6628	0.0616	-0.4301	0.0411
3	195.12	0.6890	0.2482	0.0038	-0.2937	0.0615	-2.0928	0.0675	-0.3550	0.0531
3	195.12	0.7495	0.2768	0.0047	-0.3551	0.0683	-2.8682	0.0739	-0.3660	0.0356
3	195.12	0.7998	0.2754	0.0047	-0.4111	0.0738	-3.6255	0.0813	-0.4836	0.0429
3	195.12	0.8577	0.2991	0.0051	-0.4222	0.0814	-4.5580	0.0810	-0.2952	0.1264
3	195.12	0.9178	0.3036	0.0029	-0.4771	0.0914	-5.6490	0.1119	-0.5505	0.0354
3	195.12	0.9729	0.3012	0.0057	-0.5569	0.0990	-6.6853	0.1203	-0.5536	0.0368

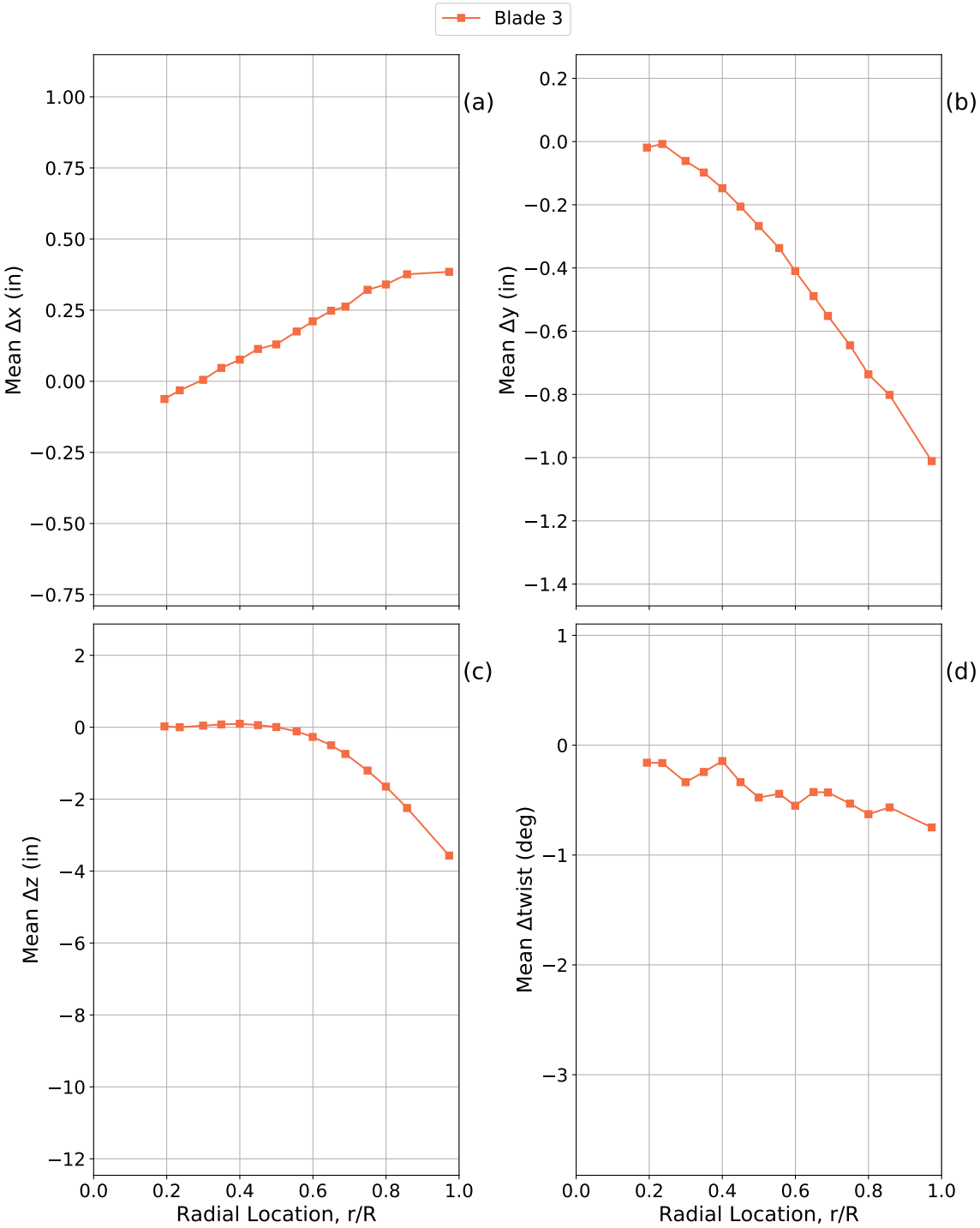


Figure 3.30-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0622	0.0016	-0.0191	0.0010	0.0225	0.0016	-0.1592	0.0126
3	209.88	0.2357	-0.0317	0.0008	-0.0076	0.0018	-0.0004	0.0036	-0.1622	0.0193
3	209.88	0.2995	0.0052	0.0009	-0.0615	0.0036	0.0440	0.0055	-0.3370	0.0270
3	209.88	0.3493	0.0469	0.0010	-0.0979	0.0075	0.0770	0.0112	-0.2438	0.0181
3	209.88	0.4000	0.0760	0.0012	-0.1477	0.0107	0.0957	0.0162	-0.1443	0.0220
3	209.88	0.4497	0.1137	0.0014	-0.2058	0.0148	0.0589	0.0184	-0.3359	0.0359
3	209.88	0.4997	0.1296	0.0013	-0.2675	0.0174	0.0049	0.0207	-0.4764	0.0324
3	209.88	0.5556	0.1750	0.0011	-0.3371	0.0206	-0.1156	0.0247	-0.4428	0.0381
3	209.88	0.5995	0.2108	0.0015	-0.4098	0.0228	-0.2708	0.0276	-0.5509	0.0304
3	209.88	0.6498	0.2480	0.0014	-0.4890	0.0249	-0.5009	0.0309	-0.4264	0.0296
3	209.88	0.6890	0.2624	0.0017	-0.5518	0.0276	-0.7430	0.0327	-0.4301	0.0265
3	209.88	0.7495	0.3216	0.0020	-0.6446	0.0307	-1.2043	0.0359	-0.5319	0.0226
3	209.88	0.7998	0.3404	0.0017	-0.7365	0.0334	-1.6516	0.0394	-0.6279	0.0354
3	209.88	0.8577	0.3762	0.0024	-0.8016	0.0366	-2.2458	0.0441	-0.5661	0.0771
3	209.88	0.9729	0.3848	0.0035	-1.0111	0.0413	-3.5700	0.0484	-0.7485	0.0902

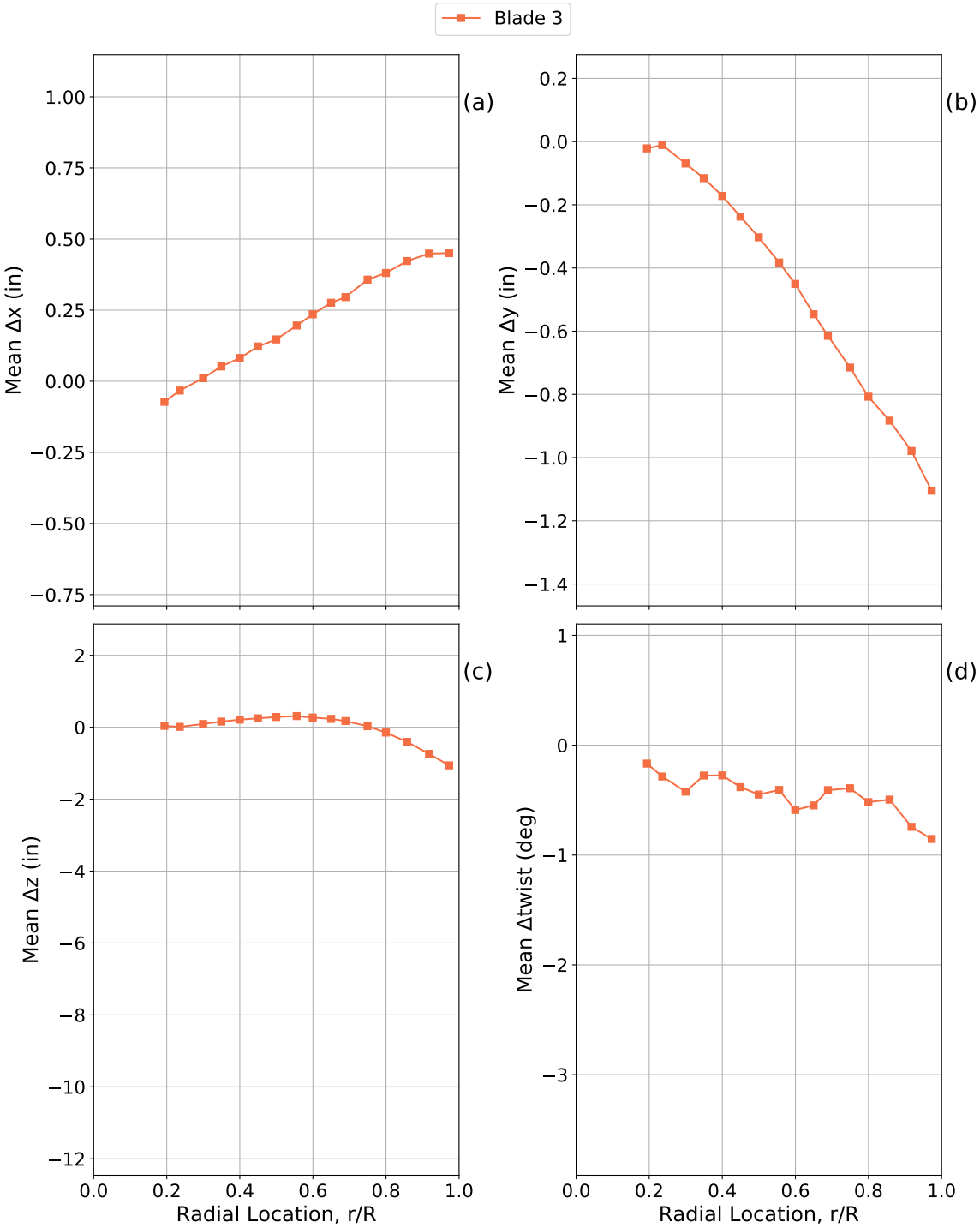


Figure 3.30-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0724	0.0007	-0.0215	0.0004	0.0383	0.0016	-0.1673	0.0097
3	225	0.2357	-0.0328	0.0010	-0.0109	0.0017	0.0115	0.0028	-0.2845	0.0178
3	225	0.2995	0.0107	0.0007	-0.0694	0.0030	0.0905	0.0062	-0.4225	0.0187
3	225	0.3493	0.0520	0.0011	-0.1158	0.0043	0.1575	0.0084	-0.2762	0.0201
3	225	0.4000	0.0817	0.0011	-0.1721	0.0080	0.2107	0.0145	-0.2748	0.0196
3	225	0.4497	0.1222	0.0014	-0.2376	0.0084	0.2485	0.0158	-0.3814	0.0231
3	225	0.4997	0.1471	0.0016	-0.3030	0.0122	0.2855	0.0212	-0.4487	0.0195
3	225	0.5556	0.1960	0.0013	-0.3826	0.0135	0.3103	0.0240	-0.4072	0.0379
3	225	0.5995	0.2353	0.0017	-0.4505	0.0150	0.2698	0.0273	-0.5893	0.0248
3	225	0.6498	0.2760	0.0020	-0.5463	0.0179	0.2325	0.0314	-0.5480	0.0275
3	225	0.6890	0.2958	0.0019	-0.6148	0.0210	0.1720	0.0370	-0.4087	0.0272
3	225	0.7495	0.3574	0.0019	-0.7152	0.0241	0.0292	0.0388	-0.3916	0.0256
3	225	0.7998	0.3808	0.0020	-0.8074	0.0277	-0.1473	0.0435	-0.5179	0.0303
3	225	0.8577	0.4228	0.0025	-0.8832	0.0318	-0.4073	0.0477	-0.4952	0.0365
3	225	0.9178	0.4490	0.0021	-0.9791	0.0357	-0.7400	0.0543	-0.7431	0.0401
3	225	0.9729	0.4507	0.0031	-1.1049	0.0396	-1.0595	0.0569	-0.8534	0.0339

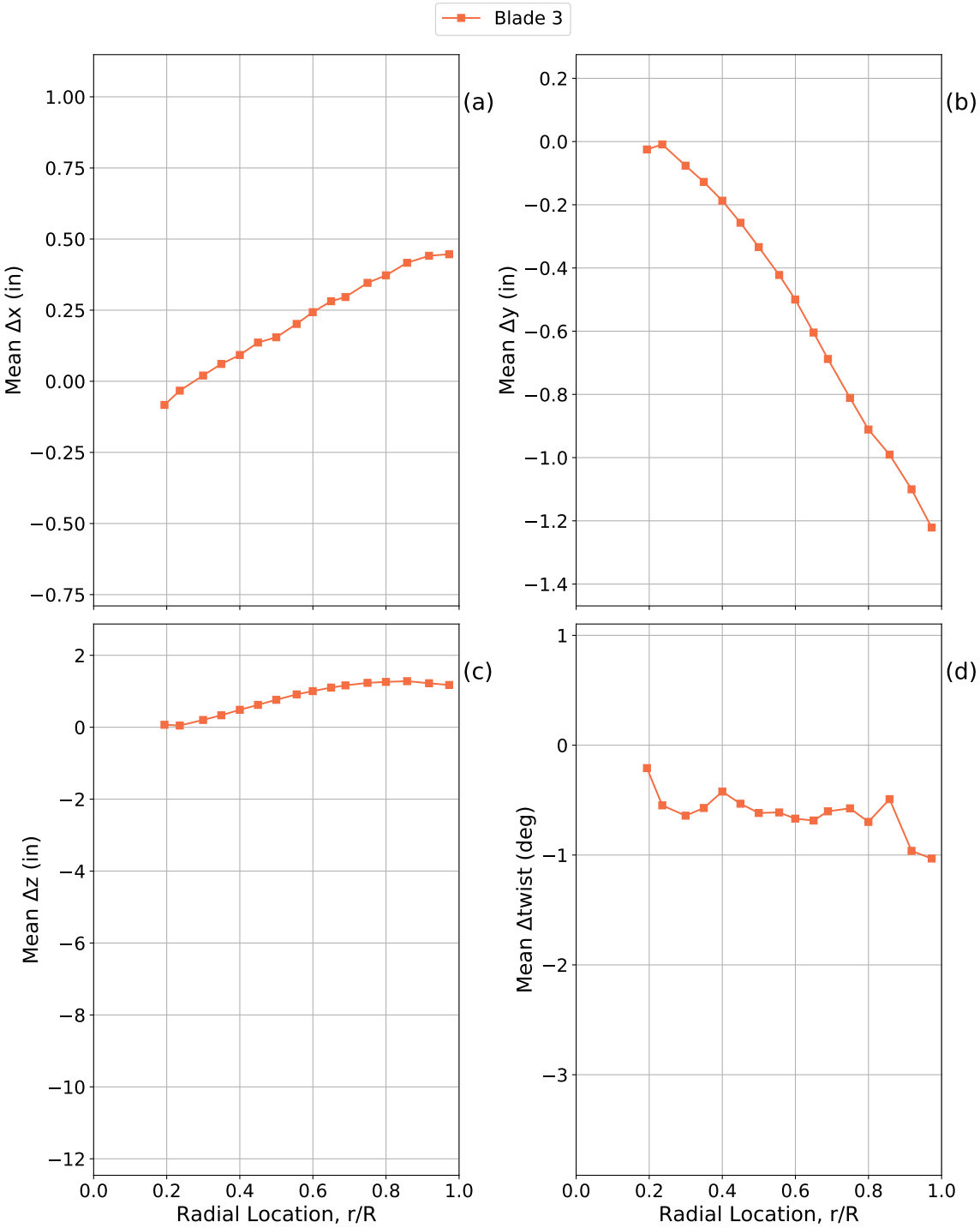


Figure 3.30-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0831	0.0010	-0.0251	0.0004	0.0682	0.0016	-0.2085	0.0117
3	240.12	0.2357	-0.0330	0.0006	-0.0091	0.0007	0.0469	0.0041	-0.5477	0.0290
3	240.12	0.2995	0.0203	0.0008	-0.0764	0.0015	0.2021	0.0076	-0.6417	0.0315
3	240.12	0.3493	0.0609	0.0008	-0.1278	0.0019	0.3329	0.0115	-0.5717	0.0327
3	240.12	0.4000	0.0924	0.0011	-0.1872	0.0034	0.4840	0.0196	-0.4224	0.0401
3	240.12	0.4497	0.1362	0.0011	-0.2569	0.0040	0.6213	0.0213	-0.5328	0.0398
3	240.12	0.4997	0.1547	0.0015	-0.3340	0.0057	0.7631	0.0284	-0.6168	0.0326
3	240.12	0.5556	0.2016	0.0014	-0.4222	0.0074	0.9126	0.0339	-0.6121	0.0572
3	240.12	0.5995	0.2429	0.0012	-0.4998	0.0089	1.0038	0.0370	-0.6686	0.0448
3	240.12	0.6498	0.2814	0.0016	-0.6043	0.0103	1.1024	0.0411	-0.6858	0.0479
3	240.12	0.6890	0.2962	0.0017	-0.6879	0.0114	1.1626	0.0447	-0.6019	0.0437
3	240.12	0.7495	0.3460	0.0022	-0.8112	0.0139	1.2338	0.0496	-0.5749	0.0454
3	240.12	0.7998	0.3725	0.0021	-0.9111	0.0164	1.2600	0.0546	-0.6983	0.0482
3	240.12	0.8577	0.4166	0.0018	-0.9905	0.0190	1.2802	0.0609	-0.4912	0.0491
3	240.12	0.9178	0.4412	0.0014	-1.1003	0.0223	1.2226	0.0676	-0.9623	0.0475
3	240.12	0.9729	0.4466	0.0026	-1.2212	0.0254	1.1743	0.0735	-1.0319	0.0495

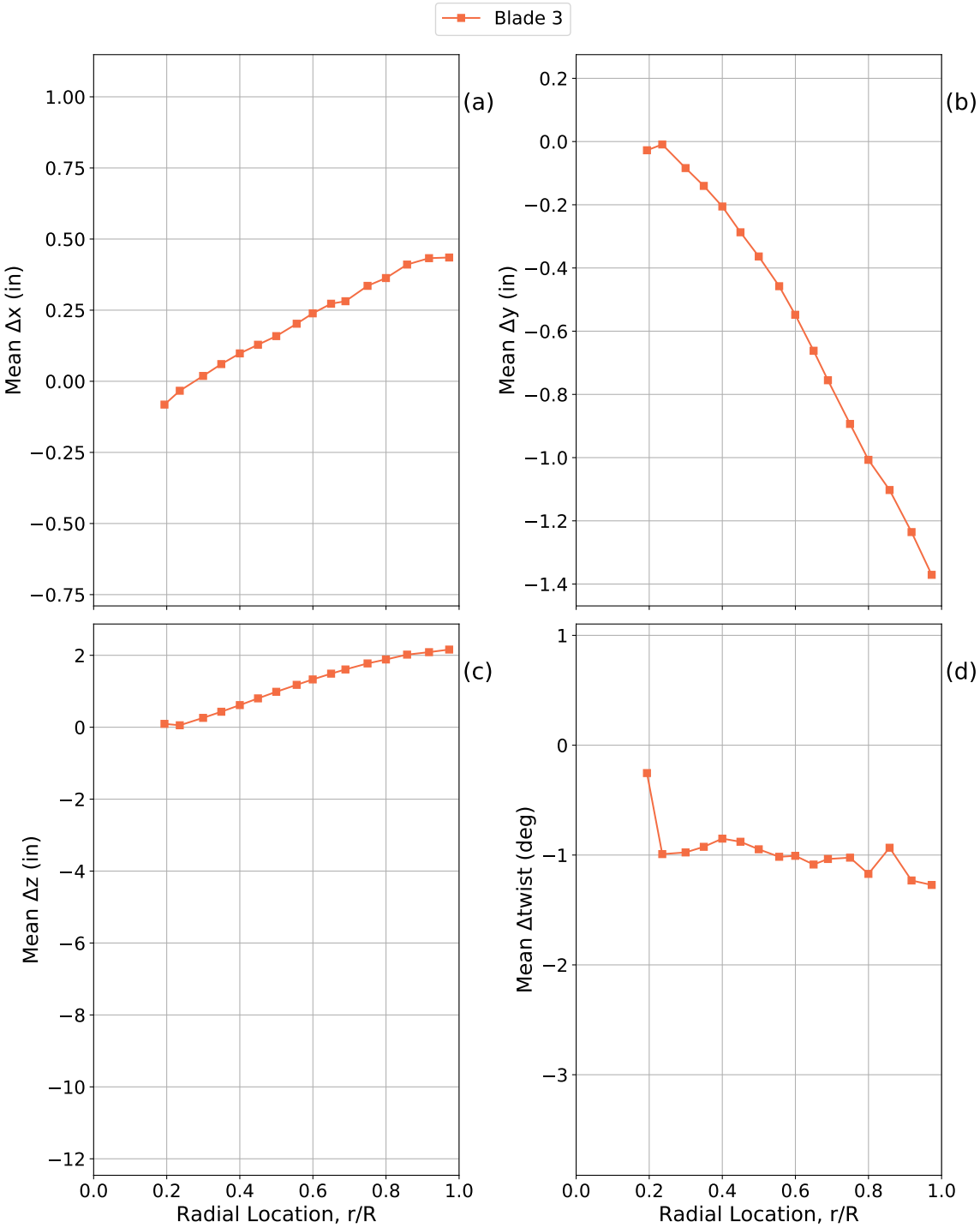


Figure 3.30-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0819	0.0024	-0.0276	0.0012	0.0934	0.0036	-0.2538	0.0174
3	254.88	0.2357	-0.0333	0.0009	-0.0092	0.0010	0.0541	0.0034	-0.9915	0.0417
3	254.88	0.2995	0.0188	0.0009	-0.0839	0.0042	0.2602	0.0096	-0.9761	0.0490
3	254.88	0.3493	0.0604	0.0008	-0.1403	0.0068	0.4309	0.0169	-0.9250	0.0447
3	254.88	0.4000	0.0980	0.0016	-0.2055	0.0104	0.6151	0.0236	-0.8506	0.0438
3	254.88	0.4497	0.1285	0.0015	-0.2871	0.0123	0.8023	0.0297	-0.8790	0.0411
3	254.88	0.4997	0.1588	0.0014	-0.3636	0.0156	0.9851	0.0348	-0.9477	0.0525
3	254.88	0.5556	0.2023	0.0013	-0.4577	0.0191	1.1785	0.0418	-1.0160	0.0550
3	254.88	0.5995	0.2388	0.0014	-0.5480	0.0217	1.3286	0.0488	-1.0071	0.0513
3	254.88	0.6498	0.2727	0.0015	-0.6618	0.0244	1.4899	0.0544	-1.0864	0.0523
3	254.88	0.6890	0.2814	0.0017	-0.7552	0.0273	1.6062	0.0603	-1.0360	0.0524
3	254.88	0.7495	0.3355	0.0020	-0.8934	0.0317	1.7740	0.0684	-1.0238	0.0542
3	254.88	0.7998	0.3629	0.0022	-1.0070	0.0348	1.8835	0.0754	-1.1716	0.0463
3	254.88	0.8577	0.4103	0.0026	-1.1025	0.0391	2.0188	0.0815	-0.9334	0.0592
3	254.88	0.9178	0.4328	0.0025	-1.2356	0.0432	2.0873	0.0888	-1.2316	0.0514
3	254.88	0.9729	0.4351	0.0035	-1.3708	0.0472	2.1594	0.0951	-1.2723	0.0521

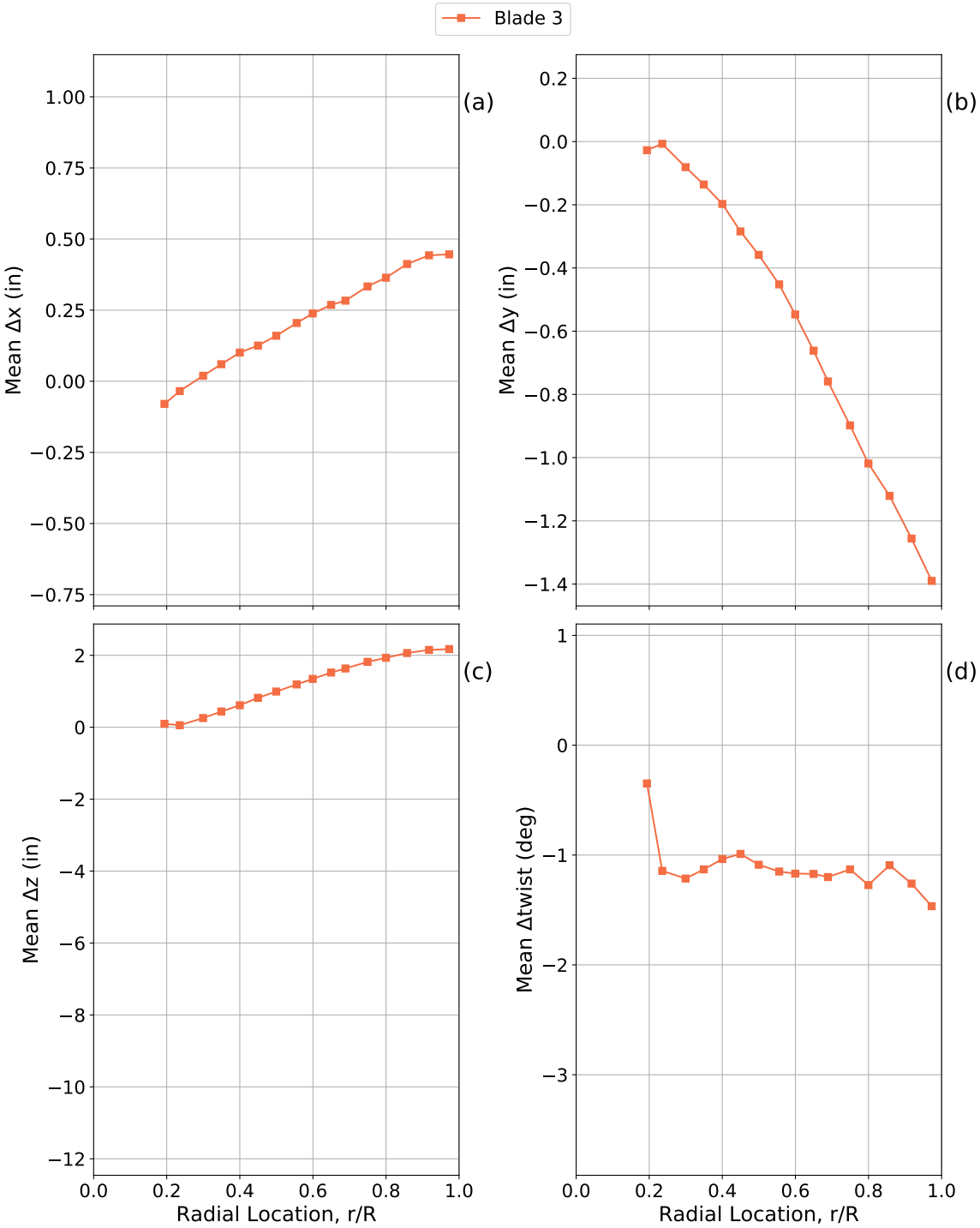


Figure 3.30-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0795	0.0021	-0.0273	0.0008	0.0948	0.0028	-0.3482	0.0173
3	260.16	0.2357	-0.0345	0.0013	-0.0072	0.0011	0.0555	0.0028	-1.1443	0.0590
3	260.16	0.2995	0.0194	0.0012	-0.0810	0.0024	0.2547	0.0059	-1.2138	0.0559
3	260.16	0.3493	0.0600	0.0014	-0.1358	0.0041	0.4371	0.0094	-1.1310	0.0508
3	260.16	0.4000	0.1010	0.0021	-0.1974	0.0062	0.6108	0.0127	-1.0362	0.0536
3	260.16	0.4497	0.1256	0.0017	-0.2843	0.0080	0.8176	0.0173	-0.9897	0.0528
3	260.16	0.4997	0.1600	0.0037	-0.3585	0.0104	0.9915	0.0223	-1.0882	0.0512
3	260.16	0.5556	0.2049	0.0022	-0.4520	0.0130	1.1896	0.0281	-1.1500	0.0594
3	260.16	0.5995	0.2383	0.0026	-0.5471	0.0154	1.3438	0.0324	-1.1689	0.0567
3	260.16	0.6498	0.2685	0.0024	-0.6615	0.0178	1.5199	0.0379	-1.1718	0.0619
3	260.16	0.6890	0.2834	0.0021	-0.7588	0.0203	1.6332	0.0429	-1.2005	0.0571
3	260.16	0.7495	0.3335	0.0023	-0.8980	0.0238	1.8170	0.0500	-1.1304	0.0594
3	260.16	0.7998	0.3641	0.0027	-1.0187	0.0270	1.9300	0.0568	-1.2734	0.0543
3	260.16	0.8577	0.4123	0.0030	-1.1210	0.0305	2.0636	0.0662	-1.0925	0.0576
3	260.16	0.9178	0.4428	0.0026	-1.2560	0.0347	2.1495	0.0769	-1.2599	0.0542
3	260.16	0.9729	0.4462	0.0034	-1.3899	0.0384	2.1731	0.0882	-1.4657	0.0491

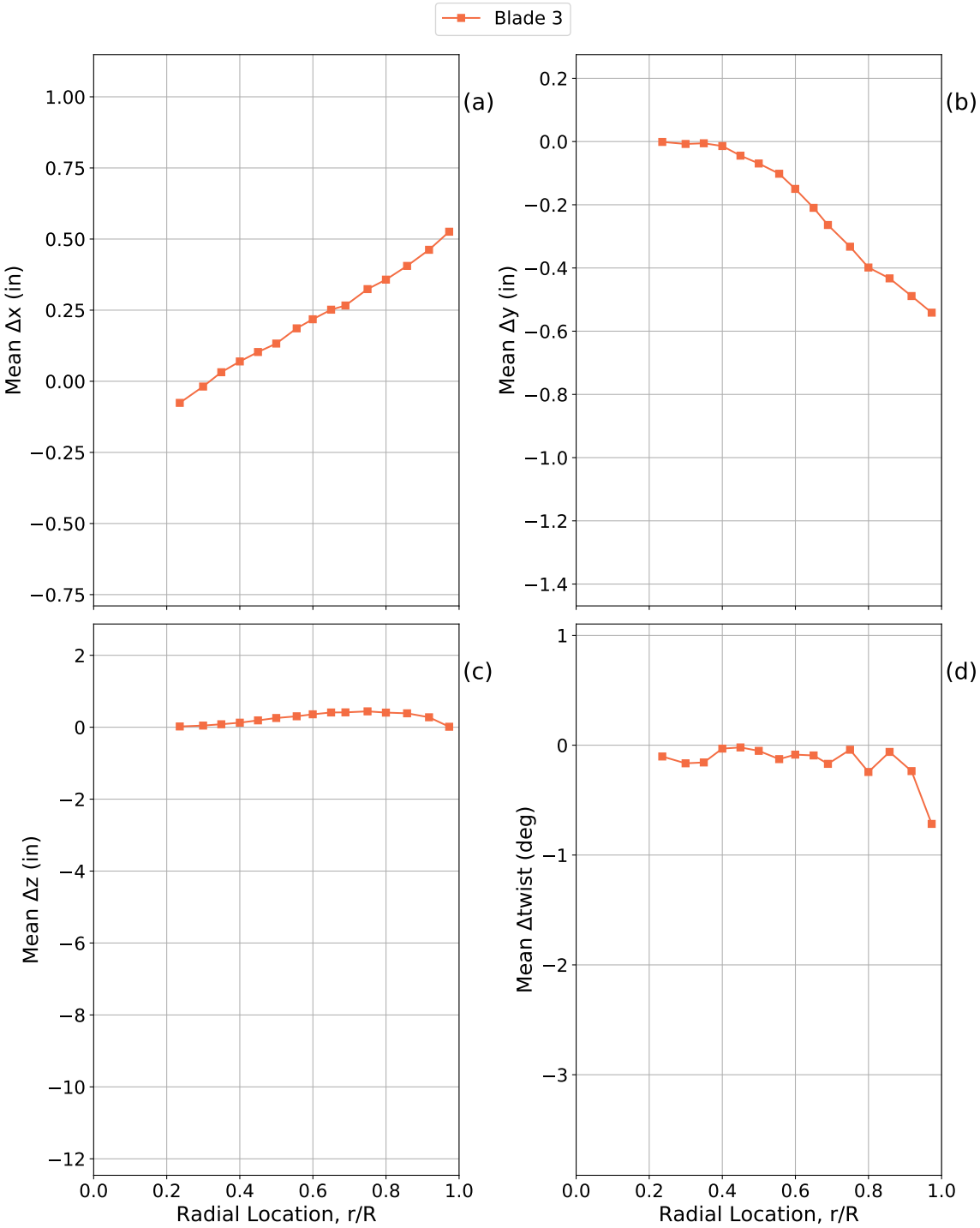


Figure 3.30-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0759	0.0012	-0.0012	0.0013	0.0211	0.0038	-0.1028	0.0502
3	265.08	0.2995	-0.0185	0.0012	-0.0076	0.0034	0.0458	0.0095	-0.1649	0.0809
3	265.08	0.3493	0.0318	0.0012	-0.0054	0.0055	0.0825	0.0137	-0.1571	0.0654
3	265.08	0.4000	0.0697	0.0013	-0.0142	0.0089	0.1266	0.0221	-0.0310	0.0853
3	265.08	0.4497	0.1029	0.0013	-0.0446	0.0112	0.1905	0.0300	-0.0203	0.0716
3	265.08	0.4997	0.1326	0.0019	-0.0694	0.0137	0.2563	0.0351	-0.0514	0.0646
3	265.08	0.5556	0.1861	0.0018	-0.1019	0.0165	0.3039	0.0430	-0.1268	0.0599
3	265.08	0.5995	0.2180	0.0015	-0.1498	0.0191	0.3592	0.0499	-0.0859	0.0727
3	265.08	0.6498	0.2517	0.0020	-0.2097	0.0216	0.4105	0.0570	-0.0933	0.0602
3	265.08	0.6890	0.2664	0.0017	-0.2640	0.0240	0.4134	0.0629	-0.1699	0.0675
3	265.08	0.7495	0.3240	0.0015	-0.3327	0.0272	0.4411	0.0699	-0.0415	0.0628
3	265.08	0.7998	0.3573	0.0015	-0.3985	0.0304	0.4069	0.0762	-0.2438	0.0639
3	265.08	0.8577	0.4056	0.0015	-0.4329	0.0338	0.3869	0.0848	-0.0613	0.0627
3	265.08	0.9178	0.4622	0.0015	-0.4888	0.0376	0.2768	0.0934	-0.2358	0.0729
3	265.08	0.9729	0.5258	0.0017	-0.5414	0.0408	0.0135	0.1025	-0.7165	0.0660

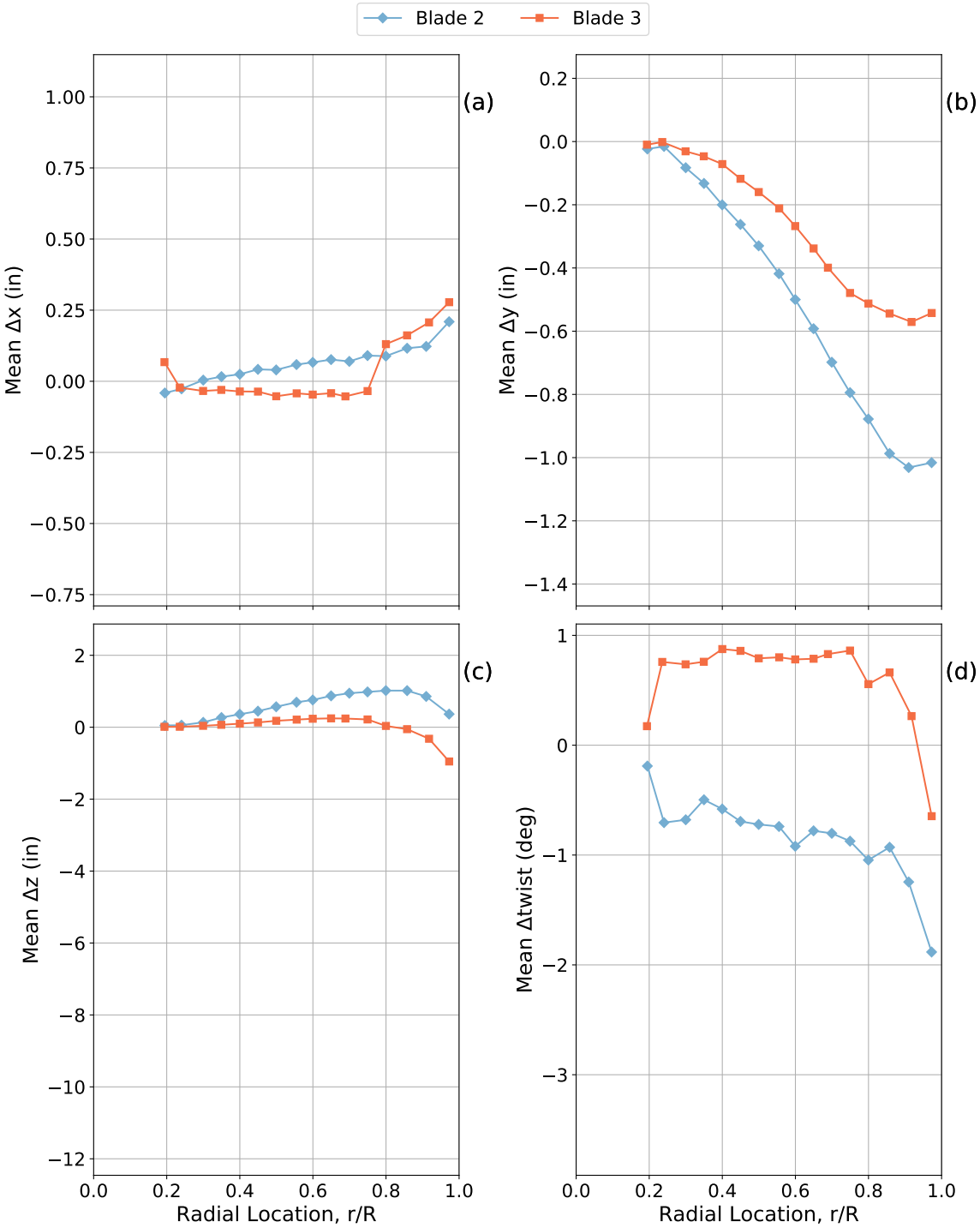


Figure 3.30-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0412	0.0022	-0.0235	0.0010	0.0485	0.0048	-0.1898	0.0245
2	270.35	0.2405	-0.0265	0.0013	-0.0154	0.0009	0.0574	0.0040	-0.7049	0.0792
2	270.35	0.2999	0.0041	0.0009	-0.0828	0.0029	0.1356	0.0139	-0.6789	0.0801
2	270.35	0.3498	0.0164	0.0009	-0.1325	0.0051	0.2699	0.0231	-0.4968	0.0802
2	270.35	0.3998	0.0246	0.0010	-0.2002	0.0073	0.3616	0.0331	-0.5809	0.0760
2	270.35	0.4496	0.0419	0.0013	-0.2622	0.0091	0.4465	0.0396	-0.6941	0.0862
2	270.35	0.4995	0.0399	0.0013	-0.3299	0.0110	0.5686	0.0465	-0.7213	0.0832
2	270.35	0.5551	0.0587	0.0017	-0.4182	0.0136	0.6946	0.0555	-0.7402	0.0885
2	270.35	0.5996	0.0665	0.0018	-0.4999	0.0157	0.7580	0.0649	-0.9202	0.0832
2	270.35	0.6497	0.0762	0.0016	-0.5921	0.0177	0.8721	0.0739	-0.7796	0.0851
2	270.35	0.6996	0.0699	0.0019	-0.6982	0.0202	0.9456	0.0834	-0.8024	0.0816
2	270.35	0.7495	0.0903	0.0016	-0.7944	0.0231	0.9818	0.0937	-0.8737	0.0905
2	270.35	0.7996	0.0884	0.0018	-0.8779	0.0254	1.0185	0.1042	-1.0457	0.0876
2	270.35	0.8578	0.1162	0.0017	-0.9870	0.0292	1.0174	0.1157	-0.9291	0.0793
2	270.35	0.9100	0.1226	0.0020	-1.0314	0.0324	0.8554	0.1267	-1.2452	0.0752
2	270.35	0.9727	0.2094	0.0029	-1.0160	0.0355	0.3650	0.1362	-1.8829	0.0940
3	270	0.1938	0.0673	0.0044	-0.0099	0.0022	0.0118	0.0048	0.1730	0.0112
3	270	0.2357	-0.0221	0.0011	-0.0016	0.0015	0.0131	0.0038	0.7580	0.0180
3	270	0.2995	-0.0340	0.0010	-0.0309	0.0059	0.0389	0.0137	0.7362	0.0239
3	270	0.3493	-0.0303	0.0014	-0.0467	0.0105	0.0671	0.0234	0.7595	0.0244
3	270	0.4000	-0.0358	0.0021	-0.0713	0.0147	0.0987	0.0337	0.8751	0.0262
3	270	0.4497	-0.0363	0.0024	-0.1178	0.0186	0.1329	0.0407	0.8587	0.0284
3	270	0.4997	-0.0527	0.0021	-0.1598	0.0222	0.1788	0.0498	0.7910	0.0158
3	270	0.5556	-0.0424	0.0033	-0.2114	0.0265	0.2114	0.0616	0.8001	0.0316
3	270	0.5995	-0.0468	0.0033	-0.2675	0.0303	0.2356	0.0689	0.7809	0.0342
3	270	0.6498	-0.0419	0.0047	-0.3383	0.0347	0.2463	0.0782	0.7869	0.0391
3	270	0.6890	-0.0531	0.0066	-0.3991	0.0381	0.2417	0.0848	0.8293	0.0396
3	270	0.7495	-0.0344	0.0080	-0.4791	0.0435	0.2160	0.0968	0.8615	0.0414
3	270	0.7998	0.1306	0.0027	-0.5125	0.0514	0.0362	0.0811	0.5558	0.0227
3	270	0.8577	0.1614	0.0038	-0.5441	0.0561	-0.0538	0.0917	0.6622	0.0283
3	270	0.9178	0.2070	0.0059	-0.5708	0.0609	-0.3207	0.1017	0.2649	0.0291
3	270	0.9729	0.2780	0.0092	-0.5425	0.0642	-0.9527	0.1068	-0.6462	0.0415

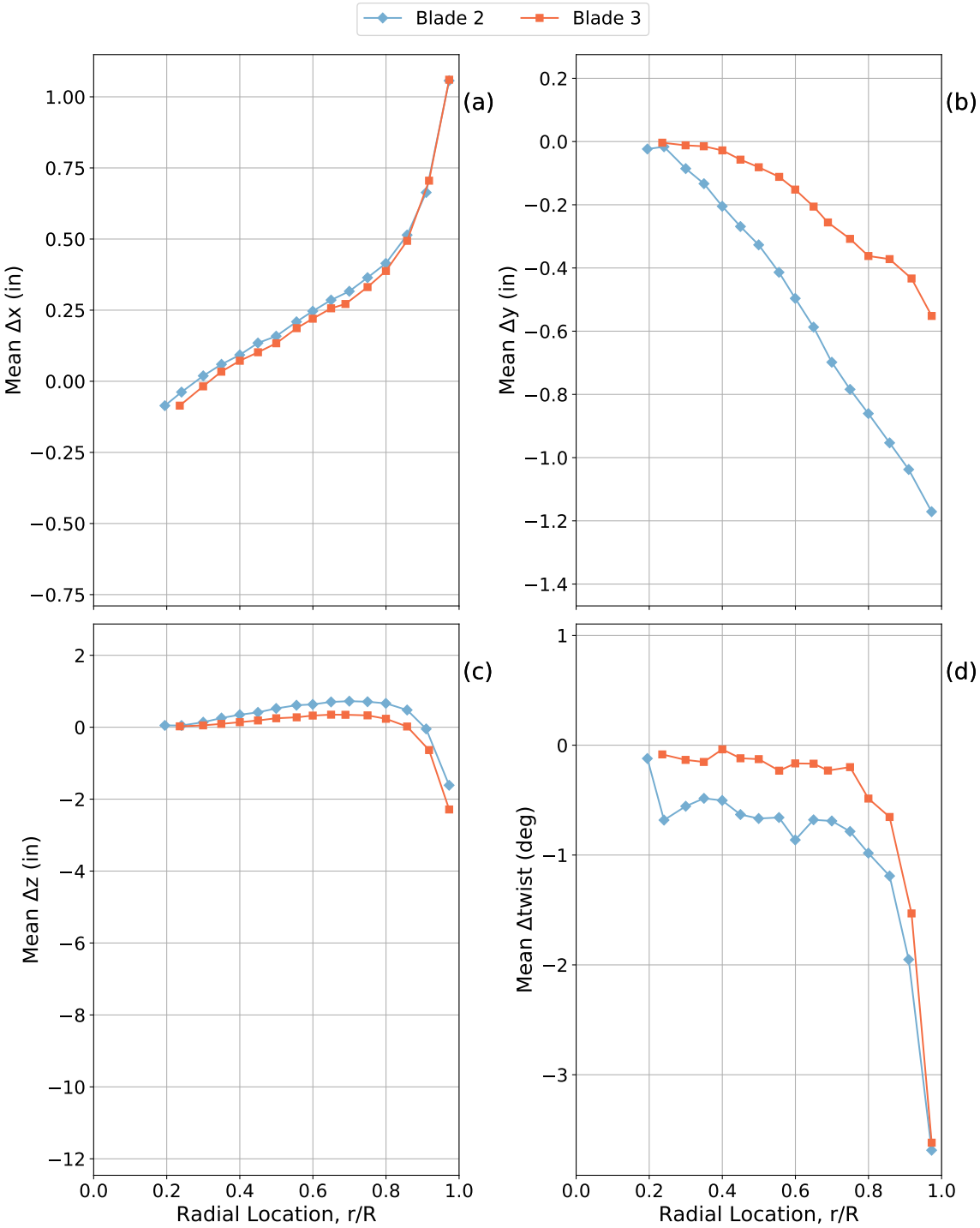


Figure 3.30-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	-0.0857	0.0026	-0.0236	0.0009	0.0507	0.0037	-0.1211	0.0287
2	274.92	0.2405	-0.0380	0.0024	-0.0165	0.0012	0.0476	0.0065	-0.6818	0.0727
2	274.92	0.2999	0.0191	0.0015	-0.0856	0.0031	0.1394	0.0119	-0.5558	0.0805
2	274.92	0.3498	0.0596	0.0014	-0.1333	0.0051	0.2557	0.0208	-0.4838	0.0799
2	274.92	0.3998	0.0926	0.0016	-0.2048	0.0079	0.3477	0.0306	-0.5031	0.0701
2	274.92	0.4496	0.1346	0.0010	-0.2688	0.0100	0.4132	0.0391	-0.6313	0.0727
2	274.92	0.4995	0.1586	0.0010	-0.3269	0.0119	0.5221	0.0463	-0.6674	0.0846
2	274.92	0.5551	0.2092	0.0017	-0.4137	0.0150	0.6112	0.0579	-0.6584	0.0784
2	274.92	0.5996	0.2465	0.0015	-0.4962	0.0175	0.6346	0.0663	-0.8625	0.0812
2	274.92	0.6497	0.2856	0.0015	-0.5871	0.0201	0.7038	0.0773	-0.6793	0.0755
2	274.92	0.6996	0.3164	0.0014	-0.6982	0.0226	0.7243	0.0868	-0.6899	0.0850
2	274.92	0.7495	0.3643	0.0012	-0.7840	0.0250	0.7091	0.0987	-0.7851	0.0771
2	274.92	0.7996	0.4146	0.0020	-0.8606	0.0280	0.6638	0.1089	-0.9825	0.0891
2	274.92	0.8578	0.5142	0.0023	-0.9533	0.0315	0.4788	0.1230	-1.1905	0.0937
2	274.92	0.9100	0.6636	0.0021	-1.0375	0.0347	-0.0471	0.1360	-1.9512	0.0729
2	274.92	0.9727	1.0568	0.0040	-1.1710	0.0399	-1.6136	0.1479	-3.6874	0.1020
3	274.92	0.2357	-0.0856	0.0021	-0.0036	0.0009	0.0244	0.0066	-0.0839	0.0763
3	274.92	0.2995	-0.0179	0.0017	-0.0120	0.0019	0.0515	0.0144	-0.1338	0.1228
3	274.92	0.3493	0.0337	0.0016	-0.0150	0.0037	0.0922	0.0250	-0.1525	0.1172
3	274.92	0.4000	0.0721	0.0018	-0.0280	0.0055	0.1403	0.0387	-0.0378	0.1138
3	274.92	0.4497	0.1020	0.0011	-0.0572	0.0075	0.1879	0.0489	-0.1192	0.1159
3	274.92	0.4997	0.1336	0.0018	-0.0813	0.0095	0.2495	0.0597	-0.1270	0.1131
3	274.92	0.5556	0.1867	0.0026	-0.1118	0.0119	0.2755	0.0699	-0.2320	0.1176
3	274.92	0.5995	0.2200	0.0026	-0.1520	0.0137	0.3238	0.0772	-0.1658	0.1214
3	274.92	0.6498	0.2565	0.0027	-0.2058	0.0166	0.3491	0.0879	-0.1683	0.1177
3	274.92	0.6890	0.2717	0.0022	-0.2559	0.0184	0.3462	0.0959	-0.2308	0.1197
3	274.92	0.7495	0.3311	0.0026	-0.3079	0.0214	0.3294	0.1087	-0.1996	0.1162
3	274.92	0.7998	0.3877	0.0026	-0.3621	0.0240	0.2344	0.1204	-0.4859	0.1239
3	274.92	0.8577	0.4937	0.0029	-0.3720	0.0273	0.0196	0.1373	-0.6536	0.1168
3	274.92	0.9178	0.7052	0.0027	-0.4333	0.0310	-0.6352	0.1551	-1.5316	0.1196
3	274.92	0.9729	1.0602	0.0037	-0.5517	0.0353	-2.2869	0.1708	-3.6186	0.1234

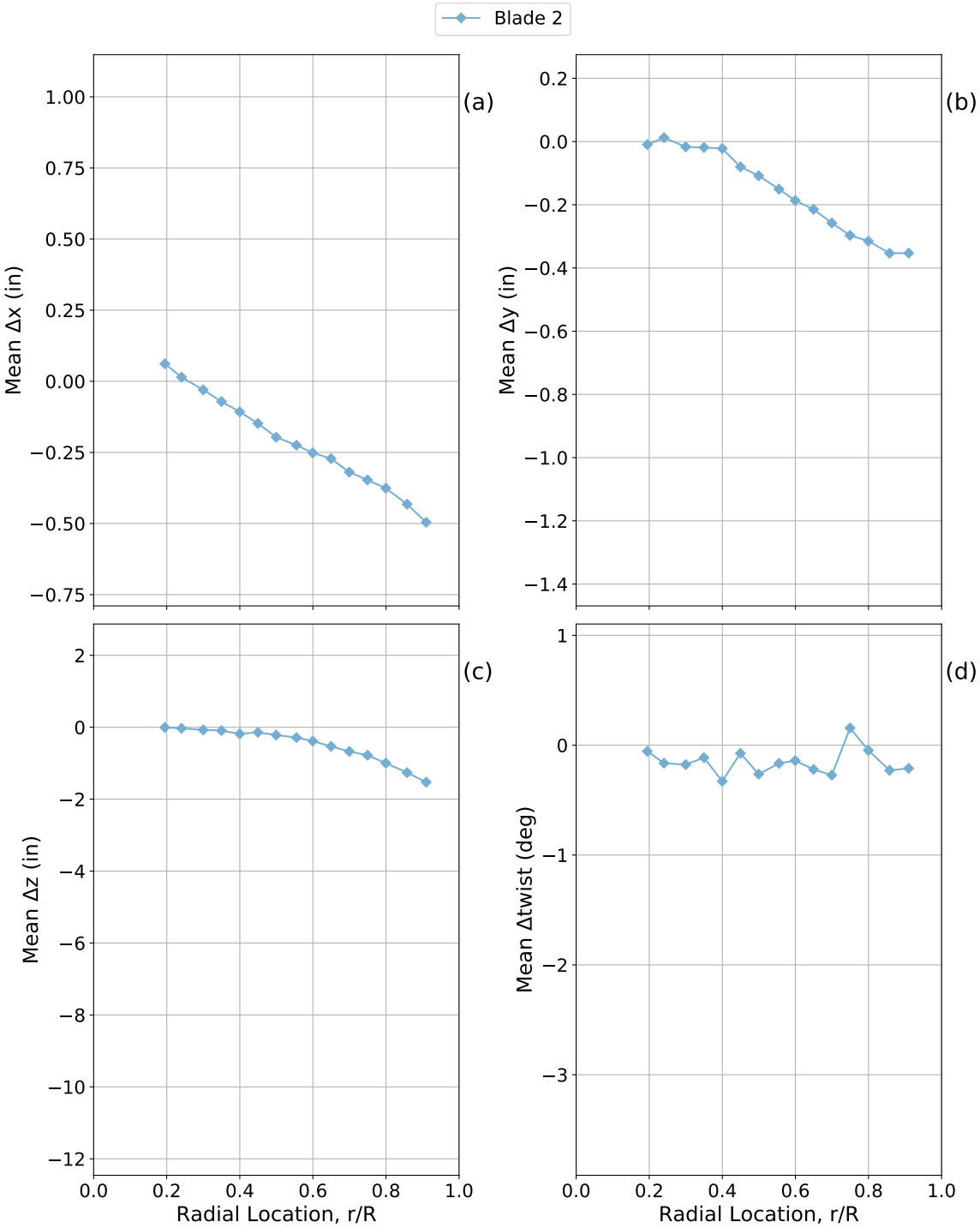


Figure 3.30-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0617	0.0015	-0.0097	0.0011	-0.0068	0.0022	-0.0555	0.0217
2	285.12	0.2405	0.0145	0.0014	0.0122	0.0029	-0.0318	0.0055	-0.1642	0.0410
2	285.12	0.2999	-0.0301	0.0013	-0.0169	0.0062	-0.0751	0.0108	-0.1767	0.0547
2	285.12	0.3498	-0.0712	0.0025	-0.0188	0.0106	-0.0937	0.0160	-0.1136	0.0446
2	285.12	0.3998	-0.1074	0.0019	-0.0221	0.0168	-0.1850	0.0265	-0.3286	0.0731
2	285.12	0.4496	-0.1482	0.0017	-0.0799	0.0178	-0.1417	0.0272	-0.0735	0.0647
2	285.12	0.4995	-0.1965	0.0025	-0.1082	0.0188	-0.2194	0.0288	-0.2638	0.0512
2	285.12	0.5551	-0.2249	0.0032	-0.1507	0.0181	-0.2874	0.0335	-0.1651	0.0497
2	285.12	0.5996	-0.2517	0.0028	-0.1865	0.0220	-0.3854	0.0359	-0.1406	0.0438
2	285.12	0.6497	-0.2719	0.0021	-0.2146	0.0237	-0.5325	0.0396	-0.2205	0.0390
2	285.12	0.6996	-0.3193	0.0027	-0.2576	0.0260	-0.6733	0.0442	-0.2725	0.0375
2	285.12	0.7495	-0.3472	0.0035	-0.2969	0.0284	-0.7794	0.0502	0.1565	0.0599
2	285.12	0.7996	-0.3760	0.0038	-0.3149	0.0309	-0.9981	0.0526	-0.0470	0.0524
2	285.12	0.8578	-0.4320	0.0033	-0.3533	0.0337	-1.2632	0.0561	-0.2290	0.0879
2	285.12	0.9100	-0.4958	0.0058	-0.3530	0.0353	-1.5276	0.0620	-0.2109	0.0646

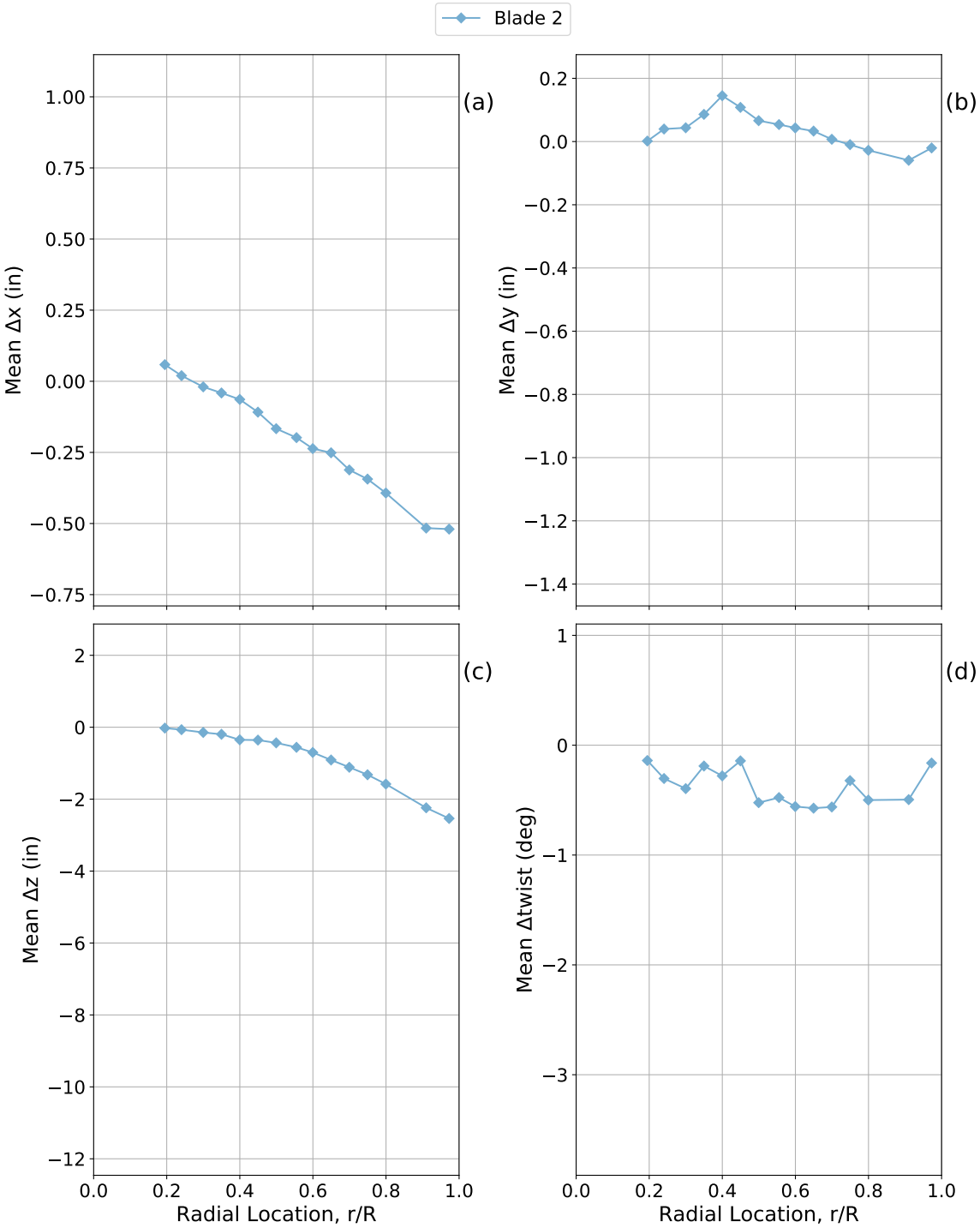


Figure 3.30-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0585	0.0018	0.0015	0.0009	-0.0245	0.0024	-0.1395	0.0224
2	299.88	0.2405	0.0197	0.0016	0.0396	0.0025	-0.0682	0.0066	-0.3033	0.0314
2	299.88	0.2999	-0.0196	0.0026	0.0436	0.0056	-0.1454	0.0119	-0.3953	0.0492
2	299.88	0.3498	-0.0411	0.0019	0.0860	0.0073	-0.1964	0.0196	-0.1895	0.0381
2	299.88	0.3998	-0.0638	0.0027	0.1450	0.0130	-0.3500	0.0310	-0.2794	0.0880
2	299.88	0.4496	-0.1085	0.0026	0.1081	0.0138	-0.3576	0.0316	-0.1427	0.0690
2	299.88	0.4995	-0.1666	0.0034	0.0661	0.0162	-0.4348	0.0372	-0.5233	0.0431
2	299.88	0.5551	-0.1981	0.0023	0.0538	0.0197	-0.5587	0.0456	-0.4768	0.0436
2	299.88	0.5996	-0.2367	0.0021	0.0432	0.0223	-0.7018	0.0515	-0.5586	0.0497
2	299.88	0.6497	-0.2513	0.0015	0.0331	0.0256	-0.9110	0.0586	-0.5734	0.0466
2	299.88	0.6996	-0.3116	0.0026	0.0072	0.0285	-1.1131	0.0647	-0.5624	0.0332
2	299.88	0.7495	-0.3439	0.0019	-0.0098	0.0306	-1.3216	0.0714	-0.3226	0.0384
2	299.88	0.7996	-0.3927	0.0025	-0.0277	0.0339	-1.5805	0.0803	-0.4996	0.0372
2	299.88	0.9100	-0.5161	0.0024	-0.0594	0.0400	-2.2409	0.1030	-0.4954	0.0429
2	299.88	0.9727	-0.5197	0.0032	-0.0203	0.0431	-2.5374	0.1184	-0.1622	0.0343

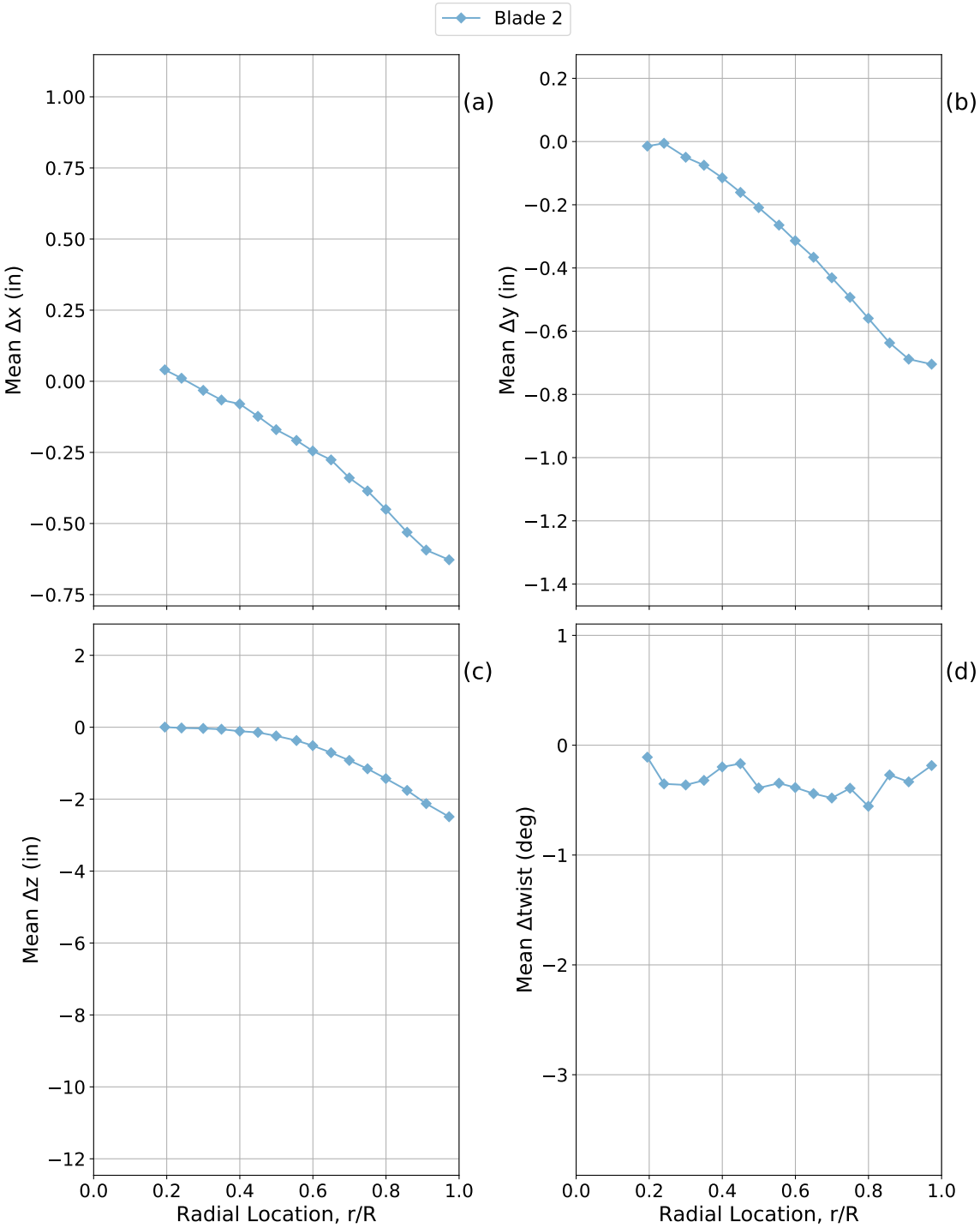


Figure 3.30-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0403	0.0013	-0.0144	0.0004	0.0036	0.0024	-0.1092	0.0168
2	315	0.2405	0.0107	0.0016	-0.0056	0.0024	-0.0211	0.0048	-0.3521	0.0286
2	315	0.2999	-0.0319	0.0022	-0.0496	0.0039	-0.0335	0.0101	-0.3619	0.0386
2	315	0.3498	-0.0658	0.0019	-0.0749	0.0062	-0.0561	0.0172	-0.3204	0.0175
2	315	0.3998	-0.0798	0.0032	-0.1147	0.0109	-0.1109	0.0262	-0.1980	0.0367
2	315	0.4496	-0.1233	0.0036	-0.1609	0.0115	-0.1446	0.0312	-0.1677	0.0317
2	315	0.4995	-0.1701	0.0027	-0.2090	0.0128	-0.2418	0.0381	-0.3890	0.0595
2	315	0.5551	-0.2079	0.0023	-0.2644	0.0164	-0.3701	0.0467	-0.3462	0.0488
2	315	0.5996	-0.2451	0.0036	-0.3138	0.0190	-0.5122	0.0531	-0.3855	0.0464
2	315	0.6497	-0.2763	0.0030	-0.3661	0.0204	-0.7076	0.0585	-0.4407	0.0512
2	315	0.6996	-0.3397	0.0035	-0.4310	0.0244	-0.9227	0.0651	-0.4810	0.0388
2	315	0.7495	-0.3856	0.0036	-0.4929	0.0270	-1.1561	0.0734	-0.3921	0.0337
2	315	0.7996	-0.4502	0.0030	-0.5594	0.0297	-1.4282	0.0799	-0.5561	0.0372
2	315	0.8578	-0.5308	0.0030	-0.6371	0.0332	-1.7565	0.0907	-0.2708	0.0322
2	315	0.9100	-0.5934	0.0036	-0.6885	0.0363	-2.1249	0.1011	-0.3336	0.0401
2	315	0.9727	-0.6275	0.0034	-0.7044	0.0405	-2.4893	0.1175	-0.1851	0.0283

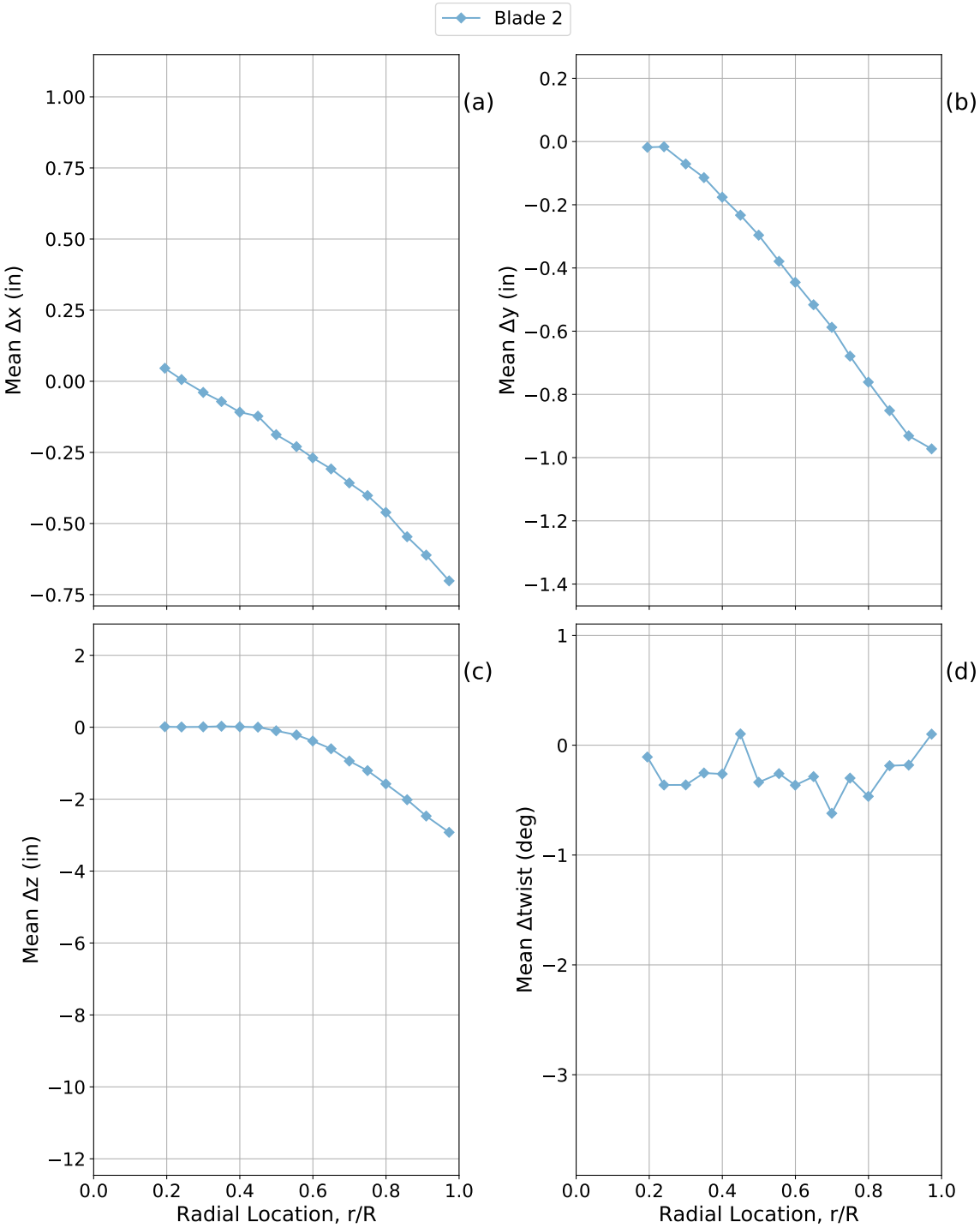


Figure 3.30-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0458	0.0019	-0.0182	0.0004	0.0138	0.0024	-0.1074	0.0248
2	330.12	0.2405	0.0061	0.0021	-0.0165	0.0019	0.0068	0.0071	-0.3623	0.0350
2	330.12	0.2999	-0.0391	0.0015	-0.0709	0.0039	0.0106	0.0126	-0.3616	0.0547
2	330.12	0.3498	-0.0713	0.0019	-0.1141	0.0039	0.0268	0.0220	-0.2531	0.0393
2	330.12	0.3998	-0.1085	0.0019	-0.1761	0.0087	0.0134	0.0350	-0.2620	0.0434
2	330.12	0.4496	-0.1226	0.0027	-0.2330	0.0110	0.0019	0.0399	0.1029	0.0561
2	330.12	0.4995	-0.1877	0.0025	-0.2962	0.0122	-0.0985	0.0439	-0.3377	0.0542
2	330.12	0.5551	-0.2297	0.0032	-0.3791	0.0121	-0.2143	0.0618	-0.2590	0.0547
2	330.12	0.5996	-0.2693	0.0035	-0.4454	0.0147	-0.3835	0.0667	-0.3640	0.0460
2	330.12	0.6497	-0.3081	0.0044	-0.5164	0.0172	-0.5993	0.0748	-0.2859	0.0440
2	330.12	0.6996	-0.3575	0.0058	-0.5877	0.0211	-0.9403	0.0808	-0.6204	0.1113
2	330.12	0.7495	-0.4017	0.0032	-0.6790	0.0193	-1.2063	0.0977	-0.2996	0.0534
2	330.12	0.7996	-0.4609	0.0033	-0.7611	0.0218	-1.5757	0.1056	-0.4661	0.0637
2	330.12	0.8578	-0.5465	0.0030	-0.8512	0.0244	-2.0159	0.1197	-0.1867	0.0408
2	330.12	0.9100	-0.6111	0.0025	-0.9311	0.0264	-2.4701	0.1309	-0.1812	0.0446
2	330.12	0.9727	-0.7016	0.0028	-0.9723	0.0295	-2.9226	0.1461	0.1007	0.0440

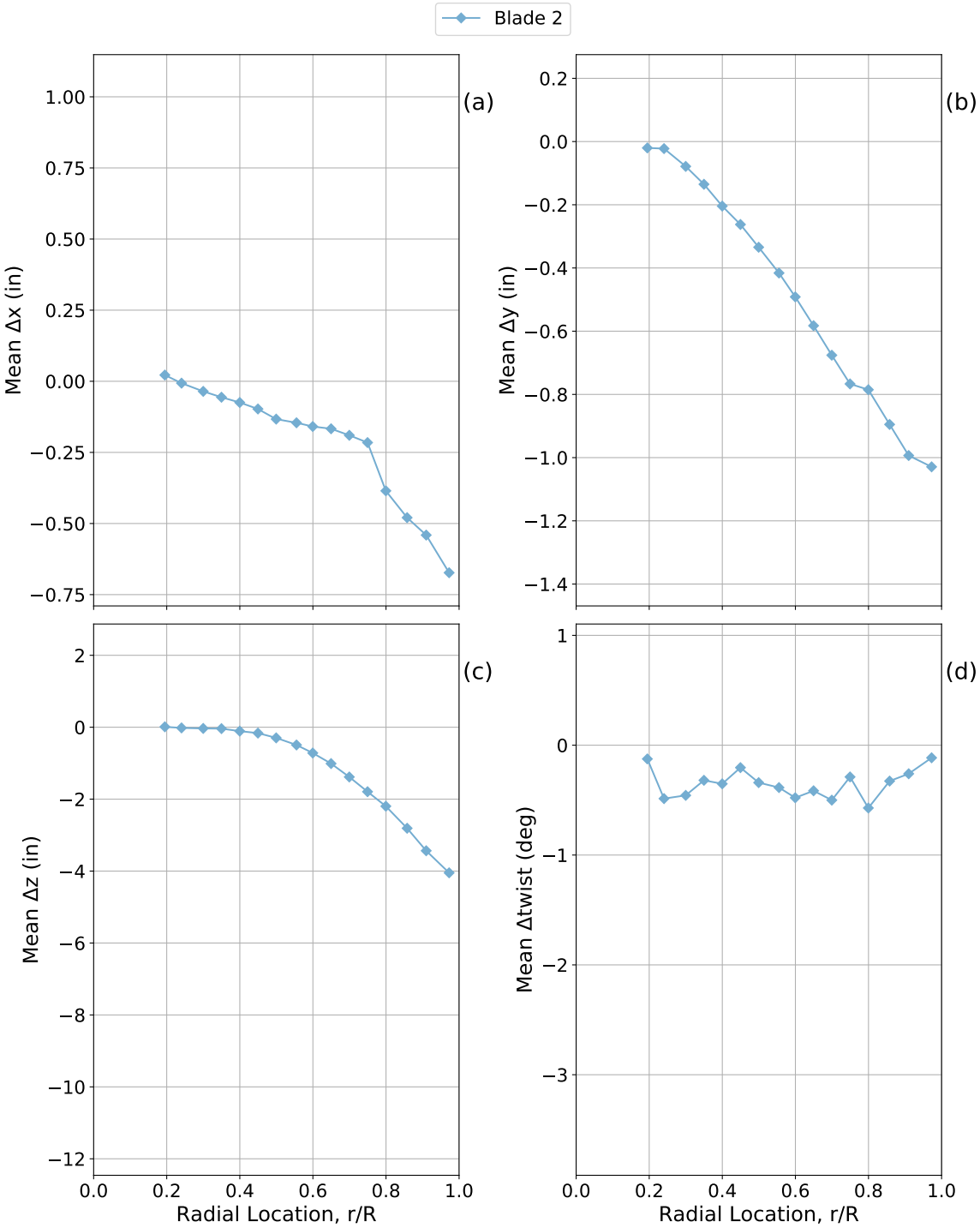


Figure 3.30-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0219	0.0016	-0.0202	0.0010	0.0114	0.0019	-0.1251	0.0102
2	344.88	0.2405	-0.0066	0.0008	-0.0223	0.0015	-0.0189	0.0022	-0.4863	0.0236
2	344.88	0.2999	-0.0355	0.0017	-0.0786	0.0032	-0.0334	0.0055	-0.4567	0.0258
2	344.88	0.3498	-0.0561	0.0014	-0.1352	0.0049	-0.0384	0.0095	-0.3197	0.0276
2	344.88	0.3998	-0.0746	0.0027	-0.2042	0.0076	-0.1088	0.0136	-0.3515	0.0288
2	344.88	0.4496	-0.0974	0.0023	-0.2624	0.0091	-0.1632	0.0173	-0.2042	0.0236
2	344.88	0.4995	-0.1330	0.0025	-0.3344	0.0104	-0.2961	0.0190	-0.3406	0.0292
2	344.88	0.5551	-0.1459	0.0027	-0.4160	0.0129	-0.4936	0.0212	-0.3857	0.0316
2	344.88	0.5996	-0.1590	0.0029	-0.4915	0.0147	-0.7169	0.0237	-0.4786	0.0349
2	344.88	0.6497	-0.1669	0.0027	-0.5826	0.0168	-1.0108	0.0267	-0.4150	0.0384
2	344.88	0.6996	-0.1899	0.0035	-0.6760	0.0197	-1.3834	0.0317	-0.5002	0.0340
2	344.88	0.7495	-0.2155	0.0063	-0.7668	0.0213	-1.7927	0.0329	-0.2890	0.0389
2	344.88	0.7996	-0.3852	0.0081	-0.7851	0.0468	-2.1971	0.0548	-0.5718	0.0441
2	344.88	0.8578	-0.4794	0.0079	-0.8950	0.0510	-2.8093	0.0549	-0.3266	0.0388
2	344.88	0.9100	-0.5407	0.0076	-0.9934	0.0554	-3.4349	0.0593	-0.2600	0.0494
2	344.88	0.9727	-0.6730	0.0069	-1.0292	0.0599	-4.0478	0.0606	-0.1146	0.0423

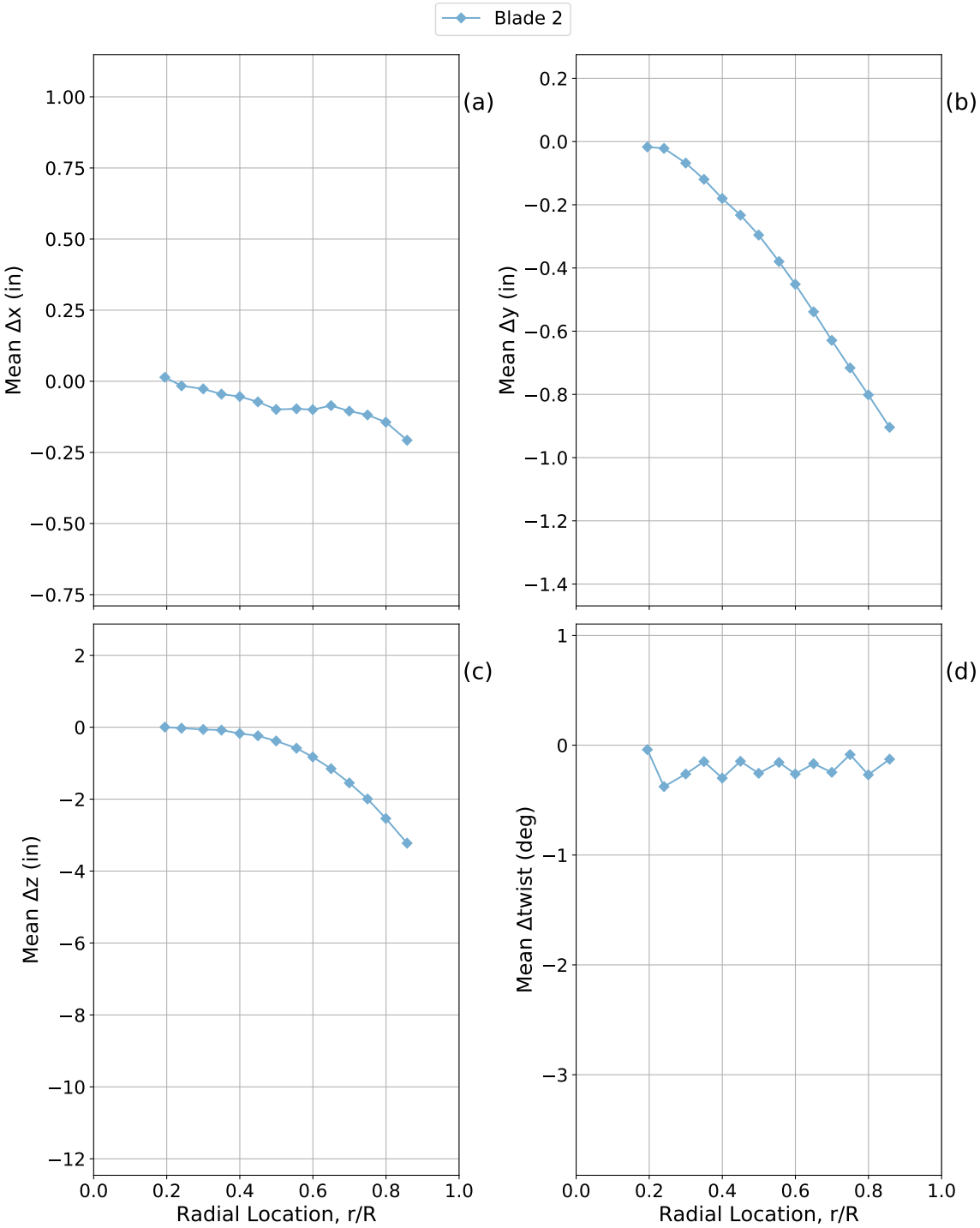


Figure 3.30-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.071, μ = 0.152, α = 4.76°
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0141	0.0041	-0.0171	0.0026	0.0033	0.0057	-0.0403	0.0371
2	350.16	0.2405	-0.0161	0.0011	-0.0217	0.0020	-0.0275	0.0046	-0.3770	0.0839
2	350.16	0.2999	-0.0267	0.0011	-0.0680	0.0072	-0.0619	0.0143	-0.2622	0.0935
2	350.16	0.3498	-0.0453	0.0016	-0.1195	0.0125	-0.0805	0.0238	-0.1491	0.0832
2	350.16	0.3998	-0.0537	0.0019	-0.1801	0.0174	-0.1741	0.0325	-0.2996	0.0817
2	350.16	0.4496	-0.0724	0.0025	-0.2329	0.0221	-0.2381	0.0402	-0.1466	0.0854
2	350.16	0.4995	-0.0991	0.0030	-0.2958	0.0272	-0.3820	0.0497	-0.2560	0.0806
2	350.16	0.5551	-0.0968	0.0028	-0.3796	0.0322	-0.5838	0.0600	-0.1566	0.0833
2	350.16	0.5996	-0.0997	0.0040	-0.4515	0.0361	-0.8275	0.0691	-0.2620	0.0906
2	350.16	0.6497	-0.0855	0.0042	-0.5386	0.0410	-1.1533	0.0787	-0.1684	0.0934
2	350.16	0.6996	-0.1049	0.0042	-0.6290	0.0451	-1.5491	0.0877	-0.2470	0.0852
2	350.16	0.7495	-0.1184	0.0073	-0.7161	0.0499	-1.9949	0.0965	-0.0854	0.0815
2	350.16	0.7996	-0.1437	0.0084	-0.8015	0.0535	-2.5381	0.1085	-0.2697	0.0965
2	350.16	0.8578	-0.2073	0.0130	-0.9041	0.0606	-3.2240	0.1163	-0.1273	0.1247

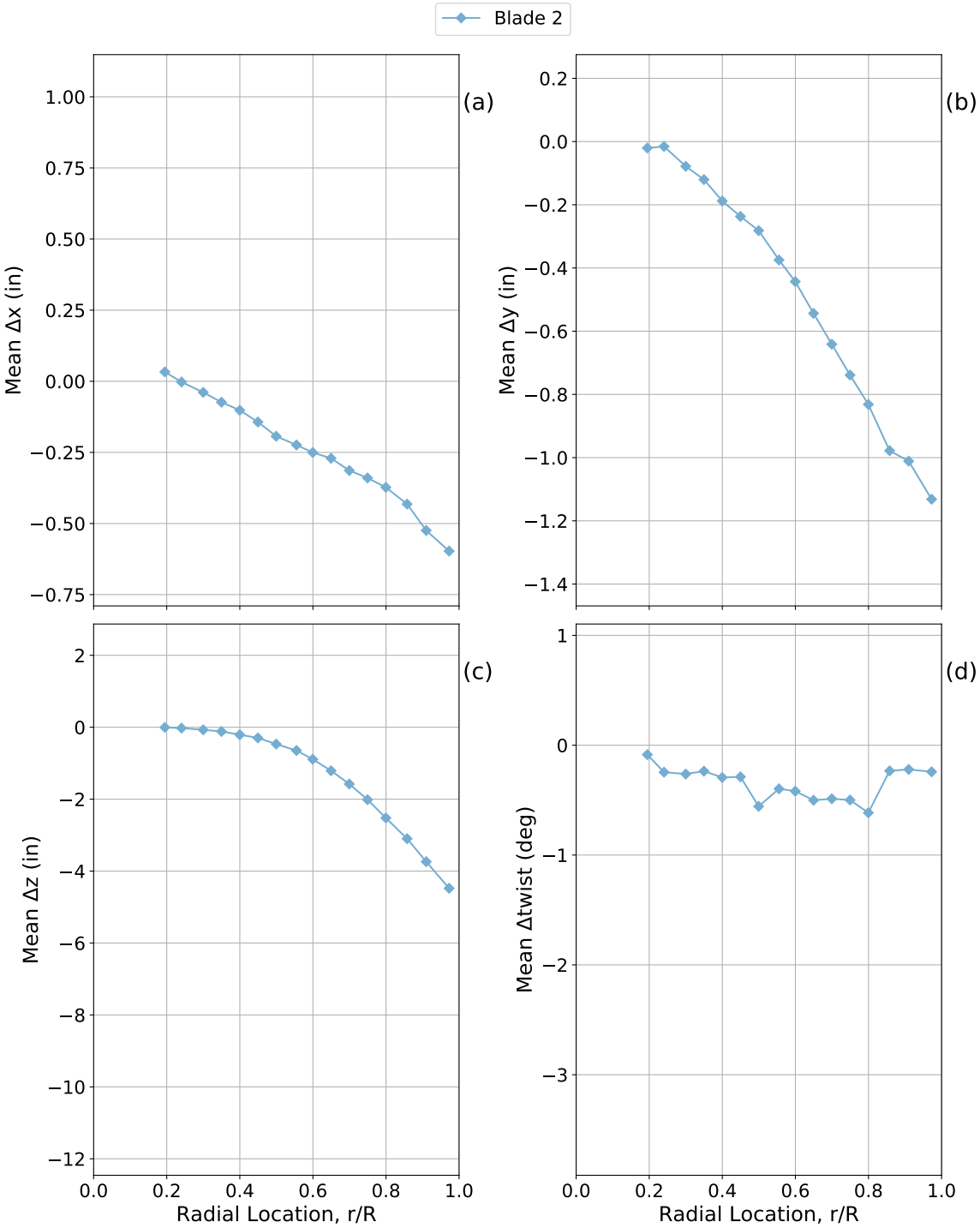


Figure 3.30-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$ NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Table 3.30-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.071$, $\mu = 0.152$, $\alpha = 4.76°$
NFAC run 67, point 33. BD run 32, points 5072 to 5082.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0330	0.0028	-0.0204	0.0016	-0.0049	0.0028	-0.0860	0.0388
2	355.08	0.2405	-0.0026	0.0014	-0.0155	0.0026	-0.0248	0.0063	-0.2457	0.0764
2	355.08	0.2999	-0.0389	0.0012	-0.0783	0.0045	-0.0722	0.0108	-0.2627	0.1002
2	355.08	0.3498	-0.0736	0.0019	-0.1203	0.0071	-0.1170	0.0206	-0.2362	0.0880
2	355.08	0.3998	-0.1018	0.0017	-0.1881	0.0105	-0.2086	0.0305	-0.2937	0.0830
2	355.08	0.4496	-0.1431	0.0022	-0.2369	0.0133	-0.2975	0.0392	-0.2882	0.0925
2	355.08	0.4995	-0.1933	0.0022	-0.2819	0.0171	-0.4690	0.0493	-0.5566	0.1002
2	355.08	0.5551	-0.2239	0.0020	-0.3747	0.0202	-0.6478	0.0601	-0.3970	0.0991
2	355.08	0.5996	-0.2505	0.0024	-0.4431	0.0238	-0.8902	0.0688	-0.4184	0.0881
2	355.08	0.6497	-0.2708	0.0025	-0.5437	0.0273	-1.2105	0.0757	-0.5010	0.1142
2	355.08	0.6996	-0.3136	0.0025	-0.6412	0.0300	-1.5792	0.0833	-0.4880	0.1010
2	355.08	0.7495	-0.3398	0.0026	-0.7388	0.0336	-2.0142	0.0918	-0.4991	0.0912
2	355.08	0.7996	-0.3729	0.0028	-0.8317	0.0354	-2.5227	0.0995	-0.6152	0.1034
2	355.08	0.8578	-0.4317	0.0063	-0.9780	0.0407	-3.0997	0.1072	-0.2336	0.1176
2	355.08	0.9100	-0.5244	0.0048	-1.0111	0.0446	-3.7377	0.1238	-0.2206	0.1043
2	355.08	0.9727	-0.5969	0.0143	-1.1317	0.0514	-4.4779	0.1298	-0.2422	0.1144

3.31 Run 77, Point 11

3.31.1 Pitch, Flap, and Lag

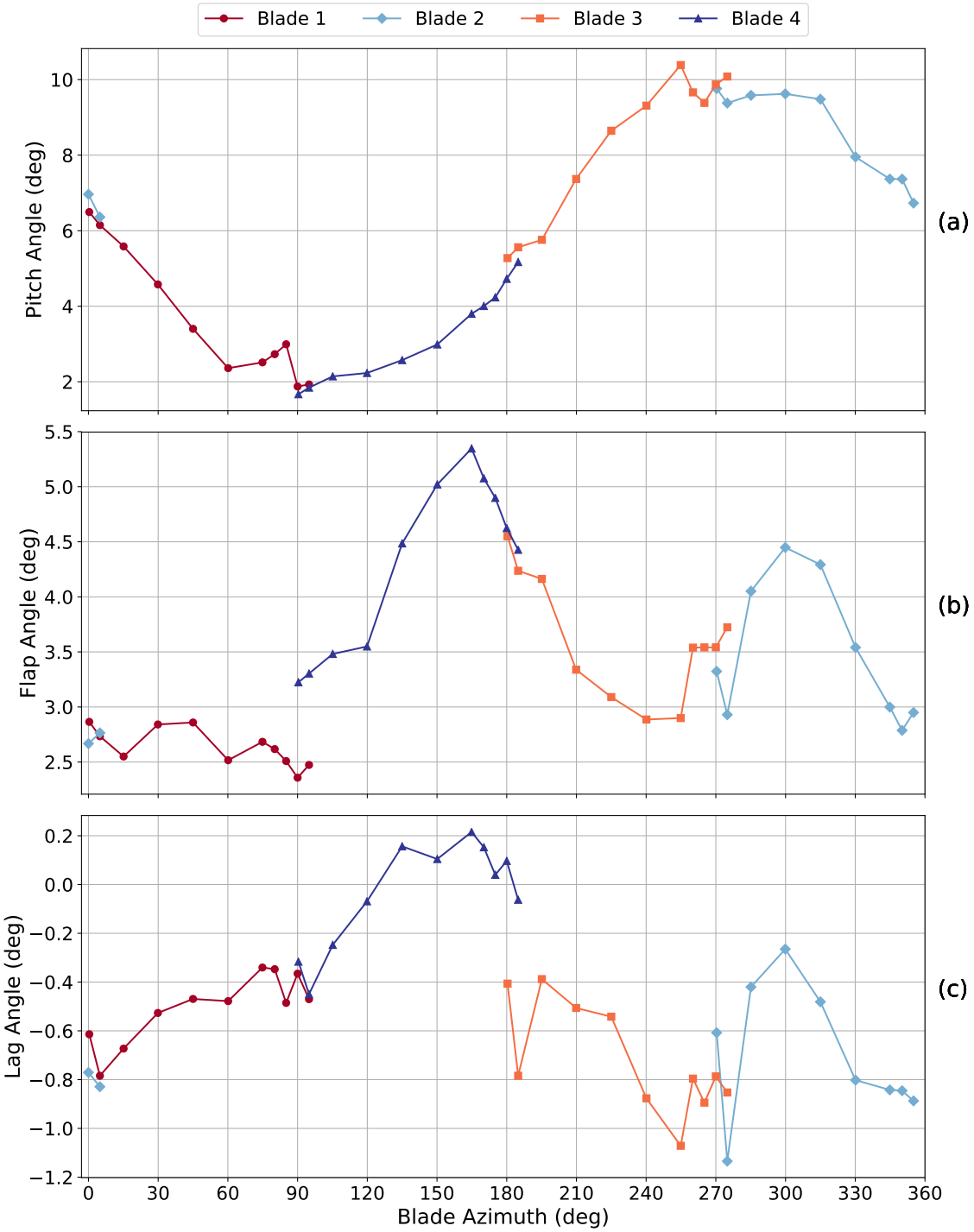


Figure 3.31-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	6.9642	2.6675	-0.7705	0.0536	0.0665	0.0517
0.35	1	6.4940	2.8646	-0.6139	0.1010	0.0819	0.0564
4.92	1	6.1481	2.7339	-0.7842	0.1158	0.0665	0.0362
4.92	2	6.3608	2.7643	-0.8292	0.0999	0.0615	0.0441
15.12	1	5.5839	2.5501	-0.6727	0.0904	0.0468	0.0427
29.88	1	4.5776	2.8412	-0.5267	0.1228	0.1020	0.0326
45	1	3.4019	2.8589	-0.4692	0.1017	0.1034	0.0505
60.12	1	2.3606	2.5164	-0.4781	0.0592	0.0400	0.0186
74.88	1	2.5137	2.6835	-0.3403	0.1081	0.0569	0.0408
80.16	1	2.7311	2.6174	-0.3471	0.1960	0.1137	0.0506
85.08	1	2.9936	2.5087	-0.4853	0.2119	0.1355	0.0501
90	1	1.8751	2.3576	-0.3655	0.0450	0.0512	0.0256
90.35	4	1.6703	3.2238	-0.3165	0.0989	0.0491	0.0456
94.92	1	1.9302	2.4737	-0.4702	0.0553	0.0676	0.0580
94.92	4	1.8439	3.3033	-0.4495	0.1053	0.0482	0.0274
105.12	4	2.1428	3.4812	-0.2476	0.0577	0.0813	0.0290
119.88	4	2.2322	3.5492	-0.0689	0.1074	0.1081	0.0283
135	4	2.5736	4.4850	0.1565	0.0558	0.0840	0.0632
150.12	4	2.9876	5.0204	0.1044	0.0710	0.0604	0.0219
164.88	4	3.7997	5.3467	0.2154	0.0396	0.1177	0.0266
170.16	4	4.0058	5.0758	0.1526	0.0287	0.1439	0.0218
175.08	4	4.2338	4.8984	0.0396	0.0925	0.1333	0.0437
180	4	4.7248	4.6237	0.0968	0.0446	0.1097	0.0356
180.35	3	5.2742	4.5495	-0.4064	0.0783	0.1123	0.0492
184.92	3	5.5614	4.2365	-0.7840	0.2754	0.1408	0.1088
184.92	4	5.1699	4.4269	-0.0625	0.2955	0.2230	0.0629
195.12	3	5.7577	4.1626	-0.3878	0.1093	0.2025	0.2189
209.88	3	7.3694	3.3385	-0.5062	0.0756	0.1979	0.0226
225	3	8.6455	3.0897	-0.5420	0.0665	0.1031	0.0890
240.12	3	9.3112	2.8860	-0.8766	0.0512	0.0709	0.0299
254.88	3	10.3855	2.8992	-1.0713	0.0924	0.0973	0.0402
260.16	3	9.6628	3.5389	-0.7959	0.1641	0.0731	0.0452
265.08	3	9.3846	3.5409	-0.8944	0.1504	0.1081	0.0297
270	3	9.8722	3.5414	-0.7868	0.2360	0.1055	0.0525
270.35	2	9.7628	3.3234	-0.6077	0.2910	0.1234	0.0442
274.92	2	9.3784	2.9297	-1.1344	0.1321	0.0583	0.0571
274.92	3	10.0817	3.7236	-0.8528	0.4136	0.1442	0.0535
285.12	2	9.5832	4.0509	-0.4203	0.0767	0.0671	0.0600
299.88	2	9.6229	4.4482	-0.2648	0.1290	0.0943	0.0334
315	2	9.4811	4.2927	-0.4810	0.0814	0.1297	0.0980
330.12	2	7.9521	3.5402	-0.8020	0.0423	0.0431	0.0357
344.88	2	7.3681	2.9990	-0.8421	0.0396	0.0501	0.0242
350.16	2	7.3673	2.7873	-0.8454	0.0706	0.0629	0.0354
355.08	2	6.7303	2.9496	-0.8873	0.0809	0.0718	0.0349

3.31.2 Spanwise Elastic Deformations

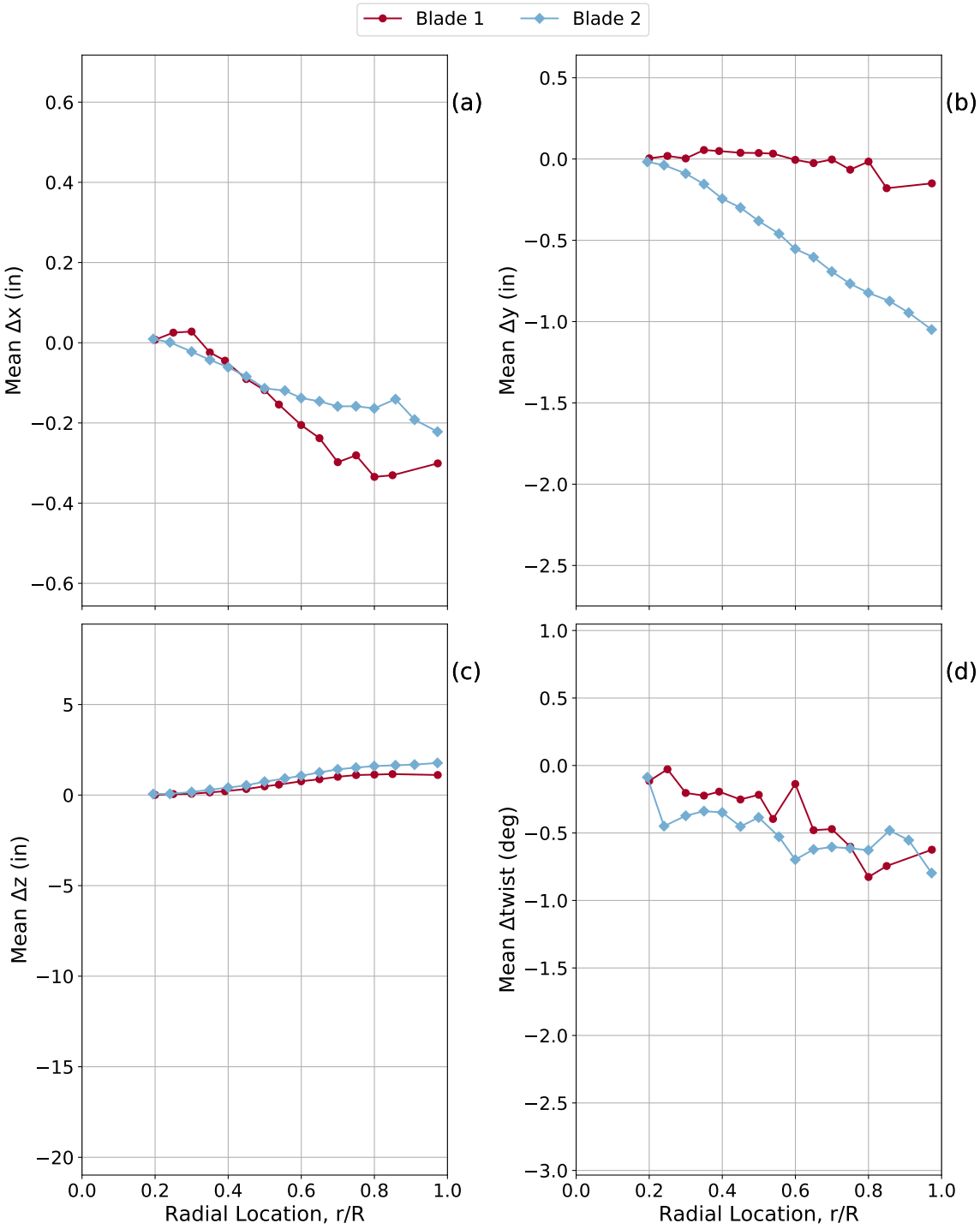


Figure 3.31-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.299$, $\alpha = -0.6°$ NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0076	0.0026	0.0042	0.0020	0.0118	0.0057	-0.1143	0.0572
1	0.35	0.2499	0.0253	0.0024	0.0188	0.0040	0.0552	0.0120	-0.0281	0.0826
1	0.35	0.2998	0.0279	0.0018	0.0035	0.0073	0.0698	0.0197	-0.2034	0.1228
1	0.35	0.3498	-0.0241	0.0018	0.0553	0.0120	0.1475	0.0352	-0.2233	0.0931
1	0.35	0.3913	-0.0447	0.0018	0.0490	0.0164	0.2132	0.0483	-0.1938	0.0822
1	0.35	0.4496	-0.0905	0.0017	0.0383	0.0222	0.3356	0.0636	-0.2518	0.0761
1	0.35	0.4997	-0.1183	0.0023	0.0369	0.0274	0.4796	0.0770	-0.2171	0.0859
1	0.35	0.5387	-0.1541	0.0039	0.0331	0.0314	0.5769	0.0897	-0.3962	0.0751
1	0.35	0.5996	-0.2052	0.0044	-0.0051	0.0410	0.7613	0.1122	-0.1370	0.0862
1	0.35	0.6498	-0.2379	0.0035	-0.0253	0.0468	0.8730	0.1357	-0.4793	0.0785
1	0.35	0.6998	-0.2978	0.0038	-0.0030	0.0528	1.0099	0.1579	-0.4710	0.0871
1	0.35	0.7500	-0.2808	0.0050	-0.0656	0.0611	1.1044	0.1801	-0.6014	0.1310
1	0.35	0.8001	-0.3345	0.0044	-0.0157	0.0682	1.1292	0.2066	-0.8262	0.0931
1	0.35	0.8497	-0.3304	0.0055	-0.1796	0.0773	1.1579	0.2306	-0.7448	0.1309
1	0.35	0.9734	-0.3008	0.0069	-0.1498	0.0962	1.1088	0.2847	-0.6240	0.1293
2	0	0.1949	0.0093	0.0061	-0.0176	0.0018	0.0567	0.0035	-0.0871	0.0291
2	0	0.2405	0.0011	0.0040	-0.0377	0.0049	0.0676	0.0125	-0.4495	0.0244
2	0	0.2999	-0.0222	0.0033	-0.0894	0.0088	0.1684	0.0160	-0.3725	0.0466
2	0	0.3498	-0.0427	0.0081	-0.1545	0.0161	0.2921	0.0275	-0.3380	0.0426
2	0	0.3998	-0.0612	0.0133	-0.2442	0.0253	0.4126	0.0442	-0.3480	0.0269
2	0	0.4496	-0.0842	0.0176	-0.2994	0.0327	0.5363	0.0542	-0.4520	0.0317
2	0	0.4995	-0.1137	0.0213	-0.3809	0.0437	0.7398	0.0725	-0.3850	0.0749
2	0	0.5551	-0.1194	0.0238	-0.4599	0.0541	0.9163	0.0846	-0.5281	0.0396
2	0	0.5996	-0.1379	0.0255	-0.5532	0.0623	1.0642	0.0992	-0.6976	0.0444
2	0	0.6497	-0.1461	0.0273	-0.6041	0.0718	1.2482	0.1182	-0.6219	0.0439
2	0	0.6996	-0.1587	0.0287	-0.6923	0.0829	1.4214	0.1356	-0.6043	0.0514
2	0	0.7495	-0.1583	0.0308	-0.7667	0.0951	1.5166	0.1545	-0.6135	0.0552
2	0	0.7996	-0.1637	0.0339	-0.8230	0.1072	1.5993	0.1683	-0.6274	0.0385
2	0	0.8578	-0.1407	0.0357	-0.8741	0.1242	1.6458	0.1894	-0.4815	0.0723
2	0	0.9100	-0.1918	0.0344	-0.9455	0.1386	1.6822	0.2100	-0.5532	0.0524
2	0	0.9727	-0.2219	0.0367	-1.0491	0.1603	1.7737	0.2342	-0.7968	0.0801

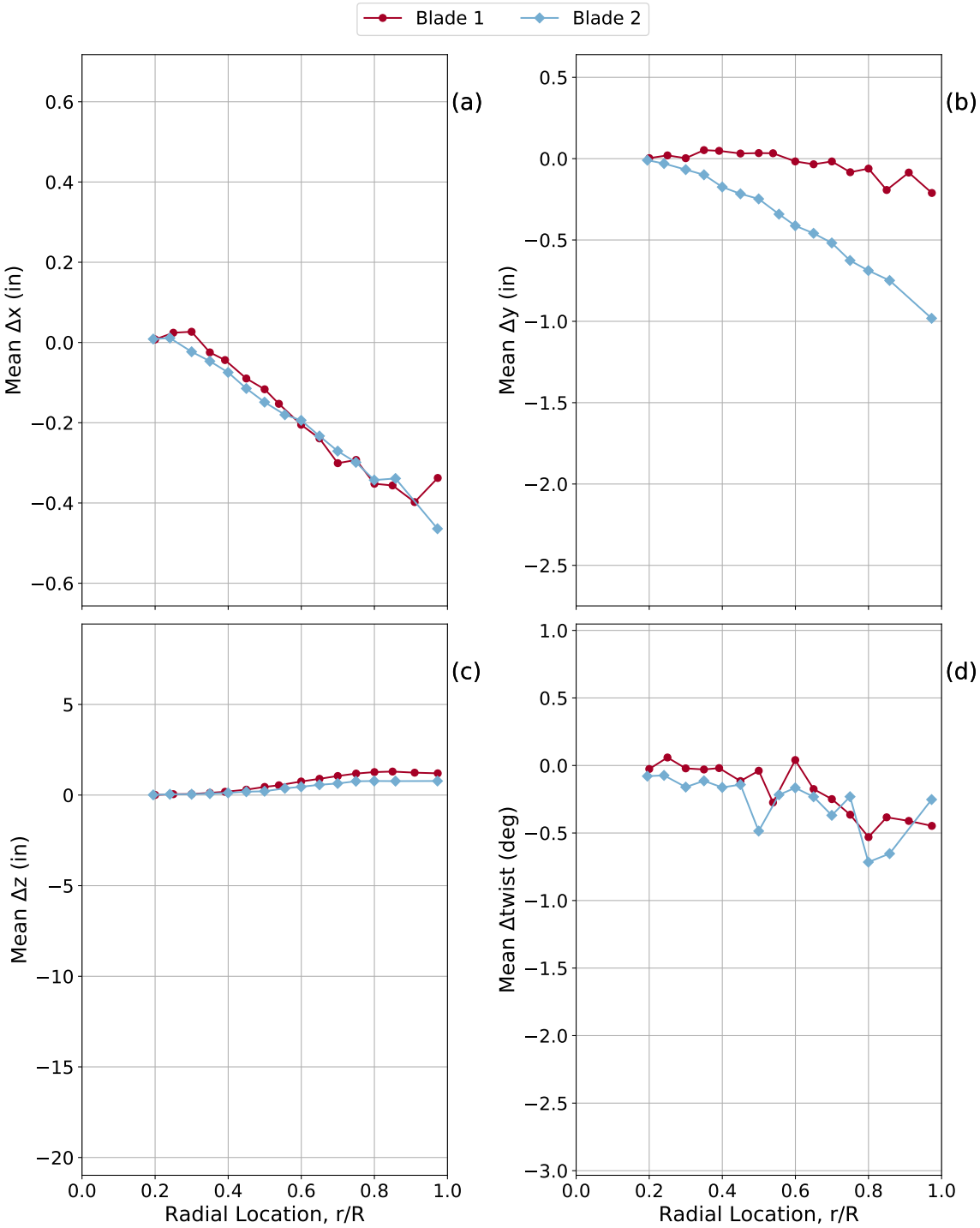


Figure 3.31-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.299$, $\alpha = -0.6°$ NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0077	0.0034	0.0031	0.0016	0.0078	0.0058	-0.0260	0.0456
1	4.92	0.2499	0.0243	0.0017	0.0200	0.0040	0.0489	0.0104	0.0591	0.0737
1	4.92	0.2998	0.0268	0.0024	0.0028	0.0074	0.0575	0.0194	-0.0214	0.1004
1	4.92	0.3498	-0.0247	0.0021	0.0524	0.0127	0.1222	0.0342	-0.0296	0.0925
1	4.92	0.3913	-0.0438	0.0030	0.0480	0.0186	0.1812	0.0468	-0.0195	0.0915
1	4.92	0.4496	-0.0897	0.0026	0.0317	0.0228	0.2983	0.0680	-0.1155	0.0855
1	4.92	0.4997	-0.1166	0.0035	0.0342	0.0296	0.4500	0.0893	-0.0390	0.0999
1	4.92	0.5387	-0.1528	0.0033	0.0332	0.0336	0.5405	0.1053	-0.2741	0.0919
1	4.92	0.5996	-0.2050	0.0038	-0.0170	0.0414	0.7492	0.1339	0.0402	0.0905
1	4.92	0.6498	-0.2391	0.0042	-0.0346	0.0487	0.8974	0.1589	-0.1747	0.1135
1	4.92	0.6998	-0.3008	0.0041	-0.0172	0.0567	1.0520	0.1880	-0.2490	0.1202
1	4.92	0.7500	-0.2927	0.0043	-0.0834	0.0620	1.1874	0.2231	-0.3645	0.1029
1	4.92	0.8001	-0.3521	0.0048	-0.0613	0.0682	1.2690	0.2634	-0.5304	0.0829
1	4.92	0.8497	-0.3563	0.0045	-0.1927	0.0751	1.2975	0.3116	-0.3838	0.1208
1	4.92	0.9102	-0.3978	0.0057	-0.0856	0.0935	1.2367	0.3872	-0.4104	0.1701
1	4.92	0.9734	-0.3376	0.0068	-0.2110	0.0907	1.2003	0.4544	-0.4472	0.0903
2	4.92	0.1949	0.0086	0.0020	-0.0097	0.0013	0.0109	0.0047	-0.0792	0.0443
2	4.92	0.2405	0.0111	0.0016	-0.0301	0.0028	0.0442	0.0053	-0.0734	0.0865
2	4.92	0.2999	-0.0231	0.0010	-0.0675	0.0053	0.0459	0.0164	-0.1599	0.1103
2	4.92	0.3498	-0.0466	0.0020	-0.0993	0.0086	0.0793	0.0244	-0.1137	0.1222
2	4.92	0.3998	-0.0746	0.0020	-0.1743	0.0139	0.1220	0.0378	-0.1626	0.1113
2	4.92	0.4496	-0.1146	0.0025	-0.2162	0.0161	0.1845	0.0547	-0.1415	0.1159
2	4.92	0.4995	-0.1487	0.0022	-0.2475	0.0188	0.2108	0.0760	-0.4856	0.0963
2	4.92	0.5551	-0.1801	0.0036	-0.3413	0.0224	0.3704	0.0960	-0.2171	0.1071
2	4.92	0.5996	-0.1940	0.0020	-0.4125	0.0254	0.4576	0.1124	-0.1656	0.1092
2	4.92	0.6497	-0.2331	0.0018	-0.4589	0.0293	0.5673	0.1308	-0.2318	0.1135
2	4.92	0.6996	-0.2707	0.0031	-0.5183	0.0342	0.6408	0.1454	-0.3693	0.1220
2	4.92	0.7495	-0.2988	0.0046	-0.6261	0.0410	0.7617	0.1595	-0.2310	0.1104
2	4.92	0.7996	-0.3429	0.0042	-0.6880	0.0384	0.7759	0.1694	-0.7154	0.1600
2	4.92	0.8578	-0.3389	0.0046	-0.7489	0.0501	0.7696	0.1785	-0.6527	0.1493
2	4.92	0.9727	-0.4642	0.0066	-0.9816	0.0602	0.7758	0.2167	-0.2523	0.2168

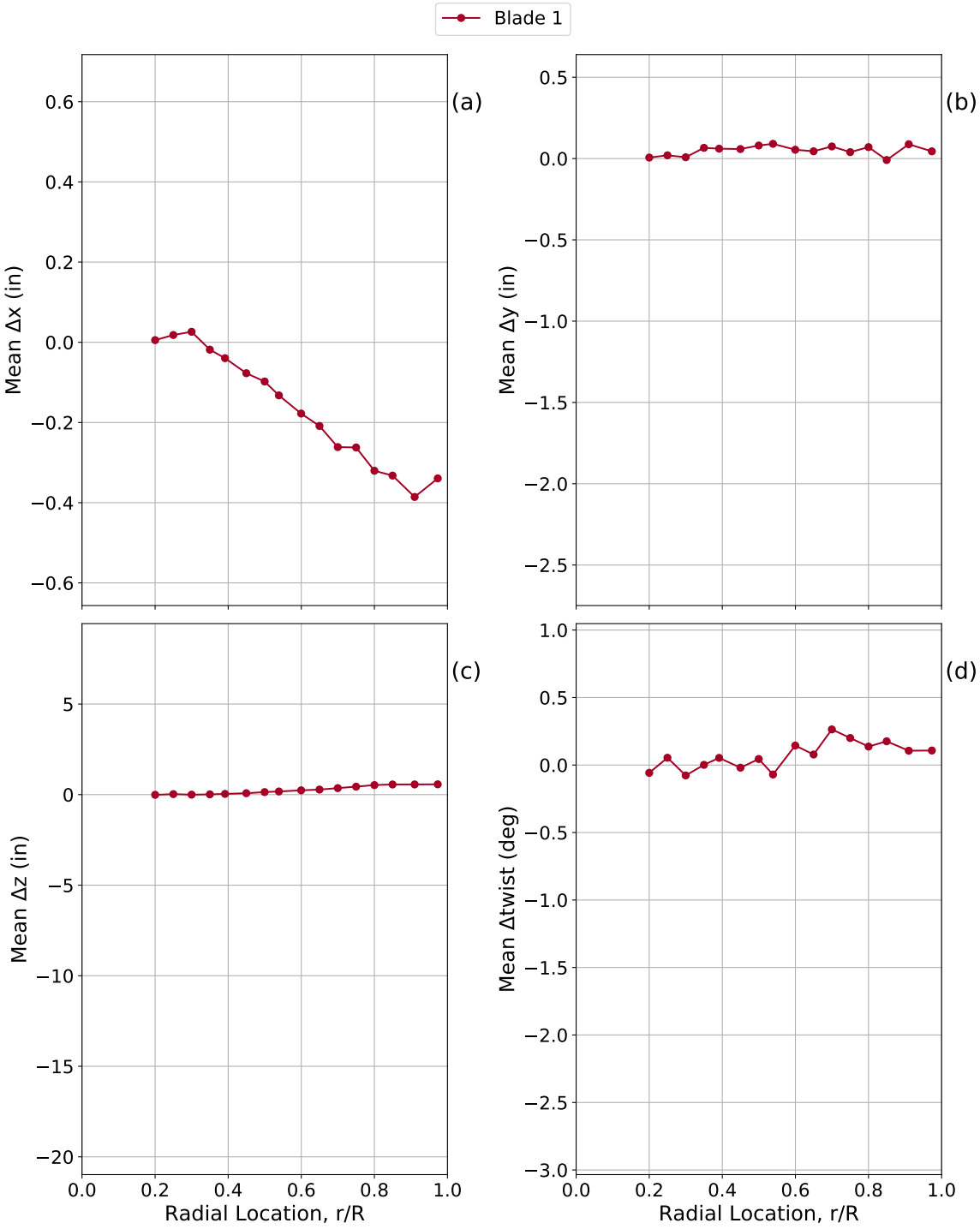


Figure 3.31-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.299$, $\alpha = -0.6°$ NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0054	0.0032	0.0061	0.0014	-0.0116	0.0042	-0.0579	0.0342
1	15.12	0.2499	0.0182	0.0020	0.0199	0.0037	0.0271	0.0102	0.0540	0.0514
1	15.12	0.2998	0.0262	0.0021	0.0080	0.0061	-0.0030	0.0169	-0.0773	0.0754
1	15.12	0.3498	-0.0184	0.0026	0.0660	0.0112	0.0137	0.0284	0.0015	0.0775
1	15.12	0.3913	-0.0396	0.0027	0.0607	0.0160	0.0393	0.0415	0.0530	0.0671
1	15.12	0.4496	-0.0771	0.0029	0.0584	0.0227	0.0765	0.0581	-0.0197	0.0722
1	15.12	0.4997	-0.0978	0.0029	0.0803	0.0279	0.1394	0.0710	0.0447	0.0744
1	15.12	0.5387	-0.1324	0.0030	0.0906	0.0320	0.1730	0.0816	-0.0700	0.0831
1	15.12	0.5996	-0.1777	0.0041	0.0542	0.0392	0.2359	0.0973	0.1445	0.0643
1	15.12	0.6498	-0.2087	0.0040	0.0447	0.0454	0.2774	0.1115	0.0780	0.0674
1	15.12	0.6998	-0.2613	0.0041	0.0745	0.0514	0.3589	0.1258	0.2640	0.0765
1	15.12	0.7500	-0.2623	0.0043	0.0395	0.0584	0.4390	0.1395	0.2002	0.0757
1	15.12	0.8001	-0.3204	0.0043	0.0703	0.0638	0.5263	0.1592	0.1368	0.0806
1	15.12	0.8497	-0.3324	0.0047	-0.0090	0.0711	0.5596	0.1763	0.1759	0.0947
1	15.12	0.9102	-0.3857	0.0057	0.0879	0.0802	0.5622	0.2050	0.1061	0.1187
1	15.12	0.9734	-0.3394	0.0062	0.0444	0.0872	0.5685	0.2382	0.1075	0.1148

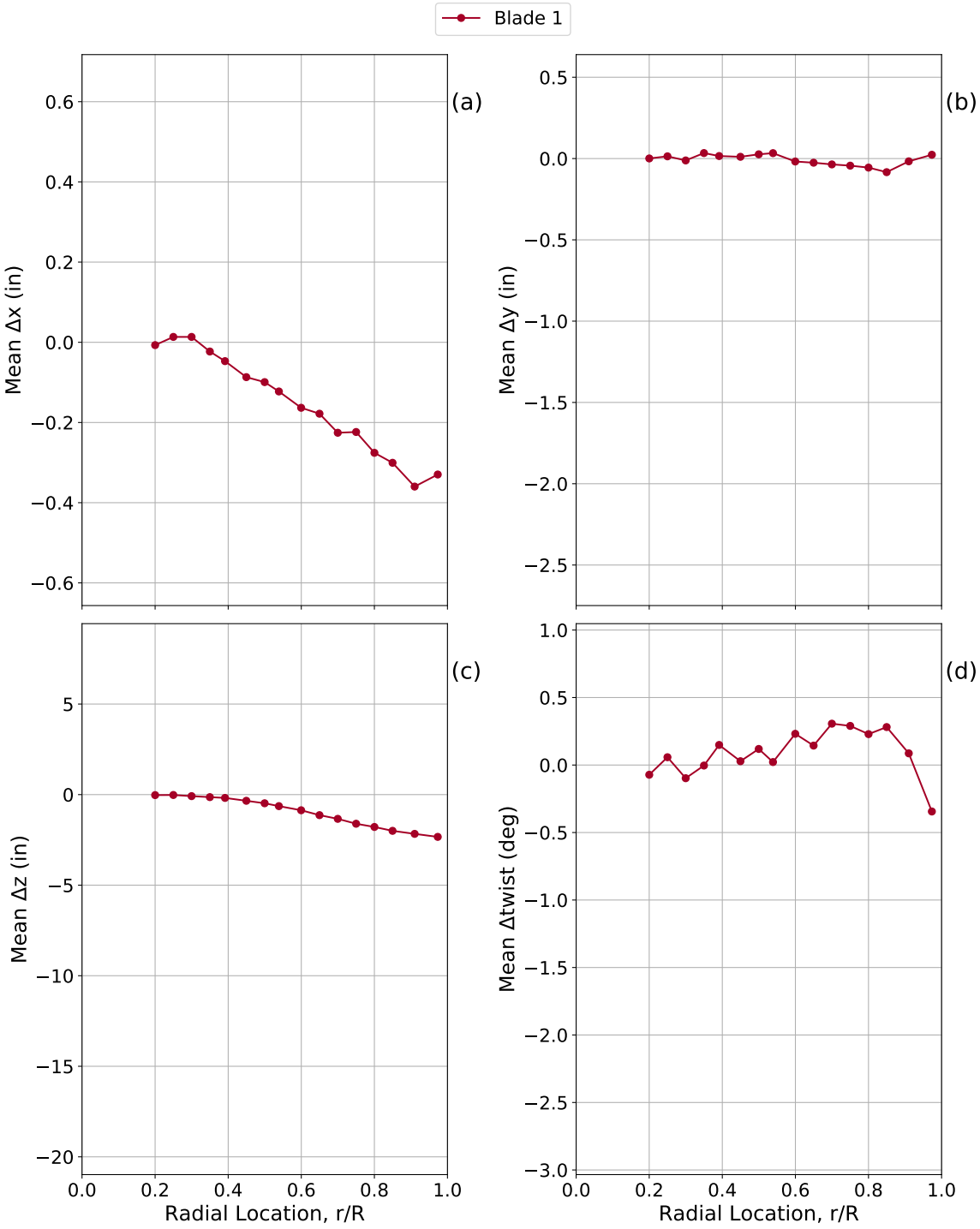


Figure 3.31-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.299$, $\alpha = -0.6°$ NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0070	0.0020	0.0007	0.0011	-0.0276	0.0035	-0.0719	0.0372
1	29.88	0.2499	0.0134	0.0026	0.0137	0.0021	-0.0210	0.0052	0.0579	0.0438
1	29.88	0.2998	0.0134	0.0015	-0.0116	0.0037	-0.0839	0.0117	-0.0976	0.0773
1	29.88	0.3498	-0.0230	0.0018	0.0338	0.0063	-0.1386	0.0173	-0.0038	0.0779
1	29.88	0.3913	-0.0470	0.0015	0.0155	0.0087	-0.1824	0.0252	0.1488	0.0891
1	29.88	0.4496	-0.0869	0.0016	0.0108	0.0125	-0.3411	0.0377	0.0283	0.0975
1	29.88	0.4997	-0.0993	0.0022	0.0261	0.0162	-0.4781	0.0530	0.1191	0.1014
1	29.88	0.5387	-0.1226	0.0018	0.0333	0.0199	-0.6356	0.0661	0.0221	0.1108
1	29.88	0.5996	-0.1633	0.0029	-0.0181	0.0268	-0.8641	0.0939	0.2313	0.1141
1	29.88	0.6498	-0.1781	0.0029	-0.0255	0.0326	-1.1336	0.1218	0.1440	0.1238
1	29.88	0.6998	-0.2256	0.0041	-0.0360	0.0393	-1.3377	0.1499	0.3064	0.1286
1	29.88	0.7500	-0.2237	0.0045	-0.0437	0.0463	-1.6082	0.1831	0.2899	0.1268
1	29.88	0.8001	-0.2756	0.0049	-0.0556	0.0524	-1.7858	0.2177	0.2290	0.1352
1	29.88	0.8497	-0.3005	0.0058	-0.0837	0.0592	-2.0001	0.2573	0.2813	0.1294
1	29.88	0.9102	-0.3598	0.0062	-0.0171	0.0676	-2.1670	0.3065	0.0866	0.1462
1	29.88	0.9734	-0.3297	0.0068	0.0234	0.0753	-2.3337	0.3691	-0.3442	0.1537

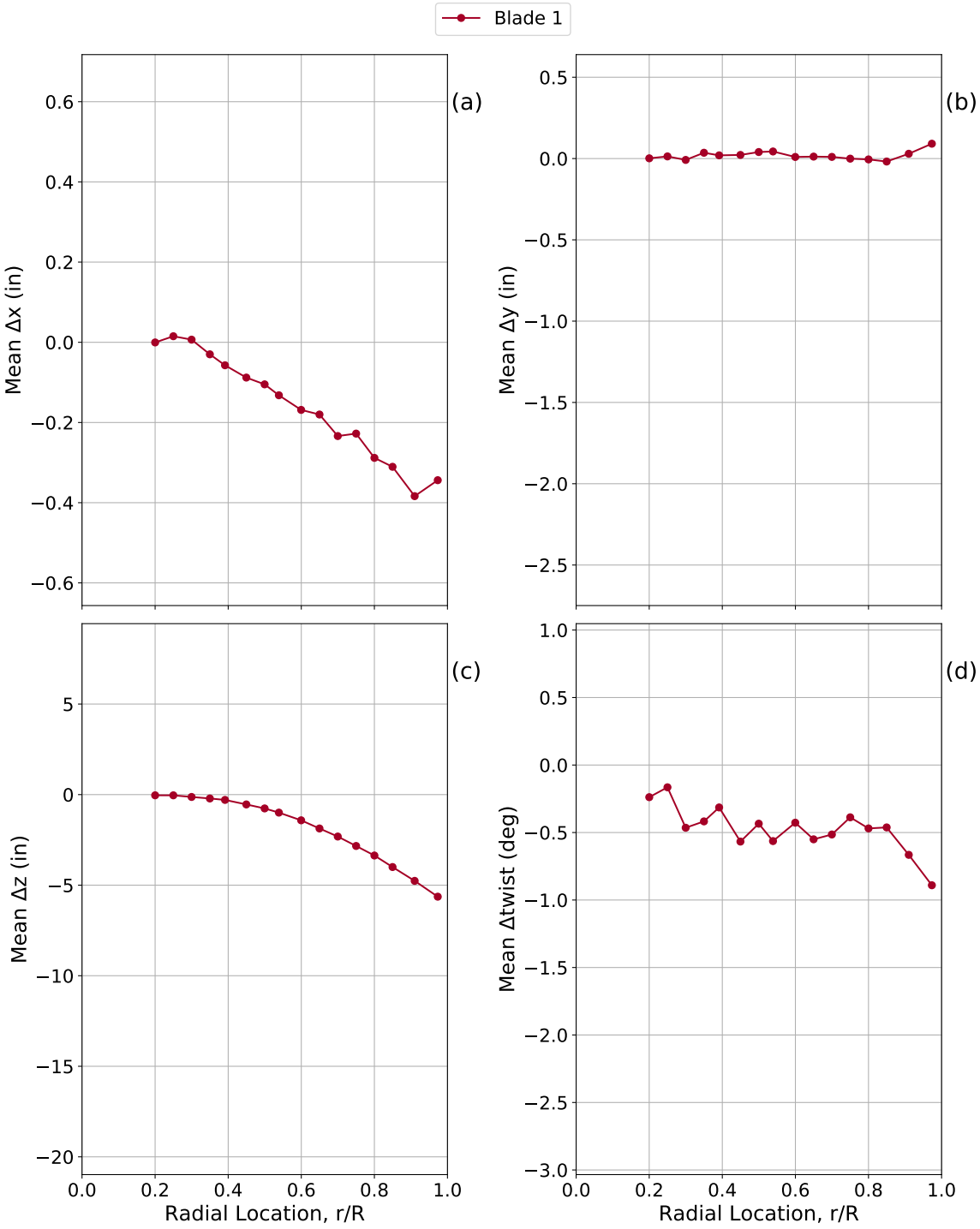


Figure 3.31-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.299$, $\alpha = -0.6°$ NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0004	0.0023	0.0015	0.0010	-0.0383	0.0051	-0.2381	0.0298
1	45	0.2499	0.0151	0.0018	0.0132	0.0023	-0.0395	0.0111	-0.1649	0.0505
1	45	0.2998	0.0066	0.0011	-0.0084	0.0039	-0.1300	0.0214	-0.4646	0.0696
1	45	0.3498	-0.0300	0.0032	0.0357	0.0068	-0.2137	0.0364	-0.4175	0.0714
1	45	0.3913	-0.0573	0.0026	0.0197	0.0099	-0.2930	0.0530	-0.3142	0.0734
1	45	0.4496	-0.0880	0.0019	0.0222	0.0149	-0.5423	0.0745	-0.5671	0.0725
1	45	0.4997	-0.1049	0.0027	0.0401	0.0194	-0.7629	0.0907	-0.4345	0.0757
1	45	0.5387	-0.1321	0.0022	0.0435	0.0219	-0.9938	0.1021	-0.5634	0.0788
1	45	0.5996	-0.1686	0.0019	0.0098	0.0286	-1.4193	0.1193	-0.4272	0.0809
1	45	0.6498	-0.1801	0.0022	0.0120	0.0339	-1.8701	0.1322	-0.5503	0.0925
1	45	0.6998	-0.2338	0.0022	0.0102	0.0415	-2.3152	0.1457	-0.5146	0.0923
1	45	0.7500	-0.2277	0.0038	-0.0006	0.0490	-2.8355	0.1602	-0.3873	0.0903
1	45	0.8001	-0.2882	0.0048	-0.0053	0.0574	-3.3626	0.1763	-0.4696	0.0873
1	45	0.8497	-0.3105	0.0059	-0.0183	0.0662	-3.9992	0.1958	-0.4622	0.0838
1	45	0.9102	-0.3837	0.0081	0.0295	0.0795	-4.7621	0.2265	-0.6653	0.0870
1	45	0.9734	-0.3439	0.0120	0.0913	0.0921	-5.6360	0.2625	-0.8906	0.0893

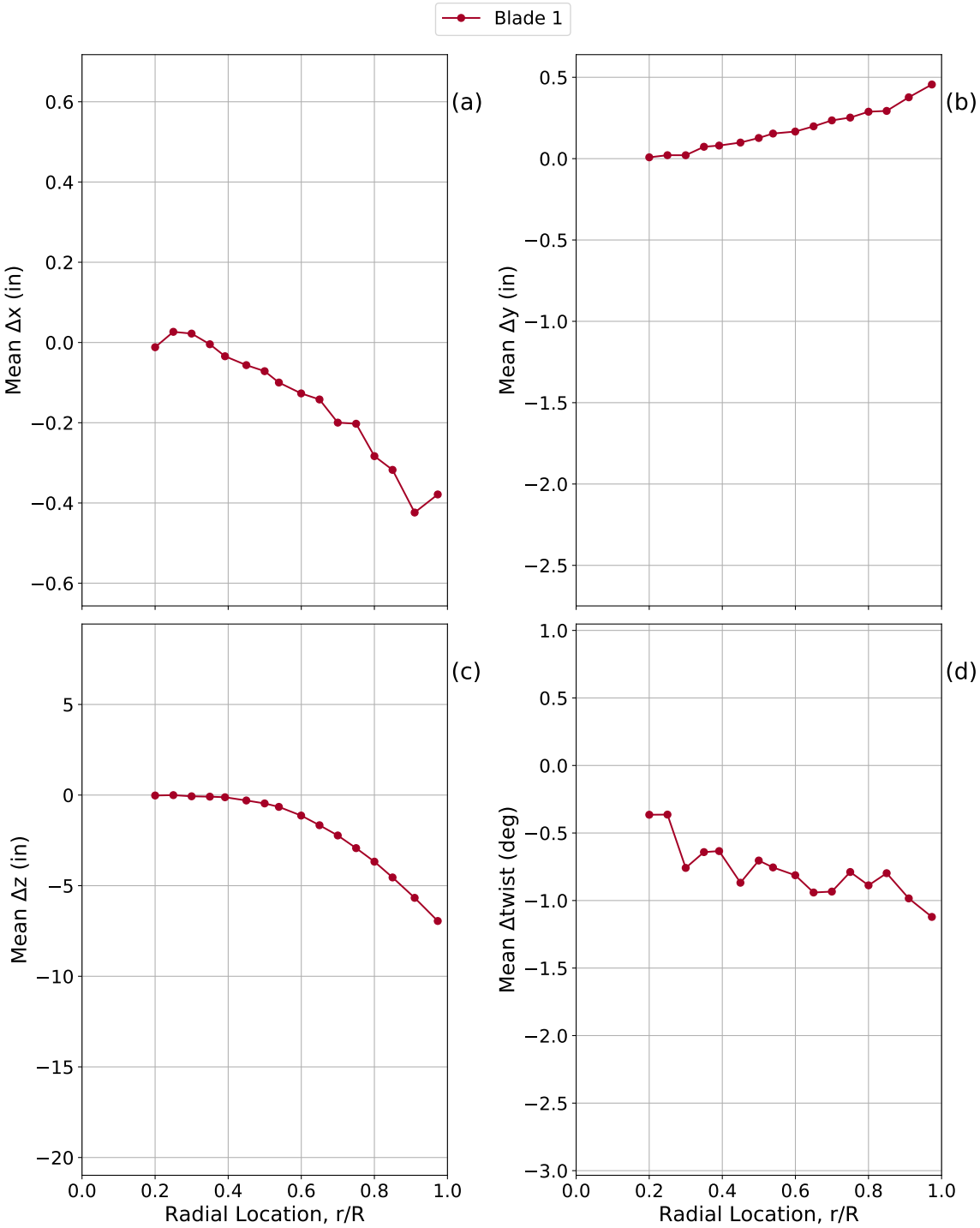


Figure 3.31-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0118	0.0026	0.0082	0.0011	-0.0231	0.0040	-0.3647	0.0216
1	60.12	0.2499	0.0266	0.0017	0.0212	0.0015	-0.0032	0.0067	-0.3636	0.0433
1	60.12	0.2998	0.0222	0.0015	0.0210	0.0033	-0.0674	0.0152	-0.7584	0.0480
1	60.12	0.3498	-0.0044	0.0023	0.0730	0.0059	-0.0875	0.0240	-0.6414	0.0441
1	60.12	0.3913	-0.0343	0.0027	0.0804	0.0078	-0.1202	0.0349	-0.6338	0.0433
1	60.12	0.4496	-0.0564	0.0017	0.0989	0.0108	-0.2982	0.0438	-0.8681	0.0495
1	60.12	0.4997	-0.0715	0.0019	0.1270	0.0130	-0.4608	0.0557	-0.7038	0.0396
1	60.12	0.5387	-0.0998	0.0032	0.1542	0.0149	-0.6516	0.0647	-0.7548	0.0480
1	60.12	0.5996	-0.1269	0.0040	0.1666	0.0187	-1.1307	0.0757	-0.8127	0.0513
1	60.12	0.6498	-0.1420	0.0047	0.1986	0.0218	-1.6636	0.0845	-0.9405	0.0497
1	60.12	0.6998	-0.1997	0.0047	0.2352	0.0246	-2.2294	0.0914	-0.9337	0.0515
1	60.12	0.7500	-0.2025	0.0047	0.2524	0.0292	-2.9271	0.1026	-0.7887	0.0490
1	60.12	0.8001	-0.2833	0.0049	0.2885	0.0335	-3.6744	0.1142	-0.8875	0.0509
1	60.12	0.8497	-0.3175	0.0056	0.2934	0.0372	-4.5451	0.1306	-0.7975	0.0514
1	60.12	0.9102	-0.4238	0.0061	0.3770	0.0426	-5.6702	0.1527	-0.9842	0.0531
1	60.12	0.9734	-0.3787	0.0080	0.4558	0.0490	-6.9483	0.1755	-1.1213	0.0538

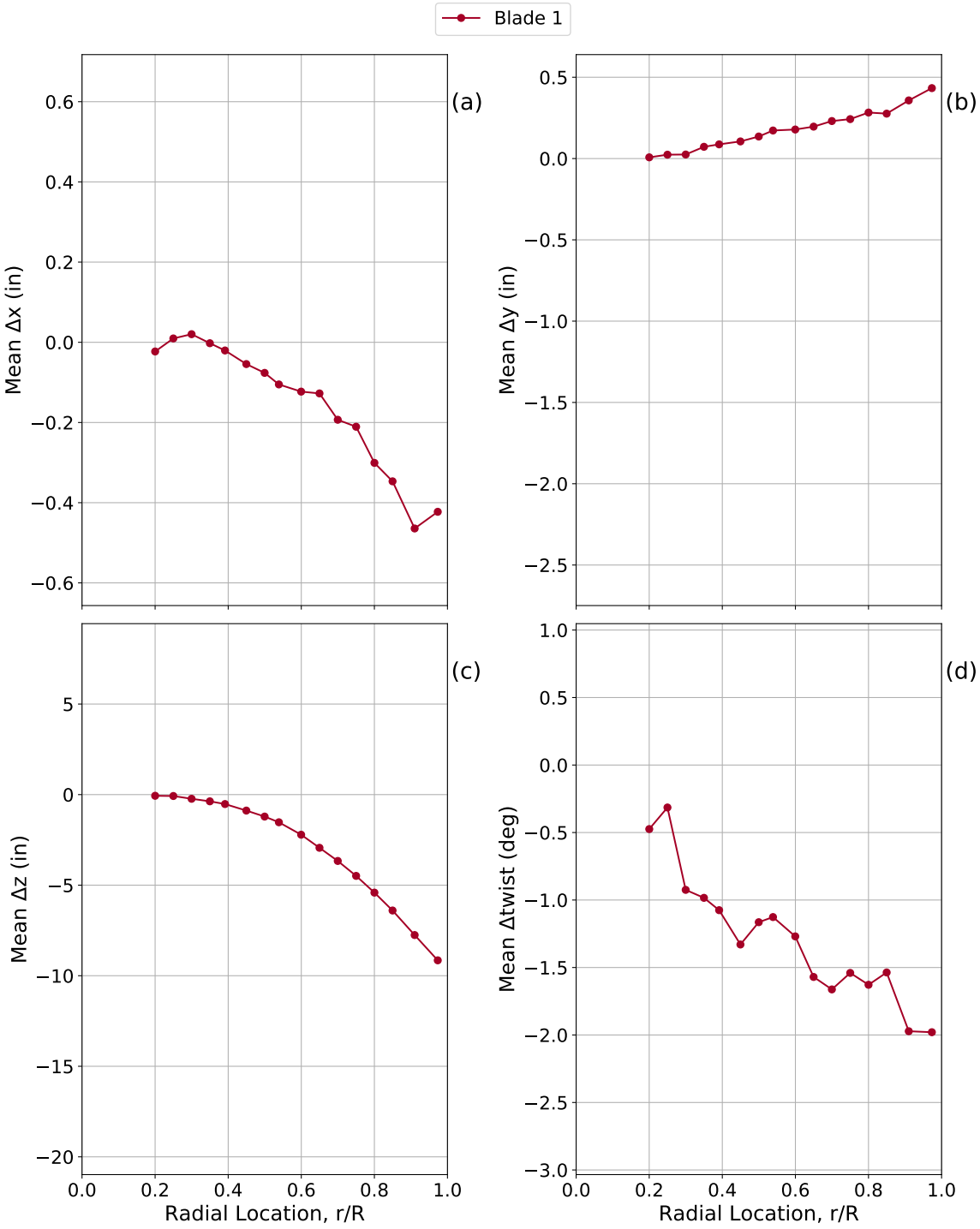


Figure 3.31-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.299$, $\alpha = -0.6°$ NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0229	0.0036	0.0075	0.0022	-0.0646	0.0049	-0.4744	0.0398
1	74.88	0.2499	0.0096	0.0015	0.0238	0.0032	-0.0770	0.0053	-0.3146	0.0966
1	74.88	0.2998	0.0202	0.0014	0.0249	0.0083	-0.2306	0.0153	-0.9248	0.1012
1	74.88	0.3498	-0.0023	0.0017	0.0723	0.0129	-0.3707	0.0257	-0.9839	0.1130
1	74.88	0.3913	-0.0204	0.0029	0.0873	0.0188	-0.5211	0.0341	-1.0753	0.1092
1	74.88	0.4496	-0.0543	0.0024	0.1054	0.0258	-0.8816	0.0478	-1.3296	0.1182
1	74.88	0.4997	-0.0763	0.0022	0.1356	0.0336	-1.2123	0.0648	-1.1644	0.1014
1	74.88	0.5387	-0.1051	0.0023	0.1725	0.0383	-1.5271	0.0753	-1.1263	0.1184
1	74.88	0.5996	-0.1230	0.0034	0.1786	0.0485	-2.2137	0.0985	-1.2695	0.1081
1	74.88	0.6498	-0.1275	0.0033	0.1963	0.0560	-2.9371	0.1148	-1.5700	0.1189
1	74.88	0.6998	-0.1932	0.0038	0.2307	0.0650	-3.6631	0.1336	-1.6623	0.1106
1	74.88	0.7500	-0.2106	0.0047	0.2426	0.0740	-4.4873	0.1516	-1.5401	0.1126
1	74.88	0.8001	-0.3007	0.0052	0.2830	0.0837	-5.4113	0.1685	-1.6281	0.1258
1	74.88	0.8497	-0.3467	0.0063	0.2763	0.0935	-6.3984	0.1857	-1.5367	0.1280
1	74.88	0.9102	-0.4643	0.0077	0.3576	0.1061	-7.7535	0.2058	-1.9721	0.1239
1	74.88	0.9734	-0.4227	0.0082	0.4332	0.1195	-9.1501	0.2289	-1.9794	0.1304

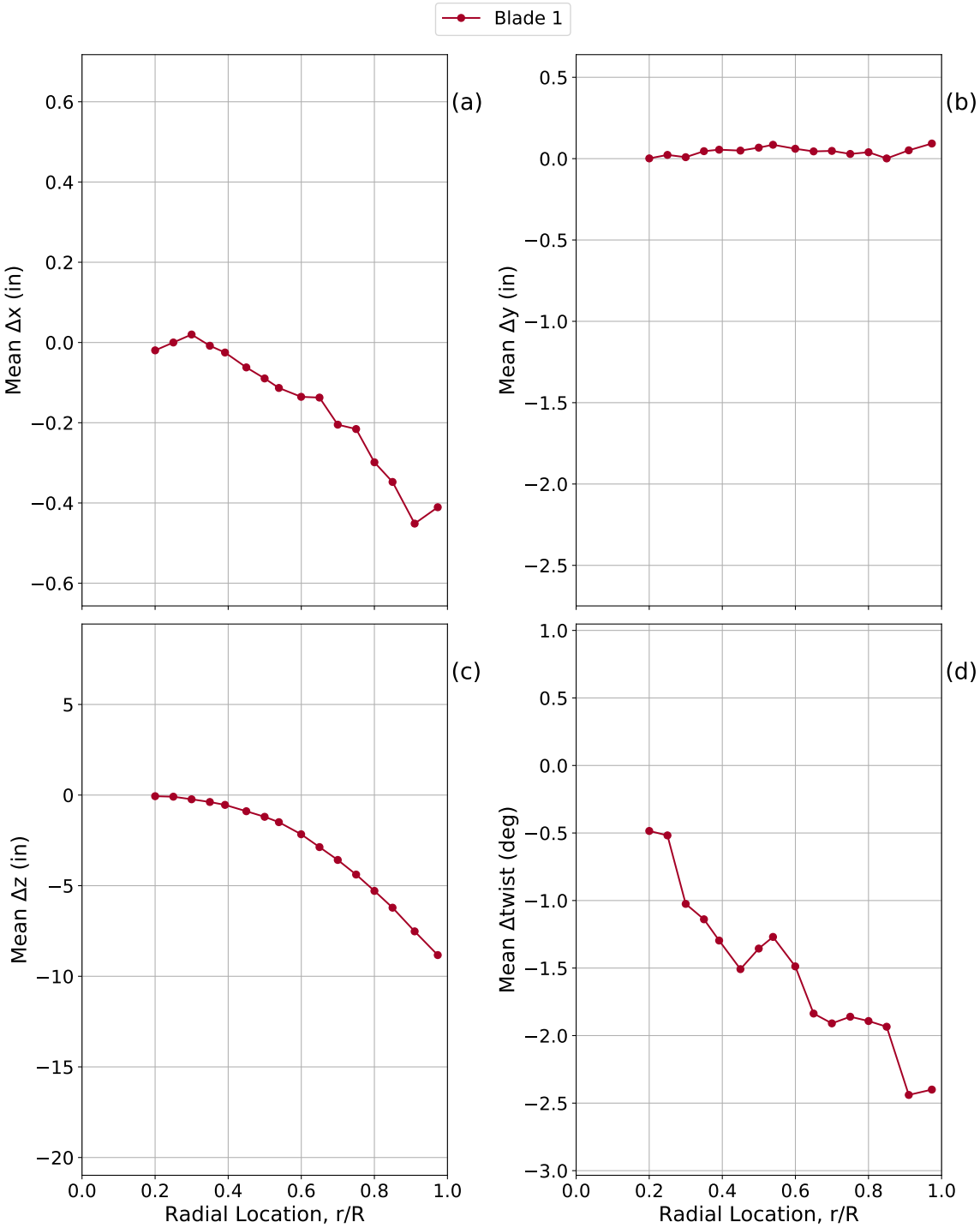


Figure 3.31-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.299$, $\alpha = -0.6°$ NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0196	0.0041	0.0015	0.0027	-0.0621	0.0104	-0.4848	0.0610
1	80.16	0.2499	-0.0000	0.0024	0.0230	0.0050	-0.0893	0.0169	-0.5178	0.1249
1	80.16	0.2998	0.0199	0.0033	0.0090	0.0106	-0.2323	0.0371	-1.0248	0.1455
1	80.16	0.3498	-0.0081	0.0028	0.0459	0.0183	-0.3819	0.0654	-1.1389	0.1335
1	80.16	0.3913	-0.0250	0.0031	0.0550	0.0260	-0.5418	0.0897	-1.2962	0.1353
1	80.16	0.4496	-0.0621	0.0047	0.0495	0.0368	-0.8917	0.1256	-1.5080	0.1495
1	80.16	0.4997	-0.0896	0.0047	0.0676	0.0476	-1.1992	0.1563	-1.3556	0.1484
1	80.16	0.5387	-0.1133	0.0039	0.0853	0.0547	-1.4952	0.1812	-1.2694	0.1612
1	80.16	0.5996	-0.1354	0.0045	0.0608	0.0694	-2.1629	0.2214	-1.4876	0.1616
1	80.16	0.6498	-0.1373	0.0056	0.0446	0.0814	-2.8712	0.2554	-1.8367	0.1648
1	80.16	0.6998	-0.2048	0.0068	0.0476	0.0937	-3.5803	0.2916	-1.9095	0.1625
1	80.16	0.7500	-0.2157	0.0085	0.0290	0.1071	-4.3855	0.3290	-1.8603	0.1687
1	80.16	0.8001	-0.2986	0.0110	0.0393	0.1207	-5.2881	0.3702	-1.8922	0.1655
1	80.16	0.8497	-0.3476	0.0136	0.0013	0.1340	-6.2138	0.4133	-1.9344	0.1750
1	80.16	0.9102	-0.4514	0.0168	0.0512	0.1504	-7.5214	0.4705	-2.4394	0.1798
1	80.16	0.9734	-0.4106	0.0173	0.0929	0.1676	-8.8290	0.5352	-2.3998	0.1838

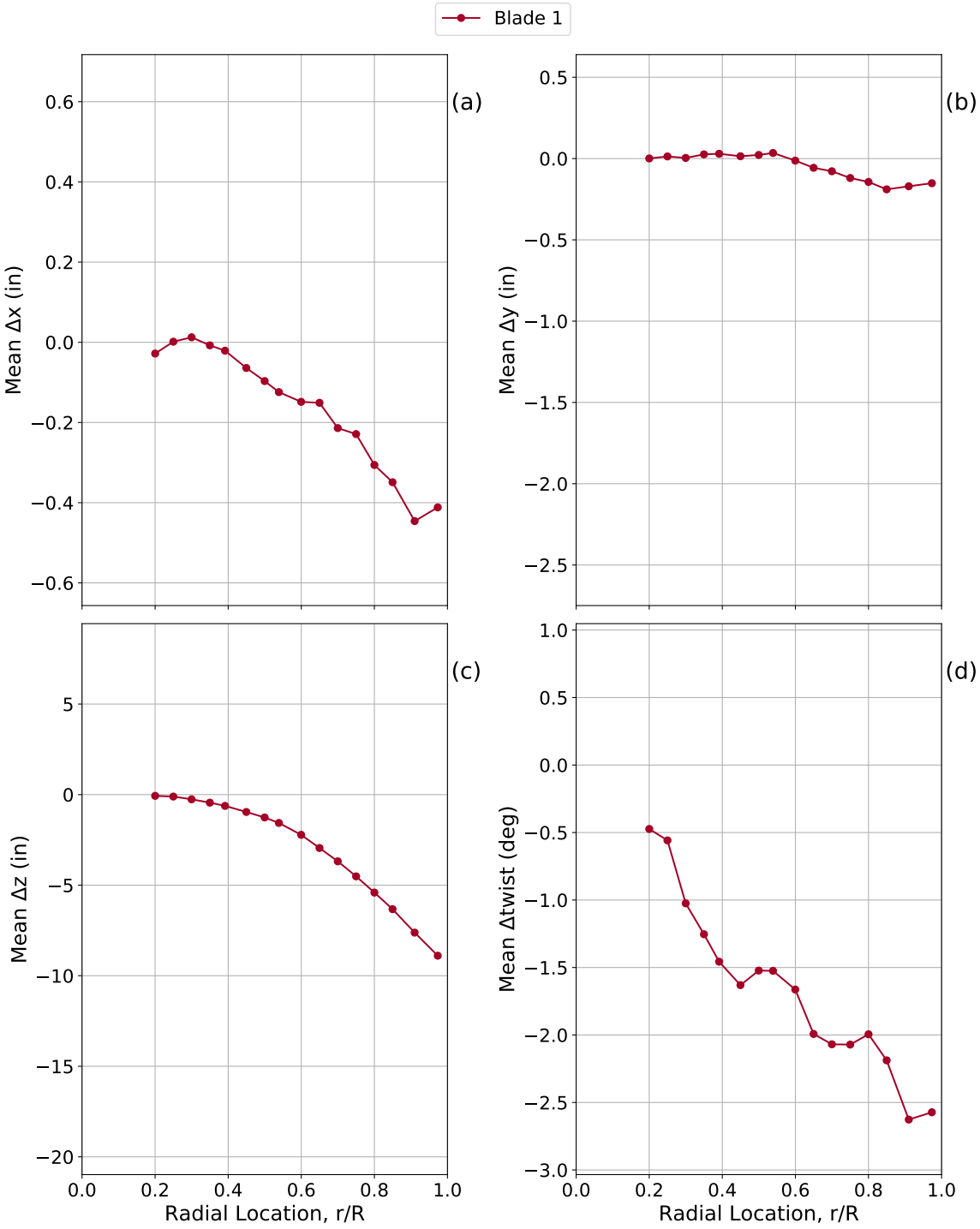


Figure 3.31-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.299$, $\alpha = -0.6°$ NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0281	0.0068	0.0007	0.0035	-0.0696	0.0147	-0.4736	0.0910
1	85.08	0.2499	0.0015	0.0056	0.0131	0.0037	-0.1076	0.0181	-0.5581	0.2382
1	85.08	0.2998	0.0125	0.0026	0.0038	0.0117	-0.2597	0.0477	-1.0247	0.2386
1	85.08	0.3498	-0.0076	0.0035	0.0258	0.0198	-0.4442	0.0842	-1.2537	0.2129
1	85.08	0.3913	-0.0209	0.0040	0.0295	0.0268	-0.6223	0.1119	-1.4569	0.2105
1	85.08	0.4496	-0.0640	0.0052	0.0142	0.0369	-0.9584	0.1534	-1.6305	0.2135
1	85.08	0.4997	-0.0967	0.0051	0.0222	0.0447	-1.2615	0.1934	-1.5227	0.2118
1	85.08	0.5387	-0.1242	0.0050	0.0344	0.0519	-1.5642	0.2218	-1.5246	0.2116
1	85.08	0.5996	-0.1485	0.0065	-0.0126	0.0632	-2.2206	0.2638	-1.6632	0.2245
1	85.08	0.6498	-0.1509	0.0072	-0.0568	0.0731	-2.9474	0.2971	-1.9924	0.2186
1	85.08	0.6998	-0.2139	0.0085	-0.0782	0.0830	-3.6831	0.3280	-2.0689	0.2222
1	85.08	0.7500	-0.2289	0.0098	-0.1196	0.0930	-4.5134	0.3616	-2.0710	0.2194
1	85.08	0.8001	-0.3060	0.0116	-0.1439	0.1032	-5.4086	0.3965	-1.9946	0.2222
1	85.08	0.8497	-0.3490	0.0132	-0.1895	0.1137	-6.3240	0.4335	-2.1879	0.2286
1	85.08	0.9102	-0.4459	0.0161	-0.1706	0.1261	-7.6193	0.4804	-2.6266	0.2319
1	85.08	0.9734	-0.4117	0.0160	-0.1517	0.1391	-8.8949	0.5327	-2.5725	0.2255

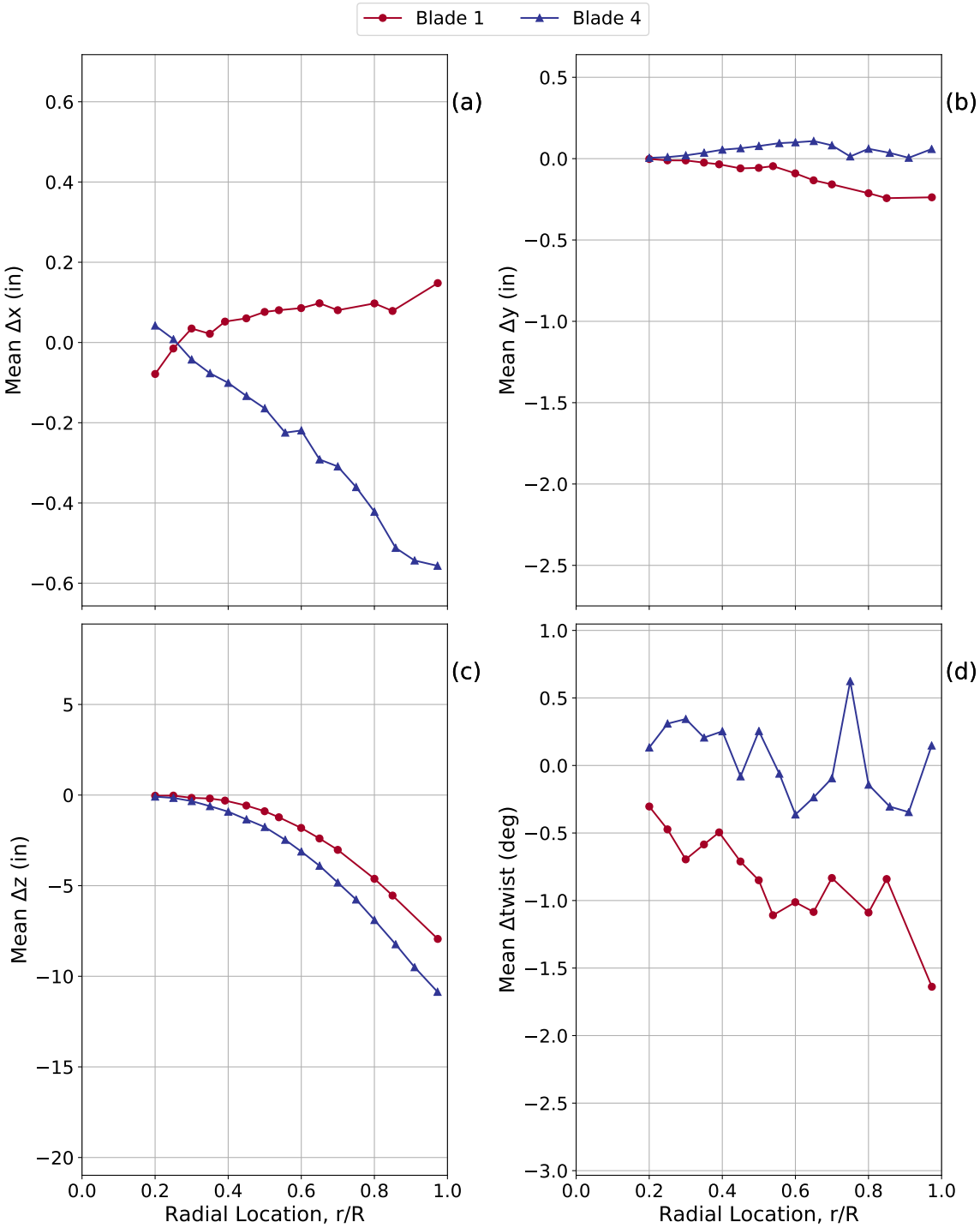


Figure 3.31-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0785	0.0013	-0.0019	0.0006	-0.0373	0.0048	-0.3036	0.0149
1	90	0.2499	-0.0150	0.0009	-0.0106	0.0015	-0.0289	0.0102	-0.4730	0.0343
1	90	0.2998	0.0348	0.0017	-0.0109	0.0027	-0.1539	0.0185	-0.6952	0.0338
1	90	0.3498	0.0217	0.0017	-0.0244	0.0046	-0.1898	0.0346	-0.5849	0.0403
1	90	0.3913	0.0521	0.0017	-0.0349	0.0066	-0.3040	0.0478	-0.4952	0.0411
1	90	0.4496	0.0602	0.0022	-0.0598	0.0092	-0.5785	0.0693	-0.7109	0.0408
1	90	0.4997	0.0762	0.0022	-0.0567	0.0126	-0.8922	0.0928	-0.8496	0.0473
1	90	0.5387	0.0805	0.0041	-0.0462	0.0152	-1.2254	0.1081	-1.1087	0.0487
1	90	0.5996	0.0857	0.0043	-0.0904	0.0187	-1.8129	0.1335	-1.0123	0.0521
1	90	0.6498	0.0978	0.0058	-0.1332	0.0217	-2.3954	0.1573	-1.0844	0.0499
1	90	0.6998	0.0805	0.0080	-0.1582	0.0260	-3.0235	0.1803	-0.8331	0.0477
1	90	0.8001	0.0974	0.0130	-0.2126	0.0317	-4.6199	0.2224	-1.0891	0.1566
1	90	0.8497	0.0786	0.0097	-0.2429	0.0379	-5.5442	0.2655	-0.8407	0.1026
1	90	0.9734	0.1480	0.0169	-0.2377	0.0463	-7.9372	0.3293	-1.6383	0.1330
4	90.35	0.2001	0.0421	0.0040	0.0049	0.0015	-0.0859	0.0048	0.1327	0.0365
4	90.35	0.2502	0.0081	0.0032	0.0094	0.0022	-0.1584	0.0085	0.3097	0.0930
4	90.35	0.3001	-0.0426	0.0028	0.0200	0.0057	-0.3330	0.0178	0.3441	0.0956
4	90.35	0.3502	-0.0767	0.0033	0.0362	0.0094	-0.6129	0.0312	0.2064	0.0863
4	90.35	0.4002	-0.1007	0.0031	0.0550	0.0143	-0.9173	0.0470	0.2530	0.0902
4	90.35	0.4500	-0.1334	0.0042	0.0637	0.0185	-1.3438	0.0617	-0.0809	0.0864
4	90.35	0.5001	-0.1642	0.0043	0.0775	0.0228	-1.7641	0.0770	0.2546	0.0935
4	90.35	0.5560	-0.2247	0.0041	0.0952	0.0288	-2.4699	0.0981	-0.0611	0.0935
4	90.35	0.6001	-0.2193	0.0050	0.1002	0.0341	-3.1163	0.1143	-0.3633	0.0814
4	90.35	0.6501	-0.2916	0.0056	0.1080	0.0395	-3.9041	0.1295	-0.2361	0.0881
4	90.35	0.6999	-0.3091	0.0060	0.0816	0.0455	-4.8301	0.1449	-0.0949	0.0917
4	90.35	0.7500	-0.3605	0.0068	0.0134	0.0530	-5.7659	0.1588	0.6244	0.0707
4	90.35	0.8002	-0.4219	0.0078	0.0606	0.0612	-6.8966	0.1708	-0.1424	0.0810
4	90.35	0.8582	-0.5120	0.0095	0.0354	0.0703	-8.2348	0.1883	-0.3043	0.0777
4	90.35	0.9101	-0.5434	0.0106	0.0052	0.0787	-9.5000	0.2047	-0.3453	0.0904
4	90.35	0.9728	-0.5566	0.0120	0.0589	0.0890	-10.8599	0.2331	0.1475	0.1047

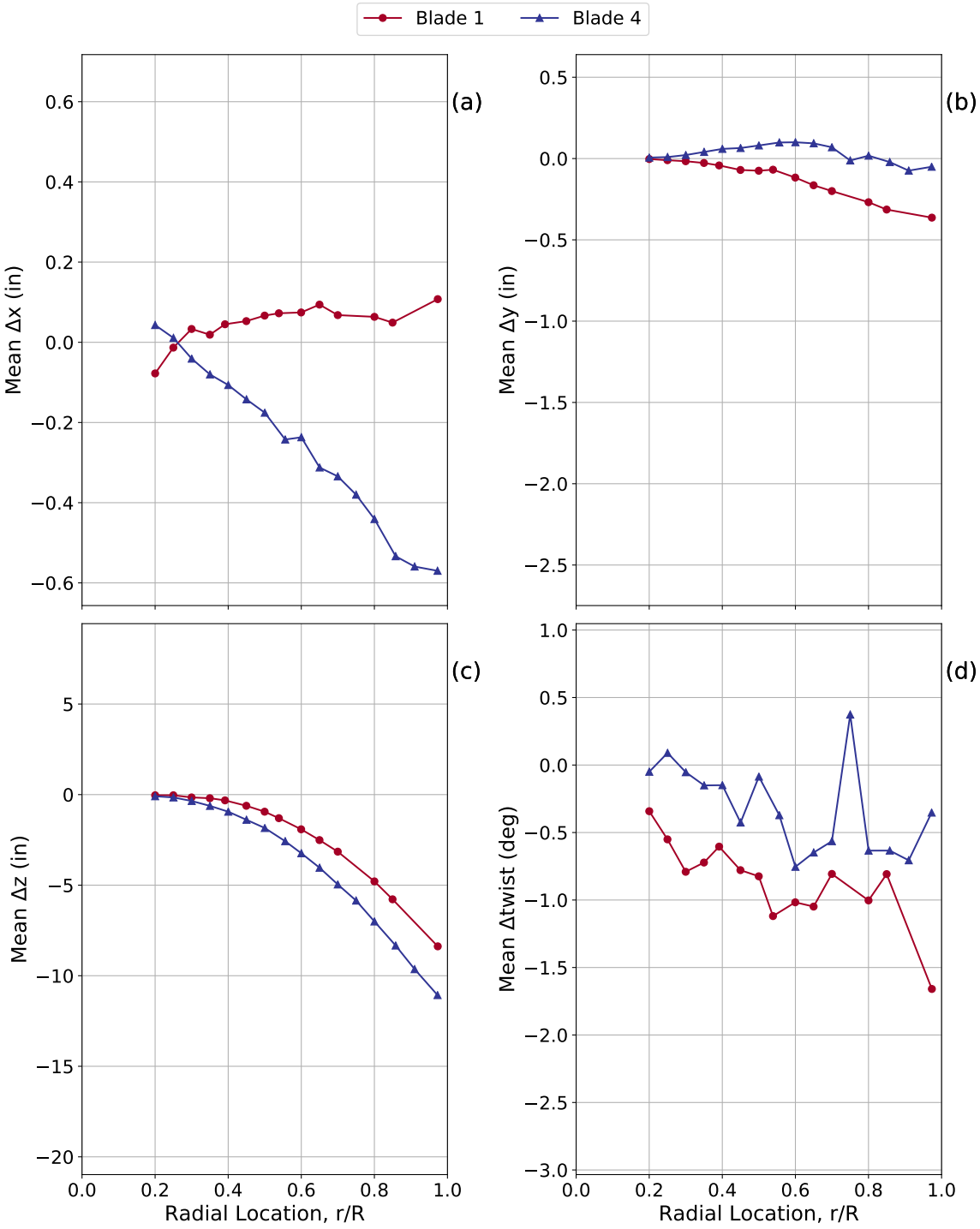


Figure 3.31-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0776	0.0014	-0.0030	0.0010	-0.0367	0.0021	-0.3421	0.0238
1	94.92	0.2499	-0.0133	0.0012	-0.0101	0.0020	-0.0361	0.0039	-0.5506	0.0301
1	94.92	0.2998	0.0332	0.0015	-0.0164	0.0039	-0.1552	0.0066	-0.7909	0.0499
1	94.92	0.3498	0.0189	0.0010	-0.0272	0.0068	-0.1995	0.0124	-0.7224	0.0477
1	94.92	0.3913	0.0450	0.0014	-0.0423	0.0095	-0.3174	0.0165	-0.6044	0.0475
1	94.92	0.4496	0.0528	0.0021	-0.0702	0.0133	-0.6172	0.0231	-0.7788	0.0536
1	94.92	0.4997	0.0666	0.0030	-0.0749	0.0175	-0.9427	0.0311	-0.8243	0.0511
1	94.92	0.5387	0.0724	0.0029	-0.0685	0.0205	-1.3014	0.0364	-1.1190	0.0542
1	94.92	0.5996	0.0744	0.0032	-0.1170	0.0268	-1.9154	0.0511	-1.0170	0.0547
1	94.92	0.6498	0.0940	0.0038	-0.1643	0.0336	-2.5109	0.0625	-1.0487	0.0780
1	94.92	0.6998	0.0678	0.0049	-0.2000	0.0401	-3.1499	0.0754	-0.8068	0.0710
1	94.92	0.8001	0.0635	0.0057	-0.2685	0.0552	-4.7912	0.1034	-1.0030	0.0814
1	94.92	0.8497	0.0491	0.0087	-0.3136	0.0635	-5.7805	0.1183	-0.8080	0.0694
1	94.92	0.9734	0.1076	0.0101	-0.3634	0.0839	-8.3773	0.1638	-1.6589	0.0997
4	94.92	0.2001	0.0430	0.0047	0.0059	0.0019	-0.0906	0.0085	-0.0500	0.0514
4	94.92	0.2502	0.0109	0.0063	0.0092	0.0029	-0.1572	0.0125	0.0899	0.1161
4	94.92	0.3001	-0.0408	0.0032	0.0216	0.0057	-0.3520	0.0242	-0.0533	0.1023
4	94.92	0.3502	-0.0802	0.0029	0.0406	0.0085	-0.6242	0.0353	-0.1508	0.0926
4	94.92	0.4002	-0.1066	0.0033	0.0594	0.0131	-0.9436	0.0537	-0.1493	0.0800
4	94.92	0.4500	-0.1424	0.0043	0.0647	0.0156	-1.3907	0.0642	-0.4261	0.1071
4	94.92	0.5001	-0.1756	0.0043	0.0805	0.0195	-1.8441	0.0834	-0.0860	0.0935
4	94.92	0.5560	-0.2425	0.0058	0.0988	0.0232	-2.5737	0.1019	-0.3718	0.1237
4	94.92	0.6001	-0.2369	0.0050	0.1002	0.0263	-3.2396	0.1175	-0.7541	0.0887
4	94.92	0.6501	-0.3123	0.0059	0.0935	0.0304	-4.0389	0.1364	-0.6482	0.0970
4	94.92	0.6999	-0.3344	0.0066	0.0693	0.0341	-4.9601	0.1540	-0.5644	0.0941
4	94.92	0.7500	-0.3801	0.0099	-0.0119	0.0379	-5.8519	0.1734	0.3738	0.0876
4	94.92	0.8002	-0.4409	0.0097	0.0177	0.0430	-7.0056	0.1900	-0.6341	0.0883
4	94.92	0.8582	-0.5336	0.0117	-0.0217	0.0485	-8.3329	0.2147	-0.6338	0.0899
4	94.92	0.9101	-0.5593	0.0130	-0.0743	0.0538	-9.6389	0.2373	-0.7059	0.0993
4	94.92	0.9728	-0.5699	0.0137	-0.0505	0.0607	-11.0702	0.2734	-0.3525	0.1000

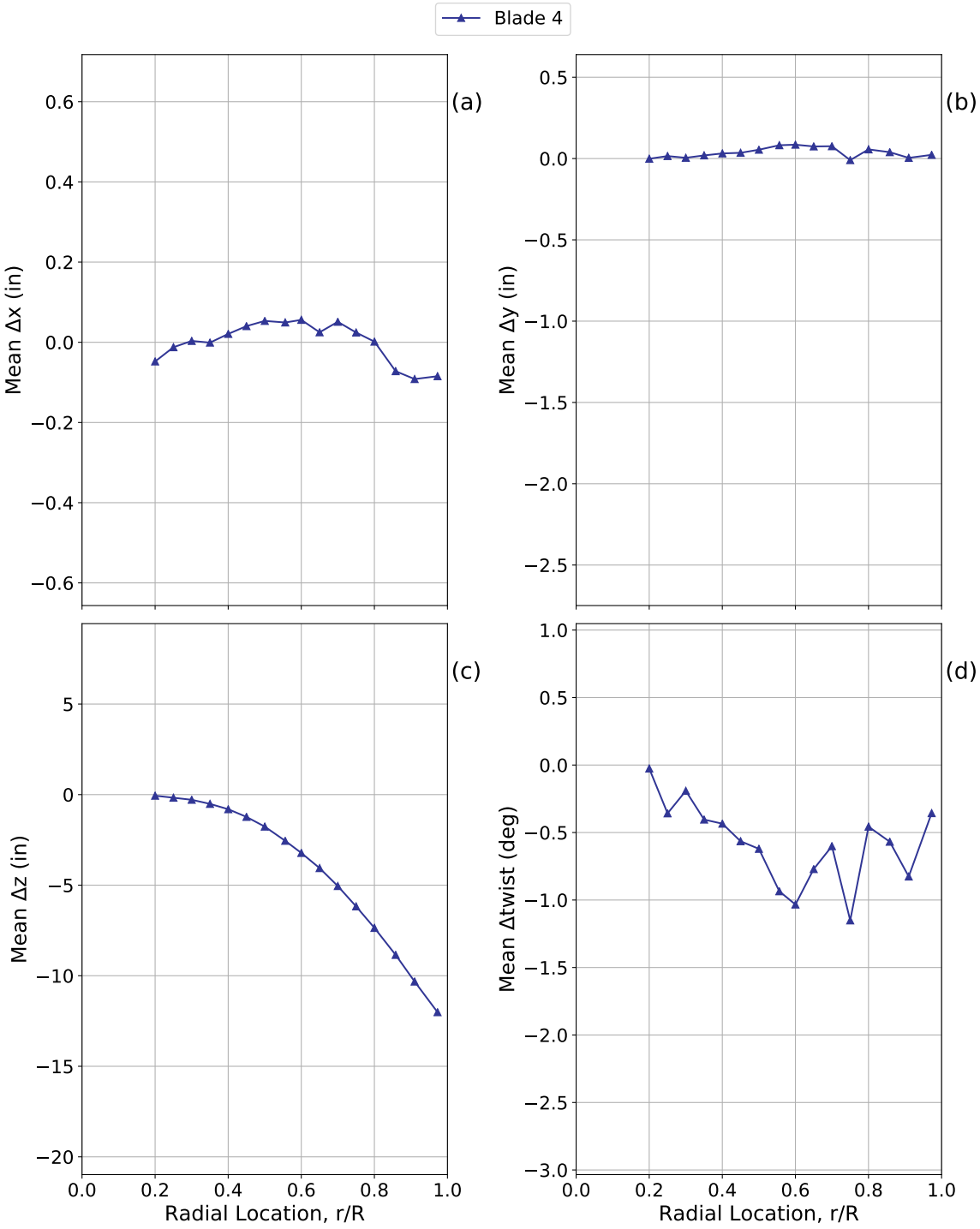


Figure 3.31-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0478	0.0013	-0.0013	0.0012	-0.0609	0.0032	-0.0260	0.0120
4	105.12	0.2502	-0.0123	0.0012	0.0153	0.0021	-0.1720	0.0062	-0.3580	0.0362
4	105.12	0.3001	0.0034	0.0010	0.0046	0.0045	-0.2859	0.0128	-0.1914	0.0317
4	105.12	0.3502	-0.0008	0.0013	0.0193	0.0078	-0.5125	0.0207	-0.4041	0.0321
4	105.12	0.4002	0.0209	0.0010	0.0315	0.0118	-0.8073	0.0328	-0.4345	0.0503
4	105.12	0.4500	0.0403	0.0010	0.0353	0.0159	-1.2306	0.0430	-0.5646	0.0481
4	105.12	0.5001	0.0533	0.0018	0.0543	0.0211	-1.7666	0.0555	-0.6208	0.0366
4	105.12	0.5560	0.0494	0.0026	0.0819	0.0272	-2.5508	0.0667	-0.9353	0.0533
4	105.12	0.6001	0.0559	0.0032	0.0852	0.0320	-3.2223	0.0763	-1.0335	0.0492
4	105.12	0.6501	0.0249	0.0030	0.0745	0.0383	-4.0587	0.0906	-0.7709	0.0384
4	105.12	0.6999	0.0511	0.0046	0.0758	0.0450	-5.0493	0.1032	-0.6013	0.0488
4	105.12	0.7500	0.0244	0.0053	-0.0097	0.0505	-6.1731	0.1212	-1.1511	0.0521
4	105.12	0.8002	0.0016	0.0074	0.0563	0.0580	-7.3609	0.1413	-0.4567	0.0649
4	105.12	0.8582	-0.0721	0.0097	0.0392	0.0669	-8.8506	0.1642	-0.5683	0.0994
4	105.12	0.9101	-0.0917	0.0117	0.0042	0.0747	-10.3223	0.1939	-0.8261	0.0891
4	105.12	0.9728	-0.0846	0.0128	0.0228	0.0839	-12.0143	0.2134	-0.3565	0.1361

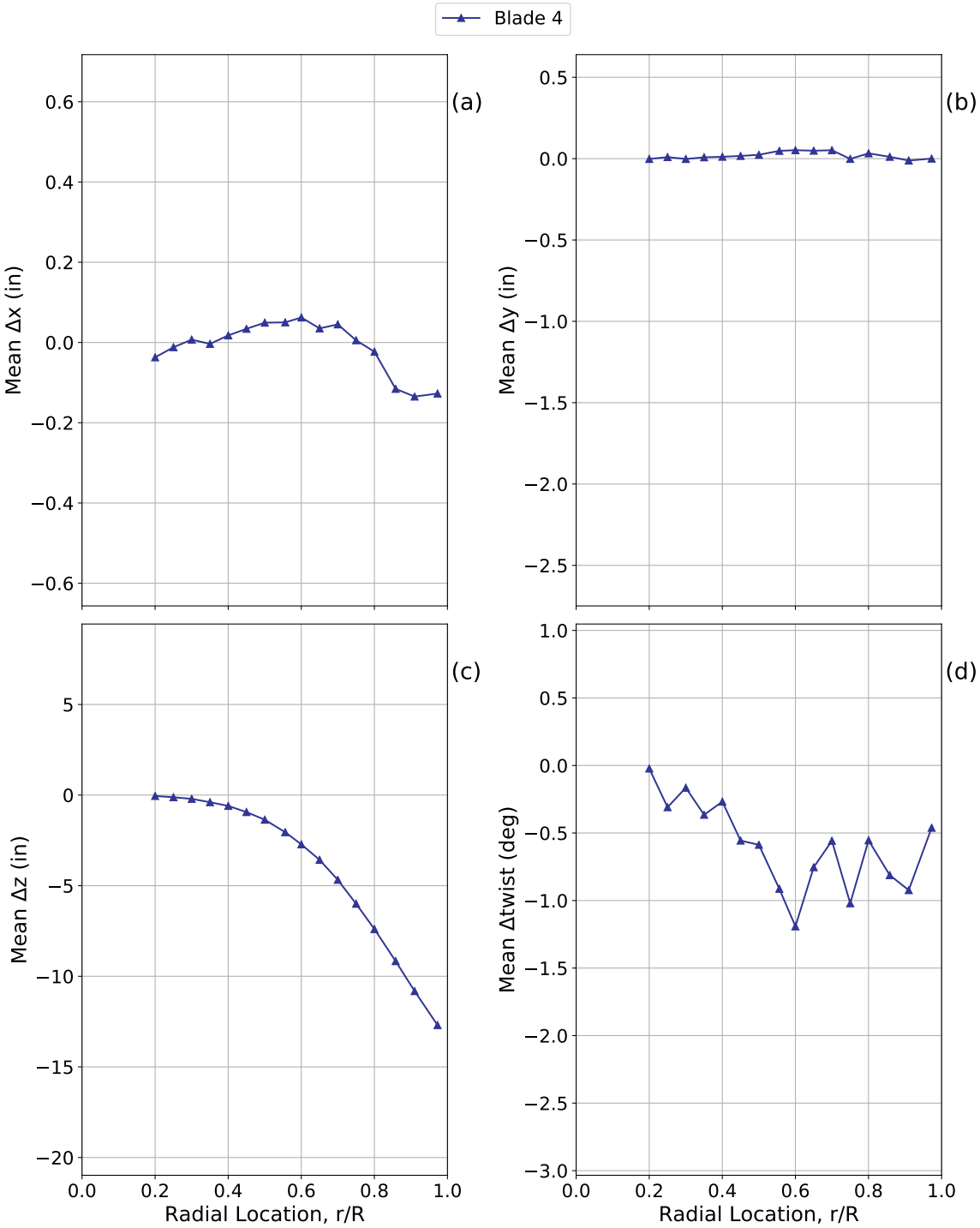


Figure 3.31-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0370	0.0011	-0.0019	0.0005	-0.0501	0.0031	-0.0227	0.0147
4	119.88	0.2502	-0.0118	0.0011	0.0094	0.0016	-0.1205	0.0063	-0.3093	0.0446
4	119.88	0.3001	0.0071	0.0013	-0.0020	0.0023	-0.2096	0.0129	-0.1649	0.0400
4	119.88	0.3502	-0.0035	0.0017	0.0082	0.0039	-0.3944	0.0210	-0.3651	0.0479
4	119.88	0.4002	0.0176	0.0018	0.0115	0.0064	-0.5984	0.0332	-0.2680	0.0385
4	119.88	0.4500	0.0341	0.0017	0.0165	0.0091	-0.9382	0.0466	-0.5564	0.0390
4	119.88	0.5001	0.0494	0.0019	0.0237	0.0118	-1.3611	0.0623	-0.5875	0.0458
4	119.88	0.5560	0.0501	0.0025	0.0478	0.0152	-2.0507	0.0830	-0.9134	0.0489
4	119.88	0.6001	0.0623	0.0033	0.0520	0.0187	-2.7200	0.1017	-1.1915	0.0563
4	119.88	0.6501	0.0351	0.0045	0.0488	0.0219	-3.5767	0.1255	-0.7535	0.0685
4	119.88	0.6999	0.0451	0.0063	0.0516	0.0263	-4.6778	0.1589	-0.5577	0.0735
4	119.88	0.7500	0.0055	0.0098	-0.0016	0.0310	-5.9985	0.1974	-1.0207	0.0747
4	119.88	0.8002	-0.0231	0.0141	0.0326	0.0360	-7.3978	0.2429	-0.5541	0.0802
4	119.88	0.8582	-0.1156	0.0204	0.0111	0.0428	-9.1652	0.3074	-0.8123	0.0823
4	119.88	0.9101	-0.1348	0.0246	-0.0117	0.0480	-10.8189	0.3692	-0.9232	0.0787
4	119.88	0.9728	-0.1273	0.0310	0.0001	0.0546	-12.6949	0.4539	-0.4613	0.0867

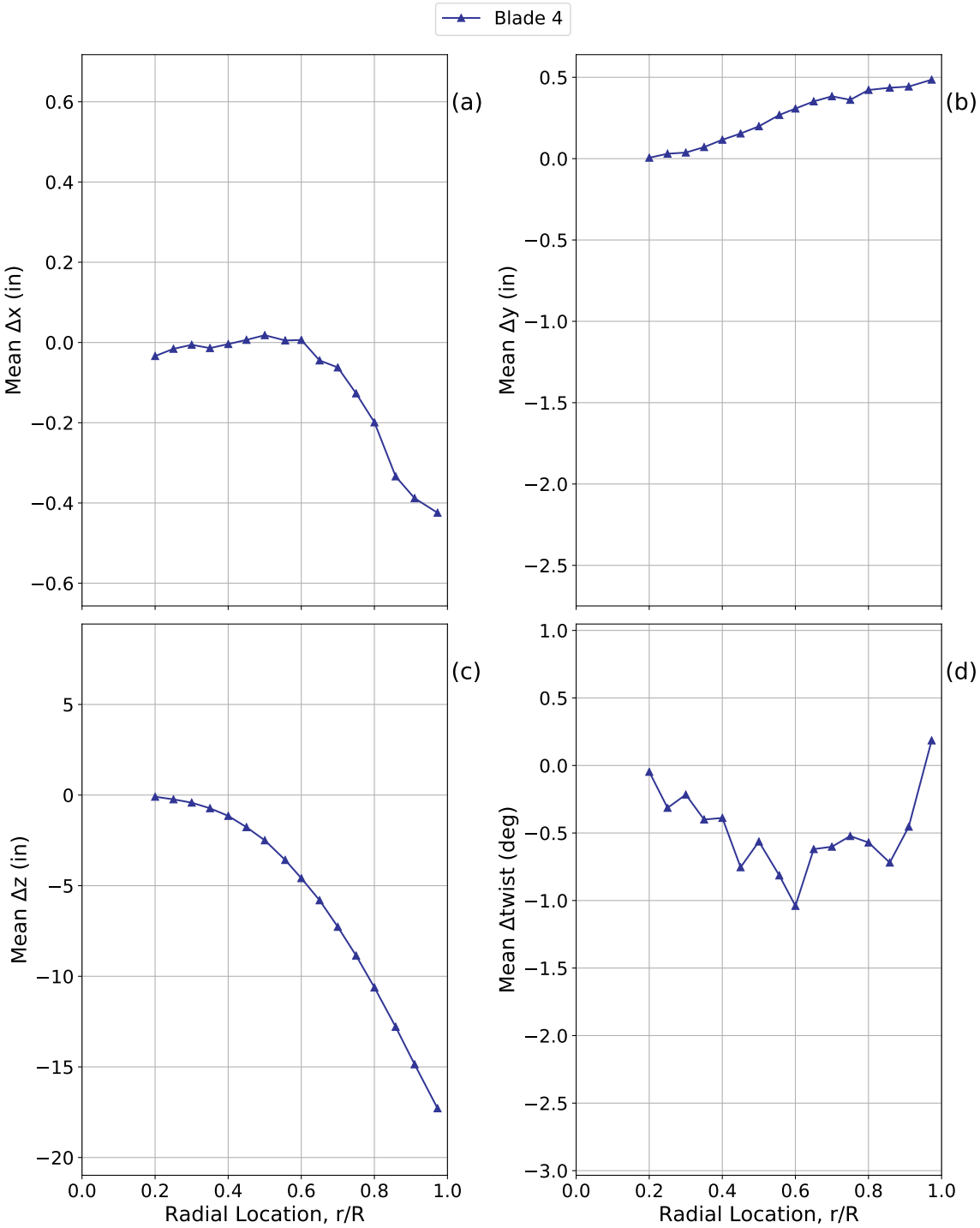


Figure 3.31-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0338	0.0016	0.0056	0.0008	-0.0925	0.0022	-0.0470	0.0115
4	135	0.2502	-0.0158	0.0011	0.0302	0.0014	-0.2359	0.0054	-0.3138	0.0202
4	135	0.3001	-0.0058	0.0020	0.0373	0.0031	-0.4187	0.0101	-0.2158	0.0263
4	135	0.3502	-0.0140	0.0025	0.0710	0.0051	-0.7290	0.0176	-0.4003	0.0287
4	135	0.4002	-0.0039	0.0028	0.1160	0.0078	-1.1501	0.0277	-0.3885	0.0287
4	135	0.4500	0.0065	0.0035	0.1544	0.0109	-1.7719	0.0384	-0.7537	0.0283
4	135	0.5001	0.0182	0.0043	0.1989	0.0135	-2.4974	0.0509	-0.5635	0.0266
4	135	0.5560	0.0050	0.0059	0.2685	0.0181	-3.5819	0.0719	-0.8143	0.0413
4	135	0.6001	0.0063	0.0077	0.3078	0.0214	-4.5881	0.0904	-1.0398	0.0365
4	135	0.6501	-0.0448	0.0095	0.3518	0.0250	-5.8076	0.1159	-0.6194	0.0432
4	135	0.6999	-0.0622	0.0118	0.3832	0.0288	-7.2724	0.1463	-0.6015	0.0416
4	135	0.7500	-0.1269	0.0155	0.3615	0.0325	-8.8591	0.1812	-0.5225	0.0559
4	135	0.8002	-0.1991	0.0198	0.4221	0.0367	-10.6204	0.2225	-0.5706	0.0578
4	135	0.8582	-0.3338	0.0256	0.4357	0.0407	-12.7912	0.2730	-0.7193	0.0646
4	135	0.9101	-0.3882	0.0313	0.4430	0.0439	-14.8591	0.3214	-0.4534	0.0706
4	135	0.9728	-0.4244	0.0396	0.4853	0.0486	-17.2857	0.3873	0.1855	0.0766

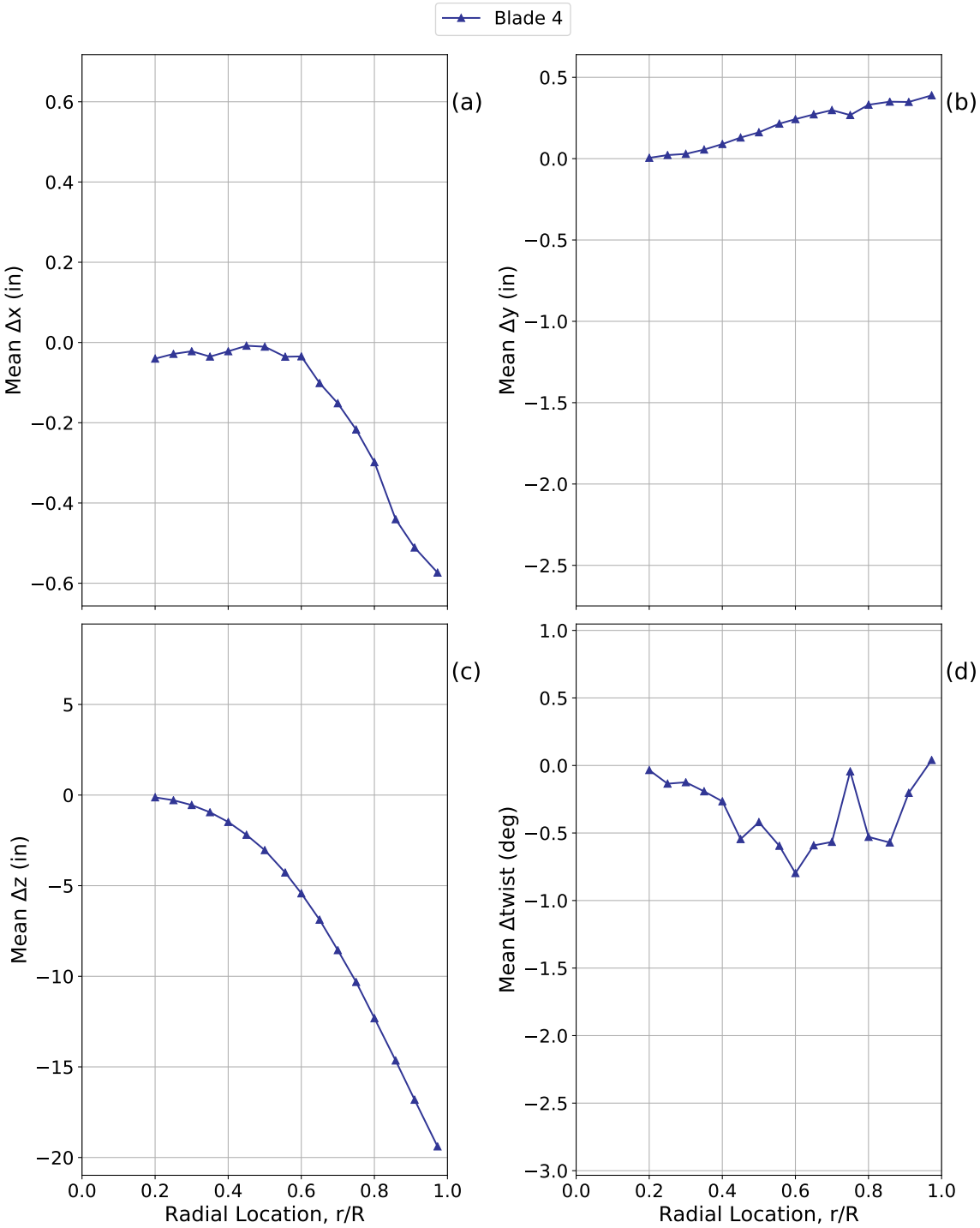


Figure 3.31-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0403	0.0015	0.0048	0.0007	-0.1277	0.0026	-0.0342	0.0227
4	150.12	0.2502	-0.0285	0.0017	0.0219	0.0017	-0.2842	0.0057	-0.1350	0.0285
4	150.12	0.3001	-0.0219	0.0017	0.0290	0.0027	-0.5519	0.0122	-0.1244	0.0478
4	150.12	0.3502	-0.0352	0.0015	0.0556	0.0051	-0.9489	0.0192	-0.1918	0.0448
4	150.12	0.4002	-0.0219	0.0021	0.0895	0.0076	-1.4866	0.0310	-0.2657	0.0535
4	150.12	0.4500	-0.0081	0.0023	0.1294	0.0081	-2.1954	0.0402	-0.5453	0.0492
4	150.12	0.5001	-0.0105	0.0032	0.1616	0.0105	-3.0403	0.0503	-0.4197	0.0456
4	150.12	0.5560	-0.0356	0.0043	0.2147	0.0127	-4.2762	0.0669	-0.5952	0.0427
4	150.12	0.6001	-0.0347	0.0053	0.2427	0.0137	-5.4257	0.0816	-0.7970	0.0518
4	150.12	0.6501	-0.1013	0.0070	0.2718	0.0160	-6.8825	0.1004	-0.5918	0.0510
4	150.12	0.6999	-0.1516	0.0096	0.2981	0.0188	-8.5601	0.1218	-0.5662	0.0535
4	150.12	0.7500	-0.2171	0.0132	0.2676	0.0214	-10.3165	0.1470	-0.0438	0.0534
4	150.12	0.8002	-0.2985	0.0170	0.3313	0.0245	-12.3155	0.1775	-0.5291	0.0546
4	150.12	0.8582	-0.4407	0.0229	0.3500	0.0284	-14.6510	0.2203	-0.5705	0.0583
4	150.12	0.9101	-0.5112	0.0288	0.3483	0.0328	-16.8157	0.2661	-0.2035	0.0552
4	150.12	0.9728	-0.5736	0.0370	0.3889	0.0382	-19.3903	0.3272	0.0401	0.0643

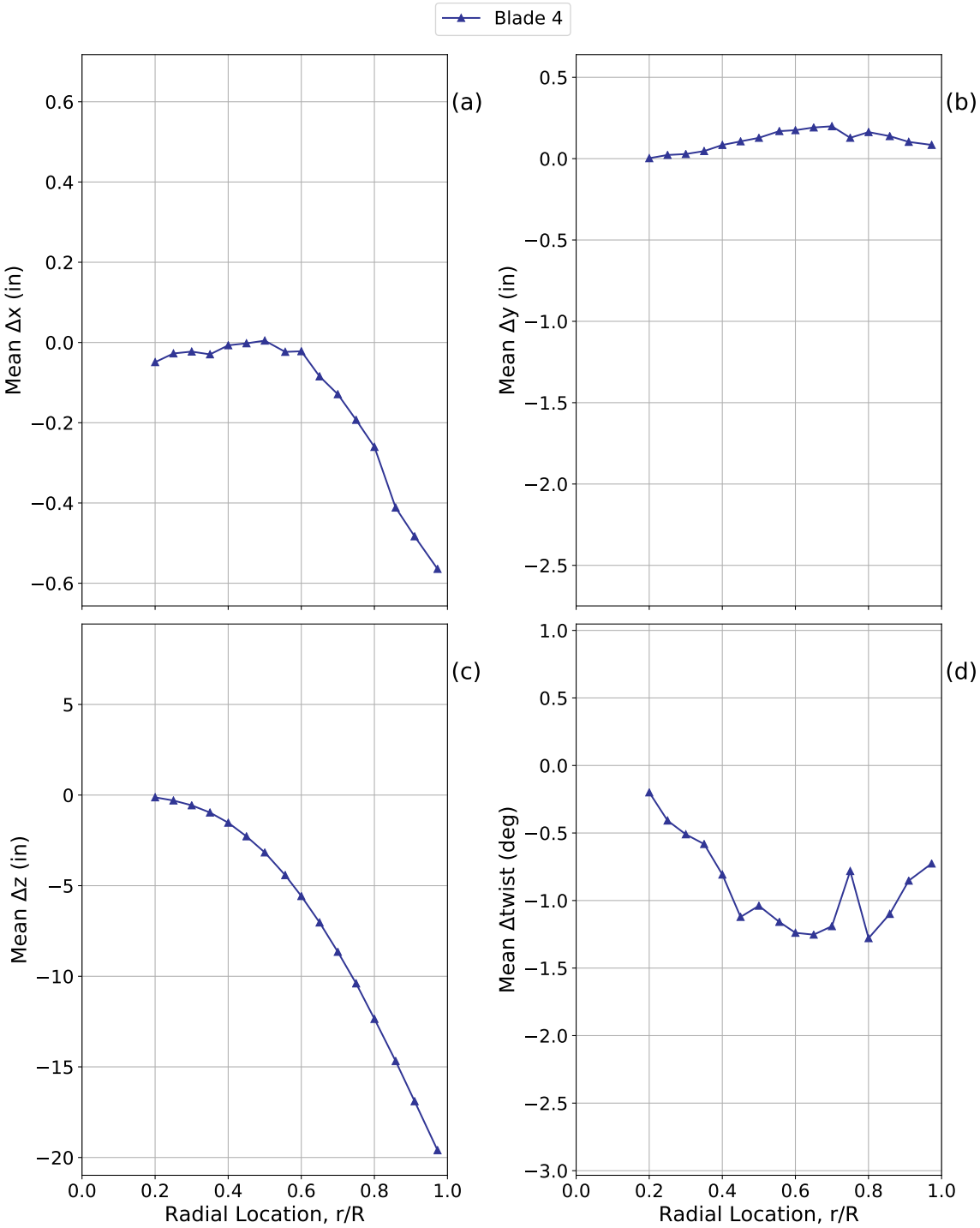


Figure 3.31-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0490	0.0018	0.0026	0.0009	-0.1262	0.0023	-0.1993	0.0213
4	164.88	0.2502	-0.0273	0.0017	0.0226	0.0023	-0.2999	0.0040	-0.4081	0.0297
4	164.88	0.3001	-0.0227	0.0010	0.0283	0.0038	-0.5655	0.0072	-0.5099	0.0446
4	164.88	0.3502	-0.0296	0.0014	0.0464	0.0065	-0.9645	0.0120	-0.5818	0.0404
4	164.88	0.4002	-0.0070	0.0018	0.0839	0.0104	-1.5265	0.0180	-0.8081	0.0583
4	164.88	0.4500	-0.0021	0.0024	0.1061	0.0112	-2.2794	0.0256	-1.1215	0.0597
4	164.88	0.5001	0.0046	0.0023	0.1279	0.0128	-3.1670	0.0372	-1.0388	0.0698
4	164.88	0.5560	-0.0234	0.0035	0.1691	0.0155	-4.4202	0.0506	-1.1583	0.0679
4	164.88	0.6001	-0.0219	0.0042	0.1748	0.0179	-5.5758	0.0637	-1.2390	0.0721
4	164.88	0.6501	-0.0846	0.0052	0.1916	0.0208	-7.0338	0.0742	-1.2527	0.0659
4	164.88	0.6999	-0.1290	0.0067	0.1989	0.0229	-8.6520	0.0887	-1.1900	0.0689
4	164.88	0.7500	-0.1929	0.0081	0.1280	0.0250	-10.3949	0.1004	-0.7818	0.0841
4	164.88	0.8002	-0.2604	0.0100	0.1632	0.0278	-12.3550	0.1150	-1.2789	0.0829
4	164.88	0.8582	-0.4116	0.0129	0.1382	0.0312	-14.6800	0.1314	-1.0994	0.0853
4	164.88	0.9101	-0.4832	0.0148	0.1030	0.0341	-16.8973	0.1501	-0.8530	0.0850
4	164.88	0.9728	-0.5644	0.0200	0.0843	0.0381	-19.5985	0.1769	-0.7262	0.1044

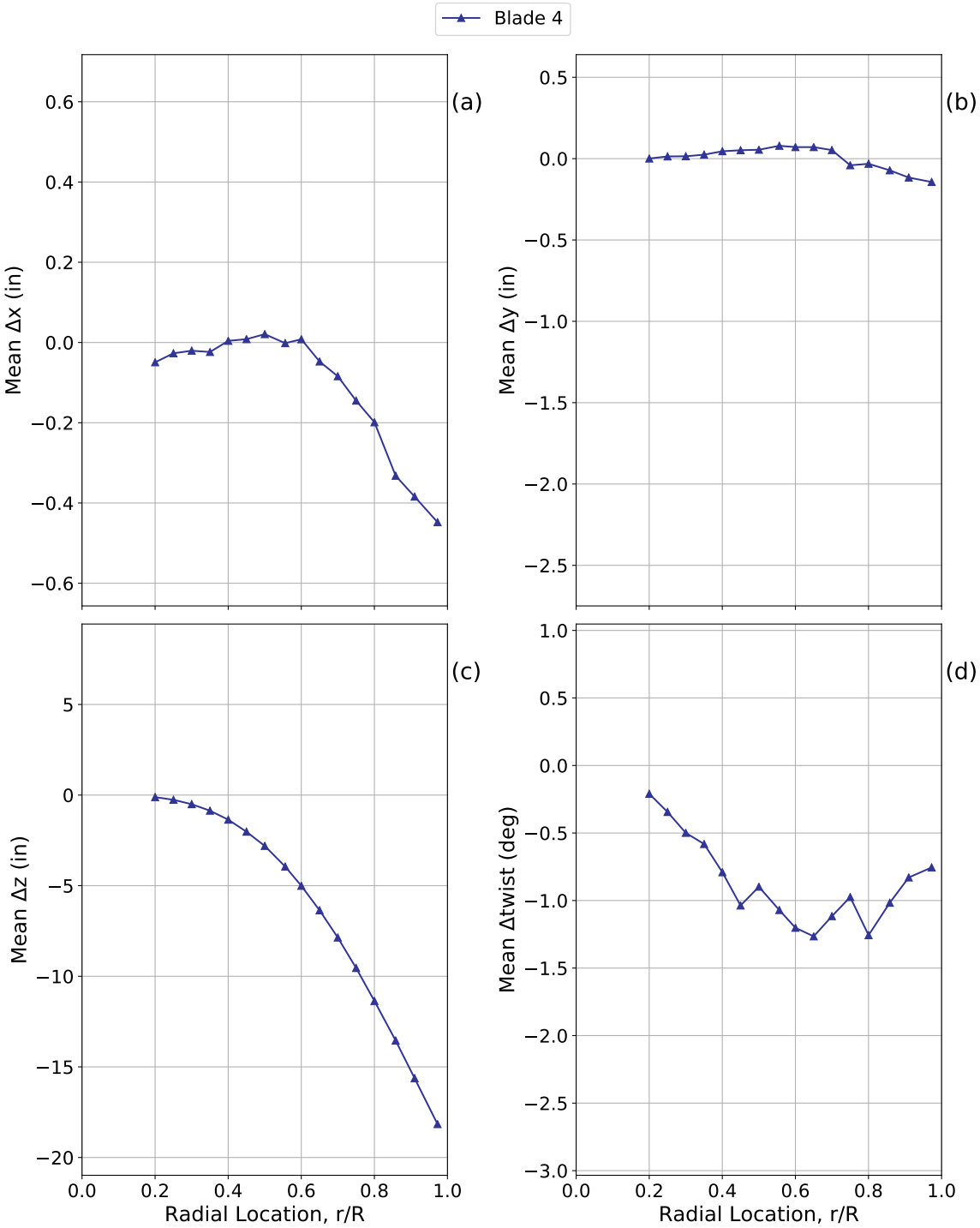


Figure 3.31-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0494	0.0016	0.0006	0.0008	-0.1147	0.0028	-0.2101	0.0301
4	170.16	0.2502	-0.0269	0.0016	0.0136	0.0017	-0.2609	0.0050	-0.3446	0.0366
4	170.16	0.3001	-0.0205	0.0014	0.0145	0.0031	-0.5038	0.0091	-0.4991	0.0644
4	170.16	0.3502	-0.0237	0.0010	0.0244	0.0048	-0.8635	0.0160	-0.5818	0.0525
4	170.16	0.4002	0.0041	0.0011	0.0454	0.0077	-1.3586	0.0234	-0.7908	0.0576
4	170.16	0.4500	0.0083	0.0016	0.0516	0.0119	-2.0228	0.0322	-1.0369	0.0565
4	170.16	0.5001	0.0207	0.0019	0.0547	0.0141	-2.8074	0.0418	-0.8979	0.0580
4	170.16	0.5560	-0.0017	0.0027	0.0790	0.0175	-3.9474	0.0504	-1.0707	0.0702
4	170.16	0.6001	0.0080	0.0025	0.0709	0.0210	-5.0086	0.0573	-1.2019	0.0665
4	170.16	0.6501	-0.0475	0.0033	0.0709	0.0260	-6.3617	0.0656	-1.2654	0.0558
4	170.16	0.6999	-0.0842	0.0044	0.0525	0.0303	-7.8638	0.0717	-1.1160	0.0576
4	170.16	0.7500	-0.1450	0.0063	-0.0408	0.0355	-9.5429	0.0769	-0.9742	0.0679
4	170.16	0.8002	-0.1989	0.0076	-0.0317	0.0419	-11.3666	0.0873	-1.2568	0.0611
4	170.16	0.8582	-0.3322	0.0103	-0.0718	0.0496	-13.5480	0.1018	-1.0168	0.0697
4	170.16	0.9101	-0.3842	0.0129	-0.1163	0.0563	-15.6269	0.1225	-0.8293	0.0702
4	170.16	0.9728	-0.4480	0.0181	-0.1436	0.0646	-18.1579	0.1462	-0.7550	0.0895

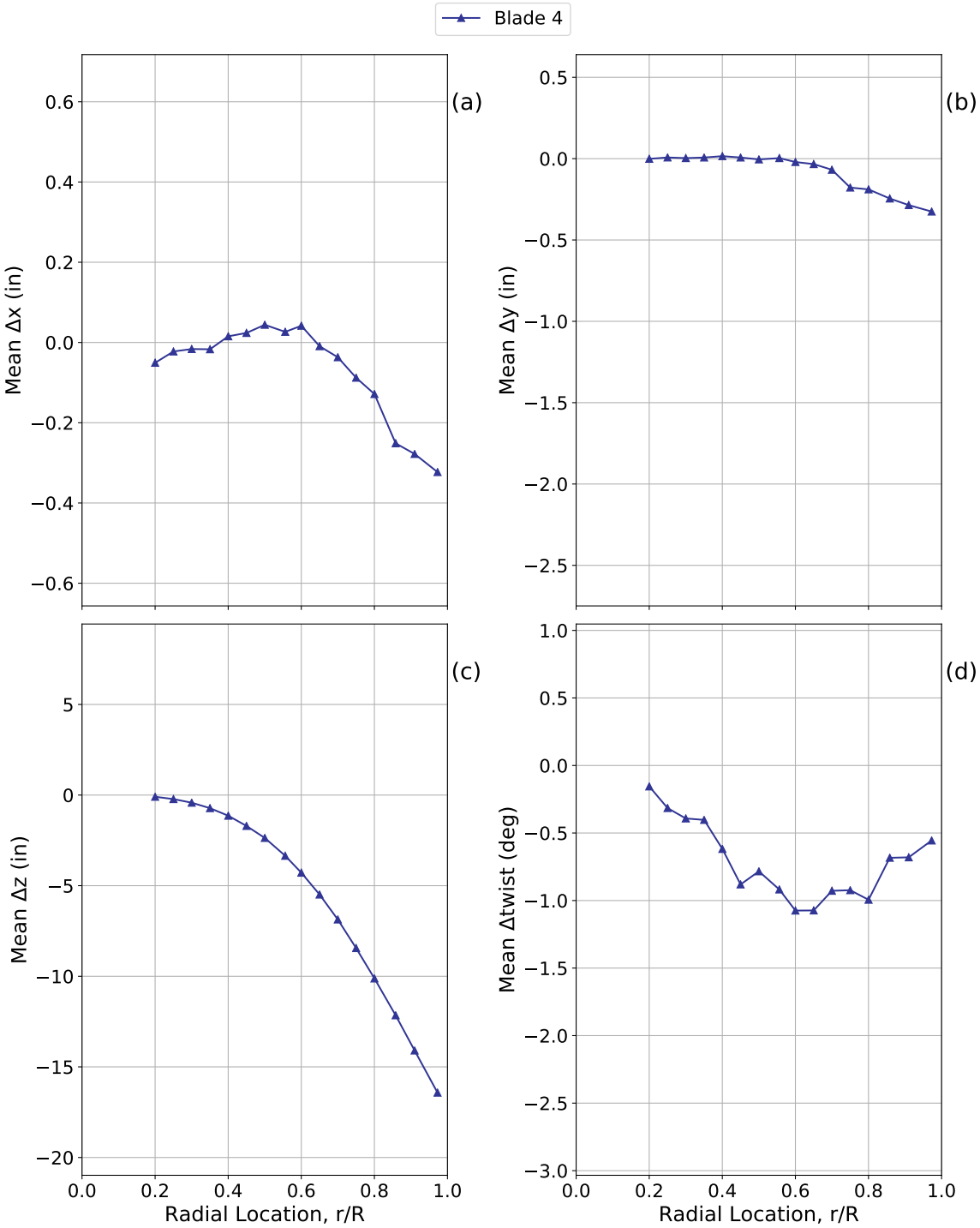


Figure 3.31-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0506	0.0018	-0.0012	0.0009	-0.0943	0.0029	-0.1551	0.0365
4	175.08	0.2502	-0.0224	0.0018	0.0072	0.0024	-0.2211	0.0070	-0.3153	0.0658
4	175.08	0.3001	-0.0163	0.0020	0.0033	0.0028	-0.4215	0.0098	-0.3923	0.0802
4	175.08	0.3502	-0.0169	0.0014	0.0069	0.0062	-0.7225	0.0165	-0.4029	0.0702
4	175.08	0.4002	0.0154	0.0020	0.0153	0.0086	-1.1406	0.0254	-0.6180	0.0688
4	175.08	0.4500	0.0238	0.0014	0.0069	0.0106	-1.7036	0.0389	-0.8808	0.0754
4	175.08	0.5001	0.0441	0.0031	-0.0048	0.0135	-2.3656	0.0520	-0.7837	0.0850
4	175.08	0.5560	0.0265	0.0038	0.0032	0.0174	-3.3507	0.0725	-0.9182	0.0757
4	175.08	0.6001	0.0417	0.0043	-0.0207	0.0205	-4.2840	0.0921	-1.0743	0.0789
4	175.08	0.6501	-0.0093	0.0052	-0.0336	0.0237	-5.4905	0.1106	-1.0734	0.0814
4	175.08	0.6999	-0.0368	0.0056	-0.0683	0.0274	-6.8662	0.1263	-0.9279	0.0891
4	175.08	0.7500	-0.0878	0.0070	-0.1778	0.0325	-8.4446	0.1395	-0.9235	0.0775
4	175.08	0.8002	-0.1285	0.0075	-0.1890	0.0372	-10.1208	0.1438	-0.9943	0.0888
4	175.08	0.8582	-0.2513	0.0071	-0.2451	0.0433	-12.1539	0.1448	-0.6835	0.0868
4	175.08	0.9101	-0.2778	0.0075	-0.2856	0.0495	-14.0966	0.1444	-0.6801	0.0905
4	175.08	0.9728	-0.3230	0.0084	-0.3253	0.0559	-16.4222	0.1472	-0.5553	0.0889

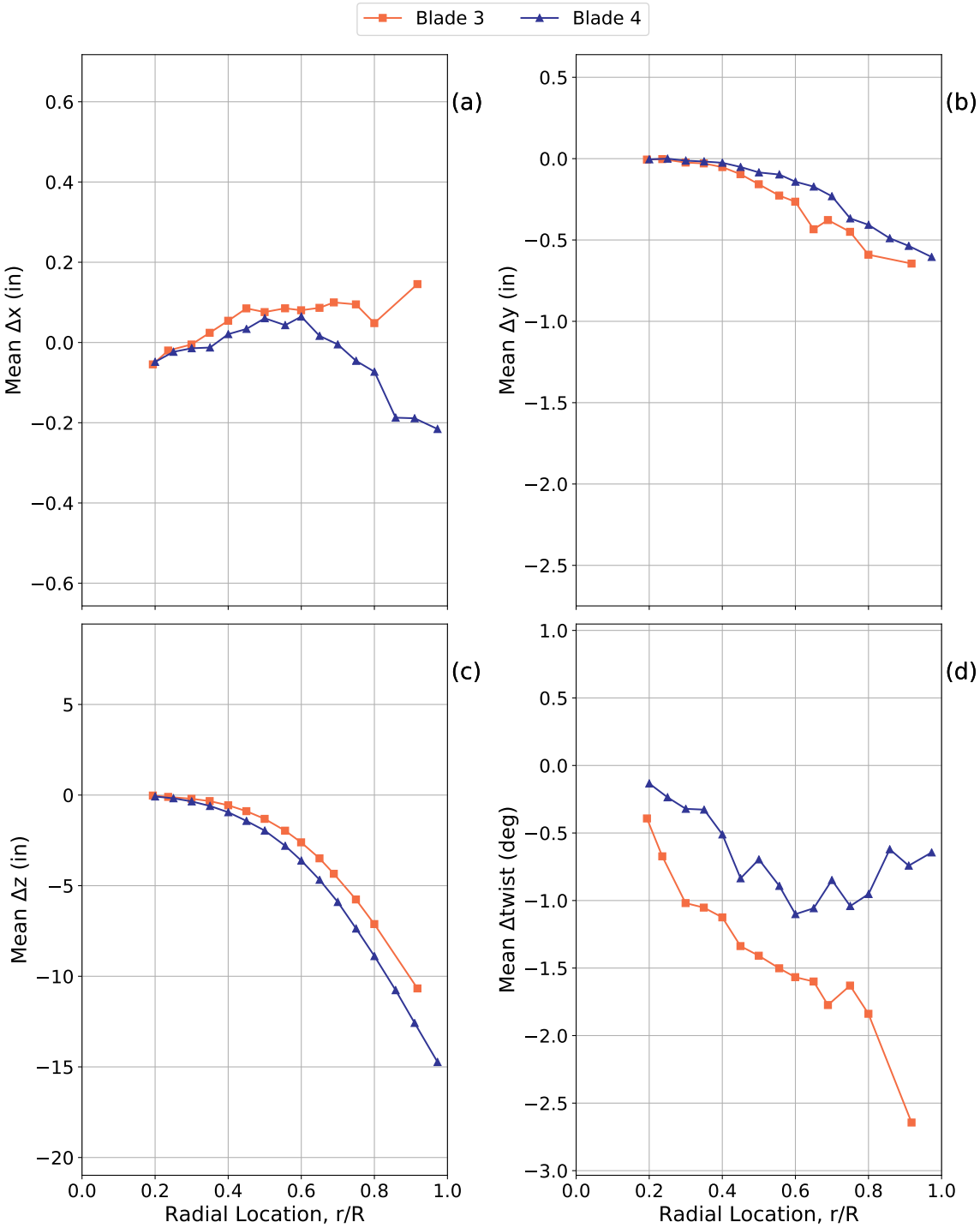


Figure 3.31-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0545	0.0023	-0.0057	0.0013	-0.0267	0.0041	-0.3922	0.0209
3	180.35	0.2357	-0.0200	0.0016	-0.0028	0.0023	-0.1013	0.0071	-0.6726	0.0344
3	180.35	0.2995	-0.0050	0.0013	-0.0240	0.0040	-0.2041	0.0161	-1.0189	0.0464
3	180.35	0.3493	0.0242	0.0016	-0.0293	0.0064	-0.3319	0.0272	-1.0522	0.0489
3	180.35	0.4000	0.0542	0.0018	-0.0520	0.0102	-0.5640	0.0421	-1.1246	0.0493
3	180.35	0.4497	0.0850	0.0017	-0.0956	0.0132	-0.8877	0.0581	-1.3372	0.0554
3	180.35	0.4997	0.0758	0.0019	-0.1573	0.0161	-1.3125	0.0767	-1.4085	0.0618
3	180.35	0.5556	0.0852	0.0024	-0.2268	0.0206	-1.9642	0.0986	-1.5016	0.0562
3	180.35	0.5995	0.0803	0.0033	-0.2646	0.0255	-2.6089	0.1135	-1.5674	0.0688
3	180.35	0.6498	0.0864	0.0027	-0.4341	0.0307	-3.4909	0.1281	-1.5996	0.0603
3	180.35	0.6890	0.0999	0.0056	-0.3775	0.0349	-4.3431	0.1388	-1.7738	0.0766
3	180.35	0.7495	0.0950	0.0099	-0.4498	0.0404	-5.7594	0.1492	-1.6296	0.0928
3	180.35	0.7998	0.0483	0.0065	-0.5905	0.0464	-7.1197	0.1498	-1.8386	0.1282
3	180.35	0.9178	0.1455	0.0194	-0.6450	0.0679	-10.6690	0.1746	-2.6437	0.0737
4	180	0.2001	-0.0484	0.0016	-0.0043	0.0013	-0.0793	0.0034	-0.1334	0.0270
4	180	0.2502	-0.0233	0.0036	-0.0003	0.0039	-0.1781	0.0059	-0.2359	0.0422
4	180	0.3001	-0.0144	0.0027	-0.0124	0.0060	-0.3506	0.0097	-0.3211	0.0477
4	180	0.3502	-0.0126	0.0028	-0.0176	0.0100	-0.6031	0.0133	-0.3270	0.0431
4	180	0.4002	0.0208	0.0030	-0.0254	0.0166	-0.9480	0.0202	-0.5107	0.0446
4	180	0.4500	0.0338	0.0021	-0.0513	0.0202	-1.4278	0.0261	-0.8356	0.0501
4	180	0.5001	0.0604	0.0026	-0.0848	0.0247	-1.9625	0.0311	-0.6956	0.0733
4	180	0.5560	0.0431	0.0017	-0.0976	0.0314	-2.8009	0.0363	-0.8918	0.0522
4	180	0.6001	0.0645	0.0027	-0.1419	0.0370	-3.6175	0.0442	-1.1009	0.0601
4	180	0.6501	0.0164	0.0039	-0.1719	0.0433	-4.6768	0.0514	-1.0571	0.0584
4	180	0.6999	-0.0048	0.0046	-0.2311	0.0511	-5.9030	0.0637	-0.8486	0.0632
4	180	0.7500	-0.0458	0.0072	-0.3674	0.0580	-7.3680	0.0803	-1.0411	0.0532
4	180	0.8002	-0.0730	0.0089	-0.4071	0.0670	-8.8885	0.1017	-0.9520	0.0727
4	180	0.8582	-0.1874	0.0129	-0.4894	0.0769	-10.7689	0.1358	-0.6207	0.0773
4	180	0.9101	-0.1889	0.0161	-0.5365	0.0868	-12.5750	0.1748	-0.7418	0.0708
4	180	0.9728	-0.2157	0.0214	-0.6044	0.0979	-14.7335	0.2166	-0.6439	0.0678

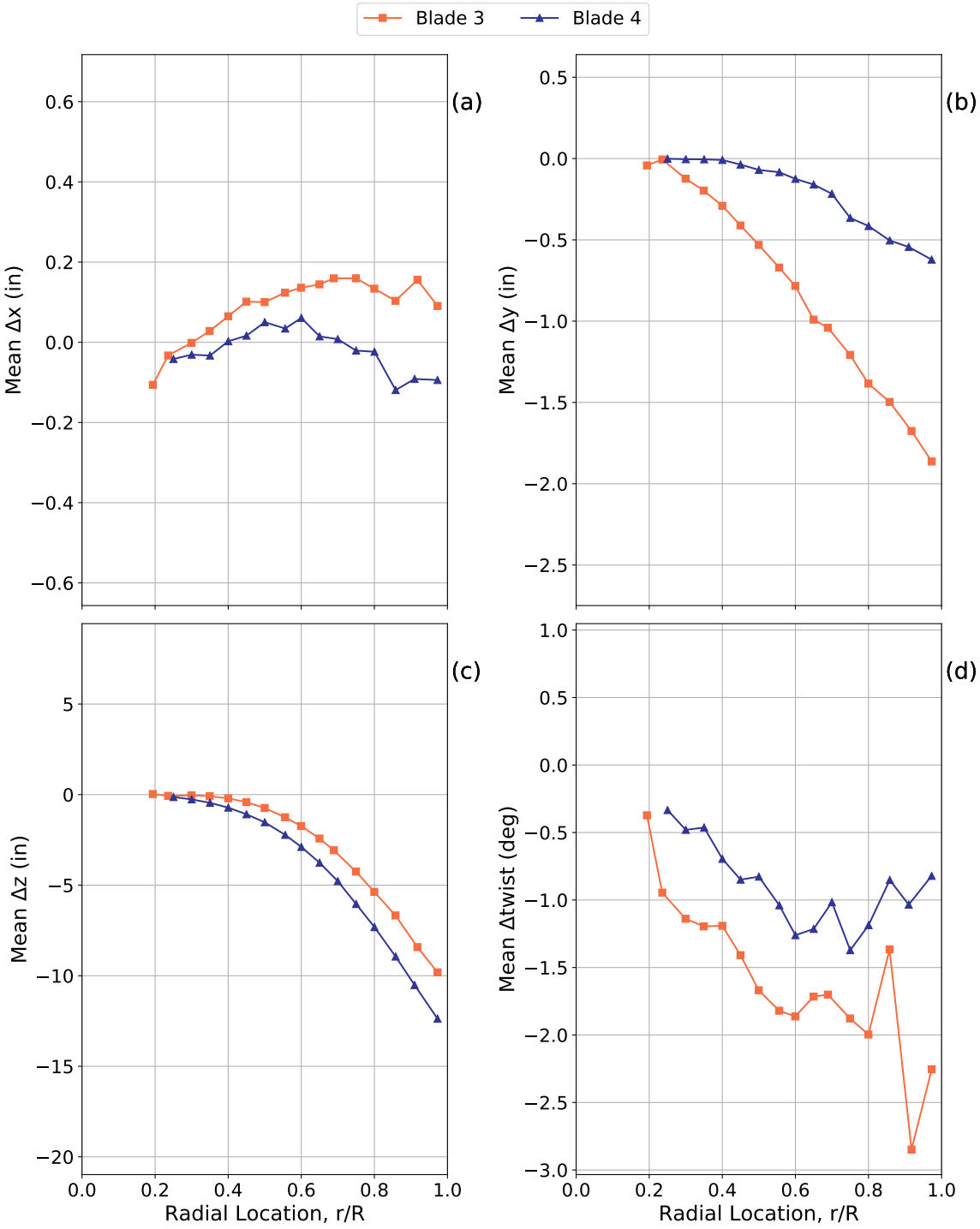


Figure 3.31-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.1061	0.0111	-0.0423	0.0075	0.0330	0.0234	-0.3726	0.0866
3	184.92	0.2357	-0.0329	0.0033	-0.0059	0.0034	-0.0694	0.0148	-0.9452	0.2761
3	184.92	0.2995	-0.0014	0.0078	-0.1238	0.0231	-0.0408	0.0622	-1.1391	0.2964
3	184.92	0.3493	0.0281	0.0122	-0.1972	0.0396	-0.0858	0.1015	-1.1951	0.2972
3	184.92	0.4000	0.0649	0.0176	-0.2906	0.0578	-0.2052	0.1434	-1.1912	0.2963
3	184.92	0.4497	0.1014	0.0229	-0.4114	0.0764	-0.4162	0.1858	-1.4089	0.2943
3	184.92	0.4997	0.1002	0.0272	-0.5310	0.0960	-0.7419	0.2296	-1.6688	0.2914
3	184.92	0.5556	0.1237	0.0320	-0.6706	0.1196	-1.2498	0.2793	-1.8199	0.2932
3	184.92	0.5995	0.1361	0.0343	-0.7834	0.1390	-1.7356	0.3171	-1.8625	0.3020
3	184.92	0.6498	0.1445	0.0359	-0.9906	0.1605	-2.4239	0.3639	-1.7158	0.2931
3	184.92	0.6890	0.1595	0.0296	-1.0405	0.1786	-3.0727	0.4112	-1.7009	0.1464
3	184.92	0.7495	0.1596	0.0381	-1.2077	0.2114	-4.2508	0.4553	-1.8774	0.2954
3	184.92	0.7998	0.1338	0.0374	-1.3842	0.2423	-5.3734	0.4990	-1.9964	0.3341
3	184.92	0.8577	0.1035	0.0141	-1.4970	0.2580	-6.6717	0.5187	-1.3657	0.3237
3	184.92	0.9178	0.1558	0.0159	-1.6757	0.2957	-8.4210	0.5757	-2.8488	0.3400
3	184.92	0.9729	0.0905	0.0157	-1.8632	0.3306	-9.8141	0.6383	-2.2540	0.3373
4	184.92	0.2502	-0.0417	0.0047	-0.0016	0.0057	-0.1354	0.0166	-0.3339	0.1800
4	184.92	0.3001	-0.0309	0.0082	-0.0040	0.0115	-0.2651	0.0295	-0.4803	0.2576
4	184.92	0.3502	-0.0331	0.0074	-0.0049	0.0193	-0.4532	0.0570	-0.4632	0.2297
4	184.92	0.4002	0.0026	0.0067	-0.0088	0.0309	-0.7197	0.0864	-0.6952	0.2439
4	184.92	0.4500	0.0165	0.0089	-0.0372	0.0378	-1.0863	0.1141	-0.8492	0.2428
4	184.92	0.5001	0.0501	0.0083	-0.0701	0.0460	-1.5281	0.1449	-0.8269	0.2150
4	184.92	0.5560	0.0343	0.0103	-0.0840	0.0536	-2.2238	0.1756	-1.0395	0.2404
4	184.92	0.6001	0.0607	0.0117	-0.1250	0.0603	-2.8895	0.1981	-1.2610	0.2485
4	184.92	0.6501	0.0147	0.0119	-0.1600	0.0675	-3.7637	0.2275	-1.2141	0.2363
4	184.92	0.6999	0.0078	0.0136	-0.2169	0.0753	-4.7789	0.2521	-1.0166	0.2524
4	184.92	0.7500	-0.0207	0.0148	-0.3654	0.0817	-6.0393	0.2743	-1.3718	0.2271
4	184.92	0.8002	-0.0236	0.0157	-0.4152	0.0888	-7.3174	0.2925	-1.1864	0.2496
4	184.92	0.8582	-0.1191	0.0186	-0.5040	0.0970	-8.9440	0.3121	-0.8516	0.2664
4	184.92	0.9101	-0.0914	0.0197	-0.5438	0.1061	-10.5178	0.3367	-1.0345	0.2298
4	184.92	0.9728	-0.0941	0.0250	-0.6217	0.1143	-12.3731	0.3583	-0.8211	0.3054

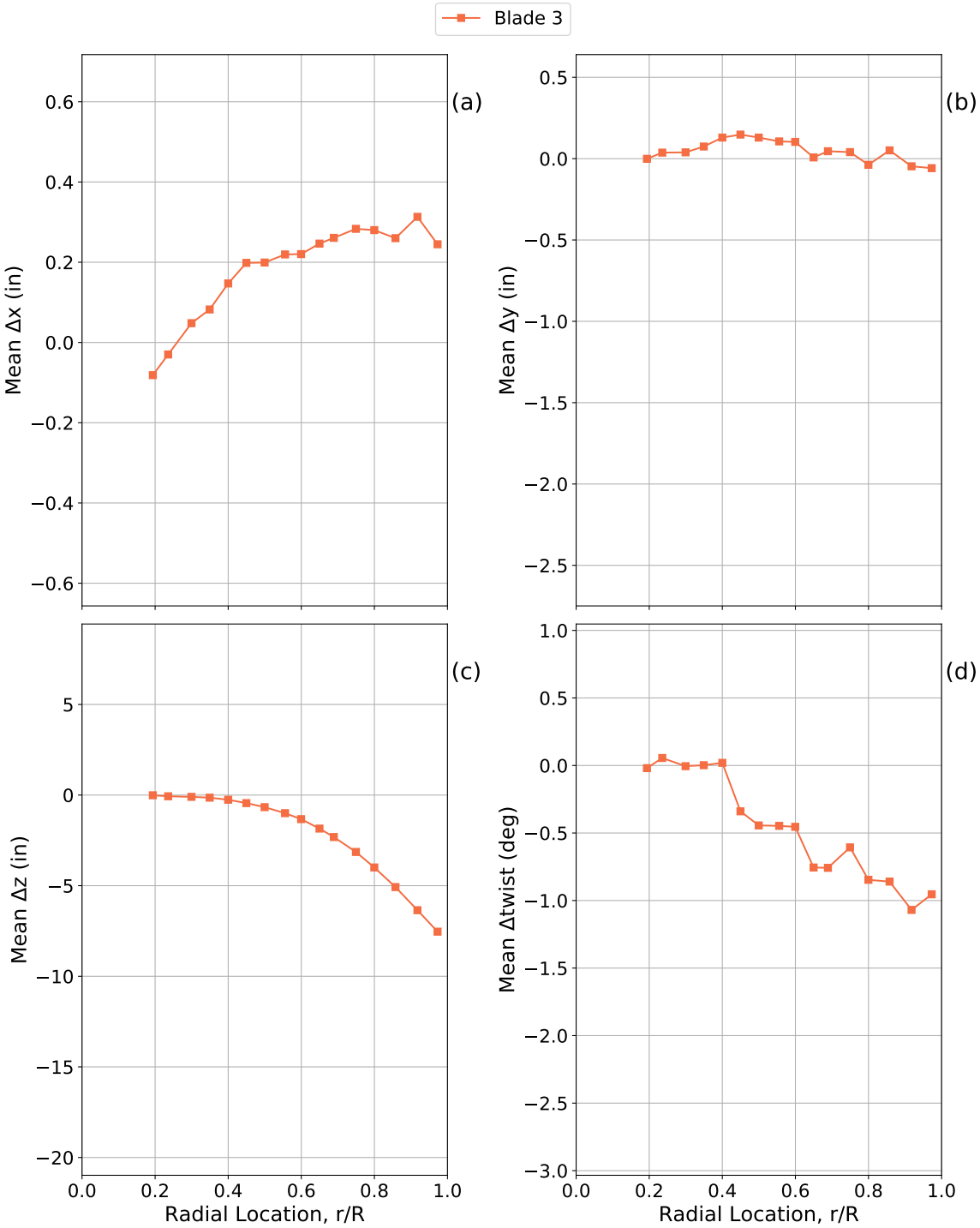


Figure 3.31-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0814	0.0233	-0.0011	0.0038	-0.0112	0.0044	-0.0197	0.0602
3	195.12	0.2357	-0.0299	0.0240	0.0371	0.0375	-0.0664	0.0483	0.0555	0.0583
3	195.12	0.2995	0.0482	0.0067	0.0387	0.0371	-0.0988	0.0347	-0.0052	0.1238
3	195.12	0.3493	0.0823	0.0121	0.0745	0.0766	-0.1436	0.0769	0.0020	0.1179
3	195.12	0.4000	0.1472	0.0100	0.1296	0.1281	-0.2575	0.1175	0.0195	0.0936
3	195.12	0.4497	0.1984	0.0204	0.1479	0.1695	-0.4437	0.1413	-0.3394	0.1031
3	195.12	0.4997	0.1993	0.0187	0.1296	0.2094	-0.6672	0.1802	-0.4438	0.1031
3	195.12	0.5556	0.2195	0.0173	0.1060	0.2536	-0.9989	0.2271	-0.4471	0.0948
3	195.12	0.5995	0.2203	0.0165	0.1029	0.2853	-1.3282	0.2580	-0.4543	0.1473
3	195.12	0.6498	0.2465	0.0322	0.0075	0.3204	-1.8495	0.3760	-0.7554	0.4042
3	195.12	0.6890	0.2608	0.0131	0.0457	0.3516	-2.3157	0.3393	-0.7579	0.1527
3	195.12	0.7495	0.2833	0.0118	0.0400	0.3957	-3.1385	0.3900	-0.6064	0.1268
3	195.12	0.7998	0.2801	0.0121	-0.0377	0.4388	-3.9952	0.4412	-0.8467	0.1551
3	195.12	0.8577	0.2600	0.0239	0.0509	0.4916	-5.0766	0.5361	-0.8598	0.4922
3	195.12	0.9178	0.3132	0.0522	-0.0470	0.5469	-6.3516	0.4881	-1.0694	0.1461
3	195.12	0.9729	0.2448	0.0441	-0.0584	0.5943	-7.5366	0.5334	-0.9539	0.1756

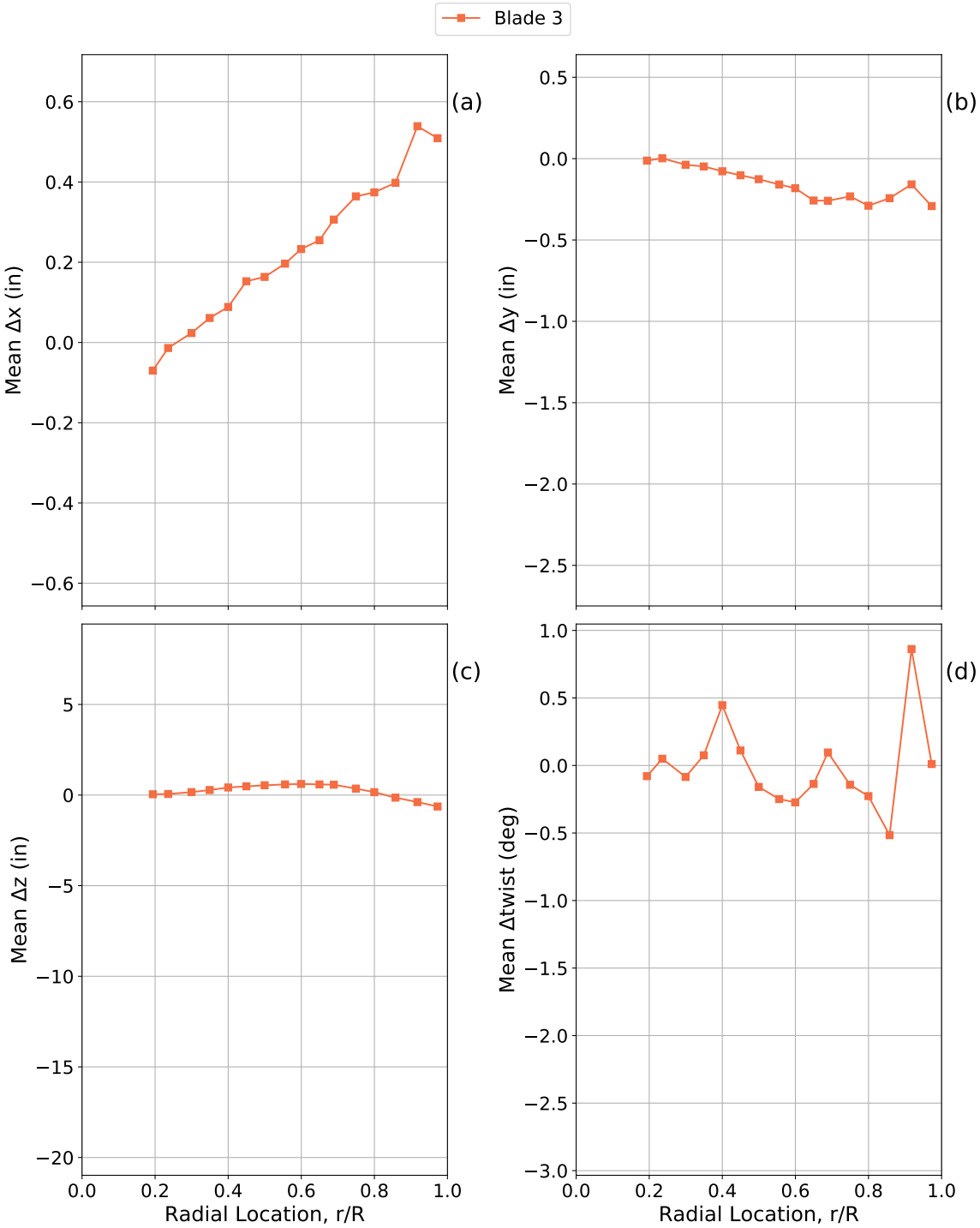


Figure 3.31-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.299$, $\alpha = -0.6°$ NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0701	0.0012	-0.0122	0.0007	0.0447	0.0024	-0.0793	0.0273
3	209.88	0.2357	-0.0137	0.0008	0.0021	0.0019	0.0600	0.0056	0.0500	0.0388
3	209.88	0.2995	0.0236	0.0015	-0.0375	0.0050	0.1638	0.0110	-0.0848	0.0631
3	209.88	0.3493	0.0611	0.0013	-0.0481	0.0054	0.2773	0.0187	0.0754	0.0560
3	209.88	0.4000	0.0886	0.0013	-0.0776	0.0109	0.4193	0.0288	0.4464	0.0458
3	209.88	0.4497	0.1526	0.0016	-0.1021	0.0126	0.4810	0.0414	0.1111	0.0471
3	209.88	0.4997	0.1635	0.0015	-0.1263	0.0168	0.5398	0.0601	-0.1590	0.0598
3	209.88	0.5556	0.1965	0.0017	-0.1590	0.0205	0.5893	0.0818	-0.2486	0.0611
3	209.88	0.5995	0.2329	0.0016	-0.1817	0.0244	0.6128	0.1056	-0.2729	0.0666
3	209.88	0.6498	0.2549	0.0018	-0.2573	0.0291	0.5879	0.1318	-0.1367	0.0655
3	209.88	0.6890	0.3063	0.0018	-0.2590	0.0327	0.5726	0.1571	0.0961	0.0666
3	209.88	0.7495	0.3642	0.0023	-0.2319	0.0383	0.3582	0.1985	-0.1431	0.0631
3	209.88	0.7998	0.3742	0.0030	-0.2894	0.0429	0.1594	0.2376	-0.2268	0.0818
3	209.88	0.8577	0.3980	0.0031	-0.2431	0.0481	-0.1416	0.2869	-0.5158	0.0904
3	209.88	0.9178	0.5391	0.0044	-0.1581	0.0538	-0.3873	0.3358	0.8619	0.1341
3	209.88	0.9729	0.5092	0.0045	-0.2917	0.0590	-0.6303	0.3915	0.0109	0.1486

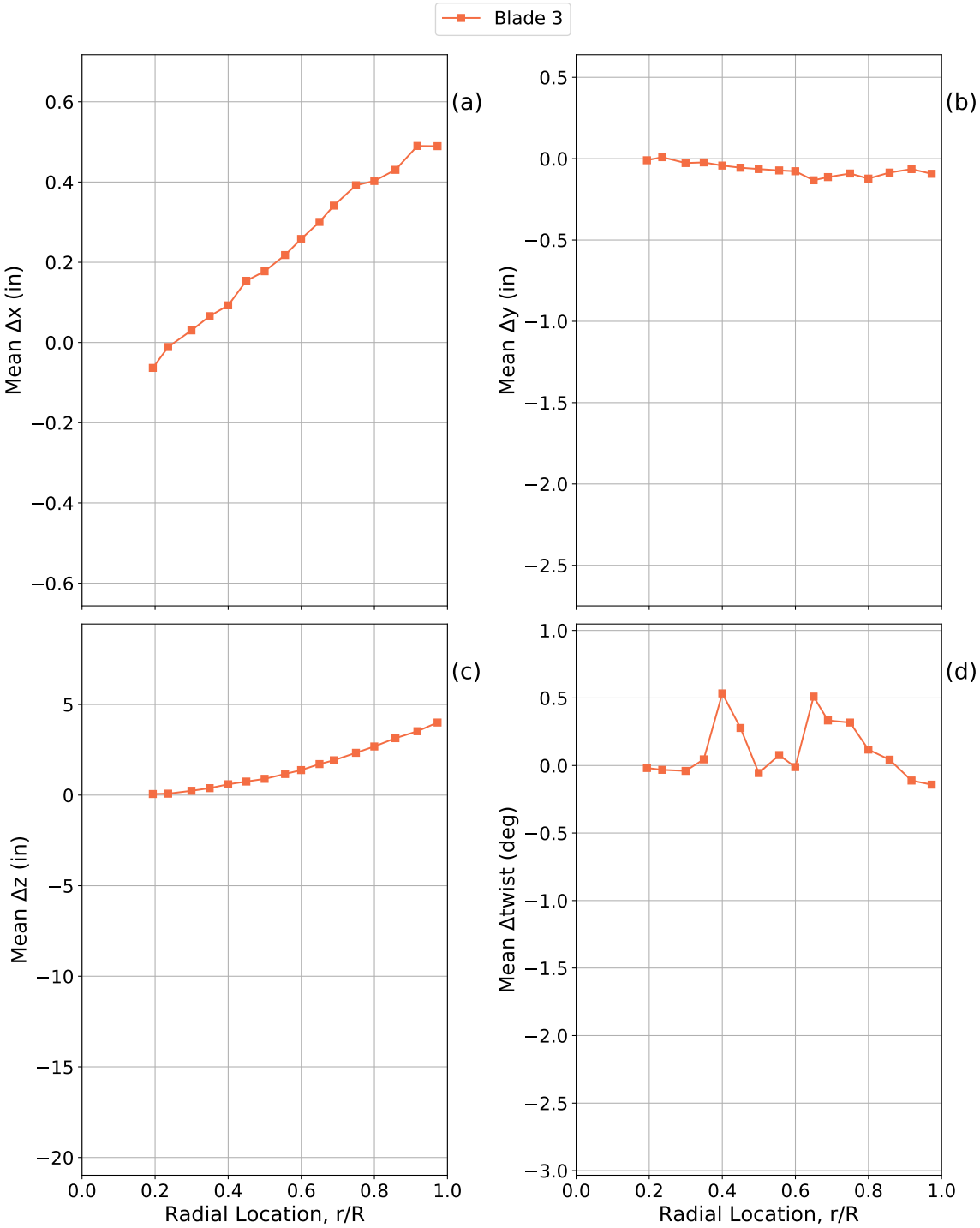


Figure 3.31-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0634	0.0010	-0.0098	0.0011	0.0608	0.0064	-0.0184	0.0230
3	225	0.2357	-0.0113	0.0012	0.0091	0.0026	0.0803	0.0106	-0.0319	0.0379
3	225	0.2995	0.0301	0.0015	-0.0269	0.0055	0.2380	0.0240	-0.0399	0.0559
3	225	0.3493	0.0656	0.0012	-0.0230	0.0103	0.3839	0.0404	0.0456	0.0528
3	225	0.4000	0.0926	0.0023	-0.0424	0.0158	0.5986	0.0613	0.5340	0.0452
3	225	0.4497	0.1538	0.0026	-0.0556	0.0238	0.7481	0.0832	0.2780	0.0382
3	225	0.4997	0.1776	0.0032	-0.0638	0.0328	0.8973	0.1154	-0.0556	0.0301
3	225	0.5556	0.2180	0.0038	-0.0723	0.0453	1.1653	0.1499	0.0774	0.0448
3	225	0.5995	0.2581	0.0051	-0.0772	0.0551	1.3806	0.1763	-0.0115	0.0451
3	225	0.6498	0.3005	0.0057	-0.1328	0.0678	1.7128	0.2062	0.5101	0.0409
3	225	0.6890	0.3412	0.0065	-0.1132	0.0783	1.9218	0.2314	0.3337	0.0369
3	225	0.7495	0.3918	0.0080	-0.0911	0.0950	2.3334	0.2682	0.3181	0.0403
3	225	0.7998	0.4027	0.0096	-0.1223	0.1096	2.6835	0.2998	0.1180	0.0423
3	225	0.8577	0.4304	0.0105	-0.0855	0.1268	3.1412	0.3339	0.0431	0.0667
3	225	0.9178	0.4899	0.0107	-0.0642	0.1447	3.5253	0.3652	-0.1112	0.0589
3	225	0.9729	0.4894	0.0173	-0.0930	0.1618	4.0049	0.3957	-0.1415	0.0551

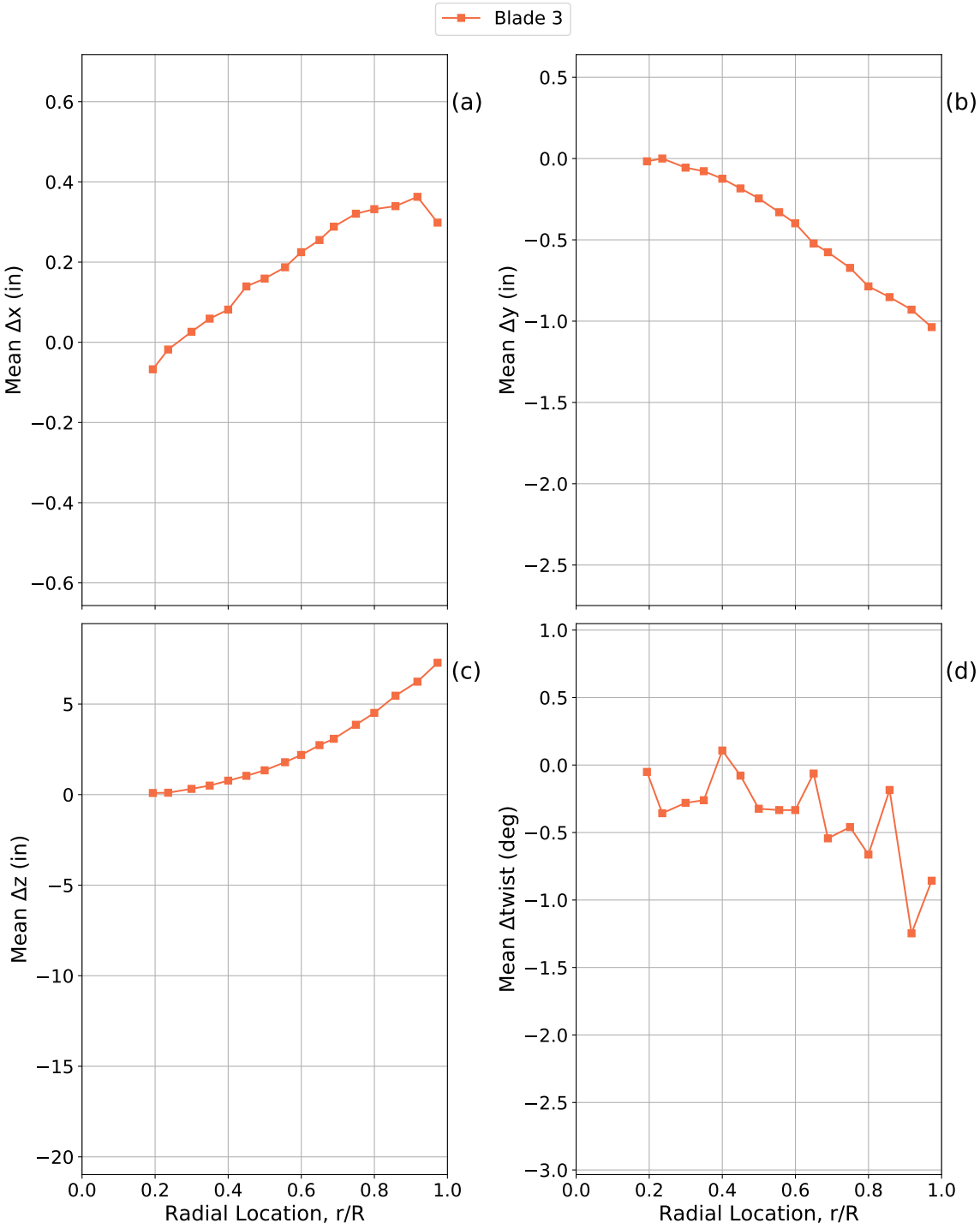


Figure 3.31-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0673	0.0013	-0.0171	0.0010	0.0890	0.0038	-0.0510	0.0241
3	240.12	0.2357	-0.0180	0.0011	0.0002	0.0014	0.1046	0.0059	-0.3569	0.0378
3	240.12	0.2995	0.0262	0.0013	-0.0559	0.0038	0.3181	0.0123	-0.2802	0.0564
3	240.12	0.3493	0.0590	0.0014	-0.0779	0.0063	0.4994	0.0195	-0.2609	0.0628
3	240.12	0.4000	0.0815	0.0020	-0.1239	0.0100	0.7706	0.0297	0.1076	0.0514
3	240.12	0.4497	0.1393	0.0027	-0.1837	0.0121	1.0363	0.0396	-0.0783	0.0473
3	240.12	0.4997	0.1589	0.0023	-0.2450	0.0162	1.3407	0.0517	-0.3237	0.0491
3	240.12	0.5556	0.1871	0.0024	-0.3303	0.0196	1.7885	0.0643	-0.3336	0.0584
3	240.12	0.5995	0.2247	0.0028	-0.3984	0.0233	2.1888	0.0788	-0.3338	0.0504
3	240.12	0.6498	0.2550	0.0031	-0.5223	0.0279	2.7320	0.0938	-0.0628	0.0534
3	240.12	0.6890	0.2884	0.0044	-0.5760	0.0312	3.0831	0.1064	-0.5431	0.0597
3	240.12	0.7495	0.3207	0.0053	-0.6725	0.0372	3.8570	0.1247	-0.4598	0.0523
3	240.12	0.7998	0.3320	0.0061	-0.7863	0.0419	4.5104	0.1355	-0.6631	0.0582
3	240.12	0.8577	0.3395	0.0067	-0.8523	0.0481	5.4618	0.1471	-0.1850	0.0664
3	240.12	0.9178	0.3628	0.0068	-0.9295	0.0541	6.2360	0.1580	-1.2468	0.0651
3	240.12	0.9729	0.2985	0.0100	-1.0366	0.0598	7.2801	0.1652	-0.8570	0.0650

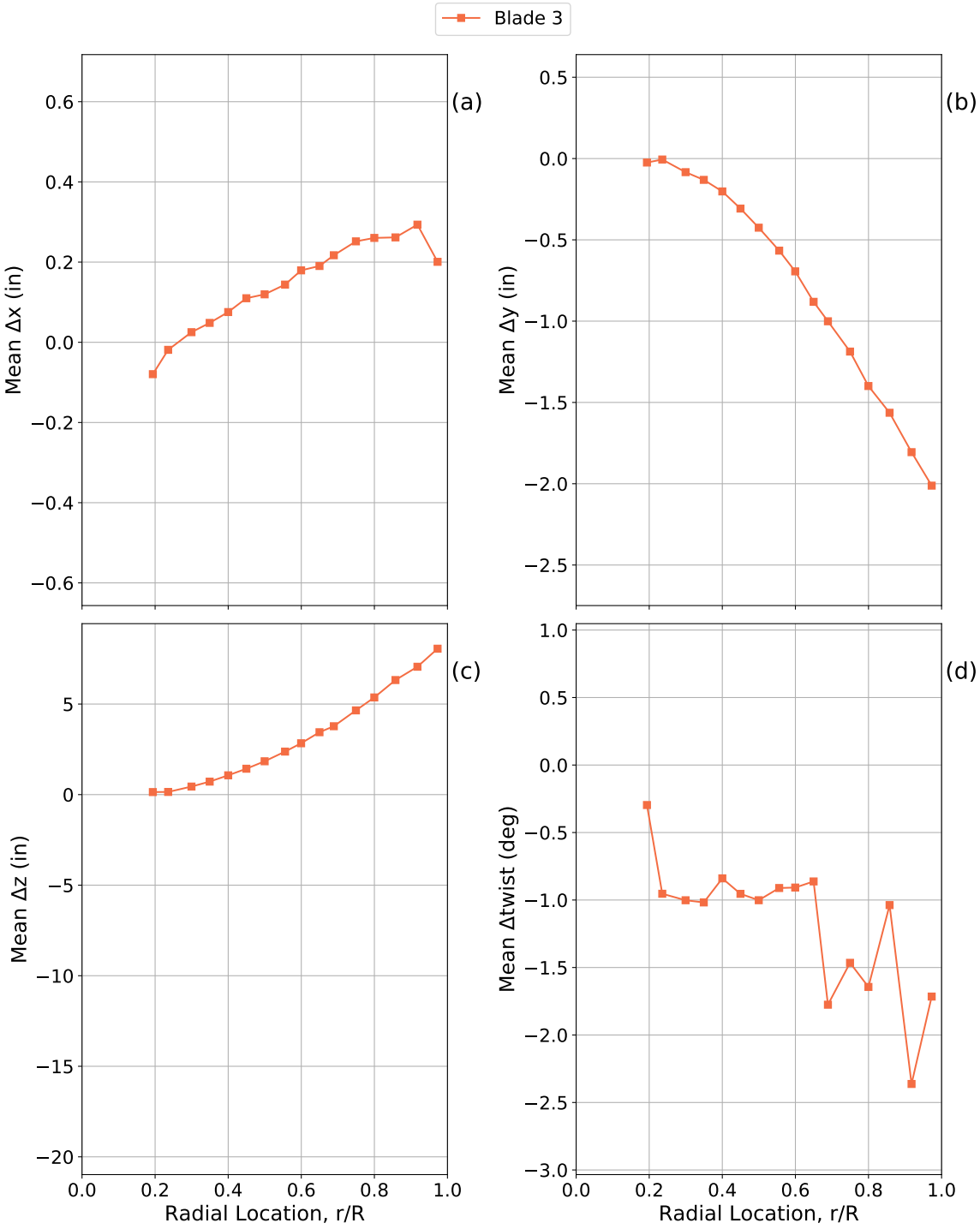


Figure 3.31-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.299$, $\alpha = -0.6°$ NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0795	0.0048	-0.0245	0.0014	0.1403	0.0078	-0.2963	0.0250
3	254.88	0.2357	-0.0188	0.0011	-0.0059	0.0013	0.1475	0.0064	-0.9536	0.0782
3	254.88	0.2995	0.0252	0.0018	-0.0837	0.0039	0.4442	0.0218	-1.0017	0.0807
3	254.88	0.3493	0.0484	0.0019	-0.1311	0.0077	0.7180	0.0331	-1.0179	0.0855
3	254.88	0.4000	0.0754	0.0023	-0.2022	0.0109	1.0653	0.0488	-0.8396	0.0841
3	254.88	0.4497	0.1099	0.0024	-0.3076	0.0148	1.4294	0.0662	-0.9542	0.0799
3	254.88	0.4997	0.1196	0.0027	-0.4252	0.0188	1.8403	0.0881	-1.0015	0.0746
3	254.88	0.5556	0.1439	0.0033	-0.5663	0.0235	2.3755	0.1132	-0.9111	0.0742
3	254.88	0.5995	0.1794	0.0037	-0.6939	0.0273	2.8349	0.1362	-0.9077	0.0792
3	254.88	0.6498	0.1903	0.0053	-0.8812	0.0322	3.4446	0.1671	-0.8623	0.0843
3	254.88	0.6890	0.2171	0.0062	-1.0008	0.0359	3.7751	0.1932	-1.7755	0.0790
3	254.88	0.7495	0.2517	0.0087	-1.1872	0.0420	4.6509	0.2373	-1.4652	0.0773
3	254.88	0.7998	0.2603	0.0103	-1.3991	0.0471	5.3652	0.2747	-1.6440	0.0756
3	254.88	0.8577	0.2616	0.0126	-1.5635	0.0527	6.3261	0.3176	-1.0376	0.0748
3	254.88	0.9178	0.2934	0.0160	-1.8058	0.0589	7.0605	0.3630	-2.3627	0.0745
3	254.88	0.9729	0.2007	0.0210	-2.0117	0.0651	8.0566	0.4054	-1.7153	0.0826

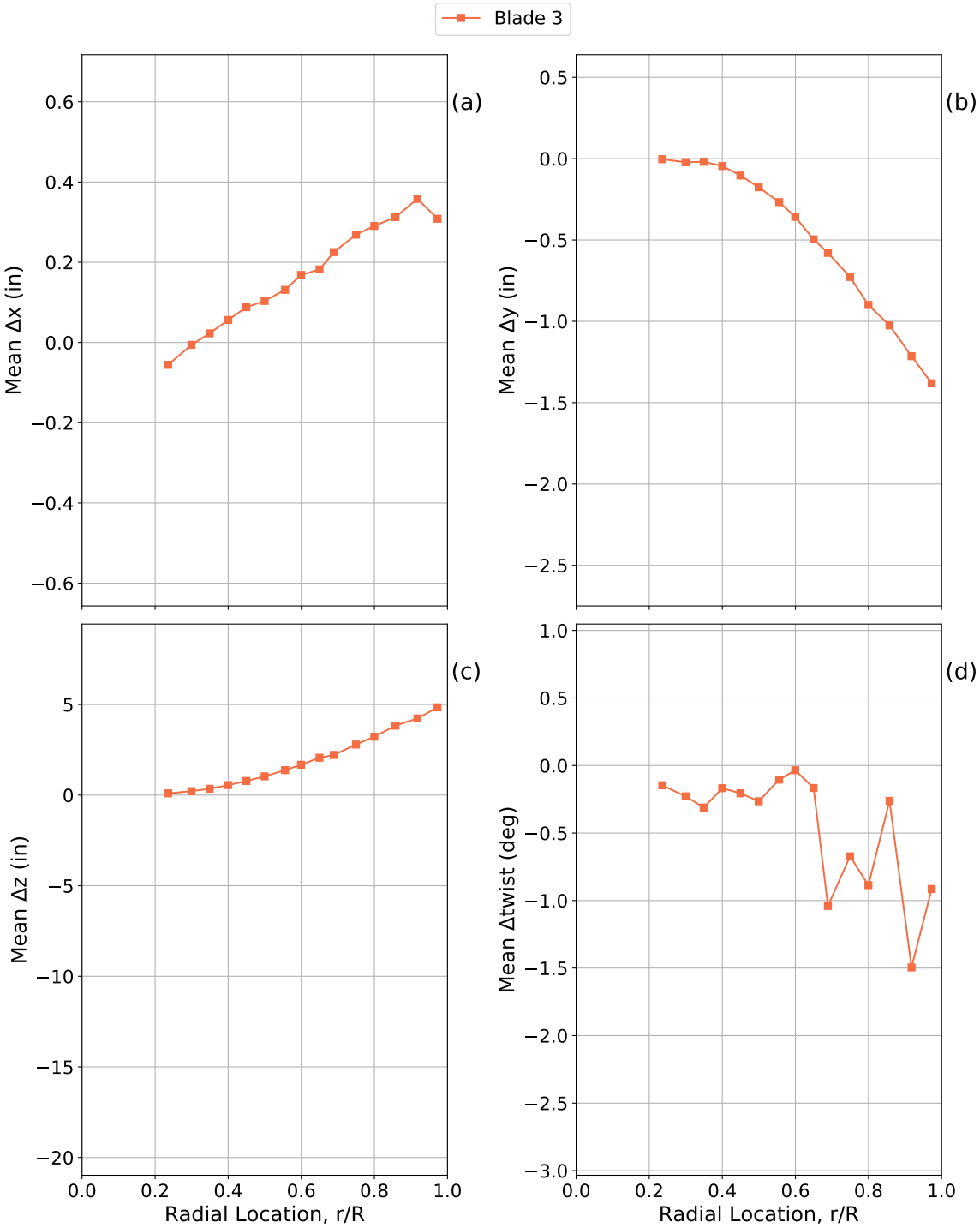


Figure 3.31-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2357	-0.0558	0.0025	-0.0034	0.0028	0.0957	0.0118	-0.1464	0.0690
3	260.16	0.2995	-0.0059	0.0019	-0.0217	0.0068	0.2163	0.0227	-0.2283	0.1101
3	260.16	0.3493	0.0228	0.0022	-0.0190	0.0125	0.3497	0.0374	-0.3112	0.0997
3	260.16	0.4000	0.0561	0.0028	-0.0454	0.0196	0.5516	0.0555	-0.1680	0.0909
3	260.16	0.4497	0.0879	0.0035	-0.1035	0.0268	0.7803	0.0758	-0.2057	0.0908
3	260.16	0.4997	0.1037	0.0043	-0.1760	0.0352	1.0334	0.0972	-0.2646	0.0785
3	260.16	0.5556	0.1313	0.0049	-0.2672	0.0459	1.3794	0.1224	-0.1045	0.0803
3	260.16	0.5995	0.1684	0.0059	-0.3579	0.0556	1.6762	0.1422	-0.0352	0.0780
3	260.16	0.6498	0.1821	0.0067	-0.4962	0.0668	2.0638	0.1647	-0.1664	0.0862
3	260.16	0.6890	0.2253	0.0073	-0.5793	0.0764	2.2164	0.1835	-1.0401	0.0813
3	260.16	0.7495	0.2688	0.0083	-0.7272	0.0923	2.7897	0.2107	-0.6725	0.0782
3	260.16	0.7998	0.2906	0.0094	-0.8994	0.1065	3.2228	0.2339	-0.8860	0.0794
3	260.16	0.8577	0.3123	0.0100	-1.0253	0.1232	3.8316	0.2584	-0.2618	0.0824
3	260.16	0.9178	0.3581	0.0109	-1.2144	0.1401	4.2315	0.2843	-1.4954	0.0822
3	260.16	0.9729	0.3085	0.0151	-1.3809	0.1561	4.8436	0.3112	-0.9143	0.0781

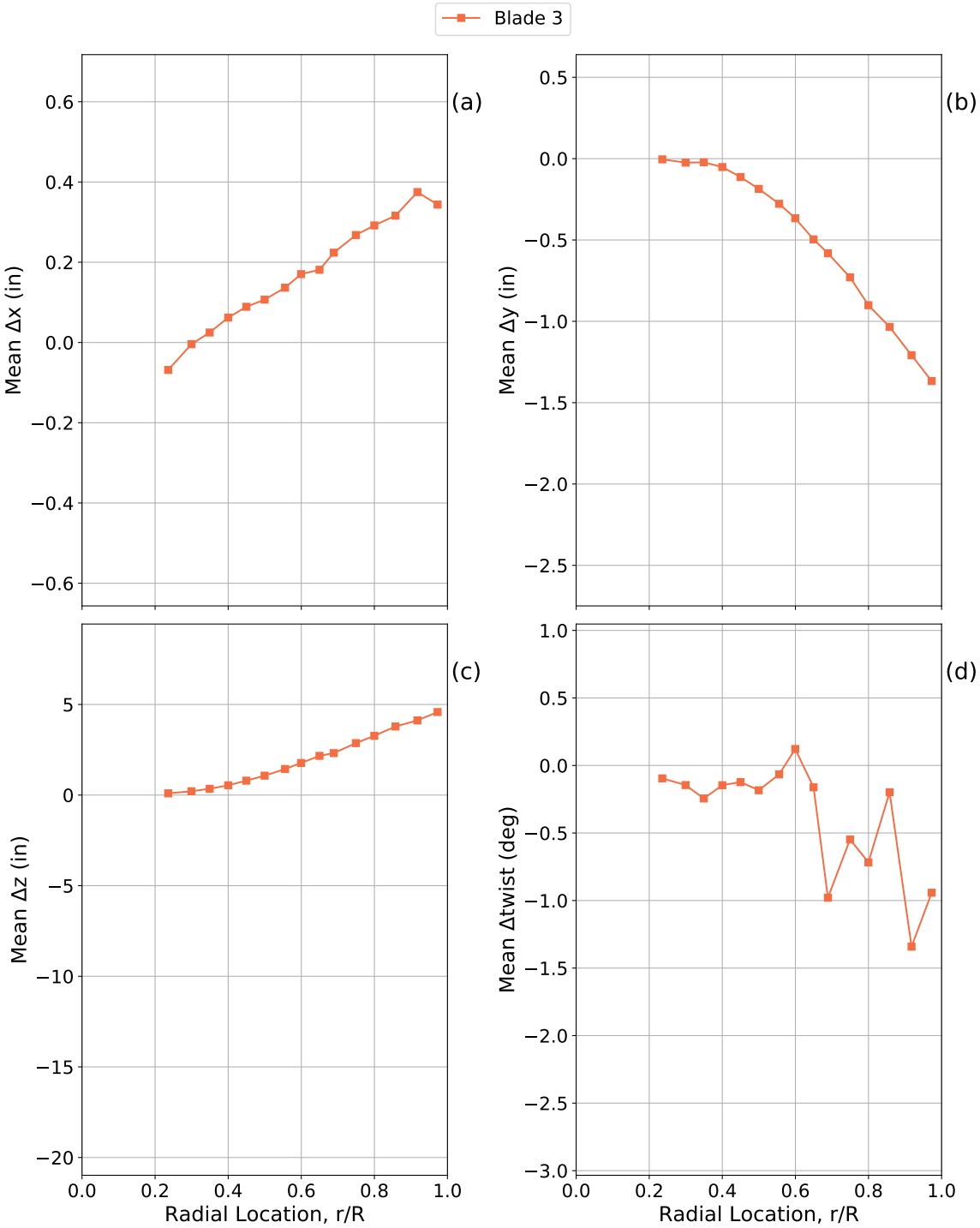


Figure 3.31-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.299$, $\alpha = -0.6°$ NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0684	0.0030	-0.0044	0.0025	0.0957	0.0123	-0.0954	0.0834
3	265.08	0.2995	-0.0042	0.0015	-0.0245	0.0058	0.2106	0.0245	-0.1450	0.1336
3	265.08	0.3493	0.0249	0.0017	-0.0227	0.0109	0.3469	0.0402	-0.2444	0.1250
3	265.08	0.4000	0.0621	0.0030	-0.0517	0.0169	0.5409	0.0603	-0.1461	0.1241
3	265.08	0.4497	0.0890	0.0028	-0.1129	0.0225	0.7950	0.0779	-0.1229	0.1059
3	265.08	0.4997	0.1069	0.0036	-0.1858	0.0286	1.0721	0.0971	-0.1834	0.1228
3	265.08	0.5556	0.1366	0.0045	-0.2778	0.0354	1.4382	0.1231	-0.0654	0.1189
3	265.08	0.5995	0.1704	0.0042	-0.3663	0.0413	1.7710	0.1447	0.1222	0.1256
3	265.08	0.6498	0.1812	0.0051	-0.4964	0.0498	2.1641	0.1716	-0.1619	0.1278
3	265.08	0.6890	0.2239	0.0059	-0.5816	0.0551	2.3163	0.1951	-0.9790	0.1313
3	265.08	0.7495	0.2679	0.0072	-0.7294	0.0655	2.8675	0.2353	-0.5478	0.1215
3	265.08	0.7998	0.2918	0.0088	-0.9008	0.0745	3.2714	0.2694	-0.7172	0.1151
3	265.08	0.8577	0.3161	0.0099	-1.0342	0.0851	3.7839	0.3090	-0.1983	0.1215
3	265.08	0.9178	0.3749	0.0115	-1.2085	0.0963	4.1203	0.3498	-1.3416	0.1199
3	265.08	0.9729	0.3437	0.0161	-1.3669	0.1067	4.5808	0.3864	-0.9423	0.1240

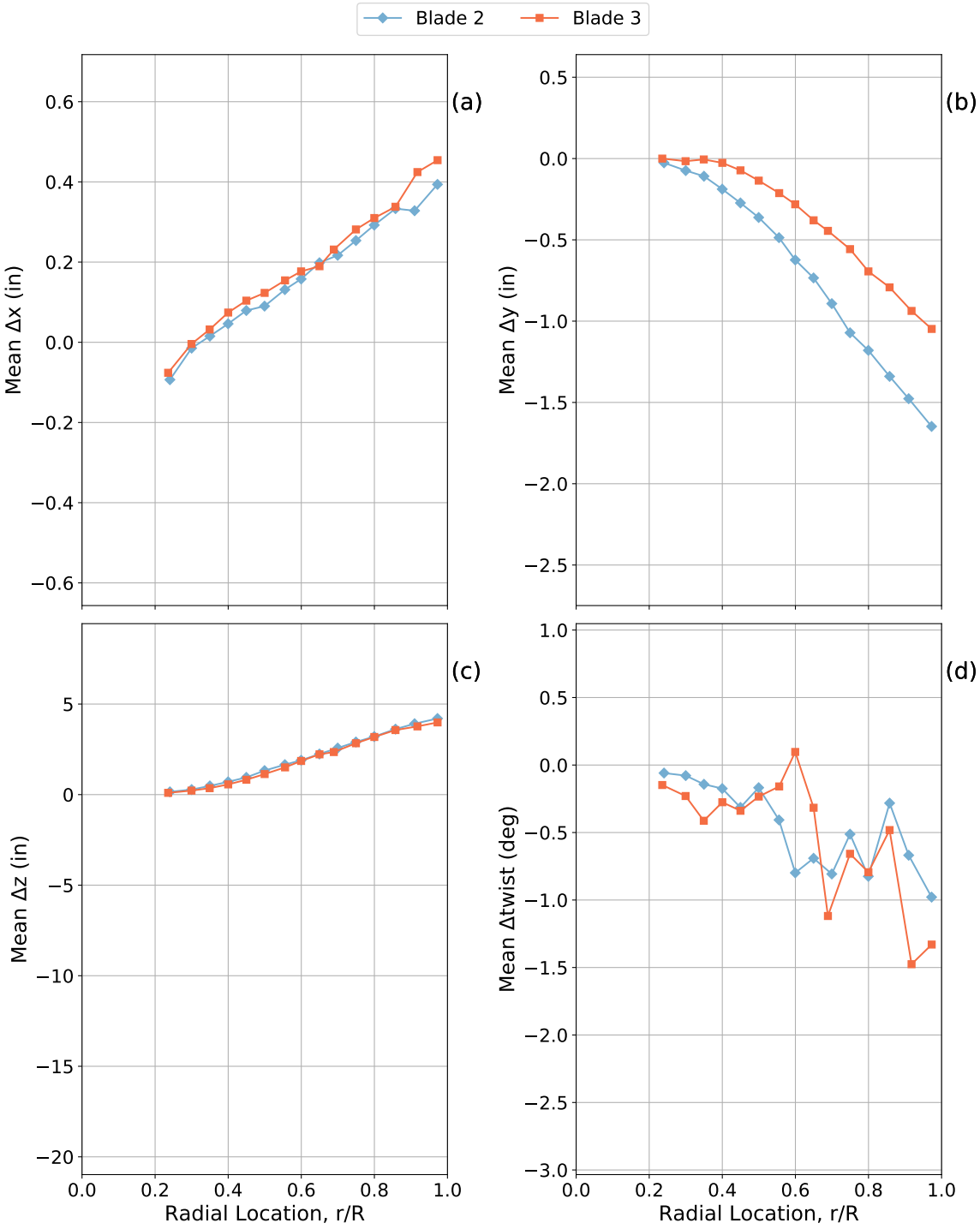


Figure 3.31-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2405	-0.0933	0.0092	-0.0263	0.0032	0.1520	0.0222	-0.0594	0.1672
2	270.35	0.2999	-0.0146	0.0041	-0.0739	0.0064	0.2789	0.0373	-0.0784	0.2556
2	270.35	0.3498	0.0153	0.0035	-0.1087	0.0127	0.4801	0.0667	-0.1426	0.2552
2	270.35	0.3998	0.0462	0.0038	-0.1882	0.0191	0.7077	0.0940	-0.1742	0.2662
2	270.35	0.4496	0.0792	0.0046	-0.2730	0.0253	0.9508	0.1221	-0.3142	0.2636
2	270.35	0.4995	0.0902	0.0042	-0.3624	0.0315	1.3264	0.1512	-0.1678	0.2675
2	270.35	0.5551	0.1314	0.0051	-0.4865	0.0380	1.6530	0.1878	-0.4067	0.2546
2	270.35	0.5996	0.1578	0.0060	-0.6236	0.0445	1.8976	0.2118	-0.7986	0.2729
2	270.35	0.6497	0.1984	0.0070	-0.7342	0.0505	2.2417	0.2436	-0.6908	0.2675
2	270.35	0.6996	0.2169	0.0072	-0.8923	0.0581	2.5705	0.2768	-0.8072	0.2600
2	270.35	0.7495	0.2537	0.0088	-1.0716	0.0658	2.9055	0.3026	-0.5122	0.2902
2	270.35	0.7996	0.2923	0.0087	-1.1798	0.0748	3.2045	0.3355	-0.8246	0.2769
2	270.35	0.8578	0.3333	0.0101	-1.3398	0.0839	3.6162	0.3663	-0.2823	0.2833
2	270.35	0.9100	0.3281	0.0101	-1.4769	0.0934	3.9134	0.3983	-0.6685	0.2940
2	270.35	0.9727	0.3938	0.0145	-1.6476	0.1030	4.2014	0.4430	-0.9786	0.2509
3	270	0.2357	-0.0760	0.0039	-0.0002	0.0025	0.0966	0.0192	-0.1480	0.1673
3	270	0.2995	-0.0042	0.0024	-0.0161	0.0057	0.2211	0.0366	-0.2296	0.2670
3	270	0.3493	0.0320	0.0026	-0.0055	0.0111	0.3558	0.0637	-0.4127	0.2315
3	270	0.4000	0.0742	0.0035	-0.0264	0.0171	0.5638	0.0933	-0.2756	0.2319
3	270	0.4497	0.1039	0.0044	-0.0726	0.0216	0.8203	0.1202	-0.3389	0.2239
3	270	0.4997	0.1232	0.0047	-0.1358	0.0263	1.1347	0.1485	-0.2335	0.2248
3	270	0.5556	0.1544	0.0046	-0.2126	0.0315	1.5039	0.1780	-0.1586	0.2430
3	270	0.5995	0.1768	0.0055	-0.2814	0.0369	1.8575	0.2088	0.0970	0.2538
3	270	0.6498	0.1897	0.0071	-0.3798	0.0424	2.2231	0.2458	-0.3163	0.2509
3	270	0.6890	0.2313	0.0070	-0.4447	0.0479	2.3499	0.2757	-1.1184	0.2431
3	270	0.7495	0.2814	0.0091	-0.5572	0.0552	2.8354	0.3289	-0.6577	0.2287
3	270	0.7998	0.3099	0.0102	-0.6941	0.0617	3.1817	0.3714	-0.7942	0.2390
3	270	0.8577	0.3380	0.0113	-0.7921	0.0703	3.5639	0.4240	-0.4818	0.2148
3	270	0.9178	0.4245	0.0136	-0.9371	0.0793	3.7663	0.4820	-1.4755	0.2469
3	270	0.9729	0.4542	0.0186	-1.0479	0.0884	3.9862	0.5298	-1.3300	0.2632

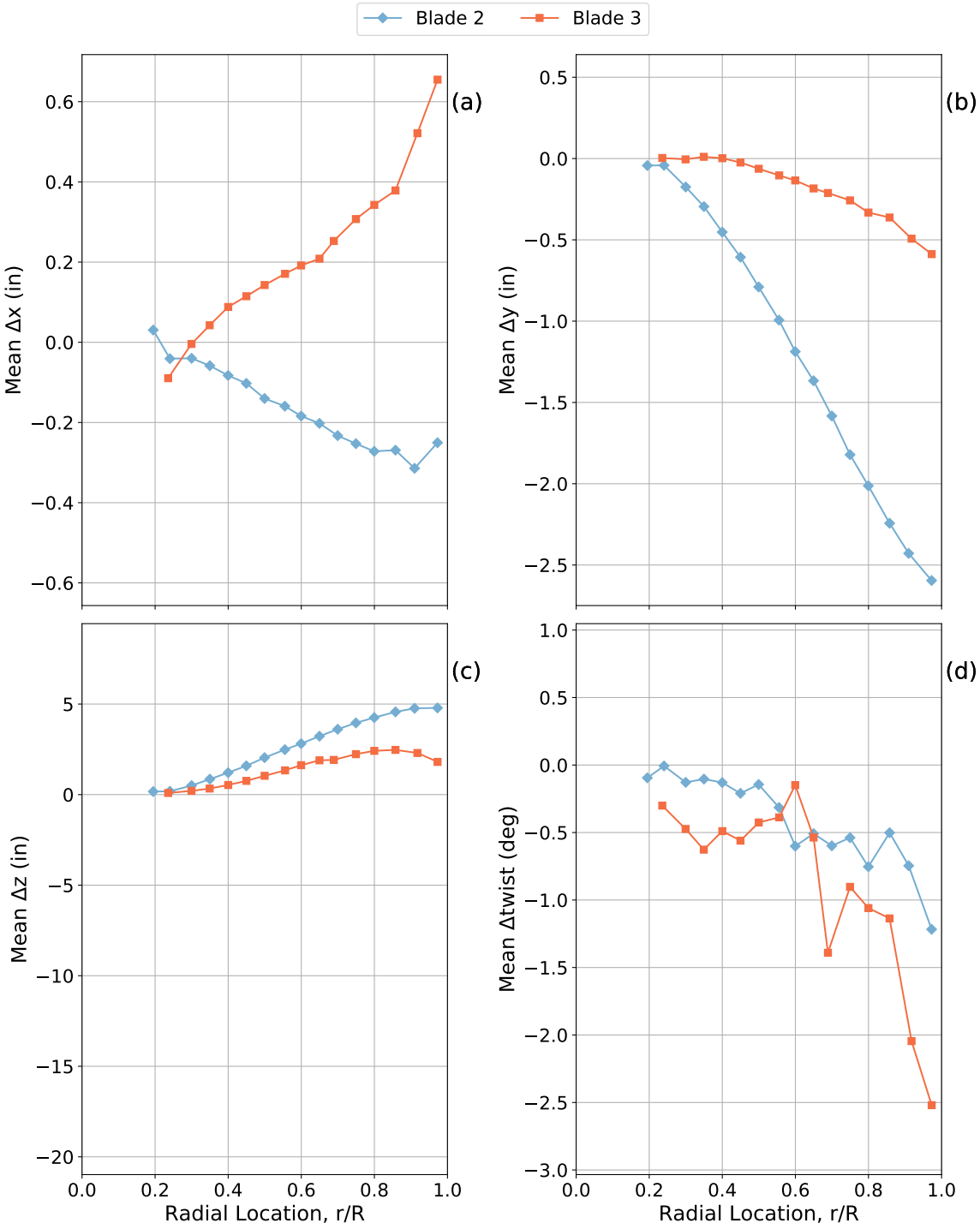


Figure 3.31-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0306	0.0081	-0.0429	0.0054	0.1685	0.0160	-0.0950	0.1018
2	274.92	0.2405	-0.0408	0.0051	-0.0417	0.0053	0.1829	0.0184	-0.0069	0.1495
2	274.92	0.2999	-0.0399	0.0042	-0.1748	0.0141	0.5003	0.0367	-0.1282	0.2077
2	274.92	0.3498	-0.0584	0.0050	-0.2952	0.0227	0.8547	0.0646	-0.1041	0.1665
2	274.92	0.3998	-0.0827	0.0064	-0.4523	0.0316	1.2115	0.0850	-0.1298	0.1502
2	274.92	0.4496	-0.1025	0.0054	-0.6067	0.0376	1.5900	0.0982	-0.2097	0.1353
2	274.92	0.4995	-0.1402	0.0071	-0.7898	0.0444	2.0411	0.1165	-0.1441	0.1312
2	274.92	0.5551	-0.1593	0.0069	-0.9939	0.0488	2.4836	0.1310	-0.3145	0.1480
2	274.92	0.5996	-0.1839	0.0064	-1.1874	0.0544	2.8154	0.1468	-0.6010	0.1465
2	274.92	0.6497	-0.2022	0.0068	-1.3667	0.0592	3.2241	0.1638	-0.5081	0.1672
2	274.92	0.6996	-0.2328	0.0079	-1.5833	0.0638	3.6089	0.1857	-0.5984	0.1488
2	274.92	0.7495	-0.2528	0.0077	-1.8213	0.0670	3.9589	0.2081	-0.5383	0.1658
2	274.92	0.7996	-0.2719	0.0089	-2.0127	0.0716	4.2519	0.2300	-0.7536	0.1605
2	274.92	0.8578	-0.2690	0.0093	-2.2431	0.0761	4.5678	0.2565	-0.5015	0.1841
2	274.92	0.9100	-0.3143	0.0113	-2.4284	0.0821	4.7643	0.2833	-0.7461	0.1891
2	274.92	0.9727	-0.2504	0.0175	-2.5953	0.0871	4.7865	0.3251	-1.2170	0.2371
3	274.92	0.2357	-0.0895	0.0111	0.0035	0.0032	0.0895	0.0319	-0.3005	0.2720
3	274.92	0.2995	-0.0041	0.0044	-0.0050	0.0071	0.2062	0.0614	-0.4736	0.4328
3	274.92	0.3493	0.0425	0.0041	0.0108	0.0144	0.3346	0.1049	-0.6268	0.4366
3	274.92	0.4000	0.0881	0.0038	0.0020	0.0219	0.5306	0.1549	-0.4896	0.4280
3	274.92	0.4497	0.1149	0.0046	-0.0243	0.0290	0.7584	0.2049	-0.5602	0.4323
3	274.92	0.4997	0.1428	0.0027	-0.0627	0.0362	1.0376	0.2526	-0.4256	0.4271
3	274.92	0.5556	0.1708	0.0035	-0.1037	0.0453	1.3392	0.3078	-0.3878	0.4346
3	274.92	0.5995	0.1916	0.0041	-0.1346	0.0516	1.6247	0.3509	-0.1486	0.4342
3	274.92	0.6498	0.2085	0.0054	-0.1839	0.0607	1.8929	0.4010	-0.5369	0.4273
3	274.92	0.6890	0.2527	0.0073	-0.2120	0.0691	1.9160	0.4405	-1.3909	0.4292
3	274.92	0.7495	0.3073	0.0082	-0.2573	0.0798	2.2339	0.4957	-0.9027	0.4320
3	274.92	0.7998	0.3427	0.0096	-0.3321	0.0889	2.4168	0.5457	-1.0598	0.4350
3	274.92	0.8577	0.3786	0.0097	-0.3625	0.1006	2.4691	0.6033	-1.1365	0.4116
3	274.92	0.9178	0.5215	0.0104	-0.4926	0.1140	2.2991	0.6641	-2.0450	0.4221
3	274.92	0.9729	0.6550	0.0191	-0.5878	0.1279	1.8065	0.7346	-2.5199	0.4270

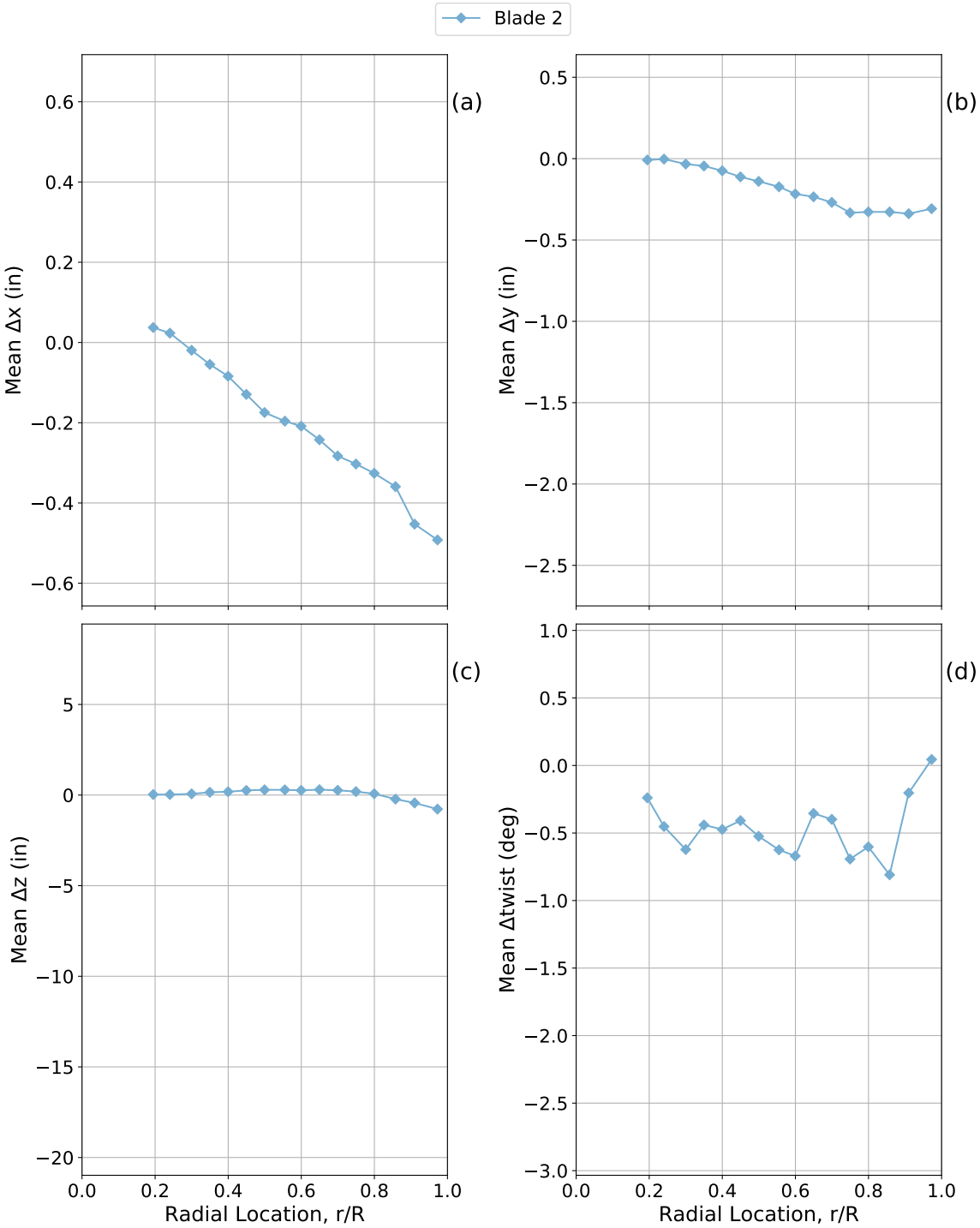


Figure 3.31-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0373	0.0025	-0.0082	0.0018	0.0314	0.0083	-0.2394	0.0430
2	285.12	0.2405	0.0233	0.0019	-0.0029	0.0018	0.0297	0.0113	-0.4521	0.0685
2	285.12	0.2999	-0.0194	0.0023	-0.0331	0.0048	0.0676	0.0243	-0.6223	0.0707
2	285.12	0.3498	-0.0546	0.0021	-0.0453	0.0106	0.1529	0.0402	-0.4405	0.0930
2	285.12	0.3998	-0.0841	0.0034	-0.0747	0.0136	0.1840	0.0592	-0.4735	0.0897
2	285.12	0.4496	-0.1293	0.0030	-0.1121	0.0152	0.2581	0.0716	-0.4084	0.0581
2	285.12	0.4995	-0.1746	0.0033	-0.1398	0.0201	0.2893	0.0907	-0.5243	0.0709
2	285.12	0.5551	-0.1961	0.0026	-0.1729	0.0232	0.2882	0.1123	-0.6247	0.0683
2	285.12	0.5996	-0.2086	0.0038	-0.2169	0.0264	0.2613	0.1303	-0.6704	0.0496
2	285.12	0.6497	-0.2425	0.0032	-0.2345	0.0295	0.2981	0.1516	-0.3548	0.0612
2	285.12	0.6996	-0.2829	0.0028	-0.2689	0.0339	0.2644	0.1745	-0.3988	0.0774
2	285.12	0.7495	-0.3028	0.0033	-0.3329	0.0381	0.1906	0.1948	-0.6929	0.0723
2	285.12	0.7996	-0.3260	0.0032	-0.3274	0.0431	0.0736	0.2138	-0.6026	0.0798
2	285.12	0.8578	-0.3592	0.0039	-0.3275	0.0487	-0.2222	0.2277	-0.8095	0.0936
2	285.12	0.9100	-0.4527	0.0040	-0.3385	0.0535	-0.4344	0.2417	-0.2033	0.0813
2	285.12	0.9727	-0.4921	0.0061	-0.3077	0.0587	-0.7752	0.2505	0.0446	0.0709

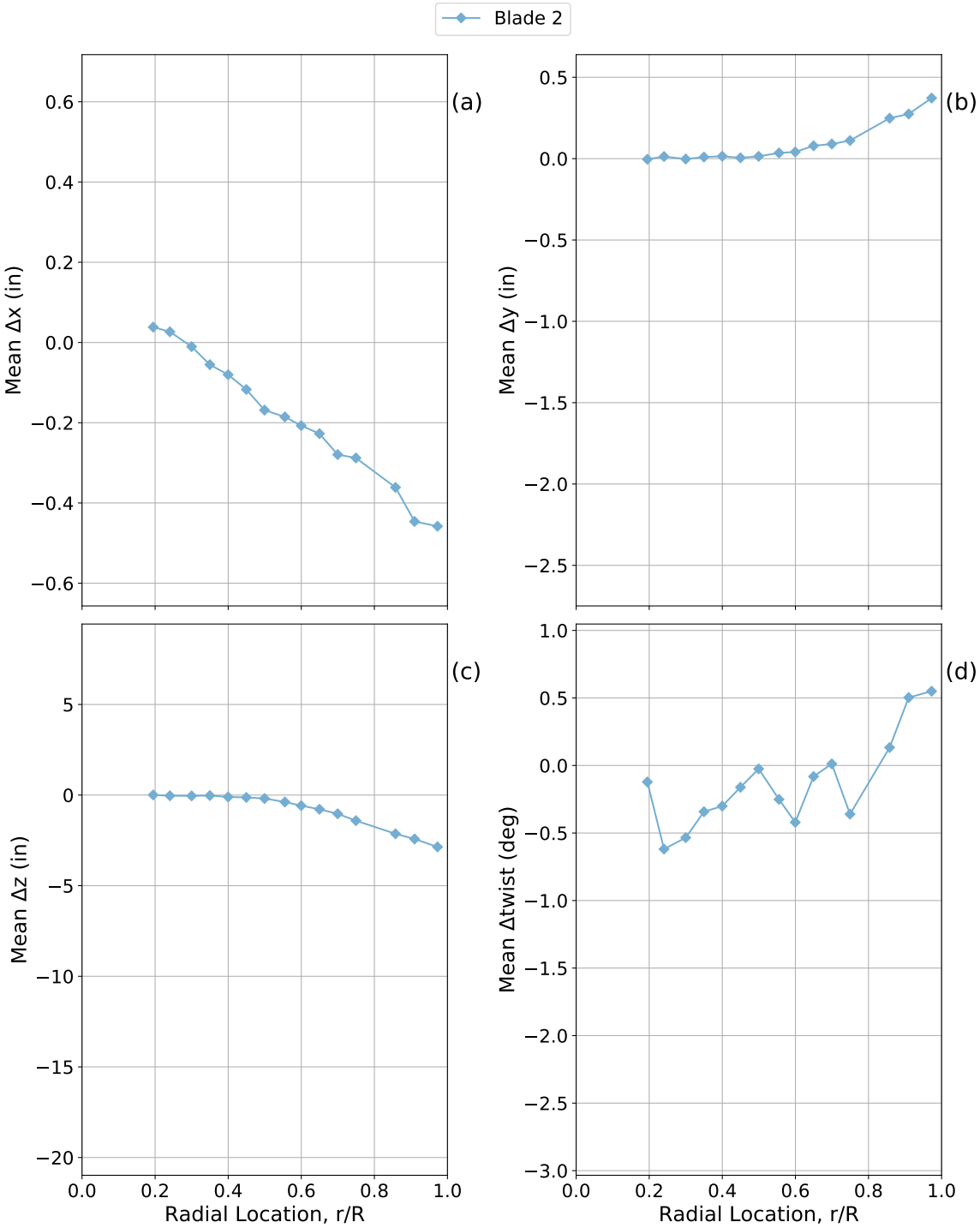


Figure 3.31-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0383	0.0022	-0.0039	0.0012	0.0074	0.0061	-0.1221	0.0344
2	299.88	0.2405	0.0267	0.0026	0.0130	0.0025	-0.0373	0.0080	-0.6191	0.0704
2	299.88	0.2999	-0.0103	0.0024	-0.0024	0.0059	-0.0441	0.0205	-0.5347	0.0883
2	299.88	0.3498	-0.0552	0.0027	0.0098	0.0090	-0.0270	0.0315	-0.3424	0.0658
2	299.88	0.3998	-0.0802	0.0039	0.0149	0.0150	-0.1040	0.0478	-0.3008	0.0743
2	299.88	0.4496	-0.1171	0.0016	0.0050	0.0152	-0.1304	0.0609	-0.1616	0.0782
2	299.88	0.4995	-0.1686	0.0032	0.0143	0.0191	-0.1890	0.0720	-0.0251	0.0679
2	299.88	0.5551	-0.1854	0.0029	0.0350	0.0229	-0.3814	0.0908	-0.2510	0.0712
2	299.88	0.5996	-0.2071	0.0027	0.0412	0.0267	-0.5833	0.1037	-0.4210	0.0549
2	299.88	0.6497	-0.2273	0.0033	0.0791	0.0305	-0.7836	0.1249	-0.0816	0.0439
2	299.88	0.6996	-0.2793	0.0035	0.0901	0.0348	-1.0330	0.1456	0.0119	0.0513
2	299.88	0.7495	-0.2878	0.0049	0.1113	0.0379	-1.4126	0.1699	-0.3604	0.0585
2	299.88	0.8578	-0.3612	0.0073	0.2486	0.0460	-2.1379	0.2302	0.1328	0.0532
2	299.88	0.9100	-0.4461	0.0077	0.2744	0.0501	-2.4225	0.2627	0.5030	0.0506
2	299.88	0.9727	-0.4580	0.0080	0.3724	0.0548	-2.8613	0.3043	0.5498	0.0603

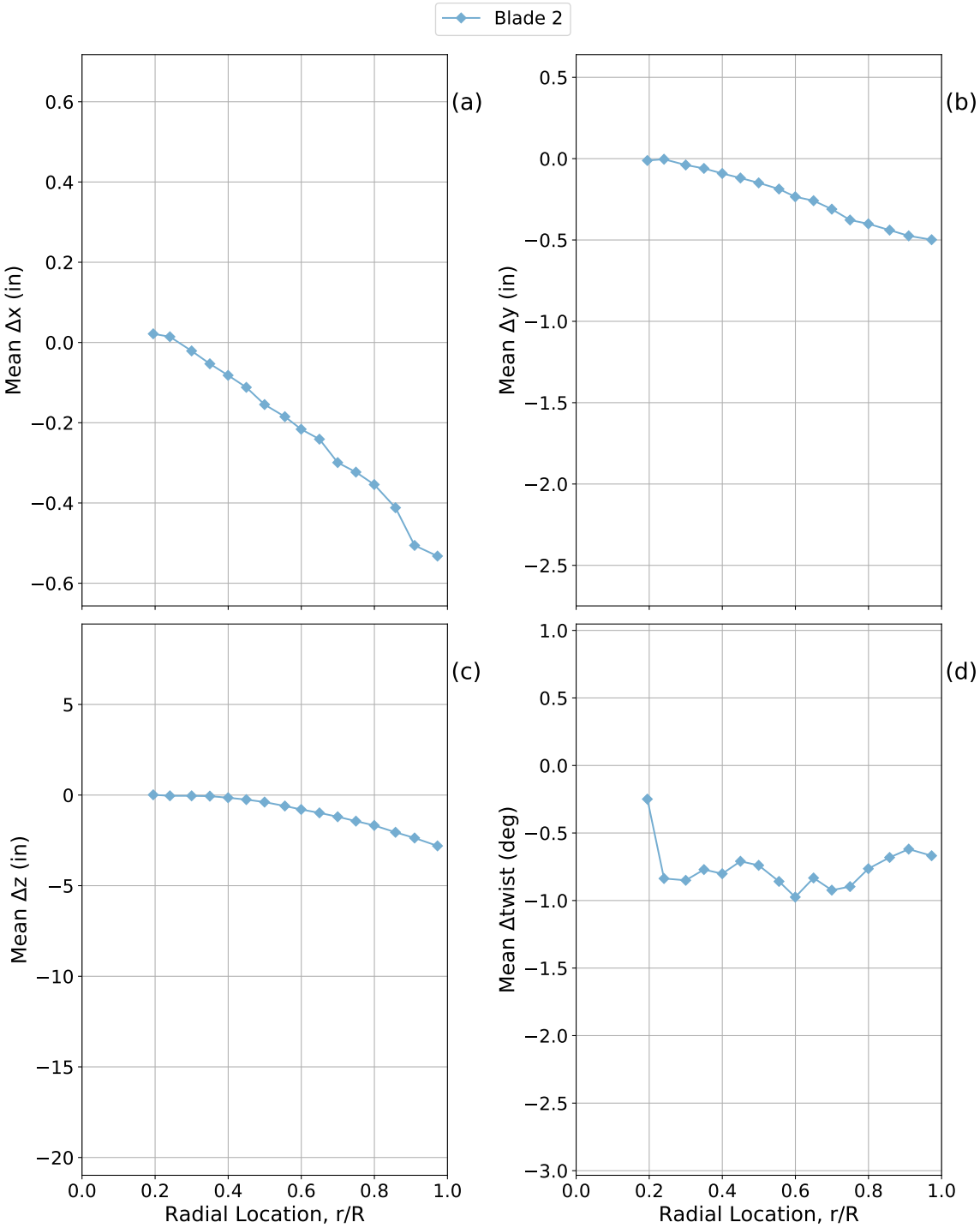


Figure 3.31-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0216	0.0018	-0.0114	0.0013	0.0140	0.0052	-0.2490	0.0585
2	315	0.2405	0.0143	0.0021	-0.0036	0.0028	-0.0406	0.0167	-0.8369	0.0721
2	315	0.2999	-0.0210	0.0019	-0.0390	0.0054	-0.0421	0.0275	-0.8502	0.1251
2	315	0.3498	-0.0531	0.0025	-0.0600	0.0108	-0.0585	0.0415	-0.7707	0.0892
2	315	0.3998	-0.0819	0.0036	-0.0912	0.0151	-0.1469	0.0698	-0.8014	0.0643
2	315	0.4496	-0.1118	0.0057	-0.1189	0.0190	-0.2499	0.0883	-0.7094	0.0835
2	315	0.4995	-0.1547	0.0053	-0.1489	0.0253	-0.3861	0.1137	-0.7394	0.0907
2	315	0.5551	-0.1849	0.0051	-0.1868	0.0334	-0.6034	0.1447	-0.8586	0.0693
2	315	0.5996	-0.2162	0.0053	-0.2343	0.0413	-0.7948	0.1766	-0.9746	0.0805
2	315	0.6497	-0.2410	0.0060	-0.2585	0.0522	-0.9823	0.2187	-0.8328	0.0825
2	315	0.6996	-0.2993	0.0069	-0.3105	0.0631	-1.1977	0.2646	-0.9231	0.0894
2	315	0.7495	-0.3231	0.0071	-0.3772	0.0754	-1.4376	0.3204	-0.8969	0.0816
2	315	0.7996	-0.3541	0.0080	-0.4007	0.0874	-1.6753	0.3807	-0.7643	0.0837
2	315	0.8578	-0.4118	0.0083	-0.4393	0.1026	-2.0535	0.4555	-0.6810	0.0727
2	315	0.9100	-0.5058	0.0087	-0.4746	0.1164	-2.3677	0.5229	-0.6192	0.0676
2	315	0.9727	-0.5324	0.0115	-0.4983	0.1332	-2.8050	0.6097	-0.6683	0.0687

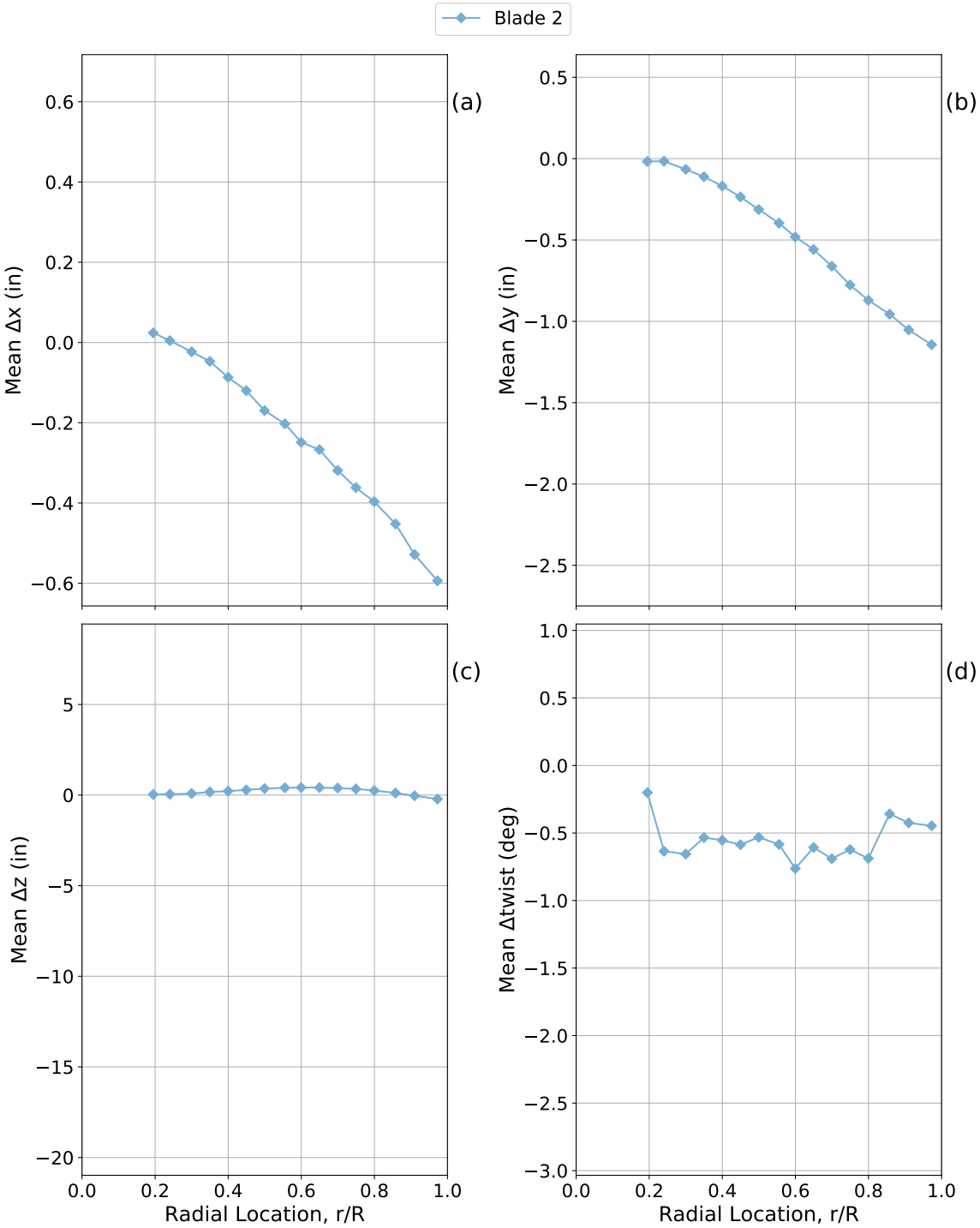


Figure 3.31-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0241	0.0009	-0.0170	0.0010	0.0337	0.0019	-0.2009	0.0185
2	330.12	0.2405	0.0045	0.0020	-0.0162	0.0021	0.0470	0.0032	-0.6348	0.0276
2	330.12	0.2999	-0.0231	0.0024	-0.0657	0.0082	0.0857	0.0090	-0.6560	0.0376
2	330.12	0.3498	-0.0470	0.0030	-0.1112	0.0075	0.1690	0.0125	-0.5340	0.0382
2	330.12	0.3998	-0.0869	0.0019	-0.1685	0.0167	0.2208	0.0216	-0.5536	0.0458
2	330.12	0.4496	-0.1200	0.0034	-0.2354	0.0196	0.2828	0.0255	-0.5865	0.0589
2	330.12	0.4995	-0.1698	0.0029	-0.3127	0.0248	0.3570	0.0293	-0.5317	0.0544
2	330.12	0.5551	-0.2026	0.0035	-0.3964	0.0290	0.3997	0.0395	-0.5842	0.0507
2	330.12	0.5996	-0.2486	0.0026	-0.4813	0.0322	0.4156	0.0488	-0.7630	0.0613
2	330.12	0.6497	-0.2670	0.0033	-0.5584	0.0374	0.4157	0.0594	-0.6073	0.0567
2	330.12	0.6996	-0.3190	0.0030	-0.6610	0.0430	0.3864	0.0739	-0.6904	0.0636
2	330.12	0.7495	-0.3617	0.0035	-0.7764	0.0476	0.3391	0.0886	-0.6222	0.0740
2	330.12	0.7996	-0.3967	0.0036	-0.8704	0.0526	0.2482	0.1055	-0.6885	0.0615
2	330.12	0.8578	-0.4522	0.0043	-0.9562	0.0590	0.1155	0.1293	-0.3586	0.0589
2	330.12	0.9100	-0.5286	0.0045	-1.0528	0.0654	-0.0381	0.1539	-0.4248	0.0599
2	330.12	0.9727	-0.5941	0.0052	-1.1436	0.0721	-0.2174	0.1879	-0.4468	0.0556

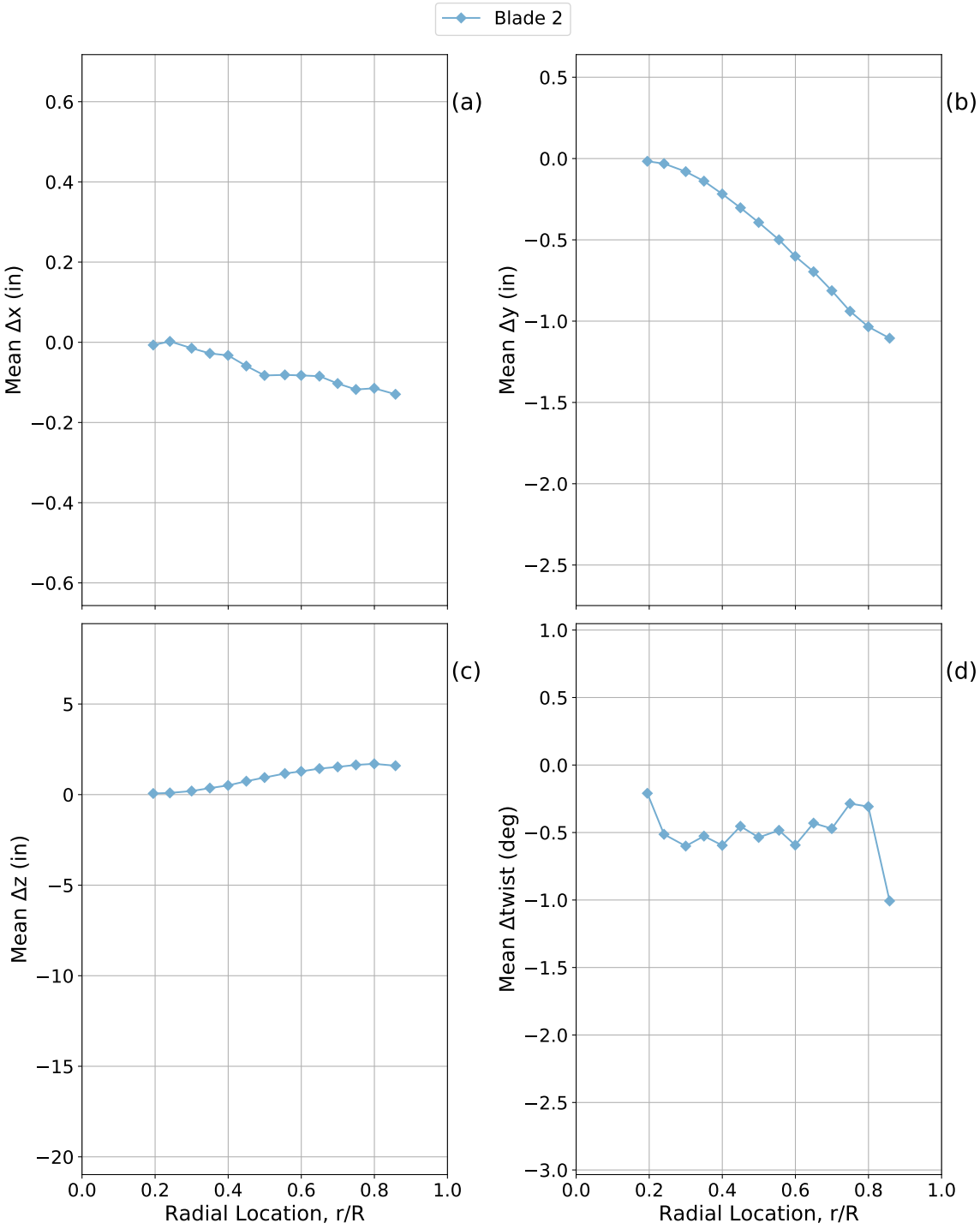


Figure 3.31-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0068	0.0055	-0.0167	0.0013	0.0622	0.0035	-0.2094	0.0170
2	344.88	0.2405	0.0022	0.0028	-0.0311	0.0021	0.0927	0.0049	-0.5133	0.0400
2	344.88	0.2999	-0.0147	0.0021	-0.0804	0.0046	0.1966	0.0113	-0.6005	0.0469
2	344.88	0.3498	-0.0277	0.0040	-0.1389	0.0075	0.3588	0.0200	-0.5264	0.0479
2	344.88	0.3998	-0.0327	0.0066	-0.2178	0.0117	0.5081	0.0289	-0.5952	0.0548
2	344.88	0.4496	-0.0591	0.0100	-0.3029	0.0167	0.7400	0.0375	-0.4537	0.0609
2	344.88	0.4995	-0.0827	0.0112	-0.3931	0.0202	0.9429	0.0471	-0.5364	0.0614
2	344.88	0.5551	-0.0813	0.0149	-0.4996	0.0261	1.1647	0.0622	-0.4835	0.0418
2	344.88	0.5996	-0.0826	0.0177	-0.6012	0.0282	1.2841	0.0703	-0.5933	0.0607
2	344.88	0.6497	-0.0845	0.0203	-0.6961	0.0358	1.4358	0.0792	-0.4305	0.0450
2	344.88	0.6996	-0.1028	0.0246	-0.8128	0.0412	1.5289	0.0912	-0.4710	0.0875
2	344.88	0.7495	-0.1177	0.0304	-0.9391	0.0489	1.6387	0.0986	-0.2857	0.1021
2	344.88	0.7996	-0.1147	0.0368	-1.0346	0.0562	1.6994	0.1170	-0.3078	0.0849
2	344.88	0.8578	-0.1296	0.0451	-1.1051	0.0675	1.5946	0.1324	-1.0071	0.1781

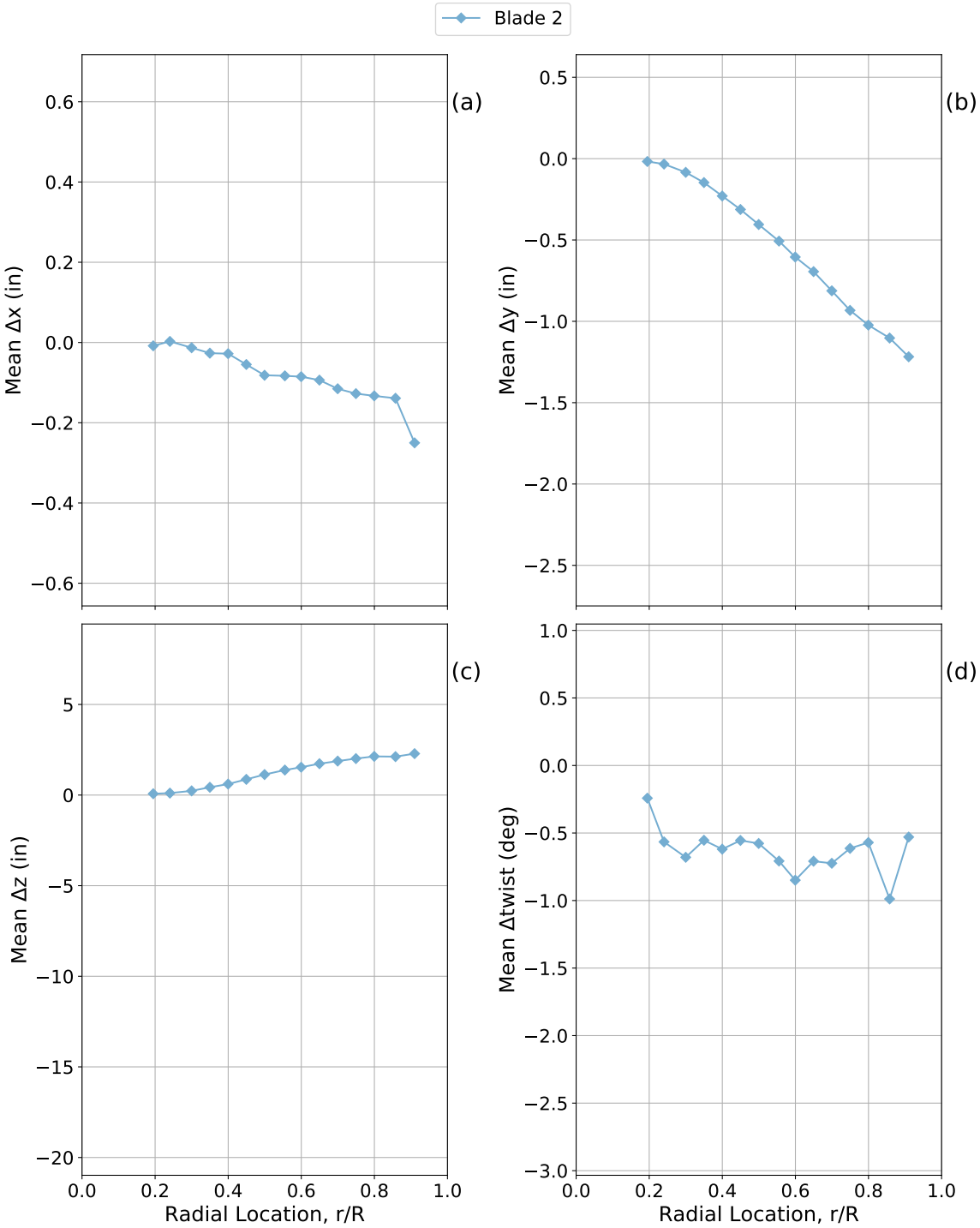


Figure 3.31-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.07$, $\mu = 0.299$, $\alpha = -0.6°$ NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0083	0.0097	-0.0174	0.0017	0.0725	0.0039	-0.2420	0.0304
2	350.16	0.2405	0.0027	0.0035	-0.0334	0.0036	0.1086	0.0081	-0.5657	0.0349
2	350.16	0.2999	-0.0131	0.0036	-0.0841	0.0085	0.2320	0.0141	-0.6798	0.0651
2	350.16	0.3498	-0.0266	0.0101	-0.1470	0.0140	0.4300	0.0262	-0.5538	0.0820
2	350.16	0.3998	-0.0279	0.0161	-0.2296	0.0225	0.6082	0.0383	-0.6195	0.0819
2	350.16	0.4496	-0.0548	0.0191	-0.3125	0.0267	0.8661	0.0468	-0.5551	0.0817
2	350.16	0.4995	-0.0817	0.0233	-0.4048	0.0304	1.1322	0.0550	-0.5773	0.0662
2	350.16	0.5551	-0.0831	0.0286	-0.5069	0.0335	1.3807	0.0677	-0.7076	0.0786
2	350.16	0.5996	-0.0852	0.0341	-0.6048	0.0352	1.5366	0.0733	-0.8493	0.0633
2	350.16	0.6497	-0.0938	0.0394	-0.6944	0.0373	1.7306	0.0873	-0.7089	0.0851
2	350.16	0.6996	-0.1153	0.0462	-0.8124	0.0389	1.8751	0.1039	-0.7242	0.0851
2	350.16	0.7495	-0.1274	0.0532	-0.9327	0.0437	2.0136	0.1190	-0.6139	0.0843
2	350.16	0.7996	-0.1330	0.0607	-1.0232	0.0483	2.1340	0.1442	-0.5704	0.1098
2	350.16	0.8578	-0.1390	0.0744	-1.1027	0.0543	2.1209	0.1640	-0.9885	0.1170
2	350.16	0.9100	-0.2501	0.0791	-1.2179	0.0600	2.2860	0.2058	-0.5300	0.2008

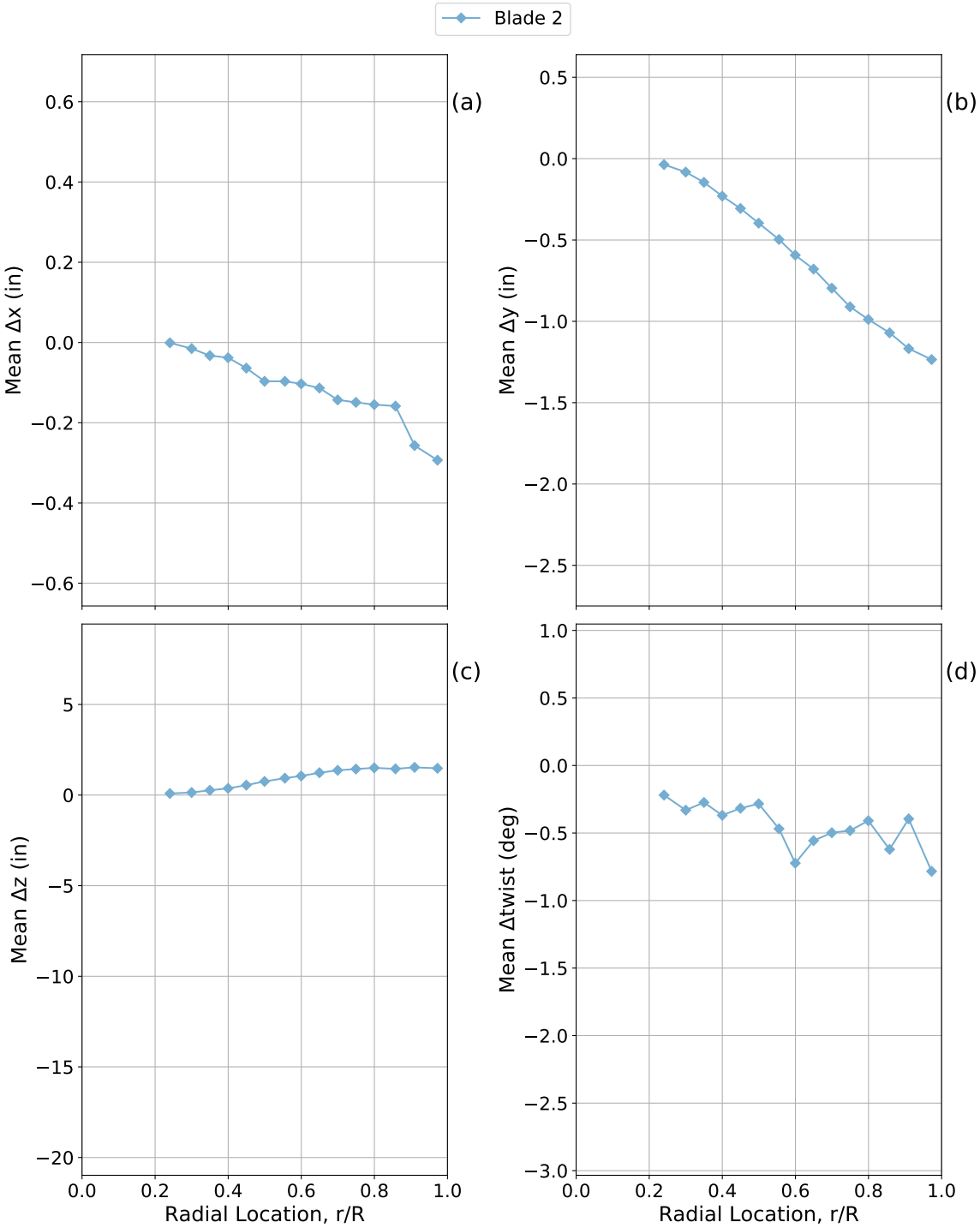


Figure 3.31-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.07, μ = 0.299, α = -0.6° NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Table 3.31-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.07, μ = 0.299, α = -0.6°
NFAC run 77, point 11. BD run 36, points 5799 to 5809.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2405	-0.0008	0.0065	-0.0365	0.0029	0.0875	0.0085	-0.2193	0.0609
2	355.08	0.2999	-0.0152	0.0032	-0.0826	0.0062	0.1421	0.0165	-0.3308	0.0940
2	355.08	0.3498	-0.0327	0.0036	-0.1455	0.0115	0.2655	0.0288	-0.2737	0.0904
2	355.08	0.3998	-0.0379	0.0068	-0.2303	0.0176	0.3706	0.0435	-0.3690	0.0849
2	355.08	0.4496	-0.0639	0.0101	-0.3060	0.0248	0.5472	0.0615	-0.3168	0.0701
2	355.08	0.4995	-0.0967	0.0143	-0.3965	0.0355	0.7530	0.0820	-0.2836	0.0864
2	355.08	0.5551	-0.0968	0.0185	-0.4968	0.0444	0.9330	0.1002	-0.4688	0.0736
2	355.08	0.5996	-0.1030	0.0234	-0.5932	0.0519	1.0526	0.1157	-0.7232	0.0803
2	355.08	0.6497	-0.1135	0.0274	-0.6789	0.0598	1.2327	0.1279	-0.5568	0.0948
2	355.08	0.6996	-0.1431	0.0319	-0.7961	0.0688	1.3667	0.1465	-0.4981	0.0869
2	355.08	0.7495	-0.1492	0.0365	-0.9105	0.0756	1.4378	0.1653	-0.4821	0.0839
2	355.08	0.7996	-0.1548	0.0411	-0.9883	0.0827	1.5021	0.1859	-0.4091	0.0813
2	355.08	0.8578	-0.1585	0.0431	-1.0708	0.0910	1.4463	0.2083	-0.6213	0.0804
2	355.08	0.9100	-0.2569	0.0474	-1.1676	0.1009	1.5303	0.2343	-0.3952	0.1381
2	355.08	0.9727	-0.2933	0.0602	-1.2350	0.1098	1.4774	0.2629	-0.7838	0.2896

3.32 Run 77, Point 14

3.32.1 Pitch, Flap, and Lag

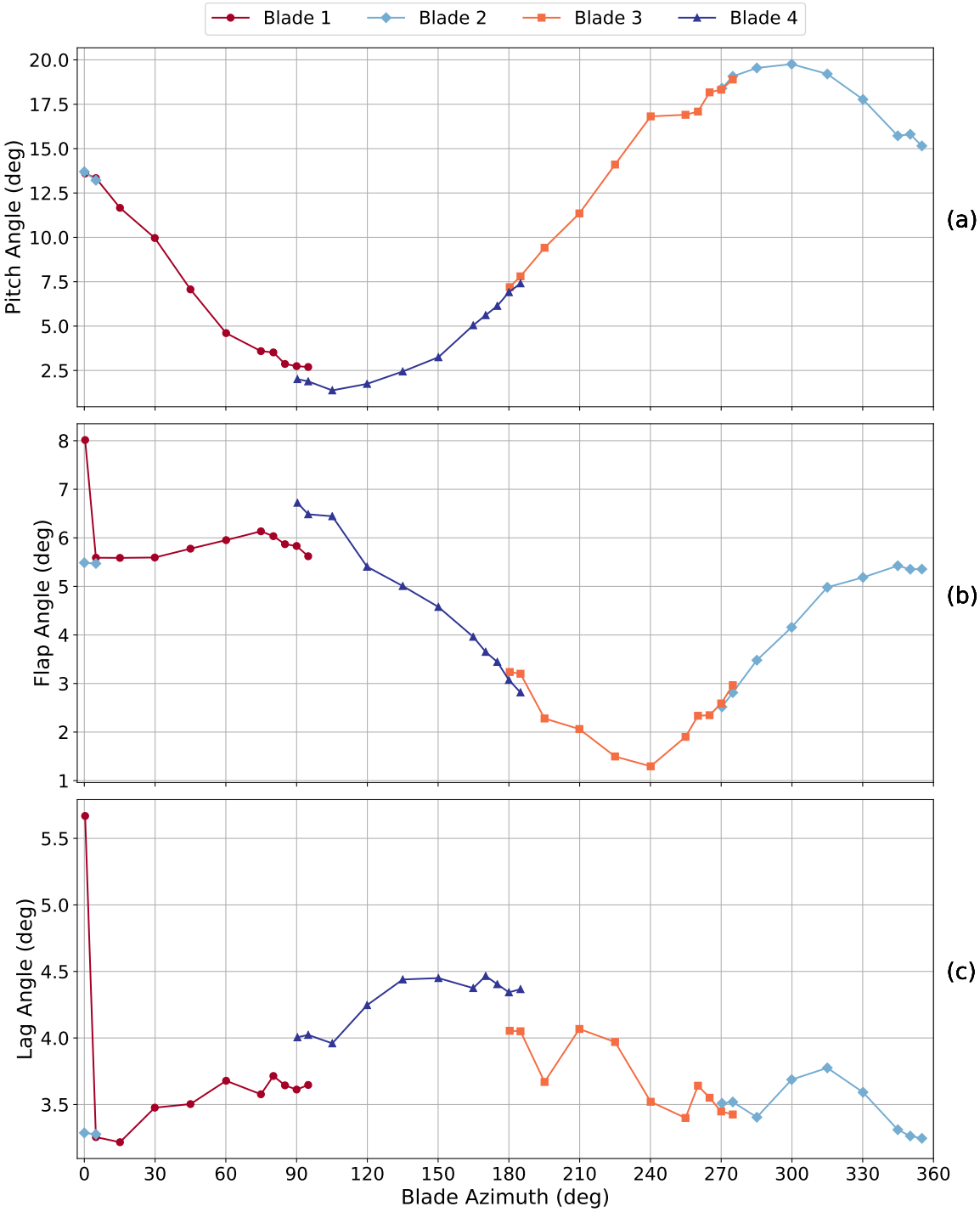


Figure 3.32-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	13.6996	5.4873	3.2867	0.1047	0.0636	0.0529
0.35	1	13.6016	8.0141	5.6686	0.1295	0.1798	0.1567
4.92	1	13.3375	5.5900	3.2550	0.1009	0.0519	0.0572
4.92	2	13.2153	5.4709	3.2766	0.1036	0.0747	0.0577
15.12	1	11.6630	5.5870	3.2168	0.0957	0.0741	0.0513
29.88	1	9.9635	5.5944	3.4764	0.1423	0.0426	0.0359
45	1	7.0668	5.7765	3.5032	0.1201	0.0819	0.0674
60.12	1	4.6043	5.9526	3.6785	0.1496	0.1147	0.0453
74.88	1	3.5879	6.1342	3.5768	0.0981	0.0789	0.0394
80.16	1	3.5167	6.0342	3.7144	0.0565	0.0602	0.0271
85.08	1	2.8654	5.8690	3.6439	0.0696	0.0439	0.0386
90	1	2.7433	5.8320	3.6123	0.0788	0.0632	0.0463
90.35	4	2.0105	6.7215	4.0051	0.0505	0.0484	0.0589
94.92	1	2.6954	5.6210	3.6469	0.0825	0.1024	0.0451
94.92	4	1.8849	6.4847	4.0231	0.0993	0.0823	0.0416
105.12	4	1.3774	6.4448	3.9595	0.1725	0.0851	0.0521
119.88	4	1.7437	5.4045	4.2468	0.2405	0.1317	0.1004
135	4	2.4406	5.0077	4.4395	0.1669	0.2422	0.0817
150.12	4	3.2439	4.5765	4.4502	0.0220	0.1544	0.0277
164.88	4	5.0445	3.9621	4.3748	0.0983	0.1845	0.0464
170.16	4	5.6153	3.6509	4.4658	0.0733	0.1127	0.0359
175.08	4	6.1372	3.4439	4.4042	0.0534	0.0771	0.0380
180	4	6.9083	3.0721	4.3428	0.1405	0.1903	0.0550
180.35	3	7.1938	3.2368	4.0541	0.1550	0.0773	0.0623
184.92	3	7.8036	3.2010	4.0505	0.2444	0.1268	0.0613
184.92	4	7.4079	2.8159	4.3669	0.0726	0.1651	0.0746
195.12	3	9.4131	2.2798	3.6695	0.1773	0.1269	0.0597
209.88	3	11.3487	2.0619	4.0679	0.0584	0.1345	0.0933
225	3	14.1011	1.4967	3.9696	0.1081	0.2132	0.0776
240.12	3	16.8151	1.2950	3.5207	0.1141	0.0829	0.0710
254.88	3	16.9071	1.9016	3.3989	0.6966	0.2131	0.0793
260.16	3	17.0868	2.3355	3.6413	0.0773	0.0836	0.0680
265.08	3	18.1694	2.3473	3.5511	0.0679	0.0792	0.0595
270	3	18.3222	2.5889	3.4478	0.1233	0.0984	0.0475
270.35	2	18.3991	2.5185	3.5089	0.0545	0.0456	0.0449
274.92	2	19.0704	2.8125	3.5192	0.0611	0.0645	0.0840
274.92	3	18.8937	2.9655	3.4251	0.1736	0.0634	0.0939
285.12	2	19.5446	3.4798	3.4044	0.1228	0.0894	0.0426
299.88	2	19.7604	4.1580	3.6871	0.0729	0.0501	0.0808
315	2	19.2051	4.9819	3.7752	0.0919	0.0978	0.0696
330.12	2	17.7709	5.1847	3.5921	0.1012	0.0943	0.0412
344.88	2	15.7206	5.4251	3.3105	0.1660	0.1041	0.0695
350.16	2	15.8087	5.3532	3.2632	0.2902	0.0437	0.0483
355.08	2	15.1511	5.3557	3.2459	0.1132	0.0616	0.0714

3.32.2 Spanwise Elastic Deformations

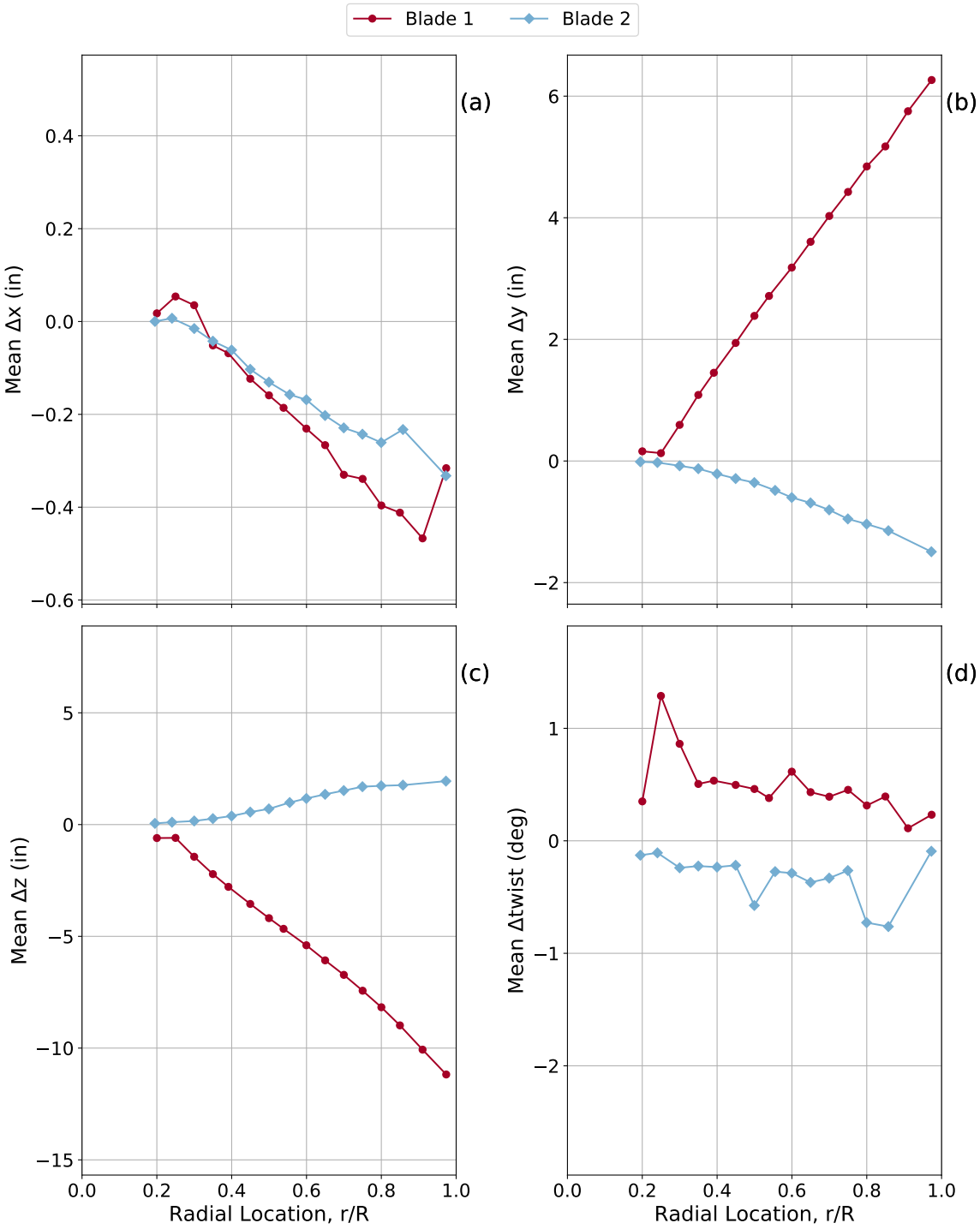


Figure 3.32-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_L/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0176	0.0127	0.1592	0.0101	-0.6030	0.0389	0.3505	0.0852
1	0.35	0.2499	0.0539	0.0065	0.1290	0.0114	-0.5955	0.0389	1.2883	0.1199
1	0.35	0.2998	0.0351	0.0064	0.5937	0.0421	-1.4394	0.0947	0.8624	0.1799
1	0.35	0.3498	-0.0515	0.0127	1.0862	0.0722	-2.2154	0.1343	0.5056	0.1361
1	0.35	0.3913	-0.0684	0.0143	1.4506	0.1017	-2.7863	0.1749	0.5350	0.1103
1	0.35	0.4496	-0.1233	0.0162	1.9410	0.1423	-3.5506	0.2274	0.4970	0.1108
1	0.35	0.4997	-0.1590	0.0183	2.3861	0.1768	-4.1856	0.2720	0.4607	0.1235
1	0.35	0.5387	-0.1859	0.0198	2.7138	0.2053	-4.6636	0.3087	0.3804	0.1180
1	0.35	0.5996	-0.2307	0.0207	3.1811	0.2494	-5.3995	0.3600	0.6149	0.1175
1	0.35	0.6498	-0.2663	0.0223	3.6044	0.2903	-6.0745	0.4081	0.4326	0.1121
1	0.35	0.6998	-0.3301	0.0236	4.0290	0.3298	-6.7238	0.4535	0.3921	0.1111
1	0.35	0.7500	-0.3390	0.0244	4.4245	0.3699	-7.4321	0.5005	0.4532	0.1091
1	0.35	0.8001	-0.3962	0.0272	4.8440	0.4100	-8.1724	0.5492	0.3143	0.1222
1	0.35	0.8497	-0.4117	0.0292	5.1727	0.4477	-8.9838	0.5986	0.3939	0.1156
1	0.35	0.9102	-0.4671	0.0330	5.7520	0.4903	-10.0692	0.6597	0.1116	0.1104
1	0.35	0.9734	-0.3159	0.0289	6.2651	0.5399	-11.1797	0.7305	0.2320	0.1207
2	0	0.1949	0.0002	0.0021	-0.0129	0.0018	0.0532	0.0068	-0.1282	0.0517
2	0	0.2405	0.0070	0.0013	-0.0249	0.0034	0.1054	0.0135	-0.1069	0.0745
2	0	0.2999	-0.0152	0.0016	-0.0796	0.0054	0.1610	0.0196	-0.2399	0.1153
2	0	0.3498	-0.0423	0.0026	-0.1270	0.0135	0.2660	0.0354	-0.2244	0.0861
2	0	0.3998	-0.0614	0.0035	-0.2123	0.0179	0.3837	0.0501	-0.2336	0.0676
2	0	0.4496	-0.1030	0.0039	-0.2891	0.0209	0.5587	0.0610	-0.2174	0.0753
2	0	0.4995	-0.1306	0.0037	-0.3553	0.0251	0.7015	0.0765	-0.5748	0.1053
2	0	0.5551	-0.1575	0.0038	-0.4835	0.0305	0.9856	0.1057	-0.2737	0.1124
2	0	0.5996	-0.1685	0.0045	-0.6009	0.0343	1.1682	0.1274	-0.2873	0.1165
2	0	0.6497	-0.2025	0.0044	-0.6895	0.0412	1.3536	0.1521	-0.3698	0.1046
2	0	0.6996	-0.2291	0.0031	-0.8047	0.0447	1.5211	0.1801	-0.3314	0.0932
2	0	0.7495	-0.2428	0.0047	-0.9527	0.0506	1.6943	0.2098	-0.2642	0.1023
2	0	0.7996	-0.2607	0.0062	-1.0373	0.0523	1.7348	0.2410	-0.7272	0.1009
2	0	0.8578	-0.2327	0.0070	-1.1466	0.0646	1.7652	0.2889	-0.7624	0.2176
2	0	0.9727	-0.3323	0.0136	-1.4923	0.0745	1.9441	0.3420	-0.0926	0.1192

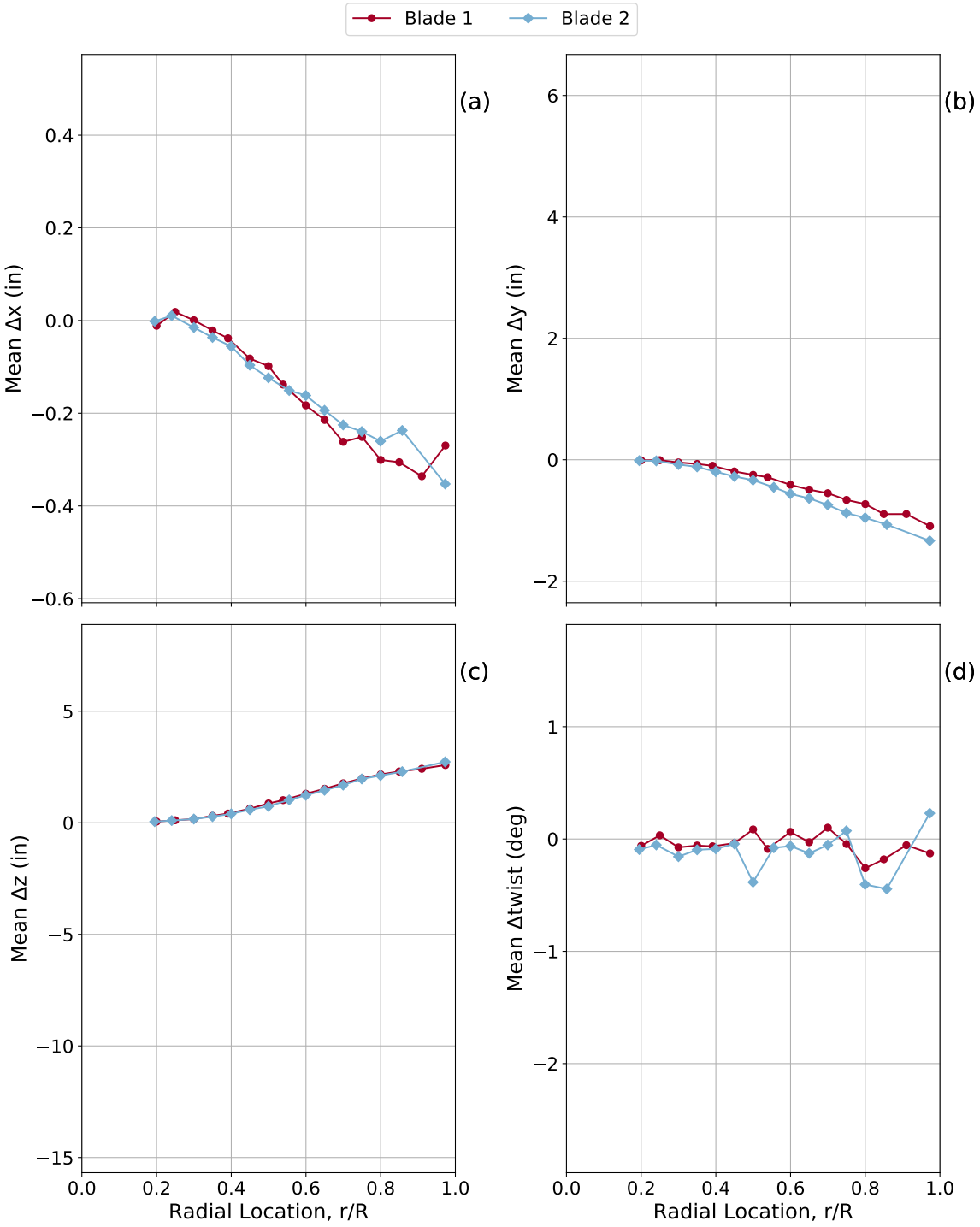


Figure 3.32-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0114	0.0035	-0.0105	0.0019	0.0547	0.0080	-0.0608	0.0633
1	4.92	0.2499	0.0186	0.0024	-0.0065	0.0052	0.1132	0.0156	0.0328	0.0745
1	4.92	0.2998	0.0006	0.0028	-0.0439	0.0113	0.1657	0.0213	-0.0742	0.1297
1	4.92	0.3498	-0.0215	0.0028	-0.0689	0.0182	0.3109	0.0365	-0.0580	0.0857
1	4.92	0.3913	-0.0384	0.0045	-0.0994	0.0283	0.4117	0.0482	-0.0651	0.0919
1	4.92	0.4496	-0.0820	0.0046	-0.1916	0.0387	0.6305	0.0654	-0.0367	0.0822
1	4.92	0.4997	-0.0984	0.0043	-0.2484	0.0480	0.8662	0.0798	0.0854	0.1021
1	4.92	0.5387	-0.1382	0.0060	-0.2871	0.0561	1.0135	0.0932	-0.0883	0.0886
1	4.92	0.5996	-0.1830	0.0062	-0.4124	0.0702	1.2990	0.1084	0.0632	0.1003
1	4.92	0.6498	-0.2144	0.0074	-0.4914	0.0823	1.5221	0.1238	-0.0286	0.1092
1	4.92	0.6998	-0.2618	0.0080	-0.5502	0.0952	1.7697	0.1353	0.1009	0.0796
1	4.92	0.7500	-0.2512	0.0085	-0.6613	0.1085	1.9861	0.1448	-0.0447	0.1192
1	4.92	0.8001	-0.3008	0.0092	-0.7303	0.1218	2.1670	0.1547	-0.2598	0.1069
1	4.92	0.8497	-0.3057	0.0098	-0.8949	0.1360	2.2979	0.1674	-0.1811	0.1335
1	4.92	0.9102	-0.3359	0.0099	-0.8944	0.1526	2.4189	0.1918	-0.0552	0.1157
1	4.92	0.9734	-0.2697	0.0139	-1.0936	0.1754	2.5864	0.2256	-0.1282	0.1015
2	4.92	0.1949	-0.0018	0.0017	-0.0143	0.0014	0.0536	0.0053	-0.0938	0.0350
2	4.92	0.2405	0.0105	0.0020	-0.0185	0.0043	0.0991	0.0093	-0.0528	0.0654
2	4.92	0.2999	-0.0151	0.0015	-0.0783	0.0053	0.1674	0.0146	-0.1572	0.0696
2	4.92	0.3498	-0.0366	0.0021	-0.1167	0.0119	0.2749	0.0216	-0.0961	0.0859
2	4.92	0.3998	-0.0558	0.0032	-0.1970	0.0177	0.4005	0.0320	-0.0881	0.0642
2	4.92	0.4496	-0.0963	0.0028	-0.2744	0.0212	0.5860	0.0381	-0.0438	0.0623
2	4.92	0.4995	-0.1236	0.0030	-0.3357	0.0250	0.7339	0.0470	-0.3845	0.0670
2	4.92	0.5551	-0.1510	0.0032	-0.4531	0.0320	1.0259	0.0568	-0.0782	0.0782
2	4.92	0.5996	-0.1618	0.0048	-0.5608	0.0391	1.2308	0.0664	-0.0628	0.0947
2	4.92	0.6497	-0.1938	0.0035	-0.6359	0.0449	1.4553	0.0809	-0.1275	0.0745
2	4.92	0.6996	-0.2252	0.0048	-0.7436	0.0531	1.6880	0.0922	-0.0534	0.0923
2	4.92	0.7495	-0.2395	0.0055	-0.8786	0.0610	1.9648	0.1102	0.0729	0.1214
2	4.92	0.7996	-0.2604	0.0052	-0.9555	0.0703	2.1160	0.1229	-0.4049	0.1552
2	4.92	0.8578	-0.2371	0.0074	-1.0681	0.0830	2.2910	0.1545	-0.4449	0.1448
2	4.92	0.9727	-0.3526	0.0148	-1.3335	0.0967	2.7281	0.1968	0.2291	0.1604

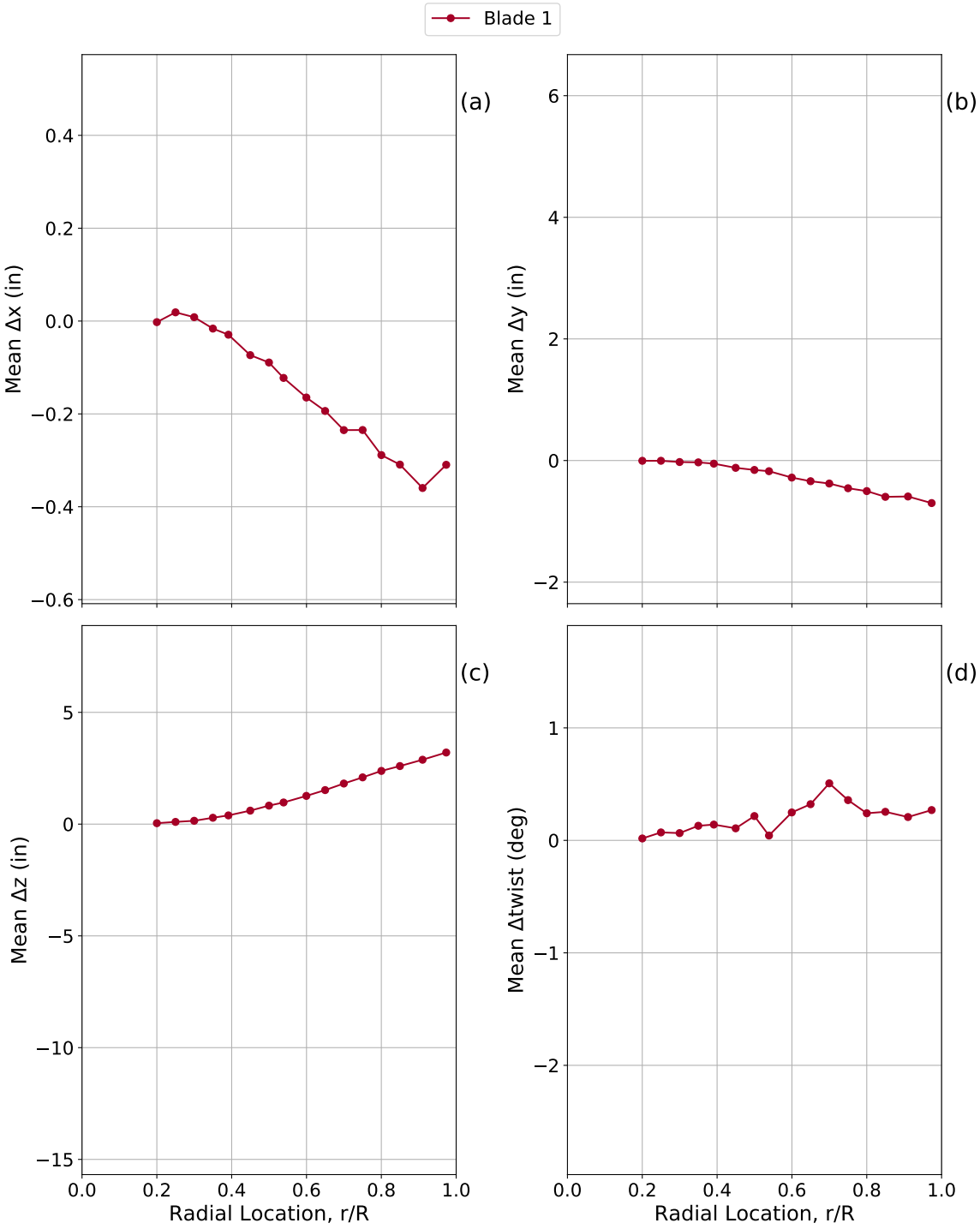


Figure 3.32-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0023	0.0021	-0.0045	0.0012	0.0412	0.0061	0.0169	0.0591
1	15.12	0.2499	0.0188	0.0014	-0.0041	0.0033	0.0990	0.0144	0.0707	0.0598
1	15.12	0.2998	0.0083	0.0017	-0.0247	0.0065	0.1488	0.0217	0.0647	0.1204
1	15.12	0.3498	-0.0162	0.0017	-0.0302	0.0105	0.2844	0.0348	0.1296	0.1061
1	15.12	0.3913	-0.0294	0.0022	-0.0515	0.0163	0.3900	0.0506	0.1403	0.0907
1	15.12	0.4496	-0.0734	0.0029	-0.1200	0.0225	0.6030	0.0669	0.1071	0.0828
1	15.12	0.4997	-0.0893	0.0034	-0.1549	0.0278	0.8276	0.0788	0.2160	0.1025
1	15.12	0.5387	-0.1225	0.0042	-0.1753	0.0330	0.9682	0.0892	0.0431	0.0849
1	15.12	0.5996	-0.1647	0.0042	-0.2802	0.0425	1.2620	0.1100	0.2483	0.0835
1	15.12	0.6498	-0.1937	0.0048	-0.3400	0.0497	1.5222	0.1274	0.3216	0.0821
1	15.12	0.6998	-0.2349	0.0061	-0.3781	0.0591	1.8154	0.1501	0.5070	0.0745
1	15.12	0.7500	-0.2347	0.0063	-0.4557	0.0683	2.0916	0.1716	0.3578	0.0932
1	15.12	0.8001	-0.2887	0.0064	-0.5026	0.0784	2.3800	0.2048	0.2410	0.0691
1	15.12	0.8497	-0.3092	0.0064	-0.5970	0.0873	2.5971	0.2359	0.2539	0.0919
1	15.12	0.9102	-0.3596	0.0073	-0.5913	0.1021	2.8803	0.2839	0.2074	0.0970
1	15.12	0.9734	-0.3096	0.0111	-0.6996	0.1148	3.2035	0.3417	0.2693	0.0774

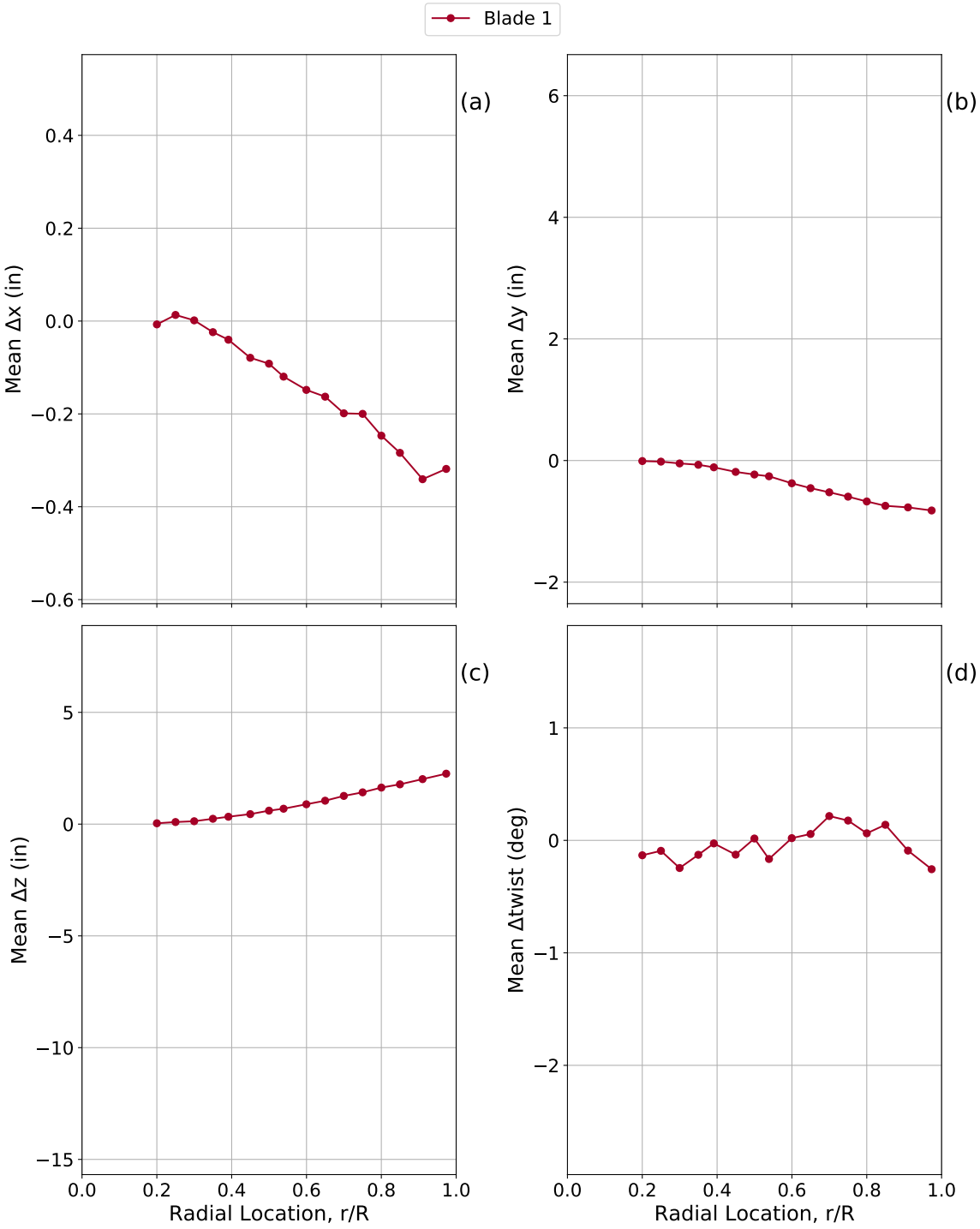


Figure 3.32-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0072	0.0028	-0.0088	0.0010	0.0373	0.0056	-0.1325	0.0319
1	29.88	0.2499	0.0132	0.0014	-0.0182	0.0024	0.0930	0.0073	-0.0930	0.0614
1	29.88	0.2998	0.0015	0.0019	-0.0475	0.0041	0.1290	0.0165	-0.2458	0.0736
1	29.88	0.3498	-0.0239	0.0015	-0.0697	0.0084	0.2388	0.0284	-0.1282	0.0739
1	29.88	0.3913	-0.0402	0.0018	-0.1116	0.0113	0.3300	0.0372	-0.0271	0.0742
1	29.88	0.4496	-0.0791	0.0023	-0.1868	0.0153	0.4466	0.0524	-0.1270	0.0972
1	29.88	0.4997	-0.0918	0.0028	-0.2302	0.0193	0.6023	0.0673	0.0165	0.0844
1	29.88	0.5387	-0.1197	0.0029	-0.2588	0.0224	0.6887	0.0780	-0.1656	0.0968
1	29.88	0.5996	-0.1483	0.0035	-0.3740	0.0267	0.8877	0.0934	0.0197	0.0924
1	29.88	0.6498	-0.1629	0.0025	-0.4543	0.0309	1.0475	0.1086	0.0567	0.0862
1	29.88	0.6998	-0.1987	0.0034	-0.5225	0.0357	1.2613	0.1229	0.2161	0.0935
1	29.88	0.7500	-0.1999	0.0039	-0.5942	0.0409	1.4217	0.1421	0.1761	0.0903
1	29.88	0.8001	-0.2469	0.0037	-0.6732	0.0454	1.6344	0.1606	0.0629	0.0973
1	29.88	0.8497	-0.2839	0.0036	-0.7447	0.0511	1.7791	0.1859	0.1385	0.0963
1	29.88	0.9102	-0.3407	0.0040	-0.7705	0.0583	2.0129	0.2235	-0.0910	0.0995
1	29.88	0.9734	-0.3185	0.0057	-0.8214	0.0644	2.2565	0.2605	-0.2565	0.0950

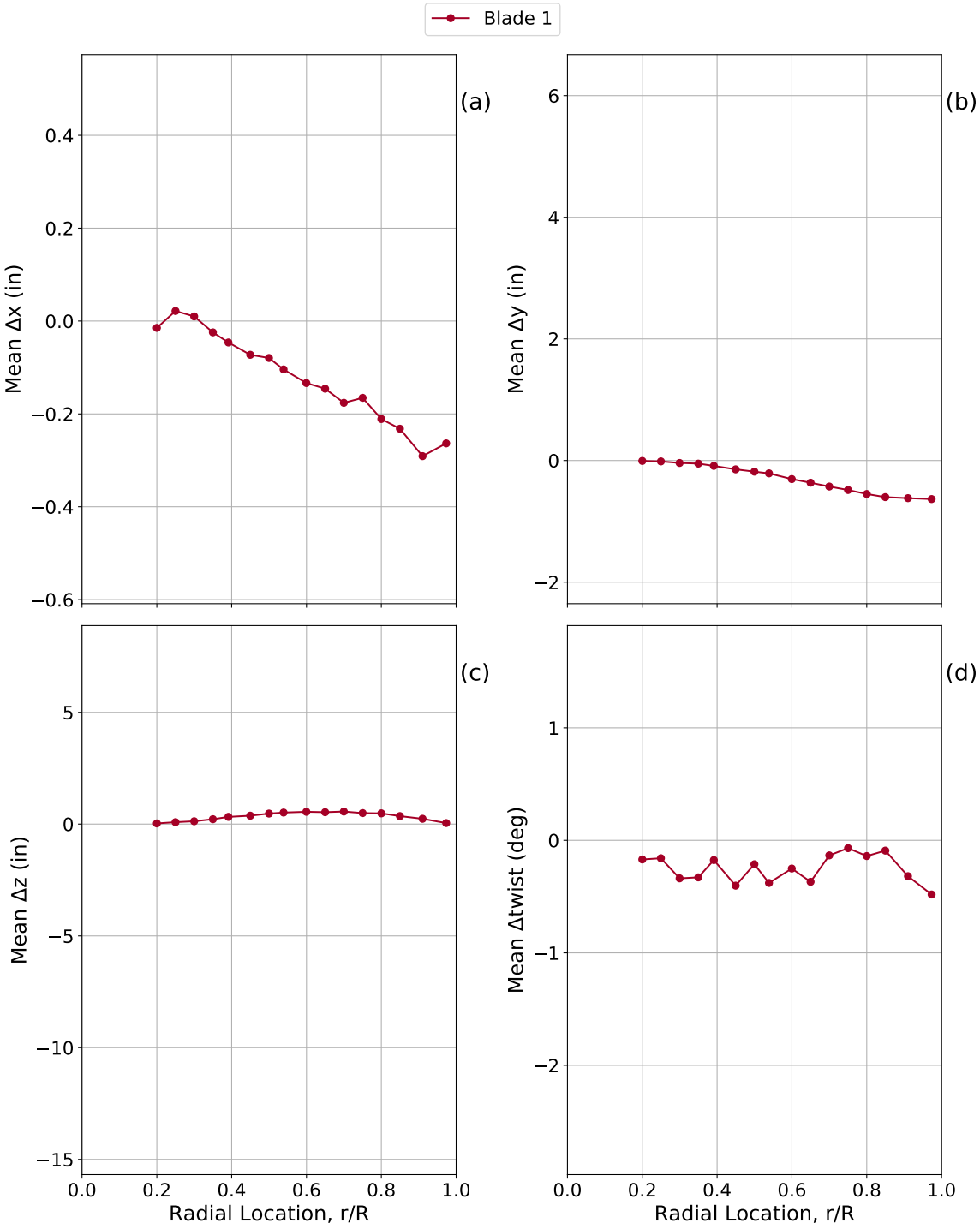


Figure 3.32-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0148	0.0020	-0.0069	0.0013	0.0298	0.0061	-0.1699	0.0360
1	45	0.2499	0.0216	0.0016	-0.0146	0.0023	0.0852	0.0106	-0.1591	0.0465
1	45	0.2998	0.0099	0.0021	-0.0404	0.0054	0.1264	0.0217	-0.3378	0.0693
1	45	0.3498	-0.0244	0.0027	-0.0508	0.0089	0.2173	0.0347	-0.3291	0.0800
1	45	0.3913	-0.0462	0.0028	-0.0885	0.0130	0.3215	0.0499	-0.1752	0.0576
1	45	0.4496	-0.0727	0.0028	-0.1453	0.0176	0.3743	0.0676	-0.4026	0.0698
1	45	0.4997	-0.0796	0.0032	-0.1830	0.0228	0.4693	0.0894	-0.2125	0.0735
1	45	0.5387	-0.1042	0.0038	-0.2112	0.0270	0.5142	0.1079	-0.3789	0.0700
1	45	0.5996	-0.1335	0.0038	-0.3051	0.0352	0.5482	0.1346	-0.2506	0.0859
1	45	0.6498	-0.1457	0.0043	-0.3647	0.0430	0.5310	0.1596	-0.3685	0.0921
1	45	0.6998	-0.1761	0.0036	-0.4276	0.0497	0.5597	0.1865	-0.1337	0.0982
1	45	0.7500	-0.1654	0.0040	-0.4845	0.0591	0.4909	0.2140	-0.0695	0.0828
1	45	0.8001	-0.2110	0.0037	-0.5504	0.0691	0.4788	0.2403	-0.1395	0.0909
1	45	0.8497	-0.2319	0.0043	-0.6019	0.0787	0.3561	0.2661	-0.0912	0.0937
1	45	0.9102	-0.2910	0.0049	-0.6191	0.0910	0.2365	0.3019	-0.3185	0.0880
1	45	0.9734	-0.2635	0.0086	-0.6340	0.1042	0.0452	0.3352	-0.4810	0.1006

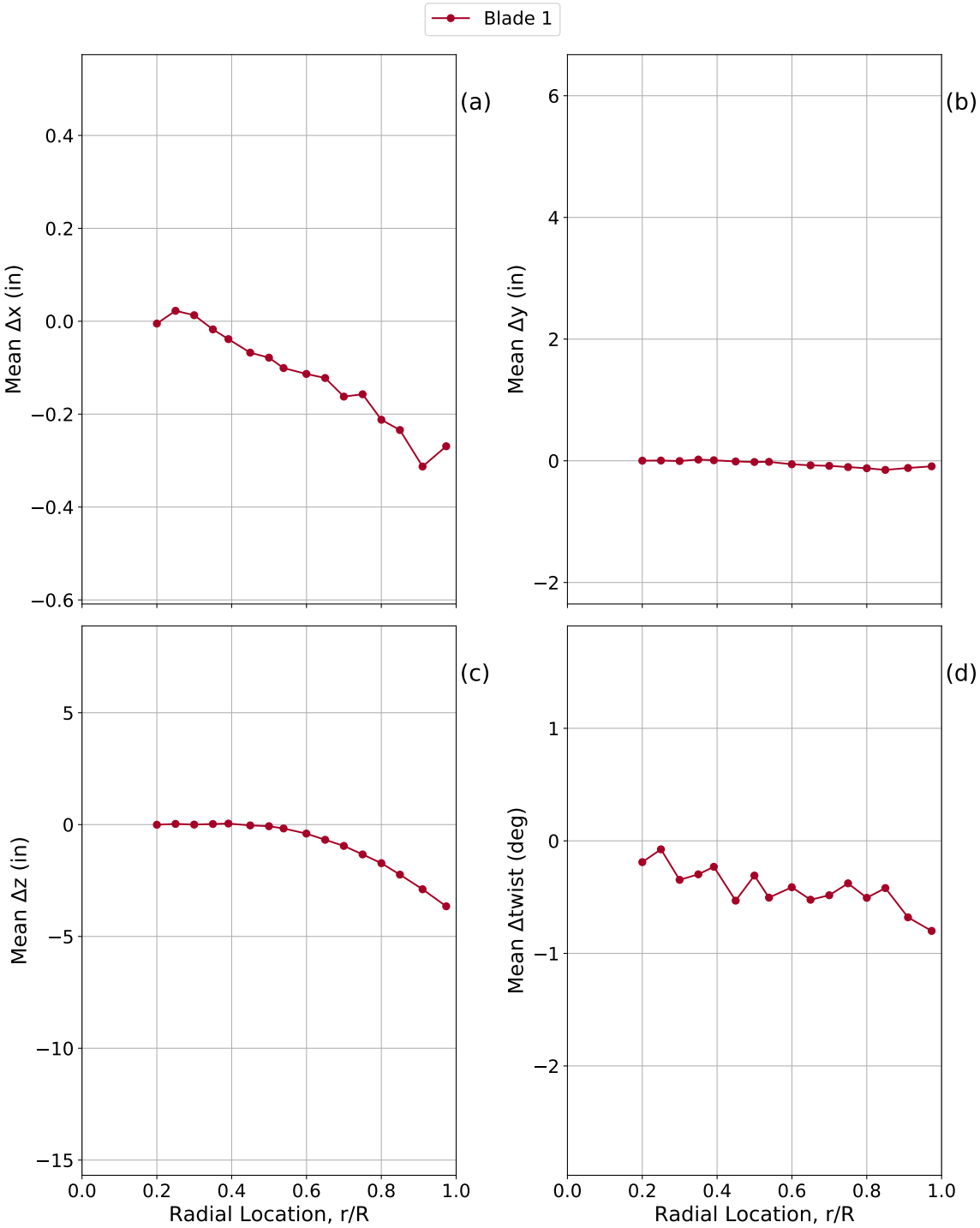


Figure 3.32-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0050	0.0012	0.0021	0.0013	-0.0065	0.0055	-0.1891	0.0194
1	60.12	0.2499	0.0225	0.0012	0.0040	0.0019	0.0313	0.0114	-0.0752	0.0370
1	60.12	0.2998	0.0130	0.0027	-0.0039	0.0052	0.0011	0.0235	-0.3465	0.0434
1	60.12	0.3498	-0.0175	0.0023	0.0204	0.0085	0.0260	0.0367	-0.2975	0.0439
1	60.12	0.3913	-0.0385	0.0027	0.0091	0.0122	0.0460	0.0556	-0.2305	0.0537
1	60.12	0.4496	-0.0676	0.0028	-0.0110	0.0175	-0.0365	0.0783	-0.5313	0.0419
1	60.12	0.4997	-0.0784	0.0029	-0.0193	0.0223	-0.0722	0.0989	-0.3085	0.0513
1	60.12	0.5387	-0.1008	0.0025	-0.0173	0.0255	-0.1730	0.1165	-0.5044	0.0479
1	60.12	0.5996	-0.1134	0.0028	-0.0570	0.0351	-0.4018	0.1416	-0.4121	0.0618
1	60.12	0.6498	-0.1222	0.0032	-0.0745	0.0409	-0.6797	0.1632	-0.5233	0.0545
1	60.12	0.6998	-0.1622	0.0039	-0.0829	0.0467	-0.9529	0.1889	-0.4832	0.0499
1	60.12	0.7500	-0.1572	0.0050	-0.1033	0.0543	-1.3339	0.2145	-0.3775	0.0537
1	60.12	0.8001	-0.2121	0.0059	-0.1225	0.0620	-1.7251	0.2388	-0.5058	0.0595
1	60.12	0.8497	-0.2342	0.0068	-0.1495	0.0704	-2.2372	0.2640	-0.4194	0.0657
1	60.12	0.9102	-0.3128	0.0062	-0.1179	0.0798	-2.8919	0.2912	-0.6795	0.0651
1	60.12	0.9734	-0.2691	0.0098	-0.0910	0.0901	-3.6522	0.3198	-0.8002	0.0623

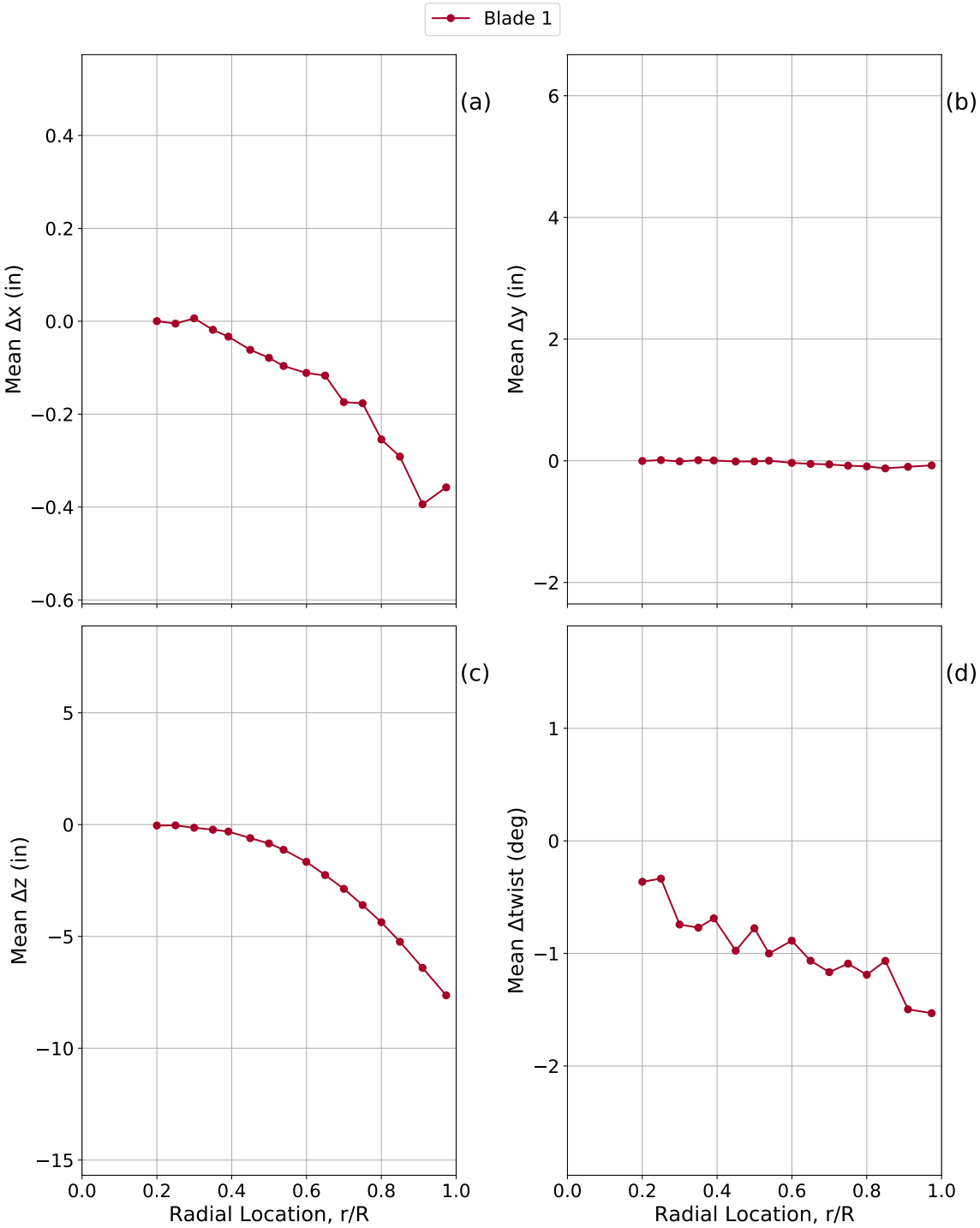


Figure 3.32-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0003	0.0014	-0.0030	0.0009	-0.0421	0.0035	-0.3637	0.0215
1	74.88	0.2499	-0.0051	0.0009	0.0119	0.0023	-0.0348	0.0068	-0.3355	0.0370
1	74.88	0.2998	0.0063	0.0016	-0.0092	0.0044	-0.1410	0.0135	-0.7435	0.0452
1	74.88	0.3498	-0.0184	0.0025	0.0100	0.0066	-0.2268	0.0225	-0.7712	0.0428
1	74.88	0.3913	-0.0332	0.0025	0.0055	0.0104	-0.3101	0.0324	-0.6882	0.0448
1	74.88	0.4496	-0.0615	0.0022	-0.0111	0.0130	-0.6045	0.0488	-0.9758	0.0333
1	74.88	0.4997	-0.0788	0.0032	-0.0111	0.0158	-0.8420	0.0630	-0.7769	0.0401
1	74.88	0.5387	-0.0963	0.0039	0.0022	0.0192	-1.1243	0.0776	-1.0009	0.0491
1	74.88	0.5996	-0.1113	0.0040	-0.0334	0.0239	-1.6643	0.1049	-0.8870	0.0439
1	74.88	0.6498	-0.1170	0.0040	-0.0510	0.0278	-2.2550	0.1293	-1.0649	0.0468
1	74.88	0.6998	-0.1741	0.0037	-0.0589	0.0338	-2.8725	0.1583	-1.1665	0.0446
1	74.88	0.7500	-0.1766	0.0049	-0.0801	0.0395	-3.5968	0.1874	-1.0909	0.0439
1	74.88	0.8001	-0.2544	0.0071	-0.0922	0.0461	-4.3649	0.2170	-1.1896	0.0528
1	74.88	0.8497	-0.2914	0.0083	-0.1248	0.0521	-5.2380	0.2503	-1.0666	0.0537
1	74.88	0.9102	-0.3940	0.0105	-0.0982	0.0596	-6.4045	0.2893	-1.4967	0.0532
1	74.88	0.9734	-0.3577	0.0115	-0.0758	0.0685	-7.6334	0.3361	-1.5311	0.0490

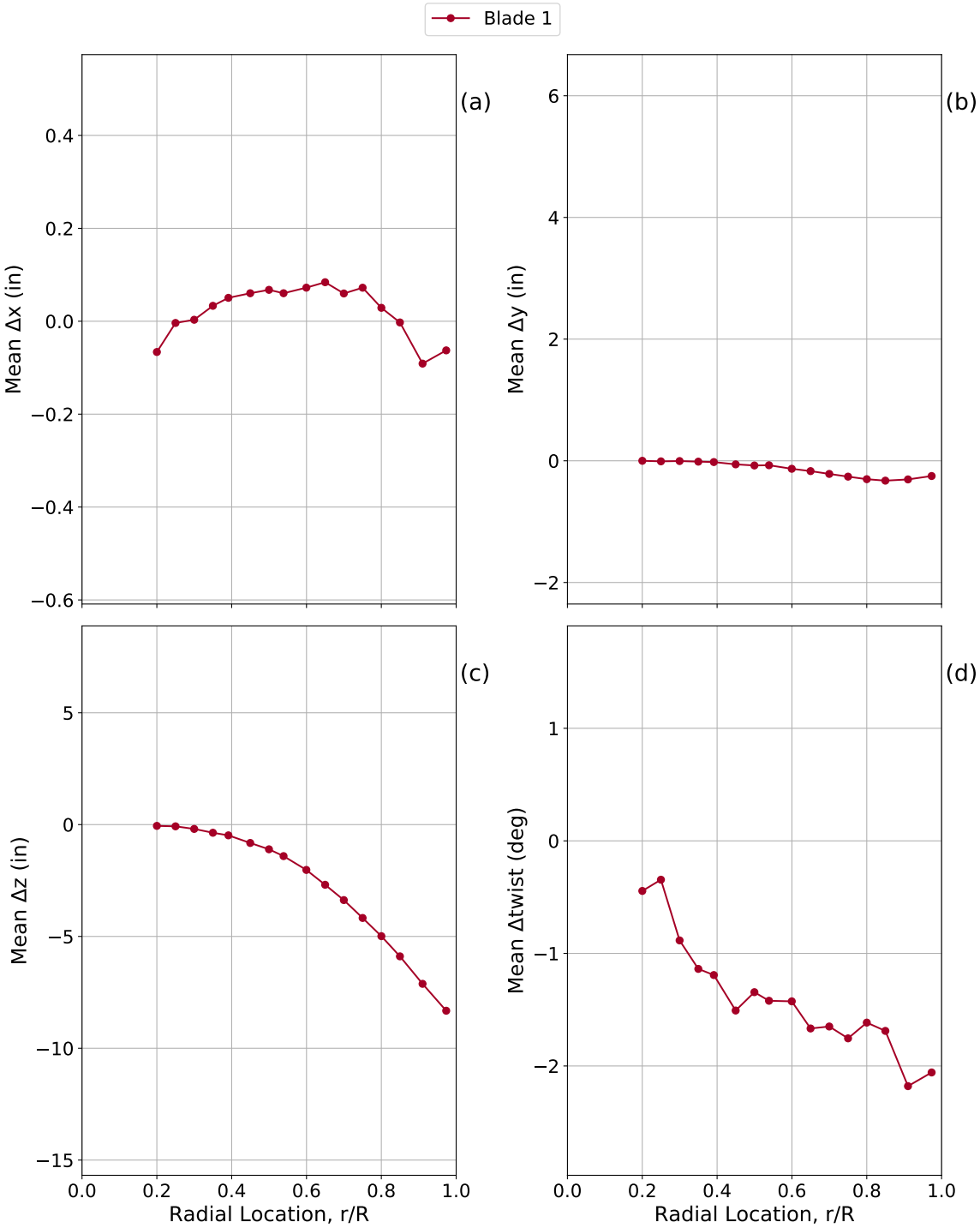


Figure 3.32-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0662	0.0107	0.0001	0.0010	-0.0574	0.0032	-0.4450	0.0173
1	80.16	0.2499	-0.0037	0.0026	-0.0091	0.0014	-0.0779	0.0049	-0.3452	0.0472
1	80.16	0.2998	0.0032	0.0039	-0.0043	0.0037	-0.1936	0.0111	-0.8847	0.0430
1	80.16	0.3498	0.0332	0.0090	-0.0139	0.0063	-0.3648	0.0179	-1.1376	0.0355
1	80.16	0.3913	0.0504	0.0123	-0.0206	0.0086	-0.4808	0.0251	-1.1924	0.0405
1	80.16	0.4496	0.0603	0.0151	-0.0585	0.0117	-0.8212	0.0317	-1.5075	0.0404
1	80.16	0.4997	0.0676	0.0161	-0.0768	0.0151	-1.1045	0.0393	-1.3445	0.0444
1	80.16	0.5387	0.0603	0.0155	-0.0729	0.0186	-1.4090	0.0468	-1.4209	0.0467
1	80.16	0.5996	0.0723	0.0132	-0.1314	0.0238	-2.0272	0.0554	-1.4259	0.0549
1	80.16	0.6498	0.0840	0.0109	-0.1694	0.0293	-2.6905	0.0626	-1.6670	0.0565
1	80.16	0.6998	0.0598	0.0108	-0.2156	0.0346	-3.3757	0.0723	-1.6495	0.0478
1	80.16	0.7500	0.0722	0.0150	-0.2603	0.0421	-4.1750	0.0822	-1.7547	0.0538
1	80.16	0.8001	0.0289	0.0245	-0.3023	0.0493	-4.9885	0.0950	-1.6149	0.0555
1	80.16	0.8497	-0.0026	0.0355	-0.3263	0.0585	-5.8905	0.1081	-1.6885	0.0525
1	80.16	0.9102	-0.0912	0.0513	-0.3060	0.0710	-7.1194	0.1265	-2.1794	0.0668
1	80.16	0.9734	-0.0627	0.0698	-0.2501	0.0888	-8.3222	0.1495	-2.0578	0.0742

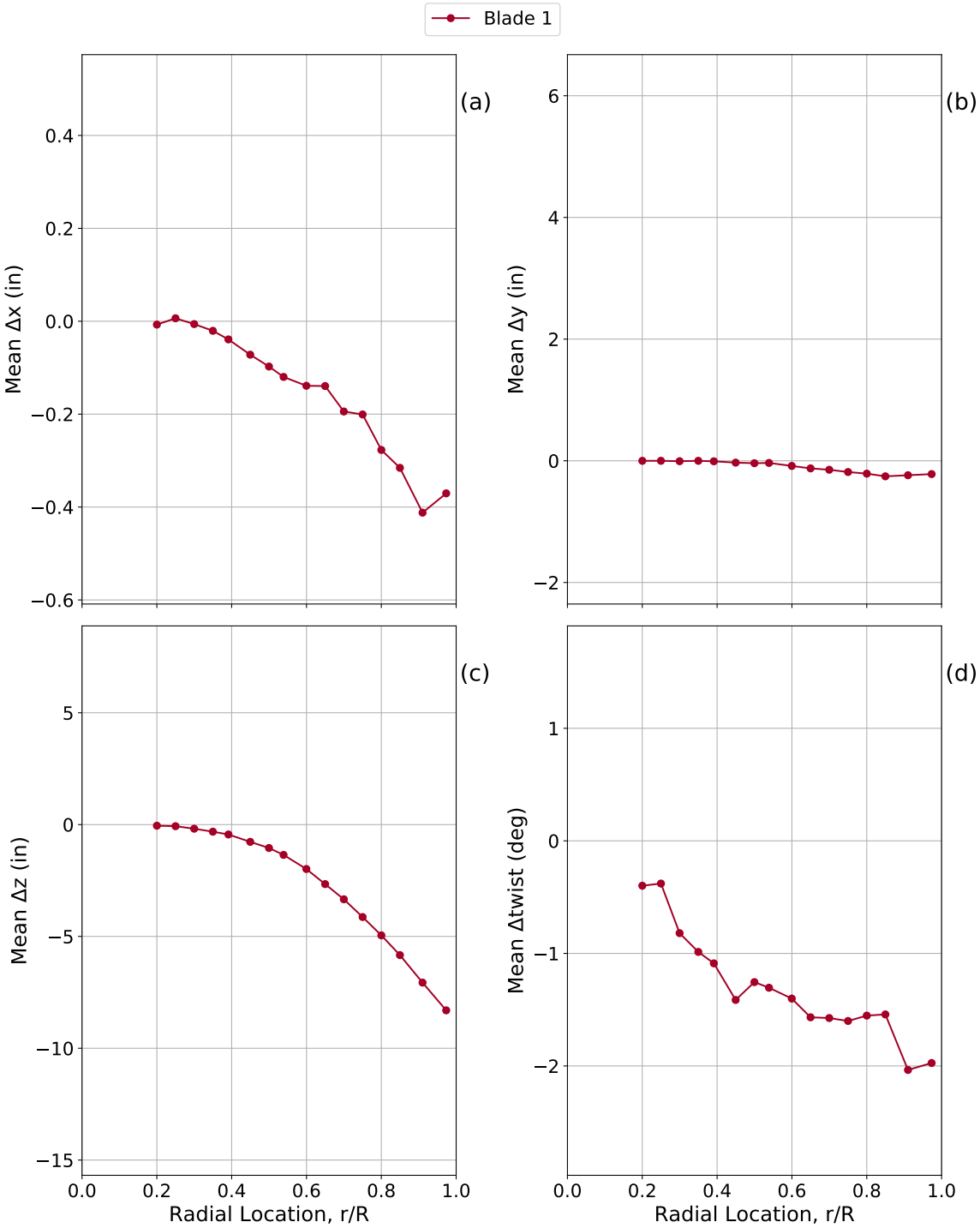


Figure 3.32-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0072	0.0016	-0.0006	0.0011	-0.0497	0.0022	-0.3986	0.0276
1	85.08	0.2499	0.0064	0.0013	0.0000	0.0025	-0.0715	0.0045	-0.3793	0.0421
1	85.08	0.2998	-0.0061	0.0016	-0.0067	0.0047	-0.1843	0.0077	-0.8201	0.0592
1	85.08	0.3498	-0.0206	0.0019	-0.0004	0.0079	-0.3175	0.0132	-0.9868	0.0621
1	85.08	0.3913	-0.0391	0.0026	-0.0082	0.0117	-0.4414	0.0187	-1.0883	0.0567
1	85.08	0.4496	-0.0720	0.0029	-0.0301	0.0146	-0.7715	0.0242	-1.4136	0.0651
1	85.08	0.4997	-0.0975	0.0023	-0.0397	0.0187	-1.0460	0.0283	-1.2551	0.0578
1	85.08	0.5387	-0.1199	0.0028	-0.0350	0.0206	-1.3546	0.0350	-1.3050	0.0604
1	85.08	0.5996	-0.1389	0.0030	-0.0845	0.0256	-1.9858	0.0398	-1.4014	0.0699
1	85.08	0.6498	-0.1395	0.0033	-0.1247	0.0305	-2.6613	0.0480	-1.5678	0.0691
1	85.08	0.6998	-0.1943	0.0038	-0.1474	0.0361	-3.3397	0.0591	-1.5743	0.0756
1	85.08	0.7500	-0.2007	0.0041	-0.1845	0.0425	-4.1328	0.0783	-1.6003	0.0707
1	85.08	0.8001	-0.2771	0.0048	-0.2111	0.0486	-4.9520	0.0979	-1.5527	0.0713
1	85.08	0.8497	-0.3156	0.0061	-0.2552	0.0550	-5.8353	0.1195	-1.5422	0.0743
1	85.08	0.9102	-0.4121	0.0070	-0.2373	0.0634	-7.0654	0.1434	-2.0355	0.0704
1	85.08	0.9734	-0.3705	0.0102	-0.2182	0.0727	-8.3051	0.1684	-1.9737	0.0695

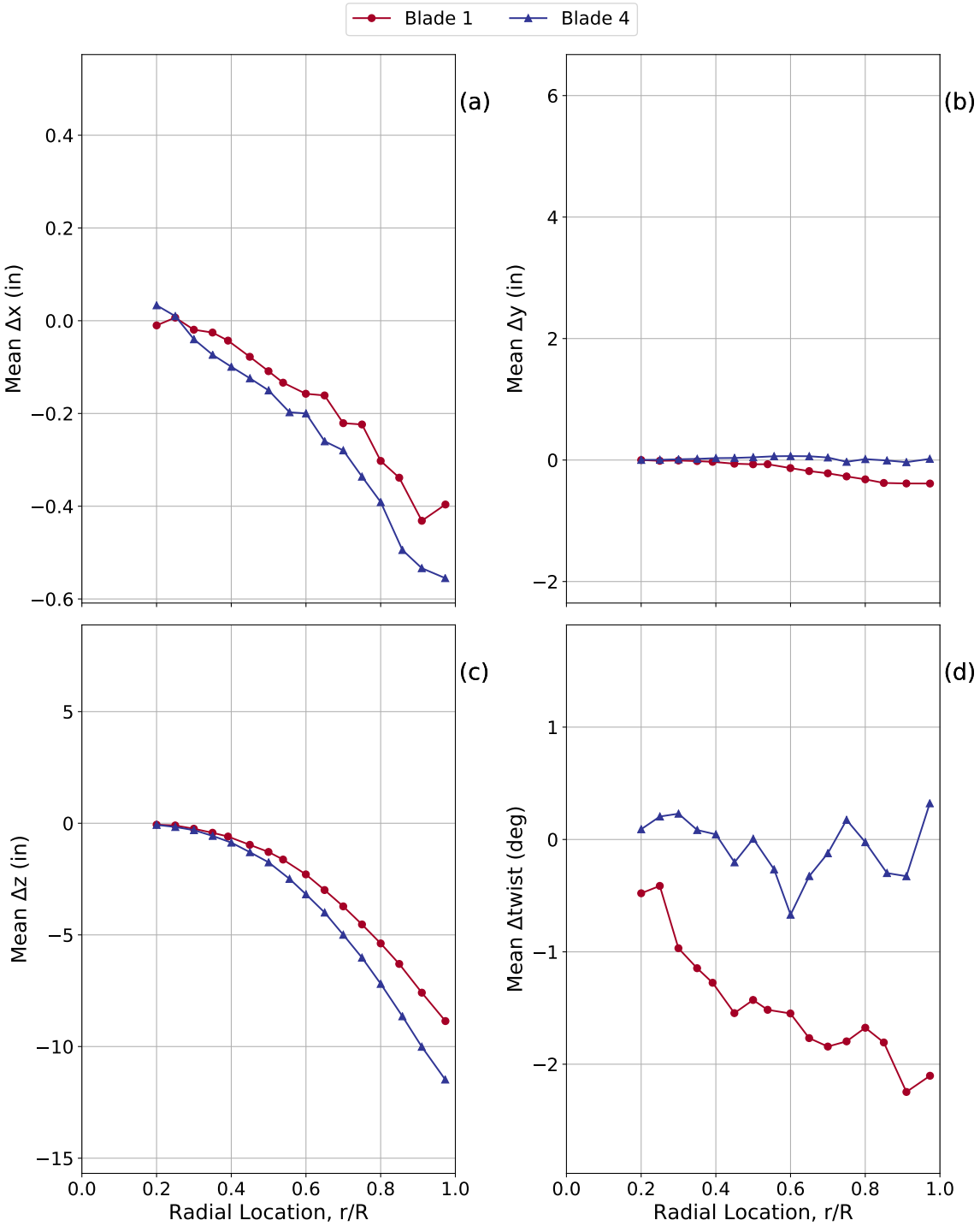


Figure 3.32-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0101	0.0030	0.0003	0.0014	-0.0650	0.0050	-0.4787	0.0293
1	90	0.2499	0.0067	0.0018	-0.0121	0.0024	-0.0990	0.0103	-0.4132	0.0629
1	90	0.2998	-0.0194	0.0019	-0.0077	0.0051	-0.2464	0.0185	-0.9678	0.0693
1	90	0.3498	-0.0255	0.0019	-0.0172	0.0095	-0.4260	0.0336	-1.1456	0.0579
1	90	0.3913	-0.0429	0.0020	-0.0293	0.0129	-0.5956	0.0469	-1.2750	0.0667
1	90	0.4496	-0.0778	0.0023	-0.0602	0.0195	-0.9664	0.0662	-1.5453	0.0760
1	90	0.4997	-0.1088	0.0030	-0.0698	0.0255	-1.2855	0.0838	-1.4282	0.0623
1	90	0.5387	-0.1336	0.0023	-0.0689	0.0312	-1.6256	0.0952	-1.5158	0.0653
1	90	0.5996	-0.1575	0.0029	-0.1322	0.0407	-2.2896	0.1104	-1.5482	0.0651
1	90	0.6498	-0.1611	0.0030	-0.1818	0.0496	-2.9916	0.1216	-1.7676	0.0631
1	90	0.6998	-0.2209	0.0037	-0.2185	0.0580	-3.7228	0.1294	-1.8429	0.0656
1	90	0.7500	-0.2237	0.0046	-0.2697	0.0682	-4.5320	0.1353	-1.7966	0.0743
1	90	0.8001	-0.3023	0.0055	-0.3179	0.0785	-5.3826	0.1428	-1.6754	0.0666
1	90	0.8497	-0.3385	0.0072	-0.3772	0.0891	-6.3000	0.1534	-1.8065	0.0701
1	90	0.9102	-0.4314	0.0082	-0.3855	0.1029	-7.5875	0.1716	-2.2469	0.0670
1	90	0.9734	-0.3963	0.0119	-0.3866	0.1170	-8.8592	0.1959	-2.1027	0.0704
4	90.35	0.2001	0.0333	0.0020	0.0027	0.0009	-0.0726	0.0030	0.0911	0.0241
4	90.35	0.2502	0.0098	0.0013	0.0043	0.0017	-0.1670	0.0066	0.2044	0.0365
4	90.35	0.3001	-0.0400	0.0016	0.0130	0.0030	-0.3092	0.0129	0.2296	0.0532
4	90.35	0.3502	-0.0735	0.0021	0.0190	0.0054	-0.5664	0.0213	0.0840	0.0615
4	90.35	0.4002	-0.0993	0.0022	0.0318	0.0080	-0.8677	0.0341	0.0454	0.0553
4	90.35	0.4500	-0.1242	0.0034	0.0345	0.0110	-1.2963	0.0464	-0.2034	0.0632
4	90.35	0.5001	-0.1503	0.0033	0.0452	0.0140	-1.7511	0.0608	0.0059	0.0599
4	90.35	0.5560	-0.1974	0.0044	0.0623	0.0175	-2.4919	0.0794	-0.2664	0.0500
4	90.35	0.6001	-0.1999	0.0047	0.0651	0.0224	-3.1831	0.0979	-0.6694	0.0556
4	90.35	0.6501	-0.2600	0.0069	0.0625	0.0268	-4.0000	0.1167	-0.3260	0.0641
4	90.35	0.6999	-0.2796	0.0072	0.0420	0.0323	-4.9944	0.1379	-0.1225	0.0545
4	90.35	0.7500	-0.3362	0.0083	-0.0294	0.0393	-6.0195	0.1606	0.1743	0.0612
4	90.35	0.8002	-0.3912	0.0101	0.0152	0.0449	-7.1938	0.1842	-0.0242	0.0593
4	90.35	0.8582	-0.4944	0.0116	-0.0073	0.0528	-8.6446	0.2090	-0.2988	0.0785
4	90.35	0.9101	-0.5336	0.0141	-0.0350	0.0598	-10.0104	0.2329	-0.3270	0.0690
4	90.35	0.9728	-0.5550	0.0169	0.0192	0.0684	-11.4772	0.2645	0.3219	0.0747

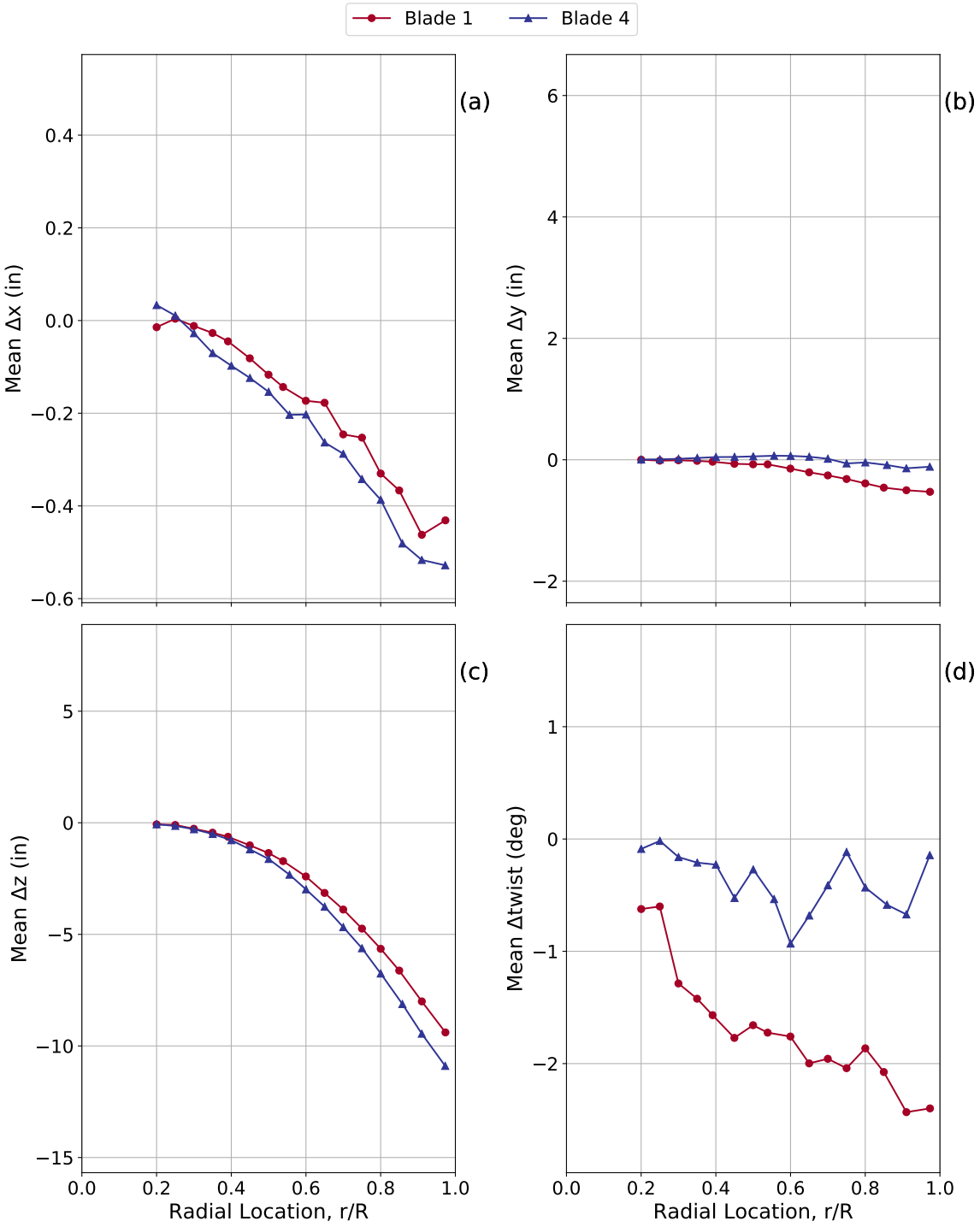


Figure 3.32-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0144	0.0016	0.0009	0.0013	-0.0708	0.0053	-0.6237	0.0459
1	94.92	0.2499	0.0039	0.0020	-0.0142	0.0023	-0.0973	0.0096	-0.6009	0.0901
1	94.92	0.2998	-0.0117	0.0020	-0.0082	0.0053	-0.2679	0.0200	-1.2864	0.1088
1	94.92	0.3498	-0.0269	0.0027	-0.0178	0.0089	-0.4437	0.0347	-1.4222	0.1008
1	94.92	0.3913	-0.0449	0.0030	-0.0323	0.0127	-0.6278	0.0487	-1.5687	0.0873
1	94.92	0.4496	-0.0815	0.0027	-0.0664	0.0173	-1.0112	0.0653	-1.7710	0.0797
1	94.92	0.4997	-0.1169	0.0034	-0.0746	0.0219	-1.3561	0.0801	-1.6581	0.0656
1	94.92	0.5387	-0.1434	0.0030	-0.0754	0.0259	-1.7165	0.0905	-1.7244	0.0850
1	94.92	0.5996	-0.1731	0.0036	-0.1451	0.0324	-2.4053	0.1108	-1.7589	0.0933
1	94.92	0.6498	-0.1774	0.0045	-0.2066	0.0372	-3.1434	0.1281	-1.9980	0.1084
1	94.92	0.6998	-0.2457	0.0051	-0.2573	0.0432	-3.8872	0.1493	-1.9572	0.0857
1	94.92	0.7500	-0.2527	0.0066	-0.3168	0.0493	-4.7430	0.1684	-2.0410	0.0924
1	94.92	0.8001	-0.3301	0.0073	-0.3887	0.0553	-5.6465	0.1896	-1.8642	0.0862
1	94.92	0.8497	-0.3666	0.0090	-0.4587	0.0618	-6.6230	0.2095	-2.0750	0.0968
1	94.92	0.9102	-0.4623	0.0106	-0.5017	0.0699	-8.0044	0.2334	-2.4323	0.0950
1	94.92	0.9734	-0.4311	0.0134	-0.5279	0.0792	-9.3944	0.2621	-2.3989	0.0969
4	94.92	0.2001	0.0333	0.0011	0.0041	0.0013	-0.0692	0.0027	-0.0883	0.0323
4	94.92	0.2502	0.0106	0.0020	0.0073	0.0023	-0.1405	0.0089	-0.0171	0.0540
4	94.92	0.3001	-0.0274	0.0014	0.0159	0.0053	-0.2912	0.0140	-0.1615	0.0733
4	94.92	0.3502	-0.0703	0.0026	0.0299	0.0085	-0.5031	0.0228	-0.2106	0.0848
4	94.92	0.4002	-0.0975	0.0027	0.0445	0.0135	-0.7813	0.0381	-0.2283	0.0871
4	94.92	0.4500	-0.1239	0.0023	0.0465	0.0189	-1.1925	0.0498	-0.5256	0.0854
4	94.92	0.5001	-0.1539	0.0034	0.0558	0.0255	-1.6218	0.0655	-0.2713	0.0811
4	94.92	0.5560	-0.2035	0.0032	0.0664	0.0330	-2.3284	0.0824	-0.5355	0.0875
4	94.92	0.6001	-0.2028	0.0033	0.0641	0.0399	-2.9846	0.1004	-0.9314	0.0707
4	94.92	0.6501	-0.2631	0.0044	0.0501	0.0472	-3.7627	0.1176	-0.6816	0.0839
4	94.92	0.6999	-0.2875	0.0059	0.0167	0.0562	-4.6777	0.1391	-0.4130	0.0816
4	94.92	0.7500	-0.3421	0.0071	-0.0606	0.0653	-5.6237	0.1611	-0.1164	0.0780
4	94.92	0.8002	-0.3868	0.0085	-0.0439	0.0760	-6.7559	0.1865	-0.4320	0.0864
4	94.92	0.8582	-0.4811	0.0106	-0.0867	0.0879	-8.1241	0.2178	-0.5860	0.0803
4	94.92	0.9101	-0.5166	0.0130	-0.1402	0.0991	-9.4531	0.2473	-0.6716	0.0802
4	94.92	0.9728	-0.5281	0.0141	-0.1145	0.1122	-10.8956	0.2782	-0.1442	0.0892

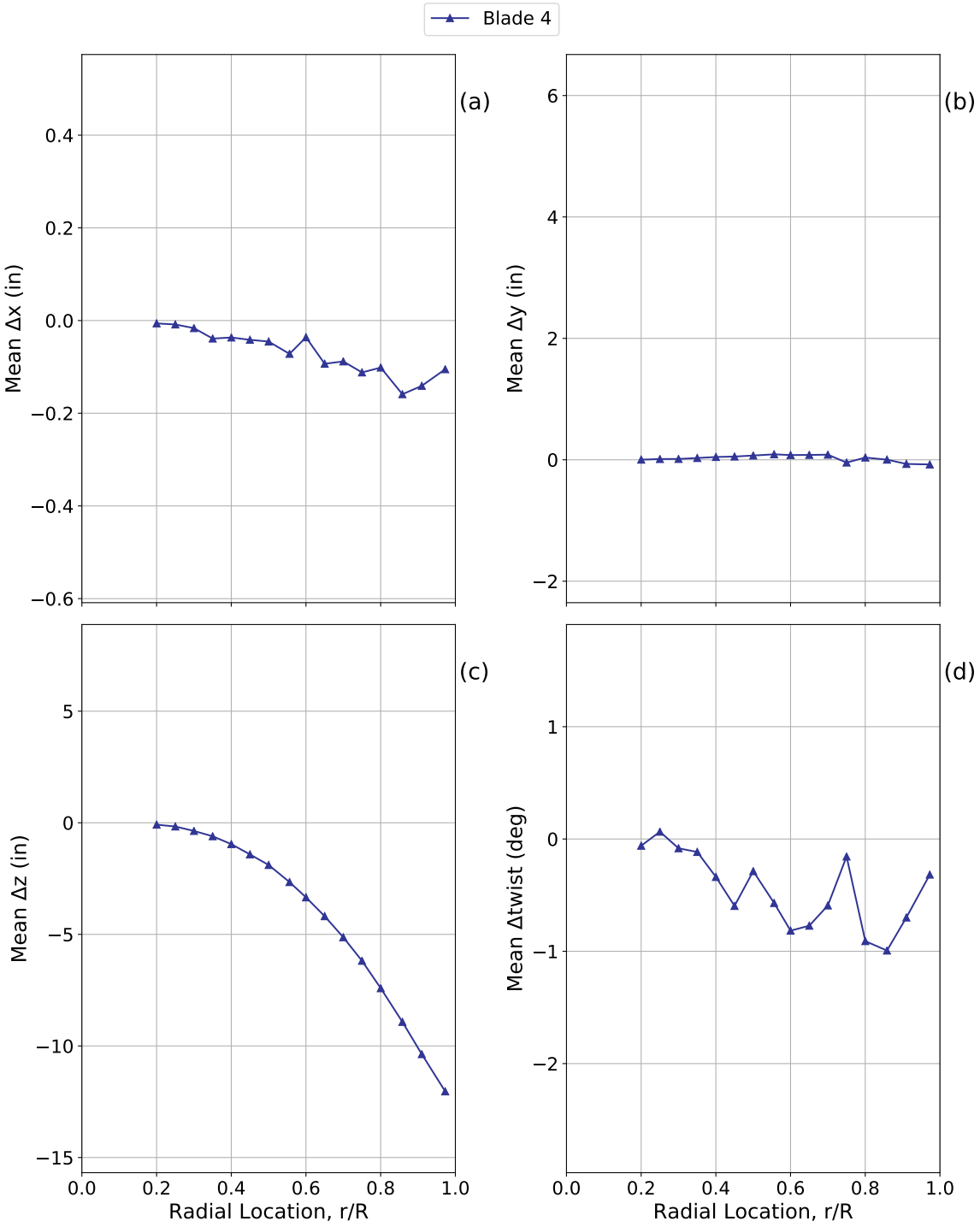


Figure 3.32-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0062	0.0094	0.0021	0.0011	-0.0849	0.0048	-0.0601	0.0519
4	105.12	0.2502	-0.0085	0.0044	0.0121	0.0042	-0.1673	0.0071	0.0648	0.0541
4	105.12	0.3001	-0.0164	0.0062	0.0137	0.0053	-0.3666	0.0125	-0.0828	0.1010
4	105.12	0.3502	-0.0389	0.0072	0.0291	0.0112	-0.6055	0.0180	-0.1155	0.1049
4	105.12	0.4002	-0.0366	0.0108	0.0459	0.0166	-0.9579	0.0259	-0.3383	0.0898
4	105.12	0.4500	-0.0416	0.0129	0.0532	0.0247	-1.4169	0.0362	-0.5961	0.1111
4	105.12	0.5001	-0.0454	0.0150	0.0699	0.0341	-1.8919	0.0451	-0.2866	0.0953
4	105.12	0.5560	-0.0719	0.0181	0.0898	0.0457	-2.6581	0.0650	-0.5702	0.0974
4	105.12	0.6001	-0.0362	0.0218	0.0777	0.0568	-3.3433	0.0856	-0.8164	0.0962
4	105.12	0.6501	-0.0933	0.0261	0.0799	0.0691	-4.1868	0.1109	-0.7723	0.1154
4	105.12	0.6999	-0.0882	0.0335	0.0839	0.0835	-5.1308	0.1345	-0.5921	0.0921
4	105.12	0.7500	-0.1120	0.0417	-0.0461	0.0959	-6.1858	0.1612	-0.1560	0.1333
4	105.12	0.8002	-0.1015	0.0529	0.0364	0.1097	-7.4149	0.1798	-0.9094	0.1114
4	105.12	0.8582	-0.1590	0.0721	0.0018	0.1251	-8.9240	0.2018	-0.9936	0.1206
4	105.12	0.9101	-0.1409	0.0912	-0.0682	0.1386	-10.3690	0.2211	-0.6993	0.1375
4	105.12	0.9728	-0.1051	0.1167	-0.0774	0.1512	-12.0367	0.2500	-0.3174	0.1701

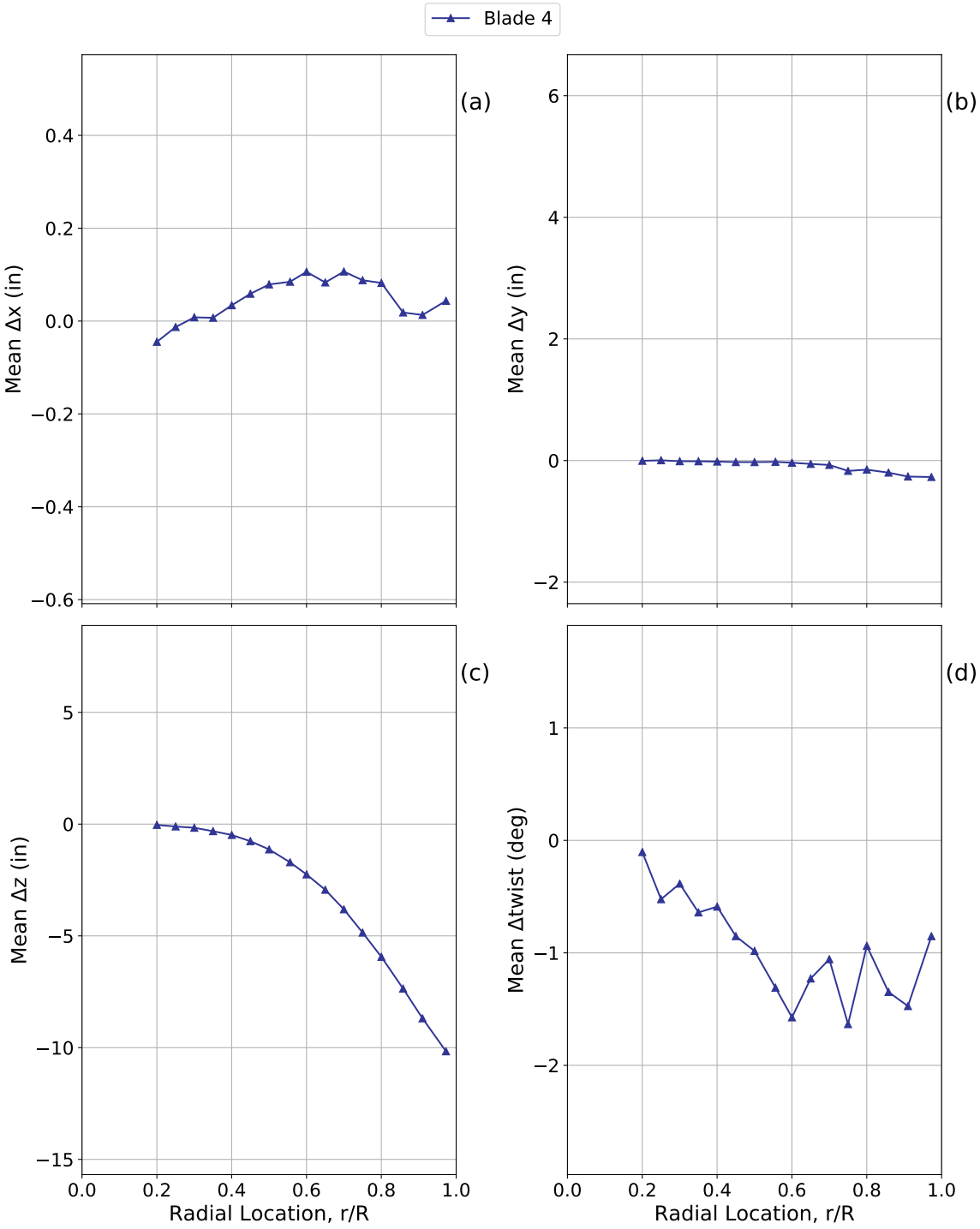


Figure 3.32-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0448	0.0009	-0.0047	0.0008	-0.0360	0.0026	-0.1043	0.0216
4	119.88	0.2502	-0.0129	0.0021	0.0041	0.0027	-0.1063	0.0063	-0.5236	0.0399
4	119.88	0.3001	0.0080	0.0010	-0.0116	0.0033	-0.1643	0.0103	-0.3851	0.0470
4	119.88	0.3502	0.0070	0.0017	-0.0127	0.0072	-0.3169	0.0185	-0.6408	0.0509
4	119.88	0.4002	0.0340	0.0019	-0.0177	0.0106	-0.4863	0.0283	-0.5892	0.0483
4	119.88	0.4500	0.0587	0.0015	-0.0260	0.0133	-0.7641	0.0368	-0.8521	0.0492
4	119.88	0.5001	0.0789	0.0019	-0.0262	0.0179	-1.1331	0.0473	-0.9835	0.0454
4	119.88	0.5560	0.0846	0.0024	-0.0219	0.0232	-1.7070	0.0567	-1.3100	0.0618
4	119.88	0.6001	0.1060	0.0031	-0.0364	0.0281	-2.2512	0.0667	-1.5739	0.0559
4	119.88	0.6501	0.0831	0.0050	-0.0560	0.0340	-2.9383	0.0824	-1.2284	0.0533
4	119.88	0.6999	0.1066	0.0066	-0.0728	0.0407	-3.8127	0.1063	-1.0569	0.0644
4	119.88	0.7500	0.0879	0.0097	-0.1707	0.0470	-4.8551	0.1425	-1.6339	0.0738
4	119.88	0.8002	0.0821	0.0138	-0.1501	0.0553	-5.9415	0.1853	-0.9380	0.0706
4	119.88	0.8582	0.0184	0.0165	-0.1991	0.0641	-7.3598	0.2435	-1.3481	0.0859
4	119.88	0.9101	0.0131	0.0224	-0.2638	0.0734	-8.6909	0.2989	-1.4735	0.0526
4	119.88	0.9728	0.0435	0.0259	-0.2713	0.0838	-10.1644	0.3706	-0.8521	0.0852

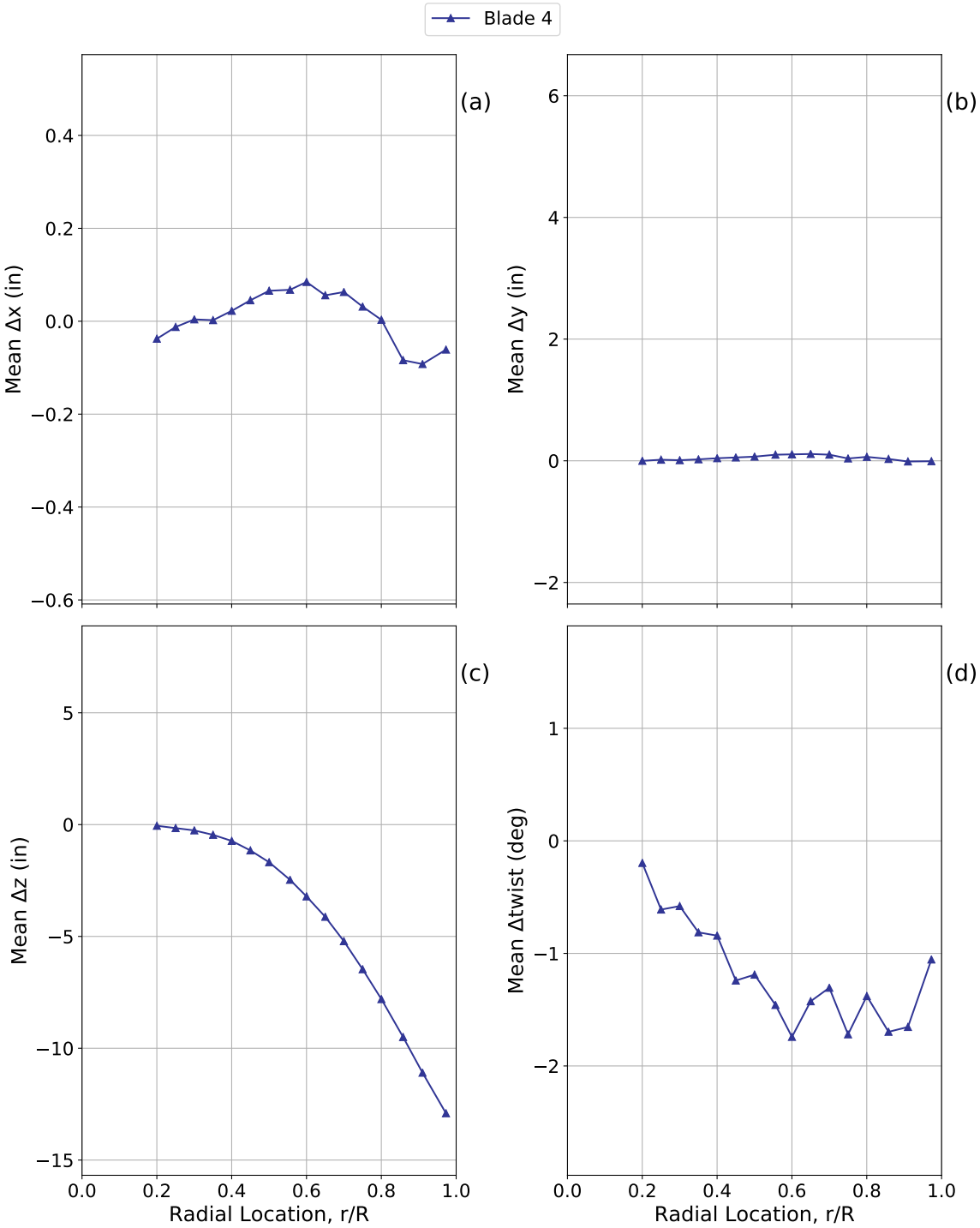


Figure 3.32-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0377	0.0015	-0.0009	0.0007	-0.0538	0.0036	-0.1965	0.0178
4	135	0.2502	-0.0124	0.0010	0.0175	0.0012	-0.1571	0.0085	-0.6106	0.0399
4	135	0.3001	0.0040	0.0016	0.0095	0.0030	-0.2603	0.0159	-0.5797	0.0438
4	135	0.3502	0.0023	0.0013	0.0238	0.0043	-0.4584	0.0262	-0.8131	0.0488
4	135	0.4002	0.0224	0.0021	0.0422	0.0070	-0.7302	0.0419	-0.8424	0.0463
4	135	0.4500	0.0451	0.0016	0.0546	0.0097	-1.1560	0.0555	-1.2413	0.0513
4	135	0.5001	0.0656	0.0026	0.0681	0.0133	-1.6837	0.0758	-1.1890	0.0512
4	135	0.5560	0.0677	0.0028	0.1001	0.0172	-2.4695	0.0931	-1.4583	0.0616
4	135	0.6001	0.0845	0.0035	0.1056	0.0210	-3.2134	0.1078	-1.7420	0.0616
4	135	0.6501	0.0558	0.0037	0.1117	0.0255	-4.1242	0.1238	-1.4254	0.0589
4	135	0.6999	0.0629	0.0051	0.1007	0.0298	-5.2138	0.1414	-1.3055	0.0698
4	135	0.7500	0.0314	0.0070	0.0380	0.0352	-6.4697	0.1599	-1.7194	0.0833
4	135	0.8002	0.0030	0.0091	0.0642	0.0394	-7.8053	0.1812	-1.3795	0.0743
4	135	0.8582	-0.0839	0.0125	0.0297	0.0469	-9.4998	0.2089	-1.6970	0.0705
4	135	0.9101	-0.0922	0.0159	-0.0116	0.0534	-11.0951	0.2379	-1.6537	0.0738
4	135	0.9728	-0.0611	0.0211	-0.0073	0.0621	-12.9075	0.2810	-1.0542	0.0691

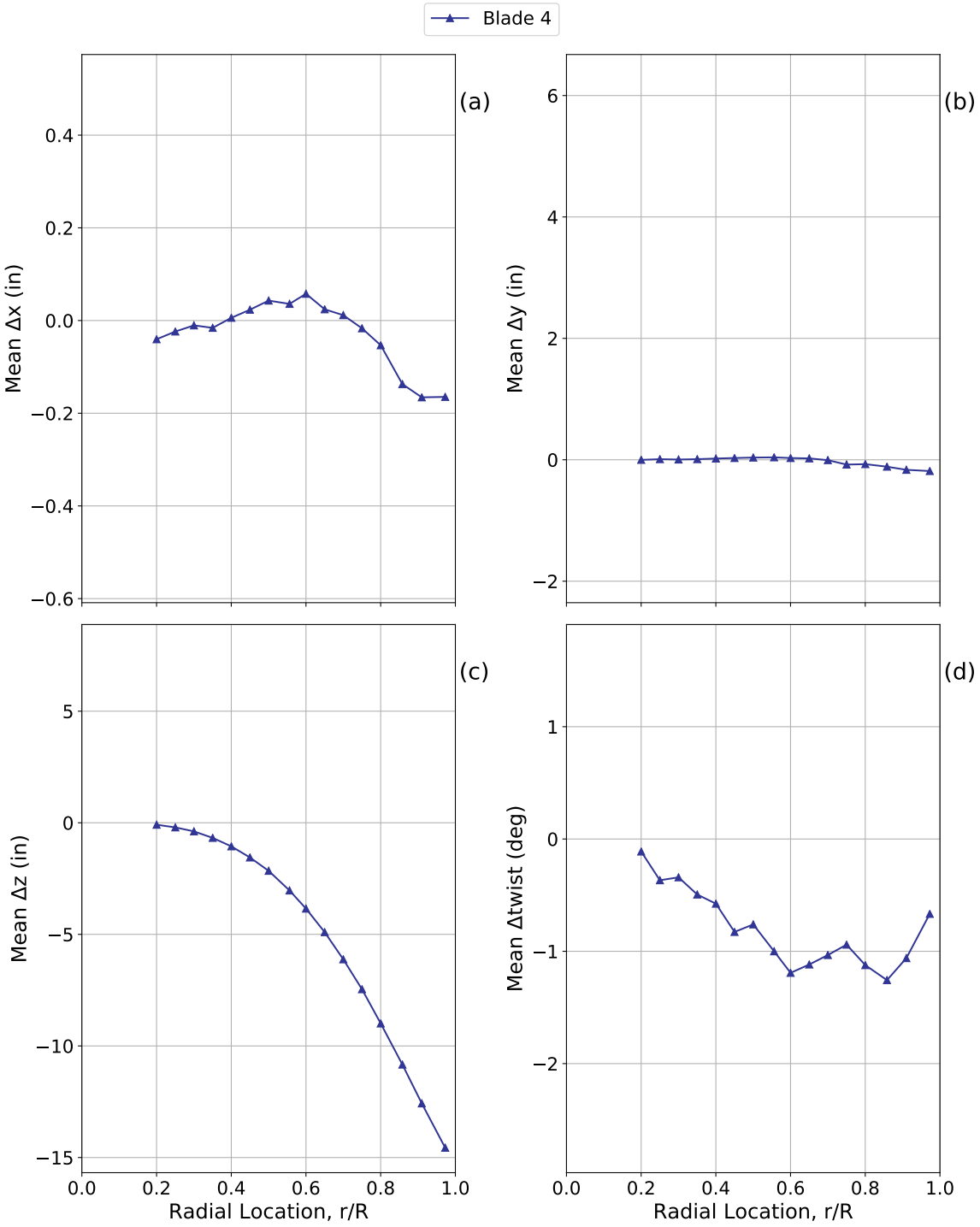


Figure 3.32-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0404	0.0013	-0.0013	0.0010	-0.0883	0.0019	-0.1117	0.0199
4	150.12	0.2502	-0.0237	0.0011	0.0098	0.0030	-0.2062	0.0035	-0.3674	0.0268
4	150.12	0.3001	-0.0105	0.0018	0.0042	0.0049	-0.3864	0.0067	-0.3413	0.0406
4	150.12	0.3502	-0.0158	0.0024	0.0100	0.0086	-0.6769	0.0115	-0.4945	0.0465
4	150.12	0.4002	0.0059	0.0025	0.0205	0.0137	-1.0574	0.0175	-0.5762	0.0309
4	150.12	0.4500	0.0233	0.0031	0.0289	0.0170	-1.5548	0.0264	-0.8278	0.0506
4	150.12	0.5001	0.0430	0.0037	0.0364	0.0219	-2.1539	0.0395	-0.7607	0.0514
4	150.12	0.5560	0.0359	0.0039	0.0401	0.0282	-3.0345	0.0579	-1.0003	0.0466
4	150.12	0.6001	0.0577	0.0054	0.0287	0.0335	-3.8468	0.0745	-1.1920	0.0522
4	150.12	0.6501	0.0242	0.0067	0.0227	0.0400	-4.9023	0.0983	-1.1177	0.0583
4	150.12	0.6999	0.0116	0.0089	-0.0062	0.0484	-6.1193	0.1208	-1.0335	0.0452
4	150.12	0.7500	-0.0168	0.0110	-0.0790	0.0566	-7.4598	0.1511	-0.9407	0.0513
4	150.12	0.8002	-0.0534	0.0149	-0.0718	0.0661	-8.9938	0.1839	-1.1231	0.0482
4	150.12	0.8582	-0.1372	0.0191	-0.1138	0.0773	-10.8361	0.2295	-1.2568	0.0467
4	150.12	0.9101	-0.1657	0.0233	-0.1655	0.0875	-12.5753	0.2757	-1.0608	0.0430
4	150.12	0.9728	-0.1648	0.0307	-0.1858	0.1002	-14.5635	0.3318	-0.6670	0.0393

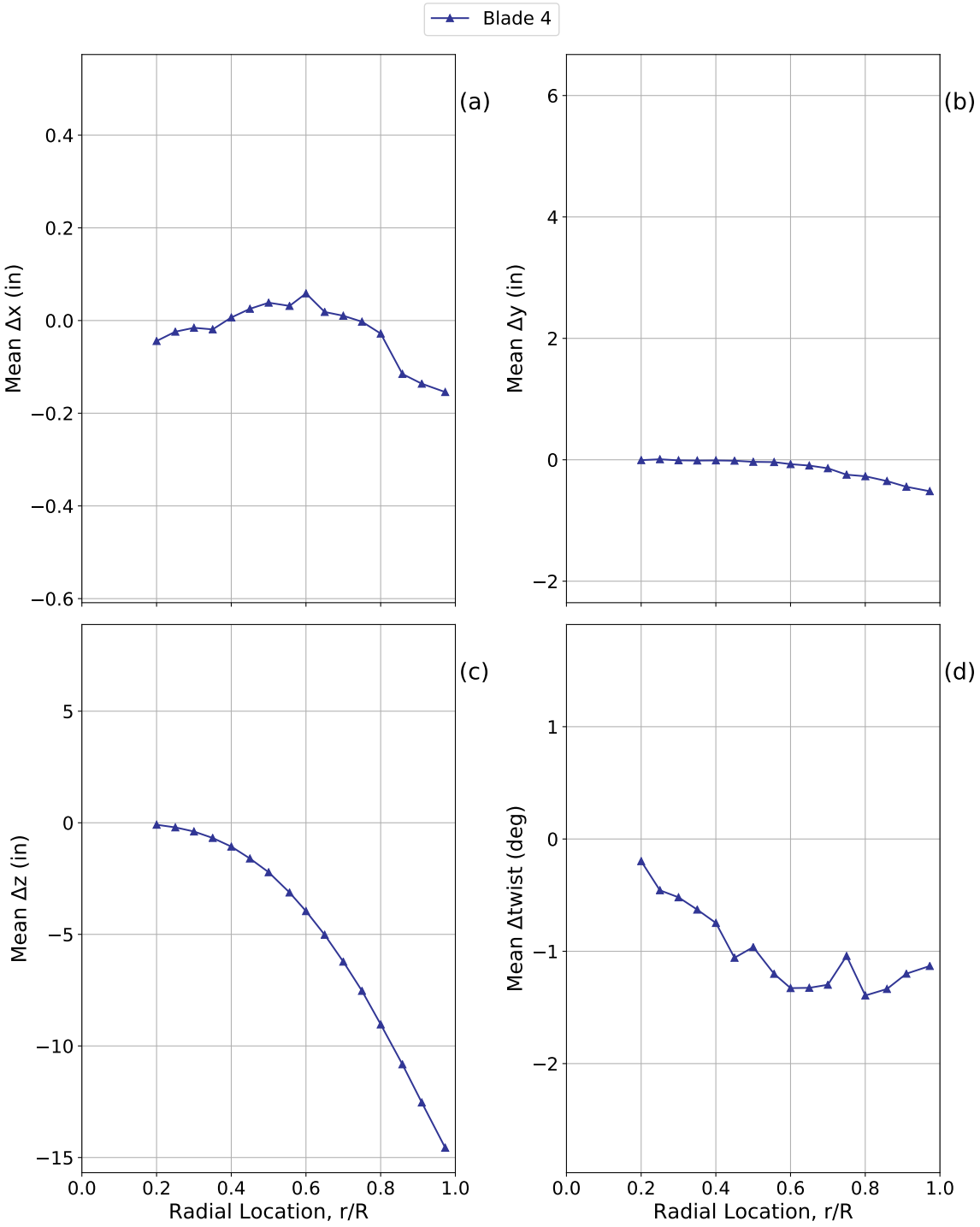


Figure 3.32-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0442	0.0013	-0.0062	0.0008	-0.0882	0.0028	-0.1976	0.0209
4	164.88	0.2502	-0.0241	0.0014	0.0083	0.0026	-0.2061	0.0057	-0.4568	0.0260
4	164.88	0.3001	-0.0157	0.0015	-0.0093	0.0037	-0.3913	0.0102	-0.5195	0.0406
4	164.88	0.3502	-0.0191	0.0013	-0.0128	0.0074	-0.6810	0.0168	-0.6290	0.0345
4	164.88	0.4002	0.0066	0.0019	-0.0108	0.0111	-1.0682	0.0257	-0.7478	0.0471
4	164.88	0.4500	0.0253	0.0025	-0.0154	0.0136	-1.6018	0.0358	-1.0578	0.0396
4	164.88	0.5001	0.0385	0.0030	-0.0341	0.0174	-2.2173	0.0487	-0.9628	0.0479
4	164.88	0.5560	0.0315	0.0039	-0.0381	0.0233	-3.1251	0.0711	-1.2009	0.0459
4	164.88	0.6001	0.0585	0.0039	-0.0721	0.0282	-3.9592	0.0920	-1.3278	0.0354
4	164.88	0.6501	0.0185	0.0056	-0.0955	0.0334	-5.0211	0.1179	-1.3254	0.0486
4	164.88	0.6999	0.0103	0.0074	-0.1400	0.0394	-6.2241	0.1513	-1.2979	0.0480
4	164.88	0.7500	-0.0025	0.0102	-0.2457	0.0456	-7.5335	0.1902	-1.0416	0.0452
4	164.88	0.8002	-0.0282	0.0137	-0.2717	0.0507	-9.0372	0.2338	-1.3937	0.0624
4	164.88	0.8582	-0.1153	0.0187	-0.3508	0.0580	-10.8241	0.2914	-1.3355	0.0505
4	164.88	0.9101	-0.1363	0.0232	-0.4449	0.0643	-12.5352	0.3457	-1.1996	0.0567
4	164.88	0.9728	-0.1543	0.0266	-0.5180	0.0716	-14.5615	0.4132	-1.1308	0.0588

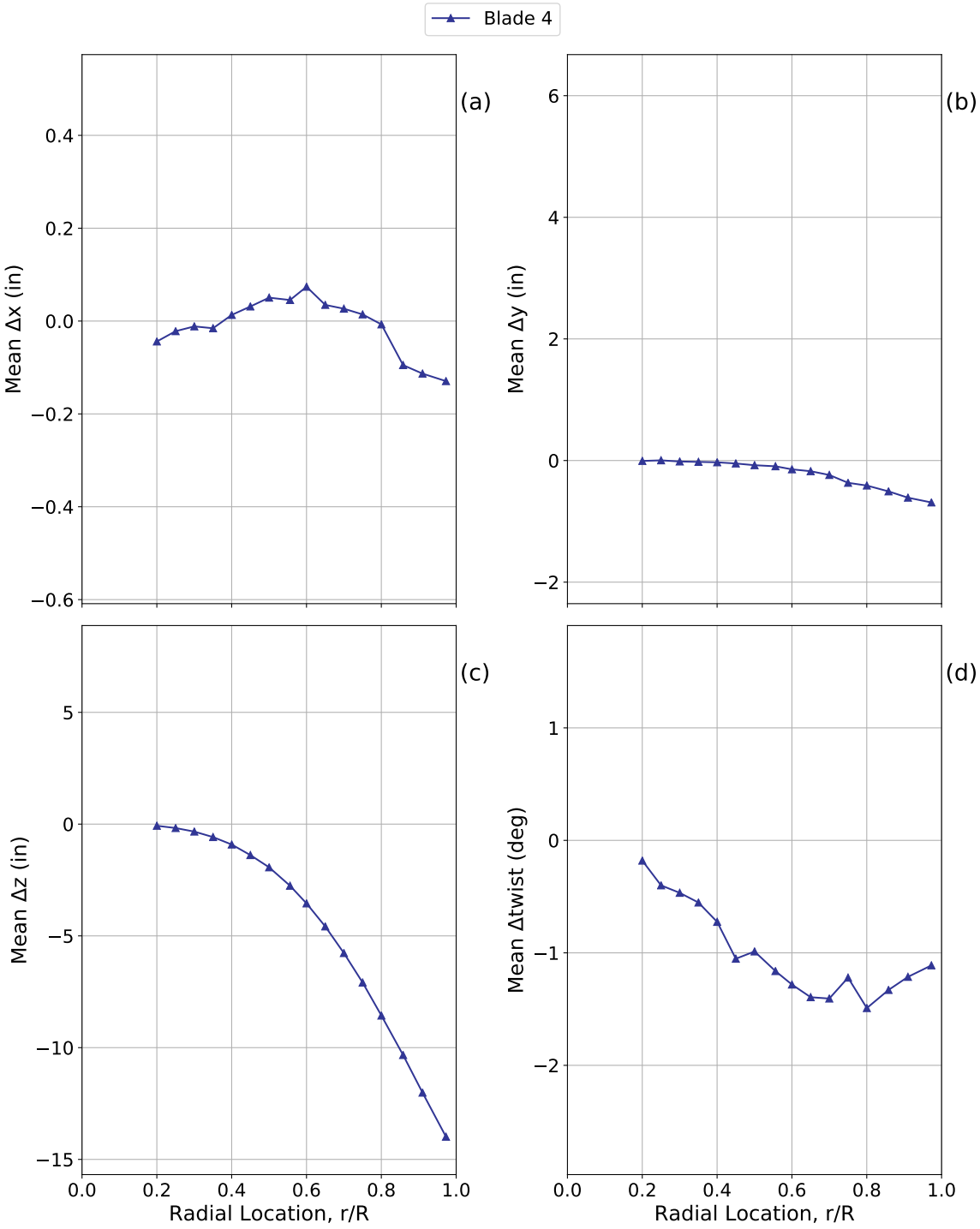


Figure 3.32-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0440	0.0018	-0.0067	0.0008	-0.0741	0.0027	-0.1804	0.0233
4	170.16	0.2502	-0.0218	0.0014	0.0032	0.0026	-0.1759	0.0054	-0.4000	0.0274
4	170.16	0.3001	-0.0115	0.0013	-0.0159	0.0034	-0.3347	0.0110	-0.4665	0.0436
4	170.16	0.3502	-0.0155	0.0012	-0.0225	0.0067	-0.5798	0.0148	-0.5528	0.0286
4	170.16	0.4002	0.0132	0.0014	-0.0293	0.0102	-0.9137	0.0252	-0.7249	0.0516
4	170.16	0.4500	0.0314	0.0024	-0.0487	0.0139	-1.3863	0.0306	-1.0524	0.0311
4	170.16	0.5001	0.0504	0.0019	-0.0770	0.0170	-1.9334	0.0418	-0.9878	0.0432
4	170.16	0.5560	0.0453	0.0028	-0.0947	0.0210	-2.7581	0.0538	-1.1622	0.0423
4	170.16	0.6001	0.0739	0.0031	-0.1450	0.0257	-3.5475	0.0623	-1.2820	0.0489
4	170.16	0.6501	0.0348	0.0043	-0.1757	0.0301	-4.5777	0.0720	-1.3944	0.0569
4	170.16	0.6999	0.0266	0.0047	-0.2376	0.0356	-5.7691	0.0829	-1.4063	0.0476
4	170.16	0.7500	0.0143	0.0062	-0.3664	0.0400	-7.0884	0.0961	-1.2205	0.0457
4	170.16	0.8002	-0.0072	0.0078	-0.4114	0.0454	-8.5660	0.1123	-1.4911	0.0484
4	170.16	0.8582	-0.0949	0.0103	-0.5073	0.0511	-10.3303	0.1355	-1.3300	0.0553
4	170.16	0.9101	-0.1132	0.0127	-0.6109	0.0566	-12.0138	0.1573	-1.2136	0.0566
4	170.16	0.9728	-0.1294	0.0151	-0.6894	0.0637	-13.9863	0.1888	-1.1114	0.0524

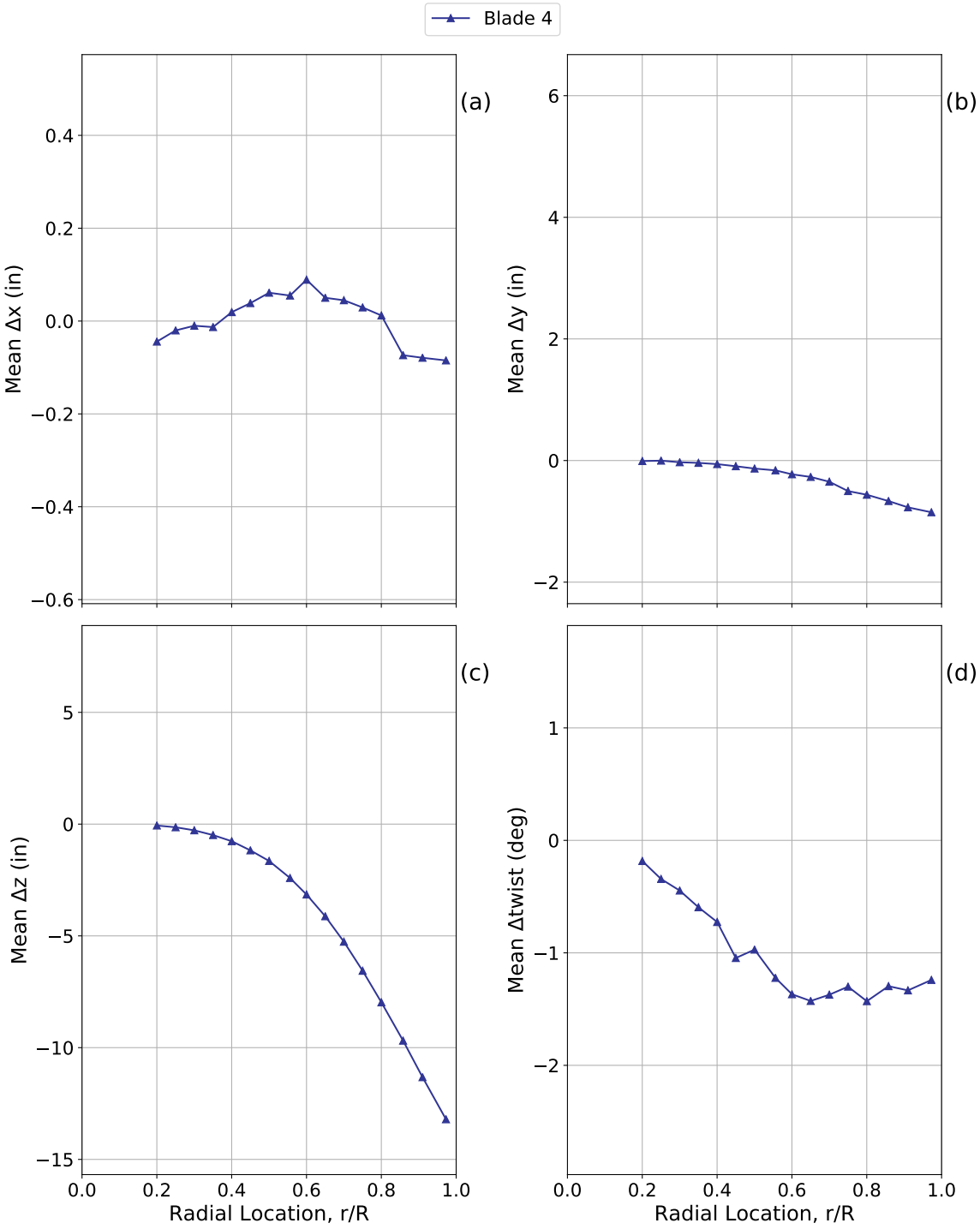


Figure 3.32-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0443	0.0012	-0.0088	0.0012	-0.0625	0.0043	-0.1837	0.0243
4	175.08	0.2502	-0.0202	0.0029	-0.0019	0.0021	-0.1414	0.0084	-0.3433	0.0519
4	175.08	0.3001	-0.0101	0.0016	-0.0283	0.0042	-0.2774	0.0142	-0.4463	0.0510
4	175.08	0.3502	-0.0130	0.0016	-0.0388	0.0072	-0.4908	0.0233	-0.5950	0.0400
4	175.08	0.4002	0.0192	0.0023	-0.0590	0.0109	-0.7649	0.0354	-0.7260	0.0343
4	175.08	0.4500	0.0386	0.0029	-0.0939	0.0132	-1.1747	0.0456	-1.0459	0.0408
4	175.08	0.5001	0.0610	0.0032	-0.1321	0.0149	-1.6493	0.0565	-0.9712	0.0308
4	175.08	0.5560	0.0549	0.0034	-0.1617	0.0197	-2.4112	0.0680	-1.2226	0.0634
4	175.08	0.6001	0.0890	0.0038	-0.2264	0.0233	-3.1498	0.0794	-1.3681	0.0507
4	175.08	0.6501	0.0501	0.0045	-0.2699	0.0270	-4.1234	0.0906	-1.4278	0.0376
4	175.08	0.6999	0.0448	0.0050	-0.3486	0.0308	-5.2613	0.1059	-1.3723	0.0394
4	175.08	0.7500	0.0293	0.0056	-0.5025	0.0341	-6.5623	0.1223	-1.3006	0.0309
4	175.08	0.8002	0.0120	0.0071	-0.5627	0.0388	-7.9748	0.1356	-1.4298	0.0520
4	175.08	0.8582	-0.0736	0.0088	-0.6666	0.0438	-9.6884	0.1548	-1.2963	0.0474
4	175.08	0.9101	-0.0791	0.0100	-0.7700	0.0490	-11.3221	0.1702	-1.3338	0.0553
4	175.08	0.9728	-0.0848	0.0124	-0.8512	0.0544	-13.2051	0.1878	-1.2410	0.0435

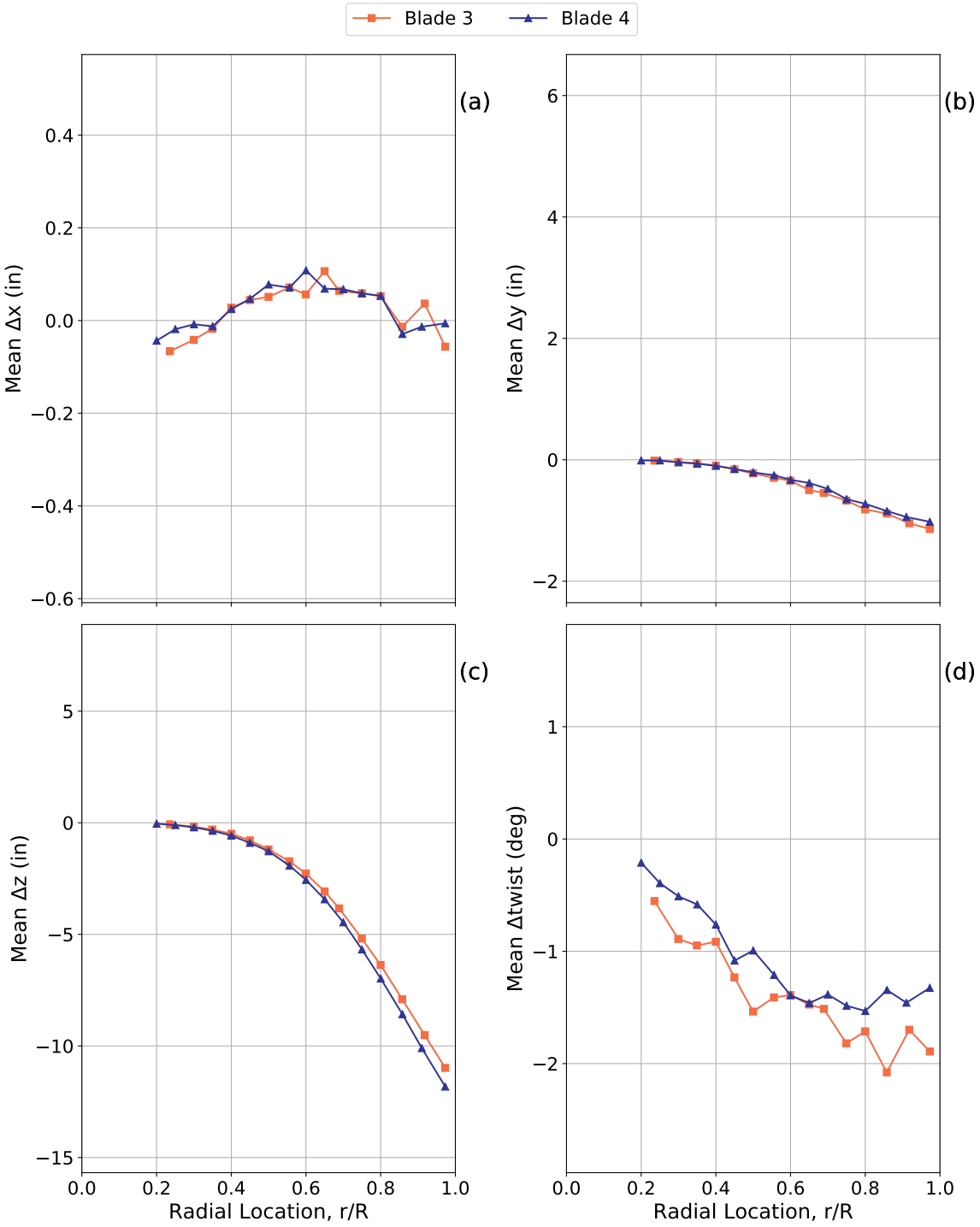


Figure 3.32-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0661	0.0035	-0.0137	0.0031	-0.0690	0.0091	-0.5524	0.0954
3	180.35	0.2995	-0.0417	0.0050	-0.0359	0.0070	-0.1763	0.0188	-0.8908	0.1544
3	180.35	0.3493	-0.0179	0.0043	-0.0576	0.0131	-0.3034	0.0348	-0.9481	0.1445
3	180.35	0.4000	0.0277	0.0049	-0.0951	0.0200	-0.4917	0.0523	-0.9149	0.1484
3	180.35	0.4497	0.0442	0.0064	-0.1568	0.0261	-0.7897	0.0694	-1.2323	0.1631
3	180.35	0.4997	0.0511	0.0061	-0.2245	0.0318	-1.1931	0.0921	-1.5366	0.1616
3	180.35	0.5556	0.0714	0.0050	-0.2989	0.0394	-1.7245	0.1205	-1.4107	0.1506
3	180.35	0.5995	0.0563	0.0066	-0.3441	0.0443	-2.2747	0.1397	-1.3898	0.1644
3	180.35	0.6498	0.1065	0.0074	-0.4990	0.0498	-3.0761	0.1677	-1.4738	0.1613
3	180.35	0.6890	0.0640	0.0082	-0.5461	0.0551	-3.8380	0.1871	-1.5128	0.1689
3	180.35	0.7495	0.0588	0.0101	-0.6728	0.0620	-5.1894	0.2193	-1.8195	0.1685
3	180.35	0.7998	0.0526	0.0122	-0.8174	0.0689	-6.3714	0.2466	-1.7128	0.1760
3	180.35	0.8577	-0.0134	0.0143	-0.8861	0.0759	-7.9070	0.2791	-2.0780	0.1807
3	180.35	0.9178	0.0366	0.0164	-1.0454	0.0830	-9.5146	0.3191	-1.6981	0.1756
3	180.35	0.9729	-0.0564	0.0199	-1.1406	0.0911	-10.9846	0.3551	-1.8920	0.1781
4	180	0.2001	-0.0435	0.0025	-0.0114	0.0024	-0.0411	0.0074	-0.2112	0.0472
4	180	0.2502	-0.0186	0.0058	-0.0107	0.0024	-0.1055	0.0105	-0.3936	0.1224
4	180	0.3001	-0.0082	0.0031	-0.0429	0.0082	-0.2060	0.0211	-0.5105	0.1208
4	180	0.3502	-0.0125	0.0031	-0.0642	0.0121	-0.3603	0.0361	-0.5834	0.1069
4	180	0.4002	0.0247	0.0032	-0.1006	0.0184	-0.5754	0.0513	-0.7624	0.0932
4	180	0.4500	0.0469	0.0027	-0.1497	0.0224	-0.9020	0.0658	-1.0825	0.0930
4	180	0.5001	0.0777	0.0029	-0.2075	0.0276	-1.2787	0.0812	-0.9931	0.1077
4	180	0.5560	0.0709	0.0030	-0.2553	0.0338	-1.9210	0.1017	-1.2108	0.0943
4	180	0.6001	0.1081	0.0038	-0.3297	0.0396	-2.5619	0.1145	-1.3918	0.1047
4	180	0.6501	0.0687	0.0042	-0.3820	0.0463	-3.4300	0.1289	-1.4615	0.1115
4	180	0.6999	0.0674	0.0051	-0.4792	0.0533	-4.4617	0.1443	-1.3852	0.1100
4	180	0.7500	0.0586	0.0062	-0.6489	0.0612	-5.6772	0.1560	-1.4848	0.1193
4	180	0.8002	0.0532	0.0073	-0.7262	0.0697	-6.9818	0.1726	-1.5317	0.1280
4	180	0.8582	-0.0291	0.0090	-0.8450	0.0780	-8.5797	0.1970	-1.3446	0.1339
4	180	0.9101	-0.0134	0.0110	-0.9420	0.0881	-10.0975	0.2151	-1.4580	0.1341
4	180	0.9728	-0.0060	0.0151	-1.0217	0.0989	-11.8232	0.2408	-1.3261	0.1554

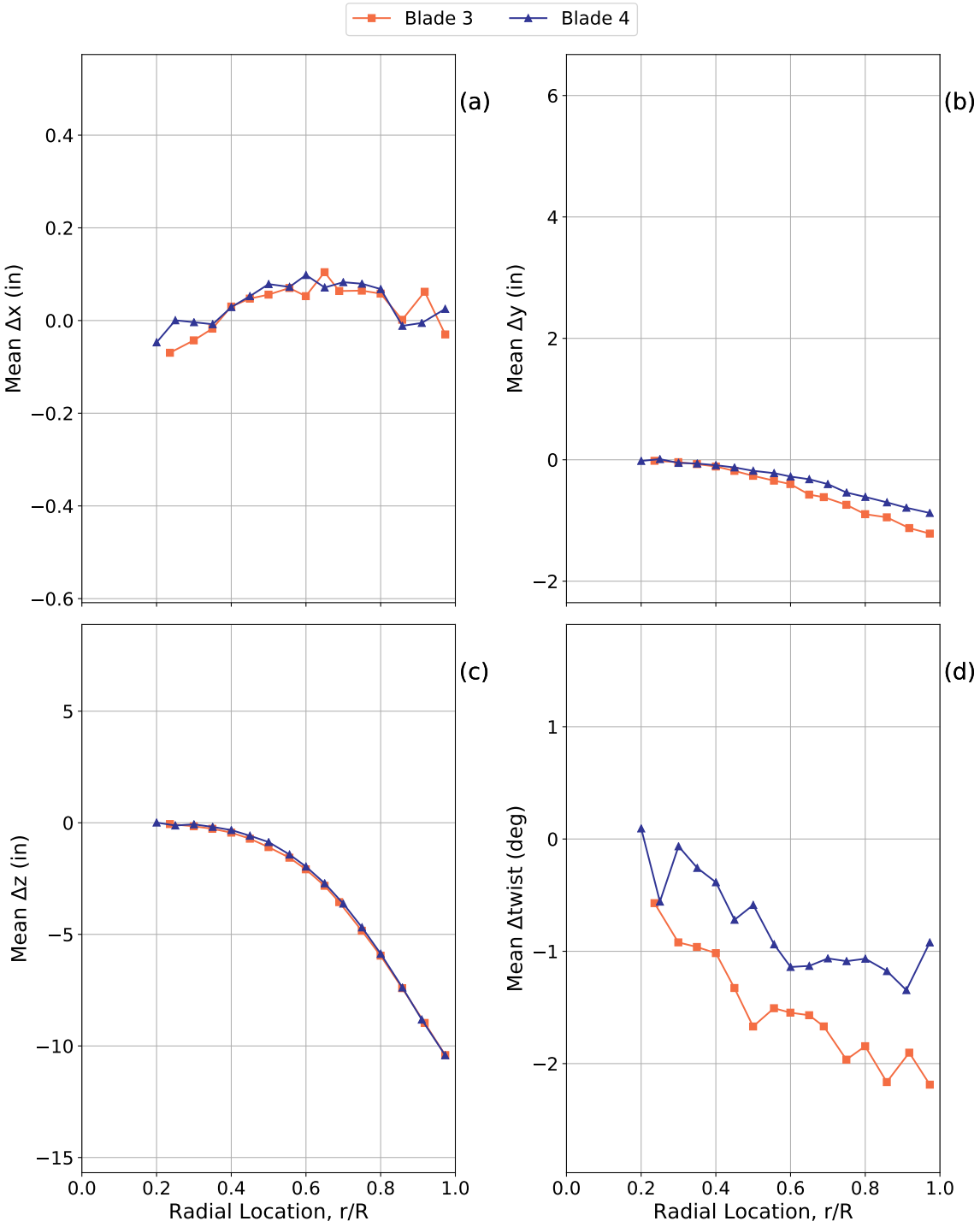


Figure 3.32-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2357	-0.0695	0.0030	-0.0168	0.0046	-0.0584	0.0154	-0.5711	0.1294
3	184.92	0.2995	-0.0428	0.0088	-0.0391	0.0115	-0.1572	0.0360	-0.9205	0.2089
3	184.92	0.3493	-0.0175	0.0087	-0.0708	0.0194	-0.2688	0.0631	-0.9617	0.2268
3	184.92	0.4000	0.0302	0.0071	-0.1108	0.0311	-0.4421	0.0997	-1.0162	0.2170
3	184.92	0.4497	0.0473	0.0110	-0.1828	0.0373	-0.7142	0.1284	-1.3268	0.2365
3	184.92	0.4997	0.0559	0.0100	-0.2641	0.0486	-1.0901	0.1663	-1.6695	0.2214
3	184.92	0.5556	0.0702	0.0111	-0.3435	0.0568	-1.5645	0.2098	-1.5067	0.2363
3	184.92	0.5995	0.0526	0.0120	-0.4002	0.0660	-2.0850	0.2505	-1.5464	0.2277
3	184.92	0.6498	0.1043	0.0145	-0.5736	0.0734	-2.8236	0.2911	-1.5693	0.2635
3	184.92	0.6890	0.0637	0.0141	-0.6160	0.0800	-3.5558	0.3345	-1.6688	0.2167
3	184.92	0.7495	0.0645	0.0183	-0.7420	0.0921	-4.8389	0.3900	-1.9647	0.2178
3	184.92	0.7998	0.0581	0.0220	-0.8963	0.1007	-5.9545	0.4388	-1.8451	0.2385
3	184.92	0.8577	0.0016	0.0253	-0.9479	0.1132	-7.4107	0.4947	-2.1644	0.2416
3	184.92	0.9178	0.0621	0.0300	-1.1251	0.1250	-8.9698	0.5518	-1.9025	0.2278
3	184.92	0.9729	-0.0300	0.0338	-1.2160	0.1374	-10.4100	0.6036	-2.1874	0.2252
4	184.92	0.2001	-0.0471	0.0021	-0.0189	0.0011	0.0091	0.0041	0.0940	0.0496
4	184.92	0.2502	0.0005	0.0020	0.0104	0.0031	-0.1224	0.0088	-0.5577	0.0626
4	184.92	0.3001	-0.0036	0.0025	-0.0517	0.0053	-0.0711	0.0151	-0.0650	0.1037
4	184.92	0.3502	-0.0080	0.0019	-0.0620	0.0088	-0.1851	0.0235	-0.2576	0.0867
4	184.92	0.4002	0.0290	0.0032	-0.0900	0.0140	-0.3264	0.0355	-0.3854	0.0922
4	184.92	0.4500	0.0526	0.0026	-0.1262	0.0176	-0.5808	0.0419	-0.7195	0.0854
4	184.92	0.5001	0.0786	0.0033	-0.1820	0.0215	-0.8657	0.0481	-0.5875	0.1080
4	184.92	0.5560	0.0725	0.0025	-0.2202	0.0268	-1.4231	0.0543	-0.9385	0.0974
4	184.92	0.6001	0.0982	0.0032	-0.2766	0.0317	-1.9630	0.0650	-1.1397	0.0999
4	184.92	0.6501	0.0712	0.0039	-0.3207	0.0384	-2.7130	0.0728	-1.1302	0.0954
4	184.92	0.6999	0.0827	0.0043	-0.4012	0.0445	-3.6225	0.0843	-1.0633	0.1008
4	184.92	0.7500	0.0794	0.0058	-0.5398	0.0519	-4.6887	0.0991	-1.0880	0.0923
4	184.92	0.8002	0.0678	0.0071	-0.6120	0.0592	-5.8719	0.1170	-1.0661	0.0898
4	184.92	0.8582	-0.0115	0.0104	-0.7018	0.0692	-7.3823	0.1428	-1.1765	0.1059
4	184.92	0.9101	-0.0052	0.0116	-0.7900	0.0767	-8.8202	0.1737	-1.3459	0.0878
4	184.92	0.9728	0.0251	0.0188	-0.8763	0.0905	-10.4190	0.2124	-0.9214	0.1058

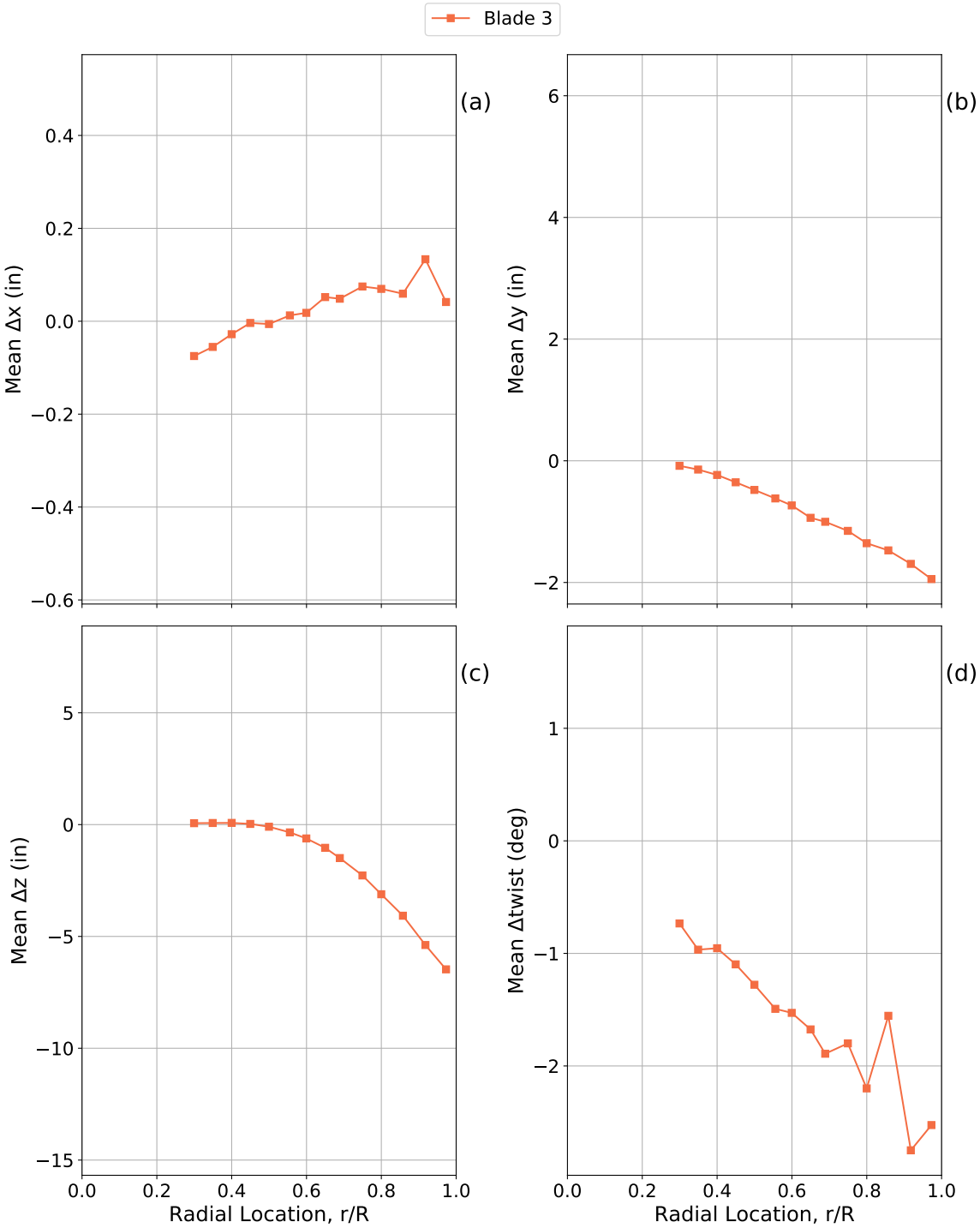


Figure 3.32-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.2995	-0.0749	0.0107	-0.0824	0.0159	0.0633	0.0430	-0.7338	0.1009
3	195.12	0.3493	-0.0553	0.0056	-0.1442	0.0278	0.0709	0.0657	-0.9668	0.1325
3	195.12	0.4000	-0.0279	0.0056	-0.2326	0.0447	0.0759	0.0970	-0.9541	0.1214
3	195.12	0.4497	-0.0037	0.0056	-0.3533	0.0606	0.0302	0.1255	-1.0974	0.1184
3	195.12	0.4997	-0.0060	0.0057	-0.4788	0.0773	-0.0962	0.1558	-1.2785	0.1057
3	195.12	0.5556	0.0126	0.0062	-0.6184	0.0955	-0.3488	0.1873	-1.4925	0.1069
3	195.12	0.5995	0.0181	0.0067	-0.7335	0.1105	-0.6196	0.2132	-1.5284	0.1068
3	195.12	0.6498	0.0520	0.0070	-0.9367	0.1263	-1.0385	0.2426	-1.6753	0.1055
3	195.12	0.6890	0.0485	0.0075	-1.0026	0.1390	-1.4966	0.2673	-1.8913	0.1028
3	195.12	0.7495	0.0748	0.0098	-1.1516	0.1595	-2.2736	0.3068	-1.7993	0.0984
3	195.12	0.7998	0.0697	0.0143	-1.3547	0.1784	-3.1142	0.3402	-2.1995	0.1052
3	195.12	0.8577	0.0593	0.0189	-1.4726	0.2003	-4.0736	0.3819	-1.5546	0.1091
3	195.12	0.9178	0.1335	0.0271	-1.6942	0.2217	-5.3838	0.4261	-2.7496	0.1247
3	195.12	0.9729	0.0414	0.0355	-1.9435	0.2422	-6.4722	0.4701	-2.5252	0.0994

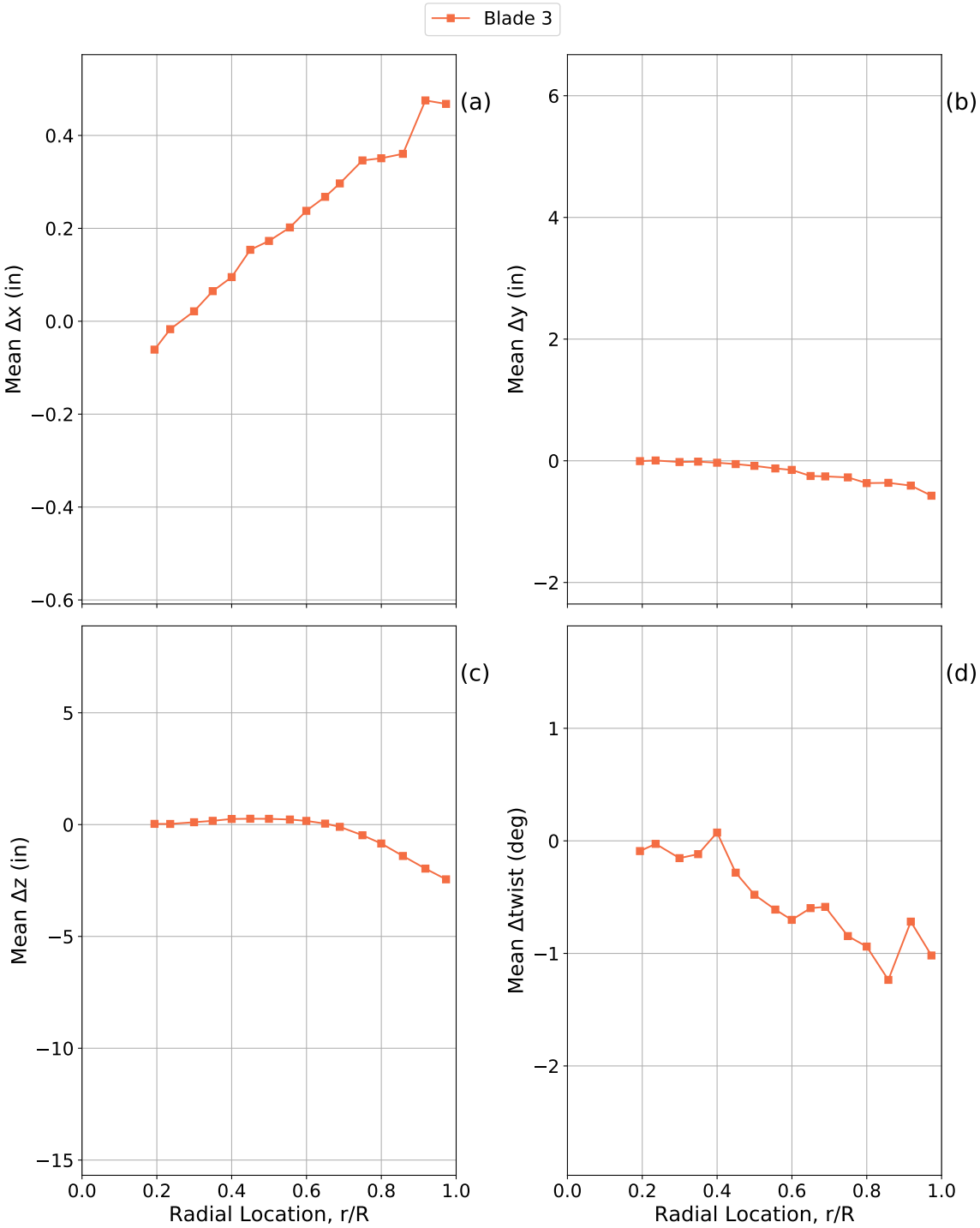


Figure 3.32-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0611	0.0012	-0.0055	0.0008	0.0326	0.0058	-0.0907	0.0372
3	209.88	0.2357	-0.0171	0.0021	0.0050	0.0016	0.0290	0.0083	-0.0269	0.0376
3	209.88	0.2995	0.0214	0.0026	-0.0201	0.0032	0.1055	0.0194	-0.1536	0.0747
3	209.88	0.3493	0.0648	0.0013	-0.0137	0.0066	0.1679	0.0343	-0.1181	0.0485
3	209.88	0.4000	0.0950	0.0018	-0.0316	0.0093	0.2521	0.0501	0.0736	0.0461
3	209.88	0.4497	0.1538	0.0018	-0.0542	0.0118	0.2615	0.0663	-0.2827	0.0549
3	209.88	0.4997	0.1729	0.0020	-0.0832	0.0147	0.2576	0.0846	-0.4786	0.0483
3	209.88	0.5556	0.2019	0.0020	-0.1255	0.0175	0.2270	0.1084	-0.6108	0.0546
3	209.88	0.5995	0.2377	0.0024	-0.1500	0.0206	0.1658	0.1291	-0.7019	0.0596
3	209.88	0.6498	0.2678	0.0032	-0.2499	0.0243	0.0443	0.1543	-0.5977	0.0561
3	209.88	0.6890	0.2967	0.0032	-0.2567	0.0272	-0.1007	0.1779	-0.5867	0.0465
3	209.88	0.7495	0.3462	0.0036	-0.2727	0.0311	-0.4754	0.2177	-0.8462	0.0633
3	209.88	0.7998	0.3509	0.0041	-0.3667	0.0353	-0.8462	0.2562	-0.9393	0.0624
3	209.88	0.8577	0.3604	0.0065	-0.3620	0.0399	-1.4031	0.3022	-1.2352	0.0608
3	209.88	0.9178	0.4754	0.0068	-0.4076	0.0456	-1.9677	0.3575	-0.7177	0.0744
3	209.88	0.9729	0.4679	0.0077	-0.5738	0.0512	-2.4476	0.4055	-1.0185	0.0561

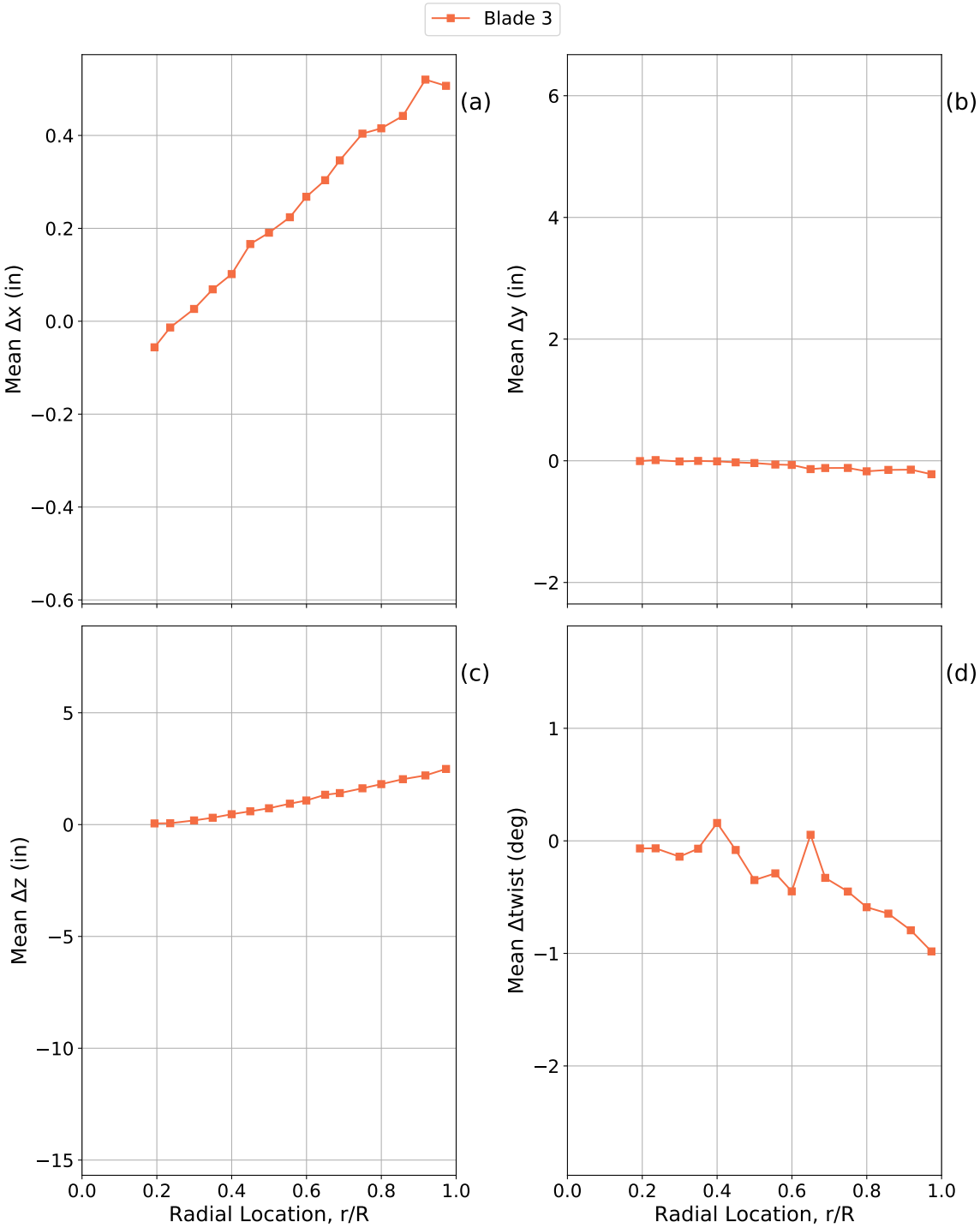


Figure 3.32-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0561	0.0015	-0.0045	0.0007	0.0525	0.0044	-0.0673	0.0386
3	225	0.2357	-0.0134	0.0020	0.0115	0.0017	0.0611	0.0072	-0.0664	0.0414
3	225	0.2995	0.0265	0.0019	-0.0106	0.0035	0.1865	0.0173	-0.1404	0.0808
3	225	0.3493	0.0687	0.0012	-0.0020	0.0052	0.3058	0.0254	-0.0696	0.0502
3	225	0.4000	0.1015	0.0030	-0.0088	0.0091	0.4646	0.0415	0.1586	0.0588
3	225	0.4497	0.1662	0.0016	-0.0256	0.0123	0.5942	0.0569	-0.0812	0.0537
3	225	0.4997	0.1906	0.0023	-0.0369	0.0155	0.7308	0.0744	-0.3485	0.0667
3	225	0.5556	0.2239	0.0021	-0.0614	0.0202	0.9348	0.0899	-0.2888	0.0291
3	225	0.5995	0.2680	0.0020	-0.0677	0.0243	1.0784	0.1074	-0.4487	0.0474
3	225	0.6498	0.3036	0.0021	-0.1368	0.0286	1.3342	0.1194	0.0540	0.0462
3	225	0.6890	0.3464	0.0027	-0.1187	0.0322	1.4085	0.1272	-0.3289	0.0475
3	225	0.7495	0.4039	0.0028	-0.1175	0.0397	1.6225	0.1409	-0.4503	0.0456
3	225	0.7998	0.4153	0.0023	-0.1727	0.0448	1.8091	0.1512	-0.5895	0.0448
3	225	0.8577	0.4420	0.0027	-0.1498	0.0506	2.0297	0.1596	-0.6463	0.0944
3	225	0.9178	0.5202	0.0023	-0.1455	0.0590	2.1978	0.1947	-0.7946	0.0418
3	225	0.9729	0.5068	0.0039	-0.2209	0.0660	2.4872	0.2191	-0.9824	0.0361

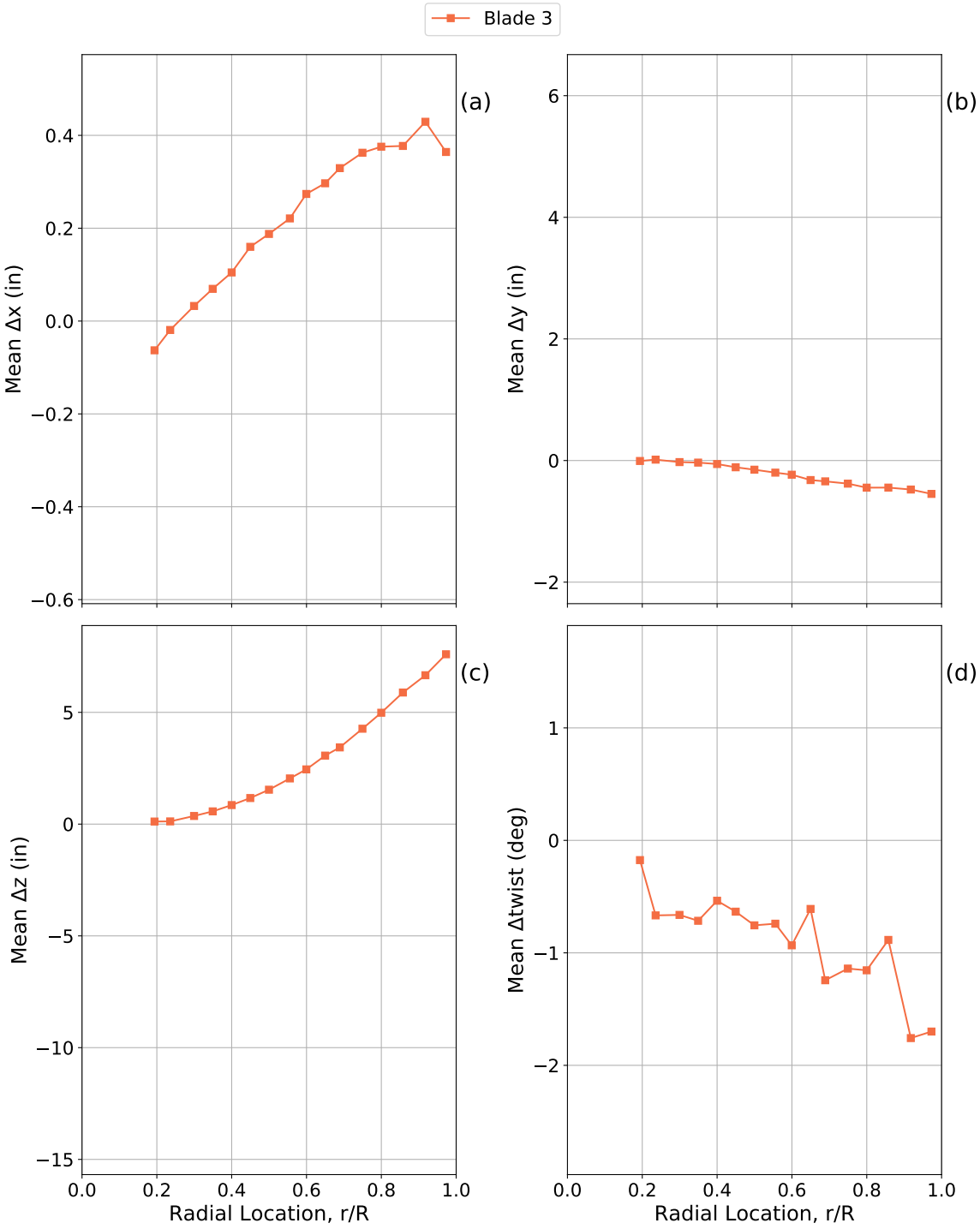


Figure 3.32-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0630	0.0019	-0.0072	0.0009	0.1158	0.0065	-0.1754	0.0248
3	240.12	0.2357	-0.0192	0.0014	0.0147	0.0017	0.1222	0.0081	-0.6670	0.0700
3	240.12	0.2995	0.0325	0.0008	-0.0257	0.0033	0.3644	0.0176	-0.6626	0.0741
3	240.12	0.3493	0.0694	0.0014	-0.0339	0.0061	0.5698	0.0294	-0.7149	0.0748
3	240.12	0.4000	0.1047	0.0010	-0.0576	0.0096	0.8524	0.0417	-0.5366	0.0756
3	240.12	0.4497	0.1599	0.0016	-0.1109	0.0127	1.1668	0.0554	-0.6339	0.0712
3	240.12	0.4997	0.1877	0.0025	-0.1506	0.0162	1.5397	0.0675	-0.7554	0.0697
3	240.12	0.5556	0.2211	0.0036	-0.1992	0.0207	2.0438	0.0829	-0.7408	0.0742
3	240.12	0.5995	0.2738	0.0034	-0.2330	0.0256	2.4482	0.0970	-0.9331	0.0760
3	240.12	0.6498	0.2968	0.0038	-0.3212	0.0301	3.0652	0.1092	-0.6097	0.0771
3	240.12	0.6890	0.3294	0.0051	-0.3423	0.0352	3.4319	0.1211	-1.2436	0.0728
3	240.12	0.7495	0.3626	0.0056	-0.3800	0.0430	4.2678	0.1384	-1.1398	0.0812
3	240.12	0.7998	0.3756	0.0069	-0.4460	0.0501	4.9833	0.1532	-1.1552	0.0845
3	240.12	0.8577	0.3772	0.0078	-0.4451	0.0593	5.8874	0.1683	-0.8851	0.0853
3	240.12	0.9178	0.4293	0.0086	-0.4770	0.0688	6.6604	0.1871	-1.7577	0.0816
3	240.12	0.9729	0.3642	0.0117	-0.5487	0.0776	7.5988	0.2036	-1.6997	0.0847

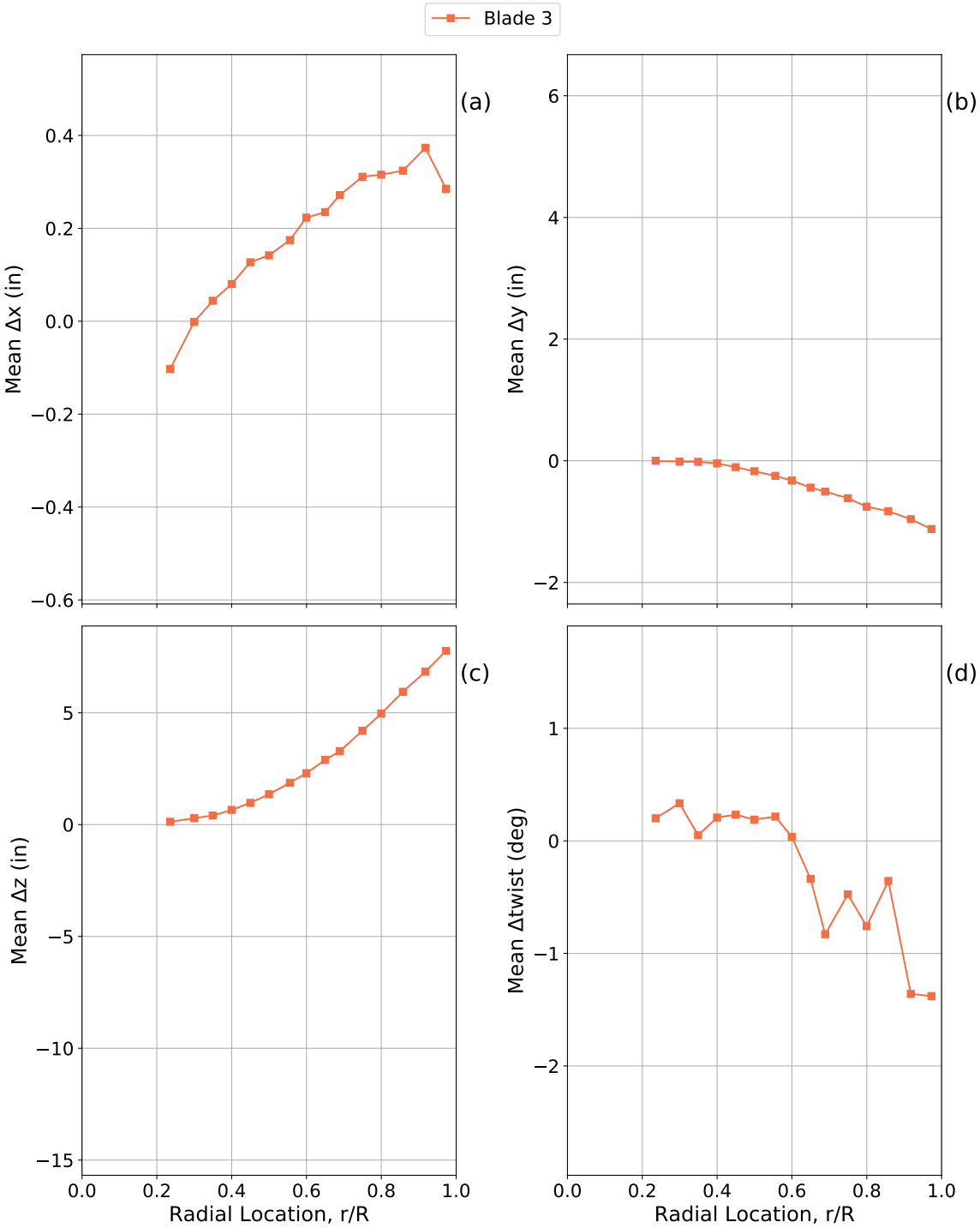


Figure 3.32-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2357	-0.1025	0.0081	0.0007	0.0038	0.1251	0.0422	0.2006	0.4360
3	254.88	0.2995	-0.0016	0.0030	-0.0137	0.0082	0.2877	0.0683	0.3339	0.6973
3	254.88	0.3493	0.0441	0.0039	-0.0173	0.0160	0.4064	0.1255	0.0494	0.6492
3	254.88	0.4000	0.0801	0.0031	-0.0413	0.0241	0.6581	0.1715	0.2074	0.6683
3	254.88	0.4497	0.1271	0.0053	-0.1055	0.0327	0.9706	0.2245	0.2327	0.6493
3	254.88	0.4997	0.1419	0.0064	-0.1714	0.0393	1.3557	0.2705	0.1889	0.6663
3	254.88	0.5556	0.1748	0.0084	-0.2482	0.0495	1.8704	0.3272	0.2158	0.6623
3	254.88	0.5995	0.2230	0.0107	-0.3234	0.0574	2.2982	0.3722	0.0362	0.6603
3	254.88	0.6498	0.2350	0.0134	-0.4407	0.0657	2.8930	0.4222	-0.3380	0.6621
3	254.88	0.6890	0.2716	0.0149	-0.5059	0.0732	3.2854	0.4626	-0.8296	0.6605
3	254.88	0.7495	0.3111	0.0185	-0.6154	0.0851	4.1946	0.5244	-0.4753	0.6707
3	254.88	0.7998	0.3155	0.0212	-0.7541	0.0958	4.9645	0.5791	-0.7587	0.6703
3	254.88	0.8577	0.3241	0.0254	-0.8287	0.1091	5.9376	0.6408	-0.3564	0.6644
3	254.88	0.9178	0.3734	0.0299	-0.9594	0.1221	6.8389	0.7041	-1.3598	0.6667
3	254.88	0.9729	0.2852	0.0370	-1.1218	0.1348	7.7669	0.7629	-1.3791	0.6651

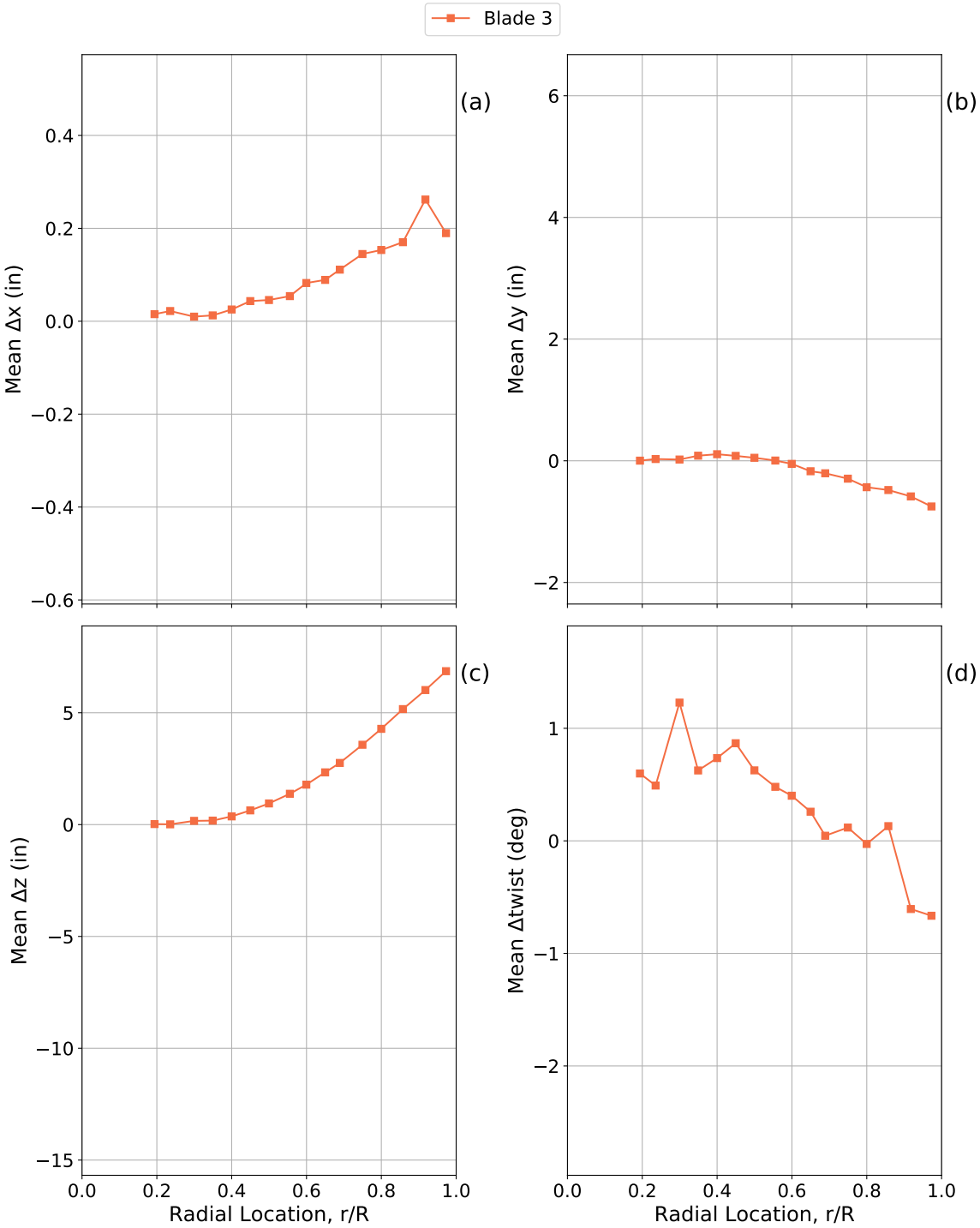


Figure 3.32-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0153	0.0019	0.0026	0.0008	0.0240	0.0078	0.5985	0.0480
3	260.16	0.2357	0.0220	0.0014	0.0291	0.0029	0.0119	0.0147	0.4914	0.0501
3	260.16	0.2995	0.0099	0.0020	0.0210	0.0068	0.1669	0.0282	1.2283	0.0988
3	260.16	0.3493	0.0126	0.0025	0.0839	0.0104	0.1782	0.0425	0.6255	0.0875
3	260.16	0.4000	0.0253	0.0038	0.1082	0.0186	0.3670	0.0661	0.7355	0.0635
3	260.16	0.4497	0.0434	0.0033	0.0808	0.0226	0.6354	0.0788	0.8673	0.0701
3	260.16	0.4997	0.0457	0.0035	0.0496	0.0264	0.9461	0.0977	0.6263	0.0528
3	260.16	0.5556	0.0541	0.0037	0.0043	0.0328	1.3785	0.1219	0.4799	0.0506
3	260.16	0.5995	0.0823	0.0047	-0.0503	0.0381	1.7867	0.1419	0.4010	0.0569
3	260.16	0.6498	0.0890	0.0057	-0.1719	0.0448	2.3358	0.1610	0.2590	0.0647
3	260.16	0.6890	0.1111	0.0061	-0.2050	0.0505	2.7571	0.1812	0.0455	0.0657
3	260.16	0.7495	0.1447	0.0076	-0.2937	0.0590	3.5693	0.2108	0.1182	0.0562
3	260.16	0.7998	0.1534	0.0091	-0.4341	0.0673	4.2810	0.2366	-0.0276	0.0742
3	260.16	0.8577	0.1702	0.0116	-0.4806	0.0765	5.1637	0.2694	0.1308	0.0925
3	260.16	0.9178	0.2620	0.0135	-0.5854	0.0875	6.0154	0.3056	-0.6056	0.0988
3	260.16	0.9729	0.1897	0.0179	-0.7506	0.0959	6.8604	0.3420	-0.6654	0.1044

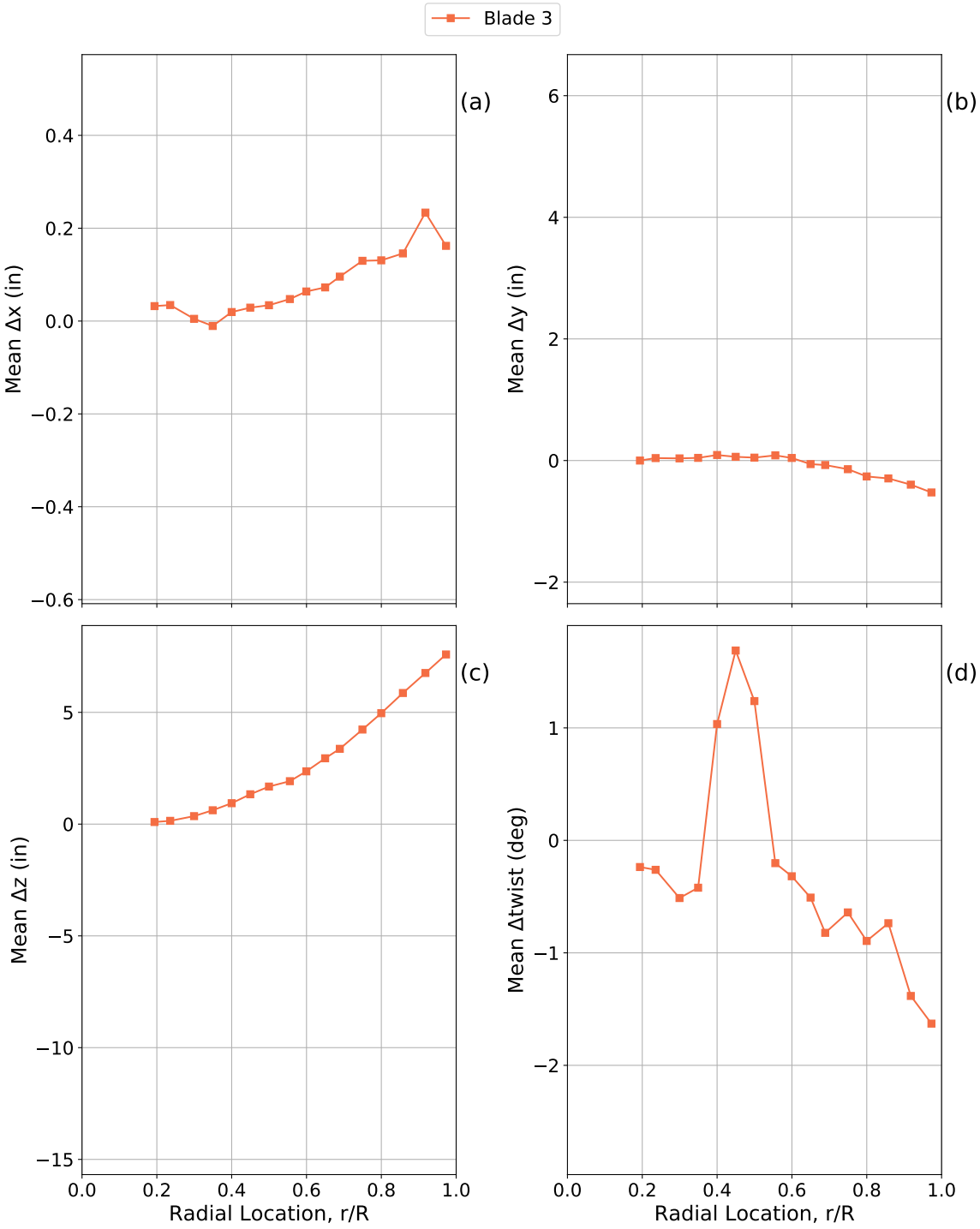


Figure 3.32-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0322	0.0068	-0.0002	0.0008	0.0940	0.0052	-0.2371	0.0336
3	265.08	0.2357	0.0345	0.0057	0.0401	0.0055	0.1467	0.0164	-0.2617	0.0364
3	265.08	0.2995	0.0048	0.0015	0.0353	0.0103	0.3570	0.0249	-0.5127	0.0658
3	265.08	0.3493	-0.0106	0.0053	0.0437	0.0136	0.6202	0.0332	-0.4209	0.0603
3	265.08	0.4000	0.0194	0.0071	0.0909	0.0278	0.9356	0.0573	1.0341	0.3203
3	265.08	0.4497	0.0289	0.0076	0.0610	0.0320	1.3347	0.0665	1.6879	0.3929
3	265.08	0.4997	0.0341	0.0088	0.0477	0.0413	1.6798	0.0824	1.2383	0.4768
3	265.08	0.5556	0.0474	0.0101	0.0851	0.0737	1.9214	0.1258	-0.2026	0.0466
3	265.08	0.5995	0.0637	0.0112	0.0422	0.0830	2.3609	0.1416	-0.3190	0.0578
3	265.08	0.6498	0.0725	0.0122	-0.0589	0.0946	2.9449	0.1616	-0.5087	0.0503
3	265.08	0.6890	0.0957	0.0118	-0.0741	0.1036	3.3680	0.1798	-0.8221	0.0547
3	265.08	0.7495	0.1298	0.0120	-0.1425	0.1159	4.2312	0.2027	-0.6405	0.0599
3	265.08	0.7998	0.1308	0.0132	-0.2618	0.1279	4.9626	0.2291	-0.8940	0.0578
3	265.08	0.8577	0.1457	0.0155	-0.2944	0.1419	5.8659	0.2531	-0.7366	0.0640
3	265.08	0.9178	0.2336	0.0194	-0.3968	0.1567	6.7608	0.2764	-1.3831	0.0519
3	265.08	0.9729	0.1620	0.0237	-0.5251	0.1712	7.5906	0.3057	-1.6291	0.0601

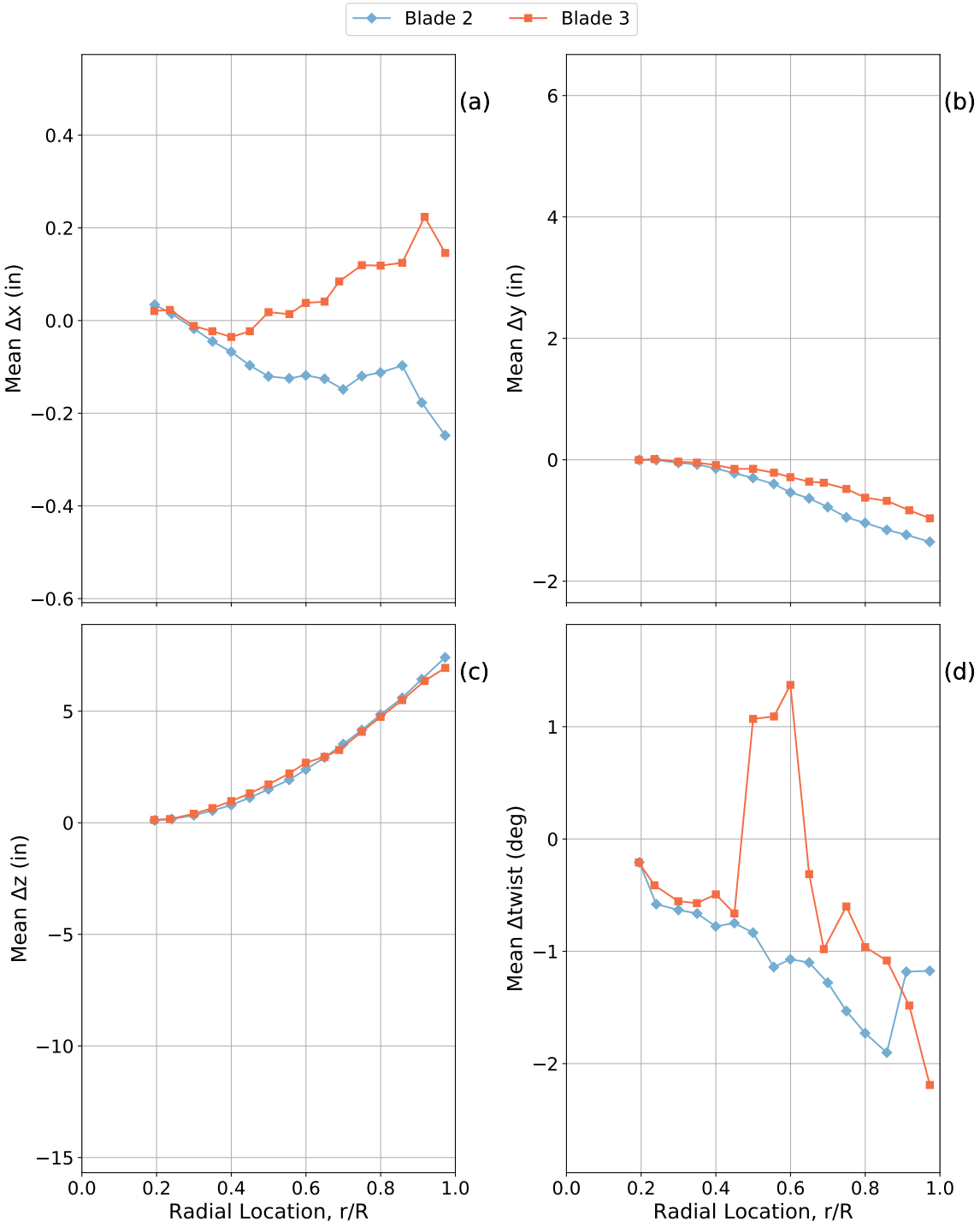


Figure 3.32-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0342	0.0041	-0.0029	0.0007	0.1098	0.0086	-0.2079	0.0280
2	270.35	0.2405	0.0146	0.0036	-0.0042	0.0018	0.1674	0.0149	-0.5808	0.0619
2	270.35	0.2999	-0.0176	0.0020	-0.0511	0.0045	0.3351	0.0251	-0.6319	0.0665
2	270.35	0.3498	-0.0451	0.0054	-0.0772	0.0092	0.5461	0.0449	-0.6637	0.0735
2	270.35	0.3998	-0.0676	0.0080	-0.1428	0.0148	0.7918	0.0630	-0.7780	0.0554
2	270.35	0.4496	-0.0968	0.0081	-0.2217	0.0193	1.1244	0.0739	-0.7487	0.0820
2	270.35	0.4995	-0.1205	0.0099	-0.2989	0.0251	1.4999	0.0876	-0.8344	0.0908
2	270.35	0.5551	-0.1248	0.0107	-0.3972	0.0326	1.9230	0.1069	-1.1400	0.0564
2	270.35	0.5996	-0.1184	0.0105	-0.5376	0.0391	2.3850	0.1200	-1.0713	0.0593
2	270.35	0.6497	-0.1257	0.0112	-0.6353	0.0471	2.9220	0.1327	-1.1000	0.0937
2	270.35	0.6996	-0.1485	0.0113	-0.7789	0.0552	3.5254	0.1474	-1.2796	0.0850
2	270.35	0.7495	-0.1200	0.0116	-0.9488	0.0638	4.1585	0.1562	-1.5317	0.0731
2	270.35	0.7996	-0.1122	0.0137	-1.0396	0.0730	4.8448	0.1623	-1.7291	0.0949
2	270.35	0.8578	-0.0972	0.0173	-1.1544	0.0838	5.6002	0.1736	-1.9020	0.1239
2	270.35	0.9100	-0.1771	0.0207	-1.2354	0.0946	6.4318	0.1887	-1.1821	0.1459
2	270.35	0.9727	-0.2478	0.0324	-1.3515	0.1093	7.4089	0.2013	-1.1739	0.1847
3	270	0.1938	0.0207	0.0027	-0.0034	0.0006	0.1272	0.0081	-0.2092	0.0310
3	270	0.2357	0.0228	0.0041	0.0121	0.0013	0.1662	0.0101	-0.4123	0.0550
3	270	0.2995	-0.0117	0.0033	-0.0321	0.0030	0.4037	0.0225	-0.5546	0.0693
3	270	0.3493	-0.0231	0.0009	-0.0468	0.0046	0.6563	0.0325	-0.5713	0.0657
3	270	0.4000	-0.0355	0.0037	-0.0871	0.0080	0.9698	0.0501	-0.4934	0.0662
3	270	0.4497	-0.0231	0.0028	-0.1496	0.0124	1.3168	0.0596	-0.6632	0.0620
3	270	0.4997	0.0181	0.0028	-0.1490	0.0169	1.7214	0.0683	1.0690	0.0892
3	270	0.5556	0.0138	0.0035	-0.2135	0.0240	2.2084	0.0836	1.0908	0.0833
3	270	0.5995	0.0381	0.0041	-0.2865	0.0276	2.6909	0.0916	1.3719	0.0952
3	270	0.6498	0.0407	0.0059	-0.3600	0.0348	2.9533	0.1141	-0.3130	0.1130
3	270	0.6890	0.0844	0.0061	-0.3787	0.0369	3.2632	0.1097	-0.9810	0.1253
3	270	0.7495	0.1195	0.0066	-0.4804	0.0481	4.0771	0.1425	-0.6010	0.1164
3	270	0.7998	0.1185	0.0061	-0.6242	0.0538	4.7450	0.1473	-0.9625	0.0995
3	270	0.8577	0.1246	0.0099	-0.6766	0.0614	5.4948	0.1489	-1.0821	0.1086
3	270	0.9178	0.2236	0.0076	-0.8319	0.0699	6.3586	0.1641	-1.4829	0.0922
3	270	0.9729	0.1458	0.0100	-0.9637	0.0766	6.9407	0.1806	-2.1905	0.1331

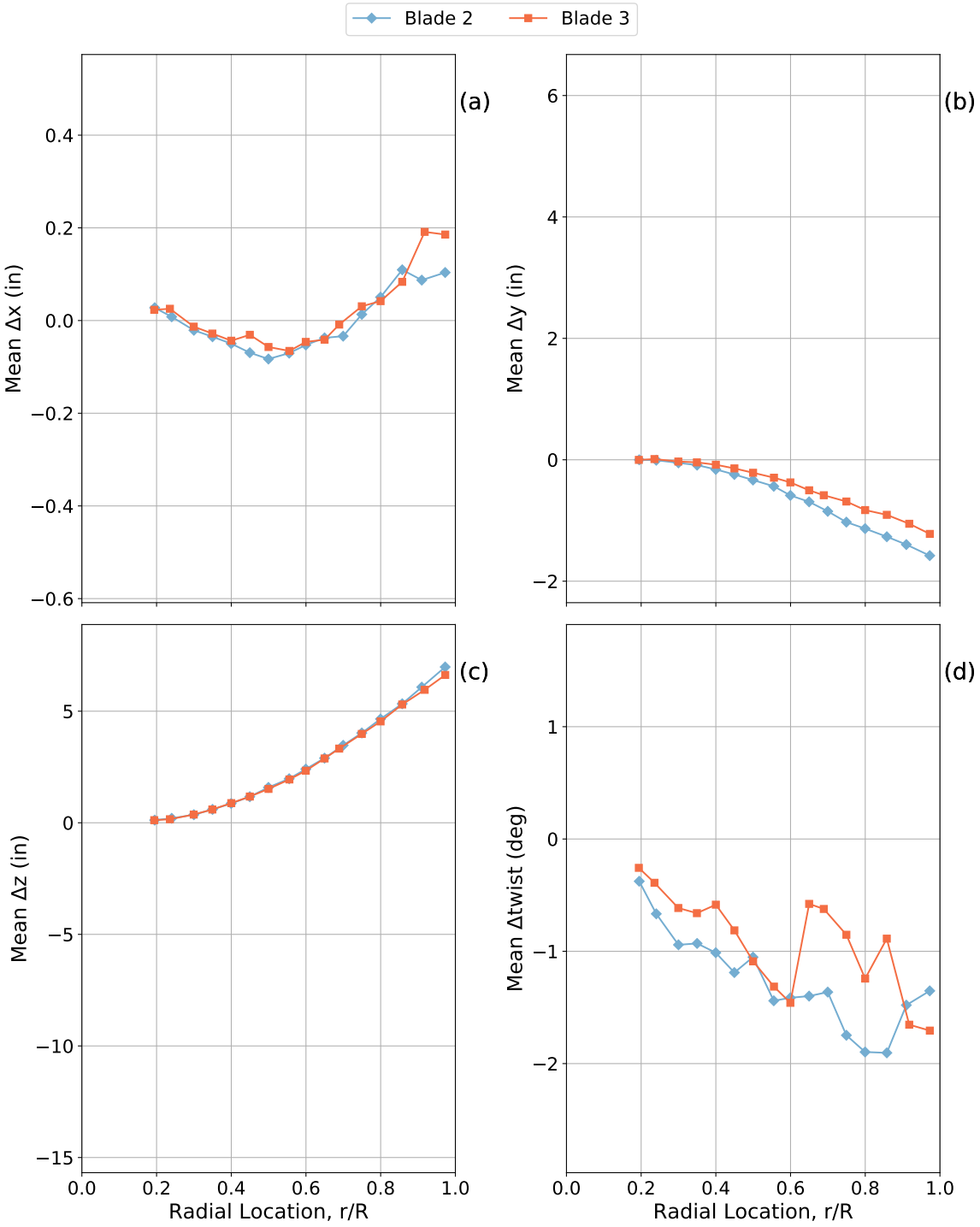


Figure 3.32-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0276	0.0035	-0.0004	0.0006	0.1187	0.0085	-0.3765	0.0262
2	274.92	0.2405	0.0081	0.0035	-0.0074	0.0017	0.1992	0.0144	-0.6665	0.0463
2	274.92	0.2999	-0.0210	0.0015	-0.0509	0.0033	0.3619	0.0293	-0.9423	0.0617
2	274.92	0.3498	-0.0350	0.0014	-0.0878	0.0062	0.5987	0.0446	-0.9299	0.0866
2	274.92	0.3998	-0.0498	0.0021	-0.1586	0.0100	0.8644	0.0690	-1.0126	0.0683
2	274.92	0.4496	-0.0694	0.0033	-0.2419	0.0137	1.1689	0.0914	-1.1893	0.0900
2	274.92	0.4995	-0.0830	0.0029	-0.3335	0.0190	1.5845	0.1220	-1.0518	0.0595
2	274.92	0.5551	-0.0703	0.0037	-0.4366	0.0263	1.9736	0.1548	-1.4406	0.0585
2	274.92	0.5996	-0.0528	0.0050	-0.5871	0.0321	2.4060	0.1837	-1.4138	0.0479
2	274.92	0.6497	-0.0374	0.0057	-0.6923	0.0399	2.8951	0.2166	-1.3989	0.0754
2	274.92	0.6996	-0.0337	0.0081	-0.8490	0.0487	3.4708	0.2578	-1.3632	0.0672
2	274.92	0.7495	0.0133	0.0106	-1.0270	0.0581	4.0232	0.2900	-1.7478	0.0564
2	274.92	0.7996	0.0504	0.0121	-1.1338	0.0688	4.6506	0.3205	-1.8967	0.0677
2	274.92	0.8578	0.1095	0.0127	-1.2675	0.0807	5.3324	0.3592	-1.9044	0.0710
2	274.92	0.9100	0.0872	0.0148	-1.3966	0.0908	6.0784	0.3815	-1.4793	0.0631
2	274.92	0.9727	0.1036	0.0198	-1.5790	0.1045	6.9811	0.4097	-1.3524	0.0862
3	274.92	0.1938	0.0231	0.0031	-0.0019	0.0008	0.1162	0.0050	-0.2569	0.0364
3	274.92	0.2357	0.0254	0.0045	0.0116	0.0016	0.1585	0.0074	-0.3899	0.0354
3	274.92	0.2995	-0.0131	0.0034	-0.0289	0.0034	0.3689	0.0153	-0.6145	0.0706
3	274.92	0.3493	-0.0281	0.0024	-0.0428	0.0056	0.5947	0.0230	-0.6604	0.0611
3	274.92	0.4000	-0.0435	0.0027	-0.0816	0.0092	0.8805	0.0335	-0.5848	0.0790
3	274.92	0.4497	-0.0308	0.0035	-0.1420	0.0123	1.1752	0.0470	-0.8135	0.0592
3	274.92	0.4997	-0.0571	0.0029	-0.2138	0.0165	1.5179	0.0668	-1.0894	0.0737
3	274.92	0.5556	-0.0656	0.0039	-0.2950	0.0201	1.9417	0.0832	-1.3145	0.0752
3	274.92	0.5995	-0.0461	0.0040	-0.3727	0.0246	2.3328	0.0966	-1.4587	0.0668
3	274.92	0.6498	-0.0413	0.0040	-0.5027	0.0295	2.8818	0.1130	-0.5778	0.0739
3	274.92	0.6890	-0.0087	0.0044	-0.5840	0.0328	3.3239	0.1296	-0.6229	0.0645
3	274.92	0.7495	0.0307	0.0052	-0.6874	0.0396	3.9821	0.1491	-0.8526	0.1035
3	274.92	0.7998	0.0419	0.0056	-0.8286	0.0457	4.5416	0.1711	-1.2427	0.0604
3	274.92	0.8577	0.0835	0.0071	-0.9068	0.0524	5.3005	0.1938	-0.8873	0.1036
3	274.92	0.9178	0.1913	0.0098	-1.0540	0.0605	5.9573	0.2346	-1.6535	0.0747
3	274.92	0.9729	0.1855	0.0108	-1.2211	0.0665	6.6241	0.2652	-1.7062	0.1599

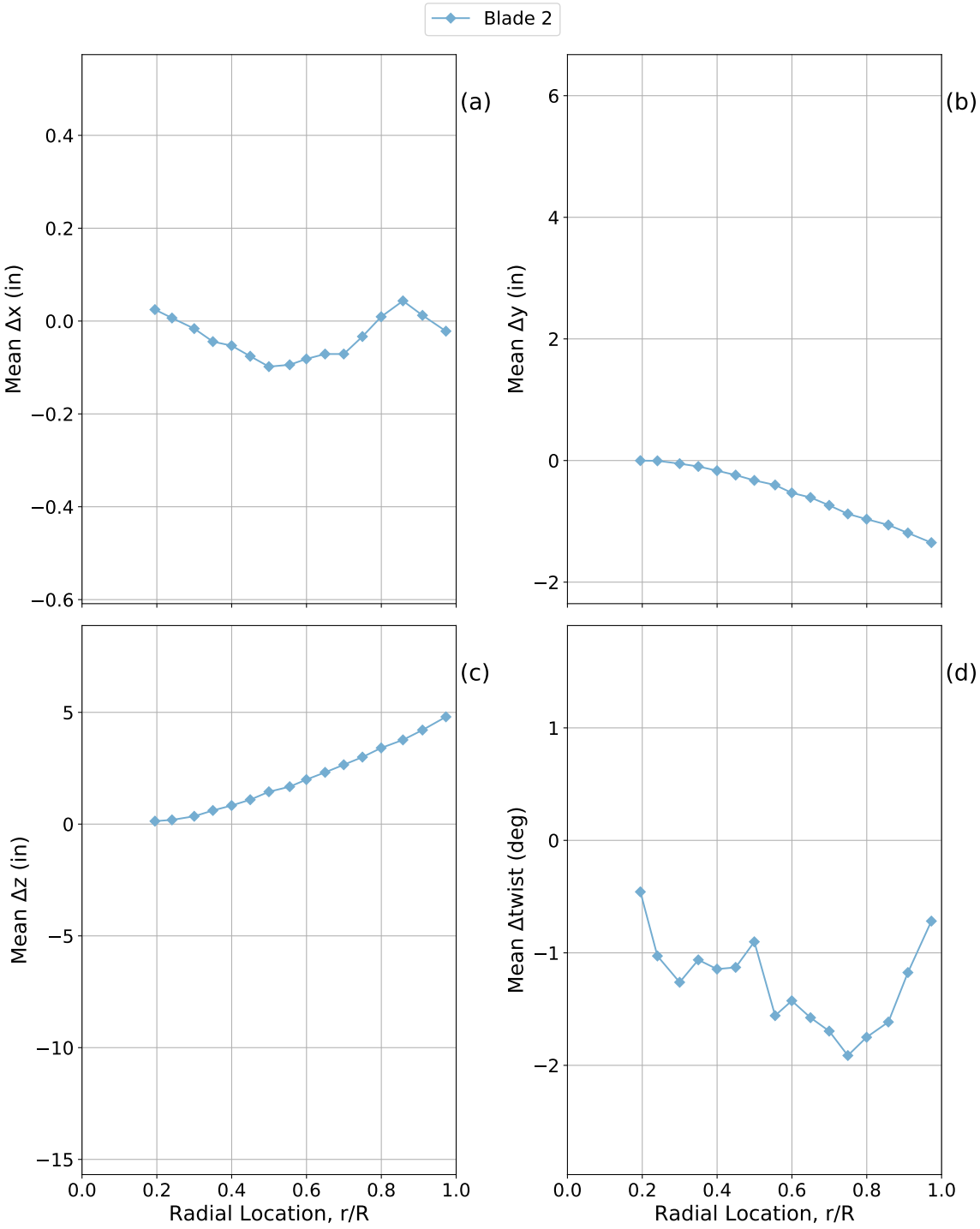


Figure 3.32-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0247	0.0010	-0.0017	0.0012	0.1323	0.0119	-0.4574	0.0323
2	285.12	0.2405	0.0066	0.0019	-0.0045	0.0019	0.1889	0.0258	-1.0278	0.0566
2	285.12	0.2999	-0.0163	0.0025	-0.0516	0.0039	0.3501	0.0495	-1.2617	0.0748
2	285.12	0.3498	-0.0443	0.0021	-0.0977	0.0068	0.6106	0.0690	-1.0623	0.1110
2	285.12	0.3998	-0.0530	0.0022	-0.1668	0.0136	0.8319	0.1143	-1.1444	0.0548
2	285.12	0.4496	-0.0758	0.0028	-0.2391	0.0170	1.0921	0.1448	-1.1292	0.0571
2	285.12	0.4995	-0.0982	0.0027	-0.3269	0.0222	1.4477	0.1821	-0.9017	0.0608
2	285.12	0.5551	-0.0942	0.0039	-0.4021	0.0282	1.6746	0.2237	-1.5583	0.0626
2	285.12	0.5996	-0.0816	0.0045	-0.5321	0.0344	1.9919	0.2609	-1.4259	0.0639
2	285.12	0.6497	-0.0710	0.0046	-0.6076	0.0405	2.3150	0.3002	-1.5764	0.0688
2	285.12	0.6996	-0.0710	0.0055	-0.7371	0.0475	2.6557	0.3410	-1.6958	0.0685
2	285.12	0.7495	-0.0333	0.0068	-0.8779	0.0554	2.9984	0.3836	-1.9129	0.0615
2	285.12	0.7996	0.0093	0.0068	-0.9644	0.0645	3.4074	0.4221	-1.7502	0.0633
2	285.12	0.8578	0.0435	0.0080	-1.0599	0.0743	3.7676	0.4701	-1.6148	0.0559
2	285.12	0.9100	0.0123	0.0096	-1.1911	0.0835	4.2089	0.5091	-1.1750	0.0628
2	285.12	0.9727	-0.0218	0.0129	-1.3503	0.0961	4.7991	0.5437	-0.7177	0.0897

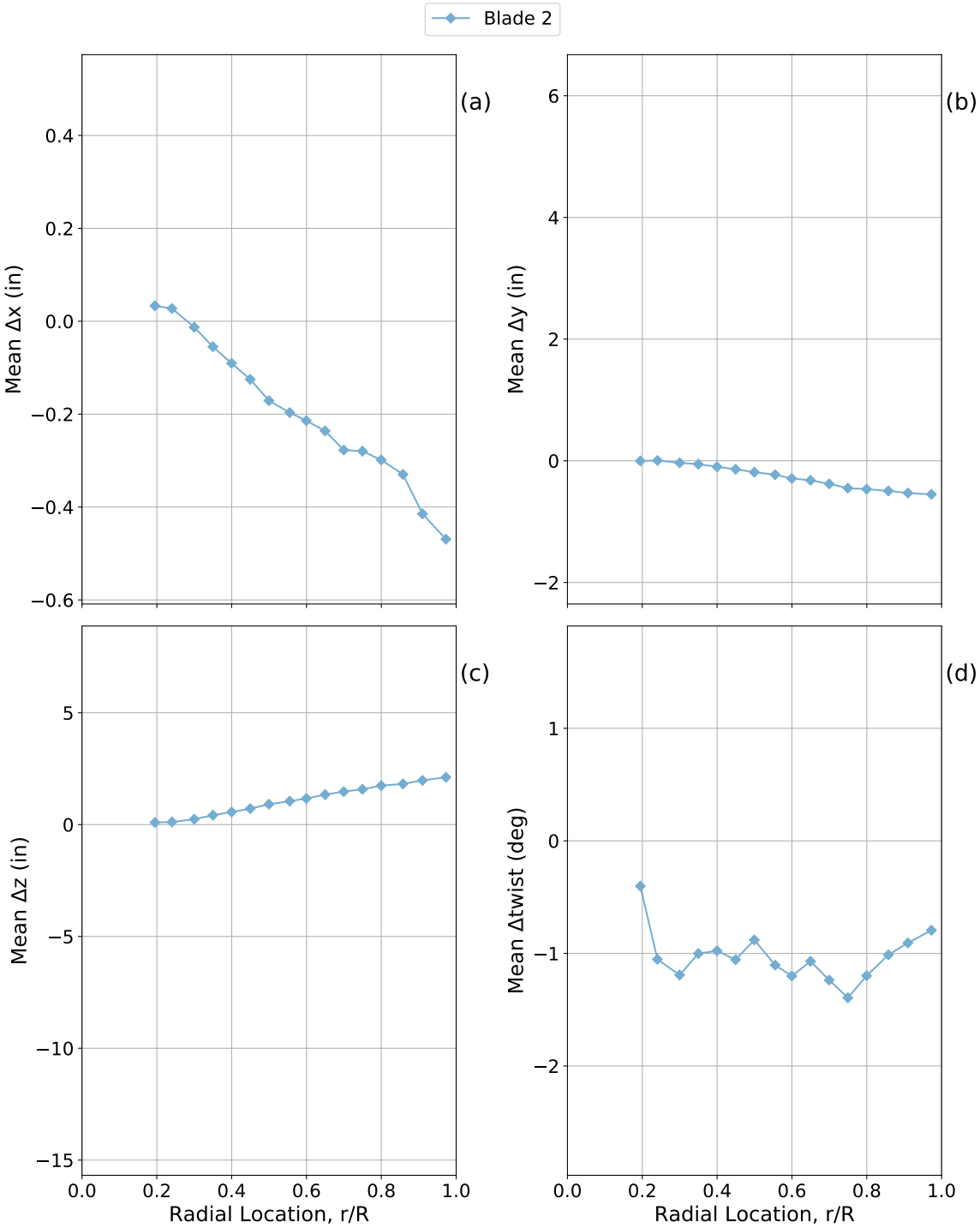


Figure 3.32-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0332	0.0025	-0.0024	0.0004	0.0945	0.0091	-0.4023	0.0339
2	299.88	0.2405	0.0274	0.0020	0.0053	0.0018	0.1178	0.0127	-1.0526	0.0712
2	299.88	0.2999	-0.0128	0.0026	-0.0338	0.0030	0.2403	0.0251	-1.1922	0.0831
2	299.88	0.3498	-0.0548	0.0020	-0.0559	0.0060	0.4198	0.0472	-1.0015	0.0681
2	299.88	0.3998	-0.0905	0.0027	-0.0981	0.0096	0.5638	0.0623	-0.9769	0.0674
2	299.88	0.4496	-0.1251	0.0040	-0.1389	0.0136	0.7146	0.0802	-1.0554	0.1027
2	299.88	0.4995	-0.1709	0.0043	-0.1871	0.0180	0.9090	0.0970	-0.8801	0.0847
2	299.88	0.5551	-0.1966	0.0047	-0.2286	0.0242	1.0491	0.1206	-1.1042	0.0784
2	299.88	0.5996	-0.2141	0.0041	-0.2916	0.0292	1.1677	0.1401	-1.2010	0.0792
2	299.88	0.6497	-0.2361	0.0045	-0.3211	0.0351	1.3408	0.1637	-1.0702	0.0898
2	299.88	0.6996	-0.2772	0.0050	-0.3791	0.0411	1.4755	0.1890	-1.2371	0.0995
2	299.88	0.7495	-0.2797	0.0059	-0.4492	0.0471	1.5776	0.2187	-1.3943	0.0829
2	299.88	0.7996	-0.2985	0.0059	-0.4661	0.0550	1.7415	0.2524	-1.1986	0.0815
2	299.88	0.8578	-0.3296	0.0066	-0.4952	0.0631	1.8184	0.2973	-1.0125	0.1026
2	299.88	0.9100	-0.4147	0.0073	-0.5298	0.0702	1.9763	0.3371	-0.9070	0.0930
2	299.88	0.9727	-0.4692	0.0100	-0.5512	0.0793	2.1145	0.3867	-0.7946	0.0873

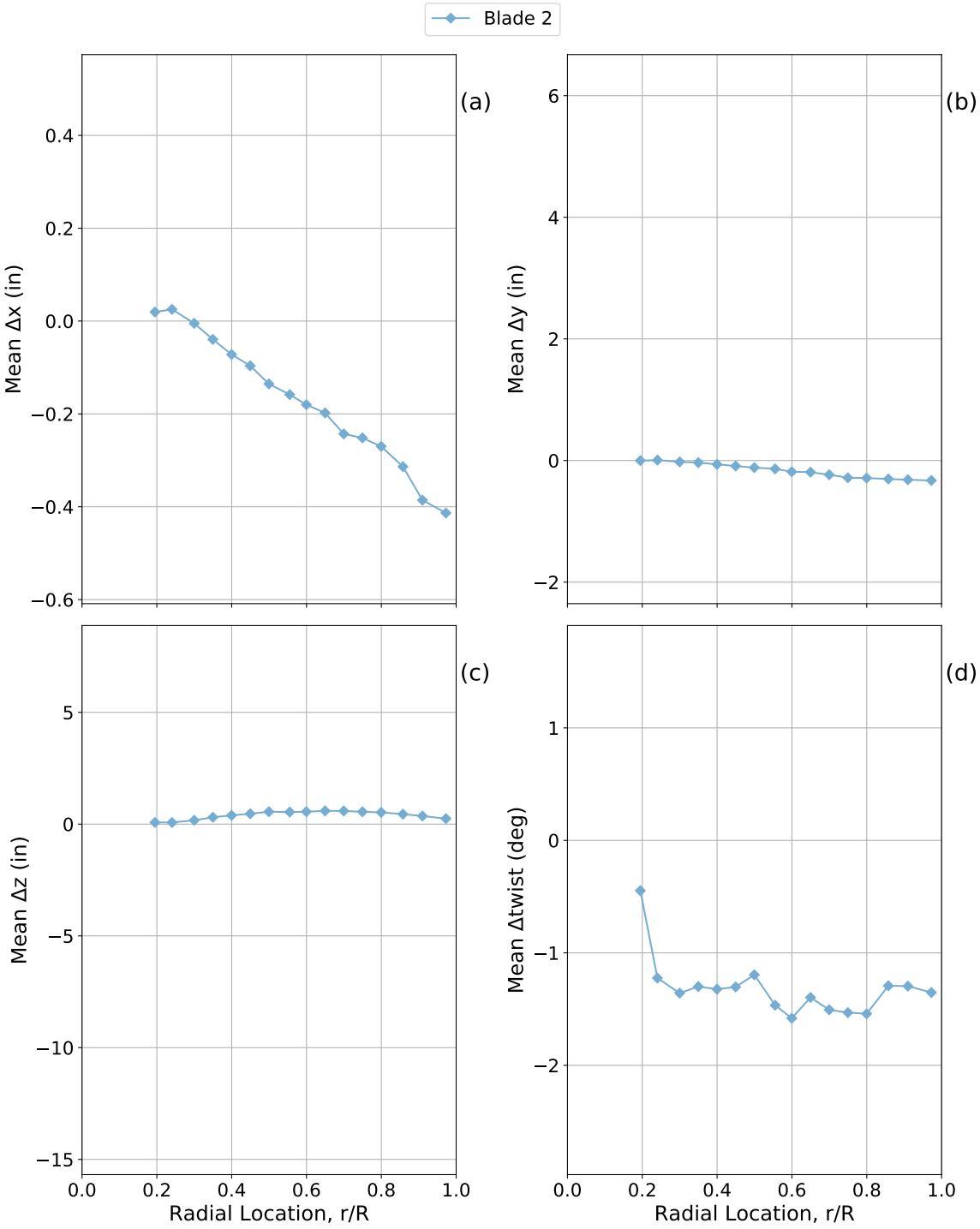


Figure 3.32-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0195	0.0021	-0.0016	0.0012	0.0757	0.0069	-0.4474	0.0479
2	315	0.2405	0.0252	0.0023	0.0072	0.0014	0.0725	0.0154	-1.2240	0.0421
2	315	0.2999	-0.0049	0.0028	-0.0226	0.0031	0.1719	0.0292	-1.3581	0.0902
2	315	0.3498	-0.0395	0.0033	-0.0344	0.0086	0.3062	0.0368	-1.2999	0.1144
2	315	0.3998	-0.0720	0.0043	-0.0626	0.0113	0.3923	0.0631	-1.3230	0.0654
2	315	0.4496	-0.0964	0.0059	-0.0901	0.0148	0.4629	0.0779	-1.3034	0.0705
2	315	0.4995	-0.1353	0.0053	-0.1163	0.0185	0.5544	0.0965	-1.1952	0.0758
2	315	0.5551	-0.1584	0.0059	-0.1371	0.0235	0.5412	0.1145	-1.4656	0.0659
2	315	0.5996	-0.1801	0.0066	-0.1848	0.0278	0.5542	0.1283	-1.5813	0.0610
2	315	0.6497	-0.1979	0.0067	-0.1914	0.0323	0.5931	0.1440	-1.3968	0.0579
2	315	0.6996	-0.2431	0.0066	-0.2335	0.0371	0.5885	0.1538	-1.5063	0.0618
2	315	0.7495	-0.2517	0.0070	-0.2834	0.0425	0.5522	0.1678	-1.5311	0.0603
2	315	0.7996	-0.2700	0.0071	-0.2882	0.0469	0.5259	0.1865	-1.5416	0.0610
2	315	0.8578	-0.3136	0.0073	-0.3036	0.0531	0.4449	0.2151	-1.2930	0.0630
2	315	0.9100	-0.3858	0.0080	-0.3158	0.0582	0.3627	0.2479	-1.2957	0.0547
2	315	0.9727	-0.4134	0.0092	-0.3277	0.0647	0.2452	0.2923	-1.3527	0.0566

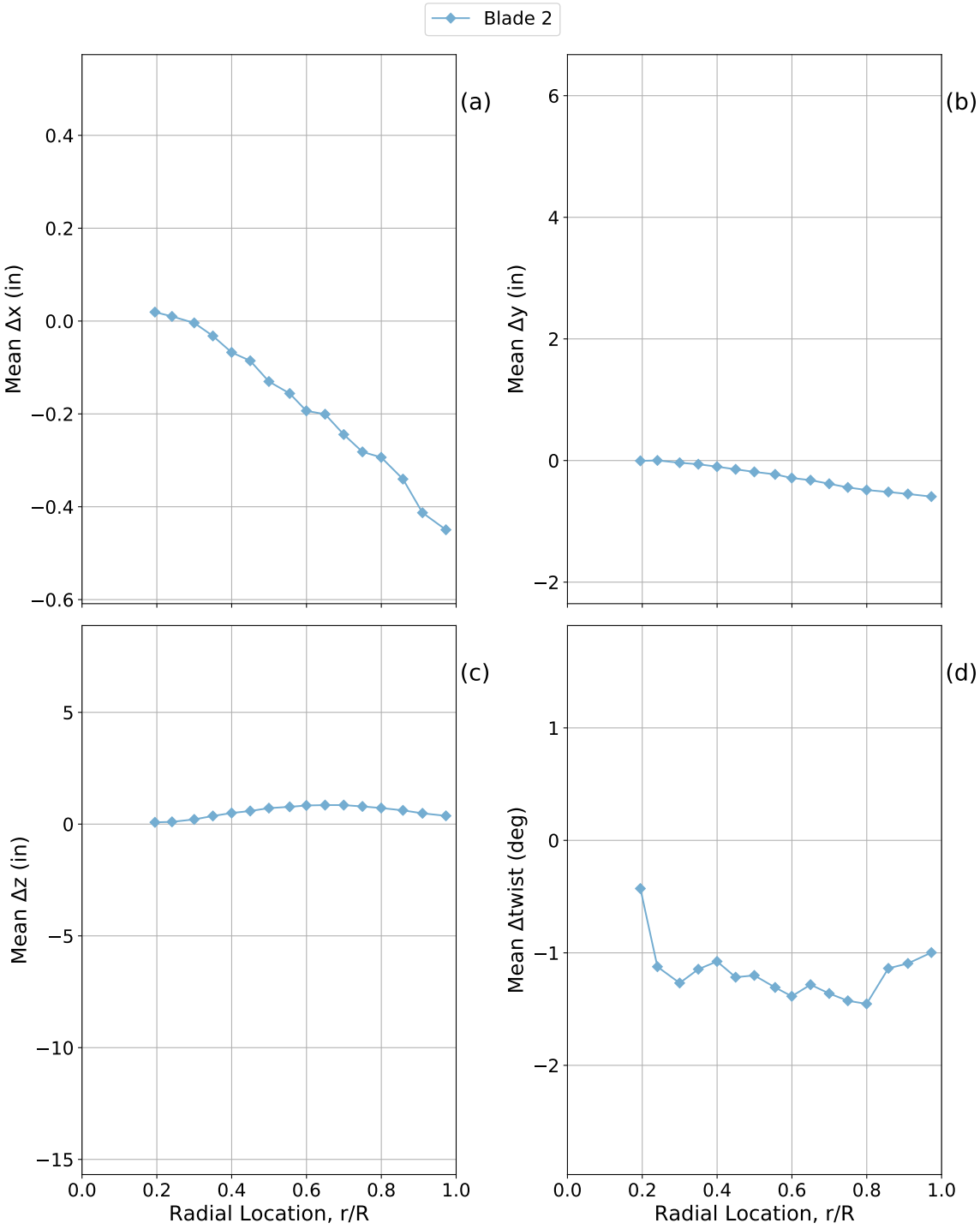


Figure 3.32-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0193	0.0028	-0.0053	0.0014	0.0799	0.0056	-0.4283	0.0408
2	330.12	0.2405	0.0100	0.0024	0.0015	0.0026	0.1017	0.0075	-1.1233	0.0503
2	330.12	0.2999	-0.0040	0.0023	-0.0366	0.0079	0.2107	0.0126	-1.2683	0.0887
2	330.12	0.3498	-0.0321	0.0027	-0.0607	0.0123	0.3644	0.0253	-1.1456	0.0708
2	330.12	0.3998	-0.0675	0.0030	-0.1010	0.0206	0.4967	0.0318	-1.0763	0.0857
2	330.12	0.4496	-0.0856	0.0029	-0.1446	0.0245	0.5870	0.0428	-1.2165	0.0738
2	330.12	0.4995	-0.1302	0.0037	-0.1866	0.0299	0.7150	0.0533	-1.2007	0.0741
2	330.12	0.5551	-0.1560	0.0033	-0.2279	0.0371	0.7729	0.0640	-1.3076	0.0724
2	330.12	0.5996	-0.1934	0.0033	-0.2874	0.0437	0.8342	0.0749	-1.3861	0.0709
2	330.12	0.6497	-0.2007	0.0038	-0.3230	0.0500	0.8508	0.0897	-1.2828	0.0633
2	330.12	0.6996	-0.2444	0.0042	-0.3823	0.0565	0.8510	0.1044	-1.3615	0.0881
2	330.12	0.7495	-0.2818	0.0045	-0.4426	0.0632	0.7901	0.1196	-1.4261	0.0754
2	330.12	0.7996	-0.2936	0.0054	-0.4848	0.0705	0.7197	0.1381	-1.4537	0.0812
2	330.12	0.8578	-0.3404	0.0054	-0.5174	0.0792	0.6152	0.1643	-1.1378	0.0770
2	330.12	0.9100	-0.4129	0.0061	-0.5499	0.0879	0.4830	0.1866	-1.0942	0.0868
2	330.12	0.9727	-0.4496	0.0078	-0.5932	0.0977	0.3709	0.2156	-0.9976	0.0814

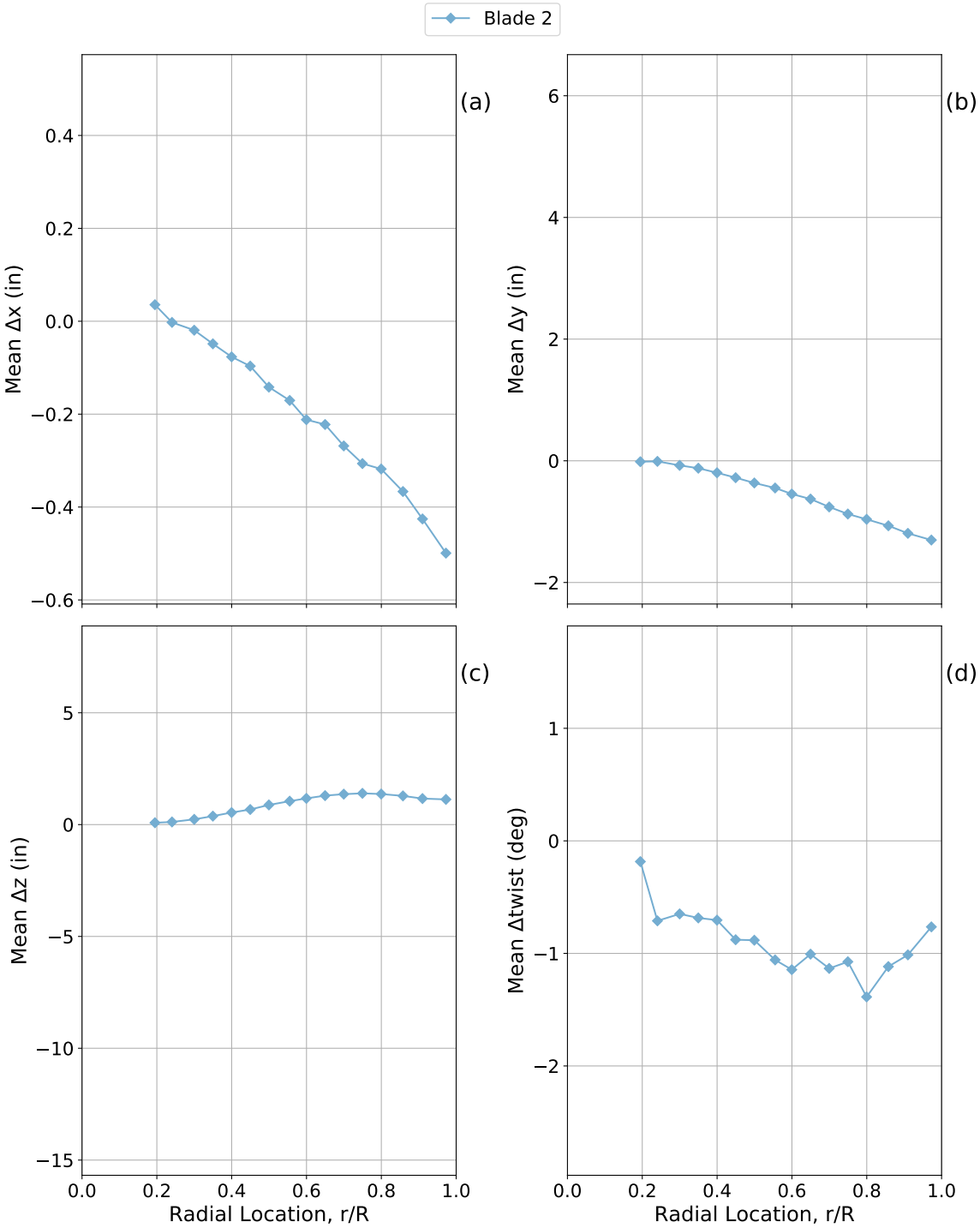


Figure 3.32-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0356	0.0063	-0.0150	0.0013	0.0826	0.0088	-0.1841	0.0450
2	344.88	0.2405	-0.0025	0.0044	-0.0093	0.0040	0.1180	0.0114	-0.7108	0.1705
2	344.88	0.2999	-0.0193	0.0049	-0.0754	0.0065	0.2347	0.0248	-0.6490	0.1513
2	344.88	0.3498	-0.0486	0.0042	-0.1218	0.0154	0.3794	0.0294	-0.6848	0.1853
2	344.88	0.3998	-0.0766	0.0038	-0.1966	0.0219	0.5397	0.0463	-0.7044	0.1624
2	344.88	0.4496	-0.0966	0.0052	-0.2776	0.0290	0.6750	0.0545	-0.8785	0.1577
2	344.88	0.4995	-0.1418	0.0047	-0.3645	0.0356	0.8790	0.0616	-0.8828	0.1701
2	344.88	0.5551	-0.1705	0.0056	-0.4467	0.0410	1.0473	0.0732	-1.0580	0.1585
2	344.88	0.5996	-0.2119	0.0056	-0.5455	0.0462	1.1715	0.0843	-1.1445	0.1552
2	344.88	0.6497	-0.2223	0.0066	-0.6284	0.0519	1.2952	0.0953	-1.0066	0.1591
2	344.88	0.6996	-0.2684	0.0066	-0.7585	0.0583	1.3611	0.1114	-1.1336	0.1395
2	344.88	0.7495	-0.3064	0.0073	-0.8745	0.0637	1.3975	0.1239	-1.0740	0.1529
2	344.88	0.7996	-0.3181	0.0077	-0.9615	0.0701	1.3672	0.1383	-1.3866	0.1617
2	344.88	0.8578	-0.3666	0.0078	-1.0678	0.0773	1.2827	0.1548	-1.1171	0.1429
2	344.88	0.9100	-0.4256	0.0077	-1.1922	0.0827	1.1638	0.1706	-1.0131	0.1440
2	344.88	0.9727	-0.4992	0.0102	-1.3023	0.0903	1.1261	0.1922	-0.7643	0.1603

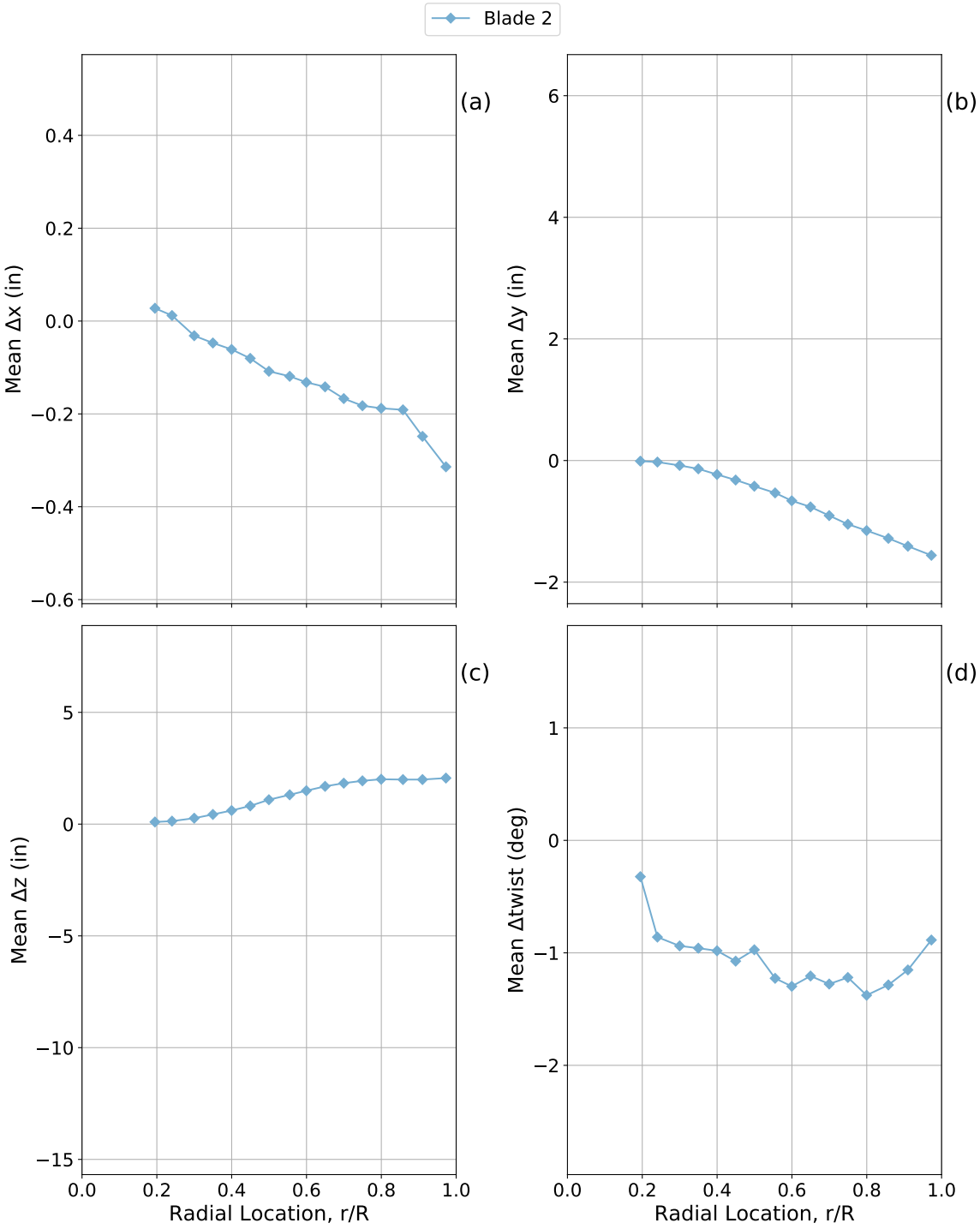


Figure 3.32-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0276	0.0045	-0.0101	0.0028	0.0955	0.0059	-0.3227	0.1325
2	350.16	0.2405	0.0120	0.0037	-0.0250	0.0065	0.1336	0.0120	-0.8599	0.1037
2	350.16	0.2999	-0.0316	0.0051	-0.0809	0.0030	0.2646	0.0146	-0.9384	0.2608
2	350.16	0.3498	-0.0472	0.0056	-0.1367	0.0088	0.4327	0.0275	-0.9584	0.2481
2	350.16	0.3998	-0.0611	0.0071	-0.2297	0.0142	0.6087	0.0362	-0.9818	0.2592
2	350.16	0.4496	-0.0804	0.0070	-0.3206	0.0205	0.8144	0.0476	-1.0738	0.2557
2	350.16	0.4995	-0.1082	0.0067	-0.4227	0.0264	1.0912	0.0584	-0.9726	0.2646
2	350.16	0.5551	-0.1190	0.0073	-0.5323	0.0343	1.3111	0.0707	-1.2264	0.2690
2	350.16	0.5996	-0.1320	0.0082	-0.6617	0.0425	1.4946	0.0812	-1.2978	0.2565
2	350.16	0.6497	-0.1417	0.0094	-0.7628	0.0511	1.6902	0.0951	-1.2059	0.2606
2	350.16	0.6996	-0.1670	0.0120	-0.9056	0.0607	1.8311	0.1047	-1.2772	0.2737
2	350.16	0.7495	-0.1824	0.0157	-1.0477	0.0697	1.9369	0.1187	-1.2189	0.2650
2	350.16	0.7996	-0.1879	0.0192	-1.1519	0.0777	2.0070	0.1329	-1.3770	0.2564
2	350.16	0.8578	-0.1912	0.0239	-1.2800	0.0863	1.9928	0.1448	-1.2853	0.2886
2	350.16	0.9100	-0.2484	0.0294	-1.4093	0.0952	1.9936	0.1635	-1.1519	0.2744
2	350.16	0.9727	-0.3140	0.0349	-1.5591	0.1046	2.0601	0.1845	-0.8859	0.2528

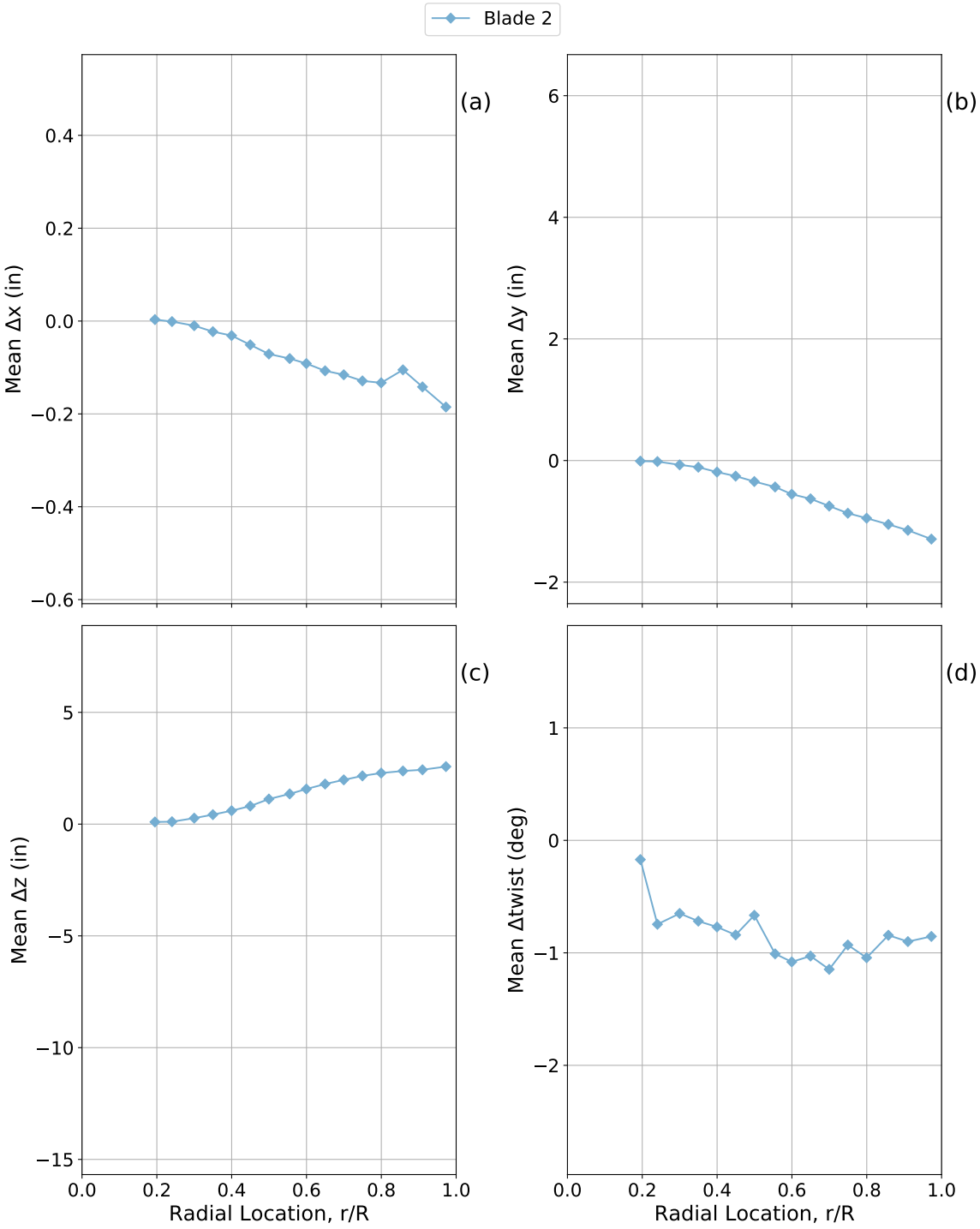


Figure 3.32-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Table 3.32-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 77, point 14. BD run 36, points 5810 to 5820.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0032	0.0094	-0.0098	0.0032	0.0962	0.0113	-0.1709	0.0649
2	355.08	0.2405	-0.0011	0.0044	-0.0170	0.0044	0.1081	0.0131	-0.7460	0.1210
2	355.08	0.2999	-0.0100	0.0036	-0.0710	0.0124	0.2667	0.0241	-0.6499	0.1581
2	355.08	0.3498	-0.0228	0.0050	-0.1100	0.0222	0.4235	0.0398	-0.7182	0.1343
2	355.08	0.3998	-0.0313	0.0087	-0.1895	0.0336	0.6001	0.0503	-0.7700	0.1345
2	355.08	0.4496	-0.0512	0.0122	-0.2563	0.0457	0.8070	0.0622	-0.8408	0.1263
2	355.08	0.4995	-0.0710	0.0156	-0.3452	0.0593	1.1217	0.0750	-0.6661	0.1320
2	355.08	0.5551	-0.0808	0.0206	-0.4349	0.0704	1.3516	0.0824	-1.0089	0.1458
2	355.08	0.5996	-0.0915	0.0242	-0.5538	0.0813	1.5694	0.0887	-1.0803	0.1381
2	355.08	0.6497	-0.1072	0.0285	-0.6295	0.0934	1.7927	0.1016	-1.0286	0.1339
2	355.08	0.6996	-0.1157	0.0339	-0.7485	0.1059	1.9801	0.1108	-1.1467	0.1512
2	355.08	0.7495	-0.1289	0.0380	-0.8665	0.1187	2.1579	0.1212	-0.9302	0.1308
2	355.08	0.7996	-0.1330	0.0424	-0.9484	0.1307	2.2848	0.1299	-1.0436	0.1407
2	355.08	0.8578	-0.1051	0.0472	-1.0503	0.1441	2.3770	0.1397	-0.8435	0.1426
2	355.08	0.9100	-0.1418	0.0548	-1.1472	0.1579	2.4309	0.1473	-0.8999	0.1415
2	355.08	0.9727	-0.1852	0.0623	-1.2920	0.1739	2.5734	0.1564	-0.8540	0.1506

3.33 Run 78, Point 10

3.33.1 Pitch, Flap, and Lag

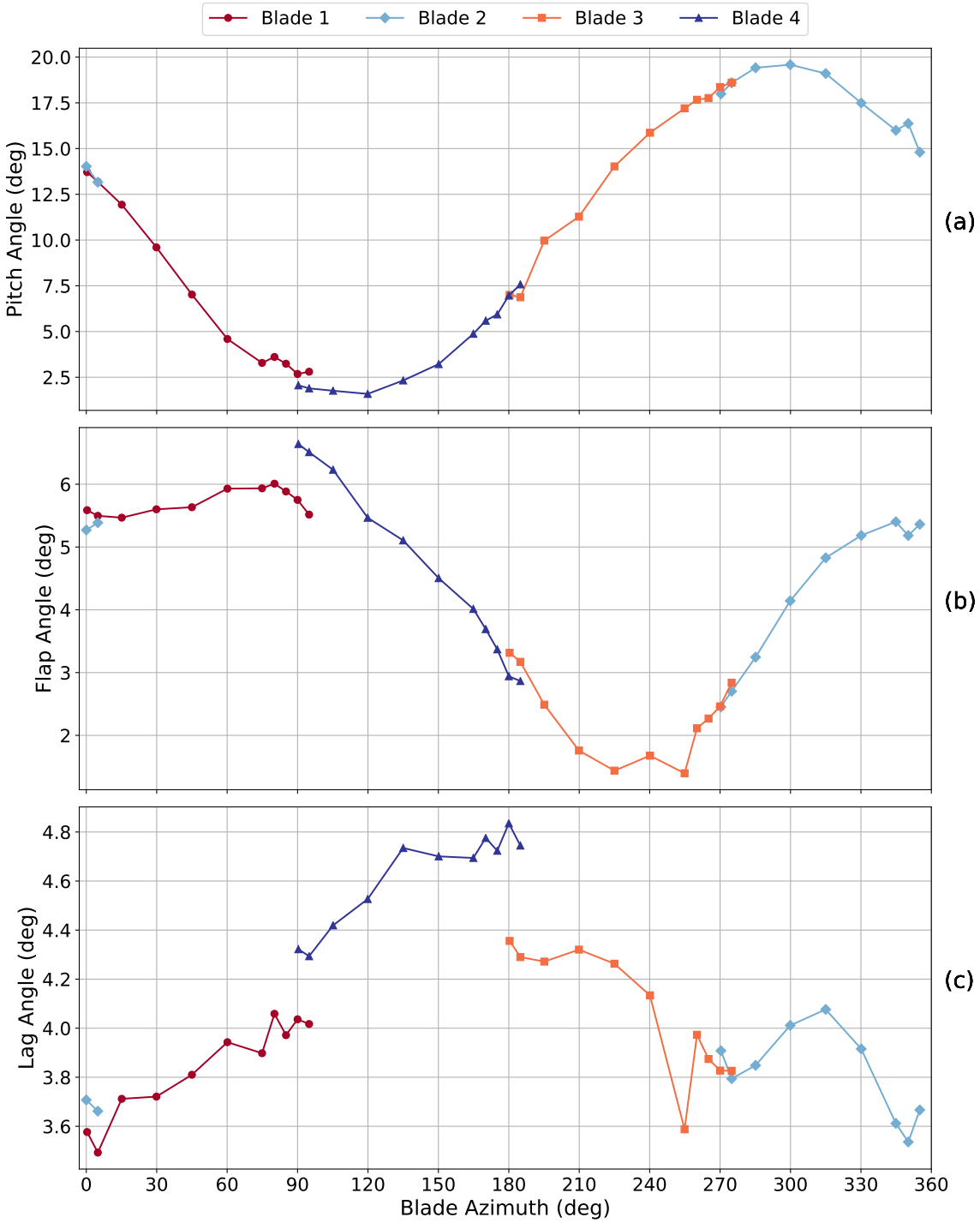


Figure 3.33-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	14.0252	5.2705	3.7075	0.1920	0.0807	0.1116
0.35	1	13.7145	5.5861	3.5767	0.0711	0.0883	0.0268
4.92	1	13.1805	5.4966	3.4929	0.0982	0.0762	0.0462
4.92	2	13.1596	5.3874	3.6616	0.1051	0.1128	0.0797
15.12	1	11.9320	5.4674	3.7120	0.1012	0.1124	0.0383
29.88	1	9.5979	5.6004	3.7210	0.1292	0.0944	0.0455
45	1	7.0198	5.6336	3.8102	0.0885	0.1000	0.0732
60.12	1	4.5903	5.9299	3.9429	0.1027	0.0530	0.0691
74.88	1	3.2851	5.9349	3.8980	0.1214	0.0299	0.0331
80.16	1	3.6100	6.0087	4.0587	0.0541	0.0506	0.0206
85.08	1	3.2392	5.8843	3.9716	0.0762	0.0717	0.0211
90	1	2.6802	5.7504	4.0362	0.0862	0.1282	0.0631
90.35	4	2.0575	6.6402	4.3220	0.0632	0.0543	0.0376
94.92	1	2.8023	5.5164	4.0171	0.1257	0.0656	0.0430
94.92	4	1.8922	6.5106	4.2935	0.0833	0.0748	0.0488
105.12	4	1.7631	6.2306	4.4193	0.1059	0.0790	0.0220
119.88	4	1.5893	5.4657	4.5265	0.0559	0.0759	0.0842
135	4	2.3254	5.1053	4.7347	0.0869	0.1169	0.1126
150.12	4	3.2177	4.5039	4.7005	0.0376	0.0807	0.0663
164.88	4	4.8757	4.0138	4.6941	0.0636	0.0897	0.0611
170.16	4	5.5901	3.6920	4.7757	0.0767	0.1922	0.0554
175.08	4	5.9348	3.3702	4.7234	0.1124	0.0839	0.0399
180	4	6.9646	2.9413	4.8352	0.1873	0.2549	0.0626
180.35	3	7.0031	3.3156	4.3559	0.1731	0.1330	0.0383
184.92	3	6.8738	3.1709	4.2900	0.1138	0.2031	0.0851
184.92	4	7.5765	2.8651	4.7446	0.1320	0.0947	0.0653
195.12	3	9.9688	2.4888	4.2715	0.4469	0.2149	0.1587
209.88	3	11.2774	1.7581	4.3203	0.0524	0.1278	0.0580
225	3	14.0262	1.4383	4.2629	0.1072	0.1551	0.0950
240.12	3	15.8649	1.6773	4.1338	0.1217	0.0994	0.0885
254.88	3	17.1984	1.3970	3.5877	0.1258	0.1324	0.0735
260.16	3	17.6666	2.1130	3.9730	0.0611	0.0986	0.1051
265.08	3	17.7594	2.2676	3.8744	0.1193	0.0932	0.0274
270	3	18.3606	2.4627	3.8272	0.1798	0.1200	0.1006
270.35	2	17.9884	2.4526	3.9080	0.1835	0.1087	0.0741
274.92	2	18.5923	2.7022	3.7942	0.0892	0.0522	0.0409
274.92	3	18.6063	2.8394	3.8263	0.0956	0.0774	0.0611
285.12	2	19.4153	3.2454	3.8485	0.0459	0.0319	0.0413
299.88	2	19.5836	4.1427	4.0114	0.1083	0.1052	0.0546
315	2	19.1017	4.8276	4.0765	0.0872	0.1054	0.0994
330.12	2	17.4928	5.1841	3.9156	0.0605	0.0694	0.0574
344.88	2	15.9982	5.4023	3.6119	0.2117	0.0948	0.0731
350.16	2	16.3710	5.1833	3.5361	0.2903	0.0842	0.0726
355.08	2	14.8021	5.3621	3.6667	0.0855	0.0271	0.0550

3.33.2 Spanwise Elastic Deformations

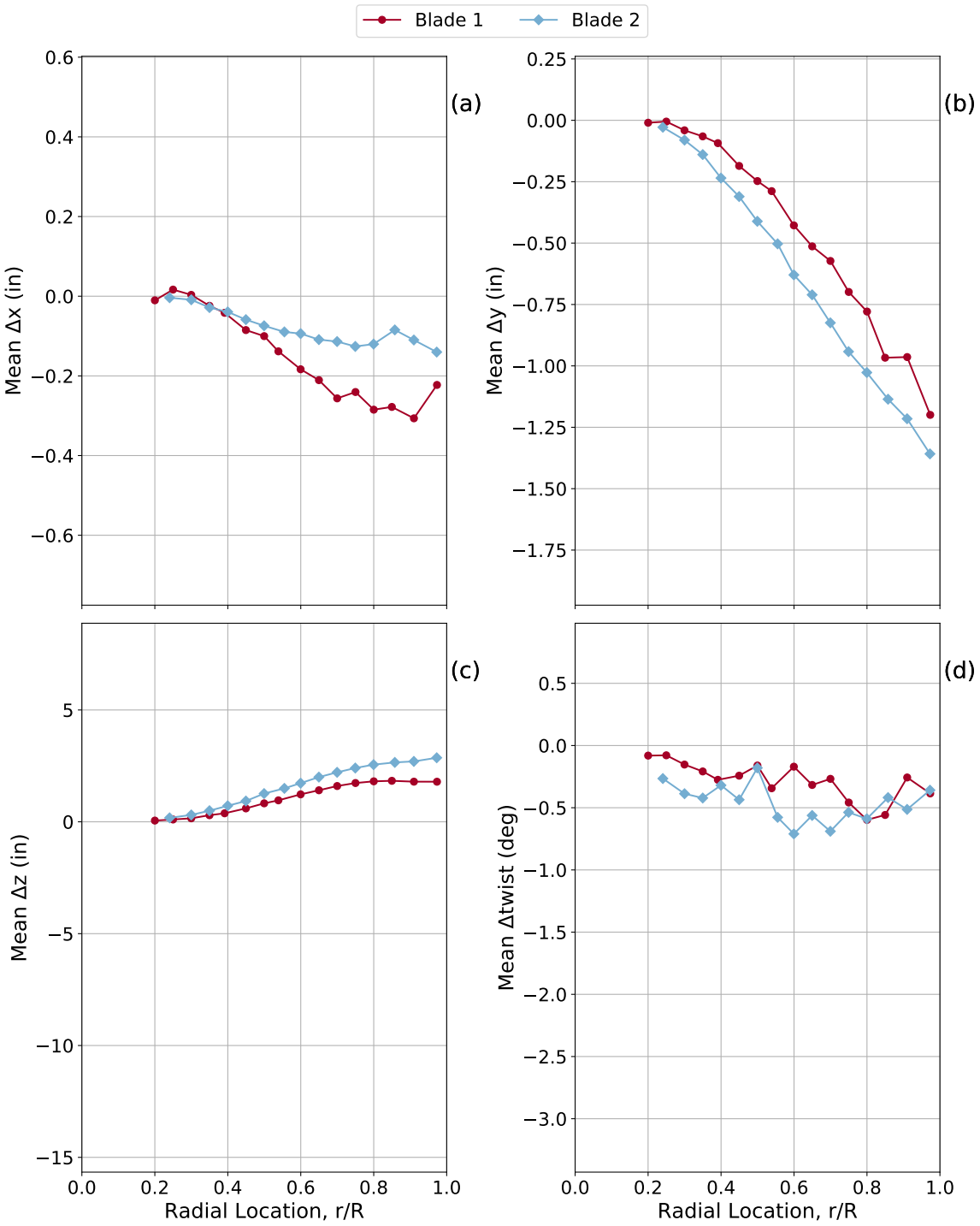


Figure 3.33-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	-0.0103	0.0021	-0.0098	0.0018	0.0553	0.0039	-0.0811	0.0562
1	0.35	0.2499	0.0166	0.0014	-0.0052	0.0036	0.1032	0.0105	-0.0786	0.0484
1	0.35	0.2998	0.0034	0.0017	-0.0407	0.0056	0.1563	0.0099	-0.1529	0.0904
1	0.35	0.3498	-0.0241	0.0022	-0.0654	0.0087	0.2946	0.0105	-0.2083	0.0975
1	0.35	0.3913	-0.0417	0.0032	-0.0930	0.0119	0.3808	0.0199	-0.2757	0.0946
1	0.35	0.4496	-0.0850	0.0035	-0.1857	0.0154	0.5994	0.0271	-0.2423	0.0988
1	0.35	0.4997	-0.1002	0.0042	-0.2474	0.0182	0.8259	0.0404	-0.1607	0.0767
1	0.35	0.5387	-0.1384	0.0033	-0.2884	0.0191	0.9599	0.0560	-0.3436	0.0917
1	0.35	0.5996	-0.1834	0.0039	-0.4279	0.0218	1.2268	0.1008	-0.1700	0.1108
1	0.35	0.6498	-0.2107	0.0035	-0.5133	0.0255	1.4098	0.1377	-0.3170	0.0819
1	0.35	0.6998	-0.2564	0.0039	-0.5727	0.0280	1.5998	0.1915	-0.2679	0.0829
1	0.35	0.7500	-0.2405	0.0041	-0.6989	0.0351	1.7336	0.2472	-0.4582	0.1151
1	0.35	0.8001	-0.2848	0.0047	-0.7787	0.0364	1.8098	0.3176	-0.5977	0.1708
1	0.35	0.8497	-0.2779	0.0054	-0.9667	0.0443	1.8332	0.3824	-0.5581	0.0947
1	0.35	0.9102	-0.3065	0.0055	-0.9641	0.0536	1.7948	0.4674	-0.2568	0.1861
1	0.35	0.9734	-0.2227	0.0065	-1.1995	0.0587	1.7927	0.5463	-0.3852	0.0901
2	0	0.2405	-0.0038	0.0098	-0.0282	0.0057	0.1775	0.0211	-0.2654	0.1214
2	0	0.2999	-0.0089	0.0043	-0.0806	0.0128	0.3078	0.0312	-0.3874	0.1854
2	0	0.3498	-0.0285	0.0057	-0.1395	0.0257	0.4968	0.0524	-0.4219	0.1679
2	0	0.3998	-0.0393	0.0069	-0.2352	0.0397	0.7167	0.0701	-0.3195	0.1786
2	0	0.4496	-0.0588	0.0101	-0.3105	0.0525	0.9296	0.0868	-0.4358	0.1868
2	0	0.4995	-0.0742	0.0122	-0.4113	0.0681	1.2624	0.1019	-0.1800	0.2056
2	0	0.5551	-0.0896	0.0175	-0.5030	0.0824	1.4944	0.1230	-0.5774	0.1867
2	0	0.5996	-0.0939	0.0218	-0.6295	0.0947	1.7286	0.1381	-0.7104	0.1840
2	0	0.6497	-0.1089	0.0267	-0.7105	0.1080	1.9987	0.1541	-0.5622	0.1766
2	0	0.6996	-0.1138	0.0332	-0.8247	0.1188	2.2119	0.1724	-0.6894	0.1741
2	0	0.7495	-0.1261	0.0424	-0.9419	0.1302	2.4040	0.1913	-0.5373	0.1850
2	0	0.7996	-0.1202	0.0499	-1.0271	0.1402	2.5554	0.2132	-0.5887	0.1805
2	0	0.8578	-0.0846	0.0616	-1.1358	0.1538	2.6554	0.2436	-0.4183	0.1845
2	0	0.9100	-0.1099	0.0703	-1.2152	0.1628	2.7001	0.2709	-0.5136	0.1980
2	0	0.9727	-0.1402	0.0847	-1.3583	0.1744	2.8627	0.3073	-0.3590	0.2280

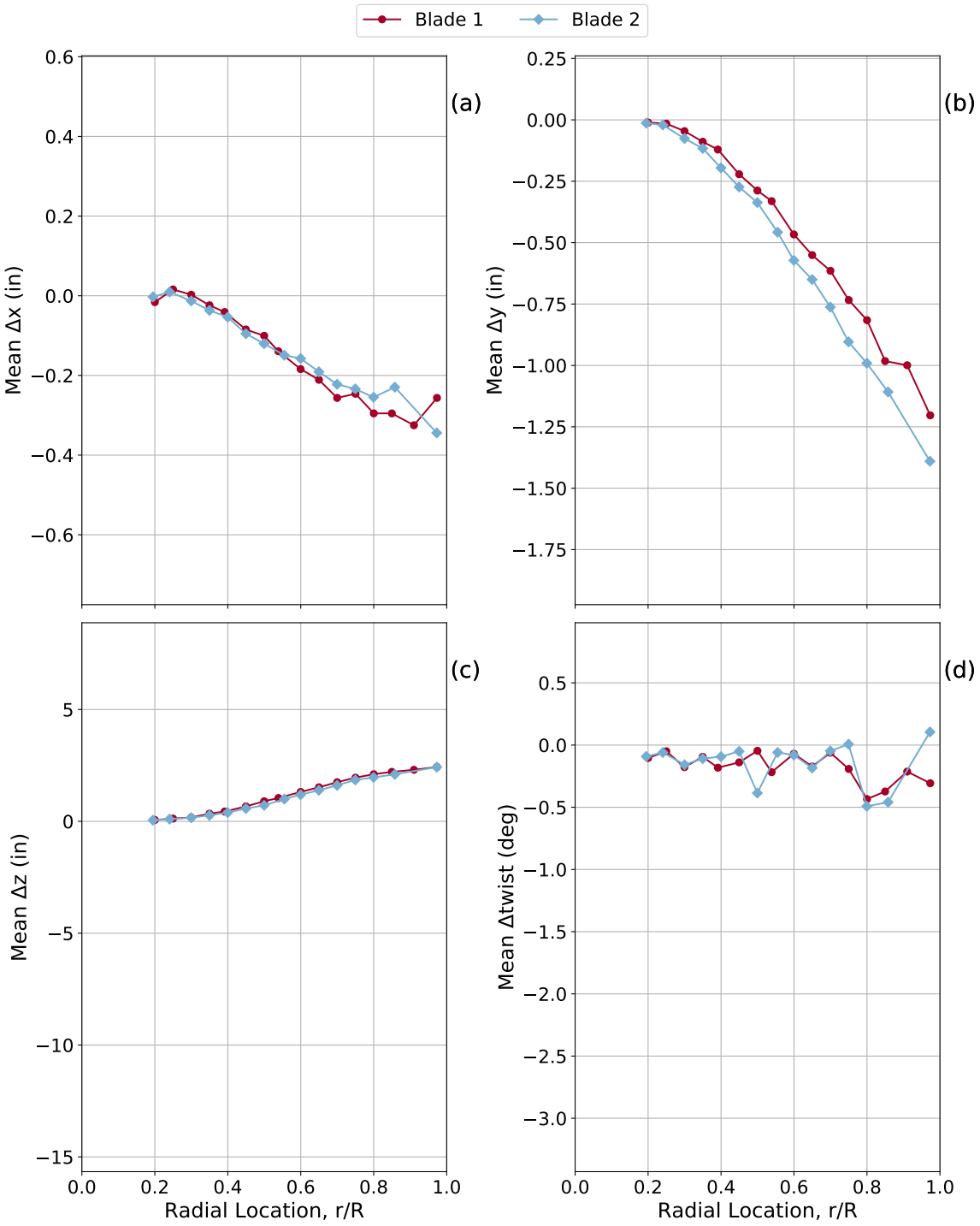


Figure 3.33-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0160	0.0026	-0.0110	0.0019	0.0621	0.0098	-0.1037	0.0520
1	4.92	0.2499	0.0158	0.0022	-0.0153	0.0048	0.1236	0.0161	-0.0498	0.0695
1	4.92	0.2998	0.0026	0.0021	-0.0459	0.0077	0.1739	0.0326	-0.1773	0.1027
1	4.92	0.3498	-0.0239	0.0032	-0.0892	0.0148	0.3450	0.0471	-0.0948	0.0845
1	4.92	0.3913	-0.0409	0.0028	-0.1209	0.0200	0.4399	0.0682	-0.1819	0.1028
1	4.92	0.4496	-0.0846	0.0036	-0.2214	0.0270	0.6673	0.0959	-0.1391	0.0963
1	4.92	0.4997	-0.1005	0.0040	-0.2878	0.0328	0.8989	0.1205	-0.0461	0.0871
1	4.92	0.5387	-0.1393	0.0047	-0.3311	0.0388	1.0428	0.1414	-0.2178	0.0851
1	4.92	0.5996	-0.1841	0.0060	-0.4666	0.0482	1.3143	0.1736	-0.0699	0.0910
1	4.92	0.6498	-0.2109	0.0063	-0.5507	0.0547	1.5229	0.1990	-0.1721	0.0951
1	4.92	0.6998	-0.2564	0.0071	-0.6147	0.0627	1.7505	0.2244	-0.0617	0.1182
1	4.92	0.7500	-0.2459	0.0073	-0.7338	0.0737	1.9538	0.2552	-0.1921	0.1259
1	4.92	0.8001	-0.2952	0.0071	-0.8157	0.0800	2.1069	0.2841	-0.4342	0.1152
1	4.92	0.8497	-0.2953	0.0075	-0.9823	0.0886	2.2121	0.3163	-0.3732	0.1212
1	4.92	0.9102	-0.3250	0.0087	-0.9993	0.1022	2.3041	0.3519	-0.2133	0.1404
1	4.92	0.9734	-0.2564	0.0124	-1.2033	0.1141	2.4305	0.4052	-0.3068	0.1012
2	4.92	0.1949	-0.0029	0.0017	-0.0132	0.0007	0.0517	0.0049	-0.0917	0.0260
2	4.92	0.2405	0.0097	0.0020	-0.0208	0.0040	0.1004	0.0116	-0.0598	0.0485
2	4.92	0.2999	-0.0131	0.0015	-0.0759	0.0044	0.1626	0.0208	-0.1581	0.0609
2	4.92	0.3498	-0.0368	0.0024	-0.1162	0.0084	0.2705	0.0336	-0.1089	0.0663
2	4.92	0.3998	-0.0537	0.0031	-0.1955	0.0137	0.3934	0.0533	-0.0930	0.0634
2	4.92	0.4496	-0.0953	0.0029	-0.2735	0.0165	0.5727	0.0692	-0.0503	0.0458
2	4.92	0.4995	-0.1203	0.0034	-0.3369	0.0206	0.7160	0.0827	-0.3857	0.0552
2	4.92	0.5551	-0.1494	0.0029	-0.4576	0.0282	0.9978	0.1010	-0.0592	0.0667
2	4.92	0.5996	-0.1574	0.0034	-0.5720	0.0348	1.1900	0.1217	-0.0806	0.0783
2	4.92	0.6497	-0.1909	0.0040	-0.6502	0.0406	1.3904	0.1340	-0.1840	0.0696
2	4.92	0.6996	-0.2222	0.0046	-0.7624	0.0463	1.6082	0.1557	-0.0472	0.0672
2	4.92	0.7495	-0.2340	0.0051	-0.9040	0.0553	1.8515	0.1802	0.0067	0.0840
2	4.92	0.7996	-0.2548	0.0054	-0.9910	0.0651	1.9652	0.1997	-0.4921	0.0716
2	4.92	0.8578	-0.2295	0.0077	-1.1078	0.0768	2.1000	0.2419	-0.4592	0.1316
2	4.92	0.9727	-0.3443	0.0146	-1.3903	0.0925	2.4232	0.3201	0.1054	0.1331

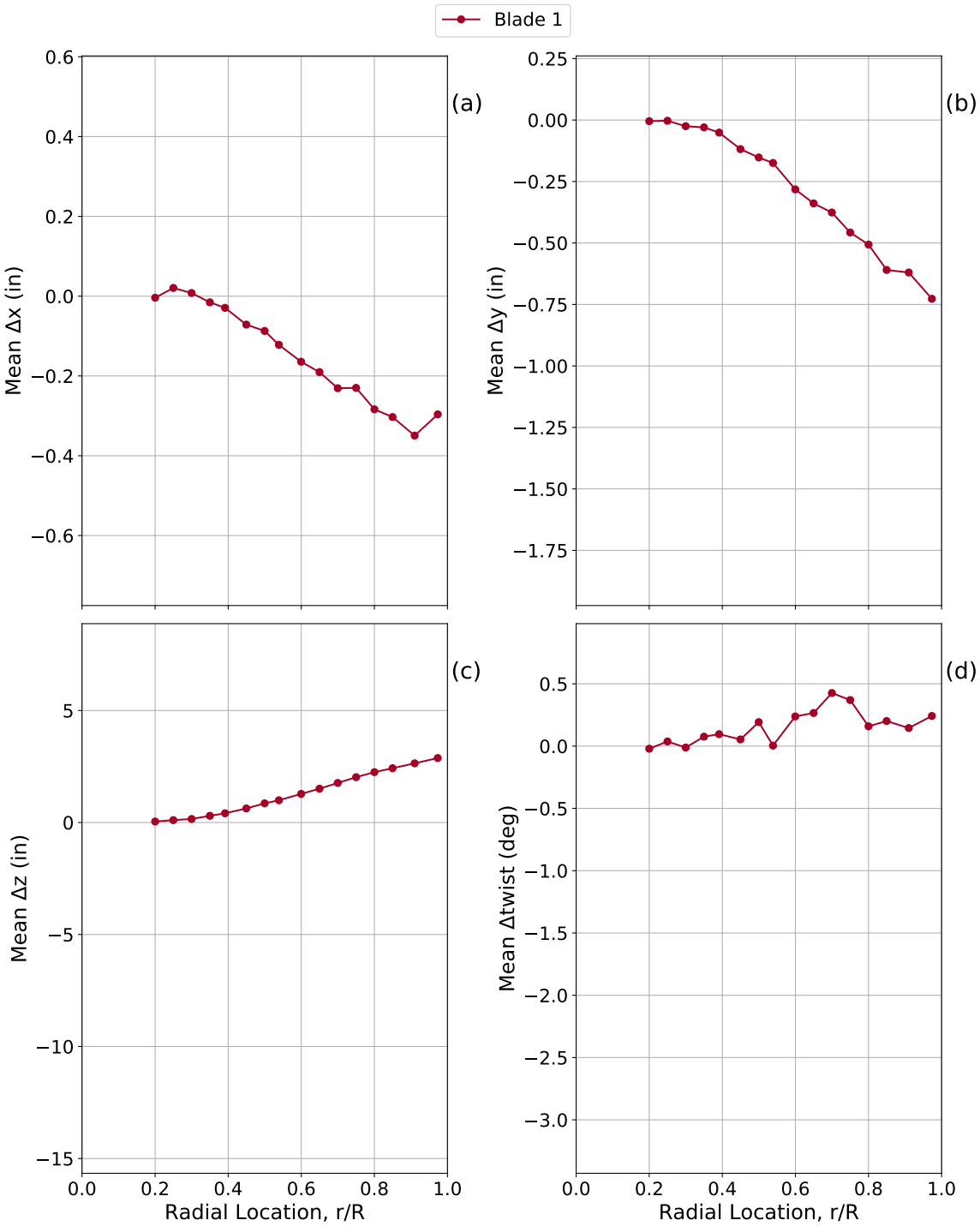


Figure 3.33-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0039	0.0024	-0.0047	0.0018	0.0428	0.0084	-0.0209	0.0373
1	15.12	0.2499	0.0206	0.0016	-0.0030	0.0028	0.1059	0.0126	0.0371	0.0700
1	15.12	0.2998	0.0079	0.0022	-0.0251	0.0065	0.1570	0.0235	-0.0115	0.0864
1	15.12	0.3498	-0.0154	0.0027	-0.0299	0.0133	0.2978	0.0417	0.0757	0.0680
1	15.12	0.3913	-0.0293	0.0019	-0.0511	0.0172	0.4113	0.0541	0.0958	0.0711
1	15.12	0.4496	-0.0713	0.0025	-0.1183	0.0233	0.6269	0.0720	0.0536	0.0667
1	15.12	0.4997	-0.0872	0.0028	-0.1524	0.0286	0.8549	0.0865	0.1924	0.0714
1	15.12	0.5387	-0.1220	0.0026	-0.1746	0.0330	0.9934	0.1012	0.0042	0.0612
1	15.12	0.5996	-0.1644	0.0035	-0.2820	0.0417	1.2771	0.1183	0.2382	0.0693
1	15.12	0.6498	-0.1904	0.0036	-0.3391	0.0487	1.5087	0.1377	0.2659	0.0710
1	15.12	0.6998	-0.2307	0.0040	-0.3761	0.0569	1.7660	0.1575	0.4261	0.0699
1	15.12	0.7500	-0.2299	0.0045	-0.4575	0.0663	2.0230	0.1749	0.3696	0.0553
1	15.12	0.8001	-0.2836	0.0045	-0.5065	0.0746	2.2482	0.1897	0.1588	0.0636
1	15.12	0.8497	-0.3030	0.0054	-0.6097	0.0836	2.4225	0.2038	0.2013	0.0641
1	15.12	0.9102	-0.3495	0.0053	-0.6201	0.0951	2.6415	0.2265	0.1451	0.0728
1	15.12	0.9734	-0.2963	0.0083	-0.7270	0.1085	2.8779	0.2541	0.2419	0.0578

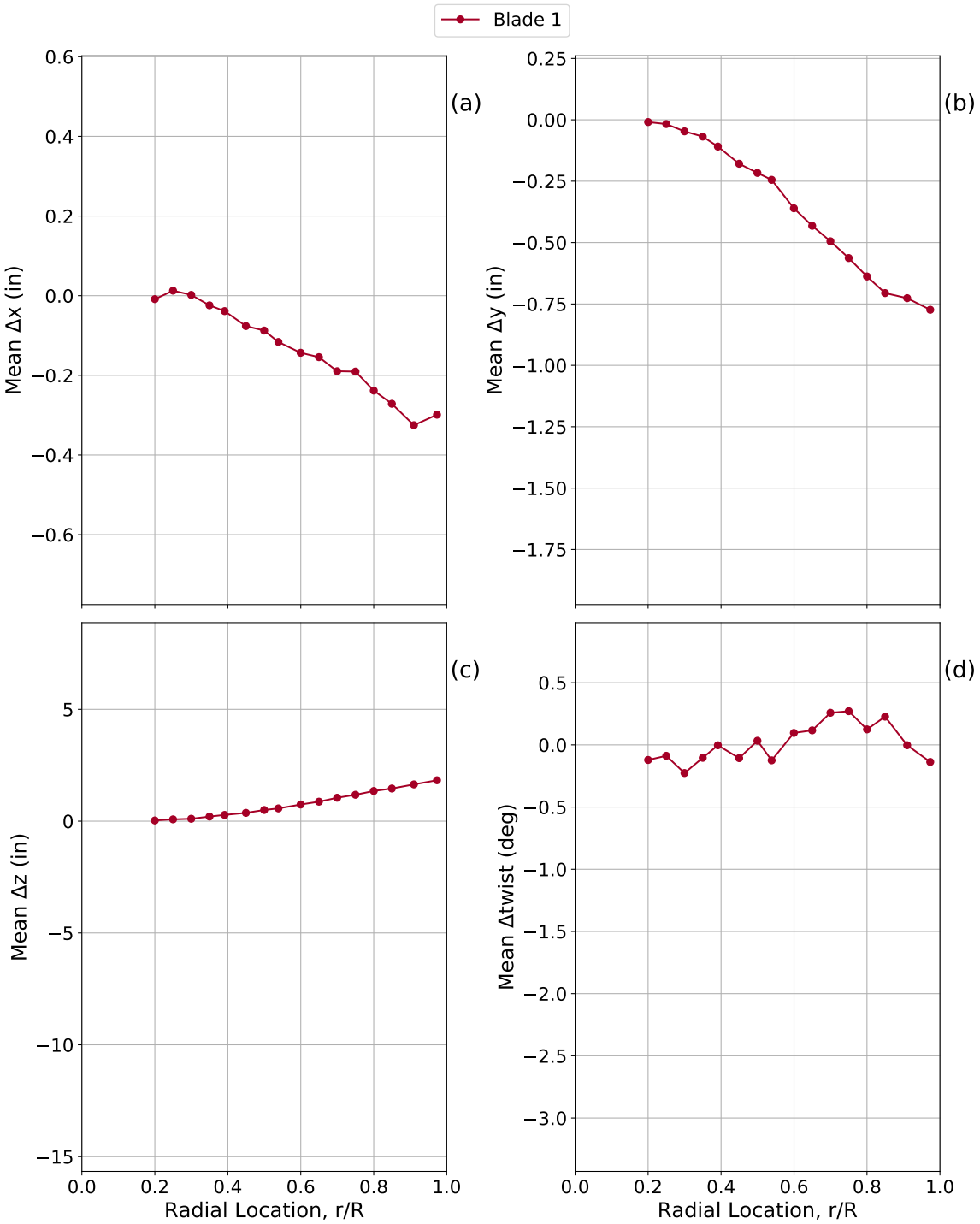


Figure 3.33-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0086	0.0022	-0.0091	0.0008	0.0320	0.0046	-0.1212	0.0344
1	29.88	0.2499	0.0126	0.0027	-0.0173	0.0018	0.0808	0.0048	-0.0876	0.0615
1	29.88	0.2998	0.0020	0.0016	-0.0470	0.0035	0.1077	0.0147	-0.2262	0.0761
1	29.88	0.3498	-0.0243	0.0015	-0.0683	0.0061	0.2051	0.0244	-0.1040	0.0636
1	29.88	0.3913	-0.0388	0.0022	-0.1089	0.0088	0.2794	0.0328	-0.0032	0.0574
1	29.88	0.4496	-0.0763	0.0032	-0.1789	0.0133	0.3705	0.0497	-0.1064	0.0612
1	29.88	0.4997	-0.0876	0.0032	-0.2163	0.0173	0.4984	0.0682	0.0331	0.0586
1	29.88	0.5387	-0.1162	0.0039	-0.2445	0.0215	0.5699	0.0889	-0.1242	0.0564
1	29.88	0.5996	-0.1433	0.0039	-0.3602	0.0270	0.7435	0.1246	0.0959	0.0737
1	29.88	0.6498	-0.1543	0.0042	-0.4317	0.0335	0.8705	0.1584	0.1166	0.0668
1	29.88	0.6998	-0.1896	0.0041	-0.4947	0.0394	1.0462	0.1941	0.2581	0.0692
1	29.88	0.7500	-0.1905	0.0050	-0.5630	0.0478	1.1795	0.2316	0.2709	0.0622
1	29.88	0.8001	-0.2383	0.0045	-0.6380	0.0550	1.3489	0.2695	0.1244	0.0709
1	29.88	0.8497	-0.2714	0.0045	-0.7056	0.0632	1.4583	0.3080	0.2269	0.0666
1	29.88	0.9102	-0.3251	0.0053	-0.7264	0.0741	1.6430	0.3527	-0.0029	0.0693
1	29.88	0.9734	-0.2988	0.0083	-0.7737	0.0851	1.8277	0.4040	-0.1372	0.0709

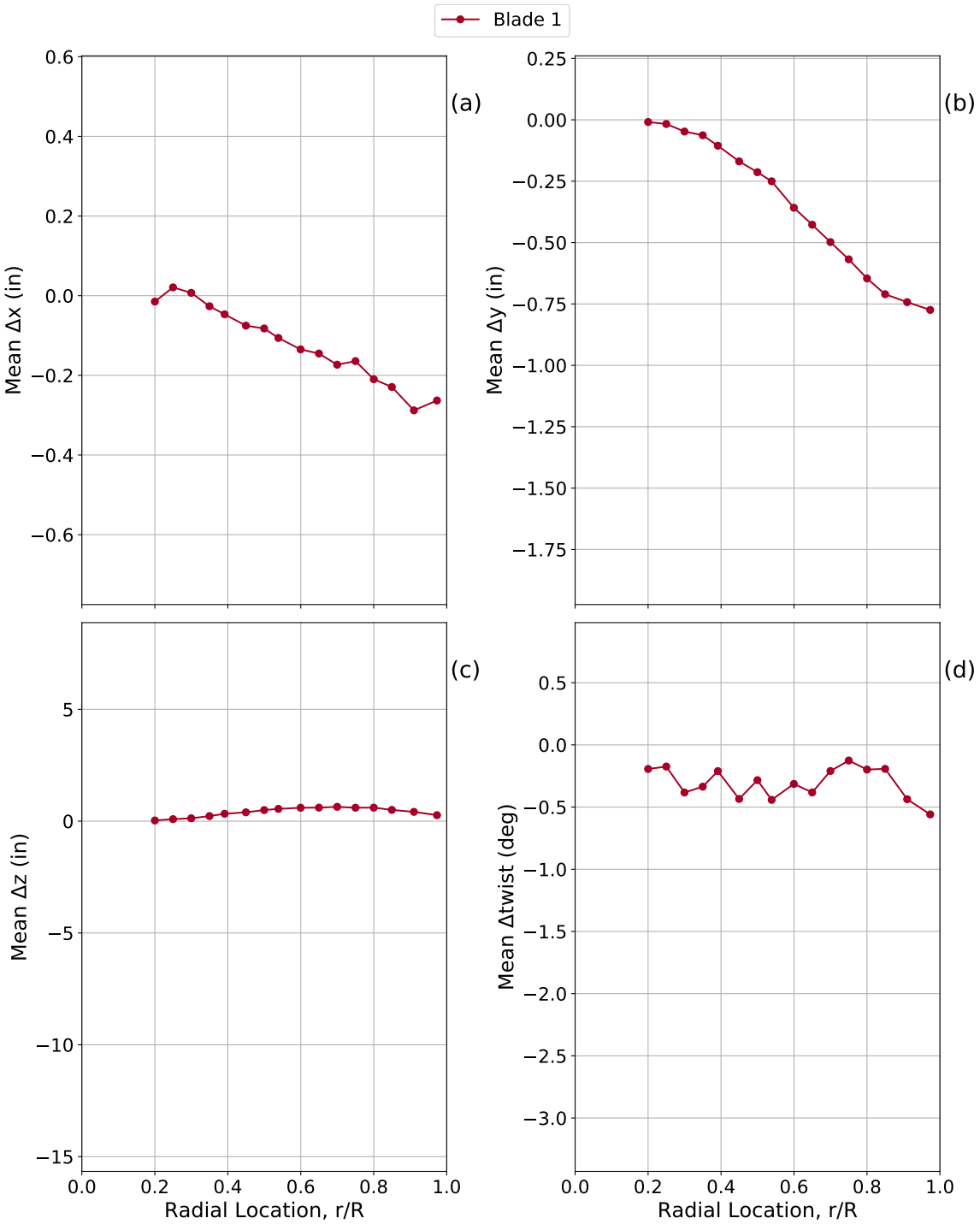


Figure 3.33-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0148	0.0021	-0.0089	0.0010	0.0311	0.0052	-0.1938	0.0373
1	45	0.2499	0.0209	0.0020	-0.0169	0.0022	0.0905	0.0096	-0.1742	0.0511
1	45	0.2998	0.0071	0.0014	-0.0477	0.0043	0.1278	0.0182	-0.3827	0.0782
1	45	0.3498	-0.0265	0.0018	-0.0629	0.0080	0.2273	0.0317	-0.3360	0.0687
1	45	0.3913	-0.0468	0.0025	-0.1055	0.0110	0.3308	0.0440	-0.2108	0.0561
1	45	0.4496	-0.0752	0.0023	-0.1693	0.0143	0.3951	0.0611	-0.4348	0.0785
1	45	0.4997	-0.0823	0.0030	-0.2133	0.0185	0.4957	0.0813	-0.2836	0.0714
1	45	0.5387	-0.1061	0.0018	-0.2504	0.0218	0.5493	0.0945	-0.4420	0.0739
1	45	0.5996	-0.1349	0.0030	-0.3581	0.0266	0.5997	0.1170	-0.3139	0.0759
1	45	0.6498	-0.1452	0.0041	-0.4272	0.0312	0.6053	0.1397	-0.3823	0.0926
1	45	0.6998	-0.1733	0.0035	-0.4980	0.0350	0.6408	0.1606	-0.2099	0.0832
1	45	0.7500	-0.1643	0.0050	-0.5682	0.0404	0.6009	0.1879	-0.1256	0.0886
1	45	0.8001	-0.2097	0.0045	-0.6460	0.0443	0.6045	0.2210	-0.1983	0.0863
1	45	0.8497	-0.2292	0.0042	-0.7103	0.0496	0.5030	0.2596	-0.1927	0.0895
1	45	0.9102	-0.2879	0.0057	-0.7426	0.0567	0.4154	0.3063	-0.4368	0.0886
1	45	0.9734	-0.2631	0.0059	-0.7742	0.0623	0.2678	0.3600	-0.5591	0.0883

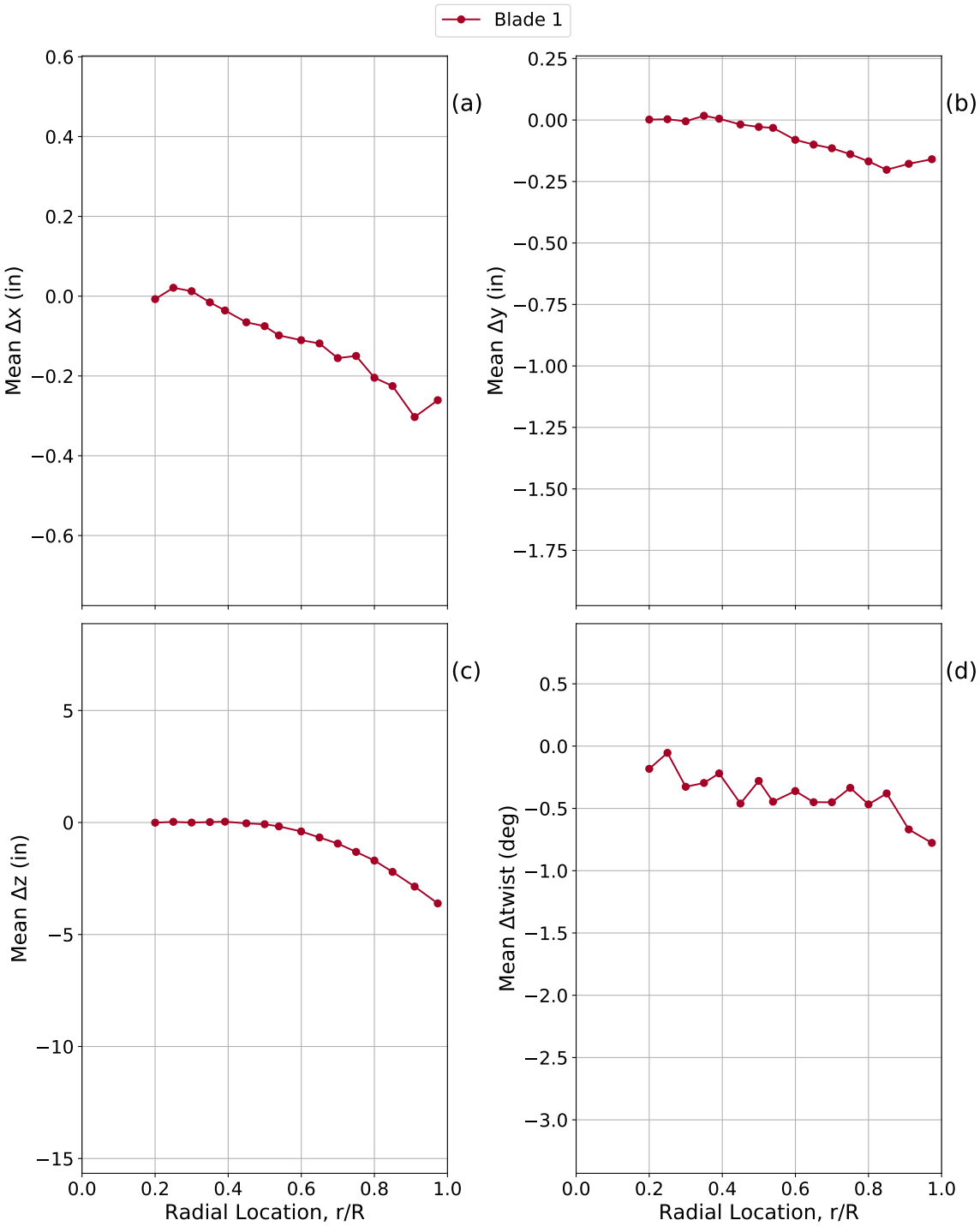


Figure 3.33-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0074	0.0015	0.0018	0.0008	-0.0074	0.0035	-0.1823	0.0291
1	60.12	0.2499	0.0211	0.0015	0.0032	0.0024	0.0302	0.0087	-0.0542	0.0388
1	60.12	0.2998	0.0125	0.0022	-0.0051	0.0042	-0.0030	0.0143	-0.3265	0.0615
1	60.12	0.3498	-0.0155	0.0034	0.0174	0.0064	0.0199	0.0254	-0.2958	0.0494
1	60.12	0.3913	-0.0359	0.0034	0.0053	0.0104	0.0367	0.0364	-0.2190	0.0475
1	60.12	0.4496	-0.0655	0.0029	-0.0182	0.0126	-0.0371	0.0544	-0.4611	0.0508
1	60.12	0.4997	-0.0752	0.0029	-0.0280	0.0179	-0.0770	0.0650	-0.2792	0.0572
1	60.12	0.5387	-0.0983	0.0035	-0.0319	0.0219	-0.1729	0.0770	-0.4462	0.0739
1	60.12	0.5996	-0.1103	0.0049	-0.0805	0.0289	-0.3988	0.0916	-0.3606	0.0682
1	60.12	0.6498	-0.1185	0.0050	-0.0999	0.0324	-0.6690	0.1040	-0.4502	0.0668
1	60.12	0.6998	-0.1553	0.0044	-0.1148	0.0385	-0.9404	0.1161	-0.4506	0.0701
1	60.12	0.7500	-0.1498	0.0047	-0.1390	0.0450	-1.3121	0.1364	-0.3353	0.0761
1	60.12	0.8001	-0.2044	0.0052	-0.1682	0.0524	-1.6997	0.1519	-0.4676	0.0861
1	60.12	0.8497	-0.2253	0.0052	-0.2023	0.0585	-2.2054	0.1712	-0.3801	0.0829
1	60.12	0.9102	-0.3030	0.0063	-0.1780	0.0669	-2.8602	0.1921	-0.6689	0.0906
1	60.12	0.9734	-0.2607	0.0087	-0.1594	0.0761	-3.6118	0.2143	-0.7769	0.1001

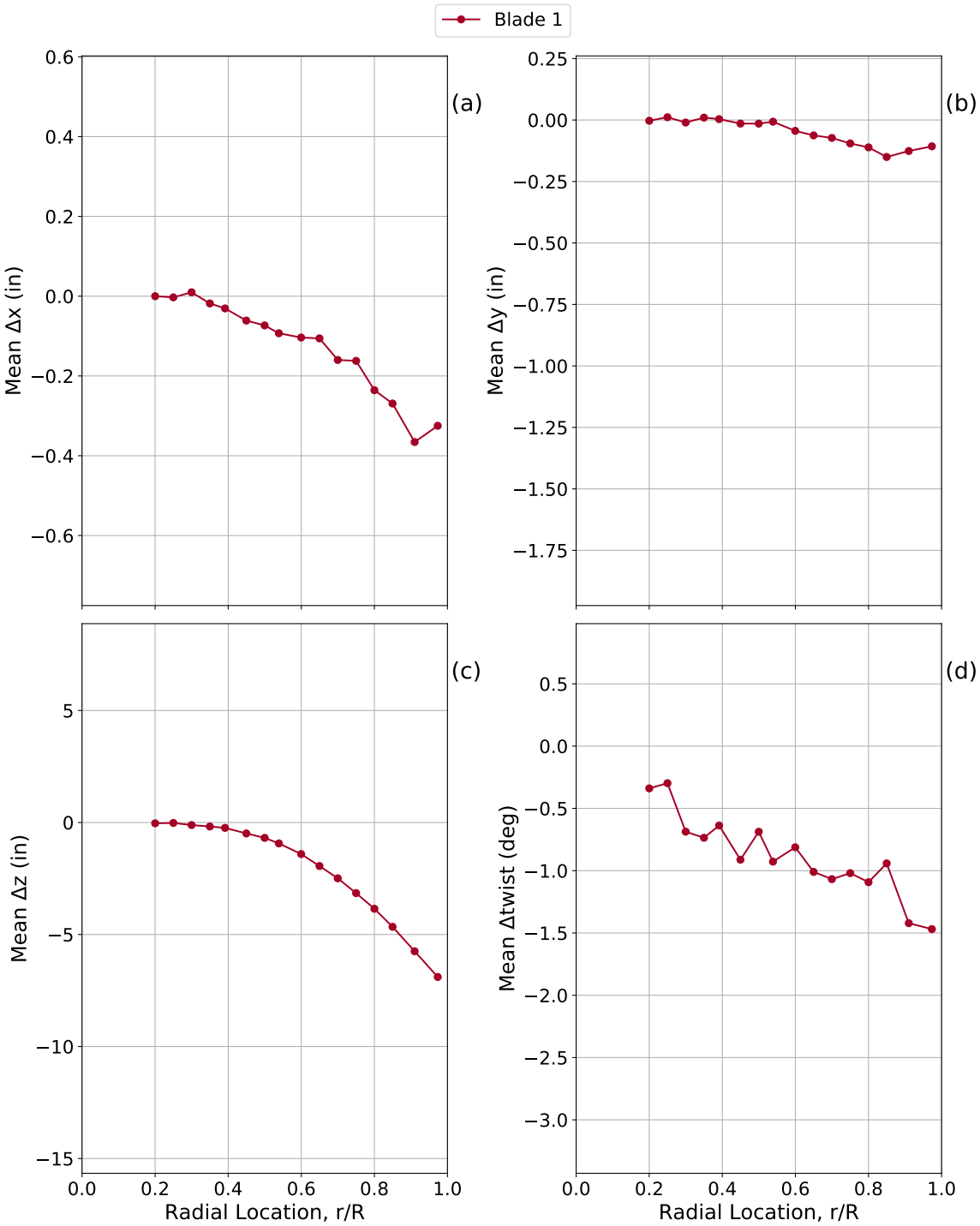


Figure 3.33-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0001	0.0023	-0.0029	0.0009	-0.0357	0.0041	-0.3394	0.0300
1	74.88	0.2499	-0.0030	0.0018	0.0114	0.0027	-0.0202	0.0086	-0.2977	0.0446
1	74.88	0.2998	0.0098	0.0026	-0.0102	0.0043	-0.1130	0.0160	-0.6869	0.0658
1	74.88	0.3498	-0.0182	0.0033	0.0098	0.0068	-0.1788	0.0293	-0.7358	0.0707
1	74.88	0.3913	-0.0307	0.0021	0.0037	0.0108	-0.2398	0.0410	-0.6373	0.0613
1	74.88	0.4496	-0.0612	0.0029	-0.0145	0.0134	-0.4883	0.0551	-0.9118	0.0708
1	74.88	0.4997	-0.0733	0.0024	-0.0146	0.0168	-0.6869	0.0736	-0.6875	0.0520
1	74.88	0.5387	-0.0930	0.0024	-0.0068	0.0185	-0.9334	0.0862	-0.9271	0.0644
1	74.88	0.5996	-0.1037	0.0035	-0.0441	0.0229	-1.4086	0.1034	-0.8122	0.0691
1	74.88	0.6498	-0.1058	0.0024	-0.0625	0.0266	-1.9433	0.1130	-1.0096	0.0661
1	74.88	0.6998	-0.1599	0.0033	-0.0728	0.0306	-2.4909	0.1246	-1.0679	0.0607
1	74.88	0.7500	-0.1622	0.0043	-0.0952	0.0341	-3.1527	0.1344	-1.0196	0.0656
1	74.88	0.8001	-0.2357	0.0041	-0.1112	0.0383	-3.8511	0.1431	-1.0922	0.0680
1	74.88	0.8497	-0.2691	0.0053	-0.1503	0.0430	-4.6555	0.1535	-0.9414	0.0593
1	74.88	0.9102	-0.3656	0.0055	-0.1260	0.0478	-5.7488	0.1625	-1.4214	0.0631
1	74.88	0.9734	-0.3249	0.0075	-0.1070	0.0538	-6.8963	0.1741	-1.4690	0.0611

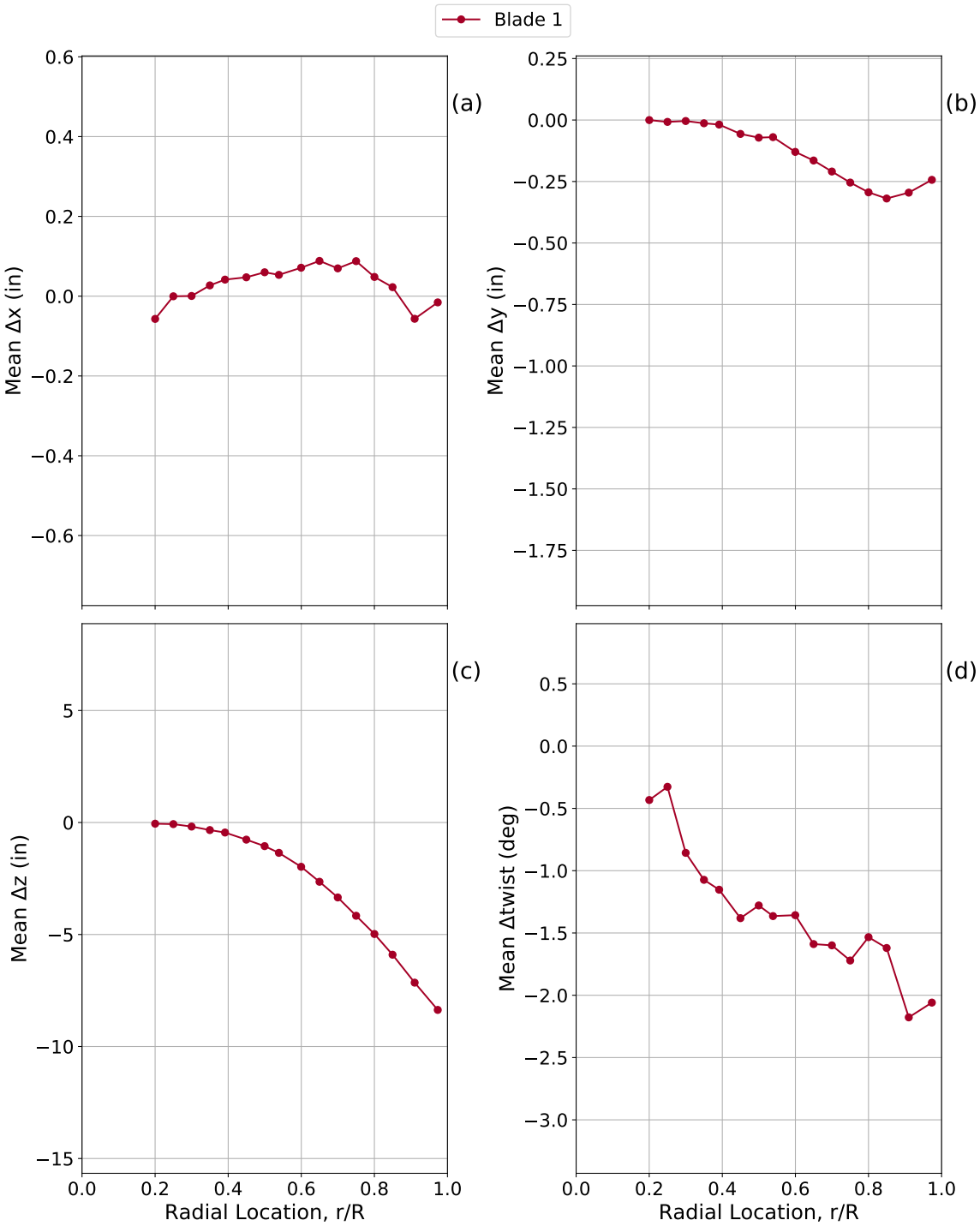


Figure 3.33-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0570	0.0107	-0.0002	0.0011	-0.0534	0.0050	-0.4328	0.0232
1	80.16	0.2499	-0.0003	0.0030	-0.0076	0.0022	-0.0719	0.0080	-0.3268	0.0413
1	80.16	0.2998	0.0005	0.0040	-0.0040	0.0039	-0.1815	0.0167	-0.8569	0.0495
1	80.16	0.3498	0.0270	0.0087	-0.0132	0.0076	-0.3375	0.0301	-1.0734	0.0375
1	80.16	0.3913	0.0415	0.0116	-0.0185	0.0103	-0.4475	0.0407	-1.1527	0.0449
1	80.16	0.4496	0.0473	0.0125	-0.0565	0.0158	-0.7654	0.0615	-1.3812	0.0471
1	80.16	0.4997	0.0599	0.0126	-0.0717	0.0216	-1.0546	0.0800	-1.2792	0.0449
1	80.16	0.5387	0.0534	0.0107	-0.0696	0.0265	-1.3546	0.0952	-1.3644	0.0511
1	80.16	0.5996	0.0713	0.0072	-0.1296	0.0339	-1.9766	0.1195	-1.3570	0.0571
1	80.16	0.6498	0.0884	0.0074	-0.1646	0.0413	-2.6457	0.1402	-1.5891	0.0614
1	80.16	0.6998	0.0697	0.0131	-0.2094	0.0488	-3.3455	0.1607	-1.5993	0.0508
1	80.16	0.7500	0.0878	0.0214	-0.2543	0.0574	-4.1629	0.1848	-1.7211	0.0625
1	80.16	0.8001	0.0482	0.0316	-0.2940	0.0667	-4.9776	0.2063	-1.5337	0.0657
1	80.16	0.8497	0.0226	0.0433	-0.3191	0.0768	-5.9021	0.2301	-1.6206	0.0662
1	80.16	0.9102	-0.0567	0.0585	-0.2953	0.0885	-7.1491	0.2545	-2.1774	0.0801
1	80.16	0.9734	-0.0156	0.0760	-0.2433	0.1027	-8.3662	0.2821	-2.0589	0.0763

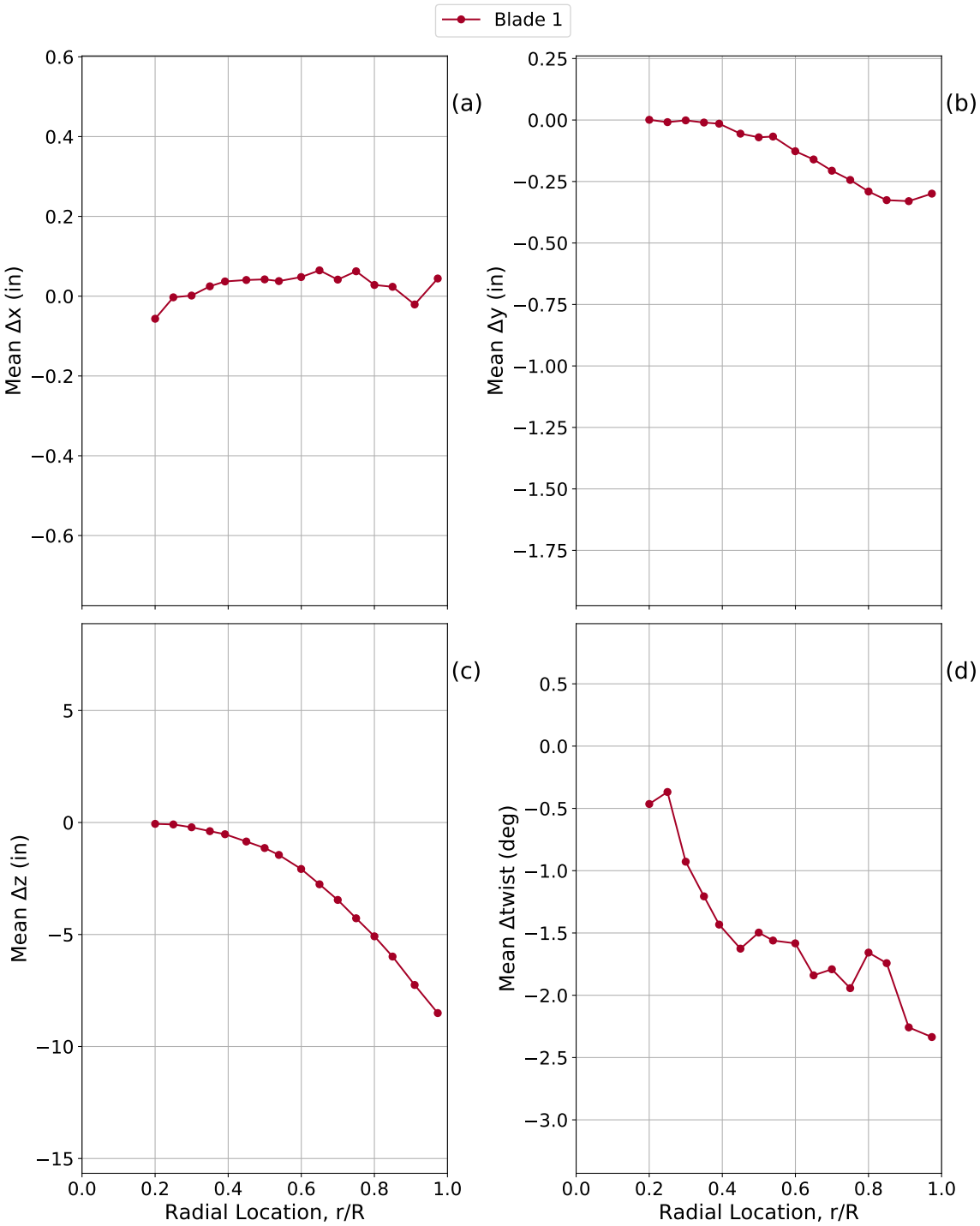


Figure 3.33-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0566	0.0116	0.0009	0.0008	-0.0603	0.0037	-0.4646	0.0240
1	85.08	0.2499	-0.0029	0.0027	-0.0086	0.0012	-0.0865	0.0057	-0.3683	0.0367
1	85.08	0.2998	0.0015	0.0048	-0.0014	0.0028	-0.2141	0.0130	-0.9279	0.0508
1	85.08	0.3498	0.0247	0.0099	-0.0102	0.0048	-0.3868	0.0223	-1.2061	0.0369
1	85.08	0.3913	0.0369	0.0142	-0.0149	0.0068	-0.5239	0.0306	-1.4326	0.0438
1	85.08	0.4496	0.0405	0.0177	-0.0555	0.0098	-0.8493	0.0421	-1.6259	0.0483
1	85.08	0.4997	0.0421	0.0203	-0.0703	0.0125	-1.1391	0.0529	-1.4969	0.0610
1	85.08	0.5387	0.0378	0.0202	-0.0672	0.0148	-1.4475	0.0613	-1.5606	0.0531
1	85.08	0.5996	0.0479	0.0192	-0.1269	0.0191	-2.0748	0.0782	-1.5833	0.0707
1	85.08	0.6498	0.0647	0.0172	-0.1603	0.0220	-2.7585	0.0904	-1.8401	0.0555
1	85.08	0.6998	0.0415	0.0155	-0.2061	0.0246	-3.4565	0.1048	-1.7913	0.0716
1	85.08	0.7500	0.0624	0.0174	-0.2437	0.0279	-4.2754	0.1159	-1.9432	0.0708
1	85.08	0.8001	0.0281	0.0238	-0.2907	0.0310	-5.0816	0.1256	-1.6574	0.0726
1	85.08	0.8497	0.0235	0.0343	-0.3258	0.0343	-5.9843	0.1369	-1.7422	0.0833
1	85.08	0.9102	-0.0208	0.0520	-0.3299	0.0384	-7.2522	0.1486	-2.2578	0.0910
1	85.08	0.9734	0.0443	0.0731	-0.2993	0.0469	-8.5068	0.1590	-2.3354	0.0960

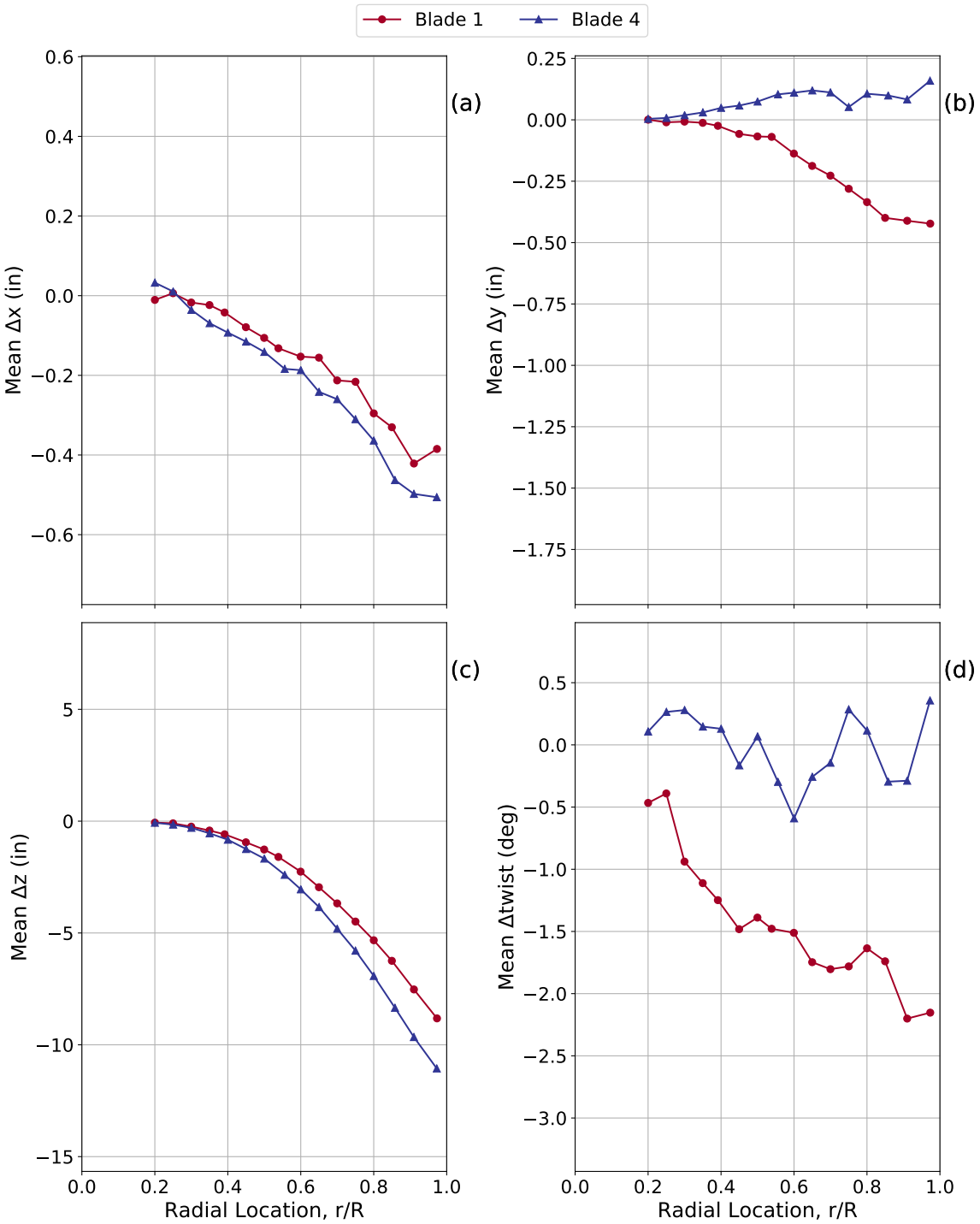


Figure 3.33-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0106	0.0020	0.0006	0.0012	-0.0646	0.0046	-0.4663	0.0218
1	90	0.2499	0.0062	0.0017	-0.0101	0.0014	-0.0965	0.0089	-0.3904	0.0509
1	90	0.2998	-0.0171	0.0015	-0.0073	0.0038	-0.2448	0.0173	-0.9383	0.0521
1	90	0.3498	-0.0235	0.0018	-0.0122	0.0069	-0.4189	0.0306	-1.1116	0.0546
1	90	0.3913	-0.0422	0.0019	-0.0244	0.0090	-0.5874	0.0429	-1.2482	0.0591
1	90	0.4496	-0.0791	0.0021	-0.0574	0.0138	-0.9445	0.0615	-1.4817	0.0470
1	90	0.4997	-0.1060	0.0019	-0.0677	0.0171	-1.2683	0.0815	-1.3885	0.0453
1	90	0.5387	-0.1320	0.0022	-0.0694	0.0203	-1.5997	0.0950	-1.4783	0.0523
1	90	0.5996	-0.1530	0.0028	-0.1375	0.0260	-2.2571	0.1195	-1.5109	0.0540
1	90	0.6498	-0.1556	0.0038	-0.1877	0.0310	-2.9546	0.1398	-1.7471	0.0513
1	90	0.6998	-0.2127	0.0043	-0.2273	0.0355	-3.6769	0.1615	-1.8034	0.0626
1	90	0.7500	-0.2162	0.0056	-0.2808	0.0408	-4.4897	0.1857	-1.7811	0.0644
1	90	0.8001	-0.2955	0.0062	-0.3352	0.0465	-5.3262	0.2122	-1.6355	0.0756
1	90	0.8497	-0.3303	0.0073	-0.3993	0.0519	-6.2448	0.2340	-1.7401	0.0668
1	90	0.9102	-0.4214	0.0086	-0.4111	0.0592	-7.5251	0.2584	-2.2005	0.0707
1	90	0.9734	-0.3848	0.0096	-0.4228	0.0669	-8.8180	0.2813	-2.1528	0.0707
4	90.35	0.2001	0.0326	0.0016	0.0040	0.0008	-0.0721	0.0046	0.1073	0.0300
4	90.35	0.2502	0.0105	0.0027	0.0076	0.0019	-0.1556	0.0096	0.2650	0.0500
4	90.35	0.3001	-0.0357	0.0019	0.0188	0.0035	-0.2986	0.0177	0.2801	0.0656
4	90.35	0.3502	-0.0691	0.0015	0.0301	0.0053	-0.5446	0.0324	0.1470	0.0600
4	90.35	0.4002	-0.0928	0.0025	0.0487	0.0089	-0.8302	0.0491	0.1296	0.0479
4	90.35	0.4500	-0.1153	0.0030	0.0581	0.0099	-1.2463	0.0607	-0.1648	0.0660
4	90.35	0.5001	-0.1412	0.0024	0.0744	0.0131	-1.6748	0.0813	0.0680	0.0700
4	90.35	0.5560	-0.1838	0.0033	0.1037	0.0156	-2.4006	0.1026	-0.2977	0.0710
4	90.35	0.6001	-0.1870	0.0036	0.1105	0.0194	-3.0496	0.1233	-0.5908	0.0700
4	90.35	0.6501	-0.2415	0.0055	0.1197	0.0221	-3.8437	0.1479	-0.2569	0.0783
4	90.35	0.6999	-0.2600	0.0072	0.1116	0.0262	-4.8105	0.1779	-0.1436	0.0805
4	90.35	0.7500	-0.3102	0.0079	0.0521	0.0296	-5.7924	0.2105	0.2850	0.0871
4	90.35	0.8002	-0.3638	0.0105	0.1063	0.0349	-6.9235	0.2414	0.1153	0.0844
4	90.35	0.8582	-0.4630	0.0128	0.0990	0.0411	-8.3465	0.2799	-0.2958	0.0944
4	90.35	0.9101	-0.4977	0.0156	0.0830	0.0472	-9.6551	0.3134	-0.2883	0.0895
4	90.35	0.9728	-0.5060	0.0180	0.1591	0.0534	-11.0587	0.3551	0.3569	0.0941

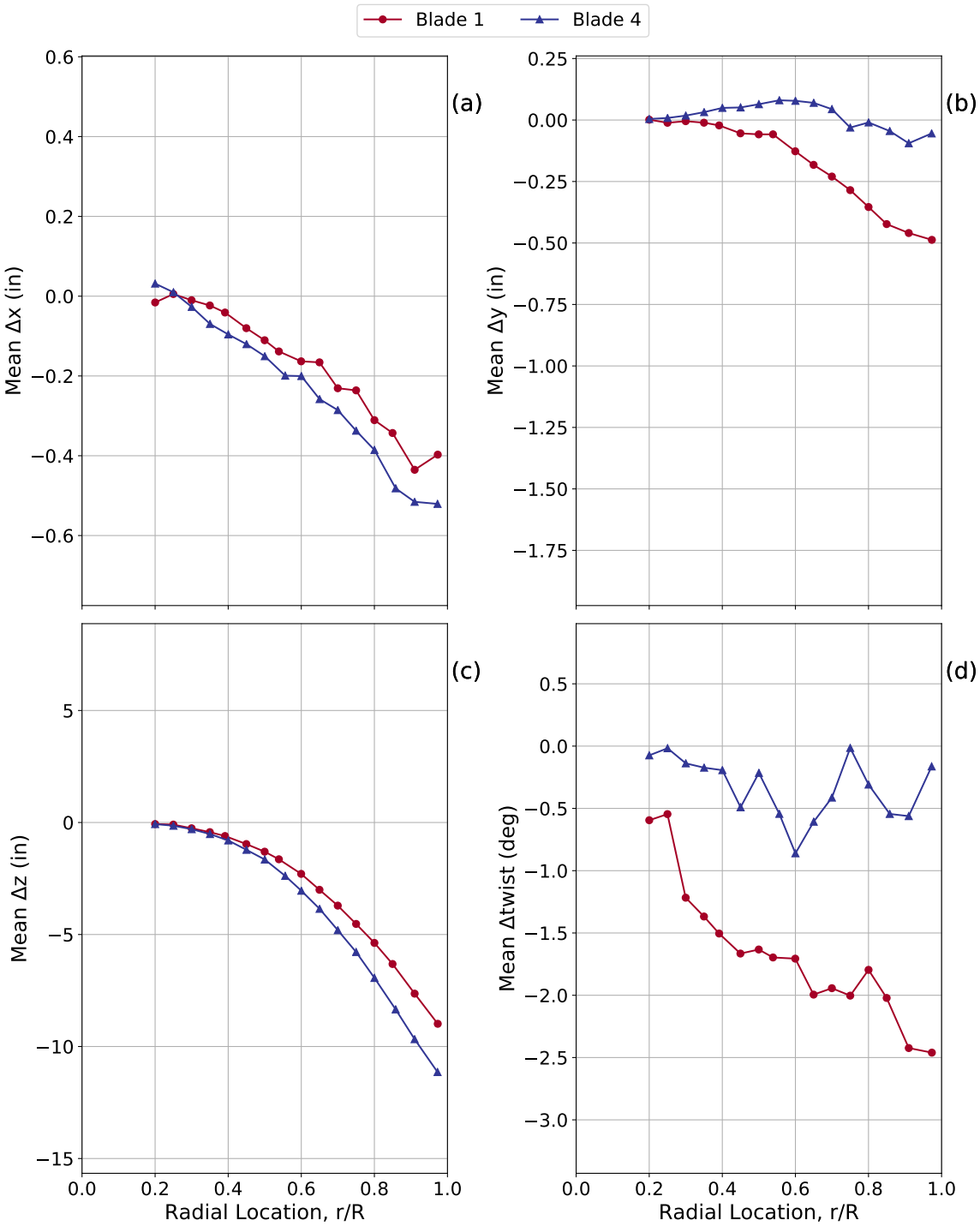


Figure 3.33-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0158	0.0026	0.0014	0.0013	-0.0691	0.0059	-0.5950	0.0384
1	94.92	0.2499	0.0054	0.0029	-0.0112	0.0020	-0.0932	0.0099	-0.5460	0.0859
1	94.92	0.2998	-0.0102	0.0018	-0.0047	0.0045	-0.2575	0.0198	-1.2168	0.0949
1	94.92	0.3498	-0.0233	0.0031	-0.0109	0.0081	-0.4300	0.0376	-1.3678	0.0737
1	94.92	0.3913	-0.0410	0.0036	-0.0219	0.0110	-0.6041	0.0500	-1.5044	0.0837
1	94.92	0.4496	-0.0802	0.0042	-0.0541	0.0144	-0.9625	0.0715	-1.6652	0.0852
1	94.92	0.4997	-0.1105	0.0044	-0.0583	0.0181	-1.3022	0.0880	-1.6327	0.0786
1	94.92	0.5387	-0.1385	0.0035	-0.0582	0.0212	-1.6416	0.1026	-1.6965	0.0830
1	94.92	0.5996	-0.1633	0.0041	-0.1271	0.0270	-2.2932	0.1294	-1.7061	0.0812
1	94.92	0.6498	-0.1659	0.0047	-0.1823	0.0319	-3.0042	0.1478	-1.9948	0.0875
1	94.92	0.6998	-0.2308	0.0054	-0.2298	0.0360	-3.7103	0.1695	-1.9433	0.0836
1	94.92	0.7500	-0.2361	0.0061	-0.2851	0.0414	-4.5283	0.1879	-2.0030	0.0886
1	94.92	0.8001	-0.3108	0.0069	-0.3538	0.0460	-5.3752	0.2052	-1.7961	0.0823
1	94.92	0.8497	-0.3430	0.0076	-0.4231	0.0510	-6.3168	0.2211	-2.0216	0.0788
1	94.92	0.9102	-0.4352	0.0087	-0.4595	0.0570	-7.6400	0.2412	-2.4237	0.0836
1	94.92	0.9734	-0.3972	0.0094	-0.4873	0.0631	-8.9860	0.2661	-2.4605	0.0764
4	94.92	0.2001	0.0315	0.0010	0.0042	0.0008	-0.0710	0.0038	-0.0742	0.0337
4	94.92	0.2502	0.0098	0.0023	0.0084	0.0023	-0.1449	0.0092	-0.0171	0.0520
4	94.92	0.3001	-0.0269	0.0017	0.0180	0.0040	-0.2988	0.0166	-0.1385	0.0755
4	94.92	0.3502	-0.0696	0.0017	0.0321	0.0059	-0.5166	0.0288	-0.1731	0.0717
4	94.92	0.4002	-0.0959	0.0019	0.0493	0.0104	-0.8022	0.0453	-0.1932	0.0487
4	94.92	0.4500	-0.1203	0.0025	0.0511	0.0144	-1.2204	0.0561	-0.4910	0.0658
4	94.92	0.5001	-0.1505	0.0036	0.0643	0.0173	-1.6534	0.0688	-0.2152	0.0755
4	94.92	0.5560	-0.1993	0.0033	0.0803	0.0205	-2.3840	0.0838	-0.5440	0.0812
4	94.92	0.6001	-0.2003	0.0040	0.0781	0.0245	-3.0459	0.0963	-0.8606	0.0884
4	94.92	0.6501	-0.2581	0.0045	0.0698	0.0284	-3.8540	0.1175	-0.6069	0.0683
4	94.92	0.6999	-0.2856	0.0053	0.0441	0.0333	-4.8072	0.1382	-0.4134	0.0586
4	94.92	0.7500	-0.3372	0.0071	-0.0307	0.0375	-5.7820	0.1612	-0.0147	0.0741
4	94.92	0.8002	-0.3856	0.0098	-0.0099	0.0423	-6.9401	0.1853	-0.3088	0.0783
4	94.92	0.8582	-0.4817	0.0116	-0.0449	0.0478	-8.3439	0.2185	-0.5445	0.0691
4	94.92	0.9101	-0.5155	0.0135	-0.0945	0.0539	-9.6733	0.2478	-0.5620	0.0728
4	94.92	0.9728	-0.5207	0.0163	-0.0545	0.0606	-11.1415	0.2903	-0.1632	0.0609

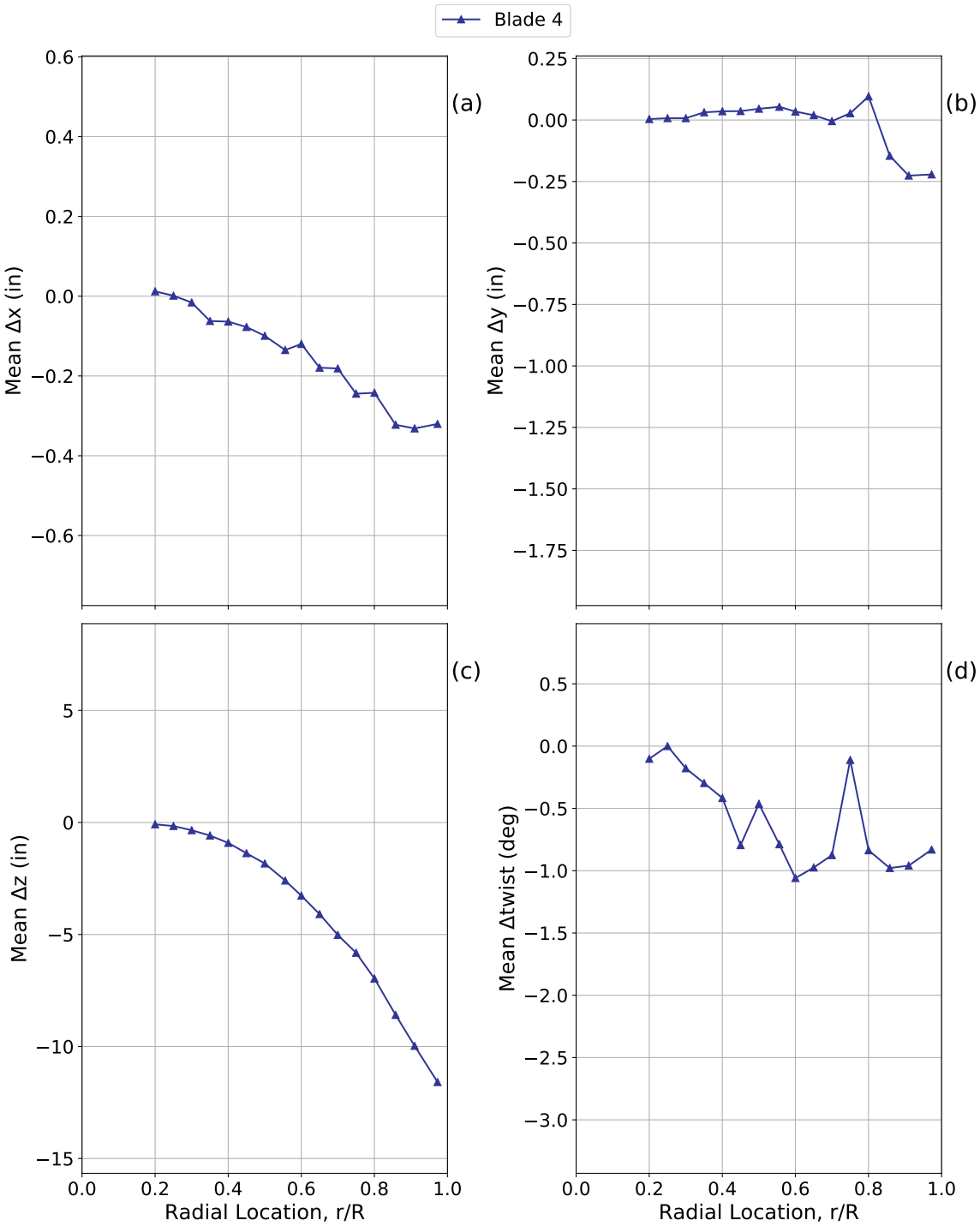


Figure 3.33-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	0.0120	0.0063	0.0038	0.0009	-0.0826	0.0057	-0.1019	0.0376
4	105.12	0.2502	0.0012	0.0036	0.0075	0.0015	-0.1578	0.0059	-0.0001	0.0642
4	105.12	0.3001	-0.0159	0.0028	0.0074	0.0028	-0.3460	0.0197	-0.1782	0.0788
4	105.12	0.3502	-0.0623	0.0051	0.0313	0.0053	-0.5835	0.0290	-0.2968	0.0683
4	105.12	0.4002	-0.0638	0.0074	0.0354	0.0075	-0.9110	0.0444	-0.4169	0.0833
4	105.12	0.4500	-0.0773	0.0095	0.0362	0.0106	-1.3715	0.0524	-0.7950	0.0831
4	105.12	0.5001	-0.0994	0.0117	0.0457	0.0137	-1.8312	0.0666	-0.4636	0.0793
4	105.12	0.5560	-0.1351	0.0106	0.0536	0.0179	-2.5934	0.0848	-0.7883	0.0826
4	105.12	0.6001	-0.1198	0.0093	0.0345	0.0205	-3.2680	0.0967	-1.0594	0.0898
4	105.12	0.6501	-0.1793	0.0082	0.0195	0.0248	-4.0919	0.1161	-0.9749	0.0819
4	105.12	0.6999	-0.1812	0.0076	-0.0048	0.0287	-5.0199	0.1263	-0.8753	0.0908
4	105.12	0.7500	-0.2445	0.0125	0.0275	0.1187	-5.8182	0.1919	-0.1114	0.1237
4	105.12	0.8002	-0.2422	0.0161	0.0960	0.1274	-6.9681	0.2024	-0.8363	0.1029
4	105.12	0.8582	-0.3224	0.0161	-0.1456	0.0431	-8.5913	0.1811	-0.9788	0.0926
4	105.12	0.9101	-0.3316	0.0226	-0.2261	0.0483	-9.9722	0.2059	-0.9595	0.1022
4	105.12	0.9728	-0.3203	0.0316	-0.2214	0.0544	-11.5890	0.2245	-0.8310	0.1559

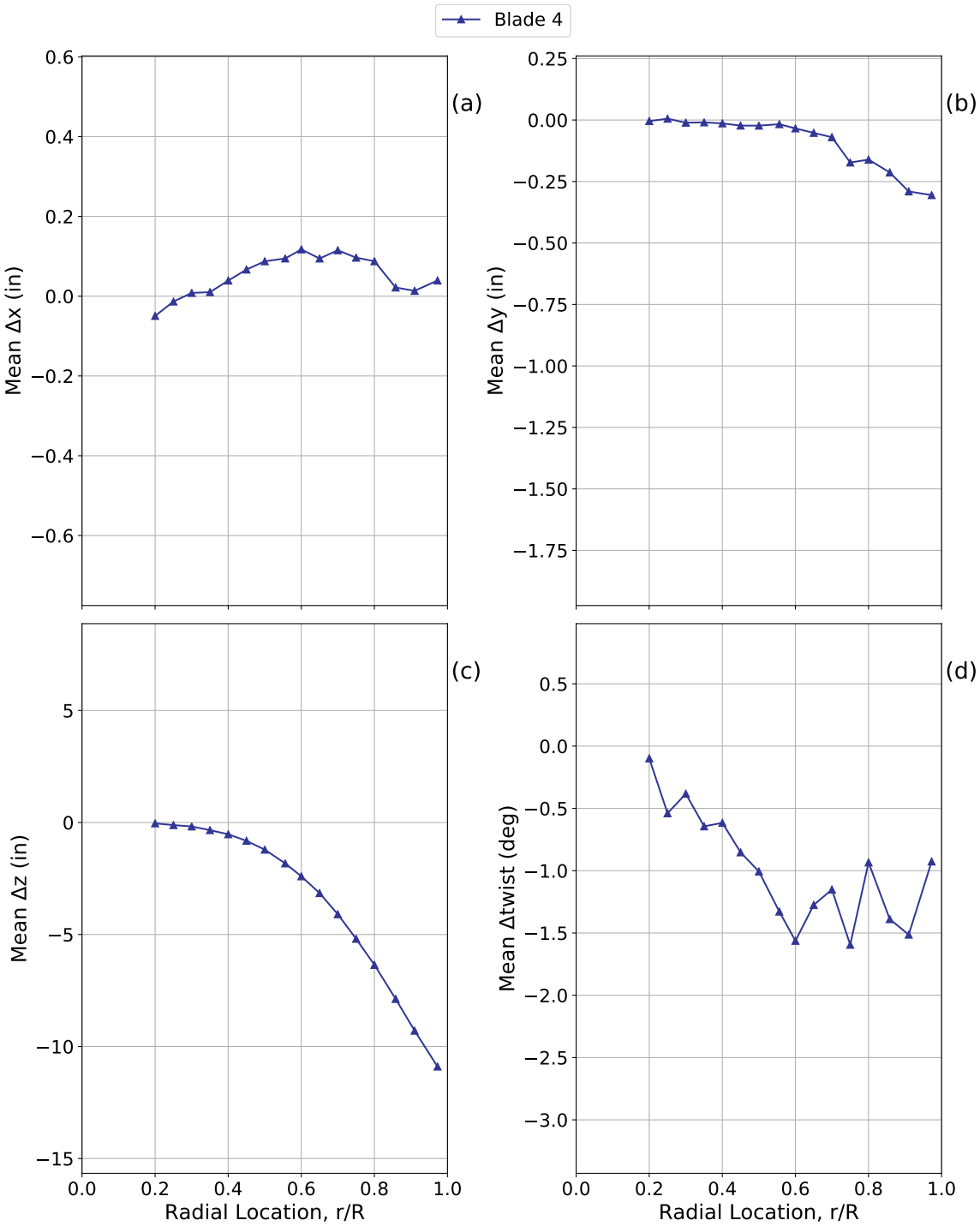


Figure 3.33-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0495	0.0021	-0.0044	0.0011	-0.0385	0.0031	-0.0985	0.0312
4	119.88	0.2502	-0.0135	0.0012	0.0053	0.0025	-0.1160	0.0044	-0.5397	0.0392
4	119.88	0.3001	0.0081	0.0014	-0.0108	0.0041	-0.1777	0.0119	-0.3824	0.0647
4	119.88	0.3502	0.0101	0.0015	-0.0096	0.0076	-0.3415	0.0171	-0.6442	0.0538
4	119.88	0.4002	0.0391	0.0023	-0.0137	0.0114	-0.5258	0.0276	-0.6159	0.0648
4	119.88	0.4500	0.0667	0.0023	-0.0227	0.0150	-0.8183	0.0380	-0.8529	0.0471
4	119.88	0.5001	0.0874	0.0029	-0.0229	0.0214	-1.2127	0.0501	-1.0066	0.0525
4	119.88	0.5560	0.0945	0.0028	-0.0170	0.0298	-1.8259	0.0658	-1.3284	0.0505
4	119.88	0.6001	0.1172	0.0037	-0.0341	0.0369	-2.4036	0.0769	-1.5631	0.0580
4	119.88	0.6501	0.0944	0.0038	-0.0523	0.0473	-3.1527	0.0952	-1.2751	0.0603
4	119.88	0.6999	0.1150	0.0052	-0.0699	0.0588	-4.0961	0.1132	-1.1518	0.0590
4	119.88	0.7500	0.0965	0.0064	-0.1728	0.0712	-5.1928	0.1355	-1.5947	0.0606
4	119.88	0.8002	0.0875	0.0074	-0.1610	0.0853	-6.3581	0.1612	-0.9338	0.0717
4	119.88	0.8582	0.0217	0.0116	-0.2133	0.1022	-7.8774	0.1926	-1.3891	0.0591
4	119.88	0.9101	0.0134	0.0132	-0.2904	0.1176	-9.2935	0.2262	-1.5136	0.0591
4	119.88	0.9728	0.0393	0.0194	-0.3054	0.1372	-10.8966	0.2707	-0.9263	0.0524

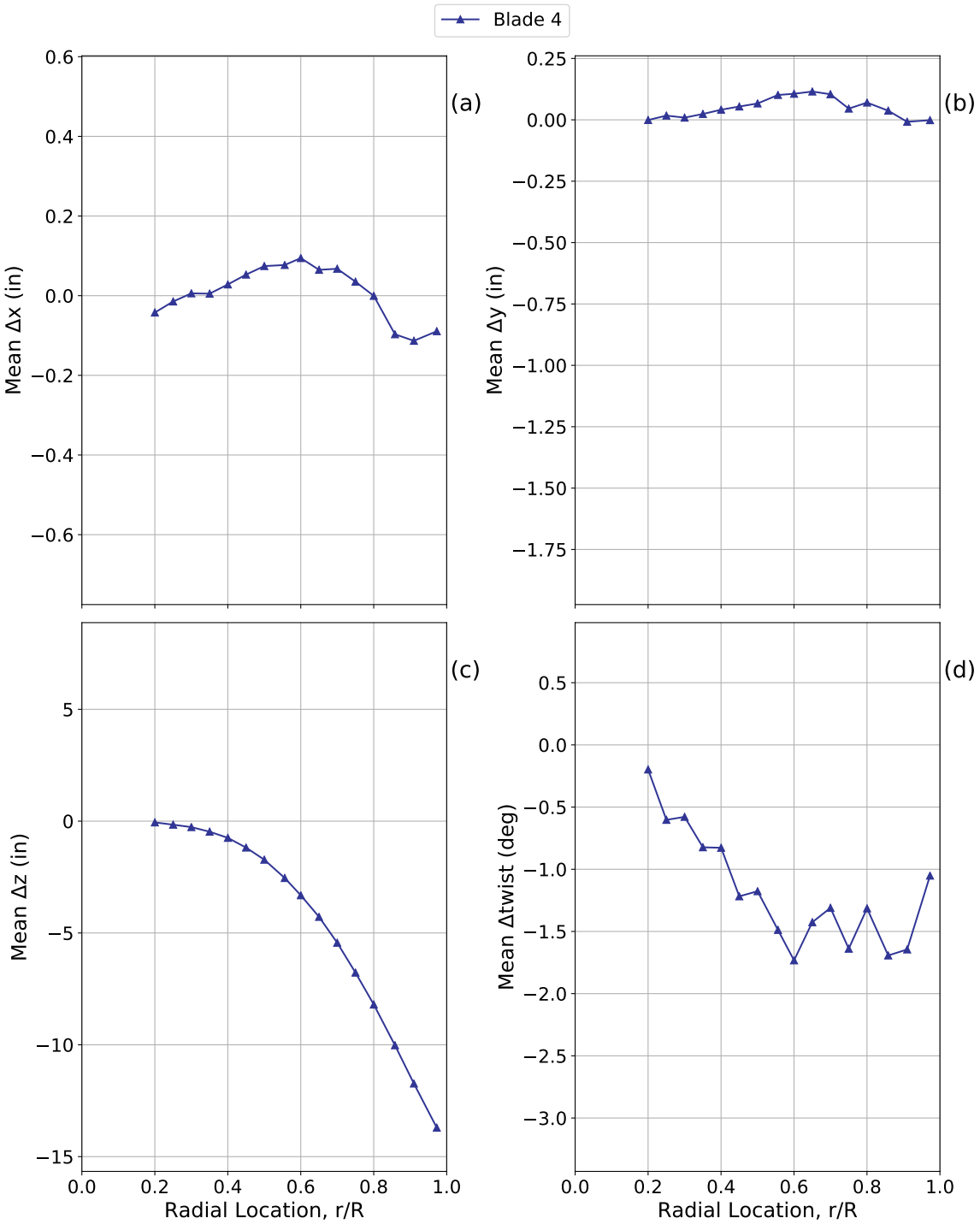


Figure 3.33-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0423	0.0014	-0.0009	0.0011	-0.0565	0.0071	-0.1979	0.0236
4	135	0.2502	-0.0146	0.0015	0.0172	0.0033	-0.1580	0.0147	-0.6028	0.0453
4	135	0.3001	0.0058	0.0016	0.0089	0.0050	-0.2675	0.0295	-0.5788	0.0557
4	135	0.3502	0.0051	0.0018	0.0238	0.0097	-0.4715	0.0500	-0.8233	0.0611
4	135	0.4002	0.0282	0.0031	0.0412	0.0149	-0.7474	0.0780	-0.8273	0.0555
4	135	0.4500	0.0529	0.0026	0.0542	0.0189	-1.1816	0.1076	-1.2177	0.0710
4	135	0.5001	0.0743	0.0037	0.0666	0.0239	-1.7240	0.1444	-1.1765	0.0735
4	135	0.5560	0.0770	0.0048	0.1012	0.0302	-2.5423	0.1899	-1.4878	0.0792
4	135	0.6001	0.0944	0.0071	0.1061	0.0357	-3.3142	0.2303	-1.7325	0.0902
4	135	0.6501	0.0649	0.0099	0.1152	0.0424	-4.2807	0.2834	-1.4261	0.0969
4	135	0.6999	0.0676	0.0138	0.1042	0.0489	-5.4373	0.3449	-1.3104	0.1047
4	135	0.7500	0.0351	0.0197	0.0456	0.0568	-6.7735	0.4166	-1.6389	0.1179
4	135	0.8002	-0.0005	0.0265	0.0702	0.0641	-8.2009	0.4981	-1.3145	0.1210
4	135	0.8582	-0.0969	0.0362	0.0372	0.0733	-10.0224	0.6041	-1.6931	0.1273
4	135	0.9101	-0.1133	0.0451	-0.0080	0.0809	-11.7326	0.7072	-1.6449	0.1300
4	135	0.9728	-0.0893	0.0544	-0.0014	0.0895	-13.7068	0.8391	-1.0513	0.1352

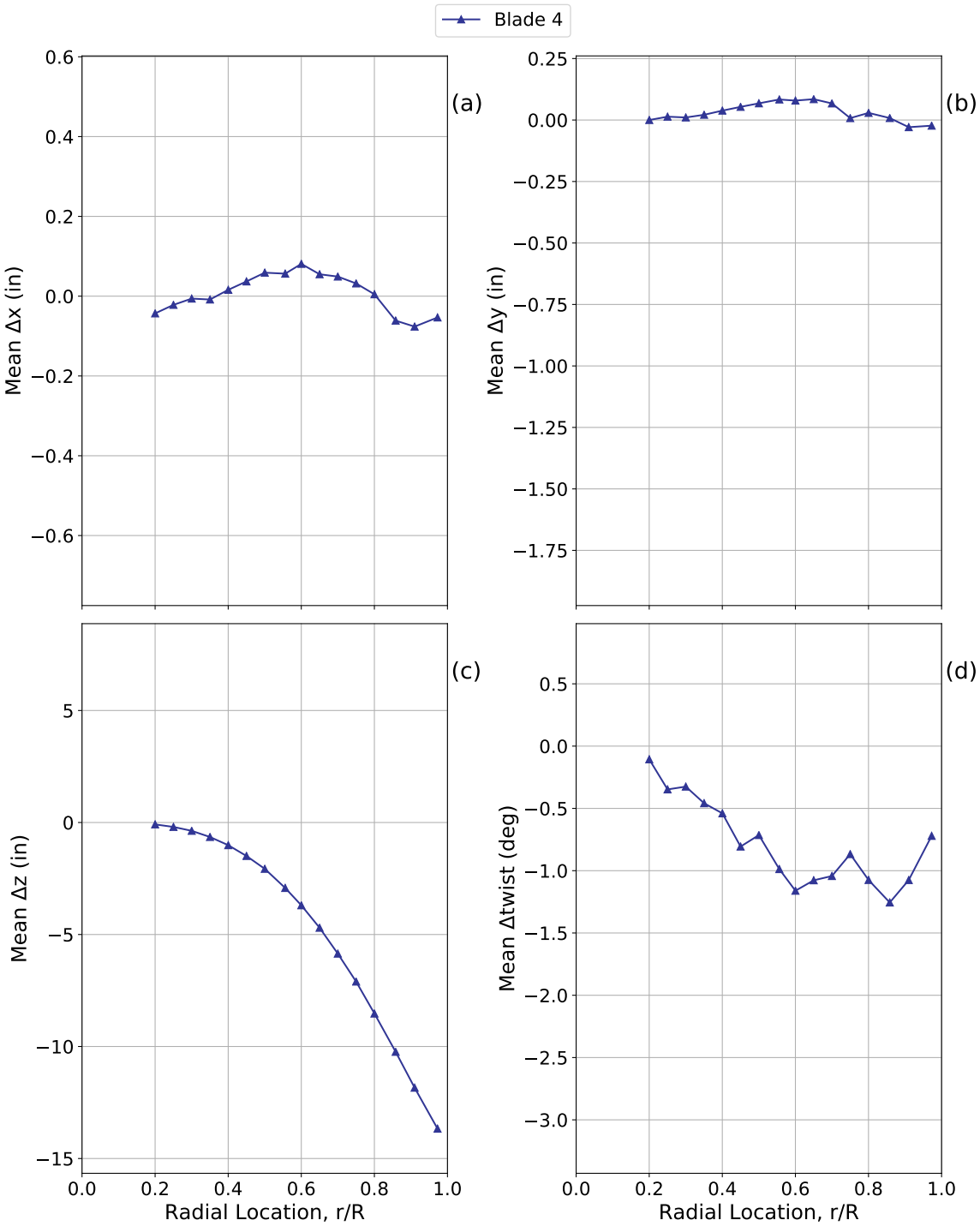


Figure 3.33-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0432	0.0013	-0.0000	0.0005	-0.0851	0.0031	-0.1063	0.0224
4	150.12	0.2502	-0.0218	0.0009	0.0136	0.0020	-0.1977	0.0062	-0.3477	0.0294
4	150.12	0.3001	-0.0061	0.0016	0.0104	0.0027	-0.3719	0.0119	-0.3251	0.0477
4	150.12	0.3502	-0.0084	0.0025	0.0213	0.0044	-0.6474	0.0212	-0.4586	0.0611
4	150.12	0.4002	0.0159	0.0027	0.0382	0.0074	-1.0130	0.0323	-0.5398	0.0451
4	150.12	0.4500	0.0369	0.0036	0.0535	0.0077	-1.4942	0.0458	-0.8064	0.0637
4	150.12	0.5001	0.0589	0.0037	0.0679	0.0107	-2.0683	0.0662	-0.7141	0.0540
4	150.12	0.5560	0.0564	0.0044	0.0835	0.0140	-2.9227	0.0929	-0.9874	0.0653
4	150.12	0.6001	0.0809	0.0058	0.0790	0.0176	-3.6967	0.1162	-1.1610	0.0598
4	150.12	0.6501	0.0549	0.0065	0.0848	0.0218	-4.7004	0.1447	-1.0772	0.0614
4	150.12	0.6999	0.0491	0.0090	0.0675	0.0262	-5.8543	0.1772	-1.0429	0.0663
4	150.12	0.7500	0.0319	0.0113	0.0077	0.0319	-7.1021	0.2122	-0.8671	0.0616
4	150.12	0.8002	0.0047	0.0139	0.0290	0.0379	-8.5297	0.2484	-1.0747	0.0634
4	150.12	0.8582	-0.0613	0.0170	0.0080	0.0454	-10.2375	0.2898	-1.2555	0.0610
4	150.12	0.9101	-0.0763	0.0208	-0.0291	0.0521	-11.8399	0.3282	-1.0753	0.0606
4	150.12	0.9728	-0.0534	0.0236	-0.0230	0.0603	-13.6688	0.3765	-0.7206	0.0535

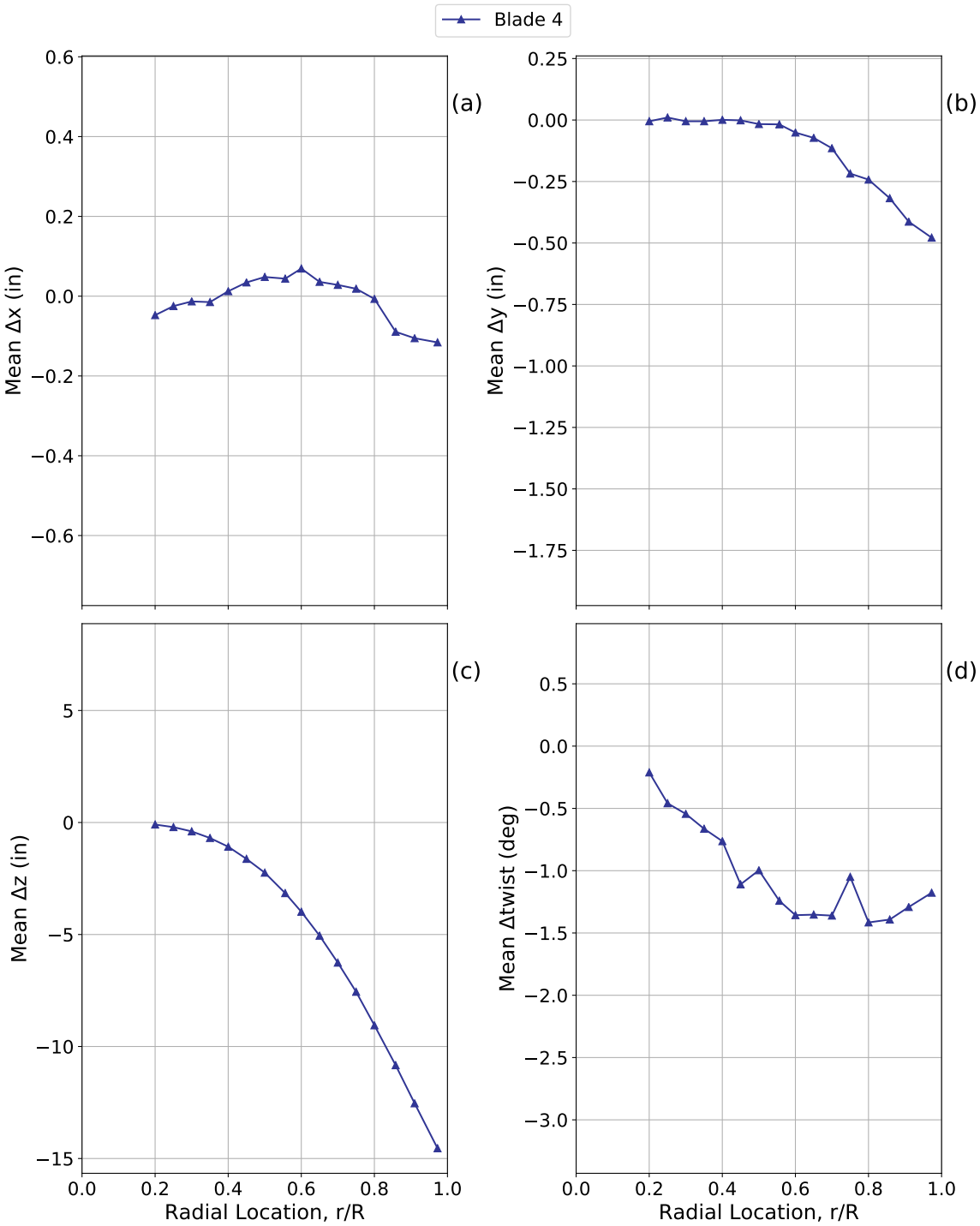


Figure 3.33-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0476	0.0019	-0.0051	0.0006	-0.0913	0.0013	-0.2115	0.0260
4	164.88	0.2502	-0.0249	0.0018	0.0102	0.0019	-0.2069	0.0047	-0.4590	0.0346
4	164.88	0.3001	-0.0132	0.0011	-0.0051	0.0024	-0.3980	0.0050	-0.5442	0.0553
4	164.88	0.3502	-0.0149	0.0012	-0.0051	0.0046	-0.6925	0.0098	-0.6638	0.0429
4	164.88	0.4002	0.0124	0.0019	0.0007	0.0070	-1.0826	0.0153	-0.7635	0.0439
4	164.88	0.4500	0.0344	0.0024	-0.0014	0.0083	-1.6246	0.0203	-1.1099	0.0373
4	164.88	0.5001	0.0481	0.0025	-0.0165	0.0105	-2.2411	0.0240	-0.9967	0.0344
4	164.88	0.5560	0.0439	0.0029	-0.0177	0.0115	-3.1542	0.0289	-1.2418	0.0388
4	164.88	0.6001	0.0692	0.0036	-0.0510	0.0136	-3.9864	0.0340	-1.3571	0.0424
4	164.88	0.6501	0.0358	0.0041	-0.0726	0.0167	-5.0548	0.0413	-1.3529	0.0485
4	164.88	0.6999	0.0282	0.0048	-0.1147	0.0198	-6.2575	0.0512	-1.3605	0.0424
4	164.88	0.7500	0.0186	0.0062	-0.2178	0.0229	-7.5584	0.0658	-1.0499	0.0387
4	164.88	0.8002	-0.0069	0.0084	-0.2424	0.0268	-9.0560	0.0917	-1.4154	0.0365
4	164.88	0.8582	-0.0893	0.0129	-0.3181	0.0317	-10.8363	0.1304	-1.3922	0.0375
4	164.88	0.9101	-0.1054	0.0164	-0.4134	0.0369	-12.5367	0.1749	-1.2917	0.0337
4	164.88	0.9728	-0.1159	0.0220	-0.4784	0.0418	-14.5449	0.2345	-1.1772	0.0319

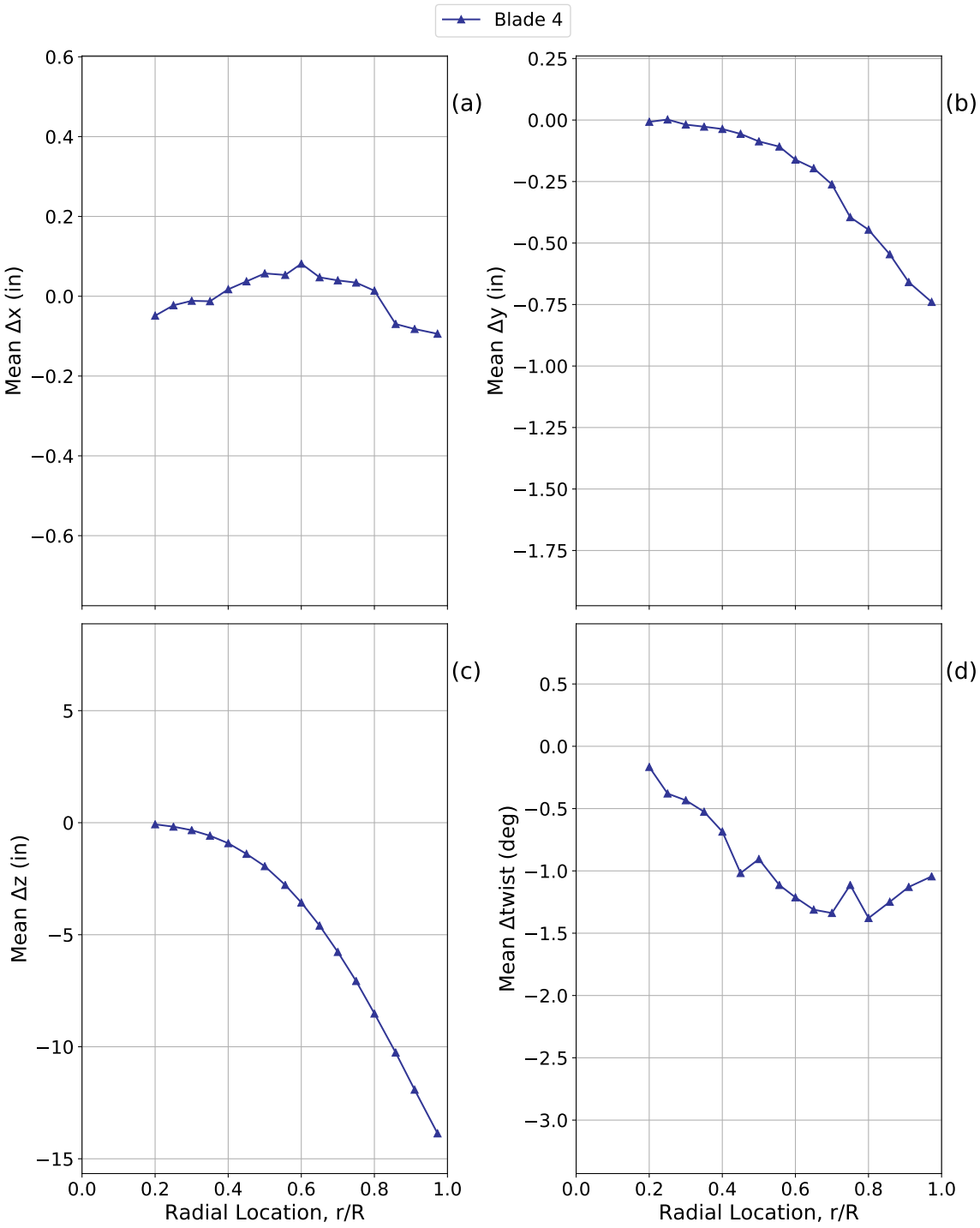


Figure 3.33-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0488	0.0018	-0.0073	0.0009	-0.0736	0.0031	-0.1662	0.0283
4	170.16	0.2502	-0.0227	0.0016	0.0020	0.0022	-0.1776	0.0047	-0.3793	0.0422
4	170.16	0.3001	-0.0115	0.0017	-0.0186	0.0037	-0.3347	0.0098	-0.4336	0.0596
4	170.16	0.3502	-0.0126	0.0016	-0.0270	0.0067	-0.5819	0.0144	-0.5257	0.0486
4	170.16	0.4002	0.0174	0.0020	-0.0364	0.0100	-0.9172	0.0219	-0.6852	0.0593
4	170.16	0.4500	0.0372	0.0029	-0.0563	0.0132	-1.3932	0.0277	-1.0175	0.0519
4	170.16	0.5001	0.0572	0.0027	-0.0869	0.0146	-1.9422	0.0358	-0.9055	0.0509
4	170.16	0.5560	0.0533	0.0028	-0.1080	0.0192	-2.7794	0.0484	-1.1134	0.0530
4	170.16	0.6001	0.0815	0.0041	-0.1611	0.0221	-3.5649	0.0511	-1.2126	0.0591
4	170.16	0.6501	0.0474	0.0045	-0.1962	0.0251	-4.5955	0.0612	-1.3115	0.0497
4	170.16	0.6999	0.0397	0.0051	-0.2617	0.0293	-5.7711	0.0671	-1.3382	0.0532
4	170.16	0.7500	0.0341	0.0054	-0.3950	0.0339	-7.0674	0.0763	-1.1134	0.0560
4	170.16	0.8002	0.0138	0.0067	-0.4459	0.0374	-8.5205	0.0859	-1.3788	0.0544
4	170.16	0.8582	-0.0696	0.0083	-0.5458	0.0419	-10.2606	0.0992	-1.2486	0.0568
4	170.16	0.9101	-0.0821	0.0096	-0.6589	0.0453	-11.9176	0.1149	-1.1292	0.0547
4	170.16	0.9728	-0.0941	0.0114	-0.7397	0.0506	-13.8679	0.1318	-1.0441	0.0674

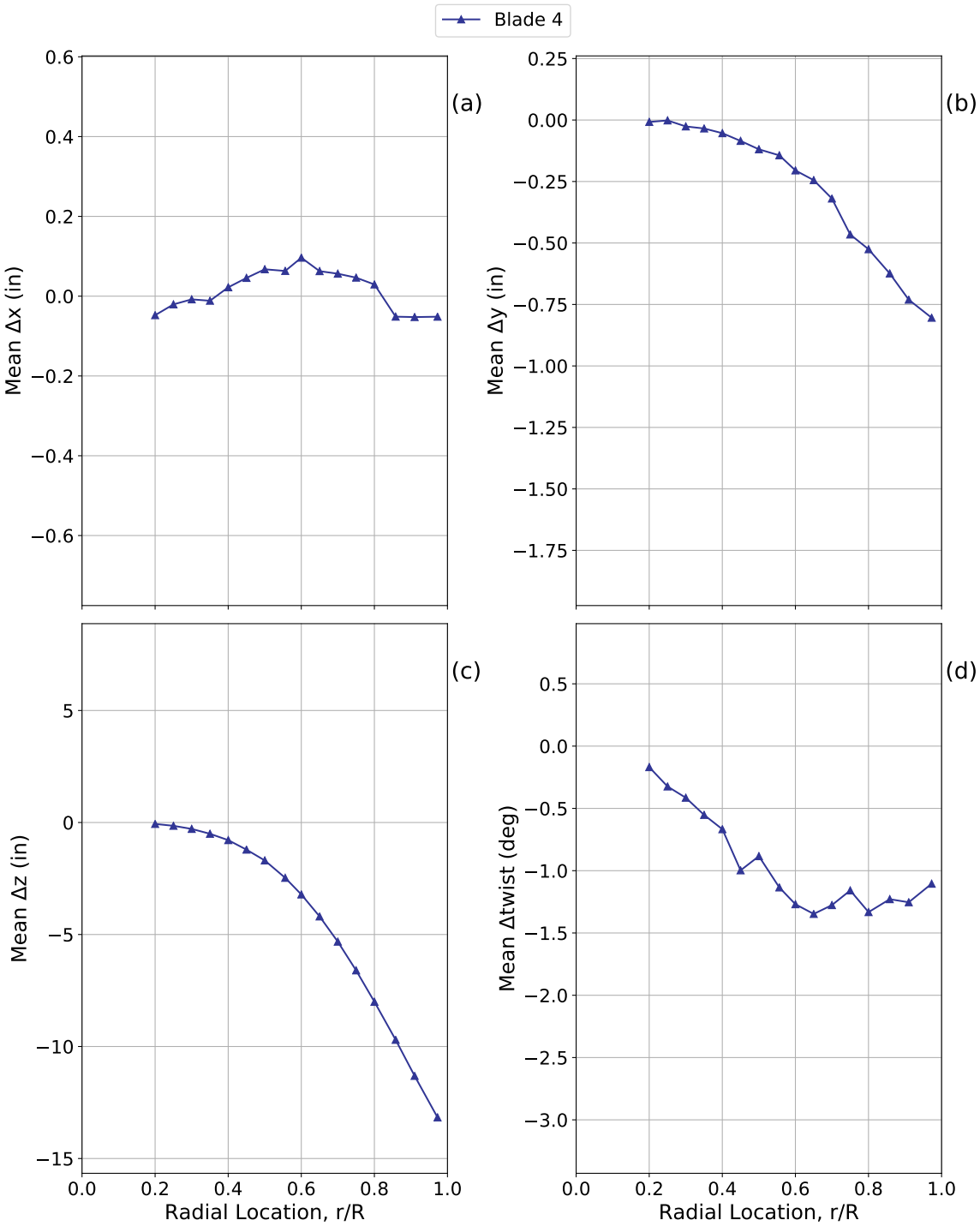


Figure 3.33-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0477	0.0013	-0.0079	0.0010	-0.0643	0.0029	-0.1690	0.0243
4	175.08	0.2502	-0.0206	0.0019	-0.0017	0.0023	-0.1476	0.0065	-0.3242	0.0308
4	175.08	0.3001	-0.0080	0.0020	-0.0261	0.0039	-0.2865	0.0079	-0.4145	0.0431
4	175.08	0.3502	-0.0115	0.0016	-0.0344	0.0074	-0.5044	0.0135	-0.5524	0.0428
4	175.08	0.4002	0.0222	0.0030	-0.0536	0.0110	-0.7881	0.0203	-0.6674	0.0506
4	175.08	0.4500	0.0457	0.0027	-0.0850	0.0132	-1.2119	0.0244	-0.9974	0.0400
4	175.08	0.5001	0.0674	0.0040	-0.1191	0.0154	-1.6945	0.0324	-0.8836	0.0483
4	175.08	0.5560	0.0632	0.0037	-0.1437	0.0199	-2.4711	0.0439	-1.1346	0.0420
4	175.08	0.6001	0.0964	0.0052	-0.2050	0.0224	-3.2137	0.0544	-1.2695	0.0436
4	175.08	0.6501	0.0627	0.0061	-0.2446	0.0264	-4.1944	0.0700	-1.3472	0.0541
4	175.08	0.6999	0.0563	0.0075	-0.3193	0.0322	-5.3203	0.0917	-1.2764	0.0479
4	175.08	0.7500	0.0464	0.0103	-0.4656	0.0377	-6.6021	0.1162	-1.1587	0.0491
4	175.08	0.8002	0.0293	0.0131	-0.5255	0.0432	-8.0064	0.1446	-1.3326	0.0576
4	175.08	0.8582	-0.0514	0.0173	-0.6241	0.0513	-9.7018	0.1828	-1.2288	0.0422
4	175.08	0.9101	-0.0524	0.0206	-0.7306	0.0587	-11.3118	0.2259	-1.2536	0.0609
4	175.08	0.9728	-0.0515	0.0255	-0.8041	0.0677	-13.1657	0.2822	-1.1048	0.0500

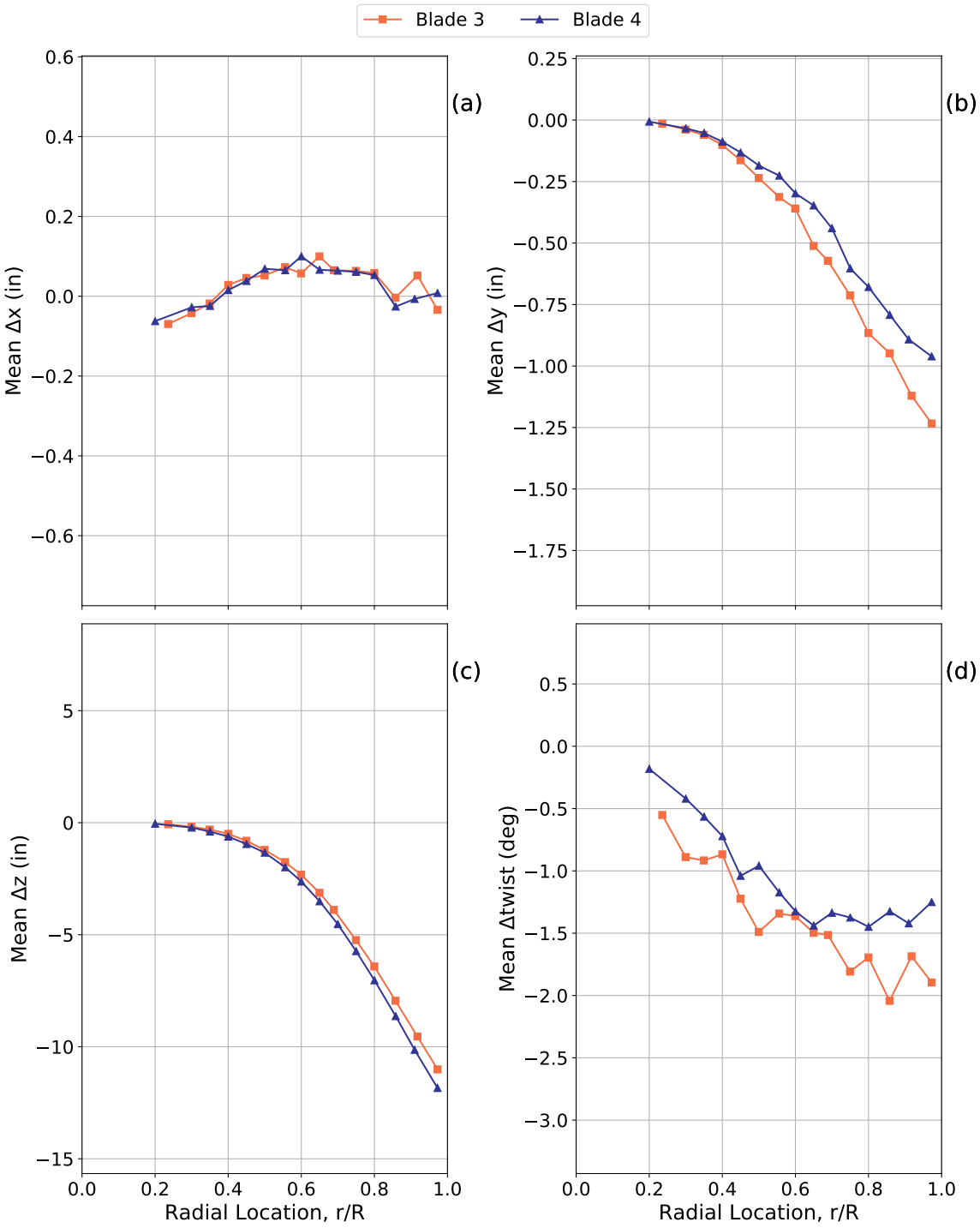


Figure 3.33-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0696	0.0035	-0.0144	0.0034	-0.0694	0.0072	-0.5513	0.0853
3	180.35	0.2995	-0.0425	0.0044	-0.0389	0.0086	-0.1793	0.0140	-0.8889	0.1382
3	180.35	0.3493	-0.0181	0.0054	-0.0604	0.0145	-0.3057	0.0273	-0.9163	0.1239
3	180.35	0.4000	0.0284	0.0046	-0.1013	0.0234	-0.4976	0.0404	-0.8670	0.1404
3	180.35	0.4497	0.0458	0.0042	-0.1634	0.0306	-0.8076	0.0553	-1.2235	0.1324
3	180.35	0.4997	0.0521	0.0060	-0.2356	0.0374	-1.2167	0.0696	-1.4899	0.1420
3	180.35	0.5556	0.0728	0.0053	-0.3129	0.0465	-1.7576	0.0871	-1.3421	0.1424
3	180.35	0.5995	0.0572	0.0065	-0.3596	0.0523	-2.3206	0.0962	-1.3627	0.1609
3	180.35	0.6498	0.0999	0.0068	-0.5117	0.0610	-3.1296	0.1130	-1.4970	0.1481
3	180.35	0.6890	0.0652	0.0074	-0.5721	0.0681	-3.8909	0.1251	-1.5147	0.1378
3	180.35	0.7495	0.0636	0.0088	-0.7130	0.0797	-5.2407	0.1479	-1.8081	0.1403
3	180.35	0.7998	0.0582	0.0108	-0.8659	0.0908	-6.4179	0.1709	-1.6946	0.1373
3	180.35	0.8577	-0.0036	0.0142	-0.9481	0.1029	-7.9468	0.2034	-2.0430	0.1290
3	180.35	0.9178	0.0520	0.0183	-1.1208	0.1162	-9.5446	0.2435	-1.6854	0.1250
3	180.35	0.9729	-0.0341	0.0234	-1.2335	0.1295	-11.0114	0.2853	-1.8957	0.1380
4	180	0.2001	-0.0624	0.0037	-0.0066	0.0031	-0.0467	0.0140	-0.1814	0.1570
4	180	0.3001	-0.0278	0.0267	-0.0337	0.0100	-0.2193	0.0486	-0.4205	0.3718
4	180	0.3502	-0.0243	0.0044	-0.0529	0.0244	-0.3977	0.1242	-0.5652	0.1927
4	180	0.4002	0.0154	0.0036	-0.0880	0.0326	-0.6208	0.1675	-0.7217	0.1714
4	180	0.4500	0.0382	0.0054	-0.1320	0.0374	-0.9537	0.2060	-1.0398	0.1867
4	180	0.5001	0.0688	0.0053	-0.1849	0.0441	-1.3398	0.2507	-0.9587	0.1840
4	180	0.5560	0.0651	0.0081	-0.2262	0.0504	-1.9906	0.3014	-1.1734	0.1810
4	180	0.6001	0.1000	0.0088	-0.2981	0.0553	-2.6287	0.3459	-1.3243	0.1640
4	180	0.6501	0.0663	0.0118	-0.3474	0.0599	-3.5080	0.3926	-1.4391	0.1765
4	180	0.6999	0.0640	0.0144	-0.4398	0.0654	-4.5306	0.4428	-1.3364	0.1731
4	180	0.7500	0.0610	0.0184	-0.6032	0.0700	-5.7341	0.4954	-1.3744	0.1703
4	180	0.8002	0.0531	0.0229	-0.6790	0.0757	-7.0349	0.5515	-1.4491	0.1708
4	180	0.8582	-0.0259	0.0291	-0.7922	0.0804	-8.6329	0.6216	-1.3253	0.1702
4	180	0.9101	-0.0069	0.0343	-0.8921	0.0866	-10.1377	0.6842	-1.4214	0.1733
4	180	0.9728	0.0081	0.0410	-0.9609	0.0950	-11.8406	0.7704	-1.2503	0.1681

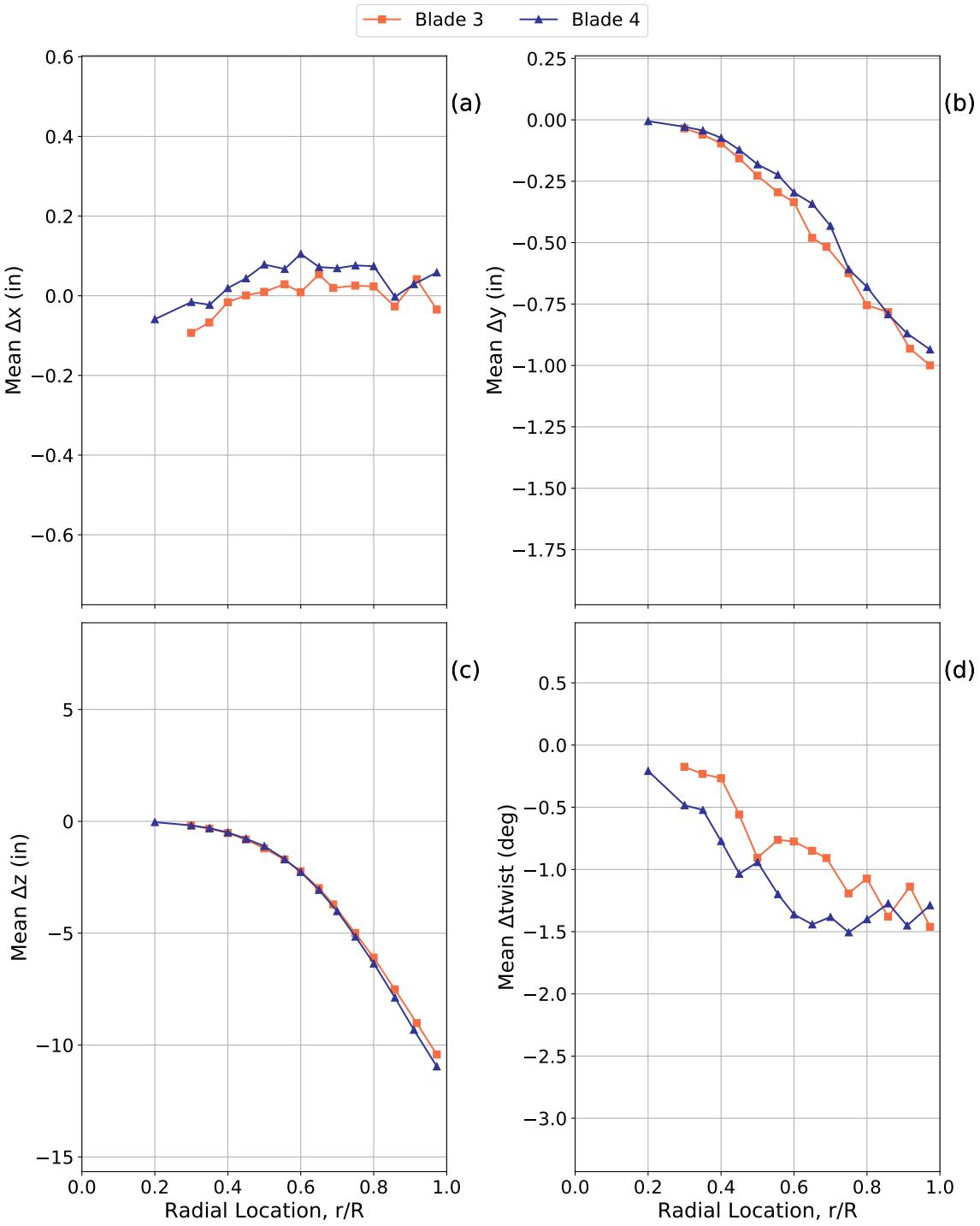


Figure 3.33-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0931	0.0108	-0.0347	0.0191	-0.1868	0.0442	-0.1745	0.1027
3	184.92	0.3493	-0.0671	0.0143	-0.0600	0.0331	-0.3249	0.0750	-0.2320	0.1354
3	184.92	0.4000	-0.0164	0.0109	-0.0960	0.0531	-0.5220	0.1191	-0.2668	0.1266
3	184.92	0.4497	0.0009	0.0113	-0.1569	0.0701	-0.8130	0.1554	-0.5581	0.1373
3	184.92	0.4997	0.0099	0.0136	-0.2272	0.0869	-1.2085	0.1899	-0.9063	0.1586
3	184.92	0.5556	0.0288	0.0151	-0.2951	0.1058	-1.7066	0.2337	-0.7619	0.1545
3	184.92	0.5995	0.0089	0.0147	-0.3349	0.1206	-2.2319	0.2731	-0.7752	0.1627
3	184.92	0.6498	0.0535	0.0165	-0.4806	0.1371	-2.9861	0.3100	-0.8496	0.1498
3	184.92	0.6890	0.0197	0.0177	-0.5170	0.1508	-3.7132	0.3456	-0.9083	0.1536
3	184.92	0.7495	0.0254	0.0213	-0.6242	0.1728	-4.9928	0.3987	-1.1919	0.1562
3	184.92	0.7998	0.0233	0.0234	-0.7547	0.1899	-6.0897	0.4457	-1.0732	0.1640
3	184.92	0.8577	-0.0268	0.0277	-0.7826	0.2098	-7.5111	0.5049	-1.3791	0.1473
3	184.92	0.9178	0.0416	0.0318	-0.9317	0.2305	-9.0185	0.5673	-1.1379	0.1457
3	184.92	0.9729	-0.0346	0.0374	-0.9997	0.2501	-10.4192	0.6263	-1.4610	0.1321
4	184.92	0.2001	-0.0589	0.0042	-0.0054	0.0022	-0.0353	0.0051	-0.2081	0.0554
4	184.92	0.3001	-0.0158	0.0072	-0.0283	0.0104	-0.1812	0.0234	-0.4840	0.1296
4	184.92	0.3502	-0.0227	0.0049	-0.0435	0.0182	-0.3067	0.0332	-0.5217	0.1097
4	184.92	0.4002	0.0193	0.0046	-0.0732	0.0284	-0.4966	0.0552	-0.7720	0.1504
4	184.92	0.4500	0.0437	0.0061	-0.1217	0.0326	-0.7791	0.0649	-1.0345	0.1202
4	184.92	0.5001	0.0784	0.0073	-0.1813	0.0382	-1.1072	0.0792	-0.9410	0.1295
4	184.92	0.5560	0.0672	0.0050	-0.2240	0.0478	-1.6937	0.1027	-1.1989	0.1064
4	184.92	0.6001	0.1051	0.0066	-0.2960	0.0523	-2.2645	0.1187	-1.3616	0.1296
4	184.92	0.6501	0.0721	0.0085	-0.3418	0.0569	-3.0655	0.1355	-1.4419	0.1256
4	184.92	0.6999	0.0691	0.0096	-0.4318	0.0643	-4.0153	0.1565	-1.3819	0.1392
4	184.92	0.7500	0.0761	0.0106	-0.6084	0.0707	-5.1574	0.1852	-1.5056	0.1134
4	184.92	0.8002	0.0741	0.0132	-0.6805	0.0780	-6.3540	0.2150	-1.4002	0.1320
4	184.92	0.8582	-0.0026	0.0161	-0.7919	0.0858	-7.8802	0.2523	-1.2731	0.1519
4	184.92	0.9101	0.0291	0.0191	-0.8698	0.0934	-9.3193	0.2924	-1.4512	0.1422
4	184.92	0.9728	0.0585	0.0236	-0.9352	0.1026	-10.9573	0.3527	-1.2881	0.1387

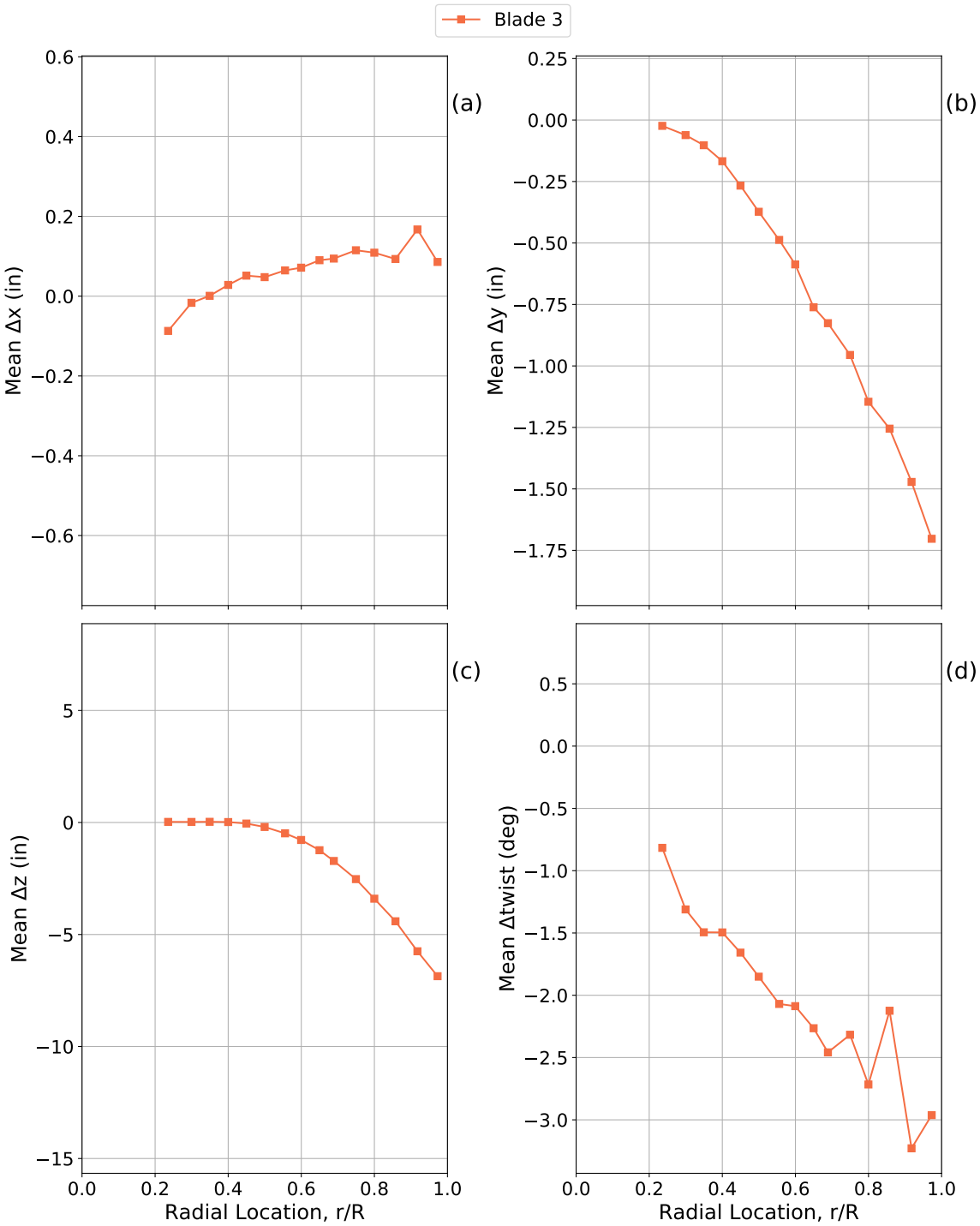


Figure 3.33-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.2357	-0.0871	0.0116	-0.0237	0.0080	0.0274	0.0383	-0.8167	0.2670
3	195.12	0.2995	-0.0167	0.0035	-0.0613	0.0181	0.0255	0.0693	-1.3110	0.4263
3	195.12	0.3493	0.0009	0.0023	-0.1025	0.0351	0.0311	0.1178	-1.4945	0.4287
3	195.12	0.4000	0.0282	0.0063	-0.1675	0.0541	0.0205	0.1699	-1.4955	0.4348
3	195.12	0.4497	0.0515	0.0092	-0.2667	0.0726	-0.0464	0.2239	-1.6578	0.4273
3	195.12	0.4997	0.0477	0.0112	-0.3731	0.0912	-0.1987	0.2813	-1.8508	0.4165
3	195.12	0.5556	0.0646	0.0132	-0.4875	0.1119	-0.4834	0.3458	-2.0697	0.4240
3	195.12	0.5995	0.0714	0.0140	-0.5871	0.1285	-0.7804	0.4004	-2.0874	0.4205
3	195.12	0.6498	0.0901	0.0146	-0.7615	0.1477	-1.2376	0.4628	-2.2646	0.4422
3	195.12	0.6890	0.0942	0.0143	-0.8261	0.1639	-1.7169	0.5155	-2.4583	0.4347
3	195.12	0.7495	0.1151	0.0143	-0.9554	0.1885	-2.5269	0.5982	-2.3170	0.4381
3	195.12	0.7998	0.1090	0.0161	-1.1456	0.2120	-3.4015	0.6685	-2.7162	0.4446
3	195.12	0.8577	0.0932	0.0200	-1.2550	0.2416	-4.4091	0.7566	-2.1242	0.4251
3	195.12	0.9178	0.1672	0.0243	-1.4716	0.2749	-5.7485	0.8461	-3.2286	0.4407
3	195.12	0.9729	0.0858	0.0323	-1.7028	0.3066	-6.8610	0.9267	-2.9620	0.4552

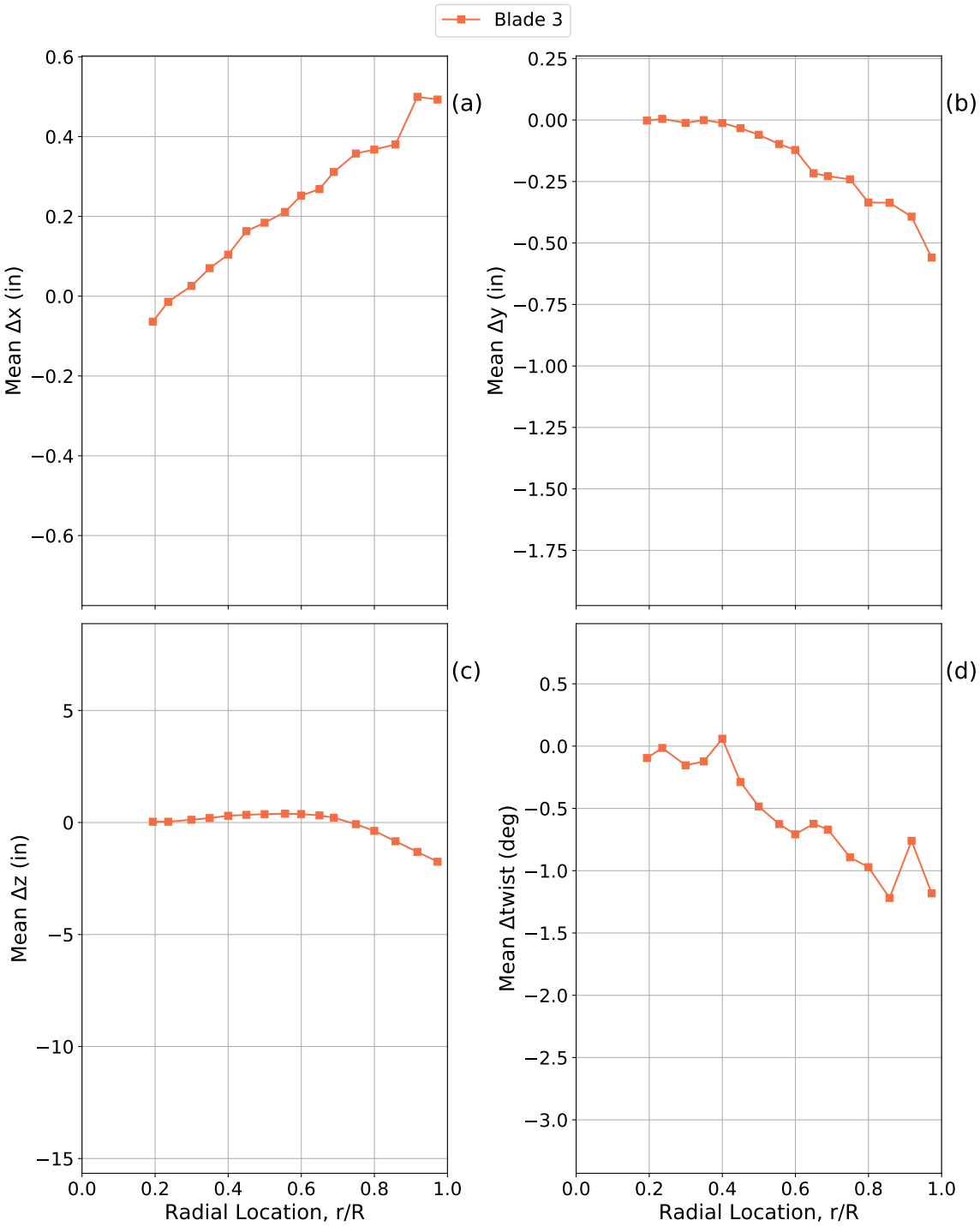


Figure 3.33-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0639	0.0014	-0.0023	0.0005	0.0347	0.0037	-0.0957	0.0298
3	209.88	0.2357	-0.0141	0.0016	0.0046	0.0015	0.0353	0.0083	-0.0146	0.0334
3	209.88	0.2995	0.0257	0.0018	-0.0116	0.0025	0.1212	0.0186	-0.1541	0.0595
3	209.88	0.3493	0.0701	0.0017	-0.0002	0.0048	0.1982	0.0302	-0.1233	0.0412
3	209.88	0.4000	0.1042	0.0024	-0.0122	0.0071	0.3006	0.0490	0.0591	0.0400
3	209.88	0.4497	0.1629	0.0025	-0.0333	0.0103	0.3419	0.0670	-0.2887	0.0393
3	209.88	0.4997	0.1841	0.0027	-0.0601	0.0129	0.3734	0.0888	-0.4848	0.0558
3	209.88	0.5556	0.2111	0.0028	-0.0975	0.0172	0.3936	0.1153	-0.6258	0.0507
3	209.88	0.5995	0.2521	0.0034	-0.1218	0.0204	0.3777	0.1372	-0.7083	0.0481
3	209.88	0.6498	0.2684	0.0037	-0.2162	0.0240	0.3168	0.1659	-0.6238	0.0405
3	209.88	0.6890	0.3112	0.0037	-0.2283	0.0279	0.2137	0.1893	-0.6701	0.0396
3	209.88	0.7495	0.3576	0.0037	-0.2411	0.0342	-0.0747	0.2261	-0.8926	0.0418
3	209.88	0.7998	0.3676	0.0051	-0.3352	0.0401	-0.3744	0.2545	-0.9719	0.0454
3	209.88	0.8577	0.3802	0.0055	-0.3365	0.0459	-0.8374	0.2892	-1.2190	0.0441
3	209.88	0.9178	0.4996	0.0073	-0.3930	0.0548	-1.3149	0.3318	-0.7606	0.0685
3	209.88	0.9729	0.4930	0.0106	-0.5596	0.0605	-1.7510	0.3715	-1.1819	0.0644

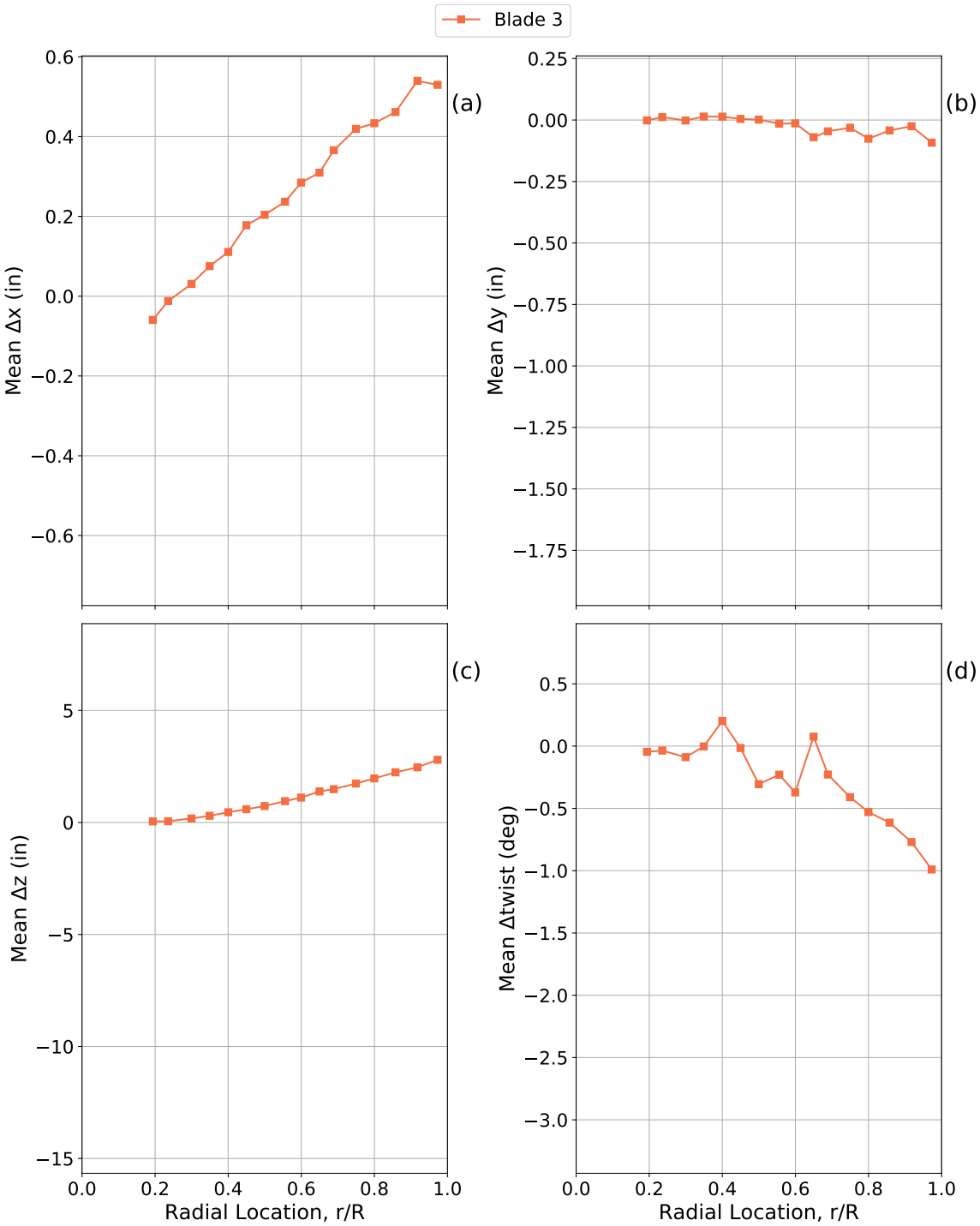


Figure 3.33-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0596	0.0008	-0.0015	0.0007	0.0491	0.0063	-0.0457	0.0281
3	225	0.2357	-0.0122	0.0021	0.0117	0.0016	0.0561	0.0108	-0.0359	0.0462
3	225	0.2995	0.0307	0.0016	-0.0020	0.0039	0.1804	0.0216	-0.0890	0.0681
3	225	0.3493	0.0753	0.0011	0.0141	0.0077	0.3003	0.0365	-0.0023	0.0348
3	225	0.4000	0.1108	0.0018	0.0138	0.0118	0.4577	0.0542	0.2015	0.0467
3	225	0.4497	0.1778	0.0013	0.0044	0.0157	0.5932	0.0723	-0.0154	0.0497
3	225	0.4997	0.2040	0.0024	0.0016	0.0211	0.7331	0.0906	-0.3056	0.0417
3	225	0.5556	0.2367	0.0018	-0.0146	0.0280	0.9547	0.1157	-0.2296	0.0374
3	225	0.5995	0.2847	0.0031	-0.0137	0.0333	1.1130	0.1330	-0.3714	0.0603
3	225	0.6498	0.3096	0.0032	-0.0699	0.0405	1.3871	0.1552	0.0760	0.0630
3	225	0.6890	0.3658	0.0032	-0.0460	0.0465	1.4879	0.1718	-0.2281	0.0589
3	225	0.7495	0.4193	0.0042	-0.0313	0.0560	1.7388	0.2010	-0.4099	0.0561
3	225	0.7998	0.4334	0.0051	-0.0760	0.0645	1.9694	0.2270	-0.5294	0.0601
3	225	0.8577	0.4615	0.0058	-0.0423	0.0756	2.2391	0.2536	-0.6146	0.0702
3	225	0.9178	0.5396	0.0073	-0.0253	0.0868	2.4630	0.2881	-0.7702	0.0654
3	225	0.9729	0.5297	0.0107	-0.0919	0.0967	2.8004	0.3114	-0.9904	0.0607

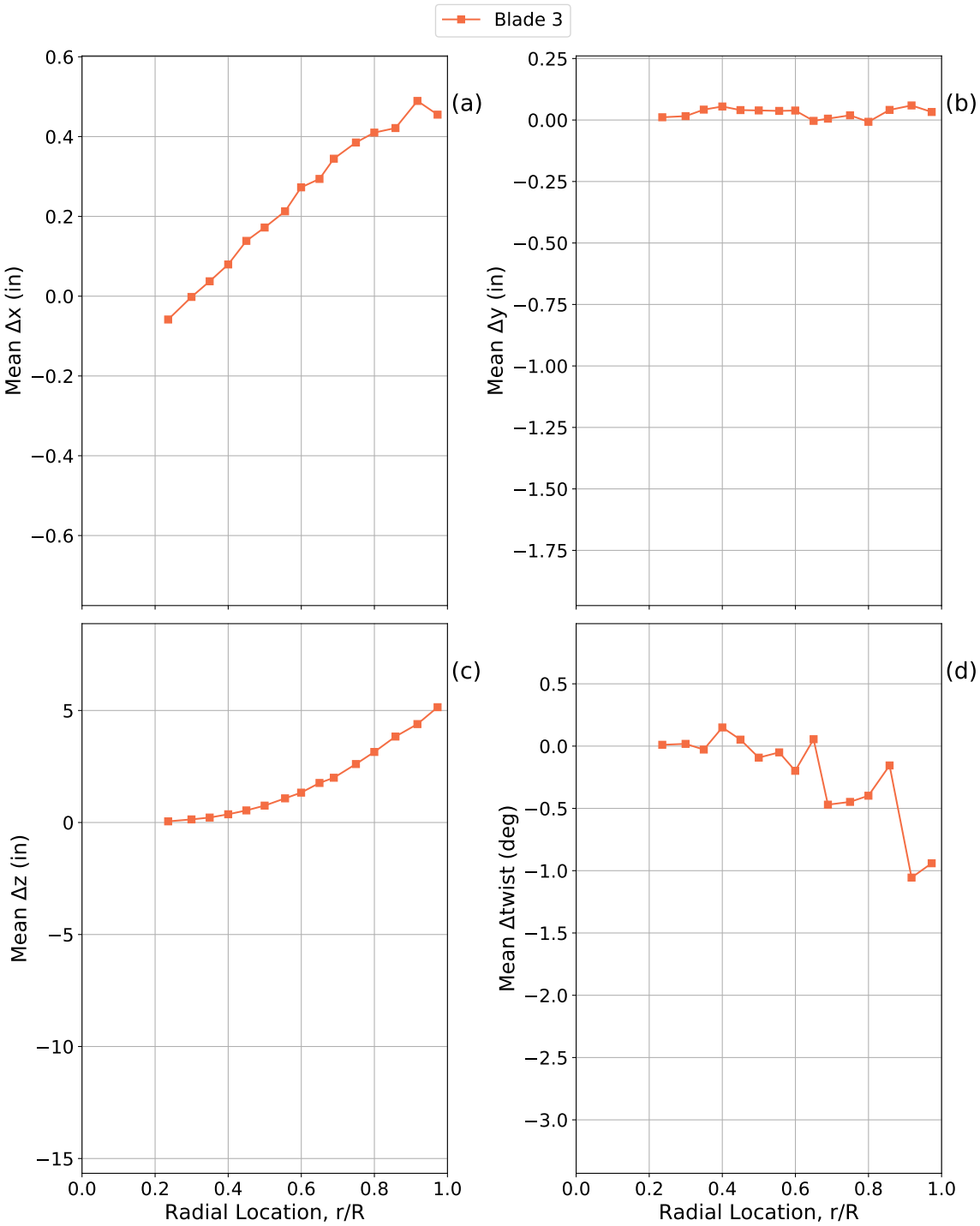


Figure 3.33-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0585	0.0017	0.0112	0.0015	0.0517	0.0155	0.0106	0.0654
3	240.12	0.2995	-0.0019	0.0010	0.0158	0.0044	0.1384	0.0301	0.0180	0.1050
3	240.12	0.3493	0.0373	0.0017	0.0423	0.0087	0.2208	0.0473	-0.0276	0.1020
3	240.12	0.4000	0.0795	0.0023	0.0550	0.0141	0.3670	0.0708	0.1499	0.0972
3	240.12	0.4497	0.1386	0.0030	0.0404	0.0183	0.5396	0.0944	0.0521	0.1025
3	240.12	0.4997	0.1721	0.0031	0.0390	0.0248	0.7540	0.1237	-0.0925	0.1109
3	240.12	0.5556	0.2127	0.0022	0.0371	0.0314	1.0781	0.1548	-0.0503	0.1183
3	240.12	0.5995	0.2728	0.0029	0.0386	0.0364	1.3337	0.1785	-0.1981	0.1064
3	240.12	0.6498	0.2939	0.0032	-0.0034	0.0435	1.7653	0.2074	0.0554	0.1159
3	240.12	0.6890	0.3446	0.0044	0.0056	0.0487	1.9984	0.2263	-0.4700	0.1069
3	240.12	0.7495	0.3852	0.0057	0.0192	0.0574	2.6097	0.2550	-0.4478	0.1097
3	240.12	0.7998	0.4100	0.0058	-0.0072	0.0645	3.1496	0.2757	-0.3981	0.1048
3	240.12	0.8577	0.4214	0.0069	0.0411	0.0733	3.8368	0.2995	-0.1553	0.1158
3	240.12	0.9178	0.4894	0.0077	0.0593	0.0825	4.3932	0.3243	-1.0554	0.1076
3	240.12	0.9729	0.4550	0.0106	0.0327	0.0906	5.1467	0.3471	-0.9404	0.1123

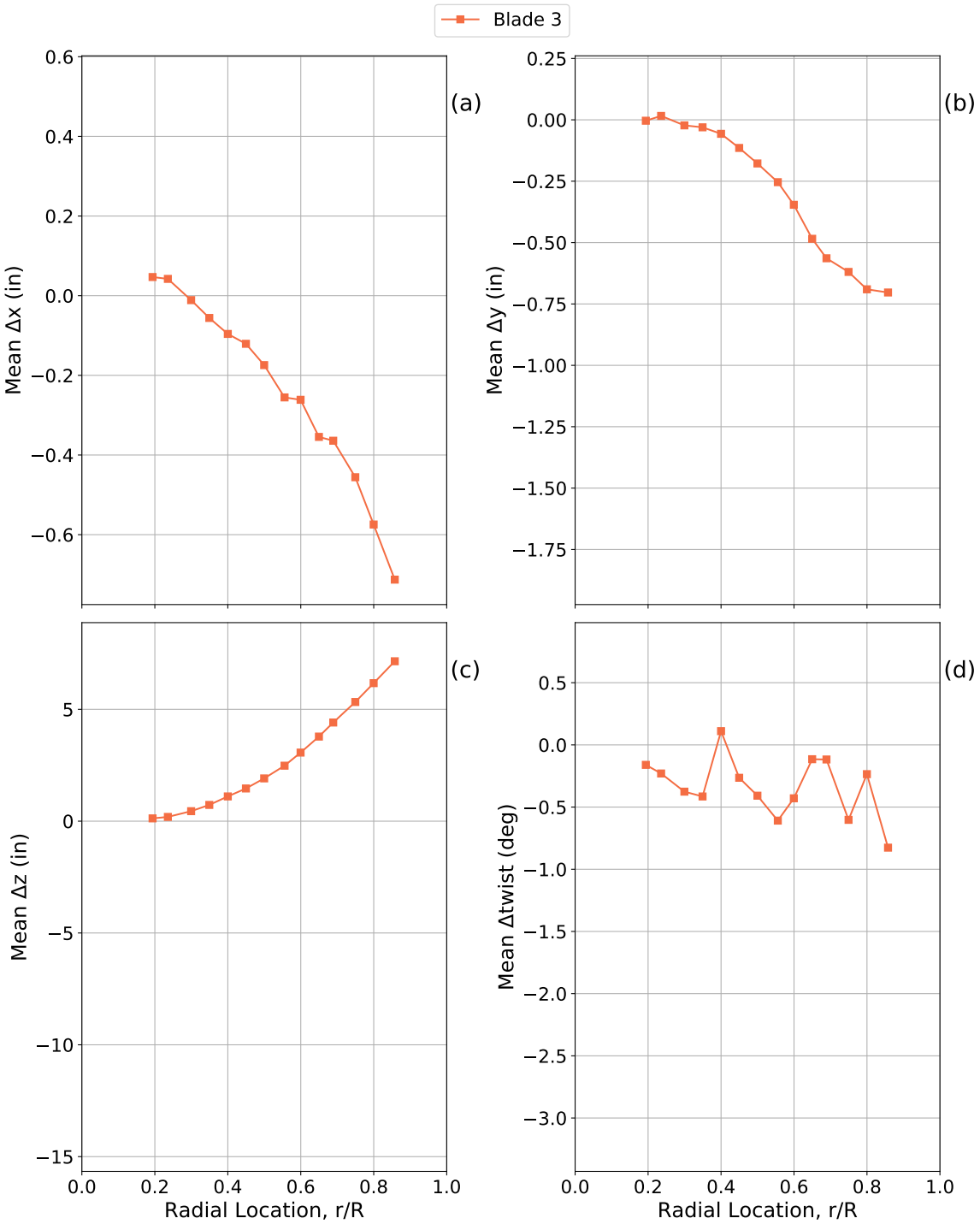


Figure 3.33-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	0.0468	0.0024	-0.0036	0.0012	0.1241	0.0105	-0.1605	0.0752
3	254.88	0.2357	0.0422	0.0022	0.0160	0.0023	0.1898	0.0215	-0.2299	0.0683
3	254.88	0.2995	-0.0112	0.0024	-0.0226	0.0067	0.4465	0.0394	-0.3760	0.1481
3	254.88	0.3493	-0.0559	0.0022	-0.0305	0.0105	0.7266	0.0551	-0.4147	0.1858
3	254.88	0.4000	-0.0960	0.0031	-0.0570	0.0184	1.1058	0.0896	0.1105	0.1365
3	254.88	0.4497	-0.1208	0.0051	-0.1145	0.0229	1.4613	0.1201	-0.2644	0.1308
3	254.88	0.4997	-0.1743	0.0065	-0.1777	0.0291	1.9122	0.1534	-0.4084	0.0904
3	254.88	0.5556	-0.2554	0.0075	-0.2539	0.0342	2.4809	0.1875	-0.6089	0.1066
3	254.88	0.5995	-0.2614	0.0094	-0.3461	0.0374	3.0661	0.2180	-0.4294	0.1325
3	254.88	0.6498	-0.3546	0.0115	-0.4845	0.0438	3.7824	0.2568	-0.1151	0.1214
3	254.88	0.6890	-0.3641	0.0133	-0.5639	0.0457	4.4106	0.2861	-0.1173	0.1129
3	254.88	0.7495	-0.4558	0.0168	-0.6195	0.0543	5.3281	0.3318	-0.6028	0.1057
3	254.88	0.7998	-0.5745	0.0200	-0.6903	0.0576	6.1711	0.3736	-0.2351	0.1415
3	254.88	0.8577	-0.7129	0.0277	-0.7033	0.0609	7.1499	0.4141	-0.8262	0.2485

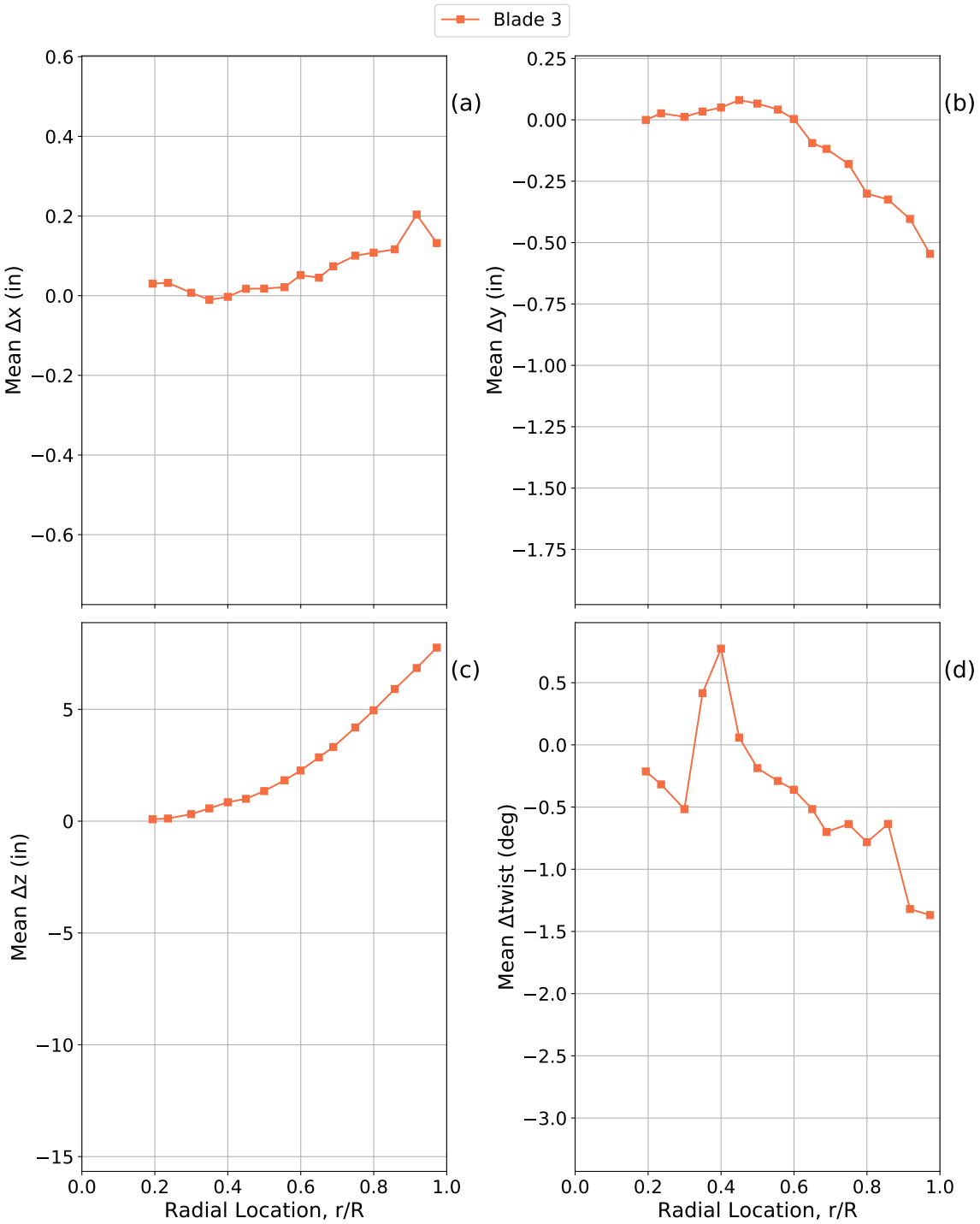


Figure 3.33-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0302	0.0094	-0.0003	0.0010	0.0846	0.0114	-0.2135	0.0362
3	260.16	0.2357	0.0322	0.0068	0.0264	0.0035	0.1179	0.0208	-0.3174	0.0587
3	260.16	0.2995	0.0074	0.0033	0.0121	0.0064	0.3135	0.0326	-0.5167	0.0857
3	260.16	0.3493	-0.0103	0.0055	0.0338	0.0178	0.5714	0.0469	0.4163	0.5081
3	260.16	0.4000	-0.0029	0.0092	0.0501	0.0262	0.8460	0.0734	0.7741	0.5952
3	260.16	0.4497	0.0174	0.0134	0.0805	0.0654	0.9987	0.1730	0.0590	0.0498
3	260.16	0.4997	0.0178	0.0168	0.0662	0.0771	1.3466	0.2014	-0.1867	0.0511
3	260.16	0.5556	0.0213	0.0200	0.0418	0.0916	1.8272	0.2382	-0.2902	0.0596
3	260.16	0.5995	0.0515	0.0220	0.0033	0.1036	2.2654	0.2673	-0.3605	0.0566
3	260.16	0.6498	0.0452	0.0245	-0.0943	0.1182	2.8516	0.3022	-0.5164	0.0616
3	260.16	0.6890	0.0738	0.0258	-0.1184	0.1302	3.3156	0.3307	-0.6999	0.0645
3	260.16	0.7495	0.1004	0.0272	-0.1800	0.1489	4.1893	0.3760	-0.6369	0.0692
3	260.16	0.7998	0.1081	0.0301	-0.3004	0.1656	4.9571	0.4129	-0.7824	0.0751
3	260.16	0.8577	0.1163	0.0312	-0.3246	0.1849	5.9090	0.4569	-0.6357	0.0684
3	260.16	0.9178	0.2037	0.0379	-0.4037	0.2082	6.8475	0.5063	-1.3198	0.1108
3	260.16	0.9729	0.1321	0.0484	-0.5461	0.2242	7.7614	0.5517	-1.3684	0.0999

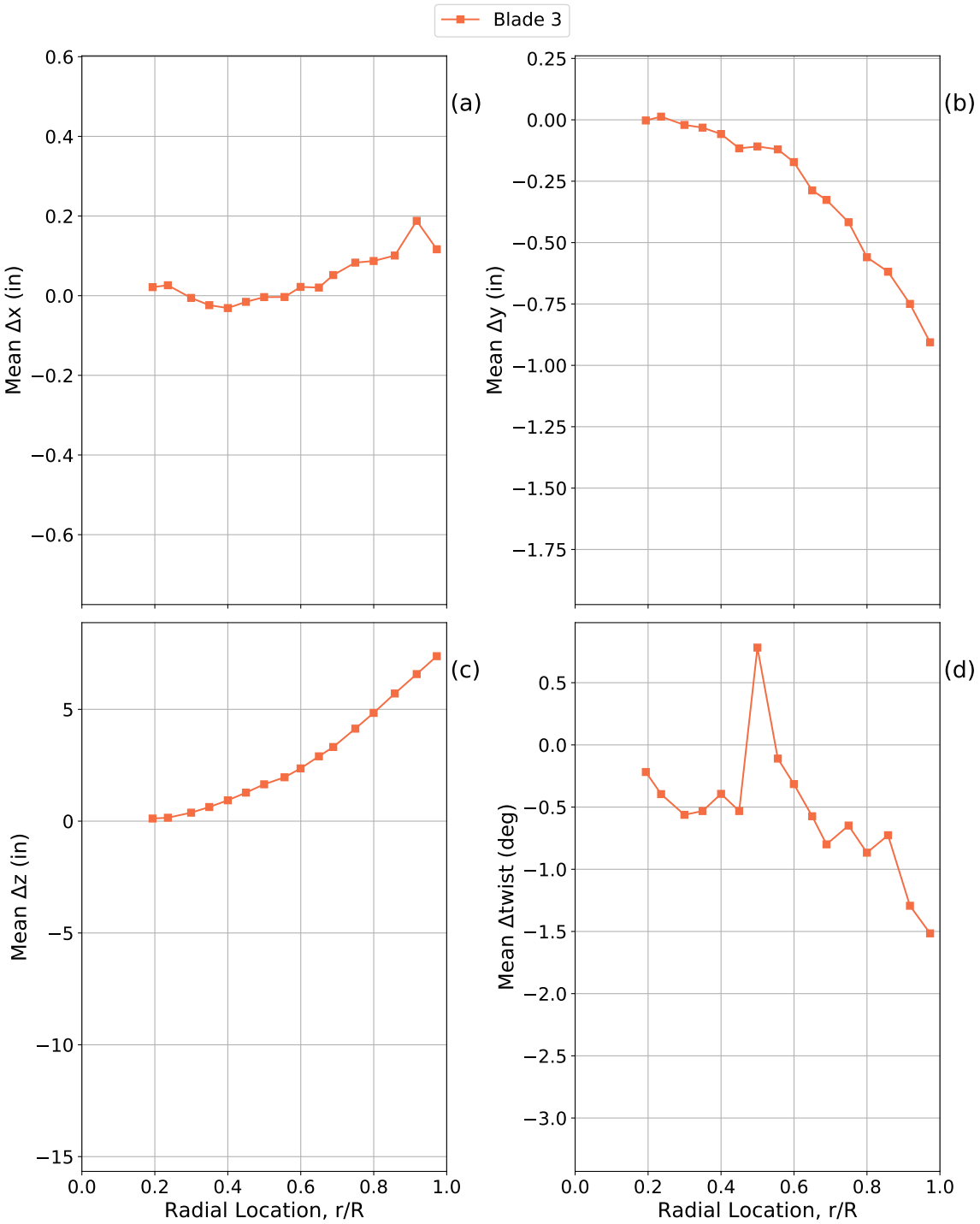


Figure 3.33-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0215	0.0014	-0.0026	0.0006	0.1174	0.0052	-0.2180	0.0411
3	265.08	0.2357	0.0262	0.0018	0.0130	0.0016	0.1539	0.0099	-0.3958	0.0621
3	265.08	0.2995	-0.0056	0.0016	-0.0208	0.0025	0.3800	0.0164	-0.5622	0.0938
3	265.08	0.3493	-0.0238	0.0032	-0.0318	0.0061	0.6316	0.0254	-0.5318	0.0660
3	265.08	0.4000	-0.0311	0.0024	-0.0578	0.0088	0.9319	0.0390	-0.3937	0.0673
3	265.08	0.4497	-0.0155	0.0035	-0.1162	0.0135	1.2764	0.0507	-0.5317	0.0592
3	265.08	0.4997	-0.0036	0.0049	-0.1085	0.0169	1.6476	0.0672	0.7824	0.1008
3	265.08	0.5556	-0.0033	0.0107	-0.1203	0.0262	1.9622	0.1004	-0.1100	0.1663
3	265.08	0.5995	0.0220	0.0051	-0.1722	0.0260	2.3579	0.1018	-0.3151	0.0627
3	265.08	0.6498	0.0204	0.0065	-0.2874	0.0313	2.8991	0.1197	-0.5738	0.0758
3	265.08	0.6890	0.0518	0.0068	-0.3262	0.0350	3.3161	0.1346	-0.7997	0.0847
3	265.08	0.7495	0.0830	0.0078	-0.4170	0.0414	4.1372	0.1583	-0.6485	0.0814
3	265.08	0.7998	0.0871	0.0082	-0.5597	0.0470	4.8408	0.1779	-0.8667	0.0777
3	265.08	0.8577	0.1008	0.0083	-0.6187	0.0530	5.7084	0.2026	-0.7263	0.0926
3	265.08	0.9178	0.1879	0.0104	-0.7498	0.0610	6.5766	0.2287	-1.2934	0.0662
3	265.08	0.9729	0.1165	0.0125	-0.9061	0.0652	7.3781	0.2480	-1.5153	0.0677

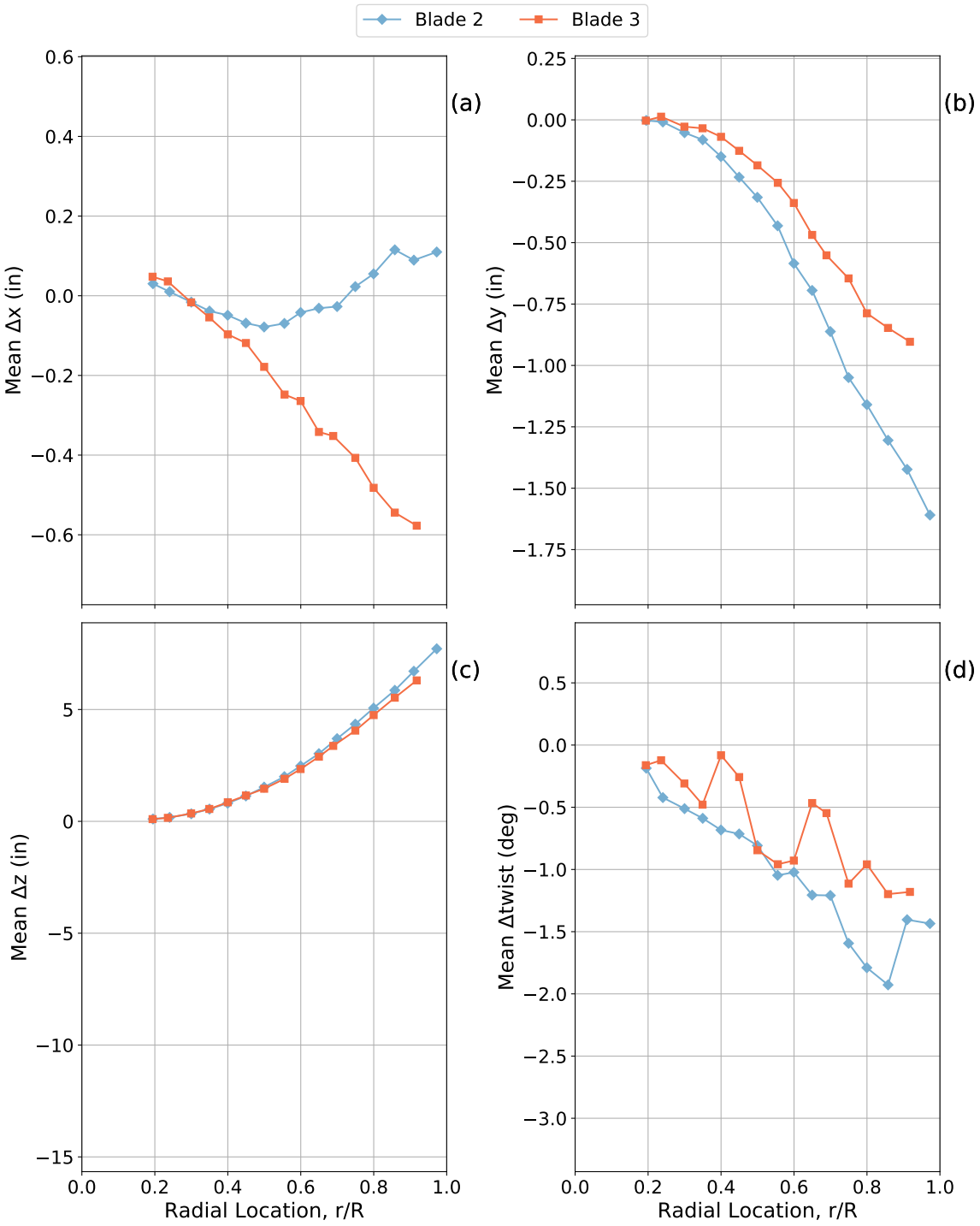


Figure 3.33-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0302	0.0027	-0.0024	0.0005	0.1049	0.0127	-0.1860	0.0351
2	270.35	0.2405	0.0101	0.0018	-0.0087	0.0016	0.1766	0.0201	-0.4222	0.0788
2	270.35	0.2999	-0.0160	0.0033	-0.0523	0.0045	0.3381	0.0410	-0.5111	0.0958
2	270.35	0.3498	-0.0384	0.0017	-0.0812	0.0082	0.5489	0.0682	-0.5889	0.0486
2	270.35	0.3998	-0.0489	0.0033	-0.1496	0.0145	0.8091	0.0997	-0.6827	0.0676
2	270.35	0.4496	-0.0688	0.0040	-0.2334	0.0198	1.1353	0.1239	-0.7145	0.0760
2	270.35	0.4995	-0.0784	0.0048	-0.3155	0.0273	1.5298	0.1608	-0.8078	0.0593
2	270.35	0.5551	-0.0695	0.0061	-0.4314	0.0359	1.9982	0.1965	-1.0470	0.0623
2	270.35	0.5996	-0.0420	0.0071	-0.5848	0.0440	2.4773	0.2296	-1.0227	0.0797
2	270.35	0.6497	-0.0313	0.0096	-0.6946	0.0538	3.0268	0.2714	-1.2059	0.0958
2	270.35	0.6996	-0.0271	0.0116	-0.8620	0.0644	3.6980	0.3164	-1.2088	0.0687
2	270.35	0.7495	0.0229	0.0135	-1.0494	0.0760	4.3480	0.3622	-1.5936	0.0862
2	270.35	0.7996	0.0549	0.0145	-1.1596	0.0872	5.0626	0.4046	-1.7897	0.0633
2	270.35	0.8578	0.1153	0.0180	-1.3049	0.1011	5.8586	0.4502	-1.9277	0.1043
2	270.35	0.9100	0.0894	0.0206	-1.4233	0.1160	6.7114	0.4983	-1.4038	0.0753
2	270.35	0.9727	0.1099	0.0259	-1.6093	0.1307	7.7149	0.5504	-1.4349	0.1319
3	270	0.1938	0.0478	0.0036	-0.0030	0.0017	0.0997	0.0135	-0.1619	0.0831
3	270	0.2357	0.0360	0.0015	0.0130	0.0027	0.1573	0.0187	-0.1222	0.1164
3	270	0.2995	-0.0166	0.0014	-0.0277	0.0065	0.3542	0.0418	-0.3091	0.1787
3	270	0.3493	-0.0543	0.0034	-0.0344	0.0107	0.5546	0.0649	-0.4788	0.1123
3	270	0.4000	-0.0969	0.0047	-0.0691	0.0176	0.8517	0.0975	-0.0820	0.1702
3	270	0.4497	-0.1186	0.0039	-0.1260	0.0213	1.1570	0.1127	-0.2572	0.1709
3	270	0.4997	-0.1785	0.0027	-0.1852	0.0247	1.4575	0.1430	-0.8455	0.1270
3	270	0.5556	-0.2480	0.0038	-0.2564	0.0304	1.9026	0.1724	-0.9579	0.1586
3	270	0.5995	-0.2642	0.0048	-0.3385	0.0362	2.3384	0.2040	-0.9285	0.1413
3	270	0.6498	-0.3419	0.0050	-0.4685	0.0439	2.8895	0.2282	-0.4660	0.1410
3	270	0.6890	-0.3520	0.0067	-0.5516	0.0505	3.3725	0.2471	-0.5470	0.1632
3	270	0.7495	-0.4069	0.0081	-0.6456	0.0599	4.0561	0.2723	-1.1139	0.1814
3	270	0.7998	-0.4821	0.0088	-0.7876	0.0683	4.7504	0.2941	-0.9588	0.1525
3	270	0.8577	-0.5443	0.0109	-0.8473	0.0787	5.5277	0.3218	-1.1980	0.2007
3	270	0.9178	-0.5771	0.0135	-0.9037	0.0915	6.3009	0.3378	-1.1805	0.2135

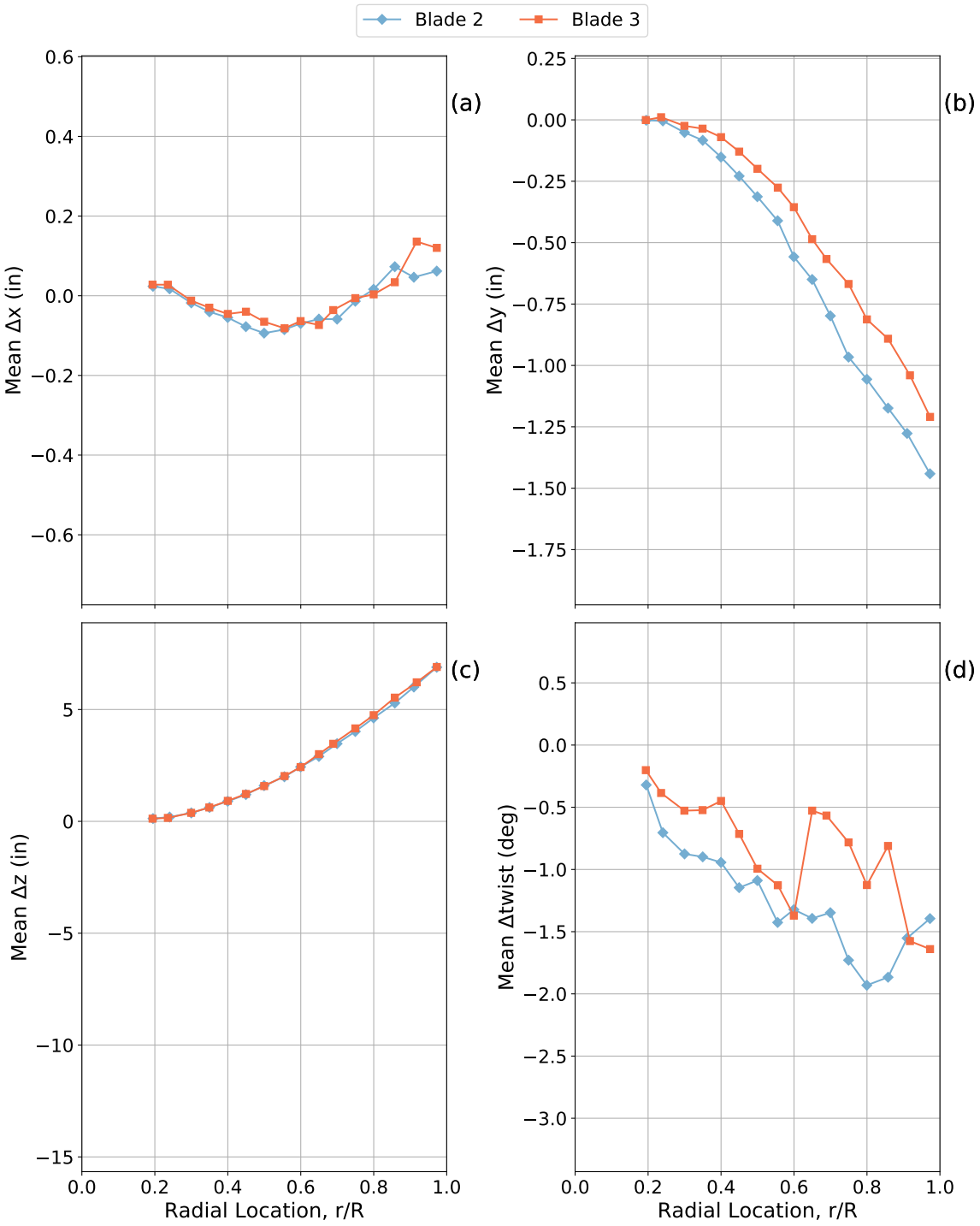


Figure 3.33-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0237	0.0016	-0.0018	0.0009	0.1253	0.0049	-0.3205	0.0577
2	274.92	0.2405	0.0173	0.0033	-0.0043	0.0020	0.1920	0.0128	-0.7043	0.0334
2	274.92	0.2999	-0.0179	0.0025	-0.0514	0.0023	0.3777	0.0175	-0.8749	0.0828
2	274.92	0.3498	-0.0403	0.0017	-0.0834	0.0053	0.6225	0.0309	-0.8986	0.0434
2	274.92	0.3998	-0.0547	0.0022	-0.1516	0.0086	0.8964	0.0456	-0.9430	0.0528
2	274.92	0.4496	-0.0776	0.0027	-0.2290	0.0122	1.1974	0.0618	-1.1462	0.0546
2	274.92	0.4995	-0.0938	0.0029	-0.3128	0.0160	1.5964	0.0805	-1.0887	0.0708
2	274.92	0.5551	-0.0849	0.0034	-0.4108	0.0206	1.9939	0.1060	-1.4260	0.0830
2	274.92	0.5996	-0.0696	0.0043	-0.5577	0.0250	2.4337	0.1326	-1.3221	0.0621
2	274.92	0.6497	-0.0586	0.0055	-0.6499	0.0300	2.9025	0.1608	-1.3933	0.0887
2	274.92	0.6996	-0.0587	0.0073	-0.7981	0.0357	3.4733	0.1975	-1.3474	0.0603
2	274.92	0.7495	-0.0137	0.0086	-0.9661	0.0415	4.0184	0.2352	-1.7293	0.0985
2	274.92	0.7996	0.0162	0.0097	-1.0564	0.0467	4.6222	0.2734	-1.9308	0.0796
2	274.92	0.8578	0.0729	0.0121	-1.1739	0.0541	5.2907	0.3209	-1.8661	0.0544
2	274.92	0.9100	0.0465	0.0137	-1.2769	0.0605	6.0056	0.3571	-1.5518	0.1089
2	274.92	0.9727	0.0619	0.0208	-1.4412	0.0672	6.8884	0.4117	-1.3948	0.1128
3	274.92	0.1938	0.0280	0.0023	-0.0007	0.0008	0.1200	0.0081	-0.2015	0.0479
3	274.92	0.2357	0.0277	0.0037	0.0108	0.0015	0.1546	0.0098	-0.3853	0.0562
3	274.92	0.2995	-0.0122	0.0014	-0.0244	0.0044	0.3807	0.0193	-0.5273	0.0858
3	274.92	0.3493	-0.0299	0.0022	-0.0358	0.0077	0.6211	0.0364	-0.5230	0.0909
3	274.92	0.4000	-0.0456	0.0022	-0.0704	0.0126	0.9167	0.0477	-0.4491	0.0725
3	274.92	0.4497	-0.0400	0.0037	-0.1293	0.0187	1.2257	0.0649	-0.7142	0.0693
3	274.92	0.4997	-0.0652	0.0041	-0.1993	0.0264	1.5771	0.0834	-0.9939	0.0943
3	274.92	0.5556	-0.0816	0.0052	-0.2760	0.0364	2.0249	0.1076	-1.1269	0.0649
3	274.92	0.5995	-0.0636	0.0061	-0.3555	0.0451	2.4269	0.1300	-1.3711	0.0957
3	274.92	0.6498	-0.0734	0.0064	-0.4859	0.0564	3.0040	0.1541	-0.5270	0.0967
3	274.92	0.6890	-0.0360	0.0078	-0.5666	0.0645	3.4672	0.1776	-0.5665	0.0995
3	274.92	0.7495	-0.0060	0.0092	-0.6683	0.0791	4.1558	0.2124	-0.7822	0.0891
3	274.92	0.7998	0.0035	0.0113	-0.8126	0.0925	4.7470	0.2488	-1.1253	0.0814
3	274.92	0.8577	0.0339	0.0146	-0.8913	0.1066	5.5307	0.2924	-0.8110	0.0893
3	274.92	0.9178	0.1360	0.0177	-1.0402	0.1235	6.2158	0.3318	-1.5757	0.0979
3	274.92	0.9729	0.1202	0.0211	-1.2096	0.1376	6.9021	0.3762	-1.6401	0.1033

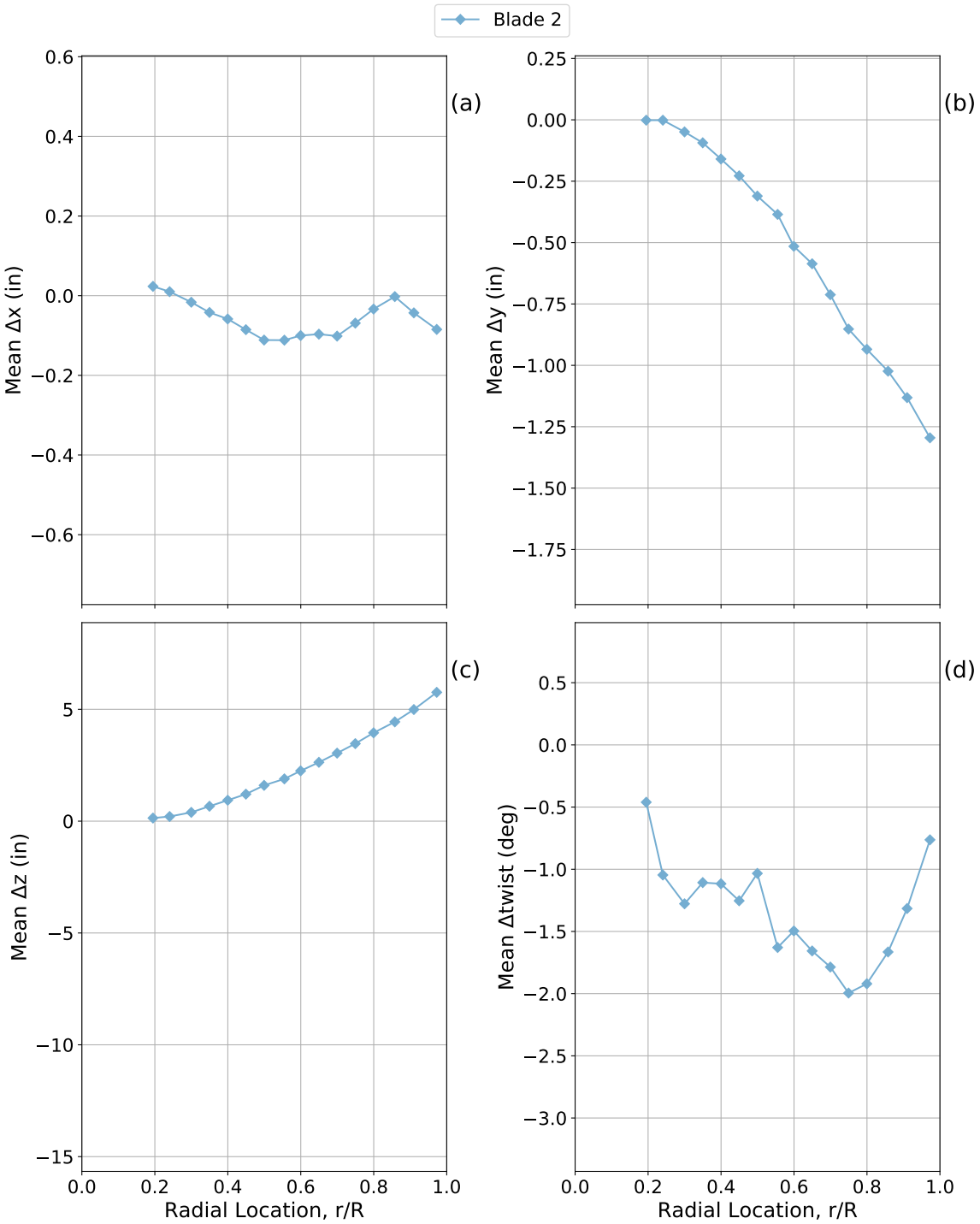


Figure 3.33-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0234	0.0012	-0.0015	0.0008	0.1391	0.0057	-0.4609	0.0252
2	285.12	0.2405	0.0101	0.0019	-0.0016	0.0014	0.2076	0.0100	-1.0460	0.0496
2	285.12	0.2999	-0.0164	0.0018	-0.0491	0.0029	0.3933	0.0212	-1.2777	0.0602
2	285.12	0.3498	-0.0421	0.0019	-0.0936	0.0048	0.6673	0.0275	-1.1071	0.0801
2	285.12	0.3998	-0.0585	0.0021	-0.1596	0.0082	0.9350	0.0452	-1.1165	0.0549
2	285.12	0.4496	-0.0853	0.0013	-0.2281	0.0114	1.2081	0.0515	-1.2535	0.0723
2	285.12	0.4995	-0.1114	0.0024	-0.3105	0.0153	1.6006	0.0638	-1.0333	0.0732
2	285.12	0.5551	-0.1117	0.0024	-0.3852	0.0203	1.8903	0.0774	-1.6291	0.0867
2	285.12	0.5996	-0.1001	0.0026	-0.5153	0.0255	2.2488	0.0955	-1.4959	0.0845
2	285.12	0.6497	-0.0966	0.0032	-0.5862	0.0310	2.6314	0.1111	-1.6567	0.0800
2	285.12	0.6996	-0.1015	0.0039	-0.7123	0.0377	3.0415	0.1305	-1.7862	0.0740
2	285.12	0.7495	-0.0689	0.0051	-0.8523	0.0447	3.4667	0.1512	-1.9952	0.0653
2	285.12	0.7996	-0.0336	0.0056	-0.9347	0.0517	3.9498	0.1753	-1.9206	0.0822
2	285.12	0.8578	-0.0023	0.0070	-1.0238	0.0605	4.4400	0.2032	-1.6650	0.0855
2	285.12	0.9100	-0.0431	0.0080	-1.1315	0.0712	4.9910	0.2363	-1.3155	0.1137
2	285.12	0.9727	-0.0847	0.0130	-1.2953	0.0799	5.7602	0.2684	-0.7633	0.1335

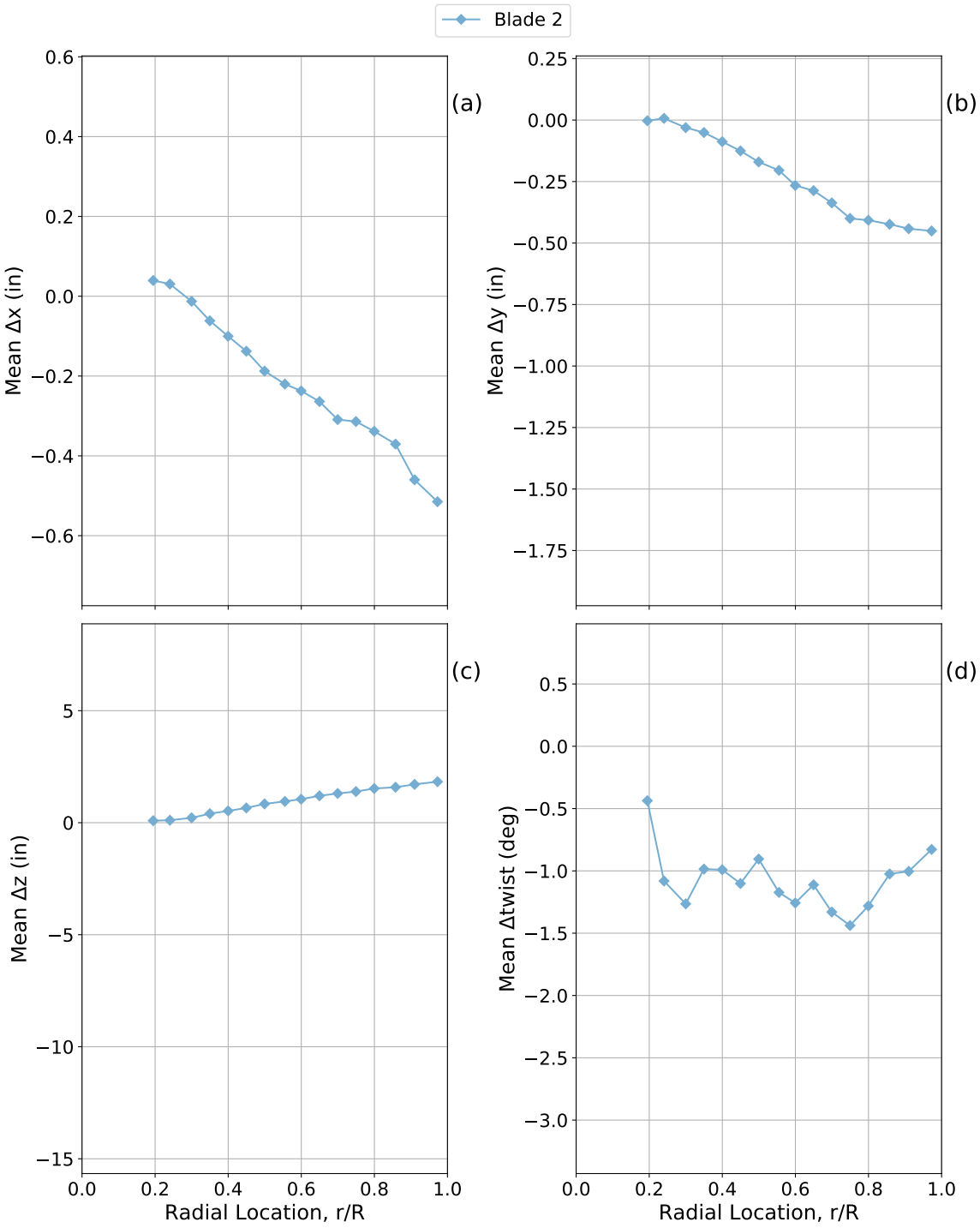


Figure 3.33-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0394	0.0033	-0.0029	0.0006	0.0891	0.0040	-0.4368	0.0358
2	299.88	0.2405	0.0306	0.0017	0.0069	0.0021	0.1099	0.0107	-1.0811	0.0388
2	299.88	0.2999	-0.0128	0.0038	-0.0309	0.0039	0.2171	0.0189	-1.2647	0.0723
2	299.88	0.3498	-0.0616	0.0036	-0.0507	0.0046	0.4030	0.0297	-0.9855	0.0716
2	299.88	0.3998	-0.1002	0.0032	-0.0879	0.0094	0.5260	0.0485	-0.9907	0.0742
2	299.88	0.4496	-0.1378	0.0041	-0.1254	0.0108	0.6580	0.0663	-1.1015	0.0734
2	299.88	0.4995	-0.1875	0.0034	-0.1703	0.0121	0.8388	0.0887	-0.9050	0.0498
2	299.88	0.5551	-0.2201	0.0046	-0.2045	0.0152	0.9507	0.1172	-1.1727	0.0842
2	299.88	0.5996	-0.2372	0.0059	-0.2659	0.0154	1.0479	0.1377	-1.2572	0.0633
2	299.88	0.6497	-0.2639	0.0063	-0.2870	0.0177	1.1996	0.1602	-1.1117	0.0712
2	299.88	0.6996	-0.3091	0.0072	-0.3368	0.0201	1.3053	0.1855	-1.3300	0.0975
2	299.88	0.7495	-0.3140	0.0081	-0.3999	0.0221	1.3896	0.1981	-1.4383	0.0757
2	299.88	0.7996	-0.3385	0.0094	-0.4072	0.0252	1.5264	0.2131	-1.2812	0.0673
2	299.88	0.8578	-0.3705	0.0097	-0.4237	0.0296	1.5817	0.2317	-1.0247	0.0789
2	299.88	0.9100	-0.4599	0.0106	-0.4416	0.0326	1.7110	0.2463	-1.0038	0.0830
2	299.88	0.9727	-0.5149	0.0121	-0.4509	0.0386	1.8302	0.2712	-0.8277	0.0961

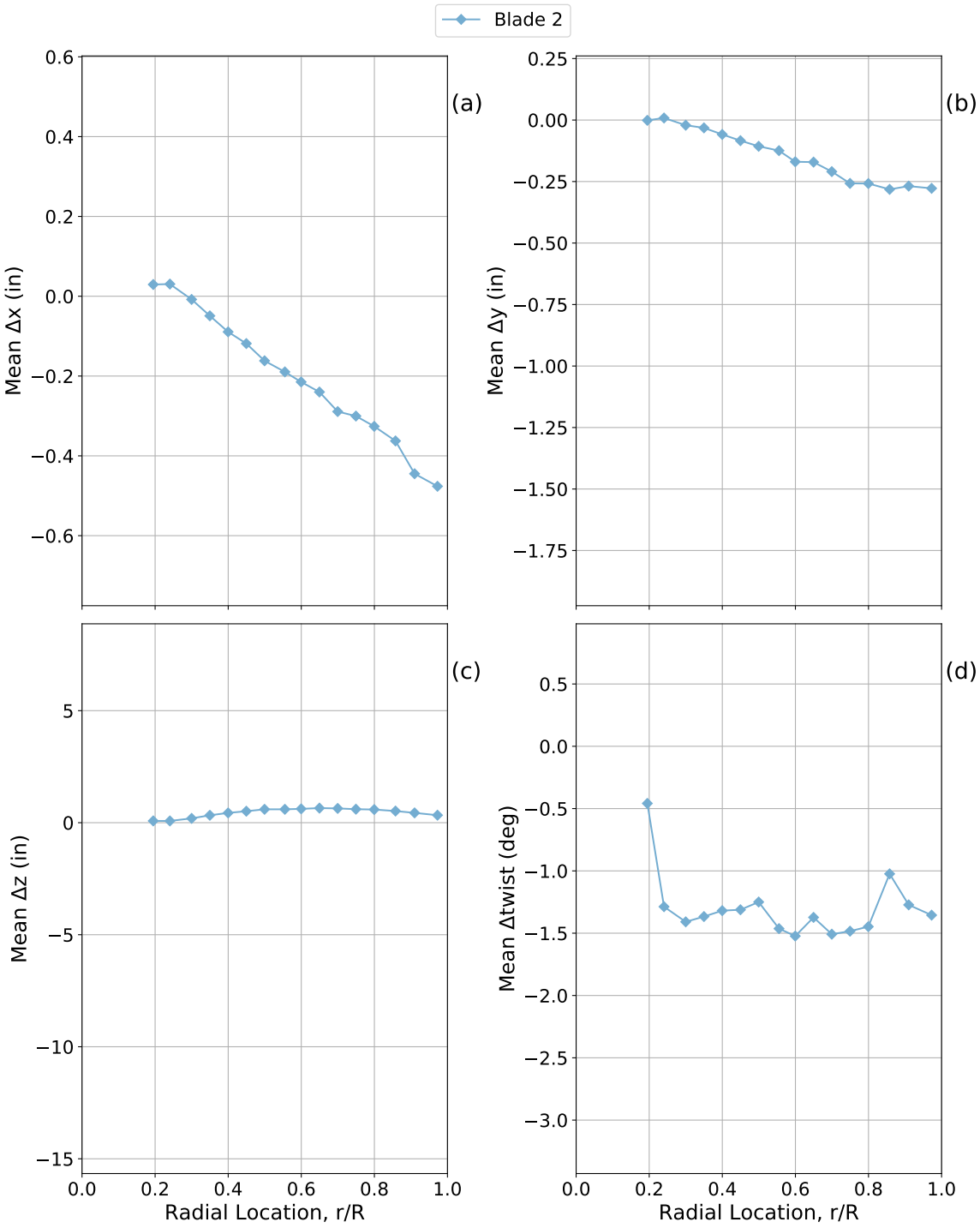


Figure 3.33-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0294	0.0028	-0.0012	0.0008	0.0803	0.0068	-0.4585	0.0465
2	315	0.2405	0.0305	0.0032	0.0084	0.0032	0.0784	0.0156	-1.2874	0.1057
2	315	0.2999	-0.0080	0.0040	-0.0210	0.0071	0.1927	0.0245	-1.4089	0.1226
2	315	0.3498	-0.0491	0.0031	-0.0318	0.0102	0.3308	0.0311	-1.3665	0.1122
2	315	0.3998	-0.0893	0.0042	-0.0585	0.0192	0.4366	0.0525	-1.3191	0.0972
2	315	0.4496	-0.1186	0.0043	-0.0838	0.0183	0.5120	0.0638	-1.3119	0.0908
2	315	0.4995	-0.1618	0.0055	-0.1067	0.0229	0.5974	0.0758	-1.2498	0.1096
2	315	0.5551	-0.1896	0.0068	-0.1244	0.0274	0.5977	0.0950	-1.4632	0.0718
2	315	0.5996	-0.2148	0.0067	-0.1696	0.0314	0.6177	0.1107	-1.5230	0.0678
2	315	0.6497	-0.2400	0.0063	-0.1710	0.0370	0.6511	0.1289	-1.3732	0.0706
2	315	0.6996	-0.2890	0.0070	-0.2096	0.0414	0.6375	0.1504	-1.5081	0.0787
2	315	0.7495	-0.3003	0.0080	-0.2575	0.0465	0.6027	0.1727	-1.4839	0.0760
2	315	0.7996	-0.3261	0.0083	-0.2580	0.0512	0.5873	0.1983	-1.4473	0.0788
2	315	0.8578	-0.3626	0.0085	-0.2818	0.0582	0.5202	0.2303	-1.0238	0.0663
2	315	0.9100	-0.4448	0.0096	-0.2685	0.0625	0.4380	0.2569	-1.2726	0.0554
2	315	0.9727	-0.4763	0.0110	-0.2777	0.0689	0.3348	0.2867	-1.3552	0.0885

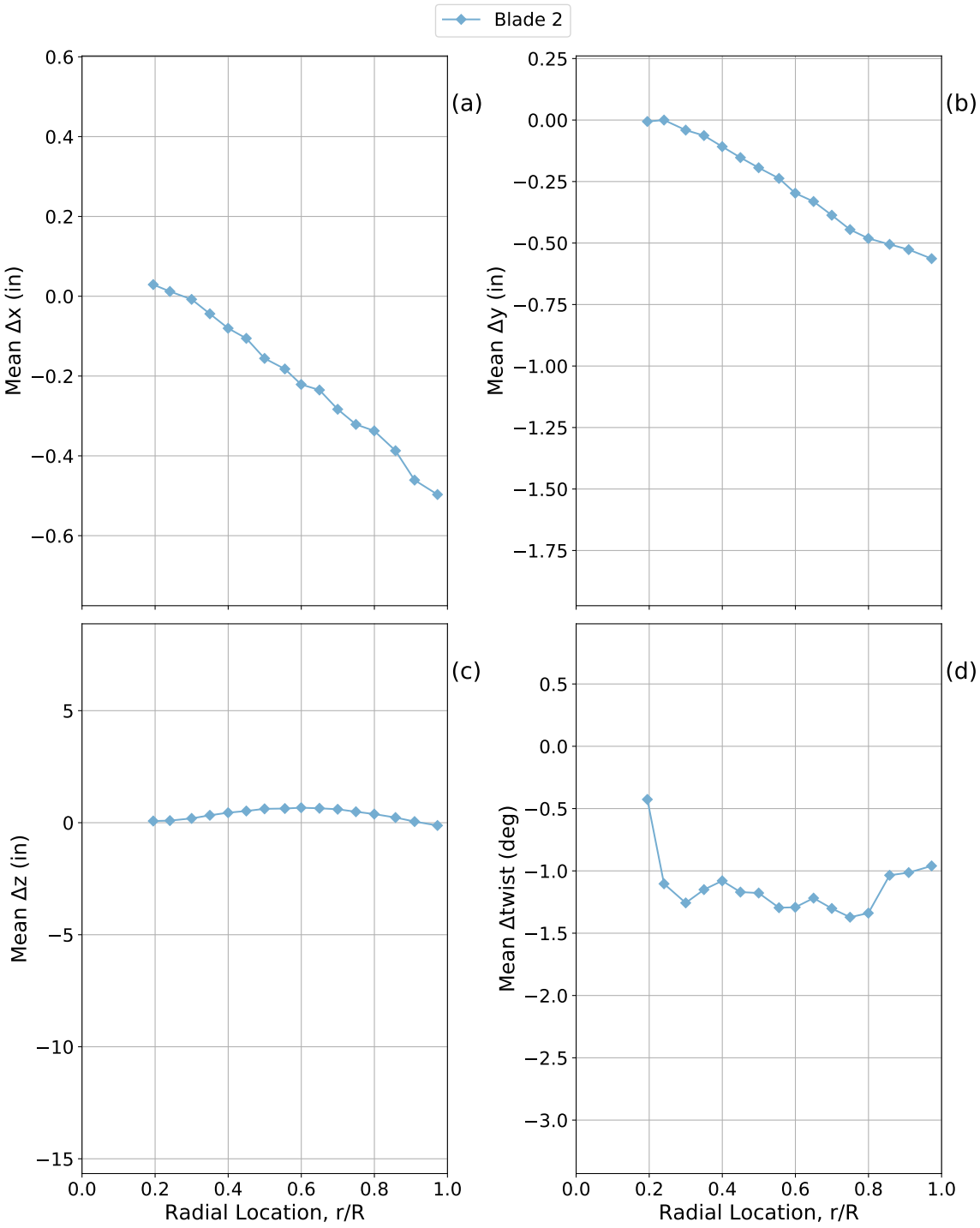


Figure 3.33-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0292	0.0014	-0.0059	0.0005	0.0746	0.0040	-0.4265	0.0312
2	330.12	0.2405	0.0120	0.0011	-0.0001	0.0042	0.0926	0.0069	-1.1037	0.0320
2	330.12	0.2999	-0.0078	0.0034	-0.0409	0.0049	0.1913	0.0140	-1.2569	0.0622
2	330.12	0.3498	-0.0440	0.0025	-0.0631	0.0103	0.3305	0.0235	-1.1504	0.0709
2	330.12	0.3998	-0.0803	0.0040	-0.1081	0.0162	0.4465	0.0349	-1.0797	0.0552
2	330.12	0.4496	-0.1056	0.0030	-0.1526	0.0220	0.5221	0.0463	-1.1701	0.0513
2	330.12	0.4995	-0.1558	0.0042	-0.1939	0.0251	0.6182	0.0583	-1.1775	0.0661
2	330.12	0.5551	-0.1823	0.0040	-0.2372	0.0310	0.6320	0.0764	-1.2956	0.0597
2	330.12	0.5996	-0.2211	0.0045	-0.2973	0.0355	0.6681	0.0932	-1.2921	0.0543
2	330.12	0.6497	-0.2350	0.0049	-0.3312	0.0404	0.6425	0.1163	-1.2185	0.0507
2	330.12	0.6996	-0.2833	0.0054	-0.3869	0.0454	0.5995	0.1370	-1.3016	0.0609
2	330.12	0.7495	-0.3212	0.0054	-0.4453	0.0512	0.4896	0.1625	-1.3719	0.0552
2	330.12	0.7996	-0.3374	0.0063	-0.4812	0.0557	0.3850	0.1901	-1.3388	0.0637
2	330.12	0.8578	-0.3871	0.0069	-0.5054	0.0622	0.2301	0.2258	-1.0351	0.0650
2	330.12	0.9100	-0.4608	0.0076	-0.5267	0.0686	0.0503	0.2575	-1.0138	0.0547
2	330.12	0.9727	-0.4969	0.0095	-0.5635	0.0760	-0.1249	0.3010	-0.9600	0.0494

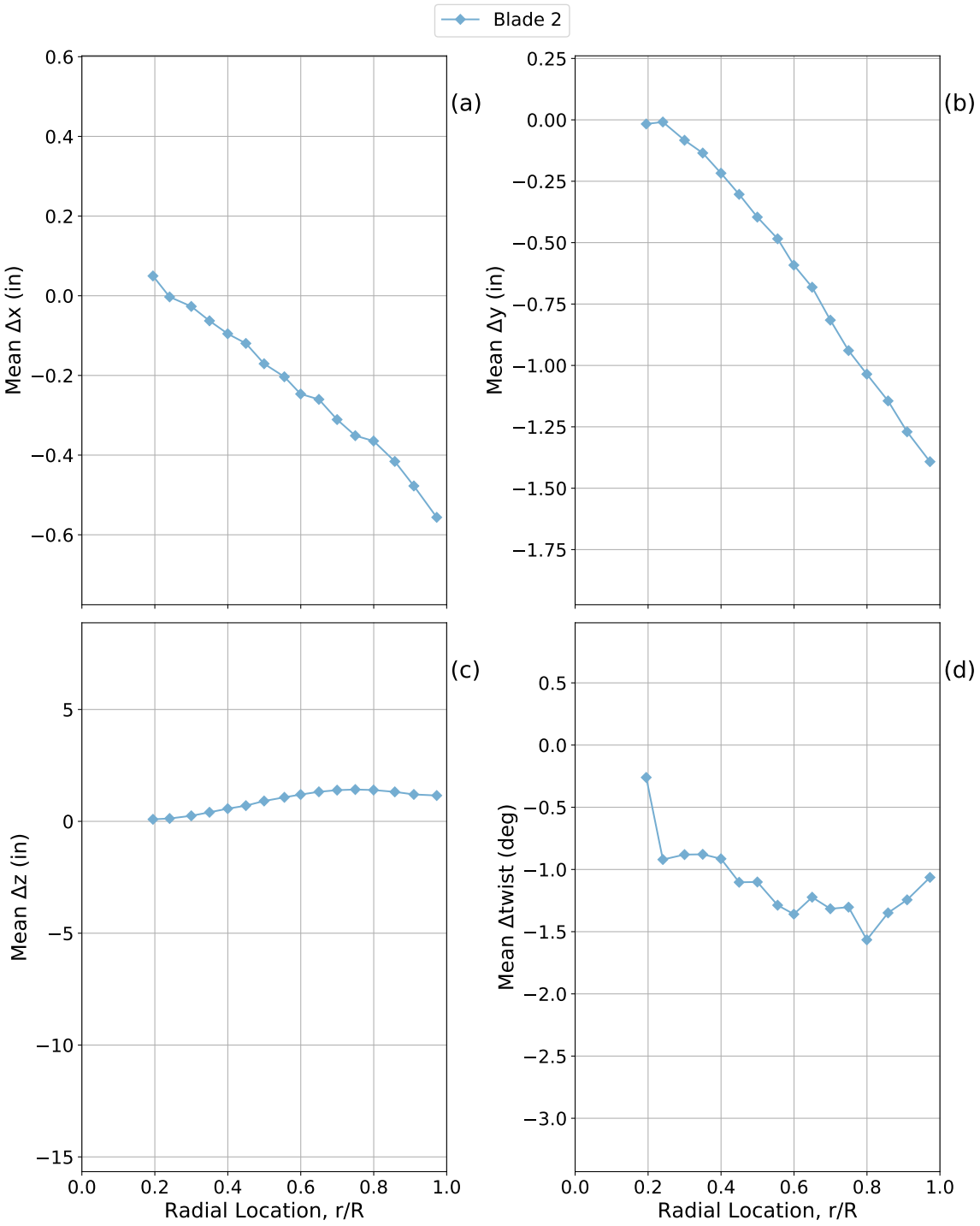


Figure 3.33-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0497	0.0072	-0.0167	0.0013	0.0908	0.0116	-0.2602	0.0697
2	344.88	0.2405	-0.0029	0.0045	-0.0087	0.0045	0.1279	0.0137	-0.9202	0.1872
2	344.88	0.2999	-0.0268	0.0059	-0.0831	0.0075	0.2479	0.0307	-0.8804	0.2018
2	344.88	0.3498	-0.0629	0.0048	-0.1351	0.0181	0.4055	0.0474	-0.8783	0.1804
2	344.88	0.3998	-0.0954	0.0056	-0.2172	0.0263	0.5675	0.0674	-0.9141	0.1831
2	344.88	0.4496	-0.1196	0.0058	-0.3033	0.0342	0.7020	0.0867	-1.1028	0.1809
2	344.88	0.4995	-0.1707	0.0065	-0.3961	0.0417	0.9097	0.1063	-1.1006	0.1853
2	344.88	0.5551	-0.2034	0.0072	-0.4843	0.0514	1.0741	0.1312	-1.2874	0.1896
2	344.88	0.5996	-0.2466	0.0070	-0.5917	0.0618	1.1985	0.1510	-1.3593	0.1804
2	344.88	0.6497	-0.2601	0.0080	-0.6816	0.0714	1.3208	0.1713	-1.2231	0.2032
2	344.88	0.6996	-0.3108	0.0084	-0.8156	0.0813	1.3949	0.1906	-1.3159	0.1957
2	344.88	0.7495	-0.3512	0.0090	-0.9395	0.0930	1.4223	0.2105	-1.3030	0.1984
2	344.88	0.7996	-0.3646	0.0088	-1.0355	0.1042	1.4002	0.2294	-1.5656	0.2030
2	344.88	0.8578	-0.4159	0.0093	-1.1445	0.1176	1.3179	0.2509	-1.3488	0.2106
2	344.88	0.9100	-0.4774	0.0103	-1.2703	0.1304	1.2035	0.2753	-1.2440	0.2008
2	344.88	0.9727	-0.5562	0.0139	-1.3920	0.1449	1.1551	0.3028	-1.0638	0.1991

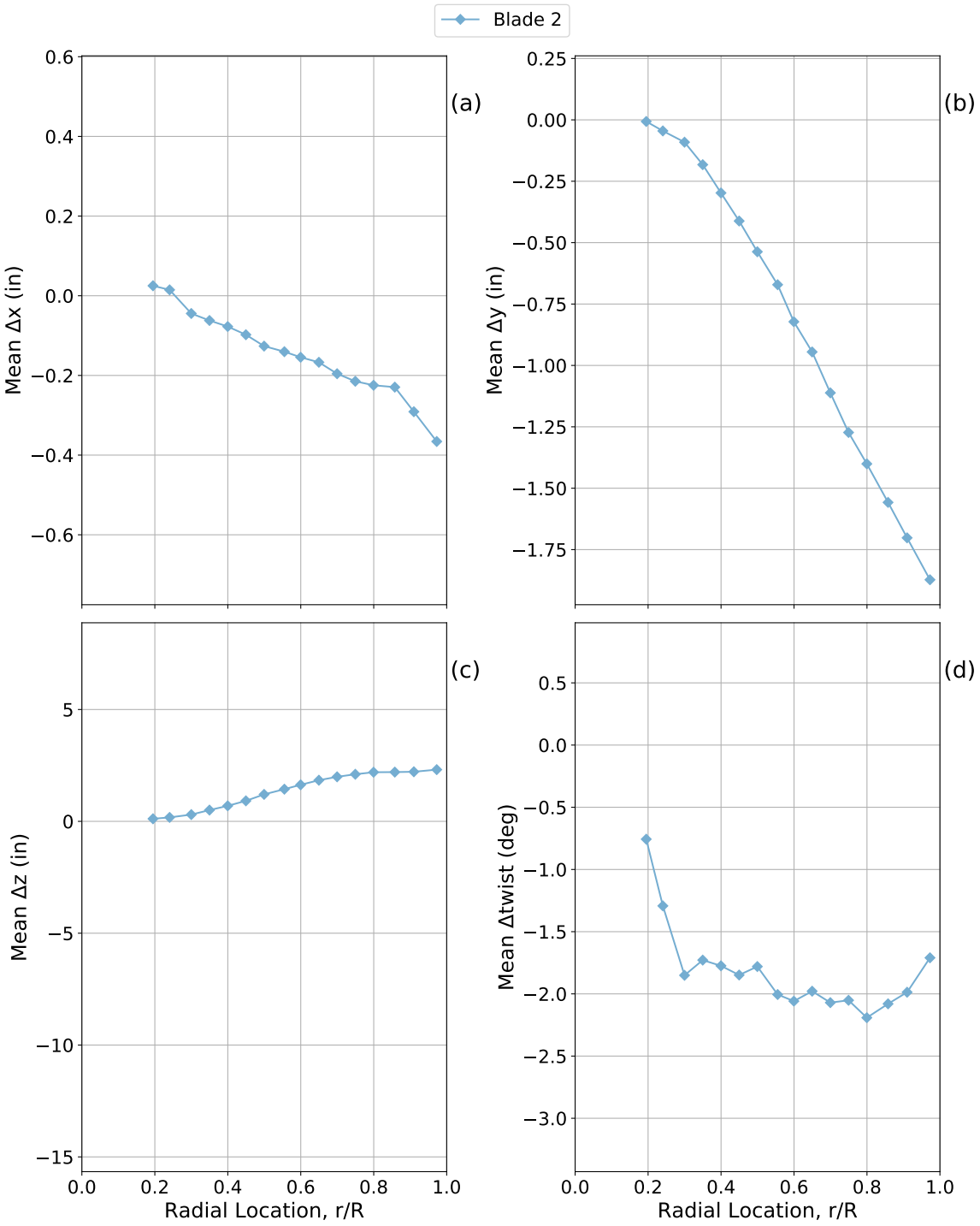


Figure 3.33-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0251	0.0041	-0.0066	0.0035	0.1149	0.0085	-0.7565	0.1197
2	350.16	0.2405	0.0148	0.0038	-0.0451	0.0065	0.1765	0.0156	-1.2926	0.1185
2	350.16	0.2999	-0.0445	0.0025	-0.0909	0.0056	0.3021	0.0223	-1.8508	0.2450
2	350.16	0.3498	-0.0621	0.0043	-0.1825	0.0121	0.5043	0.0363	-1.7286	0.2715
2	350.16	0.3998	-0.0773	0.0079	-0.2976	0.0190	0.6937	0.0503	-1.7745	0.2697
2	350.16	0.4496	-0.0978	0.0098	-0.4119	0.0275	0.9171	0.0644	-1.8484	0.2781
2	350.16	0.4995	-0.1264	0.0127	-0.5371	0.0345	1.2054	0.0794	-1.7803	0.2753
2	350.16	0.5551	-0.1404	0.0149	-0.6713	0.0425	1.4385	0.0918	-2.0051	0.2881
2	350.16	0.5996	-0.1544	0.0172	-0.8221	0.0487	1.6338	0.1019	-2.0584	0.2787
2	350.16	0.6497	-0.1670	0.0206	-0.9450	0.0553	1.8393	0.1121	-1.9785	0.2813
2	350.16	0.6996	-0.1957	0.0228	-1.1117	0.0623	1.9913	0.1190	-2.0703	0.2847
2	350.16	0.7495	-0.2147	0.0247	-1.2730	0.0714	2.1050	0.1282	-2.0515	0.2904
2	350.16	0.7996	-0.2247	0.0277	-1.4008	0.0788	2.1961	0.1358	-2.1916	0.2844
2	350.16	0.8578	-0.2294	0.0299	-1.5577	0.0858	2.2021	0.1426	-2.0800	0.3070
2	350.16	0.9100	-0.2911	0.0339	-1.7021	0.0949	2.2164	0.1552	-1.9868	0.2970
2	350.16	0.9727	-0.3658	0.0408	-1.8728	0.1033	2.3116	0.1653	-1.7099	0.3171

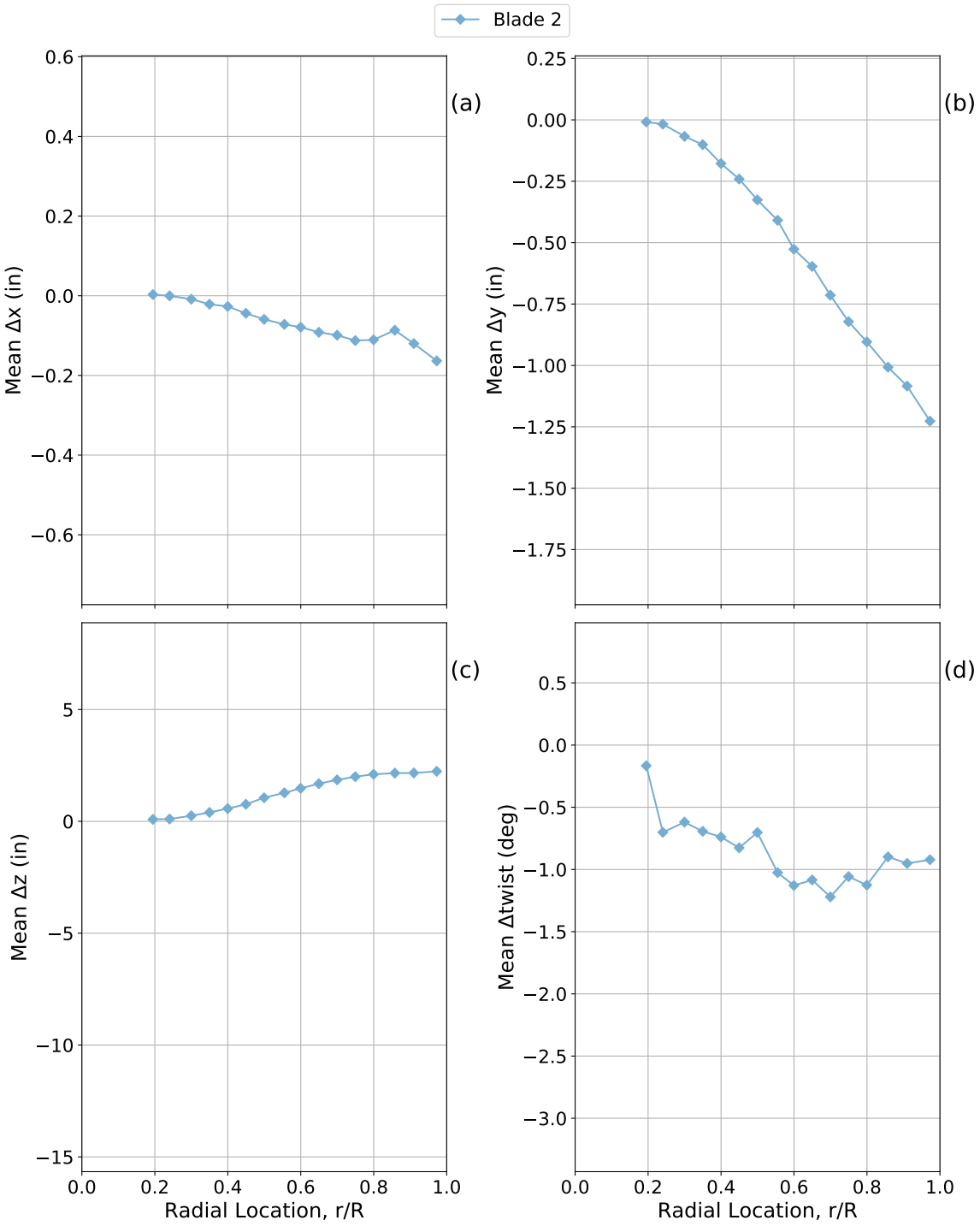


Figure 3.33-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.303$, $\alpha = -4.82°$ NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Table 3.33-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.303, α = -4.82°
NFAC run 78, point 10. BD run 37, points 5844 to 5854.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0030	0.0051	-0.0085	0.0015	0.0882	0.0085	-0.1660	0.0400
2	355.08	0.2405	-0.0002	0.0027	-0.0176	0.0040	0.1045	0.0099	-0.7014	0.0879
2	355.08	0.2999	-0.0086	0.0029	-0.0673	0.0083	0.2505	0.0215	-0.6195	0.0945
2	355.08	0.3498	-0.0213	0.0039	-0.1009	0.0144	0.3998	0.0331	-0.6934	0.0768
2	355.08	0.3998	-0.0269	0.0058	-0.1778	0.0233	0.5704	0.0460	-0.7389	0.0825
2	355.08	0.4496	-0.0441	0.0080	-0.2411	0.0330	0.7632	0.0560	-0.8260	0.0937
2	355.08	0.4995	-0.0592	0.0107	-0.3259	0.0436	1.0562	0.0719	-0.7027	0.0823
2	355.08	0.5551	-0.0718	0.0140	-0.4091	0.0523	1.2747	0.0860	-1.0256	0.0816
2	355.08	0.5996	-0.0789	0.0160	-0.5267	0.0585	1.4755	0.0969	-1.1289	0.0797
2	355.08	0.6497	-0.0917	0.0196	-0.5967	0.0660	1.6840	0.1072	-1.0842	0.0957
2	355.08	0.6996	-0.0990	0.0232	-0.7140	0.0719	1.8549	0.1197	-1.2202	0.0865
2	355.08	0.7495	-0.1125	0.0269	-0.8218	0.0804	1.9961	0.1325	-1.0575	0.0843
2	355.08	0.7996	-0.1106	0.0313	-0.9039	0.0913	2.1046	0.1485	-1.1255	0.0944
2	355.08	0.8578	-0.0865	0.0401	-1.0073	0.1045	2.1559	0.1669	-0.8985	0.1126
2	355.08	0.9100	-0.1200	0.0454	-1.0841	0.1142	2.1629	0.1893	-0.9514	0.1114
2	355.08	0.9727	-0.1635	0.0539	-1.2266	0.1300	2.2357	0.2168	-0.9216	0.0783

3.34 Run 78, Point 32

3.34.1 Pitch, Flap, and Lag

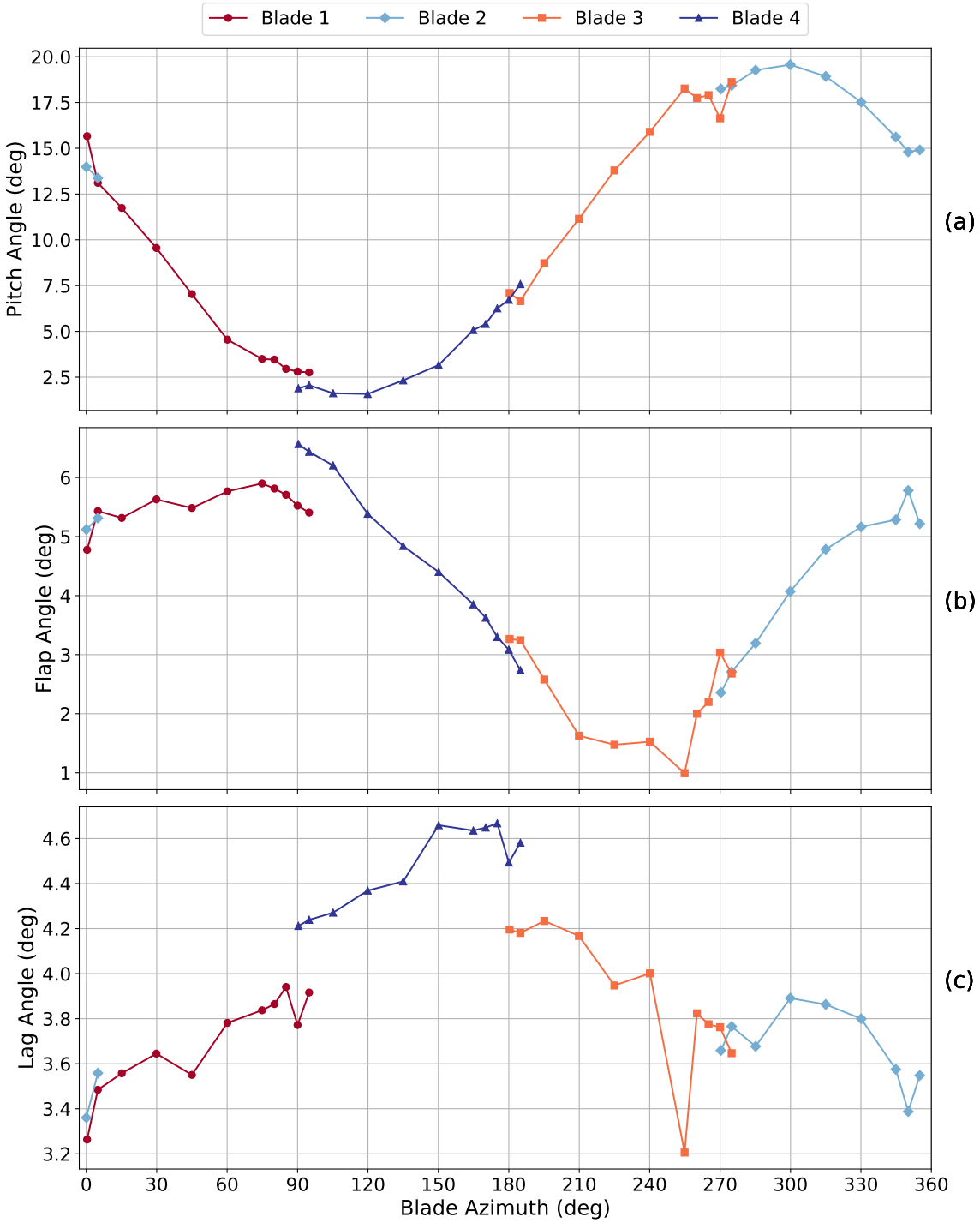


Figure 3.34-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	13.9835	5.1196	3.3603	0.2718	0.1312	0.1186
0.35	1	15.6600	4.7766	3.2636	0.6817	0.2973	0.2007
4.92	1	13.1104	5.4315	3.4844	0.0834	0.0711	0.0498
4.92	2	13.3739	5.3128	3.5584	0.3879	0.1258	0.0877
15.12	1	11.7399	5.3154	3.5575	0.0887	0.0756	0.0468
29.88	1	9.5523	5.6291	3.6448	0.1085	0.0657	0.0440
45	1	7.0328	5.4841	3.5504	0.1185	0.0815	0.0475
60.12	1	4.5486	5.7656	3.7813	0.0678	0.0944	0.0688
74.88	1	3.4933	5.8992	3.8373	0.0890	0.0434	0.0426
80.16	1	3.4561	5.8132	3.8650	0.0571	0.0448	0.0397
85.08	1	2.9504	5.7071	3.9408	0.0755	0.0449	0.0205
90	1	2.8042	5.5234	3.7719	0.1117	0.0900	0.0519
90.35	4	1.8888	6.5661	4.2117	0.0886	0.0685	0.0404
94.92	1	2.7564	5.4060	3.9161	0.1099	0.0755	0.0365
94.92	4	2.0574	6.4351	4.2388	0.0900	0.0513	0.0571
105.12	4	1.6196	6.2045	4.2707	0.1045	0.0748	0.0201
119.88	4	1.5807	5.3860	4.3688	0.0695	0.0844	0.0473
135	4	2.3237	4.8404	4.4094	0.0750	0.0766	0.0699
150.12	4	3.1601	4.4007	4.6589	0.0642	0.1147	0.0391
164.88	4	5.0703	3.8522	4.6352	0.0801	0.1226	0.0228
170.16	4	5.4037	3.6250	4.6486	0.0468	0.1076	0.0329
175.08	4	6.2579	3.2974	4.6675	0.1069	0.0818	0.0330
180	4	6.7235	3.0828	4.4934	0.0942	0.1416	0.0883
180.35	3	7.0913	3.2658	4.1959	0.2260	0.1155	0.0504
184.92	3	6.6546	3.2441	4.1810	0.2630	0.1750	0.1018
184.92	4	7.5787	2.7370	4.5814	0.1479	0.0755	0.0494
195.12	3	8.7257	2.5776	4.2338	0.1133	0.0988	0.0437
209.88	3	11.1446	1.6273	4.1673	0.0563	0.1495	0.0243
225	3	13.7892	1.4745	3.9475	0.0941	0.1481	0.0513
240.12	3	15.8948	1.5254	4.0011	0.1798	0.0965	0.1035
254.88	3	18.2611	0.9929	3.2056	0.3303	0.2357	0.1558
260.16	3	17.7418	2.0002	3.8238	0.1220	0.0612	0.0495
265.08	3	17.8989	2.1991	3.7753	0.0797	0.0452	0.0580
270	3	16.6361	3.0330	3.7621	0.3494	0.1801	0.1344
270.35	2	18.2405	2.3576	3.6588	0.0759	0.0970	0.0658
274.92	2	18.4263	2.7086	3.7658	0.0967	0.0822	0.0985
274.92	3	18.6145	2.6793	3.6467	0.1187	0.0359	0.0476
285.12	2	19.2655	3.1922	3.6769	0.0793	0.0626	0.0408
299.88	2	19.5629	4.0702	3.8910	0.1913	0.0787	0.0525
315	2	18.9222	4.7844	3.8632	0.1465	0.0605	0.0461
330.12	2	17.5184	5.1645	3.7996	0.0793	0.0948	0.1017
344.88	2	15.6089	5.2846	3.5749	0.1237	0.0999	0.0674
350.16	2	14.8013	5.7803	3.3876	0.1414	0.1270	0.1041
355.08	2	14.9081	5.2170	3.5481	0.2041	0.0942	0.0818

3.34.2 Spanwise Elastic Deformations

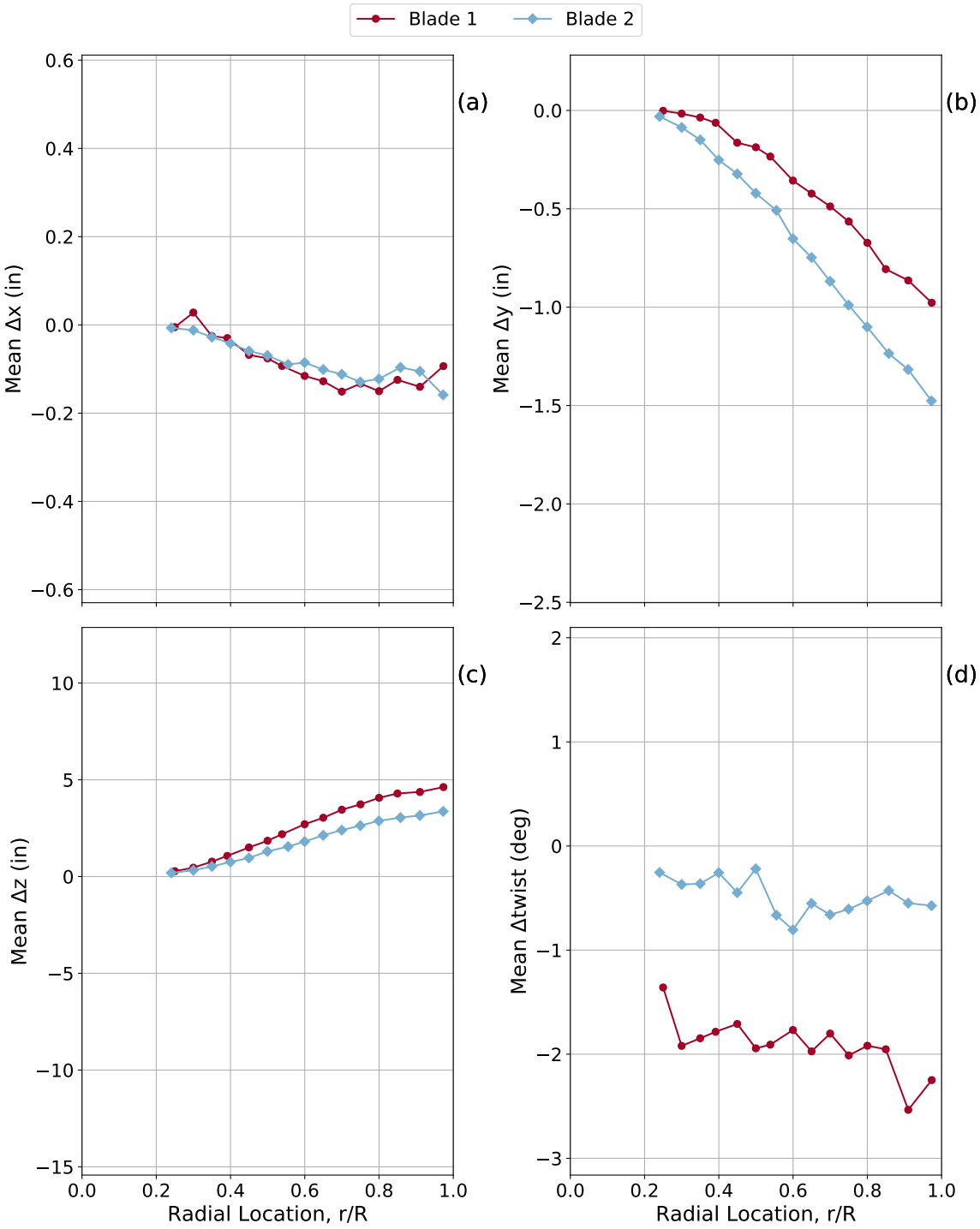


Figure 3.34-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2499	-0.0051	0.0183	-0.0018	0.0115	0.2782	0.1029	-1.3585	0.5444
1	0.35	0.2998	0.0280	0.0147	-0.0162	0.0228	0.4588	0.1524	-1.9200	0.7701
1	0.35	0.3498	-0.0252	0.0159	-0.0360	0.0511	0.7713	0.2561	-1.8467	0.6675
1	0.35	0.3913	-0.0299	0.0188	-0.0627	0.0736	1.0674	0.3364	-1.7845	0.6572
1	0.35	0.4496	-0.0679	0.0197	-0.1642	0.1027	1.5036	0.4353	-1.7091	0.6747
1	0.35	0.4997	-0.0759	0.0246	-0.1872	0.1303	1.8487	0.5264	-1.9433	0.6514
1	0.35	0.5387	-0.0931	0.0274	-0.2344	0.1492	2.1885	0.5871	-1.9081	0.6744
1	0.35	0.5996	-0.1156	0.0310	-0.3565	0.1795	2.7028	0.6929	-1.7675	0.6626
1	0.35	0.6498	-0.1277	0.0353	-0.4227	0.2062	3.0384	0.7778	-1.9728	0.6568
1	0.35	0.6998	-0.1512	0.0381	-0.4880	0.2313	3.4539	0.8609	-1.8014	0.6671
1	0.35	0.7500	-0.1331	0.0414	-0.5646	0.2566	3.7299	0.9436	-2.0113	0.6637
1	0.35	0.8001	-0.1502	0.0470	-0.6730	0.2849	4.0695	1.0305	-1.9186	0.6639
1	0.35	0.8497	-0.1246	0.0512	-0.8066	0.3117	4.2916	1.1159	-1.9525	0.6575
1	0.35	0.9102	-0.1403	0.0549	-0.8641	0.3490	4.3703	1.2173	-2.5343	0.6735
1	0.35	0.9734	-0.0934	0.0661	-0.9775	0.3876	4.6228	1.3305	-2.2486	0.6650
2	0	0.2405	-0.0068	0.0084	-0.0306	0.0057	0.1872	0.0427	-0.2539	0.2021
2	0	0.2999	-0.0121	0.0036	-0.0866	0.0133	0.3229	0.0708	-0.3693	0.3080
2	0	0.3498	-0.0279	0.0069	-0.1496	0.0282	0.5223	0.1218	-0.3627	0.2617
2	0	0.3998	-0.0419	0.0094	-0.2517	0.0435	0.7517	0.1717	-0.2568	0.2334
2	0	0.4496	-0.0592	0.0123	-0.3226	0.0588	0.9595	0.2137	-0.4481	0.2457
2	0	0.4995	-0.0694	0.0183	-0.4210	0.0775	1.3006	0.2633	-0.2190	0.2296
2	0	0.5551	-0.0895	0.0229	-0.5082	0.0961	1.5477	0.3113	-0.6645	0.2558
2	0	0.5996	-0.0854	0.0269	-0.6521	0.1098	1.8039	0.3567	-0.8049	0.2514
2	0	0.6497	-0.1012	0.0321	-0.7477	0.1240	2.1323	0.4059	-0.5518	0.2492
2	0	0.6996	-0.1119	0.0375	-0.8685	0.1393	2.3970	0.4524	-0.6597	0.2620
2	0	0.7495	-0.1292	0.0439	-0.9892	0.1537	2.6316	0.5002	-0.6066	0.2666
2	0	0.7996	-0.1225	0.0506	-1.1010	0.1677	2.8775	0.5464	-0.5267	0.2601
2	0	0.8578	-0.0963	0.0552	-1.2356	0.1838	3.0472	0.5999	-0.4283	0.2540
2	0	0.9100	-0.1052	0.0633	-1.3169	0.1956	3.1558	0.6434	-0.5489	0.2666
2	0	0.9727	-0.1586	0.0676	-1.4763	0.2110	3.3668	0.6876	-0.5729	0.2901

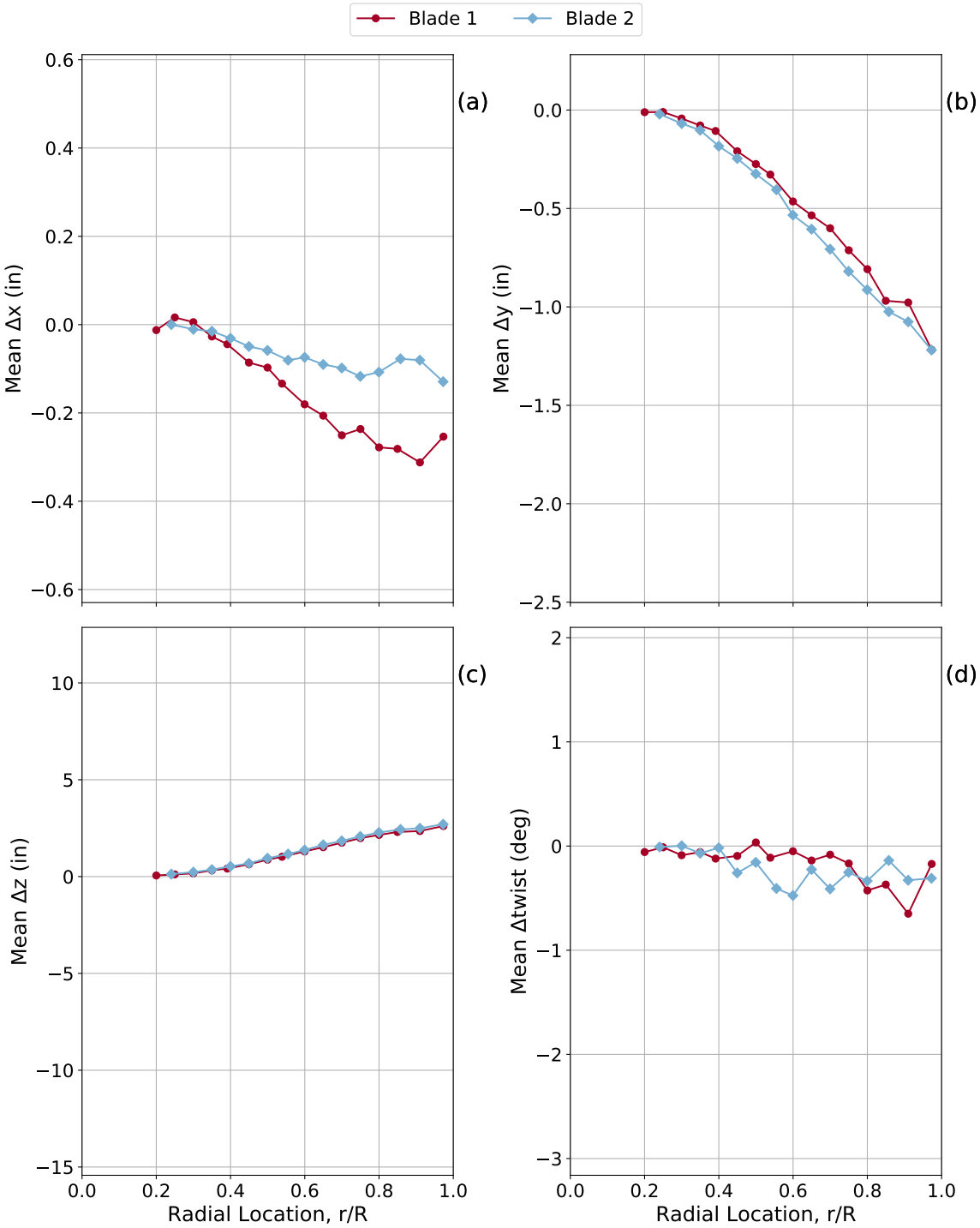


Figure 3.34-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0124	0.0020	-0.0109	0.0017	0.0579	0.0065	-0.0578	0.0420
1	4.92	0.2499	0.0163	0.0019	-0.0102	0.0037	0.1134	0.0131	-0.0122	0.0490
1	4.92	0.2998	0.0056	0.0027	-0.0430	0.0071	0.1653	0.0201	-0.0880	0.0792
1	4.92	0.3498	-0.0269	0.0023	-0.0784	0.0123	0.3221	0.0319	-0.0583	0.0888
1	4.92	0.3913	-0.0443	0.0032	-0.1064	0.0172	0.4143	0.0451	-0.1207	0.0708
1	4.92	0.4496	-0.0860	0.0038	-0.2093	0.0232	0.6350	0.0580	-0.0950	0.0891
1	4.92	0.4997	-0.0974	0.0048	-0.2743	0.0291	0.8710	0.0693	0.0346	0.0802
1	4.92	0.5387	-0.1336	0.0038	-0.3278	0.0330	1.0234	0.0771	-0.1119	0.0876
1	4.92	0.5996	-0.1805	0.0053	-0.4644	0.0408	1.2971	0.0879	-0.0499	0.0829
1	4.92	0.6498	-0.2062	0.0053	-0.5350	0.0485	1.5182	0.0958	-0.1388	0.0802
1	4.92	0.6998	-0.2506	0.0062	-0.6004	0.0593	1.7494	0.1067	-0.0829	0.1209
1	4.92	0.7500	-0.2364	0.0054	-0.7123	0.0671	1.9854	0.1203	-0.1675	0.0832
1	4.92	0.8001	-0.2780	0.0058	-0.8084	0.0768	2.1528	0.1331	-0.4265	0.0938
1	4.92	0.8497	-0.2814	0.0061	-0.9690	0.0836	2.3028	0.1503	-0.3699	0.1266
1	4.92	0.9102	-0.3121	0.0058	-0.9779	0.0909	2.3523	0.1714	-0.6496	0.1492
1	4.92	0.9734	-0.2537	0.0091	-1.2183	0.1092	2.6103	0.1988	-0.1719	0.1145
2	4.92	0.2405	0.0002	0.0107	-0.0209	0.0056	0.1278	0.0323	-0.0090	0.2905
2	4.92	0.2999	-0.0106	0.0062	-0.0686	0.0117	0.2289	0.0523	0.0021	0.4459
2	4.92	0.3498	-0.0150	0.0058	-0.1026	0.0260	0.3599	0.0909	-0.0694	0.3856
2	4.92	0.3998	-0.0309	0.0077	-0.1835	0.0385	0.5277	0.1264	-0.0174	0.4199
2	4.92	0.4496	-0.0495	0.0090	-0.2461	0.0487	0.6817	0.1495	-0.2581	0.4194
2	4.92	0.4995	-0.0584	0.0133	-0.3239	0.0619	0.9484	0.1913	-0.1565	0.4238
2	4.92	0.5551	-0.0806	0.0151	-0.4048	0.0744	1.1638	0.2152	-0.4073	0.4131
2	4.92	0.5996	-0.0741	0.0167	-0.5336	0.0843	1.3721	0.2476	-0.4751	0.3928
2	4.92	0.6497	-0.0902	0.0226	-0.6051	0.0944	1.6402	0.2765	-0.2248	0.4032
2	4.92	0.6996	-0.0983	0.0242	-0.7067	0.1052	1.8440	0.3170	-0.4118	0.3947
2	4.92	0.7495	-0.1172	0.0282	-0.8194	0.1136	2.0744	0.3529	-0.2524	0.4100
2	4.92	0.7996	-0.1076	0.0329	-0.9132	0.1255	2.2787	0.3901	-0.3352	0.3921
2	4.92	0.8578	-0.0775	0.0423	-1.0243	0.1379	2.4325	0.4293	-0.1383	0.4011
2	4.92	0.9100	-0.0805	0.0475	-1.0757	0.1526	2.4958	0.4674	-0.3283	0.3890
2	4.92	0.9727	-0.1292	0.0577	-1.2189	0.1684	2.7027	0.4933	-0.3094	0.4309

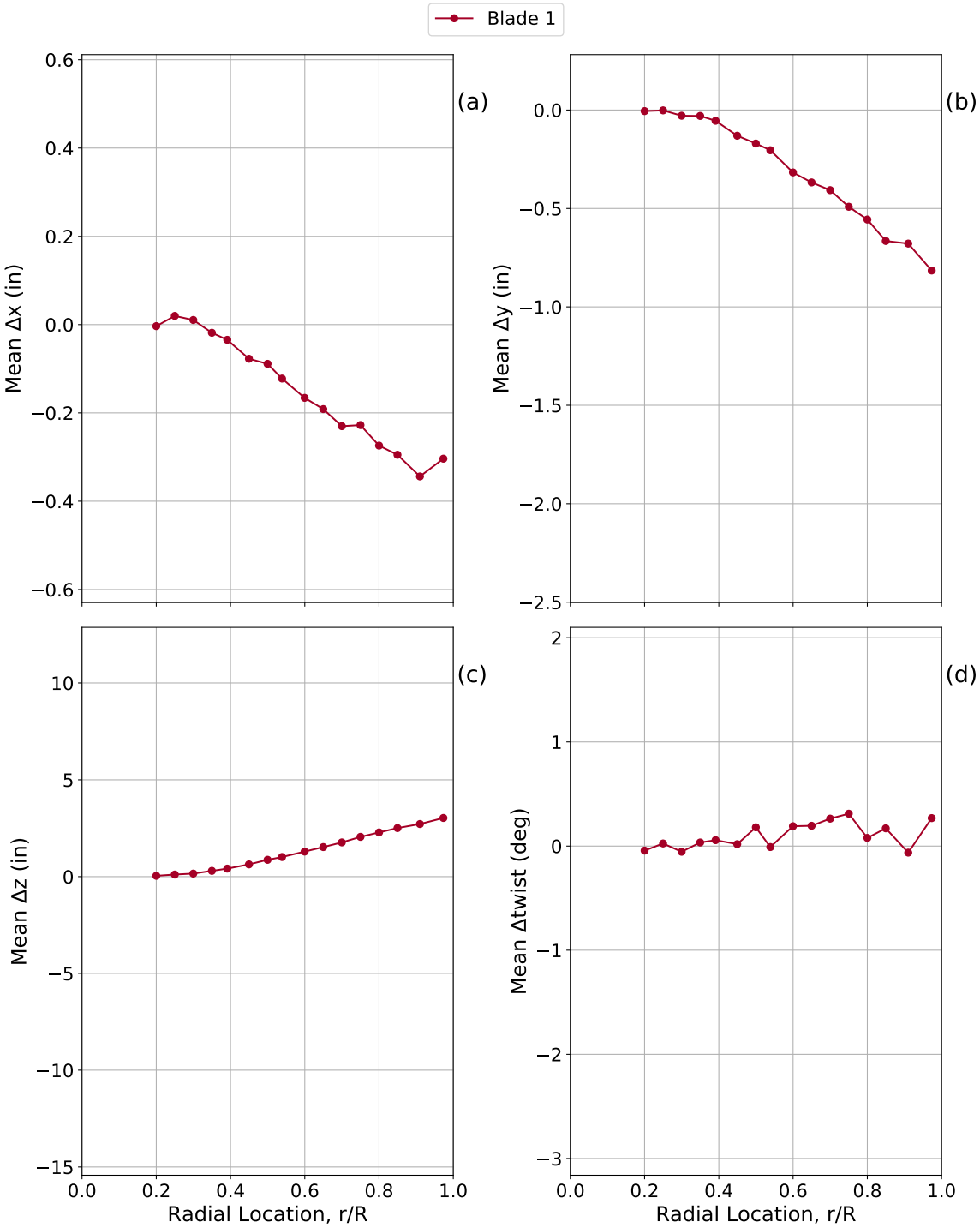


Figure 3.34-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0035	0.0024	-0.0054	0.0015	0.0424	0.0042	-0.0434	0.0464
1	15.12	0.2499	0.0196	0.0018	-0.0018	0.0049	0.1081	0.0087	0.0253	0.0381
1	15.12	0.2998	0.0104	0.0020	-0.0289	0.0076	0.1576	0.0129	-0.0546	0.0878
1	15.12	0.3498	-0.0185	0.0031	-0.0299	0.0142	0.2982	0.0207	0.0347	0.0522
1	15.12	0.3913	-0.0345	0.0046	-0.0546	0.0210	0.4139	0.0278	0.0570	0.0667
1	15.12	0.4496	-0.0774	0.0044	-0.1304	0.0274	0.6322	0.0346	0.0186	0.0687
1	15.12	0.4997	-0.0889	0.0043	-0.1700	0.0331	0.8696	0.0407	0.1802	0.0495
1	15.12	0.5387	-0.1223	0.0039	-0.2041	0.0372	1.0123	0.0509	-0.0091	0.0659
1	15.12	0.5996	-0.1660	0.0039	-0.3167	0.0441	1.2941	0.0640	0.1908	0.0546
1	15.12	0.6498	-0.1915	0.0040	-0.3677	0.0490	1.5266	0.0736	0.1949	0.0520
1	15.12	0.6998	-0.2301	0.0041	-0.4069	0.0561	1.7680	0.0863	0.2635	0.0711
1	15.12	0.7500	-0.2276	0.0051	-0.4913	0.0616	2.0546	0.0988	0.3109	0.0465
1	15.12	0.8001	-0.2741	0.0050	-0.5561	0.0678	2.2835	0.1159	0.0784	0.0688
1	15.12	0.8497	-0.2949	0.0052	-0.6650	0.0748	2.5084	0.1384	0.1706	0.0799
1	15.12	0.9102	-0.3439	0.0063	-0.6782	0.0805	2.7172	0.1721	-0.0628	0.1116
1	15.12	0.9734	-0.3037	0.0091	-0.8152	0.0866	3.0303	0.2049	0.2685	0.0664

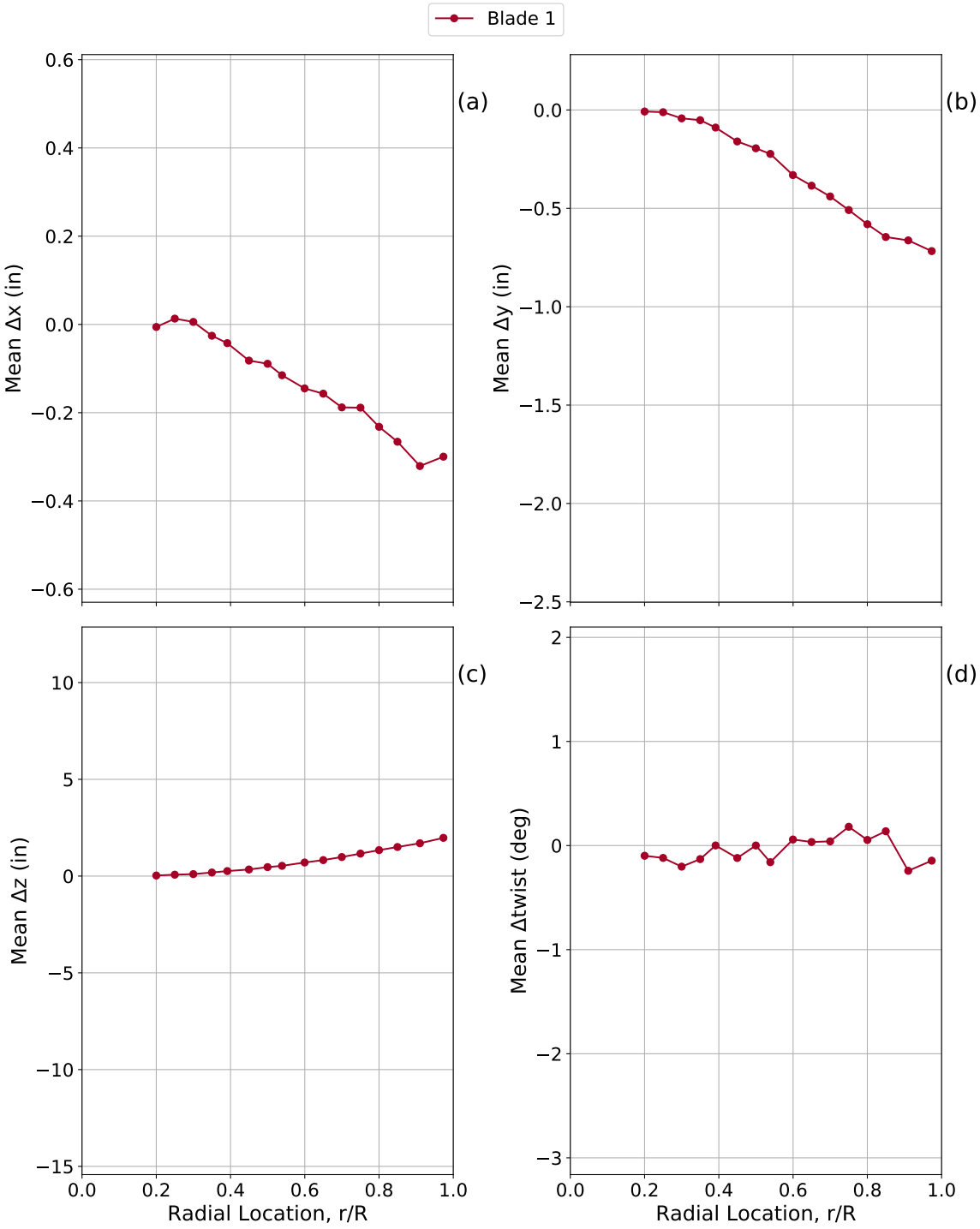


Figure 3.34-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0057	0.0025	-0.0079	0.0022	0.0287	0.0094	-0.0981	0.0447
1	29.88	0.2499	0.0132	0.0024	-0.0113	0.0091	0.0720	0.0171	-0.1189	0.0618
1	29.88	0.2998	0.0057	0.0041	-0.0426	0.0095	0.1018	0.0287	-0.2026	0.0890
1	29.88	0.3498	-0.0256	0.0036	-0.0518	0.0261	0.1852	0.0490	-0.1302	0.0645
1	29.88	0.3913	-0.0424	0.0045	-0.0895	0.0333	0.2589	0.0666	0.0010	0.0619
1	29.88	0.4496	-0.0819	0.0046	-0.1600	0.0416	0.3403	0.0902	-0.1195	0.0671
1	29.88	0.4997	-0.0891	0.0046	-0.1948	0.0501	0.4629	0.1148	0.0005	0.0727
1	29.88	0.5387	-0.1151	0.0030	-0.2233	0.0560	0.5285	0.1380	-0.1598	0.0746
1	29.88	0.5996	-0.1450	0.0038	-0.3309	0.0650	0.7022	0.1756	0.0580	0.0703
1	29.88	0.6498	-0.1569	0.0035	-0.3848	0.0729	0.8259	0.2120	0.0342	0.0785
1	29.88	0.6998	-0.1880	0.0042	-0.4396	0.0802	0.9843	0.2486	0.0401	0.0659
1	29.88	0.7500	-0.1886	0.0038	-0.5086	0.0875	1.1622	0.2906	0.1802	0.0765
1	29.88	0.8001	-0.2320	0.0048	-0.5807	0.0958	1.3409	0.3367	0.0536	0.0807
1	29.88	0.8497	-0.2658	0.0048	-0.6456	0.1026	1.5025	0.3864	0.1373	0.0890
1	29.88	0.9102	-0.3209	0.0054	-0.6628	0.1117	1.6955	0.4568	-0.2425	0.0984
1	29.88	0.9734	-0.2997	0.0076	-0.7173	0.1211	1.9759	0.5408	-0.1453	0.0944

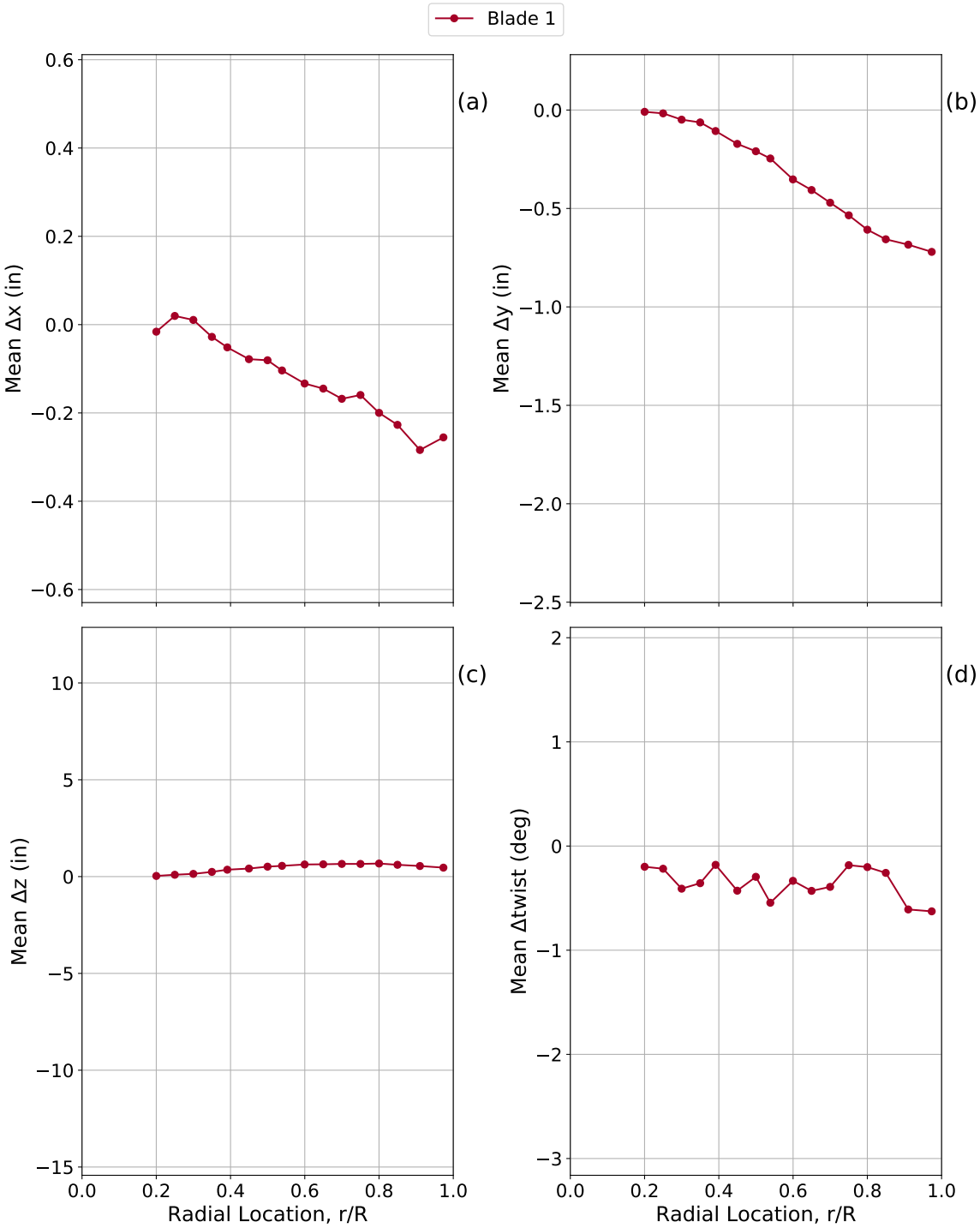


Figure 3.34-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0160	0.0015	-0.0090	0.0010	0.0337	0.0044	-0.1989	0.0360
1	45	0.2499	0.0197	0.0015	-0.0169	0.0025	0.0949	0.0085	-0.2178	0.0504
1	45	0.2998	0.0106	0.0019	-0.0488	0.0042	0.1396	0.0154	-0.4094	0.0758
1	45	0.3498	-0.0277	0.0024	-0.0629	0.0081	0.2422	0.0262	-0.3565	0.0601
1	45	0.3913	-0.0515	0.0019	-0.1067	0.0113	0.3555	0.0368	-0.1805	0.0614
1	45	0.4496	-0.0782	0.0021	-0.1719	0.0157	0.4150	0.0576	-0.4288	0.0669
1	45	0.4997	-0.0807	0.0030	-0.2094	0.0207	0.5131	0.0738	-0.2955	0.0581
1	45	0.5387	-0.1038	0.0040	-0.2460	0.0239	0.5542	0.0894	-0.5445	0.0580
1	45	0.5996	-0.1334	0.0036	-0.3523	0.0299	0.6255	0.1077	-0.3341	0.0570
1	45	0.6498	-0.1449	0.0043	-0.4064	0.0359	0.6348	0.1244	-0.4303	0.0556
1	45	0.6998	-0.1680	0.0039	-0.4707	0.0410	0.6545	0.1376	-0.3921	0.0662
1	45	0.7500	-0.1594	0.0038	-0.5347	0.0464	0.6534	0.1480	-0.1837	0.0691
1	45	0.8001	-0.1998	0.0045	-0.6079	0.0530	0.6751	0.1602	-0.2021	0.0568
1	45	0.8497	-0.2270	0.0048	-0.6565	0.0595	0.6096	0.1718	-0.2577	0.0592
1	45	0.9102	-0.2839	0.0050	-0.6839	0.0680	0.5463	0.1856	-0.6088	0.0517
1	45	0.9734	-0.2554	0.0065	-0.7205	0.0758	0.4619	0.1975	-0.6268	0.0592

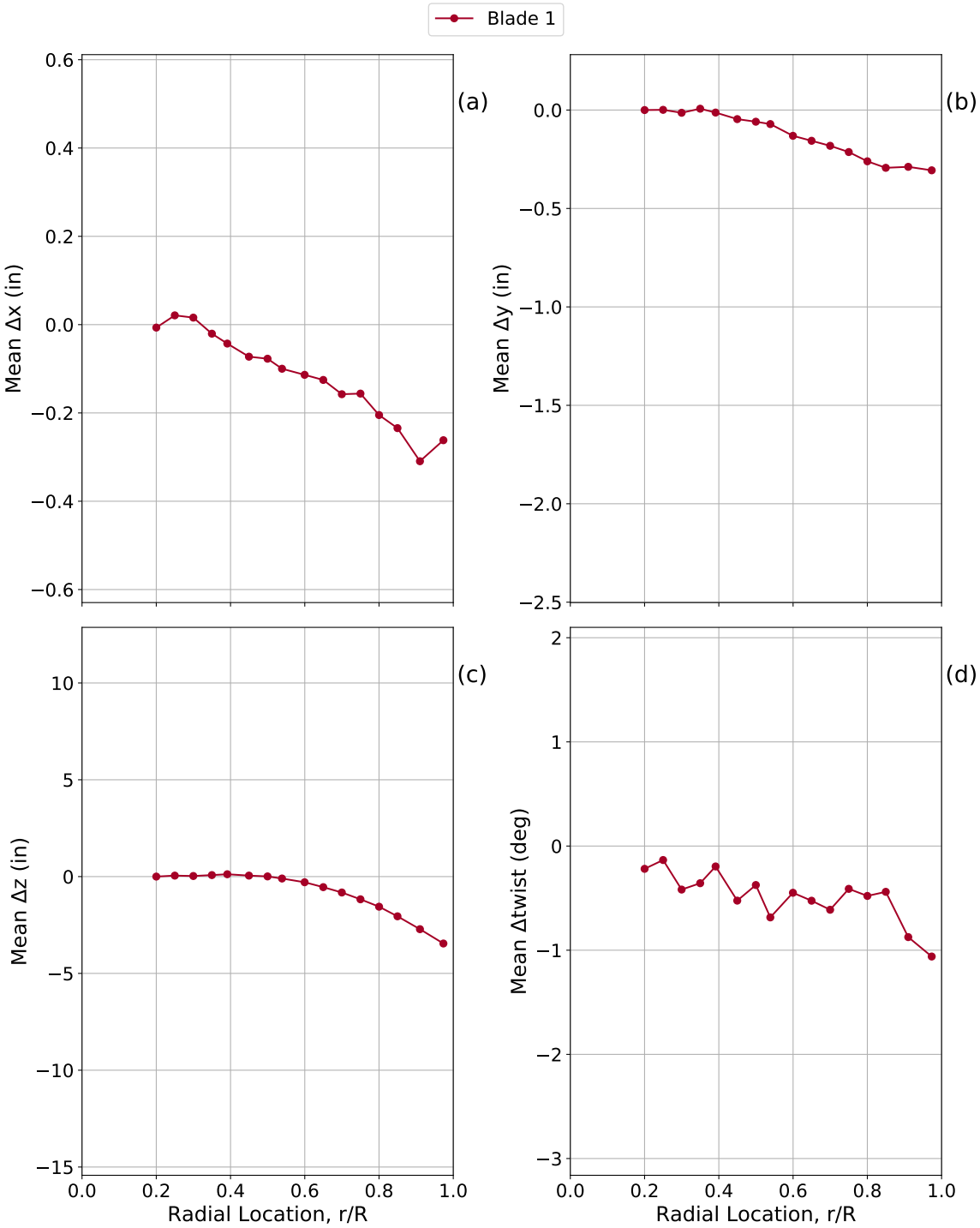


Figure 3.34-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0067	0.0016	-0.0001	0.0011	0.0002	0.0029	-0.2188	0.0287
1	60.12	0.2499	0.0210	0.0024	0.0010	0.0025	0.0507	0.0059	-0.1343	0.0461
1	60.12	0.2998	0.0159	0.0031	-0.0139	0.0041	0.0300	0.0121	-0.4179	0.0635
1	60.12	0.3498	-0.0205	0.0020	0.0067	0.0081	0.0775	0.0182	-0.3568	0.0574
1	60.12	0.3913	-0.0429	0.0028	-0.0128	0.0109	0.1213	0.0278	-0.1959	0.0611
1	60.12	0.4496	-0.0726	0.0033	-0.0461	0.0153	0.0511	0.0388	-0.5241	0.0579
1	60.12	0.4997	-0.0772	0.0023	-0.0593	0.0185	0.0091	0.0509	-0.3742	0.0551
1	60.12	0.5387	-0.0999	0.0037	-0.0713	0.0226	-0.0992	0.0554	-0.6851	0.0656
1	60.12	0.5996	-0.1137	0.0036	-0.1309	0.0284	-0.2927	0.0642	-0.4486	0.0762
1	60.12	0.6498	-0.1253	0.0029	-0.1562	0.0350	-0.5451	0.0693	-0.5249	0.0779
1	60.12	0.6998	-0.1576	0.0031	-0.1817	0.0401	-0.8217	0.0749	-0.6116	0.0655
1	60.12	0.7500	-0.1562	0.0032	-0.2134	0.0468	-1.1732	0.0786	-0.4110	0.0737
1	60.12	0.8001	-0.2048	0.0041	-0.2604	0.0536	-1.5547	0.0890	-0.4790	0.0829
1	60.12	0.8497	-0.2344	0.0040	-0.2935	0.0610	-2.0517	0.1002	-0.4395	0.0907
1	60.12	0.9102	-0.3094	0.0048	-0.2885	0.0696	-2.7165	0.1165	-0.8743	0.0888
1	60.12	0.9734	-0.2618	0.0057	-0.3062	0.0783	-3.4561	0.1428	-1.0606	0.0755

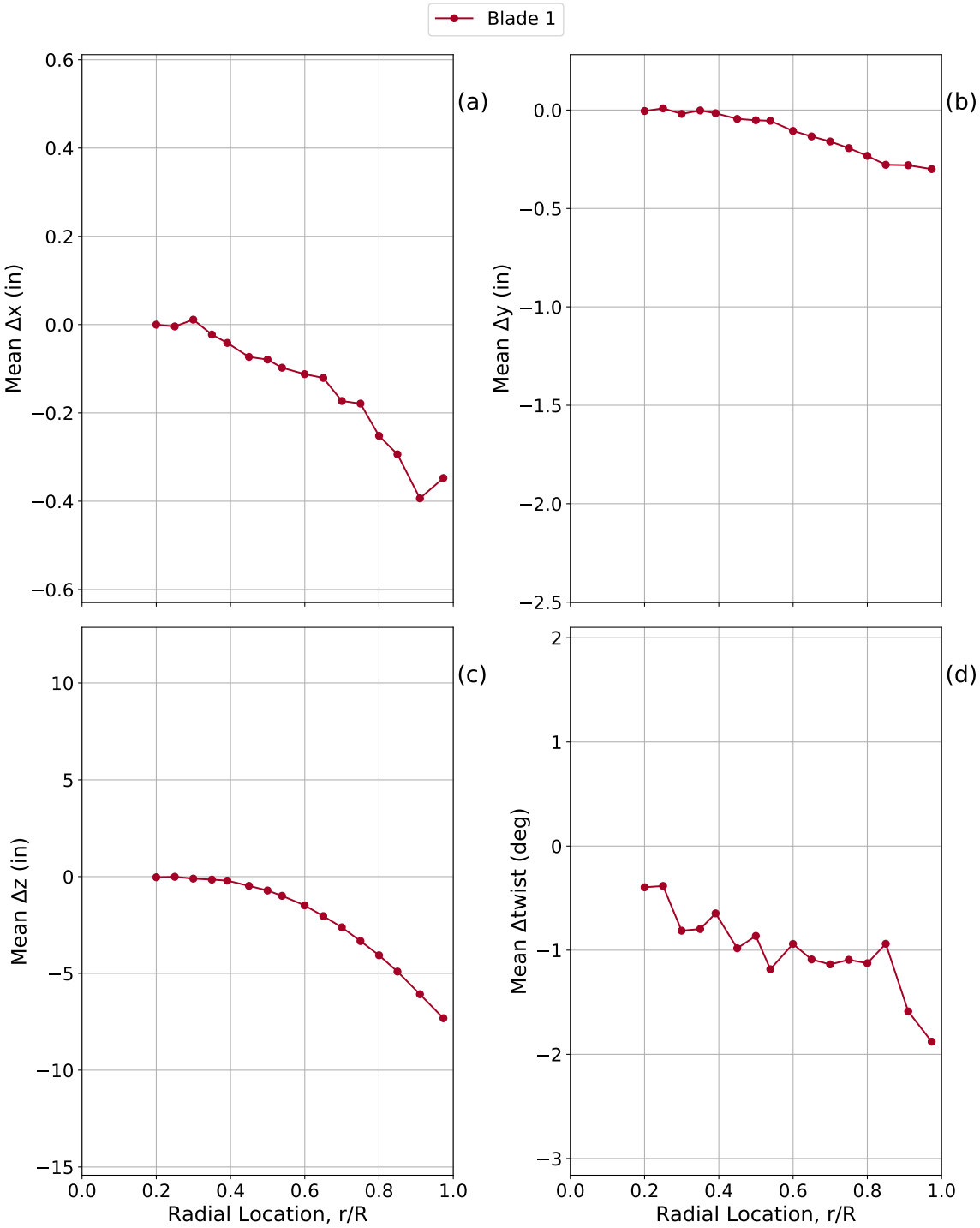


Figure 3.34-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0002	0.0021	-0.0048	0.0012	-0.0333	0.0031	-0.3955	0.0238
1	74.88	0.2499	-0.0042	0.0012	0.0086	0.0035	-0.0094	0.0074	-0.3831	0.0385
1	74.88	0.2998	0.0111	0.0018	-0.0195	0.0062	-0.1030	0.0138	-0.8130	0.0535
1	74.88	0.3498	-0.0226	0.0033	-0.0021	0.0095	-0.1545	0.0209	-0.7970	0.0370
1	74.88	0.3913	-0.0415	0.0037	-0.0161	0.0152	-0.2072	0.0329	-0.6462	0.0477
1	74.88	0.4496	-0.0732	0.0046	-0.0449	0.0208	-0.4772	0.0445	-0.9817	0.0545
1	74.88	0.4997	-0.0792	0.0046	-0.0517	0.0270	-0.7169	0.0589	-0.8632	0.0510
1	74.88	0.5387	-0.0977	0.0028	-0.0545	0.0317	-0.9940	0.0729	-1.1832	0.0679
1	74.88	0.5996	-0.1123	0.0034	-0.1059	0.0408	-1.4852	0.0973	-0.9400	0.0633
1	74.88	0.6498	-0.1209	0.0034	-0.1339	0.0494	-2.0409	0.1113	-1.0892	0.0708
1	74.88	0.6998	-0.1731	0.0034	-0.1597	0.0592	-2.6212	0.1310	-1.1366	0.0659
1	74.88	0.7500	-0.1790	0.0049	-0.1932	0.0695	-3.3306	0.1491	-1.0926	0.0578
1	74.88	0.8001	-0.2520	0.0055	-0.2328	0.0809	-4.0658	0.1711	-1.1256	0.0802
1	74.88	0.8497	-0.2938	0.0057	-0.2780	0.0928	-4.9065	0.1924	-0.9388	0.0758
1	74.88	0.9102	-0.3935	0.0073	-0.2802	0.1069	-6.0777	0.2204	-1.5877	0.0670
1	74.88	0.9734	-0.3476	0.0092	-0.2998	0.1237	-7.3166	0.2558	-1.8786	0.0716

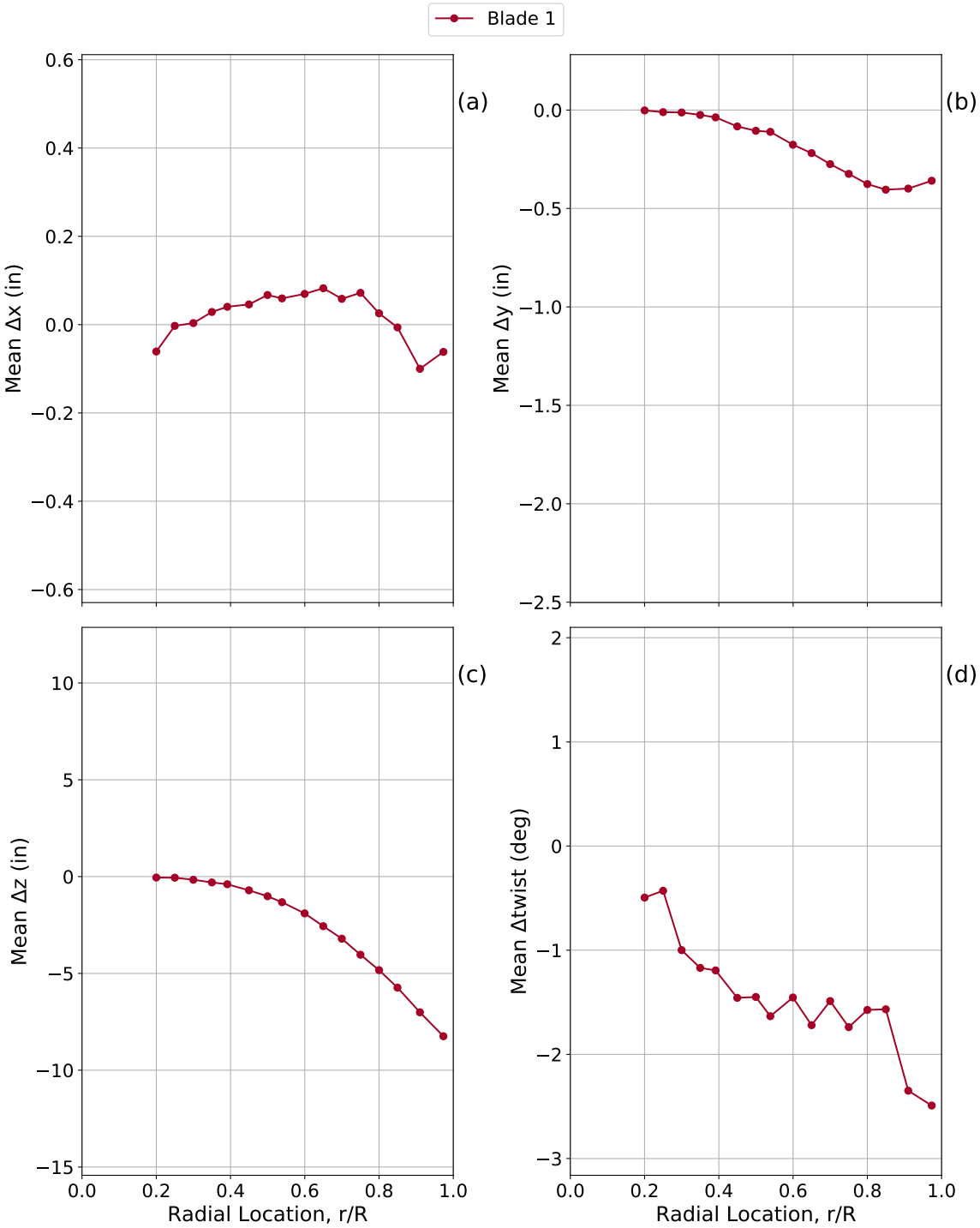


Figure 3.34-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0609	0.0105	-0.0019	0.0010	-0.0494	0.0034	-0.4949	0.0275
1	80.16	0.2499	-0.0028	0.0030	-0.0107	0.0018	-0.0572	0.0082	-0.4291	0.0620
1	80.16	0.2998	0.0035	0.0036	-0.0124	0.0040	-0.1633	0.0137	-0.9992	0.0667
1	80.16	0.3498	0.0287	0.0095	-0.0248	0.0066	-0.3016	0.0231	-1.1698	0.0532
1	80.16	0.3913	0.0404	0.0120	-0.0372	0.0096	-0.3958	0.0343	-1.1938	0.0636
1	80.16	0.4496	0.0458	0.0167	-0.0833	0.0137	-0.7086	0.0468	-1.4573	0.0484
1	80.16	0.4997	0.0671	0.0182	-0.1054	0.0174	-1.0151	0.0581	-1.4491	0.0558
1	80.16	0.5387	0.0594	0.0181	-0.1108	0.0211	-1.3229	0.0688	-1.6334	0.0571
1	80.16	0.5996	0.0696	0.0159	-0.1763	0.0274	-1.8998	0.0841	-1.4541	0.0647
1	80.16	0.6498	0.0824	0.0142	-0.2188	0.0330	-2.5603	0.0998	-1.7196	0.0605
1	80.16	0.6998	0.0584	0.0143	-0.2747	0.0390	-3.2069	0.1152	-1.4882	0.0615
1	80.16	0.7500	0.0720	0.0170	-0.3242	0.0466	-4.0362	0.1285	-1.7386	0.0597
1	80.16	0.8001	0.0256	0.0243	-0.3760	0.0551	-4.8316	0.1428	-1.5735	0.0702
1	80.16	0.8497	-0.0063	0.0338	-0.4045	0.0636	-5.7346	0.1533	-1.5672	0.0770
1	80.16	0.9102	-0.1000	0.0485	-0.3990	0.0758	-7.0093	0.1642	-2.3488	0.0809
1	80.16	0.9734	-0.0618	0.0658	-0.3591	0.0951	-8.2443	0.1739	-2.4912	0.0865

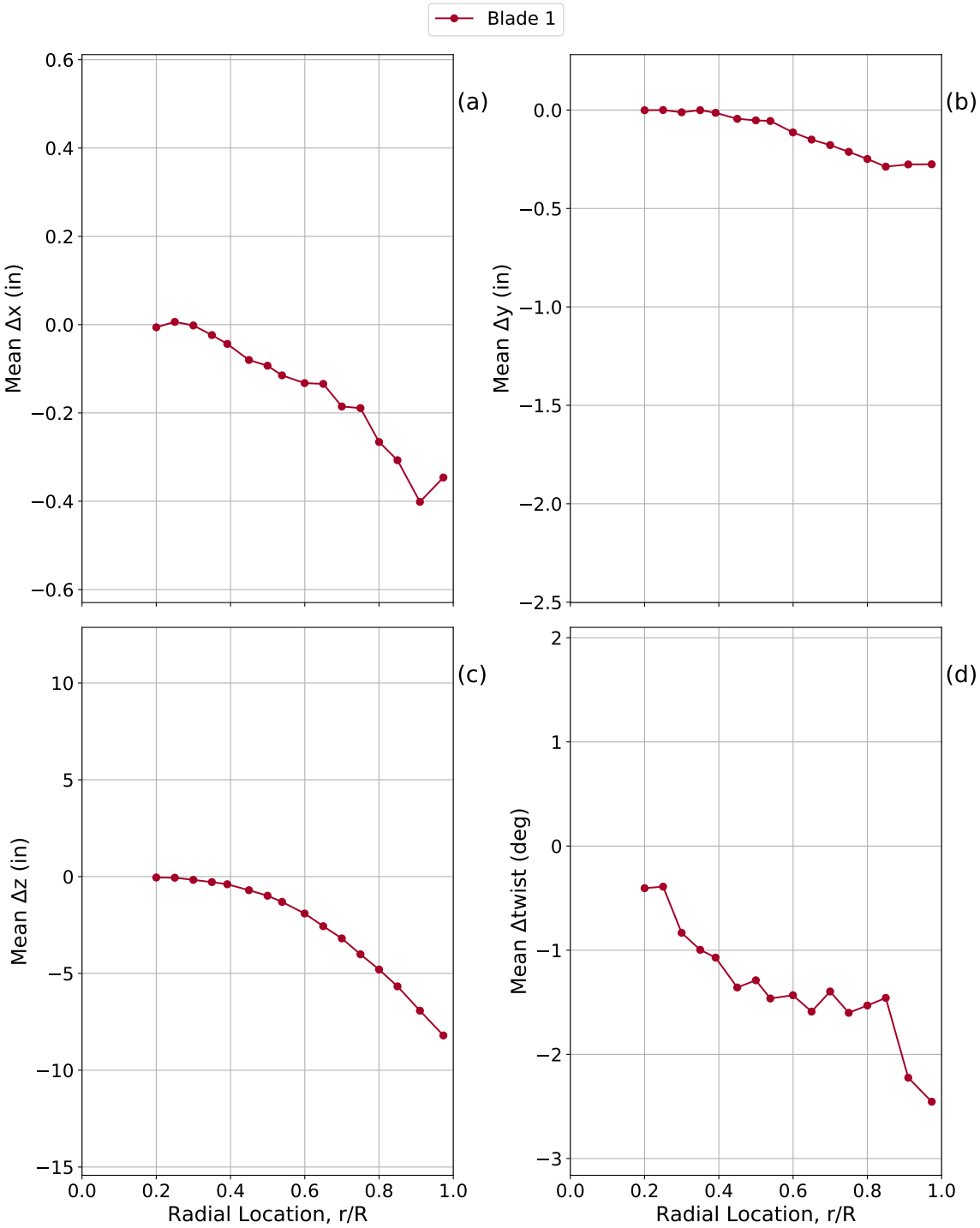


Figure 3.34-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0061	0.0019	-0.0011	0.0010	-0.0468	0.0042	-0.4046	0.0322
1	85.08	0.2499	0.0063	0.0018	0.0000	0.0020	-0.0582	0.0074	-0.3898	0.0426
1	85.08	0.2998	-0.0019	0.0016	-0.0115	0.0042	-0.1688	0.0169	-0.8330	0.0657
1	85.08	0.3498	-0.0236	0.0009	-0.0008	0.0070	-0.2855	0.0250	-0.9963	0.0526
1	85.08	0.3913	-0.0437	0.0017	-0.0141	0.0098	-0.3953	0.0378	-1.0710	0.0618
1	85.08	0.4496	-0.0801	0.0032	-0.0446	0.0139	-0.7022	0.0523	-1.3579	0.0600
1	85.08	0.4997	-0.0931	0.0024	-0.0525	0.0179	-0.9887	0.0657	-1.2887	0.0569
1	85.08	0.5387	-0.1149	0.0032	-0.0556	0.0203	-1.3071	0.0721	-1.4632	0.0714
1	85.08	0.5996	-0.1325	0.0040	-0.1135	0.0249	-1.9071	0.0894	-1.4323	0.0523
1	85.08	0.6498	-0.1342	0.0046	-0.1502	0.0290	-2.5619	0.1055	-1.5893	0.0610
1	85.08	0.6998	-0.1854	0.0045	-0.1781	0.0334	-3.1930	0.1239	-1.3965	0.0628
1	85.08	0.7500	-0.1891	0.0049	-0.2124	0.0383	-4.0132	0.1470	-1.6011	0.0608
1	85.08	0.8001	-0.2658	0.0059	-0.2487	0.0438	-4.7990	0.1702	-1.5308	0.0701
1	85.08	0.8497	-0.3071	0.0075	-0.2876	0.0498	-5.6684	0.1966	-1.4578	0.0706
1	85.08	0.9102	-0.4014	0.0102	-0.2763	0.0583	-6.9263	0.2287	-2.2238	0.0734
1	85.08	0.9734	-0.3462	0.0119	-0.2755	0.0678	-8.2049	0.2650	-2.4546	0.0787

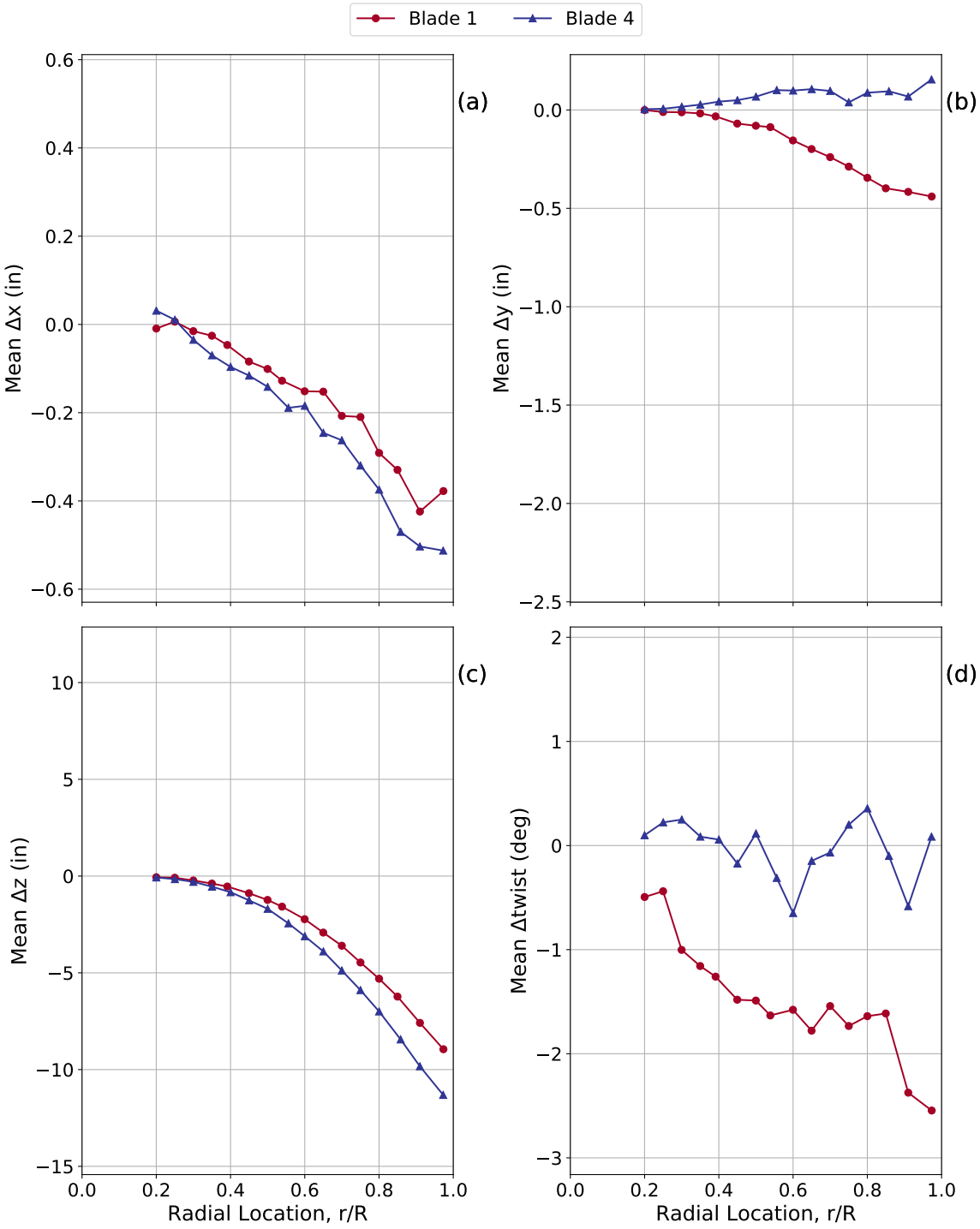


Figure 3.34-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0093	0.0020	-0.0006	0.0008	-0.0604	0.0052	-0.4942	0.0427
1	90	0.2499	0.0064	0.0012	-0.0105	0.0029	-0.0849	0.0101	-0.4389	0.0929
1	90	0.2998	-0.0152	0.0020	-0.0117	0.0040	-0.2271	0.0193	-1.0025	0.1065
1	90	0.3498	-0.0256	0.0024	-0.0174	0.0074	-0.3850	0.0357	-1.1572	0.0932
1	90	0.3913	-0.0466	0.0021	-0.0326	0.0109	-0.5396	0.0490	-1.2593	0.0846
1	90	0.4496	-0.0841	0.0028	-0.0693	0.0133	-0.8871	0.0693	-1.4810	0.0893
1	90	0.4997	-0.1009	0.0026	-0.0802	0.0169	-1.2333	0.0858	-1.4890	0.0942
1	90	0.5387	-0.1275	0.0034	-0.0872	0.0201	-1.5780	0.1010	-1.6319	0.0873
1	90	0.5996	-0.1514	0.0036	-0.1549	0.0252	-2.2271	0.1227	-1.5777	0.0972
1	90	0.6498	-0.1523	0.0049	-0.1986	0.0287	-2.9199	0.1413	-1.7783	0.1009
1	90	0.6998	-0.2072	0.0055	-0.2397	0.0333	-3.6002	0.1616	-1.5422	0.0926
1	90	0.7500	-0.2097	0.0071	-0.2881	0.0382	-4.4649	0.1860	-1.7333	0.0974
1	90	0.8001	-0.2912	0.0089	-0.3447	0.0440	-5.3037	0.2120	-1.6390	0.1008
1	90	0.8497	-0.3296	0.0106	-0.3981	0.0498	-6.2270	0.2411	-1.6132	0.1030
1	90	0.9102	-0.4240	0.0130	-0.4163	0.0575	-7.5864	0.2799	-2.3739	0.1044
1	90	0.9734	-0.3776	0.0153	-0.4400	0.0664	-8.9476	0.3222	-2.5453	0.1038
4	90.35	0.2001	0.0312	0.0016	0.0039	0.0008	-0.0718	0.0033	0.0992	0.0345
4	90.35	0.2502	0.0105	0.0017	0.0061	0.0014	-0.1578	0.0062	0.2225	0.0560
4	90.35	0.3001	-0.0348	0.0014	0.0164	0.0031	-0.2989	0.0111	0.2496	0.0762
4	90.35	0.3502	-0.0700	0.0020	0.0273	0.0045	-0.5473	0.0194	0.0854	0.0860
4	90.35	0.4002	-0.0963	0.0027	0.0425	0.0071	-0.8346	0.0291	0.0571	0.0777
4	90.35	0.4500	-0.1160	0.0028	0.0496	0.0099	-1.2551	0.0374	-0.1729	0.0593
4	90.35	0.5001	-0.1414	0.0028	0.0677	0.0126	-1.6930	0.0454	0.1155	0.0639
4	90.35	0.5560	-0.1890	0.0032	0.1009	0.0168	-2.4450	0.0578	-0.3112	0.0552
4	90.35	0.6001	-0.1844	0.0031	0.0986	0.0199	-3.1095	0.0645	-0.6487	0.0609
4	90.35	0.6501	-0.2458	0.0041	0.1058	0.0240	-3.8950	0.0716	-0.1472	0.0714
4	90.35	0.6999	-0.2626	0.0035	0.0968	0.0293	-4.8811	0.0783	-0.0672	0.0569
4	90.35	0.7500	-0.3198	0.0037	0.0388	0.0343	-5.8947	0.0877	0.2005	0.0747
4	90.35	0.8002	-0.3743	0.0048	0.0878	0.0389	-6.9975	0.0973	0.3570	0.0581
4	90.35	0.8582	-0.4701	0.0056	0.0949	0.0448	-8.4416	0.1117	-0.0997	0.0700
4	90.35	0.9101	-0.5032	0.0067	0.0682	0.0506	-9.8313	0.1330	-0.5829	0.0580
4	90.35	0.9728	-0.5126	0.0087	0.1549	0.0576	-11.3087	0.1554	0.0851	0.0715

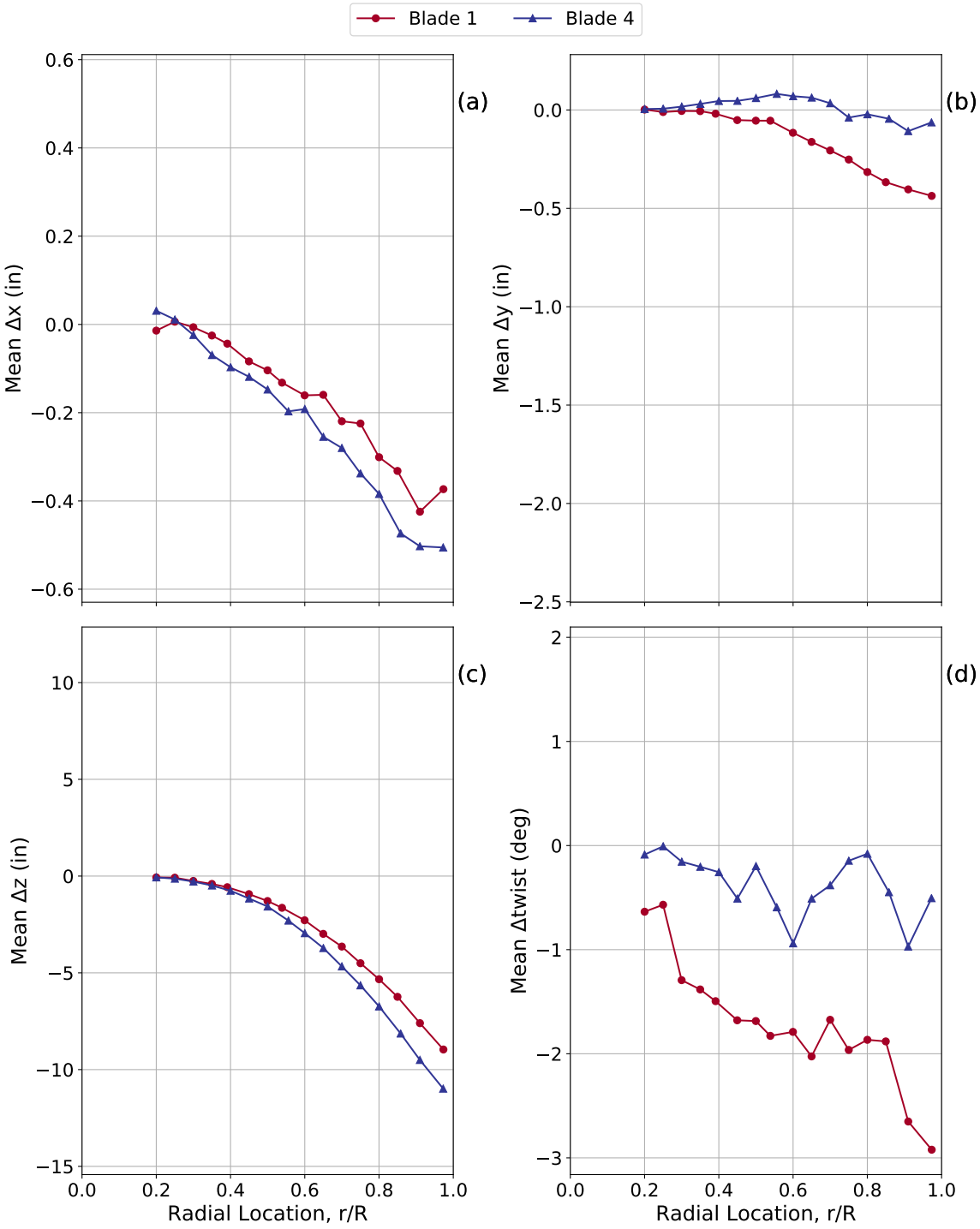


Figure 3.34-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0140	0.0031	0.0021	0.0012	-0.0681	0.0039	-0.6356	0.0421
1	94.92	0.2499	0.0063	0.0016	-0.0105	0.0022	-0.0817	0.0058	-0.5687	0.0948
1	94.92	0.2998	-0.0063	0.0026	-0.0050	0.0042	-0.2513	0.0124	-1.2931	0.1050
1	94.92	0.3498	-0.0251	0.0023	-0.0059	0.0069	-0.4062	0.0218	-1.3824	0.0920
1	94.92	0.3913	-0.0436	0.0023	-0.0191	0.0099	-0.5741	0.0288	-1.4948	0.1002
1	94.92	0.4496	-0.0837	0.0026	-0.0515	0.0121	-0.9316	0.0410	-1.6786	0.0868
1	94.92	0.4997	-0.1040	0.0033	-0.0543	0.0164	-1.2883	0.0512	-1.6858	0.0985
1	94.92	0.5387	-0.1319	0.0029	-0.0545	0.0193	-1.6392	0.0603	-1.8282	0.0928
1	94.92	0.5996	-0.1607	0.0035	-0.1159	0.0241	-2.2832	0.0800	-1.7899	0.0839
1	94.92	0.6498	-0.1595	0.0051	-0.1623	0.0286	-2.9861	0.0975	-2.0255	0.1001
1	94.92	0.6998	-0.2194	0.0064	-0.2057	0.0334	-3.6425	0.1184	-1.6738	0.1091
1	94.92	0.7500	-0.2245	0.0079	-0.2520	0.0390	-4.5028	0.1405	-1.9634	0.1103
1	94.92	0.8001	-0.3009	0.0093	-0.3155	0.0443	-5.3312	0.1721	-1.8660	0.0855
1	94.92	0.8497	-0.3320	0.0111	-0.3670	0.0500	-6.2399	0.2037	-1.8814	0.0997
1	94.92	0.9102	-0.4244	0.0131	-0.4037	0.0567	-7.6004	0.2467	-2.6508	0.1090
1	94.92	0.9734	-0.3733	0.0157	-0.4367	0.0635	-8.9619	0.2965	-2.9218	0.1010
4	94.92	0.2001	0.0310	0.0016	0.0046	0.0014	-0.0683	0.0032	-0.0868	0.0369
4	94.92	0.2502	0.0111	0.0012	0.0066	0.0032	-0.1346	0.0066	-0.0074	0.0722
4	94.92	0.3001	-0.0239	0.0019	0.0169	0.0059	-0.2851	0.0099	-0.1554	0.0879
4	94.92	0.3502	-0.0694	0.0020	0.0308	0.0111	-0.4886	0.0201	-0.2045	0.0781
4	94.92	0.4002	-0.0970	0.0021	0.0455	0.0167	-0.7591	0.0287	-0.2560	0.0804
4	94.92	0.4500	-0.1188	0.0017	0.0462	0.0212	-1.1601	0.0406	-0.5096	0.0777
4	94.92	0.5001	-0.1475	0.0023	0.0605	0.0263	-1.5741	0.0513	-0.1982	0.0917
4	94.92	0.5560	-0.1970	0.0032	0.0818	0.0333	-2.3027	0.0622	-0.5934	0.0922
4	94.92	0.6001	-0.1918	0.0038	0.0700	0.0389	-2.9512	0.0734	-0.9395	0.0778
4	94.92	0.6501	-0.2548	0.0035	0.0627	0.0454	-3.7211	0.0857	-0.5093	0.0812
4	94.92	0.6999	-0.2800	0.0032	0.0342	0.0536	-4.6702	0.0939	-0.3815	0.0887
4	94.92	0.7500	-0.3376	0.0037	-0.0386	0.0608	-5.6475	0.1042	-0.1459	0.0933
4	94.92	0.8002	-0.3842	0.0044	-0.0220	0.0692	-6.7384	0.1170	-0.0791	0.0852
4	94.92	0.8582	-0.4736	0.0047	-0.0447	0.0785	-8.1378	0.1379	-0.4484	0.0888
4	94.92	0.9101	-0.5027	0.0069	-0.1076	0.0878	-9.5031	0.1581	-0.9709	0.0795
4	94.92	0.9728	-0.5055	0.0082	-0.0633	0.0984	-10.9852	0.1836	-0.5055	0.0969

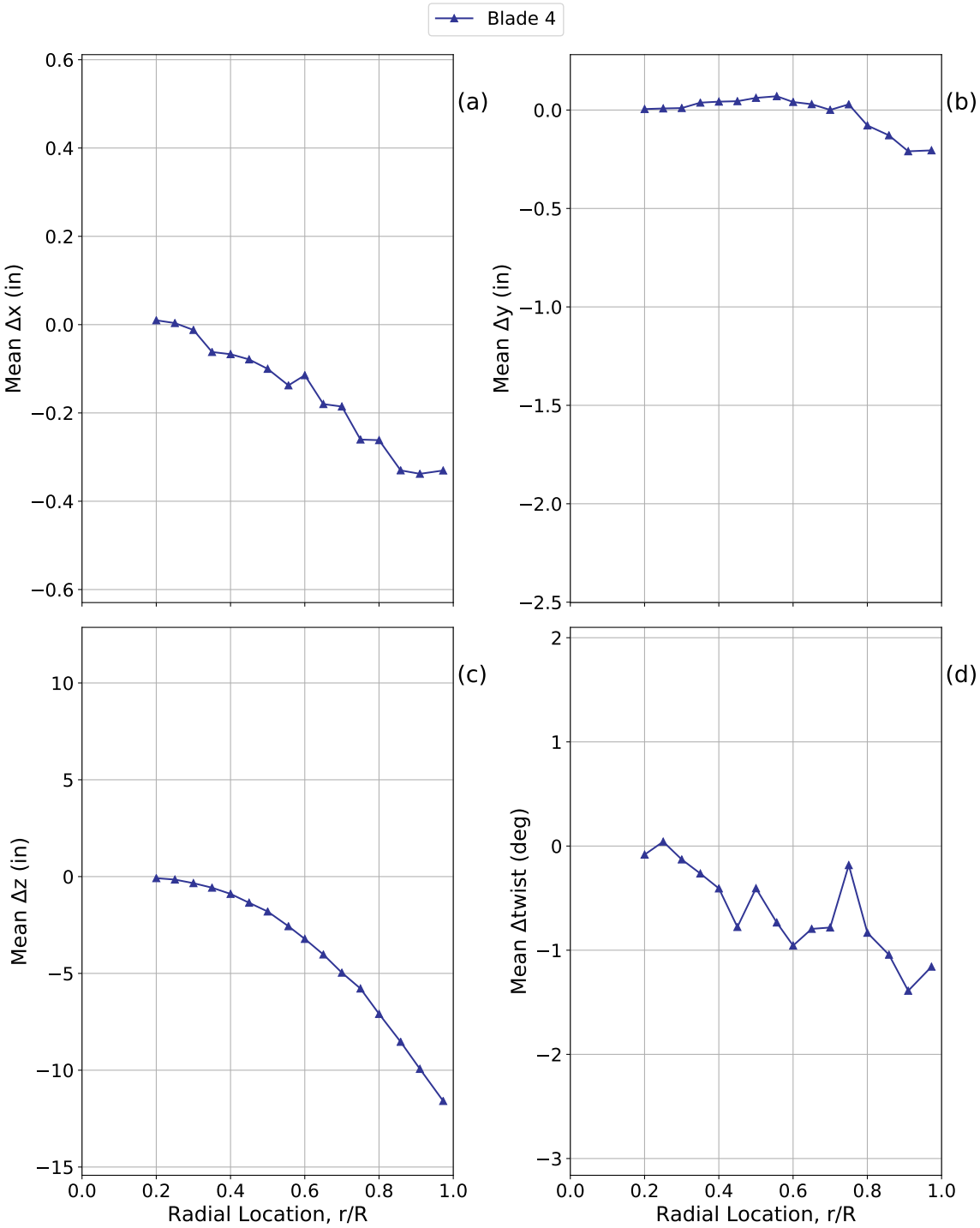


Figure 3.34-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	0.0098	0.0080	0.0050	0.0009	-0.0817	0.0039	-0.0825	0.0432
4	105.12	0.2502	0.0035	0.0035	0.0080	0.0022	-0.1546	0.0083	0.0419	0.0678
4	105.12	0.3001	-0.0121	0.0025	0.0100	0.0042	-0.3401	0.0149	-0.1290	0.0933
4	105.12	0.3502	-0.0620	0.0064	0.0375	0.0072	-0.5743	0.0225	-0.2639	0.0677
4	105.12	0.4002	-0.0670	0.0094	0.0426	0.0114	-0.8952	0.0363	-0.4071	0.0772
4	105.12	0.4500	-0.0788	0.0105	0.0448	0.0145	-1.3519	0.0442	-0.7774	0.0982
4	105.12	0.5001	-0.1002	0.0110	0.0617	0.0190	-1.8047	0.0606	-0.4058	0.0614
4	105.12	0.5560	-0.1376	0.0127	0.0701	0.0243	-2.5645	0.0765	-0.7345	0.0566
4	105.12	0.6001	-0.1146	0.0116	0.0408	0.0288	-3.2190	0.0902	-0.9556	0.0613
4	105.12	0.6501	-0.1800	0.0096	0.0295	0.0342	-4.0247	0.1097	-0.7953	0.0802
4	105.12	0.6999	-0.1855	0.0082	0.0007	0.0399	-4.9635	0.1214	-0.7823	0.0604
4	105.12	0.7500	-0.2603	0.0129	0.0288	0.1869	-5.7831	0.2487	-0.1835	0.0859
4	105.12	0.8002	-0.2617	0.0112	-0.0785	0.0520	-7.0951	0.1545	-0.8329	0.0889
4	105.12	0.8582	-0.3301	0.0208	-0.1286	0.0589	-8.5353	0.1745	-1.0435	0.0746
4	105.12	0.9101	-0.3379	0.0325	-0.2096	0.0646	-9.9339	0.1894	-1.3897	0.0767
4	105.12	0.9728	-0.3304	0.0515	-0.2049	0.0628	-11.5896	0.2021	-1.1583	0.3750

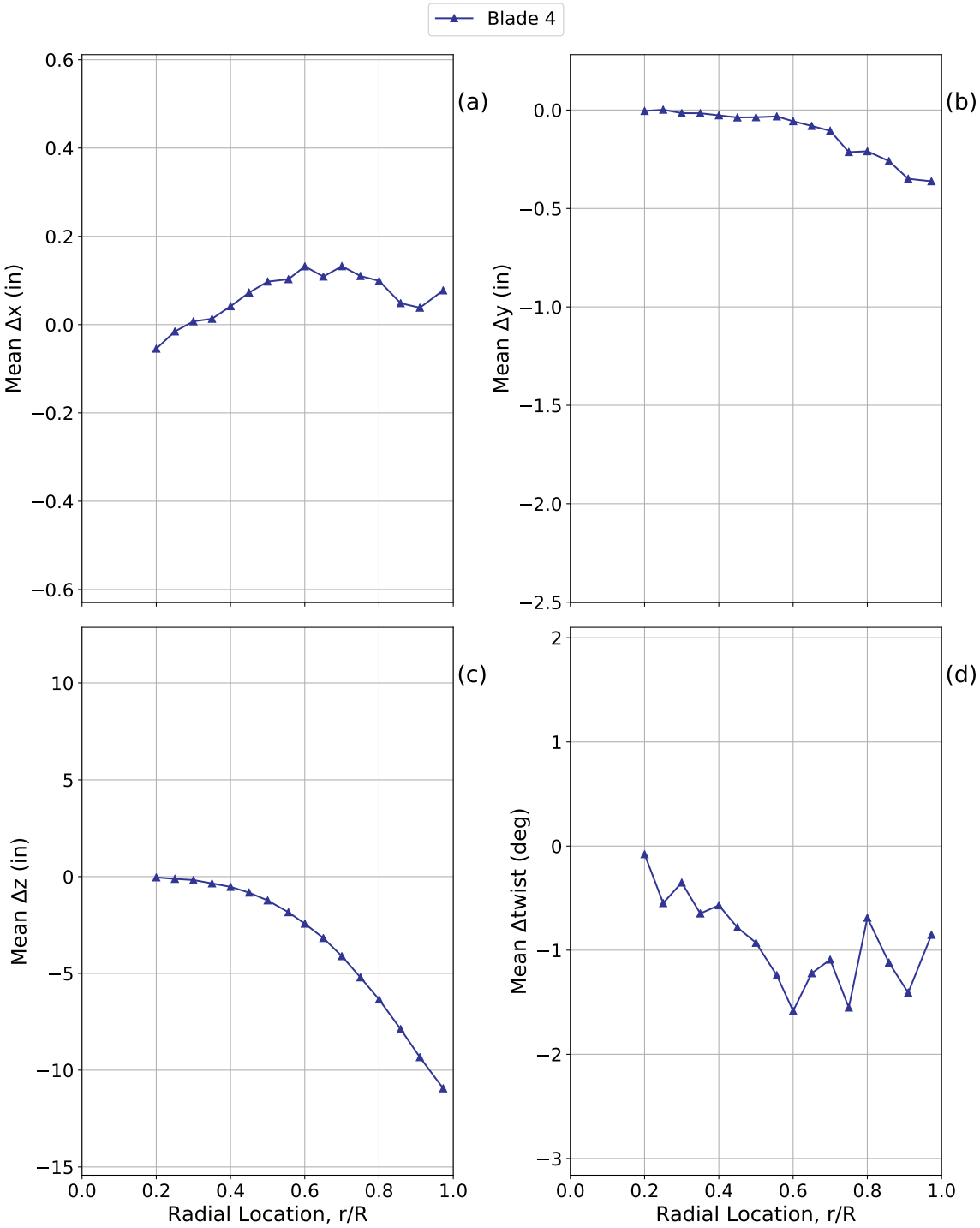


Figure 3.34-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0546	0.0012	-0.0047	0.0014	-0.0393	0.0025	-0.0781	0.0252
4	119.88	0.2502	-0.0155	0.0019	0.0016	0.0011	-0.1176	0.0060	-0.5478	0.0396
4	119.88	0.3001	0.0074	0.0017	-0.0157	0.0037	-0.1757	0.0109	-0.3507	0.0553
4	119.88	0.3502	0.0131	0.0017	-0.0161	0.0071	-0.3492	0.0177	-0.6476	0.0524
4	119.88	0.4002	0.0416	0.0028	-0.0270	0.0093	-0.5296	0.0287	-0.5685	0.0649
4	119.88	0.4500	0.0726	0.0031	-0.0376	0.0114	-0.8276	0.0413	-0.7818	0.0638
4	119.88	0.5001	0.0974	0.0033	-0.0365	0.0156	-1.2314	0.0569	-0.9292	0.0613
4	119.88	0.5560	0.1029	0.0043	-0.0323	0.0199	-1.8419	0.0820	-1.2414	0.0646
4	119.88	0.6001	0.1320	0.0050	-0.0569	0.0243	-2.4342	0.1075	-1.5833	0.0684
4	119.88	0.6501	0.1088	0.0062	-0.0807	0.0301	-3.1758	0.1410	-1.2216	0.0564
4	119.88	0.6999	0.1323	0.0088	-0.1053	0.0359	-4.1135	0.1811	-1.0909	0.0666
4	119.88	0.7500	0.1101	0.0110	-0.2135	0.0435	-5.2089	0.2281	-1.5514	0.0705
4	119.88	0.8002	0.0992	0.0154	-0.2093	0.0518	-6.3488	0.2813	-0.6882	0.0613
4	119.88	0.8582	0.0486	0.0211	-0.2590	0.0607	-7.8778	0.3541	-1.1194	0.0730
4	119.88	0.9101	0.0383	0.0255	-0.3490	0.0694	-9.3327	0.4201	-1.4084	0.0854
4	119.88	0.9728	0.0776	0.0319	-0.3619	0.0802	-10.9396	0.5149	-0.8527	0.0907

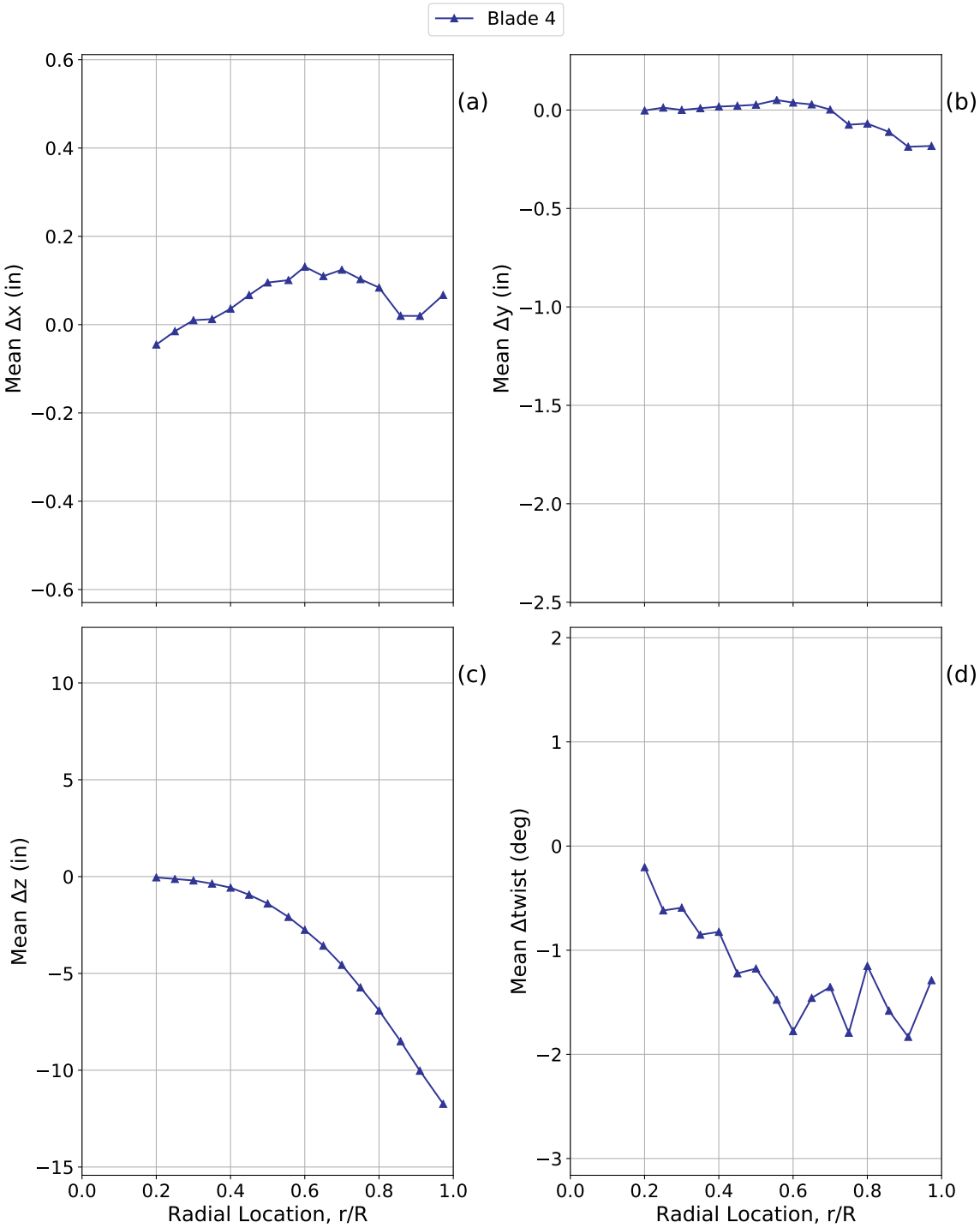


Figure 3.34-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0452	0.0012	-0.0025	0.0006	-0.0427	0.0028	-0.2035	0.0164
4	135	0.2502	-0.0151	0.0012	0.0121	0.0014	-0.1231	0.0053	-0.6185	0.0343
4	135	0.3001	0.0100	0.0010	0.0004	0.0022	-0.2015	0.0117	-0.5923	0.0388
4	135	0.3502	0.0124	0.0011	0.0090	0.0045	-0.3646	0.0183	-0.8514	0.0404
4	135	0.4002	0.0361	0.0016	0.0174	0.0066	-0.5734	0.0293	-0.8243	0.0326
4	135	0.4500	0.0668	0.0020	0.0214	0.0090	-0.9387	0.0416	-1.2222	0.0430
4	135	0.5001	0.0953	0.0028	0.0268	0.0119	-1.3947	0.0584	-1.1763	0.0490
4	135	0.5560	0.1008	0.0038	0.0508	0.0160	-2.0860	0.0806	-1.4759	0.0463
4	135	0.6001	0.1310	0.0040	0.0376	0.0196	-2.7533	0.1005	-1.7771	0.0487
4	135	0.6501	0.1098	0.0055	0.0284	0.0235	-3.5704	0.1269	-1.4582	0.0472
4	135	0.6999	0.1243	0.0071	0.0023	0.0284	-4.5629	0.1572	-1.3534	0.0498
4	135	0.7500	0.1029	0.0093	-0.0744	0.0339	-5.7275	0.1903	-1.7930	0.0569
4	135	0.8002	0.0838	0.0115	-0.0691	0.0399	-6.9206	0.2272	-1.1518	0.0548
4	135	0.8582	0.0198	0.0153	-0.1113	0.0470	-8.5083	0.2739	-1.5814	0.0582
4	135	0.9101	0.0197	0.0187	-0.1866	0.0552	-10.0309	0.3159	-1.8325	0.0589
4	135	0.9728	0.0670	0.0222	-0.1826	0.0644	-11.7394	0.3728	-1.2886	0.0505

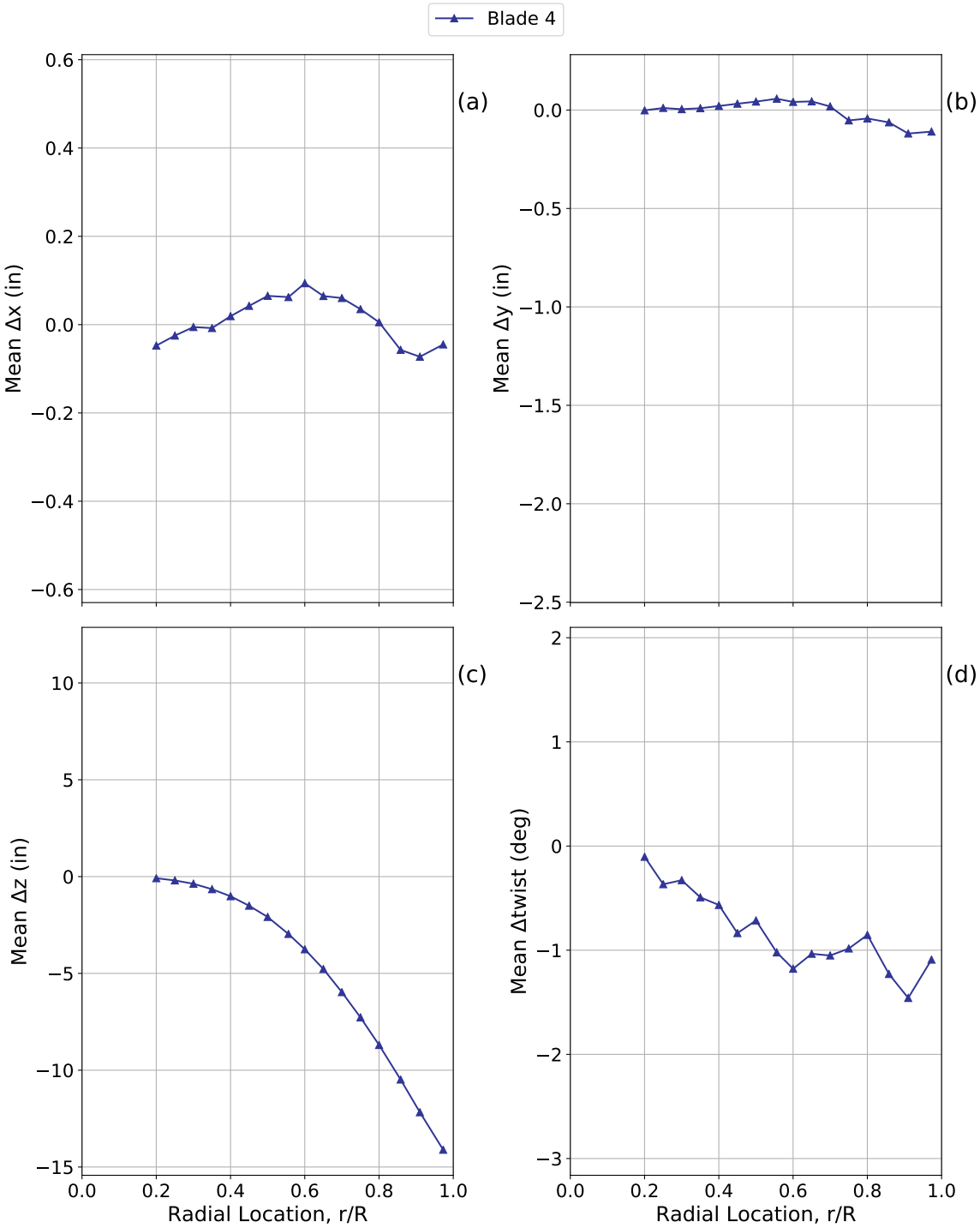


Figure 3.34-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0475	0.0012	-0.0017	0.0011	-0.0852	0.0028	-0.1037	0.0224
4	150.12	0.2502	-0.0249	0.0015	0.0104	0.0019	-0.1987	0.0068	-0.3668	0.0306
4	150.12	0.3001	-0.0055	0.0017	0.0042	0.0040	-0.3713	0.0124	-0.3281	0.0465
4	150.12	0.3502	-0.0078	0.0024	0.0092	0.0073	-0.6518	0.0201	-0.4927	0.0445
4	150.12	0.4002	0.0191	0.0028	0.0205	0.0108	-1.0168	0.0326	-0.5661	0.0455
4	150.12	0.4500	0.0424	0.0033	0.0320	0.0147	-1.5068	0.0483	-0.8362	0.0444
4	150.12	0.5001	0.0651	0.0045	0.0427	0.0181	-2.0866	0.0684	-0.7148	0.0448
4	150.12	0.5560	0.0623	0.0055	0.0573	0.0231	-2.9648	0.0963	-1.0214	0.0524
4	150.12	0.6001	0.0937	0.0078	0.0411	0.0278	-3.7569	0.1232	-1.1782	0.0435
4	150.12	0.6501	0.0647	0.0095	0.0438	0.0327	-4.7747	0.1602	-1.0347	0.0533
4	150.12	0.6999	0.0602	0.0125	0.0181	0.0386	-5.9694	0.1996	-1.0511	0.0452
4	150.12	0.7500	0.0350	0.0164	-0.0528	0.0448	-7.2739	0.2468	-0.9841	0.0524
4	150.12	0.8002	0.0053	0.0213	-0.0430	0.0518	-8.6993	0.2983	-0.8535	0.0419
4	150.12	0.8582	-0.0573	0.0272	-0.0627	0.0598	-10.4847	0.3624	-1.2286	0.0390
4	150.12	0.9101	-0.0728	0.0324	-0.1194	0.0676	-12.1739	0.4230	-1.4588	0.0537
4	150.12	0.9728	-0.0450	0.0383	-0.1097	0.0757	-14.1089	0.4972	-1.0909	0.0450

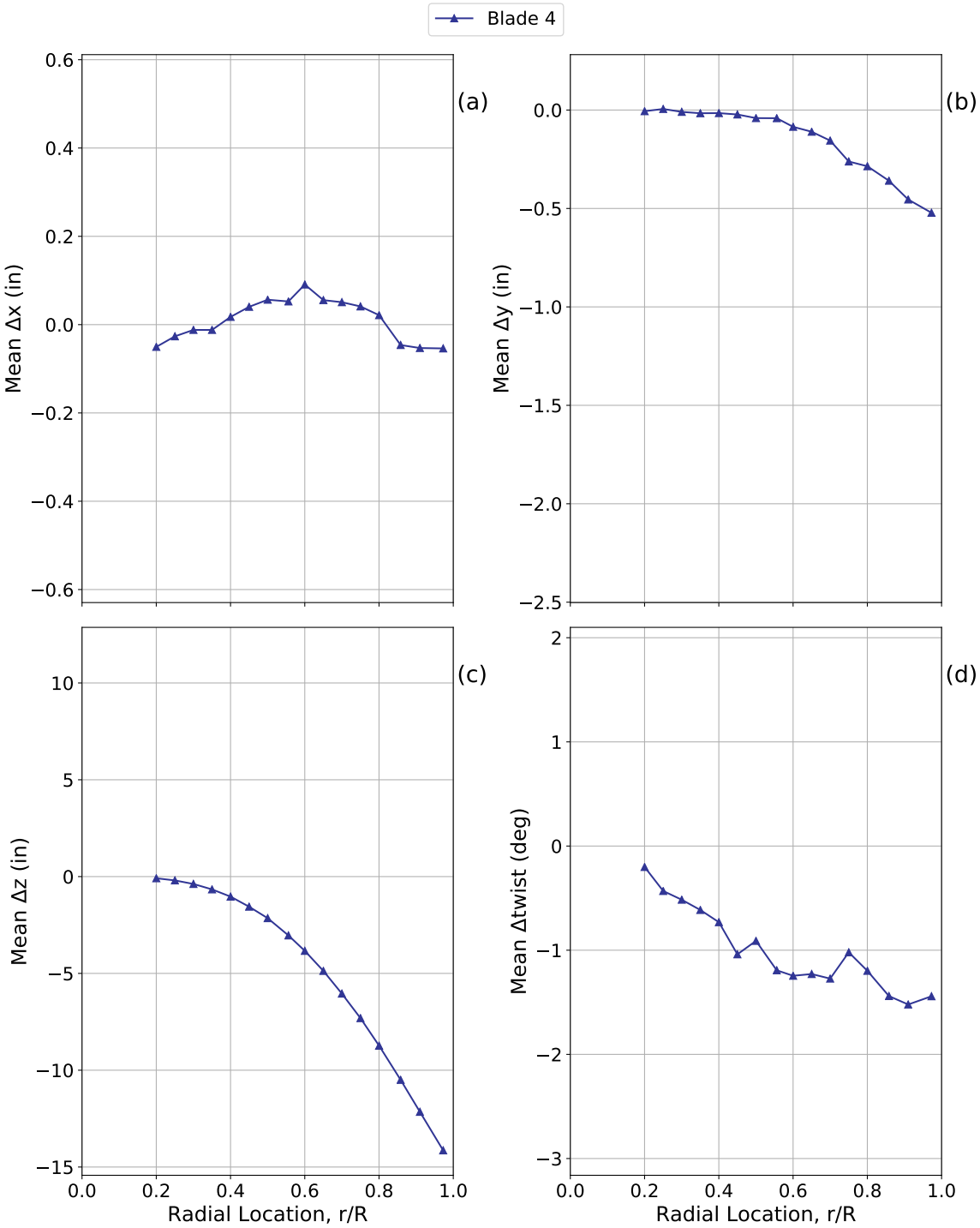


Figure 3.34-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0504	0.0015	-0.0059	0.0009	-0.0869	0.0036	-0.2010	0.0293
4	164.88	0.2502	-0.0265	0.0010	0.0054	0.0026	-0.1970	0.0079	-0.4316	0.0503
4	164.88	0.3001	-0.0120	0.0020	-0.0094	0.0041	-0.3811	0.0136	-0.5154	0.0644
4	164.88	0.3502	-0.0120	0.0024	-0.0163	0.0075	-0.6610	0.0232	-0.6138	0.0668
4	164.88	0.4002	0.0175	0.0017	-0.0157	0.0117	-1.0354	0.0359	-0.7312	0.0609
4	164.88	0.4500	0.0403	0.0026	-0.0226	0.0159	-1.5550	0.0492	-1.0396	0.0549
4	164.88	0.5001	0.0564	0.0032	-0.0410	0.0206	-2.1476	0.0685	-0.9106	0.0562
4	164.88	0.5560	0.0525	0.0043	-0.0415	0.0271	-3.0391	0.0893	-1.1929	0.0599
4	164.88	0.6001	0.0908	0.0051	-0.0853	0.0331	-3.8364	0.1092	-1.2455	0.0596
4	164.88	0.6501	0.0555	0.0063	-0.1103	0.0400	-4.8714	0.1354	-1.2288	0.0634
4	164.88	0.6999	0.0508	0.0079	-0.1553	0.0470	-6.0440	0.1640	-1.2727	0.0604
4	164.88	0.7500	0.0412	0.0099	-0.2615	0.0543	-7.3114	0.1960	-1.0204	0.0680
4	164.88	0.8002	0.0214	0.0142	-0.2856	0.0616	-8.7350	0.2312	-1.1982	0.0669
4	164.88	0.8582	-0.0462	0.0183	-0.3592	0.0702	-10.4998	0.2800	-1.4403	0.0649
4	164.88	0.9101	-0.0530	0.0220	-0.4545	0.0779	-12.1505	0.3304	-1.5212	0.0674
4	164.88	0.9728	-0.0539	0.0270	-0.5219	0.0874	-14.1405	0.3938	-1.4422	0.0645

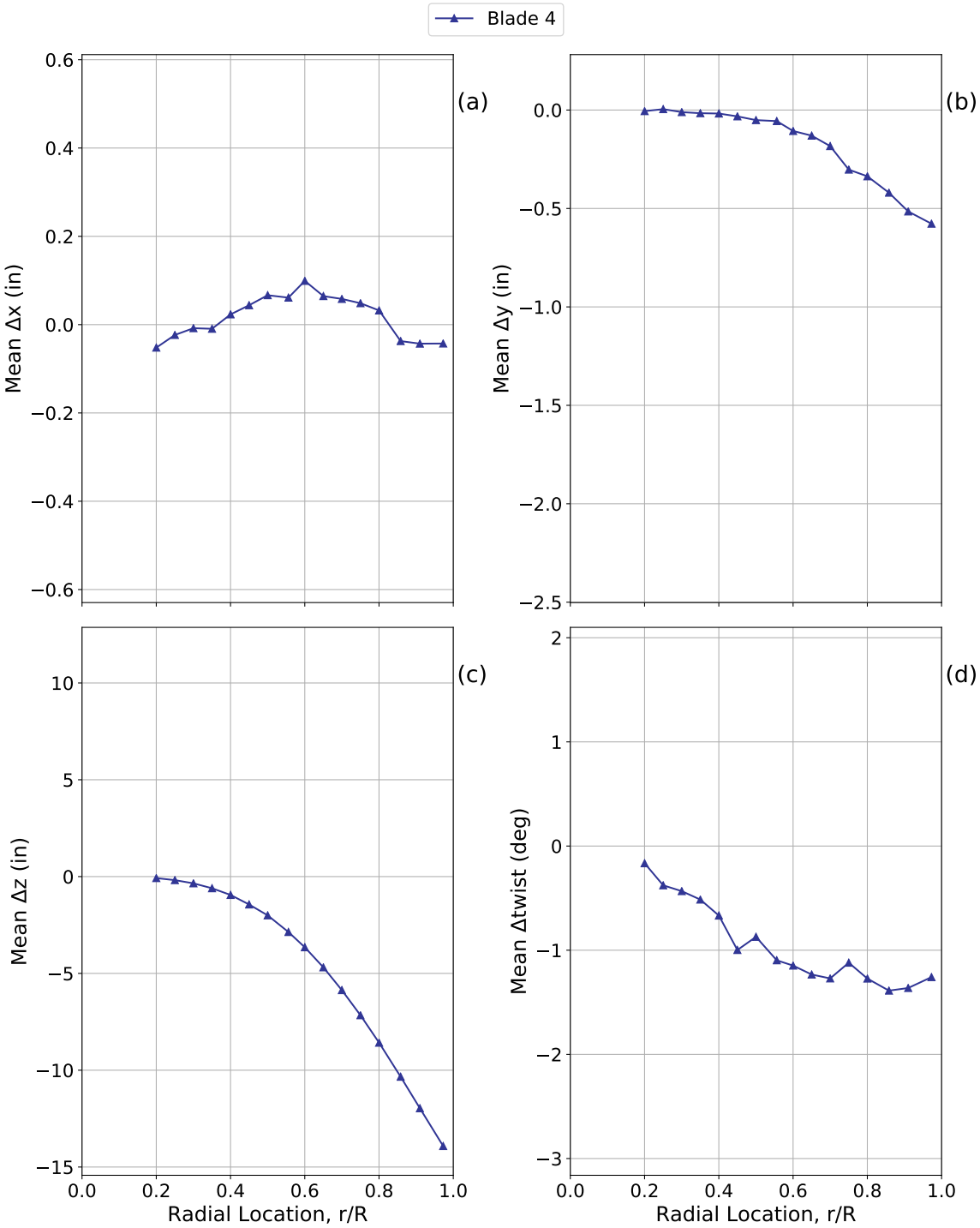


Figure 3.34-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0521	0.0013	-0.0056	0.0007	-0.0779	0.0016	-0.1654	0.0274
4	170.16	0.2502	-0.0234	0.0015	0.0045	0.0018	-0.1835	0.0047	-0.3772	0.0286
4	170.16	0.3001	-0.0081	0.0013	-0.0106	0.0021	-0.3487	0.0064	-0.4330	0.0528
4	170.16	0.3502	-0.0094	0.0022	-0.0161	0.0047	-0.6029	0.0097	-0.5141	0.0422
4	170.16	0.4002	0.0232	0.0027	-0.0178	0.0065	-0.9493	0.0165	-0.6677	0.0488
4	170.16	0.4500	0.0439	0.0026	-0.0322	0.0079	-1.4401	0.0208	-0.9982	0.0496
4	170.16	0.5001	0.0666	0.0031	-0.0512	0.0102	-2.0027	0.0266	-0.8718	0.0517
4	170.16	0.5560	0.0611	0.0034	-0.0562	0.0130	-2.8630	0.0352	-1.0970	0.0480
4	170.16	0.6001	0.0991	0.0043	-0.1065	0.0145	-3.6509	0.0405	-1.1478	0.0497
4	170.16	0.6501	0.0646	0.0043	-0.1301	0.0167	-4.6876	0.0489	-1.2334	0.0569
4	170.16	0.6999	0.0582	0.0052	-0.1832	0.0195	-5.8648	0.0541	-1.2709	0.0504
4	170.16	0.7500	0.0485	0.0059	-0.3027	0.0237	-7.1614	0.0611	-1.1201	0.0516
4	170.16	0.8002	0.0321	0.0073	-0.3367	0.0275	-8.5803	0.0702	-1.2725	0.0465
4	170.16	0.8582	-0.0373	0.0090	-0.4200	0.0318	-10.3382	0.0834	-1.3882	0.0429
4	170.16	0.9101	-0.0431	0.0101	-0.5152	0.0370	-11.9661	0.1005	-1.3629	0.0558
4	170.16	0.9728	-0.0428	0.0126	-0.5775	0.0433	-13.9174	0.1285	-1.2585	0.0587

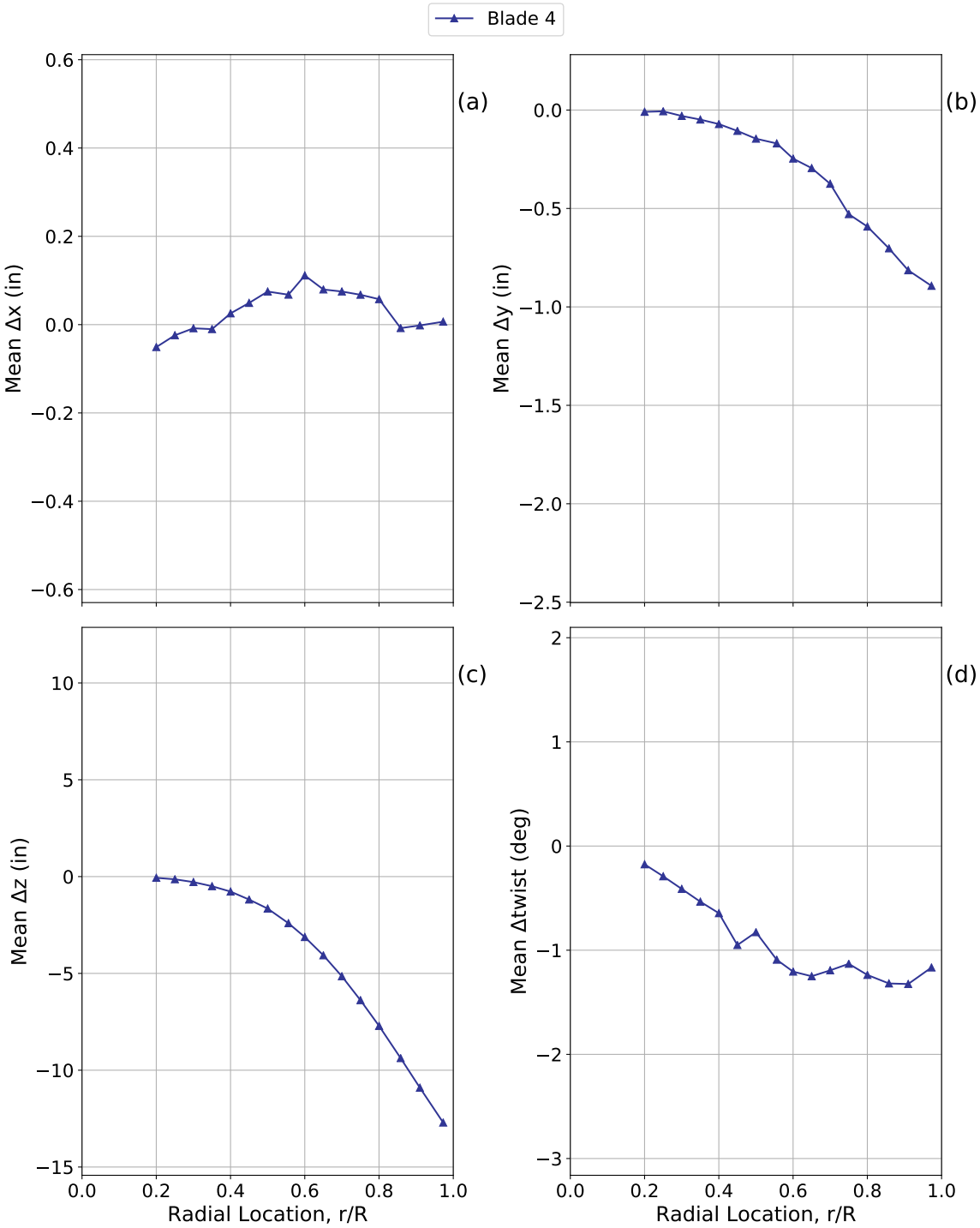


Figure 3.34-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0509	0.0025	-0.0092	0.0013	-0.0645	0.0043	-0.1757	0.0388
4	175.08	0.2502	-0.0241	0.0027	-0.0065	0.0023	-0.1394	0.0091	-0.2907	0.0647
4	175.08	0.3001	-0.0083	0.0034	-0.0301	0.0046	-0.2835	0.0127	-0.4120	0.0820
4	175.08	0.3502	-0.0102	0.0016	-0.0485	0.0077	-0.4977	0.0213	-0.5345	0.0813
4	175.08	0.4002	0.0255	0.0025	-0.0714	0.0116	-0.7753	0.0324	-0.6448	0.0841
4	175.08	0.4500	0.0491	0.0026	-0.1061	0.0149	-1.1859	0.0409	-0.9505	0.0839
4	175.08	0.5001	0.0749	0.0023	-0.1457	0.0188	-1.6534	0.0460	-0.8273	0.0817
4	175.08	0.5560	0.0678	0.0033	-0.1697	0.0239	-2.4091	0.0557	-1.0917	0.0744
4	175.08	0.6001	0.1113	0.0038	-0.2468	0.0281	-3.1232	0.0614	-1.2057	0.0790
4	175.08	0.6501	0.0796	0.0044	-0.2950	0.0321	-4.0671	0.0697	-1.2501	0.0843
4	175.08	0.6999	0.0750	0.0055	-0.3747	0.0385	-5.1494	0.0802	-1.1935	0.0965
4	175.08	0.7500	0.0676	0.0071	-0.5290	0.0433	-6.3849	0.0909	-1.1305	0.0784
4	175.08	0.8002	0.0576	0.0077	-0.5921	0.0509	-7.7151	0.1020	-1.2376	0.0938
4	175.08	0.8582	-0.0079	0.0096	-0.7028	0.0586	-9.3769	0.1175	-1.3193	0.0895
4	175.08	0.9101	-0.0018	0.0102	-0.8141	0.0657	-10.9057	0.1289	-1.3245	0.0852
4	175.08	0.9728	0.0066	0.0130	-0.8932	0.0744	-12.7060	0.1463	-1.1662	0.0827

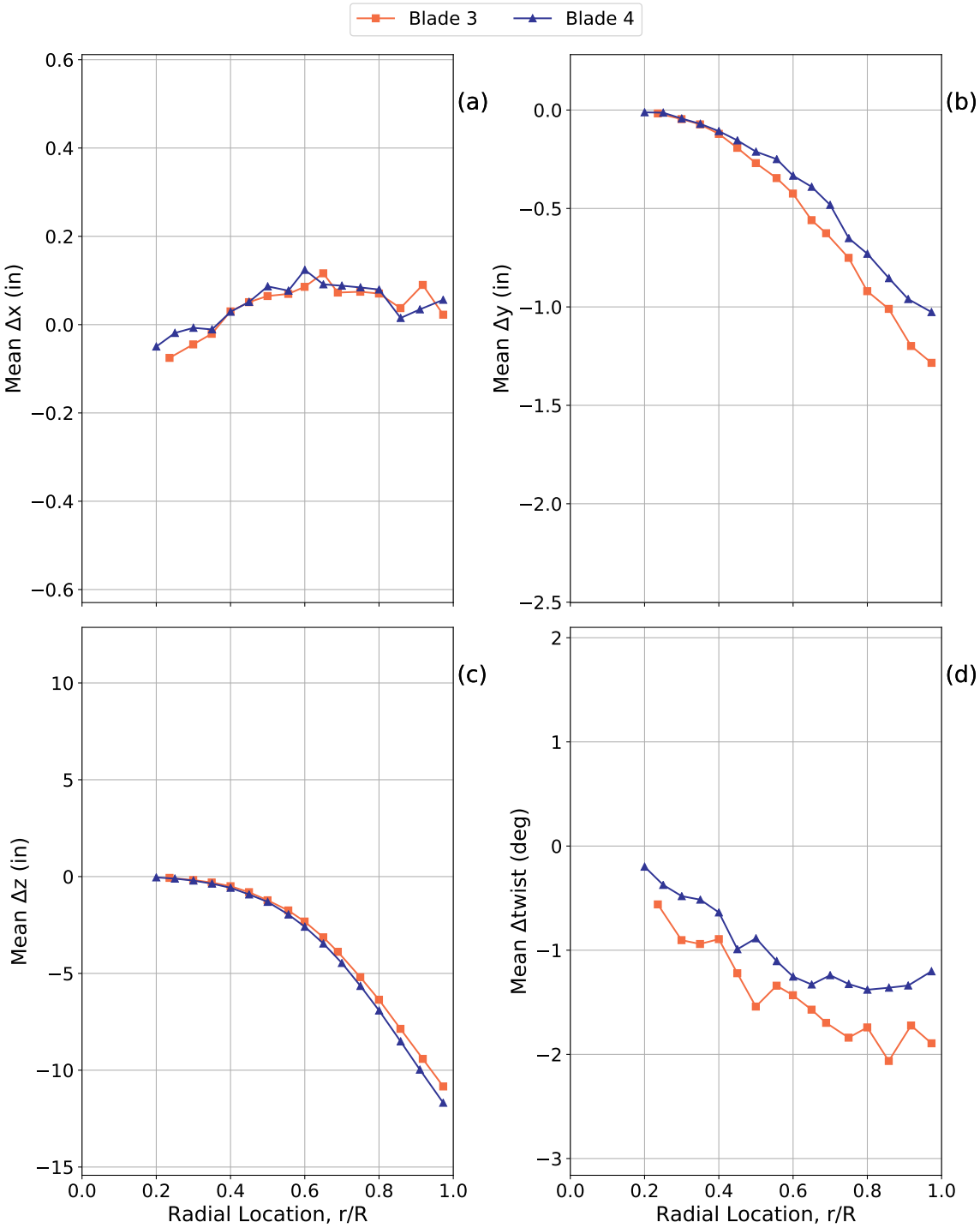


Figure 3.34-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0753	0.0032	-0.0173	0.0033	-0.0676	0.0092	-0.5603	0.1195
3	180.35	0.2995	-0.0448	0.0066	-0.0461	0.0074	-0.1776	0.0210	-0.9033	0.1936
3	180.35	0.3493	-0.0208	0.0060	-0.0728	0.0139	-0.3041	0.0383	-0.9404	0.1931
3	180.35	0.4000	0.0300	0.0071	-0.1212	0.0214	-0.4967	0.0594	-0.8936	0.1932
3	180.35	0.4497	0.0509	0.0079	-0.1920	0.0282	-0.8044	0.0755	-1.2209	0.2082
3	180.35	0.4997	0.0648	0.0088	-0.2696	0.0341	-1.2234	0.1000	-1.5412	0.1956
3	180.35	0.5556	0.0696	0.0084	-0.3457	0.0425	-1.7482	0.1252	-1.3407	0.1945
3	180.35	0.5995	0.0856	0.0100	-0.4243	0.0480	-2.3216	0.1479	-1.4321	0.1995
3	180.35	0.6498	0.1162	0.0111	-0.5595	0.0545	-3.1359	0.1758	-1.5707	0.2155
3	180.35	0.6890	0.0726	0.0121	-0.6258	0.0601	-3.8837	0.2003	-1.6974	0.2002
3	180.35	0.7495	0.0745	0.0147	-0.7508	0.0694	-5.1953	0.2395	-1.8396	0.2035
3	180.35	0.7998	0.0704	0.0180	-0.9201	0.0765	-6.3595	0.2755	-1.7413	0.2106
3	180.35	0.8577	0.0374	0.0217	-1.0102	0.0852	-7.8629	0.3237	-2.0633	0.2175
3	180.35	0.9178	0.0899	0.0264	-1.1985	0.0964	-9.4136	0.3786	-1.7228	0.2243
3	180.35	0.9729	0.0225	0.0315	-1.2843	0.1066	-10.8384	0.4403	-1.8937	0.1992
4	180	0.2001	-0.0497	0.0026	-0.0116	0.0019	-0.0417	0.0069	-0.1984	0.0541
4	180	0.2502	-0.0189	0.0062	-0.0136	0.0029	-0.1061	0.0114	-0.3734	0.0745
4	180	0.3001	-0.0073	0.0036	-0.0433	0.0062	-0.2079	0.0188	-0.4810	0.0983
4	180	0.3502	-0.0109	0.0037	-0.0703	0.0094	-0.3645	0.0287	-0.5149	0.0967
4	180	0.4002	0.0291	0.0026	-0.1073	0.0147	-0.5809	0.0430	-0.6375	0.0968
4	180	0.4500	0.0514	0.0027	-0.1543	0.0195	-0.9232	0.0518	-0.9907	0.0928
4	180	0.5001	0.0866	0.0039	-0.2116	0.0238	-1.3072	0.0674	-0.8857	0.0766
4	180	0.5560	0.0769	0.0038	-0.2495	0.0286	-1.9600	0.0746	-1.1053	0.1151
4	180	0.6001	0.1240	0.0040	-0.3338	0.0340	-2.5912	0.0858	-1.2536	0.1018
4	180	0.6501	0.0912	0.0039	-0.3901	0.0400	-3.4583	0.0909	-1.3295	0.1156
4	180	0.6999	0.0881	0.0047	-0.4820	0.0457	-4.4630	0.0941	-1.2403	0.1107
4	180	0.7500	0.0842	0.0052	-0.6511	0.0524	-5.6496	0.0971	-1.3254	0.1204
4	180	0.8002	0.0795	0.0069	-0.7303	0.0598	-6.9195	0.1004	-1.3795	0.1301
4	180	0.8582	0.0150	0.0086	-0.8543	0.0685	-8.5148	0.1153	-1.3601	0.1260
4	180	0.9101	0.0345	0.0106	-0.9604	0.0768	-9.9729	0.1346	-1.3391	0.1350
4	180	0.9728	0.0562	0.0155	-1.0264	0.0865	-11.6820	0.1586	-1.2027	0.1291

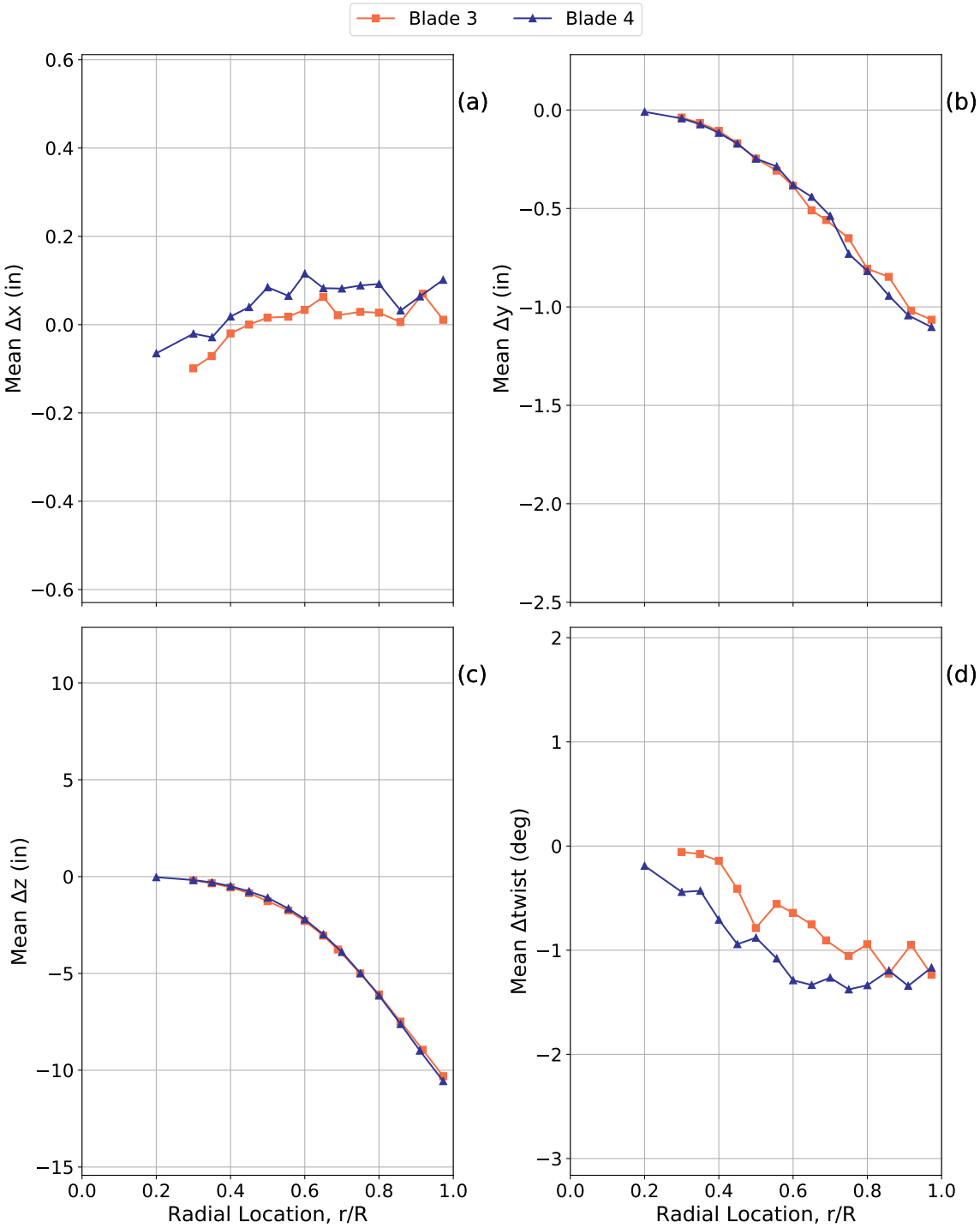


Figure 3.34-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0990	0.0135	-0.0381	0.0278	-0.1987	0.0468	-0.0574	0.1955
3	184.92	0.3493	-0.0713	0.0172	-0.0658	0.0483	-0.3464	0.0787	-0.0766	0.2588
3	184.92	0.4000	-0.0200	0.0131	-0.1054	0.0776	-0.5572	0.1246	-0.1418	0.2498
3	184.92	0.4497	0.0001	0.0141	-0.1690	0.1022	-0.8553	0.1634	-0.4103	0.2392
3	184.92	0.4997	0.0158	0.0144	-0.2468	0.1282	-1.2673	0.2042	-0.7870	0.2311
3	184.92	0.5556	0.0180	0.0154	-0.3075	0.1558	-1.7484	0.2437	-0.5558	0.2620
3	184.92	0.5995	0.0333	0.0162	-0.3850	0.1791	-2.2894	0.2870	-0.6417	0.1981
3	184.92	0.6498	0.0628	0.0183	-0.5094	0.2052	-3.0499	0.3204	-0.7521	0.2329
3	184.92	0.6890	0.0213	0.0190	-0.5583	0.2265	-3.7647	0.3487	-0.9059	0.2386
3	184.92	0.7495	0.0289	0.0205	-0.6511	0.2583	-5.0033	0.3947	-1.0547	0.2448
3	184.92	0.7998	0.0271	0.0232	-0.8060	0.2862	-6.0902	0.4363	-0.9429	0.2333
3	184.92	0.8577	0.0059	0.0252	-0.8473	0.3174	-7.4905	0.4777	-1.2243	0.2234
3	184.92	0.9178	0.0700	0.0277	-1.0202	0.3517	-8.9477	0.5161	-0.9487	0.2442
3	184.92	0.9729	0.0111	0.0338	-1.0653	0.3820	-10.3085	0.5485	-1.2347	0.2621
4	184.92	0.2001	-0.0650	0.0037	-0.0090	0.0015	-0.0316	0.0047	-0.1902	0.0423
4	184.92	0.3001	-0.0206	0.0066	-0.0426	0.0076	-0.1791	0.0296	-0.4410	0.0996
4	184.92	0.3502	-0.0287	0.0096	-0.0729	0.0118	-0.3001	0.0362	-0.4299	0.1442
4	184.92	0.4002	0.0183	0.0029	-0.1161	0.0184	-0.4944	0.0680	-0.7075	0.1048
4	184.92	0.4500	0.0396	0.0056	-0.1709	0.0221	-0.7683	0.0838	-0.9422	0.1047
4	184.92	0.5001	0.0846	0.0077	-0.2468	0.0242	-1.0917	0.1068	-0.8802	0.1307
4	184.92	0.5560	0.0651	0.0058	-0.2869	0.0300	-1.6534	0.1299	-1.0803	0.1233
4	184.92	0.6001	0.1155	0.0061	-0.3810	0.0335	-2.2108	0.1473	-1.2887	0.1227
4	184.92	0.6501	0.0825	0.0052	-0.4410	0.0389	-2.9848	0.1722	-1.3342	0.1067
4	184.92	0.6999	0.0817	0.0075	-0.5377	0.0427	-3.8945	0.1976	-1.2637	0.1065
4	184.92	0.7500	0.0887	0.0083	-0.7306	0.0465	-4.9939	0.2266	-1.3768	0.1115
4	184.92	0.8002	0.0921	0.0113	-0.8177	0.0516	-6.1463	0.2536	-1.3363	0.1294
4	184.92	0.8582	0.0320	0.0136	-0.9434	0.0587	-7.6179	0.2956	-1.1956	0.1041
4	184.92	0.9101	0.0637	0.0170	-1.0431	0.0647	-8.9910	0.3255	-1.3424	0.1304
4	184.92	0.9728	0.1015	0.0197	-1.1024	0.0694	-10.5653	0.3772	-1.1668	0.1514

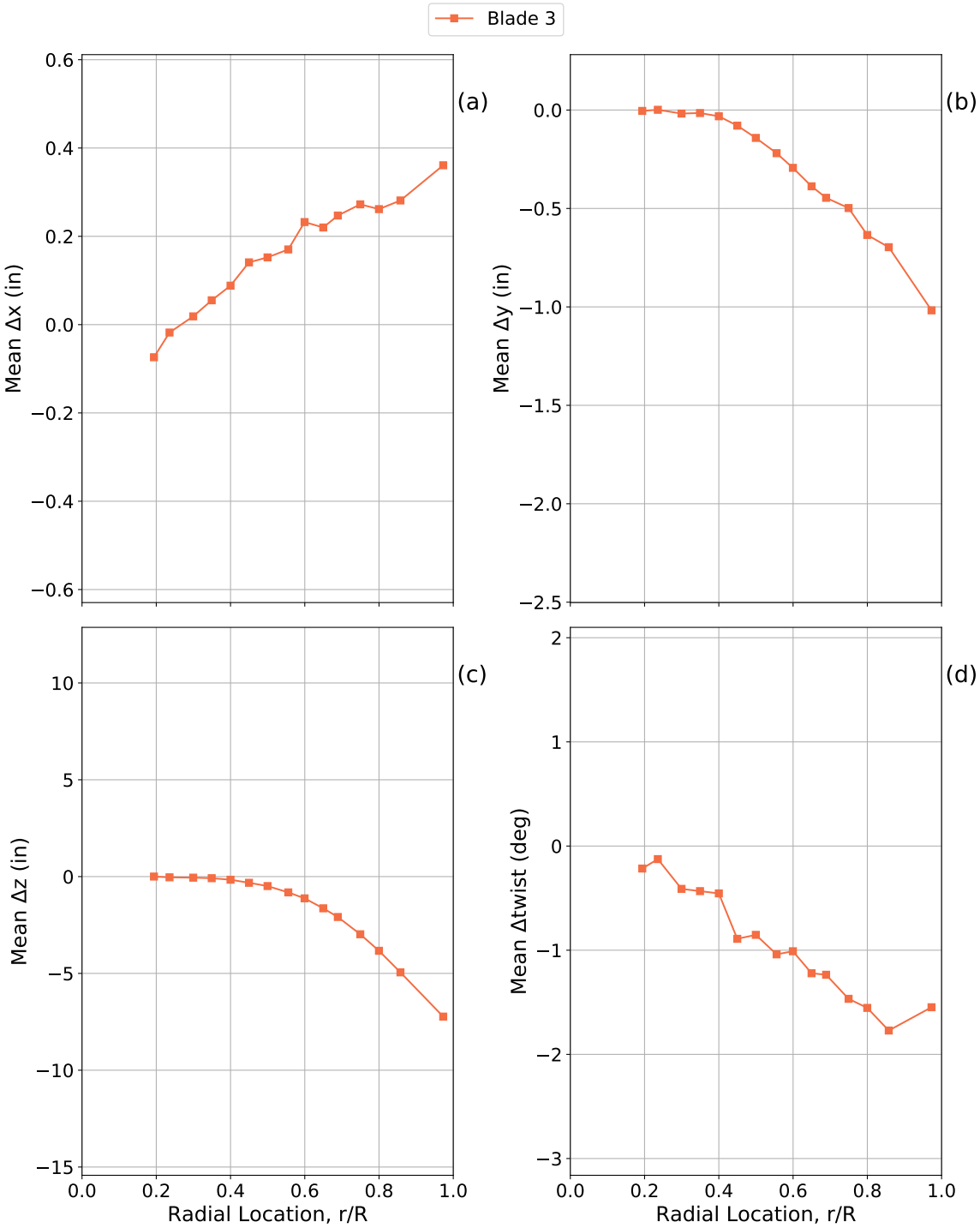


Figure 3.34-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.087, μ = 0.304, α = -4.82° NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0739	0.0012	-0.0045	0.0011	0.0012	0.0038	-0.2160	0.0217
3	195.12	0.2357	-0.0179	0.0012	0.0013	0.0018	-0.0383	0.0072	-0.1256	0.0317
3	195.12	0.2995	0.0187	0.0010	-0.0179	0.0038	-0.0552	0.0136	-0.4111	0.0499
3	195.12	0.3493	0.0551	0.0011	-0.0152	0.0074	-0.0836	0.0250	-0.4330	0.0404
3	195.12	0.4000	0.0883	0.0012	-0.0317	0.0105	-0.1619	0.0364	-0.4546	0.0365
3	195.12	0.4497	0.1410	0.0015	-0.0792	0.0124	-0.3200	0.0474	-0.8906	0.0409
3	195.12	0.4997	0.1523	0.0016	-0.1416	0.0153	-0.4893	0.0598	-0.8527	0.0480
3	195.12	0.5556	0.1703	0.0023	-0.2192	0.0195	-0.8159	0.0788	-1.0398	0.0590
3	195.12	0.5995	0.2323	0.0027	-0.2937	0.0215	-1.1245	0.0937	-1.0100	0.0583
3	195.12	0.6498	0.2200	0.0031	-0.3875	0.0257	-1.6380	0.1119	-1.2213	0.0811
3	195.12	0.6890	0.2471	0.0043	-0.4459	0.0290	-2.0871	0.1308	-1.2357	0.0603
3	195.12	0.7495	0.2724	0.0053	-0.4979	0.0343	-2.9789	0.1630	-1.4668	0.0607
3	195.12	0.7998	0.2616	0.0073	-0.6346	0.0400	-3.8320	0.1876	-1.5538	0.0893
3	195.12	0.8577	0.2812	0.0082	-0.6967	0.0451	-4.9472	0.2256	-1.7711	0.1228
3	195.12	0.9729	0.3609	0.0144	-1.0175	0.0610	-7.2310	0.2933	-1.5476	0.2015

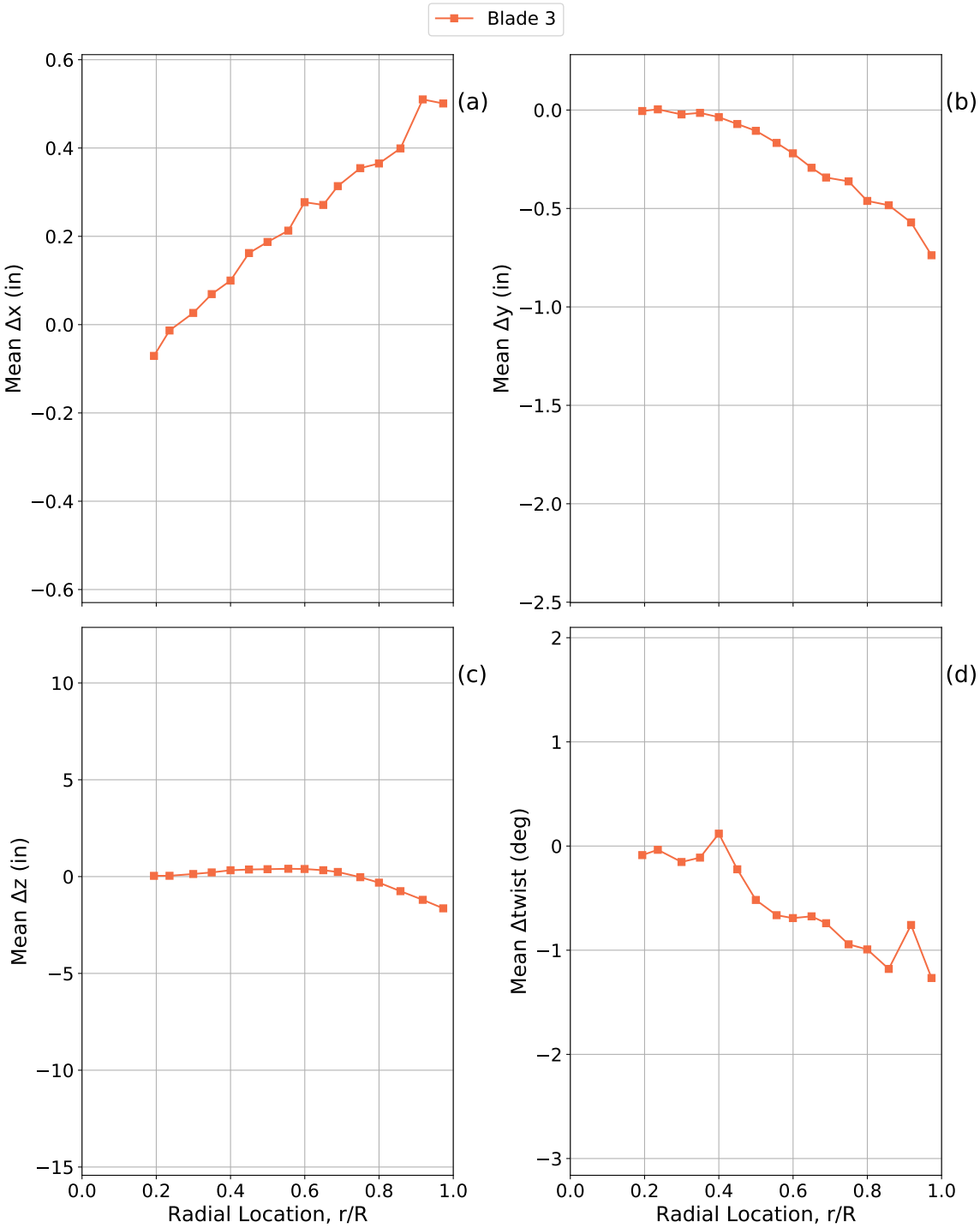


Figure 3.34-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0708	0.0016	-0.0050	0.0009	0.0389	0.0058	-0.0870	0.0162
3	209.88	0.2357	-0.0133	0.0012	0.0035	0.0019	0.0418	0.0111	-0.0361	0.0344
3	209.88	0.2995	0.0265	0.0021	-0.0223	0.0040	0.1335	0.0218	-0.1532	0.0392
3	209.88	0.3493	0.0691	0.0013	-0.0144	0.0077	0.2156	0.0398	-0.1112	0.0562
3	209.88	0.4000	0.0998	0.0021	-0.0362	0.0117	0.3267	0.0589	0.1189	0.0620
3	209.88	0.4497	0.1621	0.0022	-0.0711	0.0147	0.3657	0.0777	-0.2232	0.0636
3	209.88	0.4997	0.1872	0.0029	-0.1055	0.0181	0.3822	0.1020	-0.5175	0.0587
3	209.88	0.5556	0.2129	0.0026	-0.1670	0.0220	0.4028	0.1366	-0.6639	0.0738
3	209.88	0.5995	0.2773	0.0031	-0.2199	0.0267	0.3924	0.1659	-0.6917	0.0805
3	209.88	0.6498	0.2711	0.0031	-0.2933	0.0301	0.3282	0.2044	-0.6748	0.0906
3	209.88	0.6890	0.3137	0.0034	-0.3428	0.0341	0.2395	0.2378	-0.7410	0.0926
3	209.88	0.7495	0.3544	0.0037	-0.3623	0.0385	-0.0309	0.2989	-0.9435	0.0862
3	209.88	0.7998	0.3650	0.0047	-0.4617	0.0430	-0.3128	0.3543	-0.9925	0.0855
3	209.88	0.8577	0.3991	0.0061	-0.4836	0.0469	-0.7532	0.4289	-1.1796	0.0864
3	209.88	0.9178	0.5101	0.0071	-0.5708	0.0518	-1.1998	0.5108	-0.7580	0.1144
3	209.88	0.9729	0.5009	0.0097	-0.7377	0.0598	-1.6405	0.5896	-1.2669	0.1012

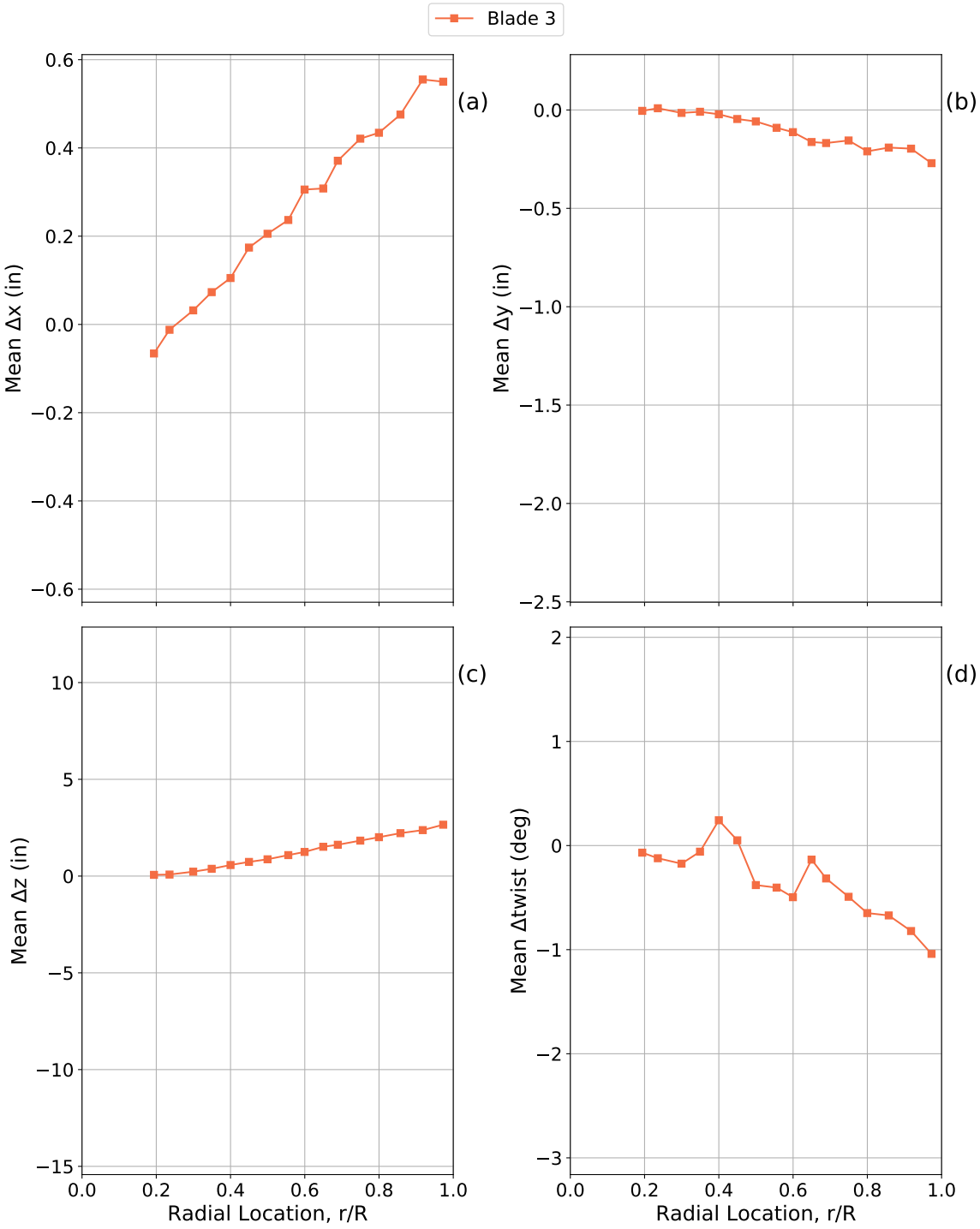


Figure 3.34-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0658	0.0017	-0.0045	0.0007	0.0635	0.0061	-0.0681	0.0382
3	225	0.2357	-0.0121	0.0013	0.0087	0.0019	0.0795	0.0109	-0.1218	0.0555
3	225	0.2995	0.0319	0.0014	-0.0150	0.0040	0.2278	0.0217	-0.1741	0.0910
3	225	0.3493	0.0732	0.0013	-0.0091	0.0076	0.3763	0.0366	-0.0587	0.0615
3	225	0.4000	0.1052	0.0017	-0.0219	0.0119	0.5711	0.0548	0.2428	0.0623
3	225	0.4497	0.1742	0.0016	-0.0459	0.0148	0.7318	0.0741	0.0502	0.0632
3	225	0.4997	0.2055	0.0021	-0.0584	0.0191	0.8677	0.0962	-0.3797	0.0583
3	225	0.5556	0.2367	0.0027	-0.0906	0.0241	1.0837	0.1204	-0.4040	0.0713
3	225	0.5995	0.3057	0.0027	-0.1127	0.0284	1.2475	0.1389	-0.4960	0.0821
3	225	0.6498	0.3081	0.0035	-0.1629	0.0332	1.5140	0.1608	-0.1351	0.0721
3	225	0.6890	0.3710	0.0041	-0.1681	0.0374	1.6181	0.1796	-0.3161	0.0774
3	225	0.7495	0.4210	0.0042	-0.1550	0.0432	1.8324	0.2082	-0.4922	0.0785
3	225	0.7998	0.4344	0.0046	-0.2103	0.0480	2.0098	0.2334	-0.6486	0.0753
3	225	0.8577	0.4756	0.0051	-0.1911	0.0534	2.2178	0.2658	-0.6714	0.1415
3	225	0.9178	0.5551	0.0056	-0.1966	0.0605	2.3755	0.3051	-0.8210	0.0838
3	225	0.9729	0.5501	0.0081	-0.2704	0.0662	2.6548	0.3407	-1.0405	0.0844

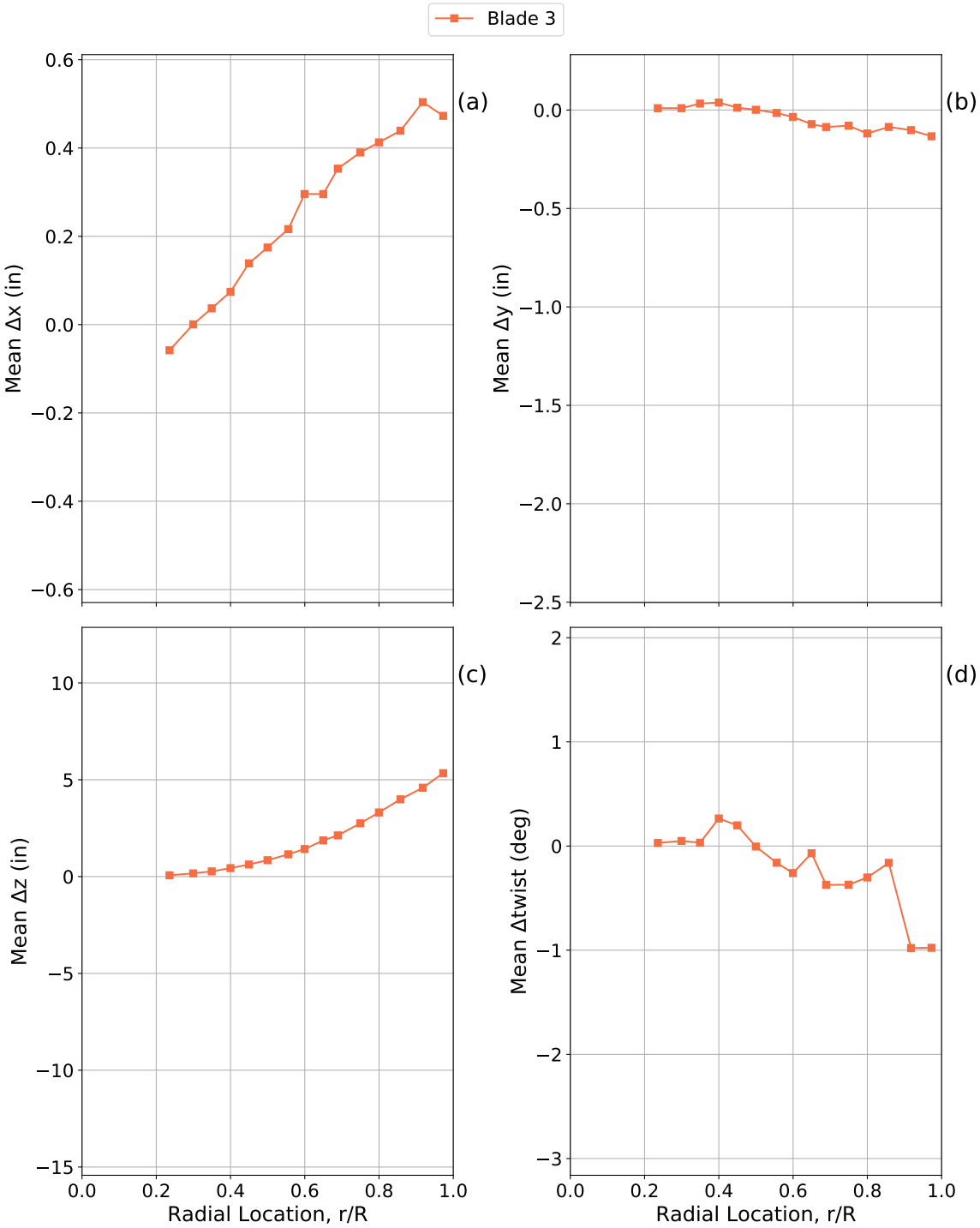


Figure 3.34-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0581	0.0019	0.0094	0.0013	0.0667	0.0109	0.0295	0.0726
3	240.12	0.2995	0.0006	0.0011	0.0095	0.0032	0.1673	0.0188	0.0488	0.1166
3	240.12	0.3493	0.0369	0.0019	0.0329	0.0068	0.2678	0.0330	0.0317	0.1070
3	240.12	0.4000	0.0744	0.0019	0.0380	0.0105	0.4369	0.0467	0.2646	0.1065
3	240.12	0.4497	0.1388	0.0029	0.0121	0.0138	0.6243	0.0592	0.1985	0.1200
3	240.12	0.4997	0.1747	0.0026	0.0015	0.0174	0.8448	0.0751	-0.0050	0.1047
3	240.12	0.5556	0.2163	0.0028	-0.0149	0.0221	1.1490	0.0916	-0.1602	0.1034
3	240.12	0.5995	0.2959	0.0027	-0.0352	0.0260	1.4225	0.1050	-0.2595	0.1178
3	240.12	0.6498	0.2957	0.0032	-0.0716	0.0303	1.8681	0.1219	-0.0694	0.1157
3	240.12	0.6890	0.3533	0.0034	-0.0862	0.0335	2.1273	0.1352	-0.3729	0.1140
3	240.12	0.7495	0.3899	0.0039	-0.0797	0.0399	2.7513	0.1586	-0.3713	0.1217
3	240.12	0.7998	0.4128	0.0046	-0.1190	0.0446	3.3125	0.1824	-0.3020	0.1188
3	240.12	0.8577	0.4392	0.0057	-0.0859	0.0509	3.9906	0.2146	-0.1615	0.1169
3	240.12	0.9178	0.5040	0.0077	-0.1022	0.0577	4.5881	0.2520	-0.9791	0.1144
3	240.12	0.9729	0.4729	0.0101	-0.1334	0.0646	5.3409	0.2882	-0.9770	0.1299

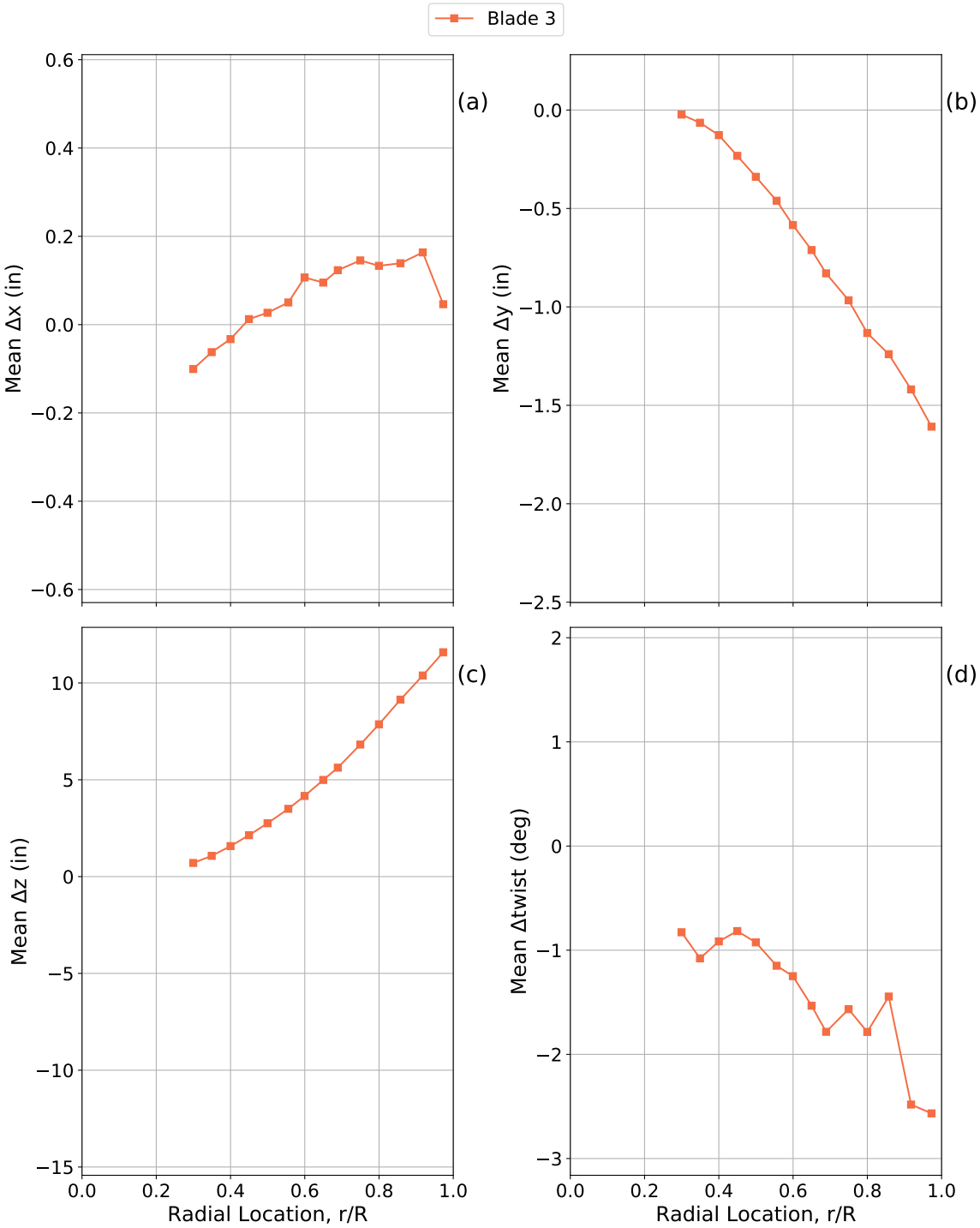


Figure 3.34-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2995	-0.1005	0.0177	-0.0231	0.0142	0.7045	0.1232	-0.8278	0.2534
3	254.88	0.3493	-0.0623	0.0148	-0.0646	0.0275	1.0720	0.1800	-1.0784	0.3313
3	254.88	0.4000	-0.0328	0.0192	-0.1274	0.0472	1.5741	0.2562	-0.9154	0.3147
3	254.88	0.4497	0.0125	0.0223	-0.2326	0.0650	2.1379	0.3338	-0.8162	0.3039
3	254.88	0.4997	0.0269	0.0264	-0.3392	0.0840	2.7543	0.4115	-0.9250	0.2984
3	254.88	0.5556	0.0502	0.0304	-0.4607	0.1049	3.4988	0.4976	-1.1492	0.3114
3	254.88	0.5995	0.1068	0.0342	-0.5844	0.1220	4.1645	0.5664	-1.2492	0.3132
3	254.88	0.6498	0.0952	0.0391	-0.7112	0.1414	4.9926	0.6428	-1.5328	0.3136
3	254.88	0.6890	0.1233	0.0433	-0.8296	0.1570	5.6252	0.7012	-1.7836	0.3130
3	254.88	0.7495	0.1454	0.0494	-0.9665	0.1813	6.8182	0.7861	-1.5665	0.3172
3	254.88	0.7998	0.1332	0.0545	-1.1325	0.2021	7.8653	0.8542	-1.7846	0.3191
3	254.88	0.8577	0.1390	0.0604	-1.2404	0.2262	9.1390	0.9299	-1.4450	0.3213
3	254.88	0.9178	0.1636	0.0672	-1.4193	0.2521	10.3856	1.0045	-2.4819	0.3223
3	254.88	0.9729	0.0462	0.0821	-1.6084	0.2755	11.5854	1.0747	-2.5664	0.3128

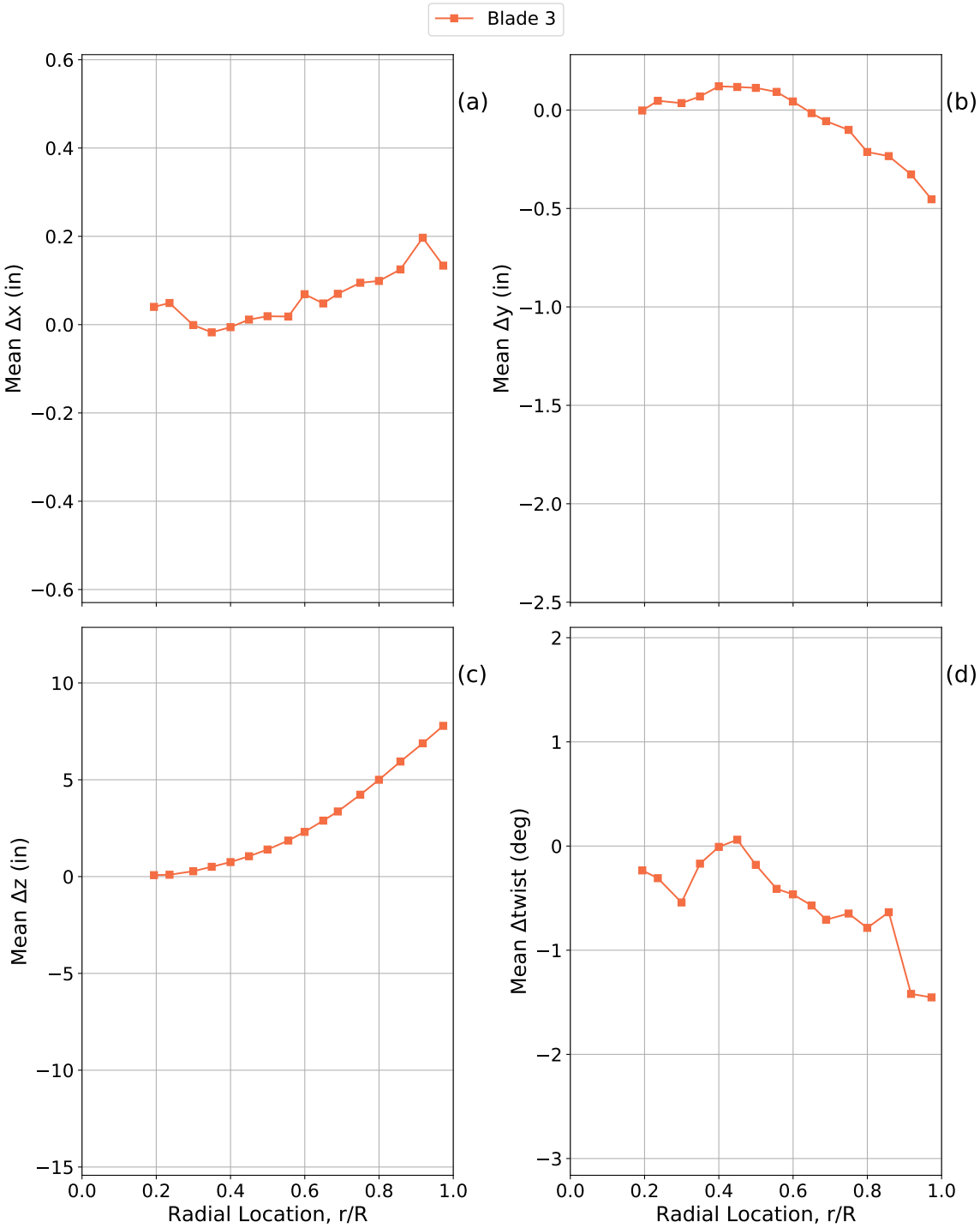


Figure 3.34-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0402	0.0049	-0.0024	0.0011	0.0747	0.0134	-0.2340	0.1427
3	260.16	0.2357	0.0490	0.0030	0.0470	0.0023	0.0953	0.0254	-0.3086	0.1210
3	260.16	0.2995	-0.0010	0.0032	0.0352	0.0060	0.2762	0.0353	-0.5416	0.2926
3	260.16	0.3493	-0.0175	0.0040	0.0690	0.0146	0.5063	0.0797	-0.1692	0.1455
3	260.16	0.4000	-0.0057	0.0074	0.1207	0.0202	0.7488	0.1017	-0.0084	0.1354
3	260.16	0.4497	0.0114	0.0096	0.1171	0.0242	1.0511	0.1219	0.0608	0.1272
3	260.16	0.4997	0.0190	0.0126	0.1125	0.0278	1.3976	0.1432	-0.1807	0.1208
3	260.16	0.5556	0.0183	0.0153	0.0921	0.0330	1.8595	0.1664	-0.4112	0.1333
3	260.16	0.5995	0.0689	0.0171	0.0434	0.0364	2.3087	0.1871	-0.4639	0.1278
3	260.16	0.6498	0.0480	0.0178	-0.0159	0.0404	2.8907	0.2144	-0.5706	0.1155
3	260.16	0.6890	0.0698	0.0184	-0.0566	0.0431	3.3630	0.2357	-0.7074	0.1258
3	260.16	0.7495	0.0948	0.0186	-0.1008	0.0480	4.2279	0.2681	-0.6479	0.1362
3	260.16	0.7998	0.0989	0.0183	-0.2131	0.0522	4.9994	0.2953	-0.7855	0.1187
3	260.16	0.8577	0.1250	0.0177	-0.2341	0.0578	5.9419	0.3252	-0.6354	0.1196
3	260.16	0.9178	0.1968	0.0210	-0.3270	0.0629	6.8822	0.3550	-1.4195	0.1147
3	260.16	0.9729	0.1336	0.0237	-0.4533	0.0680	7.7857	0.3805	-1.4531	0.1455

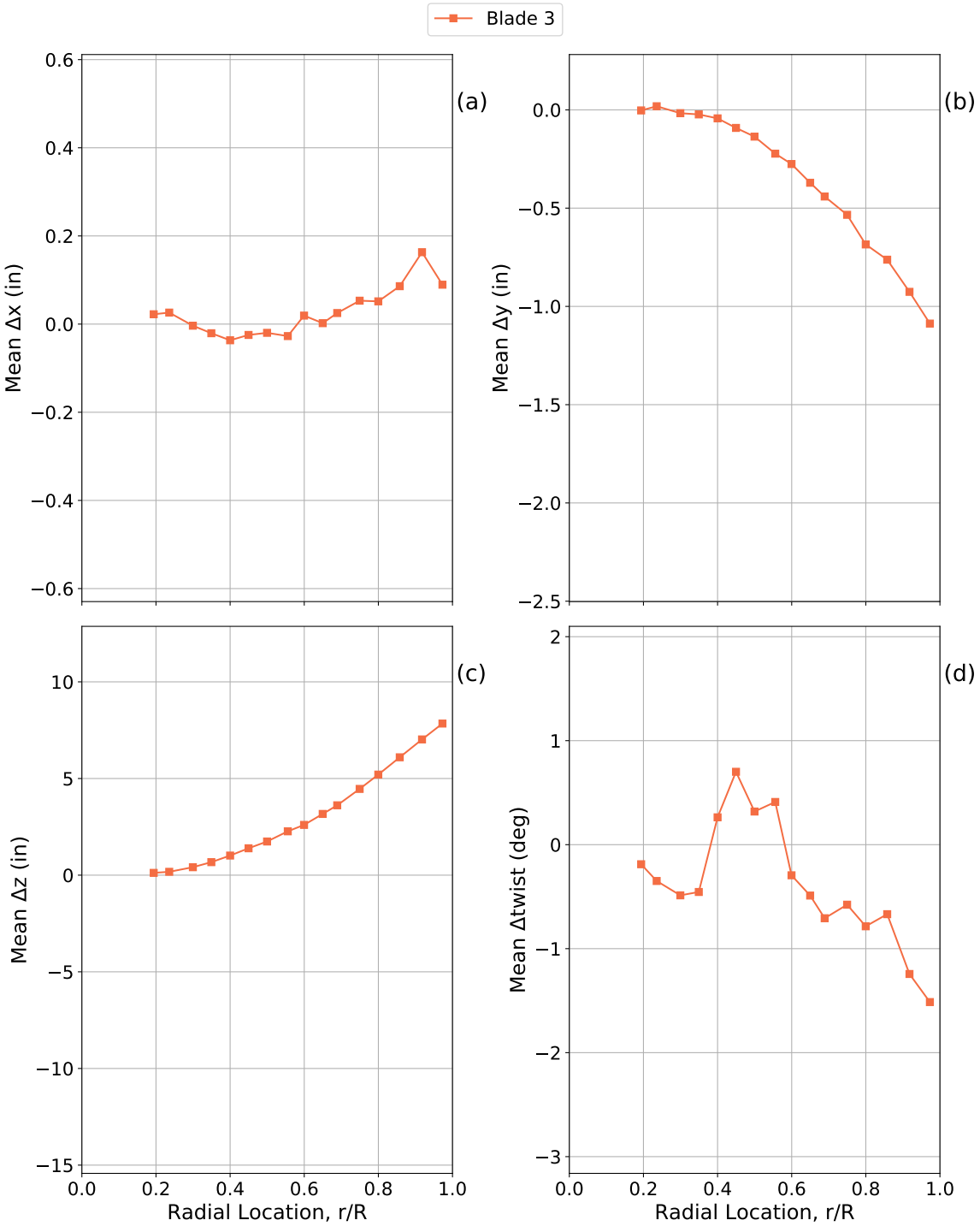


Figure 3.34-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0223	0.0089	-0.0029	0.0012	0.1186	0.0069	-0.1883	0.0381
3	265.08	0.2357	0.0261	0.0061	0.0184	0.0056	0.1735	0.0103	-0.3492	0.0798
3	265.08	0.2995	-0.0036	0.0026	-0.0170	0.0121	0.4114	0.0165	-0.4873	0.0928
3	265.08	0.3493	-0.0207	0.0077	-0.0232	0.0168	0.6732	0.0282	-0.4550	0.0621
3	265.08	0.4000	-0.0367	0.0090	-0.0433	0.0317	1.0142	0.0393	0.2629	0.3281
3	265.08	0.4497	-0.0246	0.0106	-0.0919	0.0386	1.3906	0.0551	0.7008	0.4318
3	265.08	0.4997	-0.0198	0.0139	-0.1362	0.0456	1.7412	0.0738	0.3186	0.5260
3	265.08	0.5556	-0.0272	0.0155	-0.2228	0.0545	2.2678	0.0967	0.4105	0.6303
3	265.08	0.5995	0.0193	0.0184	-0.2756	0.0910	2.6001	0.1286	-0.2944	0.0742
3	265.08	0.6498	0.0021	0.0203	-0.3709	0.1025	3.1670	0.1466	-0.4894	0.0577
3	265.08	0.6890	0.0251	0.0212	-0.4409	0.1118	3.6142	0.1587	-0.7075	0.0670
3	265.08	0.7495	0.0531	0.0214	-0.5340	0.1273	4.4618	0.1725	-0.5772	0.0645
3	265.08	0.7998	0.0516	0.0221	-0.6848	0.1393	5.2018	0.1836	-0.7850	0.0688
3	265.08	0.8577	0.0860	0.0222	-0.7623	0.1521	6.0976	0.1980	-0.6685	0.0675
3	265.08	0.9178	0.1631	0.0235	-0.9259	0.1659	7.0214	0.2114	-1.2436	0.0624
3	265.08	0.9729	0.0894	0.0272	-1.0874	0.1807	7.8422	0.2227	-1.5136	0.0780

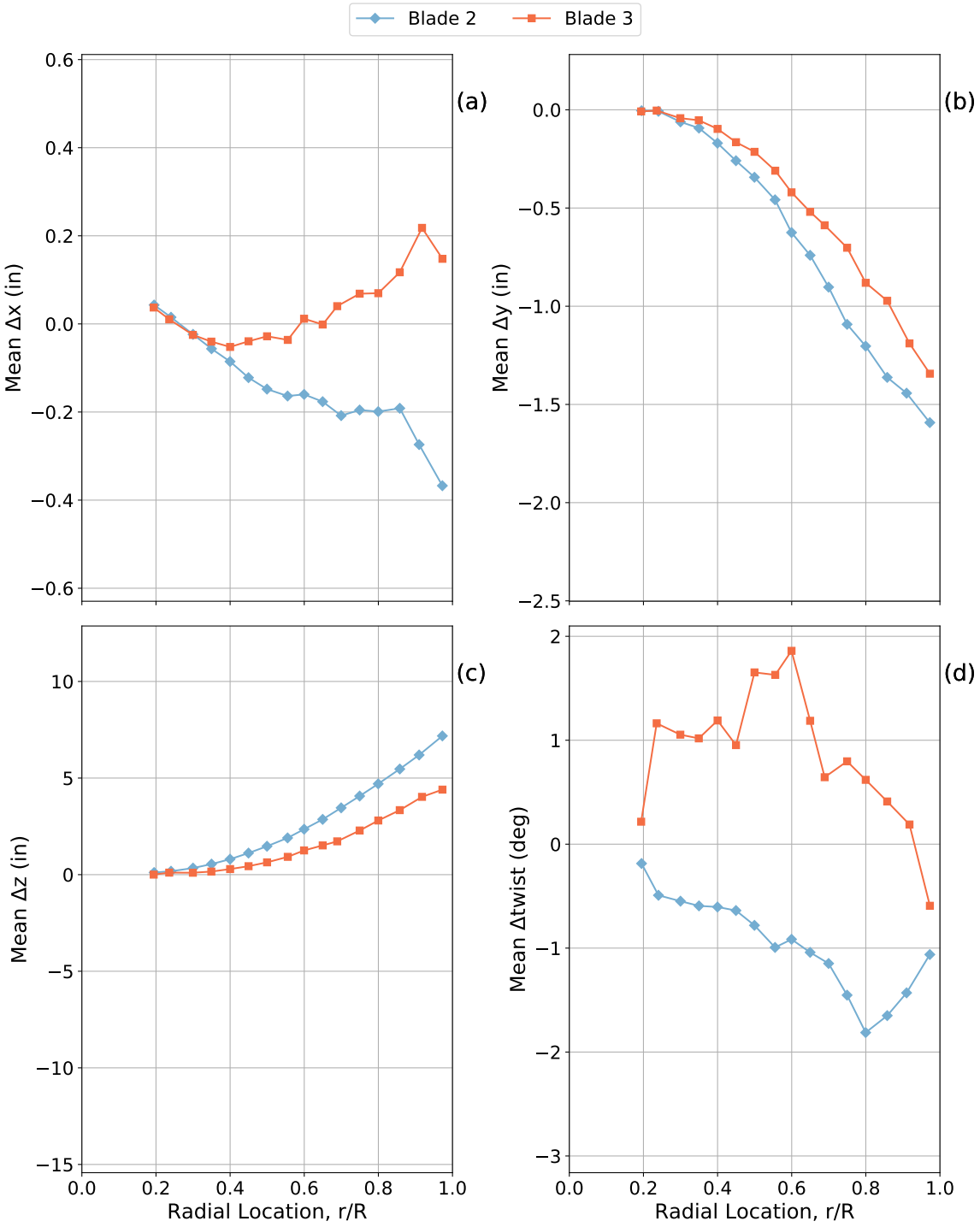


Figure 3.34-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0429	0.0045	-0.0047	0.0007	0.1097	0.0081	-0.1859	0.0645
2	270.35	0.2405	0.0151	0.0019	-0.0077	0.0018	0.1771	0.0171	-0.4918	0.0758
2	270.35	0.2999	-0.0237	0.0033	-0.0616	0.0033	0.3405	0.0295	-0.5485	0.1102
2	270.35	0.3498	-0.0564	0.0052	-0.0932	0.0056	0.5471	0.0411	-0.5936	0.1056
2	270.35	0.3998	-0.0854	0.0080	-0.1699	0.0101	0.8006	0.0654	-0.6043	0.0941
2	270.35	0.4496	-0.1220	0.0096	-0.2593	0.0136	1.1170	0.0809	-0.6384	0.1036
2	270.35	0.4995	-0.1480	0.0103	-0.3435	0.0185	1.4702	0.1078	-0.7810	0.0914
2	270.35	0.5551	-0.1637	0.0106	-0.4582	0.0240	1.9021	0.1375	-0.9935	0.0858
2	270.35	0.5996	-0.1600	0.0105	-0.6250	0.0298	2.3519	0.1637	-0.9154	0.1005
2	270.35	0.6497	-0.1765	0.0111	-0.7407	0.0366	2.8611	0.2007	-1.0410	0.1082
2	270.35	0.6996	-0.2082	0.0129	-0.9028	0.0438	3.4587	0.2310	-1.1480	0.1094
2	270.35	0.7495	-0.1954	0.0167	-1.0922	0.0522	4.0690	0.2634	-1.4528	0.1147
2	270.35	0.7996	-0.1990	0.0236	-1.2033	0.0604	4.6998	0.2916	-1.8127	0.1190
2	270.35	0.8578	-0.1915	0.0358	-1.3624	0.0714	5.4684	0.3343	-1.6497	0.1180
2	270.35	0.9100	-0.2739	0.0492	-1.4427	0.0816	6.1948	0.3538	-1.4305	0.1310
2	270.35	0.9727	-0.3673	0.0758	-1.5925	0.0931	7.1805	0.3921	-1.0617	0.1590
3	270	0.1938	0.0372	0.0055	-0.0084	0.0009	0.0025	0.0336	0.2162	0.1012
3	270	0.2357	0.0105	0.0038	-0.0040	0.0031	0.1054	0.0204	1.1629	0.4025
3	270	0.2995	-0.0249	0.0051	-0.0428	0.0052	0.0993	0.0828	1.0536	0.3955
3	270	0.3493	-0.0402	0.0024	-0.0533	0.0093	0.1597	0.1352	1.0179	0.4101
3	270	0.4000	-0.0523	0.0033	-0.0973	0.0161	0.2886	0.1861	1.1902	0.4150
3	270	0.4497	-0.0394	0.0012	-0.1650	0.0228	0.4382	0.2426	0.9531	0.3966
3	270	0.4997	-0.0281	0.0038	-0.2140	0.0304	0.6375	0.2989	1.6527	0.4310
3	270	0.5556	-0.0363	0.0063	-0.3100	0.0401	0.9220	0.3627	1.6288	0.4308
3	270	0.5995	0.0118	0.0071	-0.4202	0.0466	1.2540	0.4085	1.8603	0.4403
3	270	0.6498	-0.0014	0.0153	-0.5196	0.0612	1.5135	0.4831	1.1872	0.3789
3	270	0.6890	0.0403	0.0108	-0.5879	0.0642	1.7238	0.5208	0.6442	0.4063
3	270	0.7495	0.0686	0.0133	-0.7023	0.0764	2.2849	0.5882	0.7971	0.3925
3	270	0.7998	0.0697	0.0166	-0.8808	0.0857	2.8031	0.6357	0.6190	0.3750
3	270	0.8577	0.1172	0.0214	-0.9723	0.0990	3.3386	0.7102	0.4108	0.3565
3	270	0.9178	0.2180	0.0219	-1.1892	0.1114	4.0265	0.7558	0.1892	0.3833
3	270	0.9729	0.1478	0.0311	-1.3435	0.1211	4.4015	0.7953	-0.5927	0.4370

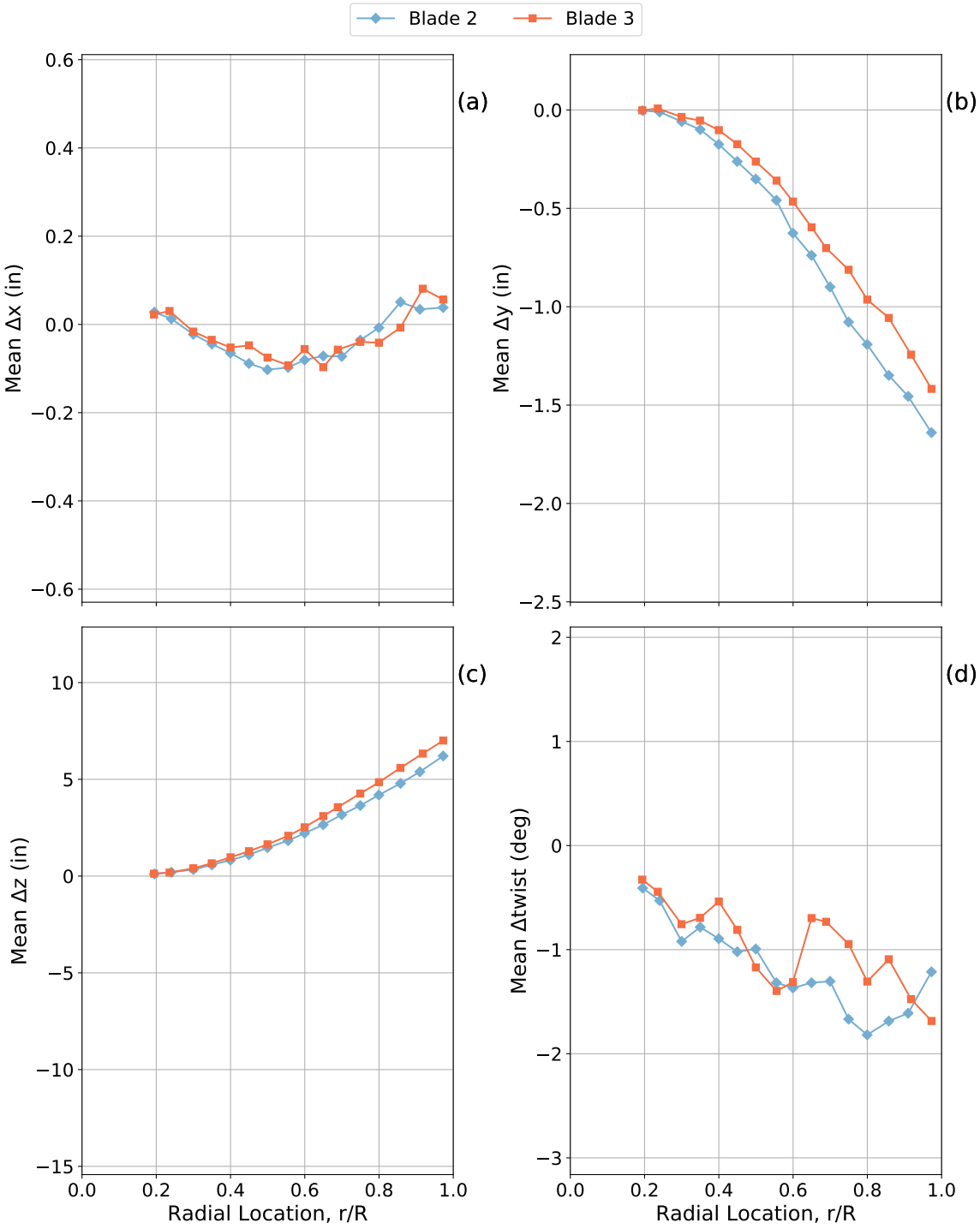


Figure 3.34-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0278	0.0028	-0.0035	0.0005	0.1106	0.0061	-0.4084	0.0316
2	274.92	0.2405	0.0128	0.0026	-0.0101	0.0015	0.1991	0.0104	-0.5289	0.0594
2	274.92	0.2999	-0.0224	0.0018	-0.0588	0.0020	0.3333	0.0197	-0.9211	0.0717
2	274.92	0.3498	-0.0444	0.0021	-0.0994	0.0044	0.5790	0.0309	-0.7833	0.0761
2	274.92	0.3998	-0.0649	0.0033	-0.1747	0.0069	0.8216	0.0458	-0.8952	0.0493
2	274.92	0.4496	-0.0885	0.0021	-0.2620	0.0093	1.1005	0.0610	-1.0203	0.0699
2	274.92	0.4995	-0.1026	0.0027	-0.3512	0.0127	1.4689	0.0825	-0.9936	0.0566
2	274.92	0.5551	-0.0975	0.0040	-0.4590	0.0168	1.8303	0.1069	-1.3176	0.0786
2	274.92	0.5996	-0.0806	0.0053	-0.6261	0.0202	2.2152	0.1274	-1.3685	0.1075
2	274.92	0.6497	-0.0715	0.0082	-0.7389	0.0248	2.6529	0.1591	-1.3179	0.0648
2	274.92	0.6996	-0.0725	0.0094	-0.8996	0.0289	3.1702	0.1836	-1.3043	0.0582
2	274.92	0.7495	-0.0356	0.0110	-1.0781	0.0346	3.6460	0.2073	-1.6678	0.1227
2	274.92	0.7996	-0.0074	0.0128	-1.1917	0.0391	4.1900	0.2353	-1.8190	0.0998
2	274.92	0.8578	0.0508	0.0153	-1.3491	0.0460	4.7891	0.2639	-1.6863	0.1003
2	274.92	0.9100	0.0342	0.0174	-1.4556	0.0518	5.3888	0.2910	-1.6104	0.1051
2	274.92	0.9727	0.0383	0.0220	-1.6399	0.0601	6.2059	0.3341	-1.2131	0.1053
3	274.92	0.1938	0.0225	0.0078	-0.0016	0.0007	0.1270	0.0135	-0.3273	0.0518
3	274.92	0.2357	0.0305	0.0039	0.0076	0.0010	0.1800	0.0125	-0.4438	0.0616
3	274.92	0.2995	-0.0162	0.0052	-0.0355	0.0053	0.4025	0.0362	-0.7553	0.0961
3	274.92	0.3493	-0.0350	0.0102	-0.0542	0.0102	0.6597	0.0582	-0.6950	0.0597
3	274.92	0.4000	-0.0523	0.0142	-0.1027	0.0168	0.9709	0.0824	-0.5376	0.0993
3	274.92	0.4497	-0.0474	0.0202	-0.1740	0.0227	1.2853	0.1070	-0.8101	0.0884
3	274.92	0.4997	-0.0751	0.0227	-0.2623	0.0325	1.6402	0.1373	-1.1706	0.0853
3	274.92	0.5556	-0.0926	0.0226	-0.3591	0.0440	2.0827	0.1745	-1.3967	0.0863
3	274.92	0.5995	-0.0559	0.0226	-0.4654	0.0538	2.5220	0.2066	-1.3122	0.0872
3	274.92	0.6498	-0.0969	0.0206	-0.5962	0.0656	3.0985	0.2382	-0.6971	0.0964
3	274.92	0.6890	-0.0572	0.0202	-0.7019	0.0760	3.5624	0.2707	-0.7323	0.1006
3	274.92	0.7495	-0.0395	0.0242	-0.8121	0.0930	4.2642	0.3178	-0.9462	0.1030
3	274.92	0.7998	-0.0414	0.0341	-0.9639	0.1075	4.8498	0.3539	-1.3063	0.0876
3	274.92	0.8577	-0.0071	0.0519	-1.0569	0.1246	5.5907	0.4029	-1.0924	0.1091
3	274.92	0.9178	0.0810	0.0762	-1.2435	0.1451	6.3300	0.4520	-1.4757	0.1411
3	274.92	0.9729	0.0565	0.1036	-1.4175	0.1707	7.0037	0.5023	-1.6852	0.1399

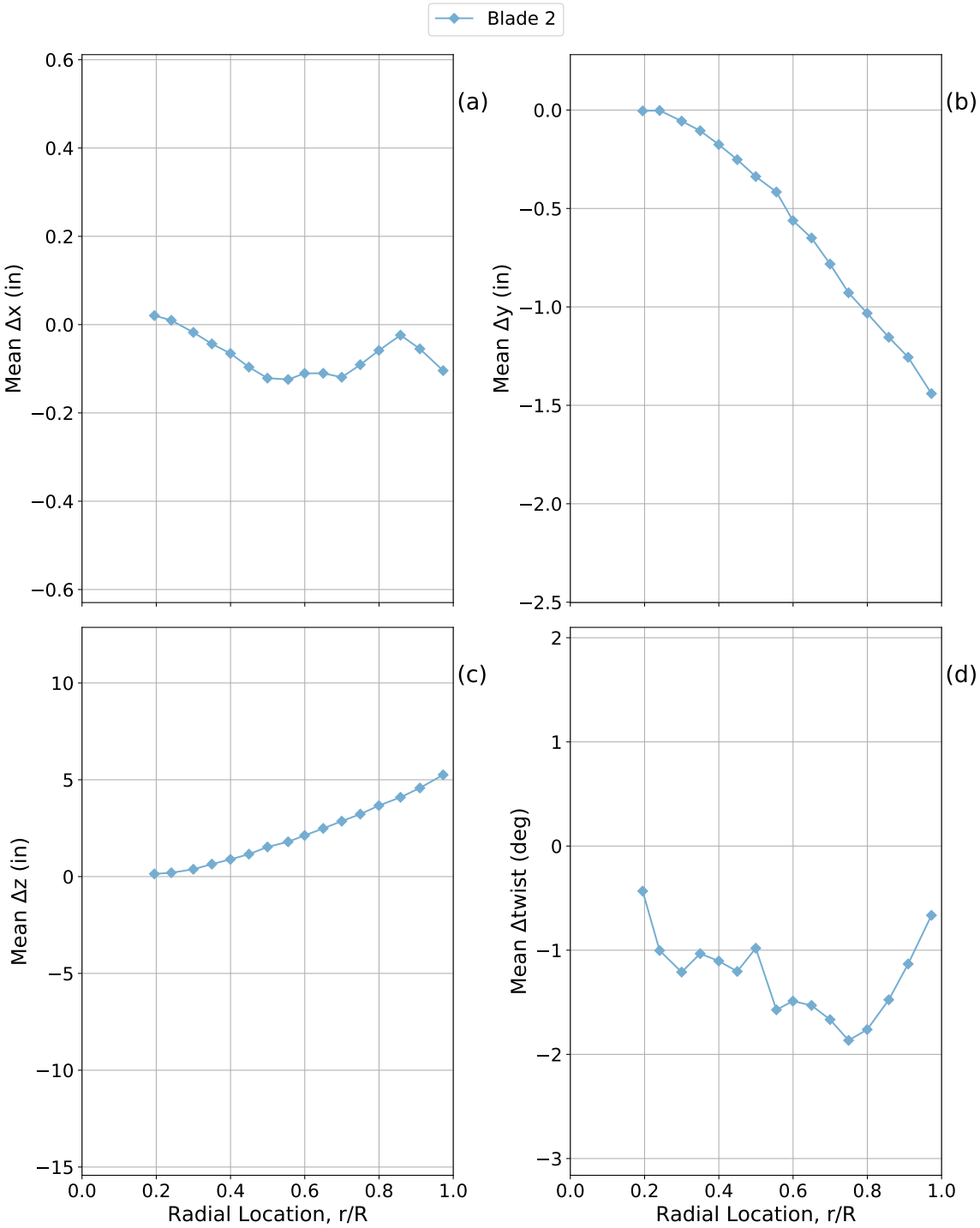


Figure 3.34-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0205	0.0017	-0.0043	0.0007	0.1385	0.0056	-0.4323	0.0216
2	285.12	0.2405	0.0098	0.0021	-0.0025	0.0013	0.1977	0.0077	-1.0033	0.0415
2	285.12	0.2999	-0.0176	0.0020	-0.0562	0.0031	0.3766	0.0152	-1.2102	0.0514
2	285.12	0.3498	-0.0436	0.0025	-0.1052	0.0052	0.6440	0.0250	-1.0328	0.0414
2	285.12	0.3998	-0.0653	0.0020	-0.1753	0.0089	0.8896	0.0352	-1.1040	0.0590
2	285.12	0.4496	-0.0962	0.0020	-0.2520	0.0115	1.1574	0.0452	-1.2040	0.0476
2	285.12	0.4995	-0.1212	0.0028	-0.3379	0.0161	1.5297	0.0602	-0.9806	0.0474
2	285.12	0.5551	-0.1242	0.0028	-0.4162	0.0215	1.7973	0.0760	-1.5722	0.0375
2	285.12	0.5996	-0.1104	0.0033	-0.5616	0.0265	2.1236	0.0912	-1.4886	0.0407
2	285.12	0.6497	-0.1102	0.0059	-0.6499	0.0326	2.4875	0.1089	-1.5300	0.0456
2	285.12	0.6996	-0.1192	0.0064	-0.7824	0.0393	2.8612	0.1279	-1.6663	0.0552
2	285.12	0.7495	-0.0908	0.0072	-0.9285	0.0467	3.2263	0.1455	-1.8655	0.0756
2	285.12	0.7996	-0.0585	0.0089	-1.0323	0.0536	3.6666	0.1688	-1.7619	0.0602
2	285.12	0.8578	-0.0238	0.0102	-1.1544	0.0624	4.0960	0.1847	-1.4760	0.0630
2	285.12	0.9100	-0.0549	0.0109	-1.2559	0.0710	4.5754	0.2070	-1.1320	0.0826
2	285.12	0.9727	-0.1042	0.0162	-1.4404	0.0855	5.2550	0.2331	-0.6651	0.1417

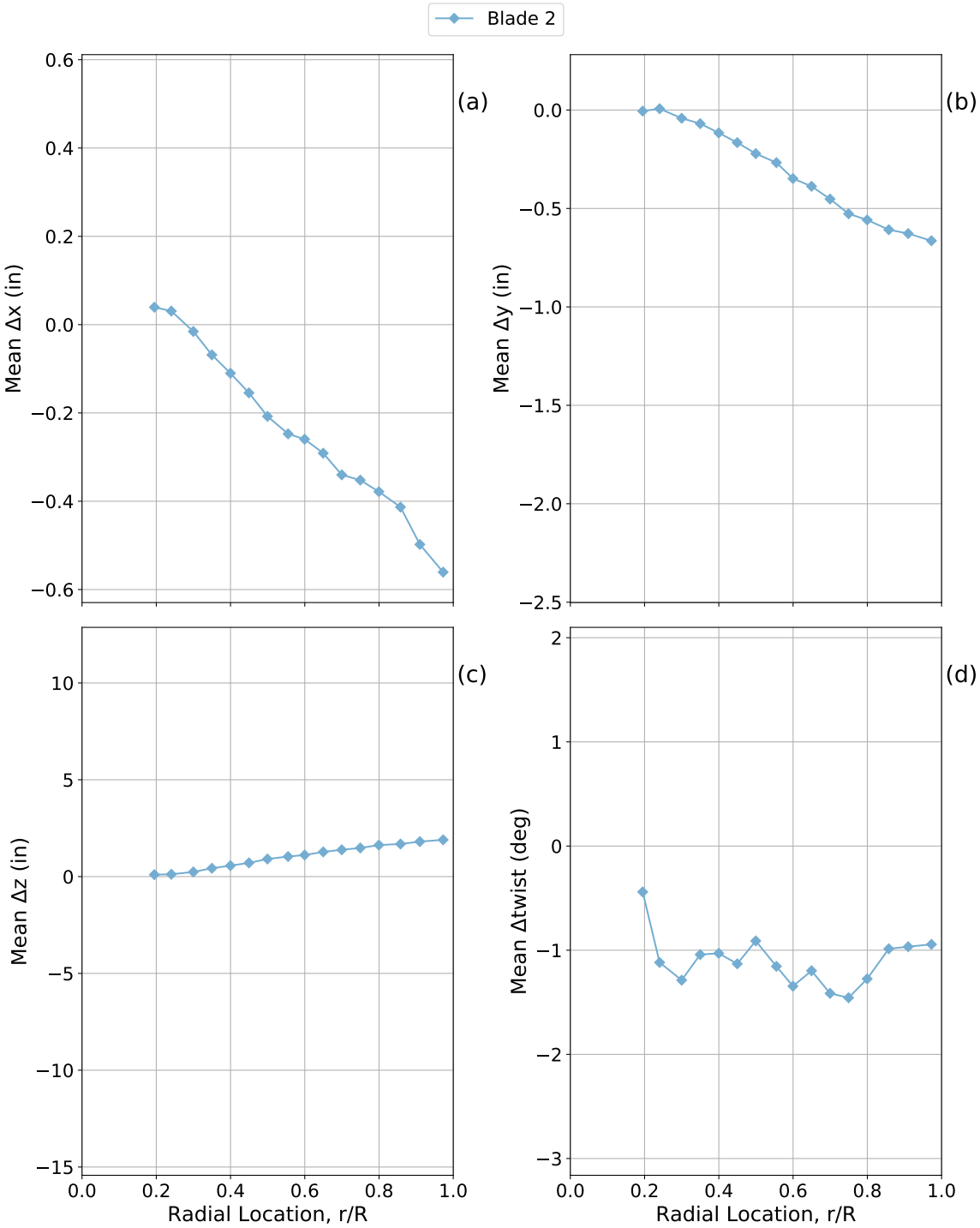


Figure 3.34-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0394	0.0022	-0.0054	0.0011	0.0993	0.0042	-0.4405	0.0391
2	299.88	0.2405	0.0307	0.0027	0.0066	0.0022	0.1206	0.0141	-1.1176	0.0304
2	299.88	0.2999	-0.0155	0.0038	-0.0417	0.0047	0.2398	0.0181	-1.2875	0.0693
2	299.88	0.3498	-0.0685	0.0045	-0.0689	0.0097	0.4312	0.0311	-1.0421	0.0576
2	299.88	0.3998	-0.1101	0.0035	-0.1161	0.0149	0.5650	0.0507	-1.0296	0.0561
2	299.88	0.4496	-0.1545	0.0036	-0.1654	0.0193	0.7092	0.0597	-1.1310	0.0647
2	299.88	0.4995	-0.2077	0.0046	-0.2214	0.0255	0.9072	0.0792	-0.9107	0.0566
2	299.88	0.5551	-0.2474	0.0058	-0.2672	0.0335	1.0350	0.0985	-1.1552	0.0535
2	299.88	0.5996	-0.2596	0.0061	-0.3480	0.0396	1.1146	0.1161	-1.3455	0.0621
2	299.88	0.6497	-0.2912	0.0064	-0.3874	0.0474	1.2738	0.1369	-1.1973	0.0551
2	299.88	0.6996	-0.3402	0.0073	-0.4521	0.0552	1.3850	0.1580	-1.4145	0.0870
2	299.88	0.7495	-0.3522	0.0079	-0.5269	0.0635	1.4776	0.1806	-1.4565	0.0713
2	299.88	0.7996	-0.3784	0.0084	-0.5582	0.0716	1.6283	0.2061	-1.2749	0.0673
2	299.88	0.8578	-0.4132	0.0090	-0.6080	0.0820	1.6818	0.2363	-0.9861	0.0744
2	299.88	0.9100	-0.4979	0.0096	-0.6274	0.0902	1.8067	0.2656	-0.9666	0.0785
2	299.88	0.9727	-0.5606	0.0138	-0.6640	0.1001	1.8983	0.3042	-0.9437	0.0875

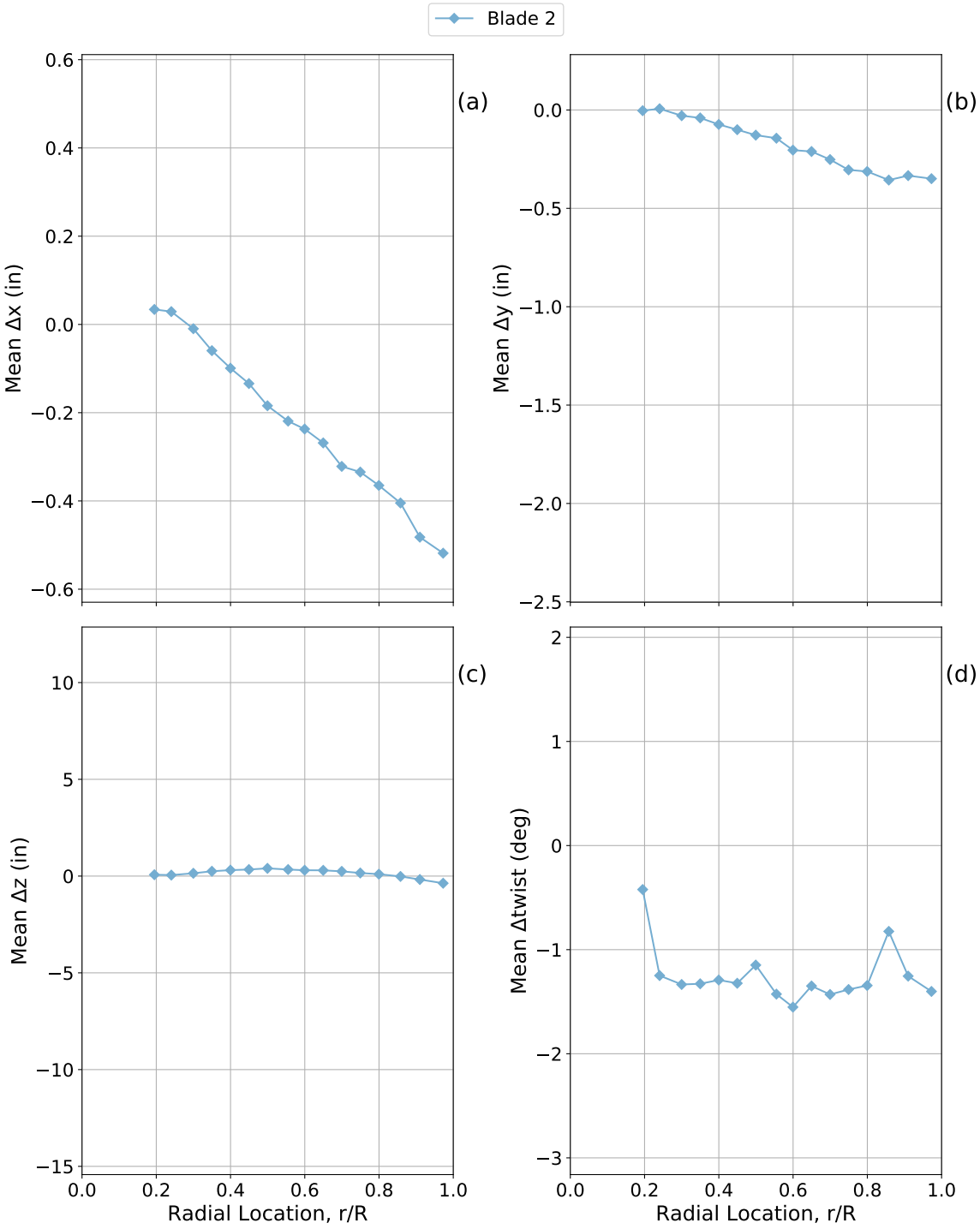


Figure 3.34-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0340	0.0023	-0.0036	0.0005	0.0706	0.0091	-0.4224	0.0603
2	315	0.2405	0.0291	0.0026	0.0062	0.0025	0.0515	0.0187	-1.2491	0.0645
2	315	0.2999	-0.0097	0.0016	-0.0291	0.0066	0.1441	0.0293	-1.3345	0.1263
2	315	0.3498	-0.0594	0.0030	-0.0404	0.0106	0.2496	0.0427	-1.3279	0.1087
2	315	0.3998	-0.0992	0.0021	-0.0736	0.0200	0.3069	0.0651	-1.2918	0.0724
2	315	0.4496	-0.1340	0.0047	-0.1002	0.0208	0.3389	0.0831	-1.3229	0.1175
2	315	0.4995	-0.1843	0.0038	-0.1280	0.0279	0.3994	0.0993	-1.1481	0.1086
2	315	0.5551	-0.2191	0.0049	-0.1435	0.0343	0.3389	0.1220	-1.4272	0.0682
2	315	0.5996	-0.2370	0.0049	-0.2040	0.0390	0.3017	0.1352	-1.5520	0.0835
2	315	0.6497	-0.2685	0.0060	-0.2111	0.0451	0.2972	0.1519	-1.3490	0.0789
2	315	0.6996	-0.3217	0.0058	-0.2520	0.0510	0.2442	0.1633	-1.4306	0.0957
2	315	0.7495	-0.3345	0.0069	-0.3045	0.0576	0.1596	0.1761	-1.3827	0.0887
2	315	0.7996	-0.3649	0.0070	-0.3126	0.0635	0.0986	0.1882	-1.3445	0.0861
2	315	0.8578	-0.4046	0.0080	-0.3562	0.0720	-0.0177	0.2036	-0.8246	0.0832
2	315	0.9100	-0.4821	0.0075	-0.3337	0.0771	-0.1775	0.2204	-1.2542	0.0744
2	315	0.9727	-0.5184	0.0102	-0.3492	0.0852	-0.3691	0.2436	-1.4014	0.0990

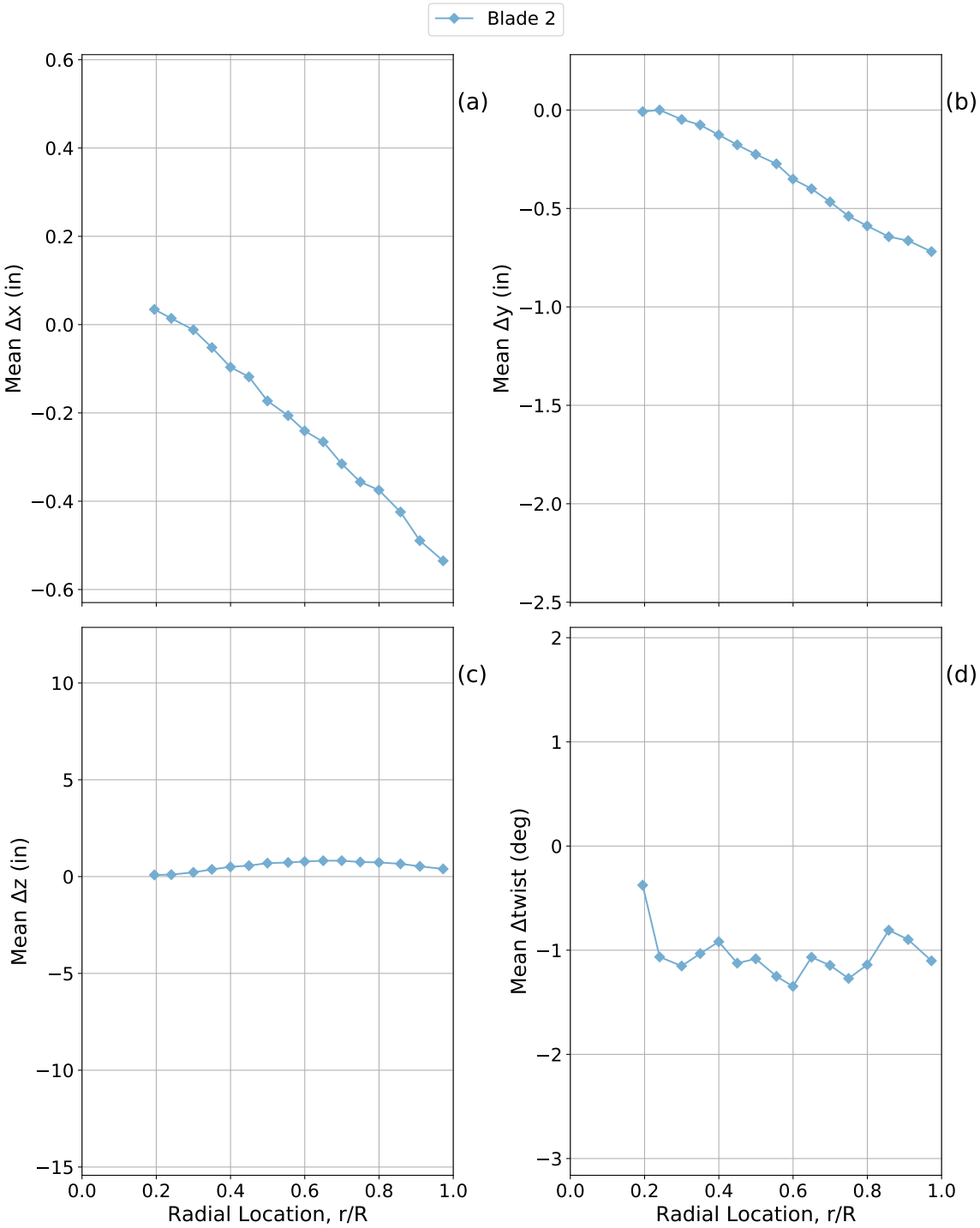


Figure 3.34-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0345	0.0034	-0.0081	0.0003	0.0844	0.0058	-0.3755	0.0498
2	330.12	0.2405	0.0142	0.0013	0.0003	0.0038	0.1017	0.0128	-1.0645	0.0641
2	330.12	0.2999	-0.0117	0.0024	-0.0478	0.0046	0.2179	0.0235	-1.1517	0.1095
2	330.12	0.3498	-0.0519	0.0029	-0.0759	0.0088	0.3706	0.0338	-1.0328	0.1017
2	330.12	0.3998	-0.0964	0.0033	-0.1262	0.0151	0.5036	0.0549	-0.9183	0.0942
2	330.12	0.4496	-0.1182	0.0033	-0.1766	0.0193	0.5658	0.0690	-1.1245	0.0723
2	330.12	0.4995	-0.1728	0.0032	-0.2252	0.0243	0.6944	0.0888	-1.0825	0.0873
2	330.12	0.5551	-0.2061	0.0037	-0.2733	0.0305	0.7258	0.1104	-1.2509	0.0783
2	330.12	0.5996	-0.2407	0.0049	-0.3507	0.0358	0.7784	0.1300	-1.3470	0.0839
2	330.12	0.6497	-0.2655	0.0053	-0.4000	0.0414	0.8191	0.1505	-1.0672	0.0966
2	330.12	0.6996	-0.3153	0.0060	-0.4665	0.0486	0.8206	0.1692	-1.1455	0.0886
2	330.12	0.7495	-0.3562	0.0062	-0.5393	0.0561	0.7515	0.1862	-1.2711	0.0930
2	330.12	0.7996	-0.3748	0.0067	-0.5886	0.0630	0.7316	0.2041	-1.1404	0.0909
2	330.12	0.8578	-0.4243	0.0076	-0.6434	0.0725	0.6579	0.2217	-0.8081	0.0938
2	330.12	0.9100	-0.4893	0.0082	-0.6635	0.0807	0.5308	0.2391	-0.8979	0.0846
2	330.12	0.9727	-0.5350	0.0096	-0.7191	0.0914	0.3956	0.2629	-1.1019	0.0776

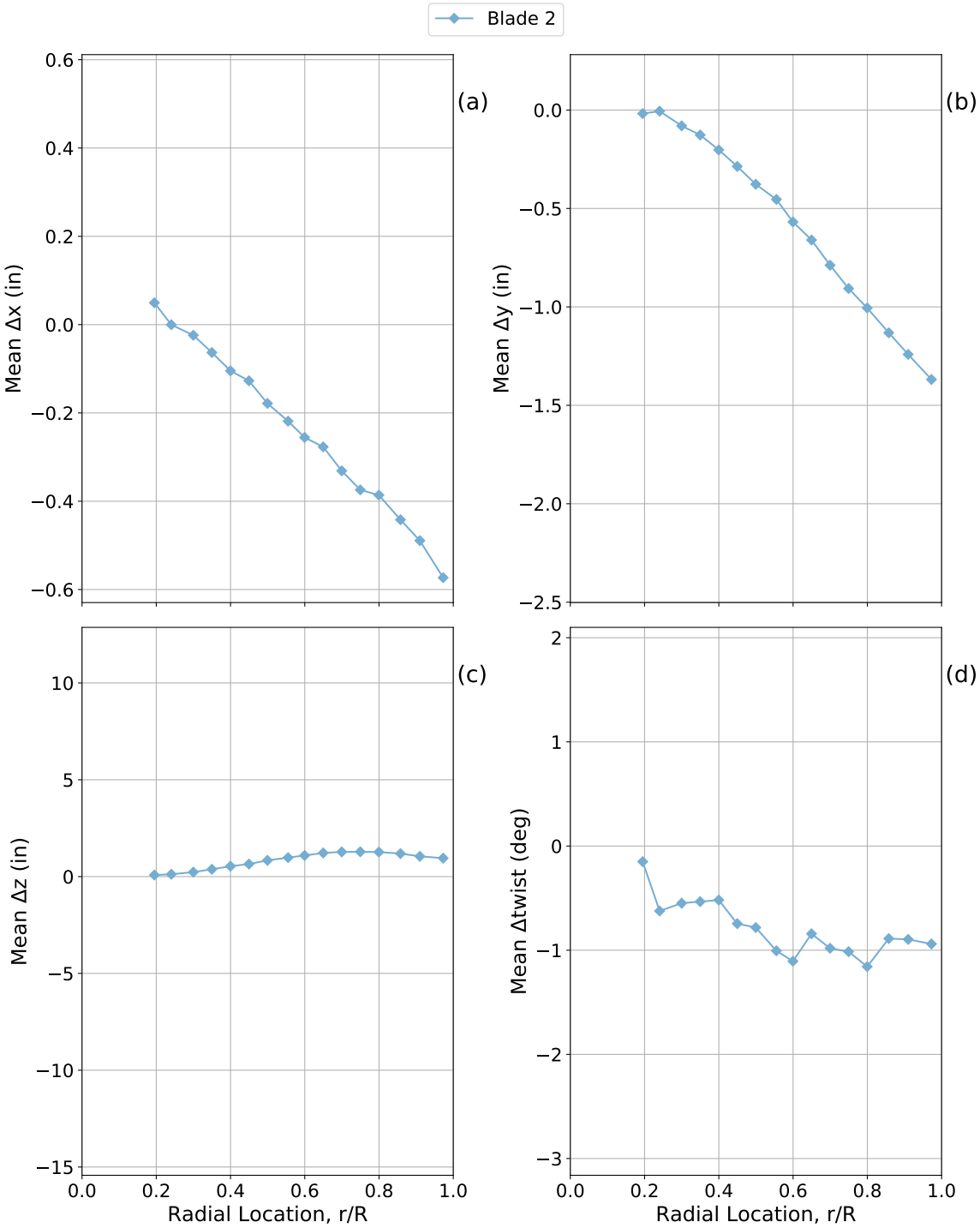


Figure 3.34-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0495	0.0043	-0.0179	0.0011	0.0807	0.0050	-0.1494	0.0274
2	344.88	0.2405	-0.0002	0.0027	-0.0058	0.0030	0.1208	0.0097	-0.6234	0.0720
2	344.88	0.2999	-0.0241	0.0038	-0.0803	0.0055	0.2311	0.0178	-0.5485	0.0773
2	344.88	0.3498	-0.0632	0.0024	-0.1267	0.0092	0.3776	0.0284	-0.5337	0.0724
2	344.88	0.3998	-0.1046	0.0021	-0.2024	0.0142	0.5368	0.0441	-0.5185	0.0623
2	344.88	0.4496	-0.1272	0.0032	-0.2864	0.0183	0.6466	0.0601	-0.7452	0.0707
2	344.88	0.4995	-0.1785	0.0031	-0.3771	0.0243	0.8376	0.0734	-0.7824	0.0863
2	344.88	0.5551	-0.2187	0.0047	-0.4541	0.0315	0.9815	0.1029	-1.0060	0.0820
2	344.88	0.5996	-0.2555	0.0051	-0.5683	0.0386	1.0905	0.1249	-1.1056	0.0747
2	344.88	0.6497	-0.2770	0.0056	-0.6600	0.0468	1.2215	0.1510	-0.8424	0.0715
2	344.88	0.6996	-0.3312	0.0062	-0.7883	0.0545	1.2746	0.1787	-0.9815	0.0790
2	344.88	0.7495	-0.3743	0.0065	-0.9065	0.0648	1.2817	0.2110	-1.0141	0.0752
2	344.88	0.7996	-0.3861	0.0078	-1.0056	0.0739	1.2683	0.2462	-1.1576	0.0714
2	344.88	0.8578	-0.4419	0.0083	-1.1316	0.0859	1.1872	0.2846	-0.8883	0.0759
2	344.88	0.9100	-0.4893	0.0091	-1.2413	0.0974	1.0471	0.3198	-0.8961	0.0632
2	344.88	0.9727	-0.5731	0.0124	-1.3687	0.1097	0.9516	0.3570	-0.9400	0.0900

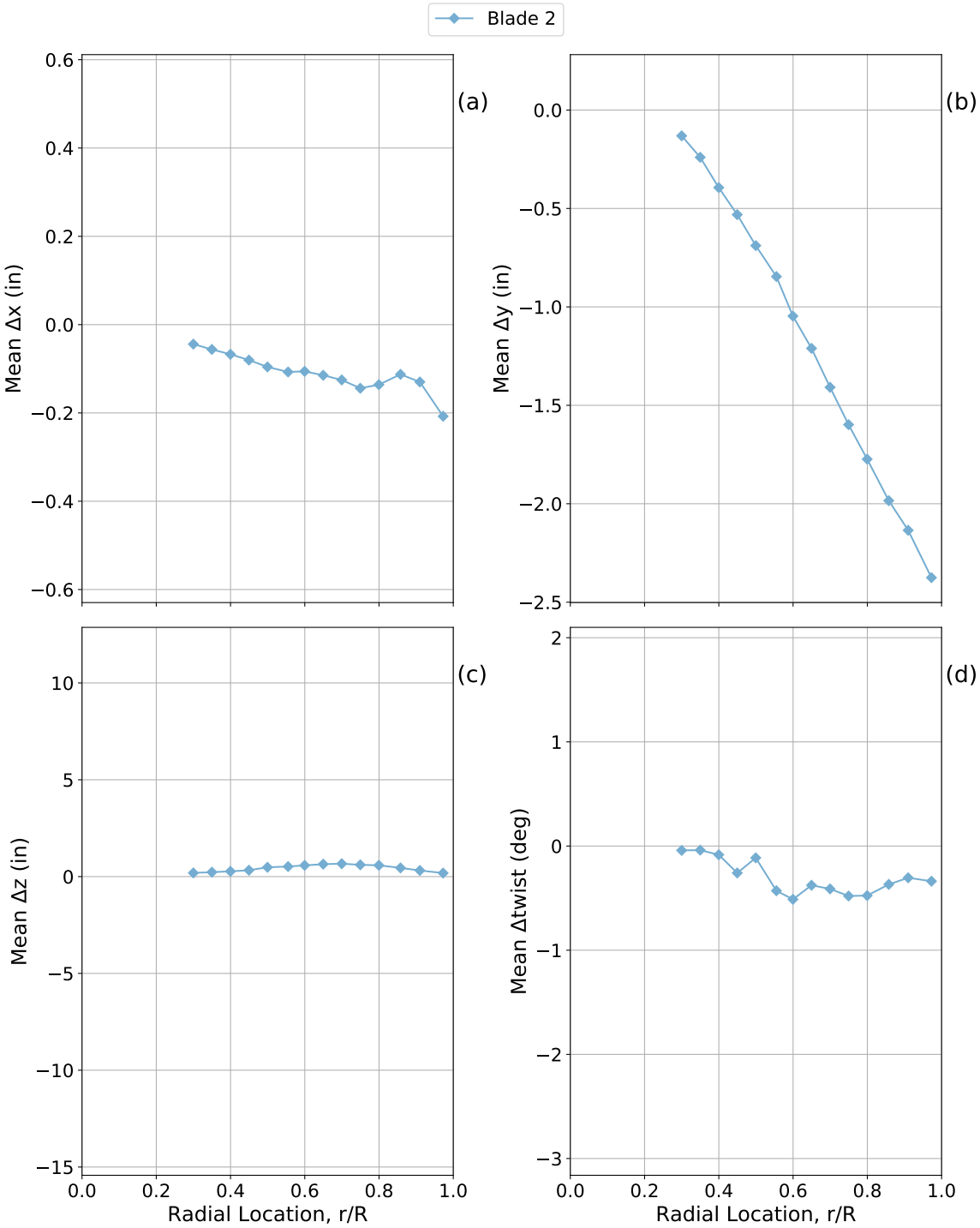


Figure 3.34-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2999	-0.0442	0.0076	-0.1310	0.0169	0.1883	0.0596	-0.0420	0.1278
2	350.16	0.3498	-0.0562	0.0076	-0.2401	0.0314	0.2286	0.0893	-0.0393	0.1676
2	350.16	0.3998	-0.0672	0.0085	-0.3940	0.0520	0.2705	0.1291	-0.0838	0.1570
2	350.16	0.4496	-0.0803	0.0083	-0.5314	0.0696	0.3284	0.1652	-0.2586	0.1604
2	350.16	0.4995	-0.0958	0.0112	-0.6887	0.0885	0.4795	0.2062	-0.1132	0.1331
2	350.16	0.5551	-0.1072	0.0115	-0.8460	0.1090	0.5188	0.2429	-0.4291	0.1546
2	350.16	0.5996	-0.1058	0.0139	-1.0468	0.1277	0.5787	0.2777	-0.5117	0.1395
2	350.16	0.6497	-0.1147	0.0158	-1.2106	0.1460	0.6407	0.3103	-0.3765	0.1526
2	350.16	0.6996	-0.1253	0.0182	-1.4084	0.1668	0.6654	0.3469	-0.4115	0.1482
2	350.16	0.7495	-0.1441	0.0220	-1.5983	0.1851	0.6079	0.3821	-0.4798	0.1649
2	350.16	0.7996	-0.1360	0.0265	-1.7735	0.2049	0.5821	0.4199	-0.4757	0.1503
2	350.16	0.8578	-0.1126	0.0309	-1.9843	0.2300	0.4480	0.4580	-0.3681	0.1929
2	350.16	0.9100	-0.1298	0.0365	-2.1347	0.2482	0.3162	0.5008	-0.3048	0.1792
2	350.16	0.9727	-0.2076	0.0492	-2.3754	0.2731	0.1815	0.5378	-0.3376	0.1892

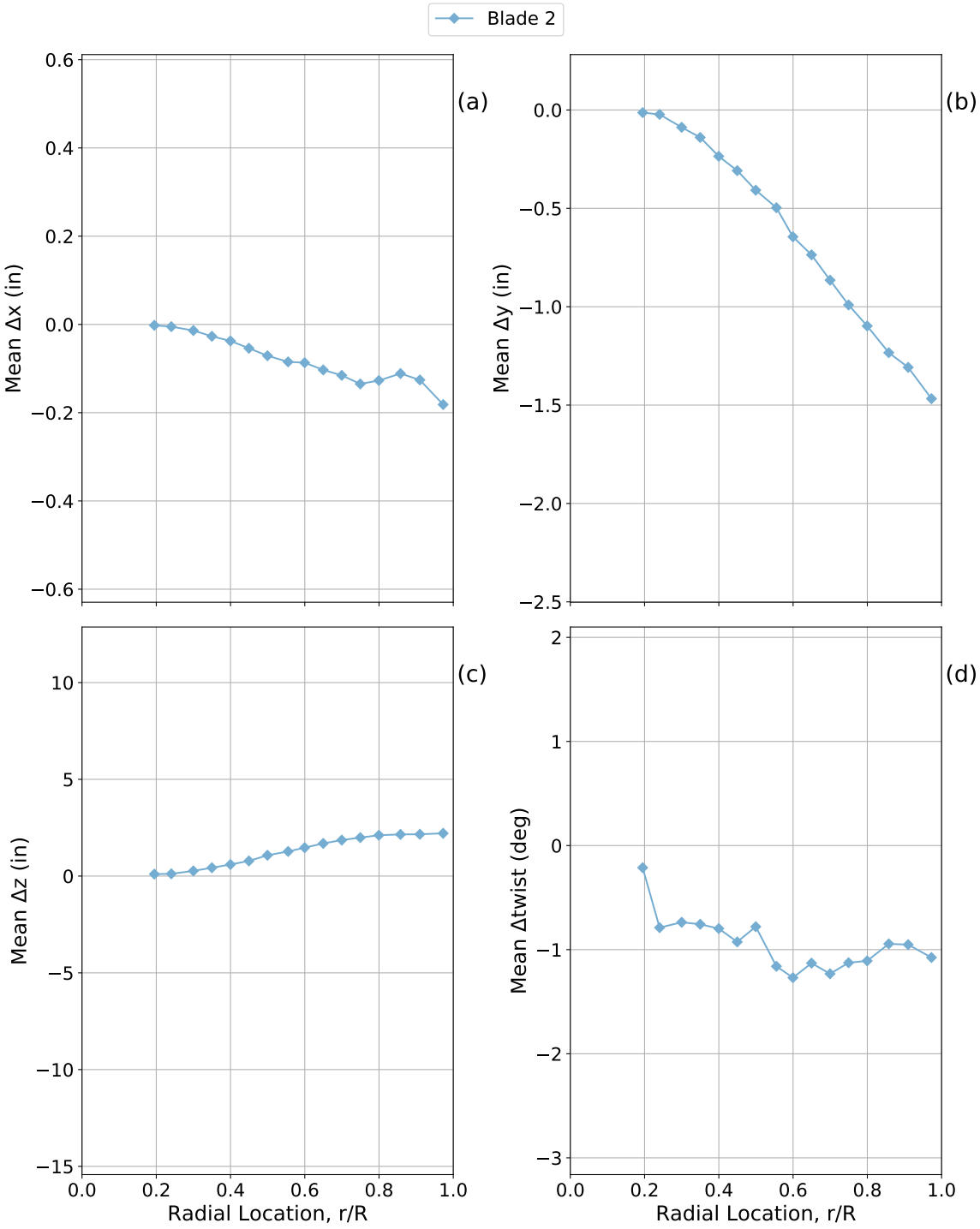


Figure 3.34-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.304$, $\alpha = -4.82°$ NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Table 3.34-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.087, μ = 0.304, α = -4.82°
NFAC run 78, point 32. BD run 37, points 5855 to 5865.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0020	0.0081	-0.0134	0.0023	0.1009	0.0154	-0.2126	0.0778
2	355.08	0.2405	-0.0050	0.0023	-0.0227	0.0038	0.1166	0.0168	-0.7887	0.1936
2	355.08	0.2999	-0.0138	0.0033	-0.0881	0.0090	0.2675	0.0393	-0.7370	0.2169
2	355.08	0.3498	-0.0269	0.0049	-0.1395	0.0182	0.4304	0.0640	-0.7560	0.2053
2	355.08	0.3998	-0.0374	0.0058	-0.2355	0.0267	0.5988	0.0879	-0.7974	0.2075
2	355.08	0.4496	-0.0540	0.0086	-0.3084	0.0378	0.7825	0.1112	-0.9256	0.2079
2	355.08	0.4995	-0.0709	0.0088	-0.4077	0.0484	1.0749	0.1340	-0.7794	0.2020
2	355.08	0.5551	-0.0848	0.0119	-0.4968	0.0584	1.2721	0.1616	-1.1599	0.1996
2	355.08	0.5996	-0.0867	0.0129	-0.6447	0.0635	1.4671	0.1841	-1.2693	0.1953
2	355.08	0.6497	-0.1030	0.0146	-0.7363	0.0655	1.6867	0.2047	-1.1296	0.2162
2	355.08	0.6996	-0.1154	0.0182	-0.8651	0.0675	1.8595	0.2312	-1.2319	0.1990
2	355.08	0.7495	-0.1348	0.0224	-0.9909	0.0692	1.9882	0.2586	-1.1256	0.1975
2	355.08	0.7996	-0.1270	0.0263	-1.0980	0.0771	2.1111	0.2838	-1.1078	0.2154
2	355.08	0.8578	-0.1113	0.0350	-1.2337	0.0823	2.1536	0.3184	-0.9444	0.2312
2	355.08	0.9100	-0.1258	0.0404	-1.3081	0.0998	2.1607	0.3543	-0.9519	0.1982
2	355.08	0.9727	-0.1815	0.0559	-1.4674	0.1162	2.2089	0.3886	-1.0755	0.2375

3.35 Run 81, Point 50

3.35.1 Pitch, Flap, and Lag

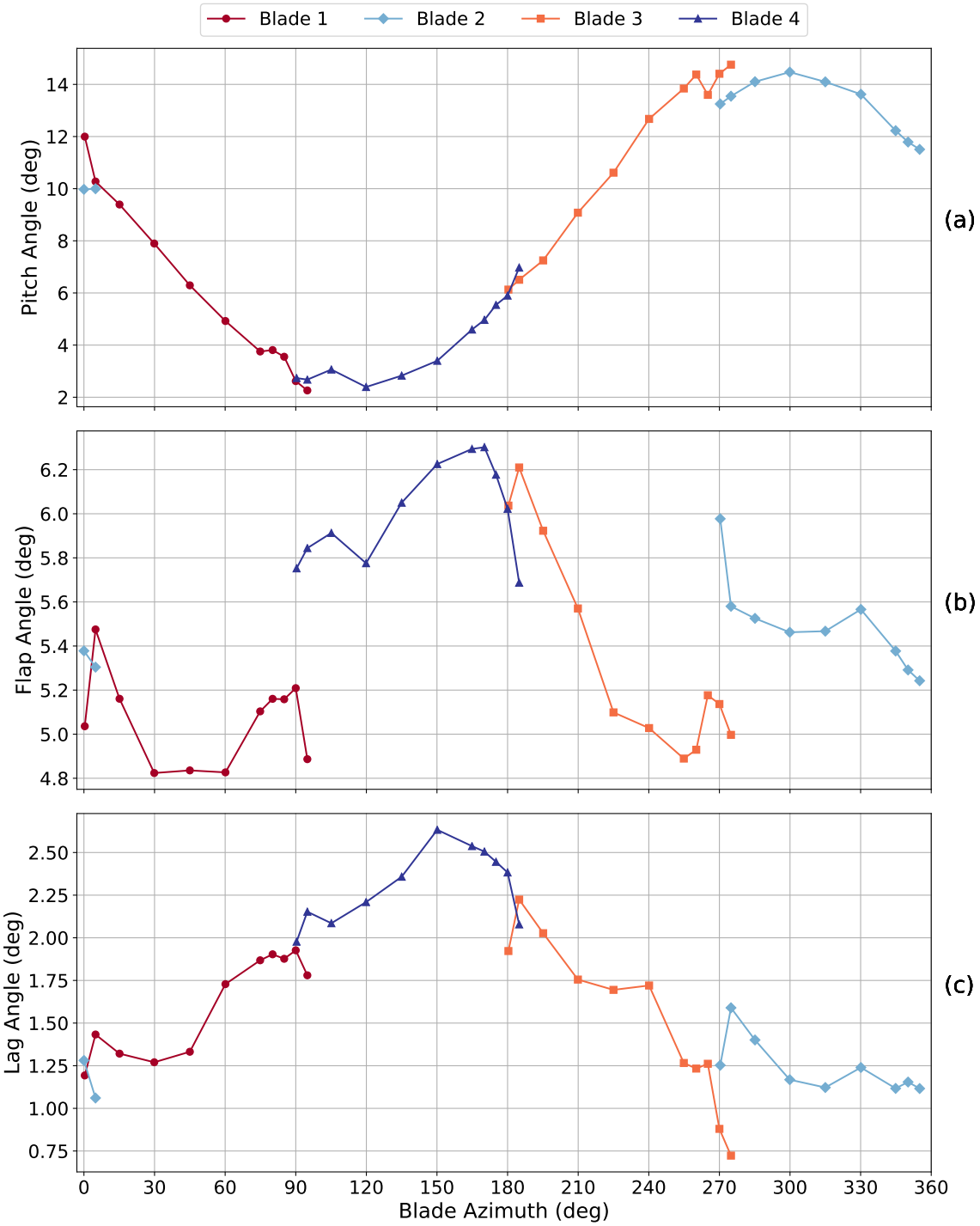


Figure 3.35-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	9.9745	5.3780	1.2810	0.1438	0.0830	0.0588
0.35	1	11.9961	5.0360	1.1930	0.0937	0.0528	0.0610
4.92	1	10.2747	5.4753	1.4330	0.1198	0.0748	0.0587
4.92	2	9.9970	5.3041	1.0608	0.0847	0.0694	0.0522
15.12	1	9.3924	5.1607	1.3209	0.1502	0.0883	0.0532
29.88	1	7.8955	4.8238	1.2702	0.1150	0.0823	0.0406
45	1	6.2921	4.8357	1.3318	0.0593	0.0568	0.0278
60.12	1	4.9239	4.8267	1.7284	0.0888	0.0706	0.0369
74.88	1	3.7548	5.1035	1.8681	0.1311	0.0438	0.0338
80.16	1	3.8092	5.1604	1.9032	0.1496	0.1364	0.0718
85.08	1	3.5527	5.1584	1.8769	0.1948	0.1464	0.0358
90	1	2.6192	5.2089	1.9267	0.3123	0.1376	0.0649
90.35	4	2.7354	5.7523	1.9770	0.0644	0.0459	0.0488
94.92	1	2.2607	4.8867	1.7801	0.0797	0.0668	0.0424
94.92	4	2.6751	5.8442	2.1528	0.1134	0.0578	0.0450
105.12	4	3.0620	5.9128	2.0853	0.3352	0.1512	0.0435
119.88	4	2.3921	5.7756	2.2092	0.1036	0.0505	0.0488
135	4	2.8282	6.0501	2.3579	0.0880	0.0706	0.0135
150.12	4	3.3968	6.2254	2.6330	0.0374	0.0634	0.0287
164.88	4	4.5958	6.2940	2.5375	0.0658	0.1120	0.0589
170.16	4	4.9657	6.3018	2.5053	0.1204	0.1209	0.0609
175.08	4	5.5410	6.1771	2.4452	0.0726	0.1198	0.0617
180	4	5.8983	6.0225	2.3829	0.1517	0.1300	0.0558
180.35	3	6.1295	6.0370	1.9224	0.1444	0.1683	0.0661
184.92	3	6.5060	6.2100	2.2242	0.0588	0.1190	0.0640
184.92	4	6.9715	5.6873	2.0784	0.4138	0.1597	0.1113
195.12	3	7.2483	5.9229	2.0269	0.0875	0.1239	0.0318
209.88	3	9.0795	5.5703	1.7551	0.0892	0.1231	0.0715
225	3	10.6126	5.0989	1.6947	0.0652	0.0661	0.0302
240.12	3	12.6756	5.0277	1.7203	0.0992	0.0670	0.0386
254.88	3	13.8424	4.8893	1.2660	0.1081	0.0627	0.0426
260.16	3	14.3772	4.9294	1.2332	0.3663	0.1409	0.0906
265.08	3	13.5986	5.1767	1.2614	0.1747	0.1159	0.0645
270	3	14.4074	5.1367	0.8797	0.2080	0.2119	0.1078
270.35	2	13.2492	5.9772	1.2527	1.1687	0.7125	0.3193
274.92	2	13.5477	5.5802	1.5896	0.0547	0.1024	0.0949
274.92	3	14.7573	4.9969	0.7230	0.6891	0.4398	0.1782
285.12	2	14.1021	5.5254	1.4009	0.1963	0.1147	0.0232
299.88	2	14.4716	5.4624	1.1681	0.2079	0.0936	0.0339
315	2	14.0975	5.4673	1.1222	0.0674	0.0579	0.0363
330.12	2	13.6210	5.5661	1.2395	0.0515	0.0455	0.0439
344.88	2	12.2248	5.3773	1.1170	0.0600	0.0331	0.0315
350.16	2	11.7886	5.2913	1.1544	0.1186	0.0524	0.0752
355.08	2	11.5070	5.2424	1.1162	0.0779	0.0435	0.0677

3.35.2 Spanwise Elastic Deformations

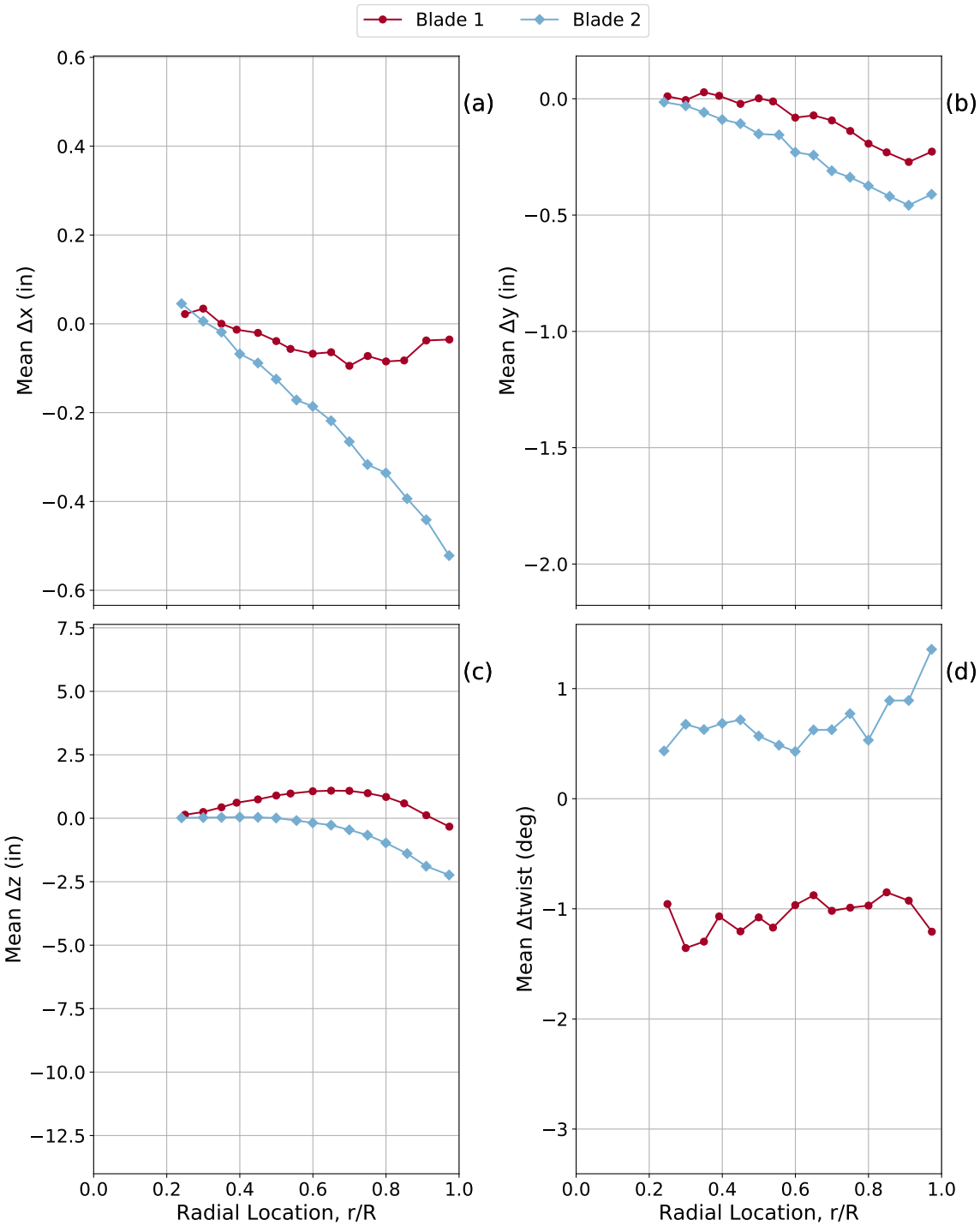


Figure 3.35-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2499	0.0220	0.0072	0.0105	0.0028	0.1393	0.0119	-0.9563	0.0566
1	0.35	0.2998	0.0342	0.0029	-0.0054	0.0057	0.2459	0.0197	-1.3561	0.0800
1	0.35	0.3498	0.0000	0.0021	0.0281	0.0101	0.4316	0.0329	-1.2979	0.0809
1	0.35	0.3913	-0.0132	0.0030	0.0128	0.0150	0.6126	0.0457	-1.0689	0.0867
1	0.35	0.4496	-0.0204	0.0068	-0.0218	0.0214	0.7432	0.0643	-1.2047	0.0849
1	0.35	0.4997	-0.0389	0.0082	0.0020	0.0283	0.8949	0.0805	-1.0776	0.0852
1	0.35	0.5387	-0.0565	0.0104	-0.0114	0.0341	0.9741	0.0914	-1.1705	0.0817
1	0.35	0.5996	-0.0674	0.0126	-0.0809	0.0414	1.0633	0.1110	-0.9662	0.0768
1	0.35	0.6498	-0.0639	0.0158	-0.0715	0.0472	1.0863	0.1255	-0.8767	0.0672
1	0.35	0.6998	-0.0946	0.0186	-0.0930	0.0529	1.0795	0.1420	-1.0181	0.0793
1	0.35	0.7500	-0.0725	0.0237	-0.1384	0.0590	0.9870	0.1593	-0.9896	0.0859
1	0.35	0.8001	-0.0847	0.0292	-0.1929	0.0659	0.8382	0.1783	-0.9703	0.0797
1	0.35	0.8497	-0.0825	0.0356	-0.2302	0.0745	0.5860	0.2005	-0.8501	0.0948
1	0.35	0.9102	-0.0375	0.0466	-0.2715	0.0841	0.1178	0.2328	-0.9257	0.2762
1	0.35	0.9734	-0.0354	0.0549	-0.2271	0.0988	-0.3309	0.2627	-1.2076	0.0864
2	0	0.2405	0.0454	0.0036	-0.0144	0.0042	0.0168	0.0171	0.4338	0.0978
2	0	0.2999	0.0058	0.0042	-0.0302	0.0099	0.0262	0.0326	0.6758	0.1511
2	0	0.3498	-0.0187	0.0059	-0.0584	0.0174	0.0345	0.0578	0.6281	0.1430
2	0	0.3998	-0.0679	0.0057	-0.0893	0.0276	0.0470	0.0860	0.6842	0.1512
2	0	0.4496	-0.0882	0.0044	-0.1068	0.0357	0.0358	0.1091	0.7161	0.1356
2	0	0.4995	-0.1246	0.0060	-0.1512	0.0453	0.0095	0.1453	0.5692	0.1348
2	0	0.5551	-0.1715	0.0054	-0.1553	0.0554	-0.0904	0.1780	0.4861	0.1141
2	0	0.5996	-0.1860	0.0054	-0.2298	0.0641	-0.1820	0.2049	0.4288	0.1107
2	0	0.6497	-0.2183	0.0074	-0.2424	0.0726	-0.2709	0.2341	0.6243	0.1503
2	0	0.6996	-0.2654	0.0062	-0.3096	0.0835	-0.4581	0.2613	0.6268	0.1461
2	0	0.7495	-0.3168	0.0067	-0.3374	0.0926	-0.6648	0.3004	0.7725	0.1430
2	0	0.7996	-0.3358	0.0073	-0.3743	0.1021	-0.9731	0.3352	0.5316	0.1347
2	0	0.8578	-0.3937	0.0092	-0.4195	0.1154	-1.3904	0.3754	0.8917	0.1423
2	0	0.9100	-0.4413	0.0106	-0.4576	0.1267	-1.8900	0.4208	0.8920	0.1771
2	0	0.9727	-0.5219	0.0131	-0.4106	0.1381	-2.2361	0.4766	1.3564	0.1405

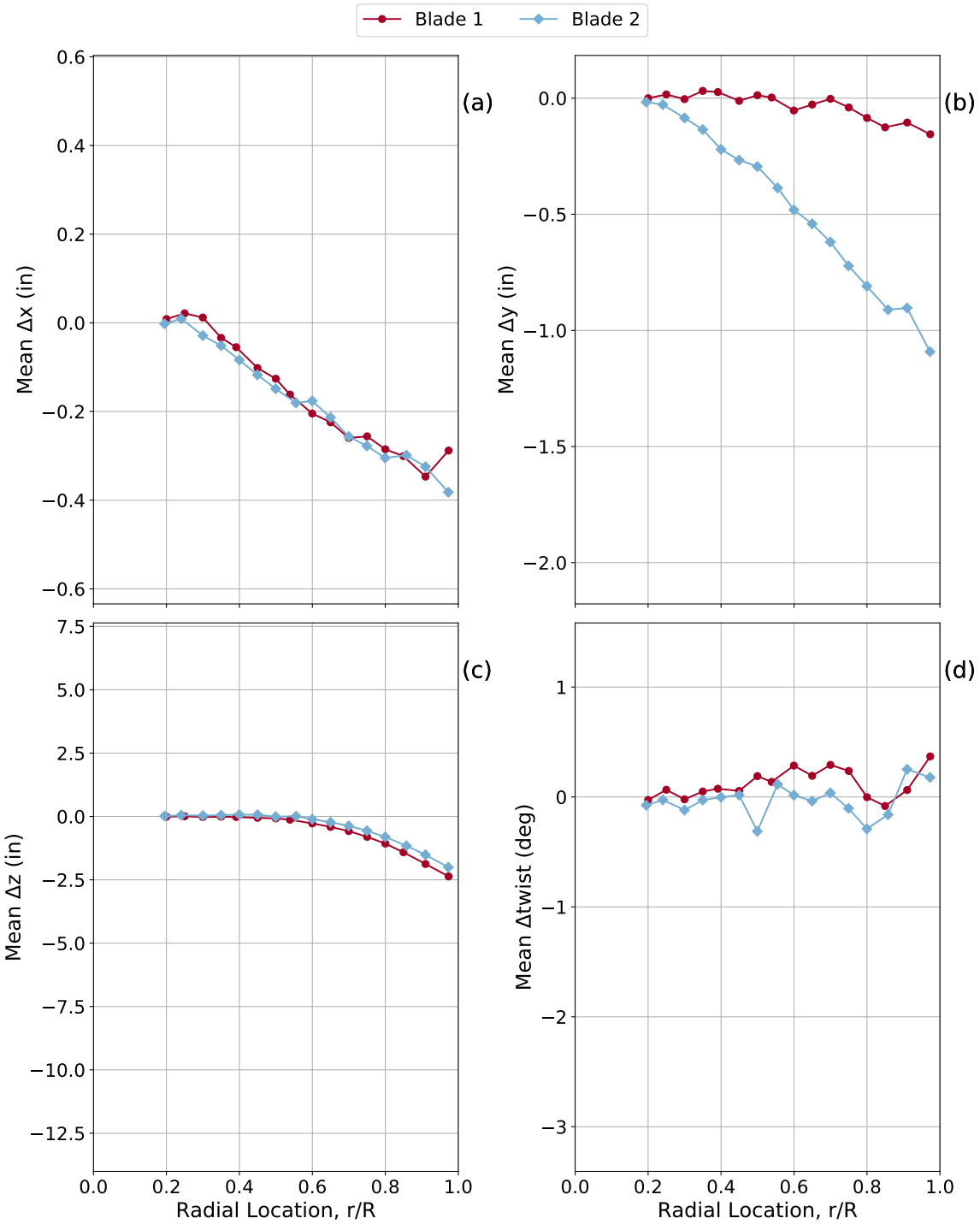


Figure 3.35-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0085	0.0033	-0.0002	0.0020	-0.0090	0.0071	-0.0277	0.0536
1	4.92	0.2499	0.0214	0.0026	0.0160	0.0037	0.0061	0.0093	0.0656	0.0619
1	4.92	0.2998	0.0120	0.0015	-0.0041	0.0053	-0.0254	0.0211	-0.0217	0.1082
1	4.92	0.3498	-0.0338	0.0022	0.0313	0.0120	-0.0094	0.0367	0.0495	0.1134
1	4.92	0.3913	-0.0549	0.0029	0.0263	0.0141	-0.0224	0.0477	0.0749	0.1144
1	4.92	0.4496	-0.1019	0.0032	-0.0114	0.0193	-0.0538	0.0630	0.0550	0.1237
1	4.92	0.4997	-0.1261	0.0023	0.0126	0.0255	-0.0774	0.0784	0.1894	0.1259
1	4.92	0.5387	-0.1618	0.0033	0.0028	0.0279	-0.1277	0.0910	0.1371	0.1239
1	4.92	0.5996	-0.2046	0.0024	-0.0531	0.0354	-0.2745	0.1087	0.2854	0.1171
1	4.92	0.6498	-0.2243	0.0031	-0.0274	0.0420	-0.4118	0.1214	0.1922	0.0972
1	4.92	0.6998	-0.2597	0.0028	-0.0029	0.0488	-0.5777	0.1335	0.2918	0.1117
1	4.92	0.7500	-0.2560	0.0030	-0.0401	0.0559	-0.8047	0.1482	0.2367	0.1074
1	4.92	0.8001	-0.2853	0.0032	-0.0851	0.0626	-1.0706	0.1620	-0.0020	0.1008
1	4.92	0.8497	-0.3007	0.0032	-0.1255	0.0693	-1.4136	0.1756	-0.0825	0.1158
1	4.92	0.9102	-0.3468	0.0043	-0.1050	0.0806	-1.8754	0.1928	0.0633	0.1434
1	4.92	0.9734	-0.2881	0.0060	-0.1554	0.0879	-2.3656	0.2074	0.3690	0.1298
2	4.92	0.1949	-0.0020	0.0024	-0.0168	0.0016	0.0146	0.0063	-0.0755	0.0359
2	4.92	0.2405	0.0092	0.0010	-0.0279	0.0023	0.0488	0.0112	-0.0267	0.0502
2	4.92	0.2999	-0.0288	0.0020	-0.0853	0.0063	0.0343	0.0230	-0.1191	0.0756
2	4.92	0.3498	-0.0514	0.0013	-0.1351	0.0105	0.0516	0.0366	-0.0287	0.0809
2	4.92	0.3998	-0.0838	0.0014	-0.2204	0.0162	0.0703	0.0562	-0.0023	0.0798
2	4.92	0.4496	-0.1174	0.0020	-0.2667	0.0210	0.0688	0.0726	0.0169	0.0825
2	4.92	0.4995	-0.1488	0.0019	-0.2943	0.0274	-0.0090	0.0915	-0.3118	0.0899
2	4.92	0.5551	-0.1806	0.0025	-0.3864	0.0325	0.0091	0.1149	0.1156	0.0833
2	4.92	0.5996	-0.1761	0.0029	-0.4810	0.0377	-0.1078	0.1333	0.0164	0.0932
2	4.92	0.6497	-0.2134	0.0035	-0.5412	0.0433	-0.2285	0.1537	-0.0373	0.0877
2	4.92	0.6996	-0.2565	0.0028	-0.6194	0.0495	-0.3705	0.1688	0.0365	0.0966
2	4.92	0.7495	-0.2777	0.0029	-0.7221	0.0561	-0.5637	0.1830	-0.1039	0.1064
2	4.92	0.7996	-0.3047	0.0044	-0.8092	0.0589	-0.8069	0.1999	-0.2904	0.0809
2	4.92	0.8578	-0.2986	0.0066	-0.9110	0.0716	-1.1585	0.2237	-0.1610	0.1194
2	4.92	0.9100	-0.3245	0.0090	-0.9035	0.0780	-1.5118	0.2387	0.2516	0.1835
2	4.92	0.9727	-0.3821	0.0102	-1.0915	0.0837	-2.0028	0.2517	0.1778	0.1440

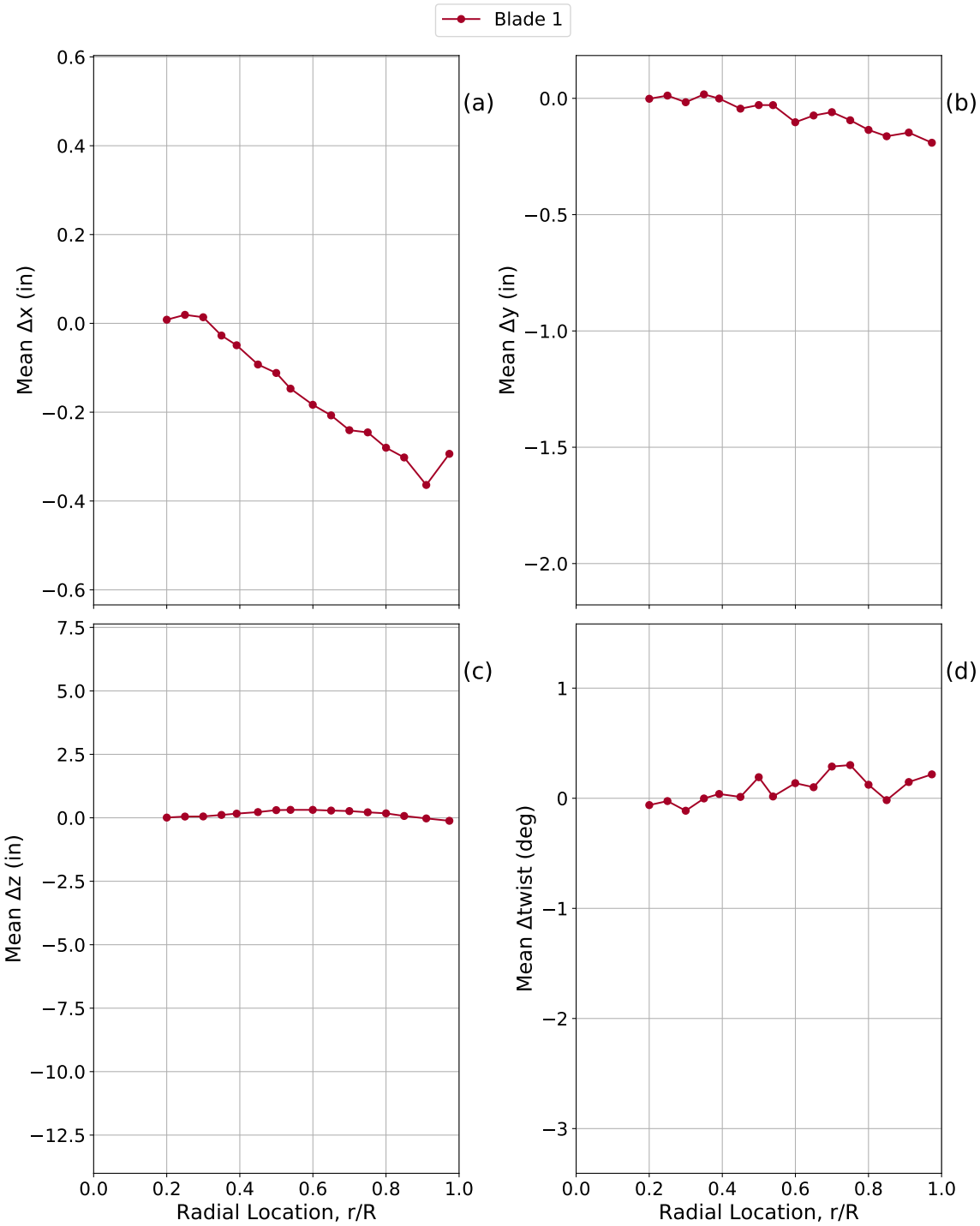


Figure 3.35-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0082	0.0016	-0.0019	0.0014	0.0089	0.0082	-0.0619	0.0519
1	15.12	0.2499	0.0192	0.0022	0.0118	0.0044	0.0491	0.0175	-0.0255	0.0674
1	15.12	0.2998	0.0138	0.0012	-0.0168	0.0062	0.0530	0.0295	-0.1133	0.1096
1	15.12	0.3498	-0.0274	0.0013	0.0171	0.0118	0.1126	0.0500	-0.0019	0.1030
1	15.12	0.3913	-0.0493	0.0015	-0.0009	0.0173	0.1644	0.0712	0.0389	0.0992
1	15.12	0.4496	-0.0926	0.0033	-0.0444	0.0244	0.2248	0.0999	0.0122	0.0948
1	15.12	0.4997	-0.1117	0.0033	-0.0289	0.0309	0.3018	0.1256	0.1914	0.0980
1	15.12	0.5387	-0.1470	0.0033	-0.0292	0.0361	0.3123	0.1489	0.0161	0.1062
1	15.12	0.5996	-0.1833	0.0038	-0.1028	0.0444	0.3123	0.1835	0.1373	0.0934
1	15.12	0.6498	-0.2072	0.0041	-0.0738	0.0528	0.2850	0.2133	0.1002	0.1007
1	15.12	0.6998	-0.2405	0.0033	-0.0594	0.0611	0.2654	0.2430	0.2880	0.1005
1	15.12	0.7500	-0.2455	0.0026	-0.0942	0.0686	0.2170	0.2725	0.3014	0.1136
1	15.12	0.8001	-0.2800	0.0033	-0.1357	0.0781	0.1750	0.3039	0.1227	0.1224
1	15.12	0.8497	-0.3020	0.0022	-0.1631	0.0873	0.0719	0.3377	-0.0170	0.1186
1	15.12	0.9102	-0.3639	0.0028	-0.1472	0.0986	-0.0250	0.3784	0.1473	0.1178
1	15.12	0.9734	-0.2938	0.0052	-0.1909	0.1107	-0.1179	0.4220	0.2171	0.1494

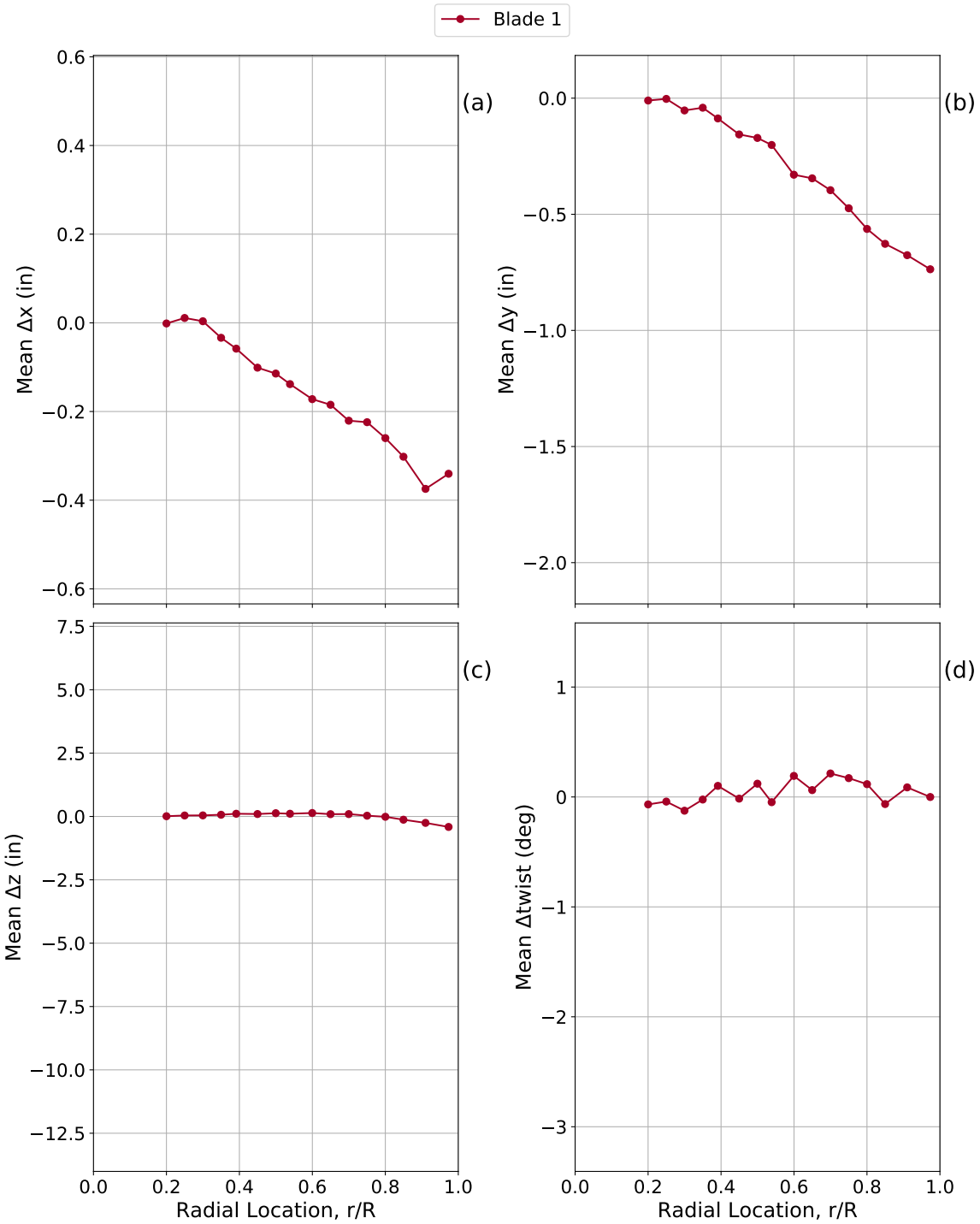


Figure 3.35-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0014	0.0026	-0.0101	0.0007	0.0094	0.0029	-0.0679	0.0333
1	29.88	0.2499	0.0110	0.0016	-0.0031	0.0014	0.0385	0.0068	-0.0421	0.0601
1	29.88	0.2998	0.0036	0.0015	-0.0528	0.0021	0.0422	0.0114	-0.1250	0.0775
1	29.88	0.3498	-0.0337	0.0019	-0.0411	0.0045	0.0678	0.0198	-0.0235	0.0669
1	29.88	0.3913	-0.0582	0.0025	-0.0873	0.0056	0.1071	0.0285	0.1008	0.0820
1	29.88	0.4496	-0.1011	0.0019	-0.1561	0.0073	0.0965	0.0393	-0.0151	0.0755
1	29.88	0.4997	-0.1144	0.0030	-0.1712	0.0083	0.1287	0.0475	0.1207	0.0851
1	29.88	0.5387	-0.1382	0.0024	-0.2015	0.0102	0.1075	0.0556	-0.0476	0.0930
1	29.88	0.5996	-0.1721	0.0029	-0.3296	0.0126	0.1363	0.0679	0.1916	0.0953
1	29.88	0.6498	-0.1848	0.0036	-0.3451	0.0159	0.0905	0.0765	0.0624	0.0956
1	29.88	0.6998	-0.2207	0.0037	-0.3962	0.0185	0.0938	0.0877	0.2137	0.0950
1	29.88	0.7500	-0.2241	0.0029	-0.4740	0.0218	0.0303	0.1003	0.1713	0.1069
1	29.88	0.8001	-0.2600	0.0030	-0.5630	0.0244	-0.0127	0.1126	0.1164	0.0980
1	29.88	0.8497	-0.3020	0.0021	-0.6272	0.0270	-0.1280	0.1225	-0.0645	0.1077
1	29.88	0.9102	-0.3745	0.0018	-0.6761	0.0309	-0.2537	0.1364	0.0872	0.1085
1	29.88	0.9734	-0.3404	0.0023	-0.7367	0.0356	-0.4136	0.1517	-0.0004	0.1166

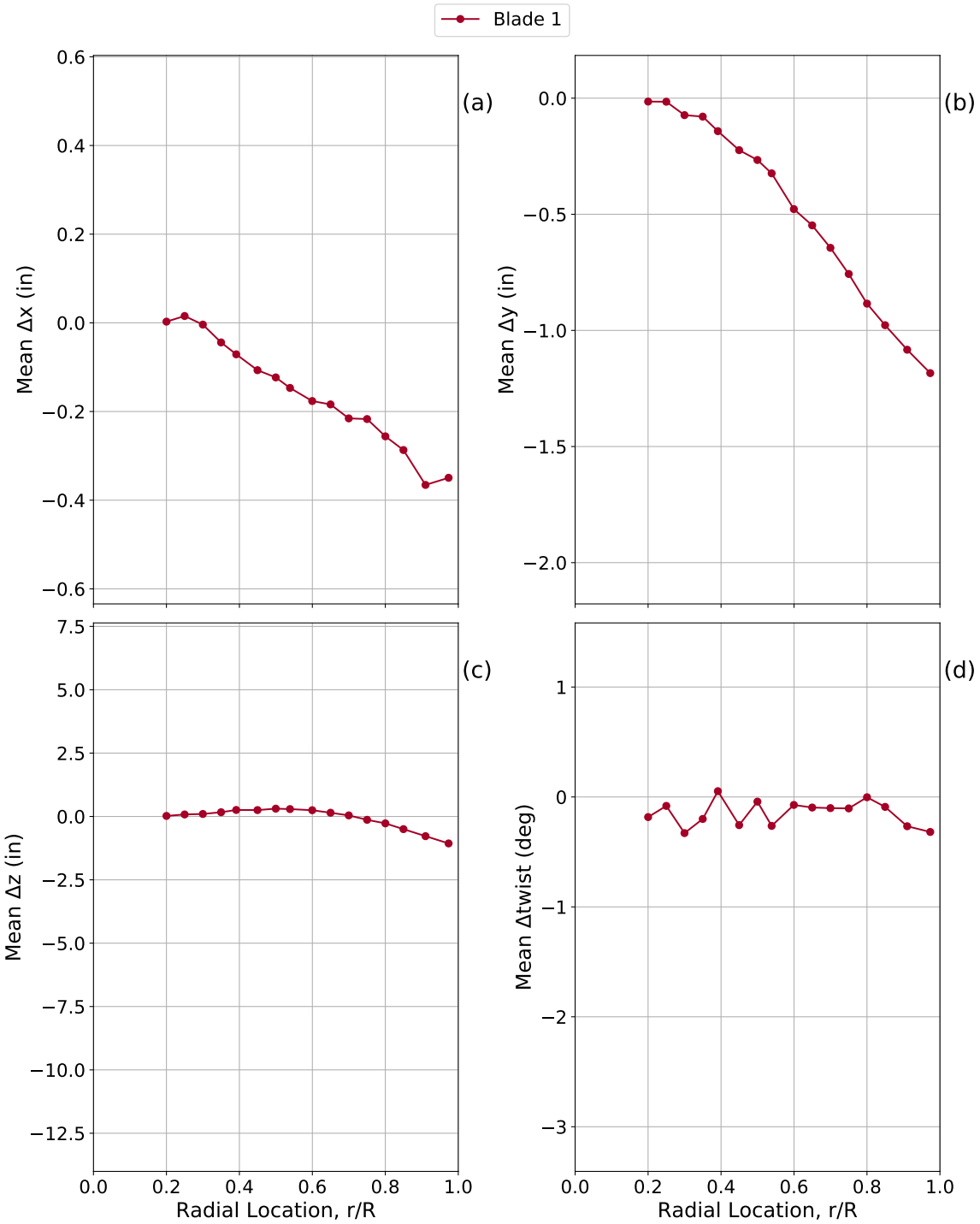


Figure 3.35-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0027	0.0019	-0.0146	0.0005	0.0212	0.0034	-0.1831	0.0242
1	45	0.2499	0.0154	0.0026	-0.0153	0.0016	0.0793	0.0079	-0.0813	0.0291
1	45	0.2998	-0.0040	0.0016	-0.0730	0.0026	0.0985	0.0133	-0.3287	0.0466
1	45	0.3498	-0.0442	0.0020	-0.0794	0.0040	0.1668	0.0231	-0.2000	0.0369
1	45	0.3913	-0.0710	0.0023	-0.1420	0.0061	0.2562	0.0331	0.0526	0.0381
1	45	0.4496	-0.1068	0.0026	-0.2238	0.0076	0.2518	0.0450	-0.2562	0.0355
1	45	0.4997	-0.1231	0.0021	-0.2662	0.0098	0.3075	0.0545	-0.0425	0.0472
1	45	0.5387	-0.1468	0.0018	-0.3237	0.0124	0.2911	0.0621	-0.2632	0.0440
1	45	0.5996	-0.1764	0.0019	-0.4777	0.0154	0.2463	0.0770	-0.0726	0.0421
1	45	0.6498	-0.1840	0.0024	-0.5477	0.0188	0.1467	0.0885	-0.0962	0.0493
1	45	0.6998	-0.2155	0.0022	-0.6444	0.0218	0.0423	0.0991	-0.1014	0.0413
1	45	0.7500	-0.2170	0.0022	-0.7570	0.0253	-0.1321	0.1128	-0.1041	0.0506
1	45	0.8001	-0.2560	0.0028	-0.8848	0.0298	-0.2727	0.1279	-0.0026	0.0609
1	45	0.8497	-0.2869	0.0031	-0.9775	0.0348	-0.5000	0.1464	-0.0903	0.0561
1	45	0.9102	-0.3656	0.0039	-1.0832	0.0405	-0.7769	0.1727	-0.2663	0.0608
1	45	0.9734	-0.3495	0.0042	-1.1839	0.0463	-1.0635	0.2068	-0.3183	0.0559

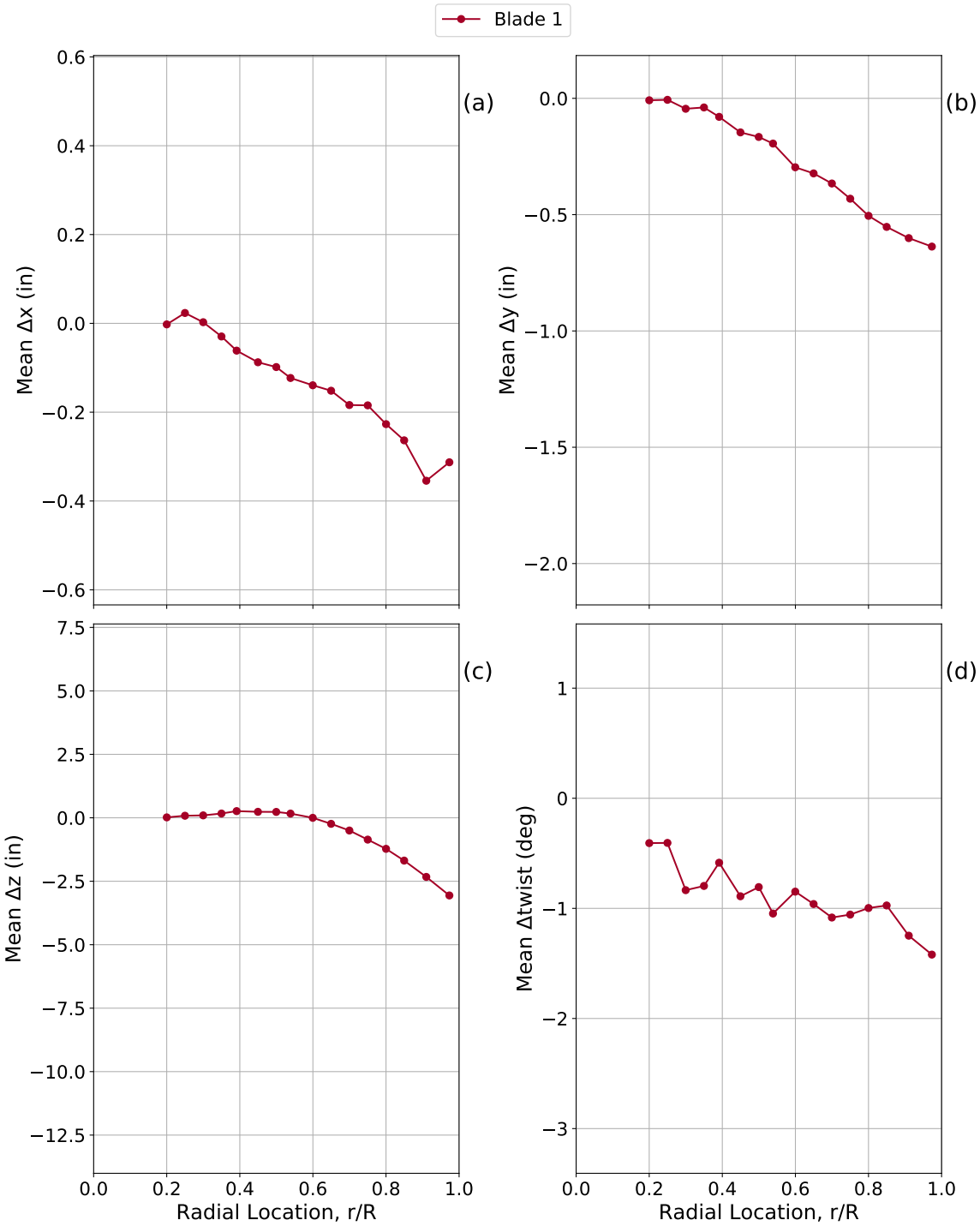


Figure 3.35-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0023	0.0017	-0.0083	0.0010	0.0165	0.0044	-0.4072	0.0375
1	60.12	0.2499	0.0234	0.0021	-0.0064	0.0025	0.0812	0.0103	-0.4054	0.0587
1	60.12	0.2998	0.0026	0.0024	-0.0449	0.0047	0.0953	0.0170	-0.8347	0.0834
1	60.12	0.3498	-0.0295	0.0018	-0.0392	0.0076	0.1684	0.0313	-0.7963	0.0704
1	60.12	0.3913	-0.0614	0.0027	-0.0796	0.0116	0.2634	0.0440	-0.5853	0.0772
1	60.12	0.4496	-0.0876	0.0035	-0.1464	0.0149	0.2355	0.0607	-0.8900	0.0830
1	60.12	0.4997	-0.0984	0.0038	-0.1660	0.0188	0.2316	0.0783	-0.8068	0.0769
1	60.12	0.5387	-0.1230	0.0037	-0.1944	0.0214	0.1667	0.0919	-1.0470	0.0816
1	60.12	0.5996	-0.1394	0.0045	-0.2964	0.0263	-0.0007	0.1122	-0.8480	0.0892
1	60.12	0.6498	-0.1517	0.0042	-0.3227	0.0310	-0.2378	0.1310	-0.9606	0.0968
1	60.12	0.6998	-0.1839	0.0036	-0.3661	0.0361	-0.5011	0.1473	-1.0832	0.0944
1	60.12	0.7500	-0.1846	0.0038	-0.4315	0.0411	-0.8599	0.1658	-1.0565	0.1092
1	60.12	0.8001	-0.2269	0.0031	-0.5051	0.0461	-1.2228	0.1848	-0.9969	0.1020
1	60.12	0.8497	-0.2634	0.0047	-0.5527	0.0514	-1.6861	0.2009	-0.9737	0.1024
1	60.12	0.9102	-0.3544	0.0042	-0.6009	0.0584	-2.3288	0.2218	-1.2479	0.1104
1	60.12	0.9734	-0.3128	0.0061	-0.6373	0.0651	-3.0592	0.2424	-1.4198	0.1113

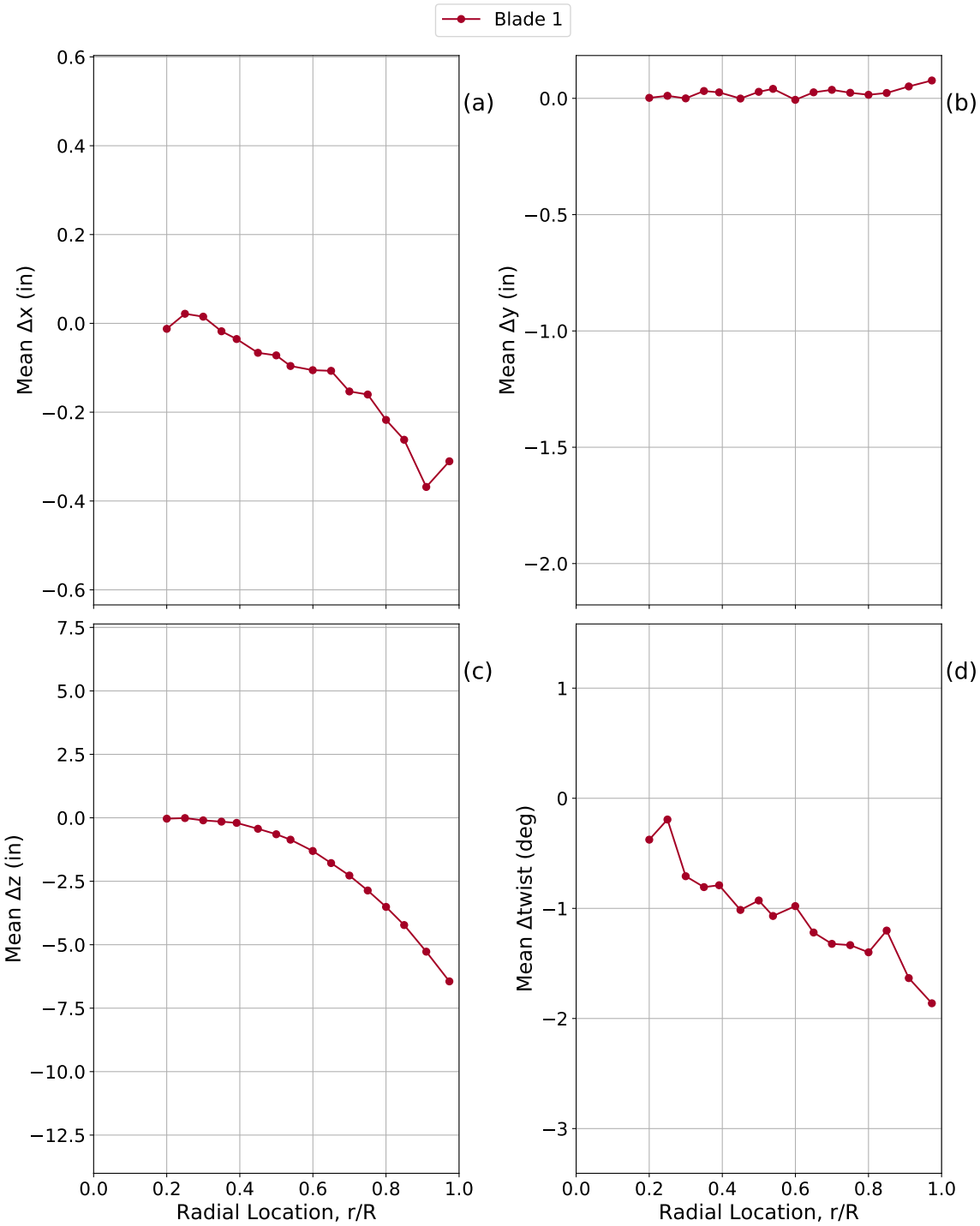


Figure 3.35-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0123	0.0024	0.0021	0.0020	-0.0342	0.0065	-0.3761	0.0486
1	74.88	0.2499	0.0216	0.0017	0.0109	0.0033	-0.0112	0.0101	-0.1929	0.0884
1	74.88	0.2998	0.0151	0.0025	-0.0002	0.0072	-0.1006	0.0227	-0.7079	0.1074
1	74.88	0.3498	-0.0178	0.0016	0.0315	0.0123	-0.1518	0.0365	-0.8069	0.0956
1	74.88	0.3913	-0.0353	0.0024	0.0256	0.0170	-0.2002	0.0518	-0.7898	0.0871
1	74.88	0.4496	-0.0663	0.0040	-0.0009	0.0222	-0.4327	0.0697	-1.0143	0.0824
1	74.88	0.4997	-0.0721	0.0027	0.0280	0.0279	-0.6482	0.0890	-0.9283	0.1001
1	74.88	0.5387	-0.0960	0.0035	0.0407	0.0307	-0.8623	0.1044	-1.0691	0.0943
1	74.88	0.5996	-0.1054	0.0025	-0.0064	0.0383	-1.3075	0.1257	-0.9794	0.0789
1	74.88	0.6498	-0.1069	0.0037	0.0258	0.0434	-1.7842	0.1430	-1.2193	0.1042
1	74.88	0.6998	-0.1533	0.0039	0.0365	0.0491	-2.2746	0.1575	-1.3222	0.0947
1	74.88	0.7500	-0.1602	0.0049	0.0239	0.0550	-2.8642	0.1716	-1.3337	0.0951
1	74.88	0.8001	-0.2174	0.0043	0.0153	0.0616	-3.5100	0.1813	-1.3990	0.0912
1	74.88	0.8497	-0.2621	0.0049	0.0229	0.0665	-4.2257	0.1935	-1.2015	0.1066
1	74.88	0.9102	-0.3684	0.0057	0.0511	0.0740	-5.2741	0.2085	-1.6332	0.0923
1	74.88	0.9734	-0.3106	0.0060	0.0767	0.0823	-6.4448	0.2251	-1.8620	0.1049

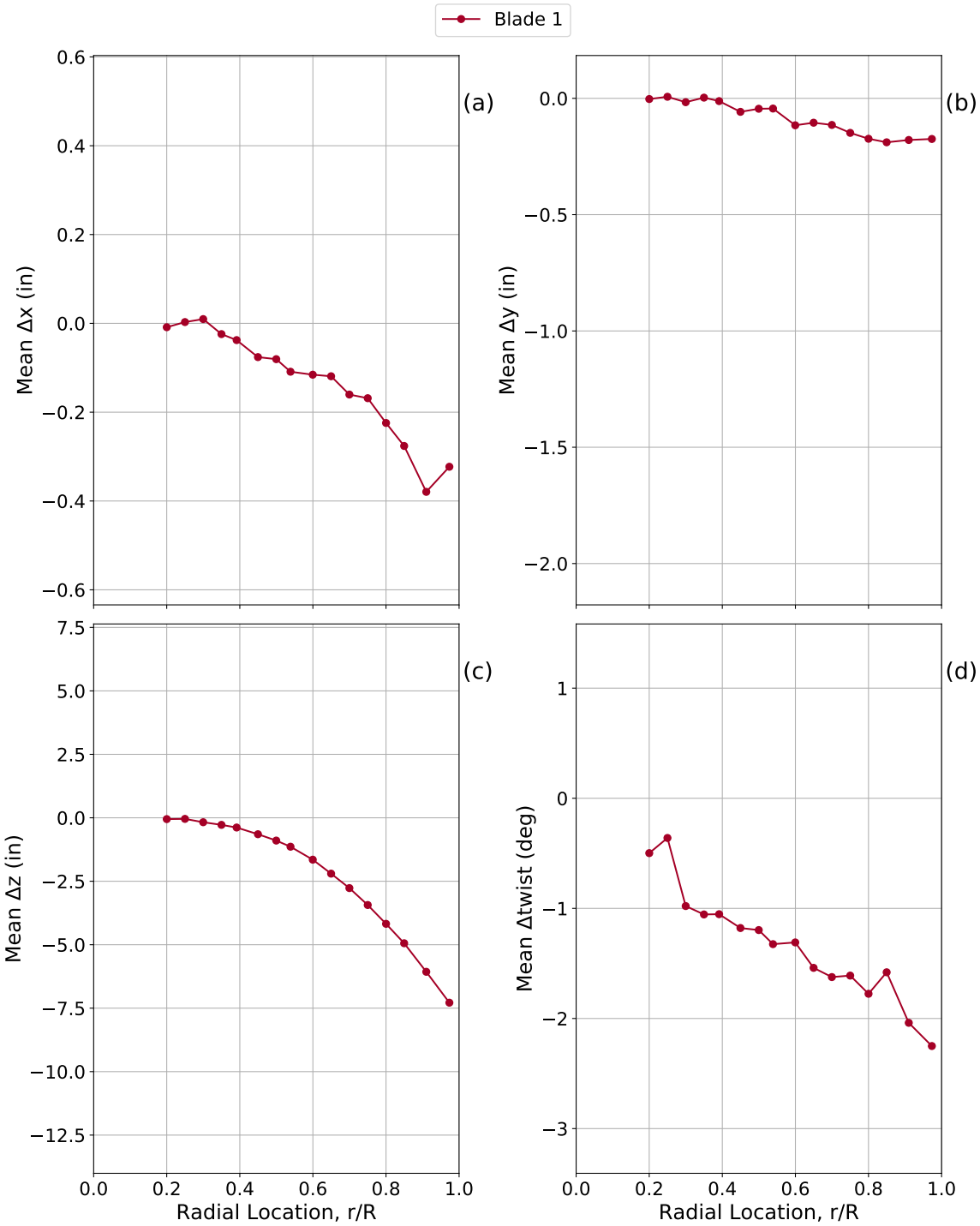


Figure 3.35-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0087	0.0023	-0.0030	0.0016	-0.0516	0.0073	-0.4983	0.0394
1	80.16	0.2499	0.0029	0.0019	0.0067	0.0031	-0.0429	0.0092	-0.3605	0.0771
1	80.16	0.2998	0.0096	0.0019	-0.0166	0.0070	-0.1748	0.0238	-0.9789	0.0858
1	80.16	0.3498	-0.0242	0.0027	0.0030	0.0099	-0.2787	0.0397	-1.0552	0.0838
1	80.16	0.3913	-0.0377	0.0040	-0.0119	0.0156	-0.3832	0.0543	-1.0529	0.0782
1	80.16	0.4496	-0.0760	0.0032	-0.0581	0.0218	-0.6469	0.0709	-1.1785	0.0773
1	80.16	0.4997	-0.0806	0.0023	-0.0448	0.0243	-0.8972	0.0945	-1.1970	0.0915
1	80.16	0.5387	-0.1089	0.0027	-0.0439	0.0280	-1.1391	0.1112	-1.3249	0.0870
1	80.16	0.5996	-0.1156	0.0029	-0.1159	0.0332	-1.6499	0.1439	-1.3093	0.0944
1	80.16	0.6498	-0.1191	0.0042	-0.1048	0.0361	-2.1999	0.1672	-1.5402	0.0863
1	80.16	0.6998	-0.1603	0.0045	-0.1144	0.0399	-2.7692	0.1948	-1.6239	0.0854
1	80.16	0.7500	-0.1685	0.0053	-0.1485	0.0431	-3.4358	0.2261	-1.6105	0.0870
1	80.16	0.8001	-0.2243	0.0067	-0.1738	0.0467	-4.1771	0.2603	-1.7757	0.0852
1	80.16	0.8497	-0.2761	0.0085	-0.1890	0.0497	-4.9428	0.2919	-1.5804	0.0788
1	80.16	0.9102	-0.3794	0.0106	-0.1791	0.0531	-6.0669	0.3396	-2.0394	0.0875
1	80.16	0.9734	-0.3229	0.0124	-0.1747	0.0563	-7.2841	0.3946	-2.2502	0.0939

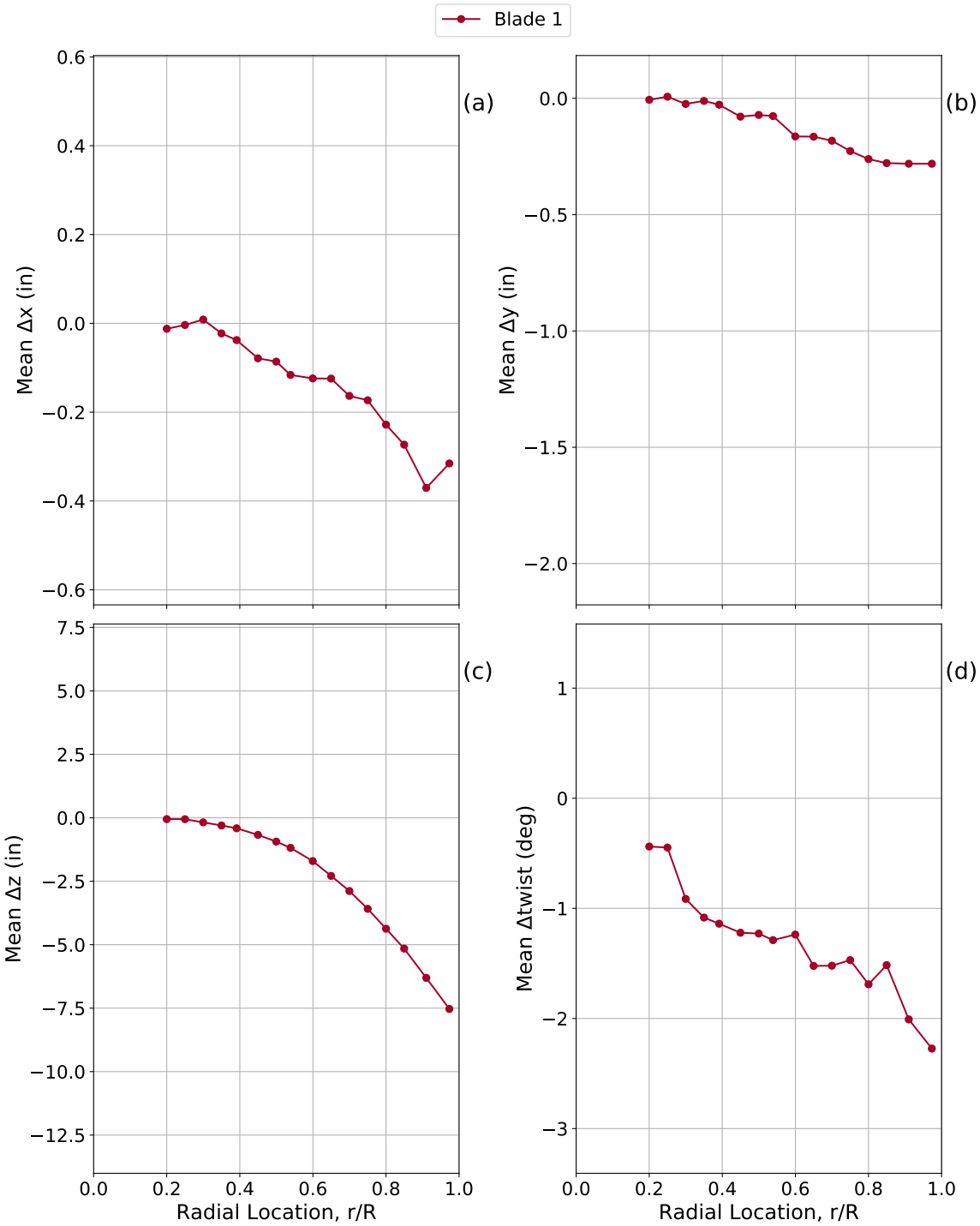


Figure 3.35-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0122	0.0036	-0.0063	0.0013	-0.0519	0.0076	-0.4384	0.0732
1	85.08	0.2499	-0.0037	0.0026	0.0070	0.0039	-0.0548	0.0146	-0.4477	0.1271
1	85.08	0.2998	0.0086	0.0022	-0.0241	0.0054	-0.1802	0.0260	-0.9141	0.1691
1	85.08	0.3498	-0.0226	0.0032	-0.0111	0.0113	-0.3022	0.0494	-1.0836	0.1587
1	85.08	0.3913	-0.0377	0.0030	-0.0274	0.0154	-0.4136	0.0662	-1.1393	0.1626
1	85.08	0.4496	-0.0787	0.0036	-0.0787	0.0222	-0.6717	0.0944	-1.2212	0.1566
1	85.08	0.4997	-0.0861	0.0039	-0.0713	0.0286	-0.9375	0.1164	-1.2289	0.1740
1	85.08	0.5387	-0.1161	0.0040	-0.0763	0.0340	-1.1830	0.1399	-1.2884	0.1528
1	85.08	0.5996	-0.1240	0.0045	-0.1637	0.0411	-1.7053	0.1755	-1.2380	0.1560
1	85.08	0.6498	-0.1244	0.0045	-0.1649	0.0496	-2.2890	0.2051	-1.5224	0.1648
1	85.08	0.6998	-0.1633	0.0045	-0.1822	0.0577	-2.8843	0.2394	-1.5207	0.1754
1	85.08	0.7500	-0.1732	0.0057	-0.2265	0.0662	-3.5862	0.2750	-1.4698	0.1767
1	85.08	0.8001	-0.2281	0.0075	-0.2611	0.0753	-4.3706	0.3138	-1.6896	0.1658
1	85.08	0.8497	-0.2732	0.0094	-0.2785	0.0844	-5.1528	0.3518	-1.5154	0.1709
1	85.08	0.9102	-0.3705	0.0116	-0.2811	0.0957	-6.3078	0.3998	-2.0083	0.1785
1	85.08	0.9734	-0.3154	0.0133	-0.2812	0.1073	-7.5306	0.4531	-2.2732	0.1873

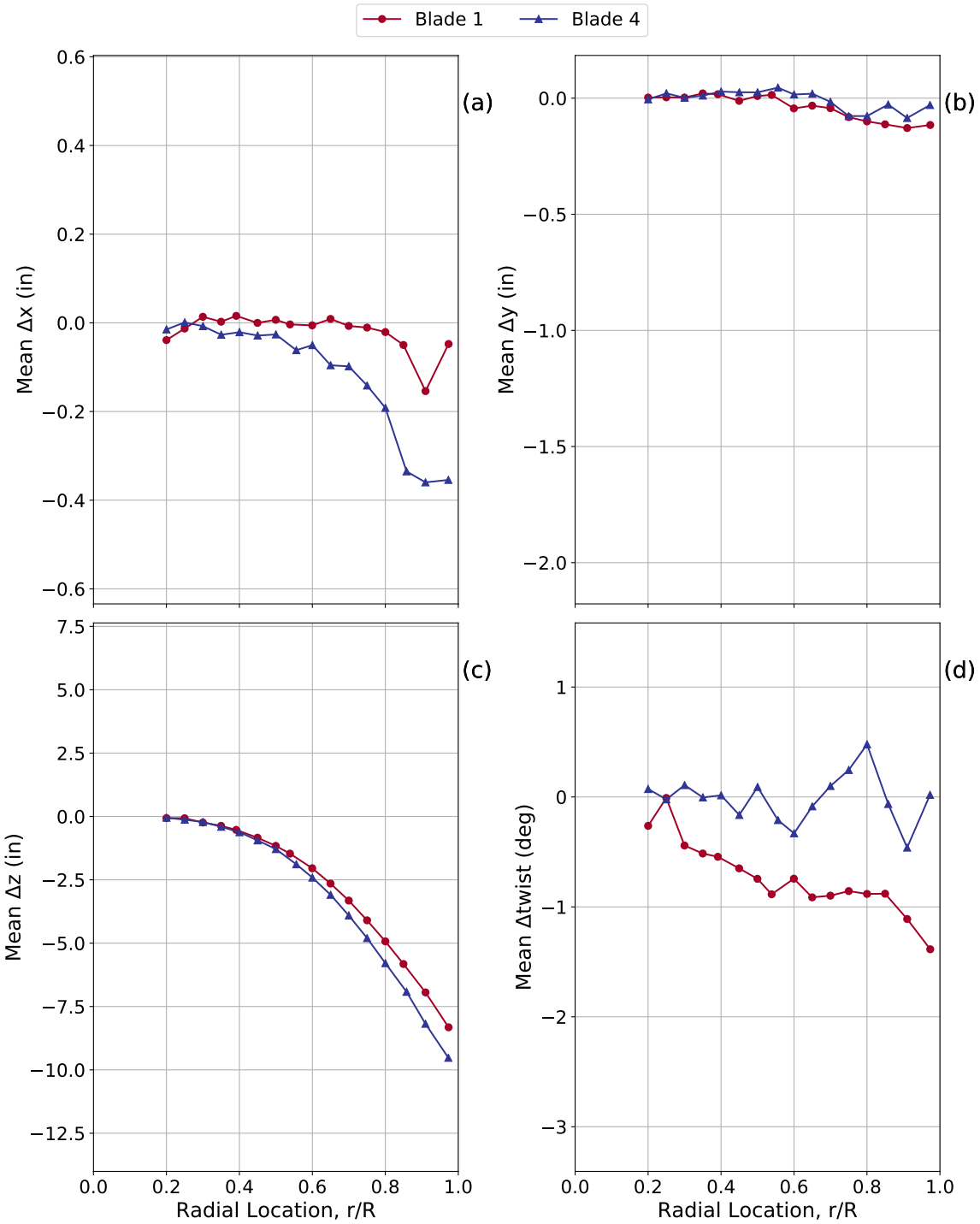


Figure 3.35-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0389	0.0024	0.0027	0.0051	-0.0643	0.0167	-0.2628	0.1139
1	90	0.2499	-0.0129	0.0019	0.0037	0.0051	-0.0699	0.0171	-0.0091	0.3140
1	90	0.2998	0.0136	0.0020	0.0027	0.0175	-0.2386	0.0537	-0.4415	0.3133
1	90	0.3498	0.0025	0.0027	0.0205	0.0296	-0.3699	0.0904	-0.5145	0.3180
1	90	0.3913	0.0157	0.0036	0.0168	0.0401	-0.5300	0.1213	-0.5443	0.3146
1	90	0.4496	-0.0001	0.0048	-0.0115	0.0549	-0.8383	0.1636	-0.6493	0.3096
1	90	0.4997	0.0068	0.0056	0.0093	0.0682	-1.1608	0.1997	-0.7445	0.3071
1	90	0.5387	-0.0036	0.0065	0.0140	0.0784	-1.4669	0.2252	-0.8854	0.3132
1	90	0.5996	-0.0057	0.0063	-0.0441	0.0963	-2.0435	0.2656	-0.7435	0.3096
1	90	0.6498	0.0088	0.0067	-0.0323	0.1124	-2.6483	0.2956	-0.9132	0.3164
1	90	0.6998	-0.0070	0.0071	-0.0430	0.1280	-3.3186	0.3293	-0.8979	0.3077
1	90	0.7500	-0.0107	0.0144	-0.0817	0.1465	-4.0989	0.3543	-0.8563	0.3481
1	90	0.8001	-0.0208	0.0093	-0.1000	0.1609	-4.9288	0.3908	-0.8820	0.3356
1	90	0.8497	-0.0499	0.0127	-0.1127	0.1783	-5.8224	0.4262	-0.8801	0.3393
1	90	0.9102	-0.1540	0.0098	-0.1286	0.2432	-6.9430	0.3042	-1.1104	0.3312
1	90	0.9734	-0.0477	0.0175	-0.1155	0.2213	-8.3202	0.5219	-1.3855	0.3455
4	90.35	0.2001	-0.0149	0.0053	-0.0052	0.0011	-0.0510	0.0021	0.0722	0.0217
4	90.35	0.2502	0.0010	0.0015	0.0208	0.0033	-0.1266	0.0047	-0.0218	0.0458
4	90.35	0.3001	-0.0075	0.0020	0.0015	0.0044	-0.2190	0.0059	0.1078	0.0513
4	90.35	0.3502	-0.0269	0.0041	0.0112	0.0089	-0.4075	0.0106	-0.0044	0.0512
4	90.35	0.4002	-0.0211	0.0051	0.0283	0.0134	-0.6235	0.0159	0.0147	0.0468
4	90.35	0.4500	-0.0287	0.0073	0.0255	0.0175	-0.9445	0.0253	-0.1640	0.0471
4	90.35	0.5001	-0.0262	0.0090	0.0251	0.0218	-1.2884	0.0333	0.0905	0.0503
4	90.35	0.5560	-0.0617	0.0094	0.0454	0.0274	-1.8872	0.0442	-0.2103	0.0556
4	90.35	0.6001	-0.0503	0.0100	0.0158	0.0316	-2.4134	0.0516	-0.3309	0.0554
4	90.35	0.6501	-0.0957	0.0093	0.0192	0.0381	-3.0925	0.0611	-0.0854	0.0614
4	90.35	0.6999	-0.0982	0.0105	-0.0159	0.0447	-3.9085	0.0663	0.0995	0.0621
4	90.35	0.7500	-0.1414	0.0100	-0.0771	0.0518	-4.8005	0.0715	0.2454	0.0705
4	90.35	0.8002	-0.1918	0.0135	-0.0770	0.0578	-5.7897	0.0738	0.4783	0.1280
4	90.35	0.8582	-0.3351	0.0128	-0.0273	0.1221	-6.9202	0.1255	-0.0640	0.0852
4	90.35	0.9101	-0.3598	0.0123	-0.0853	0.1311	-8.1823	0.1296	-0.4609	0.0858
4	90.35	0.9728	-0.3543	0.0093	-0.0295	0.1431	-9.5236	0.1348	0.0189	0.0809

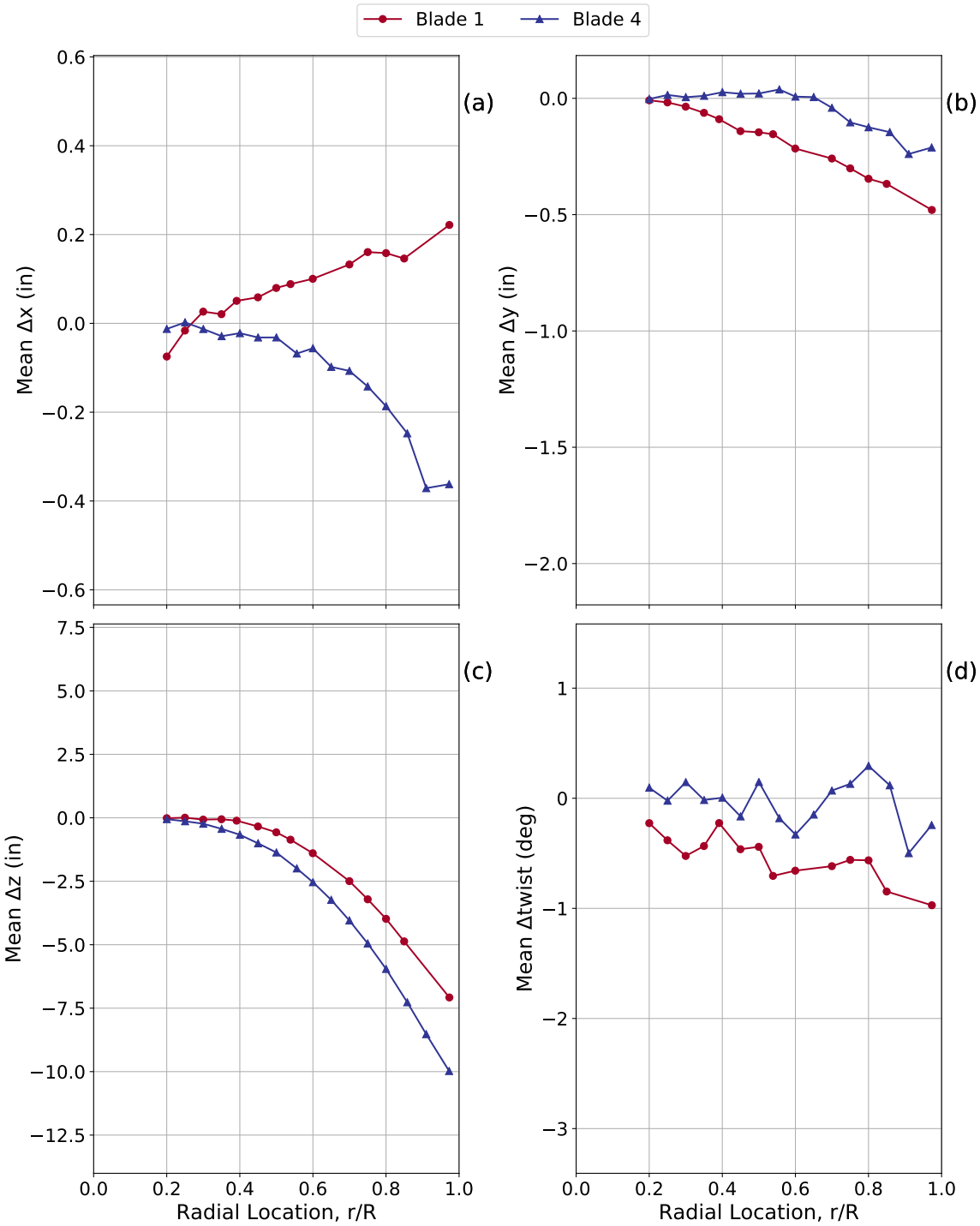


Figure 3.35-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0747	0.0011	-0.0085	0.0007	-0.0153	0.0030	-0.2261	0.0300
1	94.92	0.2499	-0.0162	0.0009	-0.0175	0.0014	0.0045	0.0068	-0.3818	0.0541
1	94.92	0.2998	0.0264	0.0011	-0.0358	0.0026	-0.0704	0.0126	-0.5239	0.0710
1	94.92	0.3498	0.0207	0.0017	-0.0623	0.0045	-0.0574	0.0207	-0.4340	0.0800
1	94.92	0.3913	0.0507	0.0014	-0.0897	0.0062	-0.1125	0.0307	-0.2253	0.0711
1	94.92	0.4496	0.0586	0.0020	-0.1410	0.0099	-0.3416	0.0431	-0.4628	0.0927
1	94.92	0.4997	0.0797	0.0020	-0.1460	0.0130	-0.5717	0.0577	-0.4412	0.0777
1	94.92	0.5387	0.0884	0.0013	-0.1542	0.0161	-0.8629	0.0674	-0.7051	0.0690
1	94.92	0.5996	0.1003	0.0029	-0.2158	0.0211	-1.3959	0.0794	-0.6578	0.0888
1	94.92	0.6998	0.1326	0.0046	-0.2588	0.0301	-2.4956	0.1002	-0.6167	0.1080
1	94.92	0.7500	0.1605	0.0055	-0.3010	0.0349	-3.2115	0.1115	-0.5596	0.0991
1	94.92	0.8001	0.1582	0.0048	-0.3458	0.0397	-3.9800	0.1231	-0.5636	0.1165
1	94.92	0.8497	0.1460	0.0060	-0.3678	0.0469	-4.8692	0.1351	-0.8470	0.1267
1	94.92	0.9734	0.2216	0.0087	-0.4799	0.0599	-7.0787	0.1643	-0.9716	0.0767
4	94.92	0.2001	-0.0126	0.0053	-0.0029	0.0022	-0.0538	0.0052	0.0958	0.0453
4	94.92	0.2502	0.0022	0.0031	0.0145	0.0032	-0.1372	0.0080	-0.0223	0.0879
4	94.92	0.3001	-0.0128	0.0026	0.0049	0.0065	-0.2343	0.0134	0.1464	0.1025
4	94.92	0.3502	-0.0289	0.0050	0.0107	0.0114	-0.4360	0.0247	-0.0159	0.0857
4	94.92	0.4002	-0.0221	0.0080	0.0263	0.0165	-0.6690	0.0342	0.0052	0.0872
4	94.92	0.4500	-0.0318	0.0106	0.0196	0.0195	-1.0067	0.0442	-0.1652	0.0895
4	94.92	0.5001	-0.0317	0.0126	0.0208	0.0237	-1.3678	0.0558	0.1478	0.0871
4	94.92	0.5560	-0.0680	0.0150	0.0381	0.0298	-1.9956	0.0659	-0.1815	0.0986
4	94.92	0.6001	-0.0561	0.0168	0.0073	0.0359	-2.5381	0.0764	-0.3293	0.0992
4	94.92	0.6501	-0.0981	0.0185	0.0052	0.0416	-3.2353	0.0890	-0.1483	0.0953
4	94.92	0.6999	-0.1070	0.0202	-0.0406	0.0489	-4.0475	0.1007	0.0699	0.1069
4	94.92	0.7500	-0.1422	0.0210	-0.1035	0.0576	-4.9527	0.1143	0.1305	0.0882
4	94.92	0.8002	-0.1866	0.0234	-0.1245	0.0671	-5.9559	0.1250	0.2941	0.0910
4	94.92	0.8582	-0.2477	0.0335	-0.1454	0.0770	-7.2685	0.1460	0.1175	0.2169
4	94.92	0.9101	-0.3711	0.0122	-0.2393	0.1420	-8.5258	0.2893	-0.4987	0.1221
4	94.92	0.9728	-0.3622	0.0125	-0.2115	0.1527	-9.9777	0.3144	-0.2433	0.1294

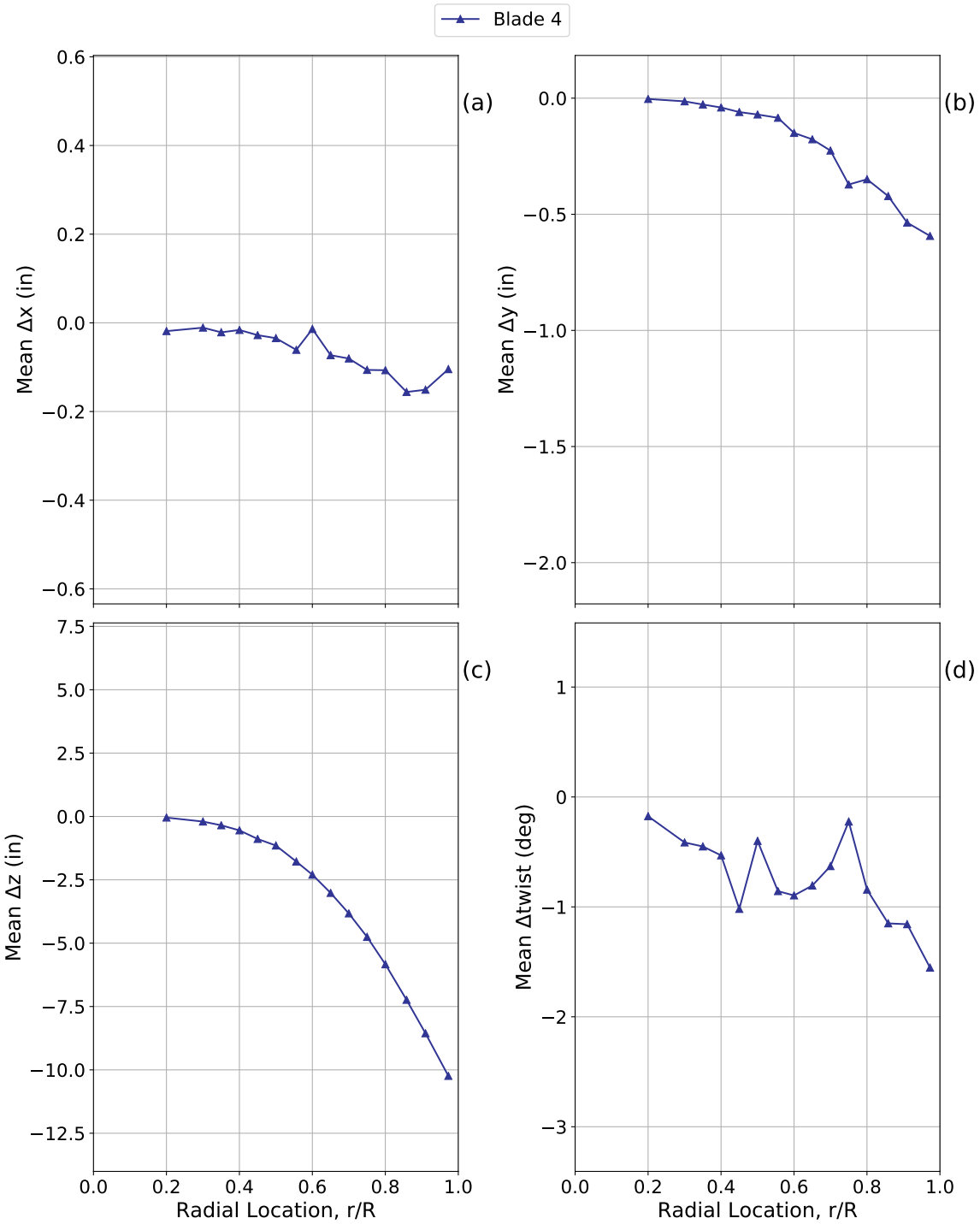


Figure 3.35-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0187	0.0138	-0.0035	0.0021	-0.0447	0.0112	-0.1754	0.1428
4	105.12	0.3001	-0.0109	0.0122	-0.0137	0.0078	-0.2015	0.0428	-0.4141	0.3307
4	105.12	0.3502	-0.0214	0.0068	-0.0274	0.0165	-0.3489	0.0841	-0.4505	0.3072
4	105.12	0.4002	-0.0161	0.0084	-0.0402	0.0236	-0.5494	0.1224	-0.5316	0.3160
4	105.12	0.4500	-0.0278	0.0091	-0.0599	0.0329	-0.8881	0.1616	-1.0186	0.3073
4	105.12	0.5001	-0.0346	0.0137	-0.0704	0.0420	-1.1480	0.1863	-0.4000	0.3285
4	105.12	0.5560	-0.0610	0.0145	-0.0845	0.0546	-1.7795	0.2297	-0.8569	0.3041
4	105.12	0.6001	-0.0139	0.0147	-0.1497	0.0649	-2.2991	0.2584	-0.8959	0.3319
4	105.12	0.6501	-0.0730	0.0174	-0.1772	0.0769	-3.0187	0.3022	-0.8061	0.3391
4	105.12	0.6999	-0.0805	0.0254	-0.2258	0.0900	-3.8262	0.3343	-0.6293	0.3263
4	105.12	0.7500	-0.1062	0.0331	-0.3718	0.1033	-4.7546	0.3783	-0.2243	0.3033
4	105.12	0.8002	-0.1069	0.0465	-0.3493	0.1186	-5.8357	0.4056	-0.8434	0.3577
4	105.12	0.8582	-0.1560	0.0638	-0.4218	0.1347	-7.2374	0.4571	-1.1501	0.3286
4	105.12	0.9101	-0.1509	0.0822	-0.5359	0.1472	-8.5570	0.5004	-1.1578	0.3037
4	105.12	0.9728	-0.1045	0.1068	-0.5933	0.1609	-10.2385	0.5564	-1.5528	0.3135

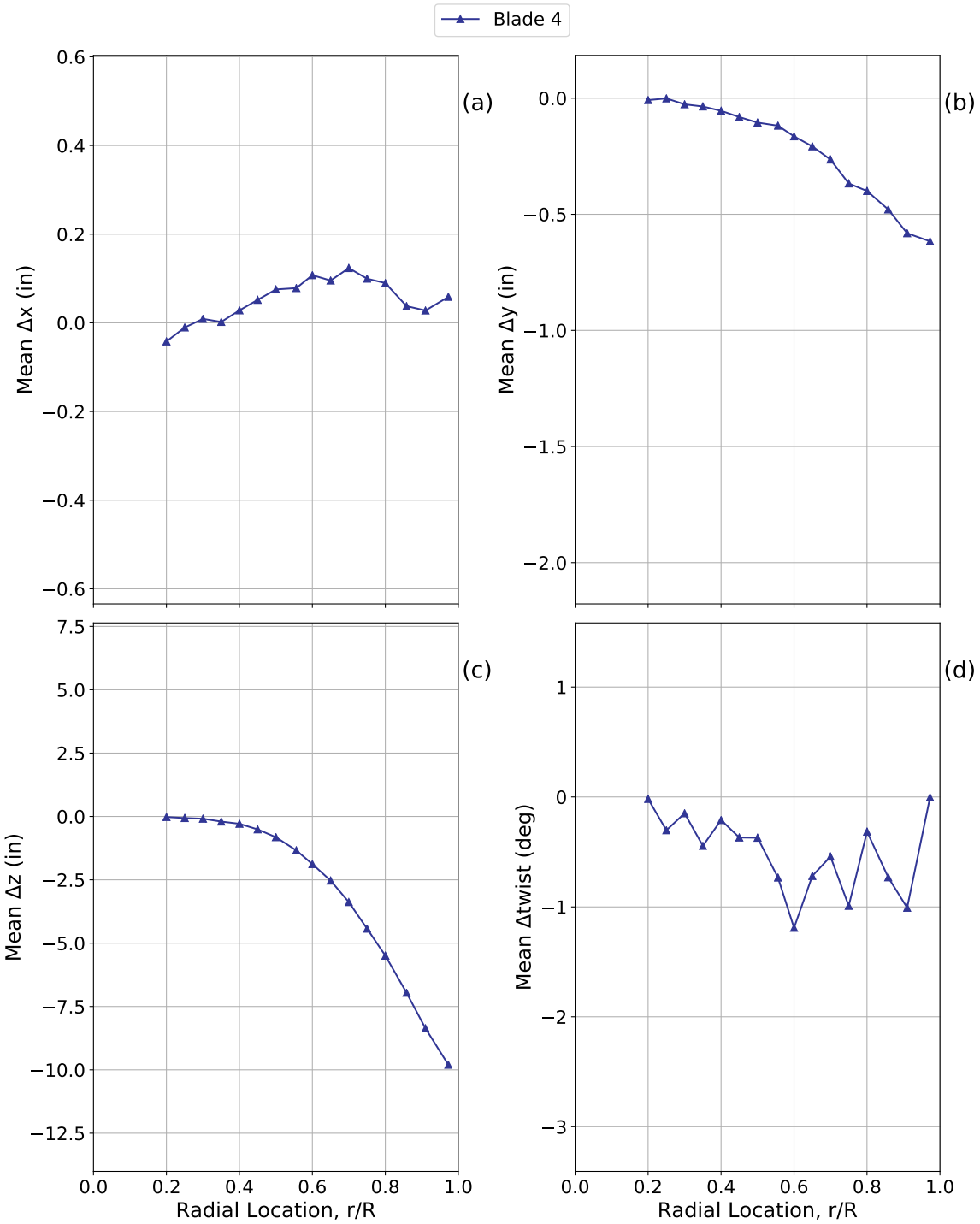


Figure 3.35-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0420	0.0010	-0.0083	0.0004	-0.0223	0.0026	-0.0183	0.0329
4	119.88	0.2502	-0.0105	0.0011	-0.0011	0.0012	-0.0626	0.0059	-0.3029	0.0361
4	119.88	0.3001	0.0089	0.0005	-0.0265	0.0015	-0.0890	0.0103	-0.1489	0.0675
4	119.88	0.3502	0.0020	0.0013	-0.0359	0.0037	-0.2013	0.0188	-0.4448	0.0446
4	119.88	0.4002	0.0281	0.0012	-0.0546	0.0048	-0.2889	0.0284	-0.2103	0.0305
4	119.88	0.4500	0.0518	0.0016	-0.0814	0.0058	-0.5099	0.0340	-0.3690	0.0471
4	119.88	0.5001	0.0754	0.0019	-0.1053	0.0080	-0.8183	0.0399	-0.3711	0.0583
4	119.88	0.5560	0.0784	0.0028	-0.1187	0.0102	-1.3393	0.0462	-0.7335	0.0518
4	119.88	0.6001	0.1075	0.0022	-0.1644	0.0126	-1.8810	0.0501	-1.1907	0.0627
4	119.88	0.6501	0.0954	0.0032	-0.2075	0.0152	-2.5317	0.0582	-0.7190	0.0578
4	119.88	0.6999	0.1235	0.0031	-0.2642	0.0187	-3.3790	0.0678	-0.5422	0.0707
4	119.88	0.7500	0.0996	0.0037	-0.3673	0.0227	-4.4295	0.0774	-0.9906	0.0670
4	119.88	0.8002	0.0896	0.0044	-0.3998	0.0272	-5.4944	0.0904	-0.3157	0.0704
4	119.88	0.8582	0.0377	0.0058	-0.4792	0.0318	-6.9585	0.1119	-0.7313	0.0774
4	119.88	0.9101	0.0278	0.0066	-0.5817	0.0363	-8.3625	0.1297	-1.0078	0.0747
4	119.88	0.9728	0.0586	0.0091	-0.6165	0.0420	-9.8004	0.1529	-0.0041	0.0892

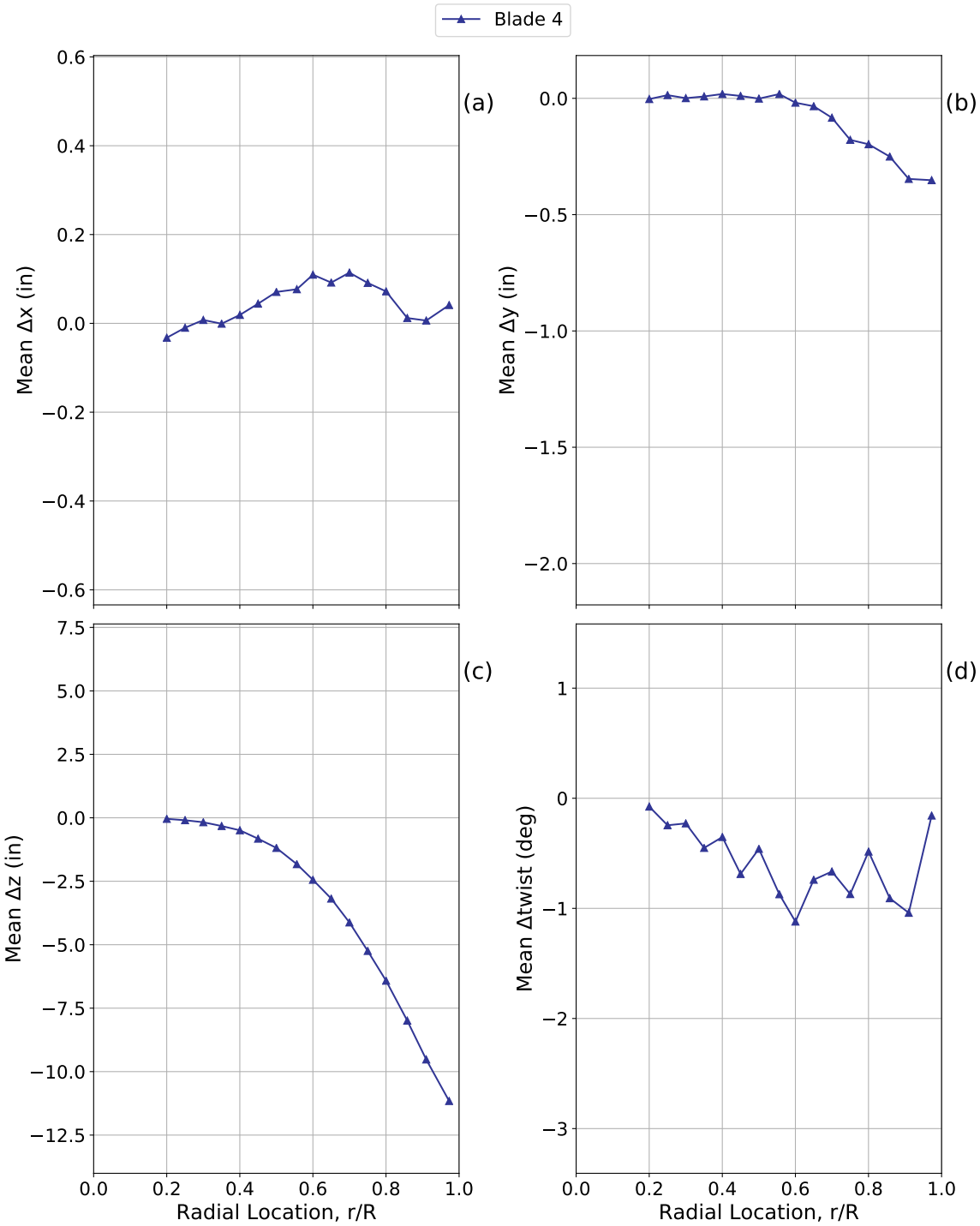


Figure 3.35-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0324	0.0009	-0.0032	0.0007	-0.0427	0.0015	-0.0759	0.0208
4	135	0.2502	-0.0099	0.0007	0.0137	0.0015	-0.0955	0.0036	-0.2453	0.0335
4	135	0.3001	0.0076	0.0012	0.0007	0.0025	-0.1757	0.0064	-0.2284	0.0460
4	135	0.3502	-0.0008	0.0011	0.0081	0.0049	-0.3247	0.0102	-0.4510	0.0386
4	135	0.4002	0.0190	0.0017	0.0186	0.0071	-0.4931	0.0166	-0.3522	0.0376
4	135	0.4500	0.0443	0.0020	0.0103	0.0089	-0.8237	0.0233	-0.6880	0.0361
4	135	0.5001	0.0707	0.0021	-0.0013	0.0114	-1.1873	0.0308	-0.4594	0.0273
4	135	0.5560	0.0768	0.0029	0.0183	0.0143	-1.8269	0.0400	-0.8719	0.0313
4	135	0.6001	0.1096	0.0031	-0.0188	0.0162	-2.4441	0.0485	-1.1201	0.0337
4	135	0.6501	0.0918	0.0040	-0.0340	0.0193	-3.1841	0.0594	-0.7402	0.0355
4	135	0.6999	0.1142	0.0046	-0.0835	0.0218	-4.1231	0.0732	-0.6655	0.0350
4	135	0.7500	0.0910	0.0056	-0.1786	0.0246	-5.2464	0.0890	-0.8703	0.0320
4	135	0.8002	0.0720	0.0071	-0.1975	0.0274	-6.4185	0.1053	-0.4846	0.0287
4	135	0.8582	0.0120	0.0093	-0.2505	0.0310	-7.9922	0.1264	-0.9082	0.0401
4	135	0.9101	0.0063	0.0105	-0.3465	0.0333	-9.5223	0.1450	-1.0405	0.0443
4	135	0.9728	0.0412	0.0128	-0.3520	0.0377	-11.1587	0.1710	-0.1573	0.0322

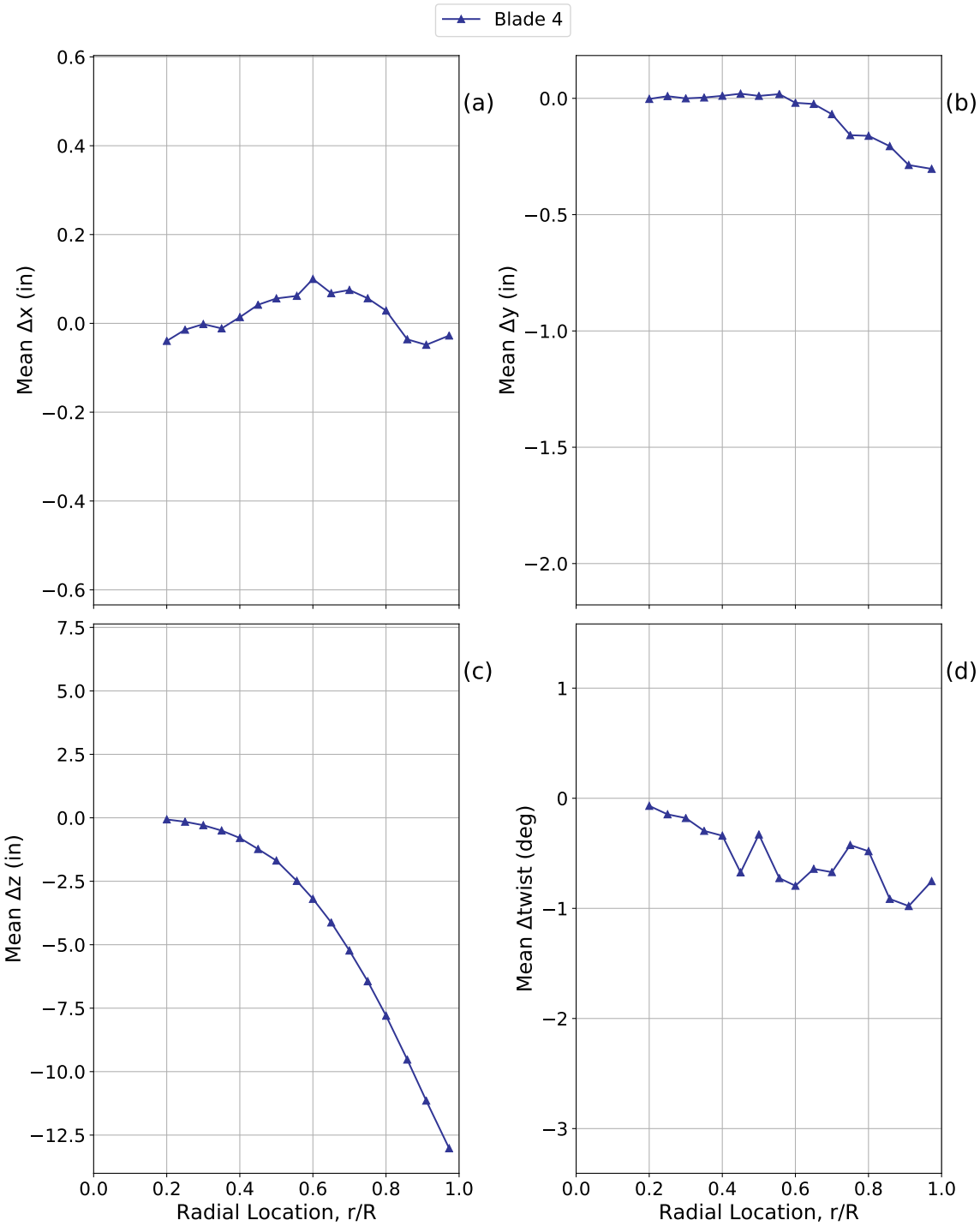


Figure 3.35-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0396	0.0012	-0.0027	0.0007	-0.0649	0.0026	-0.0692	0.0157
4	150.12	0.2502	-0.0143	0.0013	0.0093	0.0020	-0.1562	0.0056	-0.1462	0.0366
4	150.12	0.3001	-0.0017	0.0017	-0.0002	0.0036	-0.2931	0.0116	-0.1799	0.0387
4	150.12	0.3502	-0.0114	0.0010	0.0034	0.0058	-0.5040	0.0180	-0.2962	0.0362
4	150.12	0.4002	0.0140	0.0019	0.0108	0.0093	-0.7969	0.0294	-0.3402	0.0290
4	150.12	0.4500	0.0419	0.0018	0.0199	0.0103	-1.2322	0.0403	-0.6737	0.0357
4	150.12	0.5001	0.0561	0.0023	0.0104	0.0144	-1.6873	0.0555	-0.3293	0.0430
4	150.12	0.5560	0.0618	0.0027	0.0180	0.0173	-2.4885	0.0763	-0.7257	0.0473
4	150.12	0.6001	0.0999	0.0034	-0.0193	0.0202	-3.1948	0.0949	-0.7949	0.0436
4	150.12	0.6501	0.0679	0.0050	-0.0243	0.0242	-4.1246	0.1194	-0.6412	0.0491
4	150.12	0.6999	0.0751	0.0069	-0.0683	0.0285	-5.2323	0.1491	-0.6712	0.0543
4	150.12	0.7500	0.0564	0.0097	-0.1584	0.0334	-6.4423	0.1813	-0.4251	0.0507
4	150.12	0.8002	0.0287	0.0129	-0.1613	0.0384	-7.7985	0.2189	-0.4811	0.0510
4	150.12	0.8582	-0.0360	0.0174	-0.2058	0.0444	-9.5264	0.2671	-0.9143	0.0605
4	150.12	0.9101	-0.0484	0.0209	-0.2868	0.0500	-11.1435	0.3131	-0.9792	0.0511
4	150.12	0.9728	-0.0275	0.0255	-0.3033	0.0563	-13.0220	0.3727	-0.7531	0.0600

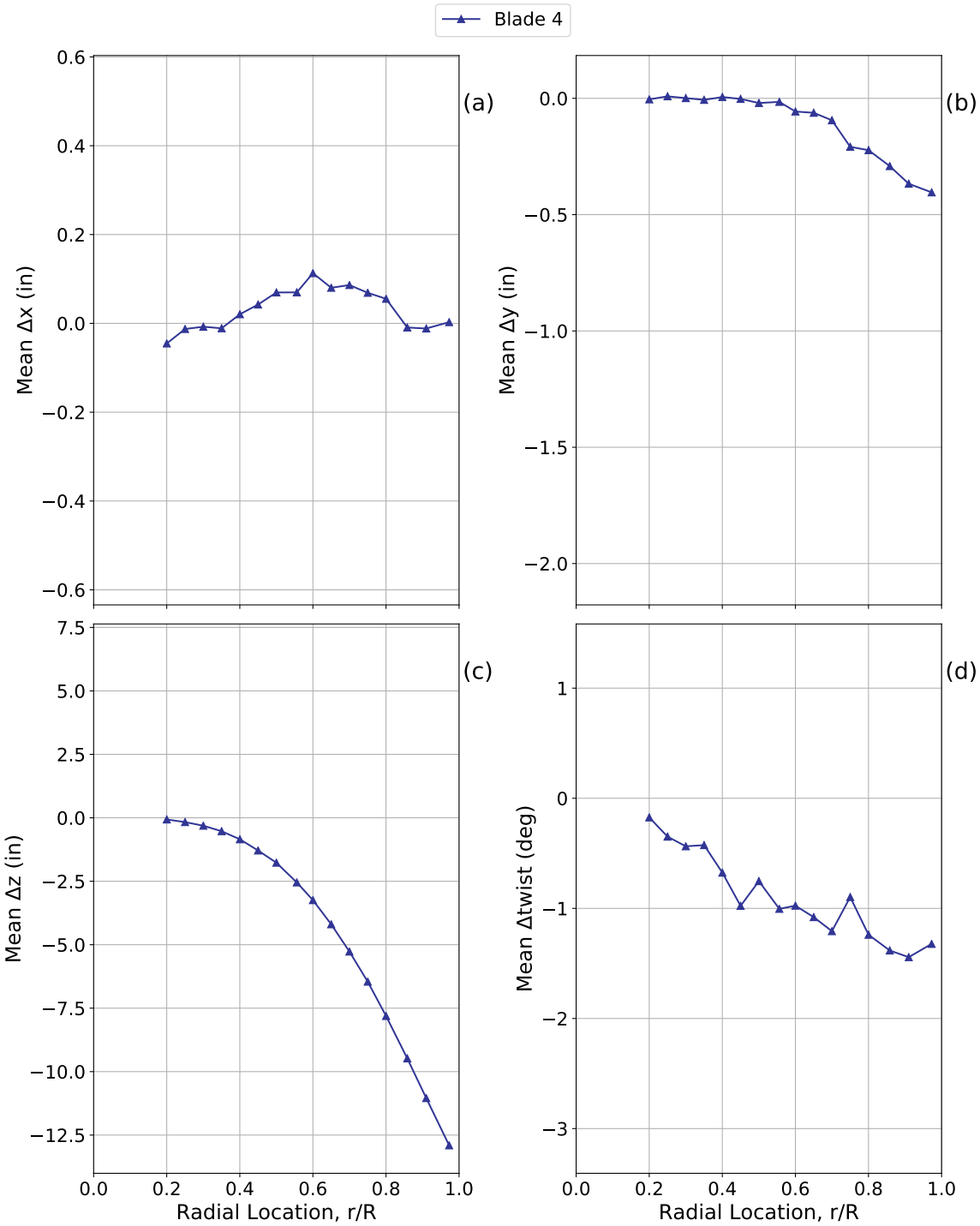


Figure 3.35-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0453	0.0013	-0.0045	0.0012	-0.0662	0.0032	-0.1740	0.0176
4	164.88	0.2502	-0.0127	0.0028	0.0087	0.0023	-0.1692	0.0071	-0.3486	0.0376
4	164.88	0.3001	-0.0076	0.0012	0.0009	0.0040	-0.3125	0.0138	-0.4364	0.0399
4	164.88	0.3502	-0.0111	0.0022	-0.0066	0.0084	-0.5290	0.0190	-0.4256	0.0408
4	164.88	0.4002	0.0205	0.0017	0.0056	0.0118	-0.8477	0.0323	-0.6760	0.0355
4	164.88	0.4500	0.0424	0.0025	-0.0025	0.0161	-1.2886	0.0411	-0.9774	0.0499
4	164.88	0.5001	0.0696	0.0024	-0.0202	0.0199	-1.7700	0.0536	-0.7528	0.0549
4	164.88	0.5560	0.0698	0.0029	-0.0153	0.0254	-2.5476	0.0699	-1.0044	0.0373
4	164.88	0.6001	0.1130	0.0035	-0.0567	0.0301	-3.2450	0.0811	-0.9756	0.0443
4	164.88	0.6501	0.0801	0.0042	-0.0622	0.0352	-4.1962	0.0957	-1.0797	0.0445
4	164.88	0.6999	0.0863	0.0053	-0.0944	0.0411	-5.2706	0.1100	-1.2072	0.0552
4	164.88	0.7500	0.0688	0.0069	-0.2085	0.0479	-6.4571	0.1281	-0.8974	0.0450
4	164.88	0.8002	0.0553	0.0082	-0.2229	0.0551	-7.8090	0.1453	-1.2397	0.0567
4	164.88	0.8582	-0.0093	0.0109	-0.2915	0.0630	-9.4785	0.1695	-1.3825	0.0434
4	164.88	0.9101	-0.0116	0.0133	-0.3672	0.0715	-11.0433	0.1934	-1.4433	0.0551
4	164.88	0.9728	0.0027	0.0164	-0.4043	0.0811	-12.9053	0.2296	-1.3226	0.0389

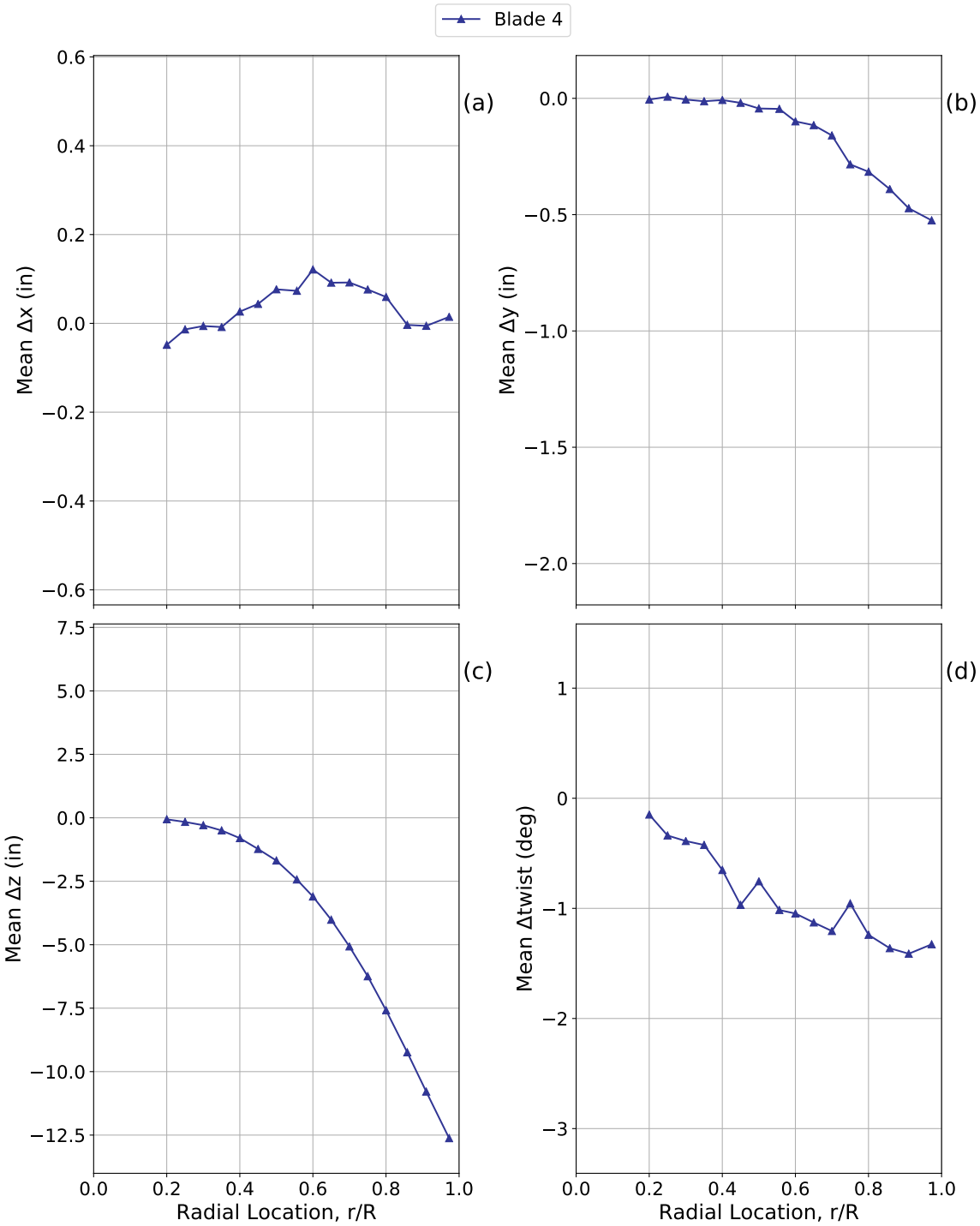


Figure 3.35-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0484	0.0017	-0.0054	0.0012	-0.0607	0.0043	-0.1486	0.0354
4	170.16	0.2502	-0.0137	0.0030	0.0068	0.0041	-0.1634	0.0068	-0.3383	0.0662
4	170.16	0.3001	-0.0060	0.0023	-0.0053	0.0064	-0.2932	0.0118	-0.3886	0.0726
4	170.16	0.3502	-0.0083	0.0022	-0.0126	0.0111	-0.5000	0.0149	-0.4243	0.0677
4	170.16	0.4002	0.0265	0.0022	-0.0073	0.0179	-0.8030	0.0235	-0.6521	0.0722
4	170.16	0.4500	0.0437	0.0020	-0.0195	0.0214	-1.2308	0.0304	-0.9693	0.0649
4	170.16	0.5001	0.0766	0.0033	-0.0437	0.0270	-1.6855	0.0374	-0.7547	0.0756
4	170.16	0.5560	0.0732	0.0032	-0.0455	0.0338	-2.4327	0.0416	-1.0151	0.0770
4	170.16	0.6001	0.1212	0.0029	-0.0992	0.0386	-3.1032	0.0505	-1.0469	0.0817
4	170.16	0.6501	0.0915	0.0036	-0.1156	0.0444	-4.0179	0.0570	-1.1283	0.0865
4	170.16	0.6999	0.0920	0.0037	-0.1596	0.0501	-5.0699	0.0655	-1.2059	0.0822
4	170.16	0.7500	0.0762	0.0049	-0.2840	0.0560	-6.2459	0.0753	-0.9558	0.0895
4	170.16	0.8002	0.0594	0.0053	-0.3158	0.0622	-7.5844	0.0874	-1.2406	0.0778
4	170.16	0.8582	-0.0035	0.0069	-0.3903	0.0694	-9.2410	0.1014	-1.3619	0.0845
4	170.16	0.9101	-0.0057	0.0067	-0.4727	0.0766	-10.7885	0.1109	-1.4121	0.1002
4	170.16	0.9728	0.0146	0.0089	-0.5247	0.0839	-12.6234	0.1298	-1.3266	0.0881

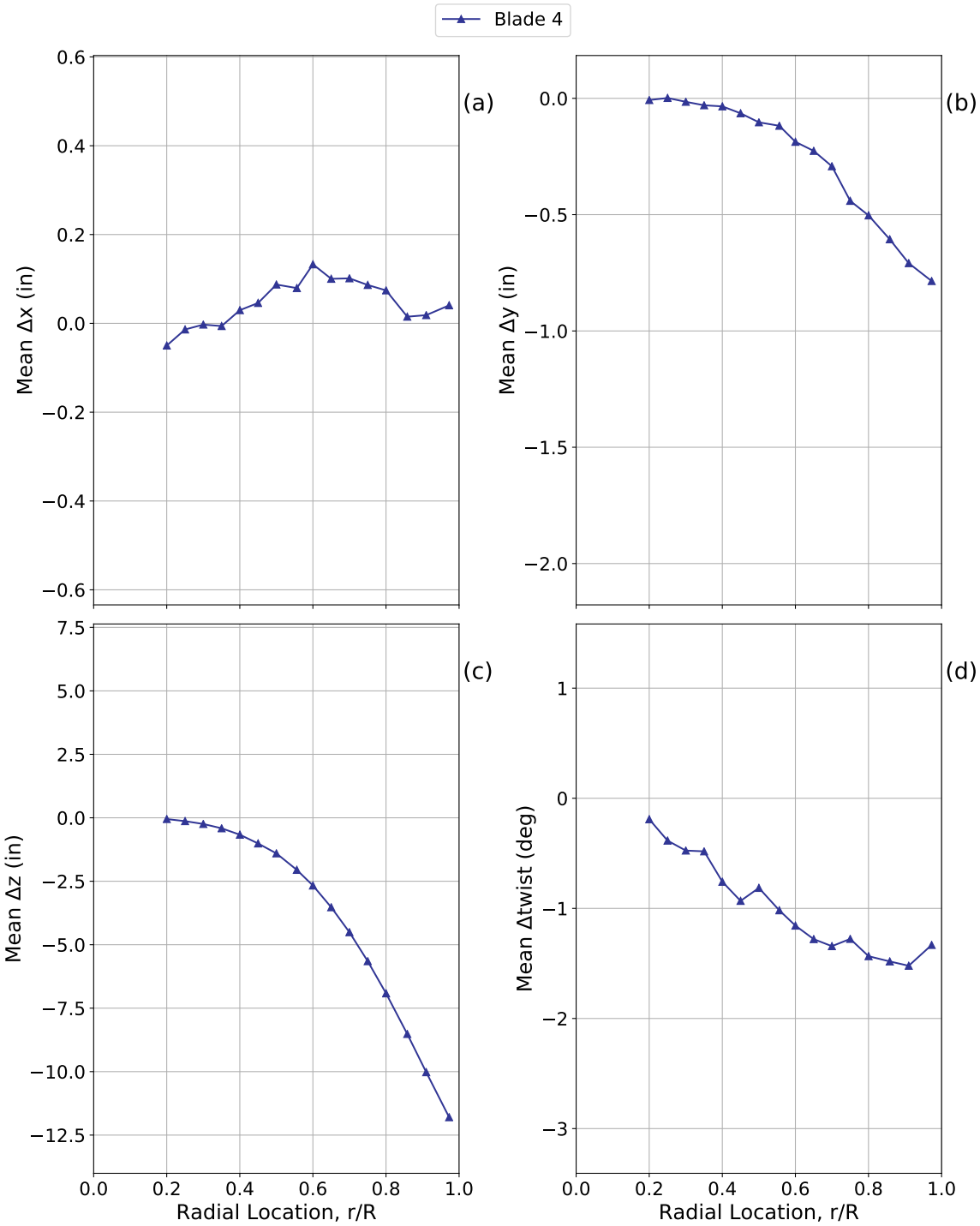


Figure 3.35-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0500	0.0018	-0.0074	0.0015	-0.0496	0.0057	-0.1909	0.0287
4	175.08	0.2502	-0.0138	0.0033	0.0015	0.0038	-0.1321	0.0084	-0.3848	0.0607
4	175.08	0.3001	-0.0028	0.0028	-0.0150	0.0069	-0.2432	0.0210	-0.4750	0.0644
4	175.08	0.3502	-0.0061	0.0018	-0.0299	0.0106	-0.4142	0.0307	-0.4822	0.0608
4	175.08	0.4002	0.0297	0.0023	-0.0346	0.0177	-0.6665	0.0491	-0.7588	0.0580
4	175.08	0.4500	0.0459	0.0038	-0.0643	0.0203	-1.0117	0.0545	-0.9322	0.0740
4	175.08	0.5001	0.0874	0.0028	-0.1031	0.0247	-1.4024	0.0696	-0.8143	0.0507
4	175.08	0.5560	0.0794	0.0042	-0.1181	0.0301	-2.0527	0.0838	-1.0178	0.0657
4	175.08	0.6001	0.1329	0.0040	-0.1871	0.0339	-2.6689	0.0951	-1.1568	0.0455
4	175.08	0.6501	0.1003	0.0041	-0.2260	0.0397	-3.5252	0.1076	-1.2795	0.0610
4	175.08	0.6999	0.1014	0.0043	-0.2921	0.0461	-4.5084	0.1173	-1.3433	0.0632
4	175.08	0.7500	0.0864	0.0048	-0.4409	0.0527	-5.6500	0.1299	-1.2774	0.0674
4	175.08	0.8002	0.0742	0.0064	-0.5034	0.0581	-6.9175	0.1418	-1.4344	0.0754
4	175.08	0.8582	0.0150	0.0078	-0.6061	0.0659	-8.5168	0.1617	-1.4819	0.0731
4	175.08	0.9101	0.0185	0.0093	-0.7087	0.0720	-10.0234	0.1830	-1.5214	0.0704
4	175.08	0.9728	0.0406	0.0123	-0.7855	0.0816	-11.7975	0.2034	-1.3322	0.0872

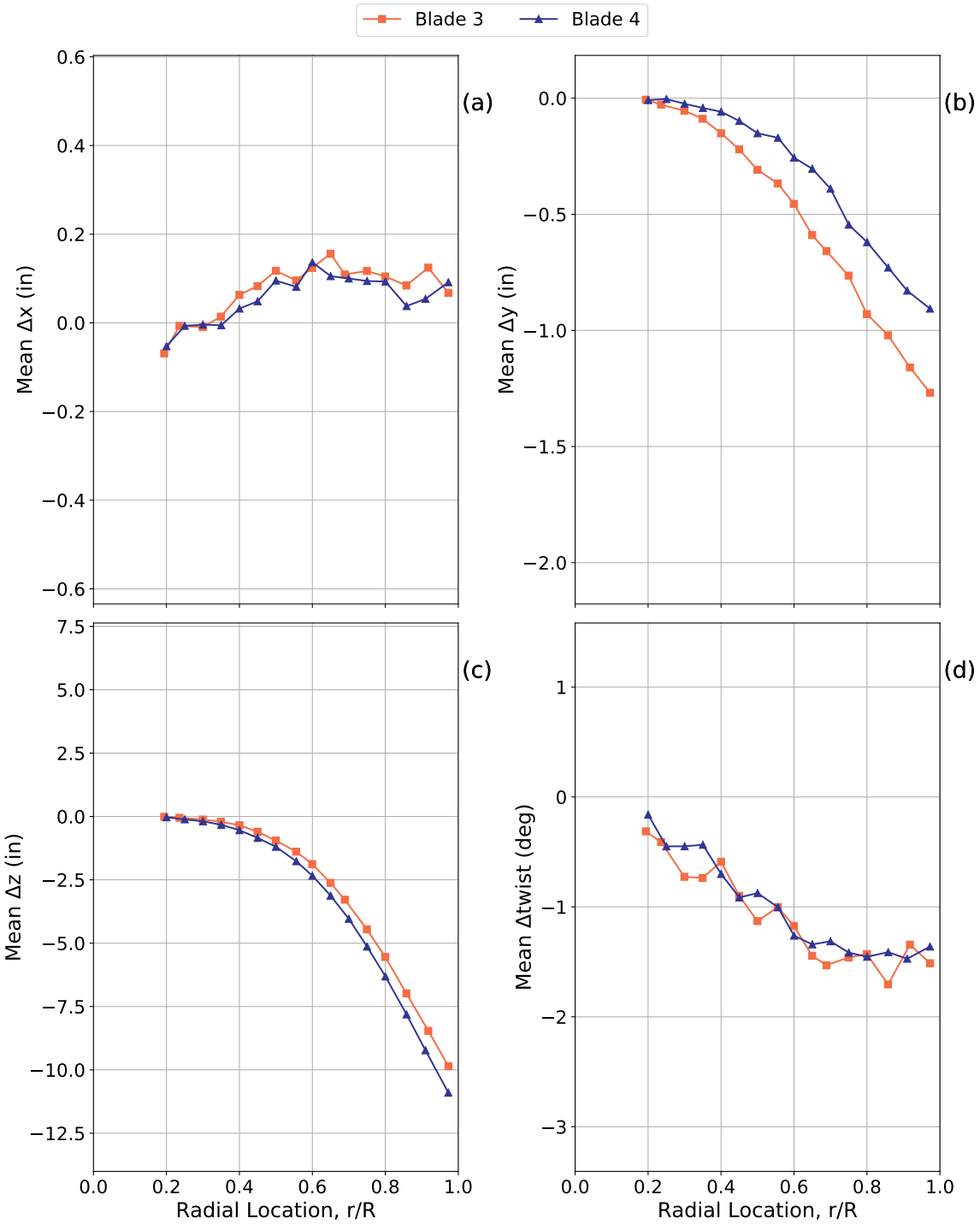


Figure 3.35-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0689	0.0085	-0.0064	0.0029	-0.0146	0.0100	-0.3128	0.0621
3	180.35	0.2357	-0.0068	0.0077	-0.0283	0.0026	-0.0510	0.0117	-0.4104	0.1068
3	180.35	0.2995	-0.0097	0.0072	-0.0539	0.0081	-0.1194	0.0294	-0.7265	0.1356
3	180.35	0.3493	0.0140	0.0073	-0.0886	0.0146	-0.2087	0.0480	-0.7365	0.1240
3	180.35	0.4000	0.0630	0.0069	-0.1512	0.0209	-0.3477	0.0725	-0.5894	0.1178
3	180.35	0.4497	0.0829	0.0074	-0.2205	0.0260	-0.6039	0.0935	-0.8995	0.0946
3	180.35	0.4997	0.1174	0.0068	-0.3087	0.0348	-0.9510	0.1150	-1.1290	0.1237
3	180.35	0.5556	0.0956	0.0079	-0.3674	0.0402	-1.3891	0.1365	-1.0030	0.1336
3	180.35	0.5995	0.1239	0.0097	-0.4548	0.0449	-1.8797	0.1519	-1.1728	0.1272
3	180.35	0.6498	0.1558	0.0098	-0.5897	0.0524	-2.6210	0.1736	-1.4451	0.1209
3	180.35	0.6890	0.1091	0.0102	-0.6585	0.0567	-3.2851	0.1913	-1.5305	0.1311
3	180.35	0.7495	0.1170	0.0112	-0.7640	0.0644	-4.4554	0.2229	-1.4604	0.1139
3	180.35	0.7998	0.1046	0.0128	-0.9298	0.0705	-5.5446	0.2471	-1.4294	0.1245
3	180.35	0.8577	0.0843	0.0149	-1.0211	0.0776	-6.9828	0.2758	-1.7055	0.1237
3	180.35	0.9178	0.1245	0.0165	-1.1595	0.0856	-8.4583	0.3034	-1.3436	0.1108
3	180.35	0.9729	0.0675	0.0189	-1.2684	0.0929	-9.8533	0.3343	-1.5126	0.0988
4	180	0.2001	-0.0528	0.0027	-0.0083	0.0026	-0.0339	0.0092	-0.1613	0.0807
4	180	0.2502	-0.0068	0.0099	-0.0039	0.0049	-0.1147	0.0163	-0.4495	0.0881
4	180	0.3001	-0.0041	0.0045	-0.0241	0.0100	-0.1924	0.0206	-0.4486	0.1260
4	180	0.3502	-0.0055	0.0043	-0.0422	0.0173	-0.3295	0.0272	-0.4351	0.1377
4	180	0.4002	0.0321	0.0043	-0.0584	0.0264	-0.5425	0.0386	-0.7004	0.1397
4	180	0.4500	0.0486	0.0032	-0.0982	0.0315	-0.8465	0.0453	-0.9144	0.1374
4	180	0.5001	0.0952	0.0050	-0.1511	0.0386	-1.1985	0.0556	-0.8744	0.1664
4	180	0.5560	0.0812	0.0047	-0.1707	0.0469	-1.7676	0.0575	-1.0030	0.1532
4	180	0.6001	0.1365	0.0045	-0.2561	0.0527	-2.3417	0.0731	-1.2621	0.1257
4	180	0.6501	0.1053	0.0042	-0.3041	0.0616	-3.1267	0.0818	-1.3415	0.1326
4	180	0.6999	0.1000	0.0047	-0.3899	0.0691	-4.0388	0.0950	-1.3129	0.1410
4	180	0.7500	0.0943	0.0058	-0.5448	0.0785	-5.1351	0.1063	-1.4162	0.1407
4	180	0.8002	0.0931	0.0063	-0.6201	0.0882	-6.3134	0.1184	-1.4535	0.1337
4	180	0.8582	0.0378	0.0083	-0.7296	0.0974	-7.8132	0.1287	-1.4118	0.1391
4	180	0.9101	0.0540	0.0086	-0.8288	0.1086	-9.2293	0.1435	-1.4717	0.1286
4	180	0.9728	0.0915	0.0108	-0.9063	0.1201	-10.8994	0.1606	-1.3611	0.1225

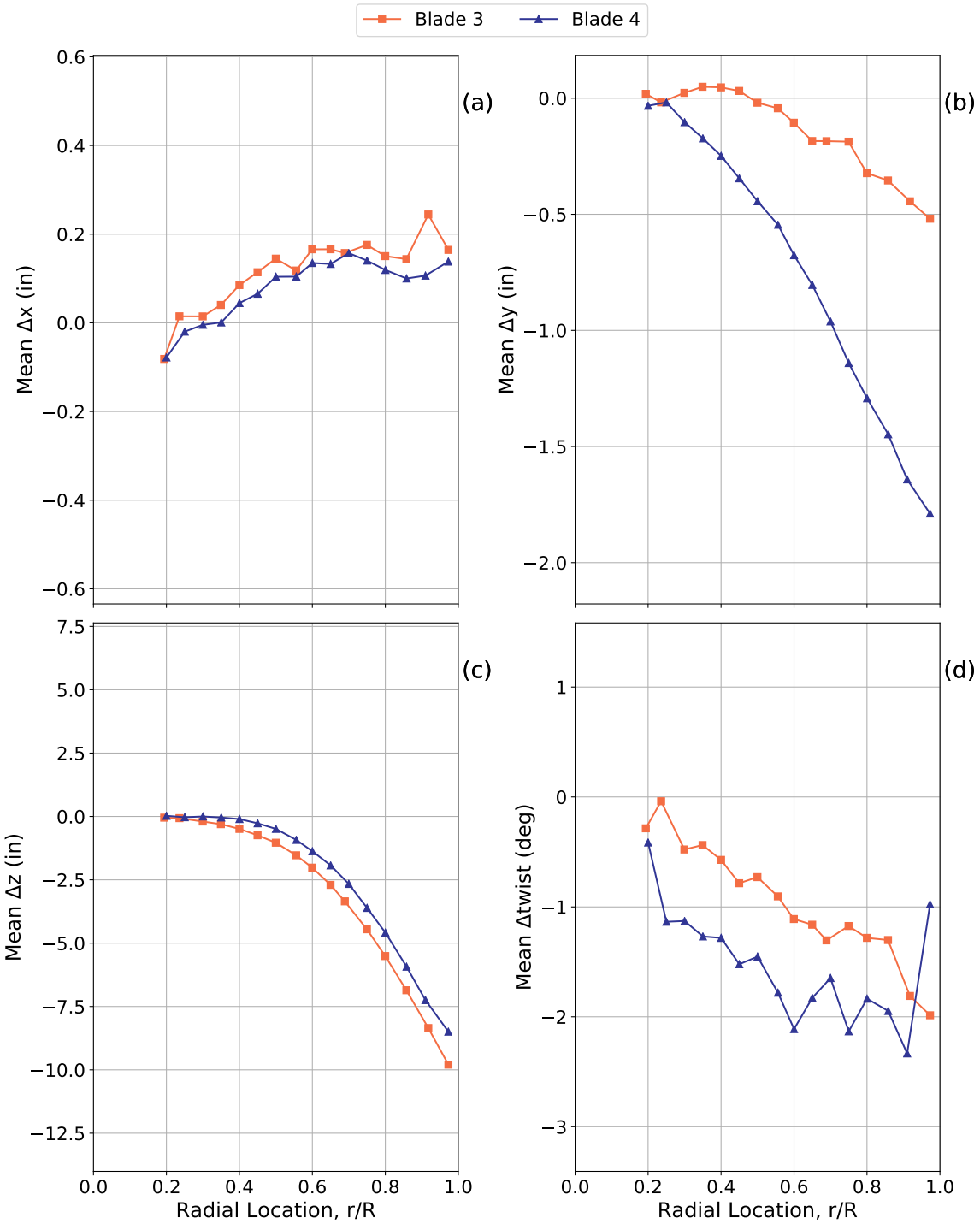


Figure 3.35-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0814	0.0021	0.0188	0.0034	-0.0475	0.0090	-0.2853	0.0529
3	184.92	0.2357	0.0147	0.0067	-0.0180	0.0038	-0.0666	0.0060	-0.0392	0.0977
3	184.92	0.2995	0.0145	0.0029	0.0230	0.0085	-0.1997	0.0226	-0.4777	0.1025
3	184.92	0.3493	0.0403	0.0029	0.0491	0.0097	-0.3043	0.0313	-0.4374	0.0894
3	184.92	0.4000	0.0852	0.0035	0.0466	0.0159	-0.4908	0.0460	-0.5726	0.0950
3	184.92	0.4497	0.1141	0.0033	0.0312	0.0181	-0.7408	0.0549	-0.7847	0.1015
3	184.92	0.4997	0.1448	0.0026	-0.0196	0.0207	-1.0356	0.0639	-0.7293	0.1145
3	184.92	0.5556	0.1180	0.0043	-0.0436	0.0243	-1.5322	0.0721	-0.9044	0.0964
3	184.92	0.5995	0.1658	0.0044	-0.1057	0.0308	-2.0195	0.0895	-1.1106	0.1301
3	184.92	0.6498	0.1659	0.0066	-0.1846	0.0358	-2.7000	0.0931	-1.1623	0.1148
3	184.92	0.6890	0.1574	0.0063	-0.1851	0.0358	-3.3486	0.1060	-1.3047	0.1193
3	184.92	0.7495	0.1757	0.0059	-0.1873	0.0464	-4.4529	0.1131	-1.1742	0.1122
3	184.92	0.7998	0.1504	0.0104	-0.3230	0.0468	-5.5090	0.1198	-1.2821	0.1000
3	184.92	0.8577	0.1437	0.0054	-0.3545	0.0563	-6.8575	0.1337	-1.3015	0.0856
3	184.92	0.9178	0.2444	0.0112	-0.4441	0.0644	-8.3492	0.1574	-1.8103	0.1345
3	184.92	0.9729	0.1645	0.0134	-0.5191	0.0774	-9.7937	0.1820	-1.9861	0.1375
4	184.92	0.2001	-0.0781	0.0125	-0.0328	0.0070	0.0242	0.0276	-0.4145	0.1531
4	184.92	0.2502	-0.0199	0.0033	-0.0181	0.0066	-0.0308	0.0279	-1.1354	0.4046
4	184.92	0.3001	-0.0045	0.0078	-0.1035	0.0241	-0.0008	0.0750	-1.1285	0.4112
4	184.92	0.3502	0.0008	0.0141	-0.1731	0.0428	-0.0417	0.1226	-1.2688	0.4091
4	184.92	0.4002	0.0446	0.0204	-0.2486	0.0623	-0.1018	0.1715	-1.2825	0.4071
4	184.92	0.4500	0.0656	0.0249	-0.3452	0.0820	-0.2699	0.2185	-1.5214	0.4205
4	184.92	0.5001	0.1039	0.0304	-0.4439	0.1025	-0.4901	0.2711	-1.4523	0.4081
4	184.92	0.5560	0.1042	0.0351	-0.5451	0.1288	-0.9254	0.3279	-1.7808	0.4168
4	184.92	0.6001	0.1349	0.0379	-0.6763	0.1480	-1.3728	0.3715	-2.1114	0.4252
4	184.92	0.6501	0.1328	0.0402	-0.8042	0.1717	-1.9317	0.4241	-1.8281	0.4221
4	184.92	0.6999	0.1572	0.0410	-0.9613	0.1965	-2.6627	0.4729	-1.6474	0.4526
4	184.92	0.7500	0.1403	0.0401	-1.1405	0.2236	-3.6096	0.5250	-2.1322	0.4517
4	184.92	0.8002	0.1192	0.0359	-1.2924	0.2454	-4.5858	0.5804	-1.8355	0.4728
4	184.92	0.8582	0.1000	0.0190	-1.4473	0.2577	-5.9278	0.5935	-1.9470	0.4553
4	184.92	0.9101	0.1065	0.0116	-1.6415	0.2833	-7.2489	0.6453	-2.3332	0.4625
4	184.92	0.9728	0.1381	0.0126	-1.7887	0.3102	-8.4913	0.7078	-0.9766	0.5126

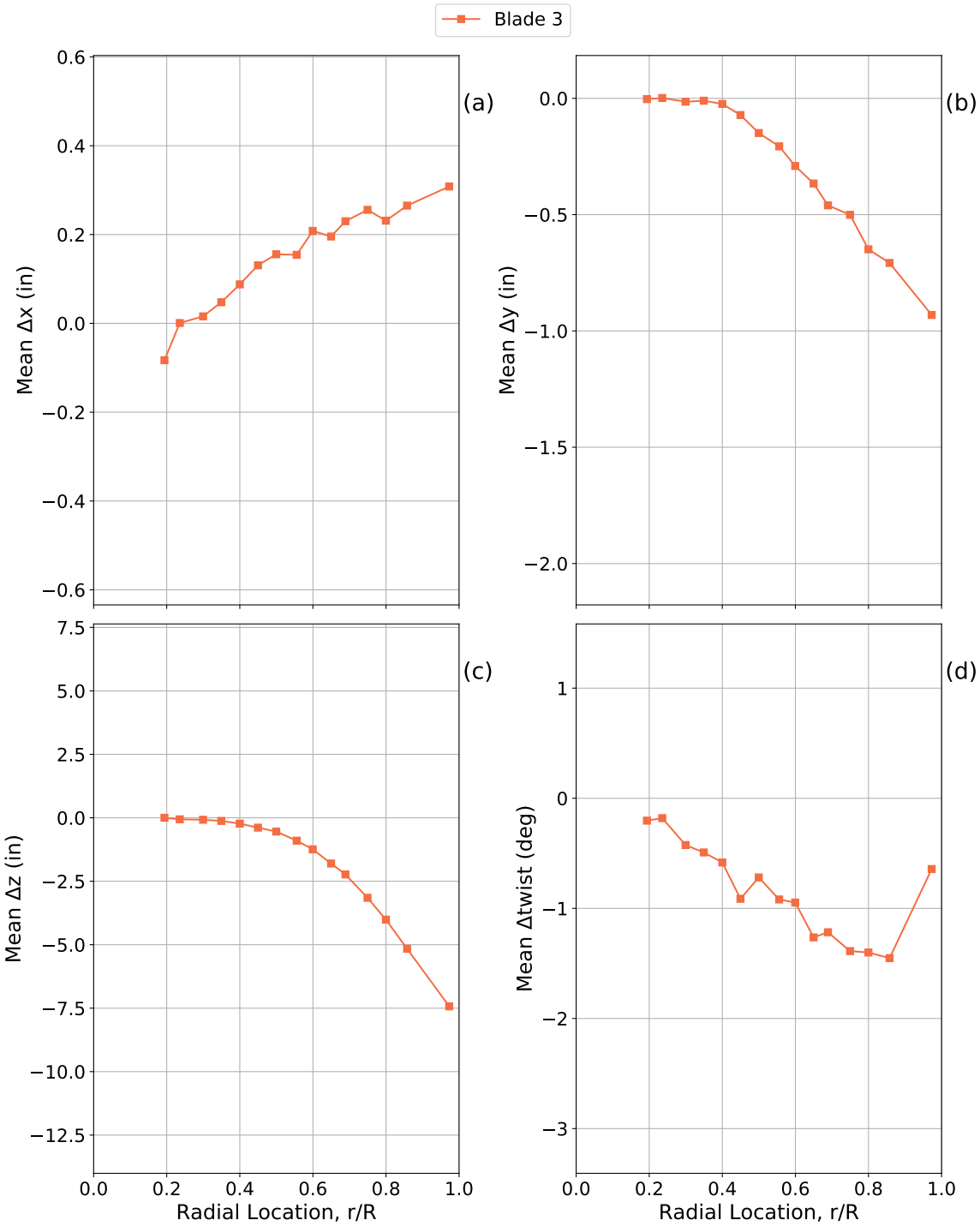


Figure 3.35-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0830	0.0008	-0.0034	0.0005	0.0007	0.0029	-0.2032	0.0229
3	195.12	0.2357	0.0008	0.0009	0.0012	0.0015	-0.0597	0.0062	-0.1804	0.0243
3	195.12	0.2995	0.0158	0.0008	-0.0146	0.0028	-0.0766	0.0134	-0.4249	0.0458
3	195.12	0.3493	0.0475	0.0008	-0.0102	0.0037	-0.1229	0.0222	-0.4921	0.0420
3	195.12	0.4000	0.0878	0.0016	-0.0241	0.0064	-0.2295	0.0350	-0.5830	0.0383
3	195.12	0.4497	0.1308	0.0015	-0.0717	0.0076	-0.3880	0.0446	-0.9131	0.0417
3	195.12	0.4997	0.1556	0.0016	-0.1490	0.0098	-0.5426	0.0599	-0.7190	0.0545
3	195.12	0.5556	0.1543	0.0019	-0.2066	0.0129	-0.9009	0.0780	-0.9193	0.0539
3	195.12	0.5995	0.2081	0.0019	-0.2909	0.0150	-1.2428	0.0916	-0.9468	0.0547
3	195.12	0.6498	0.1956	0.0029	-0.3661	0.0172	-1.8011	0.1137	-1.2636	0.0795
3	195.12	0.6890	0.2300	0.0036	-0.4601	0.0205	-2.2315	0.1243	-1.2168	0.0661
3	195.12	0.7495	0.2556	0.0052	-0.5008	0.0229	-3.1532	0.1557	-1.3879	0.0997
3	195.12	0.7998	0.2313	0.0056	-0.6491	0.0274	-4.0121	0.1732	-1.4008	0.1082
3	195.12	0.8577	0.2652	0.0092	-0.7077	0.0467	-5.1586	0.1879	-1.4518	0.3558
3	195.12	0.9729	0.3081	0.0132	-0.9312	0.0533	-7.4273	0.2641	-0.6428	0.2742

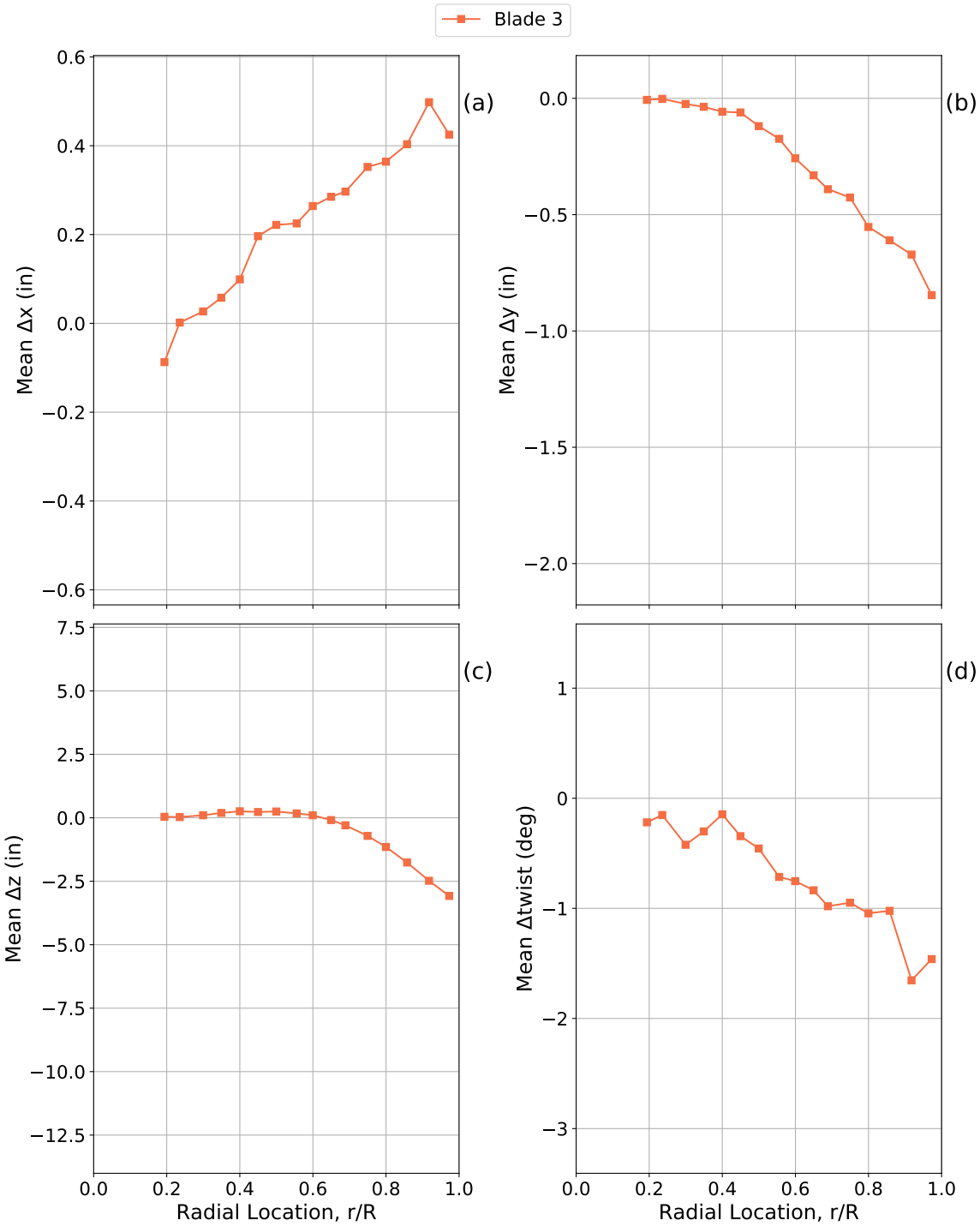


Figure 3.35-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0872	0.0012	-0.0066	0.0007	0.0392	0.0025	-0.2188	0.0199
3	209.88	0.2357	0.0018	0.0016	-0.0023	0.0030	0.0292	0.0045	-0.1522	0.0393
3	209.88	0.2995	0.0268	0.0011	-0.0240	0.0038	0.1001	0.0091	-0.4224	0.0484
3	209.88	0.3493	0.0578	0.0014	-0.0365	0.0096	0.1918	0.0144	-0.3012	0.0553
3	209.88	0.4000	0.0991	0.0018	-0.0576	0.0135	0.2563	0.0222	-0.1459	0.0422
3	209.88	0.4497	0.1963	0.0240	-0.0607	0.0479	0.2274	0.0845	-0.3442	0.0535
3	209.88	0.4997	0.2218	0.0228	-0.1195	0.0547	0.2468	0.0985	-0.4562	0.0652
3	209.88	0.5556	0.2250	0.0210	-0.1741	0.0617	0.1731	0.1123	-0.7146	0.0511
3	209.88	0.5995	0.2642	0.0182	-0.2577	0.0682	0.1008	0.1252	-0.7526	0.0523
3	209.88	0.6498	0.2851	0.0144	-0.3312	0.0764	-0.0894	0.1410	-0.8358	0.0536
3	209.88	0.6890	0.2966	0.0104	-0.3907	0.0830	-0.2959	0.1540	-0.9806	0.0658
3	209.88	0.7495	0.3522	0.0049	-0.4262	0.0913	-0.7124	0.1745	-0.9485	0.0617
3	209.88	0.7998	0.3641	0.0069	-0.5530	0.0980	-1.1485	0.1923	-1.0449	0.0692
3	209.88	0.8577	0.4033	0.0165	-0.6102	0.1056	-1.7620	0.2143	-1.0221	0.0764
3	209.88	0.9178	0.4980	0.0321	-0.6716	0.1117	-2.4806	0.2342	-1.6535	0.0734
3	209.88	0.9729	0.4250	0.0401	-0.8460	0.1181	-3.0771	0.2536	-1.4603	0.0967

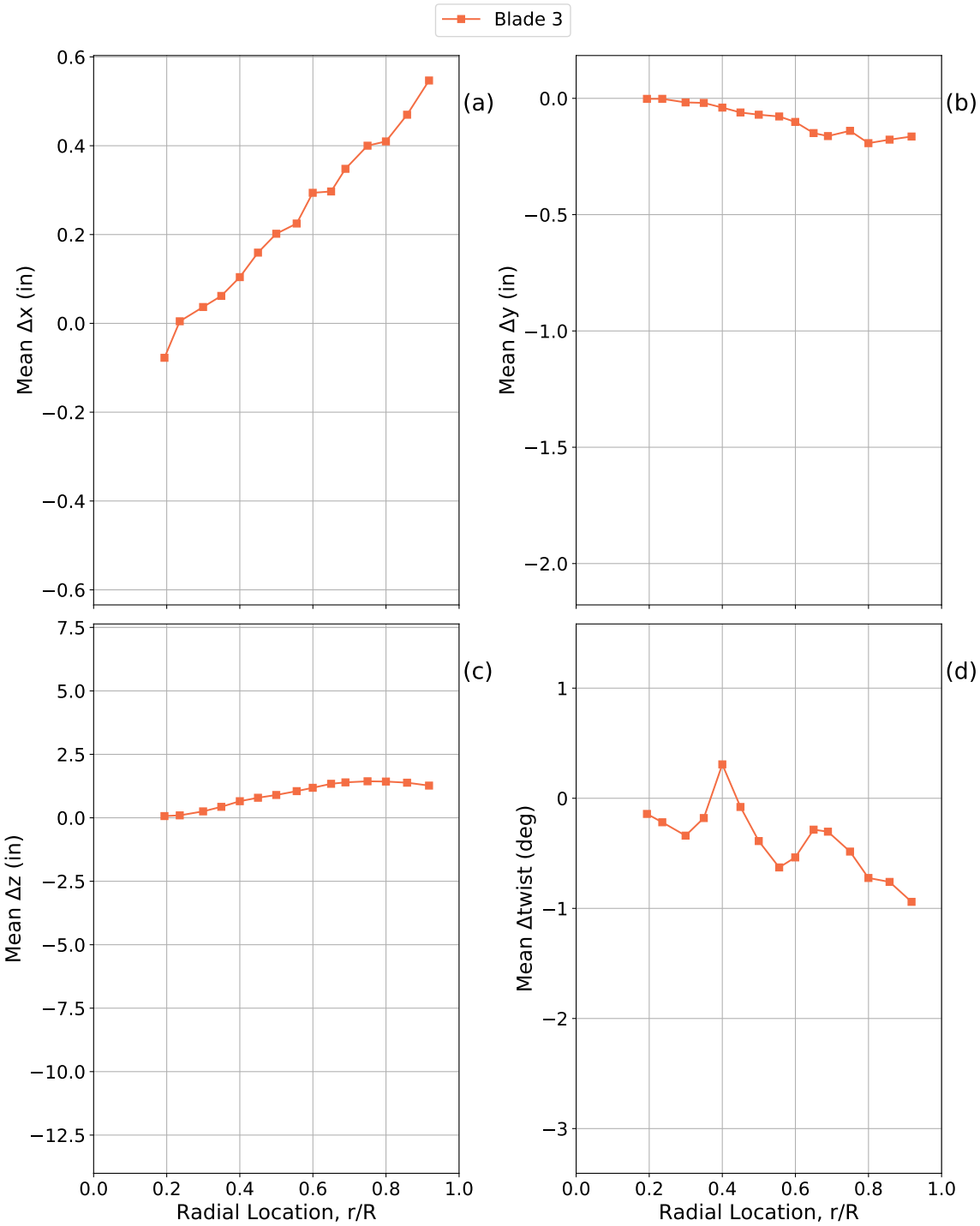


Figure 3.35-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0775	0.0010	-0.0023	0.0005	0.0675	0.0024	-0.1423	0.0392
3	225	0.2357	0.0047	0.0011	-0.0022	0.0017	0.0957	0.0043	-0.2180	0.0410
3	225	0.2995	0.0368	0.0011	-0.0176	0.0027	0.2528	0.0088	-0.3393	0.0831
3	225	0.3493	0.0618	0.0014	-0.0196	0.0051	0.4319	0.0139	-0.1797	0.0669
3	225	0.4000	0.1041	0.0018	-0.0398	0.0080	0.6538	0.0210	0.3077	0.0665
3	225	0.4497	0.1593	0.0013	-0.0608	0.0085	0.7901	0.0244	-0.0792	0.0717
3	225	0.4997	0.2018	0.0012	-0.0704	0.0114	0.8986	0.0307	-0.3886	0.0760
3	225	0.5556	0.2248	0.0017	-0.0780	0.0137	1.0501	0.0367	-0.6282	0.0702
3	225	0.5995	0.2940	0.0017	-0.1014	0.0170	1.1822	0.0432	-0.5372	0.0628
3	225	0.6498	0.2970	0.0023	-0.1494	0.0190	1.3393	0.0486	-0.2850	0.0829
3	225	0.6890	0.3480	0.0021	-0.1623	0.0214	1.3956	0.0548	-0.3034	0.0789
3	225	0.7495	0.4001	0.0023	-0.1397	0.0256	1.4382	0.0643	-0.4842	0.0628
3	225	0.7998	0.4097	0.0024	-0.1927	0.0288	1.4280	0.0741	-0.7239	0.0759
3	225	0.8577	0.4698	0.0035	-0.1776	0.0337	1.3832	0.0826	-0.7597	0.0873
3	225	0.9178	0.5469	0.0029	-0.1642	0.0373	1.2685	0.0947	-0.9407	0.0447

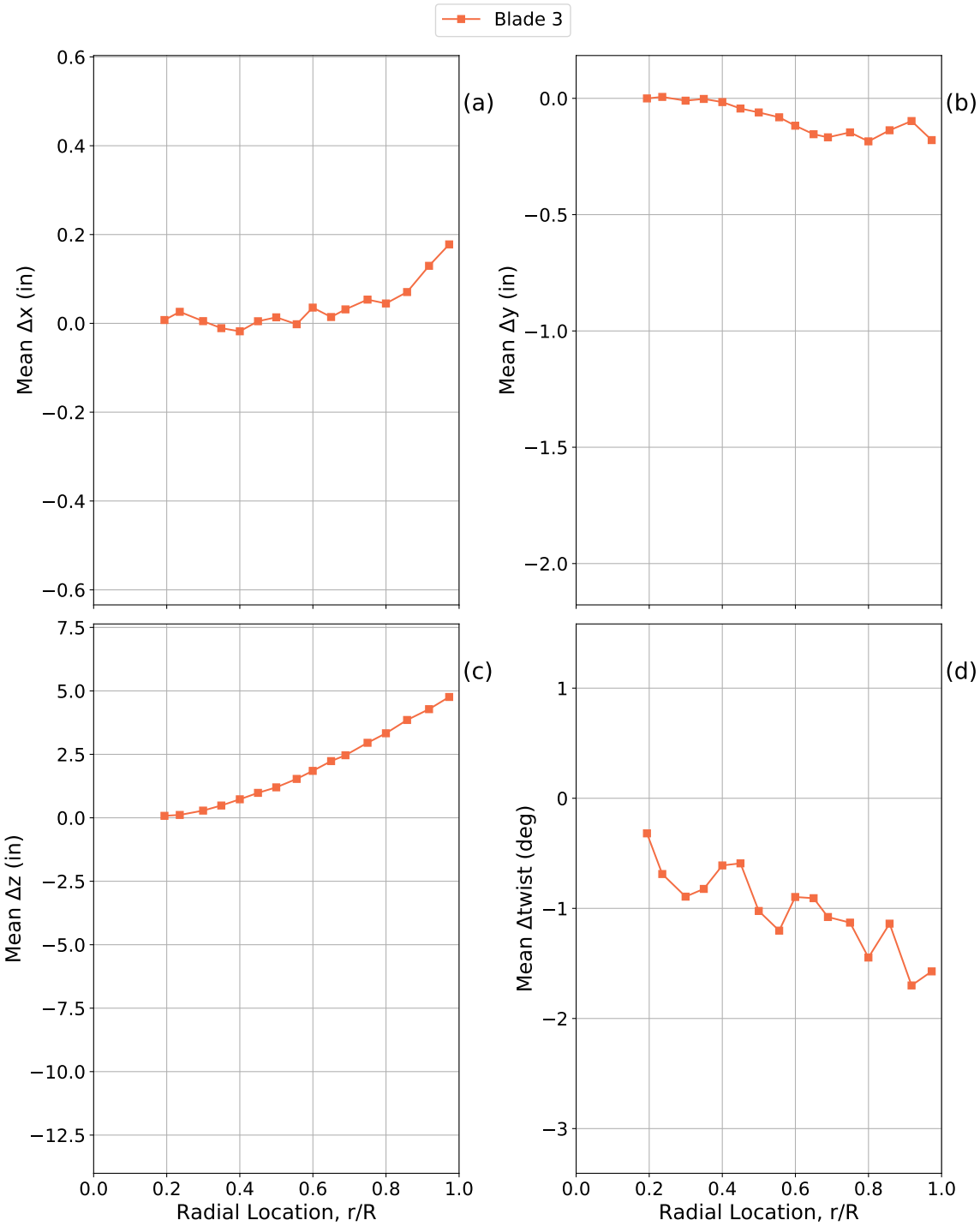


Figure 3.35-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	0.0075	0.0060	-0.0004	0.0011	0.0776	0.0045	-0.3188	0.0376
3	240.12	0.2357	0.0260	0.0019	0.0061	0.0022	0.1124	0.0072	-0.6881	0.0530
3	240.12	0.2995	0.0050	0.0039	-0.0100	0.0057	0.2839	0.0116	-0.8934	0.0749
3	240.12	0.3493	-0.0108	0.0065	-0.0026	0.0095	0.4839	0.0182	-0.8232	0.0600
3	240.12	0.4000	-0.0179	0.0092	-0.0161	0.0156	0.7291	0.0262	-0.6101	0.0746
3	240.12	0.4497	0.0048	0.0111	-0.0438	0.0201	0.9820	0.0348	-0.5912	0.0619
3	240.12	0.4997	0.0136	0.0121	-0.0606	0.0256	1.1999	0.0397	-1.0238	0.0568
3	240.12	0.5556	-0.0020	0.0137	-0.0815	0.0324	1.5322	0.0487	-1.2022	0.0698
3	240.12	0.5995	0.0355	0.0132	-0.1176	0.0372	1.8482	0.0573	-0.8967	0.0715
3	240.12	0.6498	0.0143	0.0145	-0.1543	0.0434	2.2331	0.0637	-0.9076	0.0648
3	240.12	0.6890	0.0315	0.0165	-0.1676	0.0478	2.4641	0.0691	-1.0785	0.0765
3	240.12	0.7495	0.0535	0.0194	-0.1463	0.0550	2.9550	0.0771	-1.1295	0.0930
3	240.12	0.7998	0.0448	0.0234	-0.1850	0.0617	3.3295	0.0909	-1.4465	0.0893
3	240.12	0.8577	0.0705	0.0282	-0.1373	0.0699	3.8533	0.0949	-1.1387	0.1546
3	240.12	0.9178	0.1296	0.0387	-0.0976	0.0769	4.2799	0.1058	-1.6999	0.1340
3	240.12	0.9729	0.1778	0.0551	-0.1796	0.0940	4.7599	0.1224	-1.5724	0.3377

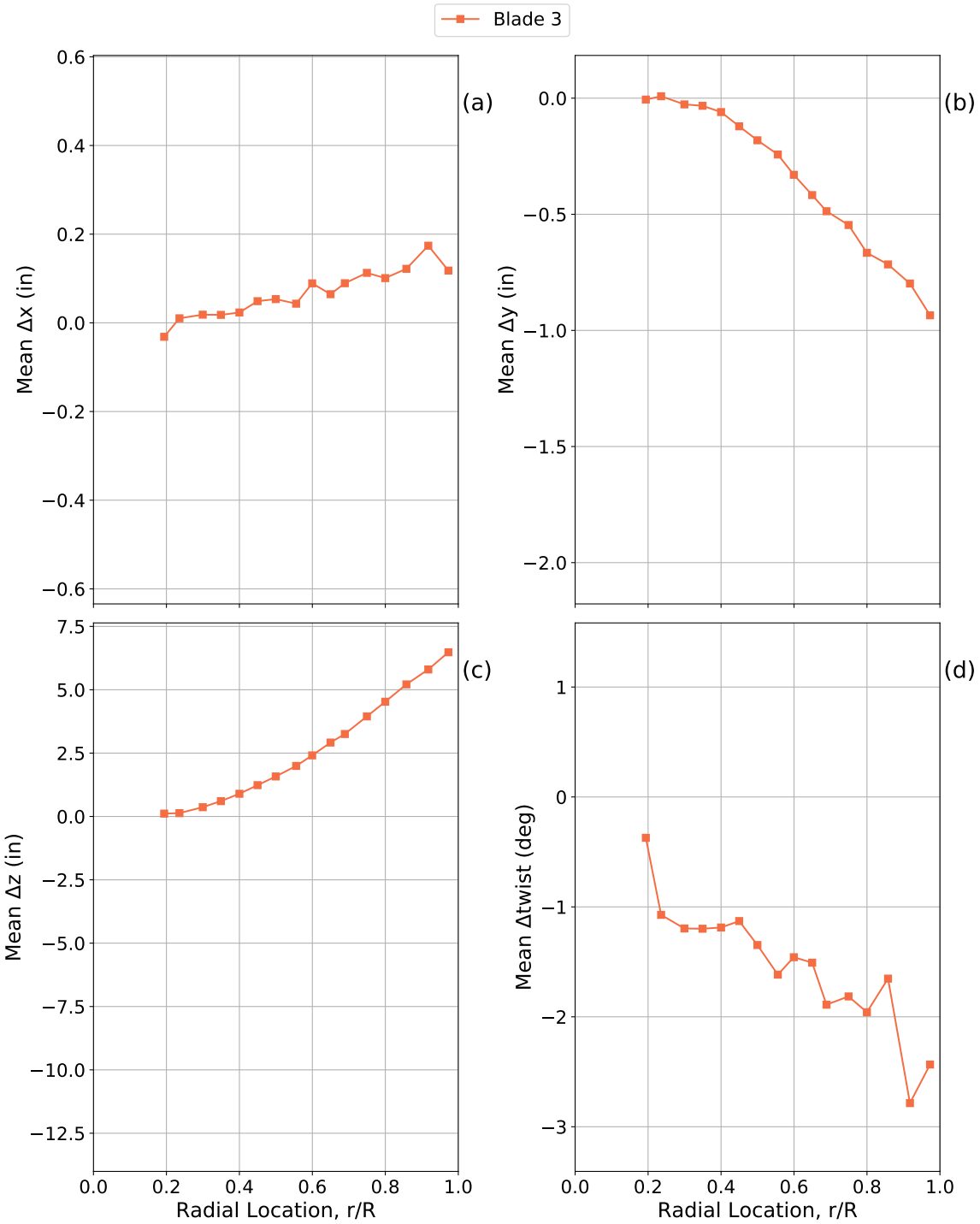


Figure 3.35-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0315	0.0050	-0.0060	0.0019	0.1131	0.0101	-0.3716	0.0257
3	254.88	0.2357	0.0103	0.0010	0.0083	0.0013	0.1323	0.0050	-1.0725	0.0922
3	254.88	0.2995	0.0184	0.0011	-0.0268	0.0050	0.3653	0.0217	-1.1963	0.0881
3	254.88	0.3493	0.0180	0.0013	-0.0328	0.0088	0.6058	0.0355	-1.1988	0.0855
3	254.88	0.4000	0.0233	0.0017	-0.0598	0.0124	0.8955	0.0463	-1.1875	0.0933
3	254.88	0.4497	0.0489	0.0021	-0.1211	0.0168	1.2355	0.0586	-1.1291	0.0855
3	254.88	0.4997	0.0535	0.0021	-0.1813	0.0206	1.5781	0.0690	-1.3470	0.0902
3	254.88	0.5556	0.0432	0.0025	-0.2425	0.0248	1.9937	0.0780	-1.6162	0.0987
3	254.88	0.5995	0.0891	0.0031	-0.3300	0.0284	2.4107	0.0864	-1.4578	0.0941
3	254.88	0.6498	0.0646	0.0033	-0.4172	0.0321	2.9169	0.0944	-1.5075	0.0982
3	254.88	0.6890	0.0894	0.0038	-0.4867	0.0351	3.2540	0.1006	-1.8894	0.0945
3	254.88	0.7495	0.1127	0.0037	-0.5461	0.0397	3.9482	0.1112	-1.8146	0.0913
3	254.88	0.7998	0.1009	0.0039	-0.6658	0.0442	4.5277	0.1233	-1.9582	0.0938
3	254.88	0.8577	0.1219	0.0059	-0.7158	0.0482	5.2124	0.1471	-1.6524	0.1079
3	254.88	0.9178	0.1740	0.0055	-0.7981	0.0537	5.8014	0.1782	-2.7851	0.1059
3	254.88	0.9729	0.1179	0.0113	-0.9349	0.0604	6.4800	0.2261	-2.4339	0.2409

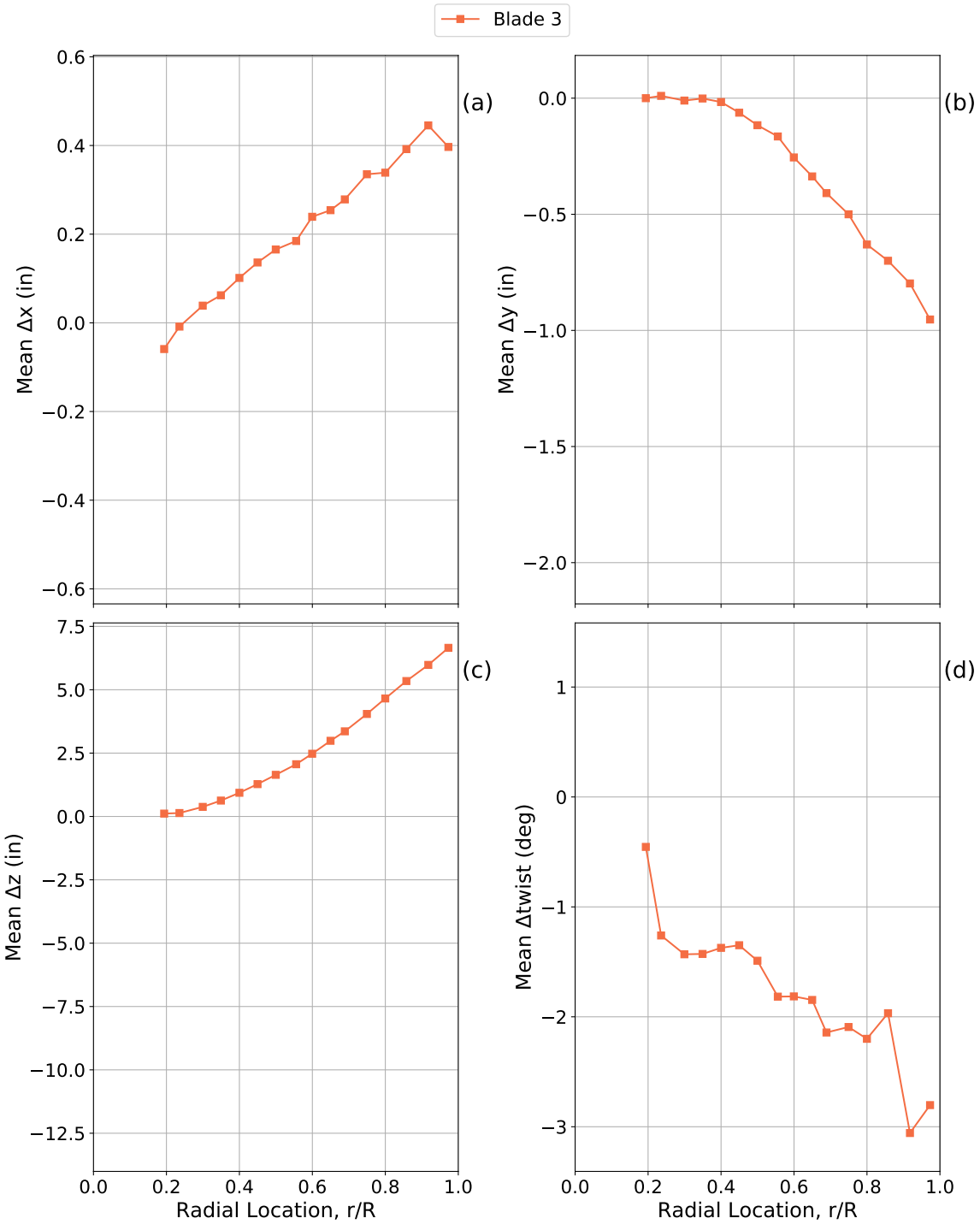


Figure 3.35-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0591	0.0124	-0.0000	0.0034	0.1134	0.0327	-0.4543	0.0884
3	260.16	0.2357	-0.0085	0.0025	0.0099	0.0025	0.1354	0.0165	-1.2602	0.3639
3	260.16	0.2995	0.0388	0.0021	-0.0103	0.0105	0.3779	0.0767	-1.4312	0.3439
3	260.16	0.3493	0.0622	0.0021	-0.0014	0.0189	0.6274	0.1207	-1.4280	0.3435
3	260.16	0.4000	0.1013	0.0028	-0.0166	0.0274	0.9344	0.1645	-1.3727	0.3535
3	260.16	0.4497	0.1361	0.0032	-0.0625	0.0351	1.2760	0.2071	-1.3488	0.3546
3	260.16	0.4997	0.1654	0.0050	-0.1165	0.0440	1.6427	0.2512	-1.4898	0.3538
3	260.16	0.5556	0.1846	0.0065	-0.1649	0.0528	2.0608	0.2969	-1.8165	0.3572
3	260.16	0.5995	0.2392	0.0075	-0.2552	0.0602	2.4754	0.3304	-1.8144	0.3591
3	260.16	0.6498	0.2541	0.0090	-0.3369	0.0684	2.9864	0.3666	-1.8465	0.3648
3	260.16	0.6890	0.2784	0.0101	-0.4088	0.0754	3.3592	0.3948	-2.1426	0.3683
3	260.16	0.7495	0.3351	0.0122	-0.5000	0.0862	4.0450	0.4401	-2.0926	0.3714
3	260.16	0.7998	0.3387	0.0135	-0.6301	0.0940	4.6565	0.4796	-2.2001	0.3633
3	260.16	0.8577	0.3918	0.0155	-0.7001	0.1038	5.3439	0.5245	-1.9672	0.3705
3	260.16	0.9178	0.4453	0.0184	-0.7978	0.1134	5.9801	0.5755	-3.0570	0.3655
3	260.16	0.9729	0.3967	0.0240	-0.9530	0.1227	6.6535	0.6201	-2.8031	0.3791

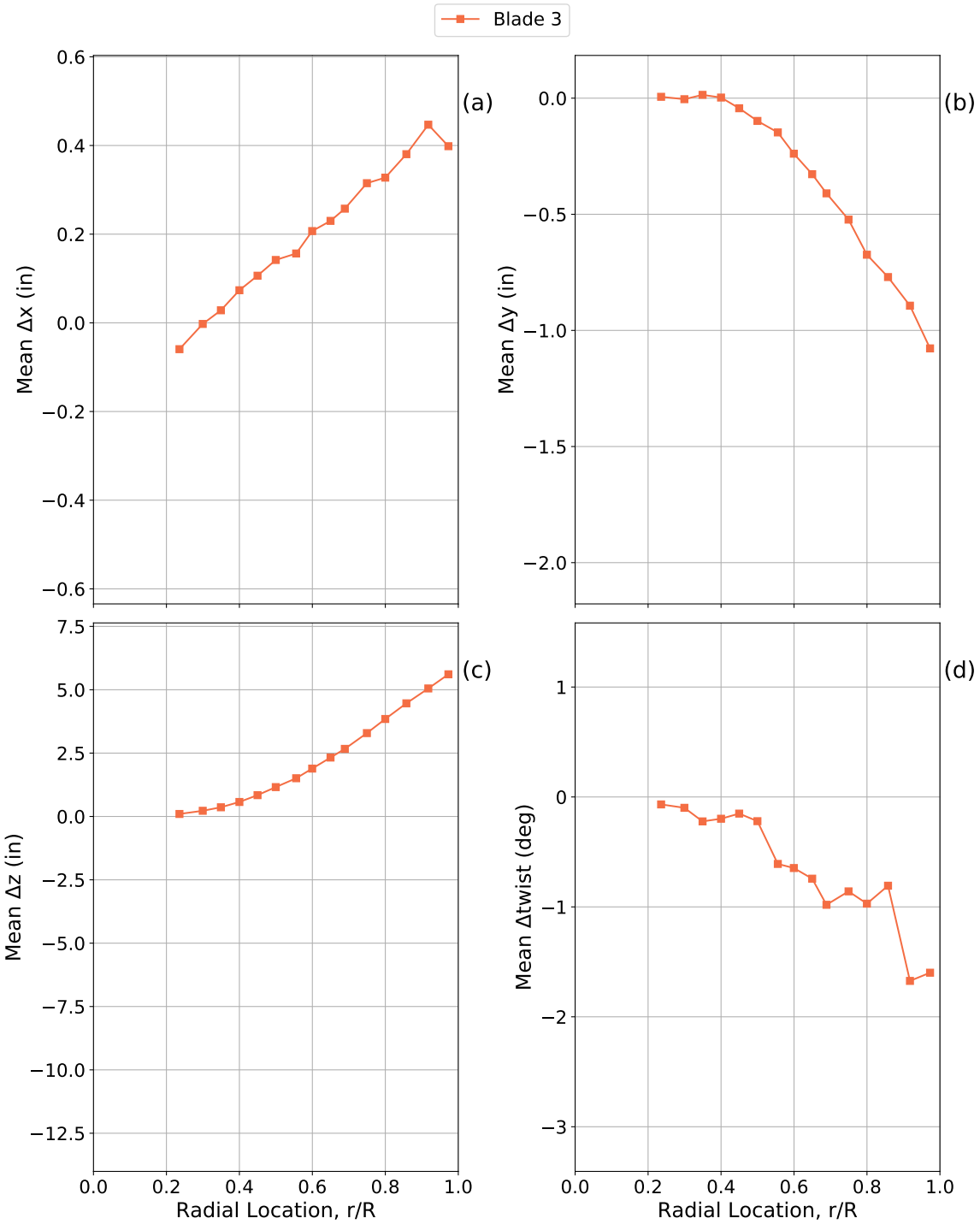


Figure 3.35-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0594	0.0040	0.0059	0.0016	0.0987	0.0171	-0.0678	0.1192
3	265.08	0.2995	-0.0025	0.0013	-0.0044	0.0039	0.2239	0.0312	-0.0987	0.1896
3	265.08	0.3493	0.0283	0.0018	0.0143	0.0081	0.3623	0.0548	-0.2223	0.1854
3	265.08	0.4000	0.0735	0.0020	0.0027	0.0126	0.5719	0.0792	-0.1981	0.1868
3	265.08	0.4497	0.1063	0.0020	-0.0434	0.0172	0.8413	0.1056	-0.1513	0.1938
3	265.08	0.4997	0.1418	0.0022	-0.0980	0.0220	1.1586	0.1332	-0.2202	0.1903
3	265.08	0.5556	0.1564	0.0031	-0.1475	0.0276	1.5082	0.1667	-0.6092	0.1920
3	265.08	0.5995	0.2070	0.0043	-0.2391	0.0321	1.8892	0.1913	-0.6466	0.1941
3	265.08	0.6498	0.2300	0.0050	-0.3273	0.0375	2.3247	0.2238	-0.7433	0.1917
3	265.08	0.6890	0.2575	0.0057	-0.4098	0.0429	2.6672	0.2488	-0.9809	0.1887
3	265.08	0.7495	0.3150	0.0068	-0.5229	0.0502	3.2892	0.2891	-0.8588	0.1874
3	265.08	0.7998	0.3275	0.0085	-0.6741	0.0574	3.8465	0.3218	-0.9707	0.1946
3	265.08	0.8577	0.3804	0.0097	-0.7703	0.0663	4.4644	0.3639	-0.8073	0.1922
3	265.08	0.9178	0.4469	0.0117	-0.8935	0.0742	5.0510	0.3986	-1.6733	0.2232
3	265.08	0.9729	0.3984	0.0154	-1.0774	0.0848	5.6095	0.4343	-1.5987	0.2095

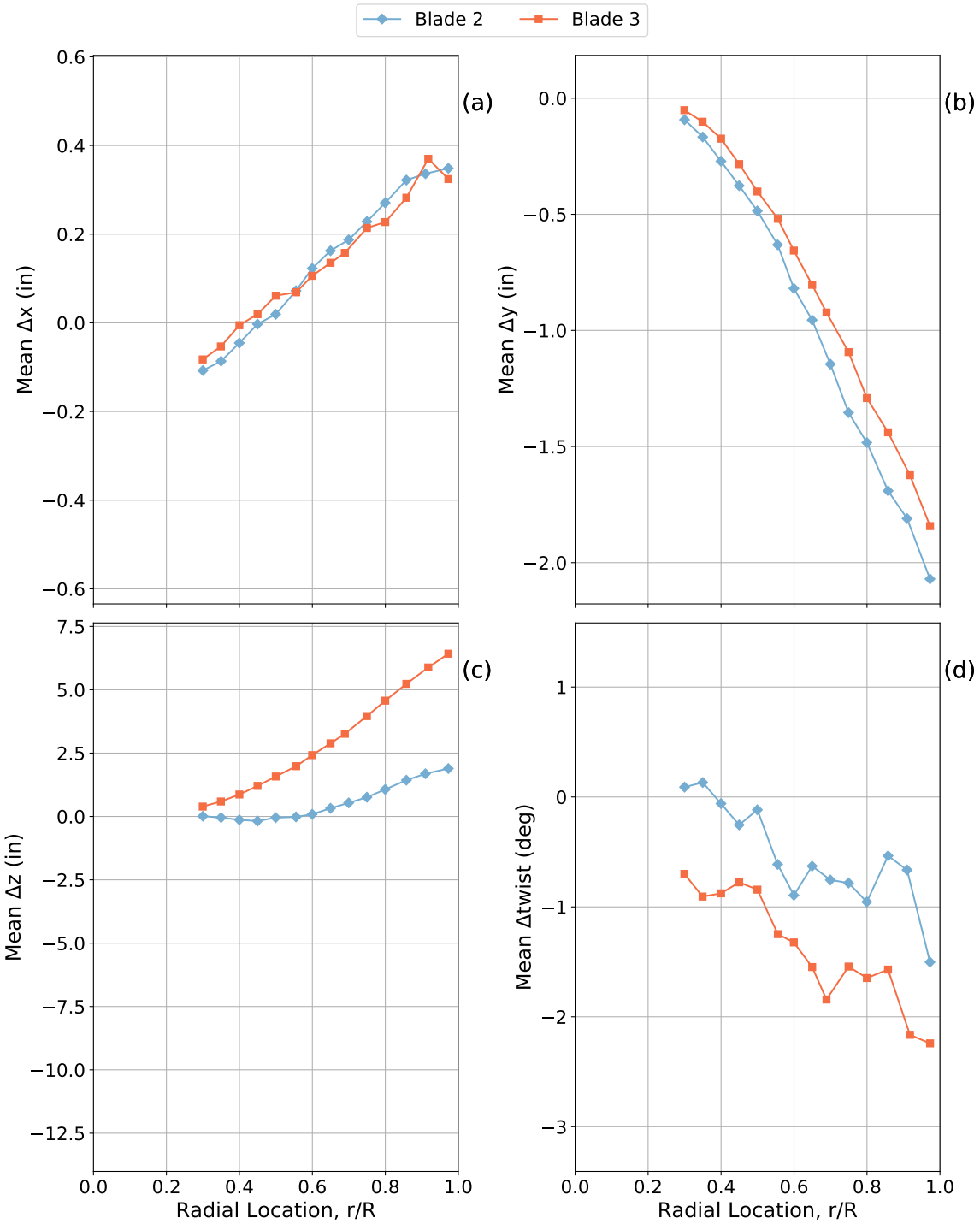


Figure 3.35-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2999	-0.1075	0.0153	-0.0931	0.0289	0.0106	0.2688	0.0894	0.8788
2	270.35	0.3498	-0.0864	0.0099	-0.1673	0.0569	-0.0454	0.4256	0.1316	1.1557
2	270.35	0.3998	-0.0455	0.0097	-0.2714	0.0969	-0.1328	0.6383	-0.0603	1.1307
2	270.35	0.4496	-0.0029	0.0106	-0.3768	0.1360	-0.1805	0.8434	-0.2543	1.1364
2	270.35	0.4995	0.0192	0.0110	-0.4856	0.1714	-0.0465	1.0521	-0.1171	1.1278
2	270.35	0.5551	0.0724	0.0153	-0.6314	0.2138	-0.0190	1.2846	-0.6138	1.1187
2	270.35	0.5996	0.1228	0.0190	-0.8192	0.2457	0.0864	1.4690	-0.8941	1.1204
2	270.35	0.6497	0.1626	0.0228	-0.9556	0.2794	0.3222	1.6761	-0.6293	1.1244
2	270.35	0.6996	0.1873	0.0273	-1.1451	0.3135	0.5363	1.8805	-0.7549	1.1310
2	270.35	0.7495	0.2284	0.0321	-1.3538	0.3477	0.7572	2.0835	-0.7824	1.1420
2	270.35	0.7996	0.2706	0.0369	-1.4830	0.3799	1.0663	2.2922	-0.9548	1.1116
2	270.35	0.8578	0.3219	0.0426	-1.6908	0.4164	1.4318	2.5292	-0.5353	1.1122
2	270.35	0.9100	0.3363	0.0501	-1.8104	0.4521	1.6872	2.7423	-0.6646	1.1217
2	270.35	0.9727	0.3485	0.0720	-2.0703	0.4964	1.8906	2.9972	-1.5021	1.1309
3	270	0.2995	-0.0825	0.0068	-0.0517	0.0094	0.3893	0.1009	-0.6998	0.1782
3	270	0.3493	-0.0532	0.0062	-0.1016	0.0182	0.5908	0.1572	-0.9060	0.2320
3	270	0.4000	-0.0054	0.0093	-0.1744	0.0312	0.8657	0.2348	-0.8768	0.1913
3	270	0.4497	0.0196	0.0105	-0.2837	0.0415	1.2065	0.2925	-0.7766	0.1998
3	270	0.4997	0.0612	0.0127	-0.4020	0.0531	1.5762	0.3564	-0.8431	0.1827
3	270	0.5556	0.0689	0.0157	-0.5194	0.0662	1.9841	0.4280	-1.2478	0.1699
3	270	0.5995	0.1060	0.0175	-0.6563	0.0762	2.4191	0.4801	-1.3232	0.1822
3	270	0.6498	0.1354	0.0208	-0.8038	0.0884	2.8859	0.5428	-1.5473	0.1778
3	270	0.6890	0.1577	0.0223	-0.9230	0.0989	3.2620	0.5884	-1.8427	0.1928
3	270	0.7495	0.2140	0.0254	-1.0934	0.1128	3.9607	0.6603	-1.5429	0.1907
3	270	0.7998	0.2273	0.0287	-1.2915	0.1254	4.5690	0.7221	-1.6471	0.1774
3	270	0.8577	0.2821	0.0302	-1.4388	0.1397	5.2323	0.7918	-1.5701	0.1722
3	270	0.9178	0.3700	0.0344	-1.6235	0.1550	5.8793	0.8654	-2.1636	0.1774
3	270	0.9729	0.3242	0.0420	-1.8427	0.1703	6.4225	0.9295	-2.2416	0.1966

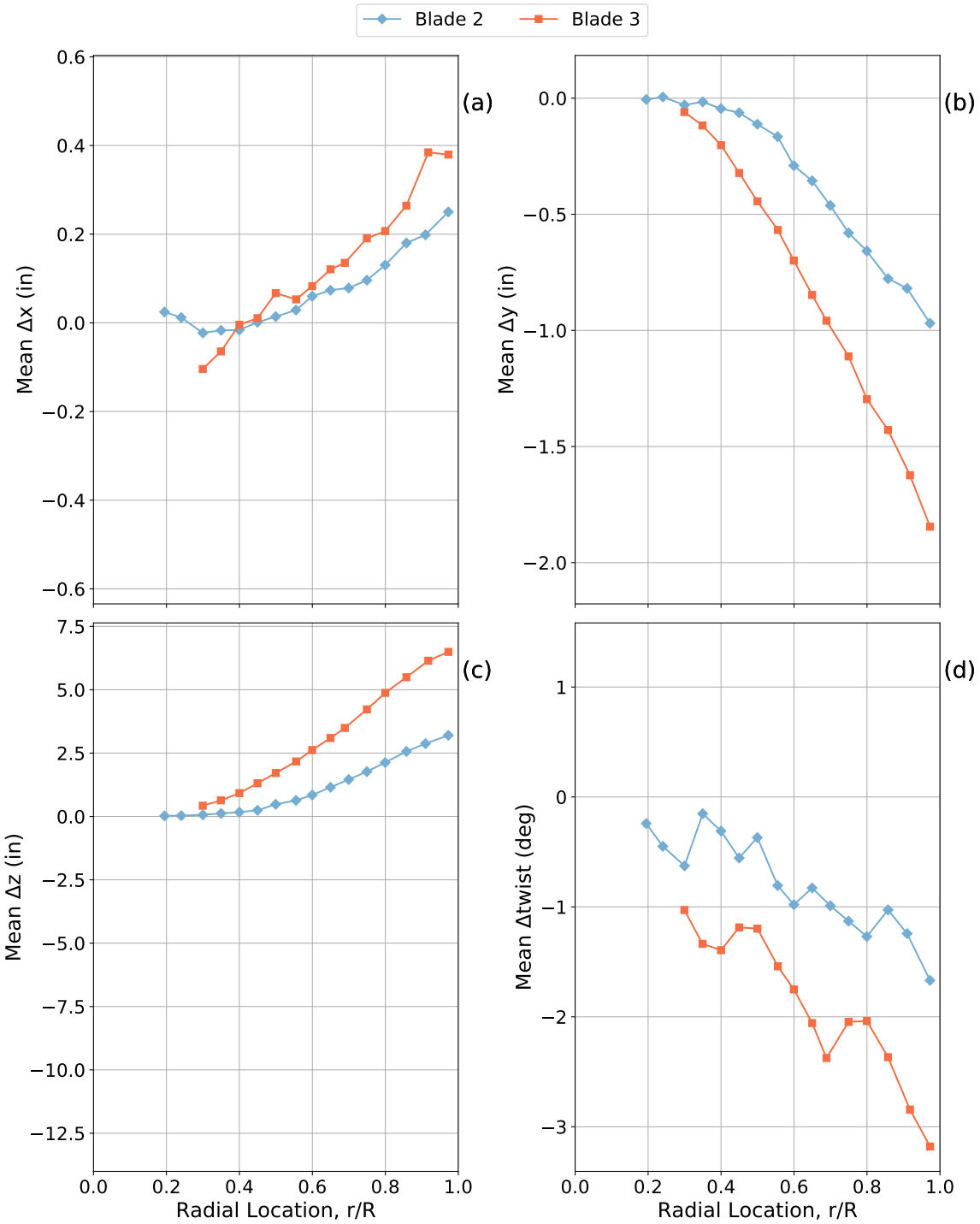


Figure 3.35-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0244	0.0019	-0.0054	0.0008	0.0212	0.0080	-0.2417	0.0391
2	274.92	0.2405	0.0119	0.0016	0.0049	0.0036	0.0329	0.0183	-0.4494	0.0525
2	274.92	0.2999	-0.0227	0.0018	-0.0293	0.0074	0.0655	0.0355	-0.6265	0.0900
2	274.92	0.3498	-0.0169	0.0032	-0.0159	0.0113	0.1196	0.0521	-0.1523	0.0788
2	274.92	0.3998	-0.0162	0.0048	-0.0451	0.0204	0.1684	0.0851	-0.3098	0.1195
2	274.92	0.4496	0.0015	0.0034	-0.0627	0.0223	0.2436	0.0979	-0.5547	0.0778
2	274.92	0.4995	0.0140	0.0101	-0.1121	0.0276	0.4804	0.1305	-0.3697	0.1609
2	274.92	0.5551	0.0289	0.0052	-0.1657	0.0329	0.6316	0.1508	-0.8056	0.0713
2	274.92	0.5996	0.0599	0.0043	-0.2905	0.0399	0.8463	0.1804	-0.9799	0.0664
2	274.92	0.6497	0.0736	0.0048	-0.3559	0.0466	1.1517	0.2140	-0.8279	0.0960
2	274.92	0.6996	0.0785	0.0058	-0.4622	0.0537	1.4576	0.2505	-0.9897	0.0885
2	274.92	0.7495	0.0961	0.0060	-0.5801	0.0607	1.7699	0.2852	-1.1297	0.0798
2	274.92	0.7996	0.1303	0.0088	-0.6582	0.0681	2.1279	0.3222	-1.2699	0.0794
2	274.92	0.8578	0.1801	0.0084	-0.7772	0.0772	2.5654	0.3721	-1.0273	0.0924
2	274.92	0.9100	0.1986	0.0103	-0.8190	0.0851	2.8744	0.4128	-1.2433	0.0638
2	274.92	0.9727	0.2502	0.0144	-0.9693	0.0944	3.2011	0.4614	-1.6684	0.0865
3	274.92	0.2995	-0.1041	0.0118	-0.0599	0.0083	0.4242	0.1666	-1.0287	0.5181
3	274.92	0.3493	-0.0645	0.0086	-0.1177	0.0165	0.6352	0.2611	-1.3365	0.6782
3	274.92	0.4000	-0.0043	0.0139	-0.2022	0.0290	0.9214	0.3921	-1.3940	0.7072
3	274.92	0.4497	0.0106	0.0165	-0.3220	0.0389	1.3114	0.4987	-1.1863	0.7317
3	274.92	0.4997	0.0670	0.0179	-0.4441	0.0489	1.7152	0.6326	-1.1976	0.6570
3	274.92	0.5556	0.0529	0.0221	-0.5675	0.0604	2.1698	0.7650	-1.5404	0.6907
3	274.92	0.5995	0.0829	0.0268	-0.6992	0.0698	2.6215	0.8770	-1.7506	0.6815
3	274.92	0.6498	0.1206	0.0315	-0.8473	0.0797	3.0968	0.9973	-2.0568	0.6782
3	274.92	0.6890	0.1353	0.0349	-0.9581	0.0876	3.4942	1.0946	-2.3747	0.6836
3	274.92	0.7495	0.1906	0.0424	-1.1118	0.0993	4.2249	1.2438	-2.0459	0.6730
3	274.92	0.7998	0.2070	0.0457	-1.2963	0.1098	4.8776	1.3682	-2.0383	0.6887
3	274.92	0.8577	0.2642	0.0527	-1.4288	0.1221	5.4946	1.5151	-2.3674	0.6866
3	274.92	0.9178	0.3846	0.0591	-1.6237	0.1356	6.1463	1.6651	-2.8439	0.7020
3	274.92	0.9729	0.3794	0.0737	-1.8451	0.1529	6.4945	1.8017	-3.1793	0.7067

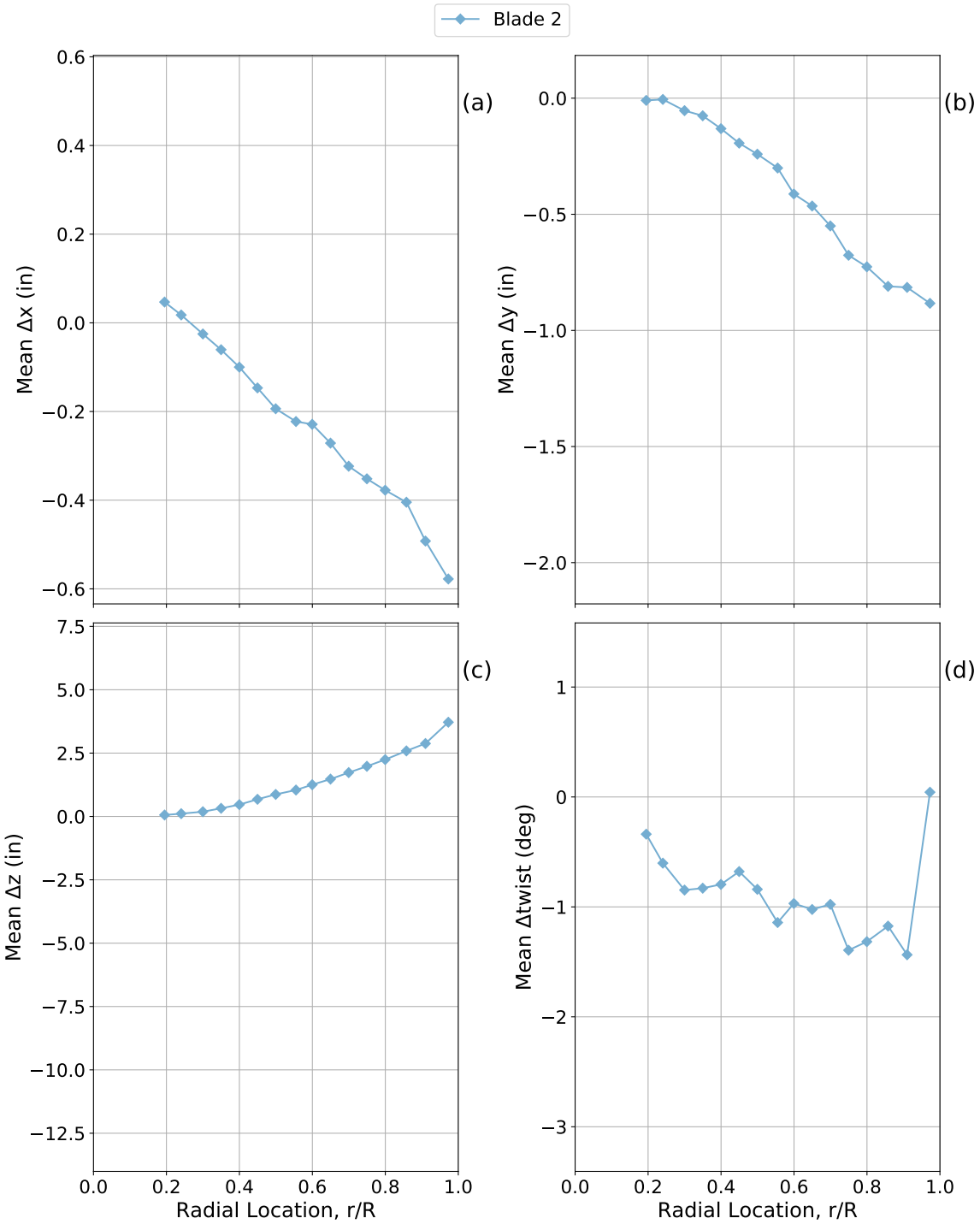


Figure 3.35-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0469	0.0014	-0.0095	0.0012	0.0579	0.0105	-0.3385	0.0814
2	285.12	0.2405	0.0177	0.0034	-0.0054	0.0024	0.1101	0.0114	-0.6020	0.1839
2	285.12	0.2999	-0.0251	0.0020	-0.0537	0.0032	0.1875	0.0266	-0.8470	0.2225
2	285.12	0.3498	-0.0606	0.0032	-0.0758	0.0064	0.3216	0.0522	-0.8299	0.1372
2	285.12	0.3998	-0.0999	0.0040	-0.1313	0.0080	0.4670	0.0678	-0.7954	0.1500
2	285.12	0.4496	-0.1468	0.0034	-0.1936	0.0110	0.6771	0.0891	-0.6785	0.0960
2	285.12	0.4995	-0.1938	0.0034	-0.2411	0.0138	0.8697	0.1000	-0.8403	0.1250
2	285.12	0.5551	-0.2226	0.0044	-0.3007	0.0189	1.0431	0.1184	-1.1424	0.1316
2	285.12	0.5996	-0.2289	0.0048	-0.4126	0.0217	1.2531	0.1339	-0.9689	0.1328
2	285.12	0.6497	-0.2713	0.0052	-0.4644	0.0256	1.4740	0.1513	-1.0234	0.1256
2	285.12	0.6996	-0.3234	0.0050	-0.5502	0.0302	1.7315	0.1699	-0.9770	0.1248
2	285.12	0.7495	-0.3518	0.0070	-0.6765	0.0354	1.9798	0.1902	-1.3942	0.1438
2	285.12	0.7996	-0.3775	0.0060	-0.7262	0.0402	2.2441	0.2079	-1.3163	0.1453
2	285.12	0.8578	-0.4046	0.0072	-0.8103	0.0465	2.5873	0.2367	-1.1747	0.1224
2	285.12	0.9100	-0.4922	0.0089	-0.8148	0.0519	2.8785	0.2572	-1.4356	0.1229
2	285.12	0.9727	-0.5777	0.0116	-0.8834	0.0571	3.7184	0.2955	0.0434	0.2621

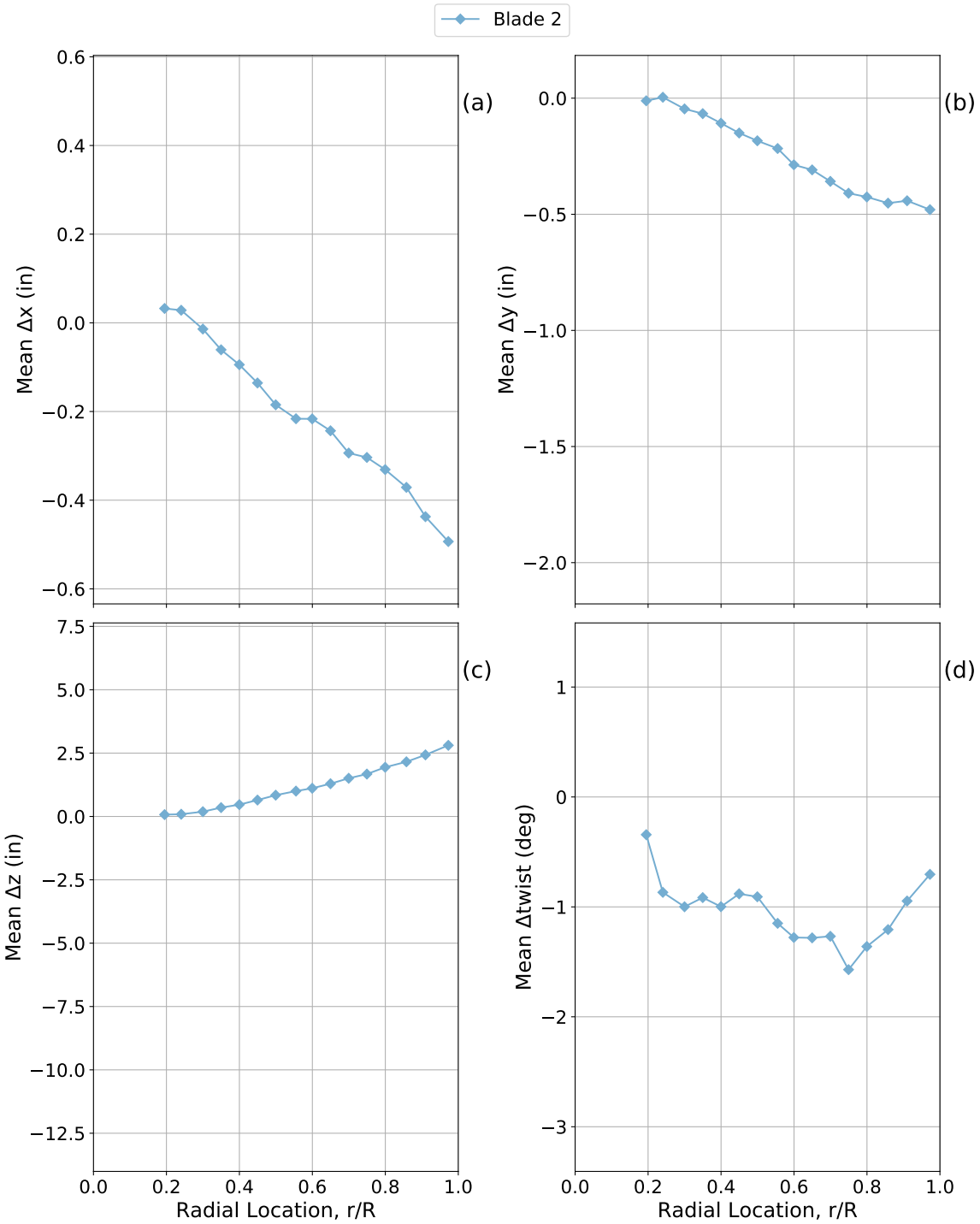


Figure 3.35-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0324	0.0017	-0.0113	0.0007	0.0728	0.0038	-0.3430	0.0462
2	299.88	0.2405	0.0284	0.0017	0.0040	0.0014	0.0877	0.0052	-0.8678	0.0666
2	299.88	0.2999	-0.0140	0.0019	-0.0462	0.0016	0.1888	0.0109	-0.9988	0.0960
2	299.88	0.3498	-0.0608	0.0023	-0.0666	0.0025	0.3496	0.0174	-0.9154	0.0925
2	299.88	0.3998	-0.0944	0.0026	-0.1078	0.0039	0.4661	0.0249	-0.9981	0.1283
2	299.88	0.4496	-0.1356	0.0041	-0.1500	0.0054	0.6473	0.0318	-0.8812	0.1267
2	299.88	0.4995	-0.1849	0.0033	-0.1835	0.0061	0.8397	0.0366	-0.9080	0.0950
2	299.88	0.5551	-0.2163	0.0035	-0.2168	0.0074	1.0015	0.0415	-1.1496	0.1011
2	299.88	0.5996	-0.2166	0.0040	-0.2869	0.0088	1.1126	0.0488	-1.2784	0.0973
2	299.88	0.6497	-0.2435	0.0037	-0.3088	0.0105	1.2924	0.0551	-1.2818	0.0961
2	299.88	0.6996	-0.2937	0.0040	-0.3583	0.0125	1.5071	0.0597	-1.2675	0.0934
2	299.88	0.7495	-0.3036	0.0042	-0.4093	0.0151	1.6728	0.0644	-1.5710	0.0916
2	299.88	0.7996	-0.3310	0.0047	-0.4254	0.0158	1.9418	0.0669	-1.3605	0.0707
2	299.88	0.8578	-0.3711	0.0054	-0.4520	0.0206	2.1570	0.0793	-1.2066	0.0728
2	299.88	0.9100	-0.4372	0.0054	-0.4417	0.0245	2.4302	0.0840	-0.9464	0.0956
2	299.88	0.9727	-0.4933	0.0060	-0.4800	0.0282	2.8071	0.0975	-0.7039	0.0934

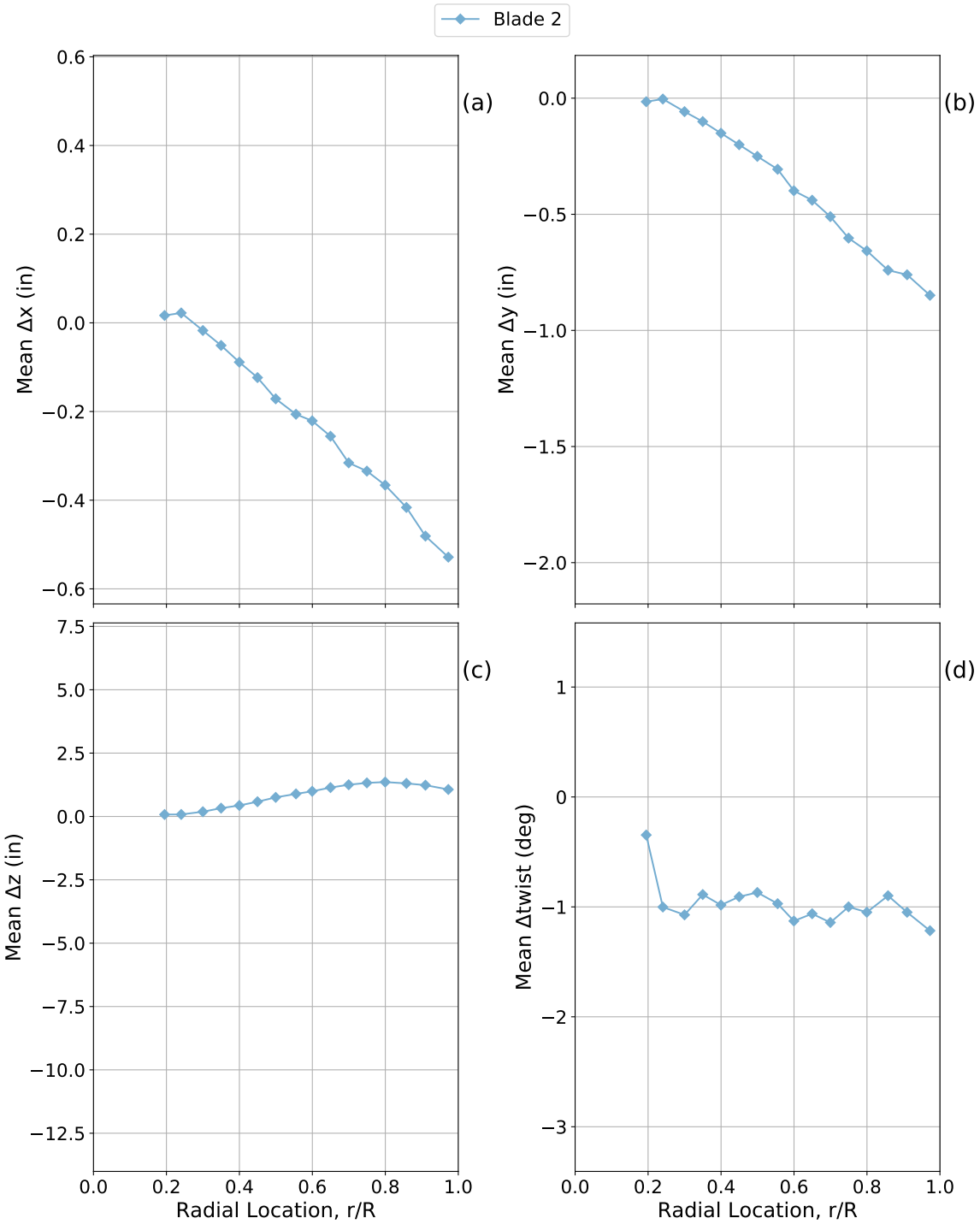


Figure 3.35-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0166	0.0016	-0.0153	0.0008	0.0764	0.0029	-0.3461	0.0275
2	315	0.2405	0.0223	0.0023	-0.0037	0.0039	0.0792	0.0092	-1.0014	0.0247
2	315	0.2999	-0.0173	0.0051	-0.0580	0.0043	0.1872	0.0125	-1.0725	0.0461
2	315	0.3498	-0.0510	0.0023	-0.1008	0.0079	0.3276	0.0232	-0.8876	0.0757
2	315	0.3998	-0.0887	0.0052	-0.1508	0.0138	0.4338	0.0336	-0.9833	0.0426
2	315	0.4496	-0.1235	0.0017	-0.2004	0.0194	0.5820	0.0448	-0.9075	0.0628
2	315	0.4995	-0.1714	0.0031	-0.2507	0.0205	0.7537	0.0558	-0.8690	0.0498
2	315	0.5551	-0.2062	0.0027	-0.3061	0.0250	0.8900	0.0713	-0.9708	0.0563
2	315	0.5996	-0.2211	0.0032	-0.3987	0.0279	0.9932	0.0824	-1.1284	0.0636
2	315	0.6497	-0.2558	0.0027	-0.4394	0.0306	1.1398	0.0995	-1.0623	0.0543
2	315	0.6996	-0.3158	0.0027	-0.5101	0.0337	1.2522	0.1144	-1.1421	0.0617
2	315	0.7495	-0.3344	0.0037	-0.6026	0.0377	1.3245	0.1356	-0.9995	0.0548
2	315	0.7996	-0.3661	0.0038	-0.6574	0.0409	1.3576	0.1592	-1.0487	0.0540
2	315	0.8578	-0.4164	0.0044	-0.7408	0.0457	1.3047	0.1875	-0.8984	0.0534
2	315	0.9100	-0.4810	0.0052	-0.7604	0.0495	1.2347	0.2147	-1.0492	0.0601
2	315	0.9727	-0.5285	0.0061	-0.8489	0.0546	1.0650	0.2505	-1.2166	0.0491

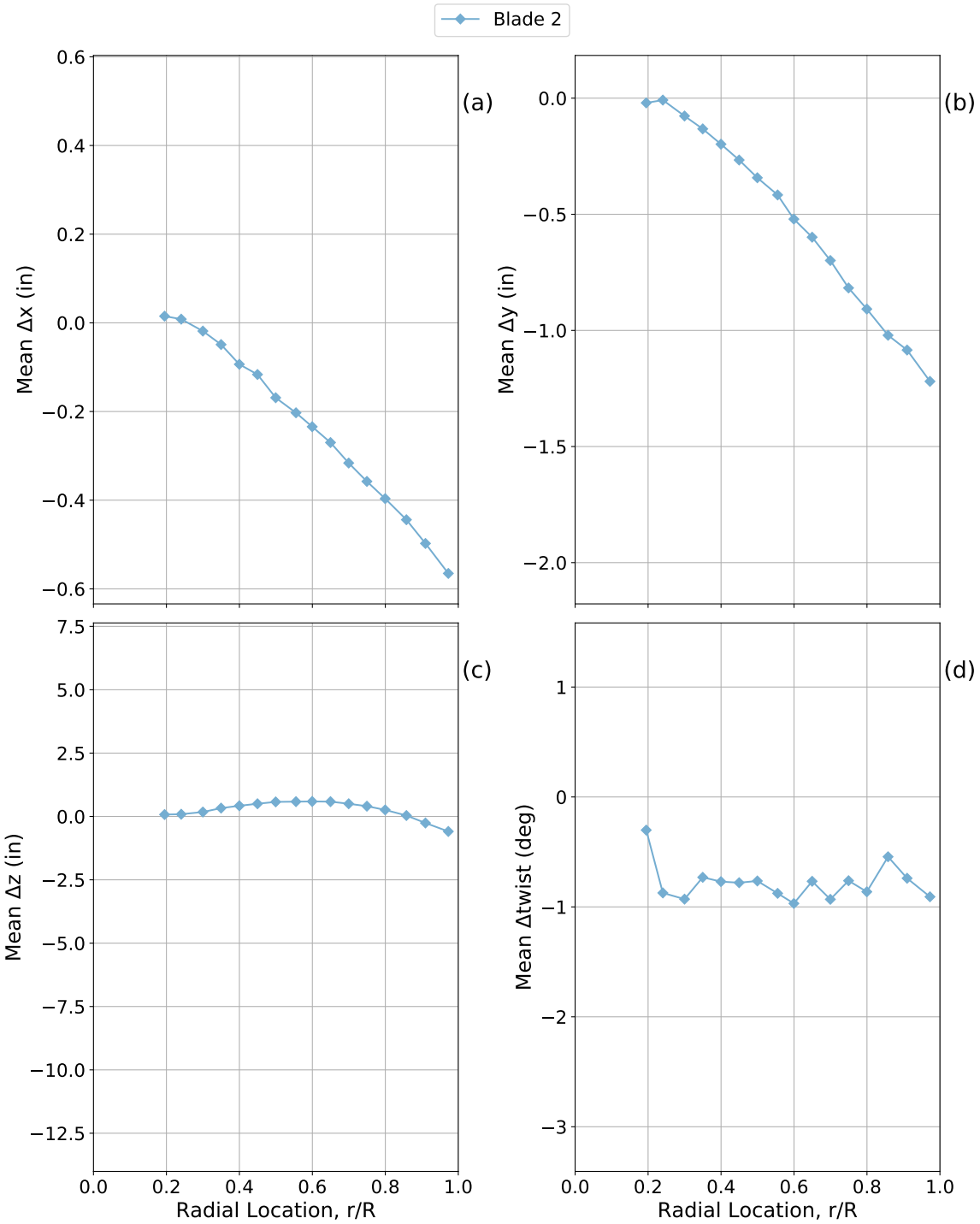


Figure 3.35-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0150	0.0021	-0.0203	0.0008	0.0757	0.0028	-0.3014	0.0276
2	330.12	0.2405	0.0083	0.0016	-0.0082	0.0048	0.0880	0.0062	-0.8729	0.0453
2	330.12	0.2999	-0.0186	0.0038	-0.0768	0.0054	0.1757	0.0116	-0.9295	0.0627
2	330.12	0.3498	-0.0490	0.0022	-0.1323	0.0113	0.3295	0.0208	-0.7310	0.0577
2	330.12	0.3998	-0.0935	0.0015	-0.1981	0.0172	0.4216	0.0312	-0.7701	0.0817
2	330.12	0.4496	-0.1165	0.0019	-0.2663	0.0199	0.5016	0.0405	-0.7800	0.0491
2	330.12	0.4995	-0.1689	0.0027	-0.3427	0.0232	0.5749	0.0534	-0.7642	0.0489
2	330.12	0.5551	-0.2029	0.0031	-0.4167	0.0276	0.5846	0.0687	-0.8768	0.0514
2	330.12	0.5996	-0.2343	0.0032	-0.5208	0.0311	0.5918	0.0803	-0.9688	0.0670
2	330.12	0.6497	-0.2700	0.0029	-0.5986	0.0343	0.5848	0.0991	-0.7670	0.0666
2	330.12	0.6996	-0.3162	0.0030	-0.6990	0.0390	0.5015	0.1189	-0.9314	0.0549
2	330.12	0.7495	-0.3577	0.0035	-0.8172	0.0426	0.4057	0.1379	-0.7618	0.0702
2	330.12	0.7996	-0.3965	0.0039	-0.9080	0.0478	0.2590	0.1590	-0.8626	0.0674
2	330.12	0.8578	-0.4441	0.0045	-1.0210	0.0528	0.0372	0.1867	-0.5439	0.0568
2	330.12	0.9100	-0.4976	0.0047	-1.0845	0.0576	-0.2573	0.2153	-0.7396	0.0538
2	330.12	0.9727	-0.5652	0.0058	-1.2196	0.0631	-0.5919	0.2487	-0.9080	0.0609

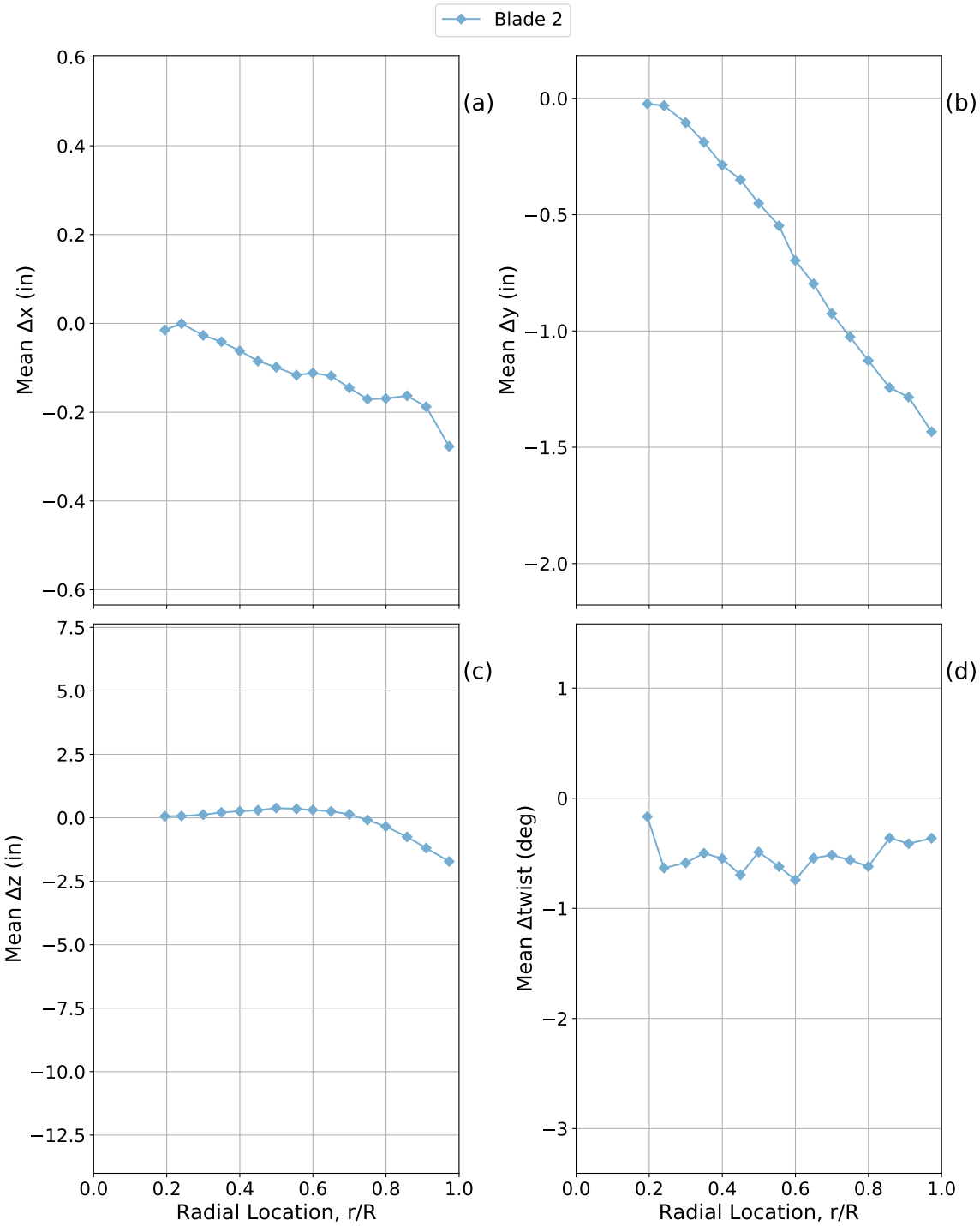


Figure 3.35-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.11$, $\mu = 0.24$, $\alpha = -0°$
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0150	0.0030	-0.0237	0.0010	0.0600	0.0043	-0.1677	0.0204
2	344.88	0.2405	-0.0006	0.0022	-0.0313	0.0043	0.0696	0.0074	-0.6334	0.0378
2	344.88	0.2999	-0.0269	0.0027	-0.1047	0.0074	0.1225	0.0132	-0.5869	0.0460
2	344.88	0.3498	-0.0414	0.0022	-0.1883	0.0131	0.2082	0.0211	-0.4993	0.0428
2	344.88	0.3998	-0.0619	0.0027	-0.2870	0.0218	0.2572	0.0313	-0.5477	0.0399
2	344.88	0.4496	-0.0849	0.0034	-0.3501	0.0299	0.2952	0.0411	-0.6952	0.0366
2	344.88	0.4995	-0.0986	0.0053	-0.4517	0.0376	0.3823	0.0503	-0.4892	0.0543
2	344.88	0.5551	-0.1165	0.0077	-0.5480	0.0482	0.3495	0.0617	-0.6209	0.0584
2	344.88	0.5996	-0.1118	0.0117	-0.6970	0.0578	0.3056	0.0687	-0.7421	0.0485
2	344.88	0.6497	-0.1183	0.0142	-0.7975	0.0674	0.2527	0.0804	-0.5442	0.0593
2	344.88	0.6996	-0.1452	0.0194	-0.9254	0.0732	0.1360	0.0918	-0.5156	0.0606
2	344.88	0.7495	-0.1706	0.0259	-1.0256	0.0815	-0.0897	0.1073	-0.5620	0.0418
2	344.88	0.7996	-0.1691	0.0312	-1.1271	0.0911	-0.3459	0.1175	-0.6210	0.0728
2	344.88	0.8578	-0.1630	0.0378	-1.2433	0.1093	-0.7536	0.1304	-0.3607	0.0667
2	344.88	0.9100	-0.1876	0.0483	-1.2845	0.1216	-1.1940	0.1438	-0.4125	0.0900
2	344.88	0.9727	-0.2769	0.0646	-1.4331	0.1396	-1.7212	0.1679	-0.3635	0.1657

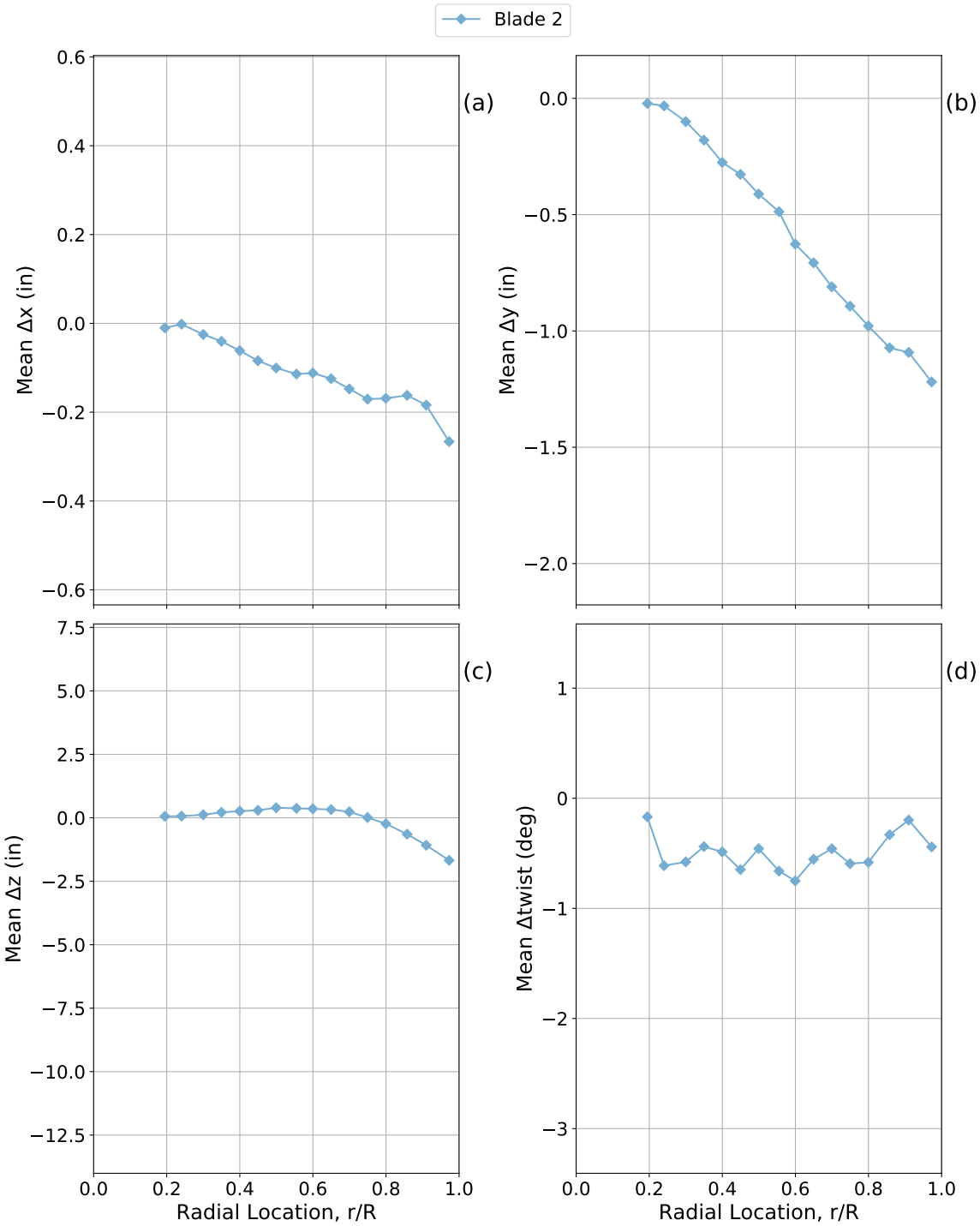


Figure 3.35-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0103	0.0050	-0.0219	0.0021	0.0589	0.0076	-0.1684	0.0399
2	350.16	0.2405	-0.0019	0.0020	-0.0324	0.0038	0.0663	0.0095	-0.6120	0.0862
2	350.16	0.2999	-0.0250	0.0021	-0.1000	0.0084	0.1197	0.0209	-0.5781	0.1034
2	350.16	0.3498	-0.0404	0.0043	-0.1796	0.0156	0.2149	0.0325	-0.4392	0.0938
2	350.16	0.3998	-0.0615	0.0057	-0.2754	0.0236	0.2626	0.0462	-0.4869	0.0963
2	350.16	0.4496	-0.0842	0.0079	-0.3269	0.0313	0.2955	0.0570	-0.6481	0.1006
2	350.16	0.4995	-0.1005	0.0093	-0.4116	0.0393	0.3963	0.0706	-0.4573	0.1006
2	350.16	0.5551	-0.1142	0.0106	-0.4871	0.0473	0.3725	0.0825	-0.6611	0.1116
2	350.16	0.5996	-0.1118	0.0133	-0.6266	0.0515	0.3541	0.0930	-0.7506	0.1140
2	350.16	0.6497	-0.1246	0.0162	-0.7070	0.0574	0.3237	0.1104	-0.5536	0.1007
2	350.16	0.6996	-0.1476	0.0185	-0.8102	0.0632	0.2359	0.1279	-0.4582	0.0909
2	350.16	0.7495	-0.1706	0.0211	-0.8935	0.0695	0.0100	0.1463	-0.5939	0.1123
2	350.16	0.7996	-0.1689	0.0254	-0.9786	0.0770	-0.2338	0.1677	-0.5818	0.1038
2	350.16	0.8578	-0.1620	0.0279	-1.0727	0.0950	-0.6457	0.1926	-0.3308	0.1183
2	350.16	0.9100	-0.1840	0.0344	-1.0922	0.1014	-1.0813	0.2142	-0.1981	0.1212
2	350.16	0.9727	-0.2662	0.0454	-1.2192	0.1197	-1.6757	0.2465	-0.4418	0.1944

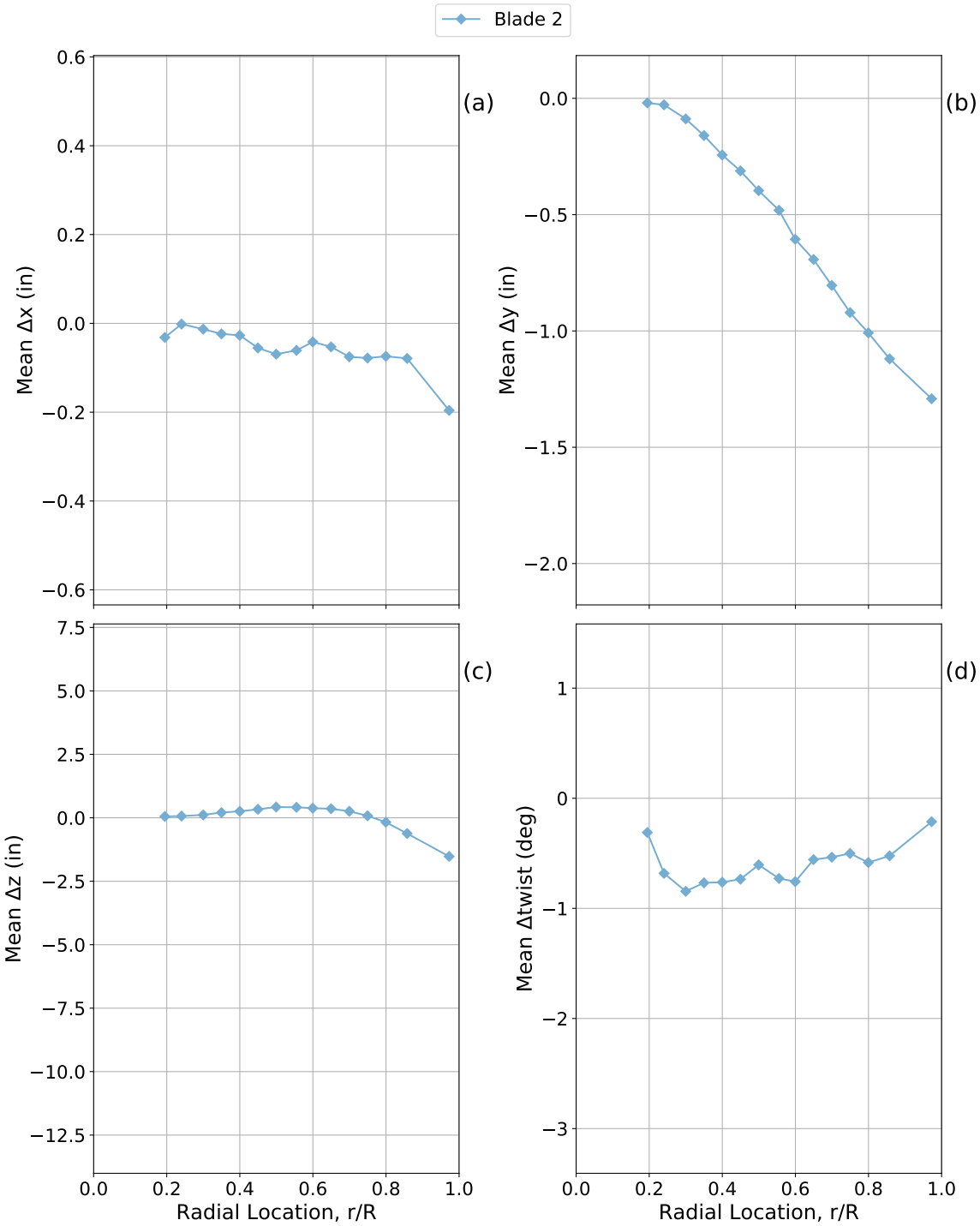


Figure 3.35-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.11, μ = 0.24, α = -0° NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Table 3.35-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.11, μ = 0.24, α = -0°
NFAC run 81, point 50. BD run 38, points 5929 to 5939.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0317	0.0075	-0.0198	0.0019	0.0535	0.0058	-0.3112	0.0248
2	355.08	0.2405	-0.0016	0.0026	-0.0279	0.0021	0.0689	0.0071	-0.6822	0.0563
2	355.08	0.2999	-0.0131	0.0023	-0.0884	0.0065	0.1129	0.0157	-0.8449	0.0662
2	355.08	0.3498	-0.0237	0.0049	-0.1599	0.0127	0.2063	0.0257	-0.7680	0.0565
2	355.08	0.3998	-0.0270	0.0083	-0.2437	0.0181	0.2555	0.0365	-0.7623	0.0730
2	355.08	0.4496	-0.0554	0.0115	-0.3120	0.0246	0.3332	0.0490	-0.7351	0.0562
2	355.08	0.4995	-0.0694	0.0122	-0.3967	0.0316	0.4242	0.0597	-0.6048	0.0619
2	355.08	0.5551	-0.0608	0.0152	-0.4813	0.0392	0.4137	0.0743	-0.7281	0.0570
2	355.08	0.5996	-0.0417	0.0174	-0.6059	0.0466	0.3782	0.0839	-0.7572	0.0688
2	355.08	0.6497	-0.0529	0.0212	-0.6927	0.0575	0.3574	0.0928	-0.5569	0.0745
2	355.08	0.6996	-0.0753	0.0247	-0.8044	0.0678	0.2565	0.1066	-0.5354	0.0894
2	355.08	0.7495	-0.0781	0.0311	-0.9211	0.0793	0.0794	0.1267	-0.5012	0.0929
2	355.08	0.7996	-0.0742	0.0339	-1.0084	0.0911	-0.1746	0.1365	-0.5835	0.0834
2	355.08	0.8578	-0.0789	0.0392	-1.1199	0.1054	-0.6181	0.1628	-0.5229	0.1108
2	355.08	0.9727	-0.1961	0.0594	-1.2915	0.1337	-1.5220	0.2079	-0.2131	0.1939

3.36 Run 83, Point 33

3.36.1 Pitch, Flap, and Lag

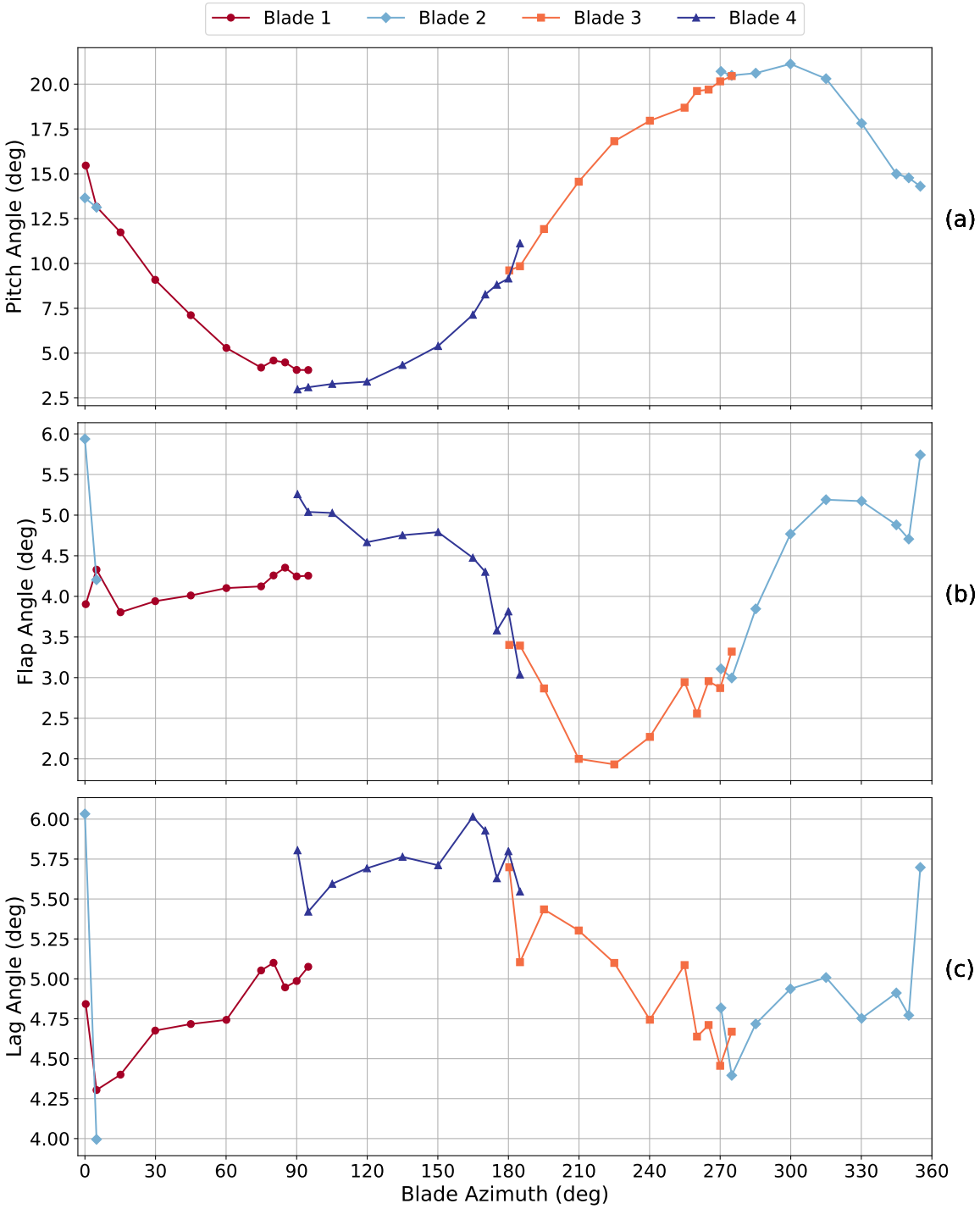


Figure 3.36-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	13.6532	5.9375	6.0325	0.1408	0.2164	0.2082
0.35	1	15.4611	3.9038	4.8423	0.2950	0.1127	0.0604
4.92	1	13.1618	4.3288	4.3040	0.0878	0.0658	0.0697
4.92	2	13.1302	4.2044	3.9950	0.1231	0.0510	0.1015
15.12	1	11.7361	3.8044	4.4002	0.0799	0.0754	0.0648
29.88	1	9.0872	3.9407	4.6761	0.1595	0.1163	0.0778
45	1	7.1152	4.0110	4.7171	0.1467	0.1021	0.0490
60.12	1	5.2907	4.1019	4.7432	0.1188	0.0701	0.0590
74.88	1	4.1937	4.1229	5.0527	0.0843	0.0552	0.1065
80.16	1	4.5895	4.2571	5.1003	0.0998	0.0821	0.0686
85.08	1	4.4824	4.3532	4.9466	0.0824	0.0759	0.0347
90	1	4.0635	4.2457	4.9864	0.1988	0.0614	0.0594
90.35	4	2.9776	5.2570	5.8048	0.1137	0.0577	0.0806
94.92	1	4.0573	4.2542	5.0755	0.1147	0.0840	0.0631
94.92	4	3.0965	5.0390	5.4206	0.1040	0.0745	0.0497
105.12	4	3.2835	5.0262	5.5948	0.1363	0.0698	0.0541
119.88	4	3.4108	4.6663	5.6922	0.0586	0.0669	0.0648
135	4	4.3412	4.7529	5.7637	0.1071	0.1623	0.0610
150.12	4	5.3946	4.7905	5.7110	0.1331	0.1736	0.0653
164.88	4	7.1388	4.4749	6.0148	0.0705	0.1117	0.0964
170.16	4	8.2714	4.3014	5.9282	0.1188	0.1279	0.0543
175.08	4	8.8129	3.5804	5.6296	0.2653	0.2167	0.0583
180	4	9.1596	3.8146	5.7991	0.0808	0.1700	0.0944
180.35	3	9.6130	3.4024	5.6985	0.2899	0.3679	0.1045
184.92	3	9.8462	3.3942	5.1042	0.1383	0.2609	0.2372
184.92	4	11.1197	3.0371	5.5463	0.5590	0.2595	0.1697
195.12	3	11.9189	2.8666	5.4348	0.1303	0.0992	0.0648
209.88	3	14.5596	1.9999	5.3025	0.1267	0.2201	0.0724
225	3	16.8152	1.9319	5.0996	0.0896	0.1687	0.1029
240.12	3	17.9591	2.2702	4.7442	0.1512	0.2485	0.0949
254.88	3	18.6858	2.9449	5.0863	0.3040	0.1731	0.1329
260.16	3	19.6150	2.5586	4.6384	0.0877	0.1011	0.0600
265.08	3	19.6947	2.9564	4.7107	0.1265	0.1134	0.0468
270	3	20.1529	2.8716	4.4554	0.1640	0.0958	0.0618
270.35	2	20.7073	3.1077	4.8179	0.0982	0.0578	0.0584
274.92	2	20.4847	2.9956	4.3955	0.0519	0.0877	0.0638
274.92	3	20.4501	3.3203	4.6690	0.0982	0.1168	0.0370
285.12	2	20.6115	3.8460	4.7180	0.1826	0.0524	0.0881
299.88	2	21.1236	4.7681	4.9371	0.1888	0.0669	0.0486
315	2	20.3012	5.1895	5.0082	0.0660	0.0692	0.0775
330.12	2	17.8158	5.1719	4.7528	0.0762	0.0923	0.0667
344.88	2	14.9947	4.8798	4.9117	0.1931	0.0857	0.1028
350.16	2	14.7740	4.7054	4.7717	0.2857	0.1306	0.0678
355.08	2	14.3027	5.7407	5.6976	0.1726	0.1262	0.1084

3.36.2 Spanwise Elastic Deformations

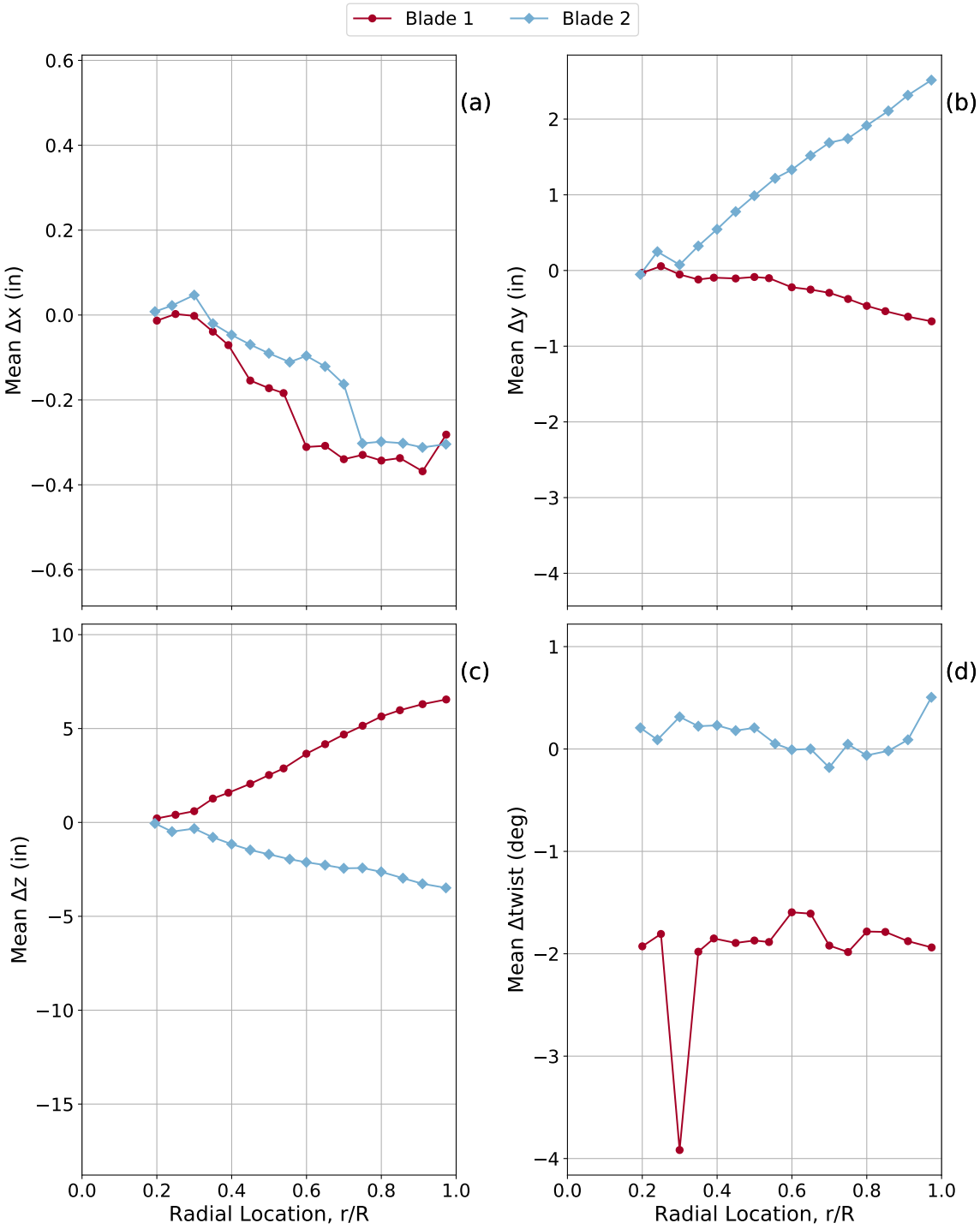


Figure 3.36-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	-0.0132	0.0063	-0.0310	0.0044	0.2137	0.0246	-1.9273	0.2644
1	0.35	0.2499	0.0024	0.0078	0.0567	0.0075	0.4072	0.0427	-1.8067	0.2732
1	0.35	0.2998	-0.0021	0.0079	-0.0530	0.0081	0.5989	0.0591	-3.9169	0.5470
1	0.35	0.3498	-0.0391	0.0121	-0.1190	0.0210	1.2697	0.1343	-1.9801	0.2889
1	0.35	0.3913	-0.0709	0.0137	-0.0947	0.0192	1.5801	0.1569	-1.8507	0.2941
1	0.35	0.4496	-0.1543	0.0177	-0.1055	0.0181	2.0565	0.1909	-1.8945	0.2912
1	0.35	0.4997	-0.1724	0.0214	-0.0860	0.0205	2.5237	0.2210	-1.8705	0.2880
1	0.35	0.5387	-0.1839	0.0236	-0.1015	0.0245	2.8751	0.2454	-1.8855	0.2818
1	0.35	0.5996	-0.3109	0.0593	-0.2220	0.0545	3.6581	0.3055	-1.5950	0.2774
1	0.35	0.6498	-0.3082	0.0600	-0.2521	0.0603	4.1665	0.3372	-1.6082	0.2570
1	0.35	0.6998	-0.3397	0.0604	-0.2949	0.0681	4.6807	0.3627	-1.9201	0.2636
1	0.35	0.7500	-0.3295	0.0609	-0.3765	0.0772	5.1486	0.3902	-1.9832	0.2543
1	0.35	0.8001	-0.3429	0.0629	-0.4677	0.0856	5.6410	0.4189	-1.7829	0.2648
1	0.35	0.8497	-0.3371	0.0642	-0.5376	0.0967	5.9752	0.4449	-1.7867	0.2648
1	0.35	0.9102	-0.3681	0.0692	-0.6107	0.1114	6.2974	0.4858	-1.8771	0.2241
1	0.35	0.9734	-0.2818	0.0762	-0.6718	0.1281	6.5471	0.5217	-1.9383	0.2500
2	0	0.1949	0.0080	0.0075	-0.0523	0.0079	-0.0531	0.0127	0.2065	0.0794
2	0	0.2405	0.0223	0.0087	0.2481	0.0388	-0.4893	0.0684	0.0897	0.0714
2	0	0.2999	0.0470	0.0094	0.0753	0.0243	-0.3287	0.0465	0.3139	0.1527
2	0	0.3498	-0.0203	0.0345	0.3231	0.0847	-0.7944	0.0862	0.2226	0.1186
2	0	0.3998	-0.0469	0.0380	0.5441	0.1198	-1.1578	0.1352	0.2304	0.1297
2	0	0.4496	-0.0697	0.0410	0.7775	0.1559	-1.4676	0.1824	0.1794	0.1215
2	0	0.4995	-0.0902	0.0436	0.9873	0.1928	-1.6974	0.2317	0.2065	0.1242
2	0	0.5551	-0.1109	0.0454	1.2172	0.2331	-1.9588	0.2852	0.0513	0.1133
2	0	0.5996	-0.0962	0.0476	1.3304	0.2672	-2.1208	0.3332	-0.0073	0.1139
2	0	0.6497	-0.1212	0.0481	1.5174	0.3051	-2.2731	0.3765	0.0004	0.1011
2	0	0.6996	-0.1628	0.0482	1.6873	0.3449	-2.4444	0.4237	-0.1809	0.1081
2	0	0.7495	-0.3025	0.0131	1.7419	0.4037	-2.4274	0.3796	0.0461	0.1027
2	0	0.7996	-0.2983	0.0090	1.9139	0.4419	-2.6310	0.4150	-0.0622	0.1245
2	0	0.8578	-0.3021	0.0092	2.1077	0.4895	-2.9692	0.4544	-0.0181	0.1187
2	0	0.9100	-0.3119	0.0140	2.3148	0.5304	-3.2665	0.4944	0.0898	0.1446
2	0	0.9727	-0.3043	0.0227	2.5148	0.6888	-3.4861	0.6729	0.5049	2.3221

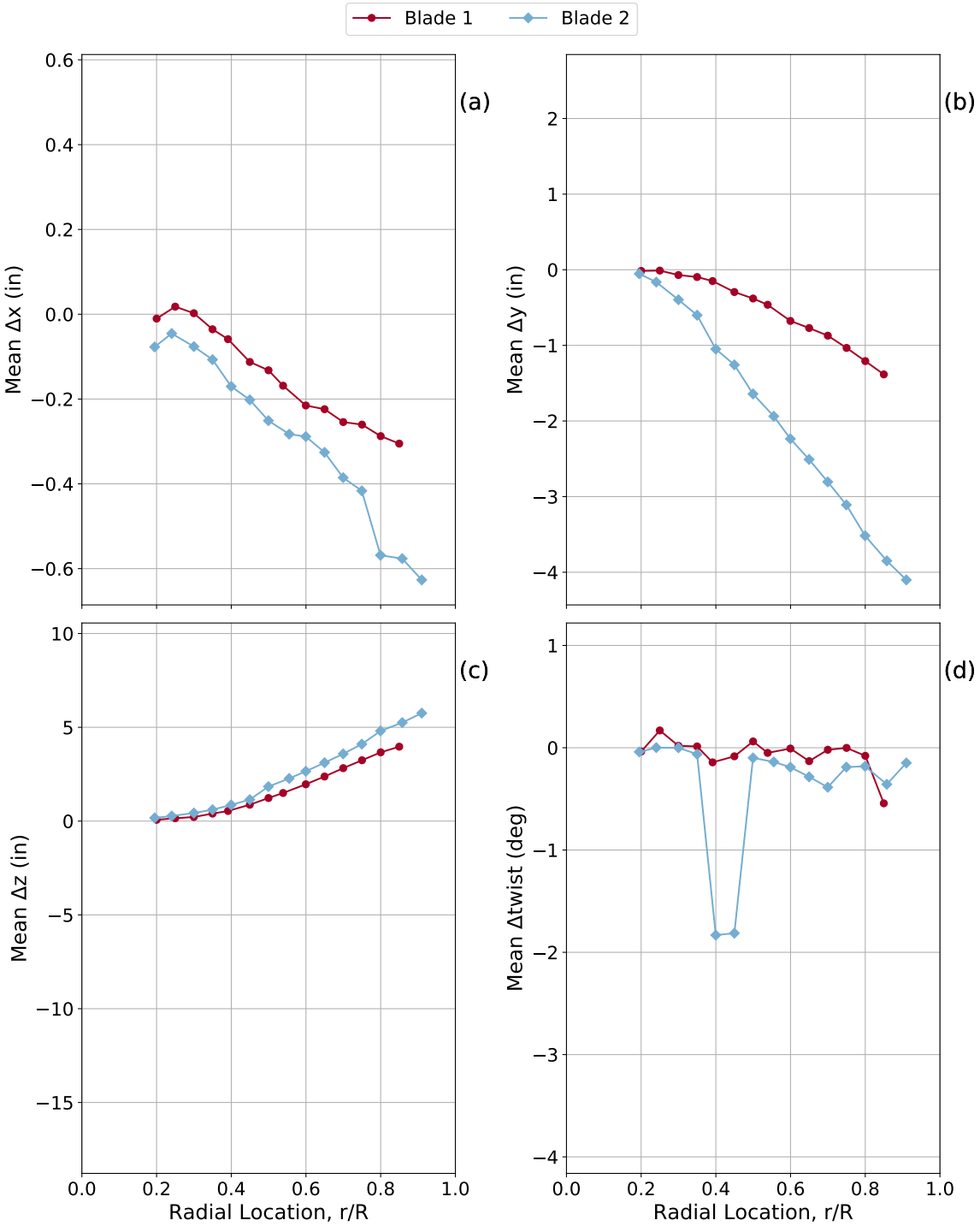


Figure 3.36-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0103	0.0028	-0.0153	0.0023	0.0697	0.0096	-0.0372	0.0573
1	4.92	0.2499	0.0179	0.0023	-0.0110	0.0044	0.1519	0.0186	0.1691	0.0654
1	4.92	0.2998	0.0024	0.0019	-0.0698	0.0095	0.2193	0.0297	0.0188	0.1094
1	4.92	0.3498	-0.0355	0.0031	-0.0963	0.0162	0.3988	0.0515	0.0128	0.0903
1	4.92	0.3913	-0.0588	0.0038	-0.1495	0.0230	0.5402	0.0708	-0.1428	0.0752
1	4.92	0.4496	-0.1125	0.0047	-0.2946	0.0282	0.8740	0.0907	-0.0837	0.0649
1	4.92	0.4997	-0.1322	0.0043	-0.3803	0.0350	1.2307	0.1071	0.0617	0.0975
1	4.92	0.5387	-0.1685	0.0053	-0.4633	0.0417	1.4991	0.1260	-0.0501	0.0880
1	4.92	0.5996	-0.2152	0.0064	-0.6769	0.0491	1.9633	0.1400	-0.0079	0.0945
1	4.92	0.6498	-0.2240	0.0064	-0.7708	0.0574	2.3773	0.1622	-0.1310	0.0987
1	4.92	0.6998	-0.2543	0.0079	-0.8718	0.0646	2.8230	0.1781	-0.0197	0.0734
1	4.92	0.7500	-0.2603	0.0075	-1.0337	0.0708	3.2437	0.1871	-0.0015	0.0858
1	4.92	0.8001	-0.2875	0.0103	-1.2081	0.0850	3.6664	0.2055	-0.0790	0.1858
1	4.92	0.8497	-0.3051	0.0097	-1.3838	0.0909	3.9678	0.2063	-0.5435	0.1224
2	4.92	0.1949	-0.0771	0.0081	-0.0534	0.0041	0.1706	0.0112	-0.0409	0.0326
2	4.92	0.2405	-0.0454	0.0084	-0.1634	0.0191	0.2722	0.0134	0.0010	0.0619
2	4.92	0.2999	-0.0763	0.0075	-0.3967	0.0371	0.4314	0.0198	-0.0002	0.0740
2	4.92	0.3498	-0.1071	0.0098	-0.6012	0.0550	0.6085	0.0353	-0.0630	0.0648
2	4.92	0.3998	-0.1703	0.0243	-1.0491	0.0991	0.8636	0.0445	-1.8320	0.3570
2	4.92	0.4496	-0.2019	0.0252	-1.2573	0.1219	1.1455	0.0593	-1.8132	0.3935
2	4.92	0.4995	-0.2510	0.0398	-1.6421	0.1752	1.8401	0.1171	-0.0994	0.0881
2	4.92	0.5551	-0.2828	0.0448	-1.9373	0.2041	2.2745	0.1365	-0.1384	0.0816
2	4.92	0.5996	-0.2885	0.0477	-2.2361	0.2262	2.6563	0.1511	-0.1901	0.0774
2	4.92	0.6497	-0.3258	0.0517	-2.5086	0.2498	3.1129	0.1750	-0.2844	0.0932
2	4.92	0.6996	-0.3854	0.0550	-2.8050	0.2761	3.5846	0.1970	-0.3863	0.0770
2	4.92	0.7495	-0.4165	0.0581	-3.1095	0.3003	4.1037	0.2219	-0.1889	0.0836
2	4.92	0.7996	-0.5685	0.0745	-3.5174	0.3584	4.8067	0.3246	-0.1817	0.1322
2	4.92	0.8578	-0.5764	0.0730	-3.8492	0.3926	5.2517	0.3654	-0.3573	0.1444
2	4.92	0.9100	-0.6266	0.0669	-4.1014	0.4192	5.7565	0.4158	-0.1485	0.1535

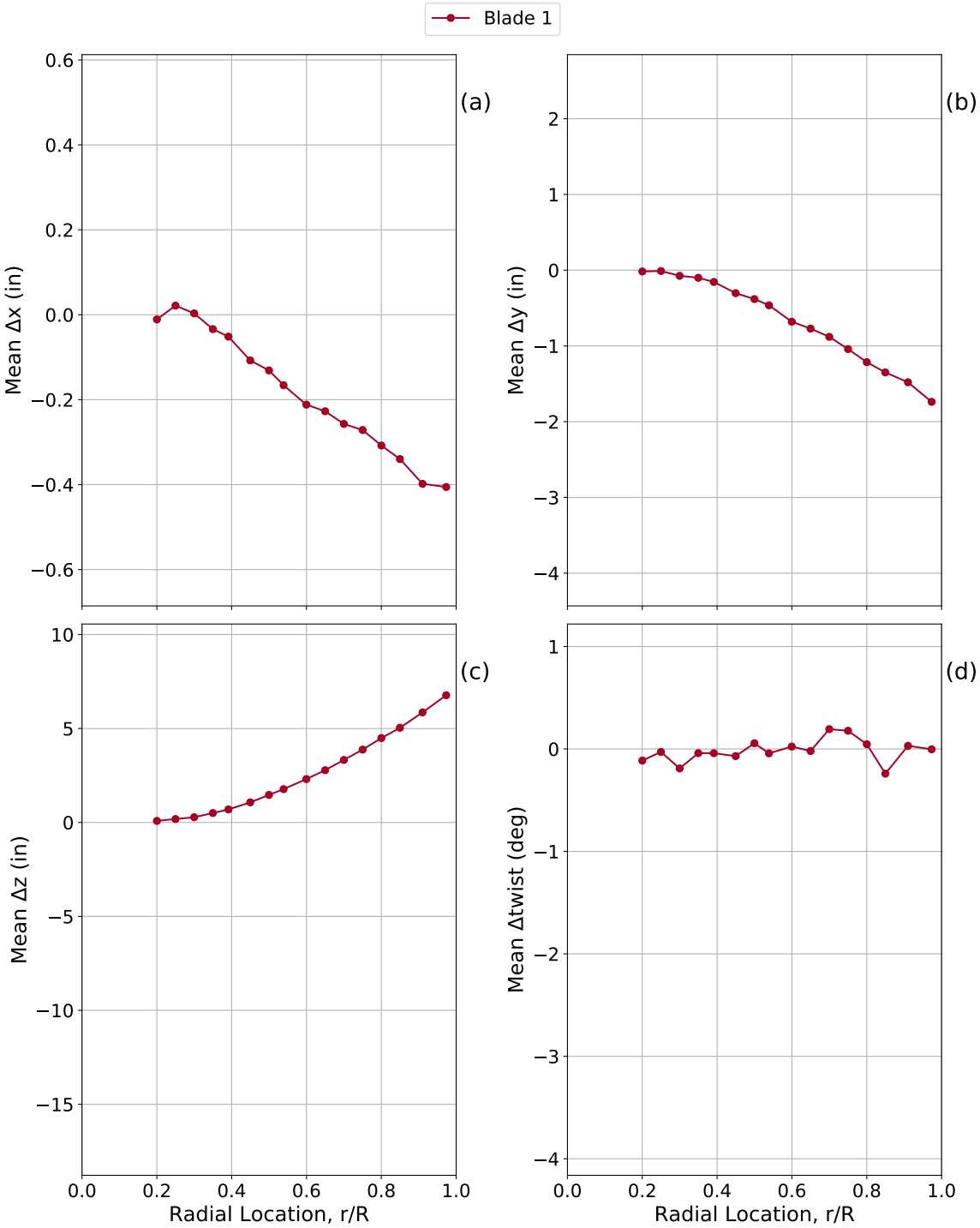


Figure 3.36-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0110	0.0028	-0.0171	0.0015	0.0814	0.0082	-0.1134	0.0424
1	15.12	0.2499	0.0215	0.0026	-0.0111	0.0037	0.1812	0.0112	-0.0286	0.0780
1	15.12	0.2998	0.0032	0.0018	-0.0743	0.0065	0.2777	0.0233	-0.1902	0.0945
1	15.12	0.3498	-0.0339	0.0034	-0.1003	0.0114	0.5011	0.0393	-0.0409	0.0549
1	15.12	0.3913	-0.0515	0.0039	-0.1554	0.0166	0.6917	0.0517	-0.0413	0.0687
1	15.12	0.4496	-0.1075	0.0044	-0.3030	0.0224	1.0688	0.0709	-0.0698	0.0782
1	15.12	0.4997	-0.1311	0.0046	-0.3814	0.0258	1.4650	0.0852	0.0557	0.0863
1	15.12	0.5387	-0.1659	0.0043	-0.4637	0.0285	1.7716	0.0981	-0.0428	0.0728
1	15.12	0.5996	-0.2117	0.0047	-0.6802	0.0347	2.3082	0.1230	0.0232	0.0866
1	15.12	0.6498	-0.2272	0.0052	-0.7713	0.0401	2.7819	0.1467	-0.0200	0.0889
1	15.12	0.6998	-0.2570	0.0051	-0.8800	0.0445	3.3248	0.1742	0.1933	0.0897
1	15.12	0.7500	-0.2715	0.0063	-1.0412	0.0484	3.8771	0.2012	0.1776	0.1204
1	15.12	0.8001	-0.3079	0.0066	-1.2144	0.0540	4.4898	0.2350	0.0463	0.1090
1	15.12	0.8497	-0.3398	0.0084	-1.3497	0.0588	5.0377	0.2767	-0.2409	0.1189
1	15.12	0.9102	-0.3981	0.0084	-1.4799	0.0650	5.8586	0.3148	0.0305	0.1789
1	15.12	0.9734	-0.4056	0.0116	-1.7380	0.0741	6.7704	0.3667	-0.0034	0.1496

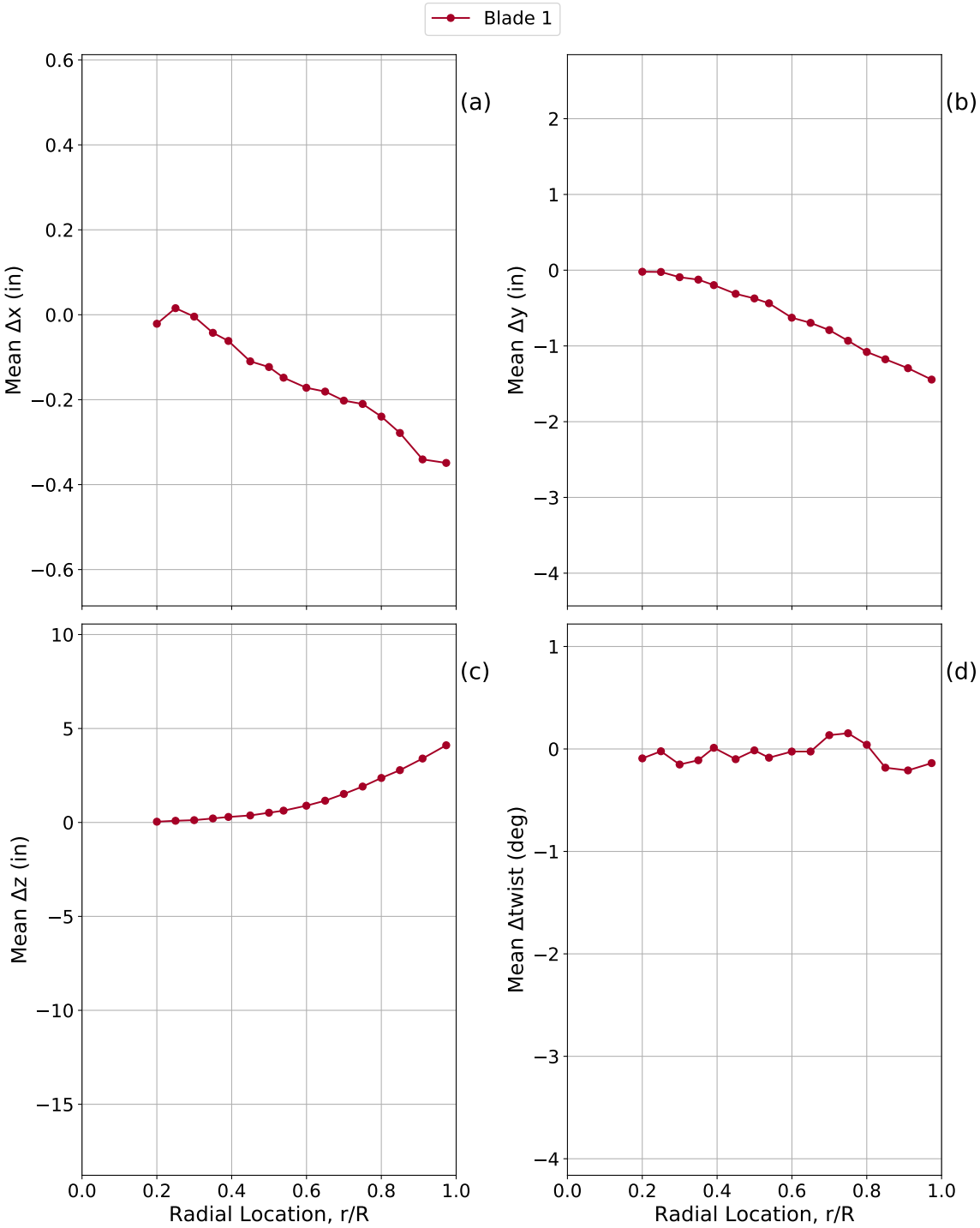


Figure 3.36-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0212	0.0030	-0.0208	0.0013	0.0396	0.0068	-0.0919	0.0461
1	29.88	0.2499	0.0155	0.0019	-0.0234	0.0035	0.0890	0.0132	-0.0225	0.0829
1	29.88	0.2998	-0.0044	0.0021	-0.0928	0.0070	0.1222	0.0239	-0.1517	0.1051
1	29.88	0.3498	-0.0425	0.0022	-0.1247	0.0102	0.2124	0.0376	-0.1102	0.1001
1	29.88	0.3913	-0.0617	0.0031	-0.1973	0.0165	0.2921	0.0549	0.0114	0.0834
1	29.88	0.4496	-0.1097	0.0025	-0.3120	0.0211	0.3725	0.0682	-0.0998	0.0876
1	29.88	0.4997	-0.1231	0.0030	-0.3729	0.0262	0.5165	0.0814	-0.0138	0.0730
1	29.88	0.5387	-0.1482	0.0033	-0.4371	0.0317	0.6281	0.0924	-0.0853	0.0779
1	29.88	0.5996	-0.1719	0.0038	-0.6272	0.0388	0.8903	0.1108	-0.0252	0.0809
1	29.88	0.6498	-0.1809	0.0046	-0.6955	0.0455	1.1575	0.1280	-0.0249	0.0913
1	29.88	0.6998	-0.2022	0.0055	-0.7909	0.0533	1.5164	0.1477	0.1348	0.0912
1	29.88	0.7500	-0.2101	0.0053	-0.9316	0.0610	1.9104	0.1697	0.1532	0.1032
1	29.88	0.8001	-0.2398	0.0066	-1.0795	0.0695	2.3674	0.1972	0.0409	0.0907
1	29.88	0.8497	-0.2784	0.0073	-1.1762	0.0775	2.7826	0.2285	-0.1828	0.1122
1	29.88	0.9102	-0.3406	0.0081	-1.2940	0.0899	3.4013	0.2717	-0.2093	0.1320
1	29.88	0.9734	-0.3489	0.0126	-1.4443	0.0997	4.1075	0.3207	-0.1381	0.1234

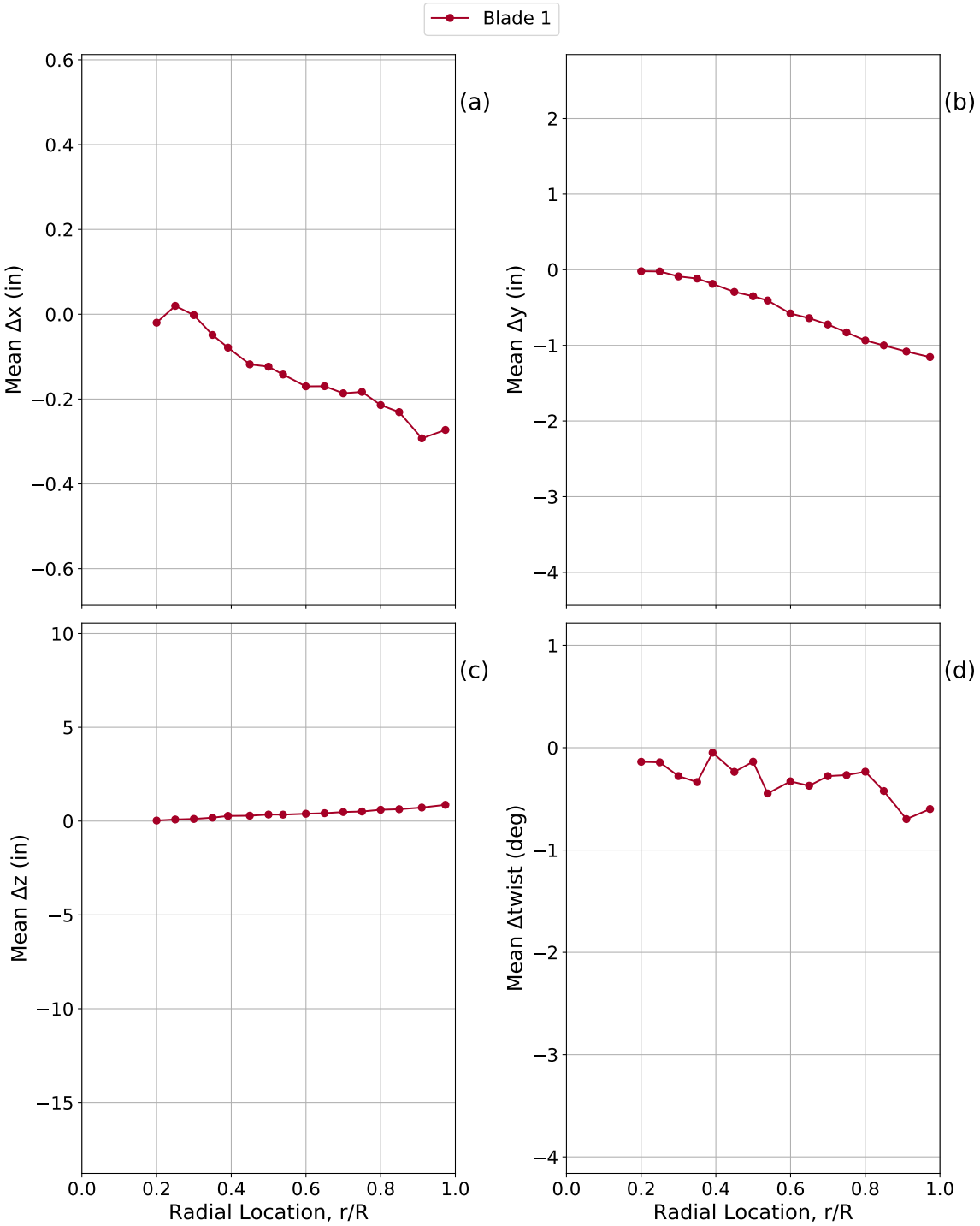


Figure 3.36-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0199	0.0025	-0.0199	0.0011	0.0293	0.0068	-0.1373	0.0287
1	45	0.2499	0.0197	0.0024	-0.0233	0.0038	0.0851	0.0184	-0.1427	0.0372
1	45	0.2998	-0.0020	0.0026	-0.0885	0.0061	0.1138	0.0300	-0.2767	0.0567
1	45	0.3498	-0.0488	0.0026	-0.1169	0.0101	0.1810	0.0490	-0.3355	0.0528
1	45	0.3913	-0.0788	0.0036	-0.1868	0.0157	0.2741	0.0738	-0.0486	0.0390
1	45	0.4496	-0.1182	0.0042	-0.2940	0.0222	0.2864	0.0953	-0.2356	0.0524
1	45	0.4997	-0.1237	0.0045	-0.3507	0.0277	0.3490	0.1181	-0.1365	0.0424
1	45	0.5387	-0.1422	0.0049	-0.4068	0.0344	0.3431	0.1362	-0.4469	0.0430
1	45	0.5996	-0.1700	0.0051	-0.5783	0.0445	0.3904	0.1651	-0.3284	0.0554
1	45	0.6498	-0.1697	0.0051	-0.6401	0.0533	0.4200	0.1811	-0.3713	0.0421
1	45	0.6998	-0.1864	0.0054	-0.7233	0.0632	0.4827	0.1995	-0.2771	0.0448
1	45	0.7500	-0.1831	0.0069	-0.8285	0.0732	0.5094	0.2183	-0.2668	0.0520
1	45	0.8001	-0.2142	0.0077	-0.9345	0.0855	0.6023	0.2364	-0.2341	0.0523
1	45	0.8497	-0.2308	0.0078	-1.0008	0.0963	0.6317	0.2593	-0.4230	0.0533
1	45	0.9102	-0.2927	0.0081	-1.0814	0.1110	0.7206	0.2847	-0.6979	0.0626
1	45	0.9734	-0.2729	0.0125	-1.1549	0.1258	0.8654	0.3137	-0.5998	0.0704

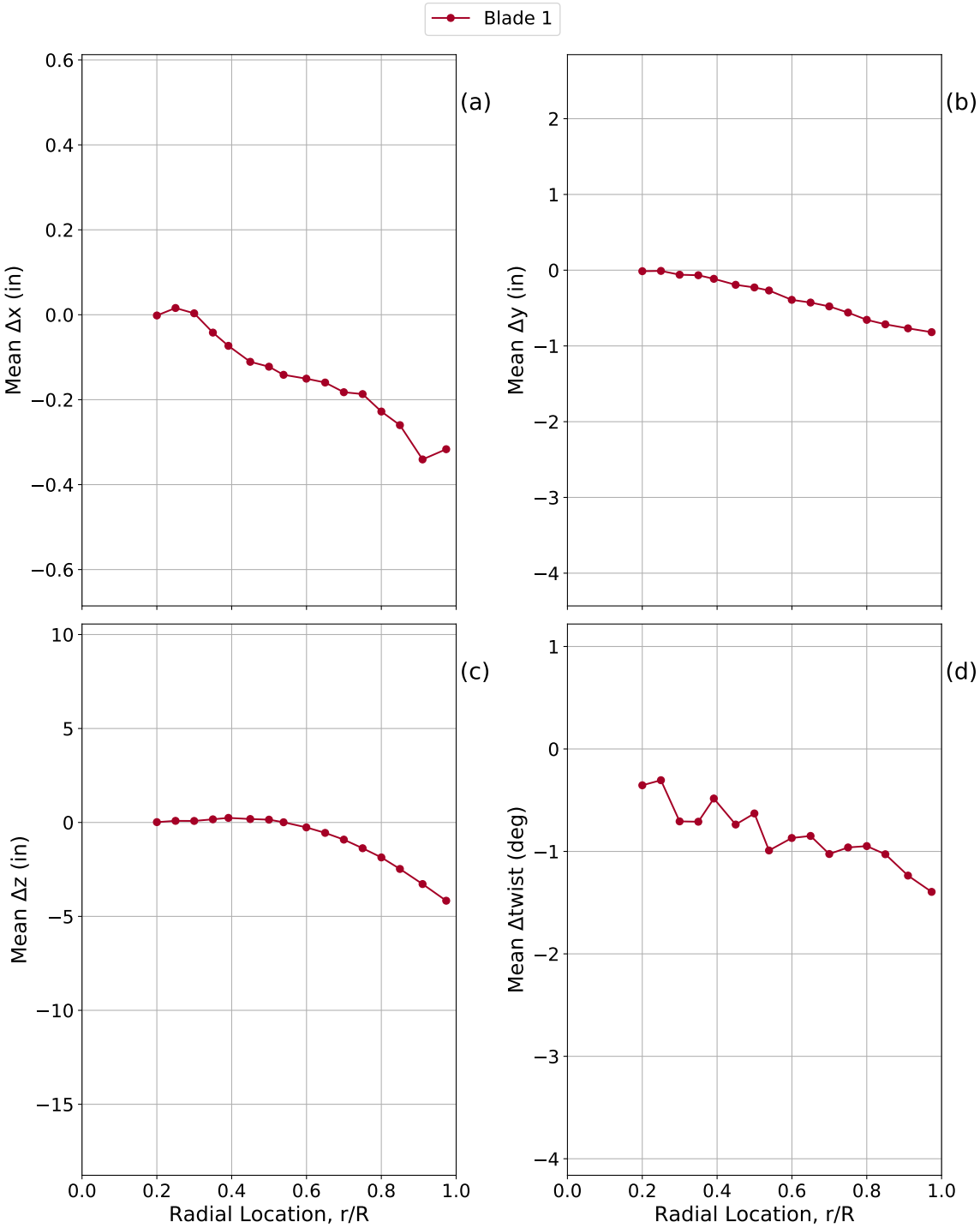


Figure 3.36-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0017	0.0009	-0.0134	0.0009	0.0163	0.0033	-0.3545	0.0369
1	60.12	0.2499	0.0159	0.0021	-0.0095	0.0029	0.0847	0.0067	-0.3050	0.0556
1	60.12	0.2998	0.0034	0.0030	-0.0600	0.0037	0.0803	0.0119	-0.7069	0.0803
1	60.12	0.3498	-0.0420	0.0030	-0.0666	0.0076	0.1664	0.0197	-0.7102	0.0765
1	60.12	0.3913	-0.0732	0.0021	-0.1140	0.0107	0.2426	0.0286	-0.4837	0.0597
1	60.12	0.4496	-0.1108	0.0052	-0.1930	0.0156	0.1819	0.0405	-0.7376	0.0614
1	60.12	0.4997	-0.1223	0.0033	-0.2279	0.0203	0.1484	0.0499	-0.6294	0.0636
1	60.12	0.5387	-0.1414	0.0032	-0.2682	0.0259	0.0099	0.0611	-0.9907	0.0806
1	60.12	0.5996	-0.1505	0.0030	-0.3915	0.0341	-0.2632	0.0771	-0.8691	0.0792
1	60.12	0.6498	-0.1596	0.0033	-0.4273	0.0432	-0.5556	0.0910	-0.8490	0.0859
1	60.12	0.6998	-0.1824	0.0035	-0.4782	0.0523	-0.9137	0.1119	-1.0252	0.0746
1	60.12	0.7500	-0.1868	0.0045	-0.5597	0.0616	-1.3729	0.1325	-0.9613	0.0738
1	60.12	0.8001	-0.2279	0.0043	-0.6557	0.0720	-1.8618	0.1572	-0.9482	0.1080
1	60.12	0.8497	-0.2599	0.0048	-0.7146	0.0832	-2.4752	0.1828	-1.0277	0.0905
1	60.12	0.9102	-0.3407	0.0046	-0.7678	0.0961	-3.2792	0.2139	-1.2360	0.0929
1	60.12	0.9734	-0.3166	0.0064	-0.8181	0.1102	-4.1662	0.2458	-1.3950	0.1108

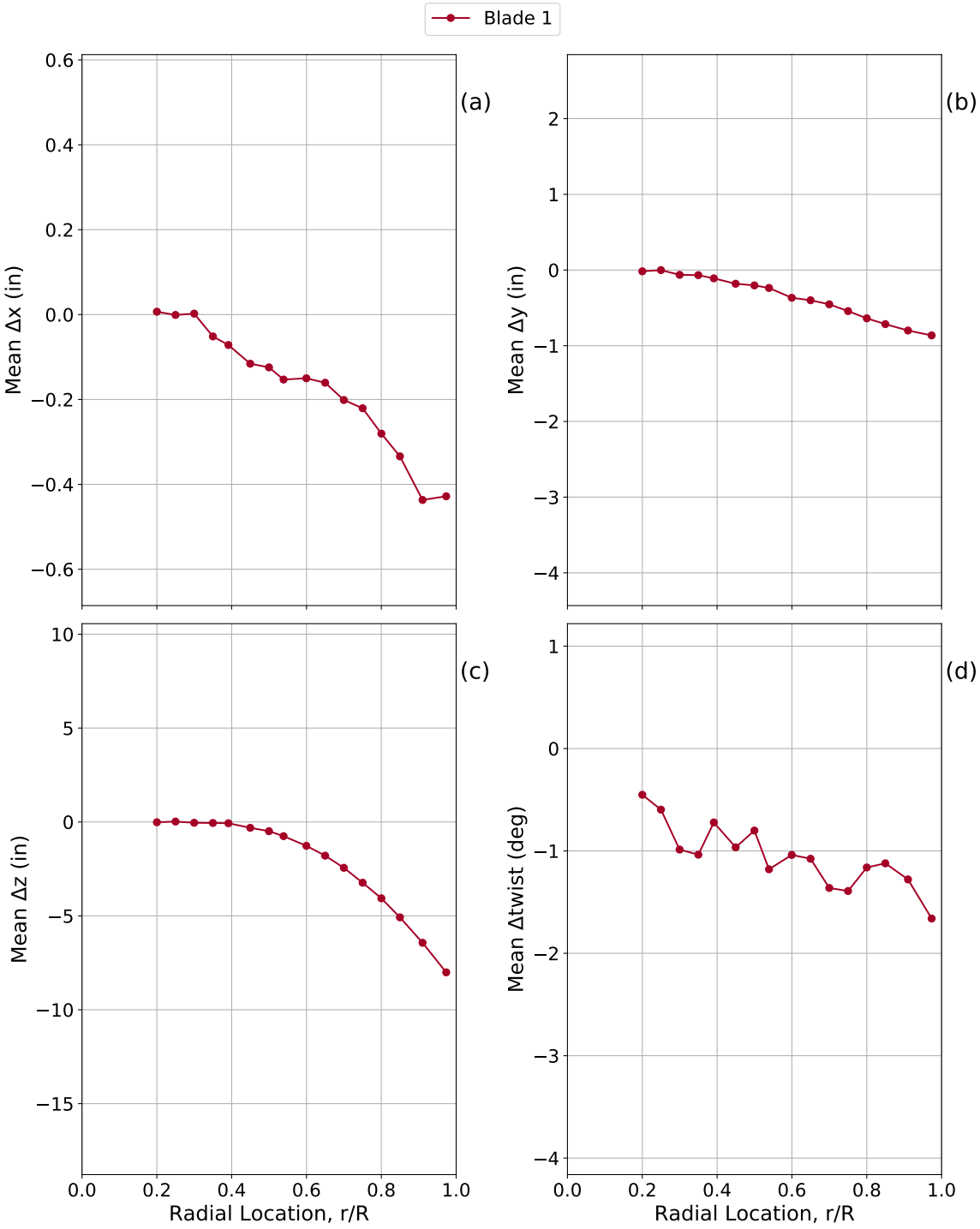


Figure 3.36-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0067	0.0024	-0.0168	0.0007	-0.0153	0.0045	-0.4518	0.0291
1	74.88	0.2499	-0.0009	0.0024	-0.0011	0.0020	0.0217	0.0106	-0.5967	0.0459
1	74.88	0.2998	0.0022	0.0023	-0.0634	0.0023	-0.0426	0.0216	-0.9869	0.0633
1	74.88	0.3498	-0.0515	0.0026	-0.0674	0.0054	-0.0546	0.0327	-1.0366	0.0586
1	74.88	0.3913	-0.0717	0.0025	-0.1100	0.0067	-0.0675	0.0512	-0.7220	0.0836
1	74.88	0.4496	-0.1157	0.0047	-0.1812	0.0104	-0.3104	0.0655	-0.9653	0.0879
1	74.88	0.4997	-0.1244	0.0038	-0.2032	0.0113	-0.4910	0.0873	-0.8011	0.0697
1	74.88	0.5387	-0.1531	0.0033	-0.2369	0.0139	-0.7548	0.1059	-1.1793	0.0838
1	74.88	0.5996	-0.1501	0.0026	-0.3667	0.0180	-1.2701	0.1279	-1.0390	0.0698
1	74.88	0.6498	-0.1606	0.0036	-0.3992	0.0220	-1.7944	0.1458	-1.0767	0.0842
1	74.88	0.6998	-0.2013	0.0038	-0.4529	0.0264	-2.4417	0.1644	-1.3616	0.0856
1	74.88	0.7500	-0.2207	0.0059	-0.5426	0.0316	-3.2346	0.1863	-1.3917	0.1016
1	74.88	0.8001	-0.2805	0.0065	-0.6380	0.0360	-4.0653	0.2076	-1.1617	0.0955
1	74.88	0.8497	-0.3340	0.0080	-0.7148	0.0413	-5.0783	0.2324	-1.1211	0.1028
1	74.88	0.9102	-0.4368	0.0101	-0.7992	0.0493	-6.4340	0.2603	-1.2785	0.1231
1	74.88	0.9734	-0.4281	0.0123	-0.8634	0.0573	-8.0086	0.2976	-1.6602	0.1102

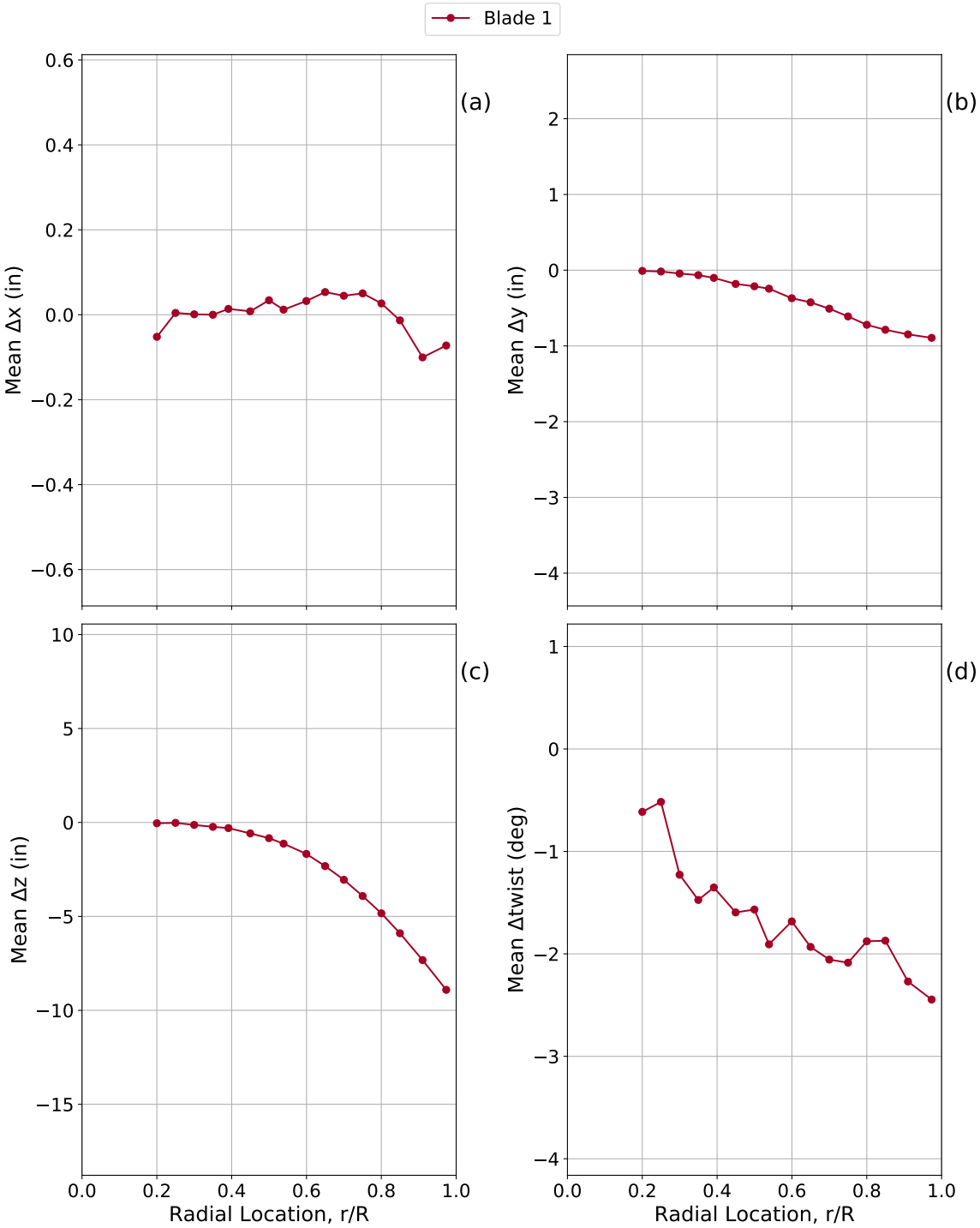


Figure 3.36-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0520	0.0145	-0.0094	0.0013	-0.0424	0.0049	-0.6141	0.0343
1	80.16	0.2499	0.0043	0.0043	-0.0177	0.0020	-0.0222	0.0087	-0.5166	0.0629
1	80.16	0.2998	0.0011	0.0061	-0.0440	0.0046	-0.1317	0.0167	-1.2277	0.0752
1	80.16	0.3498	-0.0000	0.0138	-0.0652	0.0081	-0.2353	0.0295	-1.4739	0.0785
1	80.16	0.3913	0.0138	0.0180	-0.1015	0.0111	-0.3005	0.0406	-1.3521	0.0784
1	80.16	0.4496	0.0081	0.0216	-0.1816	0.0157	-0.5825	0.0547	-1.5955	0.0822
1	80.16	0.4997	0.0341	0.0223	-0.2125	0.0204	-0.8374	0.0689	-1.5674	0.0926
1	80.16	0.5387	0.0120	0.0222	-0.2445	0.0248	-1.1295	0.0815	-1.9069	0.0845
1	80.16	0.5996	0.0324	0.0211	-0.3702	0.0311	-1.6751	0.1018	-1.6831	0.0889
1	80.16	0.6498	0.0534	0.0197	-0.4244	0.0367	-2.3239	0.1218	-1.9321	0.0949
1	80.16	0.6998	0.0447	0.0208	-0.5083	0.0432	-3.0514	0.1428	-2.0559	0.0905
1	80.16	0.7500	0.0504	0.0238	-0.6106	0.0500	-3.9161	0.1647	-2.0860	0.1067
1	80.16	0.8001	0.0267	0.0302	-0.7210	0.0579	-4.8371	0.1872	-1.8773	0.1017
1	80.16	0.8497	-0.0132	0.0385	-0.7867	0.0670	-5.8978	0.2124	-1.8715	0.0915
1	80.16	0.9102	-0.1004	0.0521	-0.8474	0.0815	-7.3255	0.2452	-2.2698	0.1054
1	80.16	0.9734	-0.0724	0.0698	-0.8929	0.0993	-8.9078	0.2773	-2.4461	0.0877

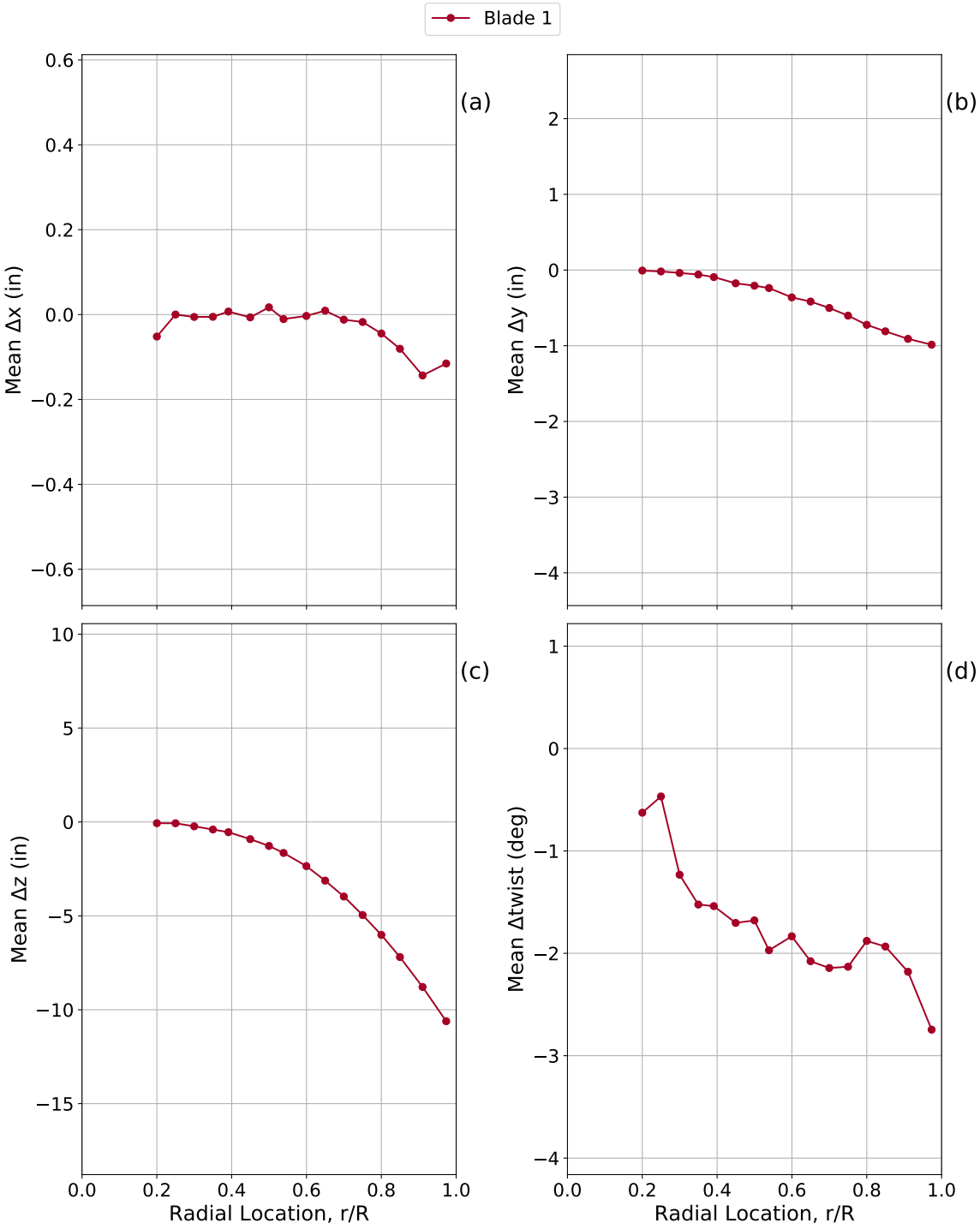


Figure 3.36-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0518	0.0156	-0.0075	0.0010	-0.0666	0.0051	-0.6267	0.0305
1	85.08	0.2499	0.0001	0.0049	-0.0190	0.0020	-0.0690	0.0102	-0.4681	0.0736
1	85.08	0.2998	-0.0056	0.0063	-0.0383	0.0041	-0.2320	0.0192	-1.2328	0.0763
1	85.08	0.3498	-0.0053	0.0136	-0.0595	0.0072	-0.4015	0.0329	-1.5238	0.0641
1	85.08	0.3913	0.0071	0.0195	-0.0932	0.0102	-0.5432	0.0468	-1.5391	0.0616
1	85.08	0.4496	-0.0066	0.0249	-0.1754	0.0139	-0.9140	0.0676	-1.7032	0.0698
1	85.08	0.4997	0.0171	0.0270	-0.2070	0.0179	-1.2771	0.0899	-1.6786	0.0567
1	85.08	0.5387	-0.0106	0.0275	-0.2379	0.0214	-1.6483	0.1104	-1.9702	0.0692
1	85.08	0.5996	-0.0032	0.0247	-0.3614	0.0280	-2.3507	0.1459	-1.8339	0.0691
1	85.08	0.6498	0.0092	0.0206	-0.4164	0.0345	-3.1242	0.1828	-2.0774	0.0667
1	85.08	0.6998	-0.0120	0.0166	-0.5013	0.0425	-3.9694	0.2200	-2.1436	0.0744
1	85.08	0.7500	-0.0175	0.0189	-0.6024	0.0515	-4.9571	0.2608	-2.1313	0.0945
1	85.08	0.8001	-0.0446	0.0307	-0.7241	0.0624	-6.0146	0.3023	-1.8790	0.0870
1	85.08	0.8497	-0.0806	0.0485	-0.8096	0.0735	-7.1936	0.3488	-1.9340	0.0950
1	85.08	0.9102	-0.1434	0.0767	-0.9091	0.0892	-8.7871	0.4016	-2.1802	0.1083
1	85.08	0.9734	-0.1153	0.1103	-0.9861	0.1165	-10.6111	0.4610	-2.7458	0.1156

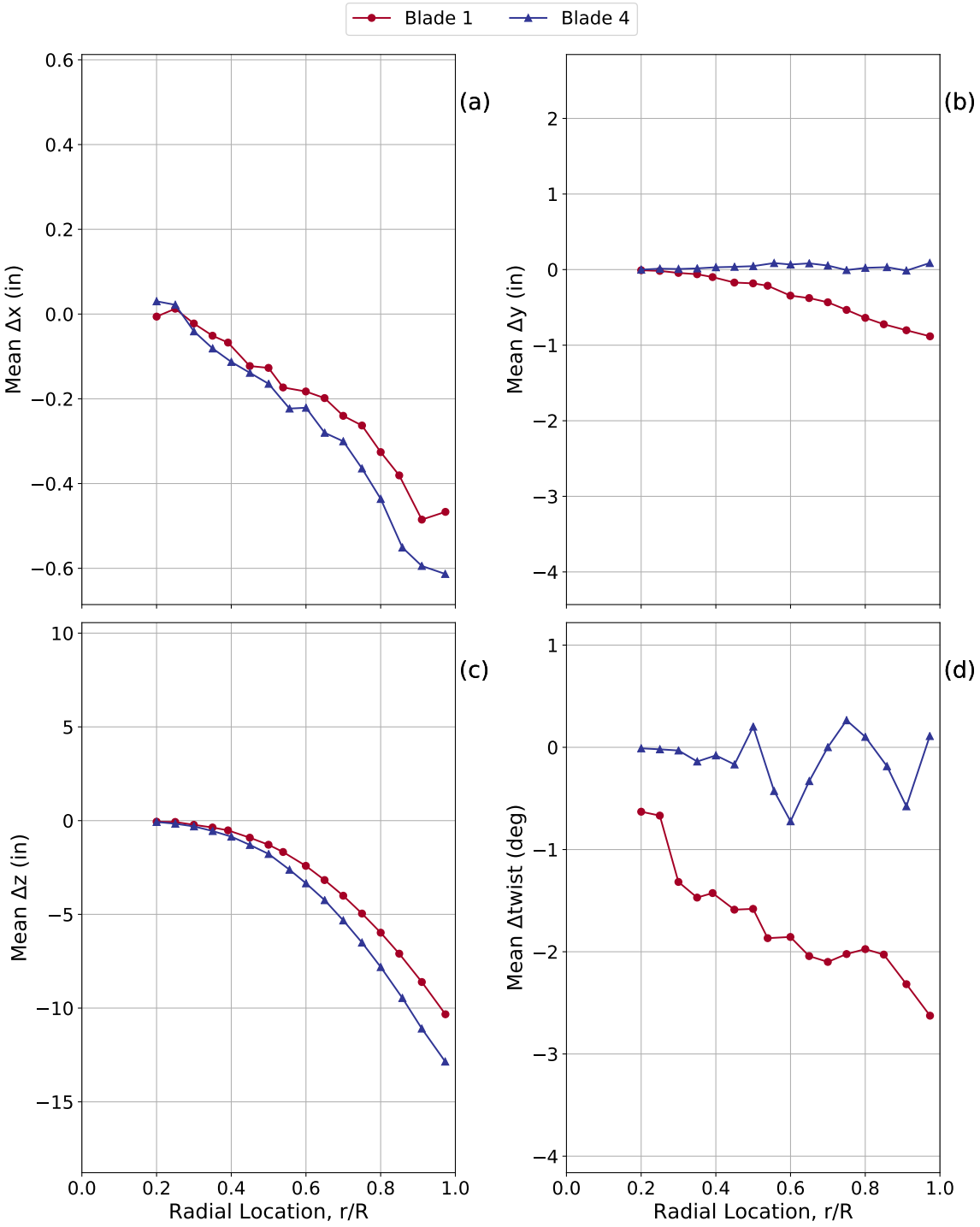


Figure 3.36-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0060	0.0027	-0.0088	0.0017	-0.0577	0.0057	-0.6300	0.0399
1	90	0.2499	0.0126	0.0019	-0.0173	0.0034	-0.0713	0.0097	-0.6681	0.0655
1	90	0.2998	-0.0223	0.0018	-0.0438	0.0069	-0.2233	0.0204	-1.3170	0.0883
1	90	0.3498	-0.0511	0.0028	-0.0614	0.0127	-0.3660	0.0359	-1.4700	0.0765
1	90	0.3913	-0.0673	0.0027	-0.0992	0.0176	-0.5200	0.0495	-1.4261	0.0820
1	90	0.4496	-0.1227	0.0035	-0.1716	0.0260	-0.9099	0.0682	-1.5884	0.0881
1	90	0.4997	-0.1270	0.0036	-0.1822	0.0323	-1.2870	0.0878	-1.5805	0.0903
1	90	0.5387	-0.1732	0.0049	-0.2138	0.0384	-1.6736	0.1074	-1.8670	0.0905
1	90	0.5996	-0.1827	0.0058	-0.3445	0.0505	-2.4114	0.1353	-1.8554	0.0987
1	90	0.6498	-0.1983	0.0078	-0.3767	0.0611	-3.1707	0.1624	-2.0423	0.0912
1	90	0.6998	-0.2402	0.0093	-0.4326	0.0735	-4.0052	0.1869	-2.0994	0.0817
1	90	0.7500	-0.2630	0.0114	-0.5335	0.0859	-4.9567	0.2147	-2.0223	0.0808
1	90	0.8001	-0.3258	0.0133	-0.6385	0.0990	-5.9768	0.2395	-1.9743	0.0823
1	90	0.8497	-0.3807	0.0148	-0.7233	0.1128	-7.0967	0.2640	-2.0277	0.0918
1	90	0.9102	-0.4851	0.0165	-0.8028	0.1298	-8.6089	0.2903	-2.3173	0.0891
1	90	0.9734	-0.4668	0.0219	-0.8829	0.1488	-10.3294	0.3185	-2.6255	0.0875
4	90.35	0.2001	0.0301	0.0023	-0.0008	0.0010	-0.0721	0.0058	-0.0101	0.0264
4	90.35	0.2502	0.0218	0.0019	0.0120	0.0019	-0.1652	0.0127	-0.0197	0.0411
4	90.35	0.3001	-0.0408	0.0017	0.0080	0.0040	-0.3077	0.0251	-0.0312	0.0592
4	90.35	0.3502	-0.0812	0.0033	0.0160	0.0067	-0.5548	0.0416	-0.1390	0.0775
4	90.35	0.4002	-0.1130	0.0025	0.0309	0.0105	-0.8546	0.0662	-0.0792	0.0592
4	90.35	0.4500	-0.1387	0.0037	0.0365	0.0155	-1.2973	0.0920	-0.1678	0.0545
4	90.35	0.5001	-0.1646	0.0045	0.0456	0.0198	-1.7785	0.1255	0.2020	0.0572
4	90.35	0.5560	-0.2230	0.0055	0.0863	0.0259	-2.6193	0.1654	-0.4275	0.0605
4	90.35	0.6001	-0.2211	0.0067	0.0671	0.0309	-3.3439	0.1979	-0.7236	0.0564
4	90.35	0.6501	-0.2802	0.0088	0.0824	0.0376	-4.2425	0.2351	-0.3306	0.0572
4	90.35	0.6999	-0.3003	0.0111	0.0533	0.0454	-5.3240	0.2778	0.0013	0.0607
4	90.35	0.7500	-0.3644	0.0142	-0.0065	0.0516	-6.5052	0.3211	0.2643	0.0578
4	90.35	0.8002	-0.4363	0.0167	0.0228	0.0601	-7.8117	0.3615	0.1021	0.0547
4	90.35	0.8582	-0.5510	0.0198	0.0320	0.0702	-9.4623	0.4028	-0.1852	0.0559
4	90.35	0.9101	-0.5944	0.0229	-0.0136	0.0787	-11.0920	0.4393	-0.5771	0.0416
4	90.35	0.9728	-0.6133	0.0238	0.0869	0.0897	-12.8531	0.4842	0.1102	0.0662

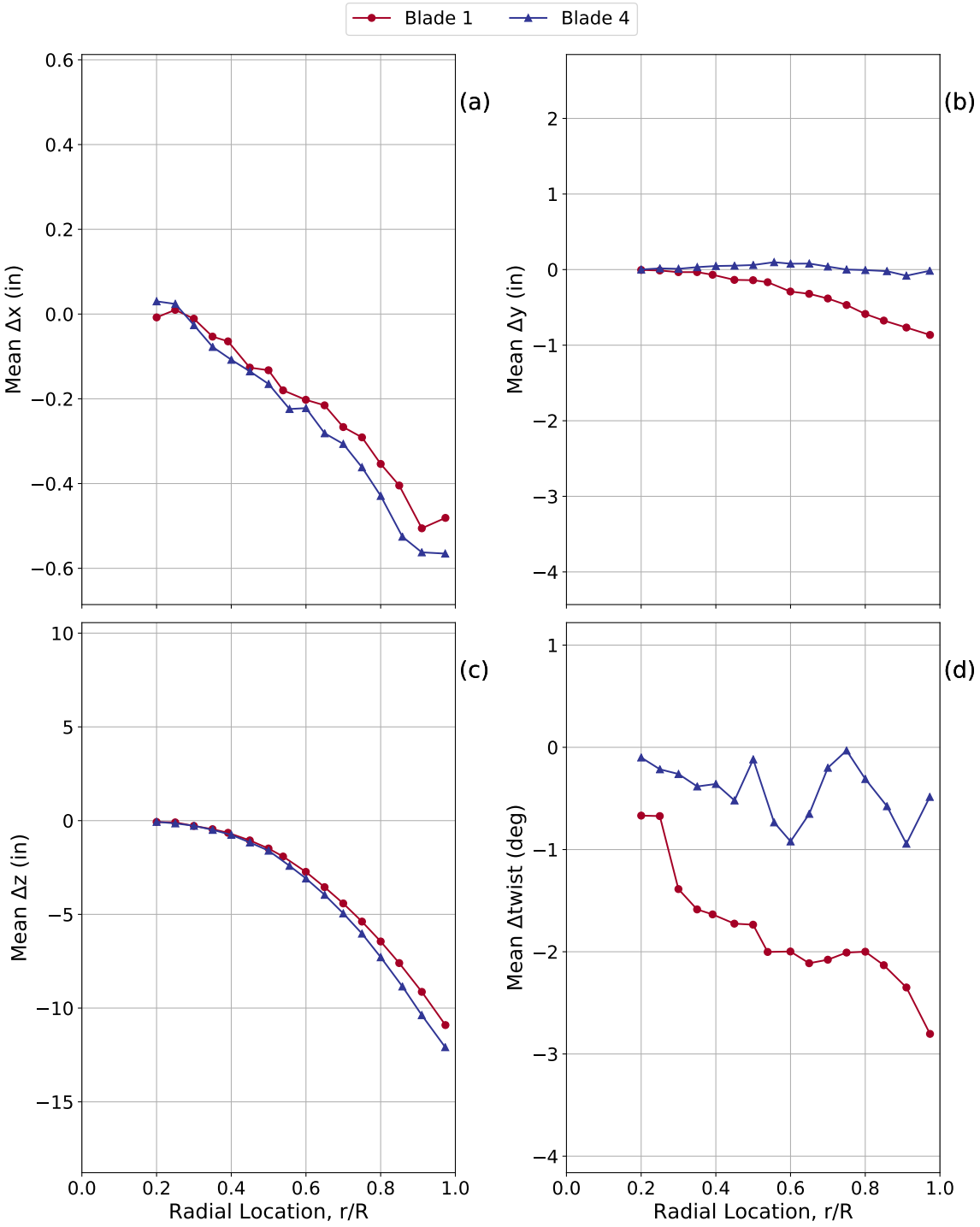


Figure 3.36-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0079	0.0027	-0.0047	0.0015	-0.0735	0.0069	-0.6681	0.0572
1	94.92	0.2499	0.0099	0.0021	-0.0120	0.0034	-0.0930	0.0168	-0.6728	0.1074
1	94.92	0.2998	-0.0109	0.0025	-0.0338	0.0070	-0.2809	0.0289	-1.3869	0.1337
1	94.92	0.3498	-0.0532	0.0036	-0.0334	0.0111	-0.4558	0.0509	-1.5859	0.1192
1	94.92	0.3913	-0.0644	0.0035	-0.0684	0.0170	-0.6490	0.0737	-1.6346	0.0940
1	94.92	0.4496	-0.1264	0.0042	-0.1362	0.0240	-1.0544	0.1052	-1.7251	0.1137
1	94.92	0.4997	-0.1326	0.0050	-0.1403	0.0326	-1.4860	0.1320	-1.7353	0.1243
1	94.92	0.5387	-0.1800	0.0057	-0.1671	0.0389	-1.9144	0.1565	-2.0020	0.1181
1	94.92	0.5996	-0.2023	0.0067	-0.2903	0.0512	-2.7322	0.1911	-1.9976	0.1244
1	94.92	0.6498	-0.2154	0.0075	-0.3206	0.0621	-3.5483	0.2215	-2.1123	0.1202
1	94.92	0.6998	-0.2667	0.0090	-0.3824	0.0726	-4.4165	0.2453	-2.0779	0.1335
1	94.92	0.7500	-0.2910	0.0096	-0.4687	0.0841	-5.3851	0.2729	-2.0080	0.1265
1	94.92	0.8001	-0.3537	0.0113	-0.5872	0.0964	-6.4463	0.2969	-1.9996	0.1437
1	94.92	0.8497	-0.4046	0.0128	-0.6746	0.1083	-7.5985	0.3209	-2.1315	0.1429
1	94.92	0.9102	-0.5056	0.0146	-0.7667	0.1229	-9.1334	0.3535	-2.3495	0.1373
1	94.92	0.9734	-0.4810	0.0171	-0.8646	0.1385	-10.9050	0.3922	-2.8036	0.1426
4	94.92	0.2001	0.0300	0.0023	0.0012	0.0013	-0.0652	0.0041	-0.0997	0.0301
4	94.92	0.2502	0.0239	0.0014	0.0159	0.0024	-0.1469	0.0085	-0.2151	0.0459
4	94.92	0.3001	-0.0262	0.0012	0.0104	0.0054	-0.2751	0.0154	-0.2614	0.0651
4	94.92	0.3502	-0.0776	0.0017	0.0324	0.0089	-0.4931	0.0260	-0.3831	0.0609
4	94.92	0.4002	-0.1079	0.0026	0.0474	0.0141	-0.7594	0.0402	-0.3585	0.0631
4	94.92	0.4500	-0.1353	0.0024	0.0517	0.0176	-1.1679	0.0592	-0.5199	0.0763
4	94.92	0.5001	-0.1651	0.0036	0.0603	0.0240	-1.6034	0.0766	-0.1182	0.0718
4	94.92	0.5560	-0.2241	0.0029	0.0978	0.0305	-2.4106	0.0988	-0.7343	0.0721
4	94.92	0.6001	-0.2220	0.0029	0.0778	0.0360	-3.0870	0.1191	-0.9208	0.0734
4	94.92	0.6501	-0.2814	0.0037	0.0796	0.0421	-3.9586	0.1348	-0.6510	0.0800
4	94.92	0.6999	-0.3065	0.0040	0.0400	0.0494	-4.9490	0.1515	-0.2001	0.0754
4	94.92	0.7500	-0.3617	0.0055	0.0004	0.0556	-6.0267	0.1651	-0.0314	0.0753
4	94.92	0.8002	-0.4292	0.0072	-0.0065	0.0636	-7.2882	0.1826	-0.3101	0.0831
4	94.92	0.8582	-0.5254	0.0090	-0.0209	0.0721	-8.8468	0.2051	-0.5764	0.0841
4	94.92	0.9101	-0.5623	0.0102	-0.0811	0.0792	-10.3756	0.2292	-0.9432	0.0900
4	94.92	0.9728	-0.5653	0.0115	-0.0156	0.0873	-12.0839	0.2606	-0.4854	0.0945

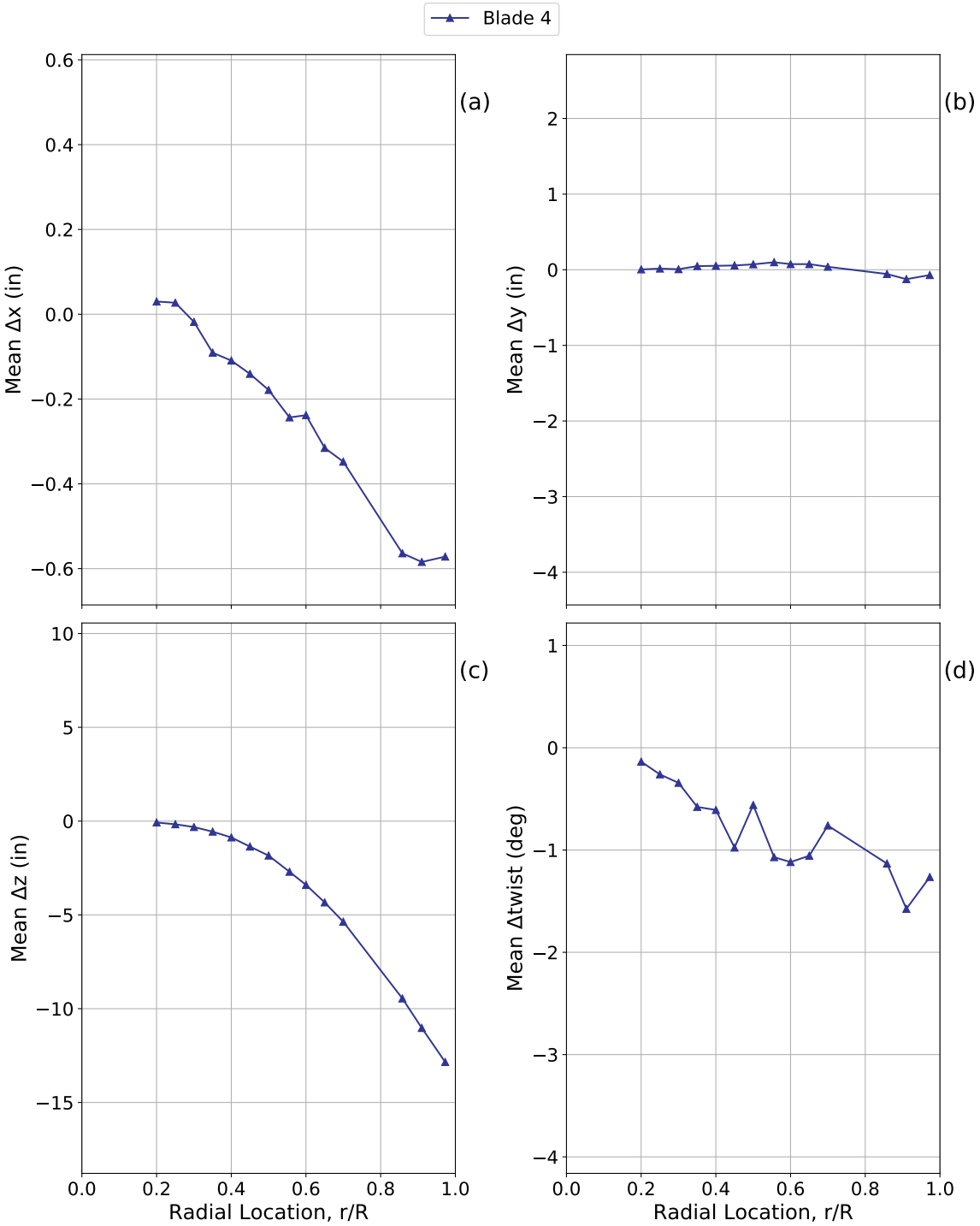


Figure 3.36-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	0.0300	0.0031	0.0044	0.0016	-0.0747	0.0077	-0.1362	0.0493
4	105.12	0.2502	0.0272	0.0044	0.0148	0.0020	-0.1699	0.0103	-0.2607	0.0979
4	105.12	0.3001	-0.0182	0.0030	0.0070	0.0059	-0.3166	0.0264	-0.3435	0.1130
4	105.12	0.3502	-0.0908	0.0038	0.0480	0.0090	-0.5640	0.0423	-0.5788	0.1018
4	105.12	0.4002	-0.1093	0.0033	0.0519	0.0141	-0.8711	0.0642	-0.6086	0.0916
4	105.12	0.4500	-0.1407	0.0027	0.0563	0.0178	-1.3595	0.0813	-0.9764	0.0988
4	105.12	0.5001	-0.1787	0.0029	0.0713	0.0219	-1.8407	0.1010	-0.5601	0.0882
4	105.12	0.5560	-0.2434	0.0038	0.0990	0.0275	-2.7032	0.1139	-1.0703	0.0941
4	105.12	0.6001	-0.2381	0.0034	0.0741	0.0324	-3.4012	0.1304	-1.1176	0.1084
4	105.12	0.6501	-0.3153	0.0038	0.0742	0.0393	-4.3358	0.1436	-1.0561	0.1046
4	105.12	0.6999	-0.3478	0.0049	0.0391	0.0453	-5.3671	0.1578	-0.7607	0.1046
4	105.12	0.8582	-0.5639	0.0094	-0.0564	0.0684	-9.4567	0.2268	-1.1328	0.1070
4	105.12	0.9101	-0.5843	0.0115	-0.1247	0.0771	-11.0297	0.2507	-1.5755	0.1088
4	105.12	0.9728	-0.5717	0.0138	-0.0704	0.0870	-12.8451	0.2866	-1.2643	0.1166

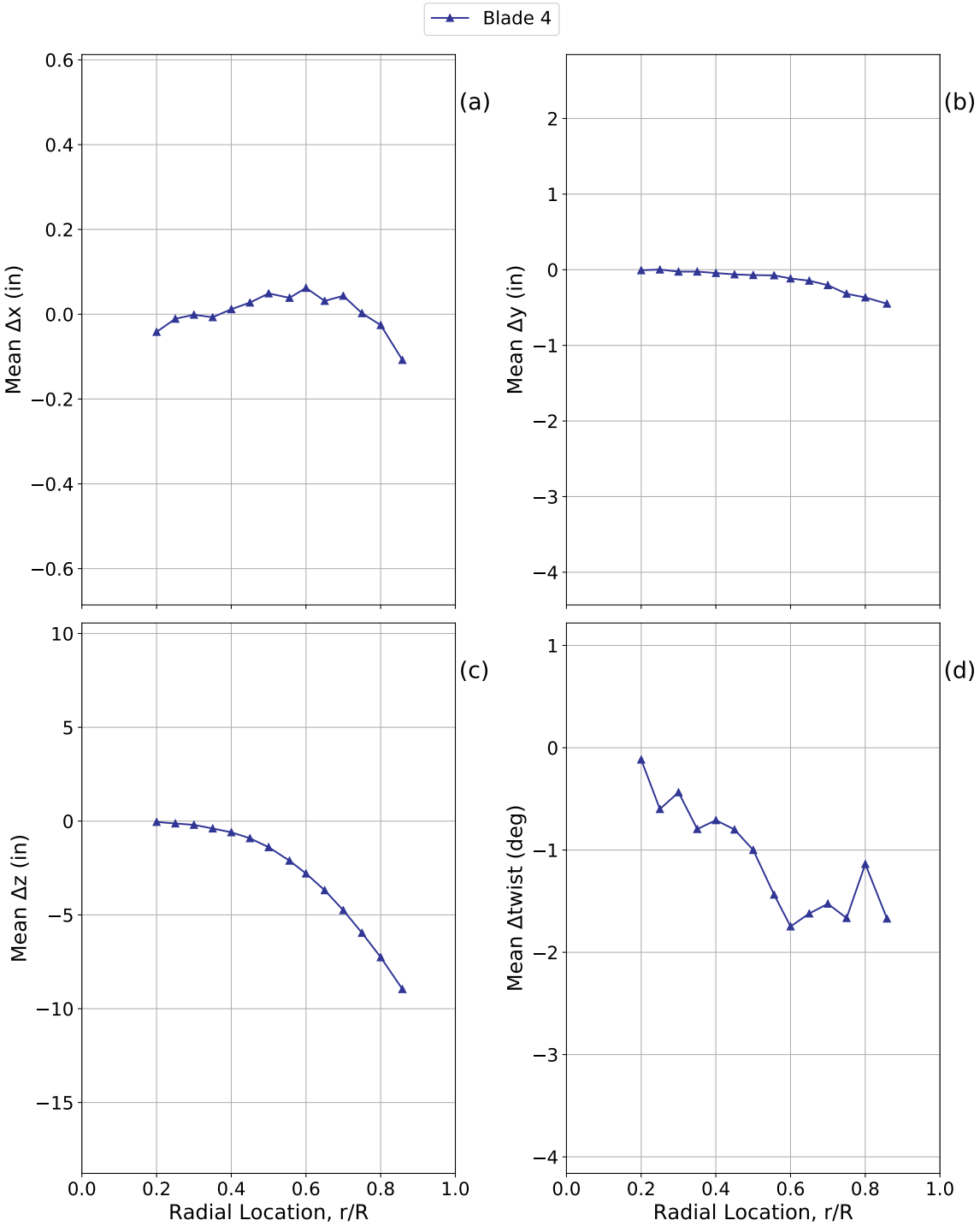


Figure 3.36-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0417	0.0018	-0.0074	0.0007	-0.0455	0.0017	-0.1160	0.0155
4	119.88	0.2502	-0.0107	0.0017	0.0024	0.0018	-0.1267	0.0083	-0.5998	0.0294
4	119.88	0.3001	-0.0012	0.0011	-0.0253	0.0031	-0.2003	0.0104	-0.4358	0.0319
4	119.88	0.3502	-0.0071	0.0016	-0.0251	0.0055	-0.3945	0.0176	-0.7953	0.0341
4	119.88	0.4002	0.0119	0.0016	-0.0432	0.0086	-0.5971	0.0300	-0.7084	0.0372
4	119.88	0.4500	0.0275	0.0028	-0.0615	0.0110	-0.9154	0.0438	-0.8001	0.0440
4	119.88	0.5001	0.0491	0.0026	-0.0711	0.0144	-1.3923	0.0604	-1.0003	0.0447
4	119.88	0.5560	0.0387	0.0035	-0.0745	0.0185	-2.1114	0.0866	-1.4365	0.0551
4	119.88	0.6001	0.0621	0.0037	-0.1156	0.0221	-2.7947	0.1087	-1.7472	0.0533
4	119.88	0.6501	0.0314	0.0050	-0.1450	0.0268	-3.6863	0.1379	-1.6208	0.0496
4	119.88	0.6999	0.0435	0.0057	-0.2042	0.0309	-4.7522	0.1695	-1.5252	0.0505
4	119.88	0.7500	0.0024	0.0077	-0.3180	0.0364	-5.9598	0.2017	-1.6653	0.0543
4	119.88	0.8002	-0.0257	0.0102	-0.3663	0.0416	-7.2609	0.2325	-1.1370	0.0673
4	119.88	0.8582	-0.1079	0.0124	-0.4491	0.0472	-8.9572	0.2670	-1.6703	0.0815

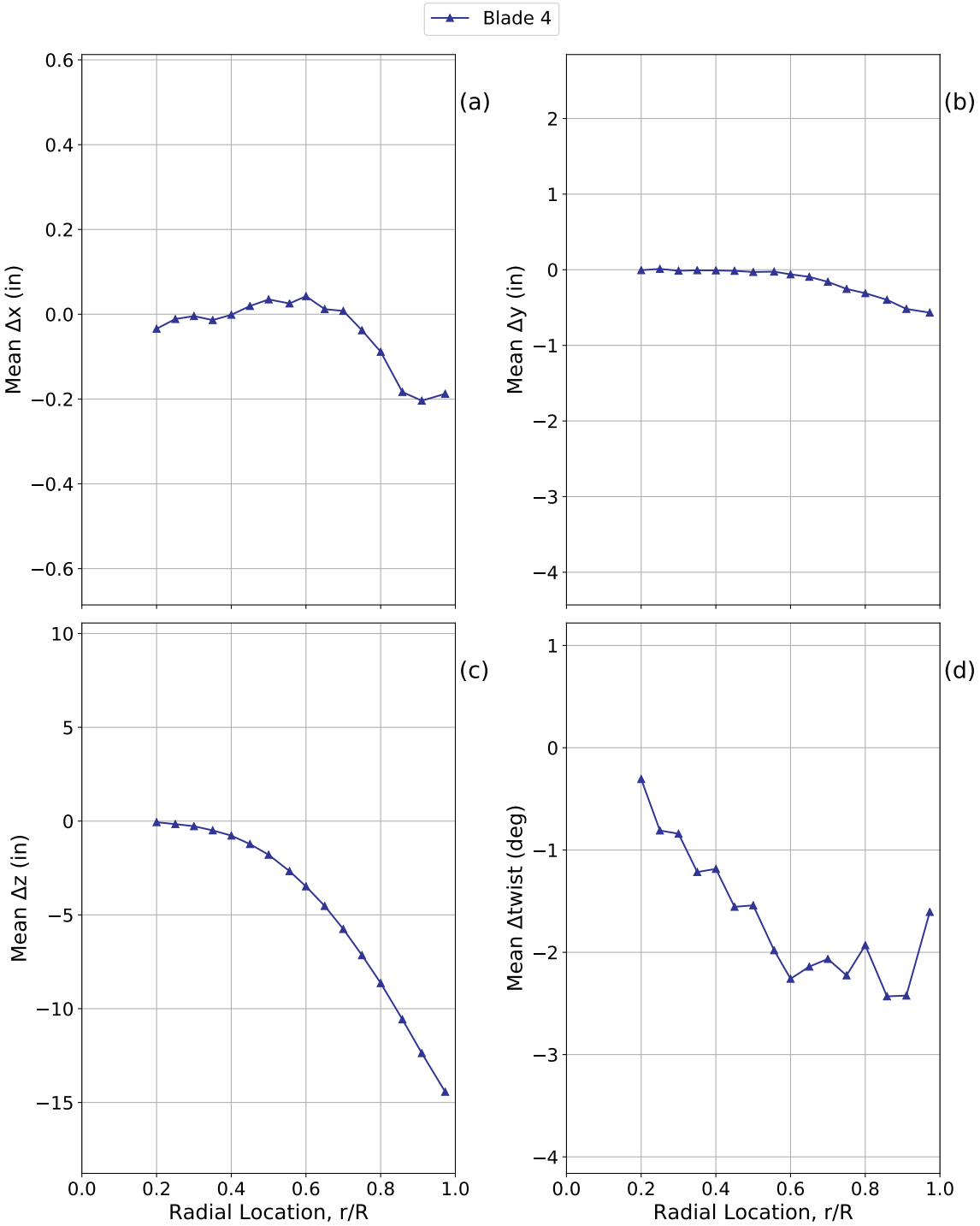


Figure 3.36-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0342	0.0023	-0.0062	0.0007	-0.0593	0.0022	-0.3058	0.0231
4	135	0.2502	-0.0113	0.0011	0.0112	0.0026	-0.1601	0.0048	-0.8094	0.0299
4	135	0.3001	-0.0044	0.0018	-0.0131	0.0027	-0.2730	0.0090	-0.8407	0.0467
4	135	0.3502	-0.0138	0.0025	-0.0069	0.0067	-0.4952	0.0145	-1.2153	0.0361
4	135	0.4002	-0.0013	0.0041	-0.0092	0.0096	-0.7737	0.0230	-1.1845	0.0384
4	135	0.4500	0.0194	0.0042	-0.0143	0.0121	-1.2248	0.0335	-1.5554	0.0478
4	135	0.5001	0.0349	0.0054	-0.0299	0.0154	-1.7953	0.0480	-1.5409	0.0485
4	135	0.5560	0.0254	0.0064	-0.0253	0.0198	-2.6689	0.0742	-1.9801	0.0496
4	135	0.6001	0.0426	0.0077	-0.0609	0.0232	-3.4820	0.0979	-2.2589	0.0506
4	135	0.6501	0.0120	0.0097	-0.0938	0.0282	-4.5257	0.1293	-2.1403	0.0665
4	135	0.6999	0.0078	0.0122	-0.1599	0.0331	-5.7543	0.1671	-2.0651	0.0586
4	135	0.7500	-0.0379	0.0158	-0.2539	0.0382	-7.1515	0.2071	-2.2259	0.0626
4	135	0.8002	-0.0887	0.0195	-0.3103	0.0437	-8.6385	0.2526	-1.9304	0.0606
4	135	0.8582	-0.1834	0.0255	-0.3976	0.0510	-10.5717	0.3105	-2.4306	0.0819
4	135	0.9101	-0.2039	0.0307	-0.5183	0.0582	-12.3697	0.3680	-2.4234	0.0737
4	135	0.9728	-0.1877	0.0362	-0.5673	0.0651	-14.4309	0.4397	-1.6055	0.0827

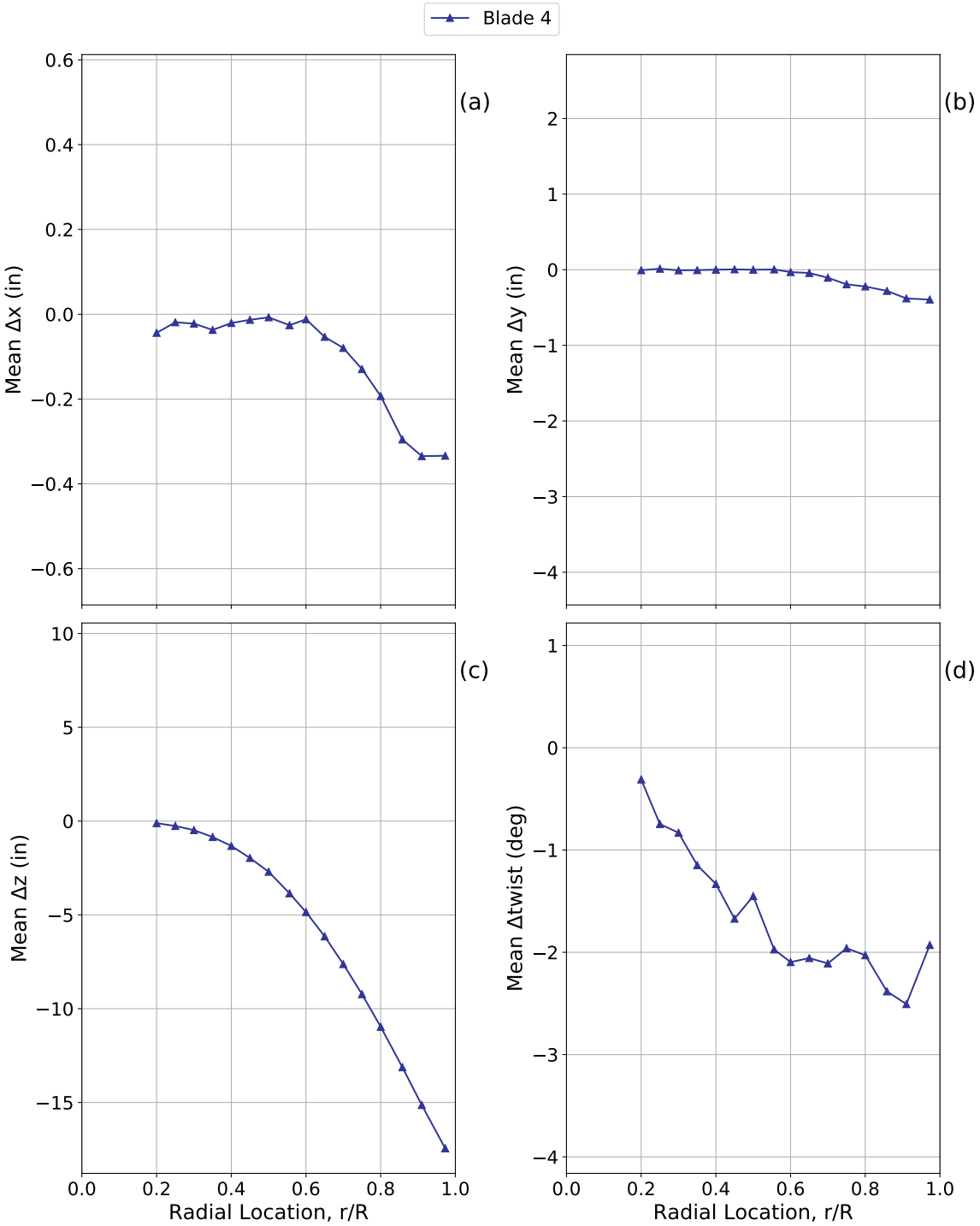


Figure 3.36-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0439	0.0018	-0.0064	0.0009	-0.1102	0.0044	-0.3105	0.0264
4	150.12	0.2502	-0.0190	0.0016	0.0130	0.0027	-0.2603	0.0097	-0.7463	0.0350
4	150.12	0.3001	-0.0221	0.0015	-0.0080	0.0045	-0.4819	0.0184	-0.8309	0.0566
4	150.12	0.3502	-0.0370	0.0022	-0.0049	0.0079	-0.8497	0.0304	-1.1486	0.0523
4	150.12	0.4002	-0.0207	0.0041	0.0003	0.0126	-1.3248	0.0480	-1.3323	0.0484
4	150.12	0.4500	-0.0132	0.0050	0.0052	0.0178	-1.9658	0.0712	-1.6717	0.0673
4	150.12	0.5001	-0.0073	0.0070	-0.0002	0.0244	-2.7021	0.0994	-1.4511	0.0662
4	150.12	0.5560	-0.0260	0.0086	0.0038	0.0326	-3.8508	0.1377	-1.9723	0.0735
4	150.12	0.6001	-0.0119	0.0110	-0.0309	0.0406	-4.8513	0.1726	-2.0961	0.0777
4	150.12	0.6501	-0.0534	0.0146	-0.0433	0.0496	-6.1464	0.2152	-2.0563	0.0730
4	150.12	0.6999	-0.0795	0.0188	-0.1055	0.0594	-7.6254	0.2629	-2.1092	0.0825
4	150.12	0.7500	-0.1294	0.0236	-0.1929	0.0701	-9.2284	0.3144	-1.9607	0.0853
4	150.12	0.8002	-0.1932	0.0303	-0.2214	0.0829	-10.9687	0.3713	-2.0290	0.0870
4	150.12	0.8582	-0.2954	0.0387	-0.2798	0.0979	-13.1253	0.4429	-2.3823	0.0913
4	150.12	0.9101	-0.3347	0.0472	-0.3792	0.1114	-15.1365	0.5120	-2.5065	0.0856
4	150.12	0.9728	-0.3338	0.0596	-0.3944	0.1294	-17.4458	0.6065	-1.9287	0.0927

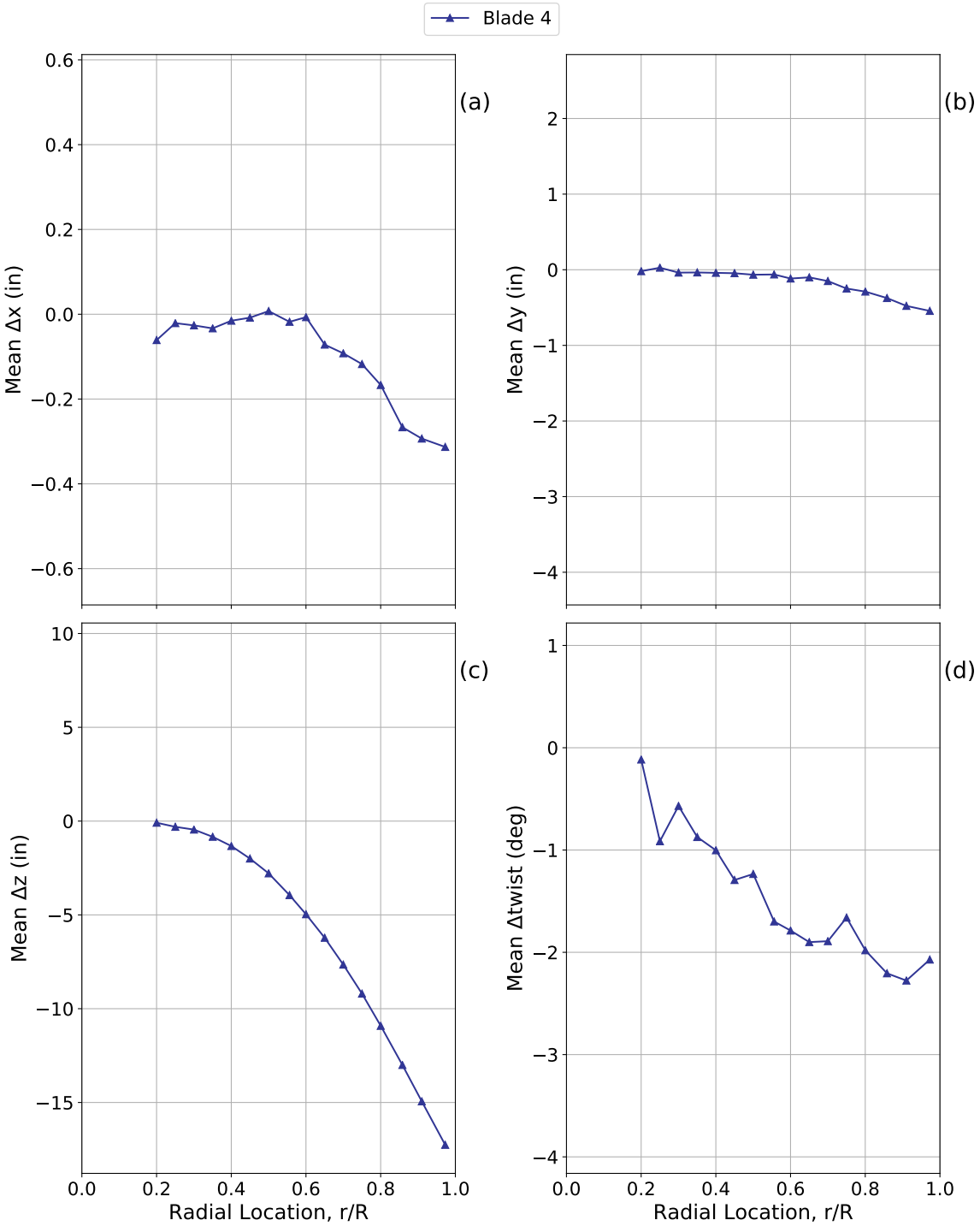


Figure 3.36-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0610	0.0010	-0.0194	0.0014	-0.0877	0.0052	-0.1156	0.0227
4	164.88	0.2502	-0.0210	0.0017	0.0270	0.0031	-0.3055	0.0069	-0.9143	0.0663
4	164.88	0.3001	-0.0263	0.0023	-0.0380	0.0049	-0.4527	0.0166	-0.5693	0.0565
4	164.88	0.3502	-0.0333	0.0013	-0.0359	0.0084	-0.8376	0.0252	-0.8733	0.0521
4	164.88	0.4002	-0.0153	0.0019	-0.0411	0.0129	-1.3298	0.0383	-1.0027	0.0544
4	164.88	0.4500	-0.0081	0.0021	-0.0459	0.0157	-1.9979	0.0491	-1.2933	0.0530
4	164.88	0.5001	0.0074	0.0030	-0.0659	0.0192	-2.7863	0.0647	-1.2343	0.0520
4	164.88	0.5560	-0.0179	0.0040	-0.0625	0.0232	-3.9474	0.0833	-1.6989	0.0587
4	164.88	0.6001	-0.0069	0.0057	-0.1163	0.0279	-4.9661	0.0988	-1.7874	0.0543
4	164.88	0.6501	-0.0717	0.0067	-0.1006	0.0358	-6.2211	0.1116	-1.9003	0.0673
4	164.88	0.6999	-0.0922	0.0080	-0.1499	0.0395	-7.6513	0.1352	-1.8914	0.0658
4	164.88	0.7500	-0.1176	0.0092	-0.2486	0.0441	-9.1981	0.1614	-1.6608	0.0633
4	164.88	0.8002	-0.1670	0.0116	-0.2891	0.0483	-10.9164	0.1880	-1.9802	0.0744
4	164.88	0.8582	-0.2666	0.0149	-0.3744	0.0538	-13.0008	0.2257	-2.2055	0.0768
4	164.88	0.9101	-0.2933	0.0184	-0.4781	0.0586	-14.9422	0.2623	-2.2764	0.0783
4	164.88	0.9728	-0.3130	0.0228	-0.5445	0.0658	-17.2591	0.3062	-2.0713	0.0866

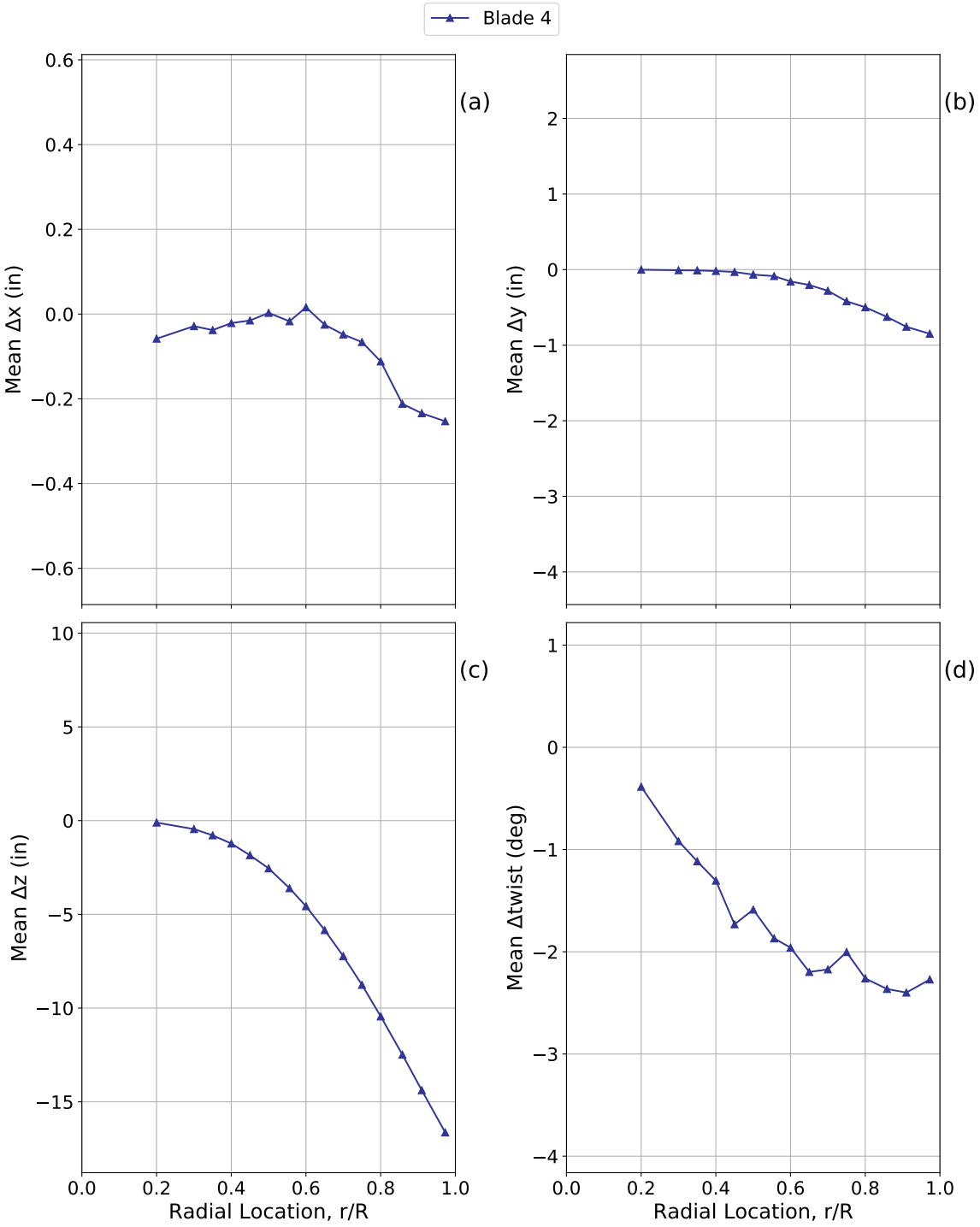


Figure 3.36-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0581	0.0052	-0.0021	0.0011	-0.1057	0.0044	-0.3859	0.0407
4	170.16	0.3001	-0.0286	0.0035	-0.0085	0.0042	-0.4507	0.0179	-0.9181	0.0960
4	170.16	0.3502	-0.0379	0.0043	-0.0110	0.0088	-0.7852	0.0290	-1.1155	0.0865
4	170.16	0.4002	-0.0213	0.0050	-0.0188	0.0128	-1.2227	0.0455	-1.3047	0.0953
4	170.16	0.4500	-0.0152	0.0050	-0.0314	0.0172	-1.8461	0.0586	-1.7316	0.1057
4	170.16	0.5001	0.0027	0.0064	-0.0665	0.0212	-2.5466	0.0752	-1.5881	0.0937
4	170.16	0.5560	-0.0171	0.0076	-0.0862	0.0263	-3.6066	0.0937	-1.8695	0.1001
4	170.16	0.6001	0.0158	0.0105	-0.1574	0.0311	-4.5669	0.1100	-1.9600	0.0967
4	170.16	0.6501	-0.0251	0.0112	-0.2038	0.0375	-5.8421	0.1287	-2.1978	0.1026
4	170.16	0.6999	-0.0482	0.0125	-0.2805	0.0425	-7.2288	0.1492	-2.1730	0.0978
4	170.16	0.7500	-0.0661	0.0148	-0.4192	0.0486	-8.7610	0.1688	-2.0035	0.0954
4	170.16	0.8002	-0.1118	0.0174	-0.4991	0.0550	-10.4441	0.1900	-2.2615	0.0951
4	170.16	0.8582	-0.2119	0.0215	-0.6258	0.0633	-12.4851	0.2206	-2.3643	0.0980
4	170.16	0.9101	-0.2342	0.0253	-0.7568	0.0699	-14.3827	0.2538	-2.3995	0.0927
4	170.16	0.9728	-0.2530	0.0303	-0.8495	0.0783	-16.6318	0.3035	-2.2716	0.0940

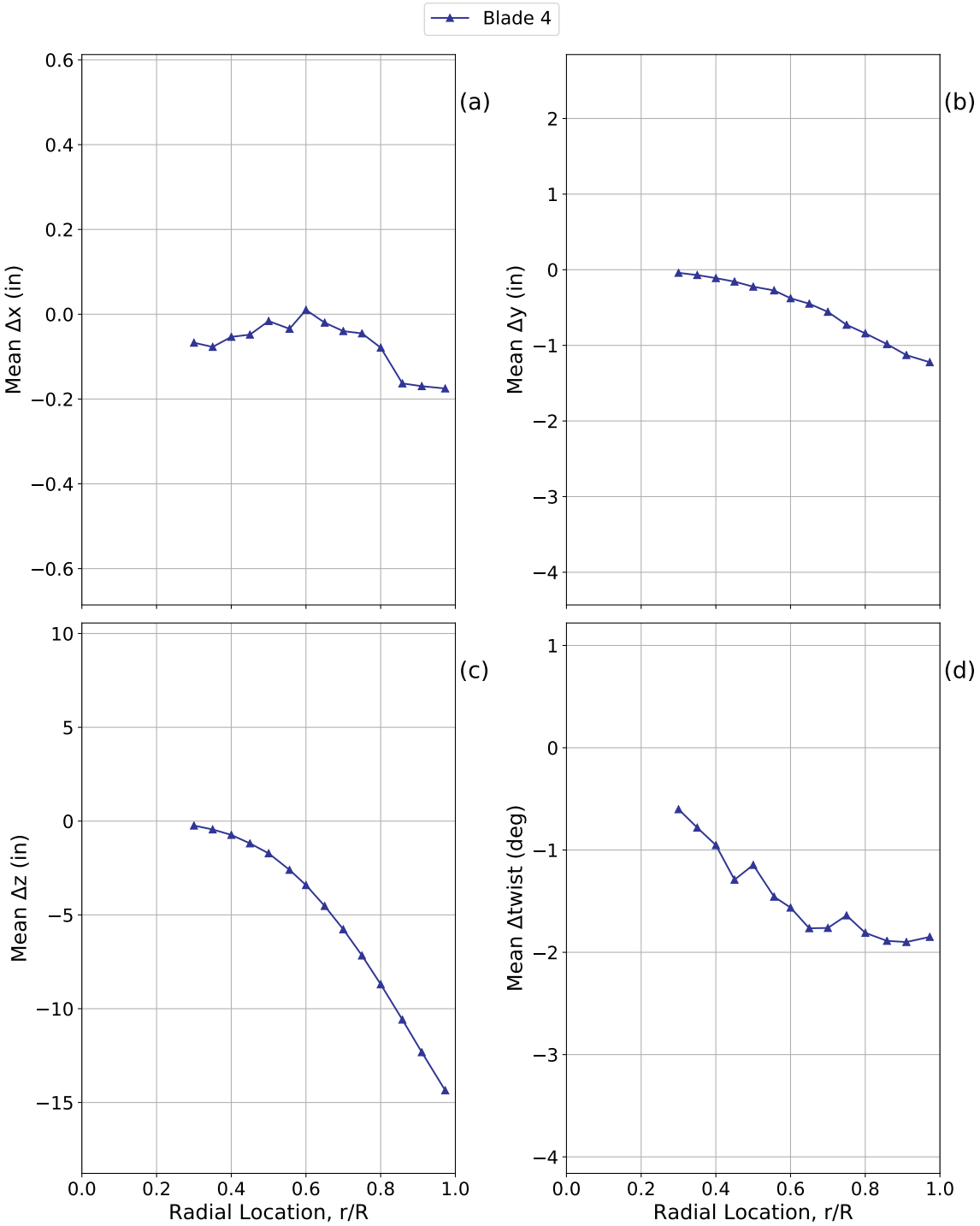


Figure 3.36-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.3001	-0.0672	0.0082	-0.0410	0.0171	-0.2393	0.0405	-0.6015	0.1951
4	175.08	0.3502	-0.0771	0.0117	-0.0703	0.0303	-0.4454	0.0707	-0.7815	0.2608
4	175.08	0.4002	-0.0534	0.0090	-0.1111	0.0487	-0.7367	0.1133	-0.9529	0.2495
4	175.08	0.4500	-0.0481	0.0103	-0.1571	0.0639	-1.1885	0.1427	-1.2905	0.2619
4	175.08	0.5001	-0.0161	0.0122	-0.2241	0.0798	-1.7192	0.1772	-1.1460	0.2649
4	175.08	0.5560	-0.0344	0.0119	-0.2735	0.0991	-2.5995	0.2107	-1.4567	0.2682
4	175.08	0.6001	0.0102	0.0141	-0.3774	0.1124	-3.4125	0.2339	-1.5634	0.2872
4	175.08	0.6501	-0.0199	0.0158	-0.4495	0.1300	-4.5259	0.2654	-1.7649	0.2692
4	175.08	0.6999	-0.0398	0.0176	-0.5568	0.1470	-5.7697	0.2936	-1.7621	0.2818
4	175.08	0.7500	-0.0452	0.0204	-0.7283	0.1638	-7.1666	0.3254	-1.6394	0.2799
4	175.08	0.8002	-0.0789	0.0234	-0.8414	0.1812	-8.7029	0.3629	-1.8101	0.2623
4	175.08	0.8582	-0.1632	0.0282	-0.9839	0.2026	-10.5851	0.4112	-1.8882	0.2727
4	175.08	0.9101	-0.1697	0.0341	-1.1287	0.2202	-12.3226	0.4556	-1.8997	0.2826
4	175.08	0.9728	-0.1751	0.0383	-1.2235	0.2412	-14.3553	0.5205	-1.8496	0.2586

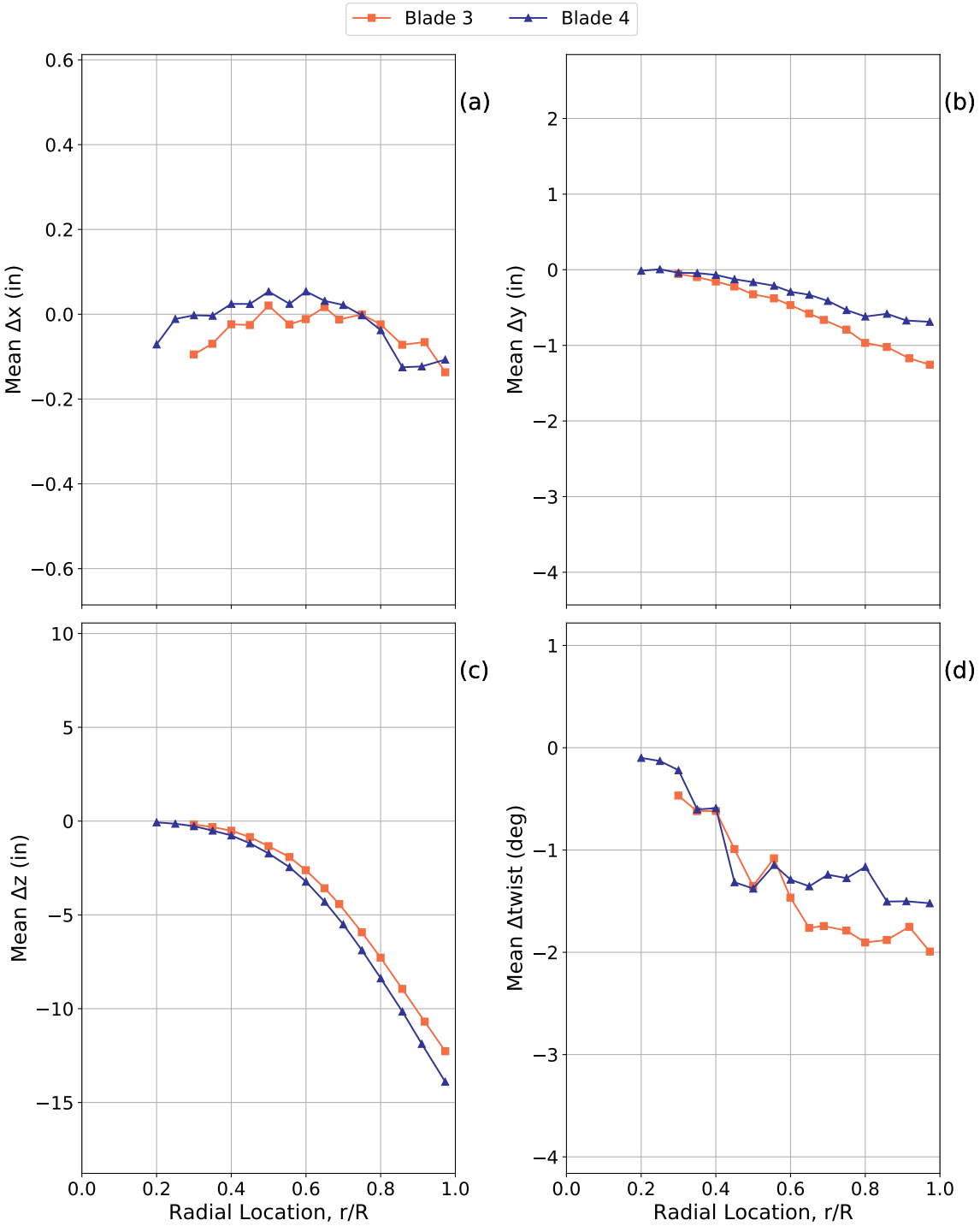


Figure 3.36-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2995	-0.0948	0.0211	-0.0560	0.0321	-0.1782	0.0932	-0.4677	0.1909
3	180.35	0.3493	-0.0697	0.0273	-0.0970	0.0560	-0.3155	0.1579	-0.6199	0.2528
3	180.35	0.4000	-0.0237	0.0184	-0.1556	0.0903	-0.5123	0.2506	-0.6186	0.2222
3	180.35	0.4497	-0.0255	0.0227	-0.2214	0.1170	-0.8502	0.3226	-0.9907	0.2356
3	180.35	0.4997	0.0206	0.0262	-0.3247	0.1437	-1.3350	0.4067	-1.3520	0.2065
3	180.35	0.5556	-0.0241	0.0255	-0.3782	0.1767	-1.9161	0.4989	-1.0811	0.2216
3	180.35	0.5995	-0.0115	0.0271	-0.4671	0.2024	-2.6160	0.5703	-1.4652	0.2023
3	180.35	0.6498	0.0168	0.0318	-0.5788	0.2311	-3.5781	0.6506	-1.7609	0.2032
3	180.35	0.6890	-0.0124	0.0349	-0.6635	0.2546	-4.4211	0.7125	-1.7436	0.1890
3	180.35	0.7495	-0.0004	0.0407	-0.7915	0.2901	-5.9274	0.8031	-1.7874	0.1888
3	180.35	0.7998	-0.0238	0.0465	-0.9679	0.3207	-7.2786	0.8770	-1.9039	0.1864
3	180.35	0.8577	-0.0720	0.0527	-1.0215	0.3568	-8.9442	0.9586	-1.8797	0.1863
3	180.35	0.9178	-0.0659	0.0598	-1.1708	0.3929	-10.6888	1.0417	-1.7514	0.2305
3	180.35	0.9729	-0.1368	0.0685	-1.2558	0.4276	-12.2643	1.1130	-1.9925	0.2408
4	180	0.2001	-0.0712	0.0292	-0.0135	0.0032	-0.0665	0.0055	-0.0990	0.0194
4	180	0.2502	-0.0112	0.0124	0.0058	0.0051	-0.1401	0.0066	-0.1295	0.0582
4	180	0.3001	-0.0025	0.0069	-0.0401	0.0120	-0.2707	0.0158	-0.2200	0.0523
4	180	0.3502	-0.0036	0.0274	-0.0440	0.0215	-0.5081	0.0248	-0.6034	0.0709
4	180	0.4002	0.0244	0.0503	-0.0686	0.0323	-0.7650	0.0363	-0.5907	0.0718
4	180	0.4500	0.0242	0.0139	-0.1253	0.0587	-1.1864	0.0515	-1.3150	0.8165
4	180	0.5001	0.0535	0.0093	-0.1639	0.0726	-1.7252	0.0655	-1.3772	0.9451
4	180	0.5560	0.0245	0.0479	-0.2117	0.1158	-2.4550	0.1909	-1.1459	0.0840
4	180	0.6001	0.0538	0.0429	-0.2912	0.1277	-3.2292	0.2098	-1.2897	0.0943
4	180	0.6501	0.0315	0.0375	-0.3308	0.1400	-4.2989	0.2307	-1.3547	0.0935
4	180	0.6999	0.0218	0.0313	-0.4125	0.1506	-5.5091	0.2523	-1.2412	0.1094
4	180	0.7500	-0.0025	0.0271	-0.5334	0.1591	-6.8888	0.2700	-1.2747	0.1035
4	180	0.8002	-0.0377	0.0290	-0.6189	0.1674	-8.3821	0.2887	-1.1649	0.1184
4	180	0.8582	-0.1251	0.0298	-0.5825	0.4839	-10.1556	0.9052	-1.5039	0.0824
4	180	0.9101	-0.1231	0.0250	-0.6715	0.5137	-11.8764	0.9591	-1.5010	0.0863
4	180	0.9728	-0.1071	0.0219	-0.6885	0.5504	-13.8961	1.0320	-1.5204	0.1075

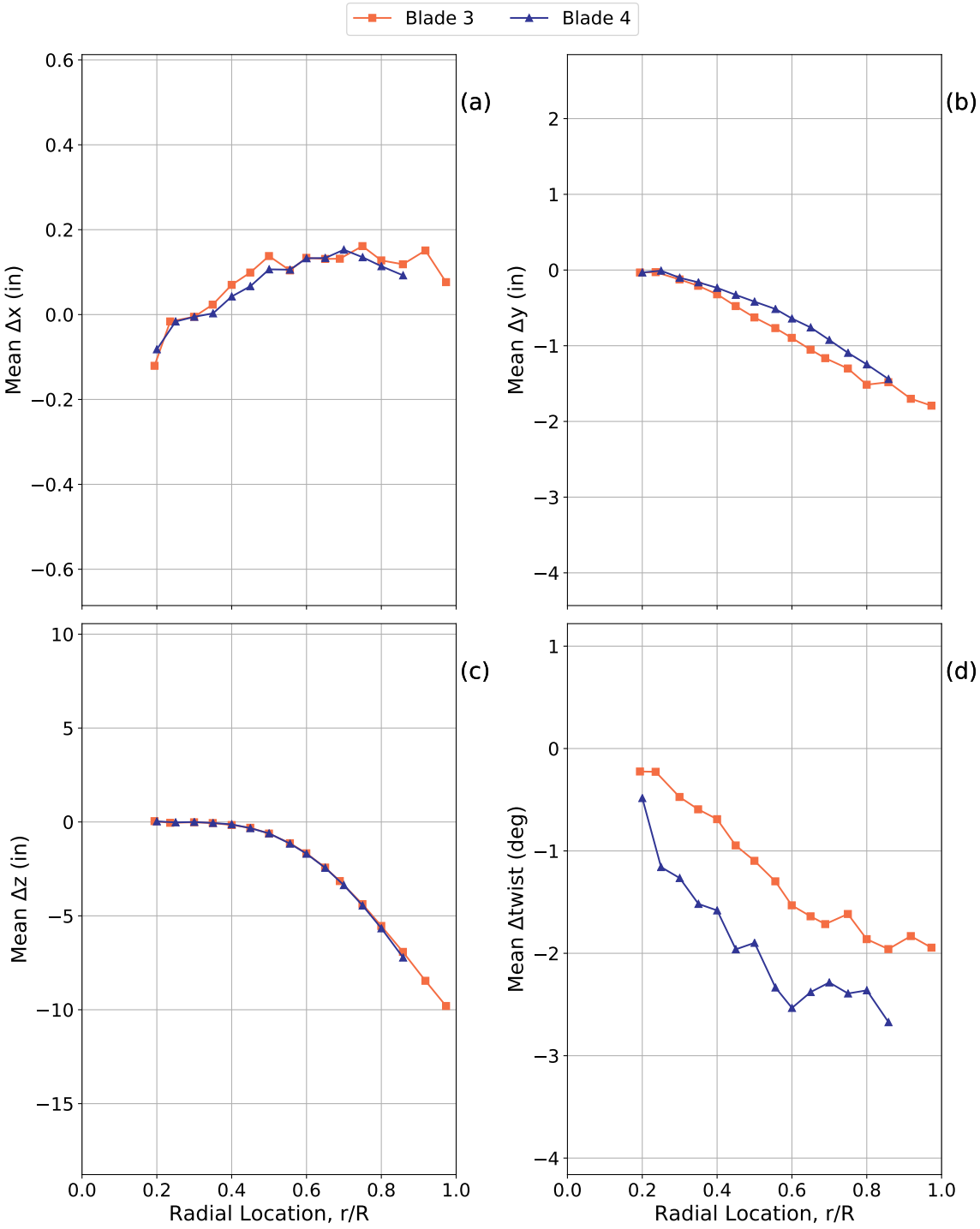


Figure 3.36-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.1207	0.0462	-0.0324	0.0185	0.0431	0.0467	-0.2245	0.0372
3	184.92	0.2357	-0.0162	0.0076	-0.0279	0.0050	-0.0442	0.0306	-0.2271	0.0570
3	184.92	0.2995	-0.0052	0.0186	-0.1244	0.0540	-0.0164	0.1158	-0.4731	0.0818
3	184.92	0.3493	0.0234	0.0326	-0.2081	0.0948	-0.0556	0.1853	-0.5937	0.0723
3	184.92	0.4000	0.0700	0.0476	-0.3205	0.1356	-0.1625	0.2569	-0.6900	0.0776
3	184.92	0.4497	0.0990	0.0192	-0.4765	0.1630	-0.3094	0.2653	-0.9464	0.0864
3	184.92	0.4997	0.1379	0.0262	-0.6262	0.2029	-0.6171	0.3268	-1.0965	0.0686
3	184.92	0.5556	0.1041	0.0296	-0.7670	0.2460	-1.1319	0.3930	-1.2969	0.1134
3	184.92	0.5995	0.1337	0.0346	-0.8960	0.2811	-1.6677	0.4504	-1.5313	0.0682
3	184.92	0.6498	0.1311	0.0398	-1.0517	0.3218	-2.4276	0.5108	-1.6388	0.0721
3	184.92	0.6890	0.1316	0.0440	-1.1642	0.3532	-3.1472	0.5626	-1.7150	0.0840
3	184.92	0.7495	0.1613	0.0503	-1.3006	0.4033	-4.3741	0.6411	-1.6160	0.0930
3	184.92	0.7998	0.1276	0.0552	-1.5145	0.4468	-5.5375	0.7087	-1.8617	0.0889
3	184.92	0.8577	0.1185	0.0423	-1.4814	0.7034	-6.9192	0.6023	-1.9588	0.1140
3	184.92	0.9178	0.1510	0.0441	-1.7007	0.7624	-8.4570	0.6736	-1.8318	0.1084
3	184.92	0.9729	0.0764	0.0314	-1.7915	0.8153	-9.7997	0.7284	-1.9448	0.1534
4	184.92	0.2001	-0.0819	0.0144	-0.0326	0.0088	0.0305	0.0435	-0.4841	0.2157
4	184.92	0.2502	-0.0164	0.0031	-0.0088	0.0065	-0.0210	0.0428	-1.1580	0.6024
4	184.92	0.3001	-0.0053	0.0071	-0.1028	0.0296	-0.0001	0.1119	-1.2652	0.5959
4	184.92	0.3502	0.0028	0.0144	-0.1629	0.0531	-0.0552	0.1783	-1.5179	0.6020
4	184.92	0.4002	0.0426	0.0221	-0.2358	0.0763	-0.1269	0.2462	-1.5813	0.6048
4	184.92	0.4500	0.0668	0.0304	-0.3286	0.1001	-0.3314	0.3144	-1.9612	0.6140
4	184.92	0.5001	0.1065	0.0386	-0.4179	0.1262	-0.6084	0.3859	-1.8979	0.6116
4	184.92	0.5560	0.1058	0.0466	-0.5151	0.1571	-1.1553	0.4657	-2.3342	0.6179
4	184.92	0.6001	0.1326	0.0517	-0.6409	0.1841	-1.6938	0.5293	-2.5338	0.6257
4	184.92	0.6501	0.1333	0.0575	-0.7590	0.2177	-2.4440	0.6042	-2.3788	0.6273
4	184.92	0.6999	0.1528	0.0619	-0.9239	0.2531	-3.3651	0.6811	-2.2848	0.6325
4	184.92	0.7500	0.1350	0.0622	-1.0943	0.2954	-4.4531	0.7615	-2.3925	0.6296
4	184.92	0.8002	0.1139	0.0626	-1.2467	0.3391	-5.6658	0.8459	-2.3618	0.6189
4	184.92	0.8582	0.0923	0.1393	-1.4406	0.3694	-7.2213	0.9479	-2.6731	0.6609

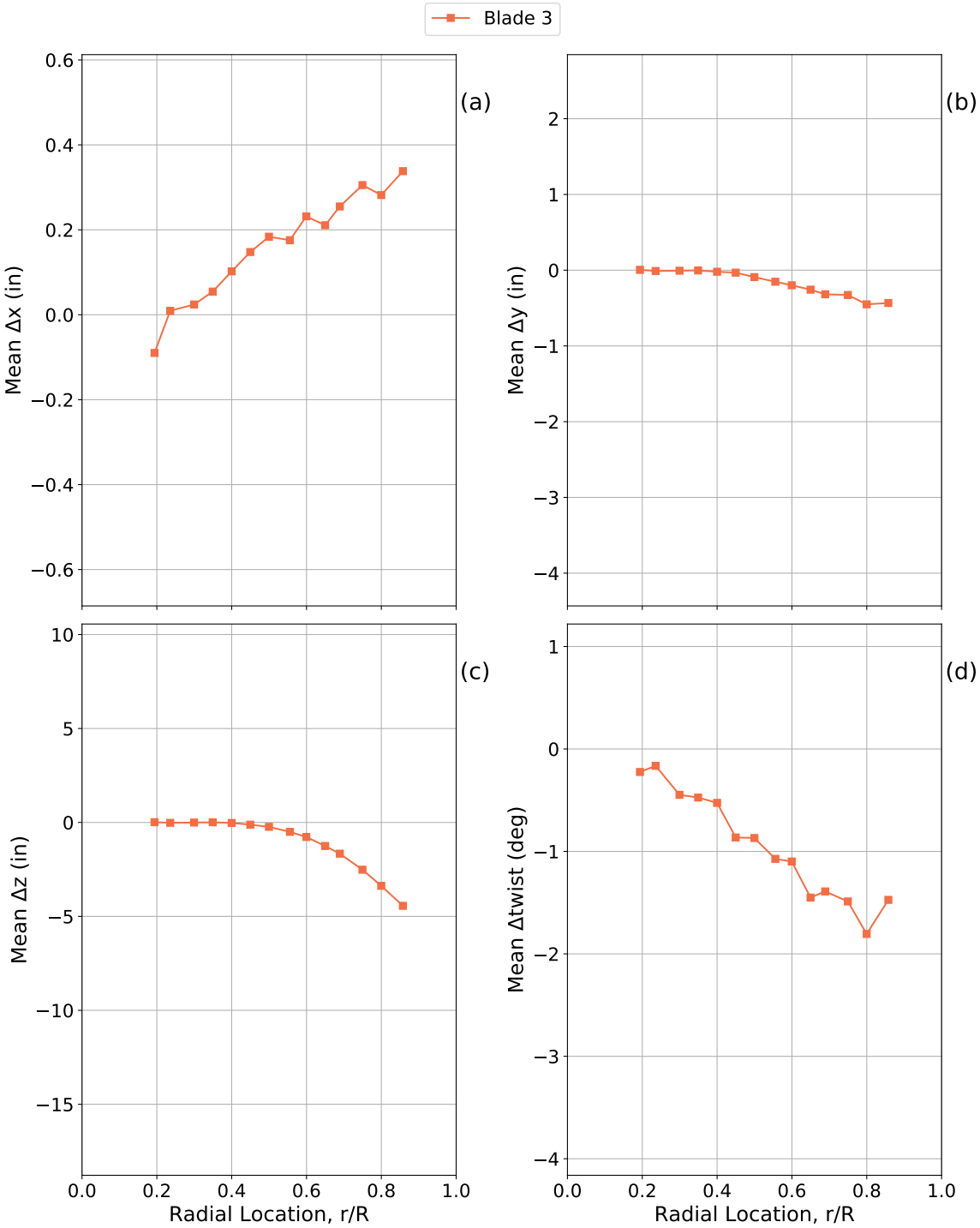


Figure 3.36-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0899	0.0111	0.0043	0.0021	0.0141	0.0073	-0.2247	0.0185
3	195.12	0.2357	0.0093	0.0046	-0.0106	0.0046	-0.0200	0.0127	-0.1648	0.0270
3	195.12	0.2995	0.0241	0.0064	-0.0070	0.0113	-0.0052	0.0229	-0.4477	0.0331
3	195.12	0.3493	0.0545	0.0151	-0.0031	0.0192	0.0069	0.0372	-0.4741	0.0434
3	195.12	0.4000	0.1022	0.0229	-0.0206	0.0312	-0.0264	0.0551	-0.5262	0.0471
3	195.12	0.4497	0.1477	0.0301	-0.0322	0.0423	-0.1181	0.0701	-0.8639	0.0529
3	195.12	0.4997	0.1837	0.0351	-0.0912	0.0573	-0.2358	0.0923	-0.8694	0.0533
3	195.12	0.5556	0.1756	0.0397	-0.1525	0.0769	-0.5014	0.1202	-1.0727	0.0522
3	195.12	0.5995	0.2317	0.0410	-0.1994	0.0928	-0.7732	0.1403	-1.0986	0.0606
3	195.12	0.6498	0.2107	0.0408	-0.2571	0.1150	-1.2533	0.1729	-1.4505	0.0705
3	195.12	0.6890	0.2549	0.0383	-0.3179	0.1332	-1.6626	0.1958	-1.3908	0.0687
3	195.12	0.7495	0.3053	0.0342	-0.3277	0.1648	-2.5161	0.2439	-1.4884	0.0601
3	195.12	0.7998	0.2819	0.0302	-0.4505	0.1955	-3.3735	0.2818	-1.8056	0.0855
3	195.12	0.8577	0.3381	0.0388	-0.4333	0.2296	-4.4371	0.3344	-1.4730	0.0893

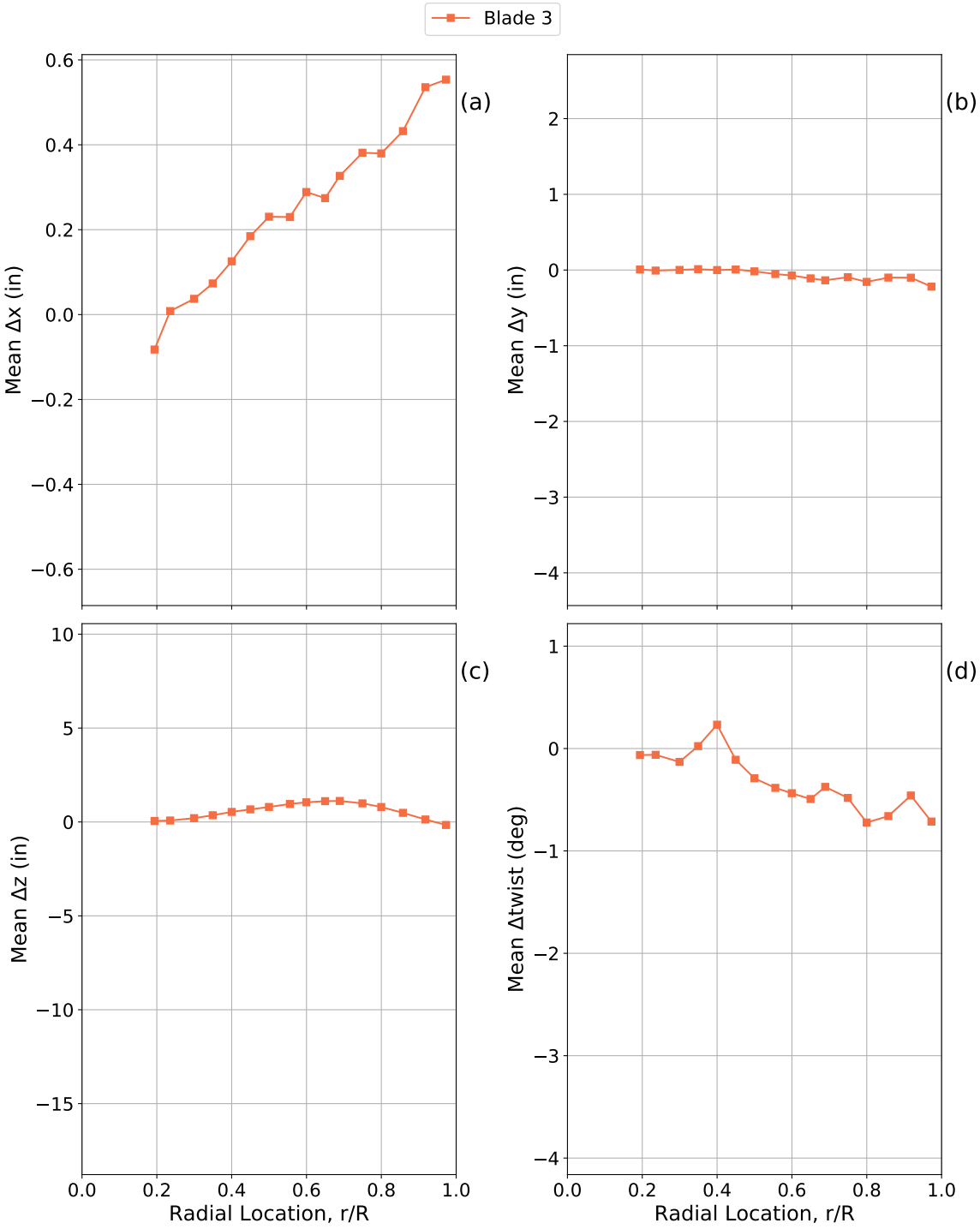


Figure 3.36-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0823	0.0011	0.0077	0.0006	0.0547	0.0036	-0.0637	0.0324
3	209.88	0.2357	0.0082	0.0015	-0.0073	0.0008	0.0780	0.0057	-0.0615	0.0453
3	209.88	0.2995	0.0371	0.0015	0.0016	0.0028	0.2030	0.0105	-0.1304	0.0741
3	209.88	0.3493	0.0733	0.0016	0.0114	0.0049	0.3578	0.0189	0.0237	0.0531
3	209.88	0.4000	0.1254	0.0019	-0.0007	0.0075	0.5353	0.0268	0.2327	0.0578
3	209.88	0.4497	0.1847	0.0023	0.0066	0.0106	0.6701	0.0345	-0.1098	0.0695
3	209.88	0.4997	0.2305	0.0022	-0.0175	0.0138	0.7983	0.0435	-0.2906	0.0867
3	209.88	0.5556	0.2298	0.0022	-0.0526	0.0171	0.9587	0.0555	-0.3843	0.0696
3	209.88	0.5995	0.2888	0.0030	-0.0724	0.0206	1.0471	0.0659	-0.4364	0.0585
3	209.88	0.6498	0.2743	0.0027	-0.1100	0.0251	1.1078	0.0819	-0.4933	0.0727
3	209.88	0.6890	0.3268	0.0026	-0.1355	0.0278	1.1190	0.0919	-0.3747	0.0798
3	209.88	0.7495	0.3813	0.0032	-0.0950	0.0343	0.9910	0.1127	-0.4821	0.0835
3	209.88	0.7998	0.3797	0.0038	-0.1565	0.0406	0.7964	0.1358	-0.7225	0.0863
3	209.88	0.8577	0.4322	0.0037	-0.0996	0.0458	0.4862	0.1601	-0.6601	0.0907
3	209.88	0.9178	0.5356	0.0042	-0.1006	0.0532	0.1313	0.1874	-0.4589	0.1086
3	209.88	0.9729	0.5535	0.0063	-0.2193	0.0579	-0.1588	0.2122	-0.7133	0.0956

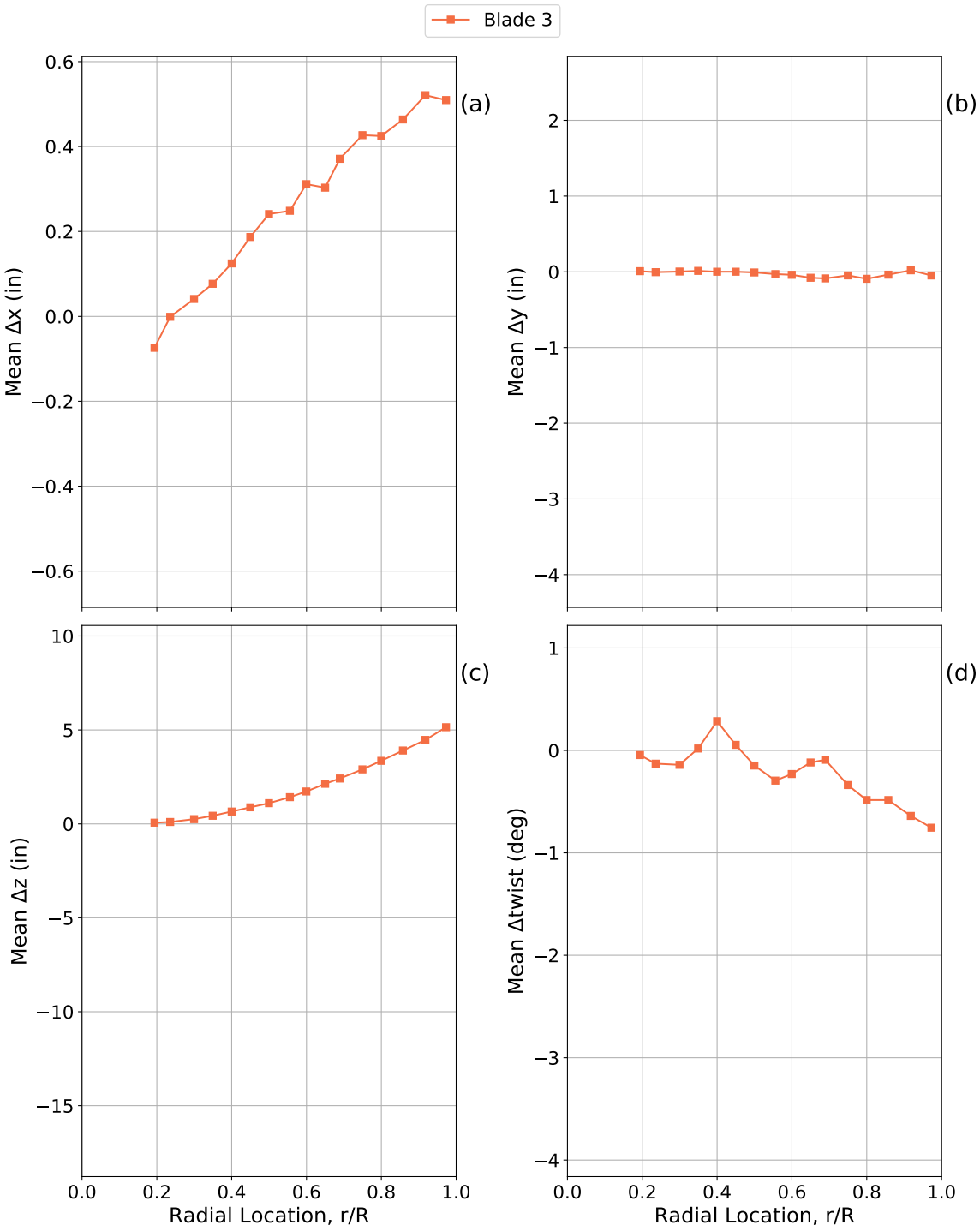


Figure 3.36-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0740	0.0015	0.0085	0.0010	0.0661	0.0087	-0.0452	0.0315
3	225	0.2357	-0.0010	0.0012	-0.0046	0.0020	0.1028	0.0134	-0.1291	0.0401
3	225	0.2995	0.0410	0.0016	0.0036	0.0051	0.2541	0.0272	-0.1405	0.0654
3	225	0.3493	0.0767	0.0016	0.0123	0.0089	0.4330	0.0463	0.0186	0.0531
3	225	0.4000	0.1247	0.0021	0.0011	0.0146	0.6590	0.0675	0.2850	0.0531
3	225	0.4497	0.1869	0.0029	0.0013	0.0206	0.8828	0.0895	0.0543	0.0549
3	225	0.4997	0.2409	0.0034	-0.0084	0.0280	1.1036	0.1106	-0.1476	0.0509
3	225	0.5556	0.2486	0.0042	-0.0298	0.0363	1.4229	0.1359	-0.2948	0.0494
3	225	0.5995	0.3114	0.0048	-0.0395	0.0431	1.7256	0.1545	-0.2305	0.0531
3	225	0.6498	0.3031	0.0057	-0.0785	0.0514	2.1354	0.1787	-0.1176	0.0626
3	225	0.6890	0.3711	0.0060	-0.0871	0.0584	2.4156	0.1986	-0.0915	0.0632
3	225	0.7495	0.4267	0.0063	-0.0472	0.0693	2.9025	0.2301	-0.3380	0.0605
3	225	0.7998	0.4247	0.0065	-0.0921	0.0776	3.3569	0.2582	-0.4842	0.0811
3	225	0.8577	0.4637	0.0070	-0.0375	0.0885	3.9057	0.2892	-0.4844	0.0857
3	225	0.9178	0.5209	0.0100	0.0199	0.1002	4.4695	0.3318	-0.6393	0.0763
3	225	0.9729	0.5095	0.0125	-0.0482	0.1080	5.1454	0.3690	-0.7543	0.0802

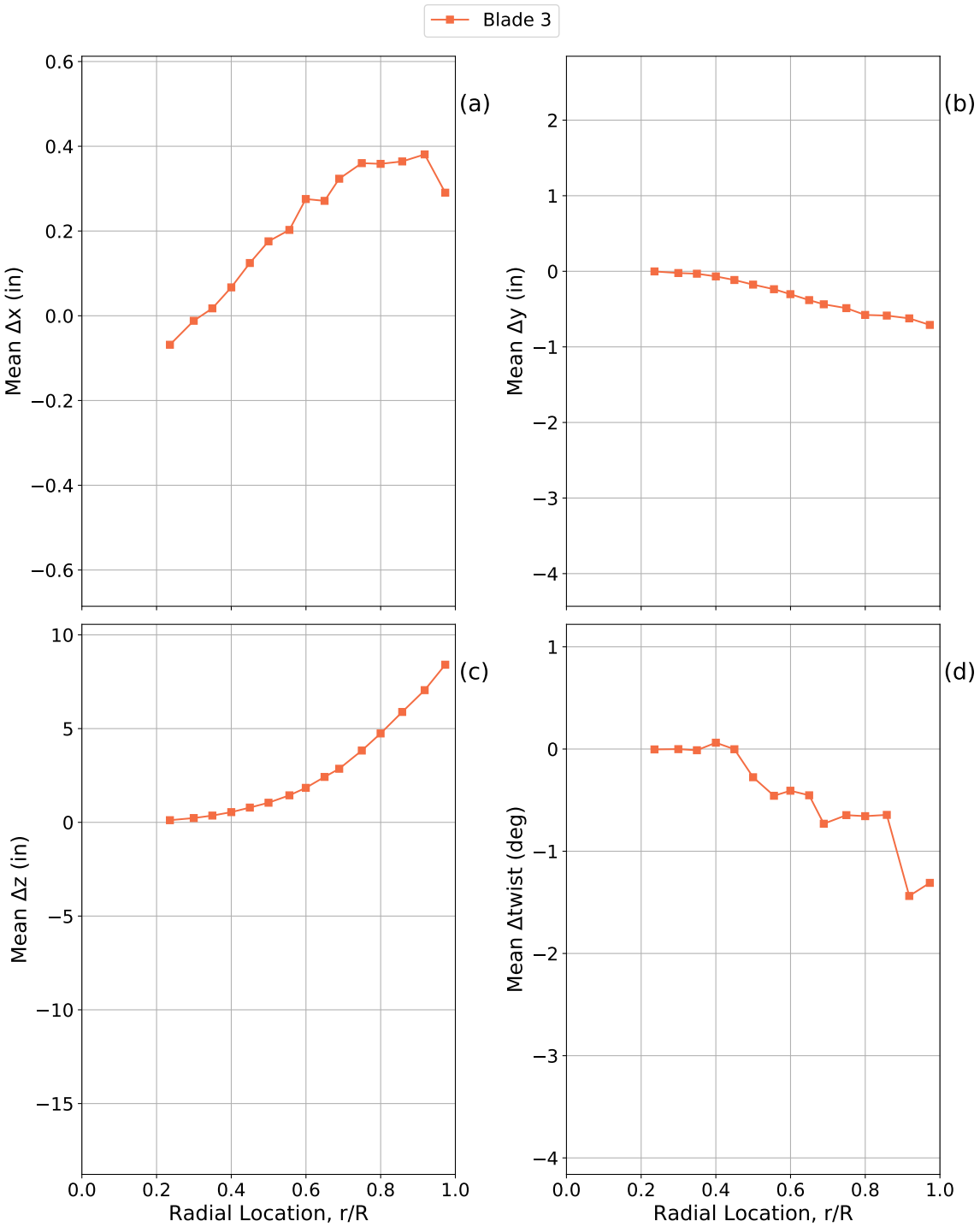


Figure 3.36-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0684	0.0020	-0.0017	0.0016	0.1145	0.0229	-0.0039	0.0823
3	240.12	0.2995	-0.0118	0.0024	-0.0230	0.0051	0.2283	0.0440	-0.0011	0.1322
3	240.12	0.3493	0.0175	0.0019	-0.0318	0.0104	0.3602	0.0687	-0.0120	0.1278
3	240.12	0.4000	0.0670	0.0019	-0.0676	0.0175	0.5442	0.1025	0.0620	0.1267
3	240.12	0.4497	0.1245	0.0039	-0.1152	0.0241	0.7875	0.1405	-0.0022	0.1366
3	240.12	0.4997	0.1757	0.0040	-0.1762	0.0328	1.0461	0.1903	-0.2760	0.1263
3	240.12	0.5556	0.2026	0.0057	-0.2371	0.0432	1.4412	0.2468	-0.4573	0.1269
3	240.12	0.5995	0.2755	0.0081	-0.3026	0.0526	1.8393	0.2956	-0.4080	0.1443
3	240.12	0.6498	0.2712	0.0105	-0.3812	0.0633	2.4227	0.3522	-0.4526	0.1412
3	240.12	0.6890	0.3234	0.0133	-0.4367	0.0727	2.8582	0.3970	-0.7310	0.1409
3	240.12	0.7495	0.3602	0.0174	-0.4876	0.0874	3.8295	0.4648	-0.6467	0.1360
3	240.12	0.7998	0.3585	0.0210	-0.5774	0.1008	4.7415	0.5212	-0.6568	0.1398
3	240.12	0.8577	0.3642	0.0248	-0.5859	0.1173	5.8880	0.5826	-0.6443	0.1527
3	240.12	0.9178	0.3808	0.0303	-0.6230	0.1346	7.0512	0.6481	-1.4375	0.1347
3	240.12	0.9729	0.2905	0.0414	-0.7096	0.1501	8.4084	0.7090	-1.3094	0.1449

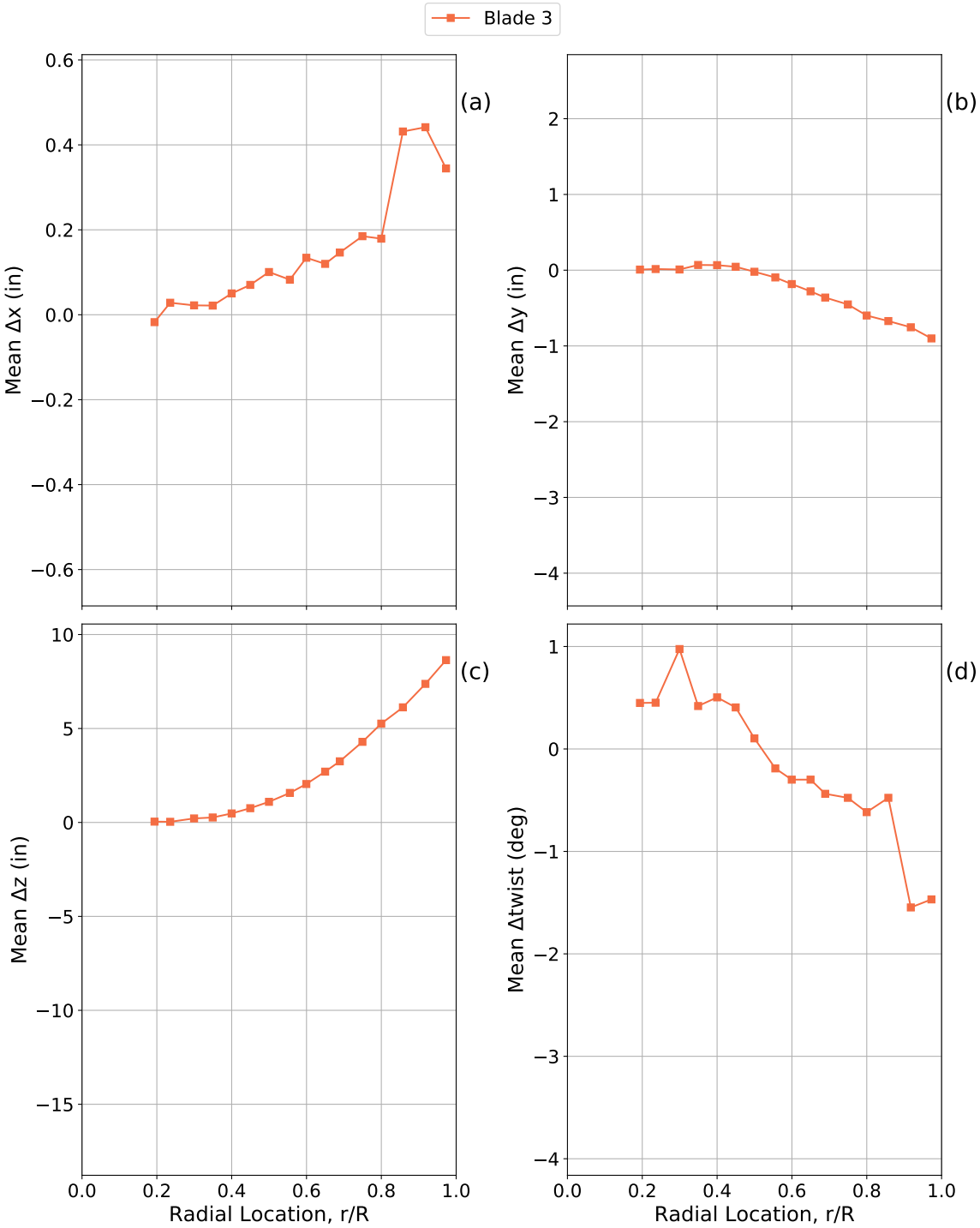


Figure 3.36-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0174	0.0141	0.0080	0.0016	0.0437	0.0433	0.4491	0.3843
3	254.88	0.2357	0.0283	0.0116	0.0150	0.0071	0.0346	0.0691	0.4515	0.3705
3	254.88	0.2995	0.0221	0.0061	0.0092	0.0087	0.2133	0.0944	0.9751	0.8129
3	254.88	0.3493	0.0216	0.0142	0.0689	0.0422	0.2641	0.2400	0.4191	0.2839
3	254.88	0.4000	0.0502	0.0194	0.0665	0.0528	0.4789	0.2857	0.5036	0.2847
3	254.88	0.4497	0.0703	0.0241	0.0449	0.0621	0.7588	0.3269	0.4055	0.2928
3	254.88	0.4997	0.1006	0.0267	-0.0206	0.0733	1.0975	0.3693	0.1034	0.2836
3	254.88	0.5556	0.0825	0.0293	-0.0960	0.0852	1.5713	0.4180	-0.1898	0.2765
3	254.88	0.5995	0.1342	0.0317	-0.1834	0.0968	2.0458	0.4524	-0.2994	0.2845
3	254.88	0.6498	0.1198	0.0347	-0.2793	0.1090	2.7034	0.4976	-0.2993	0.2767
3	254.88	0.6890	0.1465	0.0381	-0.3614	0.1195	3.2530	0.5294	-0.4376	0.2874
3	254.88	0.7495	0.1850	0.0453	-0.4523	0.1362	4.2905	0.5808	-0.4769	0.2712
3	254.88	0.7998	0.1792	0.0520	-0.5984	0.1502	5.2590	0.6190	-0.6167	0.2740
3	254.88	0.8577	0.4315	0.0512	-0.6715	0.1397	6.1259	0.9930	-0.4768	0.2632
3	254.88	0.9178	0.4416	0.0575	-0.7537	0.1540	7.3750	1.0729	-1.5469	0.2702
3	254.88	0.9729	0.3446	0.0627	-0.9010	0.1668	8.6389	1.1440	-1.4684	0.2777

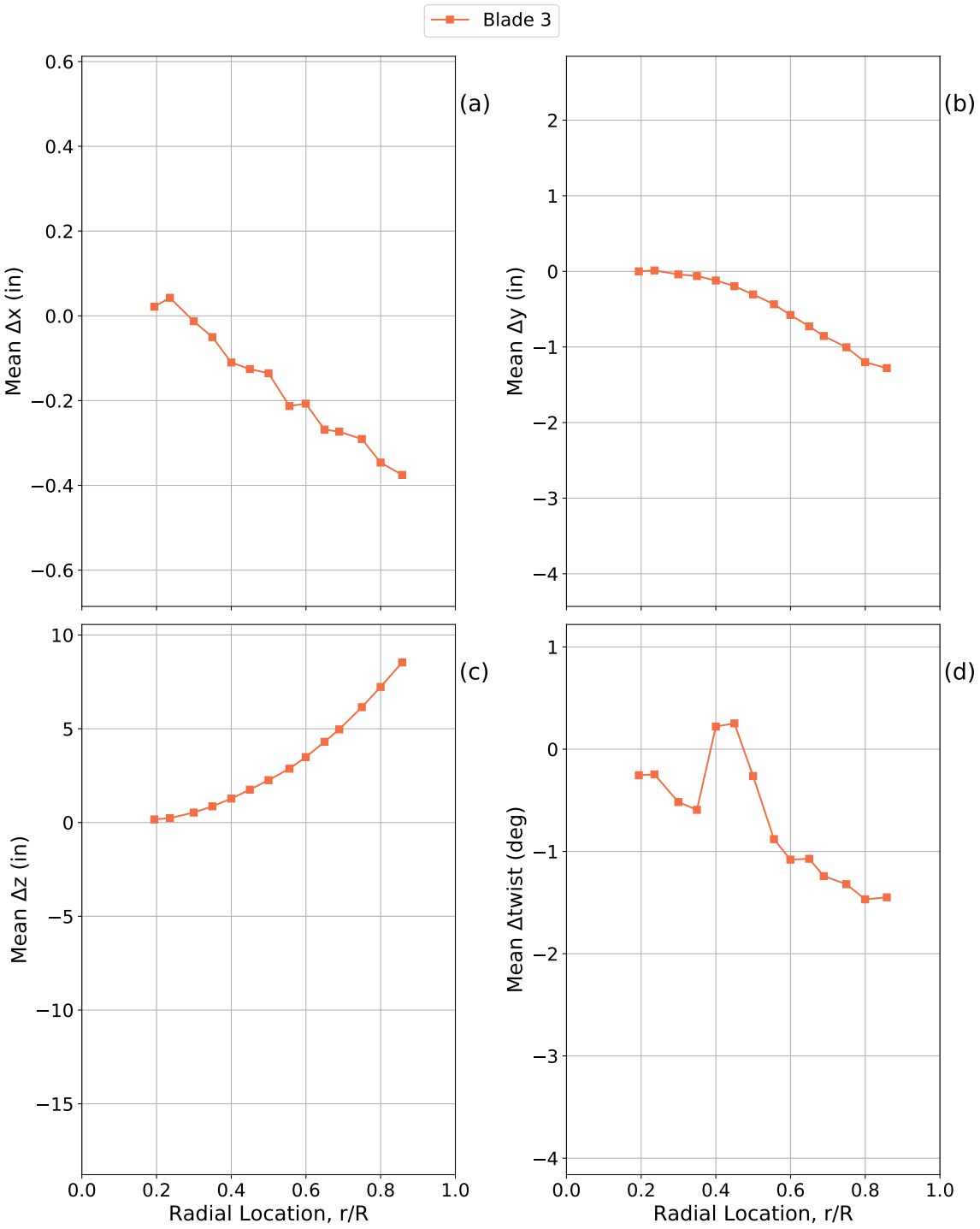


Figure 3.36-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0217	0.0020	0.0000	0.0006	0.1671	0.0136	-0.2546	0.0558
3	260.16	0.2357	0.0426	0.0019	0.0119	0.0021	0.2346	0.0216	-0.2466	0.0740
3	260.16	0.2995	-0.0127	0.0027	-0.0398	0.0056	0.5331	0.0408	-0.5165	0.1150
3	260.16	0.3493	-0.0501	0.0033	-0.0621	0.0116	0.8625	0.0675	-0.5931	0.0687
3	260.16	0.4000	-0.1101	0.0065	-0.1206	0.0192	1.2768	0.0975	0.2216	0.0913
3	260.16	0.4497	-0.1256	0.0058	-0.1954	0.0233	1.7549	0.1180	0.2522	0.1142
3	260.16	0.4997	-0.1354	0.0072	-0.3048	0.0308	2.2602	0.1507	-0.2628	0.1226
3	260.16	0.5556	-0.2129	0.0105	-0.4358	0.0400	2.8702	0.1903	-0.8795	0.0727
3	260.16	0.5995	-0.2071	0.0123	-0.5768	0.0465	3.4897	0.2205	-1.0798	0.0853
3	260.16	0.6498	-0.2683	0.0138	-0.7274	0.0555	4.3043	0.2566	-1.0717	0.0802
3	260.16	0.6890	-0.2733	0.0168	-0.8548	0.0627	4.9664	0.2847	-1.2413	0.0852
3	260.16	0.7495	-0.2906	0.0197	-1.0043	0.0741	6.1506	0.3241	-1.3206	0.0946
3	260.16	0.7998	-0.3462	0.0225	-1.2014	0.0854	7.2312	0.3540	-1.4687	0.1044
3	260.16	0.8577	-0.3754	0.0236	-1.2797	0.0970	8.5391	0.3879	-1.4485	0.1108

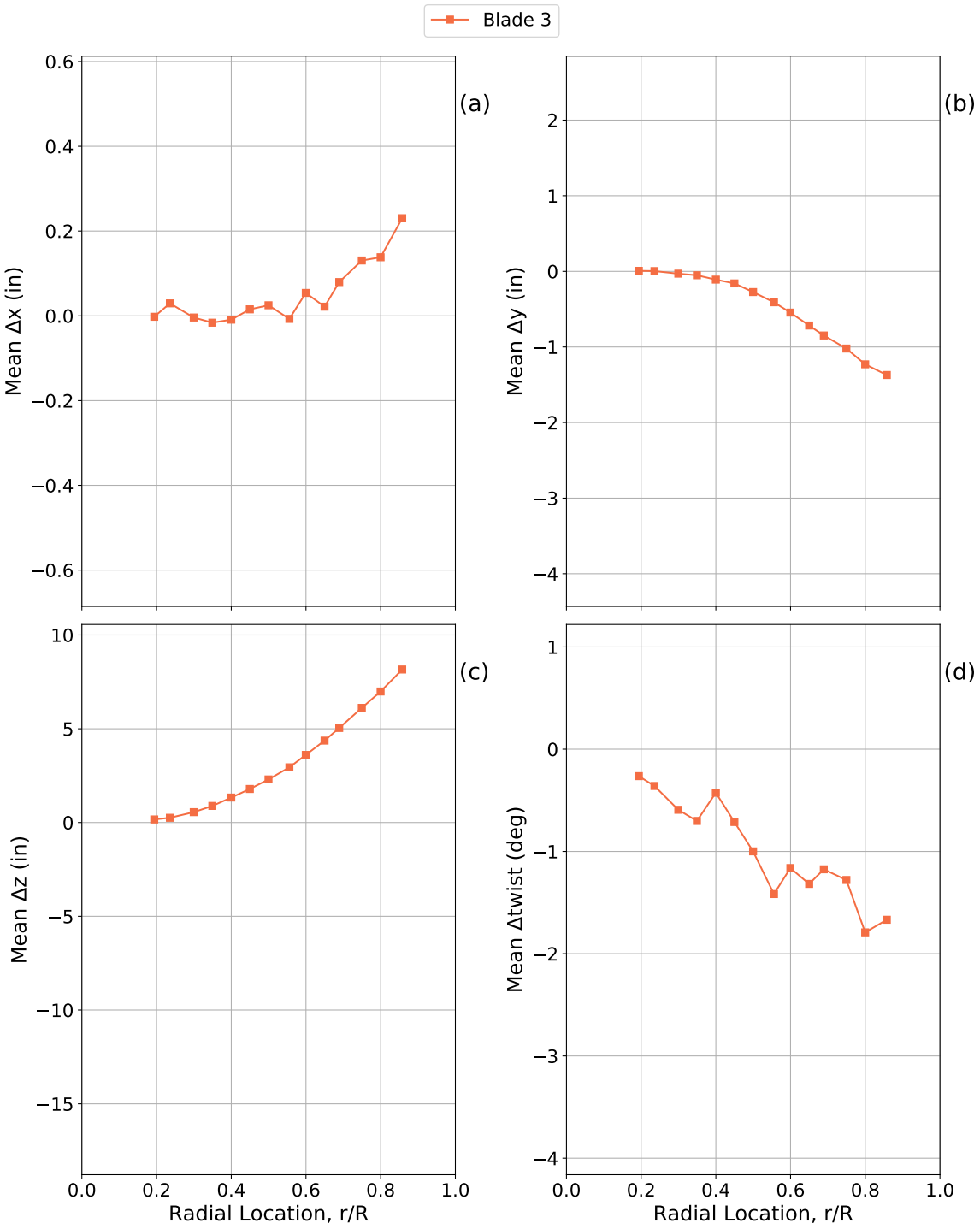


Figure 3.36-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0022	0.0020	0.0071	0.0008	0.1646	0.0070	-0.2635	0.0318
3	265.08	0.2357	0.0294	0.0029	0.0038	0.0009	0.2522	0.0136	-0.3597	0.0499
3	265.08	0.2995	-0.0039	0.0014	-0.0301	0.0027	0.5537	0.0228	-0.5928	0.0693
3	265.08	0.3493	-0.0161	0.0021	-0.0513	0.0078	0.8856	0.0355	-0.7019	0.0682
3	265.08	0.4000	-0.0090	0.0029	-0.1092	0.0106	1.3327	0.0537	-0.4258	0.0640
3	265.08	0.4497	0.0153	0.0043	-0.1591	0.0142	1.7896	0.0619	-0.7122	0.0798
3	265.08	0.4997	0.0249	0.0045	-0.2738	0.0183	2.2988	0.0788	-0.9991	0.0891
3	265.08	0.5556	-0.0072	0.0059	-0.4092	0.0245	2.9442	0.0947	-1.4167	0.0790
3	265.08	0.5995	0.0541	0.0069	-0.5455	0.0301	3.6051	0.1055	-1.1623	0.0846
3	265.08	0.6498	0.0216	0.0088	-0.7163	0.0360	4.3681	0.1223	-1.3176	0.0865
3	265.08	0.6890	0.0797	0.0081	-0.8479	0.0405	5.0429	0.1314	-1.1747	0.0864
3	265.08	0.7495	0.1306	0.0104	-1.0209	0.0495	6.1137	0.1554	-1.2791	0.1268
3	265.08	0.7998	0.1382	0.0115	-1.2297	0.0574	6.9865	0.1831	-1.7912	0.0971
3	265.08	0.8577	0.2303	0.0146	-1.3708	0.0668	8.1595	0.2184	-1.6680	0.0989

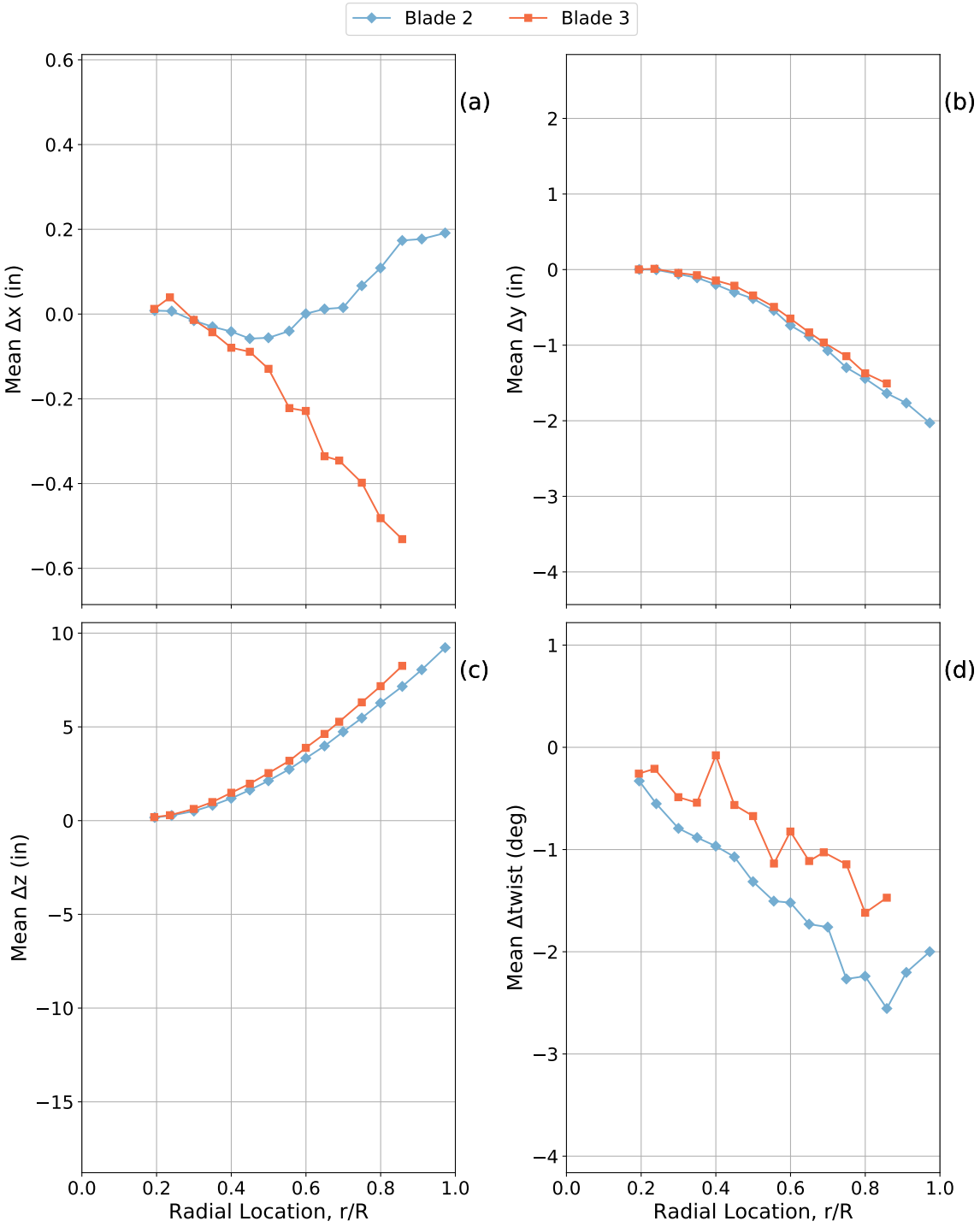


Figure 3.36-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0081	0.0018	0.0022	0.0011	0.1670	0.0065	-0.3294	0.0204
2	270.35	0.2405	0.0070	0.0033	-0.0029	0.0018	0.2763	0.0137	-0.5521	0.0493
2	270.35	0.2999	-0.0156	0.0016	-0.0601	0.0042	0.5061	0.0234	-0.7930	0.0538
2	270.35	0.3498	-0.0299	0.0031	-0.1090	0.0058	0.8181	0.0326	-0.8833	0.0933
2	270.35	0.3998	-0.0413	0.0024	-0.1981	0.0117	1.1869	0.0521	-0.9664	0.0450
2	270.35	0.4496	-0.0579	0.0038	-0.2998	0.0157	1.6332	0.0699	-1.0719	0.0418
2	270.35	0.4995	-0.0560	0.0037	-0.3839	0.0222	2.1250	0.0904	-1.3142	0.0575
2	270.35	0.5551	-0.0401	0.0050	-0.5413	0.0297	2.7419	0.1181	-1.5046	0.0523
2	270.35	0.5996	0.0008	0.0054	-0.7382	0.0366	3.3268	0.1423	-1.5197	0.0659
2	270.35	0.6497	0.0120	0.0068	-0.8826	0.0454	3.9813	0.1799	-1.7304	0.0652
2	270.35	0.6996	0.0152	0.0078	-1.0720	0.0544	4.7385	0.2173	-1.7586	0.0811
2	270.35	0.7495	0.0669	0.0108	-1.2969	0.0631	5.4728	0.2602	-2.2662	0.0998
2	270.35	0.7996	0.1087	0.0122	-1.4416	0.0730	6.2749	0.3122	-2.2394	0.0901
2	270.35	0.8578	0.1736	0.0170	-1.6375	0.0844	7.1580	0.3815	-2.5552	0.1027
2	270.35	0.9100	0.1771	0.0205	-1.7658	0.0960	8.0505	0.4392	-2.2020	0.0968
2	270.35	0.9727	0.1913	0.0303	-2.0281	0.1084	9.2273	0.5096	-1.9993	0.1365
3	270	0.1938	0.0122	0.0026	0.0027	0.0013	0.1884	0.0102	-0.2576	0.0513
3	270	0.2357	0.0394	0.0027	0.0105	0.0025	0.2882	0.0164	-0.2101	0.1170
3	270	0.2995	-0.0137	0.0017	-0.0440	0.0042	0.6235	0.0258	-0.4881	0.1194
3	270	0.3493	-0.0429	0.0016	-0.0745	0.0085	0.9904	0.0465	-0.5415	0.1165
3	270	0.4000	-0.0795	0.0030	-0.1443	0.0139	1.4871	0.0642	-0.0783	0.0802
3	270	0.4497	-0.0890	0.0037	-0.2135	0.0184	1.9692	0.0753	-0.5643	0.0691
3	270	0.4997	-0.1293	0.0056	-0.3423	0.0232	2.5347	0.0957	-0.6728	0.0641
3	270	0.5556	-0.2220	0.0065	-0.4935	0.0299	3.1919	0.1121	-1.1370	0.0837
3	270	0.5995	-0.2286	0.0077	-0.6479	0.0341	3.8827	0.1309	-0.8239	0.0868
3	270	0.6498	-0.3356	0.0097	-0.8312	0.0410	4.6253	0.1535	-1.1124	0.0714
3	270	0.6890	-0.3457	0.0102	-0.9646	0.0476	5.2748	0.1729	-1.0273	0.0542
3	270	0.7495	-0.3980	0.0133	-1.1458	0.0556	6.3089	0.2039	-1.1450	0.1290
3	270	0.7998	-0.4817	0.0150	-1.3720	0.0637	7.1717	0.2384	-1.6185	0.1079
3	270	0.8577	-0.5312	0.0190	-1.5064	0.0718	8.2556	0.2810	-1.4715	0.1318

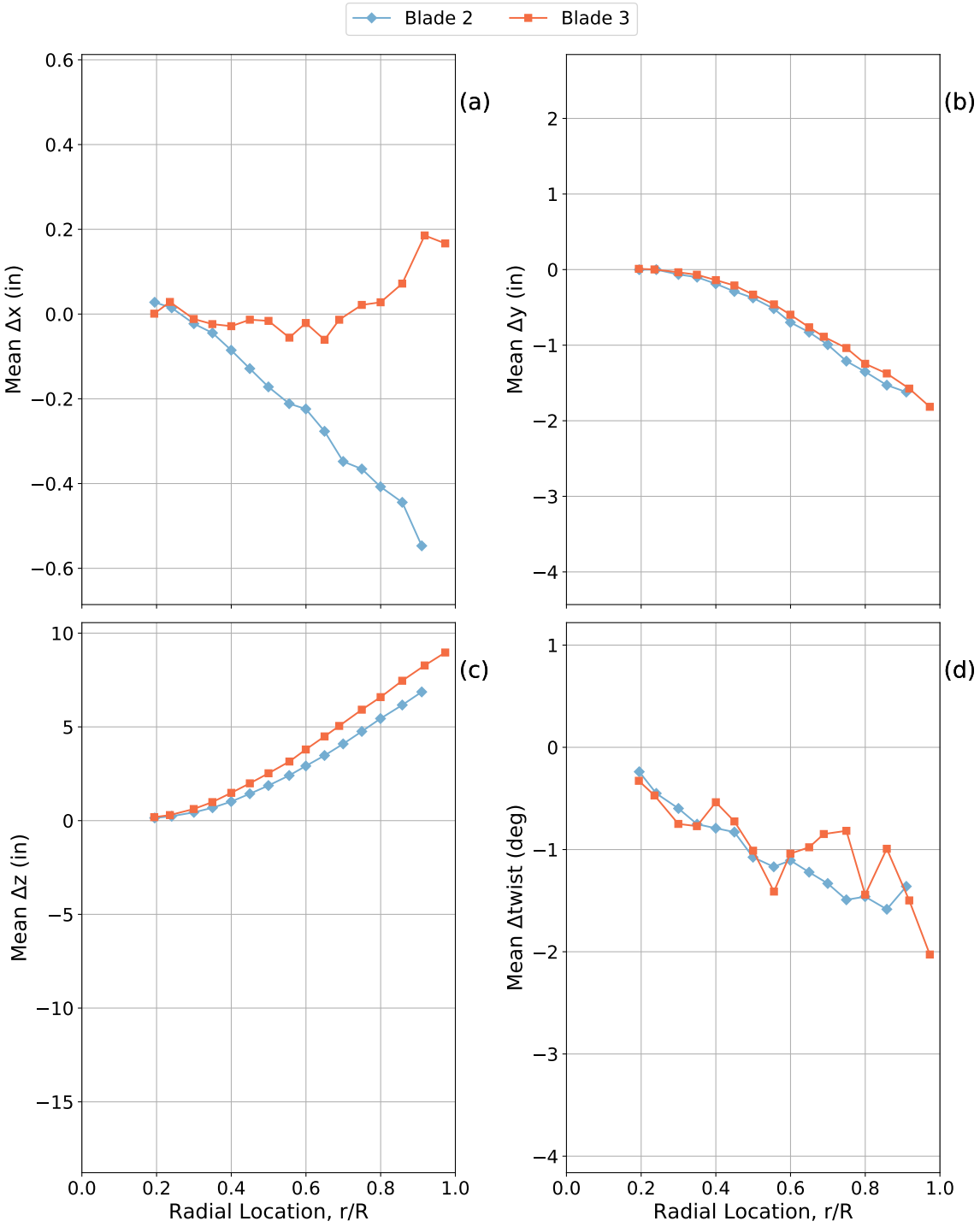


Figure 3.36-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0278	0.0034	-0.0015	0.0014	0.1420	0.0107	-0.2390	0.0447
2	274.92	0.2405	0.0146	0.0039	-0.0003	0.0027	0.2351	0.0108	-0.4510	0.0485
2	274.92	0.2999	-0.0228	0.0018	-0.0645	0.0027	0.4414	0.0315	-0.5983	0.0649
2	274.92	0.3498	-0.0446	0.0028	-0.1006	0.0044	0.6864	0.0432	-0.7522	0.0566
2	274.92	0.3998	-0.0853	0.0039	-0.1878	0.0080	1.0150	0.0656	-0.7915	0.0722
2	274.92	0.4496	-0.1287	0.0038	-0.2894	0.0112	1.4326	0.0839	-0.8292	0.0438
2	274.92	0.4995	-0.1719	0.0054	-0.3751	0.0143	1.8717	0.1042	-1.0753	0.0616
2	274.92	0.5551	-0.2115	0.0056	-0.5169	0.0181	2.4080	0.1322	-1.1691	0.0740
2	274.92	0.5996	-0.2240	0.0062	-0.6987	0.0212	2.9142	0.1599	-1.1064	0.0965
2	274.92	0.6497	-0.2767	0.0075	-0.8285	0.0254	3.4740	0.1876	-1.2217	0.0757
2	274.92	0.6996	-0.3479	0.0101	-0.9935	0.0304	4.0930	0.2192	-1.3322	0.0591
2	274.92	0.7495	-0.3656	0.0105	-1.2112	0.0356	4.7579	0.2476	-1.4917	0.0796
2	274.92	0.7996	-0.4076	0.0131	-1.3511	0.0392	5.4433	0.2858	-1.4608	0.0969
2	274.92	0.8578	-0.4443	0.0155	-1.5290	0.0446	6.1667	0.3319	-1.5846	0.1278
2	274.92	0.9100	-0.5470	0.0163	-1.6203	0.0534	6.8659	0.3877	-1.3605	0.1292
3	274.92	0.1938	0.0009	0.0026	0.0099	0.0012	0.1864	0.0131	-0.3277	0.0510
3	274.92	0.2357	0.0286	0.0013	0.0021	0.0019	0.2957	0.0221	-0.4710	0.0597
3	274.92	0.2995	-0.0116	0.0020	-0.0355	0.0056	0.6195	0.0414	-0.7494	0.1034
3	274.92	0.3493	-0.0237	0.0034	-0.0680	0.0093	0.9877	0.0684	-0.7712	0.0940
3	274.92	0.4000	-0.0286	0.0037	-0.1394	0.0166	1.4821	0.1007	-0.5373	0.0930
3	274.92	0.4497	-0.0133	0.0046	-0.2104	0.0246	1.9891	0.1349	-0.7249	0.0859
3	274.92	0.4997	-0.0161	0.0063	-0.3310	0.0356	2.5252	0.1781	-1.0114	0.1142
3	274.92	0.5556	-0.0557	0.0081	-0.4604	0.0500	3.1524	0.2248	-1.4113	0.0837
3	274.92	0.5995	-0.0211	0.0106	-0.5966	0.0640	3.7942	0.2691	-1.0403	0.1345
3	274.92	0.6498	-0.0607	0.0135	-0.7636	0.0806	4.4919	0.3159	-0.9780	0.1124
3	274.92	0.6890	-0.0134	0.0155	-0.8885	0.0954	5.0514	0.3556	-0.8484	0.1223
3	274.92	0.7495	0.0216	0.0194	-1.0378	0.1191	5.9178	0.4102	-0.8169	0.1124
3	274.92	0.7998	0.0278	0.0216	-1.2464	0.1398	6.5872	0.4631	-1.4419	0.1153
3	274.92	0.8577	0.0719	0.0253	-1.3747	0.1651	7.4615	0.5218	-0.9925	0.1255
3	274.92	0.9178	0.1855	0.0277	-1.5744	0.1909	8.2768	0.5841	-1.4980	0.1806
3	274.92	0.9729	0.1667	0.0365	-1.8155	0.2141	8.9681	0.6454	-2.0269	0.1703

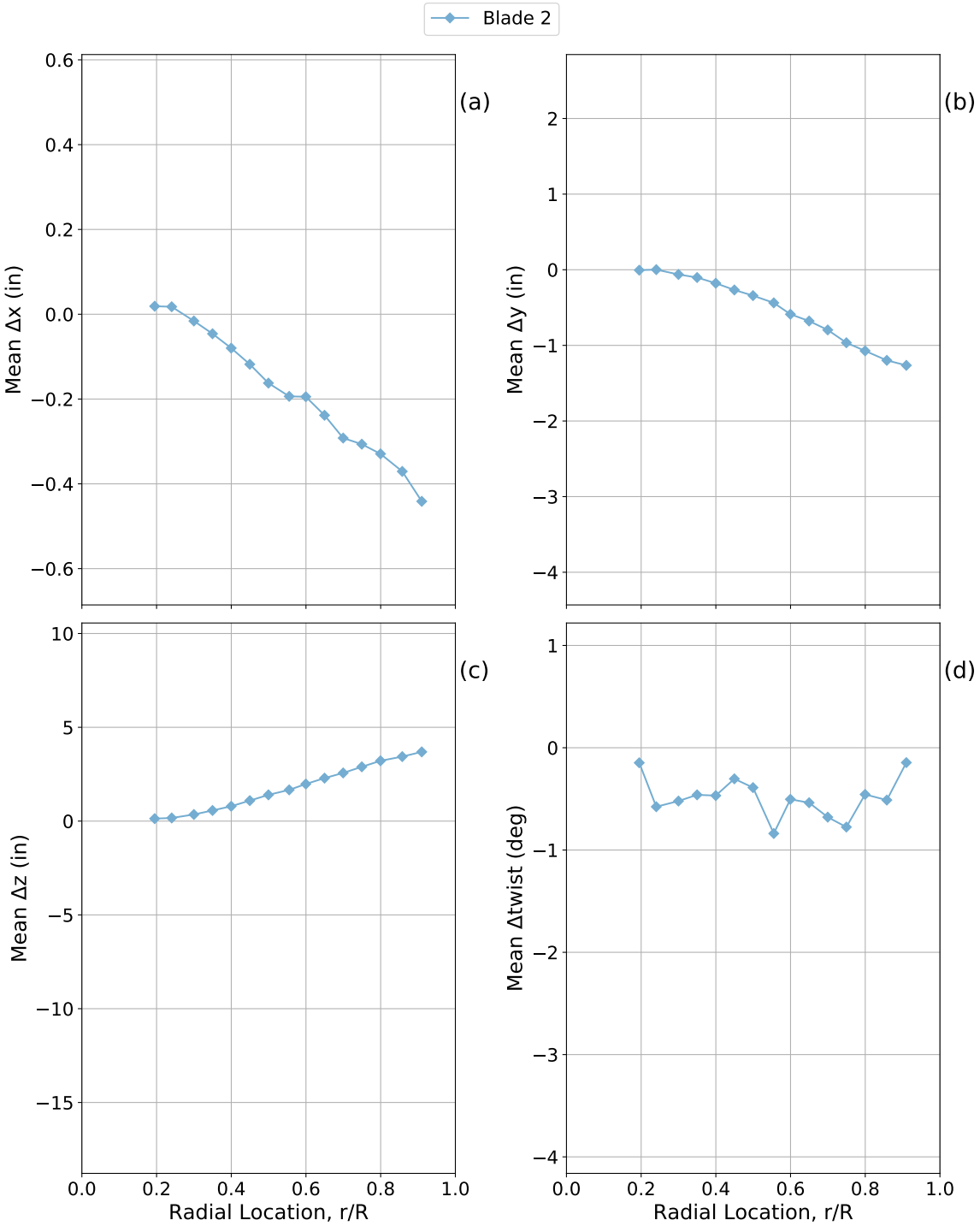


Figure 3.36-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0189	0.0020	-0.0058	0.0014	0.1313	0.0069	-0.1471	0.1047
2	285.12	0.2405	0.0177	0.0025	0.0015	0.0024	0.1674	0.0189	-0.5769	0.1076
2	285.12	0.2999	-0.0159	0.0030	-0.0624	0.0037	0.3521	0.0239	-0.5211	0.2192
2	285.12	0.3498	-0.0460	0.0013	-0.1028	0.0065	0.5669	0.0424	-0.4604	0.1838
2	285.12	0.3998	-0.0799	0.0026	-0.1783	0.0102	0.7918	0.0620	-0.4678	0.1861
2	285.12	0.4496	-0.1180	0.0035	-0.2671	0.0135	1.0925	0.0818	-0.3038	0.1698
2	285.12	0.4995	-0.1624	0.0038	-0.3423	0.0164	1.3989	0.1011	-0.3896	0.1612
2	285.12	0.5551	-0.1937	0.0042	-0.4379	0.0203	1.6646	0.1227	-0.8384	0.1687
2	285.12	0.5996	-0.1946	0.0053	-0.5883	0.0247	1.9774	0.1394	-0.5040	0.1413
2	285.12	0.6497	-0.2383	0.0062	-0.6781	0.0298	2.2912	0.1525	-0.5375	0.1751
2	285.12	0.6996	-0.2920	0.0078	-0.7960	0.0353	2.5673	0.1667	-0.6785	0.1720
2	285.12	0.7495	-0.3065	0.0070	-0.9653	0.0405	2.8936	0.1763	-0.7757	0.1726
2	285.12	0.7996	-0.3293	0.0087	-1.0728	0.0476	3.2147	0.1894	-0.4563	0.1566
2	285.12	0.8578	-0.3707	0.0095	-1.1983	0.0546	3.4382	0.1959	-0.5118	0.1548
2	285.12	0.9100	-0.4413	0.0105	-1.2645	0.0623	3.6906	0.2003	-0.1452	0.2205

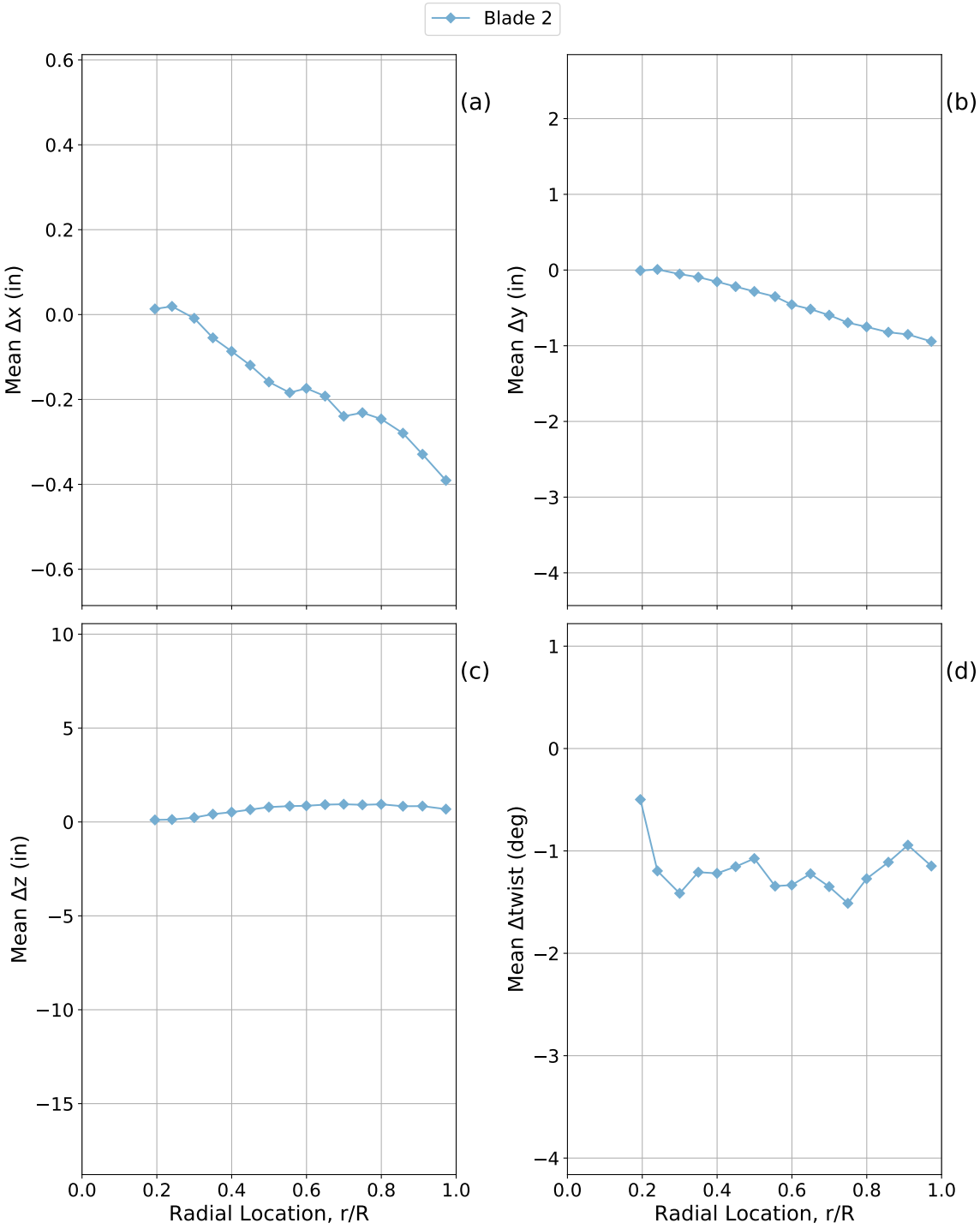


Figure 3.36-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0133	0.0015	-0.0074	0.0008	0.1081	0.0104	-0.4981	0.0492
2	299.88	0.2405	0.0193	0.0027	0.0076	0.0018	0.1289	0.0146	-1.1956	0.0889
2	299.88	0.2999	-0.0088	0.0017	-0.0535	0.0036	0.2345	0.0311	-1.4142	0.1143
2	299.88	0.3498	-0.0548	0.0017	-0.0945	0.0067	0.4154	0.0480	-1.2078	0.0559
2	299.88	0.3998	-0.0865	0.0024	-0.1543	0.0120	0.5235	0.0704	-1.2191	0.1042
2	299.88	0.4496	-0.1194	0.0032	-0.2192	0.0148	0.6577	0.0792	-1.1537	0.0831
2	299.88	0.4995	-0.1587	0.0038	-0.2831	0.0195	0.7921	0.0993	-1.0744	0.0845
2	299.88	0.5551	-0.1840	0.0039	-0.3513	0.0255	0.8453	0.1222	-1.3439	0.0911
2	299.88	0.5996	-0.1738	0.0040	-0.4568	0.0311	0.8621	0.1447	-1.3336	0.0847
2	299.88	0.6497	-0.1922	0.0053	-0.5169	0.0376	0.9225	0.1722	-1.2229	0.1017
2	299.88	0.6996	-0.2396	0.0065	-0.5963	0.0435	0.9444	0.2001	-1.3494	0.0936
2	299.88	0.7495	-0.2312	0.0065	-0.6954	0.0507	0.9134	0.2331	-1.5121	0.0935
2	299.88	0.7996	-0.2461	0.0077	-0.7512	0.0583	0.9412	0.2646	-1.2717	0.0861
2	299.88	0.8578	-0.2795	0.0088	-0.8218	0.0678	0.8379	0.3056	-1.1104	0.0948
2	299.88	0.9100	-0.3291	0.0095	-0.8510	0.0761	0.8443	0.3374	-0.9437	0.1115
2	299.88	0.9727	-0.3907	0.0131	-0.9434	0.0868	0.6829	0.3856	-1.1478	0.1194

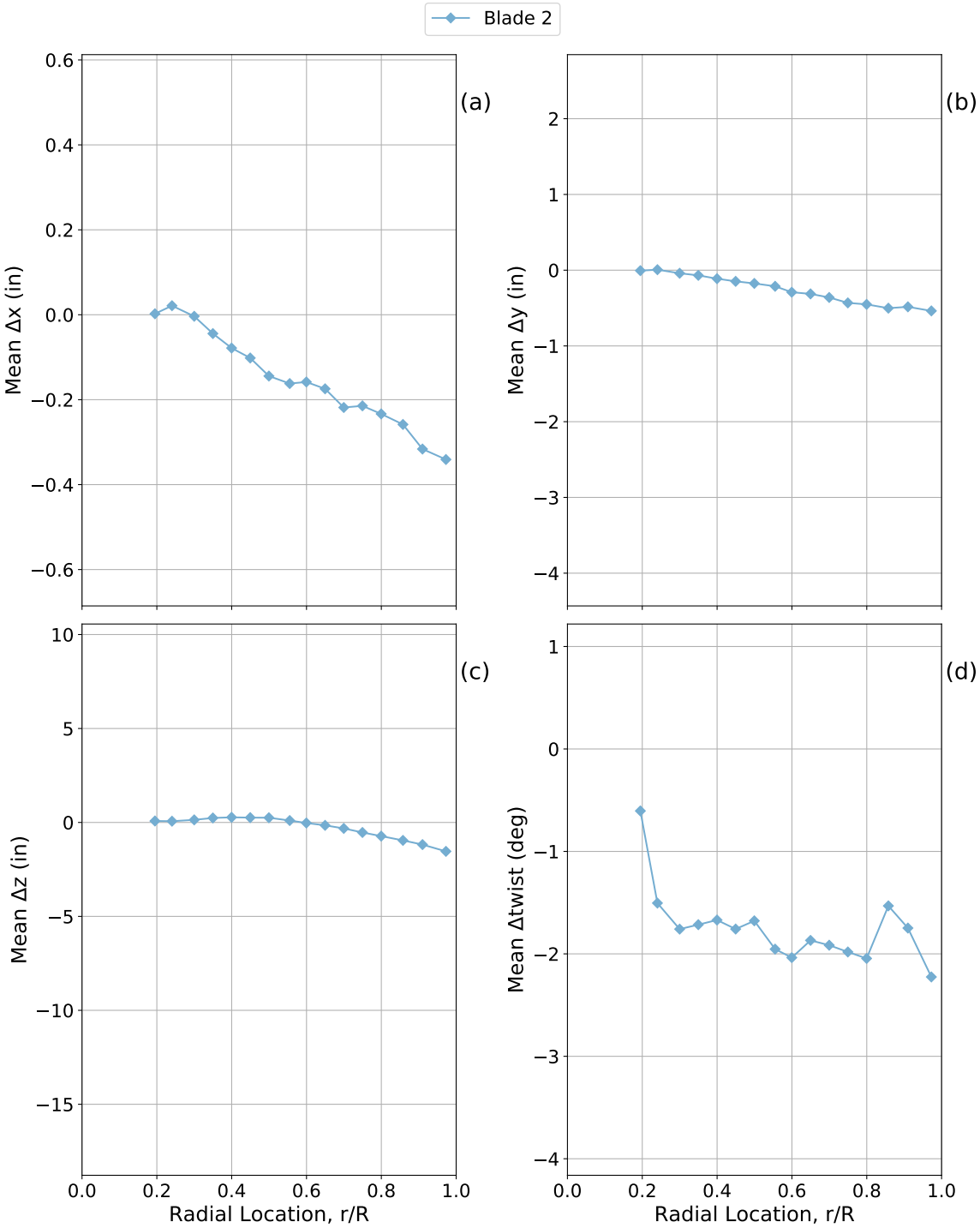


Figure 3.36-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0023	0.0014	-0.0064	0.0010	0.0773	0.0084	-0.6047	0.0342
2	315	0.2405	0.0213	0.0022	0.0065	0.0014	0.0664	0.0170	-1.5045	0.0725
2	315	0.2999	-0.0036	0.0023	-0.0407	0.0038	0.1375	0.0288	-1.7585	0.0833
2	315	0.3498	-0.0443	0.0023	-0.0683	0.0068	0.2383	0.0420	-1.7151	0.0662
2	315	0.3998	-0.0784	0.0029	-0.1122	0.0114	0.2727	0.0660	-1.6698	0.0684
2	315	0.4496	-0.1018	0.0033	-0.1474	0.0158	0.2566	0.0870	-1.7579	0.0770
2	315	0.4995	-0.1443	0.0028	-0.1748	0.0201	0.2509	0.1089	-1.6776	0.0746
2	315	0.5551	-0.1620	0.0038	-0.2127	0.0272	0.1017	0.1396	-1.9539	0.0631
2	315	0.5996	-0.1583	0.0047	-0.2909	0.0324	-0.0292	0.1655	-2.0368	0.0634
2	315	0.6497	-0.1744	0.0051	-0.3129	0.0396	-0.1541	0.1966	-1.8685	0.0646
2	315	0.6996	-0.2184	0.0057	-0.3603	0.0485	-0.3180	0.2303	-1.9156	0.0835
2	315	0.7495	-0.2145	0.0065	-0.4315	0.0579	-0.5335	0.2635	-1.9815	0.0652
2	315	0.7996	-0.2335	0.0074	-0.4512	0.0680	-0.7275	0.3005	-2.0448	0.0880
2	315	0.8578	-0.2583	0.0087	-0.5015	0.0818	-0.9560	0.3549	-1.5316	0.1394
2	315	0.9100	-0.3162	0.0091	-0.4837	0.0903	-1.1784	0.4047	-1.7482	0.0866
2	315	0.9727	-0.3408	0.0095	-0.5375	0.1044	-1.5393	0.4686	-2.2255	0.0879

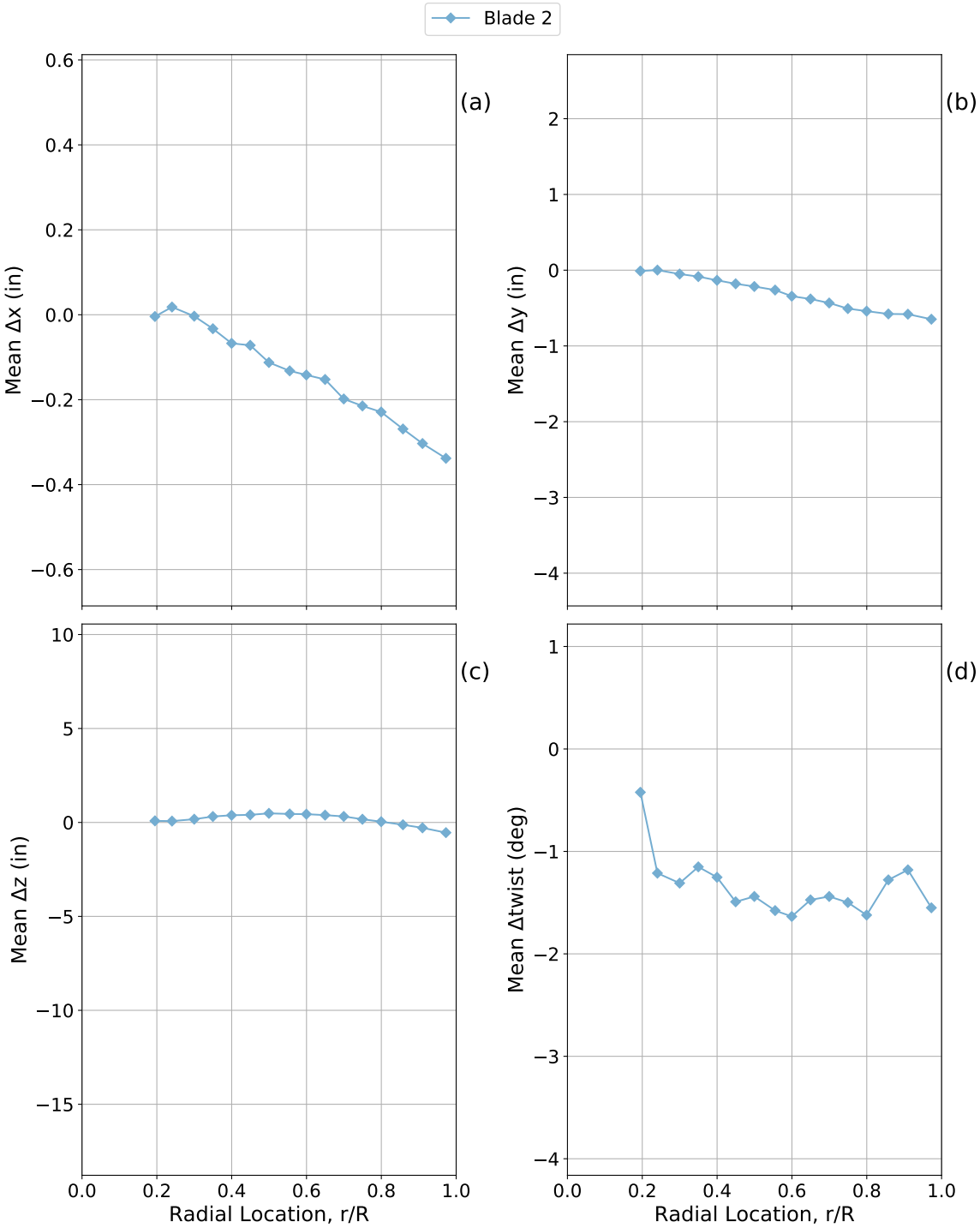


Figure 3.36-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	-0.0041	0.0030	-0.0108	0.0007	0.0849	0.0079	-0.4228	0.0528
2	330.12	0.2405	0.0182	0.0027	0.0014	0.0035	0.0721	0.0142	-1.2124	0.0859
2	330.12	0.2999	-0.0034	0.0030	-0.0509	0.0047	0.1722	0.0277	-1.3096	0.1236
2	330.12	0.3498	-0.0329	0.0025	-0.0846	0.0099	0.3152	0.0446	-1.1508	0.0788
2	330.12	0.3998	-0.0673	0.0054	-0.1337	0.0153	0.3829	0.0674	-1.2524	0.0740
2	330.12	0.4496	-0.0719	0.0049	-0.1796	0.0183	0.4045	0.0858	-1.4920	0.0863
2	330.12	0.4995	-0.1124	0.0058	-0.2154	0.0238	0.4835	0.1083	-1.4398	0.0824
2	330.12	0.5551	-0.1321	0.0076	-0.2621	0.0316	0.4521	0.1348	-1.5776	0.0874
2	330.12	0.5996	-0.1418	0.0079	-0.3434	0.0383	0.4409	0.1565	-1.6351	0.0978
2	330.12	0.6497	-0.1524	0.0094	-0.3804	0.0481	0.3896	0.1811	-1.4733	0.1044
2	330.12	0.6996	-0.1983	0.0109	-0.4331	0.0581	0.3197	0.2045	-1.4400	0.0973
2	330.12	0.7495	-0.2147	0.0121	-0.5073	0.0701	0.1694	0.2262	-1.4989	0.1021
2	330.12	0.7996	-0.2290	0.0134	-0.5405	0.0829	0.0411	0.2495	-1.6216	0.0998
2	330.12	0.8578	-0.2690	0.0147	-0.5778	0.0974	-0.1233	0.2788	-1.2777	0.1101
2	330.12	0.9100	-0.3032	0.0159	-0.5809	0.1119	-0.2876	0.3078	-1.1800	0.1073
2	330.12	0.9727	-0.3381	0.0193	-0.6475	0.1292	-0.5436	0.3474	-1.5503	0.0924

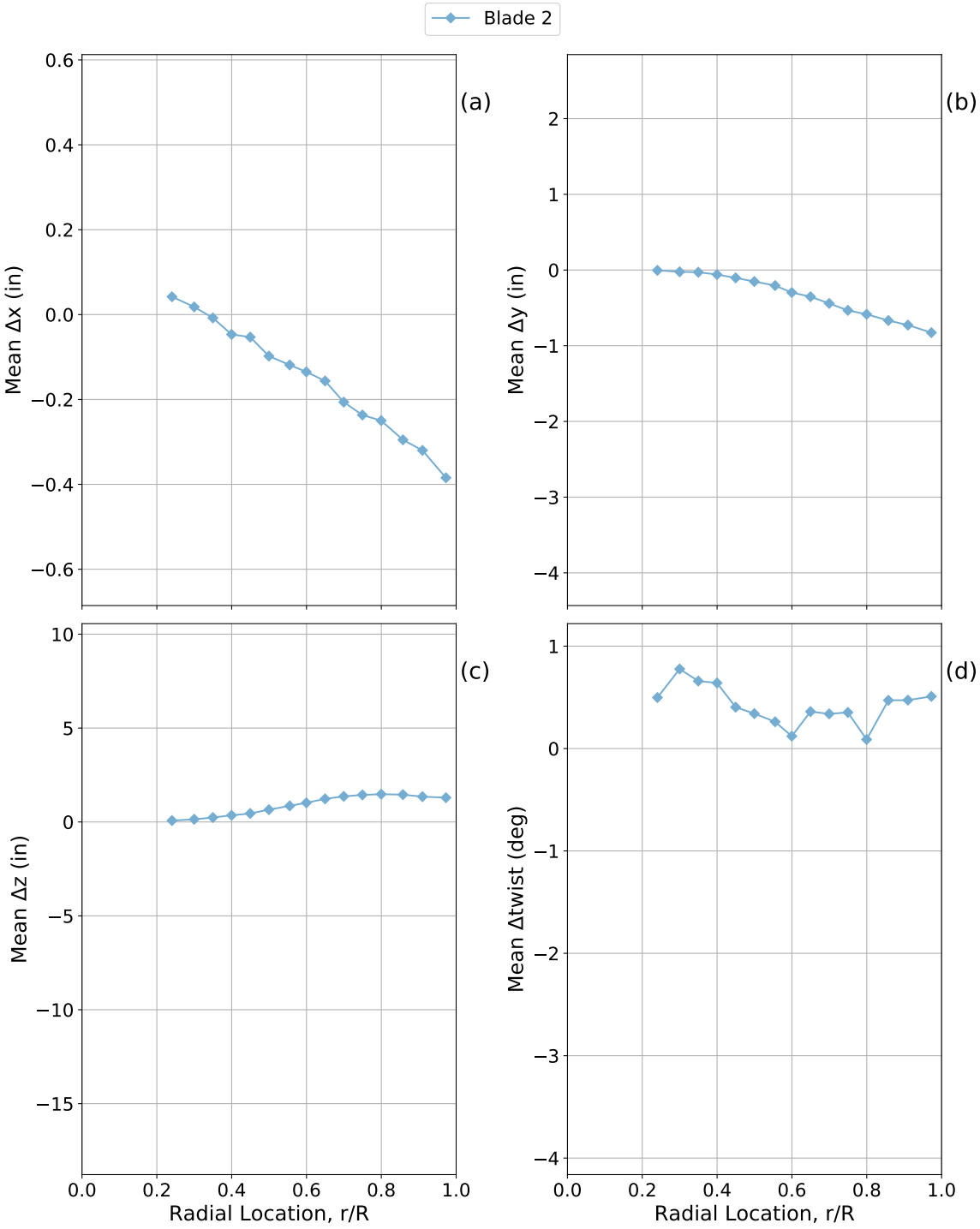


Figure 3.36-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.2405	0.0420	0.0044	-0.0046	0.0045	0.0743	0.0188	0.4979	0.1456
2	344.88	0.2999	0.0180	0.0052	-0.0236	0.0070	0.1418	0.0348	0.7767	0.2240
2	344.88	0.3498	-0.0079	0.0037	-0.0292	0.0186	0.2355	0.0601	0.6592	0.1939
2	344.88	0.3998	-0.0468	0.0032	-0.0597	0.0254	0.3536	0.0896	0.6405	0.1878
2	344.88	0.4496	-0.0531	0.0030	-0.1035	0.0313	0.4523	0.1160	0.4037	0.1848
2	344.88	0.4995	-0.0978	0.0030	-0.1522	0.0381	0.6545	0.1410	0.3411	0.2081
2	344.88	0.5551	-0.1188	0.0031	-0.2052	0.0451	0.8567	0.1734	0.2612	0.1909
2	344.88	0.5996	-0.1350	0.0034	-0.2972	0.0519	1.0202	0.1993	0.1206	0.2053
2	344.88	0.6497	-0.1564	0.0046	-0.3523	0.0587	1.2302	0.2309	0.3608	0.2160
2	344.88	0.6996	-0.2063	0.0048	-0.4409	0.0676	1.3625	0.2636	0.3385	0.2130
2	344.88	0.7495	-0.2367	0.0052	-0.5329	0.0760	1.4410	0.2959	0.3526	0.2101
2	344.88	0.7996	-0.2499	0.0057	-0.5843	0.0858	1.4800	0.3303	0.0883	0.2147
2	344.88	0.8578	-0.2951	0.0062	-0.6672	0.0967	1.4545	0.3692	0.4709	0.2248
2	344.88	0.9100	-0.3200	0.0069	-0.7273	0.1073	1.3476	0.4072	0.4726	0.2137
2	344.88	0.9727	-0.3846	0.0091	-0.8268	0.1208	1.2937	0.4414	0.5089	0.2579

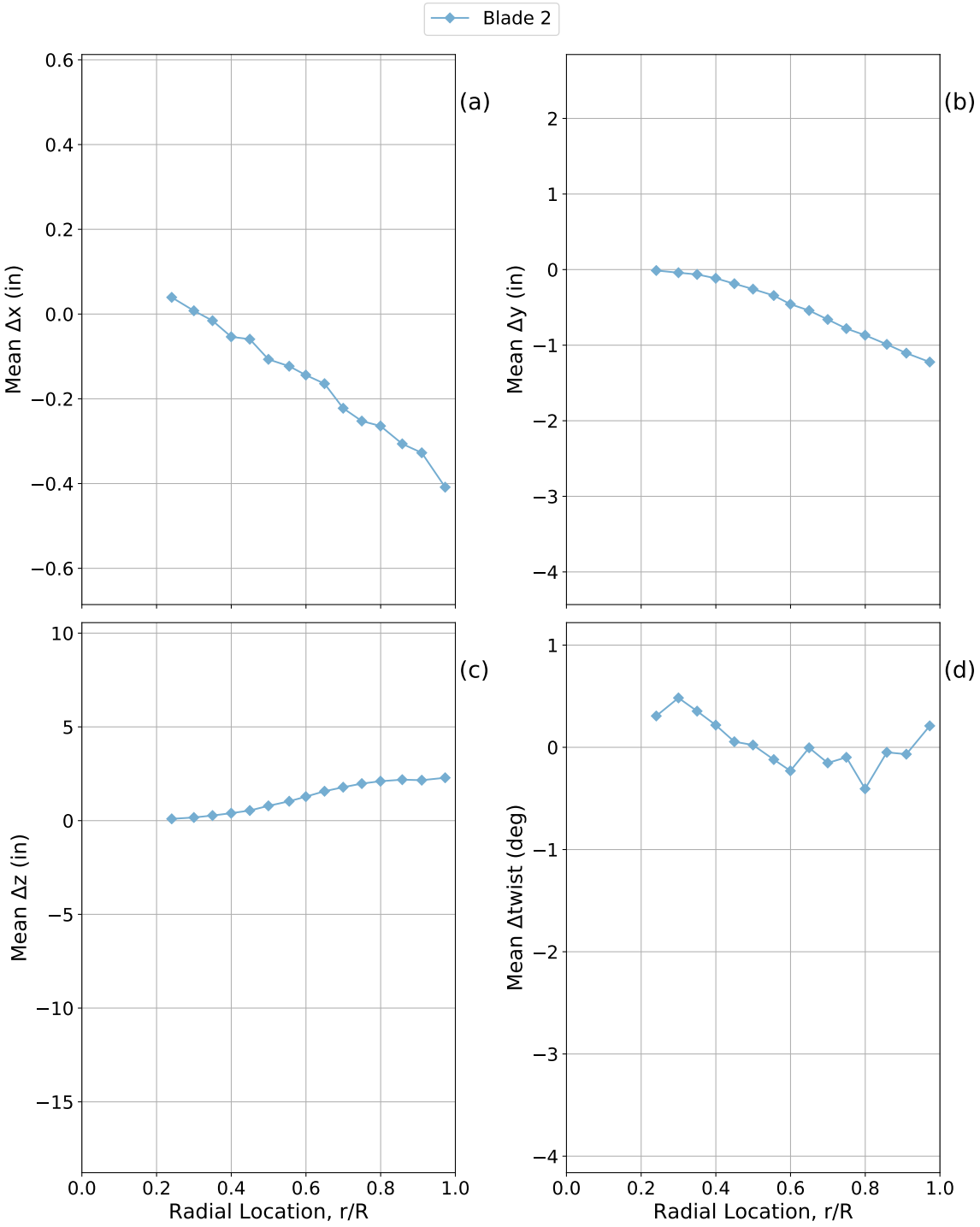


Figure 3.36-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.35$, $\alpha = -6.9°$ NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0394	0.0035	-0.0121	0.0041	0.0944	0.0148	0.3067	0.1852
2	350.16	0.2999	0.0078	0.0064	-0.0412	0.0103	0.1674	0.0274	0.4834	0.2856
2	350.16	0.3498	-0.0156	0.0057	-0.0643	0.0177	0.2722	0.0472	0.3538	0.2514
2	350.16	0.3998	-0.0537	0.0052	-0.1150	0.0287	0.3967	0.0700	0.2171	0.2731
2	350.16	0.4496	-0.0593	0.0061	-0.1868	0.0327	0.5393	0.0916	0.0548	0.2822
2	350.16	0.4995	-0.1069	0.0074	-0.2583	0.0410	0.7887	0.1130	0.0225	0.2607
2	350.16	0.5551	-0.1231	0.0077	-0.3436	0.0491	1.0324	0.1386	-0.1198	0.2786
2	350.16	0.5996	-0.1440	0.0075	-0.4579	0.0579	1.2791	0.1598	-0.2302	0.2905
2	350.16	0.6497	-0.1643	0.0071	-0.5415	0.0678	1.5679	0.1843	-0.0046	0.2948
2	350.16	0.6996	-0.2223	0.0079	-0.6603	0.0780	1.7816	0.2149	-0.1530	0.2927
2	350.16	0.7495	-0.2525	0.0086	-0.7806	0.0880	1.9752	0.2414	-0.0979	0.3085
2	350.16	0.7996	-0.2642	0.0087	-0.8681	0.0977	2.1028	0.2706	-0.4060	0.3118
2	350.16	0.8578	-0.3063	0.0092	-0.9891	0.1106	2.1843	0.3062	-0.0490	0.3056
2	350.16	0.9100	-0.3274	0.0092	-1.1056	0.1220	2.1564	0.3390	-0.0675	0.3177
2	350.16	0.9727	-0.4086	0.0125	-1.2230	0.1361	2.2859	0.3785	0.2099	0.3157

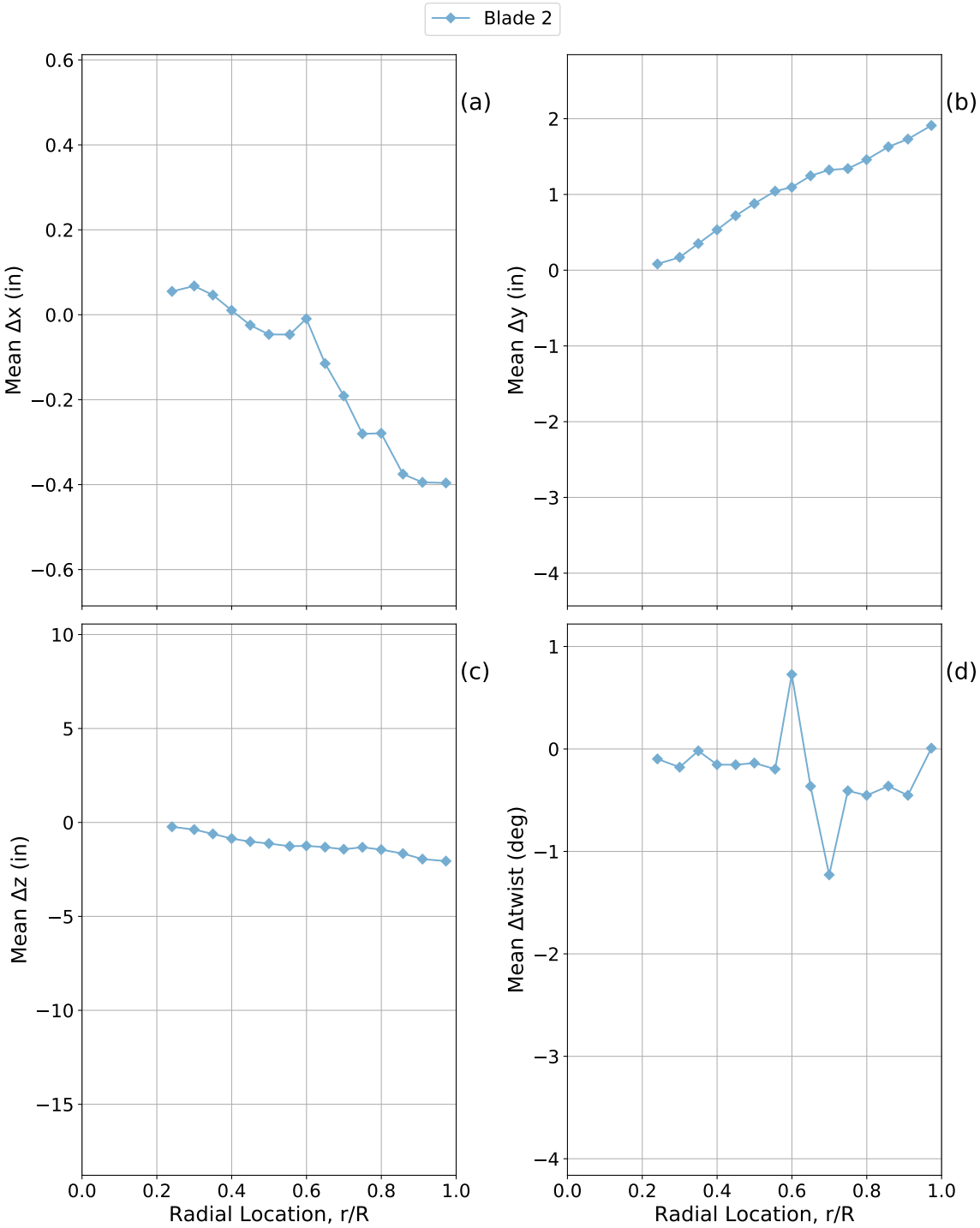


Figure 3.36-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.081, μ = 0.35, α = -6.9° NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Table 3.36-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.081, μ = 0.35, α = -6.9°
NFAC run 83, point 33. BD run 39, points 6006 to 6016.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2405	0.0550	0.0026	0.0816	0.0053	-0.2313	0.0337	-0.0973	0.0954
2	355.08	0.2999	0.0677	0.0051	0.1701	0.0190	-0.3801	0.0750	-0.1783	0.1468
2	355.08	0.3498	0.0464	0.0069	0.3503	0.0258	-0.6110	0.0926	-0.0187	0.1585
2	355.08	0.3998	0.0105	0.0070	0.5324	0.0481	-0.8589	0.1525	-0.1530	0.1356
2	355.08	0.4496	-0.0245	0.0089	0.7189	0.0628	-1.0213	0.1893	-0.1542	0.1449
2	355.08	0.4995	-0.0464	0.0122	0.8788	0.0769	-1.1224	0.2333	-0.1373	0.1394
2	355.08	0.5551	-0.0466	0.0177	1.0435	0.0924	-1.2647	0.2704	-0.1967	0.1474
2	355.08	0.5996	-0.0094	0.0126	1.0946	0.1048	-1.2461	0.3111	0.7275	0.4373
2	355.08	0.6497	-0.1149	0.0206	1.2460	0.1342	-1.3157	0.3522	-0.3640	0.1762
2	355.08	0.6996	-0.1911	0.0184	1.3237	0.1498	-1.4271	0.4027	-1.2286	0.1785
2	355.08	0.7495	-0.2804	0.0169	1.3408	0.1643	-1.3212	0.4078	-0.4081	0.1404
2	355.08	0.7996	-0.2791	0.0153	1.4590	0.1828	-1.4471	0.4508	-0.4529	0.1449
2	355.08	0.8578	-0.3752	0.0117	1.6285	0.3218	-1.6574	0.4627	-0.3629	0.1382
2	355.08	0.9100	-0.3946	0.0129	1.7306	0.3468	-1.9509	0.5142	-0.4527	0.1665
2	355.08	0.9727	-0.3961	0.0131	1.9100	0.3762	-2.0575	0.5877	0.0079	0.1650

3.37 Run 87, Point 17

3.37.1 Pitch, Flap, and Lag

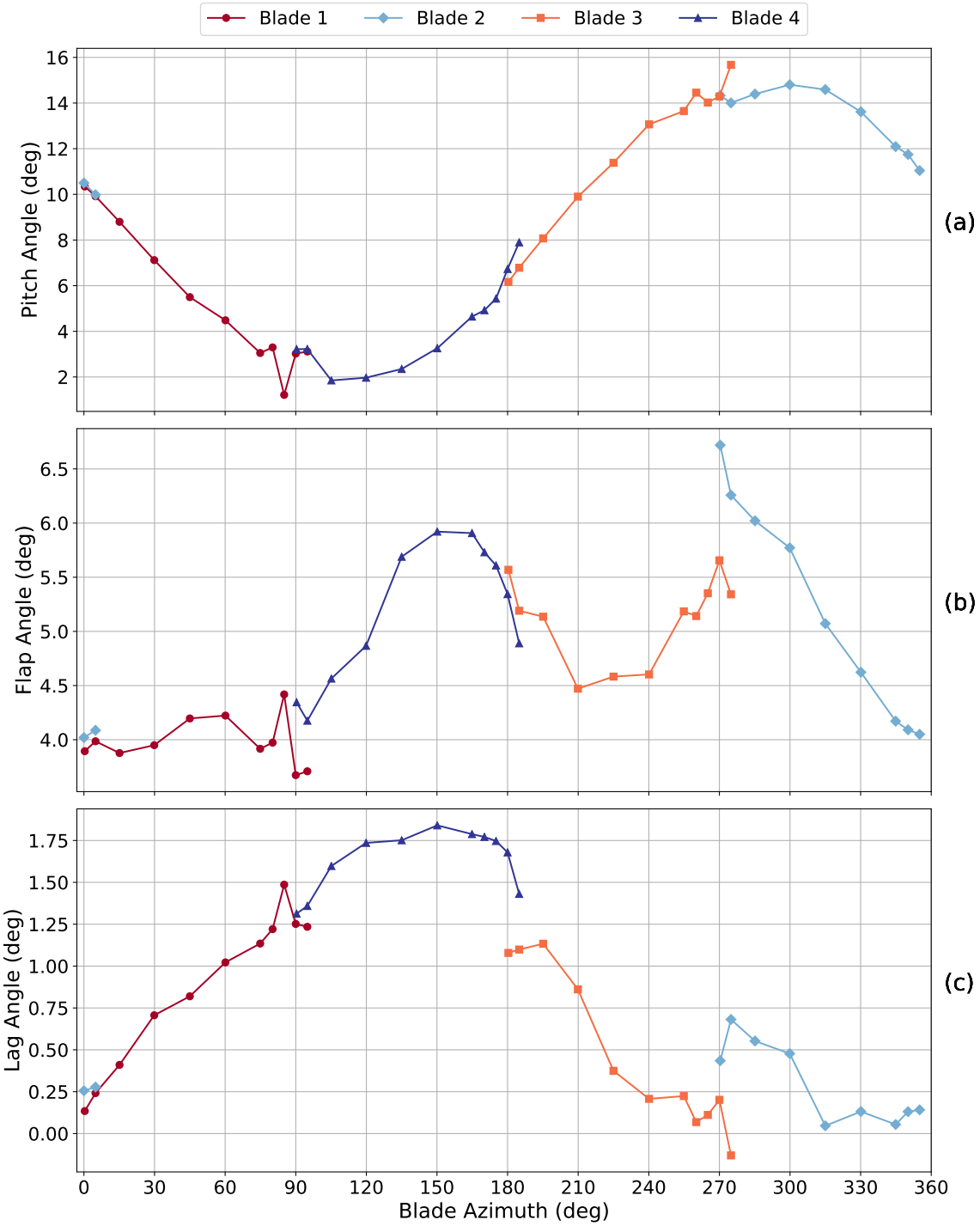


Figure 3.37-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	10.4991	4.0194	0.2556	0.0645	0.0562	0.0279
0.35	1	10.3444	3.8938	0.1344	0.0804	0.0788	0.0407
4.92	1	9.9158	3.9855	0.2415	0.0869	0.0485	0.0353
4.92	2	9.9840	4.0869	0.2777	0.0736	0.0654	0.0236
15.12	1	8.7968	3.8768	0.4101	0.0610	0.0379	0.0221
29.88	1	7.1186	3.9494	0.7065	0.0431	0.0477	0.0222
45	1	5.4977	4.1962	0.8197	0.0392	0.0474	0.0183
60.12	1	4.4824	4.2226	1.0221	0.0725	0.0594	0.0207
74.88	1	3.0507	3.9161	1.1347	0.0713	0.0296	0.0370
80.16	1	3.2961	3.9728	1.2207	0.2330	0.1057	0.0675
85.08	1	1.2151	4.4182	1.4862	0.1370	0.0694	0.0526
90	1	3.0224	3.6728	1.2517	0.0744	0.0294	0.0236
90.35	4	3.2173	4.3456	1.3131	0.0975	0.0600	0.0238
94.92	1	3.1136	3.7083	1.2345	0.1003	0.0637	0.0247
94.92	4	3.2237	4.1749	1.3590	0.1377	0.0572	0.0165
105.12	4	1.8484	4.5641	1.5976	0.0291	0.0275	0.0158
119.88	4	1.9681	4.8668	1.7357	0.0204	0.0333	0.0116
135	4	2.3489	5.6889	1.7513	0.0199	0.0336	0.0218
150.12	4	3.2567	5.9211	1.8403	0.0320	0.0547	0.0244
164.88	4	4.6437	5.9074	1.7881	0.0204	0.0246	0.0225
170.16	4	4.9226	5.7305	1.7712	0.0163	0.0436	0.0426
175.08	4	5.4313	5.6088	1.7470	0.0335	0.0560	0.0462
180	4	6.7288	5.3441	1.6788	0.0817	0.0451	0.0429
180.35	3	6.1616	5.5688	1.0788	0.0431	0.0675	0.0407
184.92	3	6.7853	5.1907	1.0988	0.0310	0.0443	0.0284
184.92	4	7.8954	4.8898	1.4310	0.1320	0.0585	0.0425
195.12	3	8.0725	5.1357	1.1334	0.0497	0.0770	0.0200
209.88	3	9.8993	4.4712	0.8610	0.1189	0.0850	0.0295
225	3	11.3825	4.5826	0.3747	0.0236	0.0458	0.0140
240.12	3	13.0656	4.6027	0.2072	0.0396	0.0741	0.0284
254.88	3	13.6498	5.1848	0.2238	0.0566	0.0364	0.0276
260.16	3	14.4555	5.1418	0.0683	0.0981	0.0697	0.0434
265.08	3	14.0234	5.3523	0.1113	0.1055	0.0981	0.0485
270	3	14.2912	5.6562	0.2015	0.1009	0.1247	0.0374
270.35	2	14.3326	6.7199	0.4348	0.9468	0.5522	0.2312
274.92	2	14.0065	6.2579	0.6814	0.0564	0.0736	0.0274
274.92	3	15.6729	5.3423	-0.1304	0.9232	0.5566	0.2232
285.12	2	14.3943	6.0213	0.5527	0.1008	0.0469	0.0567
299.88	2	14.8034	5.7719	0.4775	0.0409	0.0481	0.0357
315	2	14.5907	5.0721	0.0463	0.0401	0.0445	0.0186
330.12	2	13.6173	4.6228	0.1315	0.0454	0.0199	0.0183
344.88	2	12.0902	4.1713	0.0541	0.0245	0.0551	0.0274
350.16	2	11.7469	4.0917	0.1308	0.0532	0.0327	0.0371
355.08	2	11.0410	4.0496	0.1416	0.0868	0.1157	0.0755

3.37.2 Spanwise Elastic Deformations

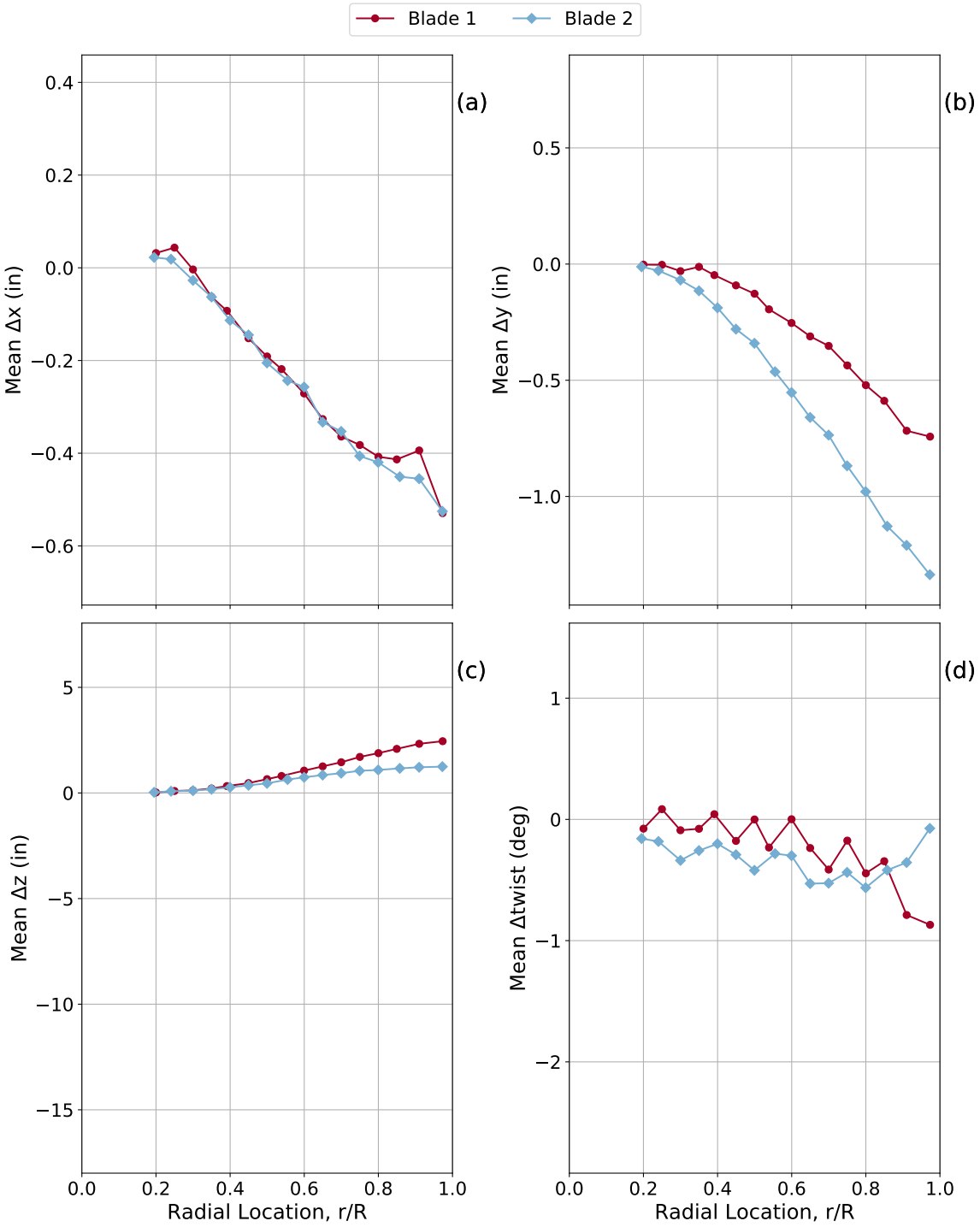


Figure 3.37-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0318	0.0026	-0.0025	0.0024	0.0233	0.0082	-0.0763	0.0403
1	0.35	0.2499	0.0435	0.0025	-0.0033	0.0043	0.0936	0.0096	0.0844	0.0798
1	0.35	0.2998	-0.0036	0.0019	-0.0304	0.0089	0.1215	0.0218	-0.0895	0.0864
1	0.35	0.3498	-0.0627	0.0022	-0.0120	0.0163	0.2113	0.0358	-0.0775	0.0748
1	0.35	0.3913	-0.0928	0.0031	-0.0475	0.0224	0.3254	0.0464	0.0429	0.0716
1	0.35	0.4496	-0.1520	0.0038	-0.0917	0.0280	0.4663	0.0618	-0.1775	0.0777
1	0.35	0.4997	-0.1913	0.0036	-0.1276	0.0343	0.6540	0.0761	-0.0005	0.0702
1	0.35	0.5387	-0.2186	0.0036	-0.1947	0.0382	0.8037	0.0888	-0.2319	0.0675
1	0.35	0.5996	-0.2711	0.0037	-0.2535	0.0467	1.0579	0.1139	0.0013	0.0601
1	0.35	0.6498	-0.3264	0.0042	-0.3112	0.0534	1.2587	0.1356	-0.2362	0.0695
1	0.35	0.6998	-0.3640	0.0049	-0.3522	0.0589	1.4542	0.1586	-0.4140	0.0759
1	0.35	0.7500	-0.3823	0.0052	-0.4361	0.0662	1.7060	0.1885	-0.1749	0.0538
1	0.35	0.8001	-0.4077	0.0050	-0.5211	0.0717	1.8856	0.2175	-0.4447	0.0868
1	0.35	0.8497	-0.4134	0.0051	-0.5884	0.0772	2.0865	0.2500	-0.3448	0.0932
1	0.35	0.9102	-0.3941	0.0193	-0.7173	0.0845	2.3275	0.3057	-0.7885	0.0958
1	0.35	0.9734	-0.5293	0.0082	-0.7426	0.0962	2.4503	0.3401	-0.8697	0.1079
2	0	0.1949	0.0224	0.0023	-0.0116	0.0010	0.0300	0.0041	-0.1583	0.0210
2	0	0.2405	0.0185	0.0018	-0.0282	0.0038	0.0803	0.0095	-0.1822	0.0688
2	0	0.2999	-0.0271	0.0011	-0.0689	0.0049	0.1087	0.0163	-0.3384	0.0612
2	0	0.3498	-0.0630	0.0012	-0.1150	0.0109	0.1752	0.0274	-0.2572	0.0619
2	0	0.3998	-0.1134	0.0023	-0.1882	0.0158	0.2669	0.0420	-0.2010	0.0640
2	0	0.4496	-0.1449	0.0020	-0.2800	0.0194	0.3631	0.0576	-0.2912	0.0628
2	0	0.4995	-0.2052	0.0022	-0.3410	0.0228	0.4536	0.0762	-0.4202	0.0569
2	0	0.5551	-0.2433	0.0023	-0.4635	0.0284	0.6353	0.1029	-0.2825	0.0585
2	0	0.5996	-0.2571	0.0027	-0.5529	0.0325	0.7411	0.1227	-0.2994	0.0538
2	0	0.6497	-0.3330	0.0025	-0.6598	0.0388	0.8475	0.1516	-0.5296	0.0578
2	0	0.6996	-0.3530	0.0018	-0.7359	0.0436	0.9352	0.1876	-0.5263	0.0634
2	0	0.7495	-0.4061	0.0019	-0.8683	0.0483	1.0495	0.2273	-0.4369	0.0572
2	0	0.7996	-0.4197	0.0027	-0.9795	0.0531	1.0893	0.2701	-0.5638	0.0683
2	0	0.8578	-0.4508	0.0032	-1.1284	0.0600	1.1636	0.3269	-0.4184	0.0652
2	0	0.9100	-0.4550	0.0099	-1.2103	0.0600	1.2162	0.3772	-0.3557	0.1371
2	0	0.9727	-0.5253	0.0068	-1.3367	0.0687	1.2459	0.4392	-0.0742	0.0856

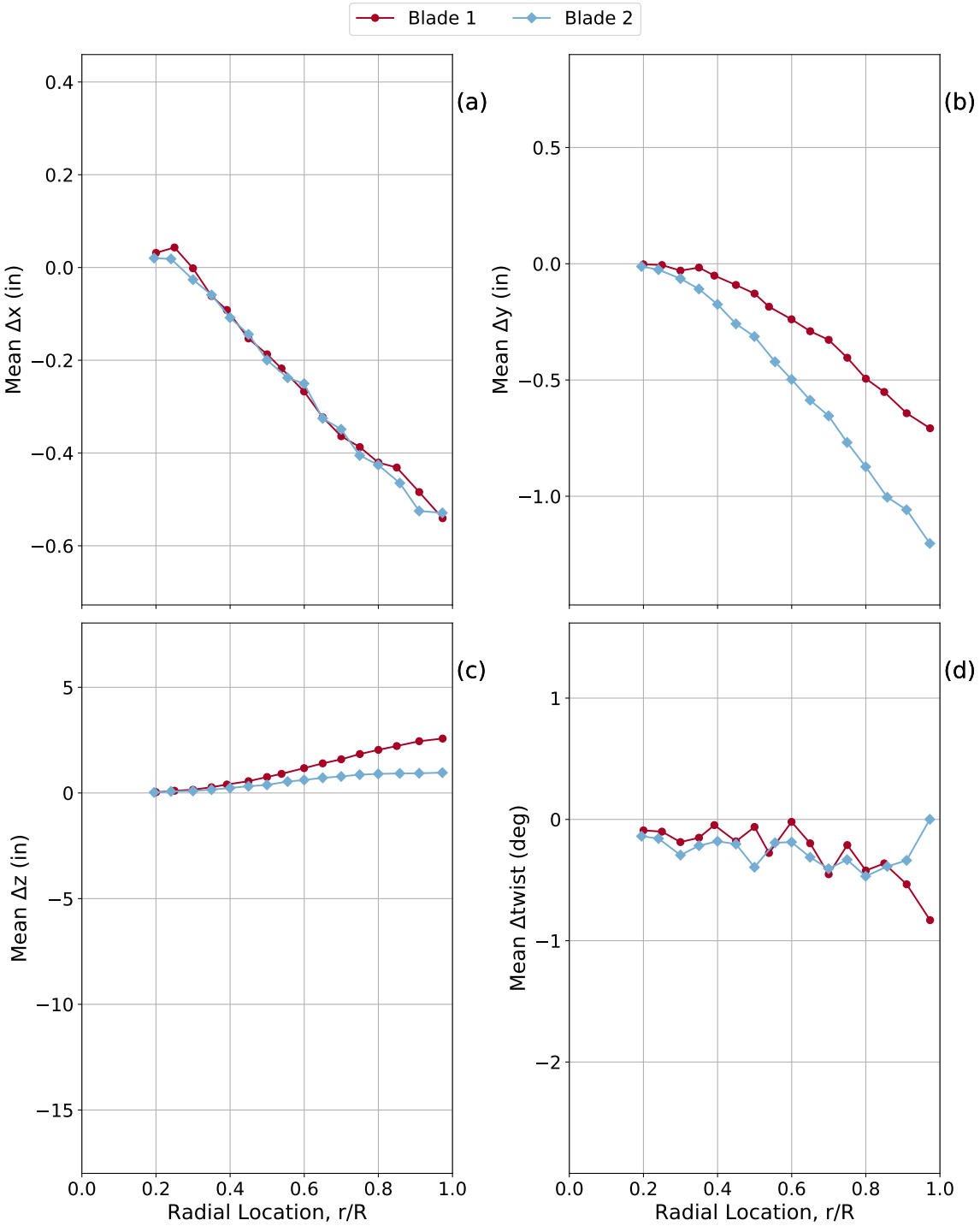


Figure 3.37-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0316	0.0025	-0.0024	0.0013	0.0345	0.0052	-0.0904	0.0421
1	4.92	0.2499	0.0432	0.0022	-0.0055	0.0036	0.1039	0.0139	-0.1008	0.0588
1	4.92	0.2998	-0.0017	0.0012	-0.0295	0.0050	0.1533	0.0180	-0.1869	0.0889
1	4.92	0.3498	-0.0615	0.0016	-0.0164	0.0097	0.2711	0.0361	-0.1511	0.0632
1	4.92	0.3913	-0.0916	0.0020	-0.0510	0.0135	0.4000	0.0487	-0.0469	0.0673
1	4.92	0.4496	-0.1530	0.0025	-0.0912	0.0190	0.5577	0.0699	-0.1813	0.0730
1	4.92	0.4997	-0.1872	0.0022	-0.1283	0.0239	0.7546	0.0904	-0.0622	0.0696
1	4.92	0.5387	-0.2177	0.0024	-0.1847	0.0268	0.9059	0.1048	-0.2766	0.0697
1	4.92	0.5996	-0.2673	0.0026	-0.2389	0.0308	1.1739	0.1271	-0.0202	0.0773
1	4.92	0.6498	-0.3229	0.0029	-0.2901	0.0351	1.4003	0.1482	-0.1972	0.0717
1	4.92	0.6998	-0.3638	0.0034	-0.3272	0.0402	1.5919	0.1688	-0.4519	0.0654
1	4.92	0.7500	-0.3872	0.0032	-0.4042	0.0441	1.8415	0.1885	-0.2115	0.0691
1	4.92	0.8001	-0.4206	0.0033	-0.4943	0.0475	2.0390	0.2095	-0.4216	0.0619
1	4.92	0.8497	-0.4313	0.0034	-0.5514	0.0511	2.2210	0.2320	-0.3626	0.0703
1	4.92	0.9102	-0.4842	0.0038	-0.6428	0.0576	2.4481	0.2648	-0.5350	0.0699
1	4.92	0.9734	-0.5406	0.0054	-0.7075	0.0612	2.5744	0.2947	-0.8305	0.0821
2	4.92	0.1949	0.0202	0.0024	-0.0117	0.0015	0.0261	0.0056	-0.1385	0.0346
2	4.92	0.2405	0.0185	0.0013	-0.0255	0.0024	0.0726	0.0083	-0.1576	0.0636
2	4.92	0.2999	-0.0262	0.0011	-0.0640	0.0057	0.0939	0.0161	-0.2942	0.0812
2	4.92	0.3498	-0.0591	0.0014	-0.1086	0.0107	0.1575	0.0297	-0.2167	0.0628
2	4.92	0.3998	-0.1082	0.0019	-0.1747	0.0158	0.2365	0.0410	-0.1801	0.0713
2	4.92	0.4496	-0.1441	0.0020	-0.2585	0.0199	0.3180	0.0546	-0.2031	0.0687
2	4.92	0.4995	-0.1996	0.0020	-0.3129	0.0243	0.3805	0.0698	-0.3943	0.0661
2	4.92	0.5551	-0.2378	0.0019	-0.4216	0.0287	0.5387	0.0863	-0.1922	0.0655
2	4.92	0.5996	-0.2504	0.0022	-0.4974	0.0327	0.6140	0.1002	-0.1868	0.0729
2	4.92	0.6497	-0.3253	0.0021	-0.5868	0.0363	0.7162	0.1158	-0.3122	0.0686
2	4.92	0.6996	-0.3489	0.0023	-0.6542	0.0413	0.7802	0.1343	-0.4064	0.0699
2	4.92	0.7495	-0.4052	0.0026	-0.7685	0.0454	0.8662	0.1534	-0.3323	0.0772
2	4.92	0.7996	-0.4257	0.0033	-0.8732	0.0506	0.9017	0.1778	-0.4683	0.0825
2	4.92	0.8578	-0.4648	0.0026	-1.0042	0.0539	0.9247	0.2058	-0.3879	0.0869
2	4.92	0.9100	-0.5250	0.0026	-1.0582	0.0554	0.9309	0.2295	-0.3379	0.1077
2	4.92	0.9727	-0.5291	0.0051	-1.2029	0.0664	0.9612	0.2646	0.0008	0.0916

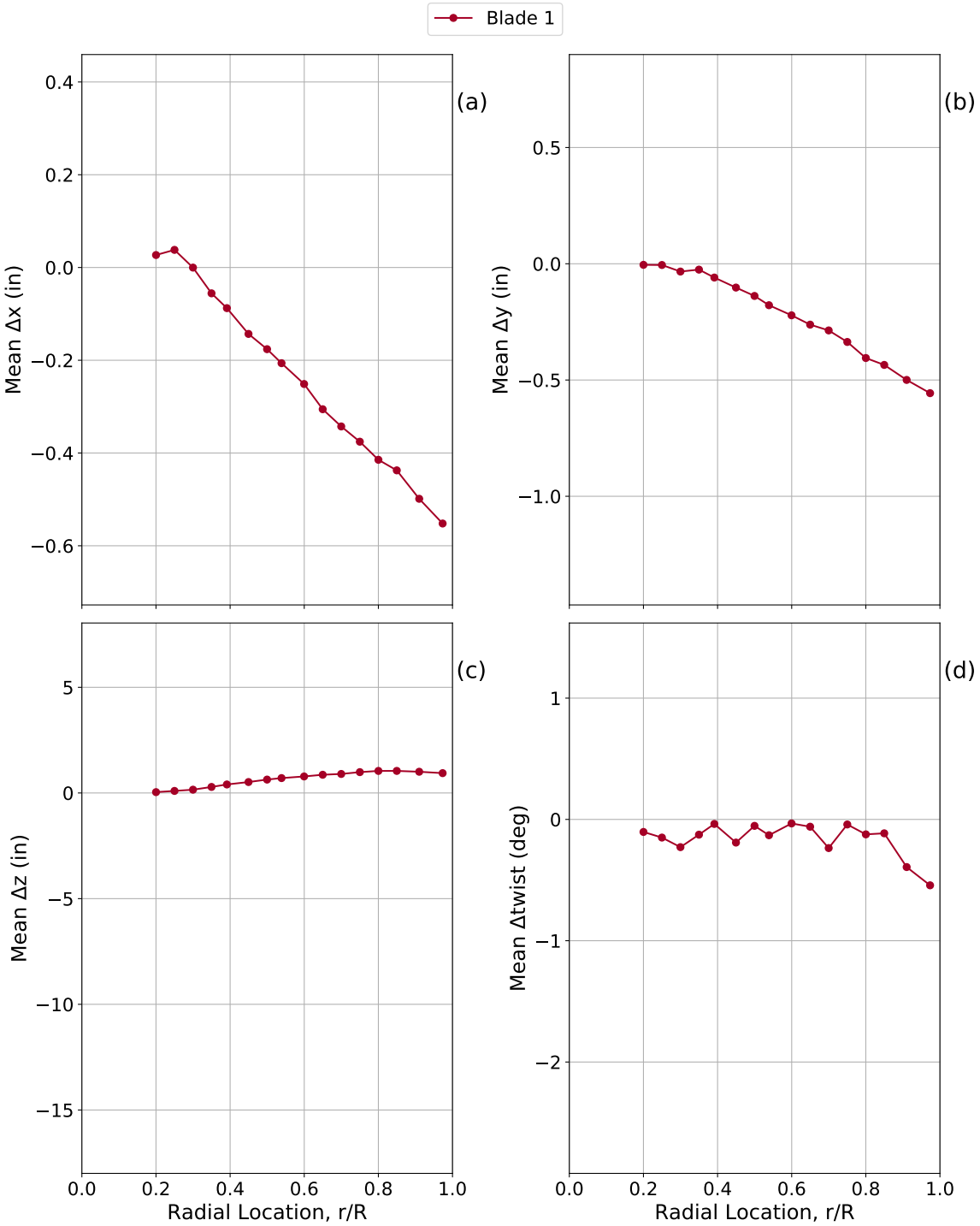


Figure 3.37-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0269	0.0018	-0.0046	0.0011	0.0394	0.0052	-0.1034	0.0283
1	15.12	0.2499	0.0380	0.0020	-0.0053	0.0027	0.0965	0.0106	-0.1497	0.0482
1	15.12	0.2998	-0.0002	0.0014	-0.0335	0.0044	0.1550	0.0187	-0.2286	0.0639
1	15.12	0.3498	-0.0557	0.0015	-0.0252	0.0076	0.2848	0.0316	-0.1257	0.0718
1	15.12	0.3913	-0.0876	0.0017	-0.0593	0.0109	0.4018	0.0448	-0.0373	0.0630
1	15.12	0.4496	-0.1432	0.0014	-0.1024	0.0147	0.5170	0.0660	-0.1910	0.0562
1	15.12	0.4997	-0.1761	0.0022	-0.1384	0.0191	0.6333	0.0855	-0.0531	0.0565
1	15.12	0.5387	-0.2063	0.0043	-0.1783	0.0216	0.7039	0.1071	-0.1304	0.0562
1	15.12	0.5996	-0.2512	0.0021	-0.2217	0.0259	0.7815	0.1306	-0.0332	0.0644
1	15.12	0.6498	-0.3056	0.0025	-0.2618	0.0294	0.8615	0.1531	-0.0602	0.0646
1	15.12	0.6998	-0.3427	0.0027	-0.2867	0.0331	0.8995	0.1769	-0.2362	0.0646
1	15.12	0.7500	-0.3756	0.0025	-0.3363	0.0367	0.9859	0.2052	-0.0417	0.0565
1	15.12	0.8001	-0.4146	0.0030	-0.4054	0.0404	1.0431	0.2332	-0.1232	0.0548
1	15.12	0.8497	-0.4374	0.0026	-0.4350	0.0441	1.0439	0.2620	-0.1146	0.0665
1	15.12	0.9102	-0.4987	0.0035	-0.4996	0.0476	1.0040	0.3046	-0.3928	0.0664
1	15.12	0.9734	-0.5520	0.0040	-0.5565	0.0514	0.9381	0.3459	-0.5433	0.0764

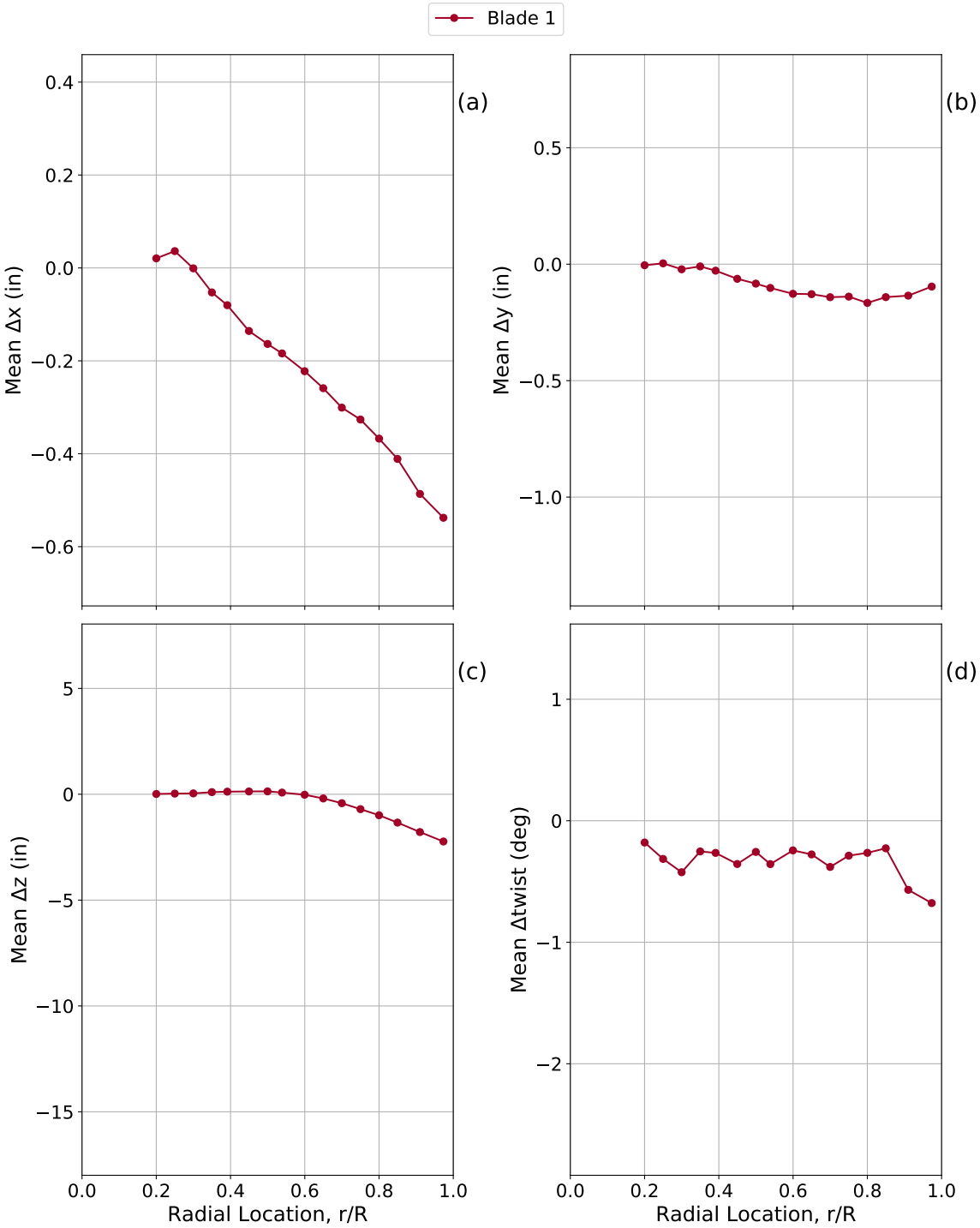


Figure 3.37-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0206	0.0025	-0.0045	0.0010	0.0136	0.0045	-0.1791	0.0128
1	29.88	0.2499	0.0362	0.0016	0.0036	0.0022	0.0313	0.0096	-0.3143	0.0327
1	29.88	0.2998	-0.0009	0.0013	-0.0219	0.0041	0.0407	0.0176	-0.4237	0.0305
1	29.88	0.3498	-0.0527	0.0015	-0.0095	0.0075	0.1005	0.0295	-0.2526	0.0257
1	29.88	0.3913	-0.0802	0.0022	-0.0278	0.0107	0.1225	0.0426	-0.2644	0.0238
1	29.88	0.4496	-0.1357	0.0019	-0.0627	0.0141	0.1329	0.0595	-0.3560	0.0235
1	29.88	0.4997	-0.1636	0.0019	-0.0834	0.0171	0.1368	0.0748	-0.2566	0.0209
1	29.88	0.5387	-0.1840	0.0029	-0.1019	0.0201	0.0798	0.0877	-0.3569	0.0164
1	29.88	0.5996	-0.2223	0.0032	-0.1271	0.0247	-0.0216	0.1058	-0.2440	0.0361
1	29.88	0.6498	-0.2589	0.0024	-0.1287	0.0284	-0.1982	0.1202	-0.2771	0.0282
1	29.88	0.6998	-0.3007	0.0027	-0.1417	0.0316	-0.4229	0.1323	-0.3801	0.0435
1	29.88	0.7500	-0.3263	0.0026	-0.1392	0.0348	-0.7032	0.1439	-0.2875	0.0336
1	29.88	0.8001	-0.3674	0.0021	-0.1662	0.0389	-0.9917	0.1580	-0.2641	0.0376
1	29.88	0.8497	-0.4111	0.0019	-0.1414	0.0427	-1.3384	0.1698	-0.2268	0.0321
1	29.88	0.9102	-0.4865	0.0023	-0.1350	0.0475	-1.7853	0.1850	-0.5686	0.0404
1	29.88	0.9734	-0.5378	0.0035	-0.0961	0.0526	-2.2317	0.2026	-0.6776	0.0439

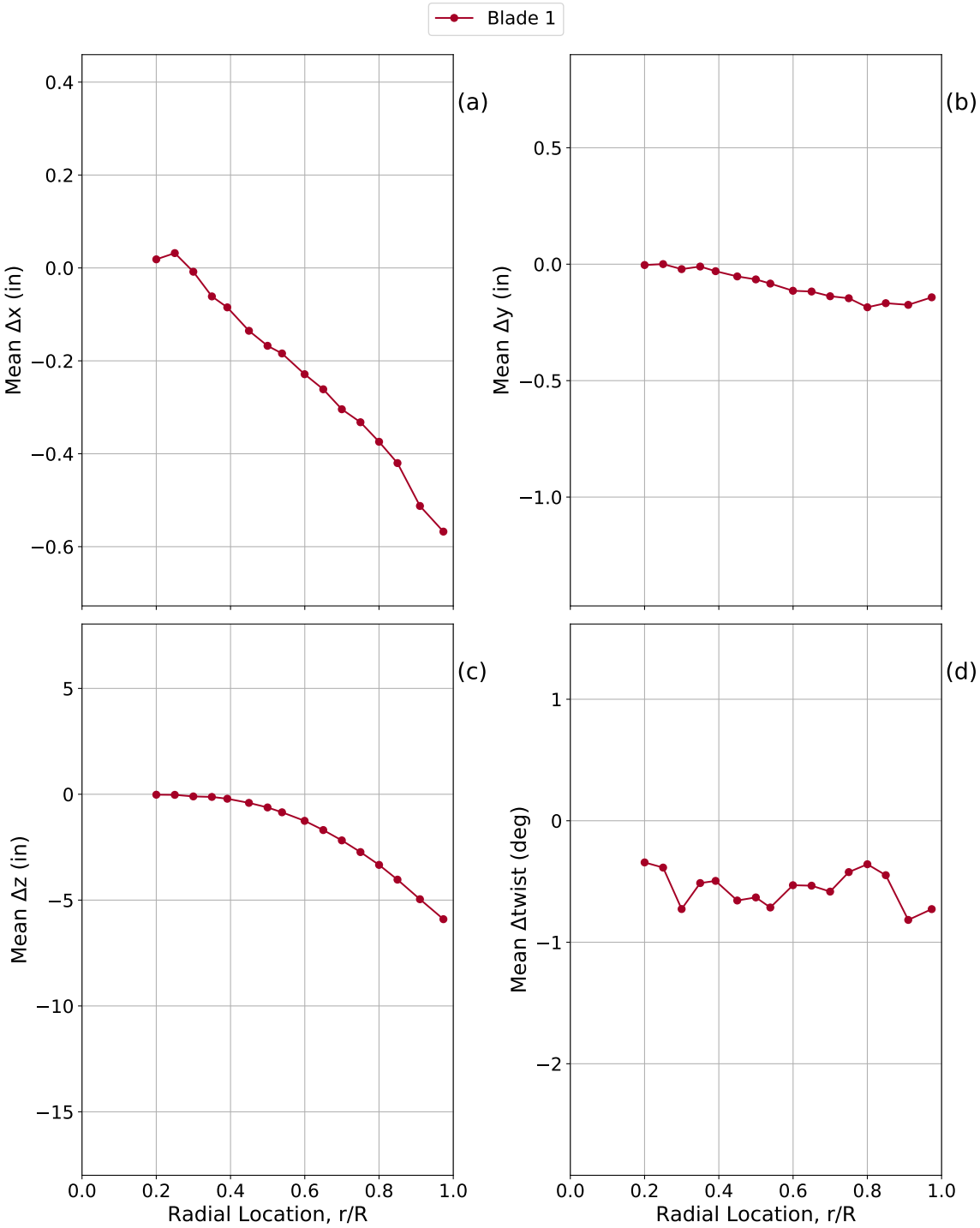


Figure 3.37-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0185	0.0011	-0.0036	0.0006	-0.0211	0.0041	-0.3430	0.0137
1	45	0.2499	0.0319	0.0013	0.0004	0.0010	-0.0275	0.0076	-0.3854	0.0308
1	45	0.2998	-0.0082	0.0016	-0.0212	0.0022	-0.1023	0.0152	-0.7267	0.0338
1	45	0.3498	-0.0613	0.0015	-0.0101	0.0037	-0.1257	0.0273	-0.5129	0.0309
1	45	0.3913	-0.0849	0.0014	-0.0300	0.0052	-0.2117	0.0378	-0.4950	0.0243
1	45	0.4496	-0.1353	0.0019	-0.0525	0.0071	-0.4071	0.0541	-0.6564	0.0270
1	45	0.4997	-0.1676	0.0030	-0.0653	0.0103	-0.6227	0.0699	-0.6310	0.0405
1	45	0.5387	-0.1841	0.0032	-0.0833	0.0126	-0.8520	0.0845	-0.7140	0.0392
1	45	0.5996	-0.2288	0.0030	-0.1141	0.0155	-1.2557	0.1060	-0.5306	0.0377
1	45	0.6498	-0.2612	0.0038	-0.1173	0.0202	-1.6913	0.1244	-0.5344	0.0409
1	45	0.6998	-0.3042	0.0040	-0.1376	0.0220	-2.1792	0.1395	-0.5832	0.0466
1	45	0.7500	-0.3322	0.0044	-0.1462	0.0264	-2.7319	0.1523	-0.4227	0.0343
1	45	0.8001	-0.3742	0.0047	-0.1850	0.0303	-3.3369	0.1663	-0.3580	0.0534
1	45	0.8497	-0.4201	0.0057	-0.1674	0.0338	-4.0331	0.1783	-0.4481	0.0558
1	45	0.9102	-0.5124	0.0064	-0.1746	0.0399	-4.9588	0.1959	-0.8162	0.0341
1	45	0.9734	-0.5676	0.0081	-0.1422	0.0448	-5.9015	0.2137	-0.7273	0.0372

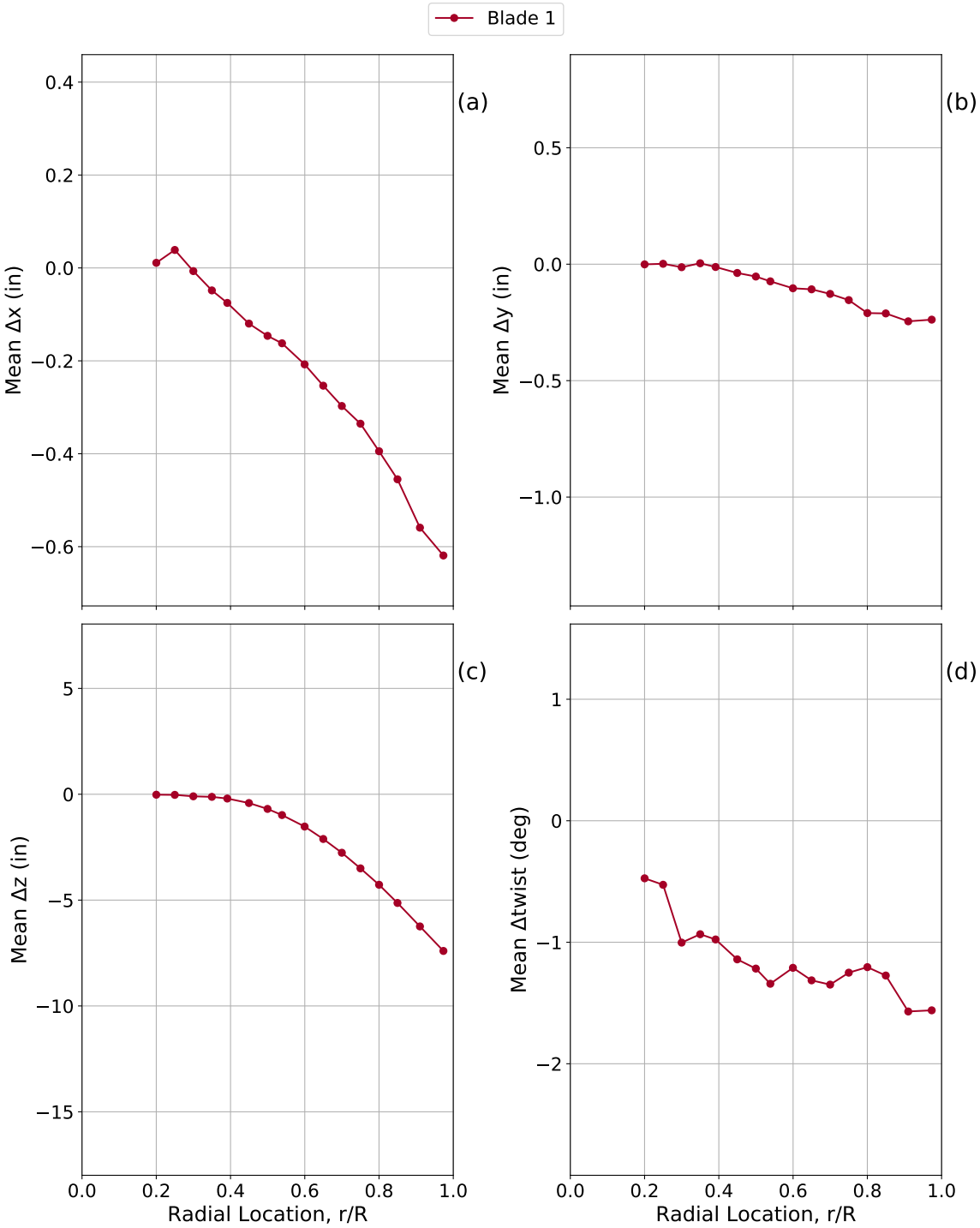


Figure 3.37-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0110	0.0018	-0.0008	0.0008	-0.0210	0.0031	-0.4738	0.0307
1	60.12	0.2499	0.0387	0.0024	0.0017	0.0012	-0.0281	0.0091	-0.5271	0.0566
1	60.12	0.2998	-0.0068	0.0016	-0.0129	0.0030	-0.0971	0.0131	-1.0030	0.0681
1	60.12	0.3498	-0.0484	0.0025	0.0040	0.0043	-0.1225	0.0227	-0.9339	0.0677
1	60.12	0.3913	-0.0753	0.0033	-0.0120	0.0065	-0.2023	0.0341	-0.9771	0.0752
1	60.12	0.4496	-0.1198	0.0036	-0.0377	0.0092	-0.4143	0.0499	-1.1408	0.0655
1	60.12	0.4997	-0.1462	0.0034	-0.0530	0.0115	-0.6922	0.0655	-1.2168	0.0765
1	60.12	0.5387	-0.1622	0.0032	-0.0736	0.0137	-0.9824	0.0796	-1.3417	0.0768
1	60.12	0.5996	-0.2076	0.0032	-0.1034	0.0163	-1.5260	0.1019	-1.2104	0.0669
1	60.12	0.6498	-0.2535	0.0041	-0.1079	0.0183	-2.1126	0.1208	-1.3136	0.0786
1	60.12	0.6998	-0.2972	0.0039	-0.1276	0.0219	-2.7630	0.1411	-1.3487	0.0694
1	60.12	0.7500	-0.3353	0.0048	-0.1542	0.0238	-3.5008	0.1612	-1.2504	0.0856
1	60.12	0.8001	-0.3946	0.0050	-0.2099	0.0272	-4.2752	0.1836	-1.2049	0.0784
1	60.12	0.8497	-0.4550	0.0068	-0.2114	0.0299	-5.1341	0.2041	-1.2739	0.0816
1	60.12	0.9102	-0.5591	0.0076	-0.2453	0.0334	-6.2434	0.2350	-1.5698	0.0755
1	60.12	0.9734	-0.6190	0.0083	-0.2381	0.0372	-7.4014	0.2649	-1.5603	0.0843

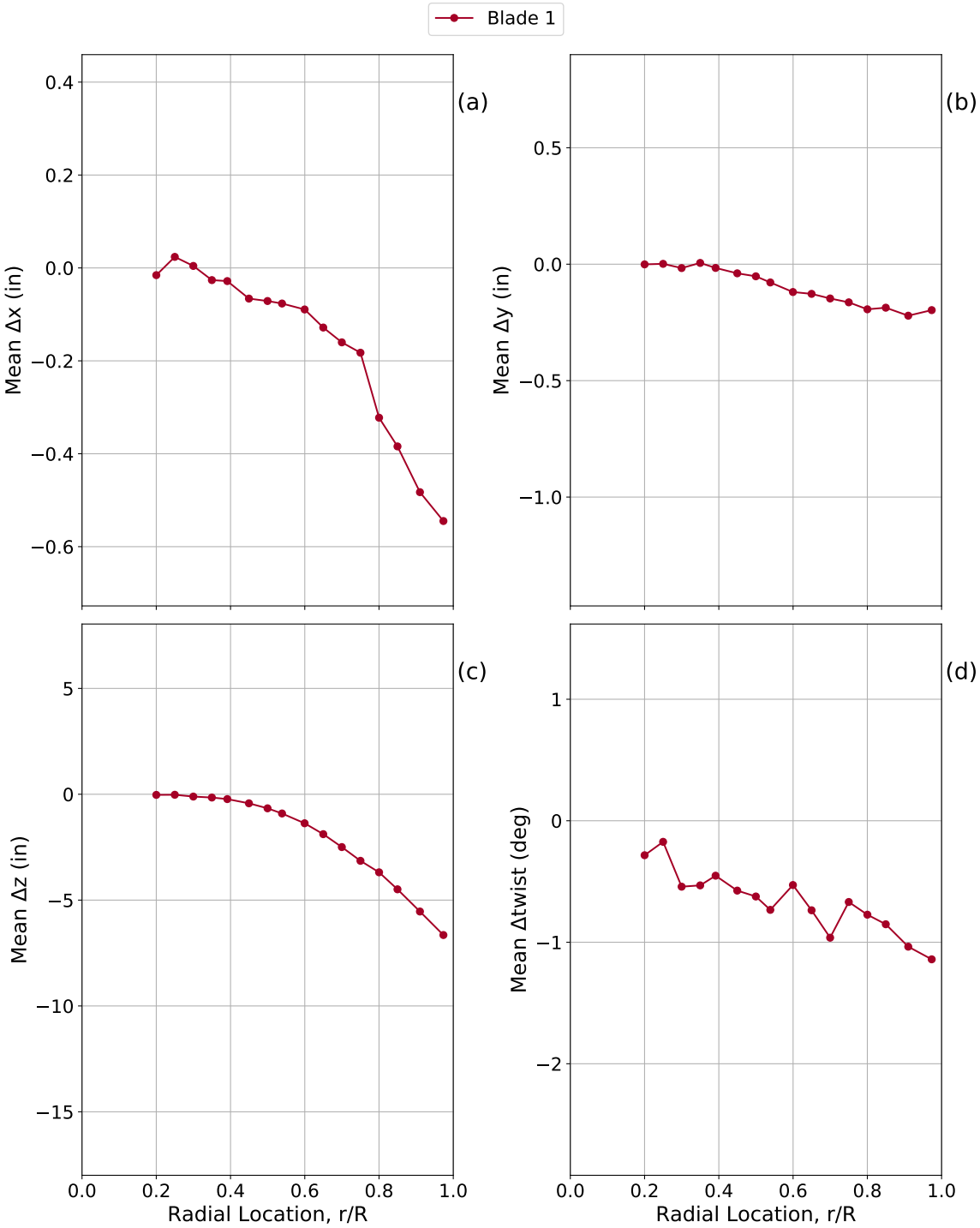


Figure 3.37-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0155	0.0036	-0.0008	0.0017	-0.0293	0.0032	-0.2837	0.0284
1	74.88	0.2499	0.0238	0.0016	0.0015	0.0030	-0.0236	0.0048	-0.1736	0.0648
1	74.88	0.2998	0.0043	0.0021	-0.0166	0.0063	-0.1093	0.0105	-0.5426	0.0710
1	74.88	0.3498	-0.0262	0.0030	0.0054	0.0120	-0.1547	0.0186	-0.5319	0.0667
1	74.88	0.3913	-0.0283	0.0045	-0.0160	0.0160	-0.2282	0.0247	-0.4522	0.0714
1	74.88	0.4496	-0.0660	0.0059	-0.0392	0.0222	-0.4280	0.0353	-0.5749	0.0685
1	74.88	0.4997	-0.0712	0.0073	-0.0520	0.0271	-0.6641	0.0439	-0.6234	0.0746
1	74.88	0.5387	-0.0766	0.0082	-0.0784	0.0318	-0.9077	0.0508	-0.7334	0.0662
1	74.88	0.5996	-0.0894	0.0113	-0.1195	0.0379	-1.3709	0.0630	-0.5291	0.0655
1	74.88	0.6498	-0.1283	0.0150	-0.1274	0.0437	-1.8851	0.0719	-0.7368	0.0922
1	74.88	0.6998	-0.1602	0.0157	-0.1472	0.0472	-2.4949	0.0871	-0.9624	0.0903
1	74.88	0.7500	-0.1825	0.0185	-0.1638	0.0553	-3.1442	0.0921	-0.6687	0.1617
1	74.88	0.8001	-0.3224	0.0065	-0.1937	0.0545	-3.6871	0.1301	-0.7731	0.0648
1	74.88	0.8497	-0.3842	0.0062	-0.1868	0.0586	-4.4900	0.1371	-0.8519	0.0666
1	74.88	0.9102	-0.4827	0.0061	-0.2211	0.0636	-5.5390	0.1445	-1.0363	0.0753
1	74.88	0.9734	-0.5448	0.0058	-0.1972	0.0697	-6.6494	0.1546	-1.1405	0.0666

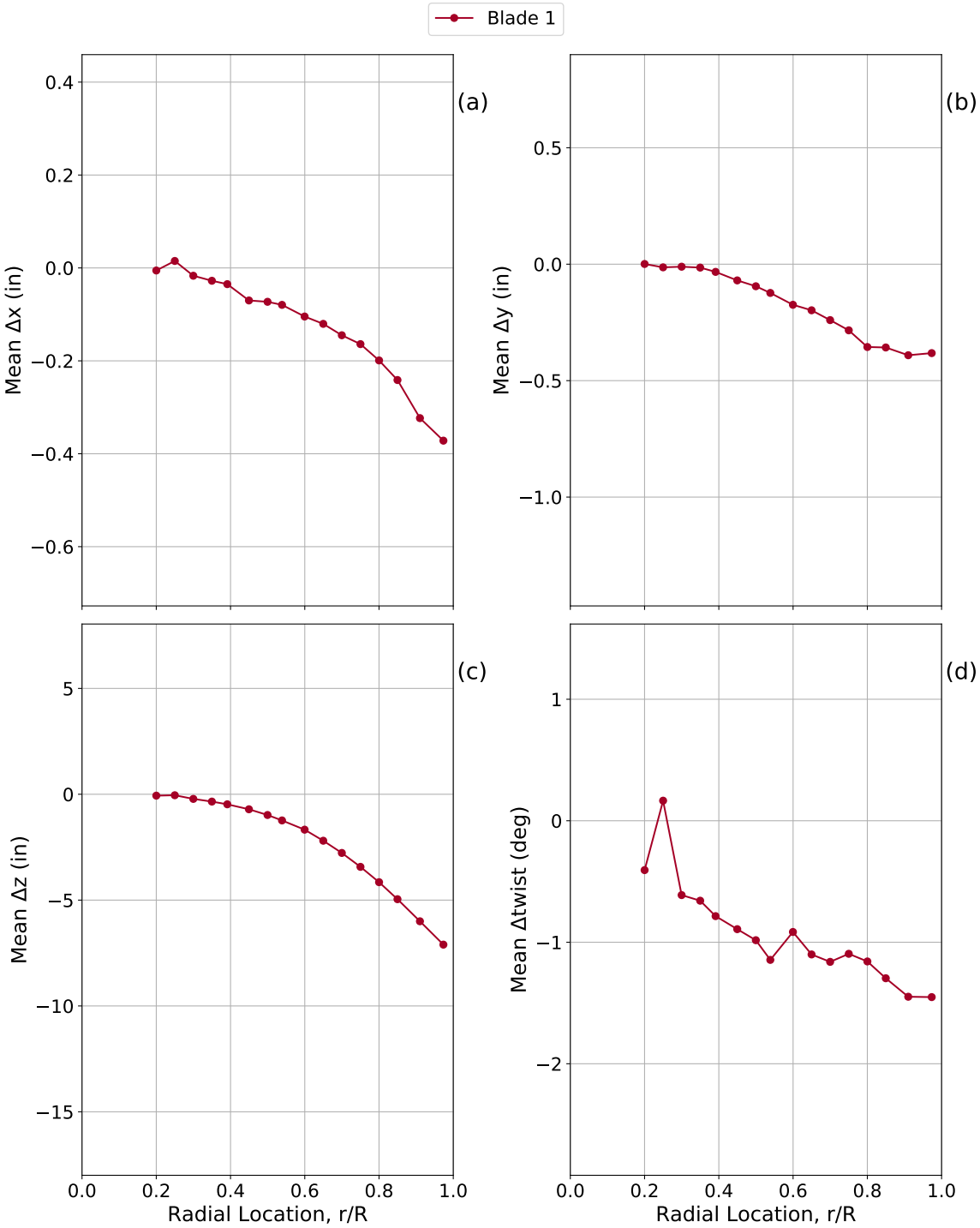


Figure 3.37-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0055	0.0075	0.0009	0.0036	-0.0653	0.0130	-0.4062	0.0773
1	80.16	0.2499	0.0150	0.0034	-0.0135	0.0039	-0.0462	0.0122	0.1652	0.2326
1	80.16	0.2998	-0.0168	0.0020	-0.0108	0.0125	-0.2191	0.0431	-0.6118	0.2164
1	80.16	0.3498	-0.0276	0.0036	-0.0146	0.0211	-0.3462	0.0679	-0.6581	0.2178
1	80.16	0.3913	-0.0349	0.0042	-0.0330	0.0287	-0.4743	0.0934	-0.7850	0.2025
1	80.16	0.4496	-0.0700	0.0048	-0.0696	0.0389	-0.7097	0.1282	-0.8923	0.2032
1	80.16	0.4997	-0.0729	0.0053	-0.0947	0.0477	-0.9796	0.1575	-0.9831	0.2099
1	80.16	0.5387	-0.0795	0.0058	-0.1234	0.0554	-1.2367	0.1816	-1.1451	0.2103
1	80.16	0.5996	-0.1046	0.0060	-0.1743	0.0663	-1.6727	0.2173	-0.9154	0.2073
1	80.16	0.6498	-0.1204	0.0064	-0.1979	0.0764	-2.1953	0.2441	-1.1004	0.2146
1	80.16	0.6998	-0.1449	0.0071	-0.2401	0.0865	-2.7722	0.2687	-1.1614	0.2087
1	80.16	0.7500	-0.1640	0.0078	-0.2840	0.0972	-3.4296	0.2919	-1.0951	0.2056
1	80.16	0.8001	-0.1991	0.0093	-0.3556	0.1077	-4.1537	0.3146	-1.1580	0.2028
1	80.16	0.8497	-0.2413	0.0109	-0.3576	0.1188	-4.9576	0.3380	-1.2963	0.2010
1	80.16	0.9102	-0.3233	0.0133	-0.3909	0.1323	-6.0002	0.3671	-1.4485	0.2107
1	80.16	0.9734	-0.3718	0.0163	-0.3818	0.1462	-7.1030	0.4009	-1.4515	0.2109

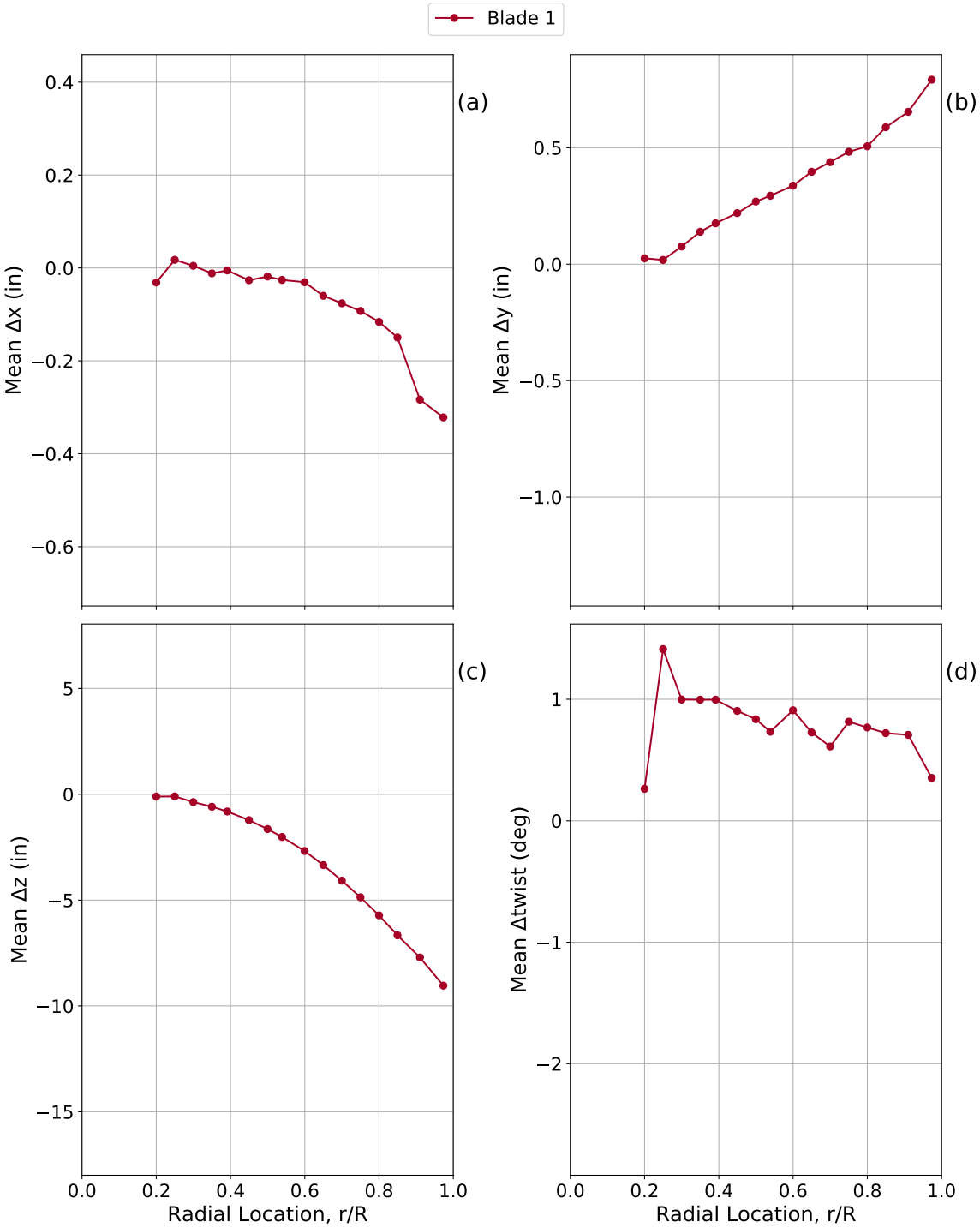


Figure 3.37-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -0° NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0312	0.0042	0.0255	0.0032	-0.1067	0.0072	0.2633	0.0454
1	85.08	0.2499	0.0175	0.0014	0.0184	0.0039	-0.0998	0.0072	1.4130	0.1345
1	85.08	0.2998	0.0046	0.0022	0.0759	0.0110	-0.3661	0.0248	0.9978	0.1247
1	85.08	0.3498	-0.0116	0.0030	0.1392	0.0180	-0.5878	0.0391	0.9963	0.1354
1	85.08	0.3913	-0.0053	0.0039	0.1756	0.0248	-0.8120	0.0545	0.9964	0.1298
1	85.08	0.4496	-0.0264	0.0043	0.2195	0.0340	-1.2205	0.0763	0.9041	0.1232
1	85.08	0.4997	-0.0185	0.0048	0.2690	0.0410	-1.6423	0.0948	0.8358	0.1330
1	85.08	0.5387	-0.0258	0.0047	0.2940	0.0468	-2.0168	0.1102	0.7332	0.1281
1	85.08	0.5996	-0.0307	0.0048	0.3373	0.0562	-2.6789	0.1337	0.9093	0.1363
1	85.08	0.6498	-0.0600	0.0039	0.3969	0.0645	-3.3432	0.1548	0.7271	0.1342
1	85.08	0.6998	-0.0762	0.0037	0.4382	0.0714	-4.0798	0.1737	0.6110	0.1378
1	85.08	0.7500	-0.0927	0.0039	0.4828	0.0806	-4.8660	0.1911	0.8154	0.1325
1	85.08	0.8001	-0.1162	0.0076	0.5063	0.0880	-5.7219	0.2079	0.7678	0.1592
1	85.08	0.8497	-0.1498	0.0078	0.5881	0.0957	-6.6623	0.2300	0.7215	0.1160
1	85.08	0.9102	-0.2835	0.0066	0.6543	0.1161	-7.7115	0.2030	0.7072	0.1584
1	85.08	0.9734	-0.3218	0.0132	0.7922	0.1236	-9.0420	0.2247	0.3532	0.1690

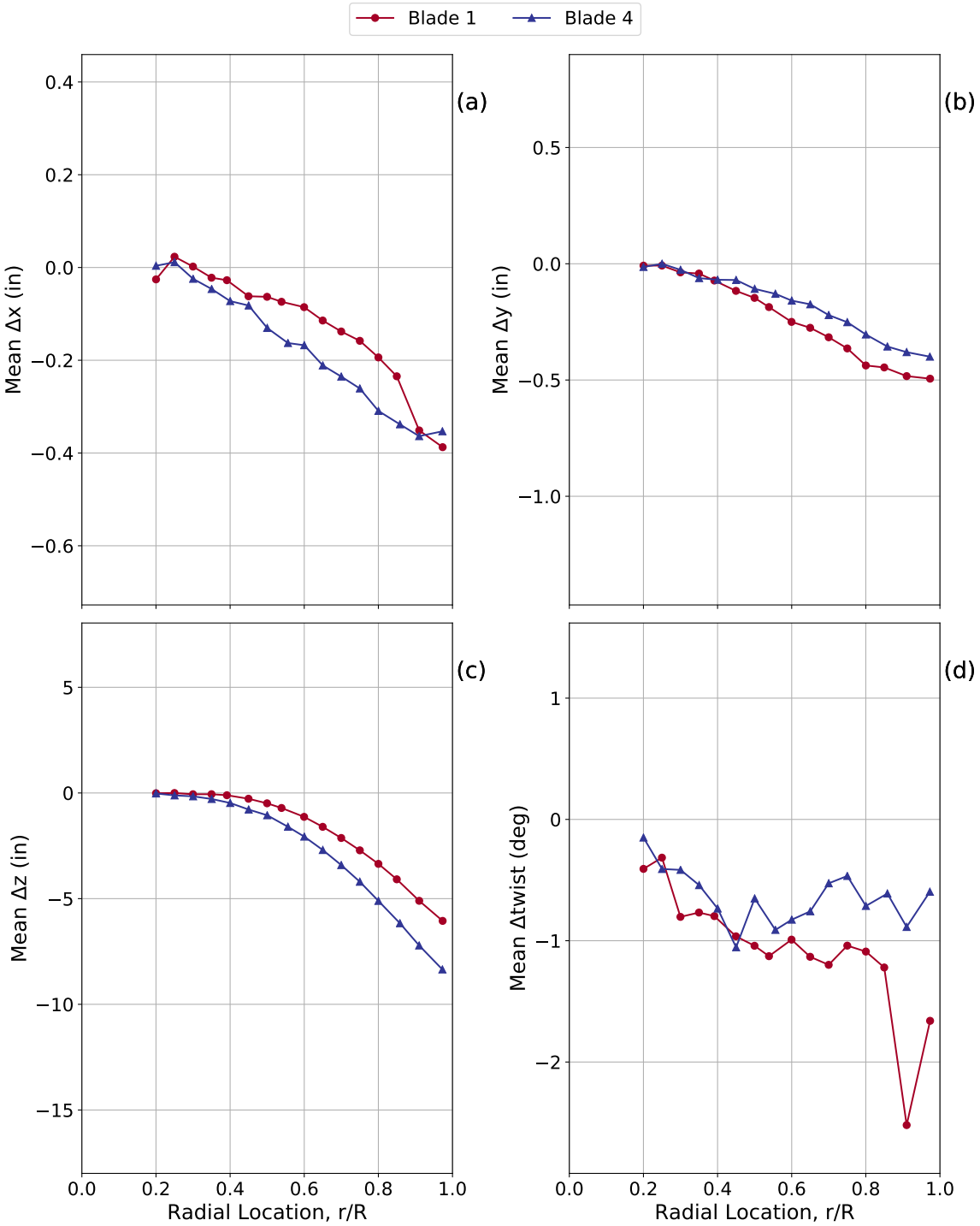


Figure 3.37-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0256	0.0030	-0.0081	0.0017	-0.0130	0.0030	-0.4078	0.0387
1	90	0.2499	0.0232	0.0013	-0.0078	0.0029	-0.0022	0.0078	-0.3153	0.0535
1	90	0.2998	0.0020	0.0015	-0.0370	0.0064	-0.0607	0.0111	-0.8035	0.0818
1	90	0.3498	-0.0220	0.0019	-0.0421	0.0108	-0.0586	0.0208	-0.7677	0.0761
1	90	0.3913	-0.0274	0.0018	-0.0722	0.0151	-0.1070	0.0290	-0.7972	0.0772
1	90	0.4496	-0.0620	0.0027	-0.1166	0.0206	-0.2734	0.0403	-0.9639	0.0755
1	90	0.4997	-0.0632	0.0032	-0.1467	0.0252	-0.4896	0.0508	-1.0417	0.0726
1	90	0.5387	-0.0739	0.0039	-0.1863	0.0286	-0.7107	0.0588	-1.1274	0.0793
1	90	0.5996	-0.0855	0.0048	-0.2500	0.0351	-1.1302	0.0739	-0.9911	0.0699
1	90	0.6498	-0.1143	0.0049	-0.2754	0.0405	-1.6024	0.0850	-1.1326	0.0843
1	90	0.6998	-0.1380	0.0059	-0.3162	0.0465	-2.1301	0.0977	-1.1988	0.0684
1	90	0.7500	-0.1581	0.0081	-0.3642	0.0530	-2.7143	0.1104	-1.0406	0.0750
1	90	0.8001	-0.1939	0.0092	-0.4374	0.0605	-3.3545	0.1245	-1.0894	0.0640
1	90	0.8497	-0.2346	0.0122	-0.4459	0.0679	-4.0853	0.1374	-1.2206	0.0712
1	90	0.9102	-0.3513	0.0116	-0.4832	0.0844	-5.1026	0.1602	-2.5200	0.2405
1	90	0.9734	-0.3874	0.0172	-0.4942	0.0878	-6.0529	0.1594	-1.6604	0.1511
4	90.35	0.2001	0.0037	0.0047	-0.0138	0.0014	-0.0242	0.0078	-0.1498	0.0424
4	90.35	0.2502	0.0114	0.0050	-0.0002	0.0018	-0.1156	0.0080	-0.4088	0.1096
4	90.35	0.3001	-0.0244	0.0019	-0.0262	0.0041	-0.1598	0.0213	-0.4161	0.0971
4	90.35	0.3502	-0.0464	0.0027	-0.0618	0.0069	-0.2850	0.0333	-0.5419	0.0850
4	90.35	0.4002	-0.0725	0.0039	-0.0689	0.0098	-0.4743	0.0473	-0.7349	0.1002
4	90.35	0.4500	-0.0820	0.0034	-0.0699	0.0118	-0.7846	0.0580	-1.0542	0.0993
4	90.35	0.5001	-0.1304	0.0052	-0.1080	0.0151	-1.0557	0.0700	-0.6518	0.1034
4	90.35	0.5560	-0.1629	0.0055	-0.1293	0.0188	-1.6002	0.0879	-0.9110	0.1046
4	90.35	0.6001	-0.1676	0.0058	-0.1586	0.0218	-2.0662	0.1029	-0.8267	0.0932
4	90.35	0.6501	-0.2112	0.0054	-0.1744	0.0251	-2.6999	0.1168	-0.7576	0.0996
4	90.35	0.6999	-0.2352	0.0056	-0.2208	0.0287	-3.4127	0.1335	-0.5268	0.0957
4	90.35	0.7500	-0.2609	0.0058	-0.2514	0.0327	-4.2017	0.1506	-0.4662	0.1040
4	90.35	0.8002	-0.3093	0.0066	-0.3043	0.0368	-5.1083	0.1708	-0.7134	0.0967
4	90.35	0.8582	-0.3382	0.0088	-0.3561	0.0415	-6.1658	0.1925	-0.6111	0.1049
4	90.35	0.9101	-0.3637	0.0109	-0.3801	0.0460	-7.2171	0.2169	-0.8867	0.0933
4	90.35	0.9728	-0.3532	0.0156	-0.3996	0.0524	-8.3517	0.2471	-0.5967	0.0956

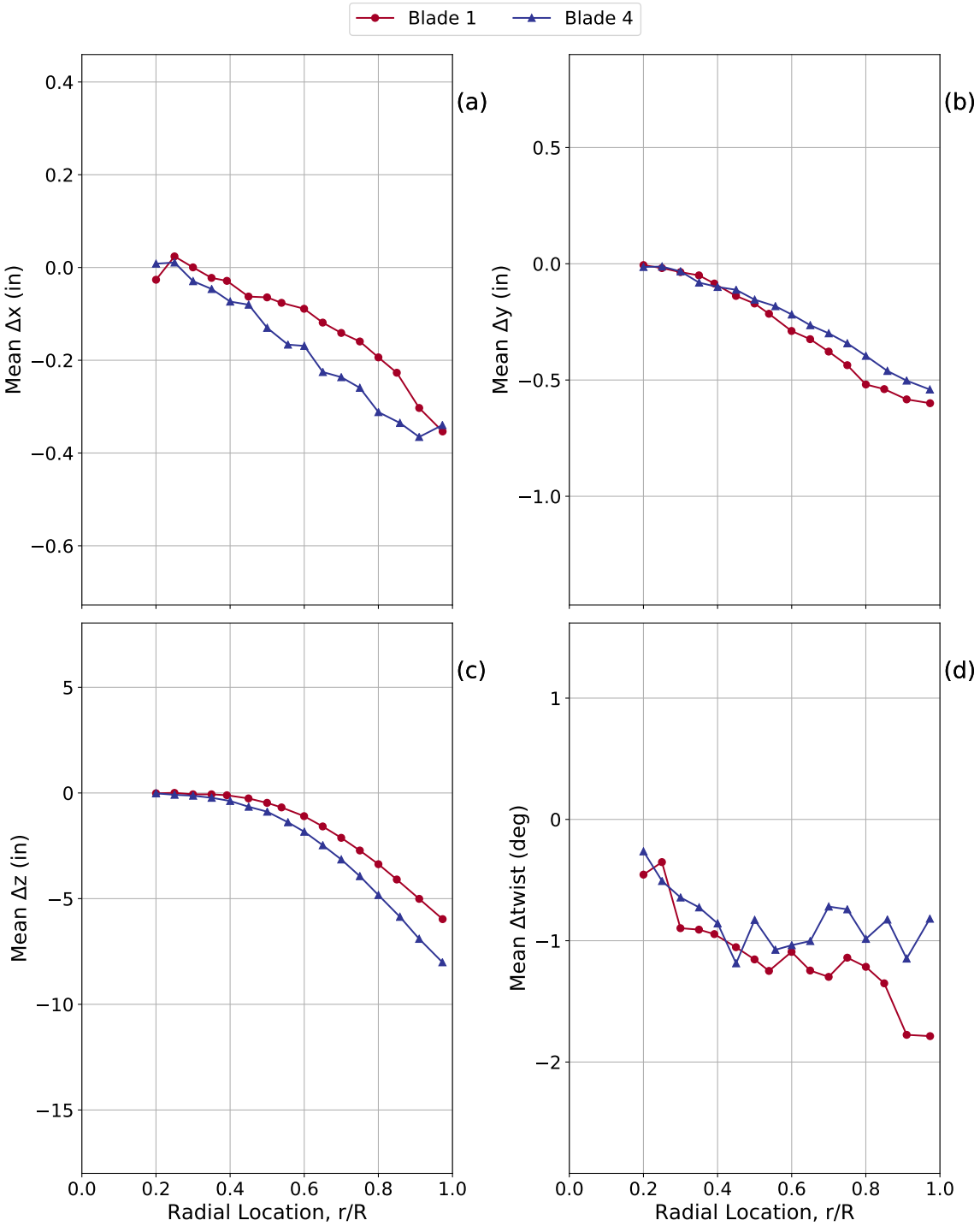


Figure 3.37-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0264	0.0038	-0.0058	0.0038	-0.0160	0.0107	-0.4552	0.0487
1	94.92	0.2499	0.0239	0.0042	-0.0186	0.0040	0.0040	0.0105	-0.3520	0.1438
1	94.92	0.2998	0.0003	0.0037	-0.0359	0.0119	-0.0640	0.0316	-0.8968	0.1230
1	94.92	0.3498	-0.0224	0.0033	-0.0499	0.0196	-0.0643	0.0513	-0.9086	0.1076
1	94.92	0.3913	-0.0288	0.0039	-0.0851	0.0261	-0.1084	0.0673	-0.9456	0.1033
1	94.92	0.4496	-0.0627	0.0039	-0.1383	0.0343	-0.2583	0.0902	-1.0534	0.0973
1	94.92	0.4997	-0.0644	0.0048	-0.1710	0.0420	-0.4682	0.1072	-1.1541	0.1076
1	94.92	0.5387	-0.0762	0.0047	-0.2151	0.0484	-0.6839	0.1223	-1.2490	0.1058
1	94.92	0.5996	-0.0890	0.0053	-0.2891	0.0595	-1.0974	0.1439	-1.0920	0.1075
1	94.92	0.6498	-0.1188	0.0062	-0.3244	0.0680	-1.5836	0.1611	-1.2458	0.1104
1	94.92	0.6998	-0.1411	0.0080	-0.3777	0.0779	-2.1226	0.1776	-1.2981	0.1080
1	94.92	0.7500	-0.1595	0.0103	-0.4362	0.0877	-2.7219	0.1937	-1.1398	0.1050
1	94.92	0.8001	-0.1938	0.0130	-0.5192	0.0981	-3.3707	0.2114	-1.2153	0.1015
1	94.92	0.8497	-0.2269	0.0142	-0.5391	0.1077	-4.0945	0.2250	-1.3512	0.1116
1	94.92	0.9102	-0.3029	0.0205	-0.5833	0.1197	-5.0095	0.2447	-1.7759	0.1118
1	94.92	0.9734	-0.3535	0.0212	-0.5997	0.1326	-5.9697	0.2667	-1.7866	0.0985
4	94.92	0.2001	0.0082	0.0054	-0.0138	0.0014	-0.0200	0.0080	-0.2635	0.0663
4	94.92	0.2502	0.0107	0.0059	-0.0120	0.0022	-0.0868	0.0115	-0.5079	0.1155
4	94.92	0.3001	-0.0295	0.0041	-0.0328	0.0038	-0.1292	0.0227	-0.6438	0.1367
4	94.92	0.3502	-0.0464	0.0044	-0.0812	0.0064	-0.2284	0.0316	-0.7254	0.1372
4	94.92	0.4002	-0.0735	0.0047	-0.0998	0.0094	-0.3793	0.0480	-0.8577	0.1209
4	94.92	0.4500	-0.0802	0.0061	-0.1119	0.0118	-0.6532	0.0594	-1.1863	0.1275
4	94.92	0.5001	-0.1302	0.0065	-0.1544	0.0145	-0.8861	0.0721	-0.8285	0.1266
4	94.92	0.5560	-0.1663	0.0057	-0.1825	0.0184	-1.3872	0.0882	-1.0749	0.1209
4	94.92	0.6001	-0.1691	0.0055	-0.2184	0.0209	-1.8349	0.0974	-1.0370	0.1308
4	94.92	0.6501	-0.2254	0.0053	-0.2643	0.0297	-2.4751	0.1108	-1.0028	0.1270
4	94.92	0.6999	-0.2365	0.0058	-0.2992	0.0281	-3.1473	0.1281	-0.7187	0.1345
4	94.92	0.7500	-0.2595	0.0059	-0.3423	0.0323	-3.9372	0.1462	-0.7413	0.1248
4	94.92	0.8002	-0.3118	0.0068	-0.3960	0.0369	-4.8312	0.1587	-0.9850	0.1359
4	94.92	0.8582	-0.3352	0.0085	-0.4610	0.0423	-5.8619	0.1800	-0.8255	0.1254
4	94.92	0.9101	-0.3654	0.0103	-0.5026	0.0470	-6.9026	0.1989	-1.1474	0.1265
4	94.92	0.9728	-0.3398	0.0125	-0.5409	0.0531	-8.0116	0.2193	-0.8186	0.1342

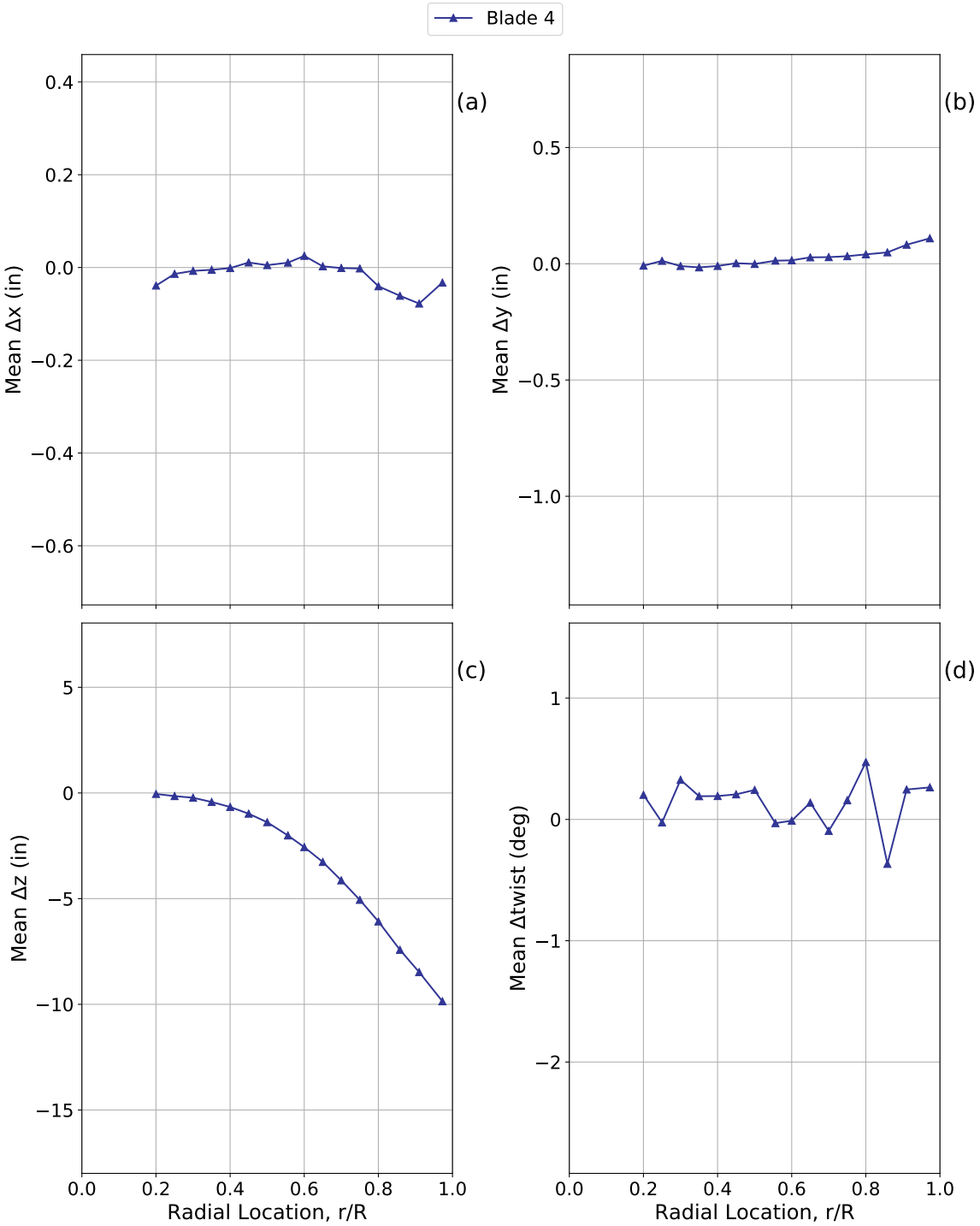


Figure 3.37-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0390	0.0006	-0.0081	0.0007	-0.0479	0.0020	0.2024	0.0198
4	105.12	0.2502	-0.0138	0.0007	0.0124	0.0011	-0.1486	0.0034	-0.0250	0.0259
4	105.12	0.3001	-0.0073	0.0006	-0.0099	0.0022	-0.2260	0.0068	0.3262	0.0415
4	105.12	0.3502	-0.0050	0.0009	-0.0156	0.0042	-0.4276	0.0121	0.1912	0.0364
4	105.12	0.4002	-0.0013	0.0011	-0.0096	0.0059	-0.6642	0.0176	0.1925	0.0276
4	105.12	0.4500	0.0108	0.0008	0.0023	0.0083	-0.9819	0.0231	0.2066	0.0360
4	105.12	0.5001	0.0050	0.0011	-0.0009	0.0097	-1.3852	0.0293	0.2427	0.0273
4	105.12	0.5560	0.0104	0.0014	0.0133	0.0119	-2.0115	0.0345	-0.0310	0.0305
4	105.12	0.6001	0.0250	0.0011	0.0147	0.0145	-2.5638	0.0399	-0.0109	0.0301
4	105.12	0.6501	0.0025	0.0018	0.0276	0.0164	-3.2660	0.0439	0.1377	0.0364
4	105.12	0.6999	-0.0012	0.0020	0.0285	0.0192	-4.1371	0.0499	-0.0950	0.0361
4	105.12	0.7500	-0.0021	0.0022	0.0325	0.0212	-5.0587	0.0536	0.1576	0.0368
4	105.12	0.8002	-0.0405	0.0027	0.0404	0.0237	-6.0816	0.0592	0.4727	0.0375
4	105.12	0.8582	-0.0610	0.0030	0.0489	0.0258	-7.4236	0.0663	-0.3666	0.0405
4	105.12	0.9101	-0.0778	0.0046	0.0817	0.0289	-8.4771	0.0762	0.2465	0.0337
4	105.12	0.9728	-0.0326	0.0048	0.1094	0.0313	-9.8583	0.0901	0.2640	0.0475

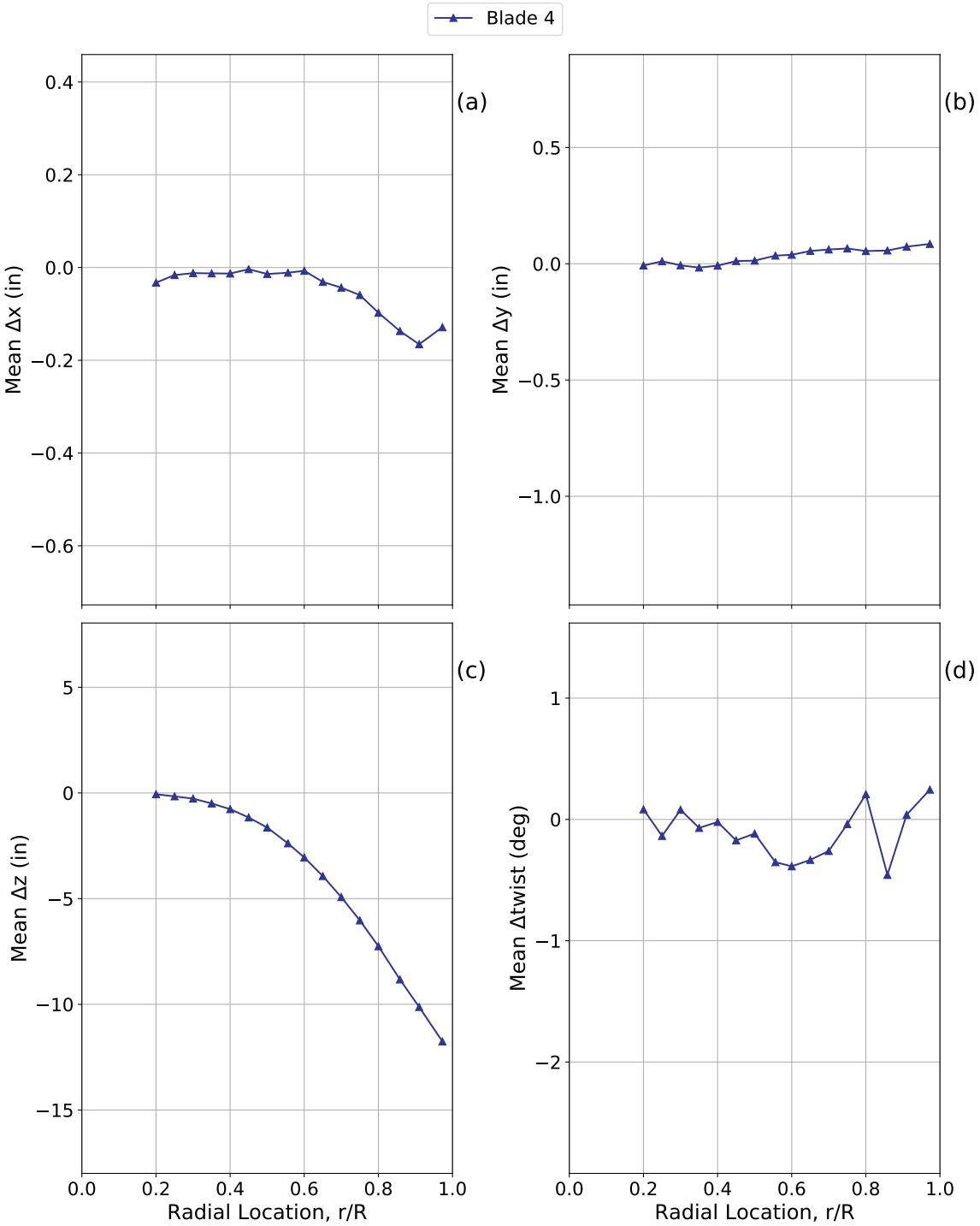


Figure 3.37-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0327	0.0009	-0.0075	0.0005	-0.0602	0.0014	0.0826	0.0137
4	119.88	0.2502	-0.0163	0.0006	0.0106	0.0011	-0.1615	0.0031	-0.1363	0.0186
4	119.88	0.3001	-0.0121	0.0009	-0.0068	0.0017	-0.2672	0.0056	0.0791	0.0278
4	119.88	0.3502	-0.0127	0.0008	-0.0165	0.0032	-0.4984	0.0093	-0.0703	0.0218
4	119.88	0.4002	-0.0130	0.0008	-0.0082	0.0047	-0.7675	0.0145	-0.0210	0.0253
4	119.88	0.4500	-0.0037	0.0012	0.0116	0.0068	-1.1597	0.0208	-0.1729	0.0343
4	119.88	0.5001	-0.0140	0.0012	0.0134	0.0092	-1.6371	0.0292	-0.1169	0.0278
4	119.88	0.5560	-0.0113	0.0016	0.0351	0.0113	-2.3836	0.0414	-0.3527	0.0258
4	119.88	0.6001	-0.0071	0.0021	0.0386	0.0132	-3.0523	0.0510	-0.3866	0.0258
4	119.88	0.6501	-0.0311	0.0028	0.0550	0.0156	-3.9328	0.0642	-0.3340	0.0279
4	119.88	0.6999	-0.0435	0.0038	0.0613	0.0183	-4.9289	0.0777	-0.2604	0.0231
4	119.88	0.7500	-0.0594	0.0043	0.0658	0.0207	-6.0316	0.0919	-0.0389	0.0290
4	119.88	0.8002	-0.0976	0.0055	0.0547	0.0233	-7.2536	0.1090	0.2073	0.0204
4	119.88	0.8582	-0.1371	0.0073	0.0569	0.0261	-8.8259	0.1302	-0.4576	0.0222
4	119.88	0.9101	-0.1655	0.0088	0.0736	0.0286	-10.1286	0.1527	0.0383	0.0220
4	119.88	0.9728	-0.1288	0.0105	0.0852	0.0318	-11.7574	0.1803	0.2450	0.0232

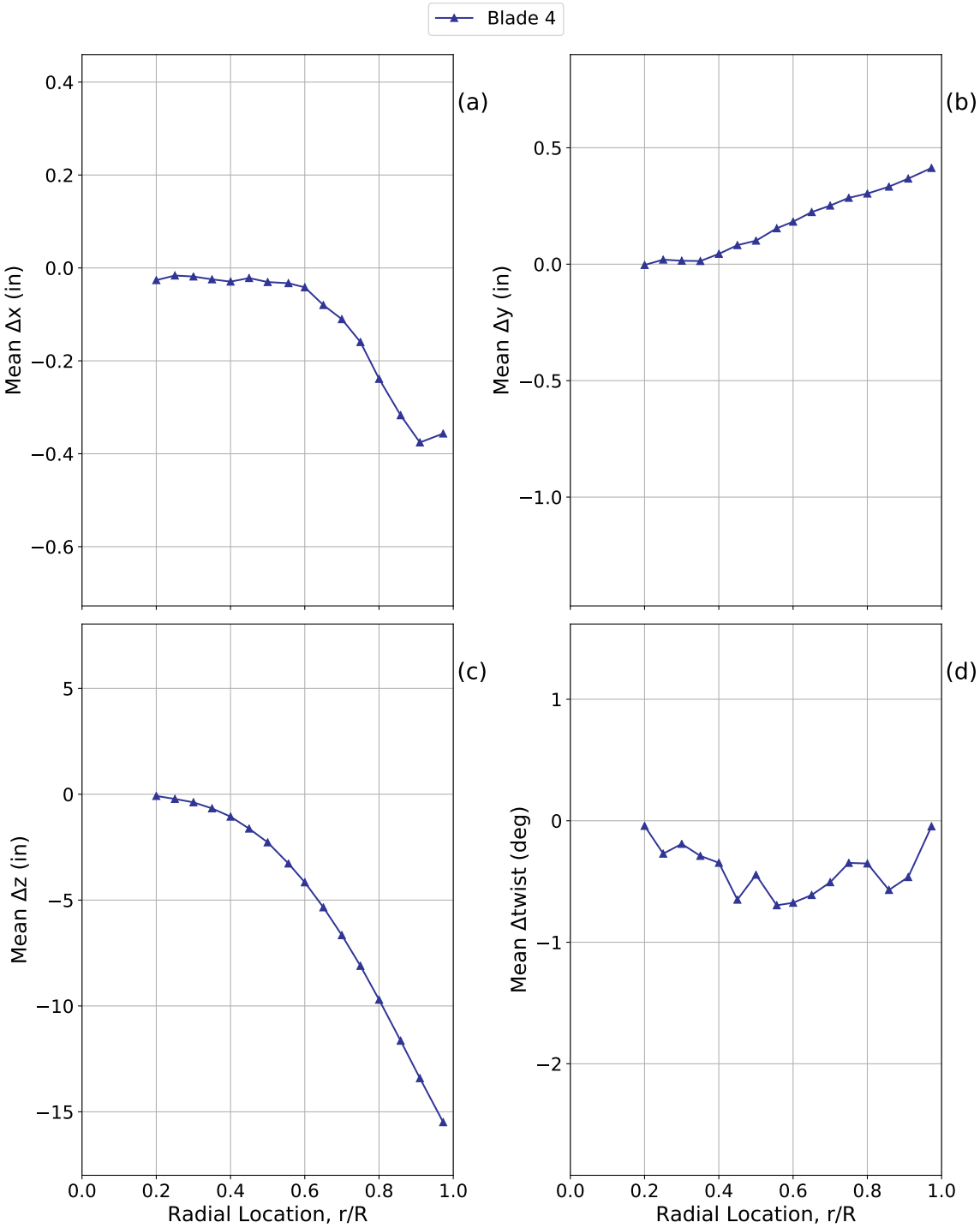


Figure 3.37-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0263	0.0008	-0.0035	0.0004	-0.0816	0.0022	-0.0424	0.0119
4	135	0.2502	-0.0164	0.0007	0.0195	0.0008	-0.2208	0.0041	-0.2711	0.0249
4	135	0.3001	-0.0185	0.0011	0.0147	0.0014	-0.3819	0.0084	-0.1906	0.0282
4	135	0.3502	-0.0246	0.0008	0.0135	0.0026	-0.6679	0.0142	-0.2892	0.0216
4	135	0.4002	-0.0295	0.0013	0.0443	0.0038	-1.0590	0.0217	-0.3463	0.0396
4	135	0.4500	-0.0218	0.0014	0.0817	0.0053	-1.6234	0.0241	-0.6501	0.0224
4	135	0.5001	-0.0304	0.0024	0.1009	0.0071	-2.2738	0.0313	-0.4446	0.0245
4	135	0.5560	-0.0329	0.0019	0.1540	0.0084	-3.2729	0.0383	-0.6960	0.0258
4	135	0.6001	-0.0418	0.0023	0.1825	0.0105	-4.1611	0.0449	-0.6750	0.0412
4	135	0.6501	-0.0799	0.0025	0.2237	0.0109	-5.3429	0.0513	-0.6114	0.0291
4	135	0.6999	-0.1104	0.0029	0.2516	0.0127	-6.6586	0.0598	-0.5063	0.0304
4	135	0.7500	-0.1596	0.0040	0.2849	0.0147	-8.1082	0.0671	-0.3471	0.0242
4	135	0.8002	-0.2388	0.0045	0.3032	0.0164	-9.7060	0.0751	-0.3519	0.0219
4	135	0.8582	-0.3172	0.0056	0.3328	0.0183	-11.6448	0.0880	-0.5698	0.0184
4	135	0.9101	-0.3757	0.0070	0.3675	0.0208	-13.4136	0.1001	-0.4637	0.0175
4	135	0.9728	-0.3565	0.0087	0.4130	0.0233	-15.4927	0.1171	-0.0465	0.0172

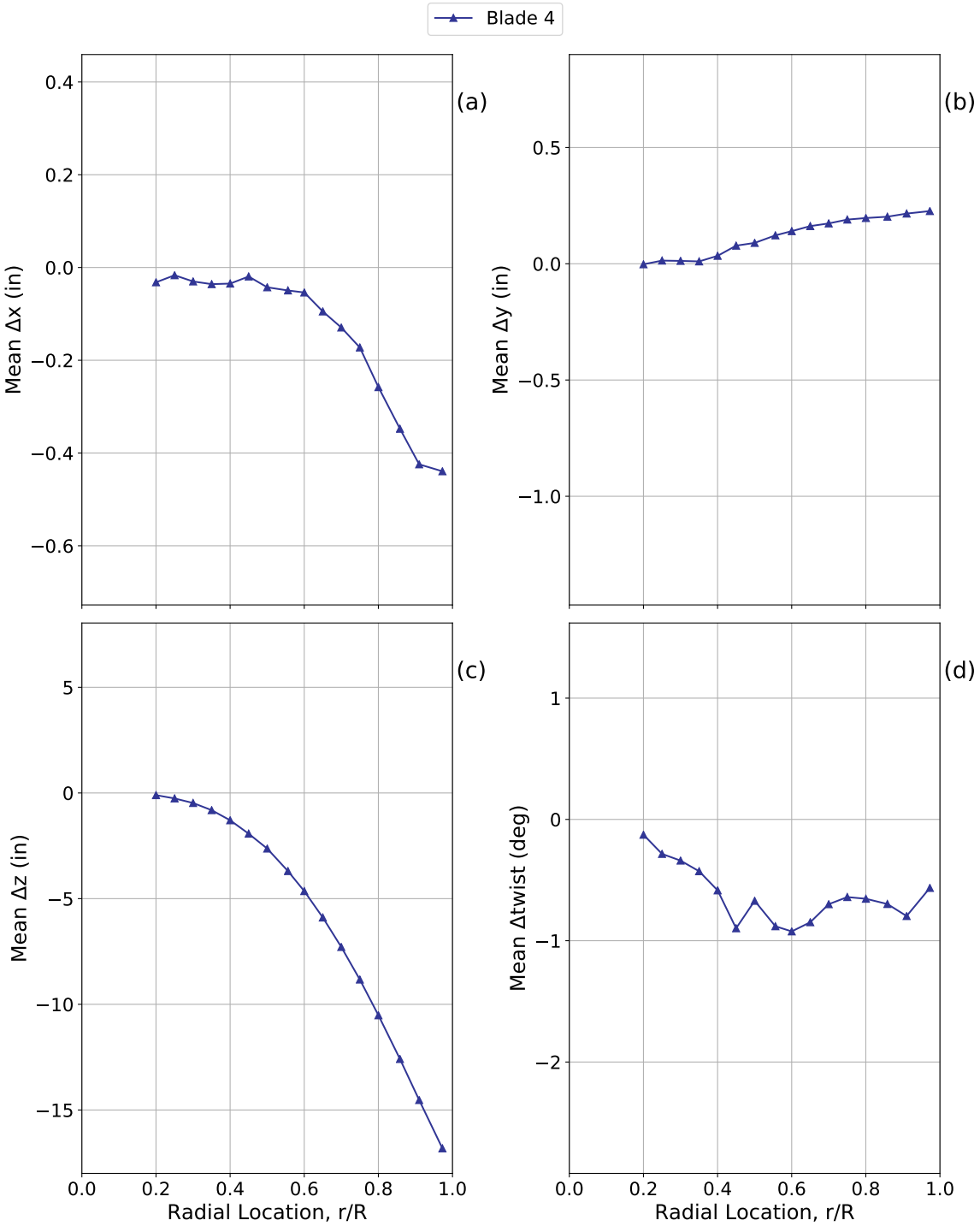


Figure 3.37-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0319	0.0009	-0.0023	0.0007	-0.1035	0.0022	-0.1264	0.0207
4	150.12	0.2502	-0.0167	0.0009	0.0136	0.0021	-0.2592	0.0056	-0.2844	0.0325
4	150.12	0.3001	-0.0301	0.0013	0.0123	0.0016	-0.4752	0.0107	-0.3396	0.0463
4	150.12	0.3502	-0.0359	0.0010	0.0101	0.0050	-0.8144	0.0151	-0.4273	0.0328
4	150.12	0.4002	-0.0347	0.0012	0.0341	0.0062	-1.2935	0.0261	-0.5852	0.0247
4	150.12	0.4500	-0.0194	0.0017	0.0778	0.0082	-1.9269	0.0370	-0.8976	0.0322
4	150.12	0.5001	-0.0427	0.0025	0.0897	0.0101	-2.6319	0.0491	-0.6711	0.0323
4	150.12	0.5560	-0.0495	0.0026	0.1221	0.0114	-3.6960	0.0649	-0.8809	0.0221
4	150.12	0.6001	-0.0539	0.0050	0.1403	0.0143	-4.6446	0.0769	-0.9233	0.0220
4	150.12	0.6501	-0.0948	0.0049	0.1620	0.0156	-5.8933	0.0937	-0.8477	0.0366
4	150.12	0.6999	-0.1294	0.0064	0.1735	0.0177	-7.2881	0.1125	-0.6990	0.0269
4	150.12	0.7500	-0.1725	0.0096	0.1900	0.0201	-8.8290	0.1317	-0.6402	0.0299
4	150.12	0.8002	-0.2580	0.0106	0.1967	0.0219	-10.5196	0.1523	-0.6542	0.0340
4	150.12	0.8582	-0.3477	0.0140	0.2023	0.0254	-12.5875	0.1774	-0.6975	0.0273
4	150.12	0.9101	-0.4244	0.0160	0.2158	0.0277	-14.5295	0.2007	-0.7967	0.0232
4	150.12	0.9728	-0.4394	0.0180	0.2266	0.0305	-16.8155	0.2302	-0.5648	0.0264

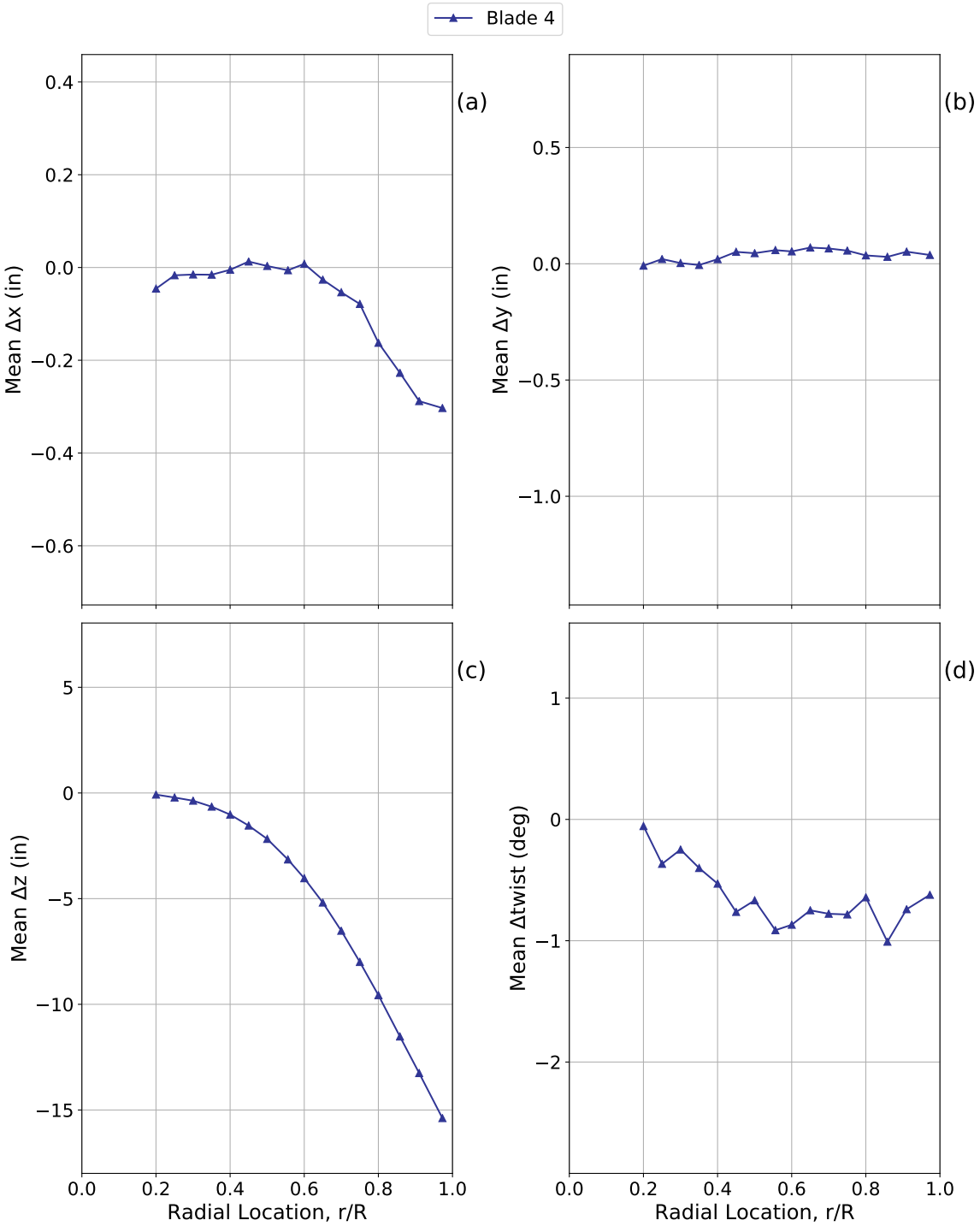


Figure 3.37-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0456	0.0010	-0.0083	0.0006	-0.0785	0.0018	-0.0552	0.0116
4	164.88	0.2502	-0.0168	0.0010	0.0202	0.0012	-0.2163	0.0025	-0.3667	0.0262
4	164.88	0.3001	-0.0152	0.0010	0.0029	0.0023	-0.3668	0.0052	-0.2488	0.0282
4	164.88	0.3502	-0.0156	0.0010	-0.0055	0.0035	-0.6493	0.0095	-0.4009	0.0212
4	164.88	0.4002	-0.0049	0.0017	0.0196	0.0055	-1.0255	0.0130	-0.5299	0.0258
4	164.88	0.4500	0.0128	0.0023	0.0511	0.0076	-1.5450	0.0162	-0.7630	0.0290
4	164.88	0.5001	0.0032	0.0029	0.0454	0.0092	-2.1760	0.0192	-0.6675	0.0240
4	164.88	0.5560	-0.0060	0.0044	0.0586	0.0119	-3.1487	0.0250	-0.9135	0.0346
4	164.88	0.6001	0.0078	0.0055	0.0530	0.0136	-4.0362	0.0269	-0.8686	0.0294
4	164.88	0.6501	-0.0263	0.0067	0.0696	0.0162	-5.1872	0.0345	-0.7495	0.0312
4	164.88	0.6999	-0.0535	0.0090	0.0657	0.0187	-6.5216	0.0381	-0.7780	0.0341
4	164.88	0.7500	-0.0787	0.0103	0.0565	0.0216	-7.9985	0.0463	-0.7839	0.0338
4	164.88	0.8002	-0.1624	0.0122	0.0359	0.0236	-9.5696	0.0535	-0.6426	0.0431
4	164.88	0.8582	-0.2272	0.0133	0.0296	0.0275	-11.5246	0.0637	-1.0086	0.0774
4	164.88	0.9101	-0.2882	0.0118	0.0519	0.0245	-13.2561	0.0951	-0.7406	0.0914
4	164.88	0.9728	-0.3031	0.0091	0.0377	0.0383	-15.3852	0.1489	-0.6218	0.0356

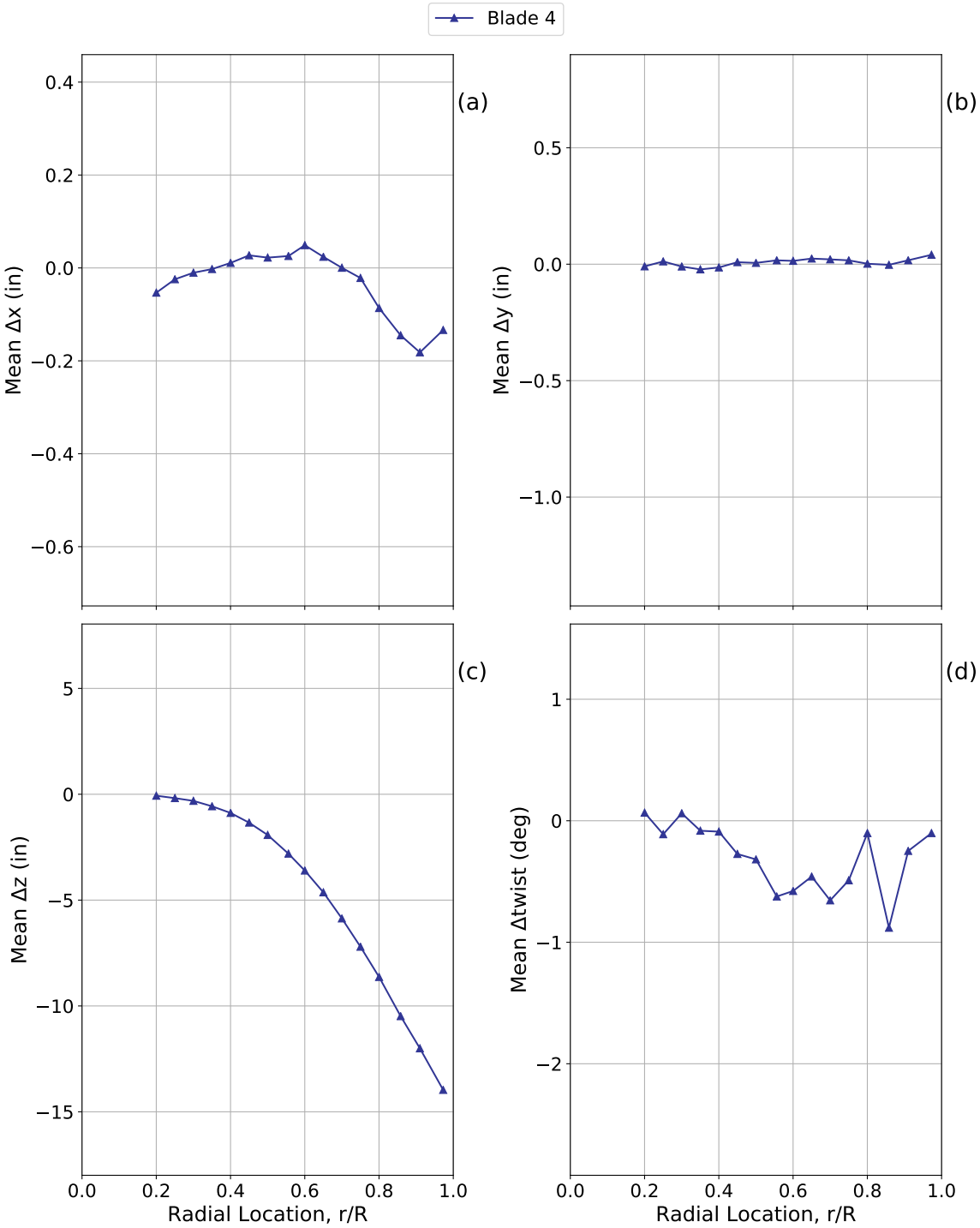


Figure 3.37-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0533	0.0016	-0.0094	0.0006	-0.0699	0.0023	0.0662	0.0088
4	170.16	0.2502	-0.0244	0.0014	0.0118	0.0021	-0.1827	0.0051	-0.1112	0.0166
4	170.16	0.3001	-0.0103	0.0009	-0.0101	0.0027	-0.3129	0.0101	0.0612	0.0192
4	170.16	0.3502	-0.0025	0.0017	-0.0224	0.0057	-0.5682	0.0158	-0.0823	0.0237
4	170.16	0.4002	0.0108	0.0020	-0.0141	0.0082	-0.8831	0.0257	-0.0896	0.0185
4	170.16	0.4500	0.0271	0.0022	0.0085	0.0083	-1.3420	0.0324	-0.2736	0.0233
4	170.16	0.5001	0.0222	0.0024	0.0055	0.0109	-1.9249	0.0422	-0.3181	0.0369
4	170.16	0.5560	0.0256	0.0026	0.0166	0.0120	-2.8068	0.0510	-0.6237	0.0371
4	170.16	0.6001	0.0489	0.0025	0.0142	0.0154	-3.6058	0.0609	-0.5781	0.0313
4	170.16	0.6501	0.0239	0.0036	0.0241	0.0176	-4.6347	0.0680	-0.4593	0.0367
4	170.16	0.6999	0.0003	0.0031	0.0207	0.0195	-5.8659	0.0769	-0.6555	0.0398
4	170.16	0.7500	-0.0217	0.0043	0.0165	0.0224	-7.2048	0.0833	-0.4904	0.0370
4	170.16	0.8002	-0.0864	0.0050	0.0019	0.0250	-8.6332	0.0926	-0.1018	0.0443
4	170.16	0.8582	-0.1451	0.0063	-0.0028	0.0281	-10.4838	0.1023	-0.8809	0.0674
4	170.16	0.9101	-0.1818	0.0078	0.0168	0.0296	-12.0039	0.1129	-0.2485	0.0497
4	170.16	0.9728	-0.1336	0.0096	0.0403	0.0350	-13.9663	0.1381	-0.1019	0.1294

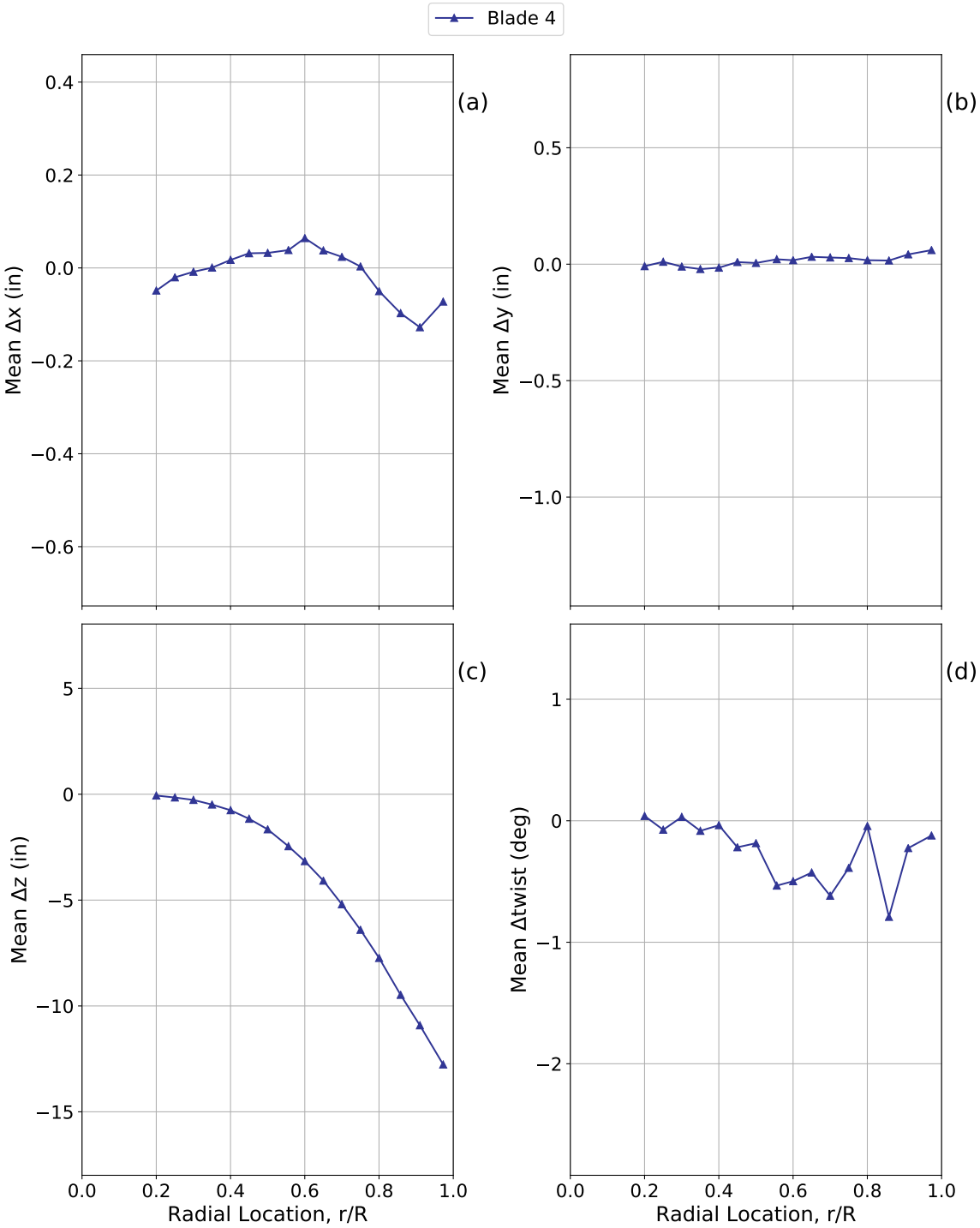


Figure 3.37-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0488	0.0061	-0.0086	0.0010	-0.0615	0.0016	0.0391	0.0186
4	175.08	0.2502	-0.0203	0.0026	0.0102	0.0015	-0.1534	0.0034	-0.0743	0.0282
4	175.08	0.3001	-0.0083	0.0025	-0.0104	0.0041	-0.2694	0.0061	0.0311	0.0421
4	175.08	0.3502	0.0006	0.0059	-0.0210	0.0060	-0.4890	0.0112	-0.0834	0.0419
4	175.08	0.4002	0.0172	0.0092	-0.0151	0.0098	-0.7565	0.0170	-0.0367	0.0348
4	175.08	0.4500	0.0315	0.0132	0.0090	0.0132	-1.1602	0.0247	-0.2185	0.0371
4	175.08	0.5001	0.0323	0.0155	0.0051	0.0170	-1.6581	0.0314	-0.1848	0.0220
4	175.08	0.5560	0.0384	0.0199	0.0211	0.0236	-2.4576	0.0428	-0.5341	0.0433
4	175.08	0.6001	0.0641	0.0217	0.0170	0.0281	-3.1624	0.0496	-0.4978	0.0407
4	175.08	0.6501	0.0376	0.0242	0.0316	0.0338	-4.0820	0.0610	-0.4267	0.0383
4	175.08	0.6999	0.0238	0.0251	0.0287	0.0389	-5.1997	0.0740	-0.6177	0.0381
4	175.08	0.7500	0.0031	0.0263	0.0261	0.0446	-6.4067	0.0863	-0.3880	0.0480
4	175.08	0.8002	-0.0501	0.0261	0.0171	0.0507	-7.7353	0.1014	-0.0436	0.0494
4	175.08	0.8582	-0.0975	0.0263	0.0157	0.0578	-9.4786	0.1172	-0.7916	0.0509
4	175.08	0.9101	-0.1278	0.0262	0.0420	0.0640	-10.9175	0.1359	-0.2253	0.0532
4	175.08	0.9728	-0.0726	0.0251	0.0604	0.0717	-12.7664	0.1490	-0.1219	0.0879

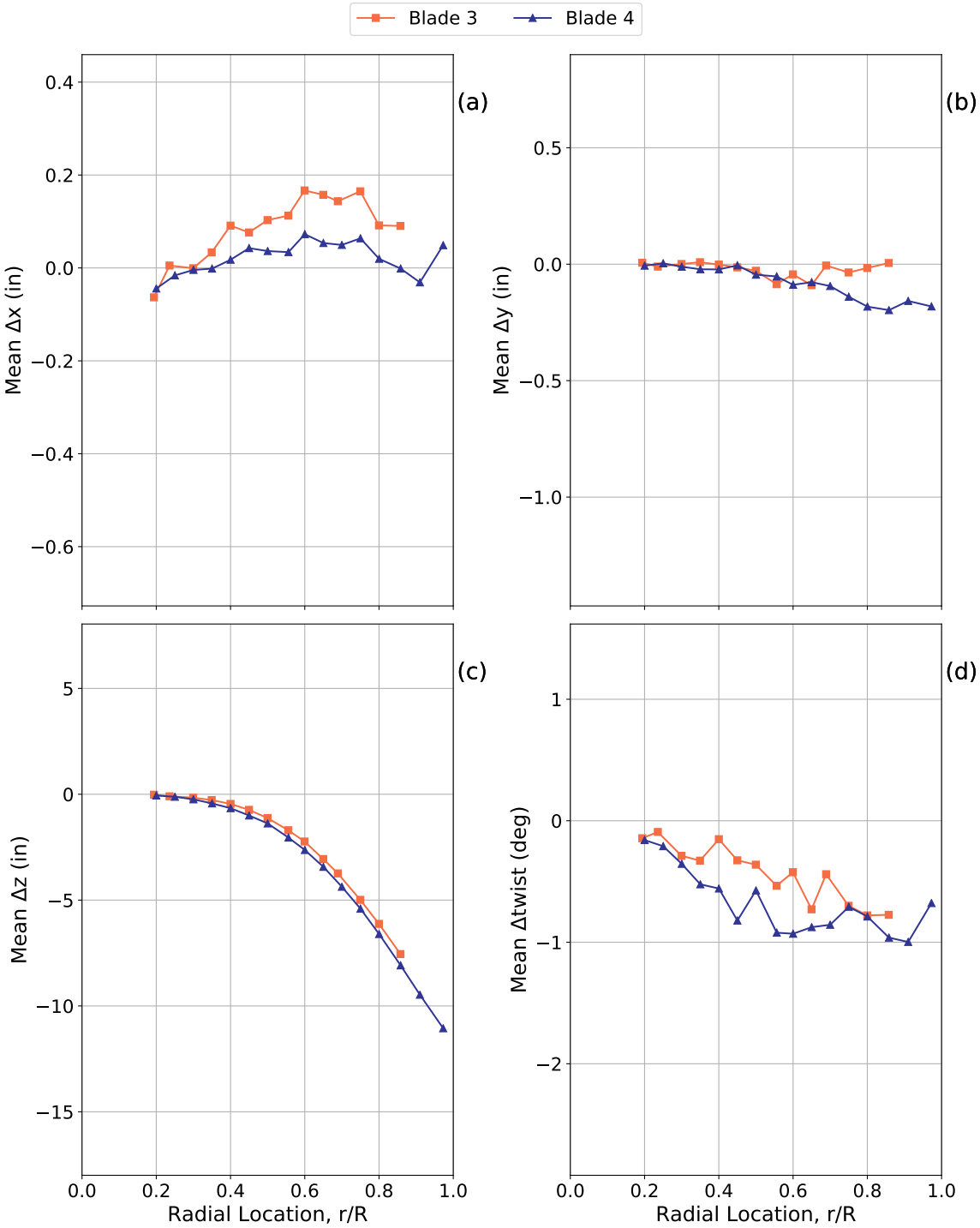


Figure 3.37-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0633	0.0010	0.0063	0.0010	-0.0212	0.0040	-0.1438	0.0198
3	180.35	0.2357	0.0052	0.0007	-0.0103	0.0016	-0.0970	0.0060	-0.0924	0.0399
3	180.35	0.2995	-0.0006	0.0004	0.0009	0.0039	-0.1603	0.0153	-0.2885	0.0510
3	180.35	0.3493	0.0335	0.0012	0.0085	0.0065	-0.2753	0.0253	-0.3284	0.0490
3	180.35	0.4000	0.0911	0.0011	-0.0016	0.0102	-0.4559	0.0389	-0.1517	0.0481
3	180.35	0.4497	0.0764	0.0012	-0.0136	0.0135	-0.7364	0.0501	-0.3257	0.0446
3	180.35	0.4997	0.1029	0.0014	-0.0282	0.0163	-1.1230	0.0647	-0.3616	0.0589
3	180.35	0.5556	0.1126	0.0016	-0.0859	0.0205	-1.7004	0.0849	-0.5352	0.0644
3	180.35	0.5995	0.1668	0.0022	-0.0436	0.0213	-2.2322	0.0997	-0.4236	0.0608
3	180.35	0.6498	0.1573	0.0029	-0.0901	0.0245	-3.0587	0.1186	-0.7290	0.0758
3	180.35	0.6890	0.1436	0.0040	-0.0057	0.0277	-3.7385	0.1348	-0.4399	0.1111
3	180.35	0.7495	0.1649	0.0056	-0.0355	0.0326	-4.9878	0.1661	-0.6998	0.0948
3	180.35	0.7998	0.0915	0.0071	-0.0163	0.0349	-6.1219	0.1852	-0.7789	0.0889
3	180.35	0.8577	0.0904	0.0105	0.0052	0.0468	-7.5489	0.1937	-0.7743	0.2349
4	180	0.2001	-0.0443	0.0039	-0.0064	0.0041	-0.0594	0.0117	-0.1590	0.0490
4	180	0.2502	-0.0161	0.0047	0.0036	0.0042	-0.1189	0.0126	-0.2096	0.1028
4	180	0.3001	-0.0043	0.0025	-0.0109	0.0116	-0.2405	0.0326	-0.3547	0.0862
4	180	0.3502	-0.0015	0.0031	-0.0218	0.0181	-0.4330	0.0467	-0.5232	0.0751
4	180	0.4002	0.0176	0.0030	-0.0225	0.0258	-0.6590	0.0690	-0.5579	0.0768
4	180	0.4500	0.0426	0.0034	-0.0050	0.0316	-1.0049	0.0842	-0.8215	0.0809
4	180	0.5001	0.0363	0.0033	-0.0451	0.0388	-1.3791	0.1034	-0.5739	0.0740
4	180	0.5560	0.0340	0.0035	-0.0527	0.0466	-2.0470	0.1283	-0.9214	0.0653
4	180	0.6001	0.0726	0.0038	-0.0885	0.0527	-2.6341	0.1446	-0.9299	0.0663
4	180	0.6501	0.0536	0.0042	-0.0774	0.0591	-3.4295	0.1650	-0.8758	0.0635
4	180	0.6999	0.0495	0.0049	-0.0939	0.0677	-4.3710	0.1873	-0.8563	0.0656
4	180	0.7500	0.0637	0.0063	-0.1399	0.0740	-5.4056	0.2094	-0.7083	0.0744
4	180	0.8002	0.0196	0.0074	-0.1822	0.0809	-6.6040	0.2314	-0.7884	0.0665
4	180	0.8582	-0.0014	0.0104	-0.1973	0.0899	-8.0842	0.2578	-0.9620	0.0636
4	180	0.9101	-0.0311	0.0111	-0.1579	0.0970	-9.4707	0.2828	-0.9976	0.0750
4	180	0.9728	0.0489	0.0145	-0.1815	0.1065	-11.0554	0.3155	-0.6776	0.0900

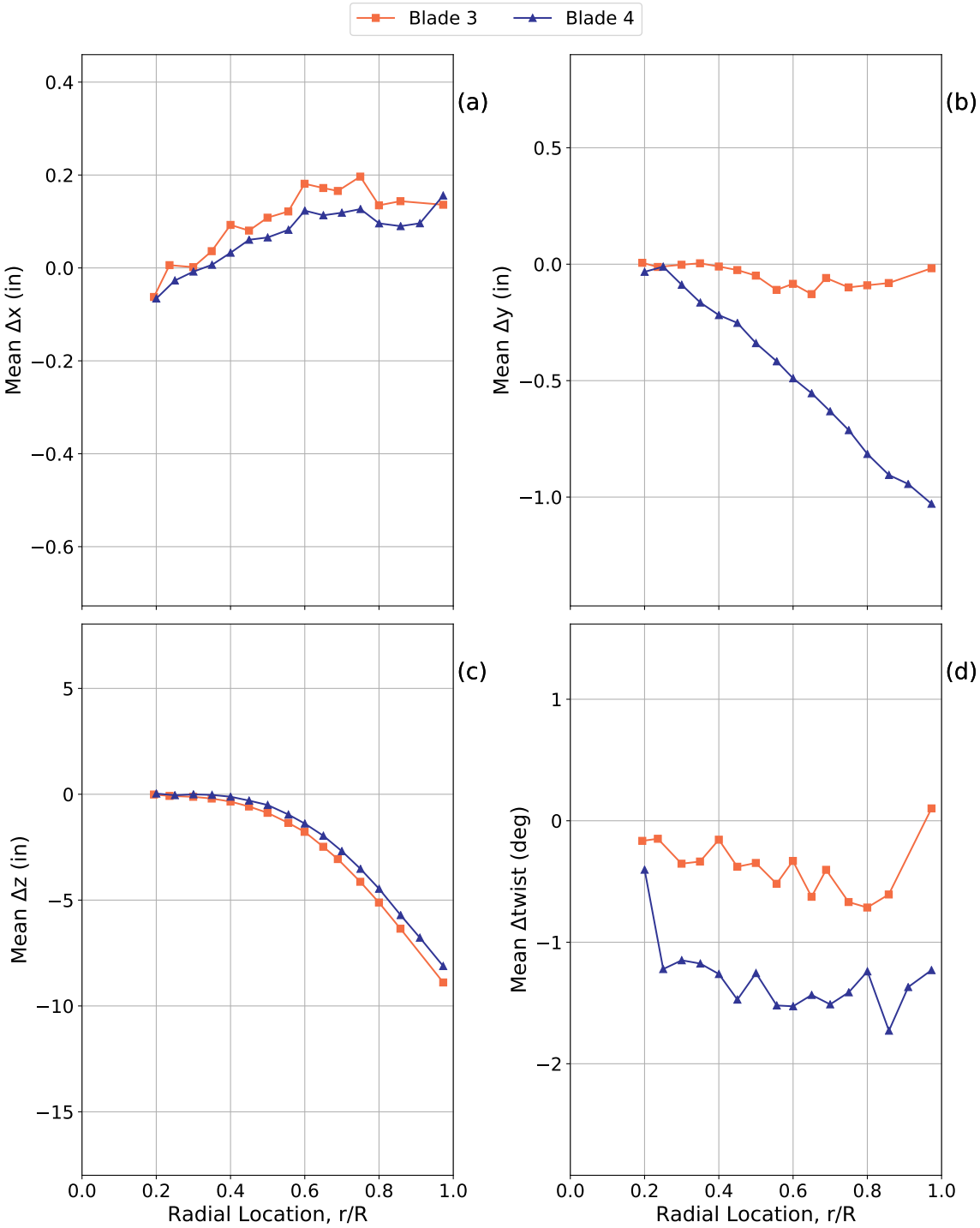


Figure 3.37-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0625	0.0009	0.0060	0.0010	-0.0124	0.0024	-0.1656	0.0190
3	184.92	0.2357	0.0060	0.0011	-0.0119	0.0016	-0.0784	0.0045	-0.1482	0.0245
3	184.92	0.2995	0.0017	0.0012	-0.0023	0.0035	-0.1203	0.0088	-0.3535	0.0401
3	184.92	0.3493	0.0361	0.0012	0.0039	0.0069	-0.2031	0.0138	-0.3358	0.0390
3	184.92	0.4000	0.0926	0.0012	-0.0100	0.0101	-0.3450	0.0218	-0.1559	0.0303
3	184.92	0.4497	0.0804	0.0014	-0.0252	0.0122	-0.5781	0.0294	-0.3785	0.0338
3	184.92	0.4997	0.1082	0.0018	-0.0490	0.0150	-0.8771	0.0382	-0.3474	0.0385
3	184.92	0.5556	0.1216	0.0015	-0.1104	0.0186	-1.3533	0.0480	-0.5188	0.0424
3	184.92	0.5995	0.1812	0.0015	-0.0843	0.0207	-1.7752	0.0578	-0.3307	0.0371
3	184.92	0.6498	0.1720	0.0024	-0.1285	0.0216	-2.4803	0.0681	-0.6258	0.0572
3	184.92	0.6890	0.1657	0.0020	-0.0593	0.0270	-3.0619	0.0769	-0.4039	0.0551
3	184.92	0.7495	0.1966	0.0028	-0.0996	0.0290	-4.1343	0.0926	-0.6690	0.0520
3	184.92	0.7998	0.1348	0.0033	-0.0906	0.0300	-5.1143	0.1006	-0.7142	0.0429
3	184.92	0.8577	0.1437	0.0034	-0.0809	0.0484	-6.3505	0.1185	-0.6068	0.1654
3	184.92	0.9729	0.1360	0.0103	-0.0174	0.0597	-8.8902	0.1634	0.1016	0.4881
4	184.92	0.2001	-0.0659	0.0029	-0.0328	0.0023	0.0319	0.0108	-0.4031	0.0446
4	184.92	0.2502	-0.0271	0.0016	-0.0106	0.0025	-0.0450	0.0145	-1.2209	0.1153
4	184.92	0.3001	-0.0079	0.0019	-0.0886	0.0084	-0.0050	0.0328	-1.1484	0.1185
4	184.92	0.3502	0.0067	0.0034	-0.1648	0.0147	-0.0318	0.0548	-1.1757	0.1189
4	184.92	0.4002	0.0327	0.0047	-0.2187	0.0218	-0.1163	0.0795	-1.2617	0.1170
4	184.92	0.4500	0.0606	0.0057	-0.2522	0.0300	-0.3002	0.1046	-1.4724	0.1238
4	184.92	0.5001	0.0656	0.0068	-0.3392	0.0385	-0.5079	0.1319	-1.2539	0.1187
4	184.92	0.5560	0.0820	0.0070	-0.4172	0.0491	-0.9600	0.1615	-1.5204	0.1136
4	184.92	0.6001	0.1233	0.0076	-0.4900	0.0582	-1.3856	0.1850	-1.5270	0.1244
4	184.92	0.6501	0.1133	0.0081	-0.5543	0.0690	-1.9616	0.2109	-1.4337	0.1152
4	184.92	0.6999	0.1188	0.0085	-0.6317	0.0796	-2.6887	0.2370	-1.5113	0.1156
4	184.92	0.7500	0.1267	0.0095	-0.7128	0.0910	-3.5230	0.2620	-1.4121	0.1271
4	184.92	0.8002	0.0959	0.0107	-0.8150	0.1036	-4.4660	0.2848	-1.2398	0.1231
4	184.92	0.8582	0.0899	0.0124	-0.9052	0.1188	-5.7099	0.3146	-1.7281	0.1175
4	184.92	0.9101	0.0961	0.0166	-0.9439	0.1285	-6.7773	0.3426	-1.3690	0.1607
4	184.92	0.9728	0.1558	0.0159	-1.0288	0.1492	-8.1166	0.3753	-1.2296	0.1098

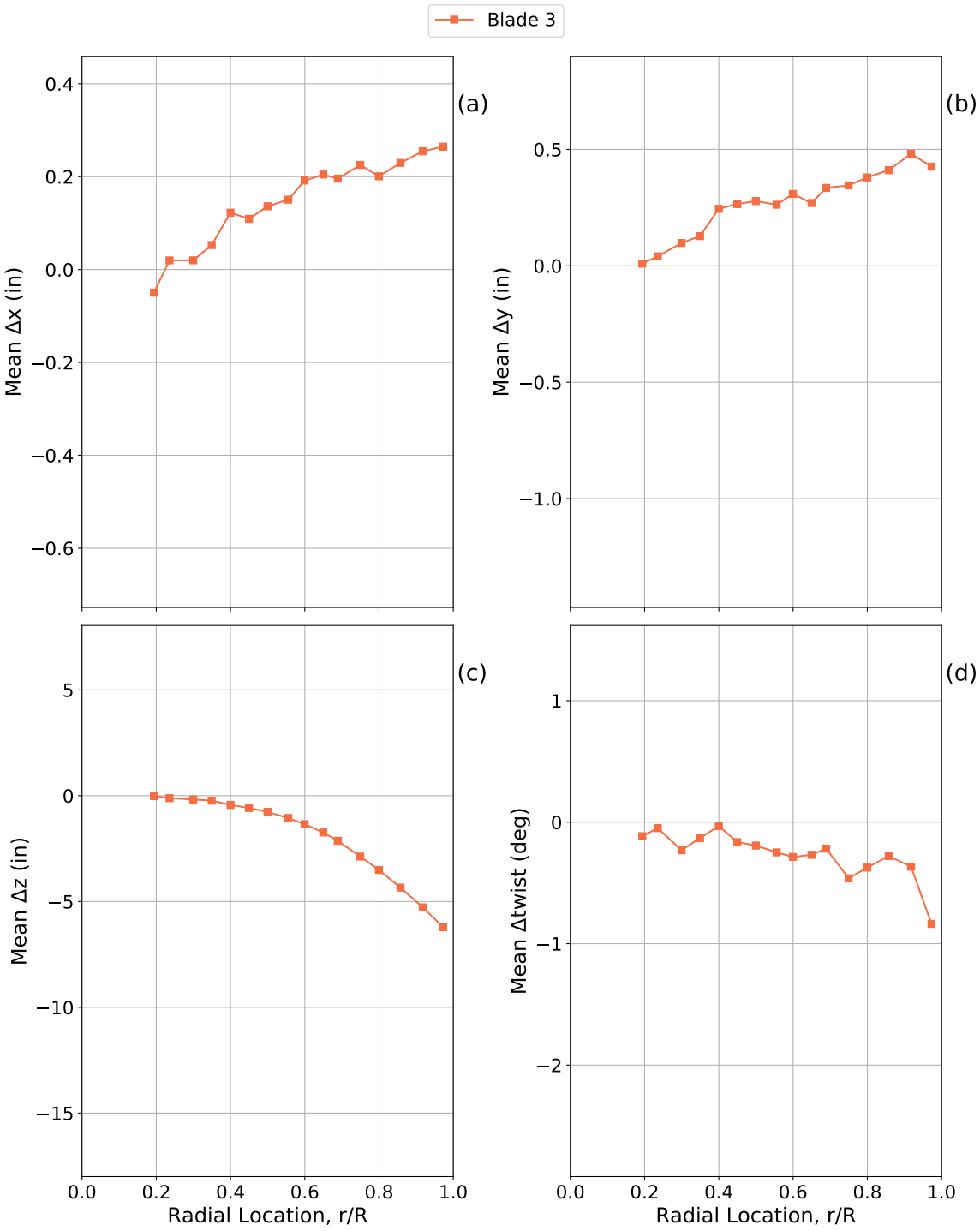


Figure 3.37-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0496	0.0017	0.0097	0.0012	-0.0230	0.0044	-0.1155	0.0205
3	195.12	0.2357	0.0197	0.0006	0.0408	0.0021	-0.1166	0.0065	-0.0487	0.0442
3	195.12	0.2995	0.0198	0.0011	0.0980	0.0053	-0.1802	0.0150	-0.2309	0.0546
3	195.12	0.3493	0.0528	0.0016	0.1276	0.0093	-0.2335	0.0265	-0.1305	0.0457
3	195.12	0.4000	0.1225	0.0020	0.2449	0.0145	-0.4351	0.0389	-0.0317	0.0418
3	195.12	0.4497	0.1091	0.0022	0.2652	0.0186	-0.5808	0.0496	-0.1644	0.0422
3	195.12	0.4997	0.1362	0.0020	0.2780	0.0222	-0.7652	0.0601	-0.1923	0.0449
3	195.12	0.5556	0.1505	0.0026	0.2624	0.0273	-1.0553	0.0728	-0.2485	0.0448
3	195.12	0.5995	0.1916	0.0022	0.3087	0.0313	-1.3451	0.0823	-0.2862	0.0445
3	195.12	0.6498	0.2045	0.0027	0.2696	0.0359	-1.7381	0.0910	-0.2687	0.0389
3	195.12	0.6890	0.1958	0.0024	0.3345	0.0391	-2.1323	0.0971	-0.2176	0.0398
3	195.12	0.7495	0.2252	0.0028	0.3455	0.0449	-2.8777	0.1071	-0.4619	0.0452
3	195.12	0.7998	0.2007	0.0033	0.3795	0.0502	-3.5112	0.1131	-0.3740	0.0353
3	195.12	0.8577	0.2295	0.0038	0.4110	0.0555	-4.3407	0.1204	-0.2785	0.0456
3	195.12	0.9178	0.2546	0.0037	0.4811	0.0624	-5.2753	0.1279	-0.3664	0.0417
3	195.12	0.9729	0.2645	0.0045	0.4260	0.0705	-6.2128	0.1392	-0.8378	0.0504

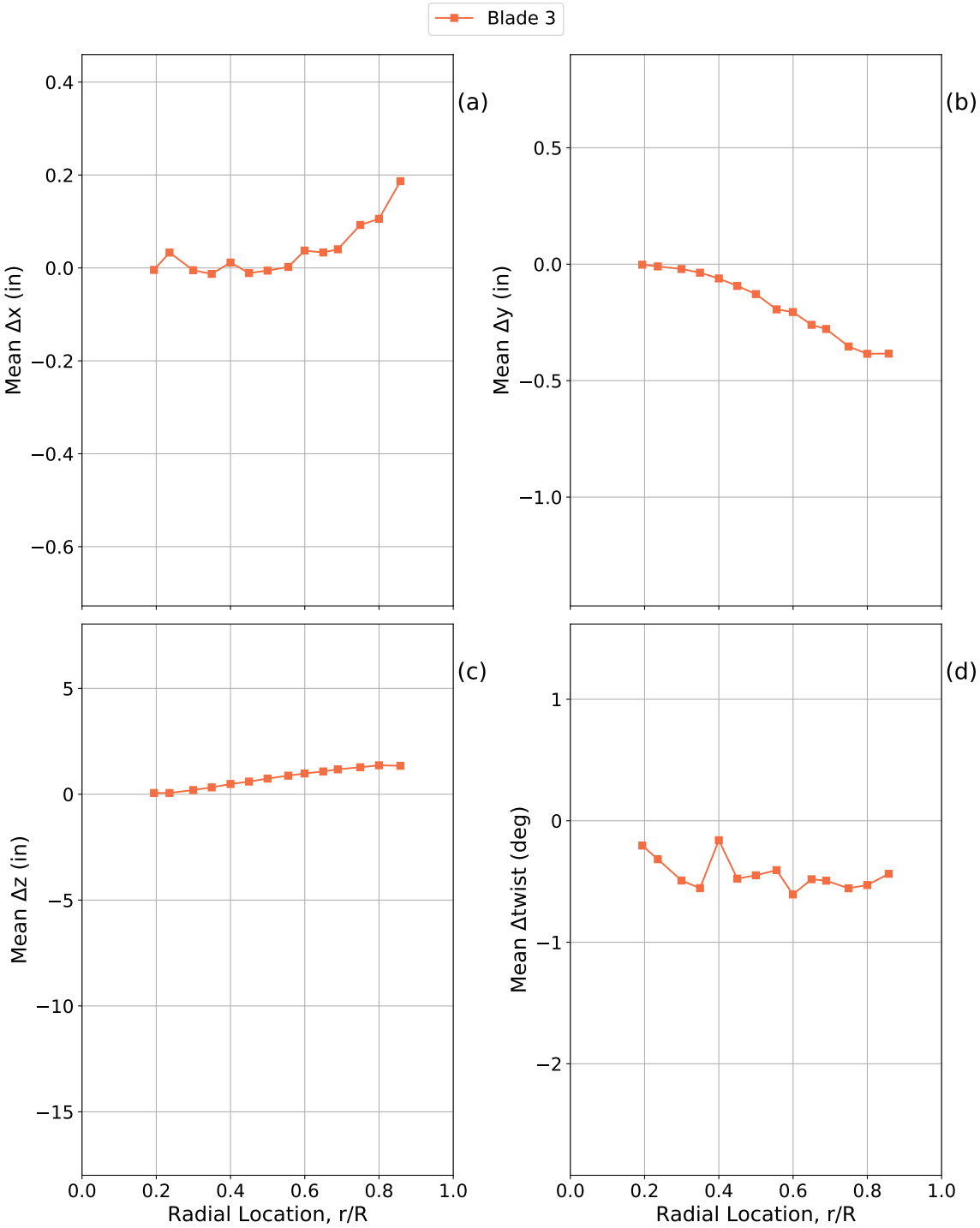


Figure 3.37-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.1, μ = 0.3, α = -0° NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0043	0.0055	-0.0021	0.0018	0.0599	0.0107	-0.2042	0.0297
3	209.88	0.2357	0.0331	0.0014	-0.0096	0.0022	0.0602	0.0087	-0.3165	0.1151
3	209.88	0.2995	-0.0050	0.0014	-0.0207	0.0067	0.1978	0.0279	-0.4920	0.1032
3	209.88	0.3493	-0.0128	0.0014	-0.0364	0.0117	0.3240	0.0462	-0.5549	0.1111
3	209.88	0.4000	0.0116	0.0034	-0.0613	0.0179	0.4845	0.0649	-0.1605	0.0968
3	209.88	0.4497	-0.0110	0.0021	-0.0933	0.0218	0.5988	0.0798	-0.4762	0.1356
3	209.88	0.4997	-0.0058	0.0016	-0.1283	0.0269	0.7419	0.1035	-0.4492	0.0856
3	209.88	0.5556	0.0021	0.0021	-0.1941	0.0338	0.8782	0.1262	-0.4066	0.1116
3	209.88	0.5995	0.0373	0.0017	-0.2054	0.0382	0.9816	0.1420	-0.6066	0.1268
3	209.88	0.6498	0.0333	0.0021	-0.2604	0.0449	1.0778	0.1648	-0.4813	0.1096
3	209.88	0.6890	0.0401	0.0027	-0.2782	0.0479	1.1761	0.1818	-0.4931	0.1146
3	209.88	0.7495	0.0925	0.0045	-0.3533	0.0566	1.2752	0.2126	-0.5559	0.1110
3	209.88	0.7998	0.1056	0.0042	-0.3848	0.0640	1.3689	0.2357	-0.5292	0.1353
3	209.88	0.8577	0.1867	0.0087	-0.3839	0.0671	1.3436	0.2532	-0.4367	0.2990

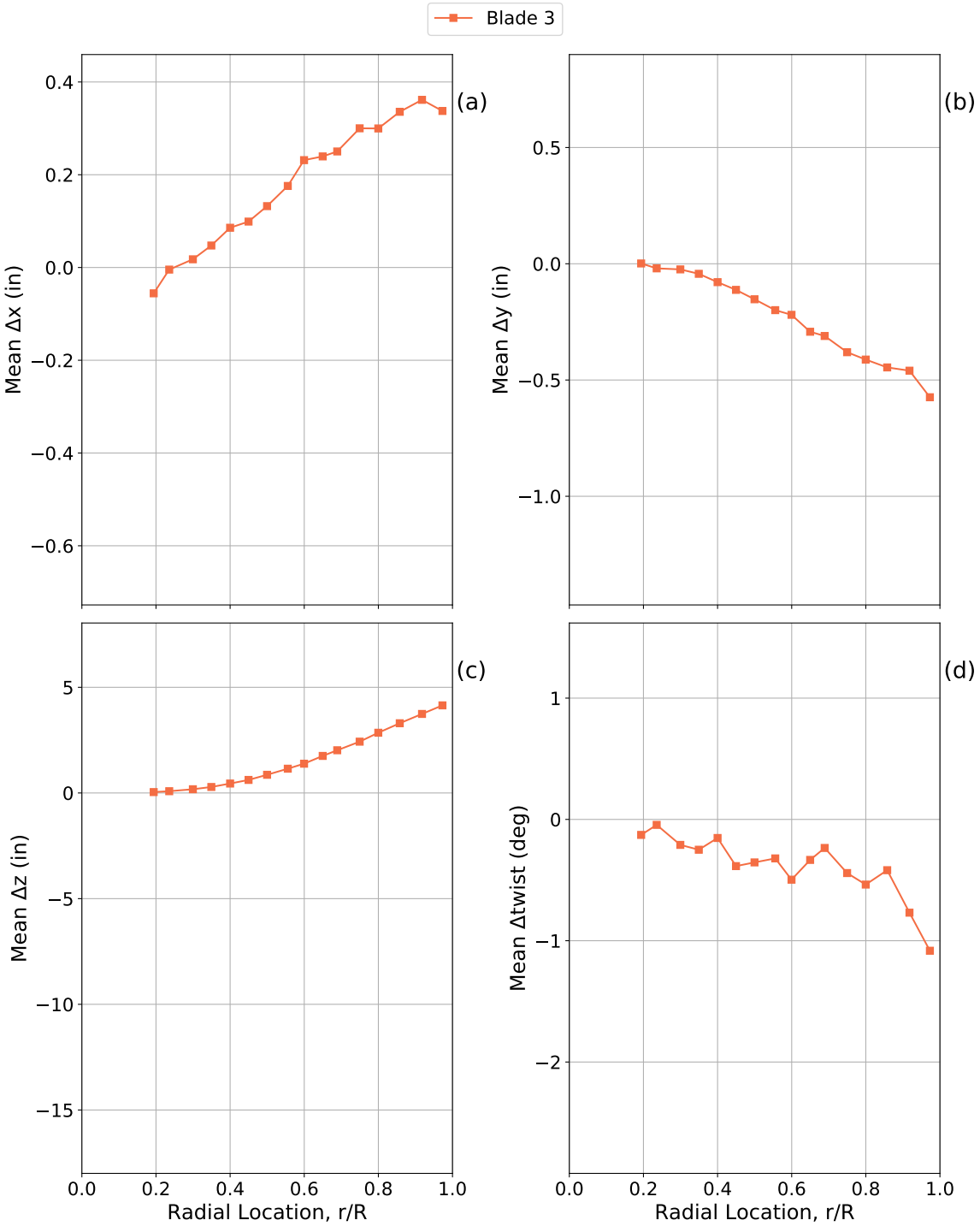


Figure 3.37-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0557	0.0013	0.0013	0.0005	0.0416	0.0026	-0.1277	0.0110
3	225	0.2357	-0.0045	0.0007	-0.0198	0.0024	0.0832	0.0046	-0.0449	0.0238
3	225	0.2995	0.0177	0.0011	-0.0242	0.0051	0.1761	0.0092	-0.2100	0.0253
3	225	0.3493	0.0474	0.0017	-0.0432	0.0068	0.2825	0.0122	-0.2499	0.0364
3	225	0.4000	0.0857	0.0020	-0.0791	0.0132	0.4459	0.0205	-0.1531	0.0212
3	225	0.4497	0.0990	0.0022	-0.1123	0.0150	0.6171	0.0265	-0.3850	0.0317
3	225	0.4997	0.1323	0.0016	-0.1527	0.0176	0.8602	0.0331	-0.3544	0.0324
3	225	0.5556	0.1758	0.0027	-0.1995	0.0195	1.1483	0.0432	-0.3214	0.0349
3	225	0.5995	0.2315	0.0026	-0.2196	0.0200	1.3850	0.0450	-0.4969	0.0333
3	225	0.6498	0.2395	0.0030	-0.2924	0.0242	1.7529	0.0475	-0.3338	0.0517
3	225	0.6890	0.2502	0.0017	-0.3106	0.0261	2.0206	0.0500	-0.2352	0.0355
3	225	0.7495	0.3001	0.0024	-0.3804	0.0295	2.4273	0.0539	-0.4423	0.0320
3	225	0.7998	0.2998	0.0032	-0.4121	0.0323	2.8499	0.0547	-0.5372	0.0348
3	225	0.8577	0.3357	0.0029	-0.4458	0.0357	3.2987	0.0585	-0.4185	0.0352
3	225	0.9178	0.3615	0.0027	-0.4598	0.0389	3.7395	0.0636	-0.7688	0.0302
3	225	0.9729	0.3375	0.0036	-0.5741	0.0417	4.1446	0.0688	-1.0826	0.0367

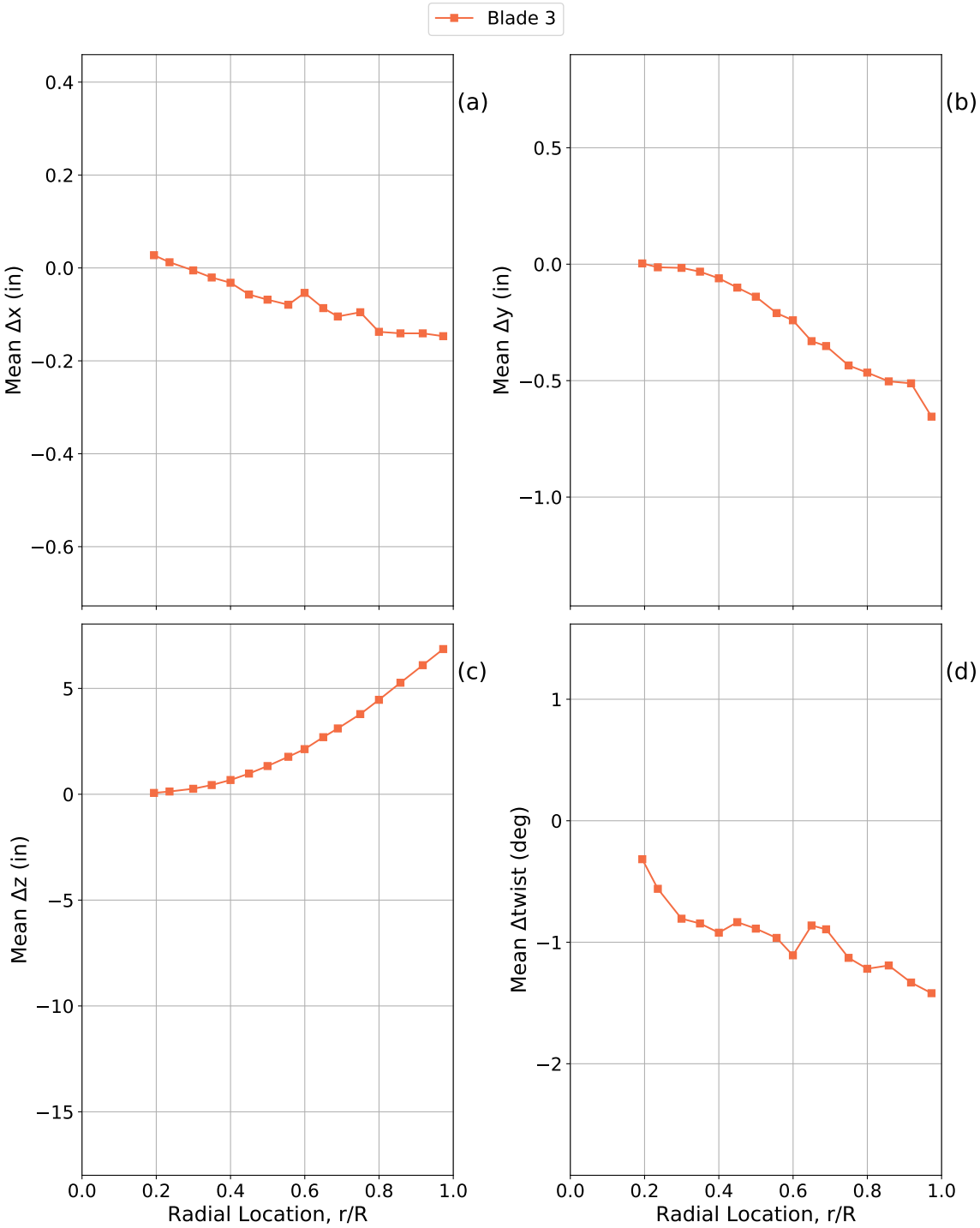


Figure 3.37-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	0.0274	0.0015	0.0033	0.0005	0.0628	0.0029	-0.3165	0.0298
3	240.12	0.2357	0.0122	0.0016	-0.0133	0.0026	0.1300	0.0074	-0.5601	0.0254
3	240.12	0.2995	-0.0053	0.0031	-0.0158	0.0024	0.2592	0.0153	-0.8061	0.0558
3	240.12	0.3493	-0.0206	0.0020	-0.0321	0.0071	0.4358	0.0206	-0.8453	0.0405
3	240.12	0.4000	-0.0319	0.0024	-0.0606	0.0097	0.6731	0.0363	-0.9212	0.0467
3	240.12	0.4497	-0.0572	0.0025	-0.1005	0.0108	0.9774	0.0415	-0.8347	0.0576
3	240.12	0.4997	-0.0683	0.0037	-0.1395	0.0121	1.3326	0.0511	-0.8878	0.0621
3	240.12	0.5556	-0.0792	0.0027	-0.2100	0.0141	1.7701	0.0637	-0.9643	0.0611
3	240.12	0.5995	-0.0537	0.0015	-0.2409	0.0167	2.1321	0.0765	-1.1077	0.0559
3	240.12	0.6498	-0.0865	0.0015	-0.3304	0.0192	2.6965	0.0919	-0.8620	0.0416
3	240.12	0.6890	-0.1045	0.0021	-0.3515	0.0197	3.1094	0.1039	-0.8936	0.0425
3	240.12	0.7495	-0.0954	0.0025	-0.4348	0.0222	3.7856	0.1215	-1.1284	0.0420
3	240.12	0.7998	-0.1375	0.0032	-0.4655	0.0248	4.4617	0.1384	-1.2182	0.0365
3	240.12	0.8577	-0.1408	0.0041	-0.5031	0.0276	5.2681	0.1556	-1.1911	0.0701
3	240.12	0.9178	-0.1408	0.0056	-0.5115	0.0307	6.0972	0.1742	-1.3315	0.0325
3	240.12	0.9729	-0.1469	0.0066	-0.6546	0.0337	6.8583	0.1943	-1.4194	0.1063

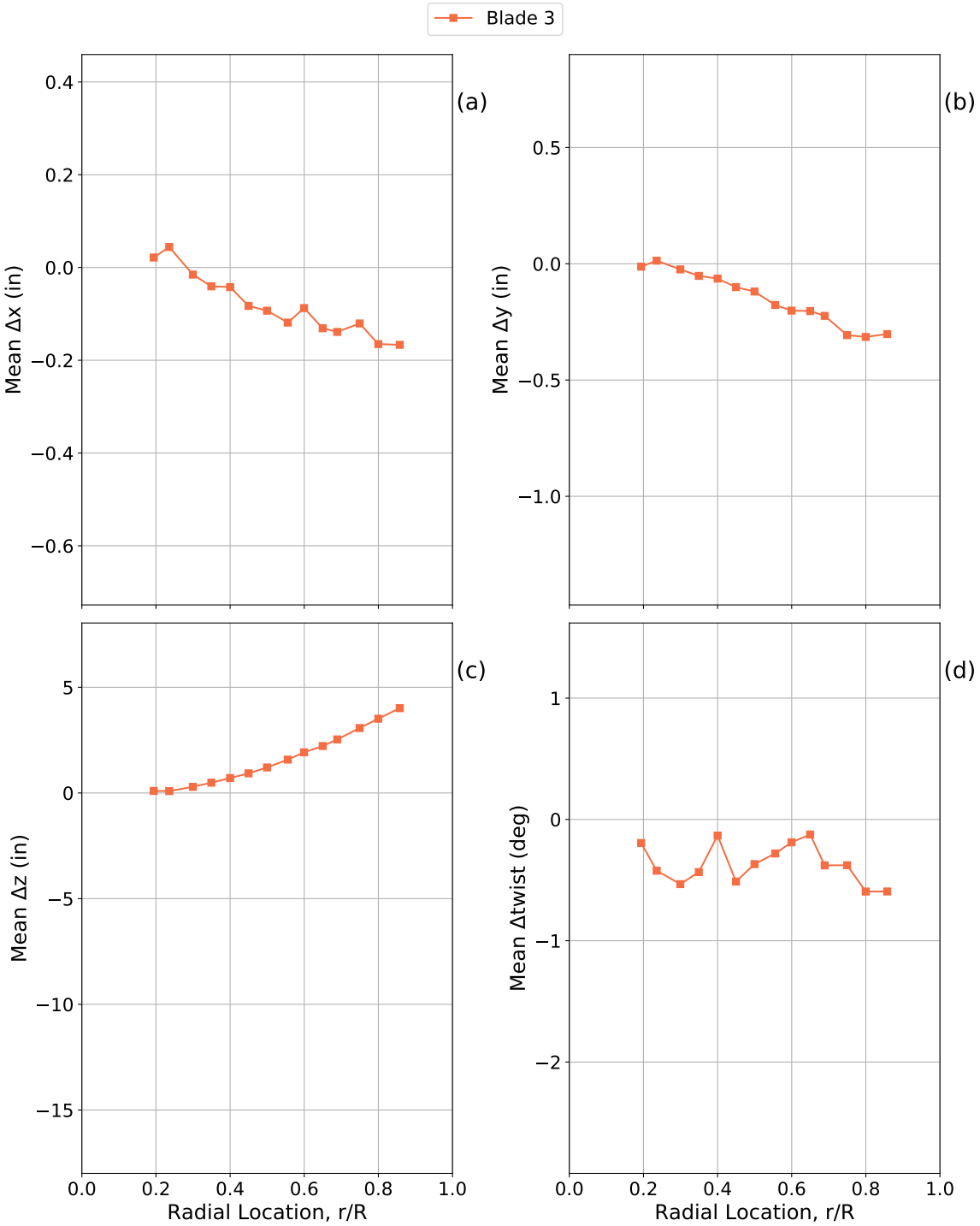


Figure 3.37-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	0.0215	0.0017	-0.0125	0.0010	0.0965	0.0051	-0.1946	0.0211
3	254.88	0.2357	0.0442	0.0007	0.0133	0.0009	0.0903	0.0045	-0.4226	0.0541
3	254.88	0.2995	-0.0153	0.0019	-0.0242	0.0038	0.2890	0.0141	-0.5335	0.0609
3	254.88	0.3493	-0.0406	0.0004	-0.0522	0.0048	0.4878	0.0210	-0.4343	0.0708
3	254.88	0.4000	-0.0422	0.0013	-0.0637	0.0082	0.7044	0.0305	-0.1332	0.0581
3	254.88	0.4497	-0.0828	0.0018	-0.1005	0.0099	0.9285	0.0400	-0.5122	0.0646
3	254.88	0.4997	-0.0931	0.0018	-0.1194	0.0116	1.2073	0.0509	-0.3686	0.0599
3	254.88	0.5556	-0.1188	0.0023	-0.1773	0.0143	1.5773	0.0650	-0.2809	0.0646
3	254.88	0.5995	-0.0875	0.0025	-0.2015	0.0157	1.9234	0.0758	-0.1890	0.0583
3	254.88	0.6498	-0.1310	0.0020	-0.2032	0.0171	2.2213	0.0859	-0.1243	0.1056
3	254.88	0.6890	-0.1389	0.0025	-0.2241	0.0213	2.5334	0.0987	-0.3788	0.0712
3	254.88	0.7495	-0.1207	0.0035	-0.3069	0.0250	3.0717	0.1102	-0.3779	0.0921
3	254.88	0.7998	-0.1651	0.0028	-0.3148	0.0271	3.5133	0.1257	-0.5946	0.1088
3	254.88	0.8577	-0.1667	0.0055	-0.3023	0.0312	4.0131	0.1397	-0.5941	0.1498

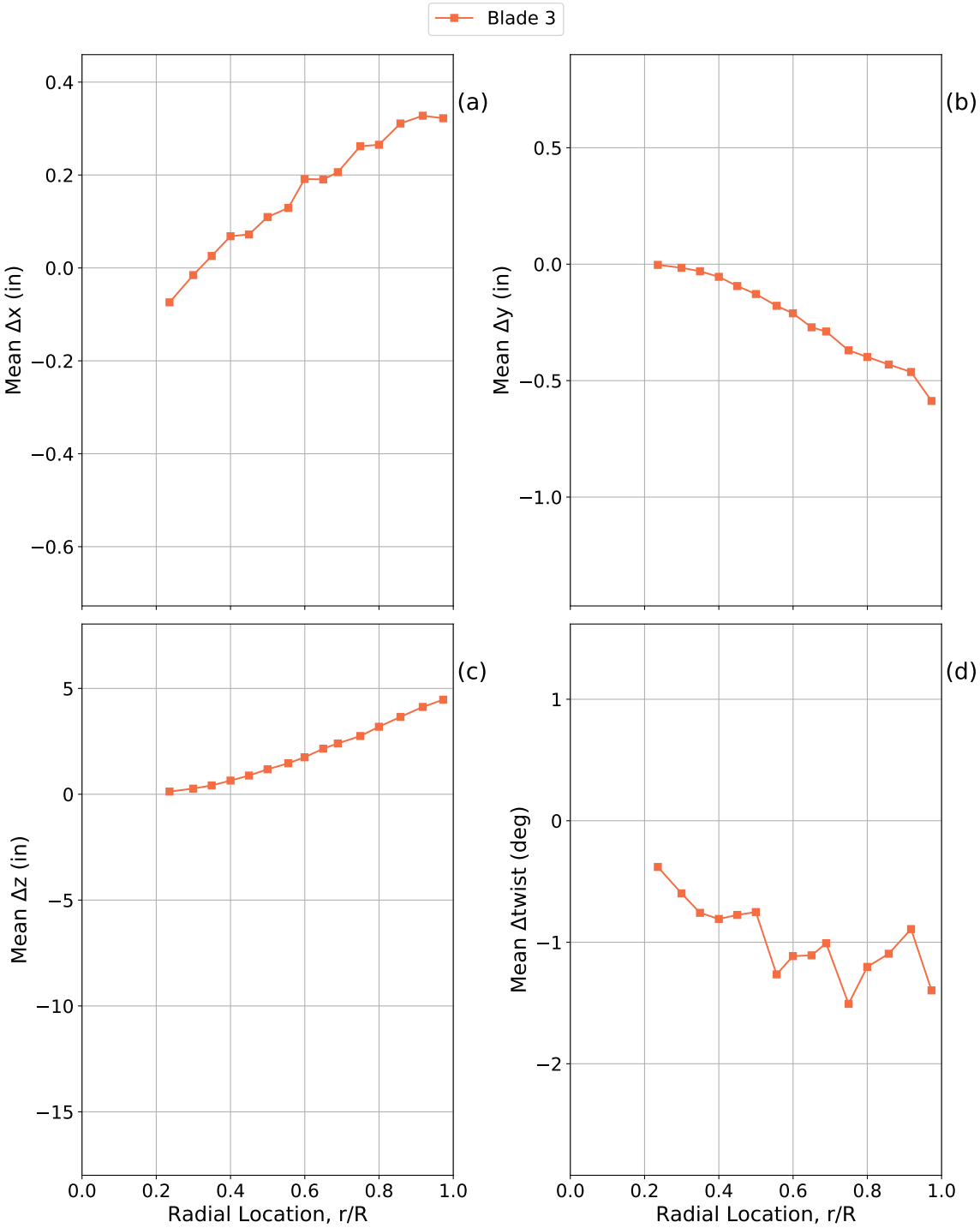


Figure 3.37-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2357	-0.0741	0.0041	-0.0029	0.0019	0.1266	0.0109	-0.3804	0.0593
3	260.16	0.2995	-0.0154	0.0014	-0.0155	0.0055	0.2667	0.0183	-0.5975	0.0940
3	260.16	0.3493	0.0259	0.0021	-0.0303	0.0098	0.4178	0.0309	-0.7578	0.0990
3	260.16	0.4000	0.0682	0.0024	-0.0542	0.0162	0.6454	0.0432	-0.8083	0.0870
3	260.16	0.4497	0.0721	0.0033	-0.0939	0.0195	0.8841	0.0530	-0.7752	0.0865
3	260.16	0.4997	0.1096	0.0039	-0.1281	0.0244	1.1787	0.0614	-0.7513	0.0987
3	260.16	0.5556	0.1292	0.0038	-0.1787	0.0297	1.4641	0.0739	-1.2646	0.0882
3	260.16	0.5995	0.1914	0.0038	-0.2109	0.0338	1.7477	0.0843	-1.1141	0.0892
3	260.16	0.6498	0.1905	0.0044	-0.2710	0.0387	2.1523	0.0965	-1.1080	0.0886
3	260.16	0.6890	0.2061	0.0045	-0.2890	0.0427	2.3990	0.1069	-1.0083	0.0933
3	260.16	0.7495	0.2620	0.0049	-0.3699	0.0495	2.7505	0.1244	-1.5070	0.0946
3	260.16	0.7998	0.2651	0.0057	-0.3982	0.0543	3.1893	0.1397	-1.2026	0.0946
3	260.16	0.8577	0.3110	0.0064	-0.4307	0.0607	3.6552	0.1580	-1.0946	0.0980
3	260.16	0.9178	0.3277	0.0072	-0.4628	0.0672	4.1247	0.1768	-0.8916	0.1092
3	260.16	0.9729	0.3222	0.0097	-0.5874	0.0732	4.4664	0.1980	-1.3961	0.1031

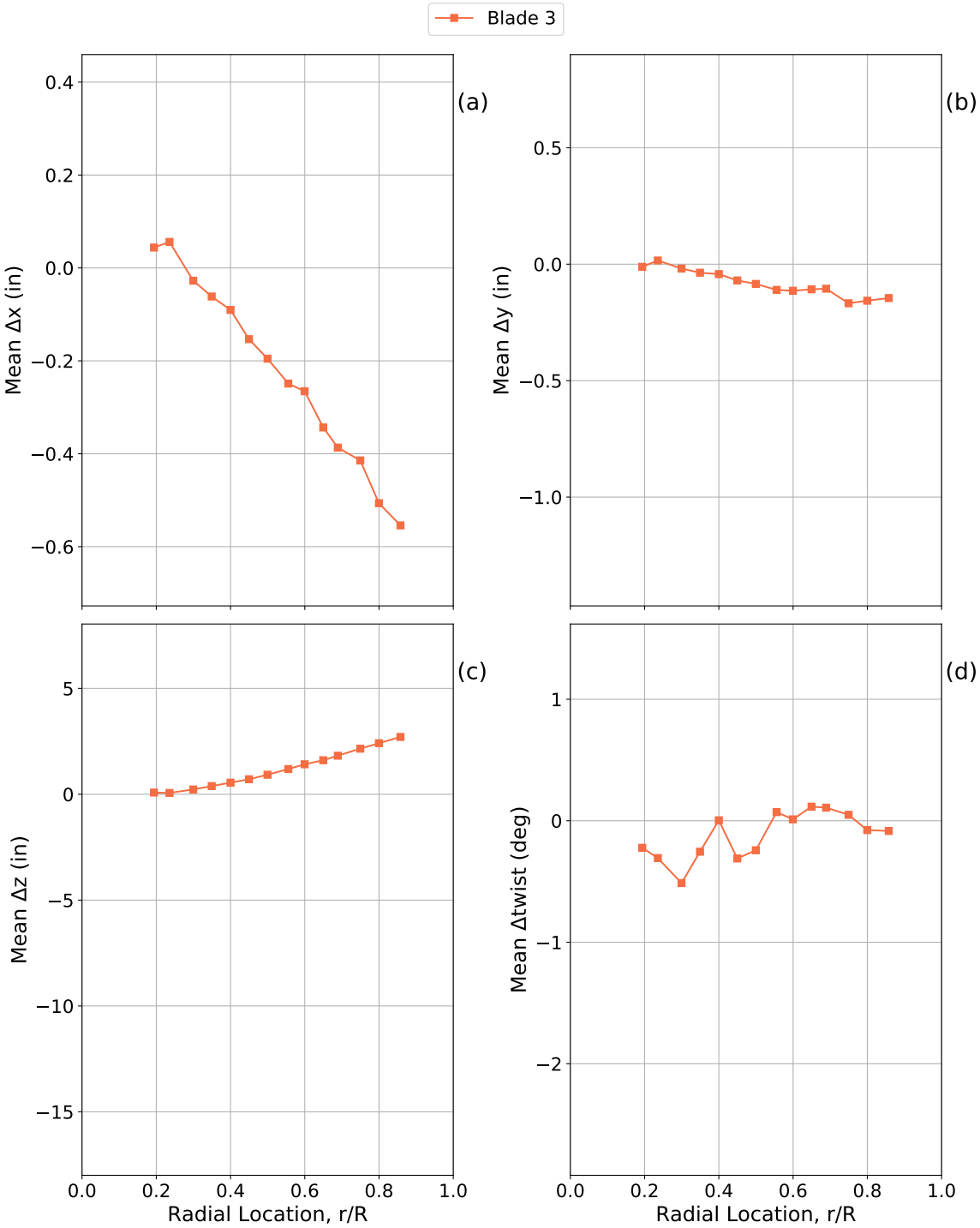


Figure 3.37-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0439	0.0058	-0.0113	0.0018	0.0798	0.0066	-0.2225	0.1018
3	265.08	0.2357	0.0560	0.0021	0.0159	0.0022	0.0621	0.0190	-0.3071	0.1126
3	265.08	0.2995	-0.0274	0.0024	-0.0188	0.0069	0.2260	0.0226	-0.5129	0.2153
3	265.08	0.3493	-0.0615	0.0034	-0.0365	0.0077	0.3859	0.0527	-0.2549	0.0968
3	265.08	0.4000	-0.0904	0.0026	-0.0426	0.0145	0.5476	0.0717	0.0038	0.0952
3	265.08	0.4497	-0.1534	0.0037	-0.0698	0.0201	0.7089	0.0751	-0.3104	0.1748
3	265.08	0.4997	-0.1953	0.0037	-0.0847	0.0211	0.9220	0.1082	-0.2428	0.0882
3	265.08	0.5556	-0.2489	0.0023	-0.1104	0.0243	1.1893	0.1361	0.0712	0.0848
3	265.08	0.5995	-0.2654	0.0030	-0.1140	0.0277	1.4155	0.1536	0.0115	0.0983
3	265.08	0.6498	-0.3434	0.0030	-0.1079	0.0318	1.6065	0.1773	0.1159	0.0989
3	265.08	0.6890	-0.3867	0.0038	-0.1053	0.0346	1.8218	0.1994	0.1079	0.1319
3	265.08	0.7495	-0.4144	0.0041	-0.1679	0.0378	2.1546	0.2327	0.0488	0.0962
3	265.08	0.7998	-0.5065	0.0045	-0.1569	0.0431	2.4117	0.2569	-0.0769	0.0968
3	265.08	0.8577	-0.5542	0.0051	-0.1455	0.0487	2.7072	0.2907	-0.0841	0.1021

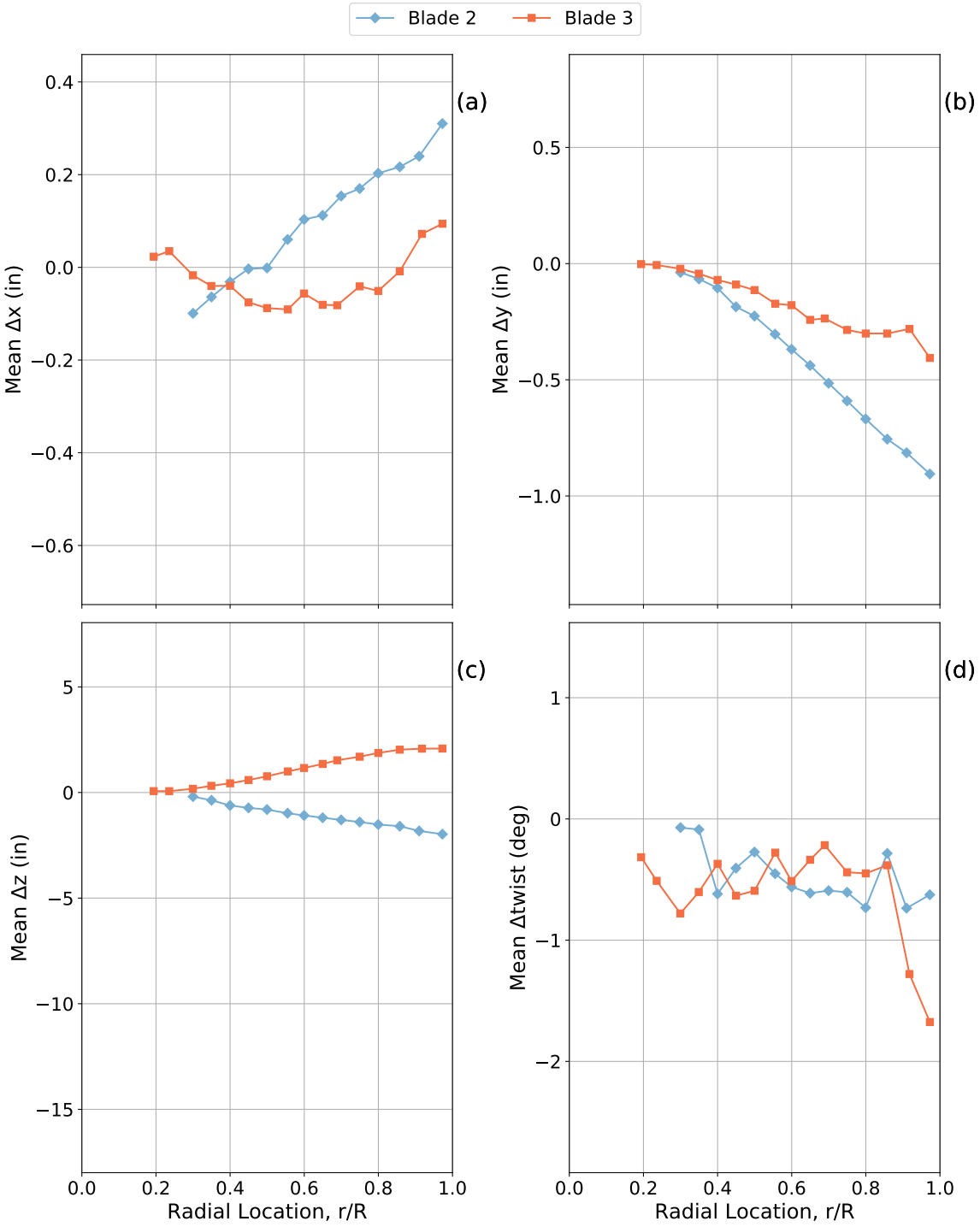


Figure 3.37-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2999	-0.0993	0.0142	-0.0381	0.0274	-0.1953	0.1816	-0.0713	0.7082
2	270.35	0.3498	-0.0639	0.0260	-0.0660	0.0536	-0.3685	0.2994	-0.0877	0.9392
2	270.35	0.3998	-0.0312	0.0273	-0.1049	0.0911	-0.6142	0.4614	-0.6186	0.9219
2	270.35	0.4496	-0.0033	0.0298	-0.1859	0.1254	-0.7284	0.6188	-0.4060	0.9247
2	270.35	0.4995	-0.0014	0.0303	-0.2257	0.1598	-0.8074	0.7768	-0.2727	0.9297
2	270.35	0.5551	0.0601	0.0326	-0.3036	0.1986	-0.9814	0.9517	-0.4510	0.9248
2	270.35	0.5996	0.1034	0.0339	-0.3687	0.2299	-1.0865	1.0932	-0.5610	0.9271
2	270.35	0.6497	0.1121	0.0346	-0.4383	0.2645	-1.1941	1.2511	-0.6121	0.9277
2	270.35	0.6996	0.1538	0.0362	-0.5148	0.2992	-1.2970	1.4095	-0.5914	0.9301
2	270.35	0.7495	0.1699	0.0379	-0.5907	0.3335	-1.3965	1.5643	-0.6049	0.9421
2	270.35	0.7996	0.2030	0.0399	-0.6687	0.3684	-1.5151	1.7245	-0.7323	0.9294
2	270.35	0.8578	0.2168	0.0427	-0.7553	0.4082	-1.5966	1.9087	-0.2843	0.9250
2	270.35	0.9100	0.2396	0.0431	-0.8139	0.4462	-1.8203	2.0730	-0.7361	0.9234
2	270.35	0.9727	0.3101	0.0369	-0.9052	0.4896	-1.9727	2.2665	-0.6253	0.9332
3	270	0.1938	0.0230	0.0057	-0.0022	0.0021	0.0648	0.0107	-0.3157	0.0447
3	270	0.2357	0.0349	0.0053	-0.0062	0.0080	0.0647	0.0317	-0.5105	0.0820
3	270	0.2995	-0.0171	0.0057	-0.0221	0.0170	0.1757	0.0679	-0.7798	0.1146
3	270	0.3493	-0.0402	0.0075	-0.0433	0.0268	0.3162	0.1023	-0.6030	0.0968
3	270	0.4000	-0.0398	0.0083	-0.0705	0.0464	0.4356	0.1799	-0.3702	0.1280
3	270	0.4497	-0.0756	0.0117	-0.0901	0.0477	0.5900	0.1672	-0.6331	0.0780
3	270	0.4997	-0.0879	0.0104	-0.1140	0.0578	0.7672	0.1988	-0.5927	0.0961
3	270	0.5556	-0.0908	0.0113	-0.1726	0.0711	0.9986	0.2420	-0.2778	0.0761
3	270	0.5995	-0.0565	0.0100	-0.1789	0.0801	1.1605	0.2711	-0.5123	0.0924
3	270	0.6498	-0.0808	0.0111	-0.2420	0.0913	1.3517	0.3131	-0.3369	0.0895
3	270	0.6890	-0.0818	0.0107	-0.2360	0.0995	1.5250	0.3482	-0.2162	0.0760
3	270	0.7495	-0.0410	0.0144	-0.2855	0.1131	1.6947	0.3965	-0.4399	0.1019
3	270	0.7998	-0.0509	0.0186	-0.3008	0.1246	1.8723	0.4445	-0.4494	0.1089
3	270	0.8577	-0.0086	0.0246	-0.3009	0.1375	2.0286	0.4960	-0.3824	0.0985
3	270	0.9178	0.0722	0.0339	-0.2811	0.1509	2.0752	0.5502	-1.2795	0.1657
3	270	0.9729	0.0941	0.0450	-0.4059	0.1636	2.0800	0.5989	-1.6755	0.1540

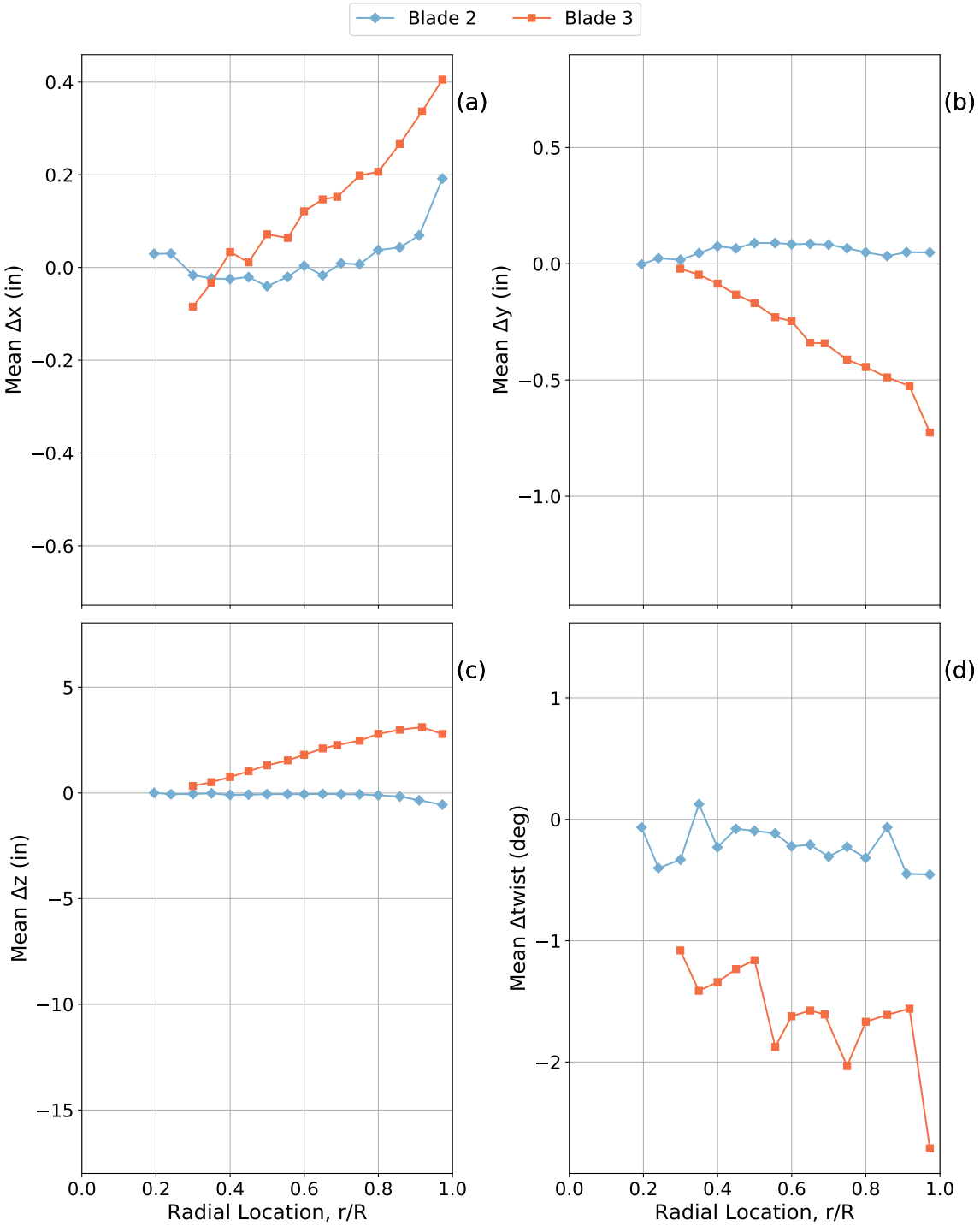


Figure 3.37-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0294	0.0016	-0.0022	0.0004	0.0073	0.0042	-0.0655	0.0554
2	274.92	0.2405	0.0301	0.0014	0.0238	0.0020	-0.0572	0.0171	-0.4006	0.0562
2	274.92	0.2999	-0.0168	0.0024	0.0171	0.0046	-0.0447	0.0217	-0.3315	0.1153
2	274.92	0.3498	-0.0237	0.0021	0.0459	0.0057	-0.0147	0.0396	0.1265	0.0534
2	274.92	0.3998	-0.0250	0.0021	0.0751	0.0114	-0.0923	0.0616	-0.2298	0.0331
2	274.92	0.4496	-0.0208	0.0020	0.0664	0.0127	-0.0766	0.0653	-0.0778	0.0657
2	274.92	0.4995	-0.0404	0.0058	0.0889	0.0161	-0.0539	0.0857	-0.0939	0.0840
2	274.92	0.5551	-0.0204	0.0023	0.0892	0.0185	-0.0517	0.1011	-0.1152	0.0598
2	274.92	0.5996	0.0037	0.0023	0.0843	0.0206	-0.0550	0.1168	-0.2216	0.0502
2	274.92	0.6497	-0.0171	0.0018	0.0855	0.0243	-0.0421	0.1328	-0.2092	0.0577
2	274.92	0.6996	0.0089	0.0029	0.0823	0.0279	-0.0575	0.1532	-0.3068	0.0539
2	274.92	0.7495	0.0068	0.0026	0.0669	0.0309	-0.0617	0.1730	-0.2260	0.0547
2	274.92	0.7996	0.0376	0.0035	0.0495	0.0333	-0.1092	0.1890	-0.3176	0.0623
2	274.92	0.8578	0.0433	0.0028	0.0331	0.0379	-0.1650	0.2096	-0.0652	0.0738
2	274.92	0.9100	0.0691	0.0025	0.0500	0.0413	-0.3450	0.2263	-0.4484	0.0635
2	274.92	0.9727	0.1918	0.0034	0.0489	0.0460	-0.5541	0.2445	-0.4535	0.0740
3	274.92	0.2995	-0.0846	0.0169	-0.0212	0.0073	0.3315	0.2372	-1.0800	0.7487
3	274.92	0.3493	-0.0330	0.0157	-0.0471	0.0173	0.5101	0.3666	-1.4128	0.9782
3	274.92	0.4000	0.0334	0.0201	-0.0856	0.0335	0.7551	0.5447	-1.3417	0.9277
3	274.92	0.4497	0.0112	0.0260	-0.1323	0.0454	1.0285	0.7068	-1.2339	0.9197
3	274.92	0.4997	0.0716	0.0315	-0.1695	0.0598	1.3074	0.8678	-1.1601	0.9449
3	274.92	0.5556	0.0637	0.0353	-0.2298	0.0754	1.5390	1.0469	-1.8763	0.9350
3	274.92	0.5995	0.1211	0.0394	-0.2464	0.0875	1.8059	1.1906	-1.6226	0.9202
3	274.92	0.6498	0.1468	0.0449	-0.3399	0.1008	2.1039	1.3545	-1.5748	0.9051
3	274.92	0.6890	0.1523	0.0478	-0.3418	0.1123	2.2654	1.4779	-1.6074	0.9133
3	274.92	0.7495	0.1983	0.0513	-0.4125	0.1311	2.4742	1.6672	-2.0337	0.9352
3	274.92	0.7998	0.2066	0.0567	-0.4441	0.1444	2.7923	1.8289	-1.6678	0.9070
3	274.92	0.8577	0.2662	0.0591	-0.4886	0.1614	2.9905	2.0154	-1.6106	0.9003
3	274.92	0.9178	0.3363	0.0647	-0.5259	0.1810	3.1133	2.2031	-1.5602	0.9296
3	274.92	0.9729	0.4052	0.0751	-0.7260	0.2053	2.7870	2.3725	-2.7118	0.9466

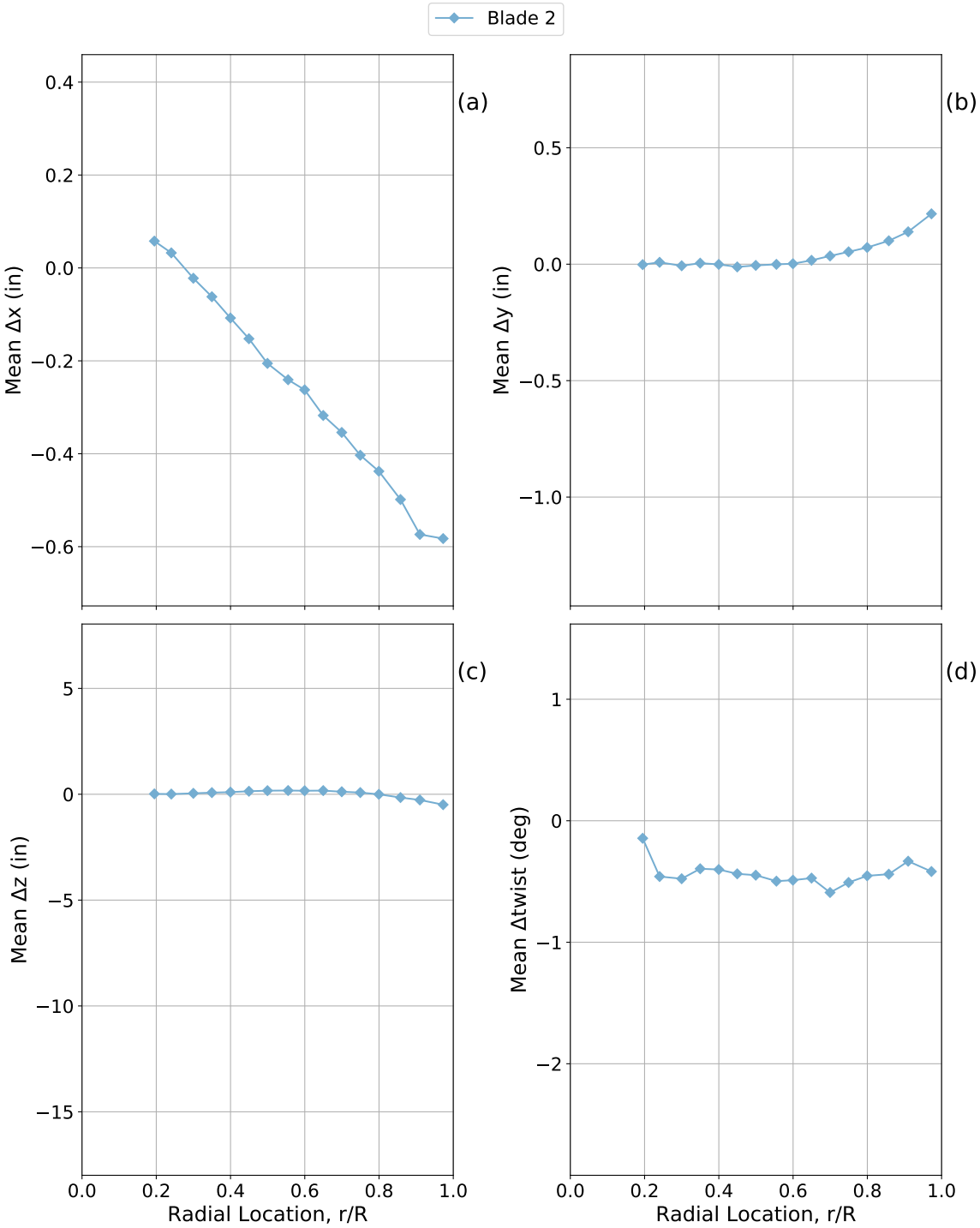


Figure 3.37-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0578	0.0015	-0.0018	0.0015	0.0183	0.0063	-0.1442	0.0527
2	285.12	0.2405	0.0324	0.0020	0.0080	0.0028	0.0089	0.0116	-0.4591	0.0921
2	285.12	0.2999	-0.0222	0.0011	-0.0068	0.0053	0.0435	0.0183	-0.4772	0.1287
2	285.12	0.3498	-0.0620	0.0025	0.0044	0.0106	0.0768	0.0329	-0.3952	0.1001
2	285.12	0.3998	-0.1078	0.0018	-0.0009	0.0160	0.1001	0.0458	-0.4012	0.1123
2	285.12	0.4496	-0.1524	0.0028	-0.0117	0.0186	0.1421	0.0547	-0.4369	0.1176
2	285.12	0.4995	-0.2055	0.0042	-0.0052	0.0227	0.1698	0.0710	-0.4480	0.1253
2	285.12	0.5551	-0.2407	0.0024	-0.0007	0.0274	0.1756	0.0896	-0.4972	0.1090
2	285.12	0.5996	-0.2624	0.0021	0.0020	0.0292	0.1657	0.0968	-0.4891	0.1319
2	285.12	0.6497	-0.3176	0.0028	0.0166	0.0346	0.1722	0.1218	-0.4721	0.0933
2	285.12	0.6996	-0.3541	0.0028	0.0354	0.0384	0.1191	0.1374	-0.5906	0.1057
2	285.12	0.7495	-0.4032	0.0024	0.0531	0.0429	0.0797	0.1545	-0.5081	0.1044
2	285.12	0.7996	-0.4377	0.0022	0.0717	0.0467	-0.0027	0.1729	-0.4532	0.1114
2	285.12	0.8578	-0.4985	0.0030	0.1005	0.0517	-0.1550	0.1963	-0.4399	0.1029
2	285.12	0.9100	-0.5737	0.0034	0.1392	0.0573	-0.2700	0.2187	-0.3329	0.1268
2	285.12	0.9727	-0.5826	0.0054	0.2163	0.0628	-0.4922	0.2414	-0.4178	0.1199

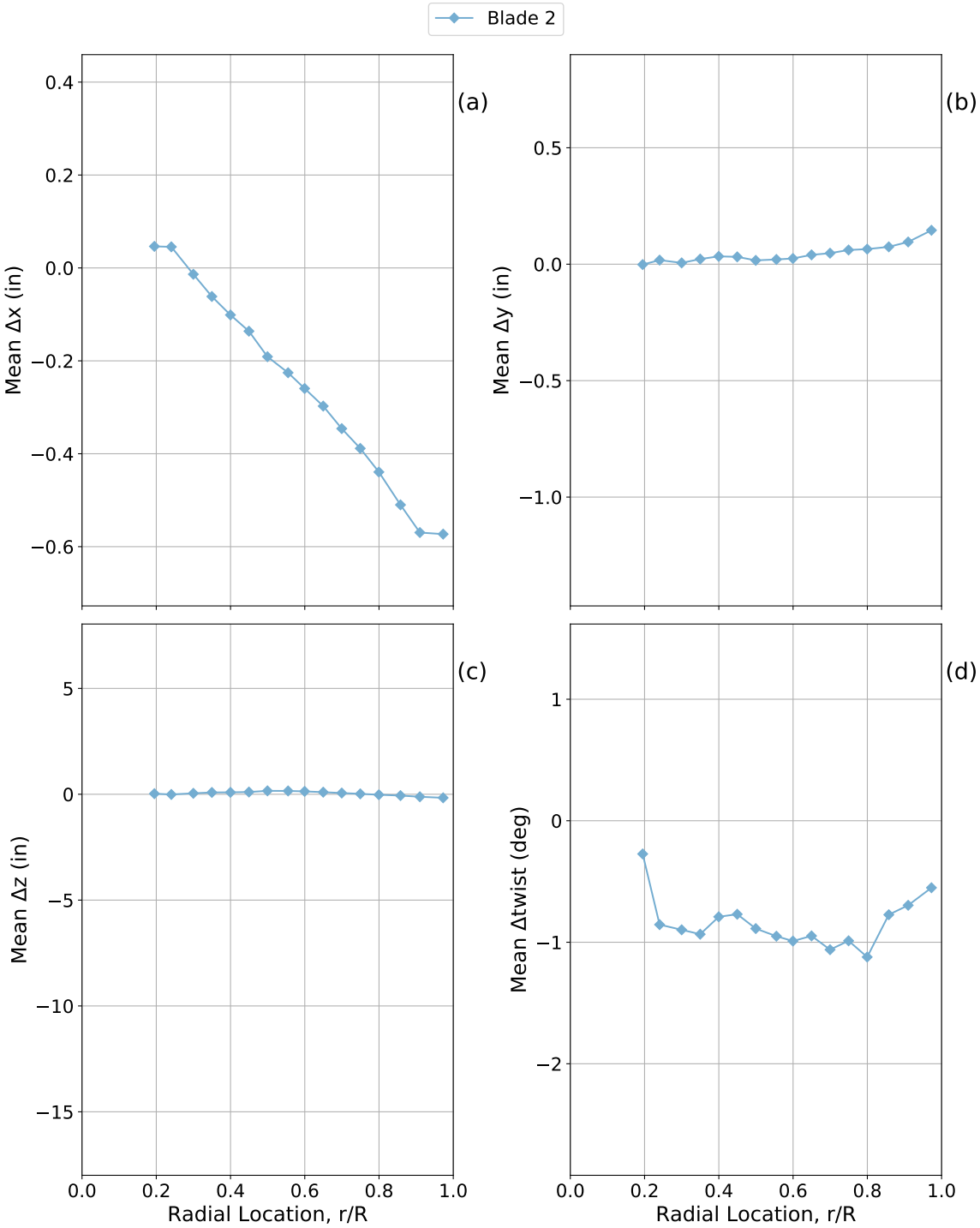


Figure 3.37-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0464	0.0024	-0.0016	0.0009	0.0275	0.0057	-0.2731	0.0207
2	299.88	0.2405	0.0454	0.0010	0.0175	0.0016	-0.0093	0.0171	-0.8550	0.0284
2	299.88	0.2999	-0.0136	0.0037	0.0056	0.0033	0.0439	0.0325	-0.8976	0.0404
2	299.88	0.3498	-0.0615	0.0039	0.0220	0.0053	0.0854	0.0493	-0.9338	0.0580
2	299.88	0.3998	-0.1012	0.0049	0.0336	0.0083	0.0903	0.0834	-0.7905	0.0921
2	299.88	0.4496	-0.1362	0.0043	0.0315	0.0078	0.1056	0.0832	-0.7694	0.0647
2	299.88	0.4995	-0.1911	0.0022	0.0164	0.0101	0.1610	0.1157	-0.8875	0.0835
2	299.88	0.5551	-0.2256	0.0021	0.0203	0.0127	0.1570	0.1368	-0.9503	0.0551
2	299.88	0.5996	-0.2595	0.0030	0.0245	0.0149	0.1354	0.1651	-0.9903	0.0419
2	299.88	0.6497	-0.2974	0.0023	0.0401	0.0167	0.0987	0.1900	-0.9478	0.0722
2	299.88	0.6996	-0.3459	0.0028	0.0472	0.0192	0.0578	0.2175	-1.0612	0.0493
2	299.88	0.7495	-0.3885	0.0025	0.0610	0.0220	0.0195	0.2420	-0.9880	0.0868
2	299.88	0.7996	-0.4393	0.0034	0.0647	0.0238	-0.0230	0.2686	-1.1217	0.0564
2	299.88	0.8578	-0.5100	0.0024	0.0745	0.0272	-0.0625	0.3047	-0.7732	0.0399
2	299.88	0.9100	-0.5696	0.0027	0.0955	0.0306	-0.1179	0.3364	-0.6958	0.0506
2	299.88	0.9727	-0.5730	0.0030	0.1456	0.0339	-0.1676	0.3777	-0.5514	0.0447

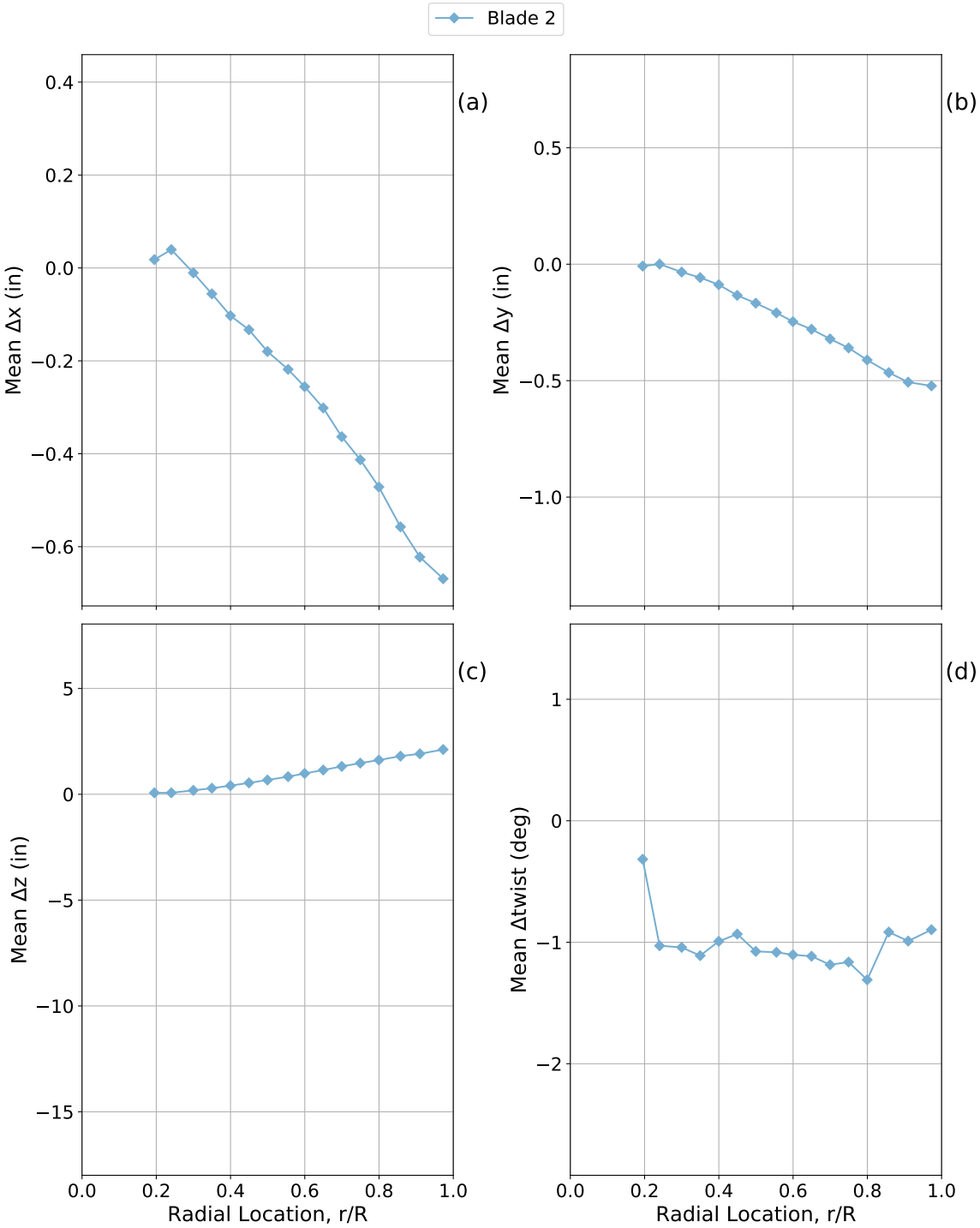


Figure 3.37-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0179	0.0024	-0.0082	0.0005	0.0665	0.0033	-0.3169	0.0331
2	315	0.2405	0.0394	0.0023	0.0004	0.0020	0.0681	0.0093	-1.0289	0.0355
2	315	0.2999	-0.0106	0.0020	-0.0339	0.0023	0.1843	0.0166	-1.0423	0.0696
2	315	0.3498	-0.0558	0.0050	-0.0576	0.0037	0.2845	0.0215	-1.1103	0.0911
2	315	0.3998	-0.1029	0.0015	-0.0882	0.0063	0.4065	0.0375	-0.9922	0.0510
2	315	0.4496	-0.1331	0.0025	-0.1339	0.0091	0.5374	0.0485	-0.9326	0.0507
2	315	0.4995	-0.1799	0.0037	-0.1673	0.0102	0.6721	0.0570	-1.0753	0.0463
2	315	0.5551	-0.2184	0.0026	-0.2088	0.0128	0.8327	0.0704	-1.0825	0.0579
2	315	0.5996	-0.2557	0.0030	-0.2466	0.0157	0.9805	0.0791	-1.1031	0.0471
2	315	0.6497	-0.3014	0.0028	-0.2794	0.0180	1.1448	0.0896	-1.1151	0.0659
2	315	0.6996	-0.3633	0.0033	-0.3209	0.0213	1.3157	0.0940	-1.1852	0.0591
2	315	0.7495	-0.4129	0.0032	-0.3595	0.0227	1.4708	0.1030	-1.1630	0.0506
2	315	0.7996	-0.4715	0.0030	-0.4114	0.0256	1.6157	0.1082	-1.3092	0.0601
2	315	0.8578	-0.5574	0.0035	-0.4656	0.0292	1.8004	0.1189	-0.9162	0.0571
2	315	0.9100	-0.6224	0.0028	-0.5065	0.0311	1.9105	0.1297	-0.9904	0.0590
2	315	0.9727	-0.6690	0.0030	-0.5226	0.0360	2.1130	0.1476	-0.8969	0.0491

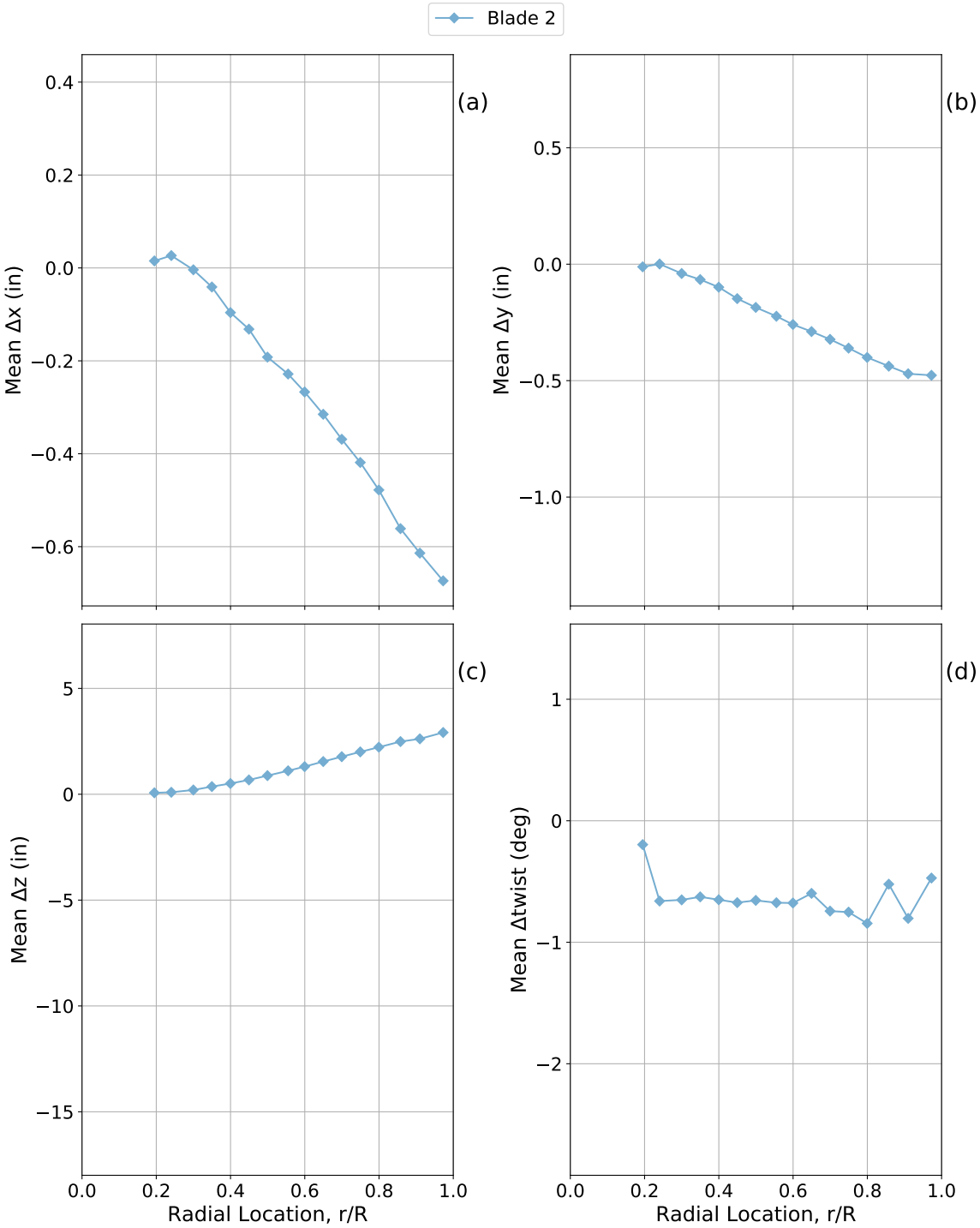


Figure 3.37-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0151	0.0013	-0.0113	0.0009	0.0682	0.0028	-0.1963	0.0272
2	330.12	0.2405	0.0266	0.0021	0.0008	0.0030	0.0938	0.0050	-0.6611	0.0486
2	330.12	0.2999	-0.0040	0.0031	-0.0400	0.0039	0.2027	0.0087	-0.6512	0.0669
2	330.12	0.3498	-0.0410	0.0014	-0.0660	0.0107	0.3622	0.0170	-0.6265	0.0728
2	330.12	0.3998	-0.0961	0.0026	-0.0988	0.0141	0.5075	0.0249	-0.6500	0.0556
2	330.12	0.4496	-0.1318	0.0031	-0.1479	0.0140	0.6774	0.0333	-0.6740	0.0387
2	330.12	0.4995	-0.1920	0.0026	-0.1856	0.0195	0.8798	0.0383	-0.6555	0.0608
2	330.12	0.5551	-0.2284	0.0026	-0.2236	0.0231	1.1083	0.0417	-0.6748	0.0821
2	330.12	0.5996	-0.2670	0.0023	-0.2590	0.0234	1.3047	0.0536	-0.6769	0.0514
2	330.12	0.6497	-0.3150	0.0021	-0.2893	0.0274	1.5449	0.0615	-0.5977	0.0559
2	330.12	0.6996	-0.3688	0.0021	-0.3228	0.0310	1.7745	0.0688	-0.7436	0.0735
2	330.12	0.7495	-0.4188	0.0026	-0.3603	0.0342	2.0016	0.0784	-0.7518	0.0687
2	330.12	0.7996	-0.4780	0.0027	-0.4004	0.0375	2.2240	0.0854	-0.8449	0.0672
2	330.12	0.8578	-0.5612	0.0021	-0.4378	0.0414	2.4888	0.0952	-0.5223	0.0678
2	330.12	0.9100	-0.6139	0.0028	-0.4705	0.0457	2.6176	0.1050	-0.8036	0.0661
2	330.12	0.9727	-0.6736	0.0038	-0.4771	0.0497	2.9174	0.1169	-0.4715	0.0643

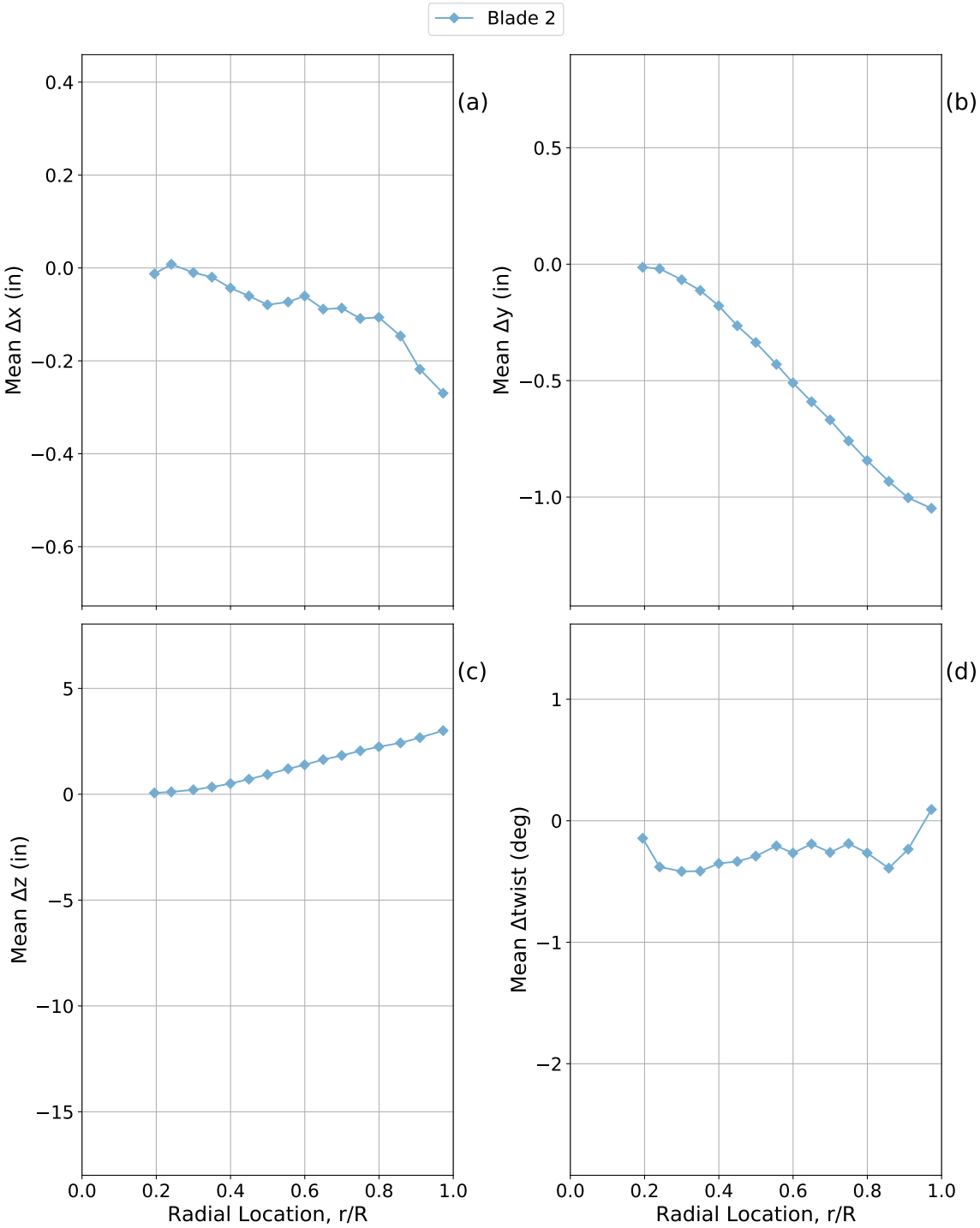


Figure 3.37-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0127	0.0038	-0.0134	0.0007	0.0628	0.0038	-0.1442	0.0156
2	344.88	0.2405	0.0080	0.0022	-0.0194	0.0020	0.1110	0.0088	-0.3802	0.0183
2	344.88	0.2999	-0.0101	0.0016	-0.0667	0.0046	0.2106	0.0159	-0.4170	0.0321
2	344.88	0.3498	-0.0198	0.0039	-0.1127	0.0071	0.3397	0.0236	-0.4149	0.0272
2	344.88	0.3998	-0.0432	0.0054	-0.1789	0.0122	0.5069	0.0386	-0.3515	0.0484
2	344.88	0.4496	-0.0603	0.0076	-0.2642	0.0150	0.7119	0.0455	-0.3354	0.0281
2	344.88	0.4995	-0.0793	0.0091	-0.3362	0.0177	0.9325	0.0547	-0.2911	0.0469
2	344.88	0.5551	-0.0733	0.0128	-0.4302	0.0220	1.2042	0.0677	-0.2069	0.0333
2	344.88	0.5996	-0.0605	0.0149	-0.5096	0.0260	1.3897	0.0807	-0.2658	0.0533
2	344.88	0.6497	-0.0888	0.0180	-0.5905	0.0316	1.6377	0.0966	-0.1910	0.0444
2	344.88	0.6996	-0.0865	0.0208	-0.6686	0.0358	1.8313	0.1122	-0.2611	0.0308
2	344.88	0.7495	-0.1089	0.0240	-0.7588	0.0414	2.0510	0.1266	-0.1881	0.0346
2	344.88	0.7996	-0.1063	0.0268	-0.8429	0.0471	2.2444	0.1447	-0.2655	0.0296
2	344.88	0.8578	-0.1466	0.0305	-0.9327	0.0538	2.4241	0.1606	-0.3903	0.0510
2	344.88	0.9100	-0.2181	0.0329	-1.0031	0.0606	2.6736	0.1770	-0.2346	0.0825
2	344.88	0.9727	-0.2698	0.0328	-1.0483	0.0678	3.0063	0.1977	0.0926	0.0733

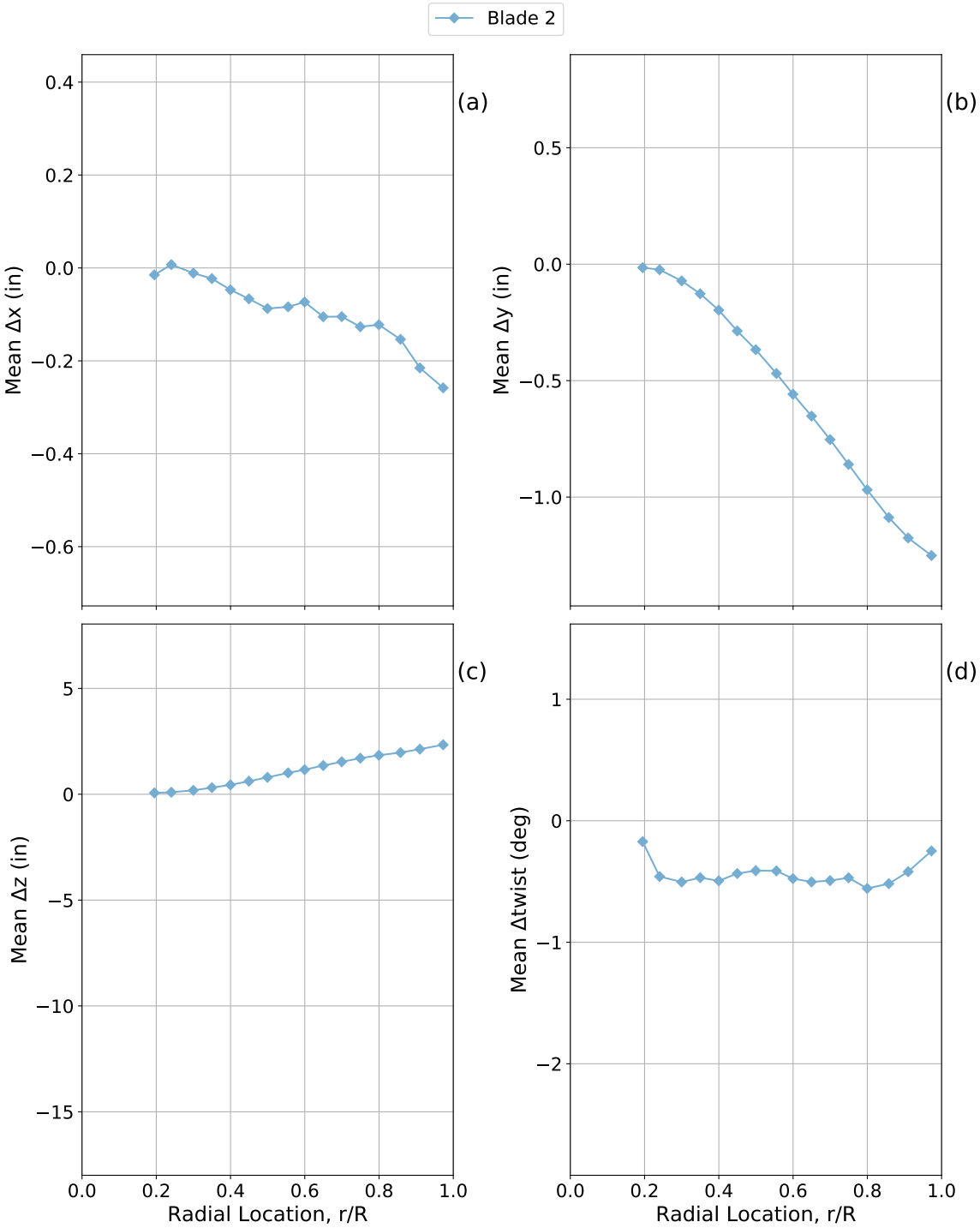


Figure 3.37-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0149	0.0050	-0.0148	0.0009	0.0637	0.0040	-0.1719	0.0212
2	350.16	0.2405	0.0071	0.0020	-0.0237	0.0014	0.0940	0.0043	-0.4591	0.0478
2	350.16	0.2999	-0.0112	0.0019	-0.0716	0.0041	0.1854	0.0128	-0.5039	0.0572
2	350.16	0.3498	-0.0230	0.0037	-0.1270	0.0064	0.3128	0.0184	-0.4687	0.0519
2	350.16	0.3998	-0.0471	0.0066	-0.1973	0.0103	0.4429	0.0284	-0.4941	0.0503
2	350.16	0.4496	-0.0666	0.0089	-0.2867	0.0121	0.6147	0.0371	-0.4345	0.0550
2	350.16	0.4995	-0.0874	0.0104	-0.3671	0.0139	0.7982	0.0448	-0.4108	0.0546
2	350.16	0.5551	-0.0838	0.0131	-0.4693	0.0162	1.0098	0.0605	-0.4127	0.0412
2	350.16	0.5996	-0.0733	0.0145	-0.5582	0.0175	1.1602	0.0699	-0.4762	0.0624
2	350.16	0.6497	-0.1051	0.0164	-0.6522	0.0191	1.3568	0.0871	-0.5033	0.0641
2	350.16	0.6996	-0.1048	0.0177	-0.7531	0.0207	1.5326	0.1028	-0.4926	0.0691
2	350.16	0.7495	-0.1266	0.0192	-0.8597	0.0223	1.7021	0.1203	-0.4695	0.0560
2	350.16	0.7996	-0.1223	0.0218	-0.9688	0.0253	1.8430	0.1382	-0.5571	0.0716
2	350.16	0.8578	-0.1538	0.0224	-1.0877	0.0283	1.9686	0.1568	-0.5180	0.0587
2	350.16	0.9100	-0.2152	0.0250	-1.1755	0.0356	2.1301	0.1742	-0.4192	0.0646
2	350.16	0.9727	-0.2581	0.0304	-1.2509	0.0360	2.3380	0.1946	-0.2486	0.0734

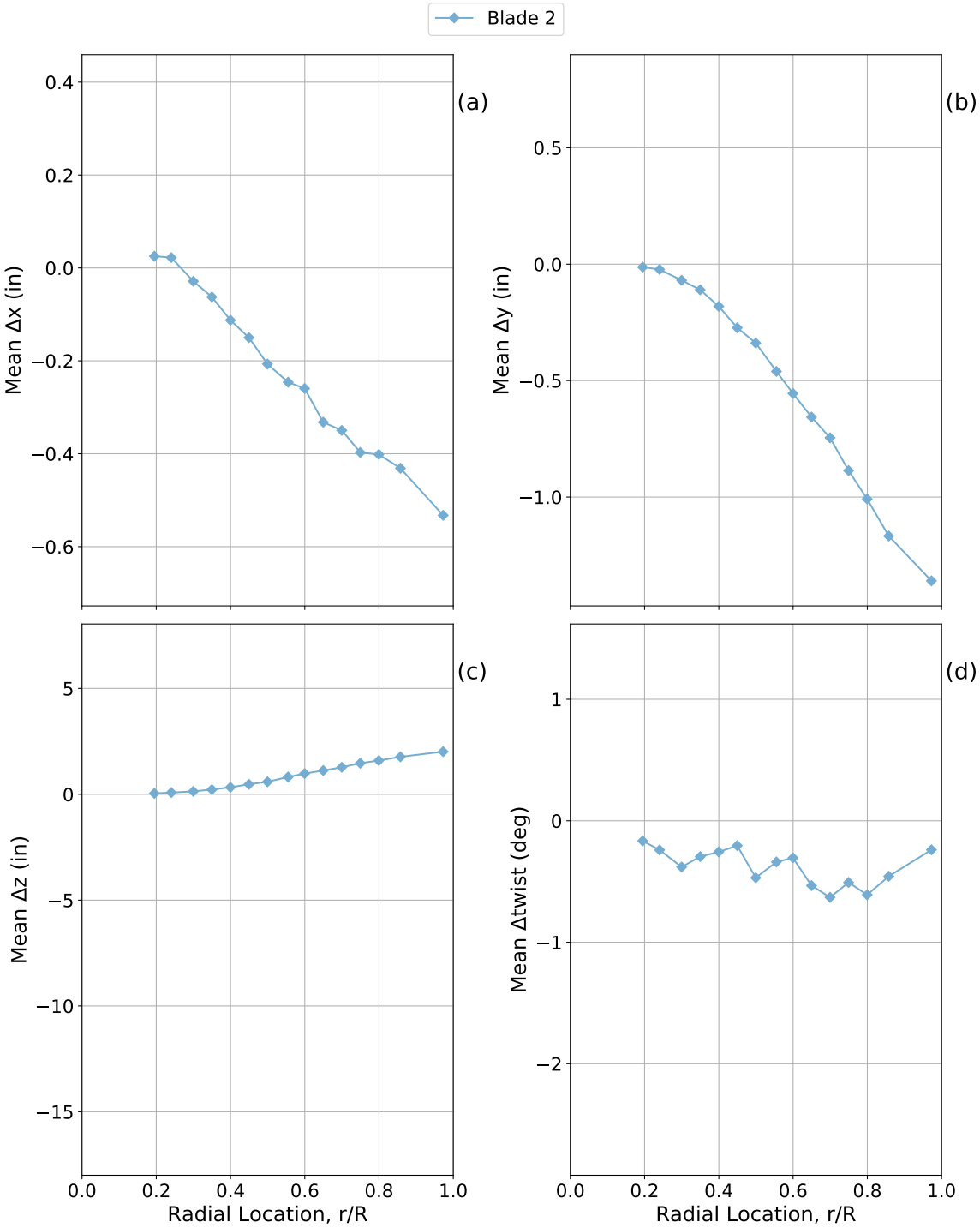


Figure 3.37-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.1$, $\mu = 0.3$, $\alpha = -0°$ NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Table 3.37-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.1, μ = 0.3, α = -0°
NFAC run 87, point 17. BD run 41, points 6498 to 6508.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0252	0.0030	-0.0126	0.0015	0.0424	0.0067	-0.1656	0.0432
2	355.08	0.2405	0.0222	0.0019	-0.0226	0.0047	0.0823	0.0123	-0.2401	0.0744
2	355.08	0.2999	-0.0287	0.0010	-0.0691	0.0085	0.1377	0.0217	-0.3804	0.0994
2	355.08	0.3498	-0.0625	0.0028	-0.1100	0.0159	0.2248	0.0380	-0.2948	0.0670
2	355.08	0.3998	-0.1126	0.0031	-0.1812	0.0249	0.3316	0.0547	-0.2561	0.0819
2	355.08	0.4496	-0.1501	0.0028	-0.2731	0.0296	0.4731	0.0711	-0.2044	0.0766
2	355.08	0.4995	-0.2070	0.0031	-0.3388	0.0359	0.5909	0.0863	-0.4690	0.0812
2	355.08	0.5551	-0.2460	0.0034	-0.4604	0.0433	0.8183	0.1082	-0.3385	0.0740
2	355.08	0.5996	-0.2596	0.0044	-0.5551	0.0479	0.9787	0.1237	-0.3053	0.0924
2	355.08	0.6497	-0.3322	0.0046	-0.6566	0.0540	1.1228	0.1377	-0.5334	0.0818
2	355.08	0.6996	-0.3498	0.0042	-0.7458	0.0596	1.2772	0.1533	-0.6301	0.0740
2	355.08	0.7495	-0.3973	0.0050	-0.8864	0.0649	1.4670	0.1727	-0.5074	0.0734
2	355.08	0.7996	-0.4016	0.0055	-1.0086	0.0693	1.5947	0.1957	-0.6096	0.0961
2	355.08	0.8578	-0.4314	0.0052	-1.1672	0.0801	1.7696	0.2363	-0.4568	0.1147
2	355.08	0.9727	-0.5325	0.0091	-1.3597	0.0889	2.0135	0.3209	-0.2389	0.1083

3.38 Run 87, Point 42

3.38.1 Pitch, Flap, and Lag

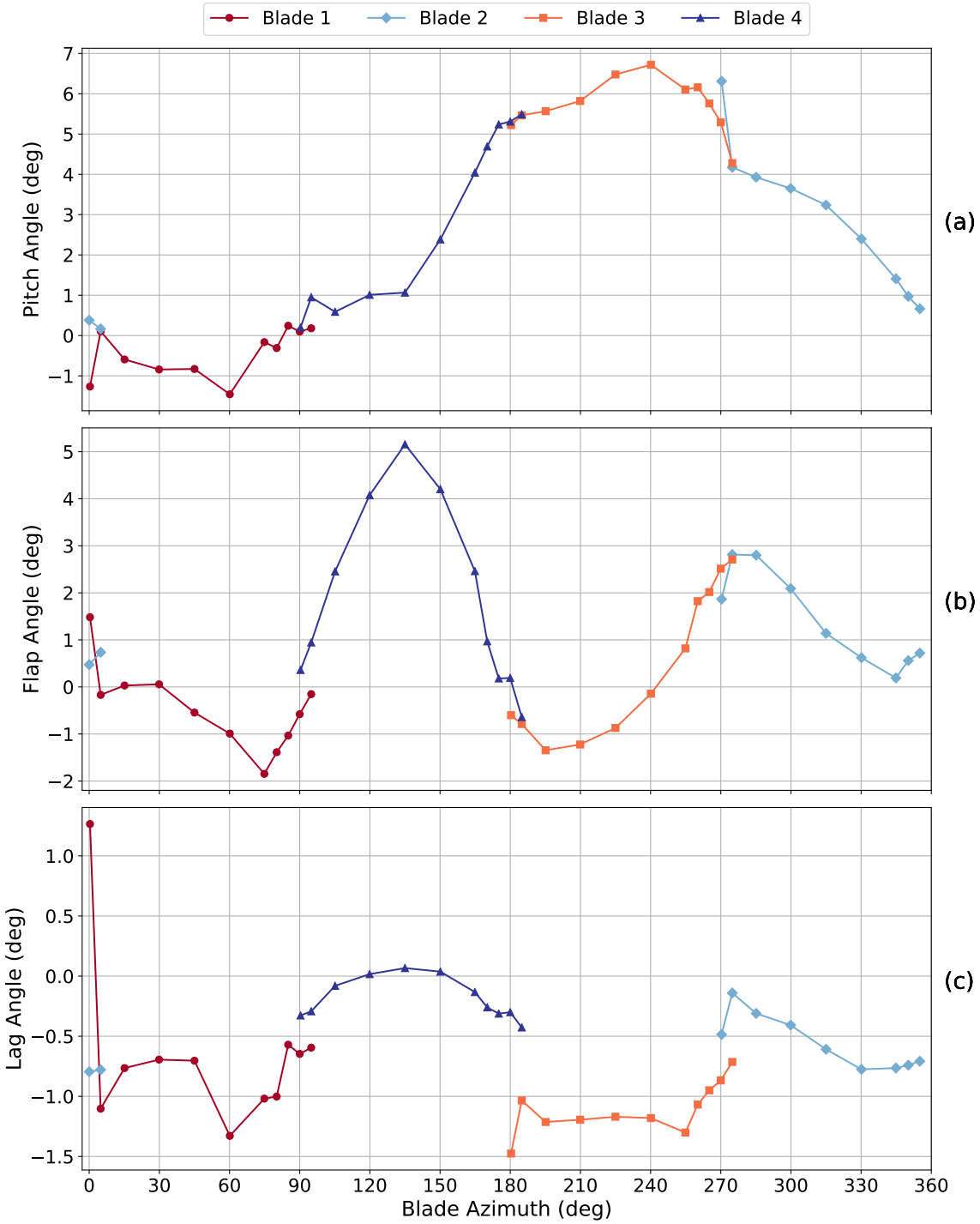


Figure 3.38-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	0.3816	0.4725	-0.7955	0.1465	0.2286	0.0490
0.35	1	-1.2650	1.4825	1.2650	0.1406	0.1344	0.1861
4.92	1	0.1064	-0.1692	-1.1027	0.0706	0.1572	0.1214
4.92	2	0.1662	0.7353	-0.7788	0.1213	0.1963	0.0751
15.12	1	-0.5927	0.0306	-0.7650	0.1343	0.1867	0.0287
29.88	1	-0.8416	0.0561	-0.6946	0.0775	0.1571	0.0424
45	1	-0.8296	-0.5448	-0.7037	0.0951	0.1641	0.0495
60.12	1	-1.4563	-0.9917	-1.3287	0.2293	0.2754	0.0690
74.88	1	-0.1627	-1.8477	-1.0191	0.0590	0.0983	0.0849
80.16	1	-0.3097	-1.3875	-1.0017	0.1107	0.0668	0.0955
85.08	1	0.2432	-1.0338	-0.5704	0.3587	0.2077	0.0518
90	1	0.0981	-0.5787	-0.6472	0.2266	0.1511	0.0234
90.35	4	0.1996	0.3601	-0.3276	0.1286	0.1355	0.0477
94.92	1	0.1809	-0.1532	-0.5951	0.0605	0.1948	0.0310
94.92	4	0.9491	0.9455	-0.2929	0.1715	0.1320	0.0615
105.12	4	0.5884	2.4548	-0.0810	0.0535	0.2982	0.0410
119.88	4	1.0097	4.0736	0.0165	0.0812	0.3351	0.0339
135	4	1.0656	5.1548	0.0666	0.0843	0.2732	0.0428
150.12	4	2.3841	4.2025	0.0373	0.0899	0.9011	0.0590
164.88	4	4.0415	2.4610	-0.1327	0.0773	0.2488	0.0346
170.16	4	4.6914	0.9680	-0.2602	0.0885	0.3419	0.0429
175.08	4	5.2382	0.1804	-0.3121	0.0783	0.3709	0.0409
180	4	5.3095	0.1906	-0.3002	0.0486	0.2204	0.0392
180.35	3	5.2233	-0.5998	-1.4756	0.0470	0.1901	0.1815
184.92	3	5.4647	-0.7875	-1.0345	0.0485	0.2130	0.0582
184.92	4	5.4885	-0.6413	-0.4272	0.0585	0.3173	0.0634
195.12	3	5.5667	-1.3457	-1.2136	0.0378	0.3635	0.0332
209.88	3	5.8196	-1.2232	-1.1948	0.0459	0.2066	0.0577
225	3	6.4771	-0.8716	-1.1697	0.0708	0.2345	0.0613
240.12	3	6.7191	-0.1440	-1.1809	0.0732	0.4752	0.0878
254.88	3	6.1054	0.8186	-1.3013	0.0569	0.1634	0.0742
260.16	3	6.1585	1.8225	-1.0683	0.0521	0.0846	0.0371
265.08	3	5.7590	2.0172	-0.9498	0.1239	0.1628	0.0552
270	3	5.2909	2.5142	-0.8676	0.1062	0.1189	0.0446
270.35	2	6.3109	1.8647	-0.4855	0.0988	0.1522	0.0395
274.92	2	4.1748	2.8133	-0.1401	0.0925	0.1240	0.0460
274.92	3	4.2792	2.7082	-0.7138	0.0761	0.1115	0.0412
285.12	2	3.9283	2.8005	-0.3107	0.0731	0.1180	0.0616
299.88	2	3.6500	2.0900	-0.4076	0.0818	0.1215	0.0347
315	2	3.2385	1.1391	-0.6089	0.0711	0.1197	0.0442
330.12	2	2.3987	0.6204	-0.7756	0.0756	0.4056	0.0801
344.88	2	1.4084	0.1906	-0.7646	0.0740	0.1942	0.0326
350.16	2	0.9728	0.5600	-0.7409	0.0455	0.2372	0.0747
355.08	2	0.6637	0.7198	-0.7082	0.0938	0.2129	0.0524

3.38.2 Spanwise Elastic Deformations

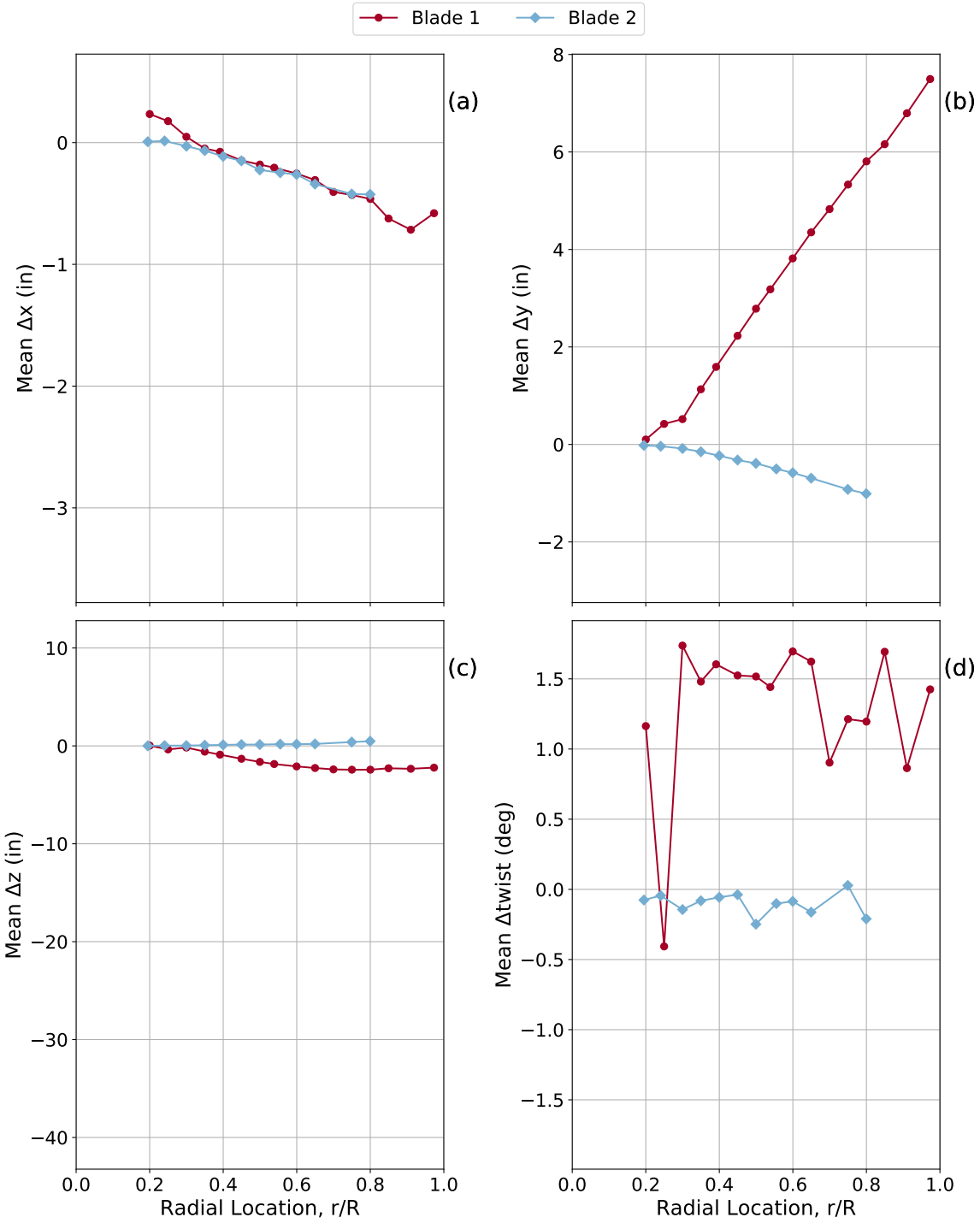


Figure 3.38-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.2341	0.0158	0.1012	0.0065	0.0283	0.0172	1.1637	0.0763
1	0.35	0.2499	0.1762	0.0119	0.4218	0.0379	-0.3611	0.0290	-0.4066	0.3075
1	0.35	0.2998	0.0477	0.0111	0.5196	0.0353	-0.1696	0.0302	1.7373	0.1453
1	0.35	0.3498	-0.0488	0.0208	1.1318	0.0777	-0.5871	0.0468	1.4808	0.1399
1	0.35	0.3913	-0.0755	0.0220	1.5907	0.1135	-0.8959	0.0595	1.6041	0.1422
1	0.35	0.4496	-0.1472	0.0235	2.2290	0.1630	-1.3179	0.0885	1.5245	0.1332
1	0.35	0.4997	-0.1804	0.0244	2.7847	0.2067	-1.6353	0.1170	1.5170	0.1327
1	0.35	0.5387	-0.2060	0.0254	3.1827	0.2426	-1.8536	0.1409	1.4417	0.1341
1	0.35	0.5996	-0.2540	0.0261	3.8166	0.2954	-2.0973	0.1761	1.6957	0.1410
1	0.35	0.6498	-0.3074	0.0271	4.3510	0.3335	-2.2593	0.2017	1.6234	0.1738
1	0.35	0.6998	-0.4054	0.0150	4.8281	0.3727	-2.4037	0.2449	0.9033	0.3692
1	0.35	0.7500	-0.4304	0.0145	5.3312	0.4046	-2.4335	0.2830	1.2134	0.4143
1	0.35	0.8001	-0.4627	0.0171	5.8068	0.4385	-2.4313	0.3278	1.1956	0.4798
1	0.35	0.8497	-0.6235	0.0237	6.1591	0.4577	-2.2876	0.3406	1.6932	0.1544
1	0.35	0.9102	-0.7157	0.0276	6.7944	0.5670	-2.3392	0.4334	0.8640	2.0134
1	0.35	0.9734	-0.5801	0.0144	7.4963	0.5192	-2.2219	0.4556	1.4253	0.1512
2	0	0.1949	0.0071	0.0031	-0.0183	0.0021	0.0043	0.0057	-0.0762	0.0418
2	0	0.2405	0.0137	0.0022	-0.0371	0.0049	0.0289	0.0111	-0.0445	0.1156
2	0	0.2999	-0.0296	0.0022	-0.0834	0.0093	0.0293	0.0248	-0.1440	0.1239
2	0	0.3498	-0.0660	0.0023	-0.1504	0.0148	0.0709	0.0401	-0.0813	0.1196
2	0	0.3998	-0.1135	0.0039	-0.2304	0.0242	0.1040	0.0641	-0.0567	0.1444
2	0	0.4496	-0.1501	0.0035	-0.3200	0.0282	0.1346	0.0880	-0.0376	0.1340
2	0	0.4995	-0.2245	0.0038	-0.3883	0.0365	0.1341	0.1149	-0.2482	0.1695
2	0	0.5551	-0.2474	0.0056	-0.5028	0.0467	0.1771	0.1559	-0.1014	0.1471
2	0	0.5996	-0.2623	0.0055	-0.5810	0.0535	0.1740	0.1889	-0.0856	0.1828
2	0	0.6497	-0.3406	0.0047	-0.6916	0.0586	0.2004	0.2305	-0.1626	0.1423
2	0	0.7495	-0.4222	0.0070	-0.9215	0.0806	0.3913	0.3262	0.0279	0.1860
2	0	0.7996	-0.4254	0.0075	-1.0106	0.0800	0.4775	0.3793	-0.2101	0.2127

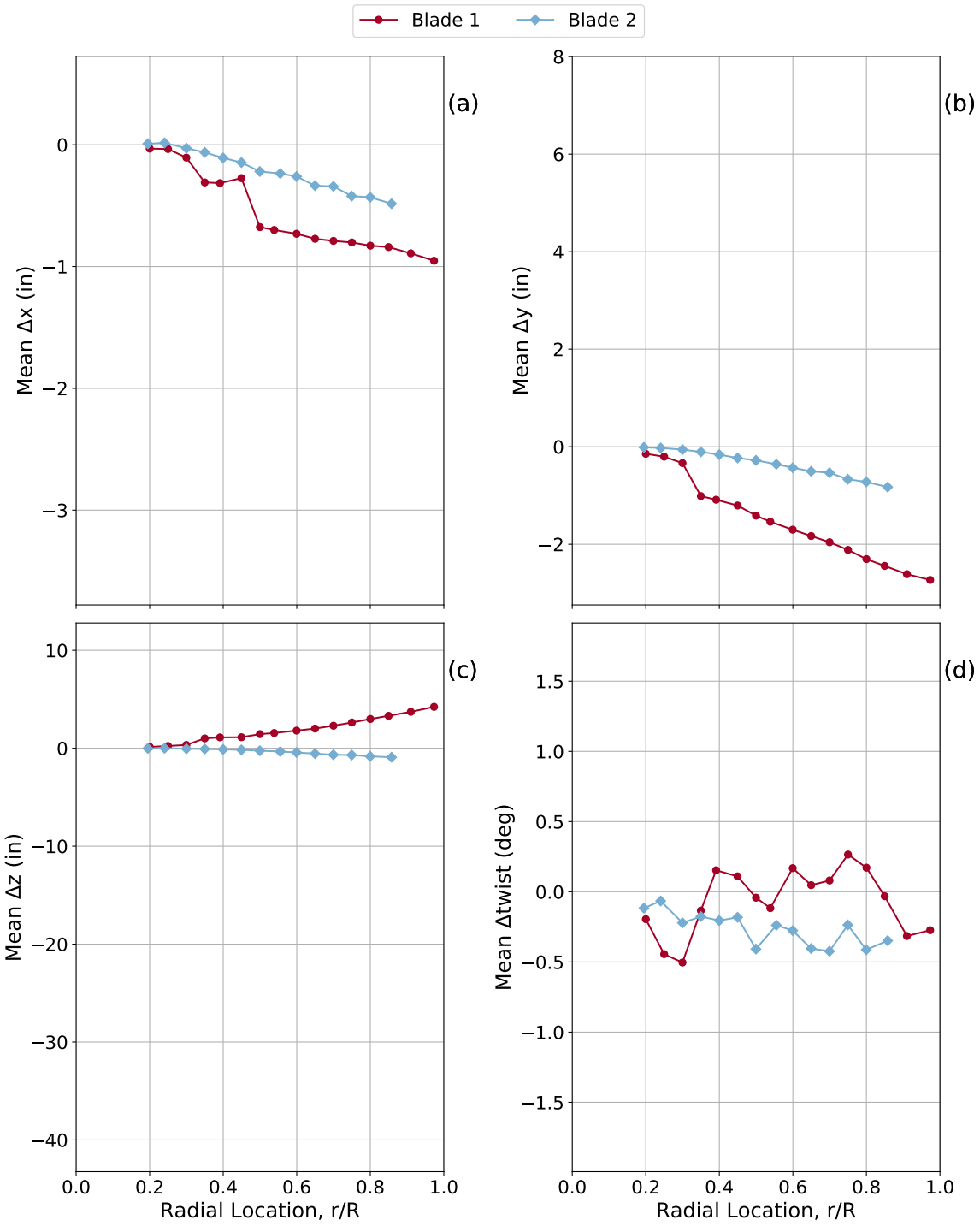


Figure 3.38-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0316	0.0136	-0.1449	0.0329	0.1338	0.0260	-0.1951	0.0278
1	4.92	0.2499	-0.0350	0.0293	-0.2047	0.0598	0.2287	0.0465	-0.4439	0.0695
1	4.92	0.2998	-0.1056	0.0511	-0.3363	0.0945	0.3346	0.0729	-0.5040	0.0698
1	4.92	0.3498	-0.3094	0.0543	-1.0132	0.2529	1.0040	0.2037	-0.1338	0.0817
1	4.92	0.3913	-0.3145	0.0657	-1.0874	0.2948	1.1068	0.2332	0.1532	0.0825
1	4.92	0.4496	-0.2740	0.0811	-1.2063	0.3537	1.1245	0.2738	0.1097	0.0751
1	4.92	0.4997	-0.6763	0.1474	-1.4136	0.5878	1.4422	0.2097	-0.0421	0.0976
1	4.92	0.5387	-0.6996	0.1615	-1.5387	0.6421	1.5568	0.2258	-0.1166	0.1242
1	4.92	0.5996	-0.7309	0.1812	-1.7014	0.7163	1.8025	0.2657	0.1684	0.0907
1	4.92	0.6498	-0.7718	0.1959	-1.8315	0.7794	2.0121	0.2948	0.0472	0.0866
1	4.92	0.6998	-0.7891	0.2120	-1.9587	0.8437	2.3015	0.3270	0.0806	0.0965
1	4.92	0.7500	-0.8021	0.2228	-2.1161	0.9046	2.6328	0.3589	0.2653	0.1188
1	4.92	0.8001	-0.8284	0.2317	-2.3047	0.9636	2.9899	0.3891	0.1716	0.1279
1	4.92	0.8497	-0.8399	0.2370	-2.4439	1.0189	3.3129	0.4284	-0.0316	0.1356
1	4.92	0.9102	-0.8913	0.2368	-2.6141	1.0803	3.7205	0.4709	-0.3151	0.1331
1	4.92	0.9734	-0.9520	0.2346	-2.7328	1.1344	4.2302	0.5203	-0.2736	0.1526
2	4.92	0.1949	0.0080	0.0034	-0.0131	0.0035	-0.0167	0.0109	-0.1166	0.0634
2	4.92	0.2405	0.0152	0.0025	-0.0258	0.0028	-0.0034	0.0147	-0.0656	0.1325
2	4.92	0.2999	-0.0283	0.0027	-0.0592	0.0085	-0.0559	0.0402	-0.2211	0.1675
2	4.92	0.3498	-0.0625	0.0019	-0.1060	0.0175	-0.0778	0.0743	-0.1761	0.1430
2	4.92	0.3998	-0.1080	0.0015	-0.1626	0.0223	-0.1213	0.1083	-0.2050	0.1412
2	4.92	0.4496	-0.1459	0.0027	-0.2315	0.0293	-0.1653	0.1524	-0.1819	0.1441
2	4.92	0.4995	-0.2193	0.0019	-0.2796	0.0374	-0.2571	0.1964	-0.4077	0.1541
2	4.92	0.5551	-0.2361	0.0028	-0.3594	0.0460	-0.3367	0.2558	-0.2382	0.1549
2	4.92	0.5996	-0.2602	0.0034	-0.4307	0.0516	-0.4334	0.3052	-0.2764	0.1637
2	4.92	0.6497	-0.3362	0.0039	-0.5049	0.0625	-0.5525	0.3722	-0.4043	0.1789
2	4.92	0.6996	-0.3418	0.0056	-0.5338	0.0730	-0.6641	0.4468	-0.4235	0.1846
2	4.92	0.7495	-0.4219	0.0053	-0.6674	0.0810	-0.6924	0.5341	-0.2362	0.1875
2	4.92	0.7996	-0.4314	0.0056	-0.7210	0.0894	-0.8273	0.6229	-0.4129	0.1979
2	4.92	0.8578	-0.4841	0.0077	-0.8281	0.0921	-0.9185	0.7148	-0.3481	0.4192

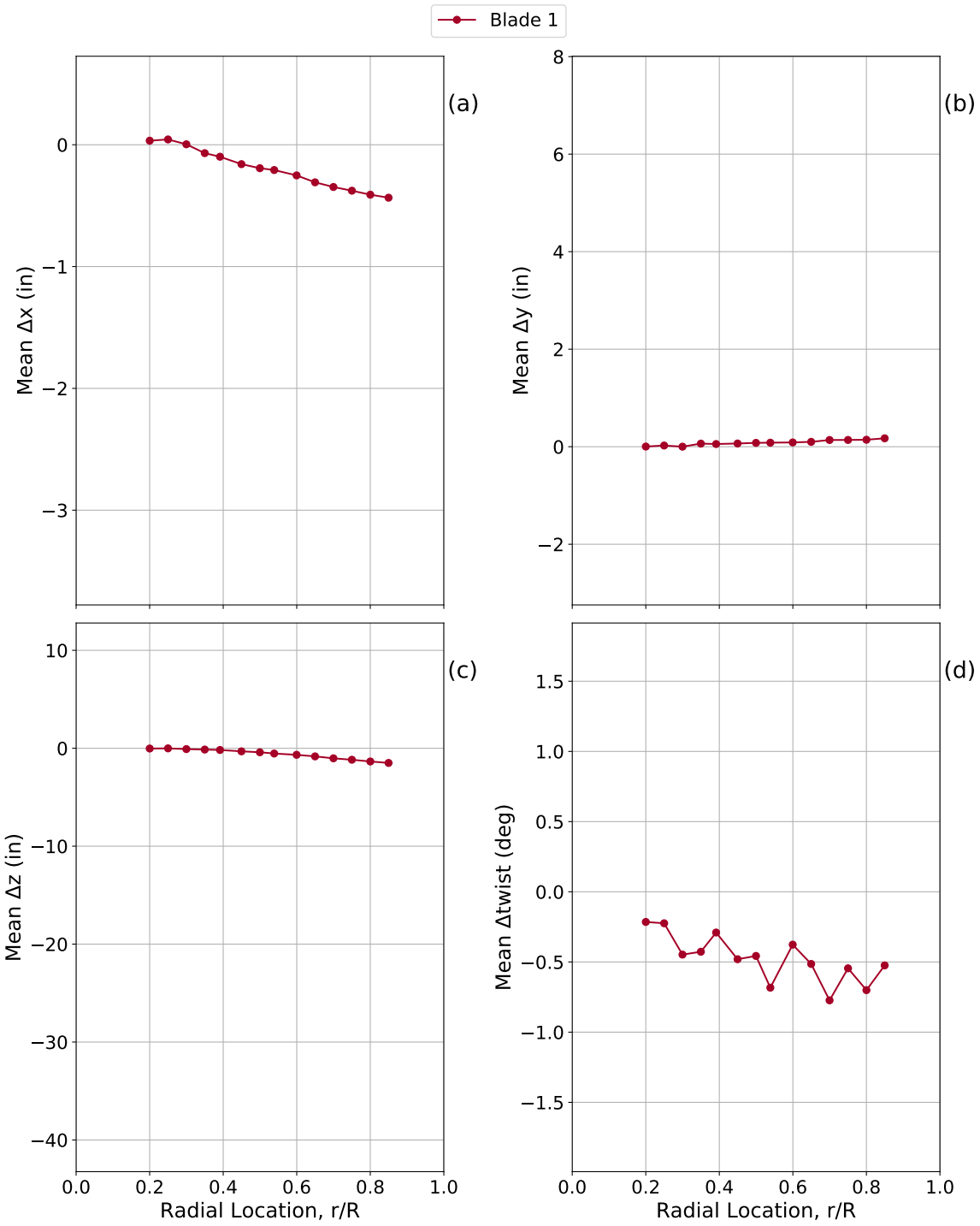


Figure 3.38-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0334	0.0045	0.0036	0.0029	-0.0266	0.0088	-0.2148	0.0362
1	15.12	0.2499	0.0435	0.0028	0.0247	0.0042	-0.0108	0.0143	-0.2243	0.0769
1	15.12	0.2998	0.0037	0.0018	0.0008	0.0094	-0.0846	0.0347	-0.4475	0.0844
1	15.12	0.3498	-0.0689	0.0039	0.0637	0.0184	-0.1310	0.0597	-0.4271	0.0811
1	15.12	0.3913	-0.0984	0.0049	0.0553	0.0238	-0.1759	0.0843	-0.2902	0.0983
1	15.12	0.4496	-0.1593	0.0037	0.0658	0.0309	-0.3126	0.1241	-0.4804	0.0818
1	15.12	0.4997	-0.1926	0.0029	0.0791	0.0383	-0.4086	0.1579	-0.4571	0.0808
1	15.12	0.5387	-0.2076	0.0041	0.0828	0.0456	-0.5374	0.1836	-0.6831	0.0836
1	15.12	0.5996	-0.2517	0.0050	0.0878	0.0551	-0.6700	0.2148	-0.3766	0.0713
1	15.12	0.6498	-0.3084	0.0041	0.0998	0.0607	-0.8301	0.2315	-0.5141	0.0691
1	15.12	0.6998	-0.3467	0.0042	0.1375	0.0686	-1.0281	0.2476	-0.7733	0.0583
1	15.12	0.7500	-0.3773	0.0042	0.1390	0.0750	-1.1725	0.2559	-0.5452	0.0690
1	15.12	0.8001	-0.4099	0.0038	0.1429	0.0833	-1.3495	0.2634	-0.7007	0.0914
1	15.12	0.8497	-0.4347	0.0053	0.1727	0.0900	-1.4985	0.2813	-0.5244	0.1086

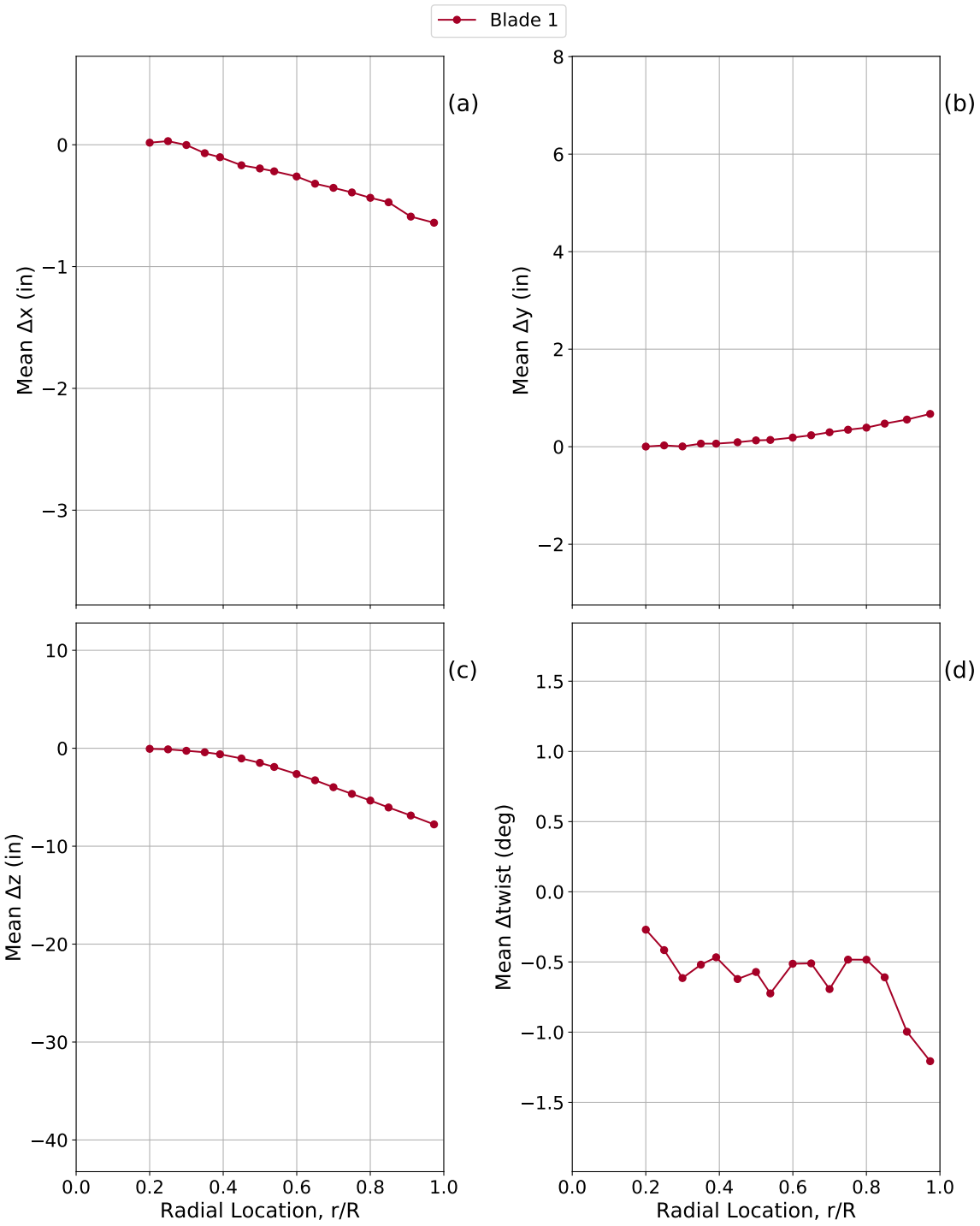


Figure 3.38-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0171	0.0048	0.0032	0.0028	-0.0576	0.0065	-0.2699	0.0346
1	29.88	0.2499	0.0297	0.0024	0.0268	0.0040	-0.1100	0.0150	-0.4155	0.0727
1	29.88	0.2998	-0.0022	0.0022	0.0056	0.0097	-0.2563	0.0284	-0.6146	0.0802
1	29.88	0.3498	-0.0692	0.0030	0.0632	0.0153	-0.4087	0.0489	-0.5193	0.0783
1	29.88	0.3913	-0.1023	0.0038	0.0628	0.0217	-0.6126	0.0714	-0.4666	0.0804
1	29.88	0.4496	-0.1685	0.0040	0.0916	0.0286	-1.0424	0.1044	-0.6216	0.0773
1	29.88	0.4997	-0.1946	0.0043	0.1296	0.0345	-1.4911	0.1344	-0.5713	0.0814
1	29.88	0.5387	-0.2181	0.0050	0.1386	0.0401	-1.9084	0.1563	-0.7241	0.0801
1	29.88	0.5996	-0.2606	0.0055	0.1874	0.0469	-2.6279	0.1928	-0.5126	0.0873
1	29.88	0.6498	-0.3197	0.0072	0.2353	0.0550	-3.2699	0.2270	-0.5100	0.0848
1	29.88	0.6998	-0.3537	0.0081	0.2965	0.0616	-3.9788	0.2652	-0.6931	0.0939
1	29.88	0.7500	-0.3914	0.0097	0.3486	0.0685	-4.6594	0.3085	-0.4833	0.1065
1	29.88	0.8001	-0.4356	0.0118	0.3912	0.0743	-5.3376	0.3544	-0.4839	0.1136
1	29.88	0.8497	-0.4722	0.0138	0.4734	0.0811	-6.0470	0.4041	-0.6093	0.1253
1	29.88	0.9102	-0.5899	0.0168	0.5569	0.0877	-6.8676	0.4613	-0.9969	0.1190
1	29.88	0.9734	-0.6401	0.0154	0.6729	0.0997	-7.7735	0.5206	-1.2068	0.1595

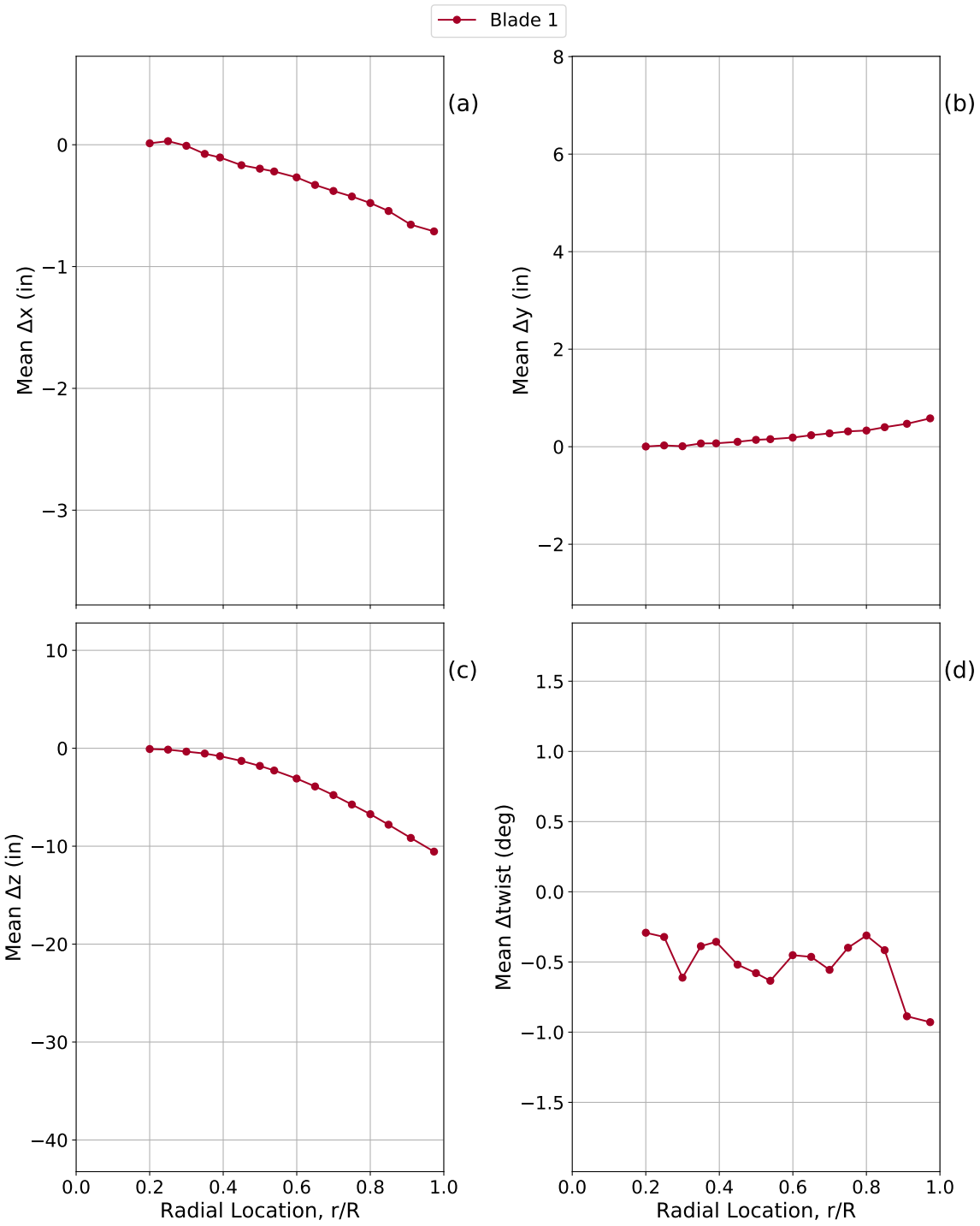


Figure 3.38-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0120	0.0034	0.0043	0.0019	-0.0776	0.0059	-0.2917	0.0426
1	45	0.2499	0.0295	0.0030	0.0265	0.0033	-0.1396	0.0165	-0.3218	0.0917
1	45	0.2998	-0.0087	0.0033	0.0099	0.0070	-0.3405	0.0273	-0.6119	0.1068
1	45	0.3498	-0.0749	0.0036	0.0670	0.0119	-0.5377	0.0497	-0.3875	0.1060
1	45	0.3913	-0.1044	0.0039	0.0696	0.0165	-0.8053	0.0723	-0.3566	0.1029
1	45	0.4496	-0.1678	0.0049	0.1007	0.0229	-1.2913	0.1070	-0.5190	0.0951
1	45	0.4997	-0.1964	0.0048	0.1408	0.0290	-1.8035	0.1419	-0.5794	0.1000
1	45	0.5387	-0.2194	0.0052	0.1548	0.0341	-2.2698	0.1706	-0.6339	0.0984
1	45	0.5996	-0.2679	0.0065	0.1871	0.0426	-3.0931	0.2130	-0.4516	0.1037
1	45	0.6498	-0.3299	0.0084	0.2359	0.0515	-3.9013	0.2501	-0.4636	0.1053
1	45	0.6998	-0.3794	0.0094	0.2742	0.0591	-4.7808	0.2855	-0.5560	0.1045
1	45	0.7500	-0.4249	0.0116	0.3146	0.0693	-5.7455	0.3221	-0.3987	0.1187
1	45	0.8001	-0.4785	0.0145	0.3320	0.0787	-6.7306	0.3571	-0.3114	0.1215
1	45	0.8497	-0.5438	0.0166	0.4001	0.0888	-7.8046	0.3935	-0.4158	0.1286
1	45	0.9102	-0.6558	0.0189	0.4703	0.1007	-9.1565	0.4381	-0.8870	0.1279
1	45	0.9734	-0.7113	0.0219	0.5817	0.1142	-10.5541	0.4885	-0.9287	0.1319

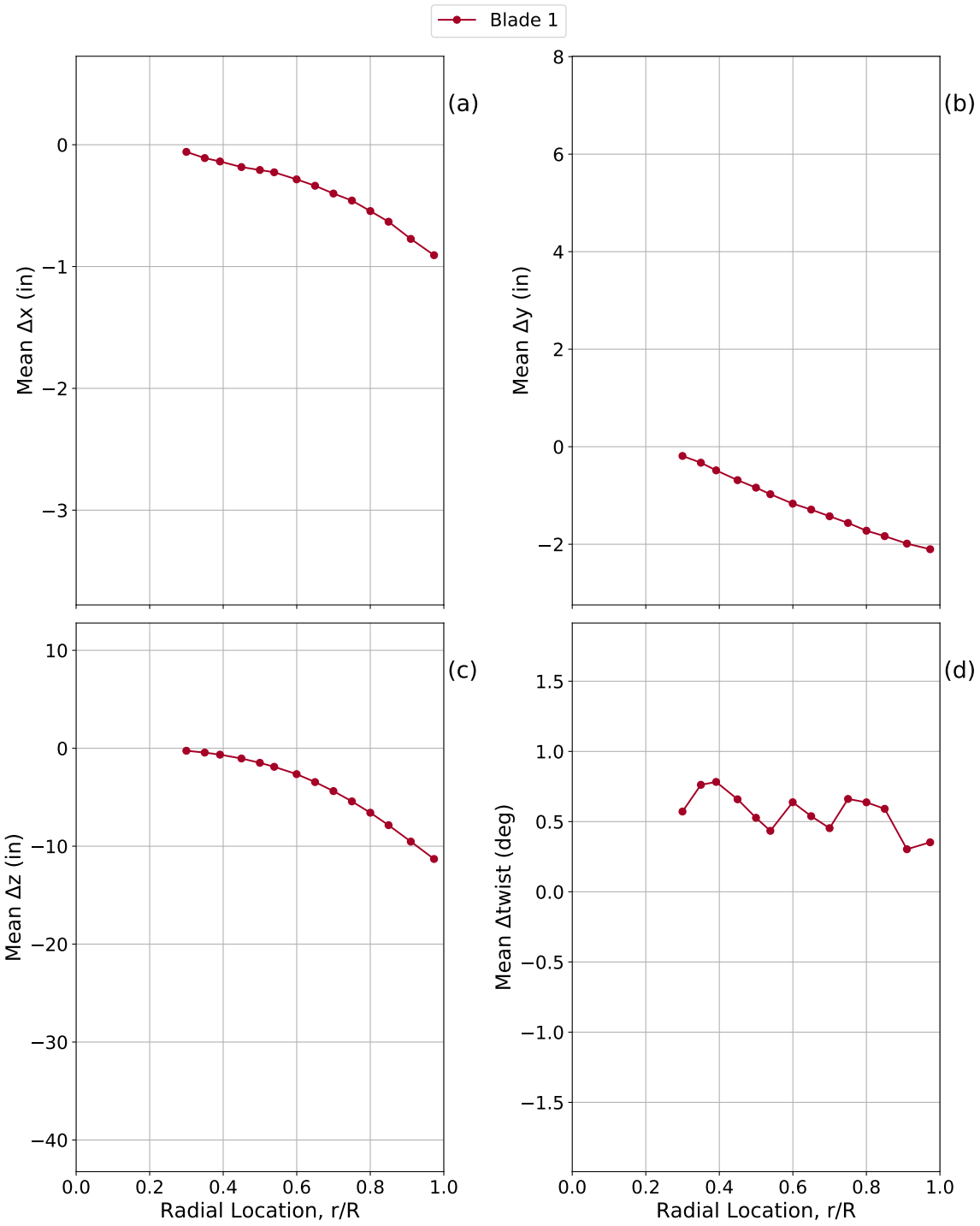


Figure 3.38-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2998	-0.0585	0.0060	-0.1893	0.0157	-0.2541	0.0465	0.5717	0.1966
1	60.12	0.3498	-0.1093	0.0073	-0.3281	0.0270	-0.4410	0.0830	0.7620	0.2622
1	60.12	0.3913	-0.1372	0.0066	-0.4848	0.0398	-0.6523	0.1246	0.7828	0.2610
1	60.12	0.4496	-0.1833	0.0075	-0.6856	0.0561	-1.0452	0.1865	0.6589	0.2916
1	60.12	0.4997	-0.2073	0.0092	-0.8397	0.0704	-1.4856	0.2485	0.5273	0.2890
1	60.12	0.5387	-0.2261	0.0105	-0.9737	0.0824	-1.8917	0.2996	0.4341	0.2947
1	60.12	0.5996	-0.2842	0.0122	-1.1671	0.1019	-2.6406	0.3862	0.6380	0.3148
1	60.12	0.6498	-0.3367	0.0160	-1.2891	0.1187	-3.4511	0.4628	0.5386	0.3199
1	60.12	0.6998	-0.4005	0.0196	-1.4264	0.1363	-4.3723	0.5399	0.4534	0.3346
1	60.12	0.7500	-0.4581	0.0244	-1.5631	0.1548	-5.4254	0.6236	0.6614	0.3343
1	60.12	0.8001	-0.5444	0.0310	-1.7225	0.1746	-6.5823	0.7115	0.6373	0.3507
1	60.12	0.8497	-0.6320	0.0383	-1.8336	0.1933	-7.8545	0.8031	0.5911	0.3478
1	60.12	0.9102	-0.7729	0.0474	-1.9870	0.2160	-9.5281	0.9229	0.3032	0.3632
1	60.12	0.9734	-0.9066	0.0539	-2.1024	0.2420	-11.3071	1.0544	0.3525	0.3801

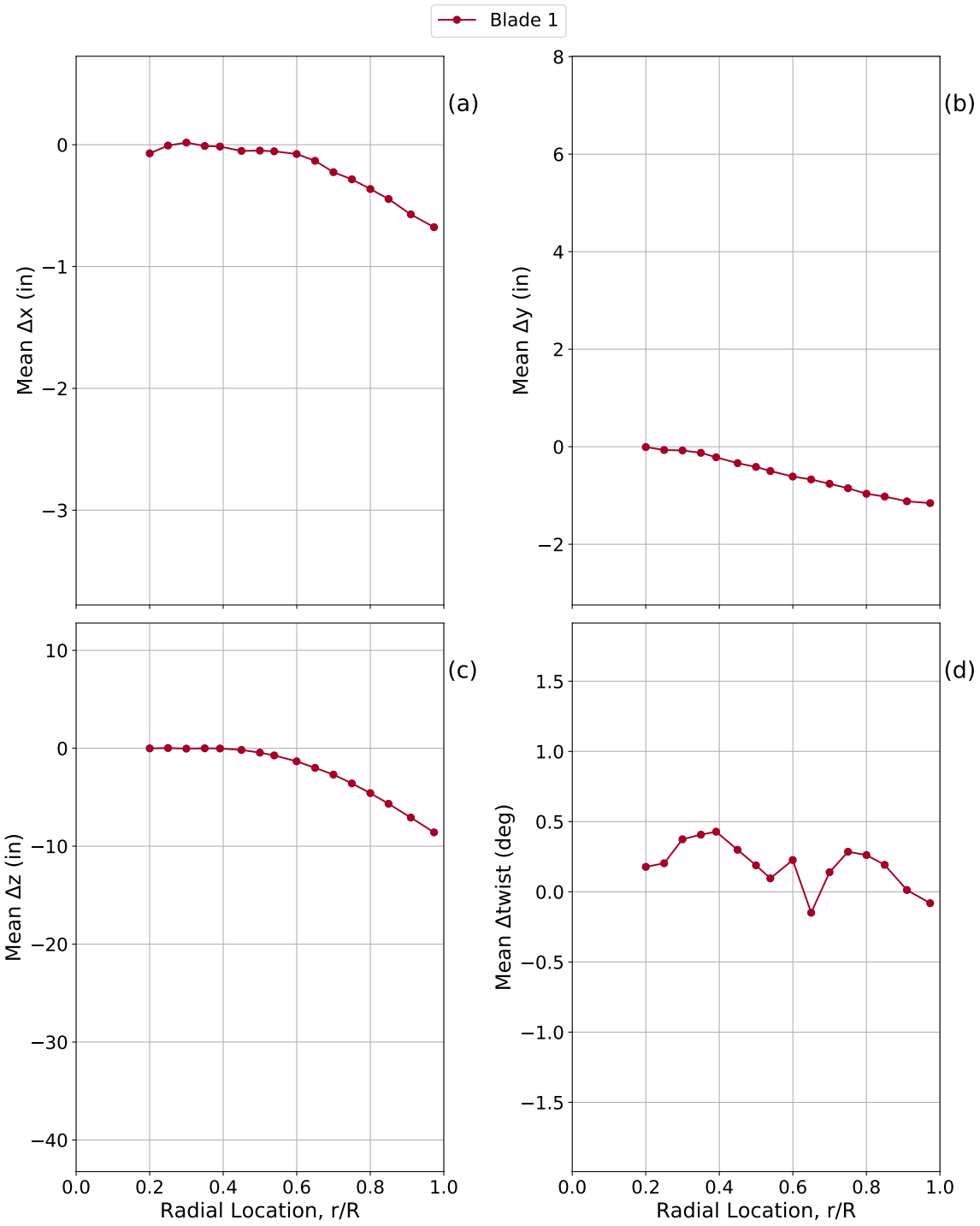


Figure 3.38-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0710	0.0047	-0.0069	0.0020	-0.0117	0.0041	0.1775	0.0365
1	74.88	0.2499	-0.0065	0.0054	-0.0676	0.0196	0.0227	0.0252	0.2032	0.0414
1	74.88	0.2998	0.0178	0.0029	-0.0765	0.0125	-0.0365	0.0214	0.3739	0.0758
1	74.88	0.3498	-0.0101	0.0058	-0.1252	0.0300	-0.0042	0.0443	0.4069	0.0678
1	74.88	0.3913	-0.0148	0.0083	-0.2166	0.0472	-0.0229	0.0688	0.4281	0.0698
1	74.88	0.4496	-0.0506	0.0118	-0.3378	0.0714	-0.1719	0.1089	0.2992	0.0648
1	74.88	0.4997	-0.0481	0.0132	-0.4141	0.0928	-0.4452	0.1484	0.1884	0.0683
1	74.88	0.5387	-0.0538	0.0165	-0.4985	0.1088	-0.7314	0.1785	0.0956	0.0667
1	74.88	0.5996	-0.0762	0.0127	-0.6116	0.1375	-1.3309	0.2299	0.2261	0.0556
1	74.88	0.6498	-0.1318	0.0099	-0.6715	0.1663	-2.0012	0.2792	-0.1491	0.3278
1	74.88	0.6998	-0.2251	0.0213	-0.7596	0.1952	-2.6911	0.3130	0.1393	0.0949
1	74.88	0.7500	-0.2838	0.0234	-0.8515	0.2183	-3.5904	0.3658	0.2852	0.0972
1	74.88	0.8001	-0.3634	0.0260	-0.9648	0.2409	-4.5798	0.4200	0.2617	0.0993
1	74.88	0.8497	-0.4453	0.0289	-1.0217	0.2641	-5.6675	0.4770	0.1919	0.1059
1	74.88	0.9102	-0.5716	0.0326	-1.1198	0.2920	-7.0757	0.5476	0.0126	0.0897
1	74.88	0.9734	-0.6767	0.0305	-1.1565	0.3202	-8.5883	0.6235	-0.0811	0.0893

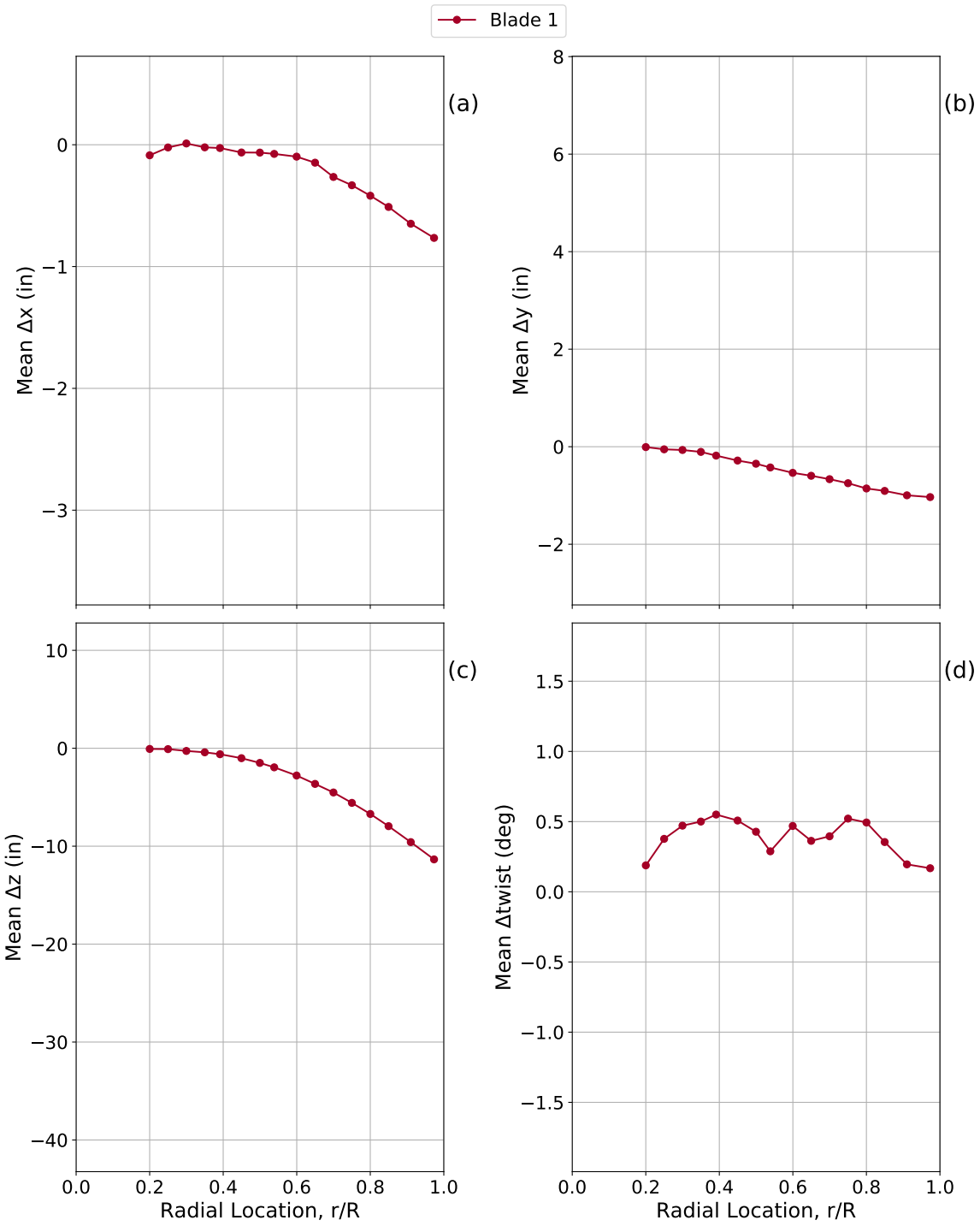


Figure 3.38-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$ NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0865	0.0090	-0.0074	0.0036	-0.0699	0.0053	0.1882	0.0483
1	80.16	0.2499	-0.0223	0.0071	-0.0534	0.0195	-0.0868	0.0228	0.3771	0.0505
1	80.16	0.2998	0.0106	0.0042	-0.0670	0.0086	-0.2731	0.0132	0.4711	0.0995
1	80.16	0.3498	-0.0213	0.0064	-0.1062	0.0227	-0.4147	0.0275	0.5003	0.0744
1	80.16	0.3913	-0.0269	0.0092	-0.1823	0.0364	-0.6089	0.0444	0.5503	0.0694
1	80.16	0.4496	-0.0635	0.0130	-0.2836	0.0548	-1.0133	0.0673	0.5077	0.0829
1	80.16	0.4997	-0.0645	0.0146	-0.3490	0.0714	-1.4959	0.0880	0.4279	0.0721
1	80.16	0.5387	-0.0750	0.0152	-0.4255	0.0850	-1.9482	0.1058	0.2884	0.0887
1	80.16	0.5996	-0.0977	0.0158	-0.5352	0.1092	-2.7832	0.1359	0.4689	0.0791
1	80.16	0.6498	-0.1472	0.0185	-0.5959	0.1308	-3.6405	0.1574	0.3629	0.0861
1	80.16	0.6998	-0.2644	0.0239	-0.6655	0.1884	-4.5160	0.0930	0.3954	0.1253
1	80.16	0.7500	-0.3325	0.0251	-0.7483	0.2079	-5.5761	0.1075	0.5214	0.1240
1	80.16	0.8001	-0.4184	0.0266	-0.8562	0.2271	-6.7100	0.1233	0.4937	0.1308
1	80.16	0.8497	-0.5106	0.0284	-0.9062	0.2464	-7.9545	0.1380	0.3544	0.1208
1	80.16	0.9102	-0.6483	0.0306	-0.9964	0.2692	-9.5849	0.1605	0.1955	0.1295
1	80.16	0.9734	-0.7647	0.0265	-1.0330	0.2933	-11.3475	0.1862	0.1679	0.1296

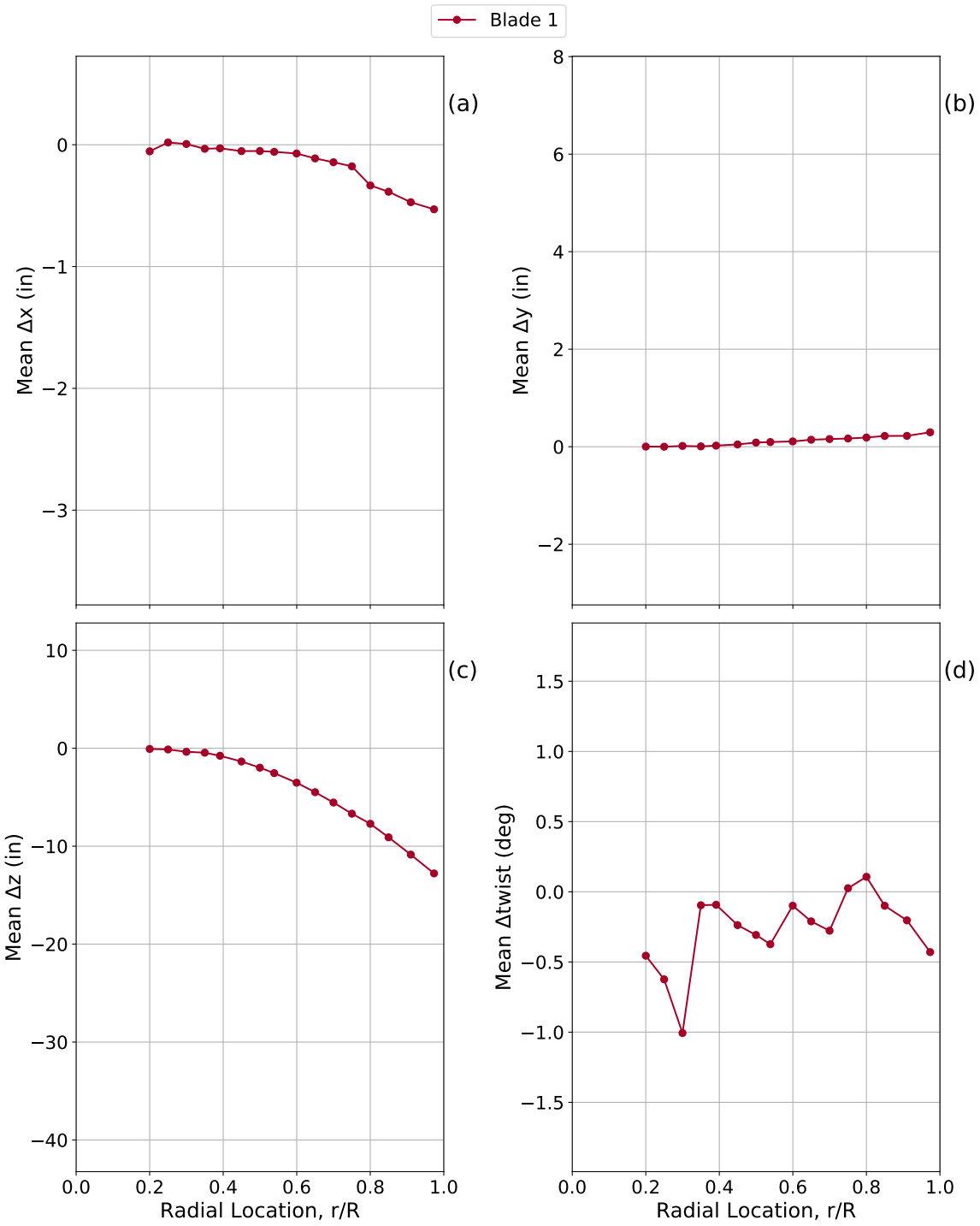


Figure 3.38-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0539	0.0167	0.0024	0.0060	-0.0706	0.0318	-0.4554	0.3368
1	85.08	0.2499	0.0185	0.0060	0.0004	0.0133	-0.1222	0.0576	-0.6239	0.8032
1	85.08	0.2998	0.0062	0.0055	0.0160	0.0164	-0.3589	0.0901	-1.0063	0.8886
1	85.08	0.3498	-0.0331	0.0108	0.0067	0.0485	-0.4527	0.2370	-0.0958	0.3486
1	85.08	0.3913	-0.0291	0.0148	0.0226	0.0538	-0.7670	0.2769	-0.0923	0.3433
1	85.08	0.4496	-0.0523	0.0176	0.0465	0.0622	-1.3523	0.3304	-0.2375	0.3667
1	85.08	0.4997	-0.0515	0.0224	0.0856	0.0703	-1.9828	0.3783	-0.3075	0.3661
1	85.08	0.5387	-0.0580	0.0246	0.0957	0.0761	-2.5375	0.4202	-0.3735	0.3313
1	85.08	0.5996	-0.0719	0.0302	0.1090	0.0851	-3.5171	0.4740	-0.0990	0.3439
1	85.08	0.6498	-0.1120	0.0343	0.1426	0.0927	-4.4843	0.5209	-0.2106	0.3275
1	85.08	0.6998	-0.1435	0.0374	0.1576	0.1003	-5.5425	0.5617	-0.2773	0.3646
1	85.08	0.7500	-0.1772	0.0412	0.1682	0.1093	-6.6804	0.6072	0.0255	0.3243
1	85.08	0.8001	-0.3339	0.0289	0.1879	0.0962	-7.7125	0.8202	0.1067	0.3050
1	85.08	0.8497	-0.3858	0.0258	0.2211	0.1057	-9.0933	0.8448	-0.0995	0.3126
1	85.08	0.9102	-0.4717	0.0296	0.2224	0.1196	-10.8588	0.8726	-0.2034	0.3008
1	85.08	0.9734	-0.5300	0.0408	0.2960	0.1396	-12.7808	0.8947	-0.4295	0.3108

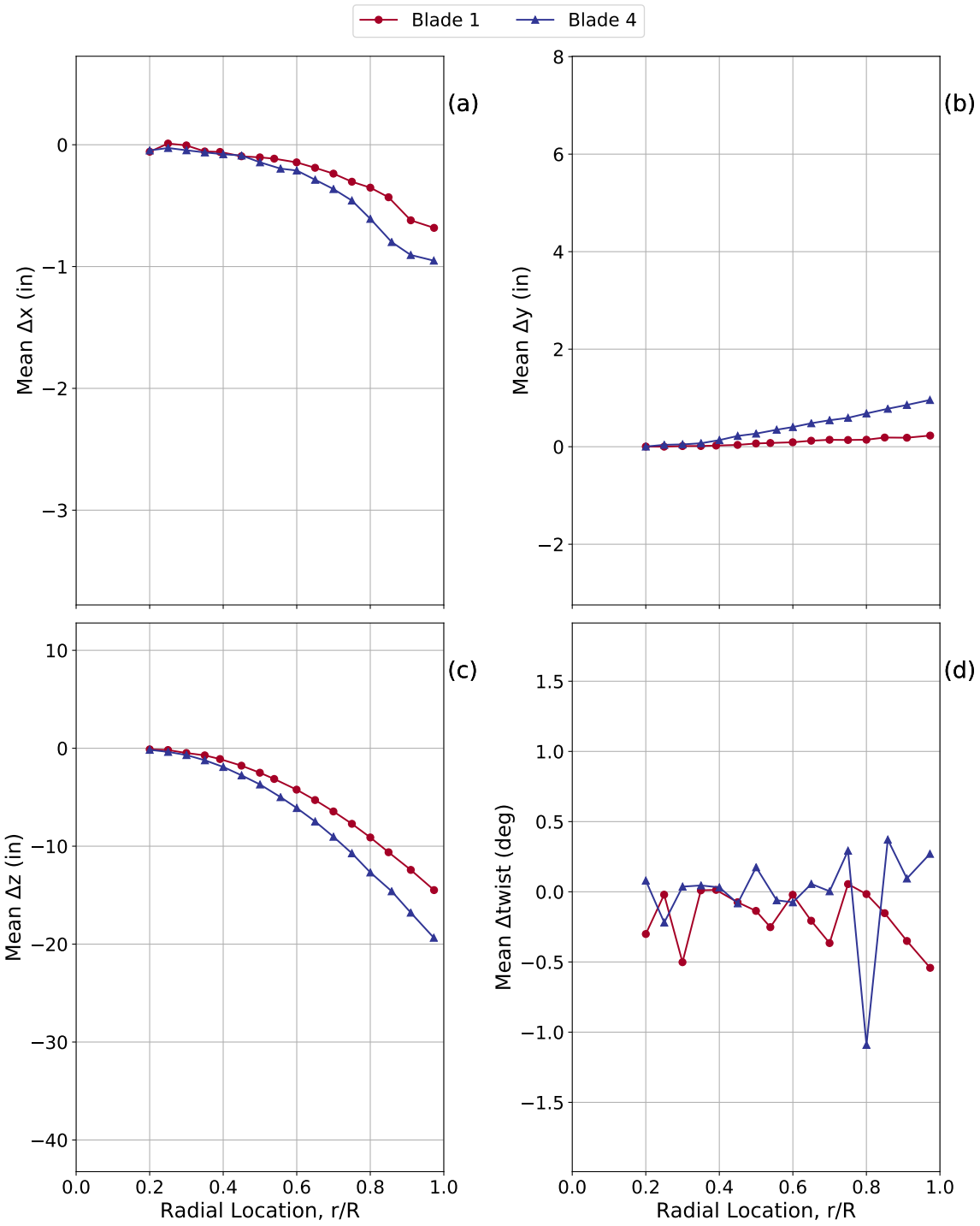


Figure 3.38-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0572	0.0056	0.0035	0.0056	-0.1116	0.0183	-0.3007	0.2233
1	90	0.2499	0.0099	0.0046	0.0011	0.0110	-0.1797	0.0381	-0.0205	0.4520
1	90	0.2998	-0.0052	0.0056	0.0131	0.0165	-0.4840	0.0562	-0.5015	0.5570
1	90	0.3498	-0.0549	0.0043	0.0146	0.0420	-0.7238	0.1471	0.0103	0.2274
1	90	0.3913	-0.0588	0.0050	0.0236	0.0499	-1.1021	0.1755	0.0134	0.2141
1	90	0.4496	-0.0946	0.0063	0.0369	0.0594	-1.7780	0.2057	-0.0744	0.2248
1	90	0.4997	-0.1036	0.0080	0.0665	0.0680	-2.4995	0.2335	-0.1361	0.2201
1	90	0.5387	-0.1143	0.0100	0.0766	0.0751	-3.1358	0.2554	-0.2520	0.2130
1	90	0.5996	-0.1446	0.0132	0.0911	0.0854	-4.2273	0.2927	-0.0214	0.2149
1	90	0.6498	-0.1892	0.0162	0.1230	0.0931	-5.2898	0.3256	-0.2062	0.2163
1	90	0.6998	-0.2371	0.0212	0.1419	0.1002	-6.4529	0.3624	-0.3654	0.2042
1	90	0.7500	-0.3035	0.0357	0.1381	0.1327	-7.7165	0.3955	0.0548	0.3168
1	90	0.8001	-0.3522	0.0285	0.1434	0.1125	-9.1091	0.4420	-0.0165	0.2188
1	90	0.8497	-0.4311	0.0328	0.1882	0.1175	-10.6193	0.4807	-0.1524	0.2526
1	90	0.9102	-0.6203	0.0199	0.1845	0.0844	-12.4218	0.7824	-0.3504	0.1828
1	90	0.9734	-0.6823	0.0334	0.2285	0.0978	-14.4842	0.8534	-0.5417	0.1734
4	90.35	0.2001	-0.0465	0.0027	0.0035	0.0047	-0.1594	0.0175	0.0797	0.1021
4	90.35	0.2502	-0.0266	0.0036	0.0388	0.0063	-0.3711	0.0159	-0.2190	0.1458
4	90.35	0.3001	-0.0454	0.0025	0.0475	0.0107	-0.6934	0.0435	0.0367	0.1456
4	90.35	0.3502	-0.0630	0.0041	0.0710	0.0159	-1.2281	0.0620	0.0451	0.1277
4	90.35	0.4002	-0.0778	0.0066	0.1357	0.0215	-1.9092	0.0850	0.0313	0.1328
4	90.35	0.4500	-0.0883	0.0099	0.2212	0.0257	-2.7652	0.1084	-0.0824	0.1368
4	90.35	0.5001	-0.1442	0.0136	0.2688	0.0321	-3.6982	0.1382	0.1747	0.1373
4	90.35	0.5560	-0.1961	0.0176	0.3483	0.0386	-4.9911	0.1773	-0.0605	0.1457
4	90.35	0.6001	-0.2115	0.0208	0.4032	0.0454	-6.1031	0.2109	-0.0750	0.1440
4	90.35	0.6501	-0.2876	0.0251	0.4813	0.0530	-7.4798	0.2483	0.0559	0.1290
4	90.35	0.6999	-0.3638	0.0294	0.5431	0.0621	-9.0368	0.2871	0.0037	0.1408
4	90.35	0.7500	-0.4583	0.0433	0.5919	0.0760	-10.7267	0.3270	0.2925	0.1045
4	90.35	0.8002	-0.6083	0.0324	0.6820	0.0864	-12.6821	0.3442	-1.0906	0.9248
4	90.35	0.8582	-0.7989	0.0317	0.7783	0.1098	-14.6025	0.5333	0.3714	0.1242
4	90.35	0.9101	-0.9051	0.0396	0.8562	0.1210	-16.7879	0.5894	0.0946	0.1394
4	90.35	0.9728	-0.9515	0.0528	0.9585	0.1326	-19.3505	0.6568	0.2703	0.1272

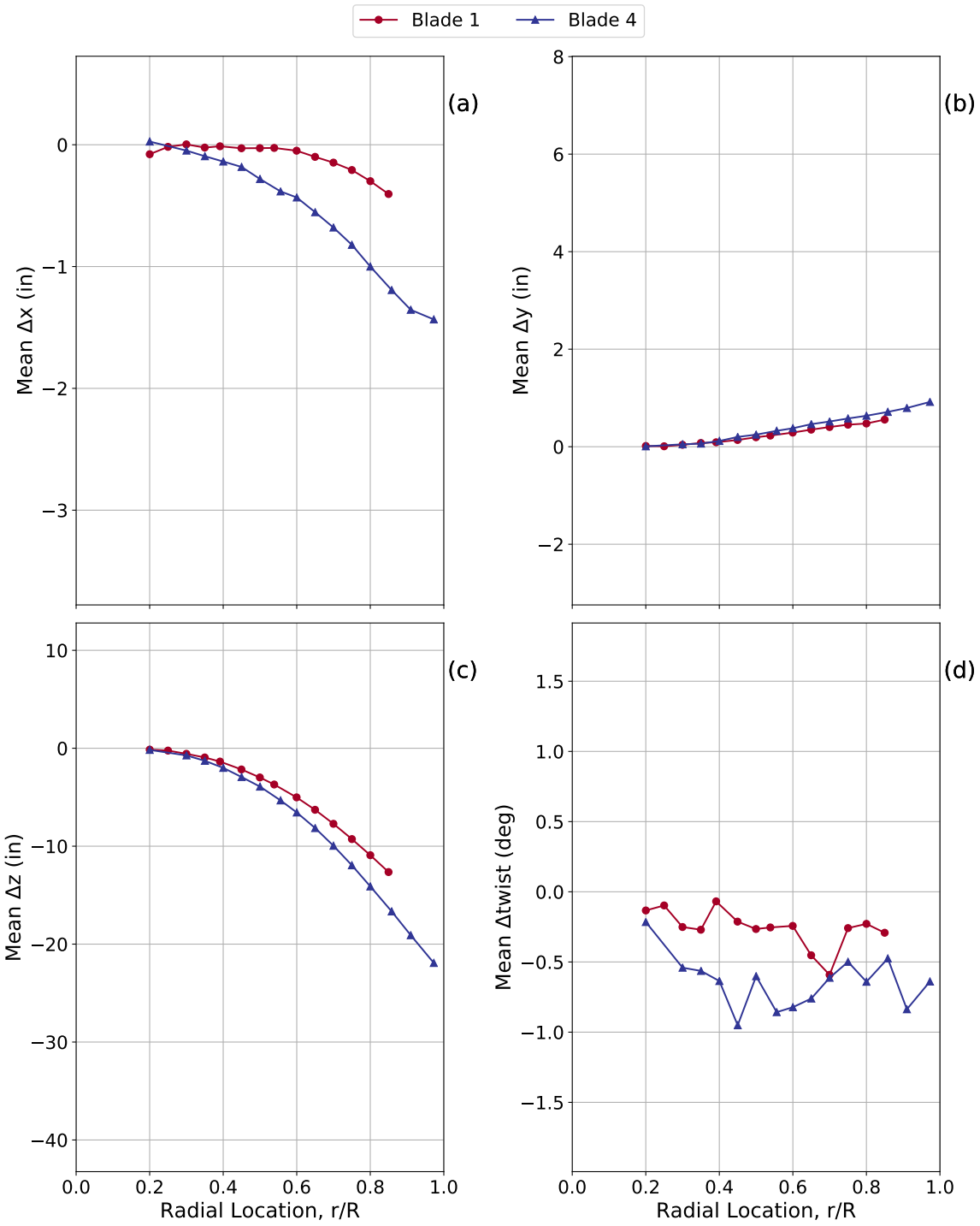


Figure 3.38-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0778	0.0228	0.0146	0.0026	-0.1399	0.0085	-0.1330	0.0350
1	94.92	0.2499	-0.0172	0.0069	0.0090	0.0055	-0.2374	0.0178	-0.0973	0.0621
1	94.92	0.2998	0.0031	0.0078	0.0388	0.0109	-0.5670	0.0355	-0.2510	0.0826
1	94.92	0.3498	-0.0232	0.0204	0.0767	0.0181	-0.9402	0.0593	-0.2703	0.0689
1	94.92	0.3913	-0.0125	0.0309	0.0911	0.0267	-1.3589	0.0869	-0.0681	0.0739
1	94.92	0.4496	-0.0288	0.0410	0.1381	0.0398	-2.1649	0.1267	-0.2126	0.0809
1	94.92	0.4997	-0.0278	0.0475	0.1938	0.0536	-2.9814	0.1698	-0.2652	0.0950
1	94.92	0.5387	-0.0261	0.0489	0.2282	0.0648	-3.7009	0.2026	-0.2540	0.0967
1	94.92	0.5996	-0.0489	0.0478	0.2901	0.0850	-5.0147	0.2653	-0.2430	0.1190
1	94.92	0.6498	-0.0995	0.0458	0.3501	0.1022	-6.2837	0.3180	-0.4522	0.1208
1	94.92	0.6998	-0.1467	0.0467	0.4038	0.1220	-7.7148	0.3756	-0.5915	0.1645
1	94.92	0.7500	-0.2076	0.0463	0.4518	0.1424	-9.2742	0.4306	-0.2586	0.1530
1	94.92	0.8001	-0.2989	0.0571	0.4758	0.1632	-10.9209	0.4746	-0.2285	0.2061
1	94.92	0.8497	-0.4045	0.0751	0.5560	0.1887	-12.6413	0.5152	-0.2919	0.1466
4	94.92	0.2001	0.0262	0.0053	0.0079	0.0012	-0.1677	0.0064	-0.2154	0.0613
4	94.92	0.3001	-0.0481	0.0058	0.0492	0.0052	-0.7331	0.0267	-0.5408	0.1492
4	94.92	0.3502	-0.0943	0.0057	0.0640	0.0092	-1.2835	0.0498	-0.5638	0.1449
4	94.92	0.4002	-0.1379	0.0044	0.1181	0.0141	-2.0039	0.0747	-0.6358	0.1691
4	94.92	0.4500	-0.1823	0.0056	0.2008	0.0178	-2.9374	0.0962	-0.9509	0.1638
4	94.92	0.5001	-0.2813	0.0086	0.2472	0.0228	-3.9169	0.1168	-0.6015	0.1535
4	94.92	0.5560	-0.3832	0.0085	0.3259	0.0279	-5.3257	0.1361	-0.8576	0.1609
4	94.92	0.6001	-0.4328	0.0104	0.3788	0.0339	-6.5568	0.1572	-0.8223	0.1627
4	94.92	0.6501	-0.5541	0.0137	0.4626	0.0397	-8.1524	0.1698	-0.7605	0.1732
4	94.92	0.6999	-0.6797	0.0143	0.5168	0.0463	-9.9576	0.1875	-0.6127	0.1750
4	94.92	0.7500	-0.8218	0.0164	0.5792	0.0536	-11.9518	0.2026	-0.4991	0.1697
4	94.92	0.8002	-1.0003	0.0197	0.6345	0.0611	-14.1112	0.2157	-0.6410	0.1746
4	94.92	0.8582	-1.1930	0.0236	0.7139	0.0701	-16.6642	0.2335	-0.4753	0.1669
4	94.92	0.9101	-1.3551	0.0268	0.7937	0.0793	-19.0927	0.2534	-0.8369	0.1730
4	94.92	0.9728	-1.4342	0.0302	0.9187	0.0890	-21.9244	0.2811	-0.6392	0.1533

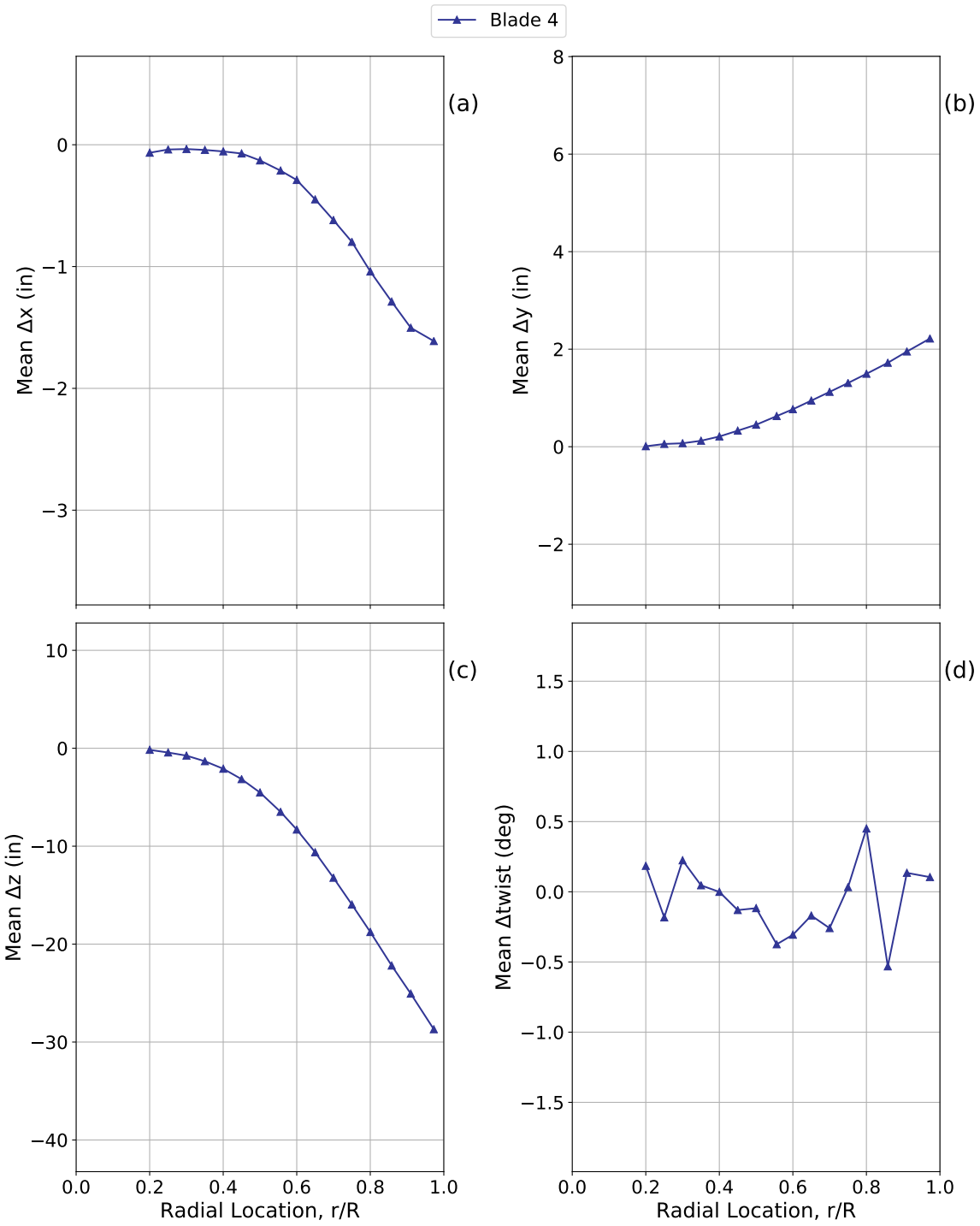


Figure 3.38-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0657	0.0036	0.0091	0.0016	-0.1623	0.0080	0.1844	0.0268
4	105.12	0.2502	-0.0390	0.0030	0.0560	0.0025	-0.4363	0.0211	-0.1827	0.0396
4	105.12	0.3001	-0.0354	0.0035	0.0705	0.0055	-0.7536	0.0358	0.2242	0.0563
4	105.12	0.3502	-0.0427	0.0047	0.1222	0.0100	-1.3254	0.0628	0.0460	0.0646
4	105.12	0.4002	-0.0550	0.0075	0.2097	0.0147	-2.0946	0.0993	-0.0009	0.0598
4	105.12	0.4500	-0.0719	0.0105	0.3286	0.0207	-3.1566	0.1476	-0.1304	0.0517
4	105.12	0.5001	-0.1290	0.0172	0.4505	0.0272	-4.5233	0.2105	-0.1168	0.0667
4	105.12	0.5560	-0.2126	0.0253	0.6280	0.0351	-6.4959	0.2884	-0.3743	0.0595
4	105.12	0.6001	-0.2896	0.0335	0.7683	0.0415	-8.3066	0.3544	-0.3061	0.0543
4	105.12	0.6501	-0.4489	0.0444	0.9452	0.0483	-10.6264	0.4287	-0.1695	0.0509
4	105.12	0.6999	-0.6192	0.0553	1.1241	0.0555	-13.2287	0.5044	-0.2592	0.0584
4	105.12	0.7500	-0.7977	0.0690	1.3063	0.0628	-15.9628	0.5783	0.0327	0.0566
4	105.12	0.8002	-1.0409	0.0834	1.4951	0.0698	-18.7702	0.6579	0.4505	0.0719
4	105.12	0.8582	-1.2882	0.1008	1.7206	0.0779	-22.1945	0.7574	-0.5316	0.0732
4	105.12	0.9101	-1.5028	0.1157	1.9516	0.0853	-25.0626	0.8484	0.1348	0.0750
4	105.12	0.9728	-1.6119	0.1337	2.2183	0.0952	-28.6991	0.9631	0.1046	0.0713

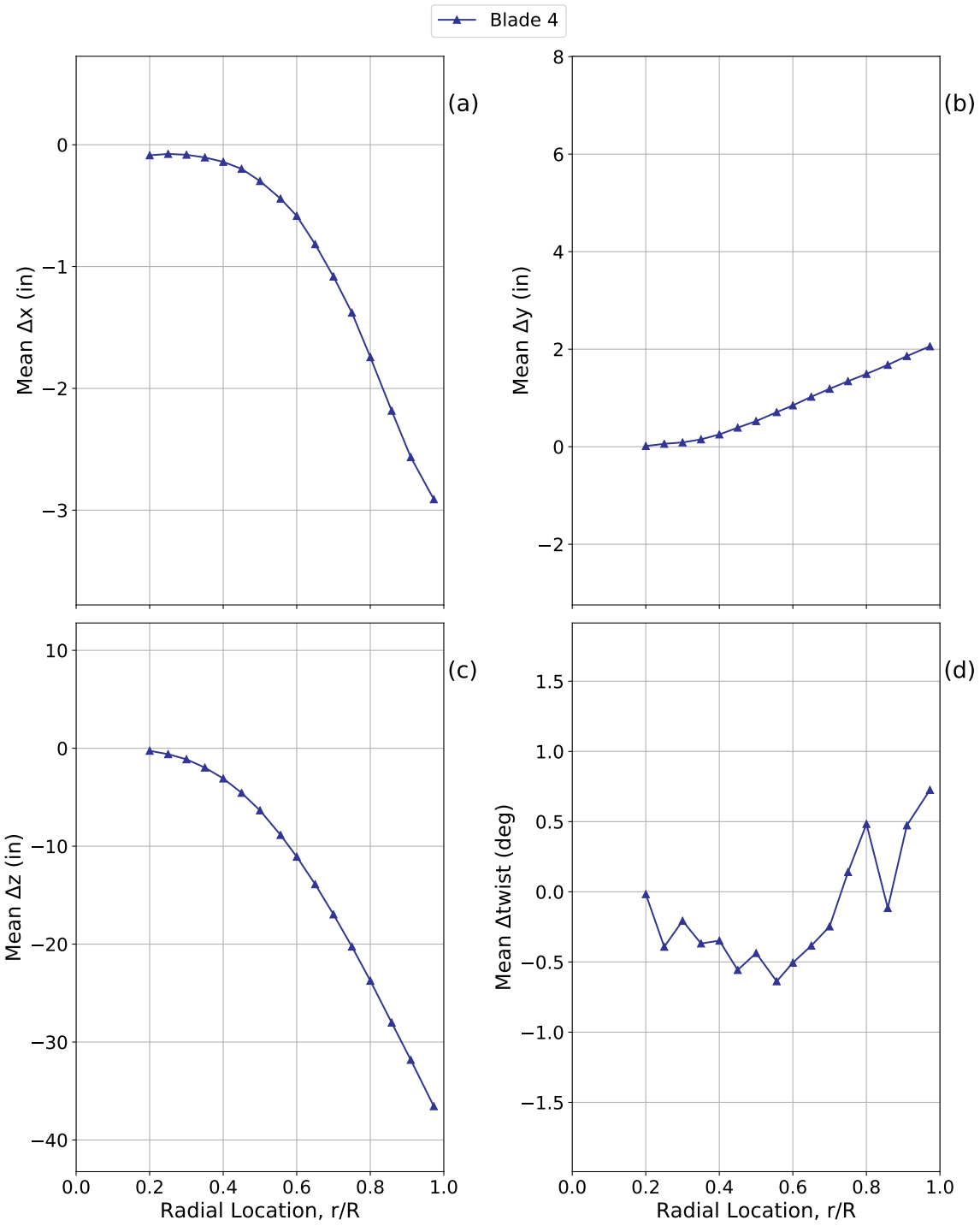


Figure 3.38-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0867	0.0048	0.0143	0.0010	-0.2580	0.0066	-0.0169	0.0285
4	119.88	0.2502	-0.0755	0.0036	0.0594	0.0019	-0.6065	0.0143	-0.3919	0.0648
4	119.88	0.3001	-0.0823	0.0039	0.0881	0.0035	-1.1281	0.0275	-0.2067	0.0718
4	119.88	0.3502	-0.1044	0.0059	0.1503	0.0066	-1.9748	0.0492	-0.3685	0.0740
4	119.88	0.4002	-0.1405	0.0086	0.2516	0.0097	-3.0856	0.0757	-0.3482	0.0747
4	119.88	0.4500	-0.1979	0.0110	0.3906	0.0144	-4.5564	0.1079	-0.5574	0.0759
4	119.88	0.5001	-0.2982	0.0162	0.5243	0.0190	-6.3520	0.1499	-0.4367	0.0744
4	119.88	0.5560	-0.4427	0.0235	0.7084	0.0257	-8.8565	0.2060	-0.6379	0.0739
4	119.88	0.6001	-0.5842	0.0323	0.8471	0.0311	-11.0787	0.2631	-0.5052	0.0705
4	119.88	0.6501	-0.8170	0.0450	1.0242	0.0383	-13.8887	0.3385	-0.3841	0.0758
4	119.88	0.6999	-1.0824	0.0620	1.1873	0.0457	-16.9675	0.4247	-0.2471	0.0936
4	119.88	0.7500	-1.3788	0.0827	1.3434	0.0529	-20.2565	0.5239	0.1403	0.1064
4	119.88	0.8002	-1.7439	0.1061	1.4925	0.0607	-23.7476	0.6325	0.4834	0.0991
4	119.88	0.8582	-2.1837	0.1353	1.6778	0.0688	-28.0233	0.7609	-0.1159	0.1037
4	119.88	0.9101	-2.5648	0.1603	1.8588	0.0768	-31.8208	0.8766	0.4729	0.1072
4	119.88	0.9728	-2.9107	0.1913	2.0590	0.0857	-36.5555	1.0190	0.7258	0.1156

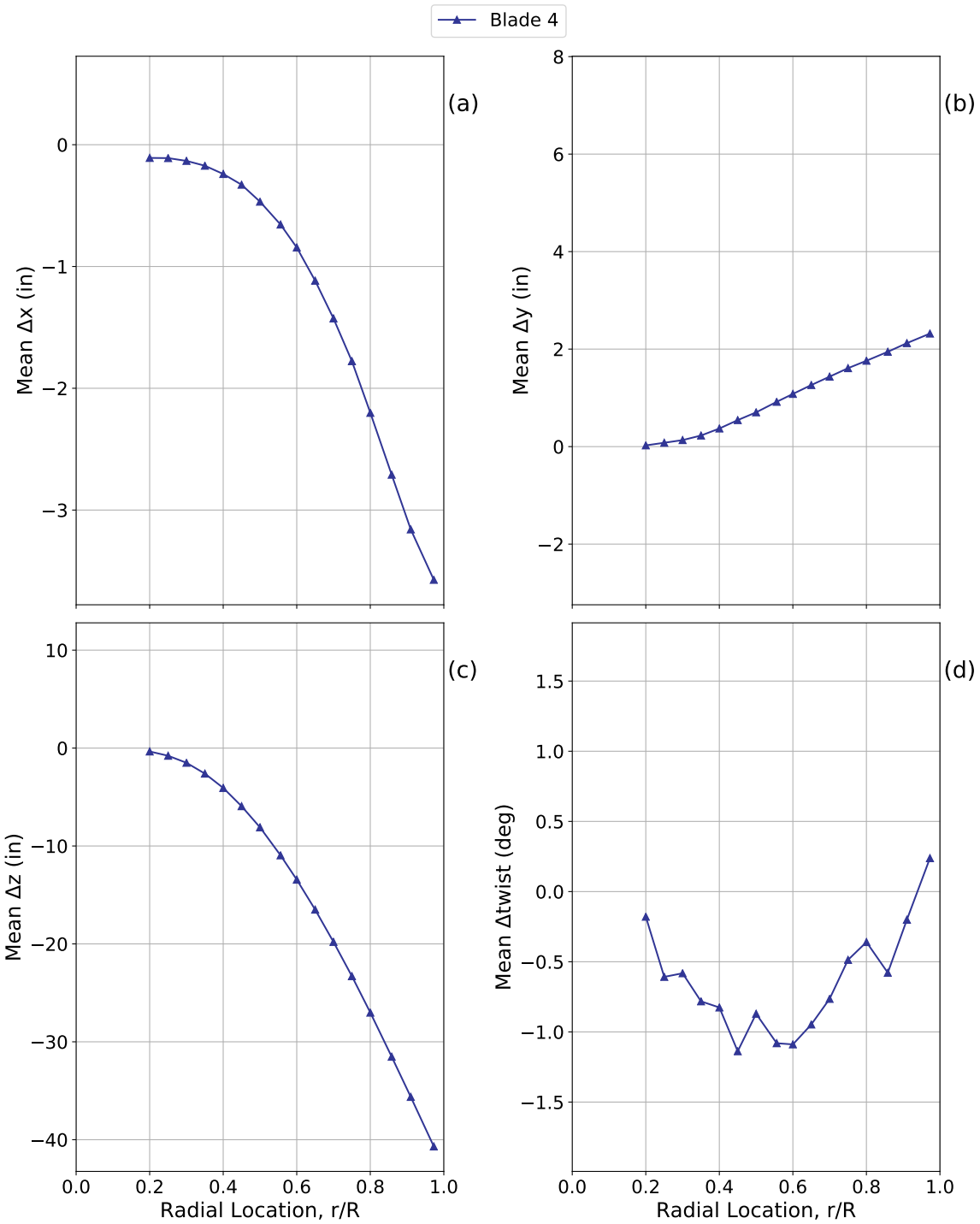


Figure 3.38-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.1085	0.0041	0.0252	0.0013	-0.3471	0.0070	-0.1793	0.0219
4	135	0.2502	-0.1099	0.0033	0.0789	0.0039	-0.7847	0.0158	-0.6079	0.0335
4	135	0.3001	-0.1328	0.0051	0.1336	0.0060	-1.5018	0.0288	-0.5821	0.0460
4	135	0.3502	-0.1726	0.0067	0.2272	0.0111	-2.6080	0.0541	-0.7822	0.0465
4	135	0.4002	-0.2405	0.0097	0.3714	0.0174	-4.0744	0.0816	-0.8260	0.0354
4	135	0.4500	-0.3286	0.0150	0.5434	0.0232	-5.9375	0.1222	-1.1380	0.0529
4	135	0.5001	-0.4678	0.0220	0.7029	0.0304	-8.0974	0.1706	-0.8708	0.0615
4	135	0.5560	-0.6557	0.0309	0.9184	0.0407	-10.9574	0.2379	-1.0806	0.0849
4	135	0.6001	-0.8443	0.0416	1.0809	0.0476	-13.4417	0.2936	-1.0890	0.0778
4	135	0.6501	-1.1168	0.0555	1.2628	0.0552	-16.5021	0.3684	-0.9471	0.0915
4	135	0.6999	-1.4265	0.0729	1.4352	0.0639	-19.7986	0.4522	-0.7646	0.0862
4	135	0.7500	-1.7775	0.0942	1.6089	0.0730	-23.2981	0.5440	-0.4868	0.0863
4	135	0.8002	-2.2019	0.1191	1.7614	0.0813	-27.0237	0.6469	-0.3598	0.0722
4	135	0.8582	-2.7099	0.1531	1.9449	0.0908	-31.5260	0.7809	-0.5785	0.0843
4	135	0.9101	-3.1591	0.1842	2.1226	0.0994	-35.6303	0.9083	-0.2007	0.0731
4	135	0.9728	-3.5730	0.2253	2.3187	0.1099	-40.6894	1.0777	0.2381	0.0687

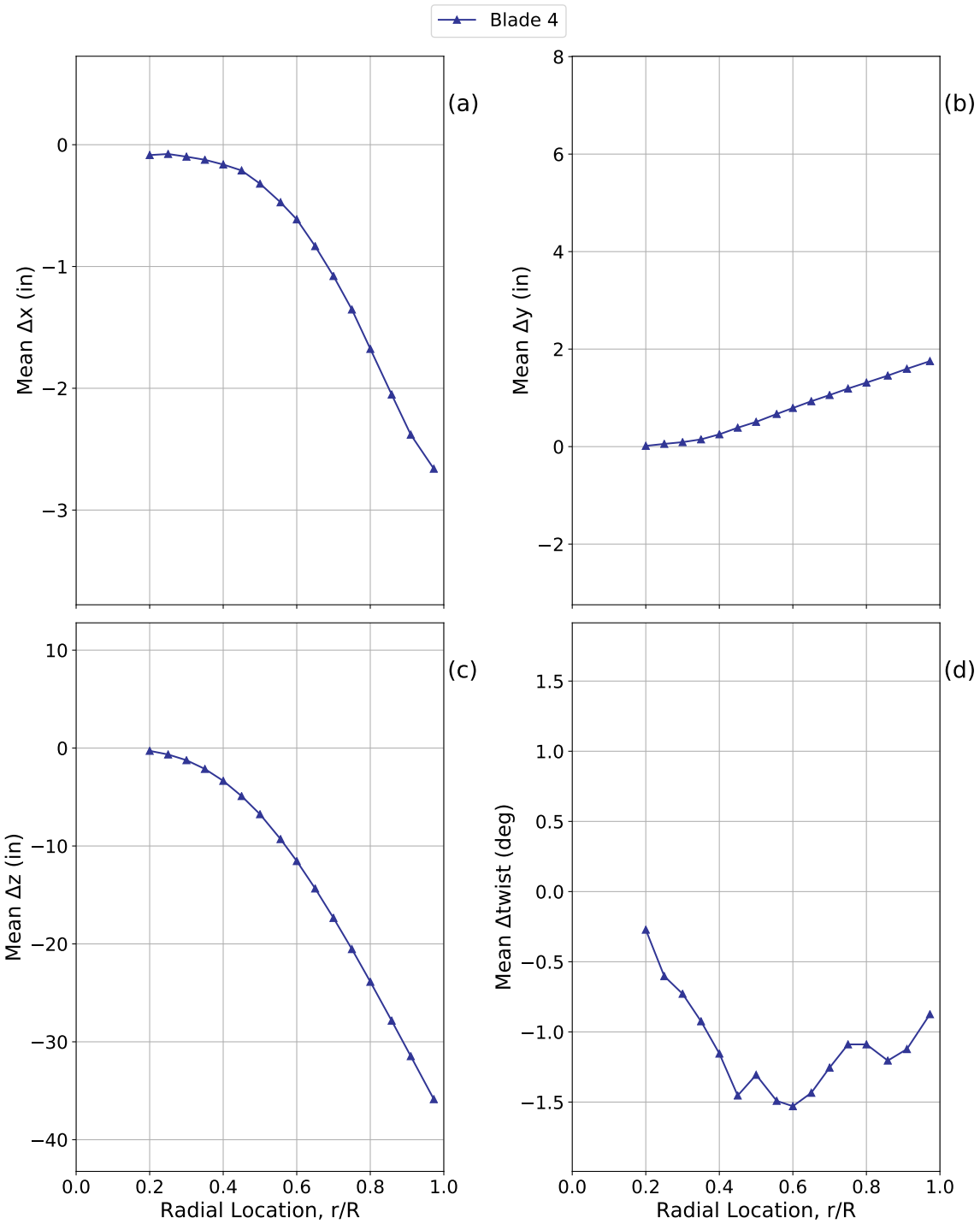


Figure 3.38-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0851	0.0065	0.0152	0.0013	-0.2826	0.0114	-0.2718	0.0409
4	150.12	0.2502	-0.0762	0.0045	0.0556	0.0029	-0.6546	0.0242	-0.6028	0.0702
4	150.12	0.3001	-0.0983	0.0053	0.0917	0.0064	-1.2387	0.0477	-0.7285	0.0985
4	150.12	0.3502	-0.1238	0.0077	0.1484	0.0098	-2.1314	0.0824	-0.9245	0.1142
4	150.12	0.4002	-0.1627	0.0116	0.2519	0.0162	-3.3494	0.1280	-1.1548	0.1301
4	150.12	0.4500	-0.2117	0.0170	0.3875	0.0205	-4.9018	0.1913	-1.4536	0.1365
4	150.12	0.5001	-0.3200	0.0261	0.5071	0.0245	-6.7572	0.2639	-1.3061	0.1352
4	150.12	0.5560	-0.4732	0.0378	0.6686	0.0328	-9.2992	0.3599	-1.4914	0.1578
4	150.12	0.6001	-0.6134	0.0517	0.7920	0.0371	-11.5422	0.4447	-1.5295	0.1575
4	150.12	0.6501	-0.8331	0.0685	0.9301	0.0416	-14.3423	0.5511	-1.4341	0.1650
4	150.12	0.6999	-1.0784	0.0893	1.0574	0.0466	-17.3521	0.6590	-1.2546	0.1660
4	150.12	0.7500	-1.3533	0.1112	1.1904	0.0521	-20.5349	0.7717	-1.0890	0.1781
4	150.12	0.8002	-1.6769	0.1369	1.3127	0.0564	-23.8760	0.8931	-1.0890	0.1755
4	150.12	0.8582	-2.0517	0.1686	1.4564	0.0618	-27.8512	1.0349	-1.2046	0.1621
4	150.12	0.9101	-2.3810	0.1962	1.5955	0.0667	-31.4696	1.1689	-1.1226	0.1804
4	150.12	0.9728	-2.6610	0.2290	1.7531	0.0745	-35.8643	1.3339	-0.8740	0.1639

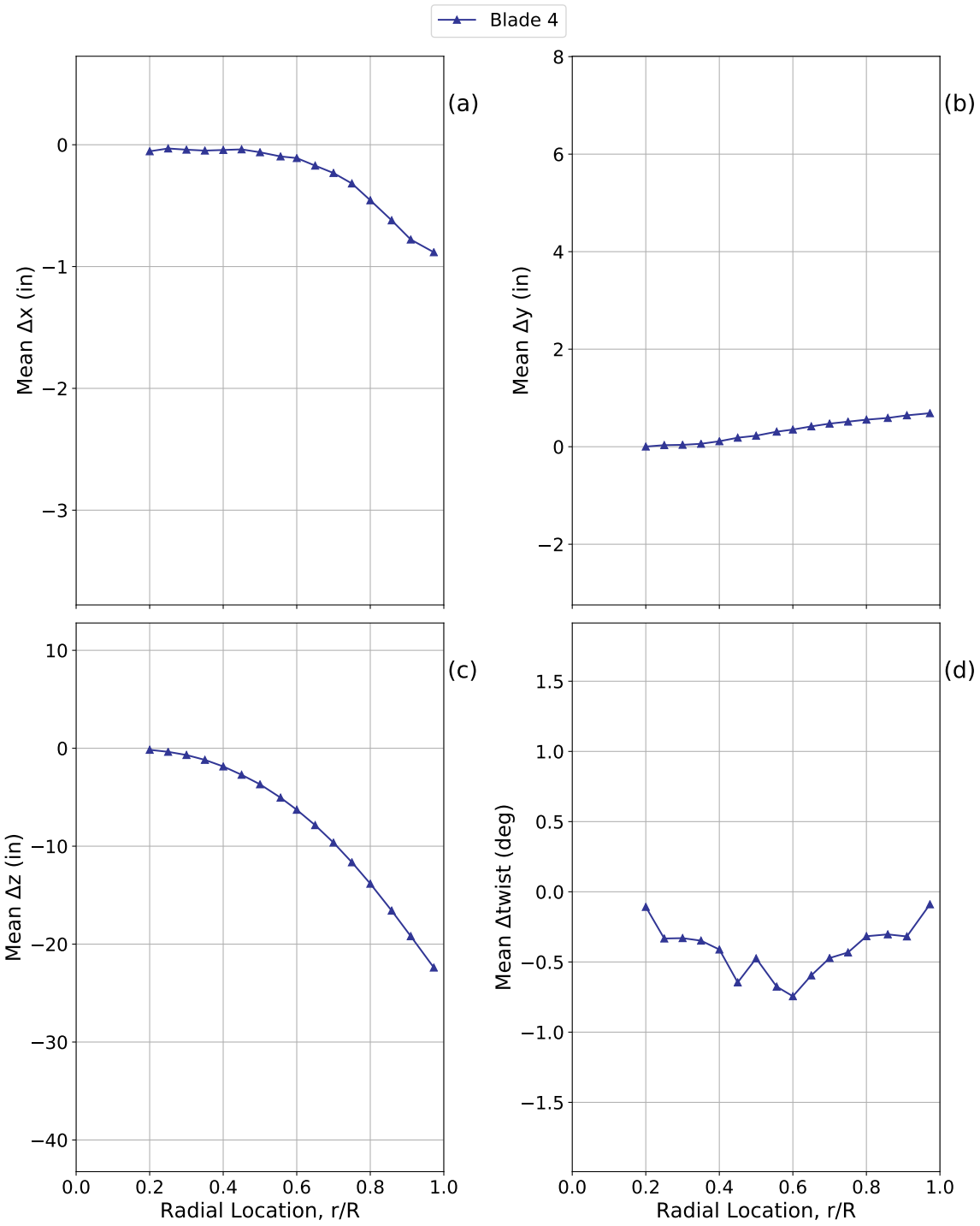


Figure 3.38-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0536	0.0022	0.0027	0.0010	-0.1596	0.0050	-0.1078	0.0268
4	164.88	0.2502	-0.0307	0.0026	0.0320	0.0034	-0.3643	0.0136	-0.3329	0.0446
4	164.88	0.3001	-0.0405	0.0024	0.0382	0.0048	-0.6888	0.0215	-0.3302	0.0569
4	164.88	0.3502	-0.0480	0.0028	0.0598	0.0080	-1.1864	0.0392	-0.3482	0.0568
4	164.88	0.4002	-0.0430	0.0040	0.1122	0.0133	-1.8586	0.0609	-0.4115	0.0645
4	164.88	0.4500	-0.0379	0.0064	0.1845	0.0171	-2.7098	0.0865	-0.6457	0.0489
4	164.88	0.5001	-0.0618	0.0082	0.2258	0.0245	-3.6830	0.1201	-0.4746	0.0602
4	164.88	0.5560	-0.0960	0.0110	0.3081	0.0281	-5.0458	0.1622	-0.6758	0.0613
4	164.88	0.6001	-0.1094	0.0137	0.3518	0.0332	-6.2835	0.1961	-0.7443	0.0566
4	164.88	0.6501	-0.1716	0.0179	0.4169	0.0397	-7.8552	0.2392	-0.5958	0.0570
4	164.88	0.6999	-0.2320	0.0223	0.4734	0.0462	-9.6349	0.2862	-0.4720	0.0678
4	164.88	0.7500	-0.3181	0.0297	0.5138	0.0532	-11.6477	0.3380	-0.4322	0.0599
4	164.88	0.8002	-0.4562	0.0367	0.5546	0.0597	-13.8358	0.3898	-0.3166	0.0695
4	164.88	0.8582	-0.6208	0.0460	0.5897	0.0686	-16.5859	0.4517	-0.3034	0.0704
4	164.88	0.9101	-0.7783	0.0543	0.6434	0.0758	-19.1927	0.5071	-0.3182	0.0713
4	164.88	0.9728	-0.8824	0.0635	0.6872	0.0851	-22.3964	0.5745	-0.0893	0.0717

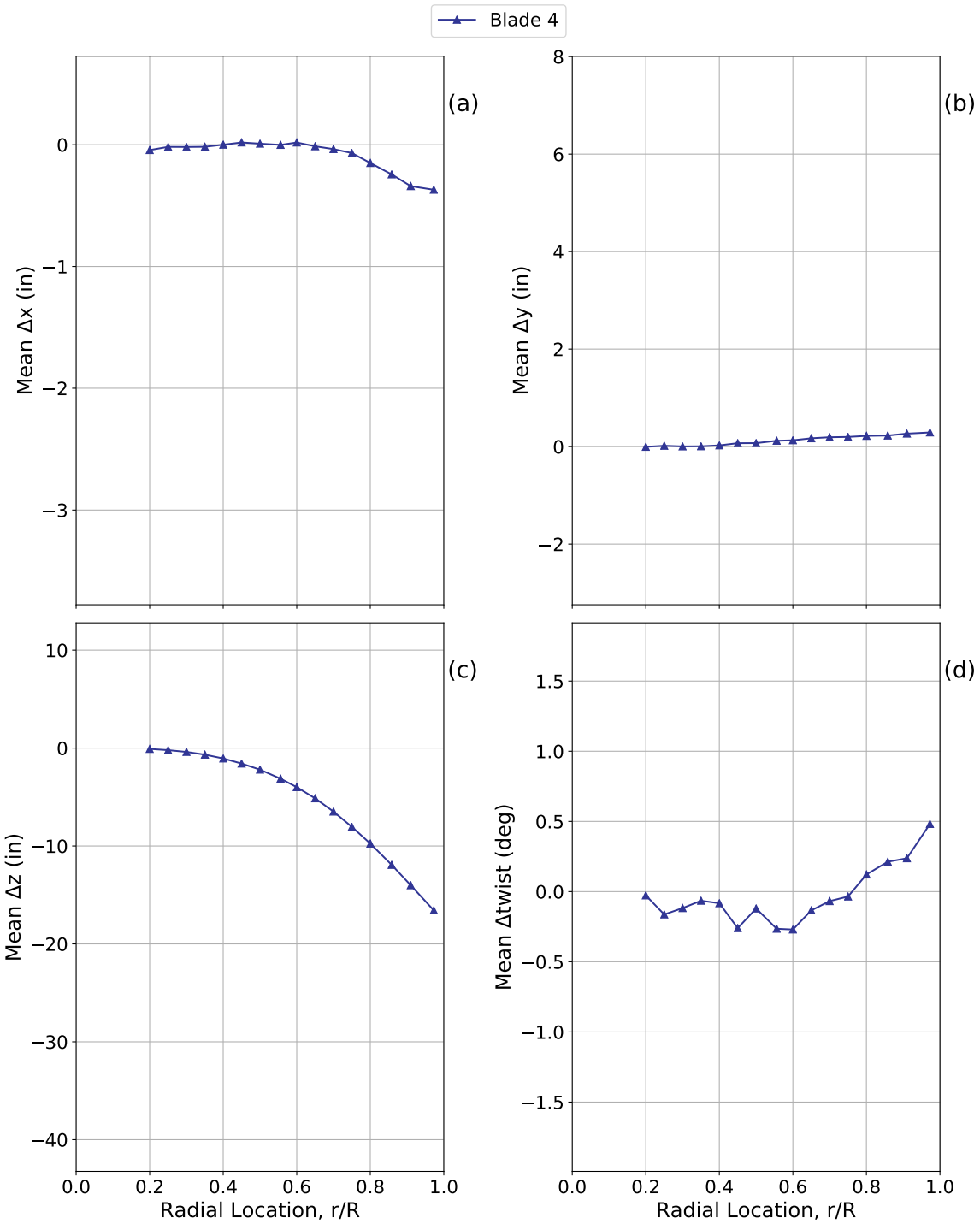


Figure 3.38-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0438	0.0020	-0.0047	0.0031	-0.0873	0.0117	-0.0271	0.0660
4	170.16	0.2502	-0.0177	0.0021	0.0173	0.0045	-0.2123	0.0163	-0.1629	0.1090
4	170.16	0.3001	-0.0184	0.0024	0.0040	0.0064	-0.3934	0.0247	-0.1176	0.0792
4	170.16	0.3502	-0.0170	0.0022	0.0067	0.0084	-0.6704	0.0351	-0.0652	0.0779
4	170.16	0.4002	0.0002	0.0036	0.0253	0.0111	-1.0630	0.0473	-0.0829	0.0983
4	170.16	0.4500	0.0184	0.0044	0.0705	0.0154	-1.5815	0.0646	-0.2606	0.0908
4	170.16	0.5001	0.0086	0.0056	0.0721	0.0180	-2.2025	0.0826	-0.1206	0.0806
4	170.16	0.5560	-0.0013	0.0057	0.1203	0.0212	-3.1244	0.1117	-0.2650	0.0892
4	170.16	0.6001	0.0181	0.0074	0.1303	0.0240	-3.9951	0.1326	-0.2704	0.0787
4	170.16	0.6501	-0.0129	0.0091	0.1712	0.0278	-5.1361	0.1544	-0.1339	0.0731
4	170.16	0.6999	-0.0359	0.0111	0.1924	0.0318	-6.4864	0.1811	-0.0679	0.0792
4	170.16	0.7500	-0.0683	0.0137	0.1988	0.0353	-8.0460	0.2115	-0.0351	0.0839
4	170.16	0.8002	-0.1501	0.0180	0.2206	0.0405	-9.7559	0.2449	0.1218	0.0915
4	170.16	0.8582	-0.2438	0.0228	0.2275	0.0465	-11.9293	0.2877	0.2124	0.0846
4	170.16	0.9101	-0.3402	0.0275	0.2666	0.0516	-14.0126	0.3283	0.2372	0.0917
4	170.16	0.9728	-0.3700	0.0336	0.2907	0.0594	-16.5747	0.3788	0.4818	0.0779

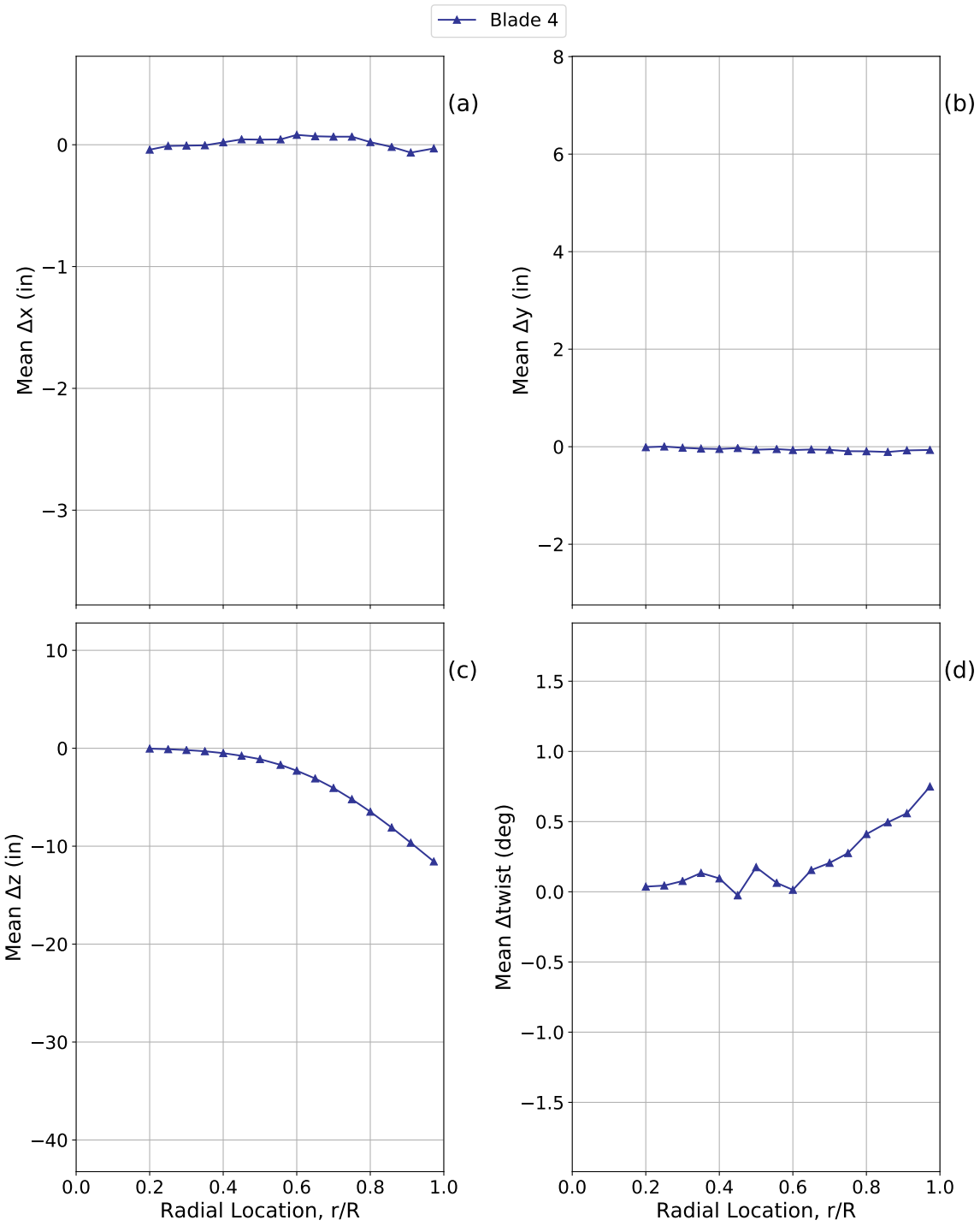


Figure 3.38-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0407	0.0024	-0.0103	0.0015	-0.0367	0.0070	0.0366	0.0510
4	175.08	0.2502	-0.0097	0.0023	0.0034	0.0032	-0.0982	0.0150	0.0443	0.0659
4	175.08	0.3001	-0.0071	0.0026	-0.0217	0.0055	-0.1825	0.0278	0.0767	0.1030
4	175.08	0.3502	-0.0048	0.0029	-0.0391	0.0101	-0.3061	0.0466	0.1340	0.0735
4	175.08	0.4002	0.0197	0.0052	-0.0463	0.0152	-0.4963	0.0725	0.0951	0.0969
4	175.08	0.4500	0.0444	0.0055	-0.0278	0.0194	-0.7704	0.1067	-0.0259	0.0869
4	175.08	0.5001	0.0421	0.0066	-0.0616	0.0251	-1.1095	0.1464	0.1749	0.0852
4	175.08	0.5560	0.0439	0.0084	-0.0486	0.0319	-1.6973	0.1976	0.0634	0.0841
4	175.08	0.6001	0.0810	0.0096	-0.0685	0.0370	-2.2920	0.2398	0.0137	0.0871
4	175.08	0.6501	0.0696	0.0125	-0.0570	0.0432	-3.0857	0.2937	0.1548	0.0870
4	175.08	0.6999	0.0663	0.0148	-0.0640	0.0480	-4.0596	0.3530	0.2058	0.1003
4	175.08	0.7500	0.0663	0.0190	-0.0918	0.0529	-5.2071	0.4166	0.2756	0.0773
4	175.08	0.8002	0.0215	0.0238	-0.0938	0.0587	-6.4793	0.4797	0.4109	0.1019
4	175.08	0.8582	-0.0179	0.0319	-0.1078	0.0649	-8.0989	0.5682	0.4950	0.0954
4	175.08	0.9101	-0.0645	0.0392	-0.0755	0.0717	-9.6514	0.6526	0.5593	0.0956
4	175.08	0.9728	-0.0304	0.0487	-0.0664	0.0788	-11.5627	0.7582	0.7493	0.1096

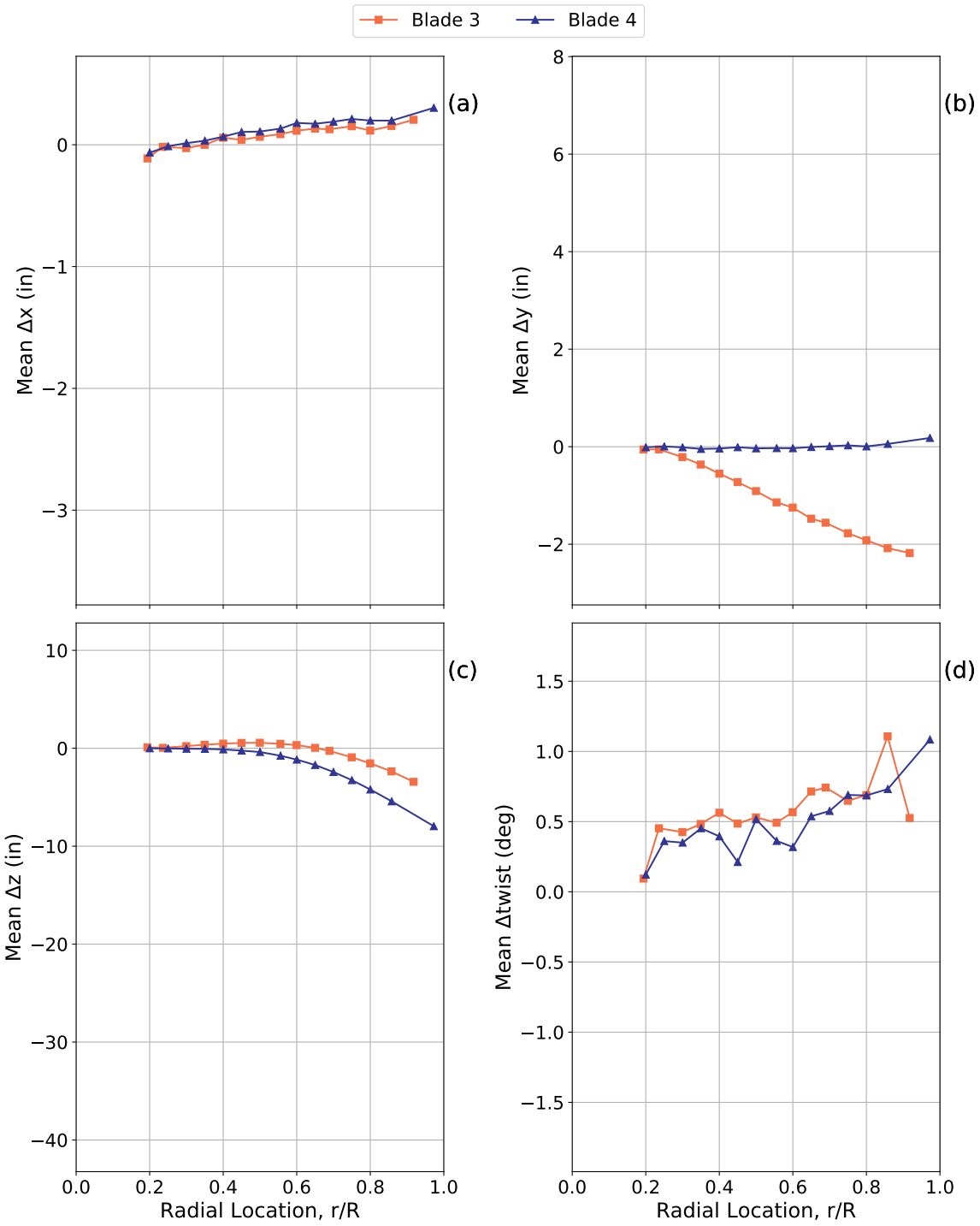


Figure 3.38-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.1123	0.0163	-0.0576	0.0160	0.0963	0.0272	0.0942	0.0154
3	180.35	0.2357	-0.0175	0.0075	-0.0545	0.0048	0.0414	0.0163	0.4526	0.0531
3	180.35	0.2995	-0.0274	0.0141	-0.2125	0.0463	0.2187	0.0724	0.4252	0.0515
3	180.35	0.3493	-0.0004	0.0225	-0.3655	0.0796	0.3560	0.1163	0.4829	0.0511
3	180.35	0.4000	0.0577	0.0324	-0.5526	0.1142	0.4755	0.1652	0.5633	0.0558
3	180.35	0.4497	0.0402	0.0409	-0.7250	0.1481	0.5439	0.2143	0.4861	0.0543
3	180.35	0.4997	0.0650	0.0510	-0.9095	0.1830	0.5625	0.2687	0.5300	0.0598
3	180.35	0.5556	0.0874	0.0611	-1.1410	0.2213	0.4537	0.3270	0.4921	0.0901
3	180.35	0.5995	0.1153	0.0701	-1.2472	0.2516	0.3224	0.3888	0.5672	0.0625
3	180.35	0.6498	0.1323	0.0807	-1.4752	0.2857	0.0422	0.4575	0.7146	0.0663
3	180.35	0.6890	0.1273	0.0877	-1.5584	0.3132	-0.2702	0.5153	0.7425	0.0687
3	180.35	0.7495	0.1517	0.0994	-1.7742	0.3540	-0.9240	0.6092	0.6481	0.0673
3	180.35	0.7998	0.1165	0.1091	-1.9186	0.3870	-1.5408	0.6864	0.6885	0.0762
3	180.35	0.8577	0.1543	0.1044	-2.0807	0.4174	-2.3618	0.8045	1.1071	0.3559
3	180.35	0.9178	0.2050	0.0794	-2.1799	0.4311	-3.4283	0.8116	0.5257	0.1182
4	180	0.2001	-0.0648	0.0014	-0.0117	0.0021	-0.0060	0.0053	0.1222	0.0201
4	180	0.2502	-0.0122	0.0016	0.0052	0.0024	-0.0203	0.0117	0.3613	0.0434
4	180	0.3001	0.0134	0.0017	-0.0124	0.0063	-0.0479	0.0217	0.3500	0.0494
4	180	0.3502	0.0331	0.0022	-0.0455	0.0112	-0.0611	0.0363	0.4526	0.0398
4	180	0.4002	0.0666	0.0031	-0.0374	0.0158	-0.1171	0.0574	0.3947	0.0484
4	180	0.4500	0.1047	0.0033	-0.0104	0.0203	-0.2402	0.0836	0.2119	0.0560
4	180	0.5001	0.1087	0.0051	-0.0341	0.0235	-0.3843	0.1185	0.5165	0.0576
4	180	0.5560	0.1322	0.0043	-0.0292	0.0293	-0.7630	0.1622	0.3622	0.0580
4	180	0.6001	0.1794	0.0059	-0.0314	0.0331	-1.1603	0.2043	0.3186	0.0661
4	180	0.6501	0.1722	0.0082	-0.0065	0.0376	-1.7095	0.2581	0.5377	0.0639
4	180	0.6999	0.1892	0.0110	0.0109	0.0429	-2.4251	0.3209	0.5757	0.0688
4	180	0.7500	0.2117	0.0147	0.0274	0.0456	-3.2588	0.3963	0.6898	0.0812
4	180	0.8002	0.1987	0.0197	0.0065	0.0533	-4.2115	0.4735	0.6863	0.0614
4	180	0.8582	0.1983	0.0250	0.0572	0.0636	-5.4215	0.5783	0.7319	0.0873
4	180	0.9728	0.3032	0.0381	0.1796	0.0755	-7.9590	0.7917	1.0842	0.1934

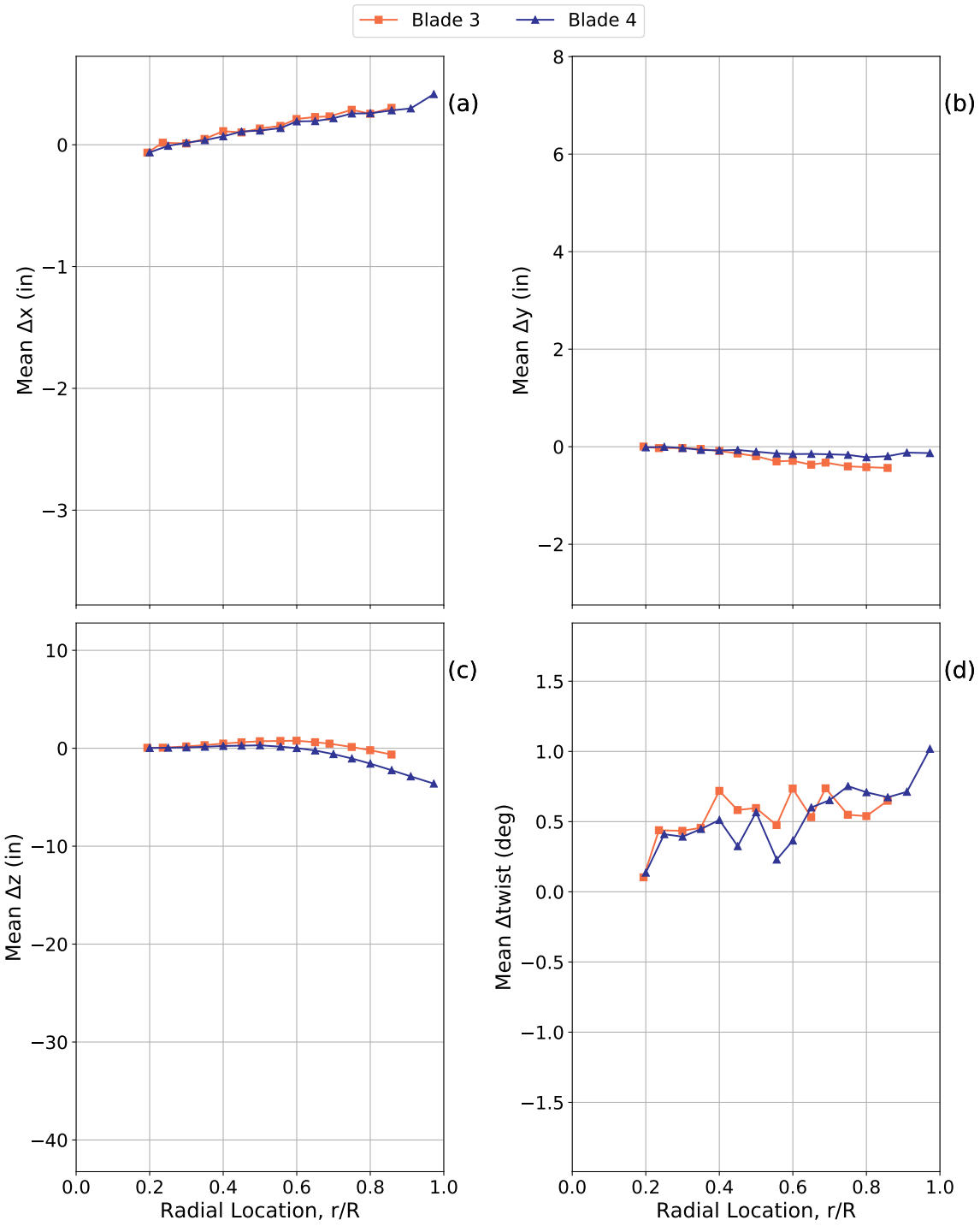


Figure 3.38-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0646	0.0018	0.0032	0.0014	0.0516	0.0072	0.1031	0.0248
3	184.92	0.2357	0.0168	0.0011	-0.0286	0.0025	0.0577	0.0145	0.4385	0.0402
3	184.92	0.2995	0.0104	0.0015	-0.0266	0.0058	0.1871	0.0323	0.4344	0.0581
3	184.92	0.3493	0.0479	0.0014	-0.0451	0.0104	0.3166	0.0544	0.4558	0.0435
3	184.92	0.4000	0.1116	0.0022	-0.0874	0.0158	0.4786	0.0856	0.7190	0.0625
3	184.92	0.4497	0.1010	0.0015	-0.1387	0.0191	0.6089	0.1170	0.5824	0.0561
3	184.92	0.4997	0.1336	0.0015	-0.1941	0.0224	0.7166	0.1527	0.5966	0.0663
3	184.92	0.5556	0.1546	0.0018	-0.3005	0.0268	0.7491	0.1909	0.4753	0.0551
3	184.92	0.5995	0.2115	0.0014	-0.2886	0.0283	0.7704	0.2259	0.7354	0.0678
3	184.92	0.6498	0.2278	0.0021	-0.3687	0.0322	0.6169	0.2608	0.5318	0.0743
3	184.92	0.6890	0.2327	0.0021	-0.3256	0.0353	0.4707	0.2814	0.7372	0.0483
3	184.92	0.7495	0.2869	0.0026	-0.4033	0.0405	0.1294	0.3239	0.5486	0.0603
3	184.92	0.7998	0.2545	0.0031	-0.4186	0.0423	-0.1985	0.3565	0.5390	0.0925
3	184.92	0.8577	0.3031	0.0046	-0.4354	0.0468	-0.6424	0.4016	0.6485	0.1388
4	184.92	0.2001	-0.0626	0.0013	-0.0134	0.0017	0.0218	0.0085	0.1362	0.0216
4	184.92	0.2502	-0.0090	0.0011	-0.0039	0.0029	0.0542	0.0168	0.4101	0.0422
4	184.92	0.3001	0.0166	0.0012	-0.0271	0.0059	0.0851	0.0325	0.3926	0.0502
4	184.92	0.3502	0.0375	0.0020	-0.0660	0.0112	0.1517	0.0558	0.4472	0.0573
4	184.92	0.4002	0.0689	0.0018	-0.0759	0.0162	0.2319	0.0854	0.5117	0.0526
4	184.92	0.4500	0.1087	0.0018	-0.0666	0.0223	0.2647	0.1244	0.3247	0.0671
4	184.92	0.5001	0.1162	0.0018	-0.1019	0.0303	0.2972	0.1694	0.5664	0.0553
4	184.92	0.5560	0.1370	0.0046	-0.1397	0.0433	0.1637	0.2268	0.2291	0.1248
4	184.92	0.6001	0.1917	0.0021	-0.1514	0.0462	0.0157	0.2863	0.3650	0.0597
4	184.92	0.6501	0.1939	0.0029	-0.1477	0.0556	-0.2294	0.3635	0.6008	0.0614
4	184.92	0.6999	0.2178	0.0041	-0.1561	0.0652	-0.5998	0.4532	0.6527	0.0645
4	184.92	0.7500	0.2563	0.0061	-0.1672	0.0760	-1.0475	0.5587	0.7526	0.0647
4	184.92	0.8002	0.2581	0.0089	-0.2169	0.0860	-1.5716	0.6776	0.7090	0.0905
4	184.92	0.8582	0.2822	0.0132	-0.1940	0.0949	-2.2448	0.8274	0.6733	0.0965
4	184.92	0.9101	0.2982	0.0158	-0.1211	0.1157	-2.8754	0.9651	0.7122	0.1372
4	184.92	0.9728	0.4154	0.0136	-0.1309	0.1126	-3.6113	1.1328	1.0181	0.0970

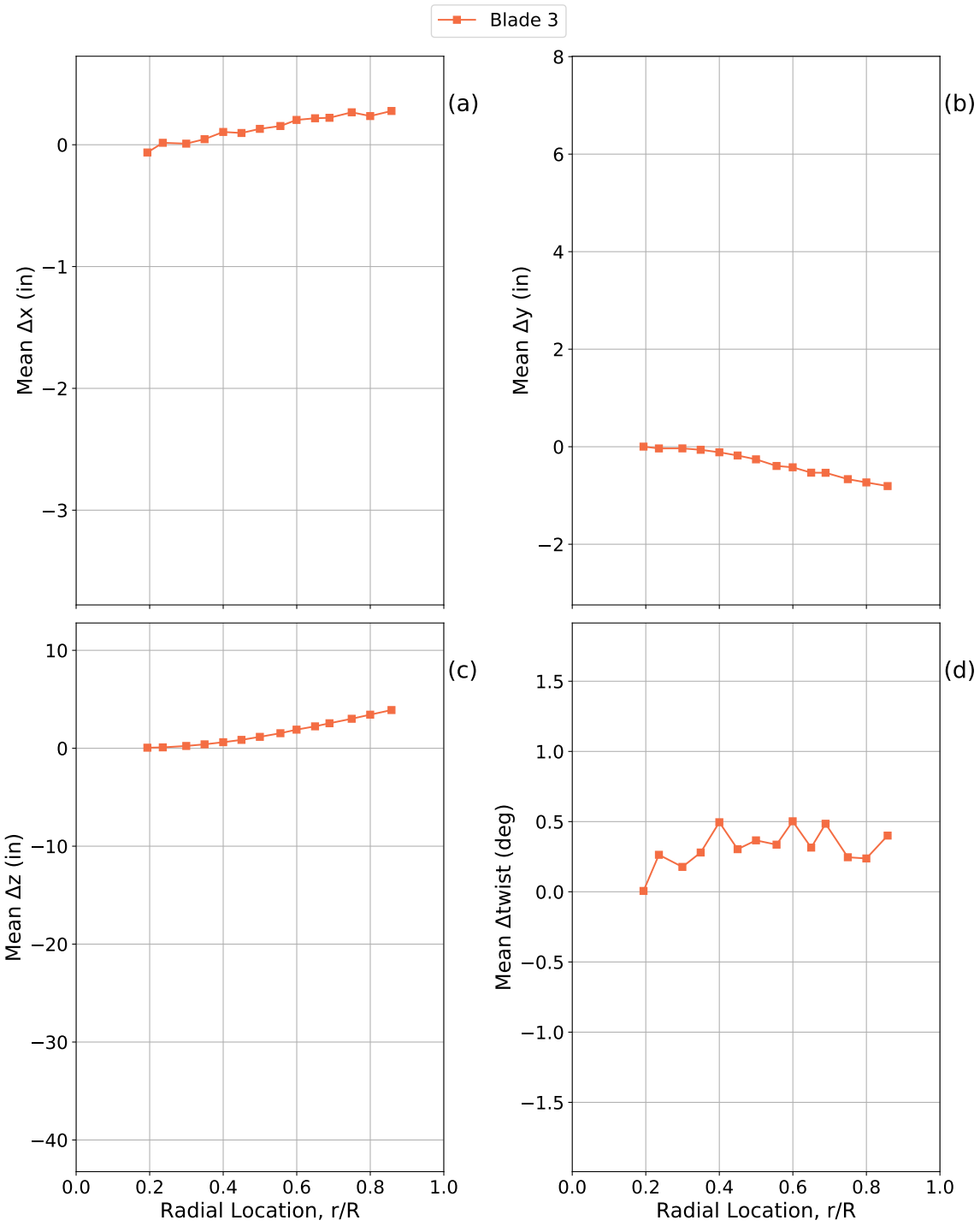


Figure 3.38-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0634	0.0017	0.0023	0.0017	0.0581	0.0058	0.0060	0.0152
3	195.12	0.2357	0.0160	0.0009	-0.0349	0.0023	0.0914	0.0105	0.2636	0.0325
3	195.12	0.2995	0.0090	0.0010	-0.0341	0.0068	0.2349	0.0237	0.1773	0.0349
3	195.12	0.3493	0.0457	0.0011	-0.0631	0.0099	0.4013	0.0391	0.2798	0.0265
3	195.12	0.4000	0.1051	0.0016	-0.1141	0.0164	0.6166	0.0611	0.4955	0.0311
3	195.12	0.4497	0.0965	0.0022	-0.1801	0.0214	0.8564	0.0819	0.3035	0.0298
3	195.12	0.4997	0.1305	0.0030	-0.2590	0.0272	1.1654	0.1077	0.3664	0.0358
3	195.12	0.5556	0.1538	0.0033	-0.3945	0.0338	1.5369	0.1395	0.3359	0.0374
3	195.12	0.5995	0.2038	0.0041	-0.4219	0.0389	1.9009	0.1662	0.5022	0.0404
3	195.12	0.6498	0.2175	0.0049	-0.5322	0.0456	2.2376	0.2024	0.3149	0.0519
3	195.12	0.6890	0.2213	0.0068	-0.5344	0.0502	2.5522	0.2316	0.4847	0.0540
3	195.12	0.7495	0.2664	0.0082	-0.6652	0.0583	3.0130	0.2837	0.2461	0.0633
3	195.12	0.7998	0.2356	0.0091	-0.7324	0.0652	3.4305	0.3274	0.2374	0.0544
3	195.12	0.8577	0.2772	0.0103	-0.8070	0.0724	3.9023	0.3869	0.4004	0.0819

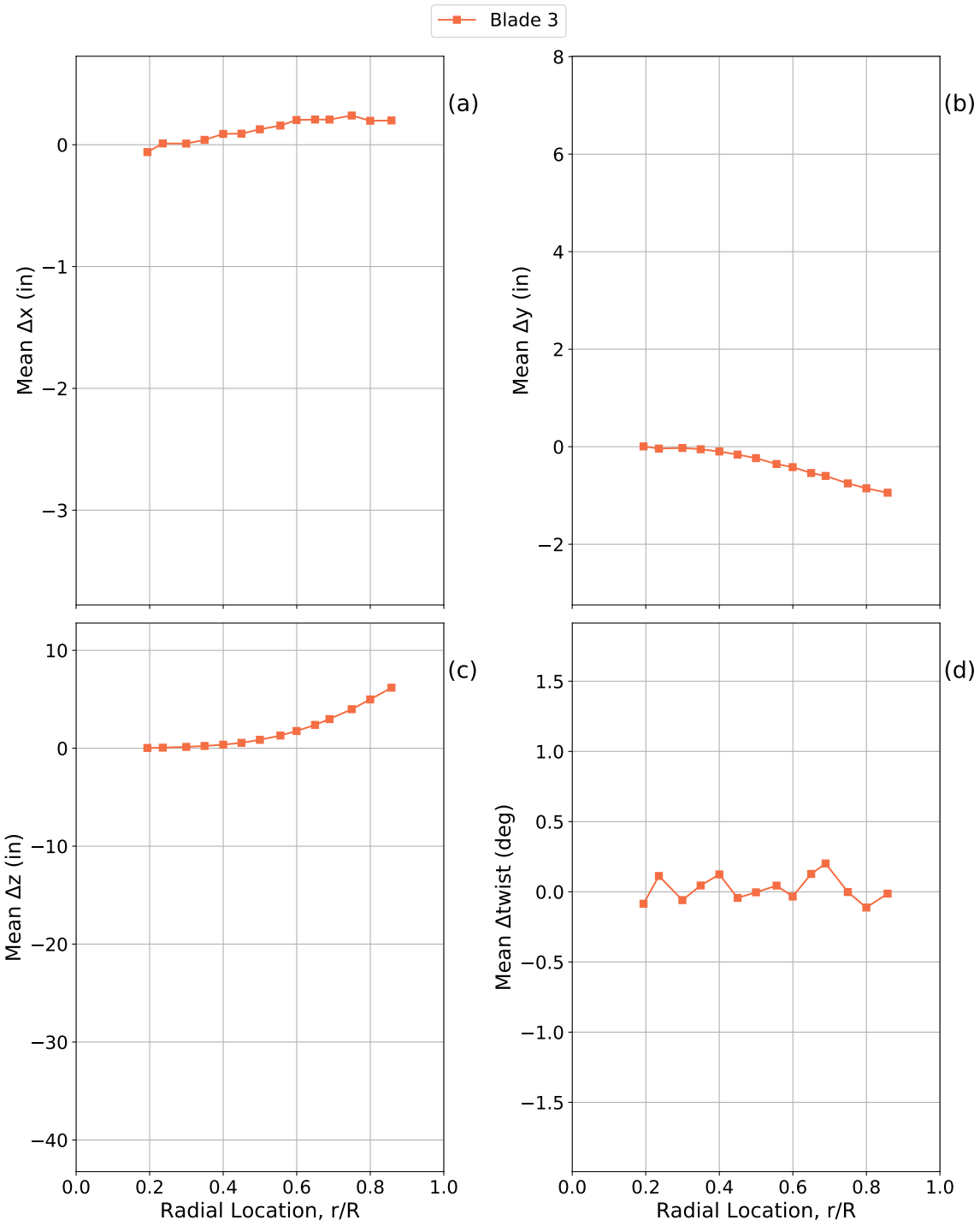


Figure 3.38-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0604	0.0012	0.0064	0.0013	0.0312	0.0086	-0.0855	0.0188
3	209.88	0.2357	0.0109	0.0012	-0.0378	0.0032	0.0629	0.0173	0.1127	0.0297
3	209.88	0.2995	0.0094	0.0016	-0.0257	0.0071	0.1378	0.0385	-0.0593	0.0405
3	209.88	0.3493	0.0401	0.0018	-0.0516	0.0117	0.2353	0.0636	0.0449	0.0466
3	209.88	0.4000	0.0890	0.0024	-0.0983	0.0189	0.3665	0.1005	0.1239	0.0276
3	209.88	0.4497	0.0910	0.0024	-0.1611	0.0216	0.5551	0.1365	-0.0433	0.0676
3	209.88	0.4997	0.1270	0.0030	-0.2342	0.0291	0.8603	0.1890	-0.0038	0.0541
3	209.88	0.5556	0.1574	0.0042	-0.3552	0.0375	1.2993	0.2532	0.0442	0.0527
3	209.88	0.5995	0.2033	0.0060	-0.4189	0.0444	1.7626	0.3105	-0.0338	0.0526
3	209.88	0.6498	0.2069	0.0095	-0.5393	0.0520	2.3870	0.3848	0.1272	0.0513
3	209.88	0.6890	0.2066	0.0126	-0.5998	0.0591	2.9777	0.4497	0.2017	0.0454
3	209.88	0.7495	0.2398	0.0192	-0.7519	0.0683	3.9896	0.5560	-0.0015	0.0525
3	209.88	0.7998	0.1969	0.0250	-0.8531	0.0764	4.9852	0.6525	-0.1123	0.0620
3	209.88	0.8577	0.1993	0.0337	-0.9433	0.0861	6.1840	0.7691	-0.0130	0.0611

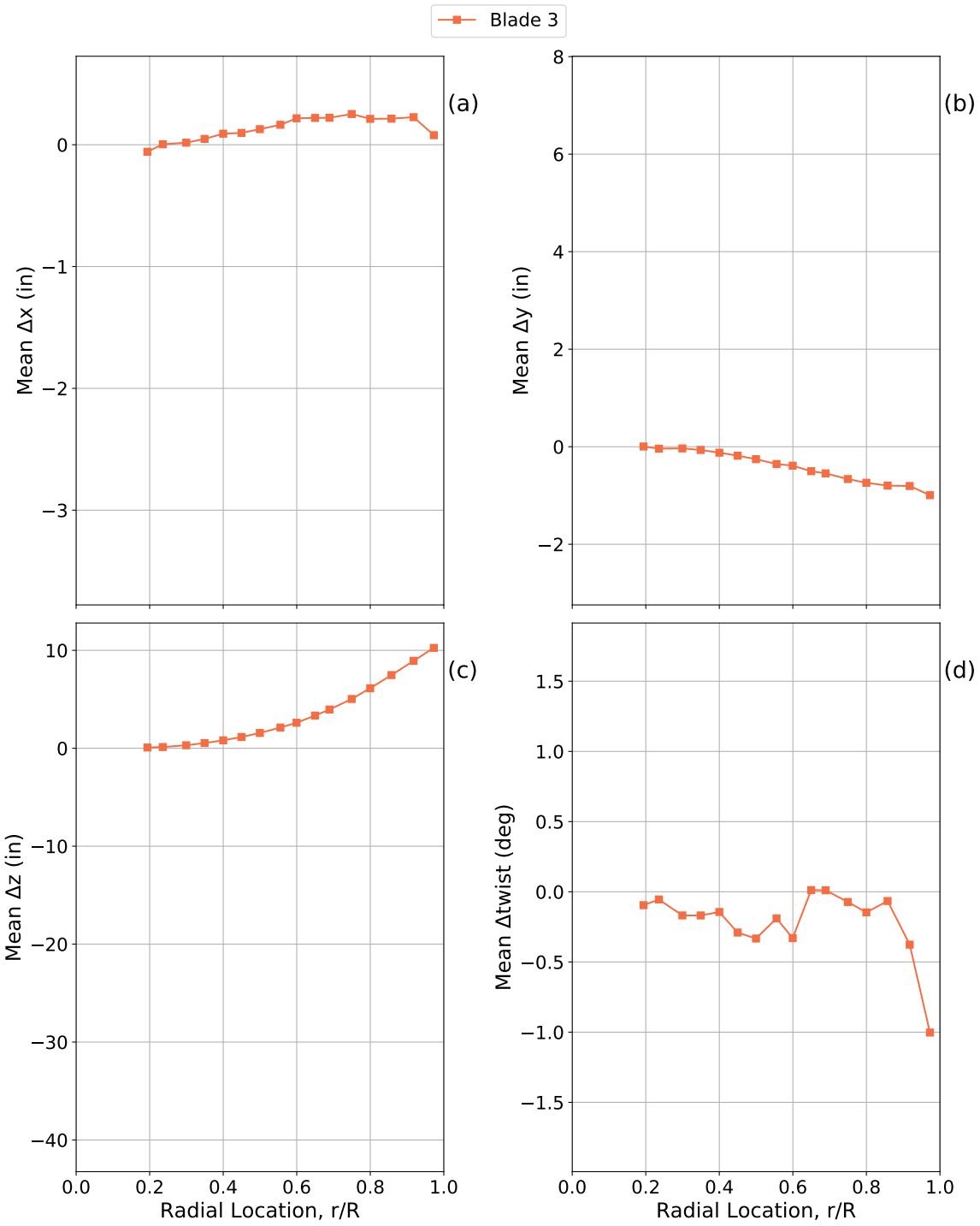


Figure 3.38-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0576	0.0019	0.0041	0.0012	0.0767	0.0061	-0.0953	0.0347
3	225	0.2357	0.0042	0.0014	-0.0399	0.0023	0.1243	0.0111	-0.0549	0.0288
3	225	0.2995	0.0171	0.0017	-0.0350	0.0052	0.3066	0.0242	-0.1684	0.0653
3	225	0.3493	0.0479	0.0025	-0.0667	0.0092	0.5301	0.0415	-0.1686	0.0625
3	225	0.4000	0.0909	0.0024	-0.1222	0.0142	0.8092	0.0638	-0.1438	0.0564
3	225	0.4497	0.0967	0.0030	-0.1835	0.0179	1.1467	0.0917	-0.2902	0.0515
3	225	0.4997	0.1280	0.0040	-0.2553	0.0223	1.5616	0.1207	-0.3329	0.0817
3	225	0.5556	0.1639	0.0040	-0.3548	0.0267	2.1176	0.1575	-0.1896	0.0792
3	225	0.5995	0.2172	0.0055	-0.3889	0.0331	2.6067	0.1831	-0.3302	0.0783
3	225	0.6498	0.2202	0.0072	-0.5017	0.0375	3.3390	0.2177	0.0122	0.0670
3	225	0.6890	0.2215	0.0080	-0.5467	0.0421	3.9537	0.2440	0.0108	0.0827
3	225	0.7495	0.2521	0.0109	-0.6629	0.0489	5.0313	0.2862	-0.0726	0.0757
3	225	0.7998	0.2125	0.0138	-0.7391	0.0546	6.1309	0.3256	-0.1465	0.0792
3	225	0.8577	0.2142	0.0163	-0.7976	0.0625	7.4735	0.3712	-0.0656	0.0971
3	225	0.9178	0.2264	0.0220	-0.8055	0.0705	8.9309	0.4209	-0.3763	0.1238
3	225	0.9729	0.0786	0.0283	-0.9944	0.0781	10.2457	0.4722	-1.0030	0.1011

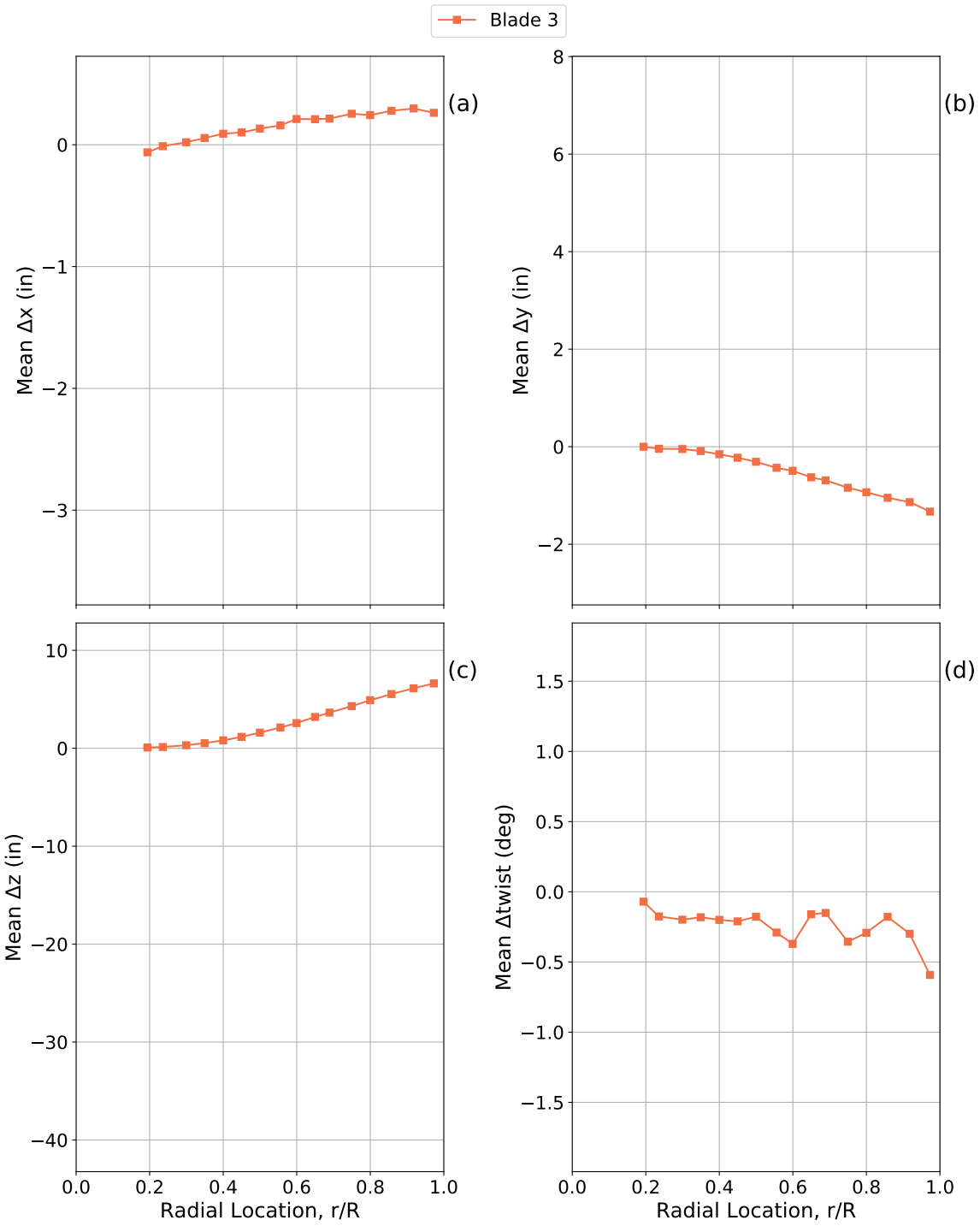


Figure 3.38-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0621	0.0024	0.0001	0.0017	0.0777	0.0098	-0.0708	0.0198
3	240.12	0.2357	-0.0118	0.0010	-0.0421	0.0020	0.1270	0.0198	-0.1757	0.0394
3	240.12	0.2995	0.0206	0.0019	-0.0476	0.0061	0.3115	0.0434	-0.1988	0.0437
3	240.12	0.3493	0.0554	0.0013	-0.0888	0.0101	0.5245	0.0731	-0.1815	0.0470
3	240.12	0.4000	0.0906	0.0036	-0.1544	0.0156	0.8079	0.1147	-0.2000	0.0533
3	240.12	0.4497	0.1010	0.0023	-0.2260	0.0193	1.1639	0.1611	-0.2108	0.0553
3	240.12	0.4997	0.1327	0.0023	-0.3096	0.0241	1.5980	0.2109	-0.1776	0.0718
3	240.12	0.5556	0.1590	0.0042	-0.4331	0.0311	2.1244	0.2797	-0.2904	0.0858
3	240.12	0.5995	0.2113	0.0063	-0.4945	0.0367	2.5729	0.3358	-0.3709	0.0952
3	240.12	0.6498	0.2101	0.0101	-0.6272	0.0432	3.1962	0.4074	-0.1603	0.0968
3	240.12	0.6890	0.2146	0.0116	-0.6899	0.0475	3.6401	0.4626	-0.1506	0.0964
3	240.12	0.7495	0.2545	0.0165	-0.8406	0.0554	4.2992	0.5555	-0.3557	0.1094
3	240.12	0.7998	0.2434	0.0196	-0.9336	0.0604	4.9044	0.6356	-0.2922	0.1300
3	240.12	0.8577	0.2787	0.0217	-1.0483	0.0679	5.5348	0.7382	-0.1785	0.1253
3	240.12	0.9178	0.2975	0.0277	-1.1359	0.0754	6.1233	0.8502	-0.2992	0.1306
3	240.12	0.9729	0.2623	0.0344	-1.3307	0.0817	6.6187	0.9626	-0.5922	0.1331

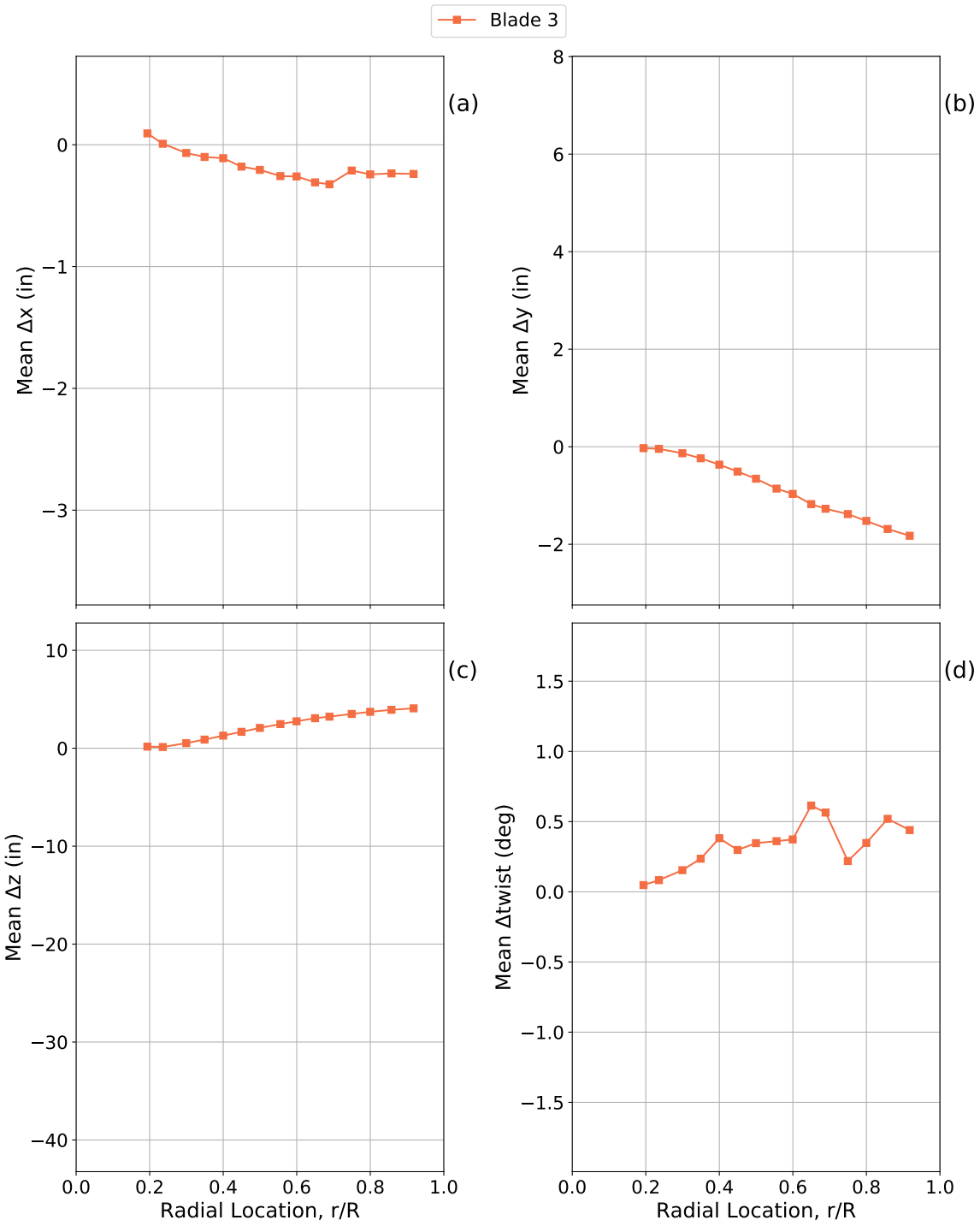


Figure 3.38-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	0.0931	0.0099	-0.0297	0.0071	0.1713	0.0117	0.0478	0.0216
3	254.88	0.2357	0.0082	0.0036	-0.0442	0.0024	0.1273	0.0128	0.0829	0.0682
3	254.88	0.2995	-0.0676	0.0035	-0.1337	0.0214	0.5235	0.0343	0.1540	0.0685
3	254.88	0.3493	-0.1001	0.0043	-0.2375	0.0371	0.8852	0.0570	0.2358	0.0753
3	254.88	0.4000	-0.1105	0.0042	-0.3677	0.0537	1.2879	0.0834	0.3818	0.0743
3	254.88	0.4497	-0.1797	0.0059	-0.5097	0.0694	1.6778	0.1099	0.2978	0.0751
3	254.88	0.4997	-0.2063	0.0057	-0.6565	0.0857	2.0748	0.1414	0.3465	0.0803
3	254.88	0.5556	-0.2575	0.0066	-0.8588	0.1038	2.4677	0.1793	0.3608	0.0761
3	254.88	0.5995	-0.2602	0.0066	-0.9676	0.1183	2.7534	0.2121	0.3729	0.0801
3	254.88	0.6498	-0.3087	0.0079	-1.1771	0.1337	3.0663	0.2482	0.6144	0.0745
3	254.88	0.6890	-0.3247	0.0078	-1.2720	0.1475	3.2300	0.2831	0.5645	0.1089
3	254.88	0.7495	-0.2115	0.0049	-1.3813	0.1673	3.5032	0.3304	0.2189	0.0956
3	254.88	0.7998	-0.2432	0.0049	-1.5214	0.1840	3.7207	0.3776	0.3478	0.1027
3	254.88	0.8577	-0.2354	0.0060	-1.6869	0.2022	3.9262	0.4357	0.5197	0.0997
3	254.88	0.9178	-0.2398	0.0063	-1.8260	0.2221	4.0754	0.4985	0.4397	0.1088

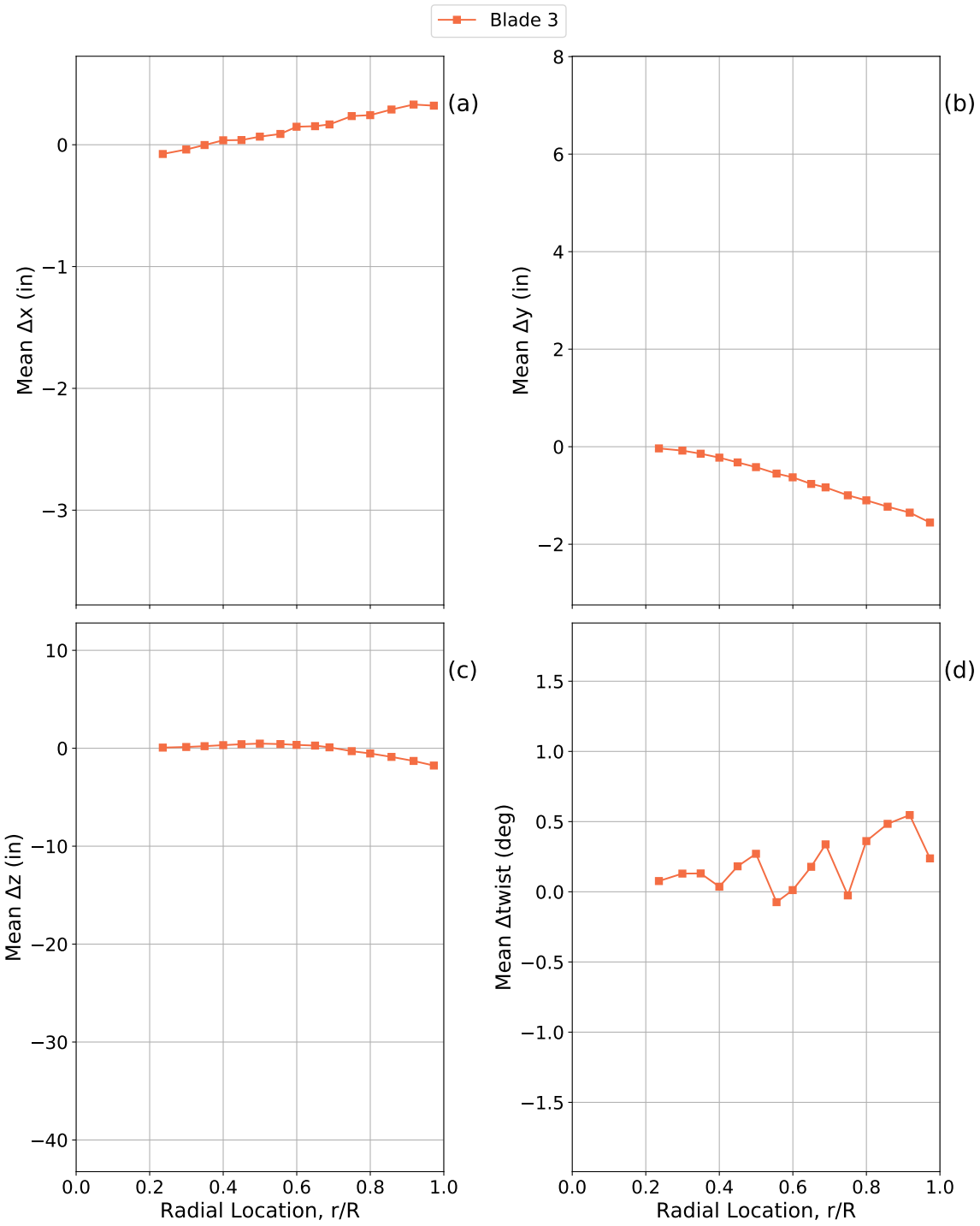


Figure 3.38-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2357	-0.0759	0.0027	-0.0343	0.0017	0.0679	0.0083	0.0765	0.0487
3	260.16	0.2995	-0.0390	0.0015	-0.0793	0.0042	0.1304	0.0186	0.1297	0.0782
3	260.16	0.3493	-0.0023	0.0016	-0.1433	0.0072	0.2136	0.0303	0.1307	0.0832
3	260.16	0.4000	0.0366	0.0012	-0.2241	0.0114	0.3167	0.0477	0.0364	0.0710
3	260.16	0.4497	0.0386	0.0019	-0.3218	0.0147	0.4128	0.0682	0.1815	0.0805
3	260.16	0.4997	0.0665	0.0025	-0.4188	0.0199	0.4752	0.0930	0.2707	0.0792
3	260.16	0.5556	0.0886	0.0026	-0.5507	0.0251	0.4253	0.1267	-0.0739	0.0948
3	260.16	0.5995	0.1479	0.0025	-0.6278	0.0305	0.3447	0.1579	0.0120	0.0900
3	260.16	0.6498	0.1523	0.0035	-0.7633	0.0364	0.2727	0.1980	0.1781	0.0896
3	260.16	0.6890	0.1667	0.0038	-0.8341	0.0409	0.0953	0.2329	0.3378	0.1020
3	260.16	0.7495	0.2354	0.0041	-0.9968	0.0500	-0.2945	0.2959	-0.0258	0.1005
3	260.16	0.7998	0.2431	0.0049	-1.1000	0.0570	-0.5320	0.3553	0.3613	0.1058
3	260.16	0.8577	0.2893	0.0059	-1.2298	0.0658	-0.8826	0.4318	0.4840	0.1083
3	260.16	0.9178	0.3302	0.0068	-1.3512	0.0746	-1.2957	0.5134	0.5467	0.1048
3	260.16	0.9729	0.3209	0.0075	-1.5550	0.0836	-1.7666	0.5947	0.2380	0.1120

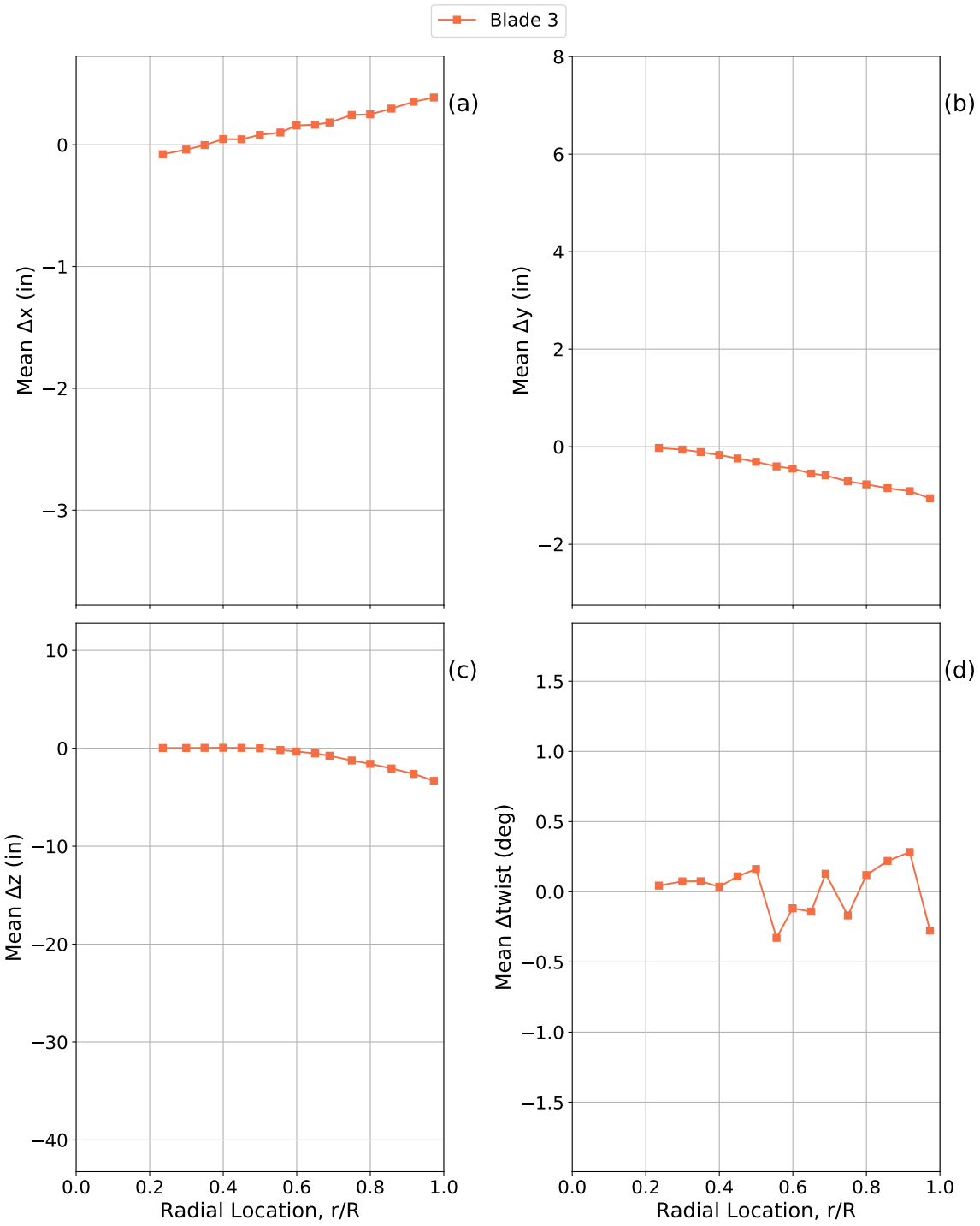


Figure 3.38-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0779	0.0020	-0.0263	0.0021	0.0191	0.0100	0.0438	0.0808
3	265.08	0.2995	-0.0396	0.0009	-0.0595	0.0046	0.0242	0.0226	0.0741	0.1301
3	265.08	0.3493	-0.0025	0.0008	-0.1095	0.0086	0.0372	0.0358	0.0751	0.1303
3	265.08	0.4000	0.0464	0.0016	-0.1697	0.0131	0.0432	0.0566	0.0362	0.1237
3	265.08	0.4497	0.0447	0.0017	-0.2414	0.0187	0.0359	0.0737	0.1099	0.1191
3	265.08	0.4997	0.0808	0.0019	-0.3101	0.0238	-0.0091	0.0948	0.1622	0.1384
3	265.08	0.5556	0.1002	0.0023	-0.4031	0.0306	-0.1852	0.1194	-0.3277	0.1261
3	265.08	0.5995	0.1584	0.0028	-0.4484	0.0365	-0.3384	0.1430	-0.1180	0.1391
3	265.08	0.6498	0.1645	0.0037	-0.5505	0.0447	-0.5317	0.1744	-0.1412	0.1360
3	265.08	0.6890	0.1827	0.0039	-0.5889	0.0509	-0.7676	0.2048	0.1284	0.1526
3	265.08	0.7495	0.2445	0.0050	-0.7090	0.0621	-1.2555	0.2578	-0.1685	0.1408
3	265.08	0.7998	0.2496	0.0063	-0.7713	0.0717	-1.5982	0.3122	0.1190	0.1548
3	265.08	0.8577	0.2967	0.0082	-0.8498	0.0833	-2.0665	0.3814	0.2199	0.1512
3	265.08	0.9178	0.3531	0.0097	-0.9107	0.0963	-2.6198	0.4587	0.2830	0.1520
3	265.08	0.9729	0.3879	0.0107	-1.0565	0.1084	-3.3356	0.5331	-0.2760	0.1528

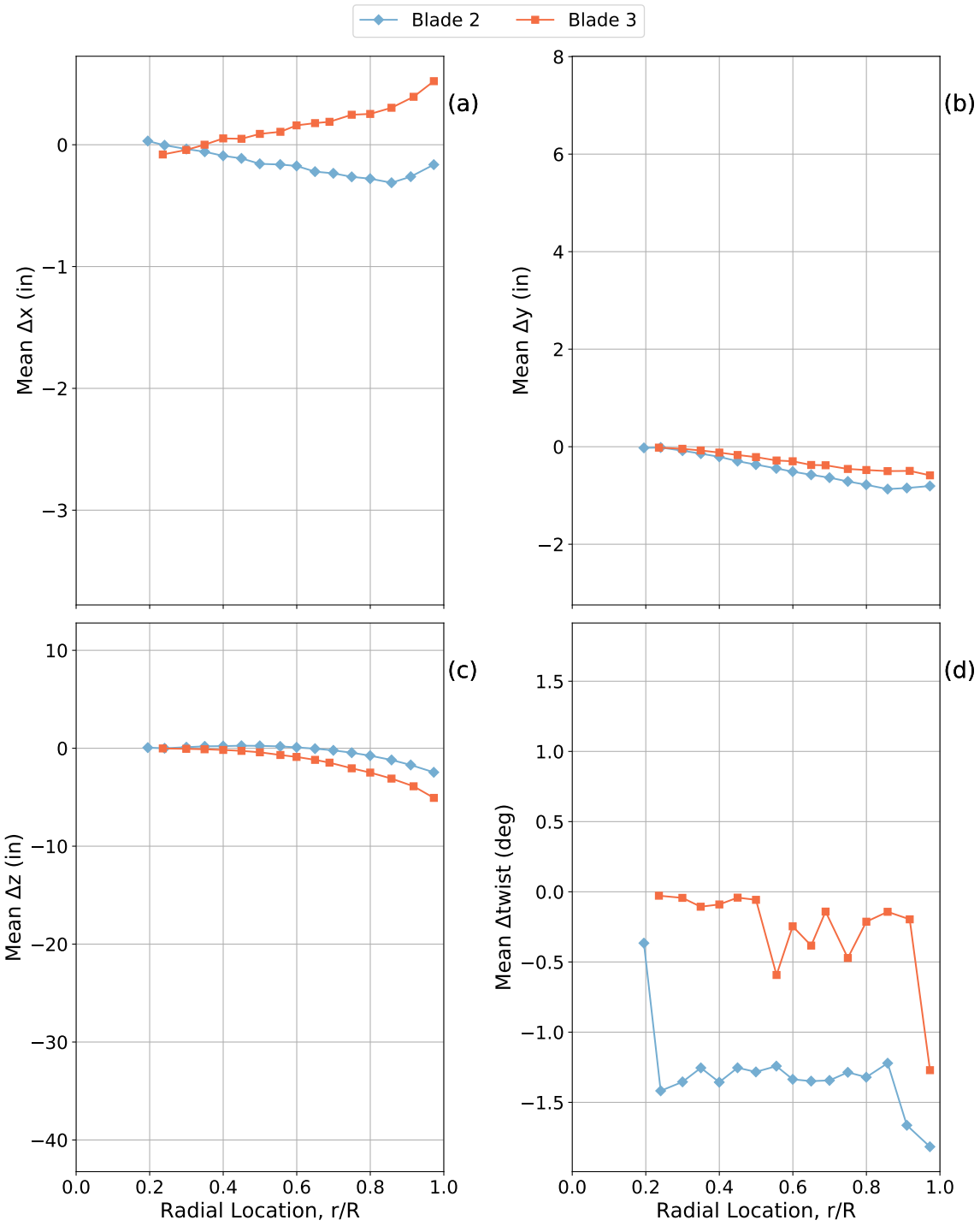


Figure 3.38-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0307	0.0029	-0.0238	0.0026	0.0631	0.0088	-0.3657	0.0315
2	270.35	0.2405	-0.0040	0.0025	-0.0163	0.0035	-0.0016	0.0151	-1.4180	0.0840
2	270.35	0.2999	-0.0350	0.0019	-0.0812	0.0071	0.1089	0.0338	-1.3541	0.0815
2	270.35	0.3498	-0.0576	0.0023	-0.1420	0.0107	0.1983	0.0542	-1.2544	0.0969
2	270.35	0.3998	-0.0909	0.0023	-0.2071	0.0160	0.2210	0.0850	-1.3565	0.0730
2	270.35	0.4496	-0.1120	0.0030	-0.2962	0.0209	0.2580	0.1202	-1.2538	0.0899
2	270.35	0.4995	-0.1566	0.0021	-0.3668	0.0265	0.2475	0.1619	-1.2832	0.0918
2	270.35	0.5551	-0.1623	0.0022	-0.4450	0.0320	0.1892	0.2124	-1.2419	0.0830
2	270.35	0.5996	-0.1740	0.0020	-0.5110	0.0381	0.0935	0.2570	-1.3360	0.1011
2	270.35	0.6497	-0.2208	0.0040	-0.5758	0.0455	-0.0419	0.3137	-1.3489	0.1128
2	270.35	0.6996	-0.2346	0.0029	-0.6350	0.0516	-0.2141	0.3734	-1.3437	0.1152
2	270.35	0.7495	-0.2636	0.0038	-0.7116	0.0583	-0.4545	0.4385	-1.2860	0.1006
2	270.35	0.7996	-0.2786	0.0049	-0.7808	0.0655	-0.7577	0.5086	-1.3209	0.1189
2	270.35	0.8578	-0.3119	0.0071	-0.8688	0.0747	-1.1941	0.5920	-1.2211	0.1310
2	270.35	0.9100	-0.2620	0.0067	-0.8465	0.0824	-1.7061	0.6667	-1.6635	0.1175
2	270.35	0.9727	-0.1634	0.0092	-0.8058	0.0910	-2.4542	0.7648	-1.8162	0.1326
3	270	0.2357	-0.0799	0.0025	-0.0185	0.0024	-0.0197	0.0164	-0.0279	0.0413
3	270	0.2995	-0.0424	0.0024	-0.0425	0.0055	-0.0564	0.0358	-0.0433	0.0666
3	270	0.3493	0.0003	0.0016	-0.0768	0.0101	-0.1032	0.0619	-0.1063	0.0757
3	270	0.4000	0.0519	0.0017	-0.1198	0.0157	-0.1701	0.0956	-0.0902	0.0785
3	270	0.4497	0.0489	0.0024	-0.1699	0.0207	-0.2668	0.1321	-0.0416	0.0881
3	270	0.4997	0.0891	0.0024	-0.2127	0.0267	-0.4103	0.1752	-0.0573	0.0943
3	270	0.5556	0.1063	0.0026	-0.2826	0.0342	-0.6880	0.2266	-0.5926	0.0913
3	270	0.5995	0.1592	0.0037	-0.2984	0.0408	-0.8852	0.2686	-0.2461	0.0897
3	270	0.6498	0.1775	0.0035	-0.3745	0.0486	-1.1834	0.3204	-0.3832	0.0975
3	270	0.6890	0.1883	0.0047	-0.3801	0.0548	-1.4693	0.3639	-0.1411	0.1041
3	270	0.7495	0.2464	0.0063	-0.4560	0.0646	-2.0473	0.4400	-0.4716	0.1024
3	270	0.7998	0.2529	0.0080	-0.4780	0.0727	-2.4833	0.5108	-0.2131	0.1082
3	270	0.8577	0.3036	0.0111	-0.5000	0.0826	-3.0972	0.5988	-0.1426	0.1267
3	270	0.9178	0.3938	0.0121	-0.4958	0.0931	-3.8832	0.6953	-0.1962	0.1409
3	270	0.9729	0.5219	0.0114	-0.5870	0.1031	-5.0677	0.7944	-1.2708	0.1364

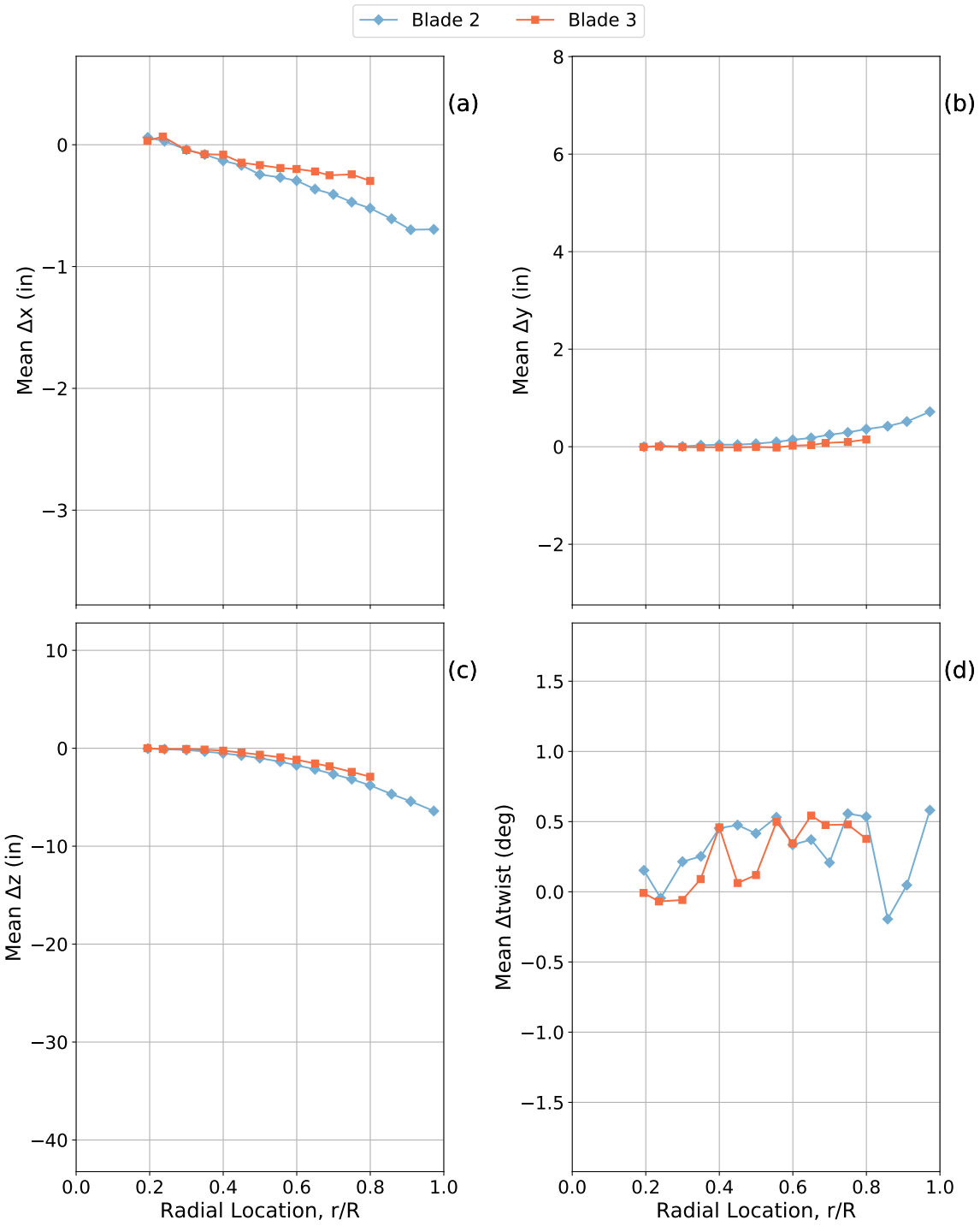


Figure 3.38-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0599	0.0032	-0.0017	0.0016	-0.0356	0.0038	0.1527	0.0347
2	274.92	0.2405	0.0289	0.0039	0.0174	0.0045	-0.0976	0.0129	-0.0453	0.0933
2	274.92	0.2999	-0.0404	0.0038	0.0048	0.0082	-0.1799	0.0218	0.2147	0.0944
2	274.92	0.3498	-0.0802	0.0045	0.0302	0.0111	-0.3325	0.0368	0.2525	0.1068
2	274.92	0.3998	-0.1315	0.0043	0.0411	0.0186	-0.5136	0.0599	0.4530	0.0734
2	274.92	0.4496	-0.1688	0.0049	0.0420	0.0201	-0.7365	0.0806	0.4754	0.0752
2	274.92	0.4995	-0.2440	0.0061	0.0619	0.0241	-1.0074	0.1038	0.4157	0.0587
2	274.92	0.5551	-0.2684	0.0050	0.0982	0.0299	-1.3678	0.1313	0.5311	0.0680
2	274.92	0.5996	-0.2949	0.0064	0.1410	0.0321	-1.7399	0.1483	0.3350	0.0767
2	274.92	0.6497	-0.3644	0.0073	0.1808	0.0357	-2.1488	0.1708	0.3714	0.0987
2	274.92	0.6996	-0.4075	0.0080	0.2458	0.0380	-2.6475	0.1911	0.2076	0.1030
2	274.92	0.7495	-0.4706	0.0086	0.2930	0.0420	-3.1600	0.2132	0.5566	0.1154
2	274.92	0.7996	-0.5211	0.0100	0.3616	0.0464	-3.7911	0.2314	0.5350	0.0792
2	274.92	0.8578	-0.6085	0.0116	0.4202	0.0502	-4.6799	0.2558	-0.1945	0.1827
2	274.92	0.9100	-0.6976	0.0158	0.5161	0.0539	-5.4237	0.2868	0.0474	0.2492
2	274.92	0.9727	-0.6947	0.0199	0.7175	0.0675	-6.4071	0.3311	0.5812	0.2208
3	274.92	0.1938	0.0333	0.0027	-0.0047	0.0017	0.0049	0.0080	-0.0083	0.0555
3	274.92	0.2357	0.0671	0.0015	0.0039	0.0043	-0.0767	0.0189	-0.0687	0.0553
3	274.92	0.2995	-0.0432	0.0025	-0.0061	0.0090	-0.0768	0.0376	-0.0584	0.1110
3	274.92	0.3493	-0.0780	0.0026	-0.0128	0.0163	-0.1343	0.0670	0.0905	0.0772
3	274.92	0.4000	-0.0814	0.0028	-0.0125	0.0256	-0.2483	0.1037	0.4591	0.0994
3	274.92	0.4497	-0.1473	0.0026	-0.0142	0.0335	-0.4453	0.1420	0.0626	0.1124
3	274.92	0.4997	-0.1674	0.0039	-0.0062	0.0455	-0.6591	0.1946	0.1192	0.1072
3	274.92	0.5556	-0.1913	0.0058	-0.0158	0.0595	-0.9261	0.2628	0.4975	0.1207
3	274.92	0.5995	-0.1992	0.0063	0.0213	0.0712	-1.1726	0.3138	0.3455	0.0870
3	274.92	0.6498	-0.2193	0.0085	0.0338	0.0863	-1.5541	0.3811	0.5433	0.0959
3	274.92	0.6890	-0.2507	0.0090	0.0768	0.0976	-1.8469	0.4368	0.4759	0.1292
3	274.92	0.7495	-0.2431	0.0110	0.0972	0.1156	-2.4147	0.5215	0.4793	0.1299
3	274.92	0.7998	-0.2970	0.0143	0.1475	0.1307	-2.9112	0.5966	0.3772	0.1517

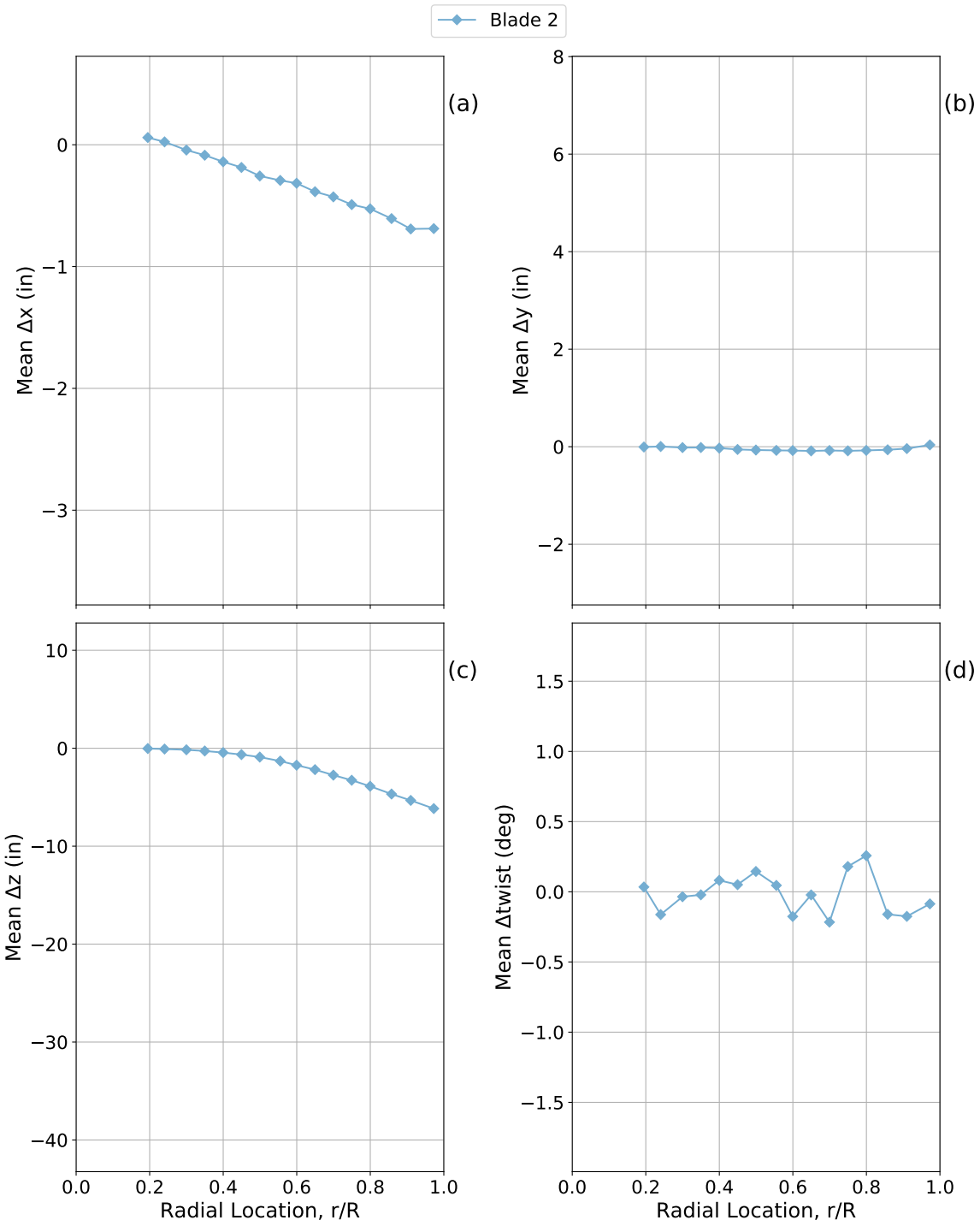


Figure 3.38-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.025$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0591	0.0020	-0.0061	0.0017	-0.0277	0.0060	0.0342	0.0576
2	285.12	0.2405	0.0236	0.0043	0.0043	0.0038	-0.0801	0.0117	-0.1624	0.0316
2	285.12	0.2999	-0.0437	0.0035	-0.0178	0.0062	-0.1562	0.0233	-0.0352	0.0993
2	285.12	0.3498	-0.0860	0.0036	-0.0163	0.0098	-0.2784	0.0411	-0.0216	0.0890
2	285.12	0.3998	-0.1396	0.0053	-0.0284	0.0161	-0.4419	0.0627	0.0815	0.0687
2	285.12	0.4496	-0.1864	0.0040	-0.0560	0.0209	-0.6460	0.0910	0.0507	0.0942
2	285.12	0.4995	-0.2565	0.0048	-0.0678	0.0225	-0.9006	0.1152	0.1449	0.0699
2	285.12	0.5551	-0.2928	0.0050	-0.0751	0.0282	-1.3077	0.1495	0.0455	0.0834
2	285.12	0.5996	-0.3159	0.0056	-0.0787	0.0312	-1.7304	0.1804	-0.1760	0.0785
2	285.12	0.6497	-0.3854	0.0065	-0.0860	0.0346	-2.1835	0.2125	-0.0222	0.0890
2	285.12	0.6996	-0.4279	0.0087	-0.0772	0.0396	-2.7428	0.2538	-0.2163	0.0774
2	285.12	0.7495	-0.4914	0.0101	-0.0843	0.0438	-3.2662	0.2949	0.1801	0.0723
2	285.12	0.7996	-0.5260	0.0125	-0.0758	0.0479	-3.8792	0.3385	0.2575	0.1148
2	285.12	0.8578	-0.6062	0.0151	-0.0626	0.0526	-4.6744	0.3986	-0.1604	0.0967
2	285.12	0.9100	-0.6914	0.0182	-0.0386	0.0572	-5.3254	0.4539	-0.1751	0.1070
2	285.12	0.9727	-0.6883	0.0210	0.0373	0.0634	-6.1598	0.5217	-0.0861	0.1587

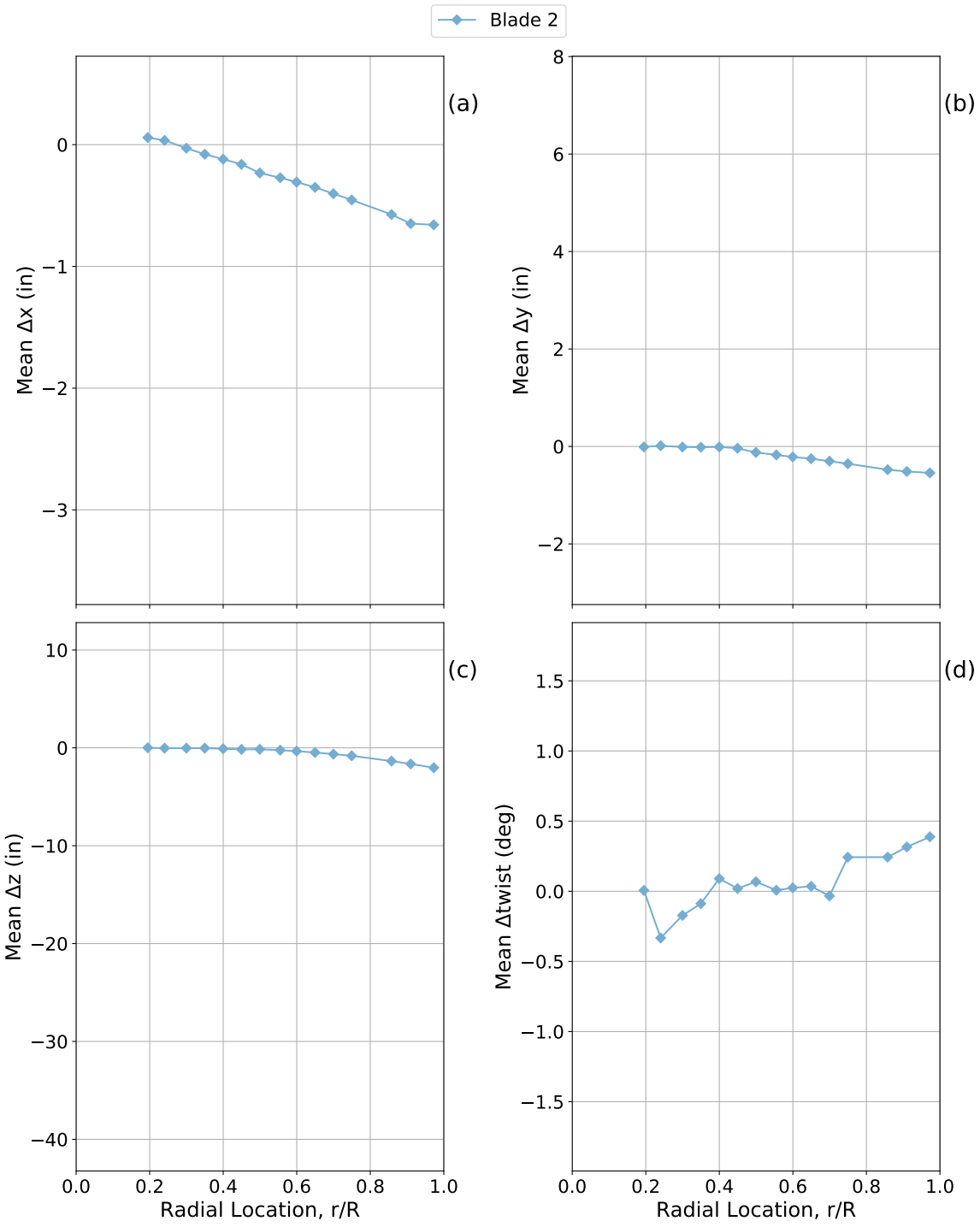


Figure 3.38-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0585	0.0042	-0.0097	0.0018	0.0069	0.0051	0.0061	0.0660
2	299.88	0.2405	0.0347	0.0044	0.0146	0.0035	-0.0338	0.0134	-0.3330	0.0596
2	299.88	0.2999	-0.0291	0.0047	-0.0112	0.0088	-0.0302	0.0224	-0.1721	0.1262
2	299.88	0.3498	-0.0786	0.0041	-0.0149	0.0115	-0.0347	0.0427	-0.0882	0.1016
2	299.88	0.3998	-0.1193	0.0053	-0.0102	0.0203	-0.0917	0.0633	0.0901	0.0859
2	299.88	0.4496	-0.1617	0.0044	-0.0368	0.0257	-0.1622	0.0679	0.0194	0.1247
2	299.88	0.4995	-0.2326	0.0047	-0.1226	0.0294	-0.1489	0.0940	0.0676	0.1088
2	299.88	0.5551	-0.2716	0.0059	-0.1734	0.0369	-0.2426	0.1246	0.0073	0.0812
2	299.88	0.5996	-0.3073	0.0053	-0.2151	0.0436	-0.3405	0.1475	0.0245	0.0921
2	299.88	0.6497	-0.3504	0.0054	-0.2518	0.0501	-0.4788	0.1730	0.0354	0.1027
2	299.88	0.6996	-0.4024	0.0052	-0.3017	0.0565	-0.6450	0.2053	-0.0333	0.0960
2	299.88	0.7495	-0.4542	0.0056	-0.3542	0.0655	-0.8131	0.2411	0.2428	0.1125
2	299.88	0.8578	-0.5738	0.0072	-0.4761	0.0819	-1.3578	0.3242	0.2434	0.0964
2	299.88	0.9100	-0.6487	0.0067	-0.5139	0.0906	-1.6459	0.3675	0.3158	0.1095
2	299.88	0.9727	-0.6583	0.0103	-0.5421	0.1009	-2.0332	0.4227	0.3880	0.1175

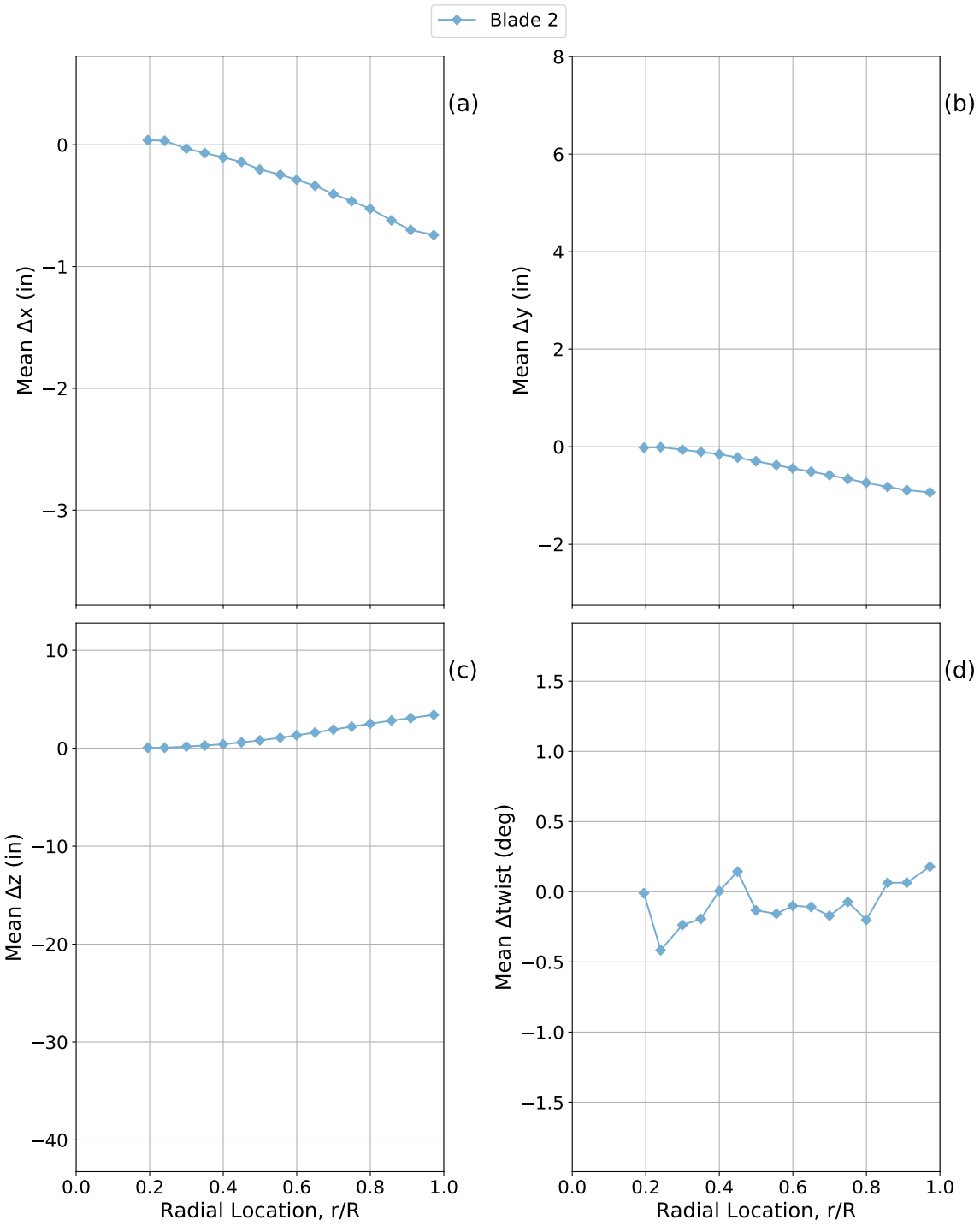


Figure 3.38-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0373	0.0033	-0.0197	0.0008	0.0483	0.0069	-0.0103	0.0326
2	315	0.2405	0.0328	0.0026	-0.0103	0.0013	0.0478	0.0128	-0.4160	0.0430
2	315	0.2999	-0.0321	0.0026	-0.0622	0.0025	0.1674	0.0300	-0.2360	0.0671
2	315	0.3498	-0.0680	0.0024	-0.1073	0.0051	0.2695	0.0515	-0.1932	0.0564
2	315	0.3998	-0.1031	0.0022	-0.1542	0.0068	0.4053	0.0794	0.0052	0.0411
2	315	0.4496	-0.1418	0.0074	-0.2213	0.0100	0.5930	0.1073	0.1444	0.0526
2	315	0.4995	-0.2034	0.0049	-0.2974	0.0109	0.8015	0.1499	-0.1327	0.0401
2	315	0.5551	-0.2454	0.0028	-0.3754	0.0150	1.0704	0.2020	-0.1566	0.0806
2	315	0.5996	-0.2874	0.0046	-0.4456	0.0179	1.3183	0.2559	-0.1003	0.0690
2	315	0.6497	-0.3370	0.0057	-0.5109	0.0214	1.6066	0.3229	-0.1078	0.0702
2	315	0.6996	-0.4051	0.0068	-0.5832	0.0259	1.9066	0.3963	-0.1707	0.0762
2	315	0.7495	-0.4636	0.0095	-0.6594	0.0307	2.2103	0.4817	-0.0725	0.0646
2	315	0.7996	-0.5254	0.0098	-0.7395	0.0365	2.5024	0.5701	-0.2002	0.0732
2	315	0.8578	-0.6211	0.0110	-0.8247	0.0429	2.8317	0.6847	0.0638	0.0747
2	315	0.9100	-0.6992	0.0135	-0.8891	0.0477	3.0819	0.7936	0.0649	0.0841
2	315	0.9727	-0.7416	0.0176	-0.9353	0.0542	3.4112	0.9306	0.1793	0.0941

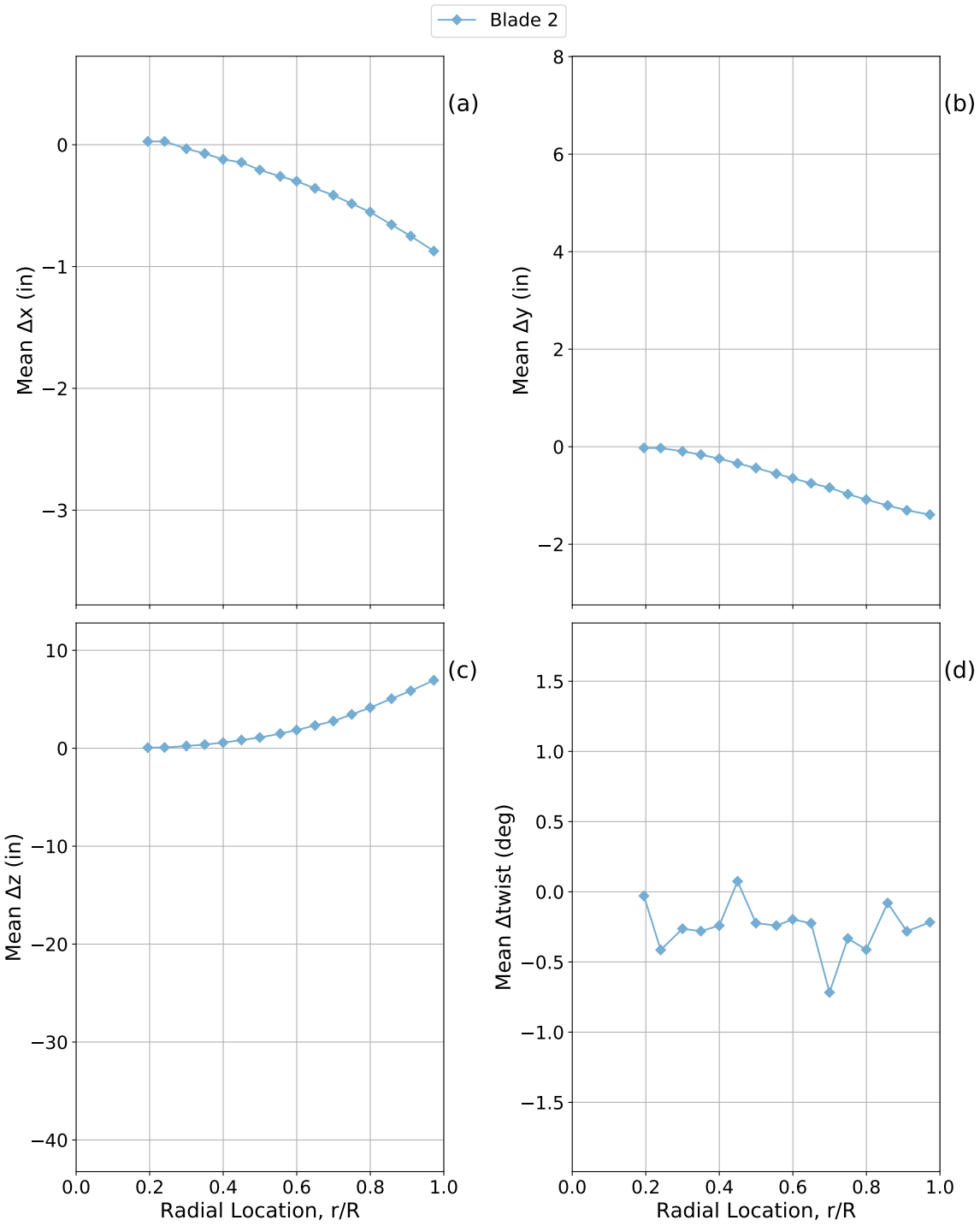


Figure 3.38-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0273	0.0035	-0.0250	0.0011	0.0596	0.0063	-0.0294	0.0422
2	330.12	0.2405	0.0274	0.0029	-0.0280	0.0042	0.0813	0.0099	-0.4142	0.0659
2	330.12	0.2999	-0.0329	0.0014	-0.0948	0.0074	0.2284	0.0247	-0.2633	0.0972
2	330.12	0.3498	-0.0721	0.0025	-0.1628	0.0111	0.3776	0.0416	-0.2804	0.0646
2	330.12	0.3998	-0.1206	0.0050	-0.2447	0.0195	0.5760	0.0638	-0.2412	0.0739
2	330.12	0.4496	-0.1446	0.0059	-0.3427	0.0221	0.8360	0.0897	0.0748	0.0991
2	330.12	0.4995	-0.2070	0.0068	-0.4359	0.0284	1.0953	0.1197	-0.2234	0.0975
2	330.12	0.5551	-0.2594	0.0068	-0.5541	0.0356	1.4916	0.1626	-0.2406	0.0966
2	330.12	0.5996	-0.2992	0.0063	-0.6477	0.0406	1.8544	0.1896	-0.1967	0.0957
2	330.12	0.6497	-0.3581	0.0078	-0.7503	0.0484	2.3236	0.2277	-0.2244	0.1175
2	330.12	0.6996	-0.4146	0.0102	-0.8394	0.0584	2.7691	0.2739	-0.7171	0.1113
2	330.12	0.7495	-0.4840	0.0125	-0.9728	0.0665	3.4564	0.3077	-0.3325	0.0937
2	330.12	0.7996	-0.5519	0.0139	-1.0843	0.0756	4.1469	0.3457	-0.4127	0.1022
2	330.12	0.8578	-0.6564	0.0168	-1.2039	0.0866	5.0592	0.3934	-0.0800	0.0885
2	330.12	0.9100	-0.7498	0.0197	-1.3047	0.0972	5.8645	0.4403	-0.2817	0.1022
2	330.12	0.9727	-0.8725	0.0274	-1.3930	0.1084	6.9430	0.4977	-0.2171	0.0922

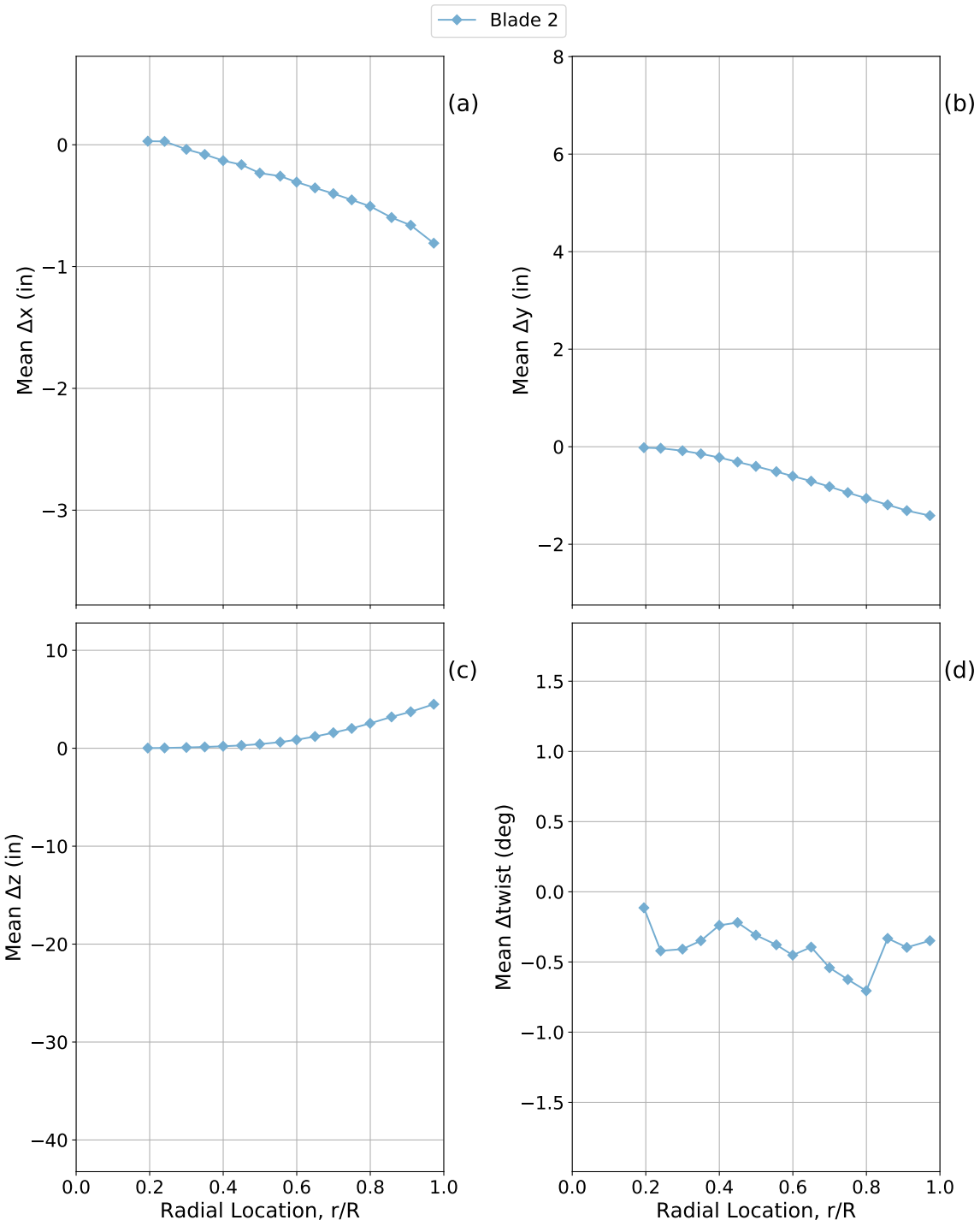


Figure 3.38-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0290	0.0019	-0.0195	0.0011	0.0206	0.0055	-0.1140	0.0304
2	344.88	0.2405	0.0274	0.0026	-0.0315	0.0033	0.0328	0.0095	-0.4207	0.0555
2	344.88	0.2999	-0.0379	0.0021	-0.0822	0.0053	0.0799	0.0225	-0.4085	0.0745
2	344.88	0.3498	-0.0796	0.0046	-0.1456	0.0085	0.1343	0.0400	-0.3485	0.0630
2	344.88	0.3998	-0.1305	0.0038	-0.2214	0.0144	0.2043	0.0603	-0.2389	0.0738
2	344.88	0.4496	-0.1639	0.0056	-0.3129	0.0158	0.2881	0.0765	-0.2194	0.0717
2	344.88	0.4995	-0.2327	0.0067	-0.4029	0.0195	0.4209	0.0986	-0.3089	0.0705
2	344.88	0.5551	-0.2577	0.0079	-0.5110	0.0226	0.6256	0.1268	-0.3778	0.0927
2	344.88	0.5996	-0.3066	0.0075	-0.6037	0.0267	0.8658	0.1488	-0.4515	0.0812
2	344.88	0.6497	-0.3543	0.0110	-0.7059	0.0284	1.1999	0.1715	-0.3941	0.0747
2	344.88	0.6996	-0.4012	0.0104	-0.8186	0.0324	1.5876	0.1922	-0.5410	0.0711
2	344.88	0.7495	-0.4527	0.0126	-0.9412	0.0343	2.0249	0.2156	-0.6250	0.0783
2	344.88	0.7996	-0.5052	0.0136	-1.0597	0.0388	2.5446	0.2382	-0.7055	0.0693
2	344.88	0.8578	-0.5977	0.0143	-1.1913	0.0430	3.2009	0.2697	-0.3320	0.0940
2	344.88	0.9100	-0.6609	0.0159	-1.3107	0.0469	3.7270	0.3096	-0.3961	0.0794
2	344.88	0.9727	-0.8082	0.0167	-1.4128	0.0523	4.4956	0.3565	-0.3484	0.0843

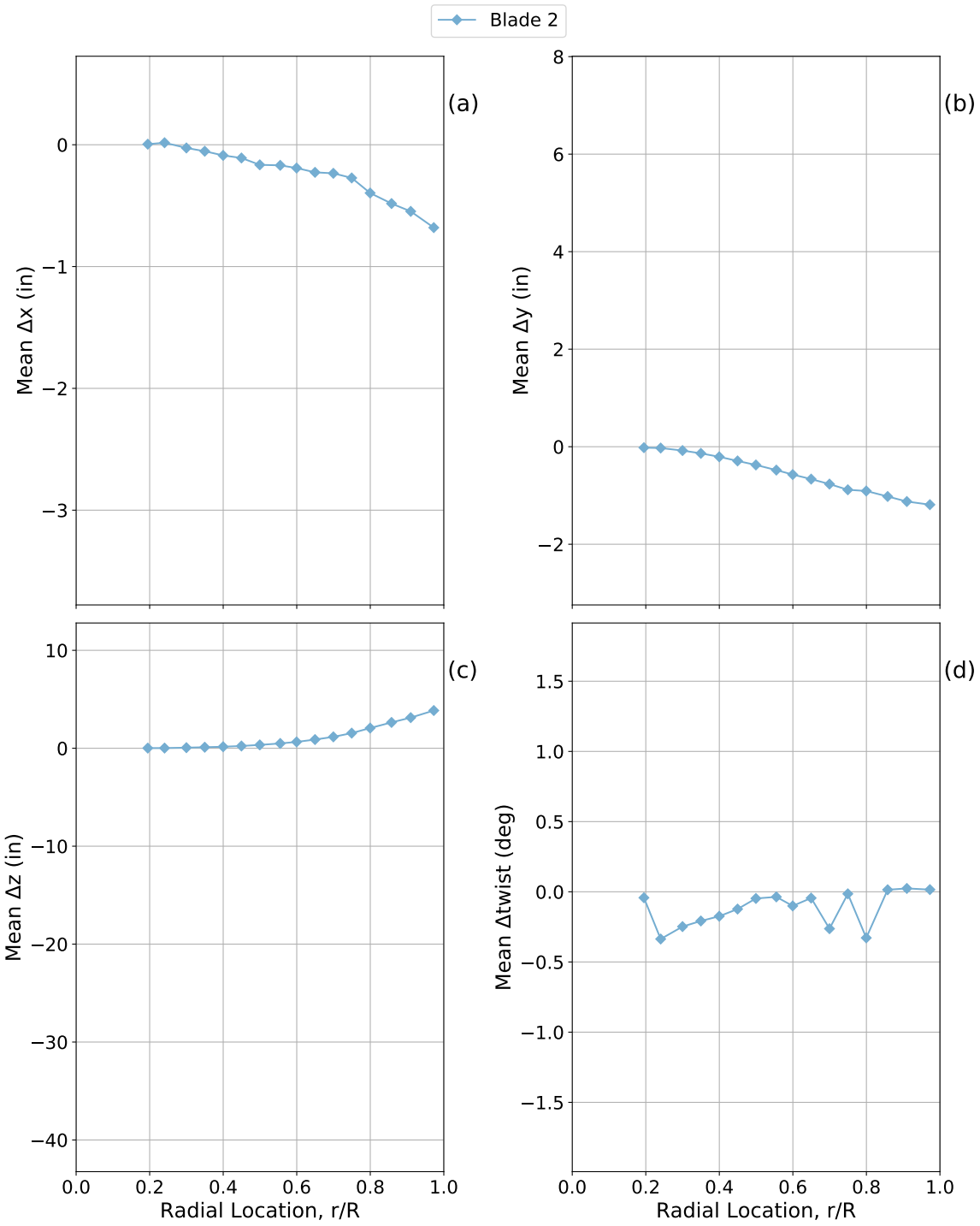


Figure 3.38-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0046	0.0053	-0.0195	0.0020	0.0177	0.0028	-0.0423	0.0231
2	350.16	0.2405	0.0165	0.0028	-0.0271	0.0045	0.0214	0.0063	-0.3365	0.0348
2	350.16	0.2999	-0.0262	0.0034	-0.0786	0.0090	0.0612	0.0127	-0.2480	0.0527
2	350.16	0.3498	-0.0533	0.0053	-0.1363	0.0155	0.1069	0.0220	-0.2079	0.0434
2	350.16	0.3998	-0.0875	0.0093	-0.2068	0.0244	0.1566	0.0344	-0.1742	0.0508
2	350.16	0.4496	-0.1087	0.0110	-0.2916	0.0326	0.2316	0.0466	-0.1231	0.0568
2	350.16	0.4995	-0.1649	0.0127	-0.3740	0.0414	0.3428	0.0585	-0.0476	0.0532
2	350.16	0.5551	-0.1690	0.0151	-0.4794	0.0504	0.4916	0.0698	-0.0364	0.0586
2	350.16	0.5996	-0.1912	0.0175	-0.5710	0.0585	0.6473	0.0796	-0.1007	0.0514
2	350.16	0.6497	-0.2265	0.0196	-0.6640	0.0662	0.8886	0.0921	-0.0446	0.0678
2	350.16	0.6996	-0.2345	0.0226	-0.7662	0.0742	1.1640	0.1014	-0.2630	0.0756
2	350.16	0.7495	-0.2725	0.0258	-0.8831	0.0846	1.5458	0.1103	-0.0145	0.0768
2	350.16	0.7996	-0.3962	0.0190	-0.9076	0.2337	2.0623	0.3737	-0.3283	0.0718
2	350.16	0.8578	-0.4827	0.0186	-1.0207	0.2542	2.6386	0.4093	0.0145	0.0547
2	350.16	0.9100	-0.5470	0.0200	-1.1237	0.2728	3.1273	0.4349	0.0239	0.0850
2	350.16	0.9727	-0.6803	0.0180	-1.1886	0.2962	3.8531	0.4720	0.0155	0.0717

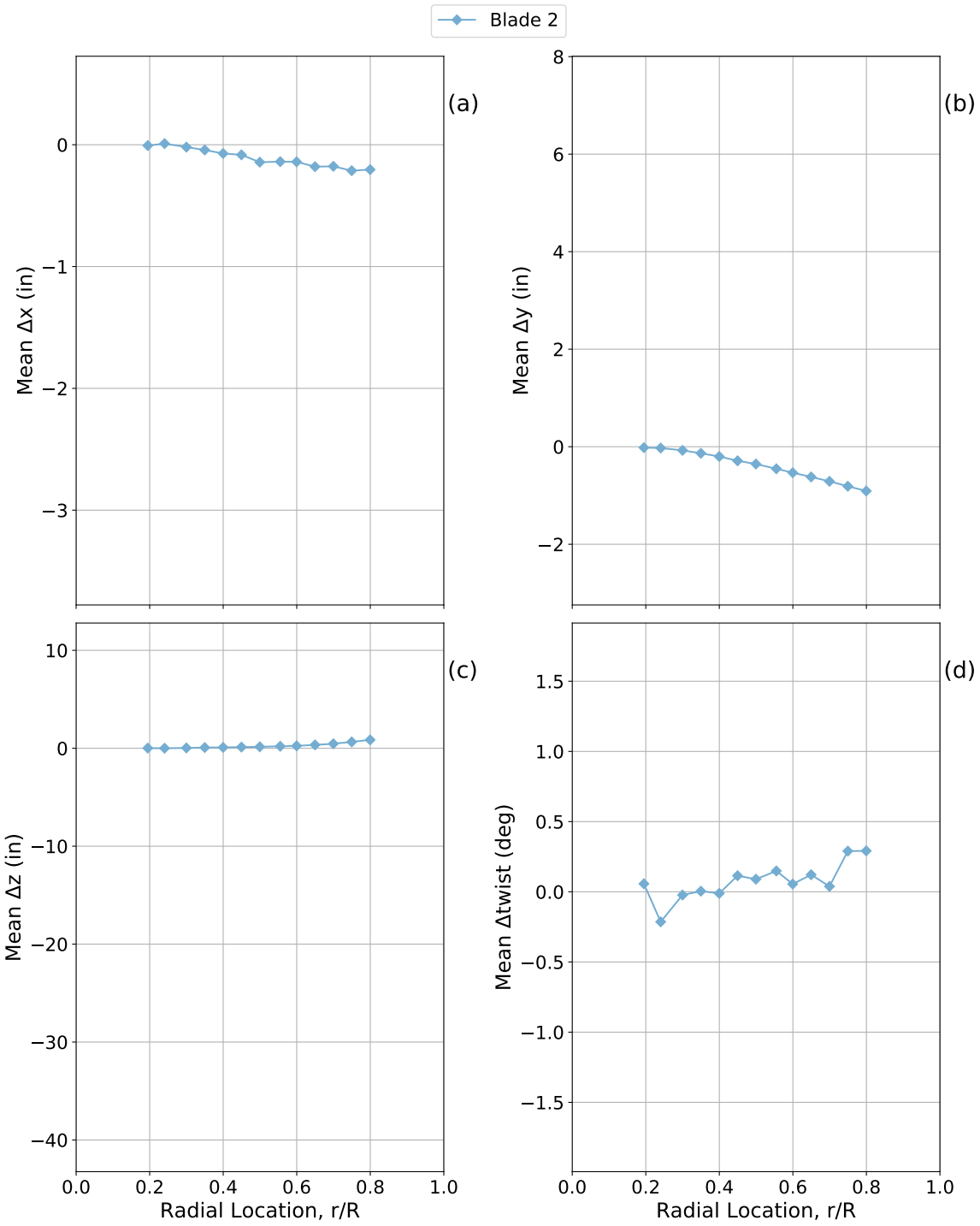


Figure 3.38-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.025, μ = 0.6, α = -0° NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Table 3.38-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.025, μ = 0.6, α = -0°
NFAC run 87, point 42. BD run 41, points 6763 to 6773.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0069	0.0141	-0.0187	0.0029	0.0164	0.0058	0.0570	0.0300
2	355.08	0.2405	0.0093	0.0062	-0.0277	0.0051	0.0029	0.0103	-0.2141	0.0590
2	355.08	0.2999	-0.0193	0.0045	-0.0741	0.0112	0.0341	0.0240	-0.0230	0.0749
2	355.08	0.3498	-0.0430	0.0117	-0.1345	0.0204	0.0721	0.0413	0.0043	0.0727
2	355.08	0.3998	-0.0718	0.0215	-0.2004	0.0307	0.0865	0.0634	-0.0113	0.0761
2	355.08	0.4496	-0.0828	0.0329	-0.2887	0.0419	0.1221	0.0851	0.1146	0.0946
2	355.08	0.4995	-0.1433	0.0387	-0.3549	0.0548	0.1524	0.1089	0.0896	0.0852
2	355.08	0.5551	-0.1388	0.0502	-0.4524	0.0639	0.2033	0.1335	0.1484	0.0800
2	355.08	0.5996	-0.1401	0.0580	-0.5331	0.0725	0.2431	0.1526	0.0552	0.1101
2	355.08	0.6497	-0.1799	0.0679	-0.6200	0.0796	0.3440	0.1760	0.1216	0.0989
2	355.08	0.6996	-0.1770	0.0743	-0.7101	0.0896	0.4593	0.1984	0.0384	0.1016
2	355.08	0.7495	-0.2129	0.0809	-0.8108	0.1022	0.6499	0.2267	0.2899	0.1291
2	355.08	0.7996	-0.2041	0.0882	-0.9080	0.1127	0.8569	0.2528	0.2915	0.1376

3.39 Run 87, Point 46

3.39.1 Pitch, Flap, and Lag

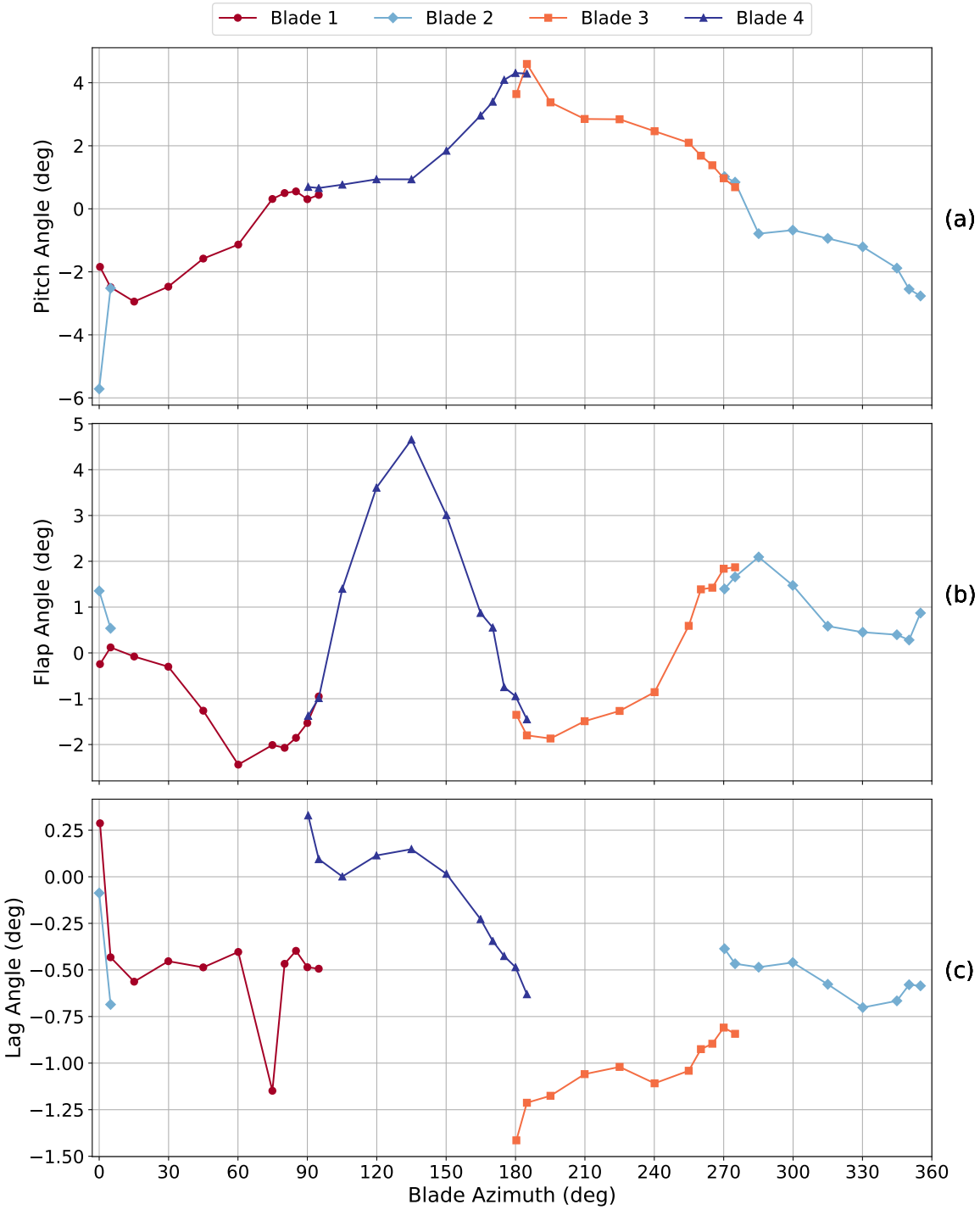


Figure 3.39-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.011$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	-5.7152	1.3535	-0.0873	0.5601	0.1085	0.0875
0.35	1	-1.8425	-0.2448	0.2872	0.2288	0.2639	0.1274
4.92	1	-2.4875	0.1203	-0.4321	0.0757	0.1237	0.0553
4.92	2	-2.5210	0.5367	-0.6854	0.2010	0.1657	0.0540
15.12	1	-2.9444	-0.0788	-0.5630	0.1834	0.2361	0.0398
29.88	1	-2.4713	-0.3013	-0.4532	0.1301	0.1221	0.0424
45	1	-1.5802	-1.2616	-0.4862	0.0677	0.1358	0.0473
60.12	1	-1.1354	-2.4390	-0.4034	0.5252	0.2315	0.1055
74.88	1	0.3116	-2.0111	-1.1485	0.2463	0.2926	0.1067
80.16	1	0.4996	-2.0719	-0.4671	0.5189	0.1672	0.0455
85.08	1	0.5521	-1.8542	-0.3975	0.3447	0.1507	0.0517
90	1	0.3049	-1.5302	-0.4854	0.0486	0.2360	0.0925
90.35	4	0.6937	-1.3747	0.3292	0.2242	0.2665	0.0824
94.92	1	0.4411	-0.9511	-0.4935	0.0668	0.2530	0.0770
94.92	4	0.6594	-0.9875	0.0945	0.2778	0.2388	0.0762
105.12	4	0.7659	1.3982	0.0012	0.0526	0.2465	0.0391
119.88	4	0.9365	3.6065	0.1143	0.0548	0.3486	0.0410
135	4	0.9349	4.6543	0.1480	0.0949	0.5905	0.0306
150.12	4	1.8416	3.0081	0.0157	0.0924	0.7575	0.0302
164.88	4	2.9578	0.8716	-0.2277	0.0908	0.9476	0.0546
170.16	4	3.3970	0.5524	-0.3447	0.0730	0.2752	0.0342
175.08	4	4.0908	-0.7486	-0.4257	0.0773	0.2459	0.0613
180	4	4.3086	-0.9454	-0.4854	0.0714	0.1556	0.0382
180.35	3	3.6417	-1.3518	-1.4145	0.0961	0.4258	0.0616
184.92	3	4.5957	-1.7999	-1.2127	0.1753	0.1796	0.0551
184.92	4	4.2896	-1.4509	-0.6306	0.0726	0.2651	0.0524
195.12	3	3.3769	-1.8692	-1.1753	0.0962	0.3003	0.0492
209.88	3	2.8503	-1.4908	-1.0591	0.0732	0.2666	0.0647
225	3	2.8405	-1.2670	-1.0204	0.0554	0.3197	0.0384
240.12	3	2.4623	-0.8567	-1.1084	0.0713	0.3401	0.0503
254.88	3	2.0970	0.5910	-1.0411	0.0461	0.4151	0.0763
260.16	3	1.6856	1.3878	-0.9251	0.0695	0.0966	0.0326
265.08	3	1.3816	1.4234	-0.8961	0.0669	0.1438	0.0216
270	3	0.9692	1.8377	-0.8093	0.1045	0.2411	0.0630
270.35	2	1.0203	1.3961	-0.3862	0.1175	0.2061	0.0399
274.92	2	0.8448	1.6592	-0.4669	0.0645	0.1128	0.0489
274.92	3	0.6851	1.8695	-0.8427	0.0697	0.1109	0.0477
285.12	2	-0.7889	2.0936	-0.4853	0.0496	0.0619	0.0241
299.88	2	-0.6770	1.4734	-0.4601	0.0627	0.0935	0.0492
315	2	-0.9395	0.5839	-0.5770	0.0725	0.1552	0.0285
330.12	2	-1.2069	0.4516	-0.7016	0.0852	0.2740	0.0283
344.88	2	-1.8827	0.3965	-0.6660	0.1071	0.5410	0.0362
350.16	2	-2.5498	0.2812	-0.5793	0.1679	0.1534	0.0369
355.08	2	-2.7663	0.8709	-0.5854	0.9121	0.5293	0.1062

3.39.2 Spanwise Elastic Deformations

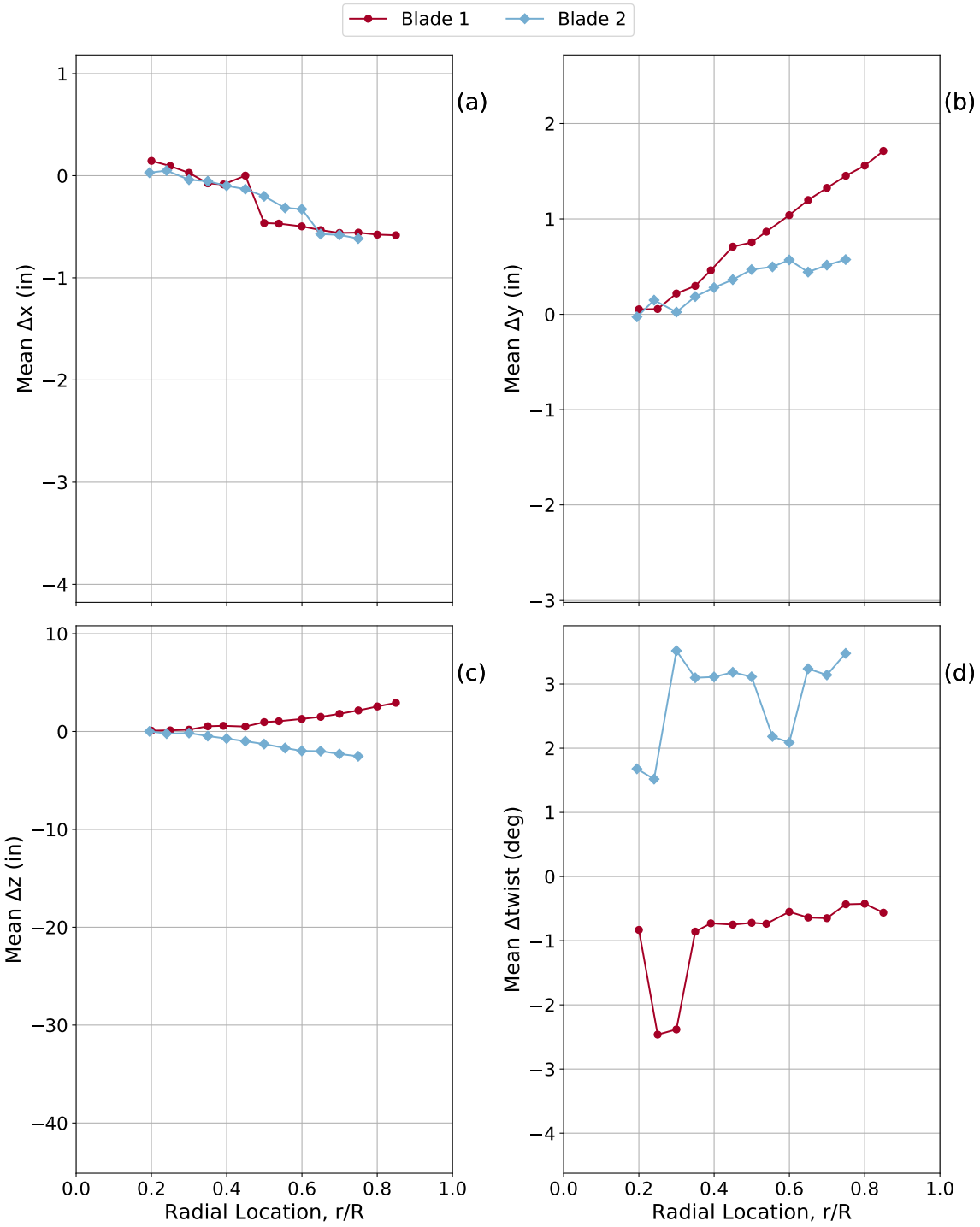


Figure 3.39-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.1446	0.0083	0.0522	0.0047	0.0811	0.0256	-0.8323	0.2643
1	0.35	0.2499	0.0945	0.0056	0.0556	0.0114	0.1168	0.0460	-2.4646	0.6993
1	0.35	0.2998	0.0272	0.0066	0.2182	0.0211	0.1863	0.0768	-2.3842	0.7229
1	0.35	0.3498	-0.0749	0.0080	0.2974	0.0299	0.5369	0.2028	-0.8590	0.2512
1	0.35	0.3913	-0.0856	0.0129	0.4609	0.0438	0.5807	0.2385	-0.7300	0.2544
1	0.35	0.4496	0.0007	0.0244	0.7091	0.0668	0.5053	0.2996	-0.7505	0.2704
1	0.35	0.4997	-0.4637	0.0958	0.7538	0.0974	0.9599	0.1914	-0.7222	0.1762
1	0.35	0.5387	-0.4692	0.1038	0.8657	0.1113	1.0527	0.2155	-0.7368	0.1884
1	0.35	0.5996	-0.4966	0.1197	1.0390	0.1335	1.2850	0.2604	-0.5502	0.1742
1	0.35	0.6498	-0.5327	0.1301	1.1980	0.1506	1.4995	0.3052	-0.6401	0.1590
1	0.35	0.6998	-0.5606	0.1402	1.3254	0.1700	1.8066	0.3494	-0.6497	0.1652
1	0.35	0.7500	-0.5576	0.1533	1.4523	0.1892	2.1521	0.3972	-0.4324	0.1488
1	0.35	0.8001	-0.5769	0.1652	1.5585	0.2127	2.5589	0.4494	-0.4244	0.1471
1	0.35	0.8497	-0.5830	0.1771	1.7123	0.2364	2.9306	0.5072	-0.5632	0.1249
2	0	0.1949	0.0292	0.0199	-0.0272	0.0049	0.0110	0.0132	1.6792	0.2791
2	0	0.2405	0.0498	0.0146	0.1486	0.0197	-0.2165	0.0319	1.5193	0.2121
2	0	0.2999	-0.0394	0.0120	0.0234	0.0157	-0.1616	0.0259	3.5197	0.5502
2	0	0.3498	-0.0543	0.0188	0.1861	0.0399	-0.4709	0.0684	3.0977	0.5628
2	0	0.3998	-0.0990	0.0270	0.2800	0.0578	-0.7272	0.1000	3.1111	0.5660
2	0	0.4496	-0.1317	0.0370	0.3634	0.0785	-0.9959	0.1355	3.1840	0.5808
2	0	0.4995	-0.2019	0.0436	0.4689	0.1014	-1.2892	0.1758	3.1131	0.5827
2	0	0.5551	-0.3154	0.0447	0.4975	0.1293	-1.6918	0.2321	2.1822	0.3287
2	0	0.5996	-0.3277	0.0501	0.5703	0.1517	-1.9867	0.2726	2.0871	0.3416
2	0	0.6497	-0.5716	0.0536	0.4425	0.1680	-2.0078	0.2731	3.2393	0.6142
2	0	0.6996	-0.5801	0.0560	0.5157	0.1939	-2.2967	0.3140	3.1417	0.6122
2	0	0.7495	-0.6151	0.0596	0.5739	0.2142	-2.5329	0.3540	3.4785	0.6124

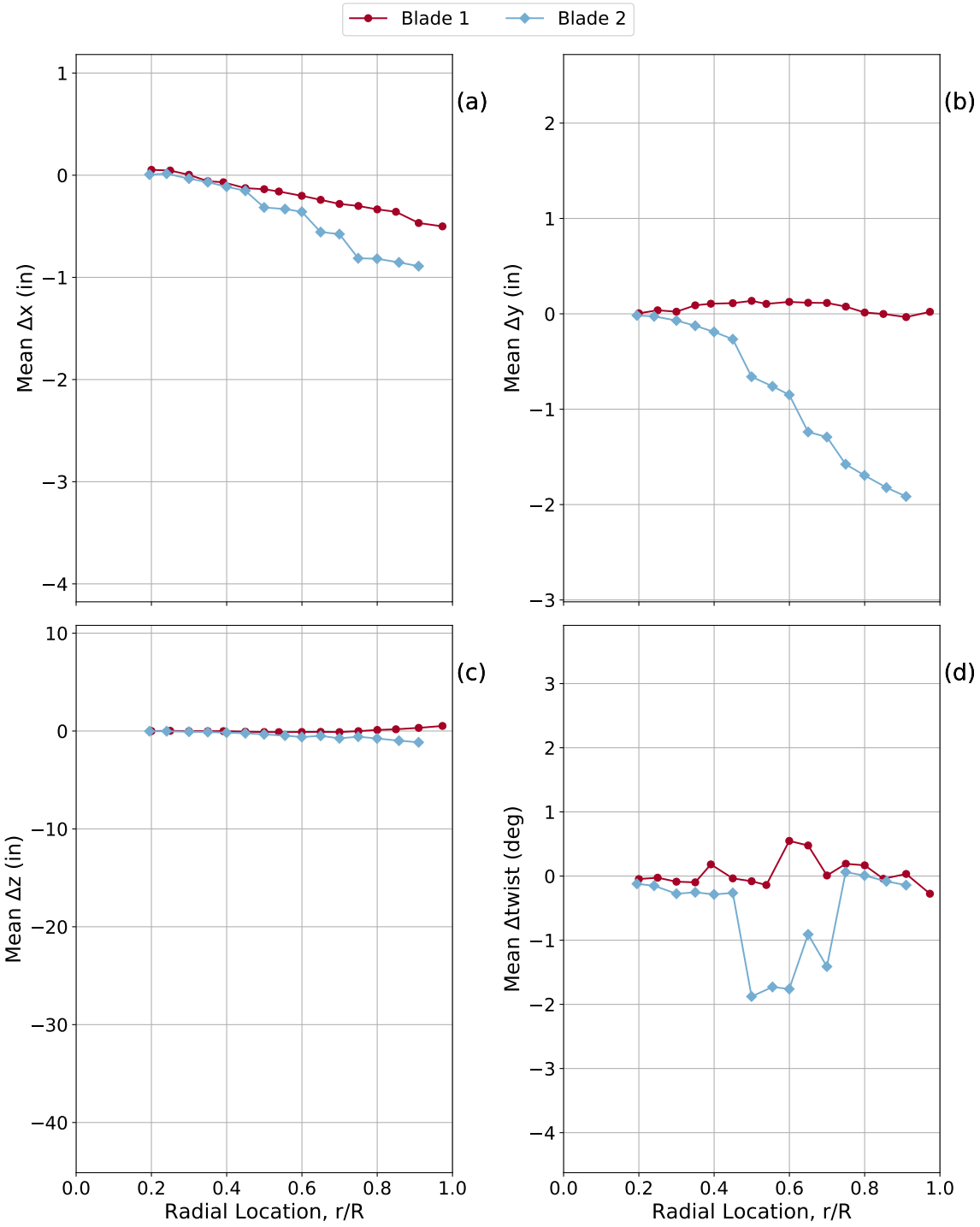


Figure 3.39-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0528	0.0119	0.0056	0.0047	-0.0073	0.0047	-0.0464	0.0417
1	4.92	0.2499	0.0458	0.0056	0.0373	0.0113	0.0199	0.0103	-0.0257	0.0772
1	4.92	0.2998	0.0042	0.0047	0.0224	0.0229	-0.0139	0.0196	-0.0878	0.0953
1	4.92	0.3498	-0.0584	0.0128	0.0893	0.0353	-0.0151	0.0329	-0.0977	0.0651
1	4.92	0.3913	-0.0688	0.0214	0.1061	0.0552	-0.0113	0.0482	0.1817	0.0809
1	4.92	0.4496	-0.1265	0.0322	0.1120	0.0788	-0.0650	0.0638	-0.0363	0.0846
1	4.92	0.4997	-0.1368	0.0403	0.1359	0.0982	-0.1006	0.0846	-0.0805	0.0739
1	4.92	0.5387	-0.1595	0.0473	0.1043	0.1097	-0.1109	0.0991	-0.1395	0.0786
1	4.92	0.5996	-0.2017	0.0193	0.1253	0.1123	-0.0955	0.1270	0.5480	0.2450
1	4.92	0.6498	-0.2409	0.0210	0.1161	0.1233	-0.0829	0.1510	0.4766	0.2732
1	4.92	0.6998	-0.2809	0.0114	0.1142	0.1358	-0.1067	0.1530	0.0088	0.1030
1	4.92	0.7500	-0.3009	0.0098	0.0755	0.1456	-0.0114	0.1713	0.1914	0.0778
1	4.92	0.8001	-0.3343	0.0096	0.0137	0.1559	0.1093	0.1969	0.1673	0.0797
1	4.92	0.8497	-0.3579	0.0119	-0.0014	0.1674	0.1810	0.2227	-0.0425	0.0822
1	4.92	0.9102	-0.4676	0.0165	-0.0341	0.1993	0.3235	0.3096	0.0330	1.2775
1	4.92	0.9734	-0.5008	0.0235	0.0210	0.2114	0.5189	0.4418	-0.2753	1.4659
2	4.92	0.1949	0.0062	0.0060	-0.0169	0.0028	-0.0216	0.0088	-0.1214	0.0562
2	4.92	0.2405	0.0149	0.0021	-0.0266	0.0056	-0.0205	0.0146	-0.1509	0.1644
2	4.92	0.2999	-0.0333	0.0042	-0.0704	0.0100	-0.0726	0.0358	-0.2758	0.1663
2	4.92	0.3498	-0.0680	0.0021	-0.1249	0.0194	-0.1054	0.0612	-0.2534	0.1637
2	4.92	0.3998	-0.1125	0.0029	-0.1893	0.0279	-0.1626	0.0945	-0.2863	0.1644
2	4.92	0.4496	-0.1521	0.0028	-0.2659	0.0371	-0.2286	0.1265	-0.2631	0.1754
2	4.92	0.4995	-0.3155	0.0781	-0.6597	0.0985	-0.3399	0.1627	-1.8776	1.0285
2	4.92	0.5551	-0.3313	0.0862	-0.7604	0.1280	-0.4713	0.1942	-1.7290	1.1234
2	4.92	0.5996	-0.3576	0.0939	-0.8490	0.1439	-0.6151	0.2208	-1.7606	1.1926
2	4.92	0.6497	-0.5564	0.1355	-1.2387	0.2240	-0.4936	0.2658	-0.9088	0.9274
2	4.92	0.6996	-0.5763	0.1455	-1.2916	0.2839	-0.7447	0.3404	-1.4112	0.6613
2	4.92	0.7495	-0.8131	0.1260	-1.5769	0.3430	-0.5817	0.5024	0.0620	0.1894
2	4.92	0.7996	-0.8175	0.1316	-1.6939	0.3826	-0.7592	0.5259	0.0081	0.2137
2	4.92	0.8578	-0.8535	0.1385	-1.8215	0.4297	-0.9858	0.5439	-0.0827	0.2183
2	4.92	0.9100	-0.8901	0.1467	-1.9154	0.4814	-1.1543	0.5670	-0.1412	0.2335

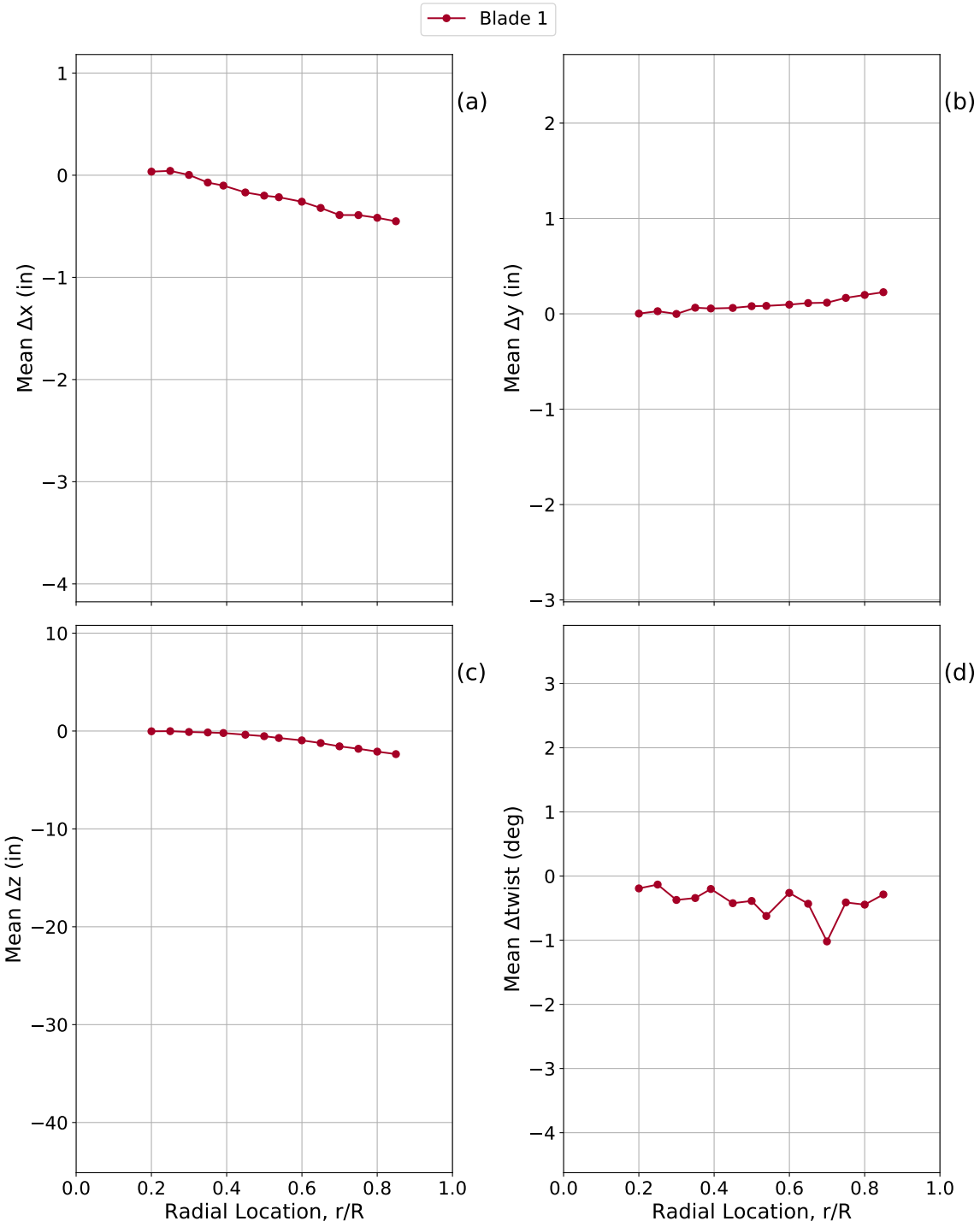


Figure 3.39-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0352	0.0087	0.0025	0.0037	-0.0273	0.0079	-0.1925	0.0679
1	15.12	0.2499	0.0425	0.0049	0.0275	0.0054	-0.0143	0.0229	-0.1326	0.1126
1	15.12	0.2998	0.0029	0.0025	-0.0011	0.0117	-0.0957	0.0383	-0.3725	0.1552
1	15.12	0.3498	-0.0716	0.0032	0.0641	0.0213	-0.1452	0.0699	-0.3426	0.1153
1	15.12	0.3913	-0.1016	0.0032	0.0560	0.0283	-0.2029	0.1025	-0.2013	0.1276
1	15.12	0.4496	-0.1684	0.0036	0.0618	0.0383	-0.3780	0.1606	-0.4231	0.1527
1	15.12	0.4997	-0.1999	0.0038	0.0803	0.0484	-0.5271	0.2192	-0.3875	0.1426
1	15.12	0.5387	-0.2154	0.0037	0.0834	0.0548	-0.7109	0.2648	-0.6227	0.1406
1	15.12	0.5996	-0.2591	0.0053	0.0966	0.0689	-0.9541	0.3429	-0.2622	0.1482
1	15.12	0.6498	-0.3203	0.0046	0.1129	0.0791	-1.2282	0.4049	-0.4317	0.1734
1	15.12	0.6998	-0.3897	0.0343	0.1169	0.0851	-1.5649	0.4753	-1.0192	0.4776
1	15.12	0.7500	-0.3902	0.0075	0.1673	0.0977	-1.8123	0.5442	-0.4111	0.1735
1	15.12	0.8001	-0.4166	0.0124	0.1981	0.1123	-2.1037	0.6265	-0.4458	0.2123
1	15.12	0.8497	-0.4508	0.0112	0.2269	0.1240	-2.3592	0.7116	-0.2867	0.1435

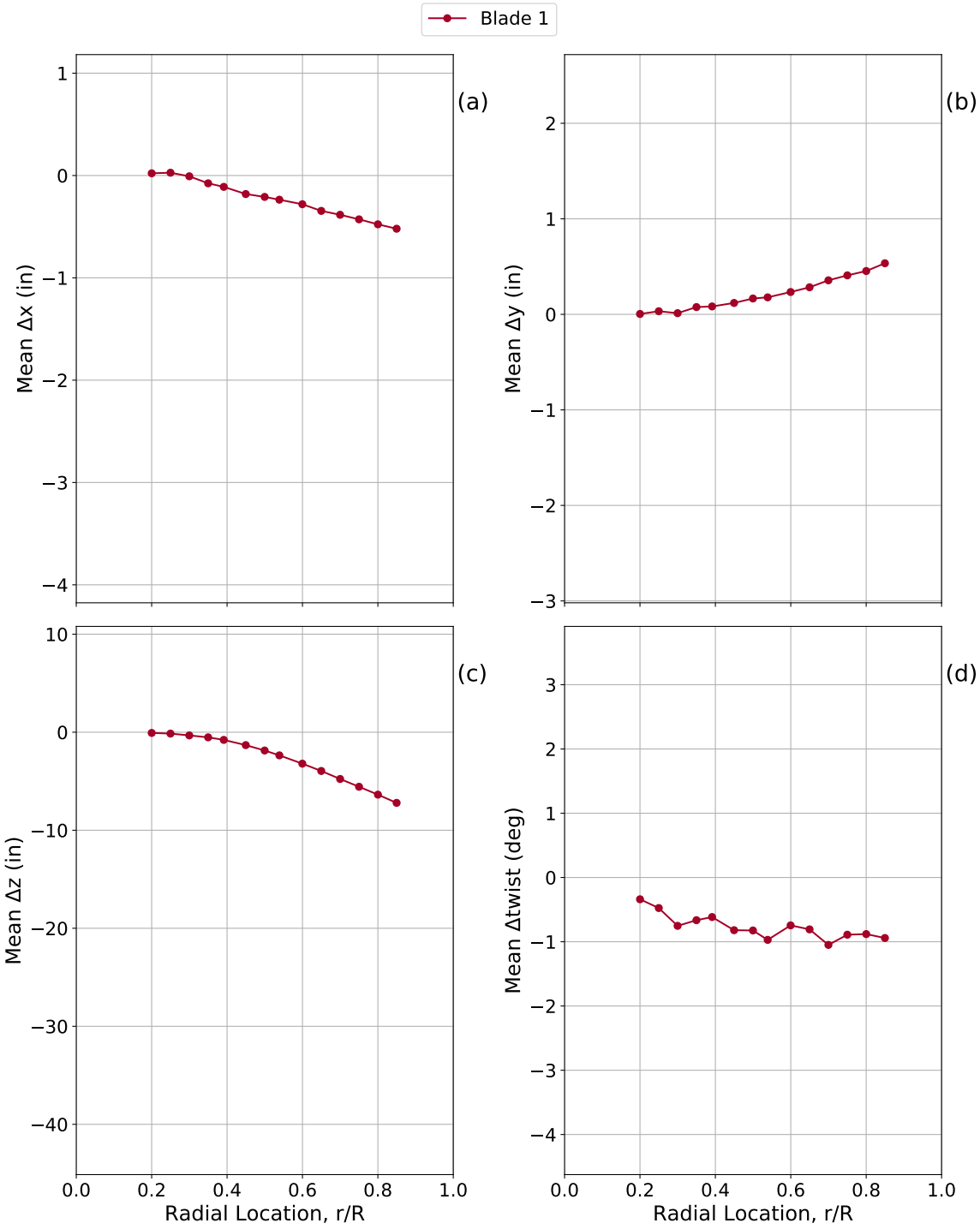


Figure 3.39-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0214	0.0026	0.0041	0.0018	-0.0723	0.0067	-0.3392	0.0406
1	29.88	0.2499	0.0274	0.0030	0.0326	0.0030	-0.1398	0.0110	-0.4756	0.1167
1	29.88	0.2998	-0.0077	0.0026	0.0122	0.0064	-0.3255	0.0266	-0.7526	0.1111
1	29.88	0.3498	-0.0763	0.0031	0.0761	0.0102	-0.5227	0.0450	-0.6647	0.1376
1	29.88	0.3913	-0.1110	0.0037	0.0827	0.0144	-0.7830	0.0644	-0.6157	0.1489
1	29.88	0.4496	-0.1811	0.0028	0.1193	0.0216	-1.3144	0.0965	-0.8203	0.1566
1	29.88	0.4997	-0.2092	0.0032	0.1660	0.0278	-1.8650	0.1214	-0.8247	0.1612
1	29.88	0.5387	-0.2364	0.0049	0.1779	0.0318	-2.3605	0.1416	-0.9708	0.1613
1	29.88	0.5996	-0.2807	0.0056	0.2338	0.0416	-3.2059	0.1727	-0.7452	0.1601
1	29.88	0.6498	-0.3457	0.0067	0.2833	0.0490	-3.9526	0.1998	-0.8074	0.1613
1	29.88	0.6998	-0.3838	0.0076	0.3562	0.0576	-4.7687	0.2291	-1.0491	0.1587
1	29.88	0.7500	-0.4283	0.0093	0.4080	0.0656	-5.5635	0.2622	-0.8905	0.1487
1	29.88	0.8001	-0.4770	0.0100	0.4534	0.0733	-6.3675	0.2970	-0.8808	0.1565
1	29.88	0.8497	-0.5201	0.0131	0.5346	0.0815	-7.2079	0.3322	-0.9419	0.1475

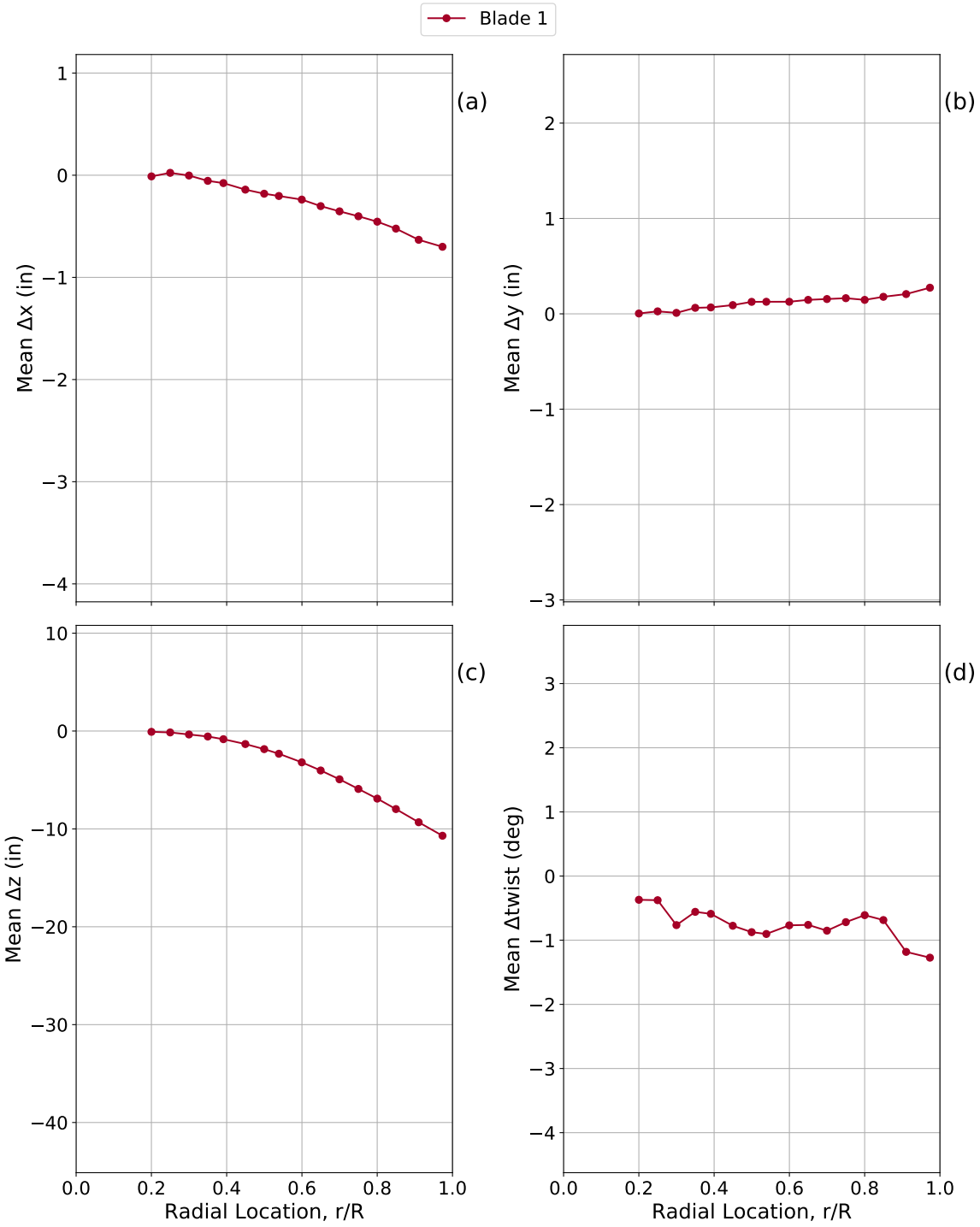


Figure 3.39-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0115	0.0042	0.0038	0.0025	-0.0819	0.0060	-0.3699	0.0306
1	45	0.2499	0.0234	0.0028	0.0260	0.0037	-0.1425	0.0088	-0.3763	0.0649
1	45	0.2998	-0.0029	0.0024	0.0101	0.0088	-0.3530	0.0230	-0.7644	0.0675
1	45	0.3498	-0.0550	0.0046	0.0630	0.0149	-0.5598	0.0386	-0.5579	0.0771
1	45	0.3913	-0.0770	0.0073	0.0673	0.0207	-0.8334	0.0545	-0.5891	0.0641
1	45	0.4496	-0.1410	0.0119	0.0916	0.0287	-1.3307	0.0801	-0.7747	0.0576
1	45	0.4997	-0.1810	0.0185	0.1257	0.0371	-1.8500	0.1043	-0.8743	0.0688
1	45	0.5387	-0.2032	0.0252	0.1265	0.0440	-2.3213	0.1244	-0.9027	0.0677
1	45	0.5996	-0.2386	0.0158	0.1267	0.0964	-3.1986	0.1796	-0.7681	0.0479
1	45	0.6498	-0.3024	0.0159	0.1465	0.1076	-4.0300	0.2137	-0.7610	0.0493
1	45	0.6998	-0.3536	0.0162	0.1552	0.1185	-4.9339	0.2548	-0.8514	0.0406
1	45	0.7500	-0.4016	0.0178	0.1641	0.1310	-5.9168	0.2991	-0.7182	0.0366
1	45	0.8001	-0.4547	0.0205	0.1463	0.1426	-6.9066	0.3470	-0.6094	0.0355
1	45	0.8497	-0.5227	0.0236	0.1785	0.1555	-7.9736	0.3986	-0.6859	0.0423
1	45	0.9102	-0.6322	0.0277	0.2072	0.1705	-9.3220	0.4673	-1.1818	0.0530
1	45	0.9734	-0.7005	0.0330	0.2740	0.1877	-10.6992	0.5486	-1.2723	0.0538

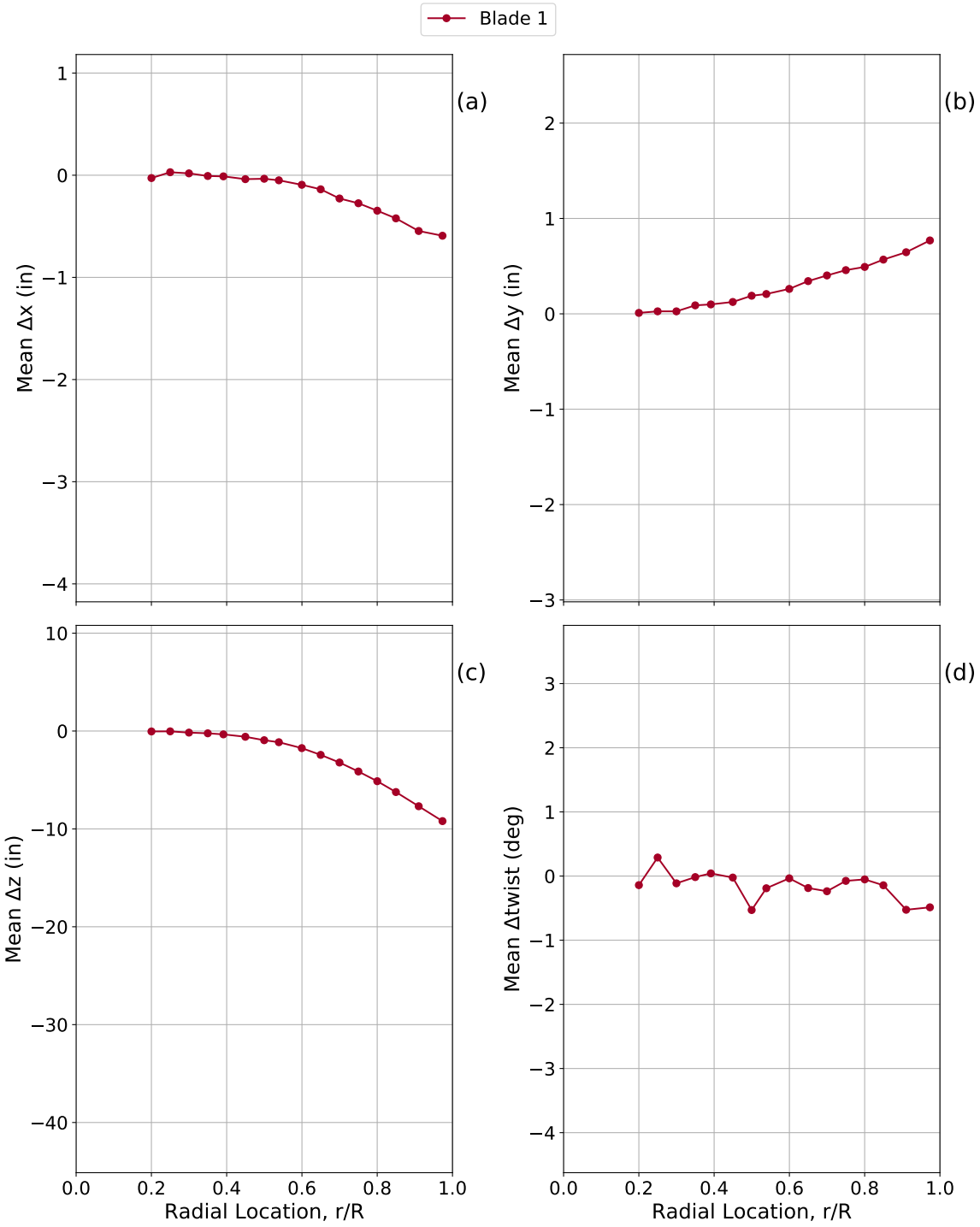


Figure 3.39-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0277	0.0054	0.0099	0.0110	-0.0425	0.0227	-0.1415	0.1749
1	60.12	0.2499	0.0293	0.0035	0.0262	0.0108	-0.0335	0.0231	0.2891	0.4796
1	60.12	0.2998	0.0182	0.0045	0.0261	0.0370	-0.1608	0.0809	-0.1133	0.4876
1	60.12	0.3498	-0.0075	0.0070	0.0889	0.0623	-0.2329	0.1390	-0.0160	0.4769
1	60.12	0.3913	-0.0111	0.0095	0.0988	0.0842	-0.3411	0.1892	0.0416	0.4795
1	60.12	0.4496	-0.0384	0.0146	0.1244	0.1166	-0.5863	0.2617	-0.0234	0.4881
1	60.12	0.4997	-0.0346	0.0137	0.1898	0.1501	-0.9387	0.3667	-0.5296	0.3273
1	60.12	0.5387	-0.0498	0.0460	0.2077	0.1491	-1.1431	0.2744	-0.1901	0.4823
1	60.12	0.5996	-0.0938	0.0439	0.2614	0.1834	-1.7465	0.3494	-0.0352	0.4801
1	60.12	0.6498	-0.1379	0.0413	0.3431	0.2129	-2.4370	0.4117	-0.1868	0.4790
1	60.12	0.6998	-0.2277	0.0394	0.4024	0.2986	-3.2191	0.4371	-0.2368	0.4431
1	60.12	0.7500	-0.2744	0.0425	0.4581	0.3364	-4.1351	0.5041	-0.0749	0.4491
1	60.12	0.8001	-0.3473	0.0464	0.4918	0.3726	-5.1275	0.5698	-0.0521	0.4479
1	60.12	0.8497	-0.4223	0.0500	0.5687	0.4108	-6.2346	0.6333	-0.1437	0.4439
1	60.12	0.9102	-0.5458	0.0543	0.6460	0.4568	-7.6860	0.7099	-0.5255	0.4379
1	60.12	0.9734	-0.5923	0.0506	0.7697	0.5063	-9.2048	0.7887	-0.4873	0.4356

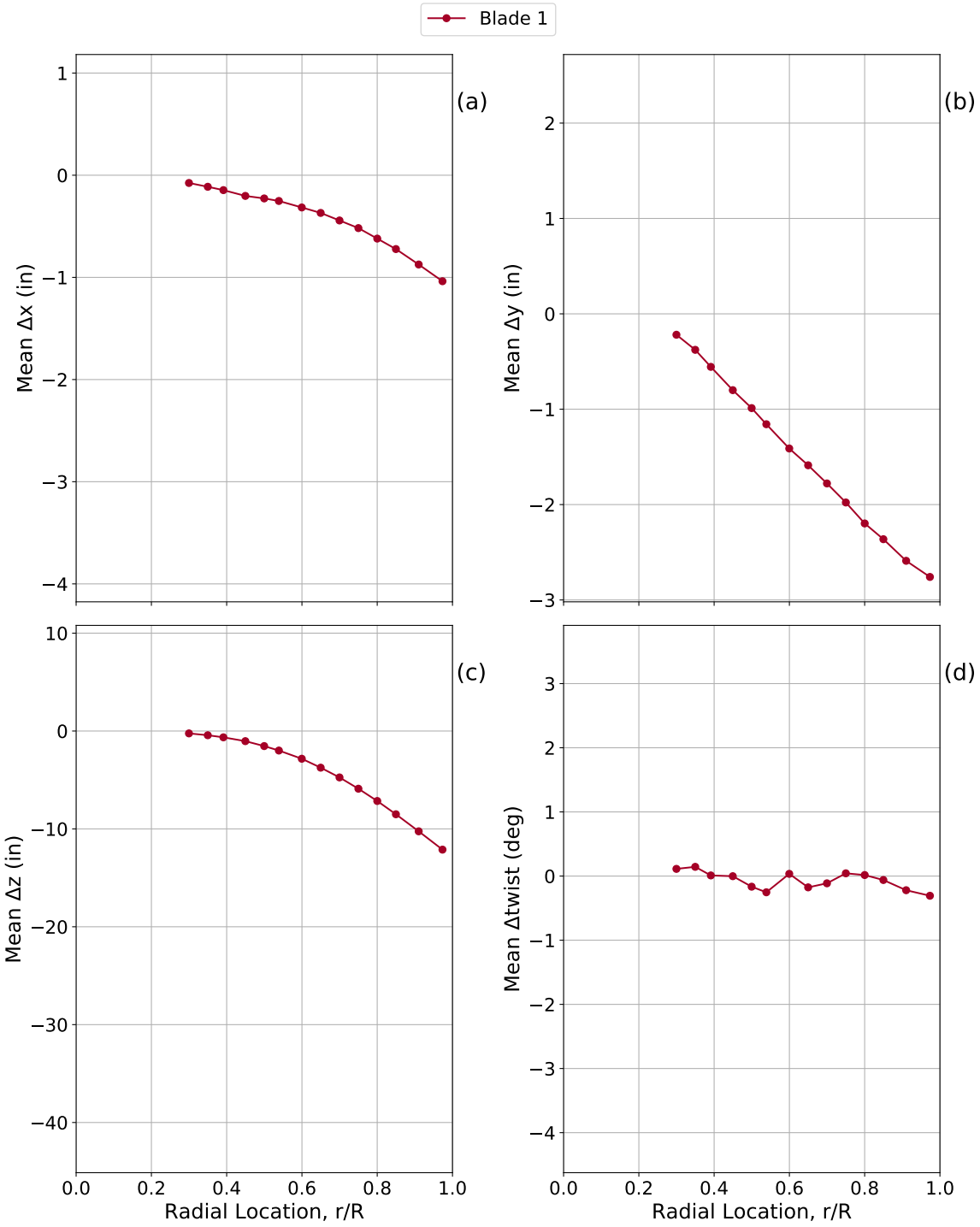


Figure 3.39-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2998	-0.0759	0.0133	-0.2192	0.0298	-0.2417	0.0827	0.1119	0.2155
1	74.88	0.3498	-0.1131	0.0131	-0.3774	0.0509	-0.4297	0.1459	0.1438	0.2884
1	74.88	0.3913	-0.1459	0.0137	-0.5560	0.0746	-0.6432	0.2175	0.0098	0.2790
1	74.88	0.4496	-0.2025	0.0144	-0.8003	0.1061	-1.0341	0.3134	-0.0020	0.2709
1	74.88	0.4997	-0.2272	0.0161	-0.9884	0.1338	-1.5378	0.3949	-0.1657	0.2658
1	74.88	0.5387	-0.2520	0.0172	-1.1574	0.1563	-1.9932	0.4604	-0.2529	0.2737
1	74.88	0.5996	-0.3155	0.0202	-1.4118	0.1915	-2.8319	0.5623	0.0346	0.2629
1	74.88	0.6498	-0.3690	0.0233	-1.5879	0.2216	-3.7435	0.6468	-0.1762	0.2637
1	74.88	0.6998	-0.4429	0.0274	-1.7784	0.2517	-4.7410	0.7295	-0.1130	0.2652
1	74.88	0.7500	-0.5176	0.0330	-1.9779	0.2826	-5.8940	0.8116	0.0426	0.2608
1	74.88	0.8001	-0.6203	0.0387	-2.1977	0.3142	-7.1489	0.8963	0.0159	0.2652
1	74.88	0.8497	-0.7228	0.0458	-2.3629	0.3451	-8.5055	0.9818	-0.0616	0.2704
1	74.88	0.9102	-0.8739	0.0542	-2.5895	0.3833	-10.2475	1.0892	-0.2206	0.2755
1	74.88	0.9734	-1.0375	0.0585	-2.7587	0.4237	-12.1185	1.2033	-0.3070	0.2645

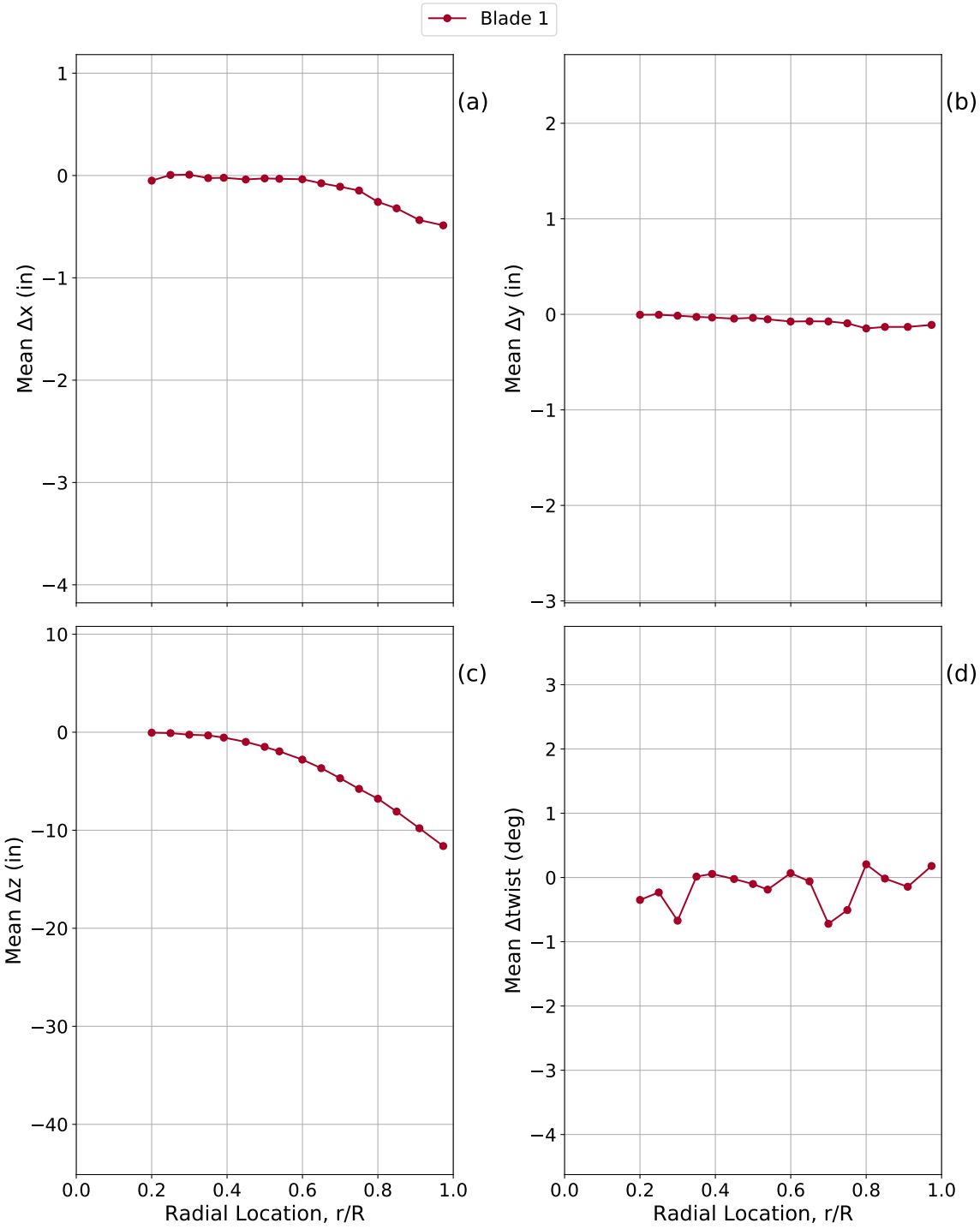


Figure 3.39-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0502	0.0052	-0.0046	0.0121	-0.0485	0.0302	-0.3492	0.5013
1	80.16	0.2499	0.0053	0.0058	-0.0043	0.0064	-0.0907	0.0566	-0.2323	0.5216
1	80.16	0.2998	0.0081	0.0040	-0.0139	0.0259	-0.2530	0.0827	-0.6724	1.0505
1	80.16	0.3498	-0.0252	0.0095	-0.0266	0.0613	-0.3228	0.2273	0.0140	0.5016
1	80.16	0.3913	-0.0221	0.0107	-0.0334	0.0646	-0.5476	0.2614	0.0555	0.5102
1	80.16	0.4496	-0.0387	0.0119	-0.0446	0.0690	-0.9883	0.3107	-0.0239	0.4982
1	80.16	0.4997	-0.0283	0.0143	-0.0361	0.0721	-1.4935	0.3511	-0.1016	0.5067
1	80.16	0.5387	-0.0320	0.0160	-0.0519	0.0759	-1.9518	0.3823	-0.1884	0.5119
1	80.16	0.5996	-0.0367	0.0185	-0.0752	0.0838	-2.7944	0.4353	0.0672	0.4925
1	80.16	0.6498	-0.0758	0.0204	-0.0728	0.0926	-3.6674	0.4773	-0.0603	0.4947
1	80.16	0.6998	-0.1096	0.0147	-0.0742	0.0871	-4.6943	0.4798	-0.7207	1.2332
1	80.16	0.7500	-0.1472	0.0176	-0.0938	0.1004	-5.7815	0.5277	-0.5071	1.2543
1	80.16	0.8001	-0.2582	0.0278	-0.1476	0.0950	-6.7841	0.7423	0.2048	0.4726
1	80.16	0.8497	-0.3209	0.0210	-0.1317	0.1088	-8.0943	0.7906	-0.0172	0.4760
1	80.16	0.9102	-0.4355	0.0222	-0.1315	0.1283	-9.7977	0.8498	-0.1443	0.4707
1	80.16	0.9734	-0.4873	0.0356	-0.1105	0.1573	-11.6130	0.9121	0.1790	0.4694

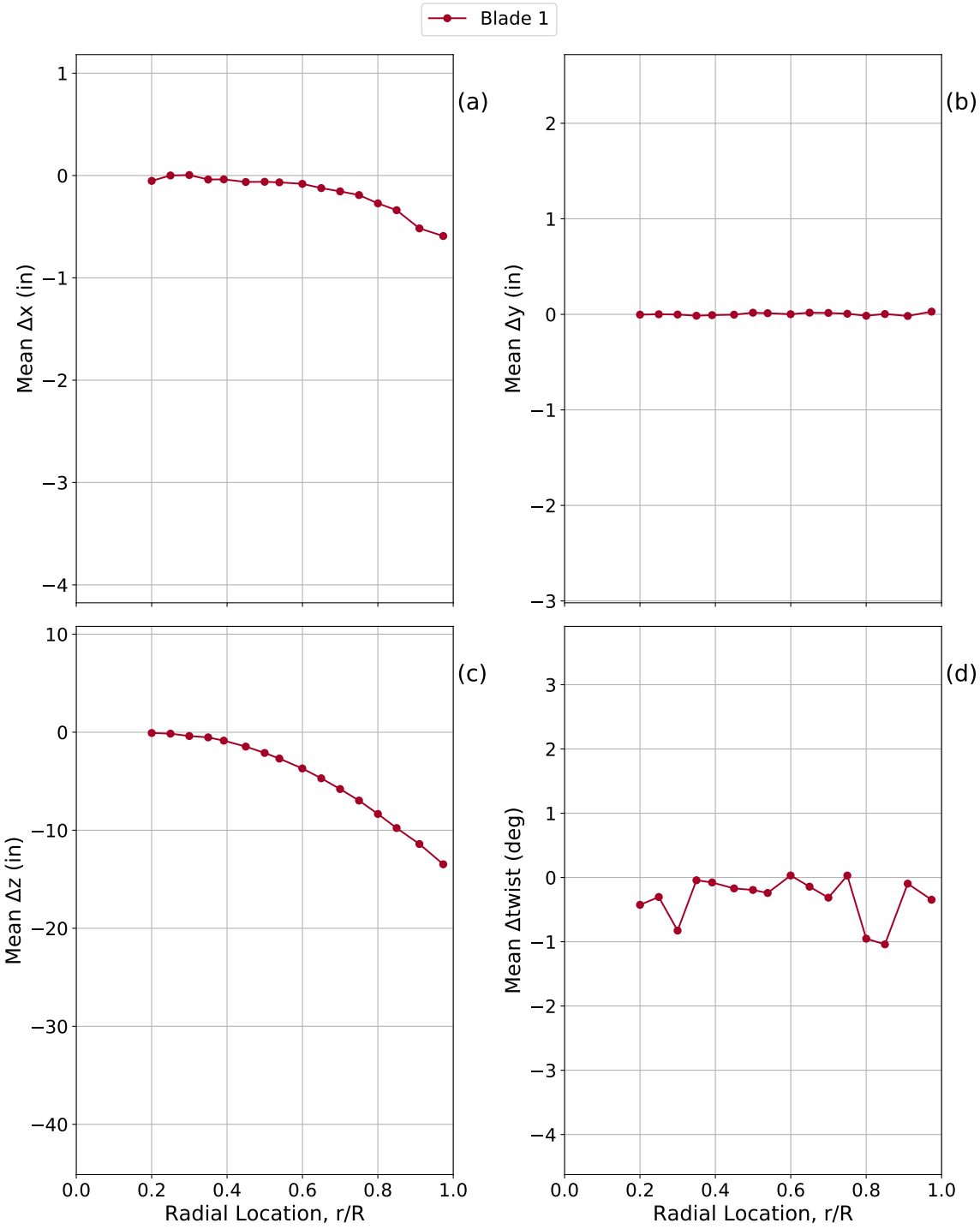


Figure 3.39-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0524	0.0128	-0.0032	0.0065	-0.0781	0.0214	-0.4255	0.3320
1	85.08	0.2499	0.0005	0.0123	0.0009	0.0089	-0.1475	0.0405	-0.3039	0.3287
1	85.08	0.2998	0.0046	0.0079	-0.0020	0.0170	-0.3865	0.0634	-0.8262	0.6868
1	85.08	0.3498	-0.0390	0.0211	-0.0145	0.0379	-0.5261	0.1586	-0.0432	0.3309
1	85.08	0.3913	-0.0377	0.0251	-0.0084	0.0451	-0.8594	0.1894	-0.0772	0.3113
1	85.08	0.4496	-0.0632	0.0286	-0.0034	0.0554	-1.4641	0.2335	-0.1705	0.3149
1	85.08	0.4997	-0.0615	0.0326	0.0172	0.0662	-2.1123	0.2732	-0.1939	0.3134
1	85.08	0.5387	-0.0668	0.0334	0.0122	0.0750	-2.6878	0.3054	-0.2412	0.3093
1	85.08	0.5996	-0.0815	0.0374	0.0017	0.0866	-3.6966	0.3502	0.0315	0.3247
1	85.08	0.6498	-0.1230	0.0385	0.0173	0.0981	-4.7000	0.3866	-0.1430	0.3093
1	85.08	0.6998	-0.1549	0.0412	0.0148	0.1123	-5.7957	0.4130	-0.3140	0.3103
1	85.08	0.7500	-0.1910	0.0447	0.0061	0.1293	-6.9717	0.4395	0.0303	0.3116
1	85.08	0.8001	-0.2724	0.0434	-0.0146	0.1332	-8.3391	0.4374	-0.9519	0.9058
1	85.08	0.8497	-0.3392	0.0439	0.0034	0.1525	-9.7752	0.4602	-1.0408	1.0027
1	85.08	0.9102	-0.5167	0.0390	-0.0170	0.1499	-11.4067	0.6398	-0.0958	0.2405
1	85.08	0.9734	-0.5913	0.0446	0.0283	0.1777	-13.4741	0.6854	-0.3464	0.2354

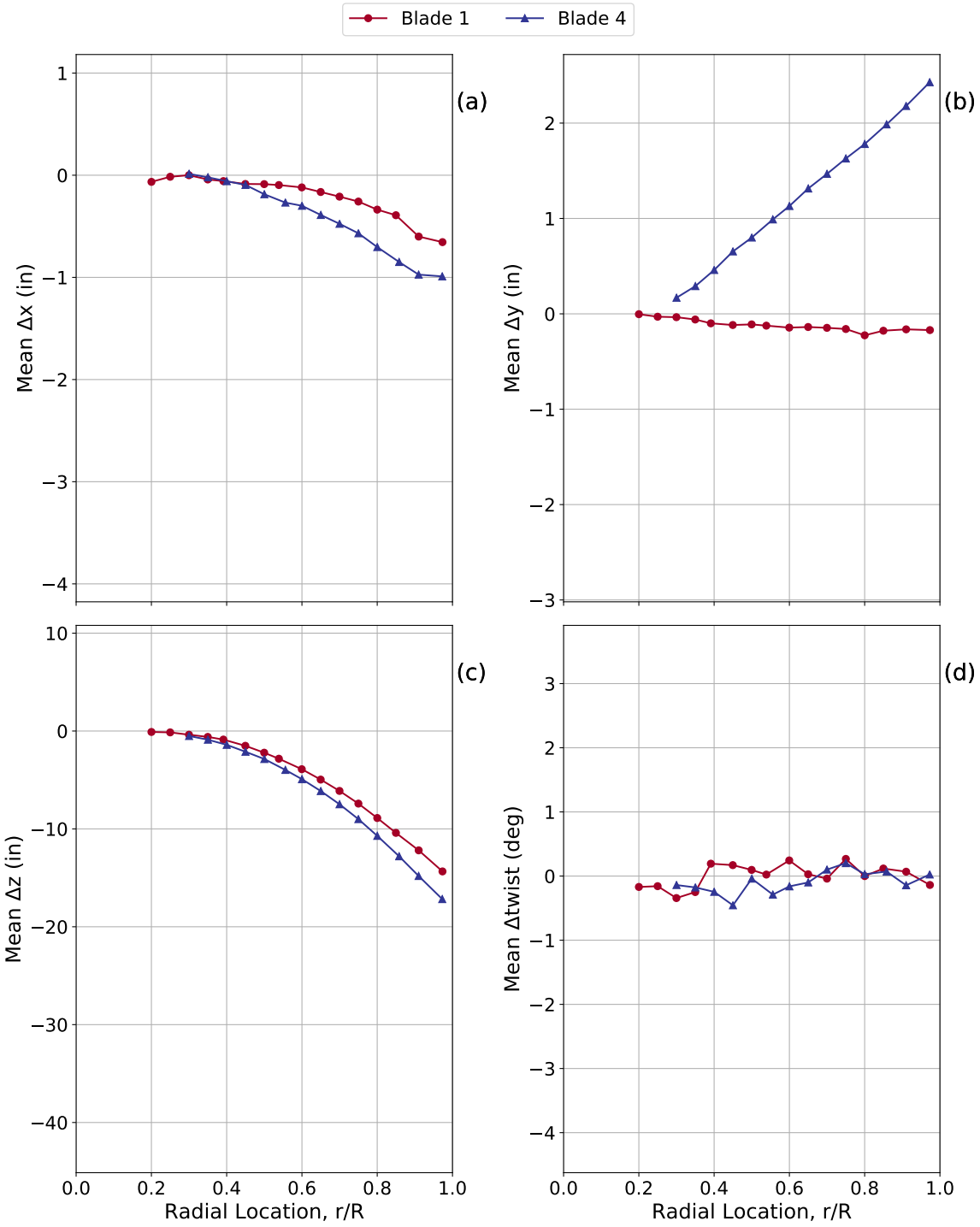


Figure 3.39-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0649	0.0035	-0.0038	0.0091	-0.0957	0.0144	-0.1698	0.0275
1	90	0.2499	-0.0151	0.0027	-0.0303	0.0251	-0.1378	0.0532	-0.1578	0.0357
1	90	0.2998	0.0001	0.0038	-0.0350	0.0417	-0.3771	0.0931	-0.3431	0.0544
1	90	0.3498	-0.0415	0.0155	-0.0594	0.0751	-0.6017	0.1325	-0.2496	0.2832
1	90	0.3913	-0.0575	0.0219	-0.0994	0.1097	-0.8723	0.2260	0.1930	0.0601
1	90	0.4496	-0.0857	0.0218	-0.1171	0.1298	-1.5096	0.2840	0.1705	0.0671
1	90	0.4997	-0.0873	0.0207	-0.1108	0.1469	-2.2145	0.3378	0.0959	0.0638
1	90	0.5387	-0.0962	0.0212	-0.1239	0.1594	-2.8300	0.3807	0.0232	0.0782
1	90	0.5996	-0.1192	0.0202	-0.1444	0.1795	-3.9013	0.4536	0.2436	0.0739
1	90	0.6498	-0.1642	0.0204	-0.1382	0.1962	-4.9614	0.5169	0.0283	0.0799
1	90	0.6998	-0.2097	0.0225	-0.1468	0.2116	-6.1197	0.5828	-0.0399	0.0694
1	90	0.7500	-0.2577	0.0271	-0.1591	0.2277	-7.4156	0.6530	0.2673	0.0644
1	90	0.8001	-0.3368	0.0350	-0.2251	0.2647	-8.8881	0.7214	-0.0004	0.0842
1	90	0.8497	-0.3915	0.0395	-0.1770	0.2607	-10.4055	0.8042	0.1175	0.0933
1	90	0.9102	-0.6004	0.0446	-0.1626	0.2550	-12.1919	0.9496	0.0679	0.1095
1	90	0.9734	-0.6549	0.0534	-0.1704	0.2802	-14.3447	1.0627	-0.1388	0.0968
4	90.35	0.3001	0.0134	0.0125	0.1687	0.0172	-0.5086	0.0604	-0.1399	0.1842
4	90.35	0.3502	-0.0205	0.0142	0.2905	0.0300	-0.8862	0.1071	-0.1774	0.2466
4	90.35	0.4002	-0.0587	0.0143	0.4598	0.0479	-1.4127	0.1726	-0.2463	0.2563
4	90.35	0.4500	-0.0951	0.0197	0.6542	0.0645	-2.1173	0.2227	-0.4557	0.2300
4	90.35	0.5001	-0.1864	0.0212	0.7997	0.0833	-2.8603	0.2908	-0.0402	0.2243
4	90.35	0.5560	-0.2681	0.0247	0.9899	0.1047	-3.9756	0.3649	-0.2891	0.2393
4	90.35	0.6001	-0.2992	0.0273	1.1303	0.1219	-4.9212	0.4221	-0.1607	0.2484
4	90.35	0.6501	-0.3892	0.0317	1.3141	0.1425	-6.1352	0.4838	-0.0997	0.2558
4	90.35	0.6999	-0.4756	0.0359	1.4674	0.1639	-7.4846	0.5410	0.1005	0.2569
4	90.35	0.7500	-0.5684	0.0398	1.6287	0.1855	-9.0031	0.5913	0.2013	0.2616
4	90.35	0.8002	-0.7036	0.0442	1.7807	0.2090	-10.7140	0.6387	0.0283	0.2616
4	90.35	0.8582	-0.8495	0.0487	1.9862	0.2360	-12.8001	0.6880	0.0705	0.2477
4	90.35	0.9101	-0.9730	0.0532	2.1791	0.2616	-14.8132	0.7316	-0.1438	0.2616
4	90.35	0.9728	-0.9903	0.0544	2.4281	0.2921	-17.1739	0.7823	0.0246	0.2526

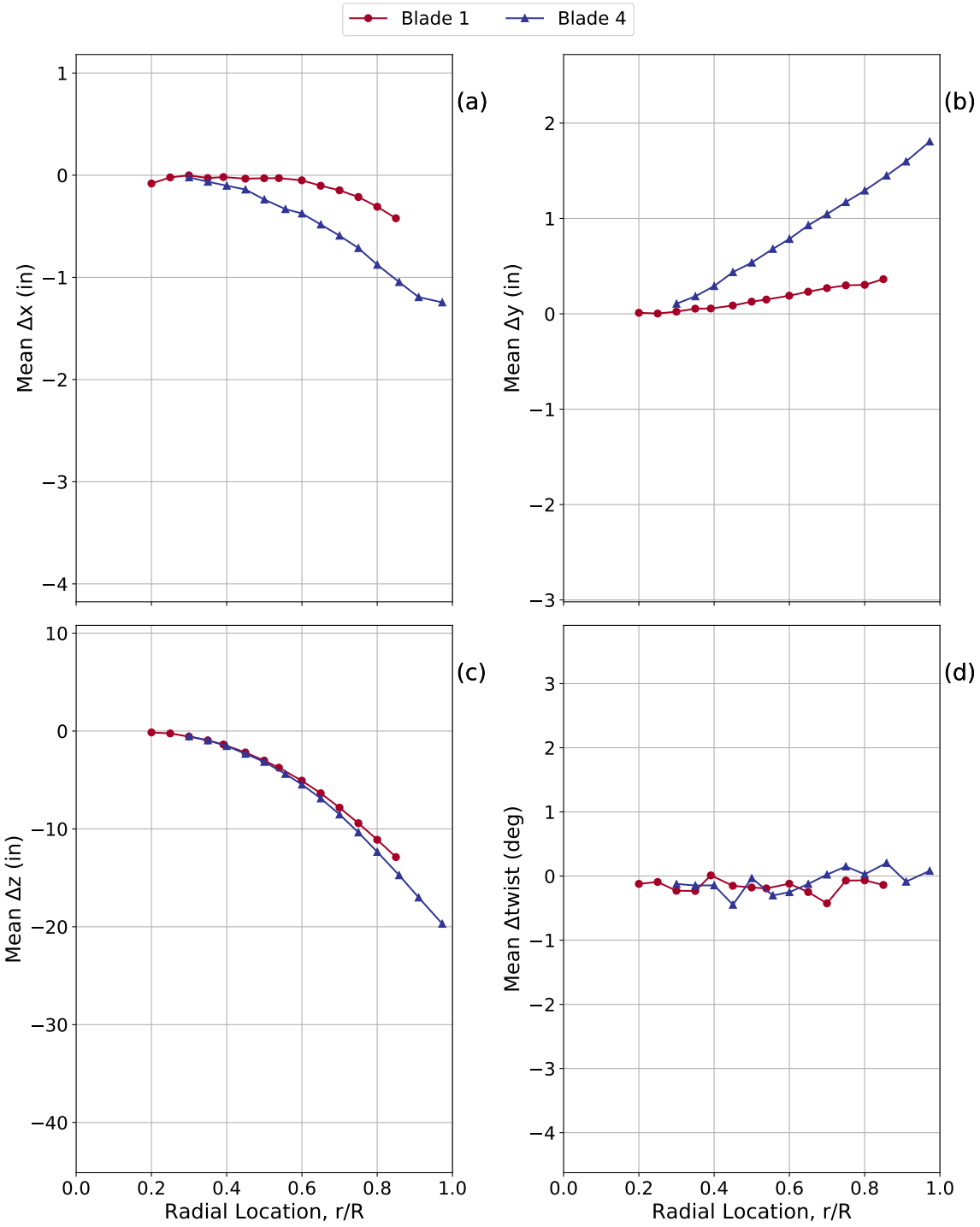


Figure 3.39-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0809	0.0244	0.0110	0.0044	-0.1408	0.0134	-0.1218	0.0359
1	94.92	0.2499	-0.0214	0.0084	0.0033	0.0088	-0.2429	0.0264	-0.0924	0.0651
1	94.92	0.2998	-0.0011	0.0097	0.0229	0.0182	-0.5717	0.0555	-0.2292	0.0839
1	94.92	0.3498	-0.0275	0.0229	0.0541	0.0309	-0.9530	0.0932	-0.2319	0.0907
1	94.92	0.3913	-0.0181	0.0336	0.0559	0.0448	-1.3758	0.1355	0.0109	0.0887
1	94.92	0.4496	-0.0336	0.0424	0.0872	0.0675	-2.1925	0.2082	-0.1515	0.1030
1	94.92	0.4997	-0.0297	0.0461	0.1277	0.0885	-3.0164	0.2744	-0.1787	0.0851
1	94.92	0.5387	-0.0285	0.0458	0.1497	0.1055	-3.7462	0.3260	-0.1923	0.0744
1	94.92	0.5996	-0.0499	0.0420	0.1902	0.1345	-5.0733	0.4120	-0.1191	0.0827
1	94.92	0.6498	-0.1030	0.0397	0.2317	0.1599	-6.3597	0.4886	-0.2488	0.0874
1	94.92	0.6998	-0.1477	0.0372	0.2695	0.1870	-7.8290	0.5627	-0.4256	0.0880
1	94.92	0.7500	-0.2133	0.0439	0.2985	0.2148	-9.4170	0.6378	-0.0700	0.1229
1	94.92	0.8001	-0.3085	0.0551	0.3040	0.2455	-11.1122	0.7144	-0.0672	0.1098
1	94.92	0.8497	-0.4214	0.0767	0.3630	0.2753	-12.8810	0.7796	-0.1385	0.1606
4	94.92	0.3001	-0.0209	0.0189	0.1064	0.0167	-0.5383	0.0737	-0.1226	0.2261
4	94.92	0.3502	-0.0636	0.0227	0.1838	0.0289	-0.9520	0.1347	-0.1472	0.3016
4	94.92	0.4002	-0.1026	0.0219	0.2914	0.0459	-1.5310	0.2206	-0.1448	0.2476
4	94.92	0.4500	-0.1399	0.0249	0.4369	0.0593	-2.3270	0.2868	-0.4472	0.2656
4	94.92	0.5001	-0.2377	0.0279	0.5372	0.0754	-3.1531	0.3588	-0.0330	0.2678
4	94.92	0.5560	-0.3317	0.0349	0.6805	0.0938	-4.3852	0.4353	-0.3022	0.2817
4	94.92	0.6001	-0.3746	0.0376	0.7854	0.1091	-5.4706	0.4954	-0.2509	0.2703
4	94.92	0.6501	-0.4829	0.0421	0.9282	0.1276	-6.8868	0.5574	-0.1237	0.2545
4	94.92	0.6999	-0.5917	0.0481	1.0452	0.1462	-8.5270	0.6161	0.0231	0.2717
4	94.92	0.7500	-0.7132	0.0539	1.1715	0.1651	-10.3586	0.6756	0.1498	0.2765
4	94.92	0.8002	-0.8764	0.0619	1.2925	0.1862	-12.3555	0.7364	0.0277	0.2750
4	94.92	0.8582	-1.0458	0.0709	1.4491	0.2102	-14.7319	0.8075	0.2042	0.2675
4	94.92	0.9101	-1.1932	0.0781	1.5975	0.2330	-17.0078	0.8729	-0.0874	0.2853
4	94.92	0.9728	-1.2448	0.0854	1.8070	0.2603	-19.6948	0.9542	0.0818	0.2813

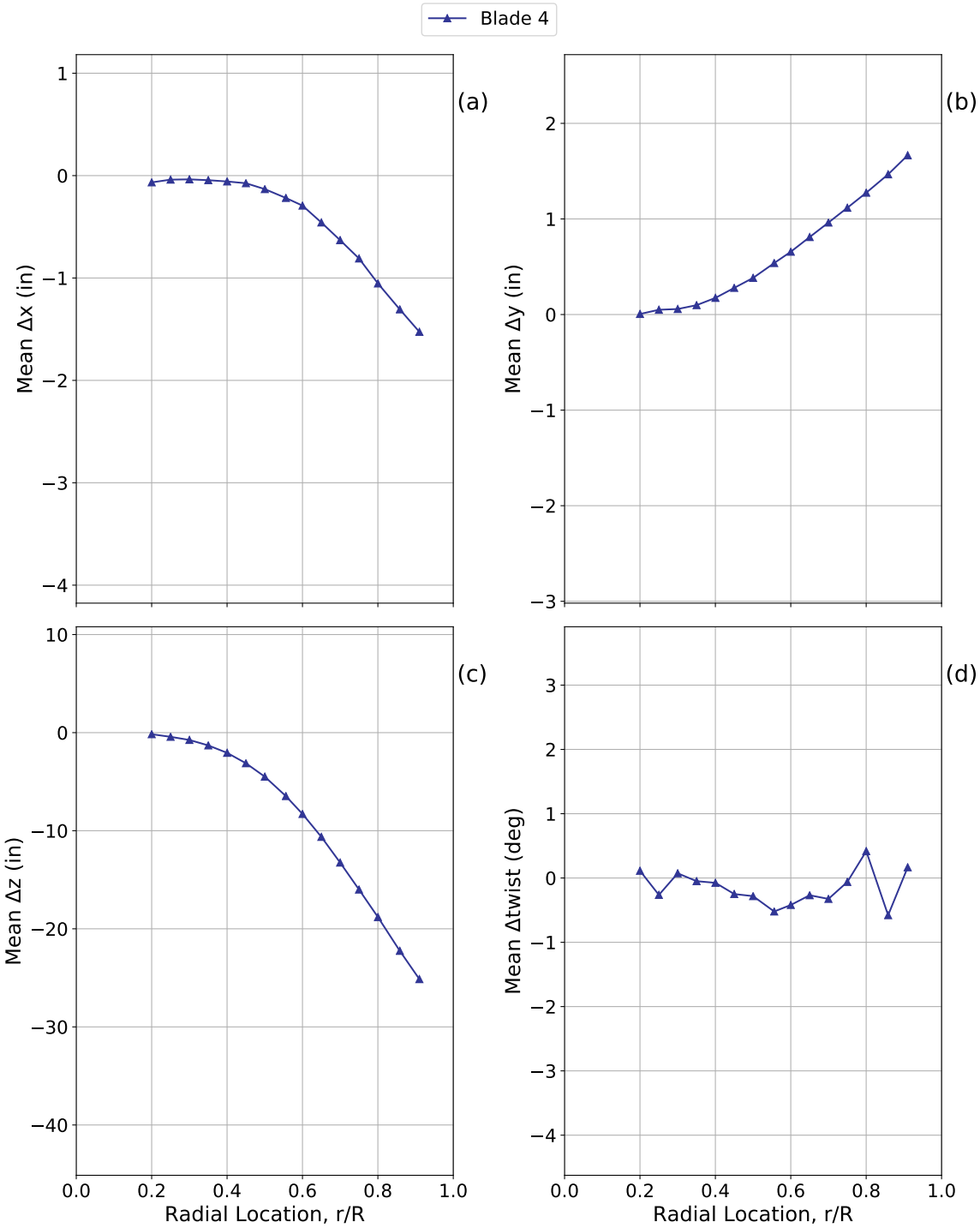


Figure 3.39-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0660	0.0027	0.0057	0.0011	-0.1608	0.0047	0.1120	0.0274
4	105.12	0.2502	-0.0394	0.0019	0.0498	0.0026	-0.4265	0.0127	-0.2631	0.0286
4	105.12	0.3001	-0.0366	0.0027	0.0576	0.0054	-0.7451	0.0228	0.0729	0.0558
4	105.12	0.3502	-0.0447	0.0026	0.0980	0.0080	-1.3023	0.0377	-0.0493	0.0393
4	105.12	0.4002	-0.0573	0.0053	0.1740	0.0134	-2.0610	0.0613	-0.0752	0.0378
4	105.12	0.4500	-0.0744	0.0076	0.2786	0.0184	-3.1203	0.0879	-0.2494	0.0616
4	105.12	0.5001	-0.1320	0.0105	0.3832	0.0253	-4.4911	0.1247	-0.2823	0.0604
4	105.12	0.5560	-0.2183	0.0159	0.5383	0.0340	-6.4705	0.1742	-0.5212	0.0679
4	105.12	0.6001	-0.2932	0.0215	0.6569	0.0422	-8.2929	0.2208	-0.4196	0.0729
4	105.12	0.6501	-0.4579	0.0296	0.8104	0.0512	-10.6299	0.2792	-0.2682	0.0686
4	105.12	0.6999	-0.6309	0.0403	0.9621	0.0613	-13.2499	0.3437	-0.3254	0.0667
4	105.12	0.7500	-0.8095	0.0532	1.1166	0.0717	-16.0005	0.4153	-0.0615	0.0797
4	105.12	0.8002	-1.0535	0.0654	1.2743	0.0824	-18.8099	0.4921	0.4175	0.0818
4	105.12	0.8582	-1.3069	0.0823	1.4666	0.0955	-22.2504	0.5845	-0.5789	0.1001
4	105.12	0.9101	-1.5262	0.0968	1.6659	0.1063	-25.1321	0.6710	0.1662	0.0938

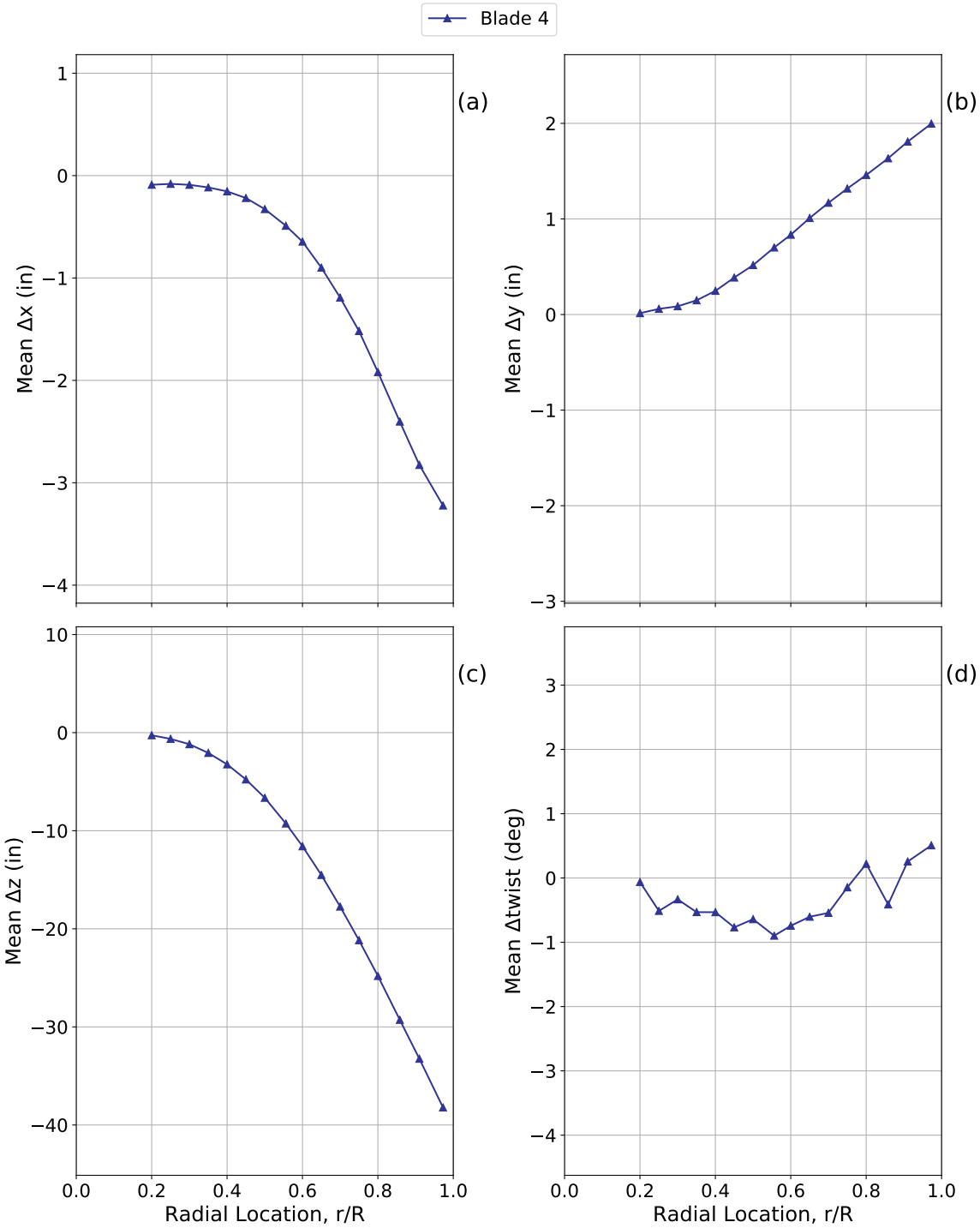


Figure 3.39-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0895	0.0037	0.0141	0.0013	-0.2693	0.0084	-0.0636	0.0245
4	119.88	0.2502	-0.0808	0.0034	0.0590	0.0027	-0.6372	0.0184	-0.5124	0.0326
4	119.88	0.3001	-0.0900	0.0046	0.0861	0.0050	-1.1823	0.0355	-0.3327	0.0511
4	119.88	0.3502	-0.1153	0.0069	0.1486	0.0092	-2.0690	0.0623	-0.5311	0.0548
4	119.88	0.4002	-0.1542	0.0103	0.2476	0.0139	-3.2358	0.0965	-0.5320	0.0503
4	119.88	0.4500	-0.2189	0.0143	0.3866	0.0190	-4.7747	0.1355	-0.7681	0.0524
4	119.88	0.5001	-0.3273	0.0215	0.5168	0.0253	-6.6483	0.1842	-0.6407	0.0711
4	119.88	0.5560	-0.4900	0.0309	0.7010	0.0317	-9.2670	0.2481	-0.8976	0.0657
4	119.88	0.6001	-0.6450	0.0410	0.8348	0.0386	-11.5875	0.3107	-0.7429	0.0697
4	119.88	0.6501	-0.8994	0.0566	1.0095	0.0451	-14.5148	0.3889	-0.6028	0.0703
4	119.88	0.6999	-1.1917	0.0751	1.1688	0.0534	-17.7383	0.4758	-0.5429	0.0736
4	119.88	0.7500	-1.5185	0.0978	1.3178	0.0610	-21.1732	0.5781	-0.1462	0.0662
4	119.88	0.8002	-1.9194	0.1244	1.4599	0.0689	-24.8142	0.6835	0.2195	0.0804
4	119.88	0.8582	-2.4029	0.1568	1.6343	0.0782	-29.2837	0.8153	-0.4120	0.0780
4	119.88	0.9101	-2.8262	0.1864	1.8087	0.0872	-33.2500	0.9348	0.2557	0.0734
4	119.88	0.9728	-3.2225	0.2233	1.9968	0.0984	-38.2163	1.0859	0.5077	0.0862

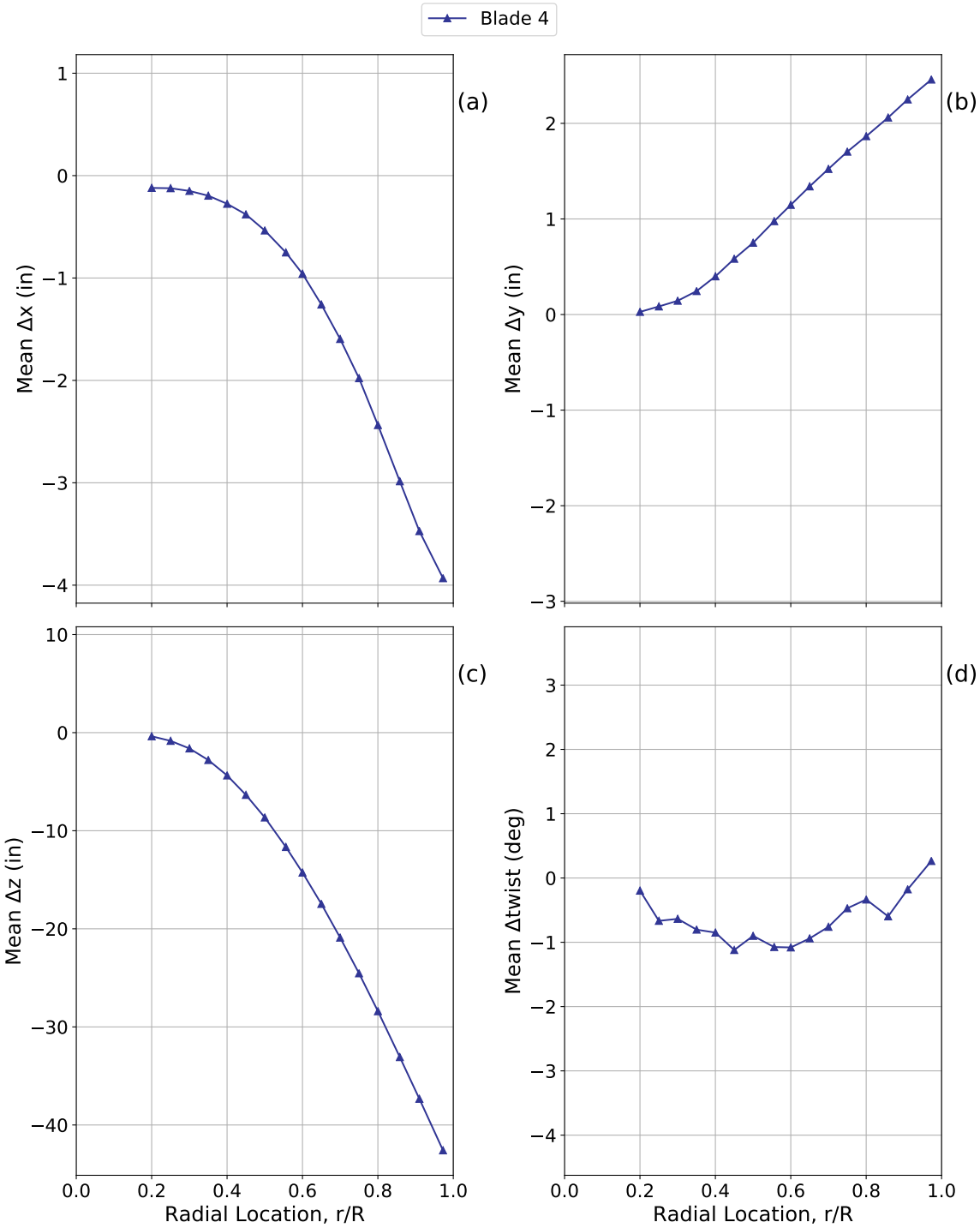


Figure 3.39-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.1204	0.0053	0.0276	0.0019	-0.3723	0.0089	-0.1973	0.0197
4	135	0.2502	-0.1232	0.0041	0.0845	0.0034	-0.8397	0.0215	-0.6668	0.0280
4	135	0.3001	-0.1498	0.0059	0.1439	0.0073	-1.6113	0.0391	-0.6355	0.0402
4	135	0.3502	-0.1963	0.0088	0.2452	0.0130	-2.7940	0.0702	-0.8035	0.0414
4	135	0.4002	-0.2756	0.0131	0.3994	0.0196	-4.3669	0.1089	-0.8493	0.0425
4	135	0.4500	-0.3789	0.0194	0.5830	0.0239	-6.3484	0.1660	-1.1201	0.0589
4	135	0.5001	-0.5362	0.0284	0.7507	0.0314	-8.6514	0.2305	-0.9003	0.0488
4	135	0.5560	-0.7508	0.0442	0.9766	0.0399	-11.6601	0.3223	-1.0741	0.0591
4	135	0.6001	-0.9590	0.0597	1.1473	0.0459	-14.2677	0.4099	-1.0802	0.0660
4	135	0.6501	-1.2594	0.0819	1.3404	0.0518	-17.4639	0.5211	-0.9397	0.0573
4	135	0.6999	-1.5958	0.1079	1.5230	0.0602	-20.9001	0.6469	-0.7600	0.0639
4	135	0.7500	-1.9789	0.1403	1.7037	0.0662	-24.5379	0.7872	-0.4709	0.0538
4	135	0.8002	-2.4367	0.1773	1.8656	0.0721	-28.4055	0.9400	-0.3350	0.0544
4	135	0.8582	-2.9855	0.2232	2.0606	0.0791	-33.0802	1.1255	-0.5972	0.0588
4	135	0.9101	-3.4723	0.2650	2.2498	0.0853	-37.3342	1.2956	-0.1764	0.0463
4	135	0.9728	-3.9322	0.3160	2.4581	0.0922	-42.5875	1.5105	0.2643	0.0543

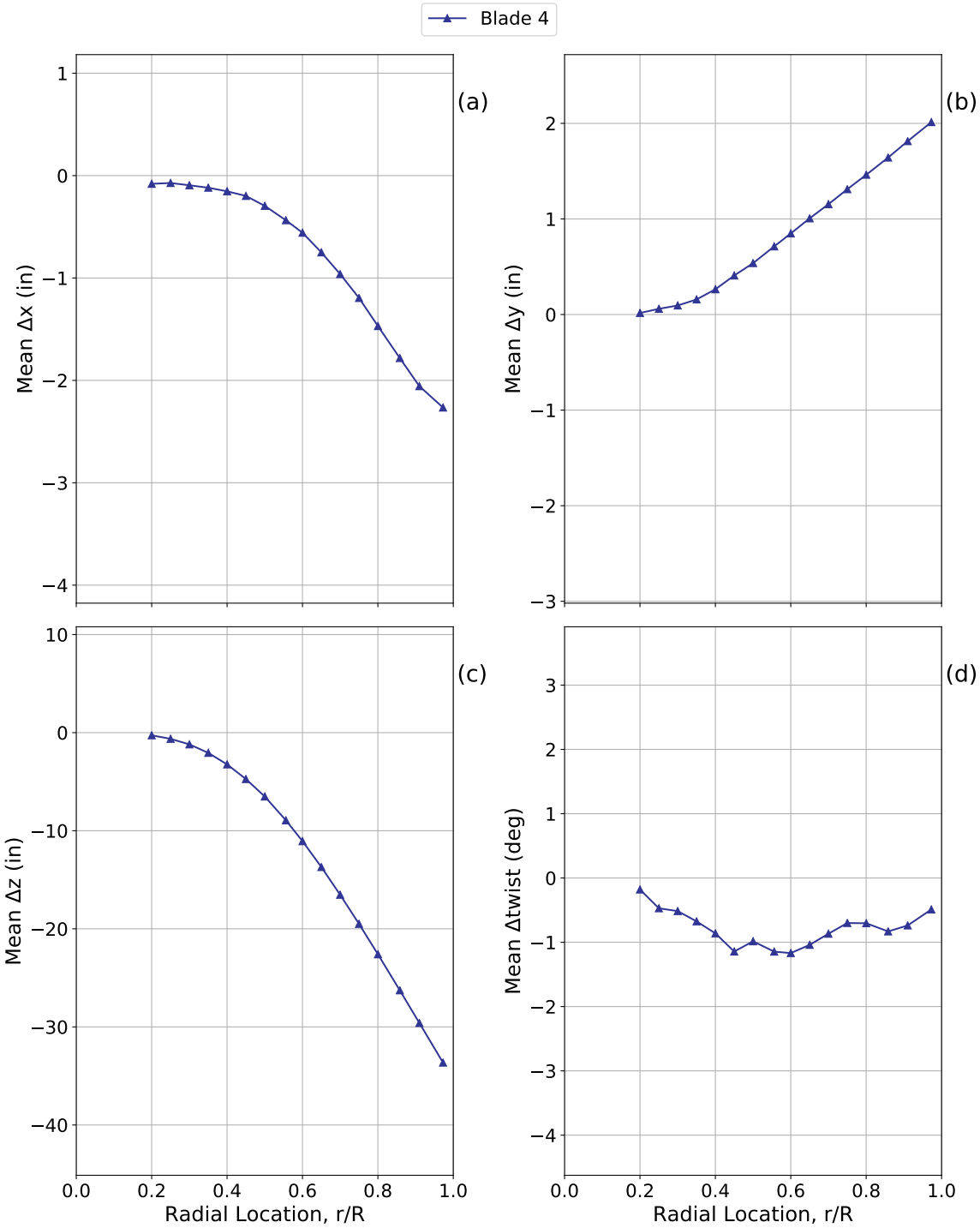


Figure 3.39-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0804	0.0057	0.0161	0.0017	-0.2728	0.0118	-0.1793	0.0305
4	150.12	0.2502	-0.0723	0.0048	0.0596	0.0039	-0.6309	0.0256	-0.4714	0.0416
4	150.12	0.3001	-0.0944	0.0063	0.0946	0.0068	-1.1969	0.0505	-0.5149	0.0678
4	150.12	0.3502	-0.1184	0.0096	0.1577	0.0118	-2.0627	0.0877	-0.6750	0.0821
4	150.12	0.4002	-0.1535	0.0140	0.2642	0.0184	-3.2402	0.1367	-0.8615	0.0912
4	150.12	0.4500	-0.1985	0.0207	0.4081	0.0233	-4.7341	0.1980	-1.1440	0.0840
4	150.12	0.5001	-0.2957	0.0298	0.5378	0.0299	-6.5123	0.2725	-0.9849	0.0825
4	150.12	0.5560	-0.4360	0.0423	0.7125	0.0381	-8.9397	0.3700	-1.1455	0.1021
4	150.12	0.6001	-0.5580	0.0549	0.8484	0.0438	-11.0674	0.4511	-1.1679	0.0853
4	150.12	0.6501	-0.7500	0.0714	1.0061	0.0498	-13.7050	0.5521	-1.0401	0.1001
4	150.12	0.6999	-0.9618	0.0892	1.1540	0.0559	-16.5294	0.6578	-0.8668	0.1039
4	150.12	0.7500	-1.1953	0.1096	1.3110	0.0623	-19.4987	0.7658	-0.7005	0.1100
4	150.12	0.8002	-1.4697	0.1319	1.4623	0.0685	-22.6000	0.8784	-0.7038	0.1249
4	150.12	0.8582	-1.7822	0.1597	1.6419	0.0759	-26.2738	1.0126	-0.8314	0.1117
4	150.12	0.9101	-2.0567	0.1825	1.8137	0.0819	-29.6034	1.1351	-0.7382	0.1082
4	150.12	0.9728	-2.2654	0.2089	2.0127	0.0901	-33.6442	1.2822	-0.4894	0.0870

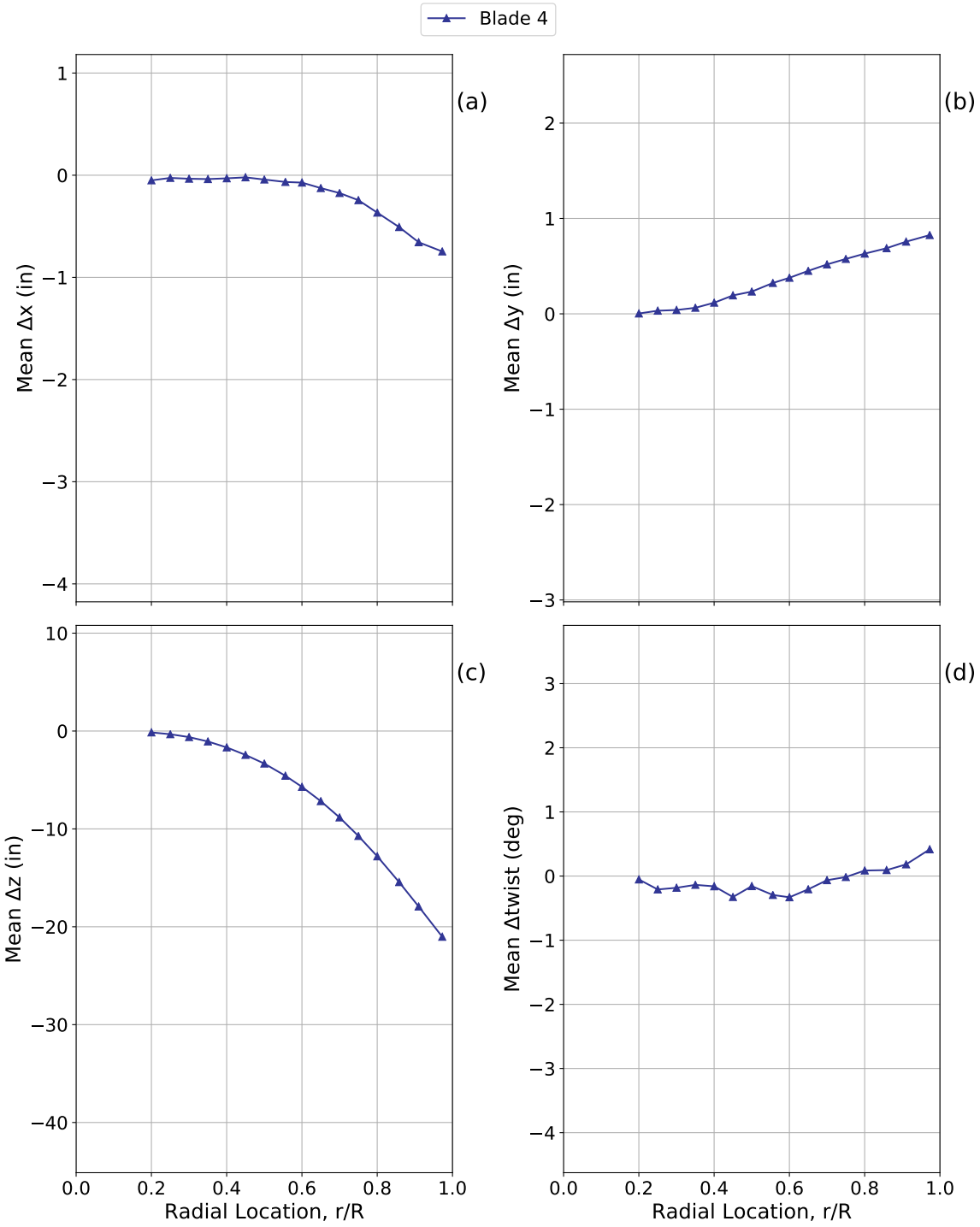


Figure 3.39-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0502	0.0023	0.0035	0.0021	-0.1433	0.0113	-0.0532	0.0172
4	164.88	0.2502	-0.0264	0.0015	0.0326	0.0051	-0.3261	0.0231	-0.2090	0.0365
4	164.88	0.3001	-0.0344	0.0037	0.0401	0.0105	-0.6214	0.0471	-0.1828	0.0403
4	164.88	0.3502	-0.0378	0.0046	0.0633	0.0160	-1.0690	0.0784	-0.1372	0.0429
4	164.88	0.4002	-0.0303	0.0067	0.1167	0.0268	-1.6764	0.1231	-0.1600	0.0503
4	164.88	0.4500	-0.0208	0.0104	0.1932	0.0358	-2.4413	0.1839	-0.3268	0.0654
4	164.88	0.5001	-0.0423	0.0145	0.2332	0.0472	-3.3278	0.2524	-0.1574	0.0437
4	164.88	0.5560	-0.0661	0.0192	0.3233	0.0619	-4.5725	0.3450	-0.2949	0.0538
4	164.88	0.6001	-0.0722	0.0255	0.3778	0.0714	-5.7065	0.4301	-0.3308	0.0781
4	164.88	0.6501	-0.1261	0.0335	0.4505	0.0845	-7.1677	0.5293	-0.2062	0.0653
4	164.88	0.6999	-0.1744	0.0432	0.5179	0.0981	-8.8306	0.6367	-0.0645	0.0727
4	164.88	0.7500	-0.2445	0.0566	0.5756	0.1095	-10.7252	0.7523	-0.0155	0.0655
4	164.88	0.8002	-0.3664	0.0713	0.6310	0.1240	-12.8065	0.8682	0.0863	0.0474
4	164.88	0.8582	-0.5077	0.0909	0.6880	0.1373	-15.4386	1.0060	0.0927	0.0518
4	164.88	0.9101	-0.6562	0.1036	0.7566	0.1529	-17.9311	1.1275	0.1819	0.0899
4	164.88	0.9728	-0.7463	0.1182	0.8255	0.1700	-21.0239	1.2694	0.4164	0.1098

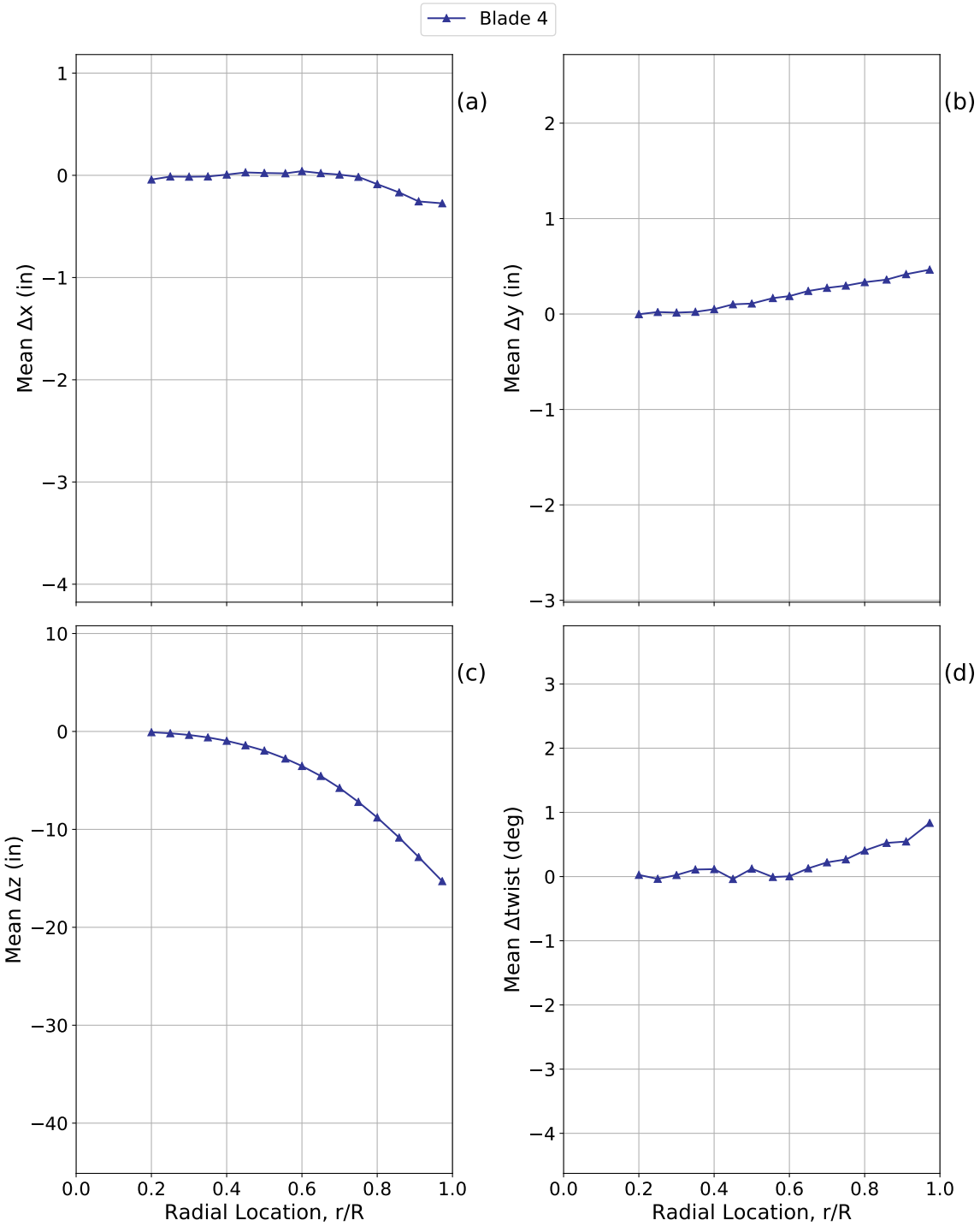


Figure 3.39-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0416	0.0015	-0.0020	0.0008	-0.0811	0.0059	0.0258	0.0263
4	170.16	0.2502	-0.0123	0.0029	0.0207	0.0027	-0.1879	0.0119	-0.0357	0.0551
4	170.16	0.3001	-0.0139	0.0018	0.0145	0.0034	-0.3570	0.0230	0.0235	0.0625
4	170.16	0.3502	-0.0116	0.0031	0.0223	0.0068	-0.6087	0.0400	0.1095	0.0585
4	170.16	0.4002	0.0069	0.0039	0.0503	0.0102	-0.9603	0.0613	0.1153	0.0587
4	170.16	0.4500	0.0282	0.0044	0.1014	0.0121	-1.4193	0.0796	-0.0386	0.0721
4	170.16	0.5001	0.0227	0.0056	0.1094	0.0144	-1.9623	0.1001	0.1219	0.0724
4	170.16	0.5560	0.0191	0.0074	0.1665	0.0201	-2.7709	0.1266	-0.0070	0.0693
4	170.16	0.6001	0.0407	0.0081	0.1876	0.0222	-3.5329	0.1490	0.0041	0.0635
4	170.16	0.6501	0.0205	0.0092	0.2412	0.0263	-4.5509	0.1790	0.1278	0.0553
4	170.16	0.6999	0.0070	0.0125	0.2737	0.0299	-5.7696	0.2125	0.2209	0.0727
4	170.16	0.7500	-0.0155	0.0162	0.2970	0.0328	-7.2021	0.2569	0.2672	0.0663
4	170.16	0.8002	-0.0868	0.0213	0.3334	0.0371	-8.7939	0.3063	0.4055	0.0575
4	170.16	0.8582	-0.1673	0.0280	0.3602	0.0430	-10.8421	0.3719	0.5239	0.0647
4	170.16	0.9101	-0.2554	0.0346	0.4169	0.0474	-12.8300	0.4346	0.5460	0.0667
4	170.16	0.9728	-0.2741	0.0429	0.4644	0.0535	-15.2923	0.5136	0.8356	0.0672

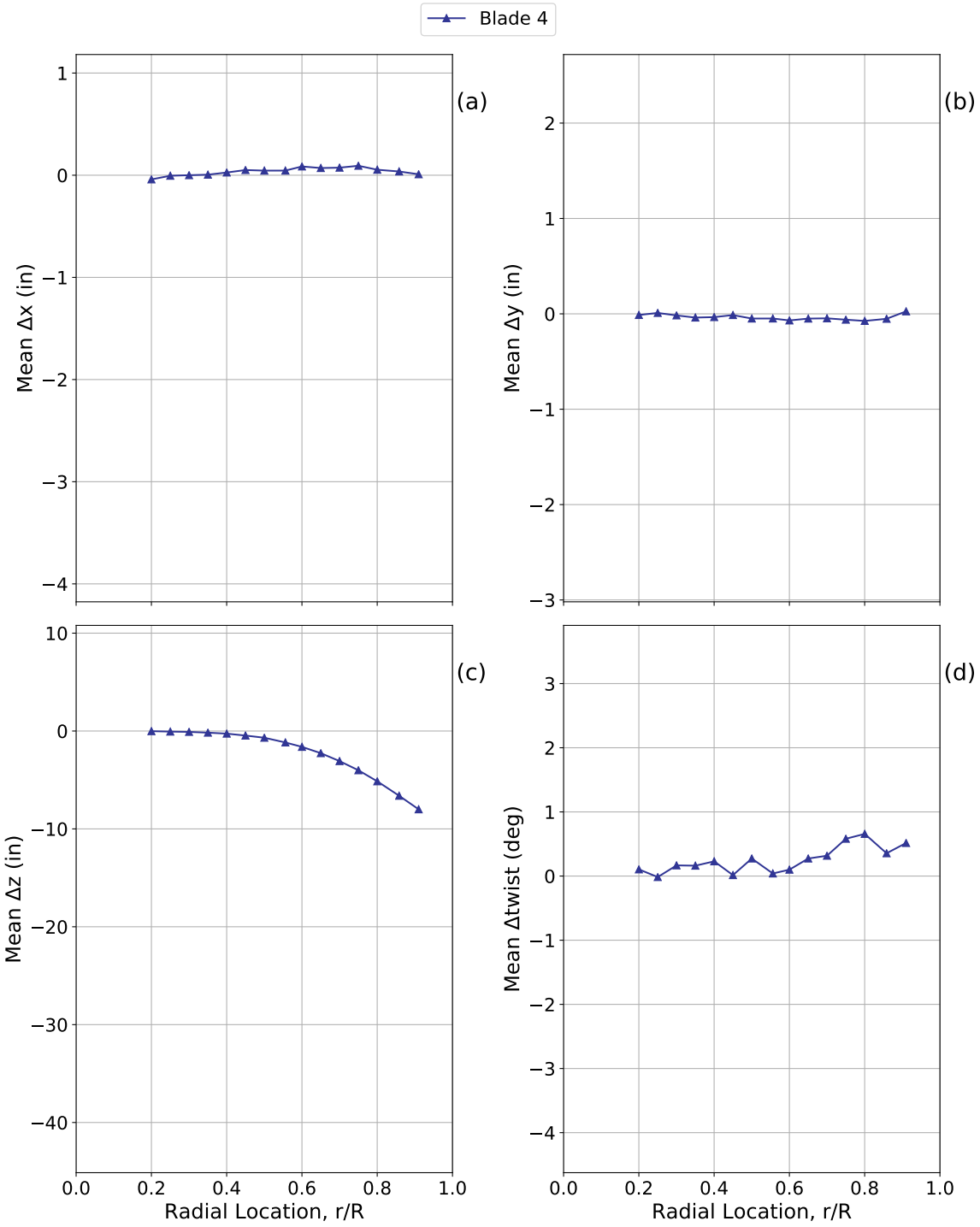


Figure 3.39-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0408	0.0017	-0.0122	0.0013	-0.0165	0.0053	0.1042	0.0298
4	175.08	0.2502	-0.0052	0.0017	0.0094	0.0041	-0.0606	0.0127	-0.0156	0.0383
4	175.08	0.3001	0.0002	0.0018	-0.0165	0.0058	-0.0889	0.0214	0.1663	0.0616
4	175.08	0.3502	0.0053	0.0018	-0.0391	0.0098	-0.1689	0.0384	0.1617	0.0450
4	175.08	0.4002	0.0266	0.0028	-0.0344	0.0158	-0.2672	0.0588	0.2294	0.0458
4	175.08	0.4500	0.0507	0.0025	-0.0130	0.0184	-0.4636	0.0800	0.0147	0.0478
4	175.08	0.5001	0.0451	0.0029	-0.0493	0.0229	-0.6852	0.1035	0.2733	0.0581
4	175.08	0.5560	0.0453	0.0030	-0.0489	0.0288	-1.1694	0.1282	0.0403	0.0627
4	175.08	0.6001	0.0857	0.0039	-0.0692	0.0324	-1.6188	0.1458	0.0996	0.0613
4	175.08	0.6501	0.0704	0.0040	-0.0498	0.0382	-2.2630	0.1620	0.2734	0.0650
4	175.08	0.6999	0.0739	0.0045	-0.0471	0.0433	-3.0738	0.1736	0.3169	0.0598
4	175.08	0.7500	0.0925	0.0055	-0.0614	0.0498	-4.0096	0.1838	0.5813	0.0559
4	175.08	0.8002	0.0537	0.0063	-0.0744	0.0556	-5.1392	0.1932	0.6572	0.0527
4	175.08	0.8582	0.0366	0.0110	-0.0520	0.0639	-6.6144	0.2083	0.3550	0.0699
4	175.08	0.9101	0.0093	0.0139	0.0258	0.0704	-8.0002	0.2312	0.5153	0.0752

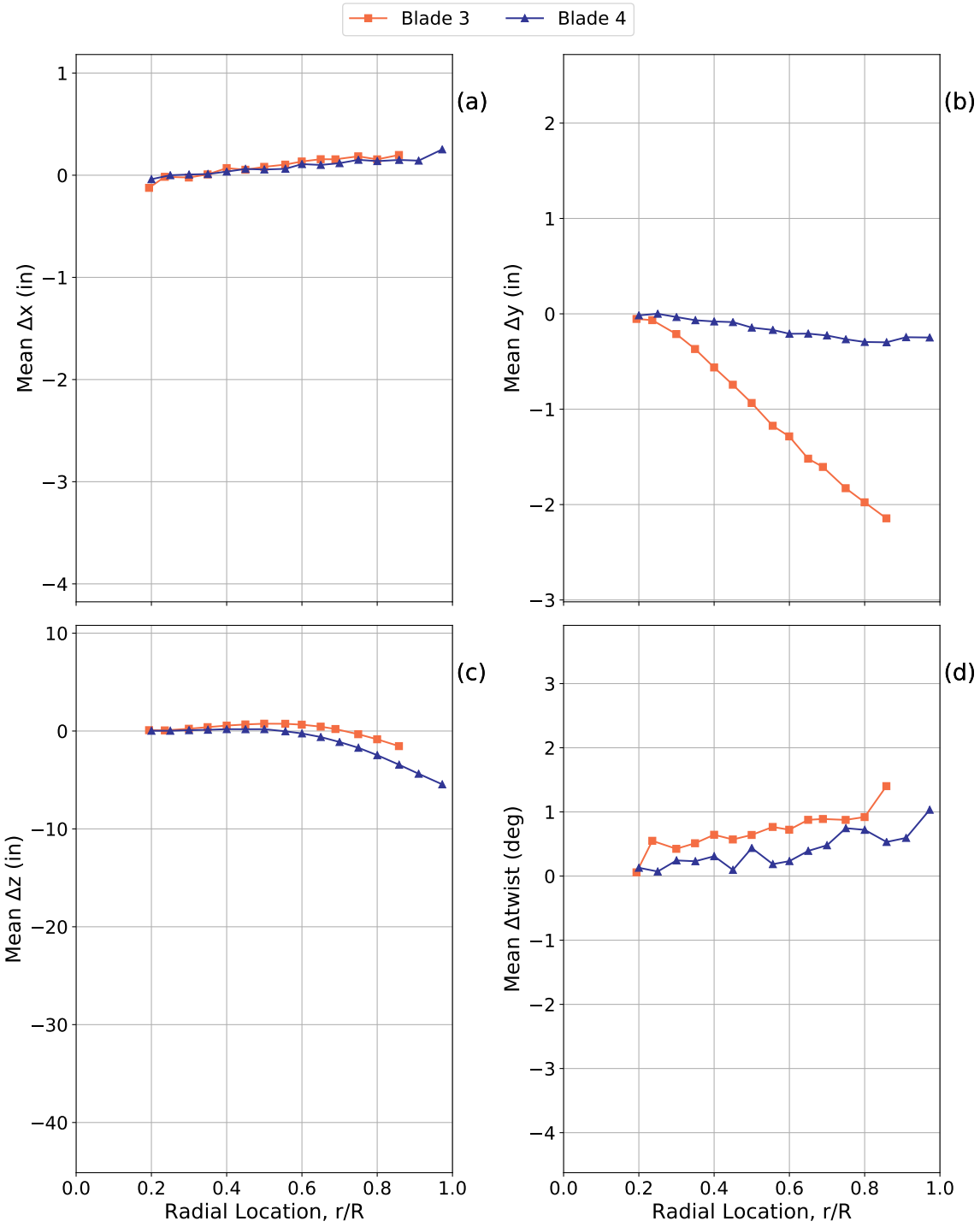


Figure 3.39-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.1235	0.0048	-0.0536	0.0077	0.0857	0.0188	0.0579	0.0639
3	180.35	0.2357	-0.0156	0.0034	-0.0662	0.0090	0.0640	0.0227	0.5494	0.0945
3	180.35	0.2995	-0.0225	0.0038	-0.2120	0.0163	0.2331	0.0551	0.4245	0.0554
3	180.35	0.3493	0.0081	0.0050	-0.3688	0.0254	0.3970	0.0913	0.5116	0.0647
3	180.35	0.4000	0.0696	0.0060	-0.5622	0.0361	0.5569	0.1360	0.6437	0.0555
3	180.35	0.4497	0.0537	0.0060	-0.7433	0.0475	0.6719	0.1880	0.5704	0.0604
3	180.35	0.4997	0.0819	0.0068	-0.9347	0.0590	0.7491	0.2476	0.6408	0.0636
3	180.35	0.5556	0.1038	0.0074	-1.1736	0.0709	0.7406	0.3165	0.7656	0.1088
3	180.35	0.5995	0.1344	0.0078	-1.2851	0.0822	0.6499	0.3805	0.7221	0.0620
3	180.35	0.6498	0.1568	0.0082	-1.5187	0.0940	0.4482	0.4561	0.8764	0.0764
3	180.35	0.6890	0.1557	0.0084	-1.6053	0.1030	0.2048	0.5202	0.8895	0.0699
3	180.35	0.7495	0.1849	0.0083	-1.8282	0.1169	-0.3243	0.6220	0.8755	0.0725
3	180.35	0.7998	0.1553	0.0102	-1.9763	0.1295	-0.8418	0.7210	0.9201	0.0596
3	180.35	0.8577	0.1980	0.0145	-2.1441	0.1422	-1.5420	0.8340	1.4017	0.0614
4	180	0.2001	-0.0390	0.0022	-0.0157	0.0011	0.0261	0.0047	0.1288	0.0312
4	180	0.2502	0.0001	0.0014	0.0006	0.0042	0.0254	0.0107	0.0710	0.0486
4	180	0.3001	0.0068	0.0016	-0.0338	0.0045	0.0831	0.0189	0.2436	0.0702
4	180	0.3502	0.0114	0.0022	-0.0671	0.0085	0.1268	0.0324	0.2310	0.0682
4	180	0.4002	0.0354	0.0021	-0.0802	0.0136	0.1893	0.0503	0.3090	0.0619
4	180	0.4500	0.0612	0.0019	-0.0868	0.0162	0.1836	0.0678	0.0954	0.0769
4	180	0.5001	0.0560	0.0023	-0.1445	0.0211	0.1869	0.0860	0.4376	0.0743
4	180	0.5560	0.0626	0.0038	-0.1688	0.0264	-0.0267	0.1129	0.1856	0.0755
4	180	0.6001	0.1088	0.0038	-0.2091	0.0301	-0.2464	0.1359	0.2330	0.0748
4	180	0.6501	0.1006	0.0045	-0.2077	0.0358	-0.6148	0.1657	0.3923	0.0786
4	180	0.6999	0.1179	0.0055	-0.2271	0.0413	-1.1216	0.1997	0.4796	0.0727
4	180	0.7500	0.1507	0.0065	-0.2666	0.0458	-1.7127	0.2383	0.7463	0.0771
4	180	0.8002	0.1380	0.0091	-0.2952	0.0520	-2.4689	0.2797	0.7202	0.0674
4	180	0.8582	0.1496	0.0117	-0.2985	0.0575	-3.4447	0.3301	0.5314	0.0702
4	180	0.9101	0.1427	0.0135	-0.2452	0.0634	-4.3696	0.3771	0.5947	0.0696
4	180	0.9728	0.2529	0.0165	-0.2481	0.0710	-5.4505	0.4398	1.0334	0.0712

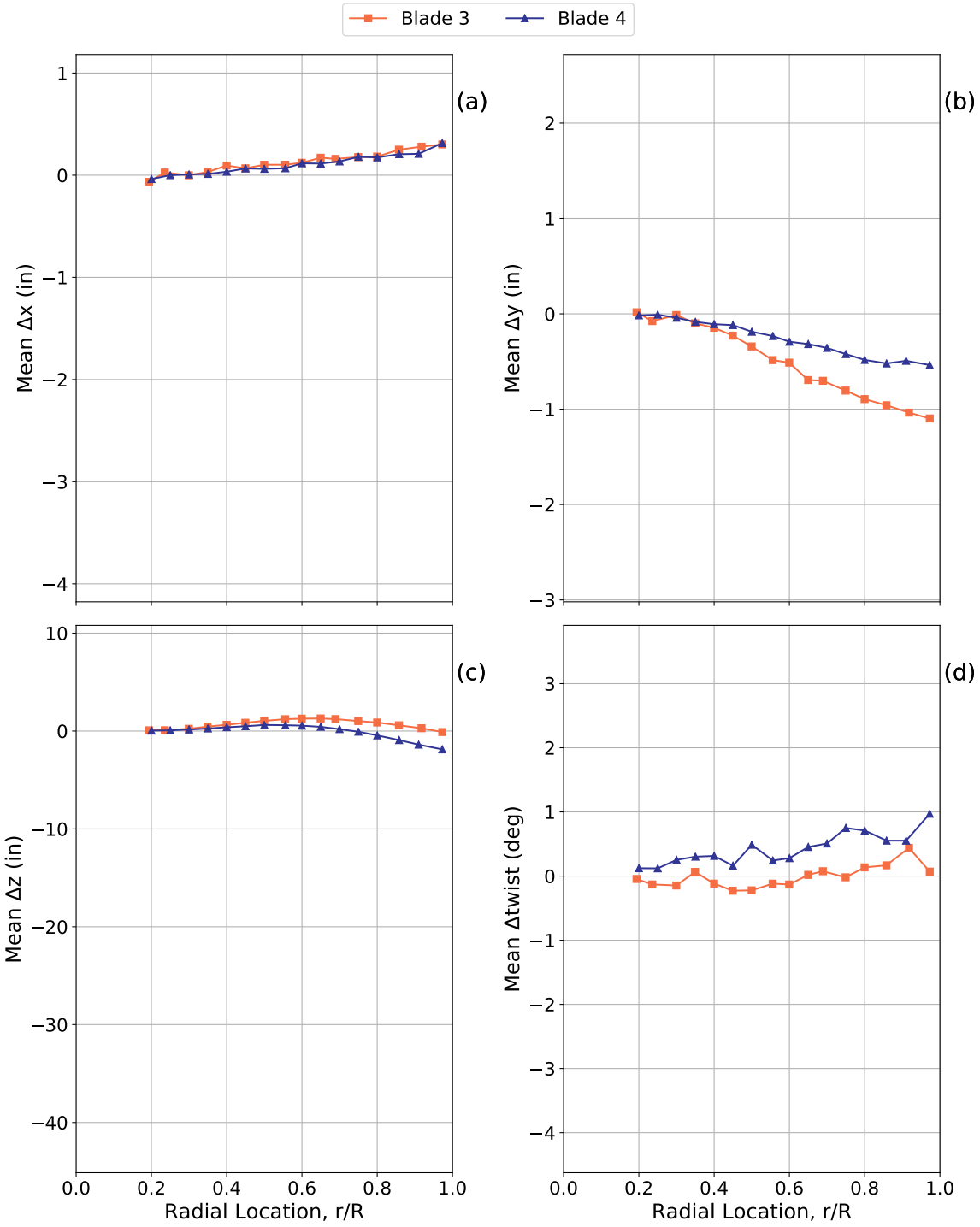


Figure 3.39-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0648	0.0212	0.0162	0.0068	0.0743	0.0084	-0.0450	0.1495
3	184.92	0.2357	0.0261	0.0206	-0.0766	0.0264	0.0838	0.0213	-0.1308	0.1442
3	184.92	0.2995	-0.0006	0.0070	-0.0128	0.0358	0.2330	0.0395	-0.1465	0.3167
3	184.92	0.3493	0.0311	0.0273	-0.1000	0.0276	0.4577	0.0612	0.0651	0.2529
3	184.92	0.4000	0.0946	0.0337	-0.1466	0.0829	0.6405	0.0970	-0.1174	0.1624
3	184.92	0.4497	0.0671	0.0405	-0.2290	0.1106	0.8496	0.1089	-0.2281	0.1616
3	184.92	0.4997	0.1022	0.0468	-0.3421	0.1407	1.0438	0.1229	-0.2225	0.1580
3	184.92	0.5556	0.1025	0.0541	-0.4850	0.1726	1.2138	0.1397	-0.1181	0.1562
3	184.92	0.5995	0.1217	0.0565	-0.5118	0.1981	1.2719	0.1557	-0.1317	0.1583
3	184.92	0.6498	0.1712	0.0589	-0.6944	0.2270	1.2871	0.1753	0.0186	0.1307
3	184.92	0.6890	0.1598	0.0596	-0.7023	0.2480	1.2236	0.1893	0.0754	0.1489
3	184.92	0.7495	0.1771	0.0587	-0.8049	0.2817	1.0252	0.2131	-0.0192	0.1459
3	184.92	0.7998	0.1820	0.0568	-0.8941	0.3049	0.8725	0.2349	0.1352	0.1442
3	184.92	0.8577	0.2500	0.0234	-0.9584	0.2352	0.5895	0.2982	0.1672	2.8324
3	184.92	0.9178	0.2792	0.0223	-1.0358	0.2698	0.2869	0.3412	0.4395	3.0928
3	184.92	0.9729	0.3011	0.0417	-1.0971	0.2323	-0.1034	0.6251	0.0692	0.1896
4	184.92	0.2001	-0.0376	0.0028	-0.0162	0.0024	0.0428	0.0091	0.1222	0.0280
4	184.92	0.2502	0.0003	0.0024	-0.0089	0.0041	0.0708	0.0175	0.1201	0.0384
4	184.92	0.3001	0.0073	0.0013	-0.0413	0.0072	0.1524	0.0346	0.2523	0.0544
4	184.92	0.3502	0.0127	0.0025	-0.0848	0.0135	0.2610	0.0580	0.3020	0.0561
4	184.92	0.4002	0.0340	0.0026	-0.1090	0.0193	0.3916	0.0894	0.3137	0.0387
4	184.92	0.4500	0.0660	0.0032	-0.1186	0.0234	0.4904	0.1227	0.1605	0.0399
4	184.92	0.5001	0.0624	0.0031	-0.1881	0.0305	0.6237	0.1647	0.4881	0.0389
4	184.92	0.5560	0.0678	0.0022	-0.2331	0.0370	0.5969	0.2110	0.2423	0.0530
4	184.92	0.6001	0.1165	0.0028	-0.2927	0.0419	0.5522	0.2480	0.2789	0.0461
4	184.92	0.6501	0.1140	0.0028	-0.3174	0.0477	0.4288	0.2890	0.4533	0.0559
4	184.92	0.6999	0.1347	0.0034	-0.3575	0.0540	0.1951	0.3320	0.5077	0.0589
4	184.92	0.7500	0.1796	0.0038	-0.4220	0.0586	-0.0723	0.3741	0.7494	0.0585
4	184.92	0.8002	0.1741	0.0050	-0.4832	0.0654	-0.4478	0.4173	0.7098	0.0494
4	184.92	0.8582	0.2061	0.0060	-0.5200	0.0710	-0.9293	0.4689	0.5526	0.0563
4	184.92	0.9101	0.2091	0.0068	-0.4927	0.0784	-1.3905	0.5169	0.5518	0.0586
4	184.92	0.9728	0.3145	0.0090	-0.5369	0.0870	-1.8762	0.5842	0.9711	0.0619

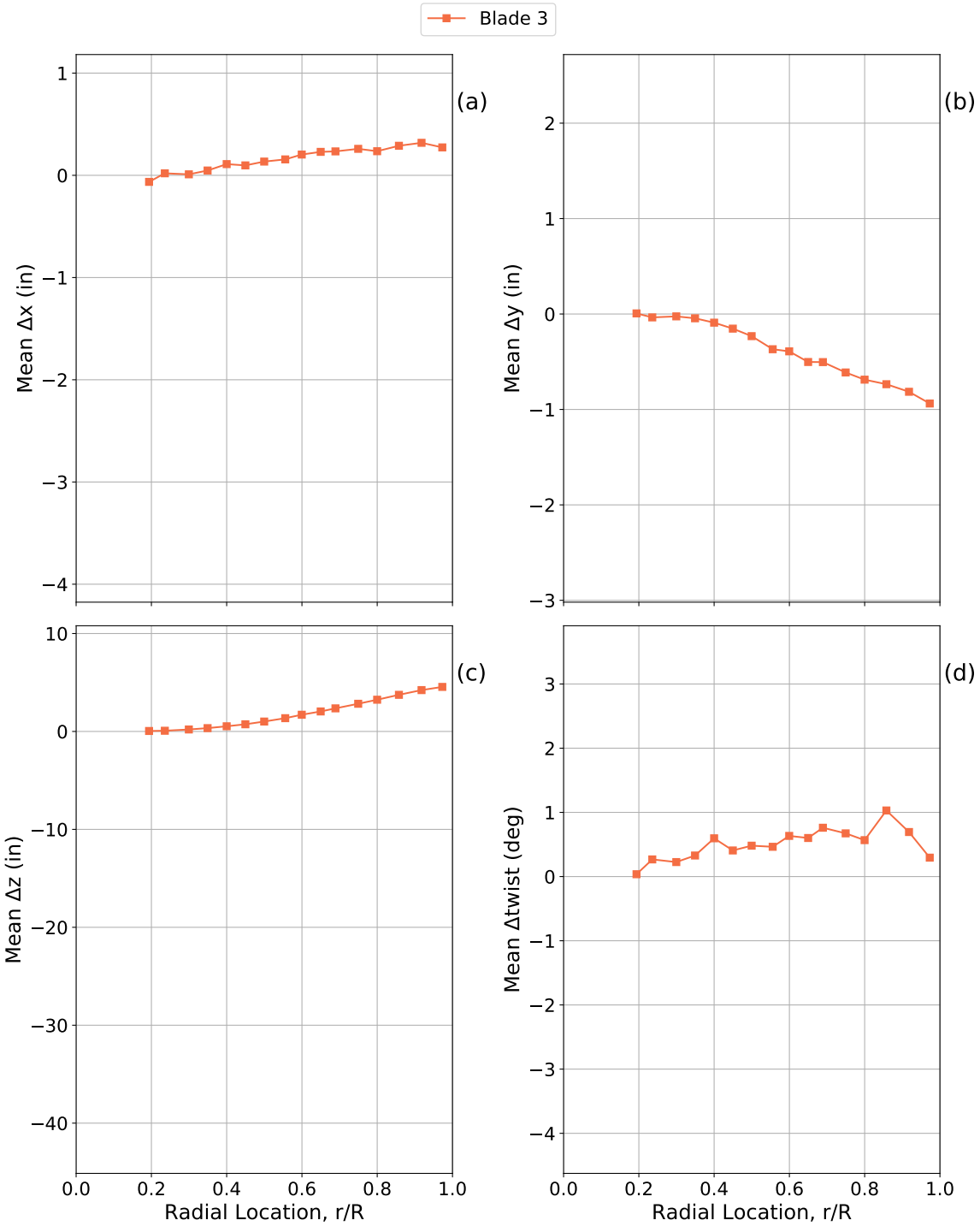


Figure 3.39-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0640	0.0019	0.0064	0.0013	0.0484	0.0066	0.0364	0.0167
3	195.12	0.2357	0.0198	0.0013	-0.0354	0.0029	0.0732	0.0164	0.2673	0.0514
3	195.12	0.2995	0.0096	0.0011	-0.0248	0.0063	0.2014	0.0339	0.2259	0.0528
3	195.12	0.3493	0.0471	0.0013	-0.0448	0.0101	0.3399	0.0572	0.3280	0.0588
3	195.12	0.4000	0.1096	0.0020	-0.0905	0.0165	0.5276	0.0916	0.5960	0.0411
3	195.12	0.4497	0.0972	0.0023	-0.1531	0.0206	0.7320	0.1281	0.4069	0.0505
3	195.12	0.4997	0.1344	0.0021	-0.2320	0.0270	1.0120	0.1784	0.4813	0.0434
3	195.12	0.5556	0.1558	0.0033	-0.3690	0.0336	1.3562	0.2369	0.4638	0.0474
3	195.12	0.5995	0.2034	0.0046	-0.3913	0.0398	1.7074	0.2957	0.6336	0.0586
3	195.12	0.6498	0.2295	0.0064	-0.5027	0.0477	2.0431	0.3640	0.6009	0.0767
3	195.12	0.6890	0.2341	0.0081	-0.5038	0.0535	2.3587	0.4274	0.7608	0.0731
3	195.12	0.7495	0.2591	0.0101	-0.6125	0.0614	2.8279	0.5292	0.6733	0.0796
3	195.12	0.7998	0.2358	0.0134	-0.6878	0.0680	3.2401	0.6178	0.5675	0.0676
3	195.12	0.8577	0.2892	0.0157	-0.7355	0.0751	3.7413	0.7490	1.0297	0.0729
3	195.12	0.9178	0.3181	0.0228	-0.8149	0.0850	4.2236	0.8789	0.6939	0.0734
3	195.12	0.9729	0.2732	0.0299	-0.9376	0.0920	4.5480	1.0038	0.2948	0.1097

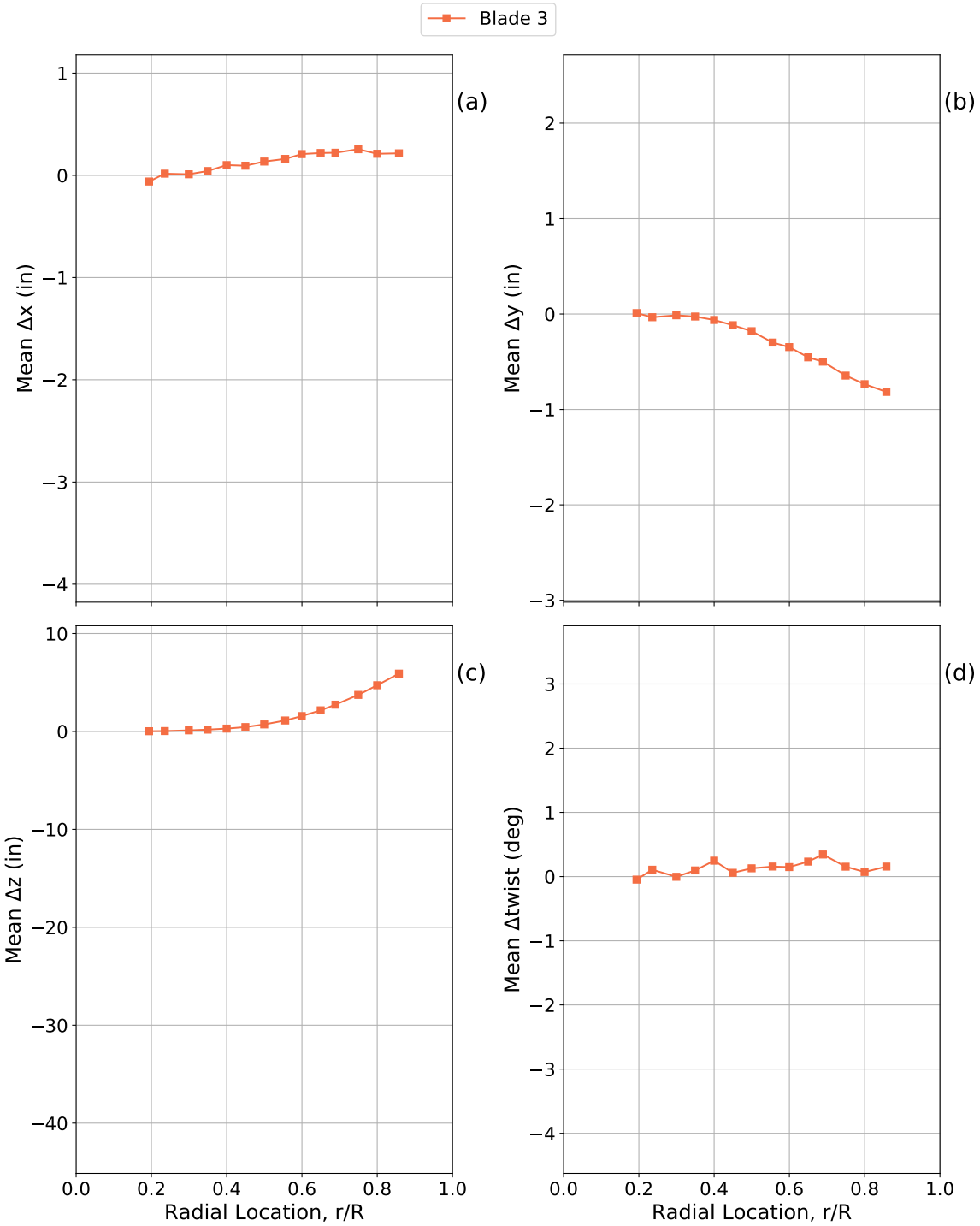


Figure 3.39-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0603	0.0016	0.0098	0.0015	0.0258	0.0096	-0.0471	0.0287
3	209.88	0.2357	0.0164	0.0012	-0.0336	0.0024	0.0417	0.0179	0.1070	0.0377
3	209.88	0.2995	0.0105	0.0017	-0.0133	0.0059	0.1112	0.0412	-0.0035	0.0577
3	209.88	0.3493	0.0422	0.0017	-0.0264	0.0110	0.1869	0.0720	0.0960	0.0448
3	209.88	0.4000	0.1002	0.0026	-0.0624	0.0163	0.2922	0.1113	0.2479	0.0602
3	209.88	0.4497	0.0943	0.0025	-0.1171	0.0226	0.4481	0.1545	0.0589	0.0554
3	209.88	0.4997	0.1349	0.0025	-0.1799	0.0293	0.7177	0.2064	0.1289	0.0523
3	209.88	0.5556	0.1608	0.0033	-0.2989	0.0363	1.1232	0.2685	0.1562	0.0512
3	209.88	0.5995	0.2079	0.0052	-0.3467	0.0440	1.5722	0.3234	0.1480	0.0534
3	209.88	0.6498	0.2184	0.0094	-0.4540	0.0511	2.1607	0.3884	0.2336	0.0549
3	209.88	0.6890	0.2210	0.0115	-0.4995	0.0568	2.7374	0.4401	0.3439	0.0633
3	209.88	0.7495	0.2553	0.0161	-0.6452	0.0642	3.7351	0.5250	0.1542	0.0732
3	209.88	0.7998	0.2109	0.0210	-0.7349	0.0718	4.7177	0.5955	0.0717	0.0614
3	209.88	0.8577	0.2152	0.0275	-0.8161	0.0807	5.9056	0.6834	0.1556	0.0920

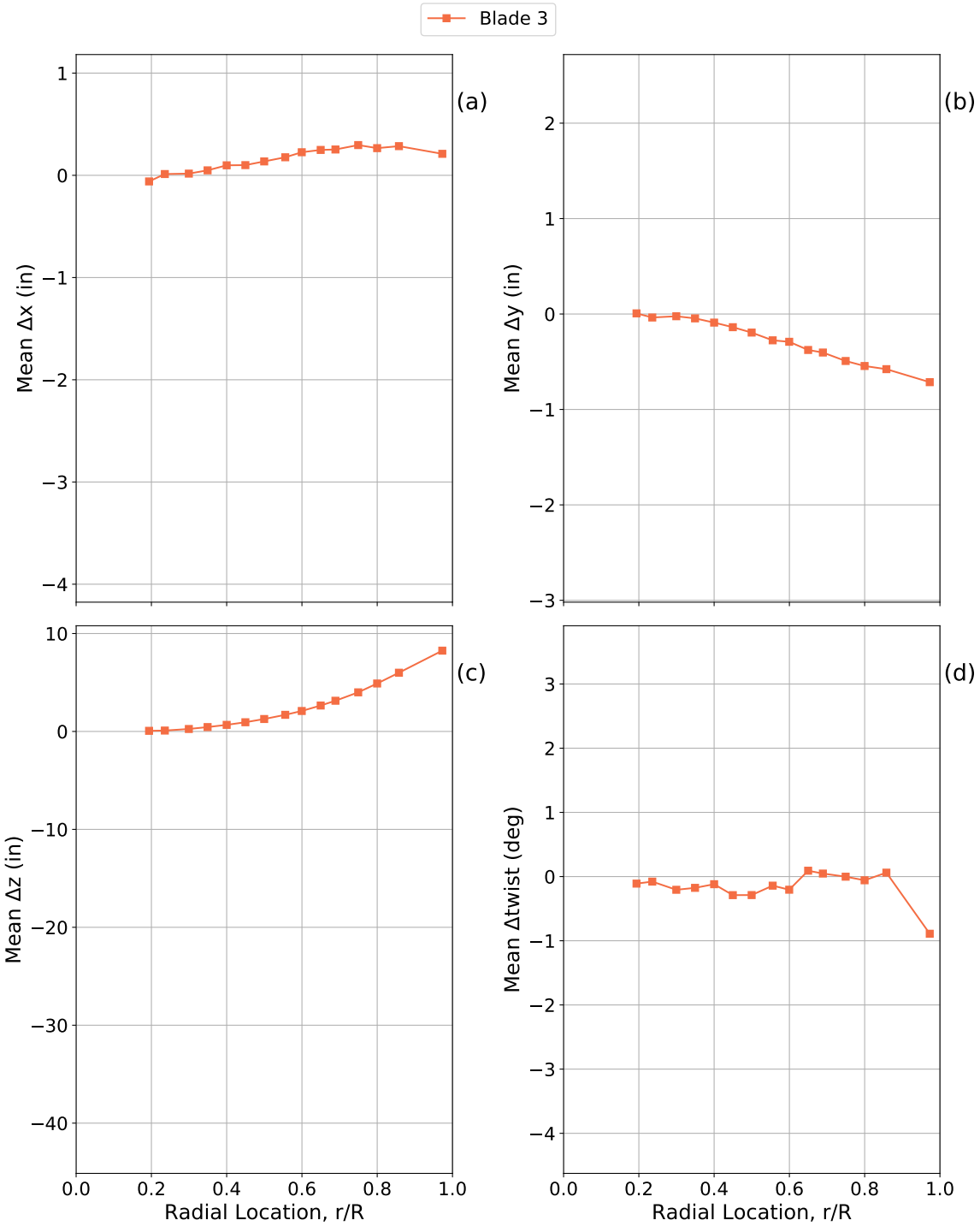


Figure 3.39-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0597	0.0007	0.0068	0.0009	0.0653	0.0040	-0.1097	0.0189
3	225	0.2357	0.0126	0.0008	-0.0365	0.0017	0.0911	0.0095	-0.0786	0.0312
3	225	0.2995	0.0167	0.0020	-0.0234	0.0040	0.2527	0.0222	-0.2059	0.0440
3	225	0.3493	0.0488	0.0011	-0.0456	0.0041	0.4464	0.0338	-0.1758	0.0417
3	225	0.4000	0.0980	0.0021	-0.0899	0.0084	0.6733	0.0566	-0.1191	0.0526
3	225	0.4497	0.0998	0.0019	-0.1381	0.0094	0.9409	0.0776	-0.2891	0.0491
3	225	0.4997	0.1360	0.0018	-0.1945	0.0109	1.2706	0.1025	-0.2881	0.0395
3	225	0.5556	0.1766	0.0020	-0.2757	0.0119	1.6985	0.1355	-0.1413	0.0474
3	225	0.5995	0.2258	0.0028	-0.2910	0.0146	2.0903	0.1654	-0.2049	0.0443
3	225	0.6498	0.2485	0.0043	-0.3767	0.0175	2.6487	0.2029	0.0913	0.0415
3	225	0.6890	0.2527	0.0053	-0.4035	0.0194	3.1361	0.2311	0.0471	0.0597
3	225	0.7495	0.2959	0.0083	-0.4922	0.0231	3.9950	0.2857	-0.0020	0.0606
3	225	0.7998	0.2660	0.0103	-0.5448	0.0275	4.8965	0.3295	-0.0579	0.0804
3	225	0.8577	0.2854	0.0141	-0.5778	0.0297	5.9991	0.3797	0.0610	0.0733
3	225	0.9729	0.2103	0.0226	-0.7141	0.0351	8.2520	0.4874	-0.8906	0.0678

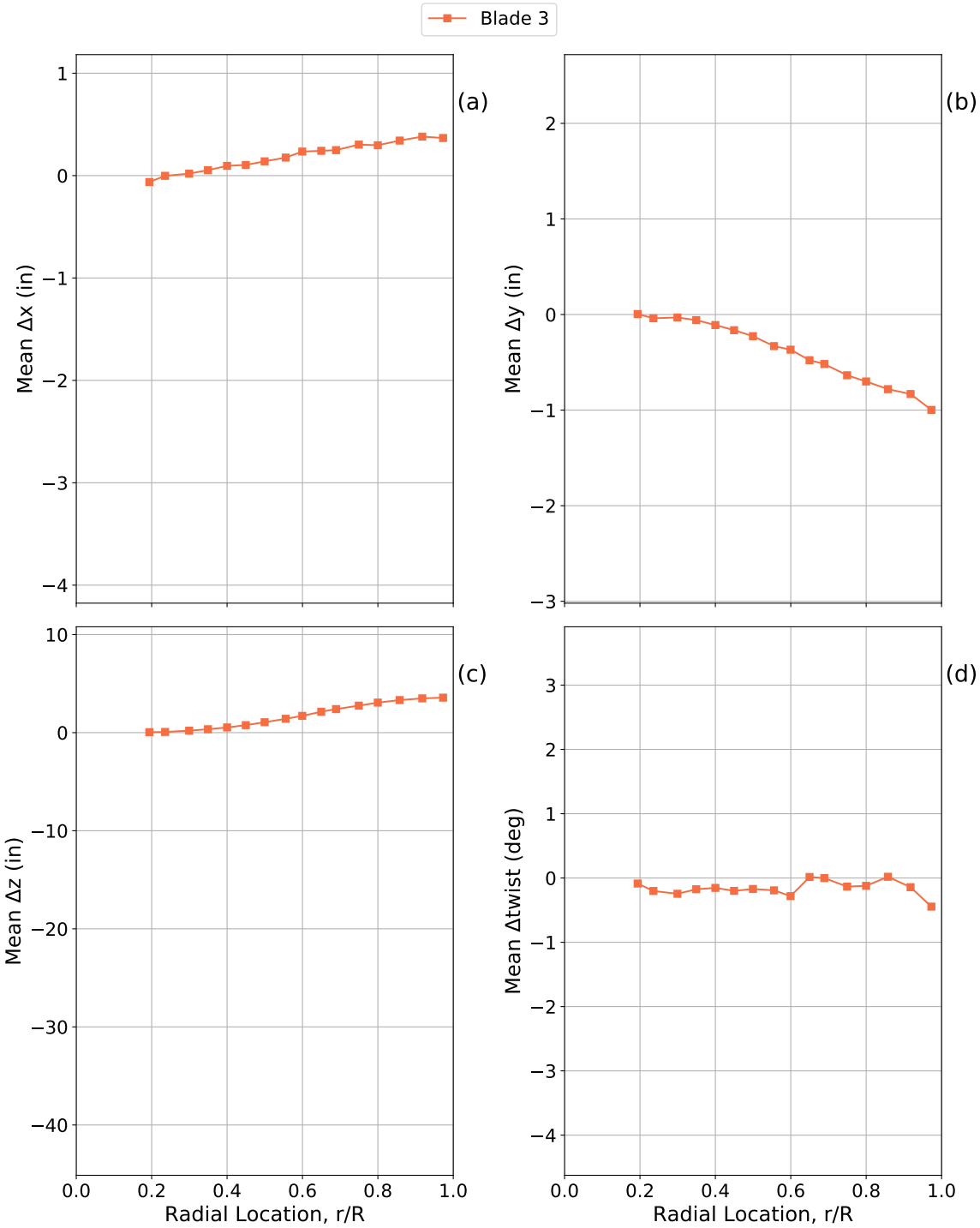


Figure 3.39-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0628	0.0022	0.0051	0.0013	0.0512	0.0067	-0.0861	0.0120
3	240.12	0.2357	-0.0019	0.0013	-0.0392	0.0017	0.0724	0.0104	-0.2023	0.0431
3	240.12	0.2995	0.0194	0.0012	-0.0307	0.0055	0.2014	0.0273	-0.2455	0.0403
3	240.12	0.3493	0.0531	0.0017	-0.0586	0.0082	0.3469	0.0450	-0.1754	0.0346
3	240.12	0.4000	0.0952	0.0026	-0.1099	0.0133	0.5293	0.0704	-0.1537	0.0392
3	240.12	0.4497	0.1040	0.0024	-0.1639	0.0170	0.7648	0.0957	-0.2002	0.0429
3	240.12	0.4997	0.1395	0.0026	-0.2263	0.0205	1.0620	0.1226	-0.1706	0.0328
3	240.12	0.5556	0.1760	0.0032	-0.3305	0.0252	1.4136	0.1543	-0.1923	0.0359
3	240.12	0.5995	0.2347	0.0030	-0.3677	0.0286	1.7070	0.1830	-0.2823	0.0549
3	240.12	0.6498	0.2422	0.0048	-0.4778	0.0336	2.1311	0.2145	0.0156	0.0443
3	240.12	0.6890	0.2488	0.0052	-0.5178	0.0365	2.4003	0.2380	-0.0014	0.0434
3	240.12	0.7495	0.3028	0.0068	-0.6354	0.0408	2.7531	0.2759	-0.1337	0.0480
3	240.12	0.7998	0.2964	0.0070	-0.7003	0.0450	3.0619	0.3050	-0.1221	0.0536
3	240.12	0.8577	0.3422	0.0079	-0.7807	0.0500	3.3195	0.3387	0.0189	0.0525
3	240.12	0.9178	0.3809	0.0085	-0.8319	0.0548	3.4939	0.3731	-0.1431	0.0625
3	240.12	0.9729	0.3672	0.0107	-0.9978	0.0600	3.5688	0.4098	-0.4455	0.0570

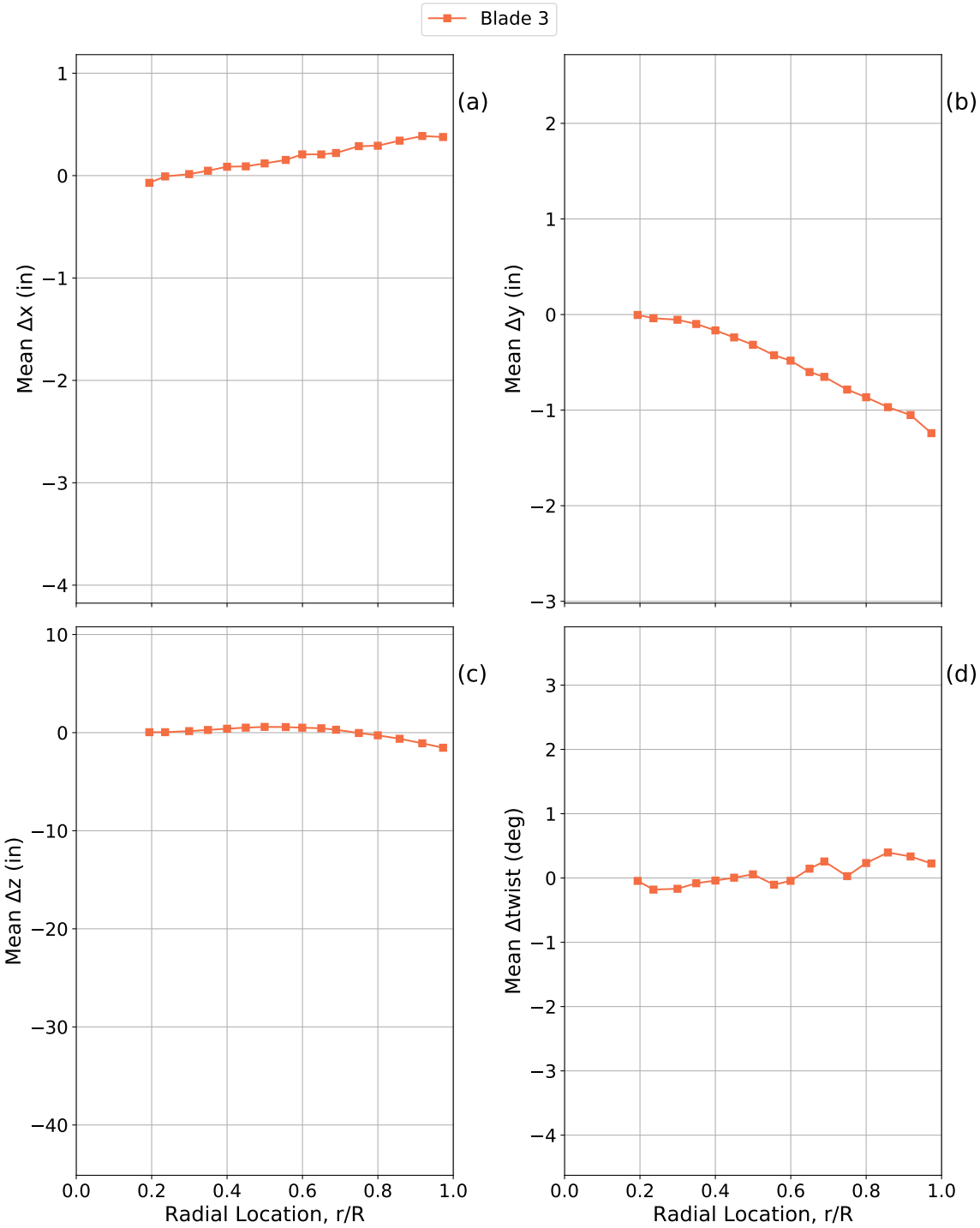


Figure 3.39-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.011$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0703	0.0018	-0.0045	0.0018	0.0465	0.0044	-0.0451	0.0253
3	254.88	0.2357	-0.0080	0.0013	-0.0389	0.0011	0.0467	0.0079	-0.1805	0.0602
3	254.88	0.2995	0.0147	0.0015	-0.0547	0.0046	0.1558	0.0172	-0.1675	0.0736
3	254.88	0.3493	0.0478	0.0017	-0.0991	0.0072	0.2735	0.0299	-0.0815	0.0727
3	254.88	0.4000	0.0869	0.0014	-0.1660	0.0105	0.4017	0.0463	-0.0401	0.0752
3	254.88	0.4497	0.0904	0.0022	-0.2397	0.0145	0.5114	0.0689	0.0050	0.0865
3	254.88	0.4997	0.1191	0.0028	-0.3167	0.0188	0.5867	0.0937	0.0570	0.0765
3	254.88	0.5556	0.1531	0.0033	-0.4259	0.0254	0.5674	0.1287	-0.1046	0.0983
3	254.88	0.5995	0.2076	0.0041	-0.4825	0.0300	0.5063	0.1575	-0.0441	0.0741
3	254.88	0.6498	0.2073	0.0052	-0.6015	0.0369	0.4469	0.1955	0.1449	0.0881
3	254.88	0.6890	0.2208	0.0061	-0.6523	0.0425	0.2957	0.2297	0.2571	0.0922
3	254.88	0.7495	0.2877	0.0074	-0.7849	0.0518	-0.0380	0.2808	0.0286	0.0802
3	254.88	0.7998	0.2918	0.0082	-0.8656	0.0598	-0.2725	0.3298	0.2332	0.0924
3	254.88	0.8577	0.3416	0.0098	-0.9692	0.0701	-0.6246	0.3914	0.3964	0.0990
3	254.88	0.9178	0.3868	0.0101	-1.0515	0.0810	-1.0853	0.4607	0.3345	0.1011
3	254.88	0.9729	0.3769	0.0138	-1.2410	0.0914	-1.5389	0.5270	0.2258	0.1073

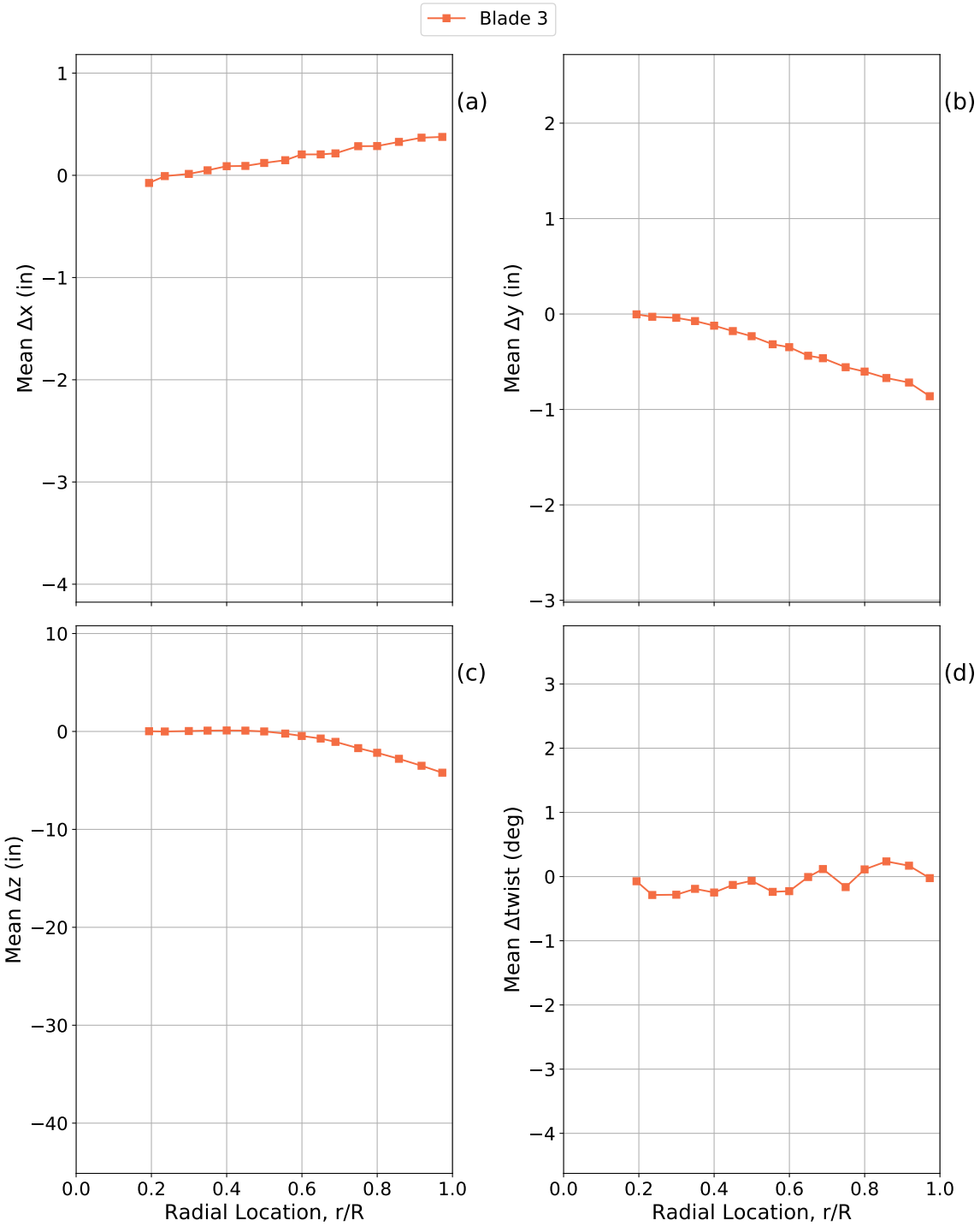


Figure 3.39-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0747	0.0021	-0.0034	0.0013	0.0233	0.0049	-0.0728	0.0173
3	260.16	0.2357	-0.0076	0.0013	-0.0288	0.0016	-0.0037	0.0071	-0.2869	0.0579
3	260.16	0.2995	0.0139	0.0011	-0.0398	0.0048	0.0424	0.0191	-0.2828	0.0489
3	260.16	0.3493	0.0492	0.0017	-0.0738	0.0074	0.0843	0.0310	-0.1915	0.0484
3	260.16	0.4000	0.0894	0.0021	-0.1223	0.0118	0.0996	0.0484	-0.2482	0.0477
3	260.16	0.4497	0.0918	0.0021	-0.1787	0.0162	0.0848	0.0716	-0.1306	0.0432
3	260.16	0.4997	0.1210	0.0022	-0.2325	0.0215	0.0003	0.0998	-0.0658	0.0500
3	260.16	0.5556	0.1479	0.0027	-0.3171	0.0277	-0.2168	0.1402	-0.2380	0.0434
3	260.16	0.5995	0.2044	0.0026	-0.3475	0.0340	-0.4607	0.1780	-0.2272	0.0379
3	260.16	0.6498	0.2047	0.0027	-0.4373	0.0412	-0.7229	0.2244	-0.0069	0.0503
3	260.16	0.6890	0.2148	0.0034	-0.4633	0.0463	-1.0632	0.2622	0.1170	0.0552
3	260.16	0.7495	0.2849	0.0045	-0.5574	0.0553	-1.7039	0.3278	-0.1641	0.0480
3	260.16	0.7998	0.2863	0.0065	-0.6031	0.0631	-2.1787	0.3840	0.1118	0.0493
3	260.16	0.8577	0.3270	0.0083	-0.6707	0.0716	-2.7942	0.4523	0.2360	0.0543
3	260.16	0.9178	0.3683	0.0099	-0.7178	0.0803	-3.5049	0.5244	0.1693	0.0702
3	260.16	0.9729	0.3757	0.0095	-0.8613	0.0889	-4.2106	0.5951	-0.0244	0.0588

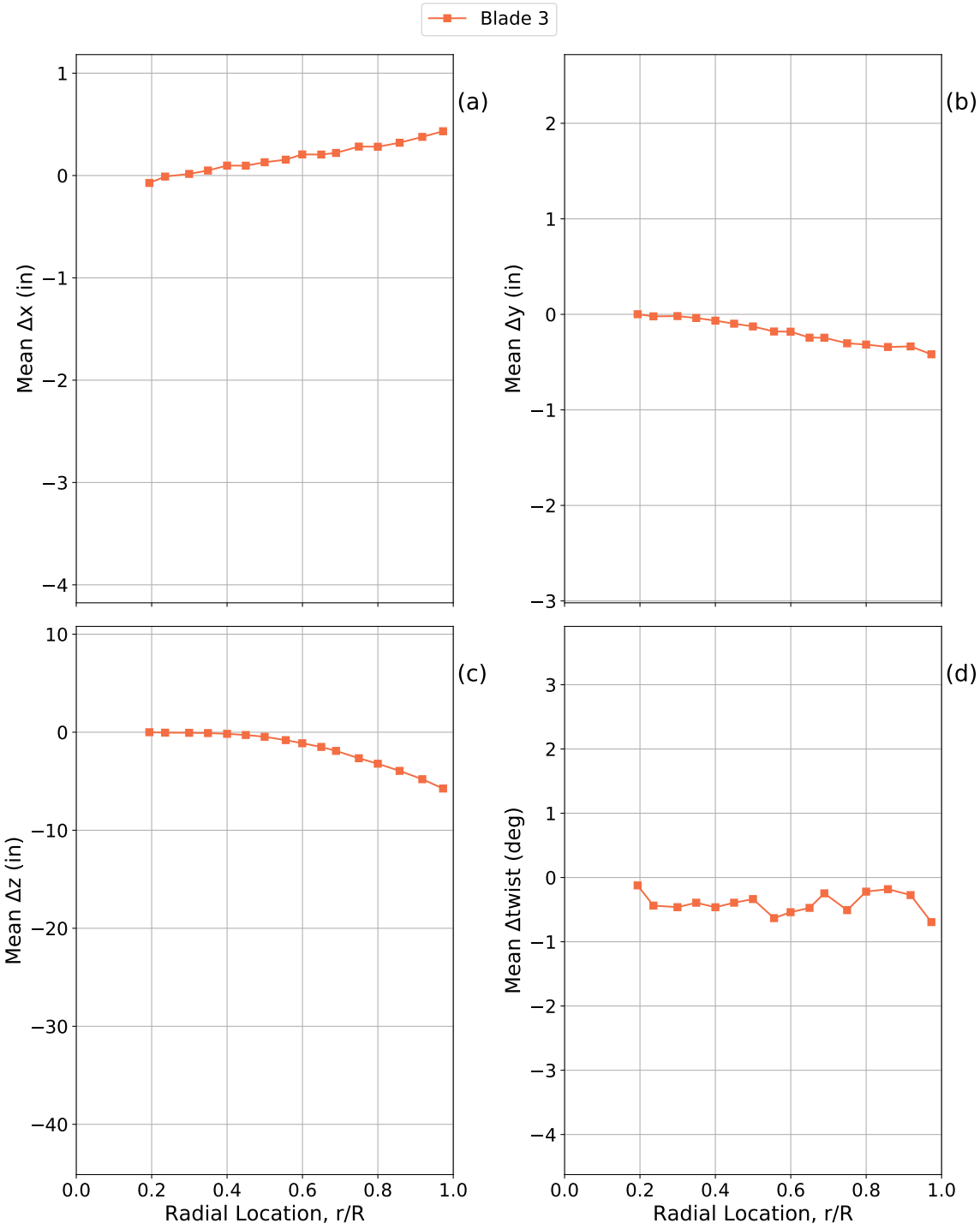


Figure 3.39-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.011$, $\mu = 0.6$, $\alpha = -0°$
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0727	0.0024	0.0013	0.0013	0.0006	0.0072	-0.1235	0.0172
3	265.08	0.2357	-0.0103	0.0020	-0.0210	0.0029	-0.0444	0.0141	-0.4376	0.0633
3	265.08	0.2995	0.0157	0.0015	-0.0183	0.0057	-0.0579	0.0320	-0.4619	0.0622
3	265.08	0.3493	0.0489	0.0016	-0.0384	0.0104	-0.0853	0.0542	-0.3927	0.0609
3	265.08	0.4000	0.0969	0.0020	-0.0658	0.0161	-0.1659	0.0853	-0.4632	0.0709
3	265.08	0.4497	0.0960	0.0028	-0.0980	0.0222	-0.2818	0.1201	-0.3923	0.0778
3	265.08	0.4997	0.1295	0.0026	-0.1266	0.0299	-0.4638	0.1620	-0.3361	0.0908
3	265.08	0.5556	0.1549	0.0029	-0.1795	0.0376	-0.8050	0.2073	-0.6325	0.0818
3	265.08	0.5995	0.2062	0.0043	-0.1814	0.0451	-1.1281	0.2489	-0.5399	0.0832
3	265.08	0.6498	0.2051	0.0048	-0.2439	0.0538	-1.5003	0.2990	-0.4731	0.0907
3	265.08	0.6890	0.2208	0.0058	-0.2445	0.0605	-1.9041	0.3405	-0.2466	0.0994
3	265.08	0.7495	0.2827	0.0082	-0.3032	0.0718	-2.6522	0.4069	-0.5079	0.0983
3	265.08	0.7998	0.2812	0.0097	-0.3162	0.0812	-3.2127	0.4682	-0.2202	0.0995
3	265.08	0.8577	0.3203	0.0123	-0.3417	0.0918	-3.9434	0.5434	-0.1818	0.1105
3	265.08	0.9178	0.3773	0.0143	-0.3356	0.1036	-4.7954	0.6251	-0.2736	0.1138
3	265.08	0.9729	0.4325	0.0126	-0.4184	0.1145	-5.7442	0.7026	-0.6942	0.1095

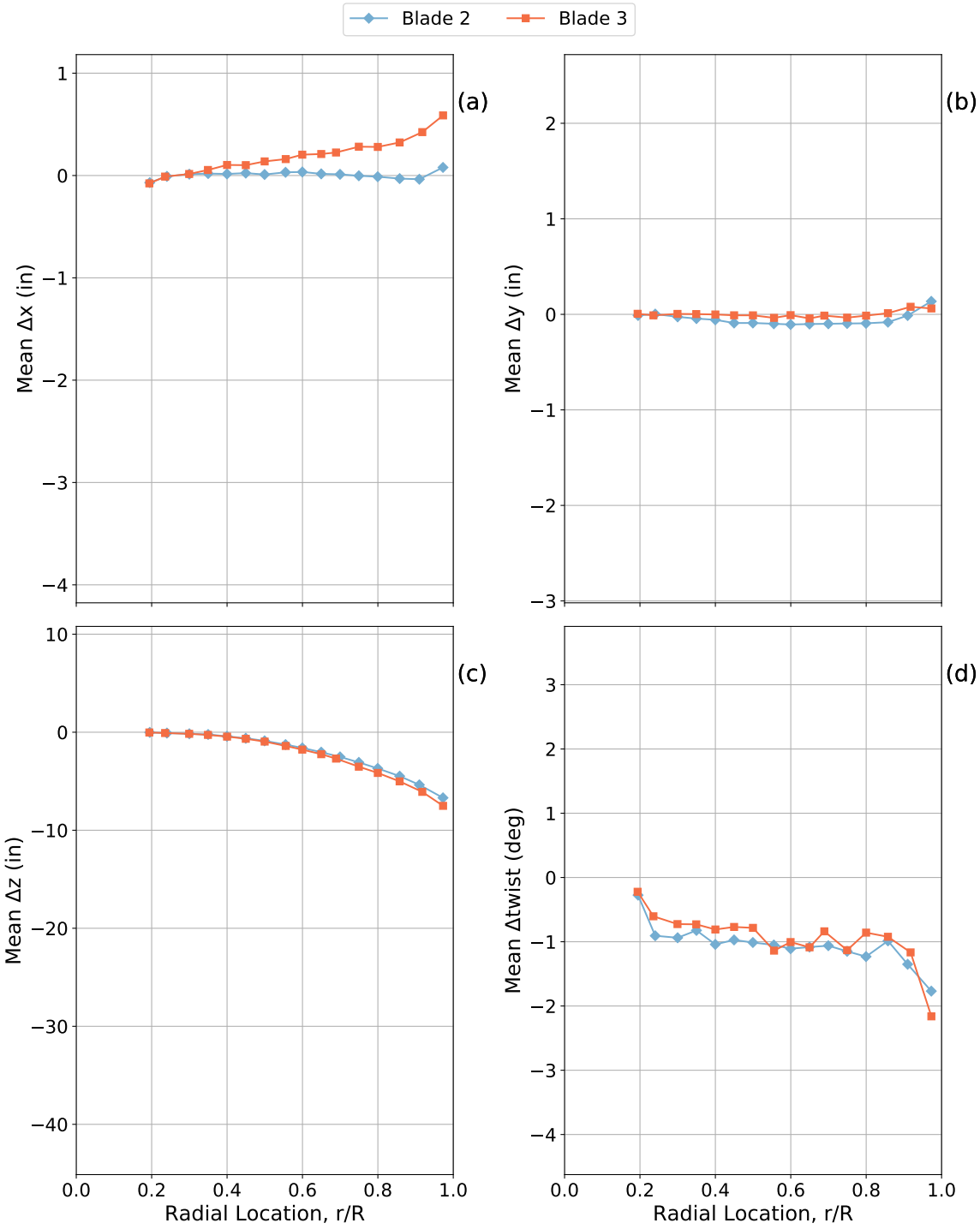


Figure 3.39-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0695	0.0025	-0.0115	0.0016	-0.0175	0.0091	-0.2744	0.0298
2	270.35	0.2405	-0.0084	0.0014	0.0028	0.0024	-0.0876	0.0141	-0.9071	0.0547
2	270.35	0.2999	0.0130	0.0023	-0.0262	0.0062	-0.1580	0.0359	-0.9380	0.0699
2	270.35	0.3498	0.0190	0.0019	-0.0443	0.0105	-0.2315	0.0619	-0.8239	0.0886
2	270.35	0.3998	0.0152	0.0025	-0.0573	0.0160	-0.4179	0.0940	-1.0411	0.0883
2	270.35	0.4496	0.0236	0.0028	-0.0907	0.0231	-0.6162	0.1331	-0.9718	0.1122
2	270.35	0.4995	0.0099	0.0035	-0.0905	0.0302	-0.8809	0.1794	-1.0118	0.1257
2	270.35	0.5551	0.0312	0.0040	-0.0987	0.0397	-1.2595	0.2322	-1.0505	0.1235
2	270.35	0.5996	0.0347	0.0045	-0.1062	0.0476	-1.6035	0.2805	-1.1084	0.1338
2	270.35	0.6497	0.0161	0.0058	-0.1016	0.0565	-2.0353	0.3371	-1.0826	0.1355
2	270.35	0.6996	0.0114	0.0080	-0.0988	0.0662	-2.5157	0.3977	-1.0615	0.1483
2	270.35	0.7495	-0.0026	0.0095	-0.0957	0.0755	-3.0777	0.4635	-1.1492	0.1528
2	270.35	0.7996	-0.0118	0.0124	-0.0939	0.0846	-3.6930	0.5323	-1.2313	0.1570
2	270.35	0.8578	-0.0302	0.0159	-0.0820	0.0966	-4.4816	0.6197	-0.9866	0.1684
2	270.35	0.9100	-0.0363	0.0189	-0.0124	0.1061	-5.3664	0.6986	-1.3508	0.1603
2	270.35	0.9727	0.0790	0.0203	0.1361	0.1184	-6.6917	0.7980	-1.7686	0.1688
3	270	0.1938	-0.0769	0.0019	0.0057	0.0010	-0.0271	0.0065	-0.2223	0.0183
3	270	0.2357	-0.0106	0.0020	-0.0105	0.0027	-0.0818	0.0154	-0.6041	0.0395
3	270	0.2995	0.0149	0.0021	0.0046	0.0046	-0.1640	0.0314	-0.7253	0.0355
3	270	0.3493	0.0540	0.0018	0.0027	0.0088	-0.2725	0.0547	-0.7290	0.0388
3	270	0.4000	0.1030	0.0024	-0.0014	0.0136	-0.4479	0.0863	-0.8094	0.0452
3	270	0.4497	0.1012	0.0031	-0.0099	0.0185	-0.6689	0.1185	-0.7698	0.0412
3	270	0.4997	0.1378	0.0031	-0.0104	0.0248	-0.9559	0.1608	-0.7841	0.0505
3	270	0.5556	0.1604	0.0042	-0.0367	0.0321	-1.3999	0.2099	-1.1382	0.0454
3	270	0.5995	0.2038	0.0043	-0.0086	0.0384	-1.7740	0.2529	-1.0051	0.0619
3	270	0.6498	0.2100	0.0060	-0.0425	0.0455	-2.2421	0.3055	-1.0868	0.0652
3	270	0.6890	0.2249	0.0077	-0.0133	0.0514	-2.6908	0.3515	-0.8379	0.0732
3	270	0.7495	0.2815	0.0104	-0.0345	0.0606	-3.5161	0.4243	-1.1312	0.0716
3	270	0.7998	0.2793	0.0124	-0.0135	0.0685	-4.1540	0.4878	-0.8581	0.0843
3	270	0.8577	0.3230	0.0170	0.0120	0.0775	-5.0149	0.5671	-0.9228	0.0873
3	270	0.9178	0.4241	0.0220	0.0793	0.0867	-6.0849	0.6463	-1.1658	0.0850
3	270	0.9729	0.5872	0.0259	0.0617	0.0949	-7.5110	0.7101	-2.1611	0.0773

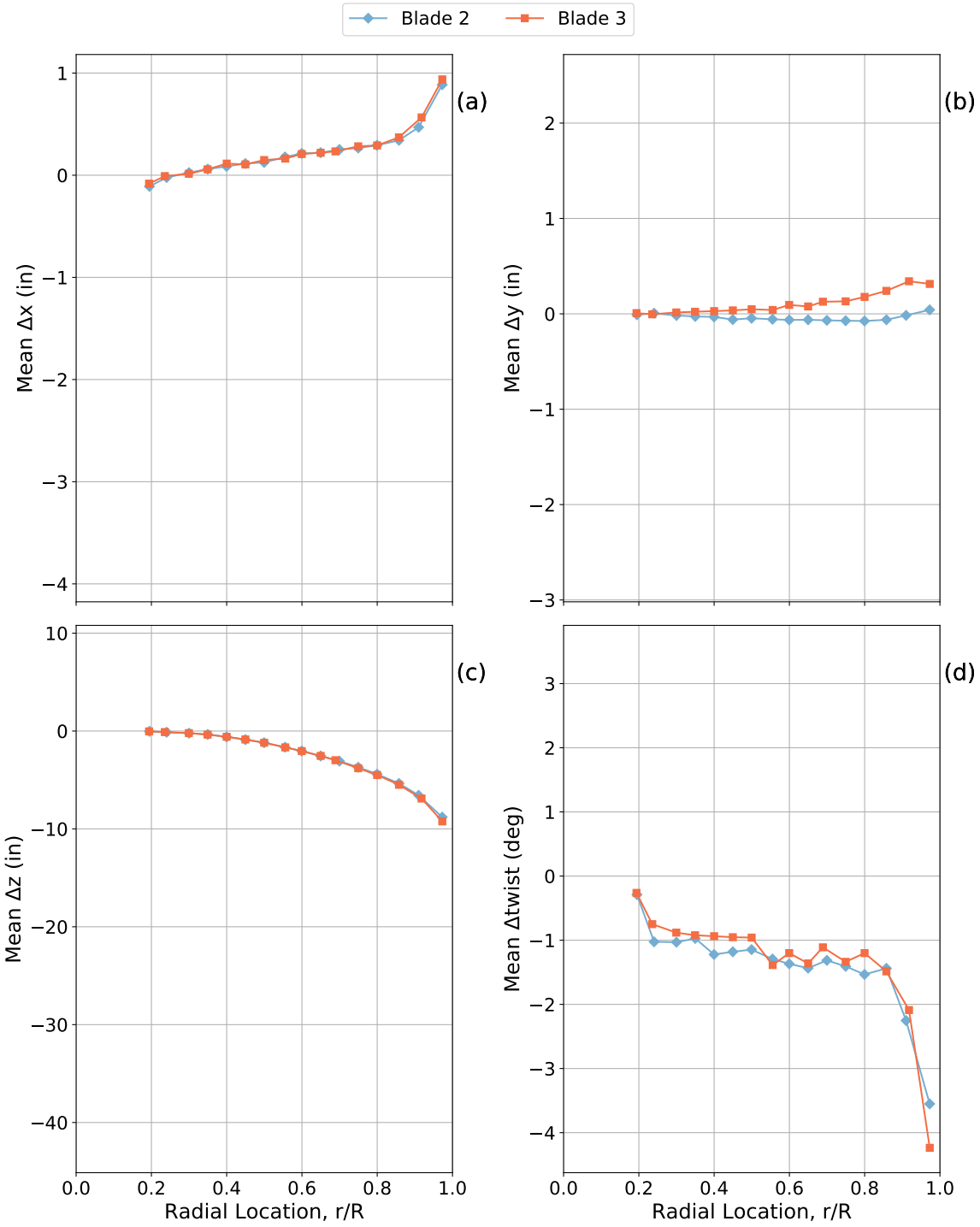


Figure 3.39-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	-0.1094	0.0028	-0.0092	0.0015	-0.0308	0.0079	-0.2892	0.0337
2	274.92	0.2405	-0.0226	0.0028	0.0065	0.0018	-0.1232	0.0110	-1.0250	0.0818
2	274.92	0.2999	0.0250	0.0017	-0.0174	0.0050	-0.2234	0.0296	-1.0310	0.0948
2	274.92	0.3498	0.0601	0.0013	-0.0273	0.0091	-0.3491	0.0509	-0.9719	0.0677
2	274.92	0.3998	0.0859	0.0022	-0.0325	0.0131	-0.6005	0.0764	-1.2226	0.0886
2	274.92	0.4496	0.1141	0.0031	-0.0601	0.0179	-0.8786	0.1067	-1.1803	0.0899
2	274.92	0.4995	0.1253	0.0035	-0.0465	0.0230	-1.1905	0.1413	-1.1466	0.0921
2	274.92	0.5551	0.1784	0.0039	-0.0573	0.0292	-1.6530	0.1856	-1.2933	0.0924
2	274.92	0.5996	0.2131	0.0049	-0.0637	0.0342	-2.0486	0.2229	-1.3685	0.0927
2	274.92	0.6497	0.2206	0.0064	-0.0624	0.0404	-2.5485	0.2692	-1.4359	0.0978
2	274.92	0.6996	0.2514	0.0079	-0.0683	0.0459	-3.0746	0.3159	-1.3141	0.1040
2	274.92	0.7495	0.2663	0.0099	-0.0724	0.0509	-3.6994	0.3699	-1.4073	0.1090
2	274.92	0.7996	0.2930	0.0127	-0.0752	0.0561	-4.4065	0.4232	-1.5338	0.0973
2	274.92	0.8578	0.3419	0.0154	-0.0623	0.0617	-5.3538	0.4973	-1.4392	0.1041
2	274.92	0.9100	0.4692	0.0178	-0.0163	0.0669	-6.5650	0.5619	-2.2524	0.0822
2	274.92	0.9727	0.8860	0.0188	0.0419	0.0741	-8.7987	0.6606	-3.5513	0.1329
3	274.92	0.1938	-0.0821	0.0025	0.0074	0.0006	-0.0375	0.0040	-0.2625	0.0313
3	274.92	0.2357	-0.0088	0.0013	-0.0047	0.0018	-0.1064	0.0099	-0.7500	0.0717
3	274.92	0.2995	0.0143	0.0018	0.0145	0.0022	-0.2122	0.0163	-0.8816	0.0792
3	274.92	0.3493	0.0576	0.0018	0.0220	0.0043	-0.3647	0.0282	-0.9230	0.0635
3	274.92	0.4000	0.1137	0.0025	0.0284	0.0066	-0.5870	0.0451	-0.9375	0.0810
3	274.92	0.4497	0.1059	0.0025	0.0362	0.0092	-0.8637	0.0650	-0.9531	0.0796
3	274.92	0.4997	0.1487	0.0032	0.0479	0.0119	-1.1938	0.0876	-0.9591	0.0826
3	274.92	0.5556	0.1627	0.0036	0.0404	0.0149	-1.6700	0.1177	-1.3873	0.0791
3	274.92	0.5995	0.2077	0.0044	0.0935	0.0177	-2.0487	0.1436	-1.2012	0.0857
3	274.92	0.6498	0.2200	0.0055	0.0773	0.0211	-2.5421	0.1780	-1.3622	0.0982
3	274.92	0.6890	0.2334	0.0063	0.1270	0.0243	-2.9820	0.2103	-1.1111	0.0966
3	274.92	0.7495	0.2830	0.0073	0.1310	0.0287	-3.8015	0.2646	-1.3371	0.1038
3	274.92	0.7998	0.2917	0.0104	0.1776	0.0330	-4.4944	0.3125	-1.2014	0.1162
3	274.92	0.8577	0.3711	0.0129	0.2411	0.0375	-5.4923	0.3745	-1.4859	0.1095
3	274.92	0.9178	0.5660	0.0166	0.3415	0.0428	-6.9000	0.4402	-2.0890	0.1269
3	274.92	0.9729	0.9380	0.0192	0.3137	0.0476	-9.2353	0.5052	-4.2363	0.1203

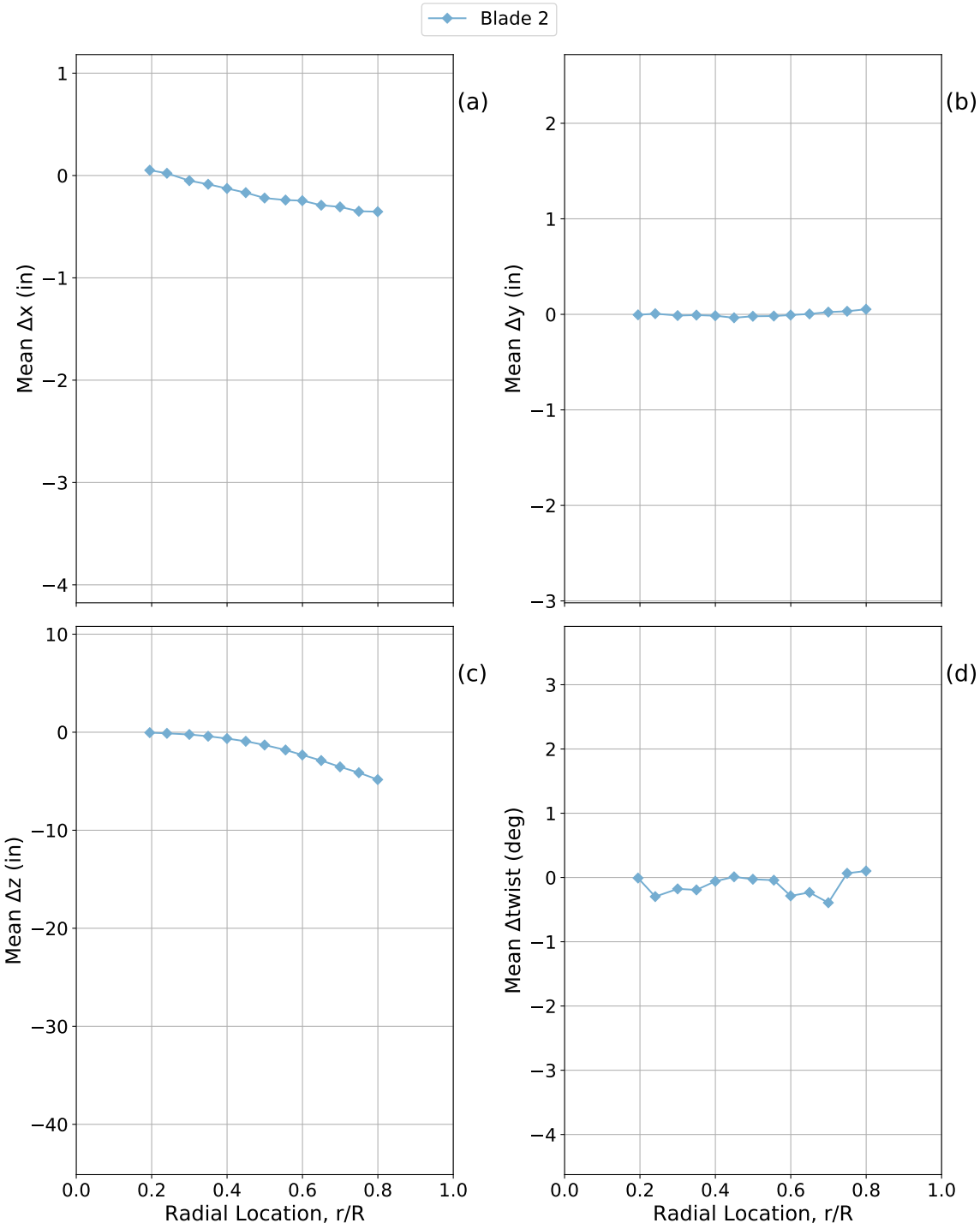


Figure 3.39-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0517	0.0017	-0.0052	0.0014	-0.0445	0.0056	-0.0086	0.0291
2	285.12	0.2405	0.0219	0.0017	0.0070	0.0016	-0.1142	0.0104	-0.2976	0.0603
2	285.12	0.2999	-0.0504	0.0022	-0.0127	0.0053	-0.2314	0.0235	-0.1774	0.0781
2	285.12	0.3498	-0.0856	0.0026	-0.0079	0.0086	-0.4115	0.0431	-0.1931	0.0809
2	285.12	0.3998	-0.1267	0.0035	-0.0146	0.0132	-0.6464	0.0650	-0.0593	0.0882
2	285.12	0.4496	-0.1676	0.0048	-0.0357	0.0168	-0.9240	0.0899	0.0104	0.0723
2	285.12	0.4995	-0.2202	0.0048	-0.0201	0.0221	-1.3037	0.1198	-0.0274	0.0899
2	285.12	0.5551	-0.2397	0.0070	-0.0177	0.0273	-1.8103	0.1561	-0.0424	0.1072
2	285.12	0.5996	-0.2459	0.0070	-0.0075	0.0321	-2.3214	0.1858	-0.2865	0.1106
2	285.12	0.6497	-0.2904	0.0106	0.0043	0.0378	-2.8885	0.2176	-0.2328	0.1099
2	285.12	0.6996	-0.3068	0.0098	0.0237	0.0434	-3.5341	0.2536	-0.3929	0.1452
2	285.12	0.7495	-0.3493	0.0105	0.0322	0.0491	-4.1306	0.2899	0.0659	0.1070
2	285.12	0.7996	-0.3536	0.0131	0.0533	0.0559	-4.8328	0.3234	0.1010	0.1318

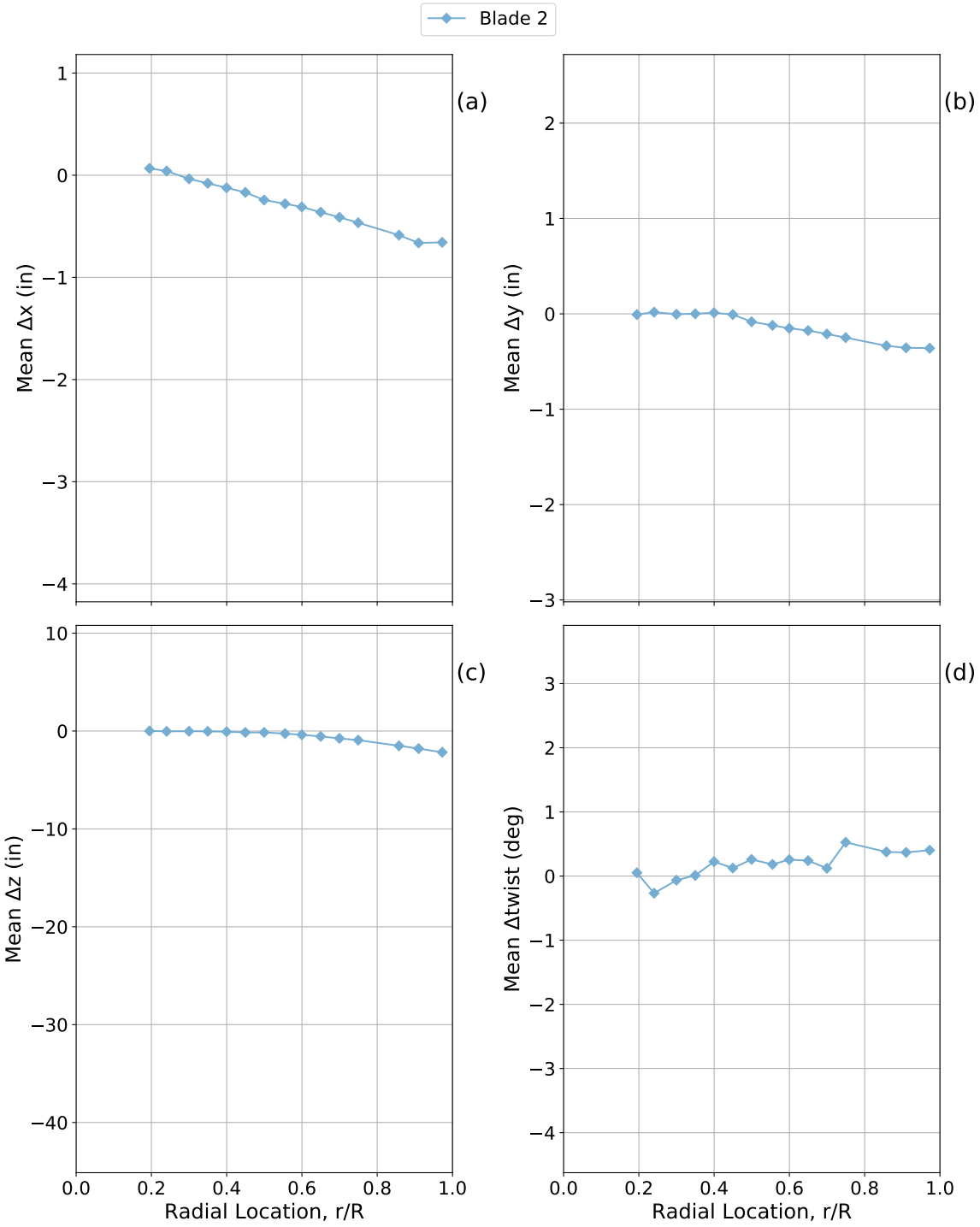


Figure 3.39-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0674	0.0020	-0.0075	0.0021	0.0063	0.0054	0.0514	0.0285
2	299.88	0.2405	0.0410	0.0026	0.0176	0.0045	-0.0316	0.0113	-0.2678	0.0618
2	299.88	0.2999	-0.0355	0.0025	-0.0040	0.0079	-0.0199	0.0247	-0.0646	0.0598
2	299.88	0.3498	-0.0790	0.0038	0.0010	0.0173	-0.0311	0.0396	0.0100	0.0680
2	299.88	0.3998	-0.1232	0.0062	0.0114	0.0241	-0.0724	0.0642	0.2251	0.0706
2	299.88	0.4496	-0.1679	0.0044	-0.0073	0.0289	-0.1444	0.0832	0.1241	0.0690
2	299.88	0.4995	-0.2427	0.0053	-0.0832	0.0325	-0.1418	0.1155	0.2586	0.0720
2	299.88	0.5551	-0.2793	0.0053	-0.1208	0.0390	-0.2635	0.1548	0.1821	0.0806
2	299.88	0.5996	-0.3111	0.0063	-0.1517	0.0447	-0.3826	0.1939	0.2562	0.0524
2	299.88	0.6497	-0.3615	0.0069	-0.1751	0.0510	-0.5528	0.2446	0.2403	0.0662
2	299.88	0.6996	-0.4117	0.0076	-0.2115	0.0574	-0.7514	0.3002	0.1214	0.0712
2	299.88	0.7495	-0.4649	0.0081	-0.2493	0.0650	-0.9307	0.3622	0.5261	0.0688
2	299.88	0.8578	-0.5866	0.0094	-0.3356	0.0795	-1.5082	0.5120	0.3756	0.0786
2	299.88	0.9100	-0.6628	0.0108	-0.3560	0.0871	-1.7956	0.5890	0.3686	0.0666
2	299.88	0.9727	-0.6573	0.0129	-0.3604	0.0965	-2.1700	0.6741	0.4031	0.1042

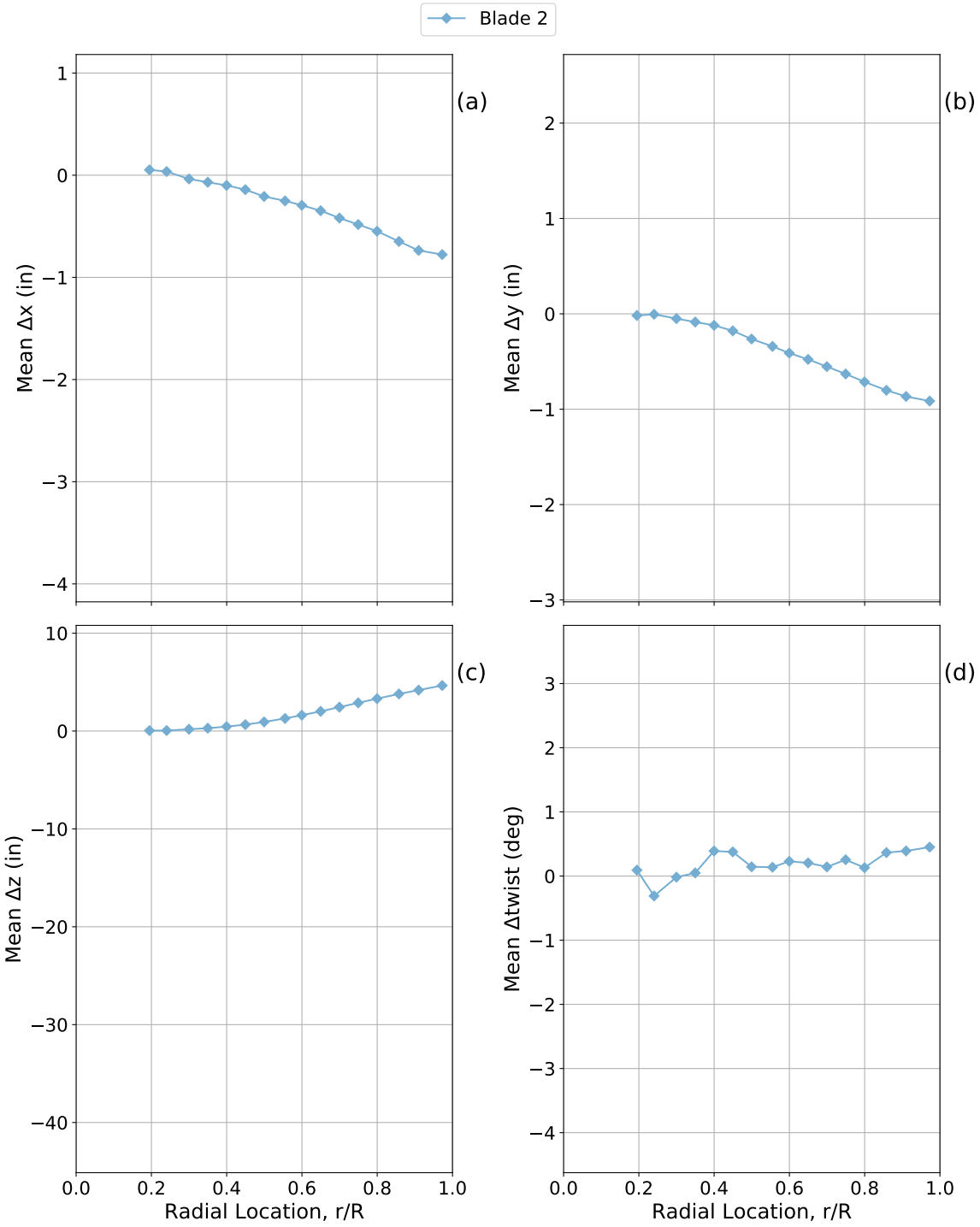


Figure 3.39-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0523	0.0037	-0.0173	0.0017	0.0459	0.0050	0.0922	0.0414
2	315	0.2405	0.0360	0.0024	-0.0048	0.0018	0.0467	0.0121	-0.3100	0.0394
2	315	0.2999	-0.0365	0.0041	-0.0500	0.0064	0.1824	0.0249	-0.0172	0.0743
2	315	0.3498	-0.0685	0.0041	-0.0859	0.0111	0.2887	0.0404	0.0488	0.0980
2	315	0.3998	-0.0998	0.0034	-0.1203	0.0159	0.4501	0.0656	0.3909	0.0845
2	315	0.4496	-0.1412	0.0044	-0.1784	0.0215	0.6541	0.0906	0.3769	0.0966
2	315	0.4995	-0.2083	0.0066	-0.2641	0.0266	0.9291	0.1238	0.1444	0.0624
2	315	0.5551	-0.2510	0.0051	-0.3415	0.0335	1.2846	0.1659	0.1378	0.0679
2	315	0.5996	-0.2943	0.0062	-0.4115	0.0405	1.6166	0.2058	0.2297	0.0767
2	315	0.6497	-0.3476	0.0077	-0.4779	0.0477	2.0115	0.2573	0.2052	0.0845
2	315	0.6996	-0.4191	0.0086	-0.5532	0.0563	2.4412	0.3147	0.1428	0.0717
2	315	0.7495	-0.4827	0.0111	-0.6305	0.0645	2.8781	0.3785	0.2545	0.0887
2	315	0.7996	-0.5483	0.0119	-0.7134	0.0737	3.3062	0.4505	0.1303	0.0963
2	315	0.8578	-0.6482	0.0138	-0.8016	0.0844	3.7905	0.5426	0.3659	0.0887
2	315	0.9100	-0.7362	0.0169	-0.8665	0.0943	4.1823	0.6292	0.3915	0.0911
2	315	0.9727	-0.7767	0.0224	-0.9146	0.1058	4.6487	0.7346	0.4516	0.1150

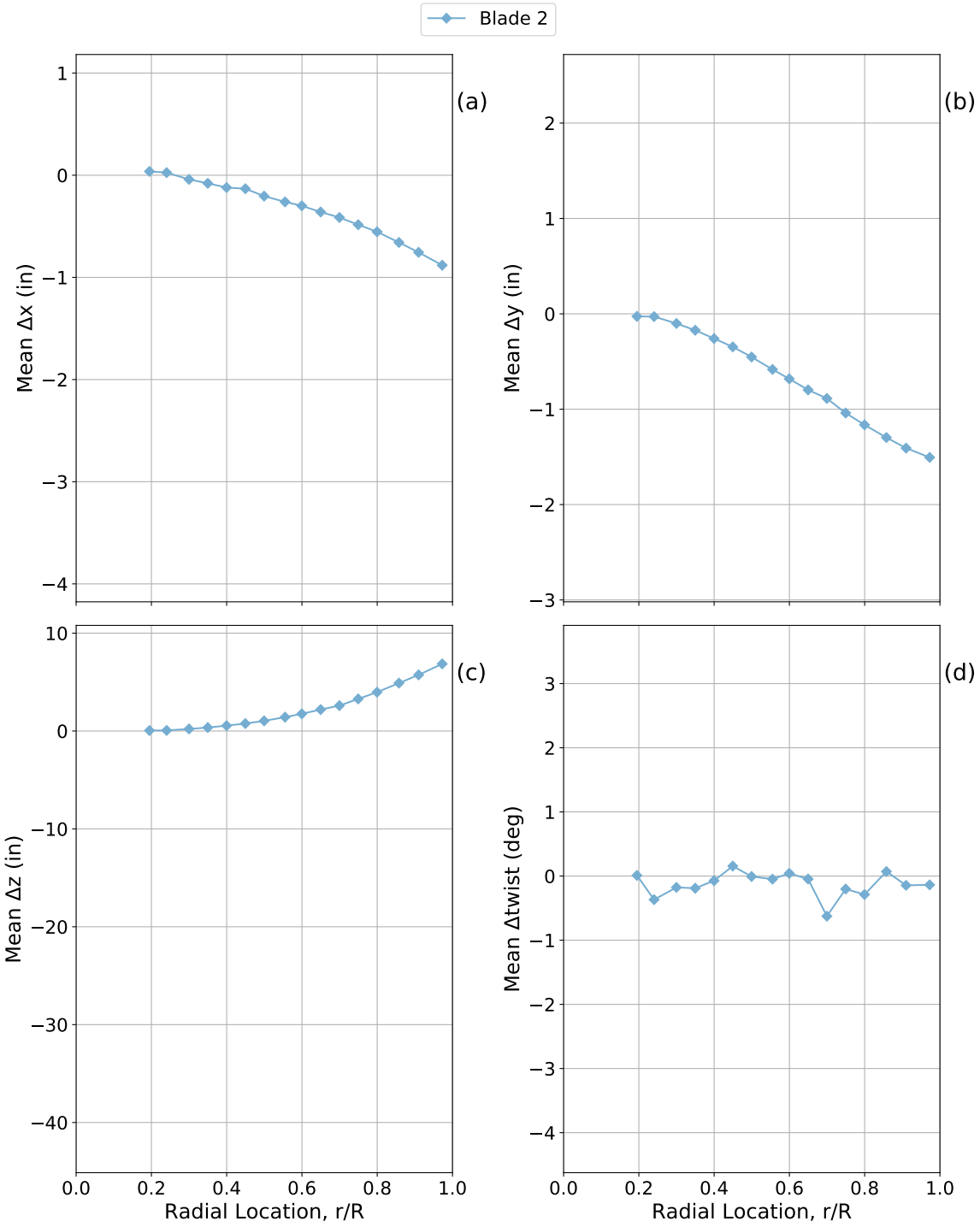


Figure 3.39-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0373	0.0036	-0.0266	0.0010	0.0516	0.0059	0.0101	0.0304
2	330.12	0.2405	0.0256	0.0027	-0.0290	0.0036	0.0646	0.0143	-0.3674	0.0433
2	330.12	0.2999	-0.0410	0.0038	-0.1010	0.0048	0.2132	0.0308	-0.1769	0.0636
2	330.12	0.3498	-0.0790	0.0037	-0.1721	0.0099	0.3565	0.0501	-0.1898	0.0537
2	330.12	0.3998	-0.1208	0.0040	-0.2592	0.0149	0.5500	0.0813	-0.0725	0.0745
2	330.12	0.4496	-0.1319	0.0047	-0.3463	0.0212	0.7644	0.1054	0.1555	0.0783
2	330.12	0.4995	-0.2048	0.0060	-0.4526	0.0231	1.0386	0.1339	-0.0069	0.0972
2	330.12	0.5551	-0.2609	0.0065	-0.5830	0.0264	1.4163	0.1605	-0.0479	0.0785
2	330.12	0.5996	-0.2994	0.0085	-0.6817	0.0298	1.7588	0.1852	0.0421	0.0482
2	330.12	0.6497	-0.3597	0.0071	-0.7974	0.0348	2.1928	0.2123	-0.0463	0.0834
2	330.12	0.6996	-0.4136	0.0083	-0.8873	0.0412	2.5967	0.2342	-0.6254	0.0987
2	330.12	0.7495	-0.4844	0.0070	-1.0399	0.0417	3.2803	0.2594	-0.2021	0.0623
2	330.12	0.7996	-0.5535	0.0069	-1.1639	0.0463	3.9682	0.2874	-0.2878	0.0625
2	330.12	0.8578	-0.6583	0.0064	-1.2973	0.0516	4.8990	0.3181	0.0707	0.0618
2	330.12	0.9100	-0.7548	0.0068	-1.4078	0.0578	5.7368	0.3500	-0.1443	0.0732
2	330.12	0.9727	-0.8813	0.0097	-1.5054	0.0631	6.8617	0.3942	-0.1372	0.0670

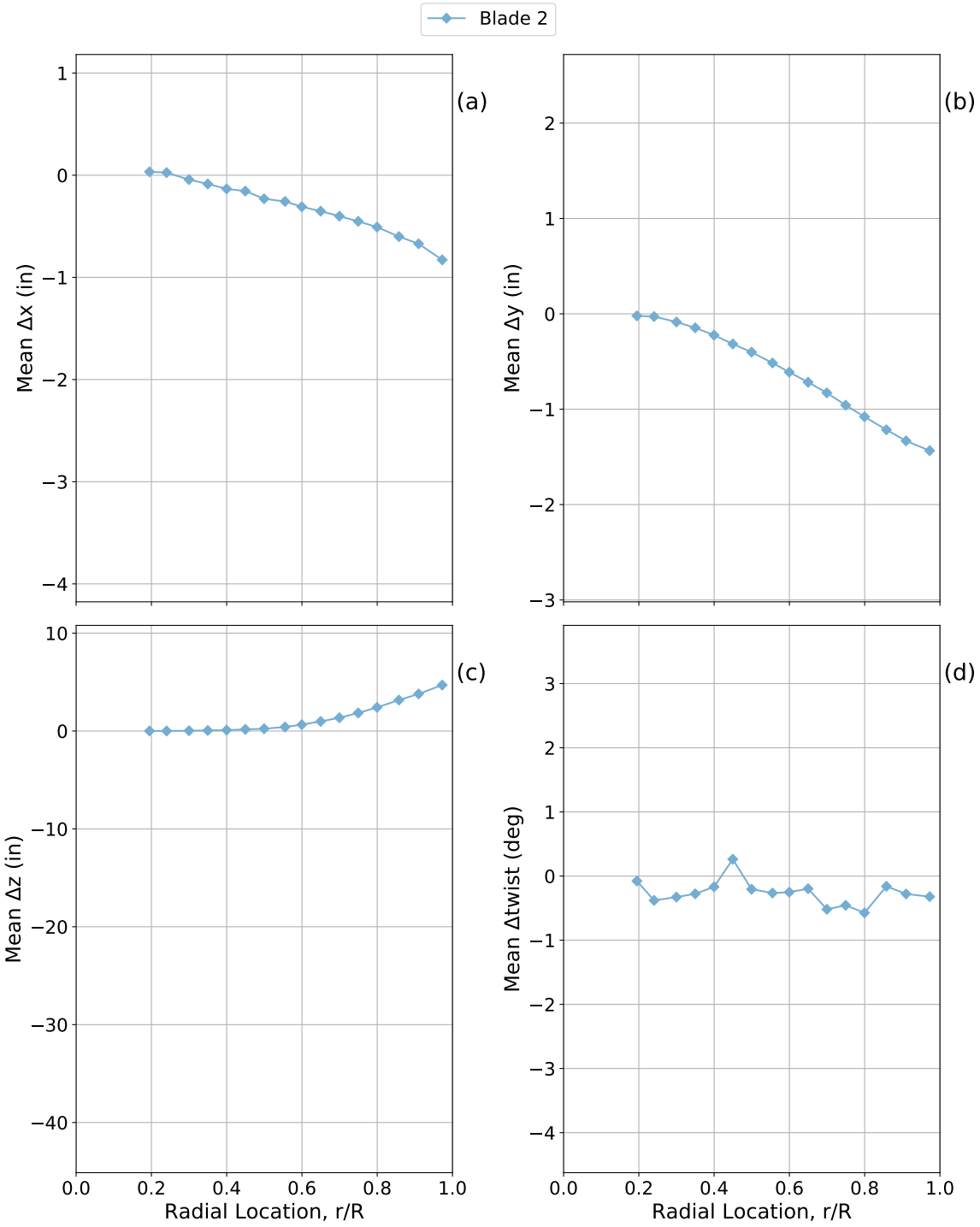


Figure 3.39-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0333	0.0029	-0.0210	0.0012	0.0072	0.0068	-0.0767	0.0319
2	344.88	0.2405	0.0258	0.0036	-0.0286	0.0037	0.0047	0.0114	-0.3797	0.0612
2	344.88	0.2999	-0.0427	0.0029	-0.0854	0.0064	0.0345	0.0266	-0.3276	0.0764
2	344.88	0.3498	-0.0856	0.0065	-0.1466	0.0086	0.0583	0.0445	-0.2769	0.0562
2	344.88	0.3998	-0.1337	0.0061	-0.2236	0.0159	0.0920	0.0685	-0.1681	0.0596
2	344.88	0.4496	-0.1552	0.0068	-0.3159	0.0152	0.1695	0.0901	0.2620	0.1021
2	344.88	0.4995	-0.2305	0.0068	-0.4017	0.0187	0.2321	0.1175	-0.2055	0.0843
2	344.88	0.5551	-0.2569	0.0066	-0.5153	0.0214	0.4149	0.1567	-0.2647	0.0614
2	344.88	0.5996	-0.3083	0.0104	-0.6114	0.0262	0.6524	0.1889	-0.2510	0.0696
2	344.88	0.6497	-0.3520	0.0109	-0.7175	0.0319	0.9812	0.2285	-0.1974	0.0723
2	344.88	0.6996	-0.4007	0.0114	-0.8287	0.0377	1.3568	0.2739	-0.5176	0.1008
2	344.88	0.7495	-0.4514	0.0127	-0.9578	0.0443	1.8467	0.3330	-0.4562	0.0641
2	344.88	0.7996	-0.5076	0.0141	-1.0794	0.0509	2.4171	0.3914	-0.5734	0.0901
2	344.88	0.8578	-0.6008	0.0173	-1.2160	0.0592	3.1641	0.4626	-0.1596	0.0761
2	344.88	0.9100	-0.6711	0.0209	-1.3319	0.0658	3.7921	0.5325	-0.2788	0.0761
2	344.88	0.9727	-0.8285	0.0285	-1.4345	0.0740	4.6956	0.6166	-0.3215	0.0728

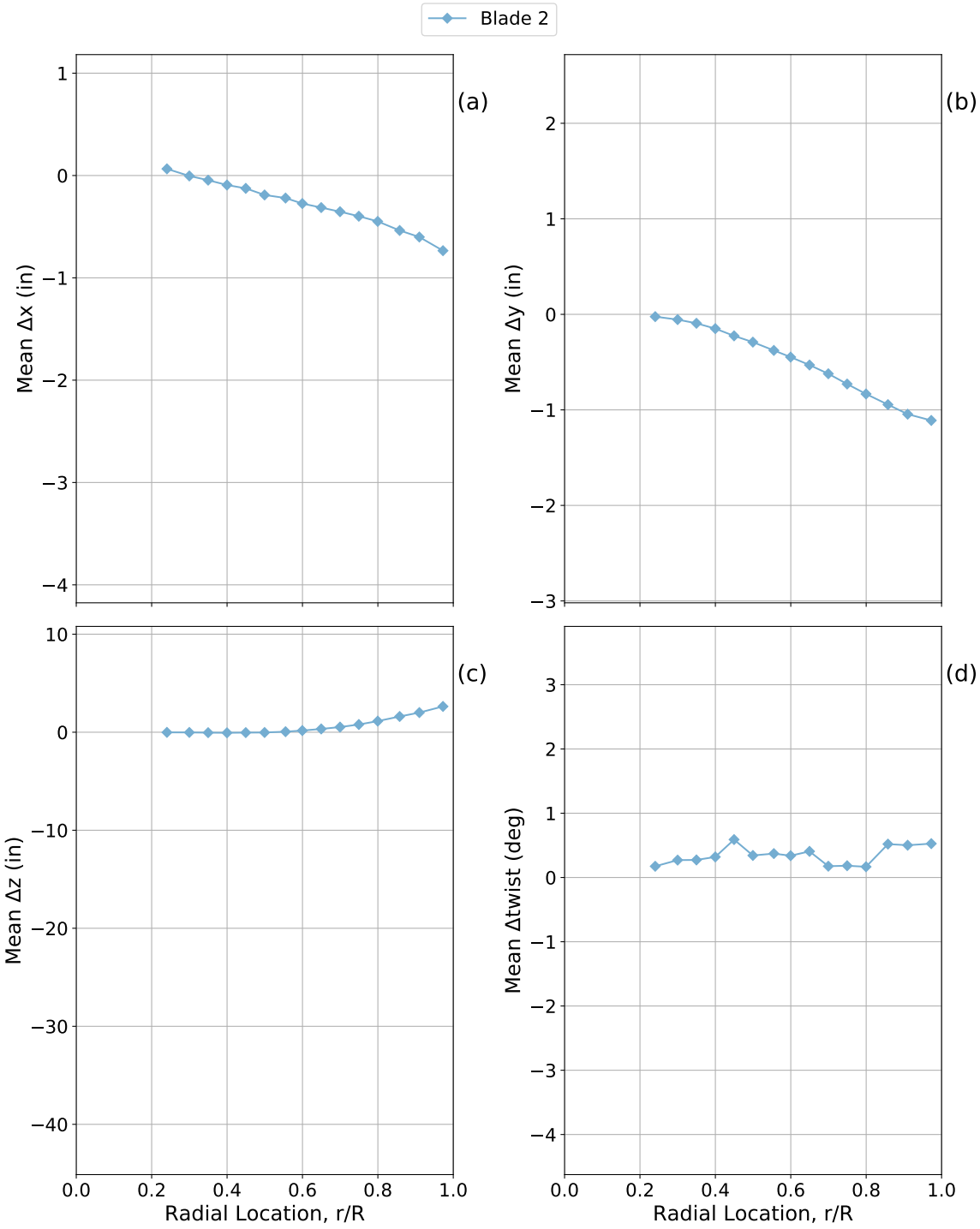


Figure 3.39-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0649	0.0024	-0.0240	0.0045	-0.0156	0.0122	0.1744	0.0882
2	350.16	0.2999	-0.0043	0.0043	-0.0550	0.0114	-0.0223	0.0291	0.2705	0.1367
2	350.16	0.3498	-0.0456	0.0044	-0.0936	0.0178	-0.0451	0.0486	0.2730	0.1207
2	350.16	0.3998	-0.0930	0.0035	-0.1494	0.0295	-0.0595	0.0781	0.3199	0.1476
2	350.16	0.4496	-0.1256	0.0065	-0.2253	0.0365	-0.0396	0.1000	0.5900	0.1723
2	350.16	0.4995	-0.1901	0.0070	-0.2907	0.0446	-0.0288	0.1297	0.3427	0.1215
2	350.16	0.5551	-0.2202	0.0061	-0.3776	0.0538	0.0549	0.1589	0.3718	0.1258
2	350.16	0.5996	-0.2739	0.0072	-0.4474	0.0630	0.1680	0.1840	0.3390	0.1154
2	350.16	0.6497	-0.3134	0.0076	-0.5305	0.0706	0.3343	0.2093	0.4065	0.1120
2	350.16	0.6996	-0.3537	0.0079	-0.6219	0.0810	0.5250	0.2362	0.1756	0.1123
2	350.16	0.7495	-0.3979	0.0088	-0.7293	0.0918	0.7869	0.2667	0.1831	0.1184
2	350.16	0.7996	-0.4485	0.0108	-0.8336	0.1017	1.1328	0.3014	0.1667	0.1048
2	350.16	0.8578	-0.5371	0.0109	-0.9449	0.1148	1.6053	0.3408	0.5196	0.1157
2	350.16	0.9100	-0.6012	0.0128	-1.0450	0.1263	2.0034	0.3759	0.5021	0.1026
2	350.16	0.9727	-0.7346	0.0182	-1.1106	0.1409	2.6305	0.4158	0.5267	0.1258

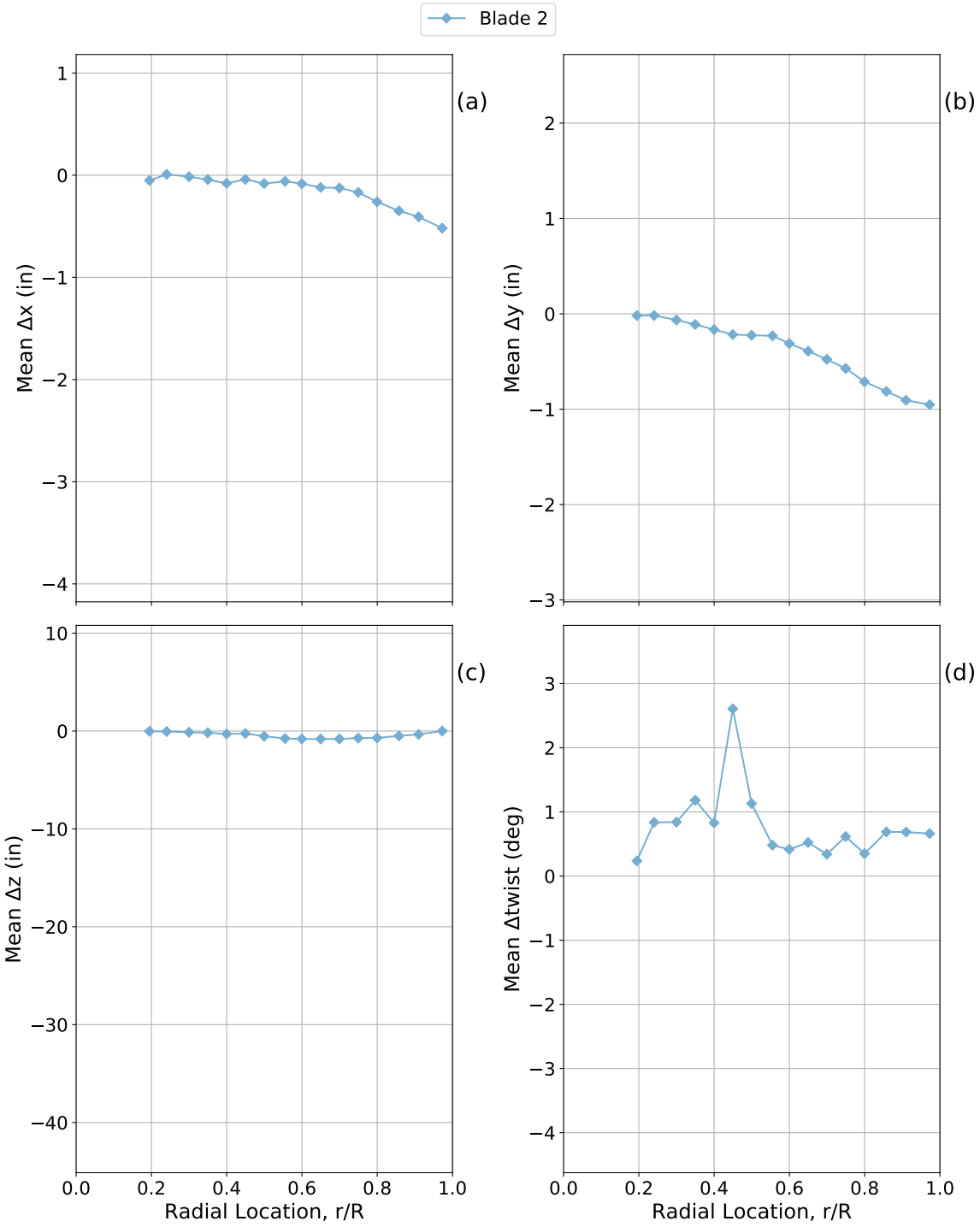


Figure 3.39-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.011, μ = 0.6, α = -0° NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Table 3.39-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.011, μ = 0.6, α = -0°
NFAC run 87, point 46. BD run 41, points 6807 to 6817.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0513	0.1203	-0.0181	0.0042	-0.0270	0.0573	0.2358	0.3785
2	355.08	0.2405	0.0092	0.0276	-0.0174	0.0256	-0.0437	0.0728	0.8359	1.9619
2	355.08	0.2999	-0.0149	0.0307	-0.0643	0.0499	-0.1291	0.2443	0.8411	1.6600
2	355.08	0.3498	-0.0426	0.0399	-0.1116	0.0594	-0.1759	0.3355	1.1813	2.0119
2	355.08	0.3998	-0.0800	0.0597	-0.1648	0.1206	-0.3011	0.5678	0.8285	1.3907
2	355.08	0.4496	-0.0406	0.0965	-0.2170	0.1283	-0.2550	0.6959	2.6068	1.9838
2	355.08	0.4995	-0.0814	0.2091	-0.2250	0.2898	-0.5320	0.9513	1.1308	2.0646
2	355.08	0.5551	-0.0597	0.2876	-0.2304	0.4995	-0.7639	1.4348	0.4813	0.8535
2	355.08	0.5996	-0.0831	0.2879	-0.3107	0.5072	-0.8087	1.5482	0.4164	0.8346
2	355.08	0.6497	-0.1198	0.2907	-0.3911	0.5150	-0.8134	1.6669	0.5232	0.8522
2	355.08	0.6996	-0.1247	0.2913	-0.4773	0.5272	-0.8091	1.7898	0.3401	0.8584
2	355.08	0.7495	-0.1675	0.2925	-0.5726	0.5436	-0.7200	1.9123	0.6158	0.8547
2	355.08	0.7996	-0.2605	0.2966	-0.7117	0.5718	-0.7034	2.1530	0.3494	0.8540
2	355.08	0.8578	-0.3490	0.2970	-0.8135	0.5910	-0.4988	2.2999	0.6882	0.8643
2	355.08	0.9100	-0.4066	0.2990	-0.9064	0.6108	-0.3462	2.4305	0.6863	0.8556
2	355.08	0.9727	-0.5187	0.3023	-0.9529	0.6336	0.0029	2.5764	0.6625	0.8516

3.40 Run 91, Point 18

3.40.1 Pitch, Flap, and Lag

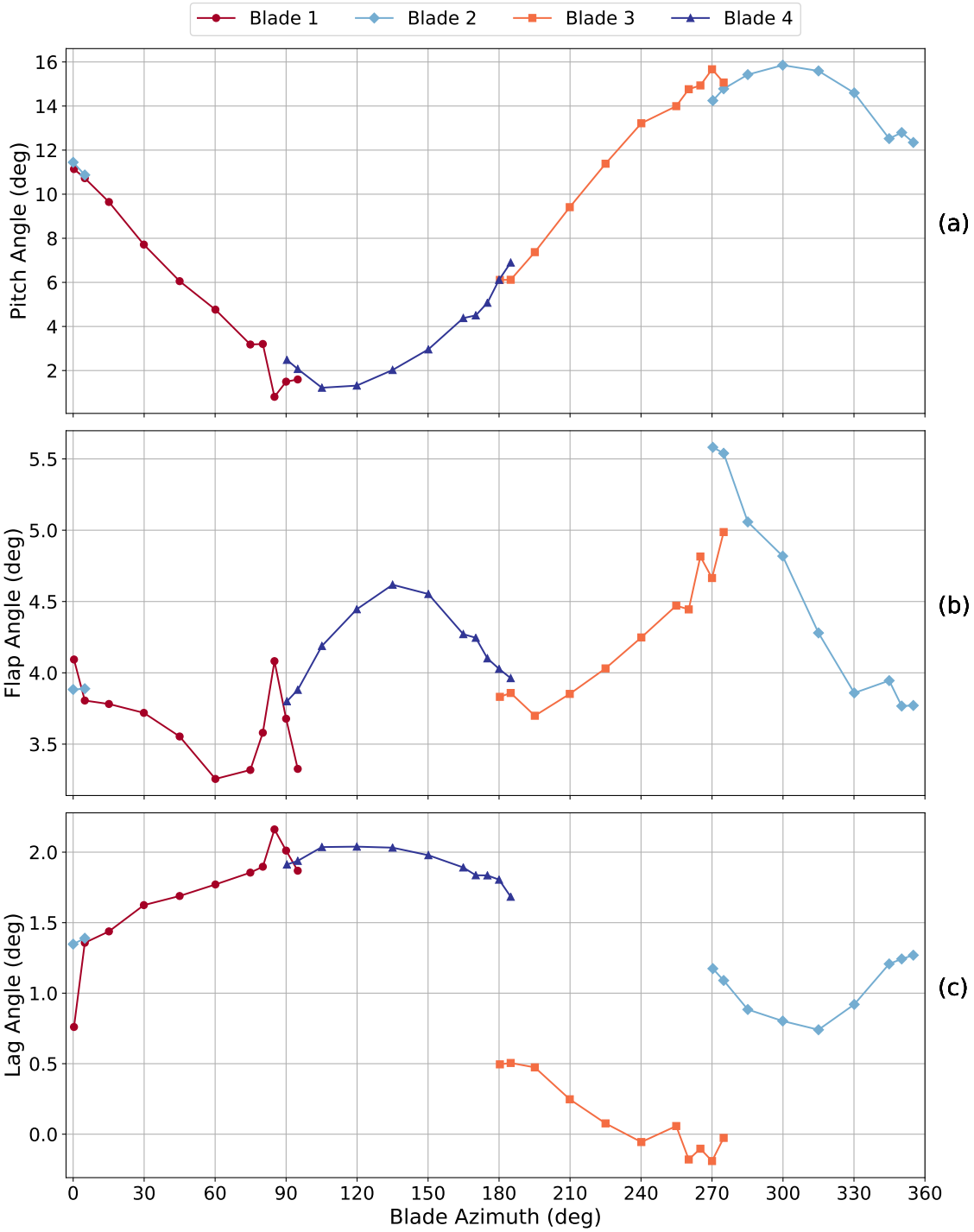


Figure 3.40-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.102$, $\mu = 0.3$, $\alpha = -0°$
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	11.4470	3.8830	1.3476	0.0756	0.0391	0.0185
0.35	1	11.1407	4.0935	0.7603	0.0986	0.0560	0.0478
4.92	1	10.7258	3.8057	1.3574	0.0590	0.0445	0.0282
4.92	2	10.8718	3.8886	1.3896	0.0572	0.1119	0.0240
15.12	1	9.6473	3.7815	1.4380	0.0528	0.0707	0.0257
29.88	1	7.7149	3.7193	1.6244	0.0704	0.0541	0.0280
45	1	6.0551	3.5537	1.6891	0.0538	0.0475	0.0153
60.12	1	4.7631	3.2560	1.7709	0.0751	0.0455	0.0235
74.88	1	3.1816	3.3189	1.8550	0.0686	0.0284	0.0307
80.16	1	3.2053	3.5798	1.8967	0.2404	0.0954	0.0339
85.08	1	0.8080	4.0820	2.1613	0.0907	0.0401	0.0201
90	1	1.4956	3.6783	2.0111	0.0892	0.0478	0.0237
90.35	4	2.4829	3.8002	1.9121	0.0919	0.0564	0.0181
94.92	1	1.5955	3.3265	1.8684	0.0155	0.0424	0.0279
94.92	4	2.0696	3.8807	1.9382	0.0786	0.0666	0.0261
105.12	4	1.2200	4.1882	2.0361	0.0294	0.0266	0.0222
119.88	4	1.3171	4.4458	2.0391	0.0161	0.0488	0.0266
135	4	2.0246	4.6177	2.0319	0.0230	0.0278	0.0122
150.12	4	2.9597	4.5526	1.9784	0.0334	0.0449	0.0222
164.88	4	4.3802	4.2711	1.8914	0.0334	0.0656	0.0302
170.16	4	4.5017	4.2456	1.8361	0.0235	0.0390	0.0189
175.08	4	5.0755	4.1013	1.8351	0.0246	0.0329	0.0245
180	4	6.1154	4.0276	1.8048	0.1272	0.0359	0.0366
180.35	3	6.1108	3.8316	0.4951	0.0416	0.0576	0.0301
184.92	3	6.1188	3.8587	0.5050	0.0177	0.0485	0.0170
184.92	4	6.8979	3.9626	1.6837	0.1302	0.1012	0.0568
195.12	3	7.3713	3.6991	0.4736	0.0344	0.1210	0.0196
209.88	3	9.4118	3.8522	0.2475	0.0331	0.0288	0.0227
225	3	11.3831	4.0310	0.0766	0.0312	0.0312	0.0117
240.12	3	13.2177	4.2481	-0.0558	0.0309	0.0234	0.0139
254.88	3	13.9938	4.4712	0.0577	0.0237	0.0348	0.0201
260.16	3	14.7624	4.4447	-0.1794	0.1318	0.0718	0.0254
265.08	3	14.9339	4.8155	-0.1030	0.2654	0.1011	0.0341
270	3	15.6676	4.6647	-0.1905	0.6680	0.5140	0.2194
270.35	2	14.2461	5.5814	1.1741	0.0466	0.0446	0.0508
274.92	2	14.7817	5.5395	1.0901	0.0394	0.0543	0.0275
274.92	3	15.0675	4.9869	-0.0264	0.0457	0.0287	0.0334
285.12	2	15.4252	5.0580	0.8841	0.0815	0.0470	0.0287
299.88	2	15.8532	4.8185	0.8025	0.0508	0.0617	0.0268
315	2	15.5925	4.2798	0.7405	0.0383	0.0292	0.0207
330.12	2	14.5952	3.8588	0.9203	0.0475	0.0424	0.0292
344.88	2	12.5210	3.9454	1.2075	0.1003	0.0412	0.0307
350.16	2	12.7968	3.7669	1.2428	0.0369	0.0752	0.0396
355.08	2	12.3473	3.7711	1.2694	0.0420	0.0785	0.0228

3.40.2 Spanwise Elastic Deformations

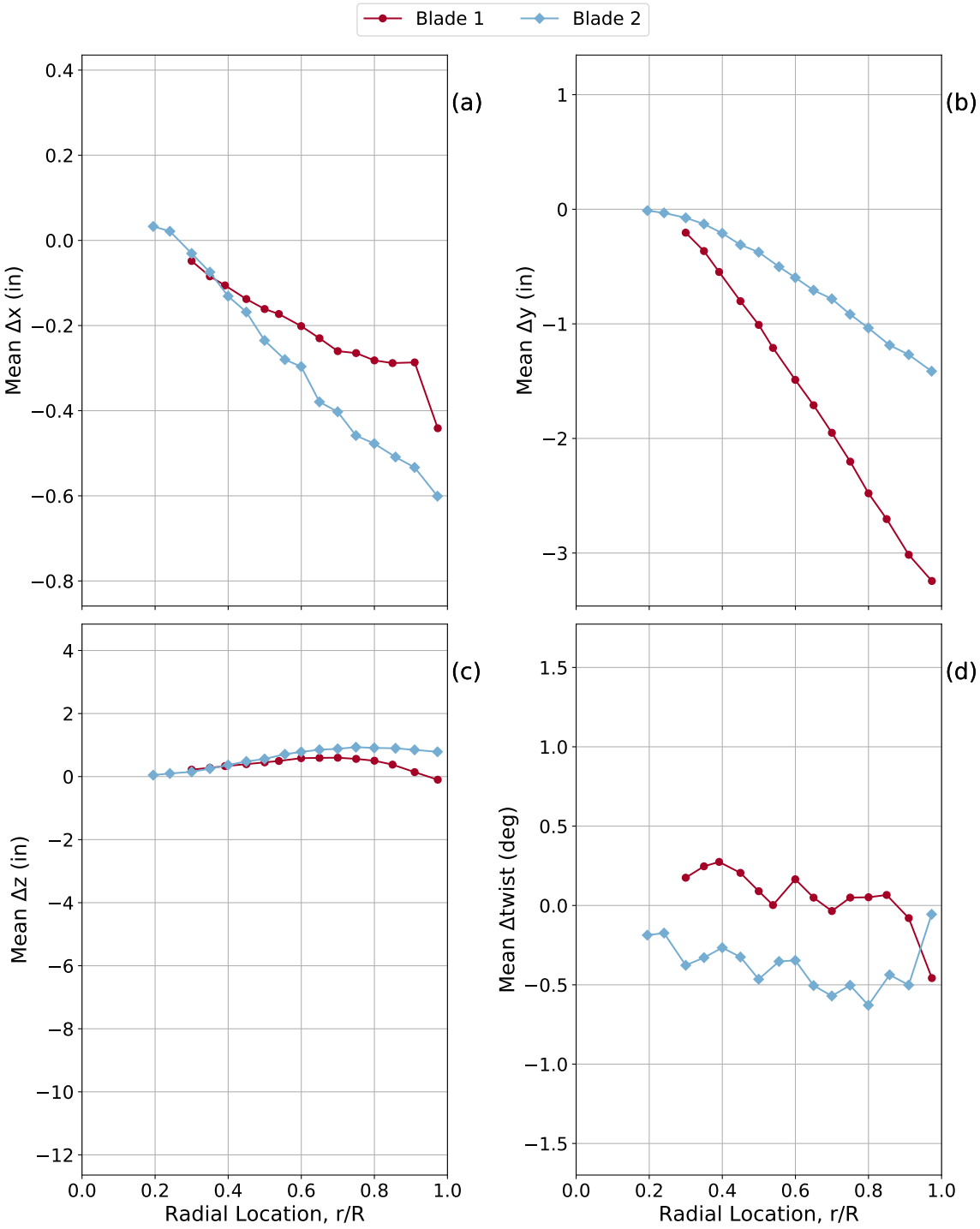


Figure 3.40-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2998	-0.0483	0.0046	-0.2042	0.0087	0.2204	0.0263	0.1749	0.0785
1	0.35	0.3498	-0.0844	0.0037	-0.3647	0.0156	0.2782	0.0411	0.2466	0.1039
1	0.35	0.3913	-0.1057	0.0042	-0.5472	0.0235	0.3322	0.0576	0.2744	0.0970
1	0.35	0.4496	-0.1378	0.0056	-0.8019	0.0334	0.3937	0.0805	0.2054	0.0978
1	0.35	0.4997	-0.1612	0.0065	-1.0088	0.0424	0.4507	0.1019	0.0900	0.0917
1	0.35	0.5387	-0.1729	0.0072	-1.2098	0.0490	0.4953	0.1167	0.0025	0.0966
1	0.35	0.5996	-0.2013	0.0090	-1.4887	0.0586	0.5840	0.1396	0.1652	0.0936
1	0.35	0.6498	-0.2299	0.0109	-1.7101	0.0682	0.5931	0.1585	0.0494	0.0974
1	0.35	0.6998	-0.2601	0.0119	-1.9506	0.0771	0.5985	0.1751	-0.0351	0.0955
1	0.35	0.7500	-0.2647	0.0141	-2.2023	0.0859	0.5615	0.1893	0.0497	0.1033
1	0.35	0.8001	-0.2819	0.0164	-2.4790	0.0951	0.5030	0.2044	0.0517	0.1047
1	0.35	0.8497	-0.2882	0.0178	-2.7036	0.1041	0.3795	0.2205	0.0661	0.1060
1	0.35	0.9102	-0.2866	0.0251	-3.0153	0.1168	0.1414	0.2416	-0.0796	0.1567
1	0.35	0.9734	-0.4412	0.0238	-3.2438	0.1298	-0.0992	0.2565	-0.4576	0.1124
2	0	0.1949	0.0328	0.0027	-0.0119	0.0014	0.0459	0.0037	-0.1871	0.0388
2	0	0.2405	0.0214	0.0008	-0.0317	0.0017	0.0982	0.0076	-0.1741	0.0685
2	0	0.2999	-0.0307	0.0011	-0.0748	0.0045	0.1503	0.0126	-0.3771	0.0856
2	0	0.3498	-0.0745	0.0014	-0.1286	0.0088	0.2508	0.0209	-0.3287	0.0753
2	0	0.3998	-0.1311	0.0013	-0.2095	0.0122	0.3683	0.0322	-0.2662	0.0878
2	0	0.4496	-0.1683	0.0020	-0.3098	0.0161	0.4796	0.0416	-0.3249	0.0869
2	0	0.4995	-0.2351	0.0020	-0.3745	0.0189	0.5585	0.0524	-0.4649	0.0672
2	0	0.5551	-0.2800	0.0022	-0.5014	0.0235	0.7085	0.0635	-0.3529	0.0724
2	0	0.5996	-0.2964	0.0021	-0.5967	0.0255	0.7831	0.0692	-0.3462	0.0729
2	0	0.6497	-0.3794	0.0026	-0.7066	0.0296	0.8520	0.0782	-0.5049	0.0723
2	0	0.6996	-0.4026	0.0025	-0.7818	0.0315	0.8808	0.0813	-0.5703	0.0848
2	0	0.7495	-0.4584	0.0026	-0.9165	0.0352	0.9333	0.0882	-0.5031	0.0587
2	0	0.7996	-0.4773	0.0025	-1.0360	0.0378	0.9097	0.0940	-0.6290	0.0780
2	0	0.8578	-0.5088	0.0040	-1.1861	0.0421	0.8977	0.1068	-0.4370	0.0910
2	0	0.9100	-0.5333	0.0148	-1.2688	0.0506	0.8472	0.1165	-0.5016	0.2058
2	0	0.9727	-0.6008	0.0056	-1.4133	0.0493	0.7864	0.1324	-0.0559	0.1047

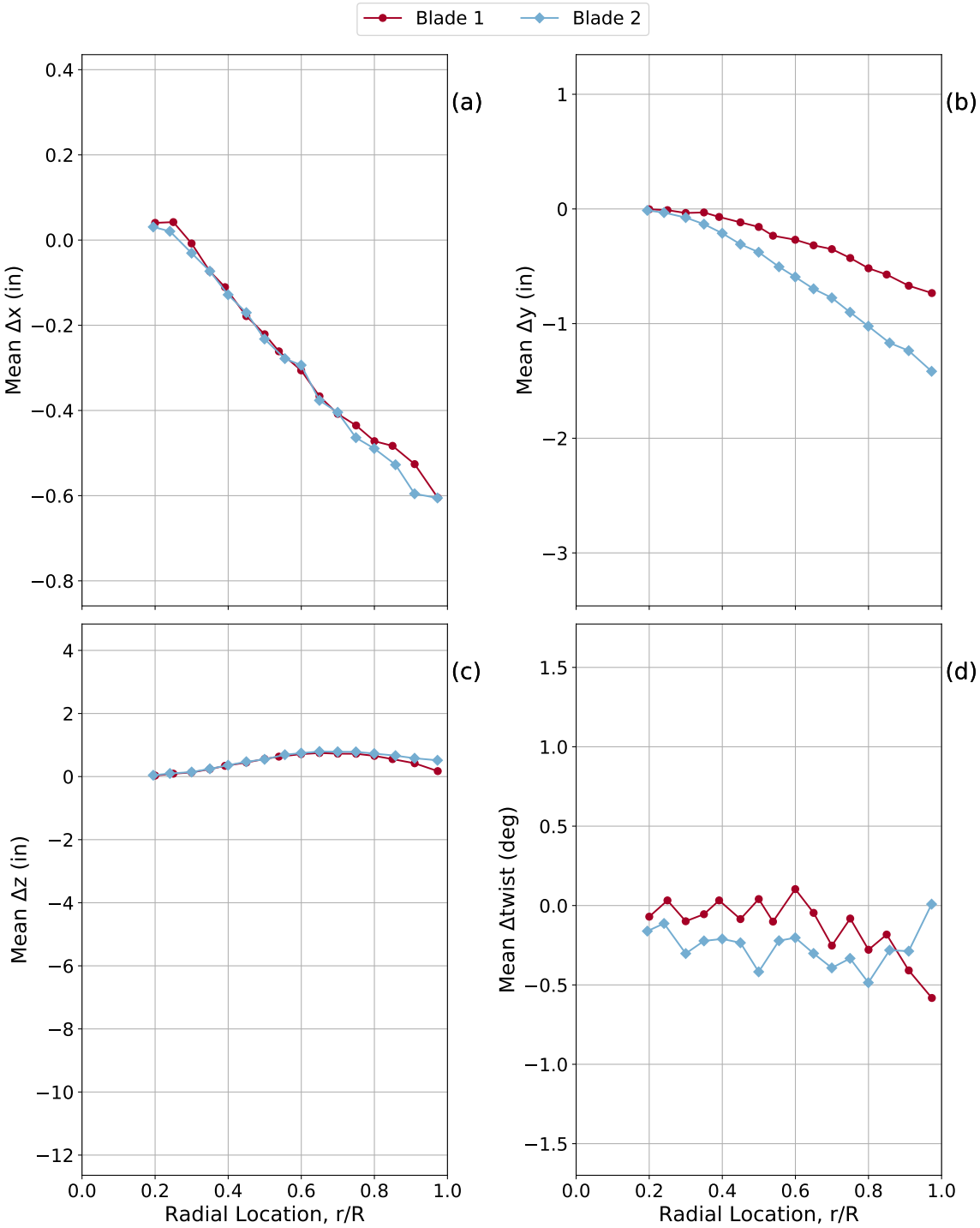


Figure 3.40-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0404	0.0022	-0.0035	0.0015	0.0322	0.0043	-0.0702	0.0392
1	4.92	0.2499	0.0422	0.0024	-0.0105	0.0040	0.0921	0.0101	0.0322	0.0374
1	4.92	0.2998	-0.0079	0.0011	-0.0351	0.0049	0.1316	0.0137	-0.0990	0.0769
1	4.92	0.3498	-0.0734	0.0017	-0.0307	0.0105	0.2349	0.0265	-0.0547	0.0519
1	4.92	0.3913	-0.1105	0.0024	-0.0699	0.0141	0.3406	0.0349	0.0323	0.0561
1	4.92	0.4496	-0.1785	0.0021	-0.1168	0.0181	0.4447	0.0467	-0.0854	0.0492
1	4.92	0.4997	-0.2211	0.0016	-0.1571	0.0217	0.5588	0.0577	0.0407	0.0565
1	4.92	0.5387	-0.2611	0.0021	-0.2337	0.0252	0.6319	0.0675	-0.1013	0.0643
1	4.92	0.5996	-0.3059	0.0020	-0.2689	0.0294	0.7117	0.0846	0.1034	0.0596
1	4.92	0.6498	-0.3668	0.0020	-0.3175	0.0334	0.7475	0.1000	-0.0462	0.0624
1	4.92	0.6998	-0.4080	0.0022	-0.3506	0.0372	0.7259	0.1158	-0.2523	0.0570
1	4.92	0.7500	-0.4352	0.0022	-0.4280	0.0408	0.7229	0.1323	-0.0819	0.0606
1	4.92	0.8001	-0.4721	0.0023	-0.5177	0.0440	0.6567	0.1497	-0.2786	0.0744
1	4.92	0.8497	-0.4831	0.0020	-0.5723	0.0482	0.5538	0.1689	-0.1828	0.0701
1	4.92	0.9102	-0.5260	0.0022	-0.6699	0.0548	0.4217	0.1989	-0.4087	0.0558
1	4.92	0.9734	-0.6048	0.0046	-0.7338	0.0569	0.1736	0.2224	-0.5822	0.0497
2	4.92	0.1949	0.0308	0.0025	-0.0130	0.0014	0.0425	0.0031	-0.1611	0.0235
2	4.92	0.2405	0.0206	0.0013	-0.0321	0.0021	0.0984	0.0043	-0.1129	0.0502
2	4.92	0.2999	-0.0306	0.0009	-0.0753	0.0040	0.1433	0.0076	-0.3025	0.0590
2	4.92	0.3498	-0.0731	0.0012	-0.1328	0.0056	0.2455	0.0138	-0.2228	0.0522
2	4.92	0.3998	-0.1284	0.0013	-0.2122	0.0089	0.3603	0.0185	-0.2104	0.0570
2	4.92	0.4496	-0.1704	0.0015	-0.3081	0.0112	0.4704	0.0283	-0.2346	0.0472
2	4.92	0.4995	-0.2323	0.0015	-0.3775	0.0133	0.5471	0.0347	-0.4176	0.0582
2	4.92	0.5551	-0.2783	0.0020	-0.5047	0.0164	0.6931	0.0462	-0.2216	0.0542
2	4.92	0.5996	-0.2936	0.0025	-0.5934	0.0200	0.7445	0.0554	-0.2028	0.0489
2	4.92	0.6497	-0.3764	0.0019	-0.6970	0.0212	0.7950	0.0642	-0.3017	0.0464
2	4.92	0.6996	-0.4044	0.0027	-0.7753	0.0245	0.7865	0.0742	-0.3929	0.0408
2	4.92	0.7495	-0.4639	0.0024	-0.9008	0.0279	0.7841	0.0841	-0.3329	0.0440
2	4.92	0.7996	-0.4893	0.0023	-1.0230	0.0298	0.7290	0.0946	-0.4858	0.0475
2	4.92	0.8578	-0.5274	0.0029	-1.1686	0.0339	0.6633	0.1016	-0.2812	0.0511
2	4.92	0.9100	-0.5956	0.0051	-1.2363	0.0343	0.5805	0.1178	-0.2875	0.0949
2	4.92	0.9727	-0.6054	0.0047	-1.4162	0.0442	0.5167	0.1262	0.0087	0.0522

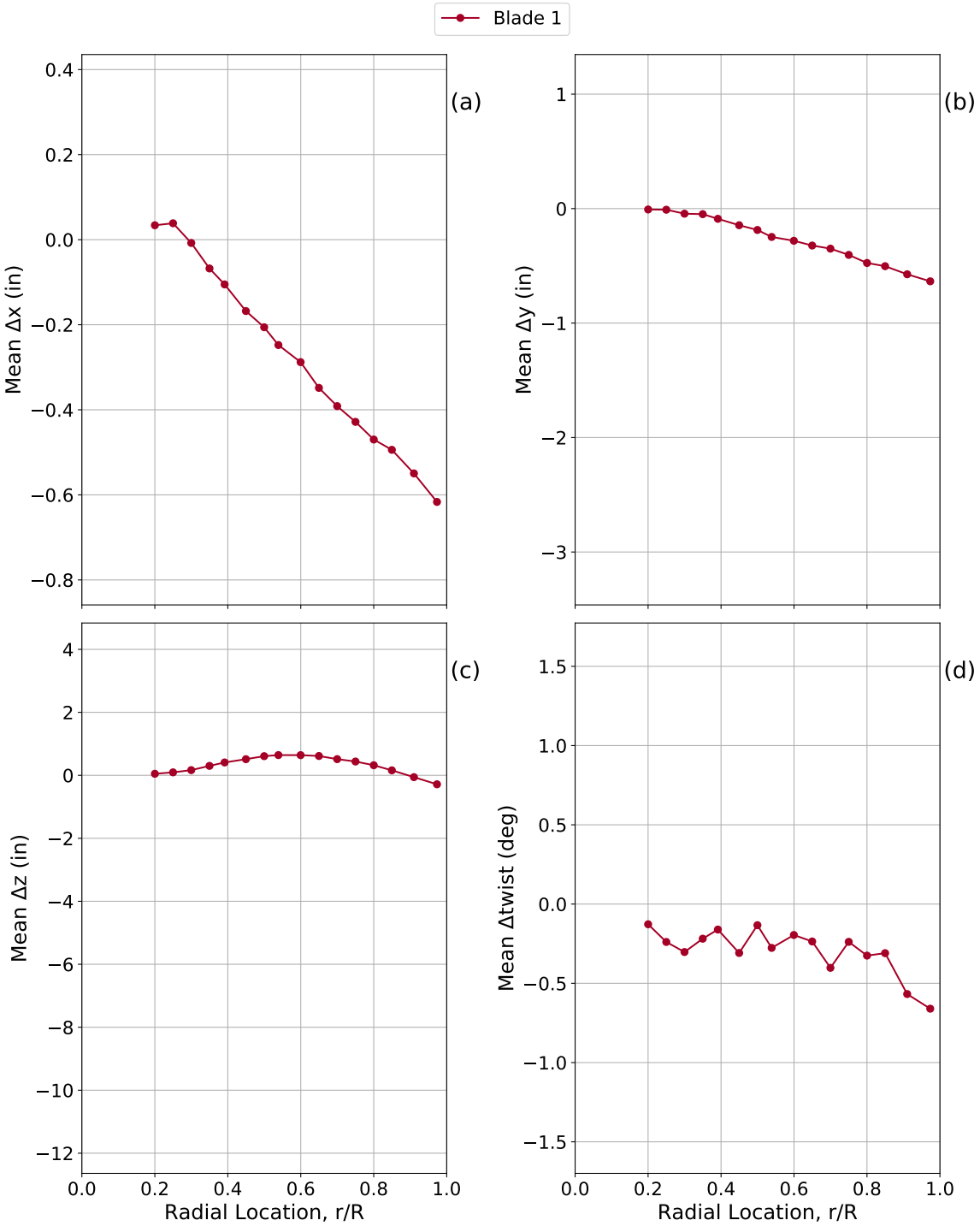


Figure 3.40-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0339	0.0028	-0.0077	0.0016	0.0485	0.0048	-0.1275	0.0262
1	15.12	0.2499	0.0386	0.0017	-0.0098	0.0026	0.0940	0.0079	-0.2391	0.0476
1	15.12	0.2998	-0.0077	0.0014	-0.0444	0.0059	0.1648	0.0147	-0.3027	0.0508
1	15.12	0.3498	-0.0677	0.0016	-0.0486	0.0098	0.2996	0.0243	-0.2185	0.0467
1	15.12	0.3913	-0.1052	0.0017	-0.0892	0.0138	0.4083	0.0336	-0.1608	0.0445
1	15.12	0.4496	-0.1678	0.0020	-0.1453	0.0184	0.5121	0.0452	-0.3087	0.0426
1	15.12	0.4997	-0.2059	0.0018	-0.1868	0.0229	0.6082	0.0559	-0.1333	0.0503
1	15.12	0.5387	-0.2477	0.0018	-0.2477	0.0264	0.6422	0.0649	-0.2766	0.0461
1	15.12	0.5996	-0.2879	0.0019	-0.2810	0.0320	0.6403	0.0761	-0.1952	0.0514
1	15.12	0.6498	-0.3485	0.0019	-0.3227	0.0360	0.6136	0.0850	-0.2360	0.0494
1	15.12	0.6998	-0.3914	0.0022	-0.3498	0.0414	0.5138	0.0946	-0.4023	0.0462
1	15.12	0.7500	-0.4284	0.0027	-0.4044	0.0453	0.4383	0.1016	-0.2384	0.0444
1	15.12	0.8001	-0.4699	0.0023	-0.4751	0.0494	0.3197	0.1076	-0.3252	0.0516
1	15.12	0.8497	-0.4941	0.0022	-0.5032	0.0536	0.1581	0.1155	-0.3098	0.0543
1	15.12	0.9102	-0.5496	0.0024	-0.5738	0.0580	-0.0584	0.1257	-0.5678	0.0597
1	15.12	0.9734	-0.6166	0.0036	-0.6352	0.0628	-0.2849	0.1383	-0.6601	0.0389

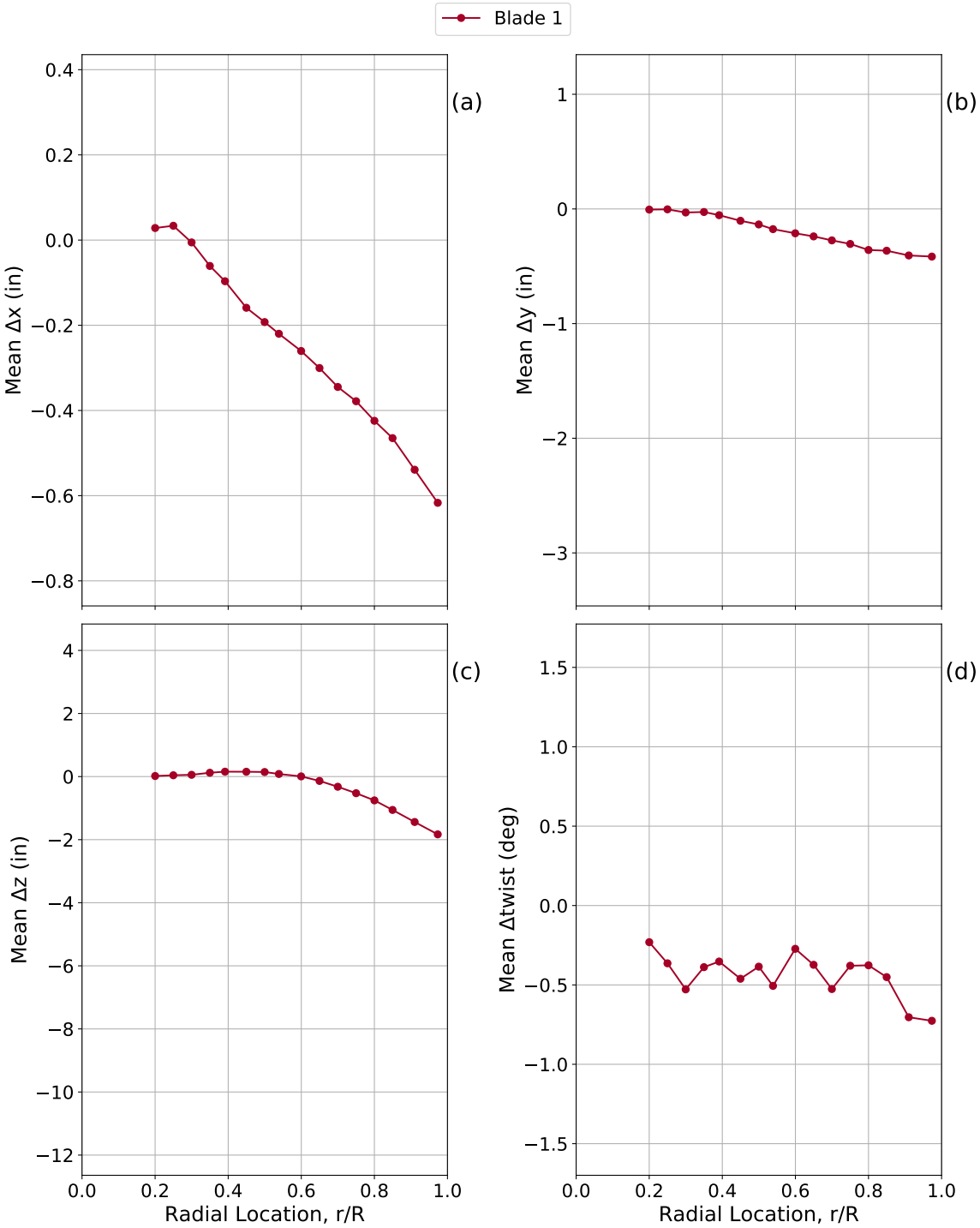


Figure 3.40-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0283	0.0024	-0.0057	0.0011	0.0181	0.0044	-0.2309	0.0246
1	29.88	0.2499	0.0336	0.0020	-0.0035	0.0016	0.0414	0.0060	-0.3639	0.0593
1	29.88	0.2998	-0.0055	0.0014	-0.0310	0.0036	0.0563	0.0138	-0.5282	0.0611
1	29.88	0.3498	-0.0607	0.0012	-0.0267	0.0065	0.1215	0.0225	-0.3881	0.0601
1	29.88	0.3913	-0.0966	0.0012	-0.0544	0.0086	0.1553	0.0308	-0.3527	0.0641
1	29.88	0.4496	-0.1589	0.0012	-0.1032	0.0117	0.1529	0.0433	-0.4612	0.0544
1	29.88	0.4997	-0.1925	0.0018	-0.1353	0.0146	0.1449	0.0552	-0.3850	0.0661
1	29.88	0.5387	-0.2199	0.0019	-0.1762	0.0168	0.0823	0.0653	-0.5061	0.0591
1	29.88	0.5996	-0.2604	0.0020	-0.2124	0.0206	0.0062	0.0820	-0.2727	0.0531
1	29.88	0.6498	-0.3004	0.0019	-0.2395	0.0226	-0.1375	0.0944	-0.3733	0.0584
1	29.88	0.6998	-0.3448	0.0020	-0.2742	0.0252	-0.3225	0.1092	-0.5260	0.0603
1	29.88	0.7500	-0.3783	0.0021	-0.3053	0.0282	-0.5272	0.1204	-0.3792	0.0588
1	29.88	0.8001	-0.4243	0.0019	-0.3580	0.0308	-0.7548	0.1318	-0.3765	0.0536
1	29.88	0.8497	-0.4649	0.0018	-0.3643	0.0335	-1.0576	0.1413	-0.4509	0.0584
1	29.88	0.9102	-0.5391	0.0021	-0.4057	0.0376	-1.4396	0.1555	-0.7036	0.0642
1	29.88	0.9734	-0.6168	0.0027	-0.4156	0.0412	-1.8322	0.1714	-0.7260	0.0587

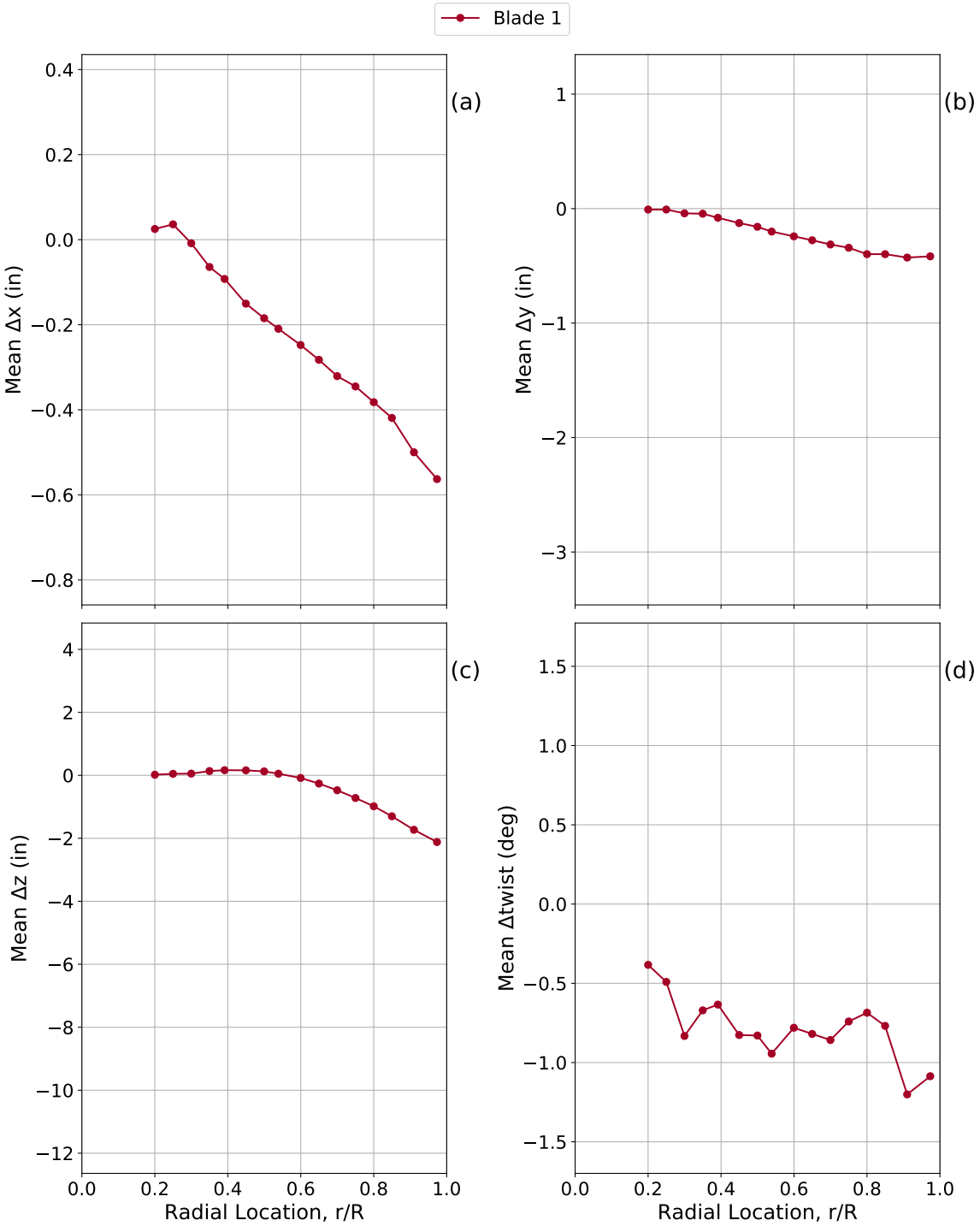


Figure 3.40-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0252	0.0022	-0.0083	0.0007	0.0188	0.0029	-0.3834	0.0218
1	45	0.2499	0.0361	0.0014	-0.0082	0.0015	0.0474	0.0046	-0.4910	0.0604
1	45	0.2998	-0.0084	0.0017	-0.0414	0.0025	0.0537	0.0098	-0.8323	0.0599
1	45	0.3498	-0.0642	0.0016	-0.0447	0.0041	0.1349	0.0165	-0.6706	0.0670
1	45	0.3913	-0.0923	0.0019	-0.0800	0.0060	0.1635	0.0229	-0.6341	0.0672
1	45	0.4496	-0.1504	0.0016	-0.1264	0.0081	0.1584	0.0312	-0.8262	0.0586
1	45	0.4997	-0.1847	0.0020	-0.1590	0.0101	0.1242	0.0380	-0.8294	0.0652
1	45	0.5387	-0.2095	0.0024	-0.2008	0.0119	0.0504	0.0435	-0.9440	0.0628
1	45	0.5996	-0.2477	0.0018	-0.2423	0.0131	-0.0839	0.0541	-0.7803	0.0596
1	45	0.6498	-0.2825	0.0028	-0.2766	0.0157	-0.2618	0.0615	-0.8193	0.0679
1	45	0.6998	-0.3208	0.0023	-0.3135	0.0188	-0.4745	0.0707	-0.8578	0.0679
1	45	0.7500	-0.3451	0.0023	-0.3421	0.0203	-0.7207	0.0800	-0.7408	0.0722
1	45	0.8001	-0.3821	0.0026	-0.3980	0.0223	-0.9838	0.0890	-0.6856	0.0690
1	45	0.8497	-0.4190	0.0020	-0.3979	0.0245	-1.3006	0.0978	-0.7687	0.0624
1	45	0.9102	-0.4999	0.0023	-0.4278	0.0270	-1.7302	0.1090	-1.2009	0.0684
1	45	0.9734	-0.5629	0.0018	-0.4170	0.0296	-2.1188	0.1219	-1.0861	0.0647

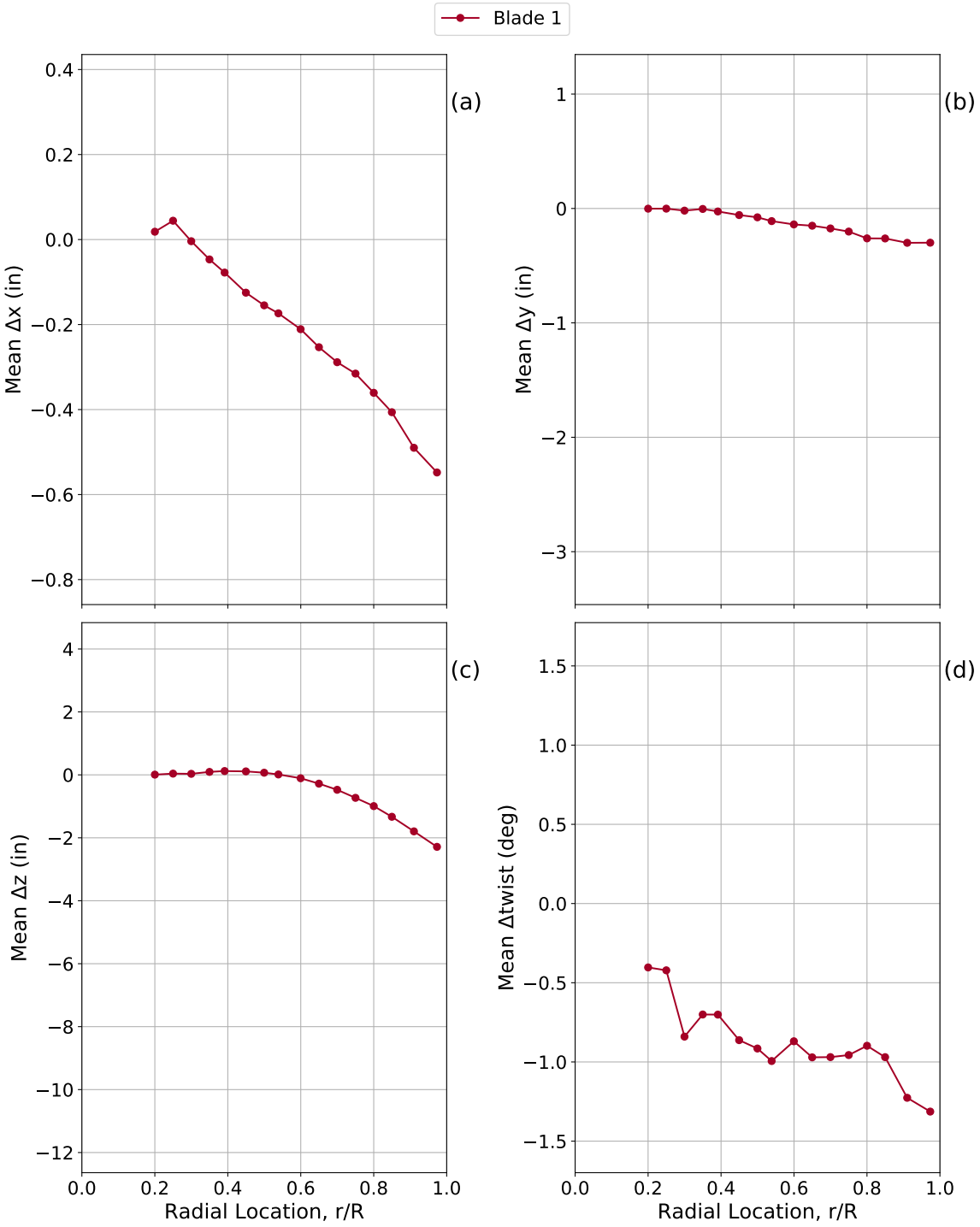


Figure 3.40-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0184	0.0021	-0.0017	0.0015	0.0075	0.0055	-0.4034	0.0295
1	60.12	0.2499	0.0443	0.0009	-0.0015	0.0021	0.0396	0.0060	-0.4216	0.0753
1	60.12	0.2998	-0.0039	0.0011	-0.0188	0.0050	0.0330	0.0170	-0.8401	0.0761
1	60.12	0.3498	-0.0468	0.0014	-0.0042	0.0083	0.0940	0.0283	-0.7005	0.0669
1	60.12	0.3913	-0.0777	0.0016	-0.0262	0.0115	0.1213	0.0377	-0.7011	0.0706
1	60.12	0.4496	-0.1250	0.0019	-0.0575	0.0157	0.1103	0.0530	-0.8624	0.0731
1	60.12	0.4997	-0.1548	0.0024	-0.0773	0.0193	0.0688	0.0653	-0.9152	0.0671
1	60.12	0.5387	-0.1736	0.0023	-0.1104	0.0227	0.0131	0.0745	-0.9942	0.0768
1	60.12	0.5996	-0.2109	0.0025	-0.1395	0.0263	-0.1071	0.0884	-0.8695	0.0812
1	60.12	0.6498	-0.2533	0.0023	-0.1508	0.0306	-0.2791	0.0988	-0.9709	0.0755
1	60.12	0.6998	-0.2886	0.0019	-0.1745	0.0335	-0.4742	0.1082	-0.9695	0.0806
1	60.12	0.7500	-0.3154	0.0026	-0.2019	0.0376	-0.7299	0.1179	-0.9565	0.0786
1	60.12	0.8001	-0.3606	0.0020	-0.2613	0.0403	-0.9929	0.1251	-0.8979	0.0725
1	60.12	0.8497	-0.4062	0.0021	-0.2621	0.0440	-1.3317	0.1325	-0.9698	0.0793
1	60.12	0.9102	-0.4899	0.0018	-0.3002	0.0476	-1.7953	0.1388	-1.2263	0.0747
1	60.12	0.9734	-0.5480	0.0032	-0.2991	0.0529	-2.2872	0.1471	-1.3134	0.0750

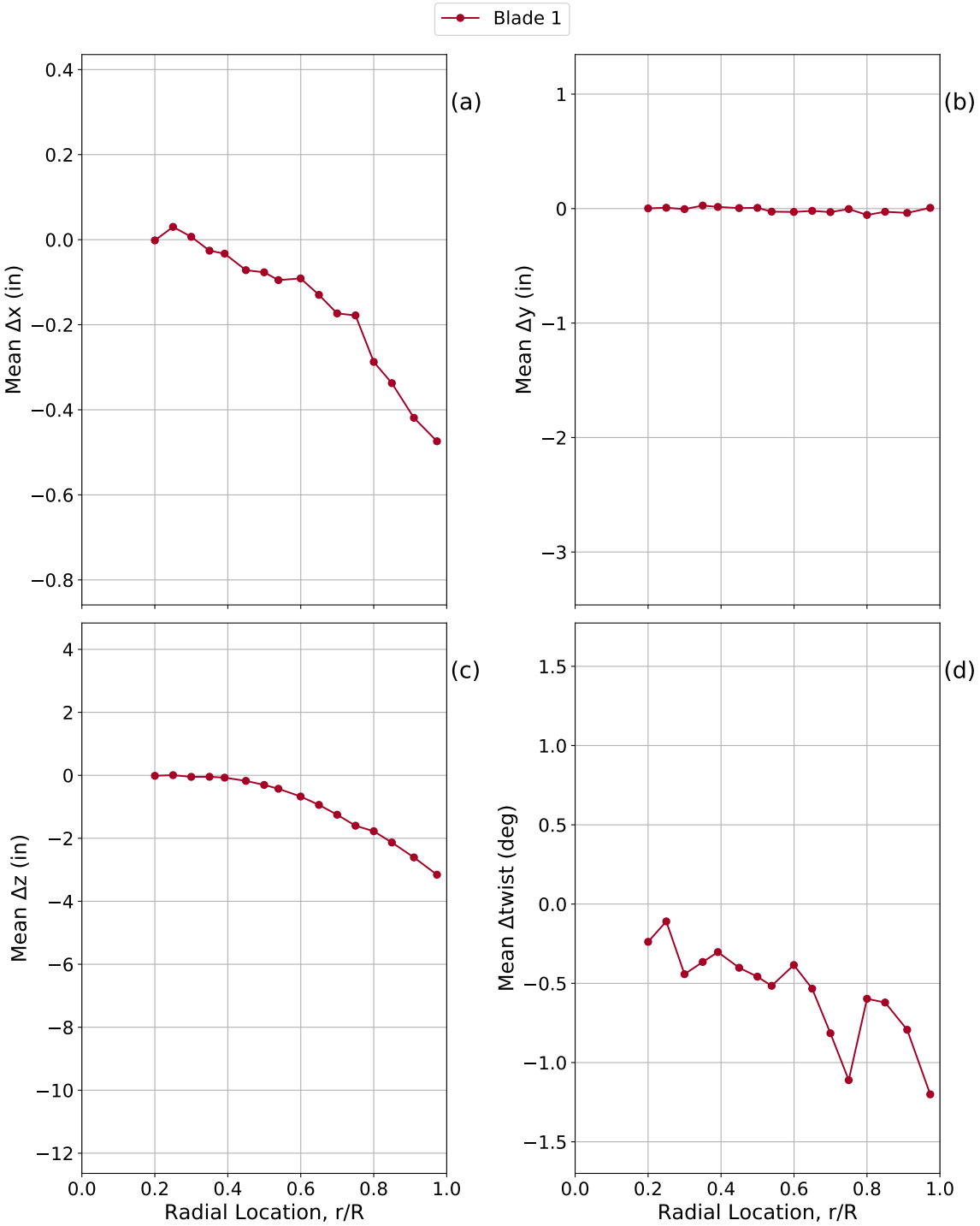


Figure 3.40-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0017	0.0028	0.0020	0.0024	-0.0152	0.0043	-0.2383	0.0319
1	74.88	0.2499	0.0301	0.0010	0.0075	0.0028	0.0050	0.0069	-0.1094	0.0677
1	74.88	0.2998	0.0068	0.0021	-0.0045	0.0083	-0.0490	0.0136	-0.4424	0.0767
1	74.88	0.3498	-0.0258	0.0024	0.0265	0.0136	-0.0466	0.0241	-0.3654	0.0647
1	74.88	0.3913	-0.0329	0.0028	0.0145	0.0189	-0.0741	0.0324	-0.3029	0.0761
1	74.88	0.4496	-0.0717	0.0042	0.0047	0.0274	-0.1765	0.0456	-0.4018	0.0634
1	74.88	0.4997	-0.0767	0.0058	0.0065	0.0347	-0.3055	0.0557	-0.4582	0.0633
1	74.88	0.5387	-0.0950	0.0067	-0.0267	0.0397	-0.4267	0.0637	-0.5158	0.0771
1	74.88	0.5996	-0.0911	0.0078	-0.0294	0.0481	-0.6734	0.0774	-0.3847	0.0651
1	74.88	0.6498	-0.1297	0.0097	-0.0199	0.0562	-0.9391	0.0849	-0.5340	0.0869
1	74.88	0.6998	-0.1734	0.0178	-0.0308	0.0631	-1.2518	0.0936	-0.8152	0.1434
1	74.88	0.7500	-0.1780	0.0078	-0.0038	0.0702	-1.6007	0.1116	-1.1109	0.2833
1	74.88	0.8001	-0.2874	0.0055	-0.0556	0.0751	-1.7751	0.1246	-0.5976	0.0763
1	74.88	0.8497	-0.3373	0.0054	-0.0277	0.0811	-2.1331	0.1357	-0.6211	0.0711
1	74.88	0.9102	-0.4189	0.0049	-0.0377	0.0892	-2.6075	0.1476	-0.7932	0.0714
1	74.88	0.9734	-0.4740	0.0038	0.0066	0.0980	-3.1569	0.1627	-1.2007	0.0635

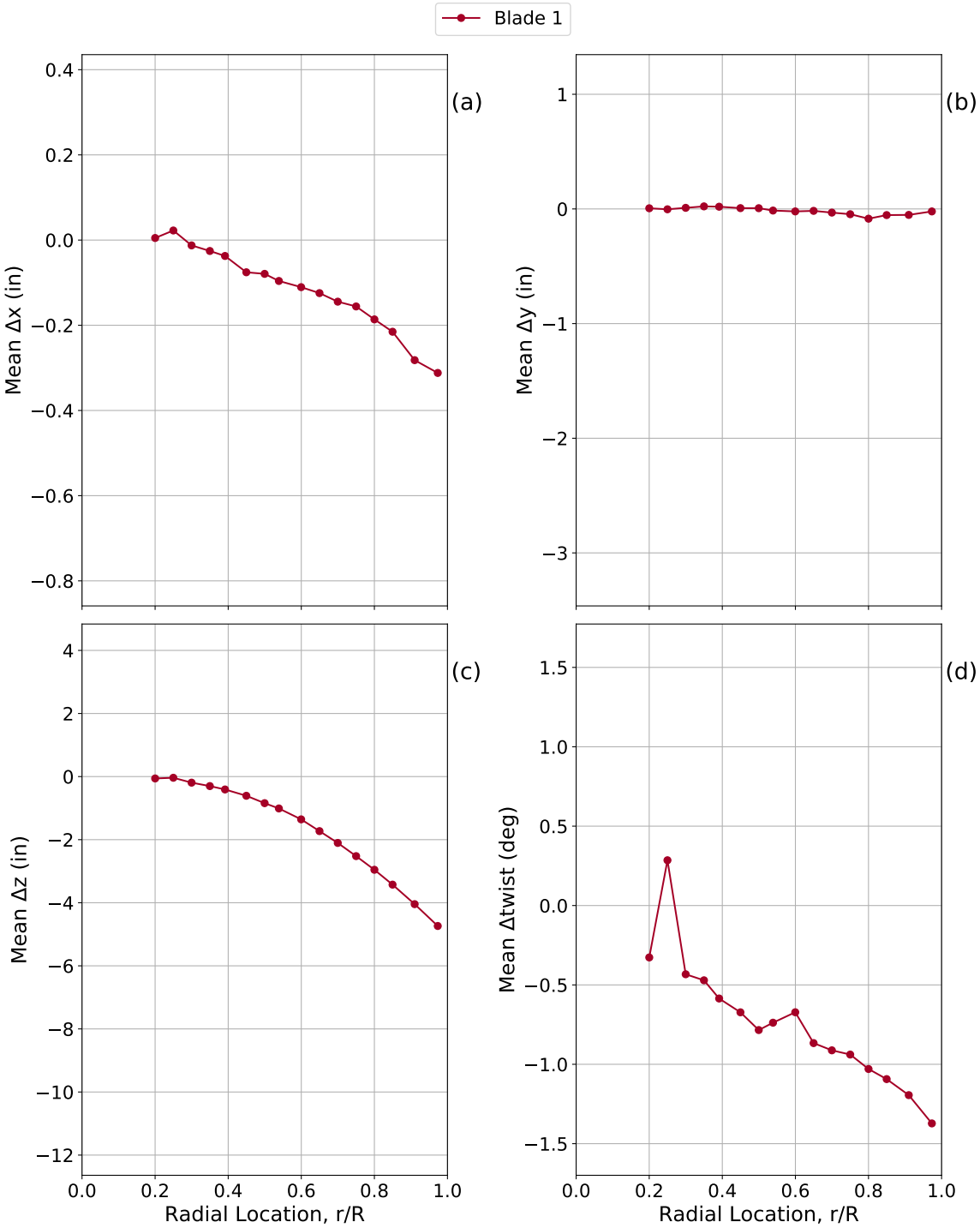


Figure 3.40-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0049	0.0091	0.0058	0.0029	-0.0596	0.0100	-0.3270	0.0946
1	80.16	0.2499	0.0225	0.0026	-0.0031	0.0033	-0.0375	0.0114	0.2852	0.2078
1	80.16	0.2998	-0.0125	0.0028	0.0096	0.0105	-0.1924	0.0339	-0.4329	0.2387
1	80.16	0.3498	-0.0256	0.0042	0.0223	0.0175	-0.3014	0.0577	-0.4709	0.2369
1	80.16	0.3913	-0.0373	0.0055	0.0194	0.0241	-0.4088	0.0781	-0.5856	0.2367
1	80.16	0.4496	-0.0756	0.0066	0.0070	0.0328	-0.6084	0.1061	-0.6726	0.2326
1	80.16	0.4997	-0.0793	0.0066	0.0065	0.0408	-0.8430	0.1296	-0.7843	0.2295
1	80.16	0.5387	-0.0960	0.0066	-0.0140	0.0471	-1.0106	0.1474	-0.7380	0.2327
1	80.16	0.5996	-0.1105	0.0064	-0.0216	0.0572	-1.3562	0.1752	-0.6722	0.2416
1	80.16	0.6498	-0.1245	0.0062	-0.0168	0.0658	-1.7289	0.1983	-0.8665	0.2392
1	80.16	0.6998	-0.1446	0.0062	-0.0320	0.0747	-2.1037	0.2222	-0.9120	0.2402
1	80.16	0.7500	-0.1558	0.0065	-0.0460	0.0831	-2.5216	0.2448	-0.9386	0.2418
1	80.16	0.8001	-0.1862	0.0078	-0.0850	0.0915	-2.9549	0.2698	-1.0295	0.2327
1	80.16	0.8497	-0.2152	0.0105	-0.0536	0.0994	-3.4257	0.2916	-1.0933	0.2416
1	80.16	0.9102	-0.2819	0.0144	-0.0521	0.1099	-4.0446	0.3195	-1.1942	0.2465
1	80.16	0.9734	-0.3119	0.0216	-0.0217	0.1208	-4.7367	0.3511	-1.3724	0.2386

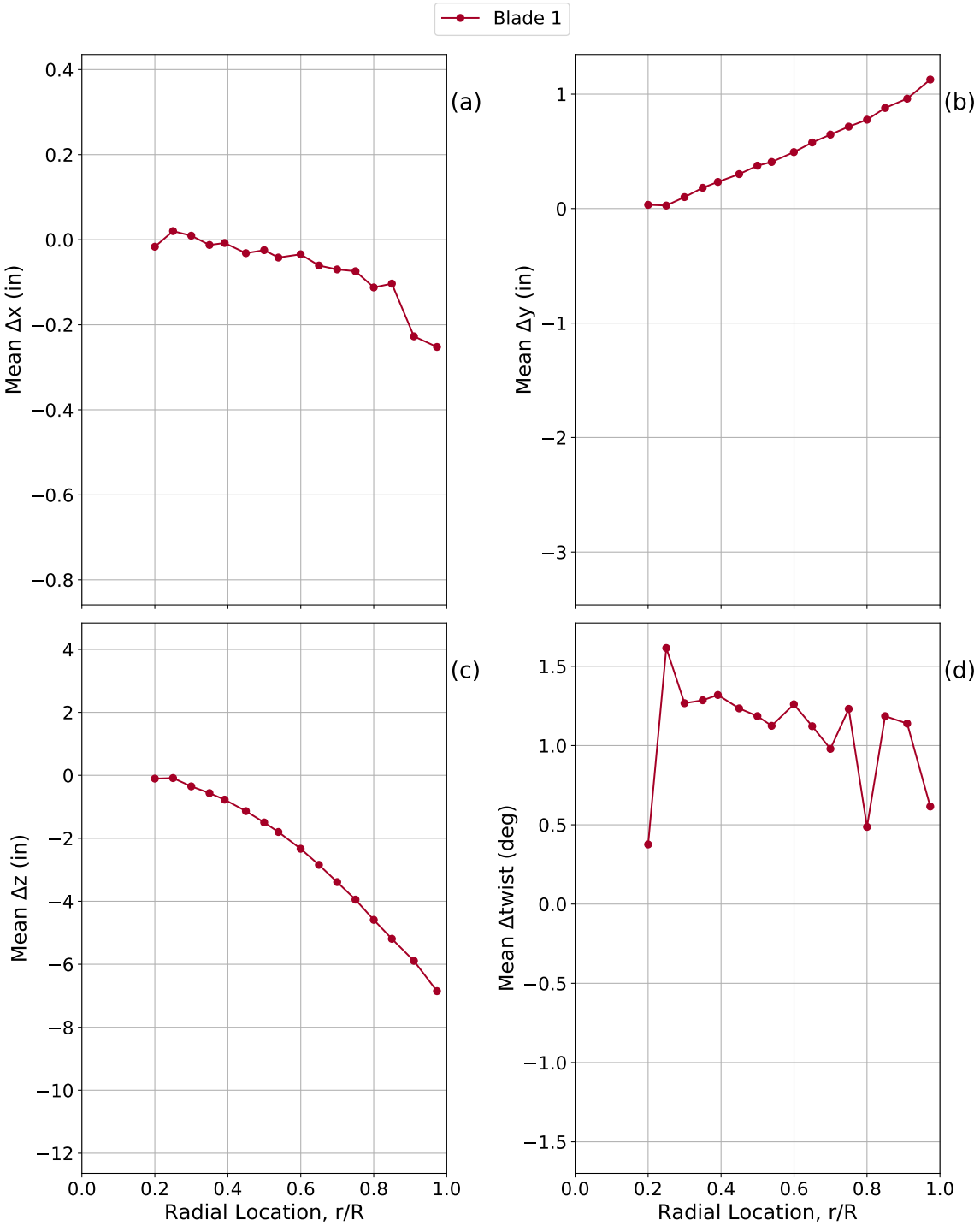


Figure 3.40-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0165	0.0024	0.0325	0.0021	-0.1042	0.0044	0.3761	0.0330
1	85.08	0.2499	0.0202	0.0011	0.0267	0.0029	-0.0870	0.0045	1.6154	0.0878
1	85.08	0.2998	0.0094	0.0014	0.1001	0.0073	-0.3501	0.0153	1.2672	0.0848
1	85.08	0.3498	-0.0124	0.0017	0.1817	0.0125	-0.5646	0.0238	1.2859	0.0894
1	85.08	0.3913	-0.0077	0.0017	0.2330	0.0171	-0.7718	0.0334	1.3191	0.0815
1	85.08	0.4496	-0.0317	0.0023	0.3014	0.0232	-1.1375	0.0439	1.2346	0.0865
1	85.08	0.4997	-0.0246	0.0028	0.3752	0.0290	-1.4973	0.0540	1.1859	0.0884
1	85.08	0.5387	-0.0420	0.0028	0.4074	0.0335	-1.8001	0.0627	1.1245	0.0844
1	85.08	0.5996	-0.0343	0.0039	0.4936	0.0407	-2.3320	0.0761	1.2605	0.0913
1	85.08	0.6498	-0.0608	0.0050	0.5774	0.0473	-2.8433	0.0856	1.1221	0.1006
1	85.08	0.6998	-0.0700	0.0068	0.6464	0.0548	-3.3909	0.0979	0.9792	0.1042
1	85.08	0.7500	-0.0742	0.0066	0.7157	0.0617	-3.9472	0.1077	1.2315	0.1088
1	85.08	0.8001	-0.1123	0.0042	0.7765	0.0682	-4.5906	0.1340	0.4867	0.2840
1	85.08	0.8497	-0.1034	0.0067	0.8791	0.0751	-5.1912	0.1264	1.1858	0.1548
1	85.08	0.9102	-0.2272	0.0044	0.9603	0.0853	-5.8920	0.1350	1.1391	0.0869
1	85.08	0.9734	-0.2522	0.0091	1.1272	0.0936	-6.8534	0.1532	0.6154	0.0977

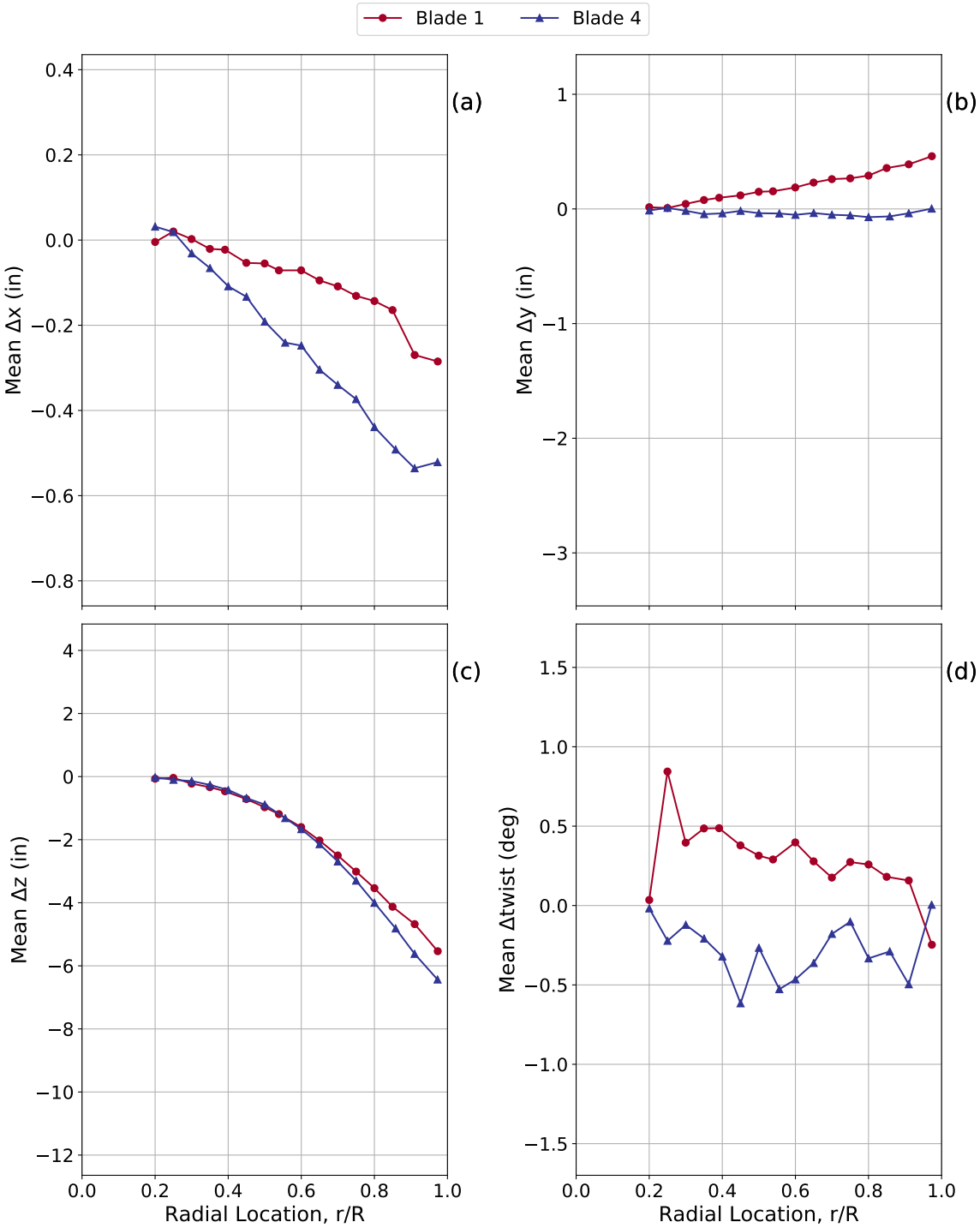


Figure 3.40-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0045	0.0018	0.0151	0.0019	-0.0672	0.0054	0.0351	0.0415
1	90	0.2499	0.0201	0.0017	0.0080	0.0026	-0.0409	0.0064	0.8439	0.0953
1	90	0.2998	0.0024	0.0016	0.0435	0.0059	-0.2239	0.0165	0.3960	0.1019
1	90	0.3498	-0.0207	0.0014	0.0778	0.0103	-0.3364	0.0290	0.4857	0.0929
1	90	0.3913	-0.0226	0.0015	0.0974	0.0138	-0.4670	0.0381	0.4871	0.0863
1	90	0.4496	-0.0535	0.0023	0.1182	0.0190	-0.7135	0.0524	0.3789	0.0911
1	90	0.4997	-0.0550	0.0023	0.1496	0.0239	-0.9715	0.0651	0.3141	0.0933
1	90	0.5387	-0.0711	0.0026	0.1539	0.0285	-1.1897	0.0764	0.2901	0.0860
1	90	0.5996	-0.0710	0.0023	0.1872	0.0352	-1.6015	0.0932	0.3975	0.0850
1	90	0.6498	-0.0947	0.0019	0.2300	0.0413	-2.0267	0.1069	0.2784	0.0812
1	90	0.6998	-0.1088	0.0023	0.2599	0.0471	-2.5008	0.1211	0.1760	0.0832
1	90	0.7500	-0.1310	0.0042	0.2668	0.0514	-3.0125	0.1337	0.2739	0.1069
1	90	0.8001	-0.1431	0.0033	0.2908	0.0589	-3.5377	0.1495	0.2584	0.1050
1	90	0.8497	-0.1644	0.0044	0.3567	0.0648	-4.1271	0.1637	0.1809	0.0918
1	90	0.9102	-0.2697	0.0043	0.3890	0.0799	-4.6771	0.1442	0.1576	0.0960
1	90	0.9734	-0.2850	0.0042	0.4598	0.0859	-5.5367	0.1637	-0.2470	0.1010
4	90.35	0.2001	0.0316	0.0041	-0.0133	0.0016	-0.0246	0.0054	-0.0182	0.0504
4	90.35	0.2502	0.0187	0.0036	0.0091	0.0028	-0.1021	0.0075	-0.2222	0.0886
4	90.35	0.3001	-0.0312	0.0029	-0.0162	0.0052	-0.1418	0.0169	-0.1217	0.1116
4	90.35	0.3502	-0.0658	0.0032	-0.0456	0.0093	-0.2640	0.0286	-0.2083	0.0871
4	90.35	0.4002	-0.1085	0.0031	-0.0385	0.0137	-0.4255	0.0415	-0.3211	0.0984
4	90.35	0.4500	-0.1332	0.0028	-0.0166	0.0164	-0.6827	0.0519	-0.6160	0.1051
4	90.35	0.5001	-0.1915	0.0029	-0.0372	0.0199	-0.8872	0.0661	-0.2663	0.0921
4	90.35	0.5560	-0.2408	0.0029	-0.0399	0.0244	-1.3168	0.0797	-0.5270	0.0958
4	90.35	0.6001	-0.2478	0.0030	-0.0515	0.0276	-1.6673	0.0916	-0.4654	0.0866
4	90.35	0.6501	-0.3043	0.0030	-0.0357	0.0316	-2.1439	0.1077	-0.3622	0.0920
4	90.35	0.6999	-0.3399	0.0031	-0.0510	0.0354	-2.6933	0.1239	-0.1788	0.0953
4	90.35	0.7500	-0.3735	0.0037	-0.0563	0.0394	-3.2994	0.1430	-0.1021	0.0967
4	90.35	0.8002	-0.4391	0.0045	-0.0716	0.0430	-4.0031	0.1623	-0.3330	0.0918
4	90.35	0.8582	-0.4917	0.0053	-0.0651	0.0474	-4.8151	0.1861	-0.2891	0.0989
4	90.35	0.9101	-0.5357	0.0056	-0.0379	0.0511	-5.6208	0.2072	-0.4960	0.0907
4	90.35	0.9728	-0.5214	0.0054	0.0028	0.0561	-6.4344	0.2336	0.0049	0.0897

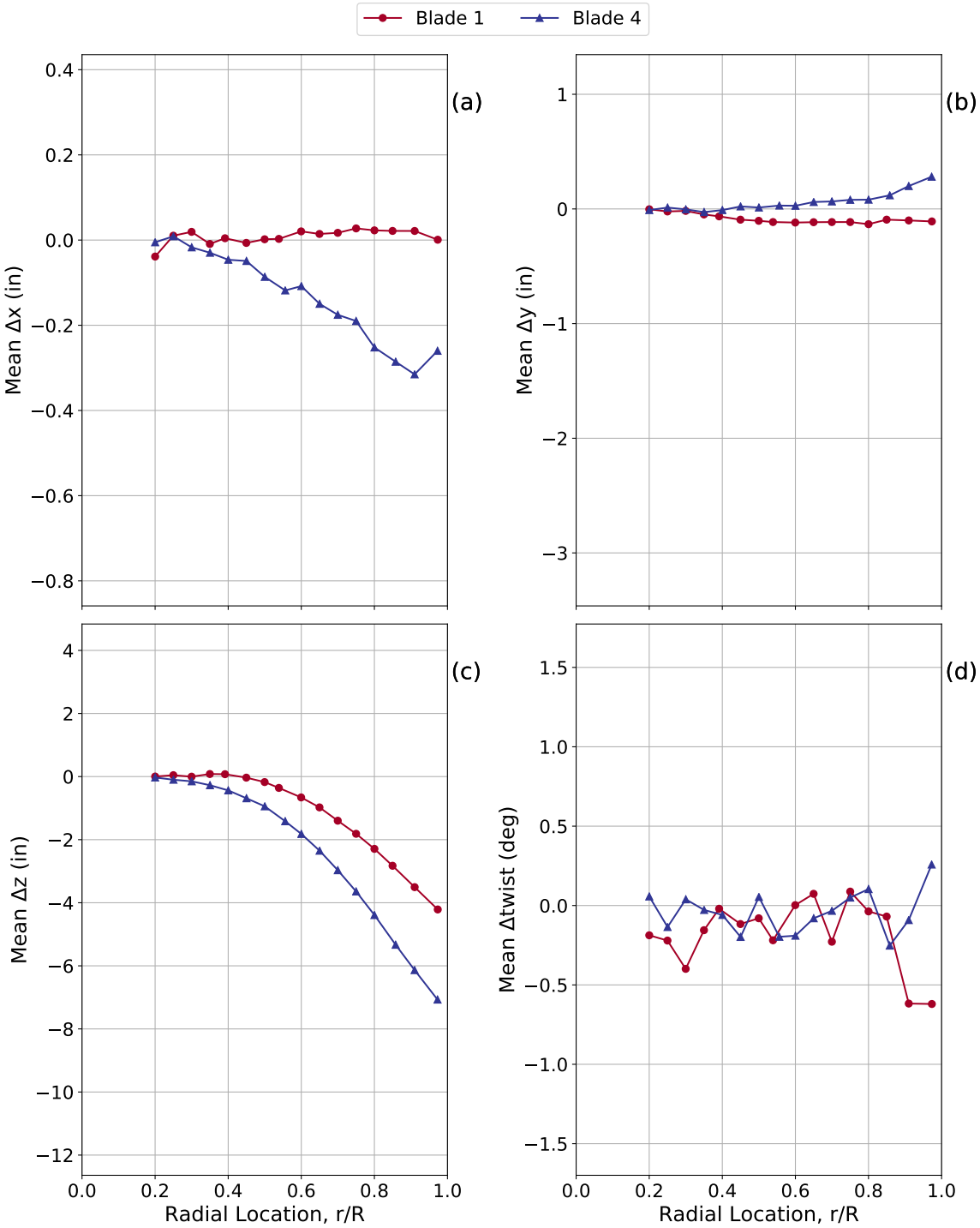


Figure 3.40-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0387	0.0009	-0.0029	0.0004	0.0012	0.0018	-0.1874	0.0122
1	94.92	0.2499	0.0103	0.0007	-0.0221	0.0012	0.0440	0.0036	-0.2206	0.0185
1	94.92	0.2998	0.0193	0.0008	-0.0170	0.0019	-0.0031	0.0077	-0.3988	0.0249
1	94.92	0.3498	-0.0091	0.0006	-0.0481	0.0032	0.0811	0.0121	-0.1553	0.0188
1	94.92	0.3913	0.0043	0.0010	-0.0648	0.0048	0.0753	0.0182	-0.0202	0.0276
1	94.92	0.4496	-0.0067	0.0010	-0.0937	0.0051	-0.0340	0.0247	-0.1165	0.0233
1	94.92	0.4997	0.0019	0.0007	-0.1035	0.0063	-0.1742	0.0326	-0.0802	0.0181
1	94.92	0.5387	0.0028	0.0019	-0.1143	0.0073	-0.3594	0.0392	-0.2188	0.0356
1	94.92	0.5996	0.0204	0.0010	-0.1188	0.0084	-0.6608	0.0488	0.0026	0.0277
1	94.92	0.6498	0.0144	0.0016	-0.1156	0.0096	-0.9768	0.0606	0.0738	0.0357
1	94.92	0.6998	0.0170	0.0016	-0.1145	0.0110	-1.3989	0.0704	-0.2280	0.0278
1	94.92	0.7500	0.0274	0.0023	-0.1144	0.0126	-1.8141	0.0810	0.0878	0.0364
1	94.92	0.8001	0.0228	0.0033	-0.1330	0.0141	-2.2913	0.0923	-0.0369	0.0706
1	94.92	0.8497	0.0215	0.0022	-0.0934	0.0157	-2.8276	0.1010	-0.0694	0.0556
1	94.92	0.9102	0.0214	0.0216	-0.1004	0.0217	-3.5053	0.1148	-0.6174	0.1962
1	94.92	0.9734	0.0008	0.0039	-0.1090	0.0200	-4.2131	0.1344	-0.6201	0.0818
4	94.92	0.2001	-0.0052	0.0038	-0.0099	0.0017	-0.0288	0.0052	0.0571	0.0349
4	94.92	0.2502	0.0089	0.0022	0.0118	0.0026	-0.1000	0.0046	-0.1354	0.0857
4	94.92	0.3001	-0.0171	0.0019	-0.0038	0.0048	-0.1505	0.0148	0.0391	0.0838
4	94.92	0.3502	-0.0298	0.0030	-0.0276	0.0083	-0.2746	0.0250	-0.0279	0.0676
4	94.92	0.4002	-0.0462	0.0042	-0.0101	0.0119	-0.4385	0.0347	-0.0593	0.0796
4	94.92	0.4500	-0.0491	0.0045	0.0218	0.0160	-0.6879	0.0456	-0.1979	0.0762
4	94.92	0.5001	-0.0864	0.0052	0.0125	0.0219	-0.9434	0.0601	0.0541	0.0755
4	94.92	0.5560	-0.1182	0.0058	0.0293	0.0290	-1.4163	0.0781	-0.1969	0.0730
4	94.92	0.6001	-0.1081	0.0056	0.0275	0.0348	-1.8190	0.0944	-0.1900	0.0760
4	94.92	0.6501	-0.1497	0.0062	0.0606	0.0423	-2.3503	0.1118	-0.0803	0.0799
4	94.92	0.6999	-0.1755	0.0075	0.0652	0.0499	-2.9692	0.1313	-0.0334	0.0805
4	94.92	0.7500	-0.1900	0.0091	0.0794	0.0596	-3.6423	0.1542	0.0500	0.0699
4	94.92	0.8002	-0.2521	0.0113	0.0807	0.0684	-4.3907	0.1754	0.1036	0.0773
4	94.92	0.8582	-0.2856	0.0149	0.1188	0.0790	-5.3322	0.1993	-0.2524	0.0890
4	94.92	0.9101	-0.3152	0.0213	0.1995	0.0877	-6.1360	0.2236	-0.0916	0.0978
4	94.92	0.9728	-0.2600	0.0217	0.2809	0.0998	-7.0704	0.2595	0.2582	0.1149

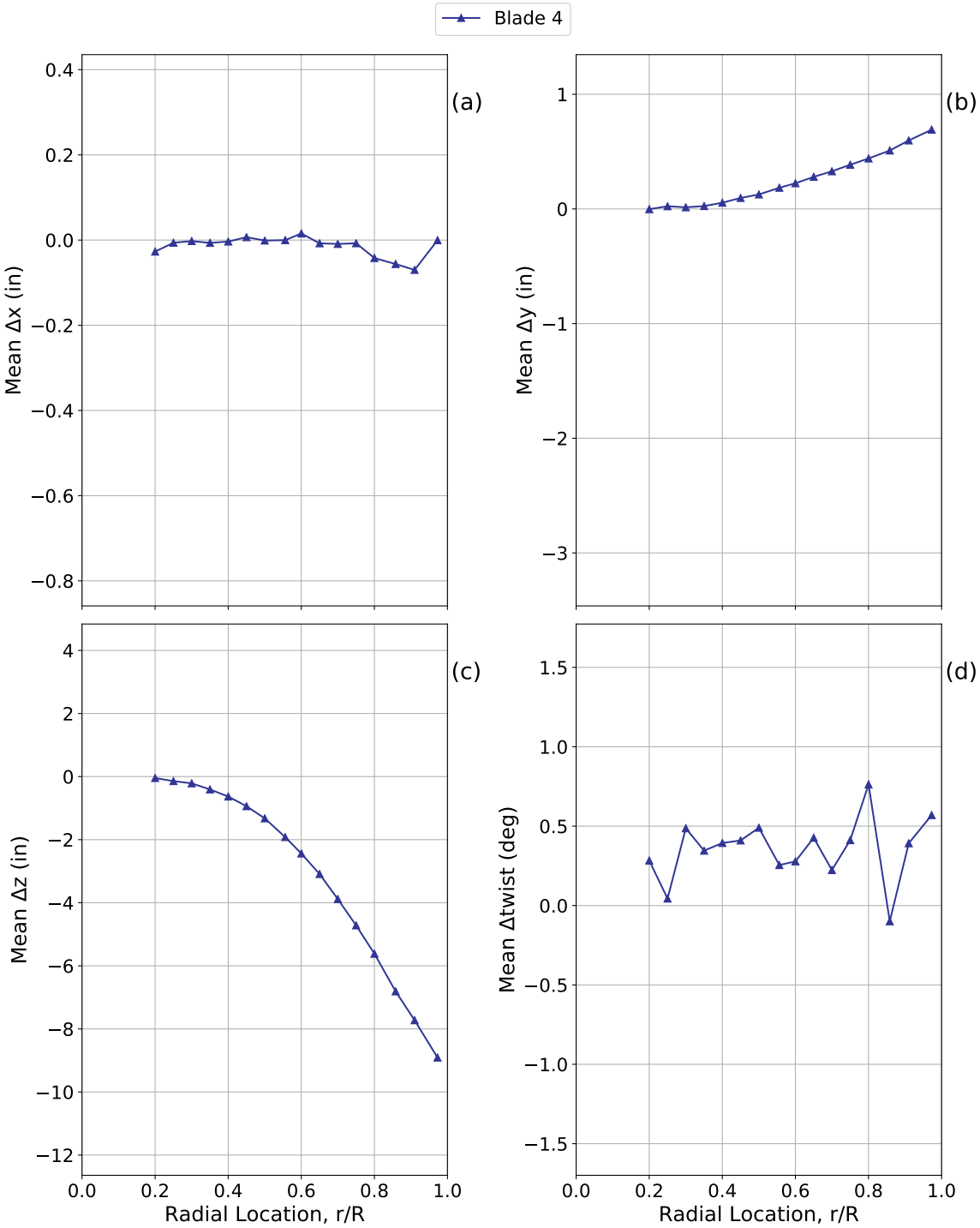


Figure 3.40-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0271	0.0008	-0.0025	0.0004	-0.0456	0.0013	0.2833	0.0164
4	105.12	0.2502	-0.0063	0.0008	0.0235	0.0010	-0.1438	0.0028	0.0437	0.0322
4	105.12	0.3001	-0.0024	0.0006	0.0142	0.0014	-0.2144	0.0049	0.4867	0.0397
4	105.12	0.3502	-0.0066	0.0007	0.0250	0.0030	-0.4087	0.0089	0.3455	0.0359
4	105.12	0.4002	-0.0035	0.0008	0.0541	0.0041	-0.6332	0.0133	0.3940	0.0333
4	105.12	0.4500	0.0068	0.0010	0.0957	0.0045	-0.9396	0.0182	0.4098	0.0311
4	105.12	0.5001	-0.0011	0.0010	0.1262	0.0062	-1.3249	0.0263	0.4899	0.0312
4	105.12	0.5560	-0.0002	0.0013	0.1846	0.0078	-1.9180	0.0323	0.2549	0.0238
4	105.12	0.6001	0.0155	0.0012	0.2240	0.0079	-2.4393	0.0367	0.2781	0.0289
4	105.12	0.6501	-0.0076	0.0017	0.2798	0.0089	-3.0904	0.0418	0.4269	0.0333
4	105.12	0.6999	-0.0091	0.0018	0.3283	0.0102	-3.8841	0.0477	0.2232	0.0335
4	105.12	0.7500	-0.0075	0.0023	0.3853	0.0113	-4.7179	0.0534	0.4117	0.0302
4	105.12	0.8002	-0.0422	0.0025	0.4401	0.0126	-5.6181	0.0597	0.7626	0.0326
4	105.12	0.8582	-0.0563	0.0036	0.5095	0.0146	-6.8108	0.0663	-0.0994	0.0429
4	105.12	0.9101	-0.0700	0.0035	0.5971	0.0158	-7.7258	0.0734	0.3920	0.0283
4	105.12	0.9728	-0.0004	0.0050	0.6913	0.0179	-8.9090	0.0868	0.5695	0.0578

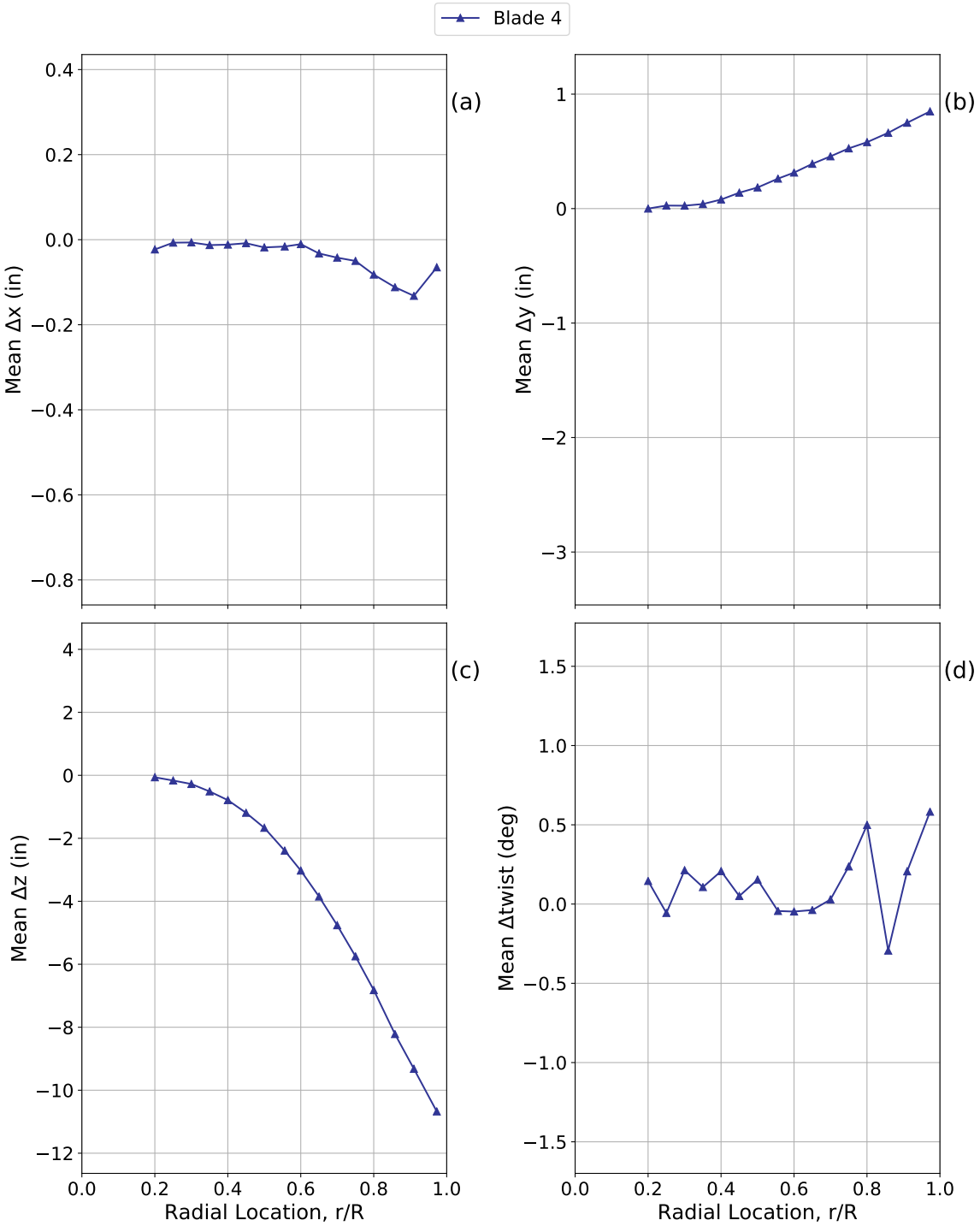


Figure 3.40-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0230	0.0008	0.0001	0.0005	-0.0632	0.0014	0.1456	0.0097
4	119.88	0.2502	-0.0070	0.0006	0.0264	0.0010	-0.1655	0.0032	-0.0563	0.0127
4	119.88	0.3001	-0.0065	0.0010	0.0253	0.0017	-0.2763	0.0079	0.2133	0.0166
4	119.88	0.3502	-0.0127	0.0014	0.0398	0.0030	-0.5128	0.0092	0.1069	0.0236
4	119.88	0.4002	-0.0117	0.0015	0.0791	0.0044	-0.7888	0.0175	0.2074	0.0138
4	119.88	0.4500	-0.0083	0.0018	0.1387	0.0053	-1.1913	0.0222	0.0504	0.0149
4	119.88	0.5001	-0.0182	0.0012	0.1843	0.0061	-1.6679	0.0293	0.1541	0.0213
4	119.88	0.5560	-0.0161	0.0016	0.2616	0.0075	-2.3936	0.0391	-0.0438	0.0193
4	119.88	0.6001	-0.0105	0.0022	0.3144	0.0090	-3.0263	0.0471	-0.0473	0.0225
4	119.88	0.6501	-0.0324	0.0024	0.3908	0.0101	-3.8515	0.0555	-0.0377	0.0241
4	119.88	0.6999	-0.0423	0.0032	0.4564	0.0119	-4.7618	0.0698	0.0285	0.0202
4	119.88	0.7500	-0.0500	0.0043	0.5258	0.0134	-5.7497	0.0844	0.2370	0.0190
4	119.88	0.8002	-0.0822	0.0053	0.5801	0.0149	-6.8229	0.0979	0.4990	0.0156
4	119.88	0.8582	-0.1118	0.0066	0.6619	0.0166	-8.2175	0.1174	-0.2939	0.0204
4	119.88	0.9101	-0.1321	0.0071	0.7497	0.0182	-9.3213	0.1353	0.2062	0.0136
4	119.88	0.9728	-0.0651	0.0082	0.8488	0.0198	-10.6750	0.1569	0.5824	0.0176

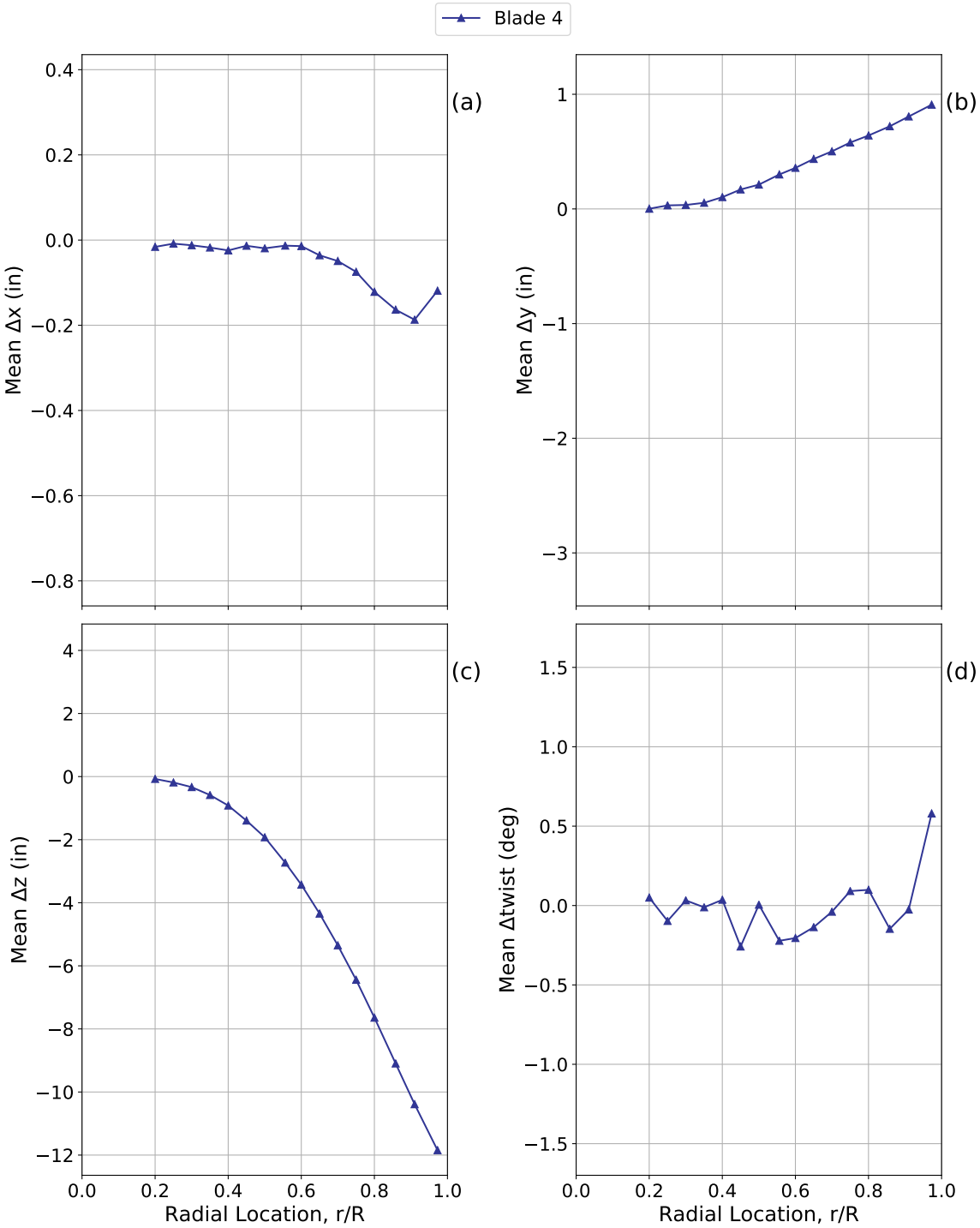


Figure 3.40-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0160	0.0010	0.0017	0.0004	-0.0750	0.0015	0.0498	0.0147
4	135	0.2502	-0.0084	0.0010	0.0309	0.0013	-0.1871	0.0038	-0.0972	0.0140
4	135	0.3001	-0.0122	0.0006	0.0345	0.0019	-0.3345	0.0073	0.0325	0.0288
4	135	0.3502	-0.0176	0.0010	0.0535	0.0025	-0.5855	0.0114	-0.0112	0.0251
4	135	0.4002	-0.0243	0.0012	0.1028	0.0046	-0.9193	0.0188	0.0361	0.0229
4	135	0.4500	-0.0134	0.0013	0.1695	0.0055	-1.3953	0.0238	-0.2584	0.0284
4	135	0.5001	-0.0193	0.0023	0.2120	0.0064	-1.9258	0.0295	0.0051	0.0348
4	135	0.5560	-0.0131	0.0016	0.3004	0.0077	-2.7290	0.0397	-0.2222	0.0307
4	135	0.6001	-0.0142	0.0021	0.3581	0.0095	-3.4284	0.0471	-0.2047	0.0293
4	135	0.6501	-0.0358	0.0034	0.4359	0.0108	-4.3454	0.0583	-0.1364	0.0281
4	135	0.6999	-0.0492	0.0032	0.5021	0.0118	-5.3511	0.0684	-0.0391	0.0343
4	135	0.7500	-0.0746	0.0035	0.5791	0.0136	-6.4441	0.0827	0.0911	0.0325
4	135	0.8002	-0.1216	0.0048	0.6406	0.0149	-7.6447	0.0958	0.0987	0.0294
4	135	0.8582	-0.1635	0.0063	0.7208	0.0167	-9.0969	0.1134	-0.1470	0.0337
4	135	0.9101	-0.1870	0.0070	0.8062	0.0181	-10.3883	0.1291	-0.0256	0.0309
4	135	0.9728	-0.1189	0.0085	0.9089	0.0202	-11.8462	0.1497	0.5798	0.0343

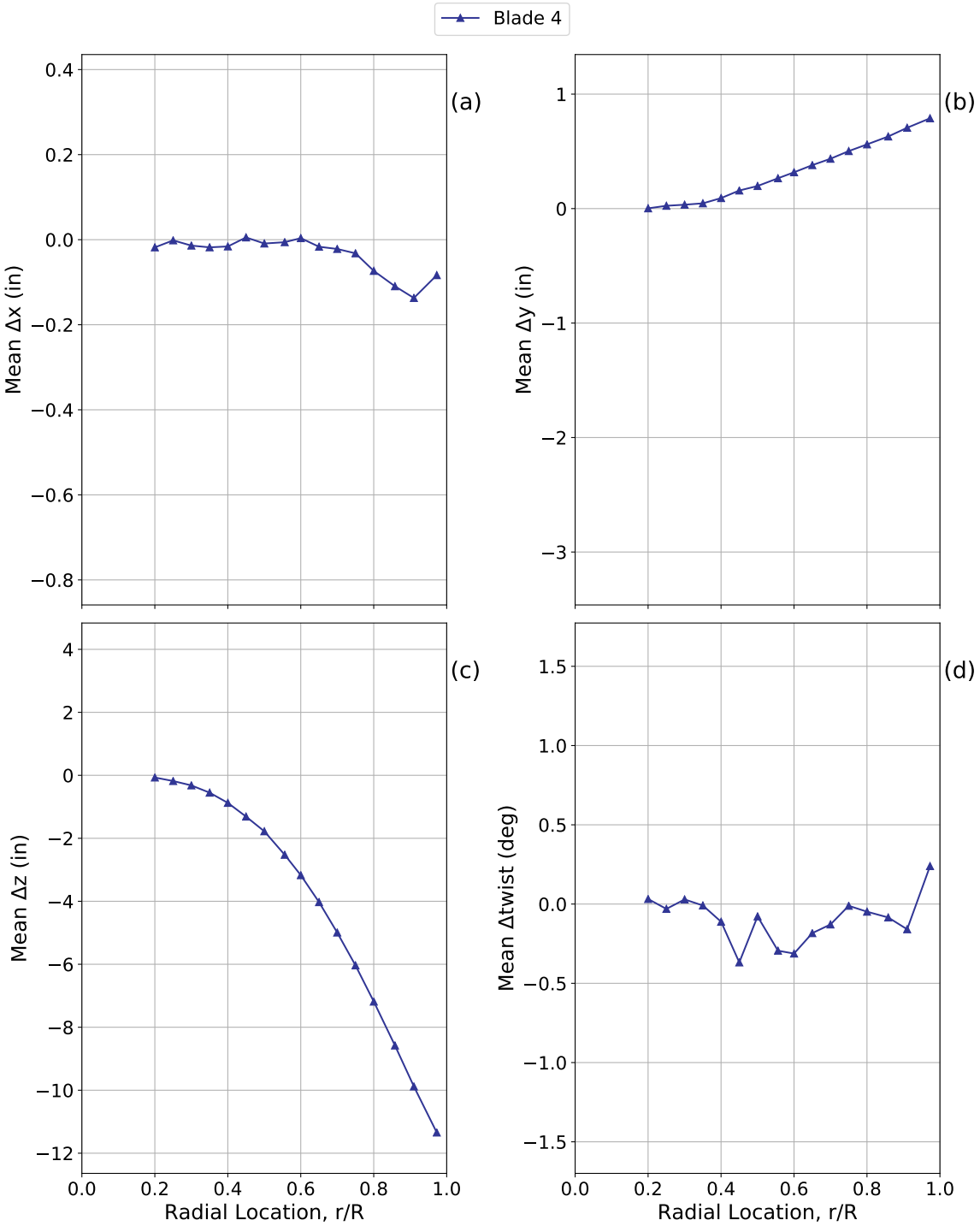


Figure 3.40-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0181	0.0011	0.0023	0.0006	-0.0698	0.0015	0.0319	0.0219
4	150.12	0.2502	-0.0016	0.0009	0.0245	0.0029	-0.1818	0.0056	-0.0306	0.0260
4	150.12	0.3001	-0.0139	0.0009	0.0340	0.0039	-0.3202	0.0089	0.0292	0.0441
4	150.12	0.3502	-0.0180	0.0012	0.0460	0.0069	-0.5516	0.0120	-0.0091	0.0536
4	150.12	0.4002	-0.0159	0.0014	0.0918	0.0112	-0.8757	0.0221	-0.1118	0.0332
4	150.12	0.4500	0.0053	0.0015	0.1580	0.0121	-1.3108	0.0303	-0.3682	0.0259
4	150.12	0.5001	-0.0090	0.0017	0.1974	0.0155	-1.7778	0.0394	-0.0780	0.0420
4	150.12	0.5560	-0.0059	0.0023	0.2649	0.0189	-2.5241	0.0489	-0.2942	0.0378
4	150.12	0.6001	0.0036	0.0018	0.3172	0.0211	-3.1721	0.0584	-0.3123	0.0374
4	150.12	0.6501	-0.0166	0.0027	0.3796	0.0245	-4.0275	0.0688	-0.1834	0.0274
4	150.12	0.6999	-0.0218	0.0029	0.4353	0.0269	-4.9934	0.0772	-0.1288	0.0386
4	150.12	0.7500	-0.0321	0.0028	0.5024	0.0305	-6.0362	0.0891	-0.0109	0.0395
4	150.12	0.8002	-0.0734	0.0036	0.5609	0.0335	-7.1865	0.0979	-0.0482	0.0364
4	150.12	0.8582	-0.1095	0.0043	0.6298	0.0371	-8.5803	0.1101	-0.0846	0.0287
4	150.12	0.9101	-0.1371	0.0052	0.7061	0.0402	-9.8808	0.1192	-0.1591	0.0280
4	150.12	0.9728	-0.0834	0.0055	0.7889	0.0446	-11.3436	0.1329	0.2394	0.0343

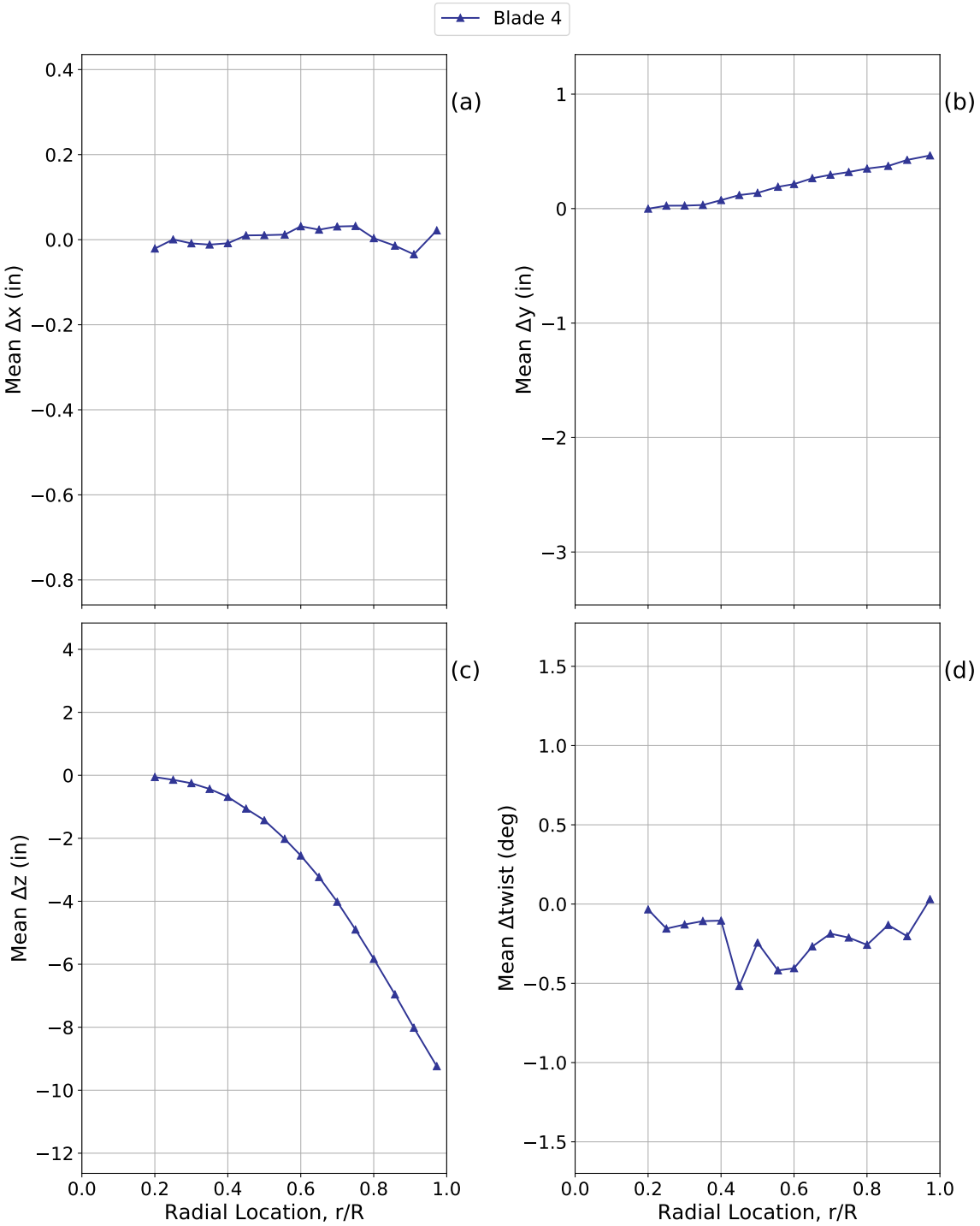


Figure 3.40-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0209	0.0009	-0.0013	0.0005	-0.0560	0.0038	-0.0342	0.0253
4	164.88	0.2502	0.0006	0.0021	0.0252	0.0037	-0.1430	0.0056	-0.1550	0.0407
4	164.88	0.3001	-0.0087	0.0021	0.0258	0.0036	-0.2515	0.0132	-0.1292	0.0522
4	164.88	0.3502	-0.0116	0.0026	0.0313	0.0074	-0.4341	0.0217	-0.1075	0.0398
4	164.88	0.4002	-0.0084	0.0023	0.0739	0.0120	-0.6861	0.0331	-0.1047	0.0446
4	164.88	0.4500	0.0101	0.0015	0.1179	0.0152	-1.0593	0.0424	-0.5169	0.0504
4	164.88	0.5001	0.0106	0.0018	0.1370	0.0190	-1.4270	0.0540	-0.2435	0.0434
4	164.88	0.5560	0.0119	0.0023	0.1900	0.0233	-2.0194	0.0666	-0.4186	0.0475
4	164.88	0.6001	0.0314	0.0024	0.2141	0.0254	-2.5496	0.0790	-0.4049	0.0362
4	164.88	0.6501	0.0235	0.0026	0.2650	0.0296	-3.2330	0.0942	-0.2674	0.0347
4	164.88	0.6999	0.0310	0.0029	0.2950	0.0330	-4.0171	0.1101	-0.1867	0.0353
4	164.88	0.7500	0.0320	0.0045	0.3192	0.0361	-4.9000	0.1277	-0.2116	0.0558
4	164.88	0.8002	0.0034	0.0054	0.3493	0.0399	-5.8318	0.1487	-0.2574	0.0412
4	164.88	0.8582	-0.0142	0.0067	0.3723	0.0439	-6.9592	0.1719	-0.1321	0.0430
4	164.88	0.9101	-0.0345	0.0078	0.4251	0.0474	-8.0185	0.1963	-0.2032	0.0362
4	164.88	0.9728	0.0217	0.0094	0.4641	0.0517	-9.2383	0.2244	0.0304	0.0384

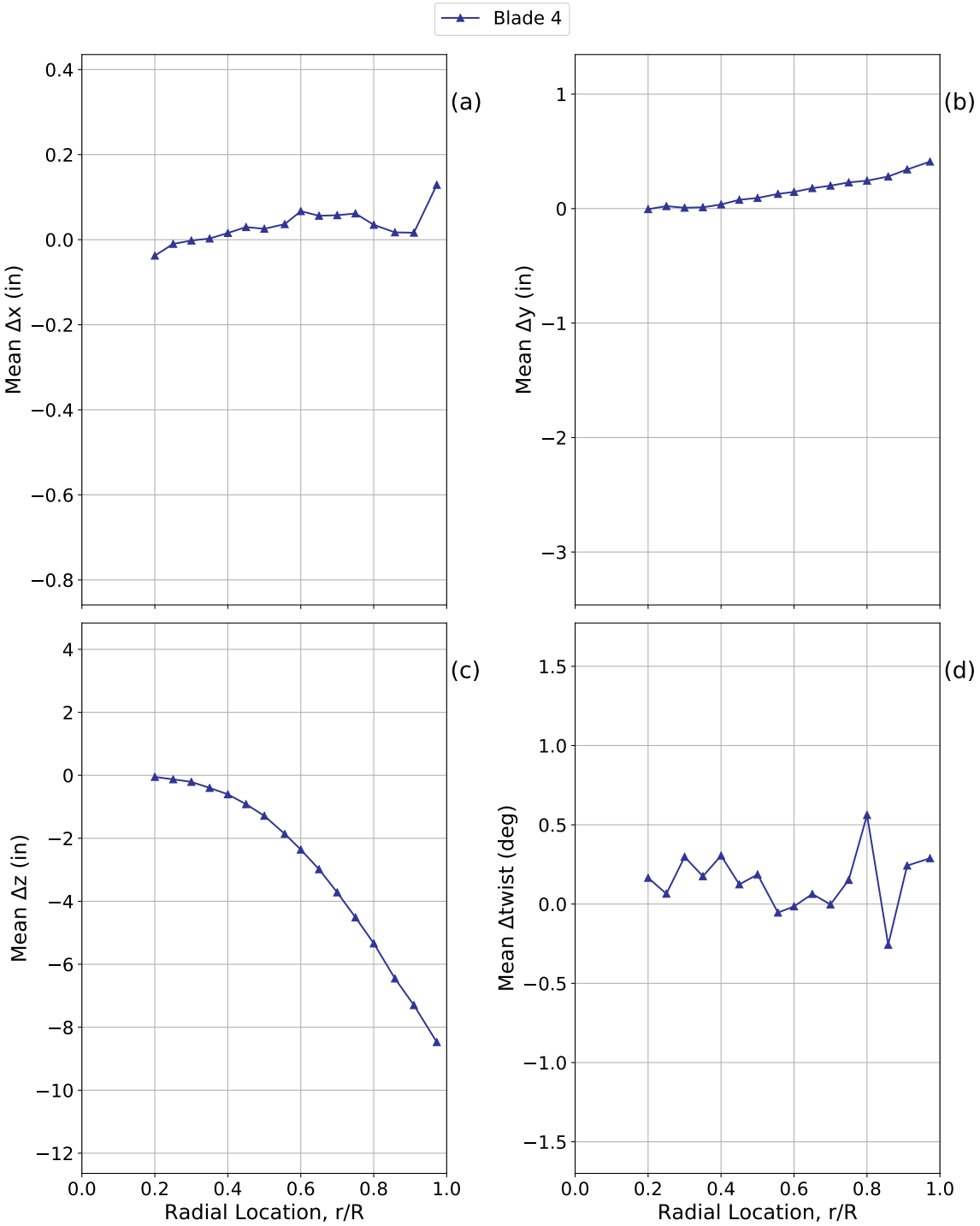


Figure 3.40-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0376	0.0046	-0.0050	0.0007	-0.0511	0.0019	0.1654	0.0157
4	170.16	0.2502	-0.0099	0.0018	0.0213	0.0016	-0.1274	0.0045	0.0652	0.0223
4	170.16	0.3001	-0.0021	0.0019	0.0074	0.0035	-0.2091	0.0094	0.2979	0.0336
4	170.16	0.3502	0.0027	0.0041	0.0112	0.0052	-0.4008	0.0128	0.1755	0.0212
4	170.16	0.4002	0.0157	0.0074	0.0360	0.0087	-0.6035	0.0224	0.3054	0.0175
4	170.16	0.4500	0.0296	0.0098	0.0768	0.0107	-0.9174	0.0281	0.1241	0.0317
4	170.16	0.5001	0.0256	0.0122	0.0927	0.0137	-1.2863	0.0362	0.1865	0.0215
4	170.16	0.5560	0.0365	0.0153	0.1282	0.0168	-1.8609	0.0452	-0.0541	0.0348
4	170.16	0.6001	0.0670	0.0173	0.1457	0.0196	-2.3603	0.0530	-0.0146	0.0279
4	170.16	0.6501	0.0562	0.0187	0.1785	0.0223	-2.9839	0.0620	0.0636	0.0258
4	170.16	0.6999	0.0575	0.0208	0.2001	0.0246	-3.7182	0.0709	-0.0026	0.0132
4	170.16	0.7500	0.0616	0.0241	0.2288	0.0271	-4.5122	0.0793	0.1521	0.0393
4	170.16	0.8002	0.0349	0.0262	0.2438	0.0304	-5.3379	0.0896	0.5618	0.0286
4	170.16	0.8582	0.0172	0.0292	0.2801	0.0340	-6.4536	0.1045	-0.2569	0.0785
4	170.16	0.9101	0.0164	0.0272	0.3418	0.0380	-7.2987	0.1143	0.2425	0.0822
4	170.16	0.9728	0.1289	0.0360	0.4104	0.0369	-8.4722	0.1409	0.2890	0.1822

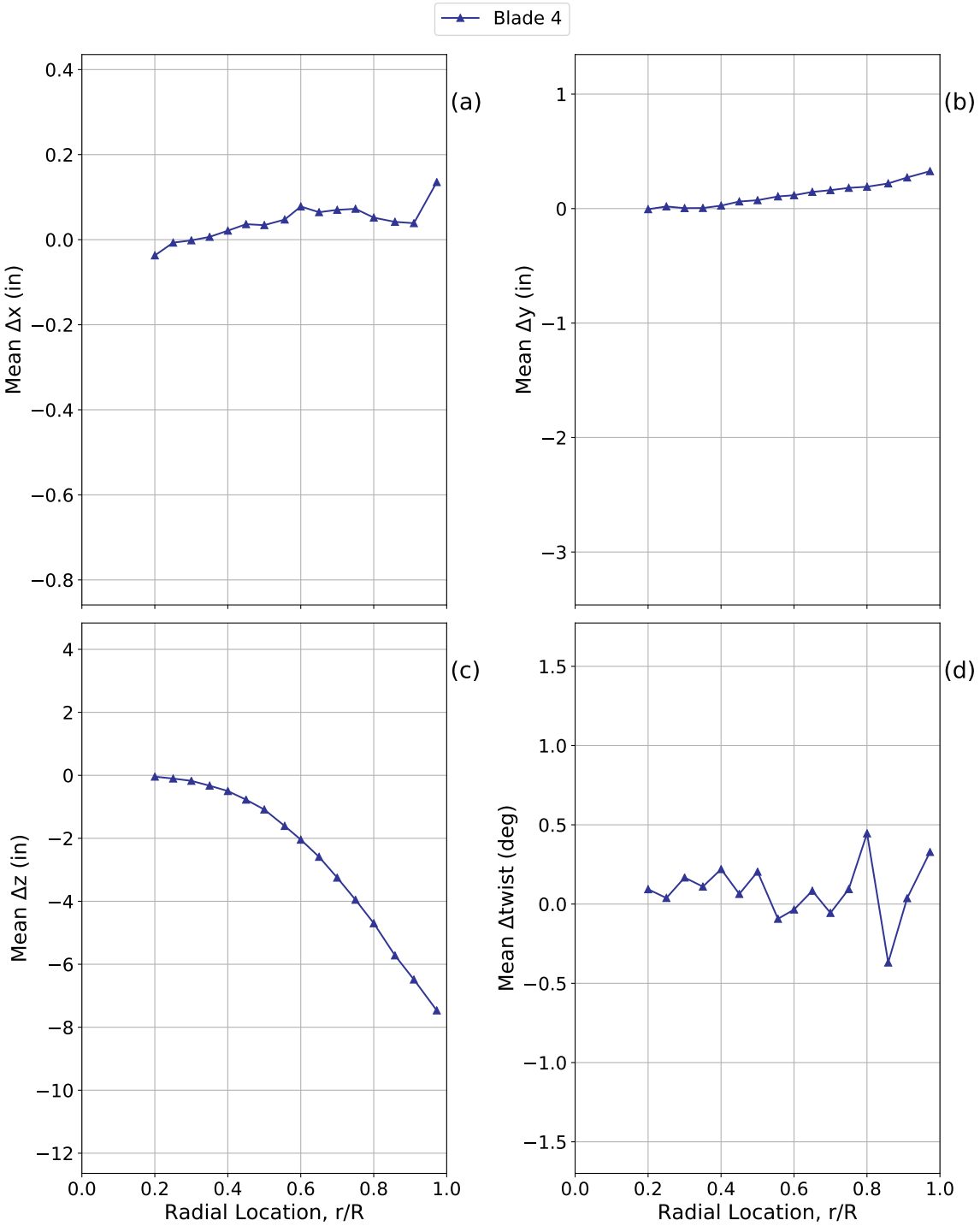


Figure 3.40-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0370	0.0048	-0.0055	0.0009	-0.0430	0.0022	0.0933	0.0125
4	175.08	0.2502	-0.0070	0.0017	0.0186	0.0017	-0.1034	0.0034	0.0382	0.0172
4	175.08	0.3001	-0.0016	0.0016	0.0040	0.0039	-0.1760	0.0073	0.1672	0.0255
4	175.08	0.3502	0.0066	0.0049	0.0051	0.0062	-0.3303	0.0125	0.1100	0.0286
4	175.08	0.4002	0.0212	0.0077	0.0256	0.0100	-0.5000	0.0185	0.2201	0.0285
4	175.08	0.4500	0.0364	0.0099	0.0620	0.0140	-0.7740	0.0261	0.0635	0.0208
4	175.08	0.5001	0.0342	0.0116	0.0730	0.0173	-1.0869	0.0333	0.2040	0.0236
4	175.08	0.5560	0.0473	0.0135	0.1062	0.0218	-1.6092	0.0411	-0.0933	0.0366
4	175.08	0.6001	0.0780	0.0144	0.1167	0.0249	-2.0445	0.0487	-0.0347	0.0273
4	175.08	0.6501	0.0646	0.0140	0.1455	0.0286	-2.5894	0.0565	0.0835	0.0271
4	175.08	0.6999	0.0701	0.0135	0.1610	0.0324	-3.2503	0.0635	-0.0562	0.0287
4	175.08	0.7500	0.0726	0.0130	0.1810	0.0366	-3.9525	0.0700	0.0941	0.0363
4	175.08	0.8002	0.0518	0.0133	0.1907	0.0408	-4.6997	0.0772	0.4459	0.0533
4	175.08	0.8582	0.0419	0.0141	0.2196	0.0462	-5.7196	0.0853	-0.3691	0.0575
4	175.08	0.9101	0.0388	0.0156	0.2716	0.0504	-6.4858	0.0876	0.0369	0.0433
4	175.08	0.9728	0.1354	0.0170	0.3268	0.0556	-7.4672	0.1026	0.3284	0.0911

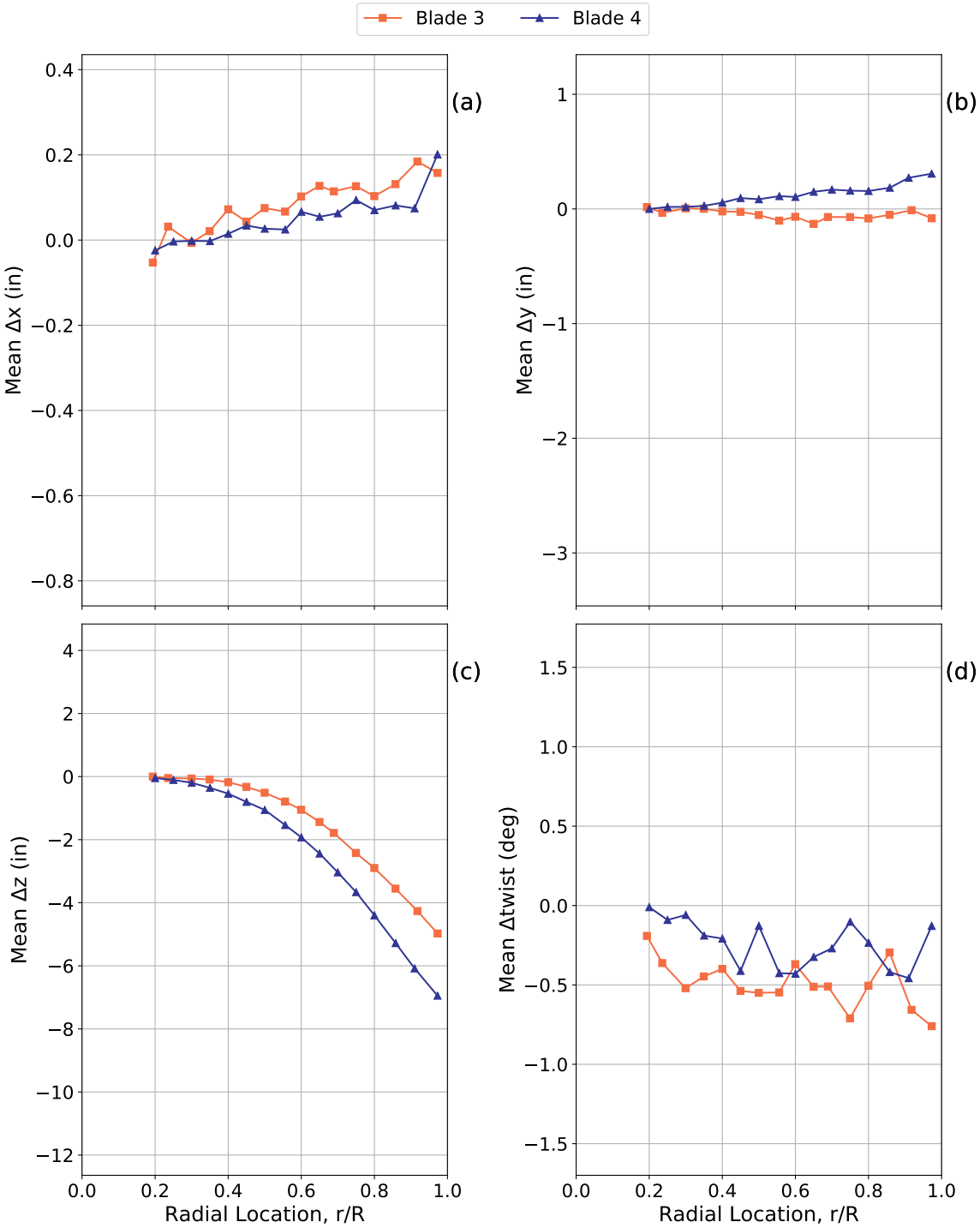


Figure 3.40-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0527	0.0051	0.0163	0.0018	-0.0005	0.0043	-0.1912	0.0208
3	180.35	0.2357	0.0316	0.0055	-0.0336	0.0020	-0.0473	0.0041	-0.3624	0.0366
3	180.35	0.2995	-0.0066	0.0027	0.0048	0.0059	-0.0627	0.0106	-0.5208	0.0422
3	180.35	0.3493	0.0209	0.0022	0.0013	0.0108	-0.0936	0.0191	-0.4467	0.0323
3	180.35	0.4000	0.0722	0.0029	-0.0215	0.0158	-0.1785	0.0258	-0.3991	0.0386
3	180.35	0.4497	0.0433	0.0036	-0.0253	0.0204	-0.3256	0.0334	-0.5379	0.0353
3	180.35	0.4997	0.0751	0.0036	-0.0527	0.0246	-0.5111	0.0425	-0.5496	0.0384
3	180.35	0.5556	0.0669	0.0041	-0.1020	0.0297	-0.7917	0.0526	-0.5472	0.0365
3	180.35	0.5995	0.1024	0.0051	-0.0686	0.0359	-1.0520	0.0656	-0.3693	0.0765
3	180.35	0.6498	0.1272	0.0059	-0.1301	0.0406	-1.4399	0.0732	-0.5120	0.0537
3	180.35	0.6890	0.1144	0.0070	-0.0706	0.0441	-1.7863	0.0838	-0.5096	0.0420
3	180.35	0.7495	0.1264	0.0073	-0.0708	0.0497	-2.4221	0.0987	-0.7106	0.0440
3	180.35	0.7998	0.1032	0.0077	-0.0828	0.0549	-2.8987	0.1143	-0.5050	0.0410
3	180.35	0.8577	0.1313	0.0061	-0.0510	0.0631	-3.5529	0.1320	-0.2954	0.1488
3	180.35	0.9178	0.1844	0.0147	-0.0108	0.0683	-4.2632	0.1547	-0.6569	0.1369
3	180.35	0.9729	0.1576	0.0065	-0.0815	0.0883	-4.9742	0.1922	-0.7600	0.4818
4	180	0.2001	-0.0243	0.0038	0.0000	0.0044	-0.0500	0.0094	-0.0105	0.0782
4	180	0.2502	-0.0035	0.0048	0.0173	0.0067	-0.1064	0.0118	-0.0910	0.0823
4	180	0.3001	-0.0018	0.0019	0.0180	0.0108	-0.1975	0.0221	-0.0591	0.1415
4	180	0.3502	-0.0025	0.0039	0.0270	0.0173	-0.3579	0.0330	-0.1894	0.1291
4	180	0.4002	0.0148	0.0057	0.0548	0.0237	-0.5424	0.0439	-0.2083	0.1364
4	180	0.4500	0.0341	0.0083	0.0949	0.0308	-0.8031	0.0528	-0.4119	0.1285
4	180	0.5001	0.0267	0.0108	0.0843	0.0388	-1.0588	0.0665	-0.1283	0.1191
4	180	0.5560	0.0248	0.0123	0.1116	0.0483	-1.5366	0.0766	-0.4260	0.1241
4	180	0.6001	0.0664	0.0137	0.1045	0.0569	-1.9289	0.0870	-0.4295	0.1236
4	180	0.6501	0.0547	0.0160	0.1494	0.0659	-2.4413	0.0989	-0.3240	0.1221
4	180	0.6999	0.0628	0.0160	0.1683	0.0749	-3.0380	0.1086	-0.2697	0.1192
4	180	0.7500	0.0940	0.0168	0.1593	0.0841	-3.6642	0.1211	-0.1024	0.1206
4	180	0.8002	0.0703	0.0164	0.1562	0.0940	-4.4012	0.1328	-0.2346	0.1214
4	180	0.8582	0.0813	0.0171	0.1849	0.1048	-5.2810	0.1491	-0.4192	0.1087
4	180	0.9101	0.0744	0.0178	0.2718	0.1144	-6.0832	0.1662	-0.4577	0.1342
4	180	0.9728	0.2011	0.0209	0.3075	0.1259	-6.9472	0.1821	-0.1285	0.1450

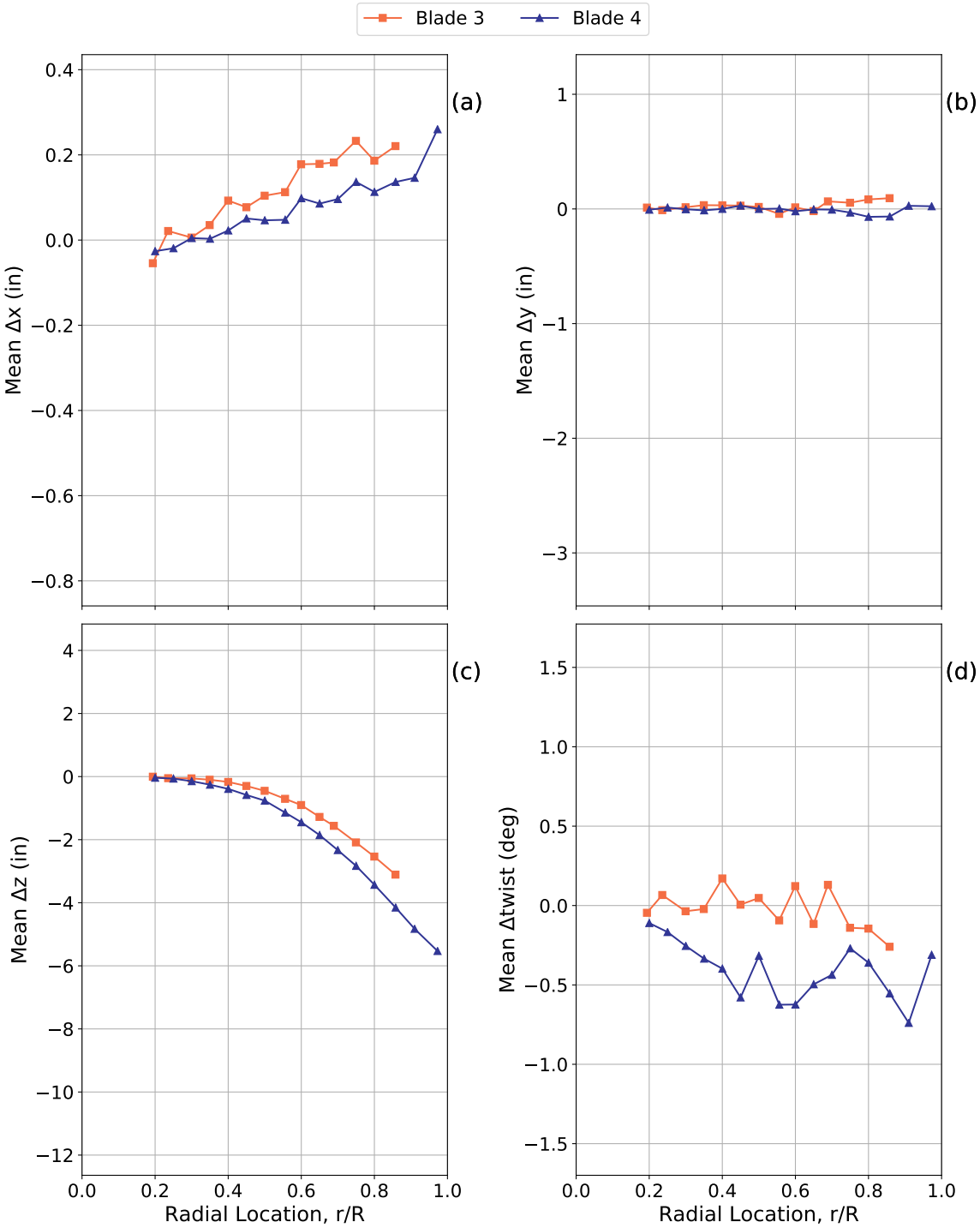


Figure 3.40-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0543	0.0013	0.0119	0.0005	-0.0038	0.0028	-0.0458	0.0115
3	184.92	0.2357	0.0213	0.0009	-0.0106	0.0017	-0.0506	0.0050	0.0663	0.0238
3	184.92	0.2995	0.0059	0.0009	0.0148	0.0029	-0.0570	0.0110	-0.0360	0.0273
3	184.92	0.3493	0.0352	0.0013	0.0328	0.0046	-0.0997	0.0192	-0.0221	0.0244
3	184.92	0.4000	0.0927	0.0017	0.0316	0.0078	-0.1700	0.0291	0.1706	0.0173
3	184.92	0.4497	0.0771	0.0019	0.0285	0.0110	-0.2977	0.0403	0.0054	0.0177
3	184.92	0.4997	0.1042	0.0020	0.0173	0.0126	-0.4518	0.0517	0.0475	0.0326
3	184.92	0.5556	0.1125	0.0026	-0.0429	0.0143	-0.7053	0.0653	-0.0935	0.0211
3	184.92	0.5995	0.1779	0.0034	0.0138	0.0163	-0.9024	0.0773	0.1224	0.0438
3	184.92	0.6498	0.1789	0.0034	-0.0190	0.0193	-1.2793	0.0932	-0.1158	0.0643
3	184.92	0.6890	0.1822	0.0030	0.0658	0.0212	-1.5616	0.1023	0.1303	0.0486
3	184.92	0.7495	0.2329	0.0039	0.0540	0.0245	-2.0871	0.1294	-0.1401	0.0646
3	184.92	0.7998	0.1864	0.0044	0.0830	0.0297	-2.5362	0.1412	-0.1452	0.0393
3	184.92	0.8577	0.2206	0.0054	0.0938	0.0386	-3.1083	0.1622	-0.2596	0.2668
4	184.92	0.2001	-0.0261	0.0038	-0.0069	0.0048	-0.0373	0.0142	-0.1105	0.0477
4	184.92	0.2502	-0.0192	0.0032	0.0119	0.0039	-0.0651	0.0118	-0.1672	0.1602
4	184.92	0.3001	0.0046	0.0022	-0.0029	0.0154	-0.1462	0.0395	-0.2546	0.1129
4	184.92	0.3502	0.0031	0.0032	-0.0125	0.0218	-0.2578	0.0541	-0.3347	0.1418
4	184.92	0.4002	0.0225	0.0048	0.0003	0.0329	-0.3911	0.0795	-0.3978	0.1156
4	184.92	0.4500	0.0507	0.0055	0.0284	0.0401	-0.5834	0.0947	-0.5792	0.1403
4	184.92	0.5001	0.0464	0.0072	-0.0004	0.0489	-0.7639	0.1168	-0.3171	0.1304
4	184.92	0.5560	0.0476	0.0089	0.0029	0.0564	-1.1427	0.1365	-0.6248	0.1325
4	184.92	0.6001	0.0982	0.0108	-0.0203	0.0663	-1.4486	0.1547	-0.6236	0.1304
4	184.92	0.6501	0.0856	0.0129	-0.0041	0.0748	-1.8558	0.1749	-0.4963	0.1280
4	184.92	0.6999	0.0962	0.0162	-0.0062	0.0840	-2.3314	0.1924	-0.4365	0.1254
4	184.92	0.7500	0.1364	0.0181	-0.0318	0.0941	-2.8320	0.2111	-0.2698	0.1268
4	184.92	0.8002	0.1130	0.0218	-0.0691	0.1056	-3.4320	0.2285	-0.3603	0.1385
4	184.92	0.8582	0.1364	0.0220	-0.0663	0.1205	-4.1531	0.2506	-0.5535	0.1062
4	184.92	0.9101	0.1461	0.0302	0.0273	0.1343	-4.8275	0.2677	-0.7393	0.1940
4	184.92	0.9728	0.2601	0.0317	0.0233	0.1379	-5.5307	0.2846	-0.3108	0.1617

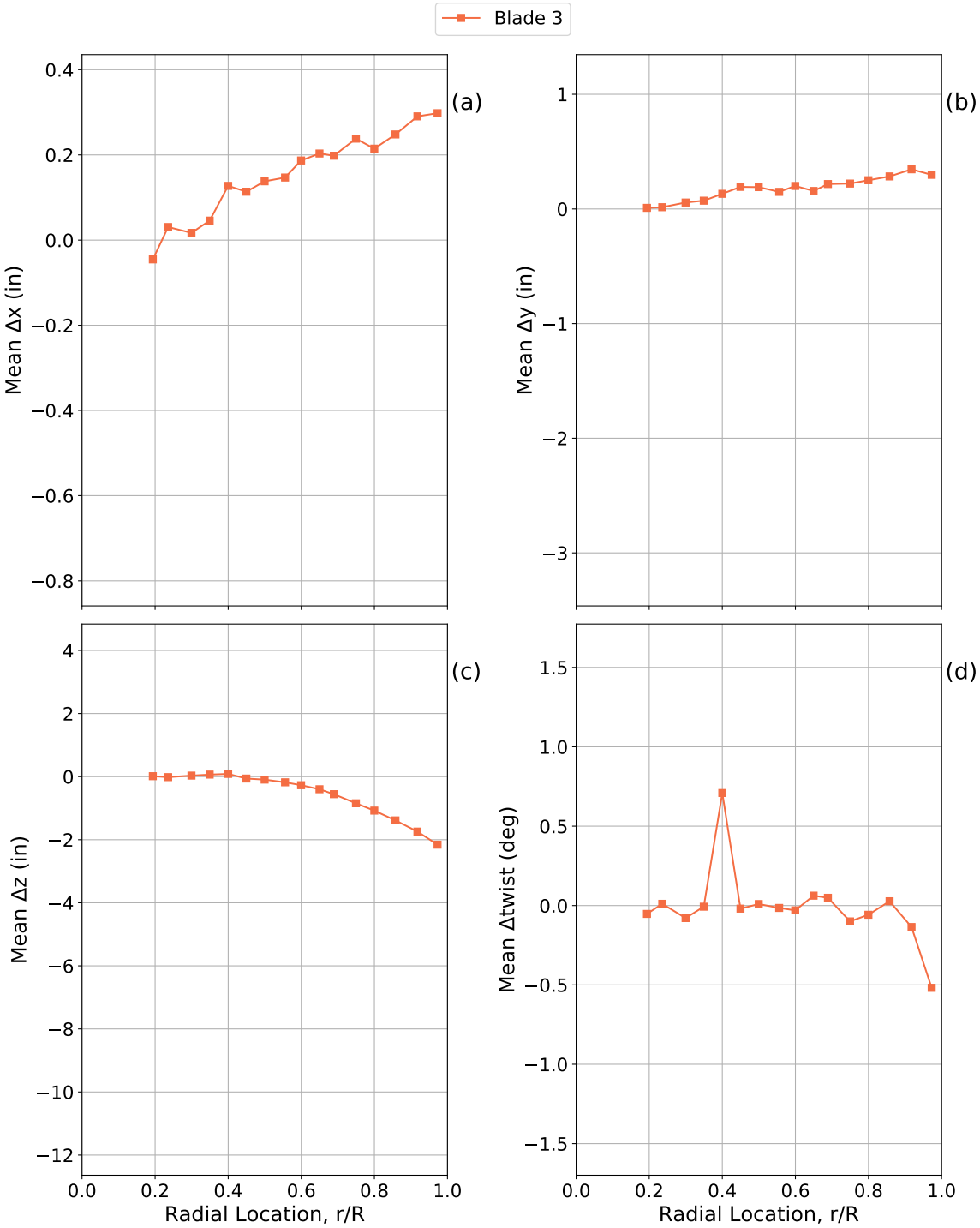


Figure 3.40-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0453	0.0012	0.0097	0.0014	0.0134	0.0035	-0.0526	0.0253
3	195.12	0.2357	0.0307	0.0015	0.0153	0.0034	-0.0166	0.0110	0.0112	0.0244
3	195.12	0.2995	0.0170	0.0013	0.0563	0.0071	0.0323	0.0188	-0.0789	0.0482
3	195.12	0.3493	0.0458	0.0013	0.0722	0.0118	0.0643	0.0273	-0.0071	0.0791
3	195.12	0.4000	0.1273	0.0029	0.1321	0.0194	0.0861	0.0468	0.7090	0.0391
3	195.12	0.4497	0.1136	0.0018	0.1925	0.0211	-0.0611	0.0542	-0.0193	0.0354
3	195.12	0.4997	0.1380	0.0015	0.1903	0.0260	-0.0947	0.0684	0.0097	0.0346
3	195.12	0.5556	0.1469	0.0019	0.1490	0.0319	-0.1806	0.0845	-0.0149	0.0371
3	195.12	0.5995	0.1869	0.0015	0.2006	0.0355	-0.2720	0.0983	-0.0301	0.0297
3	195.12	0.6498	0.2033	0.0014	0.1569	0.0399	-0.4005	0.1143	0.0624	0.0324
3	195.12	0.6890	0.1981	0.0013	0.2173	0.0434	-0.5569	0.1265	0.0490	0.0338
3	195.12	0.7495	0.2381	0.0016	0.2215	0.0491	-0.8453	0.1484	-0.0997	0.0366
3	195.12	0.7998	0.2147	0.0017	0.2506	0.0536	-1.0778	0.1681	-0.0579	0.0317
3	195.12	0.8577	0.2480	0.0023	0.2838	0.0584	-1.3875	0.1907	0.0273	0.0423
3	195.12	0.9178	0.2904	0.0022	0.3458	0.0642	-1.7425	0.2148	-0.1354	0.0426
3	195.12	0.9729	0.2979	0.0034	0.2976	0.0703	-2.1569	0.2388	-0.5185	0.0681

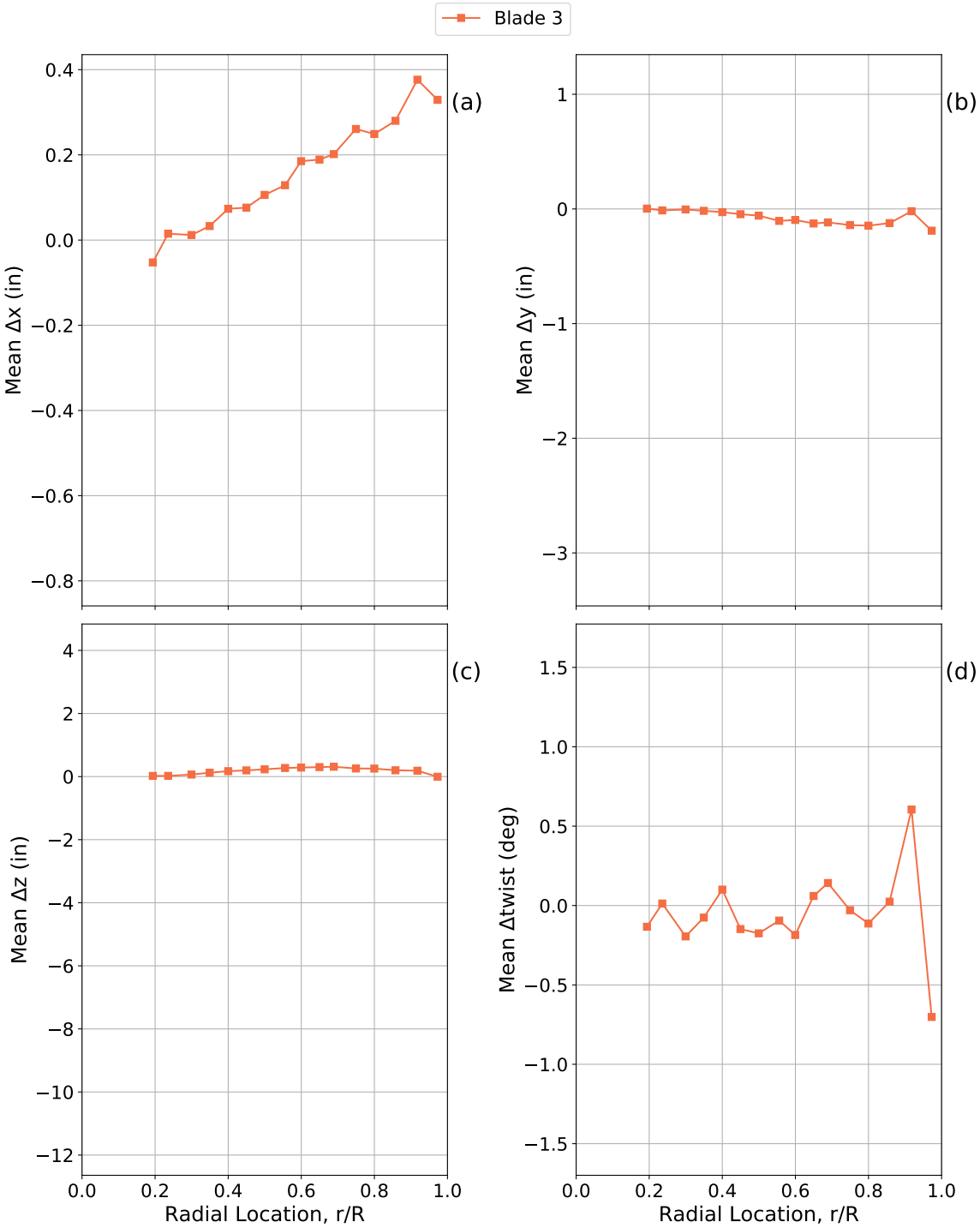


Figure 3.40-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0525	0.0015	0.0029	0.0011	0.0212	0.0045	-0.1336	0.0310
3	209.88	0.2357	0.0150	0.0010	-0.0127	0.0019	0.0219	0.0086	0.0126	0.0420
3	209.88	0.2995	0.0119	0.0008	-0.0045	0.0049	0.0638	0.0150	-0.1945	0.0720
3	209.88	0.3493	0.0329	0.0008	-0.0164	0.0087	0.1231	0.0298	-0.0760	0.0362
3	209.88	0.4000	0.0735	0.0026	-0.0279	0.0135	0.1715	0.0417	0.1003	0.0329
3	209.88	0.4497	0.0761	0.0012	-0.0460	0.0175	0.1966	0.0536	-0.1482	0.0310
3	209.88	0.4997	0.1060	0.0022	-0.0583	0.0182	0.2294	0.0625	-0.1751	0.0318
3	209.88	0.5556	0.1288	0.0014	-0.1044	0.0248	0.2721	0.0802	-0.0947	0.0412
3	209.88	0.5995	0.1852	0.0018	-0.0960	0.0274	0.2866	0.0859	-0.1855	0.0380
3	209.88	0.6498	0.1889	0.0020	-0.1268	0.0307	0.3002	0.0973	0.0602	0.0378
3	209.88	0.6890	0.2018	0.0016	-0.1175	0.0333	0.3122	0.1070	0.1418	0.0353
3	209.88	0.7495	0.2608	0.0019	-0.1406	0.0370	0.2571	0.1179	-0.0296	0.0318
3	209.88	0.7998	0.2490	0.0019	-0.1458	0.0402	0.2533	0.1267	-0.1132	0.0366
3	209.88	0.8577	0.2800	0.0017	-0.1236	0.0439	0.2000	0.1367	0.0244	0.0434
3	209.88	0.9178	0.3765	0.0018	-0.0199	0.0487	0.1859	0.1528	0.6047	0.1268
3	209.88	0.9729	0.3292	0.0028	-0.1896	0.0525	-0.0053	0.1613	-0.7017	0.0649

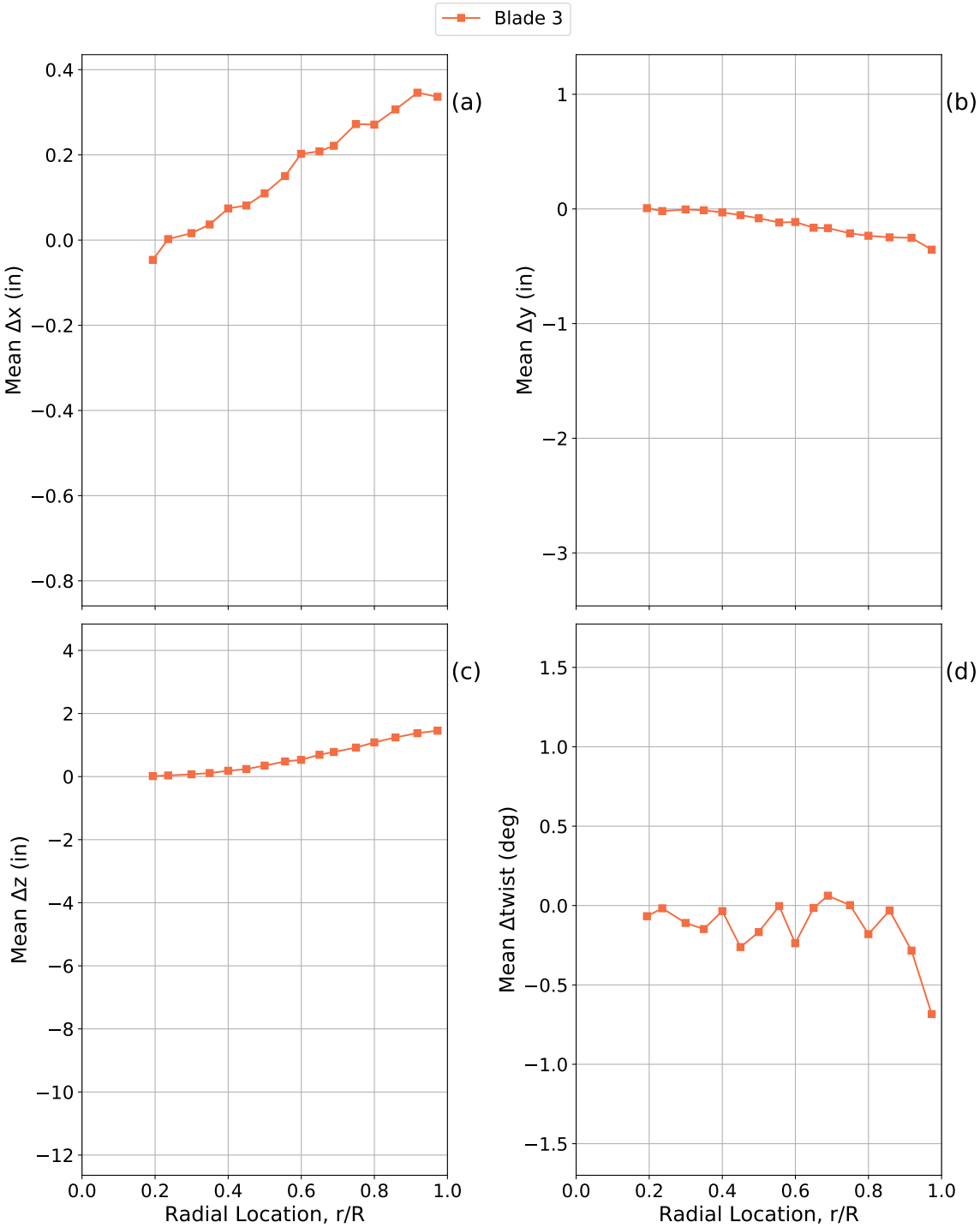


Figure 3.40-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0465	0.0011	0.0068	0.0005	0.0142	0.0023	-0.0672	0.0306
3	225	0.2357	0.0023	0.0009	-0.0186	0.0010	0.0350	0.0039	-0.0175	0.0300
3	225	0.2995	0.0163	0.0011	-0.0046	0.0025	0.0723	0.0076	-0.1096	0.0635
3	225	0.3493	0.0366	0.0011	-0.0115	0.0041	0.1122	0.0125	-0.1482	0.0510
3	225	0.4000	0.0743	0.0015	-0.0303	0.0066	0.1848	0.0187	-0.0352	0.0694
3	225	0.4497	0.0811	0.0018	-0.0543	0.0084	0.2384	0.0217	-0.2617	0.0546
3	225	0.4997	0.1096	0.0027	-0.0812	0.0102	0.3480	0.0264	-0.1670	0.0629
3	225	0.5556	0.1503	0.0023	-0.1181	0.0126	0.4788	0.0337	-0.0035	0.0343
3	225	0.5995	0.2025	0.0021	-0.1141	0.0153	0.5306	0.0386	-0.2377	0.0621
3	225	0.6498	0.2083	0.0018	-0.1640	0.0176	0.6918	0.0444	-0.0153	0.0533
3	225	0.6890	0.2214	0.0023	-0.1672	0.0177	0.7793	0.0465	0.0621	0.0459
3	225	0.7495	0.2724	0.0024	-0.2125	0.0204	0.9186	0.0524	0.0024	0.0581
3	225	0.7998	0.2711	0.0016	-0.2341	0.0234	1.0834	0.0567	-0.1801	0.0524
3	225	0.8577	0.3066	0.0018	-0.2478	0.0245	1.2423	0.0651	-0.0314	0.0498
3	225	0.9178	0.3460	0.0020	-0.2520	0.0269	1.3771	0.0771	-0.2840	0.0478
3	225	0.9729	0.3364	0.0024	-0.3553	0.0298	1.4561	0.0902	-0.6838	0.0546

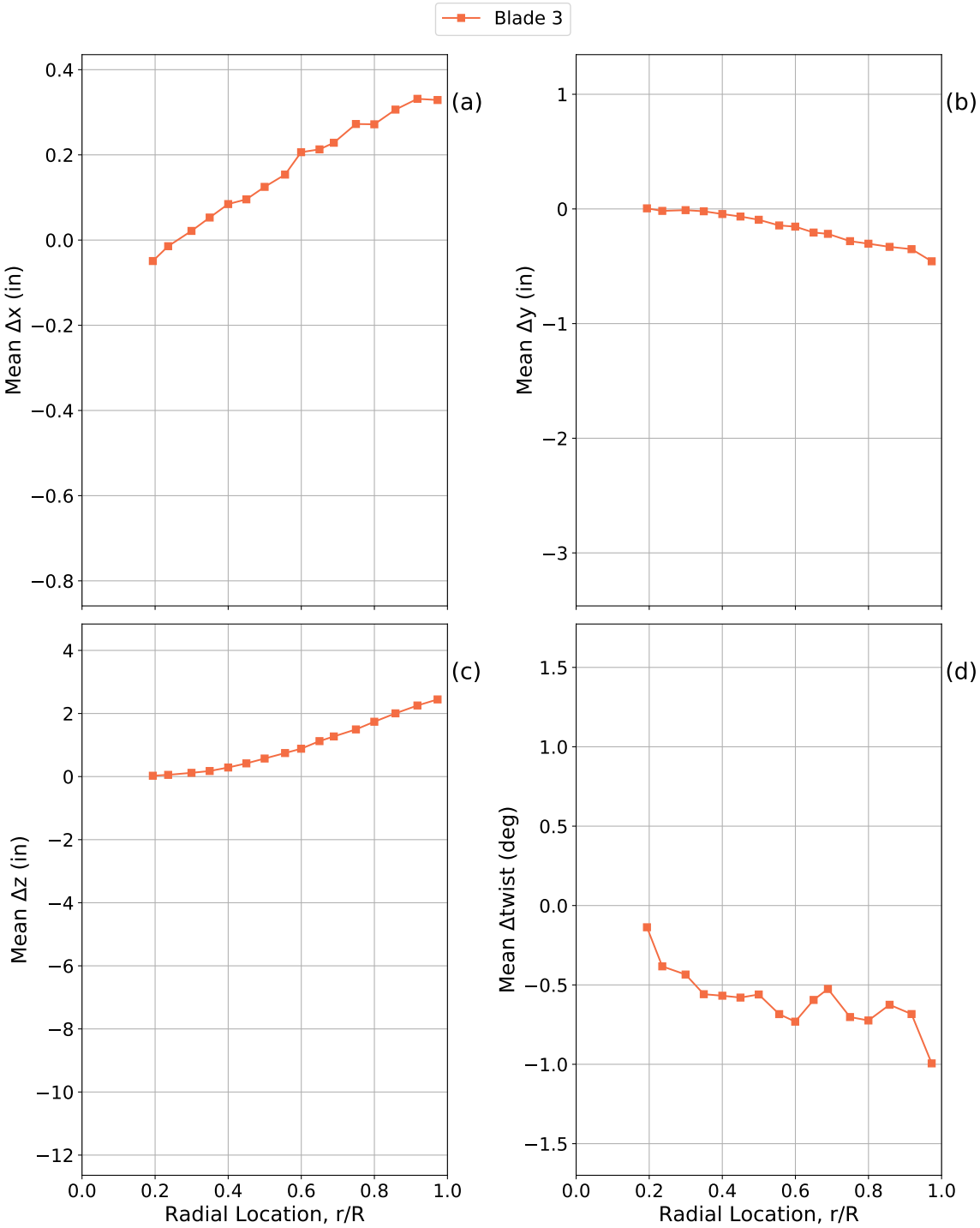


Figure 3.40-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0492	0.0011	0.0051	0.0005	0.0271	0.0030	-0.1369	0.0142
3	240.12	0.2357	-0.0144	0.0016	-0.0171	0.0009	0.0547	0.0033	-0.3831	0.0342
3	240.12	0.2995	0.0215	0.0008	-0.0105	0.0019	0.1186	0.0103	-0.4346	0.0374
3	240.12	0.3493	0.0529	0.0013	-0.0205	0.0033	0.1765	0.0140	-0.5585	0.0376
3	240.12	0.4000	0.0845	0.0014	-0.0445	0.0051	0.2880	0.0227	-0.5680	0.0430
3	240.12	0.4497	0.0956	0.0011	-0.0662	0.0058	0.4185	0.0290	-0.5797	0.0337
3	240.12	0.4997	0.1249	0.0021	-0.0945	0.0070	0.5727	0.0372	-0.5602	0.0537
3	240.12	0.5556	0.1537	0.0014	-0.1440	0.0081	0.7462	0.0479	-0.6840	0.0468
3	240.12	0.5995	0.2063	0.0009	-0.1543	0.0103	0.8831	0.0535	-0.7314	0.0429
3	240.12	0.6498	0.2129	0.0013	-0.2058	0.0101	1.1240	0.0606	-0.5946	0.0647
3	240.12	0.6890	0.2285	0.0011	-0.2174	0.0124	1.2721	0.0676	-0.5254	0.0465
3	240.12	0.7495	0.2725	0.0011	-0.2810	0.0133	1.4952	0.0801	-0.7024	0.0428
3	240.12	0.7998	0.2718	0.0008	-0.3033	0.0148	1.7388	0.0876	-0.7240	0.0432
3	240.12	0.8577	0.3063	0.0014	-0.3307	0.0163	2.0046	0.0991	-0.6250	0.0396
3	240.12	0.9178	0.3316	0.0013	-0.3508	0.0180	2.2539	0.1123	-0.6836	0.0403
3	240.12	0.9729	0.3288	0.0019	-0.4566	0.0196	2.4461	0.1253	-0.9942	0.0387

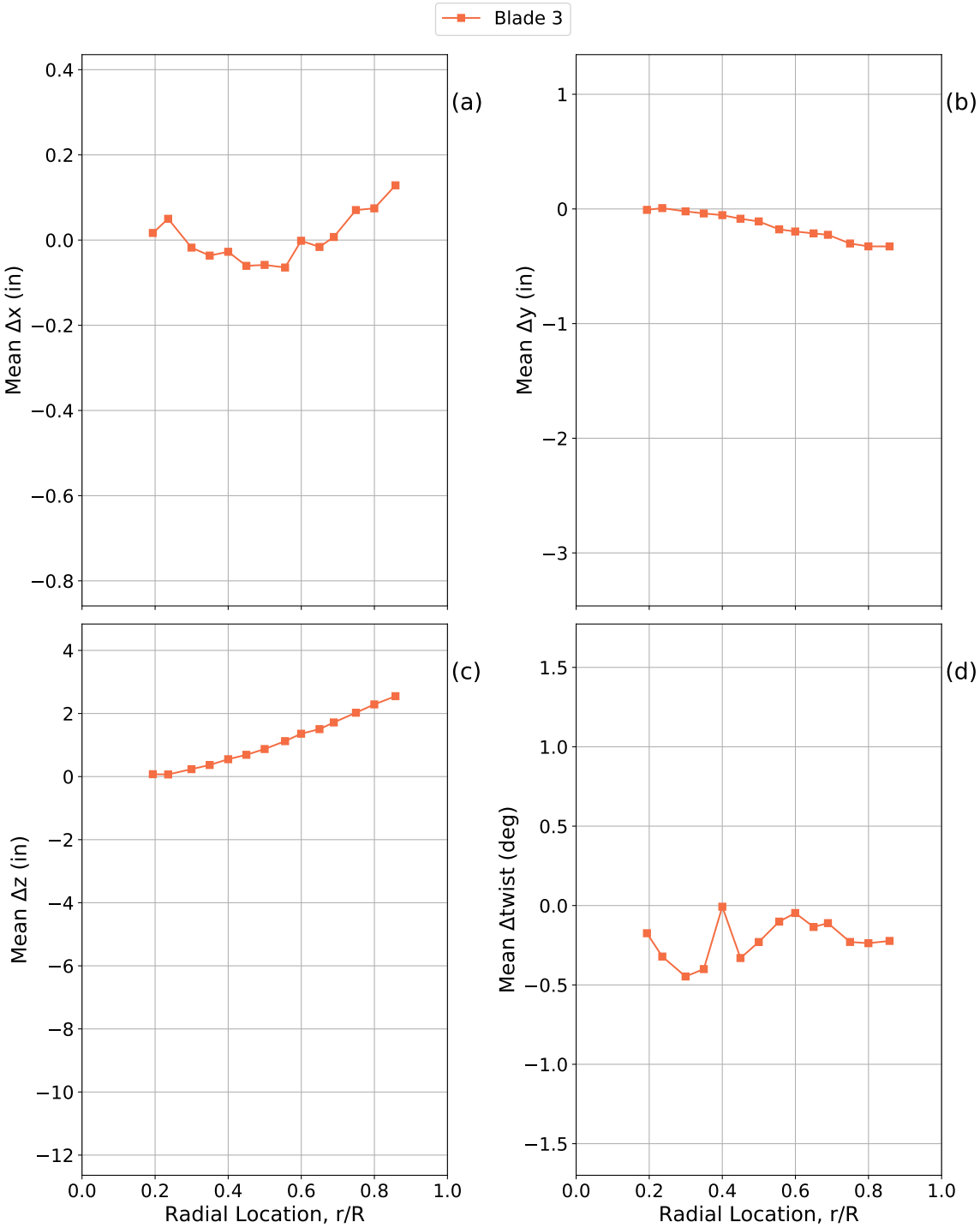


Figure 3.40-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	0.0167	0.0009	-0.0082	0.0004	0.0749	0.0025	-0.1745	0.0224
3	254.88	0.2357	0.0500	0.0013	0.0072	0.0019	0.0672	0.0049	-0.3213	0.0224
3	254.88	0.2995	-0.0177	0.0007	-0.0211	0.0026	0.2350	0.0094	-0.4469	0.0440
3	254.88	0.3493	-0.0364	0.0012	-0.0393	0.0048	0.3676	0.0140	-0.4003	0.0394
3	254.88	0.4000	-0.0275	0.0017	-0.0542	0.0081	0.5506	0.0219	-0.0074	0.0512
3	254.88	0.4497	-0.0605	0.0023	-0.0855	0.0092	0.6902	0.0266	-0.3307	0.0311
3	254.88	0.4997	-0.0583	0.0019	-0.1089	0.0114	0.8733	0.0340	-0.2299	0.0414
3	254.88	0.5556	-0.0644	0.0023	-0.1781	0.0134	1.1233	0.0440	-0.1012	0.0257
3	254.88	0.5995	-0.0016	0.0024	-0.1968	0.0153	1.3588	0.0524	-0.0471	0.0421
3	254.88	0.6498	-0.0161	0.0018	-0.2133	0.0166	1.5044	0.0621	-0.1349	0.0613
3	254.88	0.6890	0.0072	0.0024	-0.2257	0.0189	1.7169	0.0699	-0.1108	0.0551
3	254.88	0.7495	0.0705	0.0023	-0.3013	0.0194	2.0244	0.0801	-0.2294	0.0568
3	254.88	0.7998	0.0745	0.0023	-0.3265	0.0220	2.2884	0.0889	-0.2372	0.0770
3	254.88	0.8577	0.1285	0.0030	-0.3270	0.0210	2.5487	0.0995	-0.2230	0.1297

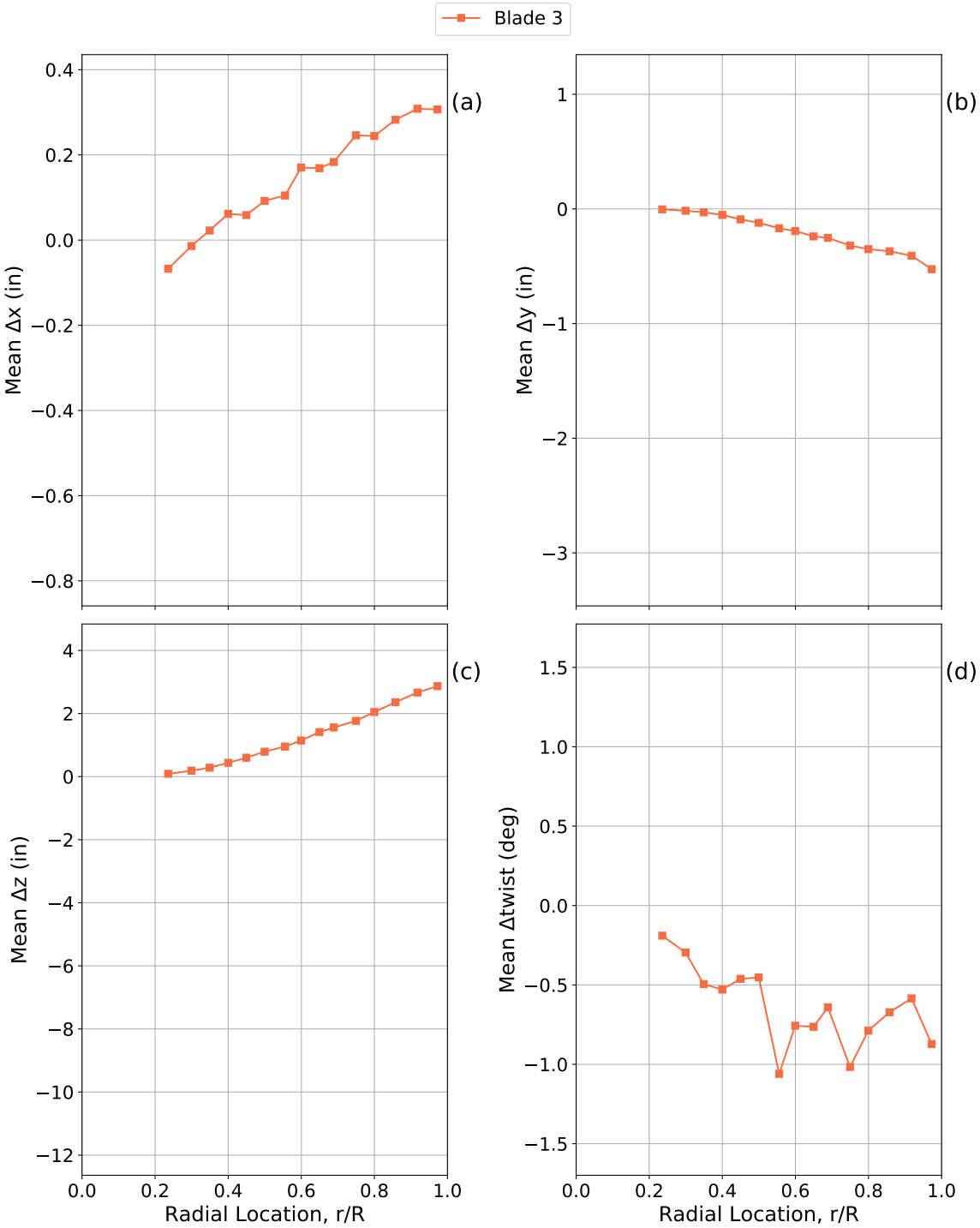


Figure 3.40-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2357	-0.0674	0.0059	-0.0038	0.0016	0.0878	0.0111	-0.1899	0.0922
3	260.16	0.2995	-0.0139	0.0011	-0.0158	0.0043	0.1863	0.0181	-0.2959	0.1475
3	260.16	0.3493	0.0225	0.0015	-0.0298	0.0080	0.2807	0.0334	-0.4951	0.1291
3	260.16	0.4000	0.0615	0.0016	-0.0521	0.0127	0.4369	0.0458	-0.5293	0.1358
3	260.16	0.4497	0.0587	0.0014	-0.0911	0.0169	0.5983	0.0570	-0.4618	0.1450
3	260.16	0.4997	0.0920	0.0024	-0.1209	0.0208	0.7892	0.0680	-0.4528	0.1407
3	260.16	0.5556	0.1046	0.0021	-0.1686	0.0252	0.9518	0.0792	-1.0602	0.1417
3	260.16	0.5995	0.1703	0.0021	-0.1929	0.0287	1.1440	0.0888	-0.7572	0.1440
3	260.16	0.6498	0.1688	0.0022	-0.2393	0.0330	1.4115	0.1022	-0.7638	0.1406
3	260.16	0.6890	0.1833	0.0028	-0.2523	0.0370	1.5574	0.1135	-0.6412	0.1442
3	260.16	0.7495	0.2460	0.0029	-0.3195	0.0422	1.7667	0.1315	-1.0168	0.1395
3	260.16	0.7998	0.2443	0.0029	-0.3508	0.0467	2.0472	0.1479	-0.7874	0.1424
3	260.16	0.8577	0.2824	0.0032	-0.3693	0.0519	2.3570	0.1698	-0.6720	0.1410
3	260.16	0.9178	0.3083	0.0041	-0.4081	0.0569	2.6651	0.1947	-0.5850	0.1381
3	260.16	0.9729	0.3066	0.0055	-0.5255	0.0616	2.8657	0.2147	-0.8721	0.1467

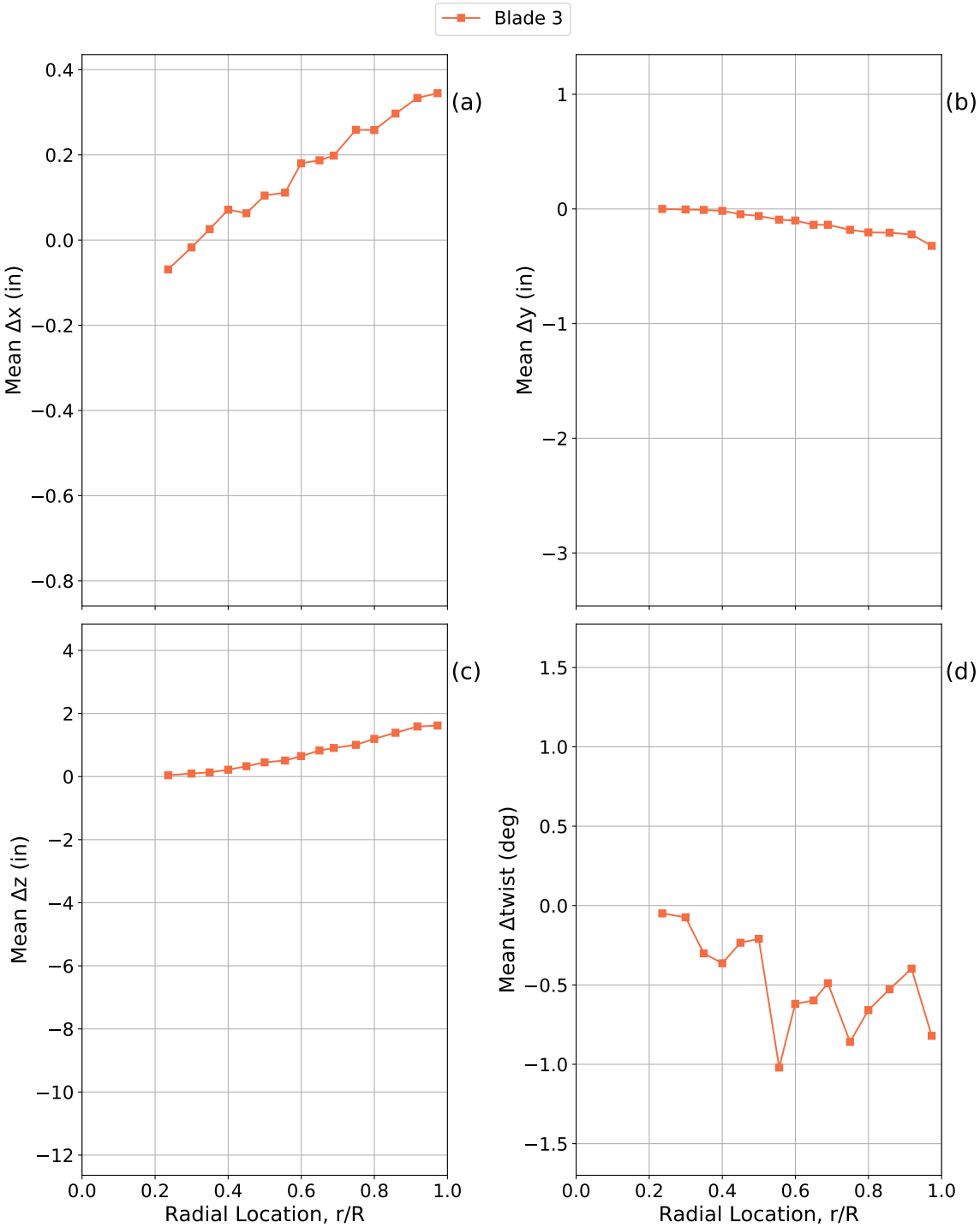


Figure 3.40-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0688	0.0055	-0.0003	0.0010	0.0409	0.0177	-0.0494	0.1630
3	265.08	0.2995	-0.0172	0.0020	-0.0049	0.0032	0.0962	0.0320	-0.0742	0.2605
3	265.08	0.3493	0.0256	0.0015	-0.0084	0.0067	0.1331	0.0546	-0.3012	0.2737
3	265.08	0.4000	0.0713	0.0020	-0.0167	0.0110	0.2180	0.0785	-0.3636	0.2820
3	265.08	0.4497	0.0630	0.0023	-0.0461	0.0150	0.3283	0.1030	-0.2343	0.2767
3	265.08	0.4997	0.1046	0.0025	-0.0616	0.0189	0.4502	0.1268	-0.2099	0.2693
3	265.08	0.5556	0.1114	0.0018	-0.0935	0.0236	0.5090	0.1540	-1.0203	0.2649
3	265.08	0.5995	0.1802	0.0018	-0.1009	0.0271	0.6481	0.1765	-0.6196	0.2614
3	265.08	0.6498	0.1873	0.0021	-0.1381	0.0304	0.8267	0.2024	-0.5977	0.2645
3	265.08	0.6890	0.1983	0.0022	-0.1383	0.0335	0.9084	0.2231	-0.4893	0.2668
3	265.08	0.7495	0.2589	0.0026	-0.1816	0.0384	1.0068	0.2573	-0.8590	0.2663
3	265.08	0.7998	0.2583	0.0030	-0.2042	0.0422	1.1962	0.2880	-0.6586	0.2588
3	265.08	0.8577	0.2969	0.0037	-0.2069	0.0462	1.3900	0.3211	-0.5271	0.2659
3	265.08	0.9178	0.3337	0.0043	-0.2227	0.0507	1.5872	0.3557	-0.3975	0.2698
3	265.08	0.9729	0.3448	0.0070	-0.3220	0.0558	1.6183	0.3900	-0.8209	0.2633

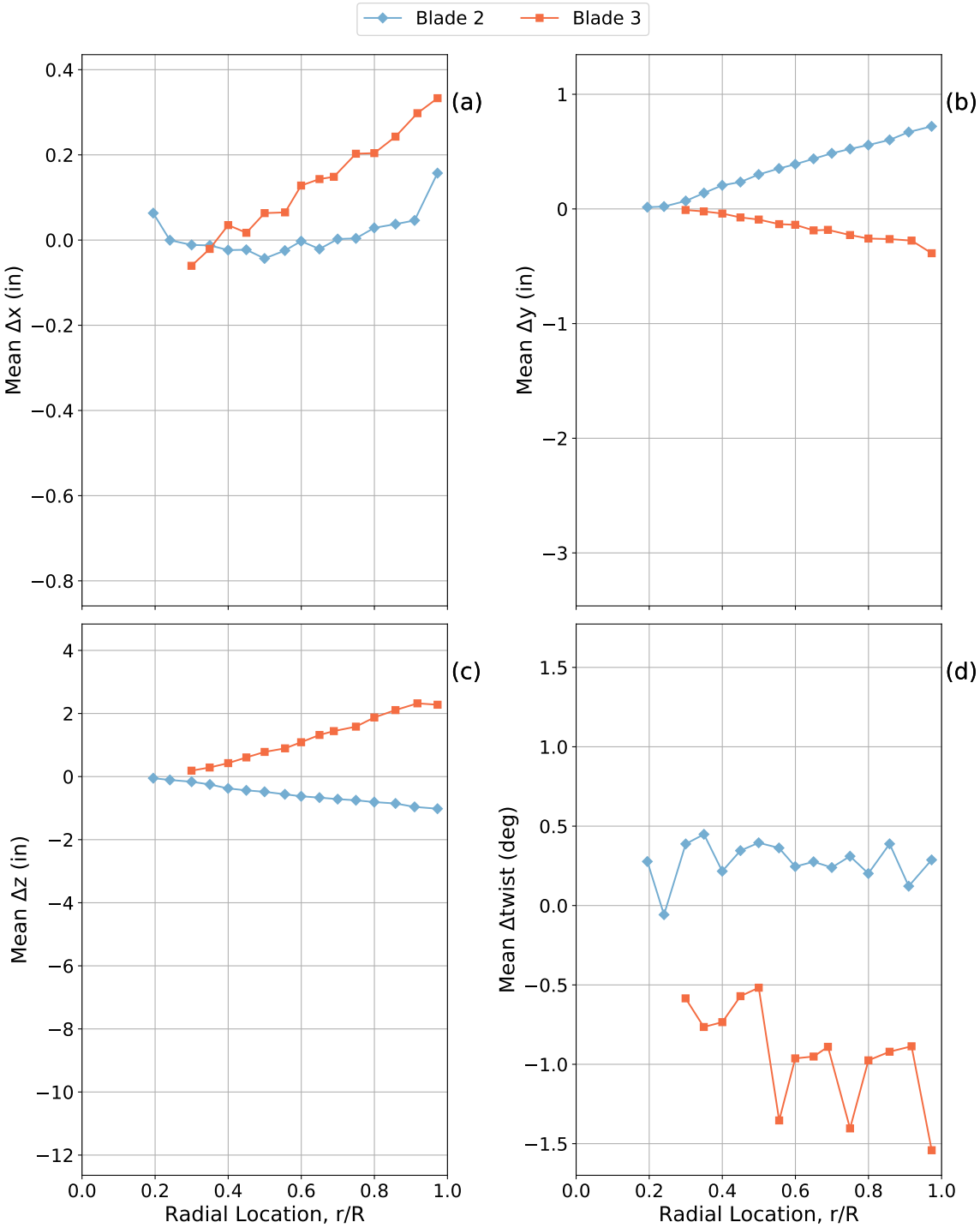


Figure 3.40-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0633	0.0081	0.0150	0.0022	-0.0514	0.0068	0.2774	0.0326
2	270.35	0.2405	-0.0003	0.0092	0.0207	0.0087	-0.1068	0.0185	-0.0576	0.0396
2	270.35	0.2999	-0.0114	0.0103	0.0695	0.0089	-0.1639	0.0178	0.3880	0.0676
2	270.35	0.3498	-0.0125	0.0078	0.1389	0.0279	-0.2505	0.0369	0.4487	0.0540
2	270.35	0.3998	-0.0235	0.0076	0.2061	0.0376	-0.3756	0.0498	0.2161	0.0499
2	270.35	0.4496	-0.0227	0.0077	0.2347	0.0456	-0.4367	0.0609	0.3458	0.0483
2	270.35	0.4995	-0.0432	0.0074	0.3005	0.0549	-0.4822	0.0762	0.3953	0.0609
2	270.35	0.5551	-0.0246	0.0082	0.3526	0.0652	-0.5616	0.0908	0.3627	0.0481
2	270.35	0.5996	-0.0025	0.0084	0.3897	0.0730	-0.6251	0.1024	0.2454	0.0467
2	270.35	0.6497	-0.0210	0.0080	0.4371	0.0823	-0.6668	0.1188	0.2757	0.0453
2	270.35	0.6996	0.0024	0.0077	0.4851	0.0912	-0.7156	0.1365	0.2394	0.0373
2	270.35	0.7495	0.0040	0.0080	0.5233	0.0997	-0.7509	0.1523	0.3106	0.0486
2	270.35	0.7996	0.0287	0.0080	0.5571	0.1091	-0.8088	0.1743	0.2017	0.0473
2	270.35	0.8578	0.0374	0.0079	0.6023	0.1197	-0.8525	0.1979	0.3885	0.0363
2	270.35	0.9100	0.0461	0.0082	0.6704	0.1290	-0.9611	0.2175	0.1218	0.0428
2	270.35	0.9727	0.1572	0.0104	0.7203	0.1402	-1.0192	0.2396	0.2875	0.0577
3	270	0.2995	-0.0604	0.0150	-0.0092	0.0119	0.1875	0.2141	-0.5846	0.5264
3	270	0.3493	-0.0208	0.0095	-0.0216	0.0257	0.2881	0.3321	-0.7651	0.6876
3	270	0.4000	0.0352	0.0118	-0.0401	0.0465	0.4262	0.4947	-0.7345	0.6454
3	270	0.4497	0.0171	0.0139	-0.0742	0.0635	0.6069	0.6323	-0.5709	0.6706
3	270	0.4997	0.0633	0.0187	-0.0926	0.0823	0.7816	0.7863	-0.5175	0.6295
3	270	0.5556	0.0650	0.0218	-0.1327	0.1037	0.8952	0.9467	-1.3535	0.6461
3	270	0.5995	0.1280	0.0249	-0.1383	0.1189	1.0887	1.0750	-0.9627	0.6463
3	270	0.6498	0.1432	0.0286	-0.1871	0.1372	1.3197	1.2198	-0.9512	0.6519
3	270	0.6890	0.1485	0.0308	-0.1826	0.1515	1.4418	1.3312	-0.8899	0.6605
3	270	0.7495	0.2027	0.0344	-0.2277	0.1746	1.5827	1.5076	-1.4038	0.6484
3	270	0.7998	0.2041	0.0373	-0.2583	0.1918	1.8741	1.6529	-0.9751	0.6472
3	270	0.8577	0.2428	0.0407	-0.2630	0.2126	2.1082	1.8214	-0.9208	0.6530
3	270	0.9178	0.2979	0.0456	-0.2759	0.2348	2.3214	1.9988	-0.8865	0.6376
3	270	0.9729	0.3331	0.0563	-0.3864	0.2572	2.2779	2.1613	-1.5413	0.6445

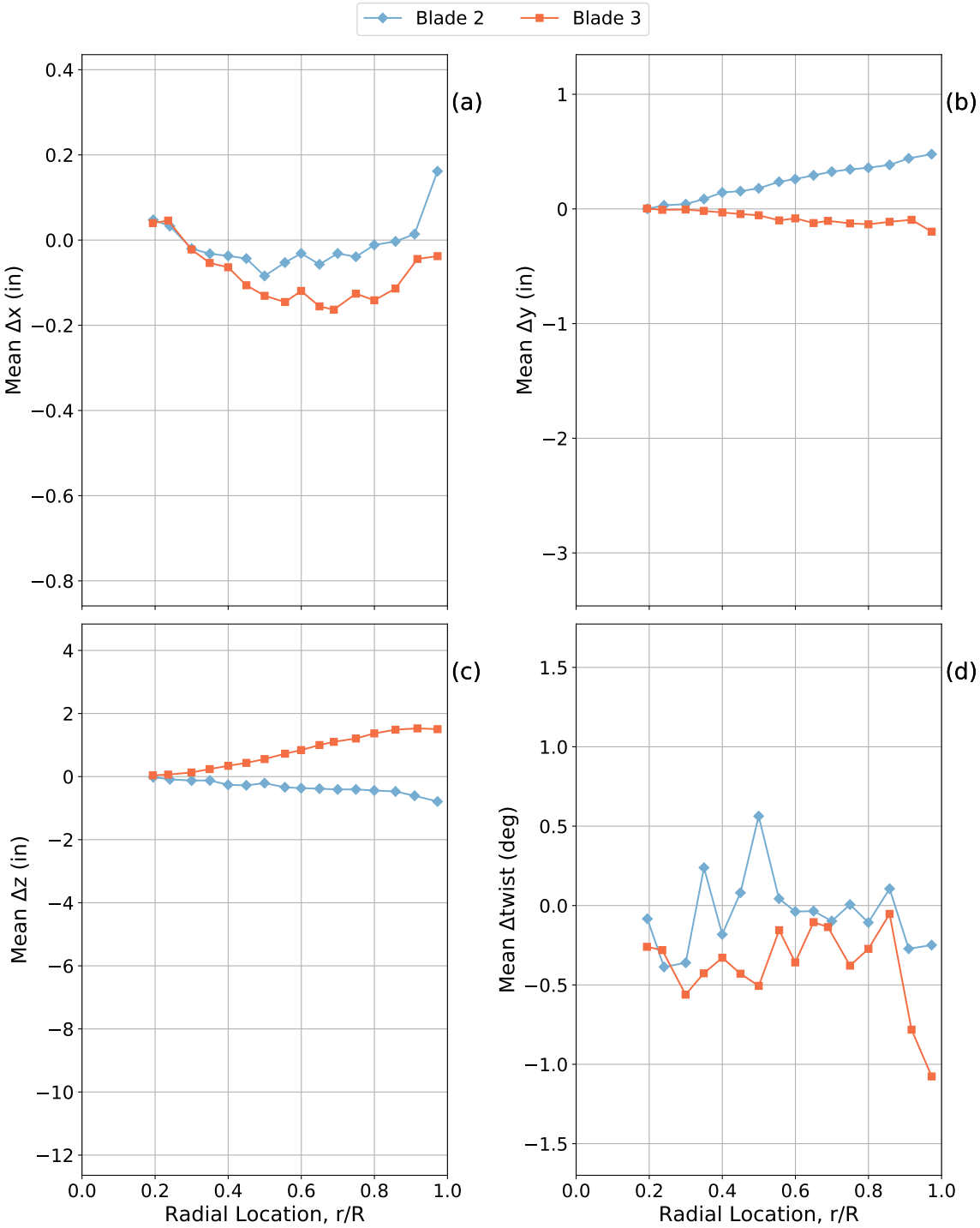


Figure 3.40-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0474	0.0014	0.0010	0.0010	-0.0190	0.0059	-0.0835	0.0476
2	274.92	0.2405	0.0327	0.0015	0.0315	0.0019	-0.0890	0.0128	-0.3869	0.0235
2	274.92	0.2999	-0.0202	0.0018	0.0419	0.0049	-0.1264	0.0263	-0.3606	0.0826
2	274.92	0.3498	-0.0322	0.0039	0.0863	0.0061	-0.1228	0.0312	0.2385	0.0841
2	274.92	0.3998	-0.0370	0.0034	0.1438	0.0121	-0.2608	0.0566	-0.1819	0.0686
2	274.92	0.4496	-0.0434	0.0017	0.1552	0.0134	-0.2782	0.0649	0.0806	0.0467
2	274.92	0.4995	-0.0842	0.0018	0.1796	0.0159	-0.2094	0.0808	0.5630	0.0336
2	274.92	0.5551	-0.0528	0.0027	0.2367	0.0193	-0.3387	0.0973	0.0431	0.0480
2	274.92	0.5996	-0.0313	0.0022	0.2603	0.0229	-0.3673	0.1159	-0.0379	0.0424
2	274.92	0.6497	-0.0570	0.0025	0.2935	0.0260	-0.3836	0.1332	-0.0348	0.0404
2	274.92	0.6996	-0.0314	0.0020	0.3253	0.0289	-0.4083	0.1520	-0.0979	0.0449
2	274.92	0.7495	-0.0392	0.0029	0.3452	0.0319	-0.4064	0.1717	0.0062	0.0544
2	274.92	0.7996	-0.0114	0.0029	0.3589	0.0351	-0.4420	0.1897	-0.1068	0.0538
2	274.92	0.8578	-0.0032	0.0034	0.3840	0.0383	-0.4714	0.2066	0.1059	0.0683
2	274.92	0.9100	0.0140	0.0014	0.4410	0.0423	-0.6083	0.2278	-0.2722	0.0626
2	274.92	0.9727	0.1616	0.0036	0.4778	0.0472	-0.7899	0.2609	-0.2492	0.0584
3	274.92	0.1938	0.0398	0.0013	0.0035	0.0006	0.0392	0.0058	-0.2602	0.0353
3	274.92	0.2357	0.0458	0.0010	-0.0079	0.0012	0.0632	0.0182	-0.2806	0.0503
3	274.92	0.2995	-0.0220	0.0022	-0.0050	0.0033	0.1303	0.0256	-0.5612	0.0804
3	274.92	0.3493	-0.0537	0.0021	-0.0171	0.0064	0.2374	0.0454	-0.4269	0.0694
3	274.92	0.4000	-0.0639	0.0017	-0.0308	0.0106	0.3421	0.0702	-0.3286	0.0526
3	274.92	0.4497	-0.1061	0.0025	-0.0446	0.0132	0.4338	0.0836	-0.4292	0.0338
3	274.92	0.4997	-0.1308	0.0020	-0.0553	0.0153	0.5555	0.1027	-0.5062	0.0831
3	274.92	0.5556	-0.1454	0.0028	-0.0999	0.0184	0.7252	0.1084	-0.1555	0.0843
3	274.92	0.5995	-0.1194	0.0014	-0.0824	0.0209	0.8396	0.1263	-0.3582	0.0402
3	274.92	0.6498	-0.1557	0.0025	-0.1232	0.0241	1.0001	0.1381	-0.1047	0.0637
3	274.92	0.6890	-0.1634	0.0023	-0.1039	0.0266	1.1007	0.1514	-0.1355	0.0514
3	274.92	0.7495	-0.1258	0.0028	-0.1257	0.0308	1.2077	0.1710	-0.3787	0.0654
3	274.92	0.7998	-0.1414	0.0027	-0.1343	0.0344	1.3689	0.1905	-0.2729	0.0515
3	274.92	0.8577	-0.1137	0.0035	-0.1124	0.0385	1.4863	0.2124	-0.0527	0.0561
3	274.92	0.9178	-0.0444	0.0044	-0.0947	0.0427	1.5281	0.2370	-0.7818	0.0778
3	274.92	0.9729	-0.0377	0.0050	-0.1983	0.0472	1.5029	0.2633	-1.0763	0.0883

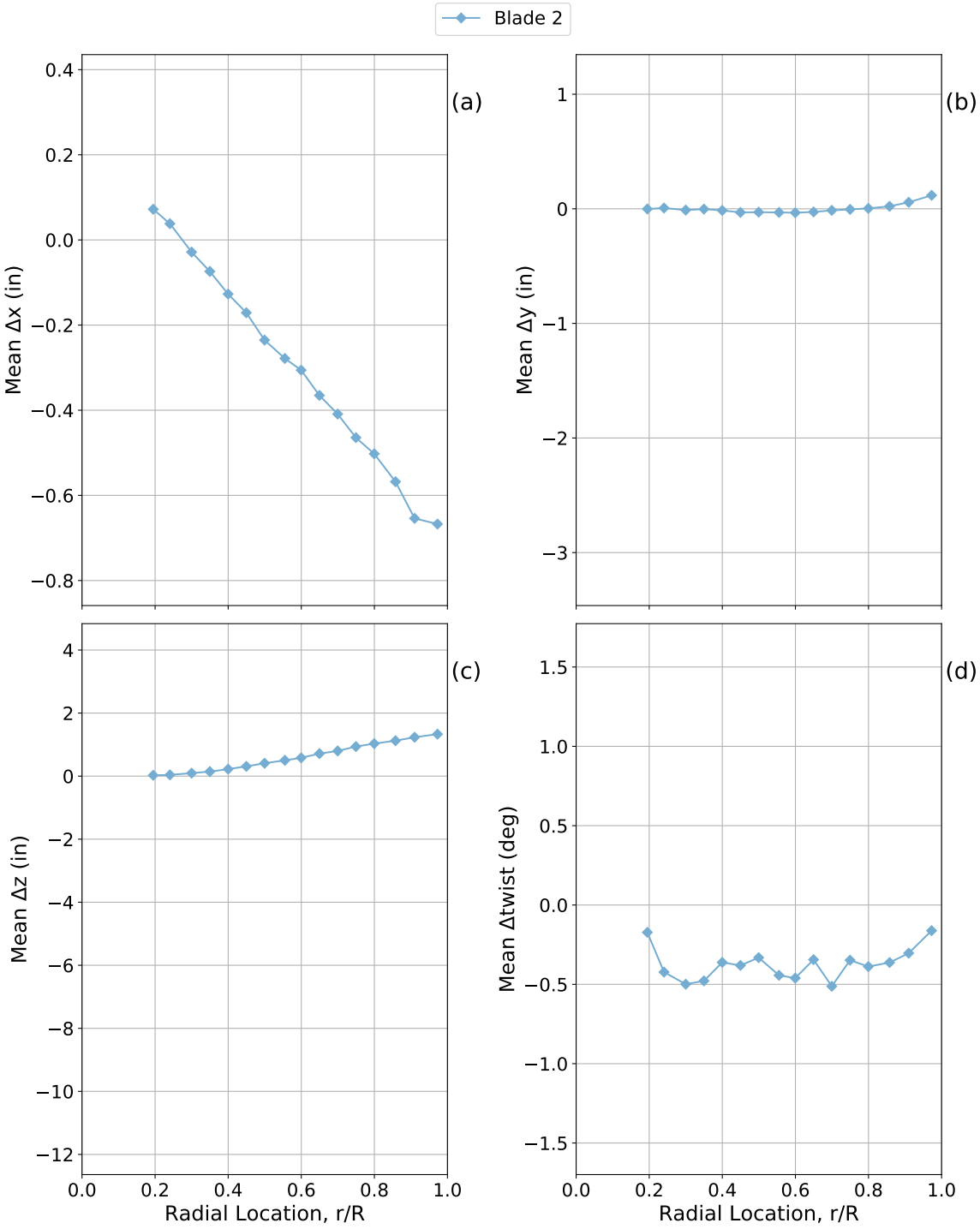


Figure 3.40-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0721	0.0027	-0.0016	0.0004	0.0266	0.0039	-0.1725	0.0335
2	285.12	0.2405	0.0382	0.0023	0.0069	0.0024	0.0394	0.0125	-0.4227	0.1032
2	285.12	0.2999	-0.0285	0.0018	-0.0110	0.0073	0.0950	0.0237	-0.4992	0.1020
2	285.12	0.3498	-0.0740	0.0013	-0.0025	0.0057	0.1432	0.0267	-0.4781	0.0575
2	285.12	0.3998	-0.1271	0.0077	-0.0142	0.0153	0.2219	0.0521	-0.3616	0.0894
2	285.12	0.4496	-0.1710	0.0061	-0.0315	0.0176	0.3094	0.0582	-0.3807	0.0932
2	285.12	0.4995	-0.2353	0.0060	-0.0293	0.0178	0.4084	0.0655	-0.3316	0.1077
2	285.12	0.5551	-0.2784	0.0035	-0.0316	0.0219	0.5011	0.0676	-0.4431	0.0972
2	285.12	0.5996	-0.3058	0.0037	-0.0340	0.0237	0.5806	0.0769	-0.4607	0.0486
2	285.12	0.6497	-0.3652	0.0023	-0.0272	0.0264	0.7141	0.0868	-0.3443	0.1211
2	285.12	0.6996	-0.4090	0.0048	-0.0136	0.0325	0.7987	0.0966	-0.5123	0.1010
2	285.12	0.7495	-0.4644	0.0033	-0.0050	0.0348	0.9380	0.1038	-0.3478	0.0879
2	285.12	0.7996	-0.5024	0.0036	0.0036	0.0379	1.0308	0.1099	-0.3879	0.0761
2	285.12	0.8578	-0.5679	0.0037	0.0219	0.0417	1.1242	0.1218	-0.3625	0.0984
2	285.12	0.9100	-0.6540	0.0039	0.0570	0.0455	1.2332	0.1287	-0.3035	0.1167
2	285.12	0.9727	-0.6674	0.0048	0.1178	0.0497	1.3315	0.1432	-0.1616	0.1118

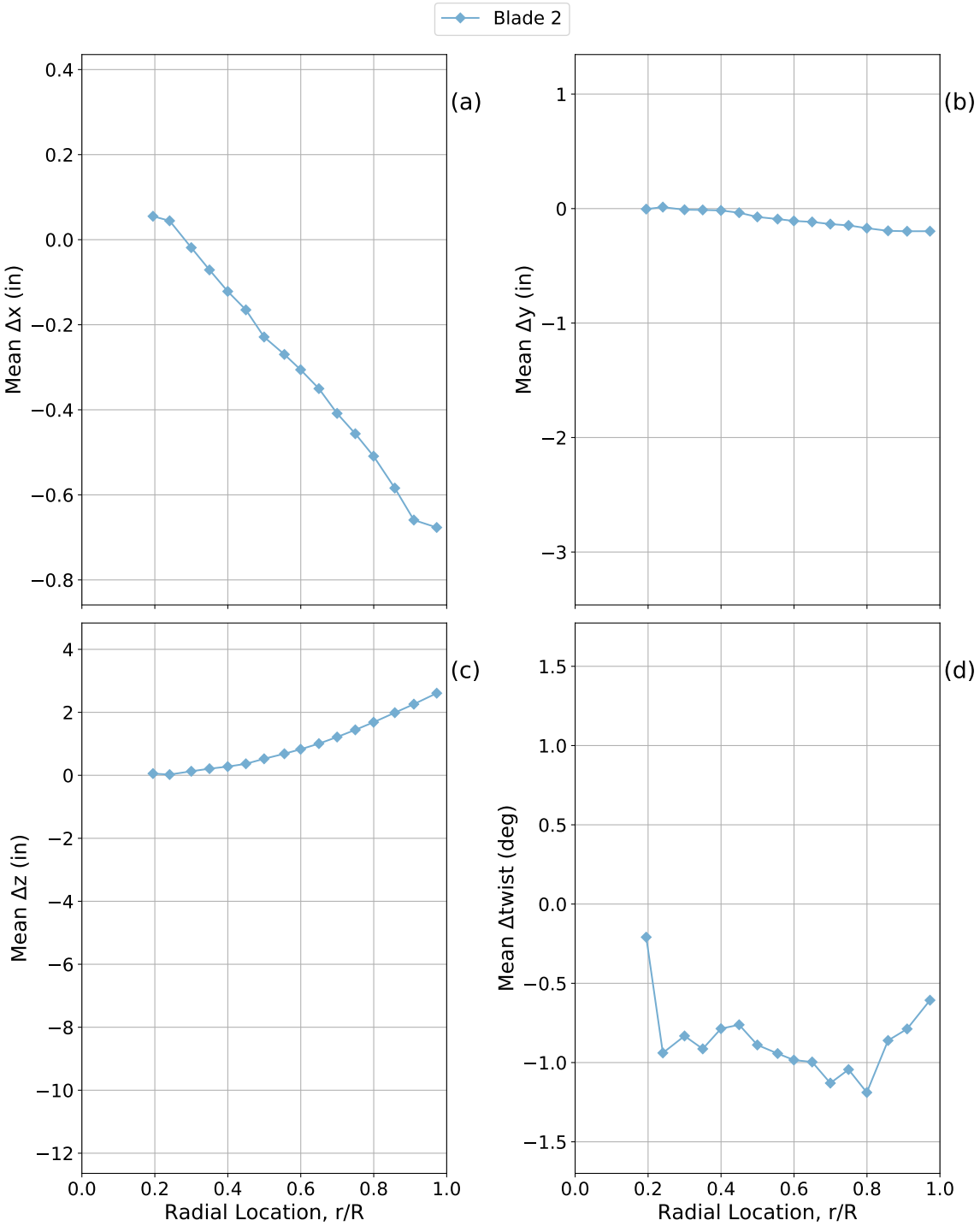


Figure 3.40-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0551	0.0020	-0.0044	0.0005	0.0553	0.0054	-0.2088	0.0353
2	299.88	0.2405	0.0444	0.0012	0.0129	0.0016	0.0237	0.0109	-0.9393	0.0446
2	299.88	0.2999	-0.0187	0.0019	-0.0100	0.0041	0.1283	0.0161	-0.8322	0.0717
2	299.88	0.3498	-0.0711	0.0019	-0.0116	0.0070	0.2102	0.0270	-0.9137	0.0682
2	299.88	0.3998	-0.1216	0.0034	-0.0163	0.0117	0.2763	0.0395	-0.7861	0.0558
2	299.88	0.4496	-0.1650	0.0055	-0.0362	0.0158	0.3654	0.0456	-0.7616	0.0639
2	299.88	0.4995	-0.2288	0.0044	-0.0729	0.0134	0.5246	0.0460	-0.8889	0.0845
2	299.88	0.5551	-0.2698	0.0024	-0.0916	0.0174	0.6846	0.0640	-0.9430	0.0707
2	299.88	0.5996	-0.3058	0.0020	-0.1076	0.0188	0.8272	0.0674	-0.9841	0.0741
2	299.88	0.6497	-0.3502	0.0024	-0.1165	0.0217	1.0065	0.0789	-0.9963	0.0536
2	299.88	0.6996	-0.4085	0.0027	-0.1353	0.0246	1.2159	0.0908	-1.1297	0.0690
2	299.88	0.7495	-0.4563	0.0027	-0.1468	0.0264	1.4438	0.1077	-1.0440	0.0554
2	299.88	0.7996	-0.5091	0.0025	-0.1710	0.0292	1.6851	0.1189	-1.1888	0.0699
2	299.88	0.8578	-0.5841	0.0032	-0.1943	0.0314	1.9884	0.1380	-0.8607	0.0448
2	299.88	0.9100	-0.6592	0.0032	-0.1978	0.0336	2.2596	0.1555	-0.7879	0.0462
2	299.88	0.9727	-0.6767	0.0043	-0.1975	0.0370	2.6078	0.1761	-0.6066	0.0469

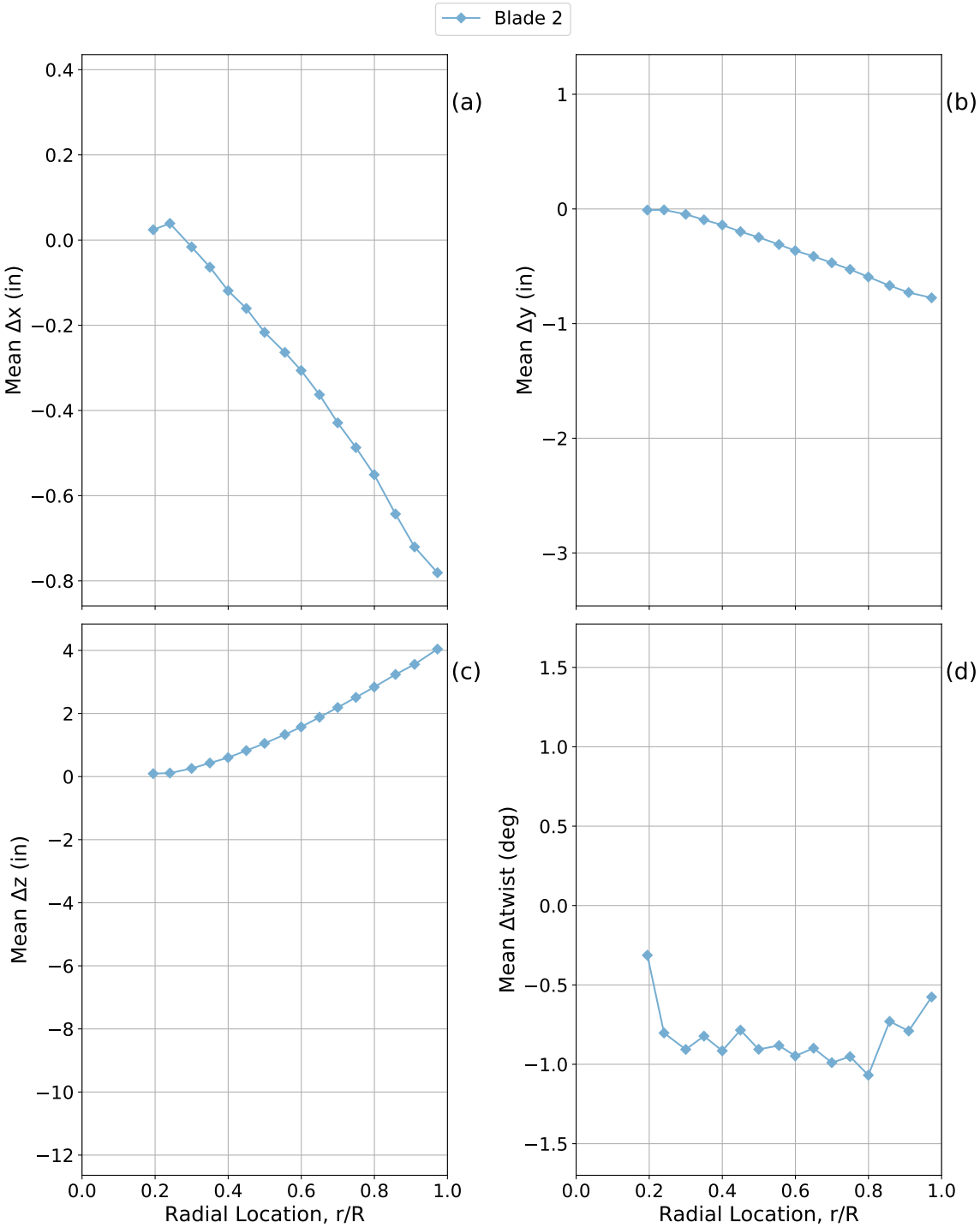


Figure 3.40-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0242	0.0011	-0.0098	0.0004	0.0931	0.0045	-0.3130	0.0302
2	315	0.2405	0.0391	0.0011	-0.0084	0.0024	0.1110	0.0071	-0.8029	0.0407
2	315	0.2999	-0.0161	0.0027	-0.0466	0.0048	0.2574	0.0127	-0.9064	0.0666
2	315	0.3498	-0.0635	0.0016	-0.0947	0.0086	0.4304	0.0157	-0.8226	0.0635
2	315	0.3998	-0.1189	0.0032	-0.1402	0.0144	0.6010	0.0250	-0.9150	0.0363
2	315	0.4496	-0.1605	0.0029	-0.1979	0.0151	0.8242	0.0294	-0.7848	0.0543
2	315	0.4995	-0.2166	0.0017	-0.2478	0.0188	1.0525	0.0301	-0.9057	0.0541
2	315	0.5551	-0.2637	0.0032	-0.3102	0.0232	1.3333	0.0396	-0.8820	0.0353
2	315	0.5996	-0.3062	0.0028	-0.3637	0.0253	1.5733	0.0422	-0.9475	0.0441
2	315	0.6497	-0.3629	0.0026	-0.4134	0.0281	1.8802	0.0446	-0.8987	0.0628
2	315	0.6996	-0.4290	0.0037	-0.4698	0.0284	2.1906	0.0547	-0.9897	0.0424
2	315	0.7495	-0.4871	0.0024	-0.5273	0.0325	2.5105	0.0620	-0.9514	0.0587
2	315	0.7996	-0.5508	0.0025	-0.5934	0.0375	2.8390	0.0662	-1.0687	0.0464
2	315	0.8578	-0.6431	0.0029	-0.6688	0.0401	3.2373	0.0730	-0.7299	0.0462
2	315	0.9100	-0.7204	0.0025	-0.7289	0.0436	3.5592	0.0812	-0.7901	0.0386
2	315	0.9727	-0.7809	0.0042	-0.7751	0.0482	4.0424	0.0914	-0.5761	0.0401

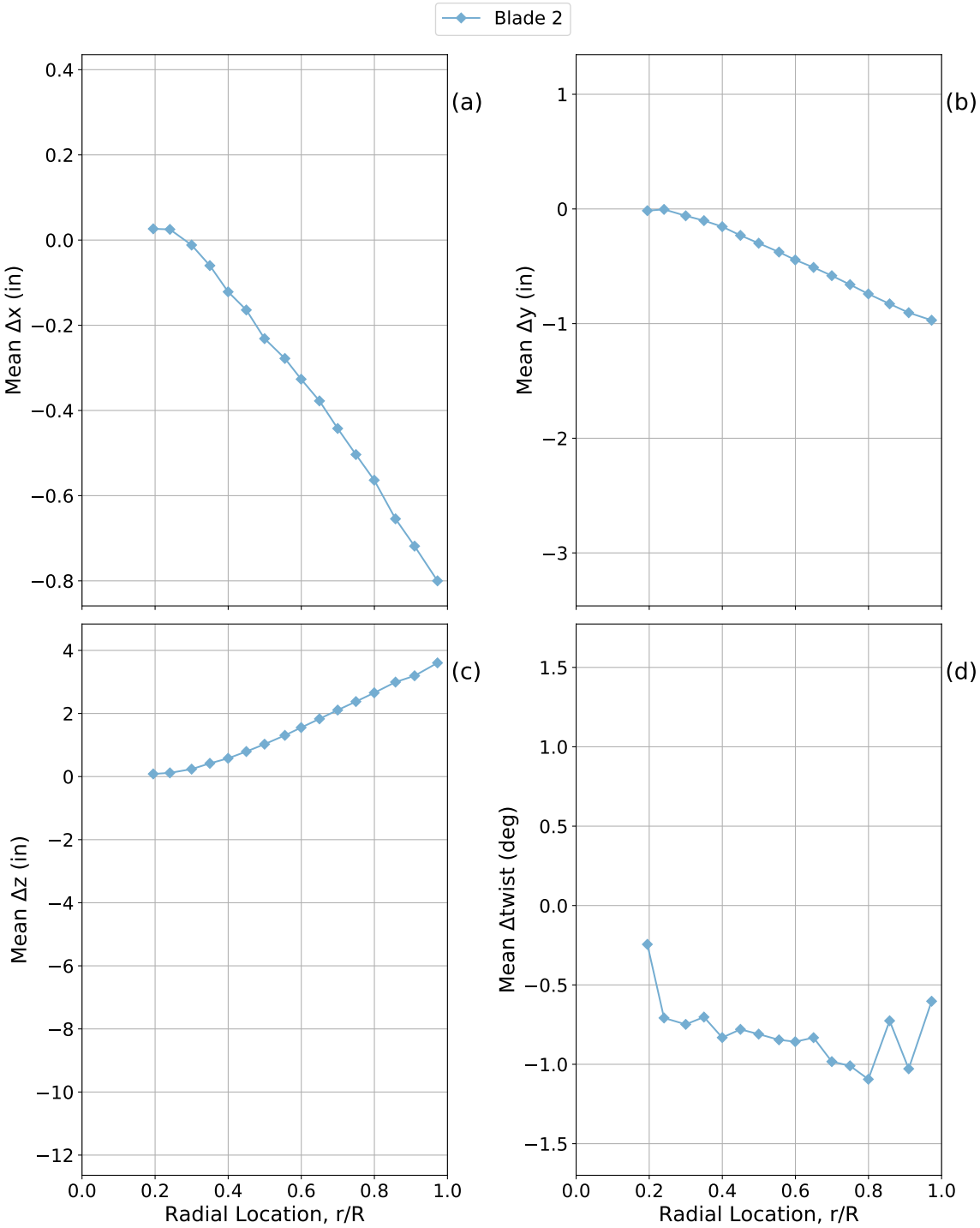


Figure 3.40-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0264	0.0013	-0.0152	0.0005	0.0839	0.0030	-0.2444	0.0185
2	330.12	0.2405	0.0251	0.0014	-0.0040	0.0014	0.1175	0.0046	-0.7081	0.0357
2	330.12	0.2999	-0.0117	0.0020	-0.0599	0.0026	0.2358	0.0099	-0.7485	0.0466
2	330.12	0.3498	-0.0599	0.0012	-0.1020	0.0050	0.4191	0.0156	-0.7024	0.0482
2	330.12	0.3998	-0.1215	0.0013	-0.1547	0.0073	0.5789	0.0242	-0.8318	0.0721
2	330.12	0.4496	-0.1641	0.0021	-0.2308	0.0087	0.7943	0.0320	-0.7800	0.0670
2	330.12	0.4995	-0.2314	0.0021	-0.2990	0.0118	1.0269	0.0372	-0.8100	0.0599
2	330.12	0.5551	-0.2779	0.0015	-0.3761	0.0122	1.3070	0.0448	-0.8459	0.0788
2	330.12	0.5996	-0.3266	0.0027	-0.4447	0.0153	1.5538	0.0543	-0.8577	0.0616
2	330.12	0.6497	-0.3776	0.0020	-0.5102	0.0158	1.8305	0.0618	-0.8322	0.0685
2	330.12	0.6996	-0.4423	0.0021	-0.5822	0.0174	2.1087	0.0711	-0.9831	0.0508
2	330.12	0.7495	-0.5035	0.0025	-0.6601	0.0195	2.3780	0.0831	-1.0096	0.0514
2	330.12	0.7996	-0.5637	0.0029	-0.7413	0.0216	2.6557	0.0949	-1.0943	0.0509
2	330.12	0.8578	-0.6544	0.0023	-0.8280	0.0234	2.9956	0.1113	-0.7259	0.0579
2	330.12	0.9100	-0.7185	0.0020	-0.9049	0.0251	3.1957	0.1281	-1.0283	0.0477
2	330.12	0.9727	-0.8000	0.0018	-0.9707	0.0270	3.6044	0.1485	-0.6028	0.0469

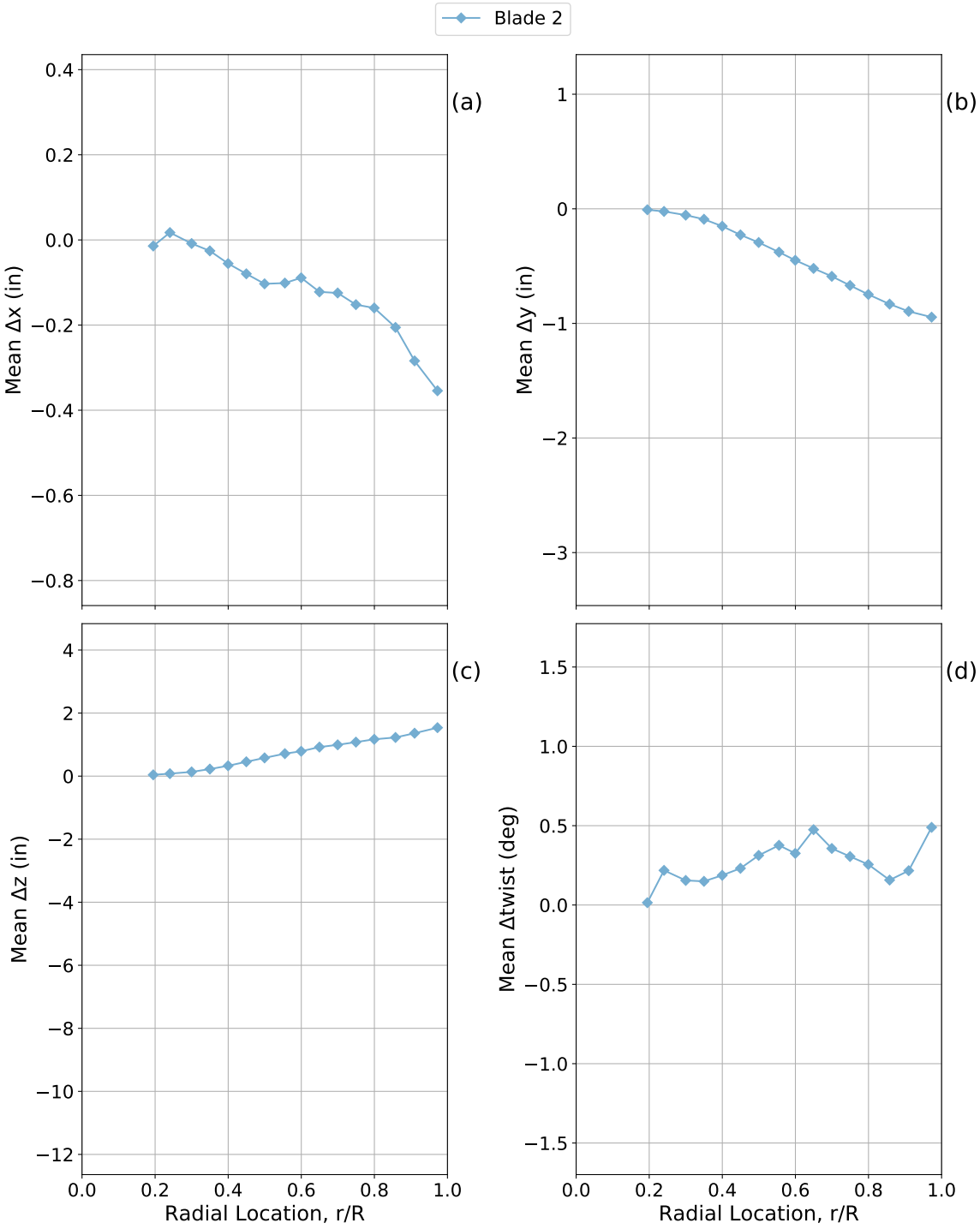


Figure 3.40-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0143	0.0037	-0.0082	0.0013	0.0412	0.0047	0.0146	0.0274
2	344.88	0.2405	0.0173	0.0016	-0.0229	0.0017	0.0785	0.0067	0.2183	0.0997
2	344.88	0.2999	-0.0084	0.0035	-0.0552	0.0057	0.1343	0.0144	0.1549	0.0942
2	344.88	0.3498	-0.0257	0.0043	-0.0911	0.0091	0.2236	0.0178	0.1492	0.1432
2	344.88	0.3998	-0.0555	0.0074	-0.1520	0.0146	0.3281	0.0287	0.1872	0.1172
2	344.88	0.4496	-0.0796	0.0104	-0.2274	0.0207	0.4549	0.0347	0.2312	0.1178
2	344.88	0.4995	-0.1031	0.0111	-0.2939	0.0224	0.5790	0.0352	0.3127	0.1390
2	344.88	0.5551	-0.1013	0.0142	-0.3778	0.0260	0.7127	0.0465	0.3763	0.1039
2	344.88	0.5996	-0.0889	0.0170	-0.4491	0.0293	0.7887	0.0508	0.3254	0.1012
2	344.88	0.6497	-0.1220	0.0200	-0.5201	0.0323	0.9218	0.0614	0.4748	0.1034
2	344.88	0.6996	-0.1246	0.0226	-0.5893	0.0364	0.9929	0.0672	0.3564	0.1107
2	344.88	0.7495	-0.1520	0.0250	-0.6688	0.0400	1.0789	0.0754	0.3057	0.1156
2	344.88	0.7996	-0.1598	0.0272	-0.7474	0.0430	1.1681	0.0841	0.2554	0.1164
2	344.88	0.8578	-0.2055	0.0305	-0.8316	0.0497	1.2265	0.0967	0.1572	0.1081
2	344.88	0.9100	-0.2841	0.0329	-0.8952	0.0544	1.3609	0.1134	0.2163	0.1115
2	344.88	0.9727	-0.3543	0.0401	-0.9454	0.0600	1.5367	0.1479	0.4895	0.1667

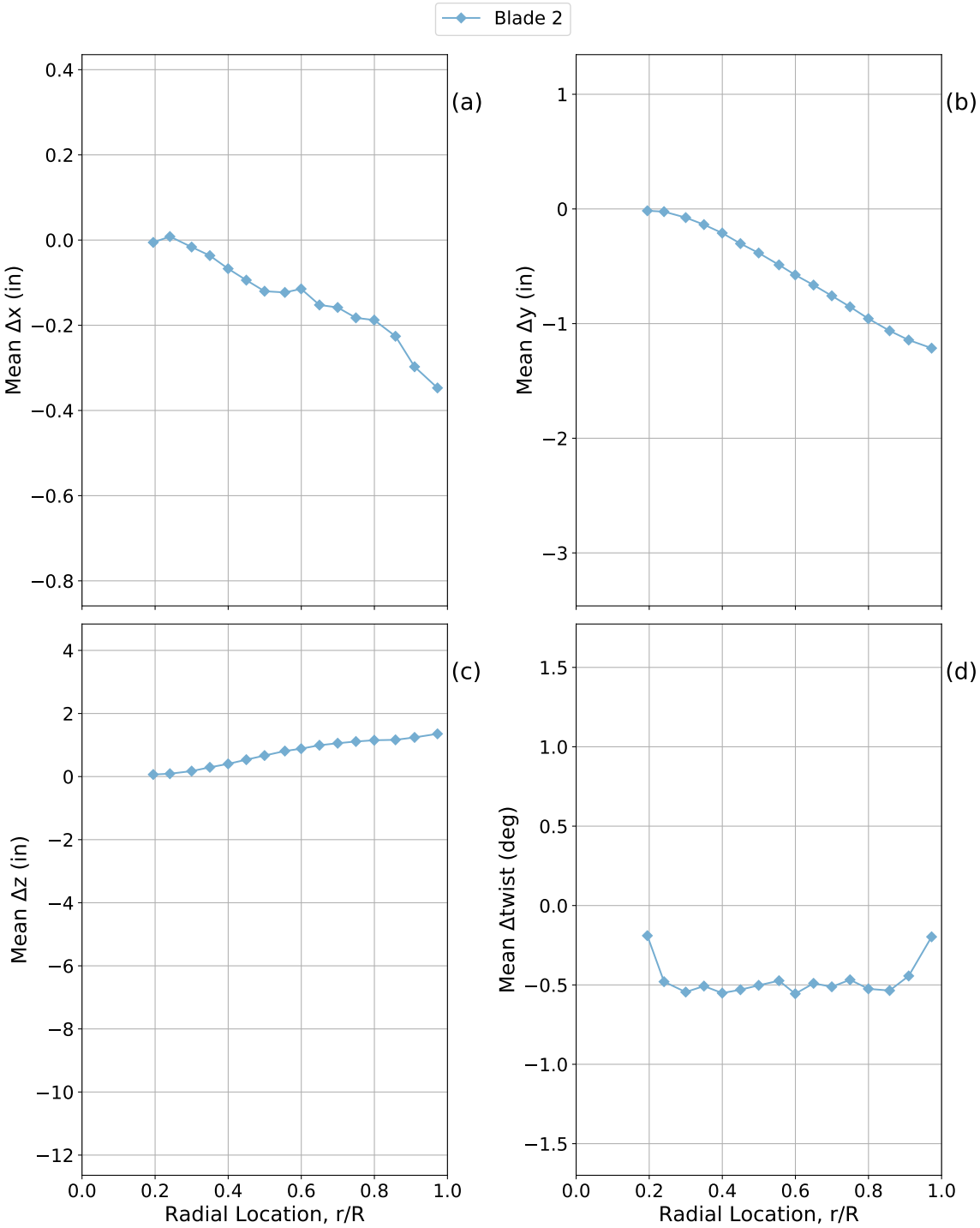


Figure 3.40-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0055	0.0045	-0.0160	0.0008	0.0656	0.0047	-0.1899	0.0127
2	350.16	0.2405	0.0083	0.0023	-0.0236	0.0027	0.0908	0.0098	-0.4798	0.0401
2	350.16	0.2999	-0.0163	0.0016	-0.0756	0.0052	0.1732	0.0188	-0.5450	0.0361
2	350.16	0.3498	-0.0365	0.0046	-0.1368	0.0081	0.2935	0.0241	-0.5073	0.0442
2	350.16	0.3998	-0.0672	0.0080	-0.2105	0.0143	0.4026	0.0415	-0.5515	0.0446
2	350.16	0.4496	-0.0941	0.0110	-0.3023	0.0175	0.5356	0.0486	-0.5303	0.0595
2	350.16	0.4995	-0.1201	0.0125	-0.3841	0.0214	0.6669	0.0559	-0.5026	0.0310
2	350.16	0.5551	-0.1229	0.0168	-0.4880	0.0265	0.8098	0.0679	-0.4735	0.0540
2	350.16	0.5996	-0.1146	0.0182	-0.5758	0.0285	0.8841	0.0757	-0.5557	0.0368
2	350.16	0.6497	-0.1523	0.0208	-0.6640	0.0337	0.9931	0.0853	-0.4901	0.0410
2	350.16	0.6996	-0.1582	0.0240	-0.7579	0.0365	1.0571	0.0936	-0.5120	0.0535
2	350.16	0.7495	-0.1826	0.0271	-0.8537	0.0410	1.1119	0.1023	-0.4676	0.0552
2	350.16	0.7996	-0.1878	0.0311	-0.9570	0.0455	1.1519	0.1110	-0.5248	0.0335
2	350.16	0.8578	-0.2258	0.0360	-1.0628	0.0518	1.1648	0.1228	-0.5354	0.0519
2	350.16	0.9100	-0.2974	0.0404	-1.1434	0.0572	1.2418	0.1334	-0.4436	0.0459
2	350.16	0.9727	-0.3471	0.0437	-1.2142	0.0637	1.3549	0.1416	-0.1970	0.1077

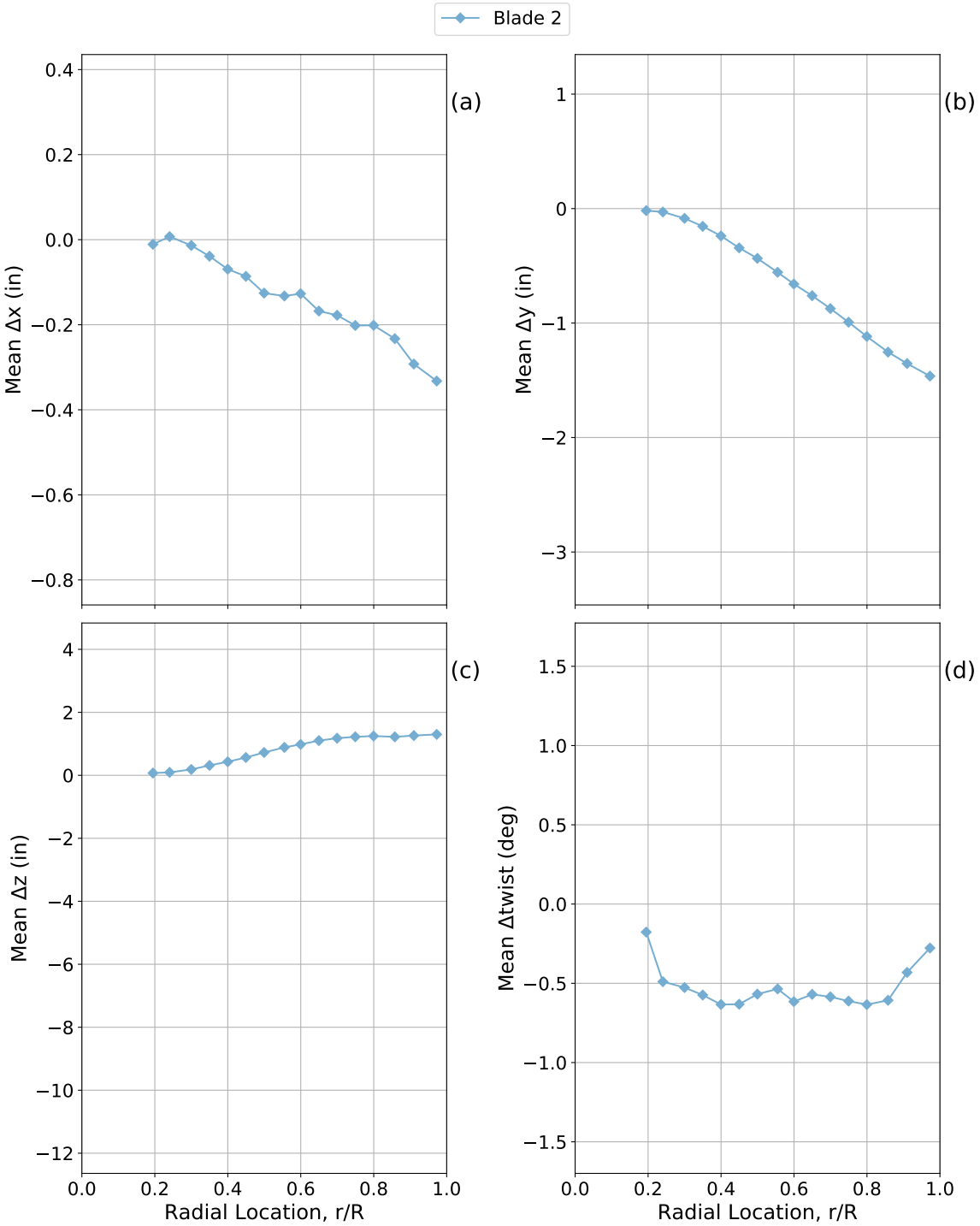


Figure 3.40-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.102, μ = 0.3, α = -0° NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Table 3.40-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.102, μ = 0.3, α = -0°
NFAC run 91, point 18. BD run 42, points 6906 to 6916.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0109	0.0043	-0.0176	0.0007	0.0718	0.0039	-0.1768	0.0170
2	355.08	0.2405	0.0073	0.0022	-0.0295	0.0011	0.0929	0.0058	-0.4897	0.0384
2	355.08	0.2999	-0.0136	0.0024	-0.0852	0.0028	0.1872	0.0135	-0.5267	0.0460
2	355.08	0.3498	-0.0389	0.0051	-0.1550	0.0043	0.3139	0.0213	-0.5740	0.0365
2	355.08	0.3998	-0.0694	0.0078	-0.2389	0.0069	0.4298	0.0326	-0.6335	0.0337
2	355.08	0.4496	-0.0862	0.0101	-0.3433	0.0090	0.5665	0.0372	-0.6320	0.0560
2	355.08	0.4995	-0.1257	0.0126	-0.4348	0.0119	0.7251	0.0505	-0.5682	0.0448
2	355.08	0.5551	-0.1324	0.0154	-0.5565	0.0150	0.8872	0.0631	-0.5355	0.0464
2	355.08	0.5996	-0.1270	0.0178	-0.6590	0.0186	0.9813	0.0725	-0.6156	0.0580
2	355.08	0.6497	-0.1678	0.0200	-0.7609	0.0203	1.1023	0.0835	-0.5696	0.0595
2	355.08	0.6996	-0.1777	0.0224	-0.8733	0.0251	1.1779	0.1000	-0.5854	0.0460
2	355.08	0.7495	-0.2017	0.0234	-0.9922	0.0310	1.2230	0.1111	-0.6121	0.0553
2	355.08	0.7996	-0.2014	0.0259	-1.1173	0.0361	1.2465	0.1254	-0.6342	0.0495
2	355.08	0.8578	-0.2328	0.0283	-1.2538	0.0422	1.2215	0.1391	-0.6072	0.0550
2	355.08	0.9100	-0.2924	0.0300	-1.3535	0.0477	1.2621	0.1461	-0.4313	0.0526
2	355.08	0.9727	-0.3324	0.0333	-1.4634	0.0516	1.2998	0.1627	-0.2774	0.0614

3.41 Run 91, Point 66

3.41.1 Pitch, Flap, and Lag

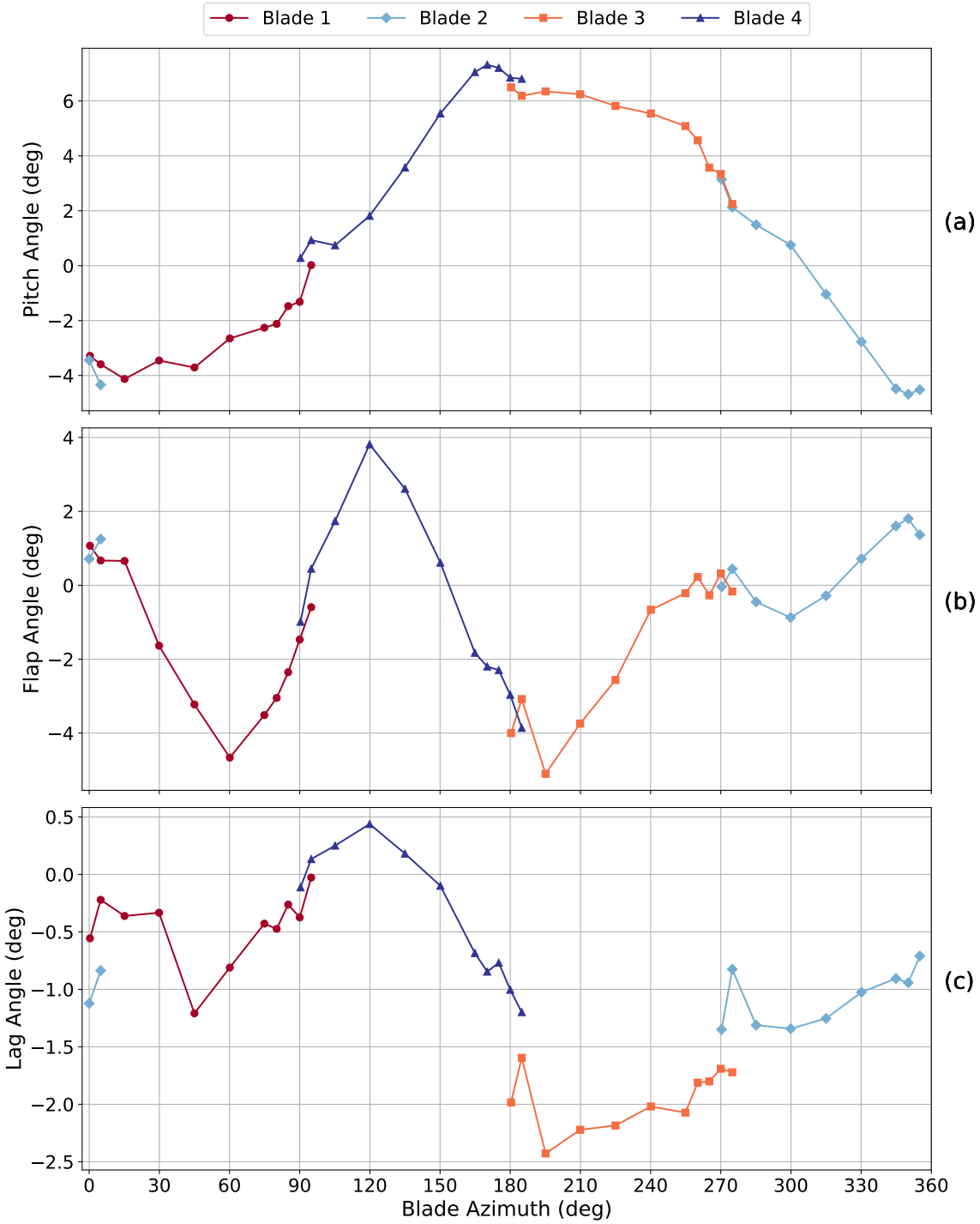


Figure 3.41-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.009$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	-3.4407	0.7152	-1.1224	1.2846	0.9366	0.3913
0.35	1	-3.2866	1.0713	-0.5562	0.3242	0.3020	0.1745
4.92	1	-3.5931	0.6712	-0.2212	0.1125	0.1838	0.1473
4.92	2	-4.3392	1.2487	-0.8366	0.1072	0.1737	0.0695
15.12	1	-4.1295	0.6586	-0.3616	0.2078	0.4424	0.1326
29.88	1	-3.4555	-1.6352	-0.3336	0.2019	0.3599	0.2177
45	1	-3.7105	-3.2258	-1.2090	0.1460	0.2103	0.0937
60.12	1	-2.6507	-4.6635	-0.8106	0.2878	0.2014	0.2594
74.88	1	-2.2597	-3.5117	-0.4287	0.4521	0.2463	0.0929
80.16	1	-2.1208	-3.0472	-0.4742	0.6106	0.3579	0.1403
85.08	1	-1.4748	-2.3513	-0.2622	1.0241	0.3759	0.0700
90	1	-1.3175	-1.4697	-0.3747	1.1977	0.4691	0.0950
90.35	4	0.2818	-0.9880	-0.1127	0.2201	0.3493	0.0982
94.92	1	0.0208	-0.5924	-0.0276	0.0791	0.4579	0.2151
94.92	4	0.9305	0.4493	0.1335	0.1668	0.3513	0.1349
105.12	4	0.7411	1.7369	0.2505	0.0756	0.9650	0.1753
119.88	4	1.8163	3.8128	0.4383	0.0917	0.4842	0.1271
135	4	3.5758	2.6107	0.1807	0.0549	0.6520	0.1095
150.12	4	5.5443	0.6125	-0.0990	0.1220	1.0643	0.3029
164.88	4	7.0513	-1.8270	-0.6846	0.1066	0.7156	0.1813
170.16	4	7.3188	-2.1980	-0.8463	0.1081	1.0304	0.2867
175.08	4	7.2050	-2.2955	-0.7686	0.2042	0.6714	0.2042
180	4	6.8483	-2.9637	-1.0038	0.1791	0.7066	0.1295
180.35	3	6.4959	-3.9998	-1.9838	0.1259	0.6271	0.2526
184.92	3	6.1890	-3.0795	-1.5960	0.0611	0.6195	0.1953
184.92	4	6.8067	-3.8578	-1.1989	0.0810	0.6936	0.1173
195.12	3	6.3495	-5.1033	-2.4284	0.1004	0.9355	0.2866
209.88	3	6.2421	-3.7429	-2.2221	0.0392	0.5270	0.2143
225	3	5.8177	-2.5630	-2.1846	0.0511	0.4180	0.1480
240.12	3	5.5416	-0.6631	-2.0190	0.1737	0.7040	0.4709
254.88	3	5.0852	-0.2138	-2.0728	0.1009	0.4118	0.2221
260.16	3	4.5642	0.2258	-1.8118	0.1029	0.3787	0.3092
265.08	3	3.5715	-0.2708	-1.8002	0.1338	0.5542	0.2802
270	3	3.3373	0.3176	-1.6913	0.1675	0.3095	0.2025
270.35	2	3.1416	-0.0404	-1.3494	0.2185	0.3422	0.2594
274.92	2	2.1263	0.4434	-0.8256	0.0750	0.3505	0.1561
274.92	3	2.2456	-0.1683	-1.7216	0.1132	0.4644	0.1943
285.12	2	1.4905	-0.4519	-1.3119	0.0740	0.4440	0.2949
299.88	2	0.7528	-0.8718	-1.3424	0.0628	0.1284	0.2243
315	2	-1.0419	-0.2826	-1.2532	0.0851	0.1238	0.1519
330.12	2	-2.7718	0.7178	-1.0259	0.2993	0.6549	0.3244
344.88	2	-4.4828	1.6039	-0.9057	0.2071	0.3638	0.1663
350.16	2	-4.6837	1.8045	-0.9423	0.2146	0.6056	0.1721
355.08	2	-4.5177	1.3658	-0.7102	0.1516	0.2575	0.1435

3.41.2 Spanwise Elastic Deformations

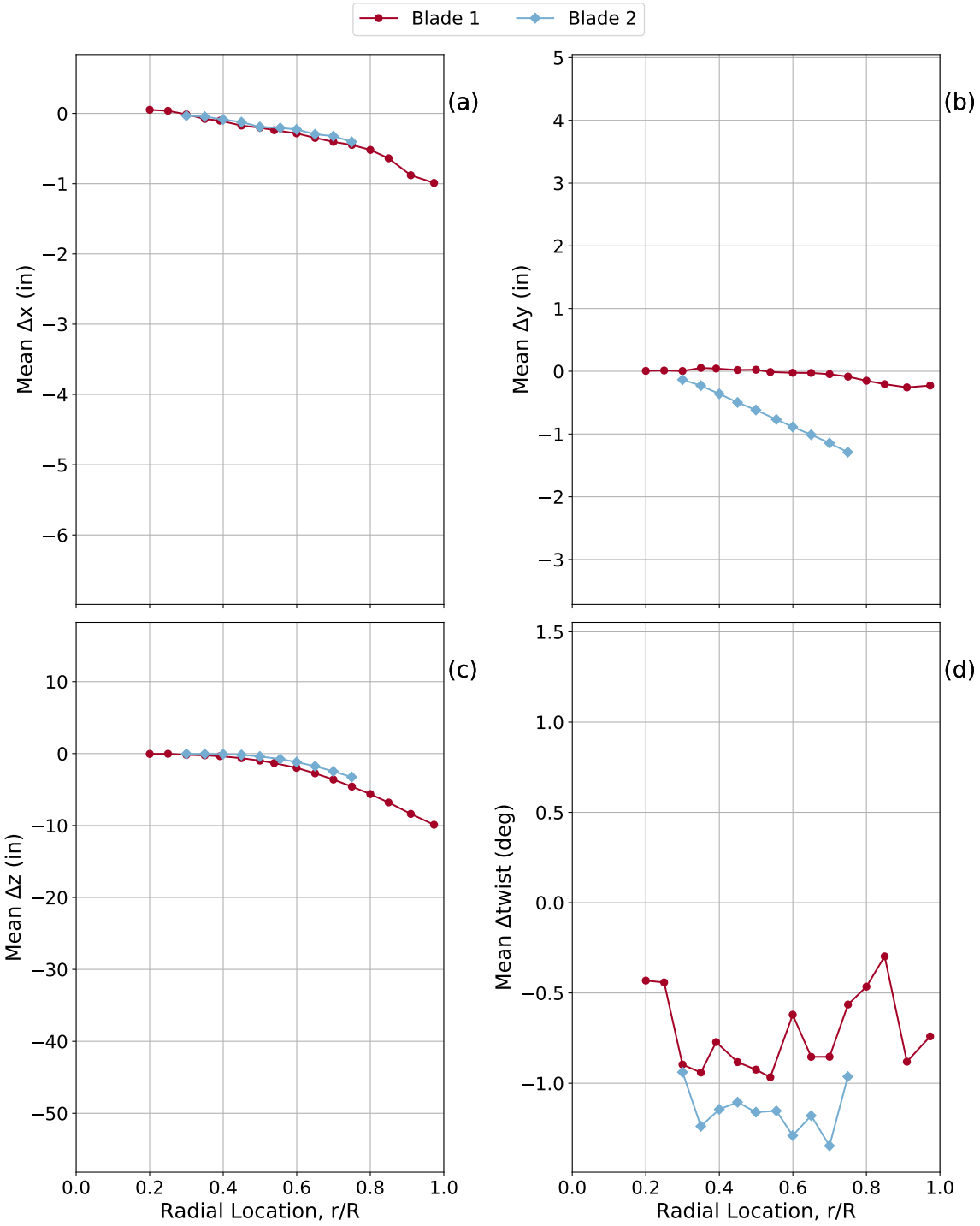


Figure 3.41-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.009$, $\mu = 1$, $\alpha = -0°$ NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0515	0.0148	0.0060	0.0050	-0.0476	0.0076	-0.4316	0.1517
1	0.35	0.2499	0.0375	0.0128	0.0123	0.0184	-0.0300	0.0266	-0.4418	0.1148
1	0.35	0.2998	-0.0135	0.0079	0.0046	0.0221	-0.1733	0.0264	-0.8965	0.2953
1	0.35	0.3498	-0.0794	0.0107	0.0531	0.0425	-0.2490	0.0503	-0.9408	0.3112
1	0.35	0.3913	-0.1032	0.0133	0.0428	0.0615	-0.3604	0.0747	-0.7721	0.2960
1	0.35	0.4496	-0.1732	0.0128	0.0201	0.0934	-0.6336	0.1116	-0.8830	0.3088
1	0.35	0.4997	-0.2033	0.0135	0.0245	0.1223	-0.9762	0.1442	-0.9248	0.3173
1	0.35	0.5387	-0.2390	0.0143	-0.0118	0.1453	-1.3146	0.1686	-0.9670	0.3185
1	0.35	0.5996	-0.2837	0.0138	-0.0242	0.1799	-1.9796	0.2091	-0.6204	0.3202
1	0.35	0.6498	-0.3487	0.0162	-0.0263	0.2084	-2.7436	0.2372	-0.8541	0.3196
1	0.35	0.6998	-0.4046	0.0211	-0.0462	0.2389	-3.6069	0.2687	-0.8537	0.3324
1	0.35	0.7500	-0.4482	0.0269	-0.0850	0.2708	-4.5860	0.3051	-0.5642	0.3390
1	0.35	0.8001	-0.5193	0.0351	-0.1509	0.3052	-5.6248	0.3402	-0.4652	0.3339
1	0.35	0.8497	-0.6386	0.0324	-0.2052	0.2203	-6.7945	0.5435	-0.2976	3.6216
1	0.35	0.9102	-0.8794	0.0395	-0.2565	0.3367	-8.3845	0.6994	-0.8808	0.2777
1	0.35	0.9734	-0.9887	0.0410	-0.2273	0.3639	-9.8906	0.7747	-0.7408	0.2829
2	0	0.2999	-0.0333	0.0311	-0.1339	0.0991	-0.0384	0.1825	-0.9386	0.9045
2	0	0.3498	-0.0451	0.0257	-0.2285	0.1684	-0.0570	0.3169	-1.2385	1.1985
2	0	0.3998	-0.0866	0.0399	-0.3597	0.2644	-0.0814	0.5044	-1.1446	1.1824
2	0	0.4496	-0.1237	0.0531	-0.4964	0.3611	-0.1842	0.6900	-1.1049	1.2070
2	0	0.4995	-0.1924	0.0673	-0.6165	0.4610	-0.3949	0.8808	-1.1601	1.2186
2	0	0.5551	-0.2062	0.0807	-0.7675	0.5729	-0.7570	1.0982	-1.1530	1.2237
2	0	0.5996	-0.2282	0.0911	-0.8868	0.6648	-1.1838	1.2756	-1.2901	1.2269
2	0	0.6497	-0.2967	0.0985	-1.0113	0.7712	-1.7481	1.4721	-1.1795	1.2376
2	0	0.6996	-0.3230	0.1058	-1.1449	0.8794	-2.4746	1.6698	-1.3465	1.2406
2	0	0.7495	-0.4048	0.1099	-1.2892	0.9861	-3.2562	1.8703	-0.9633	1.2176

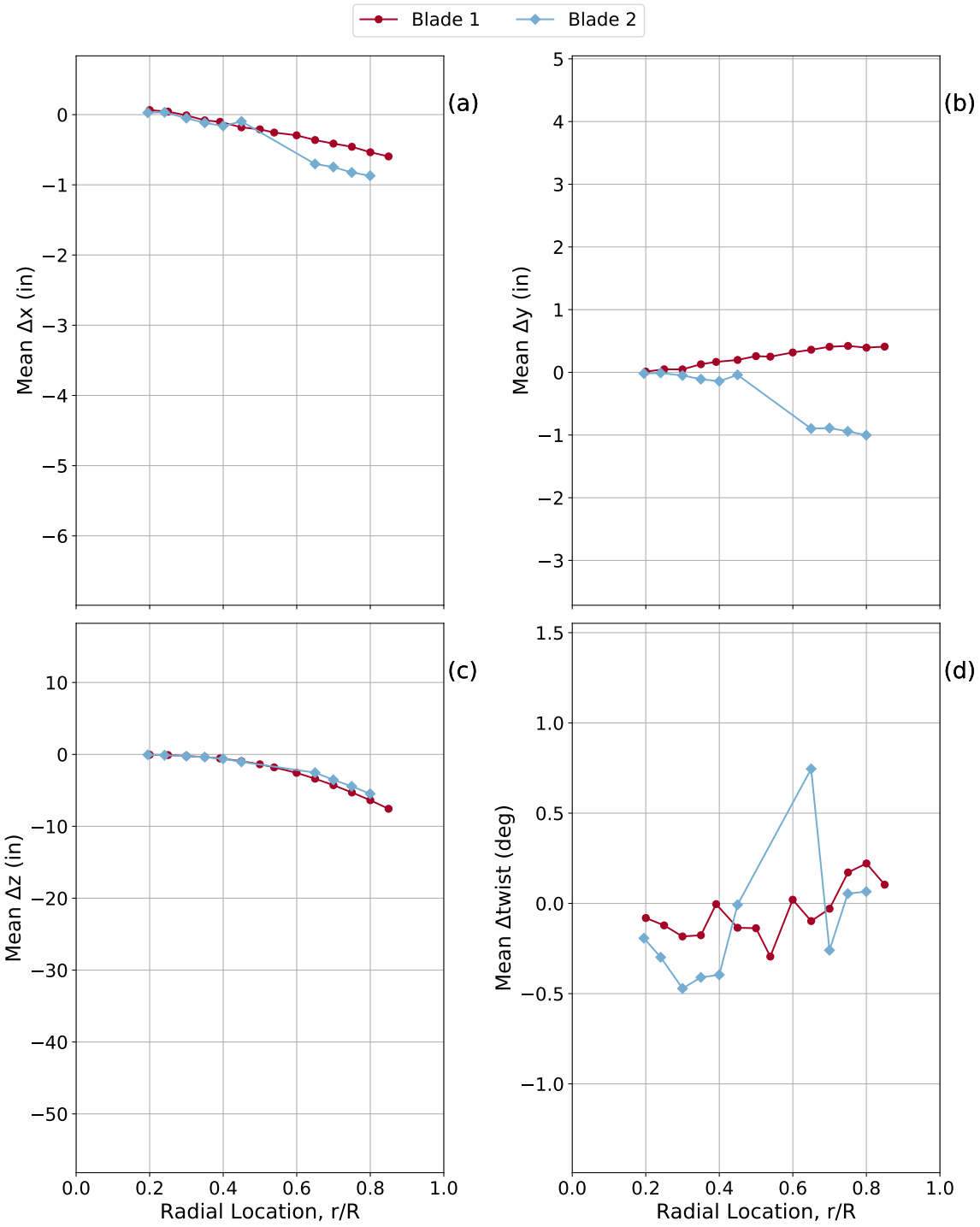


Figure 3.41-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0648	0.0256	0.0110	0.0085	-0.0485	0.0091	-0.0809	0.0282
1	4.92	0.2499	0.0428	0.0101	0.0485	0.0186	-0.0898	0.0189	-0.1218	0.0452
1	4.92	0.2998	-0.0103	0.0122	0.0474	0.0368	-0.2273	0.0380	-0.1832	0.0599
1	4.92	0.3498	-0.0815	0.0379	0.1290	0.0643	-0.3723	0.0668	-0.1765	0.0431
1	4.92	0.3913	-0.1020	0.0589	0.1664	0.0931	-0.5551	0.0966	-0.0043	0.0731
1	4.92	0.4496	-0.1810	0.0947	0.1974	0.1417	-0.9411	0.1418	-0.1350	0.0636
1	4.92	0.4997	-0.2092	0.1287	0.2583	0.1883	-1.3751	0.1844	-0.1375	0.0746
1	4.92	0.5387	-0.2553	0.1553	0.2501	0.2248	-1.7996	0.2216	-0.2945	0.0816
1	4.92	0.5996	-0.2946	0.1955	0.3168	0.2761	-2.5630	0.2794	0.0204	0.0970
1	4.92	0.6498	-0.3620	0.2271	0.3604	0.3192	-3.3763	0.3310	-0.0979	0.1095
1	4.92	0.6998	-0.4130	0.2550	0.4077	0.3572	-4.2761	0.3882	-0.0295	0.1217
1	4.92	0.7500	-0.4581	0.2798	0.4216	0.3902	-5.2917	0.4377	0.1715	0.1443
1	4.92	0.8001	-0.5357	0.2959	0.3939	0.4218	-6.3705	0.4964	0.2213	0.1415
1	4.92	0.8497	-0.5954	0.3116	0.4101	0.4531	-7.5632	0.5516	0.1037	0.1346
2	4.92	0.1949	0.0282	0.0447	-0.0189	0.0090	-0.0495	0.0059	-0.1929	0.0474
2	4.92	0.2405	0.0333	0.0138	-0.0104	0.0181	-0.1087	0.0130	-0.2984	0.0764
2	4.92	0.2999	-0.0504	0.0263	-0.0505	0.0431	-0.2456	0.0353	-0.4714	0.1134
2	4.92	0.3498	-0.1173	0.0607	-0.1094	0.0756	-0.3688	0.0662	-0.4098	0.1127
2	4.92	0.3998	-0.1616	0.0919	-0.1417	0.1178	-0.6121	0.1042	-0.3960	0.1345
2	4.92	0.4496	-0.0966	0.1257	-0.0410	0.1792	-1.0355	0.1610	-0.0076	0.1625
2	4.92	0.6497	-0.7029	0.2352	-0.8976	0.4358	-2.5325	0.7124	0.7453	0.6862
2	4.92	0.6996	-0.7463	0.2684	-0.8887	0.4507	-3.5333	0.8366	-0.2597	0.1728
2	4.92	0.7495	-0.8239	0.2745	-0.9414	0.5078	-4.4385	0.9091	0.0542	0.1928
2	4.92	0.7996	-0.8709	0.2826	-1.0016	0.5700	-5.4713	0.9859	0.0655	0.2287

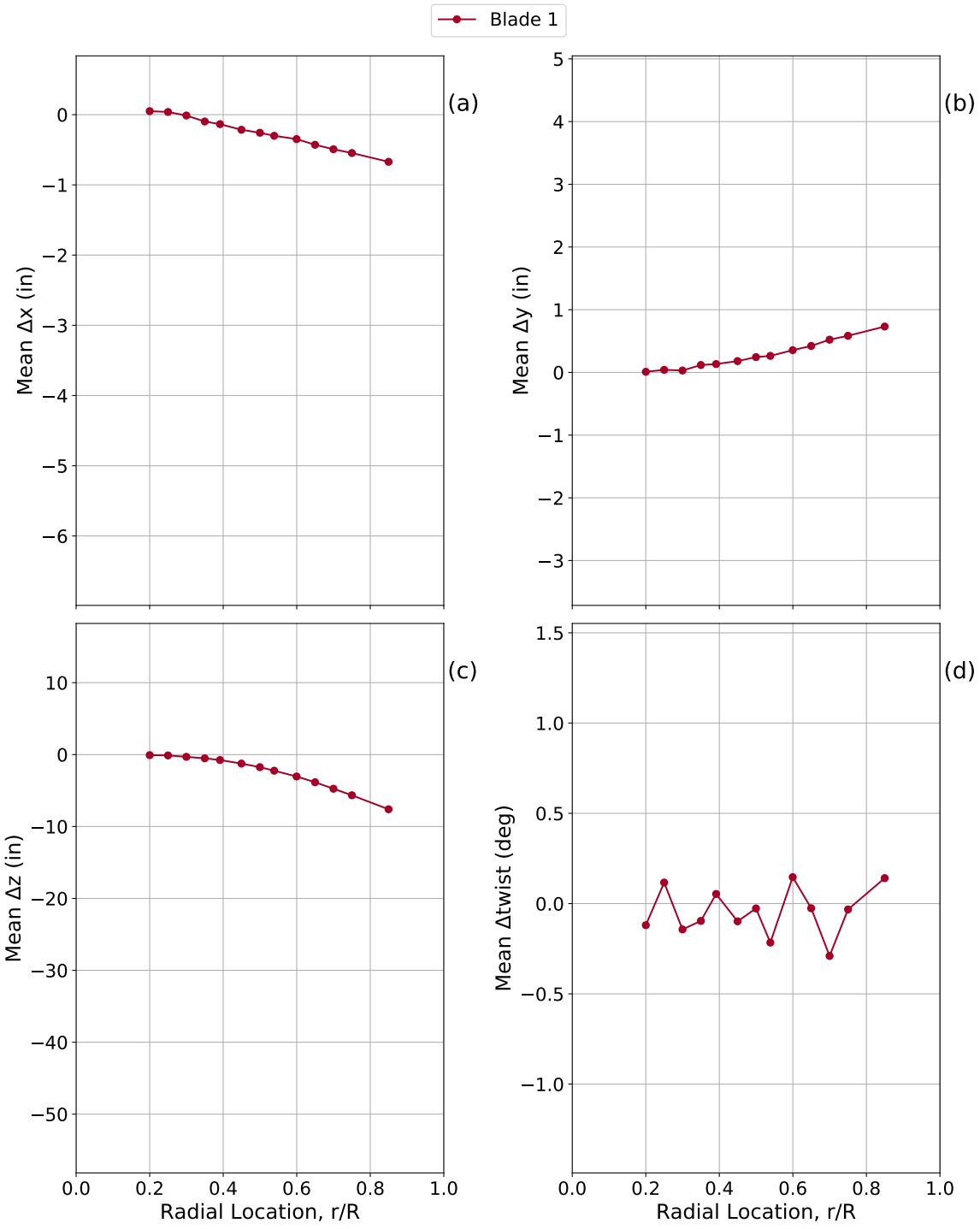


Figure 3.41-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0500	0.0053	0.0103	0.0036	-0.0733	0.0130	-0.1195	0.0668
1	15.12	0.2499	0.0382	0.0035	0.0411	0.0060	-0.1146	0.0266	0.1167	0.1575
1	15.12	0.2998	-0.0122	0.0049	0.0306	0.0114	-0.3126	0.0547	-0.1430	0.1649
1	15.12	0.3498	-0.0974	0.0054	0.1181	0.0162	-0.5175	0.0982	-0.0959	0.1436
1	15.12	0.3913	-0.1351	0.0059	0.1334	0.0237	-0.7517	0.1394	0.0534	0.1509
1	15.12	0.4496	-0.2152	0.0071	0.1805	0.0336	-1.2482	0.2046	-0.0981	0.1734
1	15.12	0.4997	-0.2578	0.0095	0.2444	0.0400	-1.7472	0.2641	-0.0268	0.1707
1	15.12	0.5387	-0.3008	0.0102	0.2640	0.0471	-2.2389	0.3122	-0.2159	0.2031
1	15.12	0.5996	-0.3478	0.0125	0.3548	0.0553	-3.0440	0.3803	0.1466	0.1921
1	15.12	0.6498	-0.4289	0.0152	0.4223	0.0616	-3.8444	0.4415	-0.0257	0.1842
1	15.12	0.6998	-0.4926	0.0185	0.5223	0.0701	-4.7441	0.5039	-0.2899	0.1726
1	15.12	0.7500	-0.5462	0.0219	0.5843	0.0741	-5.6545	0.5727	-0.0324	0.2146
1	15.12	0.8497	-0.6712	0.0290	0.7317	0.0924	-7.6030	0.7221	0.1410	0.1769

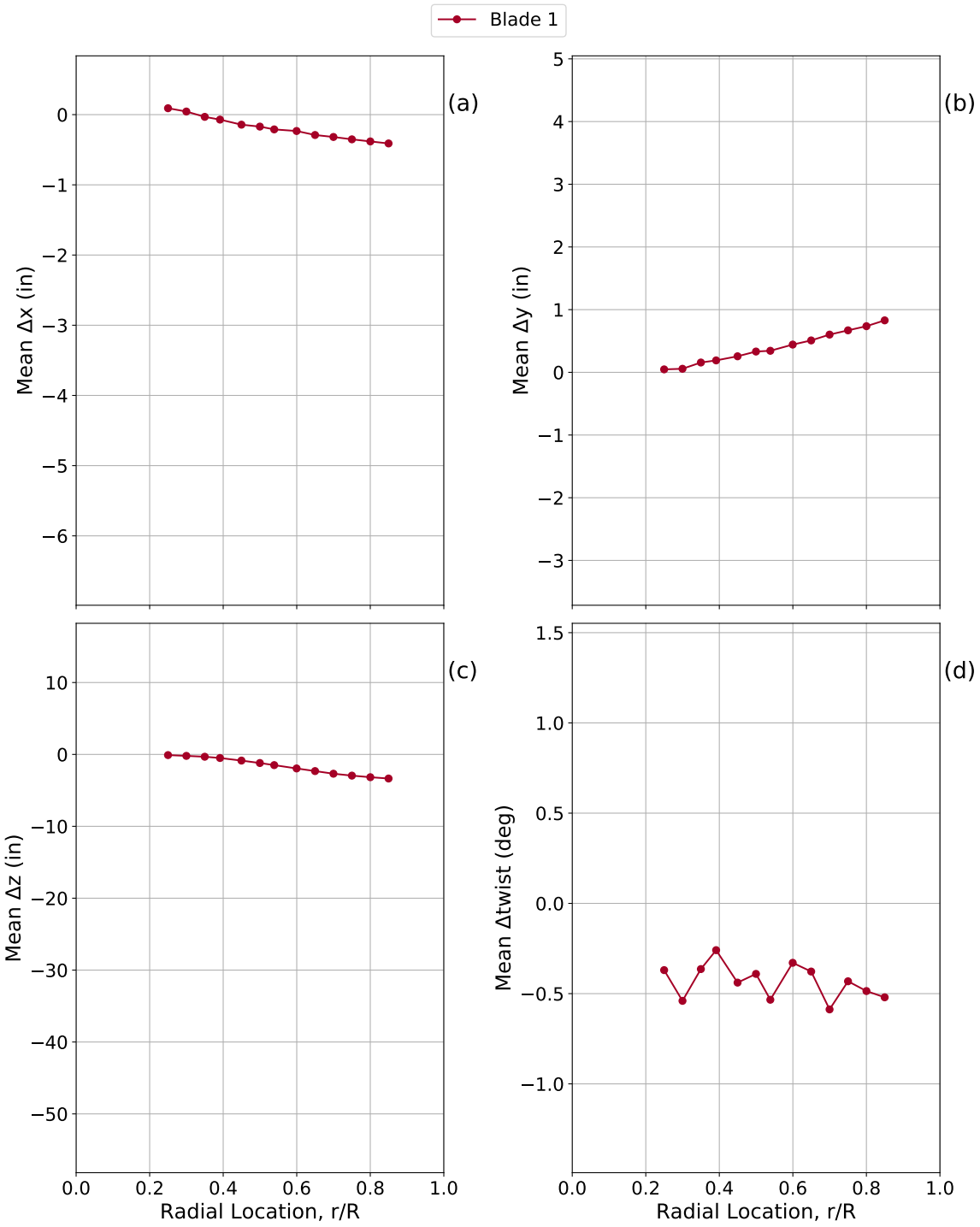


Figure 3.41-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2499	0.0912	0.0045	0.0472	0.0070	-0.0935	0.0252	-0.3697	0.1379
1	29.88	0.2998	0.0441	0.0035	0.0567	0.0123	-0.2027	0.0449	-0.5400	0.1958
1	29.88	0.3498	-0.0316	0.0039	0.1567	0.0236	-0.3231	0.0841	-0.3640	0.1536
1	29.88	0.3913	-0.0709	0.0050	0.1904	0.0331	-0.4984	0.1192	-0.2591	0.1480
1	29.88	0.4496	-0.1431	0.0059	0.2559	0.0453	-0.8573	0.1787	-0.4389	0.1458
1	29.88	0.4997	-0.1705	0.0069	0.3317	0.0583	-1.1966	0.2409	-0.3907	0.1507
1	29.88	0.5387	-0.2104	0.0083	0.3438	0.0670	-1.4889	0.2938	-0.5338	0.1440
1	29.88	0.5996	-0.2332	0.0092	0.4425	0.0856	-1.9505	0.3843	-0.3292	0.1433
1	29.88	0.6498	-0.2902	0.0101	0.5090	0.1008	-2.3175	0.4651	-0.3776	0.1531
1	29.88	0.6998	-0.3183	0.0118	0.6019	0.1161	-2.6832	0.5443	-0.5874	0.1465
1	29.88	0.7500	-0.3519	0.0133	0.6699	0.1311	-2.9489	0.6229	-0.4316	0.1655
1	29.88	0.8001	-0.3817	0.0149	0.7359	0.1462	-3.1691	0.7066	-0.4857	0.1820
1	29.88	0.8497	-0.4105	0.0167	0.8288	0.1603	-3.3517	0.7888	-0.5204	0.1616

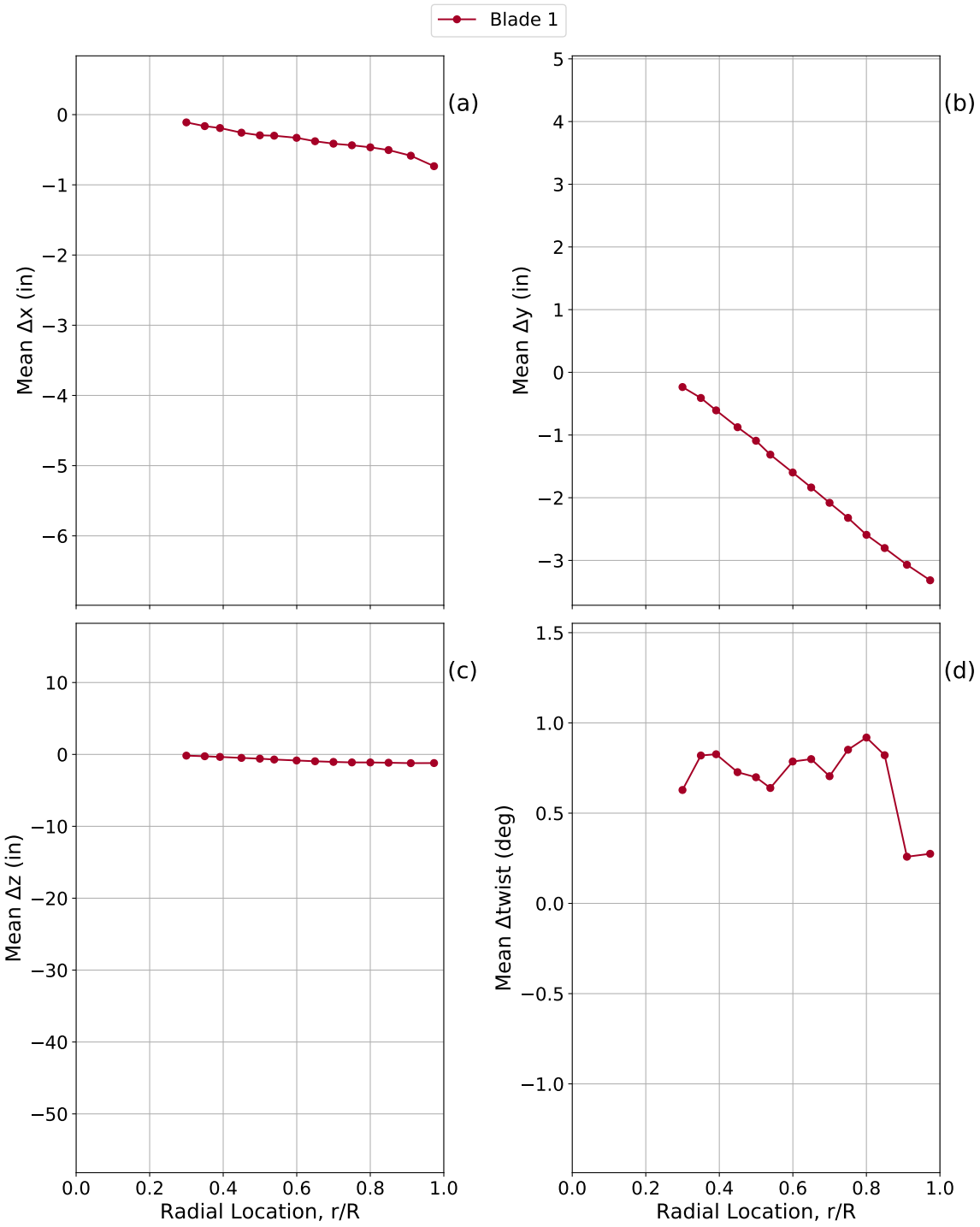


Figure 3.41-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.009$, $\mu = 1$, $\alpha = -0°$ NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2998	-0.1104	0.0104	-0.2345	0.0288	-0.1673	0.0312	0.6283	0.0978
1	45	0.3498	-0.1637	0.0088	-0.4091	0.0500	-0.2540	0.0583	0.8195	0.1299
1	45	0.3913	-0.1908	0.0101	-0.6068	0.0738	-0.3481	0.0894	0.8264	0.1363
1	45	0.4496	-0.2570	0.0175	-0.8754	0.1066	-0.4859	0.1367	0.7270	0.1253
1	45	0.4997	-0.2945	0.0265	-1.0914	0.1367	-0.5914	0.1813	0.6989	0.1404
1	45	0.5387	-0.3000	0.0386	-1.3127	0.1566	-0.7092	0.3013	0.6394	0.1614
1	45	0.5996	-0.3303	0.0391	-1.5978	0.1853	-0.8446	0.3829	0.7861	0.1691
1	45	0.6498	-0.3791	0.0396	-1.8363	0.2085	-0.9532	0.4587	0.7994	0.1738
1	45	0.6998	-0.4139	0.0397	-2.0813	0.2317	-1.0424	0.5389	0.7046	0.1669
1	45	0.7500	-0.4365	0.0405	-2.3214	0.2550	-1.1104	0.6210	0.8513	0.1628
1	45	0.8001	-0.4656	0.0409	-2.5917	0.2793	-1.1175	0.7061	0.9189	0.1803
1	45	0.8497	-0.5045	0.0412	-2.8027	0.3022	-1.1548	0.7913	0.8211	0.1714
1	45	0.9102	-0.5850	0.0405	-3.0696	0.3304	-1.2136	0.8956	0.2585	0.1918
1	45	0.9734	-0.7347	0.0480	-3.3167	0.3602	-1.2028	1.0004	0.2748	0.1685

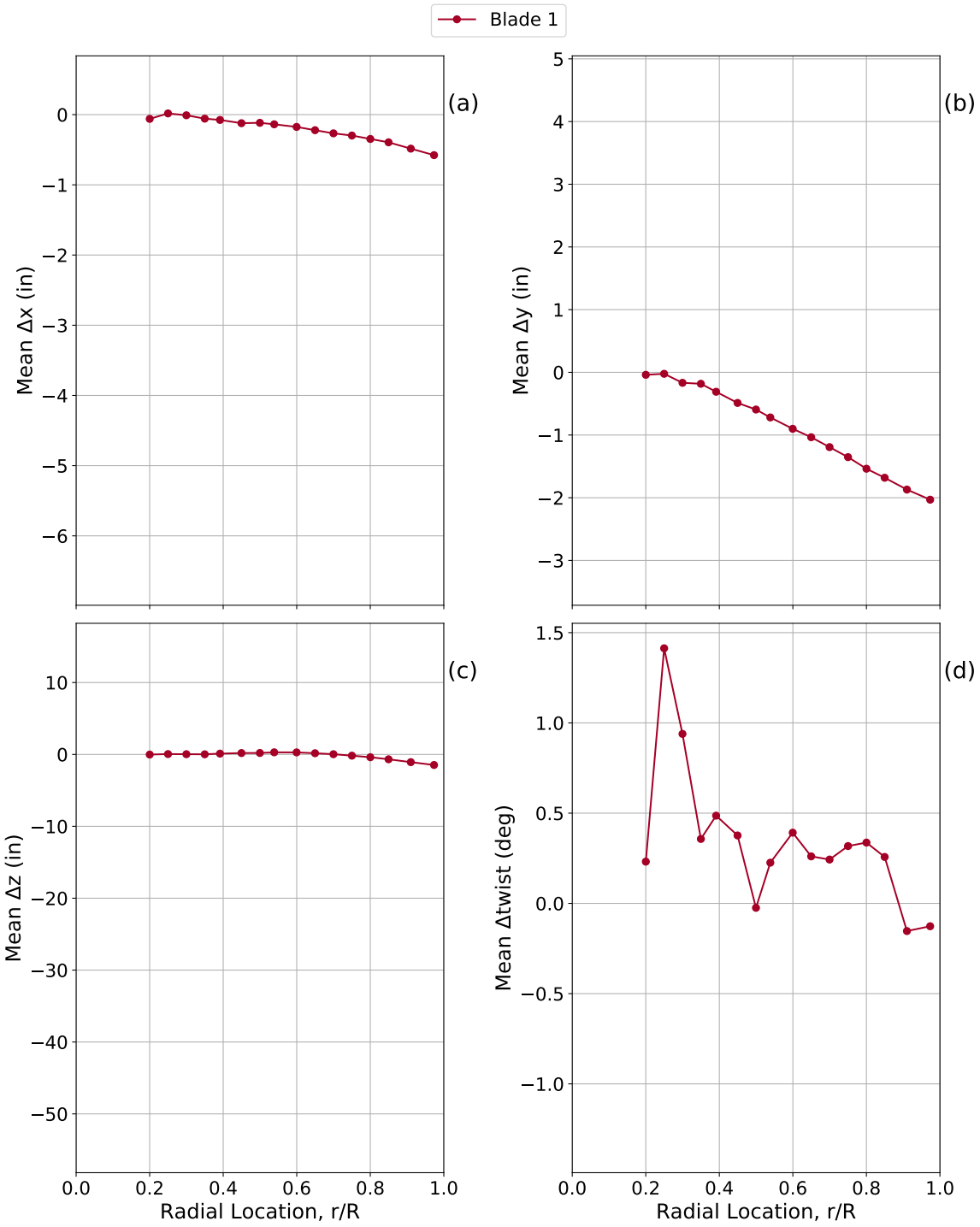


Figure 3.41-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.009$, $\mu = 1$, $\alpha = -0°$ NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0604	0.0265	-0.0393	0.0126	-0.0191	0.0252	0.2314	0.2623
1	60.12	0.2499	0.0173	0.0092	-0.0233	0.0200	0.0483	0.0479	1.4135	0.5791
1	60.12	0.2998	-0.0091	0.0083	-0.1670	0.0430	0.0309	0.0776	0.9390	0.6755
1	60.12	0.3498	-0.0572	0.0158	-0.1826	0.0839	0.0160	0.1973	0.3570	0.2793
1	60.12	0.3913	-0.0757	0.0244	-0.3099	0.1079	0.1091	0.2367	0.4861	0.2962
1	60.12	0.4496	-0.1220	0.0389	-0.4879	0.1421	0.1891	0.2934	0.3763	0.2793
1	60.12	0.4997	-0.1167	0.0253	-0.5934	0.1296	0.2011	0.2976	-0.0245	1.2404
1	60.12	0.5387	-0.1377	0.0484	-0.7196	0.1227	0.2918	0.5693	0.2256	0.2989
1	60.12	0.5996	-0.1750	0.0494	-0.9006	0.1523	0.2818	0.6592	0.3918	0.2924
1	60.12	0.6498	-0.2217	0.0489	-1.0351	0.1774	0.1646	0.7400	0.2606	0.2885
1	60.12	0.6998	-0.2666	0.0492	-1.1929	0.2020	0.0288	0.8277	0.2429	0.2834
1	60.12	0.7500	-0.2977	0.0480	-1.3526	0.2278	-0.1732	0.9203	0.3176	0.2865
1	60.12	0.8001	-0.3464	0.0482	-1.5375	0.2525	-0.3889	1.0156	0.3369	0.2965
1	60.12	0.8497	-0.3942	0.0471	-1.6813	0.2762	-0.6762	1.1159	0.2573	0.3081
1	60.12	0.9102	-0.4844	0.0478	-1.8698	0.3078	-1.0744	1.2406	-0.1533	0.2828
1	60.12	0.9734	-0.5770	0.0478	-2.0312	0.3413	-1.4697	1.3709	-0.1267	0.2955

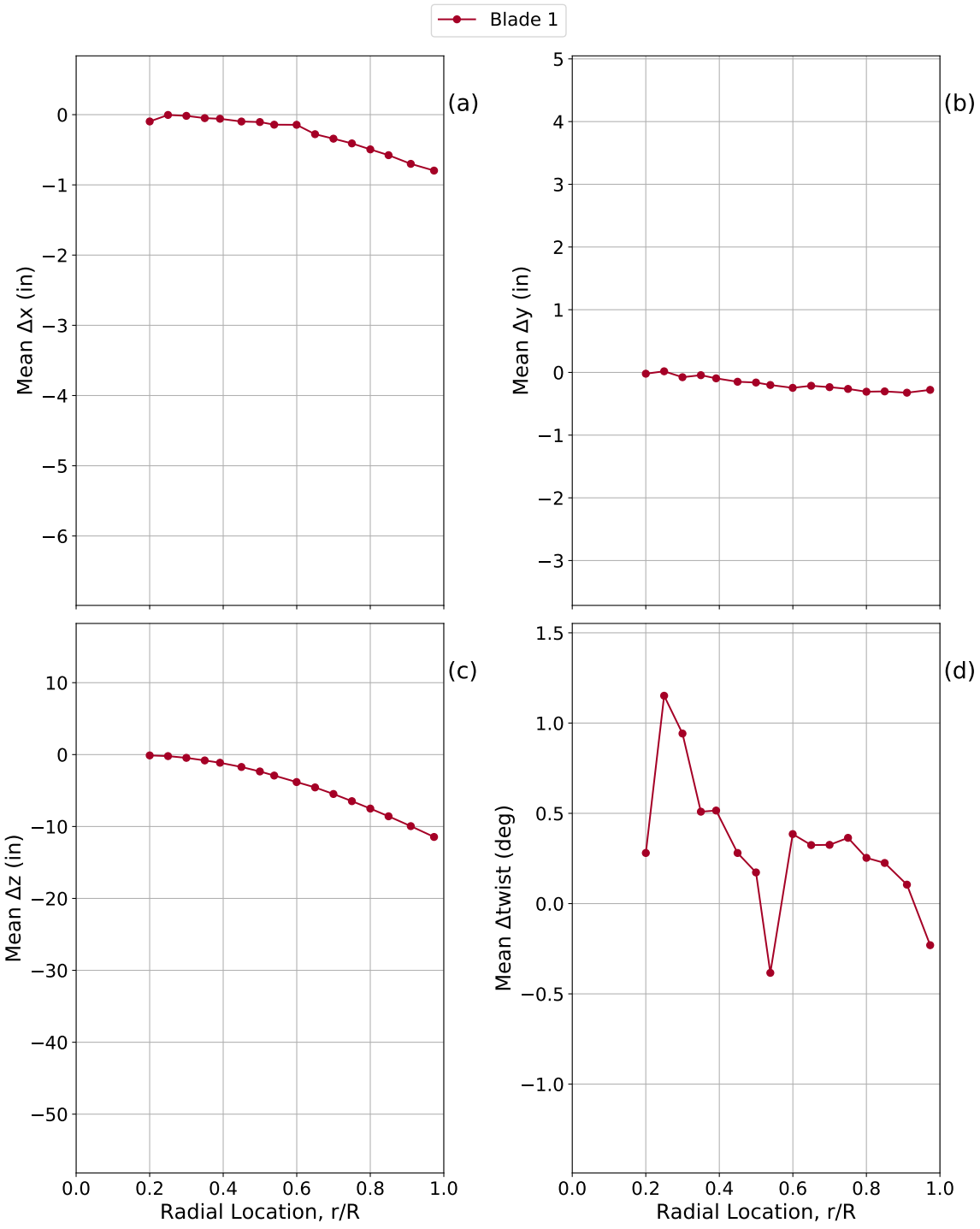


Figure 3.41-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.009$, $\mu = 1$, $\alpha = -0°$ NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0968	0.0162	-0.0205	0.0077	-0.1156	0.0350	0.2804	0.4212
1	74.88	0.2499	-0.0042	0.0072	0.0180	0.0231	-0.2099	0.0688	1.1514	0.9268
1	74.88	0.2998	-0.0170	0.0144	-0.0764	0.0195	-0.4520	0.0992	0.9421	1.0853
1	74.88	0.3498	-0.0495	0.0256	-0.0440	0.0737	-0.8122	0.2822	0.5091	0.3821
1	74.88	0.3913	-0.0586	0.0380	-0.0946	0.0770	-1.1344	0.3246	0.5155	0.4108
1	74.88	0.4496	-0.0977	0.0511	-0.1487	0.0835	-1.7224	0.3887	0.2804	0.4033
1	74.88	0.4997	-0.1052	0.0621	-0.1611	0.0910	-2.3445	0.4411	0.1727	0.3940
1	74.88	0.5387	-0.1428	0.0357	-0.2005	0.0670	-2.9149	0.3858	-0.3836	1.8939
1	74.88	0.5996	-0.1445	0.0830	-0.2460	0.1072	-3.8187	0.5469	0.3851	0.3731
1	74.88	0.6498	-0.2782	0.0460	-0.2128	0.1073	-4.5630	0.8920	0.3242	0.3749
1	74.88	0.6998	-0.3420	0.0439	-0.2350	0.1227	-5.4780	0.9605	0.3254	0.3637
1	74.88	0.7500	-0.4094	0.0408	-0.2630	0.1384	-6.4745	1.0306	0.3643	0.3635
1	74.88	0.8001	-0.4946	0.0385	-0.3075	0.1541	-7.5055	1.1018	0.2534	0.3710
1	74.88	0.8497	-0.5770	0.0361	-0.3027	0.1707	-8.5797	1.1760	0.2251	0.3716
1	74.88	0.9102	-0.7006	0.0346	-0.3233	0.1900	-9.9484	1.2681	0.1050	0.3760
1	74.88	0.9734	-0.7966	0.0329	-0.2782	0.2119	-11.4522	1.3663	-0.2303	0.3858

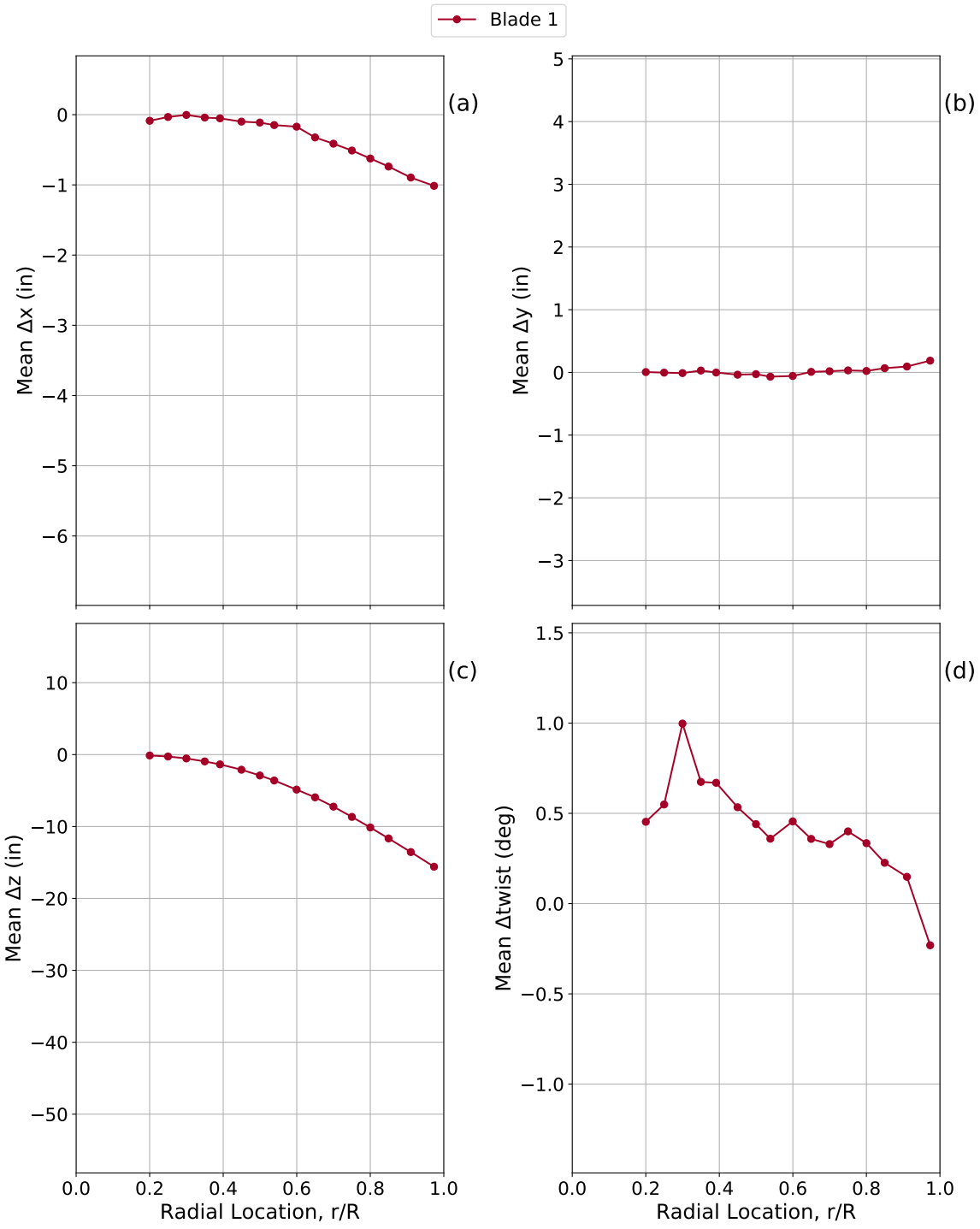


Figure 3.41-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0872	0.0275	0.0057	0.0228	-0.1258	0.0299	0.4533	0.5674
1	80.16	0.2499	-0.0331	0.0127	-0.0032	0.0245	-0.2649	0.0692	0.5491	0.5992
1	80.16	0.2998	-0.0040	0.0092	-0.0107	0.0626	-0.5350	0.1005	0.9972	1.2039
1	80.16	0.3498	-0.0414	0.0238	0.0300	0.1357	-0.9486	0.2734	0.6742	0.6132
1	80.16	0.3913	-0.0523	0.0376	-0.0016	0.1617	-1.3592	0.3294	0.6692	0.6030
1	80.16	0.4496	-0.0993	0.0579	-0.0358	0.1986	-2.1034	0.4016	0.5338	0.6157
1	80.16	0.4997	-0.1127	0.0772	-0.0275	0.2315	-2.9027	0.4641	0.4403	0.6256
1	80.16	0.5387	-0.1483	0.0884	-0.0679	0.2543	-3.6003	0.5160	0.3595	0.6231
1	80.16	0.5996	-0.1712	0.1045	-0.0567	0.2907	-4.8704	0.5891	0.4553	0.6435
1	80.16	0.6498	-0.3243	0.0371	0.0090	0.1702	-5.9433	1.0039	0.3585	0.6332
1	80.16	0.6998	-0.4135	0.0366	0.0191	0.1931	-7.2395	1.0815	0.3295	0.6300
1	80.16	0.7500	-0.5107	0.0362	0.0323	0.2179	-8.6618	1.1566	0.4001	0.6324
1	80.16	0.8001	-0.6245	0.0371	0.0232	0.2421	-10.1331	1.2304	0.3347	0.6362
1	80.16	0.8497	-0.7386	0.0390	0.0677	0.2677	-11.6578	1.3059	0.2261	0.6373
1	80.16	0.9102	-0.8953	0.0423	0.0939	0.2991	-13.5519	1.4020	0.1483	0.6378
1	80.16	0.9734	-1.0141	0.0460	0.1878	0.3317	-15.5915	1.5077	-0.2309	0.6499

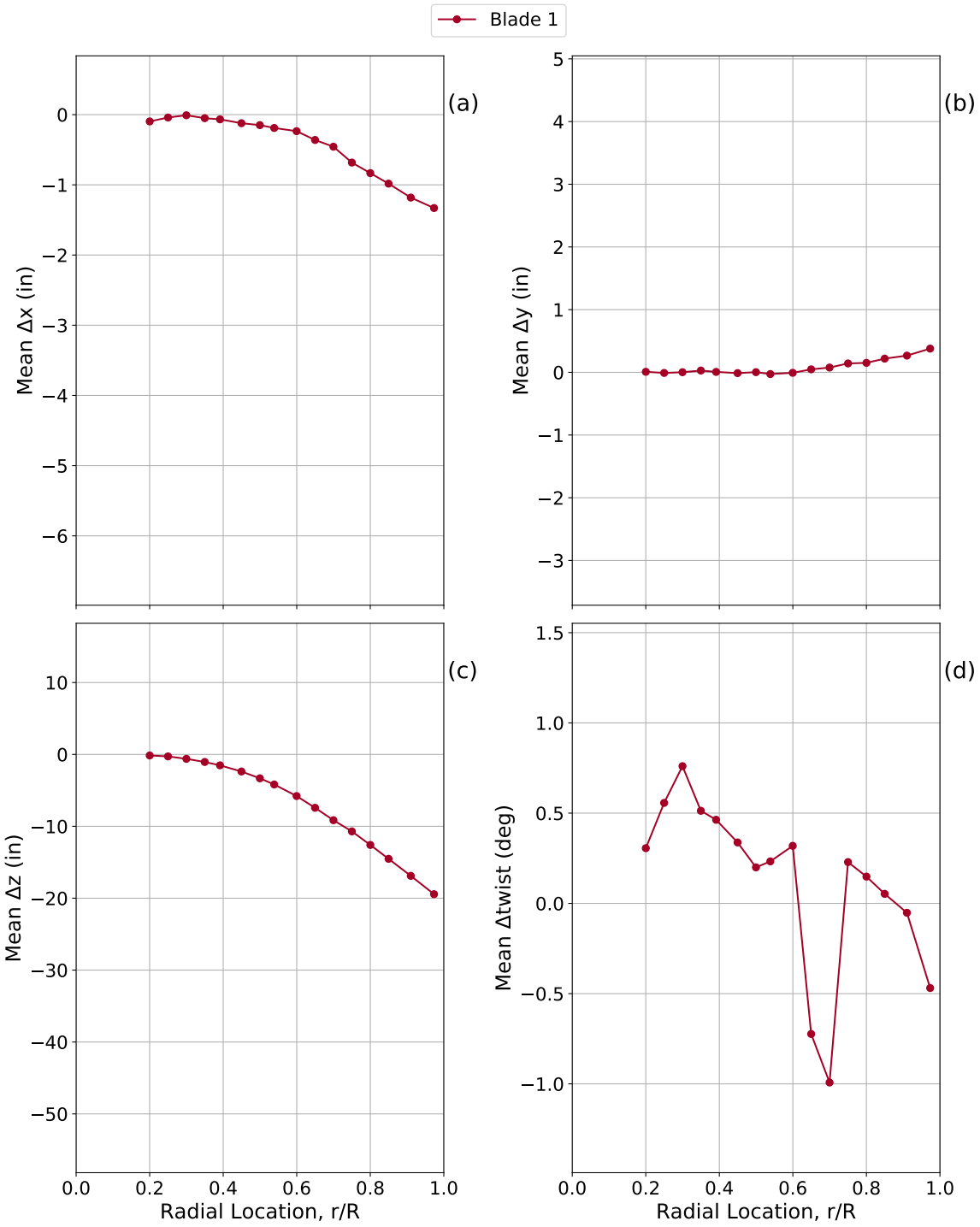


Figure 3.41-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0968	0.0183	0.0085	0.0324	-0.1459	0.0470	0.3059	0.9411
1	85.08	0.2499	-0.0412	0.0144	-0.0096	0.0230	-0.2746	0.1078	0.5568	0.9517
1	85.08	0.2998	-0.0089	0.0149	0.0020	0.0773	-0.6146	0.1468	0.7603	1.9766
1	85.08	0.3498	-0.0506	0.0213	0.0285	0.1777	-1.0506	0.4216	0.5130	0.9522
1	85.08	0.3913	-0.0671	0.0351	0.0068	0.1975	-1.5168	0.4954	0.4633	0.9521
1	85.08	0.4496	-0.1222	0.0540	-0.0125	0.2274	-2.3751	0.5972	0.3377	0.9301
1	85.08	0.4997	-0.1493	0.0703	0.0027	0.2501	-3.3229	0.6797	0.1995	0.9555
1	85.08	0.5387	-0.1900	0.0810	-0.0273	0.2720	-4.1811	0.7435	0.2327	0.9552
1	85.08	0.5996	-0.2354	0.0953	-0.0077	0.3021	-5.7909	0.8482	0.3188	0.9806
1	85.08	0.6498	-0.3610	0.0613	0.0476	0.2329	-7.4229	0.7685	-0.7235	3.5758
1	85.08	0.6998	-0.4570	0.0710	0.0763	0.2606	-9.1492	0.8497	-0.9925	3.7077
1	85.08	0.7500	-0.6828	0.0379	0.1418	0.1646	-10.7069	1.5940	0.2288	0.9575
1	85.08	0.8001	-0.8332	0.0384	0.1510	0.1884	-12.5920	1.6917	0.1484	0.9751
1	85.08	0.8497	-0.9828	0.0416	0.2186	0.2128	-14.5213	1.7924	0.0529	0.9731
1	85.08	0.9102	-1.1815	0.0498	0.2667	0.2437	-16.8915	1.9174	-0.0520	0.9745
1	85.08	0.9734	-1.3307	0.0618	0.3784	0.2764	-19.4400	2.0521	-0.4689	0.9849

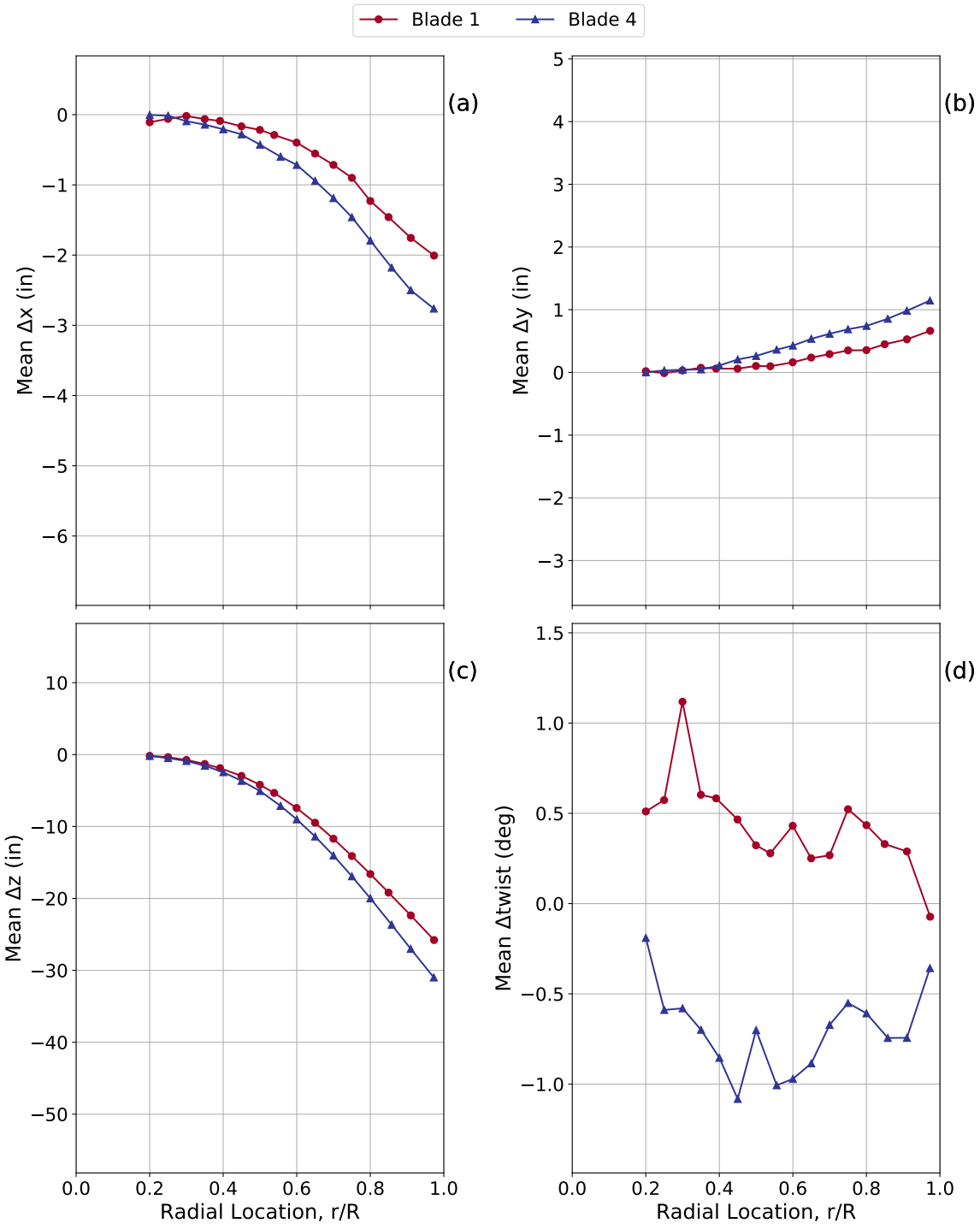


Figure 3.41-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.009$, $\mu = 1$, $\alpha = -0°$
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.1078	0.0147	0.0200	0.0413	-0.1736	0.0516	0.5105	1.1259
1	90	0.2499	-0.0599	0.0255	-0.0112	0.0365	-0.3579	0.1211	0.5733	1.1273
1	90	0.2998	-0.0191	0.0191	0.0308	0.1054	-0.7424	0.1645	1.1183	2.3649
1	90	0.3498	-0.0632	0.0256	0.0744	0.2389	-1.3090	0.4895	0.6028	1.1163
1	90	0.3913	-0.0889	0.0426	0.0614	0.2741	-1.8791	0.5723	0.5831	1.1308
1	90	0.4496	-0.1664	0.0672	0.0600	0.3251	-2.9664	0.6826	0.4658	1.1412
1	90	0.4997	-0.2173	0.0870	0.1030	0.3711	-4.1990	0.7725	0.3230	1.1404
1	90	0.5387	-0.2892	0.1031	0.0984	0.4089	-5.3266	0.8419	0.2789	1.1345
1	90	0.5996	-0.3980	0.1261	0.1612	0.4702	-7.4239	0.9461	0.4309	1.1362
1	90	0.6498	-0.5548	0.1445	0.2369	0.5233	-9.4712	1.0330	0.2507	1.1232
1	90	0.6998	-0.7156	0.1620	0.2921	0.5761	-11.7010	1.1188	0.2677	1.1351
1	90	0.7500	-0.9001	0.1779	0.3512	0.6300	-14.1074	1.2102	0.5227	1.1530
1	90	0.8001	-1.2294	0.0605	0.3553	0.3288	-16.6119	2.0386	0.4347	1.1643
1	90	0.8497	-1.4592	0.0802	0.4491	0.3761	-19.1911	2.1684	0.3300	1.1673
1	90	0.9102	-1.7551	0.1050	0.5281	0.4349	-22.3644	2.3296	0.2887	1.1615
1	90	0.9734	-2.0069	0.1321	0.6633	0.4983	-25.7899	2.4932	-0.0727	1.1846
4	90.35	0.2001	-0.0044	0.0073	0.0008	0.0030	-0.1937	0.0118	-0.1901	0.0831
4	90.35	0.2502	-0.0148	0.0076	0.0321	0.0042	-0.4876	0.0254	-0.5892	0.1849
4	90.35	0.3001	-0.0936	0.0070	0.0432	0.0098	-0.8924	0.0461	-0.5801	0.1990
4	90.35	0.3502	-0.1423	0.0071	0.0477	0.0140	-1.5466	0.0708	-0.6991	0.2072
4	90.35	0.4002	-0.2086	0.0093	0.1105	0.0218	-2.4487	0.1157	-0.8543	0.2504
4	90.35	0.4500	-0.2804	0.0100	0.2062	0.0295	-3.6559	0.1506	-1.0821	0.2114
4	90.35	0.5001	-0.4276	0.0179	0.2629	0.0378	-5.0670	0.1924	-0.7012	0.2071
4	90.35	0.5560	-0.5986	0.0230	0.3631	0.0482	-7.1369	0.2574	-1.0065	0.1986
4	90.35	0.6001	-0.7159	0.0291	0.4276	0.0577	-9.0091	0.3137	-0.9709	0.1921
4	90.35	0.6501	-0.9435	0.0399	0.5354	0.0693	-11.3952	0.3809	-0.8851	0.1766
4	90.35	0.6999	-1.1886	0.0511	0.6160	0.0813	-14.0372	0.4557	-0.6720	0.1930
4	90.35	0.7500	-1.4608	0.0648	0.6879	0.0941	-16.9232	0.5339	-0.5508	0.1778
4	90.35	0.8002	-1.7937	0.0800	0.7417	0.1079	-19.9921	0.6097	-0.6077	0.1836
4	90.35	0.8582	-2.1782	0.0984	0.8560	0.1246	-23.6629	0.7065	-0.7442	0.1619
4	90.35	0.9101	-2.5002	0.1141	0.9831	0.1395	-27.0198	0.7902	-0.7438	0.1872
4	90.35	0.9728	-2.7624	0.1307	1.1463	0.1584	-30.9998	0.8926	-0.3574	0.1837

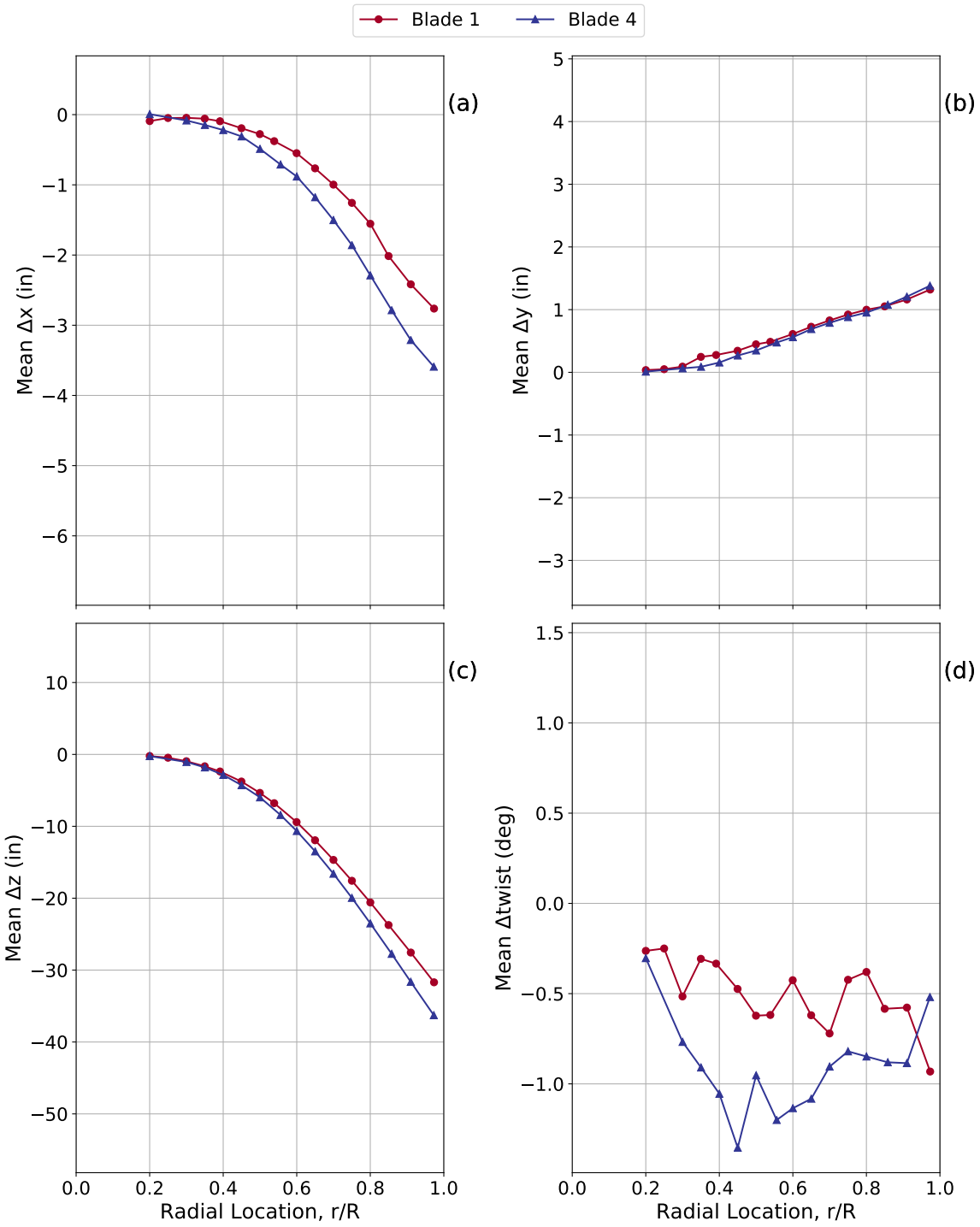


Figure 3.41-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0918	0.0546	0.0356	0.0577	-0.2244	0.0672	-0.2630	0.0527
1	94.92	0.2499	-0.0483	0.0151	0.0499	0.1197	-0.4600	0.1425	-0.2499	0.0777
1	94.92	0.2998	-0.0457	0.0329	0.0912	0.1742	-0.9457	0.2069	-0.5156	0.1072
1	94.92	0.3498	-0.0575	0.0177	0.2466	0.4490	-1.6518	0.5623	-0.3072	0.0793
1	94.92	0.3913	-0.0938	0.0167	0.2766	0.5377	-2.3749	0.6664	-0.3339	0.0953
1	94.92	0.4496	-0.1938	0.0461	0.3439	0.6589	-3.7704	0.8038	-0.4740	0.0917
1	94.92	0.4997	-0.2773	0.0756	0.4469	0.7611	-5.3514	0.9248	-0.6222	0.0938
1	94.92	0.5387	-0.3777	0.0998	0.4866	0.8388	-6.7825	1.0135	-0.6182	0.0899
1	94.92	0.5996	-0.5491	0.1367	0.6111	0.9568	-9.4115	1.1583	-0.4257	0.0808
1	94.92	0.6498	-0.7652	0.1709	0.7268	1.0481	-11.9414	1.2756	-0.6198	0.0783
1	94.92	0.6998	-0.9971	0.2008	0.8281	1.1348	-14.6716	1.3957	-0.7206	0.0782
1	94.92	0.7500	-1.2569	0.2320	0.9218	1.2184	-17.5737	1.5173	-0.4232	0.0969
1	94.92	0.8001	-1.5546	0.2602	0.9981	1.2978	-20.5897	1.6385	-0.3799	0.0860
1	94.92	0.8497	-2.0146	0.1763	1.0524	0.8095	-23.7321	2.7887	-0.5841	0.1022
1	94.92	0.9102	-2.4171	0.2199	1.1621	0.8819	-27.5584	3.0040	-0.5773	0.0878
1	94.92	0.9734	-2.7630	0.2471	1.3207	0.9583	-31.6973	3.2299	-0.9317	0.1121
4	94.92	0.2001	0.0067	0.0096	0.0110	0.0017	-0.2368	0.0105	-0.3034	0.0679
4	94.92	0.3001	-0.0835	0.0072	0.0634	0.0087	-1.0555	0.0497	-0.7676	0.1659
4	94.92	0.3502	-0.1476	0.0096	0.0881	0.0134	-1.8098	0.0805	-0.9093	0.1560
4	94.92	0.4002	-0.2202	0.0086	0.1564	0.0223	-2.8546	0.1306	-1.0551	0.1753
4	94.92	0.4500	-0.3104	0.0176	0.2675	0.0296	-4.2840	0.1808	-1.3538	0.1496
4	94.92	0.5001	-0.4881	0.0250	0.3484	0.0392	-5.9734	0.2424	-0.9528	0.1840
4	94.92	0.5560	-0.7111	0.0343	0.4758	0.0514	-8.4286	0.3275	-1.2002	0.1302
4	94.92	0.6001	-0.8820	0.0460	0.5604	0.0611	-10.6572	0.4027	-1.1348	0.1597
4	94.92	0.6501	-1.1767	0.0604	0.6898	0.0736	-13.4891	0.4920	-1.0823	0.1574
4	94.92	0.6999	-1.5028	0.0803	0.7900	0.0857	-16.5982	0.5846	-0.9044	0.1732
4	94.92	0.7500	-1.8589	0.1017	0.8804	0.0996	-19.9564	0.6950	-0.8199	0.1598
4	94.92	0.8002	-2.2904	0.1277	0.9531	0.1125	-23.5089	0.8021	-0.8484	0.1912
4	94.92	0.8582	-2.7859	0.1592	1.0767	0.1282	-27.7436	0.9378	-0.8805	0.1785
4	94.92	0.9101	-3.2108	0.1859	1.2071	0.1420	-31.6346	1.0631	-0.8852	0.1781
4	94.92	0.9728	-3.5909	0.2170	1.3813	0.1595	-36.2793	1.2137	-0.5192	0.1834

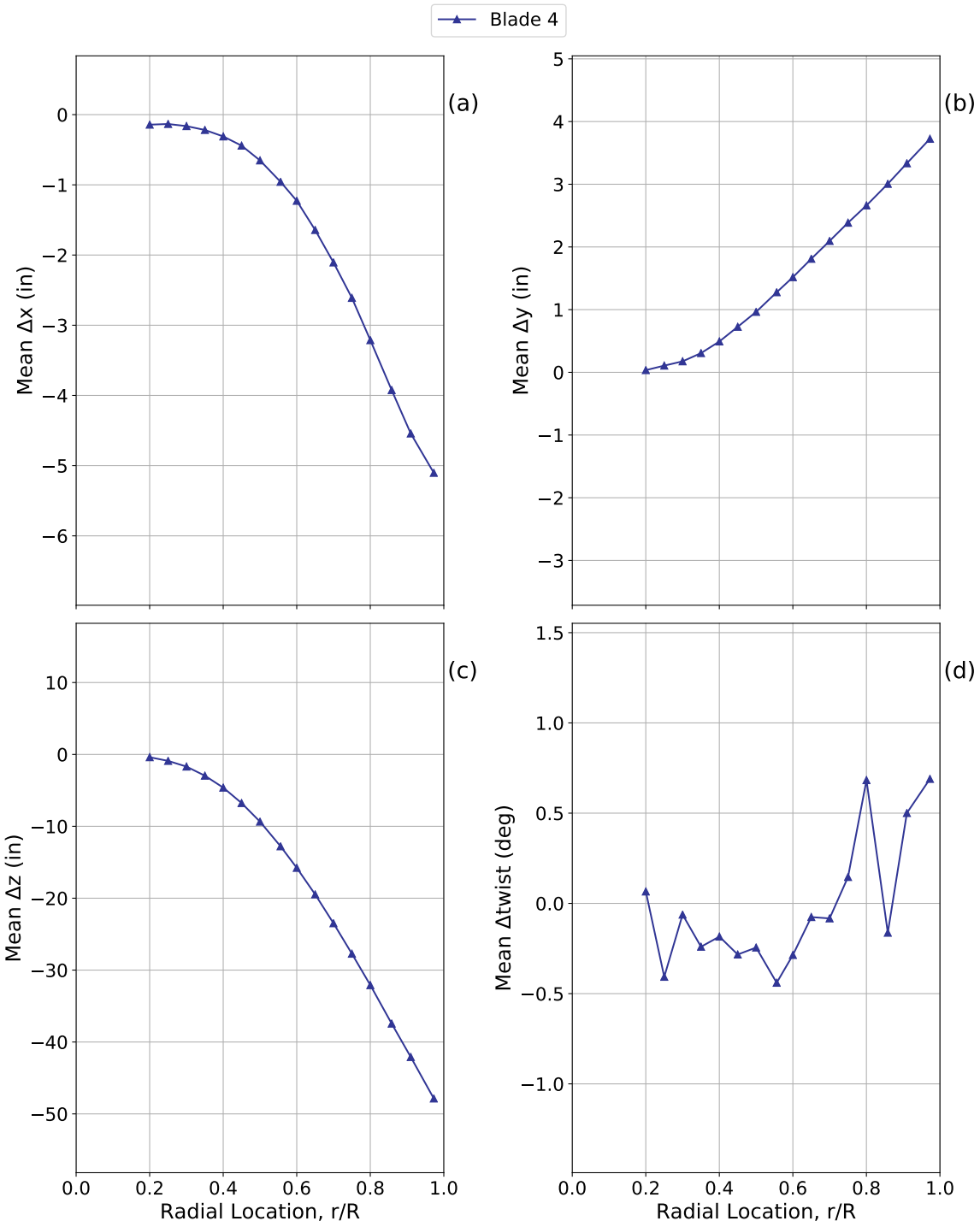


Figure 3.41-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.1430	0.0095	0.0349	0.0018	-0.3897	0.0119	0.0658	0.0321
4	105.12	0.2502	-0.1334	0.0081	0.1069	0.0039	-0.9022	0.0314	-0.4068	0.0685
4	105.12	0.3001	-0.1636	0.0090	0.1753	0.0085	-1.6935	0.0560	-0.0623	0.0828
4	105.12	0.3502	-0.2187	0.0127	0.3064	0.0130	-2.9613	0.0948	-0.2403	0.0796
4	105.12	0.4002	-0.3108	0.0190	0.4923	0.0214	-4.6222	0.1521	-0.1840	0.1094
4	105.12	0.4500	-0.4418	0.0276	0.7259	0.0300	-6.7678	0.2256	-0.2833	0.1242
4	105.12	0.5001	-0.6524	0.0437	0.9644	0.0400	-9.3521	0.3222	-0.2447	0.1329
4	105.12	0.5560	-0.9574	0.0689	1.2770	0.0536	-12.7831	0.4513	-0.4399	0.1353
4	105.12	0.6001	-1.2278	0.0953	1.5176	0.0648	-15.7812	0.5705	-0.2859	0.1292
4	105.12	0.6501	-1.6435	0.1320	1.8107	0.0779	-19.4737	0.7203	-0.0758	0.1316
4	105.12	0.6999	-2.1060	0.1742	2.0952	0.0916	-23.4842	0.8864	-0.0833	0.1228
4	105.12	0.7500	-2.6109	0.2215	2.3859	0.1045	-27.7227	1.0625	0.1462	0.1260
4	105.12	0.8002	-3.2131	0.2733	2.6618	0.1177	-32.0968	1.2438	0.6829	0.1204
4	105.12	0.8582	-3.9242	0.3363	3.0062	0.1338	-37.4463	1.4590	-0.1627	0.1505
4	105.12	0.9101	-4.5425	0.3891	3.3338	0.1460	-42.0924	1.6568	0.5007	0.1750
4	105.12	0.9728	-5.1029	0.4516	3.7244	0.1656	-47.8616	1.8938	0.6897	0.2405

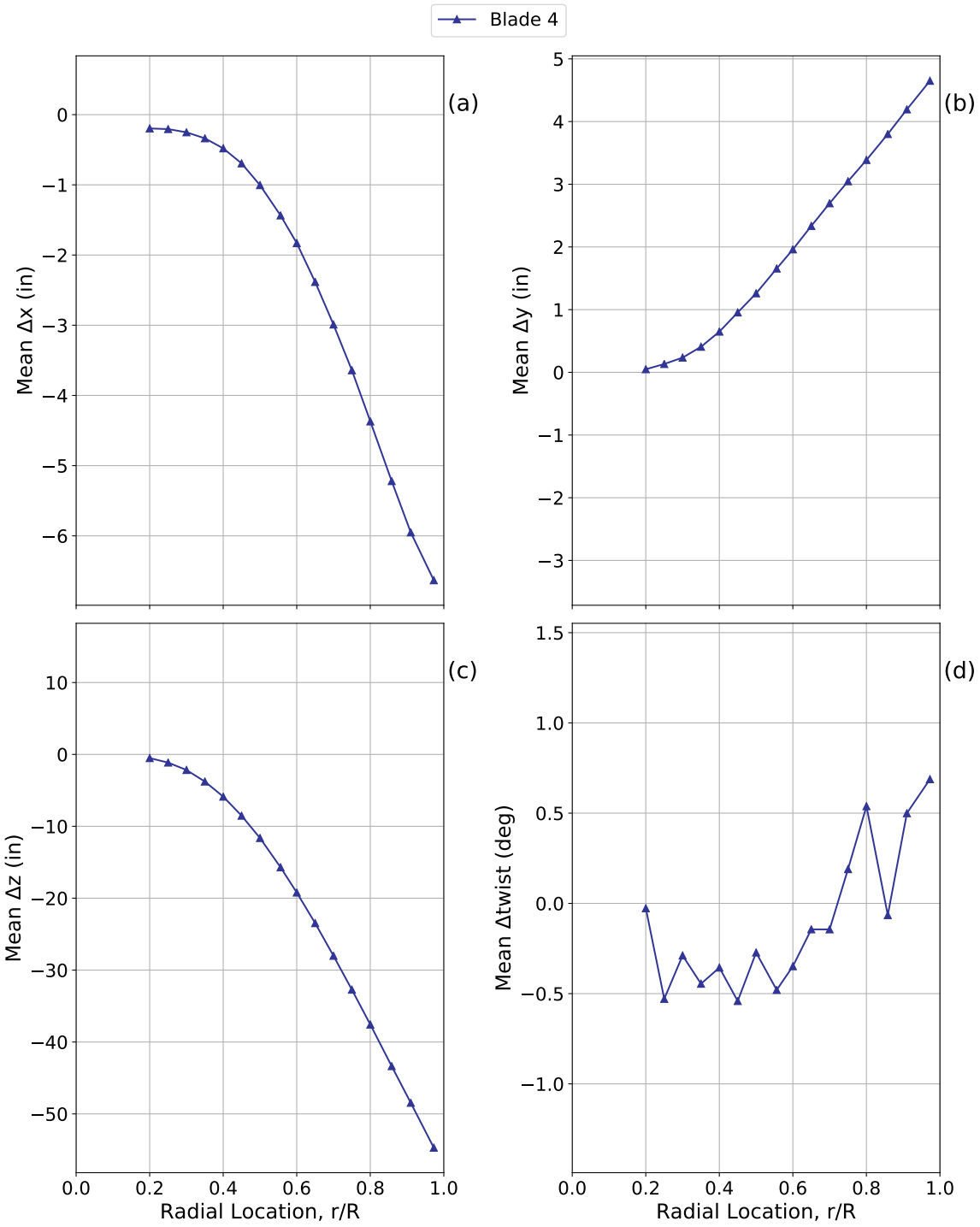


Figure 3.41-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.1968	0.0077	0.0491	0.0015	-0.5110	0.0109	-0.0272	0.0161
4	119.88	0.2502	-0.2062	0.0086	0.1326	0.0033	-1.1373	0.0240	-0.5290	0.0413
4	119.88	0.3001	-0.2517	0.0095	0.2345	0.0066	-2.1691	0.0471	-0.2888	0.0392
4	119.88	0.3502	-0.3376	0.0129	0.4072	0.0111	-3.7774	0.0815	-0.4454	0.0369
4	119.88	0.4002	-0.4806	0.0193	0.6489	0.0177	-5.8754	0.1273	-0.3558	0.0400
4	119.88	0.4500	-0.6947	0.0289	0.9548	0.0231	-8.5281	0.1830	-0.5411	0.0463
4	119.88	0.5001	-1.0045	0.0412	1.2598	0.0312	-11.6312	0.2485	-0.2723	0.0542
4	119.88	0.5560	-1.4363	0.0594	1.6549	0.0398	-15.7088	0.3276	-0.4797	0.0648
4	119.88	0.6001	-1.8313	0.0776	1.9609	0.0463	-19.2175	0.3927	-0.3484	0.0597
4	119.88	0.6501	-2.3837	0.0992	2.3344	0.0549	-23.4714	0.4762	-0.1440	0.0661
4	119.88	0.6999	-2.9903	0.1248	2.6961	0.0626	-28.0100	0.5665	-0.1441	0.0687
4	119.88	0.7500	-3.6419	0.1548	3.0470	0.0702	-32.7275	0.6611	0.1897	0.0783
4	119.88	0.8002	-4.3706	0.1871	3.3869	0.0787	-37.5830	0.7648	0.5384	0.0802
4	119.88	0.8582	-5.2204	0.2268	3.8005	0.0872	-43.3638	0.8888	-0.0652	0.0977
4	119.88	0.9101	-5.9511	0.2643	4.1936	0.0955	-48.4594	1.0055	0.4995	0.0968
4	119.88	0.9728	-6.6328	0.3079	4.6496	0.1050	-54.7059	1.1518	0.6879	0.0959

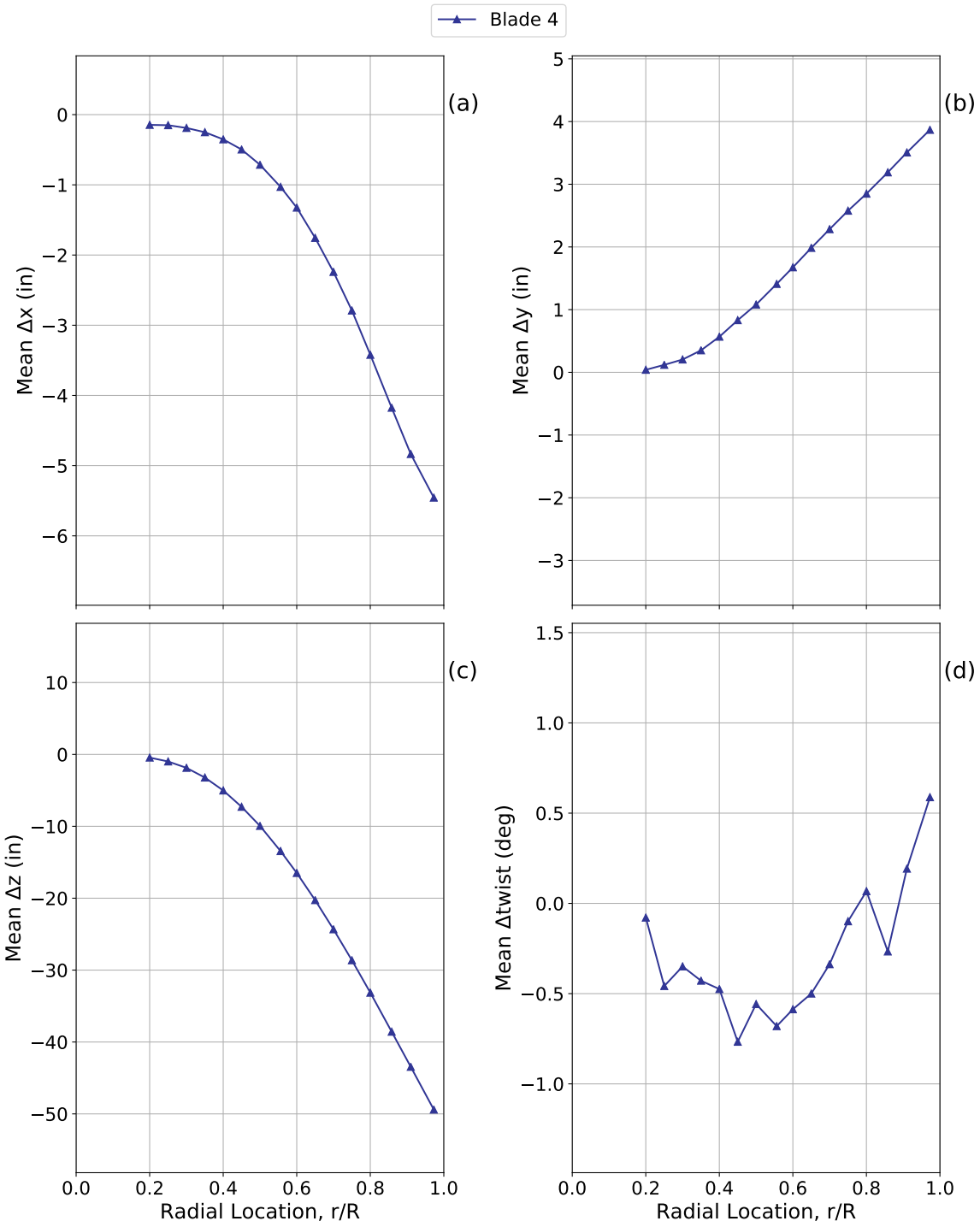


Figure 3.41-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.009$, $\mu = 1$, $\alpha = -0°$ NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.1461	0.0065	0.0401	0.0016	-0.4447	0.0110	-0.0788	0.0332
4	135	0.2502	-0.1508	0.0068	0.1193	0.0040	-0.9821	0.0251	-0.4580	0.0343
4	135	0.3001	-0.1899	0.0084	0.2045	0.0075	-1.8698	0.0477	-0.3494	0.0724
4	135	0.3502	-0.2506	0.0110	0.3507	0.0125	-3.2188	0.0794	-0.4286	0.0773
4	135	0.4002	-0.3527	0.0180	0.5679	0.0201	-5.0173	0.1259	-0.4748	0.0975
4	135	0.4500	-0.4968	0.0271	0.8315	0.0284	-7.2907	0.1888	-0.7669	0.1103
4	135	0.5001	-0.7144	0.0389	1.0813	0.0375	-9.9470	0.2689	-0.5579	0.0762
4	135	0.5560	-1.0300	0.0602	1.4098	0.0515	-13.4500	0.3755	-0.6803	0.0691
4	135	0.6001	-1.3251	0.0825	1.6747	0.0623	-16.4951	0.4763	-0.5867	0.0880
4	135	0.6501	-1.7562	0.1127	1.9845	0.0759	-20.2708	0.6092	-0.4999	0.0832
4	135	0.6999	-2.2406	0.1506	2.2827	0.0905	-24.3292	0.7548	-0.3371	0.0815
4	135	0.7500	-2.7906	0.1944	2.5774	0.1032	-28.6336	0.9165	-0.0992	0.0941
4	135	0.8002	-3.4215	0.2451	2.8493	0.1171	-33.1492	1.0889	0.0675	0.0923
4	135	0.8582	-4.1756	0.3078	3.1893	0.1344	-38.5736	1.2986	-0.2666	0.0958
4	135	0.9101	-4.8348	0.3640	3.5063	0.1494	-43.4564	1.4906	0.1923	0.1177
4	135	0.9728	-5.4564	0.4301	3.8677	0.1671	-49.4046	1.7273	0.5882	0.1057

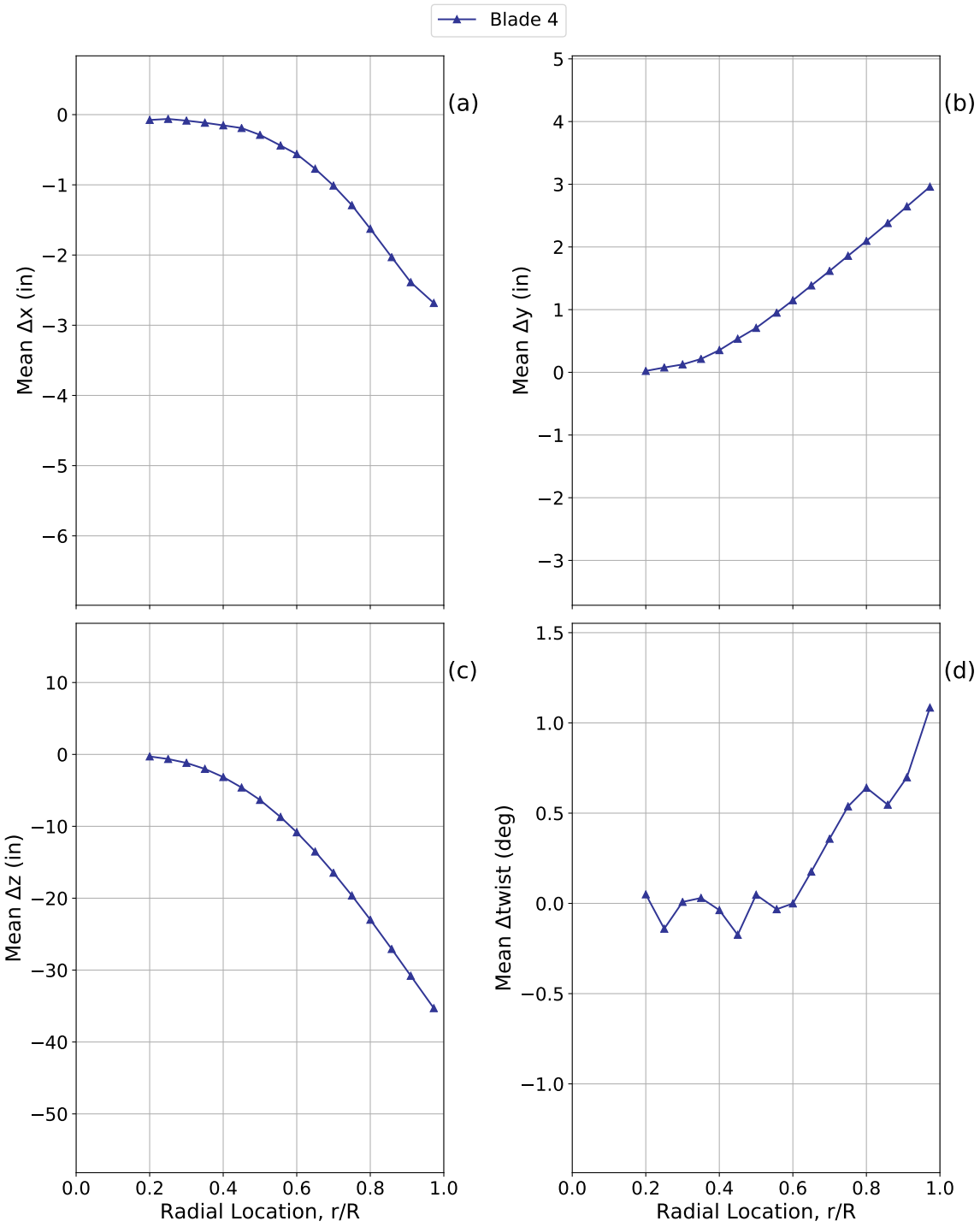


Figure 3.41-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0760	0.0036	0.0221	0.0014	-0.2831	0.0116	0.0497	0.0308
4	150.12	0.2502	-0.0615	0.0055	0.0768	0.0046	-0.6382	0.0266	-0.1406	0.0462
4	150.12	0.3001	-0.0856	0.0074	0.1258	0.0070	-1.1813	0.0507	0.0080	0.0701
4	150.12	0.3502	-0.1160	0.0111	0.2138	0.0123	-2.0176	0.0858	0.0301	0.0584
4	150.12	0.4002	-0.1530	0.0158	0.3536	0.0197	-3.1518	0.1357	-0.0375	0.0684
4	150.12	0.4500	-0.1911	0.0232	0.5353	0.0252	-4.6091	0.1961	-0.1744	0.0893
4	150.12	0.5001	-0.2886	0.0318	0.7082	0.0330	-6.3334	0.2722	0.0476	0.0939
4	150.12	0.5560	-0.4403	0.0456	0.9511	0.0410	-8.7090	0.3717	-0.0326	0.0839
4	150.12	0.6001	-0.5627	0.0594	1.1492	0.0496	-10.8380	0.4679	-0.0004	0.1034
4	150.12	0.6501	-0.7718	0.0798	1.3854	0.0578	-13.5153	0.5879	0.1756	0.0946
4	150.12	0.6999	-1.0113	0.1050	1.6173	0.0663	-16.4596	0.7257	0.3579	0.0896
4	150.12	0.7500	-1.2907	0.1373	1.8580	0.0758	-19.6361	0.8837	0.5372	0.1045
4	150.12	0.8002	-1.6269	0.1737	2.0964	0.0847	-22.9980	1.0572	0.6404	0.1033
4	150.12	0.8582	-2.0305	0.2210	2.3804	0.0951	-27.0681	1.2704	0.5465	0.1061
4	150.12	0.9101	-2.3878	0.2634	2.6455	0.1045	-30.7990	1.4668	0.6983	0.1044
4	150.12	0.9728	-2.6840	0.3132	2.9597	0.1160	-35.3009	1.7142	1.0845	0.1016

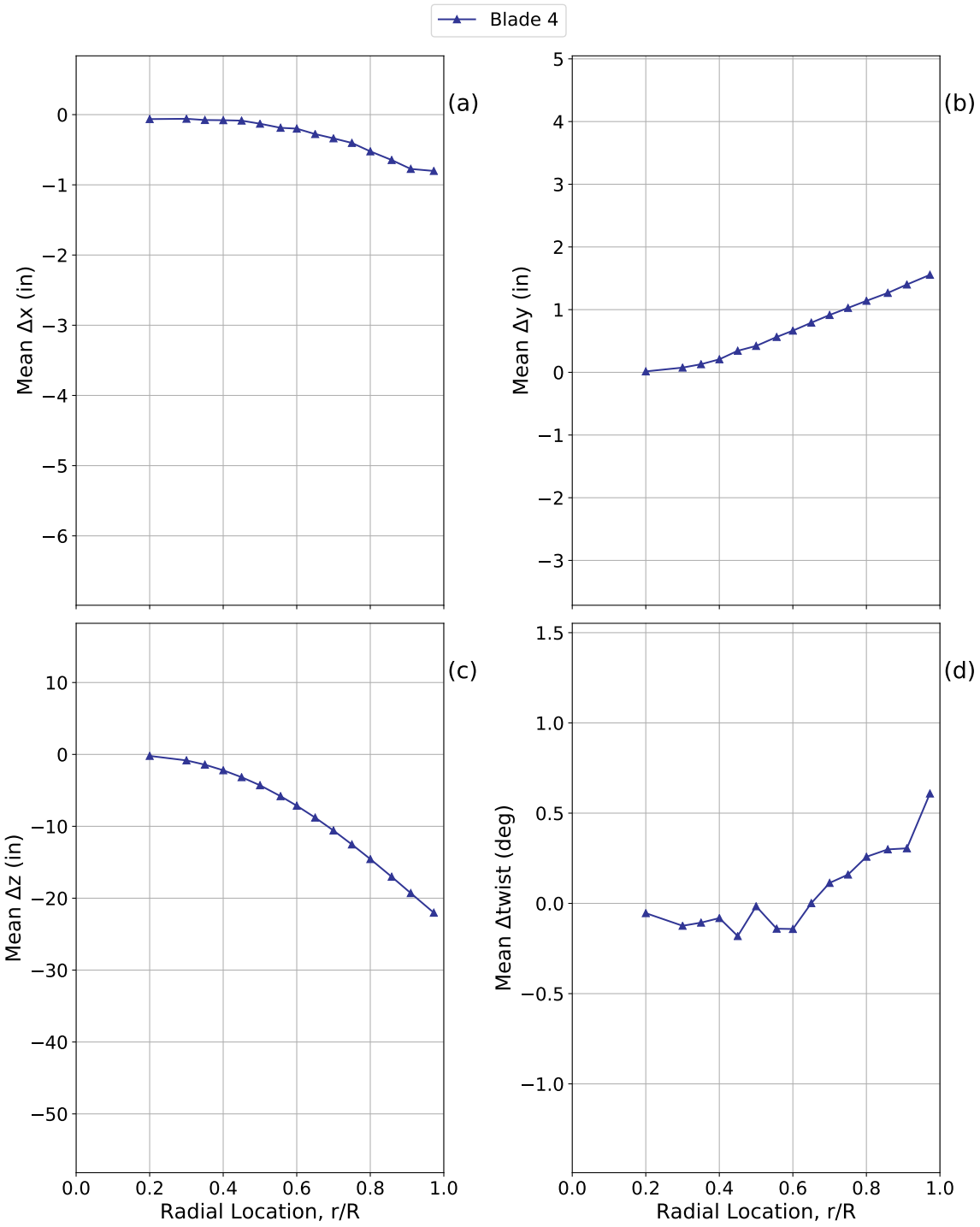


Figure 3.41-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0636	0.0068	0.0148	0.0014	-0.2080	0.0160	-0.0542	0.0456
4	164.88	0.3001	-0.0593	0.0085	0.0753	0.0056	-0.8342	0.0671	-0.1241	0.1115
4	164.88	0.3502	-0.0770	0.0109	0.1291	0.0105	-1.4249	0.1151	-0.1067	0.1165
4	164.88	0.4002	-0.0795	0.0142	0.2078	0.0158	-2.2084	0.1796	-0.0814	0.0965
4	164.88	0.4500	-0.0855	0.0207	0.3437	0.0226	-3.1689	0.2609	-0.1812	0.1220
4	164.88	0.5001	-0.1294	0.0276	0.4209	0.0294	-4.2945	0.3580	-0.0160	0.1067
4	164.88	0.5560	-0.1878	0.0373	0.5638	0.0380	-5.8123	0.4832	-0.1404	0.1339
4	164.88	0.6001	-0.1997	0.0483	0.6649	0.0451	-7.1387	0.5941	-0.1419	0.1131
4	164.88	0.6501	-0.2770	0.0626	0.7917	0.0537	-8.7899	0.7305	0.0012	0.0986
4	164.88	0.6999	-0.3378	0.0795	0.9143	0.0635	-10.5852	0.8807	0.1133	0.1193
4	164.88	0.7500	-0.4033	0.0995	1.0271	0.0733	-12.5258	1.0437	0.1595	0.1159
4	164.88	0.8002	-0.5235	0.1203	1.1406	0.0822	-14.5600	1.2149	0.2583	0.1245
4	164.88	0.8582	-0.6468	0.1476	1.2665	0.0932	-17.0203	1.4190	0.2992	0.1345
4	164.88	0.9101	-0.7735	0.1697	1.4003	0.1035	-19.2945	1.6068	0.3051	0.1317
4	164.88	0.9728	-0.8024	0.1942	1.5551	0.1166	-22.0214	1.8284	0.6087	0.0948

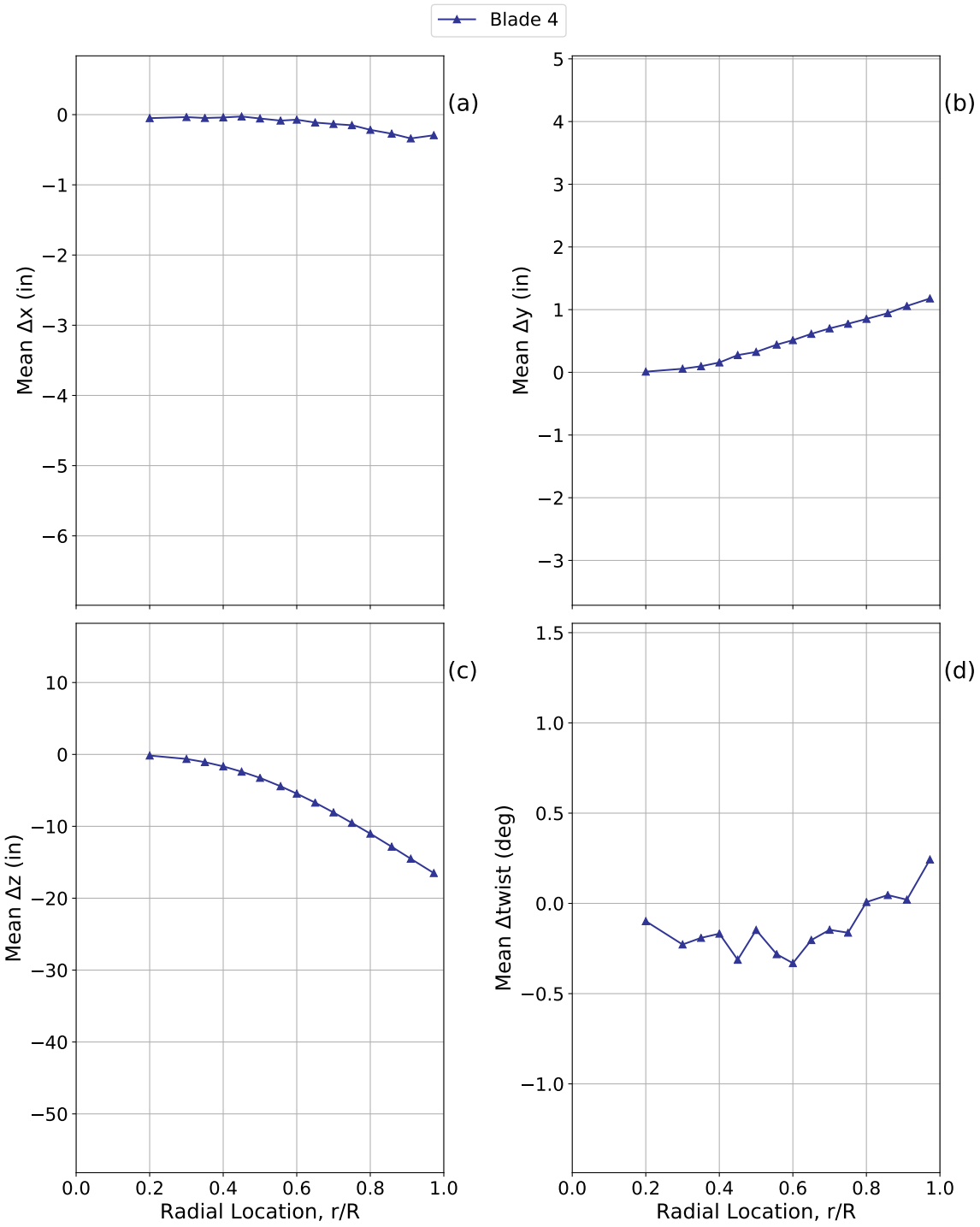


Figure 3.41-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0501	0.0042	0.0109	0.0018	-0.1576	0.0124	-0.0987	0.0624
4	170.16	0.3001	-0.0353	0.0055	0.0569	0.0069	-0.6311	0.0516	-0.2278	0.1535
4	170.16	0.3502	-0.0480	0.0084	0.0968	0.0143	-1.0716	0.0854	-0.1911	0.1499
4	170.16	0.4002	-0.0403	0.0079	0.1569	0.0206	-1.6635	0.1347	-0.1678	0.1433
4	170.16	0.4500	-0.0267	0.0136	0.2745	0.0262	-2.4025	0.1915	-0.3125	0.1655
4	170.16	0.5001	-0.0550	0.0157	0.3250	0.0338	-3.2602	0.2628	-0.1474	0.1868
4	170.16	0.5560	-0.0852	0.0222	0.4410	0.0428	-4.4313	0.3494	-0.2816	0.1671
4	170.16	0.6001	-0.0722	0.0301	0.5128	0.0479	-5.4554	0.4413	-0.3312	0.1826
4	170.16	0.6501	-0.1128	0.0370	0.6133	0.0544	-6.7104	0.5503	-0.2033	0.1744
4	170.16	0.6999	-0.1335	0.0480	0.7004	0.0613	-8.0700	0.6753	-0.1465	0.1624
4	170.16	0.7500	-0.1509	0.0598	0.7742	0.0678	-9.5296	0.8162	-0.1624	0.1973
4	170.16	0.8002	-0.2167	0.0731	0.8519	0.0746	-11.0261	0.9610	0.0072	0.1664
4	170.16	0.8582	-0.2719	0.0907	0.9433	0.0821	-12.8397	1.1370	0.0460	0.1712
4	170.16	0.9101	-0.3391	0.1038	1.0575	0.0864	-14.5125	1.3049	0.0204	0.1830
4	170.16	0.9728	-0.2936	0.1188	1.1780	0.0948	-16.5063	1.5048	0.2430	0.1724

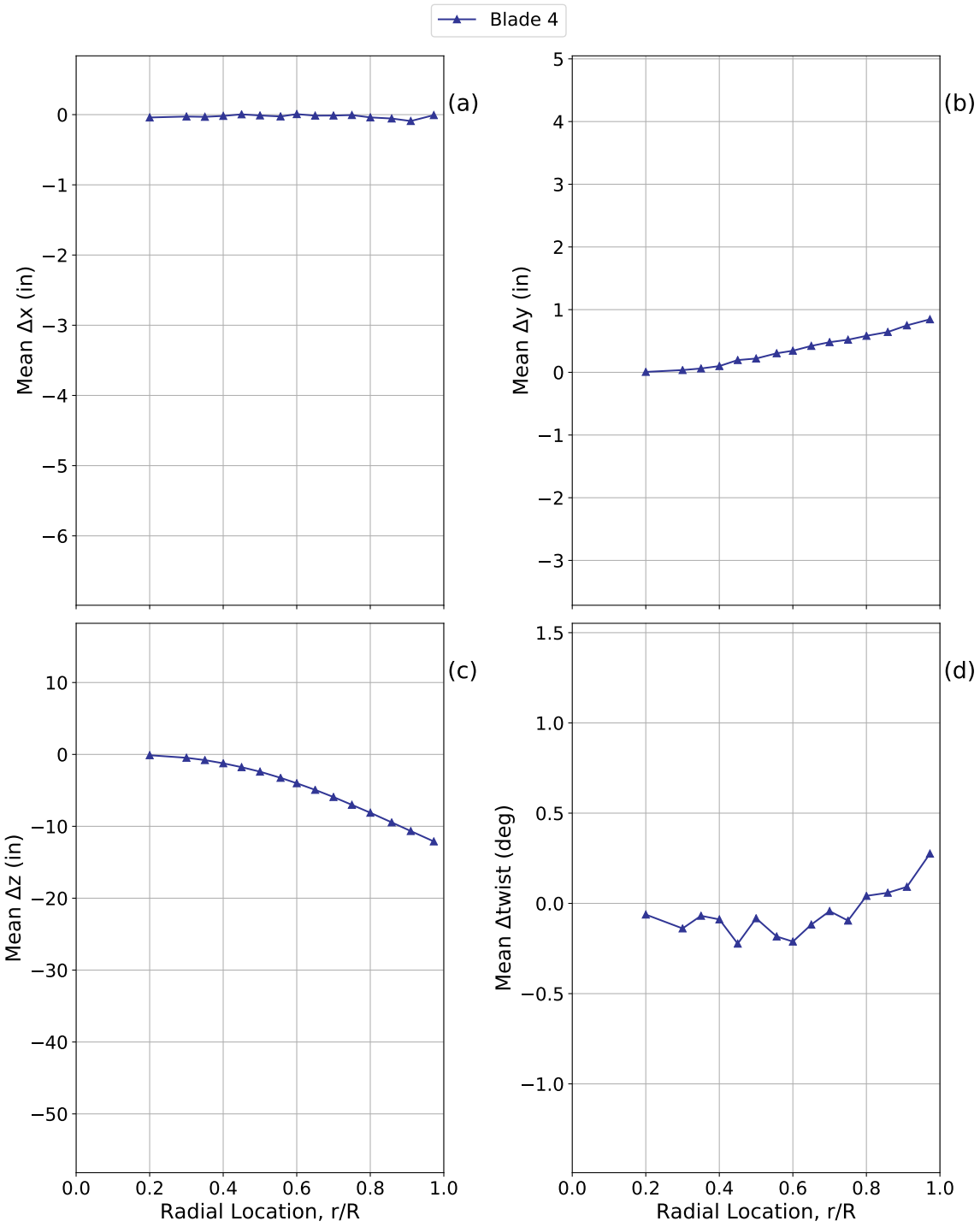


Figure 3.41-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.009$, $\mu = 1$, $\alpha = -0°$ NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0406	0.0060	0.0068	0.0019	-0.1143	0.0098	-0.0620	0.0492
4	175.08	0.3001	-0.0273	0.0050	0.0361	0.0077	-0.4675	0.0381	-0.1388	0.1160
4	175.08	0.3502	-0.0315	0.0044	0.0614	0.0149	-0.7916	0.0664	-0.0687	0.1206
4	175.08	0.4002	-0.0185	0.0058	0.0997	0.0219	-1.2348	0.1011	-0.0889	0.1403
4	175.08	0.4500	0.0040	0.0069	0.1955	0.0264	-1.7752	0.1417	-0.2232	0.1287
4	175.08	0.5001	-0.0118	0.0101	0.2201	0.0309	-2.3997	0.1874	-0.0826	0.1376
4	175.08	0.5560	-0.0259	0.0112	0.3037	0.0376	-3.2574	0.2450	-0.1835	0.1402
4	175.08	0.6001	0.0070	0.0154	0.3447	0.0413	-4.0112	0.2921	-0.2116	0.1190
4	175.08	0.6501	-0.0143	0.0184	0.4212	0.0447	-4.9297	0.3584	-0.1175	0.1402
4	175.08	0.6999	-0.0132	0.0234	0.4811	0.0484	-5.9260	0.4277	-0.0430	0.1392
4	175.08	0.7500	-0.0063	0.0270	0.5199	0.0519	-7.0135	0.5111	-0.0955	0.1454
4	175.08	0.8002	-0.0396	0.0327	0.5821	0.0561	-8.1128	0.5972	0.0416	0.1498
4	175.08	0.8582	-0.0553	0.0399	0.6433	0.0605	-9.4522	0.6970	0.0589	0.1565
4	175.08	0.9101	-0.0913	0.0445	0.7487	0.0652	-10.6611	0.7908	0.0916	0.1420
4	175.08	0.9728	-0.0073	0.0498	0.8456	0.0685	-12.1038	0.9105	0.2757	0.1706

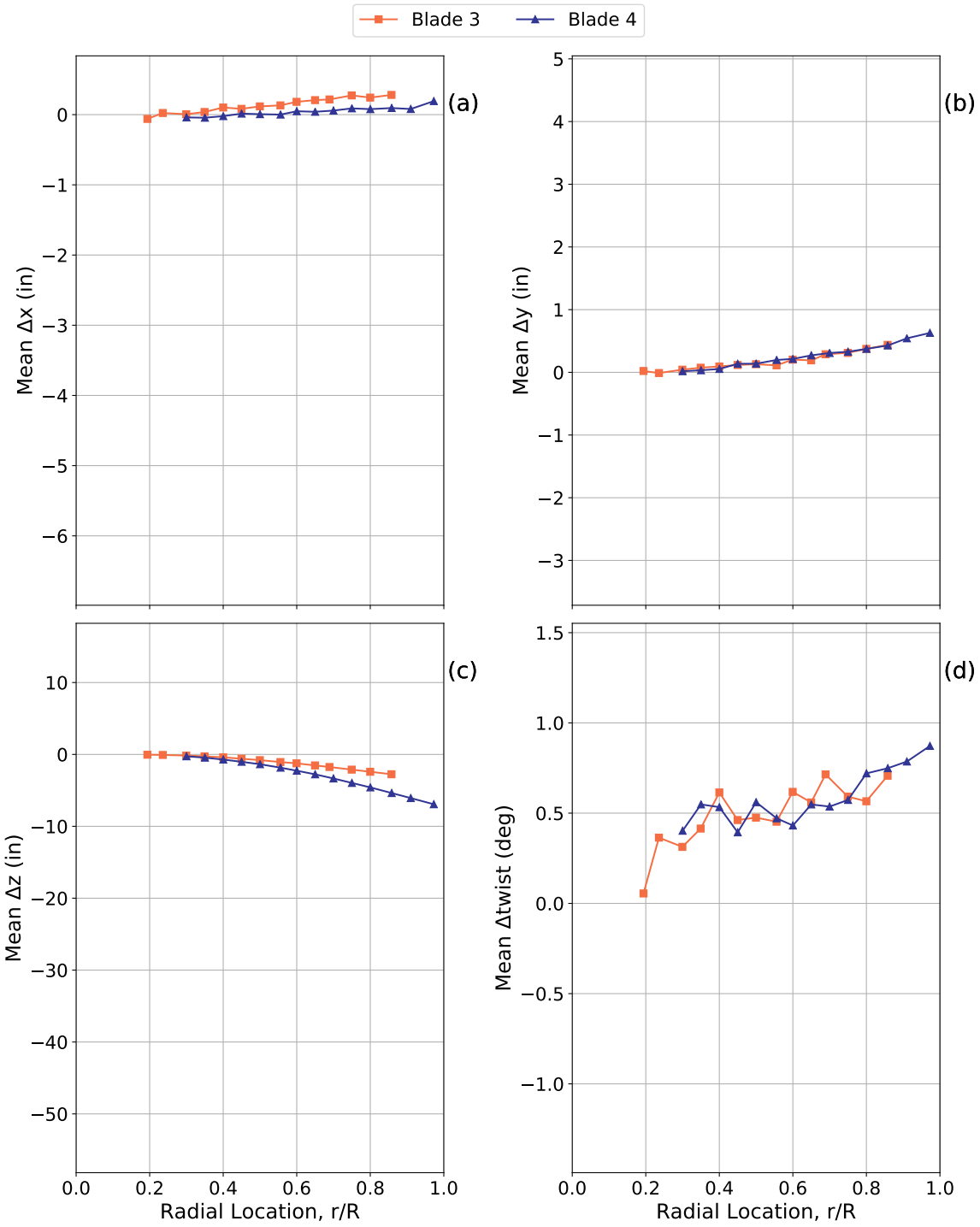


Figure 3.41-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.009$, $\mu = 1$, $\alpha = -0°$ NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0610	0.0021	0.0213	0.0027	-0.0391	0.0203	0.0551	0.0183
3	180.35	0.2357	0.0233	0.0021	-0.0111	0.0047	-0.0742	0.0354	0.3643	0.0195
3	180.35	0.2995	0.0057	0.0037	0.0424	0.0123	-0.1560	0.0854	0.3131	0.0348
3	180.35	0.3493	0.0376	0.0045	0.0740	0.0202	-0.2659	0.1440	0.4146	0.0298
3	180.35	0.4000	0.1015	0.0055	0.0937	0.0324	-0.4066	0.2238	0.6147	0.0260
3	180.35	0.4497	0.0824	0.0069	0.1171	0.0444	-0.5994	0.3186	0.4618	0.0365
3	180.35	0.4997	0.1173	0.0085	0.1299	0.0566	-0.7948	0.4279	0.4753	0.0426
3	180.35	0.5556	0.1319	0.0108	0.1113	0.0725	-1.0604	0.5670	0.4525	0.0483
3	180.35	0.5995	0.1824	0.0124	0.2029	0.0855	-1.2404	0.6901	0.6179	0.0583
3	180.35	0.6498	0.2066	0.0135	0.1909	0.0992	-1.5316	0.8342	0.5594	0.0607
3	180.35	0.6890	0.2161	0.0158	0.2883	0.1104	-1.7504	0.9529	0.7148	0.0763
3	180.35	0.7495	0.2739	0.0181	0.3108	0.1279	-2.1161	1.1457	0.5916	0.0914
3	180.35	0.7998	0.2428	0.0204	0.3740	0.1418	-2.4111	1.3129	0.5658	0.0844
3	180.35	0.8577	0.2809	0.0246	0.4376	0.1553	-2.7588	1.4984	0.7073	0.1122
4	180	0.3001	-0.0395	0.0116	0.0177	0.0263	-0.2613	0.0692	0.4025	0.1393
4	180	0.3502	-0.0442	0.0139	0.0328	0.0460	-0.4513	0.1184	0.5484	0.1880
4	180	0.4002	-0.0215	0.0129	0.0541	0.0734	-0.7156	0.1870	0.5331	0.1613
4	180	0.4500	0.0143	0.0114	0.1360	0.0972	-1.0273	0.2580	0.3936	0.1408
4	180	0.5001	0.0065	0.0146	0.1380	0.1214	-1.3640	0.3305	0.5606	0.1485
4	180	0.5560	0.0007	0.0157	0.1975	0.1528	-1.8449	0.4202	0.4712	0.1640
4	180	0.6001	0.0482	0.0178	0.2139	0.1754	-2.2671	0.4997	0.4315	0.1750
4	180	0.6501	0.0404	0.0193	0.2708	0.2021	-2.7690	0.5949	0.5482	0.1624
4	180	0.6999	0.0577	0.0218	0.3083	0.2281	-3.3464	0.6954	0.5364	0.1589
4	180	0.7500	0.0892	0.0253	0.3283	0.2548	-3.9653	0.8057	0.5732	0.1600
4	180	0.8002	0.0782	0.0294	0.3743	0.2798	-4.5893	0.9263	0.7203	0.1791
4	180	0.8582	0.0940	0.0347	0.4280	0.3109	-5.3720	1.0696	0.7490	0.1745
4	180	0.9101	0.0801	0.0371	0.5425	0.3372	-6.0742	1.2020	0.7860	0.1818
4	180	0.9728	0.1926	0.0401	0.6287	0.3710	-6.9321	1.3618	0.8725	0.1690

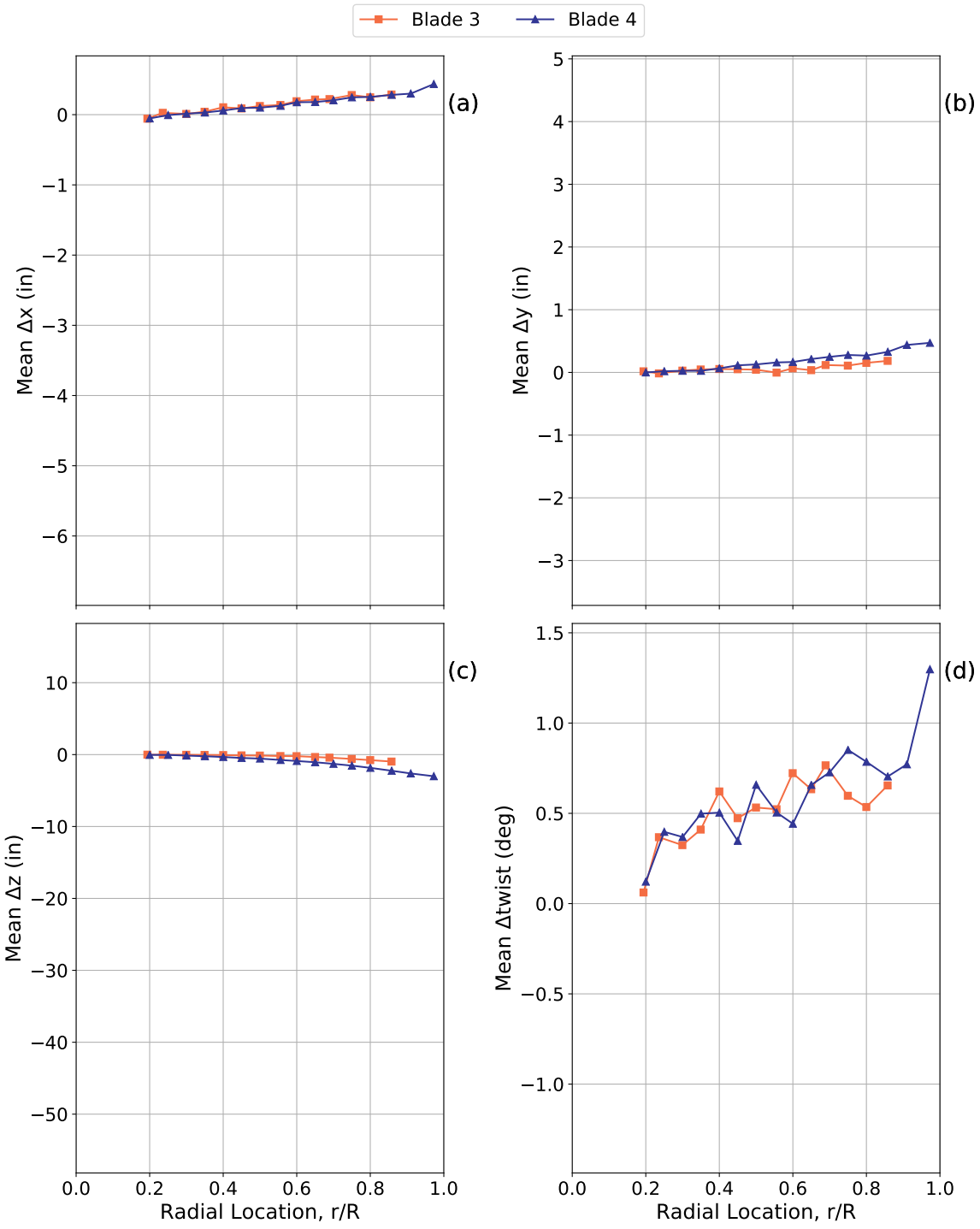


Figure 3.41-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0572	0.0011	0.0178	0.0019	-0.0085	0.0125	0.0616	0.0197
3	184.92	0.2357	0.0261	0.0016	-0.0155	0.0038	-0.0193	0.0230	0.3678	0.0476
3	184.92	0.2995	0.0105	0.0022	0.0286	0.0080	-0.0274	0.0537	0.3240	0.0521
3	184.92	0.3493	0.0415	0.0026	0.0470	0.0126	-0.0460	0.0907	0.4100	0.0622
3	184.92	0.4000	0.1052	0.0031	0.0542	0.0206	-0.0669	0.1415	0.6212	0.0331
3	184.92	0.4497	0.0886	0.0040	0.0509	0.0286	-0.1092	0.2031	0.4732	0.0576
3	184.92	0.4997	0.1233	0.0040	0.0435	0.0377	-0.1360	0.2737	0.5322	0.0726
3	184.92	0.5556	0.1381	0.0042	-0.0030	0.0455	-0.2006	0.3593	0.5228	0.0742
3	184.92	0.5995	0.1914	0.0044	0.0657	0.0536	-0.2165	0.4320	0.7225	0.0749
3	184.92	0.6498	0.2152	0.0051	0.0359	0.0639	-0.3324	0.5210	0.6336	0.0838
3	184.92	0.6890	0.2215	0.0058	0.1175	0.0677	-0.4232	0.5953	0.7659	0.1000
3	184.92	0.7495	0.2796	0.0061	0.1086	0.0781	-0.6025	0.7207	0.5973	0.0817
3	184.92	0.7998	0.2469	0.0078	0.1524	0.0842	-0.7672	0.8298	0.5350	0.0728
3	184.92	0.8577	0.2873	0.0082	0.1843	0.0936	-0.9685	0.9614	0.6546	0.1507
4	184.92	0.2001	-0.0537	0.0014	-0.0004	0.0018	-0.0435	0.0108	0.1214	0.0231
4	184.92	0.2502	-0.0062	0.0020	0.0189	0.0030	-0.0480	0.0230	0.3975	0.0448
4	184.92	0.3001	0.0135	0.0019	0.0259	0.0060	-0.1397	0.0425	0.3688	0.0545
4	184.92	0.3502	0.0300	0.0014	0.0256	0.0115	-0.2286	0.0727	0.4981	0.0535
4	184.92	0.4002	0.0586	0.0023	0.0649	0.0166	-0.3359	0.1123	0.5039	0.0629
4	184.92	0.4500	0.0939	0.0029	0.1130	0.0229	-0.4670	0.1603	0.3473	0.0684
4	184.92	0.5001	0.1000	0.0023	0.1274	0.0311	-0.5562	0.2168	0.6580	0.0650
4	184.92	0.5560	0.1255	0.0036	0.1592	0.0423	-0.7505	0.2875	0.5044	0.0560
4	184.92	0.6001	0.1767	0.0033	0.1663	0.0500	-0.8911	0.3459	0.4423	0.0737
4	184.92	0.6501	0.1799	0.0041	0.2130	0.0616	-1.0638	0.4217	0.6574	0.0914
4	184.92	0.6999	0.2043	0.0049	0.2484	0.0715	-1.2871	0.4996	0.7271	0.0686
4	184.92	0.7500	0.2466	0.0058	0.2784	0.0851	-1.5372	0.5862	0.8513	0.0700
4	184.92	0.8002	0.2524	0.0075	0.2680	0.0972	-1.8455	0.6767	0.7854	0.0802
4	184.92	0.8582	0.2816	0.0098	0.3278	0.1103	-2.2467	0.7833	0.7042	0.0937
4	184.92	0.9101	0.2995	0.0122	0.4382	0.1286	-2.6223	0.8901	0.7715	0.1355
4	184.92	0.9728	0.4358	0.0112	0.4716	0.1380	-3.0095	1.0196	1.2978	0.1412

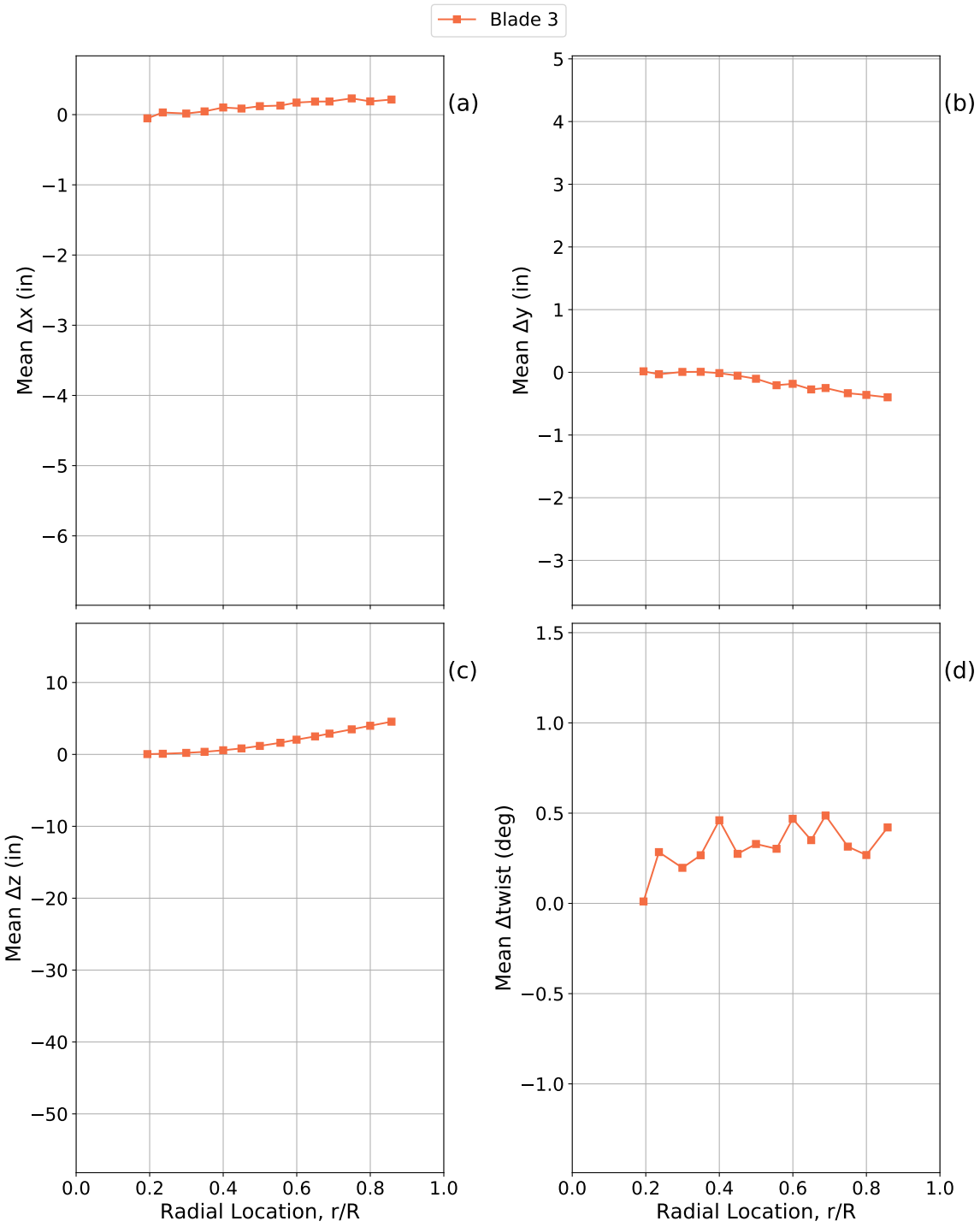


Figure 3.41-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0532	0.0019	0.0164	0.0034	0.0426	0.0193	0.0107	0.0278
3	195.12	0.2357	0.0310	0.0012	-0.0306	0.0039	0.0914	0.0308	0.2841	0.0429
3	195.12	0.2995	0.0154	0.0009	0.0067	0.0110	0.2142	0.0759	0.1970	0.0616
3	195.12	0.3493	0.0461	0.0019	0.0079	0.0199	0.3612	0.1292	0.2668	0.0676
3	195.12	0.4000	0.1017	0.0025	-0.0126	0.0292	0.5773	0.1980	0.4606	0.0717
3	195.12	0.4497	0.0863	0.0034	-0.0531	0.0429	0.8357	0.2803	0.2746	0.0806
3	195.12	0.4997	0.1205	0.0054	-0.1026	0.0559	1.1815	0.3723	0.3291	0.0742
3	195.12	0.5556	0.1290	0.0083	-0.2056	0.0725	1.6219	0.4844	0.3026	0.1005
3	195.12	0.5995	0.1717	0.0114	-0.1834	0.0876	2.0522	0.5885	0.4688	0.0831
3	195.12	0.6498	0.1857	0.0154	-0.2725	0.1014	2.5049	0.7049	0.3504	0.1102
3	195.12	0.6890	0.1868	0.0201	-0.2505	0.1130	2.8952	0.8026	0.4868	0.1279
3	195.12	0.7495	0.2313	0.0256	-0.3329	0.1339	3.4881	0.9678	0.3146	0.1414
3	195.12	0.7998	0.1888	0.0298	-0.3604	0.1513	3.9867	1.1152	0.2679	0.1393
3	195.12	0.8577	0.2150	0.0368	-0.3984	0.1698	4.5522	1.2850	0.4209	0.1709

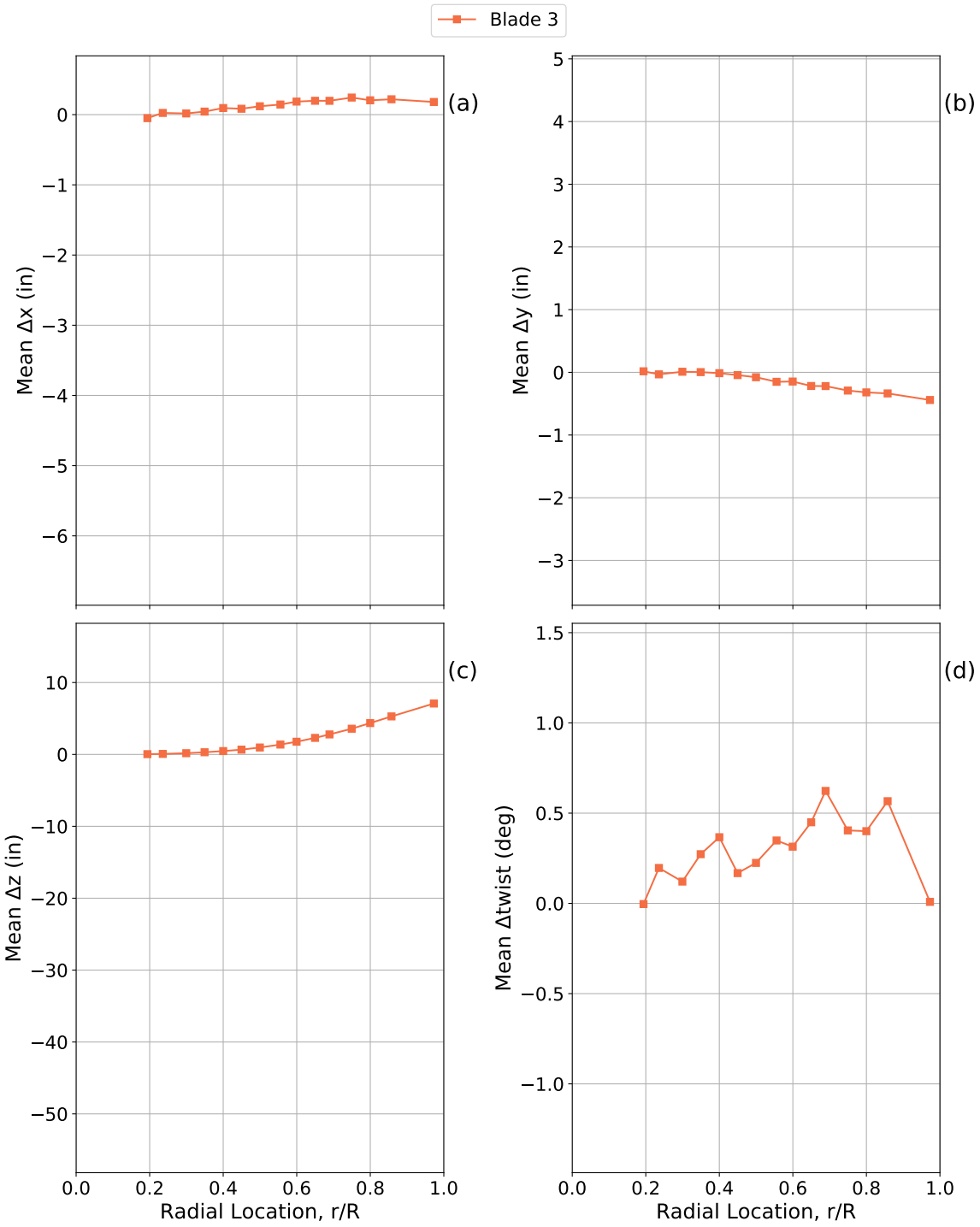


Figure 3.41-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0498	0.0017	0.0166	0.0016	0.0373	0.0113	-0.0037	0.0121
3	209.88	0.2357	0.0244	0.0018	-0.0324	0.0022	0.0701	0.0206	0.1964	0.0402
3	209.88	0.2995	0.0167	0.0012	0.0093	0.0058	0.1685	0.0514	0.1208	0.0355
3	209.88	0.3493	0.0433	0.0022	0.0037	0.0088	0.3008	0.0817	0.2726	0.0459
3	209.88	0.4000	0.0937	0.0023	-0.0134	0.0143	0.4640	0.1314	0.3667	0.0465
3	209.88	0.4497	0.0839	0.0030	-0.0442	0.0212	0.6641	0.1901	0.1678	0.0496
3	209.88	0.4997	0.1193	0.0030	-0.0778	0.0296	0.9631	0.2626	0.2243	0.0451
3	209.88	0.5556	0.1439	0.0051	-0.1509	0.0393	1.3704	0.3596	0.3485	0.0516
3	209.88	0.5995	0.1857	0.0062	-0.1468	0.0485	1.7652	0.4473	0.3143	0.0490
3	209.88	0.6498	0.1972	0.0100	-0.2179	0.0564	2.2990	0.5548	0.4493	0.0477
3	209.88	0.6890	0.1967	0.0141	-0.2193	0.0654	2.7798	0.6517	0.6232	0.0541
3	209.88	0.7495	0.2433	0.0220	-0.2909	0.0771	3.5760	0.8102	0.4043	0.0530
3	209.88	0.7998	0.2041	0.0294	-0.3201	0.0874	4.3605	0.9518	0.4002	0.0628
3	209.88	0.8577	0.2187	0.0384	-0.3363	0.0983	5.2869	1.1271	0.5663	0.0727
3	209.88	0.9729	0.1802	0.0646	-0.4414	0.1198	7.0778	1.4916	0.0084	0.0812

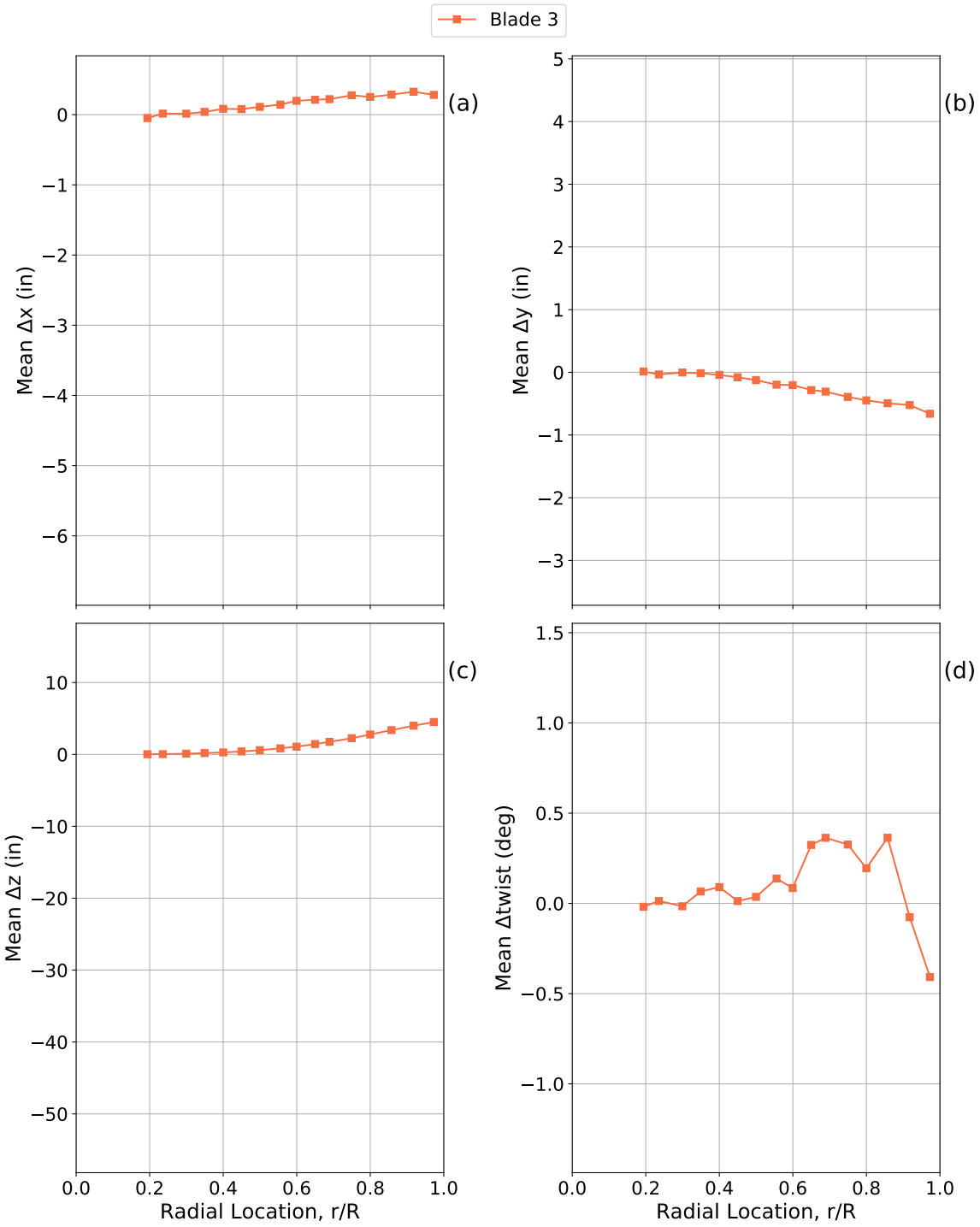


Figure 3.41-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0490	0.0011	0.0132	0.0019	0.0279	0.0085	-0.0187	0.0177
3	225	0.2357	0.0144	0.0012	-0.0340	0.0024	0.0363	0.0173	0.0134	0.0478
3	225	0.2995	0.0134	0.0014	-0.0023	0.0073	0.1019	0.0384	-0.0161	0.0505
3	225	0.3493	0.0388	0.0032	-0.0140	0.0121	0.1885	0.0632	0.0660	0.0609
3	225	0.4000	0.0827	0.0028	-0.0410	0.0188	0.2771	0.1005	0.0901	0.0508
3	225	0.4497	0.0783	0.0030	-0.0792	0.0267	0.4083	0.1465	0.0130	0.0578
3	225	0.4997	0.1103	0.0046	-0.1239	0.0352	0.5916	0.2038	0.0359	0.0483
3	225	0.5556	0.1435	0.0045	-0.1972	0.0454	0.8430	0.2759	0.1378	0.0548
3	225	0.5995	0.1968	0.0052	-0.2037	0.0554	1.0791	0.3446	0.0850	0.0525
3	225	0.6498	0.2125	0.0064	-0.2825	0.0663	1.4445	0.4253	0.3240	0.0620
3	225	0.6890	0.2201	0.0078	-0.3077	0.0748	1.7474	0.4959	0.3633	0.0618
3	225	0.7495	0.2755	0.0130	-0.3921	0.0896	2.2497	0.6191	0.3262	0.0568
3	225	0.7998	0.2519	0.0163	-0.4470	0.1021	2.7697	0.7315	0.1946	0.0559
3	225	0.8577	0.2843	0.0205	-0.4936	0.1161	3.3813	0.8691	0.3637	0.0625
3	225	0.9178	0.3262	0.0280	-0.5221	0.1299	3.9887	1.0121	-0.0767	0.0588
3	225	0.9729	0.2812	0.0393	-0.6606	0.1443	4.5024	1.1534	-0.4082	0.0777

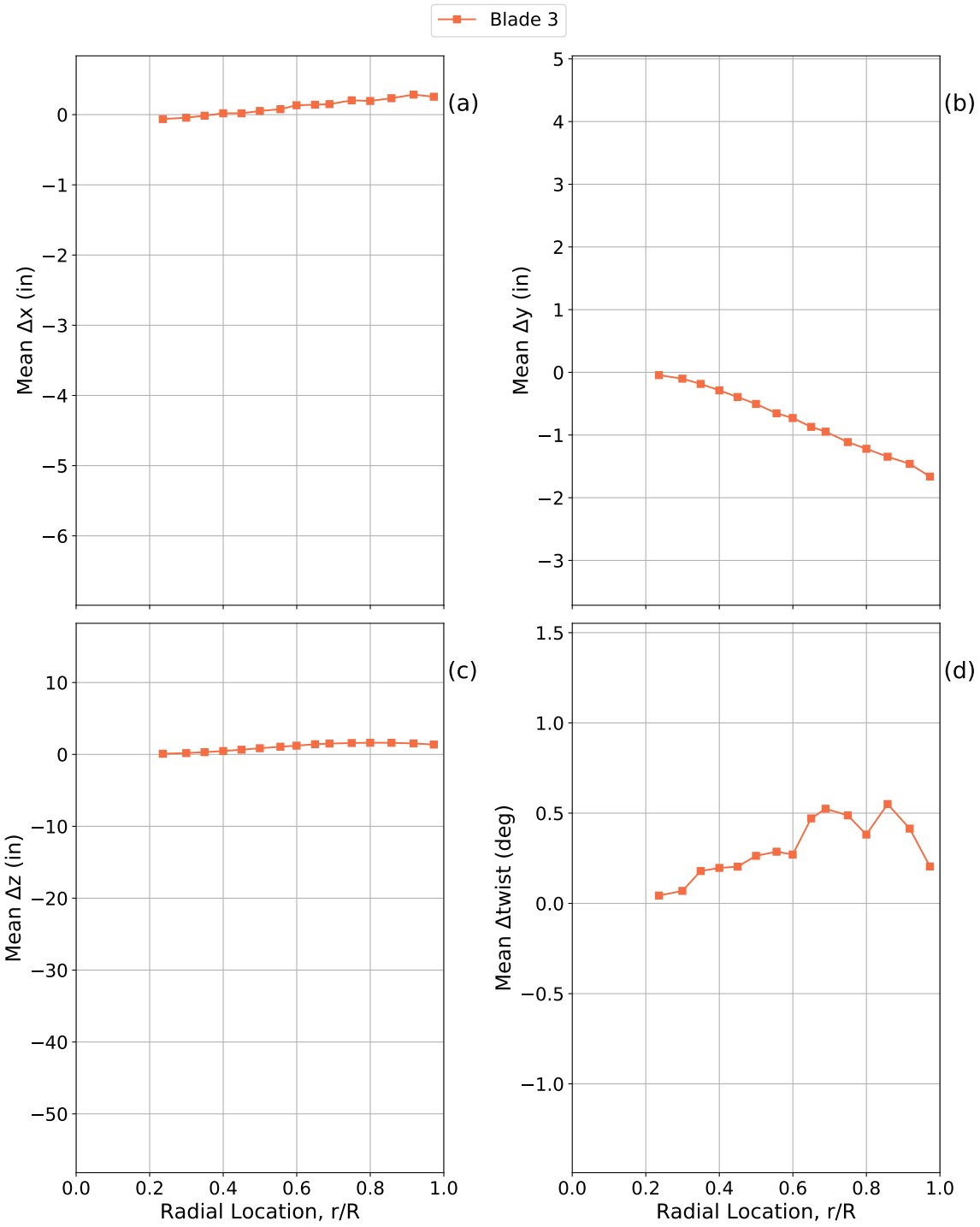


Figure 3.41-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.009$, $\mu = 1$, $\alpha = -0°$ NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.2357	-0.0634	0.0025	-0.0444	0.0022	0.0948	0.0227	0.0432	0.0477
3	240.12	0.2995	-0.0439	0.0018	-0.1011	0.0049	0.1850	0.0572	0.0692	0.0766
3	240.12	0.3493	-0.0159	0.0019	-0.1850	0.0090	0.3151	0.0908	0.1793	0.0801
3	240.12	0.4000	0.0198	0.0032	-0.2877	0.0138	0.4686	0.1484	0.1966	0.0737
3	240.12	0.4497	0.0192	0.0036	-0.3939	0.0193	0.6550	0.2147	0.2034	0.0819
3	240.12	0.4997	0.0515	0.0022	-0.5042	0.0247	0.8586	0.3007	0.2635	0.1102
3	240.12	0.5556	0.0778	0.0042	-0.6537	0.0327	1.0715	0.4172	0.2864	0.1086
3	240.12	0.5995	0.1335	0.0054	-0.7291	0.0416	1.2195	0.5230	0.2704	0.1123
3	240.12	0.6498	0.1411	0.0061	-0.8701	0.0505	1.4161	0.6600	0.4709	0.1155
3	240.12	0.6890	0.1493	0.0079	-0.9464	0.0569	1.5100	0.7799	0.5243	0.1240
3	240.12	0.7495	0.2035	0.0102	-1.1128	0.0669	1.5871	0.9828	0.4877	0.1584
3	240.12	0.7998	0.1945	0.0129	-1.2195	0.0758	1.6276	1.1672	0.3814	0.1475
3	240.12	0.8577	0.2337	0.0133	-1.3457	0.0849	1.6190	1.3922	0.5504	0.1458
3	240.12	0.9178	0.2852	0.0181	-1.4599	0.0936	1.5272	1.6376	0.4143	0.1502
3	240.12	0.9729	0.2550	0.0225	-1.6629	0.1021	1.3745	1.8685	0.2043	0.1536

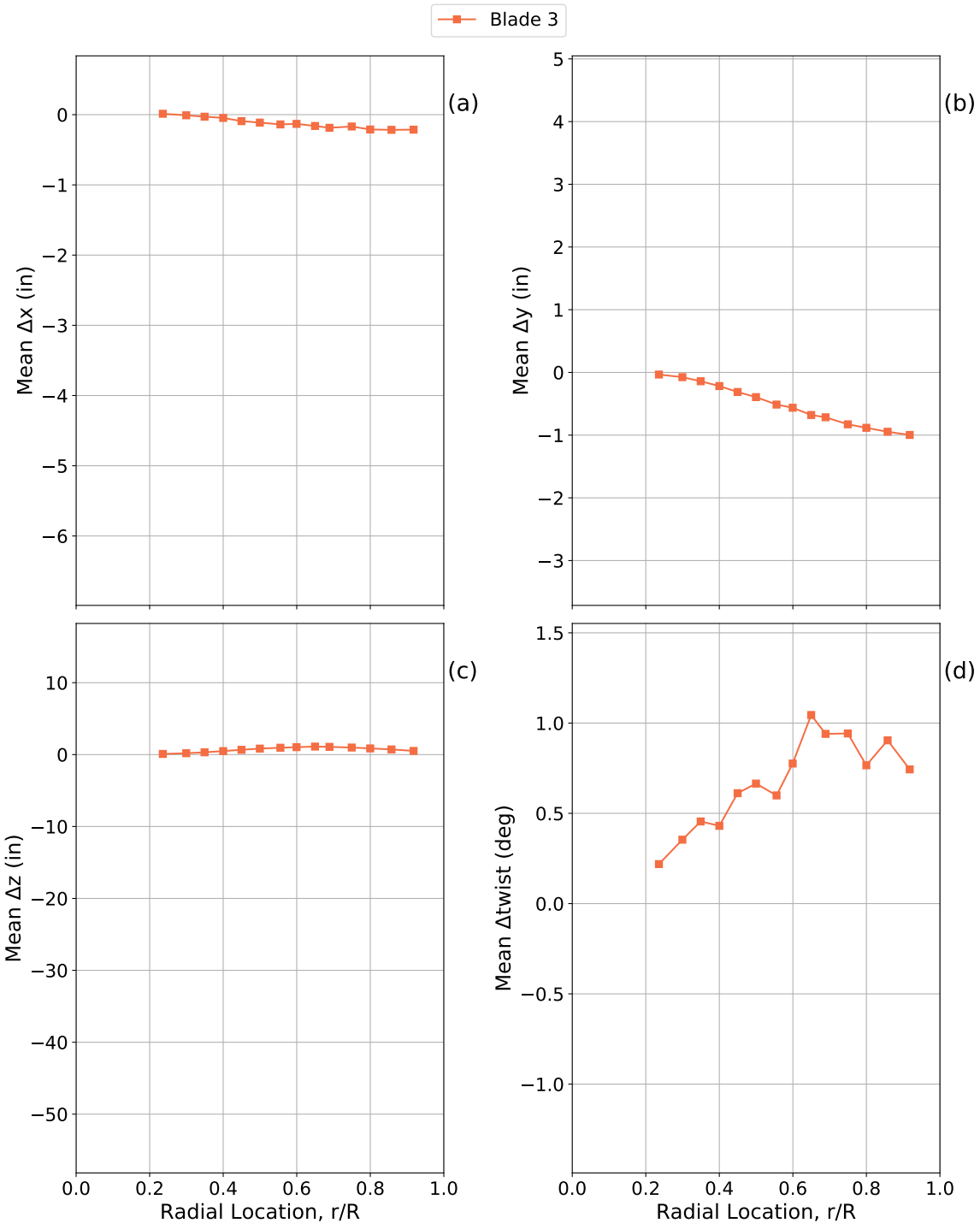


Figure 3.41-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2357	0.0129	0.0030	-0.0338	0.0024	0.0912	0.0191	0.2187	0.0911
3	254.88	0.2995	-0.0091	0.0028	-0.0755	0.0057	0.1897	0.0429	0.3540	0.1463
3	254.88	0.3493	-0.0288	0.0030	-0.1409	0.0102	0.3199	0.0751	0.4551	0.1402
3	254.88	0.4000	-0.0467	0.0020	-0.2174	0.0159	0.4878	0.1168	0.4307	0.1431
3	254.88	0.4497	-0.0921	0.0034	-0.3120	0.0212	0.6630	0.1686	0.6116	0.1355
3	254.88	0.4997	-0.1130	0.0024	-0.3940	0.0284	0.8332	0.2251	0.6649	0.1586
3	254.88	0.5556	-0.1389	0.0029	-0.5125	0.0359	0.9555	0.2953	0.5993	0.1459
3	254.88	0.5995	-0.1316	0.0038	-0.5634	0.0429	1.0358	0.3563	0.7759	0.1654
3	254.88	0.6498	-0.1610	0.0042	-0.6789	0.0505	1.1142	0.4250	1.0447	0.1762
3	254.88	0.6890	-0.1874	0.0046	-0.7152	0.0566	1.0730	0.4860	0.9402	0.1779
3	254.88	0.7495	-0.1687	0.0045	-0.8273	0.0668	0.9829	0.5803	0.9425	0.1706
3	254.88	0.7998	-0.2112	0.0048	-0.8835	0.0753	0.8602	0.6616	0.7661	0.1905
3	254.88	0.8577	-0.2162	0.0053	-0.9460	0.0856	0.7200	0.7576	0.9045	0.2014
3	254.88	0.9178	-0.2136	0.0062	-0.9970	0.0963	0.5104	0.8614	0.7435	0.1949

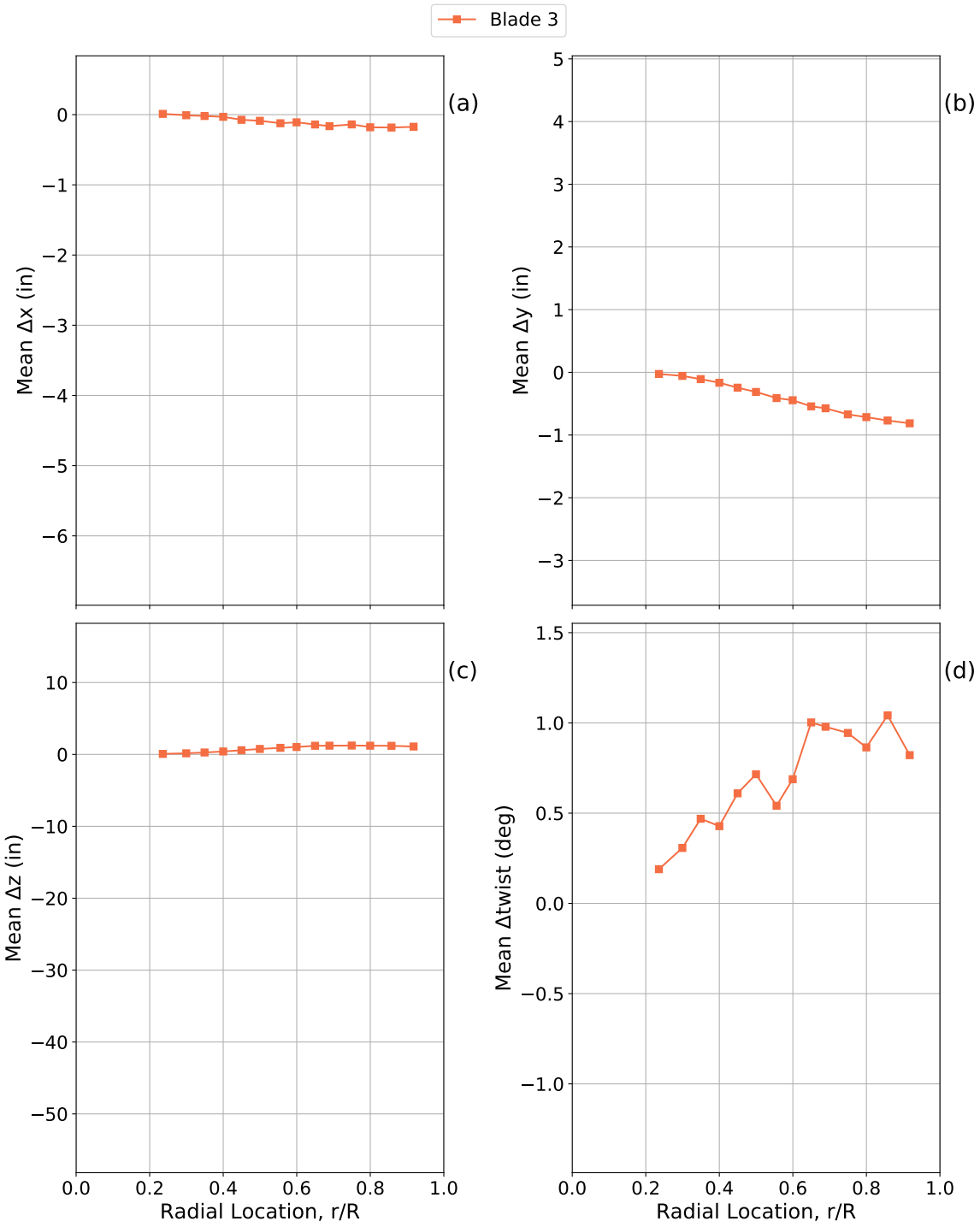


Figure 3.41-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2357	0.0108	0.0262	-0.0261	0.0055	0.0744	0.0148	0.1894	0.0613
3	260.16	0.2995	-0.0089	0.0053	-0.0570	0.0137	0.1546	0.0333	0.3072	0.0984
3	260.16	0.3493	-0.0197	0.0131	-0.1084	0.0235	0.2687	0.0542	0.4689	0.1067
3	260.16	0.4000	-0.0312	0.0214	-0.1657	0.0376	0.4081	0.0851	0.4280	0.1105
3	260.16	0.4497	-0.0738	0.0285	-0.2449	0.0533	0.5809	0.1254	0.6098	0.1224
3	260.16	0.4997	-0.0874	0.0330	-0.3129	0.0712	0.7584	0.1707	0.7155	0.1315
3	260.16	0.5556	-0.1227	0.0421	-0.4103	0.0947	0.9155	0.2291	0.5410	0.1476
3	260.16	0.5995	-0.1096	0.0493	-0.4450	0.1140	1.0330	0.2794	0.6880	0.1539
3	260.16	0.6498	-0.1401	0.0619	-0.5425	0.1374	1.1990	0.3409	1.0026	0.1614
3	260.16	0.6890	-0.1643	0.0747	-0.5733	0.1563	1.2175	0.3903	0.9787	0.1667
3	260.16	0.7495	-0.1394	0.1008	-0.6706	0.1863	1.2325	0.4737	0.9444	0.1873
3	260.16	0.7998	-0.1803	0.1256	-0.7148	0.2123	1.2147	0.5458	0.8643	0.2003
3	260.16	0.8577	-0.1838	0.1583	-0.7685	0.2428	1.1986	0.6332	1.0420	0.2023
3	260.16	0.9178	-0.1737	0.1964	-0.8129	0.2754	1.1042	0.7236	0.8214	0.2369

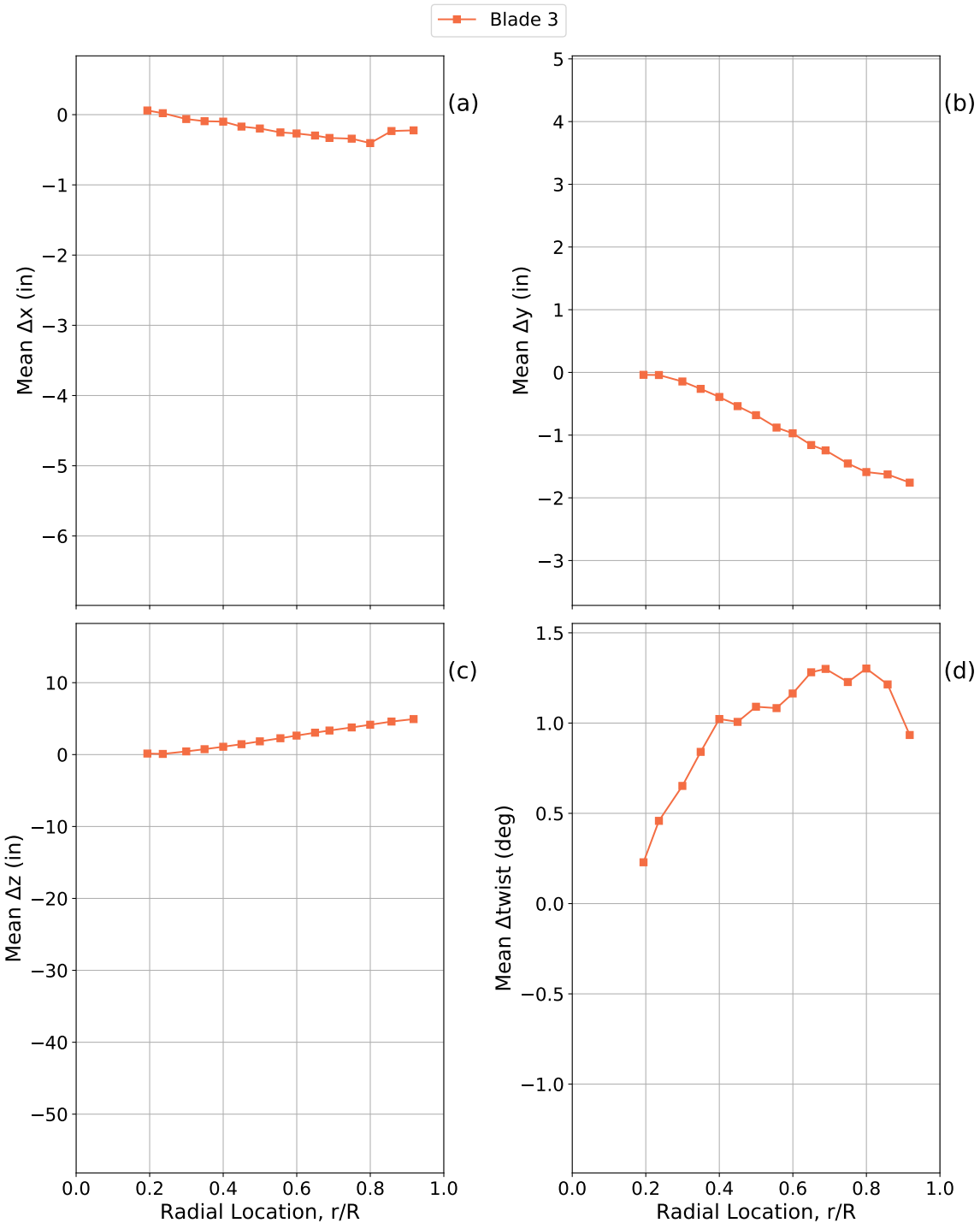


Figure 3.41-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0595	0.0093	-0.0383	0.0055	0.1456	0.0106	0.2289	0.0540
3	265.08	0.2357	0.0209	0.0020	-0.0414	0.0032	0.0935	0.0166	0.4584	0.1080
3	265.08	0.2995	-0.0621	0.0032	-0.1445	0.0176	0.4426	0.0413	0.6519	0.1463
3	265.08	0.3493	-0.0931	0.0034	-0.2620	0.0300	0.7512	0.0676	0.8405	0.1320
3	265.08	0.4000	-0.0992	0.0040	-0.3911	0.0442	1.0914	0.1052	1.0225	0.1284
3	265.08	0.4497	-0.1700	0.0040	-0.5380	0.0566	1.4466	0.1448	1.0067	0.1470
3	265.08	0.4997	-0.1972	0.0034	-0.6817	0.0687	1.8414	0.1921	1.0905	0.1405
3	265.08	0.5556	-0.2527	0.0042	-0.8797	0.0838	2.2754	0.2546	1.0829	0.1541
3	265.08	0.5995	-0.2679	0.0072	-0.9705	0.0954	2.6428	0.3116	1.1638	0.1709
3	265.08	0.6498	-0.2973	0.0091	-1.1579	0.1078	3.0491	0.3802	1.2814	0.1838
3	265.08	0.6890	-0.3318	0.0104	-1.2432	0.1192	3.3489	0.4372	1.3001	0.1785
3	265.08	0.7495	-0.3420	0.0124	-1.4521	0.1354	3.7775	0.5324	1.2273	0.1807
3	265.08	0.7998	-0.4052	0.0152	-1.5889	0.1502	4.1531	0.6157	1.3022	0.1686
3	265.08	0.8577	-0.2331	0.0154	-1.6266	0.1696	4.5952	0.7157	1.2142	0.1916
3	265.08	0.9178	-0.2237	0.0188	-1.7570	0.1857	4.9369	0.8238	0.9339	0.1850

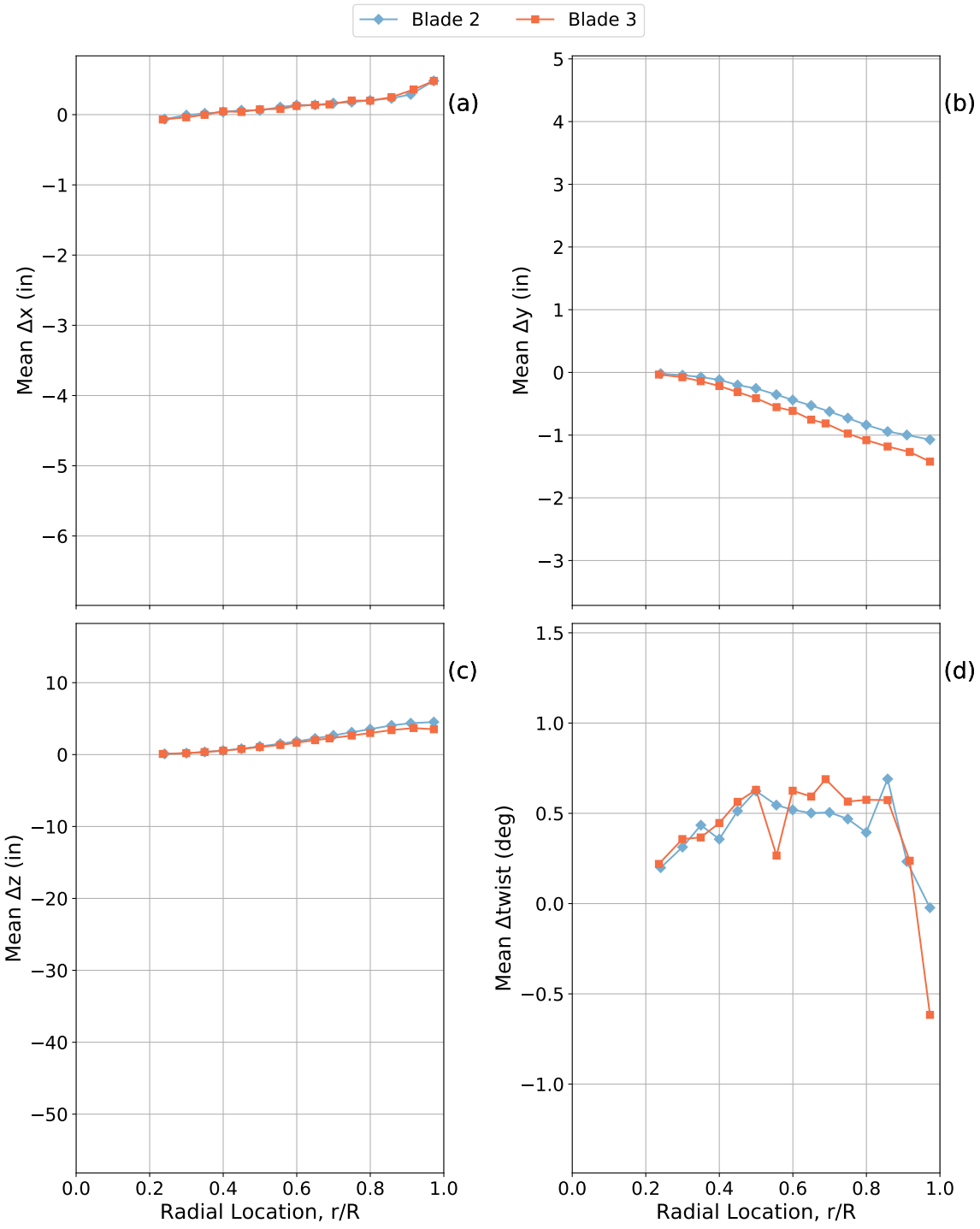


Figure 3.41-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2405	-0.0630	0.0051	-0.0196	0.0039	0.1029	0.0243	0.1990	0.1554
2	270.35	0.2999	-0.0063	0.0026	-0.0437	0.0077	0.1992	0.0493	0.3132	0.2393
2	270.35	0.3498	0.0186	0.0018	-0.0742	0.0146	0.3712	0.0870	0.4343	0.2289
2	270.35	0.3998	0.0370	0.0015	-0.1174	0.0219	0.5555	0.1328	0.3570	0.2340
2	270.35	0.4496	0.0631	0.0025	-0.2015	0.0288	0.8148	0.1897	0.5128	0.2447
2	270.35	0.4995	0.0615	0.0042	-0.2555	0.0378	1.1436	0.2641	0.6240	0.2372
2	270.35	0.5551	0.1079	0.0057	-0.3542	0.0474	1.5063	0.3534	0.5457	0.2478
2	270.35	0.5996	0.1370	0.0075	-0.4395	0.0564	1.8441	0.4396	0.5193	0.2465
2	270.35	0.6497	0.1383	0.0101	-0.5275	0.0657	2.2460	0.5397	0.5016	0.2609
2	270.35	0.6996	0.1645	0.0139	-0.6240	0.0750	2.6787	0.6516	0.5049	0.2520
2	270.35	0.7495	0.1780	0.0179	-0.7282	0.0853	3.1055	0.7714	0.4689	0.2383
2	270.35	0.7996	0.2035	0.0221	-0.8380	0.0954	3.5374	0.8946	0.3939	0.2521
2	270.35	0.8578	0.2323	0.0260	-0.9427	0.1069	4.0597	1.0413	0.6903	0.2617
2	270.35	0.9100	0.2880	0.0305	-0.9975	0.1173	4.3645	1.1723	0.2331	0.2672
2	270.35	0.9727	0.4801	0.0420	-1.0718	0.1317	4.5280	1.3297	-0.0226	0.3018
3	270	0.2357	-0.0689	0.0036	-0.0339	0.0020	0.0939	0.0132	0.2198	0.0870
3	270	0.2995	-0.0379	0.0020	-0.0768	0.0044	0.2108	0.0279	0.3574	0.1392
3	270	0.3493	-0.0022	0.0024	-0.1396	0.0083	0.3492	0.0484	0.3664	0.1338
3	270	0.4000	0.0479	0.0022	-0.2168	0.0125	0.5477	0.0738	0.4464	0.1248
3	270	0.4497	0.0382	0.0025	-0.3134	0.0167	0.7807	0.1006	0.5636	0.1311
3	270	0.4997	0.0755	0.0033	-0.4111	0.0198	1.0506	0.1354	0.6303	0.1344
3	270	0.5556	0.0814	0.0028	-0.5535	0.0253	1.3420	0.1835	0.2661	0.1208
3	270	0.5995	0.1232	0.0032	-0.6133	0.0287	1.6548	0.2217	0.6253	0.1246
3	270	0.6498	0.1383	0.0051	-0.7535	0.0335	2.0019	0.2753	0.5931	0.1319
3	270	0.6890	0.1457	0.0062	-0.8132	0.0370	2.2553	0.3173	0.6893	0.1317
3	270	0.7495	0.2018	0.0081	-0.9745	0.0421	2.6484	0.3894	0.5653	0.1191
3	270	0.7998	0.1995	0.0093	-1.0804	0.0470	3.0050	0.4540	0.5750	0.1322
3	270	0.8577	0.2487	0.0109	-1.1814	0.0523	3.4074	0.5303	0.5733	0.1293
3	270	0.9178	0.3588	0.0160	-1.2685	0.0590	3.6927	0.6103	0.2375	0.1258
3	270	0.9729	0.4815	0.0269	-1.4222	0.0662	3.5219	0.6837	-0.6162	0.1435

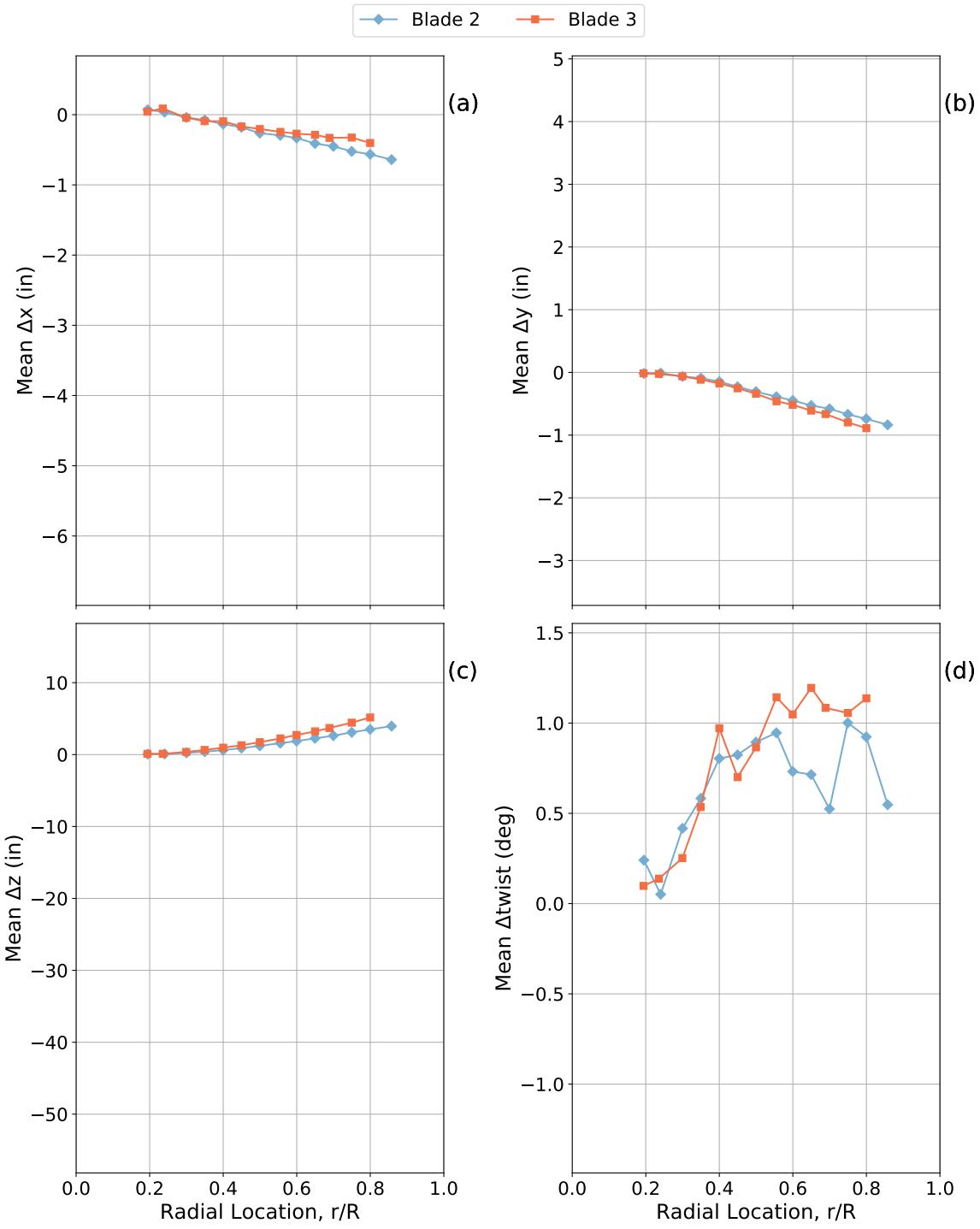


Figure 3.41-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0702	0.0045	-0.0167	0.0018	0.0571	0.0070	0.2407	0.0718
2	274.92	0.2405	0.0355	0.0031	-0.0103	0.0041	0.0876	0.0151	0.0513	0.0585
2	274.92	0.2999	-0.0400	0.0033	-0.0647	0.0099	0.2422	0.0295	0.4168	0.1372
2	274.92	0.3498	-0.0768	0.0024	-0.0907	0.0136	0.3998	0.0541	0.5829	0.1320
2	274.92	0.3998	-0.1345	0.0034	-0.1467	0.0237	0.6227	0.0808	0.8040	0.1370
2	274.92	0.4496	-0.1800	0.0039	-0.2286	0.0272	0.8958	0.1091	0.8240	0.1284
2	274.92	0.4995	-0.2632	0.0056	-0.3068	0.0369	1.2165	0.1477	0.8942	0.1217
2	274.92	0.5551	-0.2949	0.0069	-0.3870	0.0458	1.5891	0.2069	0.9460	0.1133
2	274.92	0.5996	-0.3331	0.0092	-0.4470	0.0522	1.8742	0.2531	0.7317	0.1057
2	274.92	0.6497	-0.4108	0.0106	-0.5273	0.0615	2.2592	0.3180	0.7146	0.1418
2	274.92	0.6996	-0.4511	0.0138	-0.5794	0.0723	2.6268	0.3877	0.5246	0.1803
2	274.92	0.7495	-0.5226	0.0148	-0.6689	0.0795	3.0927	0.4768	1.0016	0.1213
2	274.92	0.7996	-0.5642	0.0182	-0.7400	0.0890	3.5094	0.5701	0.9233	0.1680
2	274.92	0.8578	-0.6405	0.0238	-0.8355	0.1081	3.9564	0.7007	0.5478	0.2712
3	274.92	0.1938	0.0433	0.0039	-0.0145	0.0014	0.1031	0.0072	0.0980	0.0544
3	274.92	0.2357	0.0871	0.0015	-0.0239	0.0028	0.1083	0.0152	0.1380	0.0963
3	274.92	0.2995	-0.0440	0.0024	-0.0621	0.0055	0.3711	0.0323	0.2520	0.1361
3	274.92	0.3493	-0.0914	0.0027	-0.1157	0.0096	0.6423	0.0568	0.5348	0.0947
3	274.92	0.4000	-0.0951	0.0029	-0.1746	0.0147	0.9633	0.0879	0.9712	0.1247
3	274.92	0.4497	-0.1687	0.0039	-0.2531	0.0178	1.2950	0.1212	0.7006	0.1203
3	274.92	0.4997	-0.2046	0.0030	-0.3398	0.0242	1.7276	0.1727	0.8654	0.0918
3	274.92	0.5556	-0.2454	0.0043	-0.4601	0.0324	2.2510	0.2403	1.1430	0.0984
3	274.92	0.5995	-0.2707	0.0074	-0.5168	0.0403	2.7285	0.3064	1.0481	0.1100
3	274.92	0.6498	-0.2872	0.0089	-0.6084	0.0488	3.2294	0.3938	1.1950	0.0936
3	274.92	0.6890	-0.3303	0.0133	-0.6633	0.0564	3.6984	0.4718	1.0842	0.1351
3	274.92	0.7495	-0.3260	0.0185	-0.7976	0.0672	4.4406	0.6053	1.0559	0.0925
3	274.92	0.7998	-0.4035	0.0235	-0.8886	0.0763	5.1613	0.7345	1.1371	0.0948

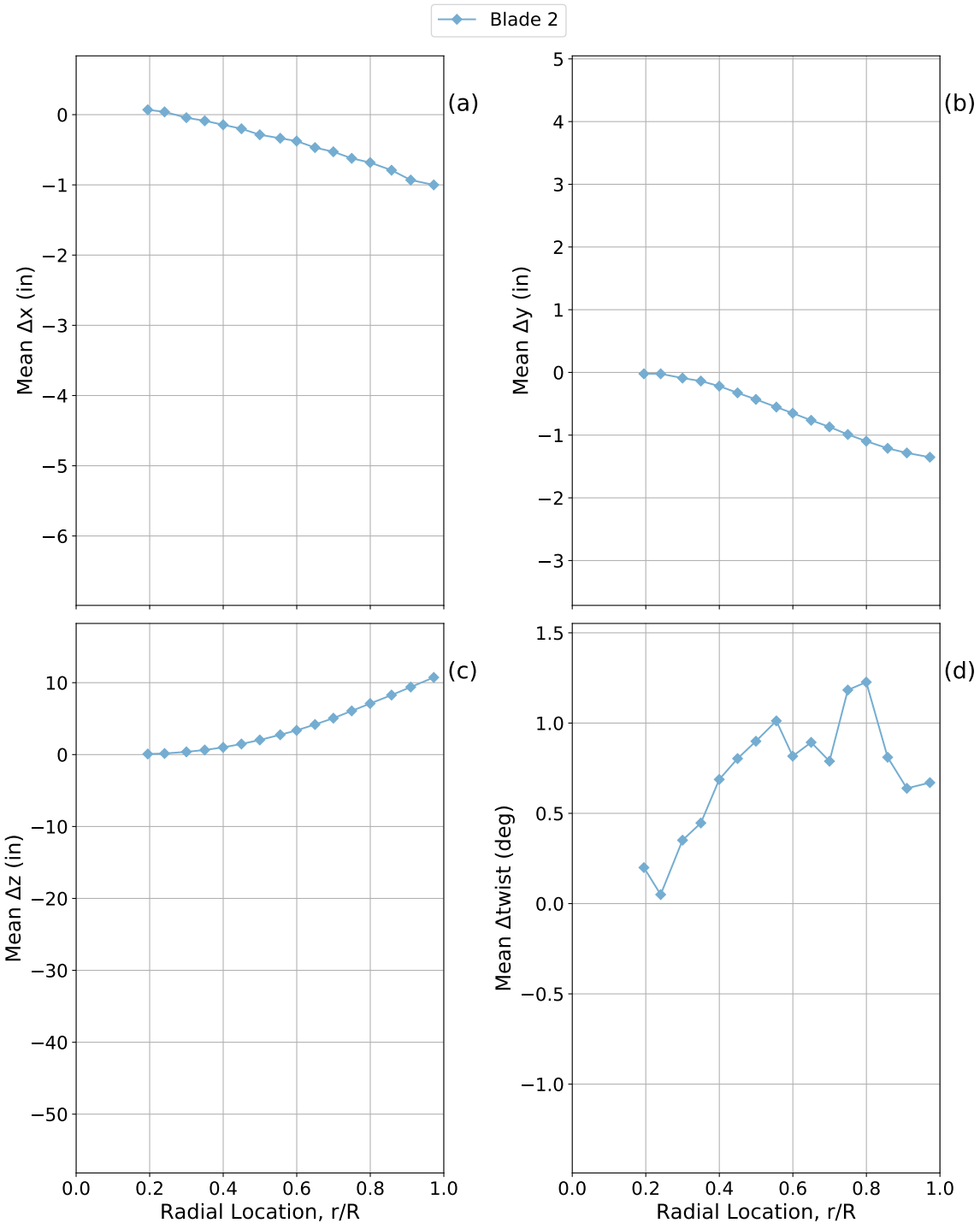


Figure 3.41-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.009$, $\mu = 1$, $\alpha = -0°$ NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0696	0.0022	-0.0222	0.0018	0.0832	0.0100	0.1996	0.0314
2	285.12	0.2405	0.0397	0.0024	-0.0220	0.0025	0.1545	0.0189	0.0499	0.0701
2	285.12	0.2999	-0.0431	0.0013	-0.0905	0.0066	0.3810	0.0448	0.3511	0.0800
2	285.12	0.3498	-0.0878	0.0033	-0.1375	0.0114	0.6385	0.0761	0.4465	0.1029
2	285.12	0.3998	-0.1442	0.0037	-0.2186	0.0170	1.0036	0.1190	0.6878	0.1128
2	285.12	0.4496	-0.2006	0.0043	-0.3256	0.0244	1.4751	0.1760	0.8035	0.1103
2	285.12	0.4995	-0.2864	0.0062	-0.4300	0.0321	2.0335	0.2476	0.8994	0.1392
2	285.12	0.5551	-0.3361	0.0111	-0.5524	0.0429	2.7548	0.3448	1.0122	0.1374
2	285.12	0.5996	-0.3760	0.0142	-0.6504	0.0516	3.3669	0.4381	0.8167	0.1771
2	285.12	0.6497	-0.4691	0.0207	-0.7634	0.0614	4.1859	0.5540	0.8932	0.1953
2	285.12	0.6996	-0.5285	0.0286	-0.8689	0.0726	5.0642	0.6837	0.7888	0.1994
2	285.12	0.7495	-0.6220	0.0364	-0.9898	0.0831	6.0771	0.8328	1.1831	0.2064
2	285.12	0.7996	-0.6821	0.0475	-1.0964	0.0951	7.1008	0.9935	1.2270	0.2156
2	285.12	0.8578	-0.7914	0.0599	-1.2104	0.1070	8.2782	1.1935	0.8105	0.2415
2	285.12	0.9100	-0.9309	0.0759	-1.2839	0.1187	9.3912	1.3804	0.6385	0.2579
2	285.12	0.9727	-1.0003	0.0959	-1.3521	0.1330	10.7319	1.6249	0.6701	0.2844

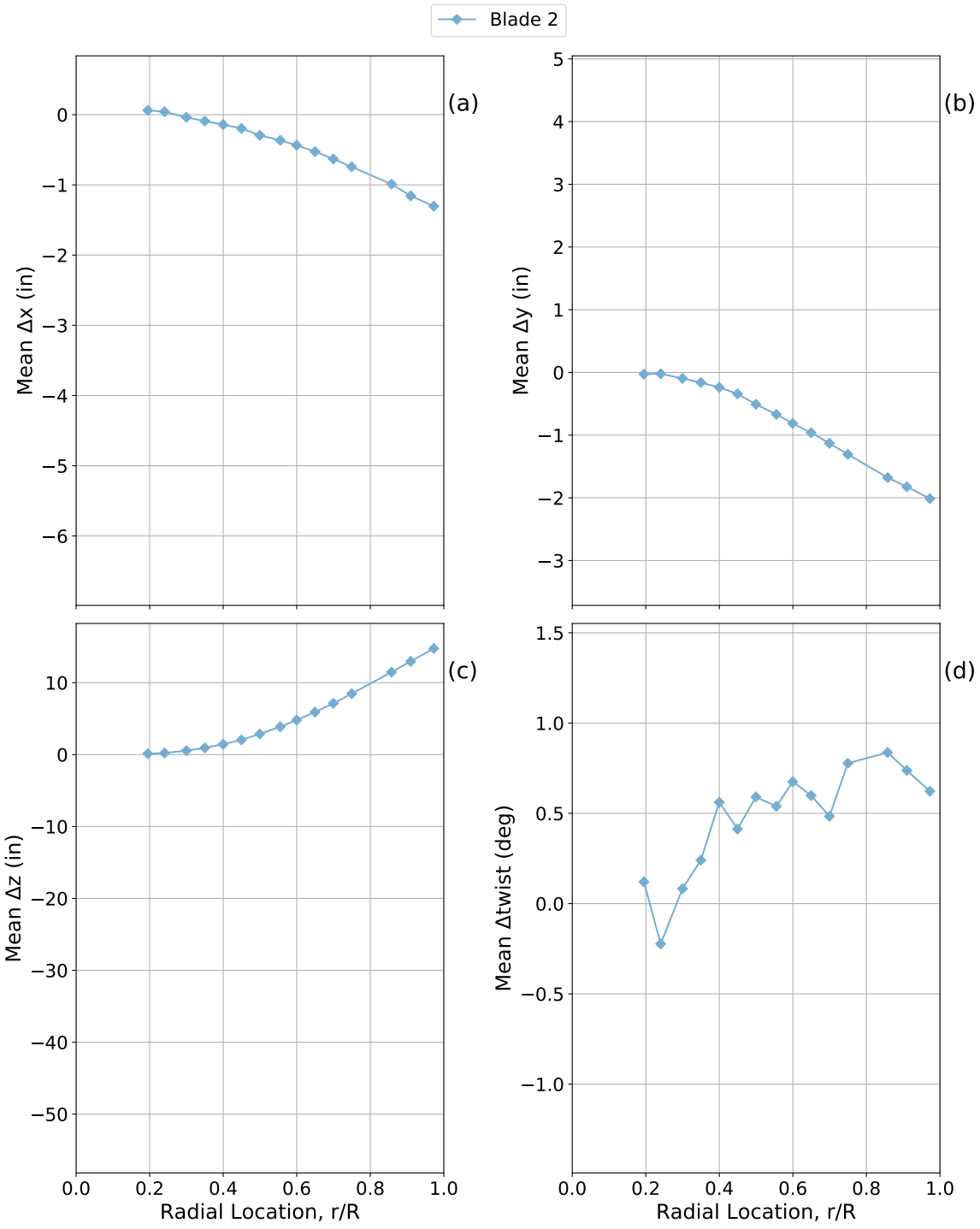


Figure 3.41-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0619	0.0042	-0.0273	0.0025	0.1232	0.0088	0.1207	0.0395
2	299.88	0.2405	0.0417	0.0035	-0.0216	0.0039	0.2180	0.0154	-0.2231	0.0671
2	299.88	0.2999	-0.0382	0.0028	-0.0951	0.0097	0.5426	0.0350	0.0824	0.0920
2	299.88	0.3498	-0.0911	0.0048	-0.1616	0.0161	0.9364	0.0640	0.2403	0.0755
2	299.88	0.3998	-0.1412	0.0077	-0.2390	0.0249	1.4469	0.0954	0.5614	0.0837
2	299.88	0.4496	-0.1958	0.0082	-0.3427	0.0326	2.0389	0.1301	0.4132	0.1013
2	299.88	0.4995	-0.2936	0.0097	-0.5084	0.0371	2.8710	0.1752	0.5911	0.0856
2	299.88	0.5551	-0.3659	0.0128	-0.6692	0.0482	3.8704	0.2389	0.5386	0.0999
2	299.88	0.5996	-0.4357	0.0175	-0.8135	0.0569	4.7995	0.2942	0.6752	0.0970
2	299.88	0.6497	-0.5260	0.0209	-0.9623	0.0661	5.9102	0.3634	0.5987	0.1013
2	299.88	0.6996	-0.6306	0.0265	-1.1303	0.0768	7.1305	0.4375	0.4837	0.1192
2	299.88	0.7495	-0.7433	0.0329	-1.3057	0.0881	8.4685	0.5175	0.7776	0.1087
2	299.88	0.8578	-0.9901	0.0476	-1.6775	0.1123	11.4814	0.7054	0.8370	0.1123
2	299.88	0.9100	-1.1563	0.0571	-1.8235	0.1245	12.9648	0.7988	0.7376	0.1175
2	299.88	0.9727	-1.3038	0.0719	-2.0124	0.1389	14.7634	0.9174	0.6223	0.1189

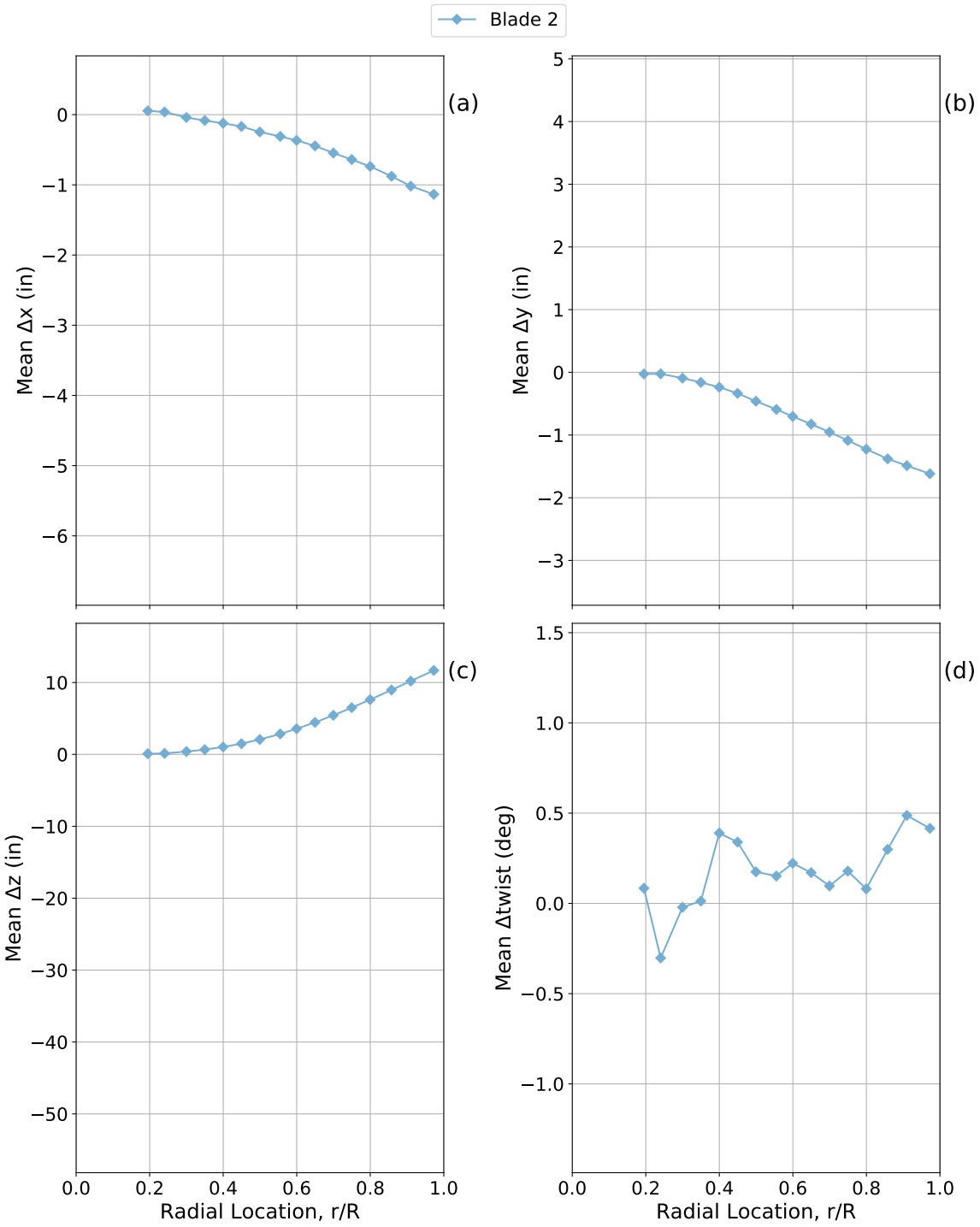


Figure 3.41-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0536	0.0035	-0.0258	0.0022	0.0909	0.0072	0.0840	0.0342
2	315	0.2405	0.0379	0.0028	-0.0243	0.0045	0.1403	0.0113	-0.3027	0.0524
2	315	0.2999	-0.0411	0.0021	-0.0928	0.0105	0.3998	0.0286	-0.0214	0.0659
2	315	0.3498	-0.0837	0.0060	-0.1603	0.0180	0.6642	0.0504	0.0126	0.0423
2	315	0.3998	-0.1226	0.0072	-0.2376	0.0280	1.0394	0.0759	0.3894	0.0939
2	315	0.4496	-0.1686	0.0075	-0.3351	0.0358	1.4905	0.0999	0.3398	0.0815
2	315	0.4995	-0.2467	0.0079	-0.4607	0.0417	2.0790	0.1225	0.1748	0.0747
2	315	0.5551	-0.3102	0.0101	-0.5909	0.0485	2.8485	0.1492	0.1517	0.0848
2	315	0.5996	-0.3677	0.0132	-0.7043	0.0551	3.5684	0.1698	0.2223	0.0732
2	315	0.6497	-0.4454	0.0135	-0.8259	0.0623	4.4546	0.1951	0.1702	0.0698
2	315	0.6996	-0.5458	0.0143	-0.9539	0.0701	5.4425	0.2252	0.0965	0.0886
2	315	0.7495	-0.6406	0.0155	-1.0869	0.0769	6.5022	0.2631	0.1788	0.1112
2	315	0.7996	-0.7382	0.0163	-1.2264	0.0846	7.6212	0.3109	0.0806	0.0881
2	315	0.8578	-0.8780	0.0191	-1.3795	0.0940	8.9682	0.3846	0.2992	0.0910
2	315	0.9100	-1.0184	0.0232	-1.4883	0.1017	10.2021	0.4625	0.4873	0.1017
2	315	0.9727	-1.1347	0.0297	-1.6183	0.1122	11.6826	0.5662	0.4157	0.0914

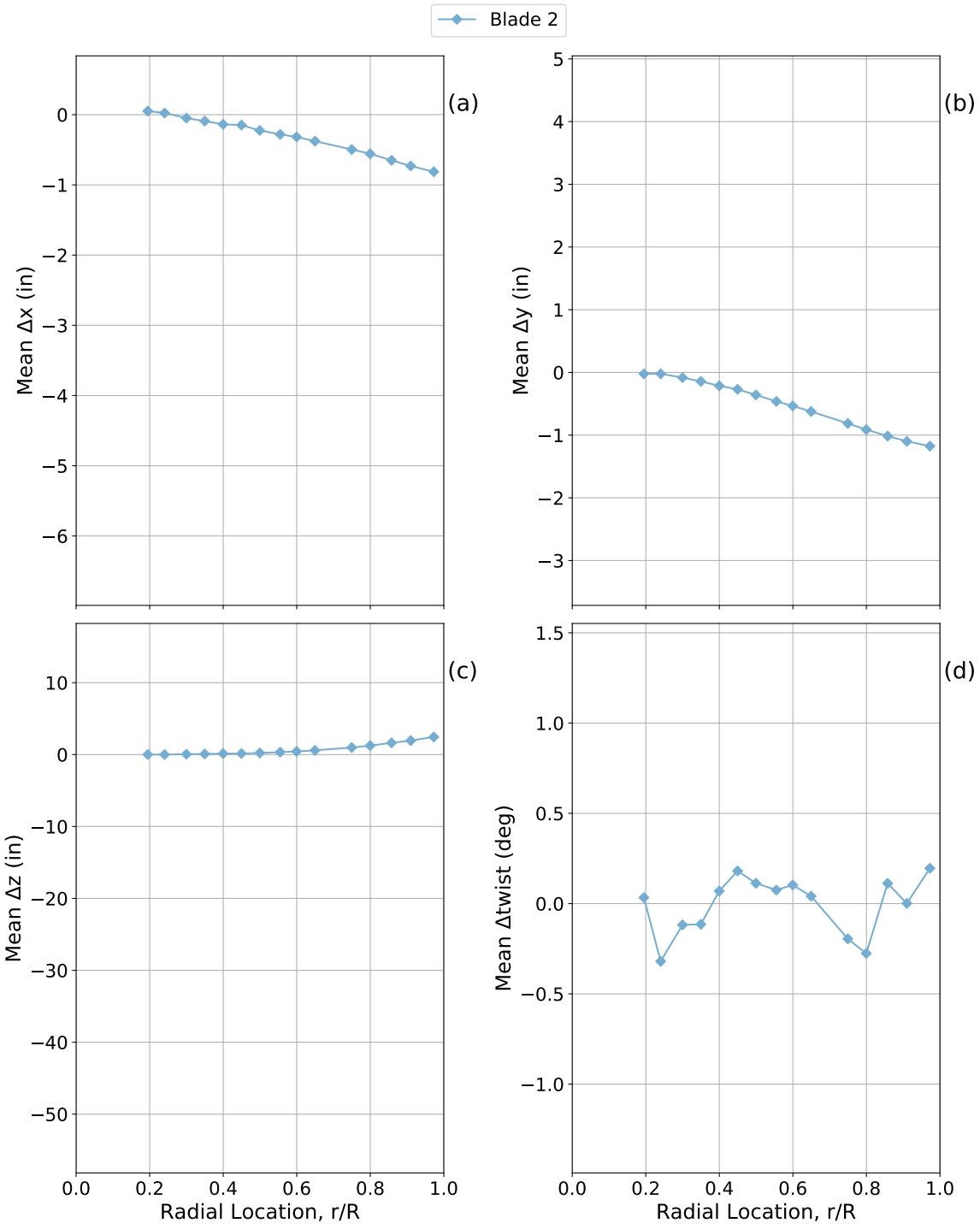


Figure 3.41-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0511	0.0017	-0.0228	0.0017	0.0137	0.0110	0.0335	0.0545
2	330.12	0.2405	0.0235	0.0037	-0.0219	0.0044	-0.0004	0.0267	-0.3198	0.0759
2	330.12	0.2999	-0.0489	0.0026	-0.0828	0.0075	0.0551	0.0557	-0.1178	0.1233
2	330.12	0.3498	-0.0916	0.0039	-0.1433	0.0154	0.0840	0.0959	-0.1146	0.1108
2	330.12	0.3998	-0.1382	0.0073	-0.2128	0.0226	0.1329	0.1521	0.0694	0.1036
2	330.12	0.4496	-0.1482	0.0072	-0.2692	0.0323	0.1441	0.2176	0.1809	0.0991
2	330.12	0.4995	-0.2252	0.0087	-0.3585	0.0390	0.2254	0.2892	0.1128	0.0991
2	330.12	0.5551	-0.2814	0.0085	-0.4623	0.0515	0.3412	0.3764	0.0751	0.1252
2	330.12	0.5996	-0.3172	0.0087	-0.5346	0.0592	0.4385	0.4561	0.1032	0.1309
2	330.12	0.6497	-0.3776	0.0091	-0.6235	0.0703	0.5913	0.5585	0.0412	0.0981
2	330.12	0.7495	-0.4961	0.0138	-0.8133	0.0933	0.9824	0.7746	-0.1955	0.1411
2	330.12	0.7996	-0.5573	0.0177	-0.9121	0.1045	1.2483	0.8842	-0.2762	0.1182
2	330.12	0.8578	-0.6502	0.0218	-1.0146	0.1184	1.6342	1.0184	0.1121	0.1096
2	330.12	0.9100	-0.7309	0.0255	-1.0990	0.1296	1.9484	1.1350	0.0013	0.1331
2	330.12	0.9727	-0.8133	0.0352	-1.1751	0.1434	2.4504	1.2822	0.1956	0.1258

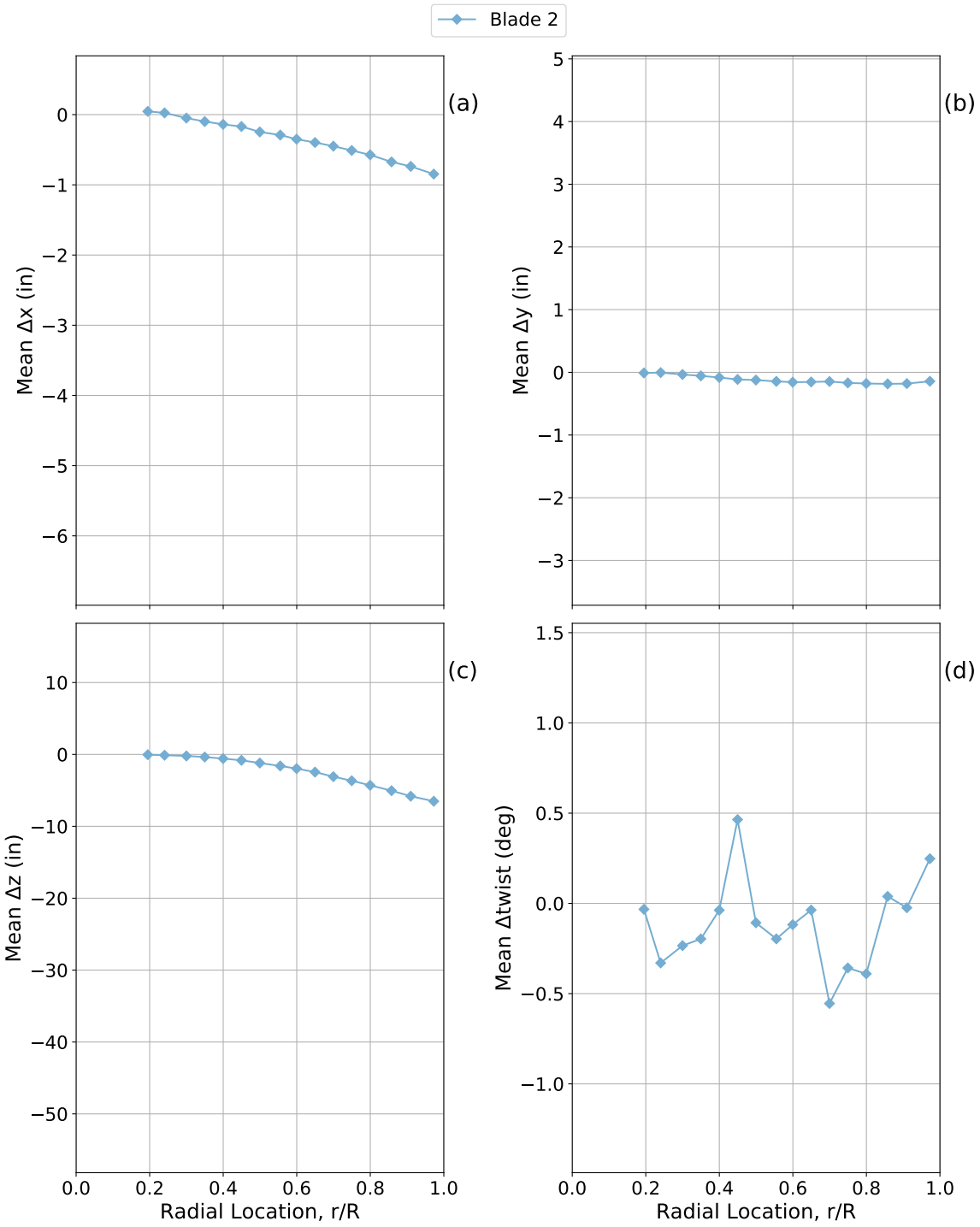


Figure 3.41-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0462	0.0019	-0.0106	0.0010	-0.0407	0.0062	-0.0327	0.0501
2	344.88	0.2405	0.0251	0.0055	-0.0044	0.0034	-0.1109	0.0154	-0.3300	0.0778
2	344.88	0.2999	-0.0490	0.0042	-0.0340	0.0062	-0.2137	0.0331	-0.2342	0.1184
2	344.88	0.3498	-0.0982	0.0041	-0.0566	0.0087	-0.3620	0.0537	-0.1968	0.1017
2	344.88	0.3998	-0.1389	0.0061	-0.0824	0.0156	-0.5796	0.0877	-0.0377	0.0922
2	344.88	0.4496	-0.1694	0.0062	-0.1134	0.0183	-0.8223	0.1201	0.4644	0.0795
2	344.88	0.4995	-0.2466	0.0068	-0.1233	0.0227	-1.1953	0.1511	-0.1074	0.0834
2	344.88	0.5551	-0.2908	0.0113	-0.1443	0.0267	-1.6060	0.2021	-0.1967	0.0889
2	344.88	0.5996	-0.3496	0.0110	-0.1571	0.0303	-1.9715	0.2526	-0.1179	0.1011
2	344.88	0.6497	-0.3972	0.0133	-0.1532	0.0357	-2.4583	0.3187	-0.0368	0.0919
2	344.88	0.6996	-0.4492	0.0168	-0.1464	0.0405	-3.0909	0.3896	-0.5547	0.1292
2	344.88	0.7495	-0.5104	0.0176	-0.1687	0.0469	-3.6651	0.4732	-0.3577	0.1103
2	344.88	0.7996	-0.5730	0.0217	-0.1784	0.0522	-4.2968	0.5669	-0.3901	0.1165
2	344.88	0.8578	-0.6734	0.0276	-0.1838	0.0589	-5.0472	0.6787	0.0387	0.1027
2	344.88	0.9100	-0.7372	0.0300	-0.1800	0.0637	-5.8124	0.7858	-0.0243	0.0983
2	344.88	0.9727	-0.8469	0.0331	-0.1426	0.0707	-6.5115	0.9114	0.2477	0.1141

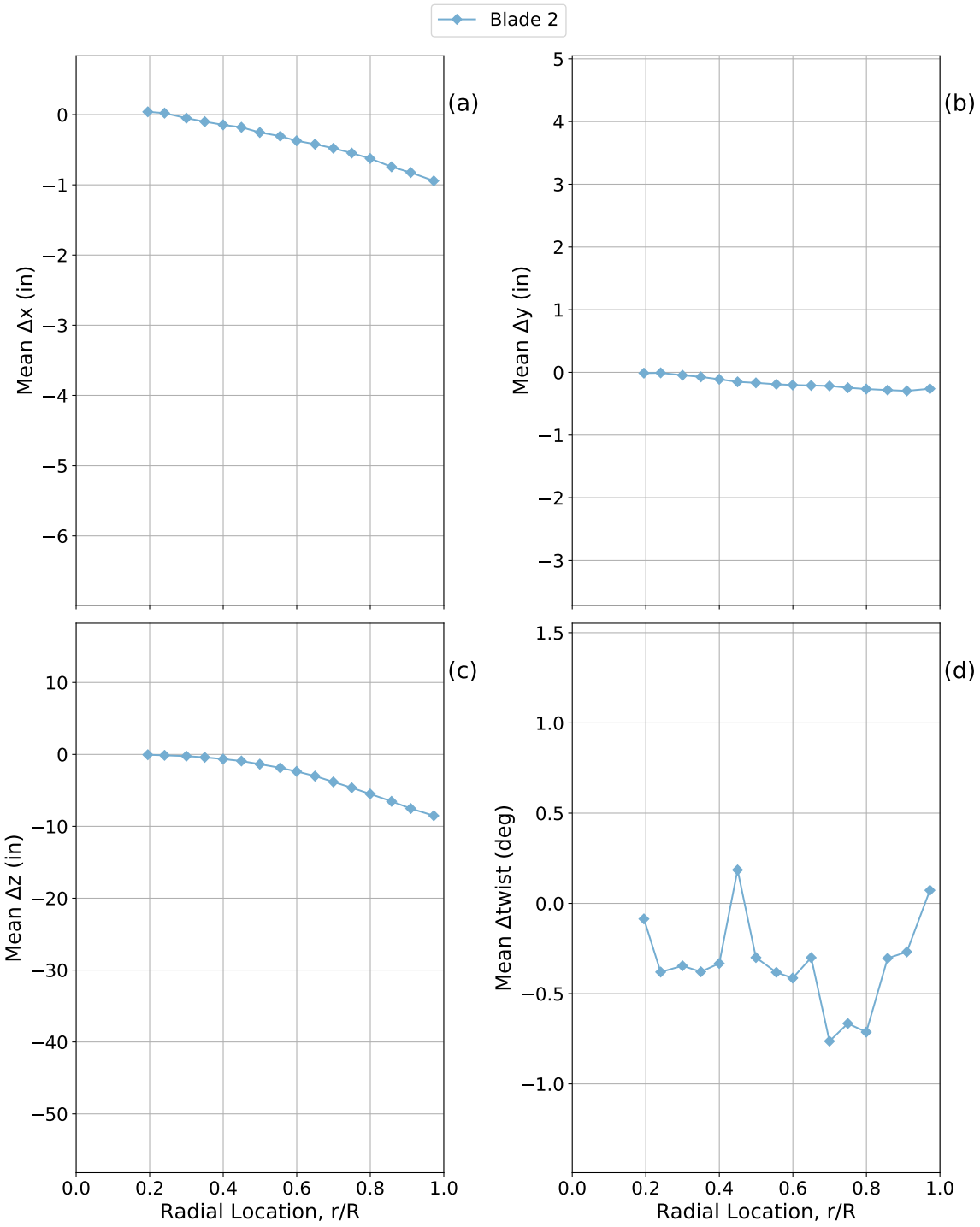


Figure 3.41-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.009, μ = 1, α = -0° NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0398	0.0034	-0.0126	0.0016	-0.0457	0.0071	-0.0860	0.0543
2	350.16	0.2405	0.0213	0.0035	-0.0083	0.0029	-0.1259	0.0169	-0.3805	0.0606
2	350.16	0.2999	-0.0502	0.0030	-0.0458	0.0064	-0.2401	0.0333	-0.3459	0.1124
2	350.16	0.3498	-0.1002	0.0048	-0.0727	0.0101	-0.4028	0.0604	-0.3790	0.0922
2	350.16	0.3998	-0.1452	0.0072	-0.1110	0.0156	-0.6472	0.0930	-0.3327	0.1036
2	350.16	0.4496	-0.1798	0.0069	-0.1520	0.0198	-0.9175	0.1256	0.1854	0.1101
2	350.16	0.4995	-0.2536	0.0084	-0.1682	0.0246	-1.3555	0.1741	-0.2999	0.1058
2	350.16	0.5551	-0.3068	0.0100	-0.1911	0.0320	-1.8687	0.2300	-0.3821	0.0931
2	350.16	0.5996	-0.3722	0.0106	-0.2025	0.0361	-2.3603	0.2828	-0.4140	0.0907
2	350.16	0.6497	-0.4211	0.0126	-0.2102	0.0446	-3.0085	0.3451	-0.3005	0.1095
2	350.16	0.6996	-0.4791	0.0165	-0.2178	0.0502	-3.8183	0.4262	-0.7636	0.0995
2	350.16	0.7495	-0.5474	0.0204	-0.2465	0.0588	-4.6296	0.5056	-0.6655	0.1148
2	350.16	0.7996	-0.6250	0.0246	-0.2672	0.0670	-5.4998	0.5952	-0.7132	0.1034
2	350.16	0.8578	-0.7437	0.0305	-0.2838	0.0762	-6.5271	0.7135	-0.3038	0.1106
2	350.16	0.9100	-0.8249	0.0354	-0.2963	0.0857	-7.5278	0.8219	-0.2687	0.1020
2	350.16	0.9727	-0.9432	0.0404	-0.2624	0.0961	-8.5241	0.9412	0.0728	0.1081

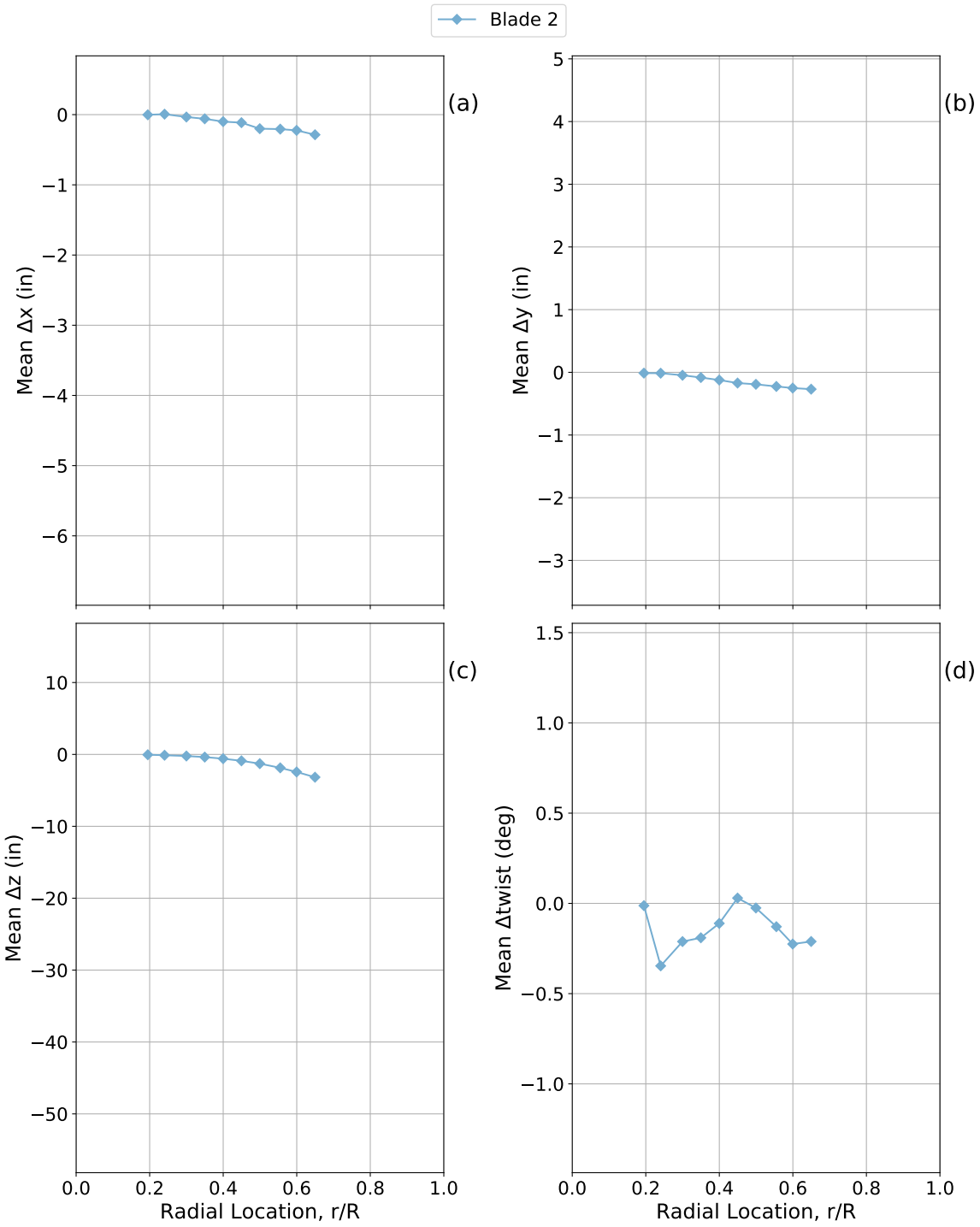


Figure 3.41-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.009$, $\mu = 1$, $\alpha = -0°$ NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Table 3.41-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.009, μ = 1, α = -0°
NFAC run 91, point 66. BD run 42, points 7433 to 7443.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0024	0.0294	-0.0126	0.0021	-0.0443	0.0048	-0.0125	0.0462
2	355.08	0.2405	0.0067	0.0112	-0.0139	0.0026	-0.1147	0.0094	-0.3464	0.0735
2	355.08	0.2999	-0.0338	0.0107	-0.0467	0.0066	-0.2222	0.0203	-0.2115	0.1062
2	355.08	0.3498	-0.0595	0.0281	-0.0830	0.0126	-0.3709	0.0363	-0.1906	0.0953
2	355.08	0.3998	-0.0996	0.0463	-0.1228	0.0178	-0.5928	0.0558	-0.1108	0.0974
2	355.08	0.4496	-0.1144	0.0615	-0.1709	0.0255	-0.8914	0.0758	0.0296	0.1352
2	355.08	0.4995	-0.2002	0.0803	-0.1910	0.0372	-1.2838	0.0959	-0.0253	0.1097
2	355.08	0.5551	-0.2064	0.0956	-0.2251	0.0510	-1.8664	0.1157	-0.1291	0.1490
2	355.08	0.5996	-0.2243	0.1106	-0.2507	0.0667	-2.4392	0.1367	-0.2253	0.1508
2	355.08	0.6497	-0.2865	0.1318	-0.2686	0.0843	-3.1710	0.1616	-0.2111	0.2228

3.42 Run 91, Point 67

3.42.1 Pitch, Flap, and Lag

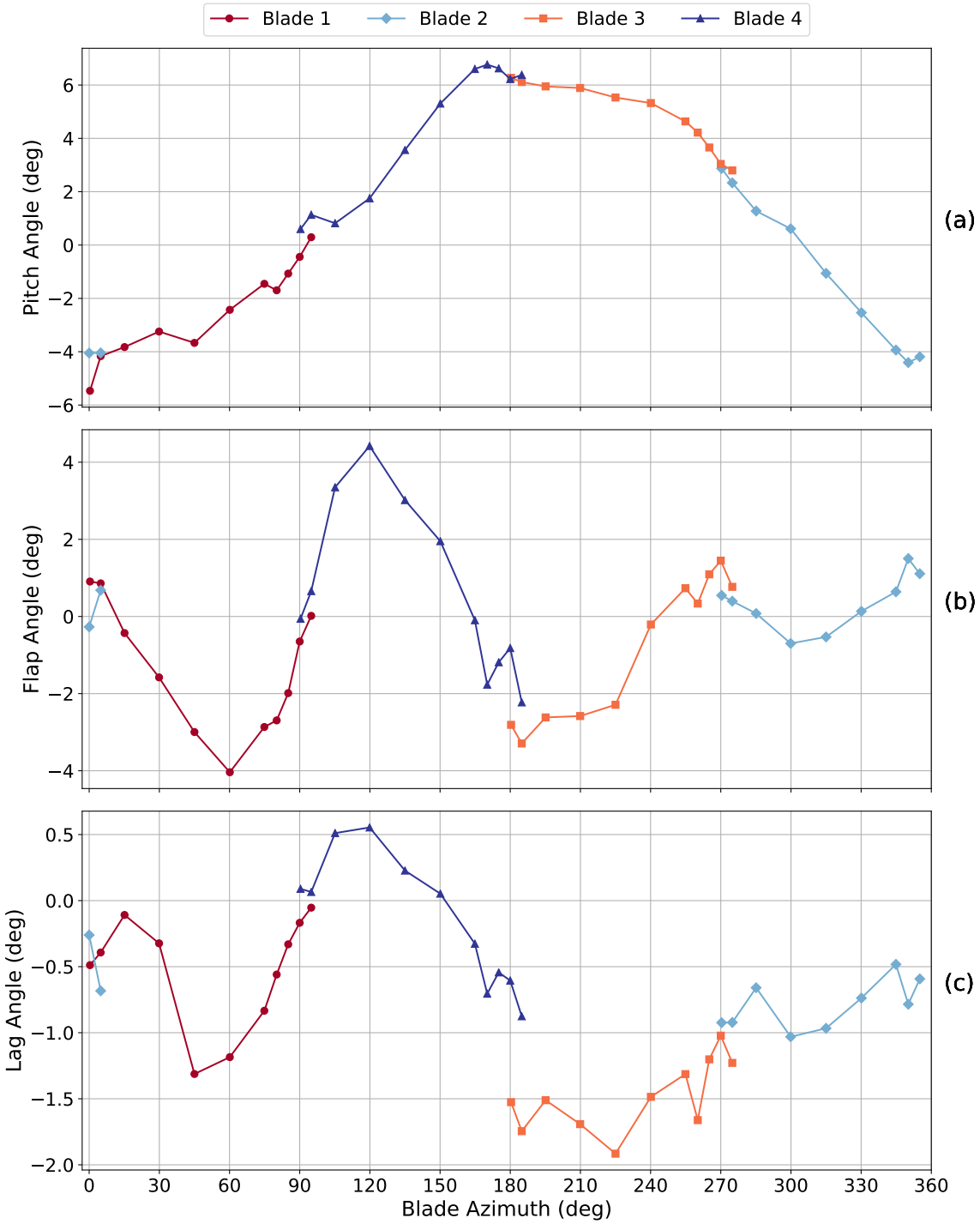


Figure 3.42-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	-4.0494	-0.2707	-0.2607	0.5321	0.3945	0.2190
0.35	1	-5.4658	0.9060	-0.4886	0.2907	0.2696	0.1439
4.92	1	-4.1658	0.8587	-0.3928	0.1424	0.2704	0.1152
4.92	2	-4.0442	0.6805	-0.6833	0.1950	0.2933	0.0681
15.12	1	-3.8254	-0.4298	-0.1087	0.1332	0.3558	0.1315
29.88	1	-3.2435	-1.5798	-0.3236	0.2211	0.6349	0.1853
45	1	-3.6680	-2.9963	-1.3125	0.2018	0.3504	0.1456
60.12	1	-2.4289	-4.0386	-1.1849	0.2237	0.1770	0.0832
74.88	1	-1.4536	-2.8655	-0.8337	0.5254	0.4598	0.2049
80.16	1	-1.6966	-2.6944	-0.5596	0.2958	0.2068	0.0471
85.08	1	-1.0706	-1.9870	-0.3308	1.3500	0.5048	0.0838
90	1	-0.4439	-0.6488	-0.1681	0.8965	0.4262	0.0627
90.35	4	0.5985	-0.0596	0.0888	0.2167	0.4635	0.0636
94.92	1	0.2929	0.0162	-0.0534	0.0881	0.4607	0.0818
94.92	4	1.1329	0.6574	0.0652	0.1266	0.2896	0.0762
105.12	4	0.8162	3.3484	0.5108	0.0730	0.6523	0.0462
119.88	4	1.7512	4.4192	0.5537	0.1201	0.8924	0.1366
135	4	3.5627	3.0164	0.2271	0.0591	0.6887	0.1273
150.12	4	5.3044	1.9515	0.0525	0.0757	0.7669	0.0906
164.88	4	6.6008	-0.0984	-0.3266	0.2173	1.0782	0.1338
170.16	4	6.7662	-1.7680	-0.7048	0.2333	0.5353	0.0919
175.08	4	6.6243	-1.1878	-0.5435	0.2018	0.7596	0.1457
180	4	6.2237	-0.8194	-0.6055	0.1067	0.5507	0.0983
180.35	3	6.2691	-2.8093	-1.5259	0.1587	0.7615	0.2087
184.92	3	6.1115	-3.2932	-1.7453	0.1103	0.3670	0.0864
184.92	4	6.3811	-2.2278	-0.8756	0.1691	0.8733	0.1182
195.12	3	5.9473	-2.6173	-1.5108	0.1430	0.9465	0.1233
209.88	3	5.8895	-2.5816	-1.6919	0.1148	1.0715	0.2861
225	3	5.5319	-2.2897	-1.9156	0.0886	0.4930	0.1866
240.12	3	5.3242	-0.2082	-1.4856	0.1511	0.8012	0.1440
254.88	3	4.6362	0.7330	-1.3133	0.2749	0.9247	0.2513
260.16	3	4.2168	0.3347	-1.6616	0.0947	0.3065	0.1205
265.08	3	3.6576	1.0929	-1.2017	0.1313	0.4846	0.2077
270	3	3.0409	1.4479	-1.0222	0.1322	0.2747	0.0679
270.35	2	2.8725	0.5461	-0.9238	0.1362	0.5502	0.2257
274.92	2	2.3328	0.3968	-0.9222	0.1095	0.2704	0.0834
274.92	3	2.7983	0.7681	-1.2283	0.1455	0.4905	0.1589
285.12	2	1.2753	0.0773	-0.6596	0.1406	0.3103	0.1529
299.88	2	0.6113	-0.6995	-1.0310	0.1110	0.4471	0.3864
315	2	-1.0604	-0.5307	-0.9668	0.1183	0.2176	0.1200
330.12	2	-2.5357	0.1347	-0.7377	0.1234	0.2985	0.1255
344.88	2	-3.9377	0.6396	-0.4825	0.3366	0.5674	0.2234
350.16	2	-4.4061	1.5022	-0.7846	0.0906	0.3308	0.0735
355.08	2	-4.1892	1.1083	-0.5927	0.1621	0.3041	0.1511

3.42.2 Spanwise Elastic Deformations

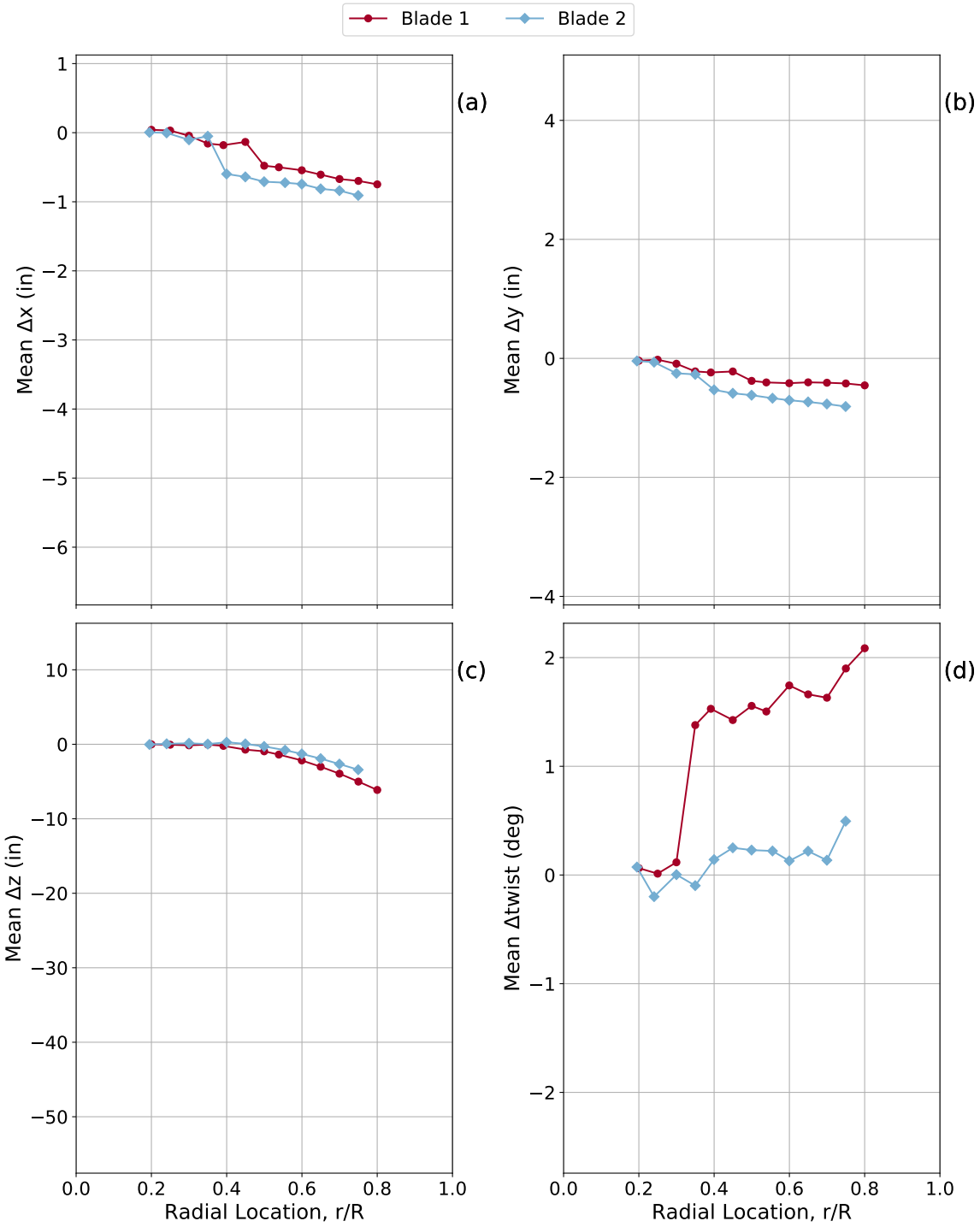


Figure 3.42-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0418	0.0341	-0.0392	0.0127	-0.0118	0.0323	0.0628	0.1729
1	0.35	0.2499	0.0311	0.0198	-0.0225	0.0270	-0.0599	0.0713	0.0125	0.2874
1	0.35	0.2998	-0.0443	0.0098	-0.0902	0.0439	-0.1389	0.1205	0.1168	0.4073
1	0.35	0.3498	-0.1575	0.0447	-0.2189	0.1009	-0.0377	0.2838	1.3791	0.2833
1	0.35	0.3913	-0.1800	0.0687	-0.2365	0.1262	-0.2142	0.3597	1.5289	0.2942
1	0.35	0.4496	-0.1338	0.1106	-0.2201	0.1675	-0.7172	0.4848	1.4255	0.2808
1	0.35	0.4997	-0.4783	0.2258	-0.3780	0.1750	-0.9449	0.8460	1.5558	0.3637
1	0.35	0.5387	-0.5007	0.2382	-0.4041	0.2058	-1.3818	0.9621	1.5041	0.3612
1	0.35	0.5996	-0.5439	0.2579	-0.4168	0.2631	-2.1696	1.1452	1.7439	0.3649
1	0.35	0.6498	-0.6073	0.2684	-0.4025	0.3133	-3.0114	1.2913	1.6618	0.3361
1	0.35	0.6998	-0.6708	0.2804	-0.4091	0.3666	-3.9465	1.4284	1.6308	0.3672
1	0.35	0.7500	-0.6978	0.2882	-0.4216	0.4207	-5.0111	1.5490	1.8999	0.3801
1	0.35	0.8001	-0.7477	0.2910	-0.4537	0.4743	-6.1299	1.6503	2.0860	0.4379
2	0	0.1949	0.0044	0.0126	-0.0437	0.0165	-0.0286	0.0155	0.0730	0.2599
2	0	0.2405	-0.0032	0.0089	-0.0641	0.0396	0.0634	0.1187	-0.1993	0.1714
2	0	0.2999	-0.1032	0.0200	-0.2505	0.0986	0.1370	0.1754	0.0031	0.5072
2	0	0.3498	-0.0511	0.0134	-0.2692	0.1258	0.0254	0.2741	-0.0979	0.5250
2	0	0.3998	-0.5980	0.1423	-0.5288	0.2300	0.2741	0.4957	0.1417	0.5650
2	0	0.4496	-0.6395	0.1606	-0.5865	0.2763	0.0525	0.6249	0.2500	0.5652
2	0	0.4995	-0.7094	0.1752	-0.6188	0.3248	-0.2893	0.7507	0.2292	0.5712
2	0	0.5551	-0.7235	0.1899	-0.6697	0.3783	-0.7899	0.8942	0.2210	0.5925
2	0	0.5996	-0.7442	0.1985	-0.7038	0.4248	-1.2943	1.0088	0.1299	0.6005
2	0	0.6497	-0.8128	0.2090	-0.7318	0.4762	-1.9239	1.1369	0.2195	0.6061
2	0	0.6996	-0.8387	0.2135	-0.7666	0.5305	-2.6565	1.2680	0.1357	0.5495
2	0	0.7495	-0.9085	0.2188	-0.8093	0.5820	-3.4136	1.3942	0.4950	0.5830

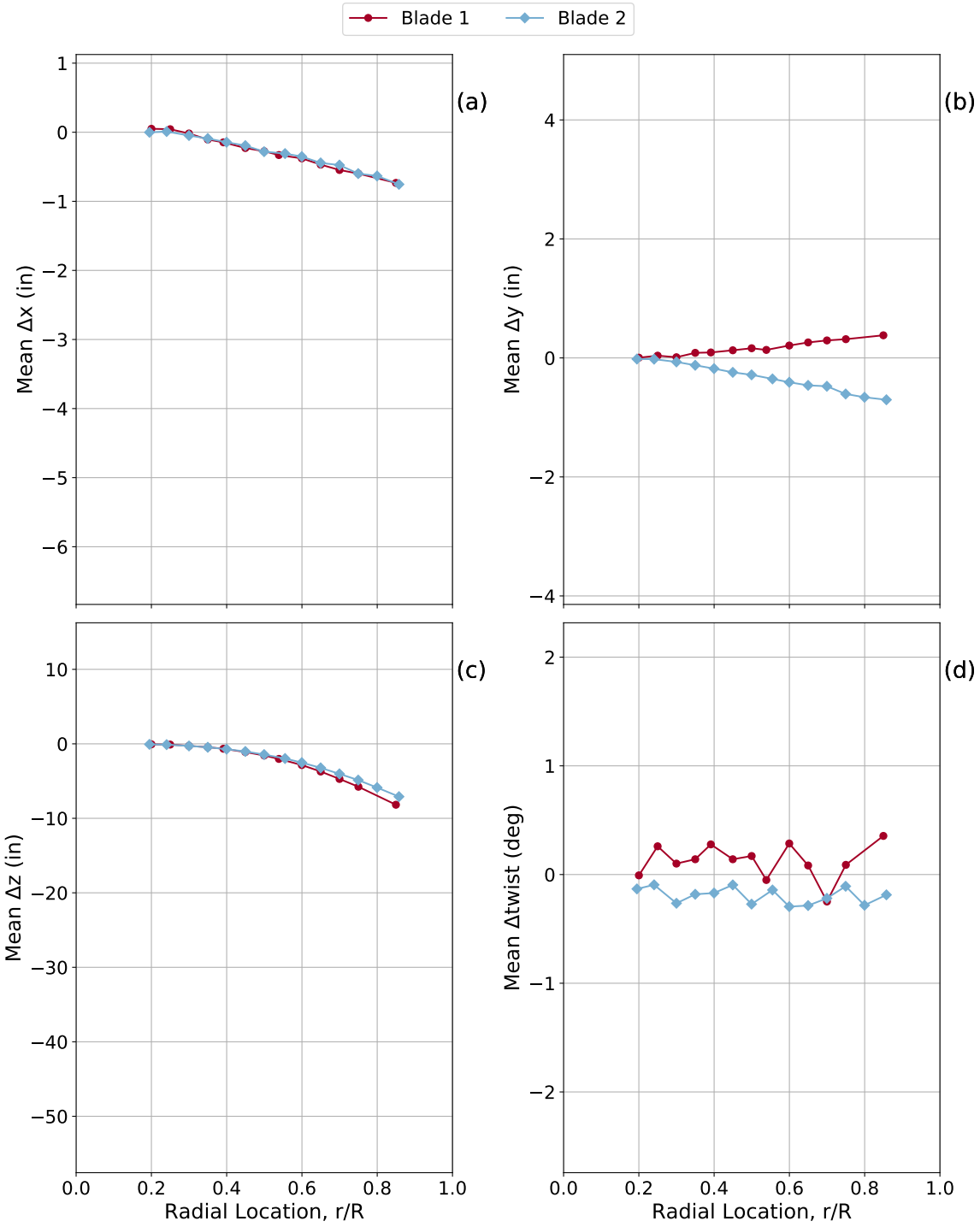


Figure 3.42-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0499	0.0097	0.0038	0.0063	-0.0649	0.0121	-0.0076	0.0700
1	4.92	0.2499	0.0438	0.0050	0.0381	0.0138	-0.1004	0.0215	0.2599	0.0823
1	4.92	0.2998	-0.0179	0.0050	0.0114	0.0228	-0.2747	0.0497	0.1007	0.1101
1	4.92	0.3498	-0.1056	0.0068	0.0855	0.0444	-0.4511	0.0845	0.1407	0.1079
1	4.92	0.3913	-0.1462	0.0086	0.0919	0.0597	-0.6565	0.1211	0.2774	0.0965
1	4.92	0.4496	-0.2287	0.0084	0.1283	0.0745	-1.1042	0.1680	0.1407	0.1131
1	4.92	0.4997	-0.2750	0.0096	0.1625	0.0904	-1.5628	0.2168	0.1704	0.1270
1	4.92	0.5387	-0.3303	0.0123	0.1345	0.1051	-2.0238	0.2480	-0.0501	0.1363
1	4.92	0.5996	-0.3783	0.0113	0.2083	0.1191	-2.8475	0.2945	0.2856	0.1281
1	4.92	0.6498	-0.4689	0.0136	0.2603	0.1321	-3.7182	0.3272	0.0833	0.1604
1	4.92	0.6998	-0.5463	0.0165	0.2940	0.1721	-4.7149	0.3578	-0.2482	0.3108
1	4.92	0.7500	-0.5988	0.0166	0.3150	0.1606	-5.7625	0.3956	0.0891	0.1259
1	4.92	0.8497	-0.7332	0.0263	0.3802	0.1885	-8.1769	0.4619	0.3554	0.2665
2	4.92	0.1949	-0.0012	0.0094	-0.0186	0.0047	-0.0708	0.0088	-0.1323	0.0653
2	4.92	0.2405	0.0103	0.0048	-0.0208	0.0080	-0.1081	0.0146	-0.0945	0.1775
2	4.92	0.2999	-0.0476	0.0019	-0.0674	0.0135	-0.2847	0.0375	-0.2644	0.1911
2	4.92	0.3498	-0.0909	0.0044	-0.1234	0.0250	-0.4618	0.0631	-0.1814	0.1862
2	4.92	0.3998	-0.1445	0.0040	-0.1800	0.0363	-0.7163	0.0982	-0.1703	0.1815
2	4.92	0.4496	-0.1935	0.0045	-0.2424	0.0460	-1.0258	0.1380	-0.0953	0.1661
2	4.92	0.4995	-0.2814	0.0055	-0.2843	0.0595	-1.4393	0.1884	-0.2722	0.1887
2	4.92	0.5551	-0.3090	0.0089	-0.3530	0.0656	-1.9709	0.2457	-0.1421	0.2255
2	4.92	0.5996	-0.3527	0.0104	-0.4092	0.0761	-2.5219	0.2937	-0.2951	0.2167
2	4.92	0.6497	-0.4439	0.0124	-0.4607	0.0852	-3.2247	0.3482	-0.2854	0.1614
2	4.92	0.6996	-0.4755	0.0156	-0.4764	0.0970	-4.0335	0.4149	-0.2185	0.2847
2	4.92	0.7495	-0.5987	0.0202	-0.6058	0.1038	-4.8668	0.4757	-0.1079	0.2270
2	4.92	0.7996	-0.6330	0.0203	-0.6610	0.1231	-5.8726	0.5487	-0.2826	0.2486
2	4.92	0.8578	-0.7543	0.0486	-0.7032	0.1445	-7.0893	0.5889	-0.1867	0.5023

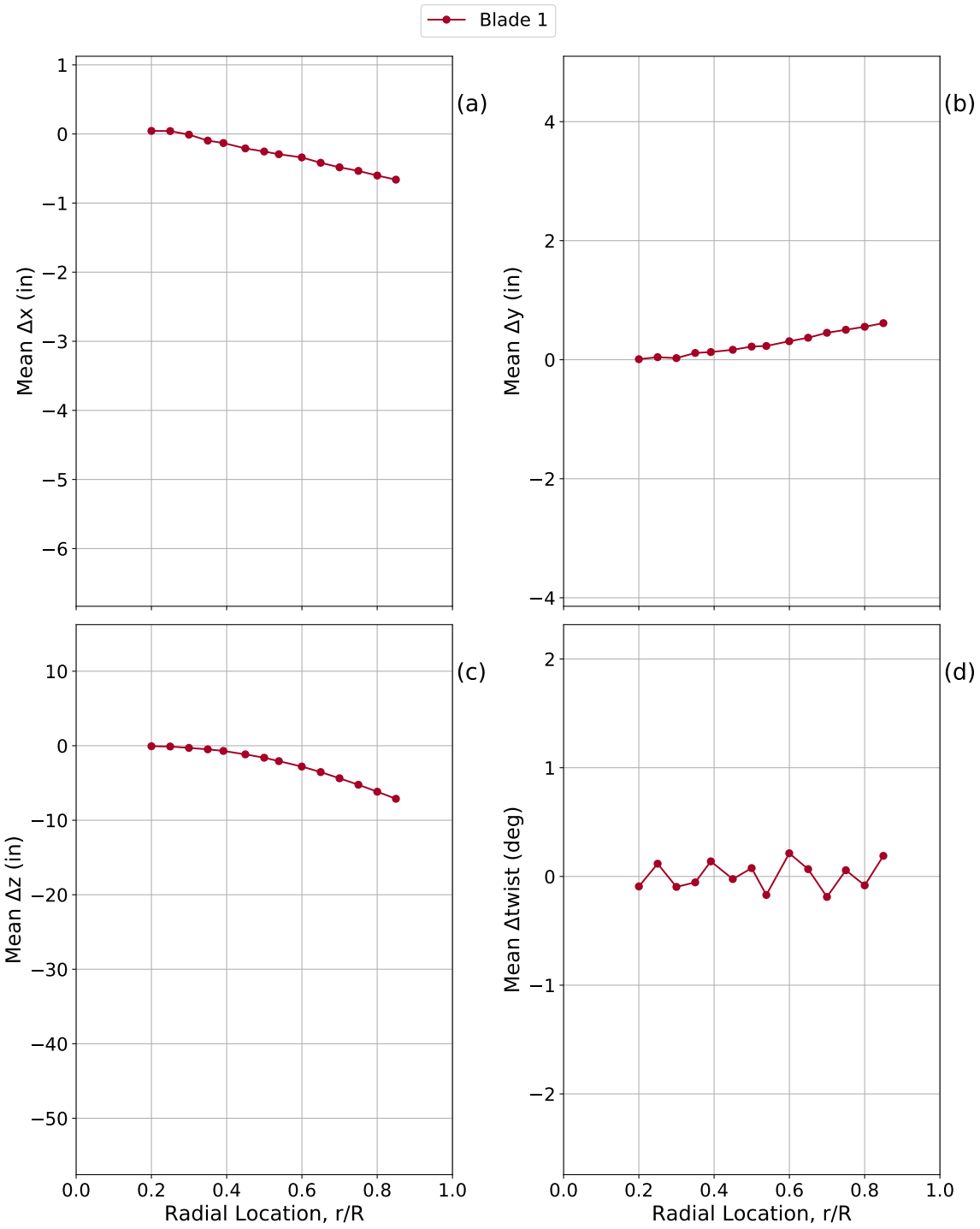


Figure 3.42-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0445	0.0074	0.0086	0.0045	-0.0693	0.0125	-0.0919	0.0457
1	15.12	0.2499	0.0421	0.0052	0.0429	0.0061	-0.1069	0.0257	0.1173	0.1122
1	15.12	0.2998	-0.0097	0.0024	0.0271	0.0158	-0.2920	0.0539	-0.0961	0.1086
1	15.12	0.3498	-0.0960	0.0045	0.1136	0.0267	-0.4849	0.0972	-0.0542	0.1023
1	15.12	0.3913	-0.1310	0.0040	0.1288	0.0366	-0.7018	0.1387	0.1389	0.1189
1	15.12	0.4496	-0.2089	0.0059	0.1669	0.0513	-1.1610	0.2108	-0.0242	0.1286
1	15.12	0.4997	-0.2538	0.0078	0.2207	0.0661	-1.6108	0.2830	0.0769	0.1250
1	15.12	0.5387	-0.2933	0.0093	0.2309	0.0780	-2.0686	0.3383	-0.1702	0.1467
1	15.12	0.5996	-0.3391	0.0116	0.3106	0.0950	-2.7967	0.4289	0.2133	0.1440
1	15.12	0.6498	-0.4171	0.0133	0.3691	0.1096	-3.5379	0.5040	0.0673	0.1388
1	15.12	0.6998	-0.4823	0.0161	0.4524	0.1270	-4.3724	0.5767	-0.1883	0.1580
1	15.12	0.7500	-0.5344	0.0214	0.5031	0.1425	-5.2374	0.6526	0.0574	0.1476
1	15.12	0.8001	-0.6016	0.0255	0.5535	0.1600	-6.1732	0.7268	-0.0821	0.1757
1	15.12	0.8497	-0.6610	0.0313	0.6145	0.1767	-7.1212	0.8016	0.1895	0.1751

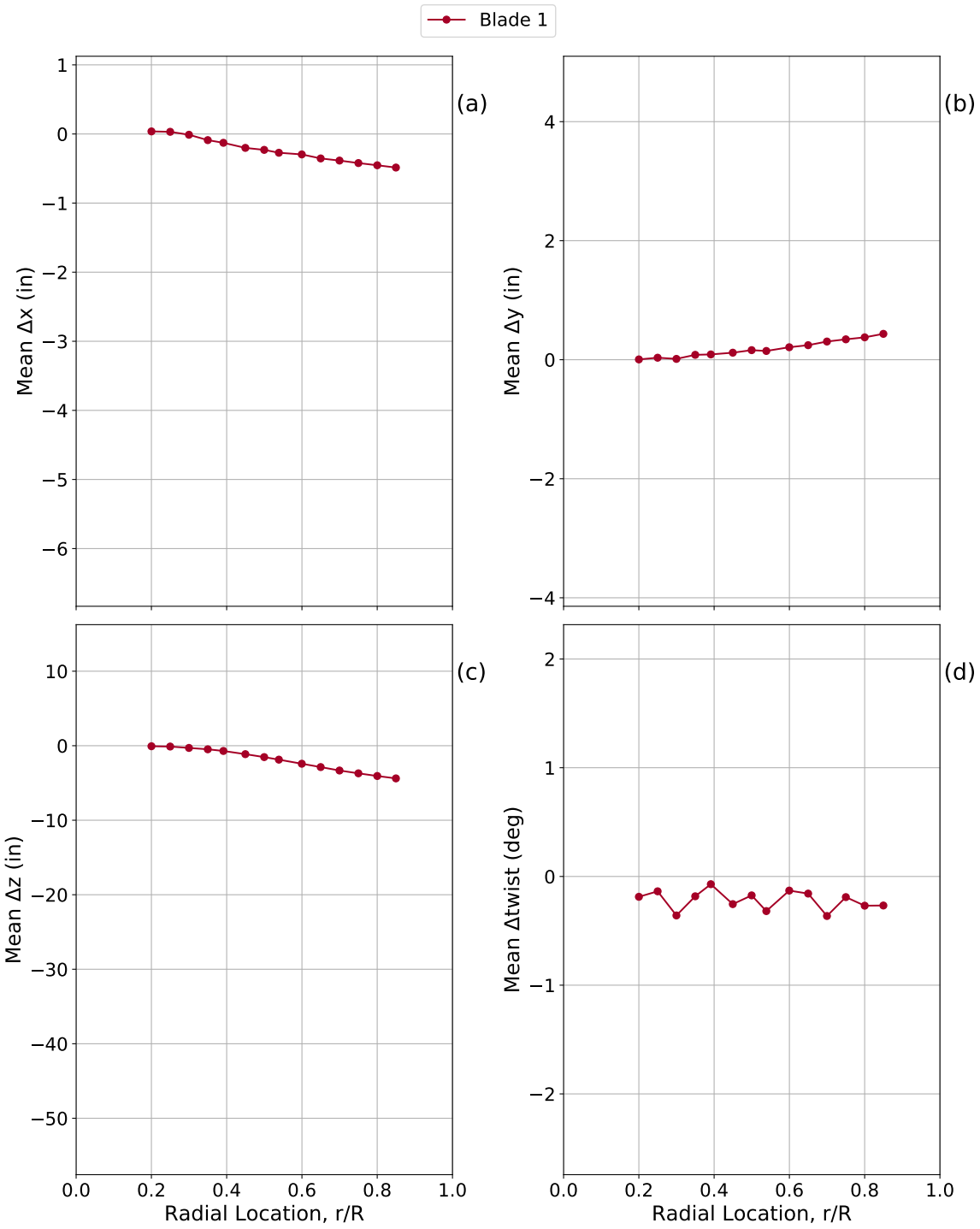


Figure 3.42-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0373	0.0075	0.0050	0.0036	-0.0701	0.0221	-0.1870	0.0644
1	29.88	0.2499	0.0314	0.0061	0.0337	0.0053	-0.1107	0.0430	-0.1366	0.1594
1	29.88	0.2998	-0.0111	0.0038	0.0140	0.0139	-0.2967	0.0953	-0.3588	0.1691
1	29.88	0.3498	-0.0890	0.0056	0.0822	0.0210	-0.4803	0.1639	-0.1824	0.1524
1	29.88	0.3913	-0.1277	0.0088	0.0890	0.0310	-0.7037	0.2372	-0.0711	0.1530
1	29.88	0.4496	-0.2013	0.0110	0.1180	0.0437	-1.1331	0.3534	-0.2545	0.1554
1	29.88	0.4997	-0.2300	0.0117	0.1606	0.0568	-1.5283	0.4631	-0.1741	0.1645
1	29.88	0.5387	-0.2716	0.0124	0.1471	0.0683	-1.8697	0.5496	-0.3185	0.1676
1	29.88	0.5996	-0.2958	0.0131	0.2097	0.0860	-2.4190	0.6779	-0.1300	0.1755
1	29.88	0.6498	-0.3540	0.0145	0.2442	0.1013	-2.8672	0.7738	-0.1575	0.1684
1	29.88	0.6998	-0.3848	0.0162	0.3055	0.1163	-3.3283	0.8694	-0.3636	0.1692
1	29.88	0.7500	-0.4208	0.0188	0.3426	0.1303	-3.7071	0.9558	-0.1900	0.1865
1	29.88	0.8001	-0.4529	0.0200	0.3761	0.1452	-4.0646	1.0382	-0.2689	0.1876
1	29.88	0.8497	-0.4858	0.0209	0.4346	0.1632	-4.3861	1.1196	-0.2672	0.1893

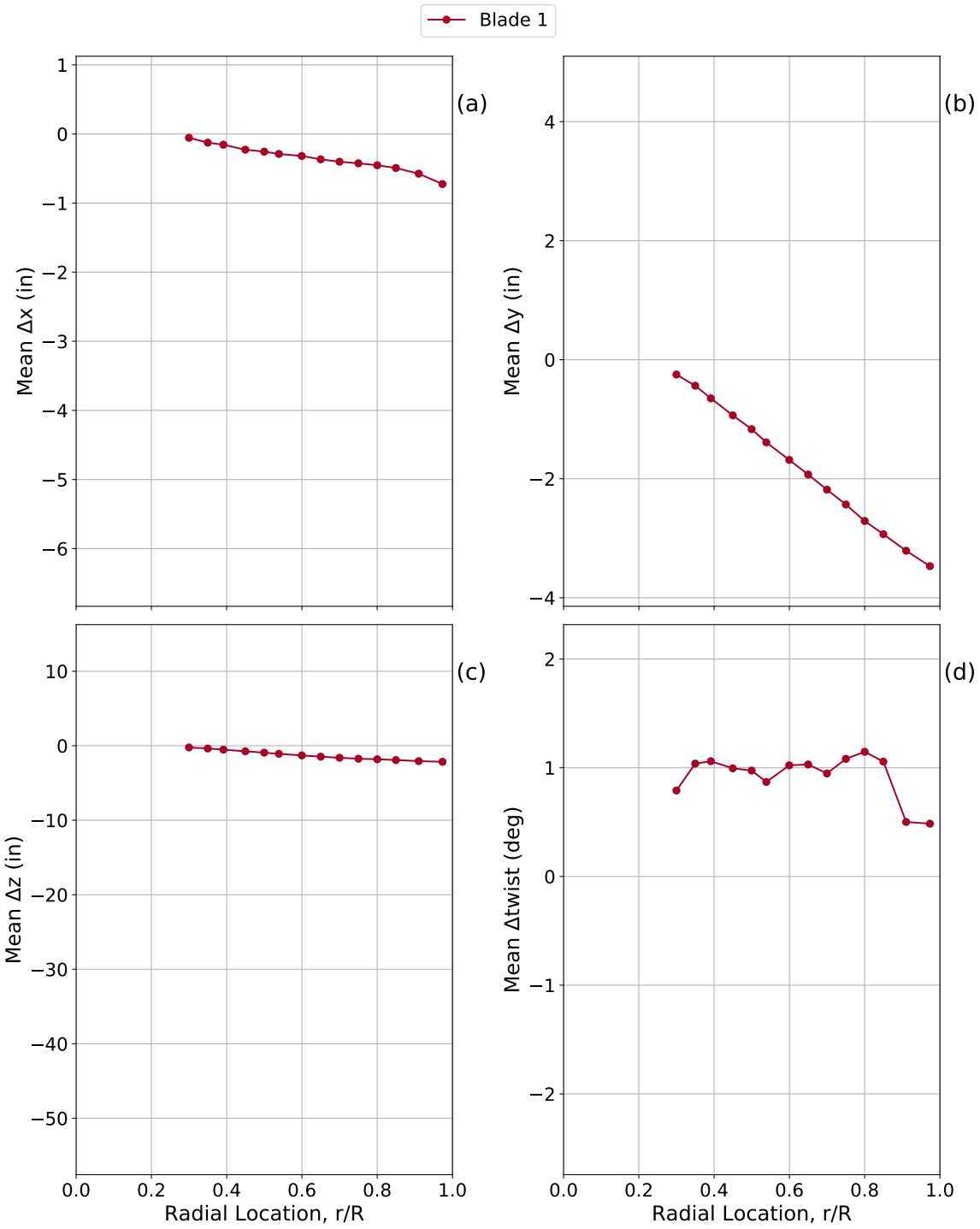


Figure 3.42-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2998	-0.0548	0.0081	-0.2492	0.0222	-0.2322	0.0480	0.7904	0.1020
1	45	0.3498	-0.1251	0.0080	-0.4365	0.0388	-0.3723	0.0874	1.0380	0.1383
1	45	0.3913	-0.1556	0.0076	-0.6486	0.0576	-0.5273	0.1324	1.0599	0.1283
1	45	0.4496	-0.2274	0.0081	-0.9348	0.0805	-0.7493	0.1973	0.9948	0.1402
1	45	0.4997	-0.2558	0.0086	-1.1670	0.1008	-0.9332	0.2599	0.9739	0.1386
1	45	0.5387	-0.2888	0.0095	-1.3889	0.1169	-1.0913	0.3087	0.8695	0.1450
1	45	0.5996	-0.3185	0.0103	-1.6833	0.1399	-1.3008	0.3862	1.0219	0.1500
1	45	0.6498	-0.3666	0.0098	-1.9294	0.1598	-1.4703	0.4514	1.0301	0.1516
1	45	0.6998	-0.4016	0.0108	-2.1832	0.1775	-1.6175	0.5193	0.9474	0.1488
1	45	0.7500	-0.4244	0.0113	-2.4326	0.1971	-1.7473	0.5891	1.0816	0.1633
1	45	0.8001	-0.4527	0.0112	-2.7101	0.2170	-1.8189	0.6683	1.1466	0.1669
1	45	0.8497	-0.4925	0.0132	-2.9316	0.2367	-1.9227	0.7463	1.0565	0.1590
1	45	0.9102	-0.5743	0.0104	-3.2101	0.2590	-2.0672	0.8481	0.5009	0.1432
1	45	0.9734	-0.7248	0.0143	-3.4685	0.2831	-2.1590	0.9521	0.4857	0.1730

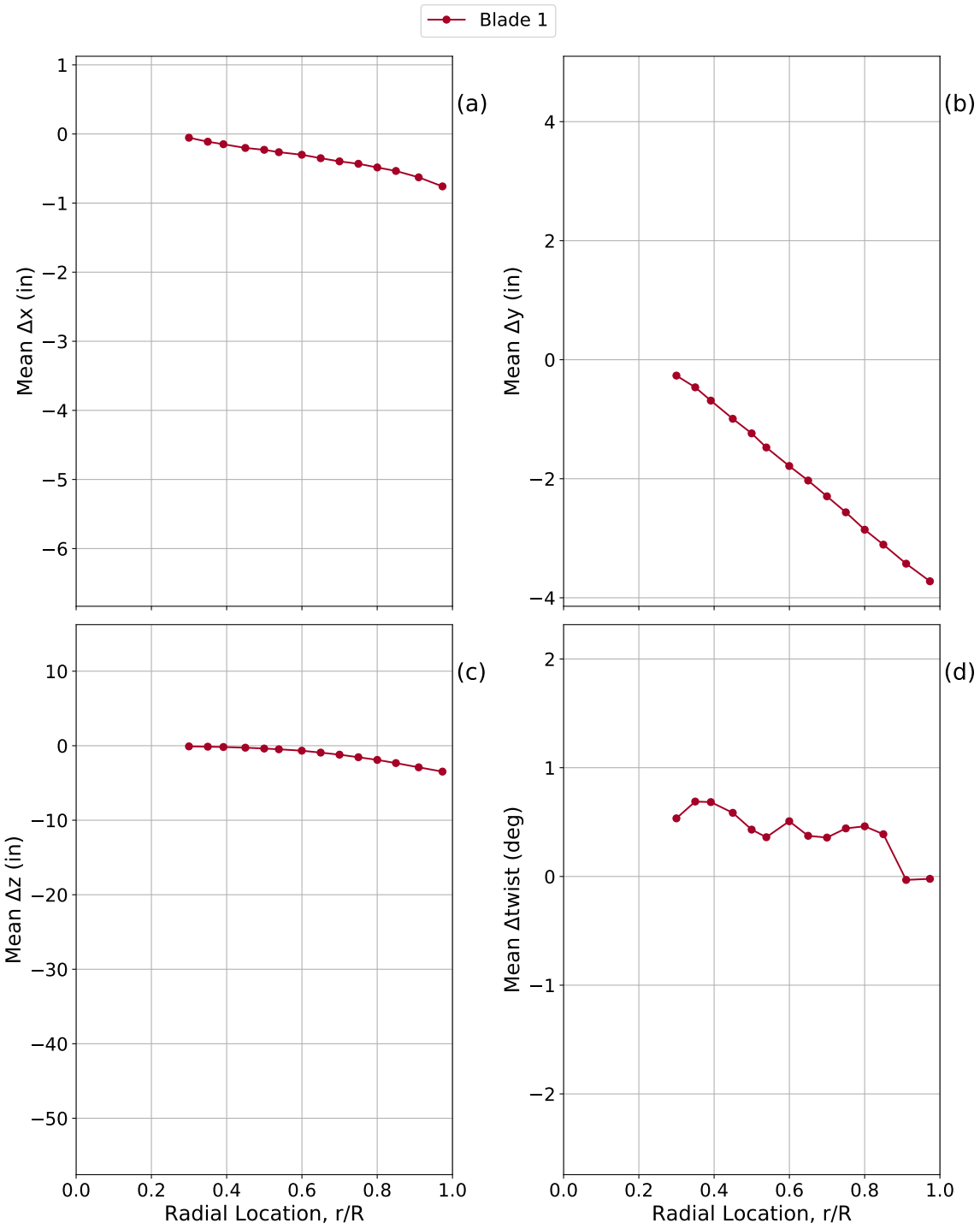


Figure 3.42-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2998	-0.0543	0.0075	-0.2667	0.0155	-0.0902	0.0432	0.5345	0.1404
1	60.12	0.3498	-0.1119	0.0063	-0.4639	0.0265	-0.1310	0.0760	0.6888	0.1877
1	60.12	0.3913	-0.1483	0.0071	-0.6869	0.0389	-0.1742	0.1133	0.6840	0.1759
1	60.12	0.4496	-0.2022	0.0087	-0.9923	0.0544	-0.2652	0.1773	0.5852	0.1829
1	60.12	0.4997	-0.2291	0.0087	-1.2374	0.0677	-0.3788	0.2414	0.4310	0.1775
1	60.12	0.5387	-0.2635	0.0079	-1.4743	0.0784	-0.4796	0.2933	0.3609	0.1848
1	60.12	0.5996	-0.3006	0.0091	-1.7858	0.0938	-0.6676	0.3813	0.5079	0.1718
1	60.12	0.6498	-0.3505	0.0111	-2.0301	0.1059	-0.9252	0.4547	0.3738	0.1753
1	60.12	0.6998	-0.3964	0.0125	-2.2956	0.1183	-1.2014	0.5295	0.3576	0.1780
1	60.12	0.7500	-0.4313	0.0140	-2.5641	0.1298	-1.5454	0.6083	0.4421	0.1696
1	60.12	0.8001	-0.4844	0.0162	-2.8563	0.1422	-1.9037	0.6919	0.4613	0.1745
1	60.12	0.8497	-0.5352	0.0191	-3.1070	0.1548	-2.3302	0.7812	0.3885	0.1730
1	60.12	0.9102	-0.6272	0.0219	-3.4273	0.1702	-2.9005	0.8989	-0.0319	0.1743
1	60.12	0.9734	-0.7586	0.0253	-3.7226	0.1857	-3.4739	1.0201	-0.0218	0.1724

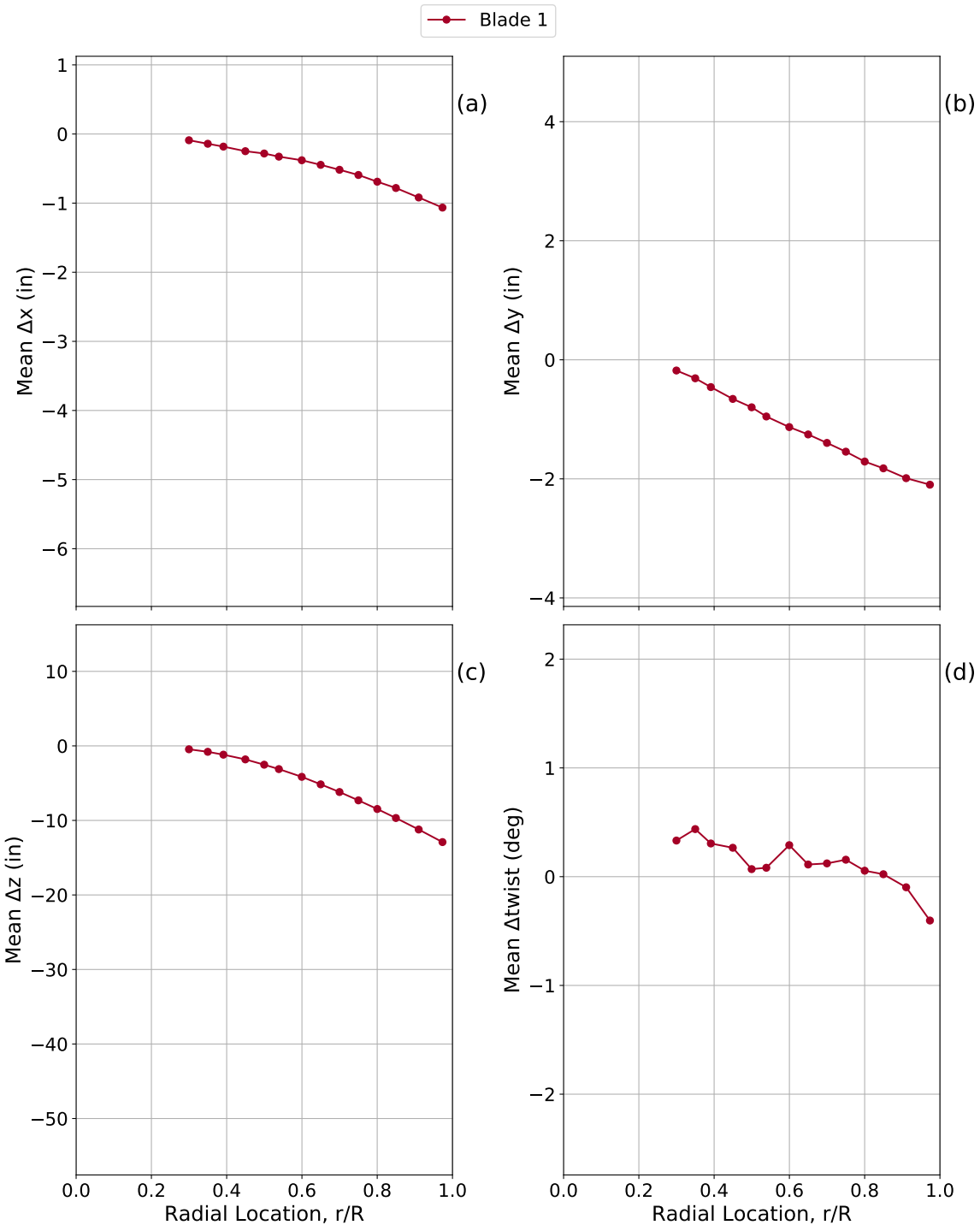


Figure 3.42-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2998	-0.0901	0.0101	-0.1797	0.0473	-0.4545	0.0842	0.3321	0.2783
1	74.88	0.3498	-0.1411	0.0135	-0.3106	0.0810	-0.7939	0.1531	0.4375	0.3743
1	74.88	0.3913	-0.1822	0.0135	-0.4584	0.1191	-1.1781	0.2319	0.3052	0.3364
1	74.88	0.4496	-0.2484	0.0159	-0.6573	0.1666	-1.8116	0.3383	0.2657	0.3414
1	74.88	0.4997	-0.2820	0.0197	-0.7979	0.2094	-2.5237	0.4336	0.0694	0.3474
1	74.88	0.5387	-0.3274	0.0206	-0.9523	0.2422	-3.1135	0.5122	0.0819	0.3490
1	74.88	0.5996	-0.3799	0.0283	-1.1303	0.2955	-4.1523	0.6388	0.2898	0.3530
1	74.88	0.6498	-0.4461	0.0350	-1.2539	0.3399	-5.1578	0.7485	0.1118	0.3532
1	74.88	0.6998	-0.5176	0.0424	-1.3960	0.3840	-6.1893	0.8651	0.1219	0.3518
1	74.88	0.7500	-0.5927	0.0517	-1.5434	0.4294	-7.3097	0.9903	0.1559	0.3435
1	74.88	0.8001	-0.6900	0.0636	-1.7092	0.4747	-8.4674	1.1243	0.0548	0.3517
1	74.88	0.8497	-0.7812	0.0758	-1.8231	0.5194	-9.6773	1.2682	0.0224	0.3461
1	74.88	0.9102	-0.9184	0.0911	-1.9885	0.5760	-11.2203	1.4551	-0.0976	0.3479
1	74.88	0.9734	-1.0646	0.1011	-2.0979	0.6343	-12.9081	1.6649	-0.4033	0.3483

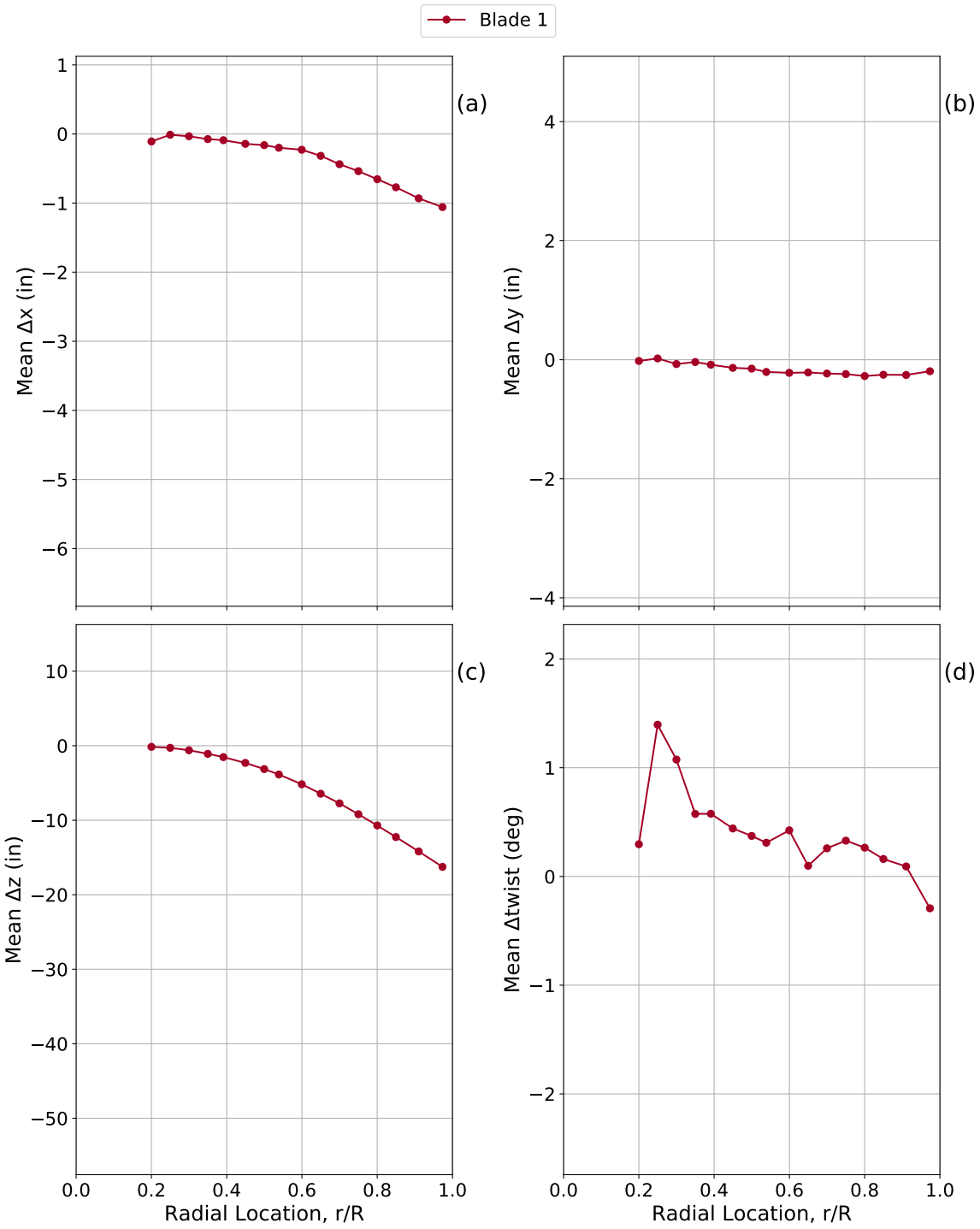


Figure 3.42-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.1084	0.0143	-0.0205	0.0096	-0.1538	0.0238	0.2963	0.2851
1	80.16	0.2499	-0.0112	0.0063	0.0215	0.0240	-0.2823	0.0507	1.3957	0.5754
1	80.16	0.2998	-0.0331	0.0119	-0.0727	0.0291	-0.6071	0.0762	1.0750	0.7158
1	80.16	0.3498	-0.0740	0.0216	-0.0386	0.0802	-1.0885	0.2028	0.5754	0.2730
1	80.16	0.3913	-0.0901	0.0314	-0.0840	0.0953	-1.5248	0.2429	0.5767	0.2599
1	80.16	0.4496	-0.1428	0.0455	-0.1367	0.1147	-2.3069	0.2912	0.4415	0.2539
1	80.16	0.4997	-0.1614	0.0563	-0.1498	0.1303	-3.1375	0.3319	0.3728	0.2605
1	80.16	0.5387	-0.1993	0.0616	-0.2058	0.1415	-3.8636	0.3649	0.3101	0.2598
1	80.16	0.5996	-0.2284	0.0729	-0.2202	0.1576	-5.1742	0.4171	0.4242	0.2591
1	80.16	0.6498	-0.3162	0.0507	-0.2147	0.1160	-6.4410	0.3800	0.0981	1.7911
1	80.16	0.6998	-0.4373	0.0153	-0.2318	0.0802	-7.7370	0.7780	0.2589	0.2456
1	80.16	0.7500	-0.5382	0.0191	-0.2418	0.0904	-9.1971	0.8394	0.3295	0.2413
1	80.16	0.8001	-0.6546	0.0243	-0.2744	0.1006	-10.7031	0.9011	0.2648	0.2429
1	80.16	0.8497	-0.7712	0.0309	-0.2523	0.1109	-12.2597	0.9637	0.1607	0.2399
1	80.16	0.9102	-0.9316	0.0378	-0.2558	0.1239	-14.1872	1.0412	0.0921	0.2374
1	80.16	0.9734	-1.0584	0.0445	-0.1936	0.1376	-16.2596	1.1220	-0.2929	0.2272

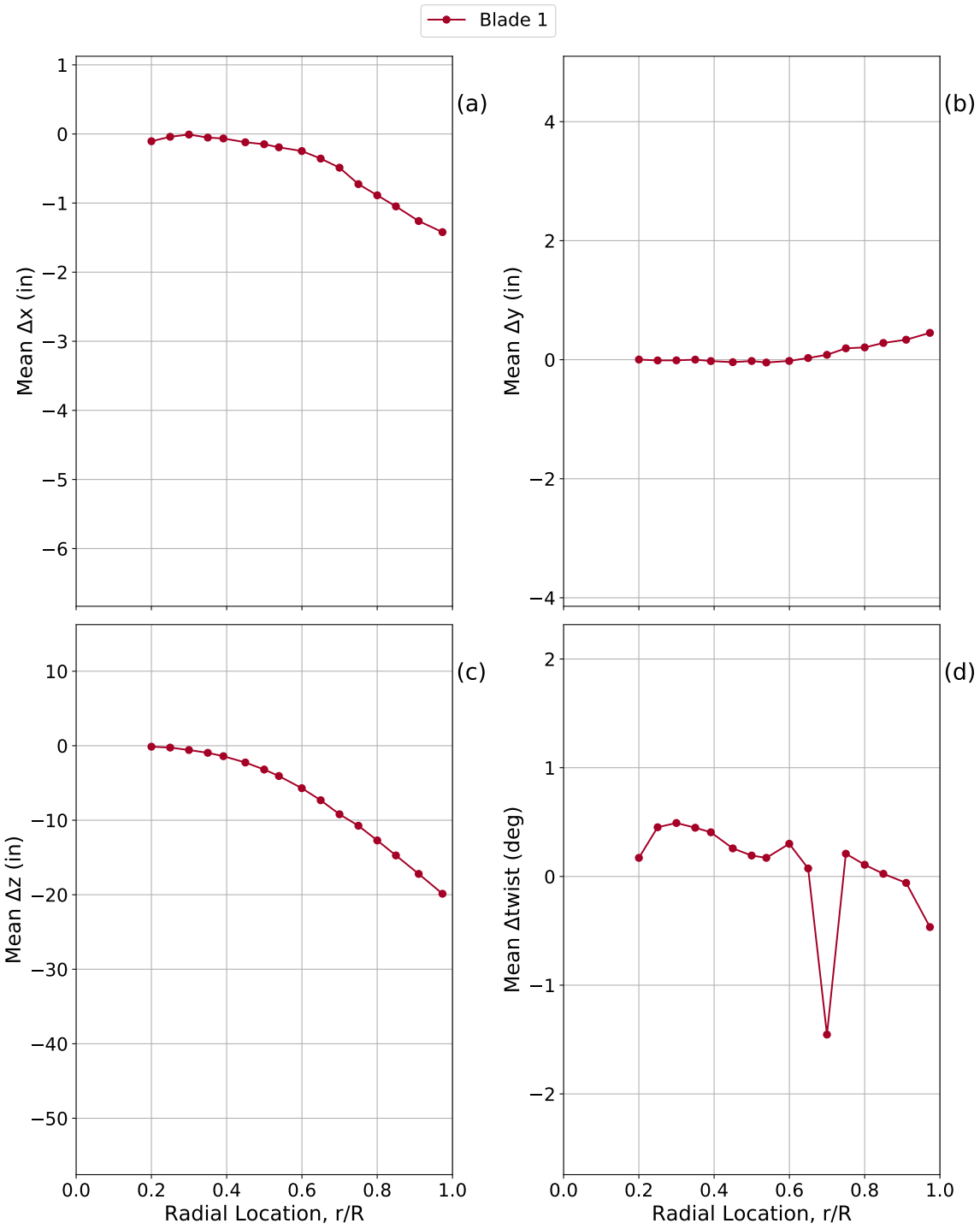


Figure 3.42-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.1051	0.0265	0.0029	0.0486	-0.1310	0.0614	0.1712	1.3016
1	85.08	0.2499	-0.0403	0.0201	-0.0119	0.0410	-0.2500	0.1473	0.4526	1.2871
1	85.08	0.2998	-0.0083	0.0223	-0.0105	0.1214	-0.5766	0.1975	0.4919	2.7236
1	85.08	0.3498	-0.0519	0.0314	0.0014	0.2790	-0.9538	0.5821	0.4482	1.2586
1	85.08	0.3913	-0.0653	0.0507	-0.0226	0.3164	-1.4056	0.6845	0.4063	1.2456
1	85.08	0.4496	-0.1199	0.0776	-0.0412	0.3676	-2.2521	0.8205	0.2581	1.2338
1	85.08	0.4997	-0.1483	0.0925	-0.0215	0.4071	-3.1976	0.9289	0.1924	1.2491
1	85.08	0.5387	-0.1930	0.1060	-0.0469	0.4372	-4.0653	1.0113	0.1712	1.2708
1	85.08	0.5996	-0.2469	0.1221	-0.0205	0.4829	-5.6990	1.1429	0.3006	1.2590
1	85.08	0.6498	-0.3560	0.1274	0.0284	0.5175	-7.3167	1.2535	0.0738	1.2842
1	85.08	0.6998	-0.4879	0.0783	0.0824	0.4126	-9.2021	1.1456	-1.4542	5.0839
1	85.08	0.7500	-0.7256	0.0428	0.1915	0.2765	-10.7384	2.1502	0.2092	1.2002
1	85.08	0.8001	-0.8874	0.0462	0.2067	0.3122	-12.7096	2.2761	0.1076	1.2076
1	85.08	0.8497	-1.0482	0.0565	0.2815	0.3479	-14.7259	2.4042	0.0244	1.2147
1	85.08	0.9102	-1.2599	0.0748	0.3361	0.3924	-17.2040	2.5740	-0.0590	1.1985
1	85.08	0.9734	-1.4204	0.0935	0.4514	0.4412	-19.8680	2.7533	-0.4656	1.2077

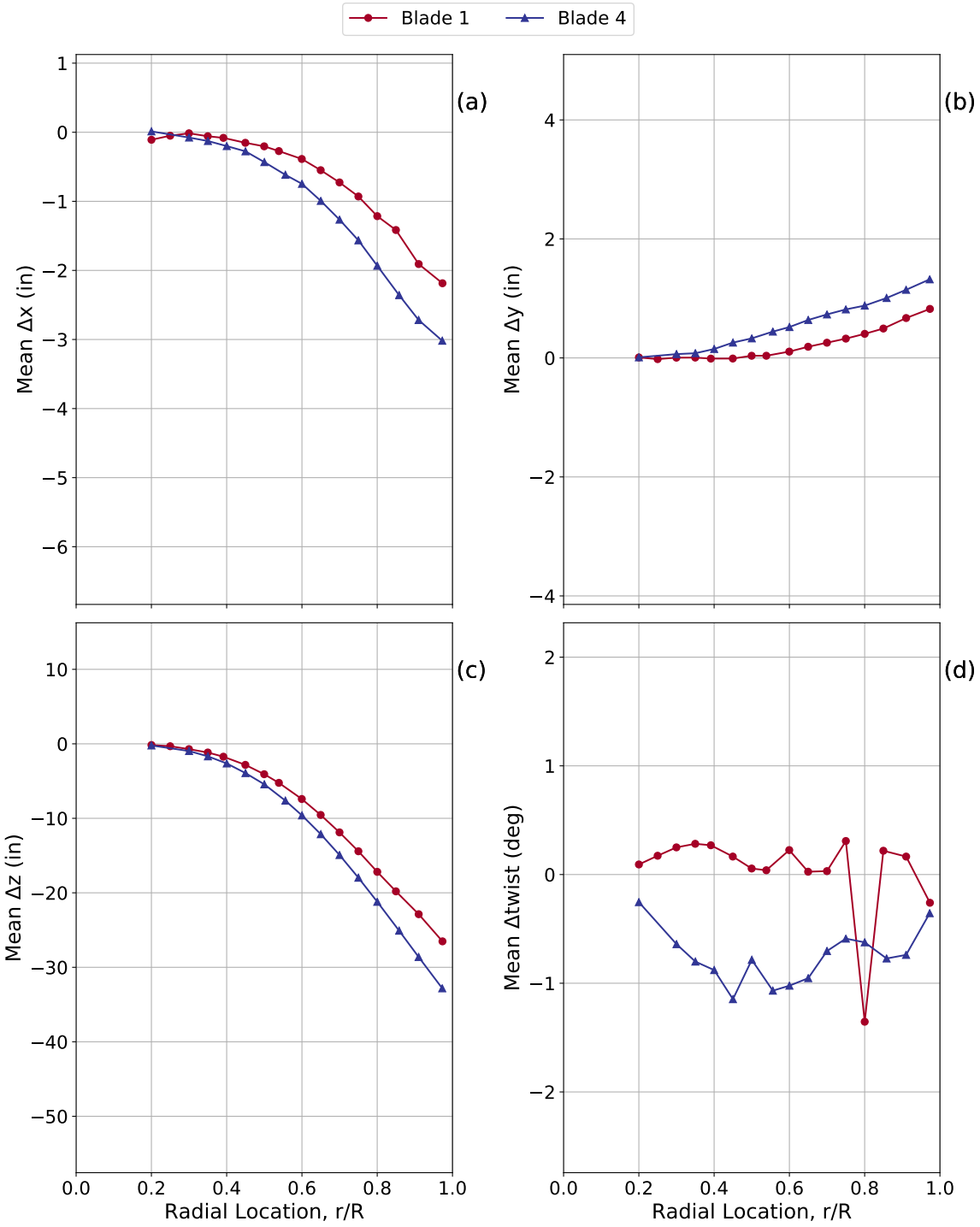


Figure 3.42-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.1091	0.0084	0.0081	0.0308	-0.1613	0.0500	0.0928	0.8688
1	90	0.2499	-0.0503	0.0218	-0.0200	0.0242	-0.3218	0.1086	0.1730	0.8820
1	90	0.2998	-0.0152	0.0159	0.0044	0.0754	-0.7101	0.1544	0.2499	1.8229
1	90	0.3498	-0.0582	0.0128	0.0058	0.1723	-1.1651	0.4228	0.2828	0.8523
1	90	0.3913	-0.0813	0.0226	-0.0114	0.1939	-1.7268	0.5007	0.2695	0.8494
1	90	0.4496	-0.1529	0.0362	-0.0104	0.2295	-2.8228	0.6148	0.1655	0.8484
1	90	0.4997	-0.2040	0.0483	0.0363	0.2632	-4.0793	0.7143	0.0554	0.8472
1	90	0.5387	-0.2729	0.0595	0.0365	0.2902	-5.2374	0.7917	0.0395	0.8585
1	90	0.5996	-0.3871	0.0750	0.1061	0.3353	-7.4078	0.9185	0.2249	0.8627
1	90	0.6498	-0.5494	0.0885	0.1877	0.3753	-9.5473	1.0277	0.0260	0.8601
1	90	0.6998	-0.7266	0.1033	0.2558	0.4191	-11.8877	1.1412	0.0315	0.8568
1	90	0.7500	-0.9300	0.1189	0.3243	0.4636	-14.4223	1.2582	0.3085	0.8677
1	90	0.8001	-1.2147	0.1197	0.4046	0.4082	-17.1845	1.1923	-1.3541	3.8300
1	90	0.8497	-1.4154	0.1537	0.4939	0.5562	-19.8029	1.5077	0.2189	0.9022
1	90	0.9102	-1.9081	0.1563	0.6703	0.3301	-22.8721	2.1995	0.1652	0.8996
1	90	0.9734	-2.1861	0.1927	0.8236	0.3808	-26.5170	2.4087	-0.2597	0.8953
4	90.35	0.2001	0.0125	0.0096	0.0098	0.0017	-0.2193	0.0098	-0.2540	0.0775
4	90.35	0.3001	-0.0769	0.0081	0.0641	0.0072	-0.9672	0.0443	-0.6406	0.1871
4	90.35	0.3502	-0.1272	0.0085	0.0789	0.0130	-1.6807	0.0794	-0.8009	0.1517
4	90.35	0.4002	-0.2006	0.0108	0.1503	0.0199	-2.6344	0.1233	-0.8791	0.1715
4	90.35	0.4500	-0.2766	0.0157	0.2578	0.0295	-3.9285	0.1849	-1.1466	0.1805
4	90.35	0.5001	-0.4324	0.0229	0.3288	0.0402	-5.4384	0.2600	-0.7847	0.1839
4	90.35	0.5560	-0.6163	0.0346	0.4422	0.0548	-7.6280	0.3658	-1.0684	0.1855
4	90.35	0.6001	-0.7470	0.0485	0.5189	0.0670	-9.6093	0.4580	-1.0224	0.1926
4	90.35	0.6501	-0.9940	0.0654	0.6380	0.0815	-12.1351	0.5799	-0.9534	0.1977
4	90.35	0.6999	-1.2656	0.0885	0.7310	0.0980	-14.9271	0.7119	-0.7036	0.1979
4	90.35	0.7500	-1.5652	0.1148	0.8153	0.1149	-17.9757	0.8570	-0.5895	0.2012
4	90.35	0.8002	-1.9333	0.1446	0.8792	0.1317	-21.2097	1.0059	-0.6238	0.1977
4	90.35	0.8582	-2.3583	0.1814	1.0070	0.1515	-25.0857	1.1848	-0.7724	0.2092
4	90.35	0.9101	-2.7185	0.2134	1.1448	0.1701	-28.6207	1.3518	-0.7391	0.2045
4	90.35	0.9728	-3.0183	0.2483	1.3210	0.1918	-32.8239	1.5591	-0.3558	0.1974

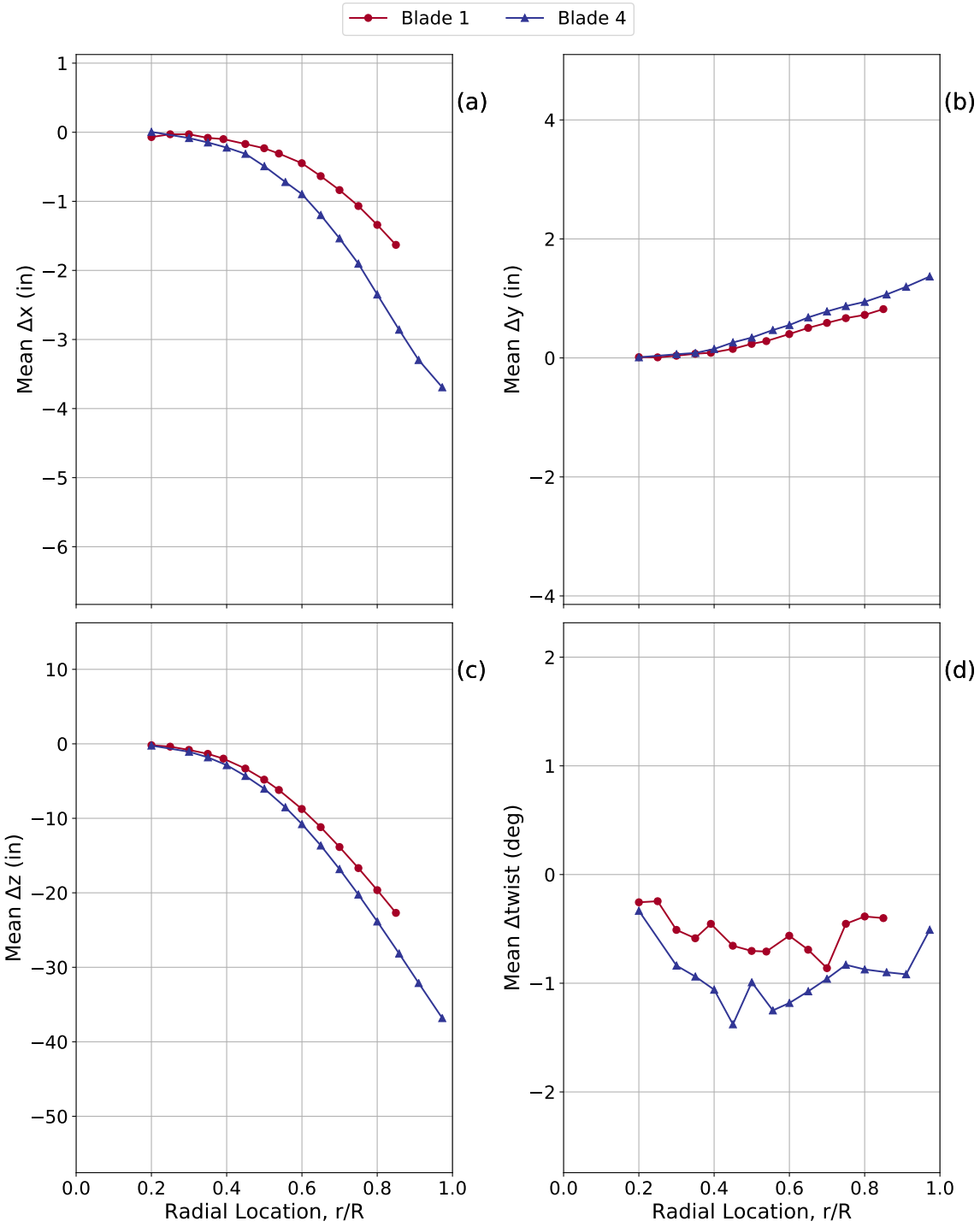


Figure 3.42-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0700	0.0820	0.0131	0.0083	-0.1857	0.0181	-0.2553	0.0443
1	94.92	0.2499	-0.0294	0.0261	0.0096	0.0169	-0.3802	0.0368	-0.2454	0.0861
1	94.92	0.2998	-0.0299	0.0303	0.0368	0.0357	-0.8136	0.0710	-0.5093	0.1059
1	94.92	0.3498	-0.0814	0.0824	0.0702	0.0581	-1.3438	0.1151	-0.5863	0.1441
1	94.92	0.3913	-0.0996	0.1230	0.0861	0.0863	-1.9875	0.1692	-0.4539	0.1455
1	94.92	0.4496	-0.1701	0.1690	0.1516	0.1330	-3.3197	0.2483	-0.6550	0.1610
1	94.92	0.4997	-0.2319	0.1999	0.2361	0.1815	-4.8076	0.3254	-0.7029	0.1977
1	94.92	0.5387	-0.3085	0.2146	0.2826	0.2226	-6.1958	0.3929	-0.7084	0.2071
1	94.92	0.5996	-0.4481	0.2193	0.4009	0.2919	-8.7452	0.5034	-0.5628	0.2072
1	94.92	0.6498	-0.6351	0.2105	0.5044	0.3534	-11.1855	0.5957	-0.6916	0.2000
1	94.92	0.6998	-0.8372	0.1918	0.5886	0.4162	-13.8533	0.6902	-0.8611	0.1921
1	94.92	0.7500	-1.0679	0.1705	0.6684	0.4817	-16.6834	0.7861	-0.4534	0.2199
1	94.92	0.8001	-1.3410	0.1562	0.7230	0.5470	-19.6435	0.8859	-0.3858	0.2661
1	94.92	0.8497	-1.6305	0.1602	0.8202	0.6087	-22.6925	0.9854	-0.4008	0.2138
4	94.92	0.2001	0.0050	0.0082	0.0104	0.0015	-0.2383	0.0068	-0.3336	0.0639
4	94.92	0.3001	-0.0844	0.0066	0.0617	0.0069	-1.0622	0.0303	-0.8379	0.1586
4	94.92	0.3502	-0.1485	0.0059	0.0834	0.0118	-1.8164	0.0543	-0.9385	0.1453
4	94.92	0.4002	-0.2225	0.0076	0.1504	0.0185	-2.8677	0.0845	-1.0596	0.1532
4	94.92	0.4500	-0.3127	0.0094	0.2600	0.0258	-4.3170	0.1183	-1.3781	0.1348
4	94.92	0.5001	-0.4924	0.0136	0.3422	0.0332	-6.0297	0.1453	-0.9912	0.1452
4	94.92	0.5560	-0.7211	0.0188	0.4683	0.0438	-8.5224	0.1954	-1.2501	0.1540
4	94.92	0.6001	-0.8964	0.0265	0.5528	0.0527	-10.7848	0.2318	-1.1814	0.1442
4	94.92	0.6501	-1.1997	0.0341	0.6807	0.0638	-13.6528	0.2865	-1.0744	0.1619
4	94.92	0.6999	-1.5365	0.0458	0.7813	0.0754	-16.8273	0.3371	-0.9589	0.1858
4	94.92	0.7500	-1.9033	0.0570	0.8707	0.0883	-20.2393	0.3923	-0.8305	0.1740
4	94.92	0.8002	-2.3493	0.0704	0.9423	0.1013	-23.8532	0.4472	-0.8729	0.1567
4	94.92	0.8582	-2.8588	0.0854	1.0661	0.1165	-28.1566	0.5157	-0.8988	0.1469
4	94.92	0.9101	-3.2975	0.0992	1.1948	0.1308	-32.1124	0.5682	-0.9178	0.1637
4	94.92	0.9728	-3.6924	0.1142	1.3682	0.1487	-36.8235	0.6389	-0.5086	0.1786

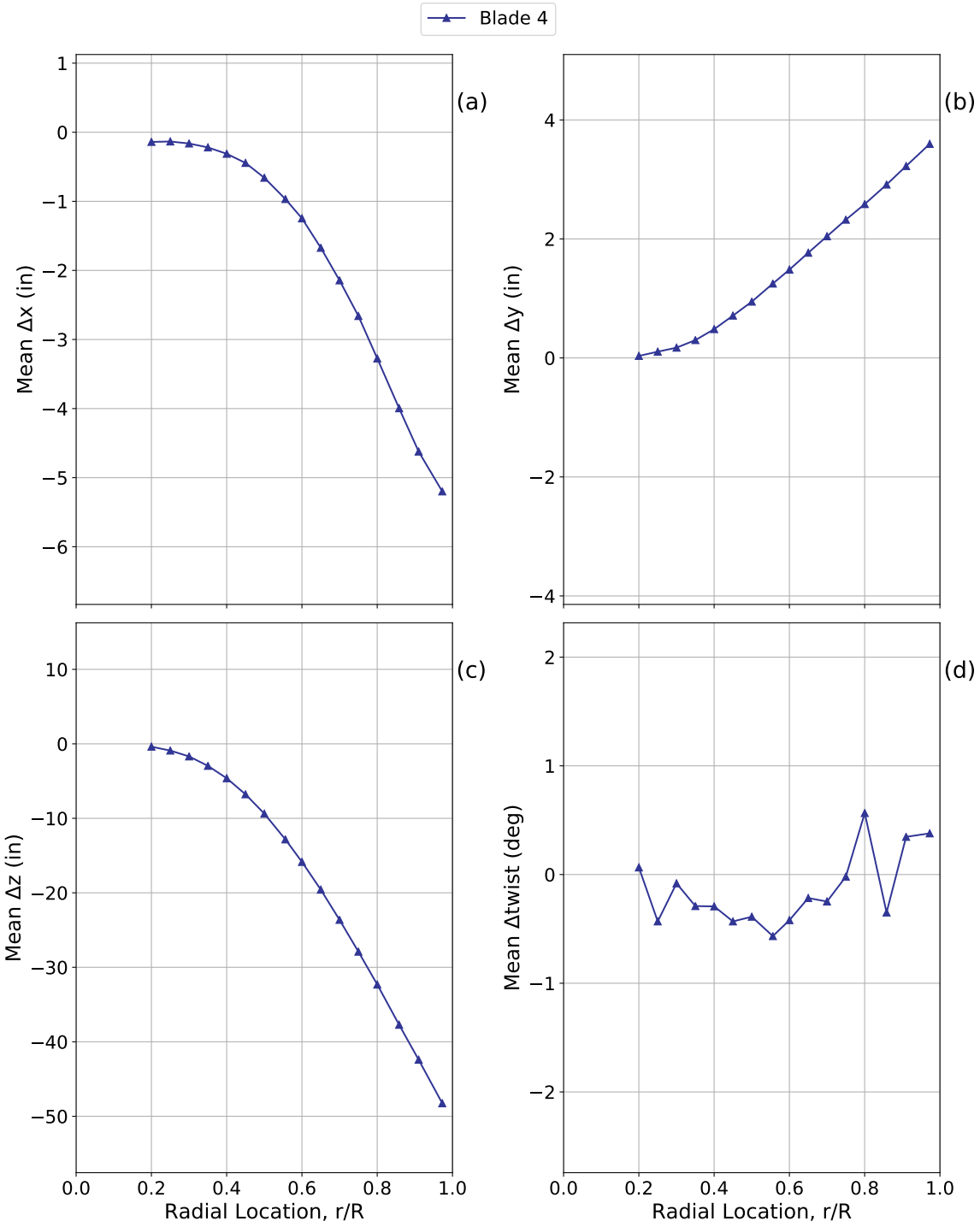


Figure 3.42-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.1403	0.0044	0.0337	0.0012	-0.3866	0.0088	0.0653	0.0395
4	105.12	0.2502	-0.1341	0.0056	0.1047	0.0036	-0.9069	0.0186	-0.4312	0.0636
4	105.12	0.3001	-0.1631	0.0063	0.1723	0.0054	-1.6924	0.0373	-0.0812	0.0908
4	105.12	0.3502	-0.2199	0.0078	0.2994	0.0101	-2.9566	0.0640	-0.2903	0.0939
4	105.12	0.4002	-0.3122	0.0131	0.4834	0.0157	-4.6234	0.1002	-0.2931	0.1216
4	105.12	0.4500	-0.4444	0.0195	0.7108	0.0223	-6.7778	0.1424	-0.4314	0.1118
4	105.12	0.5001	-0.6592	0.0279	0.9454	0.0290	-9.3782	0.2025	-0.3881	0.1172
4	105.12	0.5560	-0.9673	0.0428	1.2491	0.0382	-12.8309	0.2783	-0.5666	0.1116
4	105.12	0.6001	-1.2471	0.0578	1.4836	0.0444	-15.8570	0.3496	-0.4198	0.1177
4	105.12	0.6501	-1.6729	0.0793	1.7673	0.0523	-19.5813	0.4378	-0.2162	0.1205
4	105.12	0.6999	-2.1446	0.1045	2.0440	0.0598	-23.6312	0.5403	-0.2482	0.1297
4	105.12	0.7500	-2.6604	0.1361	2.3226	0.0682	-27.9081	0.6495	-0.0195	0.1248
4	105.12	0.8002	-3.2752	0.1714	2.5854	0.0765	-32.3209	0.7675	0.5657	0.1141
4	105.12	0.8582	-3.9959	0.2157	2.9132	0.0868	-37.7185	0.9161	-0.3494	0.1424
4	105.12	0.9101	-4.6226	0.2586	3.2241	0.0959	-42.4098	1.0589	0.3467	0.1563
4	105.12	0.9728	-5.1991	0.3049	3.5965	0.1059	-48.2533	1.2455	0.3788	0.1744

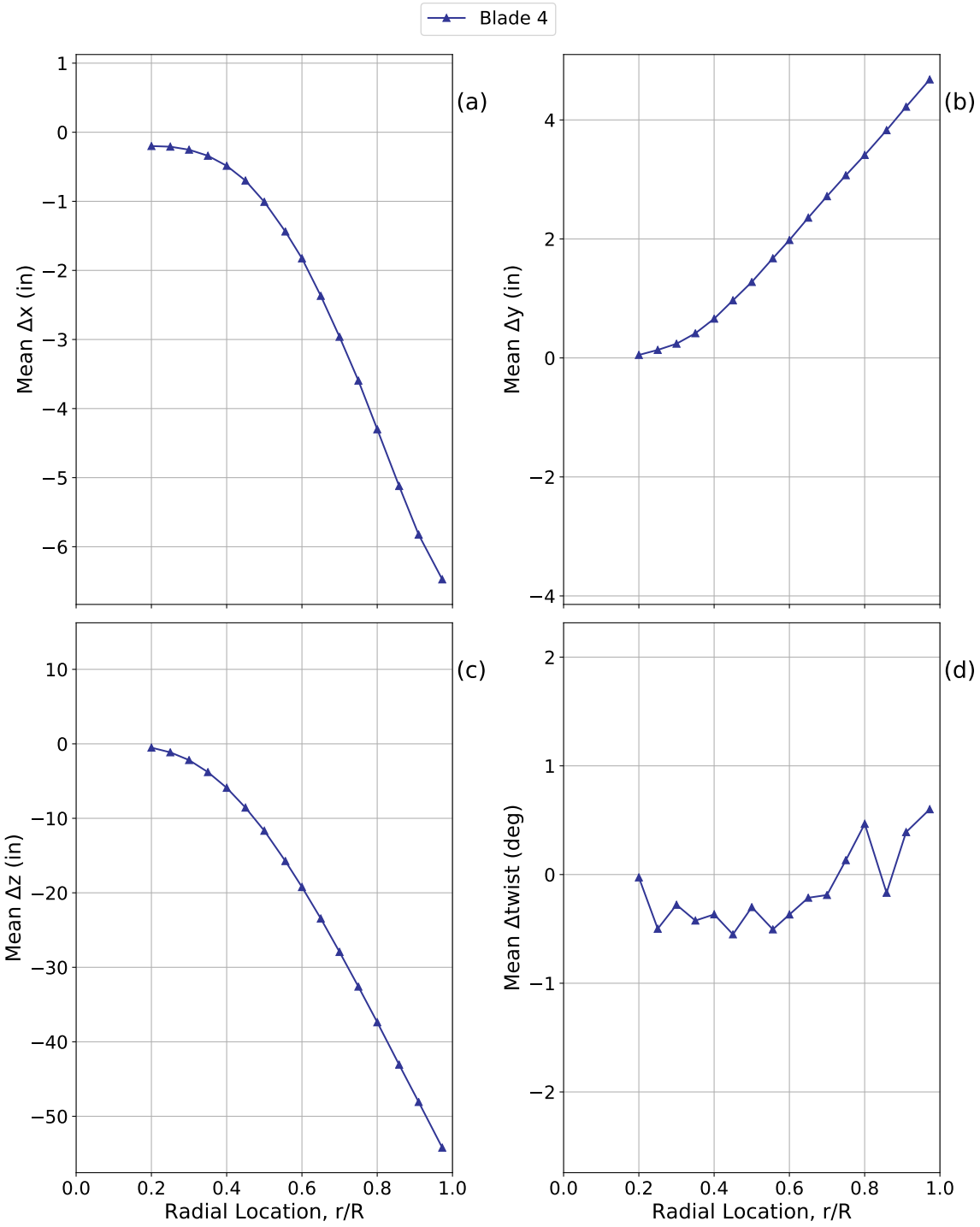


Figure 3.42-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.2001	0.0104	0.0499	0.0022	-0.5143	0.0158	-0.0266	0.0371
4	119.88	0.2502	-0.2092	0.0116	0.1341	0.0053	-1.1416	0.0353	-0.4991	0.0461
4	119.88	0.3001	-0.2530	0.0150	0.2383	0.0097	-2.1822	0.0699	-0.2785	0.0817
4	119.88	0.3502	-0.3409	0.0201	0.4140	0.0169	-3.7997	0.1196	-0.4237	0.0800
4	119.88	0.4002	-0.4864	0.0284	0.6595	0.0264	-5.9097	0.1884	-0.3666	0.0997
4	119.88	0.4500	-0.6999	0.0433	0.9676	0.0357	-8.5696	0.2732	-0.5506	0.0885
4	119.88	0.5001	-1.0084	0.0621	1.2760	0.0481	-11.6745	0.3807	-0.3001	0.1172
4	119.88	0.5560	-1.4380	0.0924	1.6739	0.0632	-15.7435	0.5147	-0.5050	0.1123
4	119.88	0.6001	-1.8265	0.1205	1.9807	0.0753	-19.2325	0.6304	-0.3679	0.1213
4	119.88	0.6501	-2.3691	0.1578	2.3564	0.0896	-23.4585	0.7748	-0.2137	0.1316
4	119.88	0.6999	-2.9620	0.2008	2.7172	0.1058	-27.9461	0.9300	-0.1883	0.1306
4	119.88	0.7500	-3.5957	0.2490	3.0696	0.1214	-32.6005	1.0937	0.1317	0.1233
4	119.88	0.8002	-4.3007	0.3022	3.4106	0.1364	-37.3858	1.2650	0.4663	0.1165
4	119.88	0.8582	-5.1215	0.3668	3.8268	0.1546	-43.0752	1.4774	-0.1682	0.1275
4	119.88	0.9101	-5.8249	0.4240	4.2210	0.1706	-48.0825	1.6710	0.3901	0.1248
4	119.88	0.9728	-6.4731	0.4938	4.6791	0.1904	-54.2179	1.9117	0.6002	0.1095

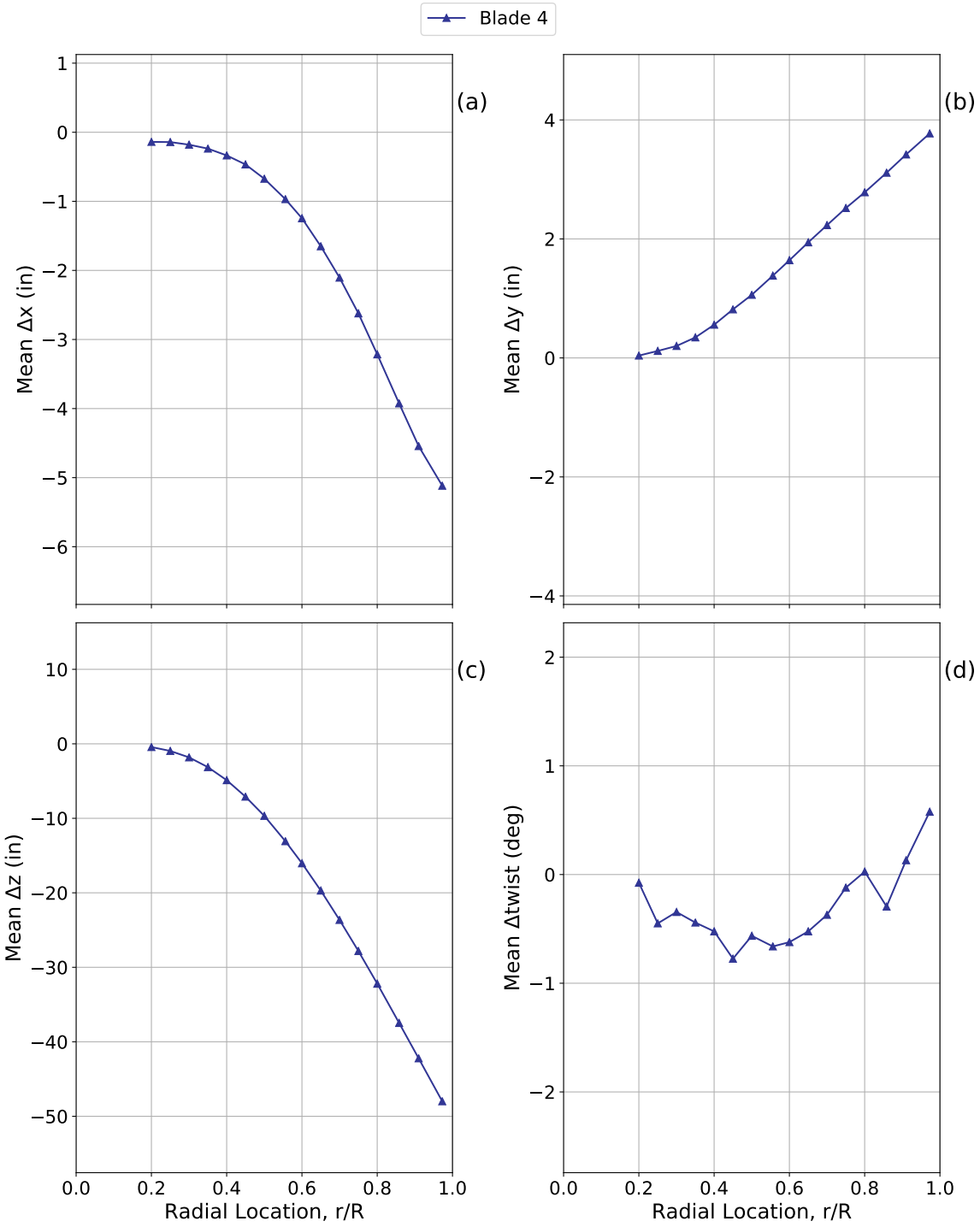


Figure 3.42-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.1397	0.0072	0.0393	0.0009	-0.4327	0.0093	-0.0756	0.0367
4	135	0.2502	-0.1425	0.0061	0.1172	0.0025	-0.9568	0.0209	-0.4494	0.0526
4	135	0.3001	-0.1804	0.0071	0.2007	0.0035	-1.8206	0.0406	-0.3448	0.0868
4	135	0.3502	-0.2373	0.0080	0.3449	0.0080	-3.1331	0.0668	-0.4420	0.0890
4	135	0.4002	-0.3361	0.0124	0.5582	0.0111	-4.8849	0.1066	-0.5231	0.0994
4	135	0.4500	-0.4664	0.0184	0.8157	0.0158	-7.0933	0.1589	-0.7745	0.1259
4	135	0.5001	-0.6737	0.0273	1.0606	0.0217	-9.6749	0.2244	-0.5638	0.0925
4	135	0.5560	-0.9688	0.0419	1.3824	0.0300	-13.0730	0.3080	-0.6614	0.0719
4	135	0.6001	-1.2456	0.0595	1.6416	0.0361	-16.0372	0.3983	-0.6220	0.0999
4	135	0.6501	-1.6514	0.0827	1.9421	0.0431	-19.7026	0.5078	-0.5229	0.0954
4	135	0.6999	-2.1051	0.1117	2.2312	0.0529	-23.6436	0.6279	-0.3707	0.0938
4	135	0.7500	-2.6223	0.1461	2.5187	0.0610	-27.8185	0.7595	-0.1203	0.0921
4	135	0.8002	-3.2159	0.1852	2.7838	0.0695	-32.2064	0.8994	0.0268	0.0859
4	135	0.8582	-3.9253	0.2328	3.1119	0.0795	-37.4760	1.0693	-0.2948	0.0874
4	135	0.9101	-4.5437	0.2756	3.4190	0.0889	-42.2221	1.2229	0.1313	0.0990
4	135	0.9728	-5.1173	0.3273	3.7726	0.0998	-47.9910	1.4120	0.5774	0.0990

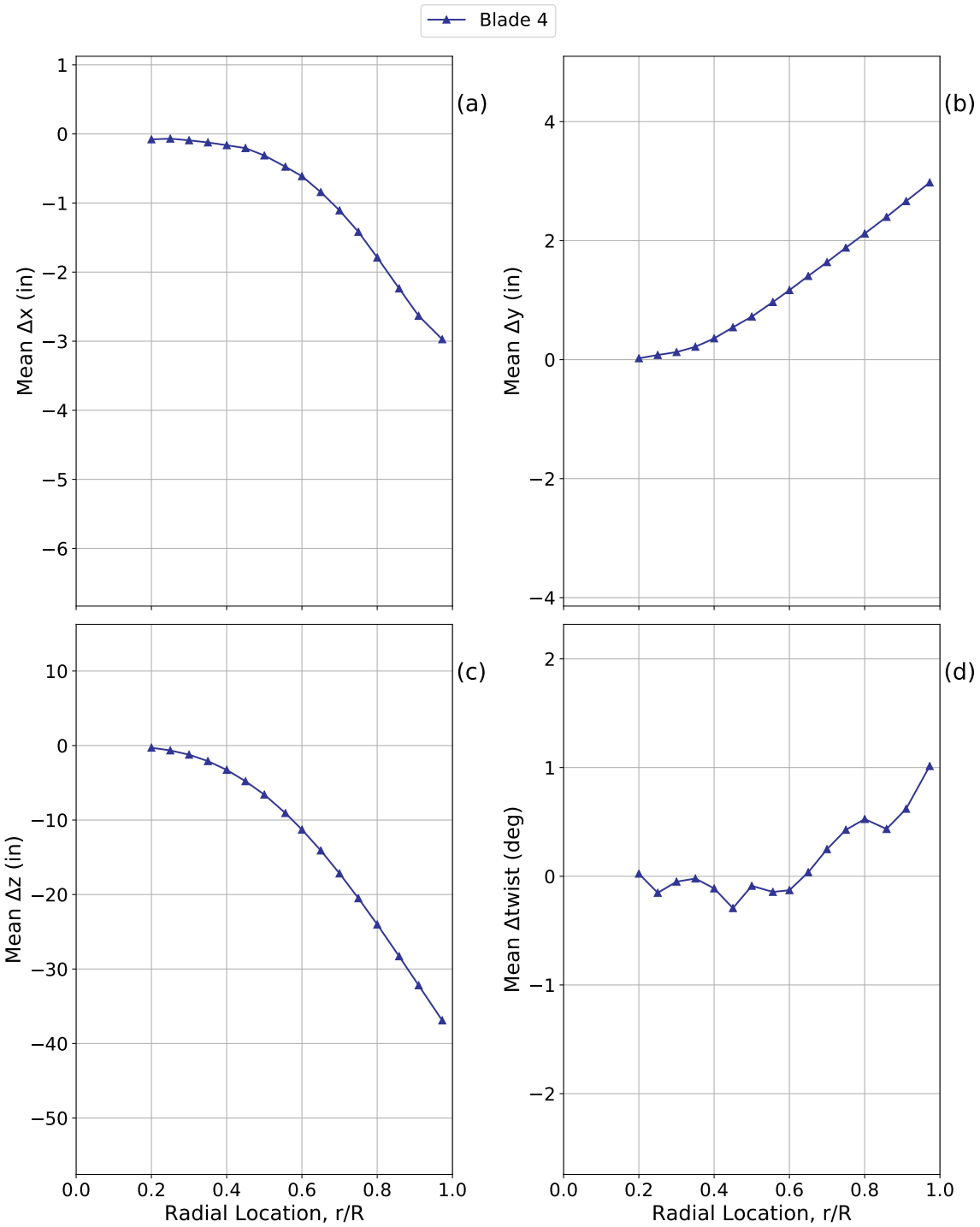


Figure 3.42-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0786	0.0048	0.0220	0.0014	-0.2926	0.0115	0.0237	0.0423
4	150.12	0.2502	-0.0684	0.0053	0.0781	0.0041	-0.6573	0.0241	-0.1526	0.0555
4	150.12	0.3001	-0.0924	0.0063	0.1267	0.0066	-1.2278	0.0472	-0.0500	0.0953
4	150.12	0.3502	-0.1234	0.0089	0.2157	0.0118	-2.0926	0.0787	-0.0210	0.1053
4	150.12	0.4002	-0.1635	0.0127	0.3571	0.0184	-3.2738	0.1235	-0.1123	0.1221
4	150.12	0.4500	-0.2054	0.0186	0.5432	0.0258	-4.7905	0.1759	-0.2935	0.1438
4	150.12	0.5001	-0.3118	0.0260	0.7232	0.0350	-6.5910	0.2423	-0.0883	0.1663
4	150.12	0.5560	-0.4748	0.0372	0.9674	0.0462	-9.0684	0.3340	-0.1443	0.1523
4	150.12	0.6001	-0.6117	0.0496	1.1676	0.0571	-11.2923	0.4148	-0.1285	0.1655
4	150.12	0.6501	-0.8421	0.0685	1.4054	0.0703	-14.0960	0.5206	0.0362	0.1756
4	150.12	0.6999	-1.1075	0.0915	1.6381	0.0842	-17.1762	0.6397	0.2489	0.1559
4	150.12	0.7500	-1.4178	0.1194	1.8813	0.0989	-20.5041	0.7716	0.4270	0.1711
4	150.12	0.8002	-1.7893	0.1506	2.1188	0.1144	-24.0297	0.9142	0.5258	0.1815
4	150.12	0.8582	-2.2370	0.1908	2.3983	0.1342	-28.2943	1.0886	0.4344	0.1774
4	150.12	0.9101	-2.6333	0.2276	2.6626	0.1515	-32.1972	1.2506	0.6204	0.1551
4	150.12	0.9728	-2.9726	0.2710	2.9766	0.1725	-36.9080	1.4511	1.0135	0.1515

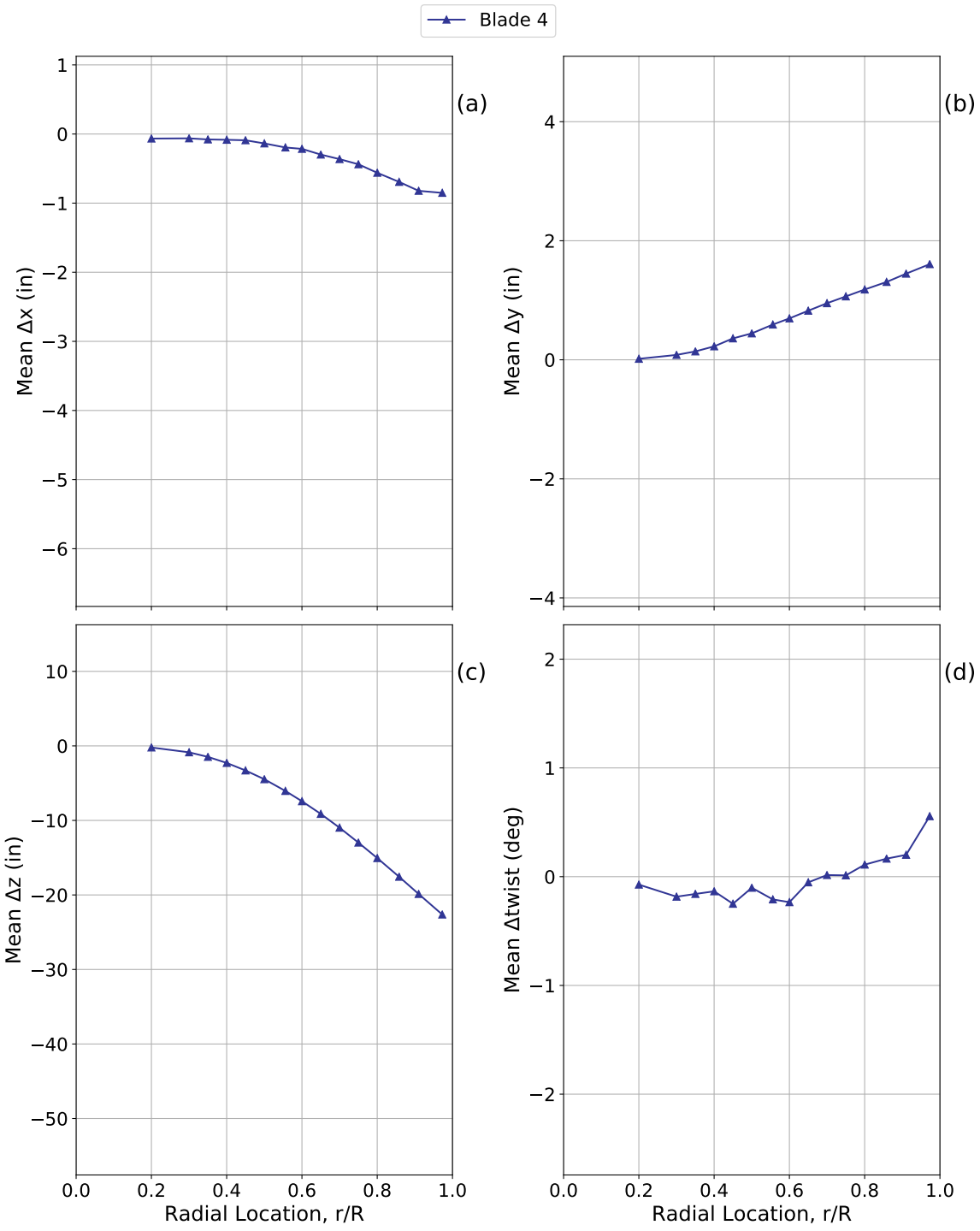


Figure 3.42-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0659	0.0078	0.0167	0.0021	-0.2142	0.0123	-0.0732	0.0332
4	164.88	0.3001	-0.0626	0.0046	0.0821	0.0107	-0.8640	0.0486	-0.1842	0.0834
4	164.88	0.3502	-0.0787	0.0064	0.1410	0.0166	-1.4756	0.0801	-0.1590	0.0862
4	164.88	0.4002	-0.0838	0.0088	0.2259	0.0275	-2.2893	0.1253	-0.1348	0.0886
4	164.88	0.4500	-0.0906	0.0122	0.3597	0.0309	-3.2974	0.1855	-0.2494	0.0766
4	164.88	0.5001	-0.1362	0.0178	0.4437	0.0429	-4.4741	0.2569	-0.1022	0.0852
4	164.88	0.5560	-0.1949	0.0248	0.5920	0.0571	-6.0472	0.3564	-0.2092	0.0811
4	164.88	0.6001	-0.2150	0.0324	0.6956	0.0657	-7.4284	0.4486	-0.2347	0.0995
4	164.88	0.6501	-0.2977	0.0438	0.8248	0.0777	-9.1284	0.5599	-0.0523	0.1153
4	164.88	0.6999	-0.3634	0.0572	0.9505	0.0909	-10.9792	0.6841	0.0147	0.0904
4	164.88	0.7500	-0.4380	0.0734	1.0649	0.1016	-12.9783	0.8237	0.0119	0.1108
4	164.88	0.8002	-0.5613	0.0921	1.1808	0.1146	-15.0580	0.9677	0.1107	0.0962
4	164.88	0.8582	-0.6931	0.1146	1.3076	0.1293	-17.5641	1.1468	0.1656	0.0987
4	164.88	0.9101	-0.8221	0.1326	1.4468	0.1438	-19.8712	1.3108	0.2006	0.0910
4	164.88	0.9728	-0.8516	0.1525	1.6066	0.1588	-22.6291	1.5160	0.5558	0.0971

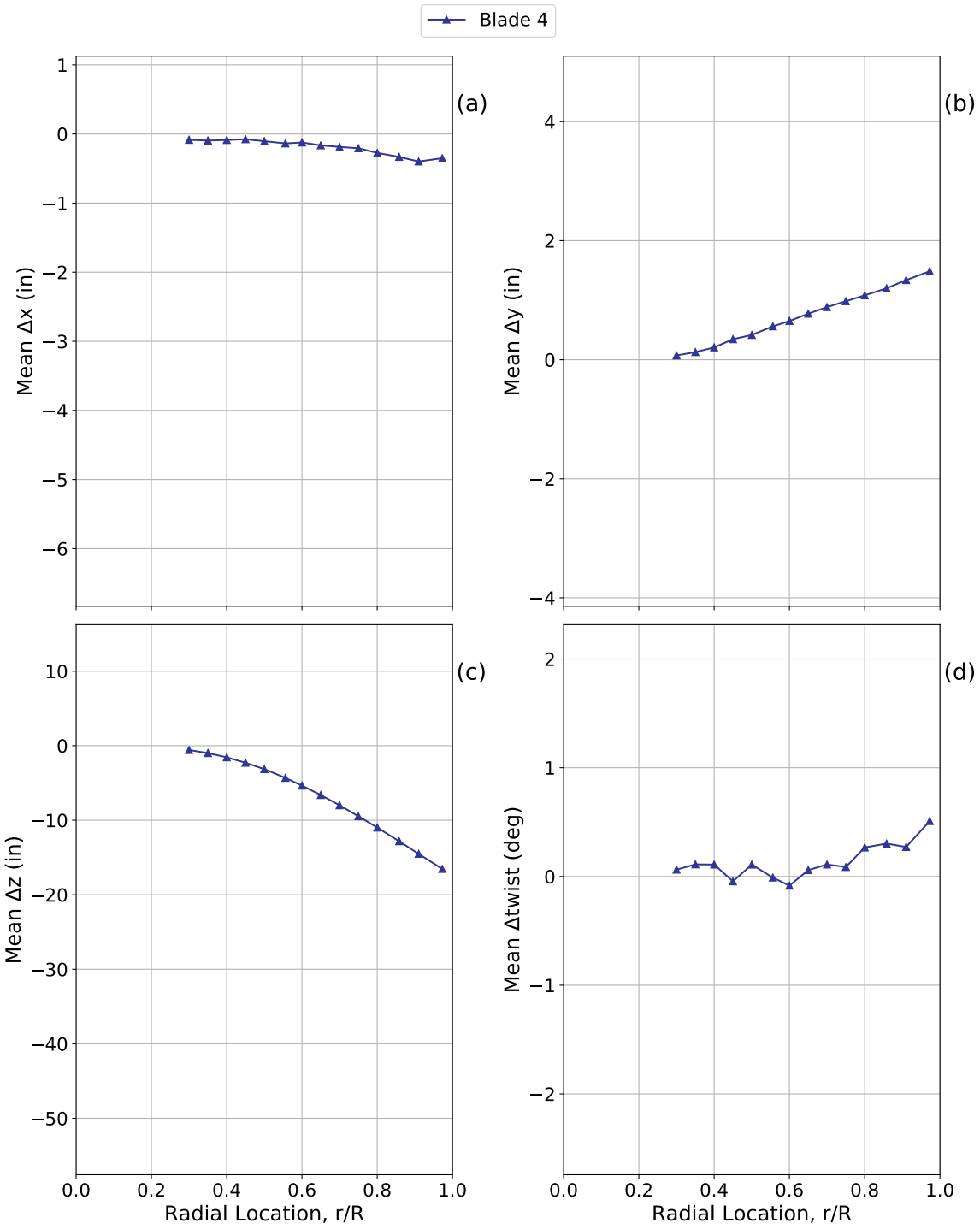


Figure 3.42-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.3001	-0.0847	0.0168	0.0721	0.0138	-0.5810	0.0494	0.0628	0.1710
4	170.16	0.3502	-0.0947	0.0218	0.1285	0.0239	-0.9922	0.0923	0.1113	0.2282
4	170.16	0.4002	-0.0868	0.0225	0.2075	0.0379	-1.5626	0.1533	0.1095	0.2124
4	170.16	0.4500	-0.0757	0.0264	0.3448	0.0503	-2.2884	0.2159	-0.0452	0.2036
4	170.16	0.5001	-0.1039	0.0281	0.4167	0.0644	-3.1460	0.2903	0.1094	0.2007
4	170.16	0.5560	-0.1362	0.0336	0.5604	0.0787	-4.3157	0.3716	-0.0105	0.2065
4	170.16	0.6001	-0.1229	0.0391	0.6506	0.0918	-5.3560	0.4405	-0.0846	0.2121
4	170.16	0.6501	-0.1643	0.0449	0.7734	0.1052	-6.6207	0.5217	0.0584	0.2053
4	170.16	0.6999	-0.1870	0.0522	0.8836	0.1214	-7.9945	0.6061	0.1101	0.2082
4	170.16	0.7500	-0.2064	0.0606	0.9823	0.1364	-9.4707	0.6980	0.0872	0.2059
4	170.16	0.8002	-0.2735	0.0679	1.0815	0.1521	-10.9881	0.7870	0.2666	0.2219
4	170.16	0.8582	-0.3316	0.0790	1.1995	0.1718	-12.8224	0.8954	0.3024	0.2158
4	170.16	0.9101	-0.3980	0.0879	1.3379	0.1889	-14.5161	0.9952	0.2712	0.2136
4	170.16	0.9728	-0.3503	0.0994	1.4867	0.2112	-16.5334	1.1245	0.5093	0.2283

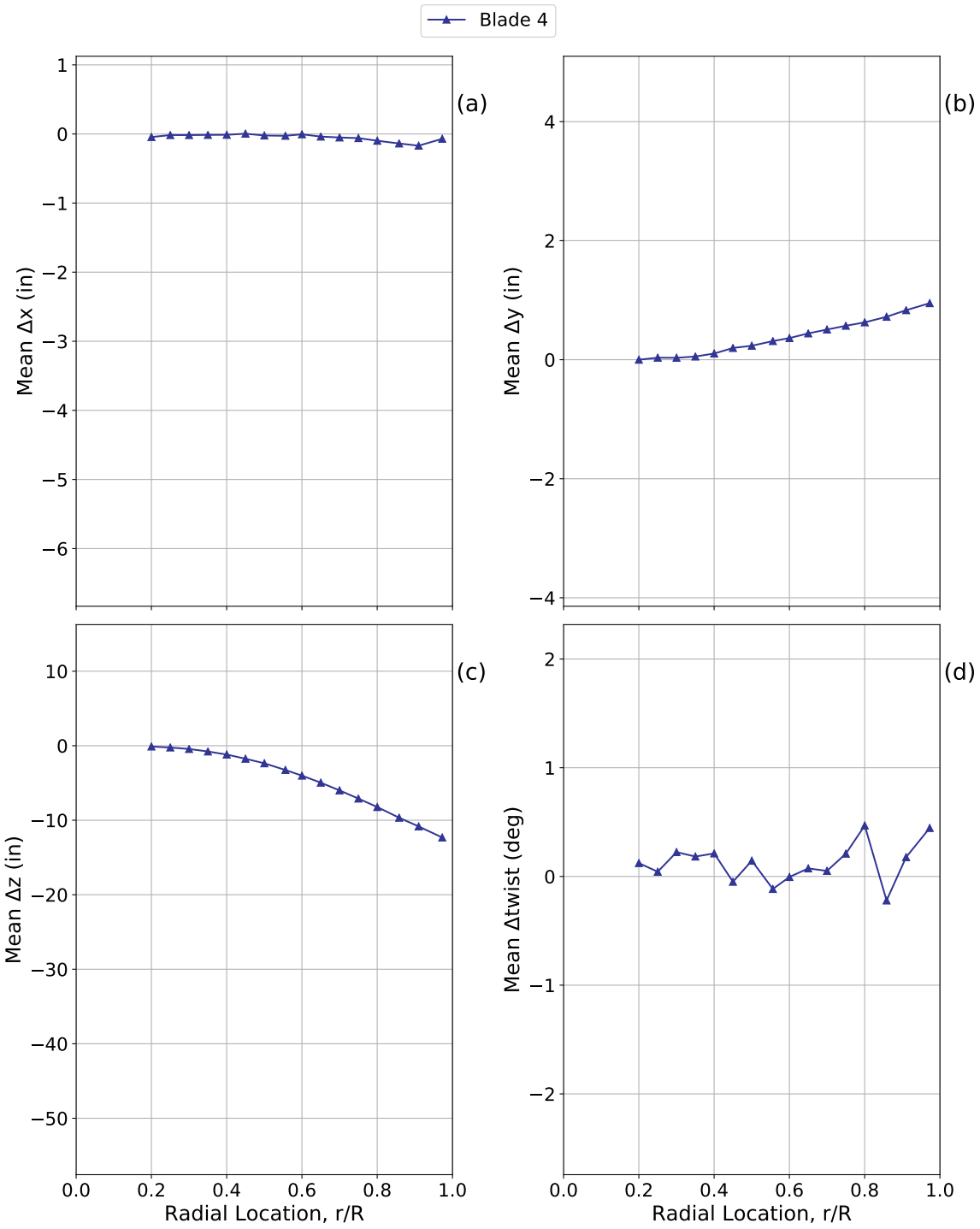


Figure 3.42-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0444	0.0026	0.0001	0.0025	-0.1098	0.0158	0.1226	0.0213
4	175.08	0.2502	-0.0161	0.0031	0.0338	0.0040	-0.2400	0.0332	0.0433	0.0577
4	175.08	0.3001	-0.0162	0.0048	0.0322	0.0085	-0.4381	0.0620	0.2238	0.0558
4	175.08	0.3502	-0.0136	0.0061	0.0538	0.0163	-0.7756	0.1080	0.1831	0.0676
4	175.08	0.4002	-0.0122	0.0083	0.1039	0.0235	-1.1873	0.1658	0.2117	0.0626
4	175.08	0.4500	0.0041	0.0120	0.1973	0.0315	-1.7490	0.2420	-0.0490	0.0741
4	175.08	0.5001	-0.0221	0.0156	0.2344	0.0406	-2.3595	0.3327	0.1449	0.0584
4	175.08	0.5560	-0.0266	0.0217	0.3130	0.0515	-3.2591	0.4516	-0.1152	0.0797
4	175.08	0.6001	-0.0049	0.0278	0.3635	0.0608	-4.0207	0.5572	-0.0050	0.0776
4	175.08	0.6501	-0.0379	0.0353	0.4422	0.0710	-4.9612	0.6873	0.0740	0.0908
4	175.08	0.6999	-0.0508	0.0437	0.5069	0.0822	-5.9982	0.8287	0.0511	0.1167
4	175.08	0.7500	-0.0597	0.0548	0.5701	0.0929	-7.0956	0.9792	0.2095	0.1036
4	175.08	0.8002	-0.0981	0.0651	0.6277	0.1038	-8.2328	1.1355	0.4685	0.0982
4	175.08	0.8582	-0.1374	0.0786	0.7212	0.1166	-9.6656	1.3226	-0.2210	0.1231
4	175.08	0.9101	-0.1696	0.0902	0.8321	0.1285	-10.8337	1.4981	0.1771	0.1126
4	175.08	0.9728	-0.0697	0.1021	0.9497	0.1443	-12.3200	1.7065	0.4457	0.1267

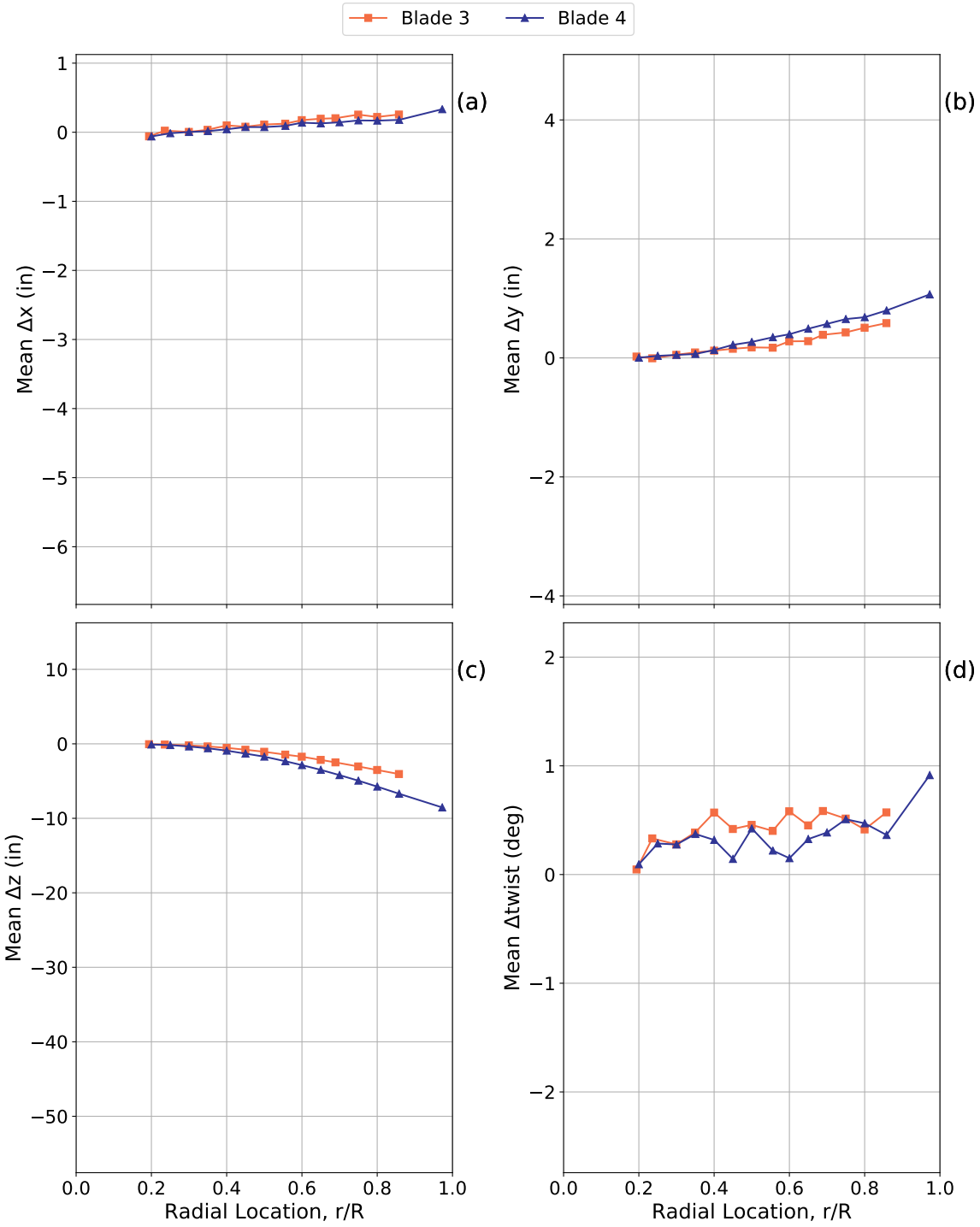


Figure 3.42-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0595	0.0020	0.0231	0.0021	-0.0495	0.0144	0.0468	0.0335
3	180.35	0.2357	0.0226	0.0022	-0.0061	0.0029	-0.0977	0.0248	0.3324	0.0361
3	180.35	0.2995	0.0050	0.0030	0.0525	0.0076	-0.2067	0.0603	0.2777	0.0650
3	180.35	0.3493	0.0352	0.0035	0.0921	0.0138	-0.3481	0.1023	0.3864	0.0541
3	180.35	0.4000	0.0993	0.0049	0.1224	0.0207	-0.5391	0.1587	0.5702	0.0509
3	180.35	0.4497	0.0797	0.0063	0.1536	0.0261	-0.7930	0.2248	0.4190	0.0494
3	180.35	0.4997	0.1115	0.0078	0.1772	0.0349	-1.0672	0.2998	0.4568	0.0625
3	180.35	0.5556	0.1241	0.0097	0.1720	0.0452	-1.4467	0.3963	0.4016	0.0807
3	180.35	0.5995	0.1751	0.0106	0.2789	0.0529	-1.7289	0.4808	0.5820	0.0790
3	180.35	0.6498	0.1957	0.0124	0.2818	0.0605	-2.1567	0.5787	0.4521	0.0822
3	180.35	0.6890	0.2027	0.0150	0.3884	0.0681	-2.4883	0.6626	0.5843	0.0785
3	180.35	0.7495	0.2550	0.0184	0.4283	0.0808	-3.0382	0.7979	0.5147	0.0823
3	180.35	0.7998	0.2212	0.0215	0.5078	0.0906	-3.5106	0.9121	0.4149	0.0644
3	180.35	0.8577	0.2564	0.0247	0.5848	0.1044	-4.0546	1.0419	0.5718	0.1153
4	180	0.2001	-0.0609	0.0028	0.0036	0.0023	-0.0938	0.0184	0.0943	0.0389
4	180	0.2502	-0.0143	0.0031	0.0346	0.0051	-0.1682	0.0419	0.2855	0.0681
4	180	0.3001	0.0033	0.0043	0.0505	0.0098	-0.3567	0.0769	0.2762	0.0892
4	180	0.3502	0.0162	0.0059	0.0659	0.0170	-0.5973	0.1286	0.3729	0.0869
4	180	0.4002	0.0431	0.0075	0.1333	0.0263	-0.9172	0.2029	0.3182	0.0933
4	180	0.4500	0.0749	0.0093	0.2201	0.0367	-1.3140	0.2890	0.1434	0.1004
4	180	0.5001	0.0746	0.0106	0.2688	0.0492	-1.7216	0.3806	0.4238	0.1028
4	180	0.5560	0.0918	0.0129	0.3475	0.0611	-2.3369	0.4921	0.2203	0.1277
4	180	0.6001	0.1382	0.0151	0.3980	0.0710	-2.8596	0.5834	0.1502	0.1274
4	180	0.6501	0.1279	0.0188	0.4904	0.0812	-3.4938	0.6964	0.3262	0.1258
4	180	0.6999	0.1436	0.0232	0.5717	0.0965	-4.2022	0.8180	0.3867	0.1463
4	180	0.7500	0.1711	0.0267	0.6530	0.1047	-4.9489	0.9369	0.5088	0.1361
4	180	0.8002	0.1679	0.0320	0.6841	0.1175	-5.7456	1.0677	0.4710	0.1865
4	180	0.8582	0.1788	0.0395	0.7977	0.1347	-6.7027	1.2240	0.3637	0.1465
4	180	0.9728	0.3336	0.0516	1.0670	0.1666	-8.5420	1.5270	0.9141	0.1827

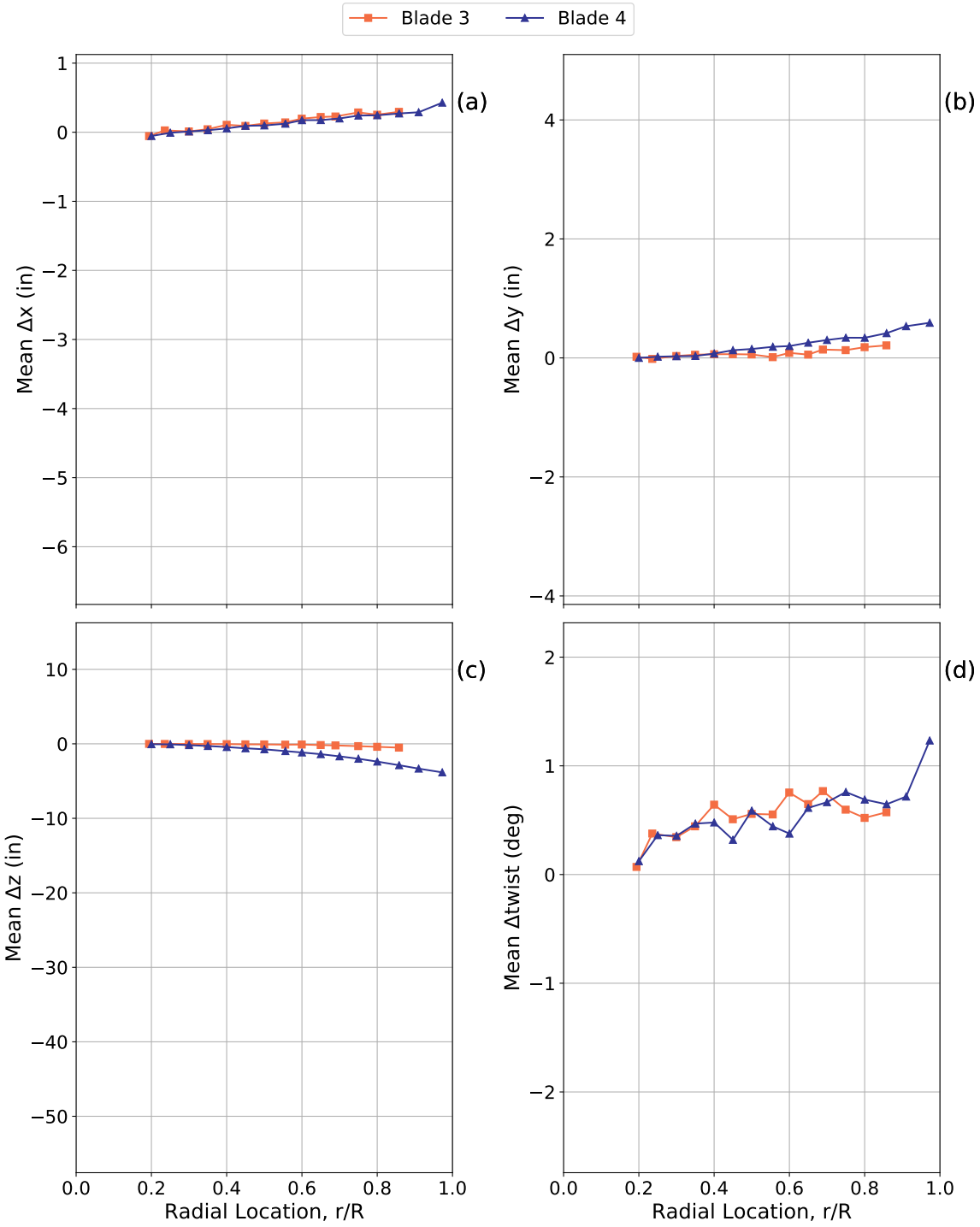


Figure 3.42-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0559	0.0025	0.0196	0.0018	-0.0071	0.0116	0.0700	0.0263
3	184.92	0.2357	0.0268	0.0014	-0.0164	0.0024	-0.0151	0.0218	0.3772	0.0401
3	184.92	0.2995	0.0117	0.0014	0.0320	0.0067	-0.0186	0.0507	0.3438	0.0598
3	184.92	0.3493	0.0434	0.0018	0.0535	0.0109	-0.0285	0.0854	0.4435	0.0659
3	184.92	0.4000	0.1074	0.0016	0.0620	0.0172	-0.0399	0.1335	0.6431	0.0696
3	184.92	0.4497	0.0915	0.0025	0.0634	0.0240	-0.0684	0.1907	0.5087	0.0733
3	184.92	0.4997	0.1264	0.0031	0.0582	0.0330	-0.0765	0.2588	0.5578	0.0888
3	184.92	0.5556	0.1426	0.0031	0.0127	0.0432	-0.1095	0.3468	0.5527	0.0650
3	184.92	0.5995	0.1966	0.0037	0.0850	0.0520	-0.0928	0.4192	0.7546	0.0876
3	184.92	0.6498	0.2207	0.0034	0.0555	0.0623	-0.1641	0.5121	0.6483	0.0686
3	184.92	0.6890	0.2279	0.0041	0.1405	0.0698	-0.2135	0.5832	0.7678	0.0871
3	184.92	0.7495	0.2864	0.0036	0.1306	0.0823	-0.3083	0.6945	0.5968	0.0873
3	184.92	0.7998	0.2542	0.0043	0.1807	0.0928	-0.4015	0.7929	0.5212	0.0984
3	184.92	0.8577	0.2954	0.0044	0.2110	0.1065	-0.5094	0.8988	0.5728	0.1615
4	184.92	0.2001	-0.0548	0.0016	0.0007	0.0022	-0.0523	0.0140	0.1230	0.0311
4	184.92	0.2502	-0.0077	0.0021	0.0203	0.0051	-0.0666	0.0245	0.3622	0.0476
4	184.92	0.3001	0.0111	0.0026	0.0282	0.0097	-0.1741	0.0504	0.3556	0.0694
4	184.92	0.3502	0.0288	0.0041	0.0325	0.0161	-0.2922	0.0854	0.4684	0.0629
4	184.92	0.4002	0.0554	0.0034	0.0730	0.0258	-0.4315	0.1294	0.4789	0.0716
4	184.92	0.4500	0.0924	0.0034	0.1297	0.0361	-0.6006	0.1785	0.3191	0.0749
4	184.92	0.5001	0.0984	0.0042	0.1501	0.0477	-0.7348	0.2392	0.5880	0.0659
4	184.92	0.5560	0.1234	0.0048	0.1868	0.0615	-0.9758	0.3232	0.4434	0.0660
4	184.92	0.6001	0.1745	0.0052	0.1993	0.0746	-1.1623	0.4015	0.3763	0.0694
4	184.92	0.6501	0.1759	0.0057	0.2553	0.0872	-1.3900	0.4975	0.6133	0.0677
4	184.92	0.6999	0.1995	0.0077	0.3010	0.1008	-1.6814	0.5970	0.6655	0.0521
4	184.92	0.7500	0.2411	0.0098	0.3397	0.1156	-2.0035	0.7058	0.7588	0.0750
4	184.92	0.8002	0.2451	0.0110	0.3387	0.1330	-2.3842	0.8185	0.6895	0.0833
4	184.92	0.8582	0.2717	0.0140	0.4160	0.1472	-2.8722	0.9562	0.6463	0.1060
4	184.92	0.9101	0.2892	0.0166	0.5327	0.1586	-3.3280	1.0715	0.7170	0.1312
4	184.92	0.9728	0.4276	0.0157	0.5903	0.1769	-3.8346	1.2217	1.2327	0.1175

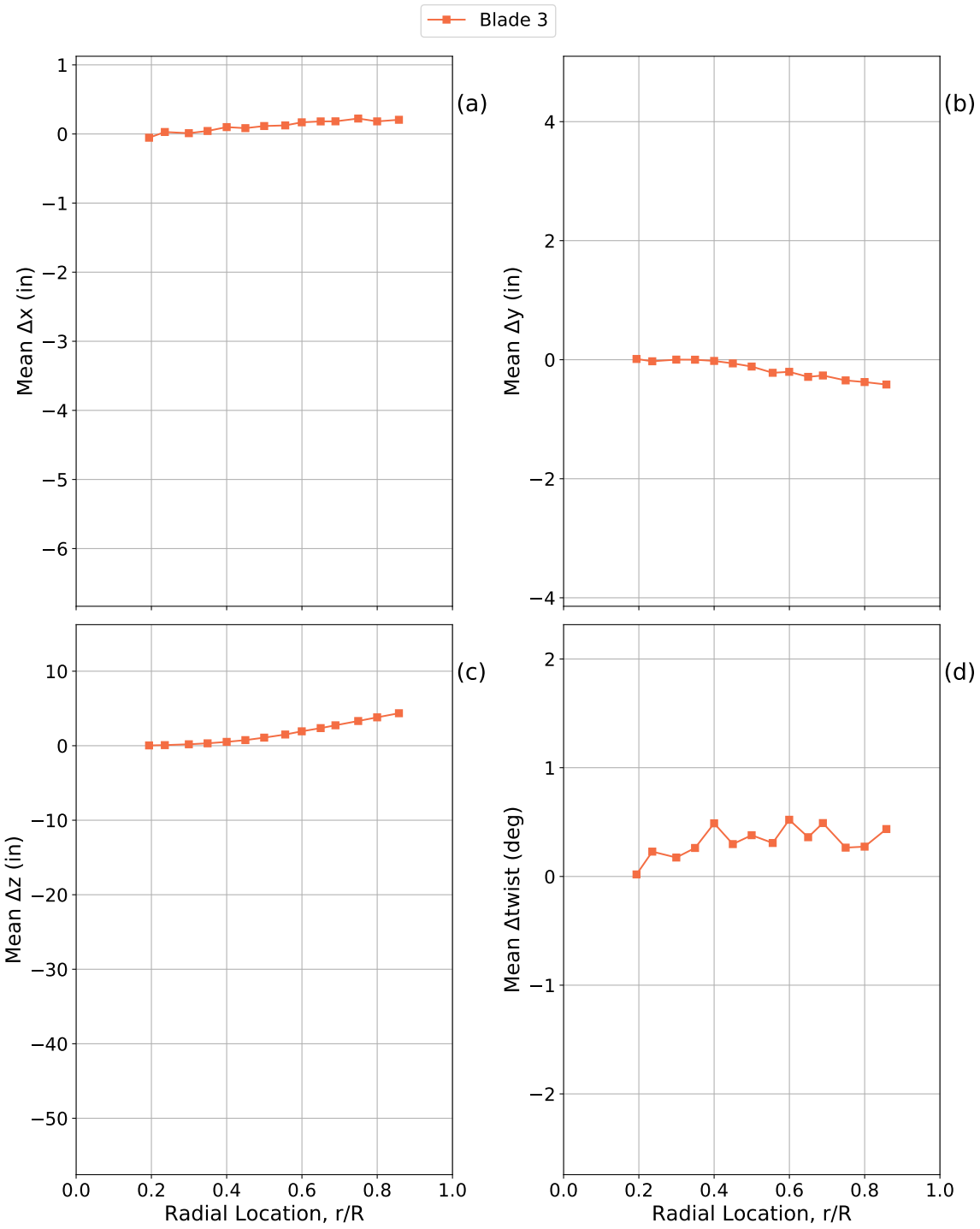


Figure 3.42-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0542	0.0021	0.0126	0.0027	0.0395	0.0383	0.0186	0.0306
3	195.12	0.2357	0.0286	0.0031	-0.0263	0.0049	0.0795	0.0616	0.2285	0.0417
3	195.12	0.2995	0.0116	0.0047	0.0017	0.0122	0.1937	0.1553	0.1741	0.0602
3	195.12	0.3493	0.0435	0.0056	0.0003	0.0211	0.3213	0.2702	0.2621	0.0470
3	195.12	0.4000	0.0996	0.0056	-0.0203	0.0332	0.5150	0.4129	0.4887	0.0714
3	195.12	0.4497	0.0842	0.0034	-0.0617	0.0460	0.7514	0.5680	0.2976	0.0947
3	195.12	0.4997	0.1150	0.0037	-0.1147	0.0590	1.0853	0.7320	0.3795	0.0997
3	195.12	0.5556	0.1240	0.0070	-0.2198	0.0726	1.5030	0.9123	0.3078	0.1405
3	195.12	0.5995	0.1688	0.0109	-0.2036	0.0817	1.9323	1.0503	0.5215	0.1254
3	195.12	0.6498	0.1818	0.0155	-0.2881	0.0916	2.3626	1.1949	0.3609	0.1336
3	195.12	0.6890	0.1829	0.0188	-0.2650	0.0990	2.7418	1.3020	0.4910	0.1446
3	195.12	0.7495	0.2235	0.0239	-0.3477	0.1087	3.3166	1.4606	0.2652	0.1442
3	195.12	0.7998	0.1822	0.0283	-0.3752	0.1171	3.8074	1.5899	0.2741	0.1503
3	195.12	0.8577	0.2055	0.0340	-0.4168	0.1255	4.3595	1.7576	0.4360	0.1419

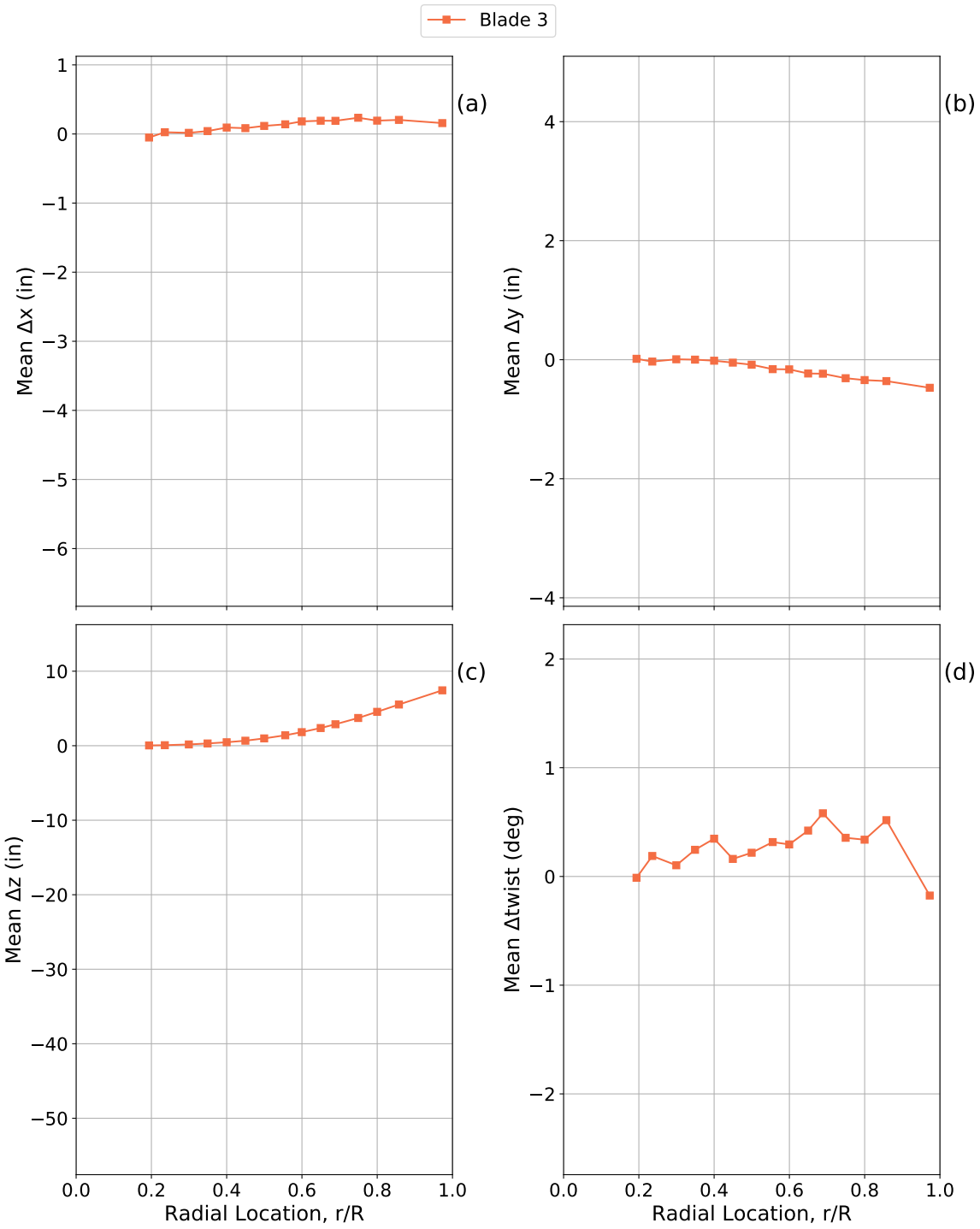


Figure 3.42-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0515	0.0016	0.0155	0.0026	0.0384	0.0229	-0.0121	0.0329
3	209.88	0.2357	0.0254	0.0016	-0.0312	0.0060	0.0691	0.0469	0.1884	0.0619
3	209.88	0.2995	0.0165	0.0024	0.0073	0.0125	0.1706	0.1048	0.1028	0.0882
3	209.88	0.3493	0.0419	0.0036	0.0014	0.0223	0.3019	0.1781	0.2453	0.1063
3	209.88	0.4000	0.0931	0.0035	-0.0165	0.0352	0.4659	0.2798	0.3474	0.1183
3	209.88	0.4497	0.0840	0.0032	-0.0490	0.0499	0.6728	0.4030	0.1613	0.1040
3	209.88	0.4997	0.1165	0.0047	-0.0838	0.0673	0.9807	0.5574	0.2182	0.1351
3	209.88	0.5556	0.1400	0.0070	-0.1585	0.0879	1.4000	0.7428	0.3162	0.1454
3	209.88	0.5995	0.1820	0.0121	-0.1621	0.1061	1.8212	0.8972	0.2946	0.1552
3	209.88	0.6498	0.1919	0.0184	-0.2317	0.1255	2.3733	1.0725	0.4221	0.1560
3	209.88	0.6890	0.1905	0.0247	-0.2350	0.1425	2.8791	1.2051	0.5810	0.1542
3	209.88	0.7495	0.2350	0.0354	-0.3106	0.1684	3.7221	1.4014	0.3556	0.1645
3	209.88	0.7998	0.1929	0.0436	-0.3422	0.1895	4.5477	1.5491	0.3381	0.1827
3	209.88	0.8577	0.2038	0.0535	-0.3591	0.2161	5.5298	1.7062	0.5178	0.1750
3	209.88	0.9729	0.1574	0.0814	-0.4717	0.2674	7.4335	2.0007	-0.1755	0.3044

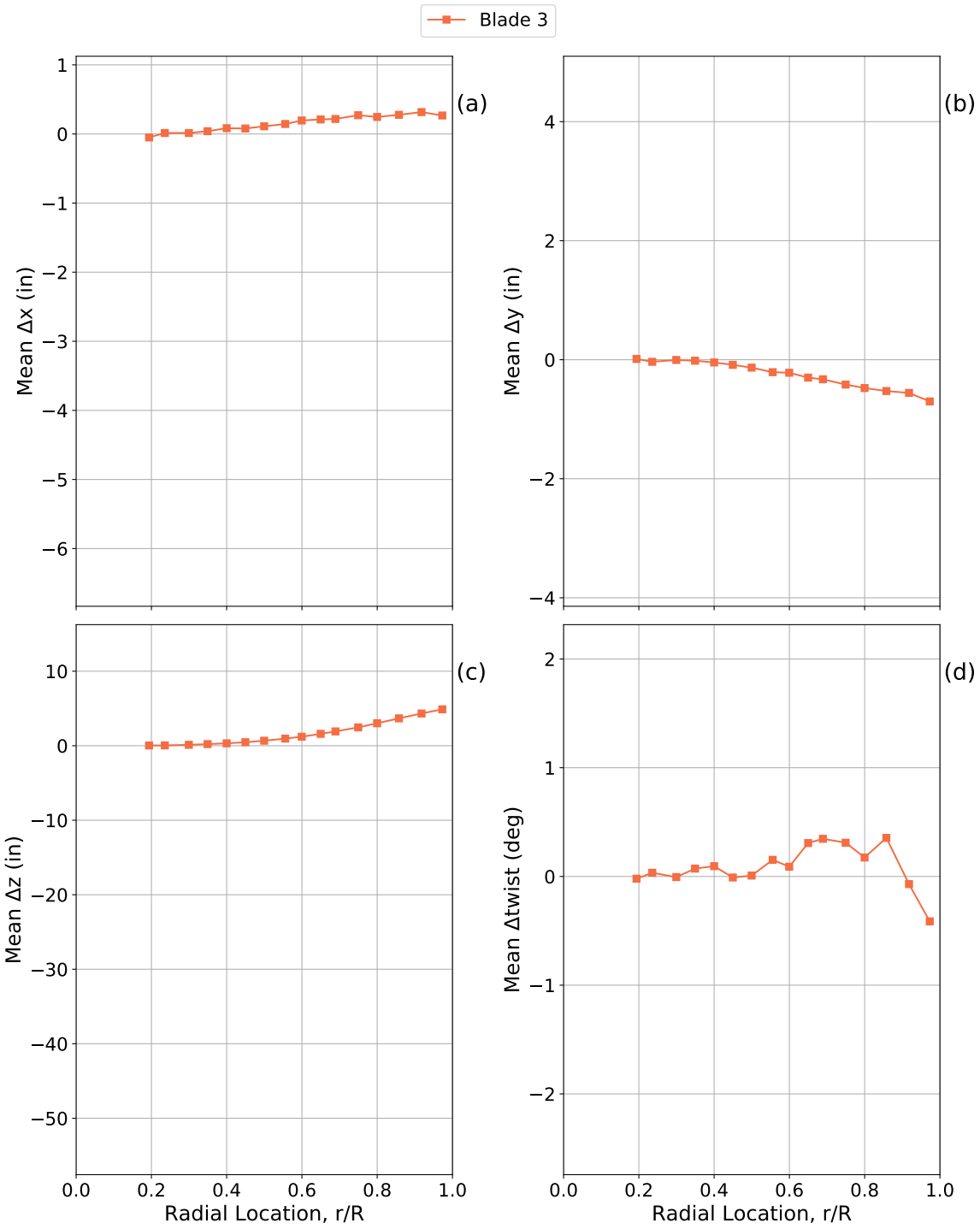


Figure 3.42-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0504	0.0017	0.0130	0.0014	0.0312	0.0062	-0.0208	0.0302
3	225	0.2357	0.0146	0.0022	-0.0349	0.0022	0.0440	0.0162	0.0340	0.0400
3	225	0.2995	0.0141	0.0018	-0.0043	0.0050	0.1192	0.0337	-0.0060	0.0678
3	225	0.3493	0.0402	0.0019	-0.0168	0.0092	0.2160	0.0538	0.0722	0.0701
3	225	0.4000	0.0832	0.0034	-0.0461	0.0138	0.3223	0.0887	0.0946	0.0635
3	225	0.4497	0.0797	0.0024	-0.0859	0.0177	0.4689	0.1286	-0.0095	0.0899
3	225	0.4997	0.1105	0.0036	-0.1331	0.0255	0.6726	0.1828	0.0082	0.0893
3	225	0.5556	0.1445	0.0035	-0.2095	0.0343	0.9529	0.2595	0.1530	0.0914
3	225	0.5995	0.1952	0.0050	-0.2192	0.0432	1.2089	0.3322	0.0896	0.0876
3	225	0.6498	0.2104	0.0058	-0.3007	0.0517	1.5947	0.4247	0.3070	0.1021
3	225	0.6890	0.2176	0.0097	-0.3291	0.0598	1.9191	0.5085	0.3463	0.0976
3	225	0.7495	0.2715	0.0140	-0.4176	0.0722	2.4585	0.6582	0.3105	0.0988
3	225	0.7998	0.2463	0.0194	-0.4759	0.0829	3.0132	0.7941	0.1743	0.1176
3	225	0.8577	0.2776	0.0271	-0.5260	0.0939	3.6707	0.9663	0.3549	0.1251
3	225	0.9178	0.3166	0.0360	-0.5578	0.1047	4.3278	1.1505	-0.0703	0.1491
3	225	0.9729	0.2677	0.0498	-0.7007	0.1167	4.8824	1.3310	-0.4132	0.1542

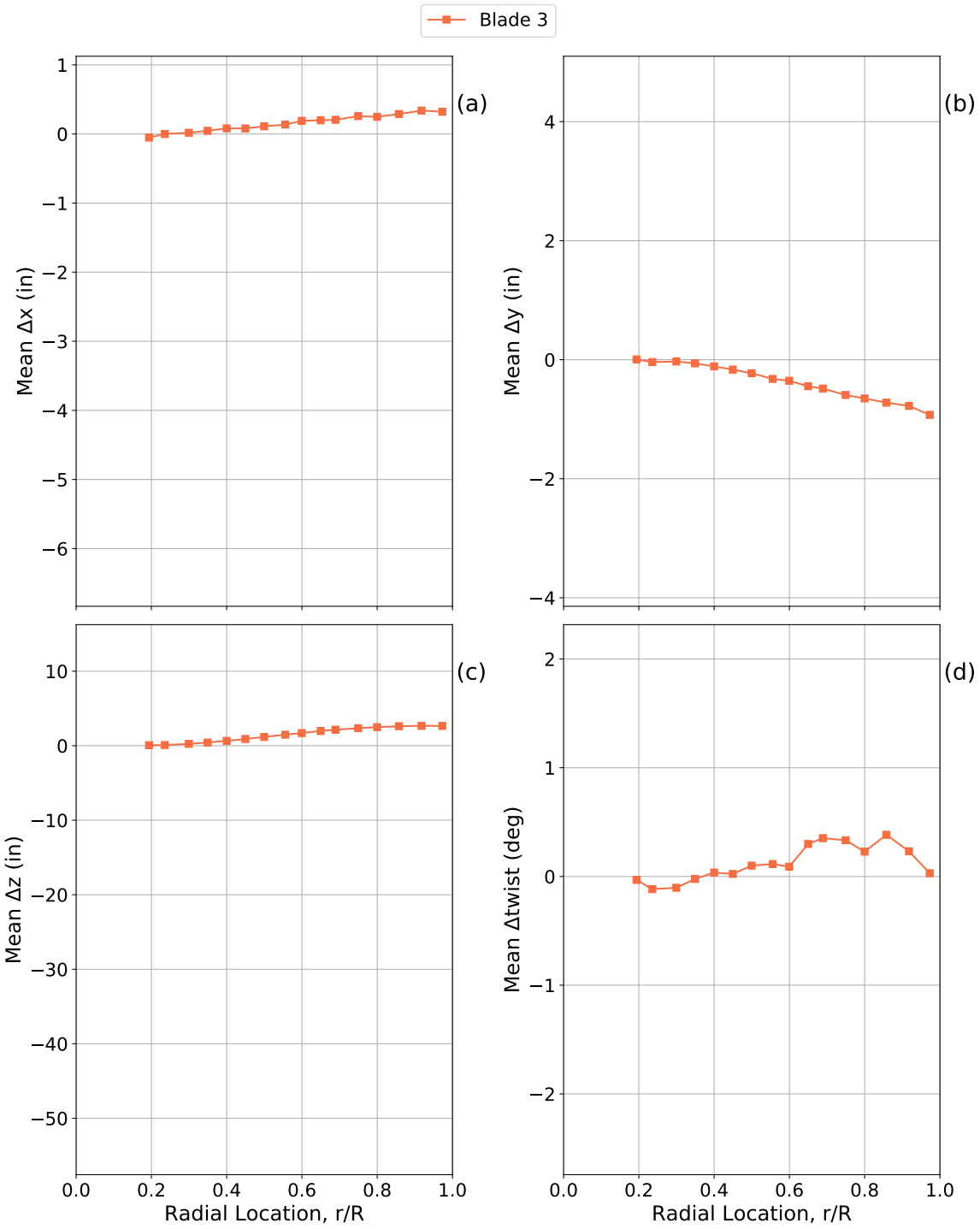


Figure 3.42-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0519	0.0029	0.0052	0.0022	0.0650	0.0114	-0.0314	0.0275
3	240.12	0.2357	0.0011	0.0014	-0.0399	0.0029	0.0914	0.0223	-0.1165	0.0426
3	240.12	0.2995	0.0175	0.0017	-0.0300	0.0083	0.2481	0.0511	-0.1039	0.0650
3	240.12	0.3493	0.0464	0.0019	-0.0612	0.0134	0.4289	0.0843	-0.0229	0.0787
3	240.12	0.4000	0.0813	0.0019	-0.1117	0.0211	0.6496	0.1331	0.0360	0.0693
3	240.12	0.4497	0.0794	0.0018	-0.1668	0.0286	0.9013	0.1920	0.0229	0.1000
3	240.12	0.4997	0.1106	0.0041	-0.2264	0.0381	1.1793	0.2612	0.0996	0.0632
3	240.12	0.5556	0.1361	0.0049	-0.3225	0.0495	1.4785	0.3475	0.1138	0.0718
3	240.12	0.5995	0.1902	0.0067	-0.3540	0.0590	1.6968	0.4168	0.0902	0.0807
3	240.12	0.6498	0.1986	0.0084	-0.4461	0.0690	1.9805	0.5048	0.2986	0.0779
3	240.12	0.6890	0.2052	0.0094	-0.4854	0.0784	2.1471	0.5770	0.3524	0.0847
3	240.12	0.7495	0.2584	0.0125	-0.5925	0.0920	2.3466	0.6963	0.3328	0.0883
3	240.12	0.7998	0.2487	0.0130	-0.6511	0.1024	2.4968	0.8063	0.2282	0.0954
3	240.12	0.8577	0.2882	0.0135	-0.7216	0.1152	2.6182	0.9422	0.3831	0.0940
3	240.12	0.9178	0.3385	0.0167	-0.7764	0.1280	2.6696	1.0908	0.2314	0.1033
3	240.12	0.9729	0.3222	0.0224	-0.9270	0.1396	2.6578	1.2362	0.0294	0.0848

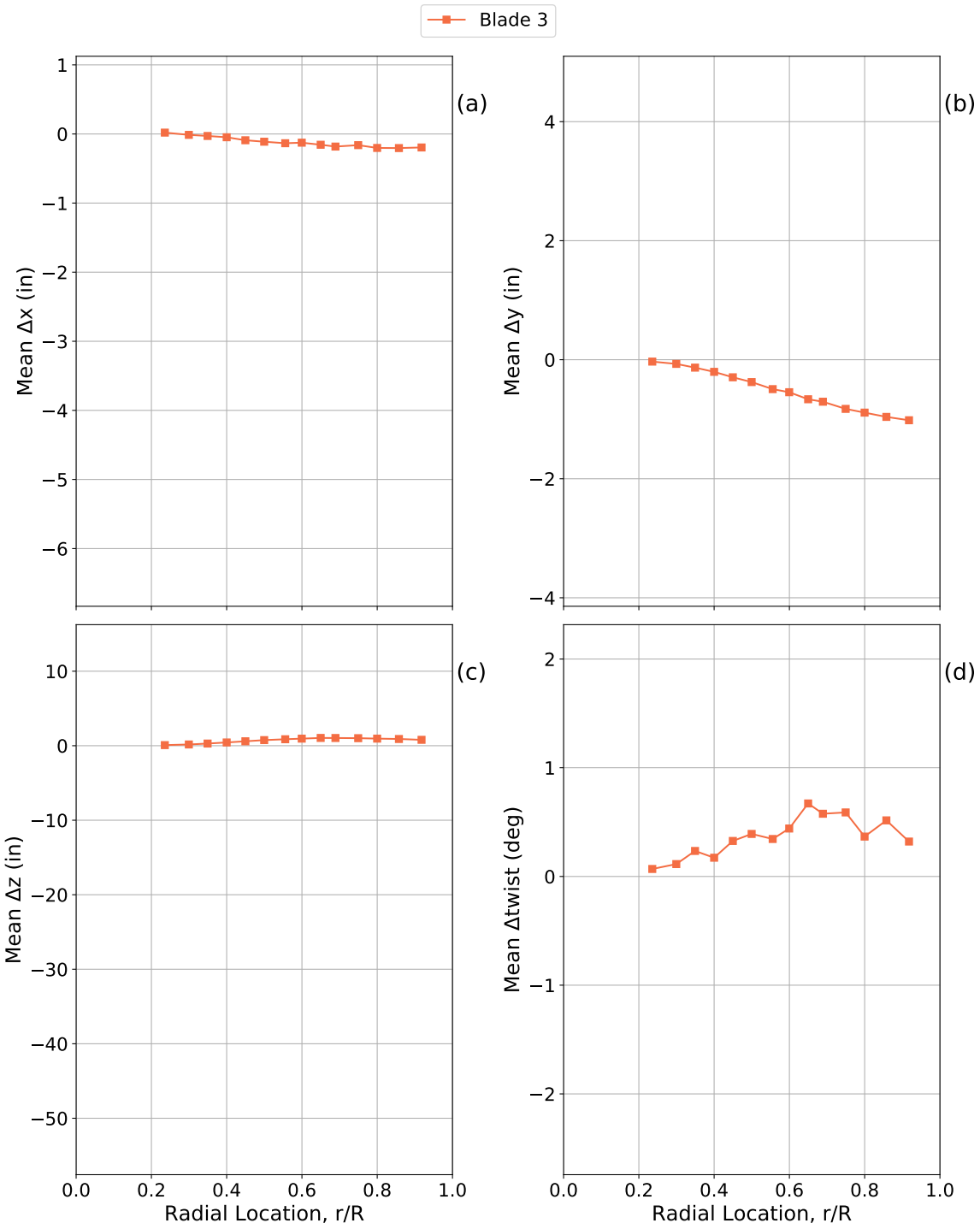


Figure 3.42-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.2357	0.0198	0.0037	-0.0318	0.0034	0.0820	0.0230	0.0689	0.1329
3	254.88	0.2995	-0.0128	0.0026	-0.0701	0.0078	0.1666	0.0524	0.1138	0.2130
3	254.88	0.3493	-0.0288	0.0023	-0.1331	0.0141	0.2903	0.0875	0.2346	0.2086
3	254.88	0.4000	-0.0473	0.0022	-0.2040	0.0219	0.4374	0.1376	0.1723	0.2175
3	254.88	0.4497	-0.0908	0.0039	-0.2951	0.0308	0.5942	0.1911	0.3266	0.2382
3	254.88	0.4997	-0.1120	0.0051	-0.3757	0.0395	0.7520	0.2474	0.3912	0.2554
3	254.88	0.5556	-0.1338	0.0064	-0.4942	0.0497	0.8690	0.3117	0.3446	0.2571
3	254.88	0.5995	-0.1260	0.0086	-0.5460	0.0566	0.9505	0.3608	0.4409	0.2976
3	254.88	0.6498	-0.1558	0.0088	-0.6645	0.0644	1.0430	0.4129	0.6714	0.3067
3	254.88	0.6890	-0.1823	0.0096	-0.7057	0.0710	1.0350	0.4465	0.5768	0.2987
3	254.88	0.7495	-0.1616	0.0112	-0.8260	0.0806	1.0129	0.5075	0.5889	0.2988
3	254.88	0.7998	-0.2021	0.0138	-0.8888	0.0886	0.9528	0.5634	0.3668	0.3227
3	254.88	0.8577	-0.2038	0.0166	-0.9608	0.0988	0.9034	0.6372	0.5159	0.3104
3	254.88	0.9178	-0.1951	0.0204	-1.0170	0.1096	0.7915	0.7243	0.3210	0.3378

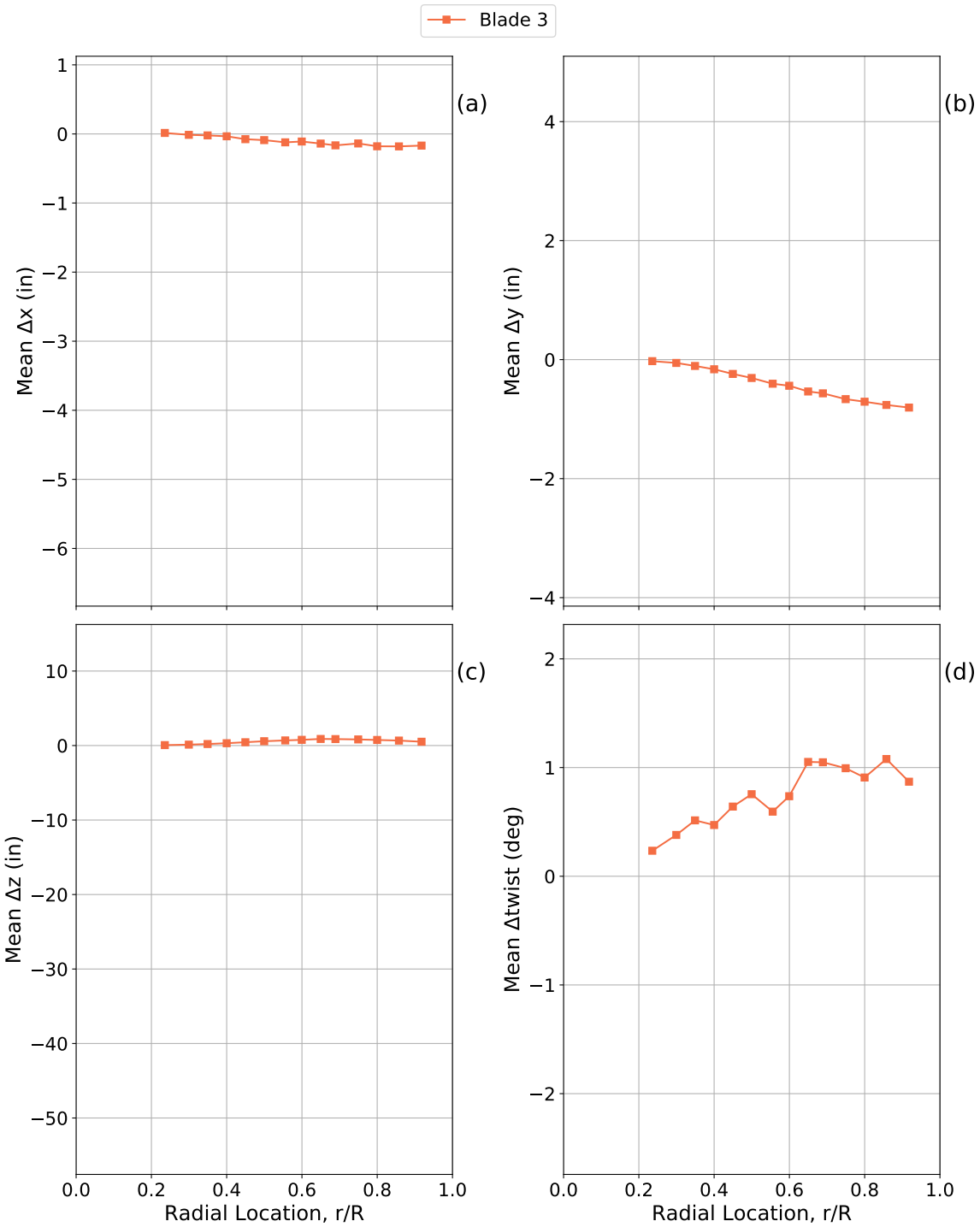


Figure 3.42-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2357	0.0146	0.0124	-0.0255	0.0050	0.0574	0.0150	0.2347	0.0636
3	260.16	0.2995	-0.0130	0.0048	-0.0557	0.0121	0.1201	0.0342	0.3800	0.1024
3	260.16	0.3493	-0.0210	0.0053	-0.1061	0.0207	0.2043	0.0559	0.5141	0.1150
3	260.16	0.4000	-0.0340	0.0118	-0.1621	0.0331	0.3117	0.0882	0.4713	0.1141
3	260.16	0.4497	-0.0758	0.0154	-0.2402	0.0473	0.4440	0.1227	0.6410	0.1236
3	260.16	0.4997	-0.0894	0.0205	-0.3082	0.0661	0.5794	0.1598	0.7548	0.1440
3	260.16	0.5556	-0.1214	0.0263	-0.4048	0.0897	0.6874	0.2059	0.5944	0.1499
3	260.16	0.5995	-0.1095	0.0303	-0.4390	0.1104	0.7661	0.2411	0.7364	0.1553
3	260.16	0.6498	-0.1393	0.0376	-0.5354	0.1359	0.8841	0.2840	1.0519	0.1618
3	260.16	0.6890	-0.1651	0.0443	-0.5663	0.1587	0.8666	0.3162	1.0485	0.1851
3	260.16	0.7495	-0.1377	0.0593	-0.6640	0.1976	0.8198	0.3669	0.9938	0.2042
3	260.16	0.7998	-0.1787	0.0737	-0.7072	0.2349	0.7487	0.4082	0.9084	0.2223
3	260.16	0.8577	-0.1801	0.0924	-0.7615	0.2834	0.6684	0.4534	1.0784	0.2440
3	260.16	0.9178	-0.1685	0.1163	-0.8055	0.3380	0.5104	0.5014	0.8699	0.2618

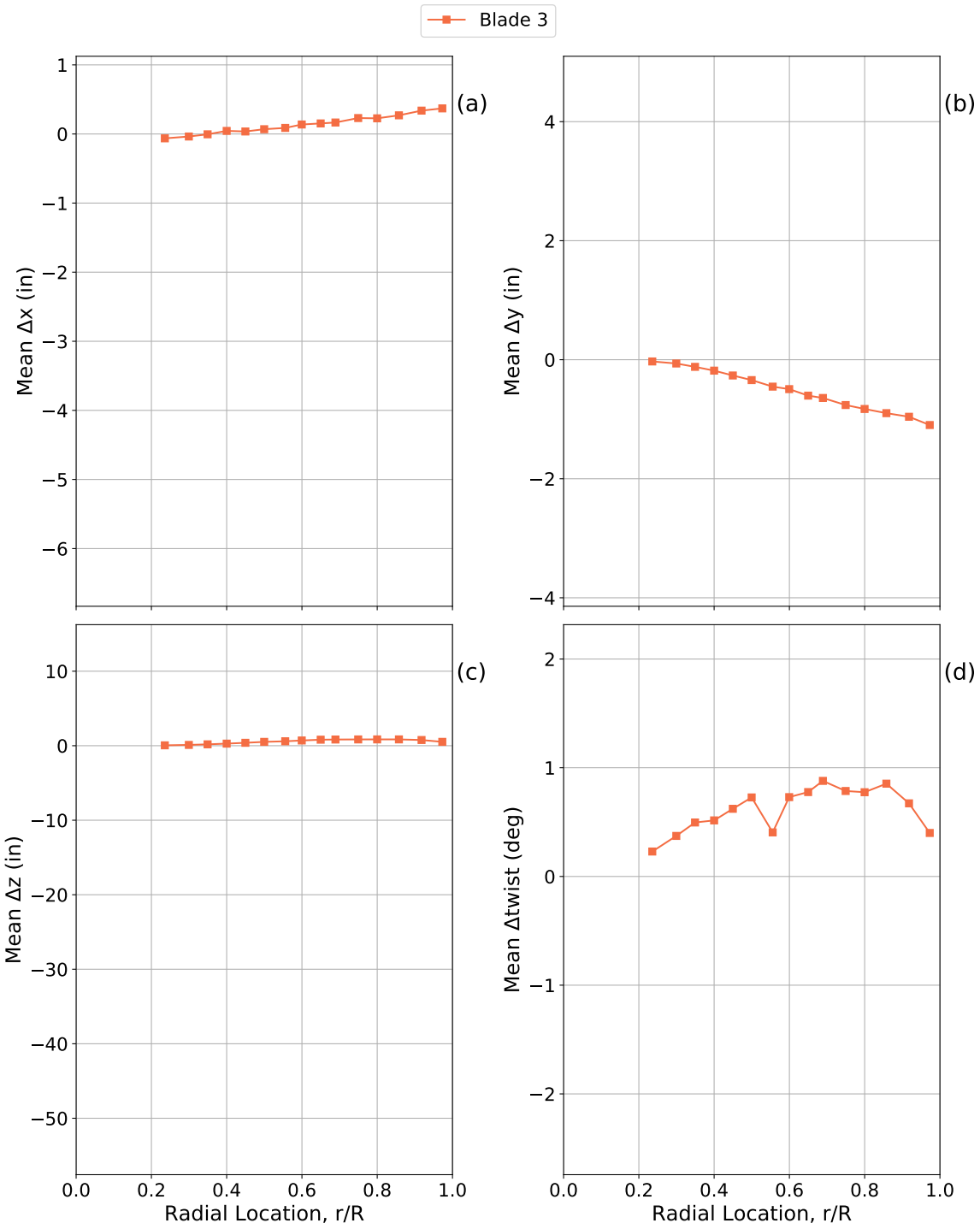


Figure 3.42-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0634	0.0027	-0.0292	0.0025	0.0523	0.0204	0.2293	0.1057
3	265.08	0.2995	-0.0366	0.0019	-0.0635	0.0062	0.1074	0.0484	0.3729	0.1701
3	265.08	0.3493	-0.0047	0.0015	-0.1200	0.0102	0.1850	0.0798	0.4964	0.1676
3	265.08	0.4000	0.0446	0.0023	-0.1834	0.0165	0.2802	0.1275	0.5156	0.1872
3	265.08	0.4497	0.0361	0.0028	-0.2649	0.0228	0.3916	0.1844	0.6223	0.2042
3	265.08	0.4997	0.0691	0.0024	-0.3425	0.0305	0.5158	0.2521	0.7269	0.2181
3	265.08	0.5556	0.0877	0.0028	-0.4522	0.0398	0.5968	0.3381	0.4053	0.2017
3	265.08	0.5995	0.1372	0.0031	-0.4942	0.0479	0.7021	0.4127	0.7297	0.2185
3	265.08	0.6498	0.1527	0.0037	-0.6033	0.0572	0.8077	0.5015	0.7762	0.2247
3	265.08	0.6890	0.1661	0.0045	-0.6427	0.0653	0.8322	0.5759	0.8791	0.2573
3	265.08	0.7495	0.2305	0.0053	-0.7614	0.0771	0.8440	0.6933	0.7860	0.2531
3	265.08	0.7998	0.2265	0.0056	-0.8275	0.0868	0.8478	0.7927	0.7748	0.2755
3	265.08	0.8577	0.2698	0.0064	-0.8978	0.0984	0.8479	0.9078	0.8535	0.2813
3	265.08	0.9178	0.3380	0.0084	-0.9586	0.1102	0.7666	1.0289	0.6725	0.2784
3	265.08	0.9729	0.3703	0.0154	-1.0974	0.1215	0.5184	1.1407	0.4000	0.2403

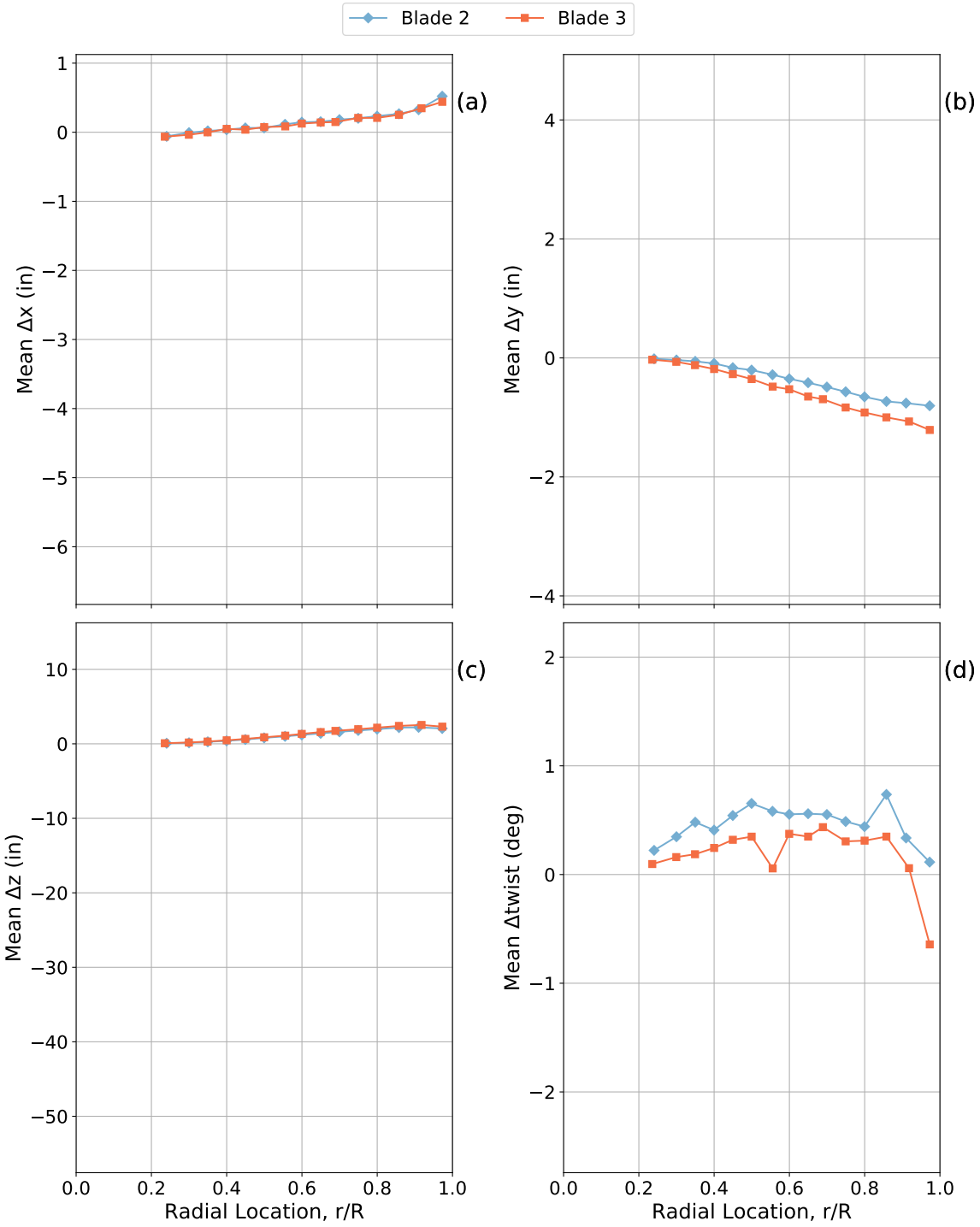


Figure 3.42-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2405	-0.0593	0.0029	-0.0152	0.0034	0.0749	0.0292	0.2223	0.0798
2	270.35	0.2999	-0.0063	0.0012	-0.0352	0.0077	0.1388	0.0642	0.3479	0.1231
2	270.35	0.3498	0.0191	0.0020	-0.0577	0.0128	0.2712	0.1071	0.4815	0.1271
2	270.35	0.3998	0.0364	0.0012	-0.0928	0.0204	0.3983	0.1689	0.4088	0.1424
2	270.35	0.4496	0.0624	0.0021	-0.1646	0.0278	0.5772	0.2379	0.5429	0.1422
2	270.35	0.4995	0.0628	0.0032	-0.2040	0.0374	0.7987	0.3226	0.6541	0.1568
2	270.35	0.5551	0.1145	0.0053	-0.2826	0.0480	1.0073	0.4253	0.5818	0.1783
2	270.35	0.5996	0.1453	0.0068	-0.3506	0.0581	1.1963	0.5180	0.5539	0.1666
2	270.35	0.6497	0.1516	0.0089	-0.4166	0.0685	1.4048	0.6233	0.5597	0.1701
2	270.35	0.6996	0.1824	0.0112	-0.4892	0.0803	1.6157	0.7335	0.5524	0.1844
2	270.35	0.7495	0.2018	0.0133	-0.5688	0.0916	1.7956	0.8472	0.4877	0.1881
2	270.35	0.7996	0.2329	0.0154	-0.6542	0.1028	1.9717	0.9578	0.4413	0.1909
2	270.35	0.8578	0.2671	0.0176	-0.7311	0.1161	2.1805	1.0903	0.7368	0.2229
2	270.35	0.9100	0.3256	0.0236	-0.7599	0.1288	2.2130	1.2051	0.3365	0.2178
2	270.35	0.9727	0.5212	0.0435	-0.8040	0.1447	2.0628	1.3477	0.1146	0.2810
3	270	0.2357	-0.0647	0.0032	-0.0295	0.0035	0.0809	0.0394	0.0966	0.0604
3	270	0.2995	-0.0364	0.0015	-0.0653	0.0086	0.1788	0.0923	0.1605	0.0961
3	270	0.3493	-0.0016	0.0014	-0.1213	0.0144	0.3031	0.1547	0.1869	0.1031
3	270	0.4000	0.0483	0.0020	-0.1867	0.0232	0.4714	0.2455	0.2446	0.0994
3	270	0.4497	0.0370	0.0020	-0.2721	0.0336	0.6623	0.3572	0.3198	0.0970
3	270	0.4997	0.0748	0.0025	-0.3557	0.0463	0.8776	0.4946	0.3485	0.1075
3	270	0.5556	0.0839	0.0047	-0.4820	0.0610	1.1004	0.6688	0.0564	0.1028
3	270	0.5995	0.1255	0.0076	-0.5266	0.0740	1.3353	0.8143	0.3744	0.1155
3	270	0.6498	0.1416	0.0106	-0.6490	0.0877	1.5788	0.9841	0.3490	0.1333
3	270	0.6890	0.1477	0.0135	-0.6941	0.0992	1.7361	1.1181	0.4358	0.1317
3	270	0.7495	0.2074	0.0178	-0.8330	0.1173	1.9653	1.3212	0.3051	0.1492
3	270	0.7998	0.2075	0.0203	-0.9172	0.1316	2.1692	1.4902	0.3119	0.1480
3	270	0.8577	0.2522	0.0240	-0.9989	0.1487	2.4059	1.6880	0.3488	0.1504
3	270	0.9178	0.3474	0.0328	-1.0680	0.1685	2.5358	1.8984	0.0583	0.1750
3	270	0.9729	0.4402	0.0477	-1.2107	0.1879	2.3058	2.1141	-0.6428	0.1197

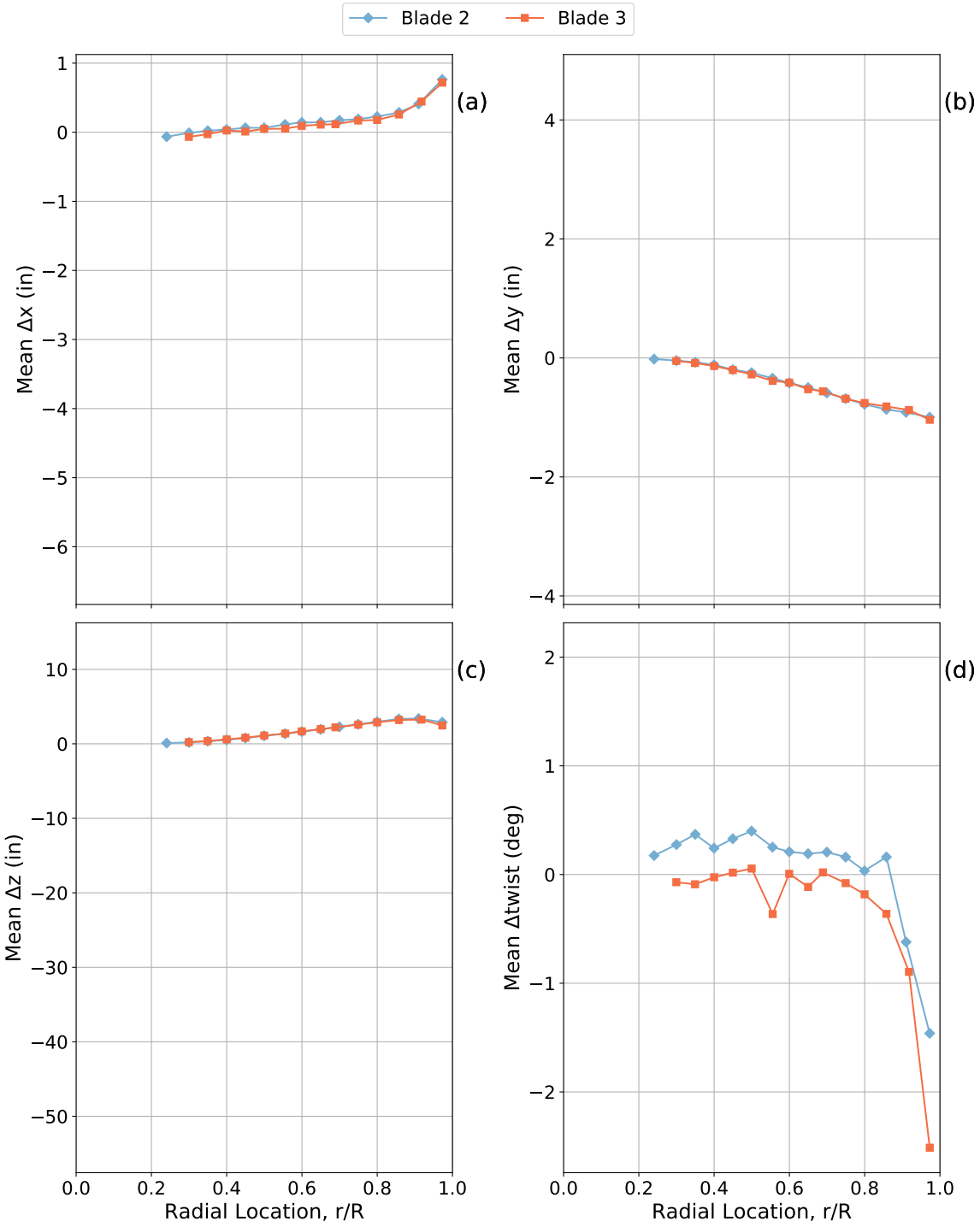


Figure 3.42-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.2405	-0.0646	0.0024	-0.0190	0.0020	0.0983	0.0184	0.1747	0.0573
2	274.92	0.2999	-0.0097	0.0018	-0.0450	0.0041	0.1896	0.0392	0.2754	0.0883
2	274.92	0.3498	0.0213	0.0013	-0.0719	0.0074	0.3591	0.0679	0.3697	0.0851
2	274.92	0.3998	0.0390	0.0027	-0.1168	0.0113	0.5359	0.1055	0.2423	0.0977
2	274.92	0.4496	0.0641	0.0021	-0.1974	0.0160	0.7770	0.1508	0.3291	0.0970
2	274.92	0.4995	0.0636	0.0027	-0.2482	0.0207	1.0729	0.2041	0.3994	0.1123
2	274.92	0.5551	0.1126	0.0042	-0.3414	0.0270	1.3620	0.2761	0.2519	0.1159
2	274.92	0.5996	0.1418	0.0051	-0.4184	0.0321	1.6316	0.3385	0.2094	0.1143
2	274.92	0.6497	0.1432	0.0073	-0.4994	0.0388	1.9414	0.4170	0.1916	0.1323
2	274.92	0.6996	0.1723	0.0093	-0.5886	0.0445	2.2834	0.5006	0.2065	0.1359
2	274.92	0.7495	0.1899	0.0113	-0.6841	0.0505	2.6224	0.5888	0.1606	0.1342
2	274.92	0.7996	0.2260	0.0134	-0.7798	0.0560	2.9603	0.6804	0.0342	0.1327
2	274.92	0.8578	0.2860	0.0170	-0.8657	0.0635	3.3366	0.7976	0.1615	0.1458
2	274.92	0.9100	0.4088	0.0210	-0.9137	0.0694	3.3906	0.8983	-0.6207	0.1453
2	274.92	0.9727	0.7632	0.0328	-0.9966	0.0771	2.8972	1.0334	-1.4611	0.1566
3	274.92	0.2995	-0.0671	0.0053	-0.0501	0.0087	0.2270	0.0610	-0.0709	0.1108
3	274.92	0.3493	-0.0278	0.0051	-0.0859	0.0149	0.3759	0.1010	-0.0894	0.1453
3	274.92	0.4000	0.0255	0.0055	-0.1369	0.0238	0.5858	0.1574	-0.0252	0.1593
3	274.92	0.4497	0.0102	0.0062	-0.2043	0.0324	0.8294	0.2250	0.0177	0.1591
3	274.92	0.4997	0.0482	0.0075	-0.2773	0.0414	1.1037	0.3052	0.0549	0.1514
3	274.92	0.5556	0.0515	0.0102	-0.3855	0.0528	1.3809	0.4095	-0.3636	0.1595
3	274.92	0.5995	0.0926	0.0118	-0.4151	0.0618	1.6774	0.4994	0.0067	0.1633
3	274.92	0.6498	0.1103	0.0156	-0.5258	0.0722	1.9762	0.6146	-0.1142	0.1715
3	274.92	0.6890	0.1163	0.0181	-0.5621	0.0799	2.2118	0.7038	0.0197	0.1628
3	274.92	0.7495	0.1696	0.0211	-0.6857	0.0922	2.5773	0.8470	-0.0789	0.1742
3	274.92	0.7998	0.1770	0.0246	-0.7583	0.1034	2.8876	0.9709	-0.1823	0.1635
3	274.92	0.8577	0.2565	0.0293	-0.8162	0.1160	3.1980	1.1082	-0.3616	0.1591
3	274.92	0.9178	0.4440	0.0394	-0.8756	0.1311	3.2555	1.2524	-0.8954	0.1452
3	274.92	0.9729	0.7183	0.0664	-1.0402	0.1456	2.4714	1.3950	-2.5130	0.1919

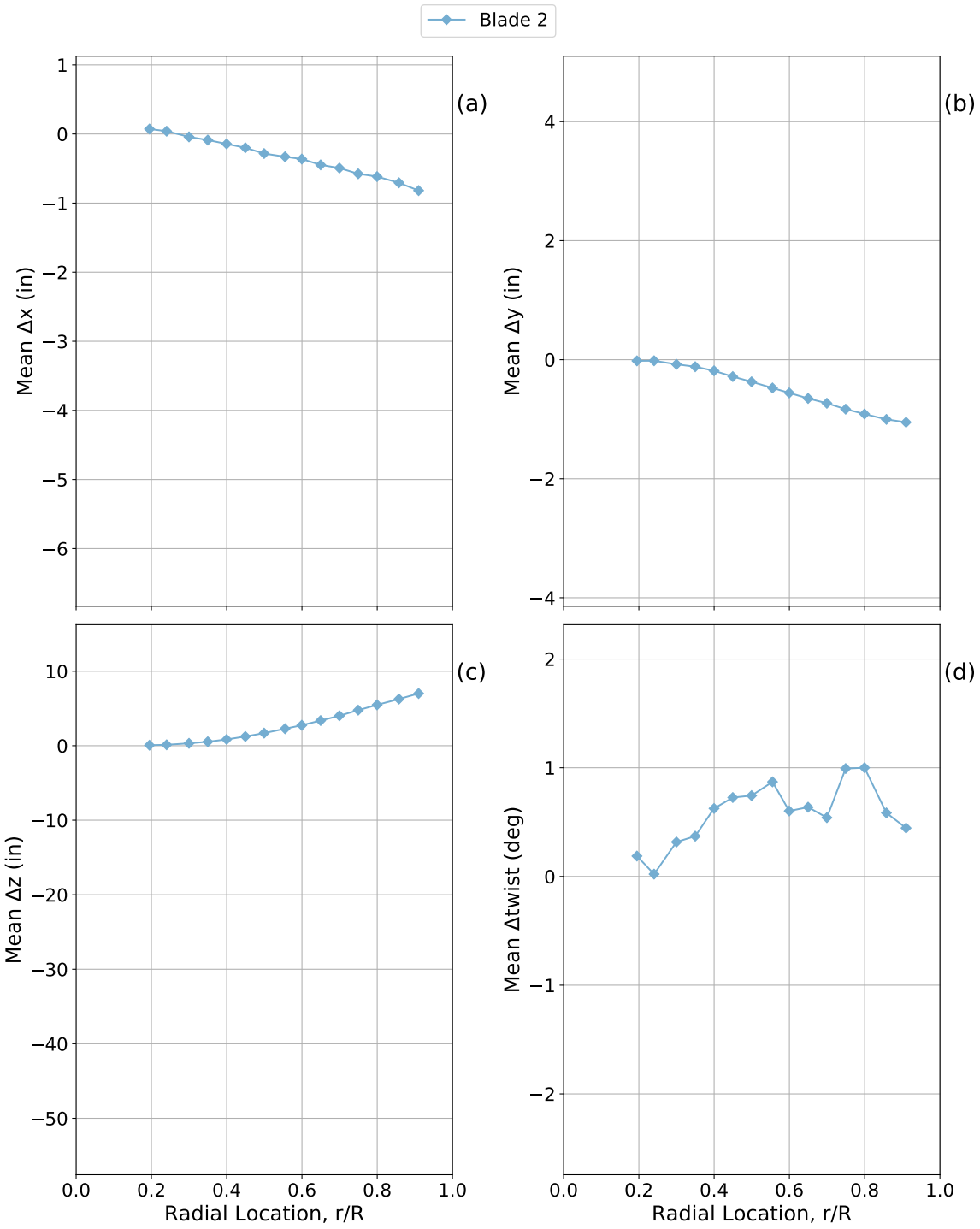


Figure 3.42-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0718	0.0033	-0.0195	0.0032	0.0714	0.0177	0.1879	0.0355
2	285.12	0.2405	0.0402	0.0017	-0.0177	0.0065	0.1274	0.0372	0.0217	0.0734
2	285.12	0.2999	-0.0421	0.0032	-0.0775	0.0167	0.3218	0.0848	0.3171	0.0903
2	285.12	0.3498	-0.0878	0.0030	-0.1178	0.0254	0.5401	0.1433	0.3707	0.0794
2	285.12	0.3998	-0.1440	0.0070	-0.1862	0.0422	0.8462	0.2264	0.6253	0.0965
2	285.12	0.4496	-0.1996	0.0074	-0.2834	0.0557	1.2440	0.3191	0.7263	0.1076
2	285.12	0.4995	-0.2832	0.0105	-0.3710	0.0740	1.6965	0.4261	0.7439	0.1489
2	285.12	0.5551	-0.3296	0.0178	-0.4746	0.0935	2.2839	0.5421	0.8702	0.1097
2	285.12	0.5996	-0.3631	0.0227	-0.5575	0.1097	2.7507	0.6371	0.6021	0.1333
2	285.12	0.6497	-0.4473	0.0274	-0.6501	0.1282	3.3774	0.7379	0.6372	0.1367
2	285.12	0.6996	-0.4935	0.0330	-0.7312	0.1475	4.0237	0.8355	0.5407	0.1519
2	285.12	0.7495	-0.5765	0.0373	-0.8305	0.1672	4.7758	0.9241	0.9924	0.1465
2	285.12	0.7996	-0.6171	0.0436	-0.9115	0.1885	5.4809	1.0241	1.0001	0.2012
2	285.12	0.8578	-0.7066	0.0465	-1.0024	0.2102	6.2642	1.1247	0.5845	0.1314
2	285.12	0.9100	-0.8191	0.0516	-1.0509	0.2313	7.0075	1.2420	0.4453	0.2175

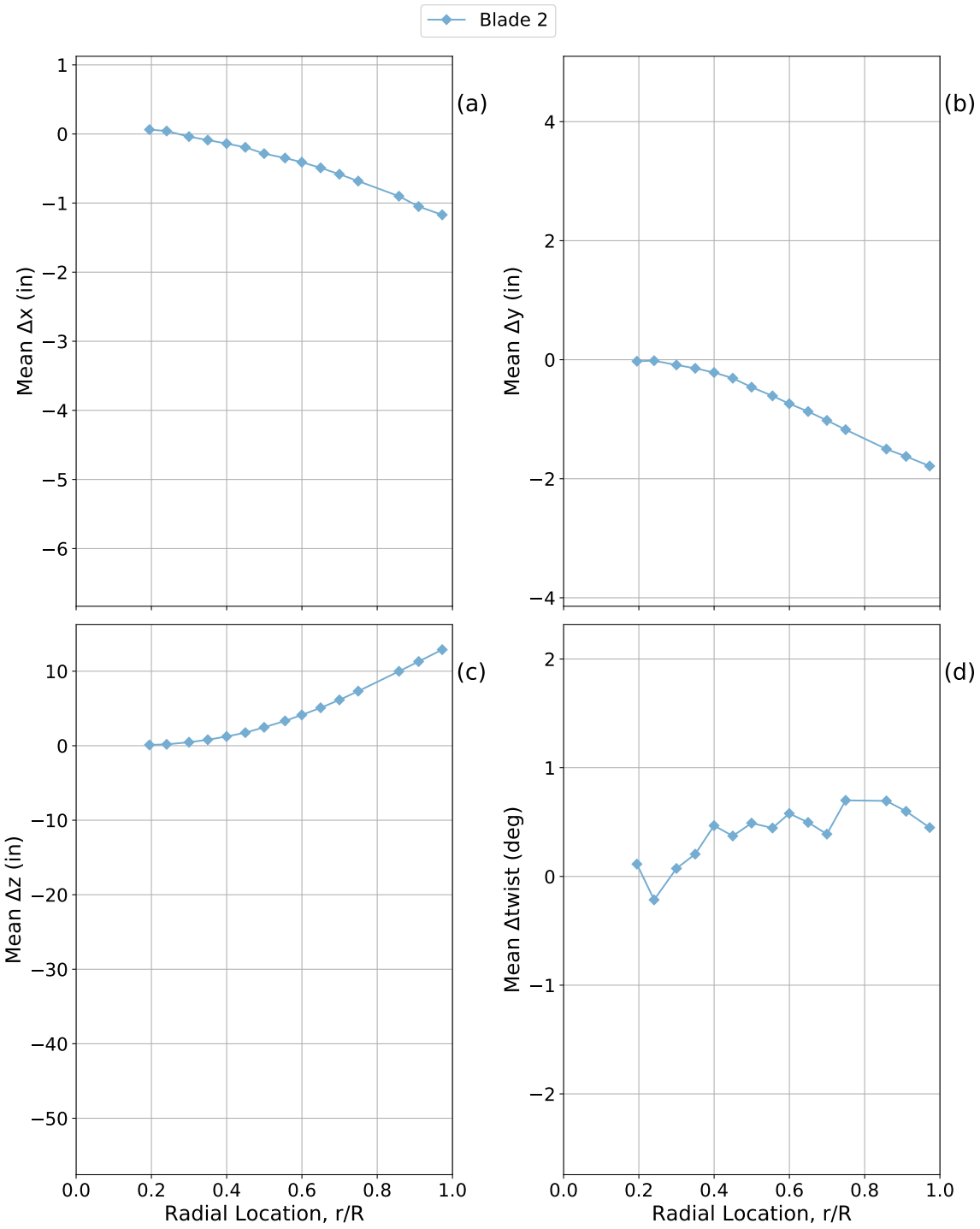


Figure 3.42-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0629	0.0040	-0.0257	0.0026	0.1056	0.0168	0.1137	0.0505
2	299.88	0.2405	0.0429	0.0033	-0.0168	0.0054	0.1840	0.0322	-0.2151	0.0691
2	299.88	0.2999	-0.0383	0.0033	-0.0881	0.0102	0.4649	0.0744	0.0737	0.1130
2	299.88	0.3498	-0.0883	0.0055	-0.1443	0.0184	0.7985	0.1308	0.2055	0.1337
2	299.88	0.3998	-0.1392	0.0039	-0.2151	0.0281	1.2360	0.2011	0.4677	0.1340
2	299.88	0.4496	-0.1930	0.0054	-0.3104	0.0372	1.7500	0.2841	0.3724	0.1519
2	299.88	0.4995	-0.2843	0.0084	-0.4614	0.0496	2.4679	0.3856	0.4906	0.1452
2	299.88	0.5551	-0.3482	0.0158	-0.6079	0.0657	3.3292	0.5107	0.4456	0.1484
2	299.88	0.5996	-0.4086	0.0244	-0.7394	0.0782	4.1322	0.6224	0.5791	0.1771
2	299.88	0.6497	-0.4903	0.0321	-0.8701	0.0930	5.0900	0.7482	0.4968	0.1833
2	299.88	0.6996	-0.5827	0.0423	-1.0199	0.1100	6.1501	0.8768	0.3896	0.1921
2	299.88	0.7495	-0.6817	0.0527	-1.1753	0.1277	7.3246	1.0031	0.6999	0.1664
2	299.88	0.8578	-0.9005	0.0746	-1.5015	0.1651	9.9828	1.2576	0.6948	0.2060
2	299.88	0.9100	-1.0503	0.0862	-1.6254	0.1847	11.3002	1.3686	0.5991	0.1987
2	299.88	0.9727	-1.1703	0.1053	-1.7866	0.2090	12.8924	1.5013	0.4495	0.2047

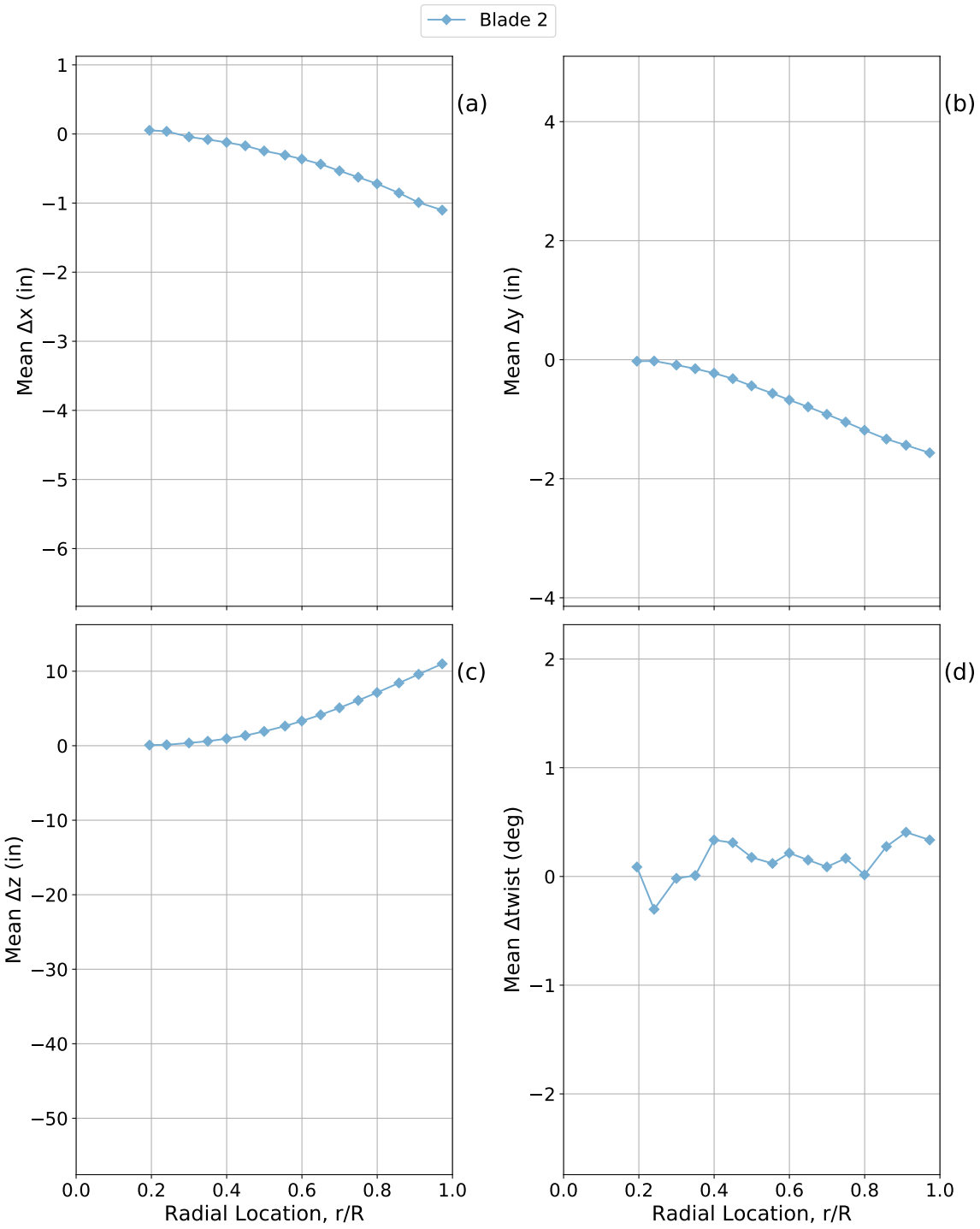


Figure 3.42-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0530	0.0037	-0.0250	0.0016	0.0836	0.0052	0.0871	0.0243
2	315	0.2405	0.0382	0.0032	-0.0220	0.0025	0.1253	0.0109	-0.3021	0.0753
2	315	0.2999	-0.0420	0.0025	-0.0897	0.0059	0.3680	0.0220	-0.0177	0.0669
2	315	0.3498	-0.0807	0.0057	-0.1516	0.0109	0.6034	0.0384	0.0088	0.1067
2	315	0.3998	-0.1216	0.0050	-0.2263	0.0157	0.9489	0.0594	0.3351	0.1223
2	315	0.4496	-0.1708	0.0046	-0.3190	0.0178	1.3702	0.0720	0.3104	0.1450
2	315	0.4995	-0.2453	0.0051	-0.4387	0.0212	1.9192	0.0909	0.1755	0.1417
2	315	0.5551	-0.3056	0.0038	-0.5660	0.0231	2.6350	0.1119	0.1195	0.1324
2	315	0.5996	-0.3626	0.0069	-0.6760	0.0270	3.3155	0.1260	0.2153	0.1258
2	315	0.6497	-0.4370	0.0054	-0.7925	0.0303	4.1485	0.1431	0.1510	0.1539
2	315	0.6996	-0.5336	0.0066	-0.9178	0.0329	5.0829	0.1699	0.0883	0.1539
2	315	0.7495	-0.6259	0.0086	-1.0473	0.0372	6.0825	0.1982	0.1665	0.1482
2	315	0.7996	-0.7208	0.0107	-1.1843	0.0423	7.1350	0.2343	0.0148	0.1629
2	315	0.8578	-0.8539	0.0146	-1.3332	0.0479	8.4197	0.2841	0.2753	0.1525
2	315	0.9100	-0.9920	0.0189	-1.4364	0.0542	9.5853	0.3405	0.4068	0.1666
2	315	0.9727	-1.1016	0.0253	-1.5645	0.0609	10.9895	0.4127	0.3355	0.1670

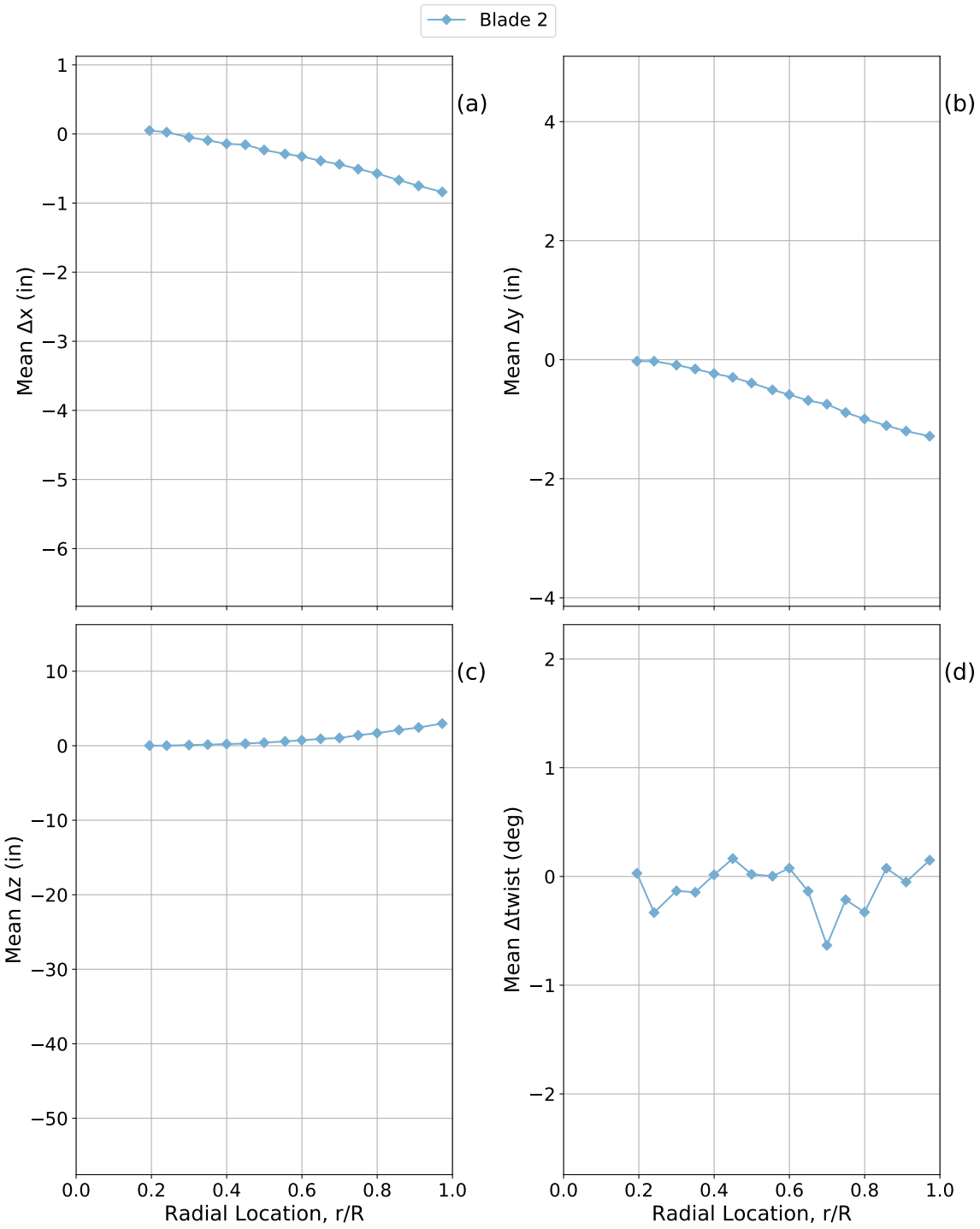


Figure 3.42-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0491	0.0028	-0.0244	0.0023	0.0218	0.0114	0.0289	0.0328
2	330.12	0.2405	0.0260	0.0029	-0.0251	0.0045	0.0133	0.0228	-0.3323	0.0523
2	330.12	0.2999	-0.0484	0.0019	-0.0902	0.0100	0.0921	0.0545	-0.1327	0.0766
2	330.12	0.3498	-0.0932	0.0042	-0.1561	0.0177	0.1440	0.0928	-0.1457	0.0742
2	330.12	0.3998	-0.1422	0.0062	-0.2327	0.0271	0.2282	0.1463	0.0154	0.0905
2	330.12	0.4496	-0.1553	0.0054	-0.2969	0.0380	0.2880	0.2063	0.1644	0.0865
2	330.12	0.4995	-0.2318	0.0057	-0.3923	0.0486	0.4076	0.2519	0.0200	0.0952
2	330.12	0.5551	-0.2888	0.0065	-0.5066	0.0580	0.5812	0.2997	0.0026	0.1105
2	330.12	0.5996	-0.3253	0.0095	-0.5868	0.0683	0.7305	0.3333	0.0760	0.1309
2	330.12	0.6497	-0.3894	0.0095	-0.6851	0.0760	0.9179	0.3484	-0.1356	0.1570
2	330.12	0.6996	-0.4392	0.0097	-0.7468	0.0864	1.0389	0.3634	-0.6336	0.1285
2	330.12	0.7495	-0.5081	0.0120	-0.8875	0.0951	1.4027	0.3762	-0.2139	0.1233
2	330.12	0.7996	-0.5715	0.0113	-0.9941	0.1057	1.6920	0.4044	-0.3288	0.1525
2	330.12	0.8578	-0.6682	0.0119	-1.1071	0.1179	2.1071	0.4711	0.0752	0.1283
2	330.12	0.9100	-0.7505	0.0129	-1.1996	0.1286	2.4437	0.5527	-0.0510	0.1434
2	330.12	0.9727	-0.8386	0.0172	-1.2850	0.1421	2.9710	0.6715	0.1495	0.1369

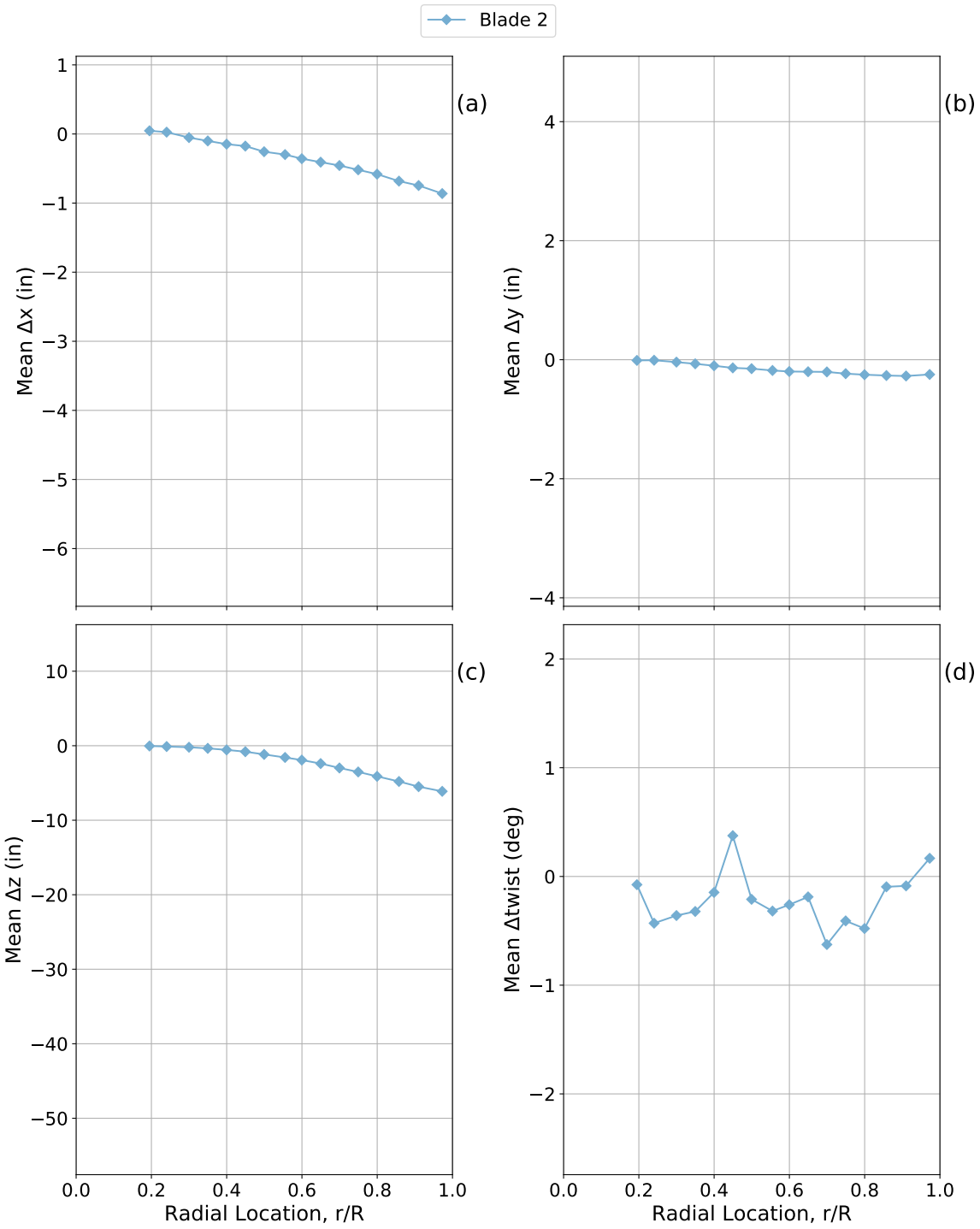


Figure 3.42-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0463	0.0035	-0.0114	0.0011	-0.0398	0.0072	-0.0755	0.0572
2	344.88	0.2405	0.0265	0.0036	-0.0089	0.0032	-0.1089	0.0165	-0.4301	0.0773
2	344.88	0.2999	-0.0521	0.0034	-0.0403	0.0066	-0.2048	0.0326	-0.3595	0.1300
2	344.88	0.3498	-0.1005	0.0044	-0.0686	0.0094	-0.3542	0.0623	-0.3219	0.0833
2	344.88	0.3998	-0.1472	0.0076	-0.1016	0.0166	-0.5613	0.0939	-0.1468	0.0919
2	344.88	0.4496	-0.1753	0.0066	-0.1373	0.0228	-0.8001	0.1345	0.3751	0.1050
2	344.88	0.4995	-0.2567	0.0077	-0.1505	0.0311	-1.1688	0.1824	-0.2103	0.1294
2	344.88	0.5551	-0.2982	0.0100	-0.1806	0.0334	-1.5772	0.2458	-0.3181	0.0985
2	344.88	0.5996	-0.3576	0.0092	-0.1983	0.0411	-1.9264	0.3010	-0.2599	0.0776
2	344.88	0.6497	-0.4079	0.0111	-0.2018	0.0479	-2.3955	0.3769	-0.1877	0.0781
2	344.88	0.6996	-0.4564	0.0131	-0.2048	0.0580	-2.9846	0.4569	-0.6262	0.0981
2	344.88	0.7495	-0.5188	0.0169	-0.2342	0.0643	-3.5195	0.5343	-0.4087	0.0809
2	344.88	0.7996	-0.5814	0.0202	-0.2517	0.0734	-4.1111	0.6229	-0.4788	0.0965
2	344.88	0.8578	-0.6824	0.0250	-0.2657	0.0823	-4.8022	0.7373	-0.0952	0.0869
2	344.88	0.9100	-0.7459	0.0285	-0.2737	0.0907	-5.4940	0.8420	-0.0867	0.0983
2	344.88	0.9727	-0.8623	0.0341	-0.2479	0.1008	-6.1235	0.9664	0.1671	0.0920

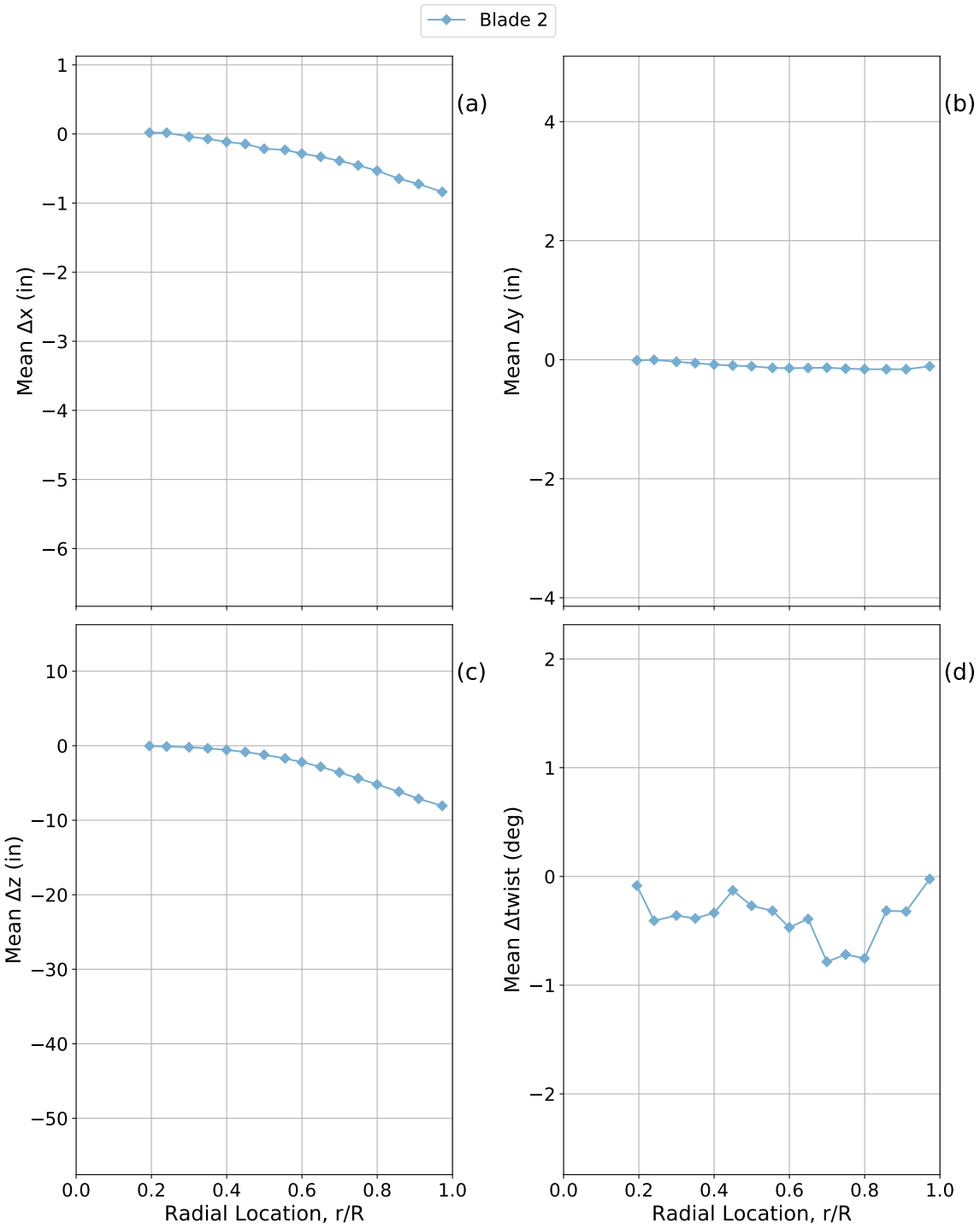


Figure 3.42-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0186	0.0020	-0.0121	0.0014	-0.0406	0.0073	-0.0845	0.0349
2	350.16	0.2405	0.0179	0.0022	-0.0019	0.0031	-0.1097	0.0140	-0.4071	0.0488
2	350.16	0.2999	-0.0387	0.0020	-0.0353	0.0062	-0.2078	0.0339	-0.3596	0.0786
2	350.16	0.3498	-0.0713	0.0029	-0.0573	0.0091	-0.3567	0.0579	-0.3862	0.0809
2	350.16	0.3998	-0.1145	0.0030	-0.0820	0.0155	-0.5663	0.0908	-0.3349	0.0717
2	350.16	0.4496	-0.1447	0.0067	-0.0988	0.0202	-0.8389	0.1293	-0.1287	0.1035
2	350.16	0.4995	-0.2141	0.0051	-0.1103	0.0265	-1.2090	0.1741	-0.2701	0.1198
2	350.16	0.5551	-0.2295	0.0060	-0.1376	0.0342	-1.7093	0.2216	-0.3157	0.0742
2	350.16	0.5996	-0.2838	0.0090	-0.1421	0.0390	-2.1968	0.2670	-0.4688	0.0842
2	350.16	0.6497	-0.3300	0.0100	-0.1388	0.0467	-2.8253	0.3137	-0.3910	0.0892
2	350.16	0.6996	-0.3889	0.0123	-0.1340	0.0542	-3.5915	0.3672	-0.7848	0.0909
2	350.16	0.7495	-0.4551	0.0157	-0.1500	0.0625	-4.3740	0.4207	-0.7179	0.1265
2	350.16	0.7996	-0.5319	0.0185	-0.1589	0.0712	-5.2016	0.4810	-0.7536	0.1124
2	350.16	0.8578	-0.6475	0.0229	-0.1605	0.0812	-6.1689	0.5534	-0.3153	0.1089
2	350.16	0.9100	-0.7238	0.0282	-0.1603	0.0903	-7.1253	0.6171	-0.3222	0.1111
2	350.16	0.9727	-0.8380	0.0297	-0.1111	0.1007	-8.0661	0.7013	-0.0231	0.0873

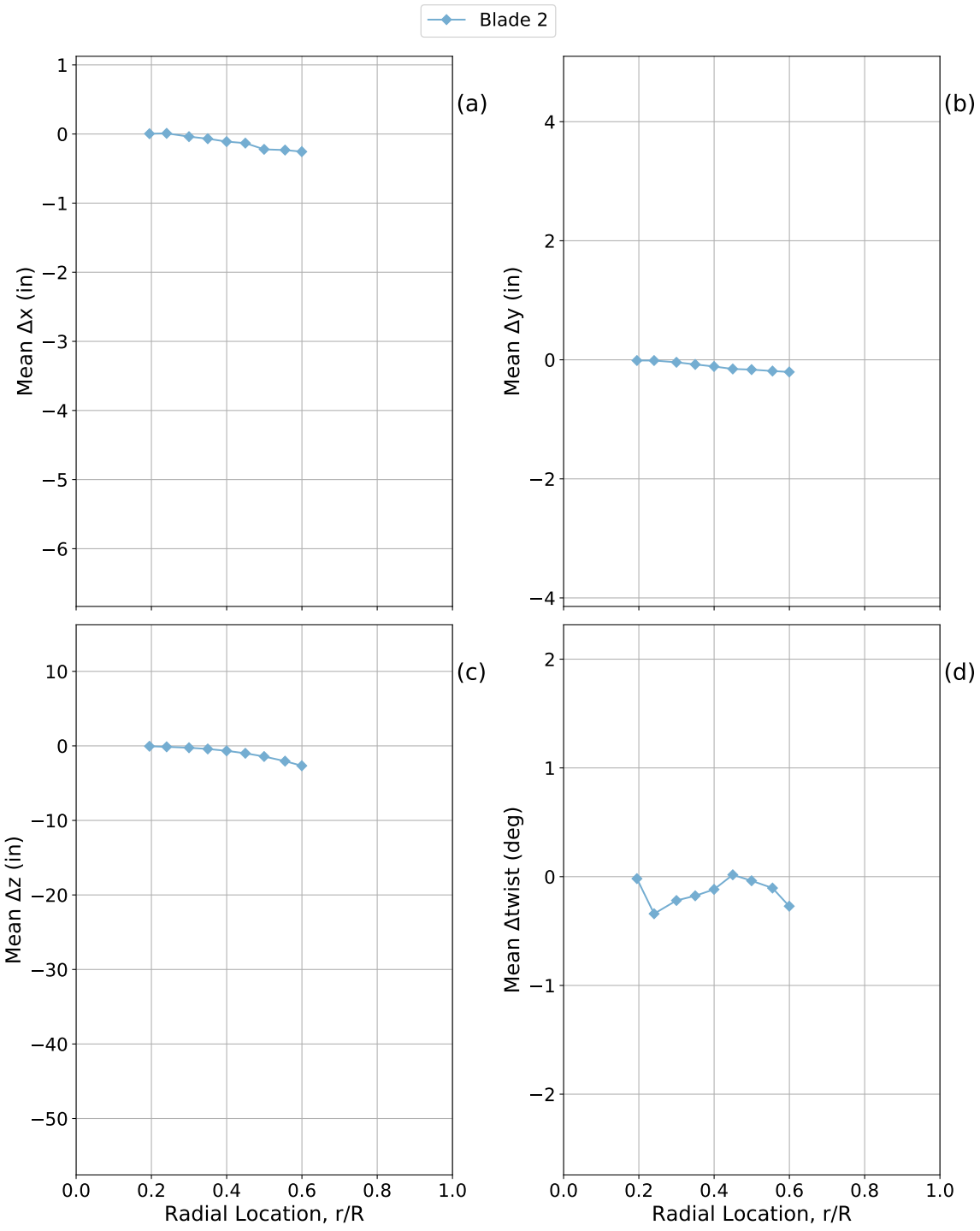


Figure 3.42-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.019, μ = 0.999, α = -0° NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Table 3.42-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.019, μ = 0.999, α = -0°
NFAC run 91, point 67. BD run 42, points 7444 to 7454.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0045	0.0343	-0.0119	0.0034	-0.0479	0.0073	-0.0181	0.0400
2	355.08	0.2405	0.0096	0.0154	-0.0124	0.0059	-0.1261	0.0152	-0.3411	0.0996
2	355.08	0.2999	-0.0382	0.0146	-0.0418	0.0159	-0.2488	0.0348	-0.2191	0.1109
2	355.08	0.3498	-0.0679	0.0343	-0.0778	0.0252	-0.4114	0.0579	-0.1760	0.1155
2	355.08	0.3998	-0.1099	0.0542	-0.1122	0.0407	-0.6634	0.0925	-0.1170	0.1151
2	355.08	0.4496	-0.1318	0.0736	-0.1539	0.0537	-0.9923	0.1274	0.0172	0.1401
2	355.08	0.4995	-0.2218	0.0923	-0.1646	0.0761	-1.4241	0.1786	-0.0377	0.1409
2	355.08	0.5551	-0.2321	0.1110	-0.1889	0.1022	-2.0480	0.2371	-0.1047	0.1567
2	355.08	0.5996	-0.2552	0.1288	-0.2043	0.1270	-2.6662	0.2920	-0.2717	0.1661

3.43 Run 91, Point 74

3.43.1 Pitch, Flap, and Lag

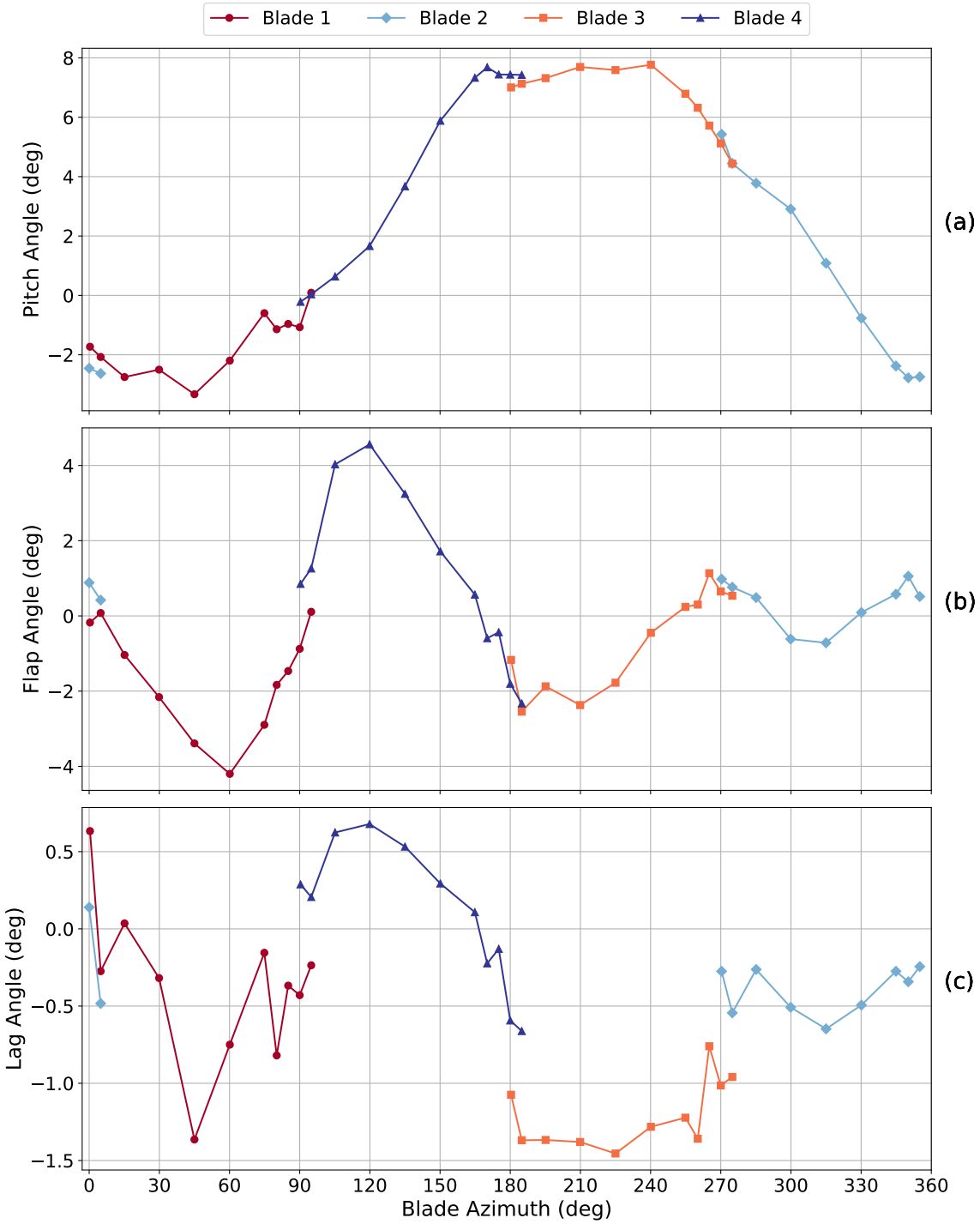


Figure 3.43-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	-2.4546	0.8834	0.1400	0.3672	0.3629	0.1480
0.35	1	-1.7296	-0.1767	0.6332	0.7223	0.3207	0.2938
4.92	1	-2.0741	0.0760	-0.2742	0.2460	0.5168	0.2666
4.92	2	-2.6310	0.4200	-0.4832	0.1305	0.2178	0.1105
15.12	1	-2.7505	-1.0388	0.0356	0.1414	0.1445	0.1130
29.88	1	-2.5011	-2.1590	-0.3185	0.2361	0.5347	0.0941
45	1	-3.3295	-3.3897	-1.3642	0.1933	0.2423	0.0793
60.12	1	-2.1972	-4.2003	-0.7499	0.3874	0.2119	0.1900
74.88	1	-0.5991	-2.8960	-0.1548	0.2386	0.3417	0.1106
80.16	1	-1.1404	-1.8350	-0.8197	0.5432	0.4972	0.2208
85.08	1	-0.9615	-1.4649	-0.3675	0.8214	0.5090	0.1821
90	1	-1.0728	-0.8751	-0.4294	1.9524	0.7920	0.1175
90.35	4	-0.2171	0.8507	0.2880	0.0830	0.4406	0.0892
94.92	1	0.0898	0.1087	-0.2360	0.0499	0.2843	0.0944
94.92	4	0.0356	1.2614	0.2062	0.0922	0.4102	0.1128
105.12	4	0.6350	4.0287	0.6241	0.0632	0.2948	0.0684
119.88	4	1.6617	4.5604	0.6789	0.0991	0.7361	0.0768
135	4	3.6732	3.2451	0.5323	0.0655	0.6292	0.0899
150.12	4	5.8817	1.7148	0.2937	0.1737	0.7906	0.1294
164.88	4	7.3296	0.5655	0.1077	0.1559	0.7117	0.0915
170.16	4	7.6826	-0.5940	-0.2237	0.3892	1.6789	0.2439
175.08	4	7.4401	-0.4349	-0.1297	0.1606	1.1880	0.1651
180	4	7.4363	-1.8046	-0.5933	0.3221	1.0839	0.1356
180.35	3	7.0047	-1.1701	-1.0742	0.0946	0.6211	0.0763
184.92	3	7.1278	-2.5453	-1.3690	0.0873	0.7820	0.1459
184.92	4	7.4250	-2.3291	-0.6619	0.0876	0.6604	0.1250
195.12	3	7.3173	-1.8718	-1.3671	0.1265	0.5888	0.1384
209.88	3	7.6937	-2.3715	-1.3802	0.0470	0.7024	0.1314
225	3	7.5885	-1.7770	-1.4548	0.0727	0.7972	0.2022
240.12	3	7.7677	-0.4492	-1.2819	0.0679	0.7831	0.1396
254.88	3	6.7905	0.2397	-1.2227	0.1236	0.3511	0.0915
260.16	3	6.3195	0.3010	-1.3592	0.1794	0.8572	0.3077
265.08	3	5.7192	1.1352	-0.7603	0.1109	0.3914	0.0856
270	3	5.1191	0.6491	-1.0142	0.2118	0.5195	0.1115
270.35	2	5.4261	0.9778	-0.2748	0.2551	0.3627	0.1410
274.92	2	4.4448	0.7636	-0.5441	0.1188	0.2818	0.2275
274.92	3	4.4366	0.5364	-0.9589	0.1592	0.3222	0.0764
285.12	2	3.7782	0.4871	-0.2630	0.1498	0.2789	0.1116
299.88	2	2.9078	-0.6160	-0.5081	0.0951	0.1547	0.1500
315	2	1.0841	-0.7147	-0.6479	0.0841	0.1227	0.1634
330.12	2	-0.7662	0.0912	-0.4937	0.1136	0.2895	0.1597
344.88	2	-2.3777	0.5774	-0.2746	0.1651	0.2609	0.1314
350.16	2	-2.7765	1.0557	-0.3426	0.4217	0.7854	0.3650
355.08	2	-2.7427	0.5141	-0.2443	0.1217	0.3874	0.1807

3.43.2 Spanwise Elastic Deformations

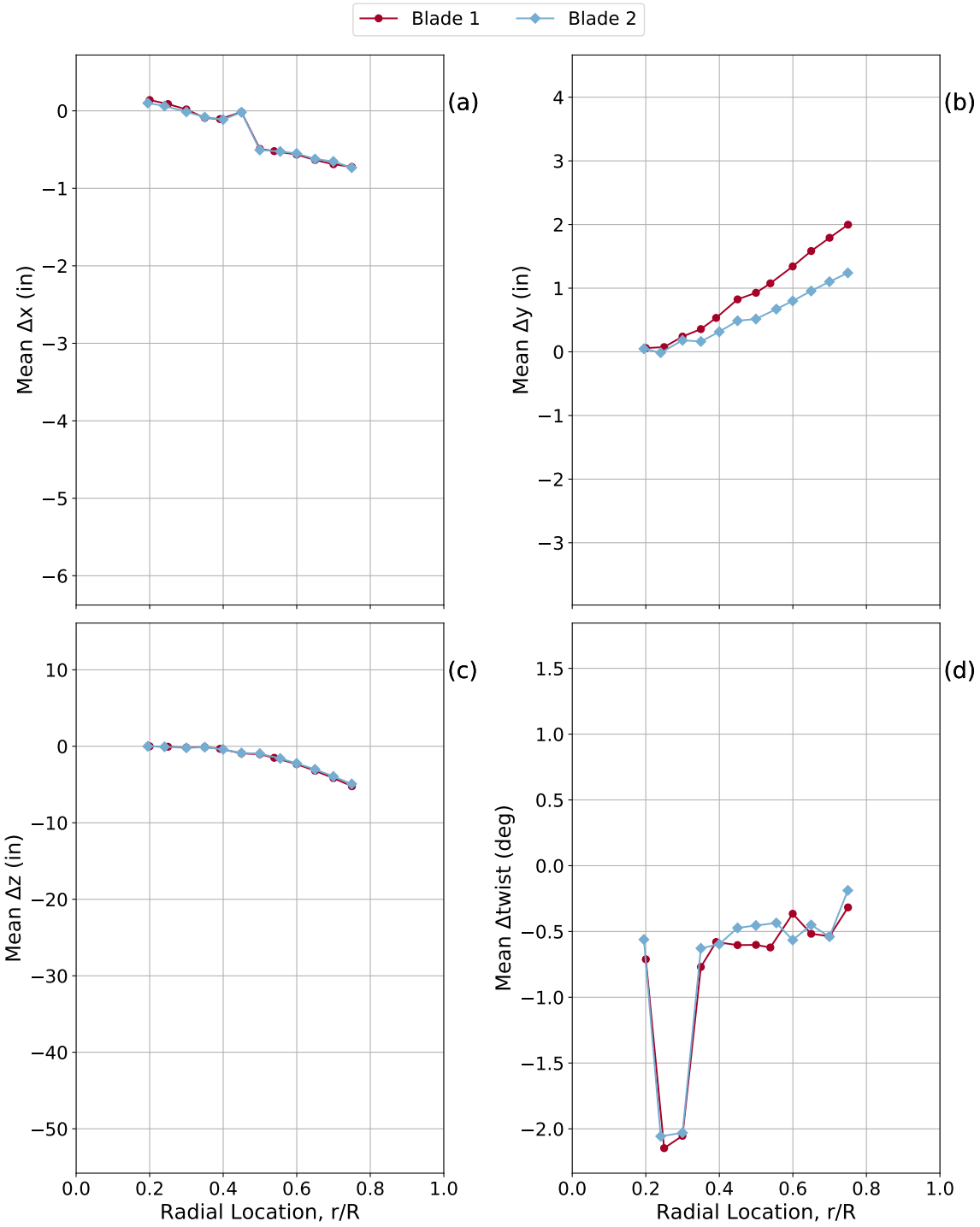


Figure 3.43-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.1393	0.0620	0.0585	0.0177	-0.0015	0.0544	-0.7114	0.6170
1	0.35	0.2499	0.0876	0.0260	0.0740	0.0237	-0.0618	0.1022	-2.1470	1.5194
1	0.35	0.2998	0.0186	0.0203	0.2394	0.0763	-0.1628	0.1679	-2.0533	1.6398
1	0.35	0.3498	-0.0910	0.0631	0.3567	0.1052	-0.1040	0.4417	-0.7698	0.6806
1	0.35	0.3913	-0.1059	0.0926	0.5329	0.1569	-0.3259	0.5239	-0.5802	0.7004
1	0.35	0.4496	-0.0160	0.1455	0.8239	0.2437	-0.9246	0.6526	-0.6036	0.7075
1	0.35	0.4997	-0.4908	0.2622	0.9275	0.2755	-1.0392	0.9249	-0.6021	0.6507
1	0.35	0.5387	-0.5199	0.2786	1.0756	0.3376	-1.5009	1.0169	-0.6218	0.6796
1	0.35	0.5996	-0.5643	0.3022	1.3413	0.4424	-2.3262	1.1658	-0.3654	0.6576
1	0.35	0.6498	-0.6346	0.3193	1.5835	0.5313	-3.2038	1.2847	-0.5176	0.6626
1	0.35	0.6998	-0.6892	0.3340	1.7914	0.6181	-4.1563	1.4045	-0.5363	0.6377
1	0.35	0.7500	-0.7234	0.3469	1.9970	0.7071	-5.2264	1.5168	-0.3170	0.6282
2	0	0.1949	0.1003	0.0758	0.0477	0.0103	0.0003	0.0381	-0.5613	0.3550
2	0	0.2405	0.0627	0.0343	-0.0142	0.0178	-0.0688	0.0609	-2.0568	0.9381
2	0	0.2999	-0.0133	0.0215	0.1810	0.0376	-0.2030	0.1130	-2.0303	1.0686
2	0	0.3498	-0.0813	0.0740	0.1621	0.0830	-0.1186	0.3066	-0.6280	0.4082
2	0	0.3998	-0.1124	0.1242	0.3148	0.1106	-0.4013	0.3880	-0.5962	0.4004
2	0	0.4496	-0.0184	0.1841	0.4876	0.1405	-0.8763	0.4771	-0.4729	0.4278
2	0	0.4995	-0.5055	0.3794	0.5152	0.2402	-0.9587	1.0777	-0.4545	0.3574
2	0	0.5551	-0.5246	0.4057	0.6711	0.2925	-1.5926	1.2444	-0.4354	0.3529
2	0	0.5996	-0.5498	0.4273	0.7995	0.3391	-2.2261	1.3757	-0.5653	0.3605
2	0	0.6497	-0.6215	0.4453	0.9554	0.3900	-3.0130	1.5175	-0.4504	0.3562
2	0	0.6996	-0.6528	0.4626	1.1018	0.4438	-3.9412	1.6541	-0.5401	0.3565
2	0	0.7495	-0.7334	0.4757	1.2398	0.4979	-4.9209	1.7857	-0.1880	0.3469

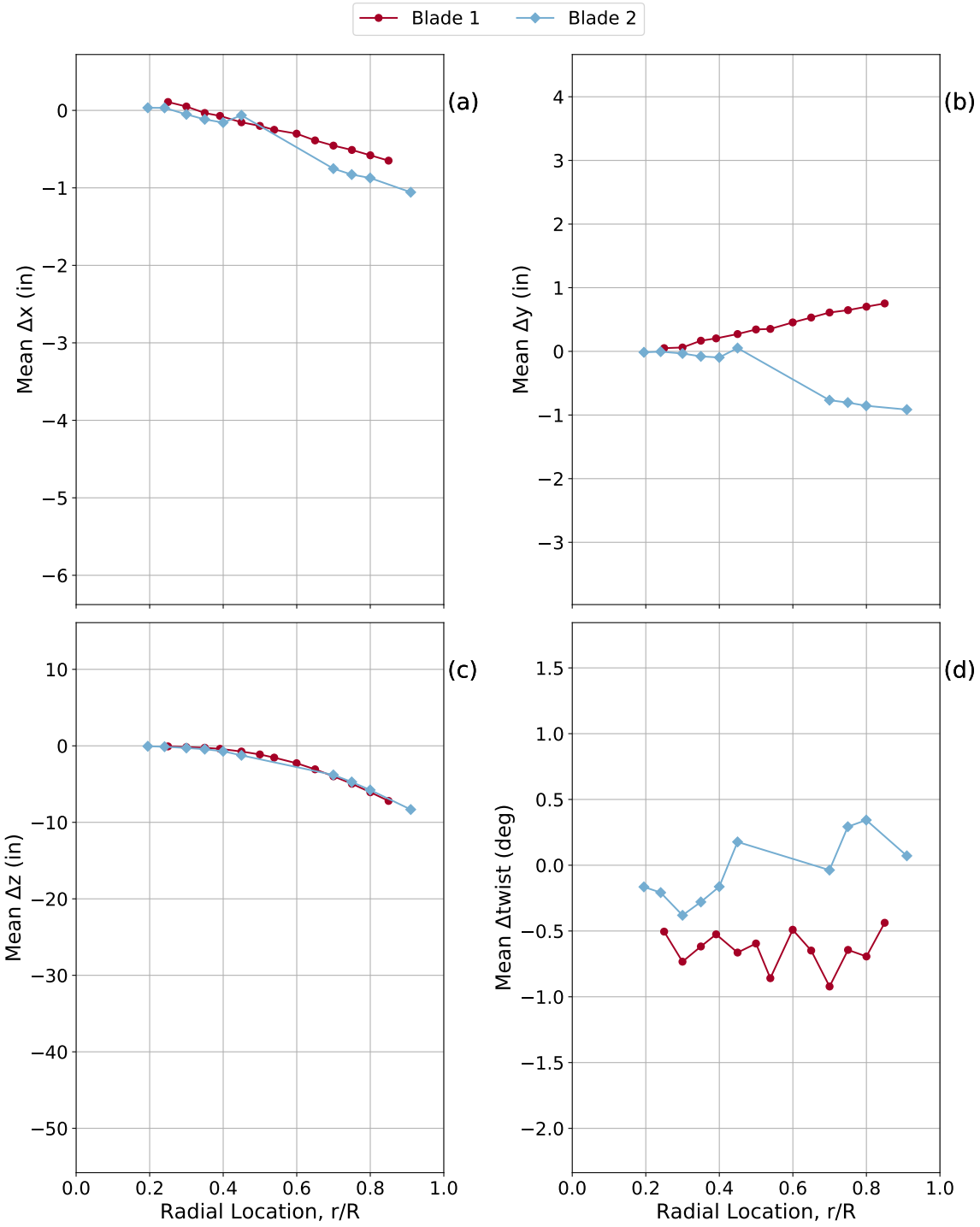


Figure 3.43-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2499	0.1080	0.0122	0.0505	0.0193	-0.0726	0.0512	-0.5046	0.1821
1	4.92	0.2998	0.0499	0.0074	0.0606	0.0356	-0.1630	0.0997	-0.7331	0.2617
1	4.92	0.3498	-0.0334	0.0090	0.1675	0.0652	-0.2485	0.1672	-0.6176	0.1995
1	4.92	0.3913	-0.0711	0.0118	0.2037	0.0936	-0.3902	0.2469	-0.5252	0.2403
1	4.92	0.4496	-0.1536	0.0117	0.2720	0.1276	-0.7416	0.3671	-0.6638	0.2336
1	4.92	0.4997	-0.2000	0.0127	0.3438	0.1602	-1.1261	0.4816	-0.5950	0.2521
1	4.92	0.5387	-0.2507	0.0145	0.3527	0.1843	-1.5372	0.5732	-0.8587	0.2270
1	4.92	0.5996	-0.3005	0.0180	0.4547	0.2262	-2.2724	0.7038	-0.4904	0.2309
1	4.92	0.6498	-0.3874	0.0211	0.5314	0.2598	-3.0685	0.8006	-0.6485	0.2347
1	4.92	0.6998	-0.4546	0.0247	0.6103	0.2906	-3.9856	0.8810	-0.9218	0.2240
1	4.92	0.7500	-0.5107	0.0296	0.6473	0.3242	-4.9609	0.9487	-0.6436	0.2514
1	4.92	0.8001	-0.5794	0.0327	0.7018	0.3649	-6.0628	0.9974	-0.6935	0.2871
1	4.92	0.8497	-0.6485	0.0384	0.7523	0.3977	-7.1999	1.0375	-0.4375	0.2426
2	4.92	0.1949	0.0336	0.0219	-0.0149	0.0051	-0.0563	0.0059	-0.1647	0.0462
2	4.92	0.2405	0.0324	0.0077	-0.0047	0.0092	-0.1156	0.0142	-0.2080	0.0708
2	4.92	0.2999	-0.0514	0.0139	-0.0335	0.0230	-0.2795	0.0302	-0.3806	0.1059
2	4.92	0.3498	-0.1159	0.0305	-0.0792	0.0389	-0.4355	0.0502	-0.2792	0.0999
2	4.92	0.3998	-0.1573	0.0480	-0.0959	0.0611	-0.7126	0.0813	-0.1632	0.1054
2	4.92	0.4496	-0.0634	0.0638	0.0523	0.0891	-1.2404	0.1244	0.1772	0.1097
2	4.92	0.6996	-0.7517	0.2021	-0.7671	0.3314	-3.8026	0.5473	-0.0369	0.1471
2	4.92	0.7495	-0.8281	0.2066	-0.8046	0.3683	-4.7215	0.5874	0.2928	0.1613
2	4.92	0.7996	-0.8722	0.2103	-0.8551	0.4124	-5.7701	0.6292	0.3433	0.1548
2	4.92	0.9100	-1.0564	0.2143	-0.9148	0.5287	-8.3242	0.7173	0.0714	0.1816

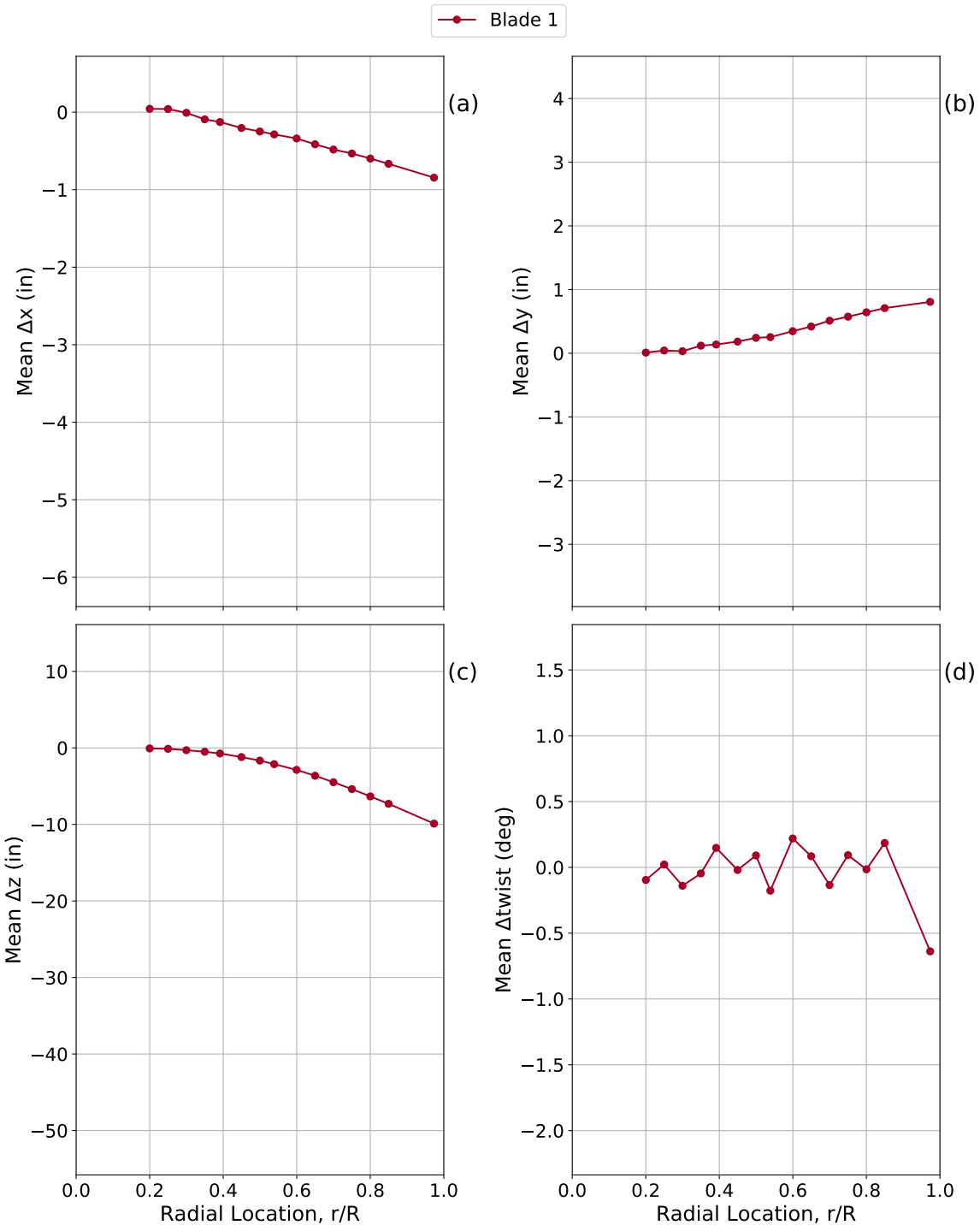


Figure 3.43-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0426	0.0067	0.0099	0.0028	-0.0701	0.0126	-0.0958	0.0637
1	15.12	0.2499	0.0404	0.0035	0.0433	0.0064	-0.1172	0.0292	0.0215	0.1282
1	15.12	0.2998	-0.0084	0.0040	0.0317	0.0112	-0.3005	0.0604	-0.1400	0.1526
1	15.12	0.3498	-0.0929	0.0048	0.1189	0.0191	-0.4996	0.0987	-0.0461	0.1363
1	15.12	0.3913	-0.1271	0.0055	0.1371	0.0278	-0.7273	0.1493	0.1481	0.1631
1	15.12	0.4496	-0.2039	0.0077	0.1824	0.0395	-1.1999	0.2304	-0.0201	0.1504
1	15.12	0.4997	-0.2491	0.0099	0.2422	0.0507	-1.6579	0.3139	0.0904	0.1679
1	15.12	0.5387	-0.2867	0.0116	0.2529	0.0616	-2.1246	0.3823	-0.1772	0.1898
1	15.12	0.5996	-0.3393	0.0134	0.3459	0.0755	-2.8709	0.4945	0.2192	0.1733
1	15.12	0.6498	-0.4143	0.0159	0.4196	0.0875	-3.6389	0.5857	0.0846	0.1970
1	15.12	0.6998	-0.4825	0.0215	0.5110	0.0990	-4.4859	0.6669	-0.1343	0.1870
1	15.12	0.7500	-0.5333	0.0247	0.5742	0.1113	-5.3791	0.7522	0.0927	0.1993
1	15.12	0.8001	-0.5983	0.0293	0.6424	0.1250	-6.3407	0.8416	-0.0150	0.2196
1	15.12	0.8497	-0.6663	0.0366	0.7082	0.1362	-7.3052	0.9233	0.1851	0.2017
1	15.12	0.9734	-0.8450	0.0492	0.8068	0.1637	-9.8919	1.1481	-0.6383	0.2544

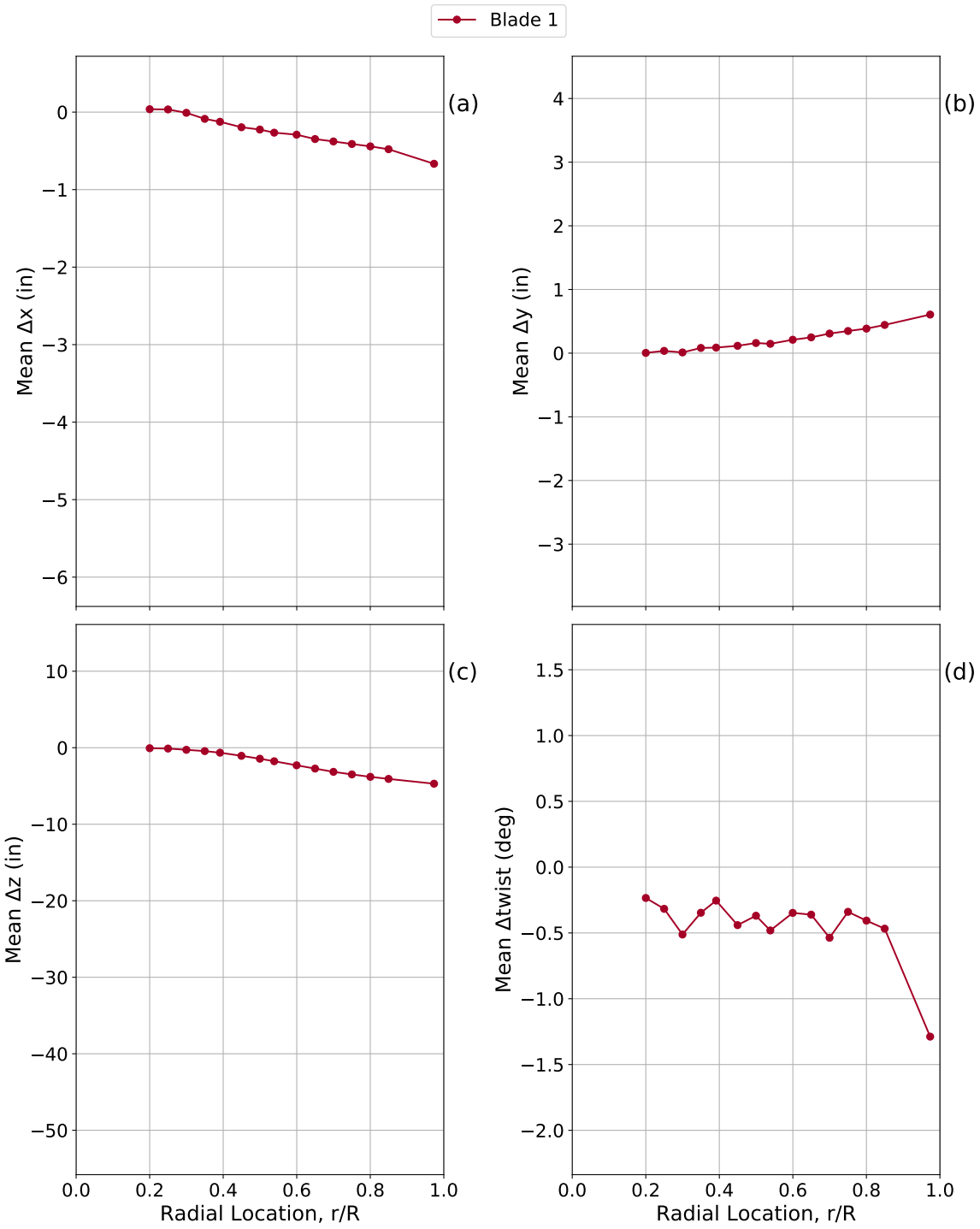


Figure 3.43-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0375	0.0043	0.0041	0.0050	-0.0628	0.0227	-0.2343	0.0412
1	29.88	0.2499	0.0347	0.0048	0.0355	0.0073	-0.1079	0.0467	-0.3167	0.1010
1	29.88	0.2998	-0.0089	0.0043	0.0112	0.0191	-0.2713	0.0985	-0.5120	0.0928
1	29.88	0.3498	-0.0869	0.0057	0.0819	0.0307	-0.4404	0.1728	-0.3465	0.0932
1	29.88	0.3913	-0.1244	0.0067	0.0871	0.0442	-0.6491	0.2492	-0.2543	0.0838
1	29.88	0.4496	-0.1952	0.0092	0.1153	0.0621	-1.0587	0.3754	-0.4405	0.0925
1	29.88	0.4997	-0.2248	0.0103	0.1591	0.0809	-1.4394	0.4986	-0.3692	0.1008
1	29.88	0.5387	-0.2651	0.0118	0.1466	0.0943	-1.7664	0.5952	-0.4811	0.1021
1	29.88	0.5996	-0.2910	0.0145	0.2104	0.1163	-2.2971	0.7506	-0.3476	0.1026
1	29.88	0.6498	-0.3472	0.0169	0.2480	0.1335	-2.7262	0.8745	-0.3610	0.1161
1	29.88	0.6998	-0.3784	0.0186	0.3077	0.1531	-3.1505	0.9970	-0.5366	0.1336
1	29.88	0.7500	-0.4112	0.0213	0.3479	0.1707	-3.4898	1.1079	-0.3397	0.1474
1	29.88	0.8001	-0.4419	0.0214	0.3852	0.1890	-3.8058	1.2054	-0.4064	0.1493
1	29.88	0.8497	-0.4788	0.0204	0.4431	0.2095	-4.0751	1.2997	-0.4674	0.1625
1	29.88	0.9734	-0.6664	0.0159	0.6059	0.2560	-4.7039	1.5176	-1.2879	0.2019

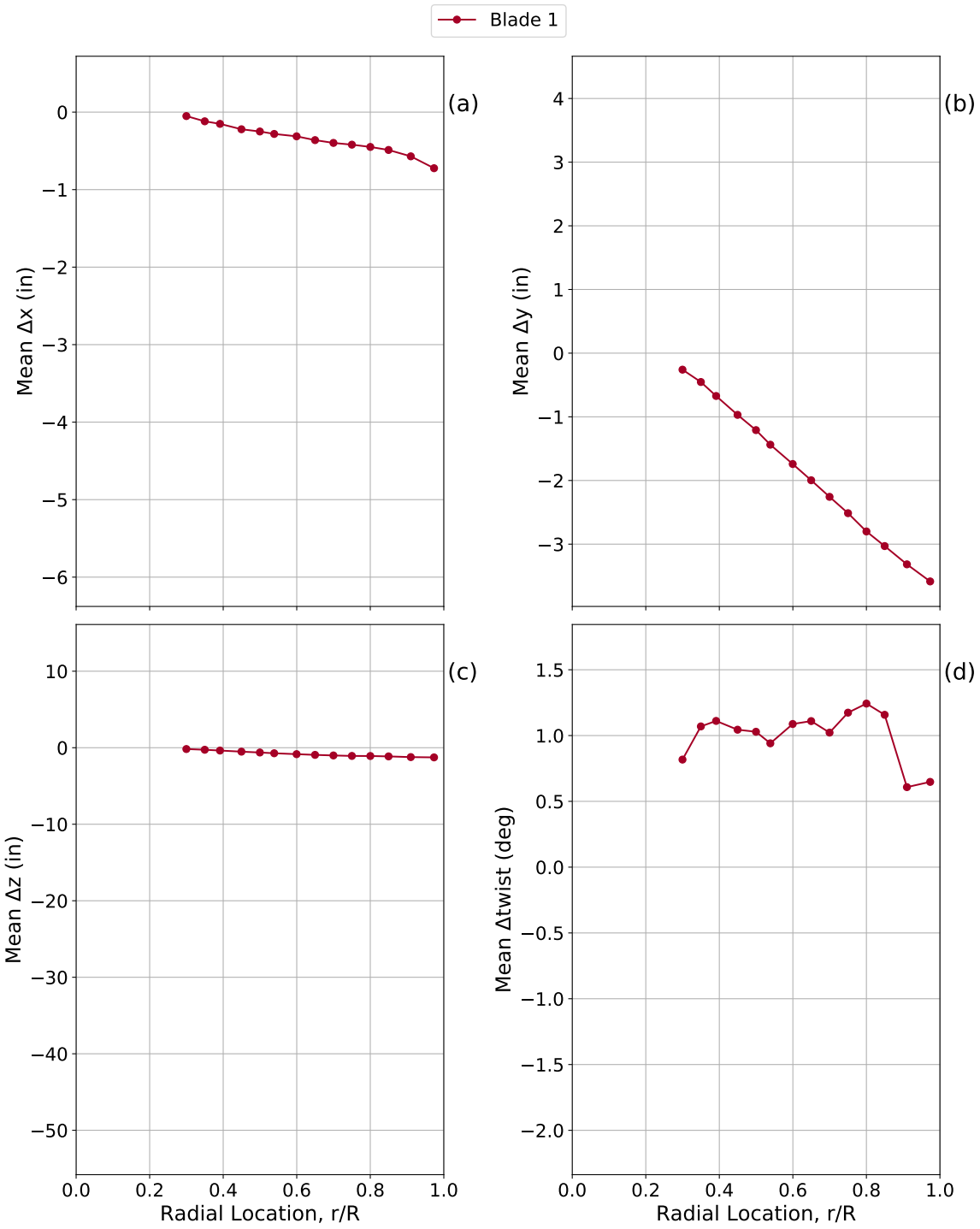


Figure 3.43-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2998	-0.0508	0.0080	-0.2593	0.0150	-0.1708	0.0375	0.8174	0.1602
1	45	0.3498	-0.1184	0.0071	-0.4532	0.0263	-0.2647	0.0667	1.0694	0.2132
1	45	0.3913	-0.1514	0.0073	-0.6727	0.0392	-0.3673	0.0999	1.1112	0.2031
1	45	0.4496	-0.2211	0.0082	-0.9693	0.0564	-0.5133	0.1469	1.0444	0.2048
1	45	0.4997	-0.2498	0.0074	-1.2088	0.0714	-0.6239	0.1920	1.0288	0.2259
1	45	0.5387	-0.2814	0.0084	-1.4379	0.0840	-0.7217	0.2304	0.9410	0.2219
1	45	0.5996	-0.3123	0.0088	-1.7412	0.1013	-0.8410	0.2930	1.0878	0.2260
1	45	0.6498	-0.3612	0.0089	-1.9965	0.1166	-0.9340	0.3454	1.1099	0.2215
1	45	0.6998	-0.3972	0.0098	-2.2570	0.1304	-1.0110	0.4005	1.0224	0.2222
1	45	0.7500	-0.4199	0.0092	-2.5137	0.1463	-1.0722	0.4551	1.1740	0.2257
1	45	0.8001	-0.4492	0.0105	-2.8007	0.1610	-1.0829	0.5166	1.2430	0.2315
1	45	0.8497	-0.4883	0.0109	-3.0301	0.1768	-1.1333	0.5866	1.1577	0.2308
1	45	0.9102	-0.5704	0.0112	-3.3171	0.1944	-1.2254	0.6810	0.6081	0.2238
1	45	0.9734	-0.7236	0.0142	-3.5855	0.2147	-1.2617	0.7904	0.6478	0.2553

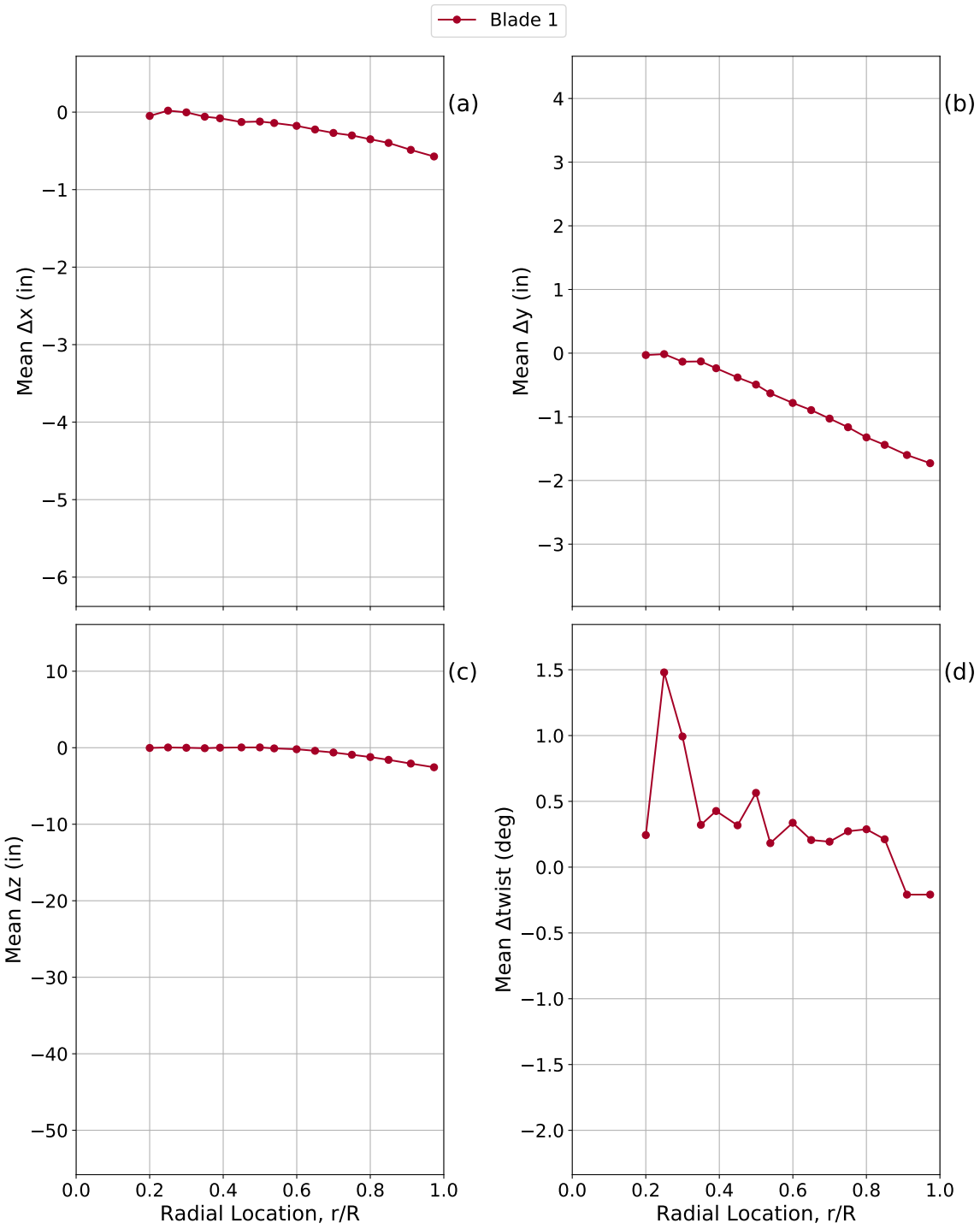


Figure 3.43-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0489	0.0285	-0.0298	0.0114	-0.0281	0.0317	0.2437	0.3148
1	60.12	0.2499	0.0192	0.0109	-0.0151	0.0252	0.0324	0.0634	1.4800	0.7383
1	60.12	0.2998	-0.0029	0.0063	-0.1340	0.0369	-0.0060	0.1006	0.9930	0.8280
1	60.12	0.3498	-0.0589	0.0247	-0.1300	0.0896	-0.0623	0.2493	0.3213	0.3385
1	60.12	0.3913	-0.0795	0.0373	-0.2372	0.1097	0.0055	0.3038	0.4266	0.3288
1	60.12	0.4496	-0.1277	0.0578	-0.3823	0.1409	0.0367	0.3745	0.3177	0.3385
1	60.12	0.4997	-0.1216	0.0393	-0.4938	0.1239	0.0400	0.3491	0.5645	1.8223
1	60.12	0.5387	-0.1404	0.0565	-0.6306	0.1237	-0.0876	0.7799	0.1824	0.4248
1	60.12	0.5996	-0.1771	0.0560	-0.7821	0.1518	-0.1980	0.9017	0.3369	0.4130
1	60.12	0.6498	-0.2241	0.0561	-0.8947	0.1743	-0.4014	0.9992	0.2060	0.4170
1	60.12	0.6998	-0.2685	0.0562	-1.0278	0.1980	-0.6251	1.0971	0.1935	0.4216
1	60.12	0.7500	-0.3006	0.0561	-1.1638	0.2231	-0.9172	1.1902	0.2728	0.4197
1	60.12	0.8001	-0.3499	0.0551	-1.3230	0.2466	-1.2185	1.2802	0.2878	0.4088
1	60.12	0.8497	-0.3974	0.0543	-1.4405	0.2702	-1.5825	1.3618	0.2119	0.4117
1	60.12	0.9102	-0.4870	0.0543	-1.6000	0.2998	-2.0729	1.4515	-0.2089	0.4163
1	60.12	0.9734	-0.5724	0.0559	-1.7287	0.3333	-2.5565	1.5413	-0.2087	0.4067

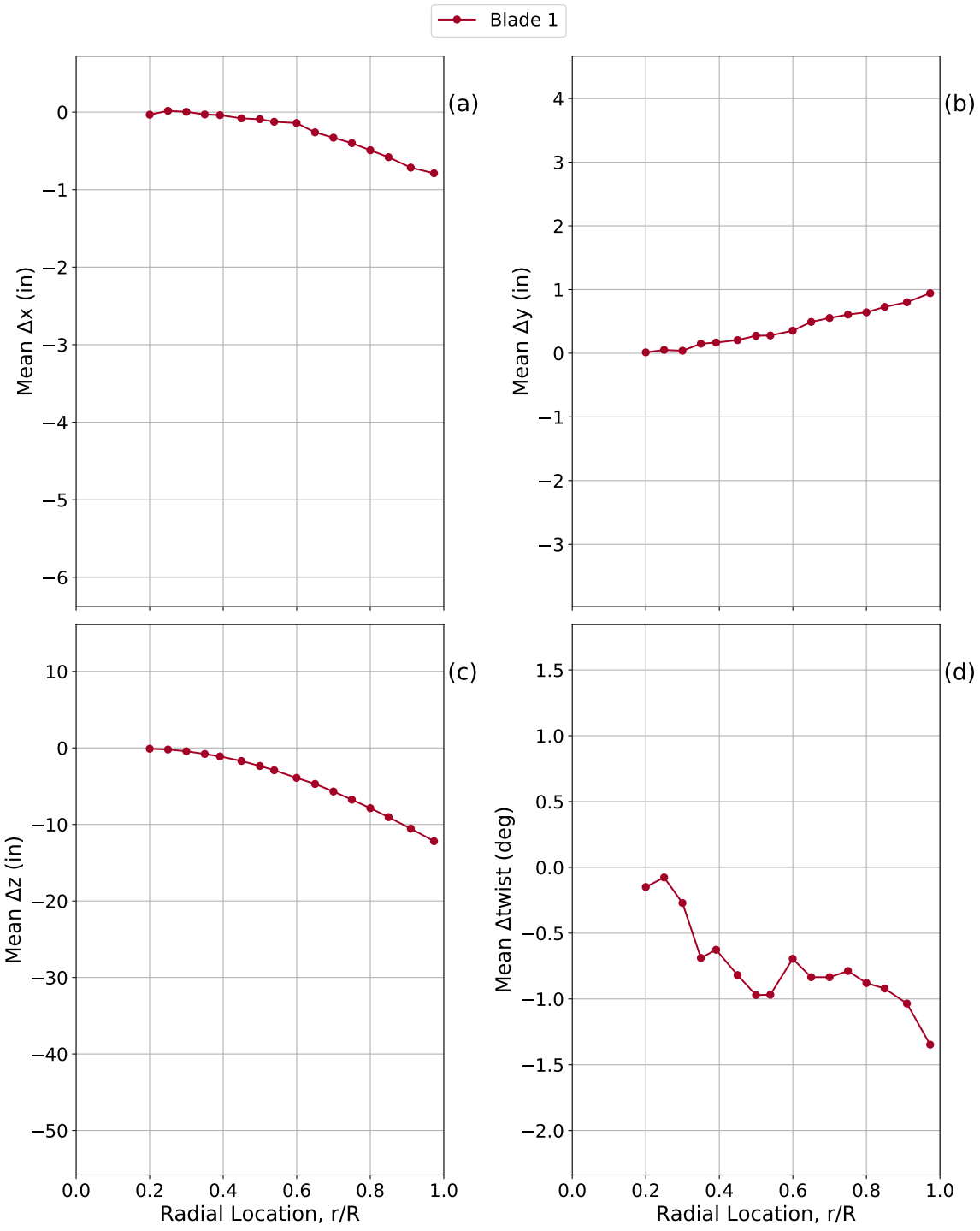


Figure 3.43-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0332	0.0273	0.0136	0.0179	-0.1090	0.0405	-0.1492	0.3103
1	74.88	0.2499	0.0164	0.0126	0.0511	0.0368	-0.2082	0.0834	-0.0768	0.5175
1	74.88	0.2998	0.0034	0.0103	0.0387	0.0530	-0.4364	0.1192	-0.2706	0.7341
1	74.88	0.3498	-0.0302	0.0261	0.1490	0.1406	-0.7923	0.3303	-0.6884	0.2122
1	74.88	0.3913	-0.0391	0.0398	0.1669	0.1660	-1.1094	0.3856	-0.6260	0.2313
1	74.88	0.4496	-0.0805	0.0557	0.2053	0.1957	-1.7096	0.4593	-0.8185	0.2389
1	74.88	0.4997	-0.0917	0.0662	0.2739	0.2196	-2.3664	0.5190	-0.9707	0.2458
1	74.88	0.5387	-0.1246	0.0769	0.2778	0.2362	-2.9239	0.5664	-0.9681	0.2626
1	74.88	0.5996	-0.1408	0.0818	0.3536	0.2584	-3.9180	0.6428	-0.6945	0.2582
1	74.88	0.6498	-0.2609	0.0604	0.4922	0.1299	-4.7104	1.0207	-0.8345	0.2671
1	74.88	0.6998	-0.3295	0.0608	0.5538	0.1432	-5.6932	1.0927	-0.8345	0.2750
1	74.88	0.7500	-0.3994	0.0615	0.6081	0.1562	-6.7635	1.1791	-0.7873	0.2794
1	74.88	0.8001	-0.4911	0.0650	0.6428	0.1689	-7.8746	1.2770	-0.8792	0.2828
1	74.88	0.8497	-0.5806	0.0689	0.7279	0.1813	-9.0453	1.3880	-0.9207	0.2868
1	74.88	0.9102	-0.7147	0.0758	0.8012	0.1968	-10.5450	1.5408	-1.0348	0.2991
1	74.88	0.9734	-0.7876	0.0869	0.9431	0.2134	-12.1916	1.7141	-1.3469	0.3040

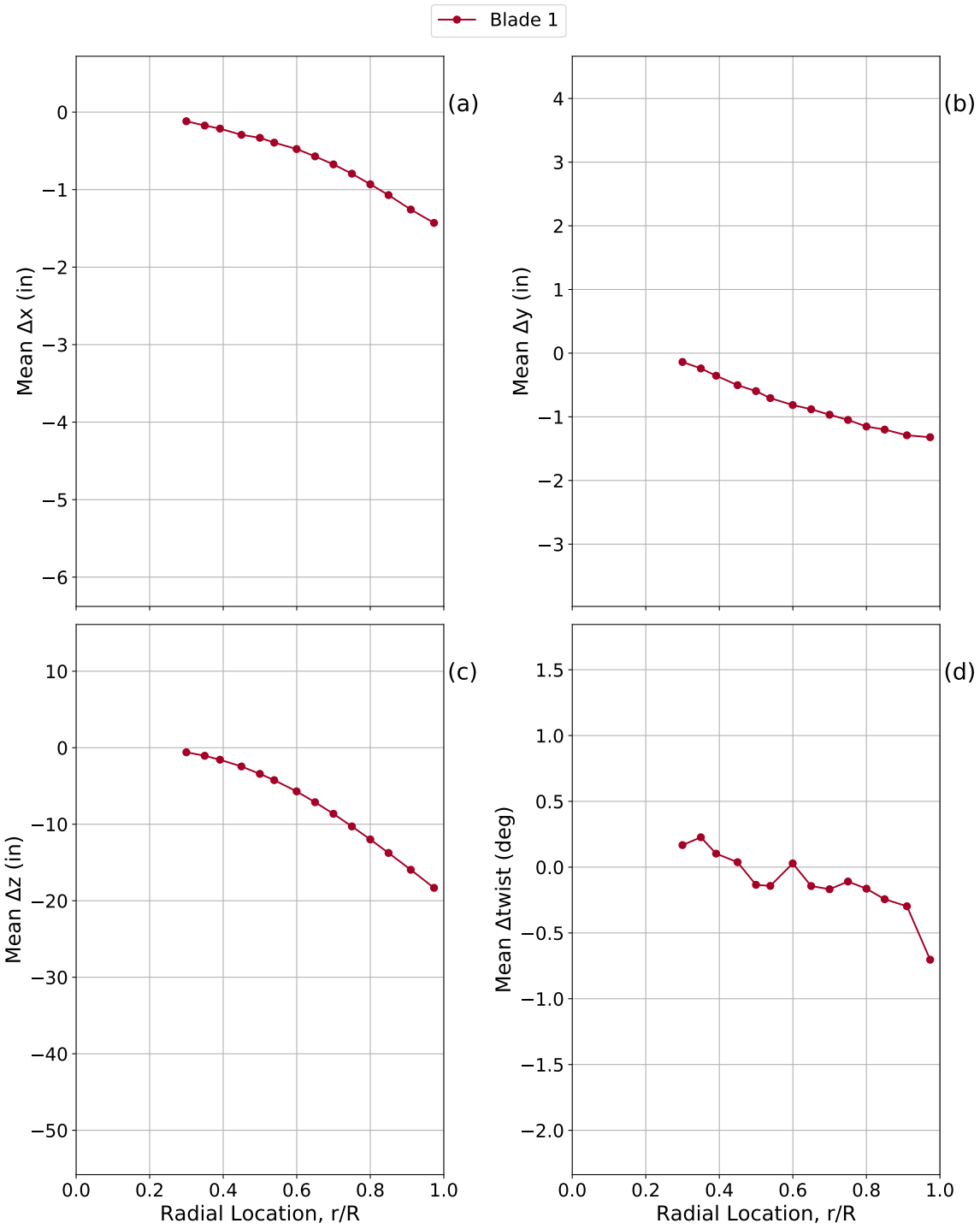


Figure 3.43-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.022$, $\mu = 0.999$, $\alpha = -0°$ NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2998	-0.1175	0.0223	-0.1386	0.0330	-0.5966	0.0843	0.1675	0.2691
1	80.16	0.3498	-0.1737	0.0248	-0.2400	0.0569	-1.0515	0.1510	0.2270	0.3605
1	80.16	0.3913	-0.2128	0.0237	-0.3544	0.0838	-1.5675	0.2270	0.1028	0.3380
1	80.16	0.4496	-0.2930	0.0271	-0.5029	0.1186	-2.4488	0.3221	0.0377	0.3529
1	80.16	0.4997	-0.3312	0.0349	-0.5962	0.1507	-3.4171	0.4027	-0.1346	0.3450
1	80.16	0.5387	-0.3935	0.0348	-0.7062	0.1755	-4.2361	0.4648	-0.1427	0.3634
1	80.16	0.5996	-0.4760	0.0404	-0.8149	0.2154	-5.7036	0.5624	0.0286	0.3748
1	80.16	0.6498	-0.5708	0.0446	-0.8812	0.2499	-7.1248	0.6505	-0.1435	0.3636
1	80.16	0.6998	-0.6747	0.0526	-0.9668	0.2841	-8.6376	0.7455	-0.1677	0.3765
1	80.16	0.7500	-0.7942	0.0624	-1.0492	0.3189	-10.2848	0.8515	-0.1093	0.3782
1	80.16	0.8001	-0.9310	0.0743	-1.1521	0.3541	-11.9894	0.9684	-0.1637	0.3808
1	80.16	0.8497	-1.0705	0.0886	-1.2006	0.3890	-13.7538	1.0927	-0.2437	0.3881
1	80.16	0.9102	-1.2567	0.1060	-1.2903	0.4315	-15.9496	1.2553	-0.2973	0.3867
1	80.16	0.9734	-1.4297	0.1188	-1.3206	0.4762	-18.3177	1.4352	-0.7034	0.3960

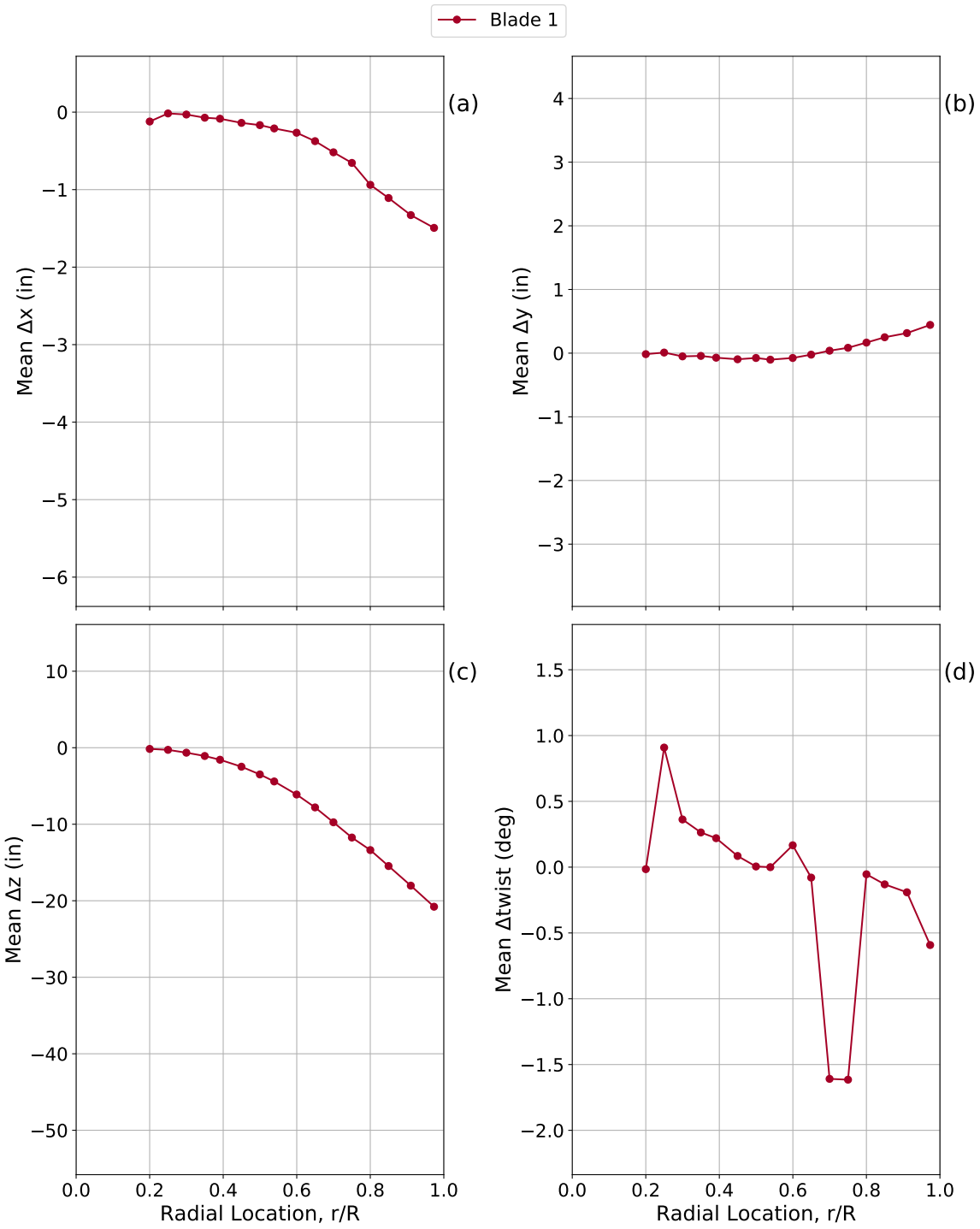


Figure 3.43-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.1211	0.0125	-0.0156	0.0164	-0.1556	0.0678	-0.0152	0.7965
1	85.08	0.2499	-0.0169	0.0107	0.0093	0.0454	-0.2763	0.1312	0.9087	1.7867
1	85.08	0.2998	-0.0310	0.0358	-0.0506	0.0411	-0.6502	0.1968	0.3624	2.0716
1	85.08	0.3498	-0.0720	0.0451	-0.0432	0.1503	-1.0800	0.5444	0.2637	0.7872
1	85.08	0.3913	-0.0850	0.0680	-0.0713	0.1623	-1.5710	0.6327	0.2200	0.8061
1	85.08	0.4496	-0.1387	0.0951	-0.0962	0.1822	-2.4802	0.7542	0.0849	0.7857
1	85.08	0.4997	-0.1675	0.1147	-0.0757	0.1951	-3.4900	0.8504	0.0050	0.7866
1	85.08	0.5387	-0.2105	0.1307	-0.1023	0.2038	-4.4075	0.9230	-0.0002	0.7832
1	85.08	0.5996	-0.2659	0.1477	-0.0758	0.2176	-6.1151	1.0368	0.1661	0.8141
1	85.08	0.6498	-0.3745	0.1563	-0.0233	0.2290	-7.8012	1.1380	-0.0794	0.8402
1	85.08	0.6998	-0.5184	0.1047	0.0385	0.1565	-9.7464	1.0807	-1.6089	4.1578
1	85.08	0.7500	-0.6553	0.1147	0.0842	0.1774	-11.7394	1.2227	-1.6151	4.1608
1	85.08	0.8001	-0.9384	0.0812	0.1659	0.1599	-13.3785	1.9731	-0.0542	0.7434
1	85.08	0.8497	-1.1080	0.0956	0.2496	0.1695	-15.4629	2.0725	-0.1307	0.7518
1	85.08	0.9102	-1.3285	0.1147	0.3151	0.1817	-18.0252	2.2024	-0.1910	0.7381
1	85.08	0.9734	-1.4935	0.1327	0.4435	0.1960	-20.7810	2.3393	-0.5919	0.7516

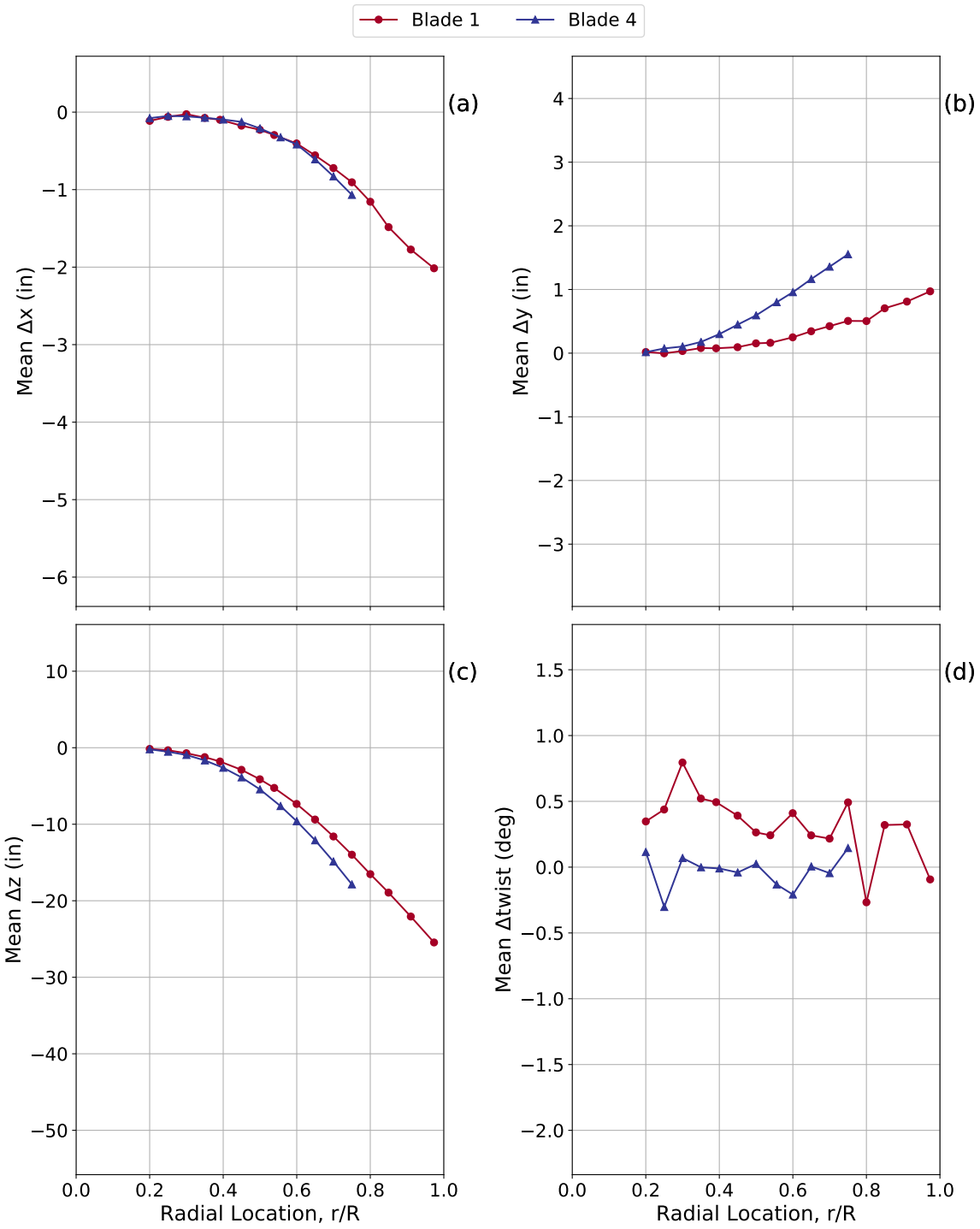


Figure 3.43-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.1127	0.0319	0.0179	0.0664	-0.1575	0.0984	0.3474	1.8308
1	90	0.2499	-0.0610	0.0313	-0.0028	0.0572	-0.3315	0.2217	0.4379	1.8323
1	90	0.2998	-0.0266	0.0290	0.0334	0.1703	-0.7154	0.3020	0.7951	3.8340
1	90	0.3498	-0.0744	0.0355	0.0799	0.3805	-1.2286	0.8565	0.5213	1.8088
1	90	0.3913	-0.0987	0.0647	0.0764	0.4379	-1.7992	1.0077	0.4938	1.8187
1	90	0.4496	-0.1748	0.1096	0.0936	0.5214	-2.8873	1.2108	0.3912	1.8171
1	90	0.4997	-0.2278	0.1463	0.1540	0.5970	-4.1240	1.3793	0.2639	1.8216
1	90	0.5387	-0.2956	0.1736	0.1621	0.6562	-5.2524	1.5100	0.2423	1.8085
1	90	0.5996	-0.4040	0.2148	0.2485	0.7503	-7.3469	1.7096	0.4102	1.8020
1	90	0.6498	-0.5577	0.2445	0.3441	0.8274	-9.3853	1.8712	0.2416	1.8287
1	90	0.6998	-0.7217	0.2721	0.4241	0.9041	-11.6008	2.0356	0.2169	1.8296
1	90	0.7500	-0.9051	0.2994	0.5062	0.9772	-13.9810	2.2021	0.4922	1.8432
1	90	0.8001	-1.1565	0.2457	0.5041	0.8250	-16.5241	1.9226	-0.2671	8.7081
1	90	0.8497	-1.4838	0.1443	0.7047	0.5787	-18.9367	3.7671	0.3201	1.7940
1	90	0.9102	-1.7731	0.1853	0.8099	0.6674	-22.0628	4.0069	0.3247	1.8196
1	90	0.9734	-2.0150	0.2293	0.9712	0.7650	-25.4521	4.2612	-0.0933	1.8040
4	90.35	0.2001	-0.0775	0.0043	0.0159	0.0014	-0.2083	0.0112	0.1153	0.0477
4	90.35	0.2502	-0.0494	0.0044	0.0740	0.0035	-0.5280	0.0241	-0.3028	0.0528
4	90.35	0.3001	-0.0545	0.0053	0.1044	0.0071	-0.9493	0.0515	0.0691	0.0990
4	90.35	0.3502	-0.0732	0.0074	0.1765	0.0105	-1.6638	0.0810	-0.0013	0.0958
4	90.35	0.4002	-0.0958	0.0101	0.2995	0.0178	-2.6208	0.1323	-0.0101	0.1112
4	90.35	0.4500	-0.1258	0.0144	0.4482	0.0247	-3.8789	0.1883	-0.0405	0.0929
4	90.35	0.5001	-0.2102	0.0223	0.5939	0.0338	-5.4492	0.2616	0.0246	0.1153
4	90.35	0.5560	-0.3253	0.0333	0.8003	0.0449	-7.6292	0.3501	-0.1319	0.1219
4	90.35	0.6001	-0.4172	0.0422	0.9576	0.0540	-9.6129	0.4234	-0.2083	0.1225
4	90.35	0.6501	-0.6095	0.0550	1.1647	0.0652	-12.1027	0.5093	0.0049	0.1315
4	90.35	0.6999	-0.8293	0.0675	1.3581	0.0773	-14.8798	0.5909	-0.0457	0.1321
4	90.35	0.7500	-1.0684	0.0841	1.5526	0.0888	-17.8656	0.6696	0.1448	0.1371

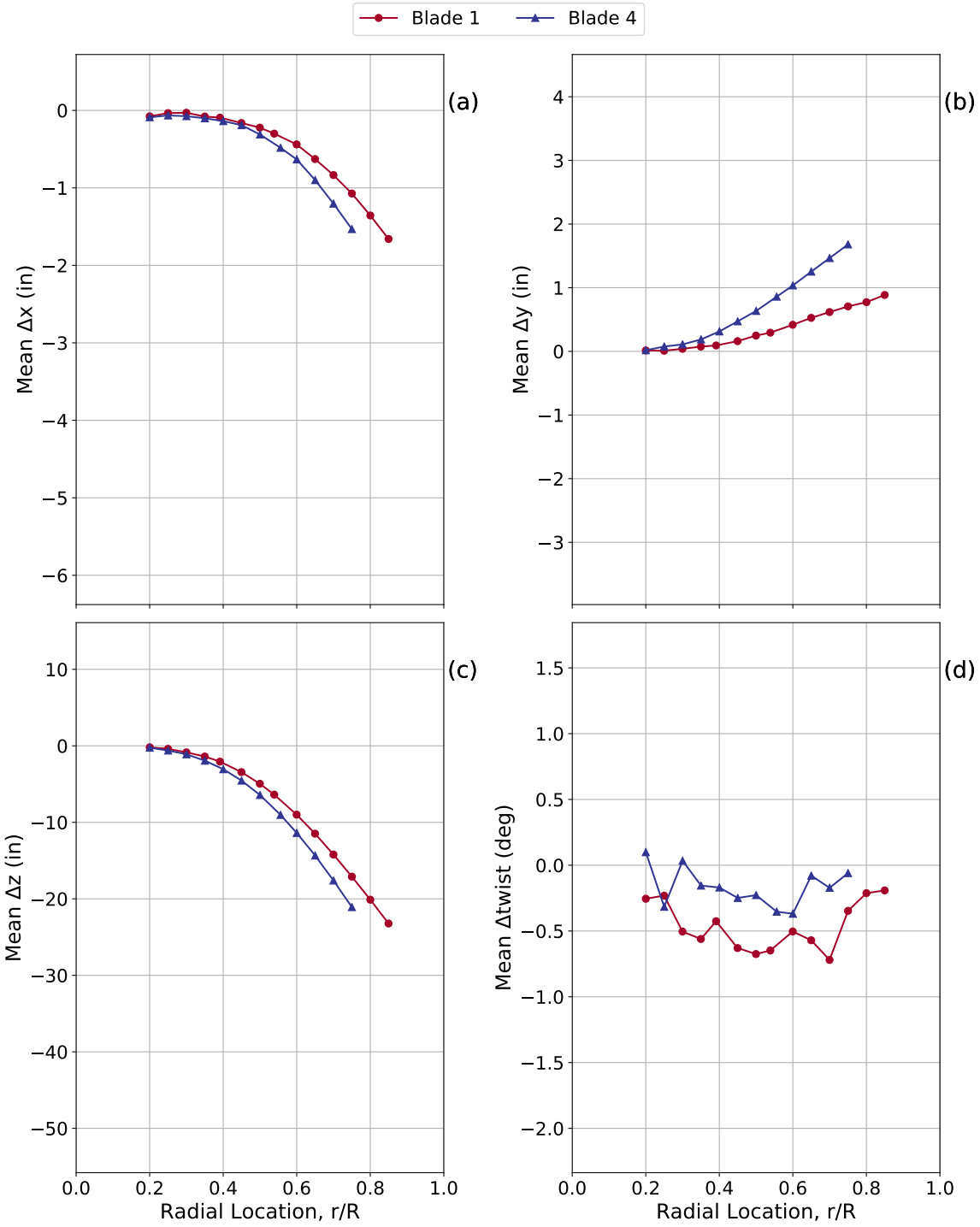


Figure 3.43-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0764	0.0306	0.0137	0.0030	-0.1933	0.0062	-0.2547	0.0299
1	94.92	0.2499	-0.0352	0.0101	0.0102	0.0063	-0.3933	0.0123	-0.2309	0.0507
1	94.92	0.2998	-0.0303	0.0124	0.0400	0.0136	-0.8452	0.0239	-0.5040	0.0652
1	94.92	0.3498	-0.0793	0.0323	0.0742	0.0210	-1.3949	0.0403	-0.5607	0.1012
1	94.92	0.3913	-0.0936	0.0475	0.0927	0.0321	-2.0624	0.0575	-0.4257	0.0992
1	94.92	0.4496	-0.1628	0.0665	0.1601	0.0503	-3.4341	0.0925	-0.6295	0.1009
1	94.92	0.4997	-0.2228	0.0783	0.2479	0.0676	-4.9588	0.1264	-0.6750	0.0899
1	94.92	0.5387	-0.2999	0.0846	0.2935	0.0826	-6.3765	0.1566	-0.6480	0.1080
1	94.92	0.5996	-0.4388	0.0892	0.4176	0.1088	-8.9898	0.2061	-0.5035	0.1074
1	94.92	0.6498	-0.6279	0.0905	0.5263	0.1314	-11.4845	0.2489	-0.5703	0.1196
1	94.92	0.6998	-0.8346	0.0928	0.6171	0.1543	-14.2073	0.2911	-0.7197	0.1164
1	94.92	0.7500	-1.0729	0.1007	0.7060	0.1800	-17.1017	0.3312	-0.3468	0.1264
1	94.92	0.8001	-1.3563	0.1143	0.7726	0.2042	-20.1149	0.3678	-0.2121	0.1430
1	94.92	0.8497	-1.6597	0.1334	0.8862	0.2302	-23.2239	0.4040	-0.1916	0.1865
4	94.92	0.2001	-0.0885	0.0051	0.0178	0.0023	-0.2450	0.0127	0.0993	0.0476
4	94.92	0.2502	-0.0654	0.0068	0.0754	0.0050	-0.6137	0.0269	-0.3158	0.0587
4	94.92	0.3001	-0.0748	0.0055	0.1096	0.0093	-1.1078	0.0537	0.0341	0.1000
4	94.92	0.3502	-0.1019	0.0087	0.1868	0.0170	-1.9421	0.0923	-0.1549	0.0941
4	94.92	0.4002	-0.1384	0.0134	0.3132	0.0258	-3.0542	0.1439	-0.1695	0.0796
4	94.92	0.4500	-0.1914	0.0203	0.4717	0.0372	-4.5480	0.2084	-0.2488	0.0807
4	94.92	0.5001	-0.3110	0.0297	0.6350	0.0502	-6.4301	0.2848	-0.2271	0.0968
4	94.92	0.5560	-0.4833	0.0424	0.8587	0.0674	-9.0306	0.3951	-0.3530	0.0837
4	94.92	0.6001	-0.6331	0.0567	1.0357	0.0810	-11.3941	0.4813	-0.3688	0.1117
4	94.92	0.6501	-0.9000	0.0759	1.2530	0.0976	-14.3408	0.5862	-0.0792	0.1116
4	94.92	0.6999	-1.2037	0.0962	1.4652	0.1148	-17.6091	0.6905	-0.1719	0.1313
4	94.92	0.7500	-1.5322	0.1168	1.6802	0.1330	-21.0864	0.7915	-0.0600	0.1374

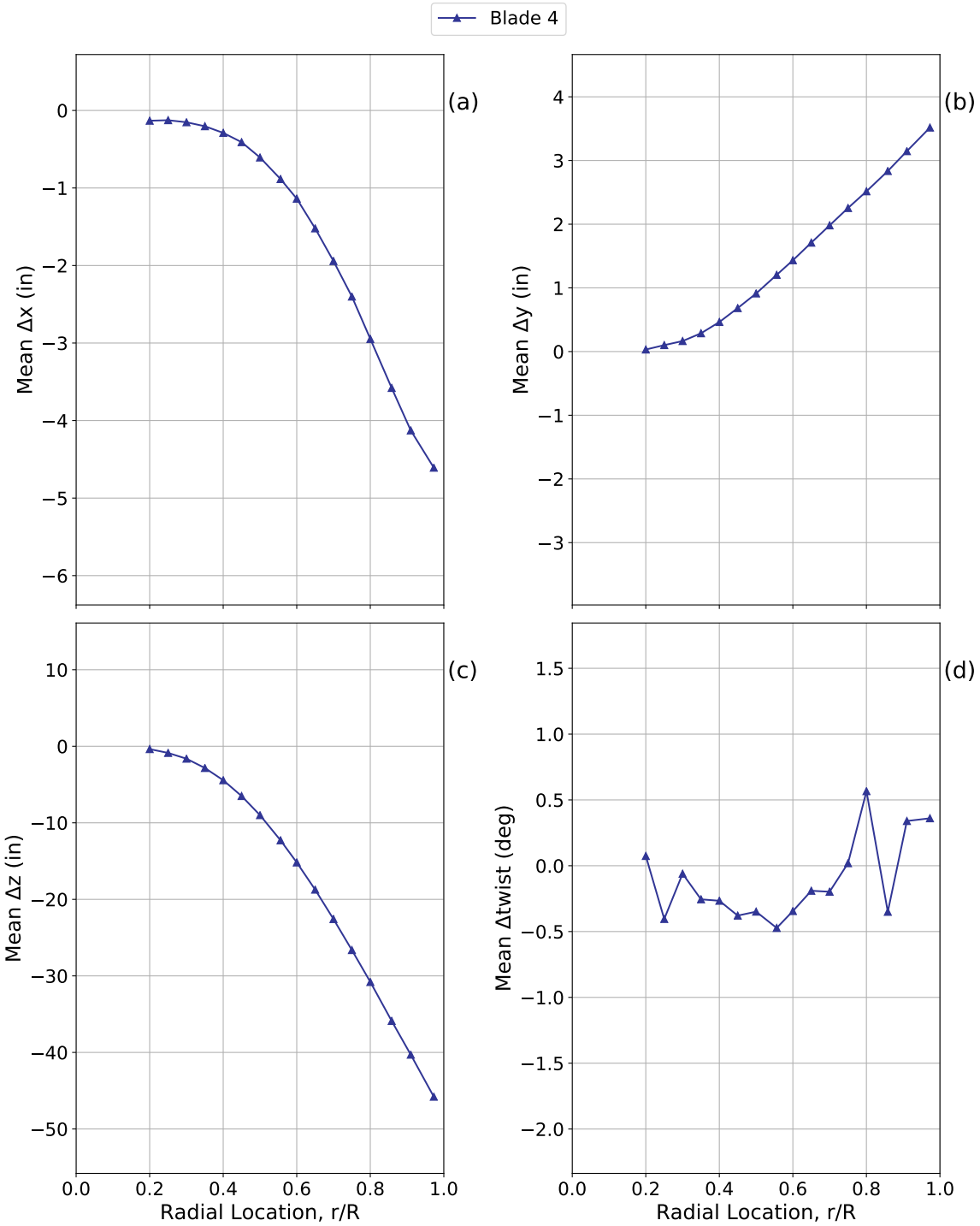


Figure 3.43-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.1326	0.0066	0.0319	0.0015	-0.3703	0.0103	0.0740	0.0297
4	105.12	0.2502	-0.1258	0.0060	0.1009	0.0036	-0.8710	0.0198	-0.4045	0.0541
4	105.12	0.3001	-0.1523	0.0062	0.1648	0.0068	-1.6242	0.0427	-0.0607	0.0670
4	105.12	0.3502	-0.2037	0.0084	0.2869	0.0109	-2.8388	0.0713	-0.2553	0.0869
4	105.12	0.4002	-0.2895	0.0124	0.4638	0.0176	-4.4402	0.1115	-0.2662	0.0997
4	105.12	0.4500	-0.4091	0.0196	0.6822	0.0255	-6.5037	0.1594	-0.3789	0.1012
4	105.12	0.5001	-0.6069	0.0286	0.9121	0.0336	-8.9995	0.2156	-0.3489	0.1096
4	105.12	0.5560	-0.8852	0.0412	1.2044	0.0444	-12.2951	0.2852	-0.4727	0.1299
4	105.12	0.6001	-1.1383	0.0531	1.4333	0.0532	-15.1838	0.3490	-0.3444	0.1275
4	105.12	0.6501	-1.5213	0.0689	1.7095	0.0631	-18.7352	0.4209	-0.1902	0.1293
4	105.12	0.6999	-1.9429	0.0867	1.9811	0.0735	-22.5789	0.4923	-0.1976	0.1346
4	105.12	0.7500	-2.4009	0.1054	2.2537	0.0838	-26.6308	0.5663	0.0190	0.1481
4	105.12	0.8002	-2.9479	0.1239	2.5158	0.0957	-30.8017	0.6411	0.5664	0.1543
4	105.12	0.8582	-3.5796	0.1493	2.8346	0.1086	-35.8920	0.7301	-0.3502	0.1889
4	105.12	0.9101	-4.1274	0.1709	3.1464	0.1200	-40.2983	0.8090	0.3397	0.1470
4	105.12	0.9728	-4.6081	0.1958	3.5168	0.1354	-45.7917	0.9072	0.3604	0.1915

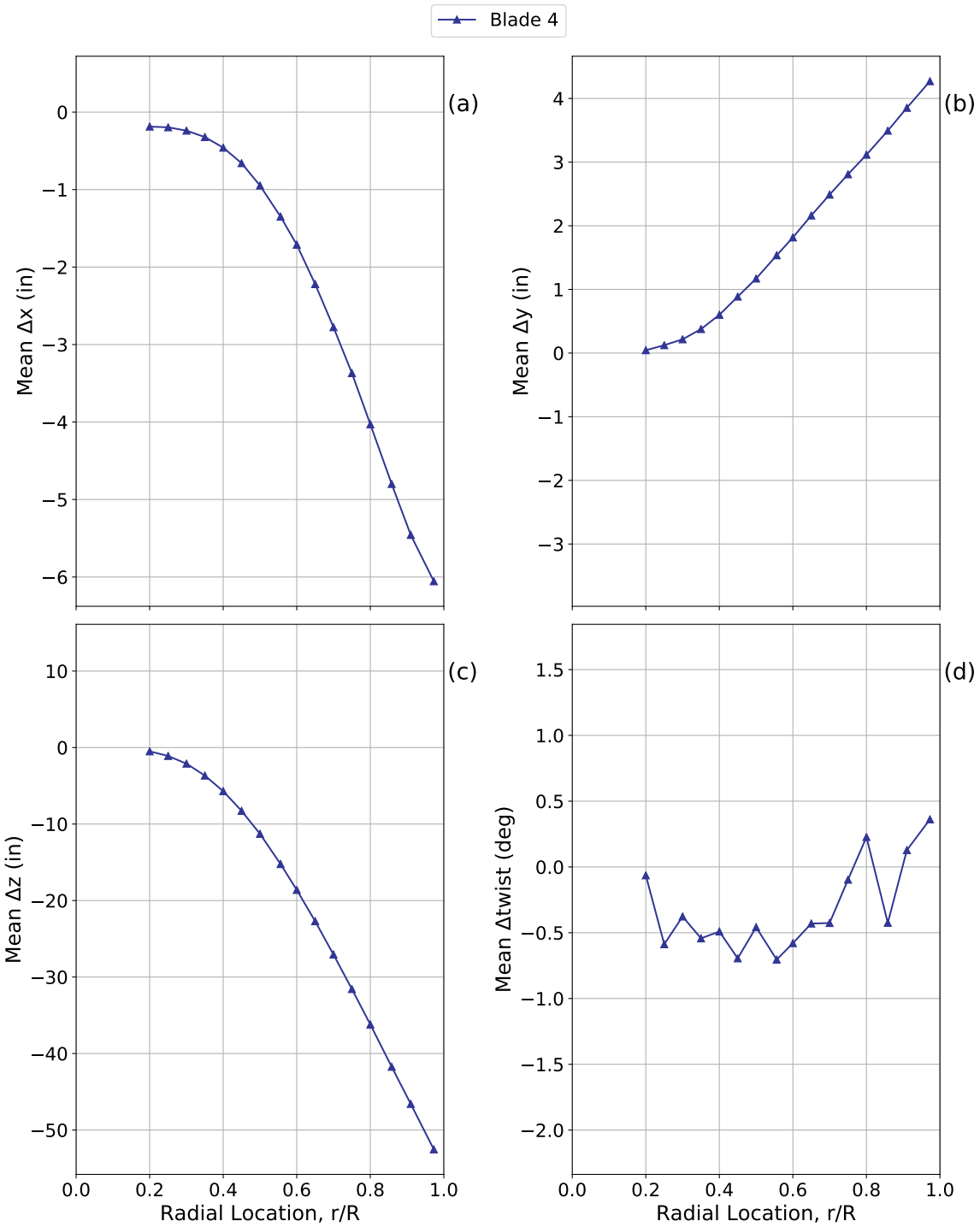


Figure 3.43-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.1874	0.0075	0.0446	0.0018	-0.4951	0.0116	-0.0640	0.0304
4	119.88	0.2502	-0.1964	0.0093	0.1238	0.0050	-1.1028	0.0264	-0.5876	0.0430
4	119.88	0.3001	-0.2394	0.0106	0.2159	0.0091	-2.1057	0.0524	-0.3769	0.0670
4	119.88	0.3502	-0.3223	0.0149	0.3768	0.0148	-3.6702	0.0882	-0.5429	0.0658
4	119.88	0.4002	-0.4592	0.0220	0.6011	0.0242	-5.7090	0.1403	-0.4909	0.0828
4	119.88	0.4500	-0.6593	0.0339	0.8865	0.0331	-8.2846	0.2061	-0.6950	0.0814
4	119.88	0.5001	-0.9482	0.0489	1.1706	0.0452	-11.2892	0.2886	-0.4582	0.0988
4	119.88	0.5560	-1.3494	0.0733	1.5360	0.0596	-15.2343	0.3954	-0.7047	0.0930
4	119.88	0.6001	-1.7118	0.0973	1.8165	0.0725	-18.6141	0.4933	-0.5794	0.0800
4	119.88	0.6501	-2.2204	0.1303	2.1610	0.0878	-22.7084	0.6202	-0.4304	0.1075
4	119.88	0.6999	-2.7763	0.1687	2.4891	0.1032	-27.0611	0.7585	-0.4262	0.1100
4	119.88	0.7500	-3.3690	0.2122	2.8084	0.1192	-31.5733	0.9069	-0.0969	0.1122
4	119.88	0.8002	-4.0297	0.2585	3.1162	0.1357	-36.2138	1.0637	0.2273	0.1005
4	119.88	0.8582	-4.7995	0.3154	3.4937	0.1548	-41.7368	1.2517	-0.4249	0.1221
4	119.88	0.9101	-5.4572	0.3654	3.8527	0.1716	-46.5923	1.4243	0.1278	0.1137
4	119.88	0.9728	-6.0553	0.4234	4.2708	0.1920	-52.5347	1.6328	0.3616	0.1079

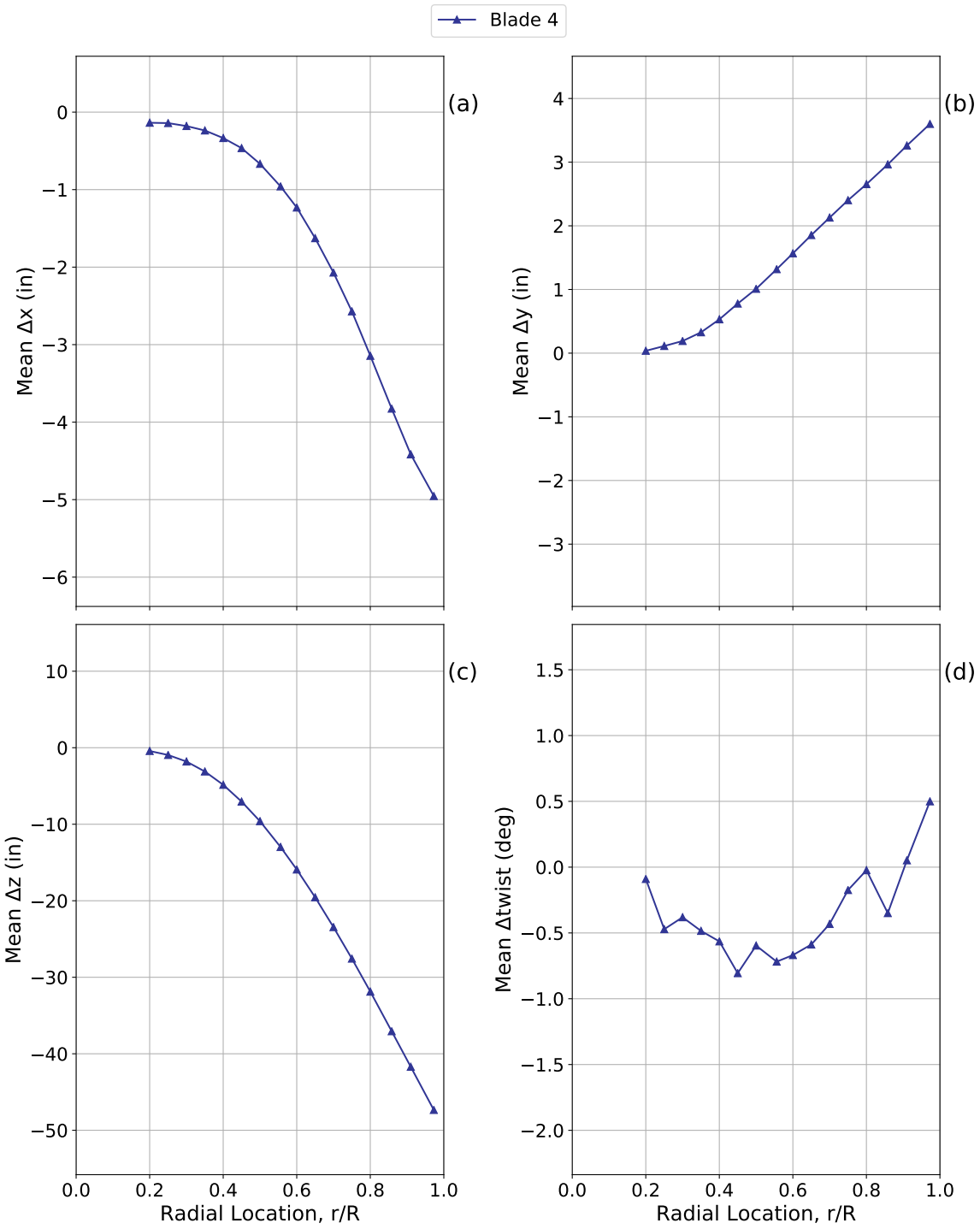


Figure 3.43-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.1373	0.0070	0.0368	0.0016	-0.4295	0.0088	-0.0901	0.0221
4	135	0.2502	-0.1416	0.0051	0.1120	0.0031	-0.9502	0.0198	-0.4716	0.0358
4	135	0.3001	-0.1797	0.0057	0.1905	0.0060	-1.8073	0.0355	-0.3809	0.0526
4	135	0.3502	-0.2370	0.0070	0.3272	0.0114	-3.1104	0.0630	-0.4846	0.0660
4	135	0.4002	-0.3349	0.0110	0.5309	0.0167	-4.8497	0.0967	-0.5644	0.0480
4	135	0.4500	-0.4644	0.0176	0.7778	0.0228	-7.0415	0.1468	-0.8060	0.0511
4	135	0.5001	-0.6677	0.0261	1.0101	0.0307	-9.6074	0.2054	-0.5961	0.0539
4	135	0.5560	-0.9589	0.0390	1.3184	0.0395	-12.9806	0.2818	-0.7183	0.0602
4	135	0.6001	-1.2313	0.0543	1.5671	0.0468	-15.9196	0.3576	-0.6684	0.0685
4	135	0.6501	-1.6270	0.0736	1.8540	0.0557	-19.5531	0.4439	-0.5882	0.0655
4	135	0.6999	-2.0707	0.0986	2.1289	0.0645	-23.4506	0.5403	-0.4320	0.0634
4	135	0.7500	-2.5712	0.1260	2.4018	0.0732	-27.5680	0.6422	-0.1742	0.0678
4	135	0.8002	-3.1449	0.1566	2.6542	0.0816	-31.8860	0.7507	-0.0235	0.0670
4	135	0.8582	-3.8261	0.1948	2.9647	0.0927	-37.0590	0.8808	-0.3495	0.0733
4	135	0.9101	-4.4160	0.2288	3.2609	0.1026	-41.7078	0.9977	0.0516	0.0814
4	135	0.9728	-4.9541	0.2693	3.5998	0.1143	-47.3457	1.1458	0.4996	0.0766

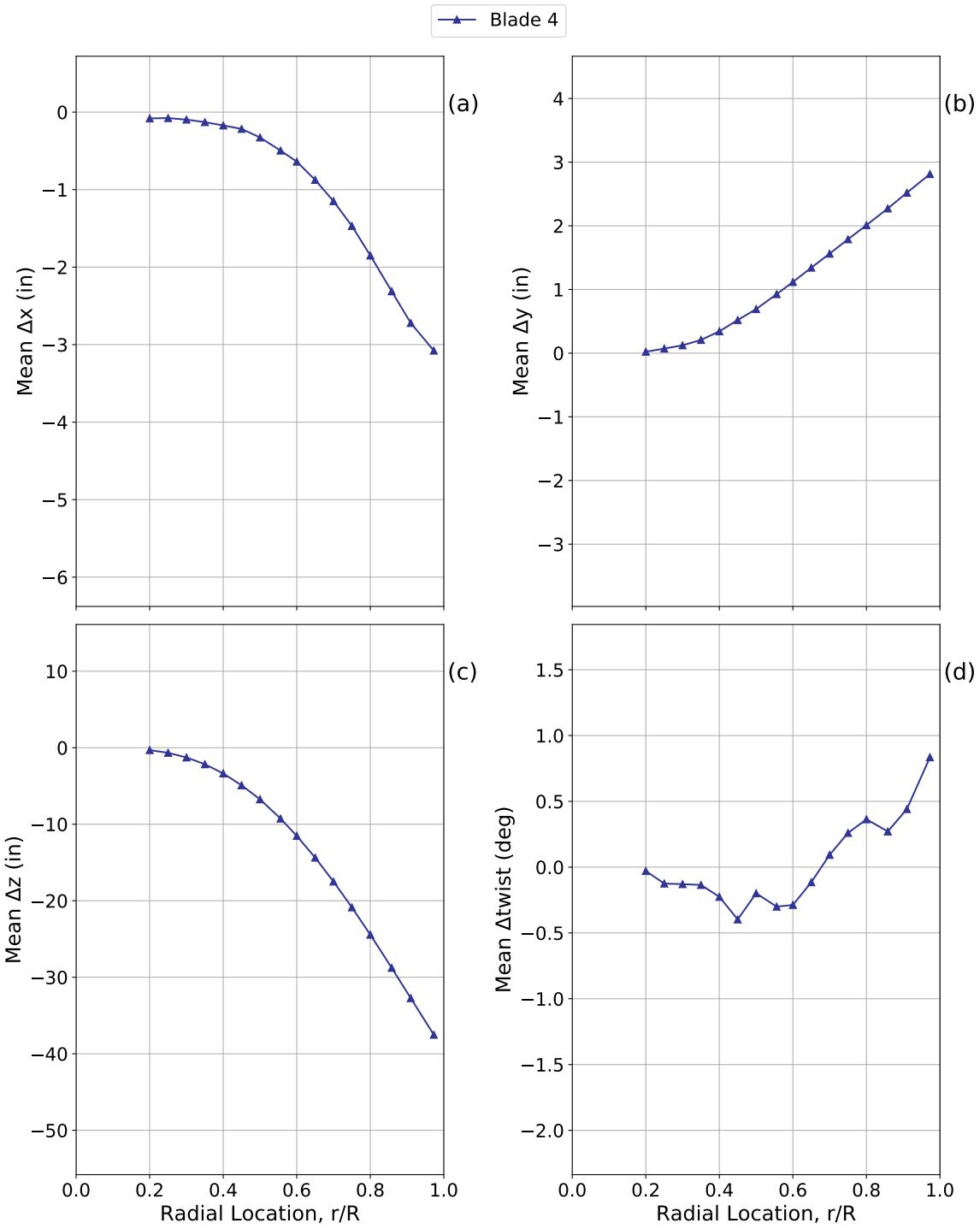


Figure 3.43-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0811	0.0058	0.0220	0.0051	-0.3085	0.0252	-0.0294	0.1115
4	150.12	0.2502	-0.0770	0.0180	0.0718	0.0074	-0.6665	0.0400	-0.1247	0.2555
4	150.12	0.3001	-0.0966	0.0076	0.1228	0.0120	-1.2697	0.0586	-0.1291	0.0971
4	150.12	0.3502	-0.1291	0.0091	0.2078	0.0155	-2.1585	0.0872	-0.1355	0.1135
4	150.12	0.4002	-0.1722	0.0126	0.3427	0.0220	-3.3647	0.1257	-0.2259	0.1258
4	150.12	0.4500	-0.2166	0.0166	0.5200	0.0261	-4.9119	0.1716	-0.3975	0.1220
4	150.12	0.5001	-0.3274	0.0254	0.6917	0.0326	-6.7438	0.2330	-0.1986	0.1265
4	150.12	0.5560	-0.4961	0.0353	0.9265	0.0399	-9.2664	0.3079	-0.3003	0.1170
4	150.12	0.6001	-0.6390	0.0470	1.1175	0.0461	-11.5244	0.3805	-0.2874	0.1301
4	150.12	0.6501	-0.8745	0.0628	1.3426	0.0528	-14.3680	0.4746	-0.1148	0.1263
4	150.12	0.6999	-1.1490	0.0838	1.5620	0.0609	-17.4922	0.5794	0.0932	0.1322
4	150.12	0.7500	-1.4689	0.1099	1.7889	0.0688	-20.8679	0.6981	0.2600	0.1196
4	150.12	0.8002	-1.8503	0.1394	2.0104	0.0769	-24.4437	0.8305	0.3635	0.1507
4	150.12	0.8582	-2.3119	0.1782	2.2730	0.0854	-28.7697	0.9938	0.2709	0.1429
4	150.12	0.9101	-2.7209	0.2136	2.5197	0.0947	-32.7344	1.1478	0.4412	0.1413
4	150.12	0.9728	-3.0775	0.2564	2.8130	0.1057	-37.5163	1.3411	0.8348	0.1443

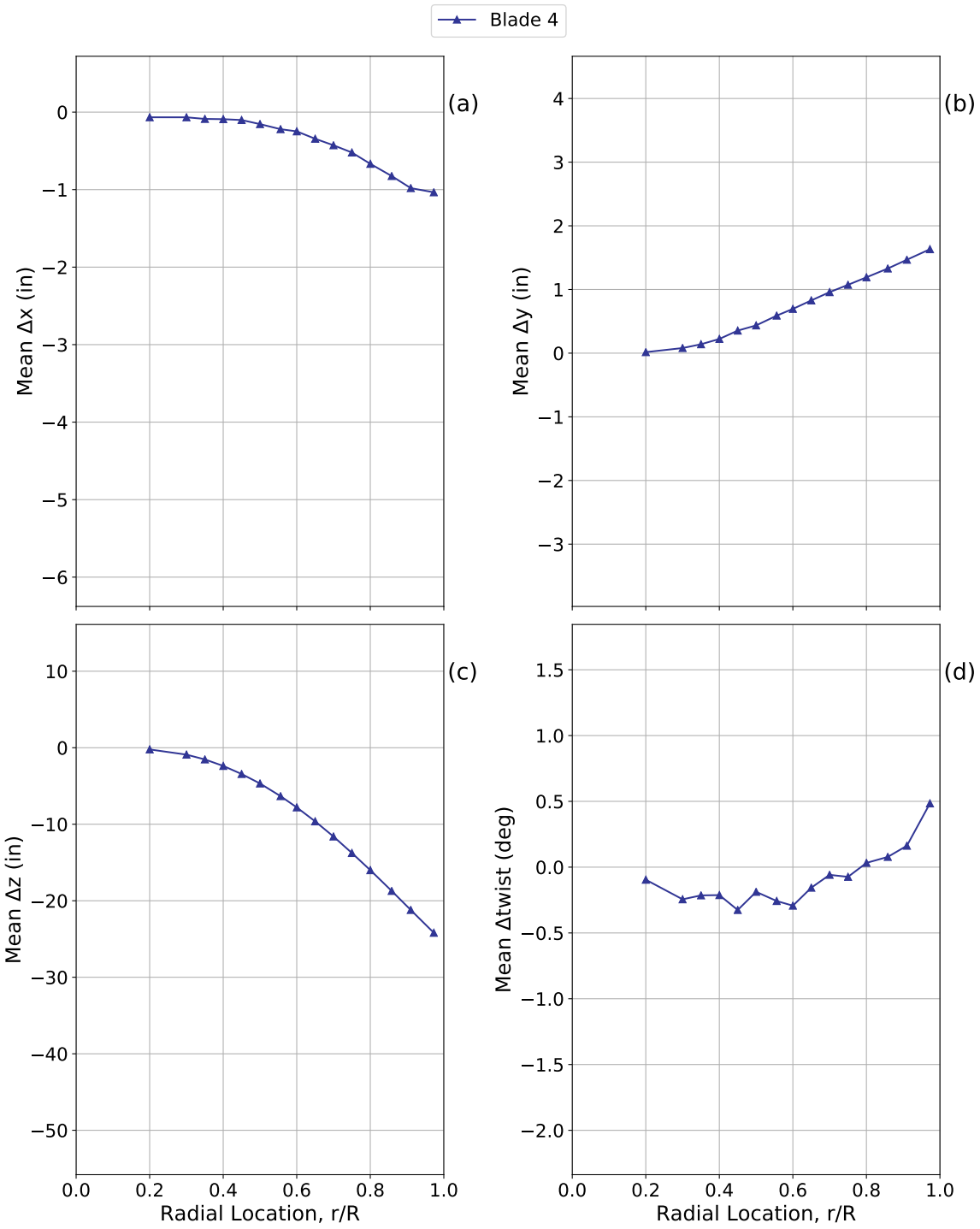


Figure 3.43-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0665	0.0045	0.0159	0.0020	-0.2245	0.0131	-0.0957	0.0339
4	164.88	0.3001	-0.0669	0.0058	0.0802	0.0099	-0.9034	0.0503	-0.2445	0.0815
4	164.88	0.3502	-0.0877	0.0065	0.1395	0.0163	-1.5314	0.0854	-0.2146	0.0706
4	164.88	0.4002	-0.0909	0.0097	0.2232	0.0265	-2.3808	0.1316	-0.2125	0.0779
4	164.88	0.4500	-0.1020	0.0134	0.3541	0.0327	-3.4347	0.1957	-0.3257	0.0770
4	164.88	0.5001	-0.1548	0.0195	0.4355	0.0421	-4.6751	0.2762	-0.1877	0.1142
4	164.88	0.5560	-0.2202	0.0278	0.5893	0.0588	-6.3297	0.3728	-0.2574	0.0771
4	164.88	0.6001	-0.2483	0.0385	0.6951	0.0664	-7.8016	0.4735	-0.2929	0.0925
4	164.88	0.6501	-0.3438	0.0519	0.8282	0.0806	-9.6250	0.5989	-0.1563	0.0937
4	164.88	0.6999	-0.4277	0.0694	0.9581	0.0935	-11.6056	0.7415	-0.0585	0.0705
4	164.88	0.7500	-0.5212	0.0922	1.0732	0.1036	-13.7602	0.9103	-0.0738	0.0964
4	164.88	0.8002	-0.6675	0.1176	1.1912	0.1169	-16.0072	1.0932	0.0324	0.0926
4	164.88	0.8582	-0.8245	0.1491	1.3294	0.1305	-18.7164	1.3209	0.0777	0.0980
4	164.88	0.9101	-0.9805	0.1767	1.4670	0.1437	-21.2058	1.5332	0.1626	0.0789
4	164.88	0.9728	-1.0347	0.2084	1.6326	0.1595	-24.1880	1.7936	0.4843	0.0999

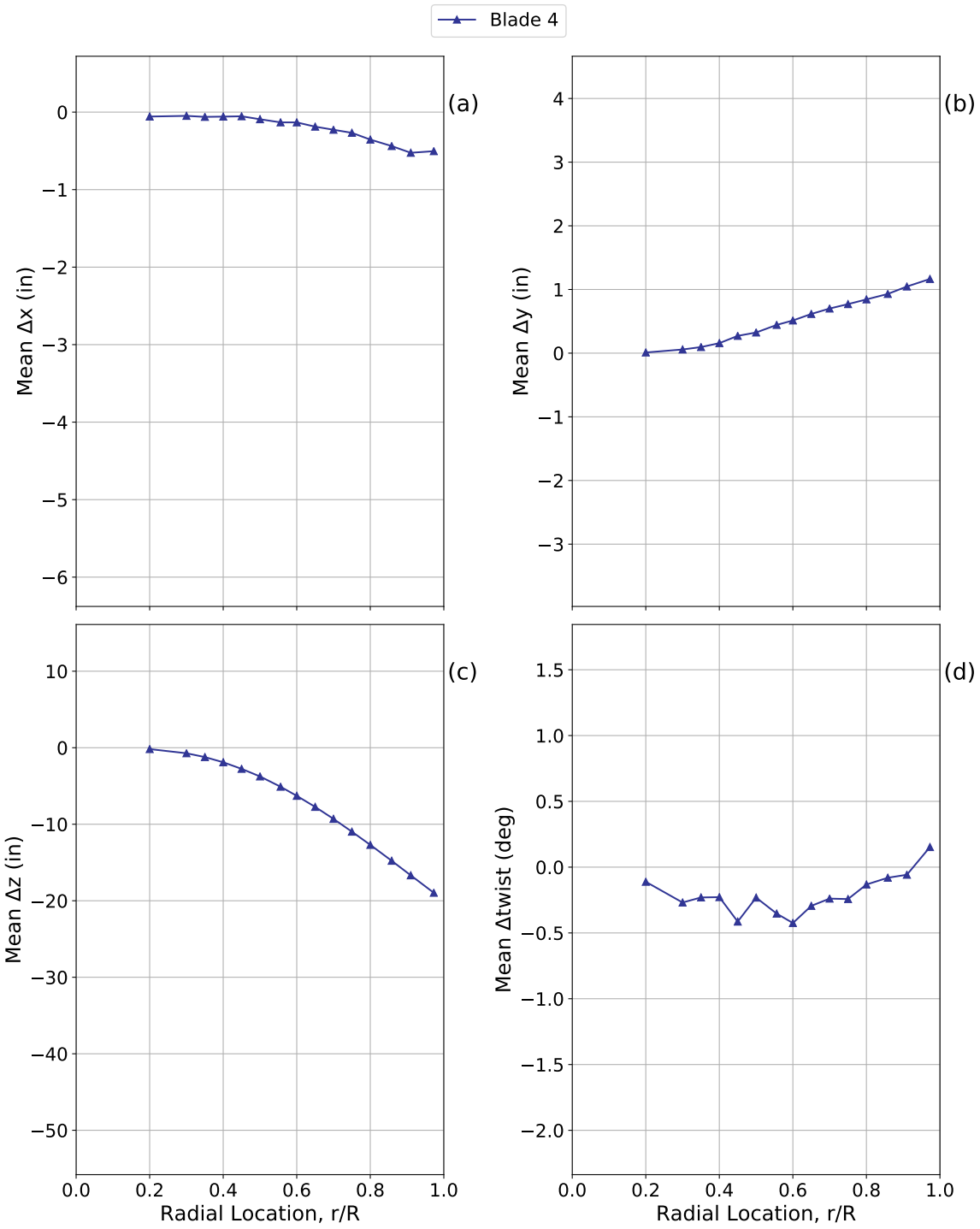


Figure 3.43-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0570	0.0059	0.0104	0.0024	-0.1794	0.0191	-0.1114	0.0483
4	170.16	0.3001	-0.0483	0.0090	0.0576	0.0099	-0.7232	0.0812	-0.2688	0.1185
4	170.16	0.3502	-0.0614	0.0115	0.0954	0.0187	-1.2233	0.1366	-0.2303	0.1393
4	170.16	0.4002	-0.0578	0.0140	0.1573	0.0282	-1.9037	0.2150	-0.2281	0.1231
4	170.16	0.4500	-0.0537	0.0222	0.2714	0.0366	-2.7622	0.3100	-0.4140	0.1209
4	170.16	0.5001	-0.0919	0.0272	0.3243	0.0507	-3.7541	0.4294	-0.2315	0.1402
4	170.16	0.5560	-0.1323	0.0351	0.4433	0.0657	-5.0999	0.5744	-0.3531	0.1526
4	170.16	0.6001	-0.1325	0.0482	0.5132	0.0748	-6.2892	0.7025	-0.4246	0.1489
4	170.16	0.6501	-0.1876	0.0594	0.6153	0.0896	-7.7340	0.8558	-0.2944	0.1643
4	170.16	0.6999	-0.2275	0.0745	0.7006	0.1021	-9.2987	1.0179	-0.2391	0.1667
4	170.16	0.7500	-0.2672	0.0929	0.7701	0.1120	-10.9739	1.1904	-0.2425	0.1518
4	170.16	0.8002	-0.3545	0.1079	0.8441	0.1258	-12.7015	1.3630	-0.1320	0.1731
4	170.16	0.8582	-0.4379	0.1333	0.9298	0.1387	-14.7764	1.5717	-0.0806	0.1714
4	170.16	0.9101	-0.5248	0.1498	1.0464	0.1537	-16.6787	1.7594	-0.0578	0.1579
4	170.16	0.9728	-0.5037	0.1667	1.1650	0.1734	-18.9603	1.9872	0.1525	0.1693

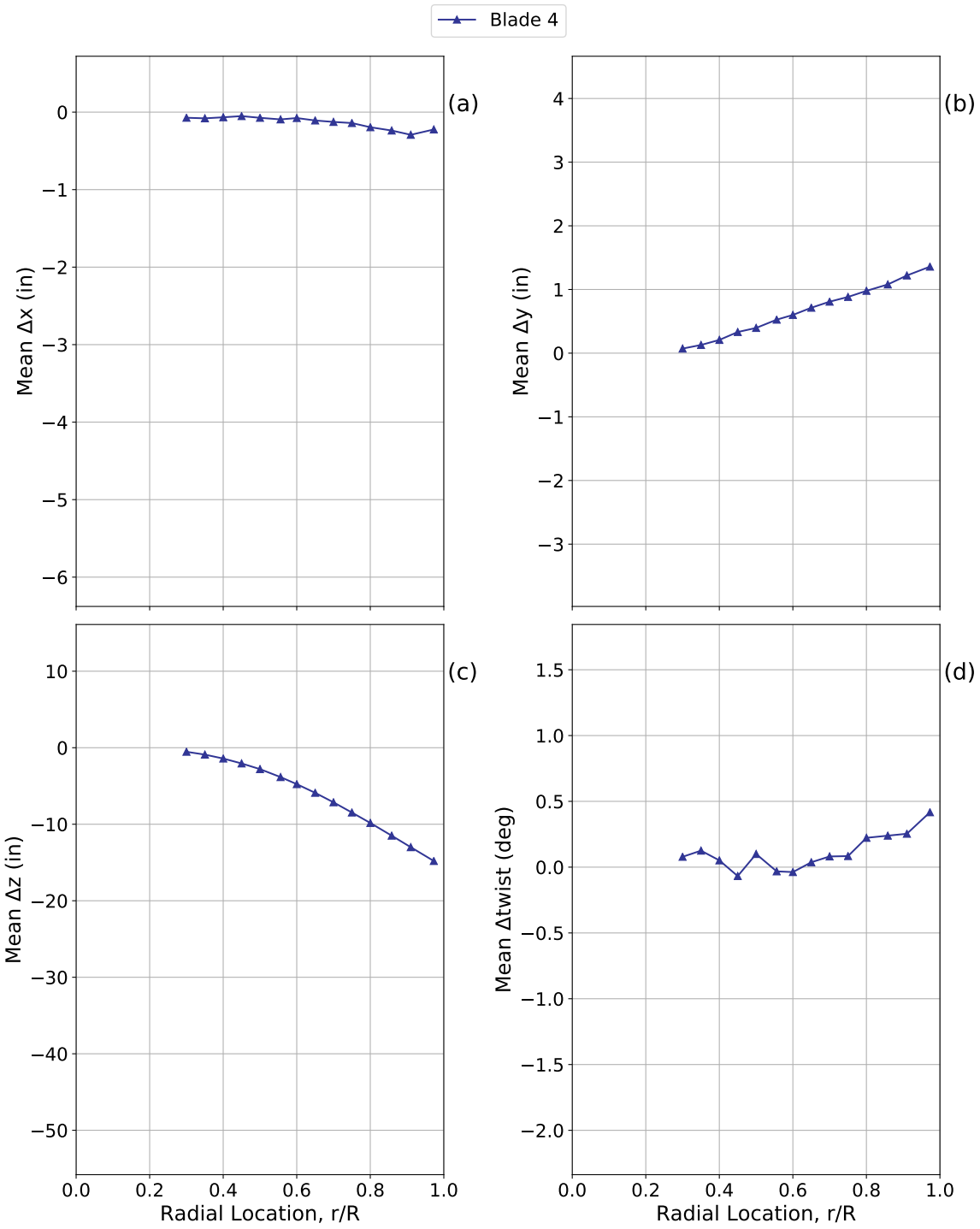


Figure 3.43-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.3001	-0.0725	0.0236	0.0718	0.0161	-0.5298	0.1019	0.0786	0.1042
4	175.08	0.3502	-0.0801	0.0262	0.1284	0.0280	-0.9008	0.1752	0.1253	0.1392
4	175.08	0.4002	-0.0665	0.0279	0.2078	0.0446	-1.4148	0.2773	0.0512	0.1245
4	175.08	0.4500	-0.0513	0.0353	0.3319	0.0606	-2.0544	0.3911	-0.0679	0.1536
4	175.08	0.5001	-0.0734	0.0392	0.3961	0.0781	-2.7991	0.5260	0.1000	0.1443
4	175.08	0.5560	-0.0939	0.0504	0.5259	0.1008	-3.8401	0.6993	-0.0321	0.1496
4	175.08	0.6001	-0.0763	0.0600	0.6002	0.1190	-4.7611	0.8523	-0.0374	0.1558
4	175.08	0.6501	-0.1077	0.0733	0.7132	0.1388	-5.8955	1.0439	0.0370	0.1656
4	175.08	0.6999	-0.1265	0.0898	0.8085	0.1603	-7.1335	1.2484	0.0813	0.1743
4	175.08	0.7500	-0.1409	0.1065	0.8829	0.1828	-8.4703	1.4669	0.0838	0.1771
4	175.08	0.8002	-0.1949	0.1264	0.9787	0.2051	-9.8367	1.6970	0.2228	0.1504
4	175.08	0.8582	-0.2375	0.1547	1.0790	0.2292	-11.4930	1.9736	0.2392	0.1784
4	175.08	0.9101	-0.2927	0.1708	1.2199	0.2546	-13.0005	2.2229	0.2537	0.1995
4	175.08	0.9728	-0.2239	0.1916	1.3586	0.2845	-14.8032	2.5326	0.4171	0.1790

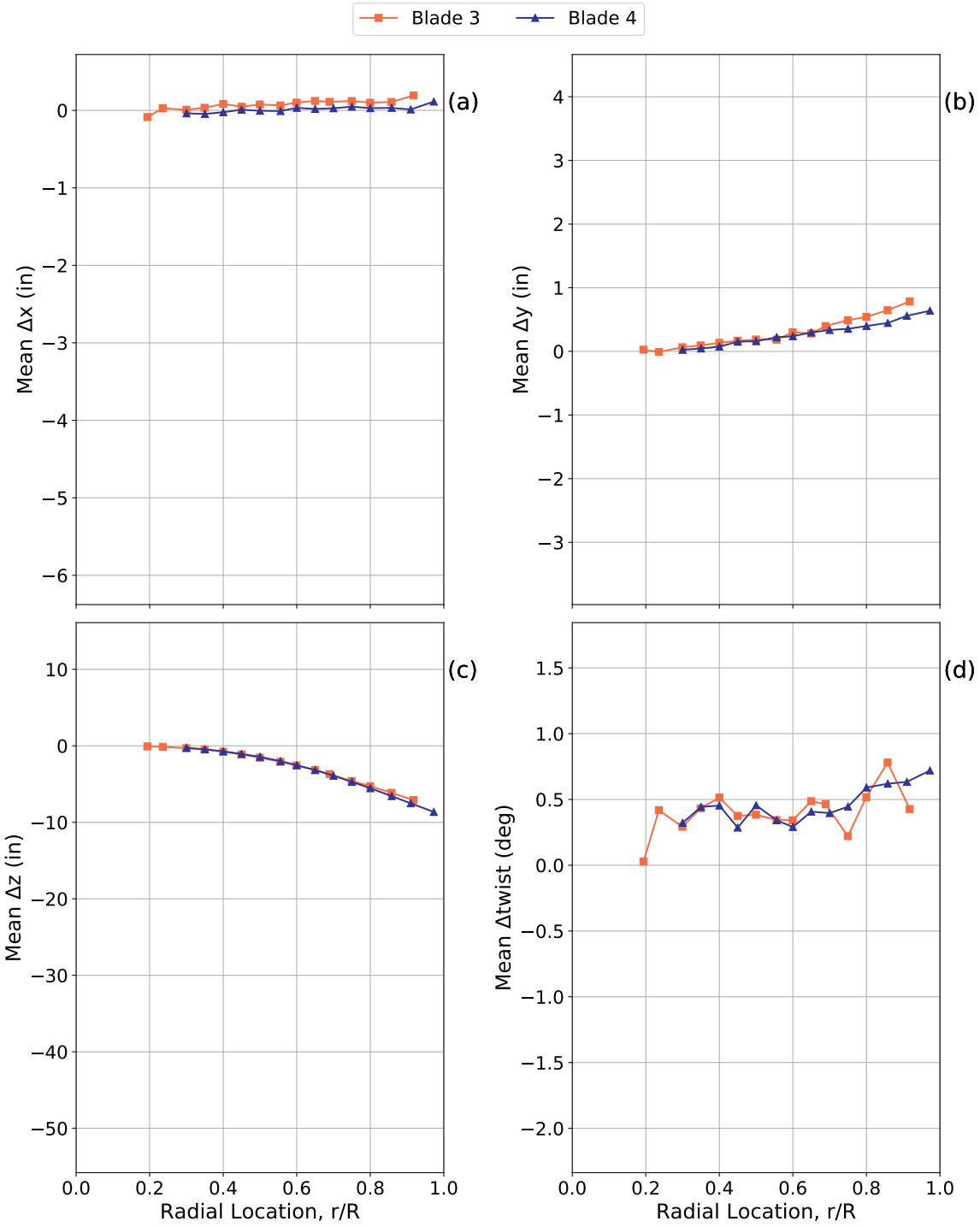


Figure 3.43-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0858	0.0031	0.0261	0.0018	-0.0736	0.0120	0.0274	0.0531
3	180.35	0.2357	0.0277	0.0024	-0.0101	0.0041	-0.1280	0.0211	0.4185	0.0535
3	180.35	0.2995	0.0072	0.0050	0.0643	0.0080	-0.3037	0.0520	0.2924	0.1136
3	180.35	0.3493	0.0341	0.0049	0.0936	0.0140	-0.4868	0.0862	0.4326	0.1110
3	180.35	0.4000	0.0836	0.0060	0.1346	0.0220	-0.7663	0.1359	0.5143	0.1137
3	180.35	0.4497	0.0470	0.0070	0.1649	0.0289	-1.1334	0.1965	0.3755	0.1248
3	180.35	0.4997	0.0772	0.0089	0.1858	0.0387	-1.5436	0.2635	0.3837	0.1125
3	180.35	0.5556	0.0635	0.0107	0.1828	0.0469	-2.0895	0.3425	0.3435	0.1133
3	180.35	0.5995	0.1006	0.0123	0.3008	0.0564	-2.5681	0.4091	0.3419	0.1262
3	180.35	0.6498	0.1220	0.0156	0.2812	0.0675	-3.1571	0.4903	0.4867	0.1294
3	180.35	0.6890	0.1107	0.0174	0.3977	0.0742	-3.6956	0.5545	0.4641	0.1214
3	180.35	0.7495	0.1209	0.0213	0.4891	0.0878	-4.6070	0.6548	0.2211	0.1394
3	180.35	0.7998	0.0996	0.0261	0.5410	0.0981	-5.2753	0.7504	0.5171	0.1367
3	180.35	0.8577	0.1086	0.0311	0.6462	0.1110	-6.1458	0.8660	0.7806	0.1719
3	180.35	0.9178	0.1923	0.0343	0.7850	0.1242	-7.0880	0.9874	0.4270	0.1549
4	180	0.3001	-0.0381	0.0205	0.0245	0.0272	-0.2633	0.1018	0.3224	0.2641
4	180	0.3502	-0.0458	0.0269	0.0449	0.0475	-0.4542	0.1816	0.4428	0.3553
4	180	0.4002	-0.0234	0.0234	0.0738	0.0759	-0.7197	0.2939	0.4536	0.3090
4	180	0.4500	0.0083	0.0280	0.1517	0.0982	-1.0620	0.3966	0.2858	0.3202
4	180	0.5001	-0.0051	0.0297	0.1595	0.1258	-1.4416	0.5148	0.4555	0.3297
4	180	0.5560	-0.0088	0.0350	0.2209	0.1551	-2.0064	0.6575	0.3416	0.3137
4	180	0.6001	0.0329	0.0382	0.2374	0.1792	-2.5287	0.7737	0.2907	0.3211
4	180	0.6501	0.0185	0.0432	0.2965	0.2060	-3.1678	0.9179	0.4073	0.3024
4	180	0.6999	0.0275	0.0490	0.3357	0.2314	-3.9084	1.0637	0.3961	0.2840
4	180	0.7500	0.0480	0.0557	0.3540	0.2588	-4.7141	1.2137	0.4452	0.3377
4	180	0.8002	0.0288	0.0643	0.3983	0.2858	-5.5458	1.3732	0.5906	0.3284
4	180	0.8582	0.0322	0.0741	0.4464	0.3185	-6.5754	1.5571	0.6198	0.3225
4	180	0.9101	0.0117	0.0817	0.5582	0.3473	-7.5135	1.7280	0.6334	0.3133
4	180	0.9728	0.1136	0.0913	0.6381	0.3790	-8.6423	1.9393	0.7199	0.3143

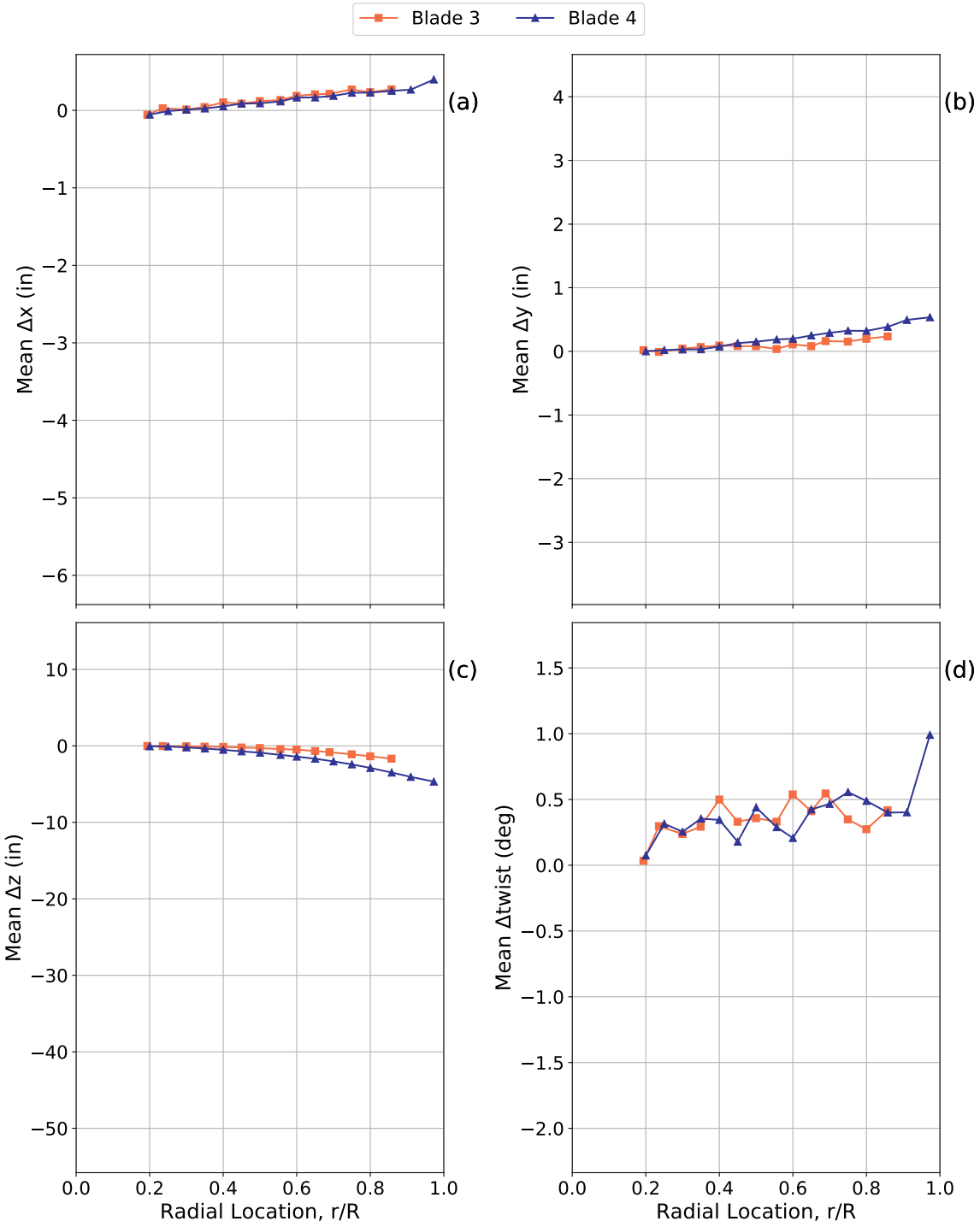


Figure 3.43-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0560	0.0017	0.0192	0.0023	-0.0165	0.0103	0.0339	0.0334
3	184.92	0.2357	0.0277	0.0017	-0.0087	0.0030	-0.0344	0.0198	0.2970	0.0524
3	184.92	0.2995	0.0117	0.0025	0.0427	0.0072	-0.0565	0.0440	0.2375	0.0771
3	184.92	0.3493	0.0426	0.0020	0.0677	0.0133	-0.0954	0.0756	0.2927	0.0720
3	184.92	0.4000	0.1033	0.0031	0.0917	0.0194	-0.1412	0.1172	0.4994	0.0711
3	184.92	0.4497	0.0872	0.0040	0.0832	0.0259	-0.2201	0.1656	0.3306	0.0722
3	184.92	0.4997	0.1196	0.0041	0.0811	0.0322	-0.2957	0.2208	0.3575	0.0772
3	184.92	0.5556	0.1333	0.0046	0.0377	0.0421	-0.4223	0.2859	0.3308	0.0759
3	184.92	0.5995	0.1876	0.0051	0.1089	0.0481	-0.4914	0.3427	0.5382	0.0927
3	184.92	0.6498	0.2072	0.0065	0.0818	0.0549	-0.6803	0.4107	0.4114	0.0776
3	184.92	0.6890	0.2138	0.0075	0.1613	0.0610	-0.8297	0.4710	0.5450	0.0899
3	184.92	0.7495	0.2694	0.0081	0.1532	0.0695	-1.1073	0.5690	0.3489	0.0877
3	184.92	0.7998	0.2347	0.0099	0.1978	0.0776	-1.3656	0.6558	0.2734	0.0960
3	184.92	0.8577	0.2721	0.0114	0.2341	0.0904	-1.6806	0.7599	0.4179	0.1456
4	184.92	0.2001	-0.0540	0.0016	0.0007	0.0016	-0.0621	0.0126	0.0738	0.0339
4	184.92	0.2502	-0.0091	0.0019	0.0203	0.0043	-0.0824	0.0248	0.3151	0.0365
4	184.92	0.3001	0.0088	0.0030	0.0292	0.0076	-0.2093	0.0465	0.2547	0.0700
4	184.92	0.3502	0.0243	0.0043	0.0330	0.0118	-0.3500	0.0819	0.3542	0.0562
4	184.92	0.4002	0.0521	0.0034	0.0748	0.0197	-0.5196	0.1238	0.3446	0.0883
4	184.92	0.4500	0.0871	0.0041	0.1293	0.0265	-0.7243	0.1721	0.1785	0.0958
4	184.92	0.5001	0.0913	0.0055	0.1514	0.0341	-0.8992	0.2302	0.4391	0.0900
4	184.92	0.5560	0.1160	0.0062	0.1871	0.0426	-1.1884	0.3055	0.2891	0.0834
4	184.92	0.6001	0.1659	0.0072	0.1980	0.0497	-1.4128	0.3753	0.2069	0.0769
4	184.92	0.6501	0.1669	0.0081	0.2494	0.0579	-1.6871	0.4609	0.4243	0.1041
4	184.92	0.6999	0.1878	0.0105	0.2914	0.0641	-2.0336	0.5588	0.4662	0.1024
4	184.92	0.7500	0.2276	0.0119	0.3245	0.0721	-2.4247	0.6702	0.5555	0.1192
4	184.92	0.8002	0.2290	0.0147	0.3214	0.0778	-2.8918	0.7882	0.4889	0.1067
4	184.92	0.8582	0.2522	0.0189	0.3849	0.0852	-3.4929	0.9382	0.4002	0.1321
4	184.92	0.9101	0.2674	0.0208	0.4939	0.0946	-4.0581	1.0727	0.4020	0.0887
4	184.92	0.9728	0.3984	0.0227	0.5352	0.0980	-4.6769	1.2434	0.9907	0.0991

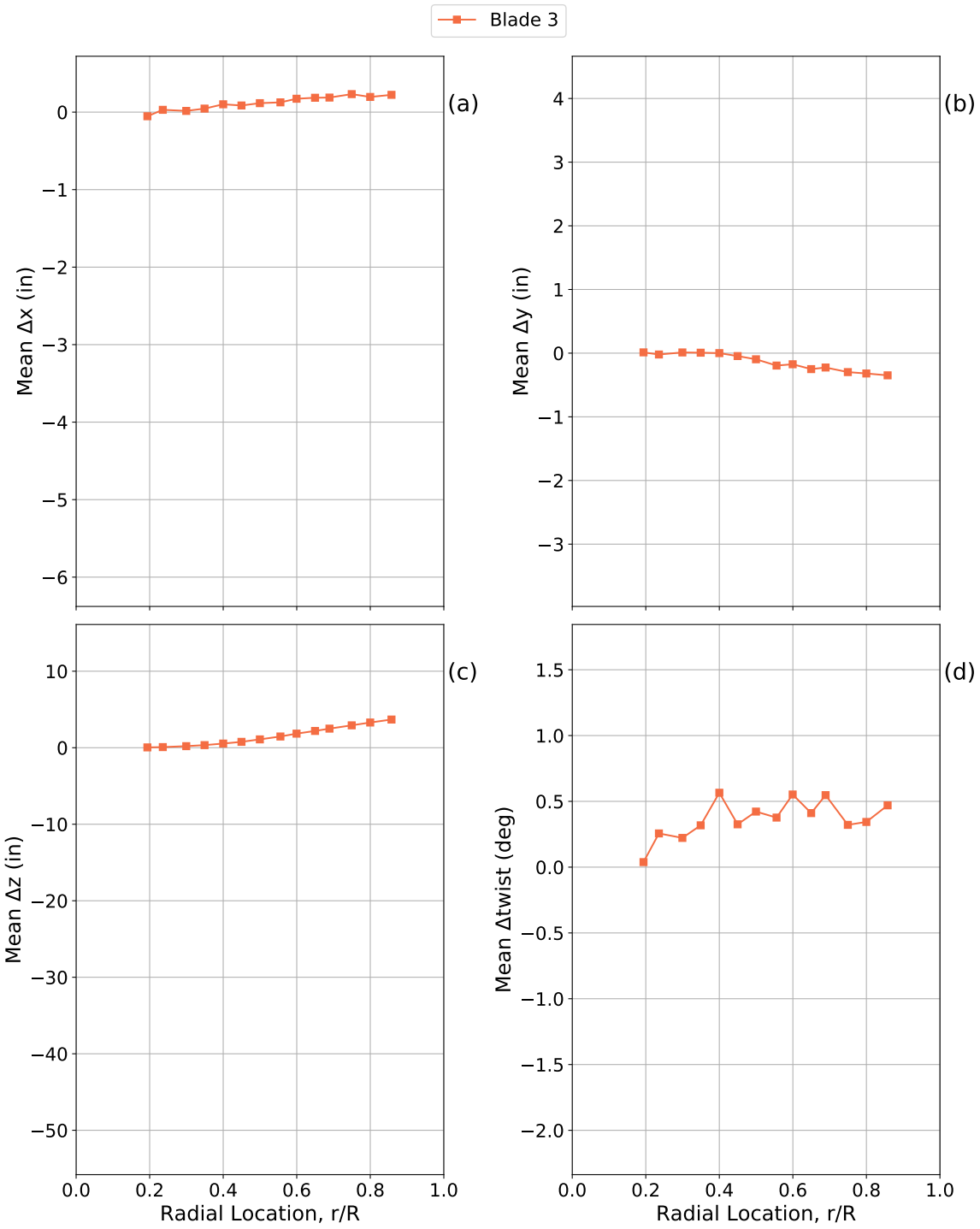


Figure 3.43-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0532	0.0021	0.0122	0.0019	0.0426	0.0264	0.0383	0.0336
3	195.12	0.2357	0.0297	0.0014	-0.0212	0.0043	0.0815	0.0412	0.2562	0.0410
3	195.12	0.2995	0.0157	0.0032	0.0112	0.0091	0.2044	0.1032	0.2221	0.0736
3	195.12	0.3493	0.0454	0.0040	0.0071	0.0172	0.3414	0.1791	0.3179	0.0958
3	195.12	0.4000	0.1011	0.0034	0.0005	0.0264	0.5442	0.2723	0.5653	0.1024
3	195.12	0.4497	0.0856	0.0037	-0.0459	0.0345	0.7692	0.3723	0.3254	0.1194
3	195.12	0.4997	0.1157	0.0035	-0.0962	0.0460	1.0904	0.4797	0.4222	0.1244
3	195.12	0.5556	0.1261	0.0057	-0.1949	0.0580	1.4683	0.5973	0.3766	0.1322
3	195.12	0.5995	0.1726	0.0087	-0.1746	0.0674	1.8403	0.6888	0.5521	0.1382
3	195.12	0.6498	0.1855	0.0119	-0.2507	0.0801	2.1934	0.7864	0.4108	0.1530
3	195.12	0.6890	0.1879	0.0140	-0.2256	0.0894	2.4941	0.8627	0.5472	0.1584
3	195.12	0.7495	0.2323	0.0168	-0.2975	0.1044	2.9274	0.9795	0.3213	0.1651
3	195.12	0.7998	0.1958	0.0202	-0.3194	0.1190	3.2935	1.0855	0.3435	0.1881
3	195.12	0.8577	0.2230	0.0224	-0.3487	0.1356	3.6850	1.2237	0.4697	0.2132

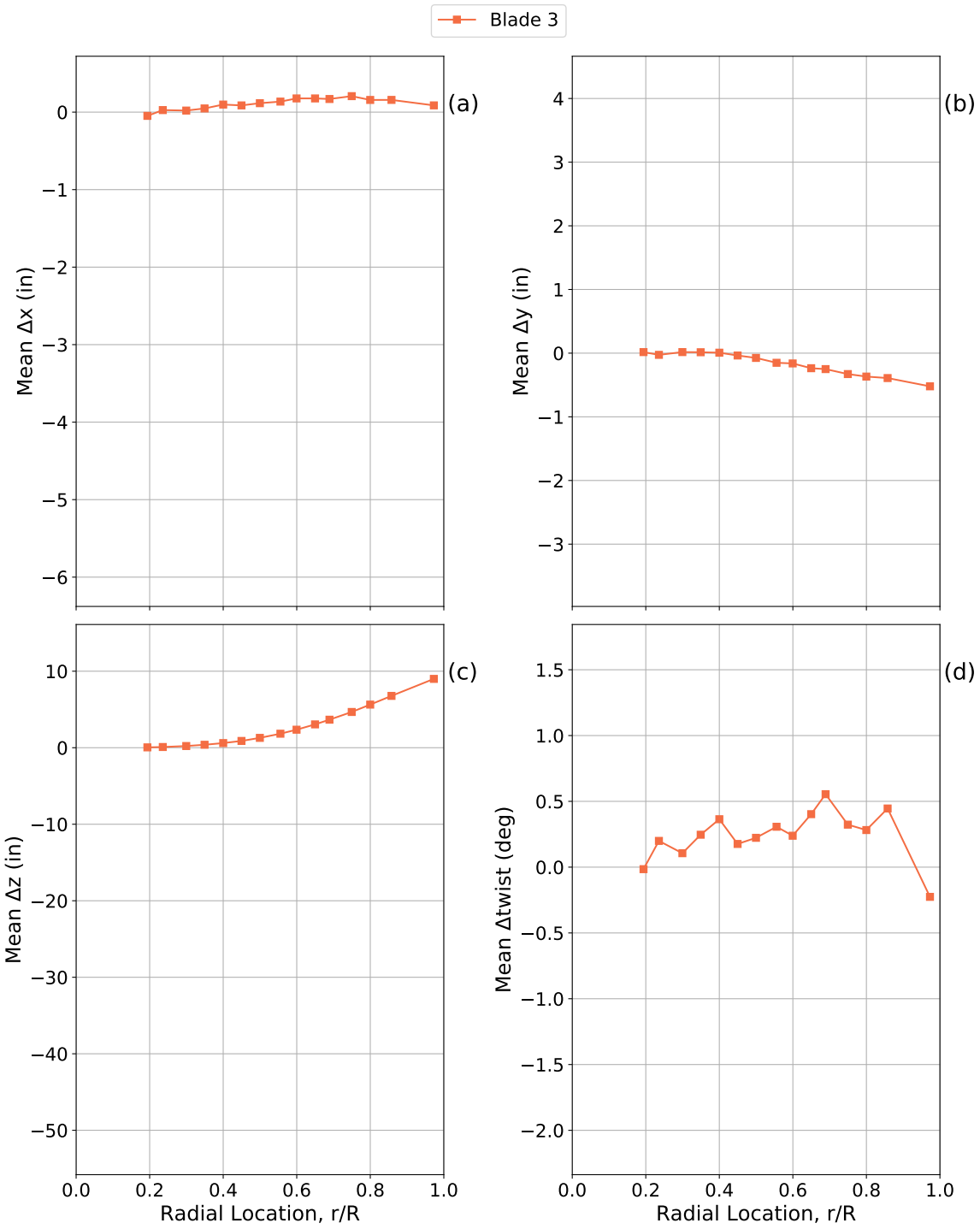


Figure 3.43-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0484	0.0017	0.0165	0.0022	0.0465	0.0147	-0.0153	0.0280
3	209.88	0.2357	0.0263	0.0011	-0.0268	0.0029	0.0939	0.0269	0.1995	0.0397
3	209.88	0.2995	0.0202	0.0013	0.0167	0.0086	0.2224	0.0618	0.1060	0.0625
3	209.88	0.3493	0.0475	0.0025	0.0142	0.0142	0.3864	0.1038	0.2464	0.0620
3	209.88	0.4000	0.0977	0.0029	0.0073	0.0224	0.6067	0.1616	0.3642	0.0601
3	209.88	0.4497	0.0868	0.0022	-0.0368	0.0310	0.8867	0.2323	0.1762	0.0663
3	209.88	0.4997	0.1154	0.0043	-0.0749	0.0411	1.2879	0.3153	0.2229	0.0709
3	209.88	0.5556	0.1358	0.0084	-0.1512	0.0527	1.8320	0.4212	0.3070	0.0842
3	209.88	0.5995	0.1769	0.0109	-0.1615	0.0636	2.3570	0.5140	0.2388	0.0961
3	209.88	0.6498	0.1768	0.0155	-0.2365	0.0742	3.0505	0.6248	0.4026	0.0949
3	209.88	0.6890	0.1693	0.0207	-0.2505	0.0839	3.6642	0.7081	0.5545	0.1067
3	209.88	0.7495	0.2062	0.0283	-0.3286	0.0983	4.6731	0.8276	0.3230	0.1121
3	209.88	0.7998	0.1571	0.0341	-0.3679	0.1093	5.6368	0.9084	0.2819	0.1214
3	209.88	0.8577	0.1577	0.0408	-0.3912	0.1221	6.7757	0.9871	0.4457	0.1274
3	209.88	0.9729	0.0871	0.0571	-0.5212	0.1509	8.9963	1.1384	-0.2258	0.1534

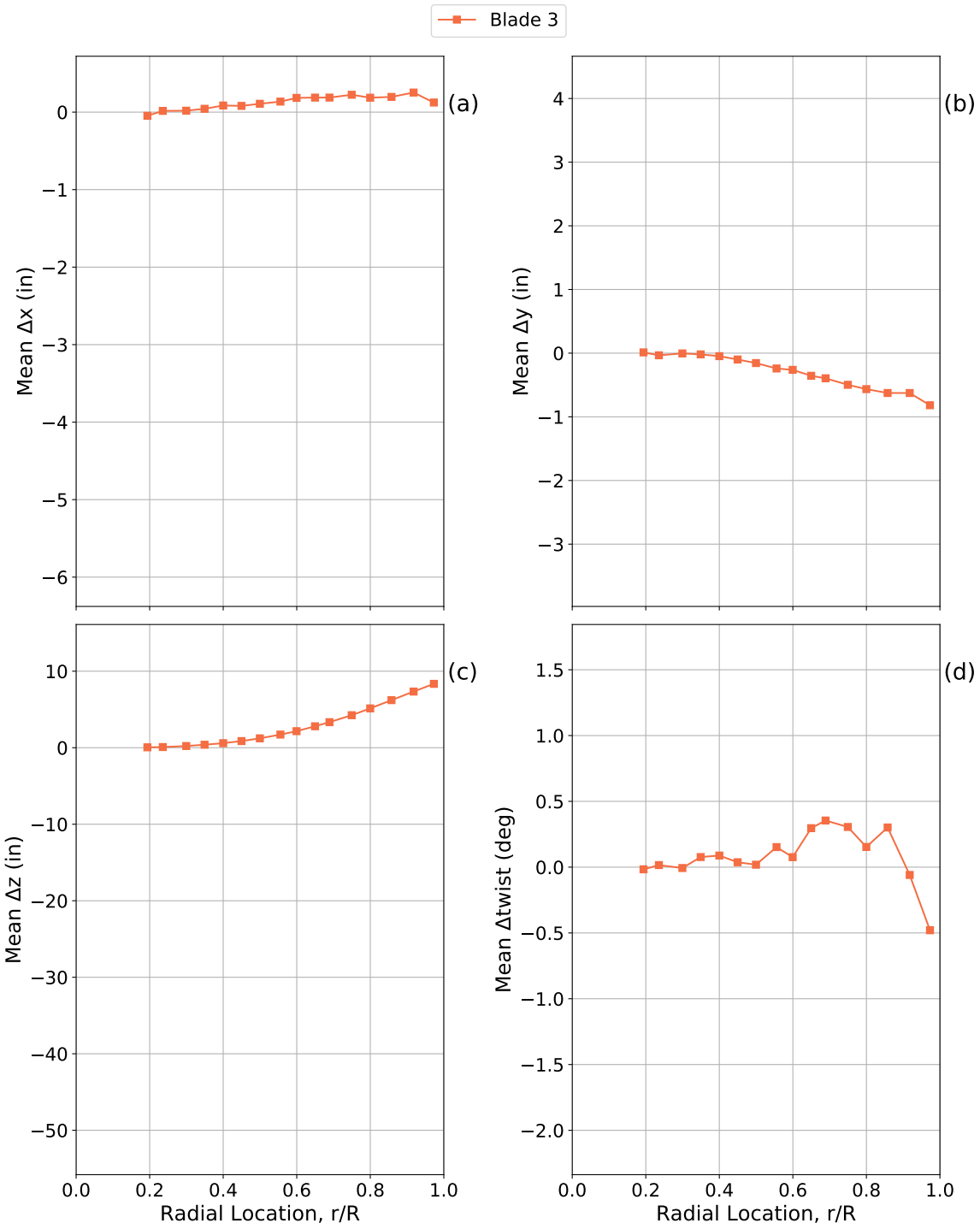


Figure 3.43-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0475	0.0012	0.0121	0.0023	0.0543	0.0110	-0.0166	0.0159
3	225	0.2357	0.0161	0.0017	-0.0336	0.0027	0.0884	0.0195	0.0157	0.0332
3	225	0.2995	0.0183	0.0013	-0.0042	0.0086	0.2222	0.0442	-0.0067	0.0393
3	225	0.3493	0.0431	0.0023	-0.0195	0.0148	0.3901	0.0747	0.0767	0.0551
3	225	0.4000	0.0856	0.0027	-0.0471	0.0227	0.5951	0.1150	0.0881	0.0450
3	225	0.4497	0.0803	0.0035	-0.0998	0.0297	0.8710	0.1647	0.0373	0.0550
3	225	0.4997	0.1076	0.0046	-0.1557	0.0368	1.2264	0.2193	0.0185	0.0608
3	225	0.5556	0.1359	0.0064	-0.2408	0.0492	1.7178	0.3084	0.1524	0.0652
3	225	0.5995	0.1837	0.0075	-0.2624	0.0574	2.1637	0.3803	0.0759	0.0606
3	225	0.6498	0.1875	0.0115	-0.3558	0.0705	2.8026	0.4800	0.2962	0.0751
3	225	0.6890	0.1878	0.0149	-0.3949	0.0796	3.3402	0.5725	0.3543	0.0672
3	225	0.7495	0.2240	0.0229	-0.4972	0.0947	4.2514	0.7276	0.3052	0.0738
3	225	0.7998	0.1863	0.0303	-0.5650	0.1060	5.1412	0.8752	0.1532	0.0812
3	225	0.8577	0.1964	0.0403	-0.6259	0.1189	6.2201	1.0611	0.3014	0.0728
3	225	0.9178	0.2525	0.0559	-0.6264	0.1306	7.3406	1.2553	-0.0594	0.1251
3	225	0.9729	0.1237	0.0718	-0.8183	0.1454	8.3499	1.4526	-0.4794	0.0958

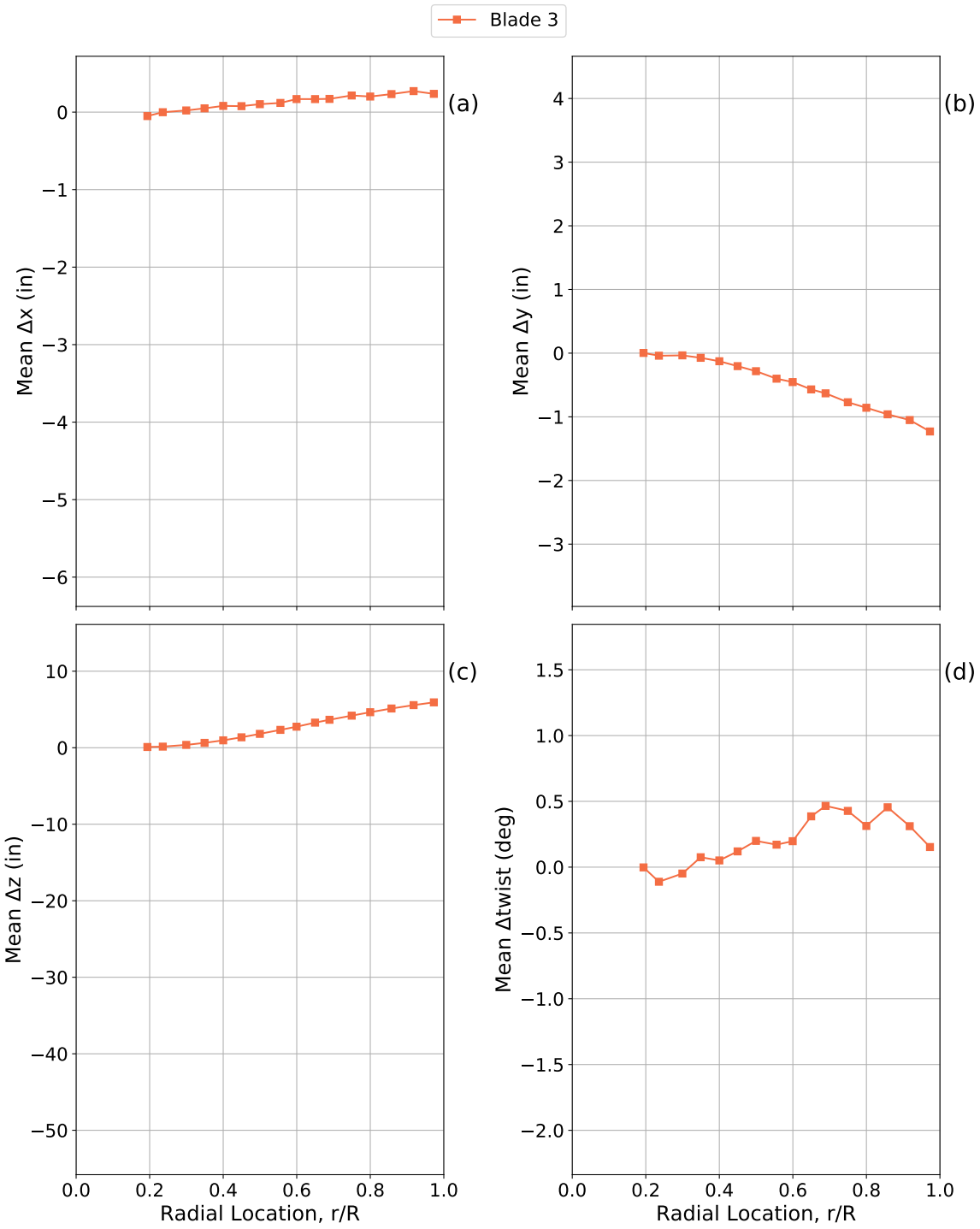


Figure 3.43-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0510	0.0019	0.0034	0.0019	0.0960	0.0087	-0.0020	0.0219
3	240.12	0.2357	-0.0010	0.0015	-0.0402	0.0025	0.1437	0.0153	-0.1110	0.0609
3	240.12	0.2995	0.0217	0.0013	-0.0348	0.0065	0.3690	0.0340	-0.0486	0.0633
3	240.12	0.3493	0.0490	0.0019	-0.0732	0.0125	0.6356	0.0589	0.0753	0.0701
3	240.12	0.4000	0.0803	0.0025	-0.1271	0.0180	0.9645	0.0895	0.0510	0.0657
3	240.12	0.4497	0.0771	0.0041	-0.2038	0.0248	1.3630	0.1332	0.1197	0.0635
3	240.12	0.4997	0.1025	0.0052	-0.2832	0.0331	1.8128	0.1847	0.1995	0.0477
3	240.12	0.5556	0.1186	0.0065	-0.4010	0.0419	2.3327	0.2525	0.1708	0.0713
3	240.12	0.5995	0.1684	0.0087	-0.4543	0.0523	2.7491	0.3202	0.1973	0.0502
3	240.12	0.6498	0.1680	0.0121	-0.5695	0.0623	3.2795	0.4029	0.3860	0.0427
3	240.12	0.6890	0.1709	0.0142	-0.6311	0.0714	3.6521	0.4773	0.4655	0.0468
3	240.12	0.7495	0.2147	0.0170	-0.7714	0.0842	4.1909	0.6007	0.4275	0.0468
3	240.12	0.7998	0.2011	0.0212	-0.8578	0.0960	4.6409	0.7092	0.3131	0.0475
3	240.12	0.8577	0.2327	0.0251	-0.9608	0.1094	5.1271	0.8449	0.4550	0.0504
3	240.12	0.9178	0.2712	0.0311	-1.0510	0.1240	5.5678	0.9894	0.3114	0.0547
3	240.12	0.9729	0.2357	0.0405	-1.2303	0.1369	5.9292	1.1262	0.1528	0.0622

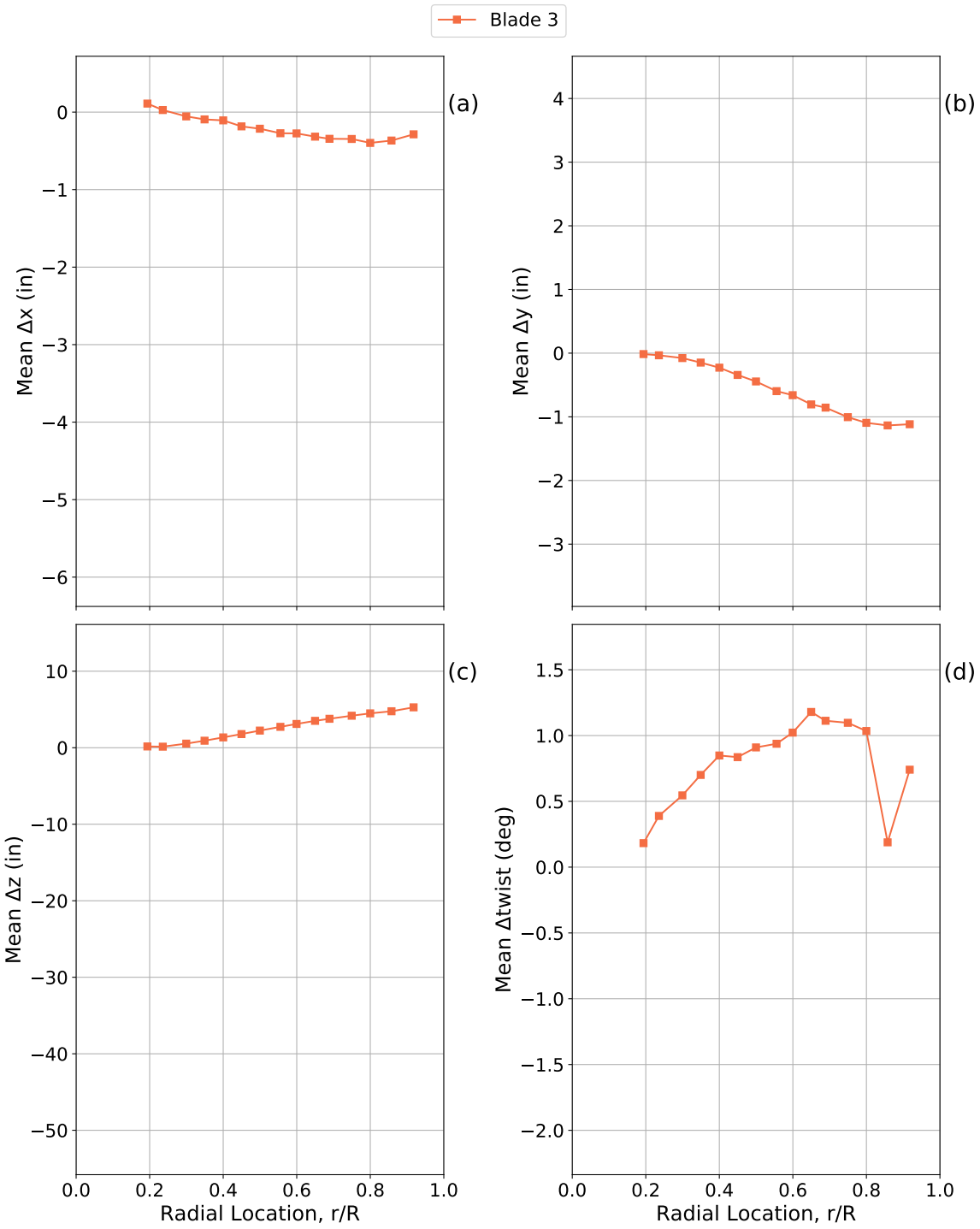


Figure 3.43-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	0.1103	0.0069	-0.0147	0.0055	0.1656	0.0158	0.1824	0.0397
3	254.88	0.2357	0.0269	0.0024	-0.0337	0.0034	0.1382	0.0221	0.3892	0.0823
3	254.88	0.2995	-0.0550	0.0030	-0.0772	0.0173	0.5363	0.0582	0.5454	0.1072
3	254.88	0.3493	-0.0939	0.0031	-0.1483	0.0297	0.9179	0.0968	0.7008	0.1089
3	254.88	0.4000	-0.1066	0.0043	-0.2280	0.0439	1.3497	0.1483	0.8485	0.1162
3	254.88	0.4497	-0.1840	0.0062	-0.3424	0.0572	1.7832	0.2053	0.8359	0.1346
3	254.88	0.4997	-0.2142	0.0078	-0.4446	0.0712	2.2418	0.2632	0.9098	0.1411
3	254.88	0.5556	-0.2725	0.0107	-0.5967	0.0878	2.7278	0.3241	0.9377	0.1408
3	254.88	0.5995	-0.2746	0.0122	-0.6600	0.1004	3.1076	0.3666	1.0224	0.1524
3	254.88	0.6498	-0.3165	0.0124	-0.8052	0.1144	3.5130	0.4053	1.1793	0.1641
3	254.88	0.6890	-0.3443	0.0152	-0.8555	0.1257	3.7838	0.4281	1.1123	0.1738
3	254.88	0.7495	-0.3463	0.0162	-1.0054	0.1433	4.1812	0.4468	1.0969	0.1481
3	254.88	0.7998	-0.3971	0.0182	-1.0946	0.1587	4.4909	0.4576	1.0345	0.1661
3	254.88	0.8577	-0.3668	0.0197	-1.1352	0.1756	4.7663	0.4626	0.1885	0.2082
3	254.88	0.9178	-0.2864	0.0192	-1.1165	0.1922	5.2791	0.4640	0.7405	0.1943

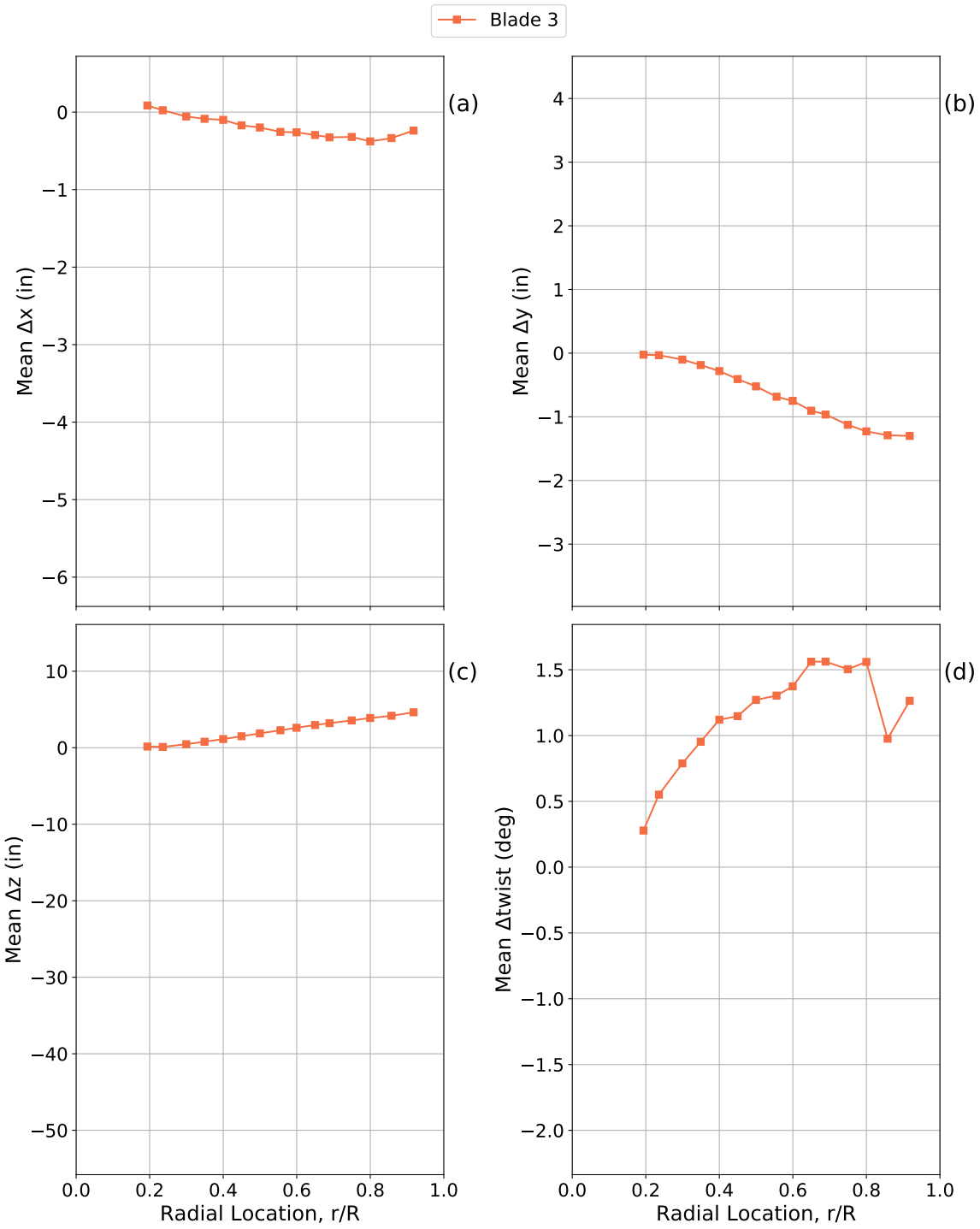


Figure 3.43-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0856	0.0071	-0.0246	0.0051	0.1520	0.0128	0.2784	0.0667
3	260.16	0.2357	0.0237	0.0021	-0.0321	0.0038	0.1043	0.0271	0.5513	0.1391
3	260.16	0.2995	-0.0562	0.0023	-0.1010	0.0138	0.4631	0.0589	0.7888	0.1783
3	260.16	0.3493	-0.0863	0.0042	-0.1868	0.0236	0.7800	0.0977	0.9532	0.1881
3	260.16	0.4000	-0.0998	0.0047	-0.2812	0.0342	1.1358	0.1572	1.1204	0.2190
3	260.16	0.4497	-0.1707	0.0035	-0.4072	0.0456	1.4957	0.2241	1.1473	0.2114
3	260.16	0.4997	-0.1984	0.0049	-0.5221	0.0577	1.8754	0.3060	1.2708	0.2122
3	260.16	0.5556	-0.2552	0.0067	-0.6849	0.0716	2.2805	0.4046	1.3039	0.2226
3	260.16	0.5995	-0.2606	0.0091	-0.7493	0.0822	2.6055	0.4800	1.3738	0.2389
3	260.16	0.6498	-0.2955	0.0119	-0.9036	0.0941	2.9671	0.5585	1.5612	0.2288
3	260.16	0.6890	-0.3253	0.0130	-0.9633	0.1026	3.2121	0.6145	1.5618	0.2647
3	260.16	0.7495	-0.3201	0.0156	-1.1258	0.1151	3.5667	0.6894	1.5040	0.2662
3	260.16	0.7998	-0.3777	0.0155	-1.2282	0.1252	3.8804	0.7566	1.5595	0.2965
3	260.16	0.8577	-0.3354	0.0161	-1.2899	0.1391	4.1750	0.8422	0.9760	0.3015
3	260.16	0.9178	-0.2376	0.0204	-1.3001	0.1516	4.6285	0.9617	1.2639	0.3121

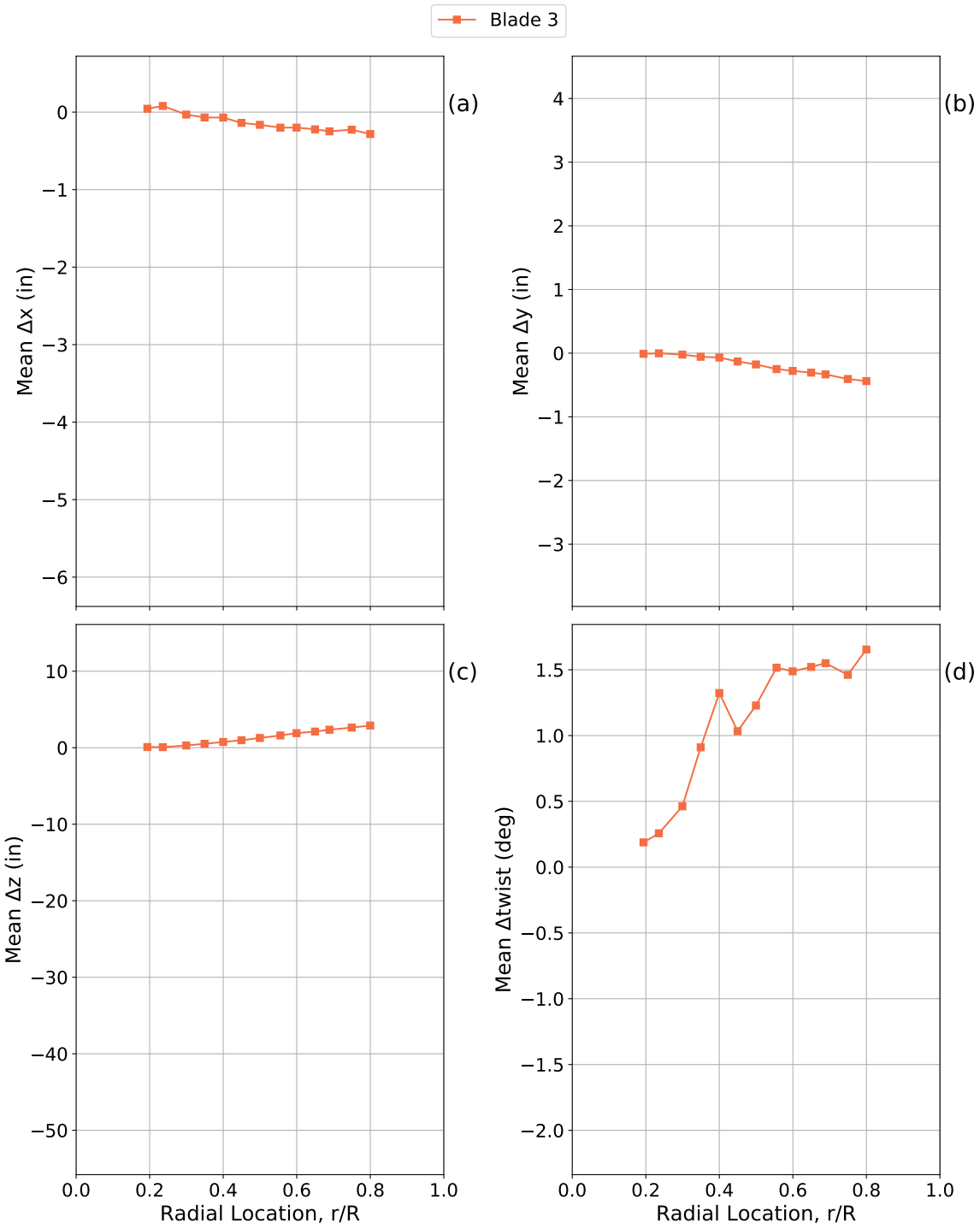


Figure 3.43-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0437	0.0033	-0.0107	0.0022	0.0885	0.0132	0.1882	0.0786
3	265.08	0.2357	0.0796	0.0034	-0.0025	0.0041	0.0742	0.0219	0.2573	0.1004
3	265.08	0.2995	-0.0316	0.0038	-0.0227	0.0080	0.2900	0.0510	0.4623	0.1738
3	265.08	0.3493	-0.0689	0.0043	-0.0568	0.0171	0.5136	0.0922	0.9103	0.1300
3	265.08	0.4000	-0.0703	0.0039	-0.0686	0.0241	0.7499	0.1370	1.3229	0.1435
3	265.08	0.4497	-0.1386	0.0050	-0.1312	0.0324	0.9789	0.1884	1.0331	0.1906
3	265.08	0.4997	-0.1638	0.0043	-0.1769	0.0387	1.2712	0.2375	1.2282	0.1856
3	265.08	0.5556	-0.2003	0.0064	-0.2499	0.0505	1.6063	0.3053	1.5156	0.1854
3	265.08	0.5995	-0.1991	0.0071	-0.2790	0.0584	1.9020	0.3611	1.4879	0.1856
3	265.08	0.6498	-0.2220	0.0093	-0.3052	0.0703	2.1152	0.4282	1.5213	0.1871
3	265.08	0.6890	-0.2477	0.0085	-0.3338	0.0751	2.3502	0.4799	1.5500	0.1905
3	265.08	0.7495	-0.2265	0.0101	-0.4061	0.0873	2.6324	0.5708	1.4614	0.2118
3	265.08	0.7998	-0.2829	0.0090	-0.4388	0.0951	2.9040	0.6506	1.6539	0.2609

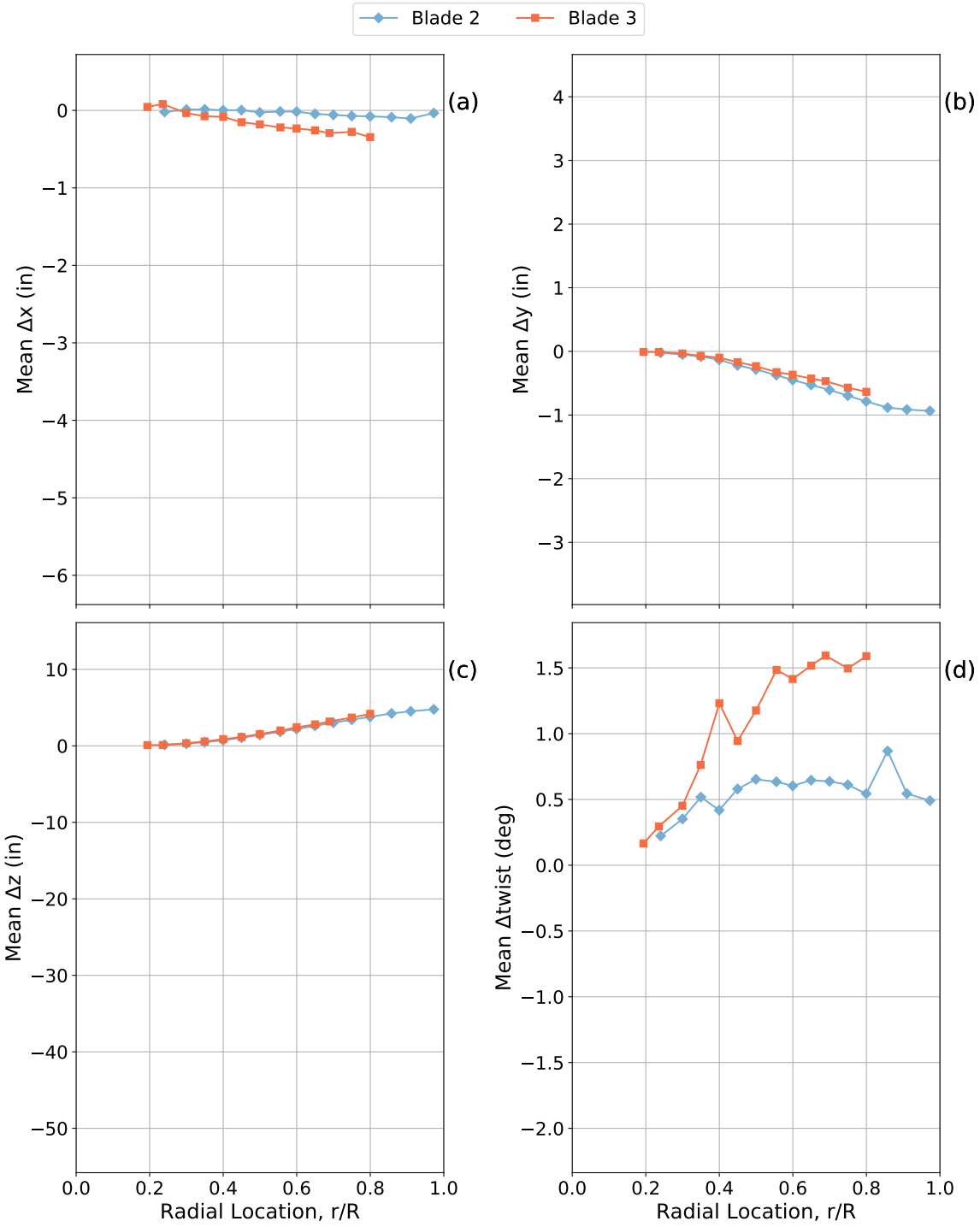


Figure 3.43-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2405	-0.0200	0.0142	-0.0215	0.0069	0.1369	0.0374	0.2228	0.1687
2	270.35	0.2999	0.0103	0.0048	-0.0500	0.0155	0.2618	0.0774	0.3518	0.2598
2	270.35	0.3498	0.0132	0.0153	-0.0829	0.0266	0.4859	0.1332	0.5179	0.2529
2	270.35	0.3998	0.0023	0.0237	-0.1332	0.0420	0.7241	0.2054	0.4184	0.2700
2	270.35	0.4496	0.0027	0.0305	-0.2194	0.0605	1.0522	0.2899	0.5795	0.2683
2	270.35	0.4995	-0.0257	0.0375	-0.2833	0.0832	1.4239	0.3905	0.6529	0.2837
2	270.35	0.5551	-0.0146	0.0433	-0.3743	0.1105	1.8385	0.5084	0.6343	0.3002
2	270.35	0.5996	-0.0164	0.0460	-0.4511	0.1345	2.1977	0.6118	0.6035	0.3020
2	270.35	0.6497	-0.0453	0.0478	-0.5274	0.1623	2.6106	0.7293	0.6461	0.3261
2	270.35	0.6996	-0.0581	0.0486	-0.6058	0.1918	3.0218	0.8505	0.6375	0.3213
2	270.35	0.7495	-0.0719	0.0491	-0.6961	0.2222	3.4103	0.9745	0.6114	0.3404
2	270.35	0.7996	-0.0769	0.0518	-0.7867	0.2544	3.7900	1.0978	0.5435	0.3600
2	270.35	0.8578	-0.0877	0.0608	-0.8832	0.2953	4.2358	1.2429	0.8683	0.3696
2	270.35	0.9100	-0.1047	0.0762	-0.9140	0.3333	4.5154	1.3759	0.5442	0.4234
2	270.35	0.9727	-0.0350	0.1034	-0.9354	0.3956	4.7712	1.5326	0.4911	0.4639
3	270	0.1938	0.0447	0.0070	-0.0102	0.0029	0.0928	0.0172	0.1658	0.0736
3	270	0.2357	0.0815	0.0022	-0.0109	0.0038	0.1023	0.0317	0.2953	0.1773
3	270	0.2995	-0.0345	0.0037	-0.0337	0.0102	0.3375	0.0692	0.4524	0.2154
3	270	0.3493	-0.0756	0.0019	-0.0715	0.0207	0.5782	0.1240	0.7627	0.1966
3	270	0.4000	-0.0829	0.0045	-0.0993	0.0295	0.8715	0.1879	1.2312	0.1889
3	270	0.4497	-0.1528	0.0051	-0.1689	0.0390	1.1577	0.2575	0.9445	0.1997
3	270	0.4997	-0.1812	0.0066	-0.2322	0.0487	1.5404	0.3465	1.1760	0.2037
3	270	0.5556	-0.2200	0.0090	-0.3267	0.0607	2.0011	0.4511	1.4844	0.2065
3	270	0.5995	-0.2333	0.0108	-0.3676	0.0697	2.4115	0.5336	1.4155	0.2331
3	270	0.6498	-0.2575	0.0145	-0.4274	0.0808	2.7978	0.6354	1.5178	0.2456
3	270	0.6890	-0.2932	0.0166	-0.4688	0.0883	3.1792	0.7072	1.5933	0.2640
3	270	0.7495	-0.2771	0.0215	-0.5697	0.1033	3.6935	0.8373	1.4957	0.2788
3	270	0.7998	-0.3450	0.0255	-0.6356	0.1151	4.1867	0.9330	1.5892	0.2331

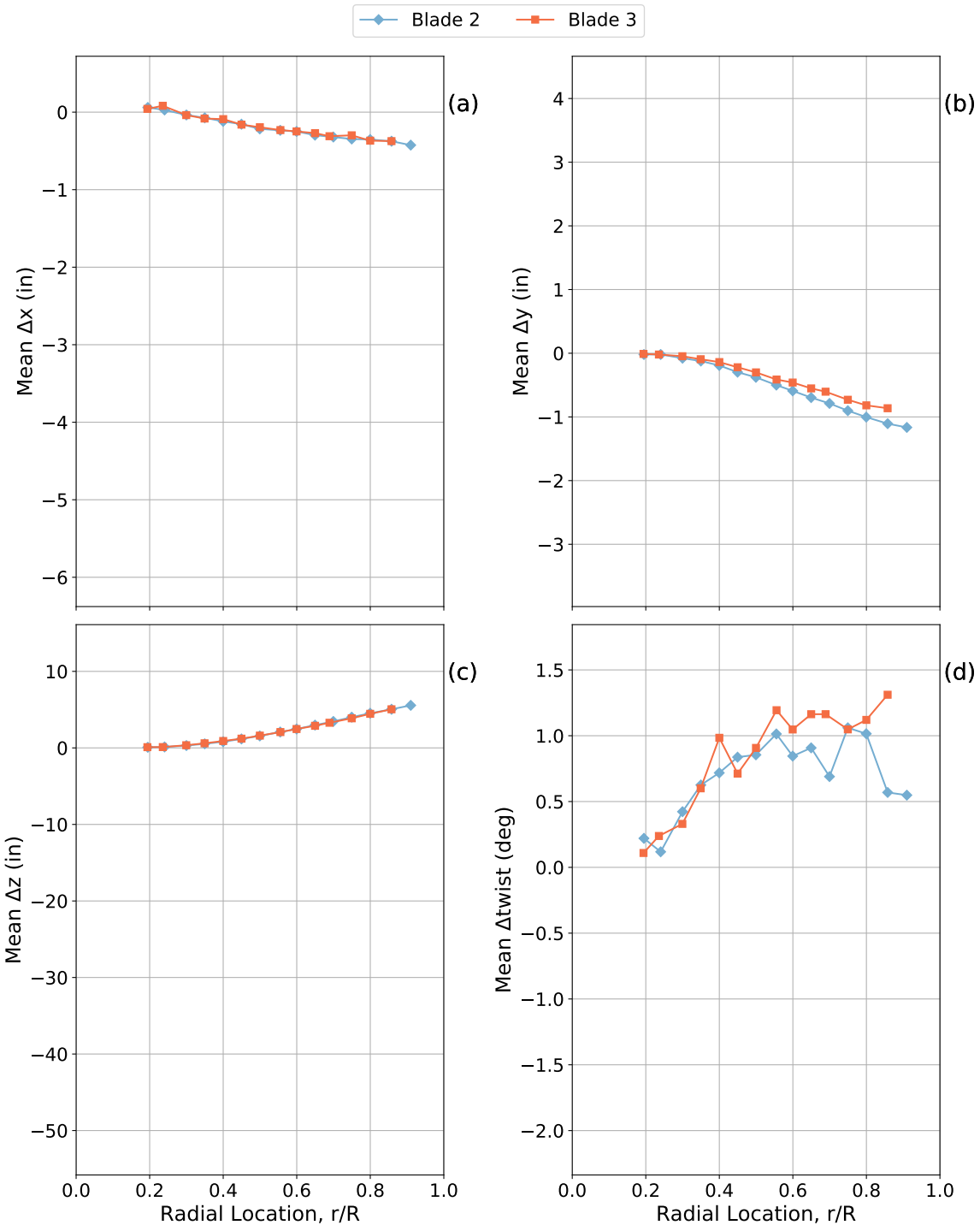


Figure 3.43-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0604	0.0031	-0.0194	0.0025	0.0772	0.0208	0.2204	0.0617
2	274.92	0.2405	0.0282	0.0037	-0.0192	0.0057	0.1245	0.0429	0.1180	0.0738
2	274.92	0.2999	-0.0363	0.0013	-0.0780	0.0133	0.3072	0.0956	0.4230	0.1305
2	274.92	0.3498	-0.0732	0.0012	-0.1225	0.0220	0.5329	0.1607	0.6256	0.0828
2	274.92	0.3998	-0.1187	0.0054	-0.1919	0.0354	0.8067	0.2525	0.7178	0.1117
2	274.92	0.4496	-0.1554	0.0061	-0.2974	0.0483	1.1713	0.3516	0.8372	0.1378
2	274.92	0.4995	-0.2160	0.0097	-0.3781	0.0641	1.5642	0.4695	0.8547	0.1326
2	274.92	0.5551	-0.2342	0.0137	-0.5003	0.0838	2.0756	0.6168	1.0135	0.1500
2	274.92	0.5996	-0.2490	0.0179	-0.5910	0.0990	2.4688	0.7398	0.8452	0.1491
2	274.92	0.6497	-0.2968	0.0256	-0.6966	0.1182	2.9764	0.8790	0.9079	0.1773
2	274.92	0.6996	-0.3208	0.0294	-0.7882	0.1365	3.4578	1.0224	0.6896	0.2293
2	274.92	0.7495	-0.3464	0.0353	-0.9022	0.1560	4.0147	1.1448	1.0603	0.2279
2	274.92	0.7996	-0.3529	0.0390	-1.0029	0.1753	4.5241	1.2537	1.0153	0.2129
2	274.92	0.8578	-0.3750	0.0441	-1.1060	0.1982	5.0464	1.3541	0.5690	0.2635
2	274.92	0.9100	-0.4254	0.0476	-1.1652	0.2178	5.5598	1.4497	0.5484	0.2362
3	274.92	0.1938	0.0423	0.0068	-0.0109	0.0019	0.0965	0.0092	0.1092	0.0723
3	274.92	0.2357	0.0825	0.0035	-0.0204	0.0033	0.1080	0.0161	0.2383	0.1761
3	274.92	0.2995	-0.0381	0.0034	-0.0469	0.0074	0.3485	0.0310	0.3302	0.2071
3	274.92	0.3493	-0.0823	0.0040	-0.0943	0.0130	0.6018	0.0556	0.6004	0.2137
3	274.92	0.4000	-0.0899	0.0039	-0.1389	0.0197	0.9032	0.0820	0.9843	0.2193
3	274.92	0.4497	-0.1608	0.0036	-0.2202	0.0250	1.2078	0.1110	0.7122	0.2112
3	274.92	0.4997	-0.1946	0.0044	-0.3006	0.0313	1.6046	0.1411	0.9074	0.1911
3	274.92	0.5556	-0.2312	0.0062	-0.4128	0.0373	2.0671	0.1783	1.1939	0.2142
3	274.92	0.5995	-0.2484	0.0081	-0.4601	0.0426	2.4691	0.2119	1.0474	0.2238
3	274.92	0.6498	-0.2705	0.0089	-0.5522	0.0493	2.8887	0.2520	1.1635	0.2270
3	274.92	0.6890	-0.3104	0.0103	-0.6039	0.0548	3.2850	0.2859	1.1637	0.2276
3	274.92	0.7495	-0.2986	0.0132	-0.7304	0.0625	3.8669	0.3451	1.0482	0.1924
3	274.92	0.7998	-0.3676	0.0151	-0.8185	0.0682	4.4543	0.3913	1.1203	0.2259
3	274.92	0.8577	-0.3738	0.0192	-0.8636	0.0772	5.0462	0.4516	1.3114	0.3551

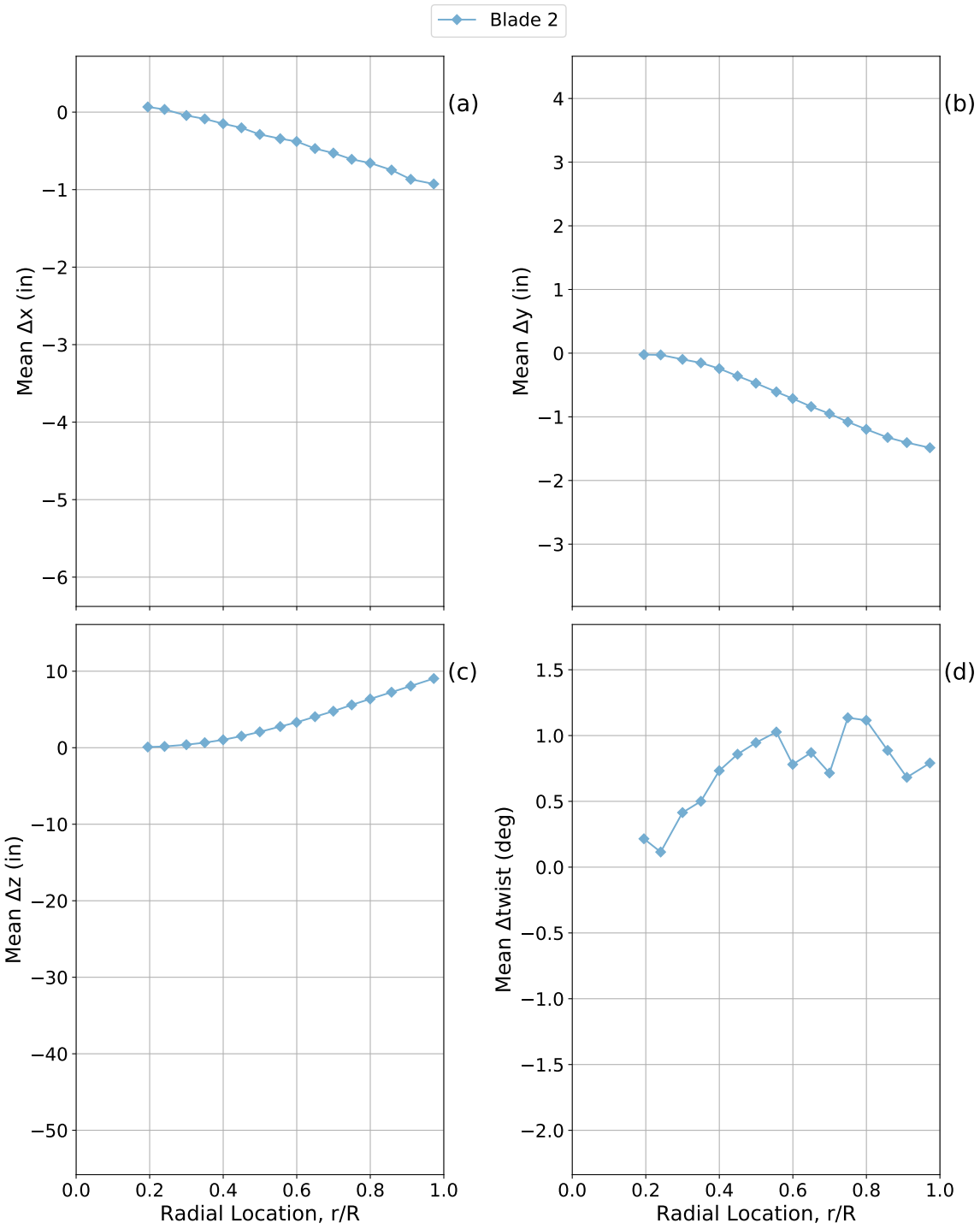


Figure 3.43-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0670	0.0043	-0.0228	0.0038	0.0902	0.0229	0.2156	0.0550
2	285.12	0.2405	0.0350	0.0036	-0.0277	0.0074	0.1662	0.0419	0.1149	0.0517
2	285.12	0.2999	-0.0437	0.0030	-0.0975	0.0177	0.3961	0.0982	0.4146	0.1089
2	285.12	0.3498	-0.0876	0.0049	-0.1527	0.0303	0.6623	0.1681	0.5004	0.1457
2	285.12	0.3998	-0.1492	0.0074	-0.2427	0.0474	1.0343	0.2594	0.7328	0.1242
2	285.12	0.4496	-0.2022	0.0109	-0.3599	0.0644	1.5134	0.3731	0.8581	0.1280
2	285.12	0.4995	-0.2878	0.0124	-0.4725	0.0821	2.0722	0.4971	0.9457	0.1490
2	285.12	0.5551	-0.3427	0.0194	-0.6082	0.1049	2.7672	0.6484	1.0270	0.1438
2	285.12	0.5996	-0.3786	0.0248	-0.7133	0.1225	3.3195	0.7705	0.7805	0.1678
2	285.12	0.6497	-0.4702	0.0330	-0.8398	0.1451	4.0519	0.9090	0.8704	0.1743
2	285.12	0.6996	-0.5281	0.0416	-0.9505	0.1650	4.7741	1.0383	0.7151	0.1673
2	285.12	0.7495	-0.6088	0.0465	-1.0803	0.1856	5.5969	1.1591	1.1355	0.1586
2	285.12	0.7996	-0.6570	0.0543	-1.1964	0.2063	6.3728	1.2819	1.1158	0.2074
2	285.12	0.8578	-0.7468	0.0596	-1.3247	0.2300	7.2577	1.4188	0.8872	0.2412
2	285.12	0.9100	-0.8669	0.0690	-1.4052	0.2525	8.0646	1.5409	0.6823	0.2047
2	285.12	0.9727	-0.9270	0.0866	-1.4860	0.2788	9.0442	1.7020	0.7912	0.2362

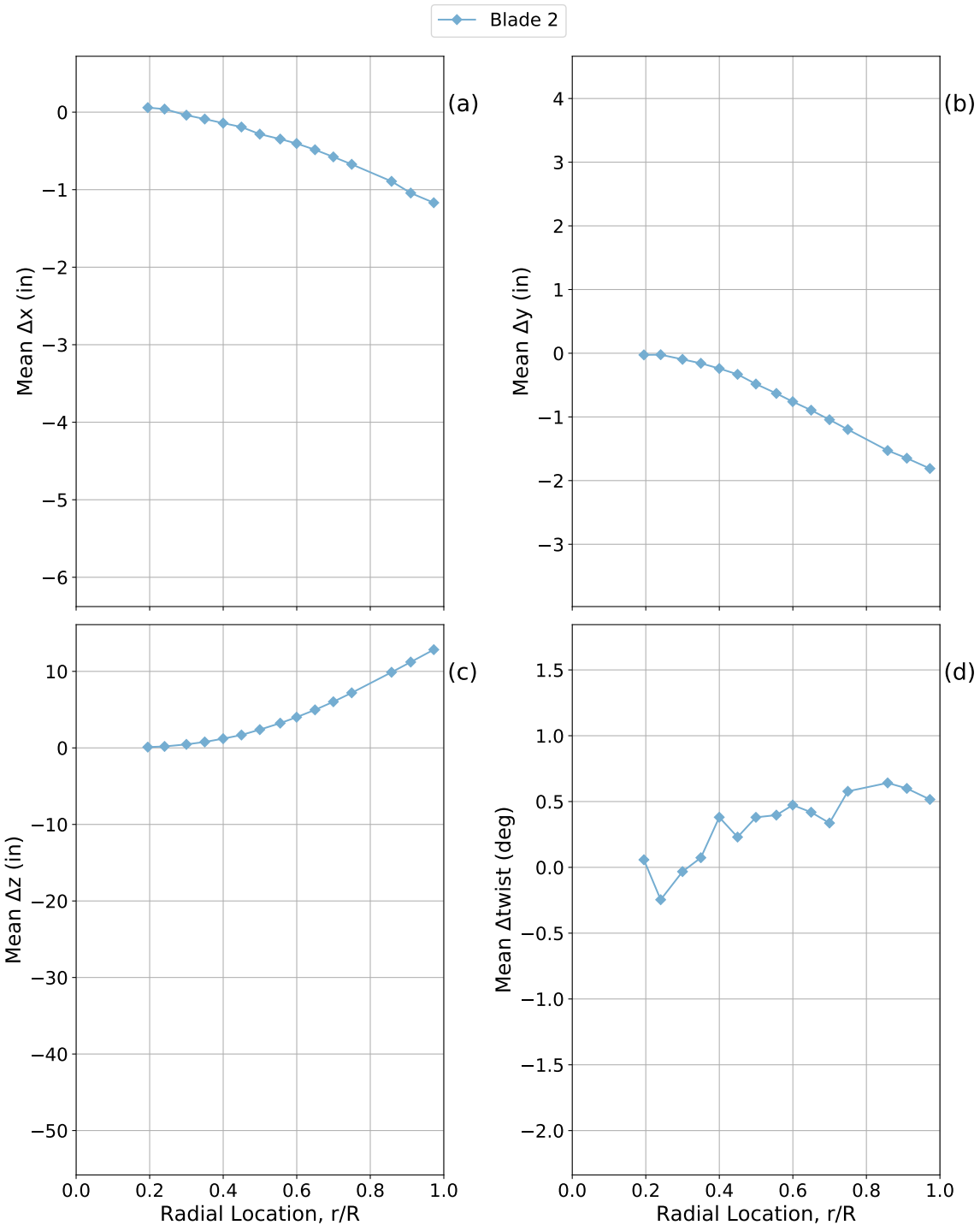


Figure 3.43-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0584	0.0036	-0.0258	0.0021	0.1049	0.0104	0.0576	0.0381
2	299.88	0.2405	0.0396	0.0028	-0.0232	0.0044	0.1915	0.0200	-0.2460	0.0747
2	299.88	0.2999	-0.0392	0.0037	-0.0960	0.0100	0.4582	0.0426	-0.0322	0.0973
2	299.88	0.3498	-0.0887	0.0064	-0.1583	0.0161	0.7772	0.0756	0.0731	0.1101
2	299.88	0.3998	-0.1415	0.0046	-0.2399	0.0258	1.2066	0.1146	0.3807	0.1119
2	299.88	0.4496	-0.1916	0.0065	-0.3315	0.0332	1.6861	0.1553	0.2299	0.1240
2	299.88	0.4995	-0.2839	0.0071	-0.4833	0.0383	2.3872	0.1933	0.3801	0.0938
2	299.88	0.5551	-0.3472	0.0119	-0.6312	0.0489	3.2333	0.2423	0.3968	0.1116
2	299.88	0.5996	-0.4042	0.0136	-0.7604	0.0568	4.0130	0.2828	0.4732	0.1145
2	299.88	0.6497	-0.4850	0.0173	-0.8946	0.0675	4.9695	0.3271	0.4186	0.1239
2	299.88	0.6996	-0.5772	0.0212	-1.0439	0.0778	6.0304	0.3676	0.3367	0.1151
2	299.88	0.7495	-0.6730	0.0255	-1.1975	0.0884	7.1966	0.4169	0.5776	0.1191
2	299.88	0.8578	-0.8925	0.0384	-1.5277	0.1139	9.8832	0.5580	0.6415	0.1438
2	299.88	0.9100	-1.0434	0.0480	-1.6488	0.1263	11.2199	0.6454	0.5996	0.1569
2	299.88	0.9727	-1.1685	0.0648	-1.8105	0.1415	12.8376	0.7690	0.5158	0.1548

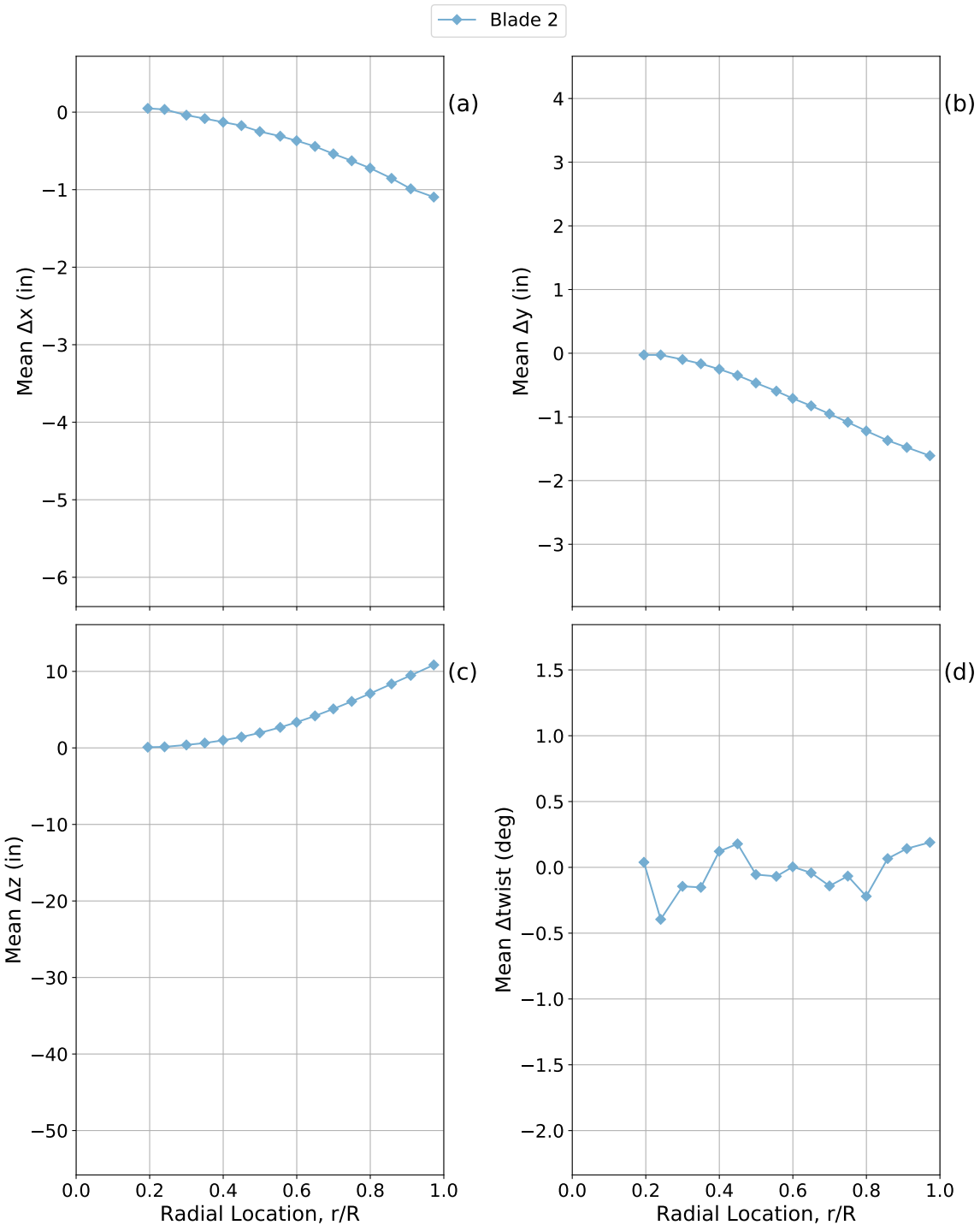


Figure 3.43-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0483	0.0032	-0.0259	0.0014	0.0918	0.0041	0.0385	0.0244
2	315	0.2405	0.0352	0.0019	-0.0272	0.0034	0.1381	0.0104	-0.3951	0.0400
2	315	0.2999	-0.0392	0.0038	-0.0984	0.0067	0.3876	0.0210	-0.1443	0.0526
2	315	0.3498	-0.0832	0.0038	-0.1655	0.0122	0.6362	0.0337	-0.1521	0.0775
2	315	0.3998	-0.1288	0.0067	-0.2505	0.0188	0.9925	0.0548	0.1217	0.0868
2	315	0.4496	-0.1739	0.0063	-0.3487	0.0237	1.4262	0.0677	0.1785	0.0808
2	315	0.4995	-0.2504	0.0072	-0.4671	0.0266	1.9628	0.0884	-0.0549	0.0737
2	315	0.5551	-0.3100	0.0084	-0.5949	0.0328	2.6818	0.1099	-0.0684	0.0792
2	315	0.5996	-0.3684	0.0088	-0.7093	0.0384	3.3542	0.1362	0.0038	0.1098
2	315	0.6497	-0.4422	0.0110	-0.8262	0.0448	4.1800	0.1548	-0.0420	0.0954
2	315	0.6996	-0.5378	0.0121	-0.9523	0.0512	5.0958	0.1826	-0.1410	0.1136
2	315	0.7495	-0.6273	0.0135	-1.0832	0.0576	6.0764	0.2139	-0.0665	0.1016
2	315	0.7996	-0.7222	0.0158	-1.2204	0.0639	7.1037	0.2522	-0.2202	0.1031
2	315	0.8578	-0.8539	0.0183	-1.3700	0.0723	8.3568	0.3039	0.0666	0.1007
2	315	0.9100	-0.9887	0.0220	-1.4792	0.0798	9.4728	0.3604	0.1424	0.1083
2	315	0.9727	-1.0955	0.0282	-1.6093	0.0882	10.8405	0.4323	0.1898	0.0880

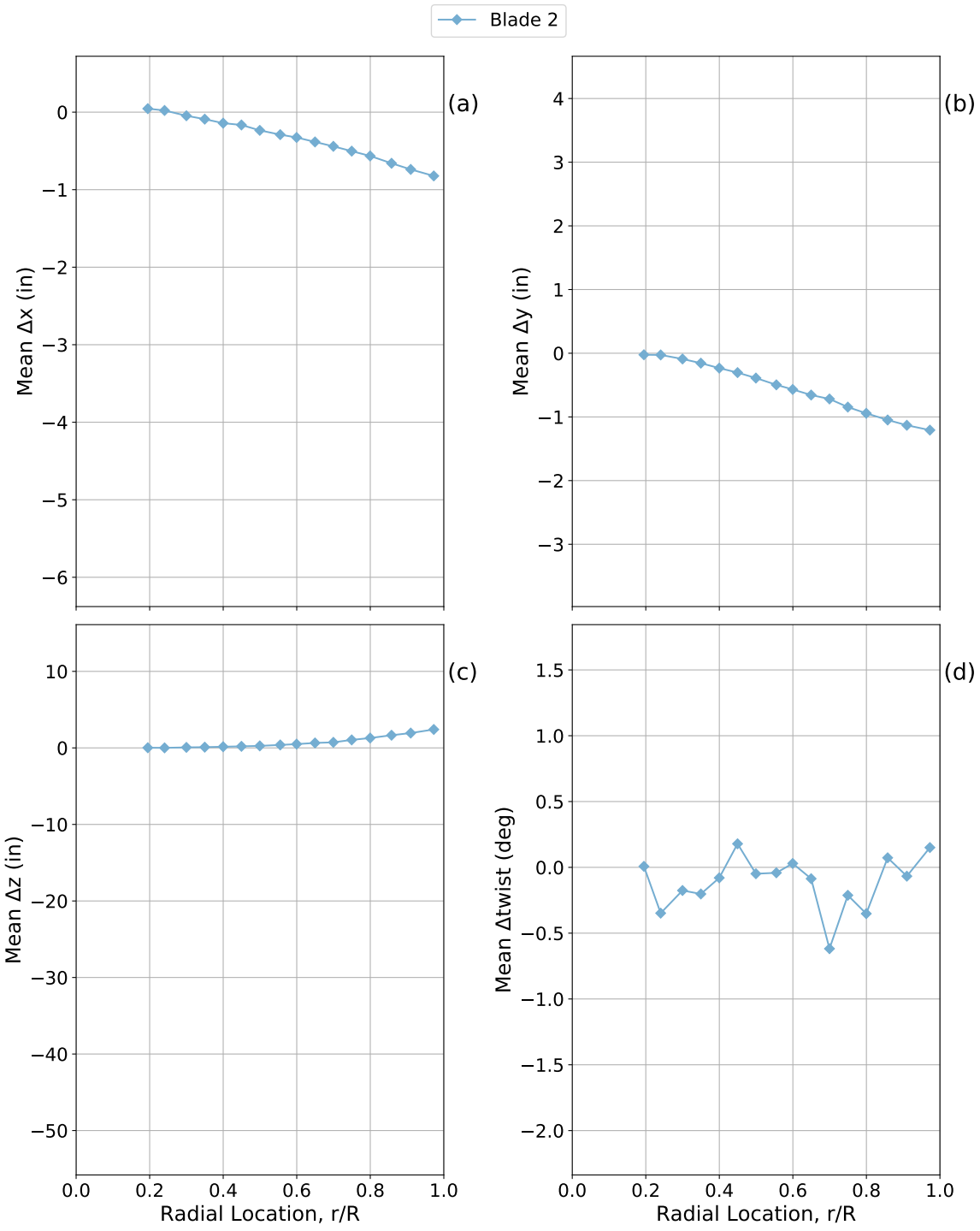


Figure 3.43-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0450	0.0039	-0.0239	0.0011	0.0186	0.0055	0.0077	0.0279
2	330.12	0.2405	0.0218	0.0045	-0.0267	0.0022	0.0062	0.0128	-0.3481	0.0365
2	330.12	0.2999	-0.0466	0.0039	-0.0902	0.0055	0.0681	0.0281	-0.1758	0.0584
2	330.12	0.3498	-0.0903	0.0034	-0.1560	0.0065	0.0970	0.0433	-0.2022	0.0742
2	330.12	0.3998	-0.1419	0.0045	-0.2338	0.0123	0.1540	0.0719	-0.0799	0.1110
2	330.12	0.4496	-0.1653	0.0057	-0.3042	0.0150	0.2049	0.0986	0.1791	0.0810
2	330.12	0.4995	-0.2349	0.0052	-0.3896	0.0209	0.2633	0.1299	-0.0486	0.0643
2	330.12	0.5551	-0.2900	0.0065	-0.4962	0.0253	0.3867	0.1742	-0.0415	0.0592
2	330.12	0.5996	-0.3266	0.0073	-0.5688	0.0292	0.4956	0.2160	0.0296	0.0853
2	330.12	0.6497	-0.3842	0.0076	-0.6563	0.0349	0.6475	0.2687	-0.0861	0.1019
2	330.12	0.6996	-0.4410	0.0090	-0.7182	0.0401	0.7278	0.3303	-0.6180	0.1536
2	330.12	0.7495	-0.5030	0.0105	-0.8457	0.0455	1.0463	0.3765	-0.2123	0.0801
2	330.12	0.7996	-0.5652	0.0118	-0.9433	0.0504	1.2907	0.4390	-0.3519	0.1102
2	330.12	0.8578	-0.6595	0.0131	-1.0481	0.0565	1.6557	0.5186	0.0727	0.1067
2	330.12	0.9100	-0.7387	0.0136	-1.1310	0.0624	1.9397	0.5924	-0.0671	0.0982
2	330.12	0.9727	-0.8229	0.0158	-1.2073	0.0704	2.4089	0.6897	0.1504	0.0928

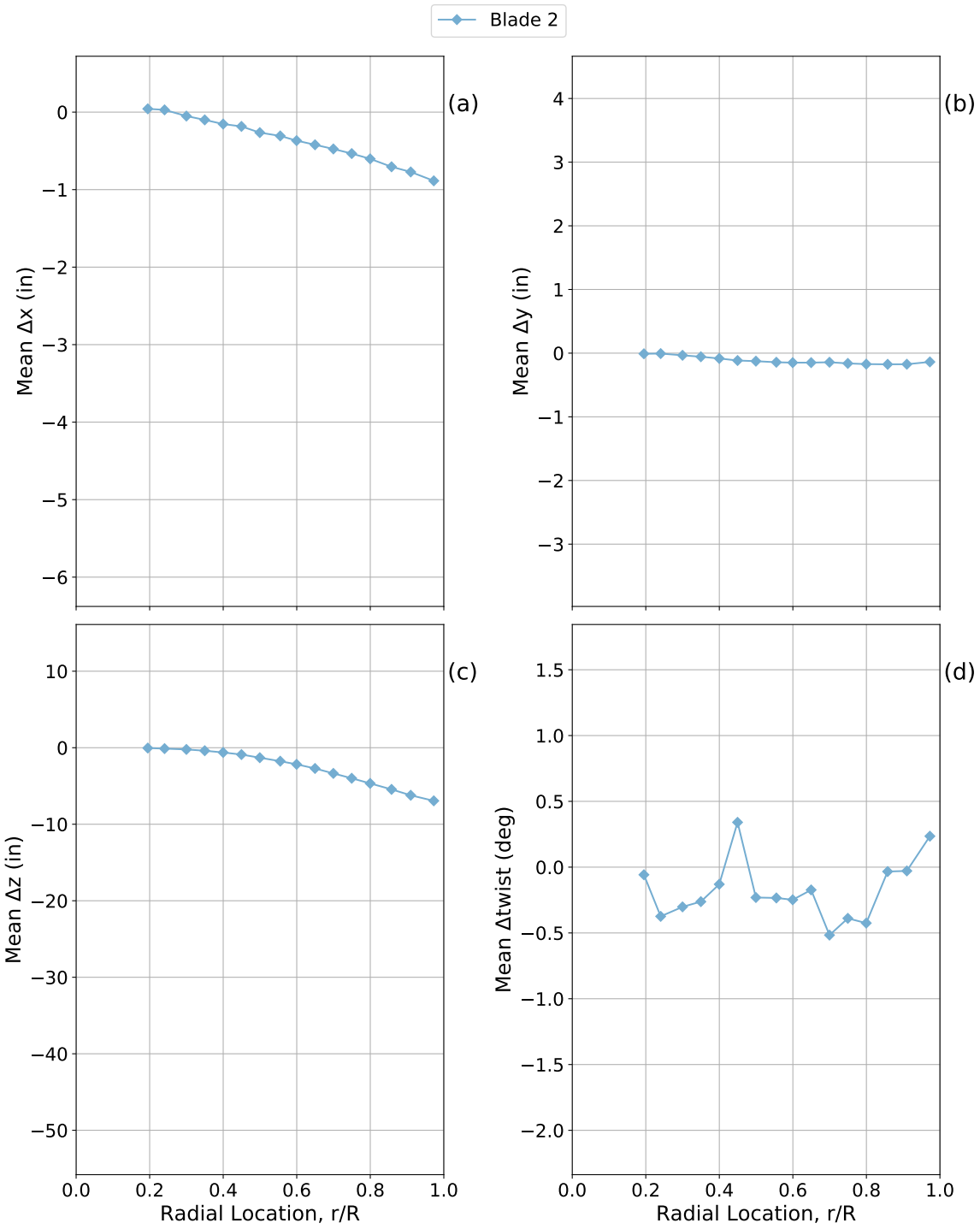


Figure 3.43-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0424	0.0033	-0.0099	0.0020	-0.0430	0.0118	-0.0577	0.0271
2	344.88	0.2405	0.0292	0.0040	-0.0067	0.0033	-0.1149	0.0234	-0.3741	0.0363
2	344.88	0.2999	-0.0508	0.0046	-0.0337	0.0082	-0.2248	0.0568	-0.3019	0.0566
2	344.88	0.3498	-0.1000	0.0060	-0.0565	0.0137	-0.3912	0.0948	-0.2621	0.0497
2	344.88	0.3998	-0.1538	0.0061	-0.0835	0.0213	-0.6197	0.1508	-0.1301	0.0726
2	344.88	0.4496	-0.1843	0.0060	-0.1157	0.0282	-0.8916	0.2049	0.3406	0.0521
2	344.88	0.4995	-0.2644	0.0078	-0.1260	0.0355	-1.3038	0.2748	-0.2308	0.0574
2	344.88	0.5551	-0.3070	0.0090	-0.1430	0.0461	-1.7610	0.3539	-0.2340	0.0805
2	344.88	0.5996	-0.3677	0.0119	-0.1492	0.0556	-2.1701	0.4206	-0.2480	0.0487
2	344.88	0.6497	-0.4213	0.0130	-0.1489	0.0638	-2.7098	0.5101	-0.1730	0.0790
2	344.88	0.6996	-0.4753	0.0171	-0.1428	0.0745	-3.3574	0.5892	-0.5165	0.1146
2	344.88	0.7495	-0.5347	0.0190	-0.1612	0.0855	-3.9913	0.6712	-0.3891	0.0563
2	344.88	0.7996	-0.6026	0.0206	-0.1721	0.0974	-4.6627	0.7462	-0.4253	0.0806
2	344.88	0.8578	-0.7053	0.0237	-0.1753	0.1096	-5.4452	0.8291	-0.0334	0.0586
2	344.88	0.9100	-0.7718	0.0264	-0.1741	0.1219	-6.2154	0.8989	-0.0287	0.0888
2	344.88	0.9727	-0.8865	0.0276	-0.1375	0.1370	-6.9405	0.9842	0.2352	0.0857

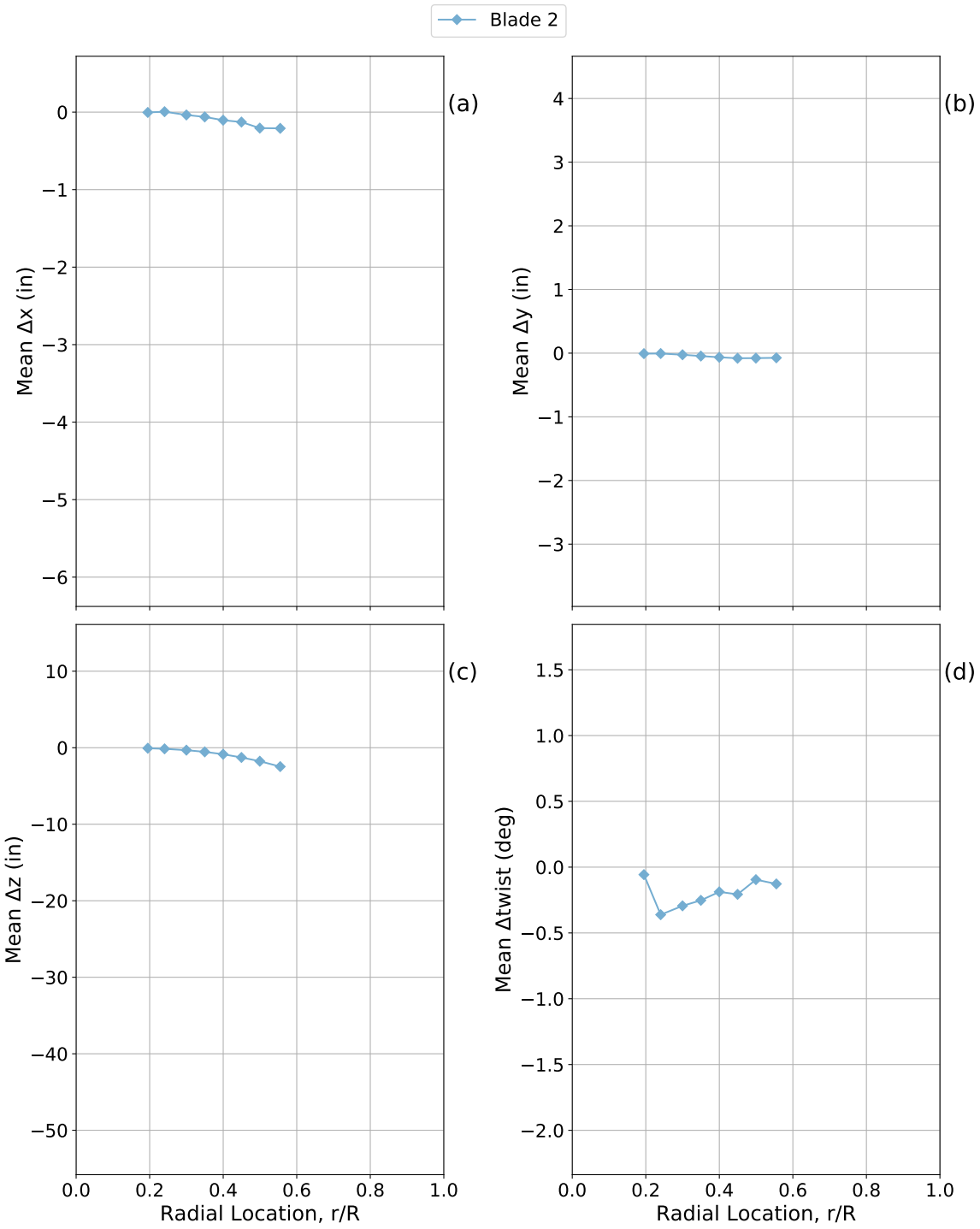


Figure 3.43-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0042	0.0753	-0.0077	0.0047	-0.0656	0.0140	-0.0568	0.0287
2	350.16	0.2405	0.0055	0.0332	-0.0059	0.0094	-0.1464	0.0221	-0.3614	0.0605
2	350.16	0.2999	-0.0366	0.0258	-0.0250	0.0222	-0.3184	0.0579	-0.2941	0.0742
2	350.16	0.3498	-0.0621	0.0705	-0.0455	0.0374	-0.5393	0.1019	-0.2523	0.0824
2	350.16	0.3998	-0.1040	0.1135	-0.0648	0.0589	-0.8530	0.1551	-0.1878	0.1125
2	350.16	0.4496	-0.1282	0.1611	-0.0802	0.0816	-1.2727	0.2141	-0.2068	0.1864
2	350.16	0.4995	-0.2063	0.1984	-0.0779	0.1096	-1.7651	0.2880	-0.0950	0.1625
2	350.16	0.5551	-0.2094	0.2423	-0.0734	0.1401	-2.4664	0.3660	-0.1274	0.2054

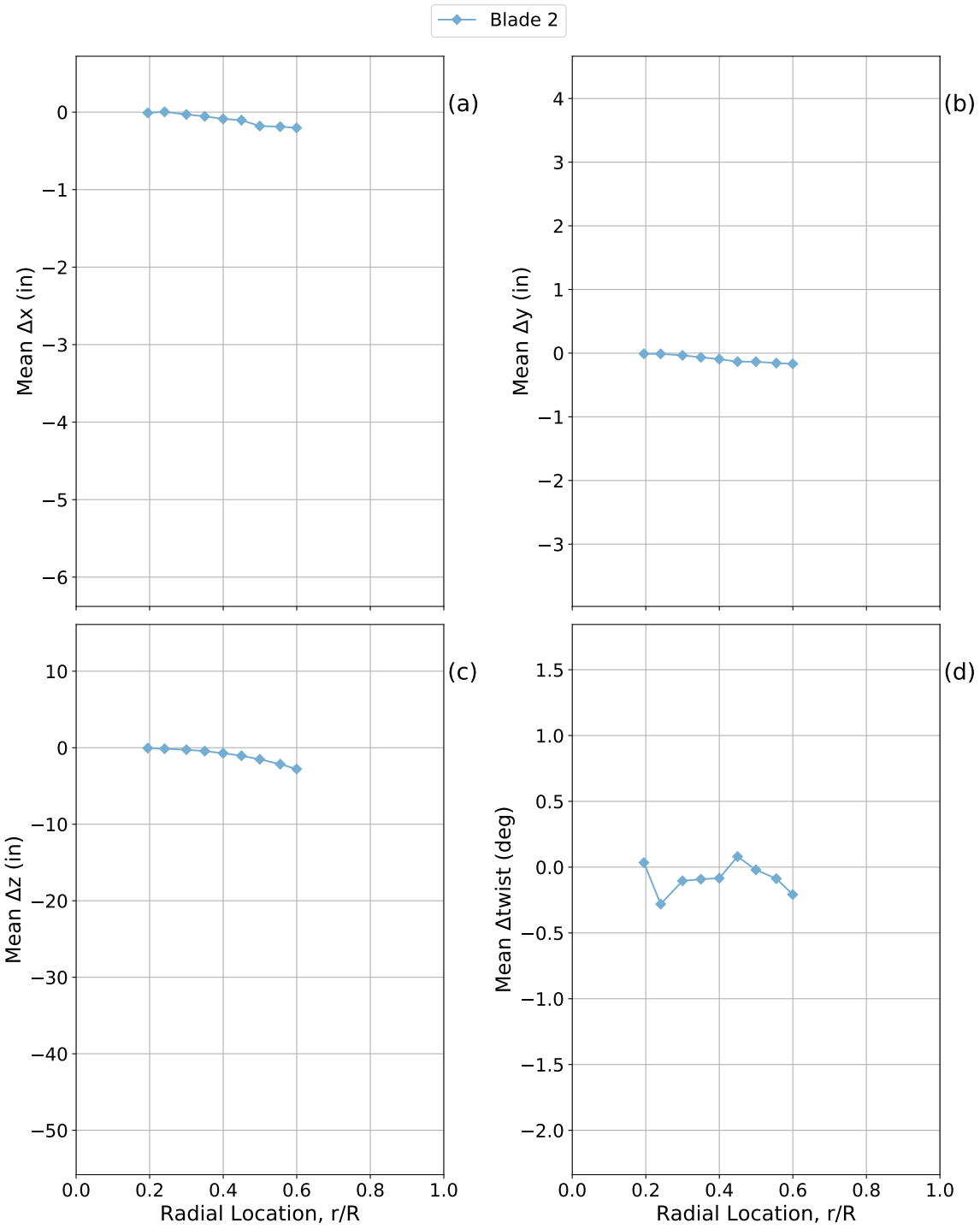


Figure 3.43-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.022, μ = 0.999, α = -0° NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Table 3.43-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.022, μ = 0.999, α = -0°
NFAC run 91, point 74. BD run 42, points 7495 to 7505.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0095	0.0504	-0.0101	0.0064	-0.0494	0.0098	0.0343	0.0290
2	355.08	0.2405	0.0036	0.0214	-0.0111	0.0134	-0.1326	0.0240	-0.2807	0.0341
2	355.08	0.2999	-0.0303	0.0159	-0.0343	0.0300	-0.2645	0.0526	-0.1044	0.0594
2	355.08	0.3498	-0.0545	0.0429	-0.0661	0.0517	-0.4433	0.0907	-0.0917	0.0572
2	355.08	0.3998	-0.0877	0.0707	-0.0937	0.0810	-0.7145	0.1452	-0.0841	0.0540
2	355.08	0.4496	-0.1036	0.1010	-0.1338	0.1135	-1.0530	0.2032	0.0802	0.0756
2	355.08	0.4995	-0.1799	0.1276	-0.1344	0.1616	-1.5121	0.2714	-0.0206	0.0601
2	355.08	0.5551	-0.1875	0.1607	-0.1562	0.2147	-2.1525	0.3514	-0.0874	0.0576
2	355.08	0.5996	-0.2031	0.1886	-0.1678	0.2629	-2.7814	0.4099	-0.2082	0.0831

3.44 Run 93, Point 8

3.44.1 Pitch, Flap, and Lag

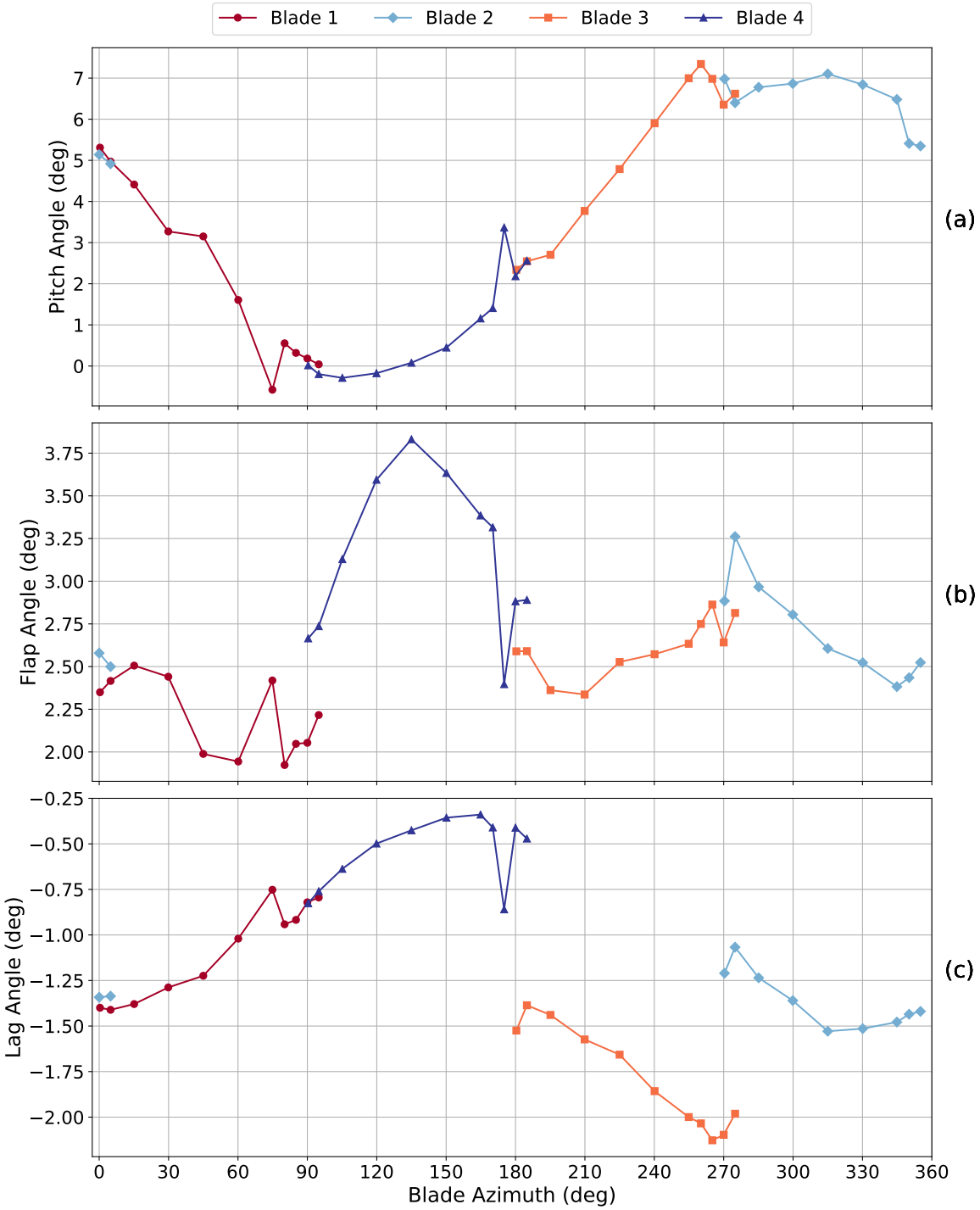


Figure 3.44-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.1390	2.5789	-1.3419	0.0791	0.0458	0.0236
0.35	1	5.3092	2.3497	-1.3996	0.1385	0.0576	0.0326
4.92	1	4.9713	2.4159	-1.4110	0.0890	0.0373	0.0267
4.92	2	4.9167	2.4996	-1.3358	0.0507	0.0432	0.0234
15.12	1	4.4118	2.5057	-1.3793	0.0740	0.0363	0.0294
29.88	1	3.2714	2.4406	-1.2880	0.0600	0.0362	0.0224
45	1	3.1506	1.9885	-1.2240	0.1123	0.0475	0.0145
60.12	1	1.6052	1.9439	-1.0202	0.2160	0.0565	0.0261
74.88	1	-0.5766	2.4186	-0.7520	0.1411	0.0346	0.0165
80.16	1	0.5519	1.9234	-0.9416	0.0436	0.0232	0.0135
85.08	1	0.3192	2.0475	-0.9173	0.0274	0.0339	0.0176
90	1	0.1824	2.0535	-0.8207	0.0259	0.0220	0.0174
90.35	4	0.0158	2.6651	-0.8259	0.0444	0.0318	0.0219
94.92	1	0.0407	2.2163	-0.7944	0.0360	0.0374	0.0177
94.92	4	-0.1970	2.7367	-0.7603	0.0282	0.0140	0.0097
105.12	4	-0.2883	3.1291	-0.6373	0.0149	0.0264	0.0369
119.88	4	-0.1760	3.5941	-0.4984	0.0229	0.0190	0.0130
135	4	0.0788	3.8311	-0.4257	0.0202	0.0240	0.0151
150.12	4	0.4479	3.6338	-0.3564	0.0231	0.0372	0.0152
164.88	4	1.1557	3.3850	-0.3394	0.0232	0.0304	0.0116
170.16	4	1.4068	3.3155	-0.4103	0.0266	0.0319	0.0134
175.08	4	3.3655	2.3968	-0.8595	0.0426	0.0592	0.0180
180	4	2.1822	2.8821	-0.4114	0.0288	0.0342	0.0147
180.35	3	2.3394	2.5894	-1.5247	0.0283	0.0339	0.0238
184.92	3	2.5453	2.5904	-1.3859	0.0431	0.0293	0.0305
184.92	4	2.5587	2.8903	-0.4711	0.0379	0.0561	0.0233
195.12	3	2.7044	2.3618	-1.4391	0.0317	0.0530	0.0134
209.88	3	3.7704	2.3365	-1.5735	0.0284	0.0362	0.0144
225	3	4.7868	2.5270	-1.6571	0.0359	0.0615	0.0188
240.12	3	5.9013	2.5722	-1.8573	0.0343	0.0474	0.0222
254.88	3	6.9962	2.6335	-1.9996	0.0451	0.0409	0.0101
260.16	3	7.3419	2.7497	-2.0343	0.0559	0.0417	0.0182
265.08	3	6.9807	2.8632	-2.1272	0.0985	0.0358	0.0163
270	3	6.3531	2.6413	-2.0971	0.0321	0.0343	0.0148
270.35	2	6.9811	2.8843	-1.2101	0.0263	0.0502	0.0142
274.92	2	6.3999	3.2613	-1.0673	0.0377	0.0295	0.0129
274.92	3	6.6198	2.8140	-1.9813	0.0458	0.0573	0.0159
285.12	2	6.7765	2.9664	-1.2353	0.0419	0.0422	0.0223
299.88	2	6.8659	2.8043	-1.3602	0.0444	0.0494	0.0134
315	2	7.1019	2.6060	-1.5285	0.0286	0.0346	0.0110
330.12	2	6.8425	2.5229	-1.5143	0.0426	0.0733	0.0144
344.88	2	6.4809	2.3824	-1.4782	0.1087	0.0406	0.0285
350.16	2	5.4103	2.4349	-1.4350	0.0833	0.0355	0.0317
355.08	2	5.3477	2.5238	-1.4196	0.1131	0.0403	0.0225

3.44.2 Spanwise Elastic Deformations

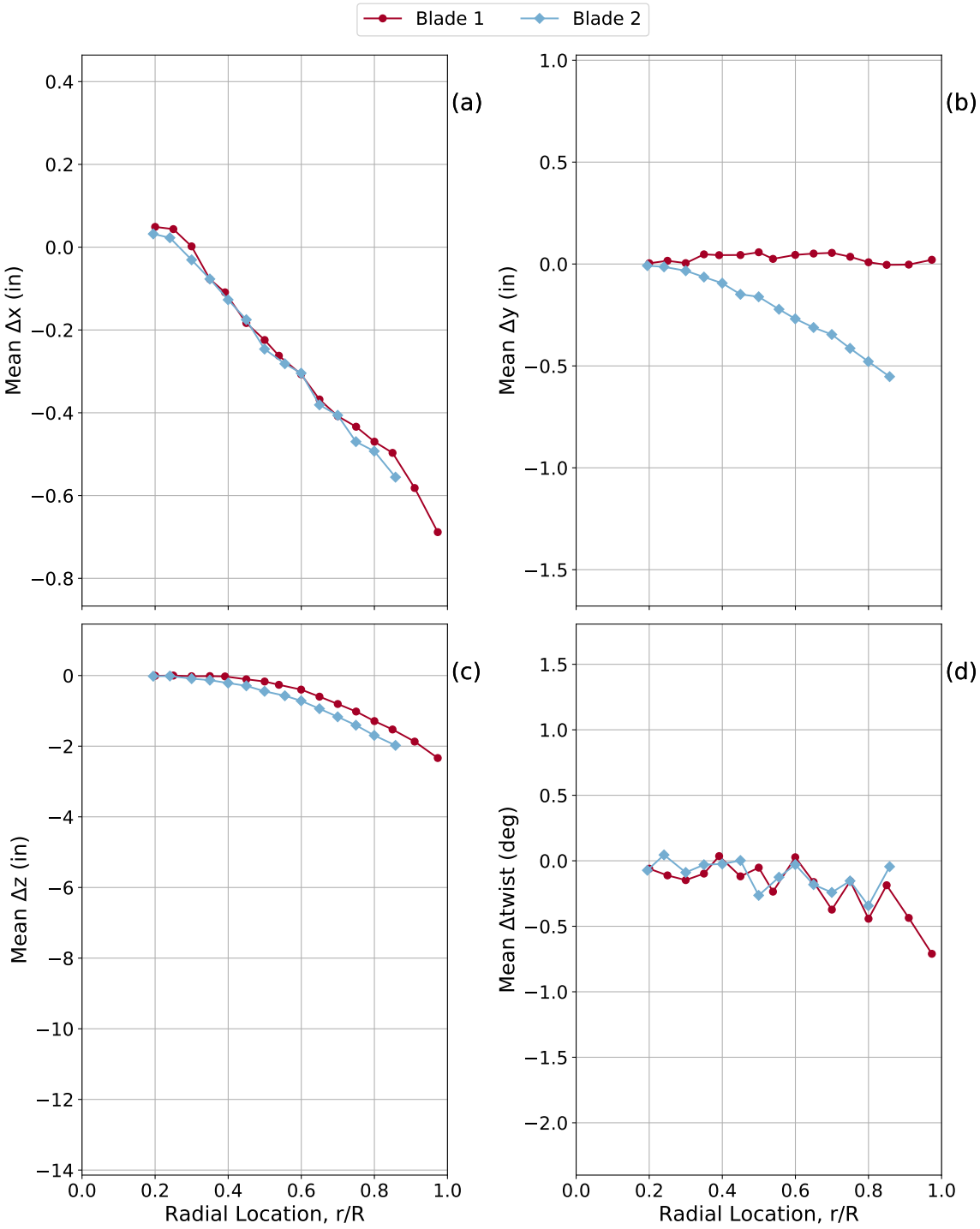


Figure 3.44-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0490	0.0033	0.0037	0.0023	-0.0073	0.0075	-0.0605	0.0580
1	0.35	0.2499	0.0436	0.0019	0.0158	0.0051	0.0002	0.0096	-0.1115	0.1249
1	0.35	0.2998	0.0019	0.0013	0.0043	0.0087	-0.0198	0.0232	-0.1475	0.1426
1	0.35	0.3498	-0.0774	0.0015	0.0474	0.0160	-0.0159	0.0398	-0.0979	0.1328
1	0.35	0.3913	-0.1091	0.0016	0.0435	0.0224	-0.0254	0.0530	0.0357	0.1351
1	0.35	0.4496	-0.1833	0.0018	0.0441	0.0294	-0.1062	0.0753	-0.1189	0.1334
1	0.35	0.4997	-0.2243	0.0016	0.0576	0.0359	-0.1690	0.0921	-0.0524	0.1291
1	0.35	0.5387	-0.2623	0.0016	0.0251	0.0396	-0.2619	0.1041	-0.2357	0.1279
1	0.35	0.5996	-0.3072	0.0017	0.0448	0.0483	-0.3981	0.1218	0.0270	0.1349
1	0.35	0.6498	-0.3679	0.0022	0.0512	0.0541	-0.5979	0.1358	-0.1619	0.1296
1	0.35	0.6998	-0.4082	0.0019	0.0547	0.0605	-0.8054	0.1501	-0.3729	0.1274
1	0.35	0.7500	-0.4338	0.0024	0.0354	0.0665	-1.0191	0.1640	-0.1555	0.1359
1	0.35	0.8001	-0.4699	0.0029	0.0086	0.0717	-1.2892	0.1779	-0.4425	0.1480
1	0.35	0.8497	-0.4969	0.0031	-0.0042	0.0802	-1.5271	0.1987	-0.1867	0.1254
1	0.35	0.9102	-0.5818	0.0037	-0.0030	0.0817	-1.8701	0.2117	-0.4361	0.1741
1	0.35	0.9734	-0.6884	0.0041	0.0207	0.0993	-2.3350	0.2330	-0.7101	0.1645
2	0	0.1949	0.0320	0.0027	-0.0081	0.0018	-0.0196	0.0025	-0.0725	0.0326
2	0	0.2405	0.0227	0.0013	-0.0141	0.0018	-0.0134	0.0062	0.0449	0.0672
2	0	0.2999	-0.0306	0.0014	-0.0331	0.0048	-0.0877	0.0105	-0.0891	0.0841
2	0	0.3498	-0.0769	0.0015	-0.0641	0.0081	-0.1304	0.0179	-0.0300	0.0816
2	0	0.3998	-0.1271	0.0026	-0.0942	0.0113	-0.2127	0.0285	-0.0243	0.0833
2	0	0.4496	-0.1752	0.0025	-0.1488	0.0147	-0.2911	0.0368	0.0022	0.0869
2	0	0.4995	-0.2462	0.0019	-0.1609	0.0188	-0.4461	0.0451	-0.2642	0.0870
2	0	0.5551	-0.2817	0.0024	-0.2221	0.0236	-0.5722	0.0570	-0.1253	0.0869
2	0	0.5996	-0.3043	0.0024	-0.2689	0.0273	-0.7164	0.0658	-0.0290	0.0886
2	0	0.6497	-0.3810	0.0032	-0.3116	0.0316	-0.9391	0.0754	-0.1817	0.0945
2	0	0.6996	-0.4061	0.0026	-0.3459	0.0349	-1.1685	0.0866	-0.2418	0.0861
2	0	0.7495	-0.4699	0.0024	-0.4139	0.0383	-1.4065	0.0964	-0.1538	0.0979
2	0	0.7996	-0.4928	0.0026	-0.4785	0.0443	-1.6946	0.1078	-0.3432	0.0860
2	0	0.8578	-0.5556	0.0035	-0.5527	0.0485	-1.9770	0.1164	-0.0447	0.0961

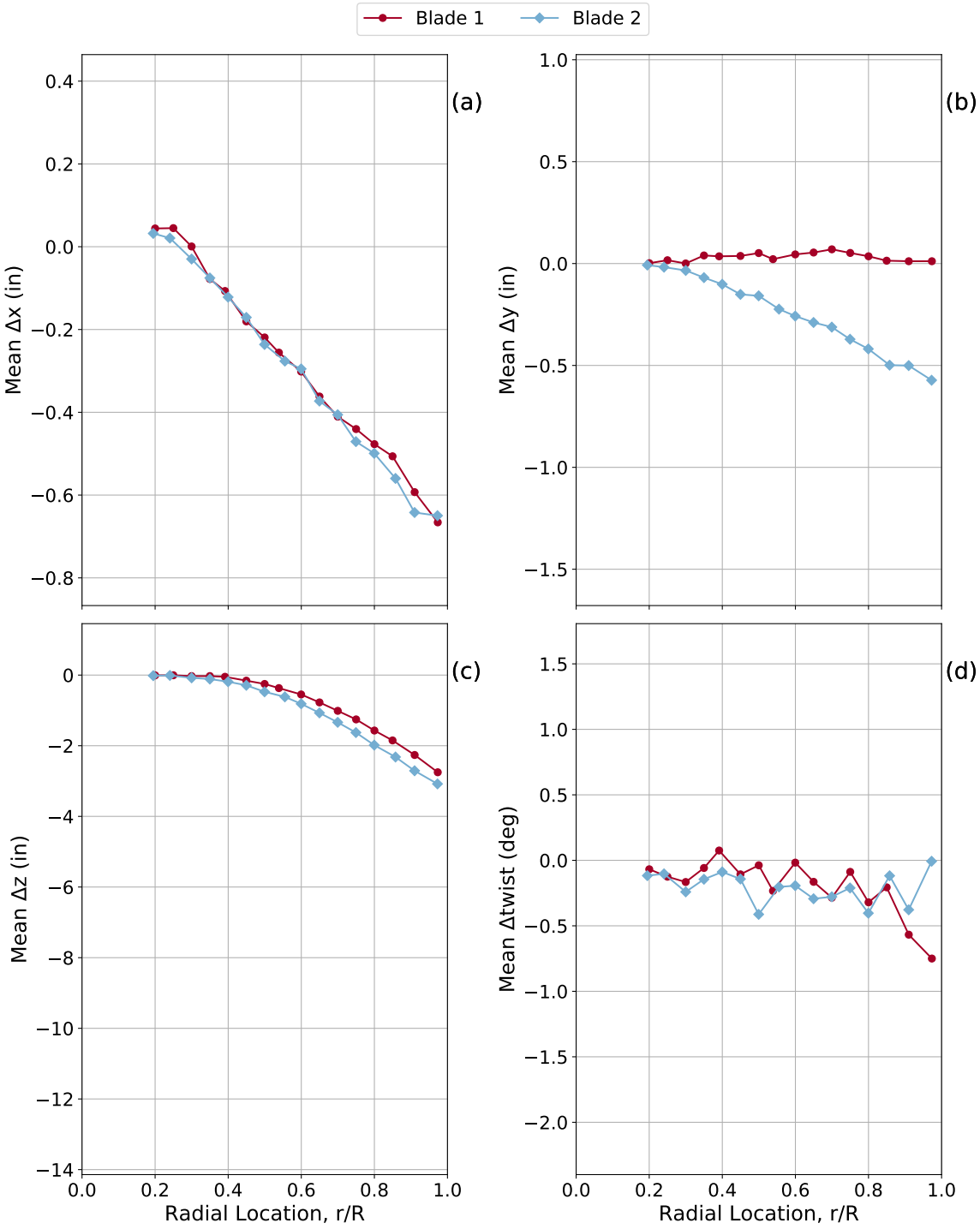


Figure 3.44-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0441	0.0031	0.0018	0.0021	-0.0081	0.0042	-0.0683	0.0415
1	4.92	0.2499	0.0449	0.0017	0.0163	0.0021	-0.0047	0.0059	-0.1250	0.0715
1	4.92	0.2998	0.0006	0.0018	0.0004	0.0071	-0.0289	0.0128	-0.1656	0.0954
1	4.92	0.3498	-0.0779	0.0014	0.0397	0.0106	-0.0285	0.0230	-0.0585	0.0728
1	4.92	0.3913	-0.1070	0.0017	0.0355	0.0149	-0.0486	0.0300	0.0749	0.0788
1	4.92	0.4496	-0.1804	0.0019	0.0373	0.0190	-0.1577	0.0409	-0.1071	0.0869
1	4.92	0.4997	-0.2192	0.0020	0.0514	0.0238	-0.2513	0.0511	-0.0379	0.0755
1	4.92	0.5387	-0.2558	0.0021	0.0215	0.0273	-0.3685	0.0564	-0.2334	0.0752
1	4.92	0.5996	-0.3016	0.0026	0.0449	0.0336	-0.5489	0.0676	-0.0176	0.0785
1	4.92	0.6498	-0.3619	0.0029	0.0541	0.0380	-0.7738	0.0762	-0.1642	0.0871
1	4.92	0.6998	-0.4105	0.0030	0.0698	0.0426	-1.0123	0.0866	-0.2855	0.0668
1	4.92	0.7500	-0.4405	0.0022	0.0520	0.0477	-1.2547	0.0927	-0.0881	0.0947
1	4.92	0.8001	-0.4770	0.0017	0.0356	0.0523	-1.5700	0.1039	-0.3206	0.0802
1	4.92	0.8497	-0.5063	0.0023	0.0140	0.0574	-1.8497	0.1176	-0.2062	0.0818
1	4.92	0.9102	-0.5929	0.0047	0.0114	0.0633	-2.2620	0.1342	-0.5676	0.0819
1	4.92	0.9734	-0.6659	0.0047	0.0114	0.0675	-2.7512	0.1540	-0.7498	0.0765
2	4.92	0.1949	0.0321	0.0029	-0.0075	0.0014	-0.0164	0.0031	-0.1169	0.0184
2	4.92	0.2405	0.0208	0.0016	-0.0177	0.0023	-0.0107	0.0041	-0.1032	0.0531
2	4.92	0.2999	-0.0297	0.0012	-0.0339	0.0043	-0.0783	0.0105	-0.2409	0.0517
2	4.92	0.3498	-0.0755	0.0020	-0.0691	0.0096	-0.1120	0.0163	-0.1446	0.0563
2	4.92	0.3998	-0.1218	0.0023	-0.1017	0.0130	-0.1879	0.0252	-0.0886	0.0453
2	4.92	0.4496	-0.1708	0.0020	-0.1513	0.0152	-0.2891	0.0315	-0.1425	0.0548
2	4.92	0.4995	-0.2362	0.0018	-0.1583	0.0181	-0.4731	0.0391	-0.4126	0.0538
2	4.92	0.5551	-0.2764	0.0020	-0.2237	0.0222	-0.6169	0.0484	-0.2031	0.0584
2	4.92	0.5996	-0.2951	0.0015	-0.2578	0.0248	-0.8134	0.0569	-0.1935	0.0619
2	4.92	0.6497	-0.3729	0.0016	-0.2892	0.0282	-1.0704	0.0662	-0.2933	0.0419
2	4.92	0.6996	-0.4059	0.0024	-0.3119	0.0333	-1.3376	0.0750	-0.2785	0.0546
2	4.92	0.7495	-0.4709	0.0020	-0.3715	0.0350	-1.6272	0.0842	-0.2110	0.0501
2	4.92	0.7996	-0.4992	0.0022	-0.4190	0.0385	-1.9823	0.0927	-0.4035	0.0654
2	4.92	0.8578	-0.5598	0.0037	-0.4985	0.0433	-2.3193	0.1036	-0.1179	0.0420
2	4.92	0.9100	-0.6421	0.0044	-0.5006	0.0458	-2.7090	0.1140	-0.3777	0.1387
2	4.92	0.9727	-0.6497	0.0076	-0.5726	0.0505	-3.0805	0.1228	-0.0070	0.0956

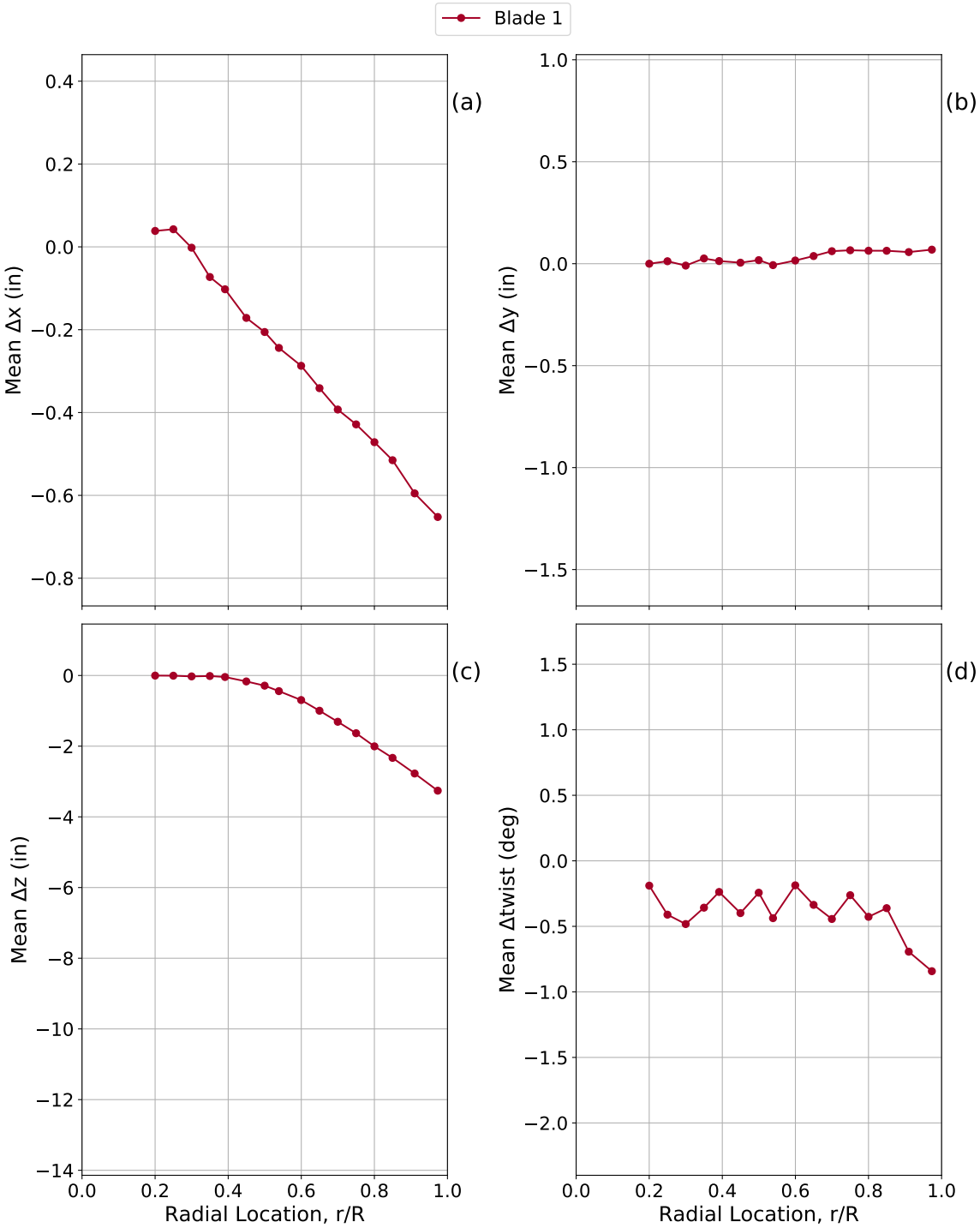


Figure 3.44-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0385	0.0031	-0.0001	0.0012	-0.0034	0.0037	-0.1894	0.0369
1	15.12	0.2499	0.0425	0.0022	0.0121	0.0026	-0.0064	0.0073	-0.4108	0.0539
1	15.12	0.2998	-0.0020	0.0013	-0.0093	0.0043	-0.0260	0.0141	-0.4824	0.0789
1	15.12	0.3498	-0.0728	0.0018	0.0257	0.0069	-0.0153	0.0243	-0.3575	0.0787
1	15.12	0.3913	-0.1024	0.0013	0.0130	0.0100	-0.0434	0.0344	-0.2376	0.0688
1	15.12	0.4496	-0.1715	0.0017	0.0050	0.0128	-0.1684	0.0487	-0.3988	0.0790
1	15.12	0.4997	-0.2056	0.0016	0.0174	0.0162	-0.2883	0.0593	-0.2433	0.0745
1	15.12	0.5387	-0.2439	0.0018	-0.0070	0.0181	-0.4428	0.0669	-0.4375	0.0703
1	15.12	0.5996	-0.2872	0.0018	0.0156	0.0216	-0.6951	0.0762	-0.1870	0.0728
1	15.12	0.6498	-0.3412	0.0017	0.0375	0.0250	-0.9975	0.0834	-0.3360	0.0682
1	15.12	0.6998	-0.3928	0.0014	0.0614	0.0279	-1.3096	0.0895	-0.4438	0.0761
1	15.12	0.7500	-0.4286	0.0014	0.0659	0.0316	-1.6338	0.0984	-0.2622	0.0730
1	15.12	0.8001	-0.4716	0.0020	0.0637	0.0341	-2.0054	0.1079	-0.4272	0.0815
1	15.12	0.8497	-0.5151	0.0018	0.0635	0.0378	-2.3315	0.1210	-0.3611	0.0790
1	15.12	0.9102	-0.5952	0.0027	0.0570	0.0424	-2.7736	0.1391	-0.6933	0.0753
1	15.12	0.9734	-0.6522	0.0018	0.0689	0.0475	-3.2592	0.1594	-0.8422	0.0673

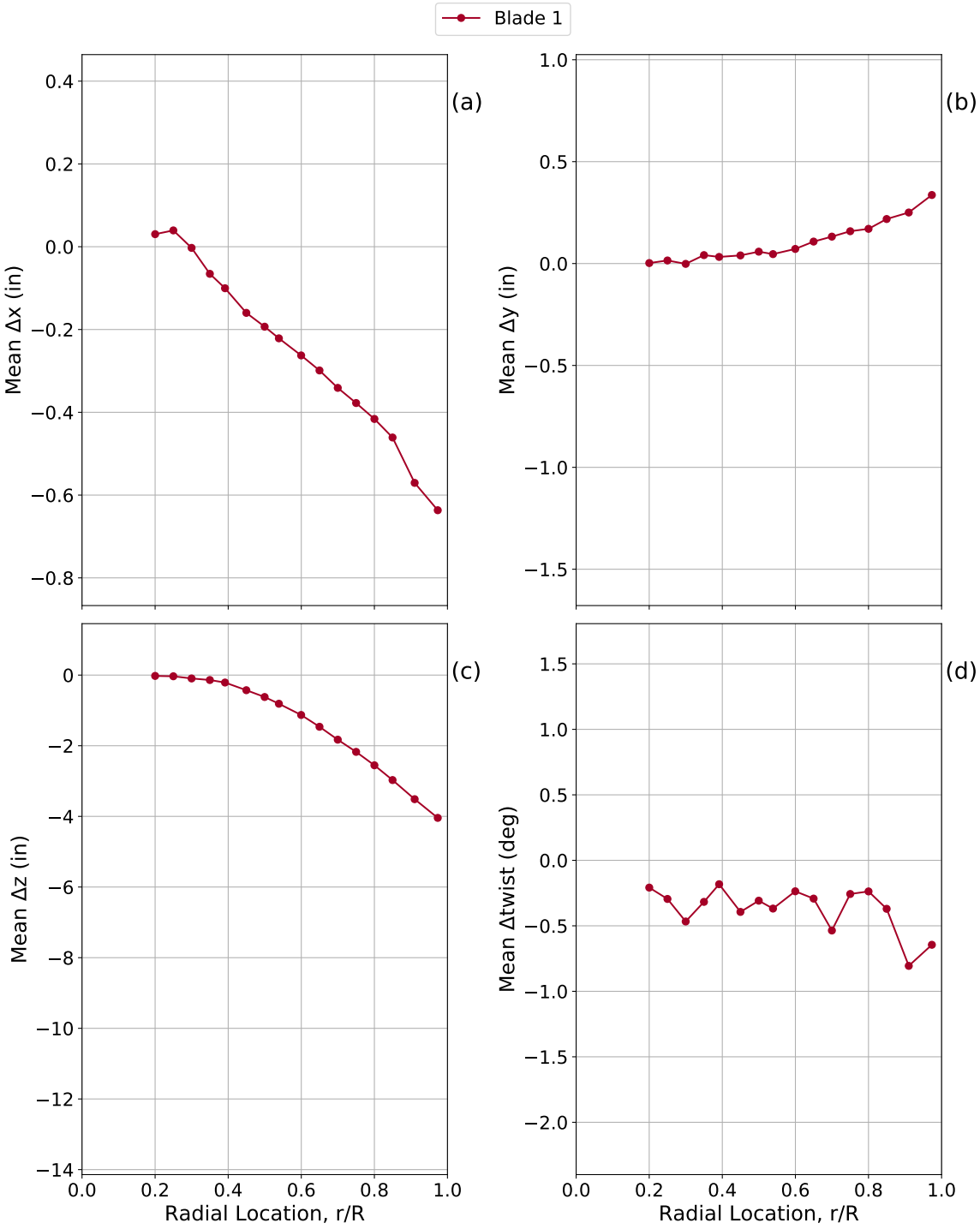


Figure 3.44-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0303	0.0032	0.0024	0.0016	-0.0235	0.0039	-0.2082	0.0273
1	29.88	0.2499	0.0394	0.0021	0.0151	0.0024	-0.0336	0.0061	-0.2948	0.0742
1	29.88	0.2998	-0.0028	0.0014	-0.0016	0.0055	-0.0953	0.0132	-0.4670	0.0732
1	29.88	0.3498	-0.0655	0.0017	0.0414	0.0094	-0.1396	0.0224	-0.3172	0.0692
1	29.88	0.3913	-0.1003	0.0016	0.0325	0.0129	-0.2109	0.0308	-0.1824	0.0623
1	29.88	0.4496	-0.1598	0.0023	0.0399	0.0174	-0.4280	0.0437	-0.3938	0.0650
1	29.88	0.4997	-0.1932	0.0024	0.0583	0.0214	-0.6205	0.0574	-0.3081	0.0650
1	29.88	0.5387	-0.2213	0.0031	0.0463	0.0249	-0.8112	0.0691	-0.3684	0.0627
1	29.88	0.5996	-0.2626	0.0032	0.0717	0.0299	-1.1291	0.0883	-0.2364	0.0640
1	29.88	0.6498	-0.2989	0.0034	0.1078	0.0341	-1.4630	0.1049	-0.2922	0.0664
1	29.88	0.6998	-0.3410	0.0034	0.1321	0.0376	-1.8283	0.1241	-0.5357	0.0613
1	29.88	0.7500	-0.3776	0.0029	0.1586	0.0417	-2.1738	0.1393	-0.2570	0.0613
1	29.88	0.8001	-0.4161	0.0031	0.1703	0.0459	-2.5537	0.1567	-0.2374	0.0570
1	29.88	0.8497	-0.4609	0.0030	0.2185	0.0498	-2.9718	0.1742	-0.3702	0.0624
1	29.88	0.9102	-0.5705	0.0037	0.2505	0.0551	-3.5131	0.1967	-0.8058	0.0619
1	29.88	0.9734	-0.6366	0.0042	0.3364	0.0598	-4.0425	0.2197	-0.6448	0.0649

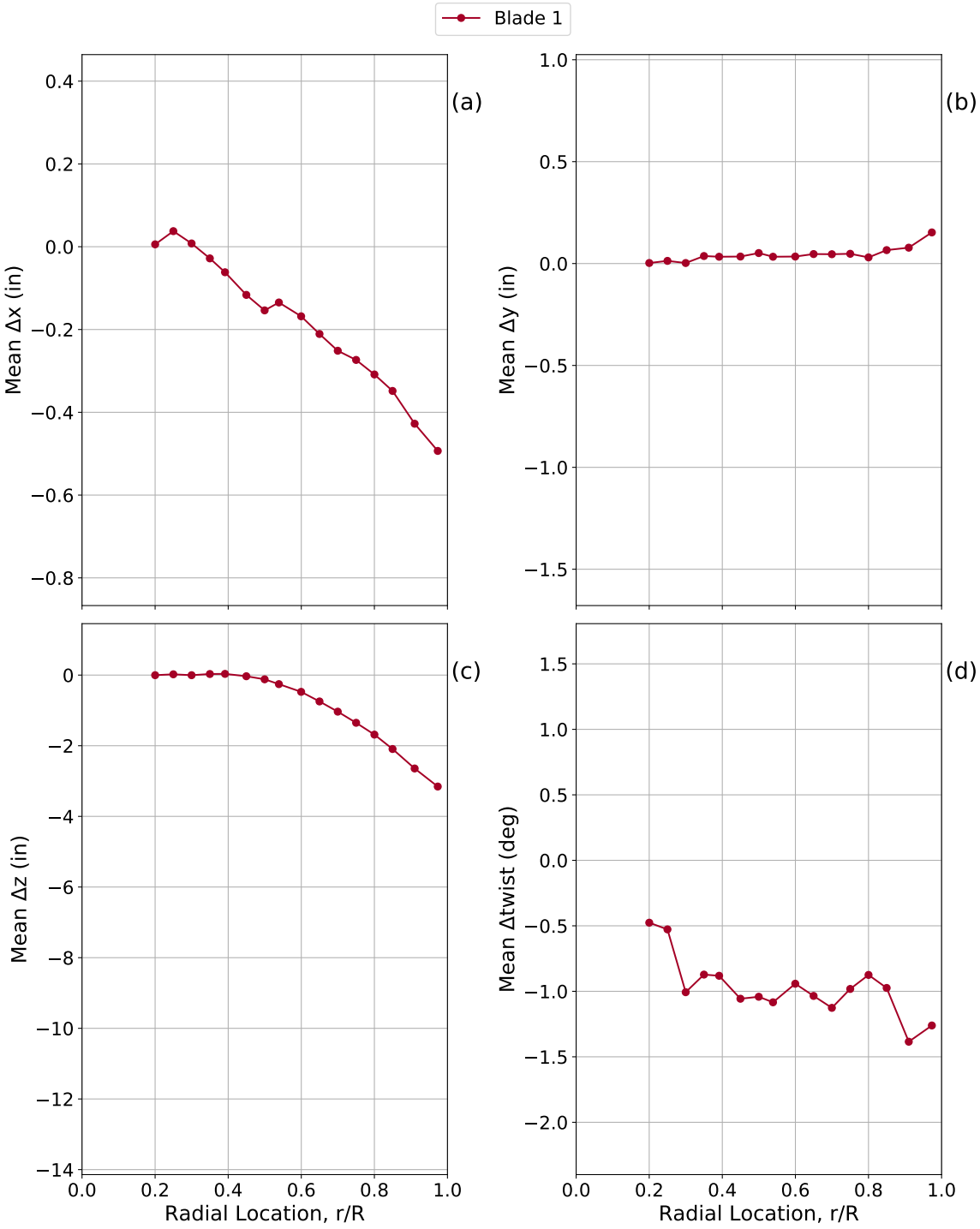


Figure 3.44-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0057	0.0013	0.0027	0.0016	-0.0029	0.0041	-0.4762	0.0445
1	45	0.2499	0.0376	0.0011	0.0131	0.0025	0.0220	0.0064	-0.5272	0.0912
1	45	0.2998	0.0079	0.0021	0.0026	0.0057	-0.0032	0.0140	-1.0069	0.1085
1	45	0.3498	-0.0282	0.0022	0.0369	0.0097	0.0305	0.0243	-0.8723	0.1116
1	45	0.3913	-0.0617	0.0037	0.0334	0.0136	0.0341	0.0333	-0.8814	0.1147
1	45	0.4496	-0.1164	0.0043	0.0343	0.0198	-0.0326	0.0458	-1.0567	0.1110
1	45	0.4997	-0.1538	0.0067	0.0515	0.0251	-0.1197	0.0578	-1.0416	0.1052
1	45	0.5387	-0.1347	0.0042	0.0334	0.0379	-0.2558	0.0638	-1.0839	0.1035
1	45	0.5996	-0.1681	0.0037	0.0343	0.0445	-0.4746	0.0773	-0.9421	0.1069
1	45	0.6498	-0.2108	0.0032	0.0466	0.0503	-0.7461	0.0878	-1.0352	0.1043
1	45	0.6998	-0.2513	0.0040	0.0458	0.0560	-1.0354	0.0980	-1.1263	0.1177
1	45	0.7500	-0.2735	0.0031	0.0479	0.0620	-1.3505	0.1098	-0.9819	0.1070
1	45	0.8001	-0.3086	0.0033	0.0302	0.0676	-1.6850	0.1213	-0.8749	0.1051
1	45	0.8497	-0.3484	0.0026	0.0659	0.0734	-2.0925	0.1328	-0.9744	0.1069
1	45	0.9102	-0.4276	0.0026	0.0779	0.0800	-2.6441	0.1471	-1.3848	0.1074
1	45	0.9734	-0.4933	0.0036	0.1527	0.0873	-3.1553	0.1641	-1.2609	0.1094

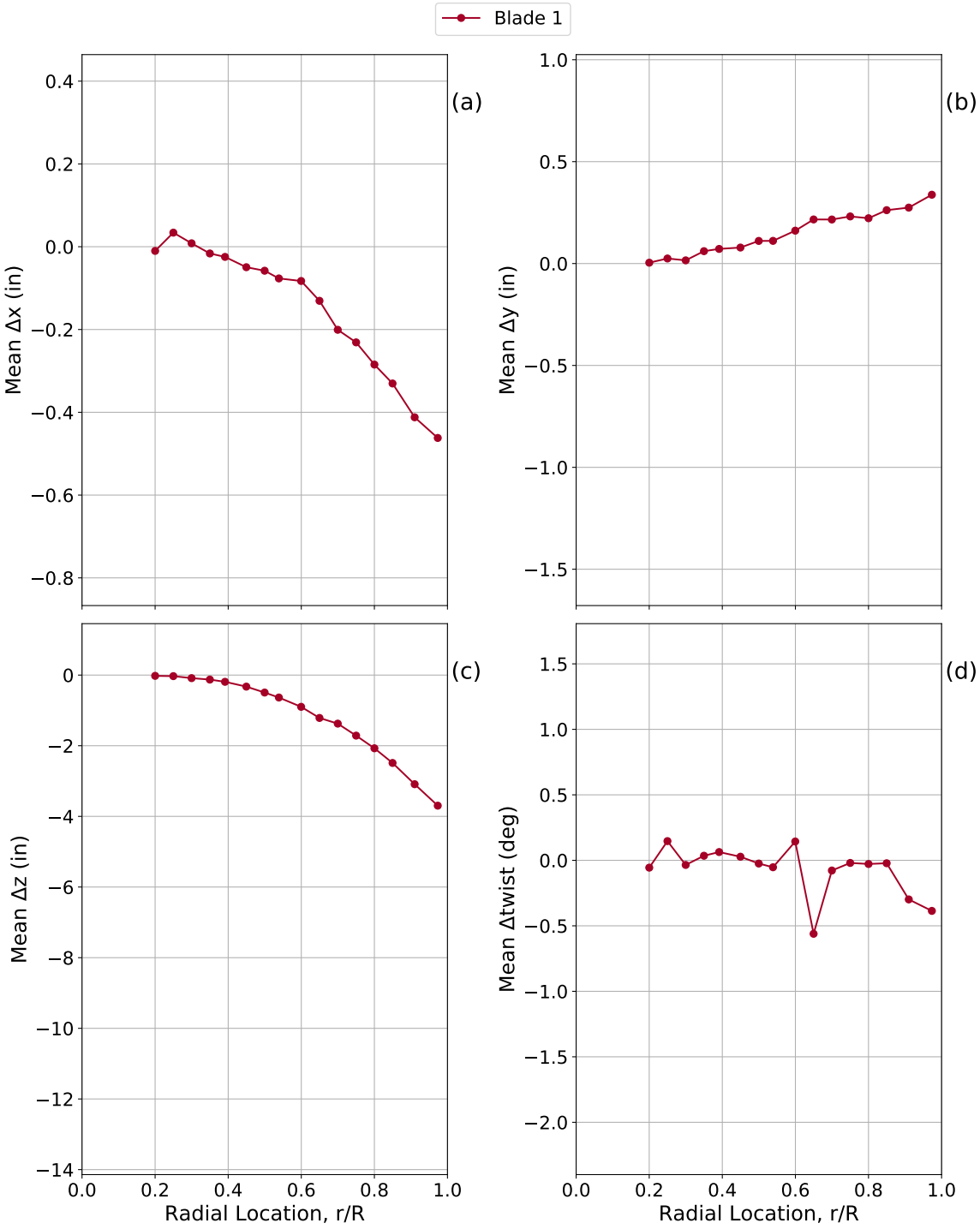


Figure 3.44-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0101	0.0017	0.0042	0.0011	-0.0217	0.0041	-0.0559	0.1063
1	60.12	0.2499	0.0340	0.0010	0.0248	0.0065	-0.0298	0.0127	0.1468	0.0882
1	60.12	0.2998	0.0083	0.0013	0.0157	0.0040	-0.0863	0.0109	-0.0352	0.2111
1	60.12	0.3498	-0.0163	0.0017	0.0608	0.0101	-0.1271	0.0213	0.0350	0.2073
1	60.12	0.3913	-0.0246	0.0015	0.0718	0.0151	-0.1906	0.0299	0.0632	0.2176
1	60.12	0.4496	-0.0495	0.0027	0.0785	0.0225	-0.3266	0.0424	0.0275	0.2105
1	60.12	0.4997	-0.0580	0.0034	0.1110	0.0297	-0.4941	0.0536	-0.0245	0.2055
1	60.12	0.5387	-0.0766	0.0035	0.1113	0.0343	-0.6351	0.0632	-0.0529	0.2065
1	60.12	0.5996	-0.0828	0.0051	0.1614	0.0427	-0.8989	0.0767	0.1438	0.2157
1	60.12	0.6498	-0.1307	0.0050	0.2164	0.0482	-1.2137	0.0950	-0.5608	0.1122
1	60.12	0.6998	-0.2007	0.0053	0.2161	0.0404	-1.3744	0.0963	-0.0778	0.2086
1	60.12	0.7500	-0.2311	0.0048	0.2312	0.0462	-1.7137	0.1073	-0.0199	0.2021
1	60.12	0.8001	-0.2847	0.0051	0.2224	0.0512	-2.0722	0.1175	-0.0279	0.2052
1	60.12	0.8497	-0.3304	0.0053	0.2619	0.0566	-2.4875	0.1295	-0.0222	0.1995
1	60.12	0.9102	-0.4121	0.0050	0.2745	0.0645	-3.0892	0.1444	-0.2985	0.1941
1	60.12	0.9734	-0.4620	0.0041	0.3377	0.0719	-3.6964	0.1585	-0.3860	0.2026

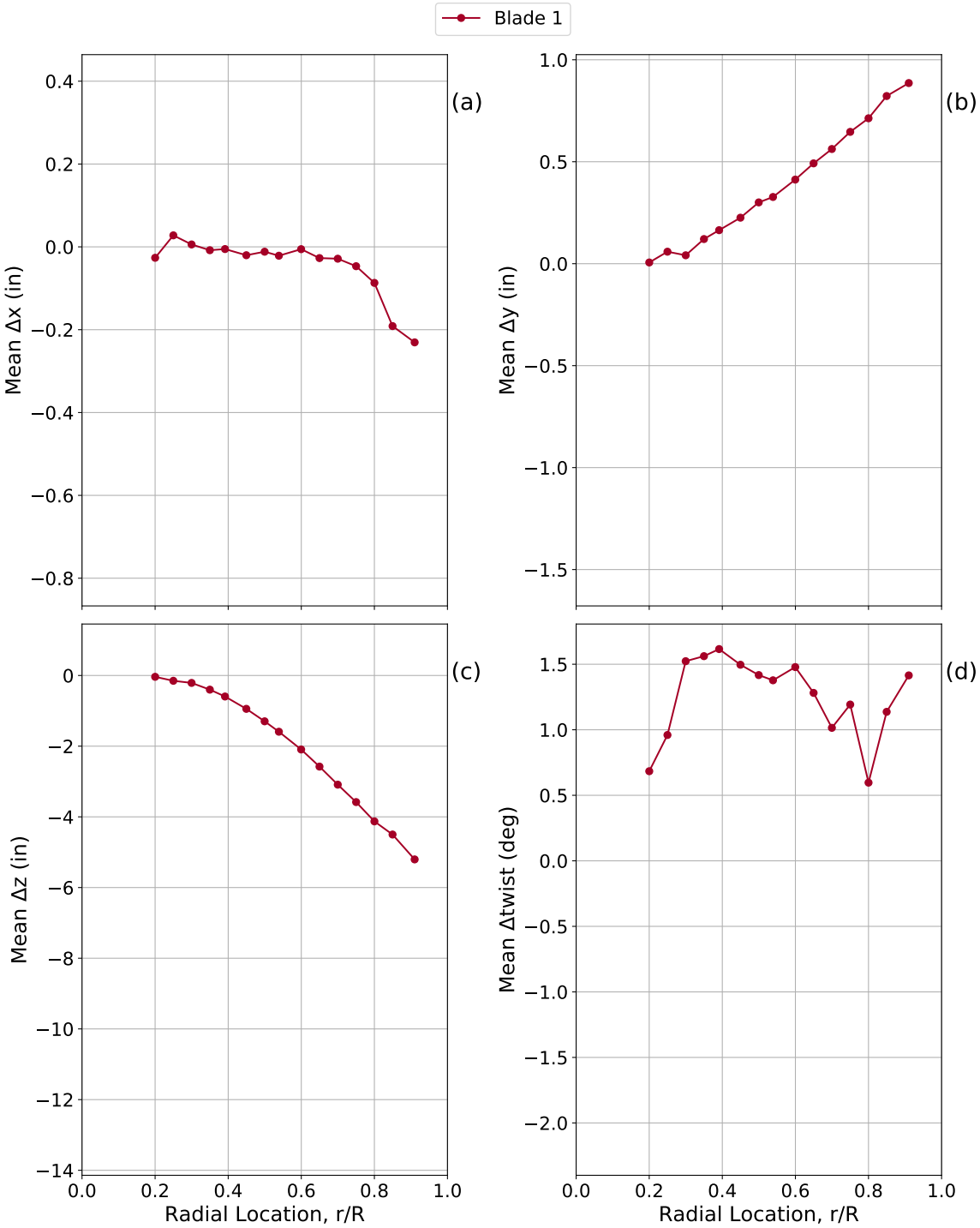


Figure 3.44-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0264	0.0028	0.0060	0.0017	-0.0379	0.0034	0.6838	0.0793
1	74.88	0.2499	0.0278	0.0027	0.0589	0.0059	-0.1505	0.0094	0.9601	0.0782
1	74.88	0.2998	0.0058	0.0021	0.0413	0.0060	-0.2103	0.0083	1.5232	0.1599
1	74.88	0.3498	-0.0081	0.0025	0.1209	0.0130	-0.4008	0.0191	1.5616	0.1391
1	74.88	0.3913	-0.0053	0.0037	0.1644	0.0181	-0.5951	0.0248	1.6157	0.1405
1	74.88	0.4496	-0.0202	0.0040	0.2256	0.0247	-0.9443	0.0333	1.4961	0.1440
1	74.88	0.4997	-0.0117	0.0046	0.3006	0.0312	-1.2970	0.0433	1.4173	0.1431
1	74.88	0.5387	-0.0214	0.0056	0.3272	0.0364	-1.5916	0.0502	1.3774	0.1426
1	74.88	0.5996	-0.0056	0.0058	0.4125	0.0450	-2.0937	0.0619	1.4783	0.1400
1	74.88	0.6498	-0.0271	0.0072	0.4921	0.0517	-2.5778	0.0700	1.2813	0.1491
1	74.88	0.6998	-0.0286	0.0076	0.5625	0.0587	-3.0888	0.0779	1.0147	0.1366
1	74.88	0.7500	-0.0467	0.0076	0.6465	0.0675	-3.5817	0.0851	1.1925	0.1364
1	74.88	0.8001	-0.0870	0.0104	0.7132	0.0740	-4.1281	0.0941	0.5966	0.1319
1	74.88	0.8497	-0.1913	0.0113	0.8223	0.0805	-4.5002	0.1045	1.1369	0.1376
1	74.88	0.9102	-0.2306	0.0092	0.8859	0.0897	-5.2042	0.1171	1.4149	0.1418

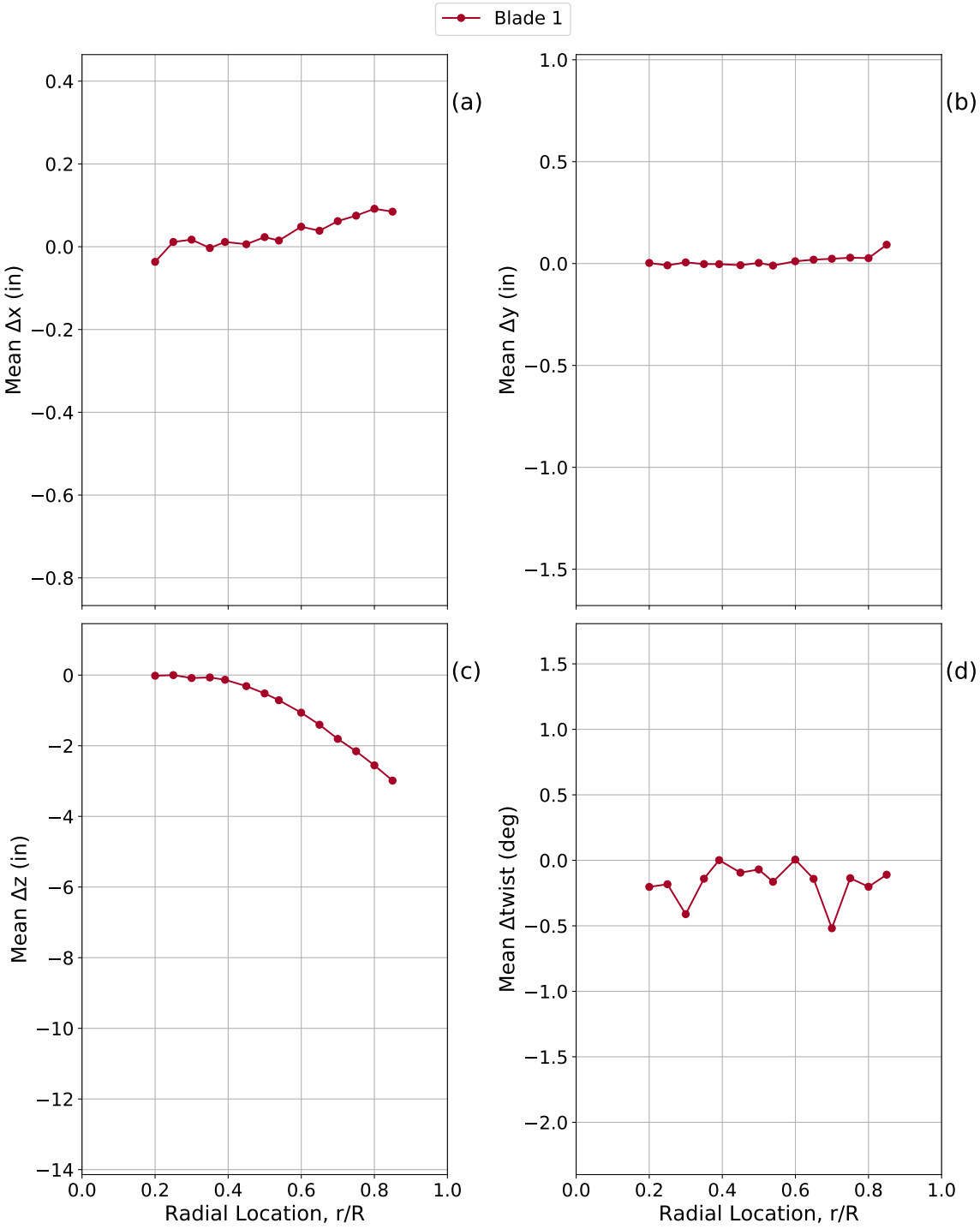


Figure 3.44-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0365	0.0010	0.0030	0.0005	-0.0186	0.0016	-0.2029	0.0210
1	80.16	0.2499	0.0115	0.0011	-0.0088	0.0011	-0.0012	0.0036	-0.1827	0.0409
1	80.16	0.2998	0.0171	0.0015	0.0058	0.0017	-0.0832	0.0062	-0.4110	0.0491
1	80.16	0.3498	-0.0031	0.0011	-0.0024	0.0034	-0.0671	0.0110	-0.1405	0.0386
1	80.16	0.3913	0.0115	0.0012	-0.0028	0.0044	-0.1331	0.0154	0.0017	0.0448
1	80.16	0.4496	0.0060	0.0020	-0.0081	0.0057	-0.3130	0.0232	-0.0942	0.0522
1	80.16	0.4997	0.0232	0.0016	0.0032	0.0071	-0.5189	0.0294	-0.0697	0.0470
1	80.16	0.5387	0.0149	0.0030	-0.0099	0.0083	-0.7119	0.0338	-0.1638	0.0528
1	80.16	0.5996	0.0483	0.0027	0.0112	0.0109	-1.0631	0.0474	0.0054	0.0521
1	80.16	0.6498	0.0386	0.0025	0.0191	0.0115	-1.4056	0.0529	-0.1414	0.0557
1	80.16	0.6998	0.0618	0.0034	0.0234	0.0130	-1.8063	0.0639	-0.5185	0.0959
1	80.16	0.7500	0.0750	0.0049	0.0287	0.0149	-2.1567	0.0694	-0.1361	0.0773
1	80.16	0.8001	0.0917	0.0054	0.0265	0.0182	-2.5557	0.0887	-0.2018	0.1980
1	80.16	0.8497	0.0847	0.0045	0.0924	0.0197	-2.9869	0.0905	-0.1096	0.1148

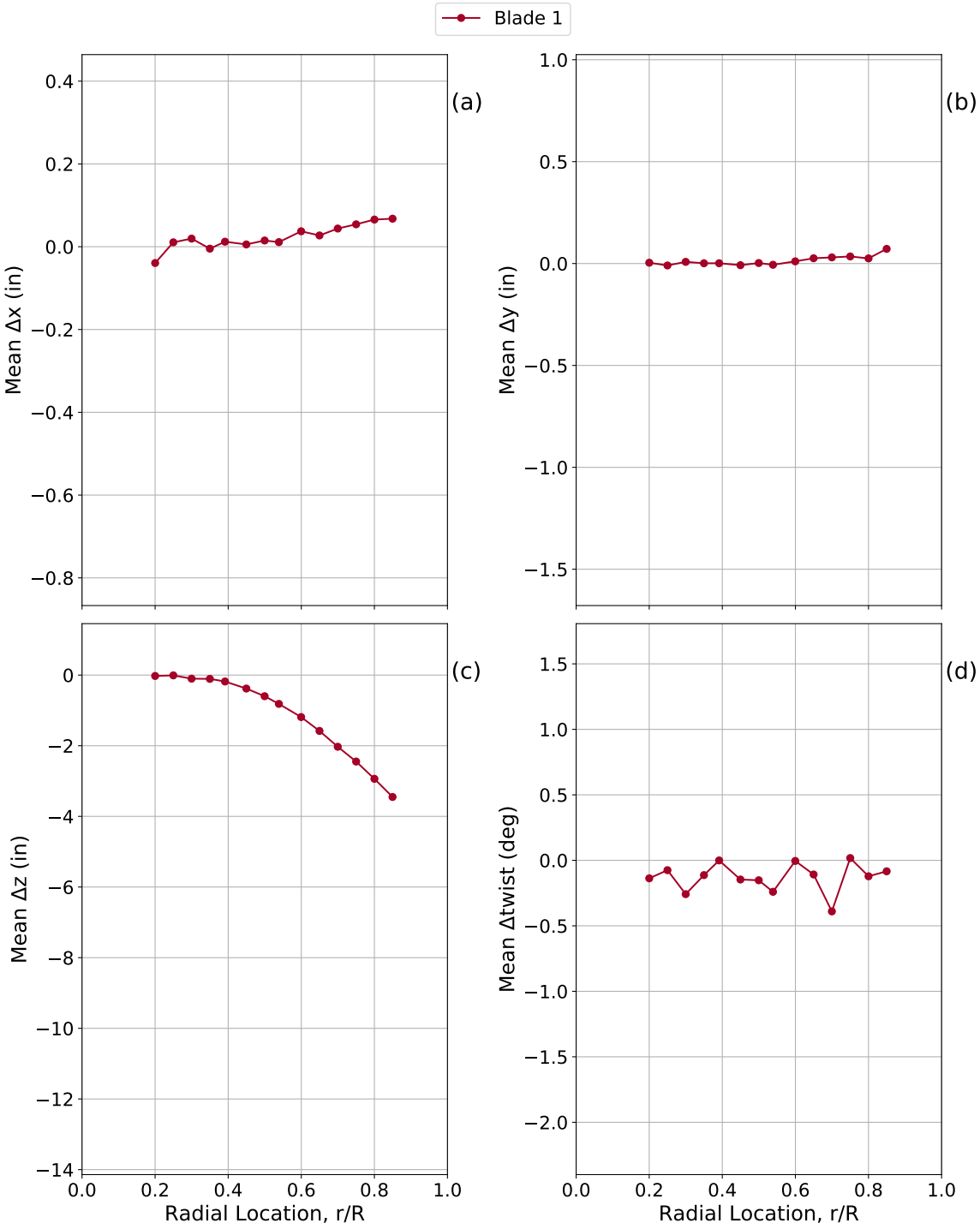


Figure 3.44-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0394	0.0010	0.0041	0.0006	-0.0250	0.0018	-0.1374	0.0176
1	85.08	0.2499	0.0106	0.0012	-0.0094	0.0013	-0.0087	0.0041	-0.0751	0.0166
1	85.08	0.2998	0.0196	0.0005	0.0083	0.0019	-0.1015	0.0067	-0.2582	0.0318
1	85.08	0.3498	-0.0047	0.0015	0.0014	0.0042	-0.1071	0.0127	-0.1128	0.0262
1	85.08	0.3913	0.0121	0.0014	0.0015	0.0053	-0.1813	0.0175	-0.0007	0.0254
1	85.08	0.4496	0.0055	0.0016	-0.0081	0.0076	-0.3815	0.0249	-0.1466	0.0266
1	85.08	0.4997	0.0150	0.0018	0.0026	0.0090	-0.5979	0.0294	-0.1523	0.0373
1	85.08	0.5387	0.0111	0.0024	-0.0061	0.0106	-0.8157	0.0352	-0.2404	0.0358
1	85.08	0.5996	0.0373	0.0021	0.0108	0.0124	-1.1885	0.0434	-0.0047	0.0253
1	85.08	0.6498	0.0272	0.0030	0.0259	0.0145	-1.5808	0.0491	-0.1080	0.0418
1	85.08	0.6998	0.0439	0.0021	0.0302	0.0170	-2.0291	0.0585	-0.3899	0.0479
1	85.08	0.7500	0.0541	0.0029	0.0348	0.0192	-2.4474	0.0677	0.0173	0.0507
1	85.08	0.8001	0.0656	0.0040	0.0253	0.0213	-2.9371	0.0738	-0.1218	0.0881
1	85.08	0.8497	0.0677	0.0029	0.0720	0.0243	-3.4504	0.0792	-0.0838	0.0645

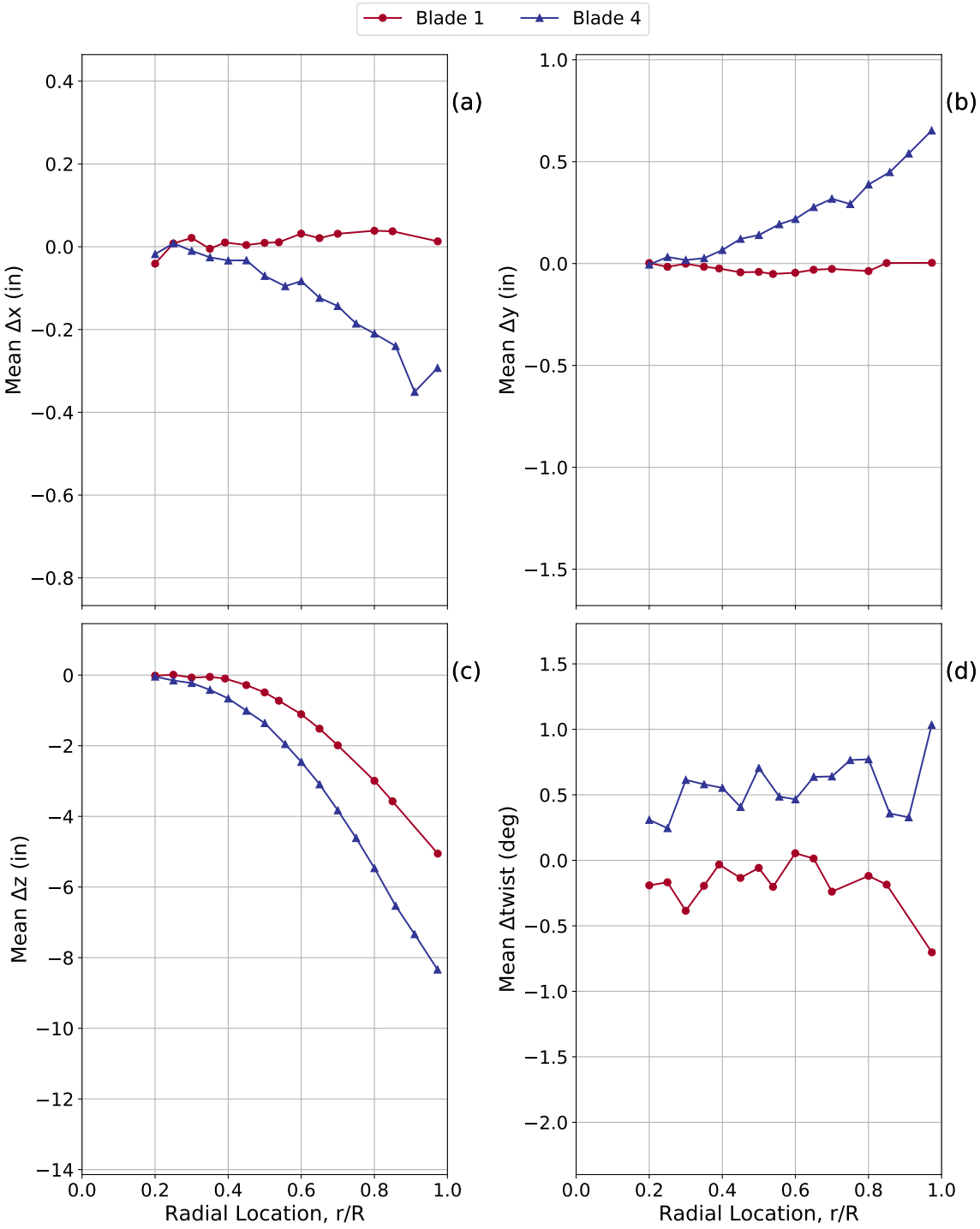


Figure 3.44-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0410	0.0009	0.0024	0.0007	-0.0182	0.0025	-0.1912	0.0146
1	90	0.2499	0.0078	0.0009	-0.0161	0.0013	0.0098	0.0041	-0.1677	0.0223
1	90	0.2998	0.0213	0.0008	-0.0010	0.0025	-0.0704	0.0097	-0.3851	0.0313
1	90	0.3498	-0.0049	0.0012	-0.0159	0.0044	-0.0504	0.0157	-0.1947	0.0320
1	90	0.3913	0.0102	0.0008	-0.0244	0.0061	-0.0989	0.0228	-0.0324	0.0208
1	90	0.4496	0.0041	0.0015	-0.0431	0.0086	-0.2839	0.0322	-0.1344	0.0275
1	90	0.4997	0.0093	0.0014	-0.0410	0.0104	-0.4901	0.0413	-0.0579	0.0193
1	90	0.5387	0.0108	0.0020	-0.0511	0.0117	-0.7256	0.0494	-0.2025	0.0188
1	90	0.5996	0.0316	0.0018	-0.0451	0.0142	-1.1076	0.0599	0.0542	0.0329
1	90	0.6498	0.0208	0.0017	-0.0305	0.0160	-1.5170	0.0701	0.0136	0.0336
1	90	0.6998	0.0313	0.0016	-0.0265	0.0183	-1.9884	0.0804	-0.2392	0.0382
1	90	0.8001	0.0386	0.0030	-0.0371	0.0231	-2.9929	0.1040	-0.1191	0.0684
1	90	0.8497	0.0373	0.0036	0.0026	0.0251	-3.5731	0.1126	-0.1856	0.0500
1	90	0.9734	0.0130	0.0058	0.0035	0.0305	-5.0534	0.1440	-0.7026	0.0846
4	90.35	0.2001	-0.0179	0.0012	-0.0051	0.0009	-0.0435	0.0023	0.3088	0.0366
4	90.35	0.2502	0.0082	0.0012	0.0321	0.0029	-0.1538	0.0075	0.2454	0.0389
4	90.35	0.3001	-0.0100	0.0012	0.0173	0.0036	-0.2242	0.0101	0.6139	0.0738
4	90.35	0.3502	-0.0257	0.0020	0.0262	0.0079	-0.4194	0.0196	0.5805	0.0407
4	90.35	0.4002	-0.0333	0.0020	0.0665	0.0114	-0.6636	0.0298	0.5529	0.0468
4	90.35	0.4500	-0.0329	0.0021	0.1211	0.0135	-1.0098	0.0355	0.4070	0.0417
4	90.35	0.5001	-0.0707	0.0021	0.1399	0.0160	-1.3606	0.0442	0.7048	0.0415
4	90.35	0.5560	-0.0954	0.0022	0.1928	0.0194	-1.9540	0.0554	0.4866	0.0396
4	90.35	0.6001	-0.0831	0.0017	0.2187	0.0222	-2.4589	0.0629	0.4654	0.0363
4	90.35	0.6501	-0.1236	0.0020	0.2771	0.0253	-3.0935	0.0713	0.6371	0.0422
4	90.35	0.6999	-0.1434	0.0020	0.3179	0.0281	-3.8297	0.0808	0.6406	0.0407
4	90.35	0.7500	-0.1858	0.0019	0.2917	0.0307	-4.6133	0.0885	0.7653	0.0516
4	90.35	0.8002	-0.2098	0.0023	0.3879	0.0346	-5.4663	0.0972	0.7714	0.0416
4	90.35	0.8582	-0.2400	0.0036	0.4485	0.0378	-6.5325	0.1067	0.3576	0.0655
4	90.35	0.9101	-0.3507	0.0041	0.5399	0.0411	-7.3369	0.1167	0.3284	0.0585
4	90.35	0.9728	-0.2929	0.0044	0.6527	0.0447	-8.3371	0.1268	1.0338	0.0484

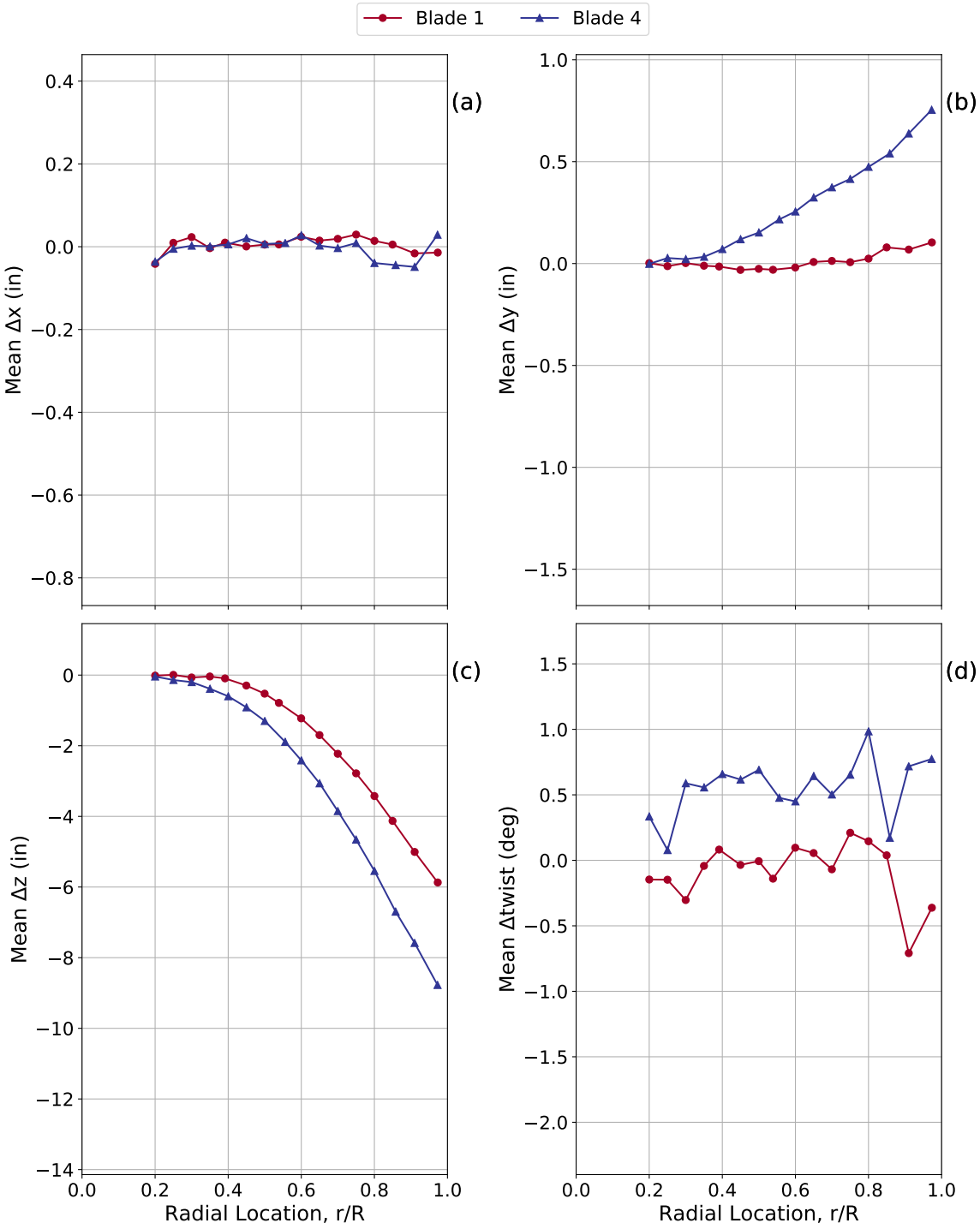


Figure 3.44-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0414	0.0009	0.0024	0.0005	-0.0148	0.0026	-0.1466	0.0210
1	94.92	0.2499	0.0094	0.0008	-0.0127	0.0011	0.0062	0.0074	-0.1481	0.0290
1	94.92	0.2998	0.0232	0.0013	0.0023	0.0021	-0.0674	0.0119	-0.3032	0.0440
1	94.92	0.3498	-0.0035	0.0012	-0.0107	0.0035	-0.0393	0.0219	-0.0425	0.0366
1	94.92	0.3913	0.0099	0.0014	-0.0147	0.0052	-0.0935	0.0317	0.0821	0.0382
1	94.92	0.4496	0.0006	0.0019	-0.0312	0.0063	-0.2958	0.0432	-0.0351	0.0401
1	94.92	0.4997	0.0051	0.0022	-0.0260	0.0081	-0.5262	0.0564	-0.0062	0.0376
1	94.92	0.5387	0.0055	0.0020	-0.0305	0.0097	-0.7869	0.0680	-0.1401	0.0403
1	94.92	0.5996	0.0240	0.0024	-0.0194	0.0115	-1.2247	0.0867	0.0962	0.0445
1	94.92	0.6498	0.0148	0.0027	0.0077	0.0138	-1.6987	0.1049	0.0555	0.0383
1	94.92	0.6998	0.0190	0.0029	0.0130	0.0159	-2.2282	0.1222	-0.0686	0.0427
1	94.92	0.7500	0.0293	0.0037	0.0067	0.0184	-2.7815	0.1429	0.2103	0.0341
1	94.92	0.8001	0.0141	0.0045	0.0241	0.0200	-3.4250	0.1627	0.1456	0.0479
1	94.92	0.8497	0.0052	0.0055	0.0793	0.0218	-4.1282	0.1811	0.0384	0.0406
1	94.92	0.9102	-0.0161	0.0060	0.0687	0.0246	-5.0067	0.2066	-0.7086	0.1496
1	94.92	0.9734	-0.0142	0.0058	0.1037	0.0276	-5.8712	0.2299	-0.3619	0.0927
4	94.92	0.2001	-0.0363	0.0012	-0.0016	0.0006	-0.0415	0.0012	0.3344	0.0171
4	94.92	0.2502	-0.0050	0.0010	0.0271	0.0014	-0.1396	0.0032	0.0780	0.0205
4	94.92	0.3001	0.0024	0.0009	0.0215	0.0026	-0.1992	0.0053	0.5883	0.0351
4	94.92	0.3502	0.0008	0.0012	0.0331	0.0046	-0.3887	0.0088	0.5563	0.0303
4	94.92	0.4002	0.0056	0.0022	0.0709	0.0071	-0.6005	0.0141	0.6586	0.0228
4	94.92	0.4500	0.0206	0.0021	0.1191	0.0083	-0.9146	0.0178	0.6165	0.0246
4	94.92	0.5001	0.0066	0.0021	0.1521	0.0100	-1.2996	0.0231	0.6910	0.0304
4	94.92	0.5560	0.0089	0.0023	0.2168	0.0116	-1.8921	0.0290	0.4771	0.0283
4	94.92	0.6001	0.0278	0.0024	0.2552	0.0132	-2.4154	0.0337	0.4498	0.0206
4	94.92	0.6501	0.0027	0.0023	0.3240	0.0153	-3.0647	0.0384	0.6434	0.0249
4	94.92	0.6999	-0.0033	0.0024	0.3741	0.0173	-3.8508	0.0440	0.5024	0.0327
4	94.92	0.7500	0.0089	0.0036	0.4150	0.0190	-4.6588	0.0504	0.6535	0.0407
4	94.92	0.8002	-0.0394	0.0034	0.4743	0.0218	-5.5451	0.0580	0.9843	0.0364
4	94.92	0.8582	-0.0444	0.0042	0.5402	0.0248	-6.6980	0.0650	0.1719	0.0449
4	94.92	0.9101	-0.0488	0.0051	0.6380	0.0268	-7.5840	0.0787	0.7176	0.0581
4	94.92	0.9728	0.0289	0.0054	0.7542	0.0307	-8.7731	0.0764	0.7734	0.1121

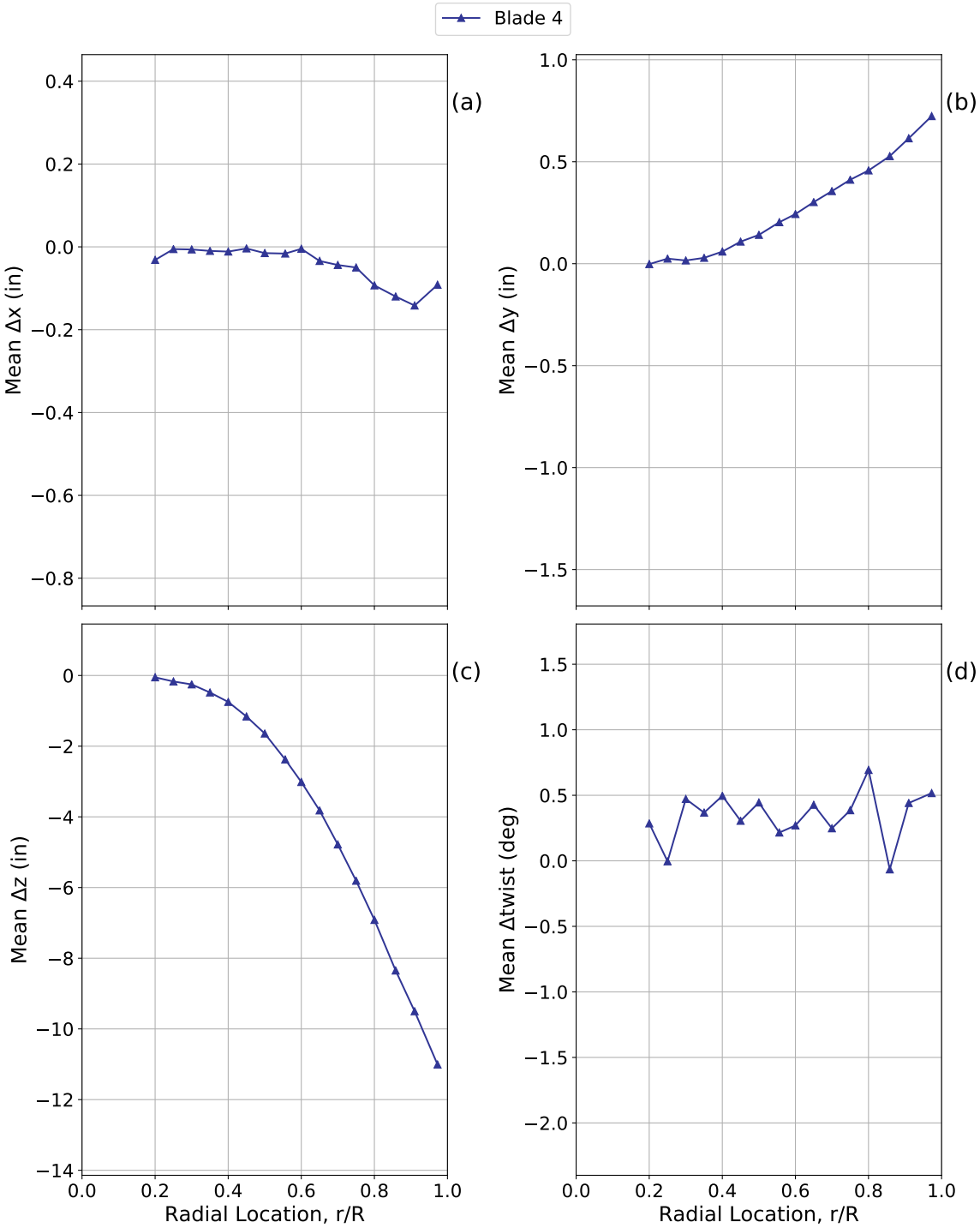


Figure 3.44-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0316	0.0007	-0.0021	0.0002	-0.0530	0.0019	0.2853	0.0128
4	105.12	0.2502	-0.0054	0.0010	0.0248	0.0015	-0.1698	0.0032	-0.0041	0.0216
4	105.12	0.3001	-0.0063	0.0011	0.0158	0.0016	-0.2532	0.0066	0.4718	0.0275
4	105.12	0.3502	-0.0098	0.0012	0.0287	0.0019	-0.4820	0.0120	0.3677	0.0165
4	105.12	0.4002	-0.0114	0.0018	0.0594	0.0041	-0.7490	0.0176	0.4958	0.0256
4	105.12	0.4500	-0.0039	0.0013	0.1081	0.0052	-1.1609	0.0247	0.3052	0.0216
4	105.12	0.5001	-0.0151	0.0018	0.1413	0.0065	-1.6438	0.0309	0.4447	0.0273
4	105.12	0.5560	-0.0162	0.0019	0.2034	0.0071	-2.3774	0.0413	0.2155	0.0199
4	105.12	0.6001	-0.0047	0.0024	0.2435	0.0080	-3.0148	0.0485	0.2699	0.0232
4	105.12	0.6501	-0.0341	0.0026	0.3021	0.0083	-3.8188	0.0567	0.4273	0.0232
4	105.12	0.6999	-0.0438	0.0033	0.3559	0.0097	-4.7822	0.0666	0.2480	0.0214
4	105.12	0.7500	-0.0499	0.0038	0.4117	0.0107	-5.8084	0.0760	0.3858	0.0259
4	105.12	0.8002	-0.0931	0.0048	0.4573	0.0118	-6.9173	0.0880	0.6931	0.0218
4	105.12	0.8582	-0.1199	0.0055	0.5273	0.0134	-8.3485	0.1030	-0.0656	0.0323
4	105.12	0.9101	-0.1417	0.0070	0.6148	0.0142	-9.5009	0.1215	0.4410	0.0335
4	105.12	0.9728	-0.0915	0.0080	0.7237	0.0159	-11.0072	0.1453	0.5164	0.0438

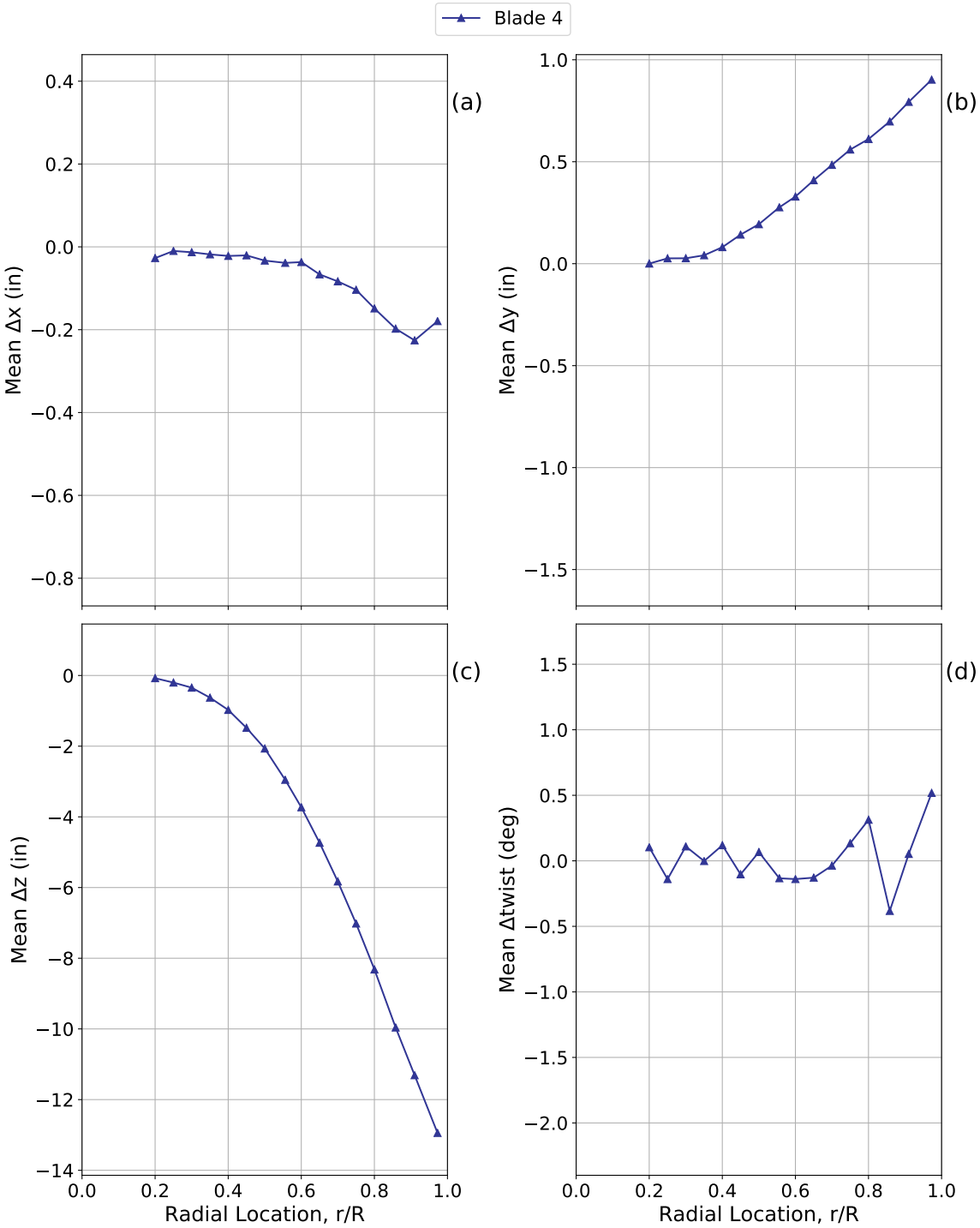


Figure 3.44-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0271	0.0005	0.0006	0.0005	-0.0772	0.0015	0.1033	0.0176
4	119.88	0.2502	-0.0099	0.0009	0.0262	0.0010	-0.2011	0.0034	-0.1397	0.0221
4	119.88	0.3001	-0.0130	0.0008	0.0266	0.0019	-0.3452	0.0054	0.1097	0.0361
4	119.88	0.3502	-0.0182	0.0008	0.0412	0.0030	-0.6283	0.0099	-0.0018	0.0411
4	119.88	0.4002	-0.0219	0.0009	0.0811	0.0047	-0.9754	0.0147	0.1191	0.0326
4	119.88	0.4500	-0.0206	0.0009	0.1425	0.0066	-1.4817	0.0203	-0.1032	0.0292
4	119.88	0.5001	-0.0332	0.0015	0.1935	0.0079	-2.0677	0.0266	0.0668	0.0334
4	119.88	0.5560	-0.0387	0.0015	0.2765	0.0103	-2.9532	0.0352	-0.1332	0.0363
4	119.88	0.6001	-0.0368	0.0020	0.3291	0.0117	-3.7305	0.0406	-0.1393	0.0294
4	119.88	0.6501	-0.0665	0.0024	0.4092	0.0138	-4.7339	0.0471	-0.1284	0.0335
4	119.88	0.6999	-0.0834	0.0023	0.4845	0.0161	-5.8289	0.0534	-0.0368	0.0333
4	119.88	0.7500	-0.1037	0.0031	0.5597	0.0180	-7.0195	0.0590	0.1341	0.0236
4	119.88	0.8002	-0.1487	0.0036	0.6113	0.0203	-8.3187	0.0661	0.3133	0.0257
4	119.88	0.8582	-0.1976	0.0043	0.6975	0.0231	-9.9612	0.0758	-0.3826	0.0358
4	119.88	0.9101	-0.2258	0.0054	0.7934	0.0256	-11.3105	0.0840	0.0524	0.0335
4	119.88	0.9728	-0.1793	0.0060	0.9024	0.0291	-12.9442	0.0969	0.5178	0.0386

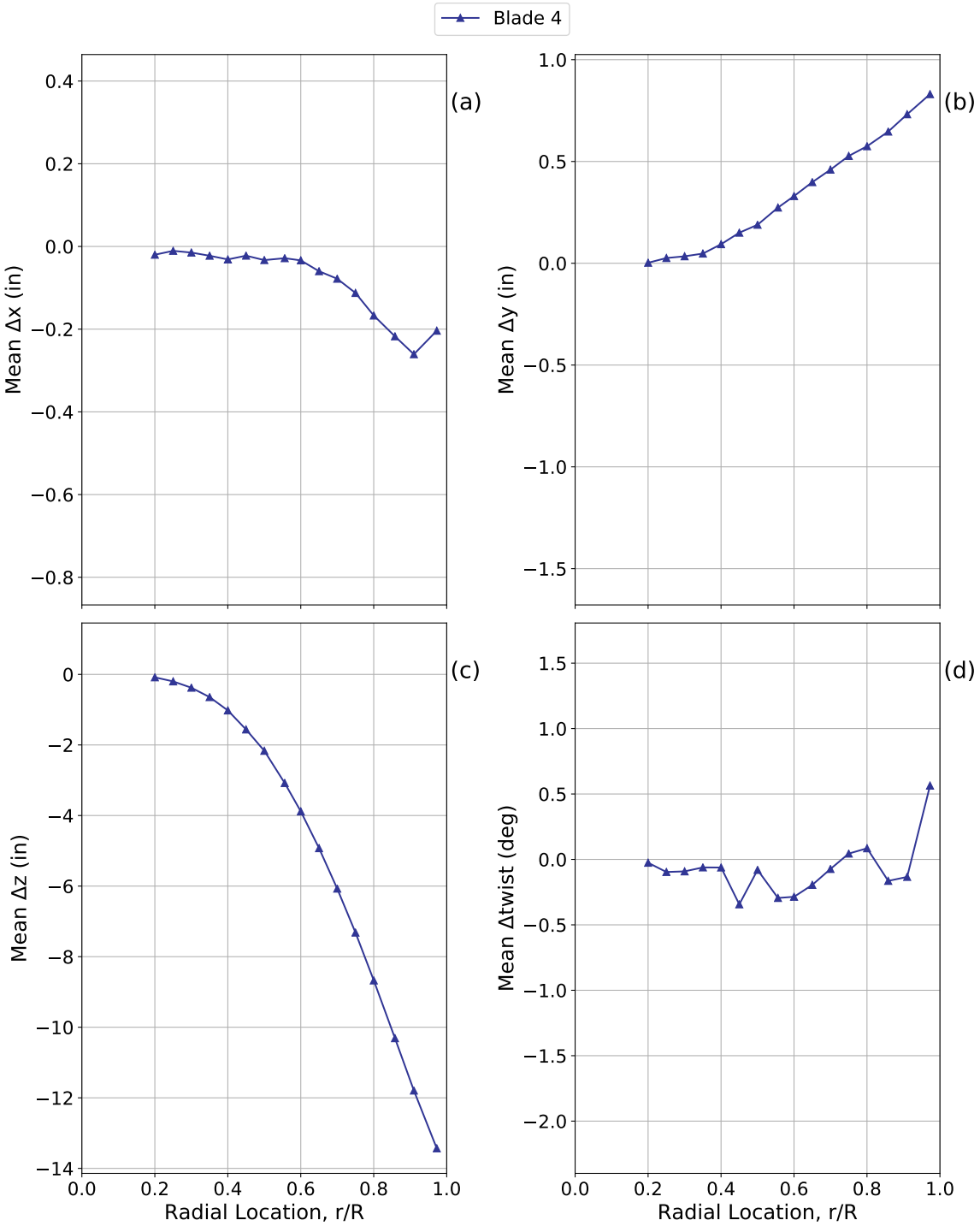


Figure 3.44-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0200	0.0004	0.0025	0.0005	-0.0836	0.0013	-0.0255	0.0095
4	135	0.2502	-0.0106	0.0007	0.0257	0.0014	-0.1993	0.0036	-0.0961	0.0195
4	135	0.3001	-0.0148	0.0007	0.0342	0.0028	-0.3786	0.0055	-0.0914	0.0210
4	135	0.3502	-0.0225	0.0012	0.0476	0.0038	-0.6446	0.0097	-0.0611	0.0202
4	135	0.4002	-0.0314	0.0014	0.0936	0.0068	-1.0225	0.0153	-0.0619	0.0248
4	135	0.4500	-0.0223	0.0012	0.1501	0.0085	-1.5617	0.0214	-0.3434	0.0192
4	135	0.5001	-0.0330	0.0012	0.1891	0.0110	-2.1667	0.0292	-0.0801	0.0254
4	135	0.5560	-0.0284	0.0017	0.2735	0.0136	-3.0802	0.0391	-0.2946	0.0208
4	135	0.6001	-0.0337	0.0025	0.3300	0.0155	-3.8837	0.0465	-0.2856	0.0217
4	135	0.6501	-0.0599	0.0018	0.3984	0.0180	-4.9259	0.0557	-0.1947	0.0273
4	135	0.6999	-0.0781	0.0028	0.4598	0.0206	-6.0718	0.0645	-0.0730	0.0298
4	135	0.7500	-0.1125	0.0033	0.5271	0.0238	-7.3185	0.0744	0.0445	0.0205
4	135	0.8002	-0.1671	0.0043	0.5748	0.0268	-8.6749	0.0852	0.0850	0.0256
4	135	0.8582	-0.2174	0.0051	0.6468	0.0301	-10.3113	0.0982	-0.1641	0.0286
4	135	0.9101	-0.2607	0.0057	0.7318	0.0329	-11.7944	0.1103	-0.1337	0.0288
4	135	0.9728	-0.2038	0.0067	0.8306	0.0363	-13.4325	0.1256	0.5642	0.0269

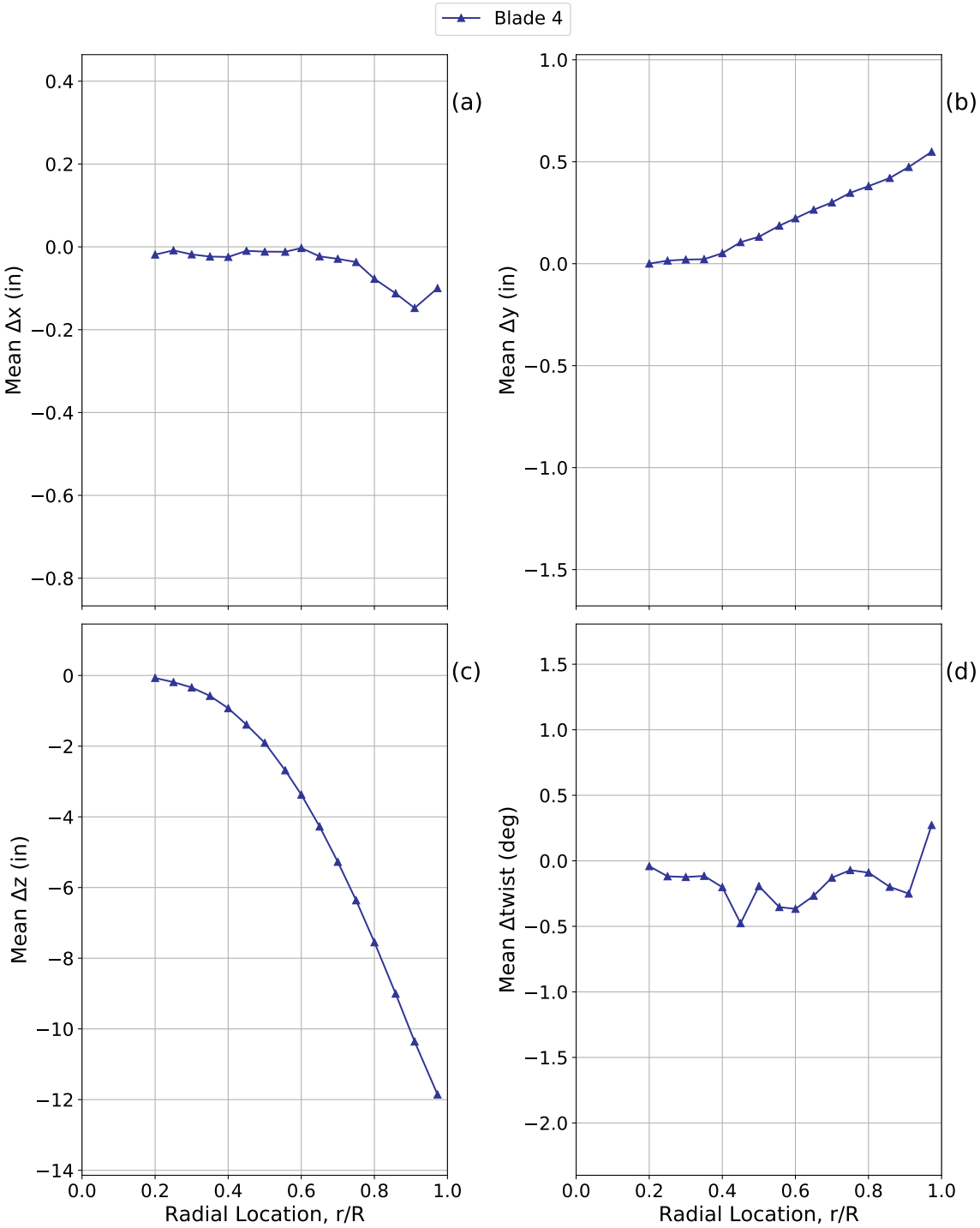


Figure 3.44-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0187	0.0010	0.0003	0.0005	-0.0714	0.0012	-0.0411	0.0127
4	150.12	0.2502	-0.0085	0.0009	0.0151	0.0009	-0.1884	0.0029	-0.1184	0.0215
4	150.12	0.3001	-0.0183	0.0008	0.0202	0.0013	-0.3402	0.0054	-0.1238	0.0284
4	150.12	0.3502	-0.0235	0.0006	0.0219	0.0030	-0.5786	0.0077	-0.1154	0.0422
4	150.12	0.4002	-0.0244	0.0011	0.0515	0.0038	-0.9279	0.0129	-0.2014	0.0302
4	150.12	0.4500	-0.0096	0.0011	0.1055	0.0050	-1.3918	0.0181	-0.4764	0.0307
4	150.12	0.5001	-0.0116	0.0009	0.1319	0.0059	-1.9058	0.0232	-0.1934	0.0388
4	150.12	0.5560	-0.0119	0.0013	0.1864	0.0078	-2.6841	0.0291	-0.3532	0.0373
4	150.12	0.6001	-0.0029	0.0015	0.2225	0.0104	-3.3743	0.0363	-0.3665	0.0321
4	150.12	0.6501	-0.0230	0.0022	0.2647	0.0100	-4.2750	0.0396	-0.2668	0.0327
4	150.12	0.6999	-0.0289	0.0020	0.3004	0.0128	-5.2741	0.0464	-0.1289	0.0408
4	150.12	0.7500	-0.0368	0.0024	0.3475	0.0129	-6.3626	0.0523	-0.0711	0.0479
4	150.12	0.8002	-0.0773	0.0031	0.3802	0.0148	-7.5495	0.0587	-0.0901	0.0298
4	150.12	0.8582	-0.1124	0.0031	0.4203	0.0169	-9.0038	0.0648	-0.1989	0.0282
4	150.12	0.9101	-0.1477	0.0030	0.4741	0.0192	-10.3575	0.0722	-0.2504	0.0301
4	150.12	0.9728	-0.0998	0.0039	0.5488	0.0215	-11.8559	0.0842	0.2727	0.0262

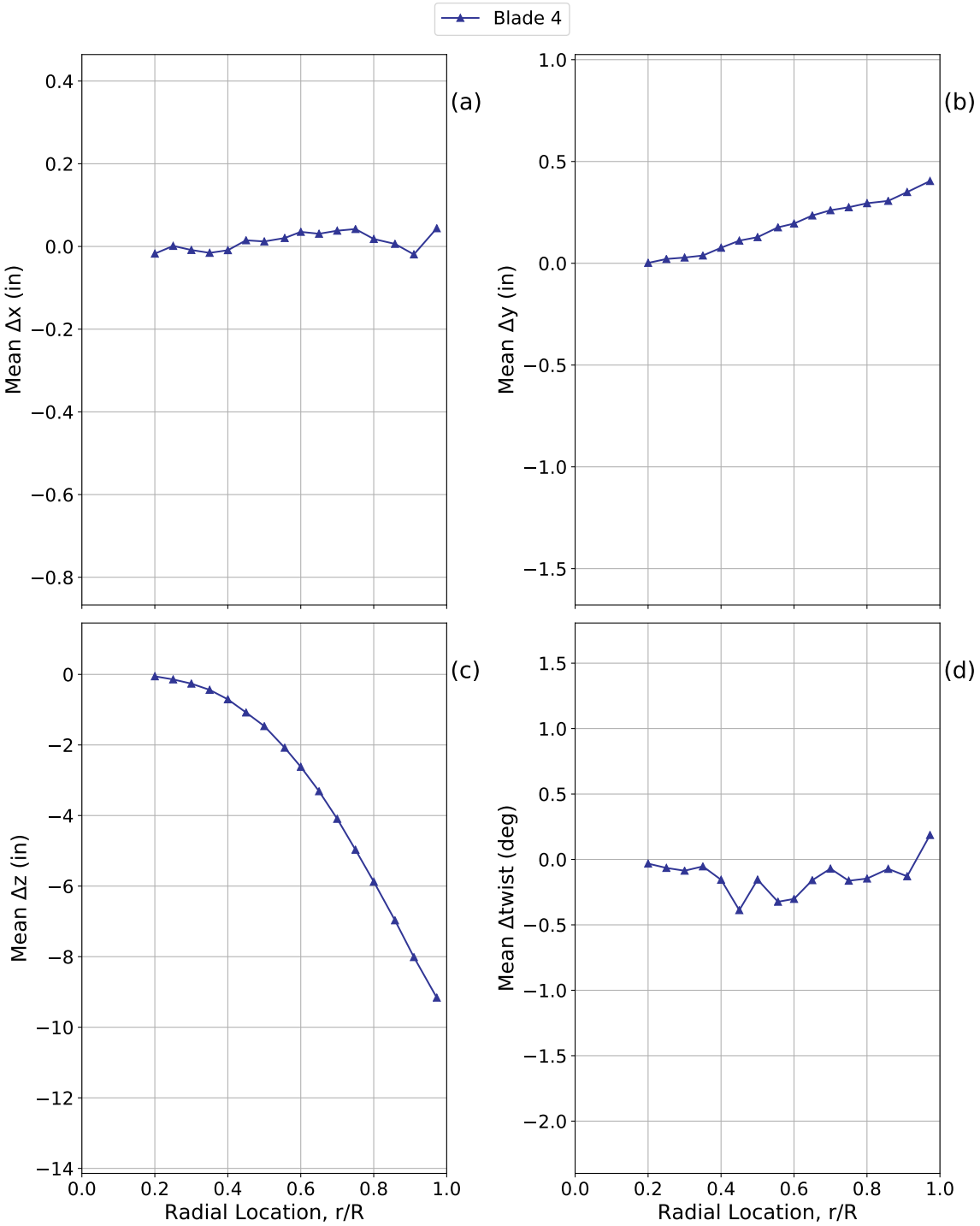


Figure 3.44-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0174	0.0016	0.0019	0.0009	-0.0550	0.0010	-0.0320	0.0150
4	164.88	0.2502	0.0013	0.0018	0.0210	0.0044	-0.1432	0.0029	-0.0651	0.0215
4	164.88	0.3001	-0.0086	0.0016	0.0281	0.0058	-0.2623	0.0035	-0.0863	0.0310
4	164.88	0.3502	-0.0155	0.0016	0.0380	0.0102	-0.4391	0.0067	-0.0533	0.0262
4	164.88	0.4002	-0.0091	0.0022	0.0762	0.0170	-0.7078	0.0103	-0.1559	0.0308
4	164.88	0.4500	0.0149	0.0018	0.1111	0.0167	-1.0801	0.0147	-0.3877	0.0374
4	164.88	0.5001	0.0121	0.0027	0.1282	0.0223	-1.4666	0.0202	-0.1543	0.0334
4	164.88	0.5560	0.0204	0.0019	0.1764	0.0260	-2.0788	0.0229	-0.3237	0.0393
4	164.88	0.6001	0.0353	0.0019	0.1950	0.0275	-2.6210	0.0245	-0.3018	0.0365
4	164.88	0.6501	0.0307	0.0024	0.2346	0.0314	-3.3120	0.0286	-0.1587	0.0353
4	164.88	0.6999	0.0381	0.0021	0.2604	0.0350	-4.0940	0.0321	-0.0706	0.0367
4	164.88	0.7500	0.0421	0.0025	0.2751	0.0369	-4.9710	0.0385	-0.1630	0.0351
4	164.88	0.8002	0.0180	0.0033	0.2949	0.0404	-5.8766	0.0453	-0.1463	0.0315
4	164.88	0.8582	0.0062	0.0036	0.3064	0.0443	-6.9698	0.0547	-0.0723	0.0401
4	164.88	0.9101	-0.0193	0.0038	0.3497	0.0475	-8.0123	0.0638	-0.1290	0.0350
4	164.88	0.9728	0.0440	0.0049	0.4040	0.0511	-9.1617	0.0771	0.1865	0.0376

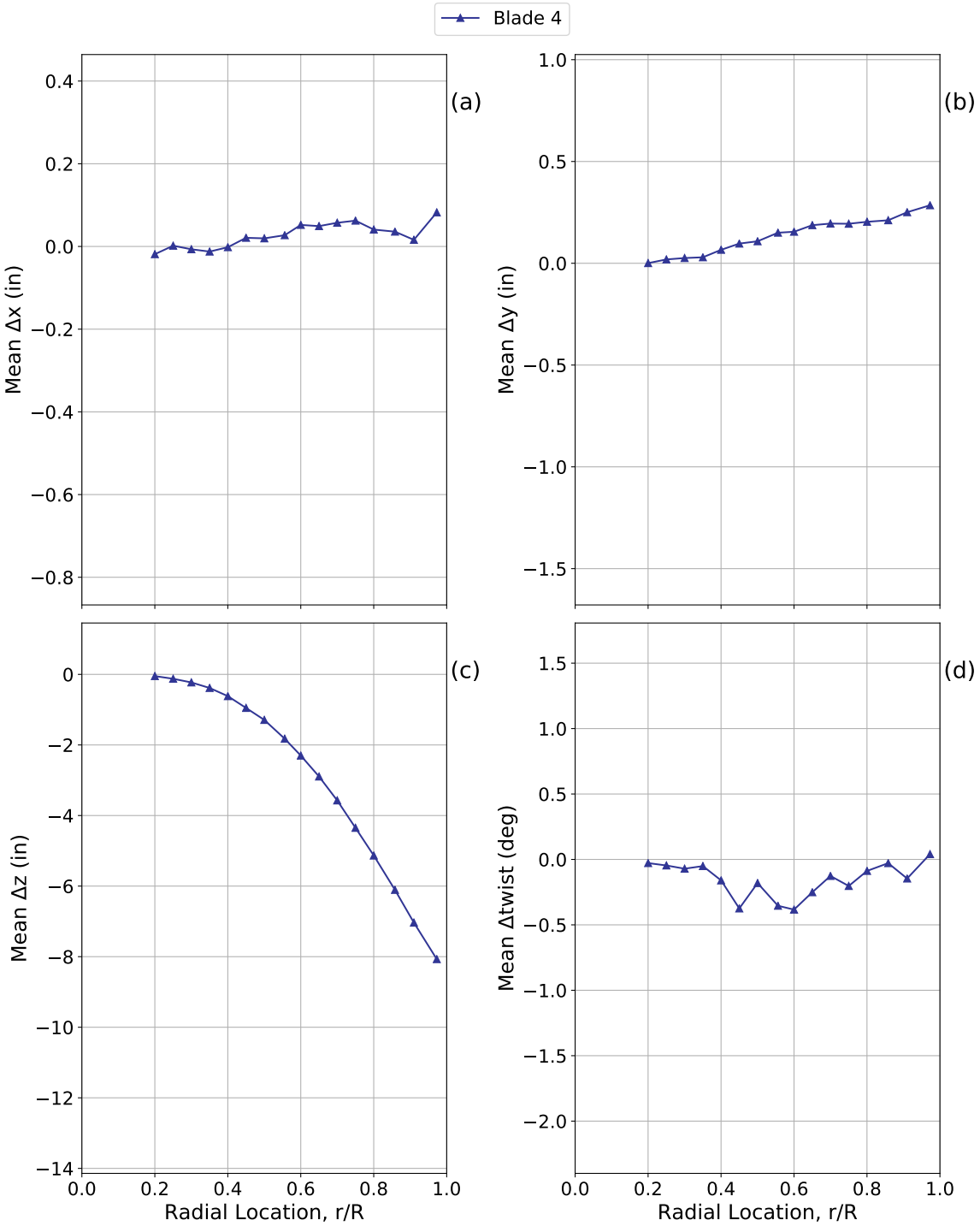


Figure 3.44-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0187	0.0012	0.0008	0.0007	-0.0487	0.0018	-0.0280	0.0232
4	170.16	0.2502	0.0018	0.0013	0.0188	0.0018	-0.1245	0.0042	-0.0462	0.0228
4	170.16	0.3001	-0.0068	0.0012	0.0257	0.0027	-0.2283	0.0045	-0.0709	0.0458
4	170.16	0.3502	-0.0124	0.0013	0.0294	0.0052	-0.3852	0.0091	-0.0509	0.0466
4	170.16	0.4002	-0.0018	0.0017	0.0661	0.0075	-0.6175	0.0130	-0.1605	0.0440
4	170.16	0.4500	0.0209	0.0013	0.0967	0.0093	-0.9510	0.0177	-0.3747	0.0341
4	170.16	0.5001	0.0196	0.0015	0.1080	0.0106	-1.2910	0.0247	-0.1808	0.0405
4	170.16	0.5560	0.0272	0.0016	0.1501	0.0131	-1.8238	0.0274	-0.3541	0.0319
4	170.16	0.6001	0.0521	0.0018	0.1548	0.0162	-2.3021	0.0318	-0.3836	0.0310
4	170.16	0.6501	0.0492	0.0018	0.1871	0.0174	-2.8948	0.0362	-0.2508	0.0504
4	170.16	0.6999	0.0573	0.0019	0.1950	0.0196	-3.5724	0.0410	-0.1263	0.0427
4	170.16	0.7500	0.0624	0.0022	0.1941	0.0227	-4.3494	0.0454	-0.2030	0.0362
4	170.16	0.8002	0.0408	0.0021	0.2037	0.0241	-5.1350	0.0486	-0.0879	0.0393
4	170.16	0.8582	0.0358	0.0027	0.2112	0.0277	-6.1075	0.0528	-0.0285	0.0377
4	170.16	0.9101	0.0160	0.0028	0.2507	0.0303	-7.0357	0.0579	-0.1460	0.0380
4	170.16	0.9728	0.0824	0.0031	0.2849	0.0335	-8.0703	0.0635	0.0402	0.0365

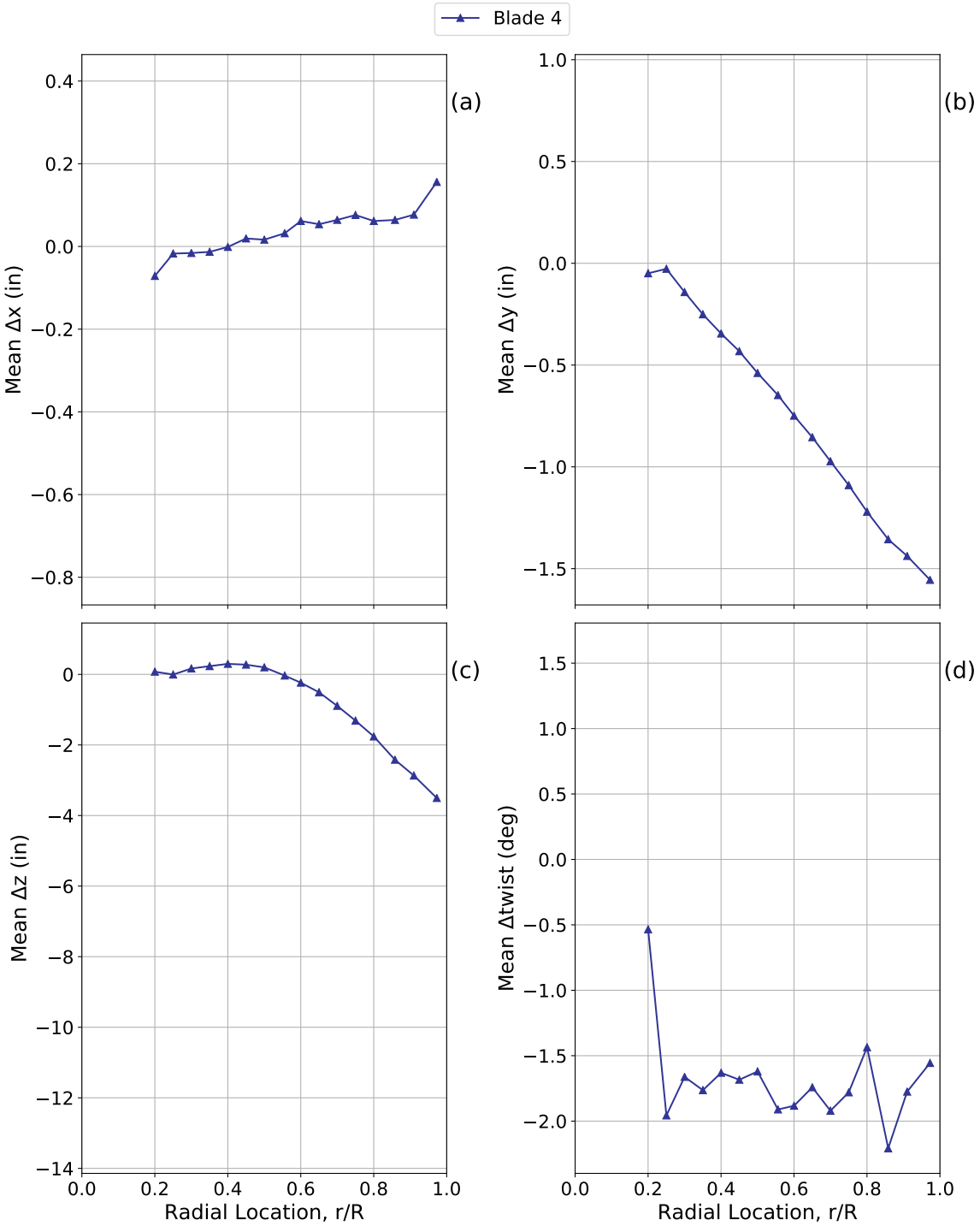


Figure 3.44-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.075, μ = 0.298, α = 4°
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0713	0.0028	-0.0494	0.0011	0.0759	0.0022	-0.5345	0.0190
4	175.08	0.2502	-0.0172	0.0018	-0.0273	0.0022	-0.0050	0.0027	-1.9569	0.0489
4	175.08	0.3001	-0.0159	0.0008	-0.1417	0.0039	0.1666	0.0046	-1.6621	0.0497
4	175.08	0.3502	-0.0131	0.0028	-0.2510	0.0073	0.2333	0.0088	-1.7636	0.0466
4	175.08	0.4002	-0.0012	0.0044	-0.3454	0.0108	0.2974	0.0116	-1.6309	0.0737
4	175.08	0.4500	0.0193	0.0052	-0.4322	0.0140	0.2749	0.0154	-1.6840	0.0576
4	175.08	0.5001	0.0164	0.0059	-0.5392	0.0165	0.1983	0.0193	-1.6205	0.0587
4	175.08	0.5560	0.0319	0.0064	-0.6479	0.0210	-0.0343	0.0237	-1.9112	0.0535
4	175.08	0.6001	0.0615	0.0070	-0.7490	0.0228	-0.2368	0.0286	-1.8827	0.0578
4	175.08	0.6501	0.0537	0.0067	-0.8547	0.0266	-0.5080	0.0345	-1.7416	0.0467
4	175.08	0.6999	0.0642	0.0063	-0.9729	0.0292	-0.8930	0.0413	-1.9209	0.0502
4	175.08	0.7500	0.0760	0.0052	-1.0903	0.0326	-1.3110	0.0485	-1.7804	0.0514
4	175.08	0.8002	0.0615	0.0065	-1.2207	0.0360	-1.7608	0.0559	-1.4358	0.0548
4	175.08	0.8582	0.0641	0.0063	-1.3561	0.0405	-2.4200	0.0658	-2.2082	0.0717
4	175.08	0.9101	0.0768	0.0102	-1.4380	0.0447	-2.8685	0.0714	-1.7750	0.0737
4	175.08	0.9728	0.1560	0.0161	-1.5554	0.0498	-3.5037	0.0931	-1.5558	0.1276

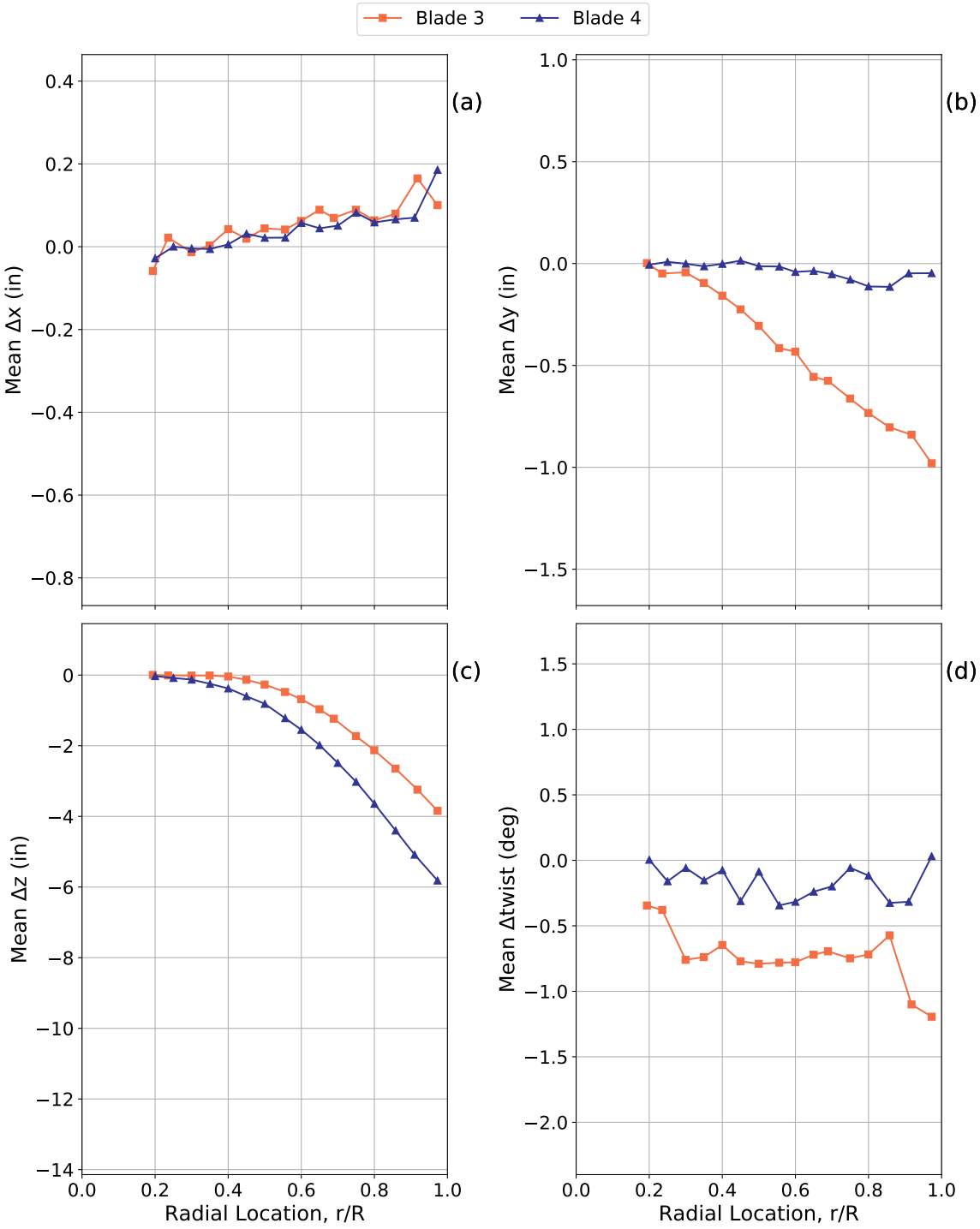


Figure 3.44-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0586	0.0016	0.0020	0.0011	0.0054	0.0027	-0.3449	0.0169
3	180.35	0.2357	0.0218	0.0015	-0.0489	0.0012	-0.0087	0.0030	-0.3789	0.0253
3	180.35	0.2995	-0.0132	0.0008	-0.0431	0.0031	-0.0129	0.0082	-0.7598	0.0296
3	180.35	0.3493	0.0031	0.0013	-0.0952	0.0053	-0.0117	0.0127	-0.7387	0.0298
3	180.35	0.4000	0.0423	0.0016	-0.1578	0.0077	-0.0400	0.0195	-0.6466	0.0290
3	180.35	0.4497	0.0194	0.0020	-0.2247	0.0103	-0.1332	0.0271	-0.7706	0.0317
3	180.35	0.4997	0.0442	0.0021	-0.3057	0.0125	-0.2676	0.0360	-0.7902	0.0233
3	180.35	0.5556	0.0415	0.0018	-0.4150	0.0153	-0.4784	0.0475	-0.7812	0.0355
3	180.35	0.5995	0.0623	0.0017	-0.4323	0.0175	-0.6801	0.0574	-0.7781	0.0335
3	180.35	0.6498	0.0892	0.0017	-0.5561	0.0202	-0.9673	0.0710	-0.7204	0.0401
3	180.35	0.6890	0.0696	0.0021	-0.5750	0.0223	-1.2353	0.0780	-0.6945	0.0387
3	180.35	0.7495	0.0893	0.0021	-0.6623	0.0250	-1.7268	0.0911	-0.7483	0.0308
3	180.35	0.7998	0.0636	0.0023	-0.7333	0.0284	-2.1276	0.1018	-0.7183	0.0303
3	180.35	0.8577	0.0797	0.0021	-0.8037	0.0325	-2.6482	0.1153	-0.5728	0.0438
3	180.35	0.9178	0.1650	0.0083	-0.8401	0.0376	-3.2426	0.1353	-1.1003	0.1221
3	180.35	0.9729	0.1004	0.0023	-0.9802	0.0388	-3.8434	0.1388	-1.1940	0.0369
4	180	0.2001	-0.0281	0.0014	-0.0056	0.0011	-0.0288	0.0015	0.0043	0.0179
4	180	0.2502	0.0003	0.0009	0.0082	0.0013	-0.0813	0.0026	-0.1599	0.0360
4	180	0.3001	-0.0043	0.0016	-0.0009	0.0039	-0.1288	0.0038	-0.0581	0.0413
4	180	0.3502	-0.0056	0.0011	-0.0135	0.0058	-0.2475	0.0068	-0.1527	0.0328
4	180	0.4002	0.0057	0.0020	-0.0016	0.0089	-0.3786	0.0091	-0.0756	0.0369
4	180	0.4500	0.0314	0.0020	0.0144	0.0110	-0.5985	0.0114	-0.3111	0.0353
4	180	0.5001	0.0216	0.0020	-0.0130	0.0130	-0.8142	0.0146	-0.0865	0.0401
4	180	0.5560	0.0219	0.0023	-0.0148	0.0151	-1.2202	0.0184	-0.3440	0.0376
4	180	0.6001	0.0575	0.0028	-0.0411	0.0172	-1.5483	0.0238	-0.3164	0.0364
4	180	0.6501	0.0445	0.0030	-0.0359	0.0200	-1.9826	0.0313	-0.2392	0.0334
4	180	0.6999	0.0509	0.0033	-0.0523	0.0226	-2.4875	0.0402	-0.1992	0.0350
4	180	0.7500	0.0821	0.0032	-0.0785	0.0246	-3.0222	0.0519	-0.0570	0.0472
4	180	0.8002	0.0588	0.0037	-0.1125	0.0272	-3.6432	0.0658	-0.1166	0.0362
4	180	0.8582	0.0662	0.0067	-0.1143	0.0312	-4.4010	0.0820	-0.3250	0.0297
4	180	0.9101	0.0701	0.0072	-0.0481	0.0326	-5.0846	0.0998	-0.3165	0.0423
4	180	0.9728	0.1856	0.0087	-0.0472	0.0382	-5.8157	0.1211	0.0314	0.0308

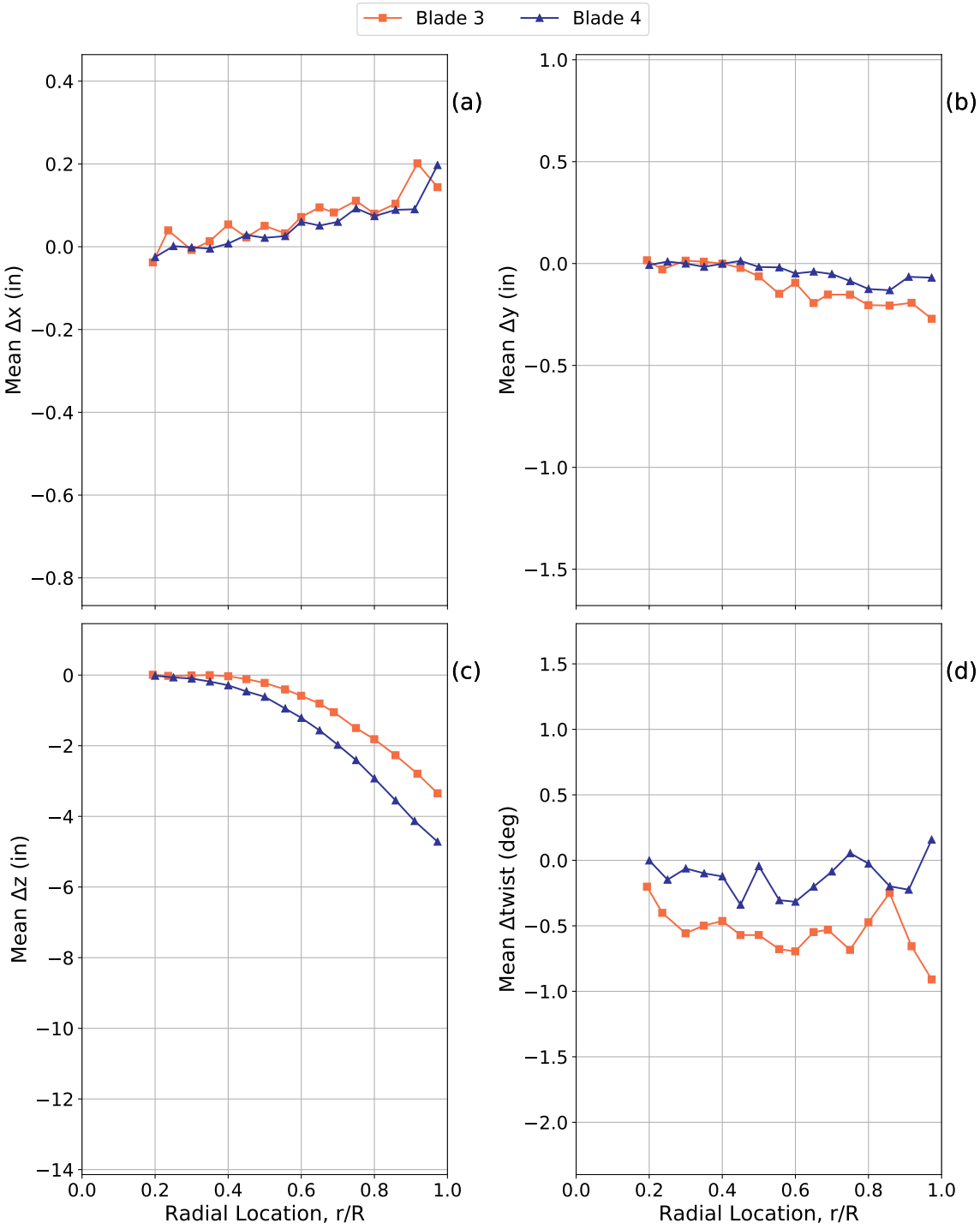


Figure 3.44-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0378	0.0054	0.0159	0.0017	0.0094	0.0024	-0.2009	0.0199
3	184.92	0.2357	0.0395	0.0027	-0.0283	0.0034	-0.0221	0.0039	-0.4011	0.0368
3	184.92	0.2995	-0.0077	0.0017	0.0141	0.0064	-0.0092	0.0062	-0.5569	0.0459
3	184.92	0.3493	0.0132	0.0030	0.0091	0.0110	-0.0022	0.0116	-0.4987	0.0367
3	184.92	0.4000	0.0538	0.0038	-0.0002	0.0174	-0.0318	0.0164	-0.4630	0.0498
3	184.92	0.4497	0.0225	0.0052	-0.0214	0.0234	-0.1145	0.0226	-0.5708	0.0478
3	184.92	0.4997	0.0504	0.0056	-0.0629	0.0297	-0.2213	0.0271	-0.5702	0.0476
3	184.92	0.5556	0.0325	0.0063	-0.1485	0.0378	-0.4056	0.0320	-0.6780	0.0616
3	184.92	0.5995	0.0717	0.0090	-0.0941	0.0441	-0.5841	0.0357	-0.6952	0.0450
3	184.92	0.6498	0.0950	0.0117	-0.1939	0.0519	-0.8057	0.0411	-0.5479	0.0561
3	184.92	0.6890	0.0827	0.0122	-0.1522	0.0572	-1.0507	0.0421	-0.5305	0.0553
3	184.92	0.7495	0.1110	0.0159	-0.1528	0.0671	-1.4991	0.0486	-0.6836	0.0582
3	184.92	0.7998	0.0799	0.0196	-0.2041	0.0741	-1.8146	0.0516	-0.4733	0.0644
3	184.92	0.8577	0.1038	0.0248	-0.2061	0.0825	-2.2692	0.0565	-0.2489	0.0745
3	184.92	0.9178	0.2013	0.0292	-0.1926	0.0938	-2.7926	0.0666	-0.6560	0.0464
3	184.92	0.9729	0.1438	0.0384	-0.2709	0.1015	-3.3460	0.0739	-0.9096	0.0791
4	184.92	0.2001	-0.0250	0.0047	-0.0066	0.0015	-0.0191	0.0029	-0.0013	0.0211
4	184.92	0.2502	0.0014	0.0024	0.0096	0.0029	-0.0663	0.0064	-0.1480	0.0349
4	184.92	0.3001	-0.0017	0.0010	-0.0003	0.0048	-0.0986	0.0078	-0.0623	0.0426
4	184.92	0.3502	-0.0046	0.0032	-0.0160	0.0078	-0.1833	0.0148	-0.0992	0.0424
4	184.92	0.4002	0.0076	0.0039	-0.0010	0.0122	-0.2904	0.0215	-0.1229	0.0308
4	184.92	0.4500	0.0282	0.0052	0.0130	0.0159	-0.4630	0.0254	-0.3394	0.0459
4	184.92	0.5001	0.0215	0.0065	-0.0169	0.0207	-0.6154	0.0343	-0.0446	0.0352
4	184.92	0.5560	0.0256	0.0077	-0.0189	0.0258	-0.9457	0.0411	-0.3046	0.0404
4	184.92	0.6001	0.0603	0.0082	-0.0488	0.0307	-1.2120	0.0473	-0.3162	0.0411
4	184.92	0.6501	0.0510	0.0099	-0.0394	0.0360	-1.5658	0.0553	-0.2009	0.0441
4	184.92	0.6999	0.0601	0.0121	-0.0516	0.0408	-1.9744	0.0629	-0.0856	0.0414
4	184.92	0.7500	0.0928	0.0142	-0.0862	0.0466	-2.4081	0.0687	0.0545	0.0404
4	184.92	0.8002	0.0738	0.0174	-0.1251	0.0522	-2.9264	0.0742	-0.0254	0.0414
4	184.92	0.8582	0.0891	0.0209	-0.1309	0.0577	-3.5498	0.0791	-0.1983	0.0423
4	184.92	0.9101	0.0904	0.0233	-0.0652	0.0639	-4.1322	0.0809	-0.2245	0.0568
4	184.92	0.9728	0.1971	0.0274	-0.0693	0.0708	-4.7171	0.0918	0.1579	0.0459

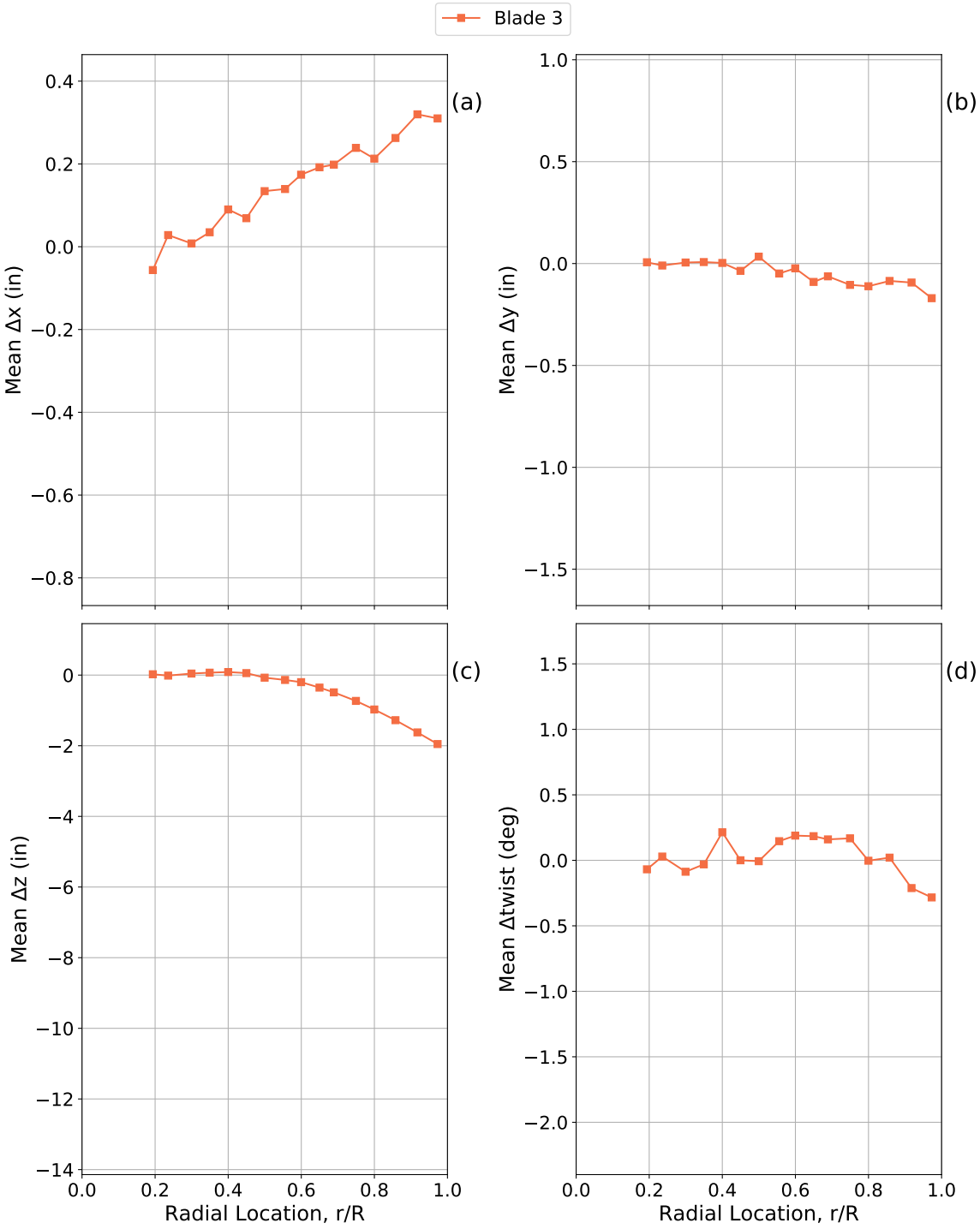


Figure 3.44-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0564	0.0009	0.0063	0.0007	0.0229	0.0016	-0.0686	0.0208
3	195.12	0.2357	0.0281	0.0010	-0.0097	0.0017	-0.0148	0.0035	0.0289	0.0265
3	195.12	0.2995	0.0079	0.0012	0.0051	0.0035	0.0433	0.0082	-0.0872	0.0461
3	195.12	0.3493	0.0349	0.0012	0.0073	0.0058	0.0684	0.0124	-0.0309	0.0444
3	195.12	0.4000	0.0900	0.0013	0.0030	0.0094	0.0864	0.0207	0.2142	0.0430
3	195.12	0.4497	0.0689	0.0014	-0.0359	0.0115	0.0561	0.0258	0.0004	0.0355
3	195.12	0.4997	0.1343	0.0052	0.0339	0.0341	-0.0731	0.0482	-0.0066	0.0389
3	195.12	0.5556	0.1394	0.0056	-0.0489	0.0383	-0.1380	0.0557	0.1462	0.0445
3	195.12	0.5995	0.1740	0.0053	-0.0235	0.0412	-0.1999	0.0610	0.1888	0.0414
3	195.12	0.6498	0.1919	0.0052	-0.0902	0.0436	-0.3546	0.0693	0.1844	0.0363
3	195.12	0.6890	0.1983	0.0052	-0.0628	0.0461	-0.4890	0.0736	0.1599	0.0419
3	195.12	0.7495	0.2388	0.0051	-0.1047	0.0497	-0.7311	0.0826	0.1680	0.0360
3	195.12	0.7998	0.2128	0.0059	-0.1114	0.0529	-0.9743	0.0879	-0.0029	0.0507
3	195.12	0.8577	0.2627	0.0057	-0.0853	0.0618	-1.2769	0.1087	0.0205	0.0437
3	195.12	0.9178	0.3198	0.0026	-0.0932	0.0662	-1.6223	0.1171	-0.2118	0.0427
3	195.12	0.9729	0.3100	0.0036	-0.1699	0.0704	-1.9526	0.1244	-0.2833	0.0446

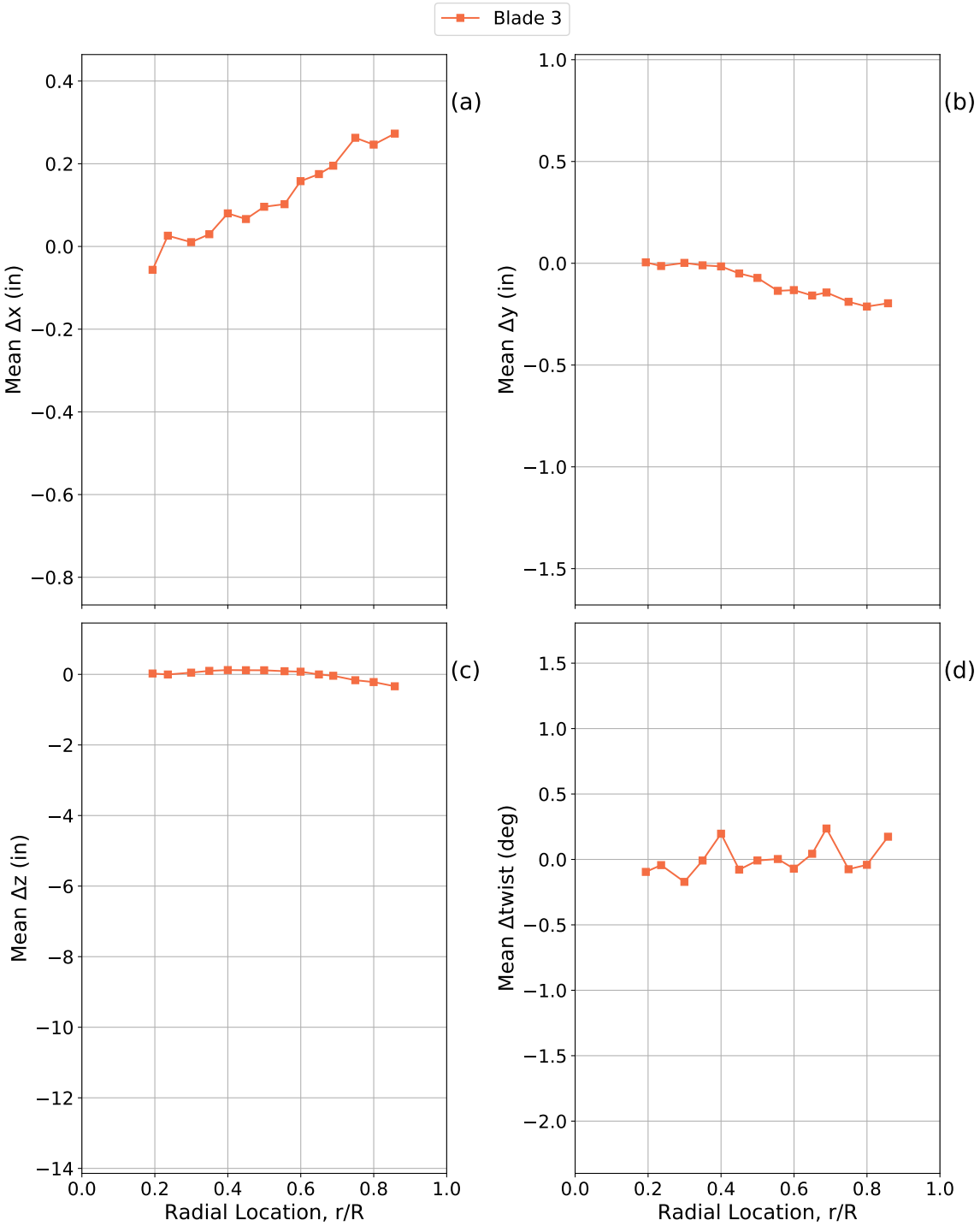


Figure 3.44-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0565	0.0011	0.0046	0.0006	0.0250	0.0017	-0.0953	0.0137
3	209.88	0.2357	0.0260	0.0012	-0.0135	0.0023	-0.0036	0.0034	-0.0434	0.0251
3	209.88	0.2995	0.0104	0.0008	0.0020	0.0059	0.0493	0.0072	-0.1716	0.0315
3	209.88	0.3493	0.0296	0.0015	-0.0100	0.0066	0.1000	0.0107	-0.0084	0.0300
3	209.88	0.4000	0.0800	0.0016	-0.0154	0.0136	0.1222	0.0181	0.1966	0.0223
3	209.88	0.4497	0.0663	0.0017	-0.0501	0.0126	0.1178	0.0248	-0.0781	0.0221
3	209.88	0.4997	0.0960	0.0019	-0.0719	0.0163	0.1164	0.0273	-0.0081	0.0329
3	209.88	0.5556	0.1022	0.0019	-0.1354	0.0189	0.0897	0.0378	0.0031	0.0227
3	209.88	0.5995	0.1579	0.0025	-0.1318	0.0205	0.0764	0.0438	-0.0706	0.0213
3	209.88	0.6498	0.1750	0.0032	-0.1584	0.0234	-0.0022	0.0519	0.0431	0.0240
3	209.88	0.6890	0.1953	0.0020	-0.1435	0.0257	-0.0391	0.0564	0.2362	0.0334
3	209.88	0.7495	0.2628	0.0031	-0.1892	0.0282	-0.1654	0.0656	-0.0749	0.0280
3	209.88	0.7998	0.2463	0.0023	-0.2125	0.0302	-0.2178	0.0723	-0.0413	0.0307
3	209.88	0.8577	0.2729	0.0026	-0.1965	0.0338	-0.3372	0.0791	0.1735	0.0690

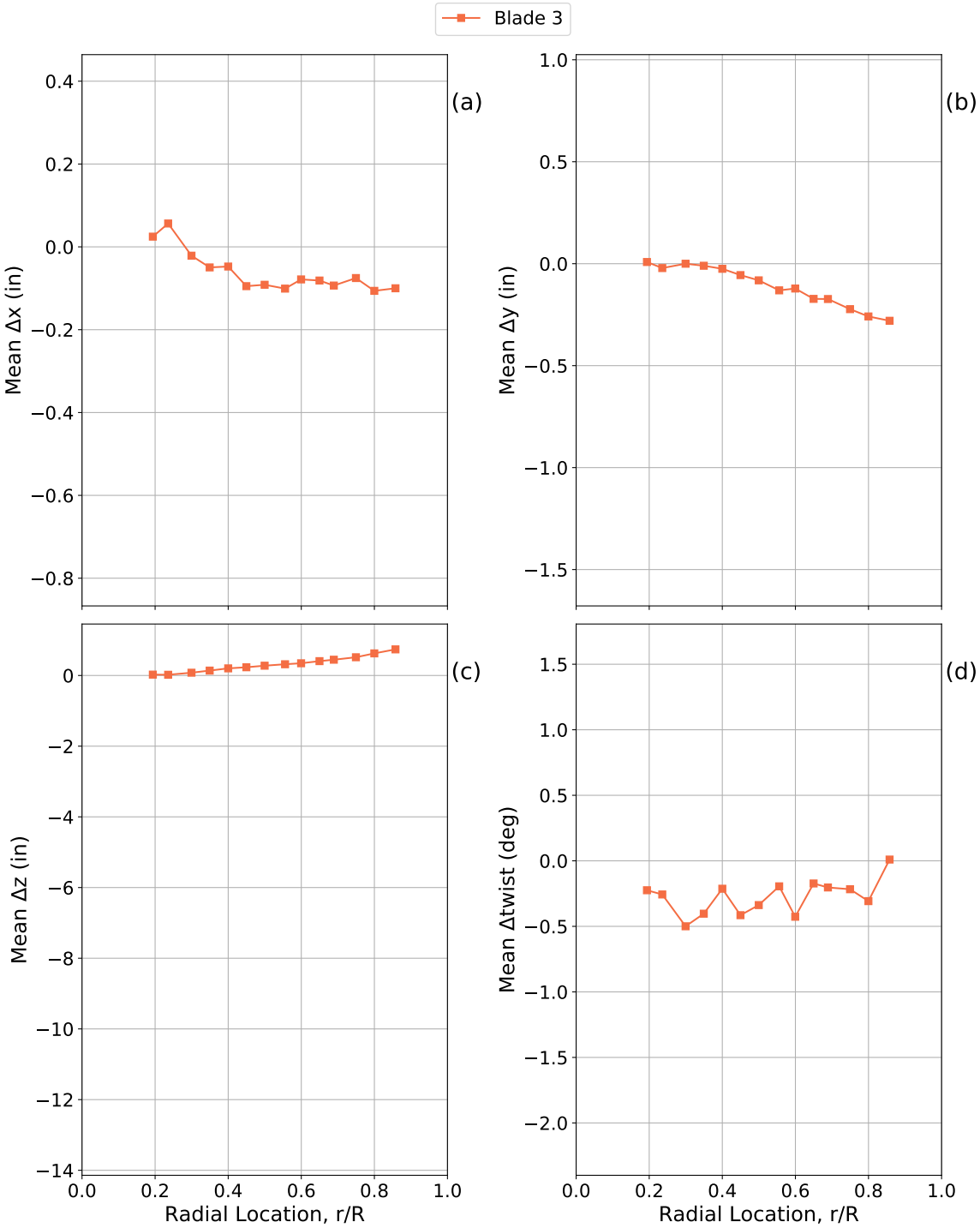


Figure 3.44-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.075, μ = 0.298, α = 4°
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	0.0247	0.0009	0.0083	0.0009	0.0245	0.0039	-0.2245	0.0270
3	225	0.2357	0.0564	0.0012	-0.0214	0.0015	0.0202	0.0055	-0.2567	0.0341
3	225	0.2995	-0.0213	0.0028	-0.0001	0.0044	0.0784	0.0156	-0.4995	0.0543
3	225	0.3493	-0.0496	0.0021	-0.0100	0.0071	0.1384	0.0241	-0.4033	0.0341
3	225	0.4000	-0.0475	0.0012	-0.0250	0.0110	0.2010	0.0378	-0.2128	0.0448
3	225	0.4497	-0.0949	0.0027	-0.0559	0.0142	0.2328	0.0474	-0.4148	0.0603
3	225	0.4997	-0.0915	0.0028	-0.0816	0.0168	0.2767	0.0570	-0.3376	0.0432
3	225	0.5556	-0.1008	0.0025	-0.1307	0.0191	0.3178	0.0690	-0.1946	0.0373
3	225	0.5995	-0.0786	0.0024	-0.1217	0.0220	0.3455	0.0804	-0.4267	0.0646
3	225	0.6498	-0.0813	0.0024	-0.1725	0.0254	0.4058	0.0906	-0.1728	0.0433
3	225	0.6890	-0.0934	0.0030	-0.1732	0.0286	0.4460	0.0986	-0.2032	0.0353
3	225	0.7495	-0.0753	0.0037	-0.2229	0.0327	0.5156	0.1143	-0.2168	0.0541
3	225	0.7998	-0.1062	0.0040	-0.2587	0.0364	0.6251	0.1231	-0.3075	0.0411
3	225	0.8577	-0.1000	0.0071	-0.2799	0.0384	0.7385	0.1359	0.0097	0.1475

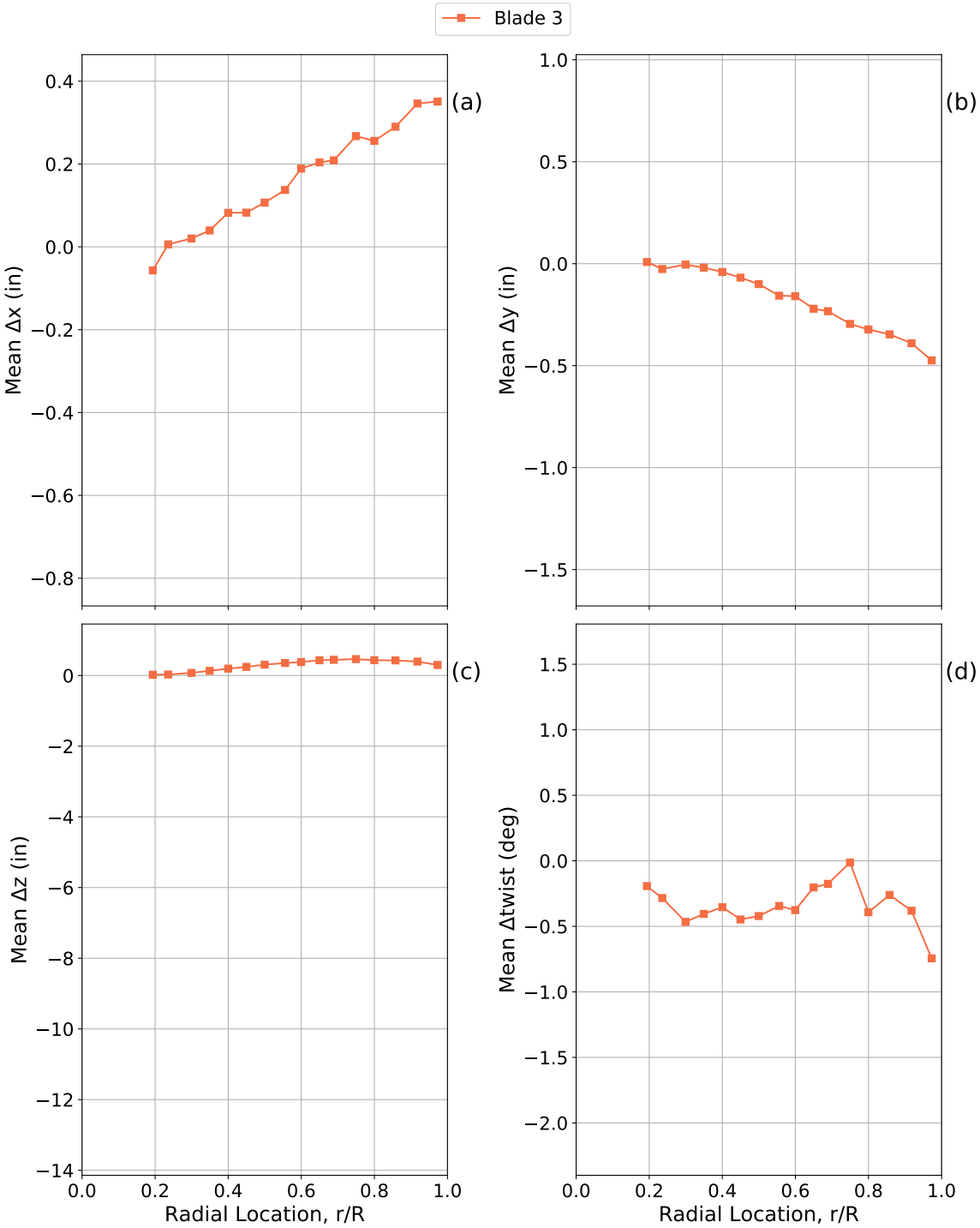


Figure 3.44-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0567	0.0017	0.0084	0.0005	0.0209	0.0015	-0.1929	0.0234
3	240.12	0.2357	0.0060	0.0006	-0.0262	0.0012	0.0271	0.0022	-0.2841	0.0361
3	240.12	0.2995	0.0202	0.0008	-0.0043	0.0022	0.0734	0.0036	-0.4661	0.0558
3	240.12	0.3493	0.0396	0.0008	-0.0195	0.0039	0.1317	0.0080	-0.4051	0.0381
3	240.12	0.4000	0.0822	0.0017	-0.0406	0.0062	0.1939	0.0101	-0.3538	0.0497
3	240.12	0.4497	0.0827	0.0014	-0.0684	0.0076	0.2434	0.0141	-0.4475	0.0542
3	240.12	0.4997	0.1069	0.0019	-0.1000	0.0101	0.3058	0.0172	-0.4213	0.0409
3	240.12	0.5556	0.1374	0.0020	-0.1568	0.0133	0.3530	0.0201	-0.3443	0.0377
3	240.12	0.5995	0.1889	0.0029	-0.1593	0.0151	0.3806	0.0227	-0.3760	0.0390
3	240.12	0.6498	0.2040	0.0029	-0.2210	0.0179	0.4311	0.0262	-0.2031	0.0354
3	240.12	0.6890	0.2089	0.0012	-0.2329	0.0184	0.4434	0.0283	-0.1758	0.0427
3	240.12	0.7495	0.2674	0.0018	-0.2953	0.0209	0.4630	0.0313	-0.0128	0.0496
3	240.12	0.7998	0.2559	0.0018	-0.3226	0.0230	0.4324	0.0373	-0.3921	0.0354
3	240.12	0.8577	0.2900	0.0018	-0.3466	0.0256	0.4257	0.0449	-0.2603	0.0429
3	240.12	0.9178	0.3460	0.0014	-0.3899	0.0285	0.3930	0.0532	-0.3811	0.0411
3	240.12	0.9729	0.3508	0.0023	-0.4742	0.0310	0.2971	0.0632	-0.7440	0.0432

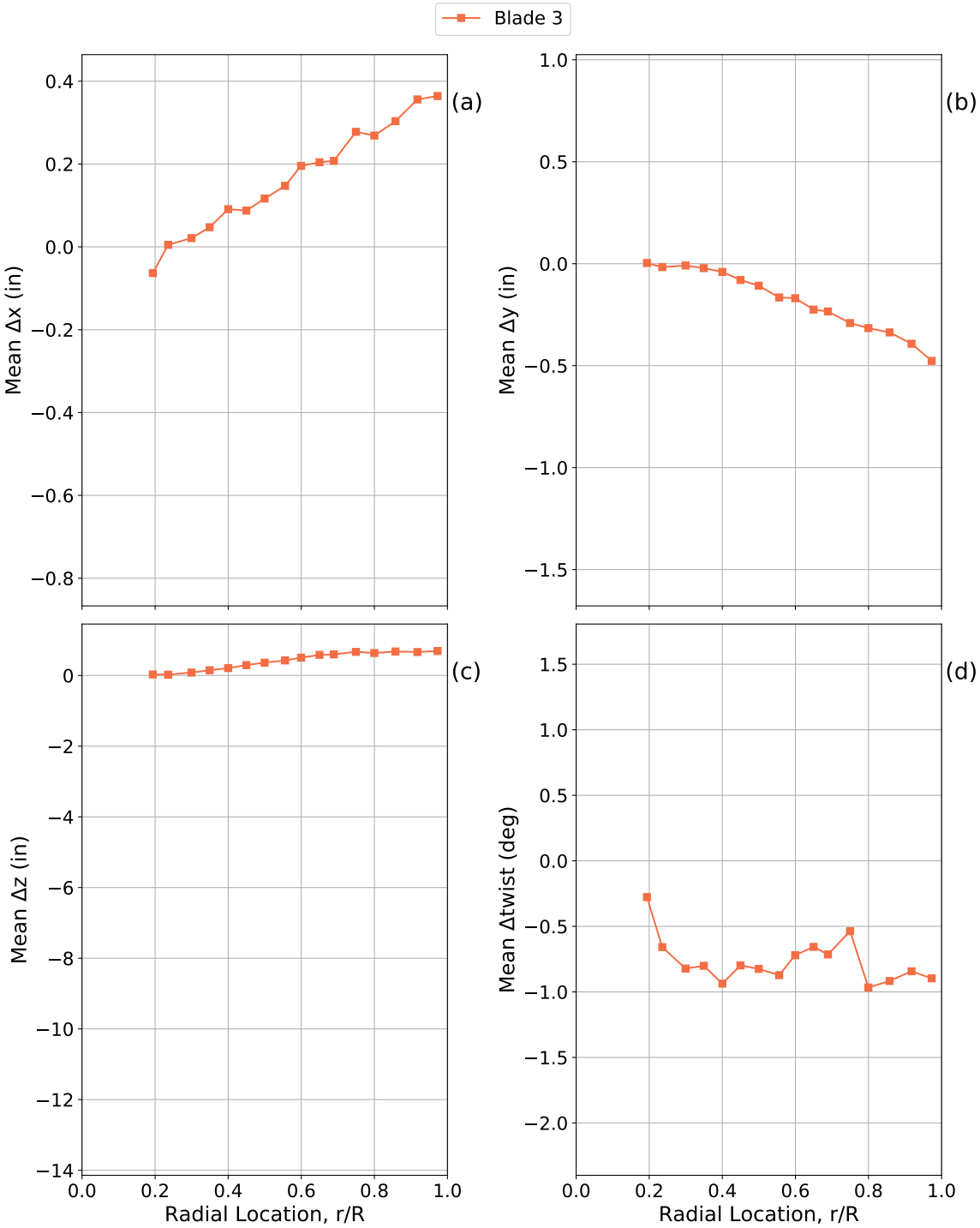


Figure 3.44-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0632	0.0014	0.0034	0.0007	0.0284	0.0029	-0.2770	0.0154
3	254.88	0.2357	0.0050	0.0008	-0.0170	0.0010	0.0234	0.0036	-0.6584	0.0437
3	254.88	0.2995	0.0211	0.0005	-0.0089	0.0023	0.0824	0.0094	-0.8221	0.0461
3	254.88	0.3493	0.0475	0.0007	-0.0218	0.0046	0.1477	0.0153	-0.8009	0.0432
3	254.88	0.4000	0.0911	0.0010	-0.0403	0.0066	0.2082	0.0229	-0.9369	0.0438
3	254.88	0.4497	0.0876	0.0014	-0.0797	0.0082	0.2925	0.0293	-0.7980	0.0451
3	254.88	0.4997	0.1166	0.0016	-0.1079	0.0101	0.3626	0.0365	-0.8248	0.0455
3	254.88	0.5556	0.1473	0.0015	-0.1654	0.0124	0.4255	0.0449	-0.8724	0.0417
3	254.88	0.5995	0.1956	0.0015	-0.1693	0.0143	0.5049	0.0519	-0.7198	0.0440
3	254.88	0.6498	0.2042	0.0018	-0.2249	0.0164	0.5825	0.0591	-0.6567	0.0402
3	254.88	0.6890	0.2076	0.0018	-0.2342	0.0181	0.5966	0.0652	-0.7142	0.0394
3	254.88	0.7495	0.2777	0.0022	-0.2911	0.0207	0.6683	0.0727	-0.5368	0.0451
3	254.88	0.7998	0.2687	0.0021	-0.3159	0.0230	0.6351	0.0811	-0.9664	0.0414
3	254.88	0.8577	0.3034	0.0026	-0.3370	0.0261	0.6786	0.0919	-0.9168	0.0471
3	254.88	0.9178	0.3559	0.0028	-0.3925	0.0288	0.6629	0.1027	-0.8429	0.0521
3	254.88	0.9729	0.3642	0.0036	-0.4766	0.0313	0.6924	0.1165	-0.8967	0.0534

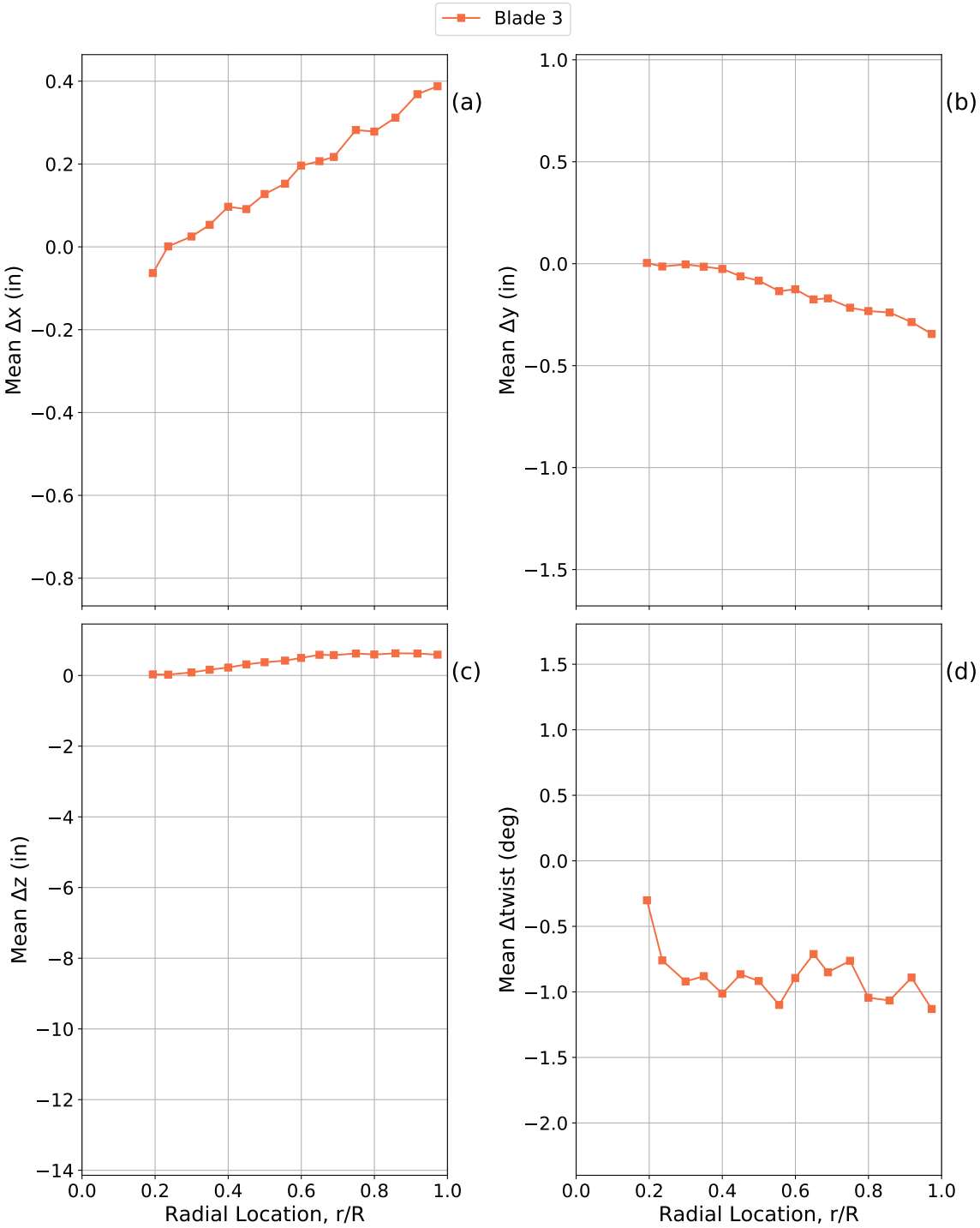


Figure 3.44-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0632	0.0016	0.0037	0.0007	0.0310	0.0037	-0.3012	0.0208
3	260.16	0.2357	0.0011	0.0014	-0.0138	0.0010	0.0243	0.0034	-0.7598	0.0526
3	260.16	0.2995	0.0250	0.0011	-0.0032	0.0018	0.0864	0.0099	-0.9206	0.0567
3	260.16	0.3493	0.0532	0.0011	-0.0147	0.0034	0.1631	0.0167	-0.8798	0.0500
3	260.16	0.4000	0.0968	0.0015	-0.0257	0.0049	0.2244	0.0235	-1.0130	0.0551
3	260.16	0.4497	0.0912	0.0010	-0.0619	0.0065	0.3144	0.0291	-0.8656	0.0524
3	260.16	0.4997	0.1275	0.0013	-0.0831	0.0085	0.3734	0.0365	-0.9171	0.0584
3	260.16	0.5556	0.1525	0.0018	-0.1347	0.0109	0.4201	0.0476	-1.0993	0.0496
3	260.16	0.5995	0.1962	0.0017	-0.1255	0.0124	0.4963	0.0542	-0.8941	0.0591
3	260.16	0.6498	0.2069	0.0019	-0.1751	0.0149	0.5853	0.0634	-0.7114	0.0591
3	260.16	0.6890	0.2171	0.0019	-0.1700	0.0165	0.5766	0.0705	-0.8504	0.0541
3	260.16	0.7495	0.2821	0.0025	-0.2158	0.0190	0.6217	0.0818	-0.7627	0.0542
3	260.16	0.7998	0.2784	0.0021	-0.2322	0.0213	0.5940	0.0920	-1.0446	0.0544
3	260.16	0.8577	0.3120	0.0021	-0.2392	0.0238	0.6269	0.1039	-1.0654	0.0521
3	260.16	0.9178	0.3686	0.0019	-0.2863	0.0267	0.6223	0.1178	-0.8909	0.0548
3	260.16	0.9729	0.3878	0.0026	-0.3444	0.0295	0.5887	0.1320	-1.1306	0.0551

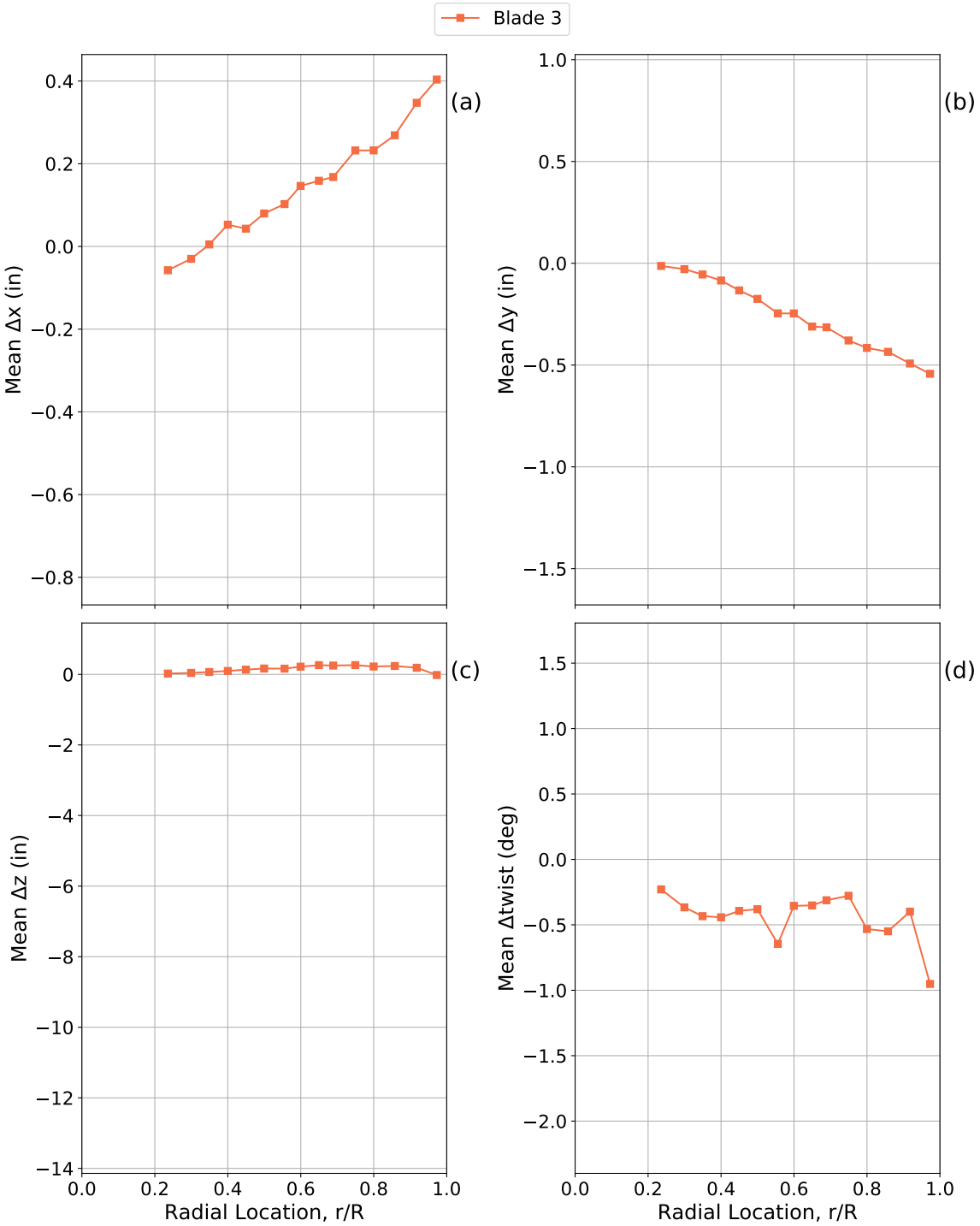


Figure 3.44-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0575	0.0012	-0.0130	0.0009	0.0235	0.0060	-0.2291	0.0624
3	265.08	0.2995	-0.0299	0.0012	-0.0290	0.0023	0.0416	0.0131	-0.3664	0.1002
3	265.08	0.3493	0.0049	0.0011	-0.0550	0.0039	0.0675	0.0218	-0.4337	0.0932
3	265.08	0.4000	0.0527	0.0012	-0.0847	0.0063	0.0967	0.0336	-0.4421	0.0948
3	265.08	0.4497	0.0430	0.0011	-0.1333	0.0081	0.1338	0.0440	-0.3933	0.0937
3	265.08	0.4997	0.0797	0.0018	-0.1749	0.0099	0.1659	0.0554	-0.3805	0.1040
3	265.08	0.5556	0.1025	0.0017	-0.2460	0.0126	0.1626	0.0682	-0.6455	0.1009
3	265.08	0.5995	0.1463	0.0018	-0.2465	0.0145	0.2186	0.0812	-0.3547	0.0998
3	265.08	0.6498	0.1589	0.0017	-0.3110	0.0172	0.2617	0.0933	-0.3516	0.1032
3	265.08	0.6890	0.1679	0.0019	-0.3146	0.0190	0.2499	0.1045	-0.3120	0.1017
3	265.08	0.7495	0.2322	0.0019	-0.3792	0.0219	0.2624	0.1204	-0.2778	0.1025
3	265.08	0.7998	0.2323	0.0020	-0.4157	0.0247	0.2228	0.1352	-0.5322	0.0992
3	265.08	0.8577	0.2689	0.0021	-0.4349	0.0270	0.2382	0.1498	-0.5494	0.1015
3	265.08	0.9178	0.3474	0.0024	-0.4924	0.0309	0.1876	0.1679	-0.3991	0.1044
3	265.08	0.9729	0.4036	0.0031	-0.5429	0.0340	-0.0182	0.1815	-0.9514	0.1014

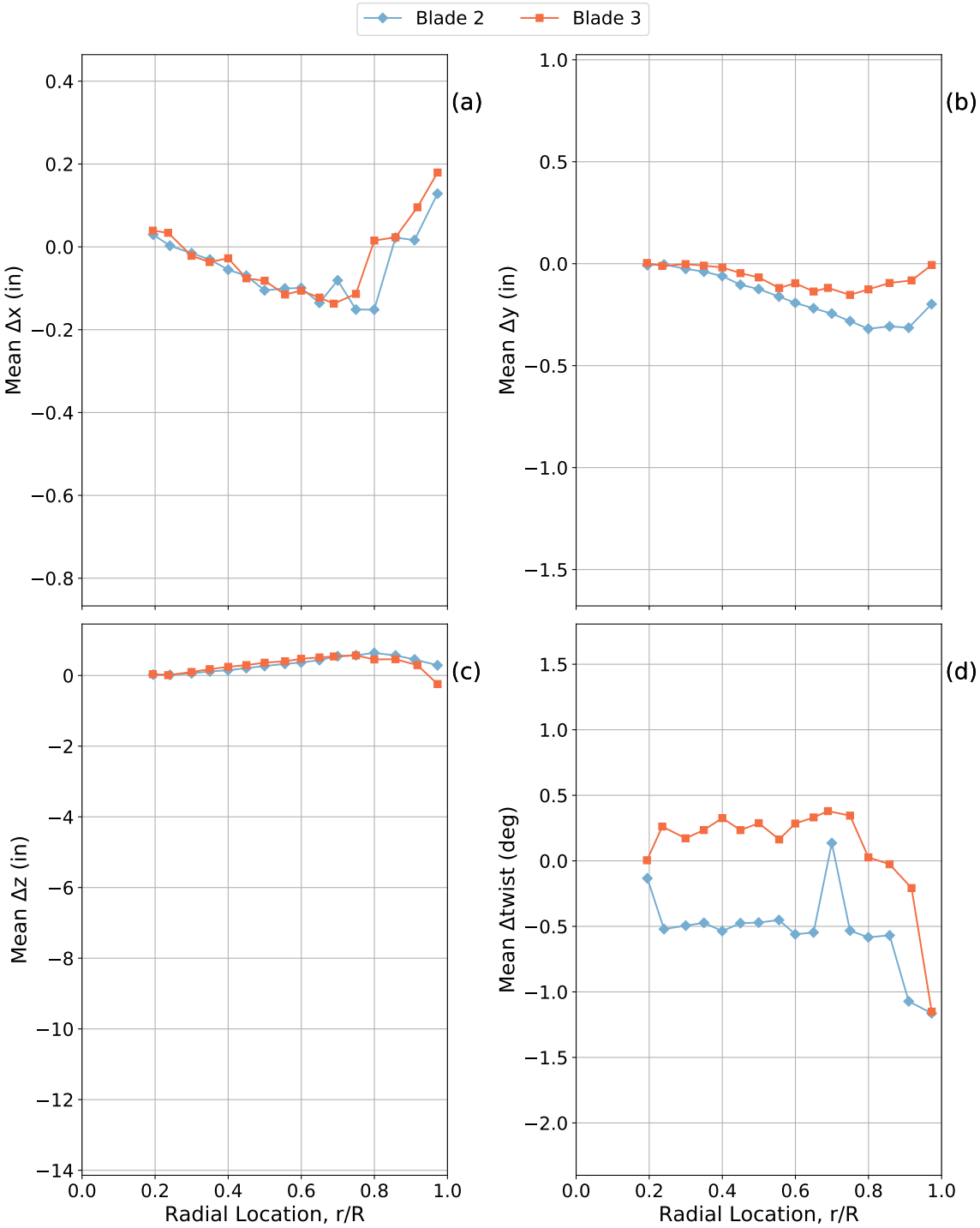


Figure 3.44-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	0.0294	0.0013	-0.0068	0.0008	0.0248	0.0017	-0.1333	0.0153
2	270.35	0.2405	0.0027	0.0014	-0.0039	0.0016	0.0175	0.0050	-0.5212	0.0251
2	270.35	0.2999	-0.0154	0.0012	-0.0252	0.0023	0.0605	0.0077	-0.4945	0.0325
2	270.35	0.3498	-0.0305	0.0008	-0.0391	0.0036	0.1142	0.0132	-0.4731	0.0292
2	270.35	0.3998	-0.0553	0.0016	-0.0605	0.0058	0.1483	0.0211	-0.5361	0.0203
2	270.35	0.4496	-0.0697	0.0013	-0.1032	0.0066	0.2073	0.0269	-0.4753	0.0323
2	270.35	0.4995	-0.1050	0.0015	-0.1244	0.0082	0.2670	0.0340	-0.4711	0.0266
2	270.35	0.5551	-0.1005	0.0015	-0.1612	0.0101	0.3285	0.0437	-0.4518	0.0302
2	270.35	0.5996	-0.0993	0.0020	-0.1923	0.0116	0.3667	0.0530	-0.5606	0.0302
2	270.35	0.6497	-0.1353	0.0024	-0.2188	0.0130	0.4353	0.0647	-0.5467	0.0327
2	270.35	0.6996	-0.0809	0.0017	-0.2447	0.0150	0.5459	0.0756	0.1358	0.0321
2	270.35	0.7495	-0.1513	0.0021	-0.2818	0.0164	0.5717	0.0851	-0.5328	0.0340
2	270.35	0.7996	-0.1516	0.0029	-0.3192	0.0183	0.6379	0.0975	-0.5834	0.0403
2	270.35	0.8578	0.0222	0.0016	-0.3073	0.0214	0.5667	0.1136	-0.5688	0.0309
2	270.35	0.9100	0.0164	0.0015	-0.3140	0.0236	0.4539	0.1279	-1.0721	0.0278
2	270.35	0.9727	0.1284	0.0034	-0.1982	0.0261	0.2879	0.1455	-1.1629	0.0459
3	270	0.1938	0.0392	0.0015	0.0035	0.0007	0.0374	0.0015	0.0042	0.0220
3	270	0.2357	0.0339	0.0013	-0.0112	0.0009	0.0096	0.0034	0.2617	0.0181
3	270	0.2995	-0.0215	0.0007	-0.0019	0.0019	0.0978	0.0051	0.1715	0.0412
3	270	0.3493	-0.0367	0.0008	-0.0095	0.0031	0.1781	0.0090	0.2349	0.0309
3	270	0.4000	-0.0276	0.0015	-0.0183	0.0043	0.2443	0.0137	0.3261	0.0359
3	270	0.4497	-0.0760	0.0015	-0.0465	0.0059	0.2939	0.0199	0.2343	0.0394
3	270	0.4997	-0.0818	0.0011	-0.0672	0.0073	0.3610	0.0268	0.2876	0.0280
3	270	0.5556	-0.1150	0.0014	-0.1193	0.0082	0.4028	0.0320	0.1634	0.0372
3	270	0.5995	-0.1057	0.0012	-0.0957	0.0092	0.4713	0.0397	0.2844	0.0275
3	270	0.6498	-0.1225	0.0021	-0.1364	0.0110	0.5105	0.0478	0.3312	0.0349
3	270	0.6890	-0.1372	0.0025	-0.1185	0.0118	0.5382	0.0512	0.3794	0.0419
3	270	0.7495	-0.1135	0.0025	-0.1530	0.0138	0.5675	0.0590	0.3448	0.0407
3	270	0.7998	0.0153	0.0013	-0.1259	0.0147	0.4541	0.0625	0.0263	0.0397
3	270	0.8577	0.0230	0.0019	-0.0945	0.0166	0.4597	0.0691	-0.0260	0.0293
3	270	0.9178	0.0955	0.0021	-0.0820	0.0178	0.2918	0.0736	-0.2079	0.0423
3	270	0.9729	0.1795	0.0040	-0.0064	0.0197	-0.2433	0.0790	-1.1506	0.0589

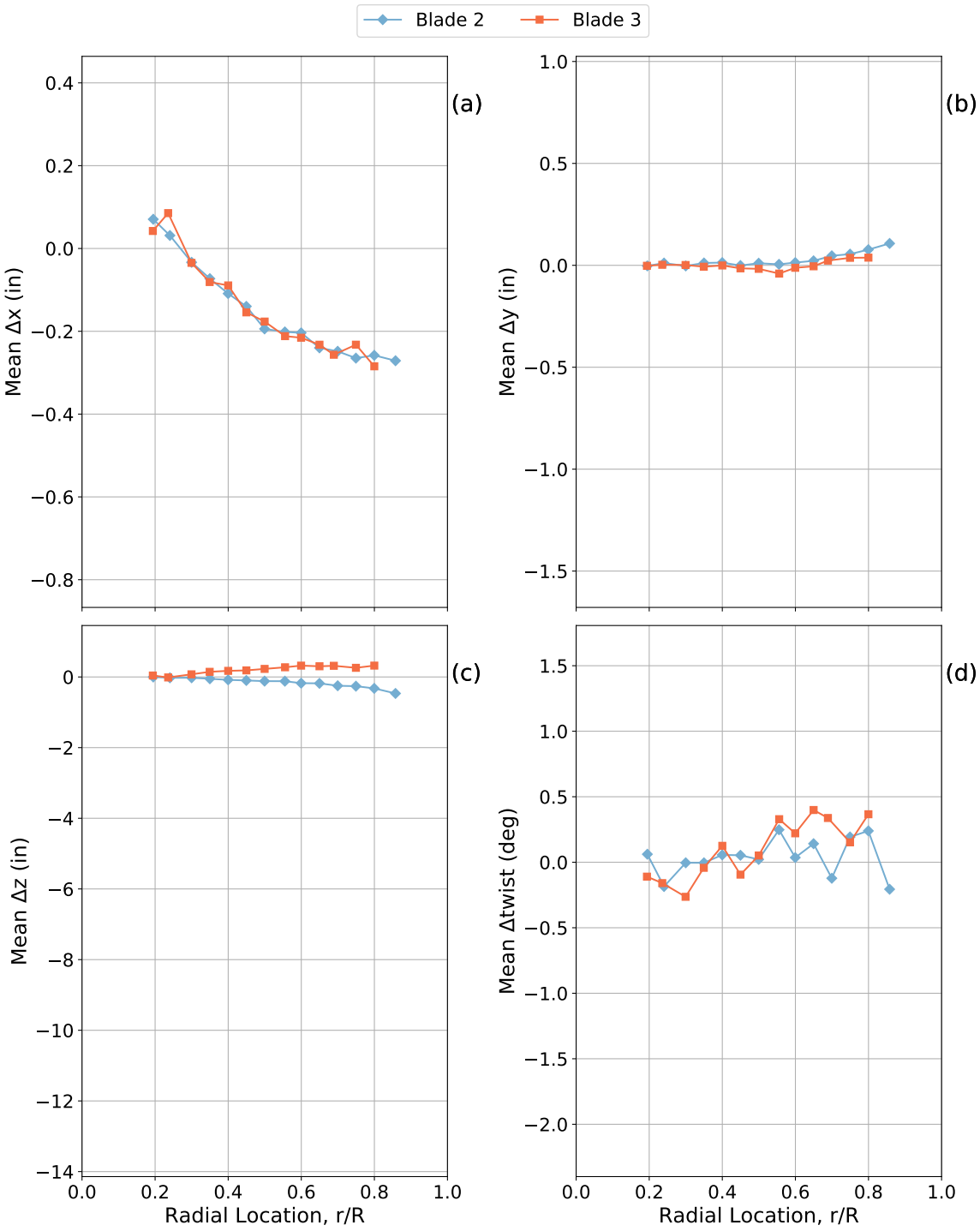


Figure 3.44-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0706	0.0013	-0.0028	0.0005	-0.0016	0.0016	0.0613	0.0224
2	274.92	0.2405	0.0314	0.0008	0.0110	0.0016	-0.0240	0.0046	-0.1853	0.0253
2	274.92	0.2999	-0.0334	0.0015	-0.0030	0.0023	-0.0234	0.0078	-0.0041	0.0479
2	274.92	0.3498	-0.0728	0.0020	0.0114	0.0041	-0.0515	0.0127	-0.0044	0.0405
2	274.92	0.3998	-0.1089	0.0018	0.0134	0.0066	-0.0817	0.0199	0.0562	0.0473
2	274.92	0.4496	-0.1398	0.0024	-0.0010	0.0078	-0.0994	0.0238	0.0532	0.0454
2	274.92	0.4995	-0.1942	0.0027	0.0104	0.0095	-0.1184	0.0308	0.0216	0.0478
2	274.92	0.5551	-0.2015	0.0027	0.0049	0.0107	-0.1199	0.0365	0.2480	0.0430
2	274.92	0.5996	-0.2037	0.0031	0.0134	0.0111	-0.1761	0.0422	0.0356	0.0571
2	274.92	0.6497	-0.2400	0.0033	0.0220	0.0128	-0.1805	0.0475	0.1416	0.0513
2	274.92	0.6996	-0.2483	0.0034	0.0467	0.0139	-0.2489	0.0504	-0.1222	0.1012
2	274.92	0.7495	-0.2648	0.0032	0.0549	0.0147	-0.2609	0.0589	0.1930	0.0647
2	274.92	0.7996	-0.2580	0.0036	0.0770	0.0166	-0.3231	0.0590	0.2394	0.1105
2	274.92	0.8578	-0.2711	0.0034	0.1073	0.0170	-0.4666	0.0628	-0.2061	0.1160
3	274.92	0.1938	0.0423	0.0018	-0.0023	0.0006	0.0408	0.0032	-0.1099	0.0289
3	274.92	0.2357	0.0854	0.0005	0.0027	0.0010	-0.0138	0.0093	-0.1594	0.0405
3	274.92	0.2995	-0.0347	0.0024	0.0015	0.0023	0.0745	0.0152	-0.2639	0.0675
3	274.92	0.3493	-0.0810	0.0012	-0.0068	0.0043	0.1453	0.0304	-0.0425	0.0460
3	274.92	0.4000	-0.0892	0.0017	-0.0007	0.0062	0.1731	0.0450	0.1253	0.0319
3	274.92	0.4497	-0.1543	0.0021	-0.0148	0.0085	0.1859	0.0572	-0.0946	0.0470
3	274.92	0.4997	-0.1765	0.0021	-0.0173	0.0103	0.2280	0.0693	0.0516	0.0424
3	274.92	0.5556	-0.2117	0.0022	-0.0405	0.0125	0.2739	0.0876	0.3287	0.0418
3	274.92	0.5995	-0.2155	0.0017	-0.0121	0.0141	0.3207	0.1047	0.2207	0.0506
3	274.92	0.6498	-0.2324	0.0021	-0.0048	0.0160	0.3023	0.1189	0.3987	0.0490
3	274.92	0.6890	-0.2566	0.0030	0.0233	0.0179	0.3162	0.1359	0.3377	0.0509
3	274.92	0.7495	-0.2323	0.0038	0.0368	0.0217	0.2587	0.1597	0.1519	0.0557
3	274.92	0.7998	-0.2846	0.0030	0.0377	0.0232	0.3212	0.1827	0.3663	0.0510

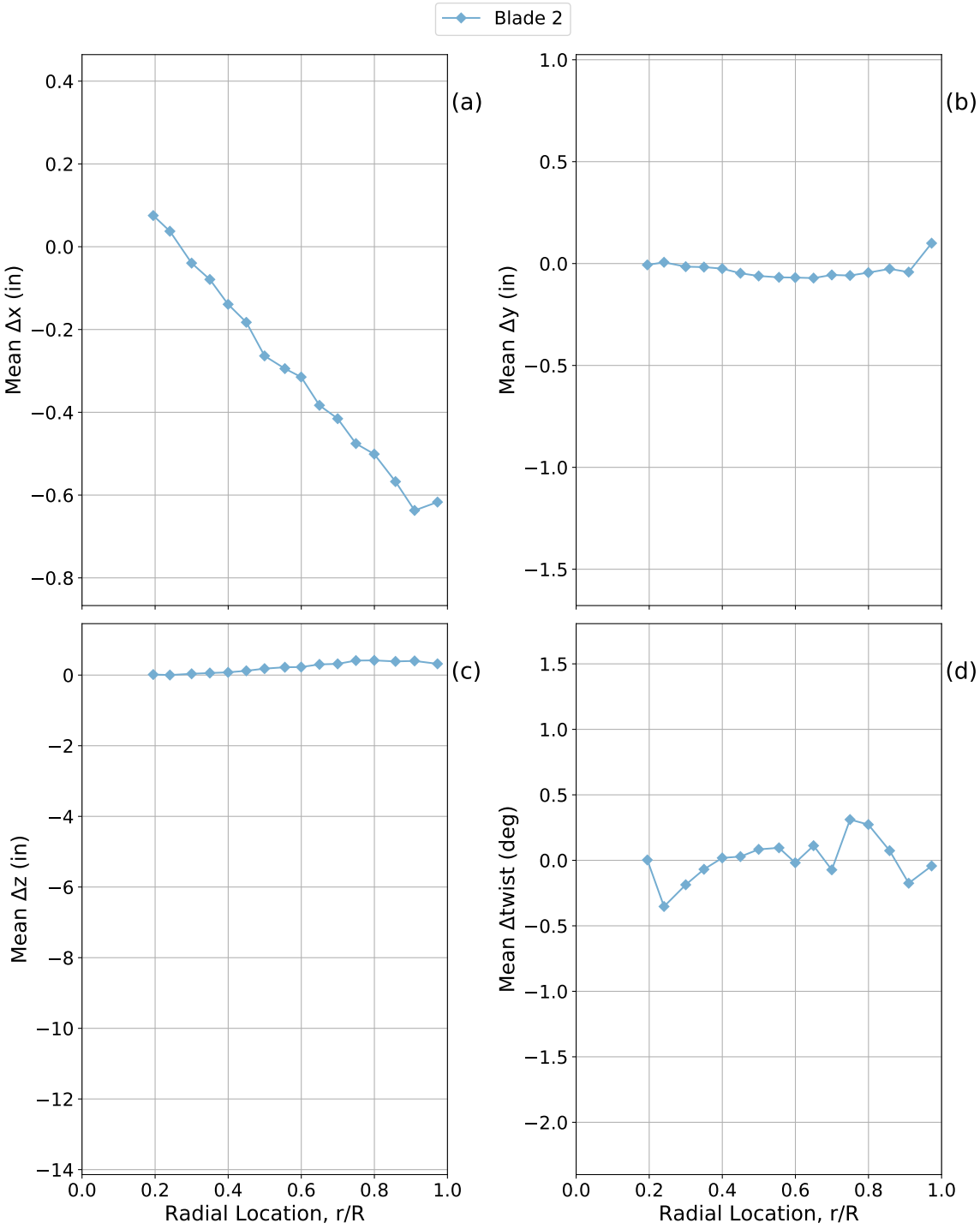


Figure 3.44-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0753	0.0018	-0.0066	0.0009	0.0156	0.0022	0.0027	0.0300
2	285.12	0.2405	0.0374	0.0014	0.0062	0.0027	0.0016	0.0110	-0.3526	0.0283
2	285.12	0.2999	-0.0396	0.0015	-0.0154	0.0038	0.0363	0.0141	-0.1865	0.0502
2	285.12	0.3498	-0.0791	0.0028	-0.0174	0.0045	0.0587	0.0193	-0.0685	0.0557
2	285.12	0.3998	-0.1392	0.0033	-0.0250	0.0093	0.0775	0.0375	0.0183	0.0370
2	285.12	0.4496	-0.1826	0.0029	-0.0476	0.0122	0.1214	0.0418	0.0285	0.0413
2	285.12	0.4995	-0.2638	0.0026	-0.0610	0.0122	0.1826	0.0491	0.0837	0.0558
2	285.12	0.5551	-0.2945	0.0023	-0.0676	0.0139	0.2218	0.0597	0.0955	0.0629
2	285.12	0.5996	-0.3148	0.0020	-0.0689	0.0154	0.2276	0.0690	-0.0185	0.0336
2	285.12	0.6497	-0.3832	0.0026	-0.0713	0.0172	0.3029	0.0771	0.1117	0.0573
2	285.12	0.6996	-0.4154	0.0027	-0.0559	0.0198	0.3177	0.0882	-0.0727	0.0772
2	285.12	0.7495	-0.4756	0.0040	-0.0587	0.0222	0.4112	0.1011	0.3112	0.0625
2	285.12	0.7996	-0.5010	0.0023	-0.0445	0.0241	0.4158	0.1070	0.2730	0.0767
2	285.12	0.8578	-0.5674	0.0034	-0.0261	0.0286	0.3870	0.1258	0.0737	0.0626
2	285.12	0.9100	-0.6371	0.0029	-0.0419	0.0298	0.4008	0.1383	-0.1748	0.0763
2	285.12	0.9727	-0.6169	0.0054	0.0998	0.0339	0.3191	0.1531	-0.0429	0.1148

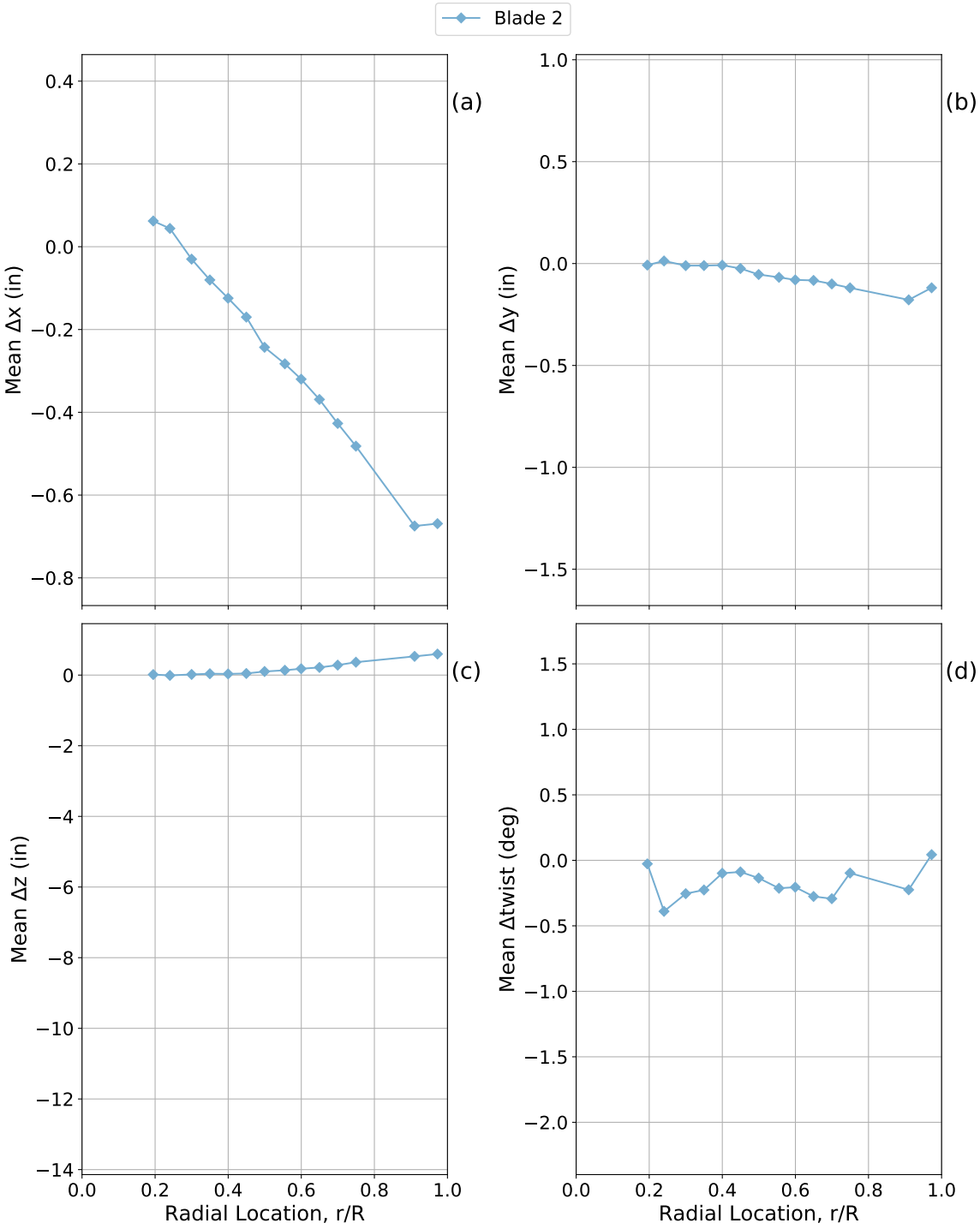


Figure 3.44-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.075, μ = 0.298, α = 4°
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0621	0.0033	-0.0077	0.0013	0.0149	0.0025	-0.0270	0.0312
2	299.88	0.2405	0.0441	0.0012	0.0127	0.0018	-0.0099	0.0067	-0.3896	0.0468
2	299.88	0.2999	-0.0300	0.0025	-0.0102	0.0042	0.0184	0.0106	-0.2545	0.0736
2	299.88	0.3498	-0.0803	0.0012	-0.0100	0.0084	0.0382	0.0198	-0.2263	0.0398
2	299.88	0.3998	-0.1244	0.0026	-0.0080	0.0113	0.0331	0.0286	-0.0987	0.0734
2	299.88	0.4496	-0.1700	0.0032	-0.0243	0.0114	0.0458	0.0315	-0.0884	0.0984
2	299.88	0.4995	-0.2430	0.0051	-0.0538	0.0136	0.1013	0.0455	-0.1356	0.0451
2	299.88	0.5551	-0.2829	0.0041	-0.0677	0.0159	0.1362	0.0535	-0.2132	0.0479
2	299.88	0.5996	-0.3200	0.0047	-0.0802	0.0186	0.1797	0.0631	-0.2051	0.0594
2	299.88	0.6497	-0.3690	0.0039	-0.0828	0.0199	0.2162	0.0732	-0.2759	0.0331
2	299.88	0.6996	-0.4269	0.0055	-0.1001	0.0222	0.2821	0.0858	-0.2930	0.0506
2	299.88	0.7495	-0.4818	0.0043	-0.1193	0.0240	0.3651	0.0926	-0.0971	0.0447
2	299.88	0.9100	-0.6747	0.0043	-0.1782	0.0310	0.5299	0.1328	-0.2250	0.0404
2	299.88	0.9727	-0.6690	0.0056	-0.1190	0.0336	0.5959	0.1468	0.0433	0.0501

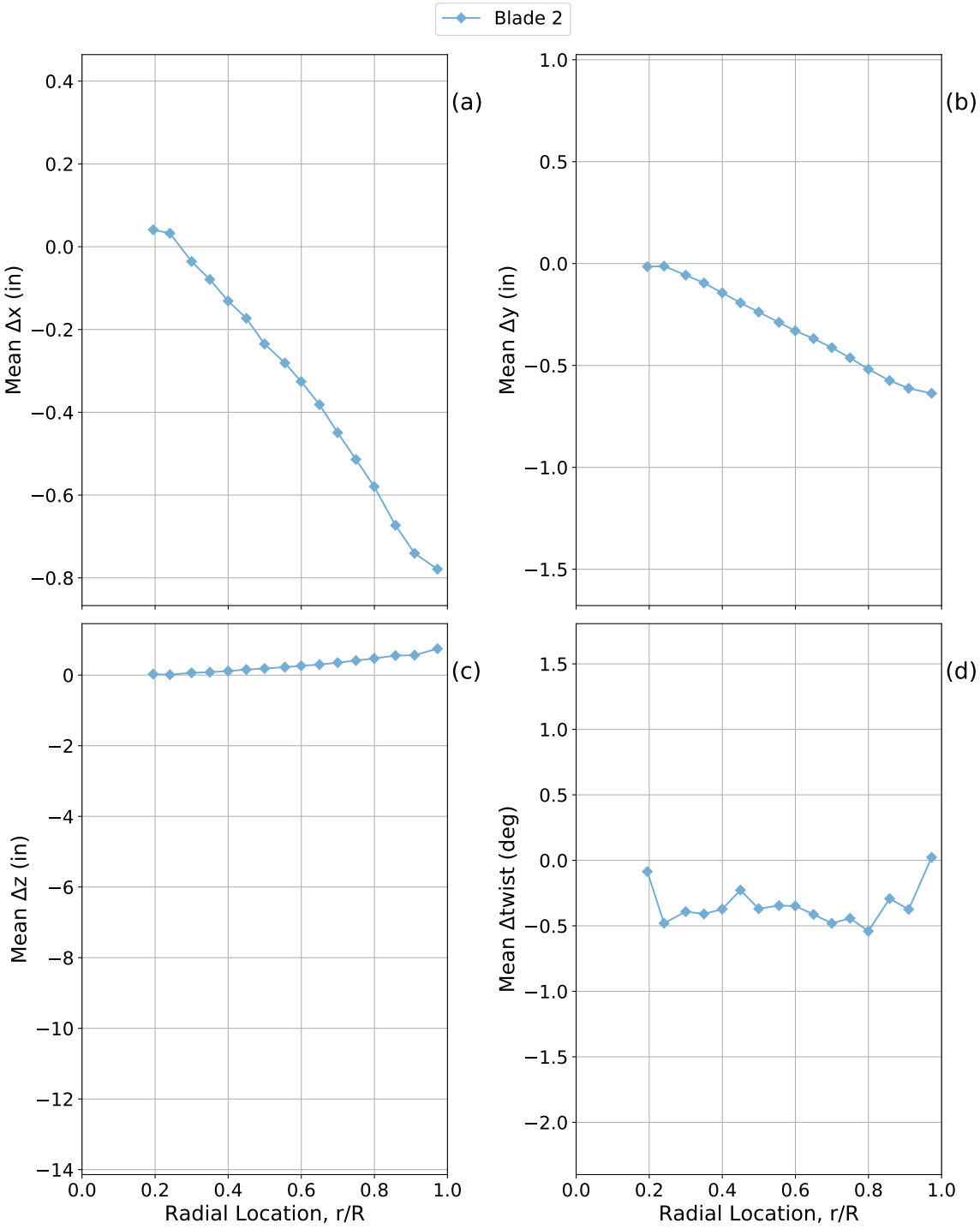


Figure 3.44-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0409	0.0014	-0.0153	0.0004	0.0278	0.0011	-0.0858	0.0231
2	315	0.2405	0.0324	0.0008	-0.0129	0.0011	0.0101	0.0049	-0.4802	0.0253
2	315	0.2999	-0.0357	0.0009	-0.0567	0.0025	0.0641	0.0055	-0.3917	0.0468
2	315	0.3498	-0.0792	0.0015	-0.0954	0.0035	0.0818	0.0118	-0.4092	0.0352
2	315	0.3998	-0.1311	0.0026	-0.1435	0.0059	0.1142	0.0176	-0.3727	0.0514
2	315	0.4496	-0.1729	0.0043	-0.1926	0.0061	0.1566	0.0233	-0.2273	0.0308
2	315	0.4995	-0.2349	0.0017	-0.2382	0.0087	0.1862	0.0242	-0.3695	0.0466
2	315	0.5551	-0.2809	0.0023	-0.2885	0.0097	0.2241	0.0351	-0.3457	0.0409
2	315	0.5996	-0.3257	0.0021	-0.3302	0.0112	0.2620	0.0359	-0.3488	0.0473
2	315	0.6497	-0.3814	0.0033	-0.3683	0.0129	0.2973	0.0451	-0.4129	0.0463
2	315	0.6996	-0.4492	0.0036	-0.4126	0.0152	0.3527	0.0483	-0.4808	0.0444
2	315	0.7495	-0.5139	0.0027	-0.4627	0.0167	0.4110	0.0527	-0.4427	0.0413
2	315	0.7996	-0.5795	0.0031	-0.5184	0.0184	0.4721	0.0607	-0.5407	0.0330
2	315	0.8578	-0.6730	0.0031	-0.5743	0.0209	0.5529	0.0701	-0.2924	0.0227
2	315	0.9100	-0.7407	0.0036	-0.6124	0.0230	0.5628	0.0762	-0.3745	0.0273
2	315	0.9727	-0.7790	0.0041	-0.6367	0.0254	0.7471	0.0872	0.0226	0.0310

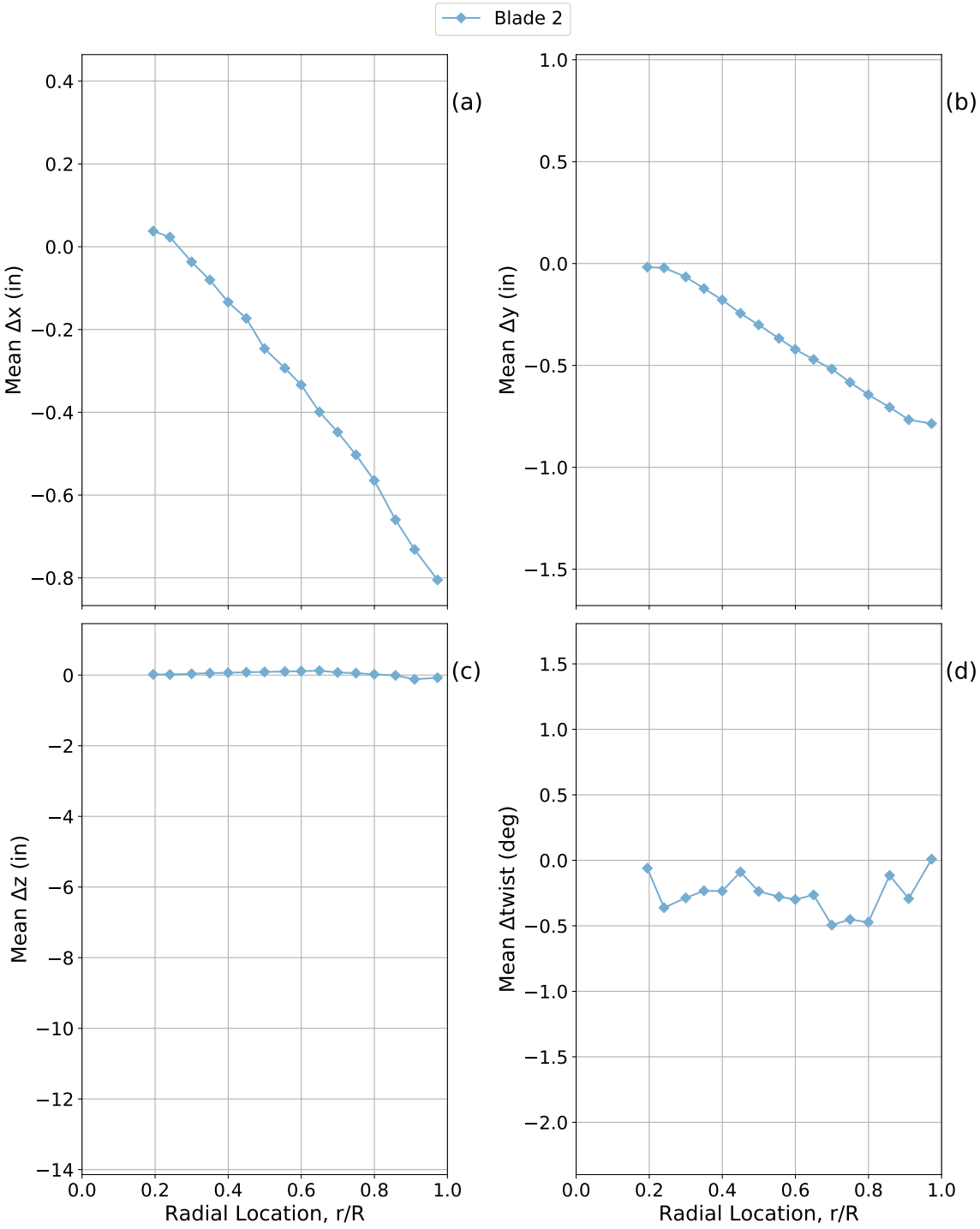


Figure 3.44-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0377	0.0014	-0.0176	0.0008	0.0197	0.0021	-0.0604	0.0190
2	330.12	0.2405	0.0233	0.0018	-0.0210	0.0017	0.0150	0.0085	-0.3618	0.0384
2	330.12	0.2999	-0.0366	0.0017	-0.0655	0.0041	0.0367	0.0167	-0.2869	0.0498
2	330.12	0.3498	-0.0803	0.0031	-0.1225	0.0058	0.0545	0.0221	-0.2323	0.0543
2	330.12	0.3998	-0.1338	0.0026	-0.1786	0.0098	0.0654	0.0414	-0.2351	0.0746
2	330.12	0.4496	-0.1731	0.0052	-0.2441	0.0121	0.0809	0.0415	-0.0892	0.0393
2	330.12	0.4995	-0.2463	0.0030	-0.3010	0.0140	0.0894	0.0541	-0.2370	0.0548
2	330.12	0.5551	-0.2935	0.0044	-0.3671	0.0169	0.0998	0.0631	-0.2778	0.0577
2	330.12	0.5996	-0.3338	0.0029	-0.4211	0.0188	0.1108	0.0724	-0.2991	0.0609
2	330.12	0.6497	-0.3993	0.0033	-0.4705	0.0221	0.1240	0.0887	-0.2641	0.0538
2	330.12	0.6996	-0.4478	0.0039	-0.5174	0.0253	0.0742	0.0922	-0.4944	0.0629
2	330.12	0.7495	-0.5028	0.0038	-0.5828	0.0273	0.0548	0.1067	-0.4513	0.0473
2	330.12	0.7996	-0.5647	0.0032	-0.6435	0.0298	0.0216	0.1203	-0.4728	0.0452
2	330.12	0.8578	-0.6596	0.0034	-0.7053	0.0338	-0.0096	0.1326	-0.1151	0.0542
2	330.12	0.9100	-0.7315	0.0035	-0.7664	0.0362	-0.1195	0.1459	-0.2925	0.0537
2	330.12	0.9727	-0.8050	0.0038	-0.7855	0.0401	-0.0745	0.1639	0.0089	0.0442

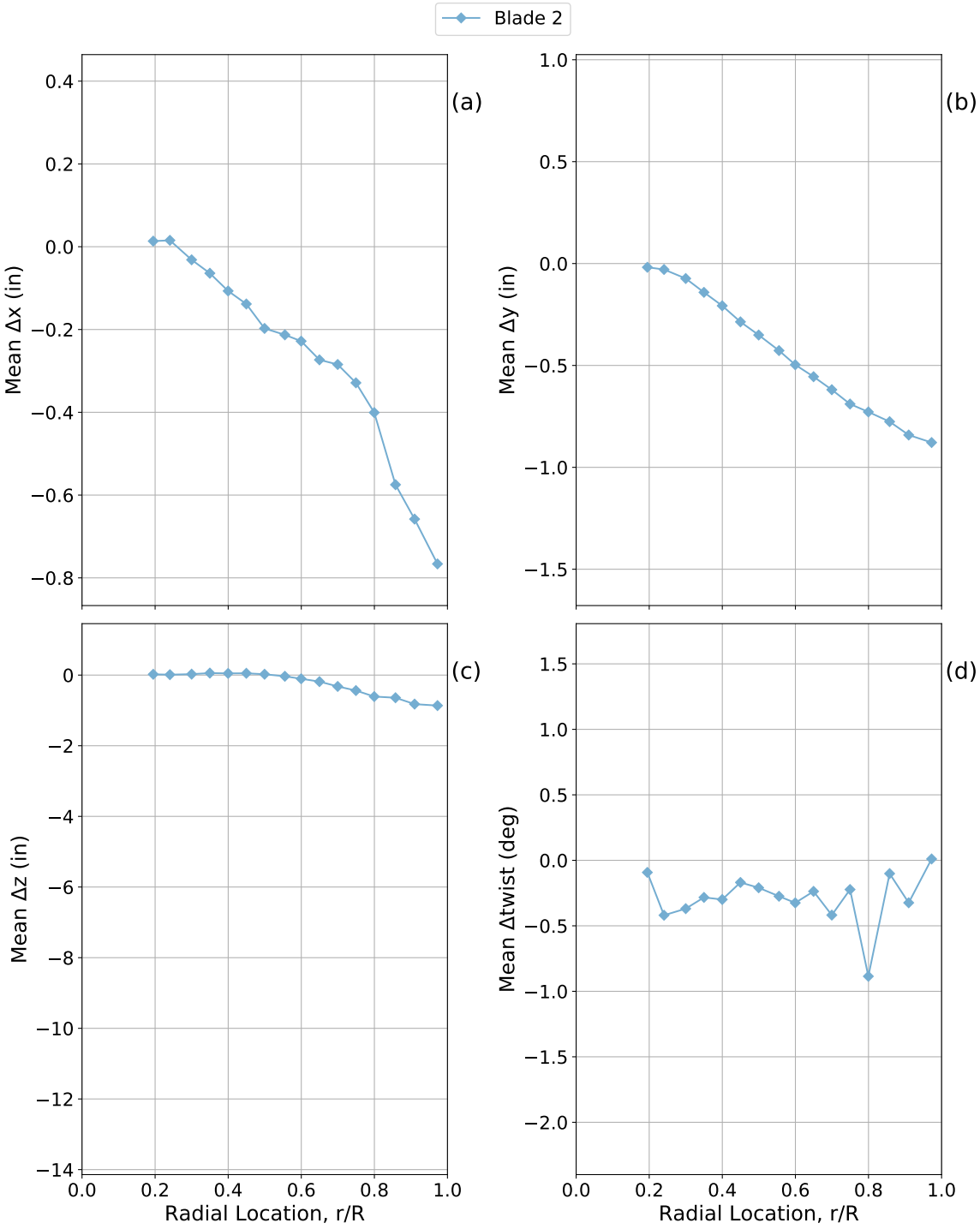


Figure 3.44-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0135	0.0029	-0.0183	0.0020	0.0224	0.0066	-0.0924	0.0332
2	344.88	0.2405	0.0154	0.0018	-0.0291	0.0014	0.0116	0.0056	-0.4194	0.1051
2	344.88	0.2999	-0.0316	0.0015	-0.0734	0.0070	0.0265	0.0183	-0.3690	0.1082
2	344.88	0.3498	-0.0641	0.0024	-0.1413	0.0120	0.0567	0.0299	-0.2831	0.1065
2	344.88	0.3998	-0.1069	0.0026	-0.2072	0.0177	0.0481	0.0424	-0.2991	0.1050
2	344.88	0.4496	-0.1384	0.0033	-0.2861	0.0217	0.0512	0.0545	-0.1688	0.1065
2	344.88	0.4995	-0.1974	0.0041	-0.3507	0.0262	0.0237	0.0675	-0.2095	0.1024
2	344.88	0.5551	-0.2129	0.0042	-0.4270	0.0320	-0.0343	0.0810	-0.2743	0.1136
2	344.88	0.5996	-0.2281	0.0047	-0.4967	0.0360	-0.1043	0.0930	-0.3247	0.1098
2	344.88	0.6497	-0.2733	0.0055	-0.5552	0.0413	-0.1844	0.1082	-0.2370	0.1006
2	344.88	0.6996	-0.2845	0.0068	-0.6191	0.0454	-0.3213	0.1203	-0.4182	0.1270
2	344.88	0.7495	-0.3288	0.0076	-0.6893	0.0509	-0.4375	0.1379	-0.2228	0.1039
2	344.88	0.7996	-0.4007	0.0080	-0.7281	0.0593	-0.6081	0.1494	-0.8855	0.2253
2	344.88	0.8578	-0.5749	0.0065	-0.7758	0.0763	-0.6414	0.1789	-0.1012	0.1041
2	344.88	0.9100	-0.6580	0.0069	-0.8413	0.0827	-0.8218	0.1972	-0.3241	0.1194
2	344.88	0.9727	-0.7663	0.0074	-0.8783	0.0905	-0.8635	0.2189	0.0104	0.1146

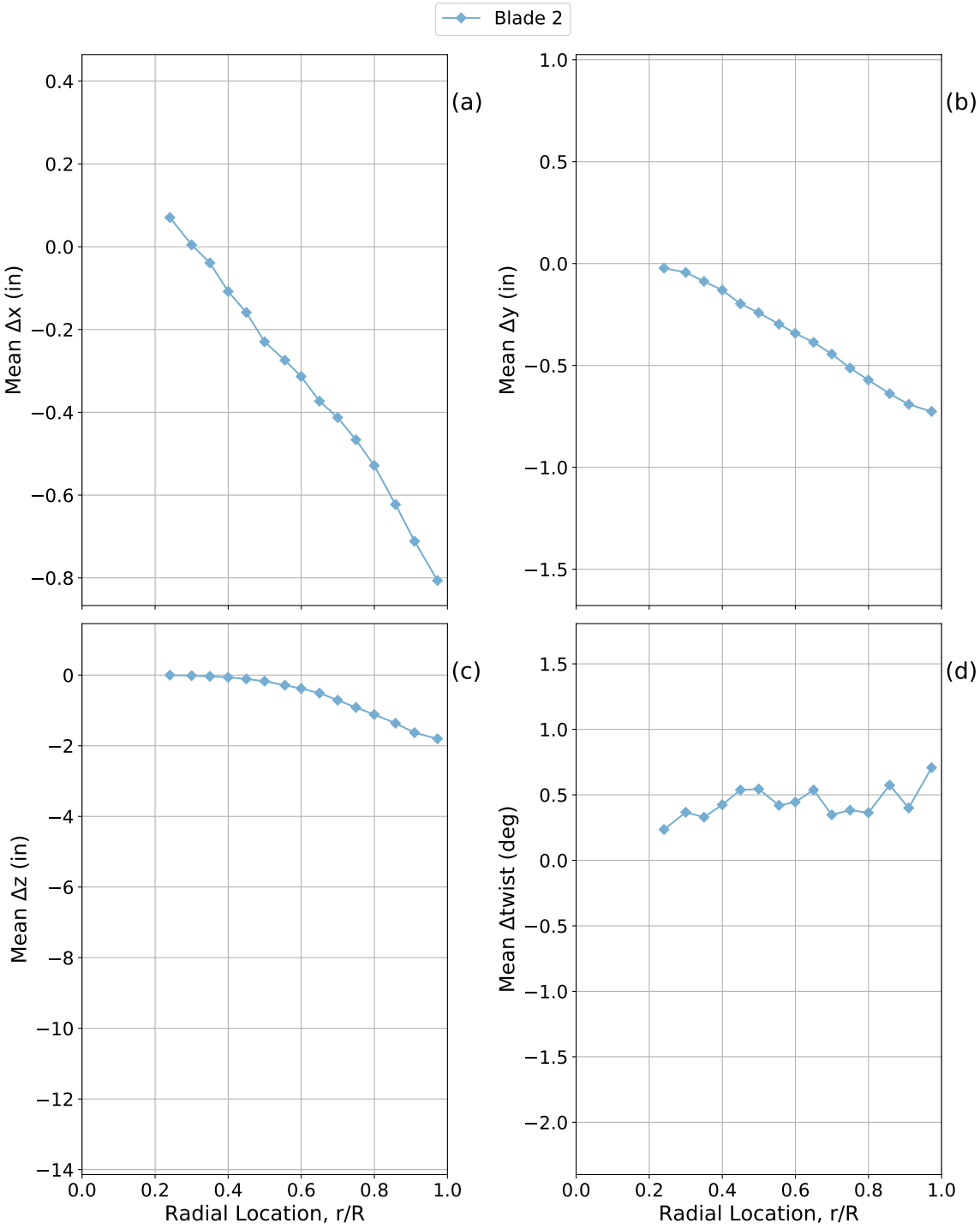


Figure 3.44-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2405	0.0705	0.0026	-0.0225	0.0039	-0.0021	0.0060	0.2352	0.0581
2	350.16	0.2999	0.0045	0.0040	-0.0435	0.0082	-0.0157	0.0121	0.3670	0.0901
2	350.16	0.3498	-0.0390	0.0040	-0.0875	0.0154	-0.0357	0.0216	0.3294	0.0844
2	350.16	0.3998	-0.1080	0.0028	-0.1303	0.0236	-0.0641	0.0329	0.4243	0.0869
2	350.16	0.4496	-0.1587	0.0036	-0.1975	0.0306	-0.1103	0.0409	0.5374	0.0892
2	350.16	0.4995	-0.2297	0.0040	-0.2414	0.0373	-0.1724	0.0498	0.5442	0.0805
2	350.16	0.5551	-0.2743	0.0039	-0.2972	0.0442	-0.2878	0.0590	0.4196	0.0858
2	350.16	0.5996	-0.3136	0.0038	-0.3424	0.0506	-0.3813	0.0689	0.4446	0.0891
2	350.16	0.6497	-0.3731	0.0047	-0.3863	0.0583	-0.5103	0.0714	0.5370	0.0911
2	350.16	0.6996	-0.4126	0.0036	-0.4441	0.0637	-0.7107	0.0834	0.3475	0.0925
2	350.16	0.7495	-0.4664	0.0042	-0.5126	0.0708	-0.9165	0.0874	0.3826	0.0929
2	350.16	0.7996	-0.5287	0.0046	-0.5712	0.0786	-1.1159	0.0969	0.3631	0.0946
2	350.16	0.8578	-0.6227	0.0049	-0.6384	0.0871	-1.3635	0.1047	0.5742	0.1009
2	350.16	0.9100	-0.7115	0.0058	-0.6909	0.0944	-1.6305	0.1166	0.3998	0.0782
2	350.16	0.9727	-0.8064	0.0074	-0.7259	0.1025	-1.8025	0.1284	0.7075	0.0828

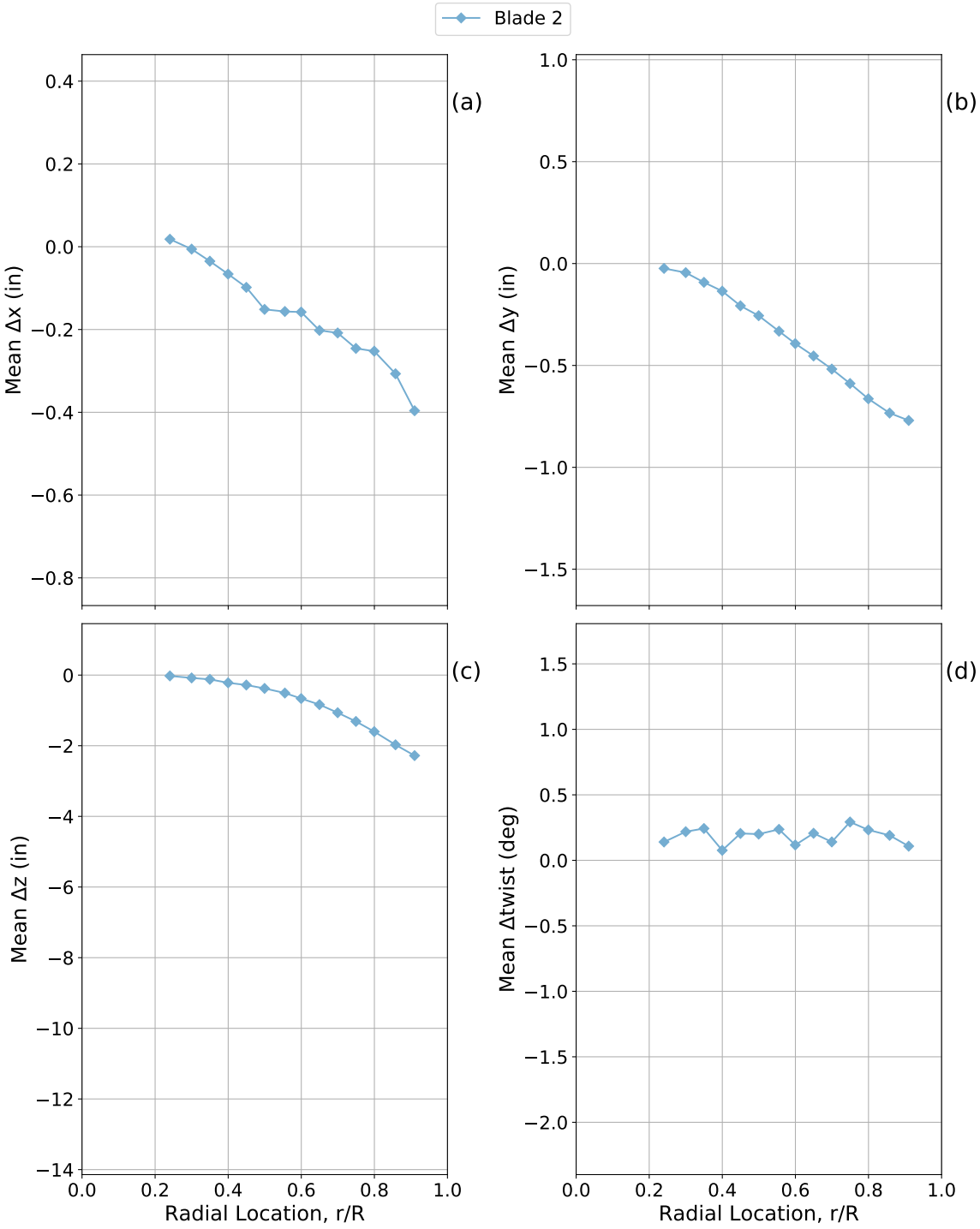


Figure 3.44-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$ NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Table 3.44-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.075$, $\mu = 0.298$, $\alpha = 4°$
NFAC run 93, point 8. BD run 43, points 7550 to 7560.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2405	0.0181	0.0035	-0.0239	0.0033	-0.0237	0.0078	0.1400	0.0833
2	355.08	0.2999	-0.0058	0.0012	-0.0446	0.0058	-0.0809	0.0139	0.2187	0.1288
2	355.08	0.3498	-0.0350	0.0025	-0.0922	0.0128	-0.1209	0.0261	0.2430	0.1104
2	355.08	0.3998	-0.0661	0.0032	-0.1354	0.0183	-0.2181	0.0376	0.0762	0.1048
2	355.08	0.4496	-0.0982	0.0038	-0.2074	0.0228	-0.2813	0.0485	0.2051	0.1112
2	355.08	0.4995	-0.1514	0.0048	-0.2560	0.0281	-0.3778	0.0593	0.2002	0.1150
2	355.08	0.5551	-0.1565	0.0044	-0.3321	0.0336	-0.5078	0.0728	0.2366	0.1056
2	355.08	0.5996	-0.1578	0.0061	-0.3928	0.0375	-0.6641	0.0827	0.1170	0.1144
2	355.08	0.6497	-0.2021	0.0066	-0.4536	0.0426	-0.8358	0.0946	0.2065	0.1156
2	355.08	0.6996	-0.2083	0.0077	-0.5178	0.0472	-1.0655	0.1064	0.1404	0.1170
2	355.08	0.7495	-0.2457	0.0087	-0.5887	0.0519	-1.3121	0.1188	0.2927	0.1266
2	355.08	0.7996	-0.2524	0.0090	-0.6637	0.0585	-1.6007	0.1313	0.2322	0.1022
2	355.08	0.8578	-0.3069	0.0125	-0.7336	0.0653	-1.9737	0.1427	0.1905	0.1399
2	355.08	0.9100	-0.3962	0.0099	-0.7700	0.0723	-2.2798	0.1557	0.1080	0.1354

3.45 Run 93, Point 11

3.45.1 Pitch, Flap, and Lag

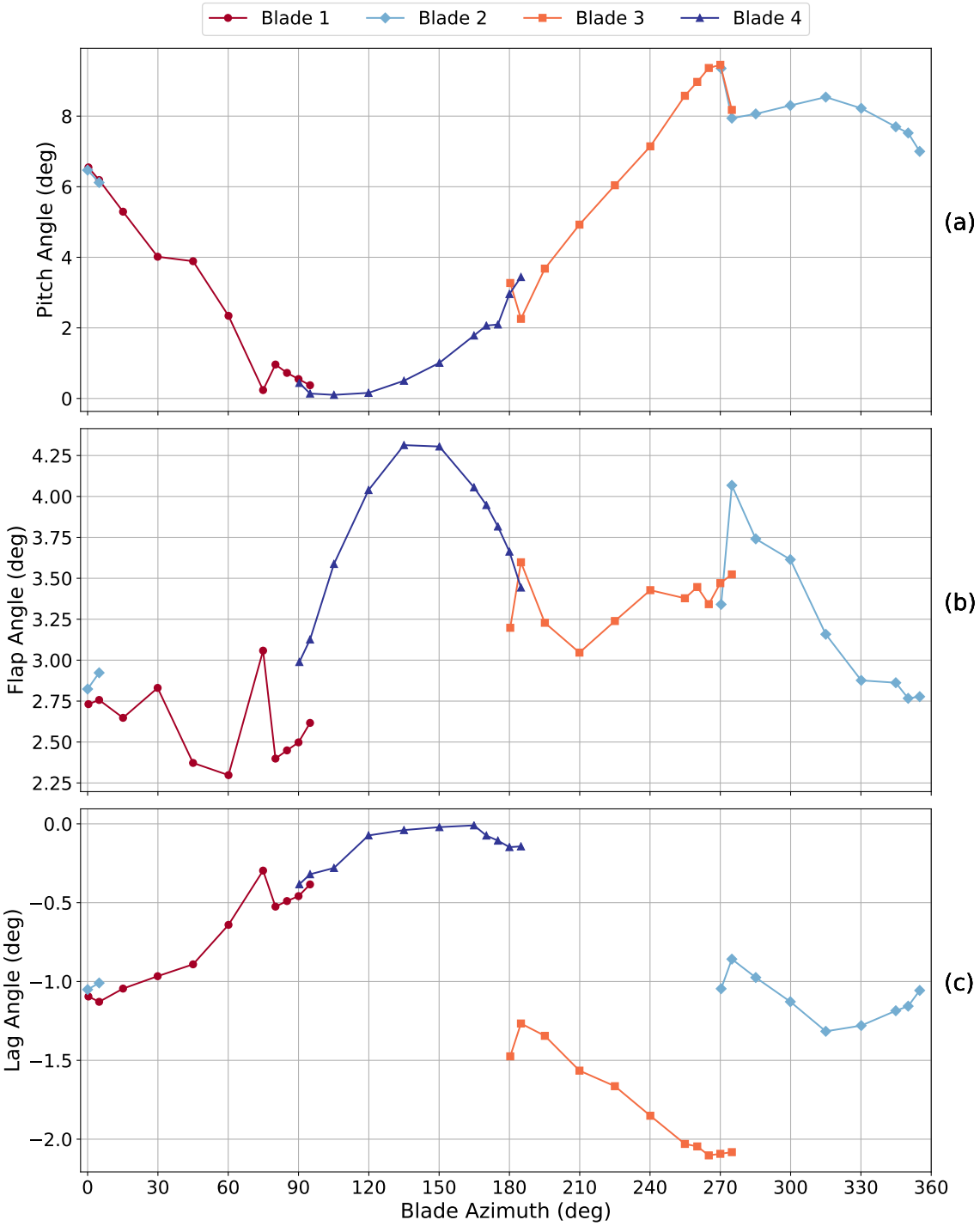


Figure 3.45-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.087, μ = 0.3, α = 4°
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	6.4706	2.8235	-1.0509	0.0428	0.0621	0.0149
0.35	1	6.5475	2.7314	-1.0951	0.0548	0.0712	0.0244
4.92	1	6.1887	2.7569	-1.1288	0.1112	0.0972	0.0246
4.92	2	6.1176	2.9230	-1.0092	0.0495	0.0605	0.0181
15.12	1	5.2925	2.6478	-1.0449	0.0681	0.0449	0.0214
29.88	1	4.0160	2.8306	-0.9663	0.0629	0.0619	0.0124
45	1	3.8890	2.3723	-0.8910	0.0692	0.0515	0.0190
60.12	1	2.3420	2.2977	-0.6405	0.1060	0.0793	0.0252
74.88	1	0.2372	3.0581	-0.2966	0.0578	0.0490	0.0282
80.16	1	0.9617	2.3987	-0.5249	0.0305	0.0254	0.0221
85.08	1	0.7244	2.4489	-0.4897	0.0302	0.0217	0.0148
90	1	0.5492	2.4979	-0.4585	0.0376	0.0402	0.0173
90.35	4	0.4392	2.9886	-0.3834	0.0198	0.0240	0.0109
94.92	1	0.3743	2.6167	-0.3842	0.0302	0.0212	0.0128
94.92	4	0.1387	3.1260	-0.3198	0.0309	0.0223	0.0125
105.12	4	0.1011	3.5875	-0.2800	0.0314	0.0342	0.0139
119.88	4	0.1584	4.0387	-0.0735	0.0242	0.0208	0.0131
135	4	0.5010	4.3135	-0.0396	0.0183	0.0438	0.0196
150.12	4	1.0089	4.3049	-0.0209	0.0431	0.0478	0.0327
164.88	4	1.7824	4.0553	-0.0097	0.0274	0.0422	0.0108
170.16	4	2.0650	3.9472	-0.0744	0.0304	0.0191	0.0212
175.08	4	2.0947	3.8162	-0.1066	0.0243	0.0369	0.0146
180	4	2.9591	3.6629	-0.1476	0.0191	0.0608	0.0158
180.35	3	3.2717	3.1977	-1.4745	0.0456	0.0223	0.0423
184.92	3	2.2557	3.5979	-1.2663	0.0366	0.0675	0.0255
184.92	4	3.4399	3.4434	-0.1431	0.0470	0.0697	0.0197
195.12	3	3.6793	3.2283	-1.3445	0.0496	0.0324	0.0461
209.88	3	4.9257	3.0462	-1.5652	0.0275	0.0498	0.0111
225	3	6.0415	3.2390	-1.6639	0.0658	0.0202	0.0230
240.12	3	7.1440	3.4275	-1.8512	0.0262	0.0663	0.0121
254.88	3	8.5775	3.3781	-2.0301	0.0359	0.0176	0.0196
260.16	3	8.9703	3.4465	-2.0459	0.0515	0.0248	0.0208
265.08	3	9.3648	3.3421	-2.1028	0.1040	0.0395	0.0183
270	3	9.4531	3.4704	-2.0928	0.1338	0.0744	0.0252
270.35	2	9.3533	3.3406	-1.0457	0.1148	0.0479	0.0275
274.92	2	7.9425	4.0678	-0.8580	0.0317	0.0325	0.0266
274.92	3	8.1764	3.5237	-2.0822	0.0488	0.0797	0.0170
285.12	2	8.0631	3.7408	-0.9746	0.0532	0.0556	0.0276
299.88	2	8.3019	3.6145	-1.1282	0.0516	0.0546	0.0159
315	2	8.5398	3.1582	-1.3159	0.0410	0.0293	0.0252
330.12	2	8.2225	2.8765	-1.2796	0.0492	0.0378	0.0146
344.88	2	7.6981	2.8621	-1.1854	0.0527	0.0265	0.0260
350.16	2	7.5228	2.7668	-1.1563	0.0718	0.0206	0.0171
355.08	2	7.0000	2.7772	-1.0566	0.0549	0.0224	0.0265

3.45.2 Spanwise Elastic Deformations

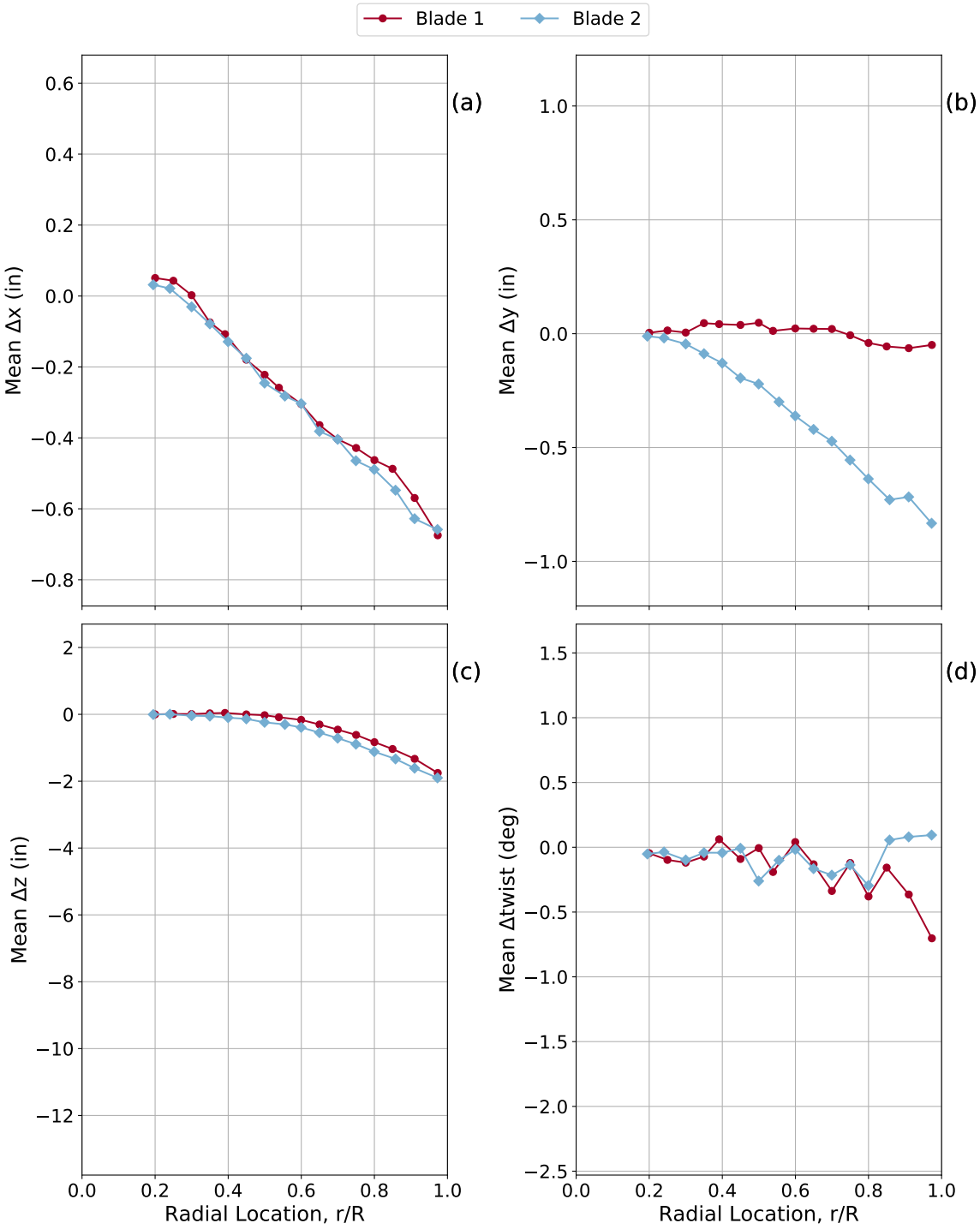


Figure 3.45-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0508	0.0032	0.0040	0.0021	-0.0011	0.0044	-0.0464	0.0332
1	0.35	0.2499	0.0431	0.0013	0.0141	0.0032	0.0115	0.0078	-0.0974	0.0382
1	0.35	0.2998	0.0023	0.0021	0.0049	0.0075	0.0080	0.0158	-0.1187	0.0659
1	0.35	0.3498	-0.0743	0.0024	0.0463	0.0118	0.0293	0.0261	-0.0719	0.0491
1	0.35	0.3913	-0.1076	0.0023	0.0420	0.0170	0.0416	0.0373	0.0616	0.0564
1	0.35	0.4496	-0.1796	0.0025	0.0383	0.0233	-0.0022	0.0540	-0.0903	0.0534
1	0.35	0.4997	-0.2221	0.0031	0.0480	0.0277	-0.0265	0.0701	-0.0063	0.0670
1	0.35	0.5387	-0.2586	0.0032	0.0124	0.0306	-0.0864	0.0840	-0.1906	0.0501
1	0.35	0.5996	-0.3047	0.0028	0.0229	0.0364	-0.1654	0.1055	0.0401	0.0447
1	0.35	0.6498	-0.3640	0.0033	0.0216	0.0403	-0.3048	0.1233	-0.1315	0.0551
1	0.35	0.6998	-0.4038	0.0033	0.0206	0.0450	-0.4585	0.1384	-0.3373	0.0489
1	0.35	0.7500	-0.4285	0.0029	-0.0068	0.0504	-0.6163	0.1551	-0.1212	0.0657
1	0.35	0.8001	-0.4627	0.0033	-0.0406	0.0543	-0.8326	0.1715	-0.3797	0.0656
1	0.35	0.8497	-0.4872	0.0048	-0.0561	0.0590	-1.0372	0.1832	-0.1570	0.0759
1	0.35	0.9102	-0.5695	0.0048	-0.0636	0.0646	-1.3317	0.2043	-0.3646	0.0688
1	0.35	0.9734	-0.6747	0.0084	-0.0494	0.0637	-1.7547	0.2190	-0.7027	0.0748
2	0	0.1949	0.0317	0.0025	-0.0110	0.0011	-0.0050	0.0040	-0.0517	0.0172
2	0	0.2405	0.0213	0.0018	-0.0189	0.0022	0.0032	0.0046	-0.0367	0.0464
2	0	0.2999	-0.0305	0.0013	-0.0452	0.0046	-0.0409	0.0134	-0.0982	0.0412
2	0	0.3498	-0.0785	0.0014	-0.0880	0.0073	-0.0532	0.0219	-0.0419	0.0432
2	0	0.3998	-0.1289	0.0022	-0.1292	0.0113	-0.1000	0.0327	-0.0423	0.0497
2	0	0.4496	-0.1755	0.0026	-0.1946	0.0137	-0.1363	0.0409	-0.0078	0.0557
2	0	0.4995	-0.2455	0.0024	-0.2210	0.0169	-0.2394	0.0492	-0.2607	0.0462
2	0	0.5551	-0.2821	0.0026	-0.2994	0.0200	-0.3022	0.0572	-0.1004	0.0494
2	0	0.5996	-0.3033	0.0025	-0.3612	0.0230	-0.3911	0.0614	-0.0172	0.0583
2	0	0.6497	-0.3815	0.0028	-0.4204	0.0273	-0.5487	0.0653	-0.1650	0.0579
2	0	0.6996	-0.4041	0.0030	-0.4724	0.0282	-0.7126	0.0704	-0.2151	0.0505
2	0	0.7495	-0.4645	0.0035	-0.5550	0.0331	-0.8929	0.0769	-0.1367	0.0695
2	0	0.7996	-0.4891	0.0028	-0.6378	0.0360	-1.1171	0.0844	-0.2955	0.0616
2	0	0.8578	-0.5476	0.0049	-0.7293	0.0425	-1.3348	0.0948	0.0559	0.0919
2	0	0.9100	-0.6279	0.0056	-0.7170	0.0497	-1.6103	0.0996	0.0800	0.1005
2	0	0.9727	-0.6584	0.0096	-0.8328	0.0492	-1.9007	0.0921	0.0943	0.1788

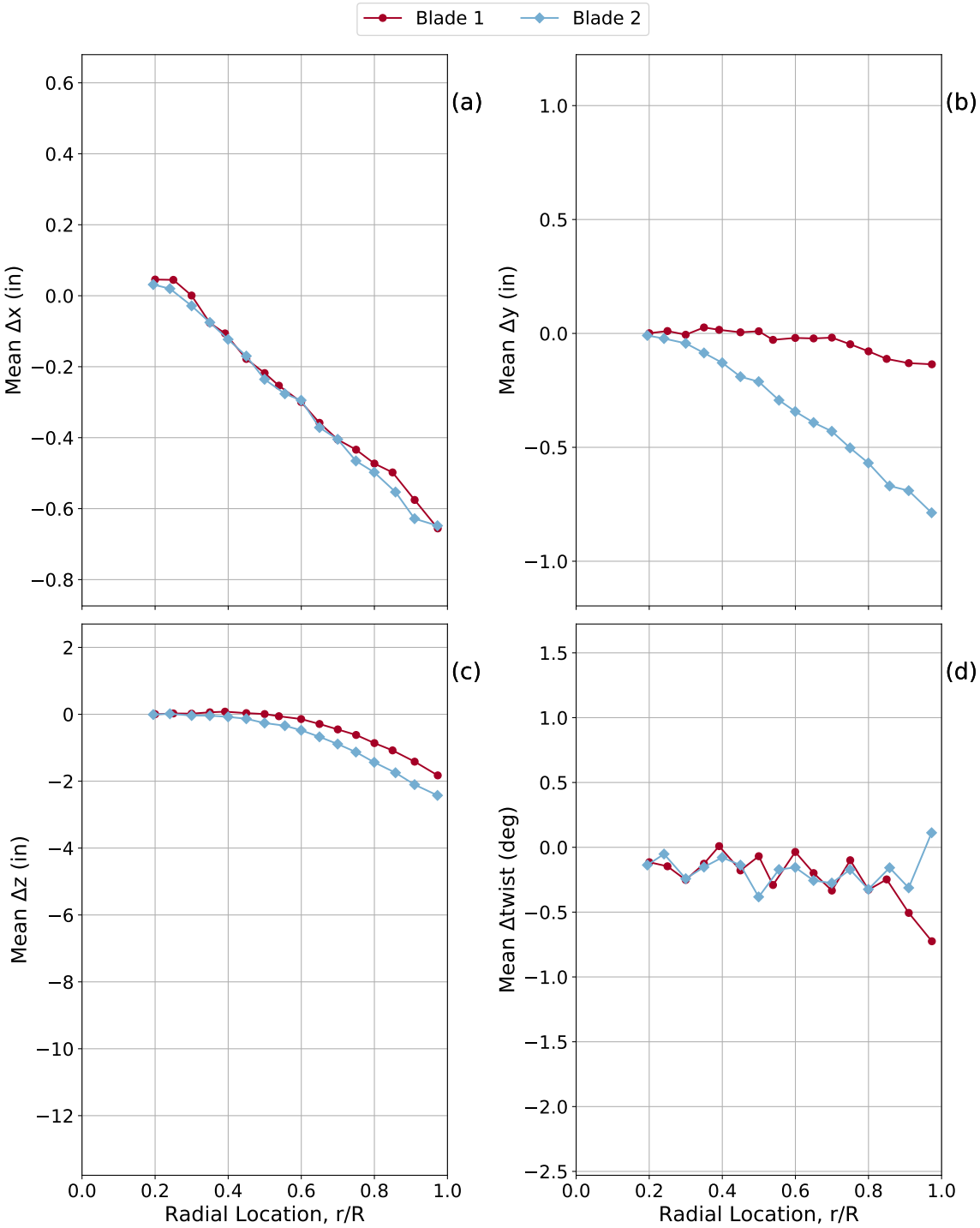


Figure 3.45-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0456	0.0029	0.0009	0.0017	0.0028	0.0056	-0.1148	0.0420
1	4.92	0.2499	0.0447	0.0019	0.0104	0.0031	0.0252	0.0079	-0.1465	0.1056
1	4.92	0.2998	0.0006	0.0015	-0.0057	0.0054	0.0195	0.0183	-0.2515	0.1097
1	4.92	0.3498	-0.0766	0.0022	0.0262	0.0105	0.0591	0.0325	-0.1266	0.0991
1	4.92	0.3913	-0.1061	0.0026	0.0158	0.0137	0.0786	0.0435	0.0090	0.1093
1	4.92	0.4496	-0.1781	0.0030	0.0049	0.0181	0.0348	0.0603	-0.1784	0.1063
1	4.92	0.4997	-0.2180	0.0030	0.0095	0.0226	0.0069	0.0766	-0.0687	0.0982
1	4.92	0.5387	-0.2534	0.0027	-0.0282	0.0256	-0.0581	0.0884	-0.2908	0.1032
1	4.92	0.5996	-0.2995	0.0030	-0.0198	0.0306	-0.1423	0.1065	-0.0357	0.1008
1	4.92	0.6498	-0.3582	0.0027	-0.0220	0.0338	-0.2900	0.1215	-0.1989	0.1031
1	4.92	0.6998	-0.4054	0.0030	-0.0185	0.0374	-0.4523	0.1378	-0.3337	0.1041
1	4.92	0.7500	-0.4339	0.0029	-0.0476	0.0405	-0.6180	0.1511	-0.0996	0.1117
1	4.92	0.8001	-0.4730	0.0030	-0.0786	0.0460	-0.8613	0.1668	-0.3276	0.1101
1	4.92	0.8497	-0.4979	0.0034	-0.1118	0.0486	-1.0794	0.1801	-0.2476	0.0994
1	4.92	0.9102	-0.5755	0.0040	-0.1304	0.0559	-1.4165	0.1962	-0.5060	0.1129
1	4.92	0.9734	-0.6557	0.0051	-0.1355	0.0600	-1.8269	0.2102	-0.7248	0.1233
2	4.92	0.1949	0.0314	0.0023	-0.0090	0.0015	-0.0078	0.0034	-0.1368	0.0248
2	4.92	0.2405	0.0199	0.0009	-0.0225	0.0018	0.0144	0.0050	-0.0519	0.0368
2	4.92	0.2999	-0.0285	0.0012	-0.0435	0.0055	-0.0373	0.0127	-0.2422	0.0523
2	4.92	0.3498	-0.0753	0.0018	-0.0857	0.0083	-0.0415	0.0189	-0.1524	0.0509
2	4.92	0.3998	-0.1231	0.0018	-0.1289	0.0128	-0.0771	0.0301	-0.0783	0.0504
2	4.92	0.4496	-0.1700	0.0016	-0.1900	0.0160	-0.1340	0.0417	-0.1374	0.0487
2	4.92	0.4995	-0.2356	0.0017	-0.2117	0.0190	-0.2620	0.0537	-0.3828	0.0509
2	4.92	0.5551	-0.2764	0.0019	-0.2932	0.0233	-0.3412	0.0657	-0.1715	0.0480
2	4.92	0.5996	-0.2946	0.0017	-0.3428	0.0269	-0.4777	0.0776	-0.1551	0.0585
2	4.92	0.6497	-0.3714	0.0021	-0.3913	0.0304	-0.6744	0.0898	-0.2562	0.0519
2	4.92	0.6996	-0.4046	0.0018	-0.4296	0.0331	-0.8898	0.1014	-0.2757	0.0507
2	4.92	0.7495	-0.4656	0.0015	-0.5025	0.0376	-1.1300	0.1134	-0.1720	0.0457
2	4.92	0.7996	-0.4976	0.0017	-0.5688	0.0419	-1.4359	0.1262	-0.3241	0.0640
2	4.92	0.8578	-0.5532	0.0023	-0.6695	0.0463	-1.7487	0.1406	-0.1577	0.0690
2	4.92	0.9100	-0.6283	0.0032	-0.6903	0.0469	-2.1028	0.1576	-0.3128	0.0994
2	4.92	0.9727	-0.6481	0.0051	-0.7872	0.0512	-2.4259	0.1862	0.1121	0.0877

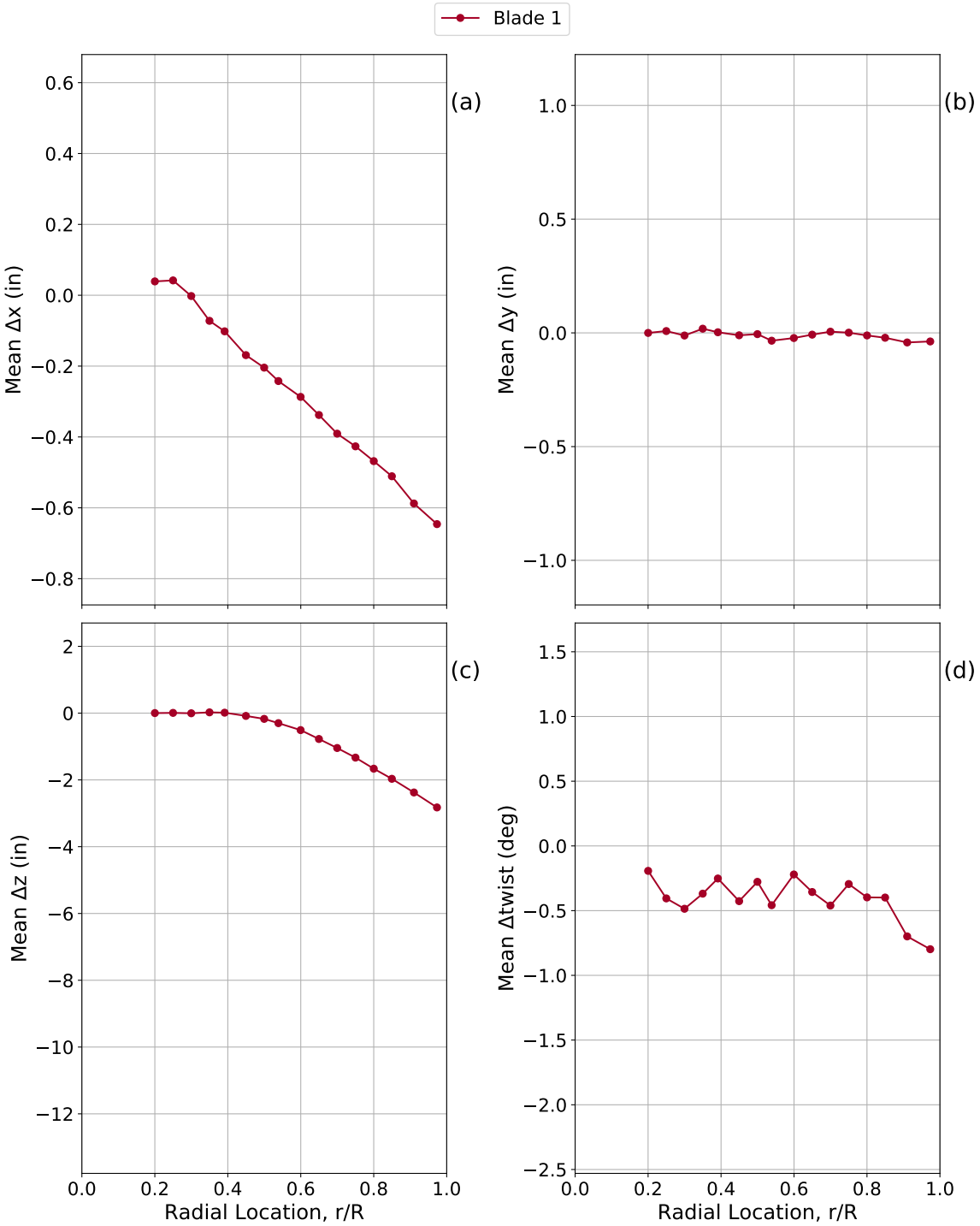


Figure 3.45-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0391	0.0030	-0.0002	0.0012	0.0013	0.0043	-0.1927	0.0333
1	15.12	0.2499	0.0419	0.0017	0.0080	0.0021	0.0073	0.0077	-0.4055	0.0663
1	15.12	0.2998	-0.0022	0.0010	-0.0116	0.0033	-0.0043	0.0161	-0.4856	0.0797
1	15.12	0.3498	-0.0722	0.0013	0.0184	0.0071	0.0230	0.0275	-0.3688	0.0732
1	15.12	0.3913	-0.1018	0.0016	0.0027	0.0089	0.0133	0.0389	-0.2517	0.0708
1	15.12	0.4496	-0.1690	0.0015	-0.0106	0.0117	-0.0834	0.0545	-0.4266	0.0706
1	15.12	0.4997	-0.2043	0.0021	-0.0055	0.0141	-0.1724	0.0691	-0.2774	0.0668
1	15.12	0.5387	-0.2422	0.0018	-0.0344	0.0164	-0.3003	0.0807	-0.4581	0.0654
1	15.12	0.5996	-0.2869	0.0019	-0.0227	0.0192	-0.5086	0.0979	-0.2205	0.0637
1	15.12	0.6498	-0.3380	0.0014	-0.0078	0.0220	-0.7746	0.1113	-0.3561	0.0631
1	15.12	0.6998	-0.3907	0.0017	0.0053	0.0247	-1.0448	0.1259	-0.4606	0.0653
1	15.12	0.7500	-0.4265	0.0015	0.0009	0.0273	-1.3323	0.1403	-0.2945	0.0600
1	15.12	0.8001	-0.4682	0.0016	-0.0113	0.0302	-1.6639	0.1553	-0.3976	0.0789
1	15.12	0.8497	-0.5109	0.0018	-0.0215	0.0335	-1.9670	0.1730	-0.3988	0.0791
1	15.12	0.9102	-0.5878	0.0024	-0.0421	0.0366	-2.3764	0.1942	-0.6991	0.0869
1	15.12	0.9734	-0.6460	0.0030	-0.0377	0.0401	-2.8245	0.2159	-0.7980	0.0612

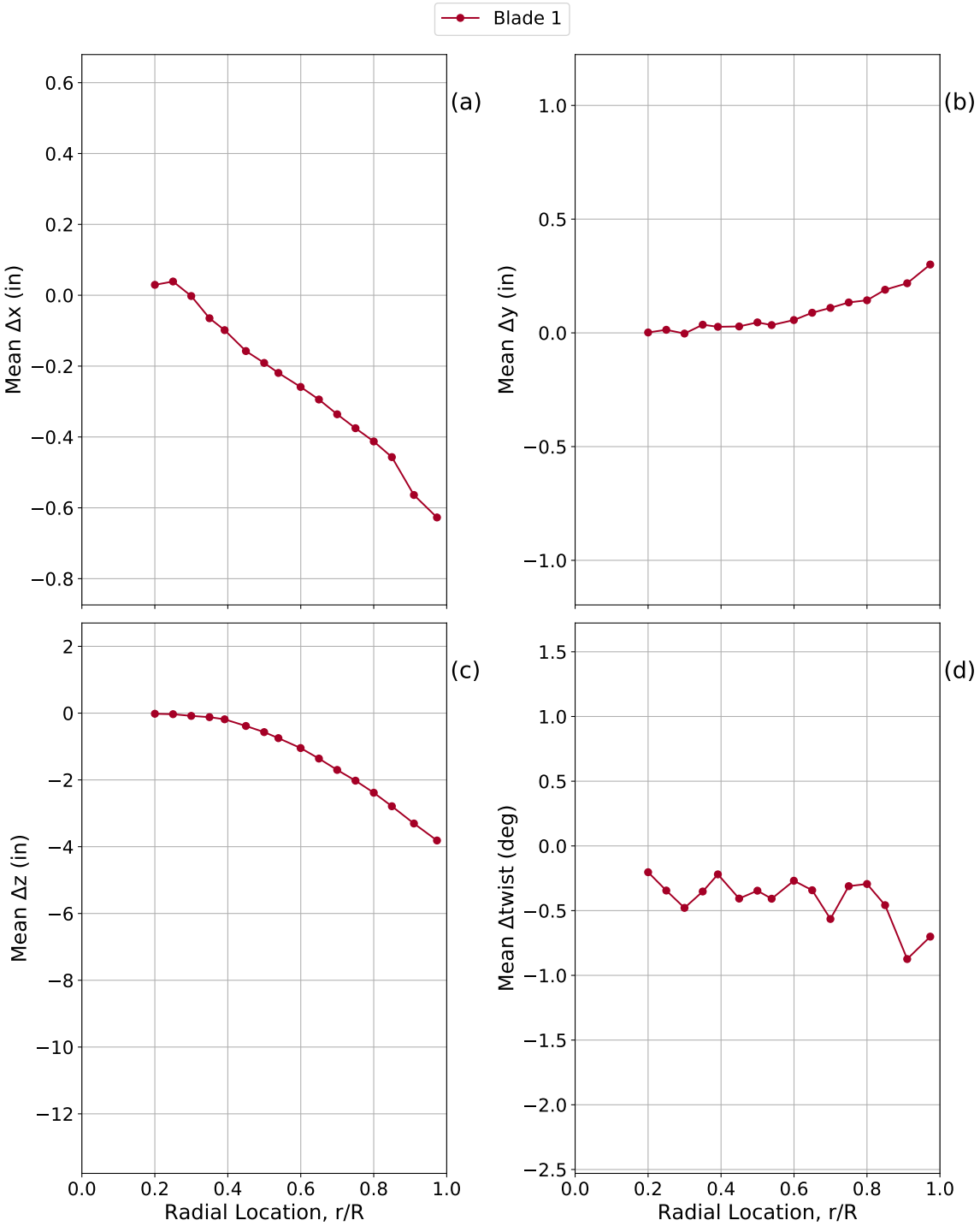


Figure 3.45-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0294	0.0023	0.0018	0.0014	-0.0196	0.0067	-0.2031	0.0261
1	29.88	0.2499	0.0388	0.0019	0.0135	0.0015	-0.0318	0.0088	-0.3447	0.0668
1	29.88	0.2998	-0.0022	0.0015	-0.0030	0.0042	-0.0830	0.0230	-0.4788	0.0679
1	29.88	0.3498	-0.0649	0.0022	0.0359	0.0074	-0.1206	0.0396	-0.3522	0.0537
1	29.88	0.3913	-0.0985	0.0019	0.0267	0.0095	-0.1852	0.0541	-0.2197	0.0552
1	29.88	0.4496	-0.1575	0.0019	0.0283	0.0123	-0.3846	0.0752	-0.4068	0.0572
1	29.88	0.4997	-0.1910	0.0020	0.0461	0.0150	-0.5689	0.0949	-0.3458	0.0619
1	29.88	0.5387	-0.2193	0.0020	0.0343	0.0178	-0.7491	0.1103	-0.4080	0.0639
1	29.88	0.5996	-0.2588	0.0021	0.0564	0.0212	-1.0459	0.1340	-0.2690	0.0641
1	29.88	0.6498	-0.2943	0.0021	0.0885	0.0249	-1.3607	0.1537	-0.3424	0.0566
1	29.88	0.6998	-0.3360	0.0029	0.1099	0.0277	-1.7010	0.1701	-0.5643	0.0721
1	29.88	0.7500	-0.3753	0.0030	0.1338	0.0311	-2.0231	0.1897	-0.3108	0.0658
1	29.88	0.8001	-0.4127	0.0032	0.1433	0.0345	-2.3839	0.2114	-0.2941	0.0659
1	29.88	0.8497	-0.4569	0.0040	0.1897	0.0375	-2.7888	0.2326	-0.4577	0.0708
1	29.88	0.9102	-0.5638	0.0040	0.2181	0.0423	-3.3055	0.2633	-0.8740	0.0666
1	29.88	0.9734	-0.6272	0.0038	0.3005	0.0461	-3.8143	0.2979	-0.7009	0.0717

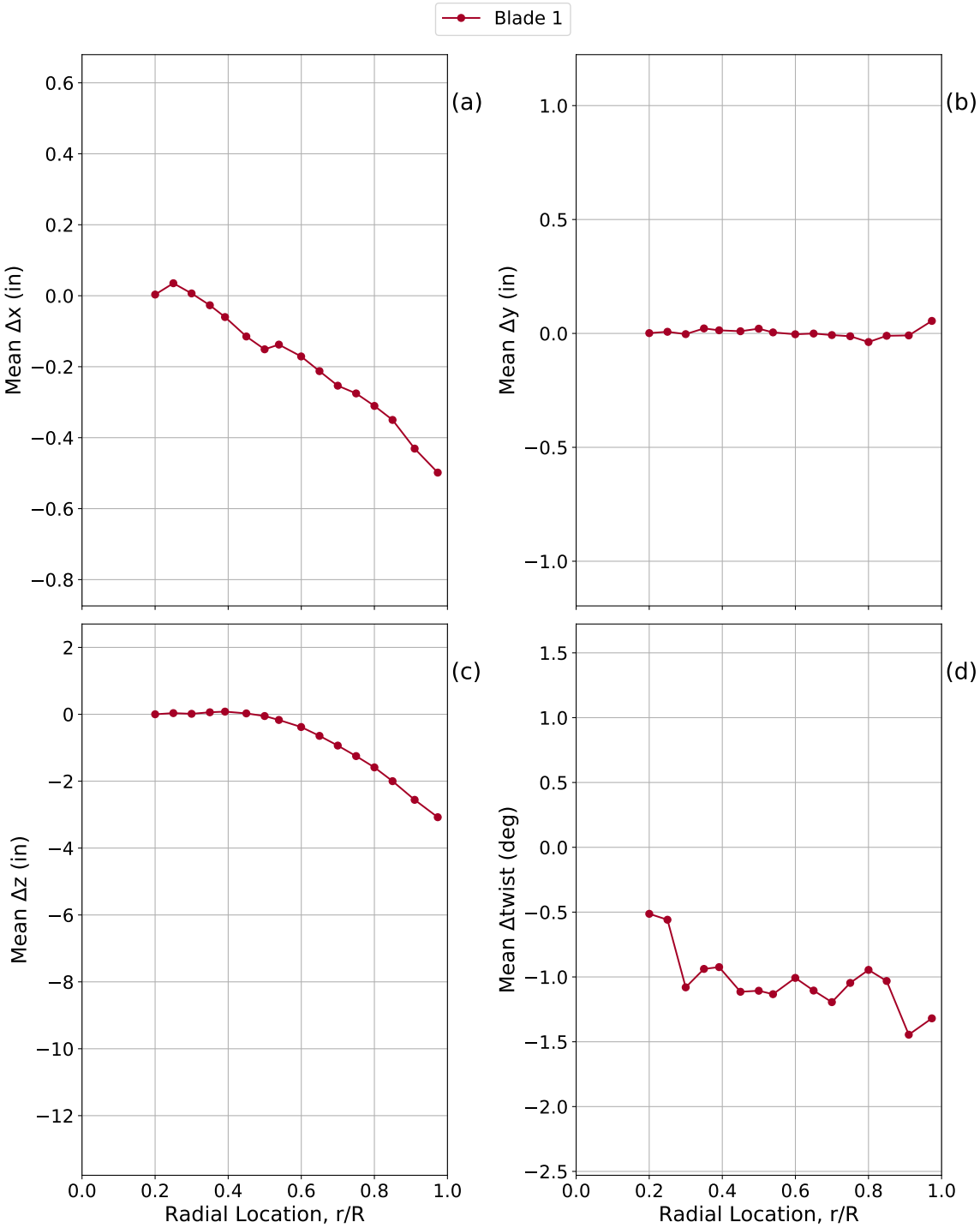


Figure 3.45-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0033	0.0024	0.0014	0.0016	0.0003	0.0045	-0.5131	0.0301
1	45	0.2499	0.0352	0.0010	0.0072	0.0029	0.0349	0.0091	-0.5587	0.0611
1	45	0.2998	0.0065	0.0016	-0.0031	0.0058	0.0140	0.0163	-1.0802	0.0713
1	45	0.3498	-0.0268	0.0026	0.0219	0.0096	0.0600	0.0280	-0.9381	0.0722
1	45	0.3913	-0.0601	0.0034	0.0137	0.0137	0.0798	0.0398	-0.9242	0.0728
1	45	0.4496	-0.1148	0.0048	0.0096	0.0197	0.0266	0.0568	-1.1144	0.0697
1	45	0.4997	-0.1510	0.0056	0.0208	0.0254	-0.0522	0.0724	-1.1065	0.0671
1	45	0.5387	-0.1377	0.0074	0.0045	0.0449	-0.1697	0.0703	-1.1330	0.0681
1	45	0.5996	-0.1711	0.0066	-0.0037	0.0529	-0.3807	0.0891	-1.0074	0.0648
1	45	0.6498	-0.2125	0.0073	-0.0005	0.0589	-0.6450	0.1014	-1.1051	0.0659
1	45	0.6998	-0.2535	0.0065	-0.0072	0.0653	-0.9355	0.1141	-1.1944	0.0653
1	45	0.7500	-0.2753	0.0065	-0.0124	0.0718	-1.2498	0.1278	-1.0462	0.0683
1	45	0.8001	-0.3105	0.0064	-0.0378	0.0780	-1.5877	0.1385	-0.9456	0.0674
1	45	0.8497	-0.3500	0.0066	-0.0104	0.0842	-1.9992	0.1526	-1.0312	0.0679
1	45	0.9102	-0.4308	0.0061	-0.0088	0.0926	-2.5577	0.1673	-1.4454	0.0699
1	45	0.9734	-0.4984	0.0063	0.0549	0.1008	-3.0772	0.1851	-1.3194	0.0697

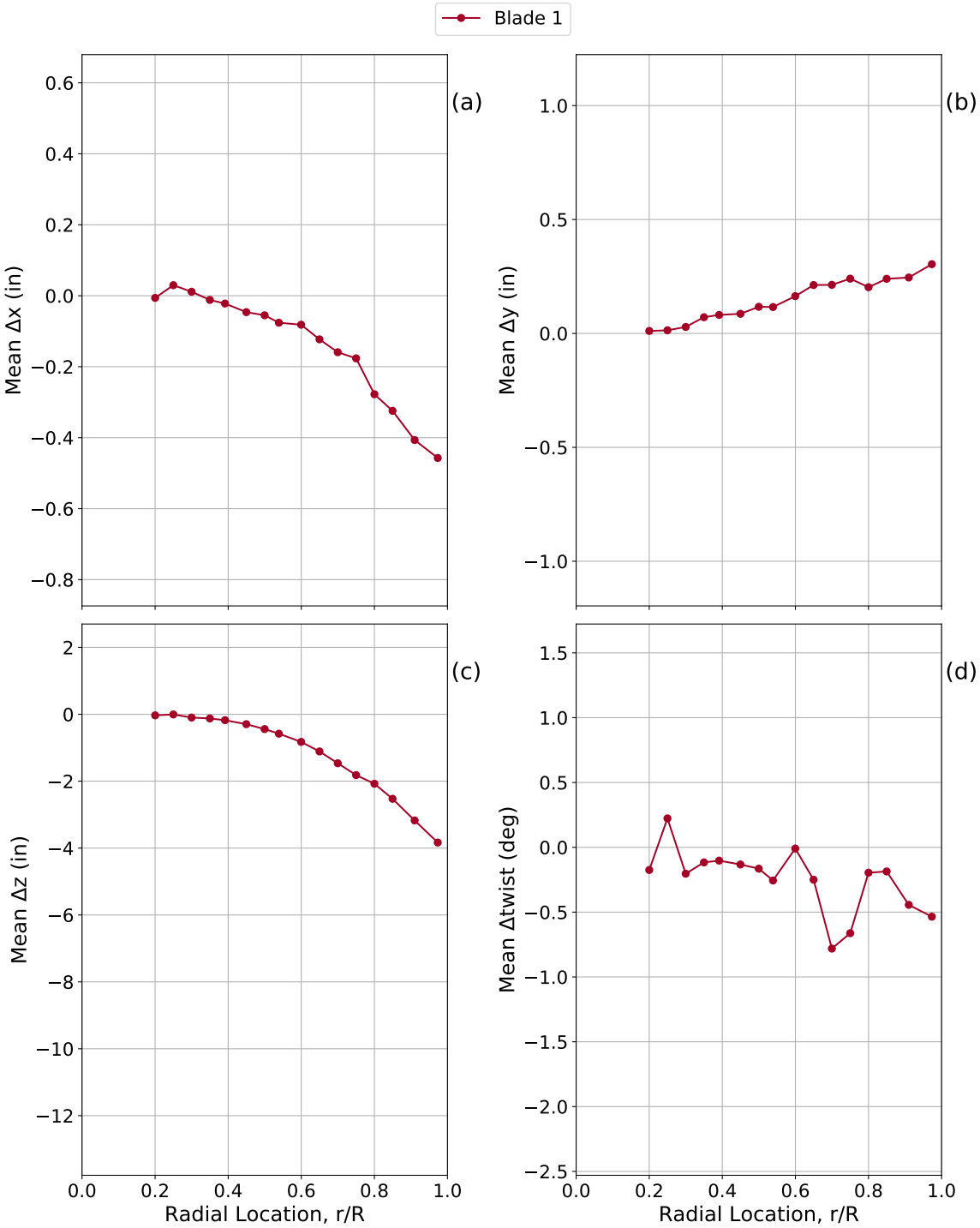


Figure 3.45-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0061	0.0031	0.0109	0.0028	-0.0316	0.0060	-0.1749	0.0435
1	60.12	0.2499	0.0297	0.0011	0.0137	0.0030	-0.0052	0.0083	0.2231	0.1079
1	60.12	0.2998	0.0113	0.0015	0.0284	0.0093	-0.0973	0.0202	-0.2036	0.1128
1	60.12	0.3498	-0.0118	0.0023	0.0711	0.0158	-0.1251	0.0354	-0.1166	0.1016
1	60.12	0.3913	-0.0220	0.0039	0.0812	0.0213	-0.1765	0.0478	-0.1027	0.0982
1	60.12	0.4496	-0.0462	0.0046	0.0862	0.0288	-0.2956	0.0638	-0.1325	0.1002
1	60.12	0.4997	-0.0551	0.0069	0.1168	0.0350	-0.4432	0.0789	-0.1647	0.1060
1	60.12	0.5387	-0.0760	0.0076	0.1158	0.0393	-0.5800	0.0879	-0.2558	0.1153
1	60.12	0.5996	-0.0817	0.0081	0.1635	0.0484	-0.8253	0.1071	-0.0096	0.1221
1	60.12	0.6498	-0.1229	0.0089	0.2123	0.0550	-1.1111	0.1270	-0.2498	0.1475
1	60.12	0.6998	-0.1592	0.0117	0.2132	0.0510	-1.4643	0.1380	-0.7812	0.2772
1	60.12	0.7500	-0.1764	0.0106	0.2404	0.0567	-1.8183	0.1565	-0.6626	0.3157
1	60.12	0.8001	-0.2777	0.0037	0.2028	0.0636	-2.0767	0.1859	-0.1959	0.0889
1	60.12	0.8497	-0.3244	0.0040	0.2397	0.0697	-2.5270	0.2032	-0.1863	0.0866
1	60.12	0.9102	-0.4066	0.0051	0.2453	0.0761	-3.1741	0.2240	-0.4439	0.0895
1	60.12	0.9734	-0.4572	0.0037	0.3039	0.0833	-3.8348	0.2485	-0.5351	0.0854

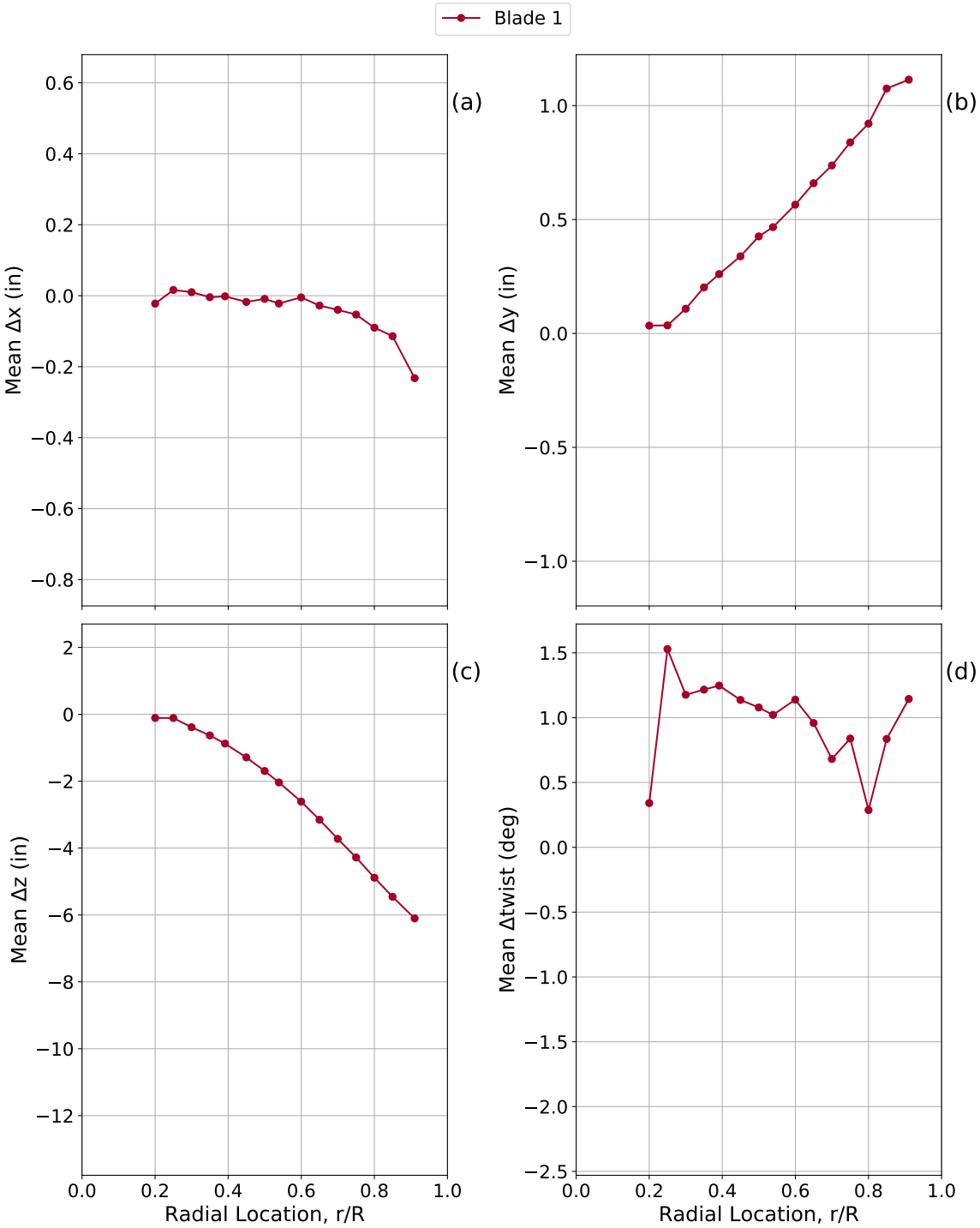


Figure 3.45-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0223	0.0027	0.0343	0.0028	-0.1095	0.0049	0.3411	0.0284
1	74.88	0.2499	0.0162	0.0018	0.0353	0.0028	-0.1114	0.0058	1.5291	0.0746
1	74.88	0.2998	0.0100	0.0023	0.1082	0.0091	-0.3873	0.0155	1.1765	0.0667
1	74.88	0.3498	-0.0042	0.0023	0.2020	0.0146	-0.6318	0.0259	1.2162	0.0671
1	74.88	0.3913	-0.0017	0.0026	0.2602	0.0200	-0.8761	0.0348	1.2473	0.0697
1	74.88	0.4496	-0.0175	0.0031	0.3385	0.0272	-1.2894	0.0462	1.1369	0.0600
1	74.88	0.4997	-0.0088	0.0038	0.4258	0.0332	-1.6951	0.0572	1.0786	0.0657
1	74.88	0.5387	-0.0219	0.0041	0.4664	0.0379	-2.0373	0.0673	1.0213	0.0667
1	74.88	0.5996	-0.0047	0.0051	0.5649	0.0449	-2.6096	0.0811	1.1389	0.0713
1	74.88	0.6498	-0.0277	0.0046	0.6593	0.0499	-3.1521	0.0931	0.9587	0.0635
1	74.88	0.6998	-0.0397	0.0172	0.7372	0.0582	-3.7254	0.1113	0.6812	0.1050
1	74.88	0.7500	-0.0531	0.0043	0.8386	0.0640	-4.2807	0.1211	0.8389	0.0846
1	74.88	0.8001	-0.0900	0.0064	0.9209	0.0707	-4.8859	0.1410	0.2867	0.1075
1	74.88	0.8497	-0.1140	0.0072	1.0748	0.0771	-5.4559	0.1522	0.8357	0.1102
1	74.88	0.9102	-0.2323	0.0077	1.1137	0.0859	-6.1024	0.1393	1.1441	0.0783

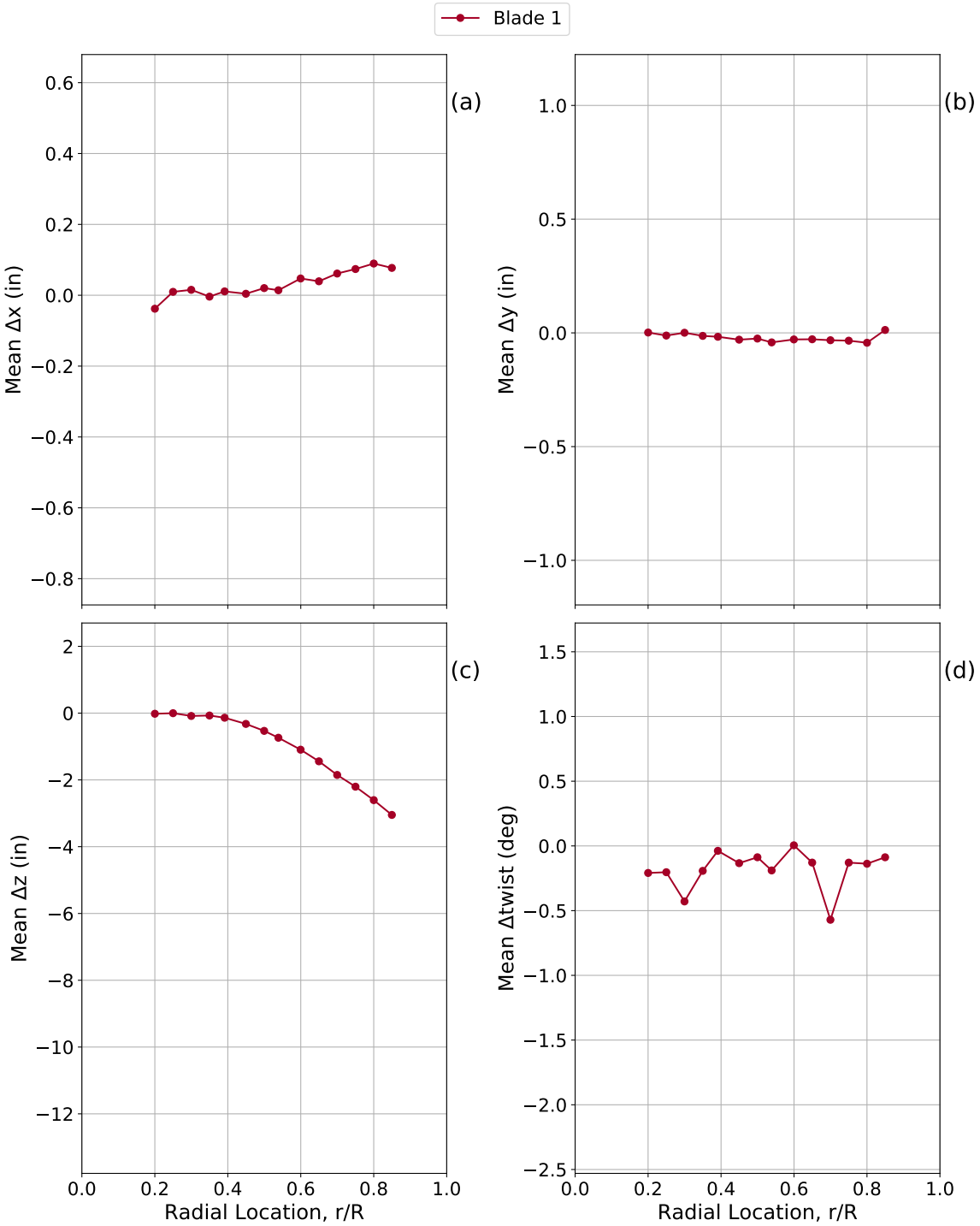


Figure 3.45-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0380	0.0009	0.0016	0.0004	-0.0190	0.0022	-0.2089	0.0189
1	80.16	0.2499	0.0096	0.0011	-0.0118	0.0011	-0.0022	0.0044	-0.2031	0.0287
1	80.16	0.2998	0.0153	0.0013	0.0006	0.0017	-0.0846	0.0081	-0.4288	0.0348
1	80.16	0.3498	-0.0039	0.0009	-0.0132	0.0029	-0.0715	0.0136	-0.1927	0.0309
1	80.16	0.3913	0.0109	0.0013	-0.0171	0.0042	-0.1382	0.0191	-0.0379	0.0335
1	80.16	0.4496	0.0042	0.0014	-0.0299	0.0058	-0.3231	0.0270	-0.1331	0.0314
1	80.16	0.4997	0.0202	0.0015	-0.0250	0.0071	-0.5315	0.0350	-0.0876	0.0383
1	80.16	0.5387	0.0141	0.0018	-0.0418	0.0081	-0.7374	0.0413	-0.1894	0.0319
1	80.16	0.5996	0.0473	0.0017	-0.0289	0.0093	-1.0949	0.0487	0.0049	0.0467
1	80.16	0.6498	0.0394	0.0023	-0.0281	0.0101	-1.4432	0.0605	-0.1288	0.0422
1	80.16	0.6998	0.0613	0.0035	-0.0323	0.0121	-1.8517	0.0663	-0.5706	0.0531
1	80.16	0.7500	0.0740	0.0022	-0.0343	0.0140	-2.2030	0.0783	-0.1291	0.0863
1	80.16	0.8001	0.0895	0.0066	-0.0434	0.0144	-2.6059	0.0887	-0.1376	0.1497
1	80.16	0.8497	0.0772	0.0035	0.0128	0.0175	-3.0485	0.1137	-0.0877	0.1562

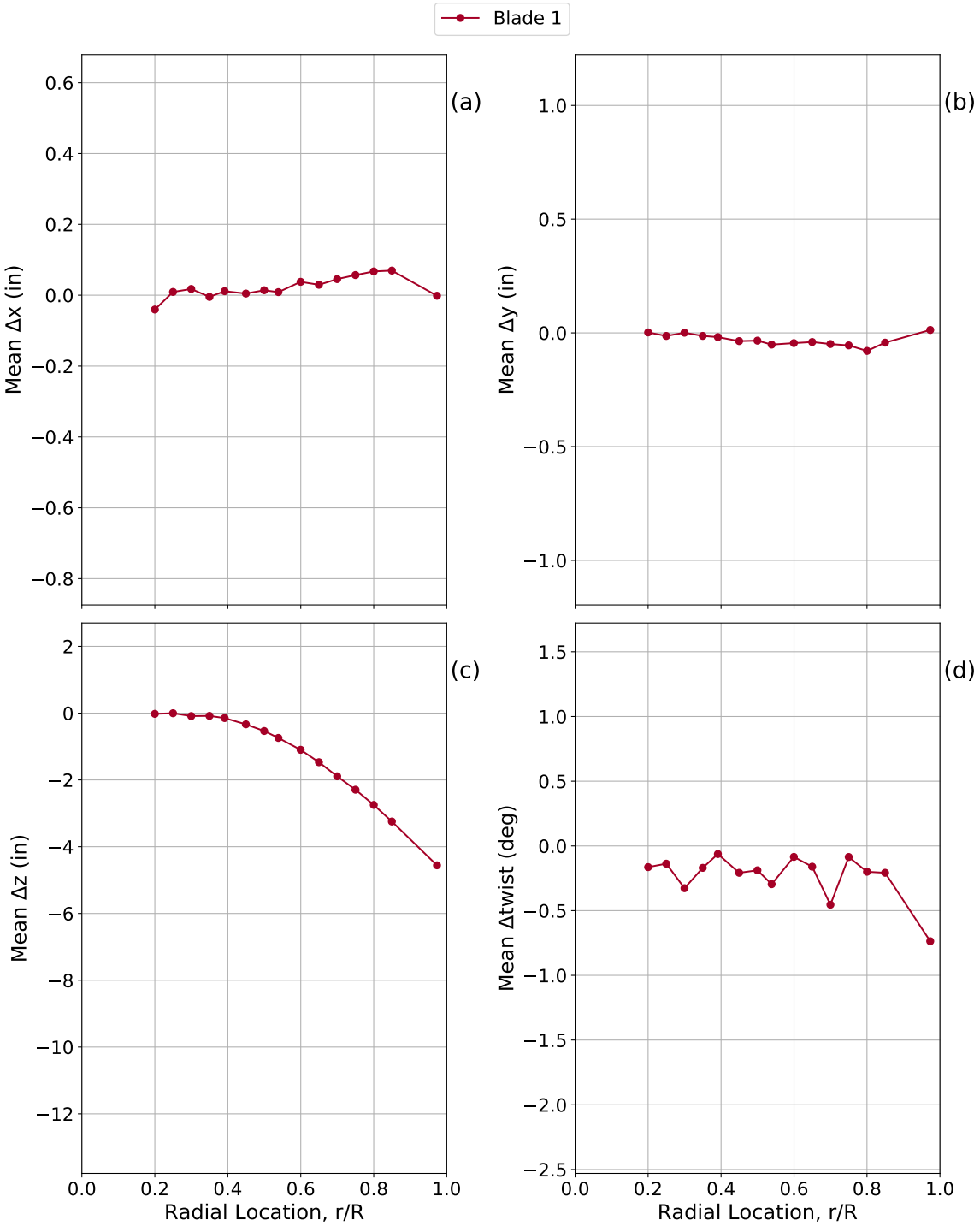


Figure 3.45-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0404	0.0006	0.0021	0.0004	-0.0210	0.0022	-0.1637	0.0175
1	85.08	0.2499	0.0092	0.0010	-0.0134	0.0014	-0.0030	0.0043	-0.1371	0.0285
1	85.08	0.2998	0.0176	0.0008	0.0008	0.0021	-0.0875	0.0078	-0.3267	0.0374
1	85.08	0.3498	-0.0048	0.0008	-0.0133	0.0035	-0.0821	0.0137	-0.1693	0.0308
1	85.08	0.3913	0.0113	0.0009	-0.0185	0.0054	-0.1473	0.0190	-0.0624	0.0309
1	85.08	0.4496	0.0047	0.0018	-0.0361	0.0065	-0.3350	0.0244	-0.2076	0.0424
1	85.08	0.4997	0.0140	0.0013	-0.0341	0.0081	-0.5357	0.0334	-0.1882	0.0269
1	85.08	0.5387	0.0087	0.0014	-0.0515	0.0090	-0.7437	0.0402	-0.2957	0.0417
1	85.08	0.5996	0.0378	0.0017	-0.0449	0.0104	-1.0992	0.0483	-0.0847	0.0345
1	85.08	0.6498	0.0294	0.0023	-0.0401	0.0118	-1.4703	0.0548	-0.1603	0.0431
1	85.08	0.6998	0.0455	0.0022	-0.0490	0.0126	-1.8924	0.0631	-0.4543	0.0537
1	85.08	0.7500	0.0569	0.0036	-0.0550	0.0135	-2.2934	0.0665	-0.0855	0.0673
1	85.08	0.8001	0.0671	0.0038	-0.0793	0.0159	-2.7496	0.0808	-0.1995	0.0756
1	85.08	0.8497	0.0695	0.0046	-0.0428	0.0169	-3.2461	0.0825	-0.2075	0.1029
1	85.08	0.9734	-0.0016	0.0055	0.0128	0.0206	-4.5576	0.1440	-0.7362	0.2202

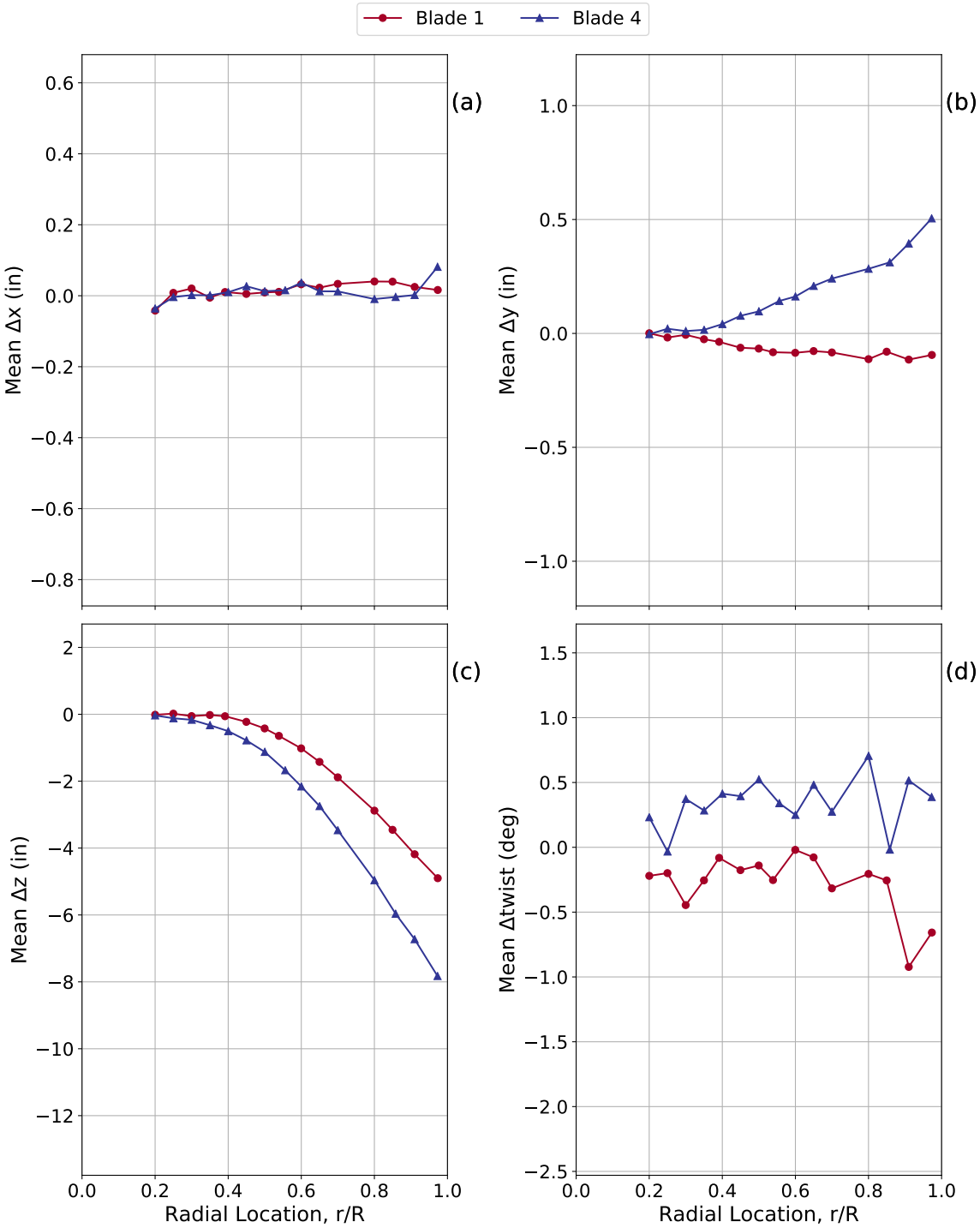


Figure 3.45-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0419	0.0009	0.0008	0.0006	-0.0141	0.0023	-0.2202	0.0199
1	90	0.2499	0.0081	0.0007	-0.0180	0.0012	0.0183	0.0064	-0.1991	0.0267
1	90	0.2998	0.0204	0.0007	-0.0060	0.0020	-0.0542	0.0105	-0.4456	0.0423
1	90	0.3498	-0.0054	0.0011	-0.0255	0.0041	-0.0212	0.0188	-0.2549	0.0299
1	90	0.3913	0.0104	0.0015	-0.0369	0.0054	-0.0578	0.0273	-0.0813	0.0313
1	90	0.4496	0.0051	0.0012	-0.0629	0.0076	-0.2265	0.0407	-0.1761	0.0338
1	90	0.4997	0.0092	0.0019	-0.0666	0.0091	-0.4232	0.0531	-0.1403	0.0350
1	90	0.5387	0.0109	0.0019	-0.0825	0.0104	-0.6455	0.0648	-0.2528	0.0382
1	90	0.5996	0.0322	0.0025	-0.0851	0.0123	-1.0186	0.0840	-0.0198	0.0295
1	90	0.6498	0.0227	0.0014	-0.0774	0.0140	-1.4236	0.1028	-0.0777	0.0355
1	90	0.6998	0.0334	0.0035	-0.0835	0.0158	-1.8850	0.1199	-0.3167	0.0426
1	90	0.8001	0.0402	0.0058	-0.1129	0.0193	-2.8808	0.1655	-0.2051	0.0607
1	90	0.8497	0.0397	0.0058	-0.0802	0.0205	-3.4543	0.1949	-0.2555	0.0688
1	90	0.9102	0.0248	0.0136	-0.1149	0.0224	-4.1844	0.2122	-0.9227	0.2669
1	90	0.9734	0.0162	0.0057	-0.0945	0.0270	-4.9006	0.2563	-0.6575	0.1393
4	90.35	0.2001	-0.0361	0.0009	-0.0034	0.0005	-0.0342	0.0018	0.2318	0.0113
4	90.35	0.2502	-0.0038	0.0007	0.0205	0.0012	-0.1201	0.0030	-0.0330	0.0204
4	90.35	0.3001	0.0018	0.0010	0.0102	0.0019	-0.1650	0.0062	0.3727	0.0252
4	90.35	0.3502	0.0011	0.0006	0.0159	0.0035	-0.3278	0.0104	0.2838	0.0243
4	90.35	0.4002	0.0100	0.0014	0.0409	0.0052	-0.5046	0.0159	0.4136	0.0221
4	90.35	0.4500	0.0267	0.0017	0.0775	0.0070	-0.7813	0.0232	0.3942	0.0190
4	90.35	0.5001	0.0128	0.0018	0.0967	0.0088	-1.1253	0.0275	0.5233	0.0220
4	90.35	0.5560	0.0155	0.0017	0.1424	0.0111	-1.6738	0.0356	0.3400	0.0170
4	90.35	0.6001	0.0369	0.0028	0.1621	0.0131	-2.1585	0.0429	0.2499	0.0223
4	90.35	0.6501	0.0126	0.0029	0.2084	0.0151	-2.7461	0.0511	0.4818	0.0183
4	90.35	0.6999	0.0122	0.0033	0.2408	0.0167	-3.4667	0.0574	0.2744	0.0273
4	90.35	0.8002	-0.0094	0.0043	0.2837	0.0221	-4.9616	0.0683	0.7051	0.0663
4	90.35	0.8582	-0.0036	0.0071	0.3119	0.0251	-5.9661	0.0691	-0.0183	0.1205
4	90.35	0.9101	0.0020	0.0083	0.3945	0.0279	-6.7258	0.0749	0.5157	0.1265
4	90.35	0.9728	0.0813	0.0056	0.5049	0.0325	-7.8273	0.1188	0.3876	0.2051

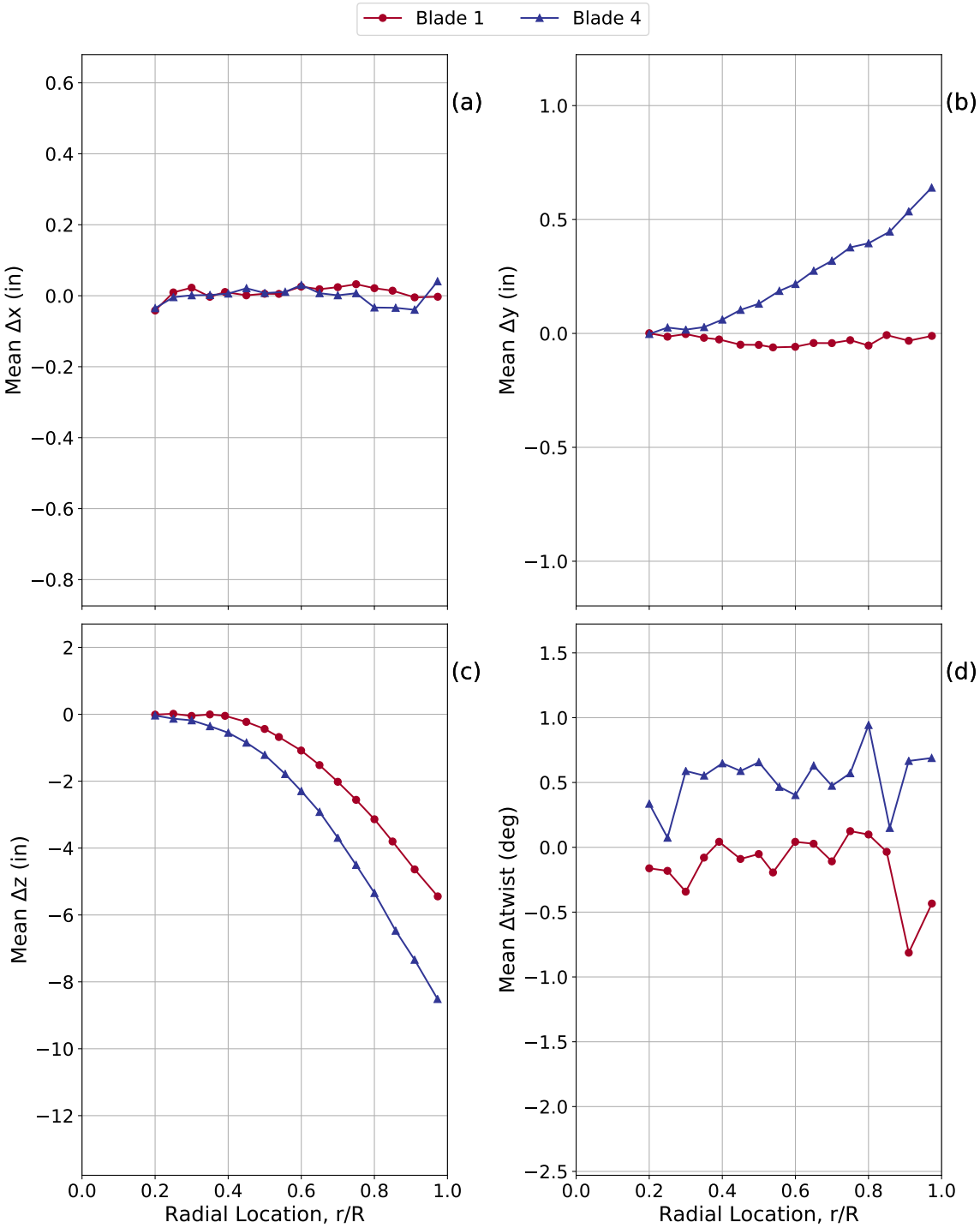


Figure 3.45-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0417	0.0012	0.0010	0.0004	-0.0096	0.0020	-0.1620	0.0188
1	94.92	0.2499	0.0093	0.0008	-0.0143	0.0008	0.0147	0.0035	-0.1815	0.0321
1	94.92	0.2998	0.0226	0.0009	-0.0028	0.0012	-0.0483	0.0072	-0.3421	0.0428
1	94.92	0.3498	-0.0030	0.0008	-0.0193	0.0027	-0.0050	0.0128	-0.0796	0.0379
1	94.92	0.3913	0.0105	0.0009	-0.0265	0.0033	-0.0463	0.0176	0.0424	0.0401
1	94.92	0.4496	0.0011	0.0015	-0.0496	0.0040	-0.2278	0.0239	-0.0899	0.0342
1	94.92	0.4997	0.0056	0.0014	-0.0503	0.0051	-0.4382	0.0302	-0.0520	0.0334
1	94.92	0.5387	0.0052	0.0017	-0.0613	0.0057	-0.6793	0.0351	-0.1940	0.0394
1	94.92	0.5996	0.0256	0.0013	-0.0587	0.0063	-1.0834	0.0428	0.0421	0.0481
1	94.92	0.6498	0.0184	0.0023	-0.0422	0.0069	-1.5189	0.0506	0.0275	0.0412
1	94.92	0.6998	0.0241	0.0020	-0.0426	0.0078	-2.0185	0.0557	-0.1084	0.0422
1	94.92	0.7500	0.0325	0.0025	-0.0295	0.0090	-2.5584	0.0639	0.1247	0.0511
1	94.92	0.8001	0.0212	0.0034	-0.0531	0.0092	-3.1383	0.0705	0.0986	0.0531
1	94.92	0.8497	0.0142	0.0025	-0.0074	0.0103	-3.8029	0.0777	-0.0349	0.0606
1	94.92	0.9102	-0.0046	0.0065	-0.0321	0.0096	-4.6376	0.0930	-0.8131	0.1038
1	94.92	0.9734	-0.0029	0.0041	-0.0109	0.0119	-5.4445	0.1022	-0.4339	0.0886
4	94.92	0.2001	-0.0351	0.0013	-0.0026	0.0007	-0.0368	0.0013	0.3358	0.0185
4	94.92	0.2502	-0.0041	0.0009	0.0258	0.0015	-0.1322	0.0033	0.0739	0.0256
4	94.92	0.3001	0.0012	0.0009	0.0165	0.0033	-0.1808	0.0054	0.5886	0.0387
4	94.92	0.3502	0.0019	0.0011	0.0277	0.0046	-0.3567	0.0091	0.5533	0.0300
4	94.92	0.4002	0.0060	0.0018	0.0605	0.0080	-0.5520	0.0144	0.6480	0.0270
4	94.92	0.4500	0.0210	0.0022	0.1033	0.0092	-0.8488	0.0183	0.5888	0.0274
4	94.92	0.5001	0.0076	0.0017	0.1304	0.0107	-1.2155	0.0239	0.6562	0.0249
4	94.92	0.5560	0.0108	0.0013	0.1864	0.0123	-1.7871	0.0292	0.4665	0.0313
4	94.92	0.6001	0.0303	0.0019	0.2168	0.0141	-2.2976	0.0332	0.4027	0.0374
4	94.92	0.6501	0.0071	0.0019	0.2749	0.0157	-2.9200	0.0399	0.6297	0.0303
4	94.92	0.6999	0.0012	0.0024	0.3188	0.0182	-3.6933	0.0465	0.4745	0.0306
4	94.92	0.7500	0.0070	0.0027	0.3776	0.0197	-4.5051	0.0545	0.5717	0.0375
4	94.92	0.8002	-0.0332	0.0035	0.3957	0.0218	-5.3434	0.0608	0.9434	0.0369
4	94.92	0.8582	-0.0341	0.0026	0.4469	0.0253	-6.4717	0.0718	0.1493	0.0782
4	94.92	0.9101	-0.0396	0.0059	0.5356	0.0277	-7.3413	0.0787	0.6662	0.0437
4	94.92	0.9728	0.0406	0.0048	0.6398	0.0294	-8.5127	0.1006	0.6887	0.1044

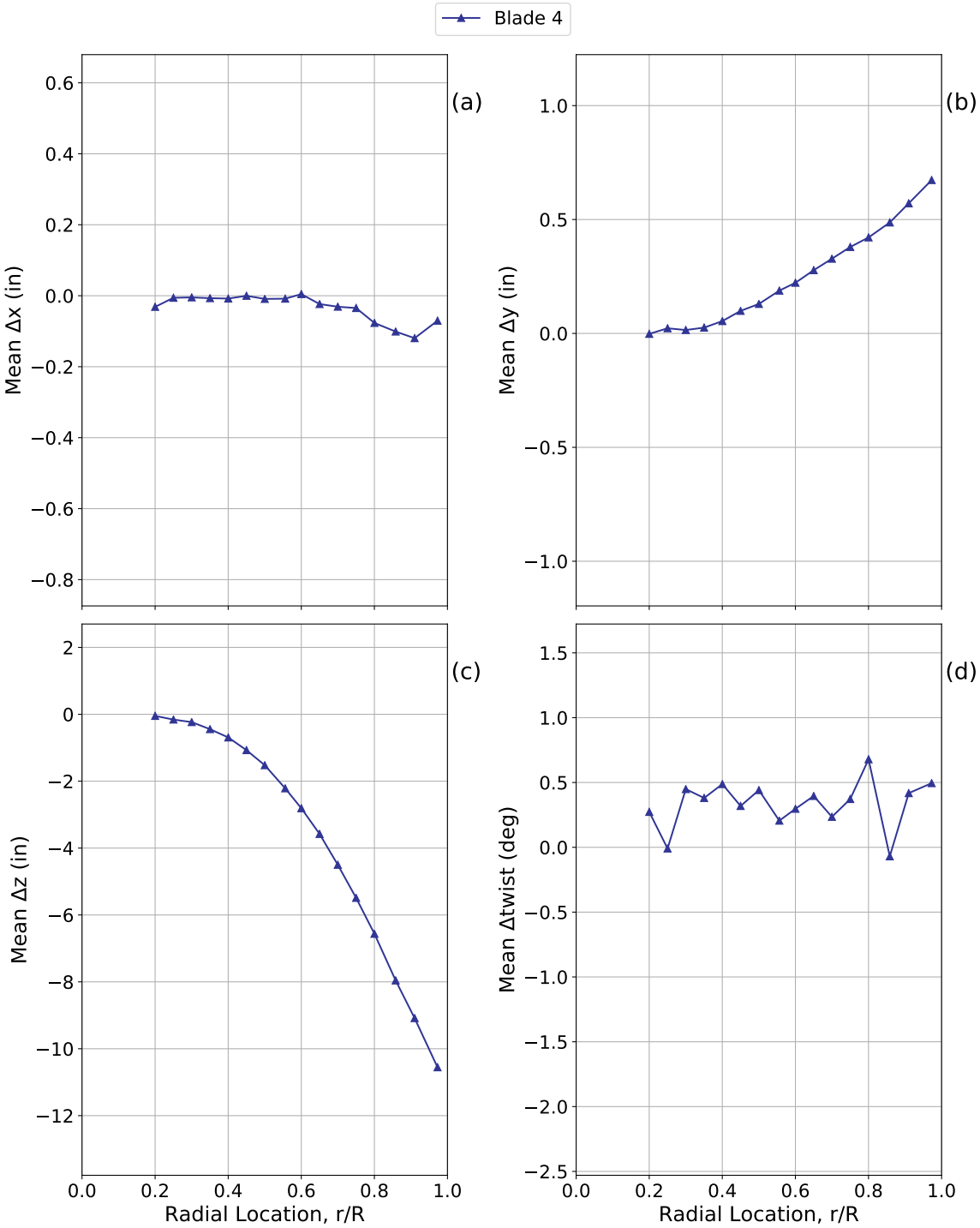


Figure 3.45-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0314	0.0012	-0.0020	0.0010	-0.0486	0.0023	0.2729	0.0145
4	105.12	0.2502	-0.0058	0.0006	0.0225	0.0014	-0.1583	0.0036	-0.0094	0.0273
4	105.12	0.3001	-0.0047	0.0008	0.0149	0.0031	-0.2342	0.0083	0.4488	0.0336
4	105.12	0.3502	-0.0069	0.0016	0.0254	0.0061	-0.4450	0.0142	0.3803	0.0289
4	105.12	0.4002	-0.0080	0.0013	0.0541	0.0085	-0.6930	0.0214	0.4874	0.0219
4	105.12	0.4500	-0.0002	0.0013	0.0989	0.0108	-1.0727	0.0281	0.3185	0.0300
4	105.12	0.5001	-0.0090	0.0015	0.1294	0.0130	-1.5231	0.0380	0.4410	0.0269
4	105.12	0.5560	-0.0083	0.0016	0.1878	0.0163	-2.2147	0.0505	0.2053	0.0269
4	105.12	0.6001	0.0045	0.0017	0.2223	0.0191	-2.8097	0.0595	0.2969	0.0334
4	105.12	0.6501	-0.0235	0.0019	0.2775	0.0216	-3.5791	0.0715	0.3958	0.0309
4	105.12	0.6999	-0.0310	0.0026	0.3278	0.0252	-4.5003	0.0823	0.2347	0.0370
4	105.12	0.7500	-0.0347	0.0037	0.3793	0.0291	-5.4897	0.0973	0.3722	0.0278
4	105.12	0.8002	-0.0767	0.0044	0.4213	0.0316	-6.5636	0.1111	0.6787	0.0217
4	105.12	0.8582	-0.1010	0.0059	0.4869	0.0352	-7.9583	0.1285	-0.0698	0.0307
4	105.12	0.9101	-0.1196	0.0072	0.5710	0.0382	-9.0850	0.1460	0.4177	0.0410
4	105.12	0.9728	-0.0704	0.0081	0.6731	0.0429	-10.5544	0.1618	0.4947	0.0426

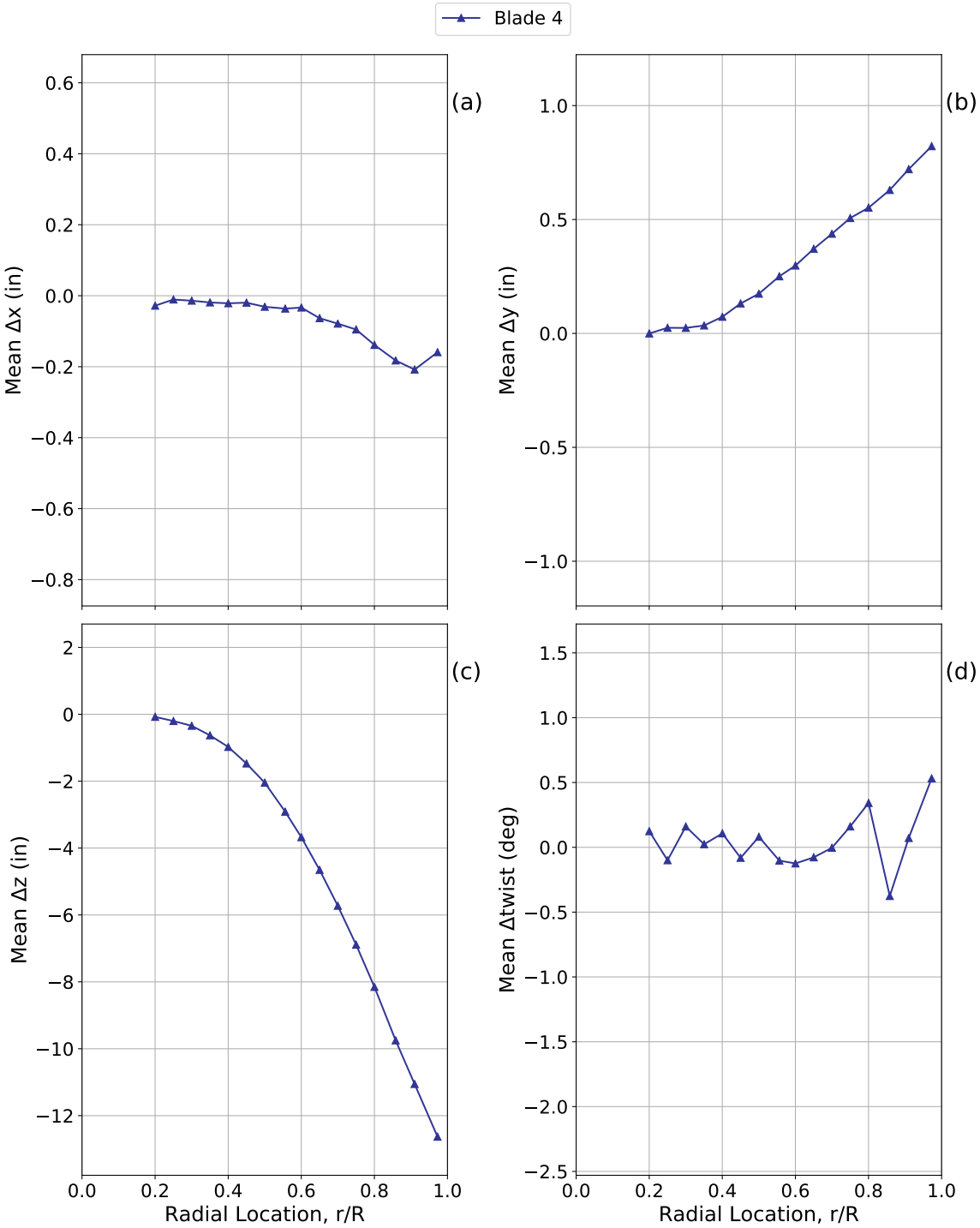


Figure 3.45-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0281	0.0010	-0.0003	0.0006	-0.0773	0.0013	0.1240	0.0118
4	119.88	0.2502	-0.0107	0.0006	0.0246	0.0011	-0.2024	0.0025	-0.1002	0.0201
4	119.88	0.3001	-0.0140	0.0008	0.0242	0.0019	-0.3446	0.0051	0.1602	0.0255
4	119.88	0.3502	-0.0190	0.0007	0.0347	0.0036	-0.6304	0.0081	0.0233	0.0231
4	119.88	0.4002	-0.0213	0.0014	0.0729	0.0052	-0.9769	0.0128	0.1072	0.0282
4	119.88	0.4500	-0.0196	0.0018	0.1314	0.0067	-1.4721	0.0173	-0.0816	0.0277
4	119.88	0.5001	-0.0312	0.0019	0.1743	0.0086	-2.0463	0.0245	0.0808	0.0237
4	119.88	0.5560	-0.0363	0.0019	0.2506	0.0107	-2.9134	0.0360	-0.1028	0.0270
4	119.88	0.6001	-0.0334	0.0028	0.2978	0.0127	-3.6766	0.0446	-0.1246	0.0218
4	119.88	0.6501	-0.0633	0.0030	0.3712	0.0150	-4.6533	0.0560	-0.0775	0.0238
4	119.88	0.6999	-0.0787	0.0040	0.4374	0.0168	-5.7263	0.0679	-0.0040	0.0225
4	119.88	0.7500	-0.0952	0.0048	0.5064	0.0193	-6.8898	0.0826	0.1607	0.0256
4	119.88	0.8002	-0.1387	0.0053	0.5517	0.0222	-8.1521	0.0992	0.3417	0.0209
4	119.88	0.8582	-0.1825	0.0068	0.6295	0.0256	-9.7512	0.1194	-0.3759	0.0263
4	119.88	0.9101	-0.2081	0.0087	0.7208	0.0284	-11.0549	0.1387	0.0714	0.0230
4	119.88	0.9728	-0.1592	0.0090	0.8218	0.0316	-12.6307	0.1631	0.5314	0.0224

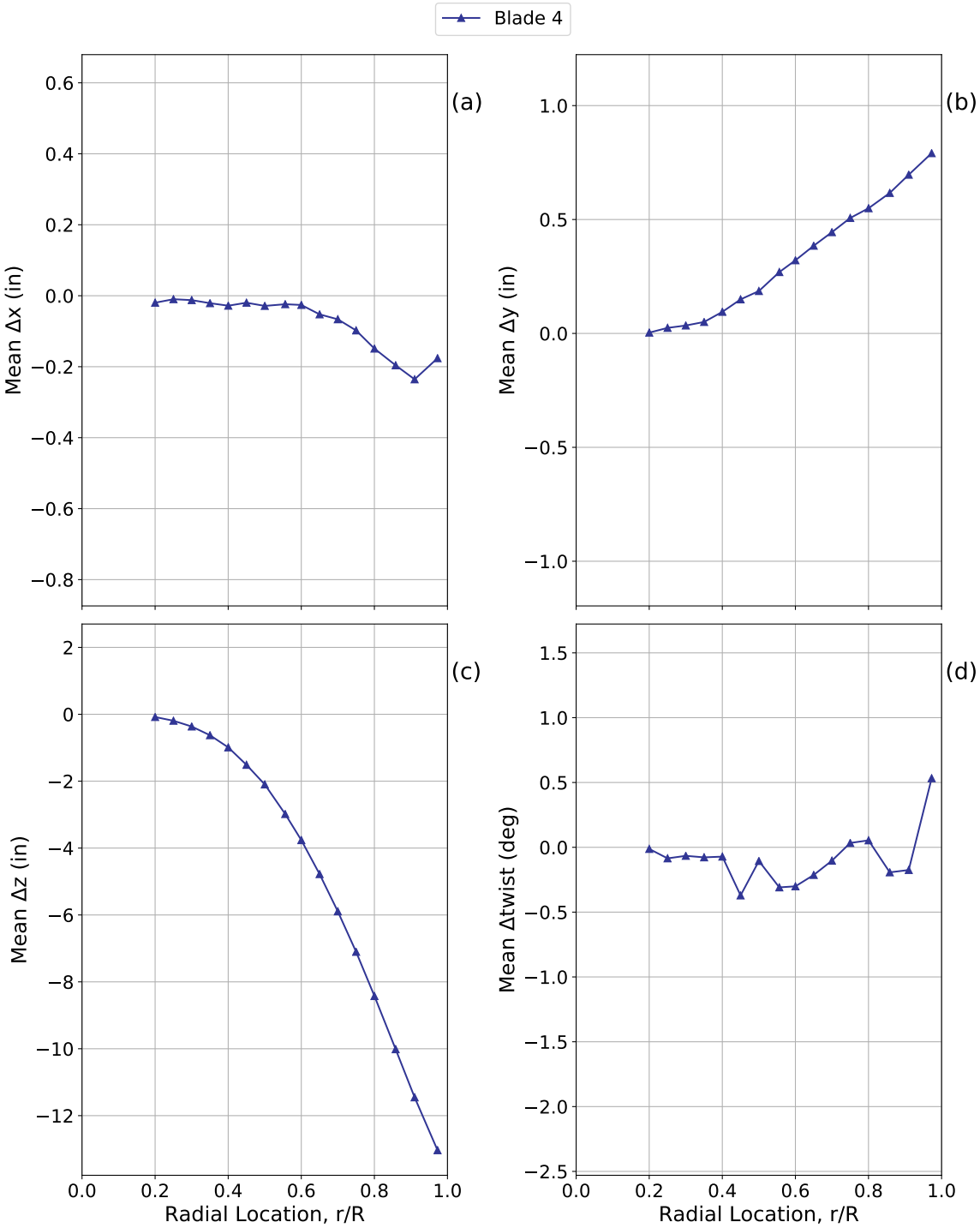


Figure 3.45-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0197	0.0009	0.0035	0.0003	-0.0815	0.0011	-0.0126	0.0155
4	135	0.2502	-0.0098	0.0009	0.0243	0.0009	-0.1935	0.0056	-0.0853	0.0166
4	135	0.3001	-0.0124	0.0009	0.0347	0.0018	-0.3656	0.0077	-0.0658	0.0291
4	135	0.3502	-0.0210	0.0008	0.0503	0.0020	-0.6267	0.0121	-0.0775	0.0282
4	135	0.4002	-0.0281	0.0012	0.0947	0.0039	-0.9903	0.0213	-0.0719	0.0274
4	135	0.4500	-0.0197	0.0015	0.1494	0.0044	-1.5119	0.0280	-0.3713	0.0372
4	135	0.5001	-0.0287	0.0018	0.1860	0.0038	-2.0983	0.0348	-0.1056	0.0287
4	135	0.5560	-0.0239	0.0016	0.2692	0.0056	-2.9829	0.0441	-0.3091	0.0263
4	135	0.6001	-0.0260	0.0023	0.3210	0.0072	-3.7637	0.0520	-0.3009	0.0294
4	135	0.6501	-0.0525	0.0021	0.3849	0.0090	-4.7789	0.0618	-0.2133	0.0415
4	135	0.6999	-0.0664	0.0036	0.4443	0.0092	-5.8931	0.0711	-0.1032	0.0357
4	135	0.7500	-0.0978	0.0041	0.5067	0.0104	-7.1024	0.0830	0.0335	0.0329
4	135	0.8002	-0.1490	0.0050	0.5494	0.0126	-8.4252	0.0936	0.0536	0.0286
4	135	0.8582	-0.1961	0.0061	0.6166	0.0144	-10.0145	0.1065	-0.1932	0.0331
4	135	0.9101	-0.2356	0.0069	0.6965	0.0160	-11.4529	0.1190	-0.1751	0.0331
4	135	0.9728	-0.1761	0.0072	0.7911	0.0179	-13.0341	0.1361	0.5327	0.0318

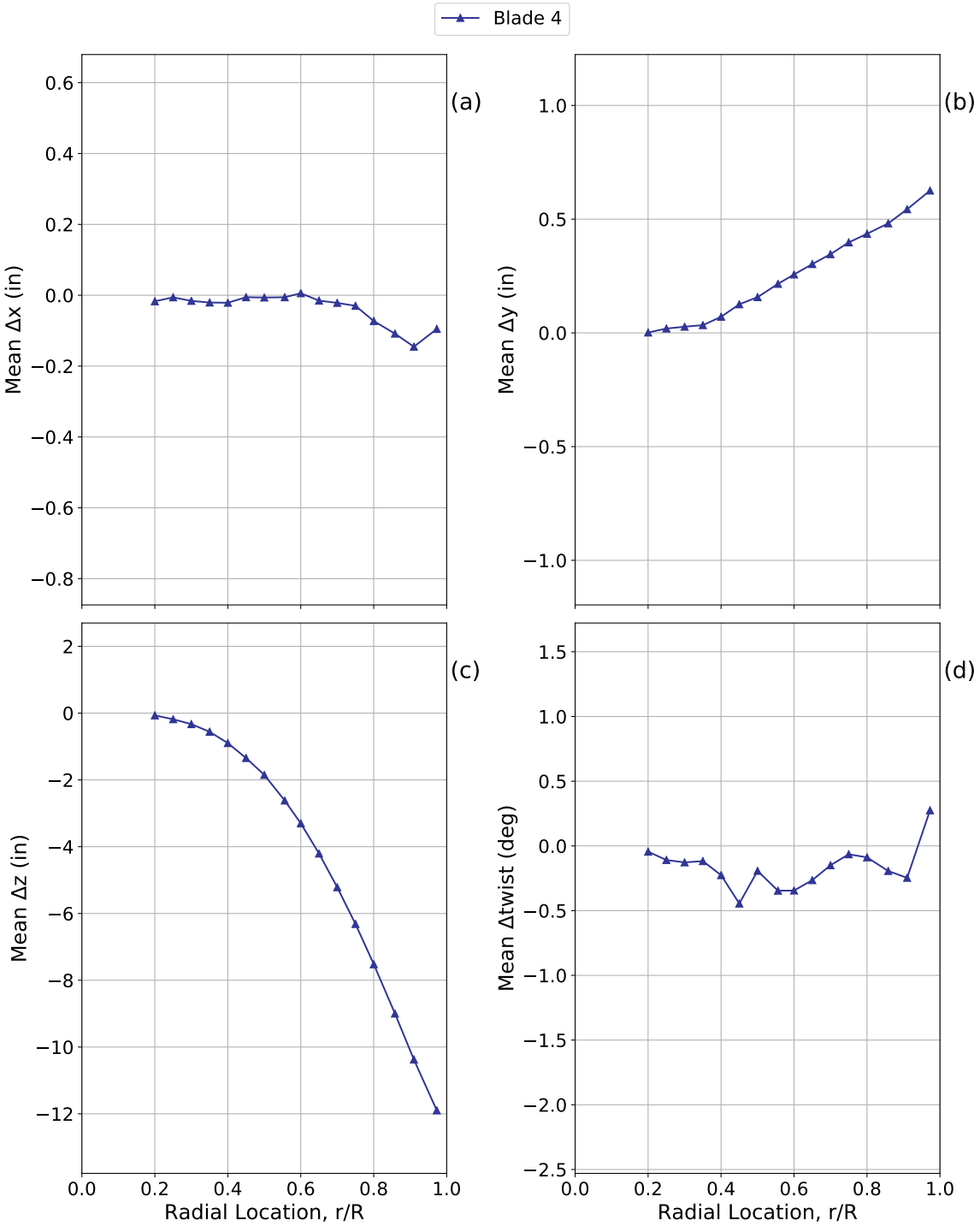


Figure 3.45-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0171	0.0015	0.0016	0.0009	-0.0689	0.0015	-0.0446	0.0306
4	150.12	0.2502	-0.0059	0.0015	0.0190	0.0043	-0.1833	0.0053	-0.1089	0.0331
4	150.12	0.3001	-0.0159	0.0015	0.0271	0.0053	-0.3303	0.0085	-0.1272	0.0629
4	150.12	0.3502	-0.0206	0.0012	0.0339	0.0102	-0.5586	0.0126	-0.1174	0.0444
4	150.12	0.4002	-0.0212	0.0014	0.0708	0.0163	-0.8986	0.0220	-0.2261	0.0318
4	150.12	0.4500	-0.0056	0.0016	0.1256	0.0185	-1.3452	0.0304	-0.4452	0.0358
4	150.12	0.5001	-0.0064	0.0022	0.1570	0.0214	-1.8507	0.0374	-0.1927	0.0375
4	150.12	0.5560	-0.0057	0.0024	0.2154	0.0259	-2.6177	0.0480	-0.3460	0.0437
4	150.12	0.6001	0.0056	0.0028	0.2568	0.0282	-3.3023	0.0593	-0.3449	0.0428
4	150.12	0.6501	-0.0152	0.0032	0.3025	0.0336	-4.2056	0.0687	-0.2645	0.0430
4	150.12	0.6999	-0.0216	0.0044	0.3459	0.0366	-5.2152	0.0779	-0.1495	0.0615
4	150.12	0.7500	-0.0299	0.0052	0.3978	0.0404	-6.3154	0.0943	-0.0646	0.0457
4	150.12	0.8002	-0.0729	0.0058	0.4356	0.0442	-7.5221	0.1068	-0.0885	0.0464
4	150.12	0.8582	-0.1084	0.0069	0.4814	0.0482	-8.9980	0.1235	-0.1937	0.0445
4	150.12	0.9101	-0.1453	0.0077	0.5435	0.0520	-10.3748	0.1385	-0.2465	0.0516
4	150.12	0.9728	-0.0952	0.0081	0.6256	0.0567	-11.8971	0.1569	0.2751	0.0504

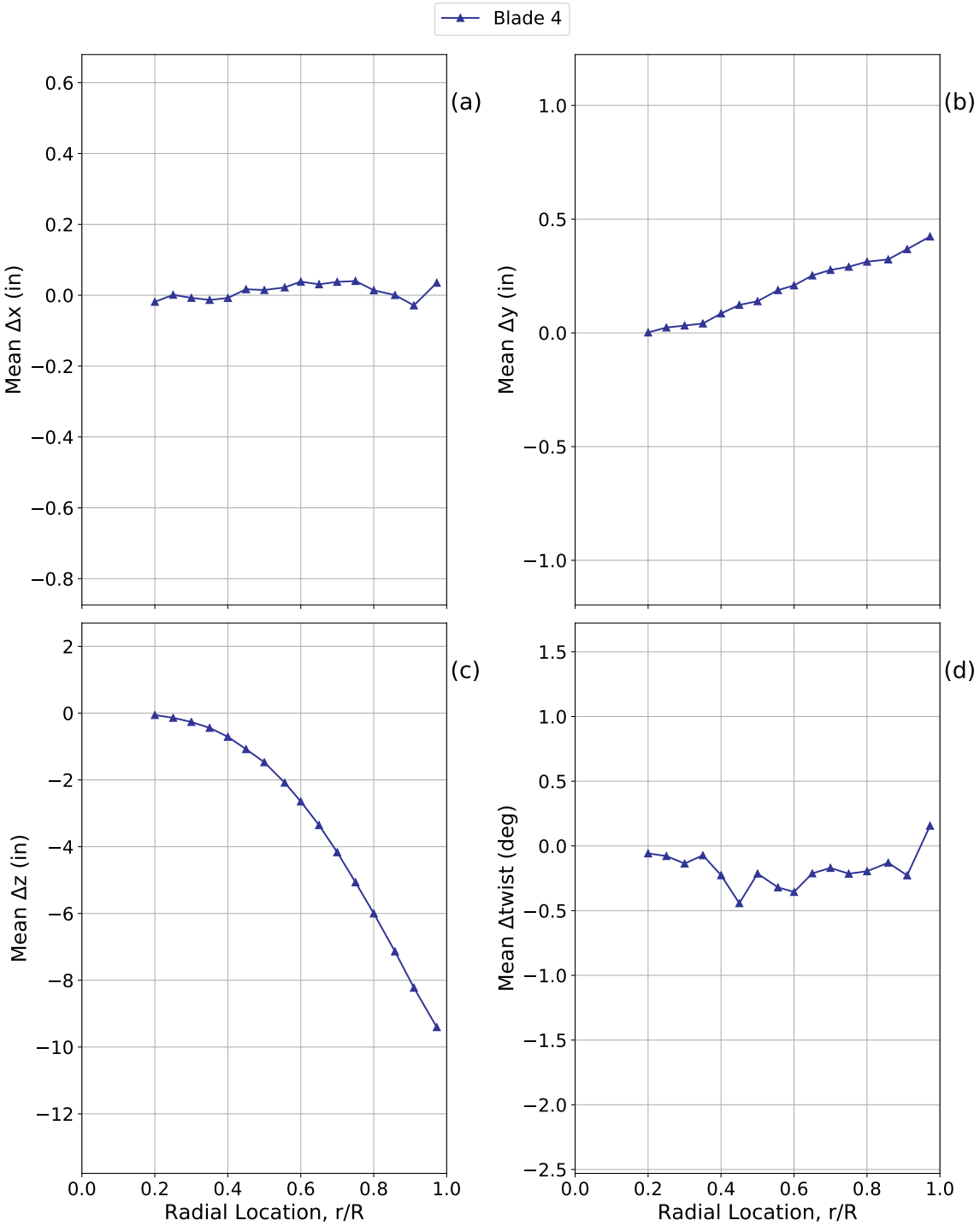


Figure 3.45-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0186	0.0017	0.0018	0.0009	-0.0570	0.0014	-0.0580	0.0254
4	164.88	0.2502	0.0012	0.0018	0.0235	0.0023	-0.1412	0.0053	-0.0783	0.0253
4	164.88	0.3001	-0.0074	0.0008	0.0321	0.0025	-0.2650	0.0057	-0.1363	0.0489
4	164.88	0.3502	-0.0133	0.0016	0.0412	0.0067	-0.4417	0.0104	-0.0723	0.0292
4	164.88	0.4002	-0.0077	0.0018	0.0853	0.0087	-0.7094	0.0167	-0.2267	0.0318
4	164.88	0.4500	0.0169	0.0018	0.1229	0.0088	-1.0796	0.0194	-0.4428	0.0334
4	164.88	0.5001	0.0147	0.0021	0.1391	0.0102	-1.4712	0.0262	-0.2138	0.0439
4	164.88	0.5560	0.0221	0.0028	0.1879	0.0124	-2.0832	0.0333	-0.3204	0.0338
4	164.88	0.6001	0.0384	0.0027	0.2086	0.0134	-2.6467	0.0385	-0.3558	0.0385
4	164.88	0.6501	0.0309	0.0031	0.2524	0.0146	-3.3551	0.0455	-0.2120	0.0435
4	164.88	0.6999	0.0377	0.0037	0.2767	0.0169	-4.1670	0.0531	-0.1701	0.0444
4	164.88	0.7500	0.0402	0.0035	0.2905	0.0185	-5.0670	0.0589	-0.2145	0.0381
4	164.88	0.8002	0.0140	0.0040	0.3130	0.0209	-5.9992	0.0683	-0.1958	0.0367
4	164.88	0.8582	0.0005	0.0043	0.3229	0.0231	-7.1380	0.0759	-0.1298	0.0445
4	164.88	0.9101	-0.0288	0.0044	0.3681	0.0250	-8.2241	0.0832	-0.2276	0.0408
4	164.88	0.9728	0.0352	0.0046	0.4236	0.0276	-9.4053	0.0947	0.1560	0.0402

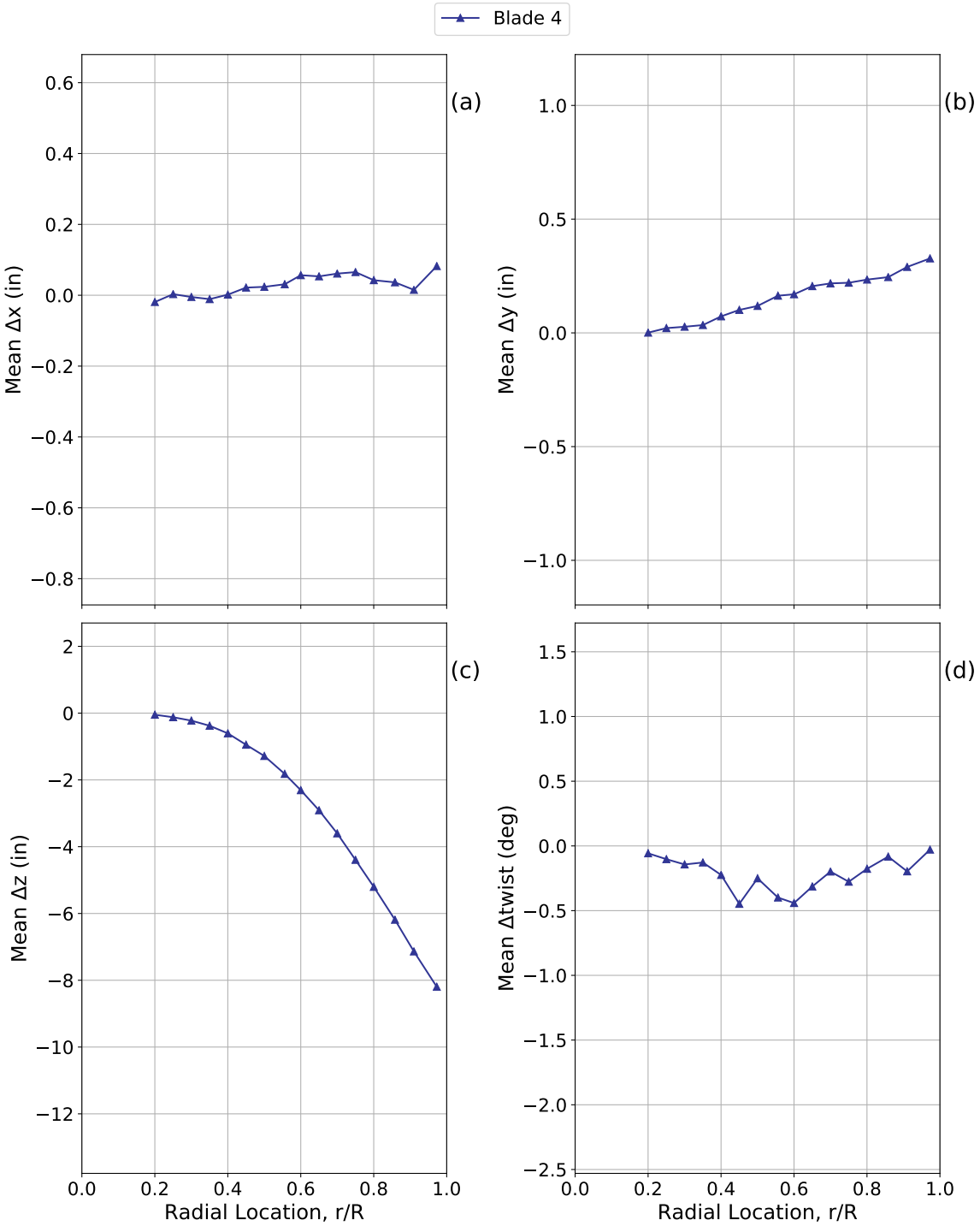


Figure 3.45-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0191	0.0011	0.0010	0.0006	-0.0481	0.0022	-0.0571	0.0179
4	170.16	0.2502	0.0031	0.0016	0.0209	0.0014	-0.1230	0.0031	-0.1025	0.0295
4	170.16	0.3001	-0.0049	0.0014	0.0269	0.0028	-0.2246	0.0073	-0.1432	0.0395
4	170.16	0.3502	-0.0110	0.0013	0.0343	0.0044	-0.3786	0.0121	-0.1281	0.0256
4	170.16	0.4002	0.0017	0.0016	0.0726	0.0069	-0.6066	0.0179	-0.2244	0.0280
4	170.16	0.4500	0.0216	0.0018	0.1009	0.0081	-0.9468	0.0231	-0.4477	0.0294
4	170.16	0.5001	0.0237	0.0017	0.1184	0.0095	-1.2836	0.0270	-0.2504	0.0280
4	170.16	0.5560	0.0310	0.0012	0.1634	0.0112	-1.8207	0.0316	-0.3990	0.0268
4	170.16	0.6001	0.0566	0.0018	0.1696	0.0115	-2.3088	0.0367	-0.4413	0.0335
4	170.16	0.6501	0.0533	0.0021	0.2054	0.0127	-2.9111	0.0421	-0.3136	0.0263
4	170.16	0.6999	0.0611	0.0024	0.2175	0.0148	-3.6021	0.0501	-0.1981	0.0301
4	170.16	0.7500	0.0653	0.0024	0.2204	0.0162	-4.3951	0.0577	-0.2767	0.0313
4	170.16	0.8002	0.0425	0.0025	0.2342	0.0177	-5.2040	0.0689	-0.1769	0.0332
4	170.16	0.8582	0.0364	0.0032	0.2451	0.0195	-6.1887	0.0800	-0.0827	0.0348
4	170.16	0.9101	0.0152	0.0039	0.2898	0.0213	-7.1376	0.0912	-0.1966	0.0253
4	170.16	0.9728	0.0823	0.0046	0.3273	0.0236	-8.1962	0.1059	-0.0286	0.0375

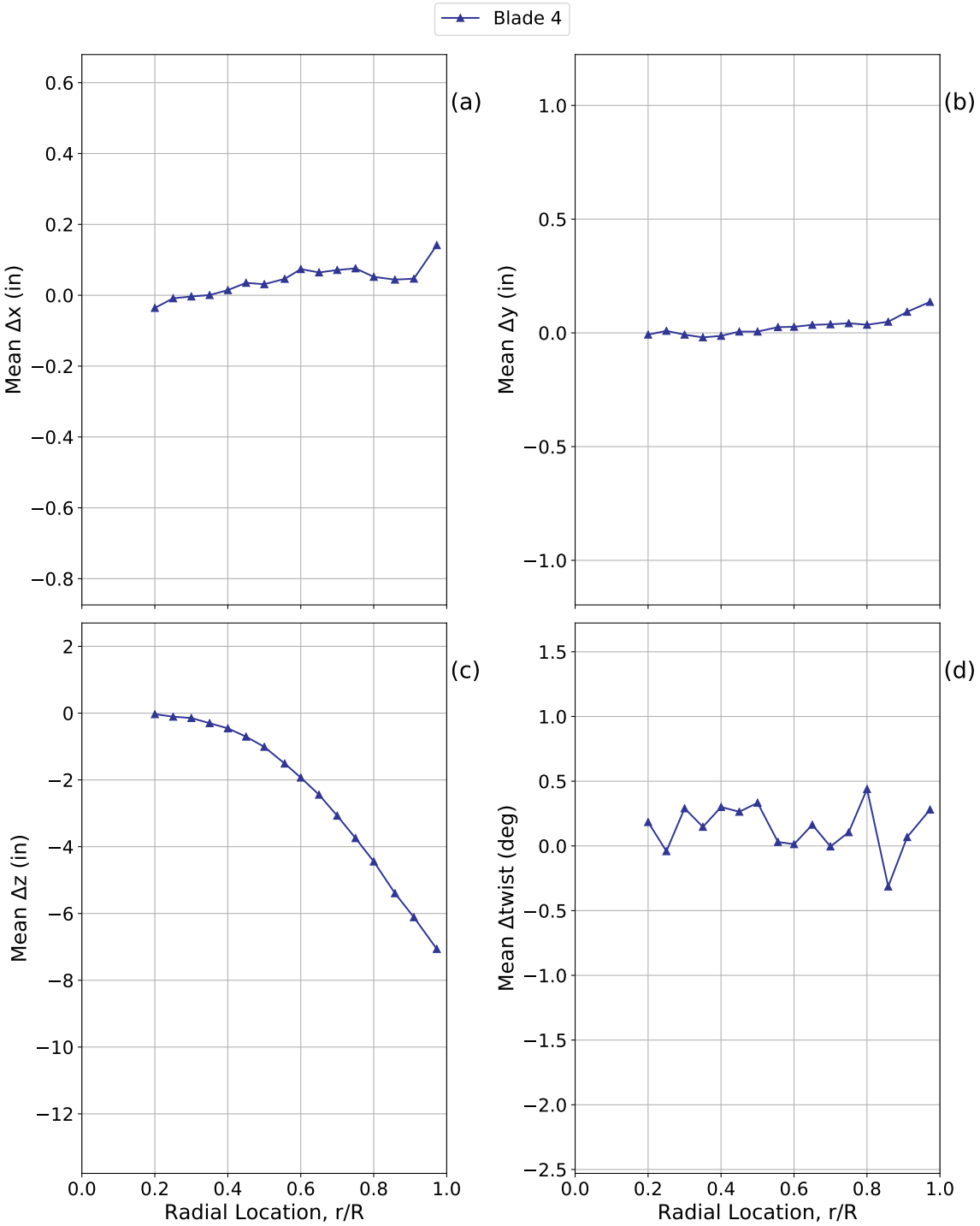


Figure 3.45-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0358	0.0026	-0.0076	0.0007	-0.0321	0.0024	0.1841	0.0092
4	175.08	0.2502	-0.0086	0.0011	0.0088	0.0012	-0.1069	0.0035	-0.0410	0.0300
4	175.08	0.3001	-0.0035	0.0017	-0.0079	0.0027	-0.1471	0.0088	0.2903	0.0246
4	175.08	0.3502	0.0005	0.0030	-0.0198	0.0044	-0.3018	0.0141	0.1472	0.0279
4	175.08	0.4002	0.0145	0.0043	-0.0131	0.0067	-0.4563	0.0218	0.3007	0.0378
4	175.08	0.4500	0.0350	0.0054	0.0057	0.0092	-0.7050	0.0282	0.2640	0.0251
4	175.08	0.5001	0.0311	0.0062	0.0056	0.0120	-1.0106	0.0375	0.3330	0.0251
4	175.08	0.5560	0.0462	0.0079	0.0252	0.0158	-1.5109	0.0470	0.0303	0.0376
4	175.08	0.6001	0.0737	0.0086	0.0267	0.0185	-1.9309	0.0536	0.0133	0.0386
4	175.08	0.6501	0.0644	0.0094	0.0352	0.0213	-2.4436	0.0620	0.1635	0.0371
4	175.08	0.6999	0.0712	0.0102	0.0376	0.0244	-3.0728	0.0710	-0.0043	0.0369
4	175.08	0.7500	0.0759	0.0105	0.0424	0.0284	-3.7436	0.0772	0.1057	0.0392
4	175.08	0.8002	0.0519	0.0122	0.0357	0.0320	-4.4453	0.0839	0.4396	0.0343
4	175.08	0.8582	0.0441	0.0123	0.0489	0.0378	-5.3949	0.0930	-0.3139	0.0335
4	175.08	0.9101	0.0468	0.0150	0.0926	0.0427	-6.1134	0.0991	0.0678	0.0332
4	175.08	0.9728	0.1413	0.0172	0.1361	0.0497	-7.0625	0.1138	0.2805	0.1047

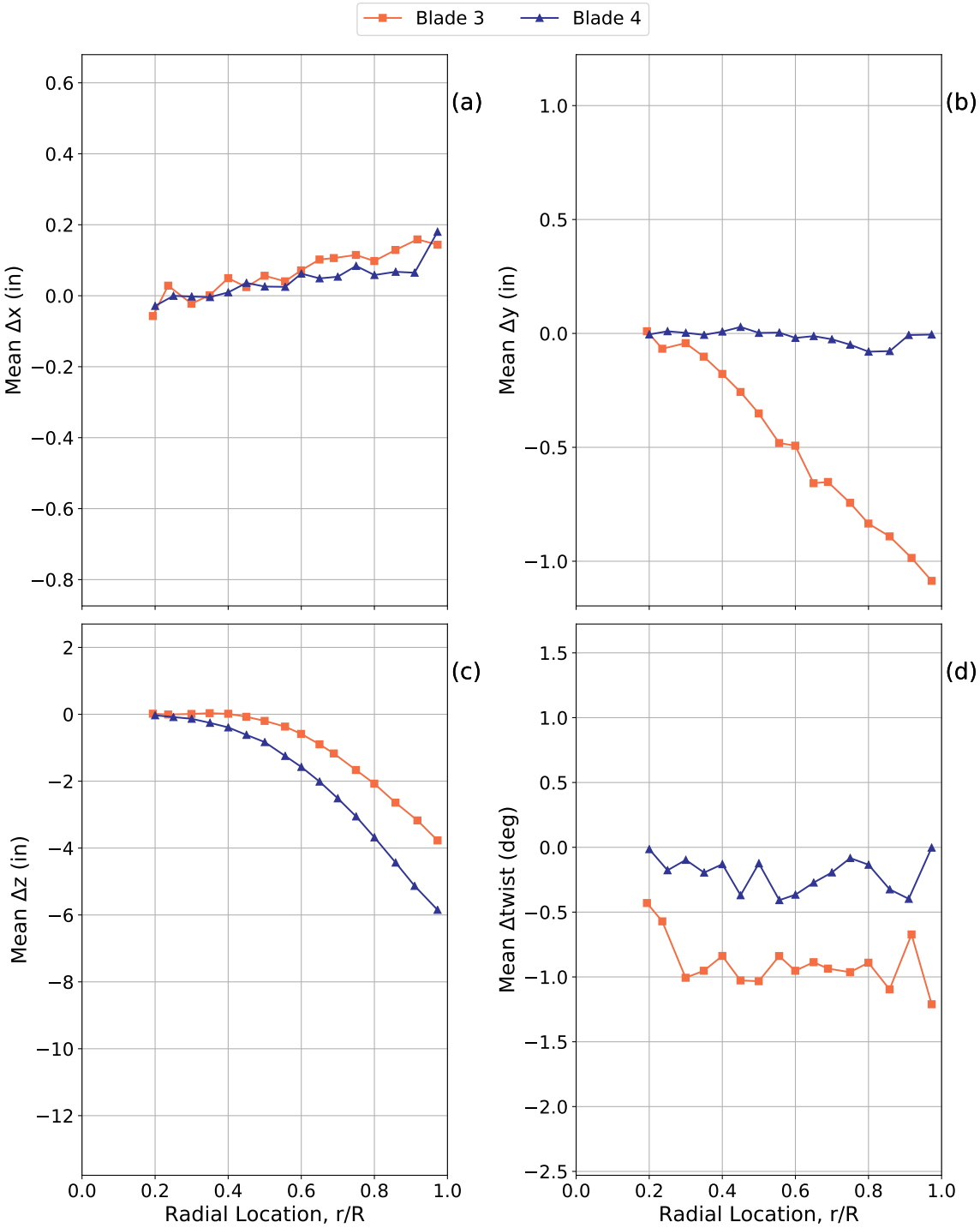


Figure 3.45-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0572	0.0028	0.0096	0.0016	0.0170	0.0030	-0.4300	0.0215
3	180.35	0.2357	0.0284	0.0029	-0.0673	0.0023	-0.0058	0.0045	-0.5712	0.0357
3	180.35	0.2995	-0.0223	0.0021	-0.0427	0.0053	0.0106	0.0071	-1.0063	0.0429
3	180.35	0.3493	0.0013	0.0021	-0.1019	0.0087	0.0333	0.0117	-0.9523	0.0453
3	180.35	0.4000	0.0496	0.0033	-0.1778	0.0135	0.0156	0.0172	-0.8380	0.0482
3	180.35	0.4497	0.0243	0.0045	-0.2570	0.0158	-0.0746	0.0217	-1.0268	0.0426
3	180.35	0.4997	0.0563	0.0055	-0.3511	0.0222	-0.1975	0.0271	-1.0330	0.0352
3	180.35	0.5556	0.0406	0.0061	-0.4812	0.0265	-0.3681	0.0316	-0.8386	0.0482
3	180.35	0.5995	0.0715	0.0068	-0.4927	0.0312	-0.5860	0.0389	-0.9524	0.0429
3	180.35	0.6498	0.1020	0.0099	-0.6575	0.0389	-0.8972	0.0432	-0.8862	0.0620
3	180.35	0.6890	0.1062	0.0111	-0.6520	0.0377	-1.1714	0.0513	-0.9357	0.0846
3	180.35	0.7495	0.1149	0.0174	-0.7436	0.0467	-1.6652	0.0648	-0.9630	0.0739
3	180.35	0.7998	0.0979	0.0171	-0.8346	0.0484	-2.0740	0.0711	-0.8901	0.1117
3	180.35	0.8577	0.1290	0.0081	-0.8909	0.0406	-2.6413	0.0816	-1.0960	0.0440
3	180.35	0.9178	0.1587	0.0079	-0.9855	0.0441	-3.1737	0.1005	-0.6721	0.0386
3	180.35	0.9729	0.1438	0.0081	-1.0861	0.0463	-3.7714	0.1165	-1.2107	0.0494
4	180	0.2001	-0.0288	0.0025	-0.0045	0.0016	-0.0303	0.0030	-0.0146	0.0139
4	180	0.2502	-0.0003	0.0017	0.0095	0.0023	-0.0837	0.0033	-0.1775	0.0295
4	180	0.3001	-0.0023	0.0018	0.0025	0.0049	-0.1346	0.0065	-0.0972	0.0265
4	180	0.3502	-0.0039	0.0027	-0.0065	0.0095	-0.2567	0.0124	-0.1951	0.0247
4	180	0.4002	0.0095	0.0044	0.0080	0.0133	-0.3929	0.0156	-0.1303	0.0262
4	180	0.4500	0.0361	0.0056	0.0283	0.0141	-0.6164	0.0186	-0.3699	0.0120
4	180	0.5001	0.0258	0.0080	0.0023	0.0180	-0.8325	0.0223	-0.1241	0.0213
4	180	0.5560	0.0250	0.0087	0.0036	0.0210	-1.2461	0.0266	-0.4077	0.0324
4	180	0.6001	0.0622	0.0100	-0.0198	0.0232	-1.5751	0.0320	-0.3656	0.0184
4	180	0.6501	0.0489	0.0110	-0.0118	0.0263	-2.0129	0.0397	-0.2722	0.0274
4	180	0.6999	0.0536	0.0131	-0.0258	0.0293	-2.5141	0.0506	-0.1939	0.0244
4	180	0.7500	0.0839	0.0146	-0.0496	0.0327	-3.0548	0.0655	-0.0831	0.0204
4	180	0.8002	0.0583	0.0174	-0.0802	0.0361	-3.6814	0.0834	-0.1347	0.0238
4	180	0.8582	0.0674	0.0207	-0.0776	0.0420	-4.4351	0.1100	-0.3247	0.0384
4	180	0.9101	0.0649	0.0236	-0.0072	0.0478	-5.1309	0.1304	-0.3978	0.0332
4	180	0.9728	0.1801	0.0281	-0.0051	0.0563	-5.8468	0.1570	-0.0027	0.0286

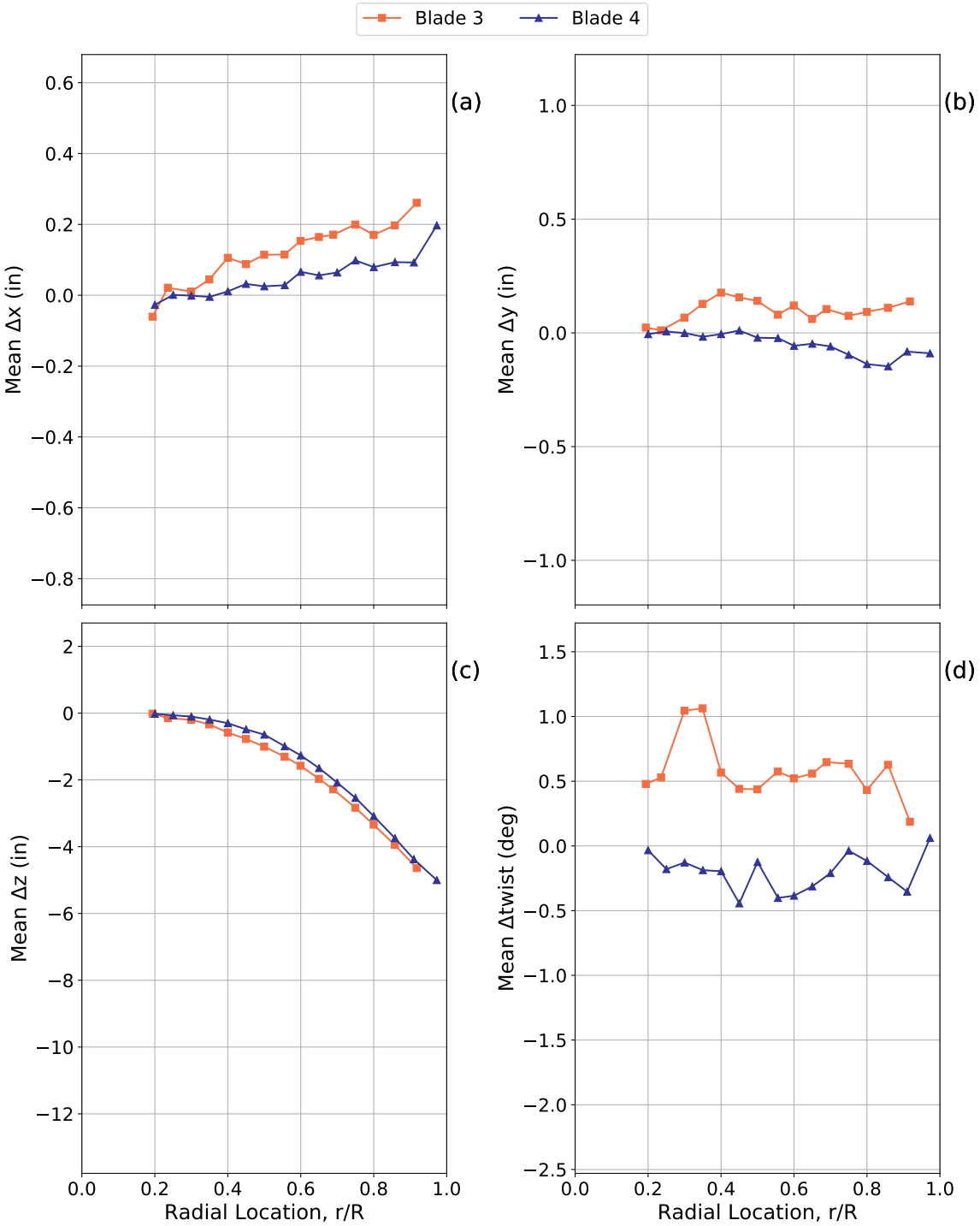


Figure 3.45-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0606	0.0021	0.0234	0.0013	-0.0160	0.0020	0.4787	0.0165
3	184.92	0.2357	0.0212	0.0015	0.0110	0.0027	-0.1510	0.0035	0.5291	0.0353
3	184.92	0.2995	0.0104	0.0009	0.0670	0.0045	-0.1988	0.0085	1.0449	0.0405
3	184.92	0.3493	0.0447	0.0015	0.1275	0.0095	-0.3401	0.0126	1.0629	0.0363
3	184.92	0.4000	0.1056	0.0019	0.1769	0.0135	-0.5820	0.0207	0.5667	0.0315
3	184.92	0.4497	0.0880	0.0021	0.1560	0.0168	-0.7741	0.0284	0.4409	0.0359
3	184.92	0.4997	0.1142	0.0027	0.1405	0.0198	-1.0030	0.0383	0.4375	0.0246
3	184.92	0.5556	0.1149	0.0030	0.0799	0.0244	-1.3048	0.0507	0.5745	0.0358
3	184.92	0.5995	0.1534	0.0024	0.1204	0.0268	-1.5755	0.0598	0.5216	0.0460
3	184.92	0.6498	0.1644	0.0036	0.0611	0.0311	-1.9685	0.0744	0.5593	0.0457
3	184.92	0.6890	0.1710	0.0035	0.1047	0.0331	-2.2811	0.0857	0.6473	0.0379
3	184.92	0.7495	0.1996	0.0047	0.0750	0.0383	-2.8329	0.1011	0.6349	0.0650
3	184.92	0.7998	0.1704	0.0056	0.0925	0.0389	-3.3394	0.1157	0.4318	0.0588
3	184.92	0.8577	0.1971	0.0048	0.1101	0.0452	-3.9467	0.1362	0.6267	0.0339
3	184.92	0.9178	0.2610	0.0047	0.1384	0.0490	-4.6386	0.1540	0.1871	0.0476
4	184.92	0.2001	-0.0271	0.0027	-0.0056	0.0025	-0.0215	0.0057	-0.0333	0.0251
4	184.92	0.2502	0.0011	0.0017	0.0061	0.0017	-0.0650	0.0040	-0.1796	0.0684
4	184.92	0.3001	-0.0013	0.0016	-0.0009	0.0071	-0.1035	0.0154	-0.1284	0.0579
4	184.92	0.3502	-0.0046	0.0013	-0.0169	0.0119	-0.1930	0.0250	-0.1874	0.0455
4	184.92	0.4002	0.0110	0.0020	-0.0055	0.0164	-0.3015	0.0345	-0.1959	0.0445
4	184.92	0.4500	0.0319	0.0020	0.0106	0.0205	-0.4876	0.0416	-0.4440	0.0547
4	184.92	0.5001	0.0252	0.0023	-0.0214	0.0241	-0.6444	0.0506	-0.1244	0.0505
4	184.92	0.5560	0.0283	0.0021	-0.0229	0.0287	-0.9916	0.0606	-0.4018	0.0451
4	184.92	0.6001	0.0660	0.0019	-0.0569	0.0320	-1.2677	0.0675	-0.3847	0.0431
4	184.92	0.6501	0.0561	0.0021	-0.0478	0.0373	-1.6458	0.0762	-0.3127	0.0484
4	184.92	0.6999	0.0643	0.0023	-0.0597	0.0410	-2.0802	0.0846	-0.2099	0.0371
4	184.92	0.7500	0.0983	0.0026	-0.0965	0.0463	-2.5390	0.0914	-0.0373	0.0470
4	184.92	0.8002	0.0793	0.0024	-0.1374	0.0492	-3.0871	0.0960	-0.1167	0.0448
4	184.92	0.8582	0.0934	0.0027	-0.1471	0.0542	-3.7452	0.1029	-0.2420	0.0399
4	184.92	0.9101	0.0925	0.0028	-0.0823	0.0582	-4.3759	0.1097	-0.3536	0.0510
4	184.92	0.9728	0.1970	0.0031	-0.0900	0.0646	-5.0008	0.1245	0.0611	0.0452

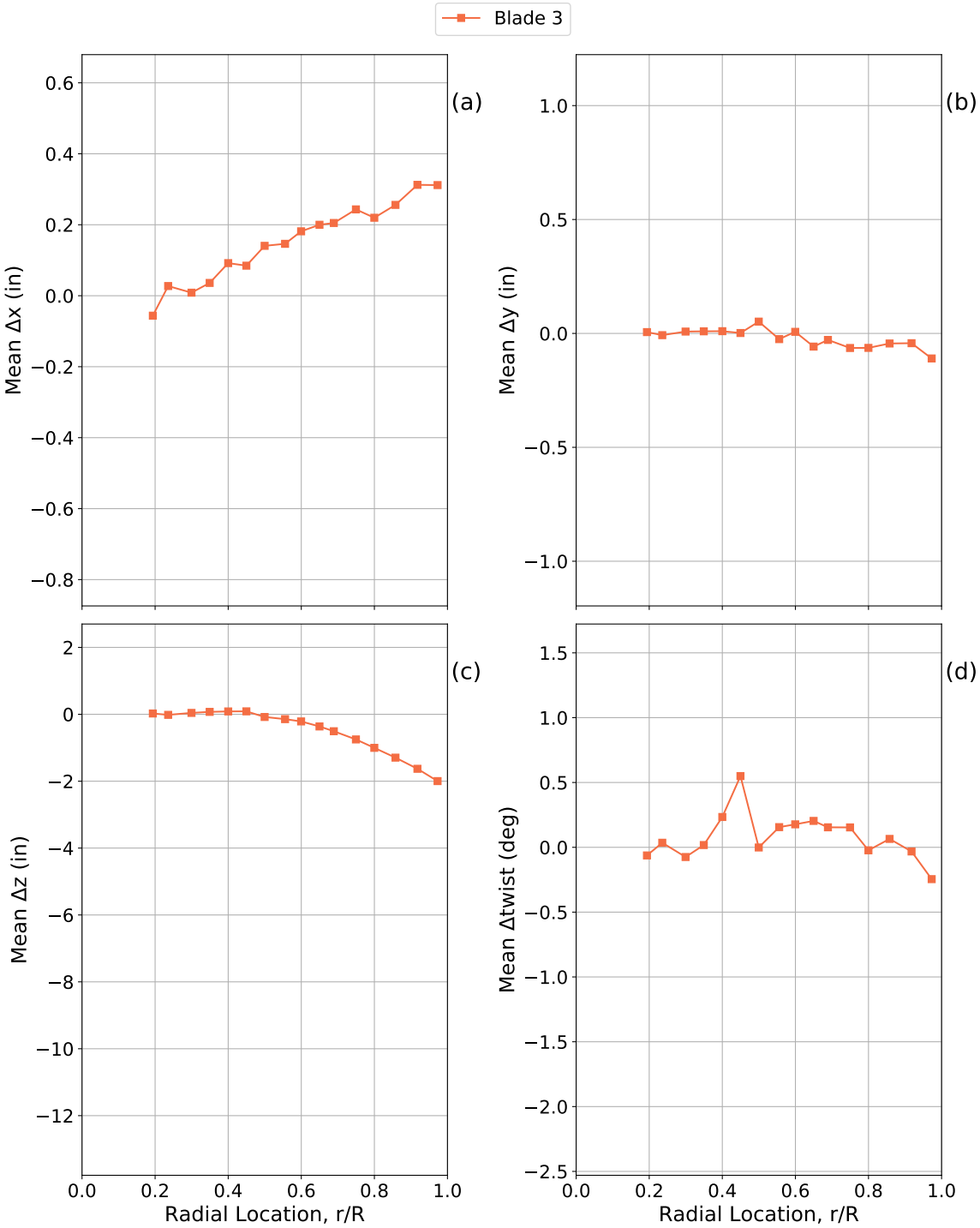


Figure 3.45-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0562	0.0015	0.0058	0.0010	0.0240	0.0029	-0.0628	0.0239
3	195.12	0.2357	0.0273	0.0010	-0.0076	0.0014	-0.0169	0.0048	0.0352	0.0477
3	195.12	0.2995	0.0086	0.0007	0.0081	0.0035	0.0412	0.0123	-0.0749	0.0619
3	195.12	0.3493	0.0361	0.0007	0.0092	0.0051	0.0719	0.0192	0.0175	0.0523
3	195.12	0.4000	0.0919	0.0012	0.0098	0.0083	0.0851	0.0309	0.2338	0.0404
3	195.12	0.4497	0.0847	0.0007	0.0018	0.0104	0.0880	0.0396	0.5495	0.0394
3	195.12	0.4997	0.1406	0.0009	0.0518	0.0121	-0.0803	0.0509	-0.0014	0.0379
3	195.12	0.5556	0.1463	0.0009	-0.0250	0.0152	-0.1447	0.0639	0.1556	0.0420
3	195.12	0.5995	0.1815	0.0014	0.0070	0.0176	-0.2136	0.0740	0.1771	0.0434
3	195.12	0.6498	0.2000	0.0013	-0.0578	0.0202	-0.3637	0.0864	0.2036	0.0436
3	195.12	0.6890	0.2050	0.0015	-0.0285	0.0227	-0.5068	0.0948	0.1542	0.0455
3	195.12	0.7495	0.2433	0.0016	-0.0639	0.0272	-0.7519	0.1079	0.1535	0.0492
3	195.12	0.7998	0.2198	0.0024	-0.0635	0.0286	-1.0034	0.1160	-0.0232	0.0505
3	195.12	0.8577	0.2560	0.0025	-0.0442	0.0323	-1.2959	0.1271	0.0647	0.0705
3	195.12	0.9178	0.3125	0.0029	-0.0429	0.0378	-1.6294	0.1432	-0.0321	0.0665
3	195.12	0.9729	0.3118	0.0028	-0.1099	0.0412	-1.9976	0.1499	-0.2456	0.0449

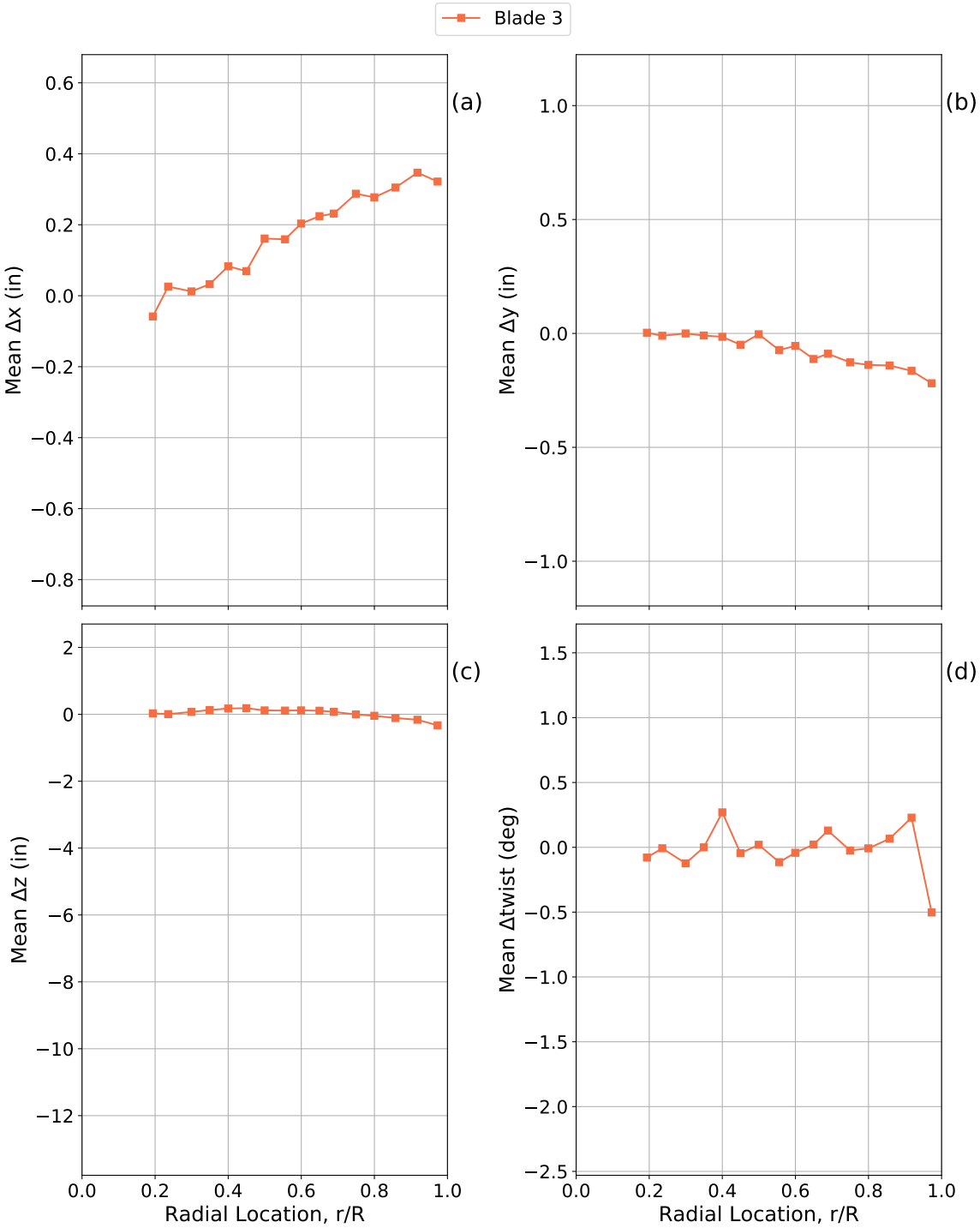


Figure 3.45-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0584	0.0011	0.0031	0.0005	0.0280	0.0016	-0.0791	0.0200
3	209.88	0.2357	0.0257	0.0009	-0.0103	0.0017	0.0048	0.0027	-0.0076	0.0273
3	209.88	0.2995	0.0122	0.0008	-0.0002	0.0025	0.0710	0.0045	-0.1237	0.0424
3	209.88	0.3493	0.0326	0.0016	-0.0092	0.0051	0.1264	0.0101	-0.0005	0.0314
3	209.88	0.4000	0.0829	0.0011	-0.0150	0.0076	0.1728	0.0131	0.2695	0.0387
3	209.88	0.4497	0.0694	0.0013	-0.0497	0.0088	0.1826	0.0160	-0.0456	0.0388
3	209.88	0.4997	0.1612	0.0014	-0.0037	0.0094	0.1166	0.0234	0.0194	0.0311
3	209.88	0.5556	0.1591	0.0019	-0.0730	0.0105	0.1108	0.0288	-0.1147	0.0367
3	209.88	0.5995	0.2033	0.0016	-0.0547	0.0126	0.1170	0.0361	-0.0423	0.0290
3	209.88	0.6498	0.2242	0.0020	-0.1124	0.0142	0.1063	0.0425	0.0213	0.0425
3	209.88	0.6890	0.2315	0.0024	-0.0892	0.0158	0.0727	0.0478	0.1293	0.0307
3	209.88	0.7495	0.2874	0.0022	-0.1270	0.0182	-0.0048	0.0571	-0.0245	0.0334
3	209.88	0.7998	0.2773	0.0018	-0.1383	0.0199	-0.0447	0.0657	-0.0081	0.0382
3	209.88	0.8577	0.3048	0.0021	-0.1407	0.0233	-0.1119	0.0752	0.0662	0.0430
3	209.88	0.9178	0.3468	0.0019	-0.1643	0.0260	-0.1641	0.0839	0.2289	0.0390
3	209.88	0.9729	0.3217	0.0030	-0.2187	0.0266	-0.3300	0.0936	-0.5025	0.0651

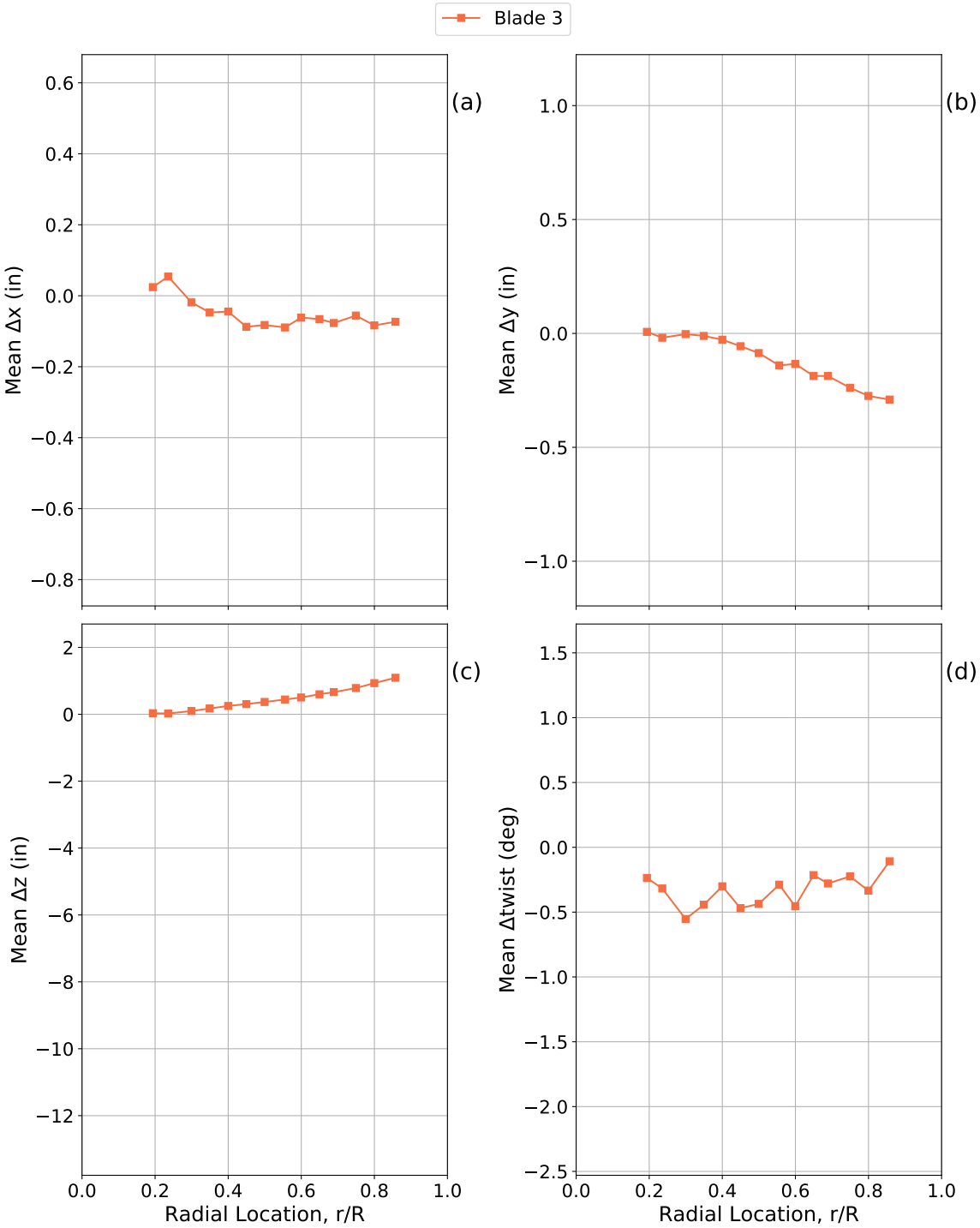


Figure 3.45-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	0.0242	0.0015	0.0068	0.0005	0.0318	0.0038	-0.2363	0.0454
3	225	0.2357	0.0540	0.0011	-0.0189	0.0032	0.0240	0.0115	-0.3176	0.0554
3	225	0.2995	-0.0188	0.0007	-0.0031	0.0053	0.0972	0.0209	-0.5533	0.1015
3	225	0.3493	-0.0472	0.0016	-0.0110	0.0087	0.1737	0.0325	-0.4430	0.1147
3	225	0.4000	-0.0446	0.0014	-0.0276	0.0149	0.2488	0.0541	-0.3010	0.0679
3	225	0.4497	-0.0876	0.0024	-0.0561	0.0173	0.3052	0.0661	-0.4692	0.0592
3	225	0.4997	-0.0825	0.0023	-0.0863	0.0227	0.3681	0.0812	-0.4367	0.0614
3	225	0.5556	-0.0894	0.0016	-0.1403	0.0265	0.4419	0.0940	-0.2885	0.0835
3	225	0.5995	-0.0616	0.0024	-0.1341	0.0303	0.5024	0.1106	-0.4550	0.0443
3	225	0.6498	-0.0659	0.0023	-0.1868	0.0331	0.5982	0.1198	-0.2145	0.0579
3	225	0.6890	-0.0769	0.0026	-0.1868	0.0357	0.6619	0.1293	-0.2791	0.0822
3	225	0.7495	-0.0559	0.0042	-0.2385	0.0411	0.7841	0.1460	-0.2245	0.0683
3	225	0.7998	-0.0836	0.0041	-0.2745	0.0448	0.9321	0.1567	-0.3340	0.0815
3	225	0.8577	-0.0734	0.0044	-0.2905	0.0487	1.0910	0.1814	-0.1080	0.0953

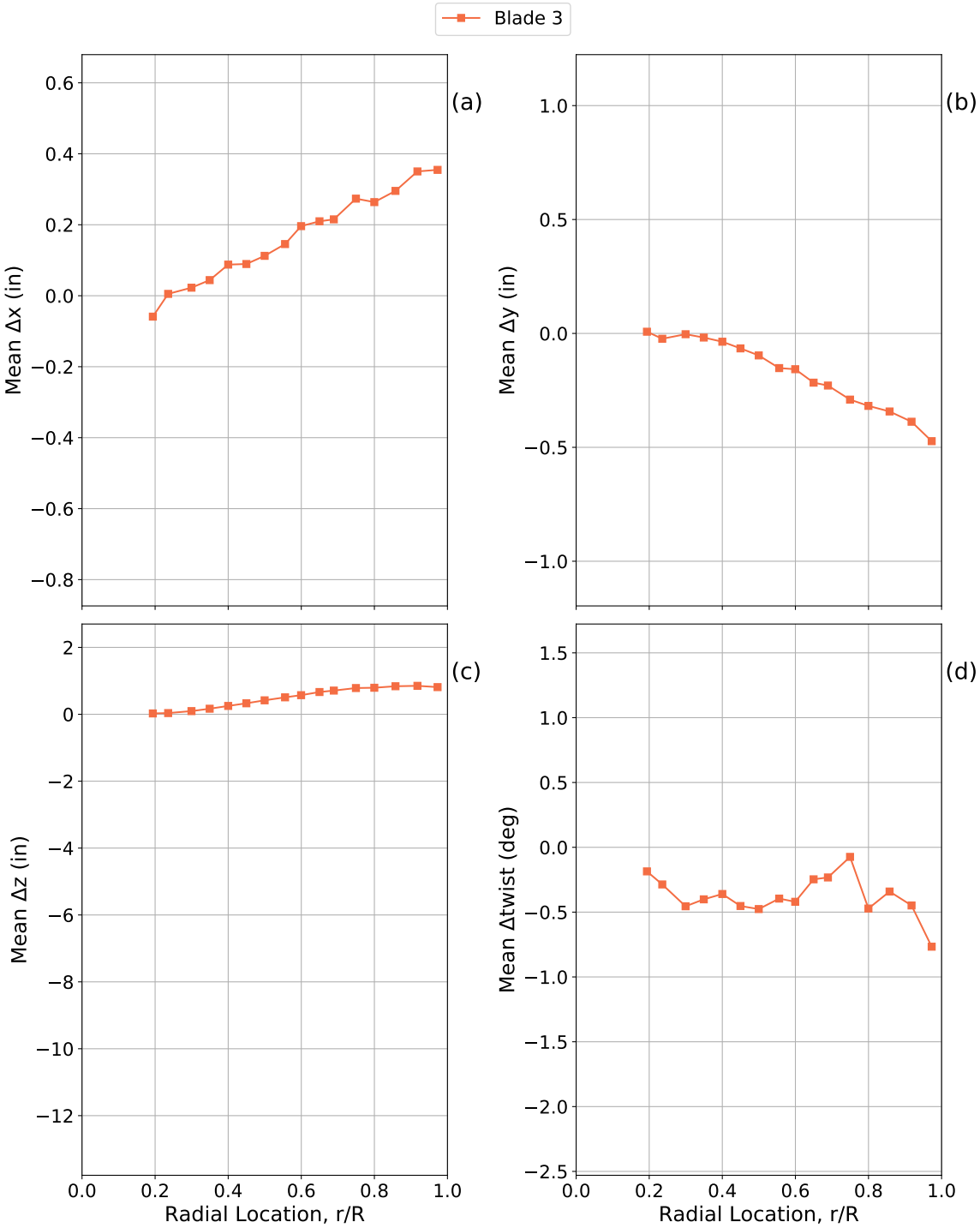


Figure 3.45-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0589	0.0007	0.0075	0.0003	0.0256	0.0015	-0.1858	0.0176
3	240.12	0.2357	0.0052	0.0010	-0.0234	0.0017	0.0363	0.0030	-0.2864	0.0244
3	240.12	0.2995	0.0227	0.0012	-0.0035	0.0029	0.0950	0.0063	-0.4549	0.0394
3	240.12	0.3493	0.0440	0.0010	-0.0181	0.0035	0.1666	0.0094	-0.4014	0.0291
3	240.12	0.4000	0.0877	0.0021	-0.0364	0.0071	0.2497	0.0152	-0.3602	0.0320
3	240.12	0.4497	0.0894	0.0012	-0.0657	0.0082	0.3286	0.0200	-0.4528	0.0281
3	240.12	0.4997	0.1124	0.0013	-0.0966	0.0099	0.4177	0.0251	-0.4764	0.0352
3	240.12	0.5556	0.1456	0.0021	-0.1522	0.0118	0.5068	0.0297	-0.3956	0.0317
3	240.12	0.5995	0.1961	0.0018	-0.1571	0.0135	0.5715	0.0354	-0.4203	0.0405
3	240.12	0.6498	0.2098	0.0021	-0.2161	0.0156	0.6655	0.0401	-0.2469	0.0365
3	240.12	0.6890	0.2152	0.0017	-0.2288	0.0154	0.7085	0.0417	-0.2326	0.0407
3	240.12	0.7495	0.2736	0.0021	-0.2905	0.0182	0.7847	0.0448	-0.0739	0.0358
3	240.12	0.7998	0.2638	0.0018	-0.3181	0.0203	0.7934	0.0486	-0.4723	0.0321
3	240.12	0.8577	0.2954	0.0015	-0.3426	0.0226	0.8383	0.0493	-0.3412	0.0311
3	240.12	0.9178	0.3503	0.0013	-0.3876	0.0256	0.8507	0.0525	-0.4486	0.0366
3	240.12	0.9729	0.3547	0.0024	-0.4729	0.0280	0.8121	0.0543	-0.7666	0.0448

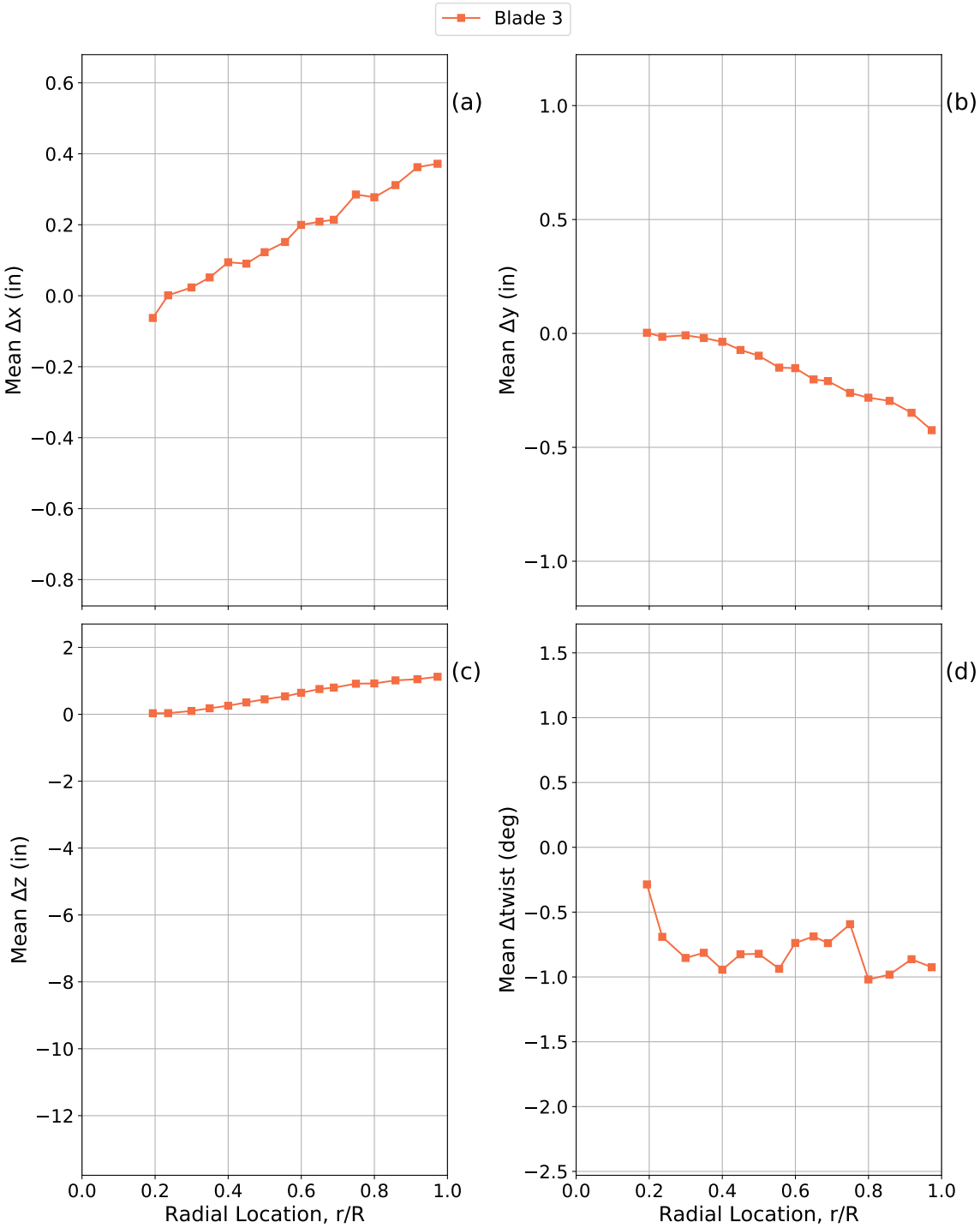


Figure 3.45-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0626	0.0013	0.0030	0.0009	0.0320	0.0040	-0.2861	0.0150
3	254.88	0.2357	0.0012	0.0008	-0.0148	0.0006	0.0344	0.0037	-0.6908	0.0401
3	254.88	0.2995	0.0233	0.0012	-0.0082	0.0024	0.0993	0.0103	-0.8536	0.0385
3	254.88	0.3493	0.0515	0.0008	-0.0202	0.0044	0.1794	0.0176	-0.8137	0.0312
3	254.88	0.4000	0.0943	0.0015	-0.0368	0.0062	0.2562	0.0247	-0.9441	0.0376
3	254.88	0.4497	0.0904	0.0016	-0.0727	0.0083	0.3548	0.0311	-0.8251	0.0343
3	254.88	0.4997	0.1227	0.0014	-0.0979	0.0100	0.4484	0.0378	-0.8216	0.0415
3	254.88	0.5556	0.1514	0.0019	-0.1502	0.0121	0.5353	0.0465	-0.9371	0.0379
3	254.88	0.5995	0.1996	0.0021	-0.1524	0.0137	0.6427	0.0516	-0.7380	0.0429
3	254.88	0.6498	0.2087	0.0016	-0.2020	0.0155	0.7554	0.0574	-0.6875	0.0413
3	254.88	0.6890	0.2141	0.0019	-0.2091	0.0168	0.7979	0.0619	-0.7391	0.0432
3	254.88	0.7495	0.2853	0.0017	-0.2611	0.0193	0.9142	0.0674	-0.5933	0.0421
3	254.88	0.7998	0.2775	0.0020	-0.2820	0.0216	0.9229	0.0718	-1.0196	0.0412
3	254.88	0.8577	0.3117	0.0021	-0.2961	0.0244	1.0139	0.0778	-0.9818	0.0396
3	254.88	0.9178	0.3623	0.0024	-0.3484	0.0267	1.0488	0.0830	-0.8633	0.0438
3	254.88	0.9729	0.3719	0.0034	-0.4248	0.0293	1.1218	0.0890	-0.9252	0.0427

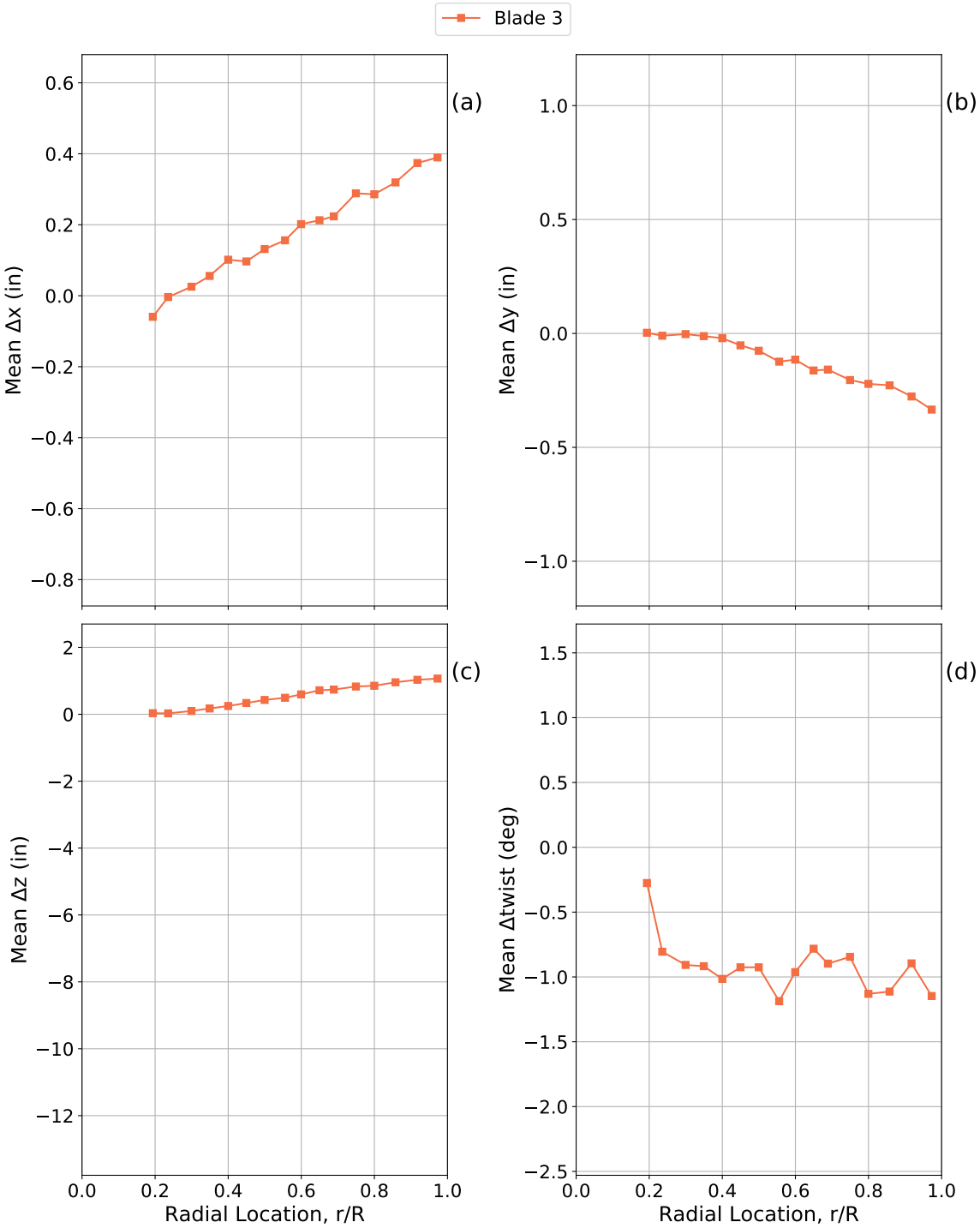


Figure 3.45-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0594	0.0021	0.0028	0.0007	0.0335	0.0034	-0.2757	0.0193
3	260.16	0.2357	-0.0038	0.0014	-0.0102	0.0007	0.0276	0.0026	-0.8053	0.0561
3	260.16	0.2995	0.0254	0.0008	-0.0031	0.0025	0.0988	0.0086	-0.9073	0.0601
3	260.16	0.3493	0.0558	0.0007	-0.0118	0.0042	0.1738	0.0143	-0.9170	0.0547
3	260.16	0.4000	0.1015	0.0015	-0.0211	0.0064	0.2475	0.0199	-1.0151	0.0566
3	260.16	0.4497	0.0966	0.0022	-0.0524	0.0079	0.3367	0.0237	-0.9254	0.0577
3	260.16	0.4997	0.1316	0.0017	-0.0762	0.0096	0.4287	0.0308	-0.9256	0.0564
3	260.16	0.5556	0.1561	0.0017	-0.1239	0.0110	0.4936	0.0366	-1.1867	0.0602
3	260.16	0.5995	0.2017	0.0018	-0.1150	0.0127	0.5949	0.0437	-0.9629	0.0596
3	260.16	0.6498	0.2127	0.0016	-0.1626	0.0144	0.7168	0.0502	-0.7822	0.0615
3	260.16	0.6890	0.2237	0.0017	-0.1587	0.0162	0.7386	0.0562	-0.8973	0.0568
3	260.16	0.7495	0.2886	0.0019	-0.2046	0.0184	0.8299	0.0644	-0.8450	0.0651
3	260.16	0.7998	0.2859	0.0021	-0.2214	0.0201	0.8526	0.0706	-1.1304	0.0566
3	260.16	0.8577	0.3193	0.0023	-0.2279	0.0229	0.9564	0.0770	-1.1127	0.0503
3	260.16	0.9178	0.3739	0.0024	-0.2768	0.0251	1.0319	0.0830	-0.8954	0.0567
3	260.16	0.9729	0.3897	0.0028	-0.3343	0.0276	1.0676	0.0884	-1.1471	0.0590

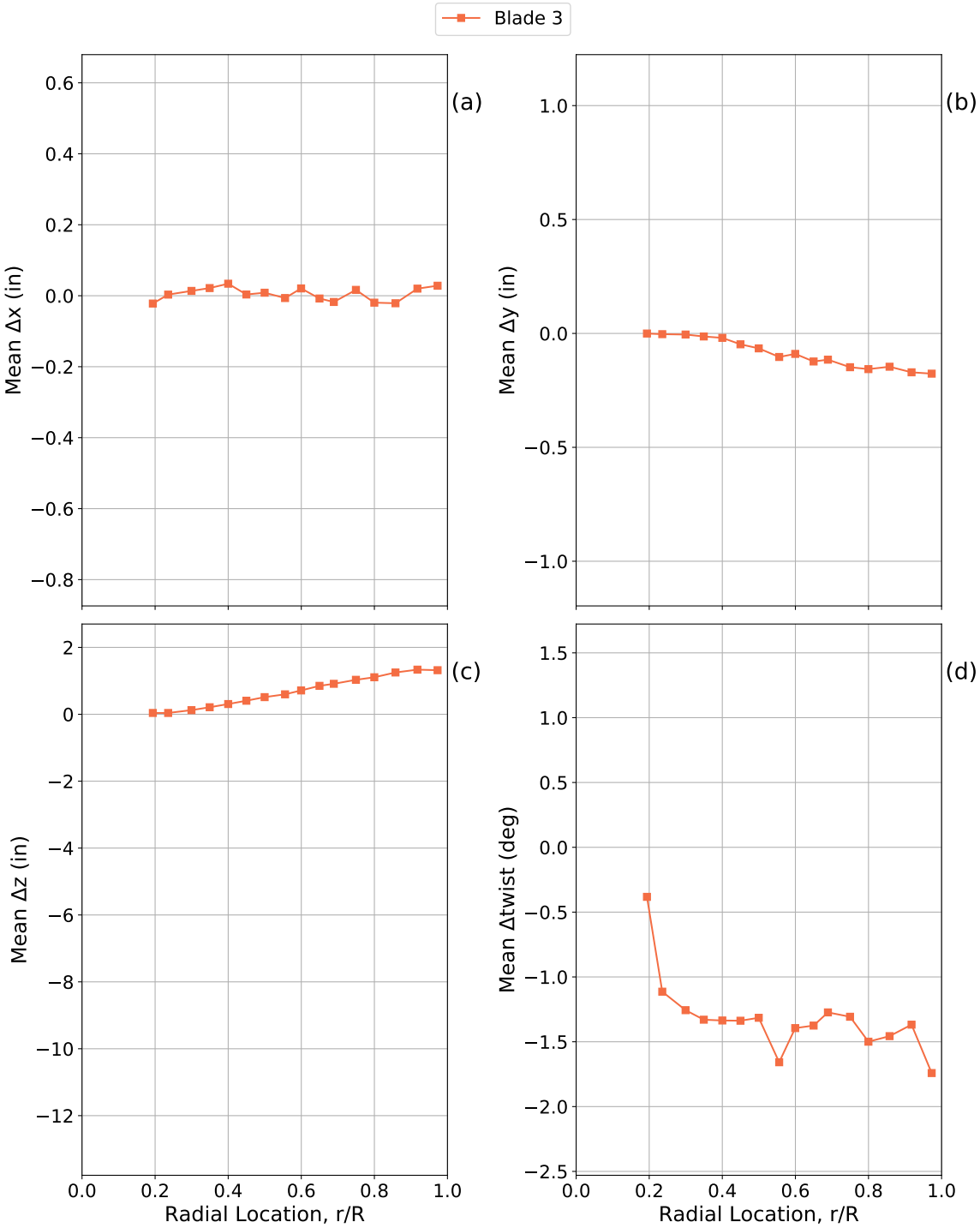


Figure 3.45-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0220	0.0029	-0.0005	0.0009	0.0400	0.0055	-0.3822	0.0415
3	265.08	0.2357	0.0032	0.0021	-0.0033	0.0009	0.0396	0.0051	-1.1137	0.0939
3	265.08	0.2995	0.0136	0.0013	-0.0049	0.0021	0.1241	0.0141	-1.2563	0.1135
3	265.08	0.3493	0.0216	0.0009	-0.0134	0.0045	0.2104	0.0259	-1.3298	0.0888
3	265.08	0.4000	0.0339	0.0015	-0.0195	0.0058	0.3062	0.0349	-1.3359	0.0958
3	265.08	0.4497	0.0035	0.0015	-0.0478	0.0073	0.4055	0.0461	-1.3377	0.0952
3	265.08	0.4997	0.0085	0.0016	-0.0656	0.0090	0.5129	0.0579	-1.3149	0.0944
3	265.08	0.5556	-0.0065	0.0020	-0.1034	0.0108	0.5970	0.0719	-1.6580	0.0985
3	265.08	0.5995	0.0206	0.0015	-0.0899	0.0123	0.7131	0.0854	-1.3946	0.0911
3	265.08	0.6498	-0.0078	0.0016	-0.1232	0.0144	0.8503	0.0994	-1.3752	0.0928
3	265.08	0.6890	-0.0176	0.0016	-0.1152	0.0154	0.9113	0.1119	-1.2735	0.0954
3	265.08	0.7495	0.0165	0.0020	-0.1483	0.0175	1.0309	0.1306	-1.3071	0.1041
3	265.08	0.7998	-0.0195	0.0020	-0.1567	0.0194	1.1068	0.1471	-1.4994	0.0959
3	265.08	0.8577	-0.0212	0.0026	-0.1462	0.0209	1.2501	0.1667	-1.4566	0.0906
3	265.08	0.9178	0.0200	0.0028	-0.1707	0.0236	1.3346	0.1865	-1.3680	0.0958
3	265.08	0.9729	0.0282	0.0049	-0.1766	0.0252	1.3183	0.2090	-1.7413	0.0798

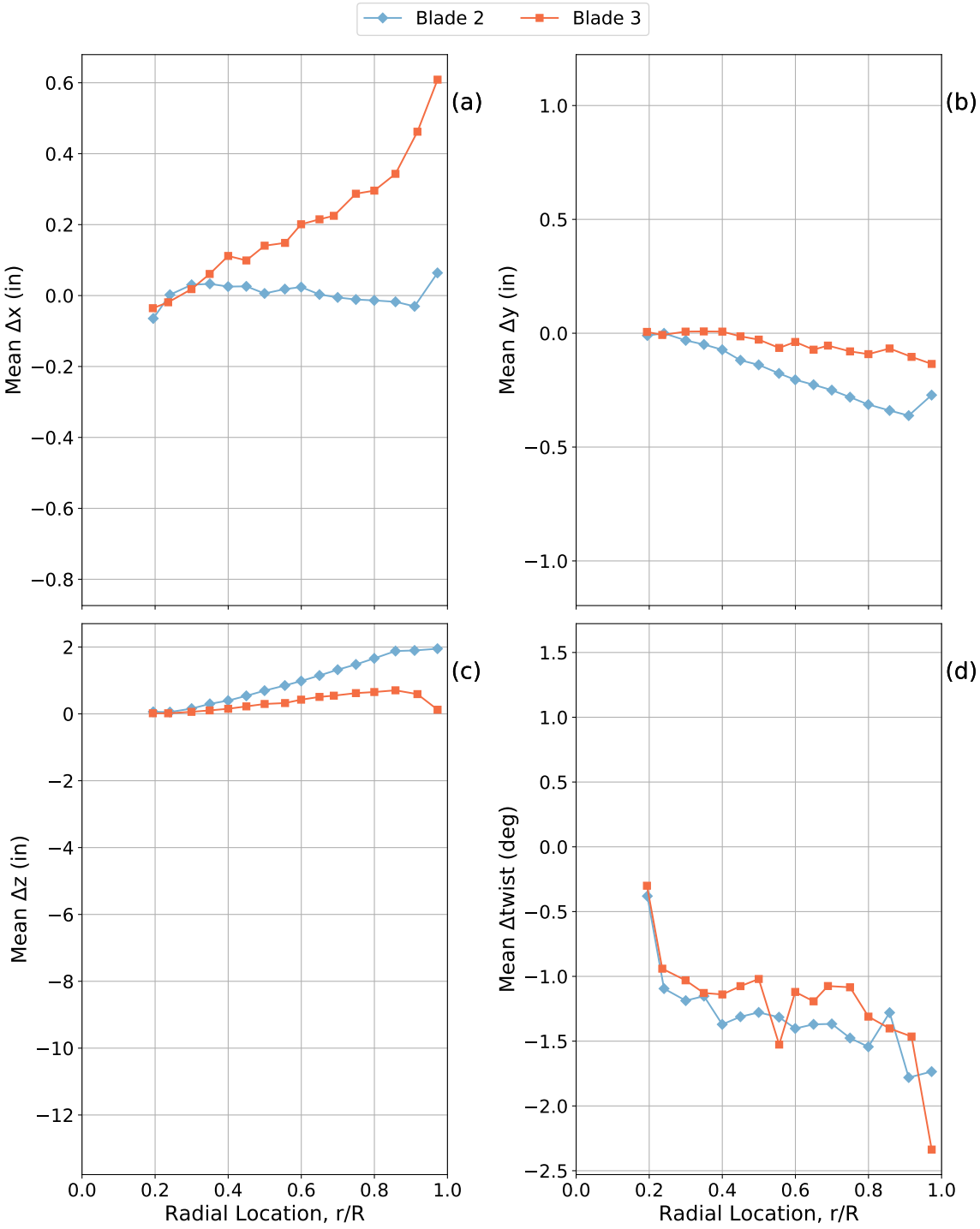


Figure 3.45-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0646	0.0041	-0.0102	0.0011	0.0605	0.0060	-0.3804	0.0470
2	270.35	0.2405	0.0023	0.0021	-0.0005	0.0011	0.0540	0.0080	-1.0945	0.0911
2	270.35	0.2999	0.0304	0.0022	-0.0315	0.0030	0.1579	0.0154	-1.1872	0.1143
2	270.35	0.3498	0.0330	0.0013	-0.0494	0.0058	0.2991	0.0264	-1.1523	0.1007
2	270.35	0.3998	0.0253	0.0021	-0.0725	0.0079	0.3971	0.0362	-1.3707	0.1068
2	270.35	0.4496	0.0260	0.0021	-0.1187	0.0094	0.5388	0.0465	-1.3115	0.1057
2	270.35	0.4995	0.0059	0.0022	-0.1389	0.0112	0.6946	0.0562	-1.2783	0.1207
2	270.35	0.5551	0.0182	0.0023	-0.1765	0.0139	0.8487	0.0708	-1.3151	0.1093
2	270.35	0.5996	0.0239	0.0021	-0.2044	0.0161	0.9824	0.0826	-1.4021	0.1031
2	270.35	0.6497	0.0031	0.0023	-0.2262	0.0176	1.1487	0.0941	-1.3702	0.1079
2	270.35	0.6996	-0.0053	0.0020	-0.2499	0.0193	1.3209	0.1056	-1.3669	0.1190
2	270.35	0.7495	-0.0112	0.0020	-0.2809	0.0208	1.4783	0.1200	-1.4759	0.1061
2	270.35	0.7996	-0.0137	0.0026	-0.3132	0.0225	1.6597	0.1336	-1.5436	0.1026
2	270.35	0.8578	-0.0176	0.0028	-0.3394	0.0240	1.8797	0.1506	-1.2798	0.1140
2	270.35	0.9100	-0.0304	0.0029	-0.3618	0.0261	1.8969	0.1672	-1.7807	0.1097
2	270.35	0.9727	0.0639	0.0041	-0.2717	0.0280	1.9498	0.1882	-1.7350	0.1052
3	270	0.1938	-0.0356	0.0160	0.0058	0.0024	0.0187	0.0127	-0.3003	0.0506
3	270	0.2357	-0.0190	0.0059	-0.0076	0.0013	0.0172	0.0083	-0.9406	0.1345
3	270	0.2995	0.0181	0.0047	0.0071	0.0068	0.0609	0.0317	-1.0305	0.1441
3	270	0.3493	0.0609	0.0043	0.0079	0.0109	0.1035	0.0498	-1.1282	0.1398
3	270	0.4000	0.1117	0.0042	0.0071	0.0160	0.1527	0.0700	-1.1395	0.1291
3	270	0.4497	0.0990	0.0036	-0.0137	0.0207	0.2235	0.0871	-1.0755	0.1368
3	270	0.4997	0.1406	0.0036	-0.0281	0.0257	0.2963	0.1066	-1.0202	0.1352
3	270	0.5556	0.1485	0.0034	-0.0645	0.0310	0.3236	0.1271	-1.5264	0.1267
3	270	0.5995	0.2010	0.0035	-0.0383	0.0350	0.4250	0.1440	-1.1201	0.1304
3	270	0.6498	0.2150	0.0032	-0.0722	0.0402	0.5073	0.1623	-1.1926	0.1408
3	270	0.6890	0.2249	0.0034	-0.0543	0.0438	0.5448	0.1784	-1.0745	0.1321
3	270	0.7495	0.2872	0.0037	-0.0798	0.0501	0.6208	0.2027	-1.0842	0.1288
3	270	0.7998	0.2959	0.0031	-0.0919	0.0548	0.6535	0.2239	-1.3107	0.1255
3	270	0.8577	0.3432	0.0036	-0.0670	0.0607	0.7049	0.2467	-1.4020	0.1366
3	270	0.9178	0.4620	0.0035	-0.1039	0.0660	0.5908	0.2724	-1.4643	0.1417
3	270	0.9729	0.6088	0.0046	-0.1349	0.0724	0.1250	0.2951	-2.3367	0.1468

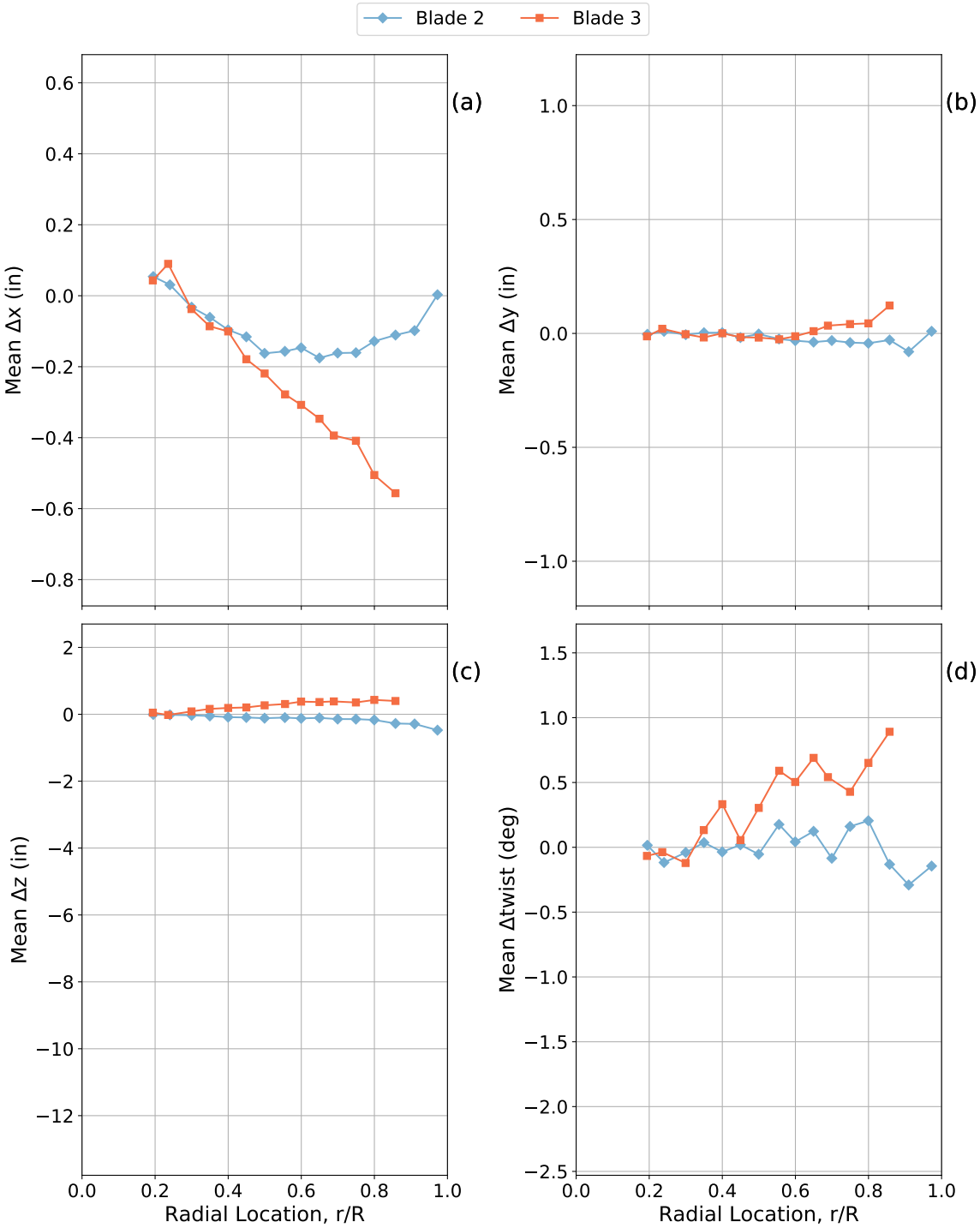


Figure 3.45-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0541	0.0031	-0.0037	0.0008	-0.0046	0.0031	0.0156	0.0253
2	274.92	0.2405	0.0308	0.0010	0.0091	0.0019	-0.0167	0.0053	-0.1174	0.0348
2	274.92	0.2999	-0.0323	0.0009	-0.0056	0.0038	-0.0310	0.0113	-0.0401	0.0502
2	274.92	0.3498	-0.0609	0.0015	0.0031	0.0068	-0.0511	0.0173	0.0364	0.0326
2	274.92	0.3998	-0.0961	0.0035	0.0032	0.0108	-0.0853	0.0264	-0.0357	0.0322
2	274.92	0.4496	-0.1158	0.0021	-0.0182	0.0125	-0.0956	0.0305	0.0192	0.0228
2	274.92	0.4995	-0.1624	0.0020	-0.0027	0.0146	-0.1171	0.0343	-0.0536	0.0505
2	274.92	0.5551	-0.1567	0.0015	-0.0245	0.0161	-0.0986	0.0370	0.1762	0.0391
2	274.92	0.5996	-0.1466	0.0026	-0.0319	0.0184	-0.1223	0.0417	0.0421	0.0494
2	274.92	0.6497	-0.1754	0.0036	-0.0381	0.0198	-0.1073	0.0507	0.1234	0.0639
2	274.92	0.6996	-0.1615	0.0037	-0.0313	0.0226	-0.1431	0.0569	-0.0847	0.0504
2	274.92	0.7495	-0.1606	0.0020	-0.0402	0.0238	-0.1443	0.0679	0.1608	0.0627
2	274.92	0.7996	-0.1283	0.0038	-0.0430	0.0266	-0.1685	0.0649	0.2050	0.0552
2	274.92	0.8578	-0.1108	0.0038	-0.0289	0.0298	-0.2747	0.0823	-0.1316	0.0539
2	274.92	0.9100	-0.0983	0.0066	-0.0803	0.0324	-0.2883	0.0823	-0.2905	0.1060
2	274.92	0.9727	0.0028	0.0066	0.0094	0.0338	-0.4745	0.1101	-0.1447	0.2017
3	274.92	0.1938	0.0432	0.0018	-0.0128	0.0005	0.0486	0.0046	-0.0665	0.0269
3	274.92	0.2357	0.0898	0.0015	0.0203	0.0030	-0.0201	0.0114	-0.0371	0.0527
3	274.92	0.2995	-0.0376	0.0010	-0.0035	0.0044	0.0858	0.0268	-0.1211	0.0688
3	274.92	0.3493	-0.0861	0.0024	-0.0178	0.0067	0.1609	0.0337	0.1328	0.0581
3	274.92	0.4000	-0.1006	0.0030	0.0006	0.0125	0.1899	0.0620	0.3325	0.0288
3	274.92	0.4497	-0.1790	0.0017	-0.0168	0.0114	0.2044	0.0686	0.0553	0.0518
3	274.92	0.4997	-0.2192	0.0031	-0.0183	0.0155	0.2679	0.0888	0.3039	0.0462
3	274.92	0.5556	-0.2780	0.0018	-0.0258	0.0179	0.3070	0.1100	0.5905	0.0407
3	274.92	0.5995	-0.3076	0.0036	-0.0125	0.0235	0.3789	0.1285	0.5038	0.0513
3	274.92	0.6498	-0.3467	0.0039	0.0098	0.0266	0.3661	0.1499	0.6898	0.0437
3	274.92	0.6890	-0.3938	0.0033	0.0341	0.0287	0.3848	0.1644	0.5410	0.0297
3	274.92	0.7495	-0.4087	0.0035	0.0410	0.0314	0.3533	0.1881	0.4281	0.0463
3	274.92	0.7998	-0.5053	0.0020	0.0441	0.0333	0.4300	0.1979	0.6510	0.0661
3	274.92	0.8577	-0.5565	0.0058	0.1226	0.0379	0.3980	0.2229	0.8912	0.1704

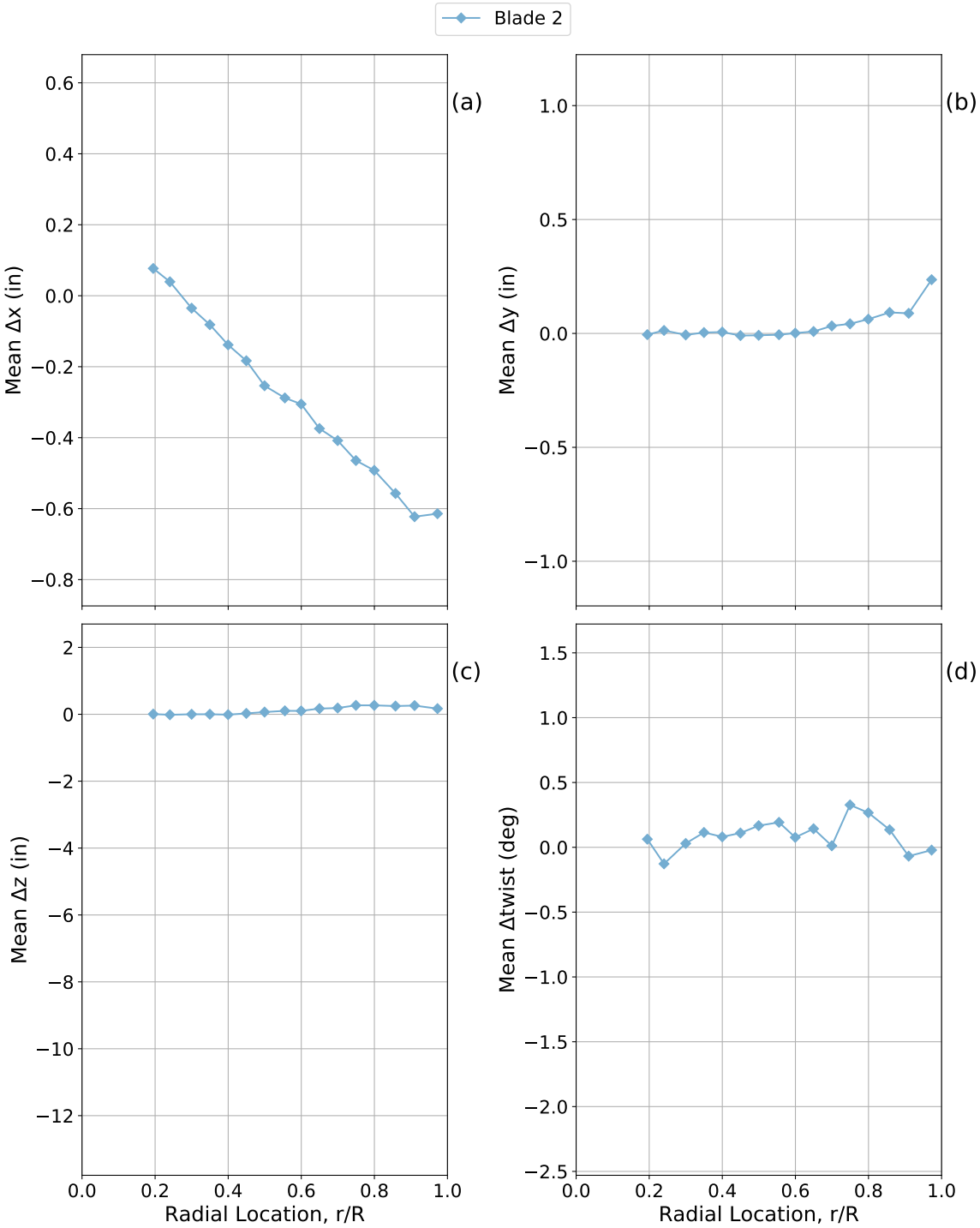


Figure 3.45-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0769	0.0019	-0.0053	0.0009	0.0060	0.0026	0.0626	0.0240
2	285.12	0.2405	0.0393	0.0021	0.0130	0.0027	-0.0144	0.0098	-0.1276	0.0816
2	285.12	0.2999	-0.0351	0.0016	-0.0066	0.0044	0.0007	0.0146	0.0298	0.0731
2	285.12	0.3498	-0.0816	0.0028	0.0038	0.0064	0.0010	0.0183	0.1145	0.0719
2	285.12	0.3998	-0.1385	0.0020	0.0060	0.0114	-0.0106	0.0353	0.0806	0.0306
2	285.12	0.4496	-0.1833	0.0026	-0.0095	0.0141	0.0266	0.0449	0.1102	0.0562
2	285.12	0.4995	-0.2537	0.0020	-0.0082	0.0163	0.0663	0.0548	0.1669	0.0378
2	285.12	0.5551	-0.2880	0.0017	-0.0058	0.0219	0.1031	0.0725	0.1925	0.0832
2	285.12	0.5996	-0.3053	0.0023	0.0013	0.0265	0.1016	0.0867	0.0765	0.0440
2	285.12	0.6497	-0.3743	0.0030	0.0084	0.0305	0.1704	0.1054	0.1431	0.0824
2	285.12	0.6996	-0.4082	0.0035	0.0328	0.0339	0.1870	0.1254	0.0115	0.0626
2	285.12	0.7495	-0.4644	0.0029	0.0421	0.0384	0.2676	0.1486	0.3269	0.0602
2	285.12	0.7996	-0.4922	0.0032	0.0625	0.0426	0.2670	0.1763	0.2664	0.0486
2	285.12	0.8578	-0.5572	0.0032	0.0921	0.0473	0.2460	0.2062	0.1356	0.0846
2	285.12	0.9100	-0.6227	0.0026	0.0882	0.0506	0.2603	0.2288	-0.0682	0.0939
2	285.12	0.9727	-0.6142	0.0046	0.2360	0.0562	0.1690	0.2718	-0.0216	0.0746

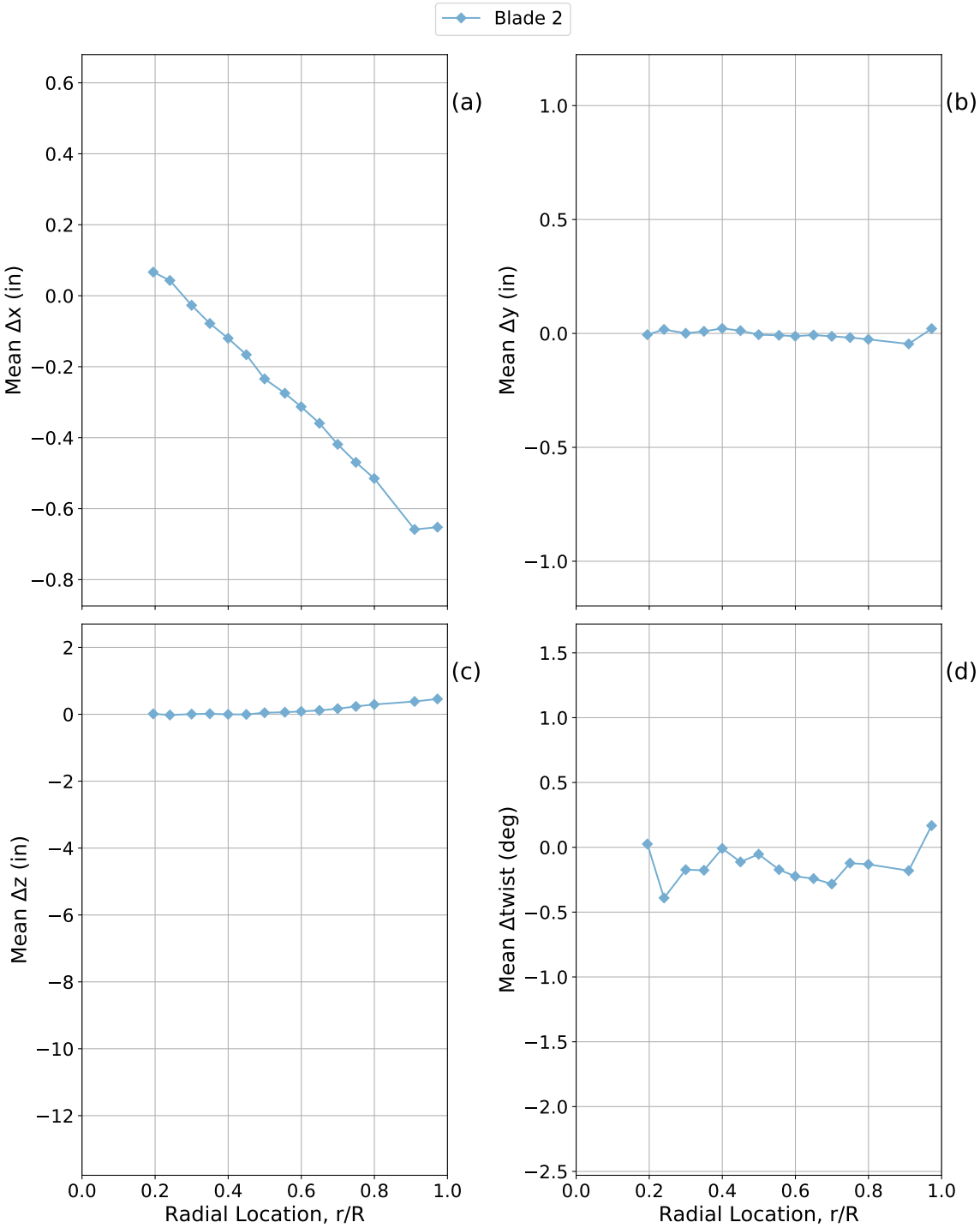


Figure 3.45-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0666	0.0010	-0.0057	0.0010	0.0123	0.0031	0.0254	0.0395
2	299.88	0.2405	0.0430	0.0010	0.0175	0.0027	-0.0214	0.0092	-0.3906	0.0463
2	299.88	0.2999	-0.0269	0.0020	0.0005	0.0067	0.0056	0.0133	-0.1729	0.0858
2	299.88	0.3498	-0.0782	0.0031	0.0092	0.0093	0.0160	0.0245	-0.1771	0.0741
2	299.88	0.3998	-0.1199	0.0075	0.0220	0.0166	-0.0018	0.0373	-0.0087	0.0655
2	299.88	0.4496	-0.1662	0.0048	0.0120	0.0194	-0.0046	0.0471	-0.1127	0.0491
2	299.88	0.4995	-0.2343	0.0049	-0.0056	0.0192	0.0460	0.0518	-0.0534	0.0655
2	299.88	0.5551	-0.2749	0.0044	-0.0083	0.0237	0.0615	0.0634	-0.1725	0.0880
2	299.88	0.5996	-0.3128	0.0035	-0.0122	0.0265	0.0862	0.0716	-0.2236	0.0644
2	299.88	0.6497	-0.3594	0.0037	-0.0070	0.0300	0.1155	0.0839	-0.2414	0.0493
2	299.88	0.6996	-0.4188	0.0032	-0.0129	0.0329	0.1672	0.0927	-0.2831	0.0708
2	299.88	0.7495	-0.4696	0.0037	-0.0183	0.0359	0.2342	0.1049	-0.1222	0.0613
2	299.88	0.7996	-0.5150	0.0111	-0.0261	0.0430	0.2938	0.1152	-0.1314	0.2352
2	299.88	0.9100	-0.6586	0.0031	-0.0462	0.0467	0.3830	0.1471	-0.1803	0.0695
2	299.88	0.9727	-0.6523	0.0046	0.0210	0.0514	0.4578	0.1670	0.1675	0.0692

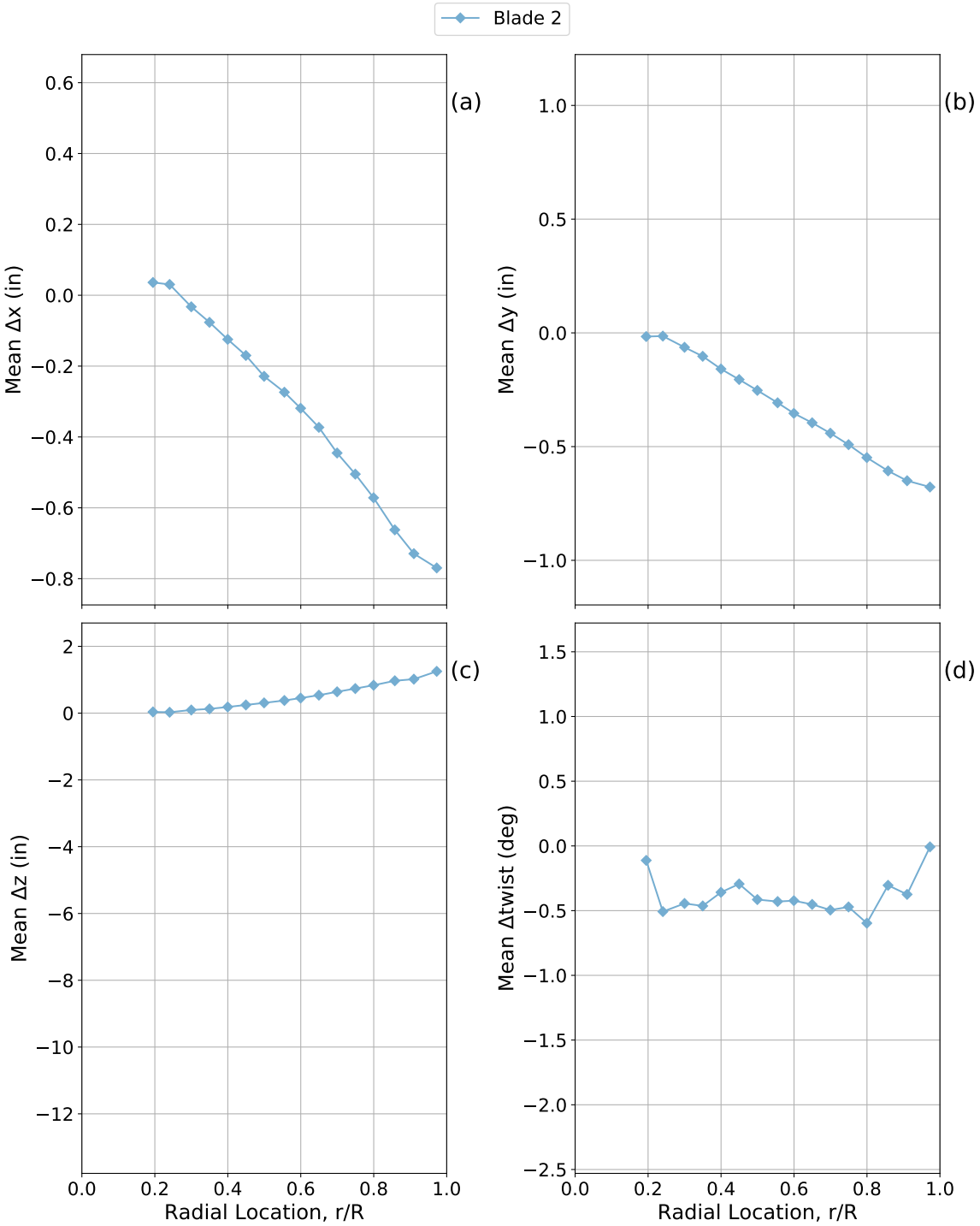


Figure 3.45-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0361	0.0021	-0.0161	0.0007	0.0359	0.0017	-0.1118	0.0241
2	315	0.2405	0.0305	0.0017	-0.0141	0.0030	0.0262	0.0043	-0.5075	0.0356
2	315	0.2999	-0.0326	0.0010	-0.0634	0.0057	0.0937	0.0086	-0.4446	0.0518
2	315	0.3498	-0.0764	0.0027	-0.1030	0.0082	0.1265	0.0075	-0.4637	0.0815
2	315	0.3998	-0.1246	0.0019	-0.1588	0.0150	0.1837	0.0158	-0.3584	0.0760
2	315	0.4496	-0.1700	0.0033	-0.2051	0.0150	0.2448	0.0292	-0.2939	0.0546
2	315	0.4995	-0.2288	0.0030	-0.2529	0.0170	0.3066	0.0275	-0.4145	0.0341
2	315	0.5551	-0.2737	0.0029	-0.3074	0.0228	0.3783	0.0342	-0.4296	0.0376
2	315	0.5996	-0.3190	0.0055	-0.3538	0.0256	0.4510	0.0366	-0.4231	0.0835
2	315	0.6497	-0.3729	0.0029	-0.3953	0.0257	0.5373	0.0338	-0.4520	0.0654
2	315	0.6996	-0.4453	0.0031	-0.4411	0.0292	0.6386	0.0417	-0.4953	0.0598
2	315	0.7495	-0.5049	0.0025	-0.4914	0.0322	0.7352	0.0410	-0.4714	0.0424
2	315	0.7996	-0.5717	0.0028	-0.5484	0.0356	0.8349	0.0457	-0.5968	0.0363
2	315	0.8578	-0.6622	0.0031	-0.6068	0.0388	0.9685	0.0460	-0.3043	0.0406
2	315	0.9100	-0.7294	0.0031	-0.6501	0.0415	1.0168	0.0466	-0.3745	0.0434
2	315	0.9727	-0.7697	0.0036	-0.6777	0.0451	1.2508	0.0492	-0.0073	0.0391

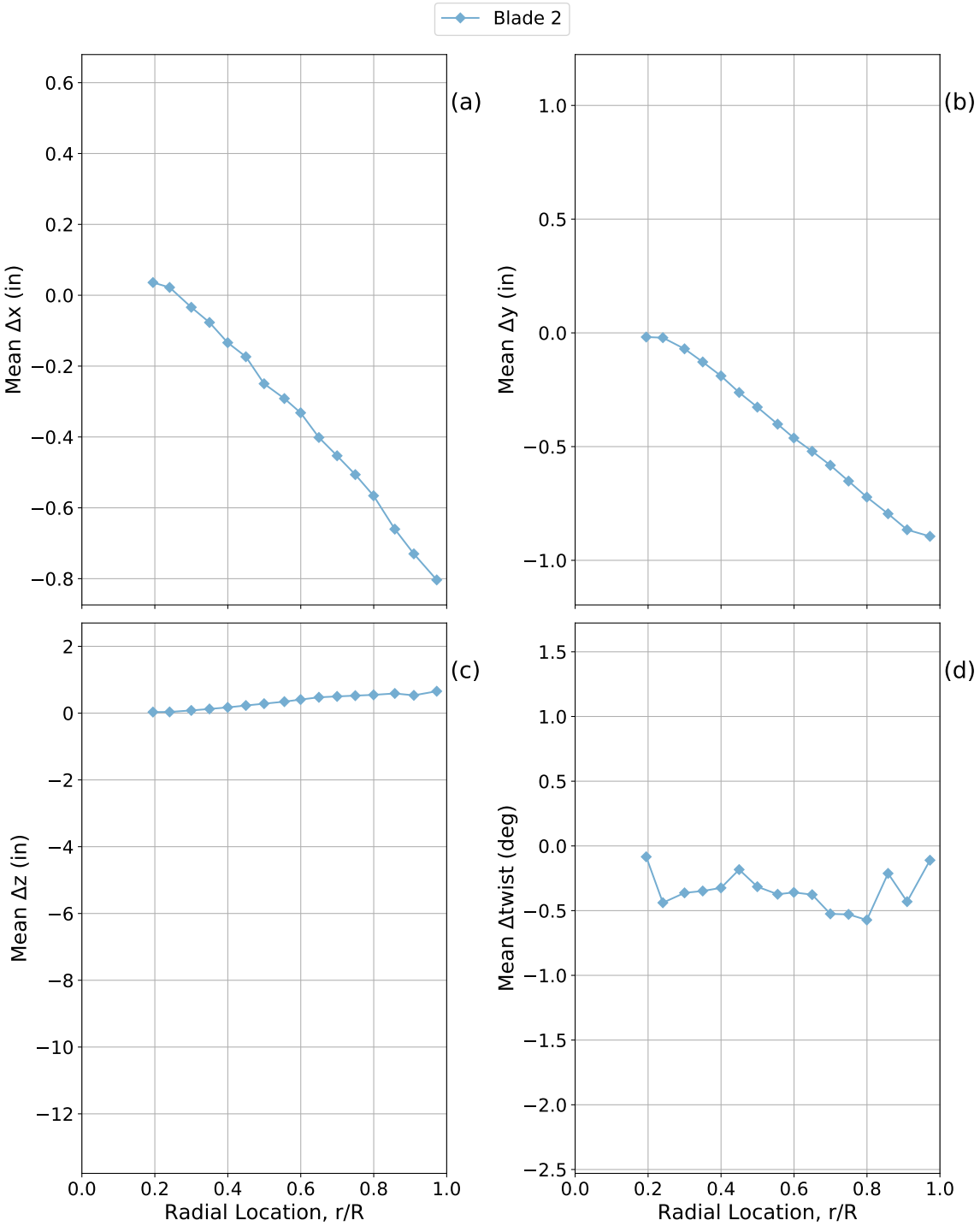


Figure 3.45-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0359	0.0016	-0.0183	0.0007	0.0318	0.0027	-0.0839	0.0193
2	330.12	0.2405	0.0221	0.0017	-0.0212	0.0016	0.0356	0.0040	-0.4389	0.0478
2	330.12	0.2999	-0.0340	0.0012	-0.0702	0.0035	0.0804	0.0111	-0.3628	0.0530
2	330.12	0.3498	-0.0768	0.0025	-0.1279	0.0051	0.1244	0.0156	-0.3482	0.0465
2	330.12	0.3998	-0.1339	0.0026	-0.1892	0.0087	0.1719	0.0258	-0.3242	0.0649
2	330.12	0.4496	-0.1736	0.0033	-0.2621	0.0092	0.2283	0.0327	-0.1828	0.0738
2	330.12	0.4995	-0.2498	0.0034	-0.3266	0.0111	0.2827	0.0370	-0.3151	0.0593
2	330.12	0.5551	-0.2916	0.0032	-0.4014	0.0157	0.3436	0.0518	-0.3735	0.0500
2	330.12	0.5996	-0.3318	0.0030	-0.4623	0.0153	0.4063	0.0595	-0.3591	0.0679
2	330.12	0.6497	-0.4015	0.0029	-0.5206	0.0190	0.4736	0.0697	-0.3766	0.0519
2	330.12	0.6996	-0.4531	0.0034	-0.5822	0.0203	0.5002	0.0788	-0.5250	0.0798
2	330.12	0.7495	-0.5063	0.0034	-0.6516	0.0239	0.5236	0.0932	-0.5290	0.0535
2	330.12	0.7996	-0.5659	0.0032	-0.7221	0.0254	0.5470	0.1060	-0.5722	0.0549
2	330.12	0.8578	-0.6602	0.0034	-0.7953	0.0290	0.5885	0.1225	-0.2123	0.0548
2	330.12	0.9100	-0.7300	0.0039	-0.8656	0.0318	0.5330	0.1367	-0.4306	0.0555
2	330.12	0.9727	-0.8035	0.0044	-0.8946	0.0351	0.6551	0.1567	-0.1104	0.0496

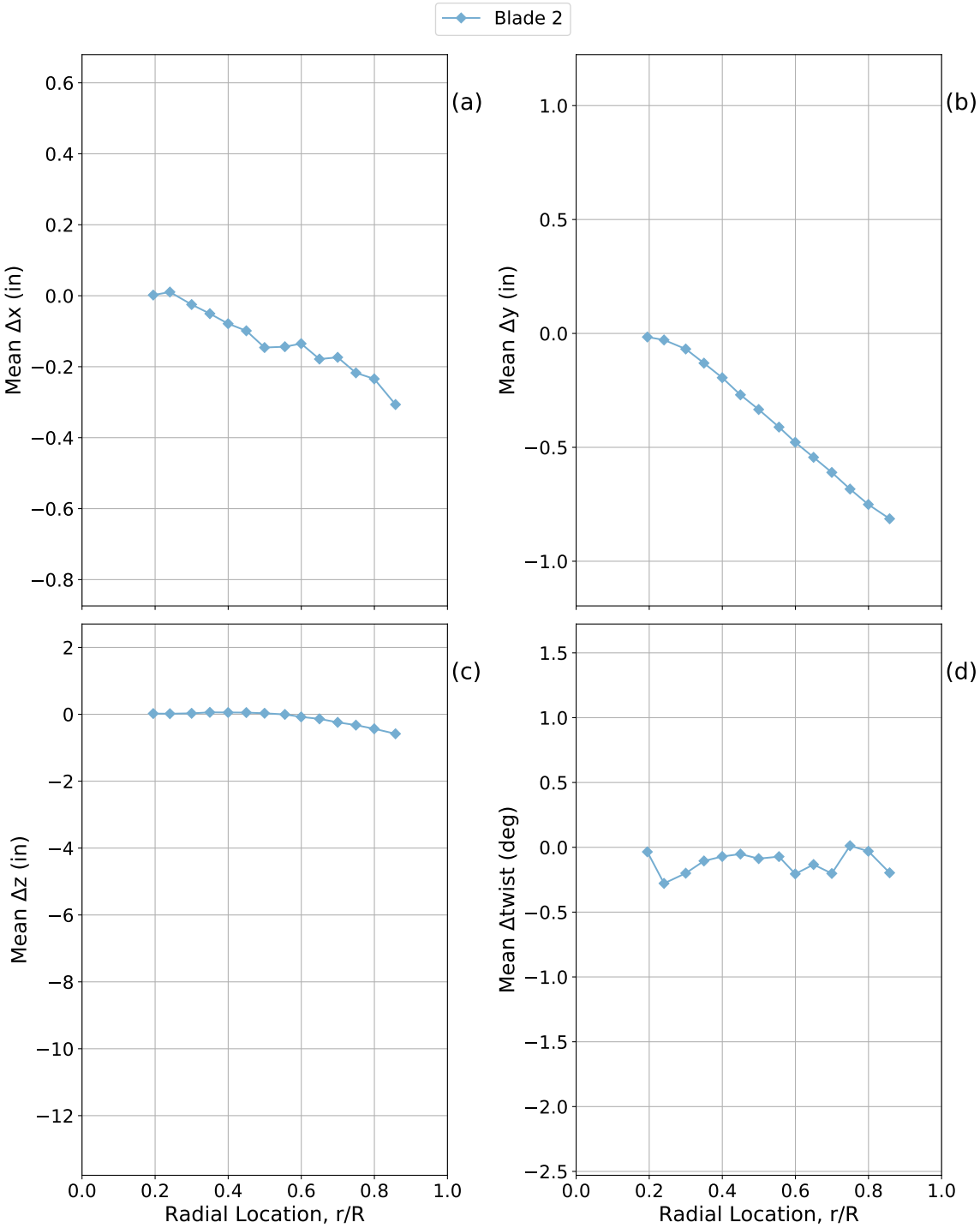


Figure 3.45-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0019	0.0032	-0.0158	0.0013	0.0217	0.0032	-0.0350	0.0264
2	344.88	0.2405	0.0104	0.0017	-0.0287	0.0018	0.0174	0.0056	-0.2785	0.0420
2	344.88	0.2999	-0.0248	0.0018	-0.0684	0.0050	0.0289	0.0111	-0.1999	0.0586
2	344.88	0.3498	-0.0505	0.0028	-0.1305	0.0076	0.0580	0.0174	-0.1053	0.0554
2	344.88	0.3998	-0.0788	0.0046	-0.1944	0.0121	0.0541	0.0267	-0.0710	0.0512
2	344.88	0.4496	-0.0988	0.0065	-0.2696	0.0151	0.0511	0.0351	-0.0520	0.0394
2	344.88	0.4995	-0.1460	0.0092	-0.3339	0.0195	0.0305	0.0430	-0.0873	0.0501
2	344.88	0.5551	-0.1437	0.0106	-0.4112	0.0237	-0.0039	0.0531	-0.0719	0.0590
2	344.88	0.5996	-0.1350	0.0129	-0.4778	0.0266	-0.0786	0.0601	-0.2054	0.0670
2	344.88	0.6497	-0.1785	0.0147	-0.5439	0.0300	-0.1370	0.0701	-0.1328	0.0555
2	344.88	0.6996	-0.1736	0.0164	-0.6102	0.0333	-0.2409	0.0832	-0.2020	0.0664
2	344.88	0.7495	-0.2174	0.0181	-0.6832	0.0369	-0.3241	0.0905	0.0122	0.0802
2	344.88	0.7996	-0.2343	0.0187	-0.7509	0.0404	-0.4337	0.1077	-0.0304	0.0922
2	344.88	0.8578	-0.3066	0.0280	-0.8135	0.0442	-0.5827	0.1187	-0.1967	0.1172

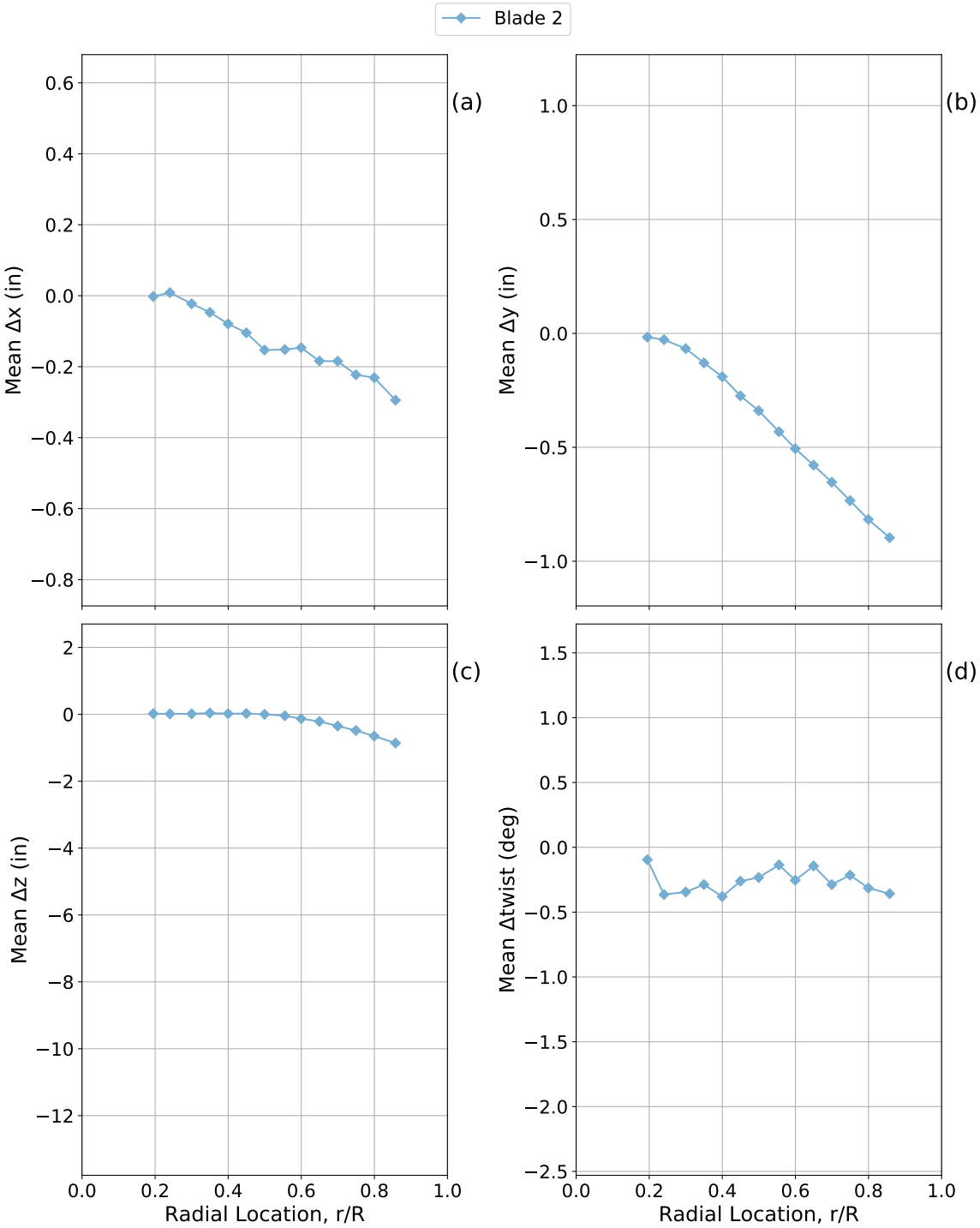


Figure 3.45-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0023	0.0028	-0.0162	0.0015	0.0189	0.0029	-0.0960	0.0296
2	350.16	0.2405	0.0086	0.0020	-0.0273	0.0017	0.0119	0.0046	-0.3645	0.0551
2	350.16	0.2999	-0.0225	0.0016	-0.0667	0.0036	0.0133	0.0078	-0.3446	0.0713
2	350.16	0.3498	-0.0469	0.0026	-0.1294	0.0070	0.0382	0.0134	-0.2875	0.0589
2	350.16	0.3998	-0.0794	0.0041	-0.1902	0.0094	0.0183	0.0192	-0.3801	0.0614
2	350.16	0.4496	-0.1044	0.0048	-0.2742	0.0123	0.0230	0.0243	-0.2615	0.0653
2	350.16	0.4995	-0.1531	0.0050	-0.3391	0.0143	-0.0011	0.0291	-0.2328	0.0695
2	350.16	0.5551	-0.1516	0.0054	-0.4315	0.0170	-0.0452	0.0373	-0.1361	0.0610
2	350.16	0.5996	-0.1464	0.0061	-0.5057	0.0203	-0.1324	0.0429	-0.2541	0.0706
2	350.16	0.6497	-0.1840	0.0066	-0.5783	0.0230	-0.2134	0.0529	-0.1438	0.0662
2	350.16	0.6996	-0.1845	0.0059	-0.6531	0.0264	-0.3517	0.0582	-0.2875	0.0816
2	350.16	0.7495	-0.2227	0.0085	-0.7340	0.0304	-0.4846	0.0670	-0.2145	0.0586
2	350.16	0.7996	-0.2309	0.0083	-0.8164	0.0335	-0.6533	0.0745	-0.3144	0.0641
2	350.16	0.8578	-0.2943	0.0096	-0.8967	0.0369	-0.8616	0.0861	-0.3577	0.0784

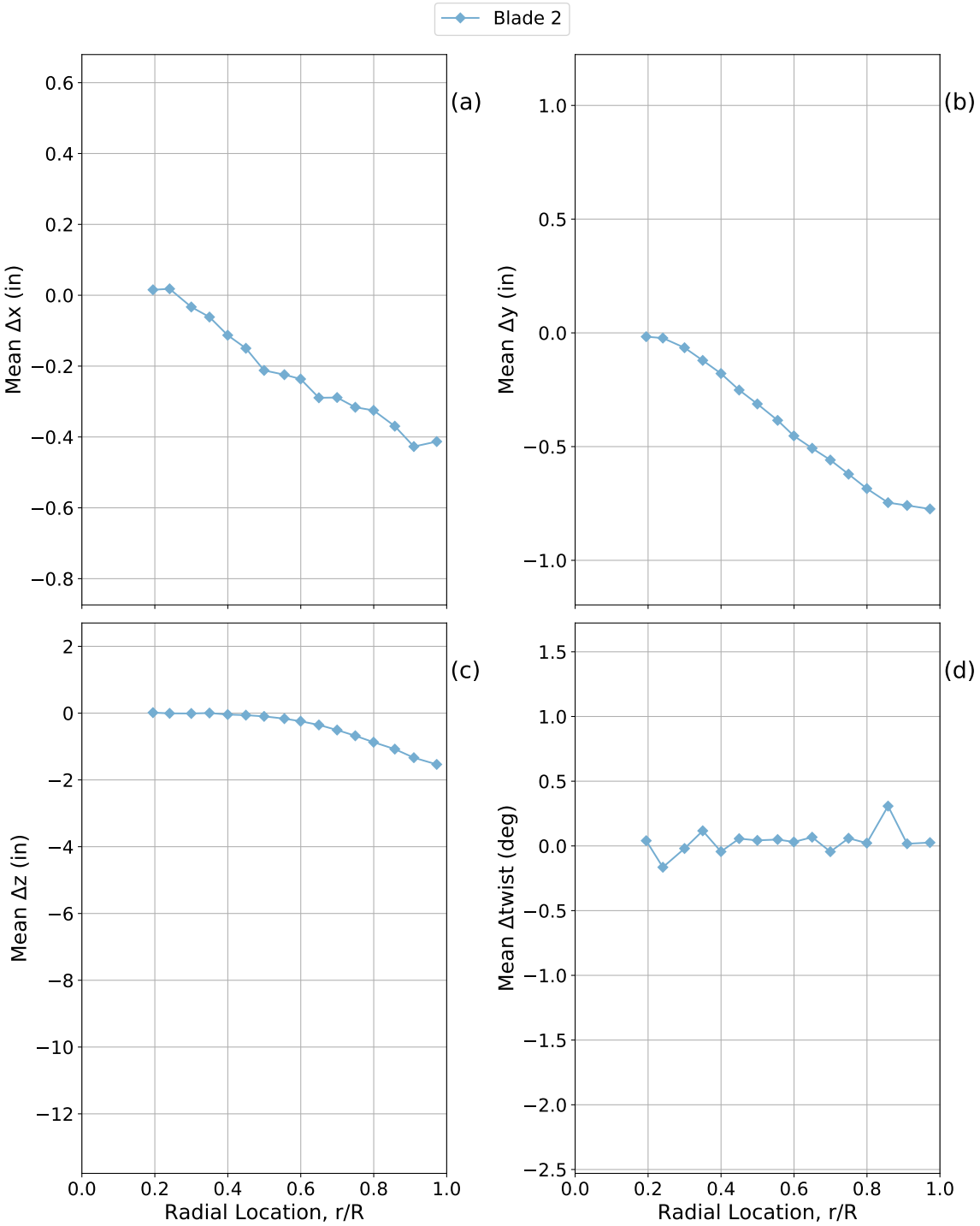


Figure 3.45-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Table 3.45-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.087$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 11. BD run 43, points 7583 to 7593.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0154	0.0040	-0.0168	0.0029	0.0147	0.0048	0.0404	0.0185
2	355.08	0.2405	0.0181	0.0012	-0.0228	0.0029	-0.0069	0.0051	-0.1648	0.0513
2	355.08	0.2999	-0.0331	0.0021	-0.0653	0.0098	-0.0108	0.0124	-0.0199	0.0487
2	355.08	0.3498	-0.0615	0.0022	-0.1211	0.0159	0.0029	0.0180	0.1168	0.0543
2	355.08	0.3998	-0.1129	0.0033	-0.1787	0.0240	-0.0424	0.0259	-0.0439	0.0523
2	355.08	0.4496	-0.1497	0.0040	-0.2513	0.0310	-0.0613	0.0317	0.0562	0.0557
2	355.08	0.4995	-0.2122	0.0039	-0.3124	0.0395	-0.0975	0.0397	0.0429	0.0522
2	355.08	0.5551	-0.2242	0.0043	-0.3846	0.0489	-0.1652	0.0454	0.0494	0.0702
2	355.08	0.5996	-0.2365	0.0047	-0.4529	0.0569	-0.2433	0.0535	0.0307	0.0500
2	355.08	0.6497	-0.2894	0.0064	-0.5073	0.0667	-0.3544	0.0622	0.0673	0.0647
2	355.08	0.6996	-0.2887	0.0080	-0.5590	0.0742	-0.5061	0.0694	-0.0445	0.0600
2	355.08	0.7495	-0.3162	0.0094	-0.6212	0.0855	-0.6782	0.0774	0.0592	0.0527
2	355.08	0.7996	-0.3250	0.0119	-0.6846	0.0981	-0.8710	0.0842	0.0220	0.0594
2	355.08	0.8578	-0.3696	0.0133	-0.7464	0.1102	-1.0783	0.0992	0.3078	0.0678
2	355.08	0.9100	-0.4271	0.0155	-0.7588	0.1189	-1.3347	0.1042	0.0168	0.0692
2	355.08	0.9727	-0.4130	0.0225	-0.7741	0.1285	-1.5355	0.1209	0.0257	0.1337

3.46 Run 93, Point 14

3.46.1 Pitch, Flap, and Lag

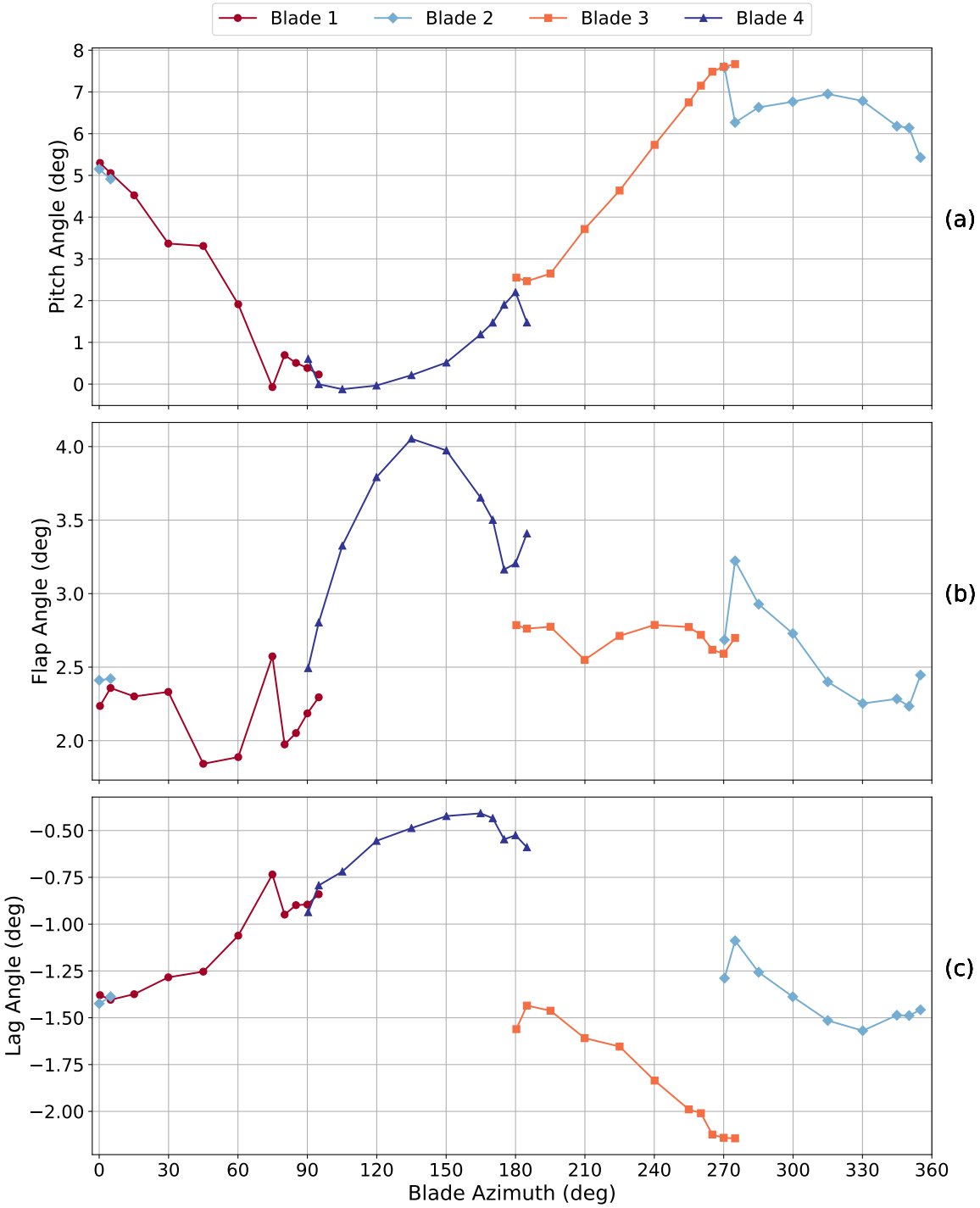


Figure 3.46-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.077, μ = 0.3, α = 4°
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.1502	2.4109	-1.4243	0.0568	0.0381	0.0117
0.35	1	5.2989	2.2359	-1.3791	0.0781	0.0330	0.0255
4.92	1	5.0562	2.3582	-1.4040	0.0745	0.0647	0.0294
4.92	2	4.9129	2.4212	-1.3871	0.0670	0.0514	0.0174
15.12	1	4.5241	2.3009	-1.3741	0.0889	0.0447	0.0258
29.88	1	3.3674	2.3316	-1.2840	0.0654	0.0426	0.0241
45	1	3.3093	1.8427	-1.2537	0.0987	0.0637	0.0234
60.12	1	1.9124	1.8882	-1.0613	0.1282	0.0618	0.0304
74.88	1	-0.0718	2.5733	-0.7348	0.0817	0.0601	0.0251
80.16	1	0.6949	1.9743	-0.9491	0.0289	0.0227	0.0135
85.08	1	0.5074	2.0516	-0.8984	0.0273	0.0260	0.0112
90	1	0.3859	2.1855	-0.8954	0.0146	0.0316	0.0169
90.35	4	0.6037	2.4933	-0.9362	0.0482	0.0212	0.0108
94.92	1	0.2305	2.2948	-0.8403	0.0310	0.0306	0.0146
94.92	4	-0.0024	2.8033	-0.7931	0.0159	0.0221	0.0166
105.12	4	-0.1231	3.3261	-0.7192	0.0294	0.0303	0.0179
119.88	4	-0.0346	3.7919	-0.5553	0.0207	0.0193	0.0156
135	4	0.2136	4.0533	-0.4872	0.0172	0.0318	0.0166
150.12	4	0.5157	3.9734	-0.4228	0.0168	0.0215	0.0080
164.88	4	1.1904	3.6528	-0.4080	0.0244	0.0214	0.0189
170.16	4	1.4730	3.5013	-0.4343	0.0285	0.0491	0.0083
175.08	4	1.9007	3.1636	-0.5472	0.0248	0.0330	0.0113
180	4	2.2023	3.2056	-0.5250	0.0302	0.0448	0.0311
180.35	3	2.5521	2.7856	-1.5608	0.0305	0.0256	0.0206
184.92	3	2.4649	2.7618	-1.4350	0.0261	0.0451	0.0137
184.92	4	1.4753	3.4088	-0.5895	0.0614	0.0647	0.0190
195.12	3	2.6475	2.7746	-1.4624	0.0378	0.0271	0.0228
209.88	3	3.7154	2.5494	-1.6087	0.0309	0.0391	0.0213
225	3	4.6369	2.7128	-1.6538	0.0210	0.0321	0.0219
240.12	3	5.7316	2.7870	-1.8354	0.0192	0.0162	0.0156
254.88	3	6.7489	2.7726	-1.9892	0.0455	0.0341	0.0206
260.16	3	7.1504	2.7195	-2.0097	0.0500	0.0221	0.0175
265.08	3	7.4856	2.6185	-2.1236	0.0760	0.0211	0.0260
270	3	7.6024	2.5911	-2.1410	0.1097	0.0606	0.0212
270.35	2	7.5898	2.6856	-1.2887	0.1010	0.0736	0.0137
274.92	2	6.2680	3.2226	-1.0886	0.0359	0.0354	0.0194
274.92	3	7.6651	2.6986	-2.1441	0.1611	0.0629	0.0323
285.12	2	6.6317	2.9279	-1.2569	0.0255	0.0293	0.0197
299.88	2	6.7645	2.7285	-1.3879	0.0276	0.0158	0.0119
315	2	6.9512	2.4003	-1.5148	0.0206	0.0618	0.0150
330.12	2	6.7838	2.2532	-1.5692	0.0221	0.0298	0.0122
344.88	2	6.1798	2.2839	-1.4865	0.0604	0.0564	0.0144
350.16	2	6.1408	2.2341	-1.4883	0.0950	0.0411	0.0121
355.08	2	5.4290	2.4462	-1.4574	0.0719	0.0509	0.0173

3.46.2 Spanwise Elastic Deformations

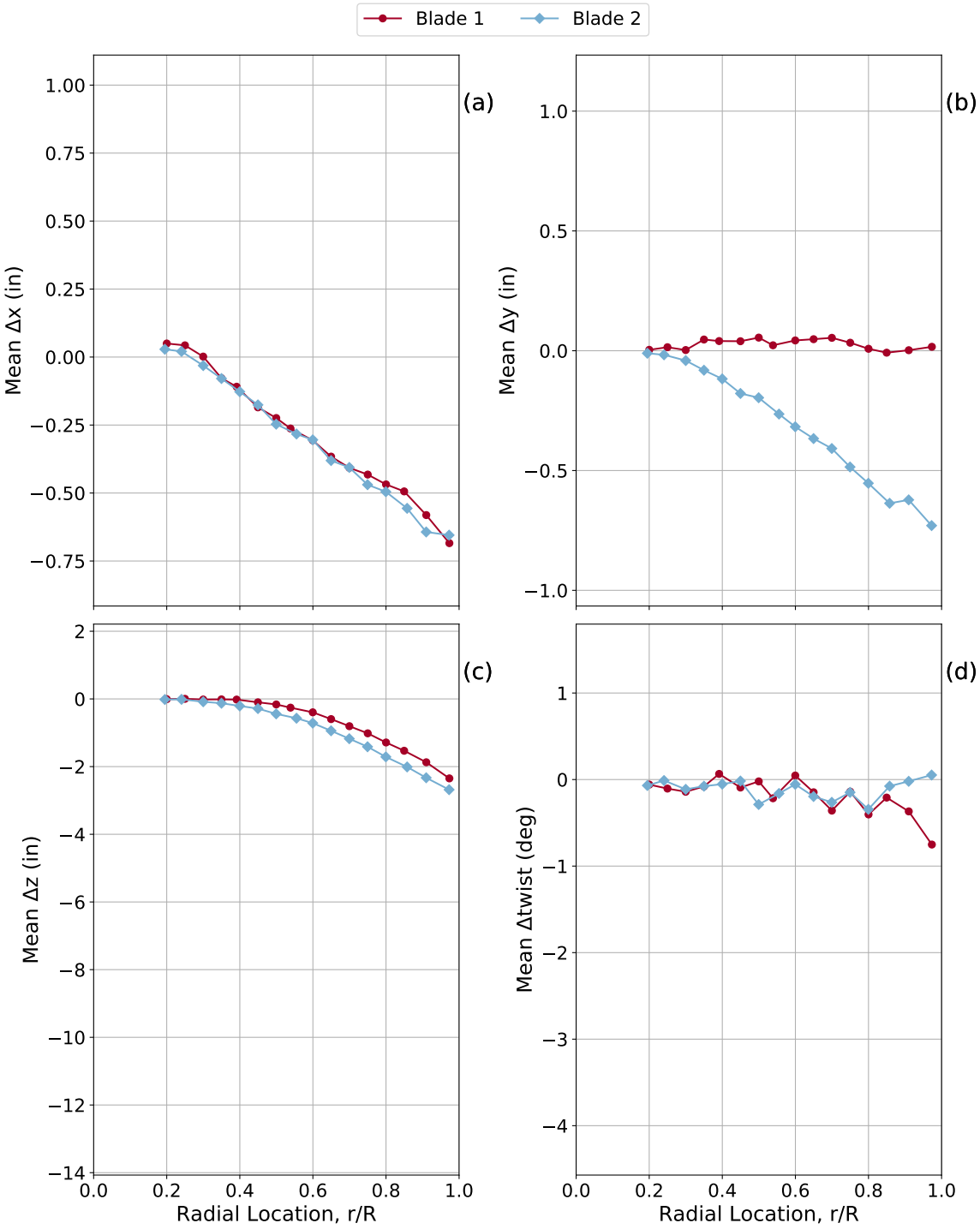


Figure 3.46-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0498	0.0035	0.0038	0.0028	-0.0074	0.0046	-0.0585	0.0403
1	0.35	0.2499	0.0431	0.0018	0.0147	0.0034	0.0027	0.0079	-0.1043	0.0839
1	0.35	0.2998	0.0017	0.0016	0.0029	0.0083	-0.0176	0.0144	-0.1411	0.0935
1	0.35	0.3498	-0.0778	0.0014	0.0468	0.0148	-0.0132	0.0241	-0.0796	0.0828
1	0.35	0.3913	-0.1091	0.0020	0.0404	0.0192	-0.0193	0.0333	0.0652	0.0650
1	0.35	0.4496	-0.1849	0.0015	0.0397	0.0251	-0.0999	0.0443	-0.0923	0.0793
1	0.35	0.4997	-0.2242	0.0022	0.0548	0.0309	-0.1633	0.0557	-0.0213	0.0680
1	0.35	0.5387	-0.2627	0.0030	0.0228	0.0353	-0.2578	0.0653	-0.2163	0.0656
1	0.35	0.5996	-0.3063	0.0027	0.0430	0.0429	-0.3958	0.0782	0.0465	0.0672
1	0.35	0.6498	-0.3662	0.0030	0.0482	0.0490	-0.5964	0.0908	-0.1471	0.0743
1	0.35	0.6998	-0.4073	0.0021	0.0539	0.0536	-0.8056	0.1038	-0.3589	0.0729
1	0.35	0.7500	-0.4321	0.0021	0.0334	0.0589	-1.0166	0.1146	-0.1401	0.0593
1	0.35	0.8001	-0.4683	0.0020	0.0082	0.0635	-1.2872	0.1277	-0.4031	0.0731
1	0.35	0.8497	-0.4940	0.0045	-0.0081	0.0695	-1.5313	0.1426	-0.2084	0.0868
1	0.35	0.9102	-0.5811	0.0095	0.0022	0.0813	-1.8717	0.1626	-0.3680	0.1173
1	0.35	0.9734	-0.6843	0.0051	0.0164	0.0842	-2.3484	0.1747	-0.7511	0.1159
2	0	0.1949	0.0286	0.0027	-0.0105	0.0022	-0.0176	0.0040	-0.0687	0.0234
2	0	0.2405	0.0207	0.0011	-0.0170	0.0016	-0.0128	0.0047	-0.0111	0.0573
2	0	0.2999	-0.0314	0.0015	-0.0410	0.0063	-0.0838	0.0122	-0.1131	0.0534
2	0	0.3498	-0.0790	0.0017	-0.0813	0.0112	-0.1271	0.0196	-0.0767	0.0469
2	0	0.3998	-0.1274	0.0019	-0.1175	0.0153	-0.2082	0.0290	-0.0529	0.0543
2	0	0.4496	-0.1759	0.0016	-0.1783	0.0197	-0.2856	0.0374	-0.0171	0.0625
2	0	0.4995	-0.2468	0.0021	-0.1961	0.0249	-0.4418	0.0475	-0.2881	0.0467
2	0	0.5551	-0.2829	0.0016	-0.2643	0.0309	-0.5703	0.0603	-0.1609	0.0422
2	0	0.5996	-0.3044	0.0020	-0.3173	0.0356	-0.7149	0.0660	-0.0555	0.0527
2	0	0.6497	-0.3806	0.0023	-0.3666	0.0407	-0.9414	0.0721	-0.1958	0.0376
2	0	0.6996	-0.4059	0.0027	-0.4080	0.0460	-1.1759	0.0774	-0.2630	0.0561
2	0	0.7495	-0.4693	0.0031	-0.4851	0.0512	-1.4135	0.0803	-0.1483	0.0485
2	0	0.7996	-0.4953	0.0035	-0.5531	0.0539	-1.7128	0.0824	-0.3442	0.0401
2	0	0.8578	-0.5563	0.0045	-0.6367	0.0626	-2.0101	0.0869	-0.0763	0.0776
2	0	0.9100	-0.6432	0.0043	-0.6224	0.0706	-2.3299	0.0917	-0.0204	0.1415
2	0	0.9727	-0.6548	0.0127	-0.7298	0.0786	-2.6819	0.1001	0.0523	0.1131

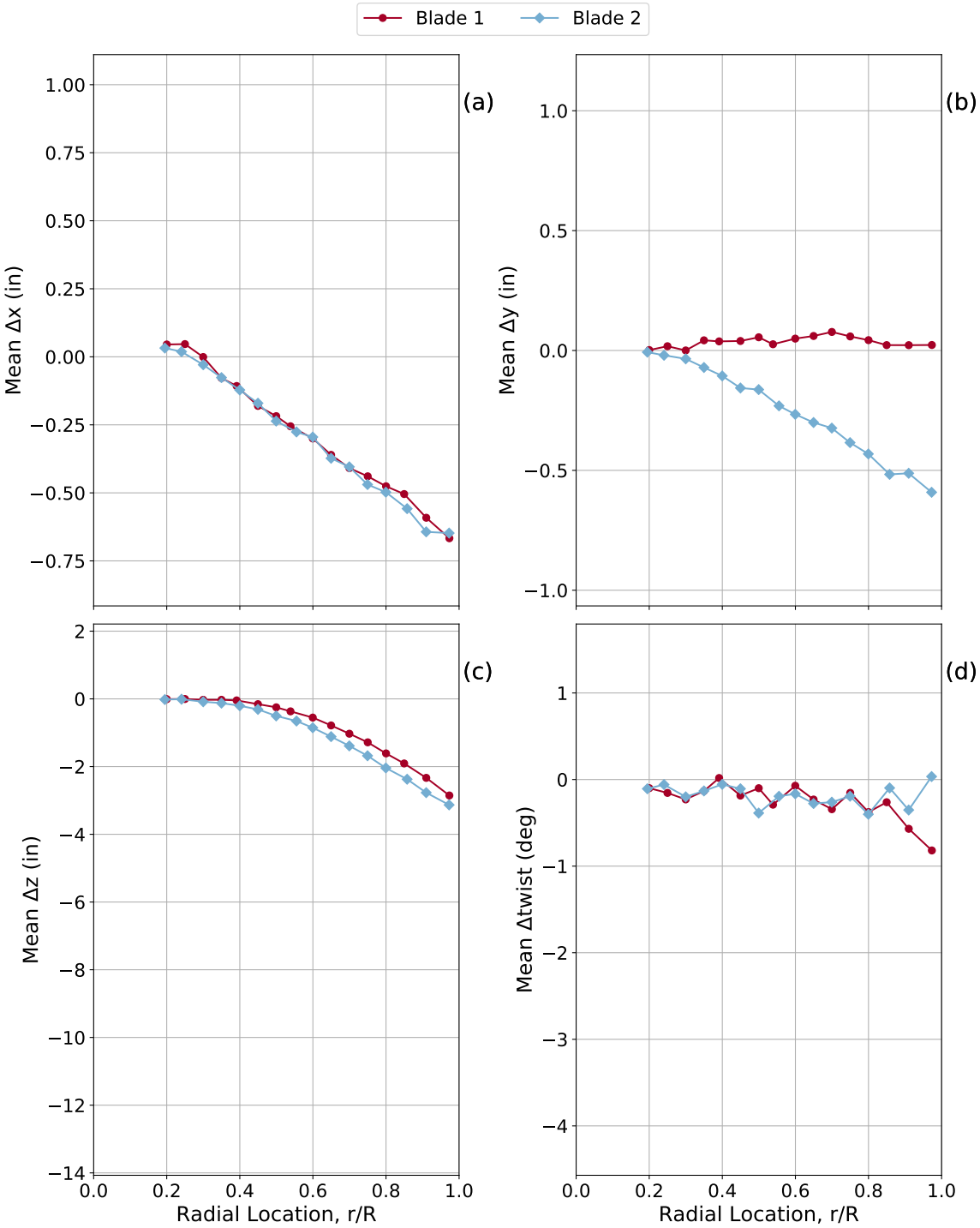


Figure 3.46-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0453	0.0032	0.0018	0.0019	-0.0082	0.0054	-0.0996	0.0310
1	4.92	0.2499	0.0467	0.0030	0.0178	0.0036	-0.0037	0.0081	-0.1543	0.0705
1	4.92	0.2998	-0.0008	0.0014	0.0002	0.0066	-0.0277	0.0191	-0.2296	0.0733
1	4.92	0.3498	-0.0779	0.0023	0.0424	0.0121	-0.0273	0.0326	-0.1323	0.0733
1	4.92	0.3913	-0.1073	0.0023	0.0380	0.0162	-0.0452	0.0451	0.0177	0.0725
1	4.92	0.4496	-0.1804	0.0029	0.0396	0.0214	-0.1555	0.0663	-0.1851	0.0680
1	4.92	0.4997	-0.2181	0.0026	0.0551	0.0242	-0.2497	0.0866	-0.0999	0.0792
1	4.92	0.5387	-0.2553	0.0031	0.0260	0.0279	-0.3685	0.1048	-0.2904	0.0665
1	4.92	0.5996	-0.3001	0.0030	0.0495	0.0337	-0.5524	0.1320	-0.0717	0.0706
1	4.92	0.6498	-0.3604	0.0026	0.0605	0.0383	-0.7845	0.1558	-0.2308	0.0673
1	4.92	0.6998	-0.4090	0.0032	0.0773	0.0423	-1.0290	0.1757	-0.3426	0.0748
1	4.92	0.7500	-0.4392	0.0042	0.0586	0.0466	-1.2833	0.1945	-0.1535	0.0696
1	4.92	0.8001	-0.4758	0.0047	0.0431	0.0522	-1.6105	0.2105	-0.3758	0.0817
1	4.92	0.8497	-0.5044	0.0047	0.0224	0.0553	-1.9078	0.2254	-0.2618	0.0964
1	4.92	0.9102	-0.5915	0.0056	0.0222	0.0612	-2.3327	0.2493	-0.5688	0.1010
1	4.92	0.9734	-0.6668	0.0068	0.0229	0.0661	-2.8532	0.2673	-0.8190	0.0878
2	4.92	0.1949	0.0322	0.0031	-0.0069	0.0012	-0.0196	0.0039	-0.1064	0.0293
2	4.92	0.2405	0.0189	0.0019	-0.0200	0.0015	-0.0100	0.0047	-0.0582	0.0705
2	4.92	0.2999	-0.0292	0.0010	-0.0349	0.0037	-0.0849	0.0125	-0.1997	0.0812
2	4.92	0.3498	-0.0765	0.0015	-0.0709	0.0059	-0.1256	0.0222	-0.1315	0.0811
2	4.92	0.3998	-0.1219	0.0011	-0.1061	0.0089	-0.2040	0.0320	-0.0552	0.0758
2	4.92	0.4496	-0.1705	0.0009	-0.1565	0.0126	-0.3108	0.0426	-0.1064	0.0757
2	4.92	0.4995	-0.2362	0.0011	-0.1631	0.0156	-0.5033	0.0525	-0.3872	0.0800
2	4.92	0.5551	-0.2761	0.0013	-0.2310	0.0197	-0.6542	0.0684	-0.1931	0.0673
2	4.92	0.5996	-0.2949	0.0016	-0.2663	0.0220	-0.8530	0.0806	-0.1649	0.0726
2	4.92	0.6497	-0.3729	0.0016	-0.3004	0.0263	-1.1152	0.0952	-0.2770	0.0676
2	4.92	0.6996	-0.4044	0.0016	-0.3237	0.0287	-1.3886	0.1077	-0.2613	0.0761
2	4.92	0.7495	-0.4694	0.0023	-0.3843	0.0326	-1.6803	0.1224	-0.1924	0.0701
2	4.92	0.7996	-0.4975	0.0030	-0.4316	0.0333	-2.0404	0.1378	-0.4008	0.0743
2	4.92	0.8578	-0.5581	0.0017	-0.5167	0.0383	-2.3734	0.1562	-0.0971	0.0862
2	4.92	0.9100	-0.6433	0.0050	-0.5122	0.0429	-2.7698	0.1692	-0.3518	0.1413
2	4.92	0.9727	-0.6478	0.0052	-0.5915	0.0486	-3.1316	0.1929	0.0347	0.1201

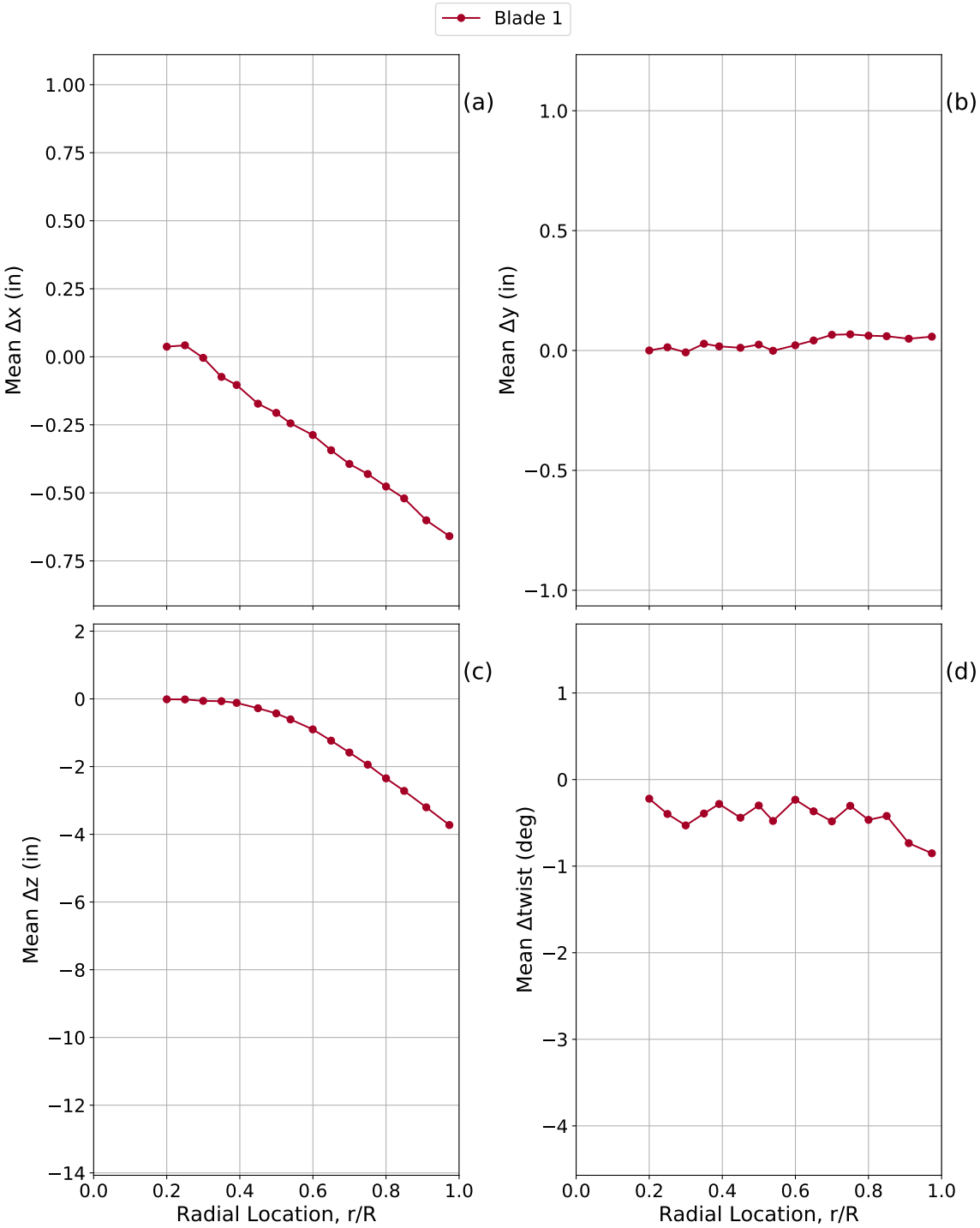


Figure 3.46-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0372	0.0031	0.0001	0.0021	-0.0126	0.0036	-0.2212	0.0389
1	15.12	0.2499	0.0422	0.0021	0.0134	0.0031	-0.0165	0.0064	-0.3976	0.0798
1	15.12	0.2998	-0.0038	0.0019	-0.0079	0.0071	-0.0595	0.0116	-0.5298	0.0913
1	15.12	0.3498	-0.0738	0.0023	0.0283	0.0119	-0.0680	0.0195	-0.3924	0.0859
1	15.12	0.3913	-0.1035	0.0030	0.0171	0.0165	-0.1182	0.0273	-0.2822	0.0875
1	15.12	0.4496	-0.1723	0.0033	0.0113	0.0216	-0.2764	0.0375	-0.4408	0.0880
1	15.12	0.4997	-0.2060	0.0029	0.0246	0.0264	-0.4292	0.0483	-0.2998	0.0888
1	15.12	0.5387	-0.2445	0.0031	-0.0011	0.0296	-0.6059	0.0575	-0.4781	0.0898
1	15.12	0.5996	-0.2874	0.0036	0.0217	0.0351	-0.9012	0.0716	-0.2329	0.0852
1	15.12	0.6498	-0.3433	0.0032	0.0418	0.0399	-1.2339	0.0817	-0.3668	0.0897
1	15.12	0.6998	-0.3937	0.0033	0.0655	0.0443	-1.5847	0.0918	-0.4826	0.0879
1	15.12	0.7500	-0.4307	0.0037	0.0674	0.0493	-1.9433	0.1018	-0.3037	0.0821
1	15.12	0.8001	-0.4767	0.0037	0.0618	0.0537	-2.3466	0.1094	-0.4656	0.0949
1	15.12	0.8497	-0.5203	0.0040	0.0596	0.0590	-2.7177	0.1151	-0.4206	0.0919
1	15.12	0.9102	-0.6009	0.0042	0.0490	0.0654	-3.2033	0.1244	-0.7349	0.0669
1	15.12	0.9734	-0.6590	0.0060	0.0577	0.0716	-3.7258	0.1311	-0.8517	0.1080

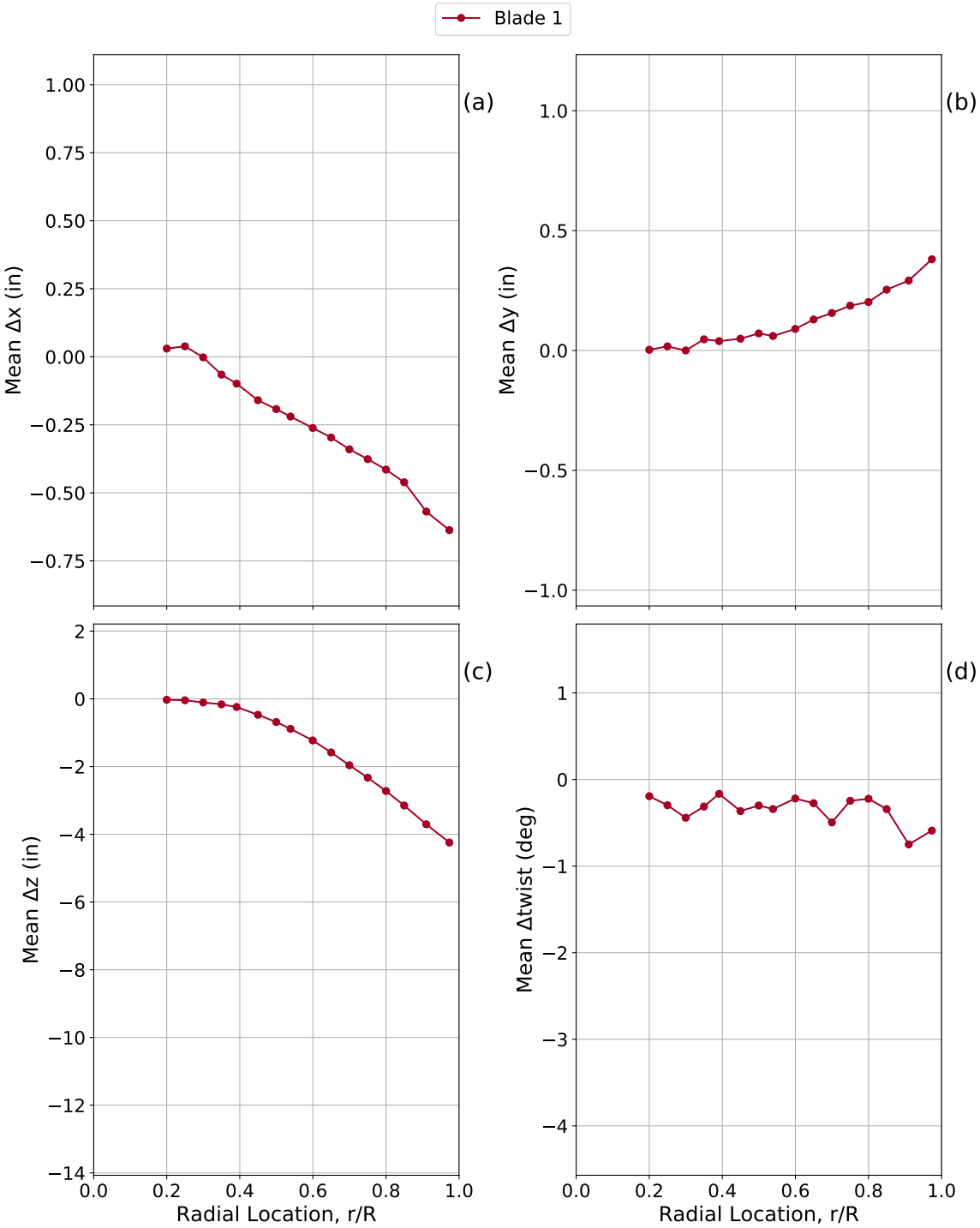


Figure 3.46-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0302	0.0023	0.0028	0.0015	-0.0259	0.0044	-0.1924	0.0253
1	29.88	0.2499	0.0386	0.0021	0.0172	0.0026	-0.0411	0.0062	-0.2966	0.0491
1	29.88	0.2998	-0.0020	0.0014	0.0001	0.0053	-0.1057	0.0160	-0.4415	0.0578
1	29.88	0.3498	-0.0655	0.0020	0.0466	0.0094	-0.1607	0.0254	-0.3115	0.0613
1	29.88	0.3913	-0.0987	0.0019	0.0391	0.0128	-0.2403	0.0363	-0.1649	0.0632
1	29.88	0.4496	-0.1596	0.0020	0.0492	0.0164	-0.4712	0.0502	-0.3638	0.0598
1	29.88	0.4997	-0.1922	0.0019	0.0712	0.0197	-0.6837	0.0665	-0.2997	0.0585
1	29.88	0.5387	-0.2195	0.0021	0.0605	0.0227	-0.8852	0.0790	-0.3409	0.0602
1	29.88	0.5996	-0.2616	0.0022	0.0899	0.0267	-1.2275	0.0977	-0.2188	0.0637
1	29.88	0.6498	-0.2965	0.0029	0.1293	0.0301	-1.5820	0.1130	-0.2736	0.0627
1	29.88	0.6998	-0.3400	0.0025	0.1564	0.0338	-1.9596	0.1269	-0.4951	0.0577
1	29.88	0.7500	-0.3761	0.0026	0.1869	0.0378	-2.3275	0.1417	-0.2457	0.0634
1	29.88	0.8001	-0.4145	0.0030	0.2022	0.0409	-2.7219	0.1544	-0.2220	0.0606
1	29.88	0.8497	-0.4611	0.0034	0.2537	0.0452	-3.1496	0.1682	-0.3413	0.0614
1	29.88	0.9102	-0.5688	0.0037	0.2918	0.0500	-3.7041	0.1857	-0.7492	0.0677
1	29.88	0.9734	-0.6370	0.0044	0.3804	0.0538	-4.2426	0.2048	-0.5895	0.0619

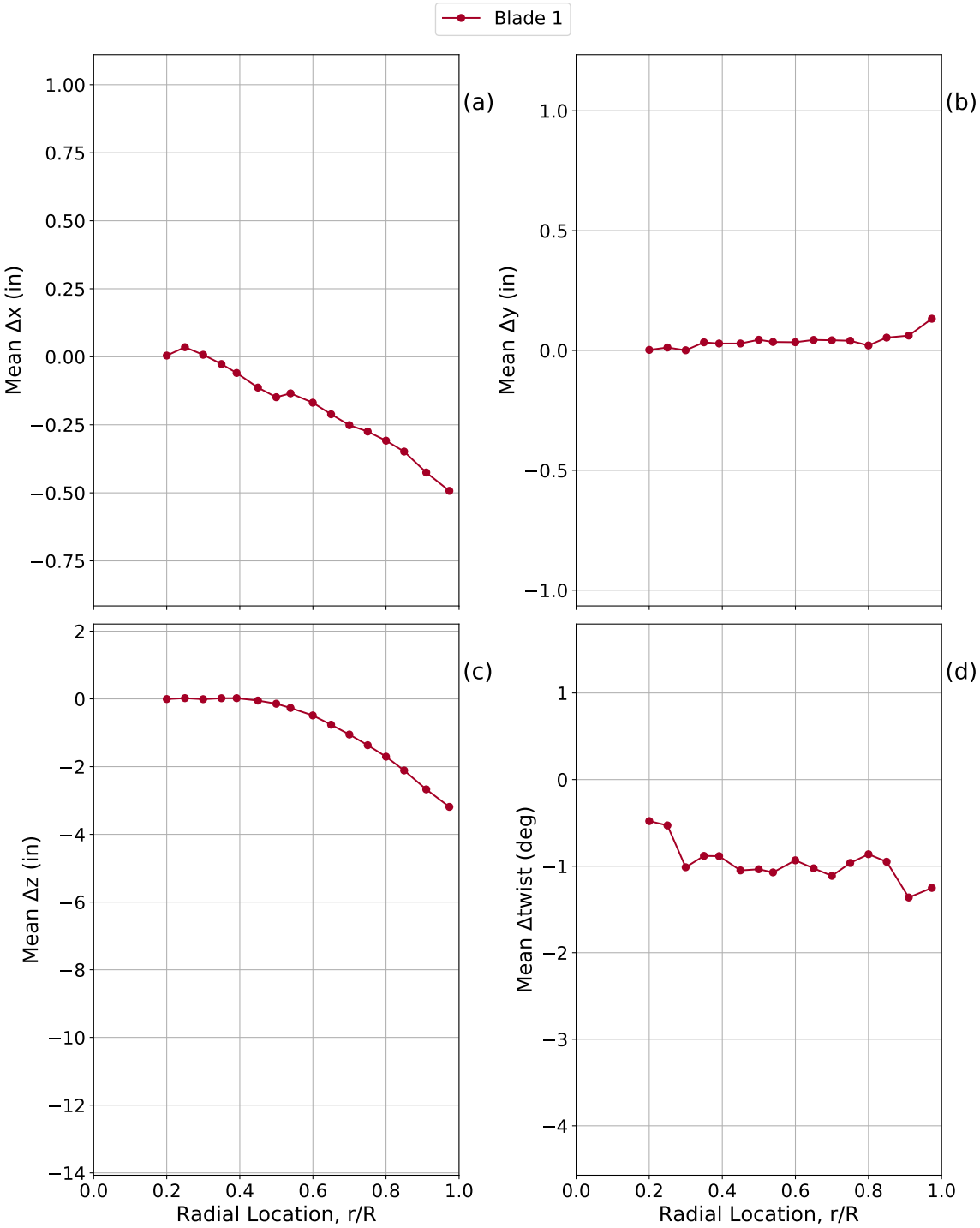


Figure 3.46-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0044	0.0036	0.0022	0.0023	-0.0052	0.0057	-0.4792	0.0328
1	45	0.2499	0.0352	0.0015	0.0122	0.0026	0.0215	0.0066	-0.5291	0.0885
1	45	0.2998	0.0073	0.0015	0.0007	0.0074	-0.0090	0.0179	-1.0124	0.0871
1	45	0.3498	-0.0267	0.0010	0.0338	0.0137	0.0191	0.0306	-0.8815	0.0852
1	45	0.3913	-0.0596	0.0014	0.0288	0.0177	0.0210	0.0407	-0.8840	0.0948
1	45	0.4496	-0.1133	0.0024	0.0289	0.0234	-0.0503	0.0595	-1.0489	0.0868
1	45	0.4997	-0.1487	0.0038	0.0445	0.0291	-0.1420	0.0745	-1.0352	0.0848
1	45	0.5387	-0.1345	0.0078	0.0352	0.0266	-0.2673	0.0958	-1.0718	0.0925
1	45	0.5996	-0.1688	0.0079	0.0342	0.0322	-0.4886	0.1148	-0.9322	0.0967
1	45	0.6498	-0.2113	0.0081	0.0438	0.0371	-0.7619	0.1275	-1.0248	0.1005
1	45	0.6998	-0.2514	0.0078	0.0424	0.0419	-1.0518	0.1386	-1.1119	0.0926
1	45	0.7500	-0.2748	0.0074	0.0403	0.0472	-1.3672	0.1492	-0.9629	0.0966
1	45	0.8001	-0.3083	0.0075	0.0207	0.0520	-1.7056	0.1604	-0.8620	0.0899
1	45	0.8497	-0.3484	0.0069	0.0535	0.0572	-2.1124	0.1688	-0.9486	0.0880
1	45	0.9102	-0.4253	0.0070	0.0620	0.0630	-2.6713	0.1803	-1.3616	0.0883
1	45	0.9734	-0.4928	0.0080	0.1322	0.0696	-3.1885	0.1919	-1.2512	0.0883

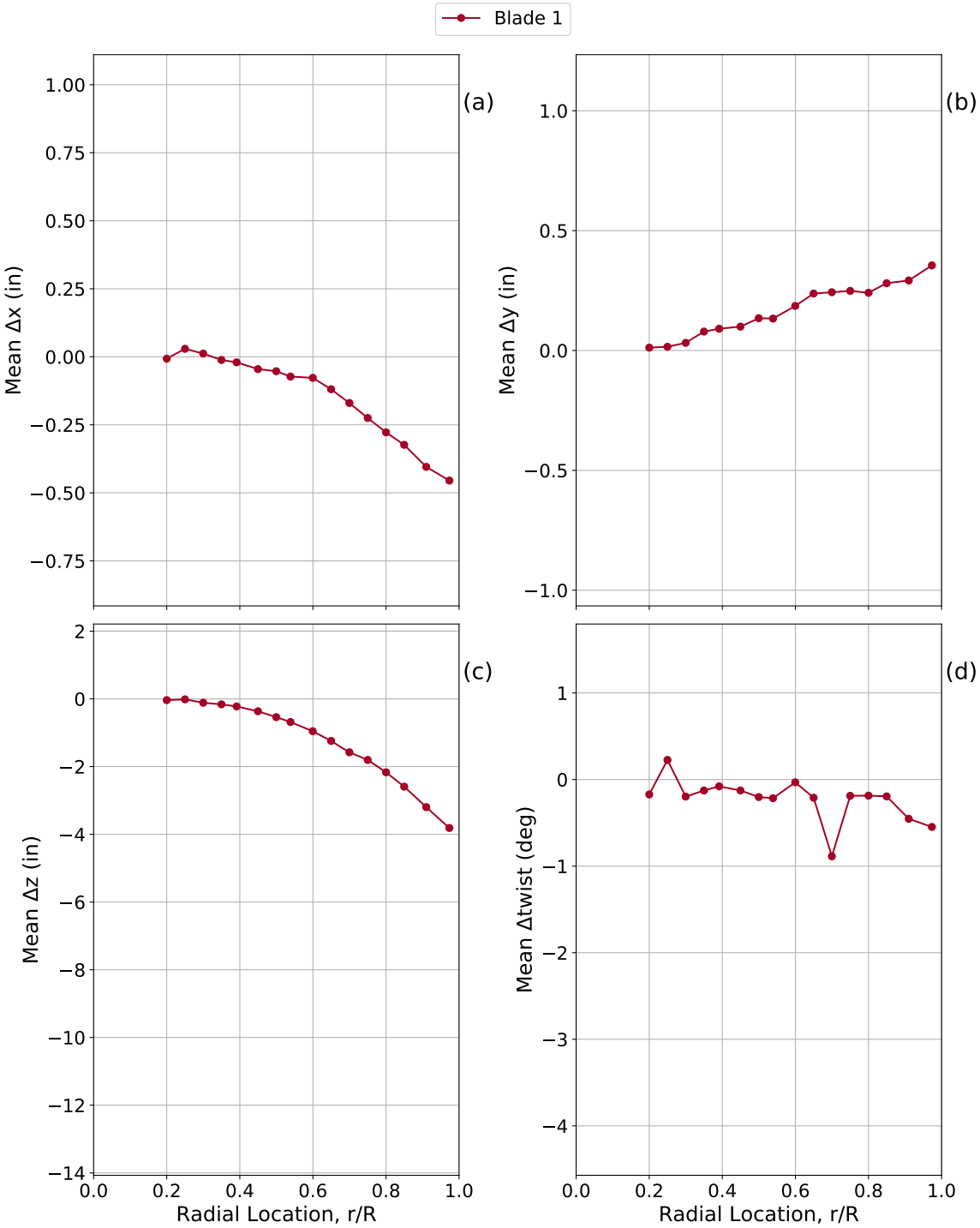


Figure 3.46-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0070	0.0029	0.0120	0.0036	-0.0364	0.0082	-0.1721	0.0488
1	60.12	0.2499	0.0294	0.0011	0.0155	0.0033	-0.0138	0.0080	0.2267	0.1322
1	60.12	0.2998	0.0119	0.0015	0.0319	0.0115	-0.1149	0.0257	-0.1970	0.1303
1	60.12	0.3498	-0.0117	0.0022	0.0789	0.0198	-0.1611	0.0434	-0.1265	0.1228
1	60.12	0.3913	-0.0203	0.0024	0.0908	0.0263	-0.2238	0.0576	-0.0785	0.1206
1	60.12	0.4496	-0.0452	0.0029	0.0995	0.0362	-0.3661	0.0768	-0.1261	0.1319
1	60.12	0.4997	-0.0530	0.0039	0.1347	0.0448	-0.5396	0.0947	-0.2020	0.1343
1	60.12	0.5387	-0.0726	0.0044	0.1331	0.0522	-0.6843	0.1092	-0.2154	0.1347
1	60.12	0.5996	-0.0774	0.0058	0.1858	0.0622	-0.9553	0.1326	-0.0320	0.1155
1	60.12	0.6498	-0.1192	0.0072	0.2375	0.0709	-1.2429	0.1486	-0.2096	0.1517
1	60.12	0.6998	-0.1698	0.0031	0.2430	0.0699	-1.5783	0.1685	-0.8866	0.2345
1	60.12	0.7500	-0.2248	0.0032	0.2485	0.0767	-1.8039	0.1880	-0.1877	0.1139
1	60.12	0.8001	-0.2777	0.0036	0.2407	0.0844	-2.1679	0.2053	-0.1858	0.1077
1	60.12	0.8497	-0.3235	0.0039	0.2807	0.0927	-2.5916	0.2215	-0.1945	0.1129
1	60.12	0.9102	-0.4045	0.0046	0.2920	0.1031	-3.1977	0.2399	-0.4531	0.1095
1	60.12	0.9734	-0.4549	0.0031	0.3550	0.1136	-3.8136	0.2604	-0.5474	0.1066

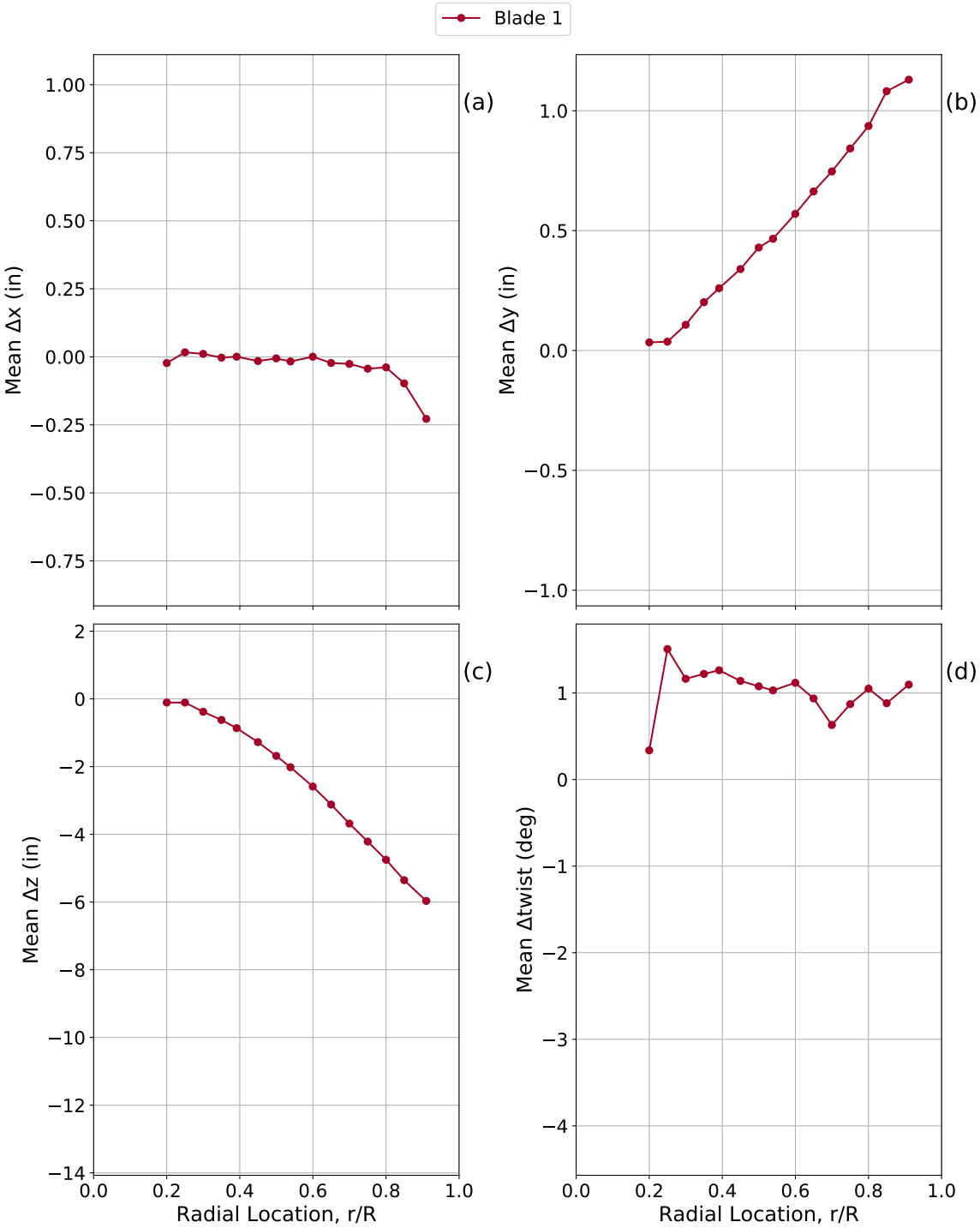


Figure 3.46-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0229	0.0031	0.0337	0.0026	-0.1069	0.0074	0.3372	0.0315
1	74.88	0.2499	0.0165	0.0011	0.0367	0.0033	-0.1091	0.0052	1.5069	0.1211
1	74.88	0.2998	0.0108	0.0013	0.1071	0.0076	-0.3814	0.0212	1.1632	0.0848
1	74.88	0.3498	-0.0030	0.0020	0.2014	0.0129	-0.6218	0.0311	1.2203	0.0827
1	74.88	0.3913	0.0004	0.0018	0.2597	0.0167	-0.8643	0.0408	1.2619	0.0841
1	74.88	0.4496	-0.0156	0.0026	0.3396	0.0226	-1.2770	0.0541	1.1392	0.0869
1	74.88	0.4997	-0.0058	0.0021	0.4295	0.0280	-1.6833	0.0645	1.0765	0.0872
1	74.88	0.5387	-0.0171	0.0025	0.4660	0.0321	-2.0201	0.0717	1.0295	0.0889
1	74.88	0.5996	0.0003	0.0030	0.5698	0.0387	-2.5887	0.0850	1.1176	0.0979
1	74.88	0.6498	-0.0226	0.0042	0.6634	0.0438	-3.1212	0.0985	0.9366	0.0687
1	74.88	0.6998	-0.0262	0.0041	0.7467	0.0485	-3.6826	0.1064	0.6298	0.1336
1	74.88	0.7500	-0.0437	0.0054	0.8426	0.0531	-4.2145	0.1209	0.8708	0.1205
1	74.88	0.8001	-0.0388	0.0180	0.9362	0.0599	-4.7516	0.1346	1.0505	0.1684
1	74.88	0.8497	-0.0976	0.0077	1.0816	0.0630	-5.3546	0.1473	0.8813	0.1256
1	74.88	0.9102	-0.2280	0.0066	1.1295	0.0725	-5.9690	0.1542	1.0964	0.0965

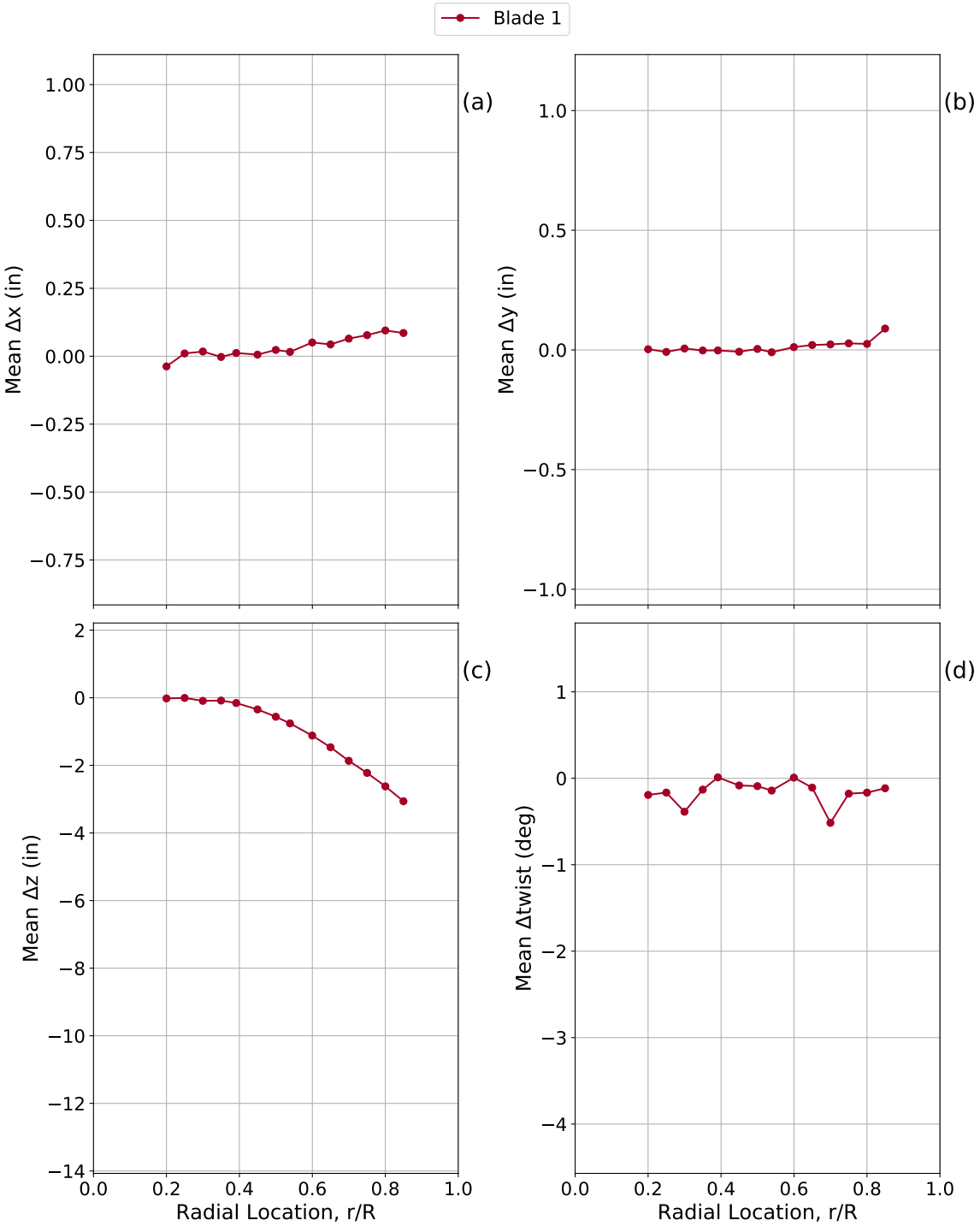


Figure 3.46-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0375	0.0009	0.0029	0.0009	-0.0209	0.0021	-0.1927	0.0206
1	80.16	0.2499	0.0102	0.0011	-0.0084	0.0023	-0.0058	0.0037	-0.1655	0.0215
1	80.16	0.2998	0.0173	0.0013	0.0059	0.0039	-0.0925	0.0077	-0.3871	0.0391
1	80.16	0.3498	-0.0027	0.0018	-0.0022	0.0069	-0.0838	0.0108	-0.1311	0.0400
1	80.16	0.3913	0.0119	0.0014	-0.0021	0.0102	-0.1567	0.0167	0.0103	0.0374
1	80.16	0.4496	0.0058	0.0023	-0.0076	0.0133	-0.3458	0.0227	-0.0830	0.0317
1	80.16	0.4997	0.0232	0.0030	0.0041	0.0157	-0.5620	0.0288	-0.0909	0.0439
1	80.16	0.5387	0.0160	0.0022	-0.0098	0.0161	-0.7593	0.0301	-0.1421	0.0465
1	80.16	0.5996	0.0506	0.0025	0.0117	0.0196	-1.1191	0.0316	0.0076	0.0496
1	80.16	0.6498	0.0435	0.0033	0.0204	0.0209	-1.4657	0.0377	-0.1080	0.0442
1	80.16	0.6998	0.0648	0.0037	0.0231	0.0244	-1.8655	0.0485	-0.5154	0.1203
1	80.16	0.7500	0.0776	0.0043	0.0275	0.0277	-2.2236	0.0470	-0.1779	0.0701
1	80.16	0.8001	0.0949	0.0070	0.0250	0.0301	-2.6221	0.0610	-0.1660	0.1469
1	80.16	0.8497	0.0855	0.0055	0.0892	0.0323	-3.0621	0.0683	-0.1156	0.1666

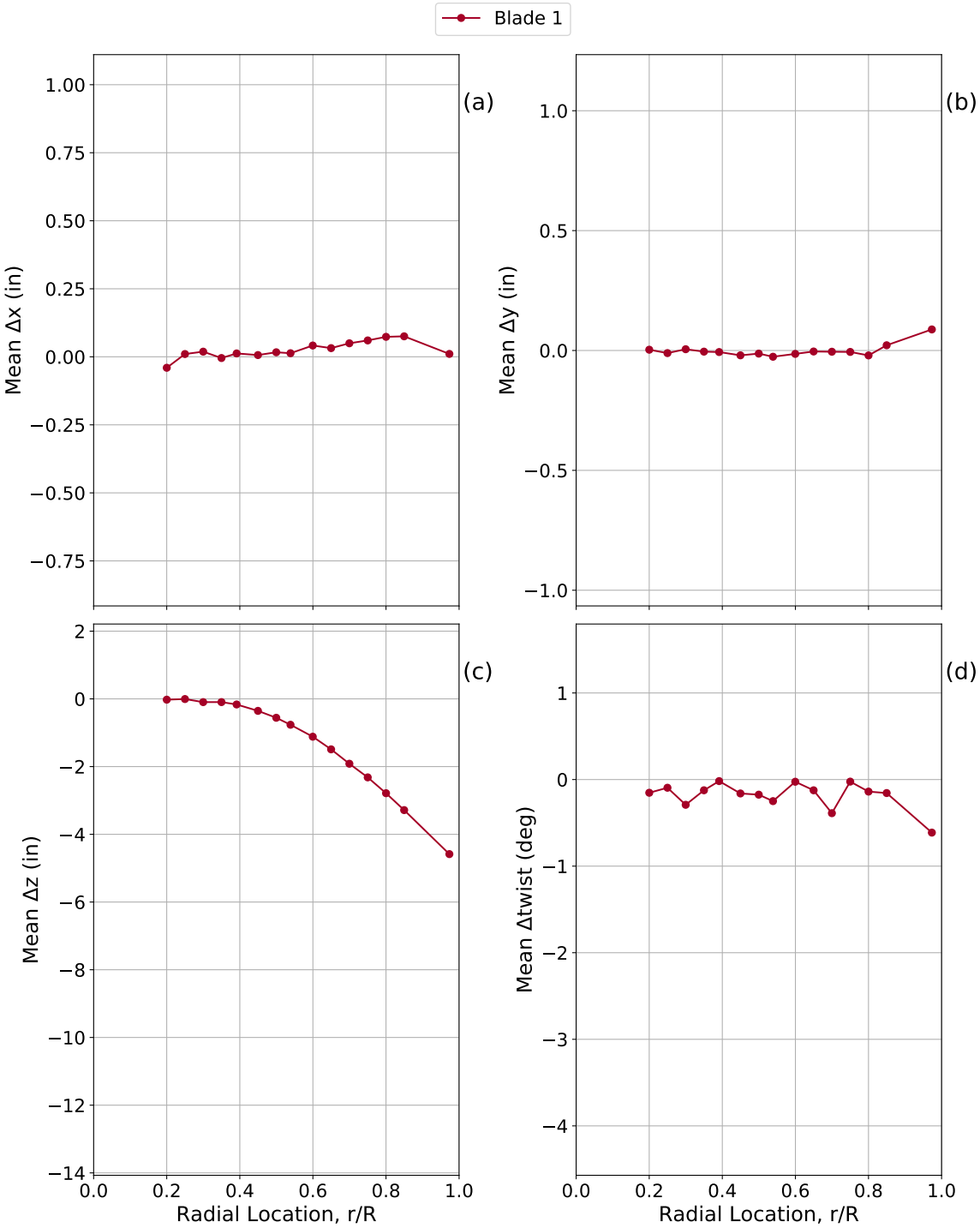


Figure 3.46-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0403	0.0009	0.0032	0.0005	-0.0235	0.0014	-0.1527	0.0111
1	85.08	0.2499	0.0102	0.0009	-0.0109	0.0010	-0.0049	0.0042	-0.0946	0.0384
1	85.08	0.2998	0.0189	0.0011	0.0053	0.0021	-0.0958	0.0059	-0.2916	0.0291
1	85.08	0.3498	-0.0045	0.0008	-0.0048	0.0033	-0.0950	0.0104	-0.1239	0.0255
1	85.08	0.3913	0.0124	0.0010	-0.0065	0.0049	-0.1651	0.0155	-0.0179	0.0289
1	85.08	0.4496	0.0064	0.0016	-0.0202	0.0061	-0.3540	0.0205	-0.1607	0.0234
1	85.08	0.4997	0.0167	0.0015	-0.0130	0.0074	-0.5581	0.0254	-0.1746	0.0219
1	85.08	0.5387	0.0132	0.0017	-0.0261	0.0082	-0.7643	0.0299	-0.2493	0.0454
1	85.08	0.5996	0.0415	0.0017	-0.0142	0.0102	-1.1169	0.0347	-0.0253	0.0282
1	85.08	0.6498	0.0319	0.0020	-0.0042	0.0122	-1.4906	0.0385	-0.1241	0.0469
1	85.08	0.6998	0.0497	0.0026	-0.0052	0.0139	-1.9156	0.0417	-0.3885	0.0502
1	85.08	0.7500	0.0602	0.0035	-0.0060	0.0154	-2.3185	0.0430	-0.0239	0.0486
1	85.08	0.8001	0.0734	0.0034	-0.0206	0.0165	-2.7860	0.0434	-0.1392	0.1077
1	85.08	0.8497	0.0753	0.0029	0.0218	0.0185	-3.2855	0.0502	-0.1560	0.0695
1	85.08	0.9734	0.0106	0.0098	0.0878	0.0242	-4.5847	0.0775	-0.6128	0.2596

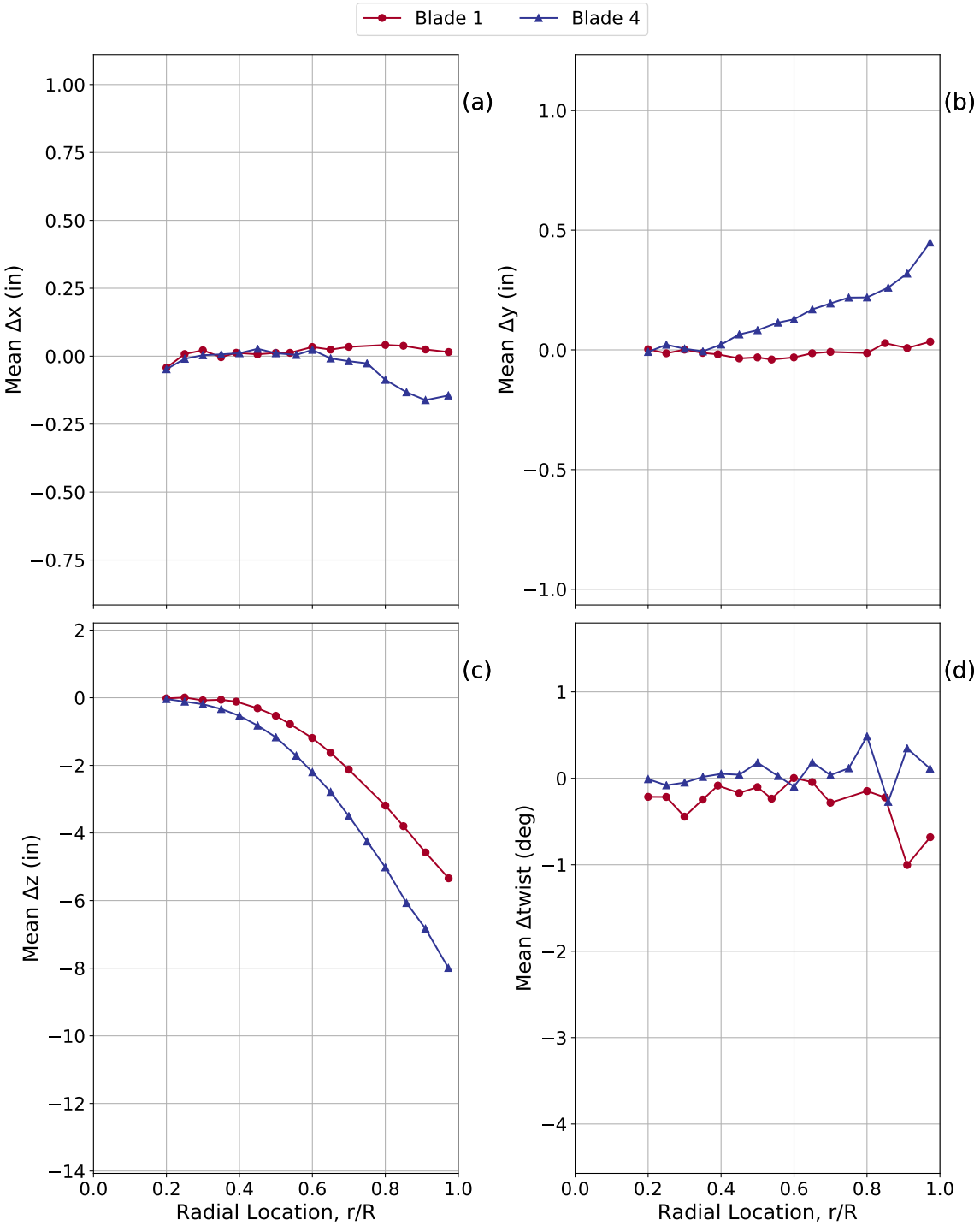


Figure 3.46-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0422	0.0011	0.0025	0.0007	-0.0188	0.0023	-0.2147	0.0132
1	90	0.2499	0.0079	0.0009	-0.0143	0.0013	0.0056	0.0045	-0.2160	0.0259
1	90	0.2998	0.0218	0.0011	0.0011	0.0025	-0.0766	0.0095	-0.4439	0.0247
1	90	0.3498	-0.0037	0.0006	-0.0127	0.0045	-0.0590	0.0148	-0.2460	0.0239
1	90	0.3913	0.0126	0.0013	-0.0187	0.0061	-0.1147	0.0222	-0.0840	0.0205
1	90	0.4496	0.0068	0.0011	-0.0356	0.0079	-0.3108	0.0307	-0.1701	0.0351
1	90	0.4997	0.0123	0.0016	-0.0315	0.0099	-0.5331	0.0392	-0.1019	0.0248
1	90	0.5387	0.0123	0.0012	-0.0401	0.0108	-0.7811	0.0447	-0.2360	0.0321
1	90	0.5996	0.0339	0.0018	-0.0315	0.0133	-1.1904	0.0566	0.0033	0.0301
1	90	0.6498	0.0242	0.0021	-0.0140	0.0152	-1.6274	0.0646	-0.0438	0.0322
1	90	0.6998	0.0343	0.0017	-0.0085	0.0166	-2.1243	0.0718	-0.2832	0.0342
1	90	0.8001	0.0415	0.0024	-0.0131	0.0195	-3.1899	0.0903	-0.1476	0.0684
1	90	0.8497	0.0383	0.0026	0.0283	0.0226	-3.7993	0.0975	-0.2210	0.0701
1	90	0.9102	0.0247	0.0133	0.0077	0.0253	-4.5766	0.1138	-1.0031	0.2926
1	90	0.9734	0.0153	0.0046	0.0345	0.0269	-5.3398	0.1230	-0.6814	0.0651
4	90.35	0.2001	-0.0478	0.0025	-0.0086	0.0006	-0.0388	0.0025	-0.0097	0.0216
4	90.35	0.2502	-0.0094	0.0011	0.0217	0.0014	-0.1146	0.0056	-0.0809	0.0492
4	90.35	0.3001	0.0036	0.0013	0.0048	0.0023	-0.1923	0.0097	-0.0495	0.0543
4	90.35	0.3502	0.0067	0.0027	-0.0062	0.0043	-0.3323	0.0177	0.0161	0.0407
4	90.35	0.4002	0.0111	0.0040	0.0224	0.0063	-0.5346	0.0267	0.0512	0.0380
4	90.35	0.4500	0.0272	0.0053	0.0648	0.0080	-0.8238	0.0331	0.0413	0.0505
4	90.35	0.5001	0.0109	0.0061	0.0826	0.0103	-1.1724	0.0392	0.1803	0.0510
4	90.35	0.5560	0.0047	0.0069	0.1142	0.0142	-1.7160	0.0514	0.0265	0.0502
4	90.35	0.6001	0.0233	0.0074	0.1282	0.0167	-2.2027	0.0572	-0.0953	0.0475
4	90.35	0.6501	-0.0082	0.0083	0.1694	0.0192	-2.7856	0.0654	0.1843	0.0509
4	90.35	0.6999	-0.0183	0.0090	0.1940	0.0208	-3.5029	0.0723	0.0367	0.0626
4	90.35	0.7500	-0.0264	0.0098	0.2185	0.0235	-4.2511	0.0826	0.1165	0.0472
4	90.35	0.8002	-0.0869	0.0109	0.2191	0.0250	-5.0177	0.0898	0.4847	0.1140
4	90.35	0.8582	-0.1326	0.0139	0.2602	0.0284	-6.0716	0.1022	-0.2722	0.0987
4	90.35	0.9101	-0.1615	0.0176	0.3188	0.0317	-6.8310	0.1140	0.3461	0.1410
4	90.35	0.9728	-0.1444	0.0183	0.4486	0.0430	-7.9941	0.1368	0.1126	0.1583

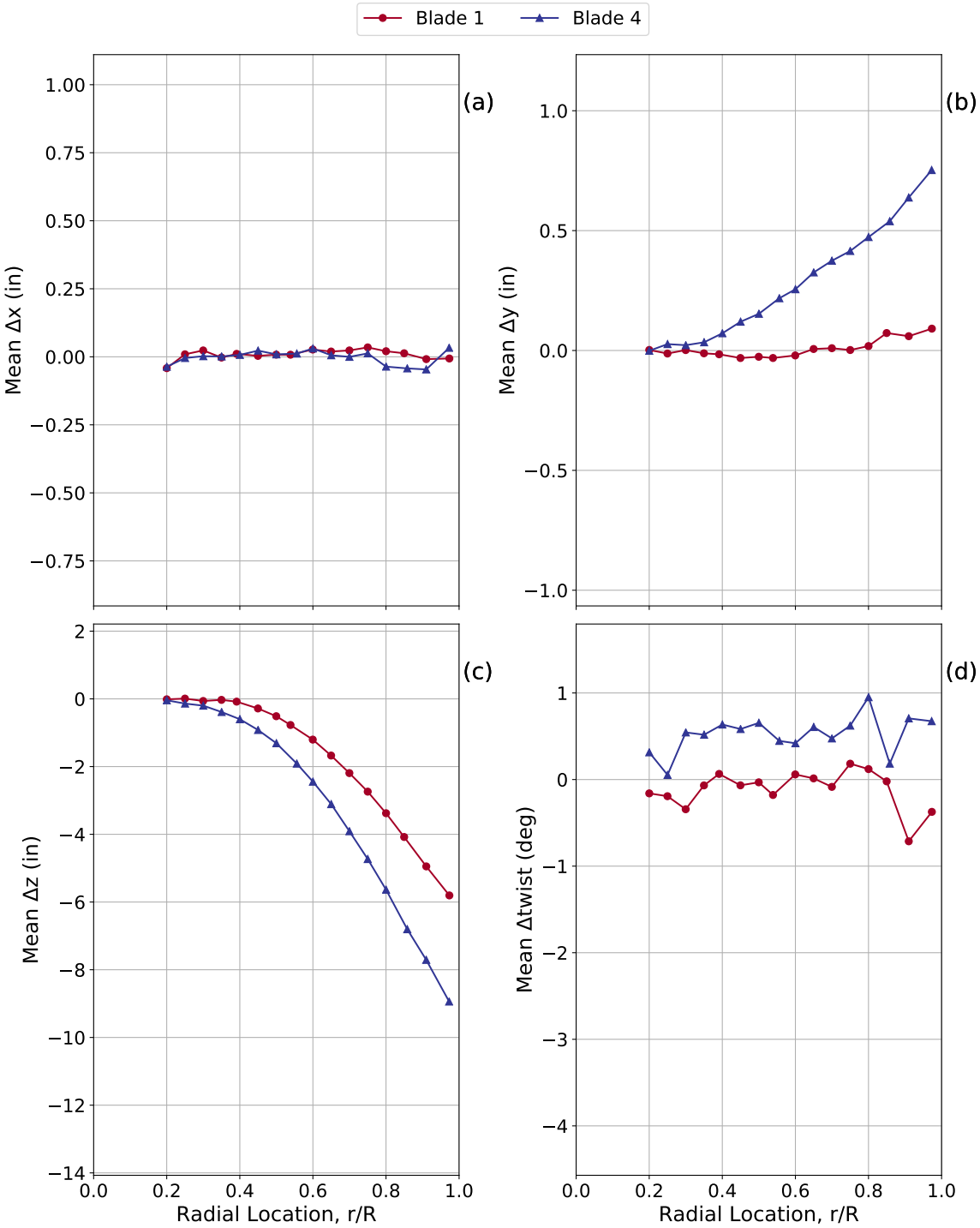


Figure 3.46-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0417	0.0009	0.0022	0.0005	-0.0132	0.0015	-0.1597	0.0172
1	94.92	0.2499	0.0092	0.0006	-0.0127	0.0011	0.0081	0.0039	-0.1924	0.0244
1	94.92	0.2998	0.0234	0.0010	0.0017	0.0021	-0.0623	0.0074	-0.3429	0.0376
1	94.92	0.3498	-0.0027	0.0007	-0.0118	0.0038	-0.0299	0.0116	-0.0676	0.0322
1	94.92	0.3913	0.0108	0.0013	-0.0159	0.0053	-0.0812	0.0179	0.0650	0.0358
1	94.92	0.4496	0.0034	0.0015	-0.0314	0.0070	-0.2830	0.0253	-0.0667	0.0248
1	94.92	0.4997	0.0080	0.0016	-0.0262	0.0089	-0.5123	0.0317	-0.0321	0.0263
1	94.92	0.5387	0.0077	0.0020	-0.0313	0.0104	-0.7716	0.0365	-0.1781	0.0366
1	94.92	0.5996	0.0267	0.0019	-0.0207	0.0125	-1.2030	0.0469	0.0592	0.0300
1	94.92	0.6498	0.0194	0.0025	0.0062	0.0146	-1.6733	0.0545	0.0134	0.0283
1	94.92	0.6998	0.0234	0.0021	0.0095	0.0162	-2.1921	0.0627	-0.0846	0.0285
1	94.92	0.7500	0.0346	0.0016	0.0019	0.0180	-2.7397	0.0720	0.1830	0.0430
1	94.92	0.8001	0.0205	0.0021	0.0184	0.0201	-3.3771	0.0815	0.1208	0.0364
1	94.92	0.8497	0.0130	0.0018	0.0728	0.0221	-4.0792	0.0924	-0.0210	0.0495
1	94.92	0.9102	-0.0085	0.0047	0.0596	0.0252	-4.9479	0.1036	-0.7131	0.0588
1	94.92	0.9734	-0.0062	0.0027	0.0911	0.0278	-5.8051	0.1161	-0.3733	0.0748
4	94.92	0.2001	-0.0365	0.0011	-0.0012	0.0008	-0.0419	0.0018	0.3142	0.0121
4	94.92	0.2502	-0.0044	0.0008	0.0266	0.0015	-0.1392	0.0045	0.0529	0.0142
4	94.92	0.3001	0.0022	0.0014	0.0221	0.0023	-0.2007	0.0090	0.5441	0.0242
4	94.92	0.3502	0.0013	0.0015	0.0342	0.0052	-0.3886	0.0136	0.5175	0.0228
4	94.92	0.4002	0.0070	0.0017	0.0718	0.0070	-0.6015	0.0227	0.6352	0.0228
4	94.92	0.4500	0.0227	0.0017	0.1199	0.0083	-0.9190	0.0300	0.5833	0.0186
4	94.92	0.5001	0.0089	0.0018	0.1531	0.0102	-1.3109	0.0397	0.6547	0.0170
4	94.92	0.5560	0.0118	0.0015	0.2179	0.0126	-1.9127	0.0494	0.4462	0.0262
4	94.92	0.6001	0.0306	0.0022	0.2554	0.0144	-2.4460	0.0559	0.4190	0.0185
4	94.92	0.6501	0.0056	0.0022	0.3256	0.0163	-3.1100	0.0651	0.6066	0.0214
4	94.92	0.6999	-0.0002	0.0021	0.3744	0.0184	-3.9098	0.0740	0.4750	0.0298
4	94.92	0.7500	0.0125	0.0026	0.4150	0.0205	-4.7314	0.0808	0.6227	0.0150
4	94.92	0.8002	-0.0361	0.0035	0.4731	0.0227	-5.6363	0.0913	0.9512	0.0432
4	94.92	0.8582	-0.0426	0.0041	0.5391	0.0252	-6.8038	0.1030	0.1836	0.0462
4	94.92	0.9101	-0.0464	0.0040	0.6378	0.0274	-7.7092	0.1121	0.7063	0.0521
4	94.92	0.9728	0.0330	0.0066	0.7525	0.0292	-8.9402	0.1317	0.6739	0.0876

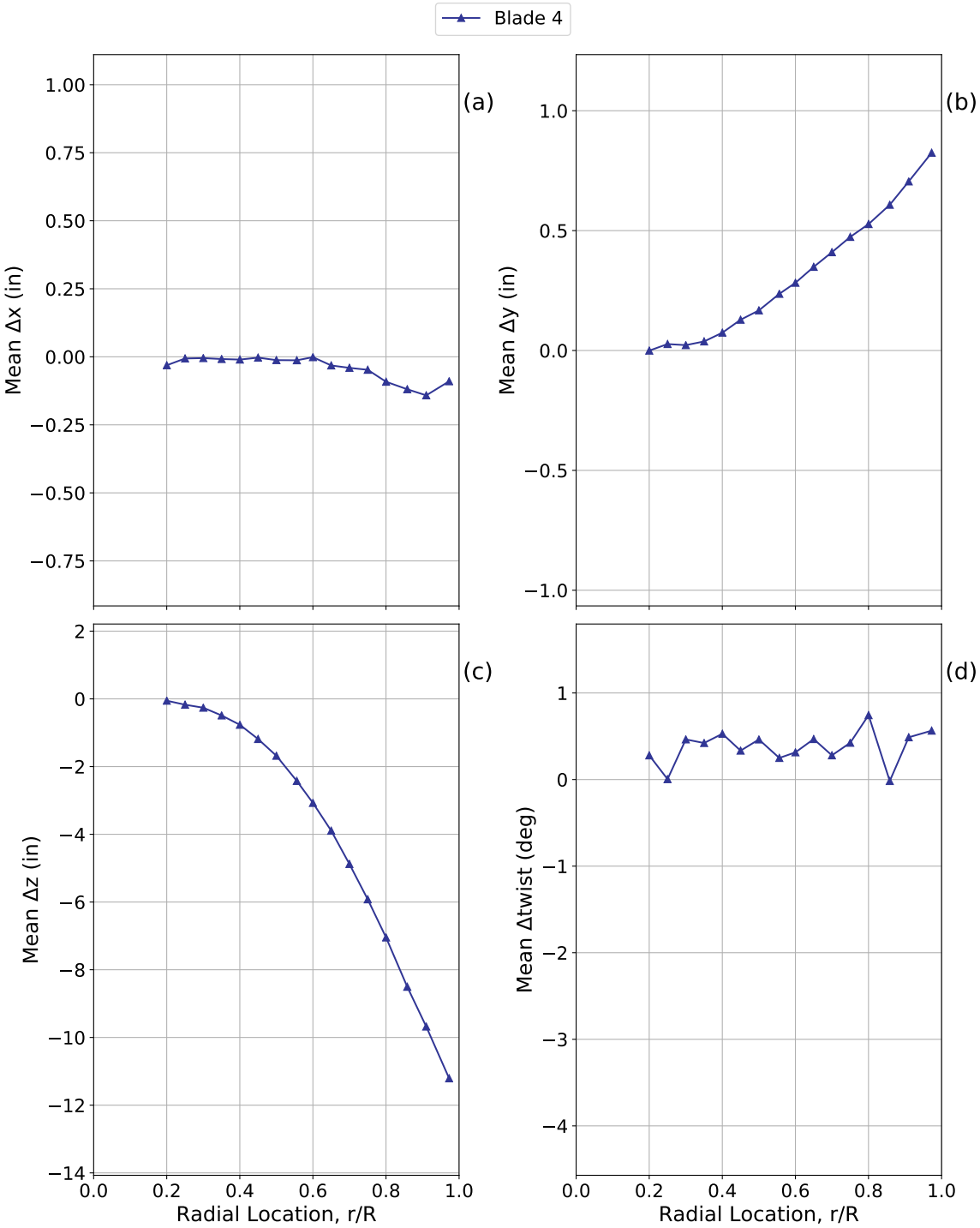


Figure 3.46-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0312	0.0009	-0.0006	0.0004	-0.0543	0.0020	0.2789	0.0103
4	105.12	0.2502	-0.0061	0.0004	0.0268	0.0009	-0.1724	0.0045	0.0042	0.0290
4	105.12	0.3001	-0.0048	0.0009	0.0223	0.0018	-0.2614	0.0091	0.4636	0.0270
4	105.12	0.3502	-0.0082	0.0011	0.0377	0.0026	-0.4899	0.0142	0.4218	0.0279
4	105.12	0.4002	-0.0102	0.0013	0.0743	0.0044	-0.7658	0.0233	0.5286	0.0290
4	105.12	0.4500	-0.0031	0.0012	0.1282	0.0049	-1.1865	0.0285	0.3337	0.0234
4	105.12	0.5001	-0.0122	0.0014	0.1672	0.0065	-1.6809	0.0362	0.4628	0.0236
4	105.12	0.5560	-0.0128	0.0013	0.2362	0.0077	-2.4251	0.0440	0.2492	0.0268
4	105.12	0.6001	-0.0014	0.0013	0.2823	0.0089	-3.0736	0.0521	0.3142	0.0276
4	105.12	0.6501	-0.0318	0.0016	0.3487	0.0098	-3.8948	0.0571	0.4674	0.0296
4	105.12	0.6999	-0.0406	0.0017	0.4098	0.0114	-4.8777	0.0648	0.2794	0.0180
4	105.12	0.7500	-0.0478	0.0022	0.4736	0.0127	-5.9208	0.0705	0.4245	0.0239
4	105.12	0.8002	-0.0917	0.0022	0.5272	0.0142	-7.0479	0.0748	0.7436	0.0318
4	105.12	0.8582	-0.1193	0.0030	0.6076	0.0150	-8.5043	0.0810	-0.0171	0.0325
4	105.12	0.9101	-0.1417	0.0049	0.7050	0.0168	-9.6785	0.0880	0.4879	0.0386
4	105.12	0.9728	-0.0900	0.0052	0.8247	0.0182	-11.2077	0.0982	0.5645	0.0359

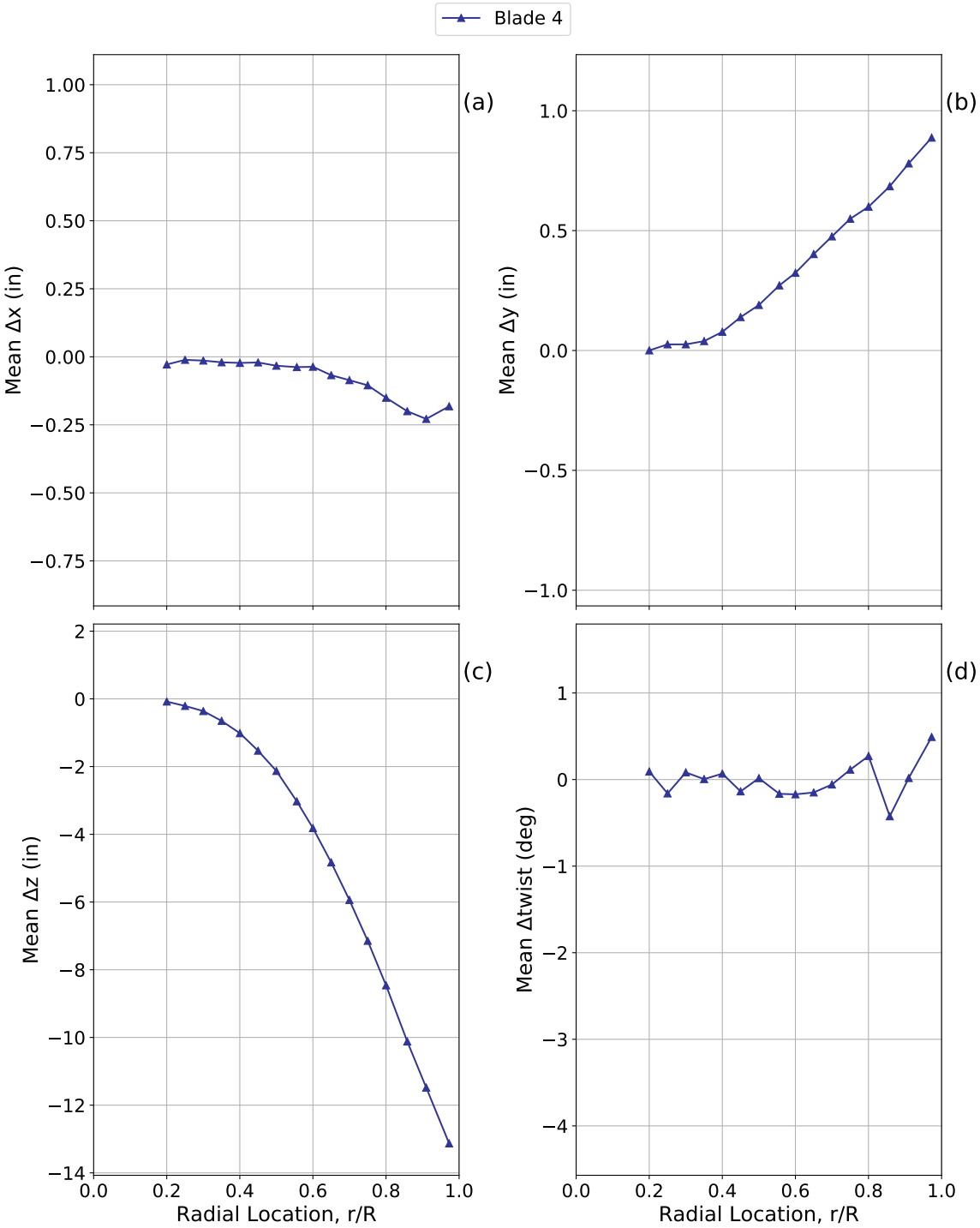


Figure 3.46-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0283	0.0010	0.0003	0.0004	-0.0801	0.0018	0.0923	0.0158
4	119.88	0.2502	-0.0112	0.0013	0.0254	0.0011	-0.2088	0.0037	-0.1607	0.0234
4	119.88	0.3001	-0.0139	0.0008	0.0255	0.0020	-0.3610	0.0068	0.0824	0.0344
4	119.88	0.3502	-0.0203	0.0009	0.0390	0.0030	-0.6504	0.0109	0.0048	0.0302
4	119.88	0.4002	-0.0225	0.0011	0.0778	0.0051	-1.0144	0.0174	0.0681	0.0293
4	119.88	0.4500	-0.0208	0.0009	0.1391	0.0060	-1.5313	0.0213	-0.1370	0.0304
4	119.88	0.5001	-0.0329	0.0016	0.1896	0.0069	-2.1295	0.0261	0.0157	0.0251
4	119.88	0.5560	-0.0379	0.0012	0.2713	0.0087	-3.0267	0.0303	-0.1650	0.0271
4	119.88	0.6001	-0.0367	0.0015	0.3238	0.0102	-3.8169	0.0338	-0.1709	0.0339
4	119.88	0.6501	-0.0676	0.0020	0.4019	0.0115	-4.8316	0.0388	-0.1493	0.0310
4	119.88	0.6999	-0.0859	0.0018	0.4757	0.0140	-5.9406	0.0446	-0.0575	0.0321
4	119.88	0.7500	-0.1048	0.0026	0.5492	0.0148	-7.1466	0.0472	0.1139	0.0305
4	119.88	0.8002	-0.1506	0.0030	0.5995	0.0173	-8.4621	0.0529	0.2716	0.0279
4	119.88	0.8582	-0.2000	0.0040	0.6848	0.0192	-10.1188	0.0601	-0.4246	0.0310
4	119.88	0.9101	-0.2284	0.0039	0.7800	0.0210	-11.4818	0.0660	0.0173	0.0325
4	119.88	0.9728	-0.1820	0.0048	0.8877	0.0230	-13.1301	0.0738	0.4912	0.0315

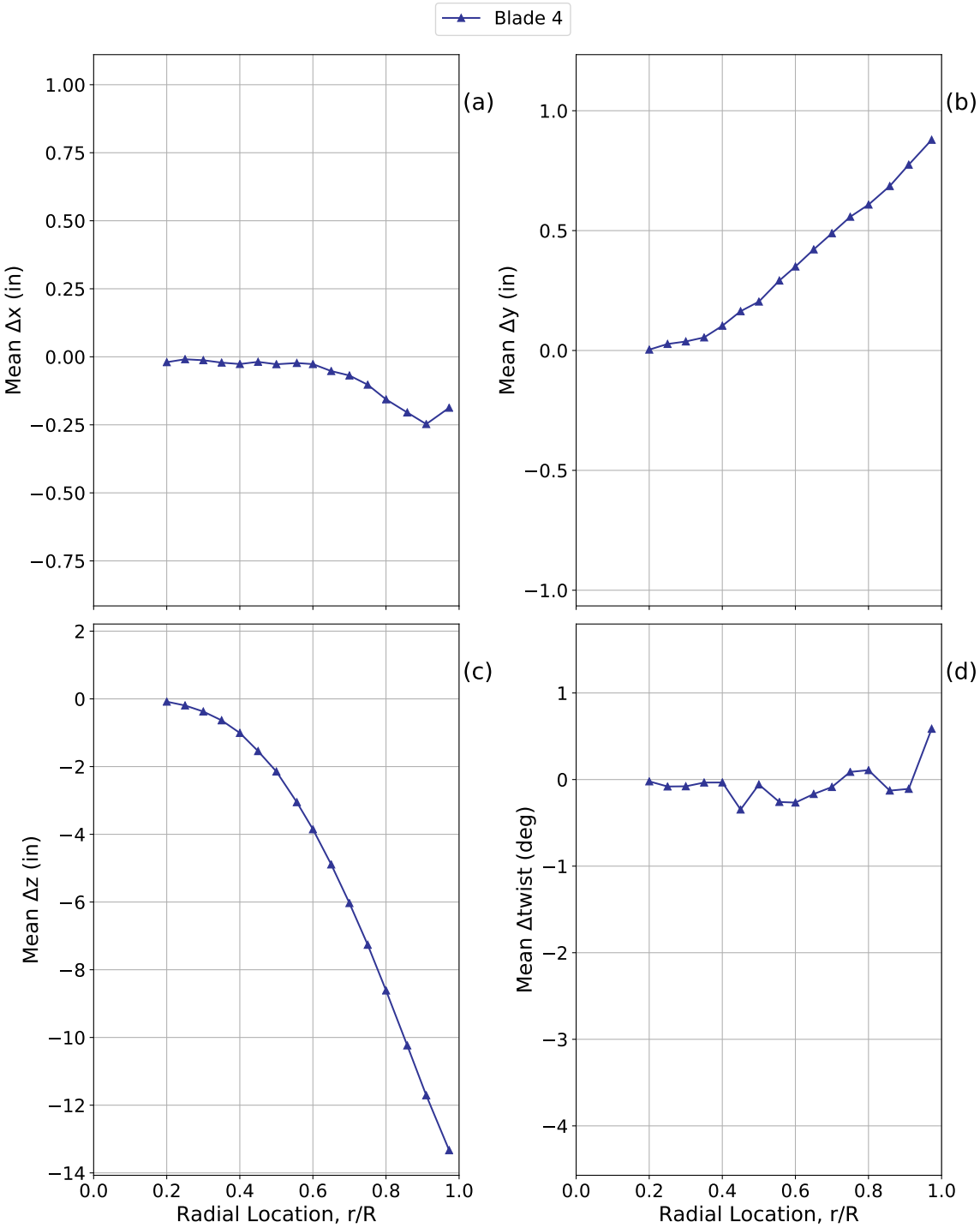


Figure 3.46-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0198	0.0010	0.0035	0.0004	-0.0828	0.0012	-0.0212	0.0151
4	135	0.2502	-0.0090	0.0008	0.0271	0.0013	-0.1952	0.0049	-0.0803	0.0165
4	135	0.3001	-0.0126	0.0007	0.0375	0.0024	-0.3742	0.0060	-0.0783	0.0304
4	135	0.3502	-0.0214	0.0007	0.0544	0.0034	-0.6347	0.0115	-0.0348	0.0199
4	135	0.4002	-0.0266	0.0012	0.1031	0.0061	-1.0075	0.0183	-0.0339	0.0141
4	135	0.4500	-0.0186	0.0019	0.1637	0.0069	-1.5440	0.0245	-0.3467	0.0182
4	135	0.5001	-0.0273	0.0016	0.2038	0.0085	-2.1465	0.0308	-0.0574	0.0184
4	135	0.5560	-0.0228	0.0021	0.2915	0.0102	-3.0521	0.0402	-0.2591	0.0223
4	135	0.6001	-0.0269	0.0019	0.3501	0.0129	-3.8522	0.0478	-0.2660	0.0209
4	135	0.6501	-0.0524	0.0028	0.4214	0.0128	-4.8909	0.0565	-0.1672	0.0237
4	135	0.6999	-0.0687	0.0025	0.4889	0.0171	-6.0314	0.0649	-0.0864	0.0243
4	135	0.7500	-0.1026	0.0034	0.5576	0.0188	-7.2645	0.0738	0.0881	0.0277
4	135	0.8002	-0.1565	0.0038	0.6084	0.0214	-8.6144	0.0827	0.1085	0.0202
4	135	0.8582	-0.2047	0.0054	0.6857	0.0243	-10.2362	0.0943	-0.1279	0.0272
4	135	0.9101	-0.2473	0.0059	0.7749	0.0269	-11.7086	0.1045	-0.1079	0.0232
4	135	0.9728	-0.1873	0.0067	0.8787	0.0305	-13.3307	0.1178	0.5860	0.0245

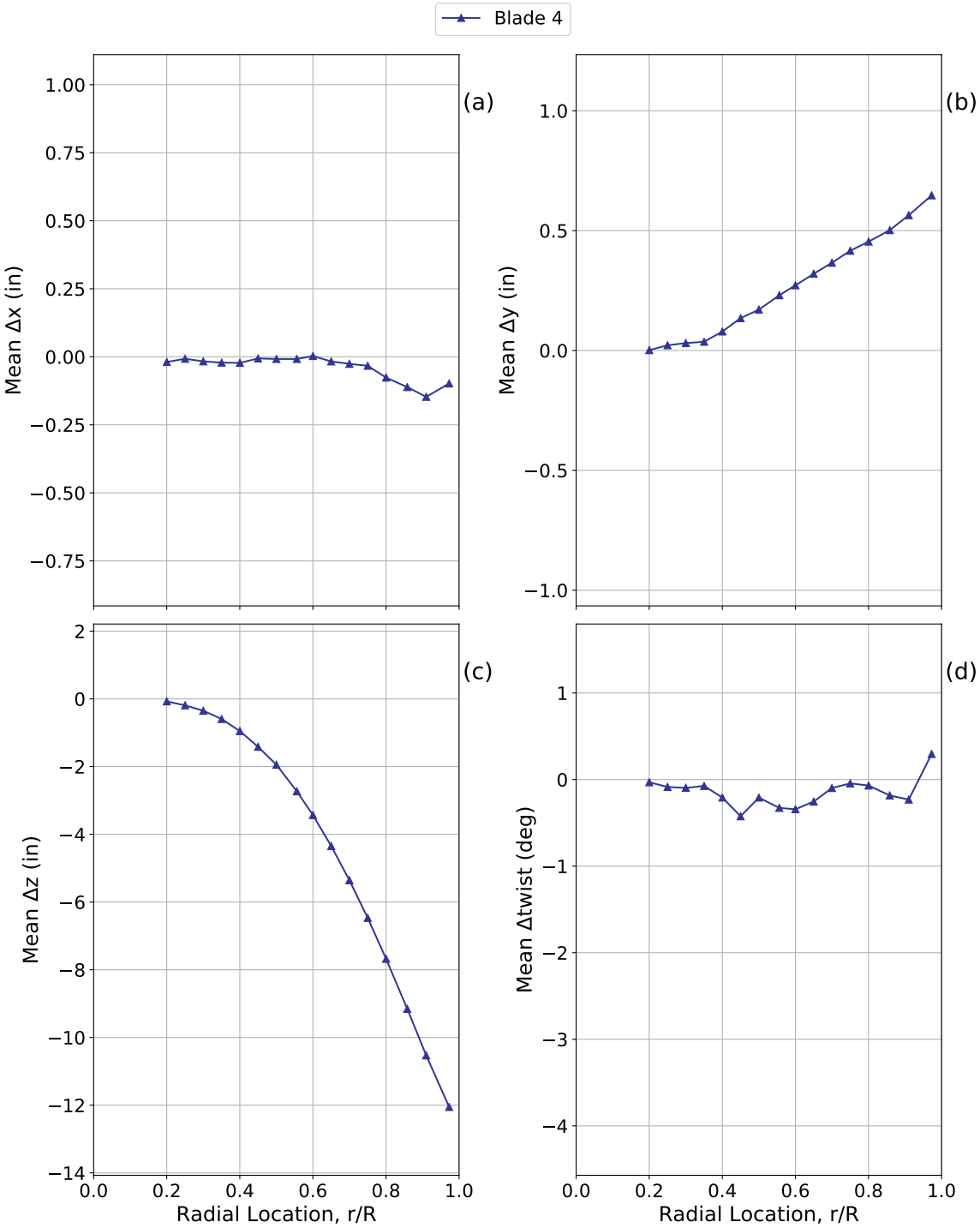


Figure 3.46-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0191	0.0008	0.0014	0.0004	-0.0742	0.0013	-0.0316	0.0094
4	150.12	0.2502	-0.0072	0.0009	0.0217	0.0020	-0.1916	0.0023	-0.0858	0.0160
4	150.12	0.3001	-0.0167	0.0010	0.0308	0.0029	-0.3500	0.0047	-0.0963	0.0207
4	150.12	0.3502	-0.0215	0.0011	0.0364	0.0043	-0.5948	0.0084	-0.0738	0.0253
4	150.12	0.4002	-0.0224	0.0009	0.0792	0.0077	-0.9520	0.0124	-0.2082	0.0143
4	150.12	0.4500	-0.0060	0.0008	0.1347	0.0084	-1.4166	0.0160	-0.4246	0.0208
4	150.12	0.5001	-0.0080	0.0014	0.1704	0.0104	-1.9457	0.0192	-0.2086	0.0299
4	150.12	0.5560	-0.0080	0.0010	0.2303	0.0119	-2.7304	0.0235	-0.3278	0.0312
4	150.12	0.6001	0.0028	0.0024	0.2718	0.0151	-3.4331	0.0257	-0.3429	0.0250
4	150.12	0.6501	-0.0171	0.0023	0.3199	0.0161	-4.3472	0.0293	-0.2545	0.0281
4	150.12	0.6999	-0.0260	0.0025	0.3660	0.0191	-5.3575	0.0323	-0.0980	0.0230
4	150.12	0.7500	-0.0331	0.0018	0.4159	0.0216	-6.4697	0.0370	-0.0447	0.0275
4	150.12	0.8002	-0.0764	0.0023	0.4539	0.0228	-7.6776	0.0409	-0.0692	0.0238
4	150.12	0.8582	-0.1114	0.0032	0.5019	0.0251	-9.1563	0.0478	-0.1840	0.0240
4	150.12	0.9101	-0.1472	0.0040	0.5642	0.0276	-10.5309	0.0569	-0.2315	0.0234
4	150.12	0.9728	-0.0980	0.0053	0.6469	0.0303	-12.0539	0.0677	0.2950	0.0260

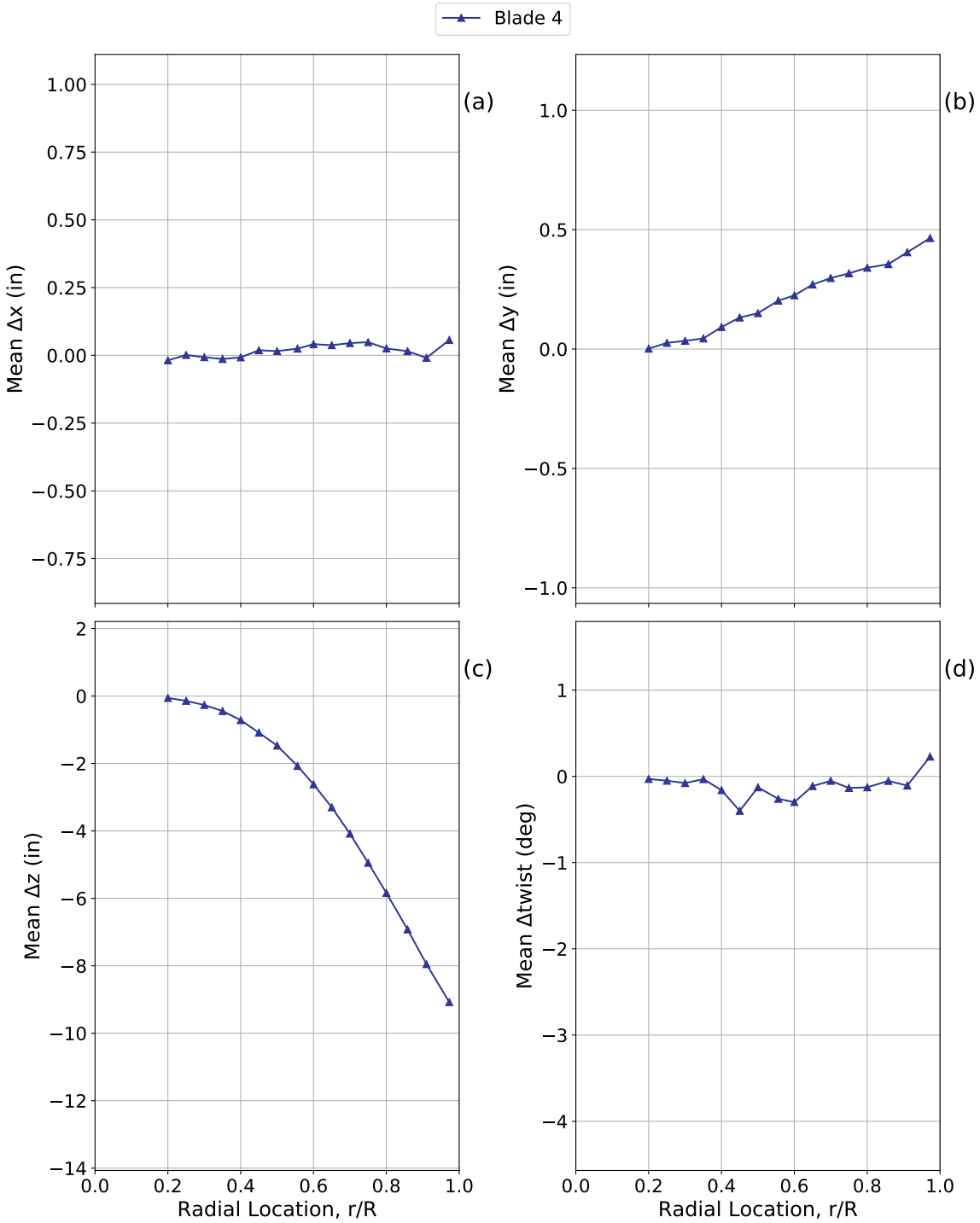


Figure 3.46-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0186	0.0014	0.0018	0.0006	-0.0569	0.0016	-0.0299	0.0125
4	164.88	0.2502	0.0014	0.0014	0.0258	0.0021	-0.1432	0.0027	-0.0507	0.0201
4	164.88	0.3001	-0.0069	0.0011	0.0345	0.0030	-0.2662	0.0050	-0.0779	0.0278
4	164.88	0.3502	-0.0134	0.0012	0.0445	0.0055	-0.4458	0.0096	-0.0324	0.0253
4	164.88	0.4002	-0.0075	0.0013	0.0923	0.0086	-0.7158	0.0137	-0.1603	0.0285
4	164.88	0.4500	0.0188	0.0014	0.1319	0.0092	-1.0866	0.0180	-0.4003	0.0321
4	164.88	0.5001	0.0157	0.0016	0.1503	0.0112	-1.4704	0.0223	-0.1270	0.0333
4	164.88	0.5560	0.0247	0.0017	0.2027	0.0137	-2.0741	0.0269	-0.2612	0.0245
4	164.88	0.6001	0.0413	0.0015	0.2249	0.0149	-2.6208	0.0306	-0.2978	0.0319
4	164.88	0.6501	0.0374	0.0018	0.2702	0.0176	-3.3008	0.0364	-0.1129	0.0299
4	164.88	0.6999	0.0453	0.0022	0.2973	0.0174	-4.0819	0.0400	-0.0518	0.0232
4	164.88	0.7500	0.0485	0.0022	0.3170	0.0207	-4.9465	0.0463	-0.1349	0.0313
4	164.88	0.8002	0.0253	0.0019	0.3405	0.0213	-5.8416	0.0498	-0.1268	0.0301
4	164.88	0.8582	0.0154	0.0020	0.3555	0.0230	-6.9219	0.0552	-0.0529	0.0236
4	164.88	0.9101	-0.0094	0.0021	0.4053	0.0245	-7.9507	0.0613	-0.1070	0.0245
4	164.88	0.9728	0.0566	0.0027	0.4648	0.0273	-9.0784	0.0687	0.2289	0.0322

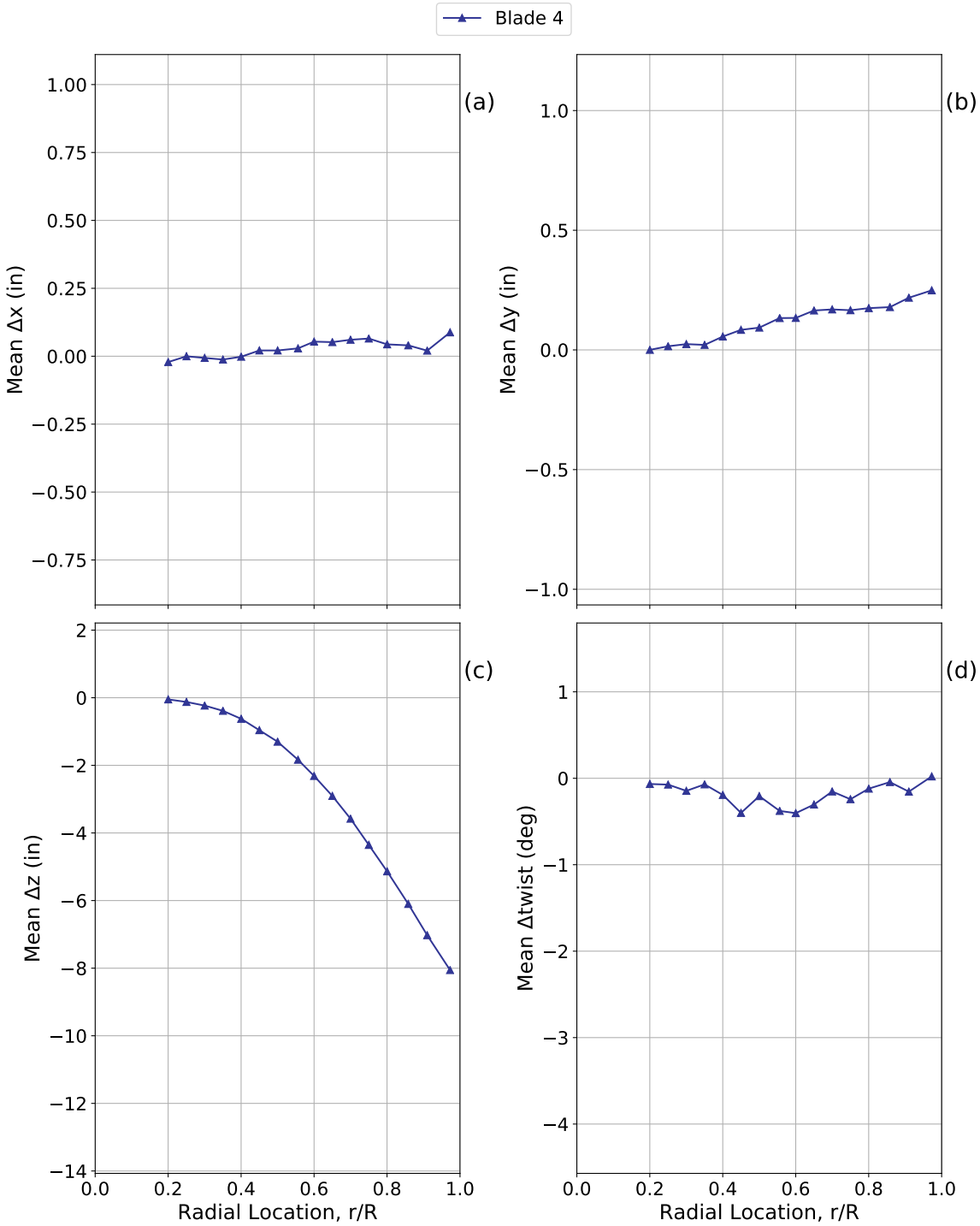


Figure 3.46-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0215	0.0016	0.0002	0.0008	-0.0492	0.0025	-0.0663	0.0151
4	170.16	0.2502	-0.0002	0.0017	0.0153	0.0027	-0.1248	0.0052	-0.0732	0.0351
4	170.16	0.3001	-0.0063	0.0010	0.0242	0.0046	-0.2322	0.0087	-0.1457	0.0351
4	170.16	0.3502	-0.0122	0.0016	0.0210	0.0070	-0.3874	0.0150	-0.0706	0.0341
4	170.16	0.4002	-0.0019	0.0020	0.0559	0.0120	-0.6240	0.0233	-0.1928	0.0388
4	170.16	0.4500	0.0212	0.0023	0.0838	0.0134	-0.9602	0.0318	-0.4009	0.0321
4	170.16	0.5001	0.0212	0.0026	0.0931	0.0149	-1.3018	0.0441	-0.2066	0.0264
4	170.16	0.5560	0.0289	0.0019	0.1330	0.0176	-1.8351	0.0542	-0.3777	0.0301
4	170.16	0.6001	0.0537	0.0030	0.1336	0.0206	-2.3143	0.0637	-0.4034	0.0341
4	170.16	0.6501	0.0519	0.0031	0.1647	0.0226	-2.9057	0.0765	-0.3039	0.0261
4	170.16	0.6999	0.0606	0.0030	0.1692	0.0261	-3.5785	0.0848	-0.1531	0.0245
4	170.16	0.7500	0.0651	0.0039	0.1658	0.0278	-4.3542	0.0957	-0.2423	0.0253
4	170.16	0.8002	0.0437	0.0039	0.1745	0.0297	-5.1359	0.1039	-0.1200	0.0265
4	170.16	0.8582	0.0400	0.0046	0.1788	0.0326	-6.1008	0.1146	-0.0442	0.0303
4	170.16	0.9101	0.0205	0.0045	0.2180	0.0354	-7.0255	0.1243	-0.1547	0.0377
4	170.16	0.9728	0.0878	0.0051	0.2488	0.0381	-8.0569	0.1348	0.0214	0.0391

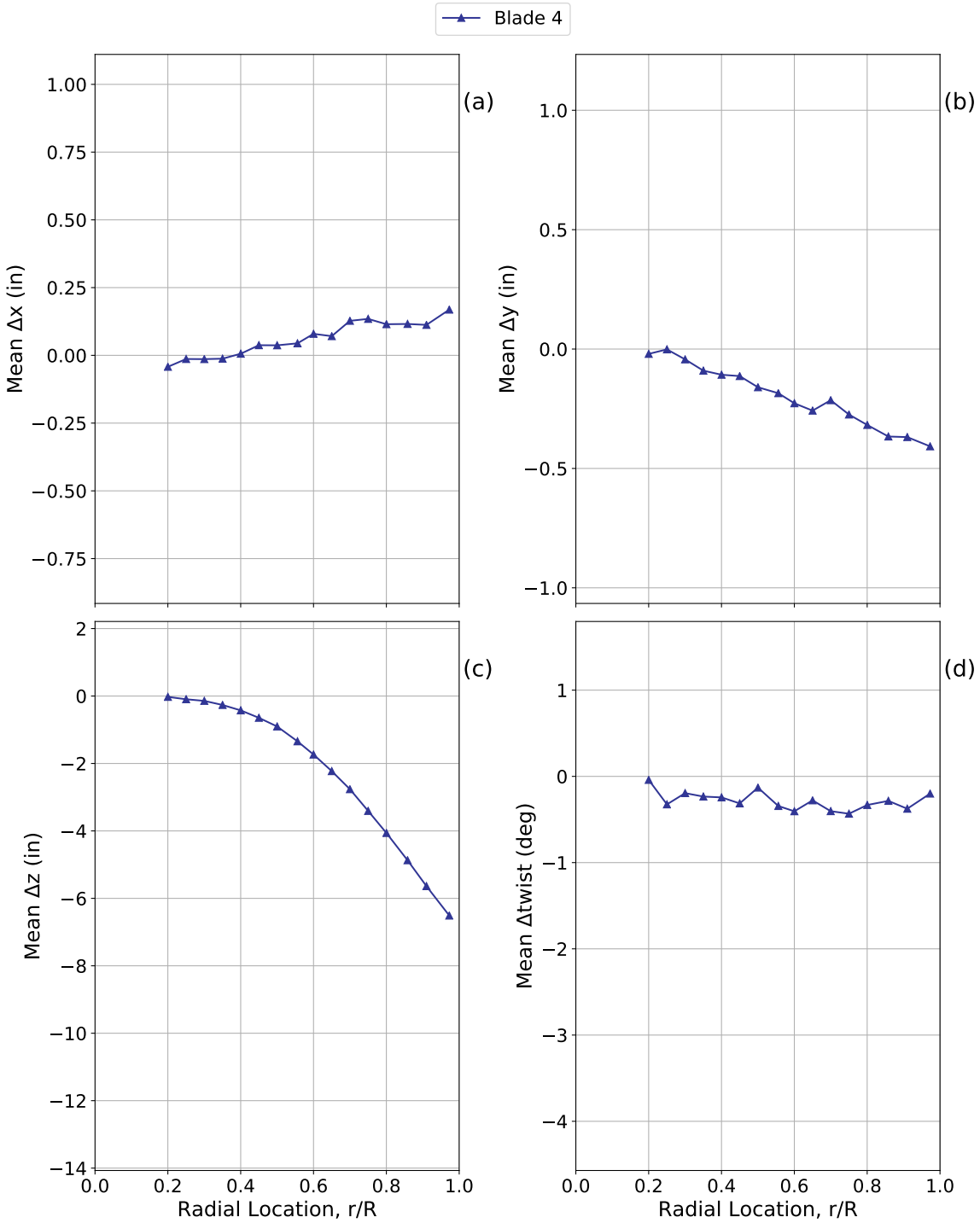


Figure 3.46-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0423	0.0020	-0.0202	0.0007	-0.0259	0.0017	-0.0408	0.0132
4	175.08	0.2502	-0.0135	0.0008	-0.0014	0.0014	-0.0955	0.0022	-0.3249	0.0231
4	175.08	0.3001	-0.0139	0.0012	-0.0433	0.0031	-0.1440	0.0067	-0.1944	0.0276
4	175.08	0.3502	-0.0123	0.0020	-0.0905	0.0037	-0.2655	0.0086	-0.2342	0.0296
4	175.08	0.4002	0.0060	0.0025	-0.1076	0.0068	-0.4261	0.0142	-0.2438	0.0288
4	175.08	0.4500	0.0374	0.0038	-0.1132	0.0080	-0.6463	0.0185	-0.3137	0.0241
4	175.08	0.5001	0.0370	0.0055	-0.1600	0.0113	-0.9033	0.0228	-0.1305	0.0320
4	175.08	0.5560	0.0444	0.0073	-0.1849	0.0131	-1.3435	0.0261	-0.3437	0.0397
4	175.08	0.6001	0.0794	0.0079	-0.2271	0.0133	-1.7362	0.0319	-0.4047	0.0522
4	175.08	0.6501	0.0708	0.0093	-0.2579	0.0137	-2.2277	0.0360	-0.2781	0.0558
4	175.08	0.6999	0.1274	0.0061	-0.2143	0.0297	-2.7631	0.0214	-0.4036	0.0386
4	175.08	0.7500	0.1345	0.0062	-0.2742	0.0329	-3.4078	0.0232	-0.4332	0.0243
4	175.08	0.8002	0.1149	0.0059	-0.3179	0.0345	-4.0624	0.0238	-0.3320	0.0258
4	175.08	0.8582	0.1158	0.0062	-0.3663	0.0376	-4.8709	0.0239	-0.2843	0.0344
4	175.08	0.9101	0.1124	0.0061	-0.3687	0.0398	-5.6384	0.0284	-0.3754	0.0373
4	175.08	0.9728	0.1687	0.0059	-0.4075	0.0436	-6.5111	0.0331	-0.1998	0.0330

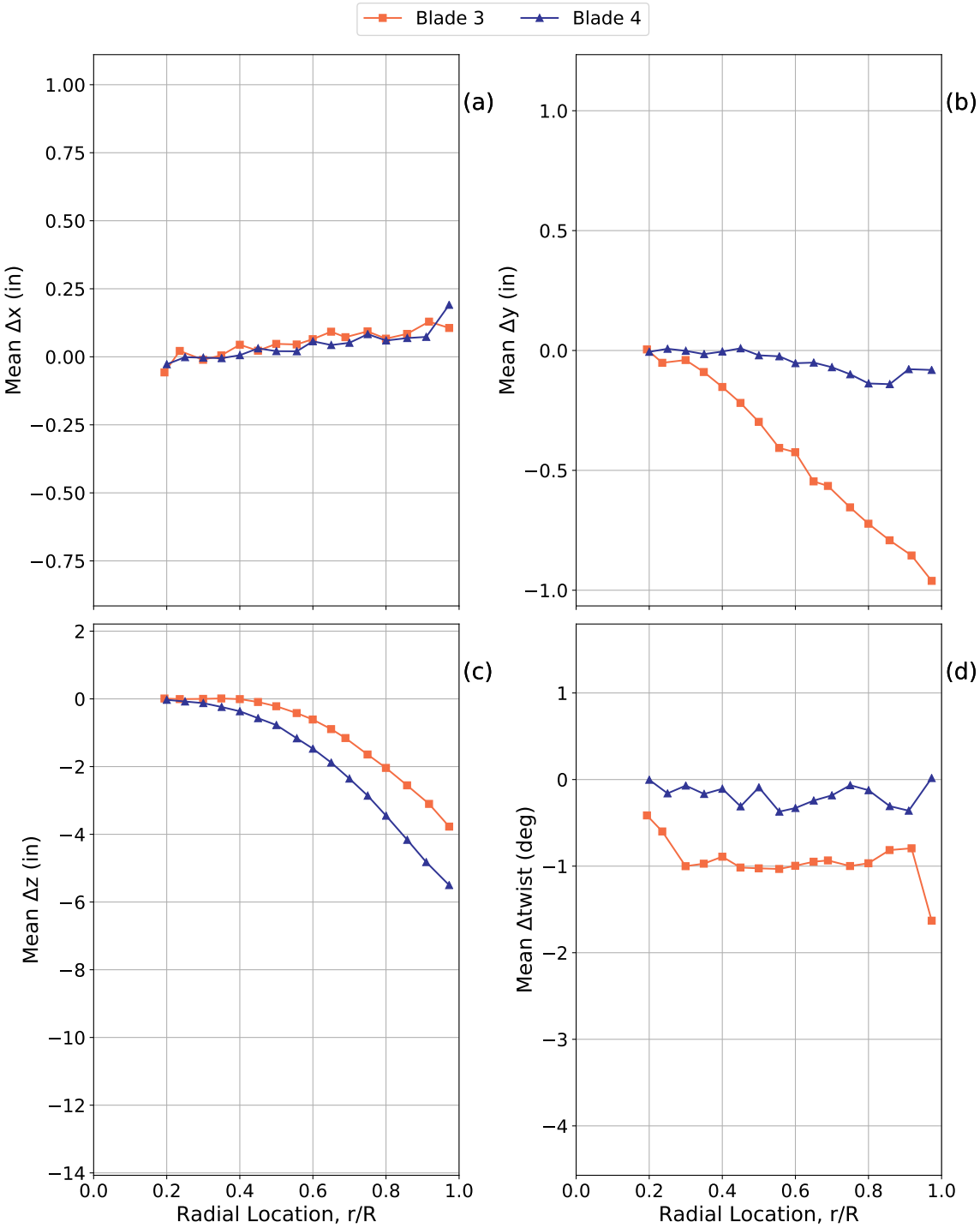


Figure 3.46-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0573	0.0021	0.0044	0.0017	0.0105	0.0031	-0.4141	0.0106
3	180.35	0.2357	0.0216	0.0015	-0.0514	0.0021	-0.0066	0.0031	-0.5995	0.0337
3	180.35	0.2995	-0.0110	0.0009	-0.0398	0.0051	0.0003	0.0086	-1.0007	0.0277
3	180.35	0.3493	0.0053	0.0012	-0.0898	0.0095	0.0121	0.0131	-0.9717	0.0320
3	180.35	0.4000	0.0444	0.0017	-0.1522	0.0138	-0.0075	0.0196	-0.8911	0.0271
3	180.35	0.4497	0.0224	0.0018	-0.2187	0.0178	-0.0918	0.0233	-1.0162	0.0300
3	180.35	0.4997	0.0475	0.0021	-0.2977	0.0227	-0.2177	0.0289	-1.0255	0.0280
3	180.35	0.5556	0.0453	0.0023	-0.4065	0.0276	-0.4191	0.0351	-1.0326	0.0294
3	180.35	0.5995	0.0648	0.0026	-0.4243	0.0318	-0.6093	0.0388	-0.9961	0.0318
3	180.35	0.6498	0.0923	0.0035	-0.5461	0.0362	-0.8927	0.0466	-0.9490	0.0211
3	180.35	0.6890	0.0721	0.0038	-0.5650	0.0382	-1.1567	0.0502	-0.9342	0.0295
3	180.35	0.7495	0.0934	0.0055	-0.6543	0.0425	-1.6424	0.0552	-0.9987	0.0247
3	180.35	0.7998	0.0667	0.0054	-0.7225	0.0455	-2.0390	0.0605	-0.9669	0.0292
3	180.35	0.8577	0.0842	0.0069	-0.7917	0.0490	-2.5537	0.0672	-0.8145	0.0287
3	180.35	0.9178	0.1292	0.0065	-0.8550	0.0462	-3.1018	0.0724	-0.7941	0.2799
3	180.35	0.9729	0.1060	0.0080	-0.9609	0.0519	-3.7721	0.0871	-1.6300	0.3111
4	180	0.2001	-0.0274	0.0047	-0.0056	0.0019	-0.0282	0.0027	-0.0029	0.0156
4	180	0.2502	-0.0014	0.0025	0.0070	0.0031	-0.0778	0.0033	-0.1599	0.0290
4	180	0.3001	-0.0033	0.0013	-0.0015	0.0069	-0.1253	0.0081	-0.0699	0.0323
4	180	0.3502	-0.0051	0.0028	-0.0152	0.0122	-0.2398	0.0127	-0.1666	0.0394
4	180	0.4002	0.0059	0.0049	-0.0044	0.0183	-0.3667	0.0185	-0.1068	0.0292
4	180	0.4500	0.0310	0.0078	0.0089	0.0255	-0.5708	0.0244	-0.3101	0.0300
4	180	0.5001	0.0207	0.0091	-0.0202	0.0331	-0.7745	0.0303	-0.0901	0.0297
4	180	0.5560	0.0202	0.0115	-0.0244	0.0427	-1.1655	0.0367	-0.3708	0.0297
4	180	0.6001	0.0570	0.0121	-0.0530	0.0504	-1.4713	0.0412	-0.3289	0.0325
4	180	0.6501	0.0432	0.0135	-0.0506	0.0588	-1.8828	0.0479	-0.2429	0.0322
4	180	0.6999	0.0514	0.0146	-0.0699	0.0680	-2.3556	0.0546	-0.1828	0.0316
4	180	0.7500	0.0831	0.0169	-0.0993	0.0765	-2.8604	0.0619	-0.0656	0.0288
4	180	0.8002	0.0598	0.0175	-0.1376	0.0847	-3.4508	0.0673	-0.1235	0.0264
4	180	0.8582	0.0689	0.0211	-0.1405	0.0946	-4.1642	0.0770	-0.3072	0.0352
4	180	0.9101	0.0731	0.0229	-0.0780	0.1025	-4.8213	0.0842	-0.3600	0.0405
4	180	0.9728	0.1910	0.0269	-0.0812	0.1123	-5.5003	0.0978	0.0172	0.0407

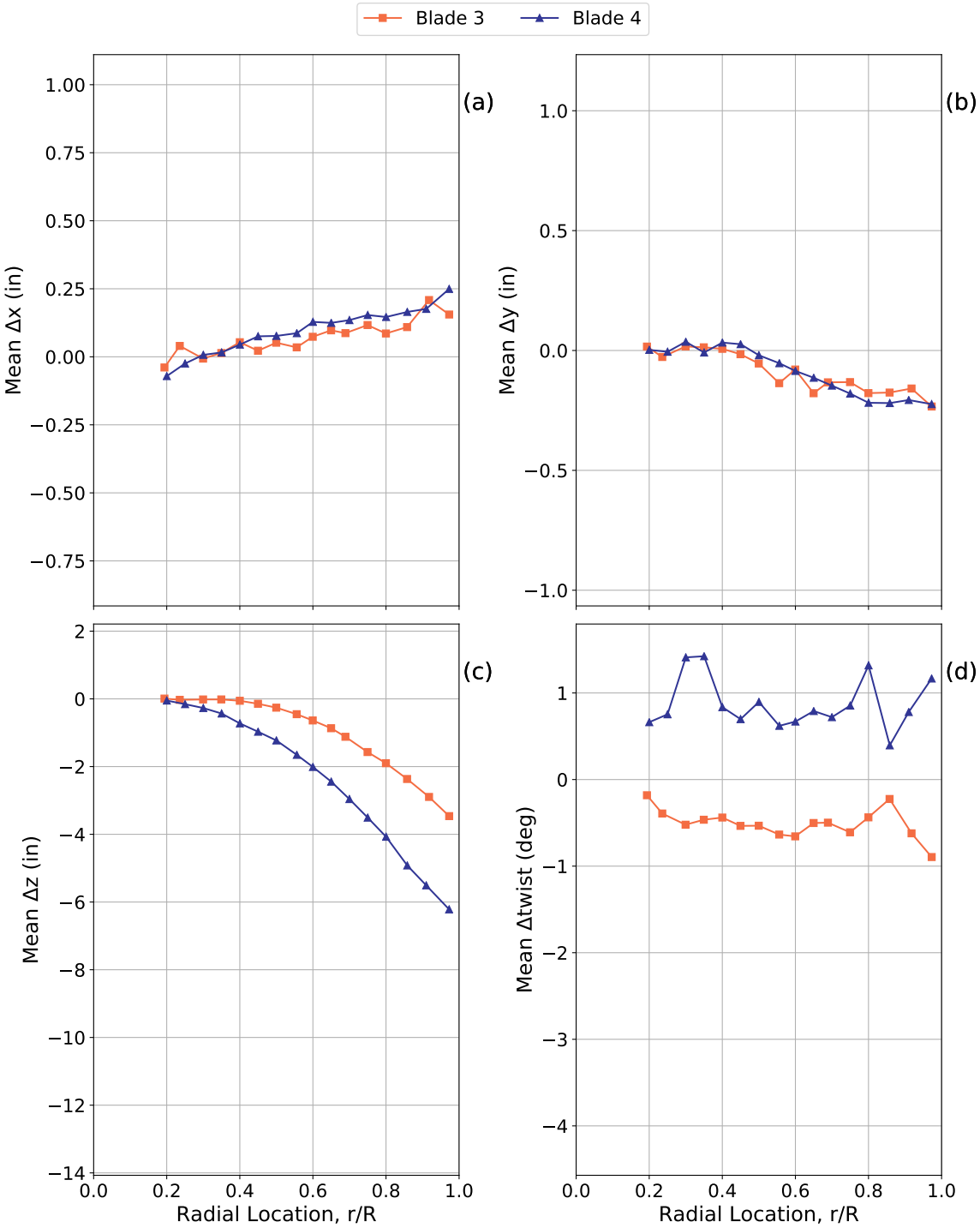


Figure 3.46-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0392	0.0019	0.0163	0.0017	0.0085	0.0038	-0.1812	0.0199
3	184.92	0.2357	0.0400	0.0023	-0.0271	0.0023	-0.0279	0.0039	-0.3922	0.0239
3	184.92	0.2995	-0.0066	0.0016	0.0168	0.0049	-0.0175	0.0100	-0.5217	0.0334
3	184.92	0.3493	0.0139	0.0016	0.0133	0.0064	-0.0167	0.0140	-0.4641	0.0339
3	184.92	0.4000	0.0536	0.0026	0.0069	0.0104	-0.0559	0.0216	-0.4388	0.0290
3	184.92	0.4497	0.0223	0.0026	-0.0156	0.0110	-0.1450	0.0294	-0.5350	0.0352
3	184.92	0.4997	0.0518	0.0028	-0.0543	0.0140	-0.2594	0.0376	-0.5332	0.0257
3	184.92	0.5556	0.0347	0.0029	-0.1363	0.0170	-0.4523	0.0473	-0.6353	0.0324
3	184.92	0.5995	0.0736	0.0026	-0.0795	0.0178	-0.6371	0.0573	-0.6563	0.0486
3	184.92	0.6498	0.0973	0.0027	-0.1783	0.0206	-0.8665	0.0680	-0.5020	0.0531
3	184.92	0.6890	0.0870	0.0019	-0.1328	0.0220	-1.1196	0.0744	-0.4979	0.0447
3	184.92	0.7495	0.1167	0.0017	-0.1319	0.0266	-1.5703	0.0860	-0.6094	0.0353
3	184.92	0.7998	0.0857	0.0014	-0.1778	0.0289	-1.8999	0.0987	-0.4366	0.0364
3	184.92	0.8577	0.1092	0.0022	-0.1755	0.0316	-2.3660	0.1105	-0.2245	0.0344
3	184.92	0.9178	0.2086	0.0039	-0.1586	0.0347	-2.8963	0.1238	-0.6210	0.0354
3	184.92	0.9729	0.1554	0.0150	-0.2336	0.0365	-3.4629	0.1418	-0.8950	0.0867
4	184.92	0.2001	-0.0710	0.0033	0.0025	0.0024	-0.0500	0.0031	0.6625	0.0621
4	184.92	0.2502	-0.0247	0.0034	-0.0054	0.0046	-0.1559	0.0144	0.7534	0.0550
4	184.92	0.3001	0.0071	0.0037	0.0362	0.0113	-0.2704	0.0216	1.4109	0.1231
4	184.92	0.3502	0.0160	0.0041	-0.0085	0.0149	-0.4327	0.0306	1.4244	0.1369
4	184.92	0.4002	0.0448	0.0083	0.0329	0.0261	-0.7250	0.0564	0.8359	0.0567
4	184.92	0.4500	0.0753	0.0093	0.0262	0.0300	-0.9708	0.0655	0.6975	0.0658
4	184.92	0.5001	0.0767	0.0106	-0.0199	0.0339	-1.2284	0.0771	0.8964	0.0614
4	184.92	0.5560	0.0868	0.0114	-0.0532	0.0390	-1.6535	0.0923	0.6201	0.0630
4	184.92	0.6001	0.1283	0.0110	-0.0854	0.0422	-2.0114	0.0986	0.6696	0.0547
4	184.92	0.6501	0.1247	0.0109	-0.1138	0.0474	-2.4450	0.1131	0.7910	0.0642
4	184.92	0.6999	0.1348	0.0115	-0.1466	0.0526	-2.9598	0.1262	0.7204	0.0450
4	184.92	0.7500	0.1535	0.0118	-0.1799	0.0560	-3.5079	0.1372	0.8541	0.0526
4	184.92	0.8002	0.1462	0.0108	-0.2182	0.0602	-4.0723	0.1455	1.3187	0.1454
4	184.92	0.8582	0.1649	0.0101	-0.2194	0.0742	-4.9200	0.1756	0.3945	0.0581
4	184.92	0.9101	0.1760	0.0082	-0.2066	0.0793	-5.5082	0.1898	0.7796	0.0519
4	184.92	0.9728	0.2494	0.0088	-0.2239	0.0860	-6.2175	0.2050	1.1667	0.0568

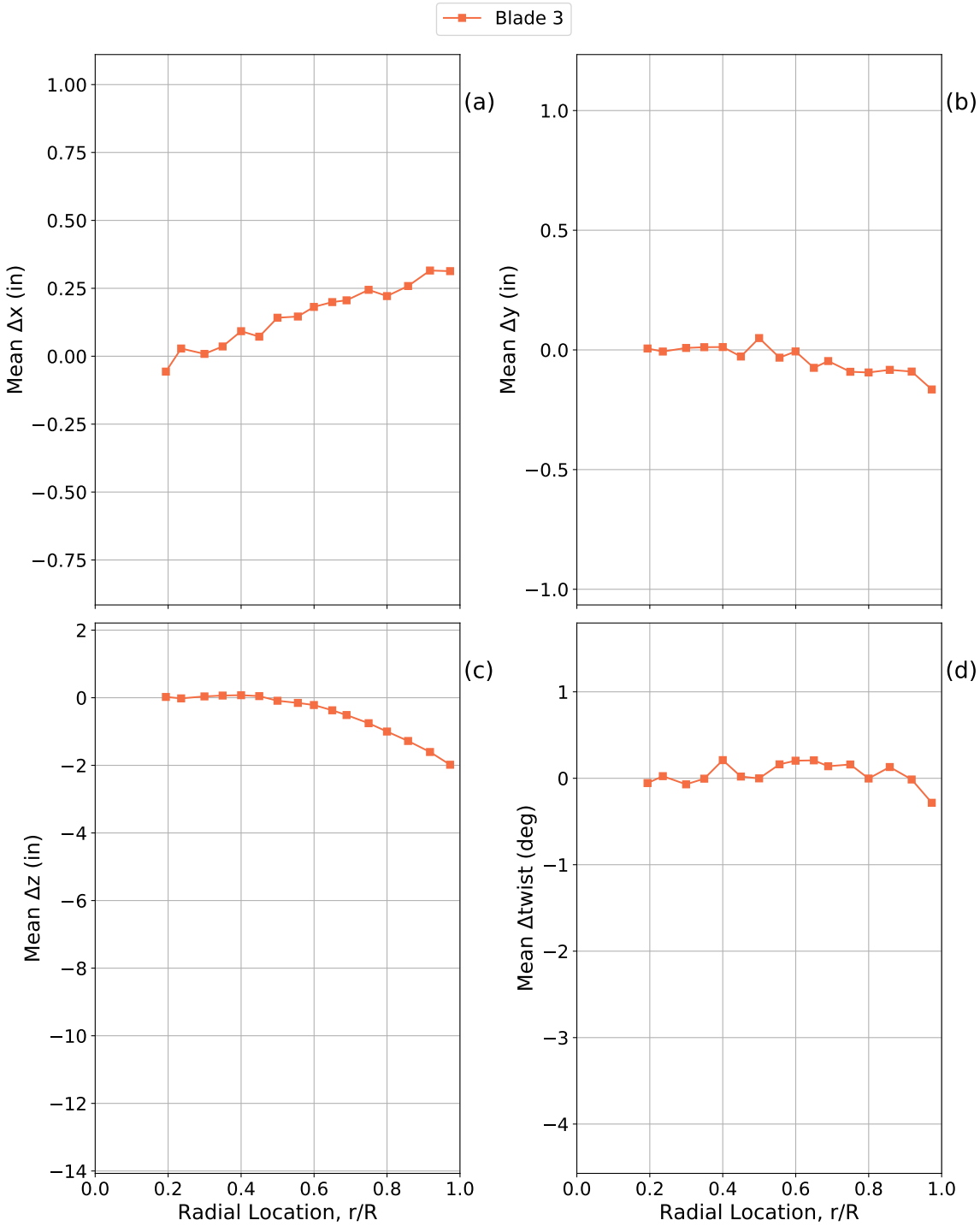


Figure 3.46-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0566	0.0013	0.0059	0.0010	0.0237	0.0017	-0.0556	0.0204
3	195.12	0.2357	0.0284	0.0012	-0.0068	0.0021	-0.0193	0.0054	0.0247	0.0362
3	195.12	0.2995	0.0086	0.0009	0.0082	0.0042	0.0389	0.0070	-0.0703	0.0462
3	195.12	0.3493	0.0359	0.0014	0.0114	0.0079	0.0644	0.0149	-0.0044	0.0331
3	195.12	0.4000	0.0922	0.0018	0.0120	0.0118	0.0749	0.0219	0.2100	0.0411
3	195.12	0.4497	0.0720	0.0021	-0.0276	0.0147	0.0479	0.0283	0.0200	0.0357
3	195.12	0.4997	0.1417	0.0103	0.0495	0.0417	-0.0889	0.0482	-0.0012	0.0348
3	195.12	0.5556	0.1461	0.0094	-0.0323	0.0474	-0.1533	0.0573	0.1613	0.0345
3	195.12	0.5995	0.1815	0.0090	-0.0064	0.0521	-0.2156	0.0635	0.2035	0.0299
3	195.12	0.6498	0.1993	0.0082	-0.0749	0.0563	-0.3714	0.0690	0.2073	0.0420
3	195.12	0.6890	0.2058	0.0065	-0.0465	0.0609	-0.5119	0.0763	0.1393	0.0486
3	195.12	0.7495	0.2444	0.0062	-0.0913	0.0652	-0.7537	0.0853	0.1596	0.0389
3	195.12	0.7998	0.2214	0.0063	-0.0942	0.0715	-0.9999	0.0925	-0.0029	0.0280
3	195.12	0.8577	0.2584	0.0048	-0.0833	0.0762	-1.2790	0.0962	0.1302	0.1672
3	195.12	0.9178	0.3155	0.0072	-0.0904	0.0813	-1.6053	0.1011	-0.0140	0.2306
3	195.12	0.9729	0.3132	0.0037	-0.1652	0.0952	-1.9820	0.1387	-0.2834	0.0317

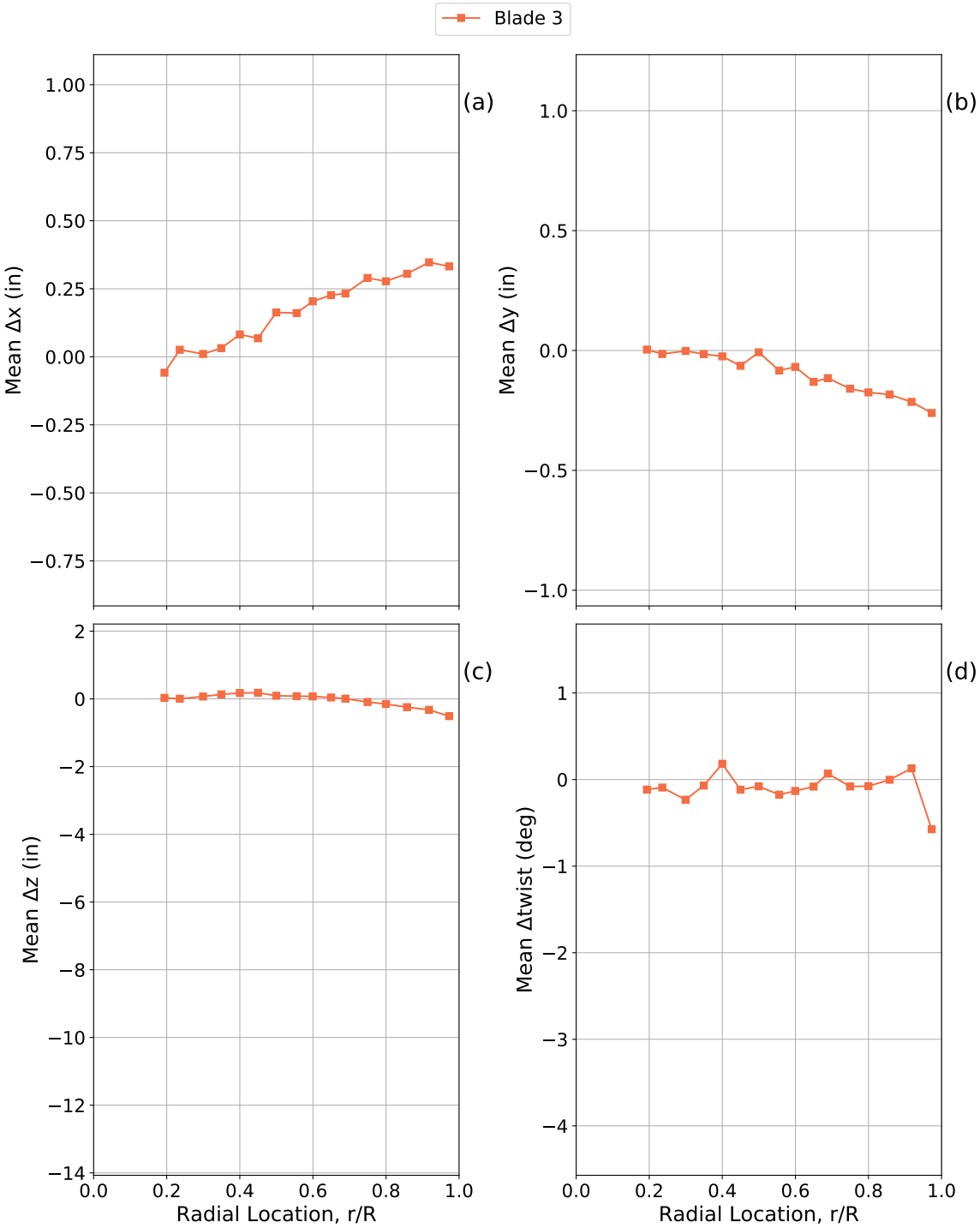


Figure 3.46-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0585	0.0013	0.0038	0.0008	0.0295	0.0015	-0.1166	0.0155
3	209.88	0.2357	0.0259	0.0013	-0.0145	0.0020	0.0044	0.0050	-0.0924	0.0265
3	209.88	0.2995	0.0105	0.0011	-0.0020	0.0039	0.0698	0.0081	-0.2333	0.0360
3	209.88	0.3493	0.0317	0.0015	-0.0150	0.0051	0.1321	0.0129	-0.0693	0.0231
3	209.88	0.4000	0.0822	0.0016	-0.0246	0.0095	0.1740	0.0215	0.1817	0.0318
3	209.88	0.4497	0.0680	0.0020	-0.0639	0.0100	0.1812	0.0254	-0.1171	0.0265
3	209.88	0.4997	0.1629	0.0086	-0.0075	0.0319	0.0933	0.0563	-0.0785	0.0347
3	209.88	0.5556	0.1608	0.0078	-0.0836	0.0346	0.0798	0.0641	-0.1744	0.0333
3	209.88	0.5995	0.2038	0.0068	-0.0685	0.0371	0.0721	0.0718	-0.1319	0.0277
3	209.88	0.6498	0.2267	0.0049	-0.1307	0.0407	0.0412	0.0810	-0.0813	0.0302
3	209.88	0.6890	0.2327	0.0038	-0.1154	0.0432	0.0065	0.0858	0.0687	0.0344
3	209.88	0.7495	0.2898	0.0025	-0.1594	0.0481	-0.0919	0.0945	-0.0800	0.0292
3	209.88	0.7998	0.2776	0.0045	-0.1748	0.0517	-0.1526	0.1022	-0.0763	0.0380
3	209.88	0.8577	0.3052	0.0084	-0.1836	0.0567	-0.2447	0.1120	-0.0024	0.0366
3	209.88	0.9178	0.3473	0.0107	-0.2143	0.0613	-0.3251	0.1129	0.1290	0.2122
3	209.88	0.9729	0.3324	0.0178	-0.2607	0.0729	-0.5101	0.1372	-0.5745	0.1064

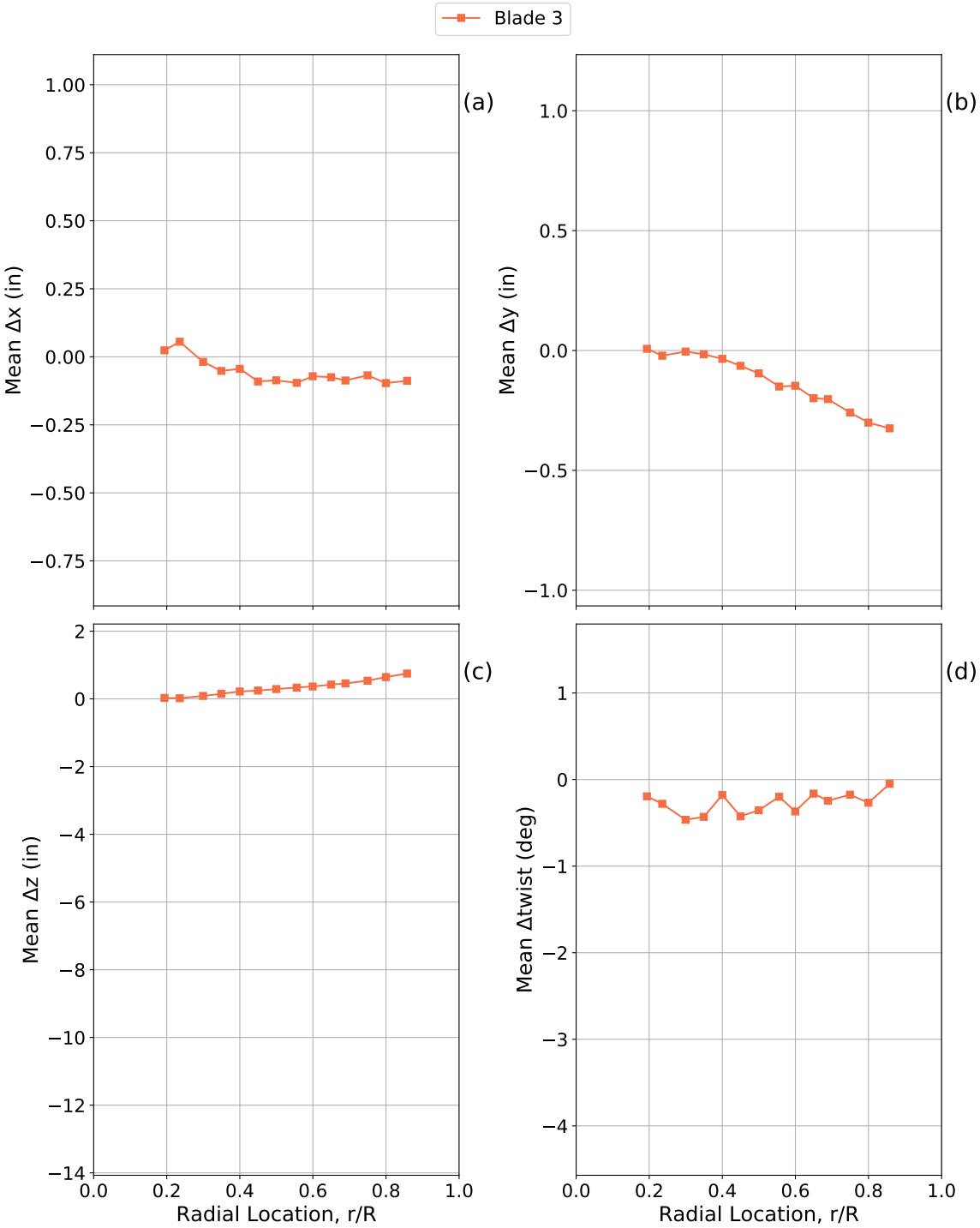


Figure 3.46-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	0.0237	0.0011	0.0070	0.0008	0.0284	0.0020	-0.1934	0.0187
3	225	0.2357	0.0554	0.0014	-0.0217	0.0022	0.0191	0.0044	-0.2802	0.0208
3	225	0.2995	-0.0186	0.0011	-0.0045	0.0046	0.0876	0.0110	-0.4647	0.0387
3	225	0.3493	-0.0519	0.0010	-0.0159	0.0079	0.1497	0.0131	-0.4312	0.0297
3	225	0.4000	-0.0442	0.0016	-0.0348	0.0125	0.2180	0.0247	-0.1783	0.0562
3	225	0.4497	-0.0906	0.0016	-0.0640	0.0151	0.2461	0.0294	-0.4243	0.0397
3	225	0.4997	-0.0864	0.0022	-0.0955	0.0158	0.2902	0.0332	-0.3550	0.0333
3	225	0.5556	-0.0958	0.0020	-0.1503	0.0207	0.3330	0.0403	-0.1990	0.0501
3	225	0.5995	-0.0715	0.0020	-0.1471	0.0234	0.3663	0.0469	-0.3687	0.0660
3	225	0.6498	-0.0749	0.0025	-0.1987	0.0273	0.4213	0.0508	-0.1623	0.0508
3	225	0.6890	-0.0870	0.0019	-0.2030	0.0283	0.4565	0.0577	-0.2446	0.0536
3	225	0.7495	-0.0681	0.0026	-0.2589	0.0326	0.5364	0.0683	-0.1749	0.0621
3	225	0.7998	-0.0966	0.0021	-0.3008	0.0365	0.6435	0.0723	-0.2681	0.0667
3	225	0.8577	-0.0881	0.0081	-0.3247	0.0396	0.7480	0.0830	-0.0496	0.1588

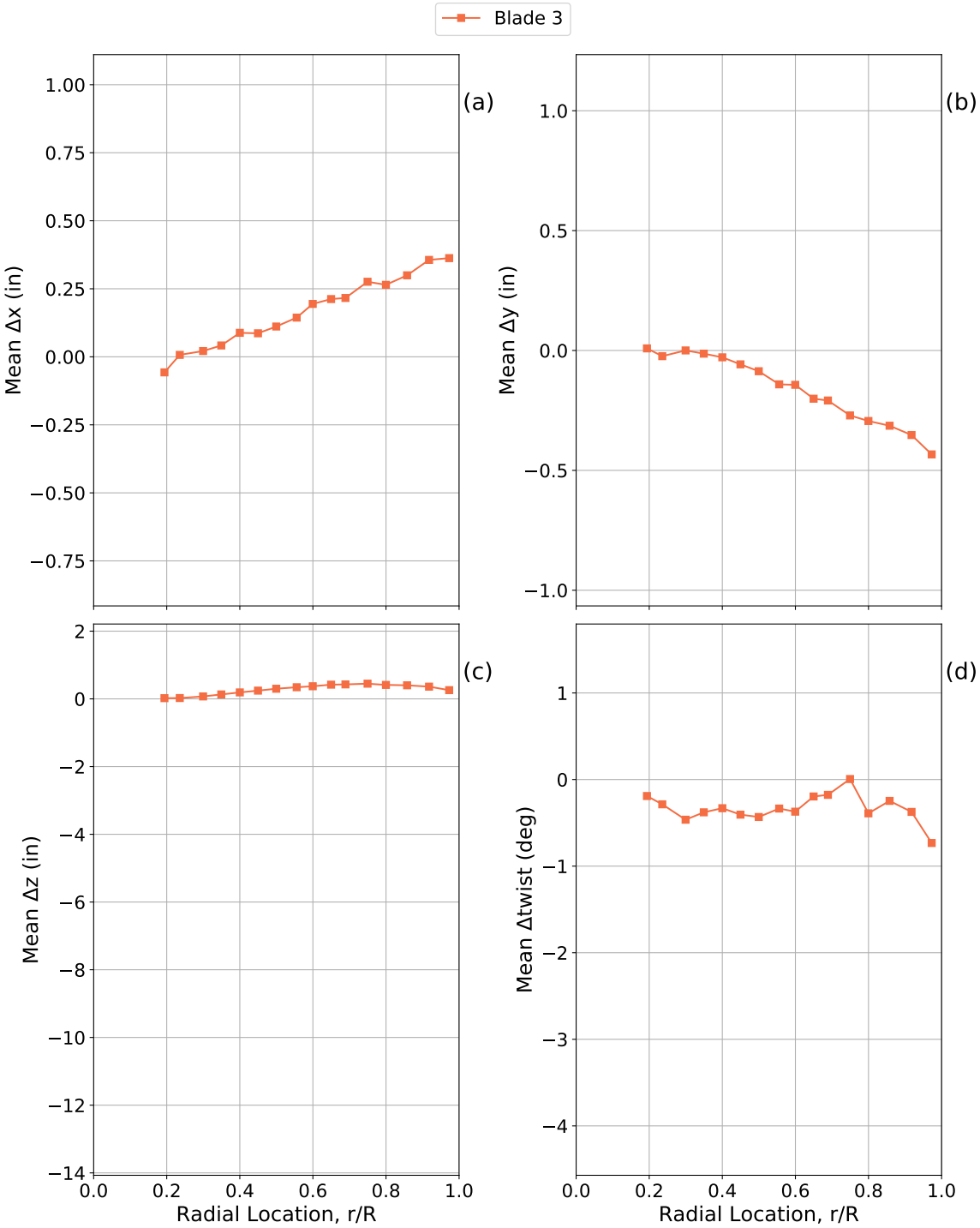


Figure 3.46-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0572	0.0011	0.0087	0.0007	0.0209	0.0014	-0.1903	0.0127
3	240.12	0.2357	0.0071	0.0011	-0.0237	0.0012	0.0246	0.0018	-0.2861	0.0182
3	240.12	0.2995	0.0212	0.0007	0.0002	0.0025	0.0716	0.0026	-0.4639	0.0225
3	240.12	0.3493	0.0417	0.0009	-0.0132	0.0038	0.1312	0.0037	-0.3786	0.0214
3	240.12	0.4000	0.0881	0.0013	-0.0285	0.0062	0.1909	0.0048	-0.3310	0.0218
3	240.12	0.4497	0.0864	0.0013	-0.0578	0.0076	0.2436	0.0071	-0.4054	0.0235
3	240.12	0.4997	0.1113	0.0013	-0.0865	0.0101	0.2996	0.0102	-0.4324	0.0240
3	240.12	0.5556	0.1441	0.0018	-0.1413	0.0114	0.3436	0.0142	-0.3349	0.0381
3	240.12	0.5995	0.1944	0.0019	-0.1432	0.0130	0.3723	0.0176	-0.3709	0.0239
3	240.12	0.6498	0.2122	0.0022	-0.2011	0.0147	0.4198	0.0211	-0.1956	0.0374
3	240.12	0.6890	0.2162	0.0016	-0.2086	0.0155	0.4275	0.0262	-0.1766	0.0265
3	240.12	0.7495	0.2758	0.0012	-0.2709	0.0177	0.4488	0.0370	0.0060	0.0358
3	240.12	0.7998	0.2645	0.0015	-0.2941	0.0192	0.4127	0.0442	-0.3902	0.0292
3	240.12	0.8577	0.2995	0.0017	-0.3138	0.0216	0.4008	0.0568	-0.2465	0.0225
3	240.12	0.9178	0.3561	0.0011	-0.3526	0.0231	0.3615	0.0694	-0.3737	0.0230
3	240.12	0.9729	0.3627	0.0015	-0.4334	0.0252	0.2578	0.0809	-0.7328	0.0272

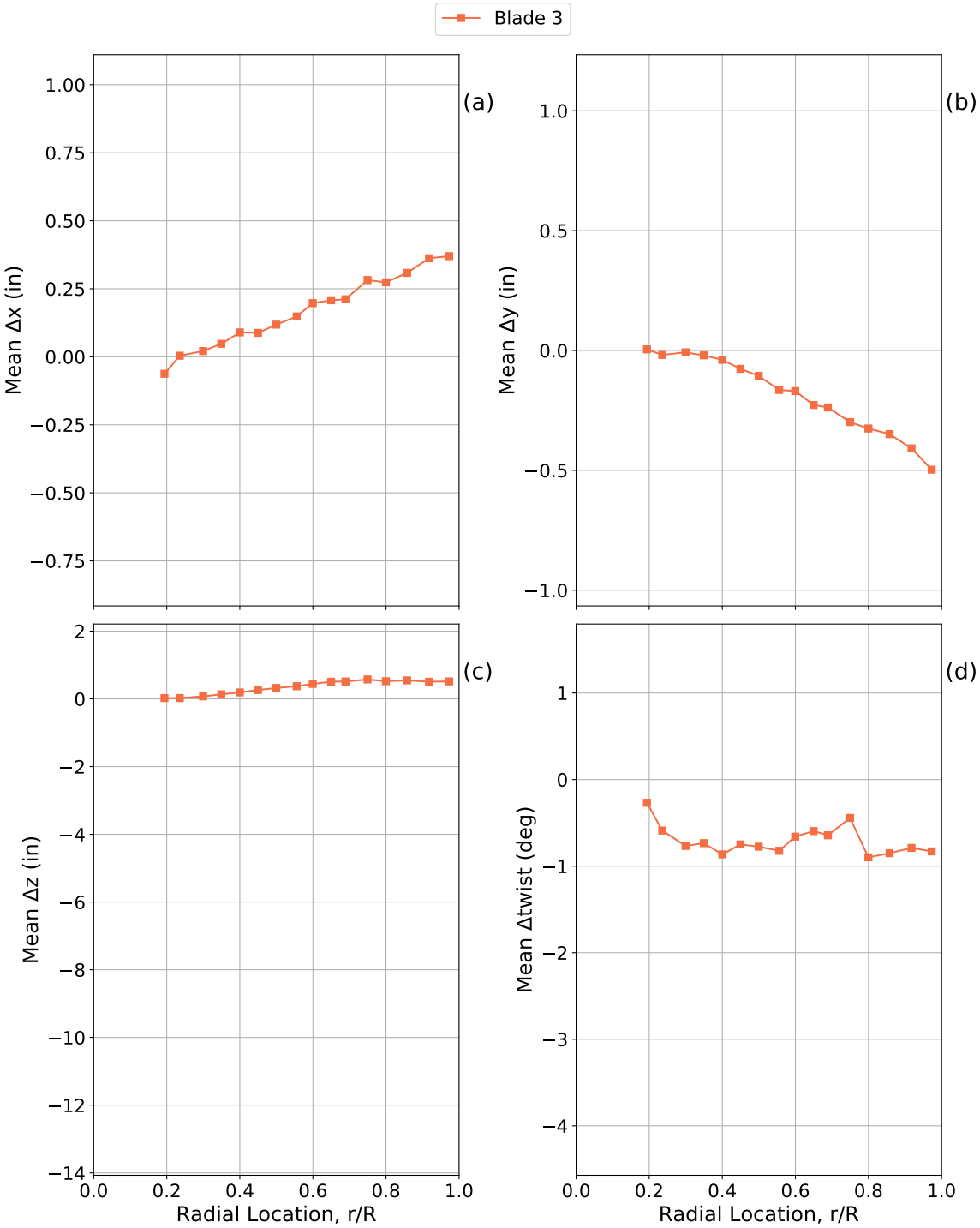


Figure 3.46-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0625	0.0011	0.0045	0.0006	0.0238	0.0023	-0.2678	0.0221
3	254.88	0.2357	0.0039	0.0011	-0.0187	0.0012	0.0248	0.0057	-0.5885	0.0356
3	254.88	0.2995	0.0211	0.0004	-0.0077	0.0023	0.0735	0.0096	-0.7661	0.0503
3	254.88	0.3493	0.0477	0.0010	-0.0204	0.0043	0.1345	0.0172	-0.7343	0.0386
3	254.88	0.4000	0.0896	0.0013	-0.0391	0.0066	0.1912	0.0263	-0.8639	0.0493
3	254.88	0.4497	0.0879	0.0016	-0.0767	0.0077	0.2619	0.0343	-0.7482	0.0458
3	254.88	0.4997	0.1182	0.0017	-0.1061	0.0100	0.3216	0.0430	-0.7751	0.0483
3	254.88	0.5556	0.1483	0.0016	-0.1647	0.0118	0.3733	0.0533	-0.8223	0.0600
3	254.88	0.5995	0.1971	0.0017	-0.1694	0.0134	0.4428	0.0613	-0.6590	0.0431
3	254.88	0.6498	0.2078	0.0019	-0.2274	0.0158	0.5076	0.0708	-0.5951	0.0490
3	254.88	0.6890	0.2114	0.0019	-0.2377	0.0173	0.5132	0.0764	-0.6433	0.0473
3	254.88	0.7495	0.2820	0.0024	-0.2988	0.0199	0.5735	0.0856	-0.4430	0.0464
3	254.88	0.7998	0.2737	0.0024	-0.3255	0.0217	0.5220	0.0936	-0.8983	0.0513
3	254.88	0.8577	0.3084	0.0024	-0.3491	0.0247	0.5463	0.1017	-0.8499	0.0440
3	254.88	0.9178	0.3622	0.0023	-0.4082	0.0277	0.5064	0.1131	-0.7889	0.0545
3	254.88	0.9729	0.3699	0.0032	-0.4972	0.0298	0.5169	0.1229	-0.8295	0.0453

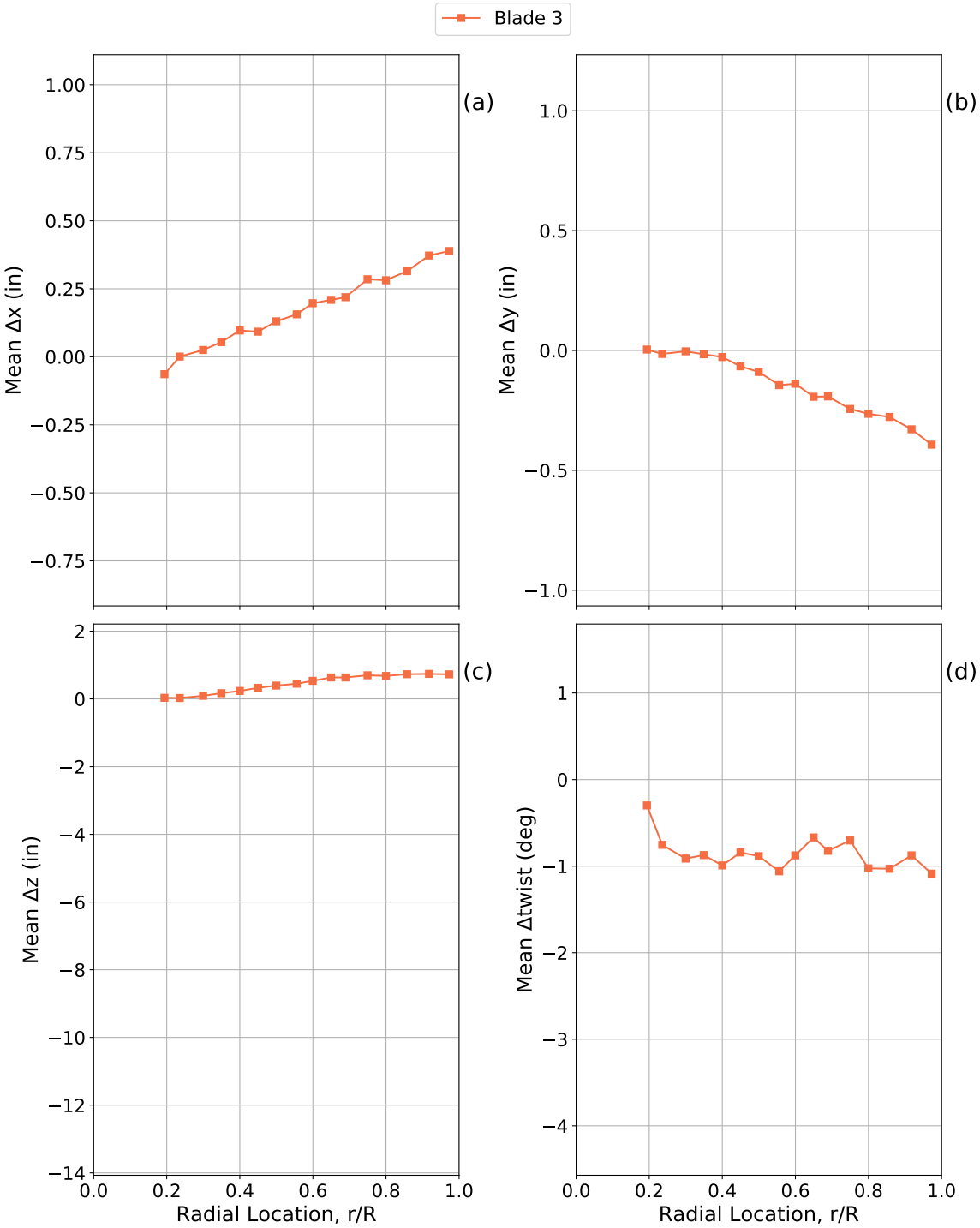


Figure 3.46-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0639	0.0018	0.0037	0.0009	0.0313	0.0042	-0.2985	0.0190
3	260.16	0.2357	0.0007	0.0011	-0.0145	0.0010	0.0262	0.0046	-0.7534	0.0473
3	260.16	0.2995	0.0250	0.0006	-0.0036	0.0026	0.0906	0.0124	-0.9123	0.0506
3	260.16	0.3493	0.0539	0.0010	-0.0158	0.0051	0.1676	0.0211	-0.8720	0.0456
3	260.16	0.4000	0.0966	0.0016	-0.0275	0.0072	0.2341	0.0303	-0.9914	0.0379
3	260.16	0.4497	0.0923	0.0020	-0.0662	0.0089	0.3273	0.0390	-0.8415	0.0434
3	260.16	0.4997	0.1303	0.0020	-0.0897	0.0106	0.3930	0.0487	-0.8839	0.0414
3	260.16	0.5556	0.1560	0.0019	-0.1447	0.0129	0.4486	0.0603	-1.0590	0.0415
3	260.16	0.5995	0.1968	0.0022	-0.1390	0.0142	0.5331	0.0685	-0.8751	0.0525
3	260.16	0.6498	0.2092	0.0022	-0.1932	0.0156	0.6333	0.0797	-0.6679	0.0466
3	260.16	0.6890	0.2190	0.0022	-0.1918	0.0169	0.6330	0.0874	-0.8226	0.0487
3	260.16	0.7495	0.2850	0.0021	-0.2440	0.0188	0.6972	0.0996	-0.7032	0.0471
3	260.16	0.7998	0.2813	0.0020	-0.2643	0.0208	0.6782	0.1102	-1.0252	0.0495
3	260.16	0.8577	0.3147	0.0022	-0.2774	0.0231	0.7289	0.1224	-1.0301	0.0489
3	260.16	0.9178	0.3723	0.0020	-0.3288	0.0251	0.7383	0.1356	-0.8750	0.0453
3	260.16	0.9729	0.3888	0.0023	-0.3930	0.0274	0.7253	0.1490	-1.0862	0.0437

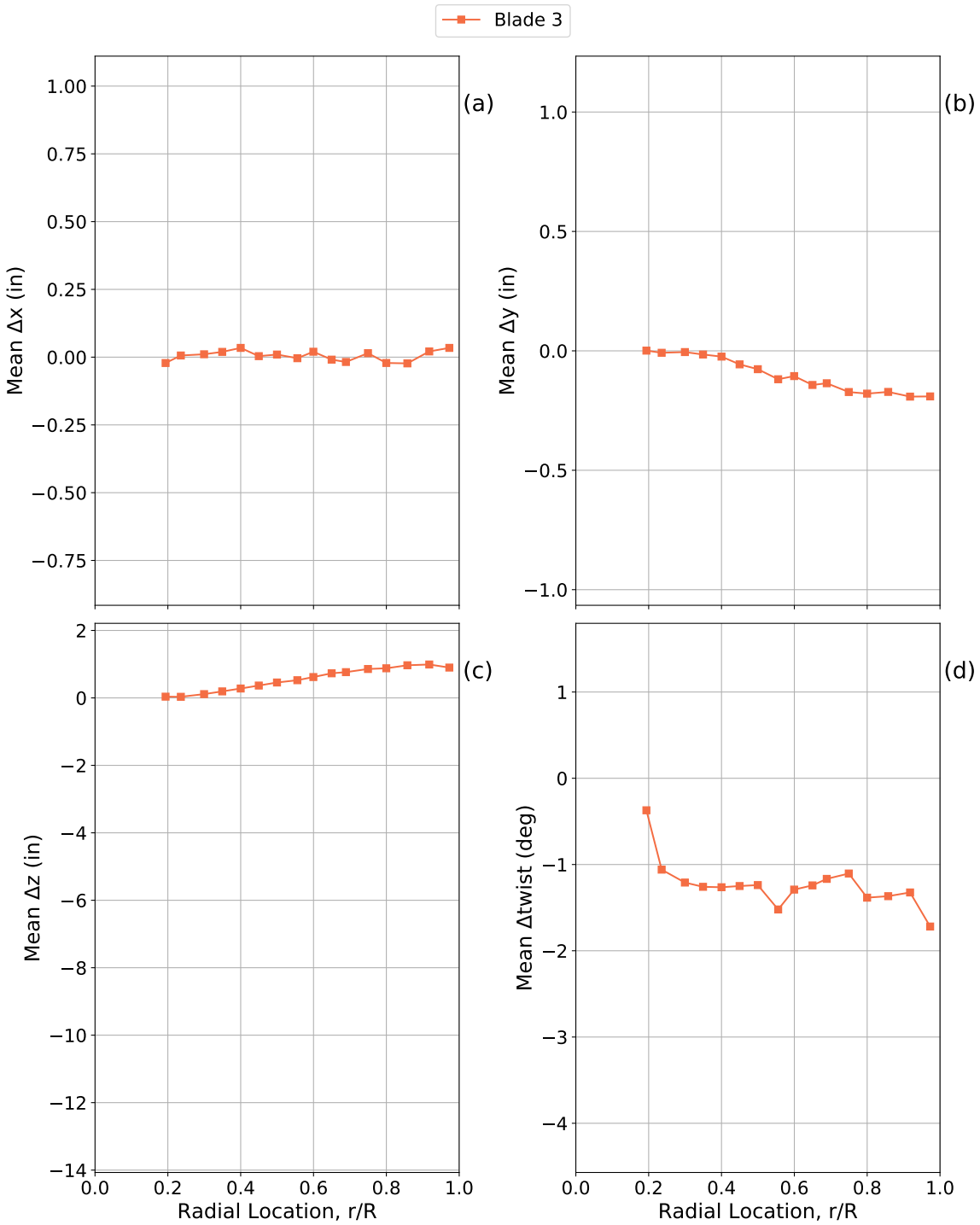


Figure 3.46-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0216	0.0032	0.0010	0.0010	0.0368	0.0038	-0.3713	0.0266
3	265.08	0.2357	0.0061	0.0015	-0.0081	0.0008	0.0327	0.0033	-1.0593	0.0651
3	265.08	0.2995	0.0106	0.0010	-0.0051	0.0018	0.1121	0.0089	-1.2090	0.0782
3	265.08	0.3493	0.0194	0.0009	-0.0153	0.0042	0.1930	0.0161	-1.2585	0.0732
3	265.08	0.4000	0.0341	0.0013	-0.0241	0.0051	0.2785	0.0222	-1.2634	0.0823
3	265.08	0.4497	0.0037	0.0014	-0.0566	0.0072	0.3663	0.0296	-1.2494	0.0723
3	265.08	0.4997	0.0096	0.0014	-0.0768	0.0083	0.4568	0.0380	-1.2384	0.0760
3	265.08	0.5556	-0.0039	0.0010	-0.1189	0.0096	0.5244	0.0450	-1.5212	0.0782
3	265.08	0.5995	0.0200	0.0011	-0.1057	0.0112	0.6185	0.0526	-1.2907	0.0766
3	265.08	0.6498	-0.0092	0.0011	-0.1428	0.0126	0.7297	0.0606	-1.2420	0.0686
3	265.08	0.6890	-0.0178	0.0011	-0.1357	0.0140	0.7637	0.0675	-1.1665	0.0683
3	265.08	0.7495	0.0147	0.0012	-0.1724	0.0160	0.8572	0.0770	-1.1043	0.0760
3	265.08	0.7998	-0.0215	0.0015	-0.1791	0.0176	0.8780	0.0870	-1.3843	0.0769
3	265.08	0.8577	-0.0230	0.0020	-0.1719	0.0194	0.9674	0.0987	-1.3671	0.0766
3	265.08	0.9178	0.0211	0.0012	-0.1916	0.0221	0.9903	0.1114	-1.3239	0.0784
3	265.08	0.9729	0.0341	0.0046	-0.1908	0.0238	0.8992	0.1208	-1.7190	0.0736

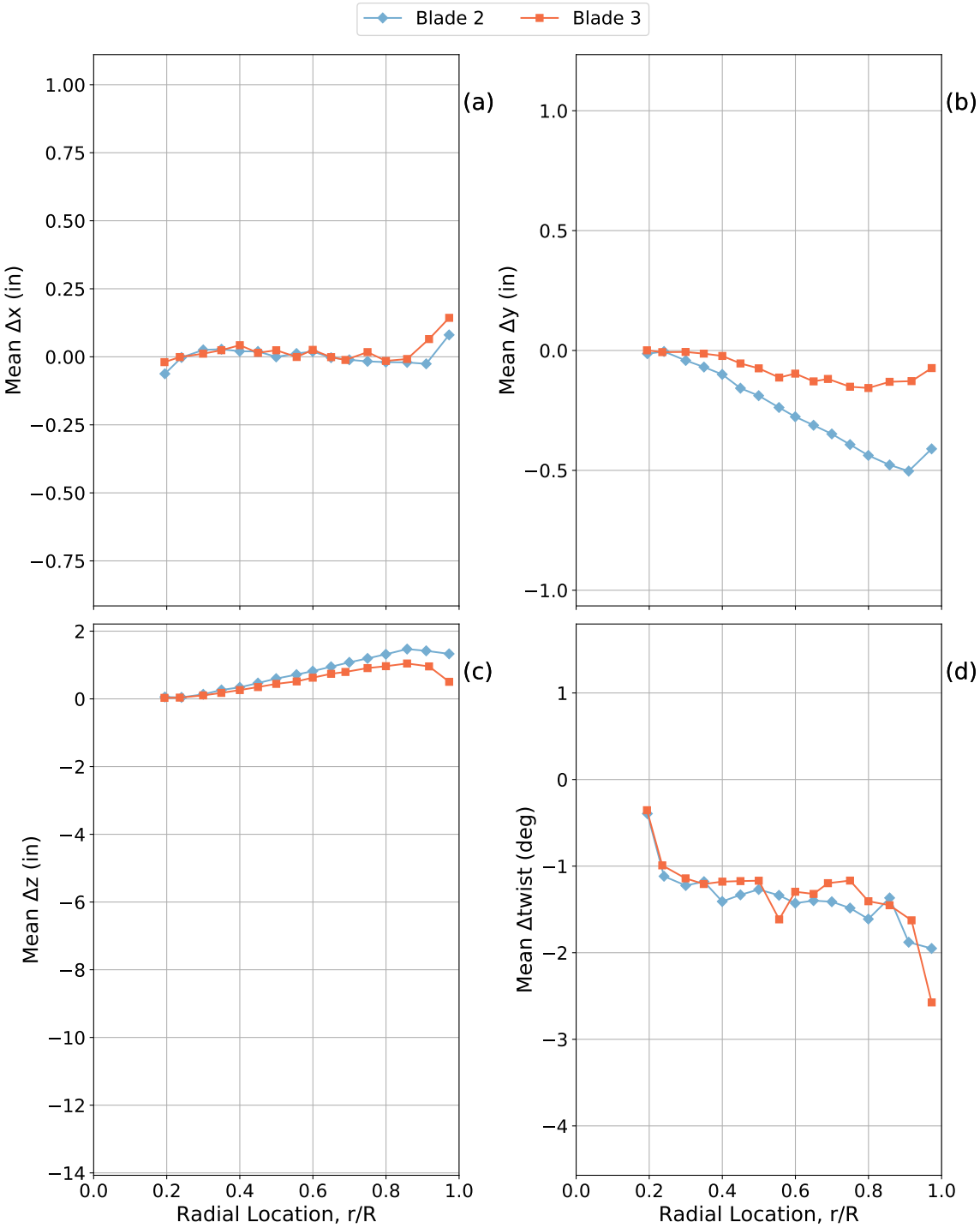


Figure 3.46-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0624	0.0033	-0.0135	0.0009	0.0550	0.0060	-0.3942	0.0390
2	270.35	0.2405	-0.0025	0.0018	-0.0043	0.0013	0.0441	0.0107	-1.1169	0.0822
2	270.35	0.2999	0.0254	0.0021	-0.0417	0.0024	0.1347	0.0213	-1.2241	0.1014
2	270.35	0.3498	0.0278	0.0021	-0.0691	0.0055	0.2636	0.0375	-1.1791	0.0863
2	270.35	0.3998	0.0204	0.0017	-0.0998	0.0072	0.3403	0.0556	-1.4084	0.0819
2	270.35	0.4496	0.0197	0.0011	-0.1573	0.0095	0.4664	0.0718	-1.3316	0.0822
2	270.35	0.4995	-0.0004	0.0016	-0.1885	0.0113	0.5987	0.0885	-1.2695	0.0909
2	270.35	0.5551	0.0122	0.0014	-0.2378	0.0133	0.7165	0.1124	-1.3369	0.0901
2	270.35	0.5996	0.0195	0.0012	-0.2764	0.0152	0.8198	0.1304	-1.4281	0.0941
2	270.35	0.6497	-0.0032	0.0019	-0.3118	0.0174	0.9491	0.1505	-1.3985	0.0919
2	270.35	0.6996	-0.0110	0.0022	-0.3481	0.0192	1.0791	0.1722	-1.4112	0.0886
2	270.35	0.7495	-0.0168	0.0023	-0.3924	0.0218	1.1952	0.1920	-1.4841	0.0860
2	270.35	0.7996	-0.0196	0.0025	-0.4377	0.0240	1.3174	0.2090	-1.6111	0.0935
2	270.35	0.8578	-0.0206	0.0024	-0.4775	0.0268	1.4709	0.2313	-1.3671	0.0805
2	270.35	0.9100	-0.0259	0.0026	-0.5031	0.0298	1.4192	0.2475	-1.8789	0.1028
2	270.35	0.9727	0.0805	0.0037	-0.4103	0.0333	1.3297	0.2640	-1.9507	0.1125
3	270	0.1938	-0.0196	0.0076	0.0007	0.0021	0.0303	0.0101	-0.3542	0.0272
3	270	0.2357	-0.0009	0.0022	-0.0069	0.0012	0.0373	0.0080	-0.9912	0.1190
3	270	0.2995	0.0114	0.0018	-0.0061	0.0060	0.1020	0.0256	-1.1413	0.1040
3	270	0.3493	0.0242	0.0024	-0.0131	0.0096	0.1767	0.0439	-1.2067	0.0931
3	270	0.4000	0.0426	0.0023	-0.0228	0.0142	0.2604	0.0611	-1.1793	0.0996
3	270	0.4497	0.0147	0.0020	-0.0541	0.0178	0.3487	0.0778	-1.1727	0.1091
3	270	0.4997	0.0241	0.0021	-0.0745	0.0218	0.4431	0.0939	-1.1684	0.1174
3	270	0.5556	-0.0007	0.0025	-0.1129	0.0263	0.5153	0.1182	-1.6150	0.1054
3	270	0.5995	0.0255	0.0019	-0.0965	0.0303	0.6256	0.1348	-1.2958	0.1123
3	270	0.6498	-0.0012	0.0020	-0.1289	0.0345	0.7401	0.1550	-1.3210	0.1036
3	270	0.6890	-0.0116	0.0016	-0.1187	0.0381	0.7953	0.1707	-1.1968	0.1060
3	270	0.7495	0.0173	0.0020	-0.1512	0.0437	0.9091	0.1932	-1.1670	0.1128
3	270	0.7998	-0.0151	0.0020	-0.1565	0.0482	0.9654	0.2127	-1.4054	0.1002
3	270	0.8577	-0.0081	0.0019	-0.1306	0.0538	1.0449	0.2335	-1.4518	0.1102
3	270	0.9178	0.0652	0.0027	-0.1278	0.0591	0.9592	0.2554	-1.6259	0.1044
3	270	0.9729	0.1432	0.0027	-0.0734	0.0652	0.5041	0.2761	-2.5741	0.1098

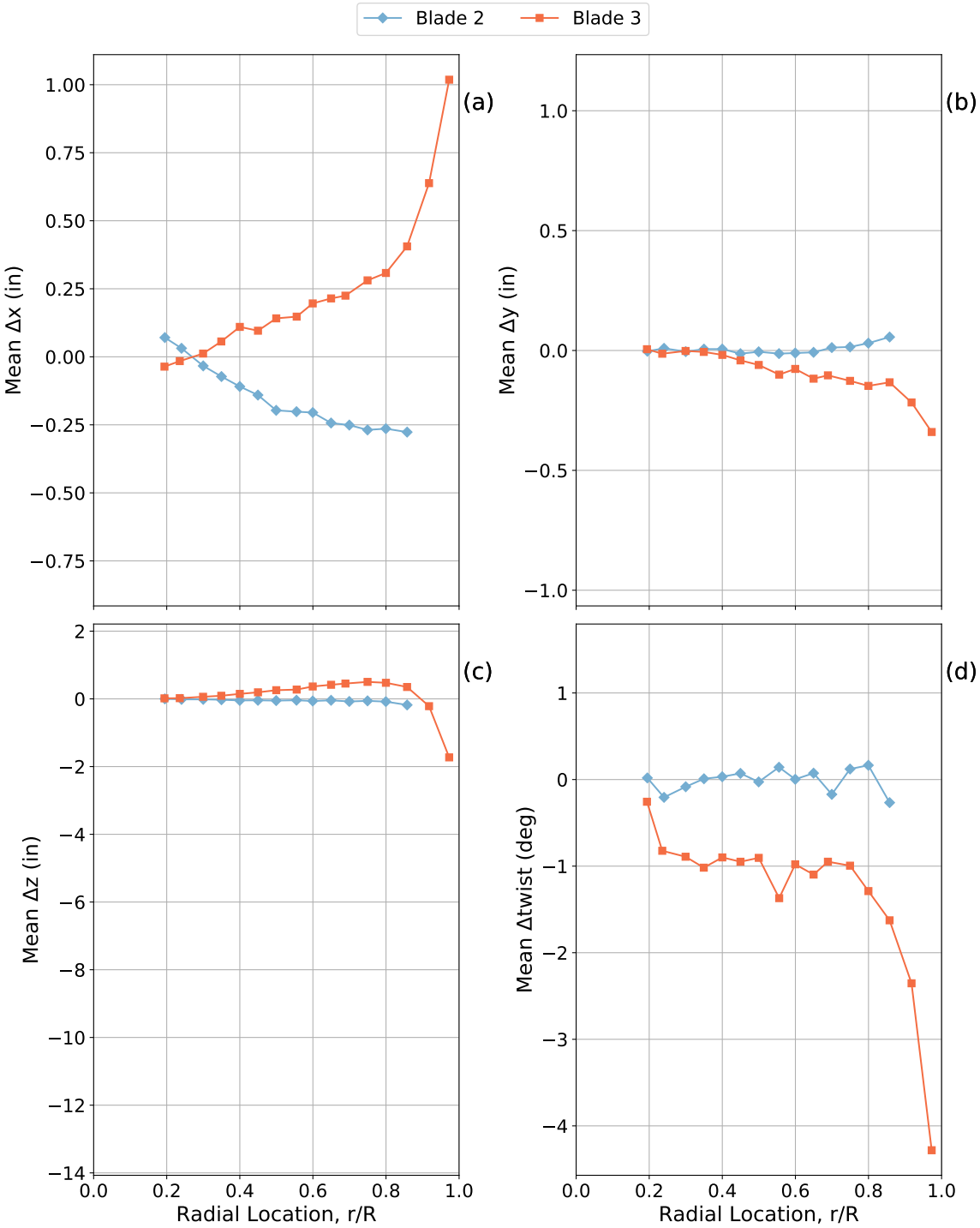


Figure 3.46-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0707	0.0013	-0.0031	0.0006	0.0005	0.0023	0.0186	0.0269
2	274.92	0.2405	0.0313	0.0009	0.0090	0.0017	-0.0145	0.0054	-0.2057	0.0365
2	274.92	0.2999	-0.0334	0.0019	-0.0047	0.0032	-0.0140	0.0087	-0.0832	0.0608
2	274.92	0.3498	-0.0725	0.0017	0.0058	0.0055	-0.0253	0.0172	0.0090	0.0395
2	274.92	0.3998	-0.1091	0.0021	0.0059	0.0089	-0.0462	0.0248	0.0325	0.0411
2	274.92	0.4496	-0.1406	0.0024	-0.0133	0.0105	-0.0424	0.0301	0.0713	0.0353
2	274.92	0.4995	-0.1968	0.0020	-0.0054	0.0134	-0.0513	0.0375	-0.0270	0.0381
2	274.92	0.5551	-0.2016	0.0016	-0.0131	0.0152	-0.0400	0.0428	0.1423	0.0567
2	274.92	0.5996	-0.2049	0.0018	-0.0106	0.0175	-0.0632	0.0503	0.0031	0.0594
2	274.92	0.6497	-0.2433	0.0029	-0.0077	0.0204	-0.0419	0.0583	0.0738	0.0485
2	274.92	0.6996	-0.2509	0.0019	0.0121	0.0237	-0.0766	0.0644	-0.1711	0.0630
2	274.92	0.7495	-0.2687	0.0021	0.0147	0.0262	-0.0586	0.0780	0.1216	0.0791
2	274.92	0.7996	-0.2641	0.0038	0.0306	0.0288	-0.0811	0.0796	0.1647	0.0933
2	274.92	0.8578	-0.2767	0.0045	0.0562	0.0326	-0.1799	0.0871	-0.2667	0.1610
3	274.92	0.1938	-0.0361	0.0132	0.0053	0.0014	0.0156	0.0104	-0.2563	0.0624
3	274.92	0.2357	-0.0158	0.0076	-0.0135	0.0020	0.0207	0.0102	-0.8227	0.1307
3	274.92	0.2995	0.0119	0.0042	-0.0020	0.0040	0.0619	0.0264	-0.8914	0.1635
3	274.92	0.3493	0.0564	0.0040	-0.0060	0.0079	0.0919	0.0447	-1.0177	0.1567
3	274.92	0.4000	0.1099	0.0045	-0.0183	0.0112	0.1478	0.0628	-0.8992	0.1517
3	274.92	0.4497	0.0959	0.0054	-0.0413	0.0143	0.1933	0.0799	-0.9491	0.1512
3	274.92	0.4997	0.1413	0.0043	-0.0604	0.0174	0.2564	0.0974	-0.9044	0.1590
3	274.92	0.5556	0.1476	0.0039	-0.1006	0.0210	0.2745	0.1208	-1.3697	0.1552
3	274.92	0.5995	0.1962	0.0038	-0.0769	0.0234	0.3658	0.1355	-0.9792	0.1555
3	274.92	0.6498	0.2146	0.0037	-0.1176	0.0271	0.4167	0.1554	-1.0977	0.1561
3	274.92	0.6890	0.2247	0.0046	-0.1037	0.0296	0.4523	0.1695	-0.9489	0.1612
3	274.92	0.7495	0.2809	0.0039	-0.1267	0.0336	0.5017	0.1922	-0.9947	0.1475
3	274.92	0.7998	0.3081	0.0041	-0.1477	0.0370	0.4749	0.2122	-1.2882	0.1421
3	274.92	0.8577	0.4058	0.0034	-0.1327	0.0420	0.3511	0.2311	-1.6259	0.1764
3	274.92	0.9178	0.6382	0.0042	-0.2168	0.0479	-0.2154	0.2610	-2.3532	0.1607
3	274.92	0.9729	1.0184	0.0052	-0.3400	0.0569	-1.7280	0.2887	-4.2812	0.1481

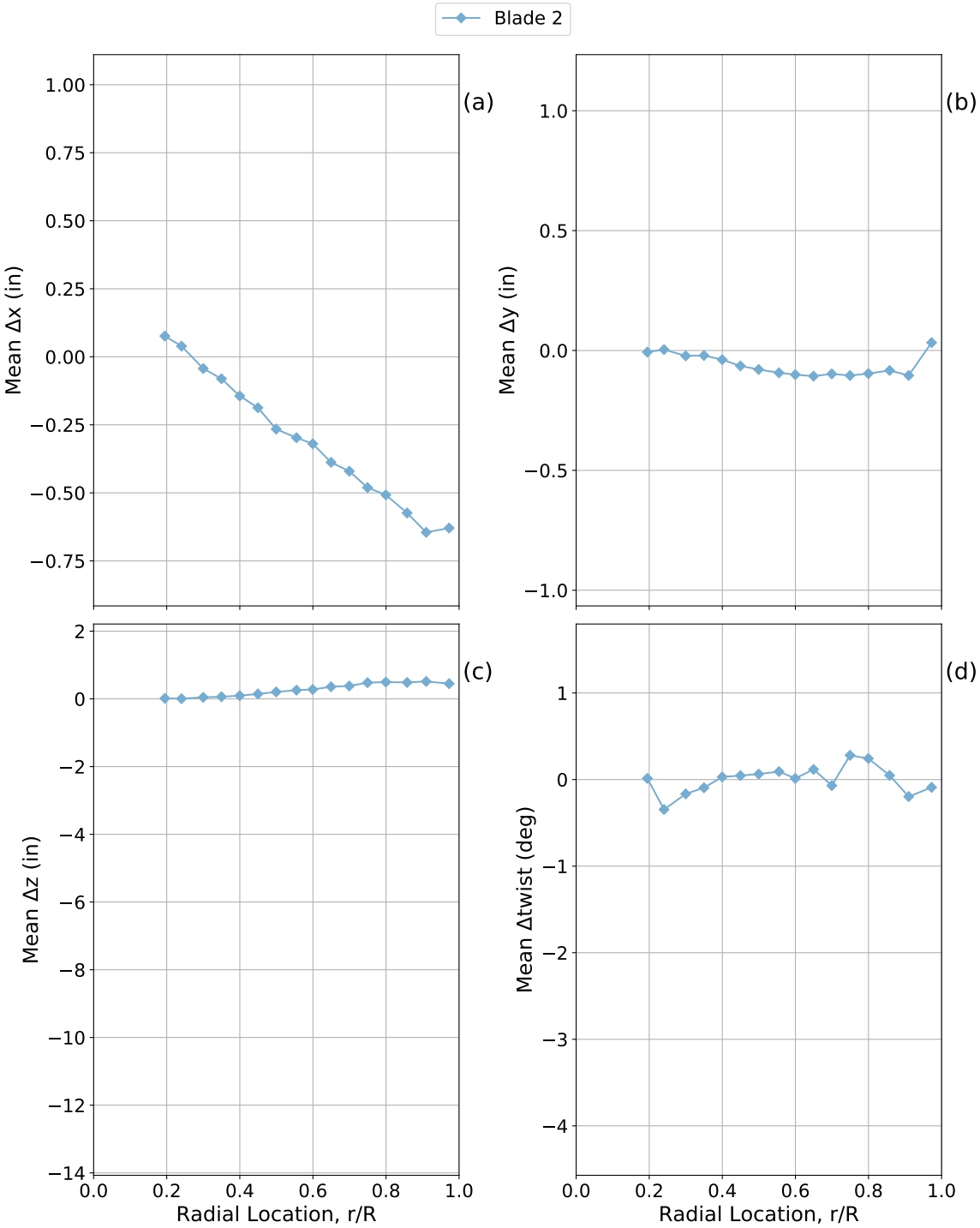


Figure 3.46-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0761	0.0012	-0.0067	0.0007	0.0162	0.0024	0.0134	0.0105
2	285.12	0.2405	0.0392	0.0012	0.0037	0.0026	0.0053	0.0045	-0.3463	0.0317
2	285.12	0.2999	-0.0431	0.0017	-0.0224	0.0043	0.0458	0.0099	-0.1656	0.0306
2	285.12	0.3498	-0.0807	0.0020	-0.0210	0.0053	0.0638	0.0141	-0.0946	0.0510
2	285.12	0.3998	-0.1439	0.0029	-0.0383	0.0106	0.0944	0.0232	0.0301	0.0448
2	285.12	0.4496	-0.1872	0.0027	-0.0645	0.0124	0.1448	0.0318	0.0455	0.0527
2	285.12	0.4995	-0.2658	0.0027	-0.0792	0.0137	0.2048	0.0393	0.0633	0.0295
2	285.12	0.5551	-0.2975	0.0028	-0.0931	0.0187	0.2566	0.0510	0.0921	0.0234
2	285.12	0.5996	-0.3196	0.0038	-0.1008	0.0200	0.2784	0.0611	0.0125	0.0472
2	285.12	0.6497	-0.3879	0.0033	-0.1070	0.0223	0.3573	0.0730	0.1172	0.0502
2	285.12	0.6996	-0.4205	0.0026	-0.0977	0.0250	0.3812	0.0839	-0.0693	0.0440
2	285.12	0.7495	-0.4807	0.0033	-0.1044	0.0279	0.4794	0.0992	0.2797	0.0336
2	285.12	0.7996	-0.5075	0.0035	-0.0963	0.0299	0.4968	0.1130	0.2431	0.0364
2	285.12	0.8578	-0.5739	0.0026	-0.0834	0.0334	0.4851	0.1305	0.0477	0.0432
2	285.12	0.9100	-0.6451	0.0036	-0.1041	0.0366	0.5151	0.1498	-0.1969	0.0606
2	285.12	0.9727	-0.6294	0.0072	0.0329	0.0397	0.4496	0.1706	-0.0908	0.1164

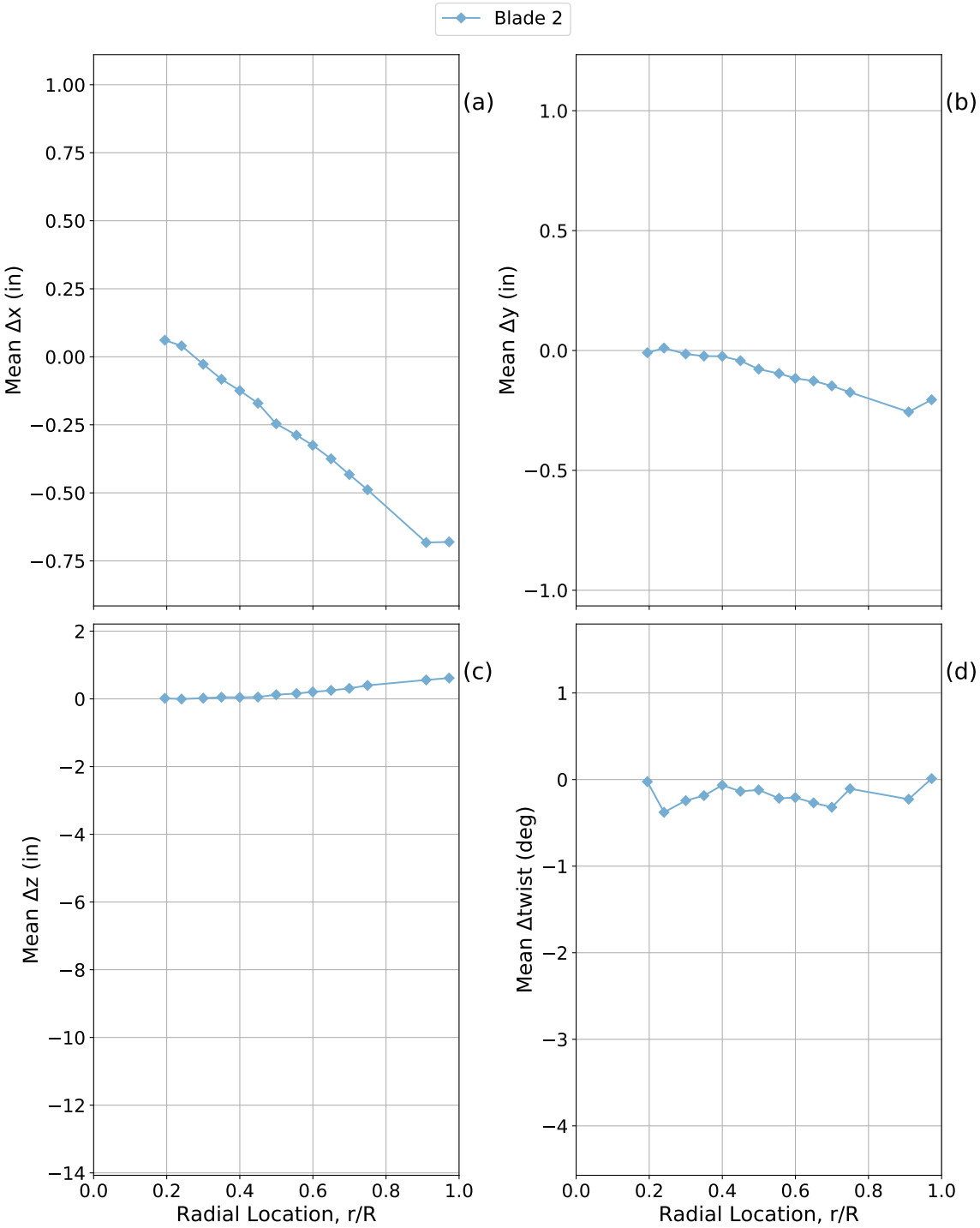


Figure 3.46-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0611	0.0024	-0.0094	0.0013	0.0155	0.0020	-0.0241	0.0161
2	299.88	0.2405	0.0403	0.0013	0.0100	0.0024	-0.0039	0.0039	-0.3782	0.0461
2	299.88	0.2999	-0.0272	0.0017	-0.0145	0.0060	0.0202	0.0070	-0.2432	0.0433
2	299.88	0.3498	-0.0825	0.0011	-0.0234	0.0103	0.0489	0.0110	-0.1855	0.0347
2	299.88	0.3998	-0.1242	0.0028	-0.0243	0.0161	0.0456	0.0171	-0.0657	0.0392
2	299.88	0.4496	-0.1705	0.0026	-0.0428	0.0198	0.0533	0.0204	-0.1359	0.0574
2	299.88	0.4995	-0.2463	0.0023	-0.0779	0.0187	0.1224	0.0273	-0.1199	0.0289
2	299.88	0.5551	-0.2881	0.0033	-0.0960	0.0217	0.1579	0.0338	-0.2167	0.0547
2	299.88	0.5996	-0.3253	0.0028	-0.1164	0.0251	0.2056	0.0404	-0.2080	0.0320
2	299.88	0.6497	-0.3747	0.0033	-0.1269	0.0278	0.2502	0.0472	-0.2690	0.0492
2	299.88	0.6996	-0.4327	0.0025	-0.1479	0.0309	0.3104	0.0565	-0.3199	0.0459
2	299.88	0.7495	-0.4886	0.0032	-0.1744	0.0335	0.3982	0.0649	-0.1064	0.0389
2	299.88	0.9100	-0.6825	0.0024	-0.2562	0.0443	0.5589	0.0997	-0.2273	0.0443
2	299.88	0.9727	-0.6803	0.0037	-0.2054	0.0492	0.6151	0.1157	0.0109	0.0463

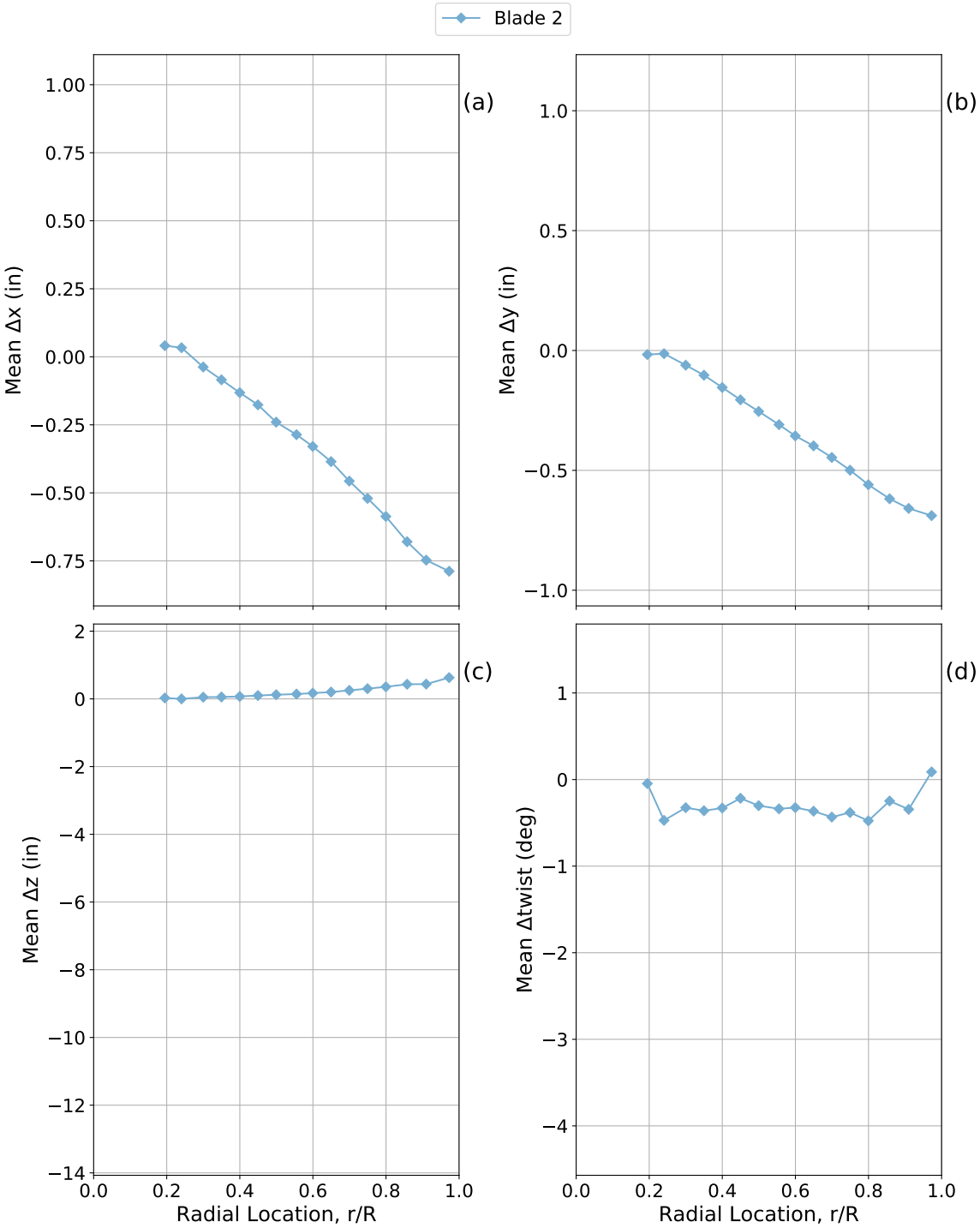


Figure 3.46-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0409	0.0015	-0.0170	0.0006	0.0266	0.0021	-0.0464	0.0151
2	315	0.2405	0.0334	0.0017	-0.0132	0.0025	-0.0006	0.0058	-0.4717	0.0254
2	315	0.2999	-0.0375	0.0015	-0.0613	0.0053	0.0504	0.0107	-0.3250	0.0300
2	315	0.3498	-0.0846	0.0017	-0.1031	0.0066	0.0561	0.0142	-0.3601	0.0415
2	315	0.3998	-0.1317	0.0021	-0.1542	0.0129	0.0713	0.0250	-0.3290	0.0364
2	315	0.4496	-0.1766	0.0023	-0.2057	0.0133	0.0982	0.0302	-0.2164	0.0331
2	315	0.4995	-0.2402	0.0017	-0.2543	0.0160	0.1223	0.0469	-0.3017	0.0533
2	315	0.5551	-0.2862	0.0032	-0.3093	0.0203	0.1418	0.0482	-0.3381	0.0251
2	315	0.5996	-0.3294	0.0014	-0.3563	0.0213	0.1701	0.0590	-0.3240	0.0439
2	315	0.6497	-0.3852	0.0036	-0.3978	0.0235	0.2014	0.0719	-0.3655	0.0588
2	315	0.6996	-0.4567	0.0025	-0.4462	0.0253	0.2507	0.0812	-0.4335	0.0314
2	315	0.7495	-0.5203	0.0026	-0.4993	0.0290	0.3013	0.0901	-0.3811	0.0354
2	315	0.7996	-0.5868	0.0029	-0.5599	0.0326	0.3564	0.1020	-0.4766	0.0299
2	315	0.8578	-0.6796	0.0024	-0.6186	0.0357	0.4311	0.1146	-0.2476	0.0285
2	315	0.9100	-0.7473	0.0022	-0.6587	0.0383	0.4361	0.1251	-0.3443	0.0311
2	315	0.9727	-0.7881	0.0033	-0.6888	0.0422	0.6275	0.1378	0.0881	0.0359

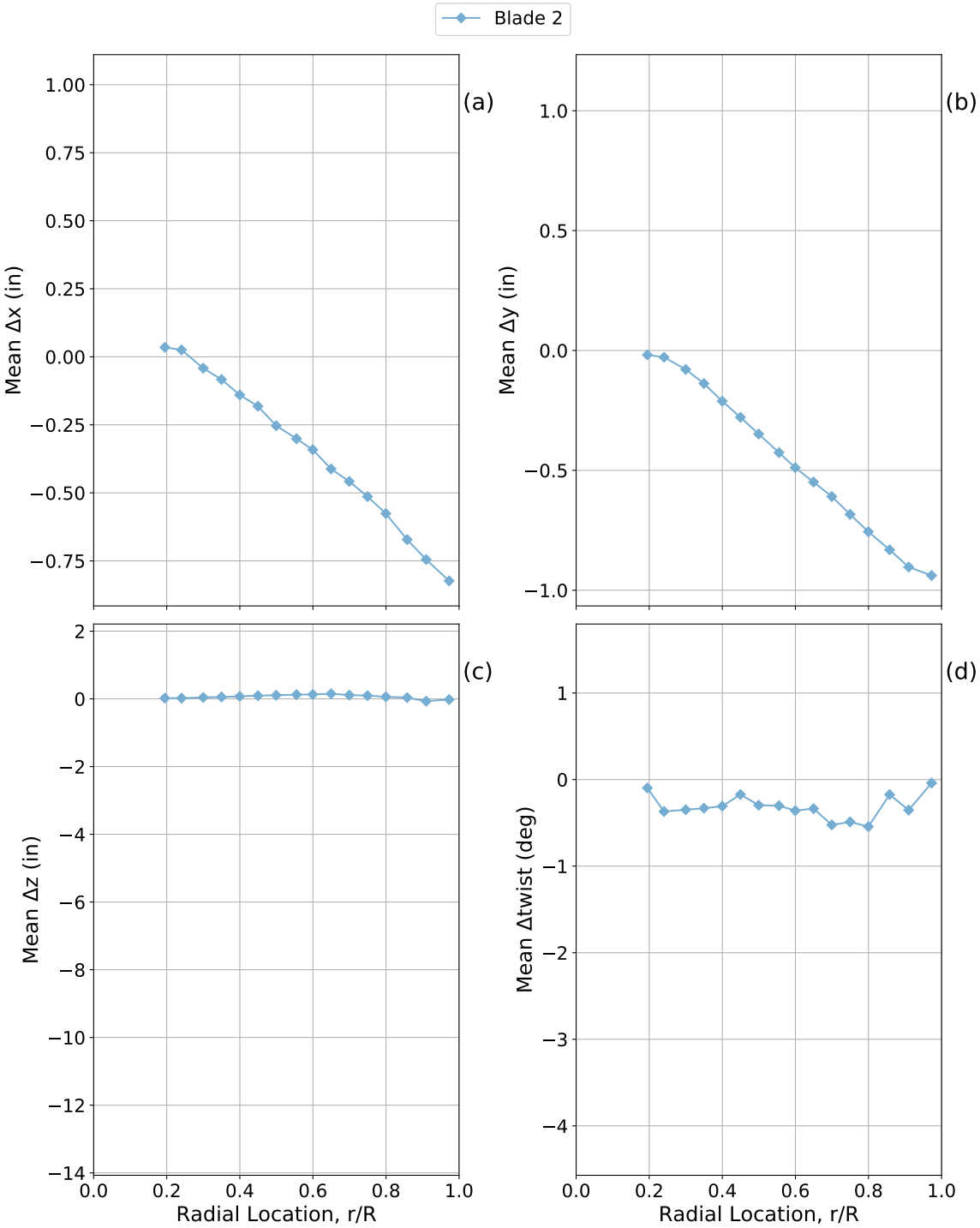


Figure 3.46-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0347	0.0012	-0.0182	0.0007	0.0201	0.0014	-0.0969	0.0163
2	330.12	0.2405	0.0253	0.0017	-0.0281	0.0012	0.0210	0.0031	-0.3691	0.0264
2	330.12	0.2999	-0.0419	0.0014	-0.0791	0.0025	0.0421	0.0067	-0.3486	0.0341
2	330.12	0.3498	-0.0835	0.0016	-0.1378	0.0040	0.0568	0.0088	-0.3311	0.0333
2	330.12	0.3998	-0.1400	0.0011	-0.2116	0.0064	0.0745	0.0154	-0.3079	0.0359
2	330.12	0.4496	-0.1818	0.0029	-0.2787	0.0083	0.0947	0.0158	-0.1726	0.0585
2	330.12	0.4995	-0.2531	0.0021	-0.3482	0.0100	0.1073	0.0183	-0.2966	0.0365
2	330.12	0.5551	-0.3010	0.0025	-0.4260	0.0126	0.1251	0.0244	-0.3023	0.0341
2	330.12	0.5996	-0.3414	0.0035	-0.4889	0.0139	0.1317	0.0323	-0.3591	0.0390
2	330.12	0.6497	-0.4121	0.0083	-0.5488	0.0155	0.1514	0.0357	-0.3357	0.0369
2	330.12	0.6996	-0.4581	0.0026	-0.6090	0.0187	0.1115	0.0479	-0.5240	0.0365
2	330.12	0.7495	-0.5137	0.0026	-0.6835	0.0200	0.0960	0.0527	-0.4891	0.0339
2	330.12	0.7996	-0.5760	0.0036	-0.7559	0.0213	0.0615	0.0590	-0.5443	0.0391
2	330.12	0.8578	-0.6717	0.0023	-0.8313	0.0233	0.0371	0.0694	-0.1735	0.0339
2	330.12	0.9100	-0.7450	0.0025	-0.9033	0.0255	-0.0686	0.0805	-0.3532	0.0429
2	330.12	0.9727	-0.8234	0.0025	-0.9387	0.0276	-0.0188	0.0943	-0.0397	0.0284

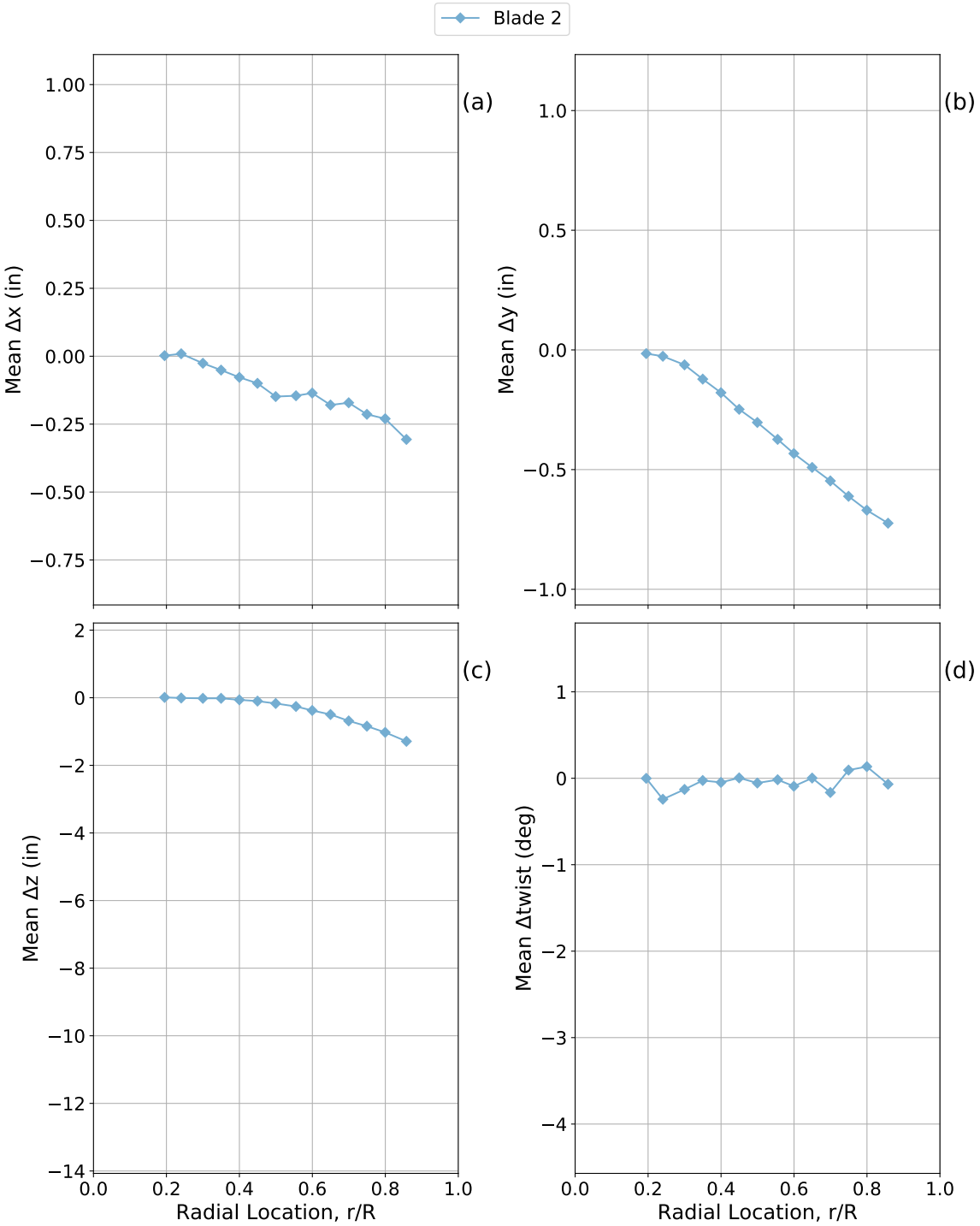


Figure 3.46-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0021	0.0027	-0.0153	0.0014	0.0101	0.0026	-0.0008	0.0194
2	344.88	0.2405	0.0091	0.0019	-0.0265	0.0011	-0.0071	0.0035	-0.2426	0.0485
2	344.88	0.2999	-0.0259	0.0017	-0.0624	0.0040	-0.0176	0.0079	-0.1290	0.0555
2	344.88	0.3498	-0.0511	0.0034	-0.1220	0.0070	-0.0167	0.0125	-0.0256	0.0548
2	344.88	0.3998	-0.0777	0.0047	-0.1787	0.0097	-0.0620	0.0190	-0.0476	0.0692
2	344.88	0.4496	-0.0998	0.0064	-0.2481	0.0120	-0.0996	0.0223	0.0045	0.0526
2	344.88	0.4995	-0.1485	0.0074	-0.3031	0.0136	-0.1699	0.0294	-0.0549	0.0485
2	344.88	0.5551	-0.1455	0.0082	-0.3738	0.0157	-0.2585	0.0347	-0.0167	0.0479
2	344.88	0.5996	-0.1356	0.0111	-0.4329	0.0187	-0.3766	0.0425	-0.0925	0.0553
2	344.88	0.6497	-0.1795	0.0104	-0.4909	0.0209	-0.4957	0.0522	0.0027	0.0580
2	344.88	0.6996	-0.1713	0.0124	-0.5473	0.0232	-0.6854	0.0638	-0.1646	0.0617
2	344.88	0.7495	-0.2138	0.0163	-0.6116	0.0259	-0.8417	0.0752	0.0946	0.0671
2	344.88	0.7996	-0.2300	0.0171	-0.6697	0.0302	-1.0246	0.0811	0.1347	0.1214
2	344.88	0.8578	-0.3063	0.0239	-0.7240	0.0338	-1.2898	0.1131	-0.0684	0.2572

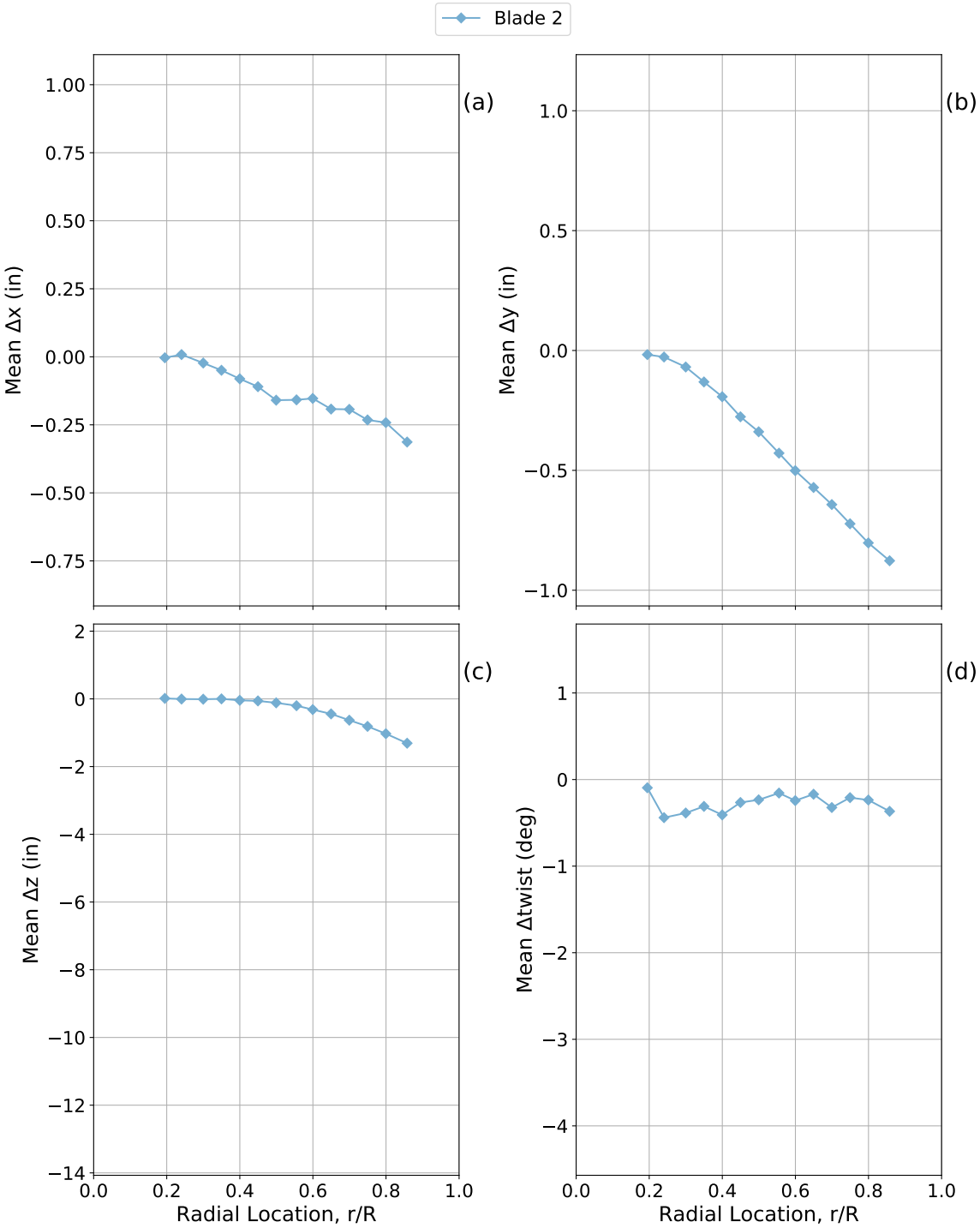


Figure 3.46-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0035	0.0029	-0.0172	0.0016	0.0141	0.0047	-0.0950	0.0313
2	350.16	0.2405	0.0082	0.0010	-0.0272	0.0019	-0.0048	0.0062	-0.4401	0.0797
2	350.16	0.2999	-0.0228	0.0012	-0.0688	0.0047	-0.0098	0.0139	-0.3864	0.0906
2	350.16	0.3498	-0.0495	0.0016	-0.1312	0.0083	-0.0002	0.0244	-0.3100	0.0926
2	350.16	0.3998	-0.0809	0.0018	-0.1929	0.0117	-0.0429	0.0348	-0.4081	0.0955
2	350.16	0.4496	-0.1098	0.0027	-0.2765	0.0151	-0.0600	0.0477	-0.2651	0.0916
2	350.16	0.4995	-0.1594	0.0026	-0.3391	0.0188	-0.1169	0.0601	-0.2341	0.0936
2	350.16	0.5551	-0.1582	0.0015	-0.4283	0.0215	-0.2017	0.0763	-0.1560	0.0959
2	350.16	0.5996	-0.1530	0.0030	-0.5012	0.0232	-0.3167	0.0893	-0.2432	0.0922
2	350.16	0.6497	-0.1921	0.0033	-0.5714	0.0279	-0.4438	0.1032	-0.1695	0.0964
2	350.16	0.6996	-0.1931	0.0025	-0.6426	0.0309	-0.6299	0.1150	-0.3231	0.1024
2	350.16	0.7495	-0.2320	0.0027	-0.7228	0.0343	-0.8124	0.1260	-0.2090	0.0952
2	350.16	0.7996	-0.2418	0.0048	-0.8027	0.0391	-1.0283	0.1409	-0.2364	0.0993
2	350.16	0.8578	-0.3132	0.0101	-0.8771	0.0417	-1.3098	0.1432	-0.3672	0.1598

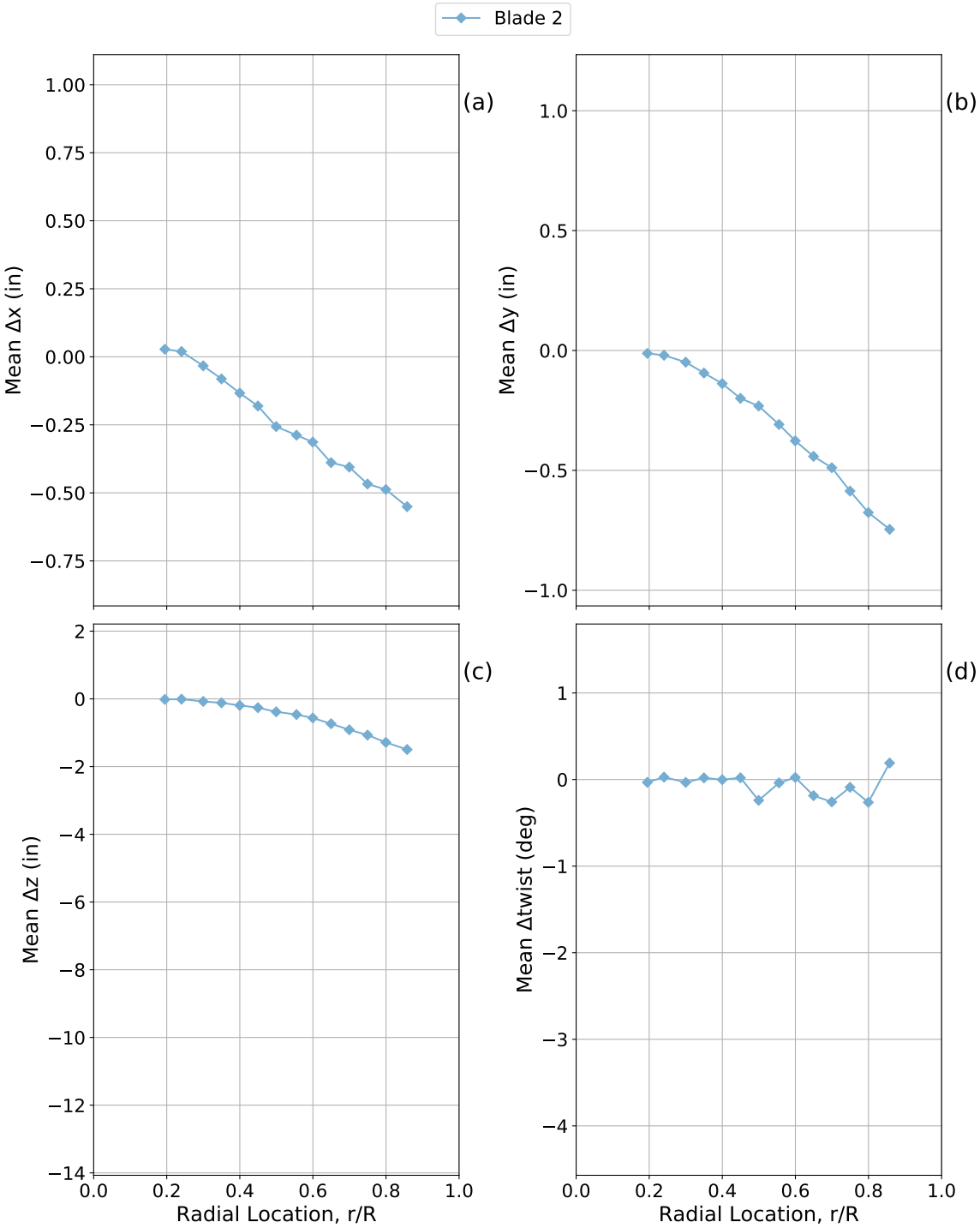


Figure 3.46-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$ NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Table 3.46-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.077$, $\mu = 0.3$, $\alpha = 4°$
NFAC run 93, point 14. BD run 43, points 7616 to 7626.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0277	0.0024	-0.0121	0.0019	-0.0161	0.0035	-0.0324	0.0260
2	355.08	0.2405	0.0194	0.0012	-0.0200	0.0025	-0.0080	0.0041	0.0282	0.0686
2	355.08	0.2999	-0.0332	0.0011	-0.0488	0.0046	-0.0761	0.0113	-0.0329	0.0740
2	355.08	0.3498	-0.0812	0.0013	-0.0940	0.0091	-0.1180	0.0183	0.0193	0.0756
2	355.08	0.3998	-0.1333	0.0018	-0.1381	0.0120	-0.1914	0.0269	-0.0015	0.0690
2	355.08	0.4496	-0.1809	0.0015	-0.1997	0.0157	-0.2611	0.0386	0.0201	0.0752
2	355.08	0.4995	-0.2565	0.0017	-0.2316	0.0194	-0.3823	0.0507	-0.2402	0.0705
2	355.08	0.5551	-0.2880	0.0016	-0.3084	0.0240	-0.4630	0.0655	-0.0386	0.0760
2	355.08	0.5996	-0.3133	0.0025	-0.3769	0.0285	-0.5635	0.0773	0.0239	0.0720
2	355.08	0.6497	-0.3889	0.0022	-0.4417	0.0316	-0.7346	0.0879	-0.1860	0.0815
2	355.08	0.6996	-0.4053	0.0023	-0.4889	0.0360	-0.9129	0.1029	-0.2582	0.0609
2	355.08	0.7495	-0.4675	0.0032	-0.5864	0.0399	-1.0686	0.1127	-0.0896	0.0879
2	355.08	0.7996	-0.4877	0.0037	-0.6758	0.0470	-1.2851	0.1273	-0.2631	0.0769
2	355.08	0.8578	-0.5507	0.0067	-0.7460	0.0544	-1.4957	0.1414	0.1907	0.0805

3.47 Run 95, Point 30

3.47.1 Pitch, Flap, and Lag

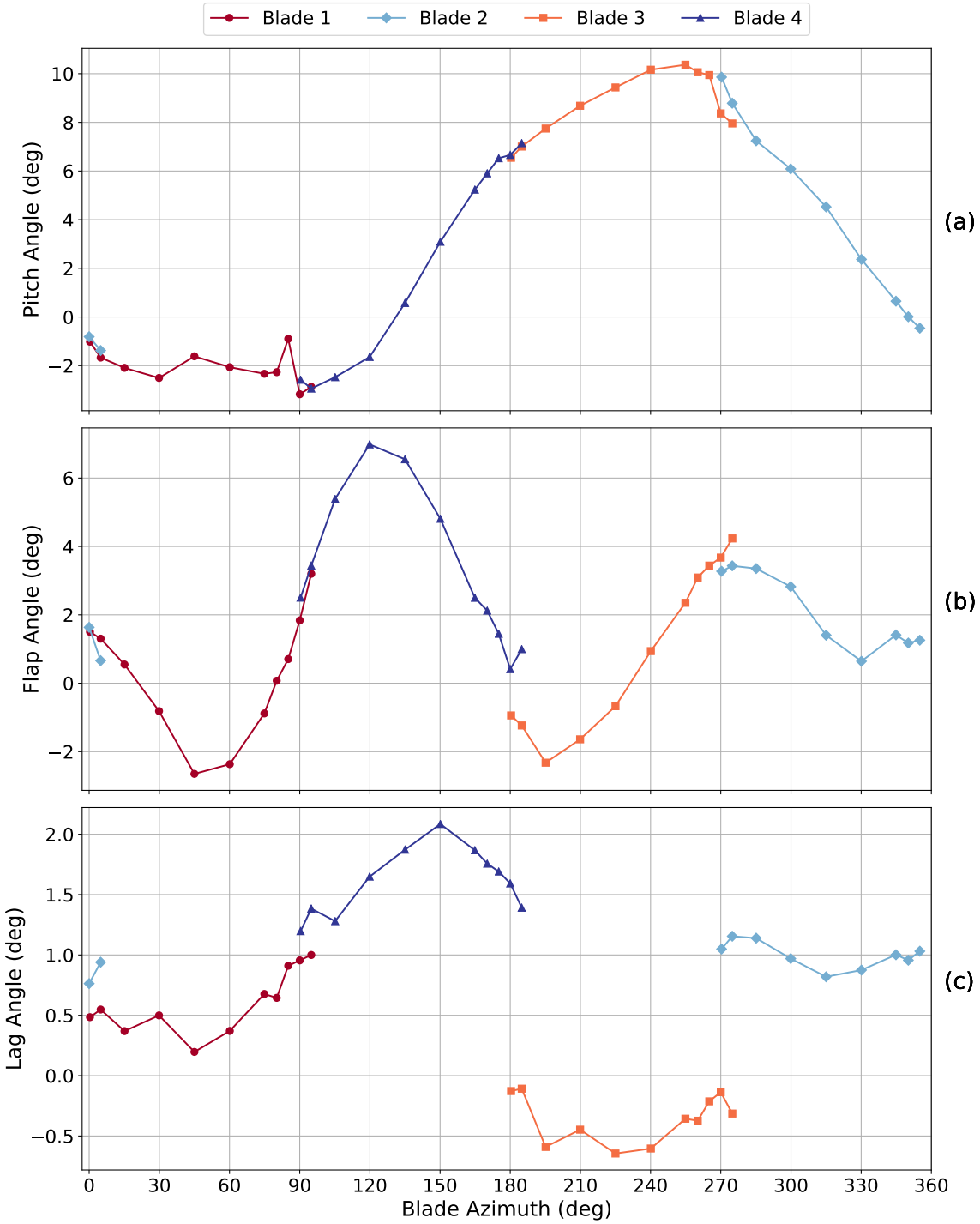


Figure 3.47-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	-0.8109	1.6348	0.7627	0.1079	0.5377	0.2011
0.35	1	-1.0153	1.5025	0.4844	0.1624	0.5843	0.2919
4.92	1	-1.6704	1.3031	0.5477	0.1956	0.5095	0.1227
4.92	2	-1.3776	0.6599	0.9400	0.1446	0.5683	0.2285
15.12	1	-2.0912	0.5482	0.3689	0.1664	0.6456	0.0961
29.88	1	-2.5060	-0.8150	0.4991	0.1297	0.2340	0.0738
45	1	-1.6164	-2.6504	0.1965	0.4463	0.2386	0.1065
60.12	1	-2.0638	-2.3669	0.3703	0.4398	0.2448	0.1144
74.88	1	-2.3345	-0.8831	0.6767	0.7641	0.3851	0.1747
80.16	1	-2.2679	0.0731	0.6444	0.3893	0.2160	0.1332
85.08	1	-0.8969	0.7057	0.9105	0.2892	0.2605	0.0765
90	1	-3.1760	1.8371	0.9551	0.0874	0.3452	0.0678
90.35	4	-2.5811	2.5025	1.1970	0.1577	0.7913	0.1156
94.92	1	-2.8748	3.2006	1.0000	0.0753	0.6488	0.1567
94.92	4	-2.9429	3.4379	1.3836	0.0592	0.4343	0.0822
105.12	4	-2.4742	5.3889	1.2798	0.1188	0.5334	0.1605
119.88	4	-1.6434	6.9845	1.6488	0.0741	0.6206	0.0956
135	4	0.5741	6.5496	1.8717	0.0756	0.7002	0.0976
150.12	4	3.0909	4.8096	2.0847	0.1449	0.8844	0.0762
164.88	4	5.2327	2.4983	1.8670	0.0535	0.7597	0.0982
170.16	4	5.9027	2.1218	1.7564	0.0974	0.3783	0.1004
175.08	4	6.5241	1.4448	1.6910	0.2814	0.5170	0.3379
180	4	6.6595	0.4118	1.5924	0.1233	0.7230	0.1499
180.35	3	6.5417	-0.9417	-0.1279	0.1191	1.1678	0.0729
184.92	3	7.0051	-1.2352	-0.1082	0.1136	0.5831	0.0772
184.92	4	7.1442	0.9965	1.3913	0.0735	0.8442	0.1733
195.12	3	7.7441	-2.3233	-0.5905	0.1161	1.1495	0.1712
209.88	3	8.6823	-1.6403	-0.4477	0.1177	0.7143	0.1068
225	3	9.4347	-0.6714	-0.6452	0.1907	0.7020	0.0819
240.12	3	10.1625	0.9400	-0.6039	0.1209	0.5083	0.0979
254.88	3	10.3669	2.3523	-0.3571	0.1456	0.6427	0.1157
260.16	3	10.0597	3.0919	-0.3738	0.1605	0.4636	0.1197
265.08	3	9.9432	3.4409	-0.2133	0.1448	0.4522	0.1062
270	3	8.3687	3.6746	-0.1372	0.1312	0.6576	0.1431
270.35	2	9.8576	3.2749	1.0490	0.1926	1.2221	0.2402
274.92	2	8.7872	3.4336	1.1552	0.2023	0.8206	0.2369
274.92	3	7.9542	4.2344	-0.3142	0.1219	0.5761	0.1339
285.12	2	7.2408	3.3539	1.1391	0.1660	0.5601	0.1626
299.88	2	6.0854	2.8246	0.9699	0.0593	0.1958	0.1998
315	2	4.5234	1.4041	0.8190	0.0921	0.3931	0.0815
330.12	2	2.3677	0.6426	0.8747	0.1088	0.5558	0.0660
344.88	2	0.6482	1.4124	1.0016	0.0913	0.5724	0.0807
350.16	2	0.0092	1.1764	0.9563	0.1391	0.7960	0.1550
355.08	2	-0.4597	1.2577	1.0312	0.0823	0.3838	0.1825

3.47.2 Spanwise Elastic Deformations

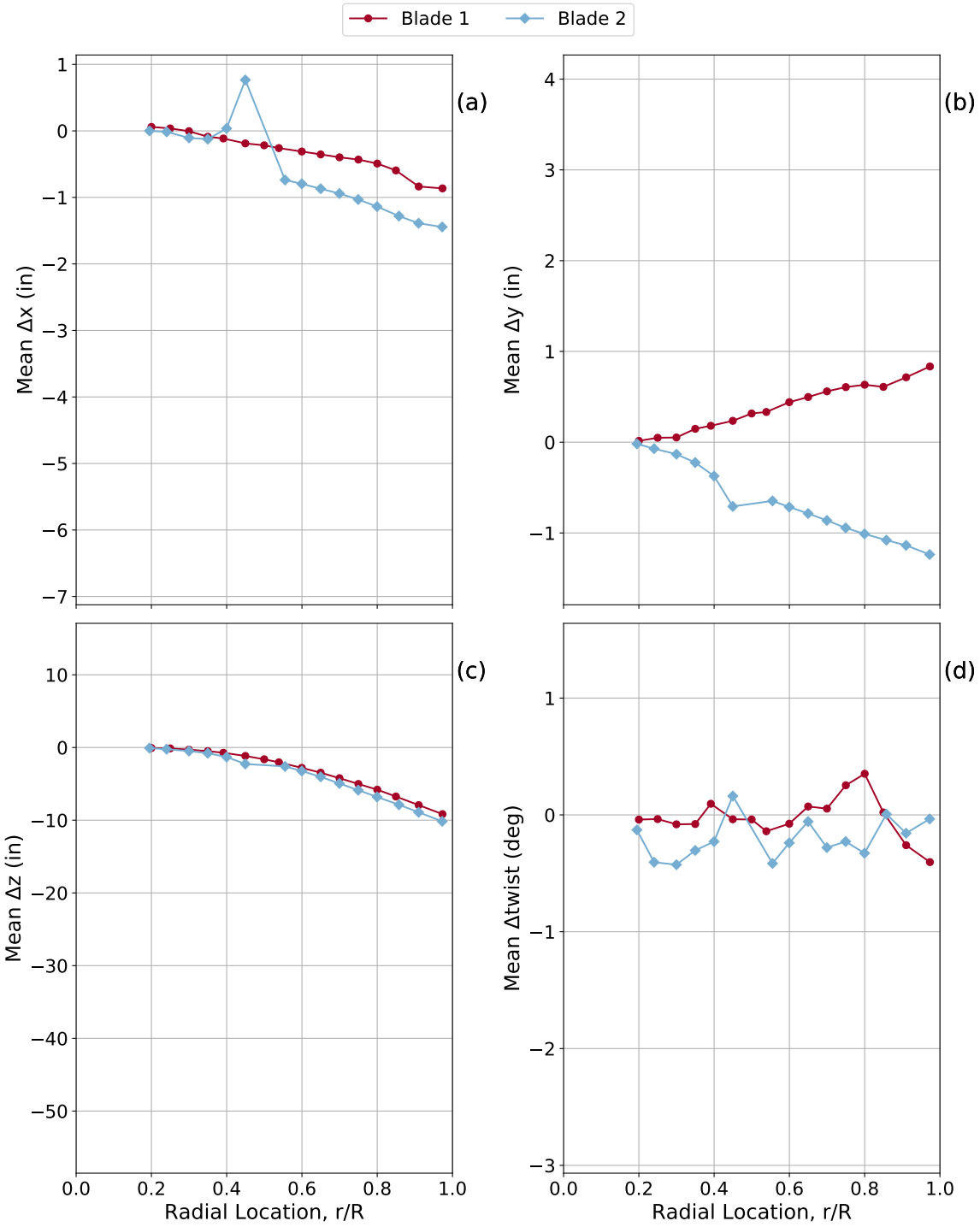


Figure 3.47-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0593	0.0157	0.0148	0.0098	-0.0685	0.0136	-0.0401	0.0405
1	0.35	0.2499	0.0372	0.0106	0.0489	0.0229	-0.1250	0.0330	-0.0357	0.0563
1	0.35	0.2998	-0.0048	0.0086	0.0522	0.0432	-0.2985	0.0639	-0.0806	0.0829
1	0.35	0.3498	-0.0881	0.0095	0.1475	0.0752	-0.4963	0.1105	-0.0782	0.0878
1	0.35	0.3913	-0.1146	0.0111	0.1811	0.1101	-0.7272	0.1633	0.0951	0.0955
1	0.35	0.4496	-0.1883	0.0148	0.2355	0.1691	-1.1635	0.2503	-0.0376	0.1183
1	0.35	0.4997	-0.2171	0.0198	0.3164	0.2344	-1.6223	0.3362	-0.0392	0.1237
1	0.35	0.5387	-0.2586	0.0229	0.3330	0.2918	-2.0352	0.4107	-0.1400	0.1315
1	0.35	0.5996	-0.3104	0.0670	0.4408	0.3735	-2.7988	0.7170	-0.0756	1.7727
1	0.35	0.6498	-0.3538	0.0389	0.4976	0.4760	-3.4654	0.6283	0.0718	0.1671
1	0.35	0.6998	-0.3975	0.0499	0.5601	0.5626	-4.2234	0.7216	0.0537	0.1619
1	0.35	0.7500	-0.4314	0.0568	0.6070	0.6502	-5.0148	0.8021	0.2535	0.2072
1	0.35	0.8001	-0.4913	0.0604	0.6330	0.7366	-5.8010	0.8903	0.3521	0.2227
1	0.35	0.8497	-0.5947	0.0505	0.6095	0.7045	-6.7416	1.2489	0.0208	7.9538
1	0.35	0.9102	-0.8363	0.0491	0.7148	1.1939	-7.9243	1.5245	-0.2597	0.2555
1	0.35	0.9734	-0.8647	0.0517	0.8346	1.2850	-9.1657	1.6648	-0.4041	0.2631
2	0	0.1949	0.0001	0.1152	-0.0185	0.0041	-0.0817	0.0080	-0.1287	0.0419
2	0	0.2405	-0.0145	0.0515	-0.0712	0.0100	-0.2313	0.0172	-0.4052	0.0871
2	0	0.2999	-0.1060	0.0400	-0.1323	0.0217	-0.4915	0.0346	-0.4264	0.1077
2	0	0.3498	-0.1243	0.1207	-0.2242	0.0353	-0.7861	0.0569	-0.3042	0.1130
2	0	0.3998	0.0366	0.2146	-0.3729	0.0580	-1.3100	0.0900	-0.2281	0.1239
2	0	0.4496	0.7654	0.3390	-0.7076	0.0961	-2.2657	0.1401	0.1615	0.1703
2	0	0.5551	-0.7386	0.2481	-0.6466	0.6806	-2.6046	0.8625	-0.4154	0.2183
2	0	0.5996	-0.7956	0.2463	-0.7138	0.7414	-3.2361	0.9327	-0.2397	0.2534
2	0	0.6497	-0.8700	0.2408	-0.7854	0.8057	-4.0353	1.0119	-0.0570	0.2364
2	0	0.6996	-0.9415	0.2358	-0.8618	0.8727	-4.9470	1.0959	-0.2799	0.2507
2	0	0.7495	-1.0315	0.2314	-0.9438	0.9395	-5.8679	1.1784	-0.2282	0.2654
2	0	0.7996	-1.1379	0.2245	-1.0102	1.0057	-6.8020	1.2656	-0.3277	0.2680
2	0	0.8578	-1.2809	0.2190	-1.0792	1.0823	-7.8732	1.3764	0.0062	0.2403
2	0	0.9100	-1.3886	0.2134	-1.1365	1.1504	-8.9091	1.4744	-0.1569	0.1995
2	0	0.9727	-1.4445	0.1967	-1.2372	1.2414	-10.1565	1.6191	-0.0349	0.2421

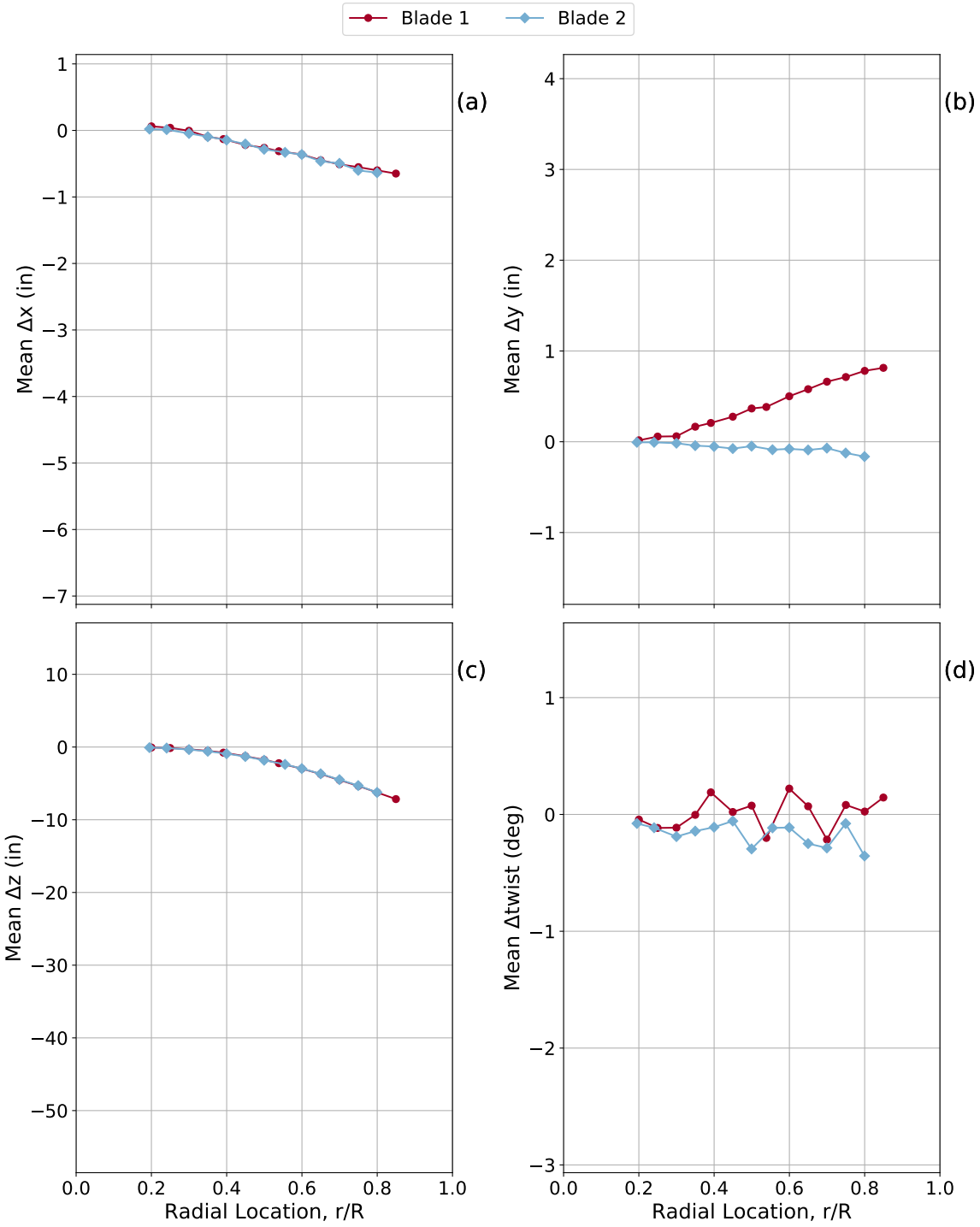


Figure 3.47-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0611	0.0065	0.0160	0.0060	-0.0686	0.0114	-0.0439	0.0707
1	4.92	0.2499	0.0393	0.0043	0.0572	0.0104	-0.1387	0.0269	-0.1155	0.1729
1	4.92	0.2998	-0.0054	0.0029	0.0602	0.0229	-0.3100	0.0503	-0.1135	0.1774
1	4.92	0.3498	-0.0963	0.0036	0.1656	0.0406	-0.5263	0.0909	-0.0035	0.1614
1	4.92	0.3913	-0.1305	0.0058	0.2073	0.0564	-0.7724	0.1312	0.1892	0.1507
1	4.92	0.4496	-0.2181	0.0059	0.2760	0.0776	-1.2676	0.1950	0.0210	0.1417
1	4.92	0.4997	-0.2614	0.0061	0.3665	0.0997	-1.7565	0.2535	0.0753	0.1673
1	4.92	0.5387	-0.3124	0.0078	0.3831	0.1115	-2.2209	0.3034	-0.2012	0.1789
1	4.92	0.5996	-0.3613	0.0092	0.5012	0.1384	-2.9752	0.3779	0.2212	0.1903
1	4.92	0.6498	-0.4484	0.0118	0.5793	0.1617	-3.7189	0.4381	0.0697	0.1840
1	4.92	0.6998	-0.5097	0.0135	0.6617	0.1869	-4.5317	0.4962	-0.2155	0.1966
1	4.92	0.7500	-0.5520	0.0167	0.7130	0.2049	-5.3539	0.5513	0.0812	0.1837
1	4.92	0.8001	-0.6004	0.0204	0.7813	0.2244	-6.2541	0.6038	0.0248	0.1837
1	4.92	0.8497	-0.6486	0.0206	0.8142	0.2542	-7.1583	0.6571	0.1448	0.2643
2	4.92	0.1949	0.0203	0.0054	-0.0064	0.0038	-0.0784	0.0109	-0.0771	0.0572
2	4.92	0.2405	0.0117	0.0024	-0.0065	0.0060	-0.1367	0.0239	-0.1140	0.1002
2	4.92	0.2999	-0.0459	0.0031	-0.0161	0.0131	-0.3513	0.0512	-0.1898	0.1287
2	4.92	0.3498	-0.0943	0.0038	-0.0429	0.0247	-0.5871	0.0907	-0.1429	0.1291
2	4.92	0.3998	-0.1445	0.0043	-0.0527	0.0359	-0.9200	0.1408	-0.1092	0.1148
2	4.92	0.4496	-0.2041	0.0069	-0.0754	0.0463	-1.3041	0.1978	-0.0565	0.1327
2	4.92	0.4995	-0.2839	0.0072	-0.0486	0.0599	-1.8176	0.2656	-0.2952	0.1308
2	4.92	0.5551	-0.3300	0.0108	-0.0877	0.0714	-2.3843	0.3471	-0.1150	0.1338
2	4.92	0.5996	-0.3621	0.0142	-0.0788	0.0824	-2.9617	0.4124	-0.1121	0.1510
2	4.92	0.6497	-0.4630	0.0170	-0.0906	0.0962	-3.6838	0.4931	-0.2495	0.1563
2	4.92	0.6996	-0.4953	0.0211	-0.0703	0.1126	-4.4829	0.5763	-0.2869	0.1675
2	4.92	0.7495	-0.6007	0.0270	-0.1240	0.1255	-5.3004	0.6588	-0.0778	0.1791
2	4.92	0.7996	-0.6359	0.0393	-0.1633	0.1406	-6.2405	0.7608	-0.3558	0.1909

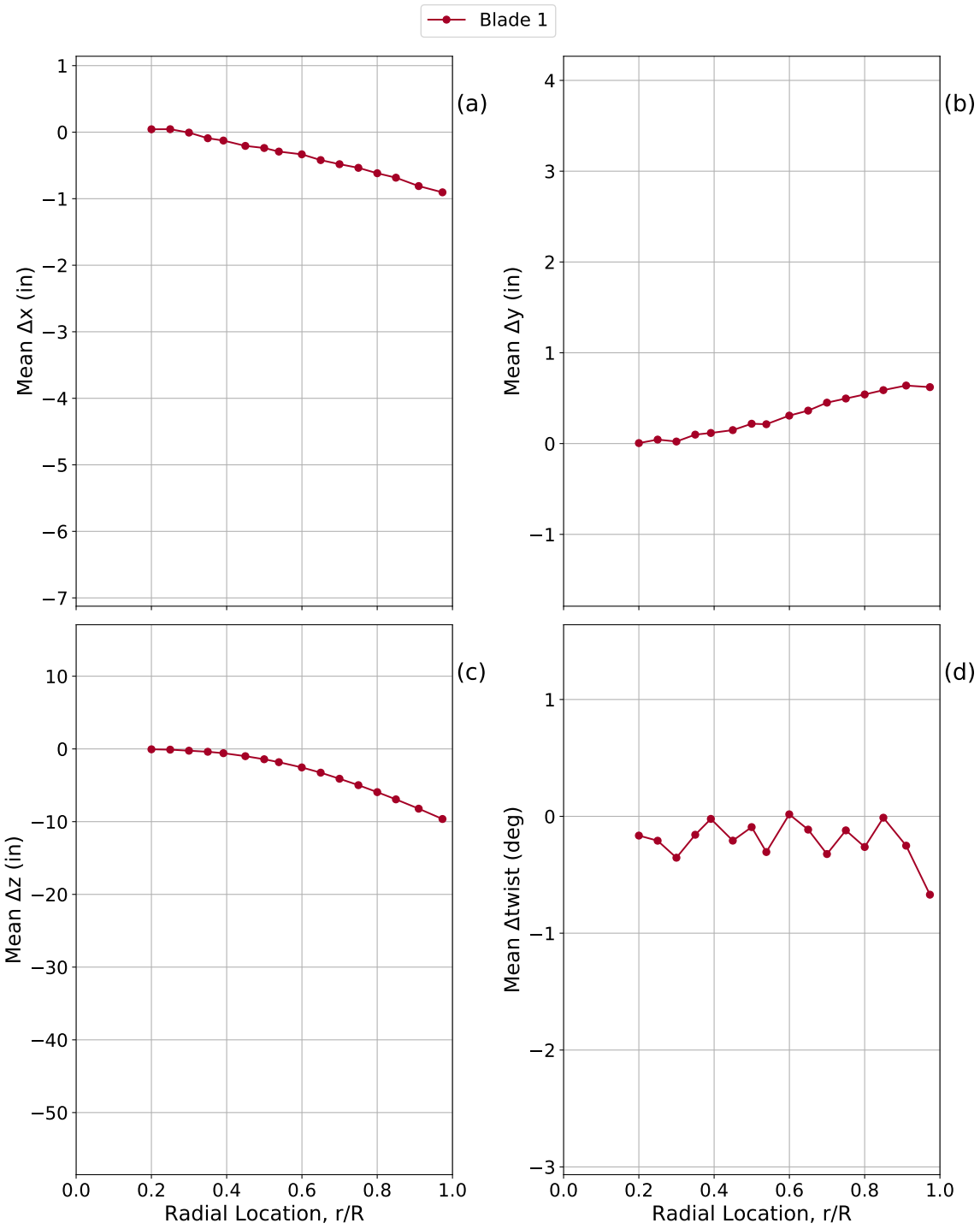


Figure 3.47-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0434	0.0049	0.0053	0.0031	-0.0534	0.0128	-0.1647	0.0563
1	15.12	0.2499	0.0445	0.0023	0.0438	0.0057	-0.1012	0.0205	-0.2086	0.1797
1	15.12	0.2998	-0.0067	0.0036	0.0225	0.0109	-0.2436	0.0497	-0.3540	0.1600
1	15.12	0.3498	-0.0913	0.0058	0.0985	0.0198	-0.3907	0.0865	-0.1576	0.1517
1	15.12	0.3913	-0.1260	0.0052	0.1167	0.0266	-0.5862	0.1214	-0.0218	0.1594
1	15.12	0.4496	-0.2063	0.0060	0.1482	0.0366	-0.9971	0.1815	-0.2080	0.1775
1	15.12	0.4997	-0.2381	0.0075	0.2184	0.0470	-1.4198	0.2404	-0.0921	0.1649
1	15.12	0.5387	-0.2918	0.0083	0.2131	0.0538	-1.8222	0.2904	-0.3054	0.1743
1	15.12	0.5996	-0.3333	0.0129	0.3078	0.0653	-2.5439	0.3775	0.0171	0.1717
1	15.12	0.6498	-0.4197	0.0150	0.3629	0.0759	-3.2641	0.4534	-0.1136	0.1802
1	15.12	0.6998	-0.4812	0.0191	0.4507	0.0874	-4.1004	0.5298	-0.3226	0.1606
1	15.12	0.7500	-0.5360	0.0237	0.4961	0.0975	-4.9798	0.6085	-0.1200	0.1774
1	15.12	0.8001	-0.6174	0.0272	0.5410	0.1109	-5.9408	0.6899	-0.2623	0.1461
1	15.12	0.8497	-0.6841	0.0339	0.5885	0.1189	-6.9348	0.7688	-0.0116	0.1756
1	15.12	0.9102	-0.8101	0.0377	0.6391	0.1353	-8.2160	0.8720	-0.2511	0.2317
1	15.12	0.9734	-0.9042	0.0487	0.6216	0.1533	-9.6345	0.9750	-0.6704	0.2210

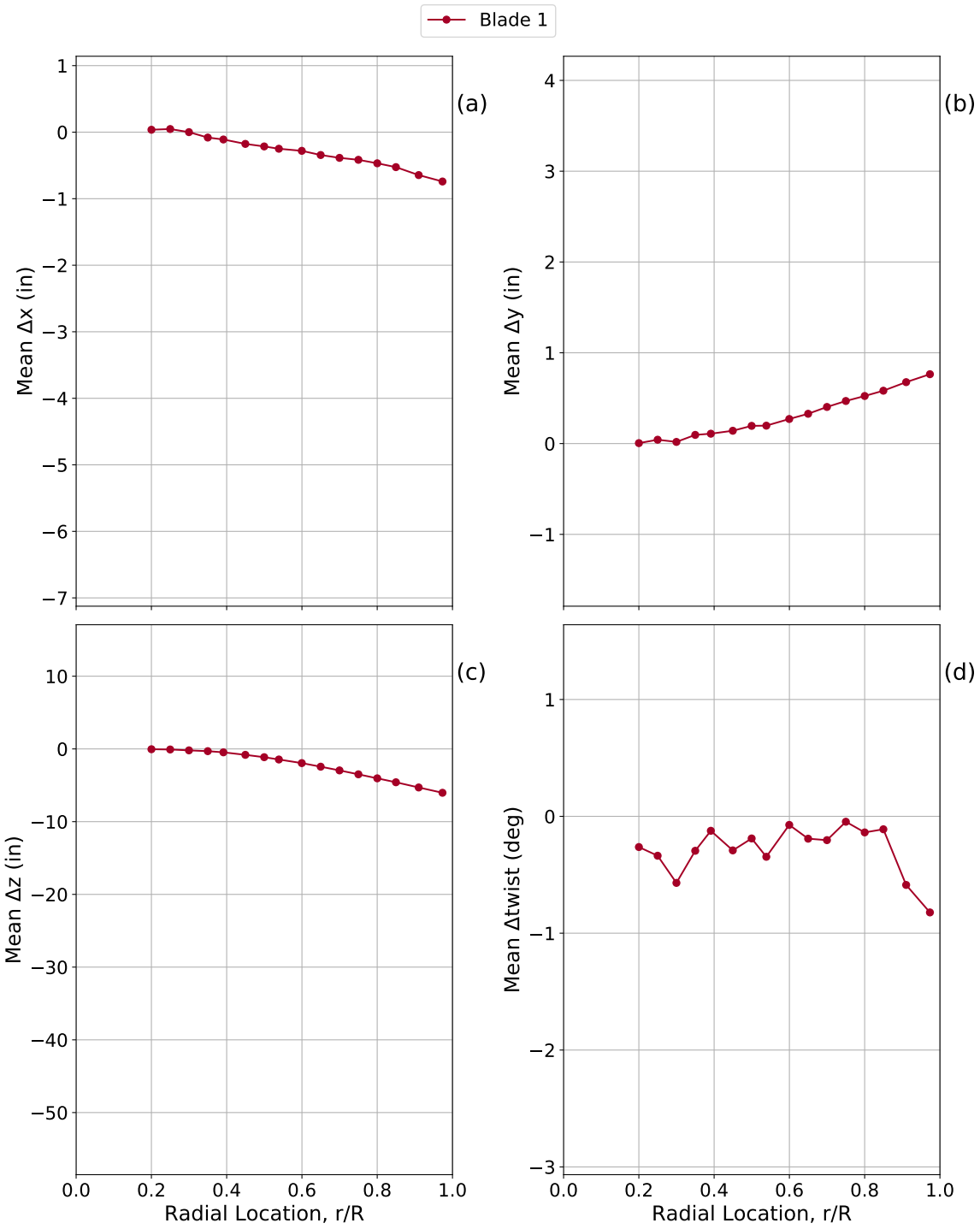


Figure 3.47-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0364	0.0067	0.0049	0.0036	-0.0424	0.0112	-0.2628	0.0453
1	29.88	0.2499	0.0469	0.0035	0.0423	0.0054	-0.0782	0.0267	-0.3370	0.0848
1	29.88	0.2998	0.0004	0.0035	0.0182	0.0124	-0.1976	0.0515	-0.5695	0.0956
1	29.88	0.3498	-0.0810	0.0038	0.0956	0.0226	-0.3072	0.0866	-0.2947	0.0698
1	29.88	0.3913	-0.1100	0.0051	0.1087	0.0303	-0.4678	0.1291	-0.1236	0.0794
1	29.88	0.4496	-0.1764	0.0062	0.1412	0.0390	-0.8133	0.1930	-0.2914	0.0746
1	29.88	0.4997	-0.2146	0.0065	0.1951	0.0487	-1.1380	0.2608	-0.1893	0.0809
1	29.88	0.5387	-0.2492	0.0076	0.1973	0.0548	-1.4538	0.3209	-0.3461	0.0883
1	29.88	0.5996	-0.2806	0.0093	0.2707	0.0669	-1.9500	0.4323	-0.0733	0.0905
1	29.88	0.6498	-0.3435	0.0123	0.3281	0.0761	-2.4430	0.5343	-0.1912	0.0918
1	29.88	0.6998	-0.3862	0.0153	0.4032	0.0857	-2.9547	0.6495	-0.2037	0.1121
1	29.88	0.7500	-0.4155	0.0187	0.4689	0.0955	-3.4923	0.7733	-0.0461	0.1253
1	29.88	0.8001	-0.4679	0.0254	0.5239	0.1042	-4.0429	0.9071	-0.1376	0.1302
1	29.88	0.8497	-0.5256	0.0281	0.5823	0.1137	-4.5840	1.0479	-0.1106	0.1464
1	29.88	0.9102	-0.6450	0.0324	0.6765	0.1274	-5.2994	1.2306	-0.5870	0.1355
1	29.88	0.9734	-0.7415	0.0389	0.7640	0.1355	-6.0299	1.4180	-0.8223	0.1814

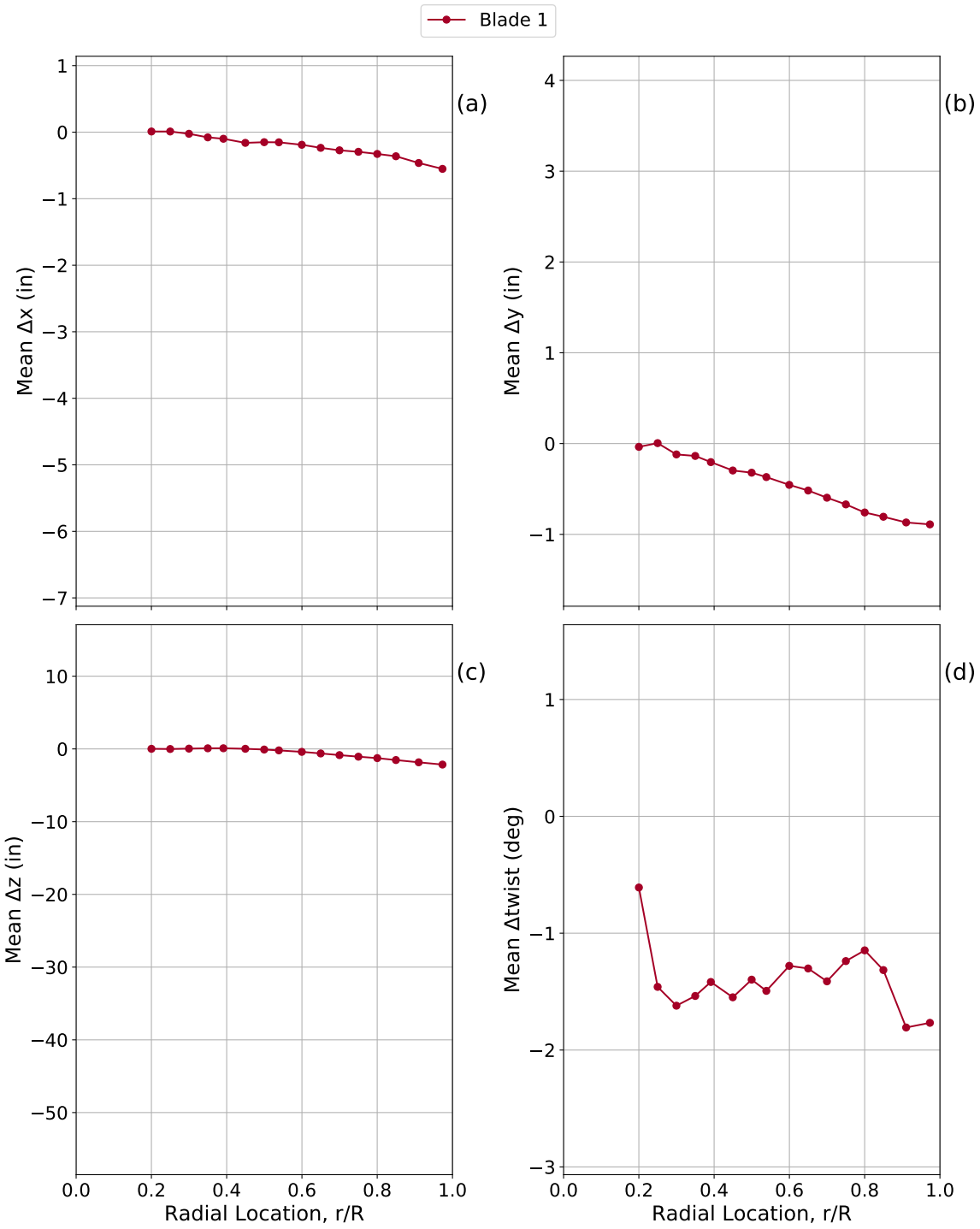


Figure 3.47-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0102	0.0141	-0.0361	0.0106	0.0175	0.0223	-0.6089	0.1532
1	45	0.2499	0.0099	0.0071	0.0049	0.0127	-0.0110	0.0241	-1.4594	0.4298
1	45	0.2998	-0.0244	0.0128	-0.1196	0.0374	0.0407	0.0791	-1.6205	0.4338
1	45	0.3498	-0.0781	0.0207	-0.1362	0.0647	0.0863	0.1378	-1.5371	0.4198
1	45	0.3913	-0.0992	0.0273	-0.2043	0.0881	0.0905	0.1867	-1.4175	0.4399
1	45	0.4496	-0.1608	0.0418	-0.2966	0.1223	0.0191	0.2532	-1.5486	0.4324
1	45	0.4997	-0.1506	0.0234	-0.3206	0.1505	-0.0849	0.3447	-1.3976	0.9370
1	45	0.5387	-0.1526	0.0485	-0.3690	0.1570	-0.2016	0.3737	-1.4935	0.3706
1	45	0.5996	-0.1897	0.0481	-0.4549	0.1883	-0.4019	0.4790	-1.2796	0.3631
1	45	0.6498	-0.2355	0.0476	-0.5171	0.2145	-0.6209	0.5779	-1.3019	0.3597
1	45	0.6998	-0.2728	0.0465	-0.5963	0.2411	-0.8512	0.6925	-1.4120	0.3673
1	45	0.7500	-0.2953	0.0459	-0.6700	0.2683	-1.0655	0.8168	-1.2387	0.3664
1	45	0.8001	-0.3273	0.0463	-0.7590	0.2955	-1.2647	0.9517	-1.1468	0.3650
1	45	0.8497	-0.3620	0.0459	-0.8060	0.3234	-1.5283	1.0954	-1.3156	0.3631
1	45	0.9102	-0.4632	0.0452	-0.8690	0.3573	-1.8422	1.2804	-1.8071	0.3710
1	45	0.9734	-0.5518	0.0371	-0.8901	0.3931	-2.1521	1.4762	-1.7670	0.3582

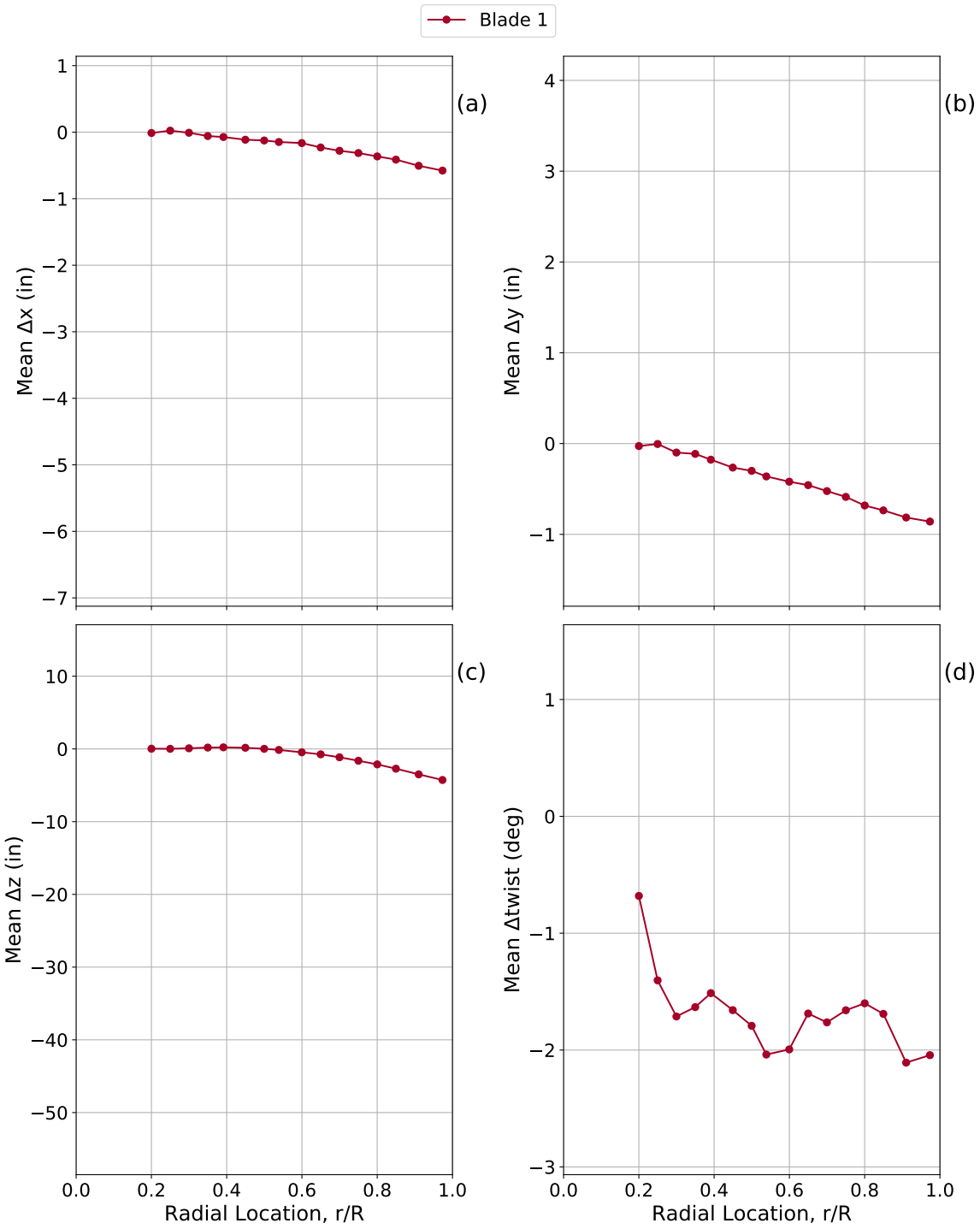


Figure 3.47-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0124	0.0102	-0.0273	0.0103	0.0306	0.0213	-0.6810	0.1462
1	60.12	0.2499	0.0227	0.0059	-0.0047	0.0151	0.0170	0.0262	-1.4038	0.3848
1	60.12	0.2998	-0.0089	0.0137	-0.0989	0.0372	0.0864	0.0759	-1.7127	0.4004
1	60.12	0.3498	-0.0584	0.0222	-0.1134	0.0669	0.1849	0.1375	-1.6326	0.3656
1	60.12	0.3913	-0.0730	0.0279	-0.1773	0.0912	0.2184	0.1848	-1.5129	0.3828
1	60.12	0.4496	-0.1134	0.0326	-0.2644	0.1272	0.1580	0.2621	-1.6585	0.3597
1	60.12	0.4997	-0.1249	0.0398	-0.3005	0.1601	0.0174	0.3274	-1.7925	0.3905
1	60.12	0.5387	-0.1479	0.0237	-0.3619	0.1988	-0.1385	0.4193	-2.0386	0.5464
1	60.12	0.5996	-0.1639	0.0301	-0.4199	0.2408	-0.4649	0.4986	-1.9946	0.6463
1	60.12	0.6498	-0.2300	0.0447	-0.4579	0.2812	-0.7422	0.4445	-1.6876	0.3714
1	60.12	0.6998	-0.2797	0.0447	-0.5233	0.3167	-1.1490	0.4923	-1.7631	0.3795
1	60.12	0.7500	-0.3139	0.0444	-0.5874	0.3535	-1.6247	0.5309	-1.6596	0.3856
1	60.12	0.8001	-0.3646	0.0442	-0.6819	0.3906	-2.1262	0.5626	-1.6000	0.3682
1	60.12	0.8497	-0.4127	0.0437	-0.7359	0.4285	-2.7157	0.5849	-1.6905	0.3794
1	60.12	0.9102	-0.5051	0.0444	-0.8144	0.4753	-3.4941	0.6123	-2.1077	0.3707
1	60.12	0.9734	-0.5773	0.0362	-0.8590	0.5242	-4.2706	0.6429	-2.0436	0.3718

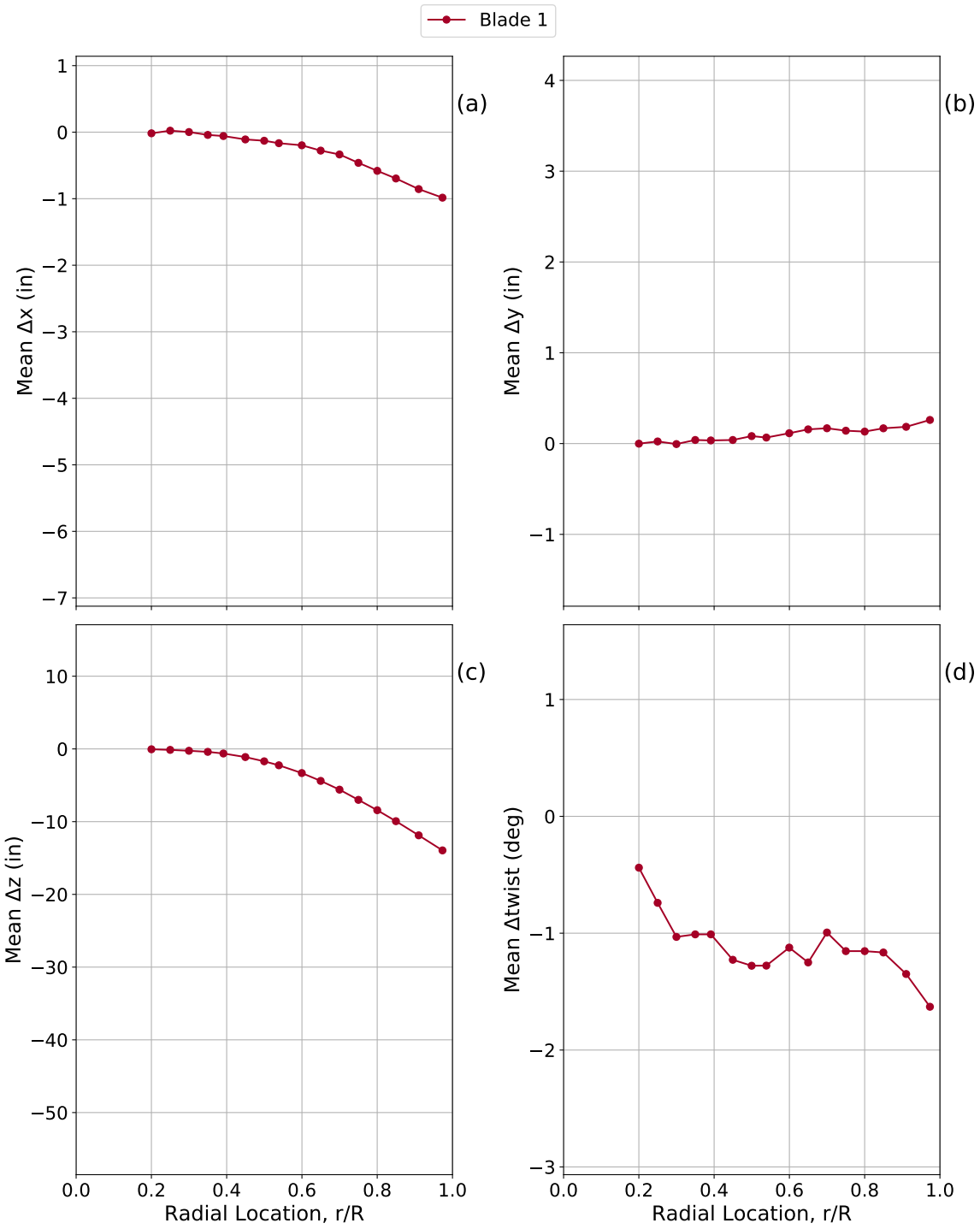


Figure 3.47-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0170	0.0203	-0.0009	0.0177	-0.0483	0.0395	-0.4393	0.2361
1	74.88	0.2499	0.0224	0.0090	0.0233	0.0214	-0.1320	0.0427	-0.7402	0.7123
1	74.88	0.2998	0.0017	0.0135	-0.0055	0.0624	-0.2533	0.1429	-1.0317	0.6814
1	74.88	0.3498	-0.0413	0.0263	0.0394	0.1058	-0.4023	0.2439	-1.0100	0.6818
1	74.88	0.3913	-0.0582	0.0362	0.0346	0.1453	-0.6286	0.3348	-1.0098	0.6841
1	74.88	0.4496	-0.1092	0.0502	0.0393	0.2043	-1.1185	0.4673	-1.2276	0.7025
1	74.88	0.4997	-0.1288	0.0643	0.0823	0.2583	-1.7042	0.5899	-1.2786	0.6934
1	74.88	0.5387	-0.1658	0.0736	0.0662	0.3014	-2.2504	0.6856	-1.2776	0.7098
1	74.88	0.5996	-0.1973	0.0892	0.1140	0.3699	-3.3183	0.8421	-1.1233	0.7037
1	74.88	0.6498	-0.2772	0.1052	0.1565	0.4268	-4.3950	0.9762	-1.2503	0.6786
1	74.88	0.6998	-0.3351	0.0799	0.1686	0.5532	-5.5997	1.2675	-0.9943	2.4044
1	74.88	0.7500	-0.4613	0.0929	0.1418	0.7177	-7.0038	0.8919	-1.1534	0.6668
1	74.88	0.8001	-0.5812	0.1022	0.1320	0.7894	-8.4260	1.0017	-1.1535	0.6647
1	74.88	0.8497	-0.6961	0.1112	0.1681	0.8630	-9.9350	1.1116	-1.1651	0.6572
1	74.88	0.9102	-0.8556	0.1222	0.1845	0.9532	-11.8793	1.2413	-1.3492	0.6636
1	74.88	0.9734	-0.9846	0.1188	0.2602	1.0490	-13.9514	1.3799	-1.6296	0.6484

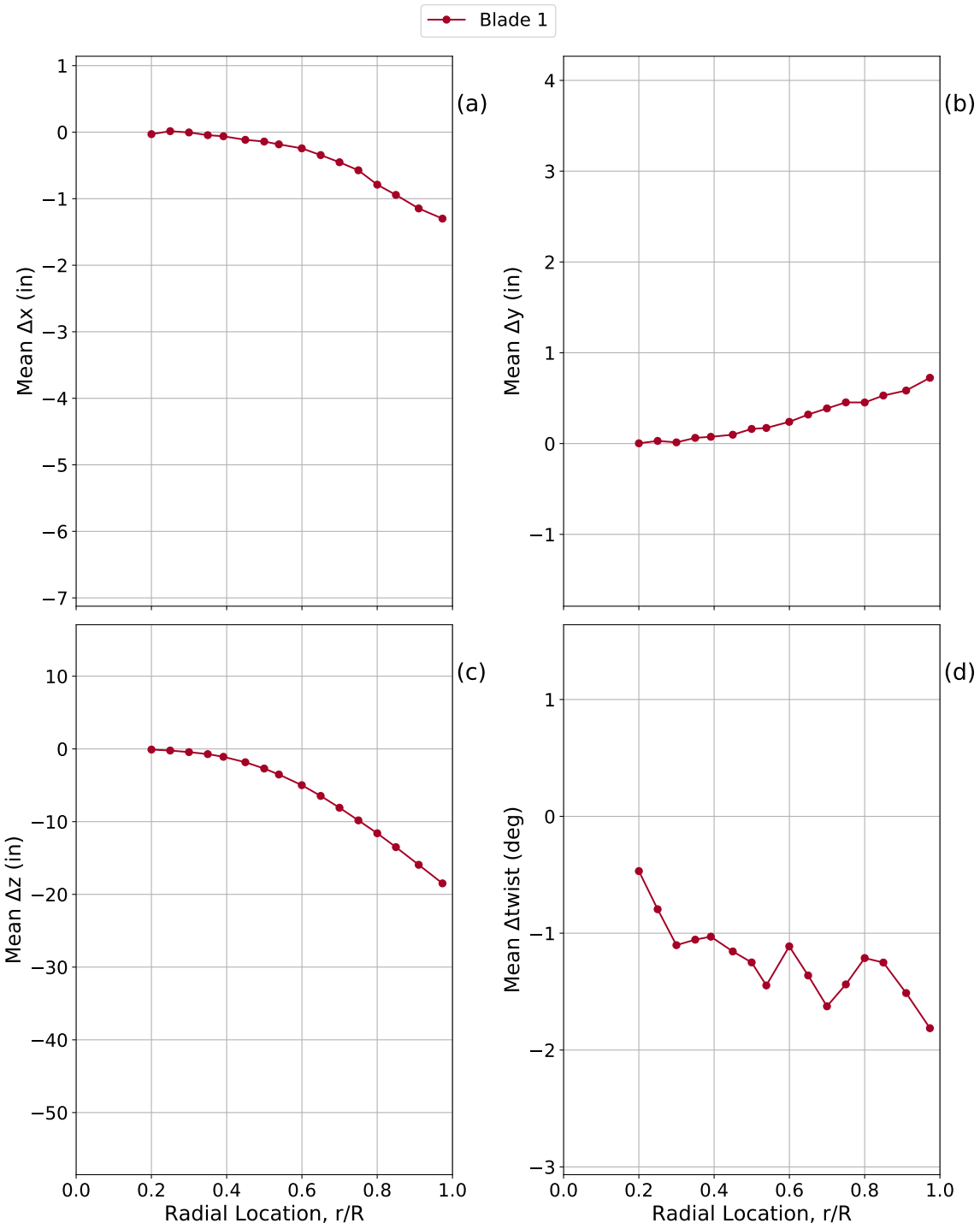


Figure 3.47-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0299	0.0116	0.0029	0.0101	-0.0899	0.0191	-0.4685	0.1259
1	80.16	0.2499	0.0147	0.0053	0.0293	0.0127	-0.2225	0.0211	-0.7951	0.3679
1	80.16	0.2998	-0.0041	0.0068	0.0133	0.0362	-0.4358	0.0691	-1.1023	0.3570
1	80.16	0.3498	-0.0449	0.0145	0.0628	0.0610	-0.7139	0.1222	-1.0554	0.3484
1	80.16	0.3913	-0.0617	0.0218	0.0744	0.0844	-1.0847	0.1656	-1.0297	0.3507
1	80.16	0.4496	-0.1150	0.0331	0.0974	0.1208	-1.8306	0.2299	-1.1562	0.3527
1	80.16	0.4997	-0.1411	0.0433	0.1613	0.1560	-2.6983	0.2871	-1.2502	0.3603
1	80.16	0.5387	-0.1829	0.0530	0.1720	0.1864	-3.5147	0.3369	-1.4470	0.3557
1	80.16	0.5996	-0.2433	0.0716	0.2393	0.2371	-4.9829	0.4154	-1.1127	0.3529
1	80.16	0.6498	-0.3446	0.0893	0.3195	0.2825	-6.4595	0.4831	-1.3617	0.3722
1	80.16	0.6998	-0.4521	0.0850	0.3872	0.3347	-8.0877	0.5722	-1.6258	0.8828
1	80.16	0.7500	-0.5731	0.1050	0.4535	0.3819	-9.8246	0.6421	-1.4382	1.0994
1	80.16	0.8001	-0.7894	0.0879	0.4526	0.4180	-11.5983	0.7810	-1.2128	0.3731
1	80.16	0.8497	-0.9432	0.1047	0.5290	0.4557	-13.5031	0.9140	-1.2511	0.3713
1	80.16	0.9102	-1.1466	0.1262	0.5840	0.5025	-15.9341	1.0864	-1.5122	0.3785
1	80.16	0.9734	-1.2995	0.1397	0.7245	0.5507	-18.4863	1.2761	-1.8130	0.3743

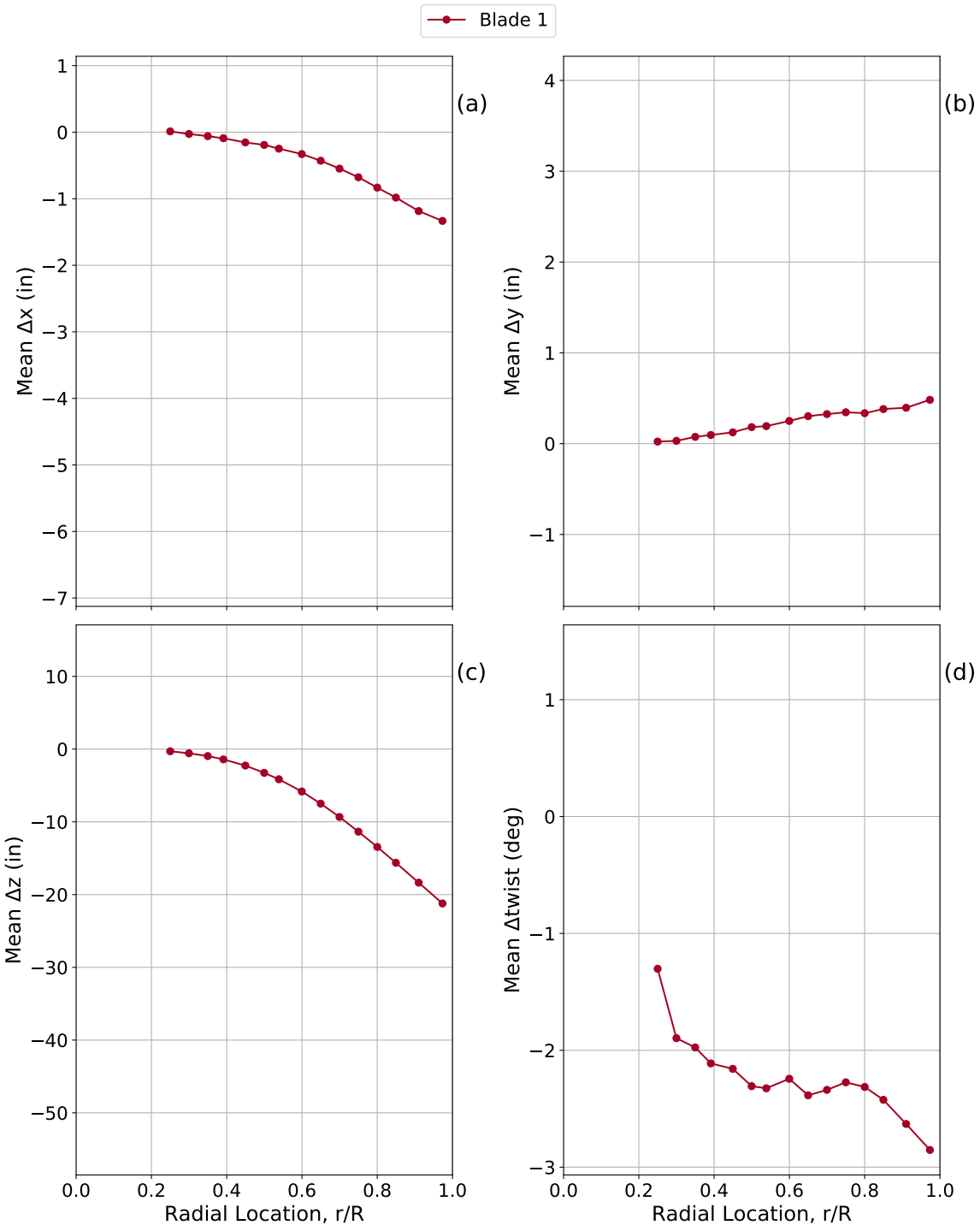


Figure 3.47-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2499	0.0122	0.0104	0.0228	0.0073	-0.2968	0.0370	-1.3023	0.2086
1	85.08	0.2998	-0.0265	0.0078	0.0310	0.0132	-0.5761	0.0652	-1.8963	0.2943
1	85.08	0.3498	-0.0594	0.0130	0.0752	0.0242	-0.9584	0.1213	-1.9759	0.2796
1	85.08	0.3913	-0.0908	0.0211	0.0955	0.0346	-1.4162	0.1712	-2.1122	0.2624
1	85.08	0.4496	-0.1536	0.0310	0.1249	0.0496	-2.2643	0.2551	-2.1586	0.2610
1	85.08	0.4997	-0.1914	0.0392	0.1824	0.0647	-3.2627	0.3391	-2.3067	0.2557
1	85.08	0.5387	-0.2474	0.0449	0.1930	0.0770	-4.1482	0.4110	-2.3253	0.2608
1	85.08	0.5996	-0.3289	0.0545	0.2502	0.0981	-5.8278	0.5364	-2.2436	0.2638
1	85.08	0.6498	-0.4286	0.0626	0.3027	0.1173	-7.4972	0.6481	-2.3852	0.2690
1	85.08	0.6998	-0.5473	0.0697	0.3256	0.1375	-9.3308	0.7681	-2.3388	0.2583
1	85.08	0.7500	-0.6776	0.0743	0.3458	0.1588	-11.3501	0.8946	-2.2740	0.2688
1	85.08	0.8001	-0.8325	0.0789	0.3355	0.1816	-13.4514	1.0273	-2.3136	0.2770
1	85.08	0.8497	-0.9826	0.0872	0.3813	0.2061	-15.6275	1.1641	-2.4236	0.2801
1	85.08	0.9102	-1.1854	0.1131	0.3956	0.2391	-18.3603	1.3384	-2.6303	0.3078
1	85.08	0.9734	-1.3332	0.1652	0.4829	0.2938	-21.2155	1.5259	-2.8527	0.3278

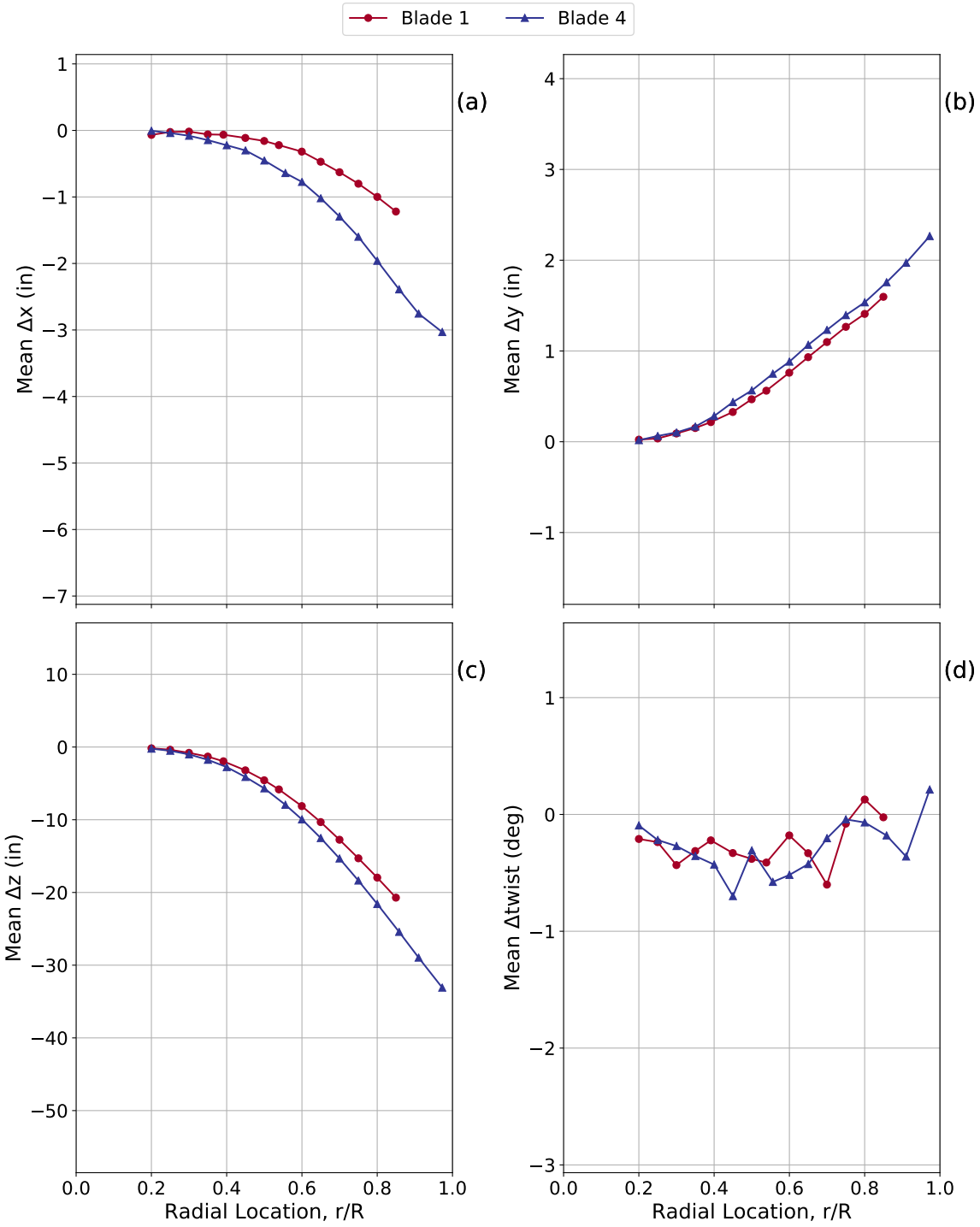


Figure 3.47-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0669	0.0024	0.0232	0.0015	-0.1773	0.0077	-0.2100	0.0405
1	90	0.2499	-0.0236	0.0034	0.0362	0.0038	-0.3698	0.0179	-0.2370	0.0624
1	90	0.2998	-0.0179	0.0035	0.0910	0.0061	-0.8008	0.0355	-0.4336	0.0890
1	90	0.3498	-0.0599	0.0058	0.1513	0.0119	-1.3134	0.0612	-0.3133	0.0649
1	90	0.3913	-0.0645	0.0063	0.2164	0.0166	-1.9584	0.0899	-0.2217	0.0779
1	90	0.4496	-0.1129	0.0087	0.3277	0.0237	-3.2041	0.1380	-0.3304	0.0738
1	90	0.4997	-0.1582	0.0136	0.4679	0.0305	-4.5710	0.1912	-0.3804	0.0879
1	90	0.5387	-0.2210	0.0177	0.5625	0.0362	-5.8291	0.2366	-0.4117	0.0915
1	90	0.5996	-0.3186	0.0295	0.7605	0.0459	-8.1213	0.3287	-0.1794	0.1125
1	90	0.6498	-0.4709	0.0422	0.9318	0.0557	-10.3215	0.4159	-0.3316	0.0961
1	90	0.6998	-0.6283	0.0567	1.0984	0.0663	-12.7499	0.5139	-0.6007	0.1066
1	90	0.7500	-0.8014	0.0736	1.2659	0.0769	-15.3030	0.6199	-0.0791	0.1210
1	90	0.8001	-0.9997	0.0932	1.4084	0.0886	-17.9577	0.7400	0.1279	0.1220
1	90	0.8497	-1.2193	0.1165	1.5966	0.0971	-20.7129	0.8594	-0.0246	0.1514
4	90.35	0.2001	-0.0056	0.0065	0.0170	0.0069	-0.2269	0.0250	-0.0946	0.0995
4	90.35	0.2502	-0.0394	0.0170	0.0638	0.0089	-0.5174	0.0332	-0.2192	0.2550
4	90.35	0.3001	-0.0807	0.0068	0.1027	0.0186	-1.0142	0.0745	-0.2708	0.1530
4	90.35	0.3502	-0.1463	0.0072	0.1674	0.0291	-1.7589	0.1201	-0.3561	0.1488
4	90.35	0.4002	-0.2233	0.0118	0.2836	0.0420	-2.7632	0.1764	-0.4295	0.1394
4	90.35	0.4500	-0.3008	0.0166	0.4370	0.0574	-4.1213	0.2524	-0.6995	0.1590
4	90.35	0.5001	-0.4527	0.0249	0.5655	0.0744	-5.6886	0.3381	-0.3082	0.1537
4	90.35	0.5560	-0.6413	0.0385	0.7492	0.0952	-7.9453	0.4554	-0.5778	0.1409
4	90.35	0.6001	-0.7743	0.0517	0.8823	0.1130	-9.9592	0.5591	-0.5177	0.1556
4	90.35	0.6501	-1.0201	0.0720	1.0674	0.1321	-12.5223	0.6890	-0.4252	0.1693
4	90.35	0.6999	-1.2959	0.0947	1.2324	0.1540	-15.3343	0.8292	-0.2038	0.1545
4	90.35	0.7500	-1.5992	0.1224	1.3946	0.1765	-18.3686	0.9772	-0.0422	0.1712
4	90.35	0.8002	-1.9611	0.1510	1.5357	0.1989	-21.5908	1.1274	-0.0689	0.1679
4	90.35	0.8582	-2.3901	0.1870	1.7570	0.2254	-25.4267	1.3070	-0.1802	0.1764
4	90.35	0.9101	-2.7546	0.2190	1.9716	0.2496	-28.9696	1.4686	-0.3605	0.1808
4	90.35	0.9728	-3.0316	0.2499	2.2652	0.2787	-33.0955	1.6649	0.2123	0.1811

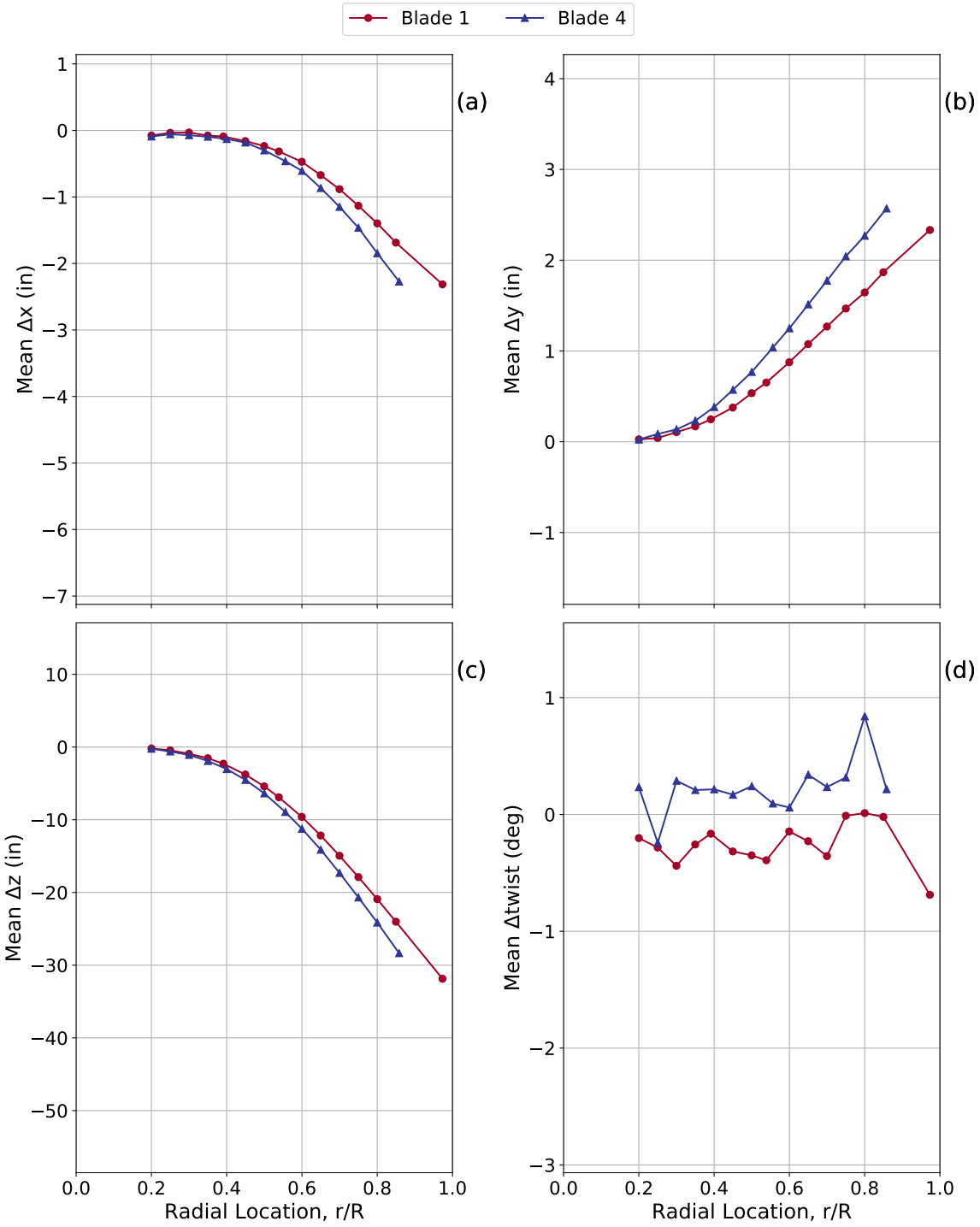


Figure 3.47-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0770	0.0036	0.0259	0.0019	-0.2061	0.0111	-0.2026	0.0403
1	94.92	0.2499	-0.0361	0.0042	0.0414	0.0045	-0.4406	0.0280	-0.2832	0.0628
1	94.92	0.2998	-0.0305	0.0060	0.1052	0.0087	-0.9352	0.0526	-0.4398	0.0910
1	94.92	0.3498	-0.0779	0.0077	0.1695	0.0148	-1.5373	0.0898	-0.2573	0.0795
1	94.92	0.3913	-0.0908	0.0104	0.2473	0.0218	-2.2946	0.1339	-0.1650	0.1093
1	94.92	0.4496	-0.1601	0.0179	0.3767	0.0318	-3.7817	0.2105	-0.3169	0.1090
1	94.92	0.4997	-0.2344	0.0279	0.5351	0.0423	-5.4075	0.3001	-0.3502	0.1239
1	94.92	0.5387	-0.3160	0.0376	0.6519	0.0504	-6.9068	0.3821	-0.3922	0.1217
1	94.92	0.5996	-0.4715	0.0577	0.8756	0.0642	-9.6067	0.5279	-0.1457	0.1281
1	94.92	0.6498	-0.6718	0.0791	1.0753	0.0763	-12.1668	0.6685	-0.2293	0.1135
1	94.92	0.6998	-0.8836	0.1062	1.2690	0.0872	-14.9493	0.8174	-0.3568	0.1234
1	94.92	0.7500	-1.1326	0.1366	1.4673	0.0980	-17.8842	0.9848	-0.0114	0.1396
1	94.92	0.8001	-1.3979	0.1704	1.6446	0.1098	-20.9206	1.1561	0.0113	0.1008
1	94.92	0.8497	-1.6868	0.2041	1.8674	0.1213	-24.0198	1.3342	-0.0206	0.1412
1	94.92	0.9734	-2.3144	0.2849	2.3331	0.1511	-31.8596	1.7811	-0.6880	0.1973
4	94.92	0.2001	-0.0911	0.0031	0.0244	0.0019	-0.2306	0.0094	0.2336	0.0421
4	94.92	0.2502	-0.0579	0.0041	0.0859	0.0043	-0.6147	0.0222	-0.2427	0.0575
4	94.92	0.3001	-0.0721	0.0060	0.1358	0.0081	-1.0875	0.0431	0.2880	0.0924
4	94.92	0.3502	-0.0953	0.0084	0.2322	0.0143	-1.9184	0.0752	0.2090	0.0780
4	94.92	0.4002	-0.1292	0.0120	0.3825	0.0223	-3.0341	0.1183	0.2148	0.0754
4	94.92	0.4500	-0.1814	0.0181	0.5723	0.0309	-4.5197	0.1688	0.1688	0.0717
4	94.92	0.5001	-0.3005	0.0250	0.7691	0.0404	-6.3729	0.2287	0.2414	0.0729
4	94.92	0.5560	-0.4627	0.0352	1.0373	0.0517	-8.9353	0.3049	0.0933	0.0673
4	94.92	0.6001	-0.6076	0.0464	1.2495	0.0611	-11.2513	0.3726	0.0591	0.0921
4	94.92	0.6501	-0.8666	0.0603	1.5130	0.0719	-14.1218	0.4520	0.3397	0.0745
4	94.92	0.6999	-1.1496	0.0780	1.7750	0.0833	-17.3142	0.5398	0.2346	0.1099
4	94.92	0.7500	-1.4634	0.0969	2.0430	0.0951	-20.6882	0.6278	0.3160	0.0744
4	94.92	0.8002	-1.8466	0.1190	2.2698	0.1068	-24.1396	0.7222	0.8404	0.1248
4	94.92	0.8582	-2.2726	0.1475	2.5701	0.1211	-28.3475	0.8404	0.2156	0.2488

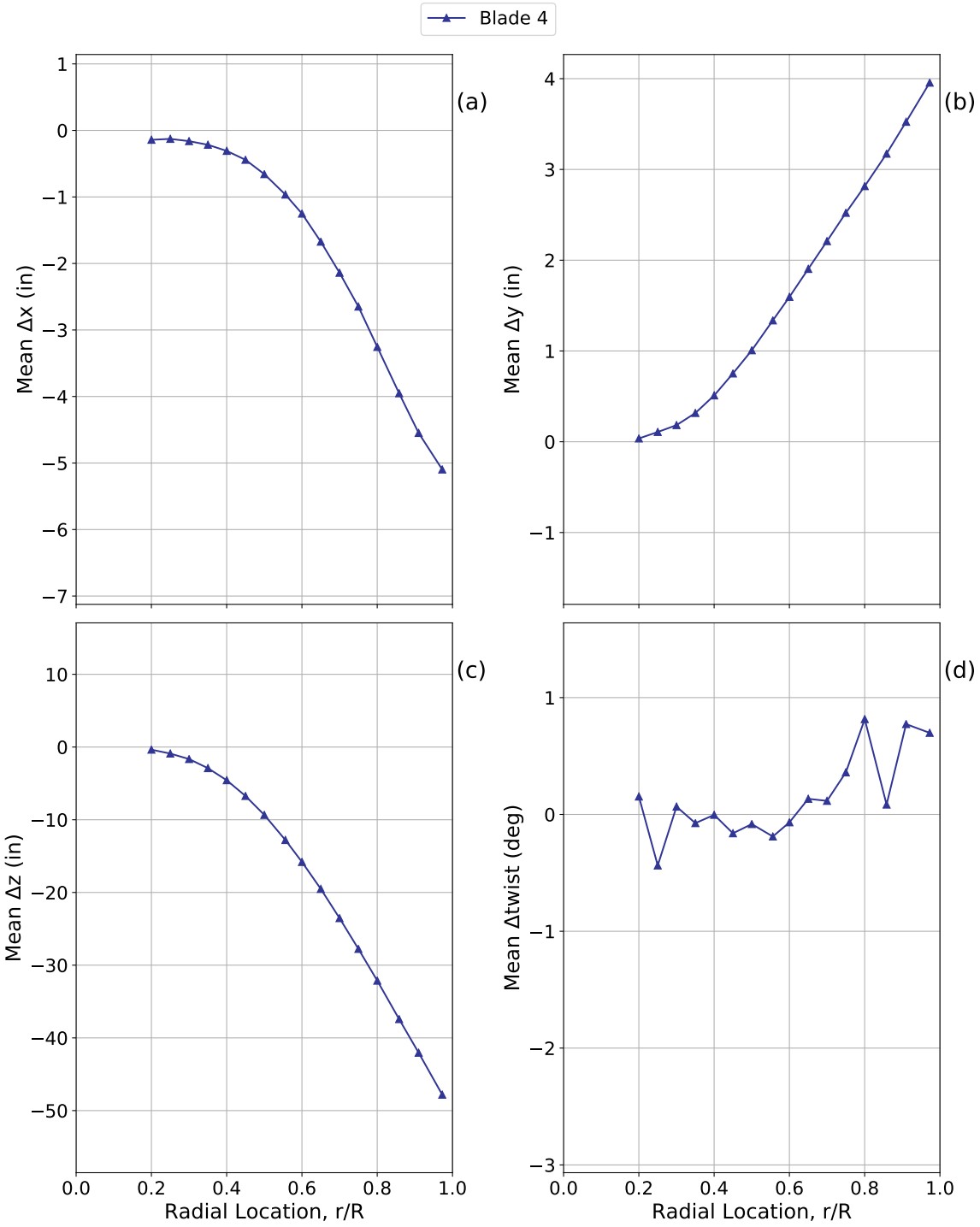


Figure 3.47-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.1411	0.0109	0.0362	0.0028	-0.3640	0.0183	0.1531	0.0290
4	105.12	0.2502	-0.1273	0.0123	0.1073	0.0062	-0.8994	0.0434	-0.4370	0.0588
4	105.12	0.3001	-0.1613	0.0141	0.1830	0.0117	-1.6543	0.0827	0.0666	0.0689
4	105.12	0.3502	-0.2160	0.0192	0.3166	0.0213	-2.9077	0.1443	-0.0745	0.0718
4	105.12	0.4002	-0.3081	0.0290	0.5104	0.0328	-4.5698	0.2267	-0.0036	0.0540
4	105.12	0.4500	-0.4421	0.0406	0.7521	0.0453	-6.7320	0.3219	-0.1615	0.0812
4	105.12	0.5001	-0.6575	0.0585	1.0076	0.0597	-9.3388	0.4306	-0.0825	0.0825
4	105.12	0.5560	-0.9647	0.0842	1.3367	0.0768	-12.7880	0.5582	-0.1890	0.1000
4	105.12	0.6001	-1.2510	0.1077	1.5953	0.0908	-15.8093	0.6632	-0.0676	0.1071
4	105.12	0.6501	-1.6729	0.1370	1.9038	0.1083	-19.5165	0.7910	0.1337	0.0877
4	105.12	0.6999	-2.1406	0.1713	2.2097	0.1252	-23.5352	0.9195	0.1161	0.1053
4	105.12	0.7500	-2.6490	0.2088	2.5216	0.1423	-27.7645	1.0593	0.3599	0.1171
4	105.12	0.8002	-3.2556	0.2507	2.8159	0.1605	-32.1371	1.2041	0.8157	0.1176
4	105.12	0.8582	-3.9523	0.3020	3.1732	0.1822	-37.4217	1.3797	0.0842	0.1391
4	105.12	0.9101	-4.5487	0.3518	3.5243	0.2010	-42.0446	1.5499	0.7733	0.1220
4	105.12	0.9728	-5.0979	0.4090	3.9558	0.2231	-47.8159	1.7653	0.6981	0.1277

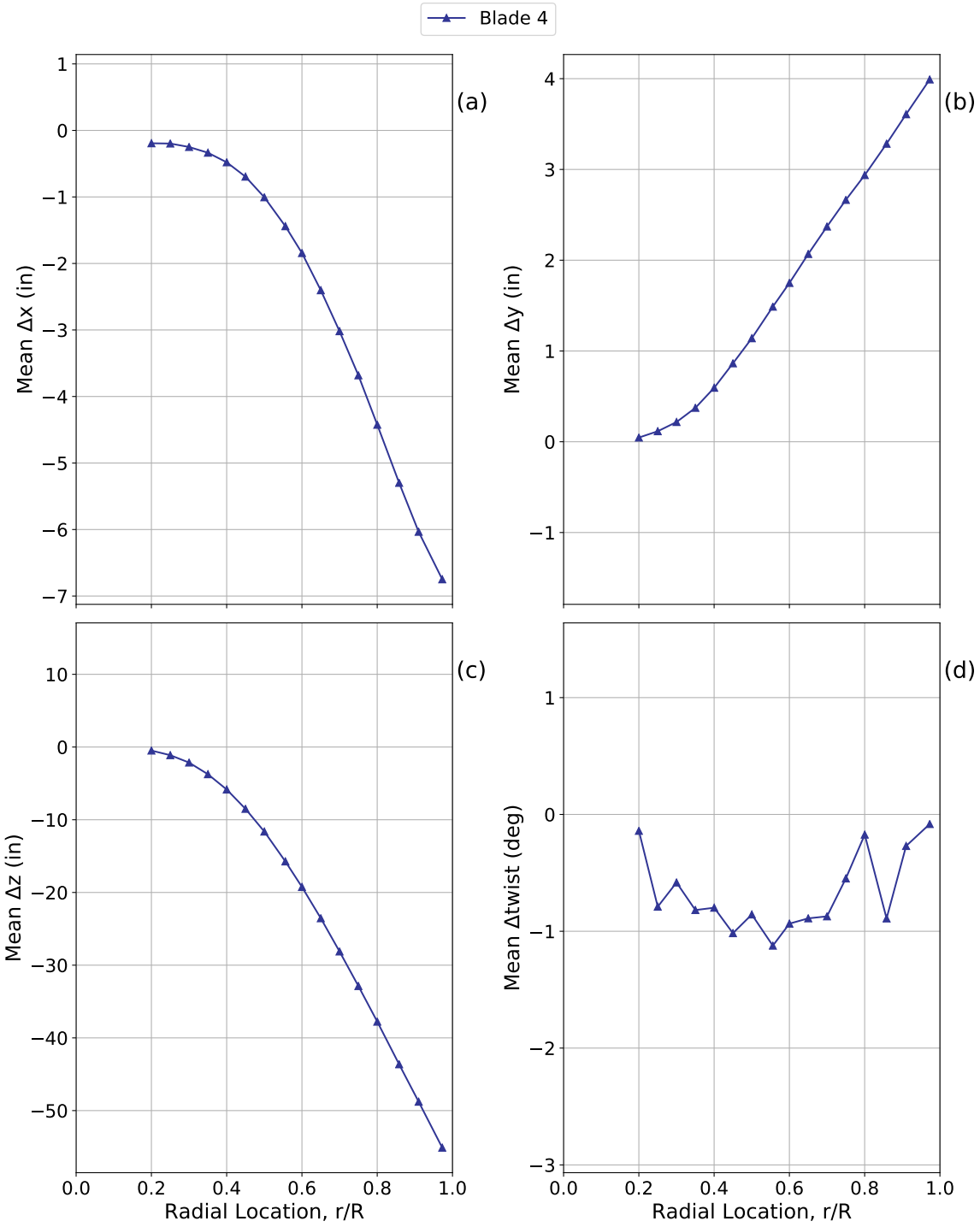


Figure 3.47-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.1935	0.0076	0.0461	0.0009	-0.4862	0.0102	-0.1404	0.0243
4	119.88	0.2502	-0.1972	0.0085	0.1157	0.0020	-1.1232	0.0224	-0.7898	0.0407
4	119.88	0.3001	-0.2492	0.0093	0.2172	0.0038	-2.1369	0.0439	-0.5828	0.0557
4	119.88	0.3502	-0.3355	0.0120	0.3733	0.0065	-3.7414	0.0740	-0.8186	0.0515
4	119.88	0.4002	-0.4795	0.0174	0.5946	0.0103	-5.8468	0.1169	-0.7986	0.0649
4	119.88	0.4500	-0.6953	0.0271	0.8637	0.0153	-8.5034	0.1698	-1.0165	0.0686
4	119.88	0.5001	-1.0053	0.0410	1.1401	0.0222	-11.6293	0.2411	-0.8565	0.0823
4	119.88	0.5560	-1.4406	0.0604	1.4879	0.0313	-15.7355	0.3284	-1.1235	0.0769
4	119.88	0.6001	-1.8439	0.0813	1.7492	0.0391	-19.2508	0.4099	-0.9348	0.0719
4	119.88	0.6501	-2.4033	0.1086	2.0684	0.0490	-23.5497	0.5118	-0.8895	0.0815
4	119.88	0.6999	-3.0189	0.1418	2.3707	0.0591	-28.1186	0.6205	-0.8724	0.0932
4	119.88	0.7500	-3.6823	0.1784	2.6643	0.0697	-32.8737	0.7407	-0.5481	0.0821
4	119.88	0.8002	-4.4254	0.2192	2.9377	0.0803	-37.7738	0.8666	-0.1728	0.0926
4	119.88	0.8582	-5.2985	0.2699	3.2829	0.0922	-43.6333	1.0262	-0.8905	0.0993
4	119.88	0.9101	-6.0346	0.3165	3.6077	0.1037	-48.7809	1.1711	-0.2702	0.1080
4	119.88	0.9728	-6.7489	0.3711	3.9907	0.1166	-55.1026	1.3567	-0.0822	0.0995

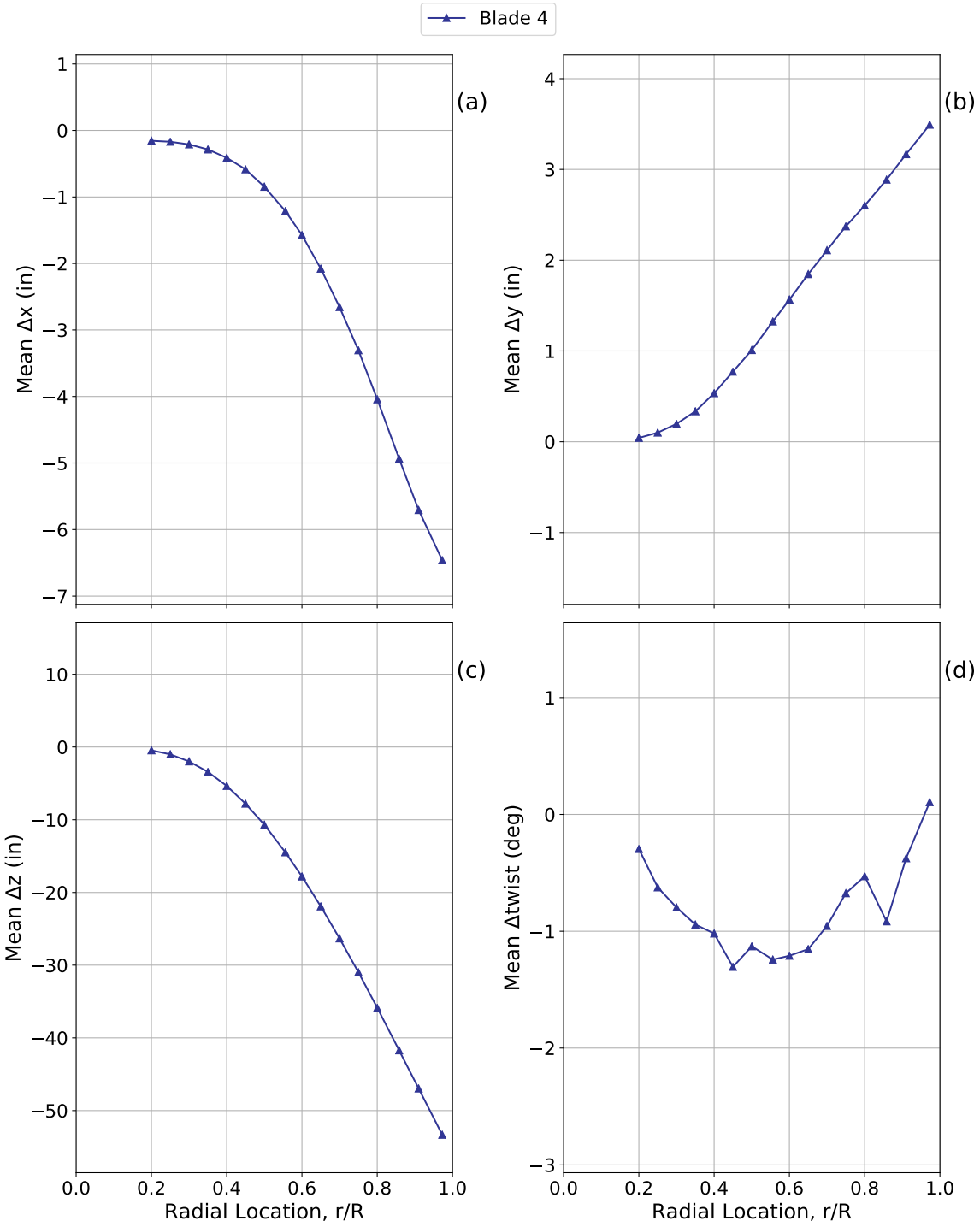


Figure 3.47-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.1557	0.0084	0.0423	0.0019	-0.4603	0.0133	-0.2959	0.0429
4	135	0.2502	-0.1703	0.0088	0.1008	0.0037	-1.0122	0.0297	-0.6244	0.0650
4	135	0.3001	-0.2103	0.0097	0.1972	0.0072	-1.9838	0.0550	-0.7962	0.0960
4	135	0.3502	-0.2863	0.0137	0.3355	0.0128	-3.4205	0.0979	-0.9427	0.1001
4	135	0.4002	-0.4118	0.0208	0.5347	0.0194	-5.3486	0.1508	-1.0194	0.1088
4	135	0.4500	-0.5850	0.0317	0.7721	0.0267	-7.7935	0.2227	-1.3053	0.1160
4	135	0.5001	-0.8466	0.0483	1.0097	0.0358	-10.6821	0.3071	-1.1288	0.0961
4	135	0.5560	-1.2129	0.0728	1.3245	0.0468	-14.4832	0.4264	-1.2426	0.1219
4	135	0.6001	-1.5730	0.0982	1.5667	0.0561	-17.8059	0.5345	-1.2095	0.1152
4	135	0.6501	-2.0790	0.1347	1.8463	0.0682	-21.9224	0.6726	-1.1528	0.1241
4	135	0.6999	-2.6557	0.1769	2.1100	0.0800	-26.3201	0.8229	-0.9547	0.1092
4	135	0.7500	-3.3054	0.2270	2.3730	0.0920	-30.9733	0.9875	-0.6744	0.1147
4	135	0.8002	-4.0435	0.2844	2.6025	0.1050	-35.8669	1.1673	-0.5290	0.1058
4	135	0.8582	-4.9356	0.3563	2.8876	0.1206	-41.7206	1.3869	-0.9157	0.1172
4	135	0.9101	-5.7073	0.4221	3.1674	0.1345	-46.9635	1.5903	-0.3755	0.1272
4	135	0.9728	-6.4627	0.5022	3.4926	0.1510	-53.3250	1.8469	0.1048	0.1182

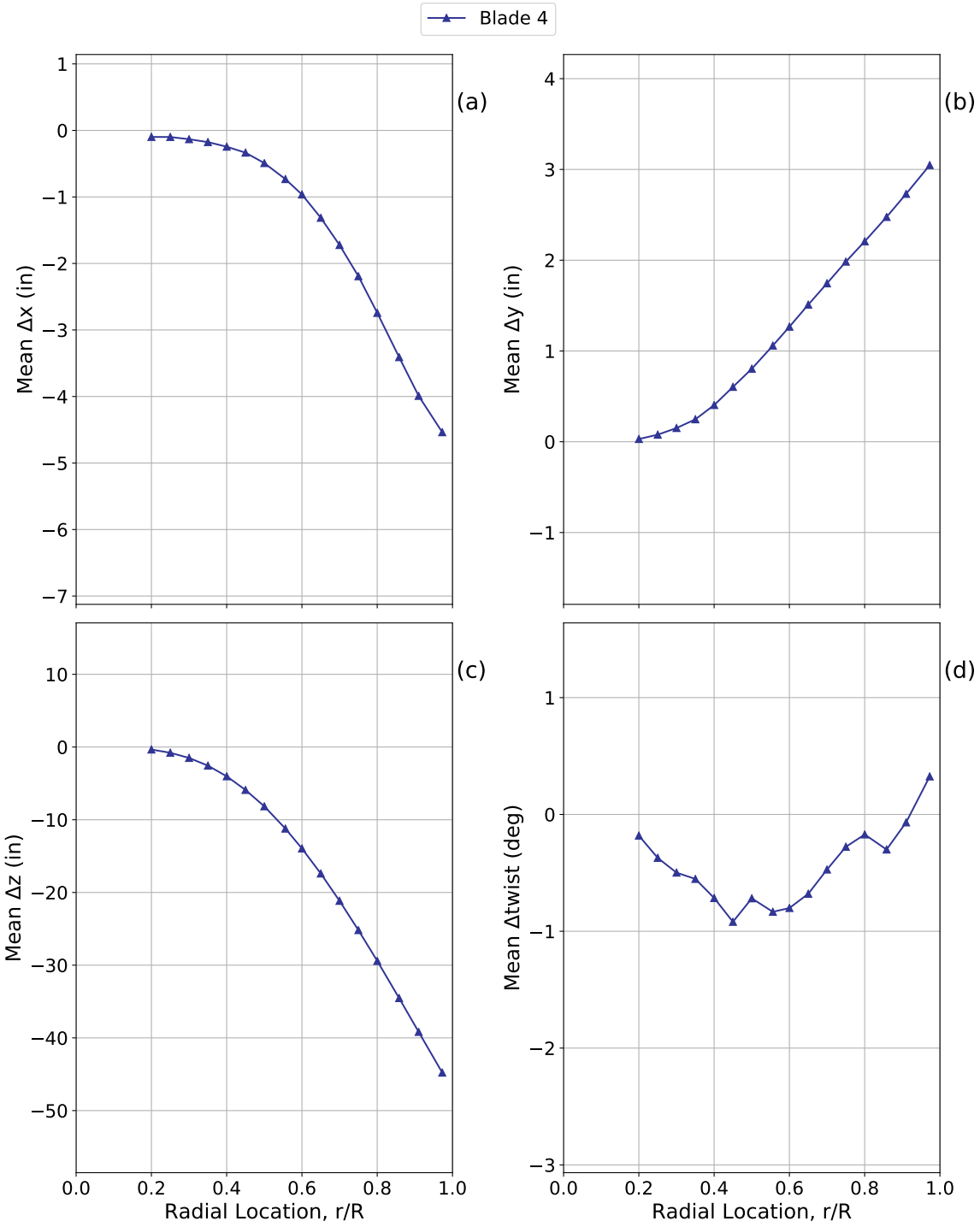


Figure 3.47-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0983	0.0097	0.0299	0.0022	-0.3458	0.0190	-0.1816	0.0317
4	150.12	0.2502	-0.0991	0.0095	0.0779	0.0046	-0.7875	0.0422	-0.3723	0.0561
4	150.12	0.3001	-0.1323	0.0119	0.1509	0.0097	-1.5012	0.0802	-0.4982	0.0754
4	150.12	0.3502	-0.1759	0.0150	0.2470	0.0168	-2.5618	0.1424	-0.5522	0.1072
4	150.12	0.4002	-0.2450	0.0213	0.4044	0.0262	-4.0291	0.2200	-0.7159	0.1021
4	150.12	0.4500	-0.3345	0.0337	0.6040	0.0363	-5.9034	0.3177	-0.9194	0.1163
4	150.12	0.5001	-0.4914	0.0492	0.8040	0.0471	-8.1563	0.4376	-0.7184	0.1293
4	150.12	0.5560	-0.7321	0.0742	1.0590	0.0596	-11.2226	0.5850	-0.8337	0.1168
4	150.12	0.6001	-0.9636	0.0992	1.2671	0.0690	-13.9575	0.7159	-0.8012	0.1325
4	150.12	0.6501	-1.3138	0.1323	1.5102	0.0801	-17.4021	0.8737	-0.6796	0.1259
4	150.12	0.6999	-1.7231	0.1716	1.7448	0.0908	-21.1578	1.0415	-0.4718	0.1363
4	150.12	0.7500	-2.1925	0.2161	1.9838	0.1022	-25.1837	1.2206	-0.2772	0.1407
4	150.12	0.8002	-2.7440	0.2668	2.2074	0.1131	-29.4249	1.4028	-0.1716	0.1254
4	150.12	0.8582	-3.4089	0.3279	2.4760	0.1249	-34.5326	1.6233	-0.3006	0.1509
4	150.12	0.9101	-3.9915	0.3817	2.7306	0.1370	-39.1791	1.8187	-0.0684	0.1267
4	150.12	0.9728	-4.5378	0.4433	3.0473	0.1513	-44.7807	2.0611	0.3251	0.1375

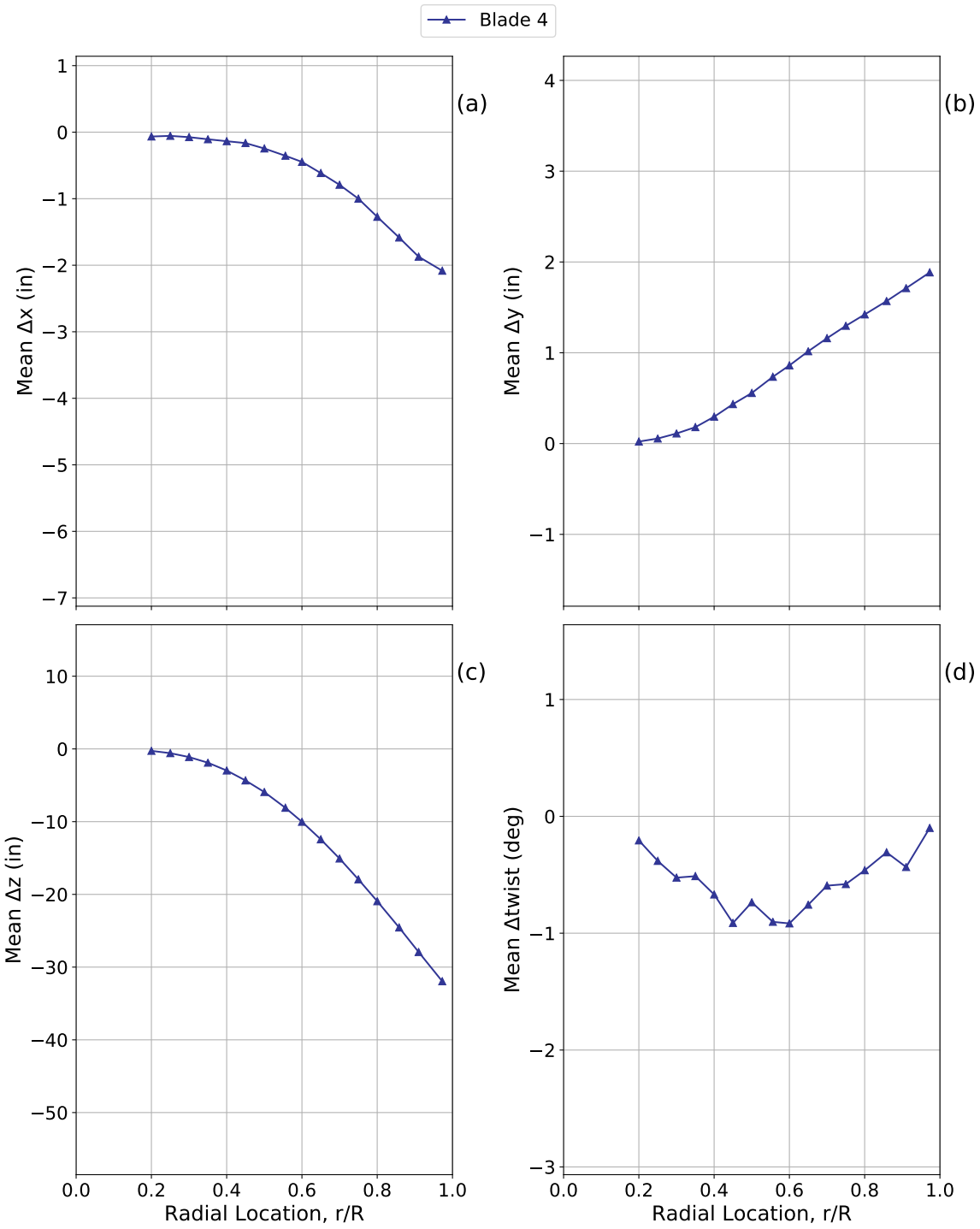


Figure 3.47-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0654	0.0041	0.0221	0.0018	-0.2668	0.0118	-0.2062	0.0304
4	164.88	0.2502	-0.0559	0.0049	0.0555	0.0043	-0.5840	0.0227	-0.3816	0.0574
4	164.88	0.3001	-0.0749	0.0065	0.1109	0.0076	-1.1205	0.0473	-0.5247	0.0676
4	164.88	0.3502	-0.1068	0.0086	0.1807	0.0139	-1.8970	0.0802	-0.5120	0.0868
4	164.88	0.4002	-0.1362	0.0100	0.2957	0.0212	-2.9723	0.1242	-0.6692	0.0982
4	164.88	0.4500	-0.1640	0.0149	0.4341	0.0277	-4.3377	0.1767	-0.9128	0.1002
4	164.88	0.5001	-0.2455	0.0213	0.5568	0.0349	-5.9306	0.2396	-0.7358	0.1213
4	164.88	0.5560	-0.3549	0.0306	0.7350	0.0472	-8.0962	0.3230	-0.9030	0.1251
4	164.88	0.6001	-0.4472	0.0416	0.8608	0.0565	-10.0255	0.3988	-0.9164	0.1362
4	164.88	0.6501	-0.6150	0.0549	1.0166	0.0686	-12.4379	0.4947	-0.7563	0.1460
4	164.88	0.6999	-0.7913	0.0743	1.1602	0.0794	-15.0735	0.6046	-0.5932	0.1546
4	164.88	0.7500	-1.0001	0.0965	1.2966	0.0922	-17.9397	0.7246	-0.5801	0.1752
4	164.88	0.8002	-1.2731	0.1215	1.4221	0.1058	-20.9448	0.8554	-0.4615	0.1757
4	164.88	0.8582	-1.5841	0.1547	1.5692	0.1193	-24.5557	1.0191	-0.3082	0.1997
4	164.88	0.9101	-1.8723	0.1804	1.7115	0.1368	-27.9317	1.1599	-0.4340	0.1801
4	164.88	0.9728	-2.0830	0.2134	1.8849	0.1547	-31.9509	1.3456	-0.0998	0.1727

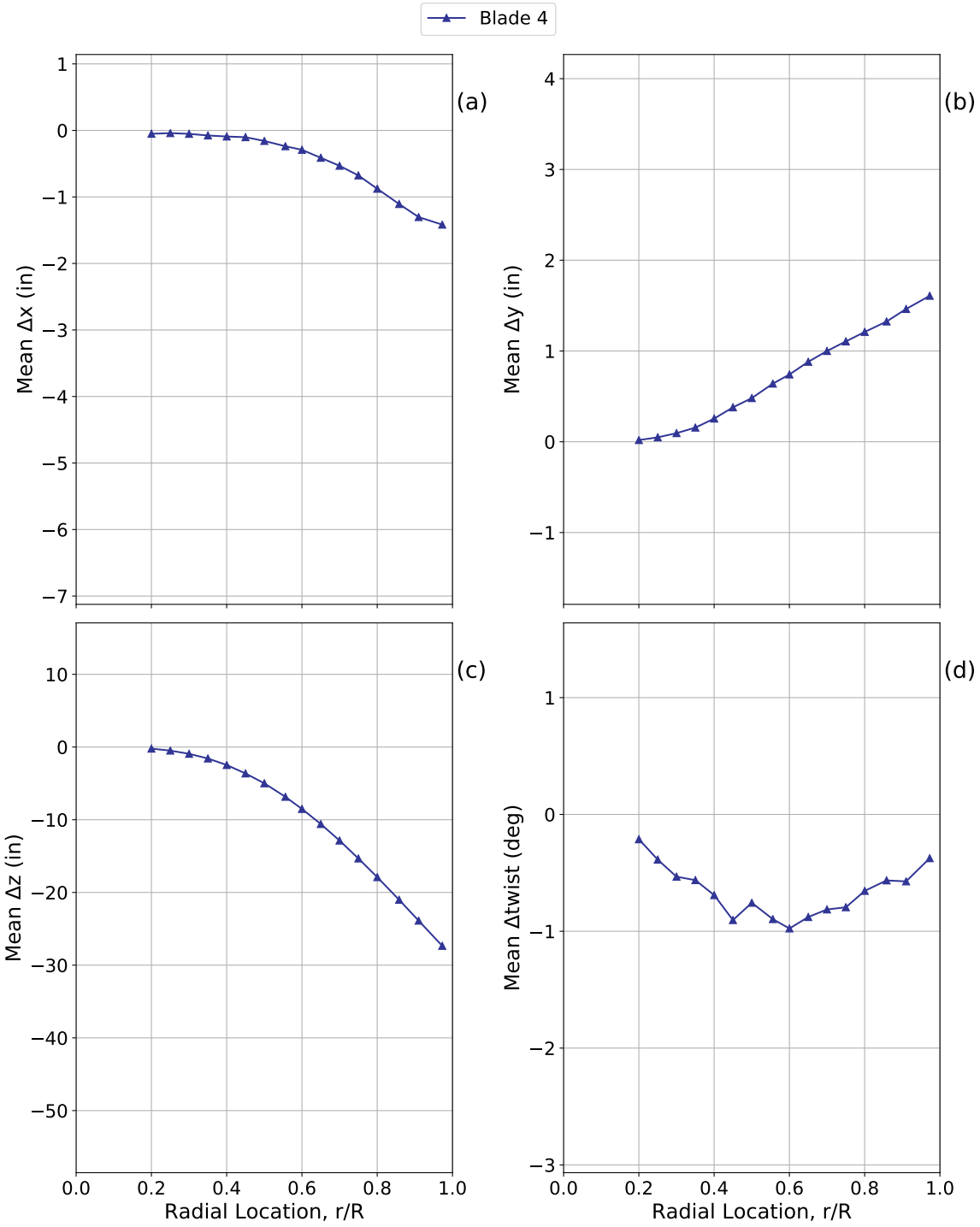


Figure 3.47-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0506	0.0051	0.0185	0.0025	-0.2225	0.0124	-0.2127	0.0579
4	170.16	0.2502	-0.0406	0.0072	0.0485	0.0034	-0.4918	0.0273	-0.3871	0.0810
4	170.16	0.3001	-0.0516	0.0058	0.0947	0.0086	-0.9338	0.0442	-0.5330	0.1001
4	170.16	0.3502	-0.0761	0.0076	0.1558	0.0143	-1.5759	0.0777	-0.5625	0.1108
4	170.16	0.4002	-0.0915	0.0102	0.2552	0.0212	-2.4725	0.1188	-0.6908	0.1020
4	170.16	0.4500	-0.1018	0.0130	0.3789	0.0266	-3.6329	0.1662	-0.9045	0.1050
4	170.16	0.5001	-0.1585	0.0175	0.4808	0.0342	-4.9909	0.2155	-0.7564	0.1179
4	170.16	0.5560	-0.2379	0.0240	0.6401	0.0425	-6.8472	0.2742	-0.8962	0.1206
4	170.16	0.6001	-0.2920	0.0290	0.7409	0.0497	-8.5179	0.3188	-0.9763	0.1255
4	170.16	0.6501	-0.4115	0.0336	0.8807	0.0579	-10.5887	0.3659	-0.8783	0.1326
4	170.16	0.6999	-0.5319	0.0403	0.9996	0.0669	-12.8633	0.4115	-0.8135	0.1398
4	170.16	0.7500	-0.6770	0.0466	1.1054	0.0769	-15.3271	0.4543	-0.7947	0.1430
4	170.16	0.8002	-0.8774	0.0534	1.2097	0.0866	-17.8979	0.4940	-0.6545	0.1475
4	170.16	0.8582	-1.1066	0.0628	1.3245	0.0993	-21.0081	0.5375	-0.5647	0.1574
4	170.16	0.9101	-1.3031	0.0704	1.4626	0.1102	-23.8824	0.5760	-0.5732	0.1576
4	170.16	0.9728	-1.4165	0.0786	1.6077	0.1247	-27.3473	0.6249	-0.3747	0.1457

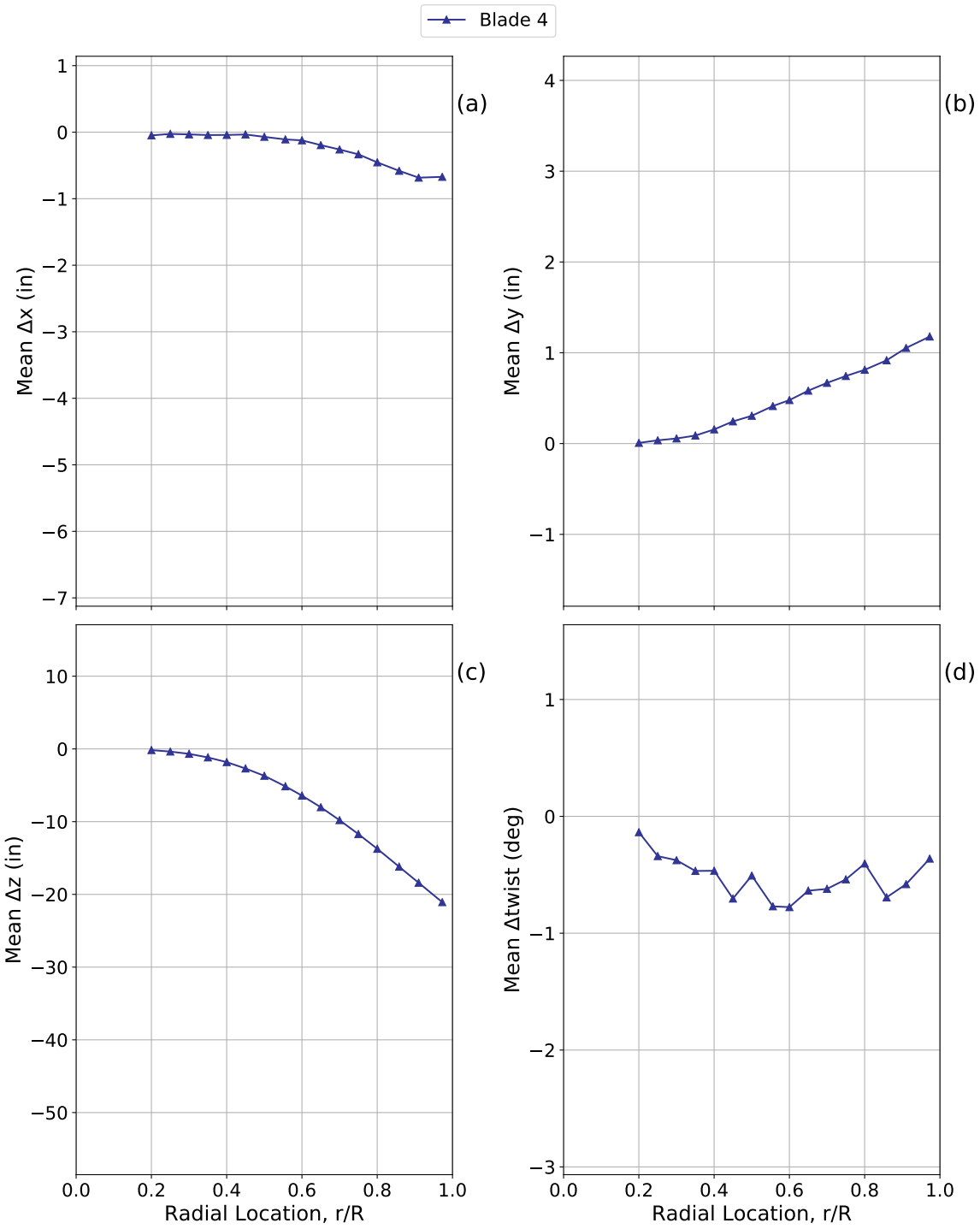


Figure 3.47-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0487	0.0074	0.0074	0.0109	-0.1637	0.0250	-0.1361	0.1061
4	175.08	0.2502	-0.0265	0.0089	0.0358	0.0169	-0.3635	0.0371	-0.3408	0.2106
4	175.08	0.3001	-0.0337	0.0048	0.0561	0.0406	-0.6789	0.0745	-0.3755	0.2370
4	175.08	0.3502	-0.0432	0.0071	0.0882	0.0713	-1.1695	0.1239	-0.4674	0.2375
4	175.08	0.4002	-0.0419	0.0094	0.1558	0.1072	-1.8190	0.1800	-0.4658	0.2423
4	175.08	0.4500	-0.0351	0.0116	0.2442	0.1485	-2.6915	0.2463	-0.7038	0.2453
4	175.08	0.5001	-0.0705	0.0165	0.3058	0.1949	-3.6994	0.3169	-0.5072	0.2608
4	175.08	0.5560	-0.1093	0.0228	0.4130	0.2514	-5.1445	0.4069	-0.7702	0.2563
4	175.08	0.6001	-0.1232	0.0299	0.4788	0.2981	-6.4229	0.4786	-0.7771	0.2721
4	175.08	0.6501	-0.1948	0.0385	0.5825	0.3549	-8.0174	0.5695	-0.6362	0.2684
4	175.08	0.6999	-0.2607	0.0489	0.6683	0.4141	-9.7965	0.6633	-0.6211	0.2797
4	175.08	0.7500	-0.3335	0.0603	0.7439	0.4763	-11.7116	0.7632	-0.5397	0.2696
4	175.08	0.8002	-0.4541	0.0732	0.8124	0.5399	-13.7352	0.8716	-0.4041	0.2634
4	175.08	0.8582	-0.5811	0.0891	0.9168	0.6166	-16.1983	0.9982	-0.6937	0.2793
4	175.08	0.9101	-0.6839	0.1029	1.0531	0.6864	-18.4049	1.1193	-0.5805	0.2842
4	175.08	0.9728	-0.6717	0.1199	1.1785	0.7745	-21.0719	1.2590	-0.3622	0.3010

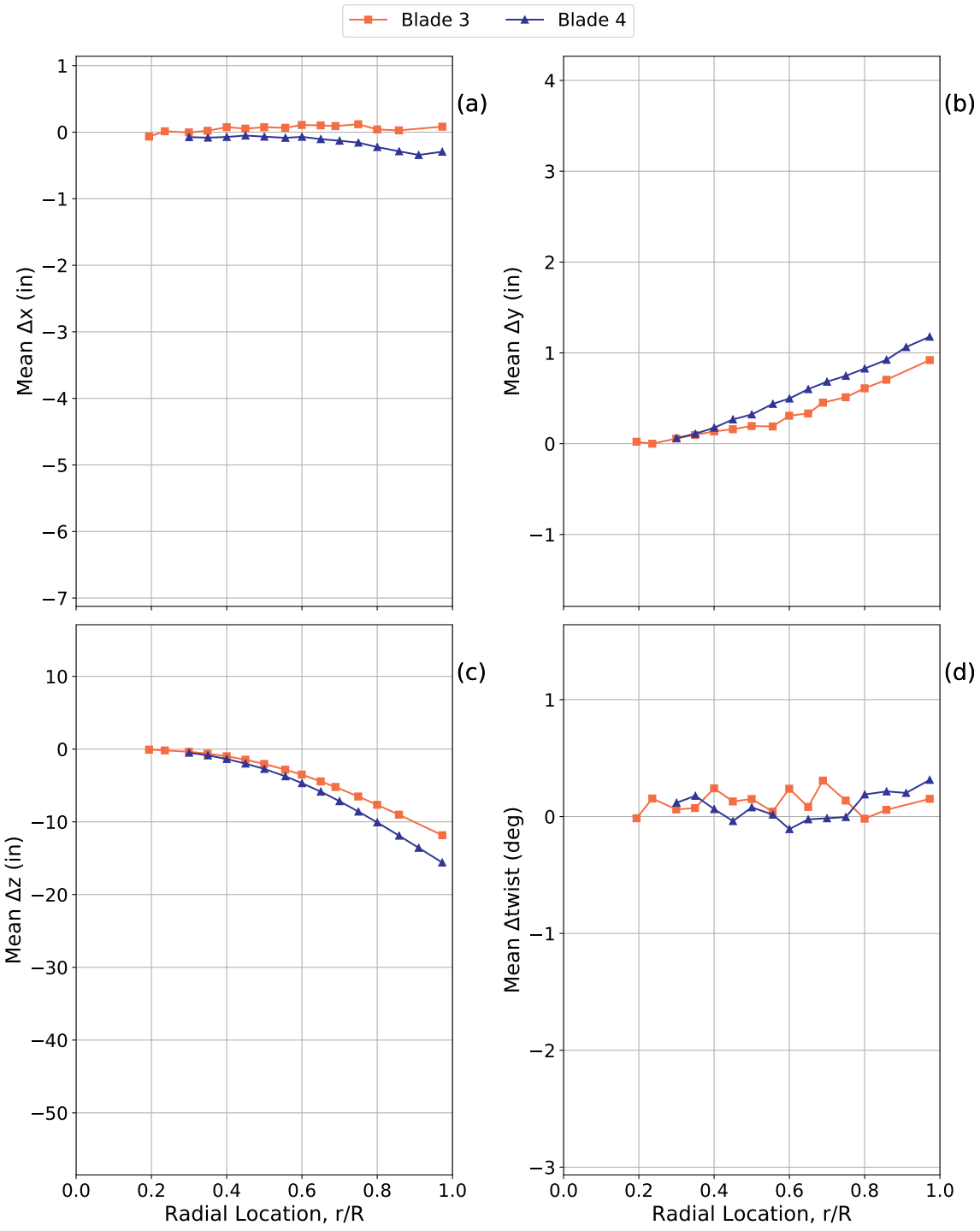


Figure 3.47-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0669	0.0027	0.0213	0.0022	-0.0762	0.0117	-0.0154	0.0447
3	180.35	0.2357	0.0136	0.0037	-0.0002	0.0042	-0.1828	0.0271	0.1542	0.0885
3	180.35	0.2995	-0.0029	0.0034	0.0566	0.0092	-0.3648	0.0575	0.0608	0.1247
3	180.35	0.3493	0.0209	0.0047	0.0960	0.0163	-0.6215	0.0967	0.0724	0.1517
3	180.35	0.4000	0.0760	0.0073	0.1351	0.0252	-0.9803	0.1545	0.2413	0.1434
3	180.35	0.4497	0.0537	0.0096	0.1593	0.0349	-1.4583	0.2255	0.1289	0.1407
3	180.35	0.4997	0.0743	0.0128	0.1943	0.0479	-2.0396	0.3157	0.1499	0.1515
3	180.35	0.5556	0.0658	0.0184	0.1896	0.0619	-2.8271	0.4321	0.0419	0.1723
3	180.35	0.5995	0.1088	0.0223	0.3080	0.0738	-3.4996	0.5423	0.2381	0.2095
3	180.35	0.6498	0.1024	0.0287	0.3326	0.0972	-4.4437	0.6771	0.0824	0.2281
3	180.35	0.6890	0.0917	0.0349	0.4515	0.1106	-5.2083	0.7901	0.3076	0.1745
3	180.35	0.7495	0.1198	0.0480	0.5114	0.1345	-6.5135	0.9905	0.1368	0.2093
3	180.35	0.7998	0.0414	0.0590	0.6093	0.1534	-7.6592	1.1673	-0.0182	0.2049
3	180.35	0.8577	0.0275	0.0704	0.7035	0.1653	-9.0156	1.3766	0.0574	0.2207
3	180.35	0.9729	0.0833	0.0929	0.9202	0.2442	-11.8399	1.7646	0.1511	0.4869
4	180	0.3001	-0.0746	0.0118	0.0615	0.0282	-0.5026	0.0417	0.1179	0.1339
4	180	0.3502	-0.0817	0.0146	0.1089	0.0486	-0.8641	0.0657	0.1769	0.1790
4	180	0.4002	-0.0718	0.0123	0.1752	0.0770	-1.3666	0.0996	0.0634	0.1572
4	180	0.4500	-0.0506	0.0133	0.2669	0.1010	-1.9956	0.1289	-0.0391	0.1351
4	180	0.5001	-0.0672	0.0135	0.3220	0.1262	-2.7276	0.1749	0.0787	0.1380
4	180	0.5560	-0.0849	0.0160	0.4381	0.1529	-3.7420	0.2307	0.0159	0.1585
4	180	0.6001	-0.0698	0.0186	0.4967	0.1758	-4.6871	0.2822	-0.1075	0.1521
4	180	0.6501	-0.1042	0.0223	0.6004	0.2001	-5.8503	0.3463	-0.0240	0.1368
4	180	0.6999	-0.1285	0.0277	0.6824	0.2249	-7.1639	0.4158	-0.0150	0.1314
4	180	0.7500	-0.1572	0.0338	0.7471	0.2501	-8.5936	0.4951	-0.0046	0.1565
4	180	0.8002	-0.2237	0.0426	0.8271	0.2748	-10.0790	0.5791	0.1888	0.1595
4	180	0.8582	-0.2870	0.0527	0.9234	0.3027	-11.9025	0.6884	0.2148	0.1645
4	180	0.9101	-0.3424	0.0623	1.0636	0.3283	-13.5765	0.7852	0.2019	0.1647
4	180	0.9728	-0.2934	0.0716	1.1778	0.3579	-15.5908	0.9122	0.3136	0.1624

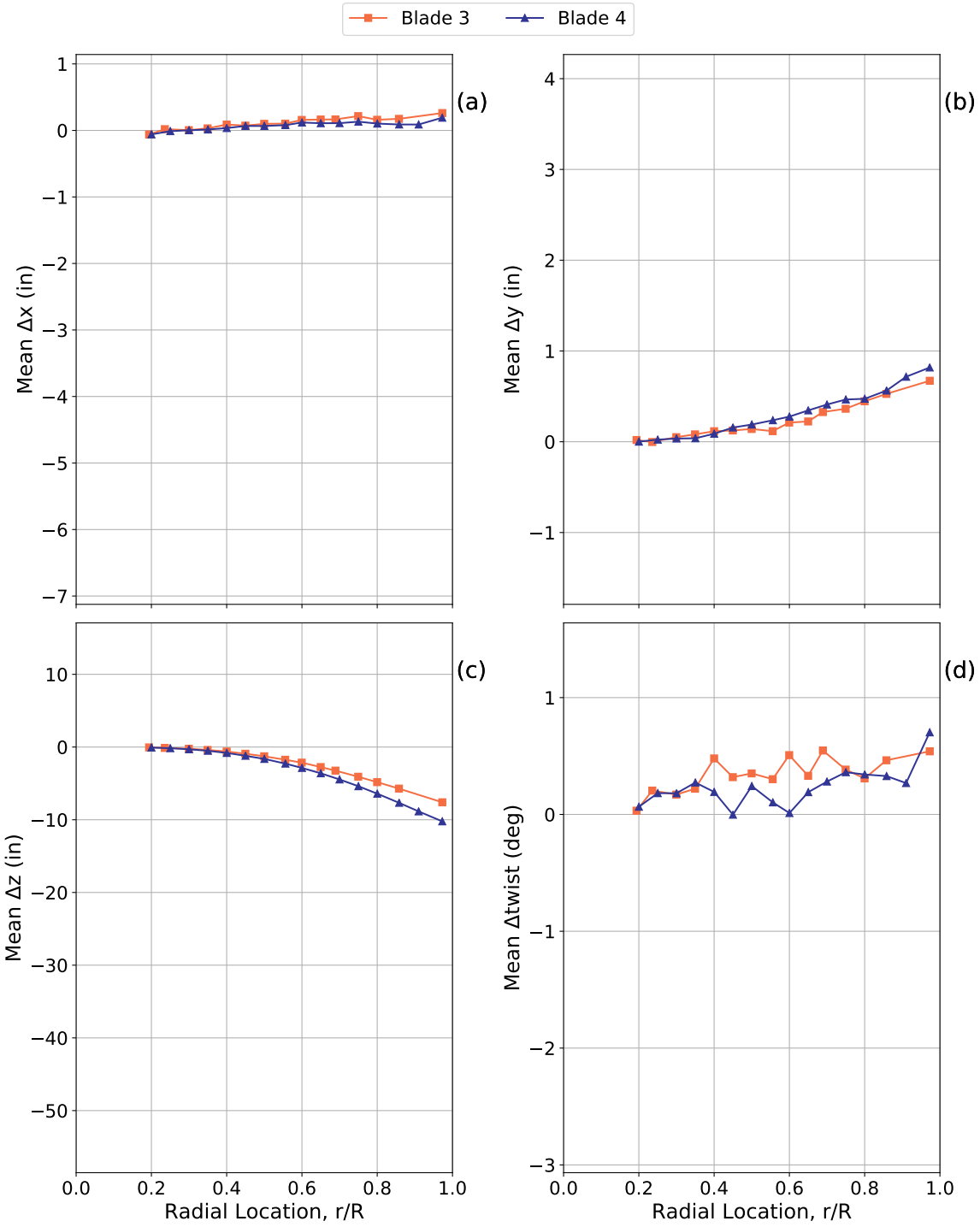


Figure 3.47-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0615	0.0018	0.0194	0.0021	-0.0514	0.0156	0.0320	0.0475
3	184.92	0.2357	0.0191	0.0022	-0.0027	0.0045	-0.1194	0.0250	0.2044	0.0759
3	184.92	0.2995	0.0042	0.0027	0.0506	0.0103	-0.2312	0.0577	0.1699	0.1159
3	184.92	0.3493	0.0309	0.0040	0.0815	0.0171	-0.3979	0.0995	0.2202	0.1226
3	184.92	0.4000	0.0881	0.0044	0.1159	0.0276	-0.6188	0.1513	0.4795	0.1397
3	184.92	0.4497	0.0721	0.0052	0.1244	0.0386	-0.9190	0.2109	0.3191	0.1440
3	184.92	0.4997	0.0989	0.0070	0.1406	0.0550	-1.2702	0.2927	0.3513	0.1568
3	184.92	0.5556	0.1024	0.0101	0.1167	0.0769	-1.7483	0.4072	0.3018	0.1558
3	184.92	0.5995	0.1578	0.0126	0.2114	0.0953	-2.1440	0.5162	0.5078	0.1624
3	184.92	0.6498	0.1640	0.0169	0.2234	0.1204	-2.7534	0.6515	0.3303	0.1883
3	184.92	0.6890	0.1657	0.0204	0.3270	0.1397	-3.2422	0.7649	0.5474	0.1926
3	184.92	0.7495	0.2151	0.0266	0.3637	0.1720	-4.0846	0.9497	0.3839	0.2107
3	184.92	0.7998	0.1603	0.0334	0.4456	0.1976	-4.8286	1.1041	0.3082	0.2118
3	184.92	0.8577	0.1739	0.0419	0.5274	0.2270	-5.7150	1.3036	0.4635	0.1636
3	184.92	0.9729	0.2613	0.0503	0.6718	0.2893	-7.5980	1.7429	0.5403	0.3416
4	184.92	0.2001	-0.0597	0.0017	0.0010	0.0019	-0.0745	0.0121	0.0656	0.0351
4	184.92	0.2502	-0.0111	0.0018	0.0236	0.0043	-0.1632	0.0260	0.1821	0.0752
4	184.92	0.3001	0.0024	0.0027	0.0354	0.0069	-0.3117	0.0468	0.1815	0.0856
4	184.92	0.3502	0.0138	0.0027	0.0382	0.0133	-0.5155	0.0806	0.2730	0.0987
4	184.92	0.4002	0.0354	0.0042	0.0884	0.0198	-0.8137	0.1240	0.1923	0.1075
4	184.92	0.4500	0.0671	0.0052	0.1567	0.0280	-1.2041	0.1786	-0.0024	0.1233
4	184.92	0.5001	0.0669	0.0071	0.1896	0.0367	-1.6346	0.2424	0.2427	0.1223
4	184.92	0.5560	0.0796	0.0093	0.2368	0.0476	-2.2812	0.3241	0.1031	0.1396
4	184.92	0.6001	0.1186	0.0127	0.2769	0.0561	-2.8758	0.3936	0.0118	0.1505
4	184.92	0.6501	0.1082	0.0161	0.3455	0.0673	-3.6124	0.4825	0.1904	0.1255
4	184.92	0.6999	0.1091	0.0210	0.4101	0.0761	-4.4592	0.5796	0.2813	0.1450
4	184.92	0.7500	0.1315	0.0264	0.4655	0.0876	-5.3914	0.6870	0.3613	0.1454
4	184.92	0.8002	0.1026	0.0332	0.4732	0.0966	-6.4162	0.8055	0.3421	0.1717
4	184.92	0.8582	0.0892	0.0433	0.5640	0.1118	-7.6739	0.9492	0.3282	0.1819
4	184.92	0.9101	0.0887	0.0526	0.7159	0.1323	-8.8519	1.0978	0.2684	0.2325
4	184.92	0.9728	0.1913	0.0556	0.8180	0.1321	-10.2210	1.2217	0.7025	0.2484

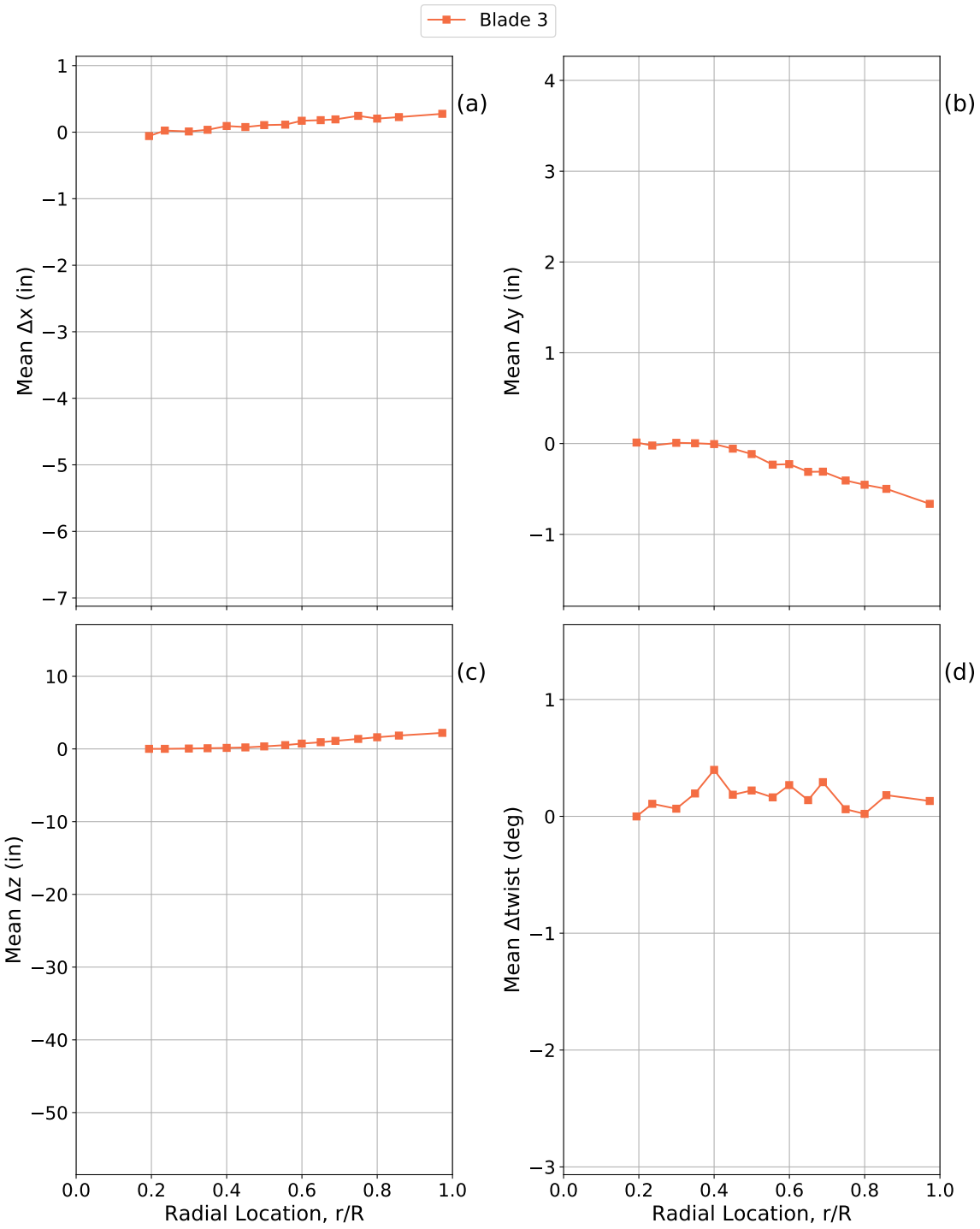


Figure 3.47-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0586	0.0008	0.0113	0.0024	0.0142	0.0383	-0.0009	0.0376
3	195.12	0.2357	0.0239	0.0034	-0.0215	0.0059	0.0132	0.0685	0.1072	0.0506
3	195.12	0.2995	0.0106	0.0058	0.0081	0.0131	0.0538	0.1604	0.0654	0.0765
3	195.12	0.3493	0.0355	0.0069	0.0038	0.0240	0.0919	0.2759	0.1956	0.0902
3	195.12	0.4000	0.0924	0.0075	-0.0056	0.0379	0.1399	0.4251	0.3976	0.1159
3	195.12	0.4497	0.0768	0.0076	-0.0560	0.0527	0.2067	0.5890	0.1852	0.1259
3	195.12	0.4997	0.1063	0.0059	-0.1157	0.0680	0.3435	0.7627	0.2213	0.1275
3	195.12	0.5556	0.1128	0.0062	-0.2322	0.0835	0.5249	0.9499	0.1625	0.1306
3	195.12	0.5995	0.1716	0.0089	-0.2267	0.0944	0.7321	1.0929	0.2673	0.1335
3	195.12	0.6498	0.1803	0.0129	-0.3113	0.1109	0.9171	1.2545	0.1387	0.1295
3	195.12	0.6890	0.1921	0.0159	-0.3094	0.1220	1.1063	1.3746	0.2925	0.1483
3	195.12	0.7495	0.2449	0.0216	-0.4069	0.1416	1.3751	1.5744	0.0609	0.1729
3	195.12	0.7998	0.2037	0.0273	-0.4537	0.1593	1.6044	1.7560	0.0213	0.1821
3	195.12	0.8577	0.2266	0.0310	-0.4987	0.1800	1.8353	1.9880	0.1812	0.1885
3	195.12	0.9729	0.2758	0.0531	-0.6640	0.2151	2.2049	2.4997	0.1314	0.2494

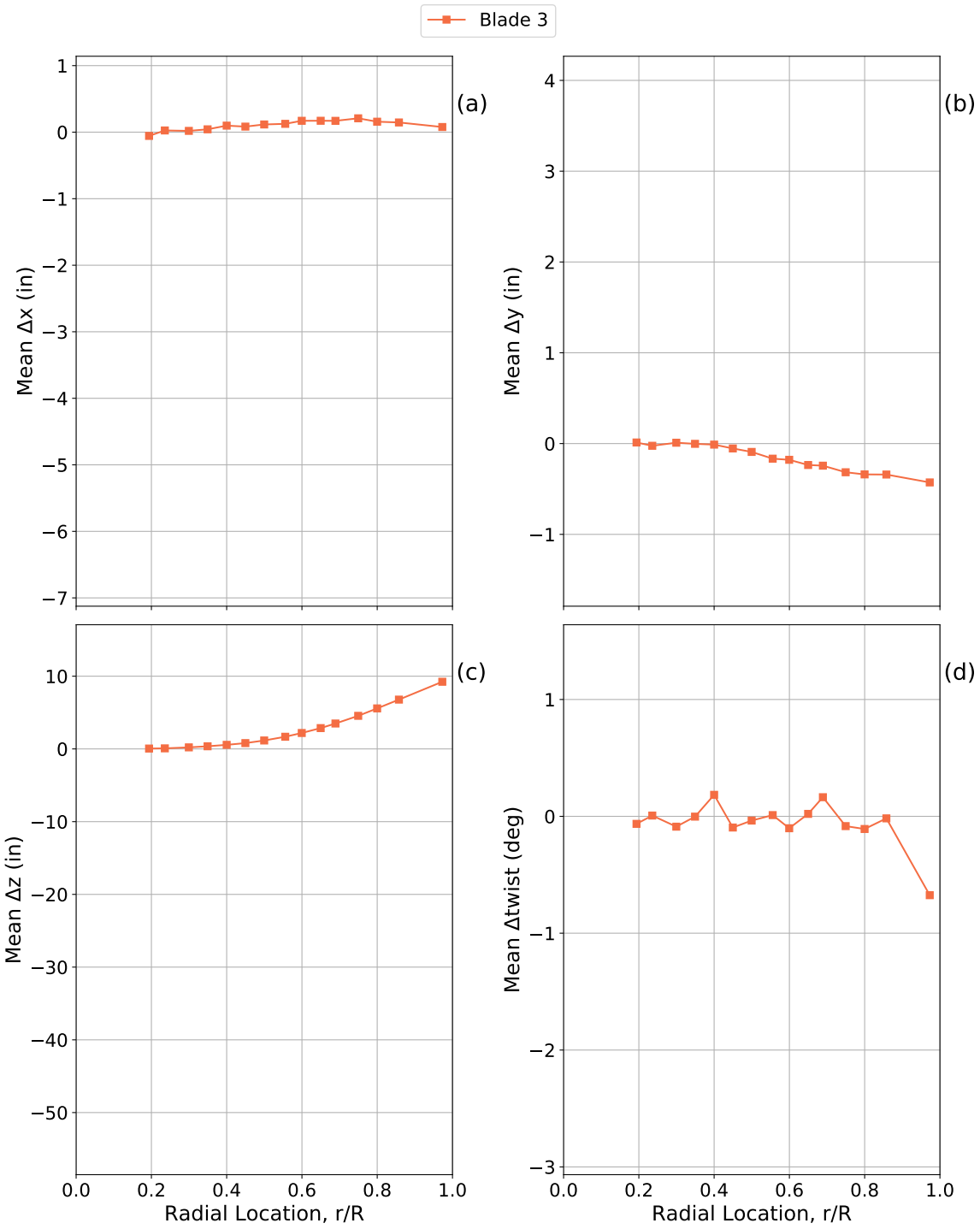


Figure 3.47-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0563	0.0015	0.0119	0.0030	0.0521	0.0394	-0.0643	0.0571
3	209.88	0.2357	0.0257	0.0017	-0.0243	0.0061	0.0790	0.0656	0.0068	0.0878
3	209.88	0.2995	0.0194	0.0031	0.0094	0.0148	0.2131	0.1567	-0.0884	0.1399
3	209.88	0.3493	0.0428	0.0043	-0.0029	0.0265	0.3635	0.2681	-0.0025	0.1539
3	209.88	0.4000	0.0981	0.0037	-0.0115	0.0419	0.5603	0.4103	0.1841	0.1521
3	209.88	0.4497	0.0834	0.0027	-0.0539	0.0593	0.7989	0.5783	-0.0957	0.1692
3	209.88	0.4997	0.1157	0.0041	-0.0920	0.0802	1.1606	0.7737	-0.0363	0.1611
3	209.88	0.5556	0.1251	0.0111	-0.1663	0.1034	1.6740	1.0157	0.0107	0.1710
3	209.88	0.5995	0.1709	0.0192	-0.1788	0.1252	2.1912	1.2153	-0.1019	0.1730
3	209.88	0.6498	0.1714	0.0314	-0.2360	0.1478	2.8641	1.4398	0.0211	0.1884
3	209.88	0.6890	0.1702	0.0421	-0.2434	0.1686	3.4936	1.6045	0.1639	0.2013
3	209.88	0.7495	0.2082	0.0587	-0.3159	0.2021	4.5502	1.8293	-0.0837	0.2286
3	209.88	0.7998	0.1574	0.0699	-0.3396	0.2297	5.5719	1.9839	-0.1082	0.2027
3	209.88	0.8577	0.1459	0.0810	-0.3411	0.2654	6.7799	2.1412	-0.0174	0.2034
3	209.88	0.9729	0.0774	0.1177	-0.4279	0.3391	9.2346	2.4353	-0.6747	0.1467

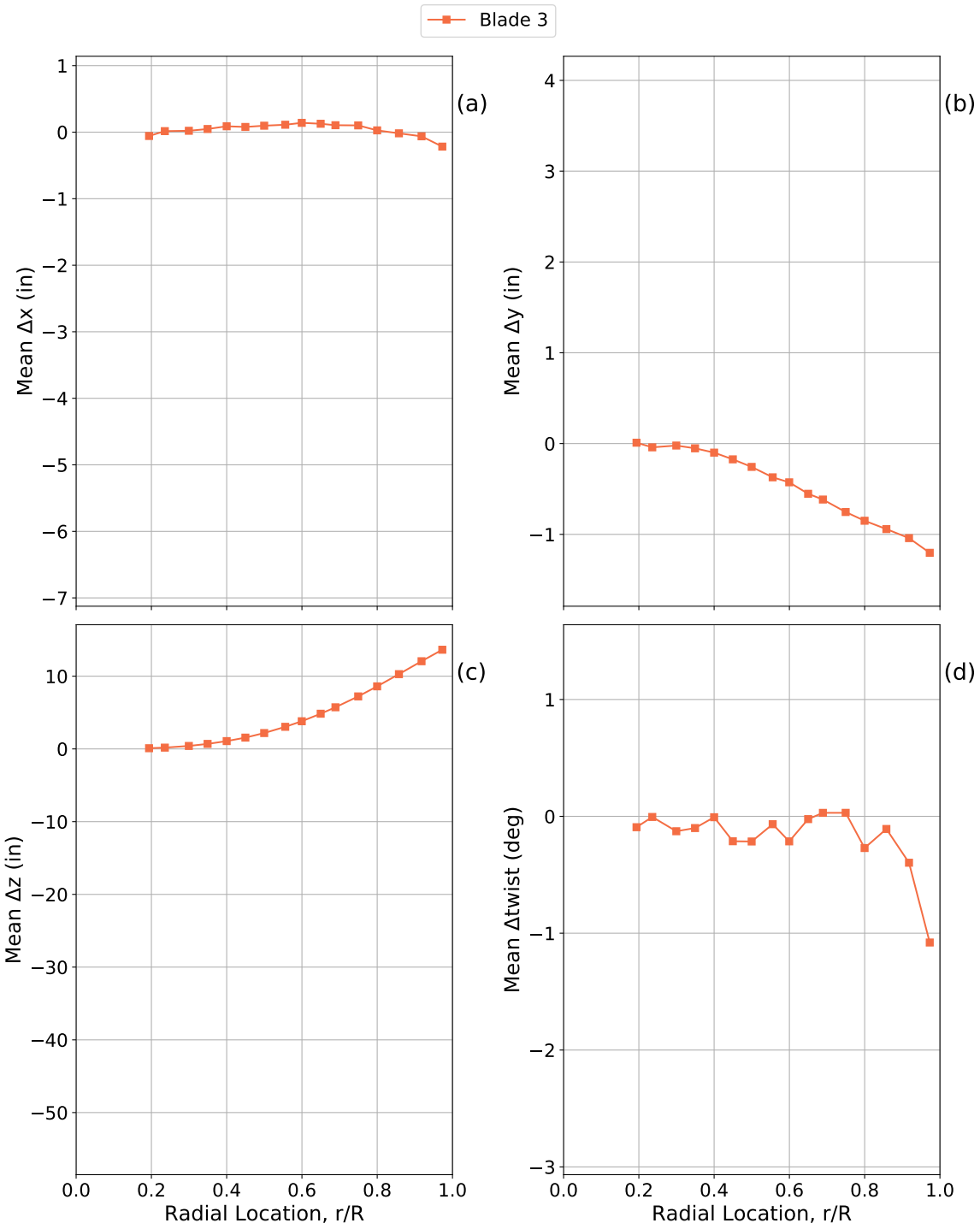


Figure 3.47-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0575	0.0022	0.0096	0.0023	0.0953	0.0172	-0.0929	0.0562
3	225	0.2357	0.0156	0.0014	-0.0415	0.0033	0.1800	0.0290	-0.0053	0.0780
3	225	0.2995	0.0207	0.0023	-0.0218	0.0092	0.4100	0.0656	-0.1275	0.1314
3	225	0.3493	0.0474	0.0025	-0.0522	0.0165	0.6893	0.1118	-0.1002	0.1529
3	225	0.4000	0.0886	0.0039	-0.0997	0.0252	1.0750	0.1701	-0.0075	0.1873
3	225	0.4497	0.0783	0.0061	-0.1737	0.0367	1.5550	0.2334	-0.2131	0.2076
3	225	0.4997	0.0972	0.0105	-0.2570	0.0501	2.1845	0.3090	-0.2153	0.2185
3	225	0.5556	0.1115	0.0160	-0.3716	0.0682	3.0396	0.4077	-0.0673	0.2372
3	225	0.5995	0.1401	0.0212	-0.4268	0.0839	3.8057	0.4952	-0.2142	0.2457
3	225	0.6498	0.1262	0.0292	-0.5529	0.1037	4.8415	0.6088	-0.0237	0.2600
3	225	0.6890	0.1044	0.0375	-0.6164	0.1205	5.7253	0.7126	0.0299	0.2786
3	225	0.7495	0.1018	0.0508	-0.7538	0.1458	7.2213	0.8901	0.0301	0.3149
3	225	0.7998	0.0269	0.0657	-0.8501	0.1675	8.6034	1.0647	-0.2711	0.3078
3	225	0.8577	-0.0174	0.0869	-0.9418	0.1962	10.2830	1.3068	-0.1081	0.3059
3	225	0.9178	-0.0623	0.1184	-1.0412	0.2256	12.0586	1.5953	-0.3970	0.3415
3	225	0.9729	-0.2171	0.1558	-1.2033	0.2519	13.6382	1.8748	-1.0797	0.3880

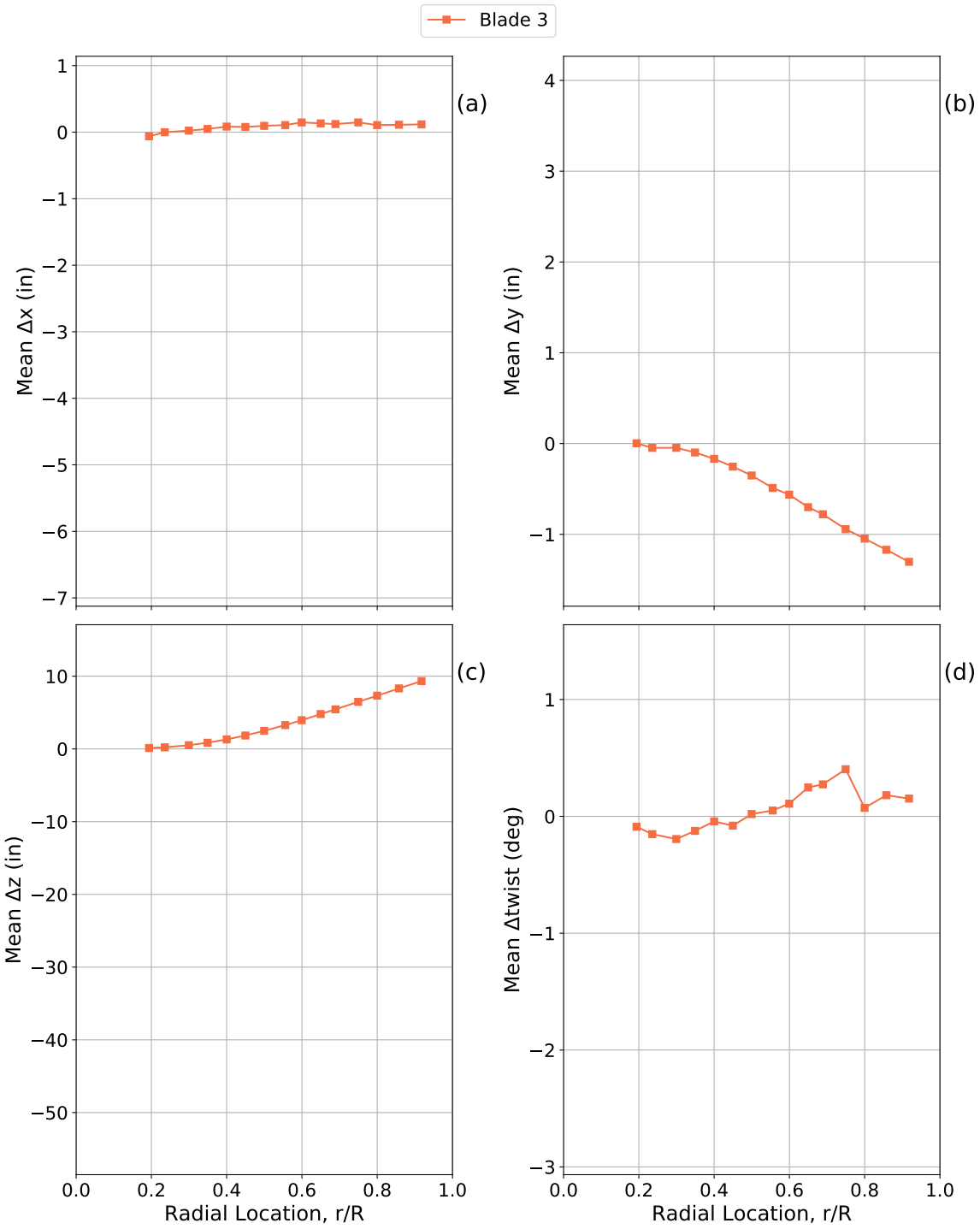


Figure 3.47-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0627	0.0025	0.0029	0.0019	0.1283	0.0197	-0.0890	0.0427
3	240.12	0.2357	-0.0007	0.0009	-0.0472	0.0030	0.2174	0.0350	-0.1525	0.0868
3	240.12	0.2995	0.0232	0.0016	-0.0469	0.0085	0.5081	0.0786	-0.1943	0.1166
3	240.12	0.3493	0.0481	0.0023	-0.0981	0.0151	0.8506	0.1347	-0.1245	0.1429
3	240.12	0.4000	0.0835	0.0037	-0.1681	0.0235	1.3086	0.2061	-0.0434	0.1568
3	240.12	0.4497	0.0785	0.0051	-0.2538	0.0316	1.8446	0.2896	-0.0799	0.1734
3	240.12	0.4997	0.0952	0.0096	-0.3514	0.0406	2.4882	0.3824	0.0195	0.1795
3	240.12	0.5556	0.1068	0.0145	-0.4889	0.0522	3.2756	0.4973	0.0499	0.2065
3	240.12	0.5995	0.1465	0.0193	-0.5626	0.0622	3.9490	0.5988	0.1082	0.2190
3	240.12	0.6498	0.1323	0.0257	-0.7006	0.0721	4.7921	0.7298	0.2472	0.2299
3	240.12	0.6890	0.1219	0.0330	-0.7788	0.0816	5.4402	0.8507	0.2738	0.2414
3	240.12	0.7495	0.1467	0.0449	-0.9427	0.0952	6.4775	1.0764	0.4033	0.2659
3	240.12	0.7998	0.1060	0.0573	-1.0471	0.1064	7.3203	1.3027	0.0727	0.2821
3	240.12	0.8577	0.1115	0.0738	-1.1698	0.1185	8.3200	1.6046	0.1810	0.2678
3	240.12	0.9178	0.1170	0.0986	-1.3026	0.1301	9.3257	1.9495	0.1519	0.2766

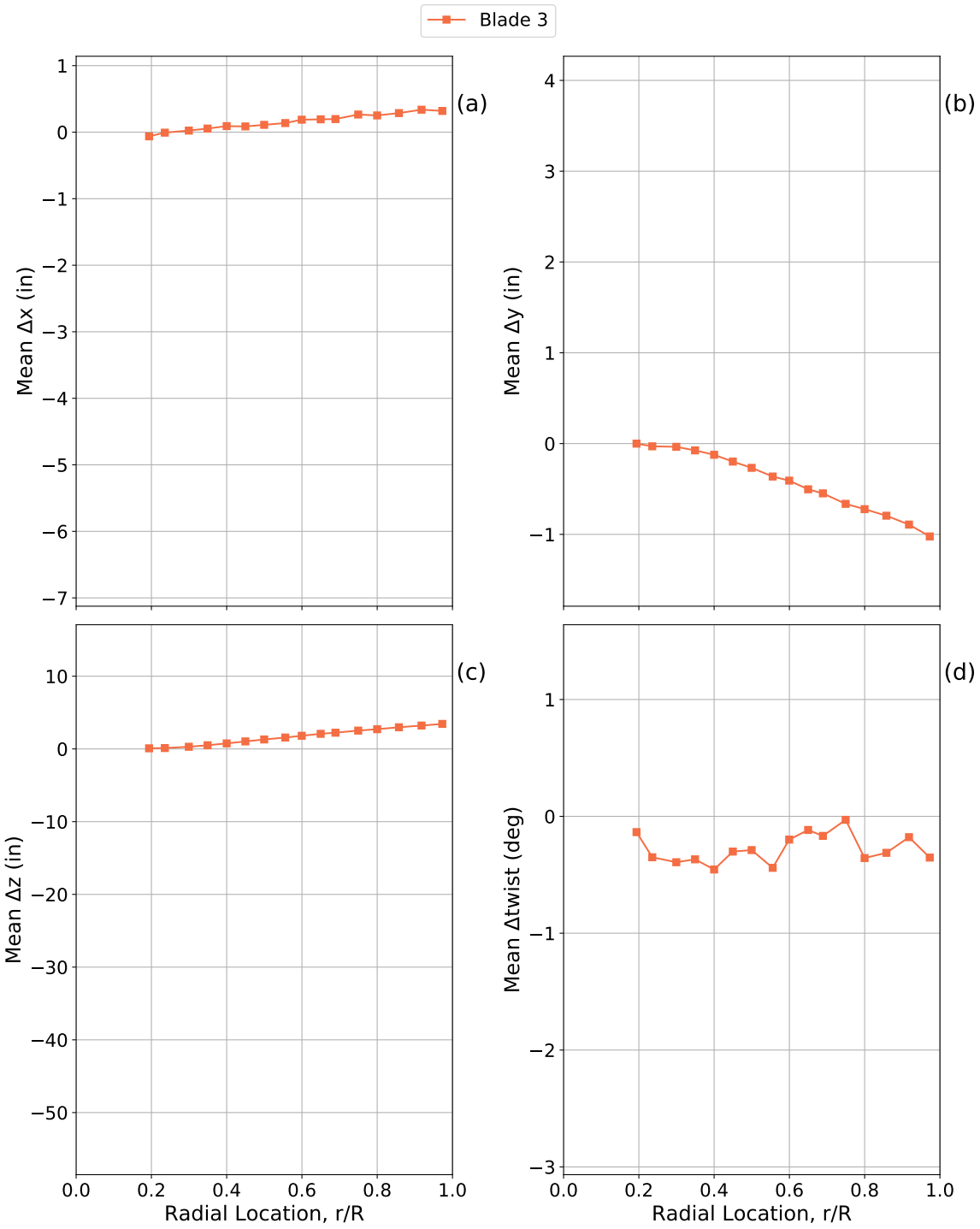


Figure 3.47-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0630	0.0027	-0.0006	0.0023	0.0835	0.0287	-0.1351	0.0750
3	254.88	0.2357	-0.0072	0.0032	-0.0303	0.0044	0.1205	0.0492	-0.3502	0.1303
3	254.88	0.2995	0.0240	0.0018	-0.0358	0.0115	0.2986	0.1141	-0.3927	0.2002
3	254.88	0.3493	0.0541	0.0022	-0.0752	0.0203	0.5046	0.1910	-0.3680	0.2054
3	254.88	0.4000	0.0909	0.0021	-0.1235	0.0322	0.7585	0.2946	-0.4550	0.2162
3	254.88	0.4497	0.0858	0.0031	-0.1987	0.0461	1.0302	0.4138	-0.3015	0.2394
3	254.88	0.4997	0.1099	0.0050	-0.2674	0.0616	1.2998	0.5483	-0.2888	0.2707
3	254.88	0.5556	0.1368	0.0084	-0.3629	0.0789	1.5655	0.7041	-0.4407	0.2600
3	254.88	0.5995	0.1874	0.0102	-0.4082	0.0945	1.8103	0.8323	-0.1990	0.3112
3	254.88	0.6498	0.1930	0.0146	-0.5037	0.1100	2.0771	0.9687	-0.1166	0.3104
3	254.88	0.6890	0.1971	0.0164	-0.5487	0.1231	2.2333	1.0655	-0.1675	0.3211
3	254.88	0.7495	0.2650	0.0199	-0.6640	0.1429	2.5219	1.1862	-0.0298	0.3215
3	254.88	0.7998	0.2514	0.0225	-0.7224	0.1602	2.7096	1.2634	-0.3569	0.3561
3	254.88	0.8577	0.2866	0.0241	-0.7946	0.1821	2.9791	1.3252	-0.3122	0.3755
3	254.88	0.9178	0.3380	0.0252	-0.8921	0.2074	3.2130	1.3746	-0.1783	0.4095
3	254.88	0.9729	0.3190	0.0316	-1.0228	0.2287	3.4402	1.4180	-0.3529	0.4375

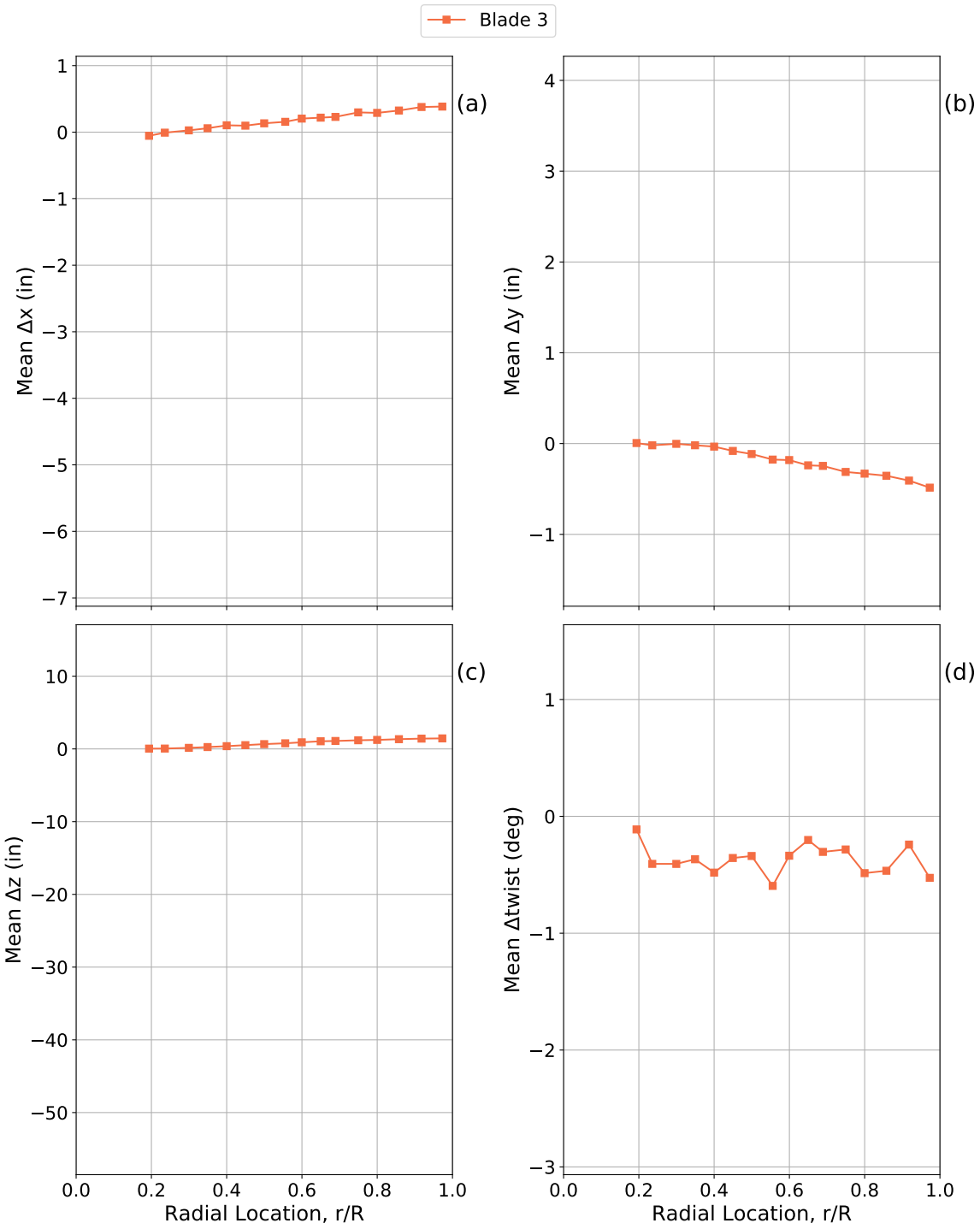


Figure 3.47-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0545	0.0073	0.0058	0.0025	0.0423	0.0127	-0.1120	0.0686
3	260.16	0.2357	-0.0074	0.0024	-0.0191	0.0031	0.0505	0.0238	-0.4067	0.1399
3	260.16	0.2995	0.0270	0.0019	-0.0031	0.0091	0.1457	0.0503	-0.4070	0.1890
3	260.16	0.3493	0.0587	0.0015	-0.0187	0.0159	0.2565	0.0836	-0.3673	0.1897
3	260.16	0.4000	0.1034	0.0022	-0.0335	0.0244	0.3781	0.1300	-0.4815	0.2203
3	260.16	0.4497	0.0975	0.0030	-0.0808	0.0337	0.5212	0.1816	-0.3564	0.2261
3	260.16	0.4997	0.1331	0.0040	-0.1151	0.0446	0.6599	0.2341	-0.3394	0.2260
3	260.16	0.5556	0.1556	0.0073	-0.1764	0.0577	0.7741	0.2917	-0.5953	0.2317
3	260.16	0.5995	0.2040	0.0080	-0.1817	0.0679	0.9088	0.3339	-0.3370	0.2459
3	260.16	0.6498	0.2181	0.0091	-0.2398	0.0793	1.0520	0.3781	-0.2023	0.2312
3	260.16	0.6890	0.2293	0.0097	-0.2460	0.0894	1.0921	0.4176	-0.3042	0.2731
3	260.16	0.7495	0.2973	0.0110	-0.3125	0.1047	1.1909	0.4942	-0.2836	0.2715
3	260.16	0.7998	0.2898	0.0117	-0.3312	0.1188	1.2397	0.5770	-0.4861	0.2902
3	260.16	0.8577	0.3252	0.0123	-0.3544	0.1359	1.3400	0.6990	-0.4657	0.3119
3	260.16	0.9178	0.3783	0.0115	-0.4078	0.1541	1.4182	0.8564	-0.2417	0.3201
3	260.16	0.9729	0.3845	0.0151	-0.4853	0.1716	1.4469	1.0223	-0.5263	0.3138

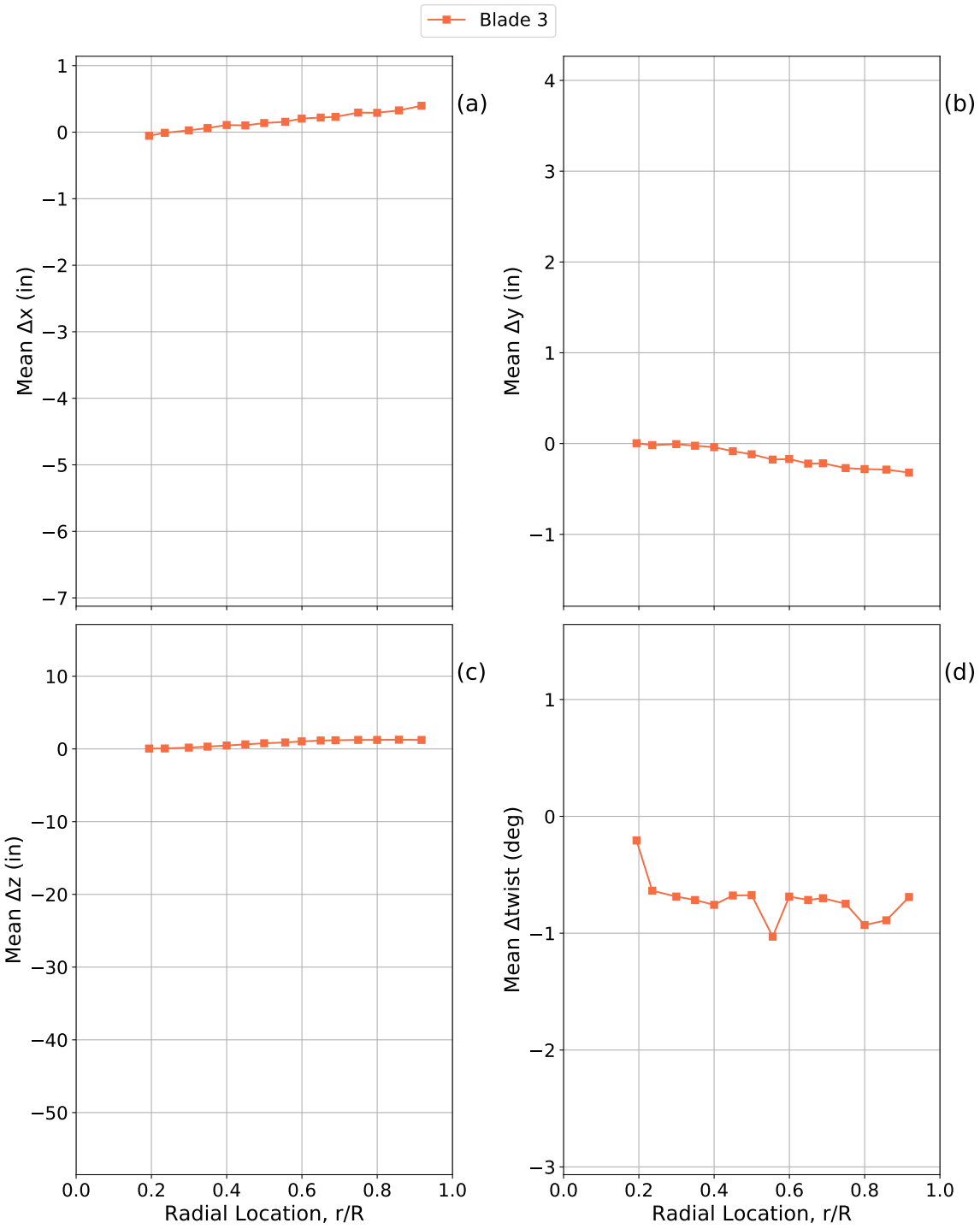


Figure 3.47-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0548	0.0095	0.0040	0.0027	0.0536	0.0165	-0.2064	0.0386
3	265.08	0.2357	-0.0100	0.0026	-0.0170	0.0026	0.0647	0.0245	-0.6367	0.1189
3	265.08	0.2995	0.0276	0.0030	-0.0064	0.0087	0.1821	0.0570	-0.6863	0.1256
3	265.08	0.3493	0.0613	0.0027	-0.0237	0.0166	0.3163	0.0961	-0.7159	0.1070
3	265.08	0.4000	0.1077	0.0035	-0.0398	0.0240	0.4668	0.1454	-0.7574	0.1175
3	265.08	0.4497	0.1010	0.0040	-0.0842	0.0309	0.6279	0.2036	-0.6775	0.1281
3	265.08	0.4997	0.1368	0.0053	-0.1180	0.0395	0.7793	0.2790	-0.6747	0.1156
3	265.08	0.5556	0.1560	0.0059	-0.1762	0.0491	0.8902	0.3824	-1.0296	0.1284
3	265.08	0.5995	0.2043	0.0073	-0.1700	0.0571	1.0337	0.4756	-0.6865	0.1258
3	265.08	0.6498	0.2195	0.0071	-0.2204	0.0671	1.1533	0.5907	-0.7156	0.1354
3	265.08	0.6890	0.2297	0.0087	-0.2173	0.0747	1.1889	0.6885	-0.7006	0.1488
3	265.08	0.7495	0.2939	0.0101	-0.2701	0.0879	1.2396	0.8468	-0.7486	0.1496
3	265.08	0.7998	0.2907	0.0115	-0.2809	0.0997	1.2403	0.9831	-0.9301	0.1603
3	265.08	0.8577	0.3274	0.0129	-0.2867	0.1133	1.2658	1.1433	-0.8895	0.1628
3	265.08	0.9178	0.3966	0.0140	-0.3197	0.1278	1.2344	1.3097	-0.6906	0.1626

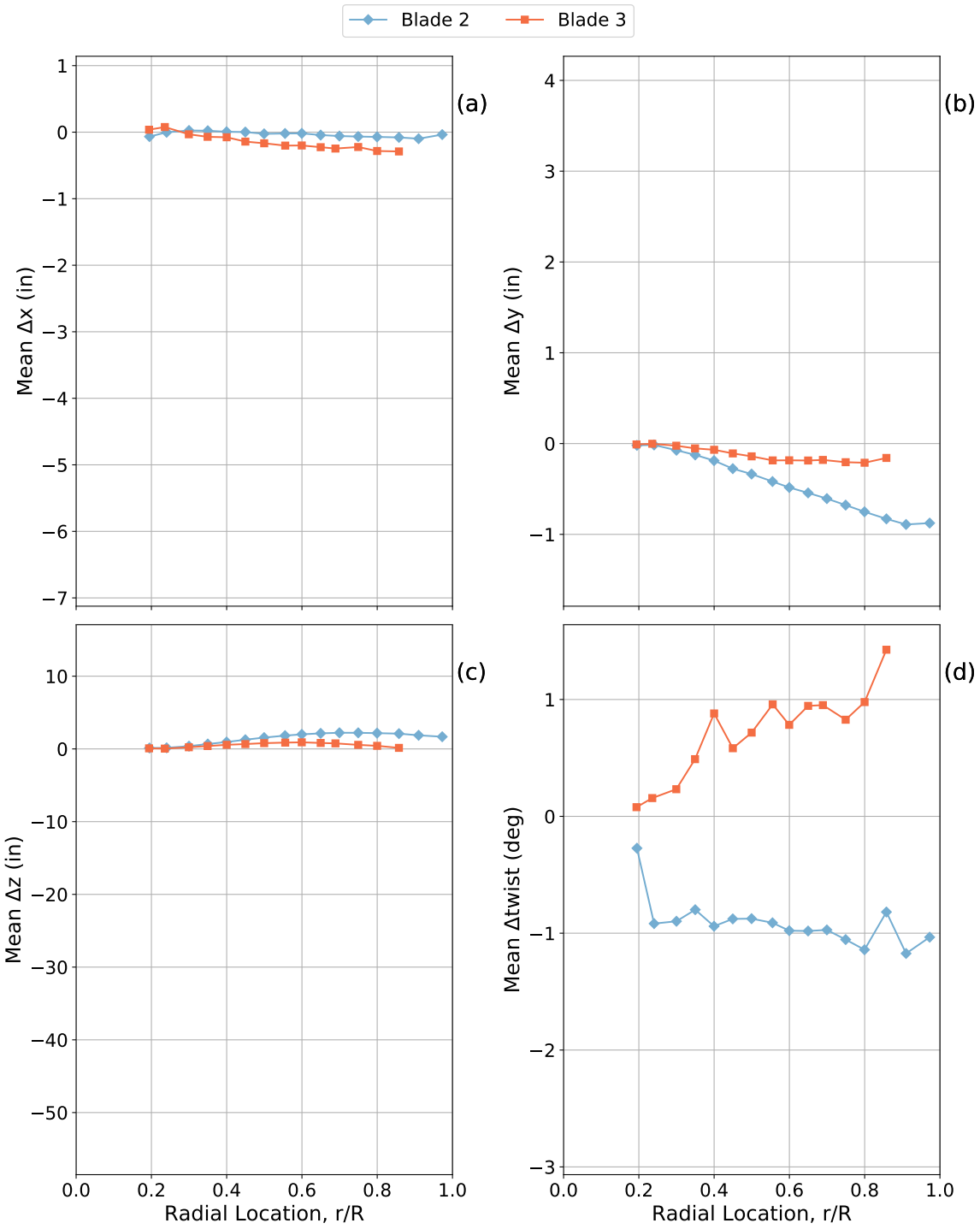


Figure 3.47-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0665	0.0099	-0.0195	0.0026	0.1240	0.0308	-0.2726	0.1116
2	270.35	0.2405	-0.0020	0.0013	-0.0155	0.0050	0.1515	0.0602	-0.9179	0.2233
2	270.35	0.2999	0.0253	0.0036	-0.0736	0.0111	0.3789	0.1249	-0.8979	0.2881
2	270.35	0.3498	0.0214	0.0047	-0.1248	0.0199	0.6736	0.2087	-0.7990	0.2952
2	270.35	0.3998	0.0060	0.0048	-0.1879	0.0306	0.9520	0.3221	-0.9405	0.3023
2	270.35	0.4496	0.0018	0.0050	-0.2764	0.0434	1.2634	0.4731	-0.8776	0.3236
2	270.35	0.4995	-0.0251	0.0081	-0.3359	0.0602	1.5604	0.6625	-0.8756	0.3442
2	270.35	0.5551	-0.0199	0.0138	-0.4181	0.0809	1.8295	0.9147	-0.9111	0.3538
2	270.35	0.5996	-0.0180	0.0189	-0.4838	0.0981	2.0030	1.1419	-0.9785	0.3557
2	270.35	0.6497	-0.0436	0.0258	-0.5435	0.1184	2.1415	1.4185	-0.9812	0.3600
2	270.35	0.6996	-0.0583	0.0304	-0.6062	0.1388	2.2214	1.7067	-0.9720	0.3619
2	270.35	0.7495	-0.0659	0.0348	-0.6778	0.1596	2.2154	2.0081	-1.0545	0.3612
2	270.35	0.7996	-0.0713	0.0383	-0.7514	0.1806	2.1701	2.3136	-1.1415	0.3596
2	270.35	0.8578	-0.0790	0.0403	-0.8294	0.2046	2.0992	2.6678	-0.8186	0.3760
2	270.35	0.9100	-0.0982	0.0445	-0.8910	0.2250	1.8746	2.9859	-1.1737	0.3484
2	270.35	0.9727	-0.0363	0.0563	-0.8759	0.2462	1.6750	3.3597	-1.0342	0.3323
3	270	0.1938	0.0367	0.0043	-0.0095	0.0015	0.0798	0.0189	0.0784	0.0495
3	270	0.2357	0.0772	0.0042	-0.0023	0.0050	0.0443	0.0377	0.1564	0.1032
3	270	0.2995	-0.0319	0.0031	-0.0236	0.0096	0.2291	0.0811	0.2322	0.1214
3	270	0.3493	-0.0703	0.0032	-0.0531	0.0176	0.3969	0.1387	0.4894	0.1176
3	270	0.4000	-0.0767	0.0052	-0.0685	0.0283	0.5649	0.2152	0.8806	0.1079
3	270	0.4497	-0.1419	0.0058	-0.1084	0.0388	0.6684	0.3131	0.5830	0.1020
3	270	0.4997	-0.1672	0.0077	-0.1408	0.0527	0.7948	0.4354	0.7166	0.0995
3	270	0.5556	-0.2020	0.0099	-0.1855	0.0705	0.8702	0.5936	0.9582	0.1085
3	270	0.5995	-0.2000	0.0113	-0.1843	0.0842	0.9079	0.7316	0.7830	0.1307
3	270	0.6498	-0.2258	0.0117	-0.1866	0.1012	0.8211	0.8972	0.9453	0.1229
3	270	0.6890	-0.2462	0.0137	-0.1803	0.1153	0.7617	1.0321	0.9518	0.1371
3	270	0.7495	-0.2233	0.0147	-0.2052	0.1357	0.5585	1.2441	0.8268	0.1090
3	270	0.7998	-0.2831	0.0170	-0.2111	0.1522	0.4243	1.4115	0.9778	0.1393
3	270	0.8577	-0.2898	0.0177	-0.1583	0.1710	0.1440	1.6109	1.4258	0.4460

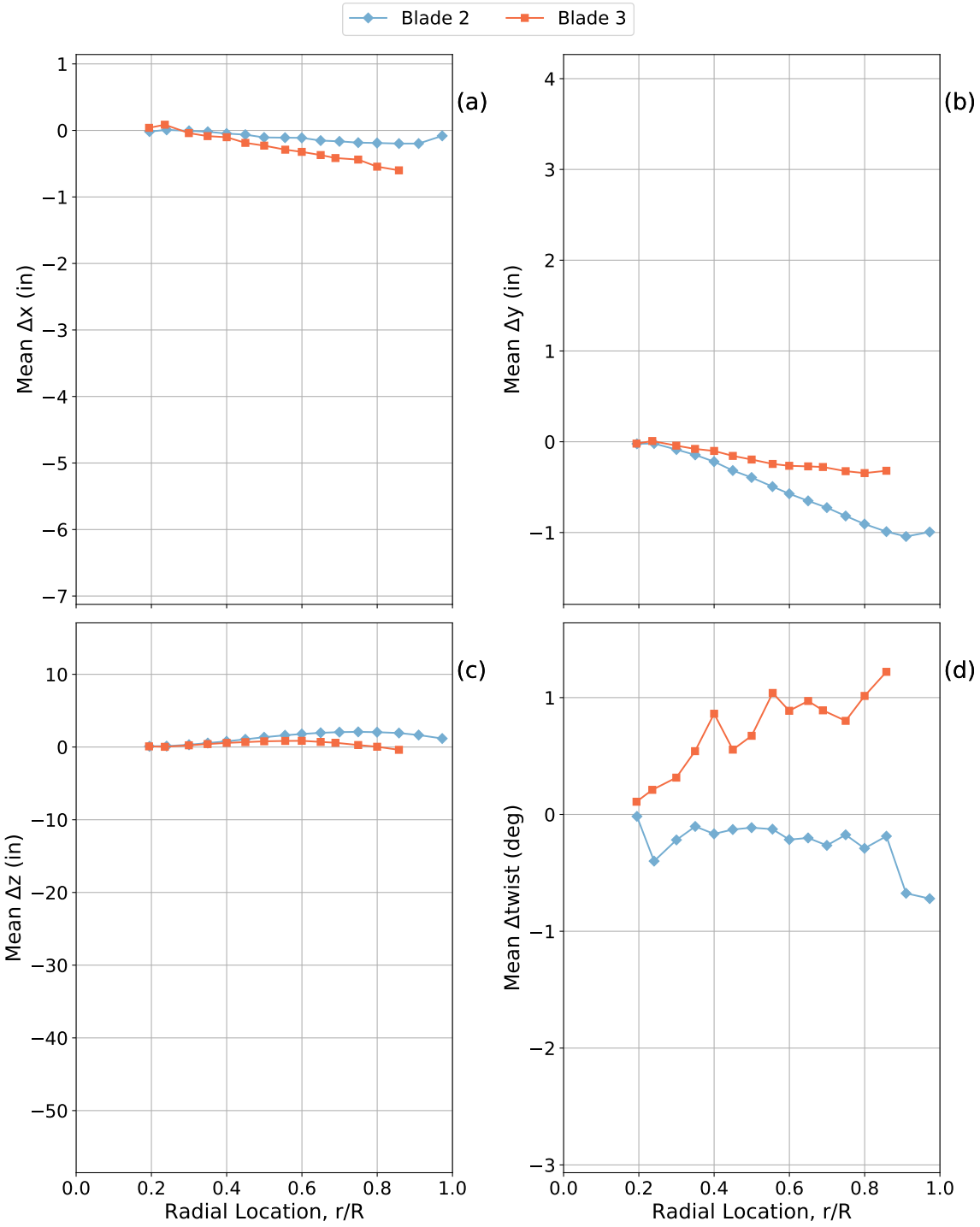


Figure 3.47-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	-0.0171	0.0091	-0.0224	0.0041	0.0987	0.0343	-0.0166	0.0427
2	274.92	0.2405	0.0083	0.0028	-0.0198	0.0059	0.1263	0.0597	-0.3996	0.1146
2	274.92	0.2999	-0.0062	0.0020	-0.0859	0.0163	0.3140	0.1301	-0.2183	0.1073
2	274.92	0.3498	-0.0201	0.0021	-0.1446	0.0293	0.5468	0.2214	-0.1028	0.0895
2	274.92	0.3998	-0.0470	0.0029	-0.2192	0.0442	0.7857	0.3343	-0.1665	0.0950
2	274.92	0.4496	-0.0635	0.0064	-0.3169	0.0620	1.0656	0.4830	-0.1291	0.0834
2	274.92	0.4995	-0.1055	0.0102	-0.3938	0.0825	1.3501	0.6582	-0.1133	0.1089
2	274.92	0.5551	-0.1089	0.0150	-0.4942	0.1077	1.6193	0.8912	-0.1262	0.1144
2	274.92	0.5996	-0.1121	0.0201	-0.5730	0.1303	1.7938	1.1072	-0.2153	0.1097
2	274.92	0.6497	-0.1526	0.0258	-0.6511	0.1563	1.9570	1.3683	-0.2012	0.1180
2	274.92	0.6996	-0.1644	0.0298	-0.7258	0.1833	2.0498	1.6494	-0.2650	0.1360
2	274.92	0.7495	-0.1837	0.0344	-0.8178	0.2110	2.0860	1.9467	-0.1743	0.1543
2	274.92	0.7996	-0.1891	0.0373	-0.9065	0.2395	2.0427	2.2608	-0.2903	0.1374
2	274.92	0.8578	-0.1977	0.0388	-0.9903	0.2726	1.9267	2.6268	-0.1862	0.1498
2	274.92	0.9100	-0.1975	0.0467	-1.0439	0.3028	1.6492	2.9613	-0.6751	0.1872
2	274.92	0.9727	-0.0817	0.0528	-0.9941	0.3385	1.1731	3.3509	-0.7205	0.2461
3	274.92	0.1938	0.0389	0.0025	-0.0203	0.0028	0.0912	0.0195	0.1088	0.0530
3	274.92	0.2357	0.0859	0.0037	0.0081	0.0034	0.0316	0.0320	0.2106	0.1137
3	274.92	0.2995	-0.0404	0.0039	-0.0428	0.0097	0.2399	0.0751	0.3150	0.1381
3	274.92	0.3493	-0.0855	0.0023	-0.0789	0.0179	0.4077	0.1321	0.5417	0.1524
3	274.92	0.4000	-0.1023	0.0041	-0.1012	0.0261	0.5693	0.1998	0.8620	0.1407
3	274.92	0.4497	-0.1871	0.0037	-0.1558	0.0382	0.6778	0.2988	0.5547	0.1613
3	274.92	0.4997	-0.2286	0.0047	-0.1959	0.0524	0.7869	0.4177	0.6731	0.1834
3	274.92	0.5556	-0.2894	0.0052	-0.2446	0.0680	0.8377	0.5683	1.0398	0.1691
3	274.92	0.5995	-0.3223	0.0046	-0.2649	0.0832	0.8552	0.7133	0.8873	0.2005
3	274.92	0.6498	-0.3704	0.0049	-0.2712	0.1007	0.7061	0.8934	0.9711	0.2493
3	274.92	0.6890	-0.4153	0.0066	-0.2781	0.1126	0.5889	1.0376	0.8910	0.2529
3	274.92	0.7495	-0.4384	0.0086	-0.3241	0.1331	0.2756	1.2734	0.8011	0.2018
3	274.92	0.7998	-0.5448	0.0121	-0.3452	0.1499	0.0406	1.4762	1.0144	0.2102
3	274.92	0.8577	-0.6001	0.0148	-0.3195	0.1701	-0.3837	1.7143	1.2207	0.3515

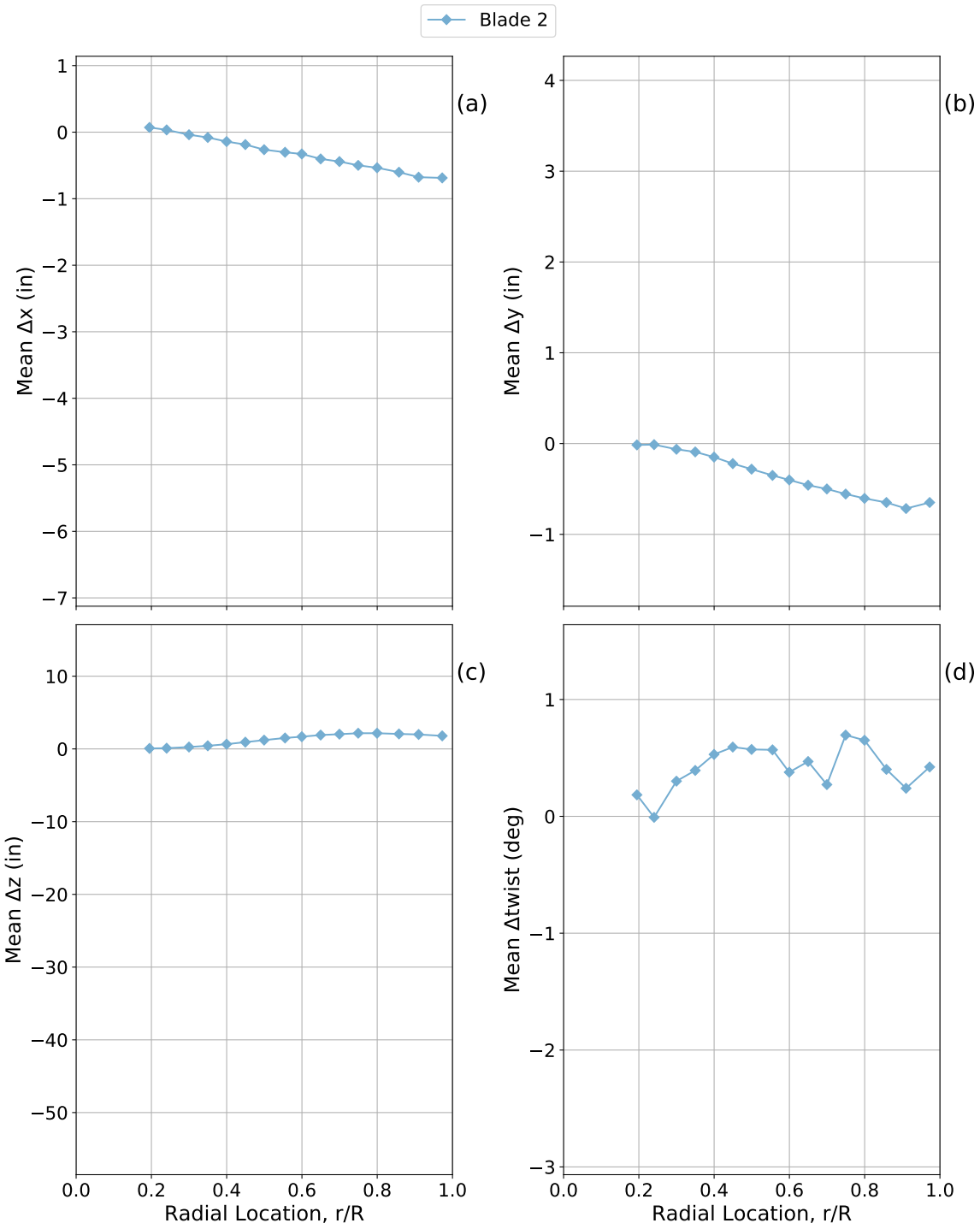


Figure 3.47-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0709	0.0033	-0.0150	0.0023	0.0684	0.0229	0.1838	0.0432
2	285.12	0.2405	0.0339	0.0021	-0.0117	0.0052	0.1003	0.0452	-0.0086	0.0892
2	285.12	0.2999	-0.0385	0.0026	-0.0629	0.0112	0.2597	0.0969	0.3011	0.1069
2	285.12	0.3498	-0.0799	0.0031	-0.0920	0.0205	0.4288	0.1696	0.3929	0.1134
2	285.12	0.3998	-0.1411	0.0052	-0.1490	0.0316	0.6534	0.2594	0.5299	0.1398
2	285.12	0.4496	-0.1866	0.0067	-0.2209	0.0456	0.9316	0.3680	0.5928	0.1616
2	285.12	0.4995	-0.2631	0.0059	-0.2820	0.0617	1.2111	0.4864	0.5725	0.1934
2	285.12	0.5551	-0.3021	0.0070	-0.3507	0.0784	1.5058	0.6215	0.5692	0.1851
2	285.12	0.5996	-0.3281	0.0112	-0.4007	0.0938	1.6807	0.7408	0.3775	0.1996
2	285.12	0.6497	-0.4020	0.0154	-0.4585	0.1119	1.9073	0.8804	0.4693	0.2330
2	285.12	0.6996	-0.4418	0.0163	-0.4999	0.1271	2.0275	1.0167	0.2716	0.2348
2	285.12	0.7495	-0.4988	0.0175	-0.5558	0.1439	2.1584	1.1689	0.6954	0.2409
2	285.12	0.7996	-0.5350	0.0183	-0.6038	0.1606	2.1588	1.3231	0.6511	0.2322
2	285.12	0.8578	-0.6015	0.0190	-0.6491	0.1801	2.0589	1.5206	0.4018	0.2702
2	285.12	0.9100	-0.6767	0.0196	-0.7157	0.1964	1.9877	1.7004	0.2399	0.2721
2	285.12	0.9727	-0.6875	0.0261	-0.6490	0.2170	1.7954	1.9185	0.4224	0.2537

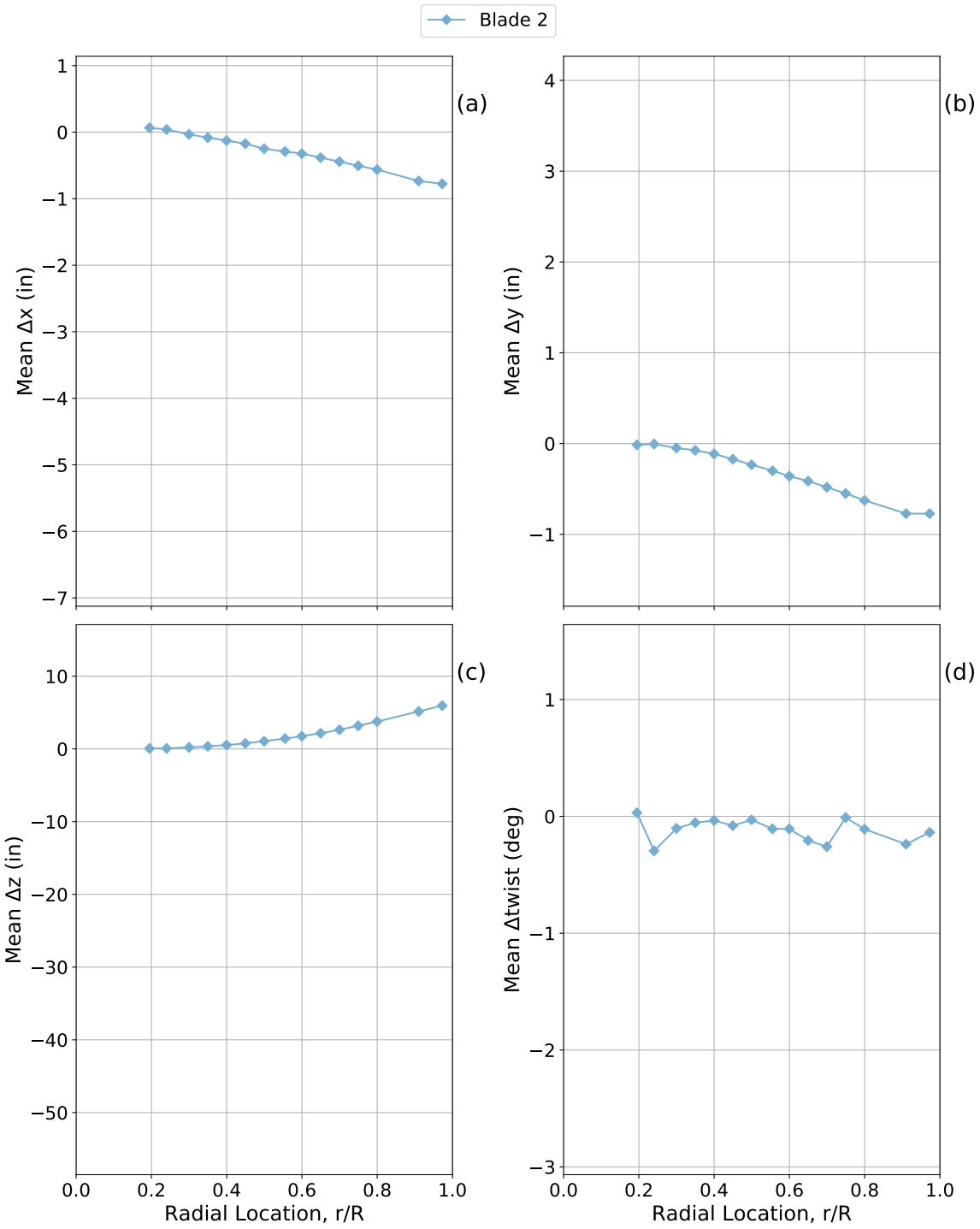


Figure 3.47-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0651	0.0033	-0.0142	0.0012	0.0610	0.0064	0.0302	0.0540
2	299.88	0.2405	0.0404	0.0030	-0.0051	0.0043	0.0723	0.0264	-0.2955	0.0526
2	299.88	0.2999	-0.0332	0.0034	-0.0487	0.0067	0.2090	0.0415	-0.1033	0.1026
2	299.88	0.3498	-0.0814	0.0031	-0.0748	0.0128	0.3633	0.0682	-0.0543	0.0607
2	299.88	0.3998	-0.1263	0.0045	-0.1137	0.0199	0.5319	0.1135	-0.0356	0.1273
2	299.88	0.4496	-0.1736	0.0043	-0.1718	0.0250	0.7589	0.1363	-0.0797	0.0842
2	299.88	0.4995	-0.2486	0.0042	-0.2331	0.0351	1.0611	0.1792	-0.0300	0.1071
2	299.88	0.5551	-0.2903	0.0046	-0.2995	0.0447	1.4160	0.2272	-0.1072	0.0786
2	299.88	0.5996	-0.3233	0.0058	-0.3594	0.0562	1.7449	0.2704	-0.1073	0.0928
2	299.88	0.6497	-0.3831	0.0074	-0.4136	0.0687	2.1546	0.3252	-0.2064	0.1025
2	299.88	0.6996	-0.4427	0.0108	-0.4817	0.0820	2.6284	0.3914	-0.2598	0.1003
2	299.88	0.7495	-0.5052	0.0131	-0.5495	0.0973	3.1836	0.4750	-0.0108	0.1076
2	299.88	0.7996	-0.5626	0.0183	-0.6258	0.1134	3.7655	0.5813	-0.1100	0.1057
2	299.88	0.9100	-0.7338	0.0295	-0.7715	0.1481	5.1470	0.8777	-0.2383	0.1238
2	299.88	0.9727	-0.7760	0.0456	-0.7718	0.1679	5.9573	1.0630	-0.1374	0.1286

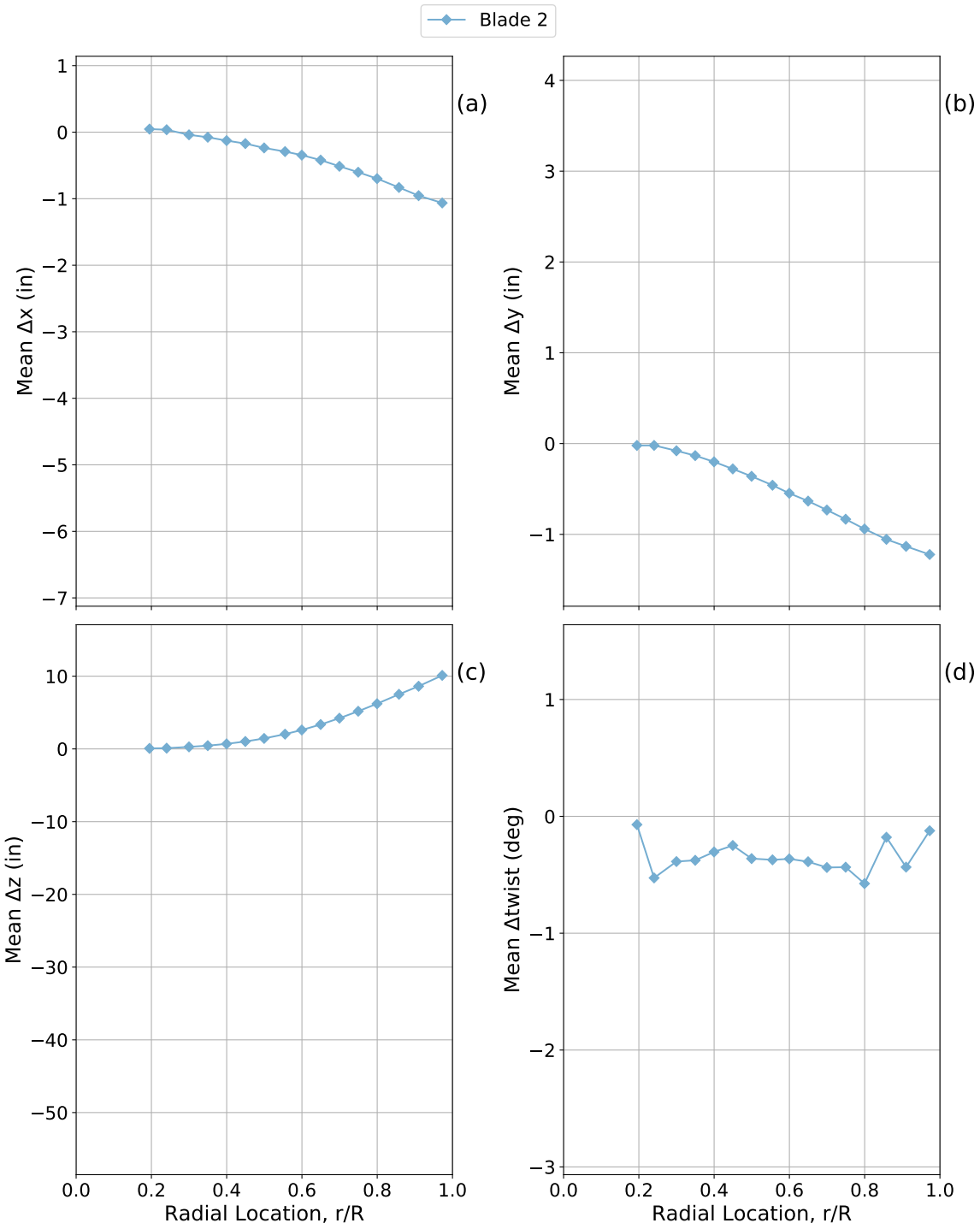


Figure 3.47-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0460	0.0022	-0.0210	0.0015	0.0724	0.0099	-0.0708	0.0450
2	315	0.2405	0.0366	0.0027	-0.0203	0.0036	0.1021	0.0237	-0.5271	0.0612
2	315	0.2999	-0.0398	0.0026	-0.0793	0.0070	0.2809	0.0462	-0.3869	0.1016
2	315	0.3498	-0.0764	0.0028	-0.1330	0.0136	0.4491	0.0790	-0.3762	0.1038
2	315	0.3998	-0.1269	0.0061	-0.2012	0.0204	0.6947	0.1242	-0.3047	0.1077
2	315	0.4496	-0.1716	0.0083	-0.2793	0.0286	1.0227	0.1749	-0.2490	0.1151
2	315	0.4995	-0.2366	0.0092	-0.3604	0.0393	1.4407	0.2334	-0.3615	0.1211
2	315	0.5551	-0.2916	0.0136	-0.4589	0.0498	2.0305	0.3059	-0.3722	0.1234
2	315	0.5996	-0.3451	0.0168	-0.5471	0.0606	2.6037	0.3726	-0.3640	0.1221
2	315	0.6497	-0.4199	0.0211	-0.6333	0.0735	3.3559	0.4517	-0.3883	0.1365
2	315	0.6996	-0.5129	0.0266	-0.7320	0.0868	4.2265	0.5330	-0.4377	0.1556
2	315	0.7495	-0.6020	0.0324	-0.8332	0.1001	5.1787	0.6291	-0.4351	0.1452
2	315	0.7996	-0.6982	0.0393	-0.9407	0.1153	6.2158	0.7300	-0.5757	0.1489
2	315	0.8578	-0.8311	0.0482	-1.0552	0.1329	7.5098	0.8681	-0.1791	0.1830
2	315	0.9100	-0.9543	0.0588	-1.1322	0.1464	8.6193	1.0003	-0.4346	0.1584
2	315	0.9727	-1.0640	0.0769	-1.2219	0.1645	10.1098	1.1688	-0.1233	0.1659

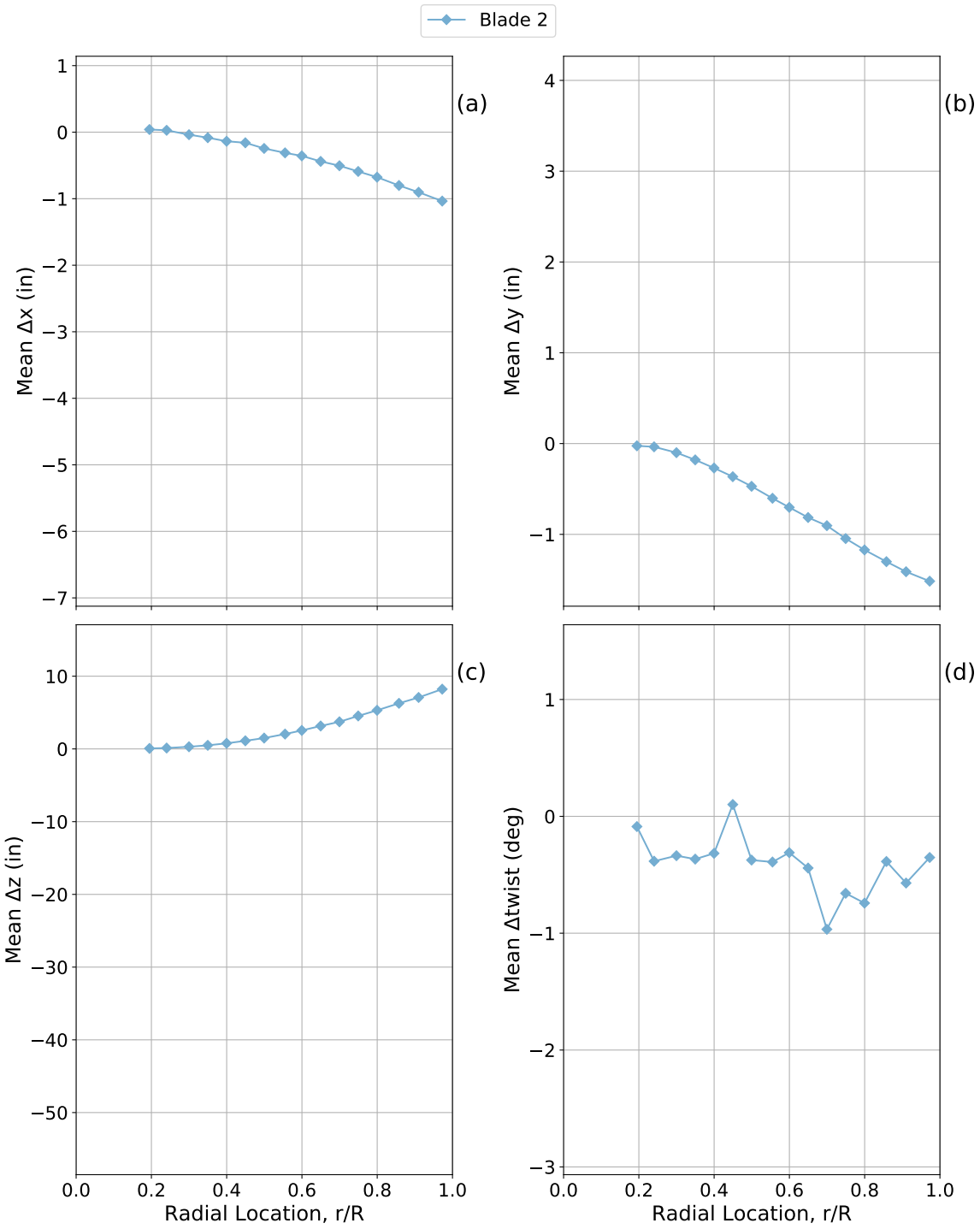


Figure 3.47-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0398	0.0016	-0.0250	0.0014	0.0689	0.0070	-0.0874	0.0443
2	330.12	0.2405	0.0279	0.0033	-0.0359	0.0030	0.1236	0.0190	-0.3840	0.0425
2	330.12	0.2999	-0.0379	0.0025	-0.1003	0.0069	0.2963	0.0359	-0.3367	0.0866
2	330.12	0.3498	-0.0831	0.0039	-0.1794	0.0101	0.4938	0.0617	-0.3661	0.0988
2	330.12	0.3998	-0.1367	0.0060	-0.2693	0.0170	0.7692	0.0982	-0.3167	0.1147
2	330.12	0.4496	-0.1595	0.0064	-0.3649	0.0221	1.1157	0.1352	0.1013	0.1149
2	330.12	0.4995	-0.2446	0.0070	-0.4708	0.0289	1.4930	0.1847	-0.3742	0.1250
2	330.12	0.5551	-0.3110	0.0068	-0.6026	0.0376	2.0430	0.2539	-0.3909	0.1051
2	330.12	0.5996	-0.3564	0.0100	-0.7026	0.0439	2.5422	0.3179	-0.3105	0.1578
2	330.12	0.6497	-0.4393	0.0131	-0.8144	0.0534	3.1535	0.4018	-0.4423	0.1721
2	330.12	0.6996	-0.5046	0.0209	-0.9044	0.0628	3.7303	0.5252	-0.9667	0.1958
2	330.12	0.7495	-0.5906	0.0222	-1.0463	0.0705	4.5344	0.6424	-0.6583	0.1891
2	330.12	0.7996	-0.6767	0.0278	-1.1713	0.0806	5.3077	0.7991	-0.7426	0.1852
2	330.12	0.8578	-0.8015	0.0365	-1.3007	0.0907	6.2726	1.0003	-0.3863	0.1800
2	330.12	0.9100	-0.9031	0.0482	-1.4115	0.1000	7.0764	1.1998	-0.5708	0.1804
2	330.12	0.9727	-1.0360	0.0665	-1.5158	0.1124	8.2181	1.4472	-0.3521	0.1752

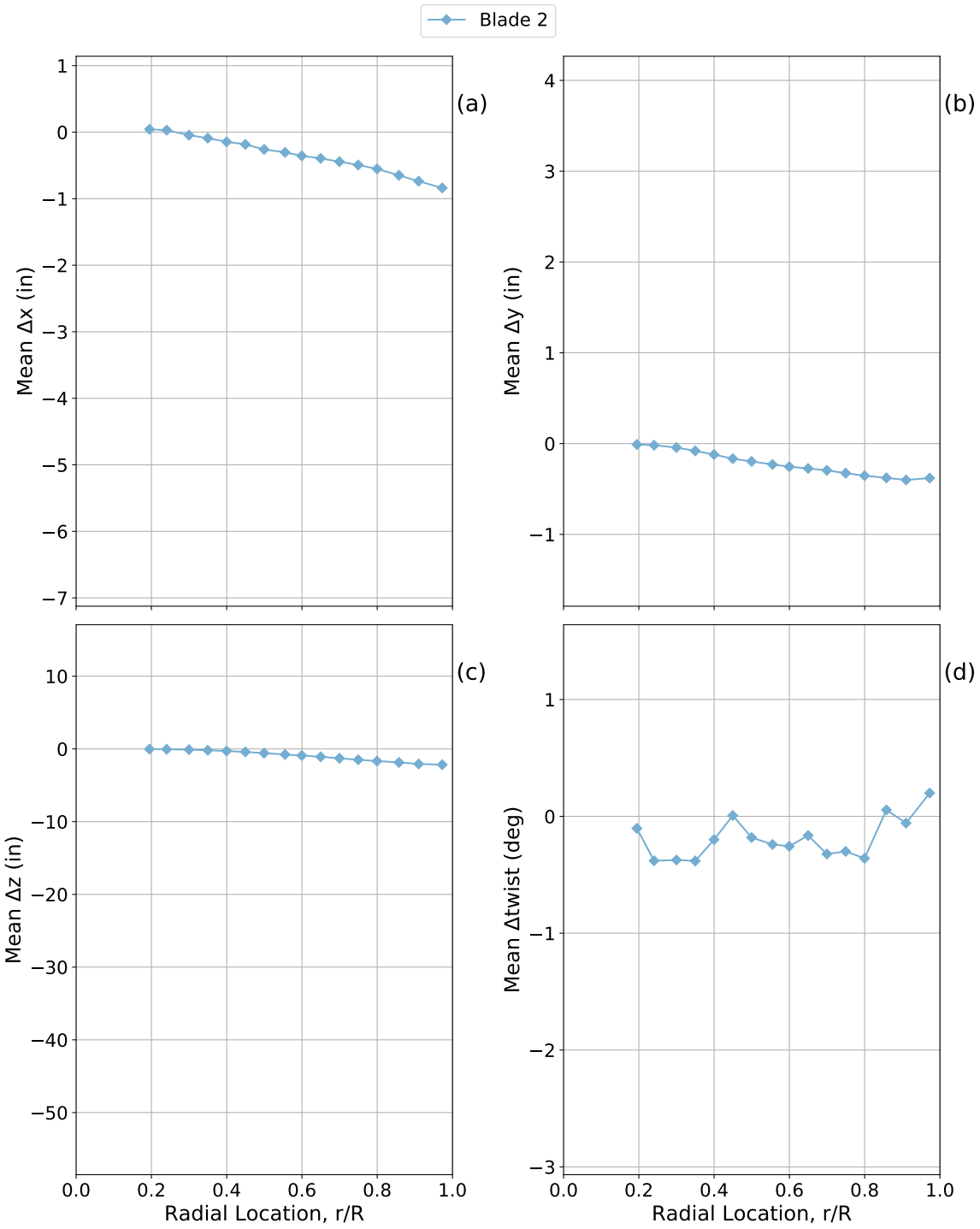


Figure 3.47-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0423	0.0025	-0.0103	0.0019	-0.0199	0.0136	-0.1035	0.0420
2	344.88	0.2405	0.0303	0.0031	-0.0181	0.0041	-0.0495	0.0283	-0.3798	0.0725
2	344.88	0.2999	-0.0448	0.0044	-0.0437	0.0088	-0.0991	0.0662	-0.3737	0.0992
2	344.88	0.3498	-0.0901	0.0031	-0.0807	0.0147	-0.1848	0.1091	-0.3819	0.0818
2	344.88	0.3998	-0.1453	0.0056	-0.1211	0.0234	-0.2838	0.1744	-0.1996	0.1068
2	344.88	0.4496	-0.1839	0.0058	-0.1663	0.0344	-0.4112	0.2552	0.0073	0.0867
2	344.88	0.4995	-0.2594	0.0069	-0.1969	0.0457	-0.5793	0.3556	-0.1814	0.1298
2	344.88	0.5551	-0.3038	0.0052	-0.2302	0.0591	-0.7658	0.4790	-0.2404	0.1368
2	344.88	0.5996	-0.3564	0.0072	-0.2549	0.0708	-0.9060	0.5849	-0.2562	0.1395
2	344.88	0.6497	-0.3943	0.0077	-0.2744	0.0880	-1.0841	0.7138	-0.1638	0.1264
2	344.88	0.6996	-0.4437	0.0078	-0.2948	0.1011	-1.2856	0.8410	-0.3224	0.1432
2	344.88	0.7495	-0.4935	0.0091	-0.3261	0.1186	-1.4902	0.9766	-0.3001	0.1401
2	344.88	0.7996	-0.5524	0.0096	-0.3538	0.1344	-1.6715	1.1092	-0.3596	0.1475
2	344.88	0.8578	-0.6487	0.0096	-0.3780	0.1530	-1.8564	1.2673	0.0550	0.1403
2	344.88	0.9100	-0.7369	0.0096	-0.4007	0.1704	-2.0671	1.4097	-0.0581	0.1621
2	344.88	0.9727	-0.8381	0.0089	-0.3804	0.1910	-2.1678	1.5869	0.1990	0.1606

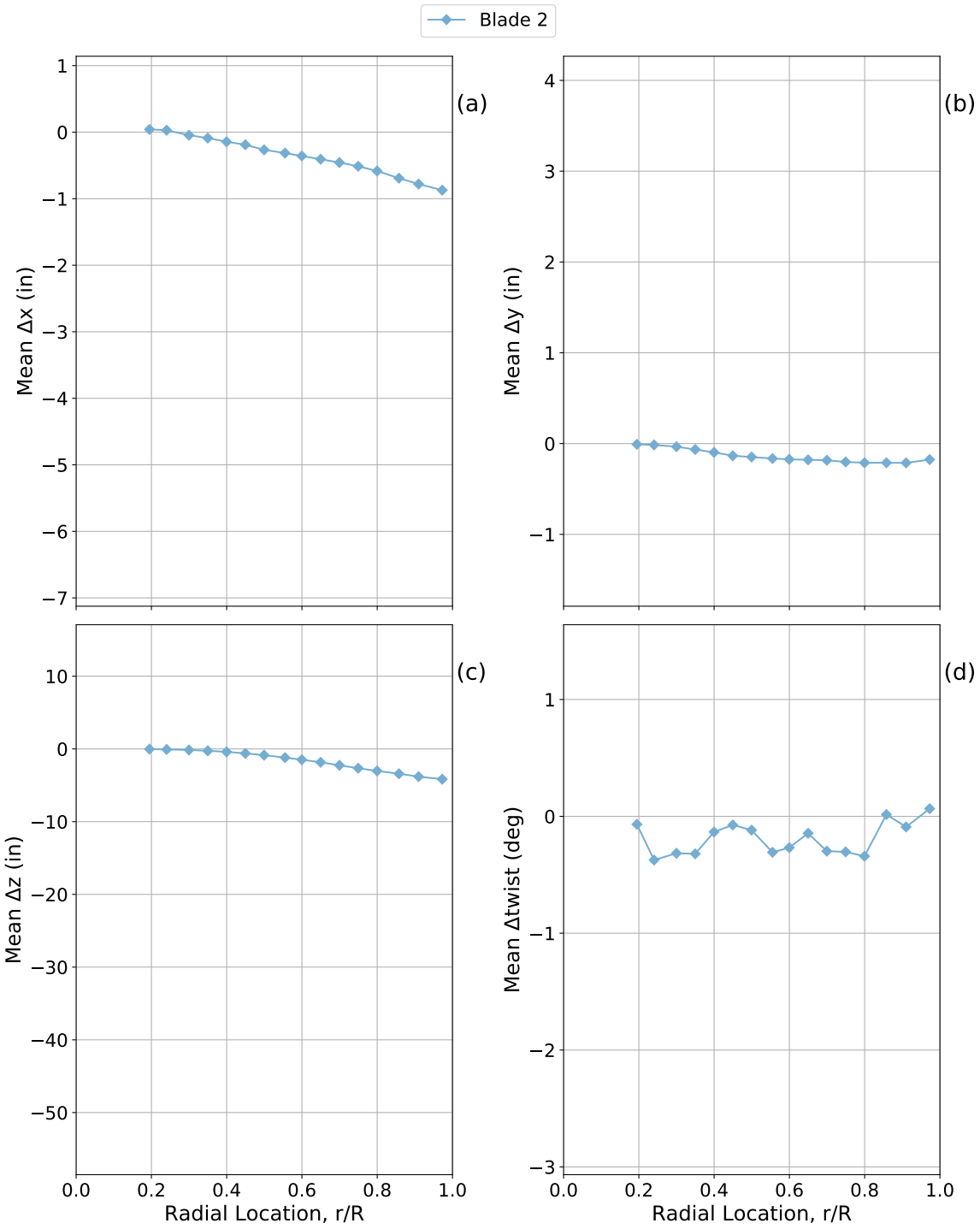


Figure 3.47-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0411	0.0035	-0.0083	0.0029	-0.0280	0.0166	-0.0683	0.0399
2	350.16	0.2405	0.0289	0.0034	-0.0146	0.0054	-0.0720	0.0390	-0.3739	0.1107
2	350.16	0.2999	-0.0458	0.0050	-0.0346	0.0114	-0.1424	0.0840	-0.3159	0.1195
2	350.16	0.3498	-0.0889	0.0050	-0.0651	0.0215	-0.2577	0.1431	-0.3208	0.1249
2	350.16	0.3998	-0.1439	0.0052	-0.0968	0.0319	-0.4011	0.2275	-0.1336	0.1367
2	350.16	0.4496	-0.1888	0.0081	-0.1344	0.0465	-0.6120	0.3227	-0.0737	0.1419
2	350.16	0.4995	-0.2654	0.0084	-0.1479	0.0620	-0.8530	0.4471	-0.1180	0.1345
2	350.16	0.5551	-0.3144	0.0106	-0.1648	0.0788	-1.1972	0.5927	-0.3077	0.1422
2	350.16	0.5996	-0.3577	0.0125	-0.1735	0.0936	-1.4855	0.7277	-0.2680	0.1651
2	350.16	0.6497	-0.4069	0.0146	-0.1790	0.1083	-1.8404	0.8843	-0.1451	0.1808
2	350.16	0.6996	-0.4567	0.0192	-0.1841	0.1242	-2.2493	1.0463	-0.2980	0.1630
2	350.16	0.7495	-0.5130	0.0234	-0.2023	0.1401	-2.6575	1.2164	-0.3041	0.1516
2	350.16	0.7996	-0.5832	0.0264	-0.2115	0.1564	-3.0244	1.3891	-0.3411	0.1651
2	350.16	0.8578	-0.6919	0.0292	-0.2113	0.1750	-3.4115	1.5862	0.0154	0.1760
2	350.16	0.9100	-0.7797	0.0317	-0.2129	0.1911	-3.8088	1.7605	-0.0909	0.1835
2	350.16	0.9727	-0.8715	0.0323	-0.1764	0.2137	-4.1615	1.9588	0.0655	0.1631

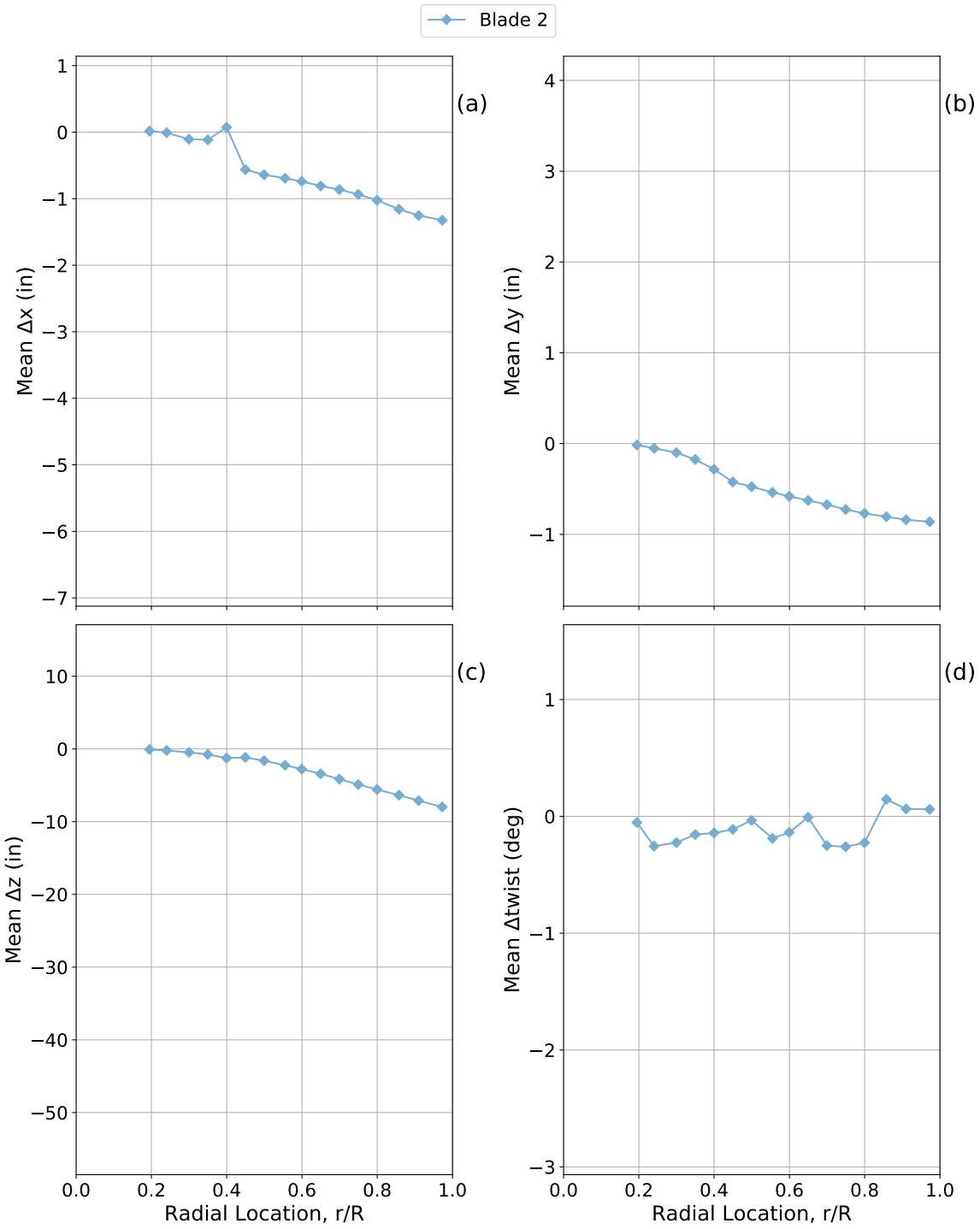


Figure 3.47-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$ NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Table 3.47-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.059$, $\mu = 1$, $\alpha = 4°$
NFAC run 95, point 30. BD run 44, points 8164 to 8174.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0154	0.0985	-0.0153	0.0057	-0.0748	0.0106	-0.0529	0.0355
2	355.08	0.2405	-0.0085	0.0418	-0.0523	0.0128	-0.2217	0.0189	-0.2553	0.0681
2	355.08	0.2999	-0.1063	0.0392	-0.0992	0.0289	-0.4701	0.0443	-0.2249	0.0881
2	355.08	0.3498	-0.1154	0.1080	-0.1755	0.0505	-0.7538	0.0773	-0.1557	0.0925
2	355.08	0.3998	0.0730	0.1847	-0.2840	0.0803	-1.2617	0.1183	-0.1421	0.1115
2	355.08	0.4496	-0.5625	0.2335	-0.4228	0.4399	-1.1688	0.5848	-0.1120	0.1159
2	355.08	0.4995	-0.6405	0.2347	-0.4756	0.4977	-1.6205	0.6627	-0.0345	0.1313
2	355.08	0.5551	-0.6929	0.2309	-0.5378	0.5633	-2.2478	0.7393	-0.1888	0.1249
2	355.08	0.5996	-0.7405	0.2316	-0.5815	0.6168	-2.7758	0.8052	-0.1373	0.1130
2	355.08	0.6497	-0.8085	0.2289	-0.6260	0.6751	-3.4147	0.8744	-0.0081	0.1385
2	355.08	0.6996	-0.8626	0.2284	-0.6725	0.7355	-4.1521	0.9504	-0.2502	0.1196
2	355.08	0.7495	-0.9349	0.2262	-0.7252	0.7930	-4.8909	1.0287	-0.2602	0.1428
2	355.08	0.7996	-1.0240	0.2238	-0.7688	0.8527	-5.5846	1.1102	-0.2262	0.1393
2	355.08	0.8578	-1.1577	0.2213	-0.8056	0.9217	-6.3598	1.1988	0.1456	0.1290
2	355.08	0.9100	-1.2522	0.2211	-0.8394	0.9837	-7.1120	1.2826	0.0634	0.1319
2	355.08	0.9727	-1.3236	0.2043	-0.8612	1.0617	-7.9785	1.3805	0.0601	0.1561

3.48 Run 95, Point 37

3.48.1 Pitch, Flap, and Lag

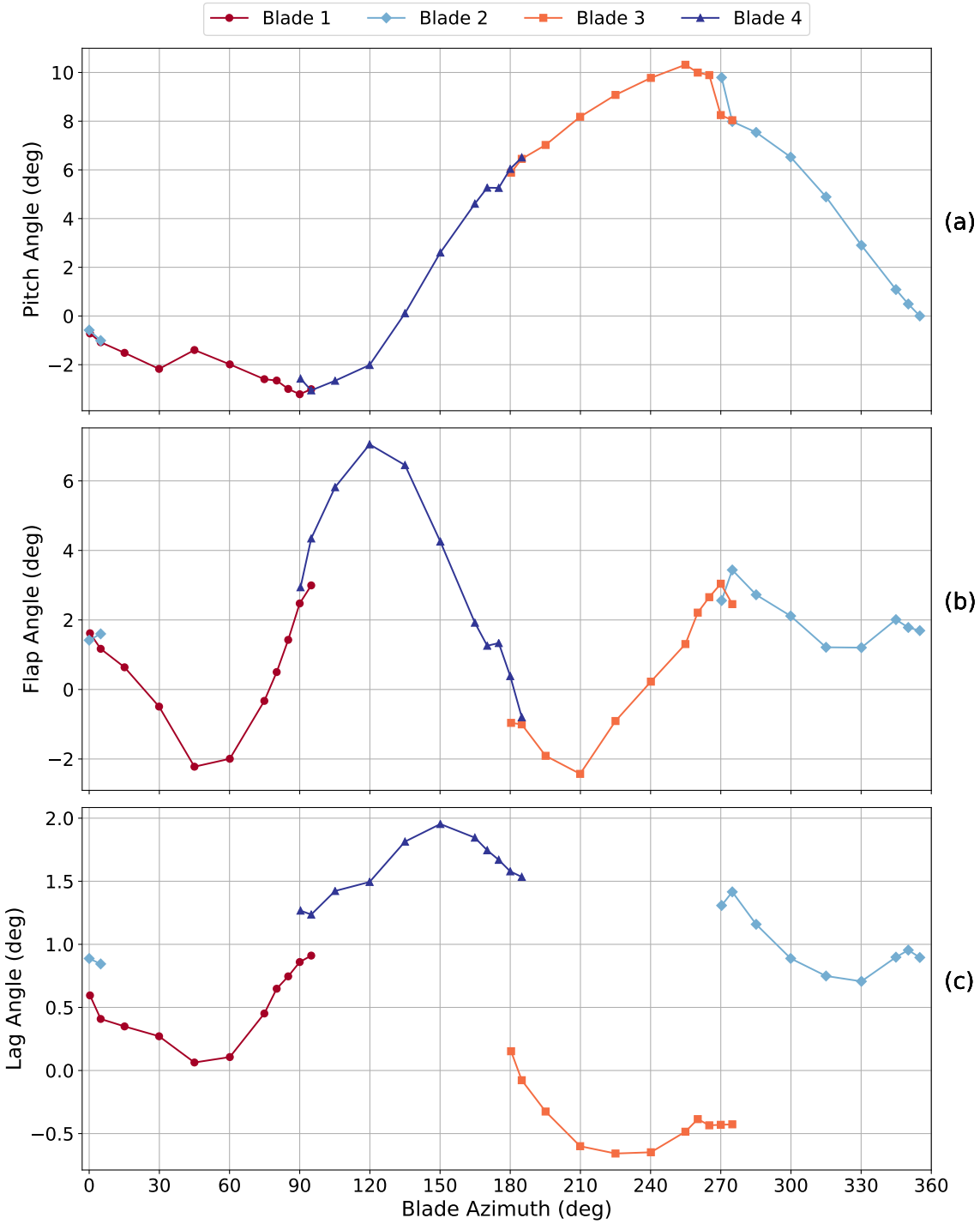


Figure 3.48-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	-0.5797	1.4174	0.8877	0.1187	0.3127	0.0750
0.35	1	-0.7166	1.6170	0.5952	0.1558	0.3035	0.1289
4.92	1	-1.0779	1.1699	0.4086	0.1722	0.4880	0.1451
4.92	2	-1.0092	1.5999	0.8446	0.1579	0.4239	0.1548
15.12	1	-1.5131	0.6381	0.3494	0.0677	0.1927	0.0684
29.88	1	-2.1721	-0.4926	0.2713	0.1716	0.4944	0.0870
45	1	-1.3970	-2.2216	0.0635	0.5245	0.2716	0.1030
60.12	1	-1.9869	-1.9934	0.1064	0.4514	0.2622	0.1909
74.88	1	-2.5947	-0.3284	0.4518	0.6710	0.3349	0.1776
80.16	1	-2.6503	0.5007	0.6481	0.7097	0.3383	0.1705
85.08	1	-2.9950	1.4271	0.7461	1.0104	0.3821	0.1910
90	1	-3.2131	2.4744	0.8596	0.0967	0.1873	0.0441
90.35	4	-2.5738	2.9401	1.2671	0.0831	0.2302	0.1061
94.92	1	-3.0057	2.9940	0.9107	0.0478	0.4124	0.0936
94.92	4	-3.0541	4.3444	1.2360	0.0752	0.5349	0.0820
105.12	4	-2.6592	5.8179	1.4228	0.0563	0.2814	0.0708
119.88	4	-2.0126	7.0501	1.4945	0.0996	0.8538	0.1595
135	4	0.1120	6.4544	1.8141	0.1077	0.7611	0.0714
150.12	4	2.6039	4.2537	1.9536	0.1166	0.7339	0.1408
164.88	4	4.6091	1.9199	1.8455	0.0483	0.4198	0.0993
170.16	4	5.2683	1.2575	1.7454	0.0780	0.7512	0.0778
175.08	4	5.2593	1.3353	1.6696	0.1106	0.8179	0.1113
180	4	6.0399	0.3844	1.5784	0.1630	1.0321	0.1337
180.35	3	5.8855	-0.9611	0.1527	0.1031	0.3963	0.1203
184.92	3	6.4524	-1.0044	-0.0771	0.1394	0.8721	0.1228
184.92	4	6.5082	-0.7982	1.5343	0.1851	0.7605	0.1421
195.12	3	7.0232	-1.9083	-0.3254	0.1474	0.4097	0.0913
209.88	3	8.1793	-2.4280	-0.6000	0.2140	1.2466	0.1872
225	3	9.0786	-0.9074	-0.6580	0.1149	0.6197	0.0799
240.12	3	9.7763	0.2253	-0.6483	0.1643	0.7746	0.1410
254.88	3	10.3166	1.3062	-0.4852	0.1485	0.6582	0.1105
260.16	3	9.9953	2.2106	-0.3855	0.2062	0.6602	0.1104
265.08	3	9.8917	2.6551	-0.4346	0.1606	0.4953	0.1759
270	3	8.2509	3.0425	-0.4305	0.1209	0.3887	0.1206
270.35	2	9.7937	2.5582	1.3078	0.1924	0.4067	0.1983
274.92	2	7.9850	3.4382	1.4159	0.0931	0.5113	0.2230
274.92	3	8.0393	2.4547	-0.4267	0.1140	0.4121	0.1838
285.12	2	7.5402	2.7242	1.1587	0.1303	0.2488	0.1424
299.88	2	6.5249	2.1140	0.8881	0.1119	0.3765	0.1124
315	2	4.8903	1.2132	0.7491	0.0677	0.4462	0.0807
330.12	2	2.9026	1.2037	0.7066	0.1044	0.5297	0.1011
344.88	2	1.0848	2.0092	0.8982	0.1643	0.5470	0.0935
350.16	2	0.4918	1.7824	0.9542	0.1434	0.6393	0.0441
355.08	2	0.0009	1.6928	0.8957	0.1348	0.7682	0.1779

3.48.2 Spanwise Elastic Deformations

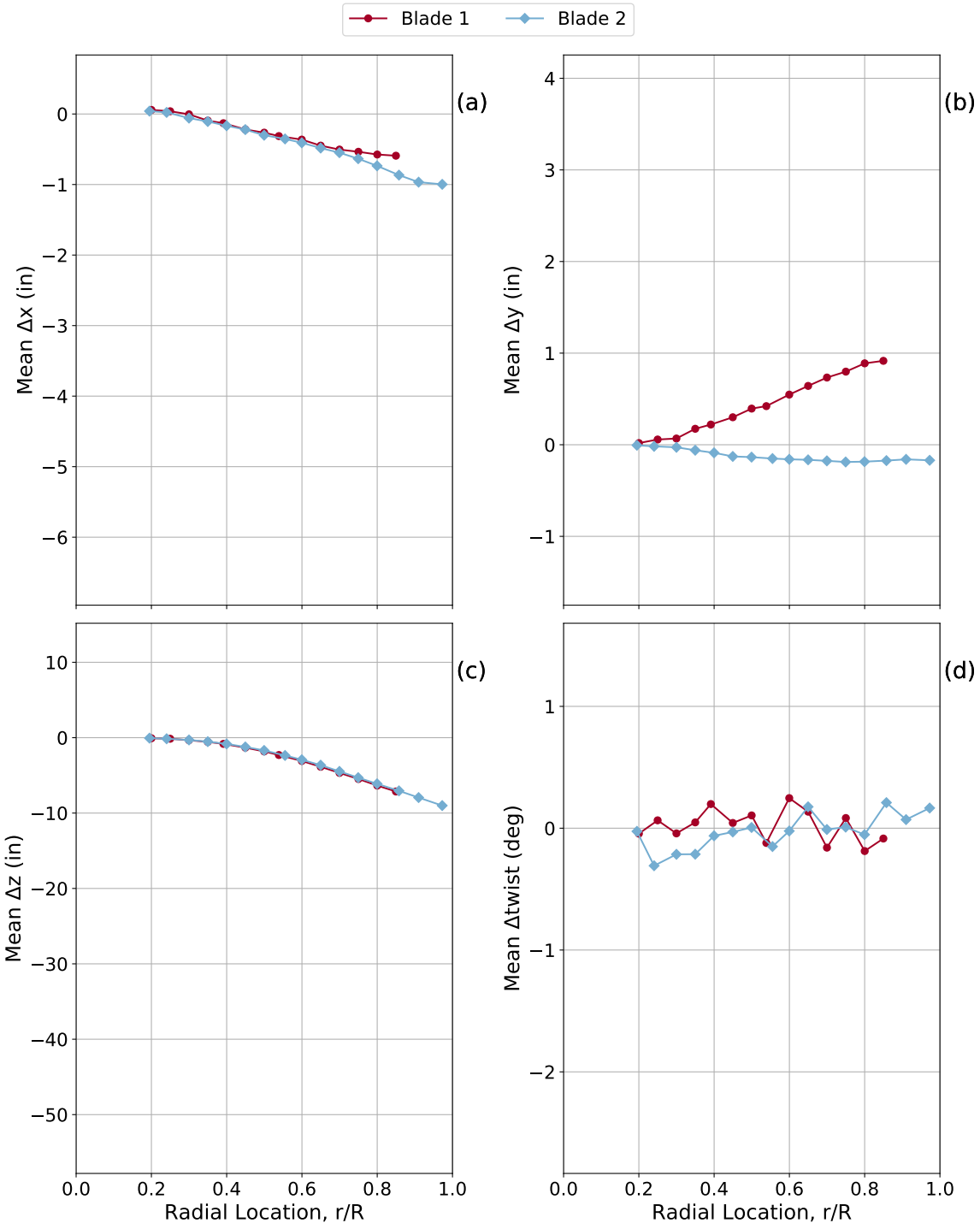


Figure 3.48-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0576	0.0081	0.0183	0.0062	-0.0781	0.0080	-0.0445	0.0703
1	0.35	0.2499	0.0388	0.0038	0.0570	0.0100	-0.1402	0.0154	0.0646	0.0994
1	0.35	0.2998	-0.0046	0.0017	0.0680	0.0209	-0.3363	0.0340	-0.0426	0.1370
1	0.35	0.3498	-0.0937	0.0044	0.1742	0.0386	-0.5614	0.0542	0.0478	0.1203
1	0.35	0.3913	-0.1307	0.0049	0.2205	0.0514	-0.8192	0.0806	0.1982	0.1164
1	0.35	0.4496	-0.2193	0.0051	0.3000	0.0651	-1.3253	0.1113	0.0431	0.1219
1	0.35	0.4997	-0.2646	0.0059	0.3946	0.0794	-1.8228	0.1418	0.1049	0.1212
1	0.35	0.5387	-0.3131	0.0062	0.4214	0.0879	-2.2996	0.1663	-0.1210	0.1256
1	0.35	0.5996	-0.3632	0.0082	0.5473	0.1057	-3.0894	0.2091	0.2470	0.1234
1	0.35	0.6498	-0.4488	0.0108	0.6421	0.1209	-3.8591	0.2551	0.1356	0.1120
1	0.35	0.6998	-0.5044	0.0126	0.7336	0.1292	-4.6727	0.3016	-0.1596	0.1247
1	0.35	0.7500	-0.5359	0.0149	0.7981	0.1497	-5.4796	0.3521	0.0835	0.1607
1	0.35	0.8001	-0.5744	0.0195	0.8885	0.1598	-6.3516	0.4021	-0.1876	0.1526
1	0.35	0.8497	-0.5915	0.0296	0.9159	0.1686	-7.1376	0.4538	-0.0848	0.2229
2	0	0.1949	0.0405	0.0021	-0.0056	0.0026	-0.0596	0.0070	-0.0258	0.0360
2	0	0.2405	0.0223	0.0036	-0.0175	0.0043	-0.1433	0.0150	-0.3082	0.0844
2	0	0.2999	-0.0582	0.0035	-0.0279	0.0102	-0.3008	0.0329	-0.2143	0.0898
2	0	0.3498	-0.1067	0.0042	-0.0601	0.0163	-0.5259	0.0555	-0.2134	0.0893
2	0	0.3998	-0.1667	0.0054	-0.0881	0.0255	-0.8275	0.0878	-0.0626	0.0851
2	0	0.4496	-0.2213	0.0079	-0.1277	0.0330	-1.2284	0.1257	-0.0309	0.1093
2	0	0.4995	-0.3011	0.0091	-0.1353	0.0446	-1.6917	0.1666	0.0060	0.1024
2	0	0.5551	-0.3536	0.0065	-0.1508	0.0554	-2.3566	0.2250	-0.1505	0.1309
2	0	0.5996	-0.4086	0.0100	-0.1589	0.0627	-2.9269	0.2706	-0.0229	0.1132
2	0	0.6497	-0.4829	0.0117	-0.1646	0.0722	-3.6446	0.3243	0.1757	0.1073
2	0	0.6996	-0.5485	0.0143	-0.1758	0.0801	-4.4728	0.3830	-0.0106	0.1058
2	0	0.7495	-0.6342	0.0169	-0.1882	0.0917	-5.3016	0.4421	0.0090	0.1349
2	0	0.7996	-0.7351	0.0211	-0.1847	0.1007	-6.1177	0.5022	-0.0525	0.1203
2	0	0.8578	-0.8665	0.0236	-0.1732	0.1122	-7.0526	0.5715	0.2099	0.1155
2	0	0.9100	-0.9663	0.0258	-0.1594	0.1212	-7.9438	0.6295	0.0706	0.1221
2	0	0.9727	-0.9973	0.0275	-0.1699	0.1354	-9.0071	0.6934	0.1656	0.1327

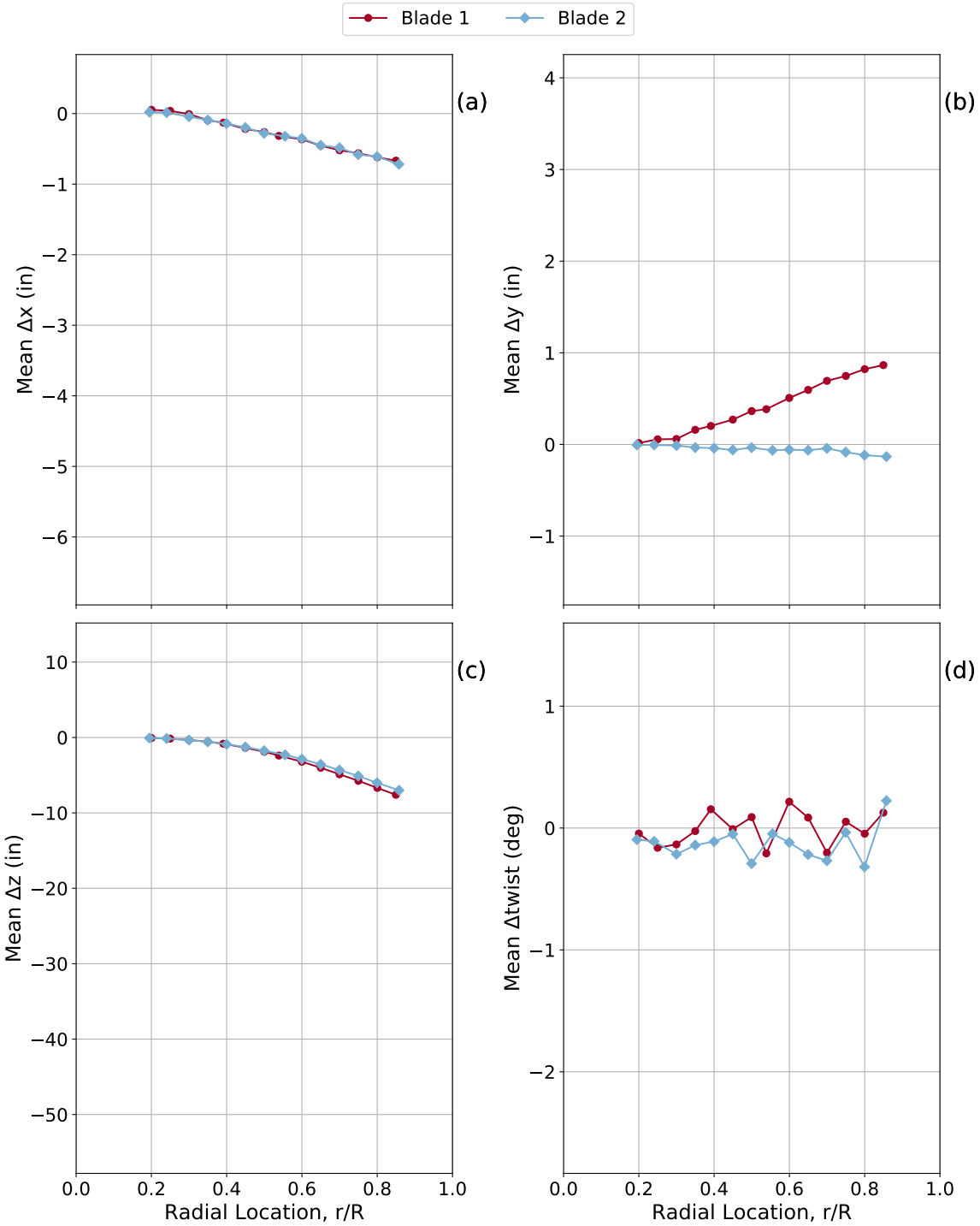


Figure 3.48-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0537	0.0058	0.0154	0.0055	-0.0730	0.0141	-0.0455	0.0533
1	4.92	0.2499	0.0382	0.0031	0.0556	0.0104	-0.1558	0.0310	-0.1617	0.0723
1	4.92	0.2998	-0.0067	0.0036	0.0593	0.0217	-0.3322	0.0637	-0.1347	0.1135
1	4.92	0.3498	-0.0957	0.0035	0.1594	0.0374	-0.5635	0.1111	-0.0249	0.0952
1	4.92	0.3913	-0.1294	0.0044	0.2017	0.0534	-0.8302	0.1619	0.1541	0.0894
1	4.92	0.4496	-0.2188	0.0065	0.2709	0.0728	-1.3629	0.2427	-0.0095	0.1000
1	4.92	0.4997	-0.2619	0.0098	0.3639	0.0911	-1.8927	0.3278	0.0896	0.0971
1	4.92	0.5387	-0.3164	0.0125	0.3845	0.1058	-2.3977	0.3938	-0.2081	0.1037
1	4.92	0.5996	-0.3658	0.0156	0.5074	0.1291	-3.2155	0.5037	0.2158	0.1080
1	4.92	0.6498	-0.4545	0.0200	0.5951	0.1509	-4.0132	0.5974	0.0855	0.1079
1	4.92	0.6998	-0.5197	0.0253	0.6939	0.1749	-4.8822	0.6909	-0.2027	0.1175
1	4.92	0.7500	-0.5618	0.0300	0.7474	0.1938	-5.7472	0.7763	0.0519	0.1193
1	4.92	0.8001	-0.6194	0.0347	0.8215	0.2134	-6.6850	0.8519	-0.0466	0.1227
1	4.92	0.8497	-0.6670	0.0408	0.8656	0.2373	-7.6003	0.9373	0.1260	0.1780
2	4.92	0.1949	0.0204	0.0053	-0.0048	0.0045	-0.0767	0.0175	-0.0950	0.0721
2	4.92	0.2405	0.0141	0.0035	-0.0055	0.0075	-0.1305	0.0357	-0.1090	0.1096
2	4.92	0.2999	-0.0435	0.0043	-0.0119	0.0183	-0.3431	0.0821	-0.2149	0.1697
2	4.92	0.3498	-0.0922	0.0050	-0.0338	0.0325	-0.5703	0.1438	-0.1401	0.1667
2	4.92	0.3998	-0.1418	0.0064	-0.0409	0.0493	-0.8952	0.2237	-0.1112	0.1825
2	4.92	0.4496	-0.1989	0.0076	-0.0601	0.0649	-1.2632	0.3100	-0.0492	0.1618
2	4.92	0.4995	-0.2796	0.0107	-0.0347	0.0835	-1.7565	0.4052	-0.2916	0.1849
2	4.92	0.5551	-0.3212	0.0147	-0.0642	0.0972	-2.2999	0.5150	-0.0471	0.2051
2	4.92	0.5996	-0.3514	0.0161	-0.0566	0.1157	-2.8651	0.6062	-0.1183	0.2002
2	4.92	0.6497	-0.4507	0.0202	-0.0632	0.1312	-3.5583	0.7108	-0.2173	0.2013
2	4.92	0.6996	-0.4838	0.0219	-0.0425	0.1472	-4.3246	0.8072	-0.2686	0.1899
2	4.92	0.7495	-0.5822	0.0274	-0.0838	0.1658	-5.1052	0.8962	-0.0355	0.2058
2	4.92	0.7996	-0.6093	0.0249	-0.1171	0.1710	-6.0107	0.9739	-0.3190	0.2368
2	4.92	0.8578	-0.7177	0.0419	-0.1331	0.1930	-6.9967	1.0493	0.2242	0.3633

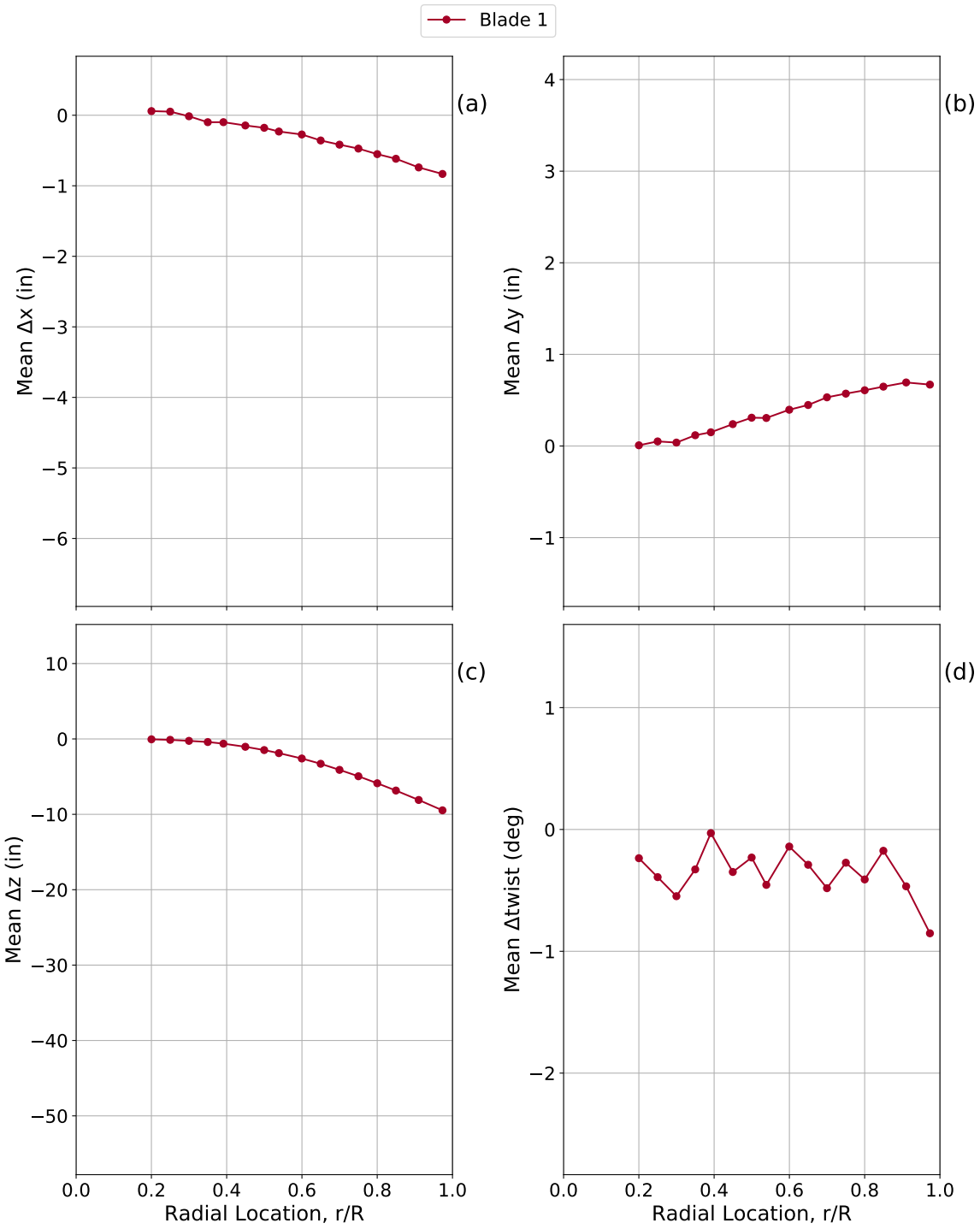


Figure 3.48-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0588	0.0157	0.0077	0.0031	-0.0509	0.0079	-0.2361	0.0500
1	15.12	0.2499	0.0510	0.0077	0.0500	0.0087	-0.1206	0.0228	-0.3913	0.1099
1	15.12	0.2998	-0.0144	0.0074	0.0372	0.0134	-0.2552	0.0400	-0.5478	0.1185
1	15.12	0.3498	-0.0989	0.0224	0.1174	0.0223	-0.4072	0.0675	-0.3278	0.0946
1	15.12	0.3913	-0.0982	0.0393	0.1498	0.0340	-0.6267	0.1030	-0.0300	0.1321
1	15.12	0.4496	-0.1450	0.0246	0.2387	0.0860	-1.0409	0.2914	-0.3490	0.1413
1	15.12	0.4997	-0.1779	0.0241	0.3088	0.0941	-1.4769	0.3667	-0.2305	0.1508
1	15.12	0.5387	-0.2307	0.0236	0.3059	0.1051	-1.8829	0.4281	-0.4549	0.1625
1	15.12	0.5996	-0.2728	0.0230	0.3957	0.1174	-2.5950	0.5221	-0.1404	0.1574
1	15.12	0.6498	-0.3577	0.0225	0.4475	0.1311	-3.2955	0.5954	-0.2899	0.1451
1	15.12	0.6998	-0.4169	0.0234	0.5313	0.1440	-4.1034	0.6702	-0.4821	0.1606
1	15.12	0.7500	-0.4727	0.0242	0.5715	0.1545	-4.9503	0.7457	-0.2729	0.1754
1	15.12	0.8001	-0.5513	0.0275	0.6083	0.1644	-5.8800	0.8197	-0.4104	0.1625
1	15.12	0.8497	-0.6169	0.0318	0.6478	0.1800	-6.8461	0.9069	-0.1749	0.1866
1	15.12	0.9102	-0.7399	0.0453	0.6936	0.1899	-8.0968	1.0287	-0.4669	0.1988
1	15.12	0.9734	-0.8323	0.0494	0.6701	0.2133	-9.4703	1.1572	-0.8523	0.2183

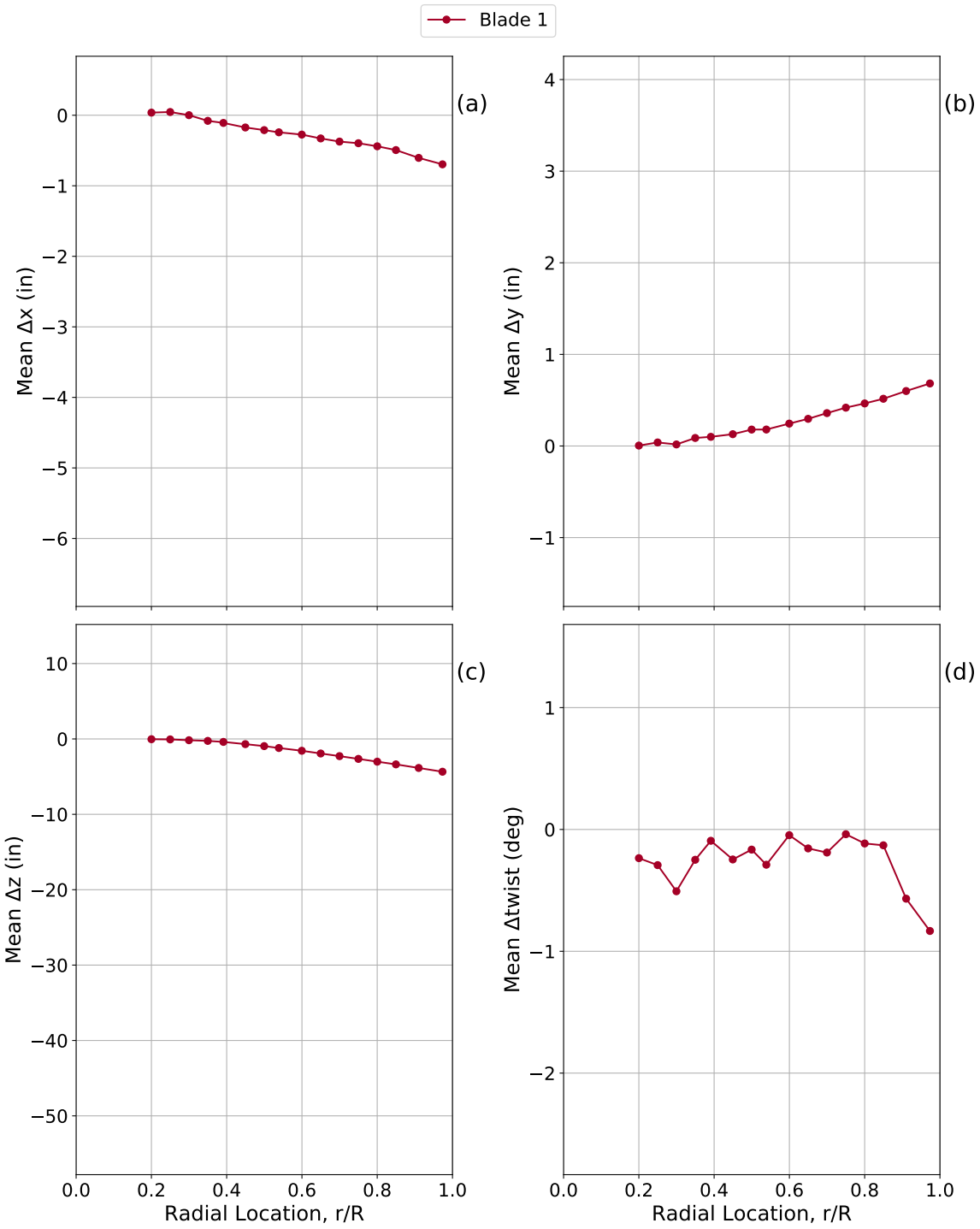


Figure 3.48-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0372	0.0039	0.0046	0.0041	-0.0370	0.0185	-0.2356	0.0332
1	29.88	0.2499	0.0458	0.0046	0.0386	0.0088	-0.0624	0.0449	-0.2927	0.0889
1	29.88	0.2998	0.0011	0.0056	0.0171	0.0181	-0.1696	0.0874	-0.5073	0.0868
1	29.88	0.3498	-0.0792	0.0061	0.0876	0.0295	-0.2578	0.1512	-0.2488	0.0696
1	29.88	0.3913	-0.1089	0.0075	0.1000	0.0442	-0.3940	0.2237	-0.0930	0.0665
1	29.88	0.4496	-0.1736	0.0099	0.1289	0.0628	-0.6884	0.3408	-0.2463	0.0742
1	29.88	0.4997	-0.2110	0.0131	0.1794	0.0809	-0.9518	0.4575	-0.1654	0.0718
1	29.88	0.5387	-0.2421	0.0139	0.1798	0.0964	-1.2020	0.5578	-0.2895	0.0687
1	29.88	0.5996	-0.2744	0.0199	0.2445	0.1202	-1.5687	0.7256	-0.0469	0.0936
1	29.88	0.6498	-0.3288	0.0222	0.2966	0.1404	-1.9299	0.8628	-0.1556	0.0732
1	29.88	0.6998	-0.3736	0.0248	0.3590	0.1607	-2.2803	0.9988	-0.1895	0.0688
1	29.88	0.7500	-0.3967	0.0285	0.4185	0.1808	-2.6472	1.1325	-0.0390	0.0718
1	29.88	0.8001	-0.4402	0.0307	0.4645	0.2004	-3.0162	1.2637	-0.1150	0.0919
1	29.88	0.8497	-0.4937	0.0345	0.5156	0.2210	-3.3727	1.3921	-0.1301	0.0932
1	29.88	0.9102	-0.6045	0.0358	0.6001	0.2472	-3.8491	1.5599	-0.5682	0.1292
1	29.88	0.9734	-0.6961	0.0340	0.6827	0.2719	-4.3497	1.7475	-0.8332	0.1363

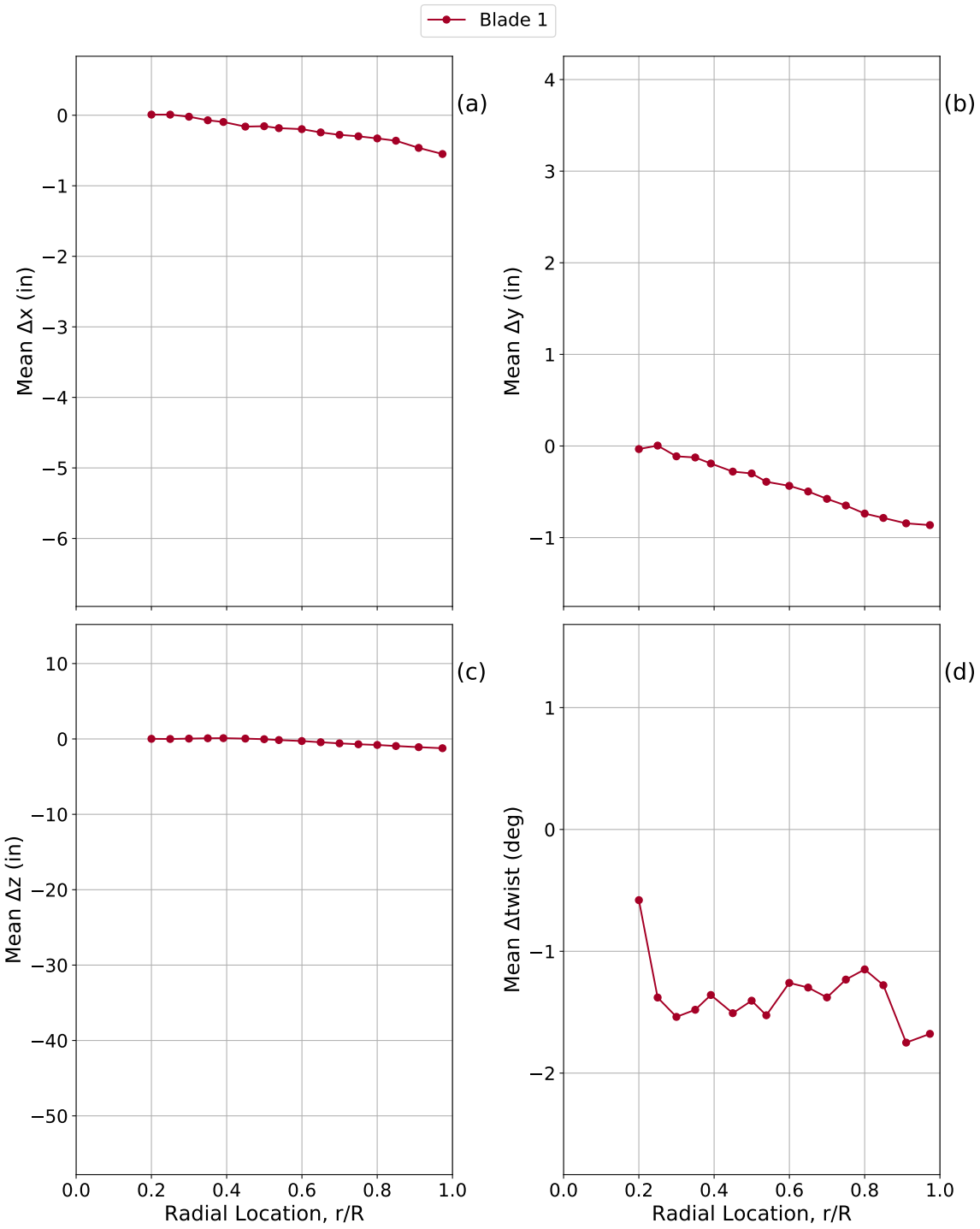


Figure 3.48-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0090	0.0159	-0.0335	0.0103	0.0170	0.0208	-0.5802	0.1520
1	45	0.2499	0.0086	0.0095	0.0043	0.0114	-0.0042	0.0226	-1.3796	0.4372
1	45	0.2998	-0.0209	0.0111	-0.1128	0.0348	0.0450	0.0733	-1.5384	0.4354
1	45	0.3498	-0.0714	0.0186	-0.1254	0.0601	0.0892	0.1239	-1.4800	0.4332
1	45	0.3913	-0.0956	0.0302	-0.1912	0.0809	0.1017	0.1700	-1.3588	0.4392
1	45	0.4496	-0.1612	0.0511	-0.2795	0.1104	0.0456	0.2344	-1.5079	0.4100
1	45	0.4997	-0.1557	0.0367	-0.2996	0.1399	-0.0350	0.3464	-1.4056	1.2329
1	45	0.5387	-0.1830	0.0496	-0.3906	0.1552	-0.1471	0.3995	-1.5252	1.4928
1	45	0.5996	-0.1971	0.0491	-0.4349	0.1799	-0.2770	0.4067	-1.2594	0.3763
1	45	0.6498	-0.2434	0.0492	-0.4964	0.2013	-0.4374	0.4935	-1.2976	0.3781
1	45	0.6998	-0.2778	0.0485	-0.5770	0.2216	-0.5852	0.5911	-1.3788	0.3719
1	45	0.7500	-0.2985	0.0454	-0.6497	0.2448	-0.7091	0.6973	-1.2323	0.3721
1	45	0.8001	-0.3286	0.0446	-0.7376	0.2664	-0.7983	0.8223	-1.1487	0.3625
1	45	0.8497	-0.3612	0.0438	-0.7853	0.2921	-0.9402	0.9664	-1.2783	0.3859
1	45	0.9102	-0.4628	0.0459	-0.8444	0.3186	-1.0912	1.1575	-1.7497	0.3893
1	45	0.9734	-0.5496	0.0414	-0.8635	0.3492	-1.2315	1.3874	-1.6777	0.3537

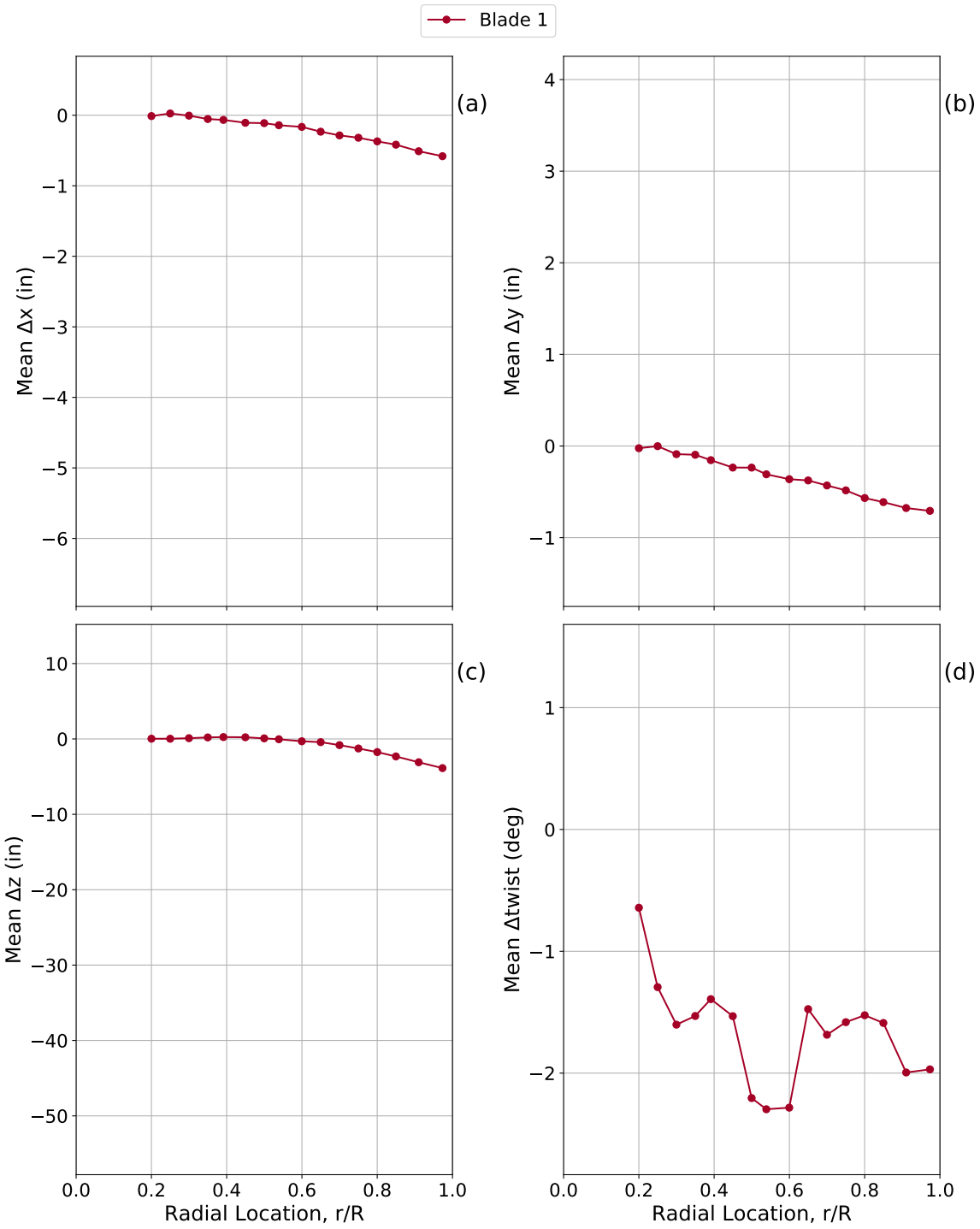


Figure 3.48-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0118	0.0193	-0.0241	0.0111	0.0315	0.0196	-0.6425	0.1310
1	60.12	0.2499	0.0250	0.0081	-0.0020	0.0122	0.0276	0.0205	-1.2942	0.3994
1	60.12	0.2998	-0.0057	0.0168	-0.0891	0.0385	0.0989	0.0698	-1.6023	0.3838
1	60.12	0.3498	-0.0536	0.0286	-0.0957	0.0650	0.1998	0.1188	-1.5309	0.3877
1	60.12	0.3913	-0.0662	0.0377	-0.1545	0.0887	0.2493	0.1623	-1.3927	0.3836
1	60.12	0.4496	-0.1070	0.0536	-0.2354	0.1260	0.2206	0.2235	-1.5326	0.4039
1	60.12	0.4997	-0.1119	0.0276	-0.2360	0.1796	0.0762	0.3335	-2.2048	0.8222
1	60.12	0.5387	-0.1416	0.0376	-0.3089	0.2042	-0.0417	0.3773	-2.2966	0.9006
1	60.12	0.5996	-0.1653	0.0483	-0.3624	0.2452	-0.3086	0.4439	-2.2835	1.0361
1	60.12	0.6498	-0.2332	0.0496	-0.3760	0.3203	-0.4257	0.3478	-1.4748	0.4389
1	60.12	0.6998	-0.2856	0.0501	-0.4308	0.3604	-0.8200	0.4061	-1.6852	0.4225
1	60.12	0.7500	-0.3191	0.0494	-0.4844	0.3995	-1.2649	0.4629	-1.5818	0.4112
1	60.12	0.8001	-0.3704	0.0489	-0.5680	0.4392	-1.7470	0.5183	-1.5250	0.4141
1	60.12	0.8497	-0.4173	0.0493	-0.6125	0.4797	-2.3216	0.5760	-1.5883	0.4208
1	60.12	0.9102	-0.5102	0.0488	-0.6772	0.5289	-3.0924	0.6482	-1.9948	0.4289
1	60.12	0.9734	-0.5806	0.0419	-0.7080	0.5802	-3.8691	0.7274	-1.9693	0.4307

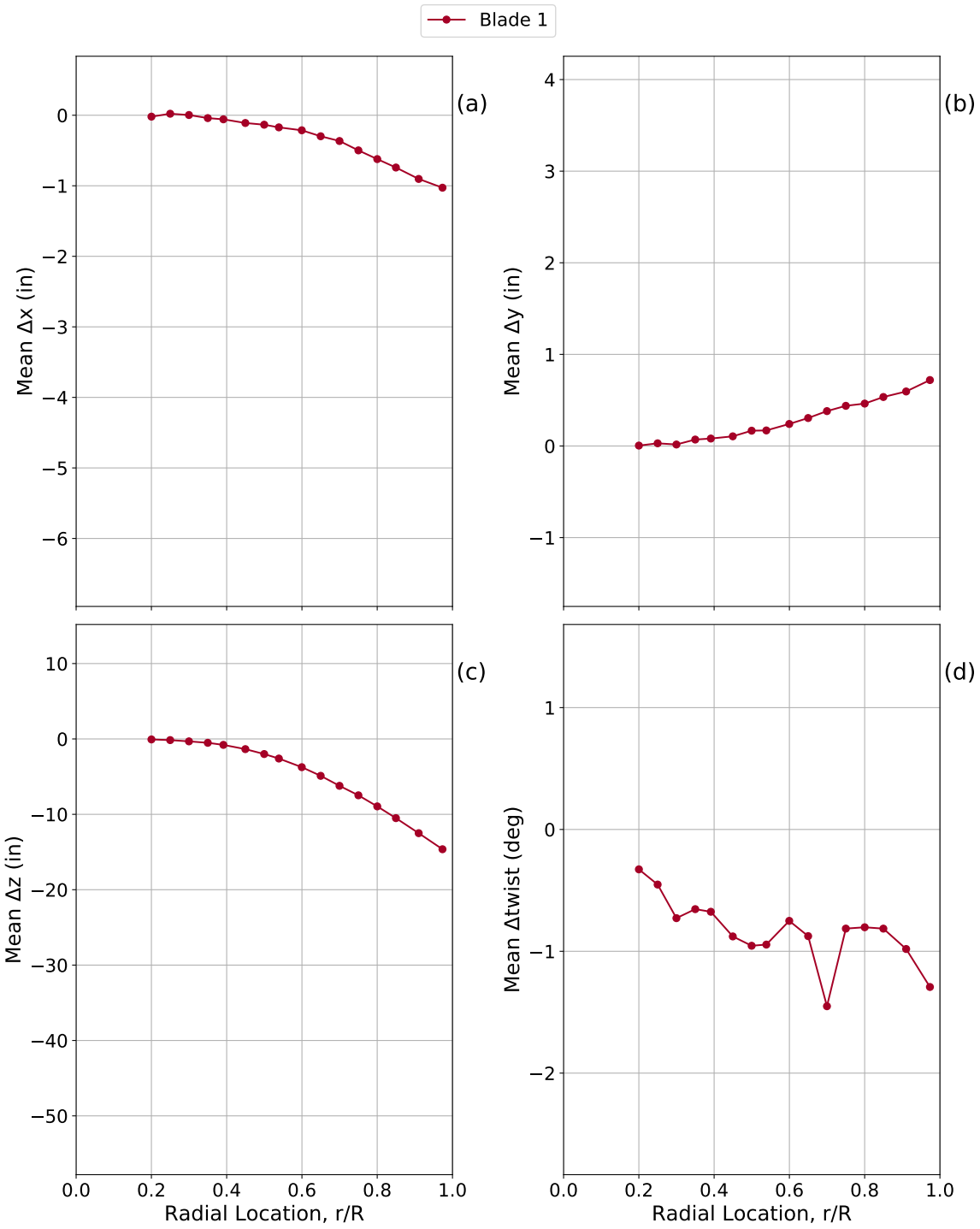


Figure 3.48-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0199	0.0166	0.0046	0.0159	-0.0653	0.0281	-0.3275	0.2298
1	74.88	0.2499	0.0214	0.0086	0.0292	0.0212	-0.1552	0.0352	-0.4522	0.6195
1	74.88	0.2998	0.0033	0.0118	0.0163	0.0572	-0.3214	0.1065	-0.7280	0.6335
1	74.88	0.3498	-0.0405	0.0209	0.0703	0.0982	-0.5135	0.1872	-0.6541	0.6174
1	74.88	0.3913	-0.0578	0.0311	0.0813	0.1355	-0.7883	0.2577	-0.6756	0.6205
1	74.88	0.4496	-0.1100	0.0438	0.1055	0.1933	-1.3509	0.3610	-0.8780	0.6388
1	74.88	0.4997	-0.1342	0.0554	0.1671	0.2479	-2.0029	0.4565	-0.9546	0.6329
1	74.88	0.5387	-0.1719	0.0684	0.1697	0.2911	-2.6009	0.5334	-0.9450	0.6479
1	74.88	0.5996	-0.2135	0.0830	0.2405	0.3617	-3.7456	0.6565	-0.7502	0.6493
1	74.88	0.6498	-0.2980	0.0944	0.3053	0.4217	-4.8943	0.7565	-0.8755	0.6874
1	74.88	0.6998	-0.3653	0.0778	0.3809	0.5247	-6.2188	0.9635	-1.4509	1.8335
1	74.88	0.7500	-0.4982	0.0795	0.4385	0.6551	-7.4777	0.7780	-0.8137	0.6747
1	74.88	0.8001	-0.6217	0.0867	0.4629	0.7245	-8.9471	0.8771	-0.8029	0.6776
1	74.88	0.8497	-0.7413	0.0960	0.5347	0.7942	-10.5030	0.9807	-0.8140	0.6769
1	74.88	0.9102	-0.9030	0.1069	0.5952	0.8816	-12.5003	1.1123	-0.9812	0.6765
1	74.88	0.9734	-1.0273	0.1034	0.7198	0.9730	-14.6315	1.2537	-1.2930	0.6705

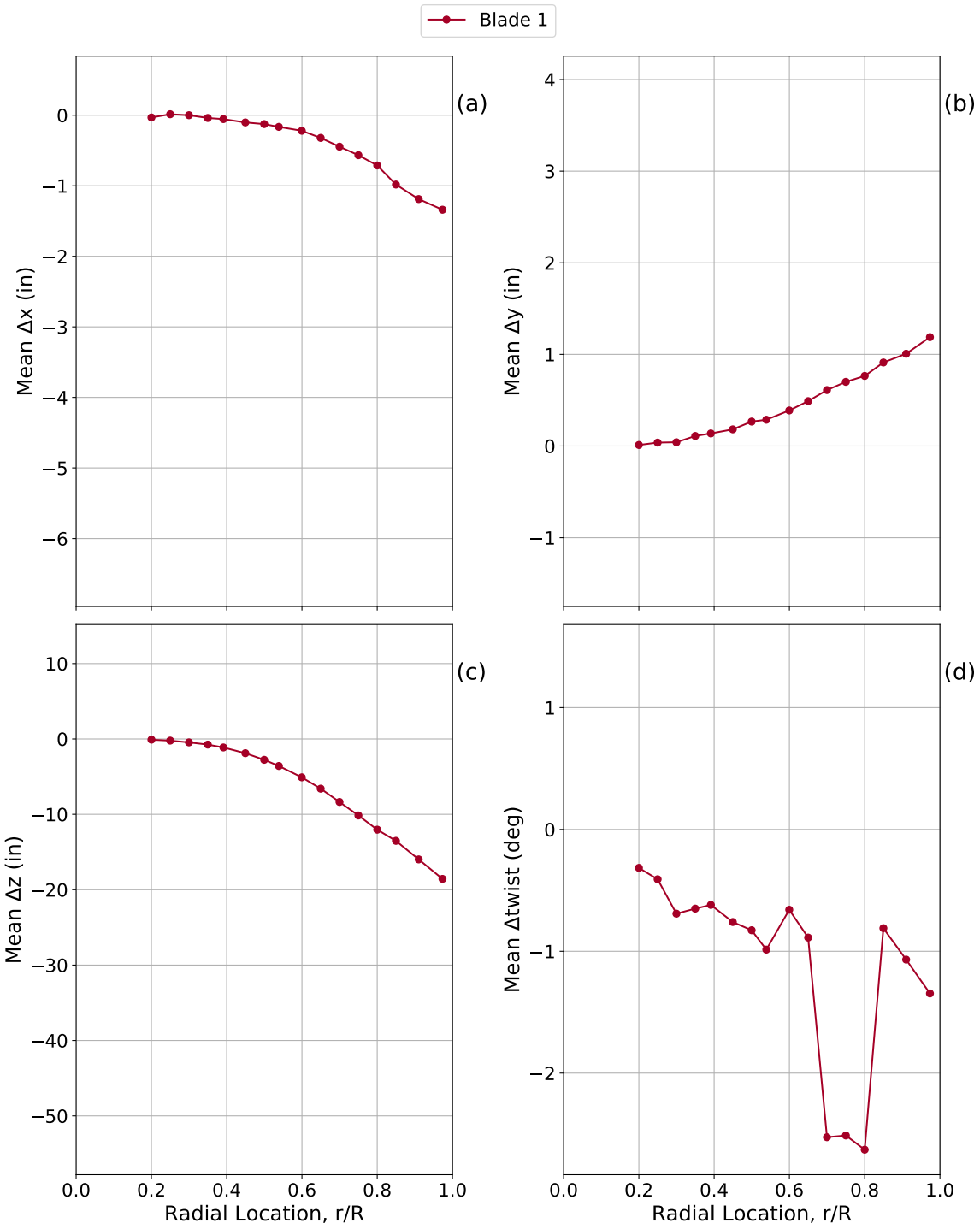


Figure 3.48-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0320	0.0220	0.0112	0.0180	-0.0965	0.0320	-0.3155	0.2470
1	80.16	0.2499	0.0139	0.0112	0.0370	0.0234	-0.2199	0.0334	-0.4088	0.6972
1	80.16	0.2998	0.0000	0.0111	0.0409	0.0653	-0.4559	0.1193	-0.6912	0.6925
1	80.16	0.3498	-0.0391	0.0228	0.1093	0.1101	-0.7508	0.2052	-0.6496	0.6938
1	80.16	0.3913	-0.0549	0.0362	0.1370	0.1532	-1.1295	0.2821	-0.6194	0.7071
1	80.16	0.4496	-0.1022	0.0560	0.1816	0.2194	-1.8918	0.3950	-0.7597	0.6915
1	80.16	0.4997	-0.1258	0.0736	0.2667	0.2841	-2.7702	0.4949	-0.8273	0.6922
1	80.16	0.5387	-0.1653	0.0915	0.2867	0.3369	-3.5903	0.5709	-0.9864	0.6975
1	80.16	0.5996	-0.2204	0.1167	0.3880	0.4251	-5.0927	0.6962	-0.6590	0.7022
1	80.16	0.6498	-0.3213	0.1354	0.4899	0.4988	-6.5959	0.8016	-0.8875	0.6765
1	80.16	0.6998	-0.4455	0.1144	0.6104	0.6013	-8.3602	1.0370	-2.5262	2.9290
1	80.16	0.7500	-0.5664	0.1326	0.6999	0.6741	-10.1549	1.1541	-2.5120	3.3641
1	80.16	0.8001	-0.7122	0.1494	0.7647	0.7490	-12.0414	1.2809	-2.6284	3.8492
1	80.16	0.8497	-0.9827	0.1333	0.9114	0.8938	-13.5144	1.1160	-0.8104	0.7403
1	80.16	0.9102	-1.1890	0.1487	1.0069	0.9877	-15.9805	1.2483	-1.0683	0.7462
1	80.16	0.9734	-1.3393	0.1510	1.1883	1.0874	-18.5656	1.3890	-1.3458	0.7303

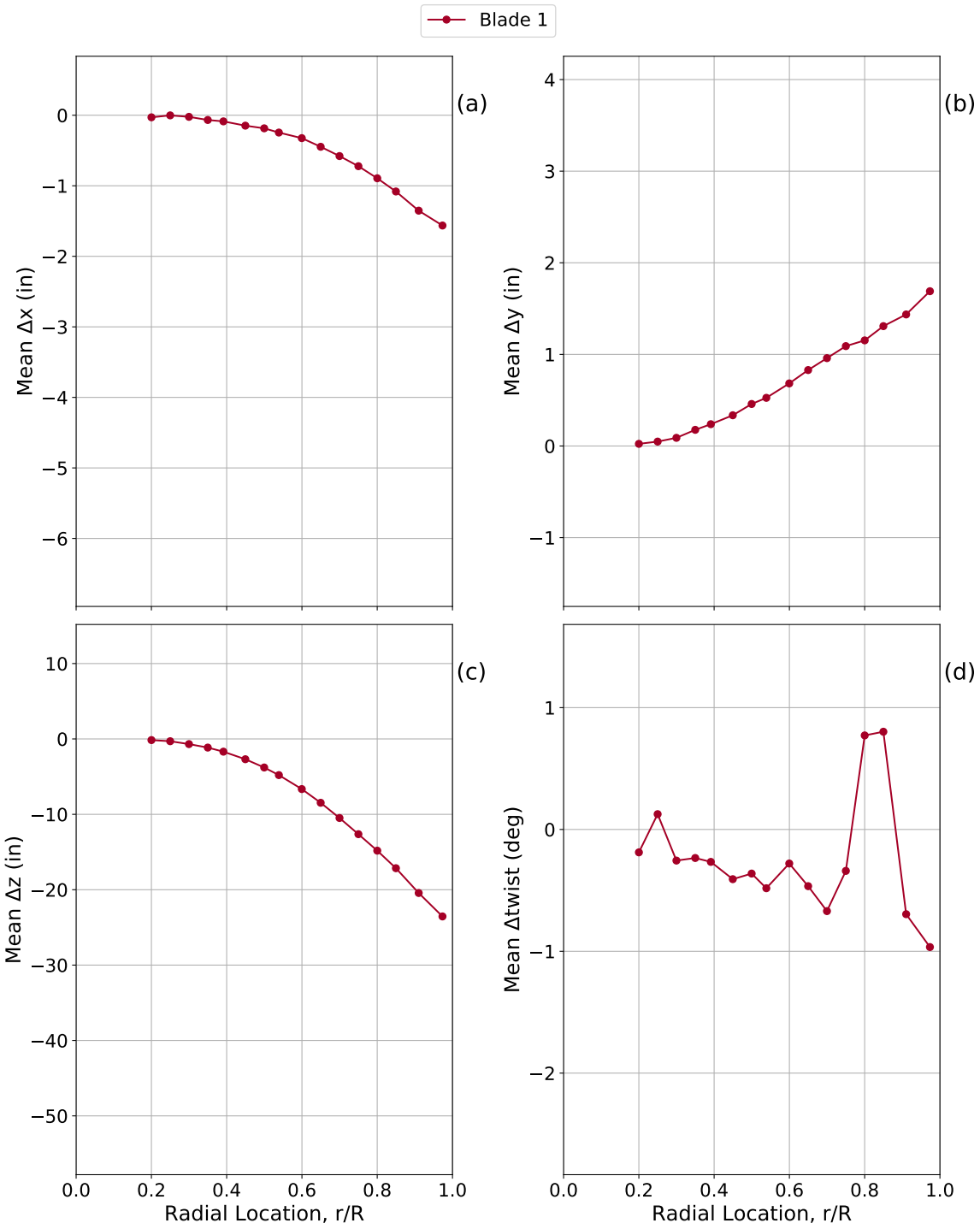


Figure 3.48-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0294	0.0140	0.0235	0.0198	-0.1524	0.0386	-0.1880	0.3481
1	85.08	0.2499	-0.0019	0.0113	0.0481	0.0256	-0.3027	0.0425	0.1257	0.9438
1	85.08	0.2998	-0.0226	0.0087	0.0891	0.0713	-0.6847	0.1537	-0.2554	0.9650
1	85.08	0.3498	-0.0671	0.0104	0.1764	0.1233	-1.1458	0.2730	-0.2343	0.9621
1	85.08	0.3913	-0.0869	0.0126	0.2381	0.1696	-1.6886	0.3766	-0.2662	0.9566
1	85.08	0.4496	-0.1477	0.0182	0.3355	0.2399	-2.6909	0.5218	-0.4081	0.9683
1	85.08	0.4997	-0.1855	0.0239	0.4586	0.3024	-3.7883	0.6495	-0.3621	1.0200
1	85.08	0.5387	-0.2455	0.0271	0.5257	0.3558	-4.7970	0.7573	-0.4824	0.9722
1	85.08	0.5996	-0.3246	0.0372	0.6830	0.4407	-6.6501	0.9265	-0.2795	0.9680
1	85.08	0.6498	-0.4471	0.0513	0.8289	0.5152	-8.4677	1.0707	-0.4654	0.9514
1	85.08	0.6998	-0.5787	0.0691	0.9590	0.5919	-10.4856	1.2178	-0.6701	0.9366
1	85.08	0.7500	-0.7223	0.0880	1.0902	0.6711	-12.6349	1.3670	-0.3400	0.9681
1	85.08	0.8001	-0.8936	0.1321	1.1529	0.8112	-14.8196	1.7724	0.7719	3.9741
1	85.08	0.8497	-1.0809	0.1475	1.3083	0.8890	-17.1473	1.9444	0.8022	4.5105
1	85.08	0.9102	-1.3527	0.1954	1.4360	1.0115	-20.4344	1.4399	-0.6955	1.1061
1	85.08	0.9734	-1.5633	0.1909	1.6896	1.0823	-23.5457	1.6561	-0.9653	1.1366

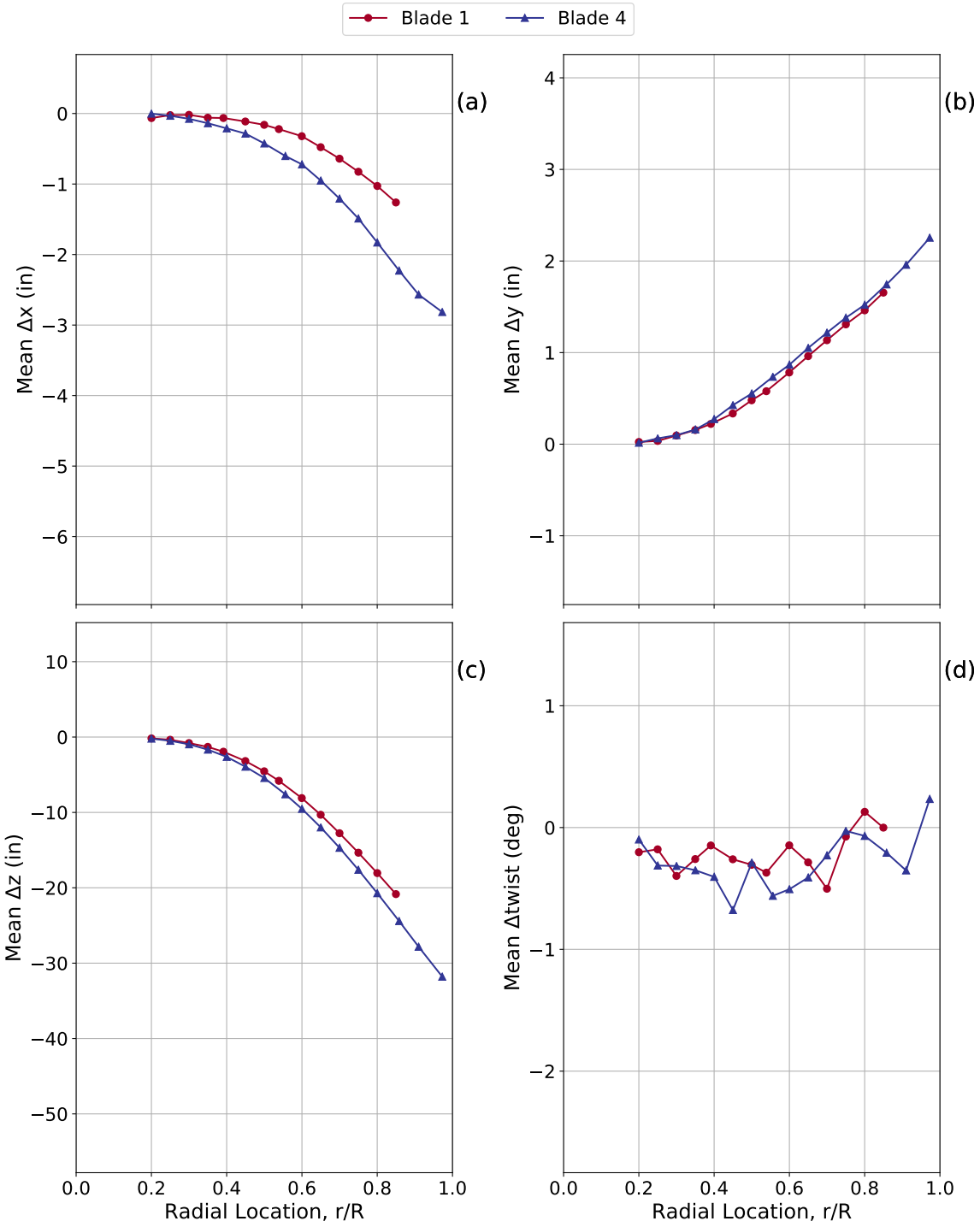


Figure 3.48-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0647	0.0035	0.0242	0.0020	-0.1778	0.0124	-0.2024	0.0244
1	90	0.2499	-0.0230	0.0054	0.0355	0.0034	-0.3613	0.0267	-0.1788	0.0466
1	90	0.2998	-0.0193	0.0058	0.0943	0.0074	-0.7970	0.0541	-0.3973	0.0533
1	90	0.3498	-0.0599	0.0075	0.1542	0.0135	-1.3053	0.0958	-0.2587	0.0455
1	90	0.3913	-0.0640	0.0100	0.2212	0.0186	-1.9428	0.1380	-0.1470	0.0466
1	90	0.4496	-0.1132	0.0161	0.3351	0.0270	-3.1827	0.2101	-0.2605	0.0532
1	90	0.4997	-0.1606	0.0228	0.4791	0.0349	-4.5442	0.2857	-0.3059	0.0613
1	90	0.5387	-0.2214	0.0296	0.5782	0.0404	-5.8043	0.3493	-0.3705	0.0632
1	90	0.5996	-0.3217	0.0432	0.7829	0.0511	-8.0997	0.4643	-0.1460	0.0629
1	90	0.6498	-0.4775	0.0601	0.9613	0.0593	-10.3096	0.5738	-0.2855	0.0690
1	90	0.6998	-0.6405	0.0799	1.1350	0.0689	-12.7592	0.6988	-0.5024	0.0789
1	90	0.7500	-0.8260	0.1016	1.3080	0.0782	-15.3479	0.8242	-0.0741	0.1263
1	90	0.8001	-1.0279	0.1281	1.4611	0.0859	-18.0491	0.9558	0.1292	0.1733
1	90	0.8497	-1.2615	0.1521	1.6547	0.0953	-20.8380	1.0990	-0.0006	0.1425
4	90.35	0.2001	-0.0025	0.0035	0.0155	0.0017	-0.2128	0.0092	-0.0983	0.0350
4	90.35	0.2502	-0.0321	0.0056	0.0633	0.0048	-0.5013	0.0256	-0.3122	0.0722
4	90.35	0.3001	-0.0759	0.0064	0.0985	0.0069	-0.9638	0.0434	-0.3156	0.0760
4	90.35	0.3502	-0.1384	0.0074	0.1602	0.0136	-1.6713	0.0760	-0.3507	0.0885
4	90.35	0.4002	-0.2112	0.0104	0.2738	0.0206	-2.6334	0.1213	-0.4049	0.0915
4	90.35	0.4500	-0.2852	0.0139	0.4263	0.0304	-3.9371	0.1788	-0.6773	0.0814
4	90.35	0.5001	-0.4253	0.0204	0.5532	0.0406	-5.4354	0.2442	-0.2877	0.0847
4	90.35	0.5560	-0.6031	0.0314	0.7354	0.0543	-7.6005	0.3323	-0.5608	0.0888
4	90.35	0.6001	-0.7214	0.0409	0.8676	0.0669	-9.5308	0.4144	-0.5063	0.0853
4	90.35	0.6501	-0.9519	0.0560	1.0510	0.0813	-11.9912	0.5137	-0.4101	0.0820
4	90.35	0.6999	-1.2077	0.0745	1.2177	0.0963	-14.6993	0.6222	-0.2288	0.0878
4	90.35	0.7500	-1.4895	0.0952	1.3803	0.1111	-17.6156	0.7379	-0.0277	0.0978
4	90.35	0.8002	-1.8296	0.1195	1.5219	0.1270	-20.7194	0.8607	-0.0688	0.0932
4	90.35	0.8582	-2.2283	0.1476	1.7441	0.1450	-24.4190	1.0016	-0.2072	0.1072
4	90.35	0.9101	-2.5680	0.1725	1.9586	0.1622	-27.8296	1.1325	-0.3524	0.0924
4	90.35	0.9728	-2.8153	0.1984	2.2537	0.1830	-31.7956	1.2921	0.2343	0.0904

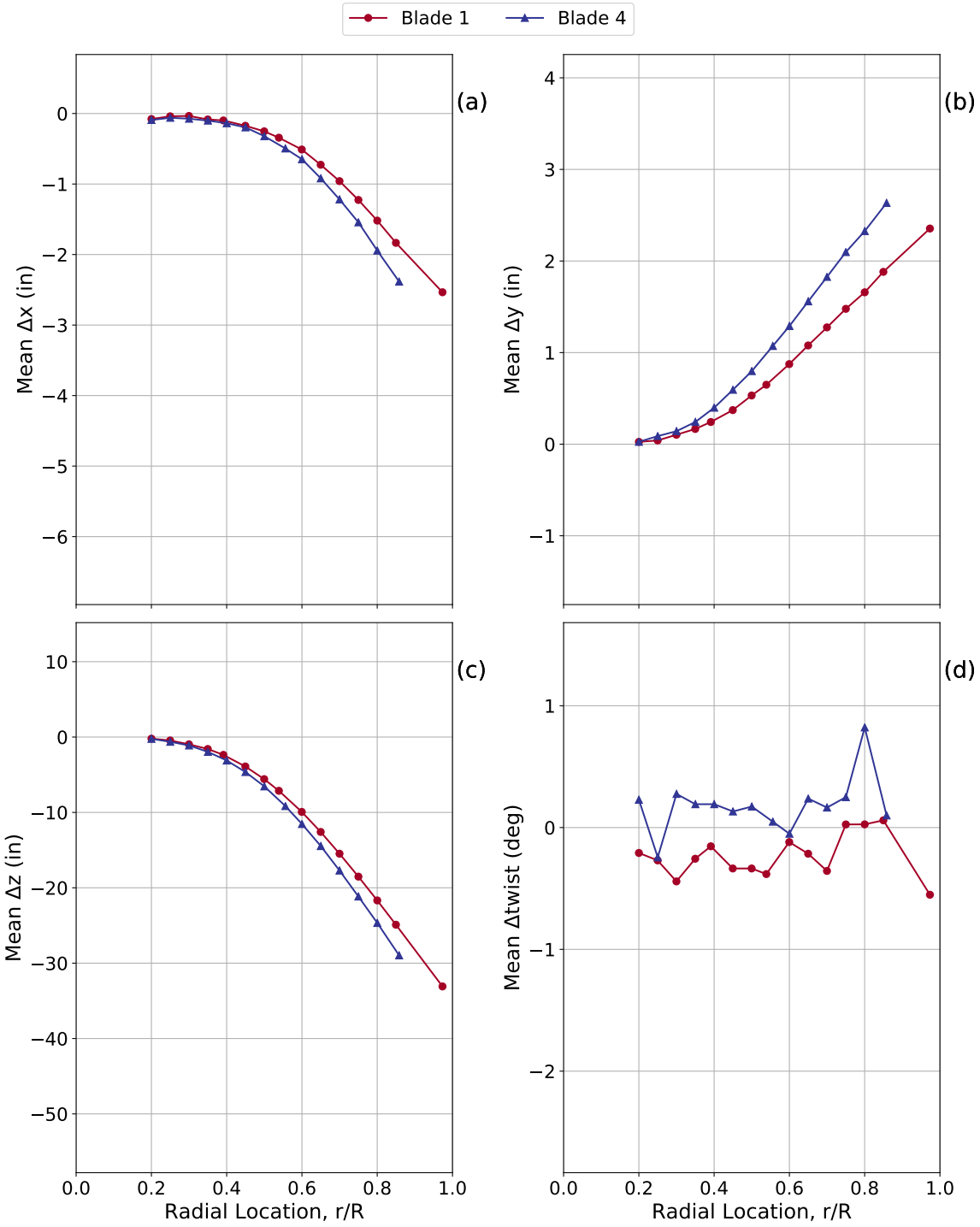


Figure 3.48-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0785	0.0041	0.0253	0.0016	-0.2125	0.0094	-0.2085	0.0361
1	94.92	0.2499	-0.0395	0.0036	0.0407	0.0036	-0.4528	0.0237	-0.2698	0.0602
1	94.92	0.2998	-0.0346	0.0047	0.1028	0.0074	-0.9643	0.0452	-0.4421	0.0821
1	94.92	0.3498	-0.0842	0.0067	0.1662	0.0116	-1.5838	0.0753	-0.2561	0.1059
1	94.92	0.3913	-0.0984	0.0088	0.2422	0.0177	-2.3643	0.1137	-0.1538	0.1010
1	94.92	0.4496	-0.1738	0.0159	0.3722	0.0266	-3.9033	0.1823	-0.3360	0.1234
1	94.92	0.4997	-0.2527	0.0228	0.5317	0.0368	-5.5824	0.2573	-0.3360	0.1268
1	94.92	0.5387	-0.3431	0.0309	0.6488	0.0454	-7.1326	0.3236	-0.3819	0.1336
1	94.92	0.5996	-0.5107	0.0500	0.8744	0.0600	-9.9308	0.4399	-0.1192	0.1351
1	94.92	0.6498	-0.7266	0.0667	1.0779	0.0736	-12.5905	0.5446	-0.2148	0.1430
1	94.92	0.6998	-0.9589	0.0871	1.2753	0.0873	-15.4766	0.6549	-0.3560	0.1499
1	94.92	0.7500	-1.2260	0.1091	1.4777	0.1017	-18.5193	0.7699	0.0256	0.1673
1	94.92	0.8001	-1.5187	0.1324	1.6582	0.1174	-21.6761	0.8817	0.0262	0.1775
1	94.92	0.8497	-1.8340	0.1573	1.8816	0.1334	-24.9006	0.9979	0.0593	0.1499
1	94.92	0.9734	-2.5348	0.2120	2.3546	0.1772	-33.0875	1.2878	-0.5517	0.1464
4	94.92	0.2001	-0.0922	0.0051	0.0259	0.0019	-0.2373	0.0114	0.2283	0.0208
4	94.92	0.2502	-0.0606	0.0061	0.0881	0.0047	-0.6280	0.0298	-0.2444	0.0330
4	94.92	0.3001	-0.0741	0.0065	0.1420	0.0090	-1.1182	0.0544	0.2760	0.0451
4	94.92	0.3502	-0.1009	0.0084	0.2425	0.0153	-1.9682	0.0941	0.1916	0.0606
4	94.92	0.4002	-0.1382	0.0135	0.3984	0.0244	-3.1142	0.1498	0.1917	0.0644
4	94.92	0.4500	-0.1969	0.0206	0.5941	0.0355	-4.6410	0.2255	0.1320	0.0633
4	94.92	0.5001	-0.3219	0.0324	0.7977	0.0479	-6.5466	0.3118	0.1724	0.0707
4	94.92	0.5560	-0.4959	0.0483	1.0721	0.0637	-9.1602	0.4342	0.0480	0.0659
4	94.92	0.6001	-0.6485	0.0650	1.2899	0.0767	-11.5384	0.5375	-0.0509	0.0800
4	94.92	0.6501	-0.9199	0.0879	1.5596	0.0919	-14.4661	0.6645	0.2378	0.0938
4	94.92	0.6999	-1.2188	0.1129	1.8265	0.1077	-17.7151	0.7951	0.1642	0.1001
4	94.92	0.7500	-1.5434	0.1409	2.0976	0.1232	-21.1574	0.9305	0.2494	0.0742
4	94.92	0.8002	-1.9443	0.1729	2.3262	0.1387	-24.6669	1.0672	0.8222	0.0847
4	94.92	0.8582	-2.3839	0.2108	2.6337	0.1570	-28.9674	1.2314	0.0997	0.1760

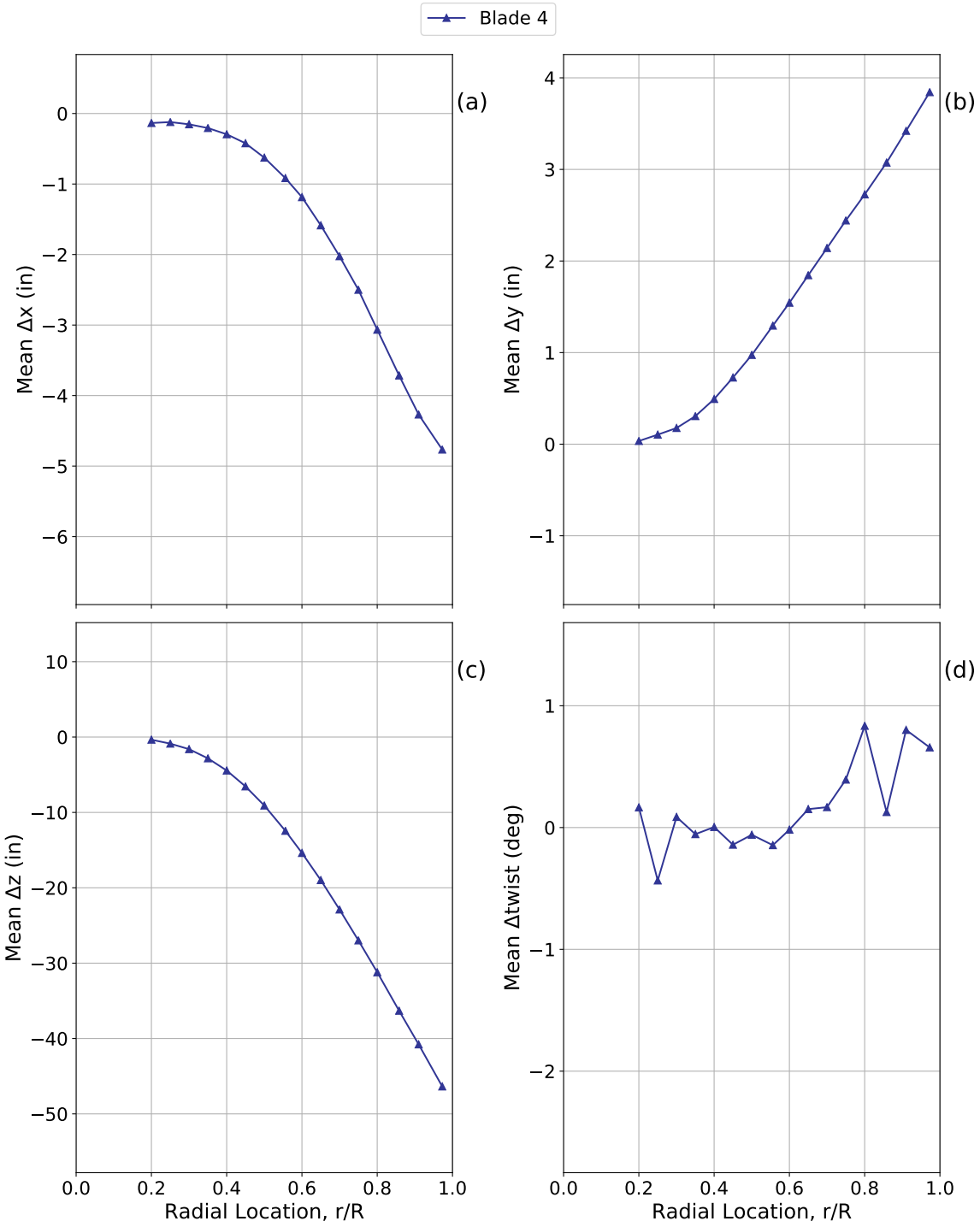


Figure 3.48-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.1350	0.0054	0.0348	0.0010	-0.3529	0.0084	0.1654	0.0325
4	105.12	0.2502	-0.1213	0.0056	0.1040	0.0035	-0.8760	0.0226	-0.4347	0.0603
4	105.12	0.3001	-0.1534	0.0067	0.1764	0.0058	-1.6070	0.0403	0.0869	0.0775
4	105.12	0.3502	-0.2063	0.0106	0.3061	0.0094	-2.8279	0.0689	-0.0544	0.0811
4	105.12	0.4002	-0.2948	0.0152	0.4932	0.0158	-4.4446	0.1105	0.0042	0.0816
4	105.12	0.4500	-0.4224	0.0214	0.7272	0.0225	-6.5507	0.1574	-0.1413	0.0809
4	105.12	0.5001	-0.6265	0.0294	0.9742	0.0292	-9.0891	0.2117	-0.0593	0.0841
4	105.12	0.5560	-0.9166	0.0427	1.2940	0.0395	-12.4437	0.2770	-0.1449	0.0818
4	105.12	0.6001	-1.1867	0.0548	1.5441	0.0482	-15.3820	0.3309	-0.0175	0.0876
4	105.12	0.6501	-1.5864	0.0694	1.8446	0.0577	-18.9869	0.3976	0.1513	0.1002
4	105.12	0.6999	-2.0244	0.0868	2.1413	0.0678	-22.8861	0.4638	0.1672	0.1116
4	105.12	0.7500	-2.5003	0.1069	2.4426	0.0783	-26.9865	0.5358	0.3934	0.1287
4	105.12	0.8002	-3.0663	0.1294	2.7269	0.0893	-31.2167	0.6162	0.8350	0.1267
4	105.12	0.8582	-3.7153	0.1583	3.0742	0.1014	-36.3198	0.7147	0.1270	0.1300
4	105.12	0.9101	-4.2690	0.1857	3.4208	0.1121	-40.7803	0.8166	0.8015	0.0935
4	105.12	0.9728	-4.7661	0.2200	3.8431	0.1254	-46.3631	0.9380	0.6577	0.1654

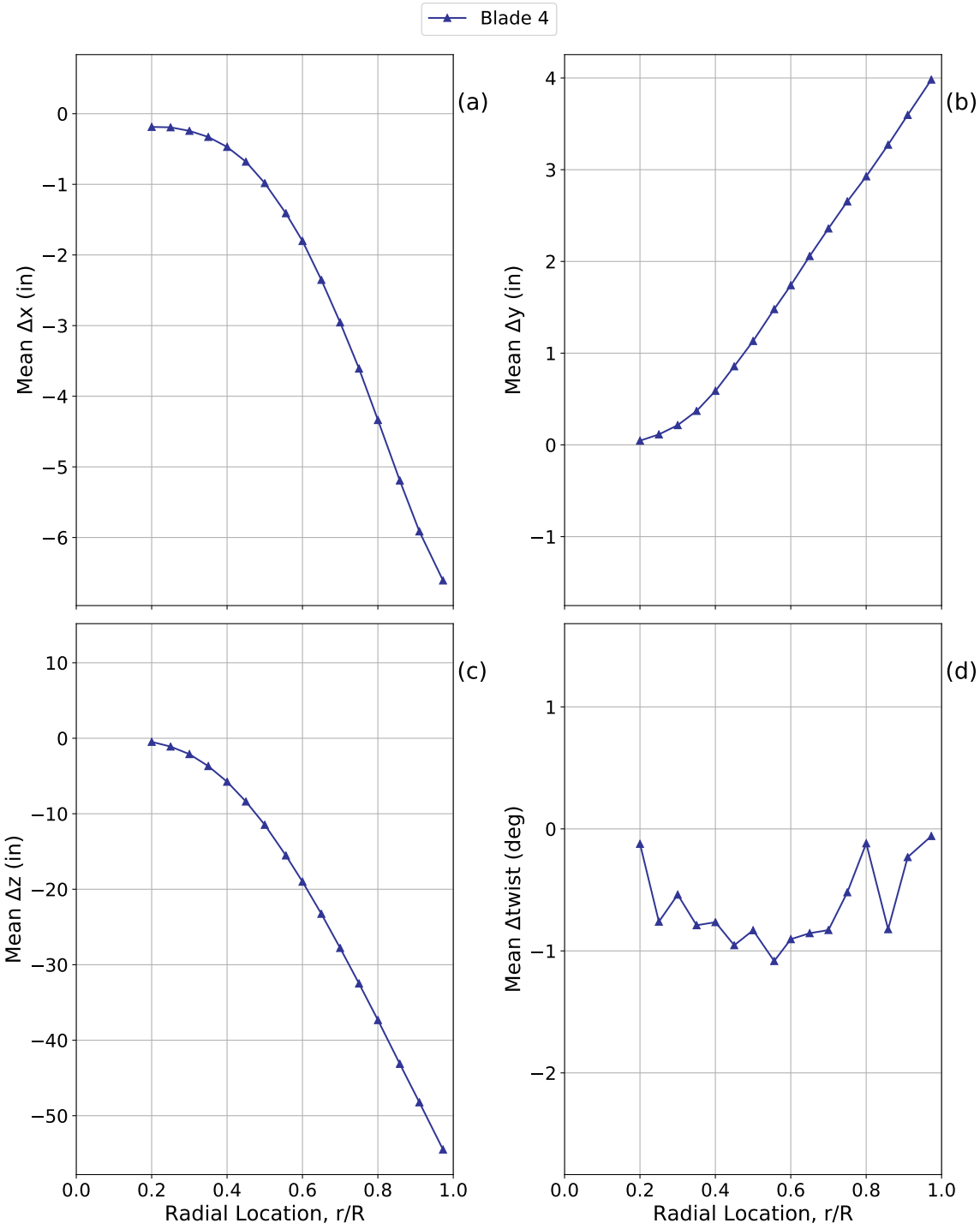


Figure 3.48-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.1876	0.0096	0.0458	0.0015	-0.4787	0.0137	-0.1229	0.0225
4	119.88	0.2502	-0.1931	0.0111	0.1143	0.0034	-1.1043	0.0344	-0.7606	0.0487
4	119.88	0.3001	-0.2435	0.0144	0.2150	0.0073	-2.1057	0.0640	-0.5391	0.0536
4	119.88	0.3502	-0.3295	0.0182	0.3702	0.0119	-3.6909	0.1096	-0.7899	0.0568
4	119.88	0.4002	-0.4708	0.0276	0.5887	0.0195	-5.7660	0.1745	-0.7647	0.0735
4	119.88	0.4500	-0.6798	0.0419	0.8566	0.0283	-8.3851	0.2561	-0.9537	0.0866
4	119.88	0.5001	-0.9833	0.0635	1.1323	0.0395	-11.4753	0.3653	-0.8311	0.0653
4	119.88	0.5560	-1.4099	0.0968	1.4790	0.0536	-15.5305	0.5077	-1.0832	0.1045
4	119.88	0.6001	-1.8031	0.1300	1.7398	0.0646	-19.0070	0.6395	-0.9042	0.0964
4	119.88	0.6501	-2.3530	0.1763	2.0578	0.0788	-23.2614	0.8116	-0.8550	0.0823
4	119.88	0.6999	-2.9559	0.2313	2.3589	0.0940	-27.7871	0.9929	-0.8294	0.1069
4	119.88	0.7500	-3.6086	0.2919	2.6539	0.1083	-32.4937	1.1944	-0.5197	0.1080
4	119.88	0.8002	-4.3375	0.3597	2.9272	0.1234	-37.3403	1.4034	-0.1181	0.1148
4	119.88	0.8582	-5.1936	0.4413	3.2717	0.1399	-43.1382	1.6614	-0.8225	0.1188
4	119.88	0.9101	-5.9143	0.5137	3.5963	0.1557	-48.2317	1.8959	-0.2315	0.1243
4	119.88	0.9728	-6.6090	0.6014	3.9815	0.1737	-54.4846	2.1886	-0.0587	0.1112

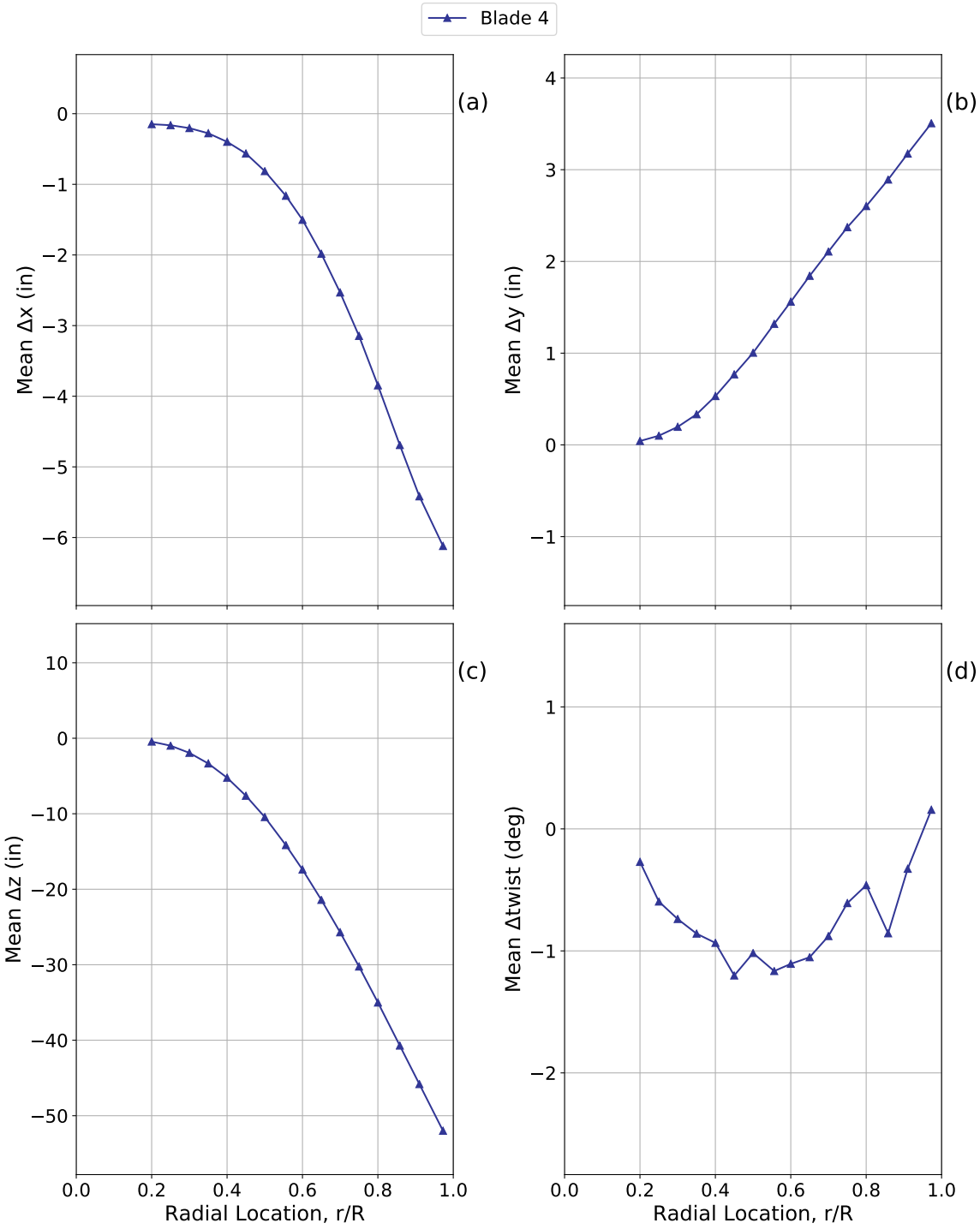


Figure 3.48-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.1488	0.0057	0.0422	0.0011	-0.4483	0.0080	-0.2708	0.0269
4	135	0.2502	-0.1632	0.0064	0.1003	0.0040	-0.9872	0.0199	-0.5958	0.0412
4	135	0.3001	-0.2043	0.0071	0.1965	0.0055	-1.9387	0.0356	-0.7389	0.0557
4	135	0.3502	-0.2776	0.0098	0.3337	0.0107	-3.3463	0.0654	-0.8587	0.0775
4	135	0.4002	-0.3986	0.0143	0.5320	0.0165	-5.2338	0.1013	-0.9347	0.0775
4	135	0.4500	-0.5639	0.0212	0.7683	0.0224	-7.6236	0.1479	-1.2019	0.0902
4	135	0.5001	-0.8136	0.0324	1.0042	0.0286	-10.4468	0.2049	-1.0176	0.0832
4	135	0.5560	-1.1627	0.0518	1.3189	0.0371	-14.1618	0.2936	-1.1653	0.1039
4	135	0.6001	-1.5032	0.0717	1.5610	0.0459	-17.3993	0.3803	-1.1063	0.0993
4	135	0.6501	-1.9843	0.1017	1.8425	0.0543	-21.4149	0.4953	-1.0519	0.1030
4	135	0.6999	-2.5321	0.1384	2.1075	0.0637	-25.7090	0.6275	-0.8790	0.0920
4	135	0.7500	-3.1468	0.1832	2.3723	0.0736	-30.2455	0.7784	-0.6085	0.0891
4	135	0.8002	-3.8471	0.2352	2.6030	0.0843	-35.0150	0.9442	-0.4615	0.0799
4	135	0.8582	-4.6916	0.3004	2.8920	0.0967	-40.7168	1.1486	-0.8561	0.0840
4	135	0.9101	-5.4179	0.3587	3.1747	0.1083	-45.8172	1.3382	-0.3274	0.0737
4	135	0.9728	-6.1208	0.4318	3.5056	0.1225	-52.0021	1.5707	0.1563	0.0765

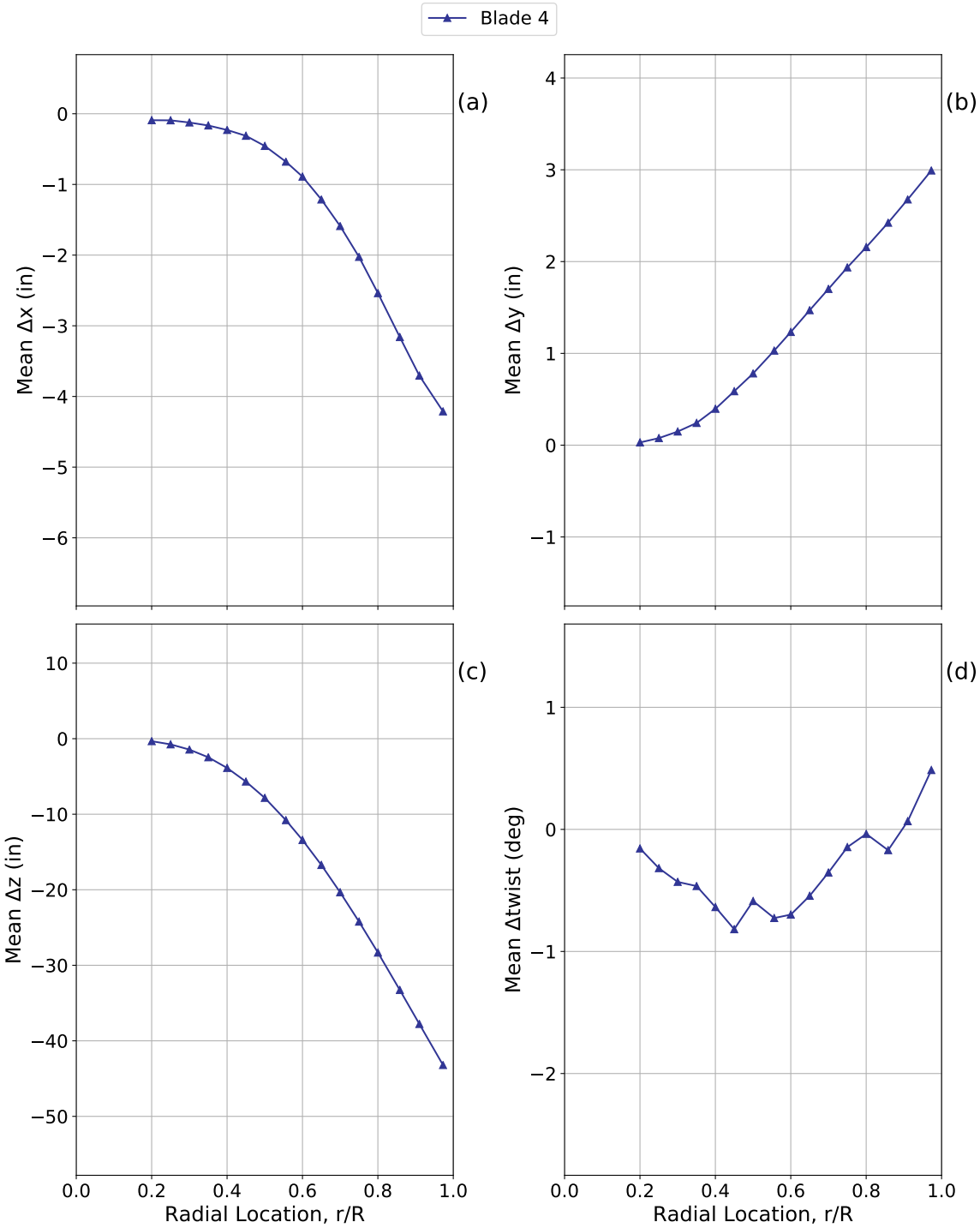


Figure 3.48-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0916	0.0081	0.0295	0.0020	-0.3319	0.0156	-0.1567	0.0280
4	150.12	0.2502	-0.0933	0.0081	0.0767	0.0059	-0.7535	0.0348	-0.3179	0.0448
4	150.12	0.3001	-0.1240	0.0105	0.1481	0.0098	-1.4445	0.0669	-0.4303	0.0631
4	150.12	0.3502	-0.1663	0.0129	0.2417	0.0162	-2.4647	0.1177	-0.4646	0.0654
4	150.12	0.4002	-0.2296	0.0181	0.3959	0.0267	-3.8776	0.1827	-0.6369	0.0711
4	150.12	0.4500	-0.3121	0.0281	0.5872	0.0365	-5.6807	0.2637	-0.8182	0.0773
4	150.12	0.5001	-0.4560	0.0410	0.7813	0.0468	-7.8405	0.3634	-0.5874	0.0958
4	150.12	0.5560	-0.6785	0.0604	1.0296	0.0592	-10.7896	0.4907	-0.7265	0.0664
4	150.12	0.6001	-0.8899	0.0809	1.2328	0.0699	-13.4151	0.6055	-0.6982	0.0804
4	150.12	0.6501	-1.2136	0.1109	1.4699	0.0814	-16.7236	0.7509	-0.5445	0.0829
4	150.12	0.6999	-1.5893	0.1448	1.7017	0.0943	-20.3429	0.9037	-0.3537	0.0953
4	150.12	0.7500	-2.0257	0.1843	1.9361	0.1063	-24.2254	1.0693	-0.1456	0.0832
4	150.12	0.8002	-2.5388	0.2288	2.1573	0.1181	-28.3241	1.2379	-0.0371	0.0917
4	150.12	0.8582	-3.1602	0.2835	2.4230	0.1317	-33.2728	1.4390	-0.1705	0.1035
4	150.12	0.9101	-3.7063	0.3316	2.6766	0.1454	-37.7768	1.6205	0.0666	0.0908
4	150.12	0.9728	-4.2120	0.3875	2.9917	0.1607	-43.2070	1.8466	0.4858	0.1022

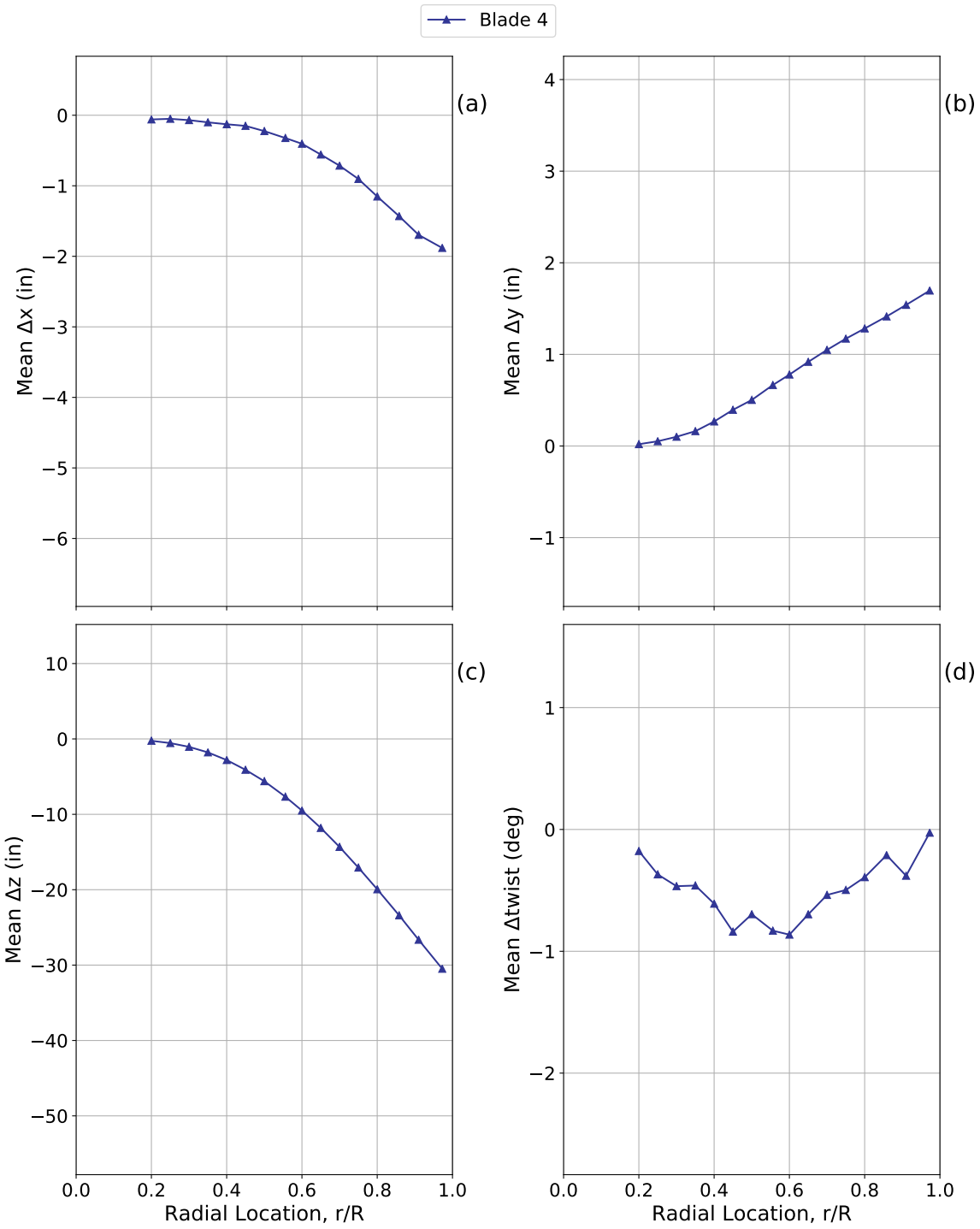


Figure 3.48-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0597	0.0044	0.0196	0.0020	-0.2463	0.0110	-0.1775	0.0337
4	164.88	0.2502	-0.0510	0.0037	0.0516	0.0048	-0.5524	0.0251	-0.3691	0.0482
4	164.88	0.3001	-0.0695	0.0054	0.1006	0.0097	-1.0510	0.0454	-0.4656	0.0694
4	164.88	0.3502	-0.1007	0.0062	0.1618	0.0148	-1.7860	0.0778	-0.4604	0.0720
4	164.88	0.4002	-0.1279	0.0085	0.2674	0.0246	-2.8041	0.1213	-0.6096	0.1054
4	164.88	0.4500	-0.1510	0.0134	0.3946	0.0325	-4.0958	0.1731	-0.8395	0.1175
4	164.88	0.5001	-0.2249	0.0193	0.5026	0.0422	-5.6120	0.2376	-0.6961	0.1166
4	164.88	0.5560	-0.3233	0.0292	0.6654	0.0537	-7.6678	0.3176	-0.8310	0.1395
4	164.88	0.6001	-0.4046	0.0383	0.7793	0.0660	-9.5088	0.3900	-0.8637	0.1380
4	164.88	0.6501	-0.5576	0.0514	0.9181	0.0775	-11.8105	0.4821	-0.6967	0.1372
4	164.88	0.6999	-0.7150	0.0671	1.0490	0.0906	-14.3305	0.5839	-0.5378	0.1479
4	164.88	0.7500	-0.9037	0.0860	1.1713	0.1050	-17.0712	0.6887	-0.4968	0.1590
4	164.88	0.8002	-1.1527	0.1077	1.2827	0.1200	-19.9496	0.8079	-0.3919	0.1594
4	164.88	0.8582	-1.4310	0.1341	1.4137	0.1379	-23.4025	0.9505	-0.2109	0.1707
4	164.88	0.9101	-1.6962	0.1601	1.5401	0.1552	-26.6460	1.0855	-0.3803	0.1541
4	164.88	0.9728	-1.8816	0.1881	1.6963	0.1759	-30.4901	1.2549	-0.0270	0.1535

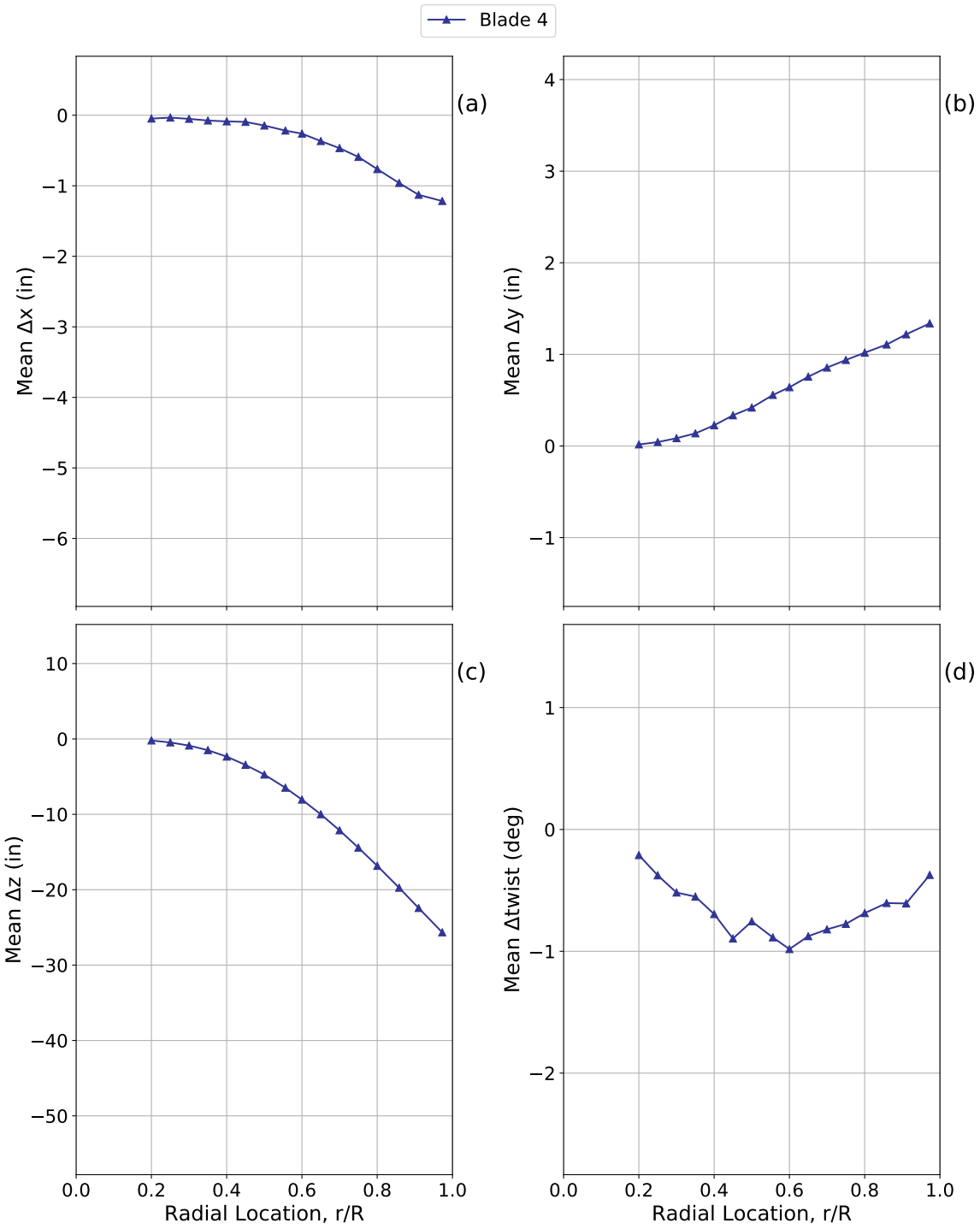


Figure 3.48-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0473	0.0028	0.0169	0.0022	-0.2069	0.0119	-0.2107	0.0307
4	170.16	0.2502	-0.0337	0.0051	0.0425	0.0049	-0.4654	0.0229	-0.3768	0.0636
4	170.16	0.3001	-0.0512	0.0043	0.0849	0.0094	-0.8832	0.0454	-0.5180	0.0697
4	170.16	0.3502	-0.0751	0.0071	0.1378	0.0156	-1.4936	0.0787	-0.5516	0.0851
4	170.16	0.4002	-0.0875	0.0098	0.2259	0.0247	-2.3493	0.1199	-0.6950	0.0946
4	170.16	0.4500	-0.0943	0.0137	0.3347	0.0322	-3.4451	0.1768	-0.8956	0.1043
4	170.16	0.5001	-0.1463	0.0186	0.4190	0.0427	-4.7301	0.2397	-0.7545	0.1064
4	170.16	0.5560	-0.2173	0.0267	0.5569	0.0546	-6.4803	0.3236	-0.8864	0.1234
4	170.16	0.6001	-0.2612	0.0356	0.6411	0.0644	-8.0539	0.3965	-0.9822	0.1080
4	170.16	0.6501	-0.3665	0.0469	0.7560	0.0754	-9.9997	0.4924	-0.8763	0.1114
4	170.16	0.6999	-0.4671	0.0622	0.8553	0.0873	-12.1284	0.5928	-0.8204	0.1021
4	170.16	0.7500	-0.5911	0.0782	0.9386	0.1004	-14.4293	0.7079	-0.7755	0.1134
4	170.16	0.8002	-0.7643	0.0979	1.0185	0.1129	-16.8384	0.8296	-0.6867	0.1108
4	170.16	0.8582	-0.9607	0.1218	1.1071	0.1272	-19.7439	0.9799	-0.6043	0.1150
4	170.16	0.9101	-1.1285	0.1428	1.2183	0.1430	-22.4325	1.1175	-0.6076	0.1252
4	170.16	0.9728	-1.2165	0.1658	1.3380	0.1584	-25.6629	1.2891	-0.3738	0.1198

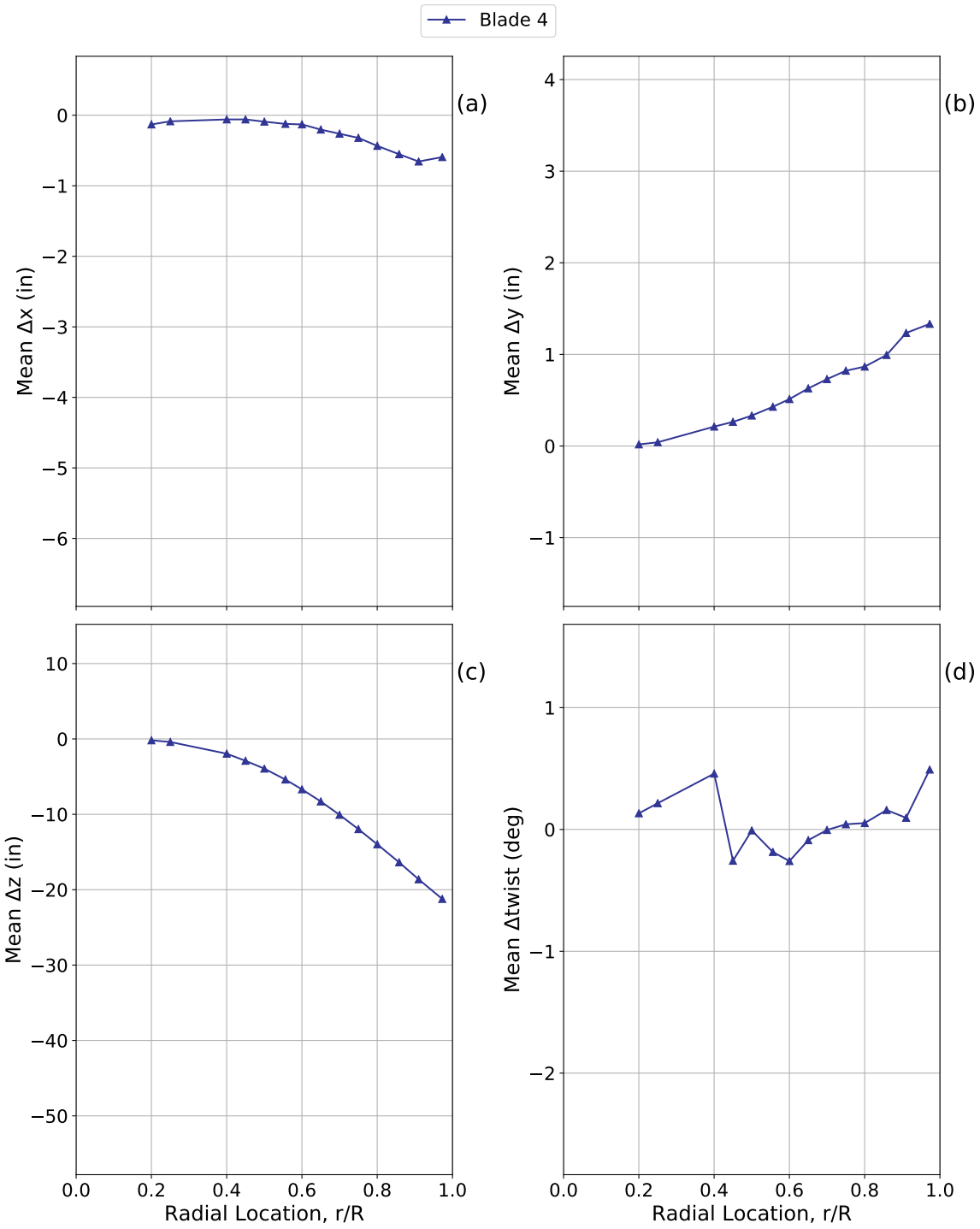


Figure 3.48-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.1305	0.0039	0.0172	0.0089	-0.1855	0.0069	0.1324	0.0784
4	175.08	0.2502	-0.0862	0.0050	0.0404	0.0209	-0.4020	0.0167	0.2153	0.1284
4	175.08	0.4002	-0.0595	0.0177	0.2116	0.1092	-1.9599	0.0962	0.4584	0.6055
4	175.08	0.4500	-0.0594	0.0085	0.2631	0.0529	-2.9014	0.1046	-0.2571	0.1266
4	175.08	0.5001	-0.0911	0.0102	0.3319	0.0622	-3.9395	0.1390	-0.0084	0.1028
4	175.08	0.5560	-0.1230	0.0143	0.4277	0.0739	-5.3888	0.1922	-0.1849	0.1323
4	175.08	0.6001	-0.1301	0.0186	0.5119	0.0826	-6.6878	0.2390	-0.2597	0.1180
4	175.08	0.6501	-0.2036	0.0233	0.6285	0.0929	-8.2993	0.3006	-0.0882	0.1212
4	175.08	0.6999	-0.2624	0.0334	0.7295	0.1023	-10.0655	0.3719	-0.0045	0.1211
4	175.08	0.7500	-0.3213	0.0426	0.8214	0.1149	-11.9676	0.4606	0.0425	0.1737
4	175.08	0.8002	-0.4347	0.0549	0.8664	0.1238	-13.9808	0.5497	0.0523	0.2120
4	175.08	0.8582	-0.5531	0.0703	0.9932	0.1448	-16.3708	0.6512	0.1595	0.1462
4	175.08	0.9101	-0.6560	0.0819	1.2337	0.1583	-18.6260	0.7442	0.0953	0.4700
4	175.08	0.9728	-0.5933	0.1006	1.3329	0.1703	-21.2259	0.9096	0.4914	0.2742

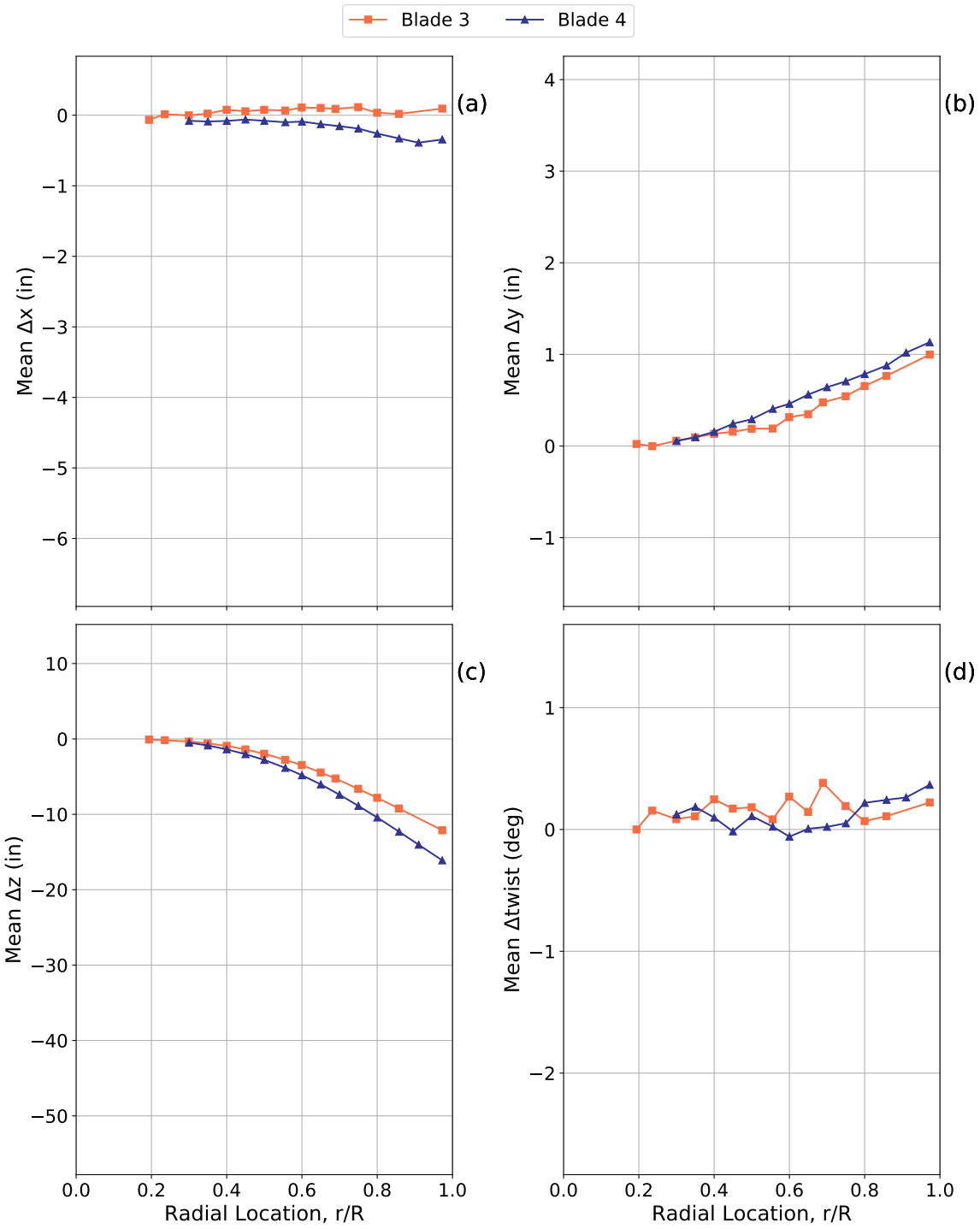


Figure 3.48-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0651	0.0029	0.0222	0.0025	-0.0700	0.0125	-0.0001	0.0448
3	180.35	0.2357	0.0139	0.0024	-0.0022	0.0042	-0.1727	0.0291	0.1544	0.0725
3	180.35	0.2995	-0.0015	0.0034	0.0574	0.0116	-0.3441	0.0594	0.0849	0.1087
3	180.35	0.3493	0.0227	0.0036	0.0940	0.0165	-0.5832	0.0988	0.1077	0.1000
3	180.35	0.4000	0.0778	0.0055	0.1327	0.0282	-0.9250	0.1583	0.2470	0.1095
3	180.35	0.4497	0.0565	0.0071	0.1554	0.0380	-1.3864	0.2299	0.1710	0.1168
3	180.35	0.4997	0.0771	0.0101	0.1890	0.0483	-1.9647	0.3091	0.1819	0.1173
3	180.35	0.5556	0.0670	0.0138	0.1902	0.0619	-2.7701	0.4046	0.0828	0.1336
3	180.35	0.5995	0.1087	0.0176	0.3147	0.0719	-3.4689	0.4837	0.2695	0.1515
3	180.35	0.6498	0.1030	0.0215	0.3472	0.0830	-4.4467	0.5736	0.1437	0.1498
3	180.35	0.6890	0.0906	0.0261	0.4761	0.0939	-5.2486	0.6494	0.3827	0.1576
3	180.35	0.7495	0.1155	0.0337	0.5432	0.1074	-6.6144	0.7659	0.1921	0.1714
3	180.35	0.7998	0.0350	0.0430	0.6543	0.1209	-7.8079	0.8698	0.0686	0.1794
3	180.35	0.8577	0.0195	0.0520	0.7649	0.1348	-9.2254	0.9923	0.1085	0.2511
3	180.35	0.9729	0.0939	0.0648	0.9977	0.1820	-12.1162	1.2701	0.2217	0.3790
4	180	0.3001	-0.0787	0.0222	0.0542	0.0100	-0.5010	0.0845	0.1230	0.1375
4	180	0.3502	-0.0887	0.0240	0.0961	0.0176	-0.8688	0.1488	0.1848	0.1836
4	180	0.4002	-0.0807	0.0231	0.1546	0.0283	-1.3809	0.2388	0.0977	0.1644
4	180	0.4500	-0.0610	0.0290	0.2429	0.0377	-2.0274	0.3367	-0.0161	0.1586
4	180	0.5001	-0.0788	0.0332	0.2923	0.0511	-2.7862	0.4459	0.1100	0.1533
4	180	0.5560	-0.0993	0.0390	0.4055	0.0658	-3.8417	0.5857	0.0229	0.1496
4	180	0.6001	-0.0903	0.0456	0.4608	0.0779	-4.8194	0.6941	-0.0590	0.1692
4	180	0.6501	-0.1263	0.0532	0.5612	0.0921	-6.0352	0.8209	0.0057	0.1745
4	180	0.6999	-0.1552	0.0643	0.6415	0.1043	-7.3996	0.9499	0.0215	0.1686
4	180	0.7500	-0.1888	0.0754	0.7056	0.1179	-8.8831	1.0857	0.0502	0.1853
4	180	0.8002	-0.2608	0.0892	0.7847	0.1298	-10.4242	1.2186	0.2183	0.1848
4	180	0.8582	-0.3294	0.1046	0.8777	0.1449	-12.3118	1.3871	0.2432	0.1866
4	180	0.9101	-0.3887	0.1166	1.0189	0.1581	-14.0309	1.5309	0.2628	0.1751
4	180	0.9728	-0.3438	0.1295	1.1324	0.1745	-16.1082	1.7066	0.3664	0.1729

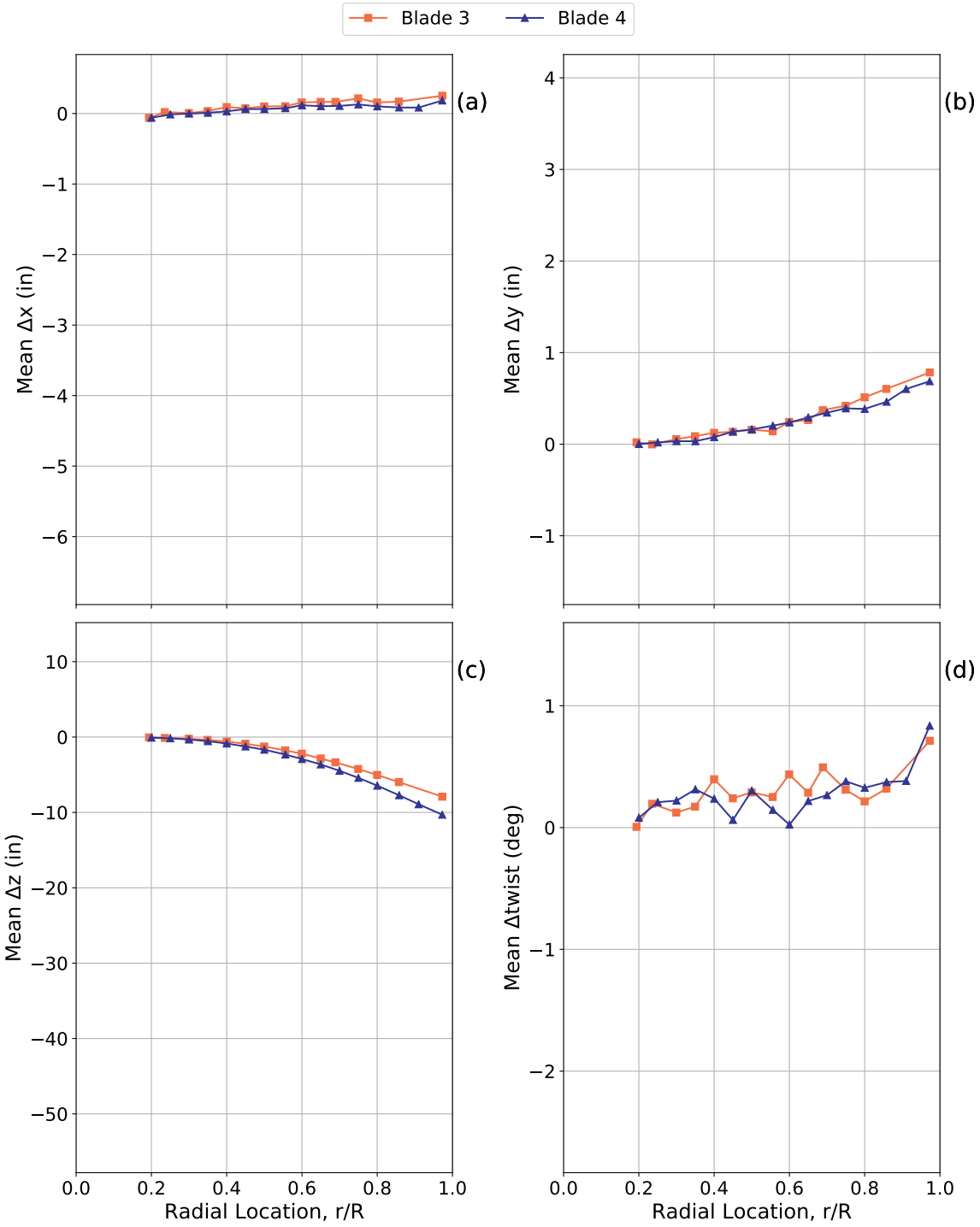


Figure 3.48-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0615	0.0033	0.0209	0.0026	-0.0465	0.0120	0.0056	0.0557
3	184.92	0.2357	0.0204	0.0022	-0.0027	0.0037	-0.1162	0.0252	0.1953	0.1018
3	184.92	0.2995	0.0066	0.0031	0.0548	0.0058	-0.2202	0.0511	0.1232	0.1489
3	184.92	0.3493	0.0341	0.0034	0.0873	0.0121	-0.3732	0.0889	0.1718	0.1563
3	184.92	0.4000	0.0914	0.0035	0.1248	0.0165	-0.5882	0.1389	0.3967	0.1738
3	184.92	0.4497	0.0739	0.0051	0.1351	0.0222	-0.8902	0.1980	0.2398	0.1720
3	184.92	0.4997	0.1011	0.0058	0.1568	0.0300	-1.2566	0.2710	0.2888	0.1820
3	184.92	0.5556	0.1027	0.0076	0.1403	0.0372	-1.7712	0.3575	0.2509	0.1880
3	184.92	0.5995	0.1566	0.0100	0.2432	0.0442	-2.2006	0.4321	0.4360	0.1843
3	184.92	0.6498	0.1644	0.0137	0.2632	0.0537	-2.8424	0.5274	0.2864	0.1887
3	184.92	0.6890	0.1649	0.0169	0.3711	0.0630	-3.3535	0.6135	0.4942	0.1977
3	184.92	0.7495	0.2142	0.0219	0.4195	0.0734	-4.2388	0.7541	0.3105	0.2361
3	184.92	0.7998	0.1562	0.0272	0.5119	0.0867	-5.0271	0.8703	0.2147	0.2111
3	184.92	0.8577	0.1684	0.0336	0.6036	0.1090	-5.9744	1.0245	0.3194	0.2935
3	184.92	0.9729	0.2520	0.0430	0.7830	0.1441	-7.9097	1.3112	0.7124	0.3713
4	184.92	0.2001	-0.0609	0.0035	0.0012	0.0035	-0.0810	0.0310	0.0804	0.0434
4	184.92	0.2502	-0.0134	0.0058	0.0193	0.0062	-0.1636	0.0534	0.2081	0.0664
4	184.92	0.3001	-0.0014	0.0084	0.0325	0.0128	-0.3278	0.1117	0.2210	0.0993
4	184.92	0.3502	0.0094	0.0099	0.0321	0.0244	-0.5507	0.1966	0.3136	0.1073
4	184.92	0.4002	0.0306	0.0122	0.0769	0.0359	-0.8575	0.2938	0.2367	0.1268
4	184.92	0.4500	0.0629	0.0146	0.1373	0.0470	-1.2485	0.3941	0.0625	0.1387
4	184.92	0.5001	0.0629	0.0164	0.1615	0.0574	-1.6777	0.4906	0.3034	0.1494
4	184.92	0.5560	0.0748	0.0197	0.2019	0.0700	-2.3227	0.5951	0.1453	0.1351
4	184.92	0.6001	0.1160	0.0214	0.2371	0.0801	-2.9146	0.6759	0.0238	0.1488
4	184.92	0.6501	0.1038	0.0254	0.2914	0.0908	-3.6334	0.7649	0.2178	0.1741
4	184.92	0.6999	0.1074	0.0294	0.3444	0.1017	-4.4785	0.8590	0.2660	0.1621
4	184.92	0.7500	0.1285	0.0365	0.3911	0.1106	-5.4153	0.9684	0.3800	0.1519
4	184.92	0.8002	0.1009	0.0431	0.3849	0.1229	-6.4518	1.0863	0.3263	0.1815
4	184.92	0.8582	0.0850	0.0524	0.4630	0.1353	-7.7244	1.2398	0.3734	0.1569
4	184.92	0.9101	0.0839	0.0610	0.6023	0.1409	-8.9186	1.3832	0.3822	0.2129
4	184.92	0.9728	0.1844	0.0662	0.6871	0.1571	-10.3021	1.5236	0.8362	0.1758

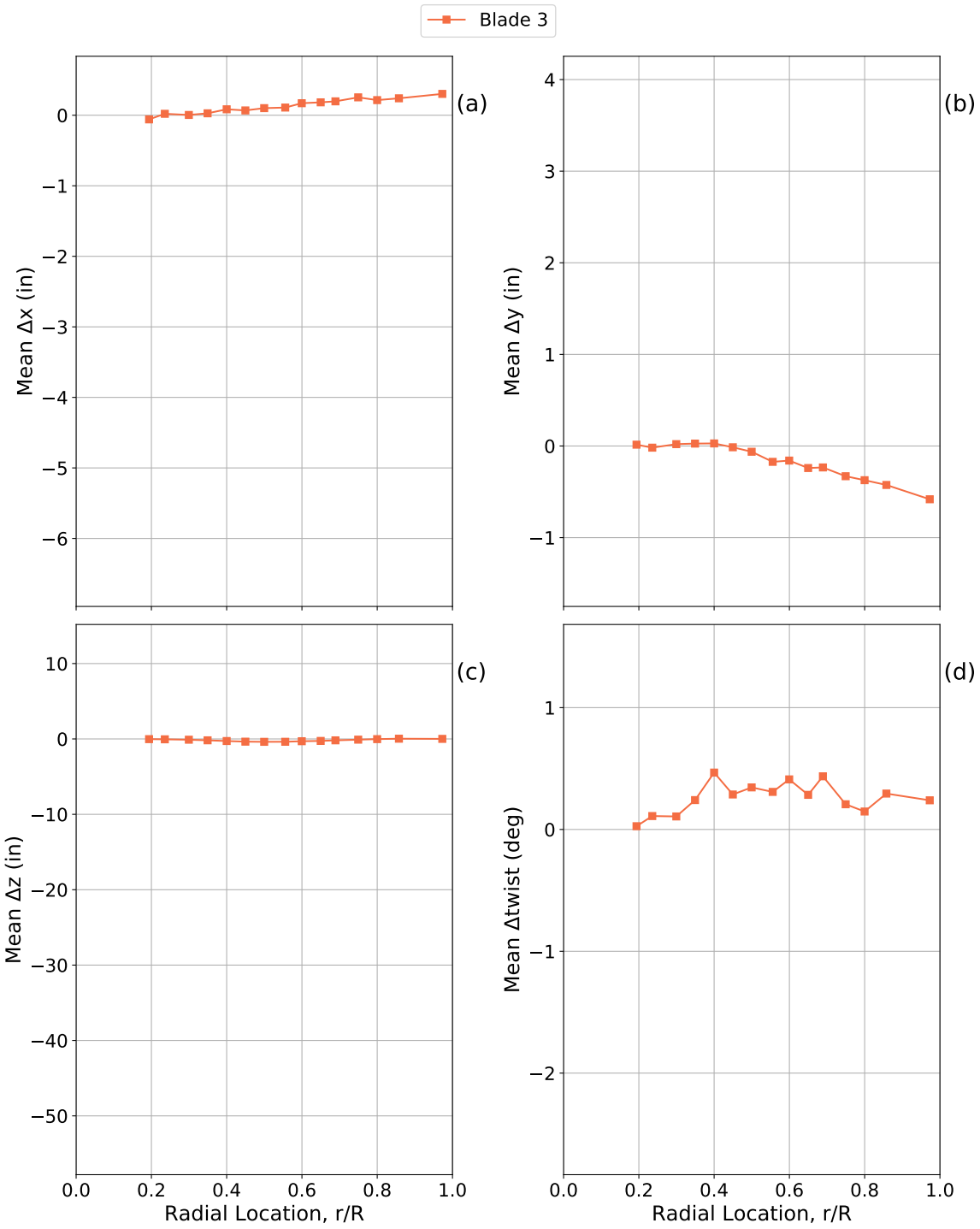


Figure 3.48-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0587	0.0020	0.0145	0.0030	-0.0253	0.0311	0.0267	0.0188
3	195.12	0.2357	0.0206	0.0029	-0.0182	0.0036	-0.0500	0.0476	0.1101	0.0400
3	195.12	0.2995	0.0041	0.0056	0.0203	0.0110	-0.1031	0.1216	0.1068	0.0503
3	195.12	0.3493	0.0274	0.0068	0.0263	0.0203	-0.1821	0.2117	0.2411	0.0703
3	195.12	0.4000	0.0842	0.0082	0.0280	0.0302	-0.2763	0.3211	0.4668	0.0783
3	195.12	0.4497	0.0683	0.0086	-0.0139	0.0392	-0.3599	0.4339	0.2870	0.0899
3	195.12	0.4997	0.1007	0.0082	-0.0627	0.0493	-0.3837	0.5498	0.3452	0.1128
3	195.12	0.5556	0.1089	0.0076	-0.1730	0.0563	-0.3756	0.6626	0.3082	0.1256
3	195.12	0.5995	0.1706	0.0074	-0.1592	0.0601	-0.3024	0.7350	0.4110	0.1366
3	195.12	0.6498	0.1829	0.0070	-0.2404	0.0640	-0.2629	0.7869	0.2841	0.1379
3	195.12	0.6890	0.1970	0.0059	-0.2340	0.0660	-0.1864	0.8088	0.4363	0.1084
3	195.12	0.7495	0.2535	0.0049	-0.3300	0.0678	-0.0952	0.8104	0.2068	0.1370
3	195.12	0.7998	0.2145	0.0054	-0.3733	0.0707	-0.0231	0.8016	0.1472	0.1152
3	195.12	0.8577	0.2401	0.0045	-0.4253	0.0773	0.0311	0.8074	0.2945	0.1234
3	195.12	0.9729	0.3026	0.0081	-0.5816	0.0862	0.0075	0.9161	0.2392	0.3089

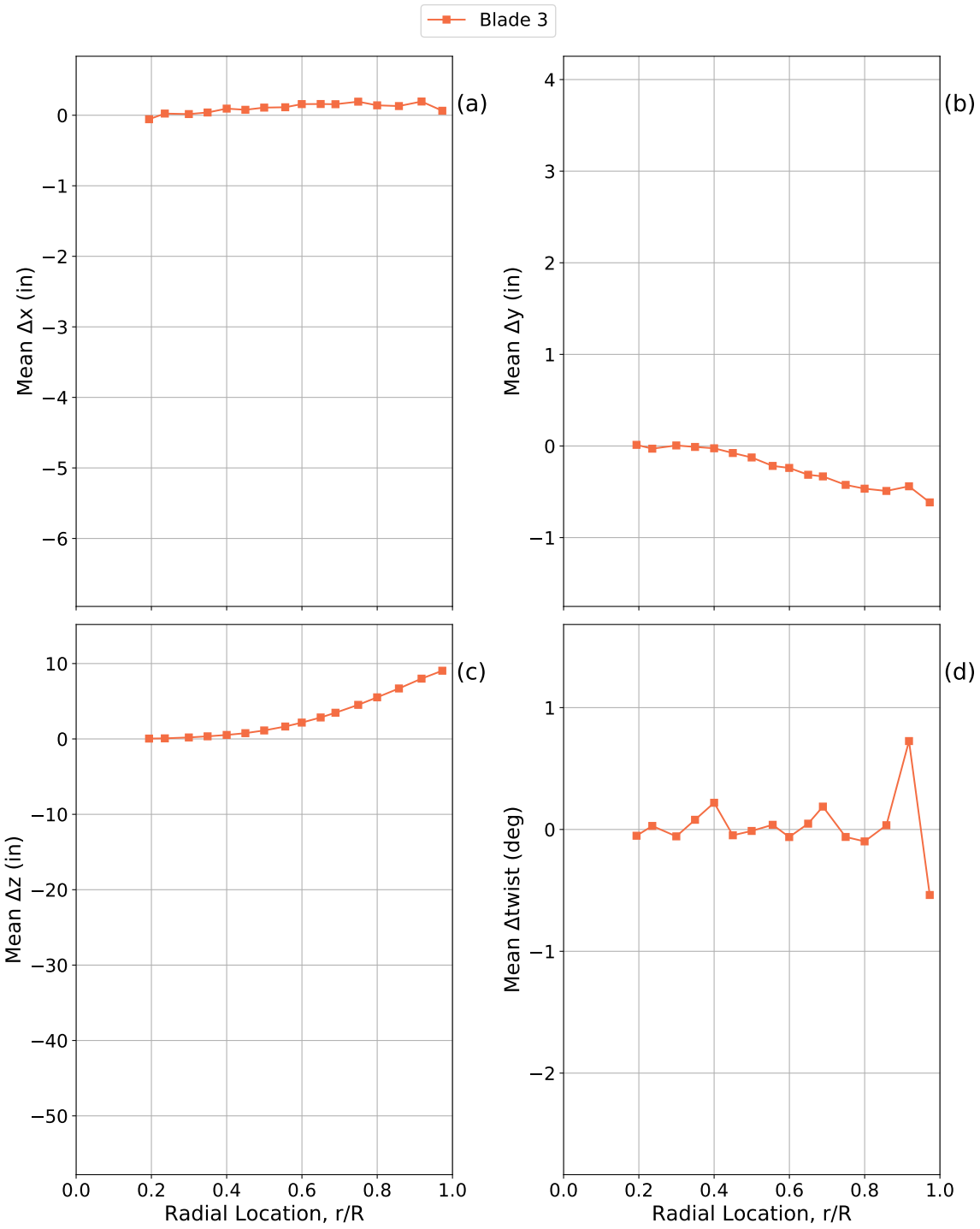


Figure 3.48-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0566	0.0026	0.0125	0.0047	0.0483	0.0586	-0.0515	0.0599
3	209.88	0.2357	0.0237	0.0027	-0.0292	0.0102	0.0778	0.1042	0.0289	0.1091
3	209.88	0.2995	0.0165	0.0054	0.0058	0.0243	0.1989	0.2427	-0.0567	0.1592
3	209.88	0.3493	0.0391	0.0054	-0.0103	0.0440	0.3450	0.4147	0.0795	0.1774
3	209.88	0.4000	0.0939	0.0050	-0.0250	0.0692	0.5293	0.6394	0.2191	0.1865
3	209.88	0.4497	0.0773	0.0036	-0.0765	0.0989	0.7664	0.9016	-0.0478	0.1915
3	209.88	0.4997	0.1083	0.0064	-0.1253	0.1313	1.1271	1.1940	-0.0122	0.2010
3	209.88	0.5556	0.1132	0.0168	-0.2175	0.1712	1.6477	1.5362	0.0383	0.2106
3	209.88	0.5995	0.1579	0.0278	-0.2394	0.2036	2.1677	1.8063	-0.0623	0.2358
3	209.88	0.6498	0.1591	0.0428	-0.3140	0.2411	2.8471	2.1090	0.0476	0.2732
3	209.88	0.6890	0.1562	0.0548	-0.3320	0.2717	3.4753	2.3377	0.1877	0.2827
3	209.88	0.7495	0.1923	0.0765	-0.4246	0.3195	4.5223	2.6694	-0.0615	0.3034
3	209.88	0.7998	0.1405	0.0925	-0.4658	0.3598	5.5188	2.9221	-0.0982	0.3363
3	209.88	0.8577	0.1302	0.1125	-0.4906	0.4088	6.6949	3.1911	0.0347	0.3114
3	209.88	0.9178	0.1945	0.1364	-0.4399	0.4645	7.9995	3.4629	0.7255	0.3892
3	209.88	0.9729	0.0637	0.1695	-0.6155	0.5101	9.0506	3.6978	-0.5379	0.2948

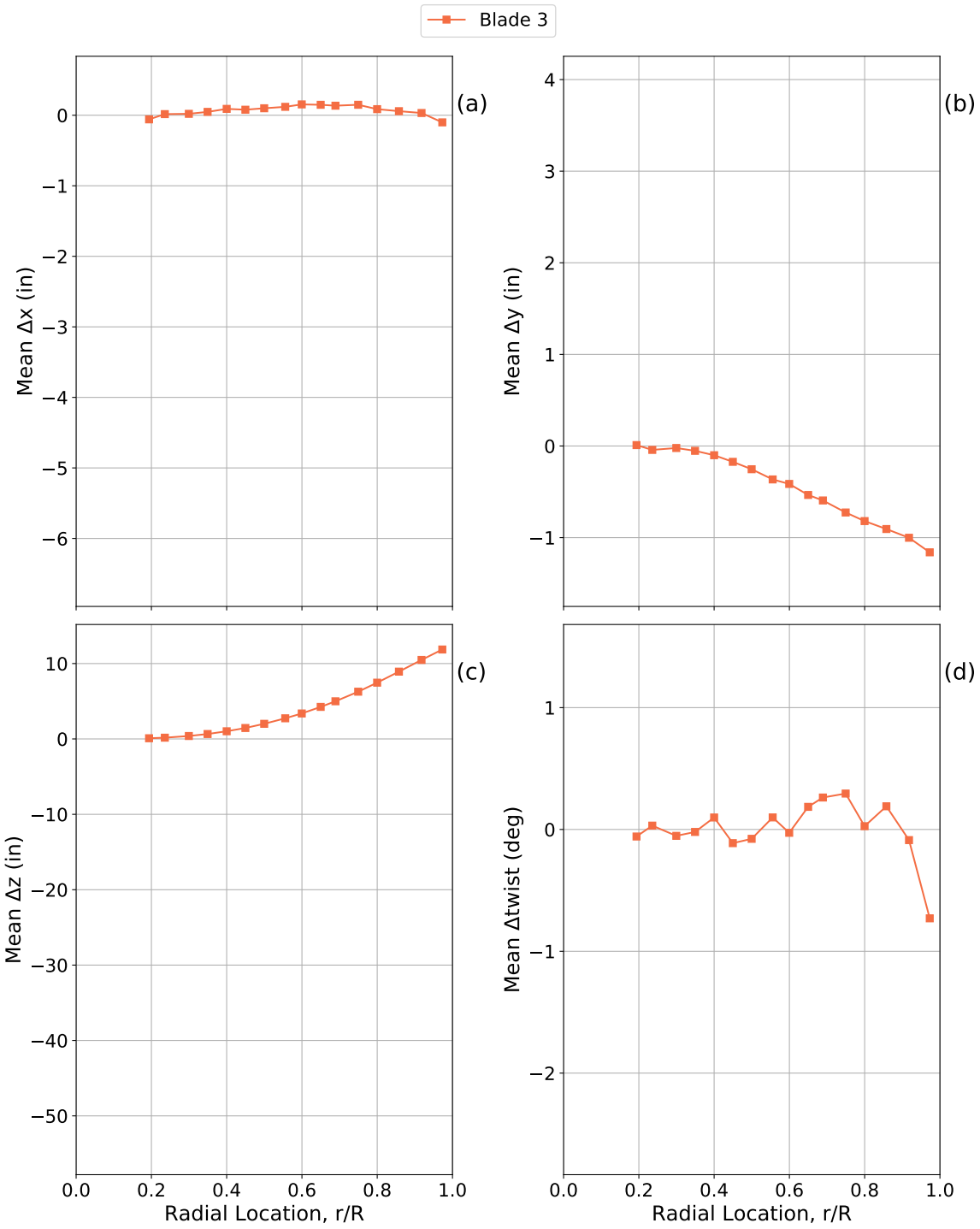


Figure 3.48-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0584	0.0022	0.0098	0.0024	0.0916	0.0168	-0.0578	0.0641
3	225	0.2357	0.0160	0.0014	-0.0426	0.0034	0.1665	0.0308	0.0315	0.0808
3	225	0.2995	0.0201	0.0023	-0.0220	0.0103	0.3888	0.0679	-0.0525	0.1419
3	225	0.3493	0.0475	0.0026	-0.0526	0.0175	0.6538	0.1120	-0.0204	0.1442
3	225	0.4000	0.0902	0.0039	-0.1006	0.0275	1.0176	0.1743	0.0982	0.1541
3	225	0.4497	0.0785	0.0048	-0.1729	0.0363	1.4515	0.2479	-0.1124	0.1620
3	225	0.4997	0.0990	0.0077	-0.2537	0.0454	2.0075	0.3467	-0.0769	0.2091
3	225	0.5556	0.1191	0.0132	-0.3650	0.0594	2.7381	0.5066	0.0988	0.2003
3	225	0.5995	0.1536	0.0220	-0.4142	0.0712	3.3790	0.6714	-0.0274	0.2335
3	225	0.6498	0.1482	0.0334	-0.5345	0.0849	4.2512	0.9026	0.1855	0.2657
3	225	0.6890	0.1353	0.0477	-0.5944	0.0949	4.9944	1.1232	0.2622	0.2853
3	225	0.7495	0.1485	0.0753	-0.7258	0.1121	6.2661	1.5174	0.2946	0.3319
3	225	0.7998	0.0863	0.1038	-0.8195	0.1251	7.4655	1.8931	0.0268	0.3378
3	225	0.8577	0.0577	0.1431	-0.9064	0.1388	8.9275	2.3708	0.1901	0.3374
3	225	0.9178	0.0318	0.1950	-1.0018	0.1509	10.4822	2.8976	-0.0873	0.3760
3	225	0.9729	-0.1010	0.2548	-1.1608	0.1625	11.8635	3.3918	-0.7295	0.4545

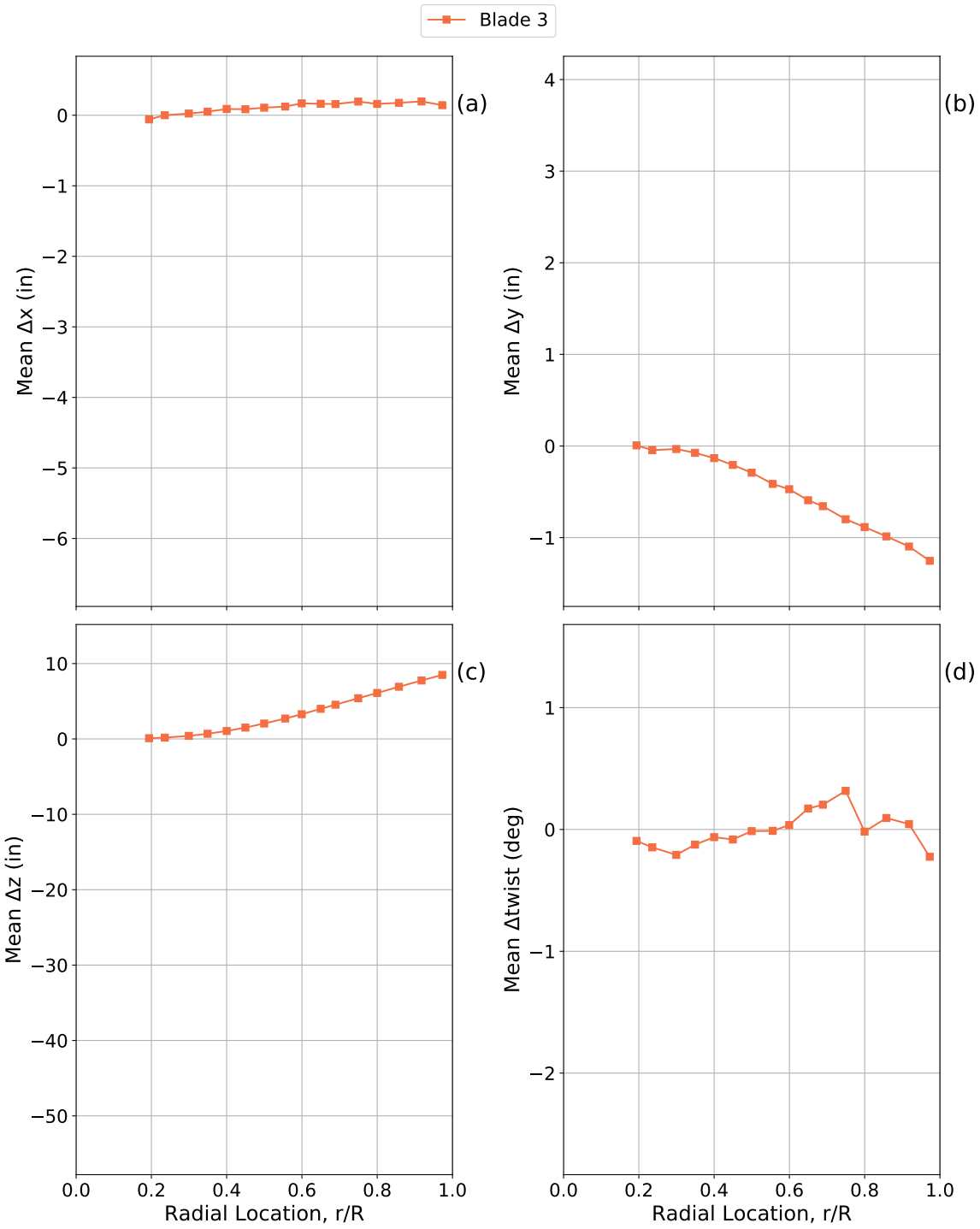


Figure 3.48-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0590	0.0013	0.0066	0.0017	0.1005	0.0205	-0.0939	0.0544
3	240.12	0.2357	0.0002	0.0012	-0.0453	0.0039	0.1758	0.0364	-0.1470	0.0956
3	240.12	0.2995	0.0243	0.0017	-0.0332	0.0088	0.4072	0.0827	-0.2087	0.1445
3	240.12	0.3493	0.0505	0.0020	-0.0746	0.0155	0.6846	0.1403	-0.1241	0.1572
3	240.12	0.4000	0.0886	0.0033	-0.1324	0.0250	1.0563	0.2156	-0.0632	0.1830
3	240.12	0.4497	0.0853	0.0045	-0.2066	0.0340	1.5021	0.2966	-0.0823	0.1873
3	240.12	0.4997	0.1068	0.0080	-0.2915	0.0435	2.0444	0.3858	-0.0136	0.2157
3	240.12	0.5556	0.1231	0.0119	-0.4139	0.0542	2.7080	0.4887	-0.0115	0.2283
3	240.12	0.5995	0.1684	0.0161	-0.4718	0.0657	3.2792	0.5756	0.0361	0.2413
3	240.12	0.6498	0.1624	0.0212	-0.5925	0.0772	3.9947	0.6855	0.1718	0.2454
3	240.12	0.6890	0.1586	0.0248	-0.6573	0.0878	4.5382	0.7885	0.2031	0.2435
3	240.12	0.7495	0.1936	0.0324	-0.7996	0.1047	5.3985	0.9891	0.3169	0.2769
3	240.12	0.7998	0.1606	0.0405	-0.8852	0.1183	6.0932	1.1963	-0.0178	0.2880
3	240.12	0.8577	0.1761	0.0516	-0.9868	0.1347	6.9214	1.4748	0.0940	0.2808
3	240.12	0.9178	0.1959	0.0689	-1.0972	0.1525	7.7513	1.7940	0.0443	0.3070
3	240.12	0.9729	0.1425	0.0918	-1.2531	0.1689	8.4972	2.0994	-0.2241	0.3171

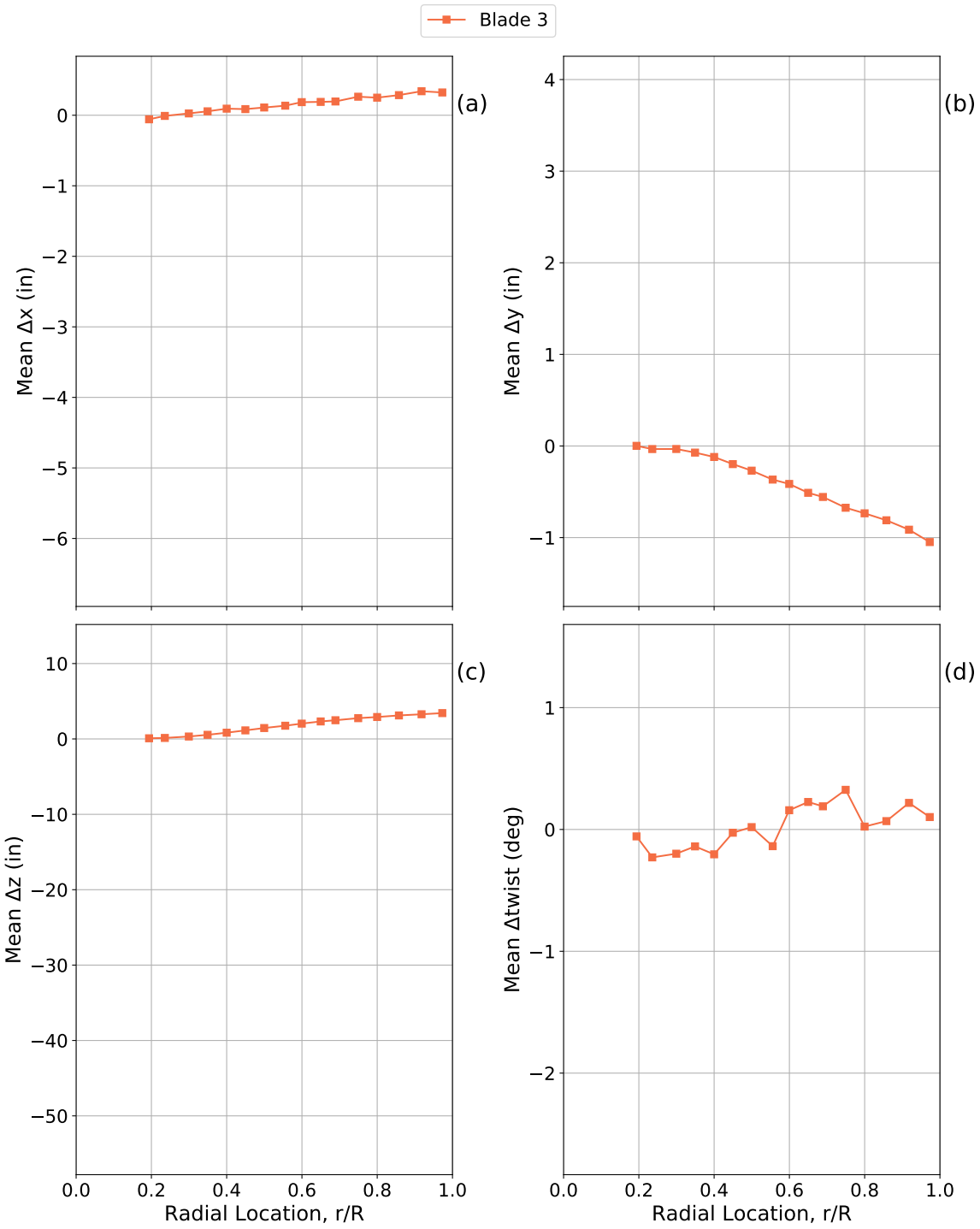


Figure 3.48-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0576	0.0049	0.0016	0.0020	0.0869	0.0238	-0.0570	0.0589
3	254.88	0.2357	-0.0095	0.0024	-0.0334	0.0035	0.1318	0.0393	-0.2292	0.1047
3	254.88	0.2995	0.0259	0.0022	-0.0328	0.0085	0.3226	0.0912	-0.1989	0.1522
3	254.88	0.3493	0.0557	0.0013	-0.0720	0.0156	0.5475	0.1557	-0.1390	0.1822
3	254.88	0.4000	0.0932	0.0024	-0.1200	0.0242	0.8282	0.2368	-0.2041	0.2045
3	254.88	0.4497	0.0868	0.0026	-0.1976	0.0341	1.1354	0.3258	-0.0268	0.2157
3	254.88	0.4997	0.1099	0.0050	-0.2692	0.0445	1.4471	0.4273	0.0193	0.2444
3	254.88	0.5556	0.1356	0.0077	-0.3667	0.0564	1.7536	0.5422	-0.1373	0.2547
3	254.88	0.5995	0.1857	0.0098	-0.4142	0.0673	2.0321	0.6322	0.1578	0.2798
3	254.88	0.6498	0.1891	0.0126	-0.5110	0.0772	2.3208	0.7320	0.2256	0.2952
3	254.88	0.6890	0.1950	0.0138	-0.5563	0.0857	2.4826	0.8038	0.1898	0.2985
3	254.88	0.7495	0.2627	0.0161	-0.6741	0.0992	2.7544	0.9065	0.3253	0.3076
3	254.88	0.7998	0.2493	0.0182	-0.7347	0.1111	2.9093	0.9866	0.0235	0.3270
3	254.88	0.8577	0.2853	0.0197	-0.8109	0.1254	3.1171	1.0755	0.0686	0.3511
3	254.88	0.9178	0.3404	0.0213	-0.9136	0.1405	3.2733	1.1721	0.2180	0.3820
3	254.88	0.9729	0.3230	0.0266	-1.0487	0.1548	3.4260	1.2727	0.1017	0.3963

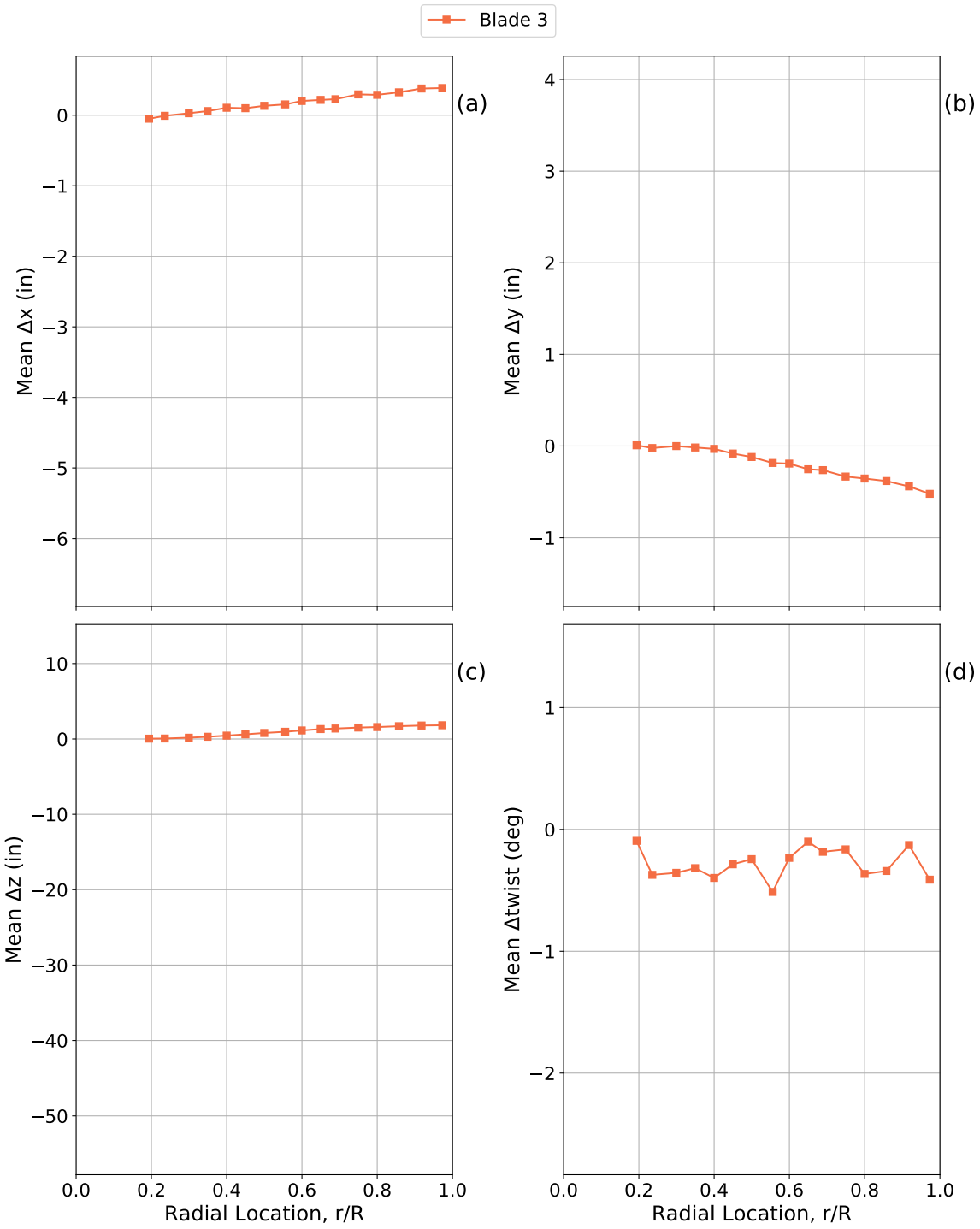


Figure 3.48-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0498	0.0095	0.0078	0.0019	0.0457	0.0237	-0.0934	0.0923
3	260.16	0.2357	-0.0086	0.0028	-0.0220	0.0057	0.0633	0.0445	-0.3725	0.1721
3	260.16	0.2995	0.0277	0.0024	-0.0008	0.0109	0.1705	0.1007	-0.3559	0.2526
3	260.16	0.3493	0.0586	0.0020	-0.0161	0.0193	0.2956	0.1673	-0.3175	0.2601
3	260.16	0.4000	0.1053	0.0027	-0.0315	0.0317	0.4452	0.2618	-0.3979	0.3000
3	260.16	0.4497	0.0992	0.0038	-0.0821	0.0462	0.6180	0.3606	-0.2859	0.2975
3	260.16	0.4997	0.1328	0.0063	-0.1198	0.0627	0.7971	0.4717	-0.2436	0.3328
3	260.16	0.5556	0.1533	0.0111	-0.1848	0.0818	0.9572	0.5834	-0.5130	0.3168
3	260.16	0.5995	0.2017	0.0124	-0.1917	0.0974	1.1306	0.6567	-0.2331	0.3496
3	260.16	0.6498	0.2170	0.0147	-0.2534	0.1137	1.3150	0.7162	-0.0998	0.3389
3	260.16	0.6890	0.2270	0.0162	-0.2630	0.1266	1.3844	0.7445	-0.1835	0.3790
3	260.16	0.7495	0.2951	0.0170	-0.3333	0.1466	1.5141	0.7498	-0.1633	0.3709
3	260.16	0.7998	0.2888	0.0180	-0.3546	0.1651	1.5808	0.7405	-0.3650	0.4121
3	260.16	0.8577	0.3246	0.0182	-0.3820	0.1867	1.6959	0.7208	-0.3408	0.4378
3	260.16	0.9178	0.3784	0.0159	-0.4407	0.2111	1.7846	0.7177	-0.1278	0.4410
3	260.16	0.9729	0.3852	0.0189	-0.5220	0.2326	1.8182	0.7461	-0.4120	0.4451

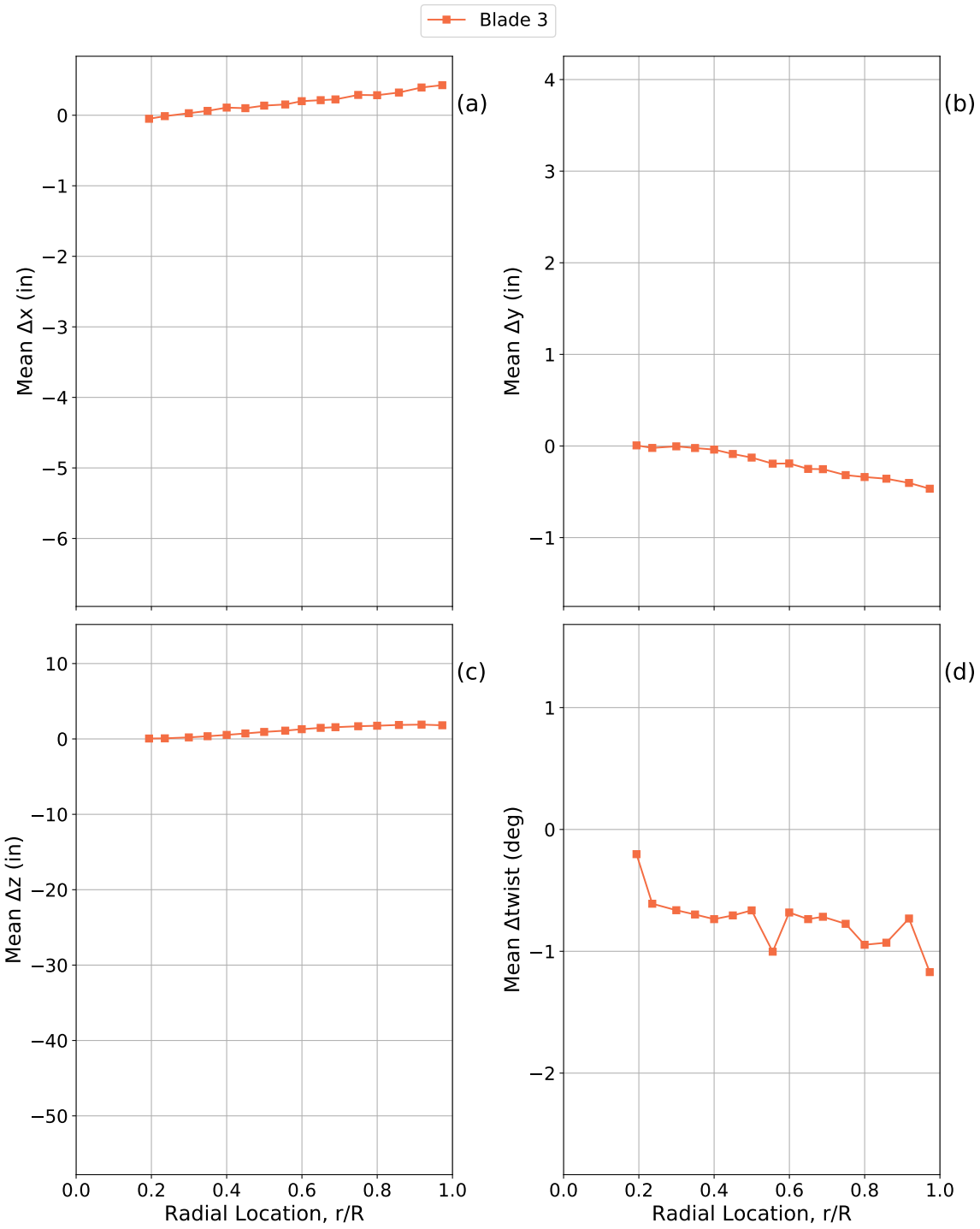


Figure 3.48-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0503	0.0073	0.0064	0.0028	0.0562	0.0199	-0.2029	0.0529
3	265.08	0.2357	-0.0129	0.0019	-0.0212	0.0030	0.0804	0.0282	-0.6096	0.1487
3	265.08	0.2995	0.0287	0.0026	-0.0040	0.0097	0.2055	0.0706	-0.6629	0.1599
3	265.08	0.3493	0.0620	0.0023	-0.0221	0.0166	0.3574	0.1158	-0.6980	0.1539
3	265.08	0.4000	0.1083	0.0034	-0.0393	0.0255	0.5351	0.1765	-0.7361	0.1553
3	265.08	0.4497	0.0999	0.0043	-0.0871	0.0356	0.7277	0.2500	-0.7056	0.1692
3	265.08	0.4997	0.1365	0.0059	-0.1265	0.0462	0.9290	0.3324	-0.6642	0.1673
3	265.08	0.5556	0.1527	0.0084	-0.1927	0.0590	1.1007	0.4336	-1.0033	0.1658
3	265.08	0.5995	0.1995	0.0098	-0.1907	0.0694	1.2915	0.5102	-0.6817	0.1739
3	265.08	0.6498	0.2138	0.0122	-0.2502	0.0811	1.4696	0.5913	-0.7360	0.1816
3	265.08	0.6890	0.2246	0.0137	-0.2530	0.0903	1.5575	0.6486	-0.7168	0.1796
3	265.08	0.7495	0.2880	0.0151	-0.3178	0.1050	1.6850	0.7255	-0.7745	0.1937
3	265.08	0.7998	0.2840	0.0158	-0.3388	0.1191	1.7531	0.7887	-0.9465	0.1928
3	265.08	0.8577	0.3220	0.0163	-0.3572	0.1351	1.8555	0.8622	-0.9293	0.2057
3	265.08	0.9178	0.3936	0.0166	-0.4031	0.1528	1.9010	0.9476	-0.7310	0.1974
3	265.08	0.9729	0.4264	0.0201	-0.4663	0.1681	1.8119	1.0346	-1.1708	0.1884

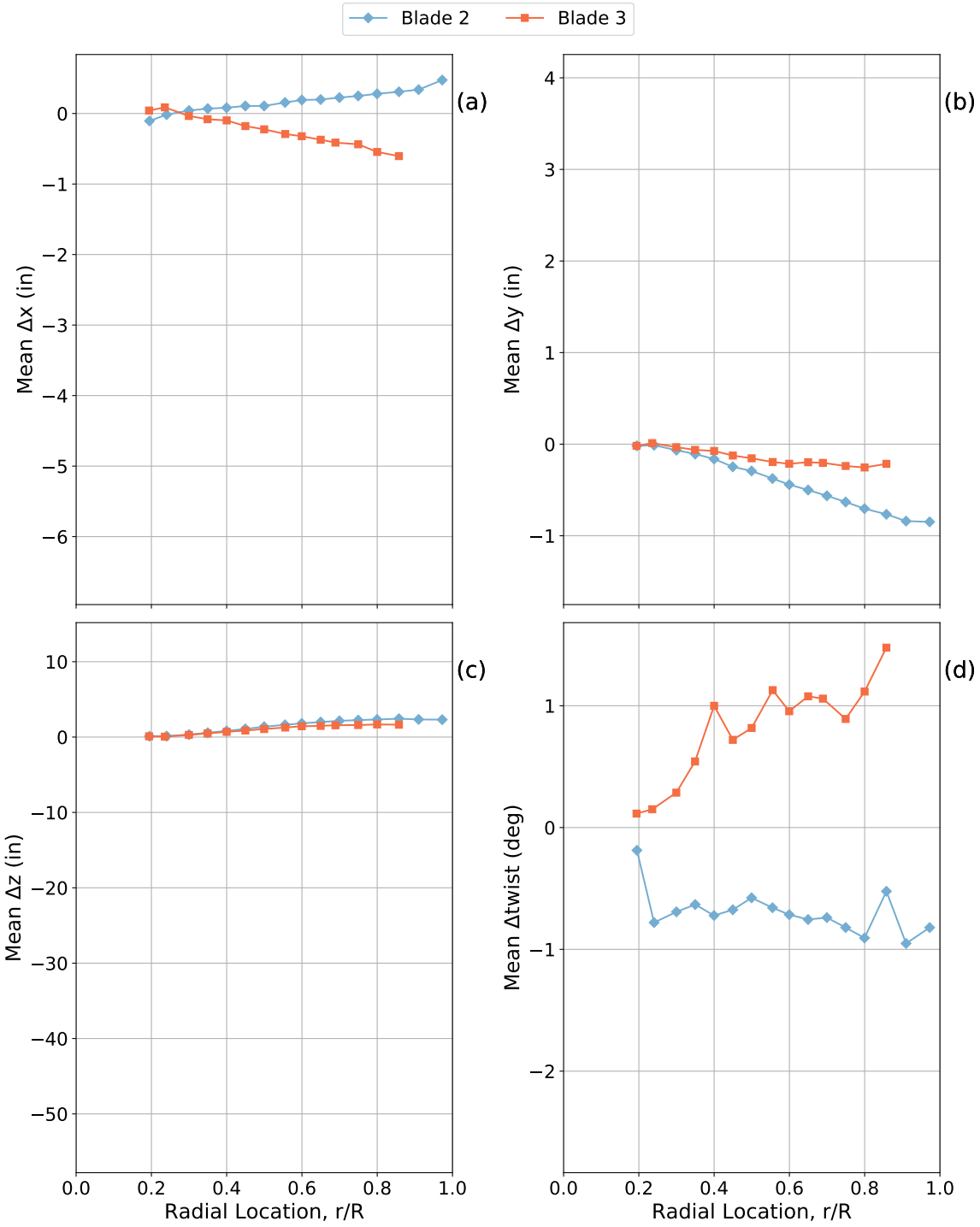


Figure 3.48-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.1059	0.0057	-0.0182	0.0019	0.1036	0.0217	-0.1867	0.0508
2	270.35	0.2405	-0.0155	0.0023	-0.0117	0.0030	0.1316	0.0391	-0.7800	0.1187
2	270.35	0.2999	0.0423	0.0022	-0.0657	0.0081	0.3231	0.0834	-0.6920	0.1376
2	270.35	0.3498	0.0690	0.0027	-0.1073	0.0147	0.5701	0.1400	-0.6320	0.1540
2	270.35	0.3998	0.0817	0.0037	-0.1620	0.0222	0.8119	0.2139	-0.7221	0.1576
2	270.35	0.4496	0.1072	0.0042	-0.2470	0.0308	1.0771	0.3044	-0.6750	0.1521
2	270.35	0.4995	0.1072	0.0057	-0.2927	0.0400	1.3712	0.4128	-0.5770	0.1553
2	270.35	0.5551	0.1562	0.0090	-0.3753	0.0518	1.6226	0.5489	-0.6582	0.1752
2	270.35	0.5996	0.1917	0.0121	-0.4415	0.0624	1.8125	0.6707	-0.7151	0.1623
2	270.35	0.6497	0.1982	0.0147	-0.5002	0.0744	1.9926	0.8119	-0.7550	0.1783
2	270.35	0.6996	0.2254	0.0183	-0.5634	0.0867	2.1508	0.9602	-0.7391	0.1688
2	270.35	0.7495	0.2490	0.0207	-0.6313	0.0998	2.2507	1.1127	-0.8210	0.1792
2	270.35	0.7996	0.2791	0.0218	-0.7040	0.1130	2.3292	1.2717	-0.9067	0.1879
2	270.35	0.8578	0.3080	0.0234	-0.7656	0.1291	2.4376	1.4530	-0.5233	0.1741
2	270.35	0.9100	0.3382	0.0264	-0.8399	0.1439	2.3392	1.6147	-0.9515	0.1804
2	270.35	0.9727	0.4745	0.0340	-0.8483	0.1619	2.3066	1.8030	-0.8213	0.1895
3	270	0.1938	0.0420	0.0055	-0.0183	0.0024	0.0986	0.0177	0.1145	0.0733
3	270	0.2357	0.0875	0.0040	0.0119	0.0066	0.0504	0.0380	0.1503	0.0701
3	270	0.2995	-0.0351	0.0031	-0.0325	0.0119	0.2858	0.0789	0.2866	0.1474
3	270	0.3493	-0.0811	0.0032	-0.0621	0.0238	0.4800	0.1329	0.5426	0.0696
3	270	0.4000	-0.0982	0.0034	-0.0738	0.0363	0.6913	0.2079	0.9996	0.1052
3	270	0.4497	-0.1786	0.0052	-0.1242	0.0493	0.8639	0.2921	0.7203	0.0686
3	270	0.4997	-0.2243	0.0039	-0.1542	0.0663	1.0662	0.4035	0.8174	0.1015
3	270	0.5556	-0.2910	0.0061	-0.1950	0.0848	1.2639	0.5412	1.1282	0.0917
3	270	0.5995	-0.3225	0.0075	-0.2138	0.1022	1.4336	0.6582	0.9552	0.1311
3	270	0.6498	-0.3721	0.0078	-0.1970	0.1206	1.4802	0.8049	1.0774	0.1026
3	270	0.6890	-0.4128	0.0109	-0.2040	0.1384	1.5654	0.9272	1.0584	0.1205
3	270	0.7495	-0.4366	0.0112	-0.2382	0.1643	1.5944	1.1179	0.8917	0.1502
3	270	0.7998	-0.5452	0.0150	-0.2544	0.1865	1.6737	1.2789	1.1166	0.1507
3	270	0.8577	-0.6040	0.0154	-0.2147	0.2087	1.6392	1.4714	1.4771	0.5250

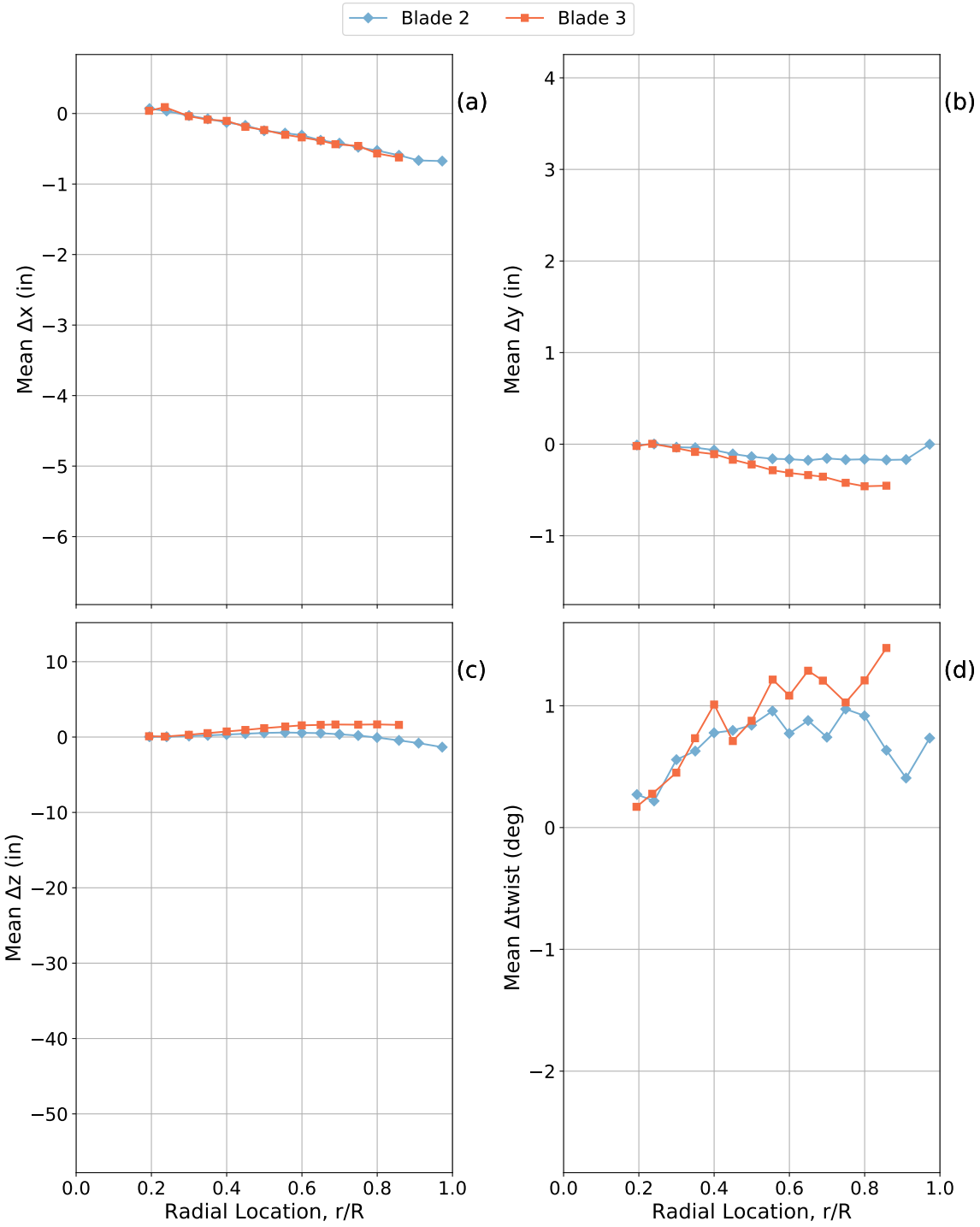


Figure 3.48-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0698	0.0047	-0.0095	0.0021	0.0385	0.0193	0.2712	0.0728
2	274.92	0.2405	0.0359	0.0023	0.0018	0.0069	0.0401	0.0425	0.2180	0.0482
2	274.92	0.2999	-0.0302	0.0031	-0.0330	0.0123	0.1344	0.0854	0.5574	0.1172
2	274.92	0.3498	-0.0761	0.0037	-0.0379	0.0218	0.2199	0.1468	0.6279	0.0978
2	274.92	0.3998	-0.1274	0.0069	-0.0643	0.0351	0.3294	0.2279	0.7777	0.0871
2	274.92	0.4496	-0.1685	0.0045	-0.1066	0.0433	0.4431	0.3333	0.7974	0.1487
2	274.92	0.4995	-0.2439	0.0050	-0.1364	0.0597	0.5431	0.4650	0.8404	0.1333
2	274.92	0.5551	-0.2784	0.0069	-0.1595	0.0757	0.6012	0.6330	0.9570	0.1065
2	274.92	0.5996	-0.3073	0.0084	-0.1638	0.0898	0.5589	0.7836	0.7724	0.1293
2	274.92	0.6497	-0.3801	0.0097	-0.1758	0.1041	0.5181	0.9615	0.8786	0.1174
2	274.92	0.6996	-0.4209	0.0110	-0.1556	0.1221	0.3664	1.1506	0.7417	0.1667
2	274.92	0.7495	-0.4783	0.0129	-0.1694	0.1384	0.1990	1.3409	0.9729	0.1267
2	274.92	0.7996	-0.5244	0.0139	-0.1649	0.1539	-0.0651	1.5395	0.9175	0.1429
2	274.92	0.8578	-0.5924	0.0183	-0.1721	0.1741	-0.4458	1.7726	0.6348	0.1476
2	274.92	0.9100	-0.6657	0.0204	-0.1681	0.1976	-0.8056	1.9923	0.4065	0.3463
2	274.92	0.9727	-0.6745	0.0205	-0.0008	0.2116	-1.3401	2.2610	0.7346	0.3485
3	274.92	0.1938	0.0386	0.0039	-0.0195	0.0030	0.1039	0.0352	0.1703	0.0408
3	274.92	0.2357	0.0903	0.0021	0.0042	0.0049	0.0610	0.0629	0.2774	0.0866
3	274.92	0.2995	-0.0389	0.0026	-0.0433	0.0155	0.3001	0.1521	0.4506	0.1117
3	274.92	0.3493	-0.0865	0.0037	-0.0843	0.0250	0.5182	0.2515	0.7333	0.1136
3	274.92	0.4000	-0.1047	0.0046	-0.1085	0.0409	0.7390	0.3952	1.0100	0.1131
3	274.92	0.4497	-0.1888	0.0054	-0.1698	0.0602	0.9400	0.5672	0.7103	0.1370
3	274.92	0.4997	-0.2342	0.0070	-0.2212	0.0799	1.1776	0.7627	0.8767	0.1365
3	274.92	0.5556	-0.3019	0.0101	-0.2845	0.1058	1.3922	1.0099	1.2147	0.1454
3	274.92	0.5995	-0.3386	0.0124	-0.3136	0.1268	1.5538	1.2193	1.0835	0.1317
3	274.92	0.6498	-0.3855	0.0161	-0.3372	0.1523	1.6153	1.4718	1.2876	0.1223
3	274.92	0.6890	-0.4357	0.0197	-0.3548	0.1741	1.6657	1.6811	1.2063	0.1376
3	274.92	0.7495	-0.4599	0.0228	-0.4214	0.2067	1.6423	2.0032	1.0272	0.1514
3	274.92	0.7998	-0.5669	0.0246	-0.4597	0.2345	1.6789	2.2773	1.2079	0.1429
3	274.92	0.8577	-0.6232	0.0280	-0.4535	0.2671	1.6116	2.5805	1.4742	0.2111

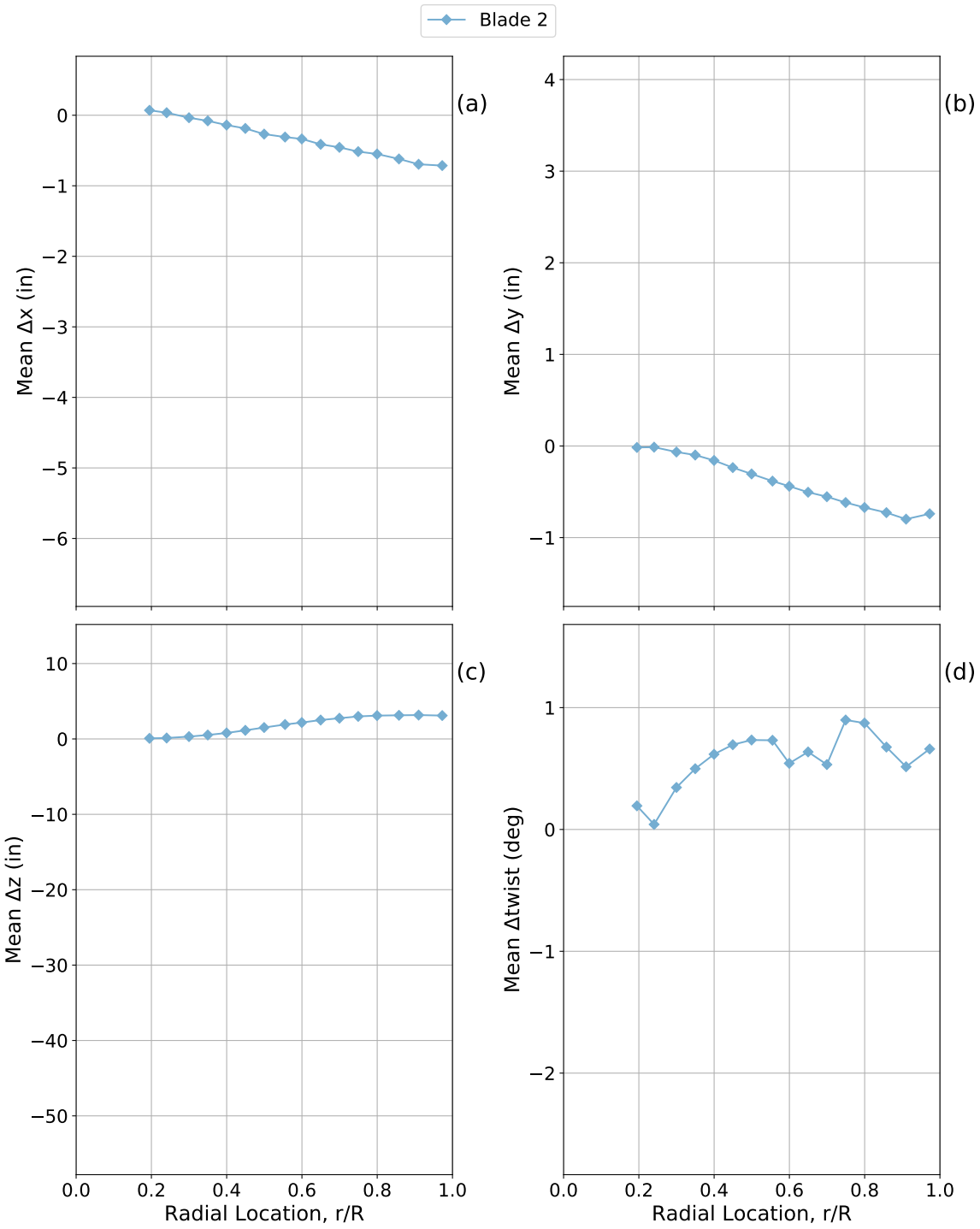


Figure 3.48-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0700	0.0033	-0.0159	0.0021	0.0804	0.0161	0.1938	0.0427
2	285.12	0.2405	0.0361	0.0024	-0.0128	0.0043	0.1252	0.0340	0.0415	0.0634
2	285.12	0.2999	-0.0354	0.0039	-0.0655	0.0117	0.3091	0.0712	0.3447	0.0888
2	285.12	0.3498	-0.0796	0.0030	-0.0988	0.0163	0.5232	0.1203	0.4986	0.0926
2	285.12	0.3998	-0.1395	0.0039	-0.1579	0.0282	0.7928	0.1872	0.6174	0.0887
2	285.12	0.4496	-0.1870	0.0034	-0.2359	0.0402	1.1414	0.2635	0.6956	0.1178
2	285.12	0.4995	-0.2674	0.0048	-0.3052	0.0498	1.5132	0.3484	0.7341	0.1232
2	285.12	0.5551	-0.3092	0.0084	-0.3833	0.0617	1.9130	0.4475	0.7320	0.1216
2	285.12	0.5996	-0.3360	0.0104	-0.4392	0.0721	2.1756	0.5307	0.5429	0.1184
2	285.12	0.6497	-0.4122	0.0130	-0.5048	0.0833	2.5070	0.6307	0.6365	0.1327
2	285.12	0.6996	-0.4553	0.0164	-0.5536	0.0956	2.7465	0.7325	0.5326	0.1628
2	285.12	0.7495	-0.5158	0.0164	-0.6172	0.1065	2.9880	0.8400	0.8985	0.1656
2	285.12	0.7996	-0.5496	0.0170	-0.6714	0.1188	3.0957	0.9547	0.8732	0.1783
2	285.12	0.8578	-0.6197	0.0175	-0.7274	0.1324	3.1366	1.1012	0.6761	0.1673
2	285.12	0.9100	-0.6952	0.0195	-0.7986	0.1432	3.1669	1.2368	0.5145	0.1745
2	285.12	0.9727	-0.7139	0.0246	-0.7400	0.1575	3.1006	1.4074	0.6606	0.1794

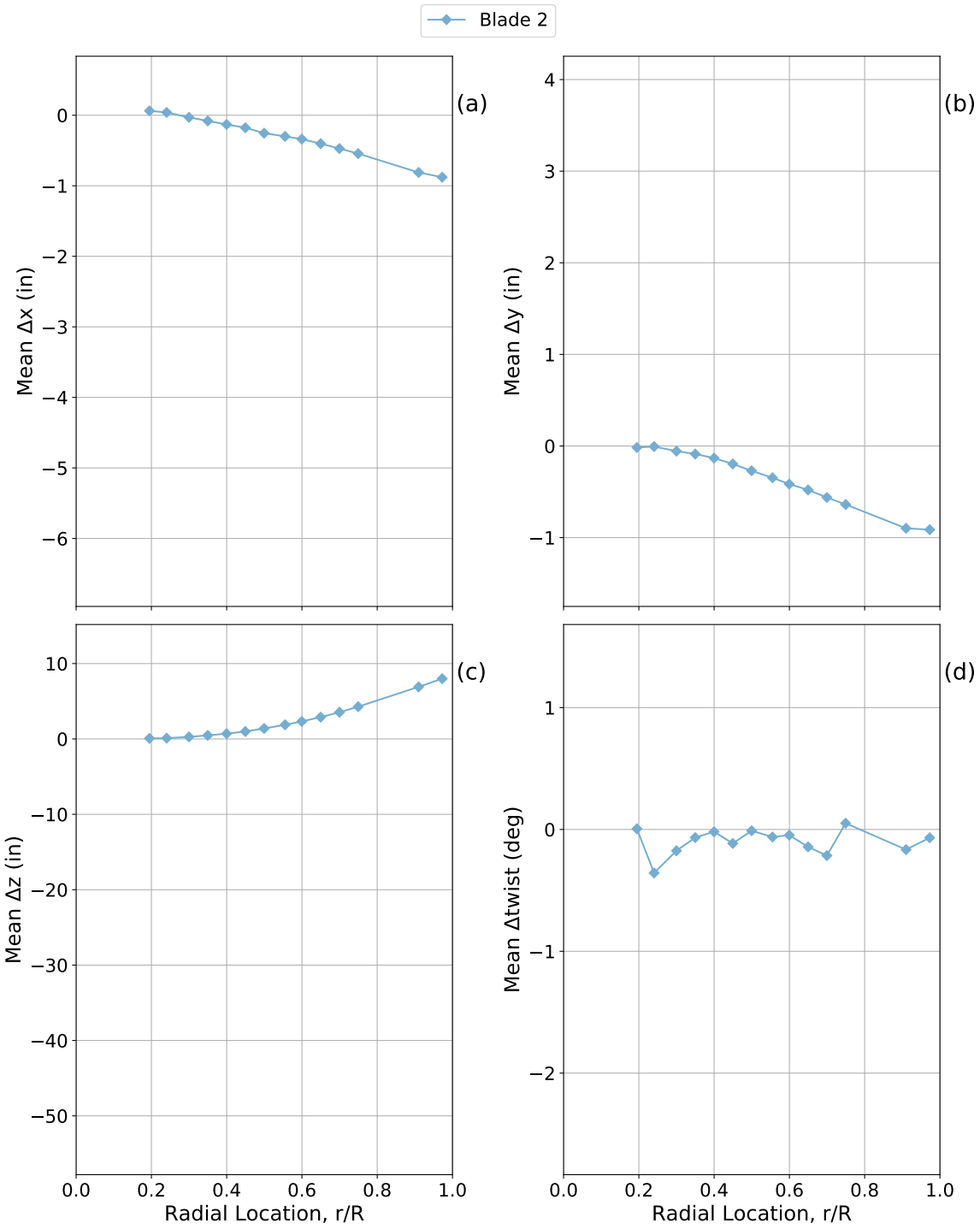


Figure 3.48-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0621	0.0035	-0.0164	0.0014	0.0756	0.0106	0.0052	0.0423
2	299.88	0.2405	0.0398	0.0024	-0.0063	0.0049	0.1034	0.0270	-0.3569	0.0666
2	299.88	0.2999	-0.0302	0.0052	-0.0561	0.0078	0.2716	0.0511	-0.1748	0.0919
2	299.88	0.3498	-0.0805	0.0046	-0.0874	0.0146	0.4725	0.0860	-0.0668	0.1246
2	299.88	0.3998	-0.1306	0.0040	-0.1322	0.0232	0.6993	0.1364	-0.0187	0.1421
2	299.88	0.4496	-0.1771	0.0035	-0.1960	0.0309	0.9868	0.1913	-0.1146	0.1393
2	299.88	0.4995	-0.2543	0.0059	-0.2703	0.0399	1.3878	0.2605	-0.0106	0.1295
2	299.88	0.5551	-0.2997	0.0057	-0.3471	0.0516	1.8734	0.3663	-0.0619	0.1272
2	299.88	0.5996	-0.3386	0.0077	-0.4156	0.0625	2.3241	0.4730	-0.0468	0.1261
2	299.88	0.6497	-0.4030	0.0120	-0.4795	0.0754	2.8888	0.6159	-0.1431	0.1326
2	299.88	0.6996	-0.4726	0.0190	-0.5615	0.0903	3.5348	0.7935	-0.2143	0.1627
2	299.88	0.7495	-0.5437	0.0267	-0.6386	0.1039	4.2792	0.9912	0.0513	0.2245
2	299.88	0.9100	-0.8113	0.0682	-0.8986	0.1530	6.9087	1.7635	-0.1657	0.1565
2	299.88	0.9727	-0.8785	0.0951	-0.9133	0.1715	7.9909	2.0838	-0.0681	0.1969

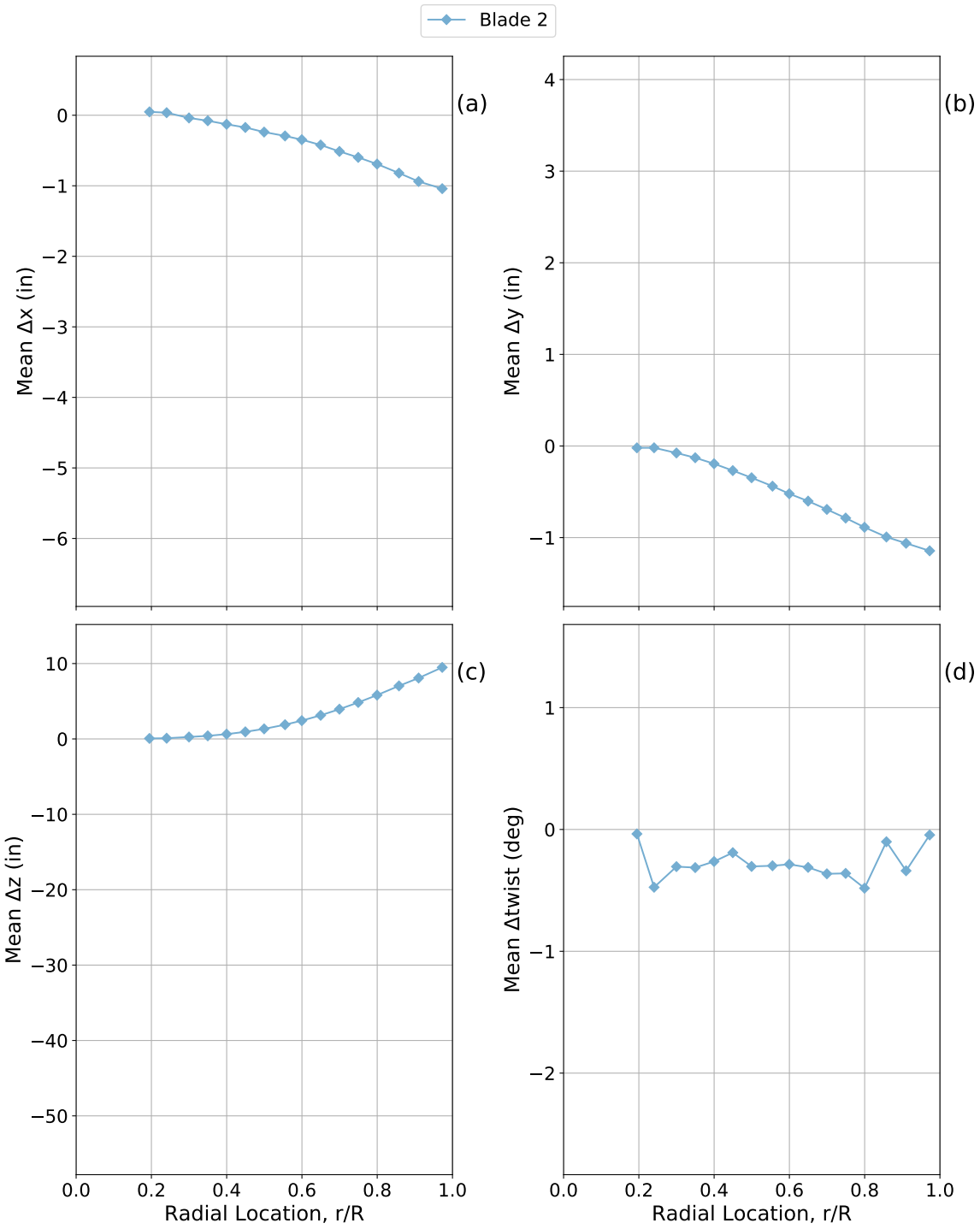


Figure 3.48-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0478	0.0031	-0.0202	0.0016	0.0674	0.0069	-0.0364	0.0373
2	315	0.2405	0.0363	0.0037	-0.0195	0.0050	0.0933	0.0164	-0.4745	0.0555
2	315	0.2999	-0.0382	0.0024	-0.0760	0.0099	0.2588	0.0333	-0.3051	0.0870
2	315	0.3498	-0.0781	0.0037	-0.1284	0.0143	0.4100	0.0520	-0.3131	0.0934
2	315	0.3998	-0.1282	0.0052	-0.1936	0.0254	0.6348	0.0848	-0.2631	0.0809
2	315	0.4496	-0.1733	0.0053	-0.2686	0.0338	0.9428	0.1178	-0.1905	0.0903
2	315	0.4995	-0.2385	0.0062	-0.3466	0.0439	1.3333	0.1601	-0.3036	0.0897
2	315	0.5551	-0.2936	0.0080	-0.4386	0.0569	1.8894	0.2122	-0.2980	0.1076
2	315	0.5996	-0.3467	0.0093	-0.5213	0.0692	2.4265	0.2592	-0.2863	0.1057
2	315	0.6497	-0.4219	0.0116	-0.6016	0.0826	3.1318	0.3164	-0.3113	0.1192
2	315	0.6996	-0.5131	0.0154	-0.6924	0.0965	3.9467	0.3702	-0.3640	0.1426
2	315	0.7495	-0.5977	0.0184	-0.7865	0.1127	4.8387	0.4298	-0.3605	0.1383
2	315	0.7996	-0.6919	0.0223	-0.8873	0.1292	5.8156	0.4913	-0.4821	0.1201
2	315	0.8578	-0.8198	0.0269	-0.9934	0.1478	7.0366	0.5694	-0.1008	0.2004
2	315	0.9100	-0.9393	0.0331	-1.0617	0.1654	8.0809	0.6474	-0.3391	0.1417
2	315	0.9727	-1.0410	0.0454	-1.1444	0.1883	9.4908	0.7478	-0.0452	0.1419

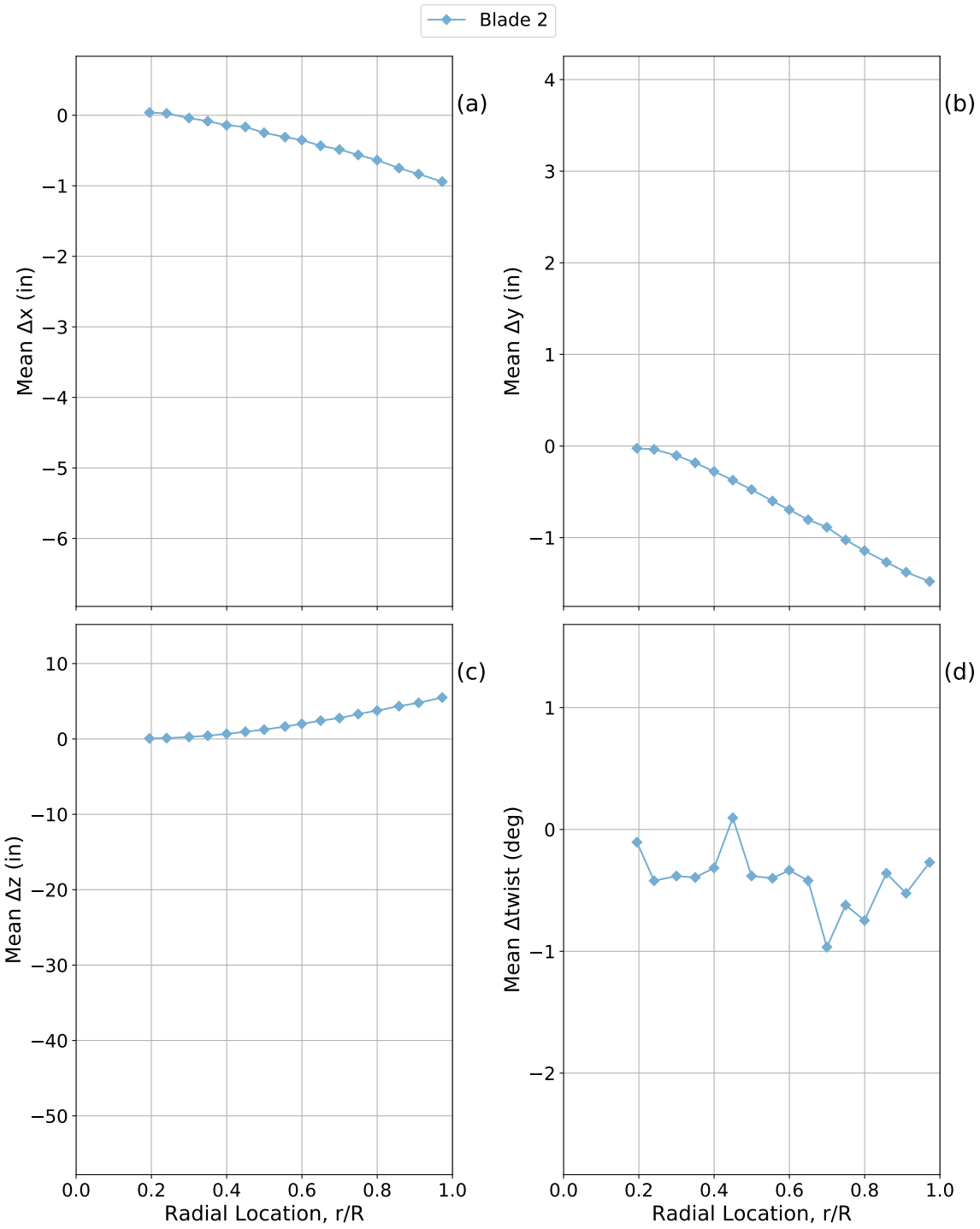


Figure 3.48-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0380	0.0034	-0.0254	0.0016	0.0639	0.0115	-0.1045	0.0301
2	330.12	0.2405	0.0263	0.0021	-0.0370	0.0041	0.1074	0.0252	-0.4211	0.0531
2	330.12	0.2999	-0.0400	0.0030	-0.1044	0.0082	0.2601	0.0553	-0.3826	0.0709
2	330.12	0.3498	-0.0844	0.0036	-0.1835	0.0129	0.4332	0.0910	-0.3944	0.0779
2	330.12	0.3998	-0.1415	0.0068	-0.2782	0.0216	0.6678	0.1457	-0.3159	0.0862
2	330.12	0.4496	-0.1656	0.0056	-0.3729	0.0303	0.9548	0.2115	0.0954	0.0981
2	330.12	0.4995	-0.2482	0.0075	-0.4757	0.0401	1.2333	0.2850	-0.3818	0.1242
2	330.12	0.5551	-0.3101	0.0093	-0.6010	0.0542	1.6444	0.3883	-0.4010	0.1149
2	330.12	0.5996	-0.3520	0.0110	-0.6956	0.0656	2.0007	0.4845	-0.3349	0.1276
2	330.12	0.6497	-0.4333	0.0172	-0.8045	0.0824	2.4260	0.6005	-0.4201	0.1605
2	330.12	0.6996	-0.4859	0.0178	-0.8869	0.0963	2.7629	0.7332	-0.9661	0.1707
2	330.12	0.7495	-0.5627	0.0225	-1.0259	0.1134	3.2984	0.8915	-0.6214	0.1744
2	330.12	0.7996	-0.6364	0.0252	-1.1433	0.1312	3.7594	1.0644	-0.7468	0.1775
2	330.12	0.8578	-0.7497	0.0321	-1.2686	0.1506	4.3449	1.2868	-0.3595	0.1806
2	330.12	0.9100	-0.8342	0.0405	-1.3777	0.1678	4.7900	1.4969	-0.5244	0.2058
2	330.12	0.9727	-0.9415	0.0567	-1.4783	0.1884	5.4940	1.7600	-0.2697	0.2195

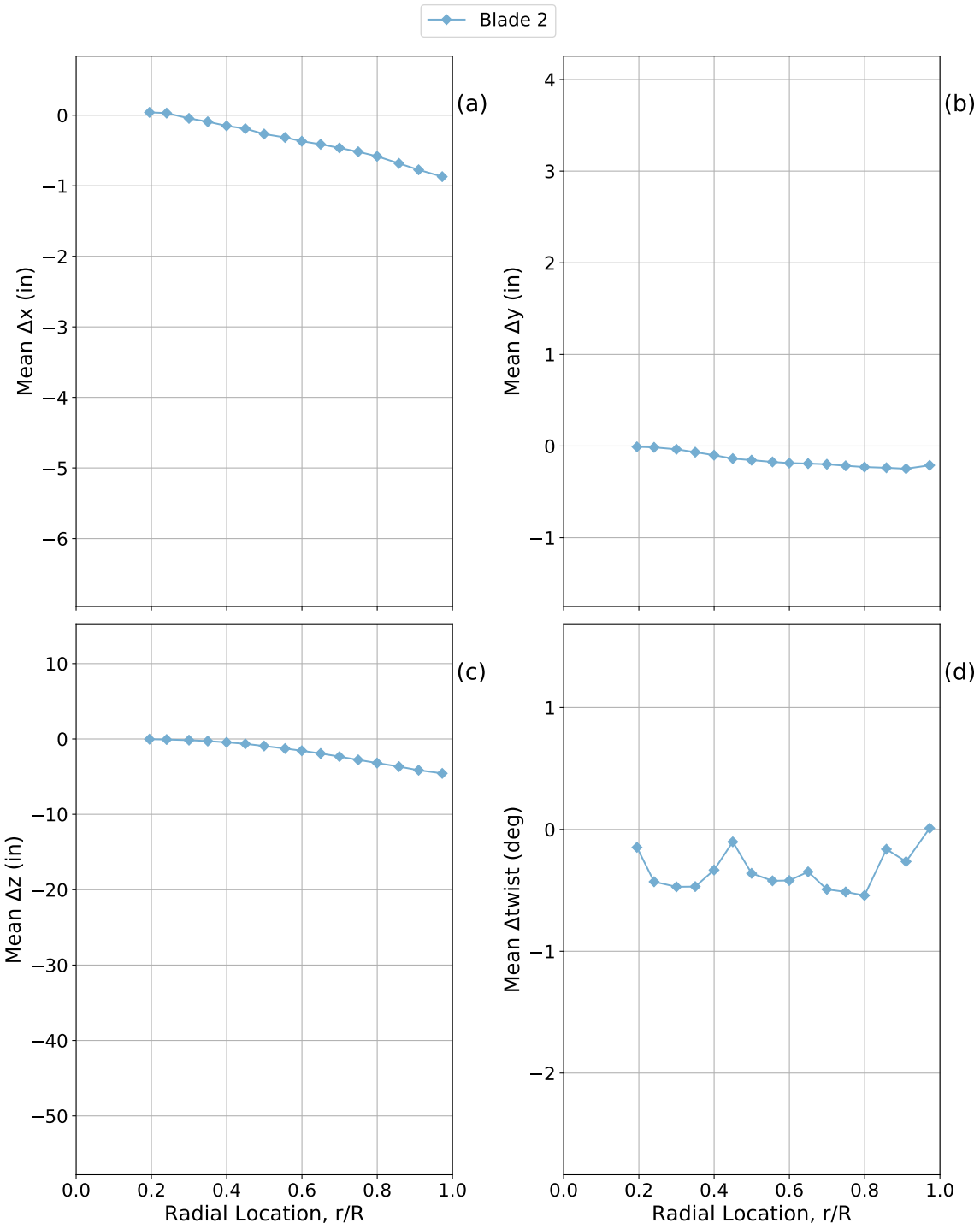


Figure 3.48-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0401	0.0036	-0.0088	0.0022	-0.0307	0.0119	-0.1467	0.0437
2	344.88	0.2405	0.0300	0.0035	-0.0147	0.0043	-0.0760	0.0317	-0.4292	0.0699
2	344.88	0.2999	-0.0451	0.0035	-0.0359	0.0096	-0.1598	0.0647	-0.4711	0.1019
2	344.88	0.3498	-0.0922	0.0030	-0.0674	0.0156	-0.2812	0.1070	-0.4691	0.0950
2	344.88	0.3998	-0.1512	0.0037	-0.1000	0.0250	-0.4433	0.1740	-0.3331	0.1303
2	344.88	0.4496	-0.1901	0.0043	-0.1374	0.0330	-0.6510	0.2463	-0.1016	0.1086
2	344.88	0.4995	-0.2661	0.0070	-0.1545	0.0460	-0.9373	0.3476	-0.3602	0.1303
2	344.88	0.5551	-0.3149	0.0078	-0.1739	0.0618	-1.2765	0.4798	-0.4217	0.1364
2	344.88	0.5996	-0.3682	0.0098	-0.1865	0.0721	-1.5665	0.5942	-0.4192	0.1431
2	344.88	0.6497	-0.4118	0.0118	-0.1918	0.0880	-1.9335	0.7328	-0.3477	0.1636
2	344.88	0.6996	-0.4632	0.0140	-0.1993	0.1036	-2.3444	0.8768	-0.4916	0.1486
2	344.88	0.7495	-0.5173	0.0168	-0.2160	0.1190	-2.7794	1.0250	-0.5132	0.1774
2	344.88	0.7996	-0.5820	0.0198	-0.2297	0.1340	-3.1966	1.1711	-0.5420	0.1865
2	344.88	0.8578	-0.6830	0.0221	-0.2377	0.1535	-3.6731	1.3353	-0.1621	0.1726
2	344.88	0.9100	-0.7741	0.0233	-0.2478	0.1703	-4.1506	1.4867	-0.2632	0.1761
2	344.88	0.9727	-0.8712	0.0216	-0.2107	0.1912	-4.5732	1.6647	0.0099	0.1667

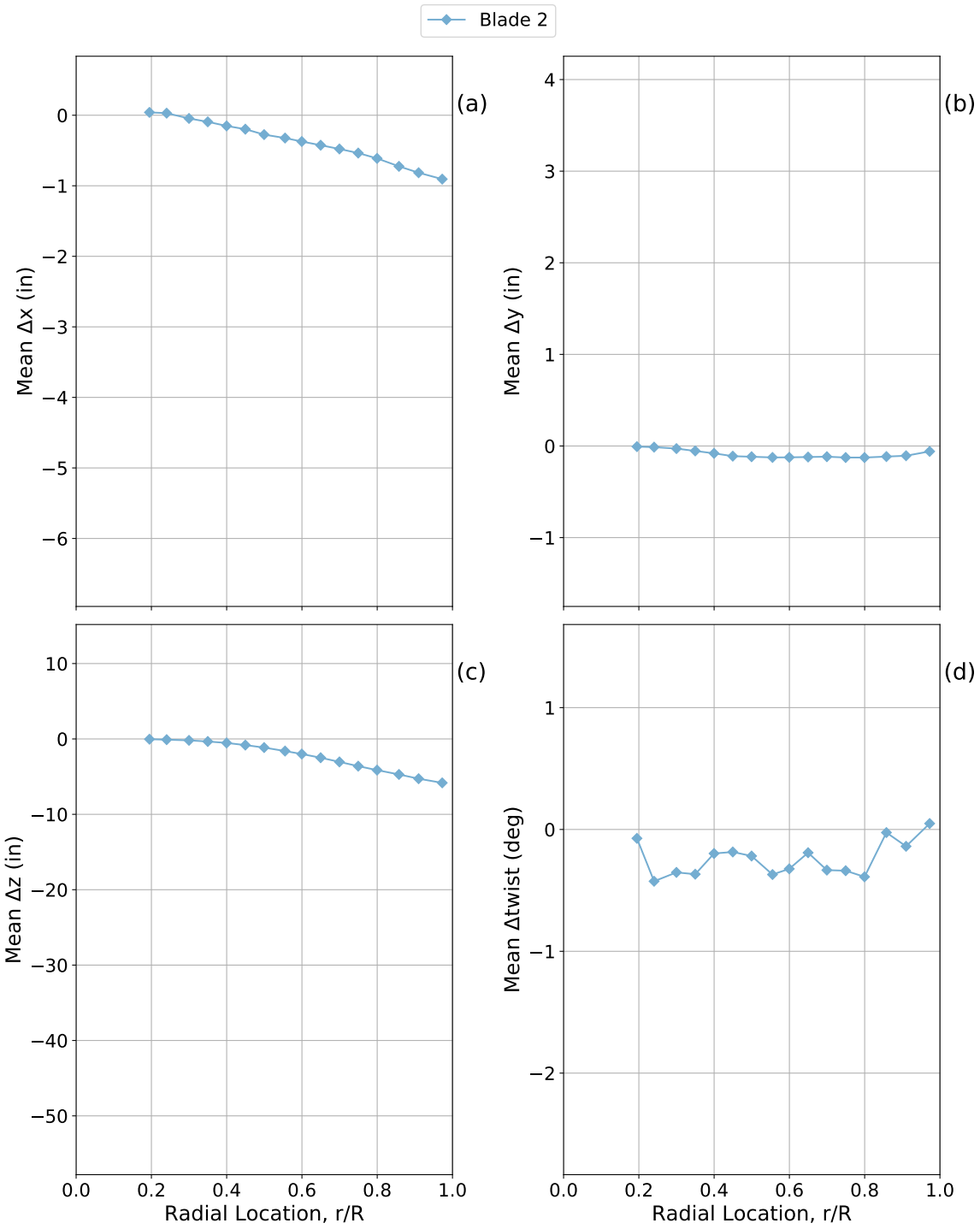


Figure 3.48-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0404	0.0025	-0.0068	0.0026	-0.0356	0.0125	-0.0730	0.0395
2	350.16	0.2405	0.0295	0.0022	-0.0124	0.0031	-0.0964	0.0288	-0.4253	0.0722
2	350.16	0.2999	-0.0454	0.0039	-0.0284	0.0093	-0.1893	0.0623	-0.3525	0.0953
2	350.16	0.3498	-0.0934	0.0048	-0.0540	0.0157	-0.3376	0.1047	-0.3673	0.0950
2	350.16	0.3998	-0.1517	0.0047	-0.0802	0.0236	-0.5315	0.1672	-0.1972	0.1126
2	350.16	0.4496	-0.1977	0.0064	-0.1110	0.0314	-0.8151	0.2289	-0.1848	0.0896
2	350.16	0.4995	-0.2746	0.0067	-0.1172	0.0405	-1.1454	0.3162	-0.2179	0.1438
2	350.16	0.5551	-0.3231	0.0081	-0.1250	0.0500	-1.6073	0.4142	-0.3700	0.1149
2	350.16	0.5996	-0.3725	0.0104	-0.1238	0.0591	-2.0009	0.5073	-0.3232	0.1607
2	350.16	0.6497	-0.4248	0.0132	-0.1205	0.0676	-2.4916	0.6151	-0.1908	0.1214
2	350.16	0.6996	-0.4782	0.0182	-0.1168	0.0800	-3.0457	0.7405	-0.3338	0.1152
2	350.16	0.7495	-0.5358	0.0212	-0.1258	0.0883	-3.6096	0.8725	-0.3386	0.1168
2	350.16	0.7996	-0.6119	0.0249	-0.1260	0.0999	-4.1362	1.0094	-0.3890	0.1433
2	350.16	0.8578	-0.7245	0.0290	-0.1155	0.1124	-4.7108	1.1584	-0.0255	0.1408
2	350.16	0.9100	-0.8149	0.0324	-0.1065	0.1229	-5.2750	1.2966	-0.1383	0.1368
2	350.16	0.9727	-0.9057	0.0331	-0.0590	0.1372	-5.8251	1.4511	0.0488	0.1235

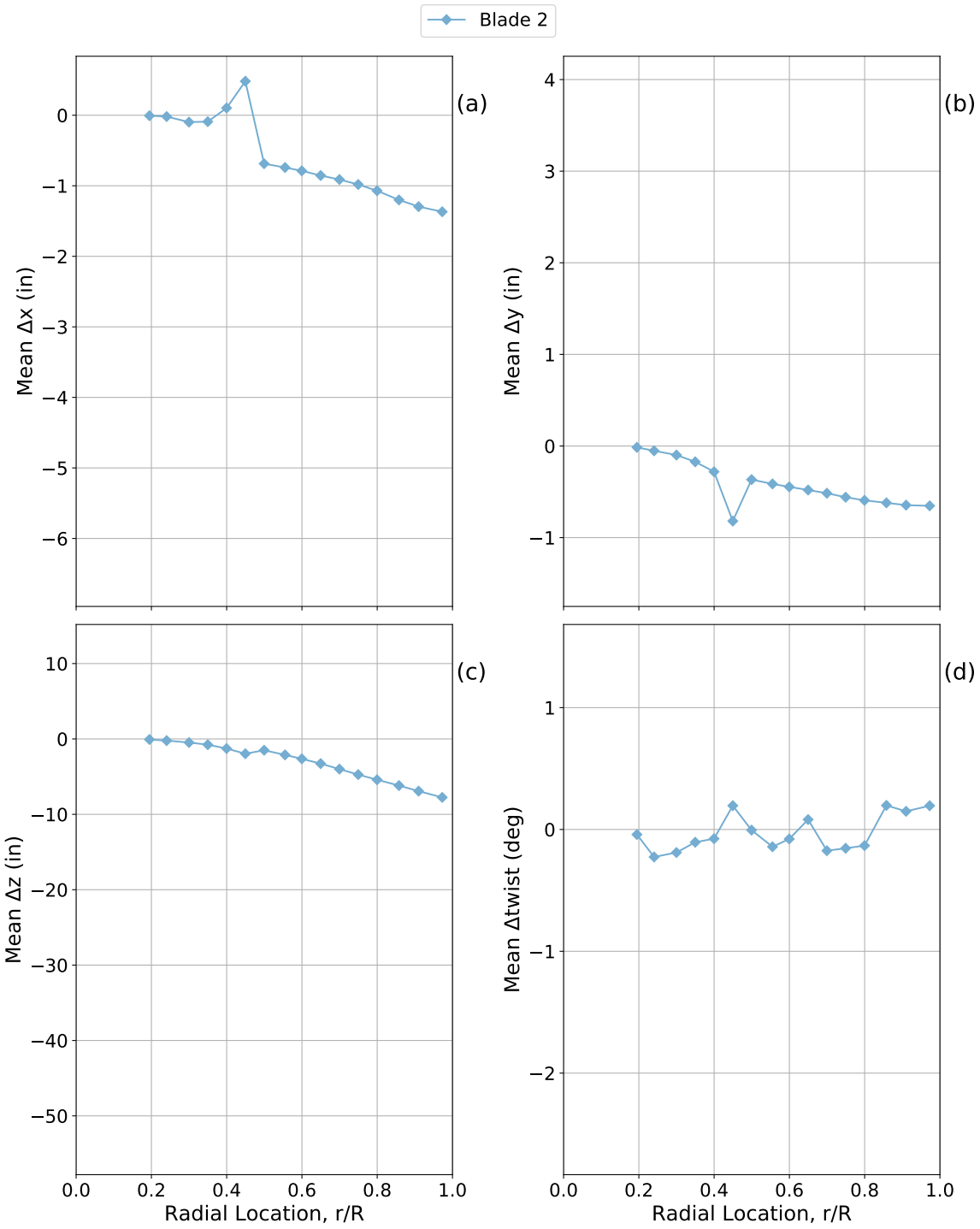


Figure 3.48-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.055$, $\mu = 0.999$, $\alpha = 4°$ NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Table 3.48-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.055, μ = 0.999, α = 4°
NFAC run 95, point 37. BD run 44, points 8217 to 8227.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0069	0.1003	-0.0150	0.0055	-0.0752	0.0086	-0.0416	0.0305
2	355.08	0.2405	-0.0187	0.0415	-0.0523	0.0114	-0.2230	0.0157	-0.2259	0.0716
2	355.08	0.2999	-0.0971	0.0386	-0.0988	0.0262	-0.4737	0.0342	-0.1894	0.0809
2	355.08	0.3498	-0.0912	0.1083	-0.1726	0.0453	-0.7614	0.0563	-0.1050	0.0857
2	355.08	0.3998	0.1025	0.1862	-0.2811	0.0717	-1.2736	0.0875	-0.0757	0.1039
2	355.08	0.4496	0.4819	0.1488	-0.8197	0.1213	-1.9641	0.1051	0.1951	0.1016
2	355.08	0.4995	-0.6870	0.2430	-0.3667	0.4586	-1.4984	0.6428	-0.0055	0.1317
2	355.08	0.5551	-0.7411	0.2410	-0.4139	0.5170	-2.1162	0.7314	-0.1422	0.1673
2	355.08	0.5996	-0.7881	0.2396	-0.4461	0.5633	-2.6397	0.8043	-0.0780	0.1636
2	355.08	0.6497	-0.8547	0.2395	-0.4804	0.6171	-3.2721	0.8906	0.0813	0.1774
2	355.08	0.6996	-0.9114	0.2375	-0.5156	0.6675	-4.0028	0.9783	-0.1745	0.1692
2	355.08	0.7495	-0.9817	0.2324	-0.5593	0.7201	-4.7288	1.0723	-0.1545	0.2004
2	355.08	0.7996	-1.0702	0.2317	-0.5933	0.7717	-5.4122	1.1790	-0.1327	0.1899
2	355.08	0.8578	-1.2004	0.2284	-0.6206	0.8321	-6.1850	1.3023	0.1974	0.1895
2	355.08	0.9100	-1.2955	0.2269	-0.6457	0.8857	-6.9235	1.4152	0.1488	0.1783
2	355.08	0.9727	-1.3682	0.2142	-0.6533	0.9545	-7.7560	1.5637	0.1947	0.1846

3.49 Run 96, Point 14

3.49.1 Pitch, Flap, and Lag

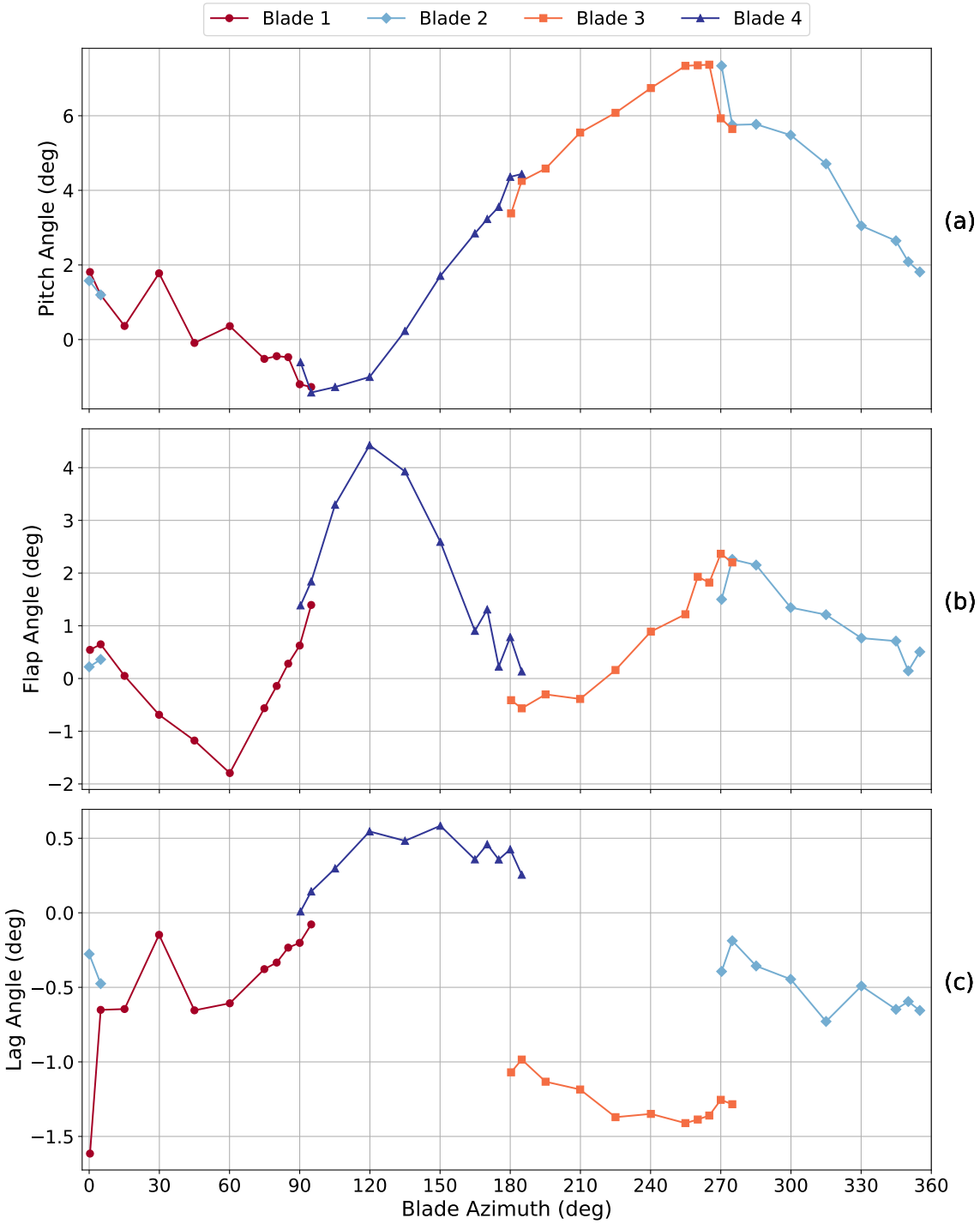


Figure 3.49-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	1.5755	0.2207	-0.2767	0.1639	0.4803	0.0861
0.35	1	1.8102	0.5432	-1.6151	0.2119	0.4001	0.1514
4.92	1	1.1970	0.6490	-0.6512	0.1387	0.7040	0.0475
4.92	2	1.1966	0.3616	-0.4752	0.1223	0.5305	0.0614
15.12	1	0.3641	0.0497	-0.6455	0.1413	0.2553	0.0443
29.88	1	1.7765	-0.6884	-0.1477	0.3367	0.1842	0.1770
45	1	-0.0909	-1.1770	-0.6542	0.1528	0.2945	0.1067
60.12	1	0.3598	-1.7937	-0.6070	0.5154	0.2570	0.0999
74.88	1	-0.5184	-0.5640	-0.3779	0.4250	0.1909	0.1178
80.16	1	-0.4448	-0.1420	-0.3338	0.3978	0.2243	0.0817
85.08	1	-0.4724	0.2810	-0.2337	0.6235	0.3510	0.1488
90	1	-1.1995	0.6248	-0.2017	0.0521	0.2905	0.0294
90.35	4	-0.6091	1.3868	0.0087	0.1206	0.3757	0.0521
94.92	1	-1.2718	1.3946	-0.0781	0.0440	0.3080	0.0534
94.92	4	-1.4197	1.8402	0.1431	0.0377	0.3480	0.0428
105.12	4	-1.2730	3.2956	0.2972	0.0374	0.2914	0.0388
119.88	4	-1.0031	4.4257	0.5456	0.0405	0.2490	0.0468
135	4	0.2299	3.9270	0.4827	0.0547	0.7053	0.0466
150.12	4	1.7064	2.5923	0.5838	0.0455	0.5829	0.1063
164.88	4	2.8449	0.9036	0.3581	0.0639	0.8435	0.1403
170.16	4	3.2302	1.3088	0.4588	0.0520	0.3529	0.0415
175.08	4	3.5547	0.2251	0.3573	0.0334	0.6061	0.0670
180	4	4.3613	0.7848	0.4253	0.3683	0.7237	0.0788
180.35	3	3.3821	-0.4118	-1.0701	0.1121	0.8166	0.0925
184.92	3	4.2547	-0.5660	-0.9844	0.0721	1.1438	0.0714
184.92	4	4.4390	0.1323	0.2552	0.0740	0.6974	0.1296
195.12	3	4.5840	-0.3013	-1.1329	0.0467	0.5014	0.0702
209.88	3	5.5492	-0.3881	-1.1853	0.0338	0.3020	0.0462
225	3	6.0784	0.1611	-1.3708	0.0396	0.7917	0.0422
240.12	3	6.7425	0.8896	-1.3488	0.0617	0.4484	0.0421
254.88	3	7.3381	1.2189	-1.4107	0.0697	0.4358	0.0640
260.16	3	7.3536	1.9290	-1.3865	0.0652	0.2999	0.0309
265.08	3	7.3692	1.8203	-1.3599	0.1119	0.3913	0.0693
270	3	5.9303	2.3664	-1.2544	0.1028	0.4052	0.0570
270.35	2	7.3388	1.5011	-0.3934	0.1640	0.3623	0.0965
274.92	2	5.7543	2.2601	-0.1874	0.0489	0.4252	0.0660
274.92	3	5.6439	2.2020	-1.2841	0.1461	0.3663	0.0593
285.12	2	5.7708	2.1519	-0.3566	0.0532	0.2034	0.0763
299.88	2	5.4806	1.3456	-0.4456	0.0219	0.0737	0.0414
315	2	4.7111	1.2102	-0.7289	0.0305	0.2706	0.0507
330.12	2	3.0482	0.7661	-0.4913	0.0822	0.4206	0.0630
344.88	2	2.6482	0.7100	-0.6476	0.0668	0.4840	0.0791
350.16	2	2.0867	0.1441	-0.5953	1.0196	0.3904	0.0725
355.08	2	1.8123	0.5062	-0.6553	0.1607	0.4891	0.0970

3.49.2 Spanwise Elastic Deformations

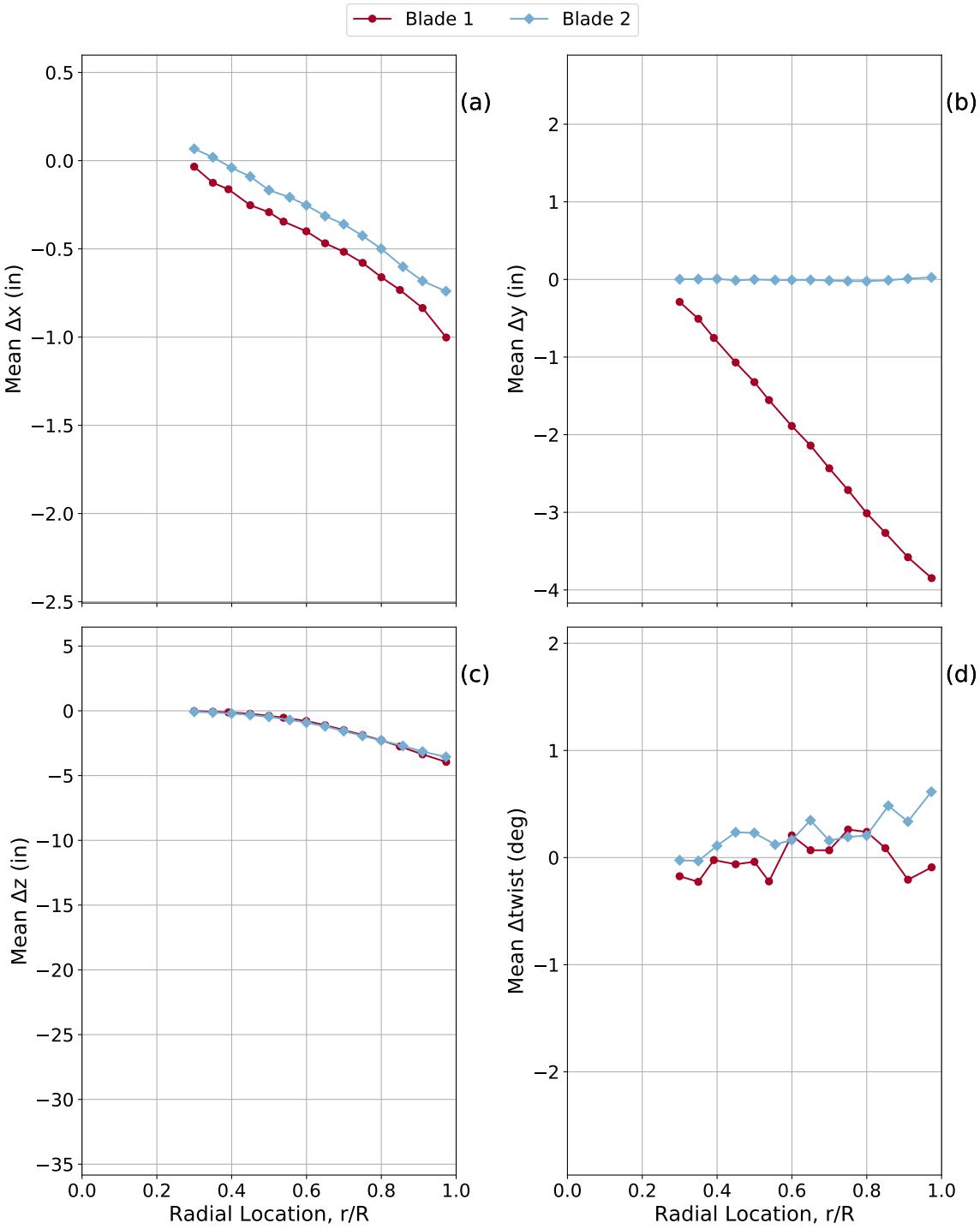


Figure 3.49-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2998	-0.0342	0.0125	-0.2894	0.0244	-0.0244	0.0697	-0.1741	0.1372
1	0.35	0.3498	-0.1254	0.0149	-0.5069	0.0432	-0.0687	0.1218	-0.2266	0.1845
1	0.35	0.3913	-0.1622	0.0138	-0.7532	0.0645	-0.1217	0.1808	-0.0234	0.1630
1	0.35	0.4496	-0.2525	0.0150	-1.0699	0.0912	-0.2304	0.2621	-0.0625	0.1491
1	0.35	0.4997	-0.2920	0.0177	-1.3226	0.1144	-0.3820	0.3384	-0.0397	0.1551
1	0.35	0.5387	-0.3456	0.0187	-1.5544	0.1339	-0.5335	0.4012	-0.2224	0.1653
1	0.35	0.5996	-0.4003	0.0195	-1.8881	0.1620	-0.7878	0.5107	0.2065	0.1600
1	0.35	0.6498	-0.4683	0.0200	-2.1400	0.1884	-1.1073	0.6030	0.0687	0.1509
1	0.35	0.6998	-0.5167	0.0226	-2.4336	0.2122	-1.4859	0.6936	0.0680	0.2055
1	0.35	0.7500	-0.5792	0.0248	-2.7136	0.2363	-1.8696	0.8023	0.2616	0.1611
1	0.35	0.8001	-0.6606	0.0269	-3.0126	0.2618	-2.2741	0.8983	0.2394	0.1676
1	0.35	0.8497	-0.7328	0.0297	-3.2656	0.2857	-2.7516	0.9961	0.0877	0.1739
1	0.35	0.9102	-0.8352	0.0312	-3.5794	0.3165	-3.3637	1.1227	-0.2068	0.1701
1	0.35	0.9734	-1.0022	0.0376	-3.8479	0.3503	-3.9433	1.2465	-0.0912	0.1817
2	0	0.2999	0.0671	0.0056	0.0025	0.0139	-0.0737	0.0377	-0.0250	0.1269
2	0	0.3498	0.0193	0.0051	0.0043	0.0239	-0.1296	0.0656	-0.0315	0.1687
2	0	0.3998	-0.0402	0.0045	0.0069	0.0379	-0.2079	0.1045	0.1102	0.1393
2	0	0.4496	-0.0902	0.0049	-0.0121	0.0516	-0.3221	0.1369	0.2362	0.1480
2	0	0.4995	-0.1670	0.0086	-0.0009	0.0646	-0.4632	0.1760	0.2299	0.1564
2	0	0.5551	-0.2073	0.0079	-0.0078	0.0819	-0.7029	0.2264	0.1215	0.1543
2	0	0.5996	-0.2528	0.0062	-0.0069	0.0963	-0.9155	0.2719	0.1636	0.1628
2	0	0.6497	-0.3140	0.0078	-0.0061	0.1106	-1.1953	0.3150	0.3481	0.1760
2	0	0.6996	-0.3603	0.0087	-0.0142	0.1255	-1.5680	0.3648	0.1579	0.1519
2	0	0.7495	-0.4253	0.0107	-0.0215	0.1394	-1.9353	0.4154	0.1927	0.1620
2	0	0.7996	-0.4994	0.0123	-0.0223	0.1535	-2.2881	0.4705	0.2057	0.1307
2	0	0.8578	-0.6014	0.0146	-0.0105	0.1704	-2.7074	0.5366	0.4832	0.1552
2	0	0.9100	-0.6819	0.0154	0.0099	0.1872	-3.1437	0.6090	0.3359	0.1700
2	0	0.9727	-0.7399	0.0161	0.0261	0.2067	-3.5563	0.7010	0.6146	0.1610

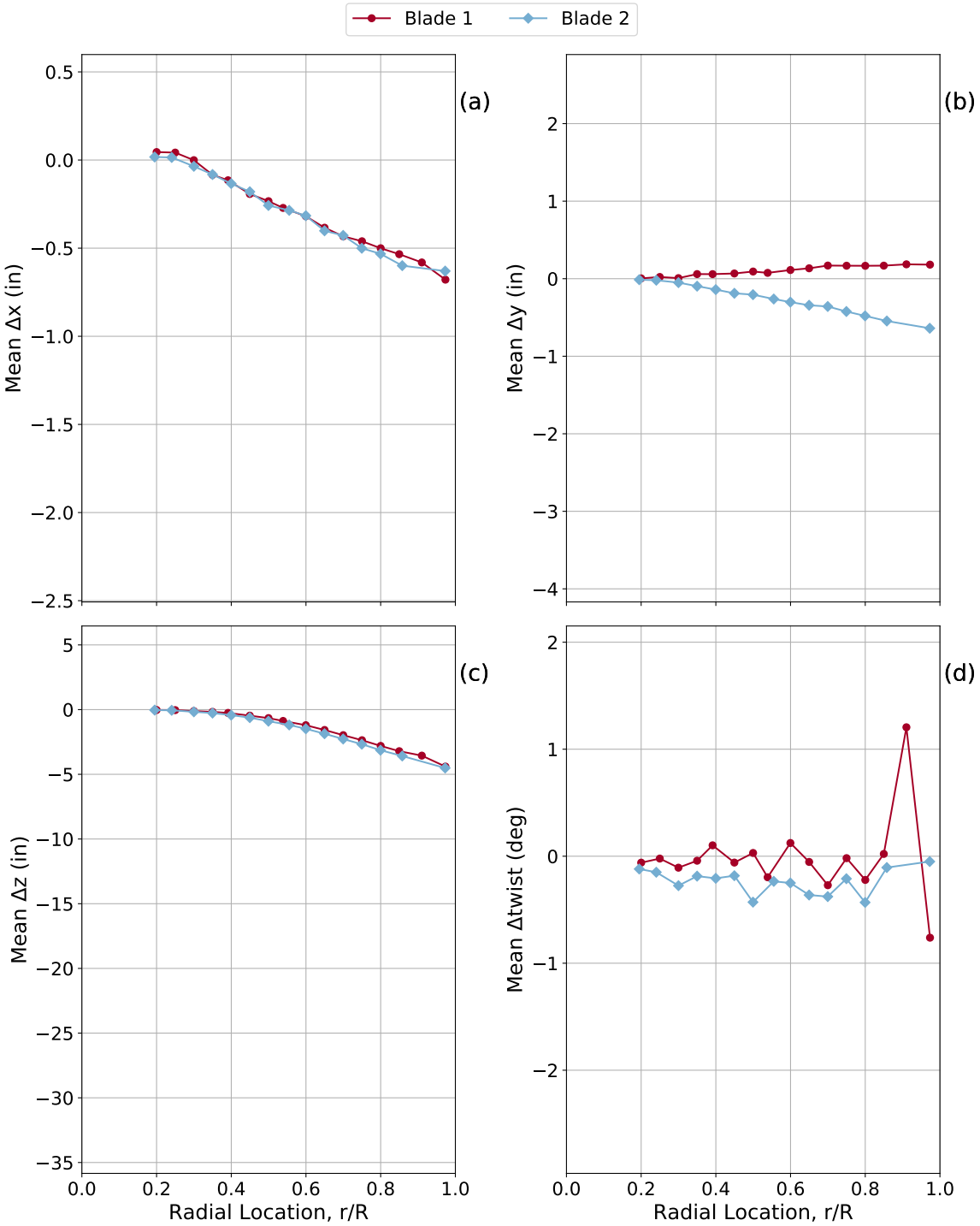


Figure 3.49-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0452	0.0051	0.0042	0.0025	-0.0281	0.0082	-0.0602	0.0577
1	4.92	0.2499	0.0422	0.0037	0.0221	0.0058	-0.0392	0.0137	-0.0219	0.0907
1	4.92	0.2998	-0.0008	0.0020	0.0074	0.0085	-0.1124	0.0313	-0.1072	0.1213
1	4.92	0.3498	-0.0841	0.0025	0.0594	0.0161	-0.1746	0.0546	-0.0421	0.0897
1	4.92	0.3913	-0.1149	0.0041	0.0588	0.0220	-0.2563	0.0763	0.1018	0.0952
1	4.92	0.4496	-0.1926	0.0043	0.0673	0.0316	-0.4656	0.1136	-0.0594	0.0811
1	4.92	0.4997	-0.2334	0.0052	0.0924	0.0368	-0.6570	0.1469	0.0304	0.1058
1	4.92	0.5387	-0.2717	0.0047	0.0753	0.0421	-0.8753	0.1780	-0.1968	0.1008
1	4.92	0.5996	-0.3188	0.0061	0.1118	0.0488	-1.2045	0.2258	0.1234	0.1032
1	4.92	0.6498	-0.3840	0.0066	0.1342	0.0551	-1.5745	0.2706	-0.0535	0.1154
1	4.92	0.6998	-0.4328	0.0072	0.1695	0.0628	-1.9746	0.3200	-0.2710	0.1036
1	4.92	0.7500	-0.4608	0.0091	0.1675	0.0700	-2.3651	0.3670	-0.0181	0.0980
1	4.92	0.8001	-0.5005	0.0105	0.1665	0.0797	-2.8052	0.4134	-0.2216	0.1223
1	4.92	0.8497	-0.5342	0.0111	0.1683	0.0832	-3.2119	0.4588	0.0214	0.1197
1	4.92	0.9102	-0.5811	0.0538	0.1855	0.1129	-3.5558	0.5379	1.2050	0.3638
1	4.92	0.9734	-0.6787	0.0176	0.1813	0.1030	-4.4013	0.5719	-0.7614	0.1307
2	4.92	0.1949	0.0172	0.0056	-0.0131	0.0033	-0.0381	0.0069	-0.1197	0.0371
2	4.92	0.2405	0.0147	0.0032	-0.0199	0.0056	-0.0524	0.0133	-0.1498	0.0898
2	4.92	0.2999	-0.0356	0.0024	-0.0504	0.0114	-0.1700	0.0287	-0.2751	0.0946
2	4.92	0.3498	-0.0822	0.0037	-0.0964	0.0217	-0.2668	0.0495	-0.1862	0.0997
2	4.92	0.3998	-0.1336	0.0047	-0.1406	0.0312	-0.4272	0.0765	-0.2066	0.0942
2	4.92	0.4496	-0.1800	0.0045	-0.1882	0.0391	-0.6204	0.1066	-0.1822	0.1084
2	4.92	0.4995	-0.2579	0.0040	-0.2058	0.0470	-0.8948	0.1401	-0.4293	0.1182
2	4.92	0.5551	-0.2855	0.0049	-0.2621	0.0531	-1.1846	0.1771	-0.2350	0.0953
2	4.92	0.5996	-0.3160	0.0043	-0.3021	0.0622	-1.4813	0.2167	-0.2502	0.1127
2	4.92	0.6497	-0.4016	0.0058	-0.3424	0.0685	-1.8636	0.2530	-0.3626	0.1038
2	4.92	0.6996	-0.4277	0.0069	-0.3583	0.0764	-2.2720	0.2927	-0.3774	0.1027
2	4.92	0.7495	-0.5004	0.0084	-0.4230	0.0861	-2.6722	0.3371	-0.2103	0.1138
2	4.92	0.7996	-0.5322	0.0116	-0.4798	0.0971	-3.1360	0.3875	-0.4320	0.1463
2	4.92	0.8578	-0.5993	0.0145	-0.5456	0.1004	-3.5857	0.4352	-0.1059	0.1814
2	4.92	0.9727	-0.6300	0.0330	-0.6393	0.1220	-4.5130	0.5727	-0.0498	0.2478

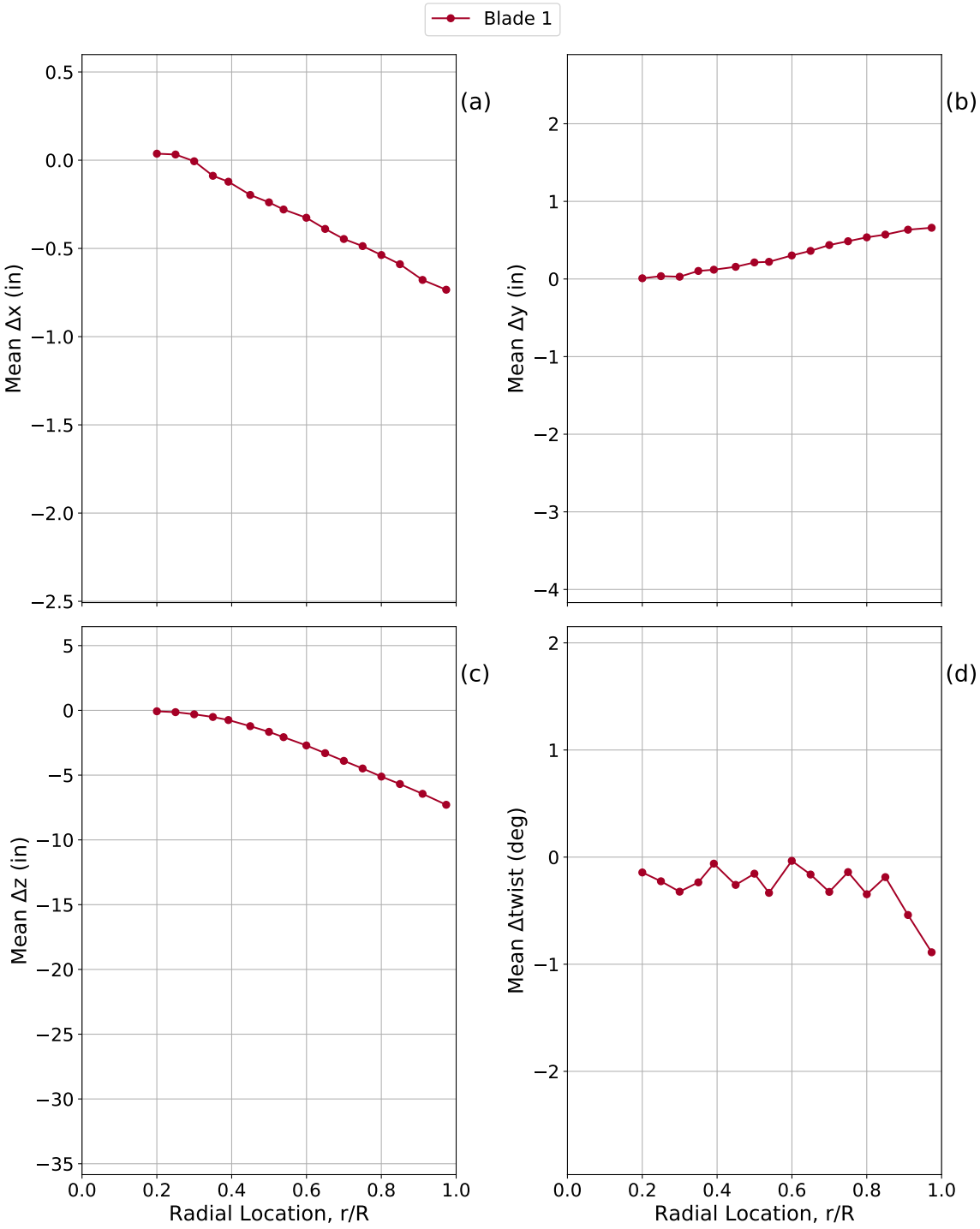


Figure 3.49-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0370	0.0044	0.0093	0.0025	-0.0710	0.0087	-0.1433	0.0378
1	15.12	0.2499	0.0323	0.0032	0.0364	0.0040	-0.1375	0.0182	-0.2255	0.0824
1	15.12	0.2998	-0.0060	0.0031	0.0291	0.0090	-0.3046	0.0370	-0.3227	0.0929
1	15.12	0.3498	-0.0884	0.0035	0.1036	0.0154	-0.5114	0.0649	-0.2357	0.0797
1	15.12	0.3913	-0.1219	0.0033	0.1197	0.0215	-0.7469	0.0935	-0.0610	0.0848
1	15.12	0.4496	-0.1969	0.0047	0.1569	0.0297	-1.2204	0.1376	-0.2594	0.0967
1	15.12	0.4997	-0.2389	0.0059	0.2134	0.0387	-1.6599	0.1820	-0.1547	0.0960
1	15.12	0.5387	-0.2793	0.0070	0.2213	0.0438	-2.0701	0.2135	-0.3337	0.0970
1	15.12	0.5996	-0.3262	0.0084	0.3031	0.0525	-2.7085	0.2597	-0.0346	0.0975
1	15.12	0.6498	-0.3895	0.0086	0.3623	0.0581	-3.3039	0.2916	-0.1626	0.1114
1	15.12	0.6998	-0.4466	0.0096	0.4373	0.0641	-3.8993	0.3277	-0.3246	0.1154
1	15.12	0.7500	-0.4869	0.0104	0.4867	0.0711	-4.4870	0.3665	-0.1399	0.1203
1	15.12	0.8001	-0.5374	0.0112	0.5366	0.0772	-5.1123	0.4093	-0.3467	0.1023
1	15.12	0.8497	-0.5895	0.0140	0.5720	0.0838	-5.6868	0.4517	-0.1867	0.1366
1	15.12	0.9102	-0.6786	0.0161	0.6351	0.0934	-6.4431	0.5139	-0.5403	0.1200
1	15.12	0.9734	-0.7341	0.0141	0.6600	0.0992	-7.2888	0.5764	-0.8885	0.1295

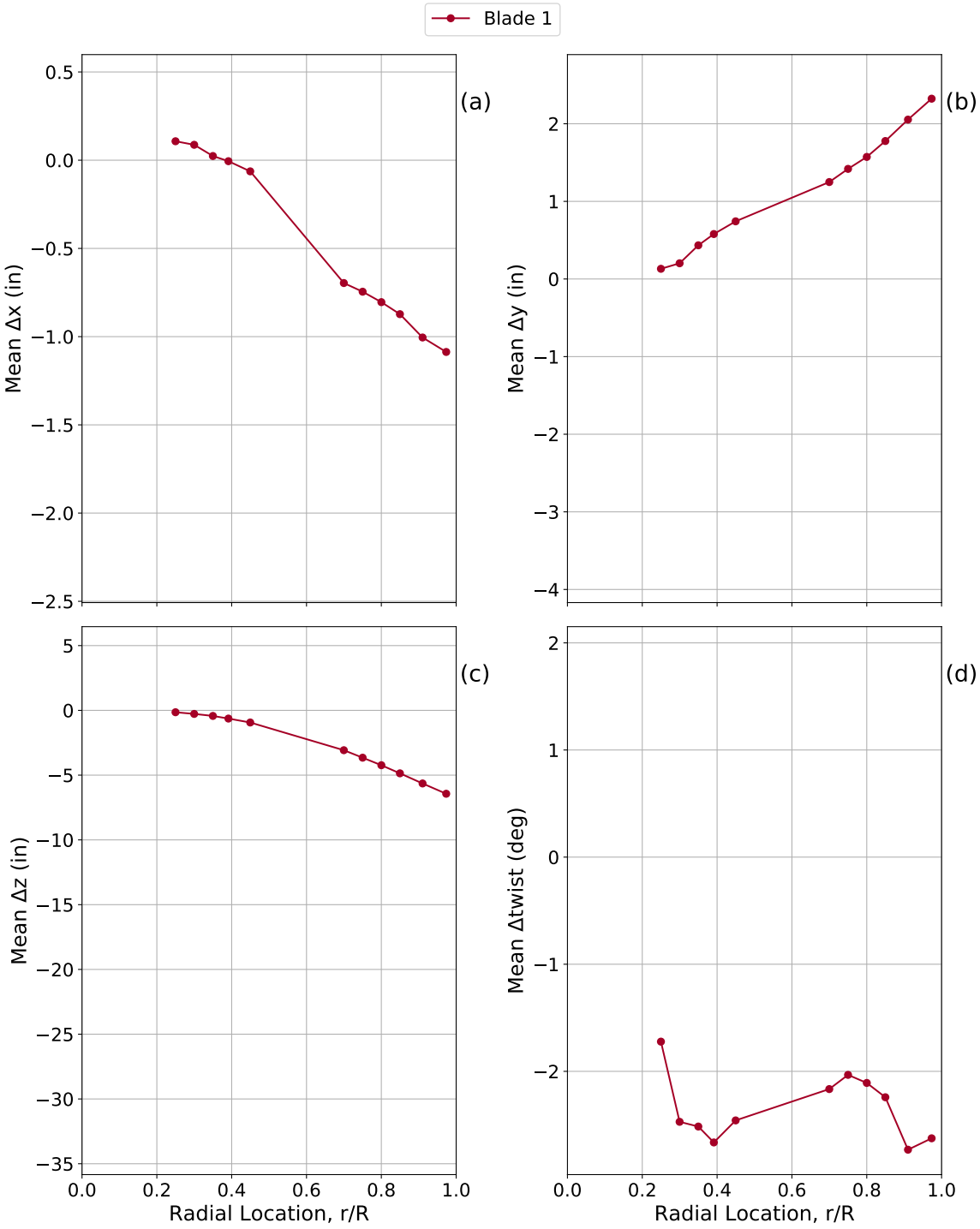


Figure 3.49-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2499	0.1074	0.0263	0.1313	0.0144	-0.1448	0.0206	-1.7226	0.3077
1	29.88	0.2998	0.0873	0.0143	0.2025	0.0261	-0.2739	0.0348	-2.4712	0.4379
1	29.88	0.3498	0.0237	0.0122	0.4341	0.0475	-0.4302	0.0690	-2.5153	0.3591
1	29.88	0.3913	-0.0056	0.0347	0.5792	0.0672	-0.6338	0.0941	-2.6638	0.3581
1	29.88	0.4496	-0.0632	0.0786	0.7428	0.0868	-0.9366	0.1436	-2.4580	0.3985
1	29.88	0.6998	-0.6962	0.2571	1.2490	0.3777	-3.0765	0.3004	-2.1655	0.3547
1	29.88	0.7500	-0.7453	0.2645	1.4186	0.3900	-3.6534	0.3467	-2.0329	0.3565
1	29.88	0.8001	-0.8045	0.2659	1.5726	0.3969	-4.2353	0.3963	-2.1083	0.3549
1	29.88	0.8497	-0.8726	0.2613	1.7775	0.4002	-4.8615	0.4463	-2.2418	0.3670
1	29.88	0.9102	-1.0048	0.2504	2.0536	0.3976	-5.6433	0.5116	-2.7315	0.3663
1	29.88	0.9734	-1.0868	0.2400	2.3230	0.3938	-6.4383	0.5890	-2.6250	0.3789

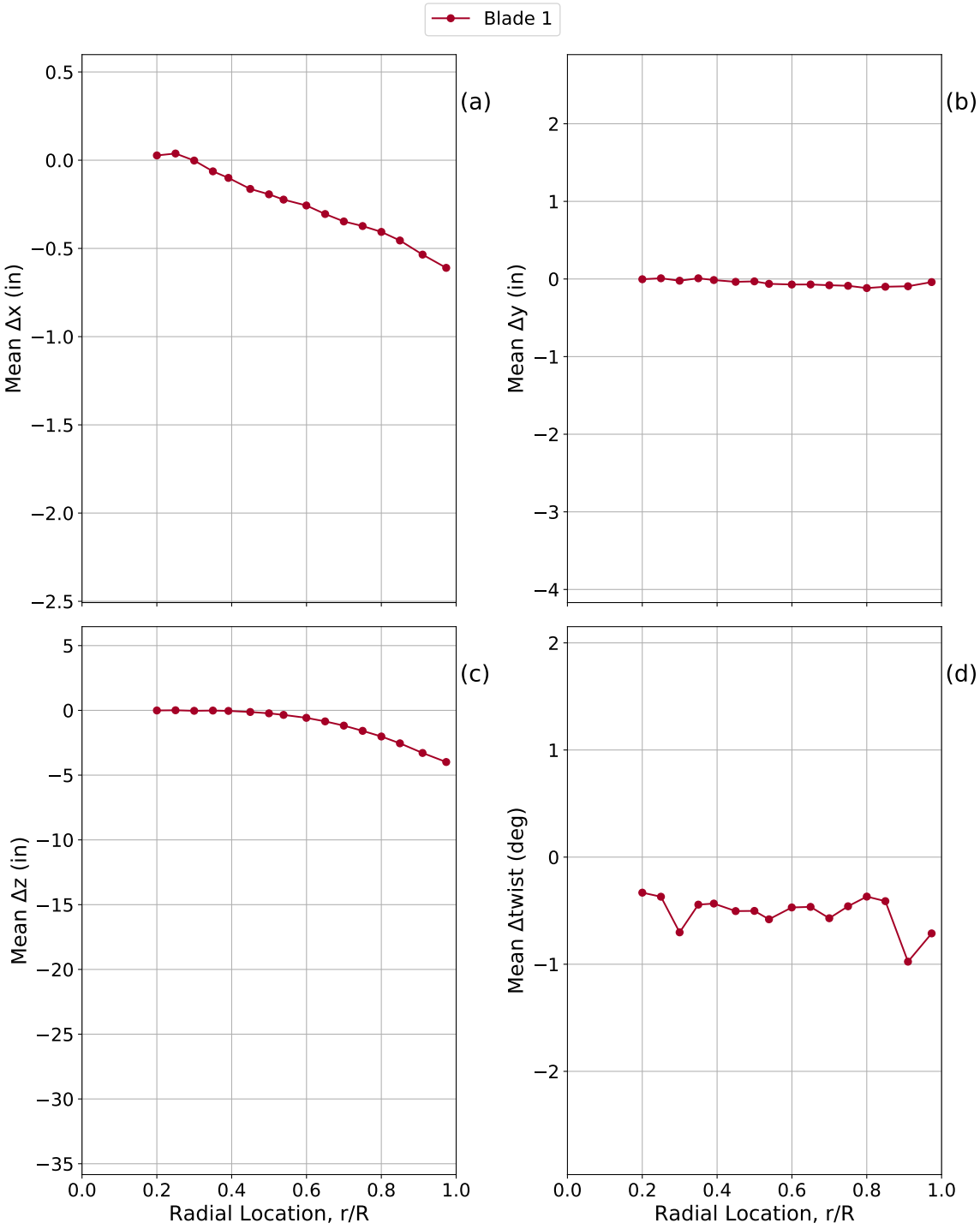


Figure 3.49-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0270	0.0057	-0.0031	0.0032	-0.0080	0.0066	-0.3318	0.0601
1	45	0.2499	0.0379	0.0023	0.0091	0.0036	0.0071	0.0140	-0.3698	0.1346
1	45	0.2998	-0.0020	0.0030	-0.0222	0.0104	-0.0344	0.0282	-0.7024	0.1491
1	45	0.3498	-0.0631	0.0029	0.0090	0.0178	-0.0155	0.0466	-0.4436	0.1396
1	45	0.3913	-0.1003	0.0021	-0.0136	0.0237	-0.0417	0.0687	-0.4337	0.1382
1	45	0.4496	-0.1628	0.0030	-0.0366	0.0324	-0.1256	0.0987	-0.5039	0.1416
1	45	0.4997	-0.1933	0.0036	-0.0306	0.0408	-0.2286	0.1269	-0.5022	0.1415
1	45	0.5387	-0.2234	0.0035	-0.0623	0.0467	-0.3505	0.1491	-0.5806	0.1508
1	45	0.5996	-0.2567	0.0041	-0.0711	0.0572	-0.5776	0.1864	-0.4699	0.1498
1	45	0.6498	-0.3050	0.0045	-0.0707	0.0661	-0.8515	0.2203	-0.4646	0.1411
1	45	0.6998	-0.3471	0.0051	-0.0804	0.0753	-1.1781	0.2552	-0.5706	0.1541
1	45	0.7500	-0.3732	0.0051	-0.0876	0.0848	-1.5819	0.2931	-0.4590	0.1479
1	45	0.8001	-0.4064	0.0066	-0.1170	0.0940	-2.0182	0.3341	-0.3686	0.1464
1	45	0.8497	-0.4551	0.0074	-0.0998	0.1020	-2.5448	0.3765	-0.4112	0.1527
1	45	0.9102	-0.5350	0.0096	-0.0937	0.1125	-3.2893	0.4302	-0.9761	0.1687
1	45	0.9734	-0.6101	0.0087	-0.0399	0.1249	-3.9872	0.4965	-0.7123	0.1612

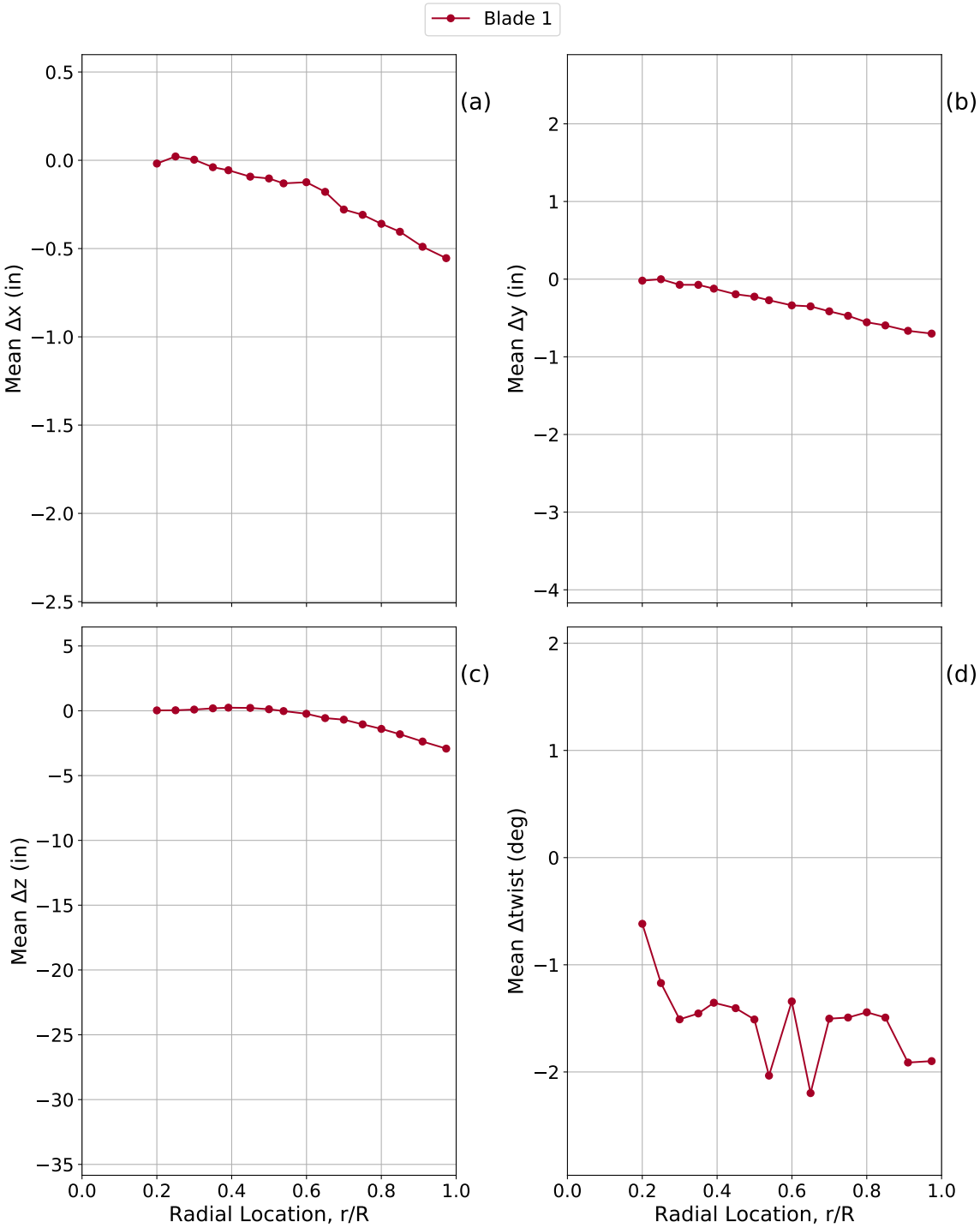


Figure 3.49-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0185	0.0140	-0.0191	0.0093	0.0297	0.0227	-0.6176	0.1626
1	60.12	0.2499	0.0217	0.0052	-0.0010	0.0087	0.0391	0.0200	-1.1704	0.4830
1	60.12	0.2998	0.0034	0.0112	-0.0724	0.0313	0.0932	0.0730	-1.5090	0.4701
1	60.12	0.3498	-0.0392	0.0249	-0.0732	0.0515	0.1878	0.1226	-1.4542	0.4787
1	60.12	0.3913	-0.0564	0.0353	-0.1224	0.0702	0.2380	0.1635	-1.3541	0.4846
1	60.12	0.4496	-0.0927	0.0476	-0.1943	0.0979	0.2187	0.2233	-1.4049	0.4758
1	60.12	0.4997	-0.1030	0.0565	-0.2252	0.1222	0.1179	0.2716	-1.5102	0.4806
1	60.12	0.5387	-0.1307	0.0289	-0.2714	0.1625	-0.0228	0.3768	-2.0340	0.7618
1	60.12	0.5996	-0.1242	0.0783	-0.3374	0.1731	-0.2314	0.3667	-1.3420	0.5082
1	60.12	0.6498	-0.1787	0.0507	-0.3503	0.2190	-0.5662	0.4924	-2.1971	1.1113
1	60.12	0.6998	-0.2790	0.0485	-0.4143	0.2507	-0.6852	0.3259	-1.5028	0.4486
1	60.12	0.7500	-0.3089	0.0489	-0.4719	0.2782	-1.0482	0.3703	-1.4922	0.4582
1	60.12	0.8001	-0.3597	0.0487	-0.5553	0.3027	-1.3979	0.4153	-1.4430	0.4536
1	60.12	0.8497	-0.4047	0.0486	-0.5957	0.3286	-1.8095	0.4628	-1.4925	0.4465
1	60.12	0.9102	-0.4898	0.0493	-0.6651	0.3621	-2.3733	0.5202	-1.9120	0.4520
1	60.12	0.9734	-0.5544	0.0421	-0.7008	0.3942	-2.9189	0.5837	-1.8987	0.4703

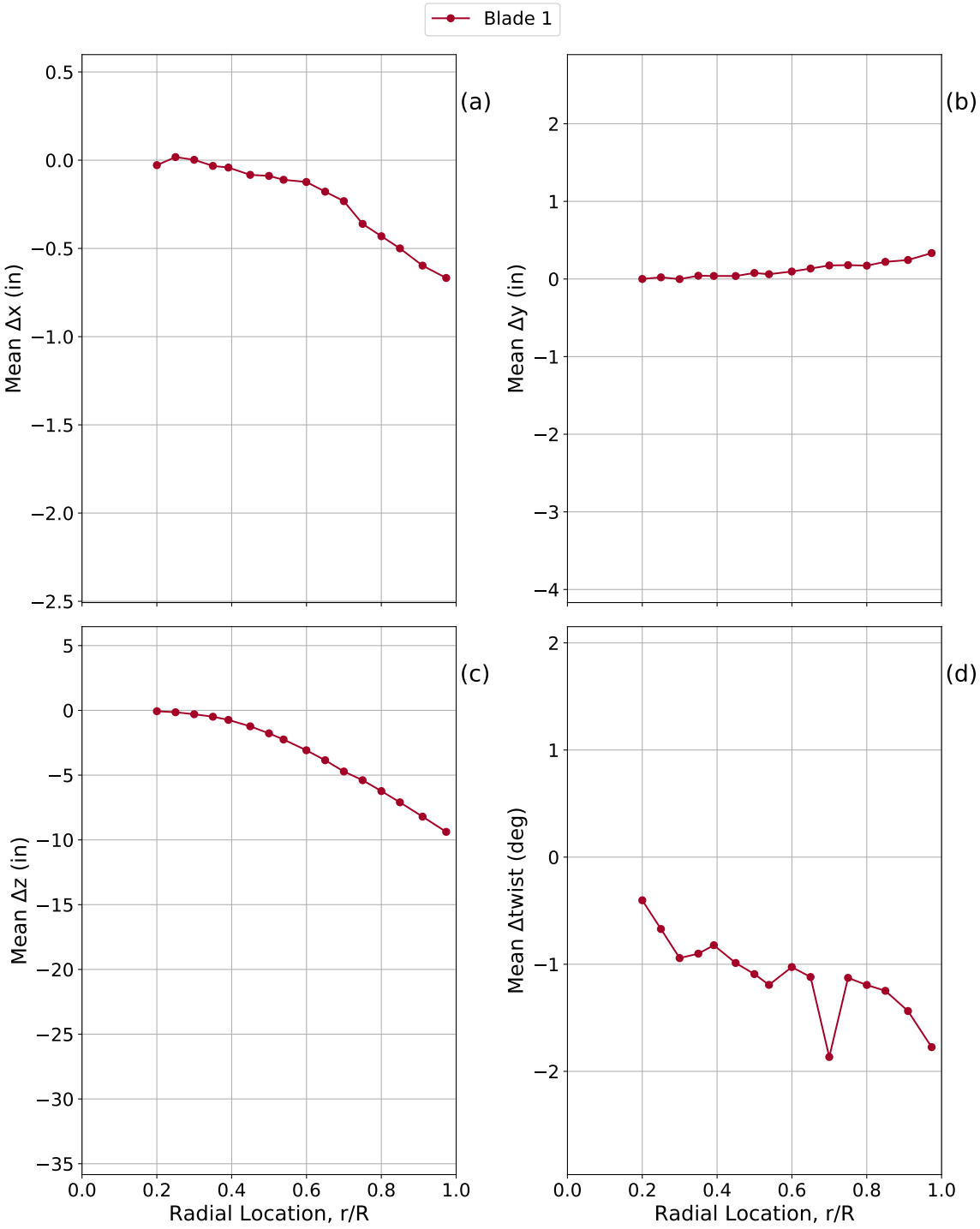


Figure 3.49-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0281	0.0106	0.0006	0.0098	-0.0650	0.0202	-0.4032	0.1386
1	74.88	0.2499	0.0177	0.0035	0.0212	0.0126	-0.1449	0.0234	-0.6712	0.3873
1	74.88	0.2998	0.0022	0.0082	-0.0013	0.0355	-0.3002	0.0722	-0.9426	0.3877
1	74.88	0.3498	-0.0324	0.0147	0.0417	0.0595	-0.4909	0.1218	-0.9012	0.3909
1	74.88	0.3913	-0.0418	0.0195	0.0388	0.0827	-0.7376	0.1677	-0.8225	0.3864
1	74.88	0.4496	-0.0830	0.0227	0.0386	0.1163	-1.2327	0.2342	-0.9883	0.3910
1	74.88	0.4997	-0.0890	0.0258	0.0776	0.1503	-1.7757	0.2969	-1.0920	0.3907
1	74.88	0.5387	-0.1110	0.0268	0.0617	0.1782	-2.2496	0.3466	-1.1928	0.3821
1	74.88	0.5996	-0.1234	0.0320	0.0963	0.2218	-3.0811	0.4280	-1.0264	0.3849
1	74.88	0.6498	-0.1783	0.0346	0.1346	0.2591	-3.8506	0.4931	-1.1192	0.3761
1	74.88	0.6998	-0.2320	0.0273	0.1747	0.3262	-4.7199	0.6244	-1.8660	0.8615
1	74.88	0.7500	-0.3609	0.0479	0.1788	0.4025	-5.3915	0.4702	-1.1271	0.3674
1	74.88	0.8001	-0.4309	0.0510	0.1723	0.4419	-6.2318	0.5346	-1.1939	0.3749
1	74.88	0.8497	-0.4997	0.0543	0.2206	0.4799	-7.0996	0.5990	-1.2482	0.3675
1	74.88	0.9102	-0.5974	0.0581	0.2445	0.5268	-8.2059	0.6789	-1.4368	0.3658
1	74.88	0.9734	-0.6674	0.0516	0.3342	0.5755	-9.3791	0.7632	-1.7740	0.3711

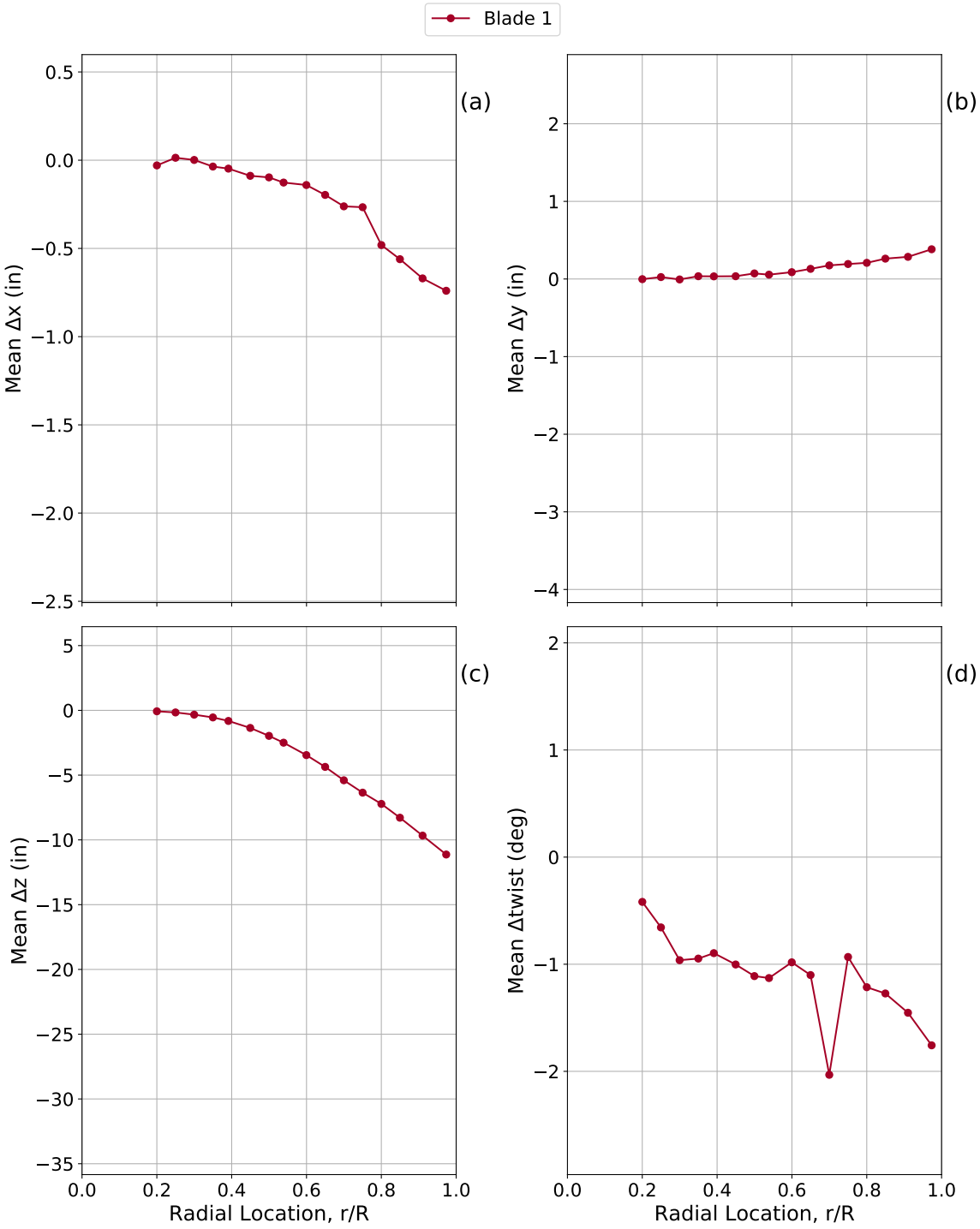


Figure 3.49-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0296	0.0133	-0.0021	0.0071	-0.0725	0.0217	-0.4180	0.1383
1	80.16	0.2499	0.0138	0.0074	0.0247	0.0077	-0.1609	0.0236	-0.6562	0.3874
1	80.16	0.2998	0.0014	0.0042	-0.0059	0.0231	-0.3320	0.0743	-0.9623	0.3834
1	80.16	0.3498	-0.0360	0.0117	0.0357	0.0380	-0.5453	0.1277	-0.9473	0.3646
1	80.16	0.3913	-0.0477	0.0189	0.0338	0.0518	-0.8167	0.1729	-0.8965	0.3652
1	80.16	0.4496	-0.0885	0.0254	0.0356	0.0748	-1.3567	0.2400	-1.0024	0.3842
1	80.16	0.4997	-0.0974	0.0295	0.0717	0.0989	-1.9686	0.3045	-1.1108	0.3654
1	80.16	0.5387	-0.1267	0.0330	0.0558	0.1179	-2.4951	0.3561	-1.1291	0.3533
1	80.16	0.5996	-0.1407	0.0327	0.0879	0.1501	-3.4541	0.4350	-0.9822	0.3719
1	80.16	0.6498	-0.1967	0.0341	0.1306	0.1788	-4.3646	0.5021	-1.1012	0.3725
1	80.16	0.6998	-0.2615	0.0228	0.1752	0.2399	-5.3976	0.6365	-2.0323	1.0267
1	80.16	0.7500	-0.2664	0.0289	0.1930	0.2344	-6.3527	0.6170	-0.9324	0.4470
1	80.16	0.8001	-0.4809	0.0531	0.2081	0.3506	-7.2213	0.5243	-1.2146	0.3630
1	80.16	0.8497	-0.5610	0.0569	0.2622	0.3813	-8.2876	0.5731	-1.2730	0.3524
1	80.16	0.9102	-0.6698	0.0599	0.2854	0.4203	-9.6687	0.6303	-1.4530	0.3603
1	80.16	0.9734	-0.7400	0.0561	0.3831	0.4607	-11.1287	0.6986	-1.7571	0.3488

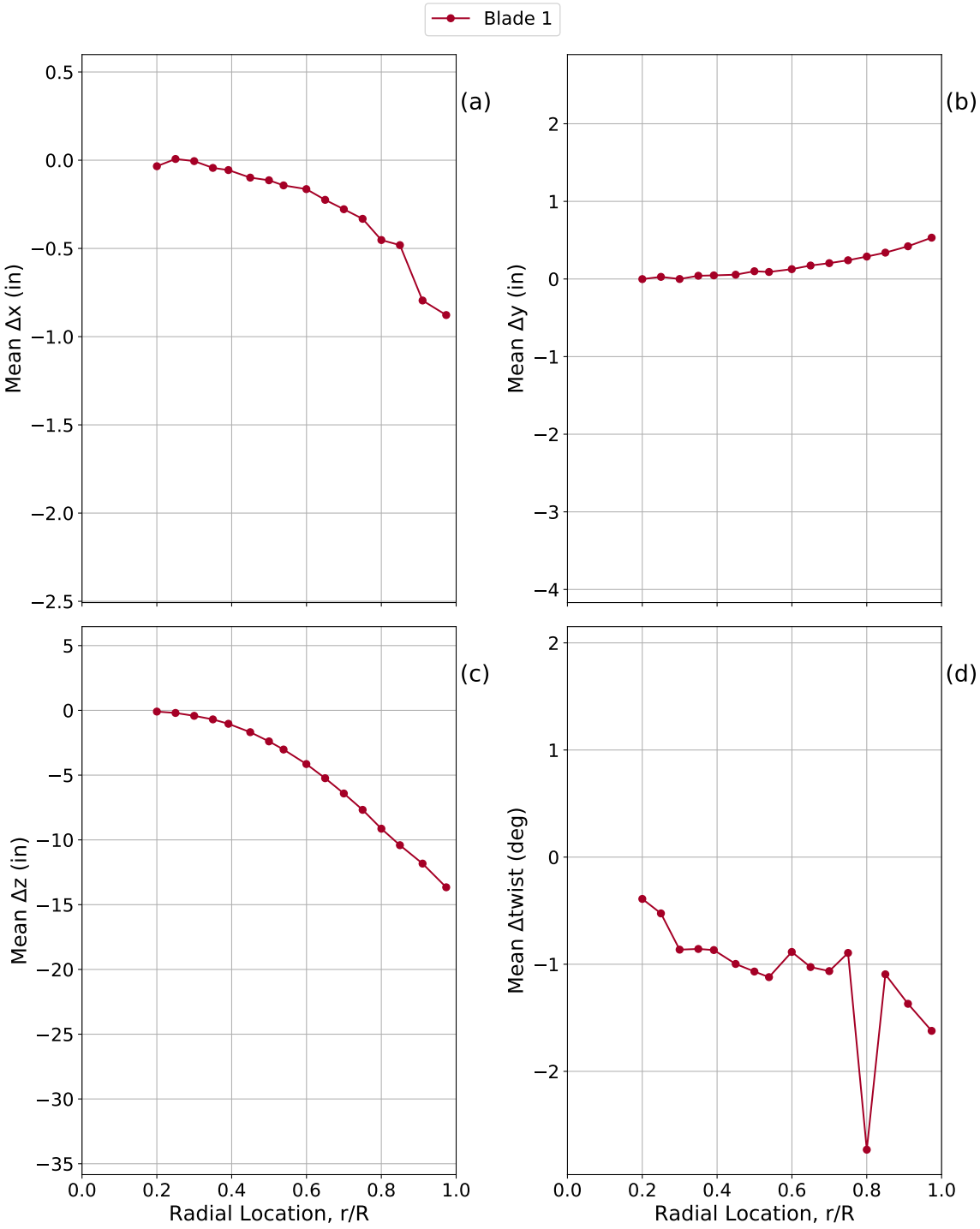


Figure 3.49-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0342	0.0136	-0.0014	0.0145	-0.0937	0.0333	-0.3902	0.2108
1	85.08	0.2499	0.0070	0.0086	0.0275	0.0170	-0.2001	0.0369	-0.5254	0.6025
1	85.08	0.2998	-0.0052	0.0056	-0.0001	0.0502	-0.4219	0.1170	-0.8639	0.5929
1	85.08	0.3498	-0.0436	0.0158	0.0417	0.0851	-0.6969	0.2012	-0.8575	0.5983
1	85.08	0.3913	-0.0559	0.0245	0.0465	0.1165	-1.0368	0.2738	-0.8677	0.5962
1	85.08	0.4496	-0.0987	0.0339	0.0554	0.1653	-1.6842	0.3819	-0.9974	0.5881
1	85.08	0.4997	-0.1138	0.0410	0.0999	0.2115	-2.3956	0.4744	-1.0682	0.6018
1	85.08	0.5387	-0.1428	0.0471	0.0906	0.2497	-3.0232	0.5490	-1.1206	0.6032
1	85.08	0.5996	-0.1639	0.0516	0.1266	0.3142	-4.1451	0.6628	-0.8853	0.6219
1	85.08	0.6498	-0.2247	0.0553	0.1736	0.3723	-5.2374	0.7608	-1.0265	0.5926
1	85.08	0.6998	-0.2779	0.0561	0.2041	0.4316	-6.4174	0.8529	-1.0642	0.6031
1	85.08	0.7500	-0.3322	0.0575	0.2413	0.4936	-7.6798	0.9492	-0.8944	0.5812
1	85.08	0.8001	-0.4525	0.0516	0.2890	0.6079	-9.1352	1.1850	-2.7313	1.7949
1	85.08	0.8497	-0.4813	0.0613	0.3396	0.6289	-10.4099	1.1399	-1.0941	0.5235
1	85.08	0.9102	-0.7952	0.1016	0.4214	0.8290	-11.8296	0.9175	-1.3694	0.5971
1	85.08	0.9734	-0.8776	0.0945	0.5324	0.9091	-13.6586	1.0283	-1.6219	0.5994

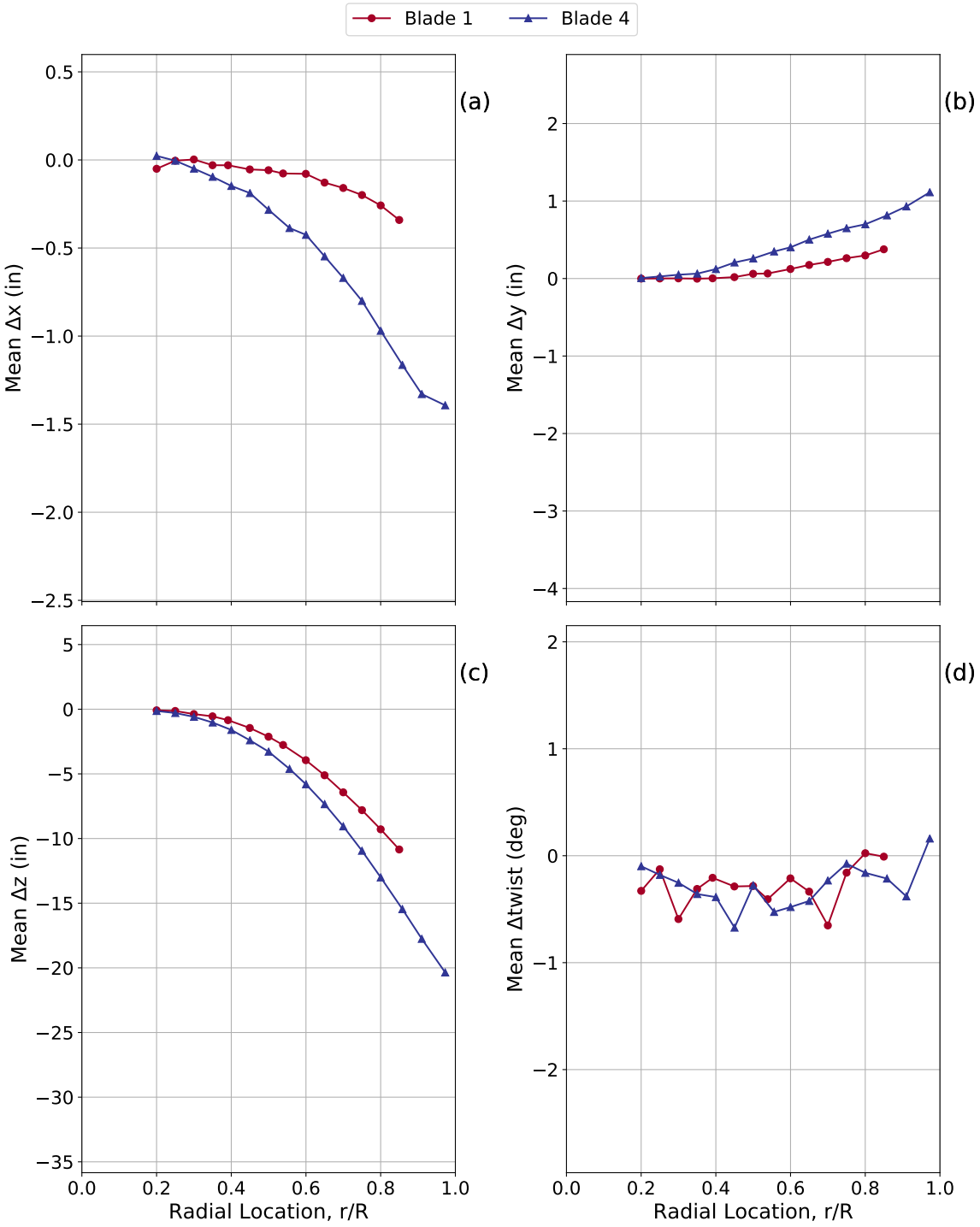


Figure 3.49-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0502	0.0290	-0.0005	0.0036	-0.0860	0.0063	-0.3287	0.0244
1	90	0.2499	-0.0043	0.0070	0.0009	0.0080	-0.1365	0.0153	-0.1266	0.0428
1	90	0.2998	0.0026	0.0127	0.0022	0.0158	-0.3763	0.0280	-0.5922	0.0547
1	90	0.3498	-0.0300	0.0314	-0.0017	0.0268	-0.5510	0.0496	-0.3108	0.0378
1	90	0.3913	-0.0302	0.0441	0.0029	0.0394	-0.8473	0.0722	-0.2064	0.0560
1	90	0.4496	-0.0539	0.0589	0.0181	0.0608	-1.4525	0.1060	-0.2875	0.0659
1	90	0.4997	-0.0582	0.0672	0.0611	0.0832	-2.1252	0.1489	-0.2833	0.0570
1	90	0.5387	-0.0768	0.0704	0.0650	0.1017	-2.7669	0.1811	-0.4067	0.0878
1	90	0.5996	-0.0789	0.0717	0.1227	0.1356	-3.9424	0.2376	-0.2117	0.1022
1	90	0.6498	-0.1286	0.0653	0.1753	0.1658	-5.1089	0.2891	-0.3357	0.1118
1	90	0.6998	-0.1592	0.0521	0.2146	0.1993	-6.4287	0.3365	-0.6521	0.1298
1	90	0.7500	-0.1992	0.0383	0.2627	0.2348	-7.8068	0.3919	-0.1585	0.1380
1	90	0.8001	-0.2582	0.0458	0.2979	0.2704	-9.2878	0.4426	0.0234	0.1349
1	90	0.8497	-0.3408	0.0729	0.3774	0.3073	-10.8465	0.4843	-0.0087	0.2668
4	90.35	0.2001	0.0230	0.0069	0.0061	0.0048	-0.1378	0.0235	-0.0984	0.0836
4	90.35	0.2502	-0.0044	0.0081	0.0267	0.0048	-0.2958	0.0172	-0.1797	0.2173
4	90.35	0.3001	-0.0494	0.0053	0.0493	0.0144	-0.5904	0.0697	-0.2533	0.1361
4	90.35	0.3502	-0.0959	0.0064	0.0631	0.0214	-1.0317	0.1058	-0.3586	0.1253
4	90.35	0.4002	-0.1477	0.0088	0.1220	0.0317	-1.6034	0.1539	-0.3871	0.1408
4	90.35	0.4500	-0.1882	0.0095	0.2071	0.0400	-2.4073	0.2087	-0.6727	0.1177
4	90.35	0.5001	-0.2834	0.0130	0.2589	0.0502	-3.2855	0.2776	-0.2779	0.1552
4	90.35	0.5560	-0.3867	0.0189	0.3489	0.0619	-4.6189	0.3612	-0.5258	0.1436
4	90.35	0.6001	-0.4253	0.0247	0.4034	0.0712	-5.8069	0.4357	-0.4801	0.1333
4	90.35	0.6501	-0.5477	0.0343	0.5022	0.0819	-7.3468	0.5277	-0.4231	0.1319
4	90.35	0.6999	-0.6698	0.0454	0.5782	0.0926	-9.0601	0.6283	-0.2314	0.1340
4	90.35	0.7500	-0.8002	0.0586	0.6494	0.1032	-10.9482	0.7370	-0.0744	0.1224
4	90.35	0.8002	-0.9701	0.0736	0.7001	0.1134	-13.0094	0.8523	-0.1603	0.1232
4	90.35	0.8582	-1.1638	0.0922	0.8146	0.1251	-15.4619	0.9929	-0.2140	0.1273
4	90.35	0.9101	-1.3294	0.1076	0.9306	0.1359	-17.7592	1.1224	-0.3804	0.1380
4	90.35	0.9728	-1.3930	0.1240	1.1132	0.1477	-20.3580	1.2787	0.1607	0.1330

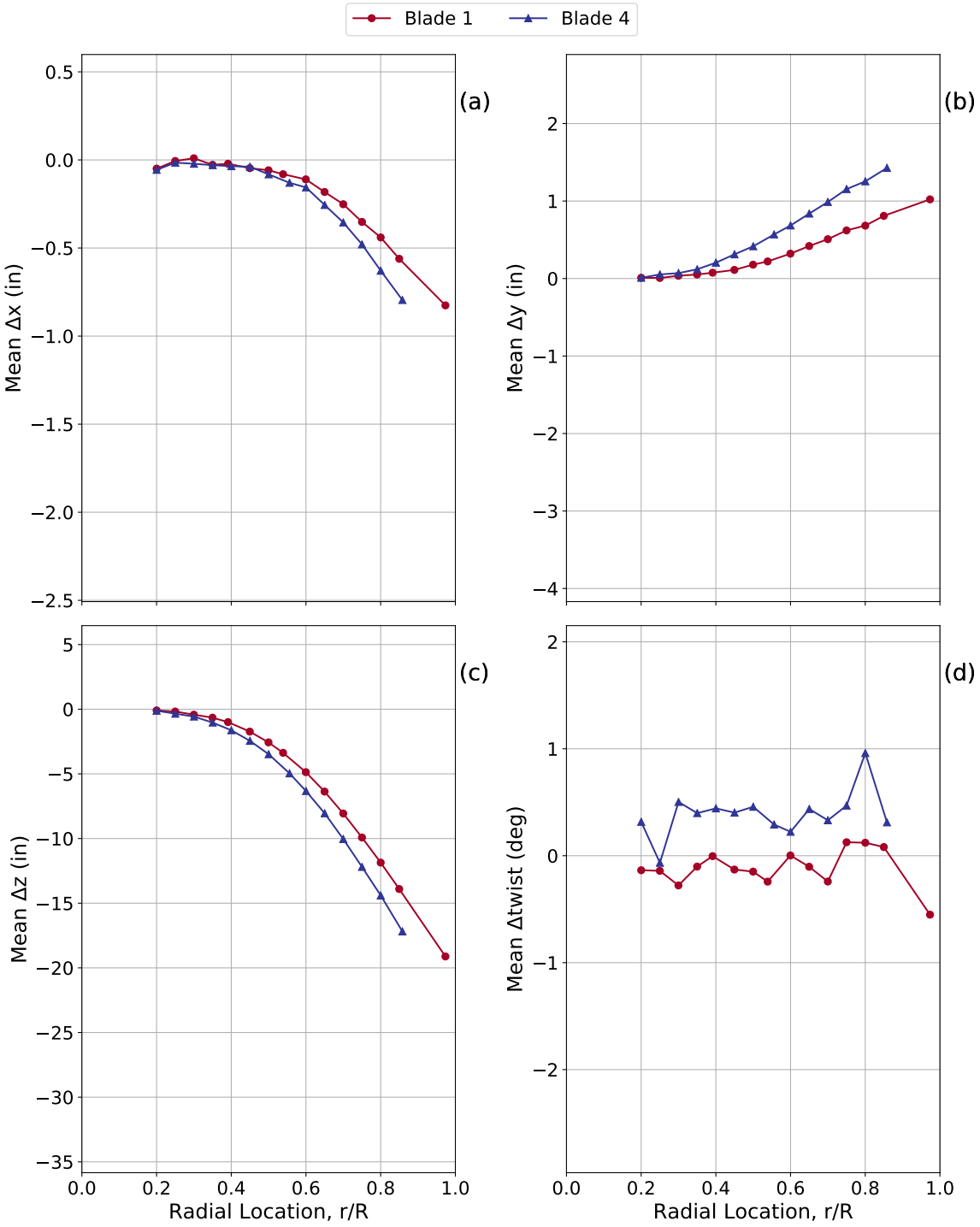


Figure 3.49-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0493	0.0015	0.0101	0.0014	-0.0937	0.0080	-0.1357	0.0203
1	94.92	0.2499	-0.0061	0.0011	0.0074	0.0029	-0.1802	0.0183	-0.1412	0.0233
1	94.92	0.2998	0.0093	0.0026	0.0361	0.0060	-0.4229	0.0354	-0.2778	0.0402
1	94.92	0.3498	-0.0277	0.0036	0.0519	0.0101	-0.6554	0.0618	-0.1019	0.0316
1	94.92	0.3913	-0.0217	0.0041	0.0751	0.0147	-0.9969	0.0900	-0.0038	0.0362
1	94.92	0.4496	-0.0466	0.0070	0.1115	0.0217	-1.7314	0.1455	-0.1295	0.0391
1	94.92	0.4997	-0.0586	0.0096	0.1792	0.0287	-2.5654	0.2020	-0.1488	0.0459
1	94.92	0.5387	-0.0809	0.0133	0.2205	0.0346	-3.3727	0.2557	-0.2424	0.0540
1	94.92	0.5996	-0.1103	0.0203	0.3212	0.0449	-4.8676	0.3524	0.0026	0.0437
1	94.92	0.6498	-0.1819	0.0275	0.4194	0.0544	-6.3693	0.4420	-0.1032	0.0610
1	94.92	0.6998	-0.2514	0.0381	0.5078	0.0637	-8.0629	0.5407	-0.2414	0.0381
1	94.92	0.7500	-0.3519	0.0487	0.6212	0.0745	-9.9208	0.6458	0.1261	0.0553
1	94.92	0.8001	-0.4399	0.0619	0.6826	0.0828	-11.8617	0.7515	0.1214	0.1033
1	94.92	0.8497	-0.5612	0.0764	0.8088	0.0935	-13.9060	0.8677	0.0811	0.1063
1	94.92	0.9734	-0.8257	0.1059	1.0217	0.1181	-19.1194	1.1594	-0.5512	0.1568
4	94.92	0.2001	-0.0563	0.0016	0.0097	0.0011	-0.1187	0.0060	0.3169	0.0184
4	94.92	0.2502	-0.0156	0.0018	0.0528	0.0026	-0.3486	0.0156	-0.0664	0.0331
4	94.92	0.3001	-0.0216	0.0023	0.0700	0.0050	-0.5706	0.0292	0.5028	0.0425
4	94.92	0.3502	-0.0297	0.0031	0.1196	0.0086	-1.0343	0.0487	0.3982	0.0444
4	94.92	0.4002	-0.0355	0.0038	0.2047	0.0136	-1.6301	0.0790	0.4427	0.0279
4	94.92	0.4500	-0.0386	0.0059	0.3124	0.0185	-2.4481	0.1132	0.4029	0.0425
4	94.92	0.5001	-0.0819	0.0082	0.4161	0.0243	-3.4824	0.1520	0.4576	0.0453
4	94.92	0.5560	-0.1299	0.0119	0.5691	0.0312	-4.9613	0.2045	0.2914	0.0440
4	94.92	0.6001	-0.1560	0.0169	0.6849	0.0362	-6.3274	0.2473	0.2237	0.0518
4	94.92	0.6501	-0.2557	0.0223	0.8381	0.0435	-8.0511	0.3004	0.4367	0.0480
4	94.92	0.6999	-0.3550	0.0282	0.9878	0.0503	-10.0421	0.3585	0.3314	0.0607
4	94.92	0.7500	-0.4794	0.0391	1.1540	0.0579	-12.1962	0.4204	0.4687	0.0678
4	94.92	0.8002	-0.6289	0.0456	1.2543	0.0638	-14.4047	0.4848	0.9599	0.0979
4	94.92	0.8582	-0.7952	0.0562	1.4276	0.0728	-17.1854	0.5597	0.3118	0.1647

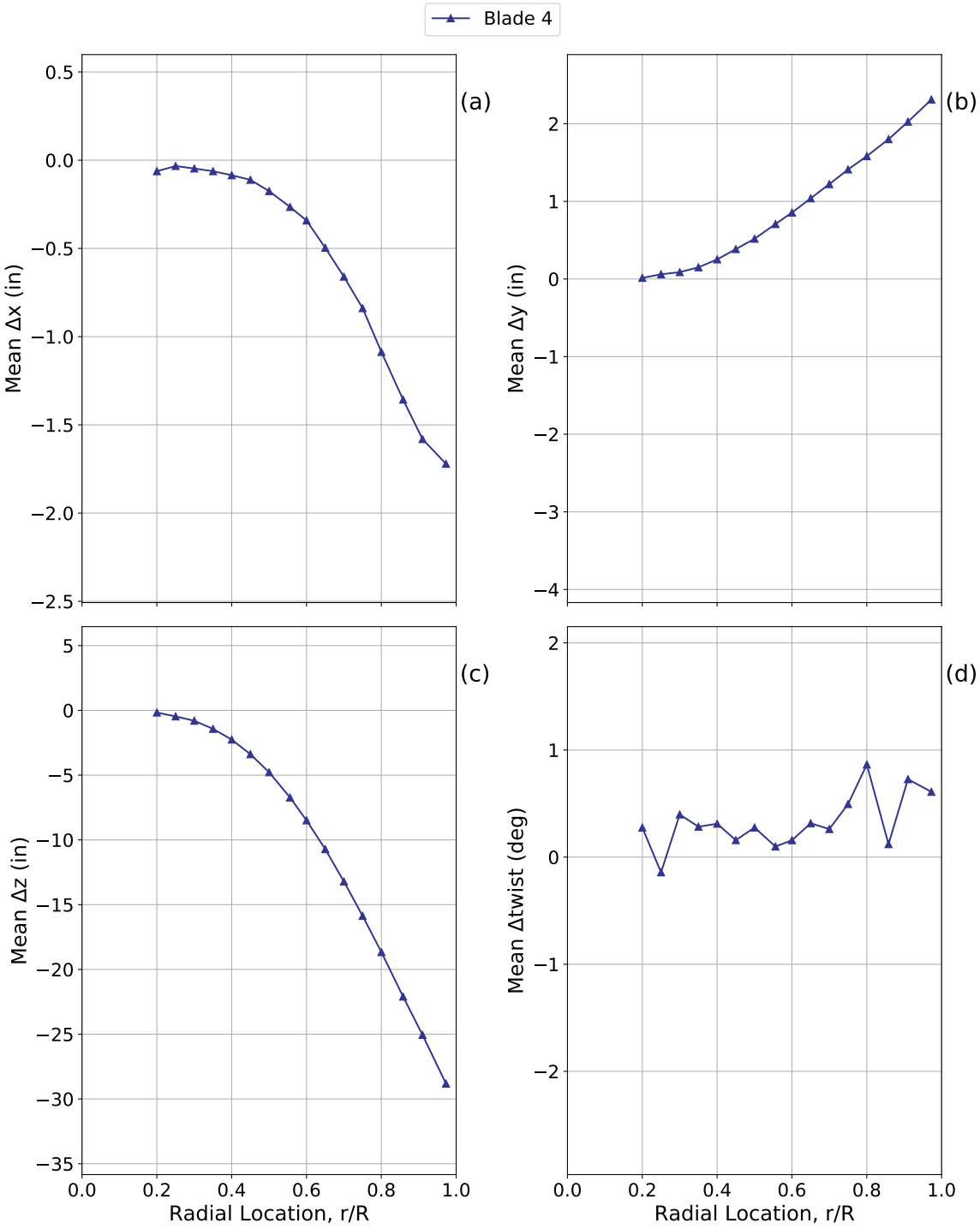


Figure 3.49-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0627	0.0023	0.0143	0.0011	-0.1703	0.0065	0.2753	0.0183
4	105.12	0.2502	-0.0331	0.0026	0.0602	0.0020	-0.4683	0.0150	-0.1425	0.0318
4	105.12	0.3001	-0.0472	0.0033	0.0881	0.0046	-0.8038	0.0294	0.3977	0.0424
4	105.12	0.3502	-0.0626	0.0041	0.1506	0.0077	-1.4308	0.0503	0.2838	0.0306
4	105.12	0.4002	-0.0854	0.0054	0.2522	0.0119	-2.2584	0.0796	0.3115	0.0427
4	105.12	0.4500	-0.1113	0.0085	0.3848	0.0155	-3.3876	0.1145	0.1580	0.0461
4	105.12	0.5001	-0.1755	0.0125	0.5184	0.0205	-4.7793	0.1610	0.2759	0.0484
4	105.12	0.5560	-0.2652	0.0196	0.7074	0.0270	-6.7314	0.2244	0.0987	0.0475
4	105.12	0.6001	-0.3416	0.0273	0.8553	0.0334	-8.4939	0.2866	0.1574	0.0513
4	105.12	0.6501	-0.4967	0.0383	1.0389	0.0401	-10.7172	0.3656	0.3158	0.0429
4	105.12	0.6999	-0.6601	0.0524	1.2217	0.0477	-13.2120	0.4541	0.2617	0.0490
4	105.12	0.7500	-0.8388	0.0686	1.4109	0.0548	-15.8707	0.5546	0.4948	0.0661
4	105.12	0.8002	-1.0870	0.0876	1.5820	0.0623	-18.6660	0.6640	0.8643	0.0684
4	105.12	0.8582	-1.3572	0.1113	1.8008	0.0712	-22.0999	0.7935	0.1209	0.0789
4	105.12	0.9101	-1.5807	0.1322	2.0258	0.0788	-25.0545	0.9138	0.7273	0.1032
4	105.12	0.9728	-1.7209	0.1551	2.3118	0.0878	-28.8151	1.0682	0.6091	0.0943

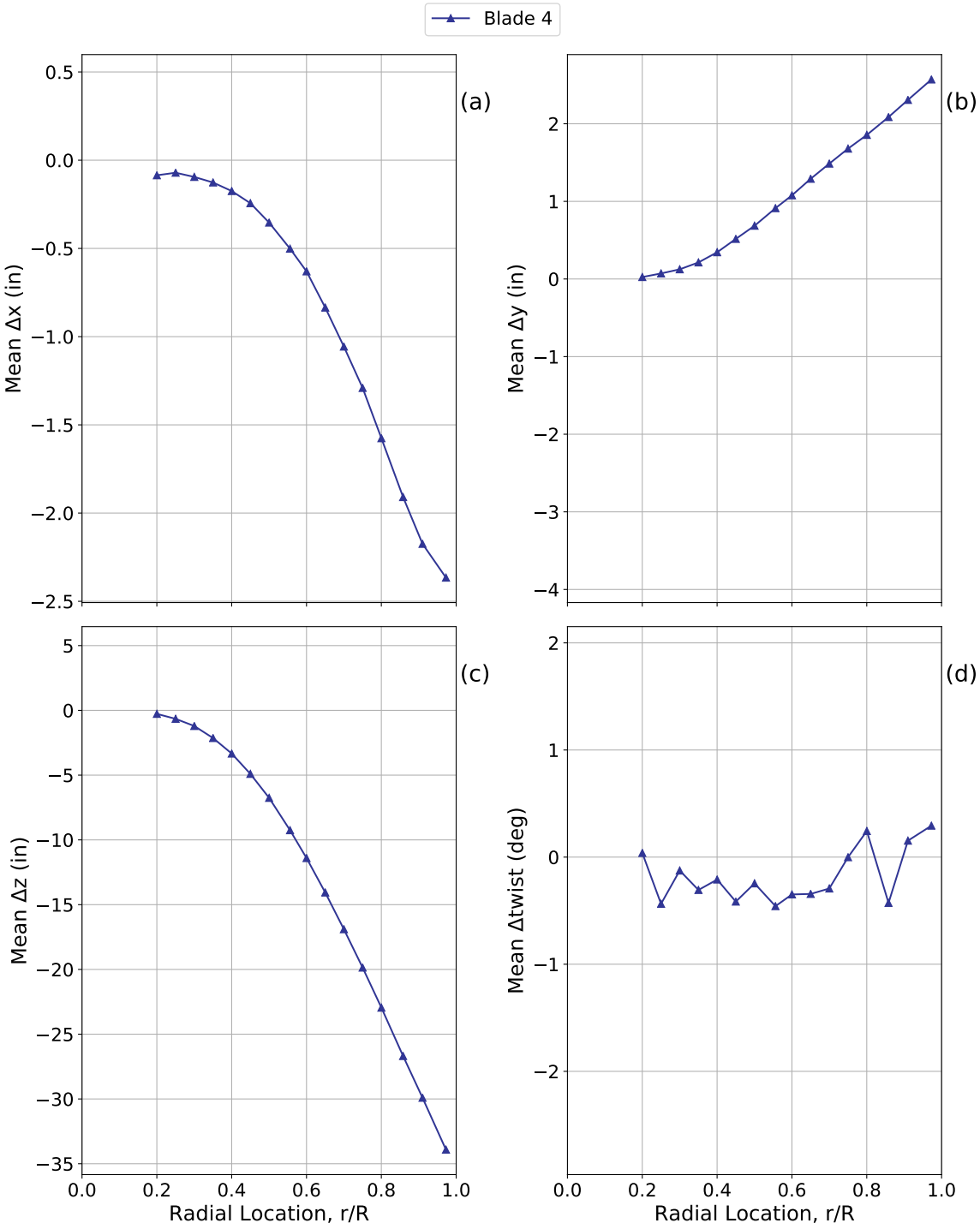


Figure 3.49-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0855	0.0036	0.0249	0.0012	-0.2720	0.0087	0.0386	0.0199
4	119.88	0.2502	-0.0710	0.0046	0.0714	0.0020	-0.6554	0.0196	-0.4362	0.0275
4	119.88	0.3001	-0.0949	0.0048	0.1246	0.0046	-1.2082	0.0385	-0.1255	0.0398
4	119.88	0.3502	-0.1264	0.0069	0.2133	0.0077	-2.1375	0.0651	-0.3068	0.0368
4	119.88	0.4002	-0.1749	0.0095	0.3444	0.0119	-3.3384	0.1033	-0.2096	0.0485
4	119.88	0.4500	-0.2438	0.0137	0.5163	0.0160	-4.9063	0.1467	-0.4154	0.0406
4	119.88	0.5001	-0.3538	0.0208	0.6859	0.0216	-6.7579	0.2041	-0.2455	0.0498
4	119.88	0.5560	-0.5015	0.0307	0.9121	0.0282	-9.2552	0.2767	-0.4579	0.0536
4	119.88	0.6001	-0.6302	0.0412	1.0778	0.0340	-11.4049	0.3419	-0.3485	0.0387
4	119.88	0.6501	-0.8354	0.0547	1.2908	0.0411	-14.0633	0.4291	-0.3438	0.0424
4	119.88	0.6999	-1.0565	0.0713	1.4862	0.0482	-16.8984	0.5251	-0.2931	0.0456
4	119.88	0.7500	-1.2908	0.0903	1.6793	0.0555	-19.8610	0.6285	-0.0010	0.0483
4	119.88	0.8002	-1.5759	0.1120	1.8560	0.0626	-22.9540	0.7381	0.2436	0.0514
4	119.88	0.8582	-1.9095	0.1380	2.0861	0.0704	-26.6869	0.8726	-0.4278	0.0574
4	119.88	0.9101	-2.1745	0.1616	2.3071	0.0775	-29.9101	0.9965	0.1534	0.0592
4	119.88	0.9728	-2.3660	0.1876	2.5700	0.0864	-33.9175	1.1499	0.2933	0.0699

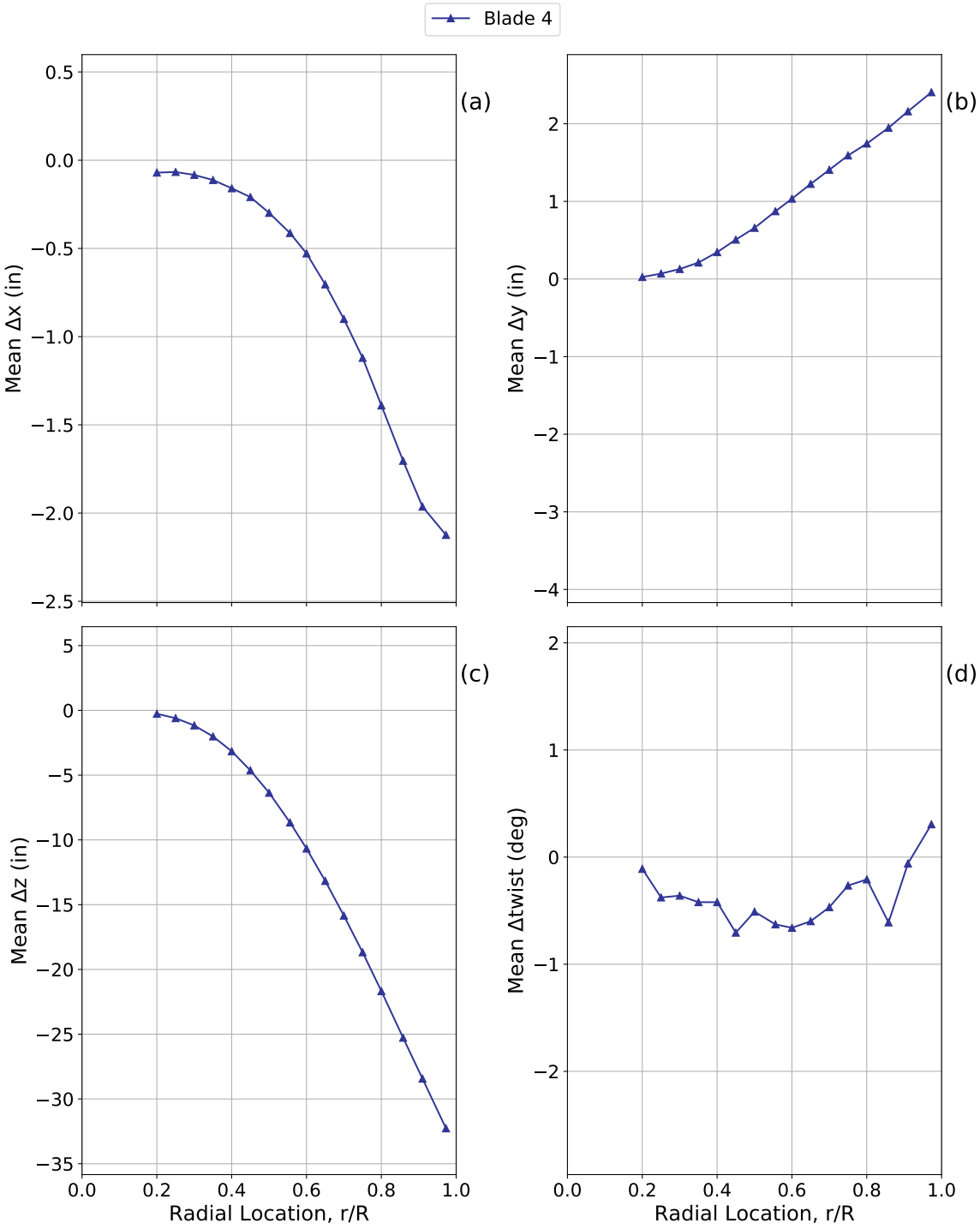


Figure 3.49-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0704	0.0027	0.0254	0.0010	-0.2675	0.0063	-0.1099	0.0226
4	135	0.2502	-0.0669	0.0031	0.0693	0.0026	-0.6034	0.0156	-0.3769	0.0398
4	135	0.3001	-0.0835	0.0036	0.1282	0.0046	-1.1676	0.0303	-0.3600	0.0503
4	135	0.3502	-0.1126	0.0048	0.2113	0.0075	-2.0173	0.0489	-0.4208	0.0323
4	135	0.4002	-0.1592	0.0070	0.3455	0.0121	-3.1609	0.0799	-0.4208	0.0314
4	135	0.4500	-0.2091	0.0093	0.5070	0.0155	-4.6370	0.1063	-0.7057	0.0396
4	135	0.5001	-0.2986	0.0144	0.6583	0.0199	-6.3642	0.1435	-0.5098	0.0520
4	135	0.5560	-0.4130	0.0195	0.8726	0.0244	-8.6603	0.1860	-0.6282	0.0429
4	135	0.6001	-0.5286	0.0246	1.0344	0.0277	-10.6724	0.2248	-0.6601	0.0584
4	135	0.6501	-0.7041	0.0325	1.2249	0.0324	-13.1712	0.2730	-0.5985	0.0395
4	135	0.6999	-0.9001	0.0424	1.4061	0.0368	-15.8485	0.3299	-0.4679	0.0562
4	135	0.7500	-1.1204	0.0532	1.5913	0.0412	-18.6817	0.3935	-0.2659	0.0621
4	135	0.8002	-1.3899	0.0668	1.7448	0.0454	-21.6821	0.4611	-0.2083	0.0653
4	135	0.8582	-1.7039	0.0825	1.9480	0.0511	-25.2779	0.5425	-0.6098	0.0634
4	135	0.9101	-1.9638	0.0963	2.1595	0.0558	-28.4343	0.6167	-0.0598	0.0694
4	135	0.9728	-2.1239	0.1112	2.4058	0.0619	-32.2700	0.7084	0.3062	0.0786

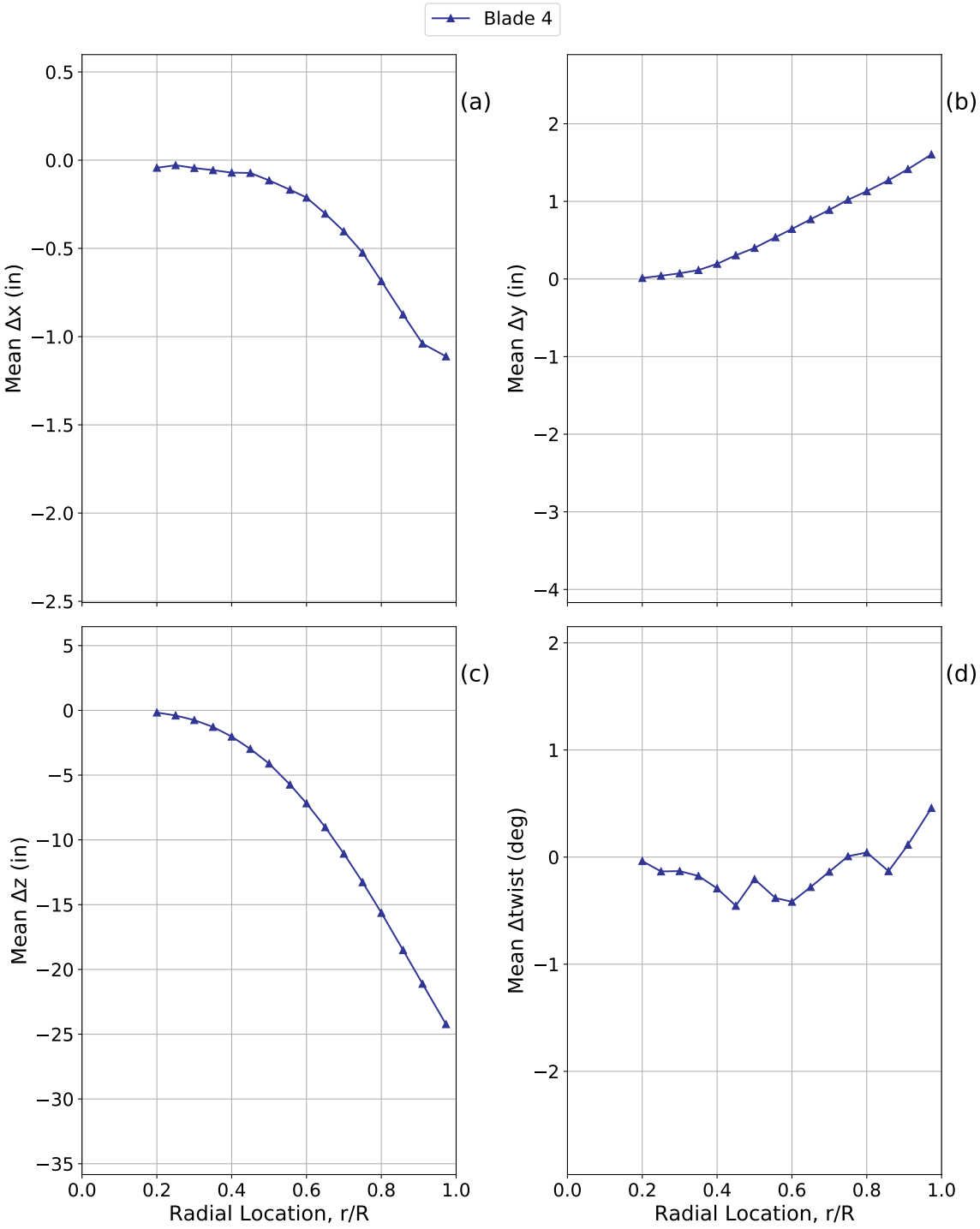


Figure 3.49-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0429	0.0019	0.0126	0.0006	-0.1677	0.0043	-0.0370	0.0150
4	150.12	0.2502	-0.0285	0.0019	0.0415	0.0022	-0.3979	0.0104	-0.1337	0.0292
4	150.12	0.3001	-0.0442	0.0025	0.0732	0.0025	-0.7492	0.0189	-0.1307	0.0335
4	150.12	0.3502	-0.0566	0.0029	0.1144	0.0043	-1.2825	0.0330	-0.1761	0.0301
4	150.12	0.4002	-0.0705	0.0046	0.1954	0.0071	-2.0262	0.0517	-0.2923	0.0344
4	150.12	0.4500	-0.0723	0.0063	0.3052	0.0082	-2.9795	0.0754	-0.4546	0.0422
4	150.12	0.5001	-0.1147	0.0081	0.4002	0.0104	-4.1109	0.1043	-0.2062	0.0446
4	150.12	0.5560	-0.1674	0.0106	0.5376	0.0146	-5.7347	0.1393	-0.3819	0.0540
4	150.12	0.6001	-0.2118	0.0135	0.6447	0.0173	-7.1789	0.1694	-0.4170	0.0378
4	150.12	0.6501	-0.3031	0.0182	0.7695	0.0202	-9.0233	0.2074	-0.2795	0.0401
4	150.12	0.6999	-0.4035	0.0237	0.8903	0.0239	-11.0680	0.2499	-0.1359	0.0446
4	150.12	0.7500	-0.5242	0.0308	1.0209	0.0264	-13.2724	0.2949	0.0082	0.0555
4	150.12	0.8002	-0.6857	0.0383	1.1311	0.0299	-15.6356	0.3436	0.0437	0.0517
4	150.12	0.8582	-0.8746	0.0474	1.2718	0.0345	-18.5118	0.4041	-0.1313	0.0551
4	150.12	0.9101	-1.0394	0.0564	1.4154	0.0371	-21.1102	0.4608	0.1152	0.0554
4	150.12	0.9728	-1.1120	0.0661	1.6042	0.0408	-24.2276	0.5339	0.4581	0.0476

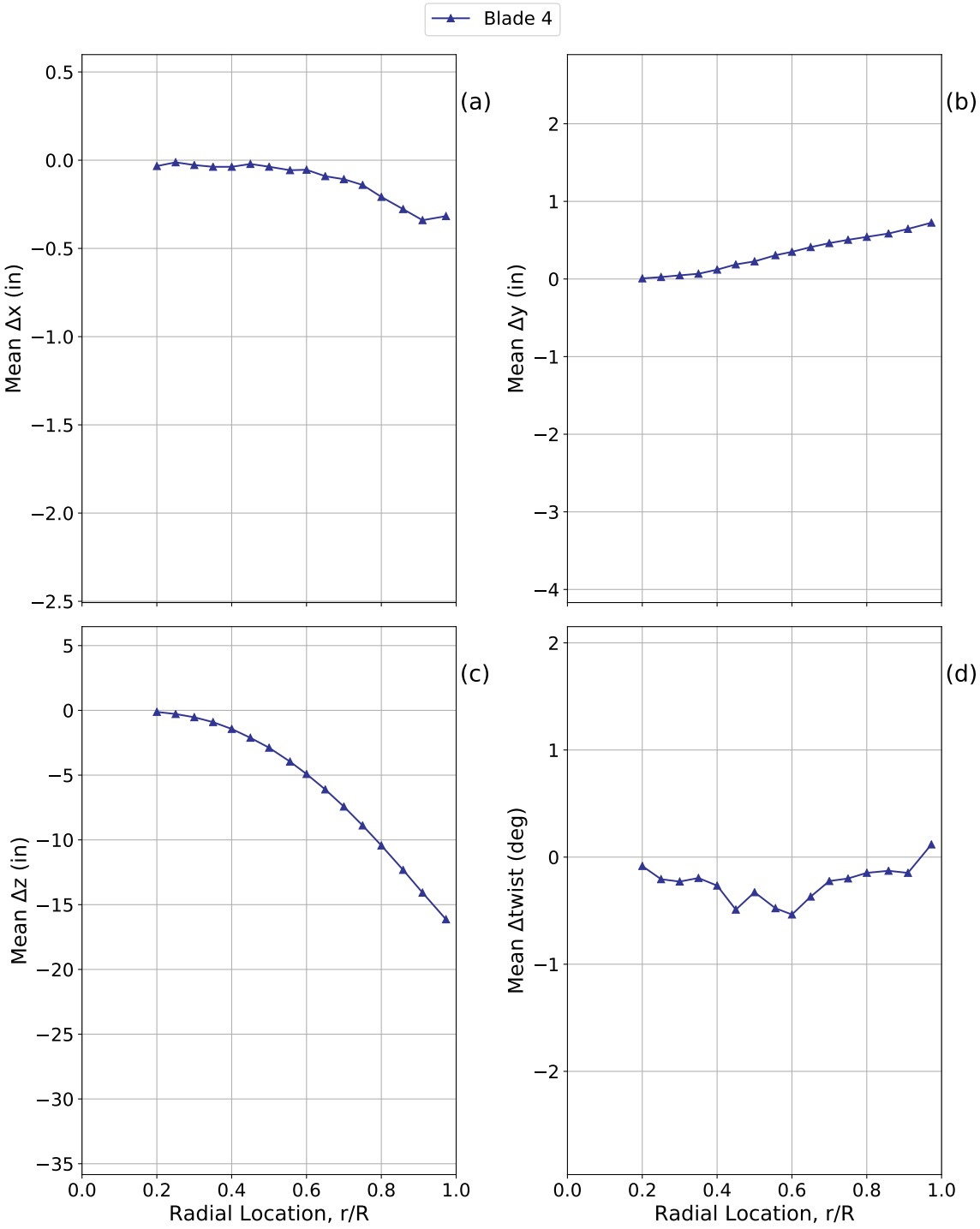


Figure 3.49-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0334	0.0015	0.0075	0.0007	-0.1196	0.0070	-0.0832	0.0212
4	164.88	0.2502	-0.0120	0.0035	0.0248	0.0018	-0.2833	0.0131	-0.2064	0.0463
4	164.88	0.3001	-0.0275	0.0028	0.0471	0.0031	-0.5322	0.0291	-0.2285	0.0481
4	164.88	0.3502	-0.0375	0.0031	0.0674	0.0044	-0.9088	0.0490	-0.1951	0.0423
4	164.88	0.4002	-0.0375	0.0042	0.1202	0.0073	-1.4362	0.0764	-0.2664	0.0335
4	164.88	0.4500	-0.0215	0.0062	0.1874	0.0089	-2.1184	0.1079	-0.4906	0.0274
4	164.88	0.5001	-0.0371	0.0079	0.2266	0.0119	-2.8862	0.1479	-0.3279	0.0333
4	164.88	0.5560	-0.0567	0.0102	0.3059	0.0166	-3.9574	0.1978	-0.4777	0.0440
4	164.88	0.6001	-0.0543	0.0135	0.3501	0.0178	-4.9152	0.2427	-0.5360	0.0431
4	164.88	0.6501	-0.0908	0.0171	0.4105	0.0219	-6.1076	0.2959	-0.3691	0.0380
4	164.88	0.6999	-0.1078	0.0217	0.4619	0.0261	-7.4300	0.3548	-0.2236	0.0490
4	164.88	0.7500	-0.1403	0.0279	0.5047	0.0295	-8.8886	0.4226	-0.1995	0.0330
4	164.88	0.8002	-0.2082	0.0347	0.5424	0.0338	-10.4357	0.4948	-0.1469	0.0424
4	164.88	0.8582	-0.2773	0.0437	0.5858	0.0369	-12.3178	0.5811	-0.1278	0.0358
4	164.88	0.9101	-0.3401	0.0511	0.6449	0.0429	-14.0760	0.6580	-0.1474	0.0465
4	164.88	0.9728	-0.3171	0.0586	0.7251	0.0485	-16.1345	0.7556	0.1181	0.0563

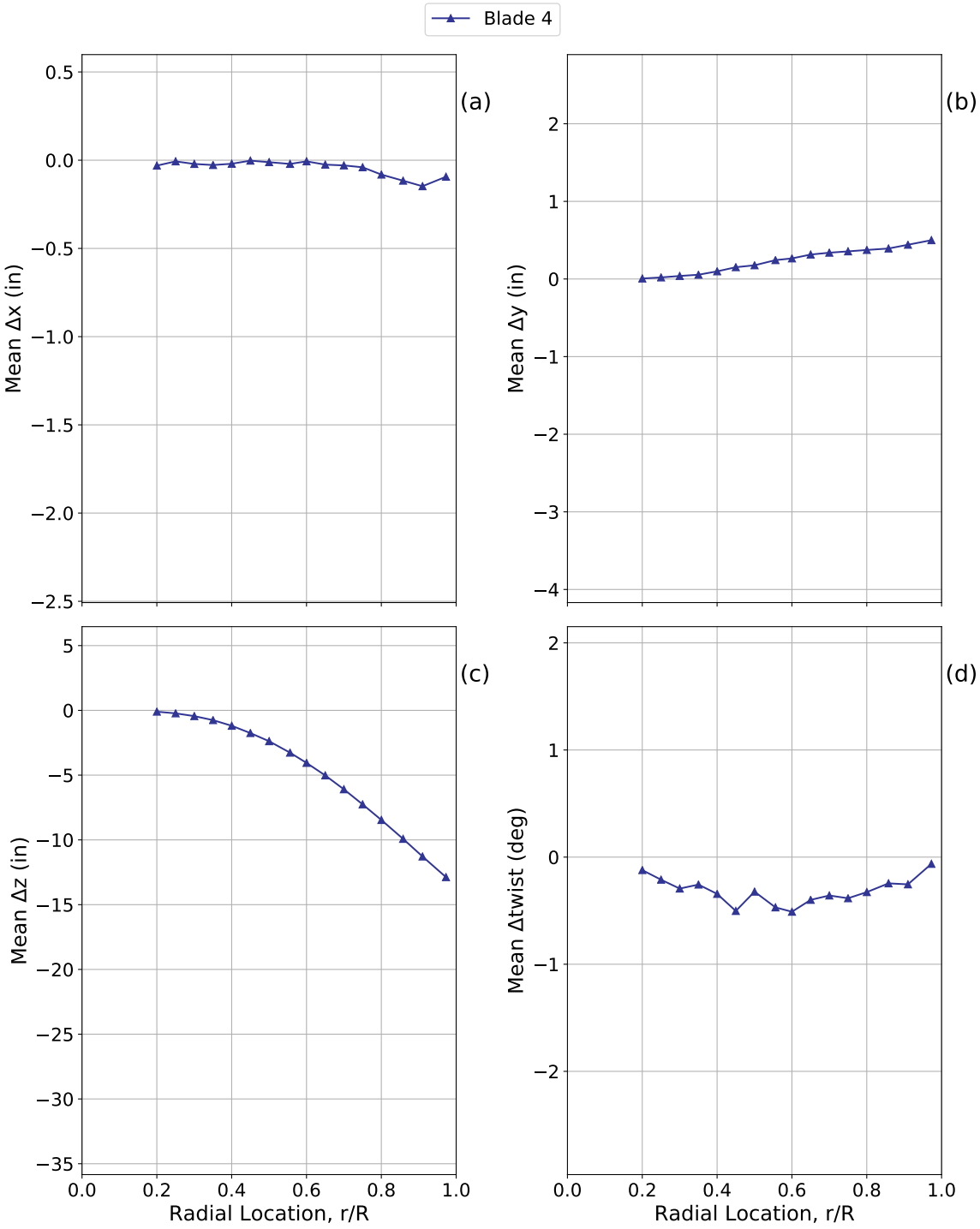


Figure 3.49-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0307	0.0022	0.0062	0.0011	-0.1014	0.0064	-0.1214	0.0293
4	170.16	0.2502	-0.0067	0.0029	0.0200	0.0031	-0.2310	0.0133	-0.2110	0.0463
4	170.16	0.3001	-0.0213	0.0027	0.0389	0.0051	-0.4454	0.0264	-0.2938	0.0626
4	170.16	0.3502	-0.0274	0.0027	0.0549	0.0092	-0.7545	0.0444	-0.2565	0.0544
4	170.16	0.4002	-0.0202	0.0044	0.0984	0.0142	-1.1918	0.0696	-0.3436	0.0484
4	170.16	0.4500	-0.0026	0.0057	0.1518	0.0164	-1.7537	0.1004	-0.5028	0.0620
4	170.16	0.5001	-0.0112	0.0063	0.1765	0.0196	-2.3832	0.1389	-0.3227	0.0727
4	170.16	0.5560	-0.0212	0.0091	0.2431	0.0245	-3.2672	0.1828	-0.4695	0.0690
4	170.16	0.6001	-0.0066	0.0115	0.2652	0.0272	-4.0568	0.2224	-0.5101	0.0725
4	170.16	0.6501	-0.0251	0.0142	0.3148	0.0313	-5.0229	0.2694	-0.3991	0.0701
4	170.16	0.6999	-0.0296	0.0176	0.3387	0.0331	-6.0948	0.3216	-0.3584	0.0683
4	170.16	0.7500	-0.0402	0.0209	0.3559	0.0382	-7.2589	0.3752	-0.3841	0.0669
4	170.16	0.8002	-0.0816	0.0248	0.3740	0.0421	-8.4648	0.4338	-0.3267	0.0731
4	170.16	0.8582	-0.1162	0.0305	0.3927	0.0470	-9.9227	0.5047	-0.2451	0.0795
4	170.16	0.9101	-0.1476	0.0340	0.4412	0.0516	-11.2827	0.5716	-0.2543	0.0811
4	170.16	0.9728	-0.0938	0.0396	0.4998	0.0572	-12.8762	0.6486	-0.0630	0.0703

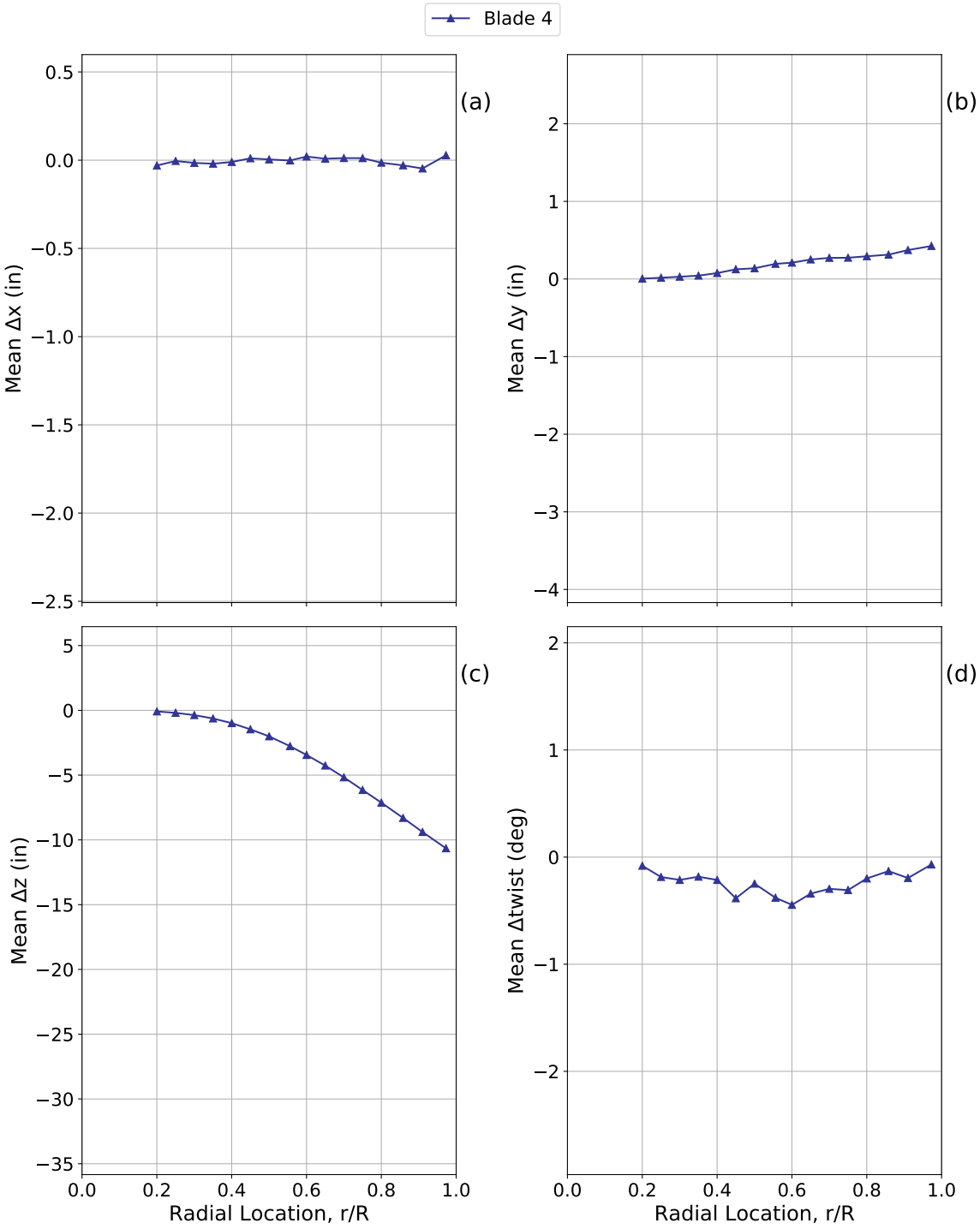


Figure 3.49-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0301	0.0022	0.0046	0.0016	-0.0839	0.0100	-0.0808	0.0288
4	175.08	0.2502	-0.0045	0.0022	0.0162	0.0031	-0.1931	0.0202	-0.1859	0.0309
4	175.08	0.3001	-0.0153	0.0032	0.0290	0.0063	-0.3673	0.0409	-0.2130	0.0525
4	175.08	0.3502	-0.0199	0.0031	0.0432	0.0111	-0.6274	0.0675	-0.1829	0.0458
4	175.08	0.4002	-0.0102	0.0031	0.0760	0.0168	-0.9879	0.1062	-0.2134	0.0718
4	175.08	0.4500	0.0106	0.0055	0.1248	0.0204	-1.4666	0.1514	-0.3845	0.0592
4	175.08	0.5001	0.0043	0.0076	0.1378	0.0274	-2.0069	0.2086	-0.2480	0.0682
4	175.08	0.5560	-0.0017	0.0094	0.1949	0.0339	-2.7655	0.2868	-0.3795	0.0729
4	175.08	0.6001	0.0207	0.0130	0.2103	0.0420	-3.4452	0.3601	-0.4457	0.0845
4	175.08	0.6501	0.0084	0.0171	0.2512	0.0480	-4.2648	0.4539	-0.3411	0.0903
4	175.08	0.6999	0.0120	0.0222	0.2719	0.0555	-5.1716	0.5567	-0.2964	0.0959
4	175.08	0.7500	0.0116	0.0281	0.2739	0.0634	-6.1493	0.6684	-0.3080	0.0855
4	175.08	0.8002	-0.0144	0.0345	0.2925	0.0709	-7.1286	0.7878	-0.1994	0.0803
4	175.08	0.8582	-0.0293	0.0422	0.3135	0.0799	-8.3059	0.9305	-0.1306	0.0944
4	175.08	0.9101	-0.0470	0.0478	0.3726	0.0872	-9.3918	1.0606	-0.1953	0.0923
4	175.08	0.9728	0.0279	0.0523	0.4250	0.0974	-10.6498	1.2218	-0.0689	0.0835

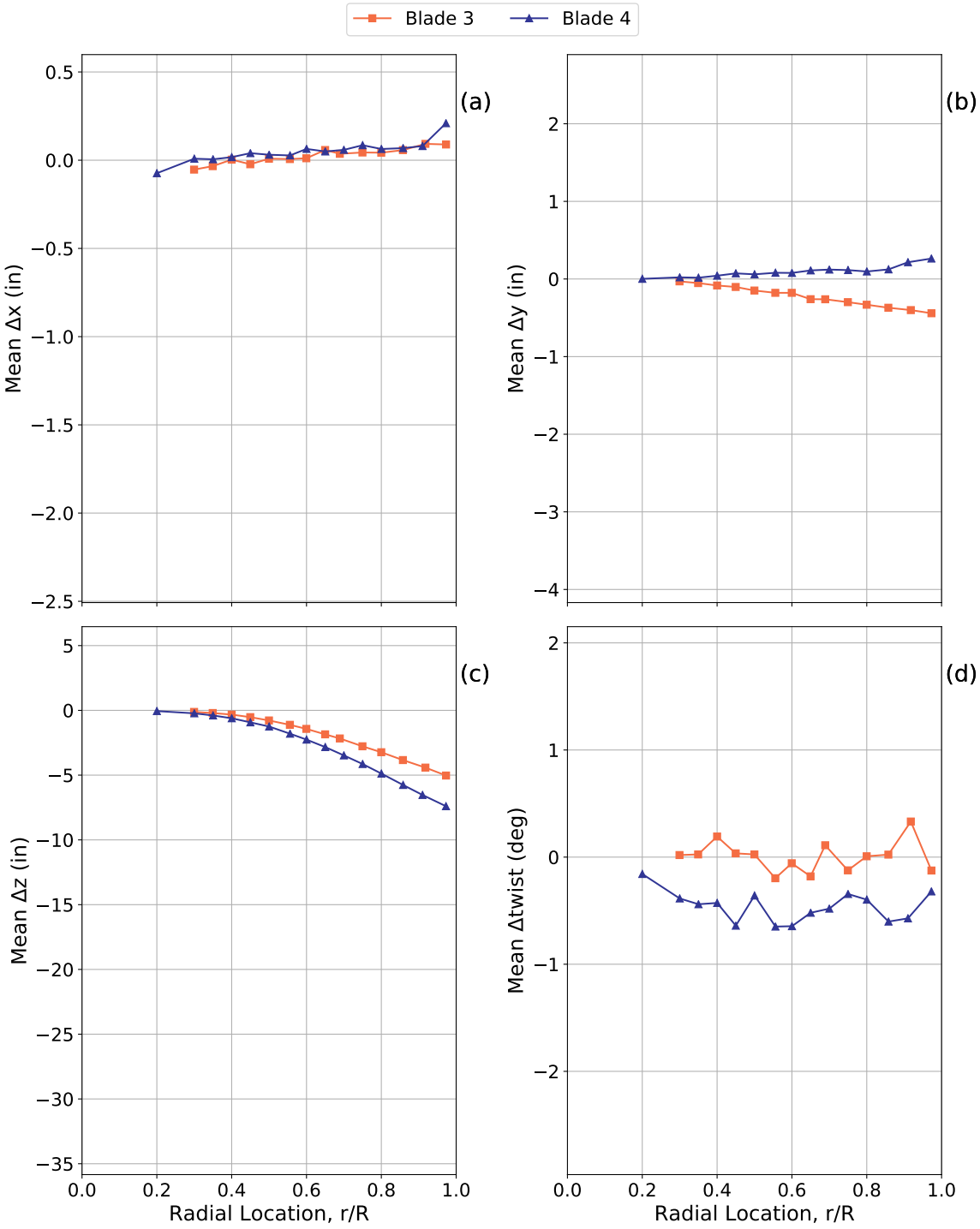


Figure 3.49-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2995	-0.0533	0.0054	-0.0306	0.0093	-0.1202	0.0335	0.0192	0.0732
3	180.35	0.3493	-0.0338	0.0072	-0.0526	0.0159	-0.2059	0.0569	0.0251	0.0970
3	180.35	0.4000	0.0032	0.0058	-0.0838	0.0255	-0.3276	0.0901	0.1923	0.1038
3	180.35	0.4497	-0.0230	0.0069	-0.1027	0.0348	-0.5232	0.1266	0.0350	0.0924
3	180.35	0.4997	0.0085	0.0069	-0.1486	0.0437	-0.7799	0.1697	0.0251	0.0918
3	180.35	0.5556	0.0064	0.0087	-0.1783	0.0533	-1.1173	0.2296	-0.1971	0.0978
3	180.35	0.5995	0.0110	0.0093	-0.1783	0.0630	-1.4293	0.2841	-0.0574	0.0941
3	180.35	0.6498	0.0578	0.0123	-0.2602	0.0724	-1.8519	0.3547	-0.1799	0.0998
3	180.35	0.6890	0.0363	0.0128	-0.2612	0.0791	-2.1694	0.4139	0.1108	0.0890
3	180.35	0.7495	0.0437	0.0164	-0.2984	0.0912	-2.7738	0.5104	-0.1237	0.0917
3	180.35	0.7998	0.0426	0.0179	-0.3315	0.1009	-3.2324	0.5990	0.0078	0.0943
3	180.35	0.8577	0.0572	0.0209	-0.3703	0.1126	-3.8381	0.6965	0.0233	0.1076
3	180.35	0.9178	0.0926	0.0226	-0.4007	0.1253	-4.4194	0.8010	0.3320	0.0809
3	180.35	0.9729	0.0891	0.0241	-0.4413	0.1345	-5.0315	0.9007	-0.1252	0.0910
4	180	0.2001	-0.0739	0.0280	0.0020	0.0046	-0.0561	0.0111	-0.1576	0.1654
4	180	0.3001	0.0085	0.0116	0.0213	0.0172	-0.2283	0.0354	-0.3860	0.3841
4	180	0.3502	0.0052	0.0112	0.0167	0.0344	-0.3944	0.0671	-0.4399	0.3745
4	180	0.4002	0.0173	0.0118	0.0424	0.0501	-0.6107	0.0968	-0.4279	0.3882
4	180	0.4500	0.0399	0.0115	0.0724	0.0670	-0.9265	0.1329	-0.6402	0.3854
4	180	0.5001	0.0309	0.0122	0.0602	0.0843	-1.2496	0.1712	-0.3588	0.3916
4	180	0.5560	0.0270	0.0128	0.0801	0.1044	-1.8025	0.2202	-0.6486	0.3884
4	180	0.6001	0.0639	0.0143	0.0782	0.1215	-2.2588	0.2661	-0.6450	0.3934
4	180	0.6501	0.0495	0.0152	0.1106	0.1400	-2.8348	0.3198	-0.5196	0.3929
4	180	0.6999	0.0586	0.0176	0.1213	0.1591	-3.4782	0.3851	-0.4812	0.3889
4	180	0.7500	0.0849	0.0205	0.1146	0.1806	-4.1429	0.4541	-0.3444	0.3944
4	180	0.8002	0.0635	0.0231	0.0966	0.2011	-4.8824	0.5288	-0.3973	0.3887
4	180	0.8582	0.0684	0.0259	0.1237	0.2247	-5.7598	0.6215	-0.6020	0.3940
4	180	0.9101	0.0801	0.0283	0.2157	0.2455	-6.5310	0.7021	-0.5718	0.4146
4	180	0.9728	0.2096	0.0296	0.2633	0.2725	-7.4003	0.8069	-0.3205	0.4182

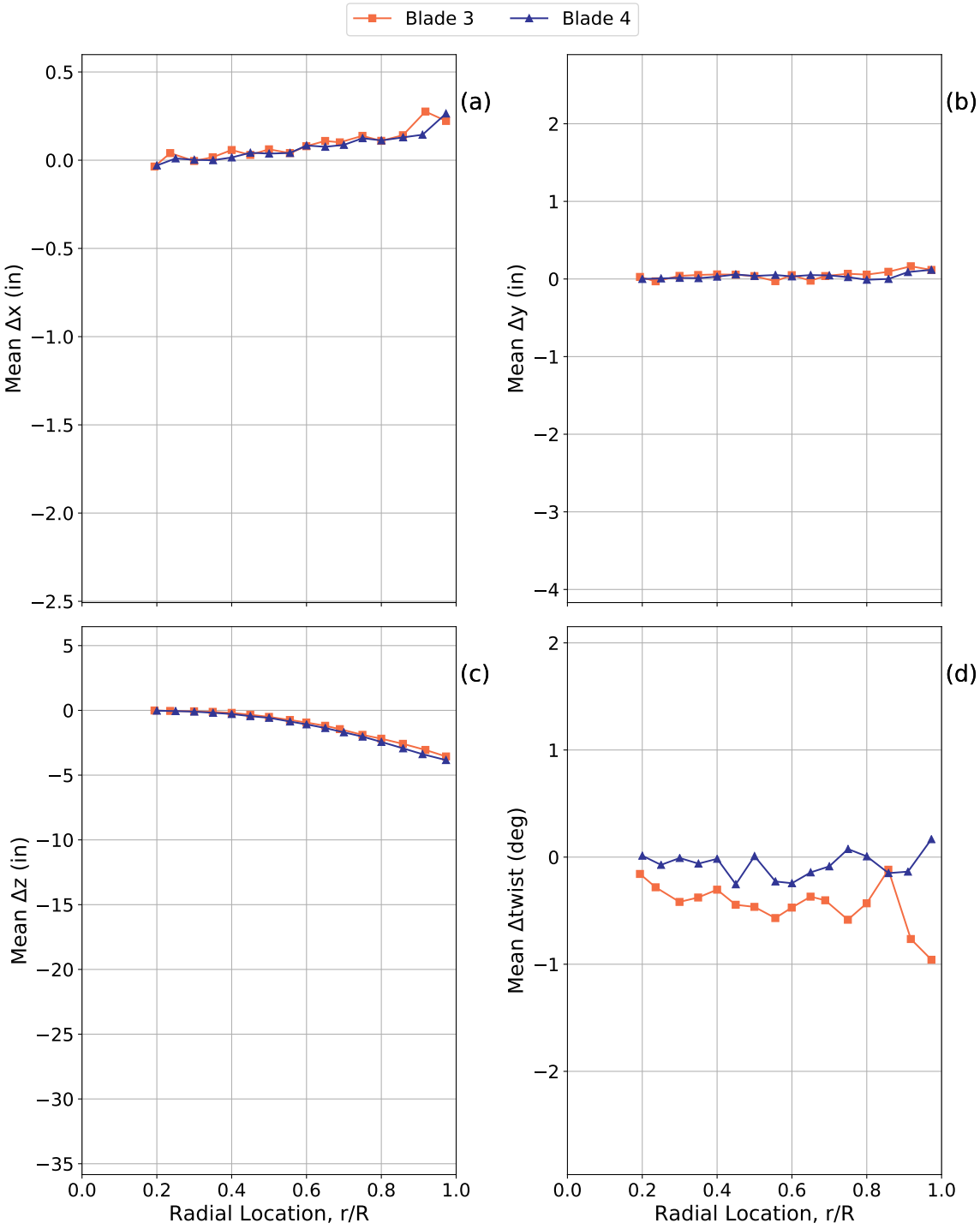


Figure 3.49-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0358	0.0027	0.0264	0.0021	-0.0106	0.0064	-0.1572	0.0472
3	184.92	0.2357	0.0403	0.0027	-0.0298	0.0025	-0.0437	0.0123	-0.2816	0.0665
3	184.92	0.2995	-0.0043	0.0012	0.0401	0.0043	-0.0722	0.0237	-0.4183	0.1020
3	184.92	0.3493	0.0168	0.0025	0.0519	0.0074	-0.1147	0.0408	-0.3771	0.0961
3	184.92	0.4000	0.0578	0.0029	0.0592	0.0101	-0.1936	0.0635	-0.3040	0.1048
3	184.92	0.4497	0.0299	0.0036	0.0558	0.0142	-0.3368	0.0896	-0.4450	0.1019
3	184.92	0.4997	0.0617	0.0042	0.0374	0.0163	-0.5025	0.1229	-0.4646	0.1132
3	184.92	0.5556	0.0404	0.0050	-0.0278	0.0226	-0.7420	0.1713	-0.5690	0.0905
3	184.92	0.5995	0.0794	0.0055	0.0494	0.0245	-0.9380	0.2175	-0.4712	0.1188
3	184.92	0.6498	0.1091	0.0068	-0.0216	0.0293	-1.1899	0.2731	-0.3692	0.1064
3	184.92	0.6890	0.1012	0.0074	0.0381	0.0320	-1.4487	0.3143	-0.4031	0.0883
3	184.92	0.7495	0.1380	0.0096	0.0672	0.0363	-1.8894	0.3871	-0.5846	0.0879
3	184.92	0.7998	0.1098	0.0109	0.0566	0.0401	-2.1876	0.4501	-0.4311	0.1164
3	184.92	0.8577	0.1416	0.0125	0.0930	0.0443	-2.5841	0.5258	-0.1176	0.1038
3	184.92	0.9178	0.2757	0.0297	0.1640	0.0519	-3.0540	0.6006	-0.7647	0.2117
3	184.92	0.9729	0.2226	0.0200	0.1167	0.0532	-3.5600	0.6690	-0.9582	0.1045
4	184.92	0.2001	-0.0299	0.0026	0.0003	0.0017	-0.0251	0.0072	0.0130	0.0331
4	184.92	0.2502	0.0100	0.0031	0.0073	0.0032	-0.0575	0.0176	-0.0725	0.0735
4	184.92	0.3001	0.0021	0.0026	0.0141	0.0063	-0.0994	0.0295	-0.0083	0.0799
4	184.92	0.3502	-0.0001	0.0019	0.0104	0.0104	-0.1896	0.0520	-0.0609	0.0909
4	184.92	0.4002	0.0155	0.0022	0.0300	0.0159	-0.2836	0.0808	-0.0158	0.0969
4	184.92	0.4500	0.0423	0.0028	0.0586	0.0223	-0.4477	0.1221	-0.2540	0.0816
4	184.92	0.5001	0.0374	0.0038	0.0388	0.0296	-0.5779	0.1676	0.0091	0.1009
4	184.92	0.5560	0.0409	0.0043	0.0518	0.0366	-0.8624	0.2295	-0.2275	0.0841
4	184.92	0.6001	0.0836	0.0044	0.0332	0.0441	-1.0828	0.2850	-0.2437	0.0889
4	184.92	0.6501	0.0758	0.0049	0.0506	0.0516	-1.3657	0.3523	-0.1426	0.0861
4	184.92	0.6999	0.0868	0.0066	0.0461	0.0584	-1.6958	0.4198	-0.0863	0.0855
4	184.92	0.7500	0.1246	0.0075	0.0240	0.0669	-2.0287	0.4975	0.0753	0.0862
4	184.92	0.8002	0.1120	0.0088	-0.0100	0.0746	-2.4384	0.5746	0.0069	0.0653
4	184.92	0.8582	0.1294	0.0102	0.0007	0.0845	-2.9325	0.6708	-0.1495	0.0868
4	184.92	0.9101	0.1443	0.0122	0.0893	0.0935	-3.3831	0.7536	-0.1357	0.0840
4	184.92	0.9728	0.2644	0.0106	0.1180	0.1028	-3.8386	0.8601	0.1673	0.1116

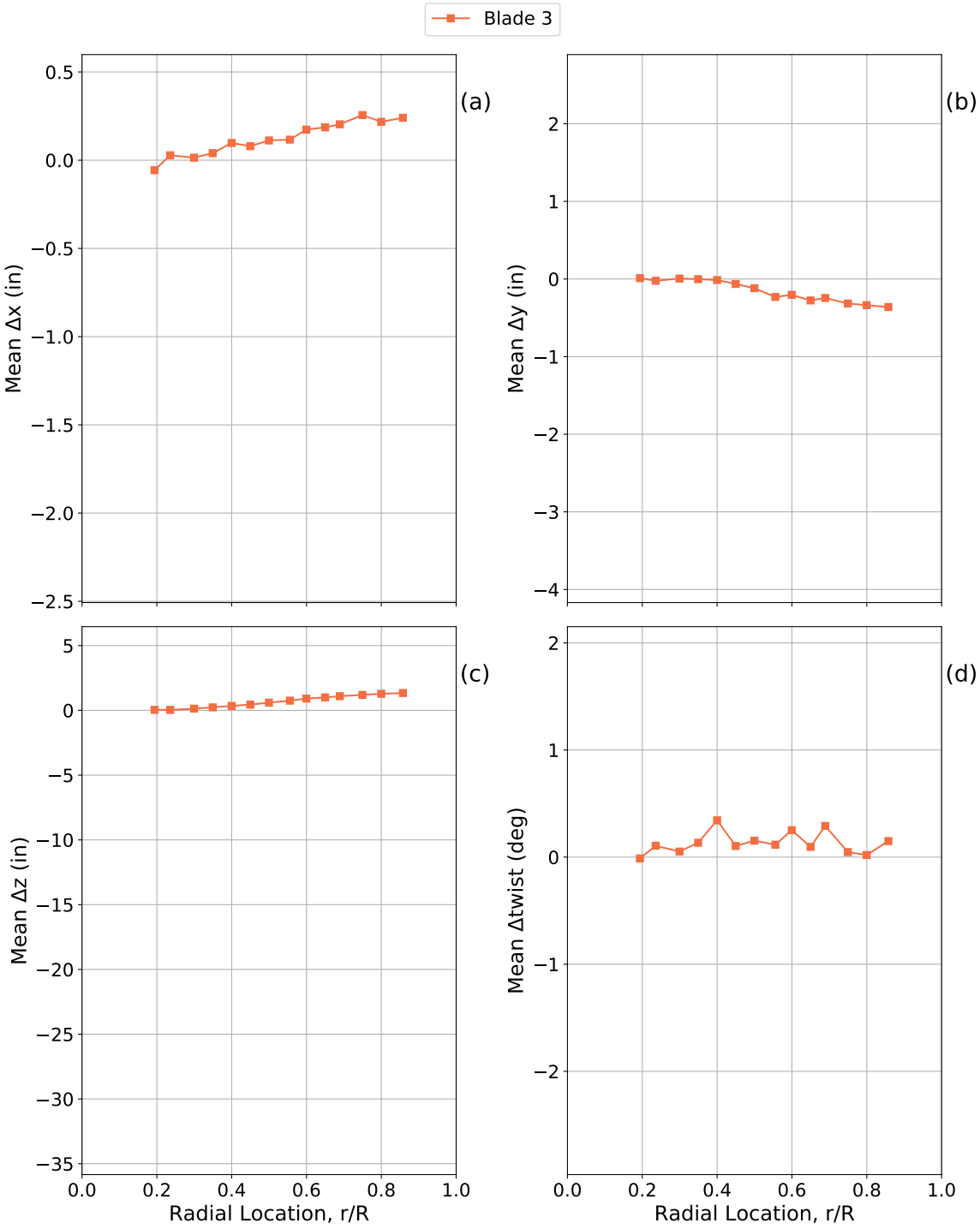


Figure 3.49-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0568	0.0010	0.0108	0.0020	0.0393	0.0095	-0.0121	0.0167
3	195.12	0.2357	0.0280	0.0011	-0.0231	0.0027	0.0329	0.0183	0.1061	0.0312
3	195.12	0.2995	0.0143	0.0011	0.0060	0.0070	0.1336	0.0411	0.0521	0.0340
3	195.12	0.3493	0.0400	0.0012	-0.0021	0.0124	0.2319	0.0707	0.1338	0.0385
3	195.12	0.4000	0.0977	0.0015	-0.0134	0.0188	0.3436	0.1098	0.3434	0.0403
3	195.12	0.4497	0.0794	0.0016	-0.0636	0.0255	0.4449	0.1581	0.1042	0.0387
3	195.12	0.4997	0.1120	0.0014	-0.1188	0.0326	0.5950	0.2120	0.1538	0.0408
3	195.12	0.5556	0.1165	0.0020	-0.2310	0.0416	0.7517	0.2792	0.1160	0.0554
3	195.12	0.5995	0.1735	0.0028	-0.2041	0.0484	0.9081	0.3390	0.2518	0.0643
3	195.12	0.6498	0.1863	0.0034	-0.2763	0.0574	1.0000	0.4055	0.0956	0.0639
3	195.12	0.6890	0.2035	0.0039	-0.2447	0.0630	1.0948	0.4602	0.2915	0.0757
3	195.12	0.7495	0.2556	0.0045	-0.3158	0.0734	1.1944	0.5487	0.0467	0.0731
3	195.12	0.7998	0.2175	0.0048	-0.3371	0.0827	1.2785	0.6306	0.0194	0.0569
3	195.12	0.8577	0.2406	0.0065	-0.3615	0.0947	1.3403	0.7206	0.1497	0.1979

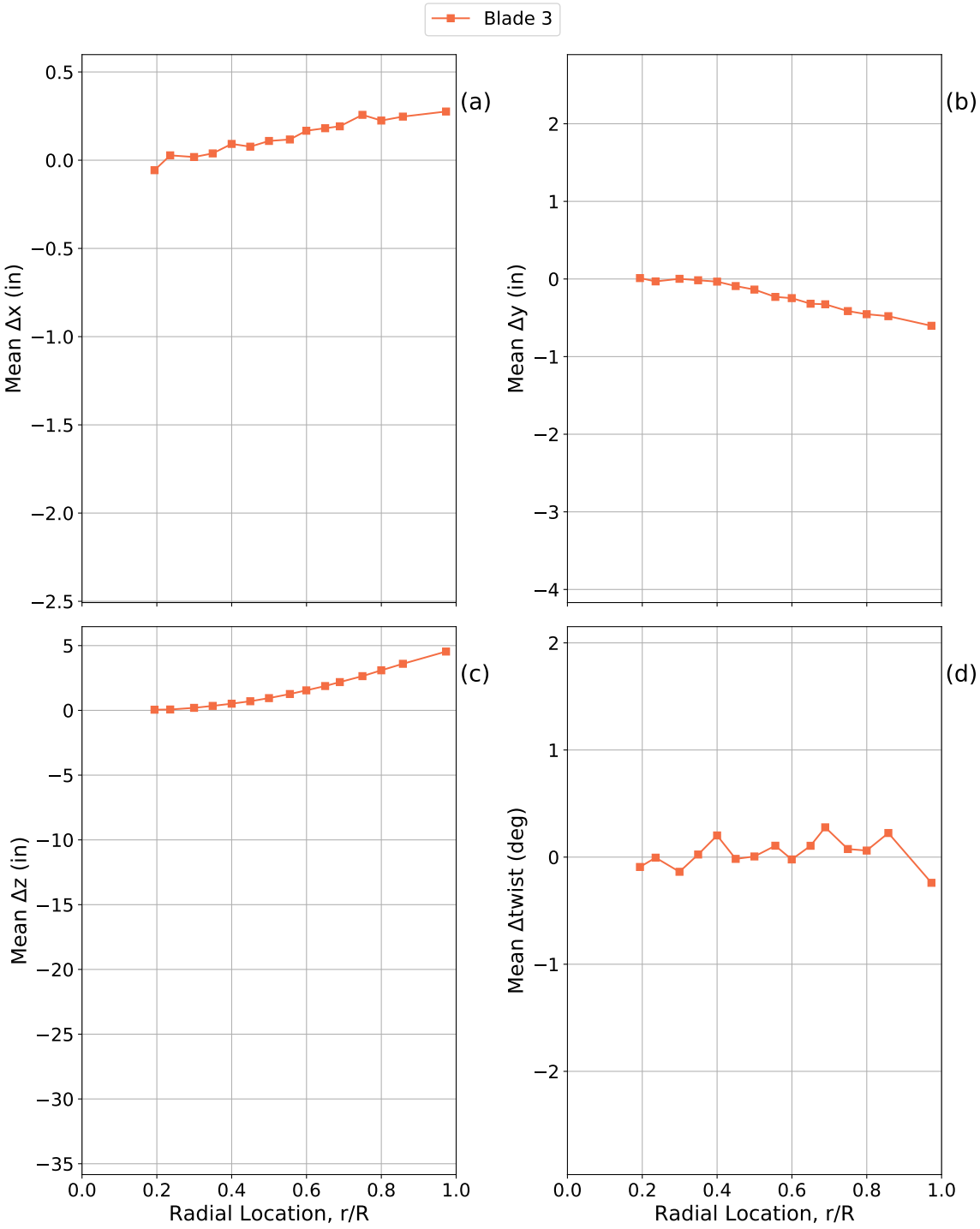


Figure 3.49-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0566	0.0012	0.0117	0.0012	0.0522	0.0070	-0.0921	0.0164
3	209.88	0.2357	0.0275	0.0009	-0.0311	0.0016	0.0665	0.0117	-0.0051	0.0358
3	209.88	0.2995	0.0180	0.0008	0.0024	0.0045	0.1938	0.0293	-0.1371	0.0411
3	209.88	0.3493	0.0385	0.0009	-0.0163	0.0075	0.3449	0.0484	0.0243	0.0434
3	209.88	0.4000	0.0923	0.0014	-0.0340	0.0116	0.5152	0.0756	0.2023	0.0437
3	209.88	0.4497	0.0767	0.0020	-0.0910	0.0142	0.7041	0.1045	-0.0166	0.0449
3	209.88	0.4997	0.1091	0.0025	-0.1364	0.0201	0.9453	0.1445	0.0061	0.0400
3	209.88	0.5556	0.1174	0.0032	-0.2308	0.0262	1.2607	0.1981	0.1064	0.0472
3	209.88	0.5995	0.1670	0.0047	-0.2465	0.0315	1.5450	0.2450	-0.0218	0.0513
3	209.88	0.6498	0.1813	0.0067	-0.3186	0.0374	1.8781	0.3034	0.1058	0.0545
3	209.88	0.6890	0.1920	0.0082	-0.3258	0.0431	2.1819	0.3558	0.2781	0.0567
3	209.88	0.7495	0.2571	0.0111	-0.4135	0.0512	2.6414	0.4414	0.0753	0.0514
3	209.88	0.7998	0.2247	0.0134	-0.4537	0.0592	3.0913	0.5137	0.0612	0.0482
3	209.88	0.8577	0.2471	0.0157	-0.4792	0.0658	3.5953	0.6030	0.2250	0.0665
3	209.88	0.9729	0.2759	0.0282	-0.6029	0.0851	4.5397	0.7898	-0.2400	0.1008

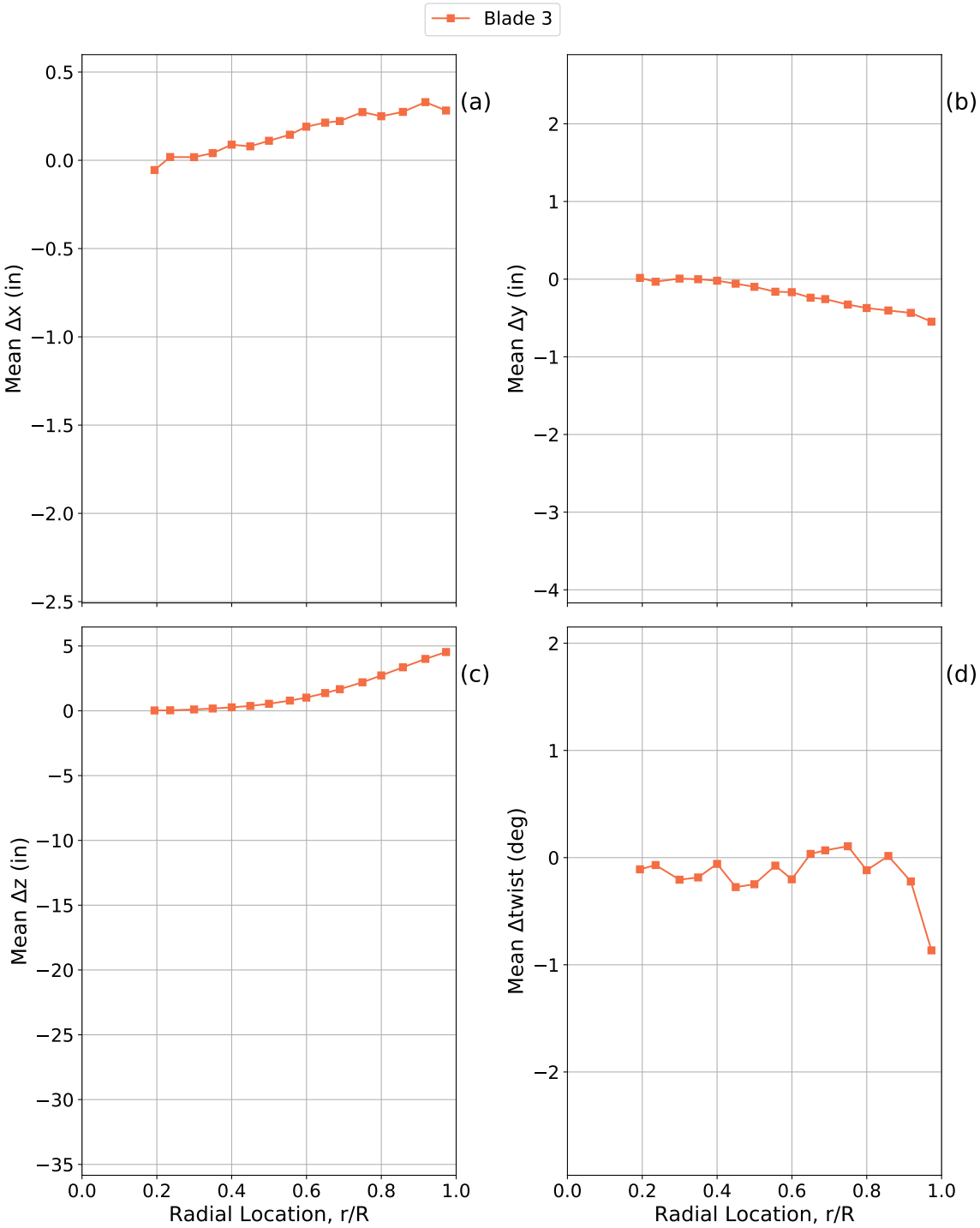


Figure 3.49-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0552	0.0024	0.0159	0.0024	0.0247	0.0116	-0.1095	0.0273
3	225	0.2357	0.0186	0.0017	-0.0332	0.0030	0.0360	0.0214	-0.0695	0.0347
3	225	0.2995	0.0177	0.0010	0.0071	0.0084	0.1010	0.0512	-0.2061	0.0592
3	225	0.3493	0.0405	0.0010	-0.0010	0.0157	0.1726	0.0815	-0.1851	0.0679
3	225	0.4000	0.0885	0.0021	-0.0200	0.0231	0.2660	0.1302	-0.0584	0.0601
3	225	0.4497	0.0790	0.0026	-0.0583	0.0302	0.3705	0.1787	-0.2749	0.0619
3	225	0.4997	0.1107	0.0032	-0.0989	0.0377	0.5409	0.2357	-0.2487	0.0749
3	225	0.5556	0.1450	0.0037	-0.1614	0.0468	0.7854	0.3123	-0.0744	0.0619
3	225	0.5995	0.1903	0.0055	-0.1677	0.0553	1.0149	0.3757	-0.2025	0.0773
3	225	0.6498	0.2134	0.0066	-0.2384	0.0628	1.3648	0.4539	0.0345	0.0757
3	225	0.6890	0.2220	0.0095	-0.2568	0.0705	1.6664	0.5225	0.0677	0.0643
3	225	0.7495	0.2729	0.0116	-0.3271	0.0805	2.1969	0.6294	0.1061	0.0719
3	225	0.7998	0.2495	0.0147	-0.3721	0.0891	2.7258	0.7269	-0.1175	0.0696
3	225	0.8577	0.2742	0.0195	-0.4032	0.1001	3.3523	0.8404	0.0152	0.0795
3	225	0.9178	0.3294	0.0265	-0.4341	0.1121	4.0007	0.9622	-0.2227	0.0922
3	225	0.9729	0.2820	0.0341	-0.5475	0.1214	4.5299	1.0786	-0.8654	0.1033

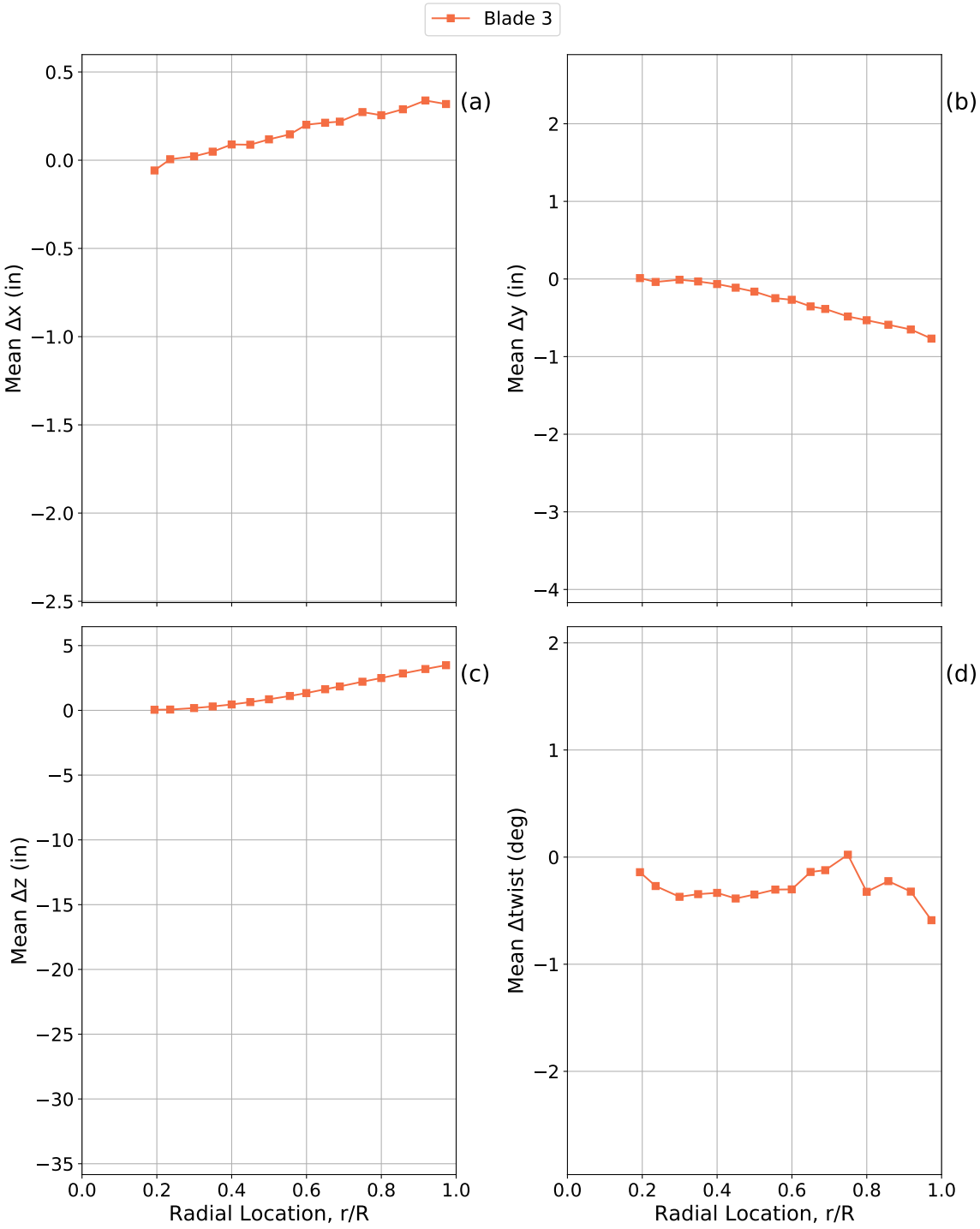


Figure 3.49-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0581	0.0025	0.0114	0.0012	0.0470	0.0038	-0.1408	0.0216
3	240.12	0.2357	0.0055	0.0013	-0.0380	0.0023	0.0629	0.0101	-0.2700	0.0529
3	240.12	0.2995	0.0220	0.0009	-0.0095	0.0049	0.1772	0.0195	-0.3705	0.0620
3	240.12	0.3493	0.0484	0.0013	-0.0318	0.0076	0.2993	0.0321	-0.3458	0.0503
3	240.12	0.4000	0.0892	0.0022	-0.0653	0.0125	0.4559	0.0524	-0.3338	0.0645
3	240.12	0.4497	0.0878	0.0026	-0.1122	0.0154	0.6378	0.0782	-0.3863	0.0684
3	240.12	0.4997	0.1181	0.0027	-0.1629	0.0188	0.8551	0.1135	-0.3494	0.0565
3	240.12	0.5556	0.1465	0.0021	-0.2472	0.0224	1.1110	0.1650	-0.3032	0.0700
3	240.12	0.5995	0.2010	0.0031	-0.2677	0.0254	1.3322	0.2137	-0.3012	0.0684
3	240.12	0.6498	0.2124	0.0027	-0.3532	0.0304	1.6306	0.2796	-0.1387	0.0701
3	240.12	0.6890	0.2186	0.0040	-0.3859	0.0339	1.8472	0.3387	-0.1220	0.0631
3	240.12	0.7495	0.2727	0.0069	-0.4832	0.0396	2.2105	0.4434	0.0225	0.0804
3	240.12	0.7998	0.2550	0.0084	-0.5315	0.0438	2.4953	0.5344	-0.3236	0.0803
3	240.12	0.8577	0.2886	0.0108	-0.5895	0.0485	2.8513	0.6492	-0.2243	0.0737
3	240.12	0.9178	0.3384	0.0158	-0.6506	0.0543	3.1914	0.7744	-0.3220	0.0795
3	240.12	0.9729	0.3183	0.0209	-0.7679	0.0583	3.4860	0.8908	-0.5892	0.0826

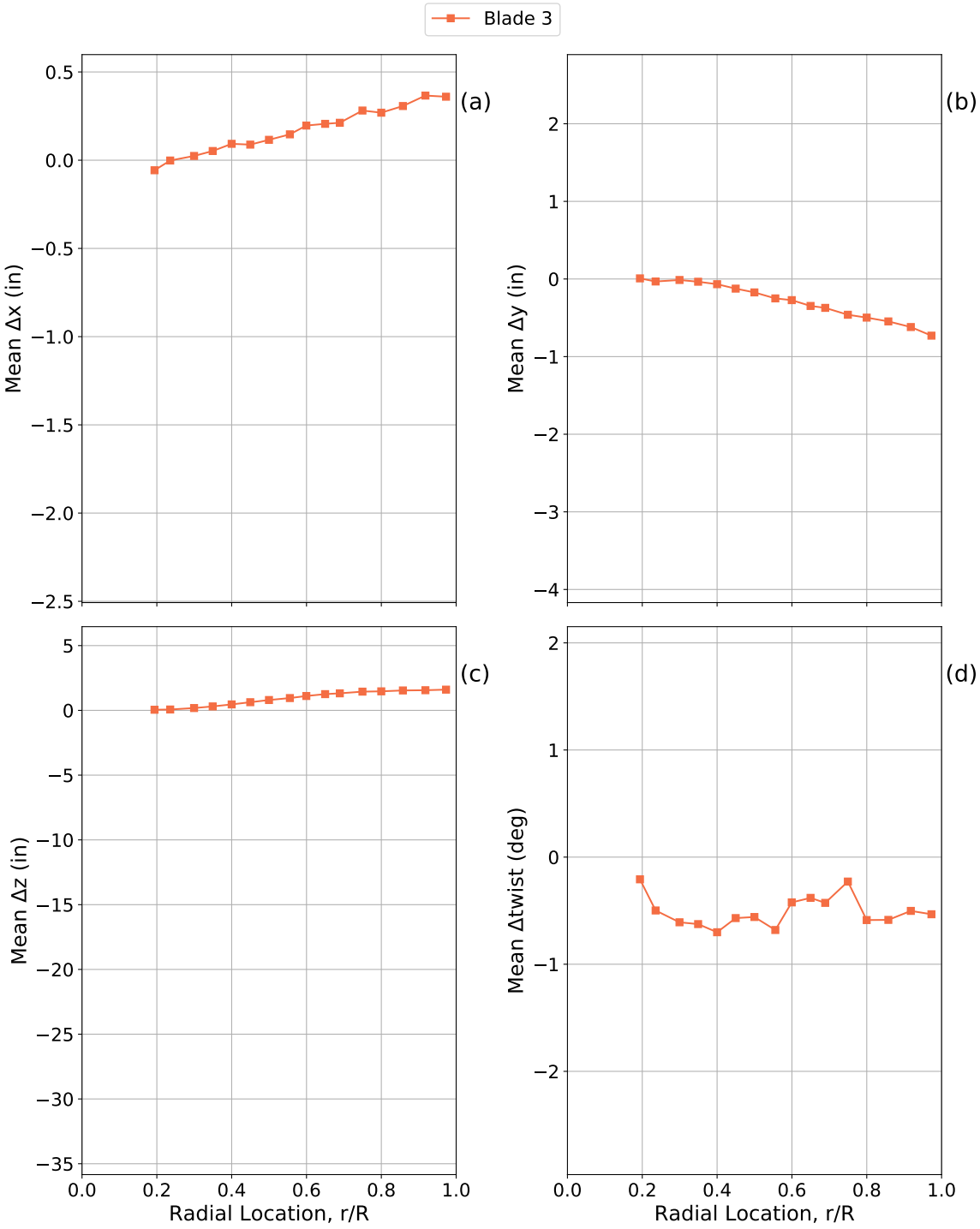


Figure 3.49-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0570	0.0027	0.0079	0.0014	0.0482	0.0083	-0.2074	0.0237
3	254.88	0.2357	-0.0018	0.0019	-0.0322	0.0015	0.0663	0.0137	-0.4981	0.0393
3	254.88	0.2995	0.0241	0.0010	-0.0128	0.0047	0.1788	0.0319	-0.6085	0.0508
3	254.88	0.3493	0.0521	0.0013	-0.0353	0.0089	0.3035	0.0542	-0.6254	0.0469
3	254.88	0.4000	0.0928	0.0020	-0.0671	0.0129	0.4595	0.0827	-0.7013	0.0584
3	254.88	0.4497	0.0883	0.0023	-0.1242	0.0167	0.6292	0.1152	-0.5692	0.0422
3	254.88	0.4997	0.1155	0.0027	-0.1728	0.0217	0.7980	0.1533	-0.5591	0.0513
3	254.88	0.5556	0.1465	0.0025	-0.2500	0.0279	0.9502	0.2059	-0.6805	0.0653
3	254.88	0.5995	0.1964	0.0029	-0.2724	0.0325	1.1085	0.2507	-0.4228	0.0606
3	254.88	0.6498	0.2061	0.0044	-0.3472	0.0384	1.2529	0.3076	-0.3806	0.0643
3	254.88	0.6890	0.2121	0.0052	-0.3720	0.0439	1.3149	0.3564	-0.4271	0.0656
3	254.88	0.7495	0.2815	0.0063	-0.4607	0.0519	1.4452	0.4413	-0.2283	0.0578
3	254.88	0.7998	0.2693	0.0062	-0.4976	0.0586	1.4685	0.5137	-0.5876	0.0709
3	254.88	0.8577	0.3070	0.0072	-0.5465	0.0662	1.5377	0.6045	-0.5860	0.0695
3	254.88	0.9178	0.3663	0.0086	-0.6191	0.0736	1.5551	0.7032	-0.5021	0.0694
3	254.88	0.9729	0.3598	0.0127	-0.7300	0.0808	1.6004	0.7989	-0.5335	0.0786

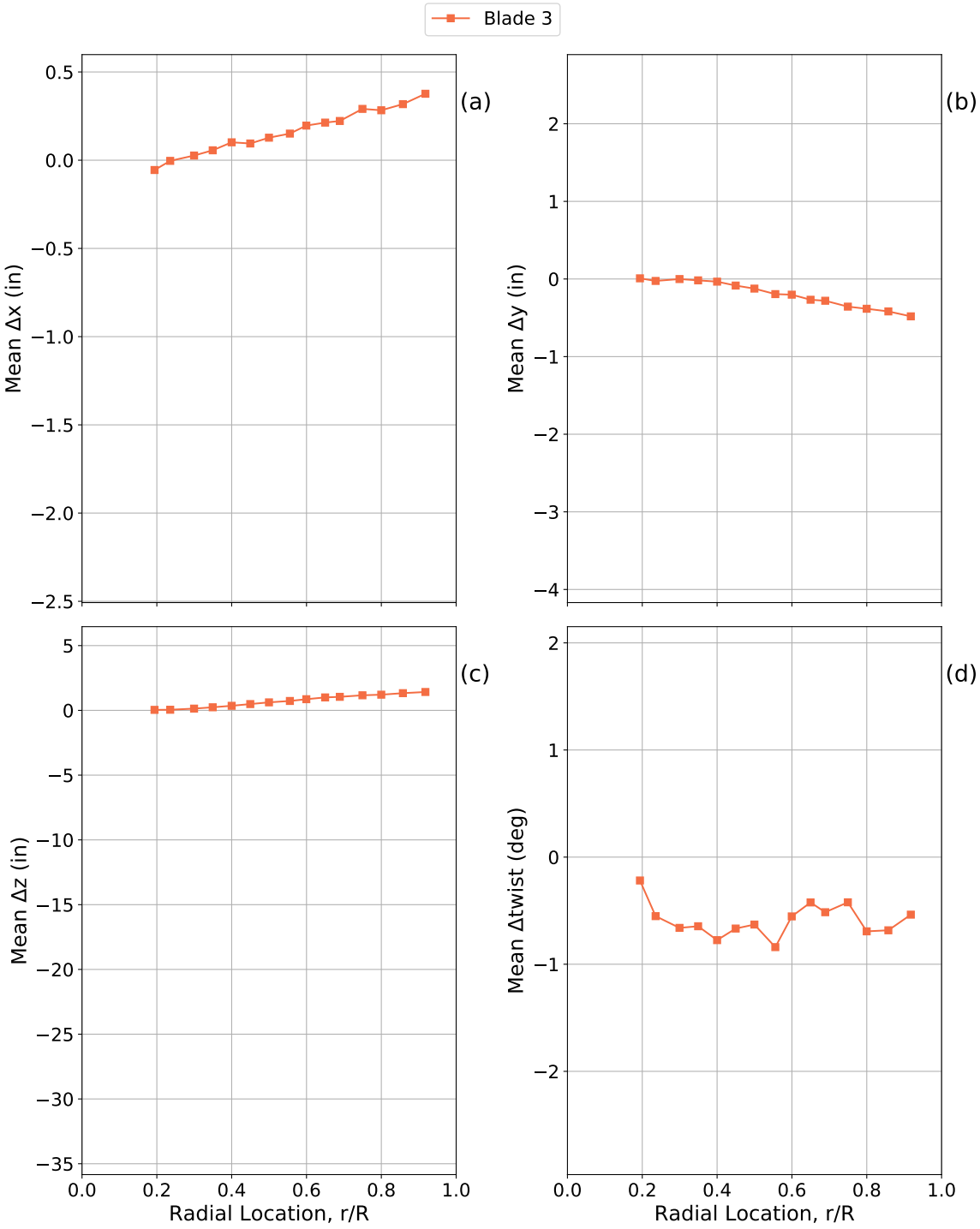


Figure 3.49-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0556	0.0050	0.0085	0.0014	0.0380	0.0054	-0.2182	0.0195
3	260.16	0.2357	-0.0038	0.0016	-0.0250	0.0014	0.0476	0.0078	-0.5511	0.0619
3	260.16	0.2995	0.0264	0.0012	-0.0009	0.0040	0.1347	0.0188	-0.6606	0.0592
3	260.16	0.3493	0.0561	0.0015	-0.0177	0.0075	0.2374	0.0330	-0.6454	0.0512
3	260.16	0.4000	0.1014	0.0022	-0.0342	0.0107	0.3523	0.0493	-0.7751	0.0592
3	260.16	0.4497	0.0947	0.0018	-0.0847	0.0139	0.4860	0.0700	-0.6668	0.0537
3	260.16	0.4997	0.1276	0.0021	-0.1239	0.0179	0.6180	0.0960	-0.6296	0.0616
3	260.16	0.5556	0.1508	0.0024	-0.1948	0.0211	0.7251	0.1268	-0.8404	0.0527
3	260.16	0.5995	0.1962	0.0021	-0.2020	0.0245	0.8612	0.1530	-0.5536	0.0570
3	260.16	0.6498	0.2131	0.0020	-0.2674	0.0283	0.9994	0.1846	-0.4232	0.0593
3	260.16	0.6890	0.2223	0.0028	-0.2803	0.0318	1.0445	0.2123	-0.5144	0.0627
3	260.16	0.7495	0.2908	0.0033	-0.3561	0.0369	1.1631	0.2560	-0.4219	0.0644
3	260.16	0.7998	0.2830	0.0038	-0.3835	0.0413	1.2106	0.2955	-0.6930	0.0671
3	260.16	0.8577	0.3177	0.0035	-0.4177	0.0458	1.3274	0.3441	-0.6832	0.0794
3	260.16	0.9178	0.3766	0.0038	-0.4814	0.0514	1.4183	0.3987	-0.5371	0.0791

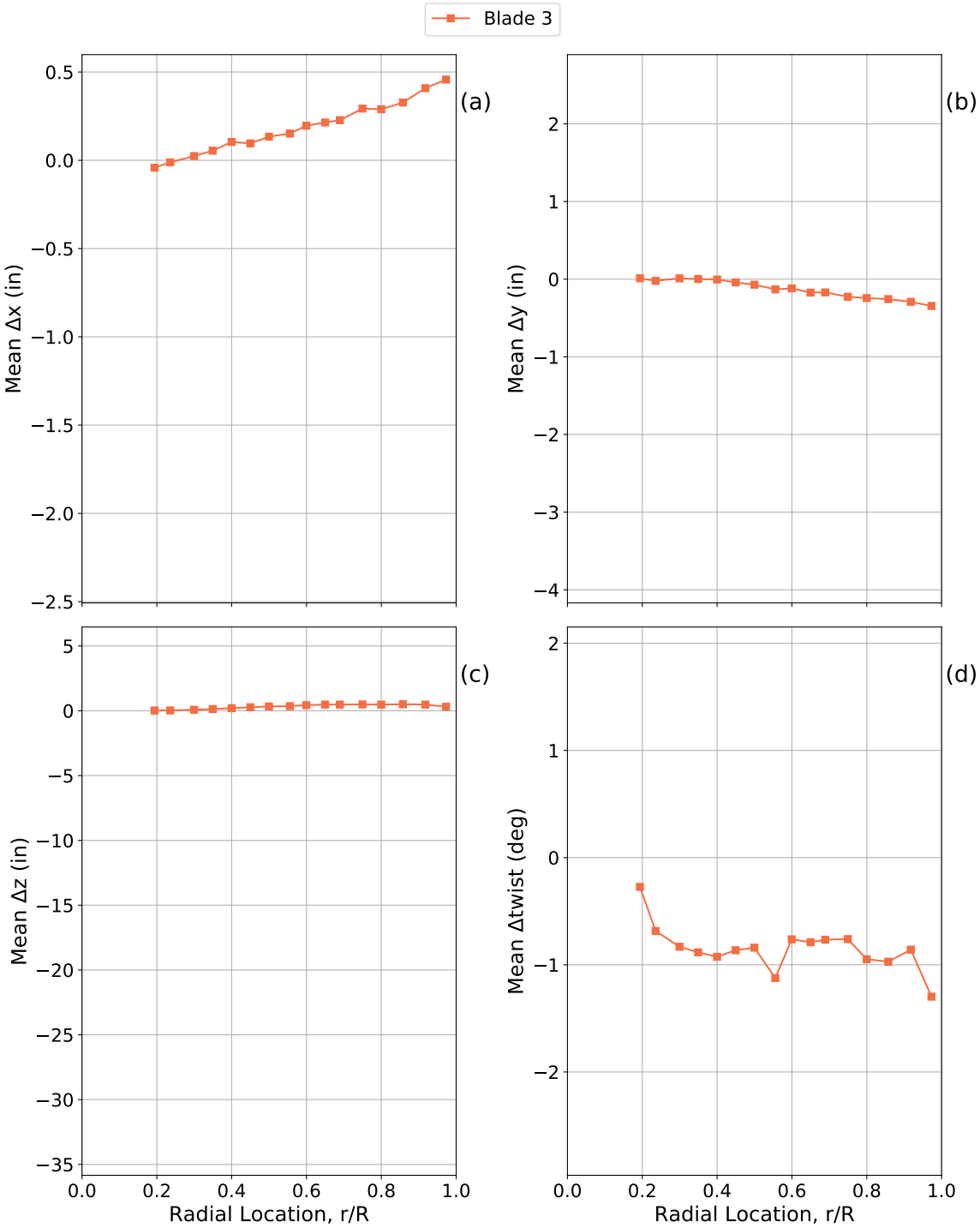


Figure 3.49-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0419	0.0104	0.0112	0.0027	0.0202	0.0100	-0.2731	0.0440
3	265.08	0.2357	-0.0116	0.0026	-0.0215	0.0020	0.0281	0.0118	-0.6846	0.1097
3	265.08	0.2995	0.0240	0.0027	0.0101	0.0062	0.0749	0.0280	-0.8319	0.1187
3	265.08	0.3493	0.0546	0.0026	0.0021	0.0108	0.1352	0.0467	-0.8838	0.1065
3	265.08	0.4000	0.1039	0.0025	-0.0044	0.0149	0.2007	0.0693	-0.9255	0.1149
3	265.08	0.4497	0.0960	0.0014	-0.0424	0.0191	0.2707	0.0953	-0.8643	0.1062
3	265.08	0.4997	0.1339	0.0016	-0.0713	0.0229	0.3345	0.1263	-0.8401	0.1062
3	265.08	0.5556	0.1514	0.0015	-0.1309	0.0277	0.3564	0.1669	-1.1244	0.0987
3	265.08	0.5995	0.1963	0.0020	-0.1190	0.0311	0.4338	0.2055	-0.7626	0.1134
3	265.08	0.6498	0.2142	0.0024	-0.1730	0.0354	0.4819	0.2520	-0.7893	0.1064
3	265.08	0.6890	0.2273	0.0025	-0.1701	0.0389	0.4776	0.2895	-0.7657	0.1008
3	265.08	0.7495	0.2928	0.0027	-0.2267	0.0451	0.4917	0.3540	-0.7603	0.1067
3	265.08	0.7998	0.2890	0.0027	-0.2440	0.0497	0.4775	0.4108	-0.9484	0.1029
3	265.08	0.8577	0.3273	0.0036	-0.2569	0.0555	0.5028	0.4790	-0.9708	0.0963
3	265.08	0.9178	0.4085	0.0048	-0.2915	0.0616	0.4793	0.5499	-0.8589	0.0976
3	265.08	0.9729	0.4573	0.0092	-0.3453	0.0677	0.3135	0.6218	-1.2972	0.1043

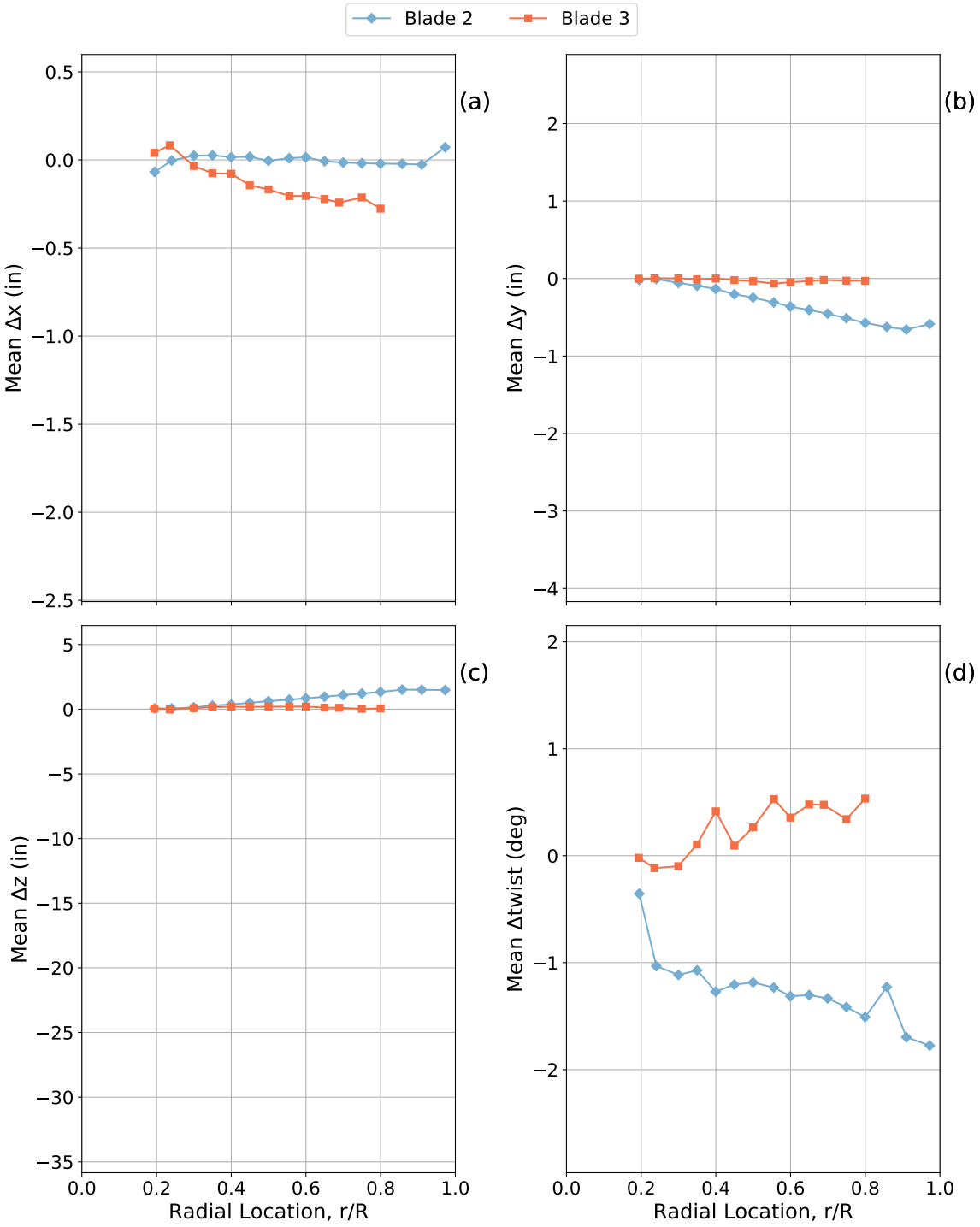


Figure 3.49-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0682	0.0056	-0.0177	0.0023	0.0573	0.0126	-0.3545	0.0582
2	270.35	0.2405	-0.0037	0.0020	-0.0072	0.0019	0.0540	0.0121	-1.0317	0.1661
2	270.35	0.2999	0.0243	0.0023	-0.0560	0.0074	0.1469	0.0374	-1.1149	0.1744
2	270.35	0.3498	0.0262	0.0033	-0.0923	0.0124	0.2817	0.0617	-1.0720	0.1625
2	270.35	0.3998	0.0155	0.0028	-0.1343	0.0181	0.3709	0.0887	-1.2713	0.1574
2	270.35	0.4496	0.0178	0.0027	-0.2030	0.0239	0.4945	0.1173	-1.2054	0.1606
2	270.35	0.4995	-0.0049	0.0027	-0.2453	0.0300	0.6227	0.1503	-1.1853	0.1595
2	270.35	0.5551	0.0097	0.0024	-0.3090	0.0361	0.7399	0.1879	-1.2329	0.1728
2	270.35	0.5996	0.0151	0.0030	-0.3602	0.0416	0.8424	0.2235	-1.3140	0.1616
2	270.35	0.6497	-0.0076	0.0029	-0.4063	0.0475	0.9647	0.2621	-1.3028	0.1715
2	270.35	0.6996	-0.0151	0.0035	-0.4531	0.0538	1.0908	0.3037	-1.3348	0.1766
2	270.35	0.7495	-0.0188	0.0034	-0.5121	0.0598	1.2054	0.3462	-1.4153	0.1726
2	270.35	0.7996	-0.0209	0.0035	-0.5719	0.0660	1.3360	0.3924	-1.5087	0.1718
2	270.35	0.8578	-0.0225	0.0039	-0.6253	0.0735	1.5096	0.4503	-1.2280	0.1687
2	270.35	0.9100	-0.0263	0.0057	-0.6581	0.0795	1.5012	0.5035	-1.6969	0.1753
2	270.35	0.9727	0.0716	0.0097	-0.5875	0.0867	1.4802	0.5726	-1.7753	0.1894
3	270	0.1938	0.0404	0.0023	-0.0028	0.0010	0.0447	0.0084	-0.0198	0.0592
3	270	0.2357	0.0830	0.0021	0.0027	0.0032	-0.0183	0.0160	-0.1161	0.0957
3	270	0.2995	-0.0342	0.0034	0.0024	0.0047	0.0852	0.0333	-0.0981	0.1378
3	270	0.3493	-0.0755	0.0024	-0.0091	0.0099	0.1535	0.0614	0.1056	0.0863
3	270	0.4000	-0.0786	0.0020	-0.0007	0.0141	0.1892	0.0905	0.4148	0.1147
3	270	0.4497	-0.1443	0.0021	-0.0208	0.0189	0.1736	0.1280	0.0944	0.0978
3	270	0.4997	-0.1673	0.0030	-0.0334	0.0255	0.1960	0.1686	0.2647	0.0996
3	270	0.5556	-0.2046	0.0033	-0.0658	0.0326	0.2000	0.2197	0.5294	0.0996
3	270	0.5995	-0.2043	0.0048	-0.0473	0.0394	0.2066	0.2631	0.3567	0.0877
3	270	0.6498	-0.2219	0.0032	-0.0337	0.0453	0.1203	0.3094	0.4790	0.1083
3	270	0.6890	-0.2419	0.0062	-0.0182	0.0512	0.1068	0.3526	0.4763	0.0816
3	270	0.7495	-0.2131	0.0048	-0.0279	0.0588	0.0297	0.4067	0.3416	0.1265
3	270	0.7998	-0.2762	0.0063	-0.0292	0.0666	0.0579	0.4615	0.5339	0.1091

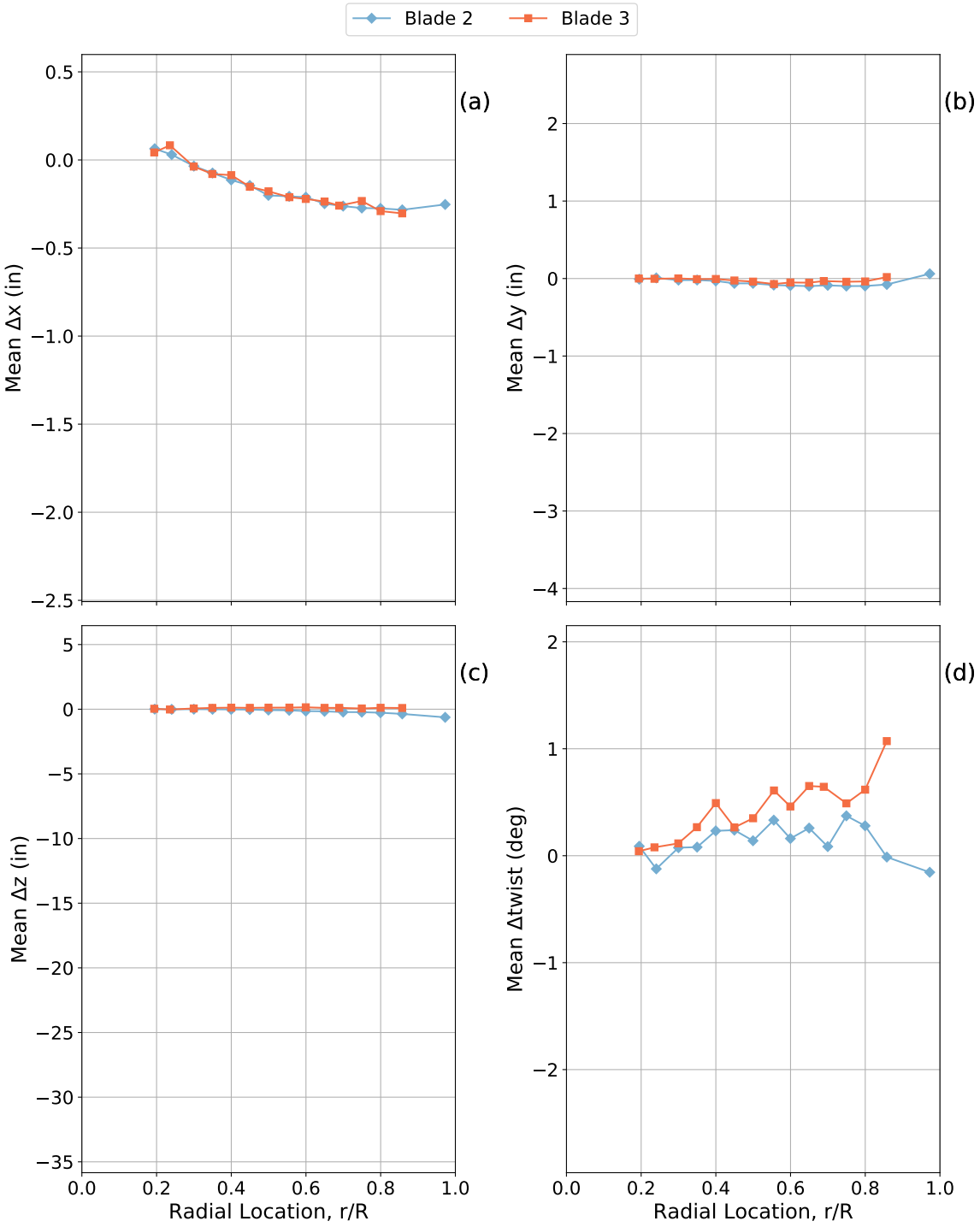


Figure 3.49-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0638	0.0032	-0.0082	0.0018	0.0060	0.0070	0.0884	0.0343
2	274.92	0.2405	0.0302	0.0040	0.0080	0.0022	-0.0119	0.0104	-0.1230	0.0583
2	274.92	0.2999	-0.0351	0.0018	-0.0208	0.0052	0.0008	0.0235	0.0751	0.0813
2	274.92	0.3498	-0.0743	0.0025	-0.0193	0.0115	-0.0078	0.0434	0.0804	0.0610
2	274.92	0.3998	-0.1137	0.0032	-0.0310	0.0153	-0.0194	0.0622	0.2325	0.0664
2	274.92	0.4496	-0.1450	0.0034	-0.0623	0.0190	-0.0297	0.0841	0.2393	0.0726
2	274.92	0.4995	-0.2013	0.0049	-0.0622	0.0243	-0.0680	0.1092	0.1401	0.0841
2	274.92	0.5551	-0.2069	0.0045	-0.0845	0.0294	-0.0871	0.1425	0.3326	0.0726
2	274.92	0.5996	-0.2113	0.0058	-0.0910	0.0348	-0.1463	0.1725	0.1607	0.0938
2	274.92	0.6497	-0.2482	0.0067	-0.0978	0.0404	-0.1651	0.2084	0.2586	0.0678
2	274.92	0.6996	-0.2621	0.0062	-0.0880	0.0456	-0.2222	0.2459	0.0852	0.1359
2	274.92	0.7495	-0.2731	0.0062	-0.0975	0.0511	-0.2271	0.2899	0.3729	0.0640
2	274.92	0.7996	-0.2750	0.0081	-0.0964	0.0584	-0.2717	0.3335	0.2795	0.1142
2	274.92	0.8578	-0.2831	0.0090	-0.0768	0.0645	-0.3648	0.3901	-0.0127	0.0873
2	274.92	0.9727	-0.2528	0.0116	0.0614	0.0830	-0.6289	0.4717	-0.1547	0.4281
3	274.92	0.1938	0.0426	0.0043	0.0001	0.0017	0.0344	0.0100	0.0422	0.0437
3	274.92	0.2357	0.0831	0.0030	-0.0032	0.0026	-0.0230	0.0134	0.0783	0.1390
3	274.92	0.2995	-0.0375	0.0023	0.0017	0.0052	0.0585	0.0347	0.1153	0.1371
3	274.92	0.3493	-0.0797	0.0040	-0.0079	0.0092	0.1014	0.0547	0.2667	0.1370
3	274.92	0.4000	-0.0863	0.0038	-0.0059	0.0138	0.1193	0.0855	0.4920	0.1357
3	274.92	0.4497	-0.1523	0.0038	-0.0252	0.0184	0.1049	0.1160	0.2646	0.1320
3	274.92	0.4997	-0.1782	0.0039	-0.0397	0.0241	0.1202	0.1549	0.3503	0.1285
3	274.92	0.5556	-0.2115	0.0047	-0.0706	0.0299	0.1232	0.2024	0.6100	0.1240
3	274.92	0.5995	-0.2214	0.0049	-0.0510	0.0346	0.1471	0.2465	0.4604	0.1278
3	274.92	0.6498	-0.2361	0.0044	-0.0535	0.0412	0.1036	0.2987	0.6519	0.1221
3	274.92	0.6890	-0.2593	0.0051	-0.0323	0.0459	0.1047	0.3418	0.6444	0.1504
3	274.92	0.7495	-0.2331	0.0055	-0.0413	0.0528	0.0565	0.4165	0.4896	0.1578
3	274.92	0.7998	-0.2905	0.0071	-0.0376	0.0595	0.1091	0.4833	0.6177	0.1365
3	274.92	0.8577	-0.3033	0.0133	0.0190	0.0674	0.0943	0.5795	1.0717	0.4200

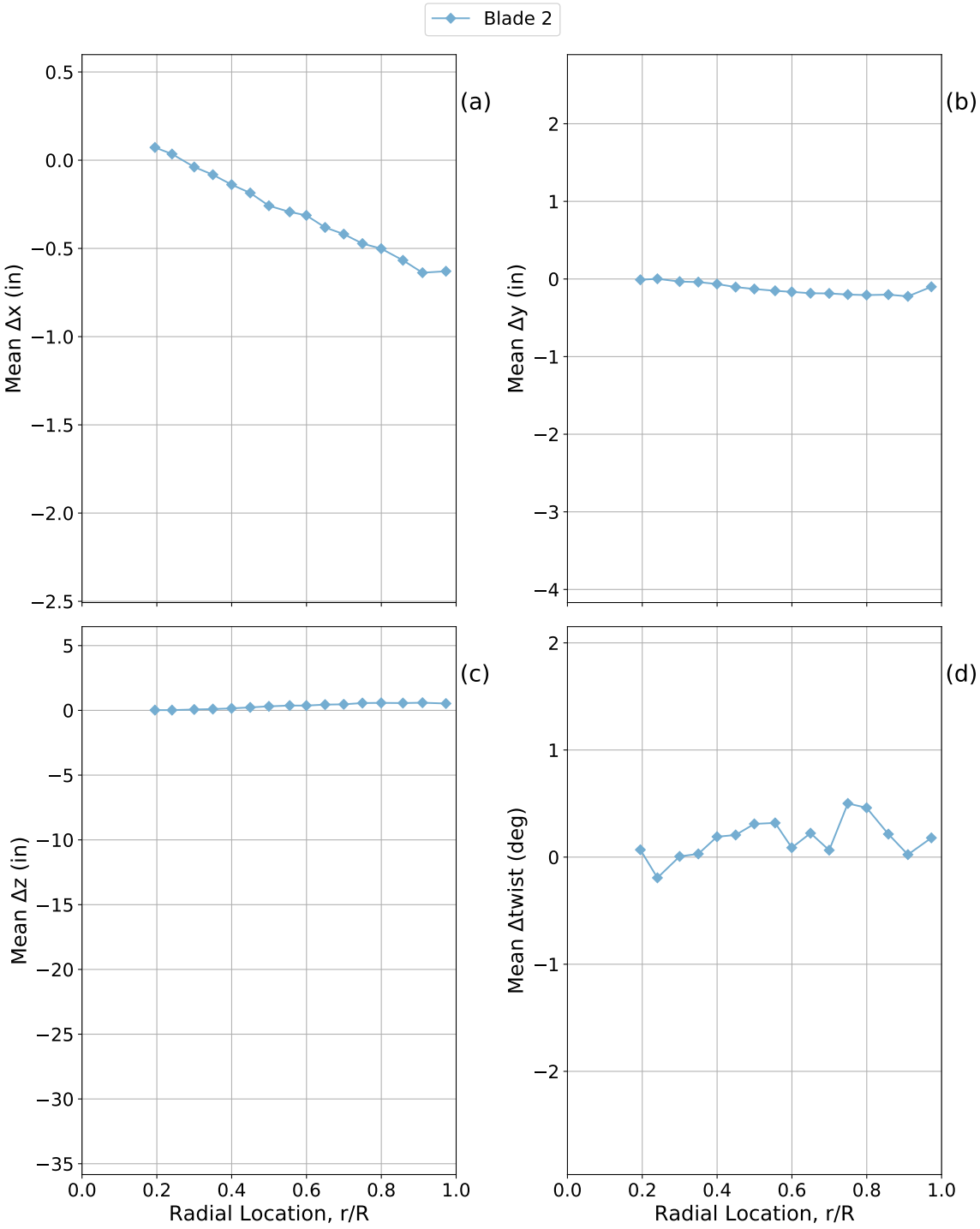


Figure 3.49-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0723	0.0020	-0.0104	0.0013	0.0198	0.0061	0.0684	0.0217
2	285.12	0.2405	0.0350	0.0030	0.0025	0.0024	0.0188	0.0115	-0.1934	0.0432
2	285.12	0.2999	-0.0385	0.0024	-0.0335	0.0055	0.0681	0.0263	0.0065	0.0509
2	285.12	0.3498	-0.0823	0.0039	-0.0397	0.0101	0.0999	0.0437	0.0300	0.0453
2	285.12	0.3998	-0.1386	0.0046	-0.0649	0.0151	0.1547	0.0685	0.1901	0.0534
2	285.12	0.4496	-0.1856	0.0024	-0.1042	0.0175	0.2283	0.0901	0.2067	0.0545
2	285.12	0.4995	-0.2582	0.0038	-0.1290	0.0201	0.3096	0.1194	0.3100	0.0623
2	285.12	0.5551	-0.2931	0.0047	-0.1518	0.0272	0.3708	0.1599	0.3192	0.0651
2	285.12	0.5996	-0.3128	0.0051	-0.1662	0.0300	0.3693	0.1919	0.0878	0.0584
2	285.12	0.6497	-0.3811	0.0039	-0.1836	0.0329	0.4428	0.2281	0.2232	0.0580
2	285.12	0.6996	-0.4188	0.0059	-0.1859	0.0388	0.4670	0.2734	0.0645	0.0685
2	285.12	0.7495	-0.4726	0.0046	-0.2006	0.0437	0.5637	0.3198	0.5010	0.0556
2	285.12	0.7996	-0.5013	0.0056	-0.2073	0.0490	0.5770	0.3691	0.4604	0.0619
2	285.12	0.8578	-0.5674	0.0061	-0.2018	0.0547	0.5628	0.4171	0.2148	0.0694
2	285.12	0.9100	-0.6377	0.0068	-0.2236	0.0597	0.5896	0.4743	0.0233	0.1304
2	285.12	0.9727	-0.6294	0.0103	-0.1003	0.0655	0.5282	0.5360	0.1796	0.1085

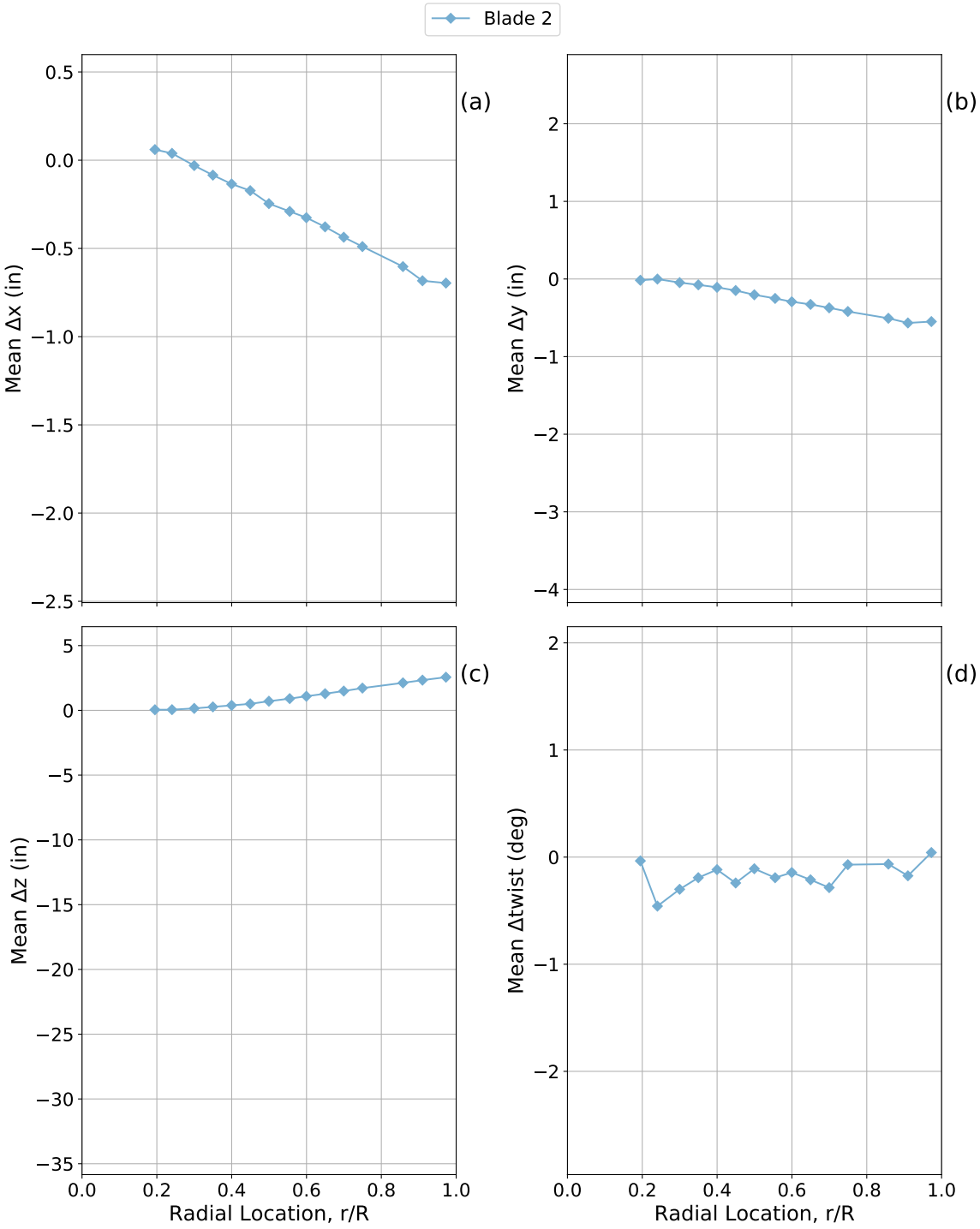


Figure 3.49-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0603	0.0021	-0.0162	0.0011	0.0461	0.0050	-0.0352	0.0363
2	299.88	0.2405	0.0388	0.0018	-0.0012	0.0034	0.0533	0.0093	-0.4576	0.0290
2	299.88	0.2999	-0.0305	0.0021	-0.0466	0.0055	0.1509	0.0206	-0.3004	0.0508
2	299.88	0.3498	-0.0847	0.0028	-0.0754	0.0079	0.2679	0.0316	-0.1920	0.0719
2	299.88	0.3998	-0.1347	0.0034	-0.1072	0.0137	0.3855	0.0497	-0.1170	0.0443
2	299.88	0.4496	-0.1727	0.0046	-0.1483	0.0160	0.5010	0.0679	-0.2415	0.0626
2	299.88	0.4995	-0.2461	0.0037	-0.2034	0.0206	0.7059	0.0925	-0.1085	0.0521
2	299.88	0.5551	-0.2902	0.0049	-0.2504	0.0238	0.9070	0.1194	-0.1924	0.0528
2	299.88	0.5996	-0.3258	0.0043	-0.2931	0.0265	1.0875	0.1419	-0.1436	0.0424
2	299.88	0.6497	-0.3778	0.0043	-0.3275	0.0307	1.2859	0.1699	-0.2118	0.0502
2	299.88	0.6996	-0.4365	0.0049	-0.3718	0.0354	1.4907	0.2073	-0.2850	0.0559
2	299.88	0.7495	-0.4896	0.0055	-0.4187	0.0393	1.7190	0.2498	-0.0706	0.0463
2	299.88	0.8578	-0.6030	0.0057	-0.5063	0.0470	2.1230	0.3660	-0.0651	0.0685
2	299.88	0.9100	-0.6833	0.0067	-0.5664	0.0510	2.3331	0.4361	-0.1745	0.0548
2	299.88	0.9727	-0.6964	0.0088	-0.5486	0.0555	2.5605	0.5226	0.0426	0.0656

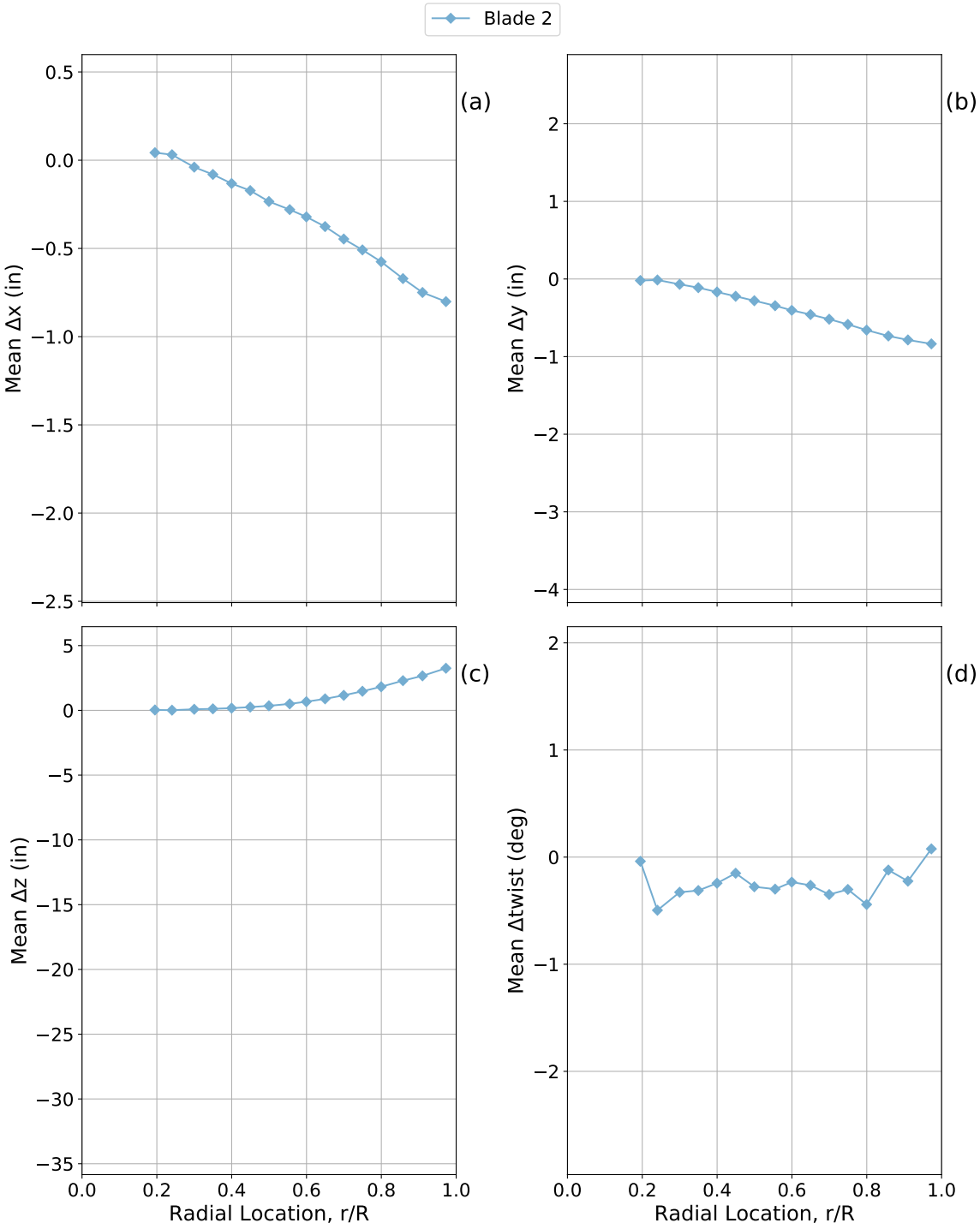


Figure 3.49-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0427	0.0027	-0.0197	0.0013	0.0310	0.0053	-0.0391	0.0228
2	315	0.2405	0.0311	0.0020	-0.0128	0.0029	0.0144	0.0134	-0.4962	0.0410
2	315	0.2999	-0.0394	0.0032	-0.0688	0.0072	0.0844	0.0268	-0.3281	0.0496
2	315	0.3498	-0.0808	0.0026	-0.1117	0.0104	0.1176	0.0425	-0.3118	0.0514
2	315	0.3998	-0.1321	0.0072	-0.1676	0.0176	0.1718	0.0693	-0.2435	0.0696
2	315	0.4496	-0.1723	0.0031	-0.2228	0.0168	0.2505	0.0810	-0.1505	0.0539
2	315	0.4995	-0.2341	0.0049	-0.2799	0.0194	0.3498	0.1046	-0.2770	0.0609
2	315	0.5551	-0.2800	0.0044	-0.3444	0.0241	0.5009	0.1340	-0.2989	0.0526
2	315	0.5996	-0.3212	0.0042	-0.4036	0.0266	0.6688	0.1568	-0.2331	0.0635
2	315	0.6497	-0.3763	0.0049	-0.4579	0.0312	0.8882	0.1921	-0.2636	0.0532
2	315	0.6996	-0.4467	0.0048	-0.5182	0.0346	1.1606	0.2186	-0.3493	0.0566
2	315	0.7495	-0.5084	0.0048	-0.5850	0.0384	1.4740	0.2551	-0.3018	0.0695
2	315	0.7996	-0.5756	0.0057	-0.6586	0.0419	1.8223	0.2937	-0.4421	0.0651
2	315	0.8578	-0.6710	0.0053	-0.7344	0.0462	2.2915	0.3385	-0.1206	0.0500
2	315	0.9100	-0.7497	0.0063	-0.7851	0.0503	2.6638	0.3811	-0.2246	0.0611
2	315	0.9727	-0.8014	0.0084	-0.8358	0.0550	3.2529	0.4374	0.0769	0.0646

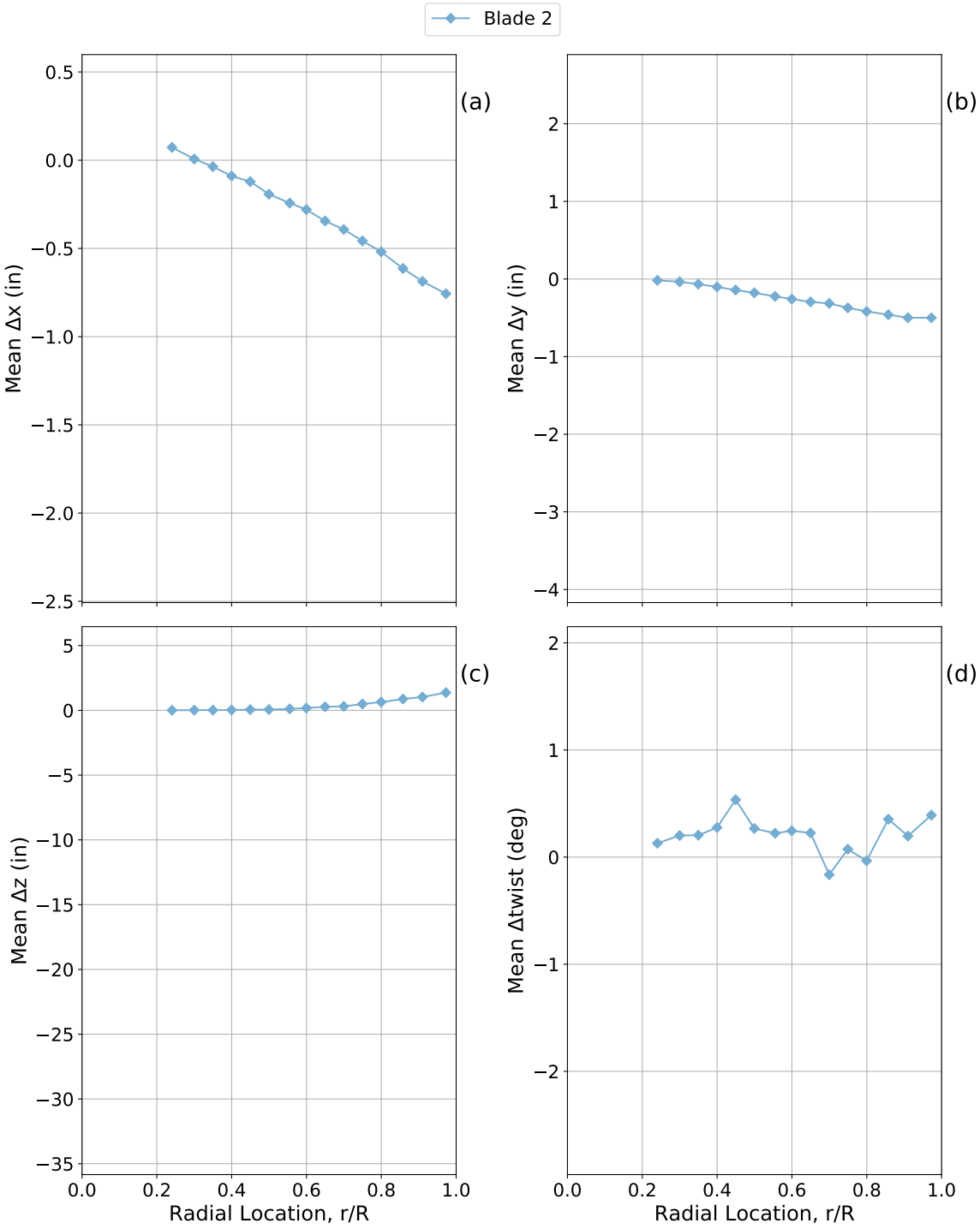


Figure 3.49-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.2405	0.0725	0.0021	-0.0171	0.0026	0.0075	0.0071	0.1297	0.0453
2	330.12	0.2999	0.0068	0.0034	-0.0363	0.0066	0.0181	0.0144	0.2016	0.0700
2	330.12	0.3498	-0.0363	0.0027	-0.0662	0.0101	0.0173	0.0272	0.2045	0.0539
2	330.12	0.3998	-0.0897	0.0035	-0.1025	0.0168	0.0311	0.0410	0.2758	0.0585
2	330.12	0.4496	-0.1214	0.0076	-0.1425	0.0185	0.0557	0.0574	0.5353	0.0663
2	330.12	0.4995	-0.1928	0.0079	-0.1783	0.0234	0.0629	0.0761	0.2670	0.0849
2	330.12	0.5551	-0.2428	0.0059	-0.2241	0.0283	0.1148	0.1010	0.2230	0.0917
2	330.12	0.5996	-0.2800	0.0089	-0.2589	0.0326	0.1777	0.1241	0.2455	0.0689
2	330.12	0.6497	-0.3446	0.0069	-0.2951	0.0381	0.2721	0.1496	0.2256	0.0923
2	330.12	0.6996	-0.3926	0.0089	-0.3147	0.0443	0.3040	0.1891	-0.1644	0.0895
2	330.12	0.7495	-0.4573	0.0088	-0.3721	0.0473	0.4907	0.2192	0.0739	0.0696
2	330.12	0.7996	-0.5192	0.0090	-0.4176	0.0521	0.6389	0.2613	-0.0344	0.0659
2	330.12	0.8578	-0.6137	0.0098	-0.4602	0.0580	0.8741	0.3138	0.3538	0.0708
2	330.12	0.9100	-0.6867	0.0104	-0.4996	0.0642	1.0284	0.3622	0.1965	0.0605
2	330.12	0.9727	-0.7568	0.0132	-0.4998	0.0714	1.3715	0.4253	0.3916	0.0692

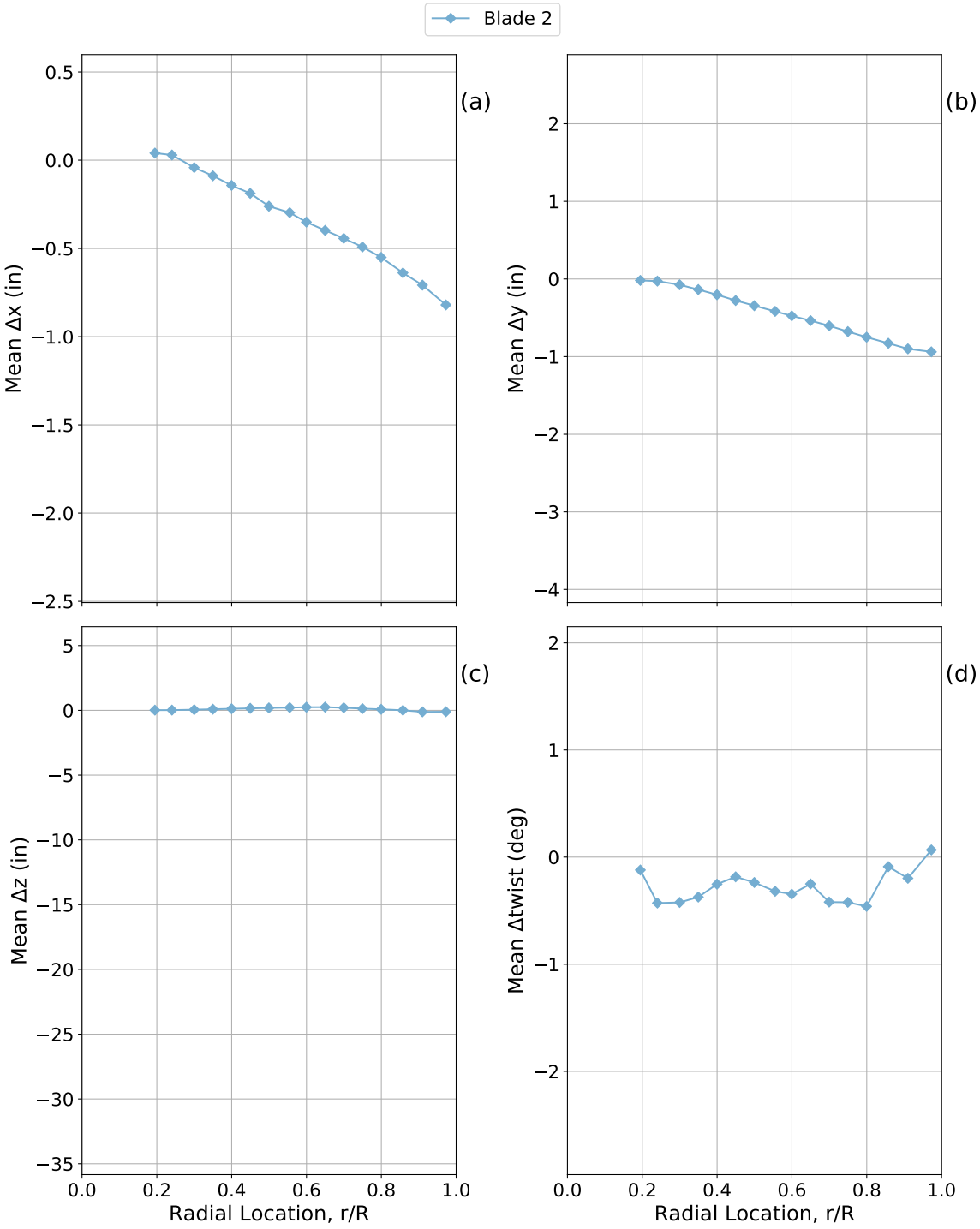


Figure 3.49-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0402	0.0026	-0.0187	0.0012	0.0177	0.0067	-0.1207	0.0278
2	344.88	0.2405	0.0292	0.0026	-0.0277	0.0021	0.0198	0.0134	-0.4285	0.0527
2	344.88	0.2999	-0.0419	0.0025	-0.0746	0.0039	0.0510	0.0274	-0.4230	0.0658
2	344.88	0.3498	-0.0886	0.0035	-0.1364	0.0067	0.0872	0.0521	-0.3727	0.0462
2	344.88	0.3998	-0.1428	0.0049	-0.2031	0.0100	0.1226	0.0773	-0.2527	0.0761
2	344.88	0.4496	-0.1881	0.0065	-0.2772	0.0137	0.1555	0.1047	-0.1840	0.0834
2	344.88	0.4995	-0.2609	0.0051	-0.3441	0.0177	0.1893	0.1445	-0.2370	0.0613
2	344.88	0.5551	-0.2972	0.0032	-0.4174	0.0217	0.2134	0.1907	-0.3191	0.0750
2	344.88	0.5996	-0.3508	0.0044	-0.4752	0.0256	0.2424	0.2342	-0.3455	0.0556
2	344.88	0.6497	-0.3979	0.0057	-0.5359	0.0304	0.2481	0.2784	-0.2504	0.0592
2	344.88	0.6996	-0.4431	0.0048	-0.6031	0.0355	0.2033	0.3263	-0.4196	0.0730
2	344.88	0.7495	-0.4917	0.0064	-0.6777	0.0406	0.1336	0.3797	-0.4218	0.0590
2	344.88	0.7996	-0.5508	0.0067	-0.7495	0.0461	0.0807	0.4333	-0.4598	0.0578
2	344.88	0.8578	-0.6386	0.0074	-0.8281	0.0525	0.0056	0.5049	-0.0892	0.0455
2	344.88	0.9100	-0.7081	0.0085	-0.8999	0.0589	-0.1175	0.5732	-0.1979	0.0352
2	344.88	0.9727	-0.8203	0.0110	-0.9384	0.0646	-0.1070	0.6527	0.0669	0.0386

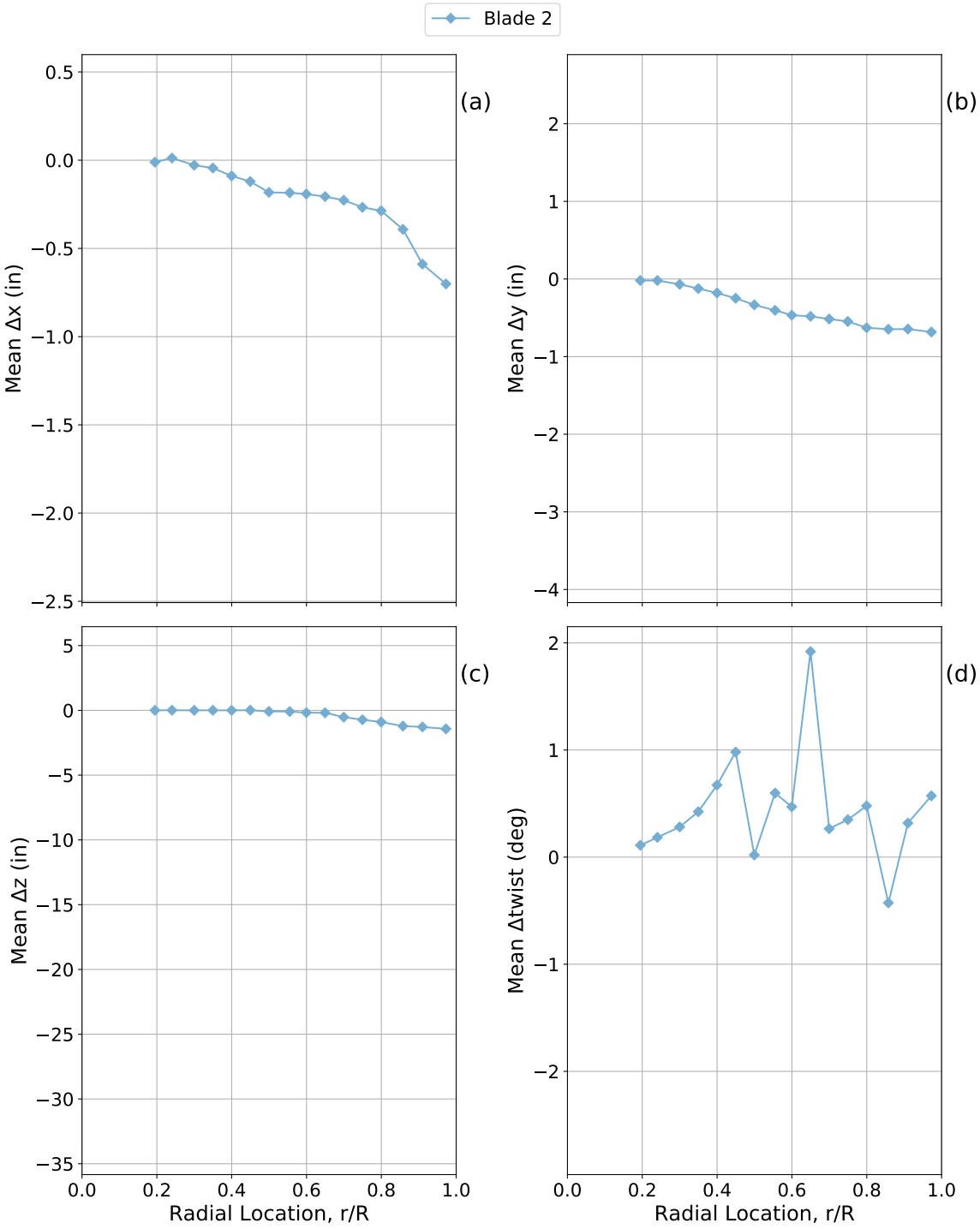


Figure 3.49-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0113	0.0866	-0.0193	0.0030	0.0030	0.0420	0.1108	0.4740
2	350.16	0.2405	0.0122	0.0191	-0.0196	0.0128	0.0091	0.0387	0.1841	1.7451
2	350.16	0.2999	-0.0283	0.0072	-0.0684	0.0164	0.0016	0.1545	0.2816	1.7177
2	350.16	0.3498	-0.0443	0.0558	-0.1232	0.0340	0.0045	0.2661	0.4239	1.7726
2	350.16	0.3998	-0.0891	0.0375	-0.1798	0.0516	0.0007	0.3976	0.6730	1.7646
2	350.16	0.4496	-0.1207	0.0620	-0.2480	0.0626	0.0141	0.5039	0.9807	1.9509
2	350.16	0.4995	-0.1825	0.0741	-0.3335	0.0523	-0.0823	0.7116	0.0200	0.0949
2	350.16	0.5551	-0.1845	0.1005	-0.4039	0.0744	-0.0907	0.6586	0.5979	1.9246
2	350.16	0.5996	-0.1921	0.1410	-0.4662	0.0904	-0.1745	0.8068	0.4696	1.6569
2	350.16	0.6497	-0.2061	0.1948	-0.4817	0.1134	-0.1877	0.8134	1.9190	3.2495
2	350.16	0.6996	-0.2268	0.1949	-0.5155	0.2750	-0.5239	1.2040	0.2649	1.8352
2	350.16	0.7495	-0.2671	0.2316	-0.5471	0.4098	-0.7253	1.5599	0.3498	0.9723
2	350.16	0.7996	-0.2869	0.2293	-0.6280	0.4210	-0.9017	1.6702	0.4783	1.0151
2	350.16	0.8578	-0.3921	0.2311	-0.6475	0.4260	-1.2146	1.7627	-0.4273	2.6550
2	350.16	0.9100	-0.5890	0.2315	-0.6453	0.4893	-1.2800	2.0653	0.3176	0.9666
2	350.16	0.9727	-0.7013	0.2286	-0.6831	0.5094	-1.4324	2.2134	0.5719	0.9851

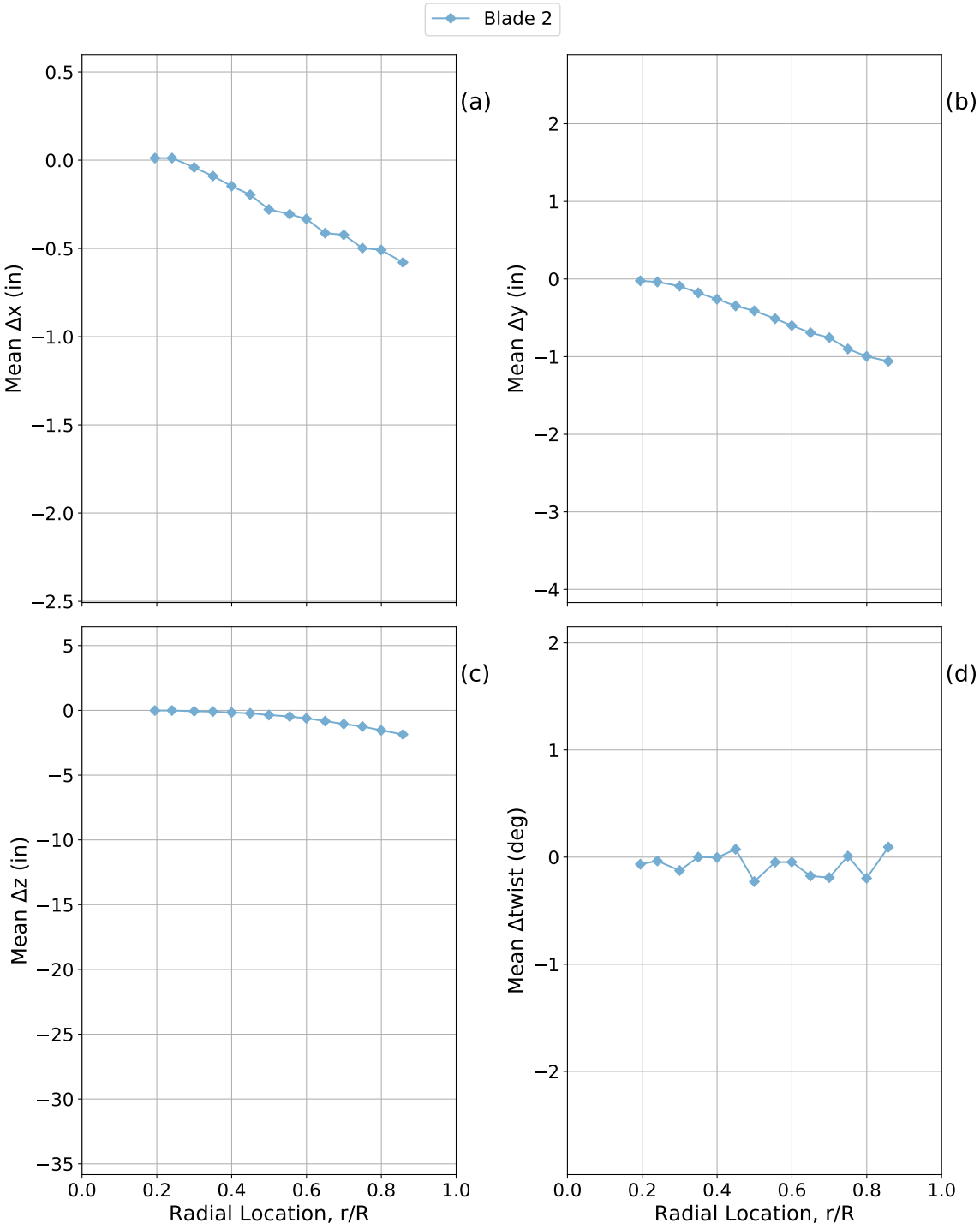


Figure 3.49-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$ NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Table 3.49-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.044$, $\mu = 0.7$, $\alpha = 2°$
NFAC run 96, point 14. BD run 45, points 8323 to 8333.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0119	0.0153	-0.0237	0.0056	-0.0126	0.0071	-0.0664	0.0811
2	355.08	0.2405	0.0118	0.0155	-0.0382	0.0361	-0.0100	0.0120	-0.0357	0.1533
2	355.08	0.2999	-0.0411	0.0070	-0.0920	0.0448	-0.0671	0.0276	-0.1253	0.2080
2	355.08	0.3498	-0.0900	0.0099	-0.1787	0.0923	-0.0931	0.0472	0.0004	0.1380
2	355.08	0.3998	-0.1470	0.0180	-0.2599	0.1449	-0.1610	0.0732	-0.0039	0.1375
2	355.08	0.4496	-0.1957	0.0166	-0.3472	0.1800	-0.2291	0.1002	0.0733	0.1359
2	355.08	0.4995	-0.2789	0.0195	-0.4104	0.2096	-0.3606	0.1394	-0.2286	0.1481
2	355.08	0.5551	-0.3059	0.0201	-0.5112	0.2437	-0.4770	0.1891	-0.0472	0.1277
2	355.08	0.5996	-0.3331	0.0204	-0.6005	0.2742	-0.6149	0.2381	-0.0461	0.1469
2	355.08	0.6497	-0.4132	0.0207	-0.6919	0.3061	-0.8261	0.2905	-0.1763	0.1427
2	355.08	0.6996	-0.4229	0.0236	-0.7558	0.3394	-1.0570	0.3446	-0.1916	0.1545
2	355.08	0.7495	-0.4982	0.0233	-0.9013	0.3675	-1.2439	0.4028	0.0093	0.2201
2	355.08	0.7996	-0.5086	0.0228	-0.9967	0.4049	-1.5435	0.4457	-0.1968	0.1346
2	355.08	0.8578	-0.5793	0.0242	-1.0597	0.4437	-1.8576	0.5072	0.0935	0.2607

3.50 Run 98, Point 39

3.50.1 Pitch, Flap, and Lag

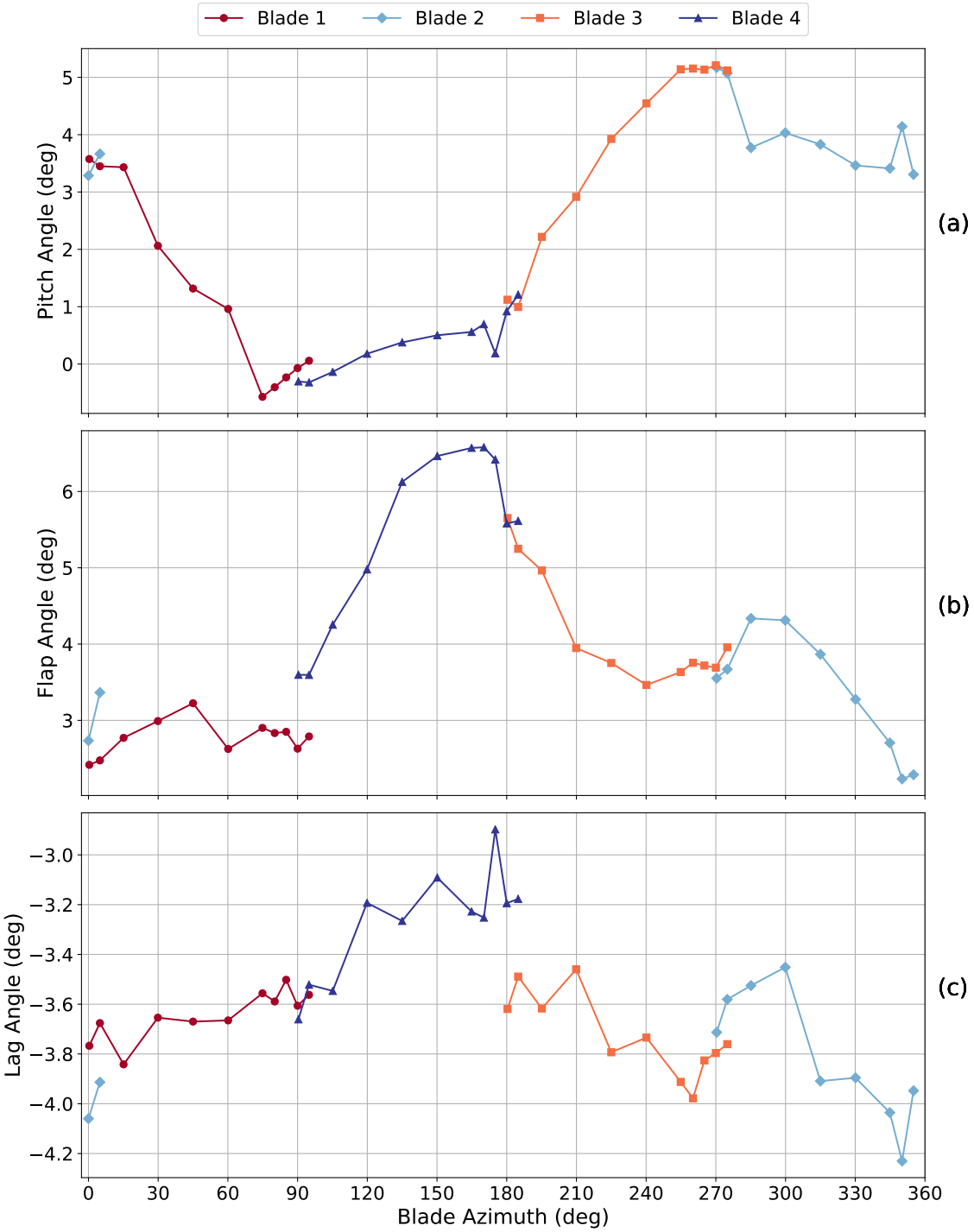


Figure 3.50-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	3.2869	2.7338	-4.0598	0.0799	0.1180	0.0513
0.35	1	3.5749	2.4168	-3.7671	0.1342	0.0951	0.0392
4.92	1	3.4497	2.4752	-3.6758	0.1151	0.0639	0.0497
4.92	2	3.6654	3.3652	-3.9133	0.5434	0.2840	0.1993
15.12	1	3.4322	2.7709	-3.8418	0.0857	0.0828	0.0337
29.88	1	2.0619	2.9907	-3.6541	0.1121	0.0700	0.0285
45	1	1.3165	3.2245	-3.6698	0.1404	0.0776	0.0796
60.12	1	0.9605	2.6253	-3.6651	0.1814	0.0801	0.0612
74.88	1	-0.5717	2.9015	-3.5561	0.0642	0.1173	0.0357
80.16	1	-0.4042	2.8337	-3.5891	0.0559	0.0674	0.0719
85.08	1	-0.2328	2.8499	-3.5020	0.0701	0.0546	0.0556
90	1	-0.0705	2.6291	-3.6062	0.0722	0.0530	0.0475
90.35	4	-0.3037	3.5971	-3.6609	0.0452	0.0340	0.0323
94.92	1	0.0572	2.7890	-3.5624	0.0499	0.1650	0.0553
94.92	4	-0.3210	3.5955	-3.5216	0.0539	0.0971	0.0526
105.12	4	-0.1374	4.2541	-3.5467	0.0345	0.0395	0.0174
119.88	4	0.1793	4.9781	-3.1928	0.0535	0.0537	0.0223
135	4	0.3772	6.1257	-3.2655	0.0359	0.1003	0.0553
150.12	4	0.5018	6.4647	-3.0913	0.0891	0.0971	0.0576
164.88	4	0.5593	6.5713	-3.2277	0.1138	0.1556	0.0631
170.16	4	0.6940	6.5793	-3.2523	0.1286	0.1031	0.0651
175.08	4	0.1866	6.4186	-2.8977	0.1671	0.1492	0.0682
180	4	0.9192	5.5803	-3.1943	0.0579	0.0640	0.0688
180.35	3	1.1217	5.6519	-3.6193	0.0555	0.0439	0.0713
184.92	3	0.9947	5.2483	-3.4892	0.0651	0.1118	0.0473
184.92	4	1.2088	5.6136	-3.1770	0.0887	0.1124	0.0778
195.12	3	2.2166	4.9645	-3.6172	0.0632	0.0388	0.0401
209.88	3	2.9152	3.9481	-3.4598	0.0462	0.1182	0.0438
225	3	3.9255	3.7520	-3.7931	0.0755	0.0880	0.0759
240.12	3	4.5451	3.4639	-3.7341	0.0785	0.0956	0.0577
254.88	3	5.1398	3.6329	-3.9122	0.0527	0.0643	0.0916
260.16	3	5.1534	3.7549	-3.9783	0.0645	0.0314	0.0606
265.08	3	5.1336	3.7188	-3.8260	0.0498	0.0792	0.0451
270	3	5.2119	3.6902	-3.7962	0.0908	0.0855	0.0404
270.35	2	5.1693	3.5520	-3.7130	0.0464	0.0795	0.0341
274.92	2	5.0714	3.6697	-3.5807	0.0647	0.0603	0.0412
274.92	3	5.1200	3.9577	-3.7605	0.0993	0.0711	0.0739
285.12	2	3.7721	4.3361	-3.5251	0.0463	0.0382	0.0167
299.88	2	4.0314	4.3117	-3.4514	0.0833	0.0639	0.0317
315	2	3.8300	3.8663	-3.9089	0.0584	0.0636	0.0409
330.12	2	3.4632	3.2754	-3.8957	0.0503	0.0722	0.0719
344.88	2	3.4116	2.7050	-4.0355	0.0562	0.1010	0.0608
350.16	2	4.1420	2.2322	-4.2302	0.1209	0.0720	0.0569
355.08	2	3.3064	2.2875	-3.9477	0.1950	0.0791	0.0757

3.50.2 Spanwise Elastic Deformations

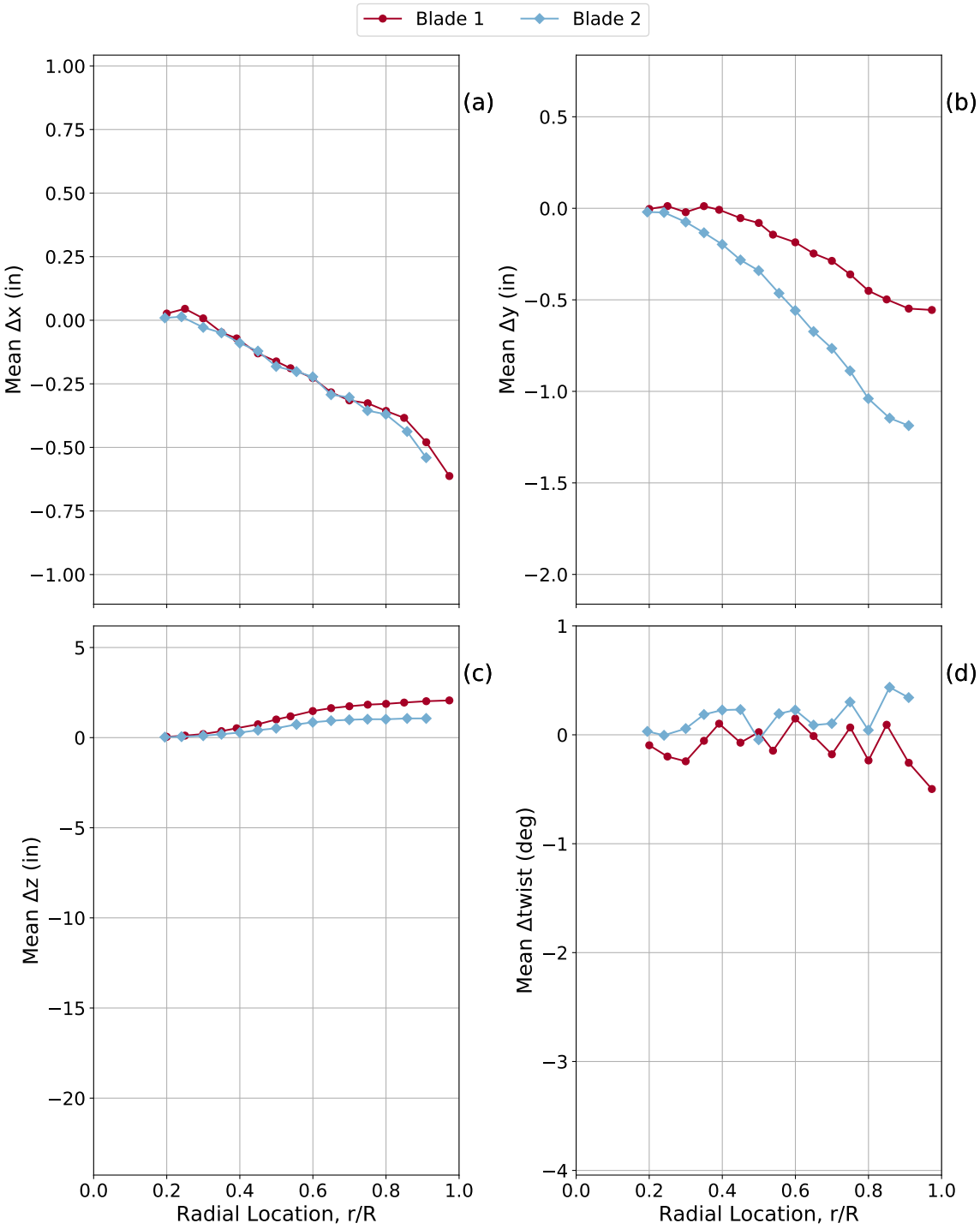


Figure 3.50-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0264	0.0028	-0.0035	0.0026	0.0447	0.0068	-0.0960	0.0570
1	0.35	0.2499	0.0451	0.0016	0.0120	0.0044	0.1121	0.0105	-0.1994	0.1166
1	0.35	0.2998	0.0074	0.0028	-0.0212	0.0071	0.1987	0.0240	-0.2433	0.1368
1	0.35	0.3498	-0.0477	0.0020	0.0118	0.0125	0.3611	0.0408	-0.0550	0.1349
1	0.35	0.3913	-0.0714	0.0019	-0.0082	0.0161	0.5205	0.0564	0.1023	0.1448
1	0.35	0.4496	-0.1303	0.0019	-0.0534	0.0210	0.7415	0.0812	-0.0722	0.1404
1	0.35	0.4997	-0.1618	0.0032	-0.0801	0.0266	1.0067	0.1047	0.0241	0.1217
1	0.35	0.5387	-0.1886	0.0026	-0.1439	0.0321	1.1824	0.1208	-0.1458	0.1324
1	0.35	0.5996	-0.2274	0.0036	-0.1858	0.0398	1.4749	0.1417	0.1497	0.1374
1	0.35	0.6498	-0.2833	0.0055	-0.2469	0.0465	1.6362	0.1618	-0.0112	0.1176
1	0.35	0.6998	-0.3152	0.0059	-0.2871	0.0547	1.7399	0.1805	-0.1790	0.1488
1	0.35	0.7500	-0.3264	0.0052	-0.3612	0.0644	1.8292	0.2080	0.0671	0.1303
1	0.35	0.8001	-0.3566	0.0073	-0.4507	0.0725	1.8736	0.2355	-0.2354	0.1388
1	0.35	0.8497	-0.3839	0.0070	-0.4978	0.0819	1.9454	0.2696	0.0923	0.1458
1	0.35	0.9102	-0.4797	0.0139	-0.5479	0.0936	2.0213	0.2945	-0.2568	0.1819
1	0.35	0.9734	-0.6126	0.0118	-0.5554	0.1089	2.0646	0.3123	-0.4977	0.2162
2	0	0.1949	0.0093	0.0022	-0.0202	0.0021	0.0278	0.0054	0.0314	0.0332
2	0	0.2405	0.0138	0.0024	-0.0228	0.0033	0.0527	0.0106	-0.0044	0.0401
2	0	0.2999	-0.0280	0.0014	-0.0747	0.0071	0.1062	0.0231	0.0571	0.0661
2	0	0.3498	-0.0497	0.0025	-0.1336	0.0125	0.1882	0.0400	0.1865	0.0552
2	0	0.3998	-0.0897	0.0030	-0.1971	0.0184	0.2807	0.0615	0.2274	0.0512
2	0	0.4496	-0.1213	0.0035	-0.2822	0.0237	0.4115	0.0850	0.2318	0.0567
2	0	0.4995	-0.1816	0.0038	-0.3403	0.0303	0.5211	0.1124	-0.0453	0.0413
2	0	0.5551	-0.2018	0.0044	-0.4641	0.0372	0.7321	0.1414	0.1940	0.0641
2	0	0.5996	-0.2225	0.0042	-0.5586	0.0437	0.8514	0.1605	0.2278	0.0734
2	0	0.6497	-0.2927	0.0035	-0.6733	0.0508	0.9396	0.1879	0.0892	0.0567
2	0	0.6996	-0.3030	0.0046	-0.7653	0.0576	0.9918	0.2106	0.1037	0.0758
2	0	0.7495	-0.3553	0.0045	-0.8879	0.0659	1.0215	0.2401	0.3013	0.0783
2	0	0.7996	-0.3698	0.0054	-1.0396	0.0736	1.0194	0.2681	0.0427	0.0507
2	0	0.8578	-0.4374	0.0047	-1.1462	0.0879	1.0638	0.3033	0.4366	0.0918
2	0	0.9100	-0.5404	0.0079	-1.1871	0.0952	1.0652	0.3436	0.3418	0.2042

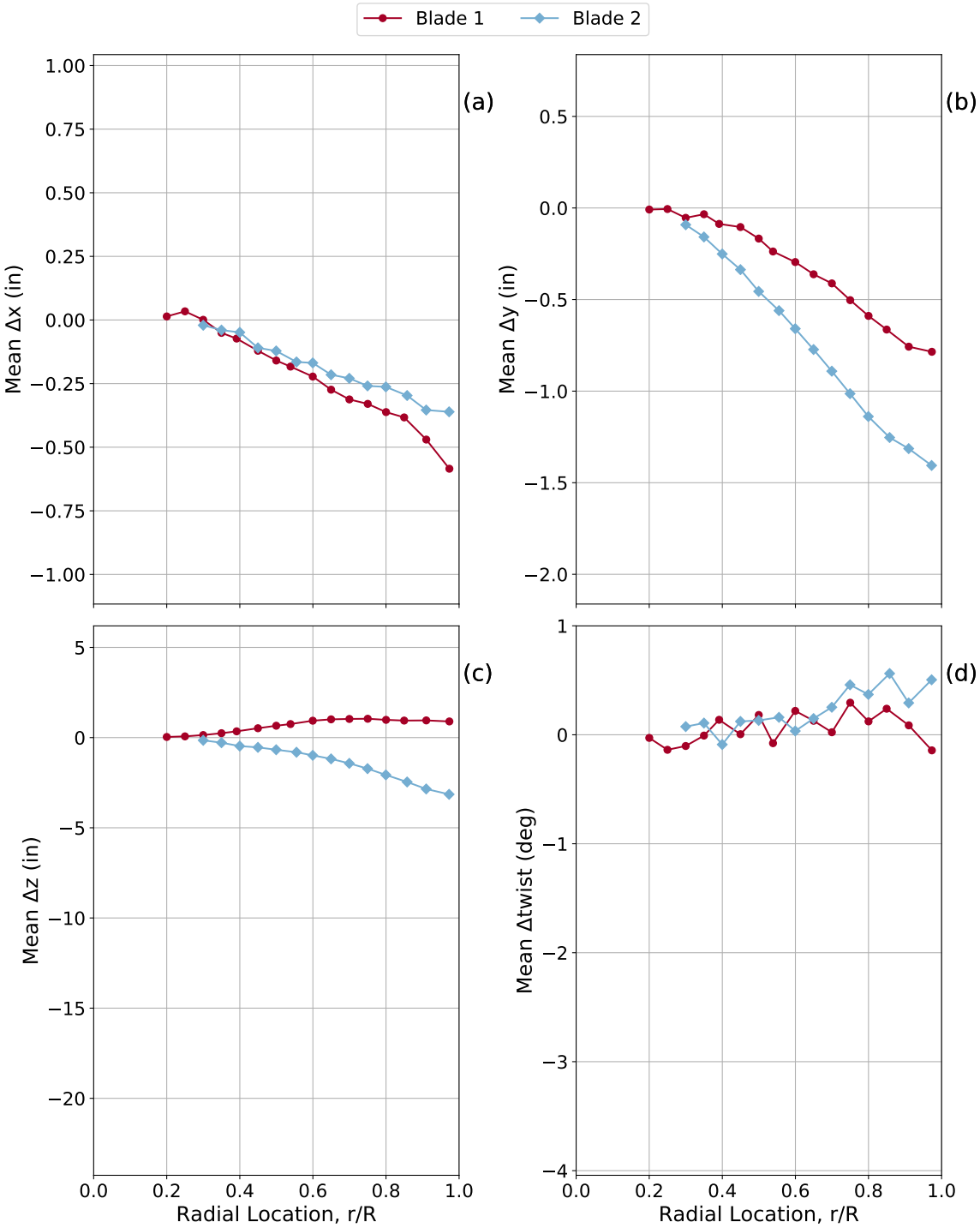


Figure 3.50-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0139	0.0034	-0.0085	0.0021	0.0358	0.0041	-0.0286	0.0411
1	4.92	0.2499	0.0340	0.0029	-0.0058	0.0051	0.0680	0.0105	-0.1379	0.0704
1	4.92	0.2998	0.0007	0.0020	-0.0539	0.0078	0.1414	0.0168	-0.1030	0.0944
1	4.92	0.3498	-0.0506	0.0030	-0.0342	0.0122	0.2441	0.0295	-0.0074	0.0784
1	4.92	0.3913	-0.0730	0.0033	-0.0870	0.0186	0.3477	0.0433	0.1375	0.0835
1	4.92	0.4496	-0.1209	0.0033	-0.1042	0.0252	0.5196	0.0573	0.0051	0.0704
1	4.92	0.4997	-0.1593	0.0033	-0.1671	0.0305	0.6585	0.0704	0.1817	0.0796
1	4.92	0.5387	-0.1832	0.0026	-0.2376	0.0360	0.7505	0.0809	-0.0772	0.0832
1	4.92	0.5996	-0.2223	0.0038	-0.2953	0.0457	0.9371	0.1004	0.2192	0.0957
1	4.92	0.6498	-0.2739	0.0034	-0.3620	0.0524	1.0123	0.1187	0.1285	0.0838
1	4.92	0.6998	-0.3122	0.0038	-0.4118	0.0605	1.0344	0.1369	0.0232	0.0836
1	4.92	0.7500	-0.3297	0.0035	-0.5033	0.0669	1.0450	0.1512	0.2946	0.0853
1	4.92	0.8001	-0.3620	0.0035	-0.5893	0.0734	0.9842	0.1649	0.1228	0.0700
1	4.92	0.8497	-0.3829	0.0041	-0.6638	0.0805	0.9443	0.1785	0.2391	0.0741
1	4.92	0.9102	-0.4700	0.0060	-0.7573	0.0946	0.9537	0.2084	0.0865	0.1162
1	4.92	0.9734	-0.5846	0.0068	-0.7852	0.1008	0.8959	0.2461	-0.1429	0.1370
2	4.92	0.2999	-0.0207	0.0190	-0.0916	0.0548	-0.1507	0.0848	0.0750	0.4205
2	4.92	0.3498	-0.0397	0.0102	-0.1583	0.0949	-0.2828	0.1453	0.1074	0.5583
2	4.92	0.3998	-0.0487	0.0134	-0.2512	0.1507	-0.4701	0.2295	-0.0893	0.5355
2	4.92	0.4496	-0.1095	0.0143	-0.3367	0.2022	-0.5412	0.3079	0.1225	0.5450
2	4.92	0.4995	-0.1217	0.0203	-0.4556	0.2557	-0.6729	0.3878	0.1317	0.5411
2	4.92	0.5551	-0.1649	0.0197	-0.5605	0.3150	-0.8112	0.4743	0.1602	0.5389
2	4.92	0.5996	-0.1687	0.0199	-0.6591	0.3633	-0.9837	0.5445	0.0348	0.5322
2	4.92	0.6497	-0.2152	0.0224	-0.7728	0.4182	-1.1797	0.6210	0.1489	0.5272
2	4.92	0.6996	-0.2293	0.0254	-0.8910	0.4756	-1.4284	0.6972	0.2526	0.5259
2	4.92	0.7495	-0.2591	0.0304	-1.0138	0.5339	-1.7208	0.7740	0.4585	0.5229
2	4.92	0.7996	-0.2630	0.0379	-1.1387	0.5973	-2.0683	0.8536	0.3702	0.5150
2	4.92	0.8578	-0.2969	0.0479	-1.2533	0.6738	-2.4602	0.9444	0.5622	0.5281
2	4.92	0.9100	-0.3539	0.0578	-1.3138	0.7480	-2.8484	1.0346	0.2923	0.5083
2	4.92	0.9727	-0.3609	0.0728	-1.4058	0.8415	-3.1451	1.1451	0.5047	0.4960

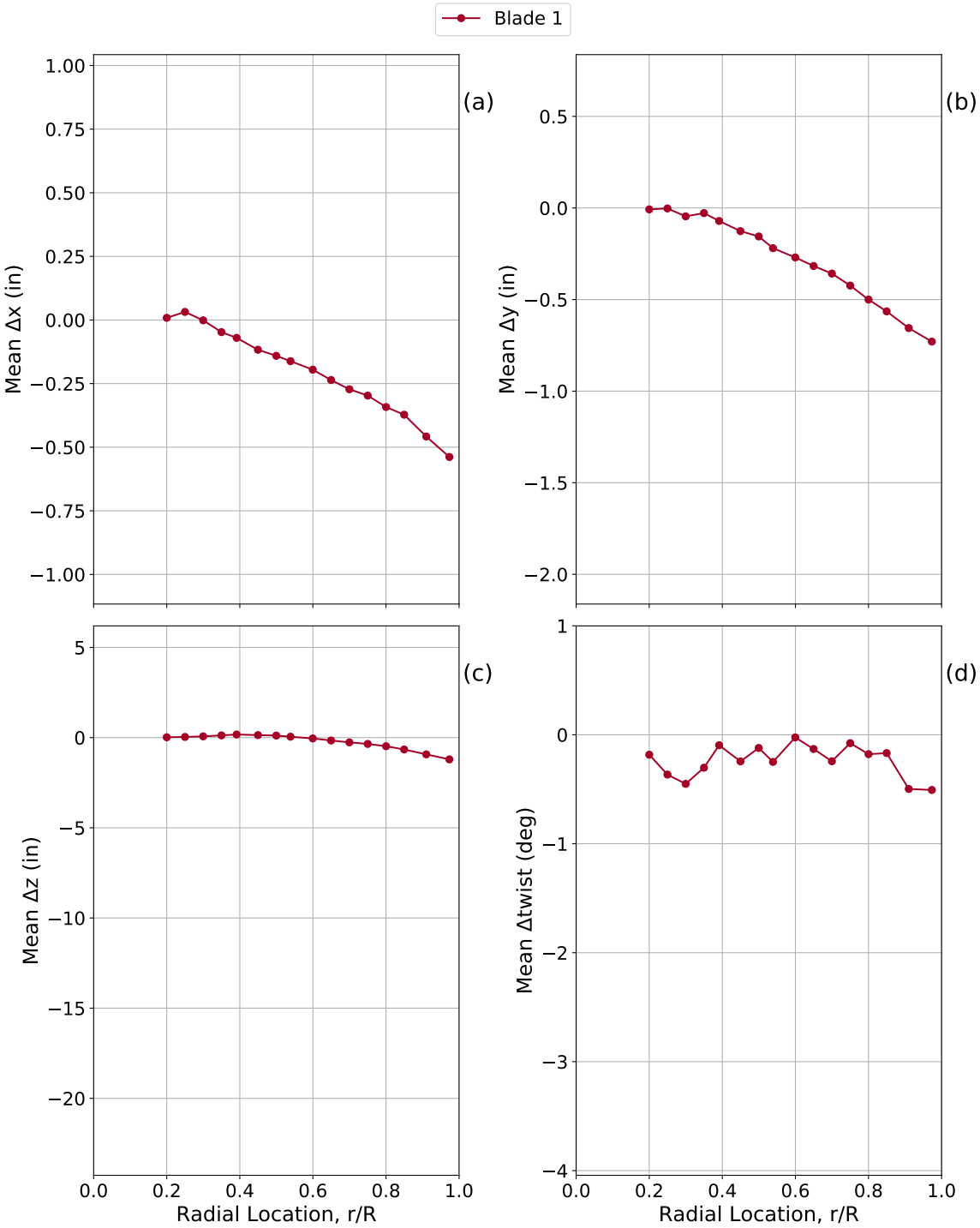


Figure 3.50-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0085	0.0037	-0.0078	0.0019	0.0180	0.0041	-0.1828	0.0324
1	15.12	0.2499	0.0317	0.0013	-0.0026	0.0034	0.0370	0.0094	-0.3652	0.0653
1	15.12	0.2998	-0.0014	0.0010	-0.0457	0.0070	0.0679	0.0141	-0.4505	0.0713
1	15.12	0.3498	-0.0477	0.0021	-0.0279	0.0118	0.1230	0.0257	-0.3022	0.0706
1	15.12	0.3913	-0.0702	0.0022	-0.0709	0.0168	0.1714	0.0361	-0.0955	0.0912
1	15.12	0.4496	-0.1170	0.0023	-0.1263	0.0223	0.1395	0.0535	-0.2442	0.0815
1	15.12	0.4997	-0.1408	0.0025	-0.1556	0.0280	0.1135	0.0705	-0.1211	0.0781
1	15.12	0.5387	-0.1618	0.0021	-0.2195	0.0323	0.0500	0.0845	-0.2489	0.0795
1	15.12	0.5996	-0.1953	0.0029	-0.2701	0.0391	-0.0457	0.1058	-0.0241	0.0841
1	15.12	0.6498	-0.2359	0.0025	-0.3168	0.0438	-0.1599	0.1220	-0.1304	0.0897
1	15.12	0.6998	-0.2723	0.0030	-0.3581	0.0498	-0.2636	0.1380	-0.2430	0.0722
1	15.12	0.7500	-0.2971	0.0037	-0.4237	0.0559	-0.3505	0.1568	-0.0768	0.0725
1	15.12	0.8001	-0.3420	0.0042	-0.5002	0.0615	-0.4771	0.1802	-0.1780	0.0791
1	15.12	0.8497	-0.3723	0.0043	-0.5646	0.0684	-0.6582	0.2120	-0.1679	0.0685
1	15.12	0.9102	-0.4580	0.0057	-0.6558	0.0752	-0.9297	0.2518	-0.4972	0.0718
1	15.12	0.9734	-0.5385	0.0065	-0.7296	0.0821	-1.2076	0.2984	-0.5065	0.0823

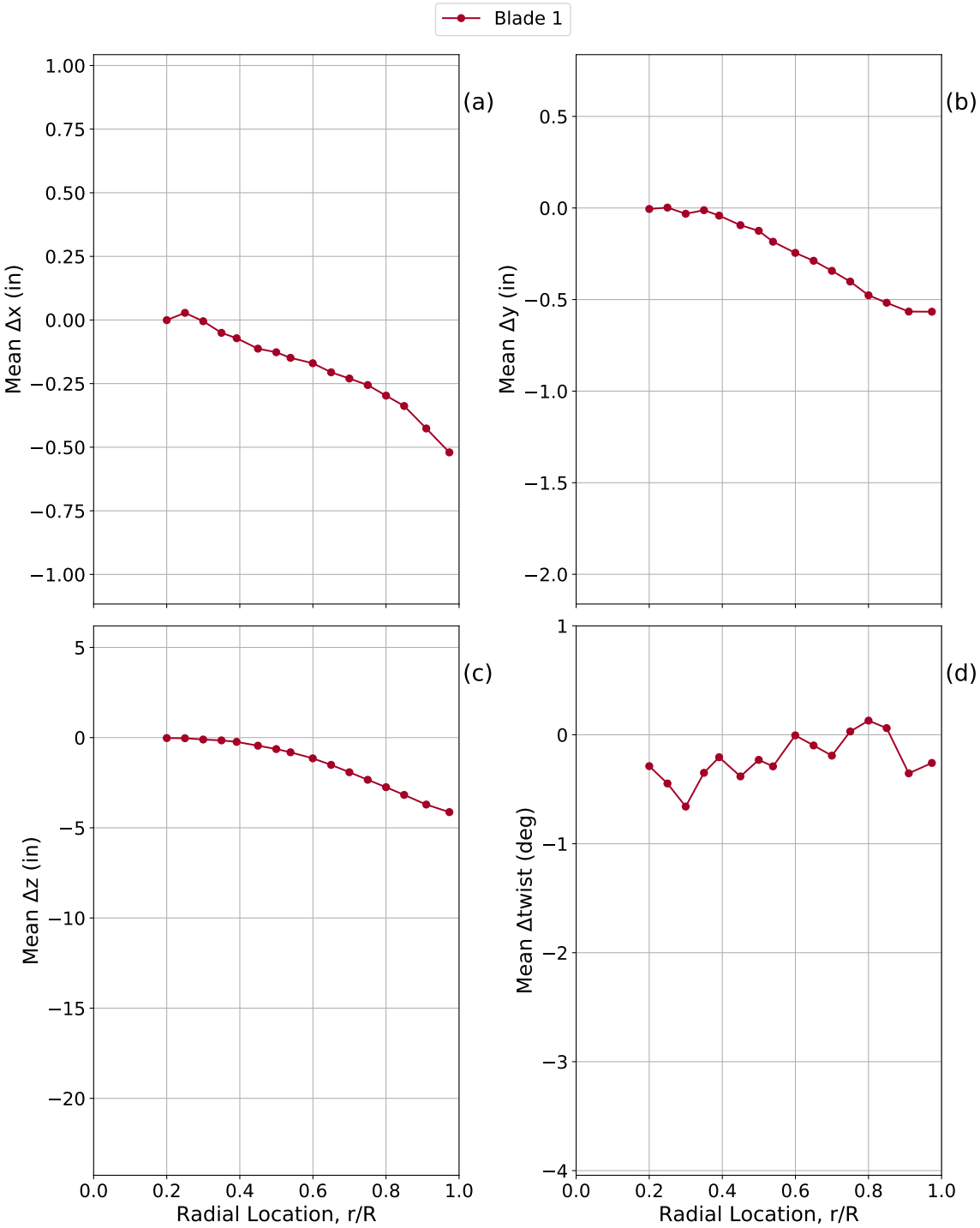


Figure 3.50-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0006	0.0024	-0.0054	0.0014	-0.0248	0.0031	-0.2876	0.0471
1	29.88	0.2499	0.0280	0.0026	0.0021	0.0038	-0.0341	0.0057	-0.4469	0.0678
1	29.88	0.2998	-0.0049	0.0020	-0.0316	0.0054	-0.1071	0.0118	-0.6587	0.1039
1	29.88	0.3498	-0.0505	0.0026	-0.0121	0.0105	-0.1536	0.0200	-0.3489	0.0895
1	29.88	0.3913	-0.0717	0.0029	-0.0417	0.0145	-0.2365	0.0282	-0.2061	0.0837
1	29.88	0.4496	-0.1127	0.0037	-0.0940	0.0170	-0.4479	0.0385	-0.3819	0.0801
1	29.88	0.4997	-0.1268	0.0028	-0.1248	0.0205	-0.6349	0.0464	-0.2303	0.0673
1	29.88	0.5387	-0.1487	0.0023	-0.1843	0.0232	-0.8136	0.0526	-0.2899	0.0753
1	29.88	0.5996	-0.1699	0.0026	-0.2452	0.0276	-1.1493	0.0663	-0.0053	0.0809
1	29.88	0.6498	-0.2056	0.0038	-0.2882	0.0314	-1.5111	0.0837	-0.0979	0.0669
1	29.88	0.6998	-0.2300	0.0048	-0.3432	0.0351	-1.9201	0.1015	-0.1914	0.0760
1	29.88	0.7500	-0.2558	0.0046	-0.4018	0.0393	-2.3389	0.1307	0.0302	0.0687
1	29.88	0.8001	-0.2973	0.0057	-0.4767	0.0444	-2.7497	0.1572	0.1298	0.0645
1	29.88	0.8497	-0.3380	0.0063	-0.5176	0.0487	-3.1763	0.1847	0.0613	0.0692
1	29.88	0.9102	-0.4263	0.0065	-0.5656	0.0541	-3.7123	0.2200	-0.3540	0.0890
1	29.88	0.9734	-0.5204	0.0087	-0.5664	0.0603	-4.1313	0.2650	-0.2585	0.0837

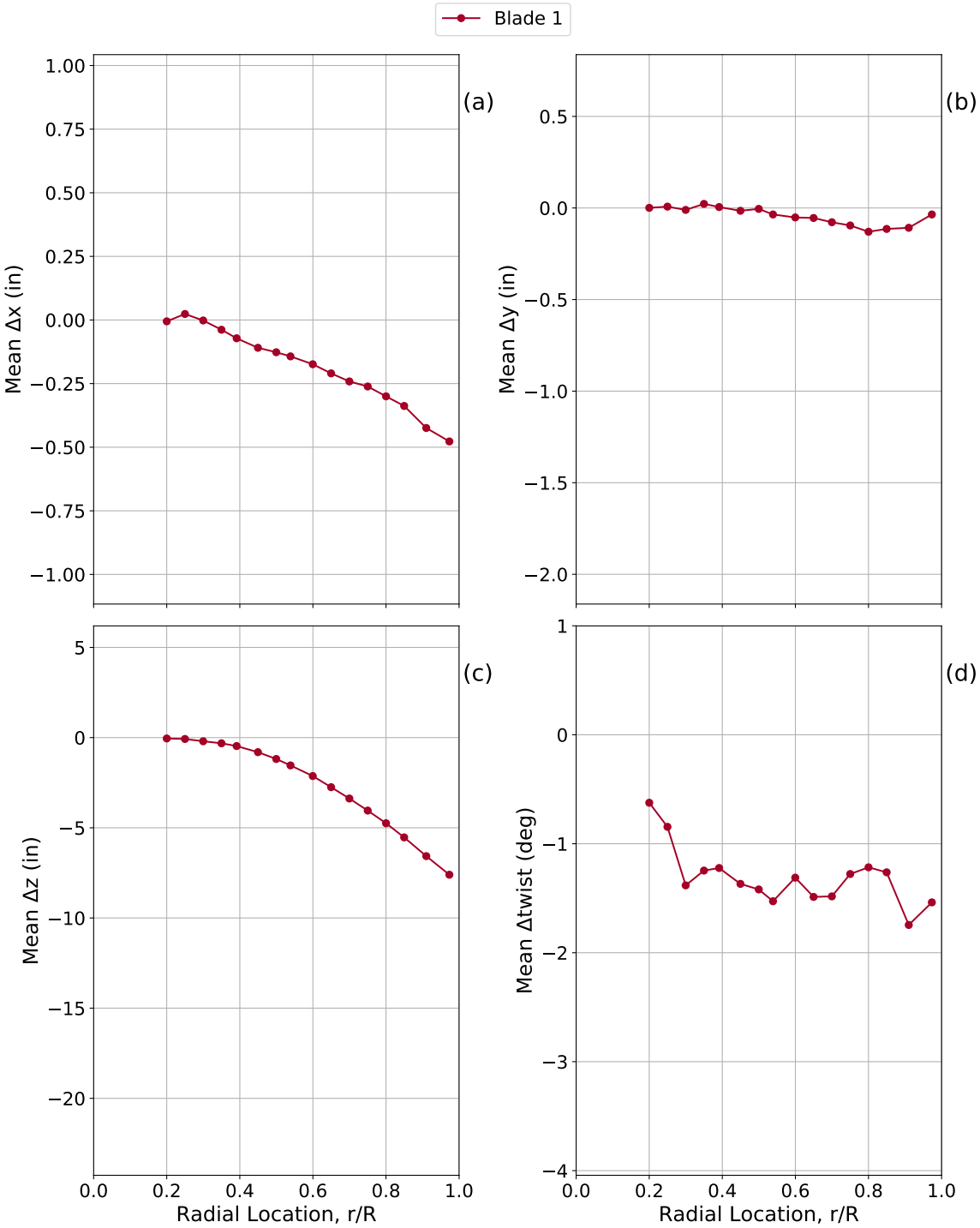


Figure 3.50-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0053	0.0054	0.0008	0.0045	-0.0488	0.0083	-0.6237	0.0416
1	45	0.2499	0.0236	0.0025	0.0074	0.0036	-0.0765	0.0085	-0.8448	0.1208
1	45	0.2998	-0.0019	0.0023	-0.0106	0.0147	-0.2028	0.0272	-1.3818	0.1122
1	45	0.3498	-0.0384	0.0022	0.0223	0.0236	-0.3153	0.0450	-1.2462	0.1186
1	45	0.3913	-0.0719	0.0016	0.0050	0.0321	-0.4681	0.0608	-1.2226	0.1246
1	45	0.4496	-0.1093	0.0019	-0.0153	0.0430	-0.8068	0.0853	-1.3683	0.1248
1	45	0.4997	-0.1268	0.0026	-0.0050	0.0535	-1.1848	0.1067	-1.4194	0.1305
1	45	0.5387	-0.1430	0.0026	-0.0355	0.0619	-1.5414	0.1241	-1.5276	0.1220
1	45	0.5996	-0.1739	0.0031	-0.0517	0.0741	-2.1311	0.1531	-1.3112	0.1249
1	45	0.6498	-0.2098	0.0037	-0.0547	0.0849	-2.7495	0.1796	-1.4879	0.1251
1	45	0.6998	-0.2415	0.0039	-0.0779	0.0950	-3.3773	0.2082	-1.4829	0.1230
1	45	0.7500	-0.2613	0.0053	-0.0955	0.1050	-4.0458	0.2407	-1.2778	0.1219
1	45	0.8001	-0.3001	0.0061	-0.1298	0.1148	-4.7476	0.2739	-1.2164	0.1210
1	45	0.8497	-0.3378	0.0079	-0.1144	0.1248	-5.5324	0.3094	-1.2623	0.1255
1	45	0.9102	-0.4245	0.0106	-0.1082	0.1371	-6.5708	0.3546	-1.7452	0.1190
1	45	0.9734	-0.4773	0.0112	-0.0354	0.1505	-7.6024	0.4004	-1.5380	0.1047

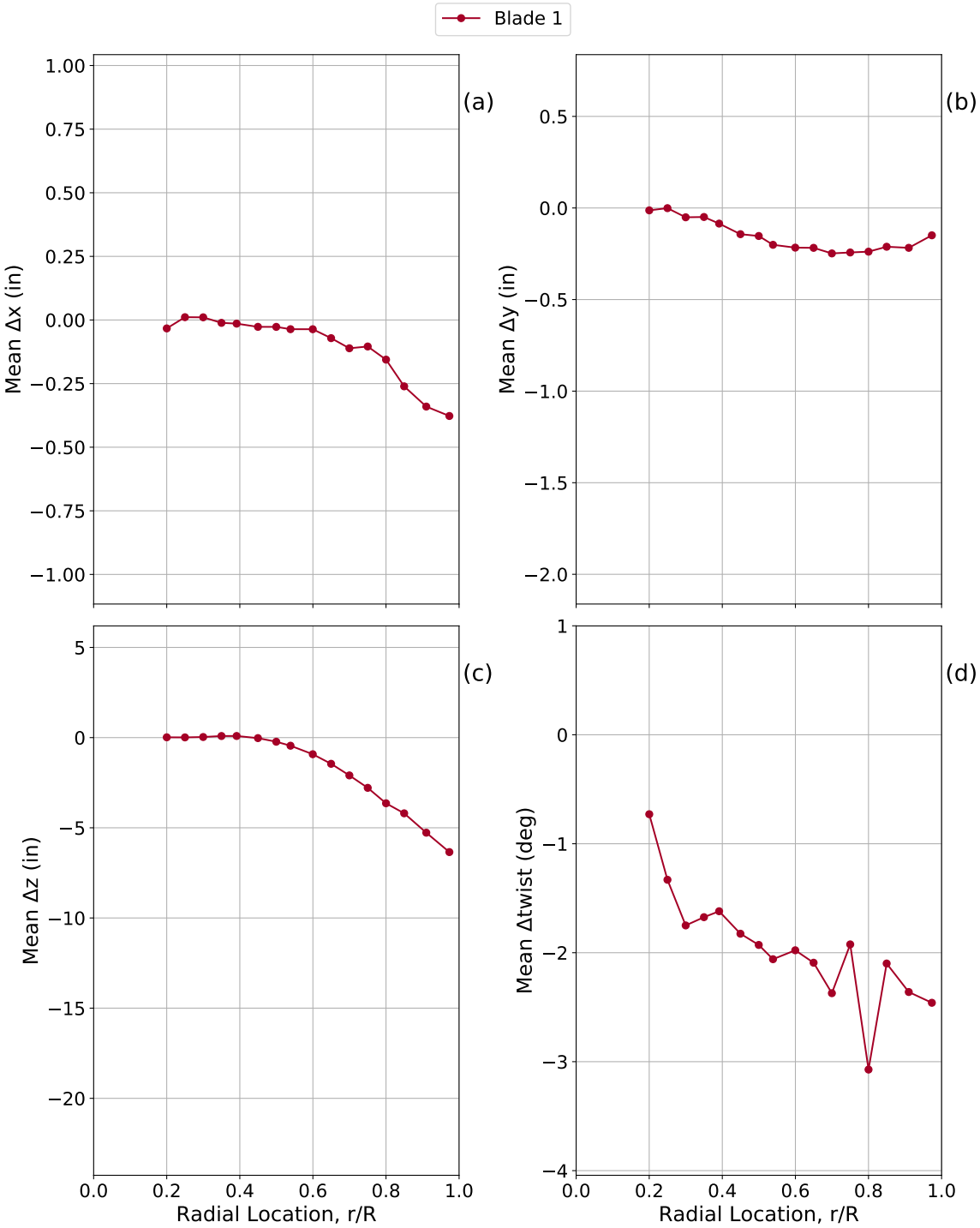


Figure 3.50-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0331	0.0044	-0.0130	0.0043	0.0163	0.0089	-0.7291	0.0611
1	60.12	0.2499	0.0110	0.0024	-0.0010	0.0039	0.0120	0.0113	-1.3306	0.1583
1	60.12	0.2998	0.0105	0.0044	-0.0509	0.0141	0.0324	0.0310	-1.7496	0.1619
1	60.12	0.3498	-0.0113	0.0064	-0.0493	0.0223	0.0882	0.0499	-1.6739	0.1758
1	60.12	0.3913	-0.0143	0.0093	-0.0853	0.0305	0.0898	0.0699	-1.6195	0.1713
1	60.12	0.4496	-0.0270	0.0114	-0.1431	0.0414	-0.0283	0.0978	-1.8257	0.1583
1	60.12	0.4997	-0.0271	0.0121	-0.1530	0.0522	-0.2285	0.1206	-1.9286	0.1692
1	60.12	0.5387	-0.0362	0.0113	-0.2011	0.0614	-0.4497	0.1374	-2.0597	0.1563
1	60.12	0.5996	-0.0363	0.0126	-0.2166	0.0757	-0.9217	0.1634	-1.9777	0.1725
1	60.12	0.6498	-0.0714	0.0160	-0.2177	0.0857	-1.4526	0.1862	-2.0919	0.1970
1	60.12	0.6998	-0.1112	0.0286	-0.2481	0.0986	-2.0957	0.2154	-2.3715	0.2872
1	60.12	0.7500	-0.1042	0.0239	-0.2429	0.1094	-2.7852	0.2335	-1.9236	0.2366
1	60.12	0.8001	-0.1558	0.0174	-0.2385	0.1183	-3.6415	0.2715	-3.0723	0.3586
1	60.12	0.8497	-0.2608	0.0180	-0.2117	0.1284	-4.1980	0.2522	-2.0992	0.1605
1	60.12	0.9102	-0.3403	0.0198	-0.2176	0.1425	-5.2714	0.2858	-2.3606	0.1645
1	60.12	0.9734	-0.3773	0.0190	-0.1492	0.1557	-6.3468	0.3256	-2.4595	0.1772

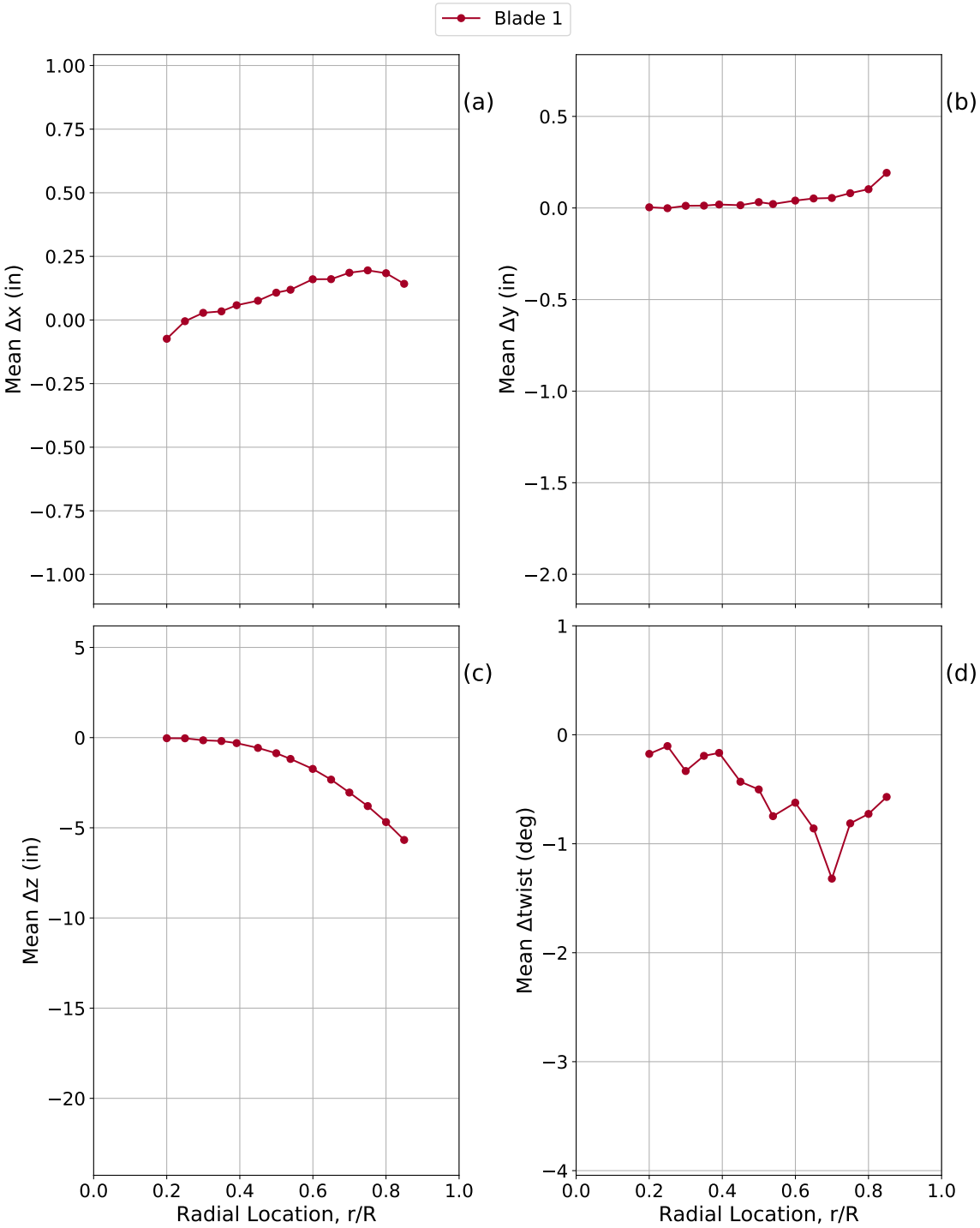


Figure 3.50-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0739	0.0023	0.0038	0.0014	-0.0342	0.0029	-0.1751	0.0261
1	74.88	0.2499	-0.0049	0.0013	-0.0013	0.0033	-0.0380	0.0053	-0.1037	0.0394
1	74.88	0.2998	0.0281	0.0011	0.0118	0.0064	-0.1484	0.0136	-0.3327	0.0549
1	74.88	0.3498	0.0340	0.0024	0.0127	0.0105	-0.1895	0.0185	-0.1934	0.0598
1	74.88	0.3913	0.0580	0.0029	0.0189	0.0156	-0.3052	0.0299	-0.1662	0.0641
1	74.88	0.4496	0.0757	0.0029	0.0150	0.0217	-0.5714	0.0409	-0.4308	0.0752
1	74.88	0.4997	0.1073	0.0047	0.0319	0.0294	-0.8664	0.0545	-0.5017	0.0759
1	74.88	0.5387	0.1188	0.0045	0.0214	0.0363	-1.1823	0.0660	-0.7470	0.0811
1	74.88	0.5996	0.1601	0.0059	0.0403	0.0465	-1.7361	0.0825	-0.6233	0.1041
1	74.88	0.6498	0.1605	0.0062	0.0519	0.0563	-2.3288	0.1034	-0.8596	0.0883
1	74.88	0.6998	0.1857	0.0068	0.0545	0.0679	-3.0464	0.1144	-1.3202	0.1118
1	74.88	0.7500	0.1950	0.0078	0.0808	0.0769	-3.7966	0.1349	-0.8130	0.1048
1	74.88	0.8001	0.1839	0.0097	0.1025	0.0890	-4.6841	0.1530	-0.7263	0.1727
1	74.88	0.8497	0.1422	0.0120	0.1919	0.1009	-5.6744	0.1767	-0.5705	0.1396

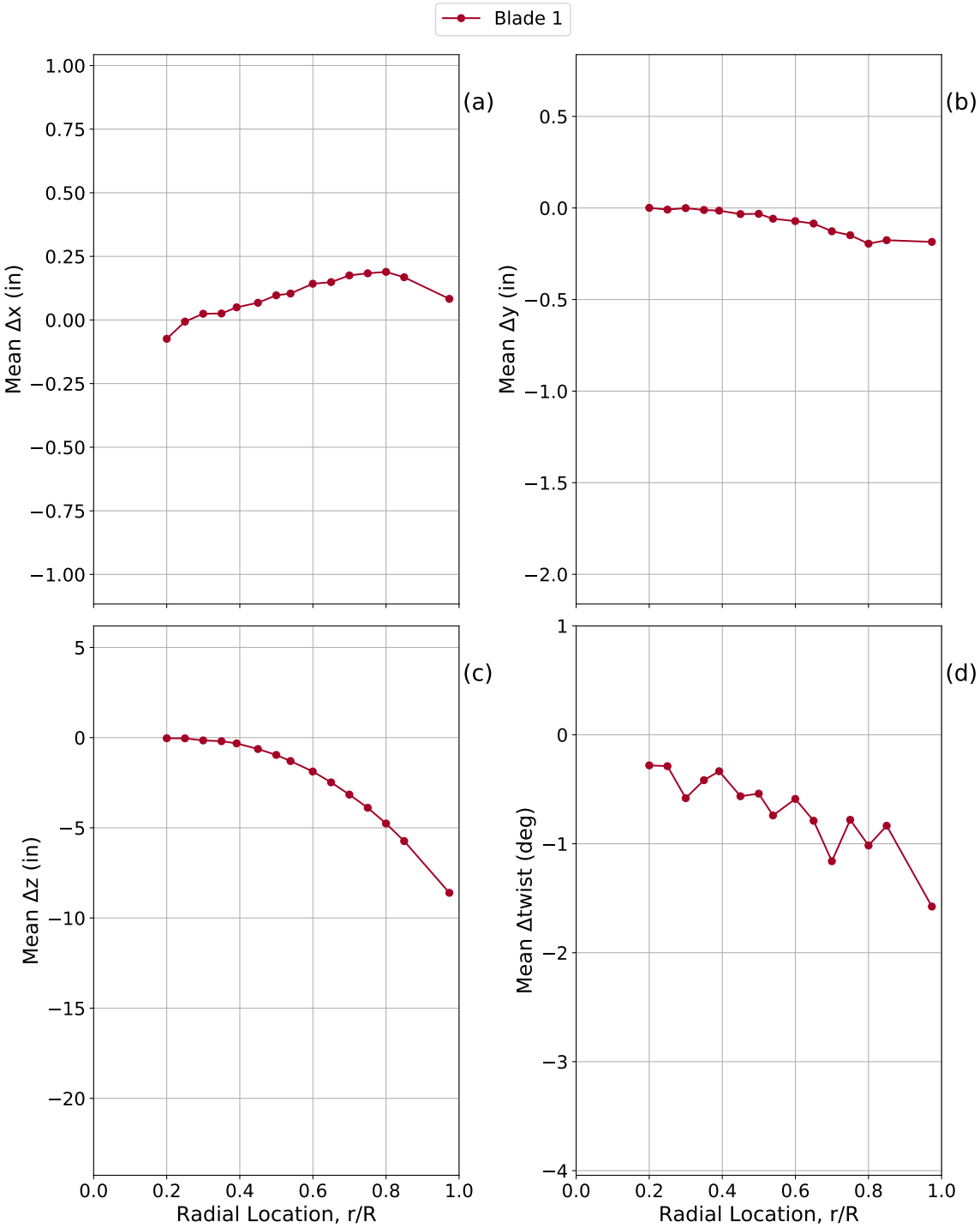


Figure 3.50-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0740	0.0013	0.0008	0.0008	-0.0357	0.0039	-0.2806	0.0265
1	80.16	0.2499	-0.0065	0.0013	-0.0088	0.0028	-0.0410	0.0095	-0.2881	0.0410
1	80.16	0.2998	0.0245	0.0017	-0.0008	0.0042	-0.1566	0.0173	-0.5817	0.0583
1	80.16	0.3498	0.0255	0.0019	-0.0111	0.0069	-0.1981	0.0292	-0.4167	0.0508
1	80.16	0.3913	0.0497	0.0024	-0.0147	0.0109	-0.3216	0.0434	-0.3344	0.0524
1	80.16	0.4496	0.0677	0.0024	-0.0332	0.0152	-0.6321	0.0654	-0.5638	0.0502
1	80.16	0.4997	0.0970	0.0027	-0.0320	0.0195	-0.9607	0.0870	-0.5401	0.0601
1	80.16	0.5387	0.1040	0.0028	-0.0588	0.0234	-1.2990	0.1041	-0.7403	0.0644
1	80.16	0.5996	0.1424	0.0028	-0.0718	0.0297	-1.8794	0.1287	-0.5887	0.0673
1	80.16	0.6498	0.1488	0.0045	-0.0851	0.0351	-2.4822	0.1509	-0.7890	0.0596
1	80.16	0.6998	0.1752	0.0044	-0.1272	0.0403	-3.1592	0.1687	-1.1603	0.0697
1	80.16	0.7500	0.1835	0.0054	-0.1488	0.0467	-3.8895	0.1933	-0.7804	0.0667
1	80.16	0.8001	0.1891	0.0077	-0.1948	0.0530	-4.7629	0.2097	-1.0161	0.1102
1	80.16	0.8497	0.1679	0.0096	-0.1760	0.0579	-5.7371	0.2286	-0.8344	0.1546
1	80.16	0.9734	0.0830	0.0165	-0.1852	0.0772	-8.6048	0.3013	-1.5763	0.1853

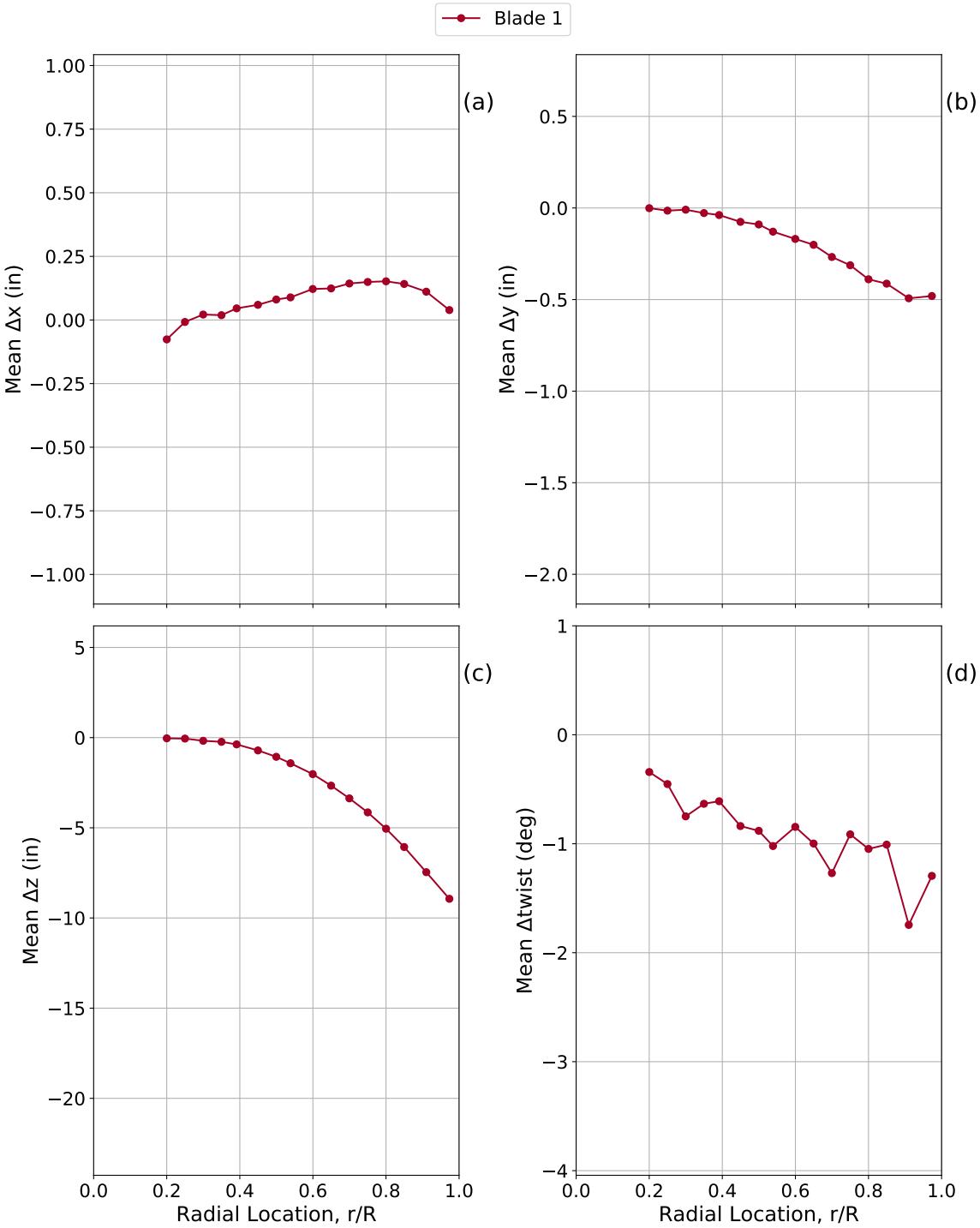


Figure 3.50-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0763	0.0012	-0.0011	0.0010	-0.0397	0.0036	-0.3417	0.0249
1	85.08	0.2499	-0.0078	0.0017	-0.0146	0.0025	-0.0543	0.0088	-0.4522	0.0344
1	85.08	0.2998	0.0214	0.0017	-0.0095	0.0042	-0.1764	0.0156	-0.7489	0.0537
1	85.08	0.3498	0.0189	0.0015	-0.0278	0.0078	-0.2344	0.0273	-0.6333	0.0372
1	85.08	0.3913	0.0457	0.0022	-0.0386	0.0110	-0.3753	0.0399	-0.6097	0.0343
1	85.08	0.4496	0.0596	0.0026	-0.0758	0.0173	-0.7110	0.0604	-0.8376	0.0511
1	85.08	0.4997	0.0804	0.0029	-0.0901	0.0233	-1.0644	0.0792	-0.8813	0.0516
1	85.08	0.5387	0.0888	0.0038	-0.1294	0.0291	-1.4223	0.0950	-1.0210	0.0572
1	85.08	0.5996	0.1218	0.0037	-0.1690	0.0379	-2.0251	0.1151	-0.8451	0.0479
1	85.08	0.6498	0.1240	0.0045	-0.2012	0.0466	-2.6629	0.1281	-0.9981	0.0700
1	85.08	0.6998	0.1434	0.0053	-0.2676	0.0553	-3.3688	0.1405	-1.2696	0.0519
1	85.08	0.7500	0.1494	0.0066	-0.3127	0.0655	-4.1460	0.1541	-0.9136	0.0795
1	85.08	0.8001	0.1520	0.0070	-0.3894	0.0757	-5.0522	0.1665	-1.0472	0.0454
1	85.08	0.8497	0.1416	0.0079	-0.4132	0.0866	-6.0668	0.1777	-1.0080	0.0765
1	85.08	0.9102	0.1112	0.0102	-0.4931	0.1006	-7.4614	0.2049	-1.7448	0.1550
1	85.08	0.9734	0.0390	0.0114	-0.4807	0.1136	-8.9379	0.2087	-1.2949	0.1110

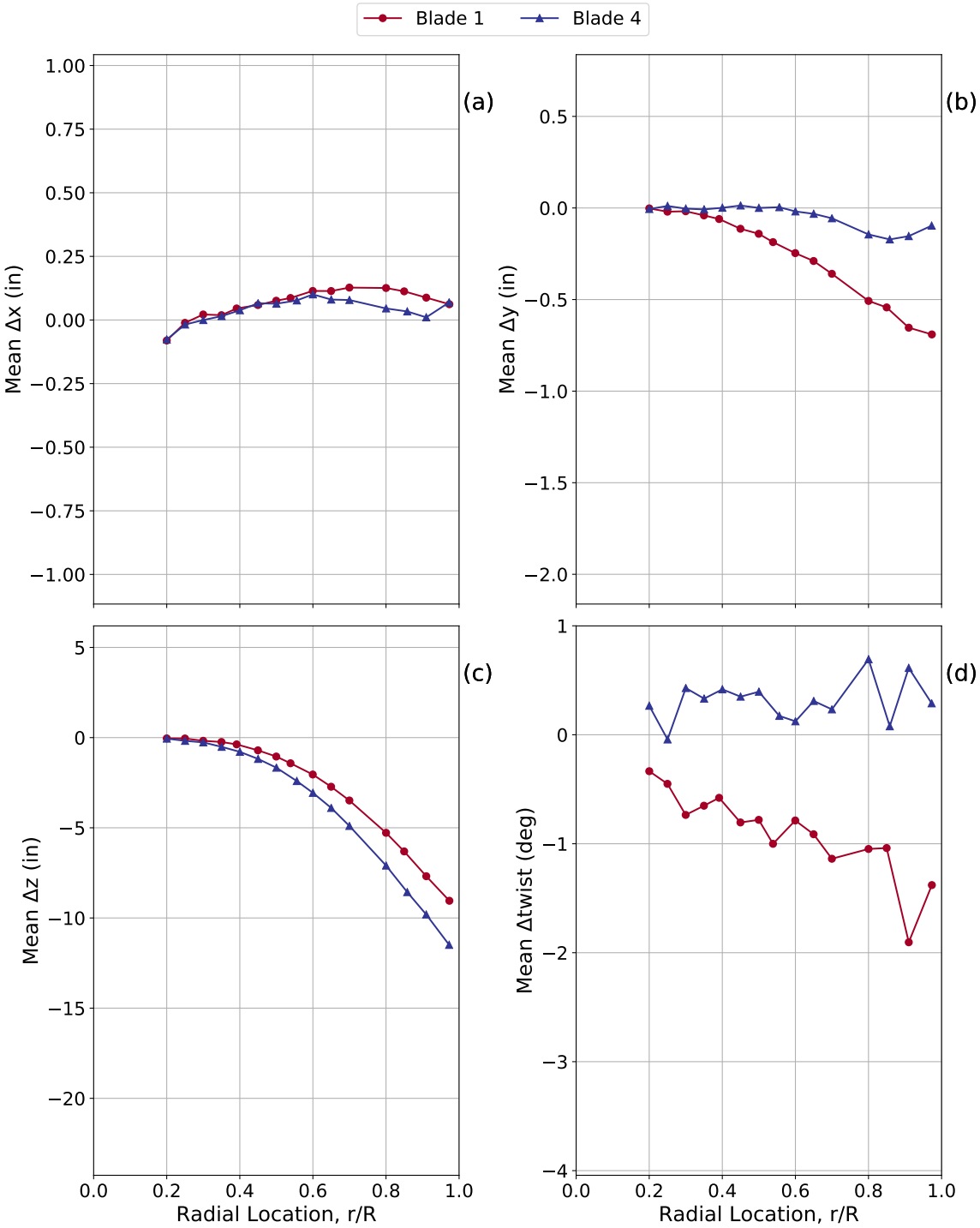


Figure 3.50-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0807	0.0015	-0.0023	0.0011	-0.0434	0.0040	-0.3342	0.0156
1	90	0.2499	-0.0113	0.0013	-0.0202	0.0029	-0.0487	0.0101	-0.4502	0.0275
1	90	0.2998	0.0216	0.0013	-0.0180	0.0047	-0.1770	0.0181	-0.7354	0.0331
1	90	0.3498	0.0189	0.0015	-0.0406	0.0086	-0.2437	0.0308	-0.6510	0.0358
1	90	0.3913	0.0453	0.0020	-0.0604	0.0123	-0.3748	0.0458	-0.5784	0.0294
1	90	0.4496	0.0588	0.0029	-0.1135	0.0172	-0.7051	0.0662	-0.8045	0.0359
1	90	0.4997	0.0757	0.0033	-0.1410	0.0220	-1.0499	0.0856	-0.7807	0.0448
1	90	0.5387	0.0864	0.0033	-0.1864	0.0262	-1.4229	0.1009	-1.0006	0.0594
1	90	0.5996	0.1141	0.0038	-0.2465	0.0333	-2.0458	0.1254	-0.7866	0.0563
1	90	0.6498	0.1138	0.0050	-0.2895	0.0397	-2.7239	0.1417	-0.9128	0.0610
1	90	0.6998	0.1273	0.0058	-0.3594	0.0466	-3.4853	0.1561	-1.1377	0.0676
1	90	0.8001	0.1257	0.0091	-0.5075	0.0618	-5.2787	0.1864	-1.0479	0.0733
1	90	0.8497	0.1126	0.0096	-0.5429	0.0707	-6.3098	0.2004	-1.0394	0.0704
1	90	0.9102	0.0878	0.0113	-0.6536	0.0805	-7.6855	0.2191	-1.9042	0.1093
1	90	0.9734	0.0619	0.0122	-0.6904	0.0914	-9.0464	0.2388	-1.3793	0.0722
4	90.35	0.2001	-0.0766	0.0010	-0.0057	0.0008	-0.0571	0.0033	0.2663	0.0207
4	90.35	0.2502	-0.0179	0.0016	0.0109	0.0023	-0.1798	0.0083	-0.0430	0.0355
4	90.35	0.3001	-0.0003	0.0014	-0.0037	0.0040	-0.2655	0.0149	0.4289	0.0449
4	90.35	0.3502	0.0151	0.0017	-0.0079	0.0066	-0.5125	0.0252	0.3318	0.0430
4	90.35	0.4002	0.0382	0.0020	0.0011	0.0108	-0.7897	0.0403	0.4170	0.0415
4	90.35	0.4500	0.0657	0.0022	0.0134	0.0141	-1.1817	0.0498	0.3498	0.0563
4	90.35	0.5001	0.0639	0.0024	0.0003	0.0188	-1.6682	0.0640	0.3952	0.0454
4	90.35	0.5560	0.0768	0.0028	0.0041	0.0248	-2.4095	0.0784	0.1732	0.0374
4	90.35	0.6001	0.1006	0.0032	-0.0189	0.0299	-3.0638	0.0888	0.1237	0.0505
4	90.35	0.6501	0.0802	0.0041	-0.0320	0.0357	-3.8998	0.0990	0.3102	0.0552
4	90.35	0.6999	0.0785	0.0048	-0.0563	0.0426	-4.8976	0.1125	0.2331	0.0463
4	90.35	0.8002	0.0453	0.0065	-0.1446	0.0564	-7.0954	0.1413	0.6928	0.0458
4	90.35	0.8582	0.0335	0.0073	-0.1718	0.0645	-8.5675	0.1613	0.0779	0.0646
4	90.35	0.9101	0.0104	0.0086	-0.1538	0.0722	-9.8085	0.1845	0.6133	0.0824
4	90.35	0.9728	0.0692	0.0101	-0.0966	0.0817	-11.4917	0.2013	0.2887	0.0607

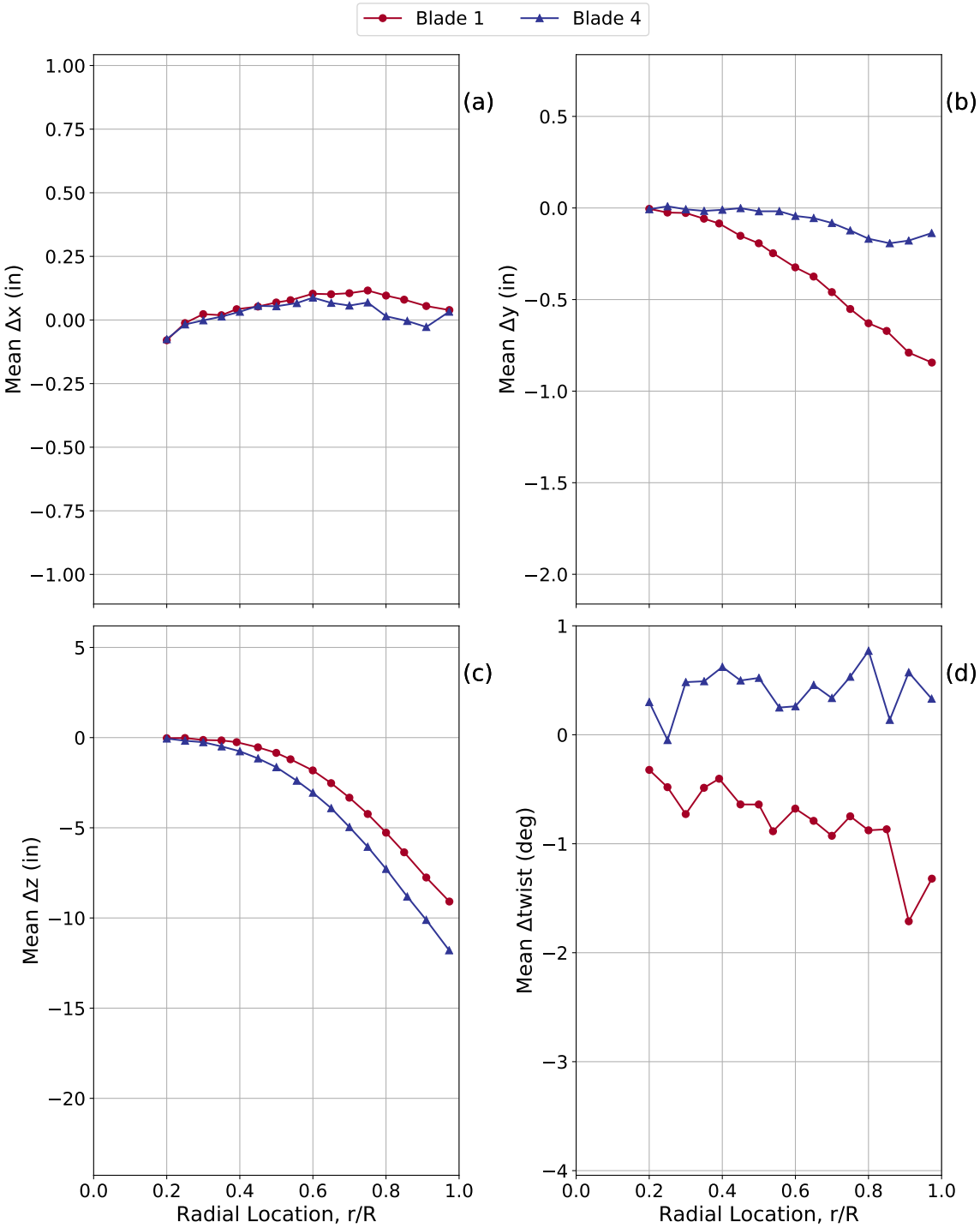


Figure 3.50-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0796	0.0016	-0.0047	0.0009	-0.0320	0.0032	-0.3223	0.0178
1	94.92	0.2499	-0.0122	0.0014	-0.0251	0.0018	-0.0227	0.0076	-0.4809	0.0444
1	94.92	0.2998	0.0230	0.0014	-0.0273	0.0037	-0.1317	0.0135	-0.7277	0.0445
1	94.92	0.3498	0.0188	0.0018	-0.0585	0.0062	-0.1552	0.0238	-0.4867	0.0394
1	94.92	0.3913	0.0424	0.0027	-0.0847	0.0090	-0.2533	0.0344	-0.4033	0.0455
1	94.92	0.4496	0.0528	0.0027	-0.1520	0.0131	-0.5387	0.0500	-0.6392	0.0509
1	94.92	0.4997	0.0688	0.0033	-0.1929	0.0172	-0.8465	0.0663	-0.6397	0.0667
1	94.92	0.5387	0.0778	0.0040	-0.2470	0.0210	-1.2023	0.0816	-0.8852	0.0528
1	94.92	0.5996	0.1031	0.0053	-0.3242	0.0270	-1.8189	0.1038	-0.6775	0.0557
1	94.92	0.6498	0.1012	0.0059	-0.3745	0.0325	-2.5249	0.1244	-0.7898	0.0644
1	94.92	0.6998	0.1053	0.0081	-0.4593	0.0385	-3.3308	0.1454	-0.9271	0.0740
1	94.92	0.7500	0.1159	0.0093	-0.5515	0.0451	-4.2354	0.1704	-0.7481	0.0642
1	94.92	0.8001	0.0959	0.0115	-0.6295	0.0502	-5.2704	0.1915	-0.8767	0.0755
1	94.92	0.8497	0.0799	0.0134	-0.6713	0.0566	-6.3595	0.2184	-0.8672	0.0845
1	94.92	0.9102	0.0548	0.0166	-0.7898	0.0642	-7.7568	0.2561	-1.7117	0.1068
1	94.92	0.9734	0.0390	0.0198	-0.8440	0.0728	-9.0884	0.2969	-1.3204	0.0903
4	94.92	0.2001	-0.0754	0.0010	-0.0069	0.0007	-0.0540	0.0033	0.3001	0.0136
4	94.92	0.2502	-0.0175	0.0010	0.0091	0.0016	-0.1748	0.0049	-0.0487	0.0361
4	94.92	0.3001	-0.0015	0.0011	-0.0073	0.0030	-0.2562	0.0113	0.4832	0.0313
4	94.92	0.3502	0.0133	0.0012	-0.0161	0.0050	-0.4903	0.0204	0.4911	0.0342
4	94.92	0.4002	0.0323	0.0021	-0.0099	0.0079	-0.7604	0.0298	0.6226	0.0350
4	94.92	0.4500	0.0554	0.0022	-0.0012	0.0106	-1.1553	0.0373	0.4981	0.0393
4	94.92	0.5001	0.0539	0.0024	-0.0182	0.0145	-1.6438	0.0521	0.5220	0.0454
4	94.92	0.5560	0.0663	0.0031	-0.0180	0.0193	-2.3928	0.0736	0.2499	0.0391
4	94.92	0.6001	0.0878	0.0042	-0.0435	0.0236	-3.0557	0.0948	0.2615	0.0351
4	94.92	0.6501	0.0672	0.0058	-0.0553	0.0290	-3.9143	0.1202	0.4568	0.0452
4	94.92	0.6999	0.0566	0.0081	-0.0821	0.0356	-4.9623	0.1569	0.3369	0.0496
4	94.92	0.7500	0.0687	0.0112	-0.1227	0.0415	-6.0577	0.1952	0.5322	0.0461
4	94.92	0.8002	0.0146	0.0134	-0.1680	0.0493	-7.2824	0.2358	0.7701	0.0512
4	94.92	0.8582	-0.0040	0.0176	-0.1927	0.0576	-8.8163	0.2856	0.1364	0.0574
4	94.92	0.9101	-0.0276	0.0206	-0.1780	0.0657	-10.1098	0.3316	0.5725	0.0479
4	94.92	0.9728	0.0324	0.0255	-0.1372	0.0744	-11.7949	0.3928	0.3306	0.0767

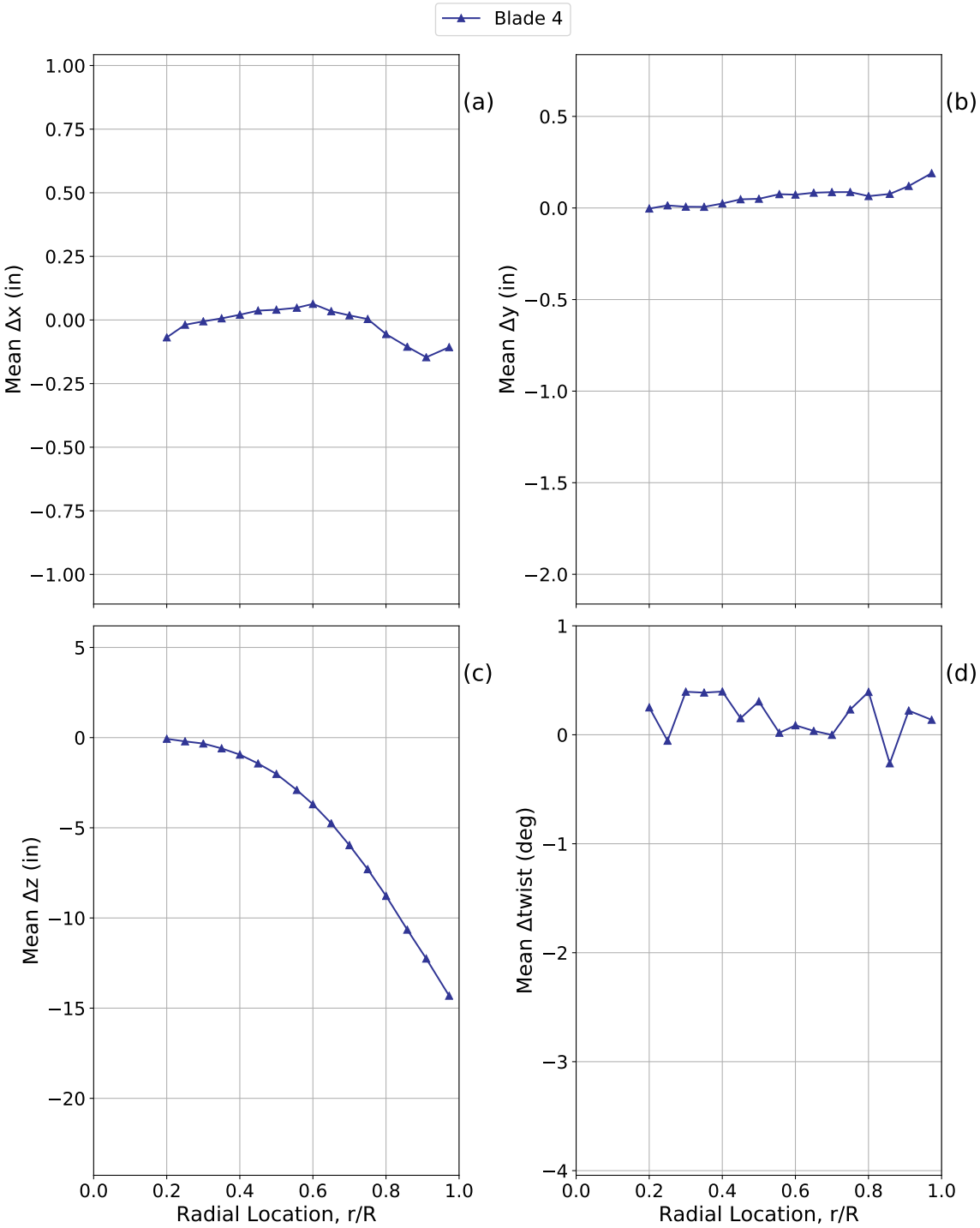


Figure 3.50-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0685	0.0014	-0.0033	0.0008	-0.0680	0.0024	0.2508	0.0188
4	105.12	0.2502	-0.0189	0.0010	0.0139	0.0014	-0.2098	0.0055	-0.0550	0.0278
4	105.12	0.3001	-0.0055	0.0007	0.0066	0.0034	-0.3292	0.0114	0.3949	0.0410
4	105.12	0.3502	0.0063	0.0015	0.0059	0.0056	-0.5993	0.0175	0.3869	0.0420
4	105.12	0.4002	0.0206	0.0015	0.0244	0.0085	-0.9455	0.0288	0.3966	0.0462
4	105.12	0.4500	0.0368	0.0019	0.0472	0.0115	-1.4361	0.0388	0.1523	0.0418
4	105.12	0.5001	0.0402	0.0025	0.0500	0.0154	-2.0163	0.0501	0.3054	0.0437
4	105.12	0.5560	0.0479	0.0030	0.0751	0.0199	-2.9057	0.0624	0.0180	0.0554
4	105.12	0.6001	0.0632	0.0026	0.0727	0.0237	-3.6971	0.0742	0.0868	0.0570
4	105.12	0.6501	0.0343	0.0034	0.0831	0.0284	-4.7516	0.0847	0.0357	0.0605
4	105.12	0.6999	0.0180	0.0040	0.0863	0.0336	-5.9672	0.0957	-0.0013	0.0598
4	105.12	0.7500	0.0036	0.0051	0.0868	0.0393	-7.2995	0.1069	0.2317	0.0535
4	105.12	0.8002	-0.0556	0.0064	0.0646	0.0454	-8.7792	0.1151	0.3930	0.0669
4	105.12	0.8582	-0.1053	0.0080	0.0764	0.0524	-10.6520	0.1257	-0.2623	0.0662
4	105.12	0.9101	-0.1466	0.0097	0.1199	0.0589	-12.2538	0.1354	0.2215	0.0639
4	105.12	0.9728	-0.1070	0.0141	0.1896	0.0670	-14.3150	0.1524	0.1372	0.0638

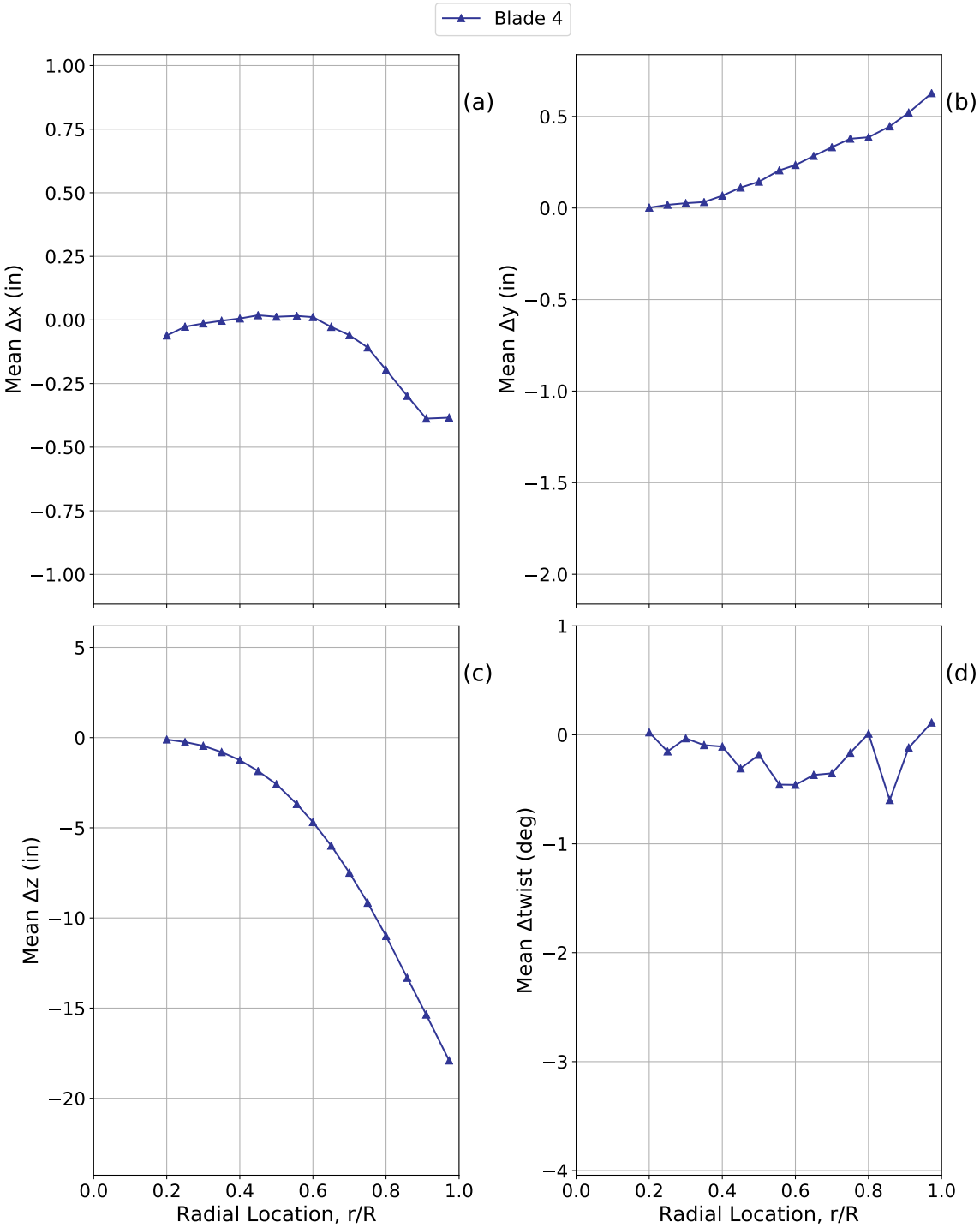


Figure 3.50-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0613	0.0010	0.0019	0.0007	-0.1052	0.0025	0.0221	0.0189
4	119.88	0.2502	-0.0267	0.0010	0.0173	0.0016	-0.2438	0.0071	-0.1529	0.0287
4	119.88	0.3001	-0.0138	0.0013	0.0262	0.0026	-0.4554	0.0117	-0.0325	0.0411
4	119.88	0.3502	-0.0032	0.0021	0.0325	0.0050	-0.8039	0.0203	-0.0949	0.0378
4	119.88	0.4002	0.0057	0.0025	0.0672	0.0073	-1.2501	0.0323	-0.1081	0.0542
4	119.88	0.4500	0.0183	0.0032	0.1116	0.0107	-1.8533	0.0480	-0.3085	0.0537
4	119.88	0.5001	0.0125	0.0044	0.1435	0.0151	-2.5795	0.0692	-0.1840	0.0505
4	119.88	0.5560	0.0157	0.0061	0.2056	0.0204	-3.6832	0.0995	-0.4569	0.0520
4	119.88	0.6001	0.0111	0.0074	0.2347	0.0243	-4.6863	0.1266	-0.4591	0.0485
4	119.88	0.6501	-0.0273	0.0103	0.2843	0.0298	-5.9922	0.1597	-0.3686	0.0491
4	119.88	0.6999	-0.0601	0.0138	0.3320	0.0349	-7.4921	0.1997	-0.3532	0.0536
4	119.88	0.7500	-0.1083	0.0174	0.3781	0.0405	-9.1572	0.2419	-0.1653	0.0579
4	119.88	0.8002	-0.1962	0.0227	0.3863	0.0464	-11.0043	0.2895	0.0106	0.0624
4	119.88	0.8582	-0.2987	0.0296	0.4455	0.0534	-13.3227	0.3497	-0.5991	0.0636
4	119.88	0.9101	-0.3878	0.0362	0.5204	0.0594	-15.3617	0.4067	-0.1185	0.0543
4	119.88	0.9728	-0.3842	0.0440	0.6268	0.0671	-17.9071	0.4799	0.1122	0.0674

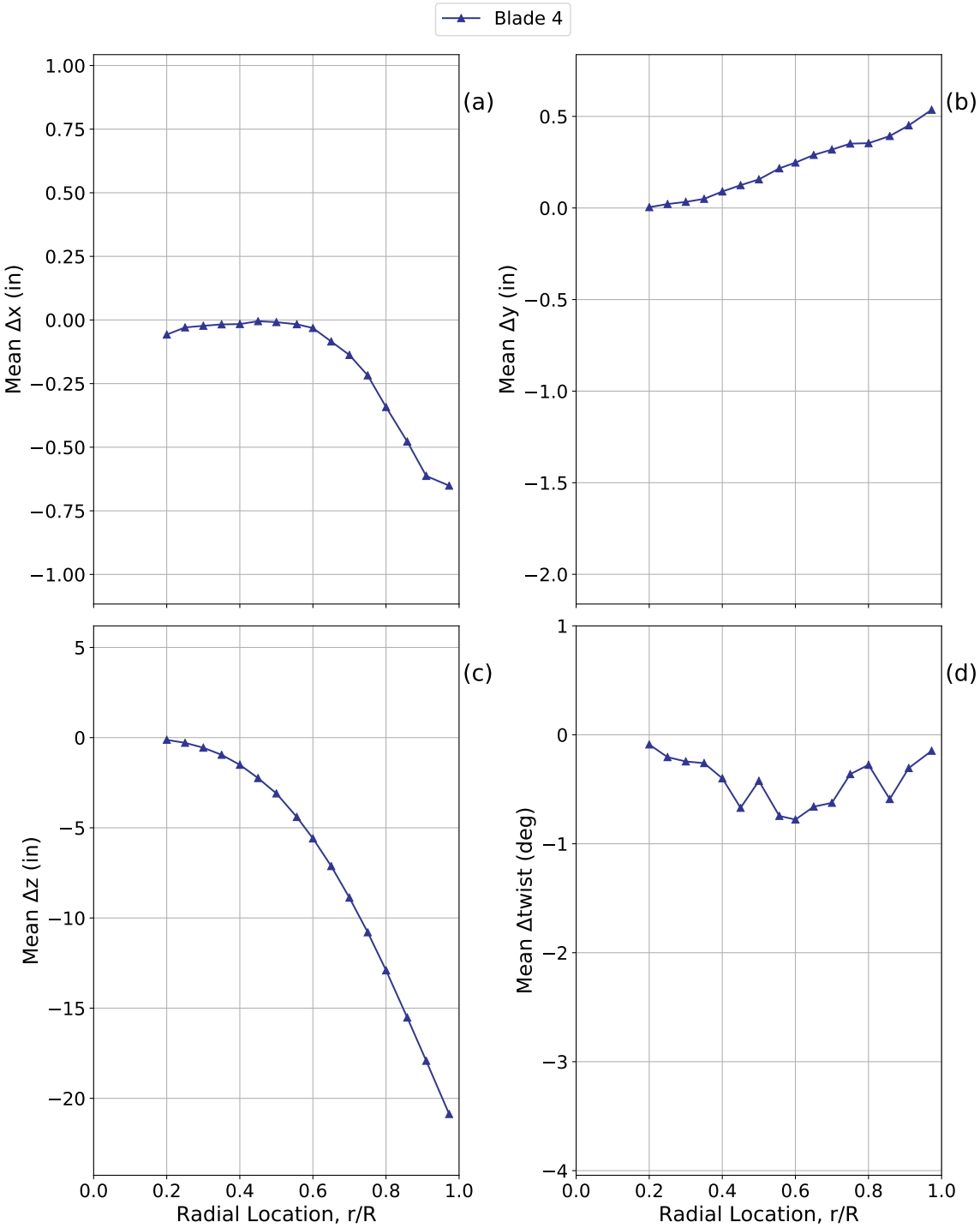


Figure 3.50-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0574	0.0015	0.0042	0.0008	-0.1259	0.0032	-0.0892	0.0191
4	135	0.2502	-0.0293	0.0015	0.0213	0.0025	-0.2903	0.0096	-0.2054	0.0288
4	135	0.3001	-0.0229	0.0020	0.0332	0.0039	-0.5606	0.0172	-0.2449	0.0423
4	135	0.3502	-0.0174	0.0018	0.0496	0.0073	-0.9546	0.0265	-0.2603	0.0444
4	135	0.4002	-0.0161	0.0033	0.0899	0.0110	-1.5088	0.0449	-0.4002	0.0437
4	135	0.4500	-0.0049	0.0038	0.1243	0.0128	-2.2470	0.0575	-0.6706	0.0306
4	135	0.5001	-0.0085	0.0061	0.1560	0.0164	-3.0971	0.0758	-0.4233	0.0356
4	135	0.5560	-0.0169	0.0074	0.2163	0.0208	-4.4034	0.1000	-0.7449	0.0492
4	135	0.6001	-0.0317	0.0092	0.2477	0.0242	-5.5908	0.1231	-0.7783	0.0350
4	135	0.6501	-0.0847	0.0127	0.2894	0.0291	-7.1248	0.1525	-0.6598	0.0358
4	135	0.6999	-0.1376	0.0154	0.3187	0.0337	-8.8774	0.1816	-0.6248	0.0349
4	135	0.7500	-0.2179	0.0193	0.3513	0.0388	-10.7972	0.2163	-0.3615	0.0378
4	135	0.8002	-0.3424	0.0250	0.3536	0.0445	-12.9068	0.2530	-0.2758	0.0386
4	135	0.8582	-0.4780	0.0314	0.3927	0.0509	-15.5225	0.2971	-0.5904	0.0374
4	135	0.9101	-0.6130	0.0371	0.4508	0.0569	-17.9226	0.3391	-0.3059	0.0458
4	135	0.9728	-0.6512	0.0449	0.5358	0.0644	-20.8729	0.3925	-0.1472	0.0466

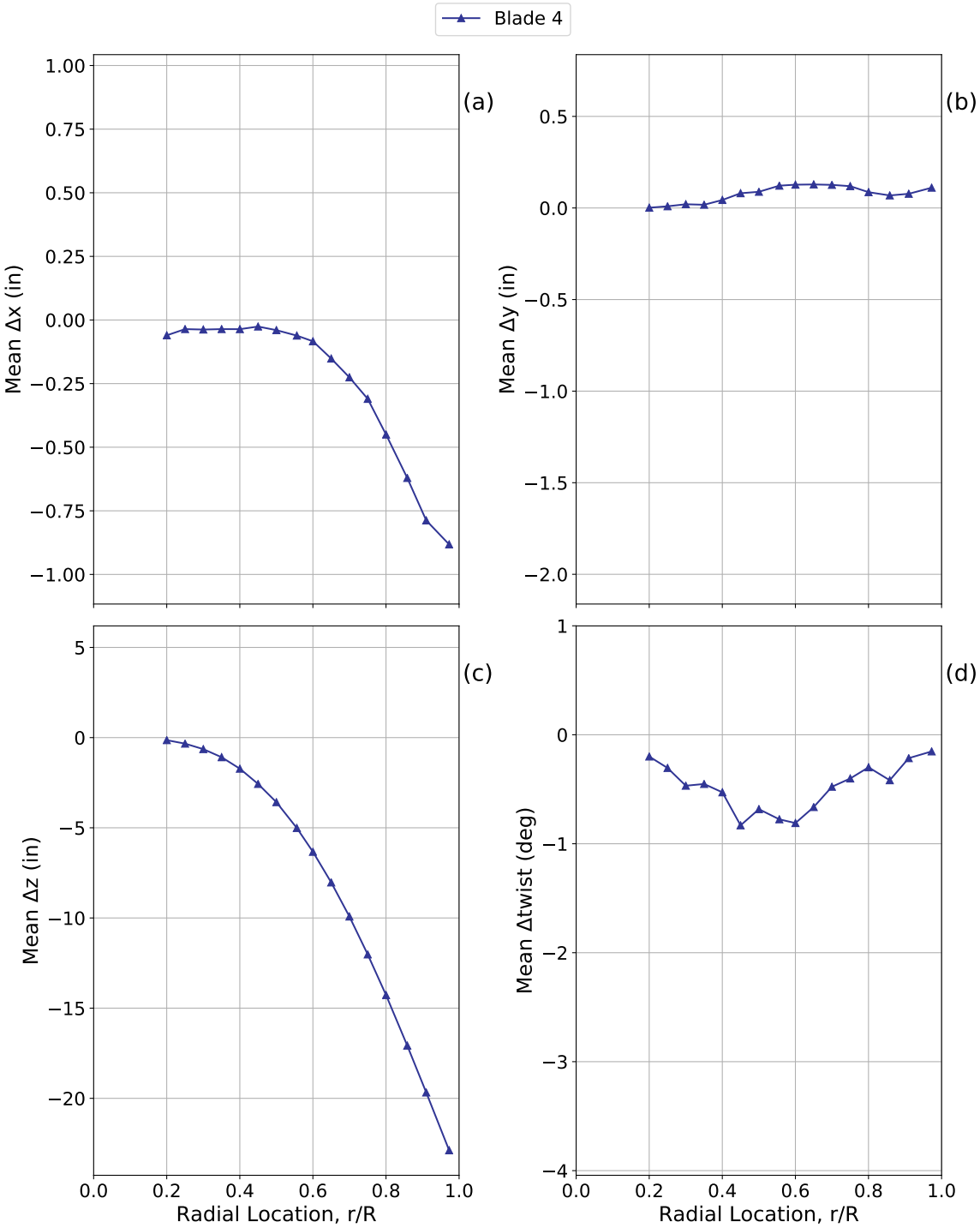


Figure 3.50-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0604	0.0013	0.0014	0.0010	-0.1412	0.0029	-0.1996	0.0307
4	150.12	0.2502	-0.0359	0.0018	0.0092	0.0034	-0.3348	0.0066	-0.3047	0.0583
4	150.12	0.3001	-0.0376	0.0024	0.0203	0.0044	-0.6389	0.0101	-0.4676	0.0712
4	150.12	0.3502	-0.0359	0.0017	0.0175	0.0092	-1.0877	0.0182	-0.4515	0.0442
4	150.12	0.4002	-0.0361	0.0029	0.0436	0.0132	-1.7249	0.0272	-0.5282	0.0556
4	150.12	0.4500	-0.0258	0.0032	0.0804	0.0177	-2.5696	0.0346	-0.8312	0.0516
4	150.12	0.5001	-0.0400	0.0050	0.0883	0.0198	-3.5806	0.0485	-0.6827	0.0577
4	150.12	0.5560	-0.0614	0.0059	0.1217	0.0234	-5.0129	0.0607	-0.7759	0.0543
4	150.12	0.6001	-0.0837	0.0071	0.1271	0.0261	-6.3340	0.0752	-0.8102	0.0594
4	150.12	0.6501	-0.1517	0.0082	0.1284	0.0304	-8.0307	0.0897	-0.6633	0.0508
4	150.12	0.6999	-0.2256	0.0098	0.1261	0.0334	-9.9211	0.1041	-0.4771	0.0538
4	150.12	0.7500	-0.3101	0.0118	0.1190	0.0382	-12.0227	0.1156	-0.4012	0.0637
4	150.12	0.8002	-0.4504	0.0139	0.0862	0.0427	-14.2771	0.1293	-0.2986	0.0536
4	150.12	0.8582	-0.6209	0.0162	0.0684	0.0483	-17.0770	0.1424	-0.4173	0.0622
4	150.12	0.9101	-0.7878	0.0184	0.0774	0.0535	-19.6766	0.1538	-0.2145	0.0558
4	150.12	0.9728	-0.8820	0.0206	0.1106	0.0605	-22.8824	0.1683	-0.1527	0.0669

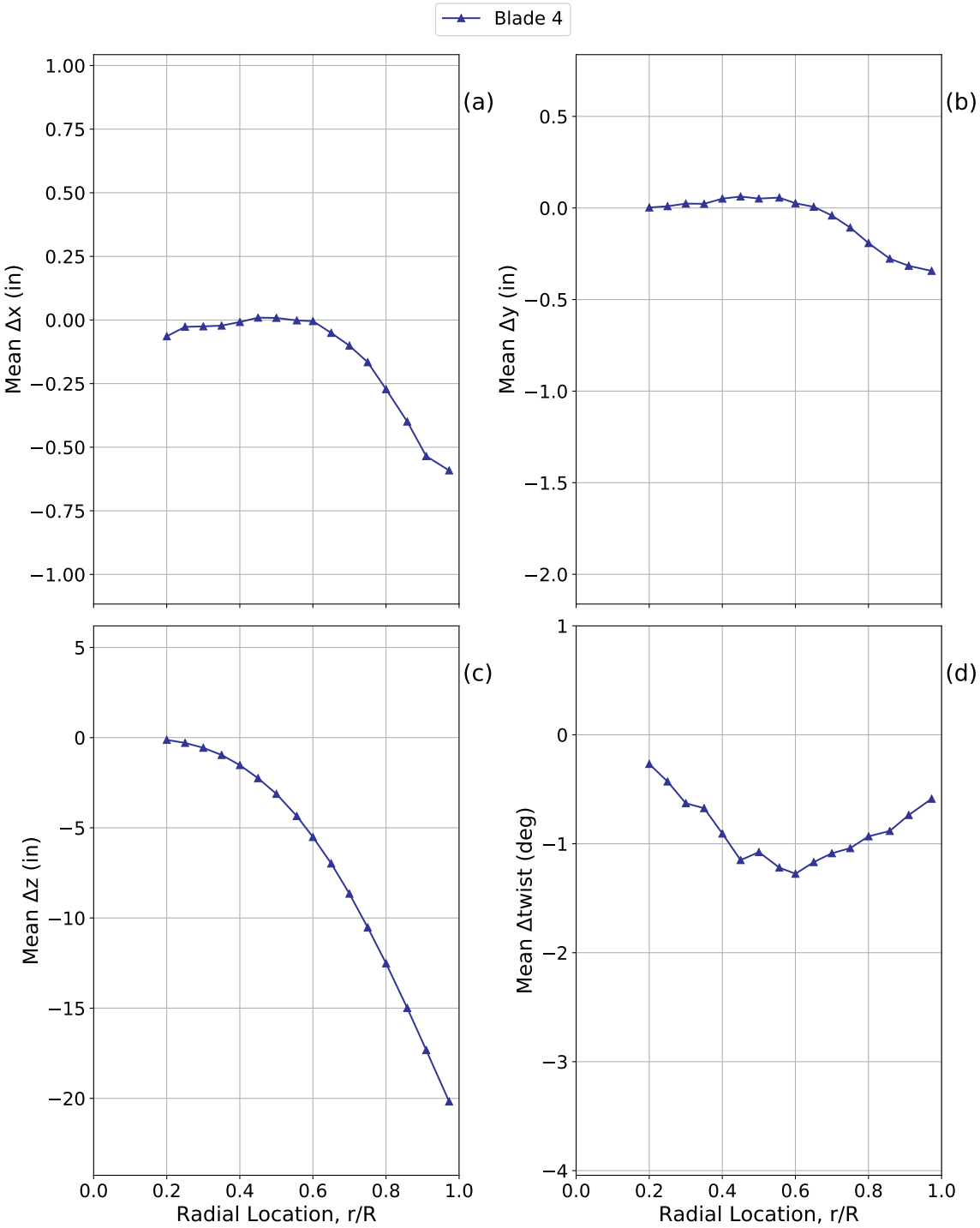


Figure 3.50-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0641	0.0010	0.0025	0.0010	-0.1262	0.0034	-0.2680	0.0560
4	164.88	0.2502	-0.0270	0.0017	0.0095	0.0023	-0.2946	0.0086	-0.4292	0.0700
4	164.88	0.3001	-0.0252	0.0018	0.0238	0.0028	-0.5647	0.0128	-0.6286	0.1203
4	164.88	0.3502	-0.0222	0.0026	0.0225	0.0076	-0.9650	0.0266	-0.6736	0.0904
4	164.88	0.4002	-0.0080	0.0033	0.0510	0.0098	-1.5252	0.0389	-0.9068	0.1057
4	164.88	0.4500	0.0091	0.0039	0.0624	0.0130	-2.2522	0.0506	-1.1501	0.0997
4	164.88	0.5001	0.0081	0.0050	0.0513	0.0148	-3.1214	0.0630	-1.0769	0.1241
4	164.88	0.5560	-0.0018	0.0068	0.0565	0.0212	-4.3520	0.0816	-1.2190	0.1127
4	164.88	0.6001	-0.0045	0.0083	0.0256	0.0248	-5.5146	0.0956	-1.2755	0.1115
4	164.88	0.6501	-0.0508	0.0099	0.0062	0.0293	-6.9803	0.1130	-1.1688	0.1297
4	164.88	0.6999	-0.1011	0.0132	-0.0412	0.0339	-8.6565	0.1319	-1.0871	0.1325
4	164.88	0.7500	-0.1661	0.0164	-0.1072	0.0398	-10.5269	0.1564	-1.0406	0.1301
4	164.88	0.8002	-0.2723	0.0209	-0.1917	0.0456	-12.5195	0.1824	-0.9320	0.1454
4	164.88	0.8582	-0.3995	0.0266	-0.2770	0.0524	-14.9947	0.2221	-0.8828	0.1377
4	164.88	0.9101	-0.5352	0.0318	-0.3159	0.0593	-17.3269	0.2605	-0.7366	0.1438
4	164.88	0.9728	-0.5914	0.0398	-0.3436	0.0676	-20.1774	0.3127	-0.5874	0.1405

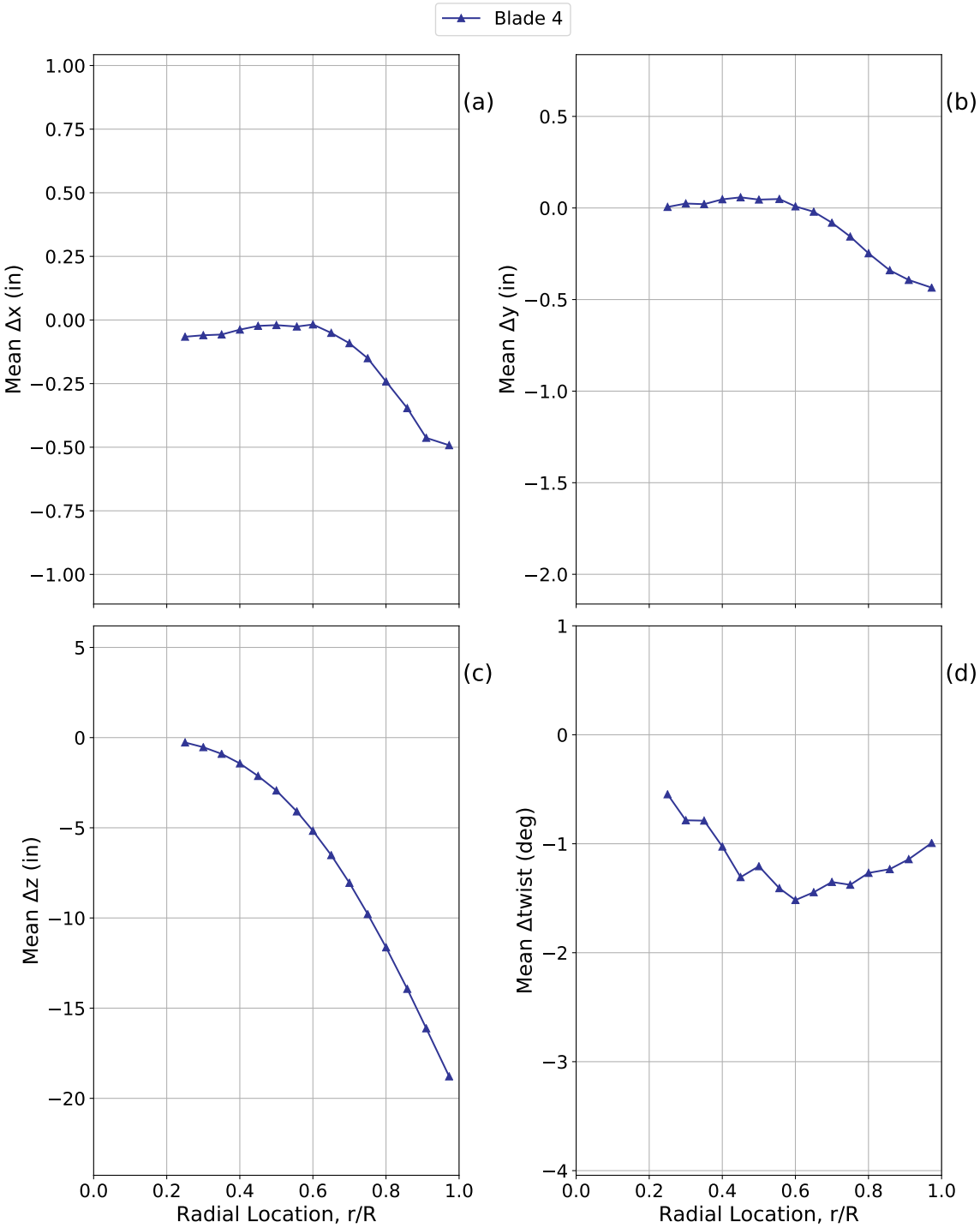


Figure 3.50-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2502	-0.0659	0.0056	0.0055	0.0050	-0.2710	0.0100	-0.5464	0.0842
4	170.16	0.3001	-0.0600	0.0047	0.0243	0.0097	-0.5317	0.0220	-0.7848	0.1204
4	170.16	0.3502	-0.0572	0.0053	0.0207	0.0168	-0.9019	0.0332	-0.7881	0.0982
4	170.16	0.4002	-0.0379	0.0058	0.0472	0.0265	-1.4337	0.0550	-1.0266	0.1227
4	170.16	0.4500	-0.0233	0.0059	0.0580	0.0326	-2.1303	0.0710	-1.3067	0.1298
4	170.16	0.5001	-0.0202	0.0068	0.0457	0.0420	-2.9360	0.0911	-1.2065	0.1310
4	170.16	0.5560	-0.0259	0.0073	0.0488	0.0493	-4.0948	0.1187	-1.4082	0.1540
4	170.16	0.6001	-0.0177	0.0092	0.0085	0.0567	-5.1700	0.1401	-1.5170	0.1470
4	170.16	0.6501	-0.0509	0.0096	-0.0206	0.0648	-6.5169	0.1639	-1.4453	0.1474
4	170.16	0.6999	-0.0914	0.0116	-0.0806	0.0725	-8.0566	0.1897	-1.3512	0.1553
4	170.16	0.7500	-0.1505	0.0136	-0.1562	0.0817	-9.7879	0.2152	-1.3769	0.1506
4	170.16	0.8002	-0.2419	0.0165	-0.2476	0.0910	-11.6315	0.2426	-1.2678	0.1567
4	170.16	0.8582	-0.3467	0.0200	-0.3403	0.1021	-13.9337	0.2750	-1.2334	0.1570
4	170.16	0.9101	-0.4633	0.0245	-0.3932	0.1122	-16.1204	0.3089	-1.1420	0.1446
4	170.16	0.9728	-0.4923	0.0294	-0.4351	0.1245	-18.7850	0.3573	-0.9932	0.1601

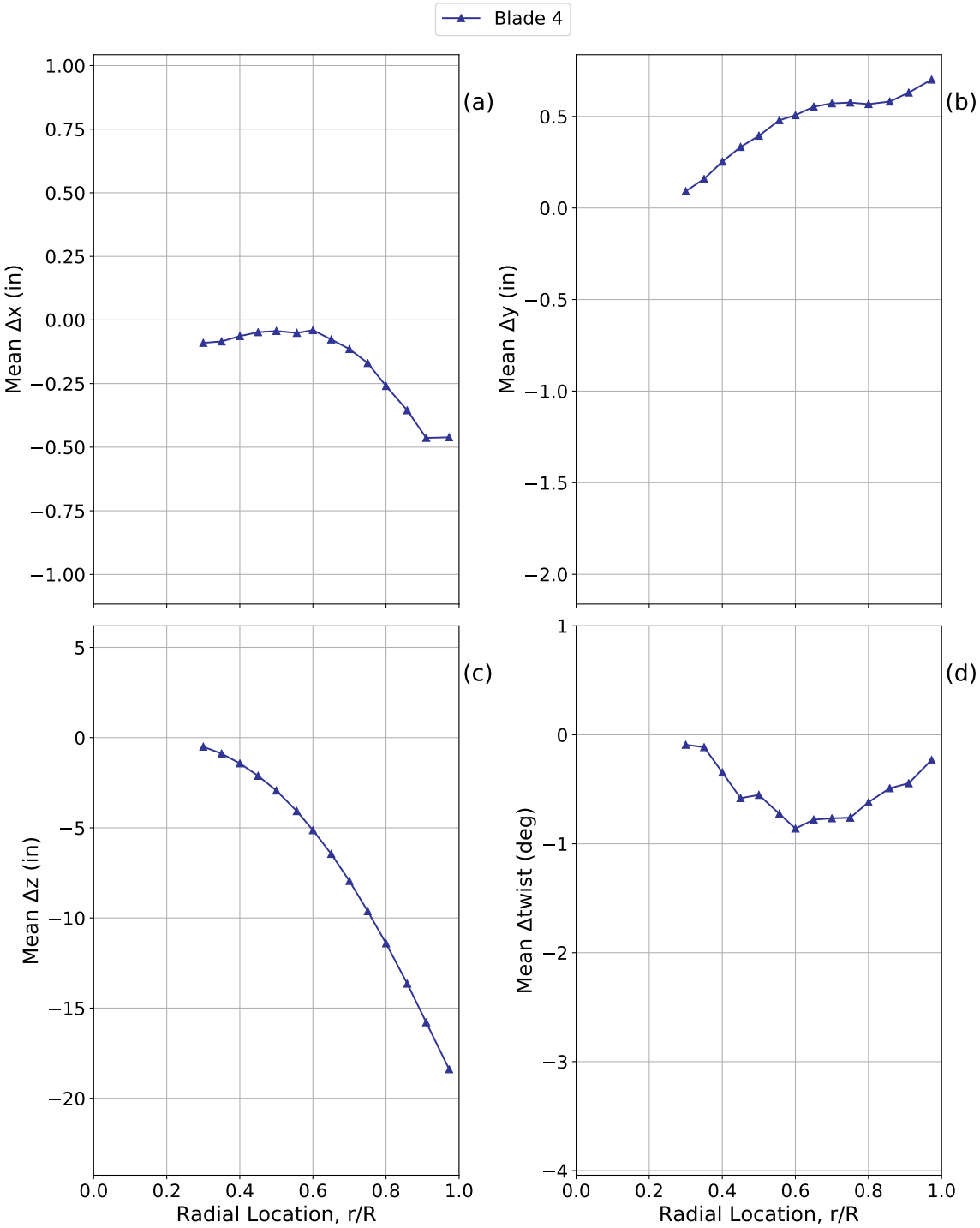


Figure 3.50-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.3001	-0.0902	0.0103	0.0916	0.0126	-0.5034	0.0310	-0.0916	0.1109
4	175.08	0.3502	-0.0845	0.0092	0.1590	0.0219	-0.8884	0.0541	-0.1136	0.1478
4	175.08	0.4002	-0.0636	0.0103	0.2529	0.0349	-1.4268	0.0864	-0.3457	0.1434
4	175.08	0.4500	-0.0483	0.0117	0.3332	0.0445	-2.1189	0.1172	-0.5810	0.1170
4	175.08	0.5001	-0.0435	0.0135	0.3943	0.0582	-2.9354	0.1442	-0.5518	0.1340
4	175.08	0.5560	-0.0511	0.0133	0.4791	0.0690	-4.0770	0.1736	-0.7241	0.1161
4	175.08	0.6001	-0.0403	0.0149	0.5066	0.0788	-5.1344	0.1957	-0.8603	0.1402
4	175.08	0.6501	-0.0767	0.0178	0.5529	0.0898	-6.4480	0.2233	-0.7786	0.1228
4	175.08	0.6999	-0.1144	0.0207	0.5712	0.1008	-7.9485	0.2472	-0.7663	0.1168
4	175.08	0.7500	-0.1693	0.0225	0.5755	0.1122	-9.6227	0.2680	-0.7610	0.1186
4	175.08	0.8002	-0.2597	0.0254	0.5672	0.1232	-11.4107	0.2910	-0.6180	0.1117
4	175.08	0.8582	-0.3553	0.0292	0.5809	0.1359	-13.6455	0.3171	-0.4904	0.1152
4	175.08	0.9101	-0.4636	0.0327	0.6300	0.1482	-15.7888	0.3379	-0.4445	0.1283
4	175.08	0.9728	-0.4612	0.0376	0.7008	0.1621	-18.3894	0.3717	-0.2305	0.1210

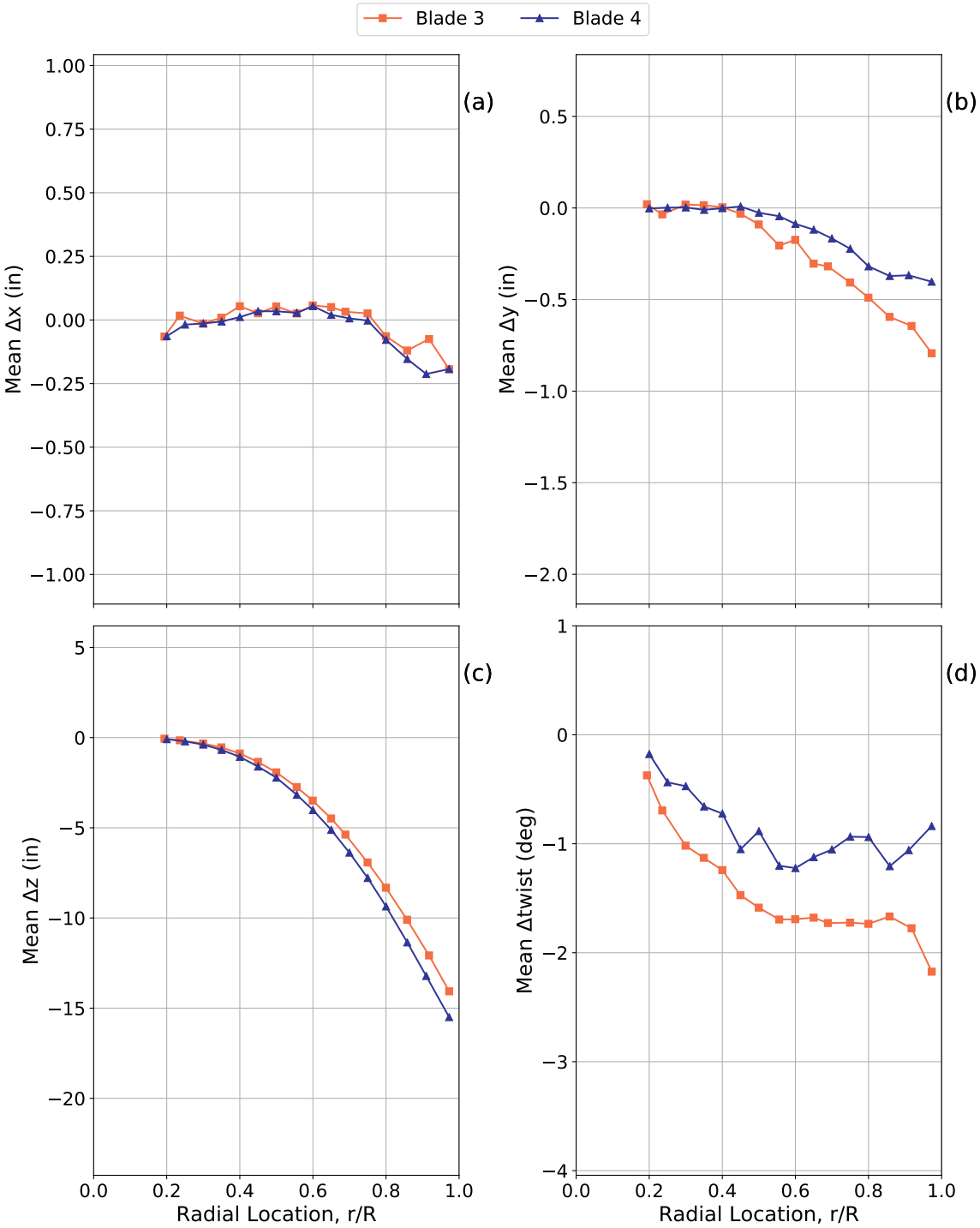


Figure 3.50-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0652	0.0147	0.0205	0.0018	-0.0581	0.0022	-0.3724	0.0198
3	180.35	0.2357	0.0171	0.0074	-0.0350	0.0037	-0.1516	0.0043	-0.6942	0.0329
3	180.35	0.2995	-0.0141	0.0052	0.0185	0.0077	-0.3258	0.0088	-1.0179	0.0459
3	180.35	0.3493	0.0089	0.0131	0.0153	0.0139	-0.5422	0.0144	-1.1293	0.0424
3	180.35	0.4000	0.0542	0.0209	0.0037	0.0215	-0.8831	0.0227	-1.2419	0.0371
3	180.35	0.4497	0.0263	0.0286	-0.0315	0.0292	-1.3455	0.0291	-1.4722	0.0431
3	180.35	0.4997	0.0532	0.0342	-0.0899	0.0380	-1.9280	0.0360	-1.5864	0.0438
3	180.35	0.5556	0.0256	0.0404	-0.2052	0.0478	-2.7430	0.0449	-1.6955	0.0465
3	180.35	0.5995	0.0570	0.0444	-0.1742	0.0569	-3.4943	0.0544	-1.6925	0.0427
3	180.35	0.6498	0.0508	0.0486	-0.3041	0.0661	-4.4837	0.0610	-1.6784	0.0517
3	180.35	0.6890	0.0324	0.0509	-0.3188	0.0757	-5.3767	0.0683	-1.7275	0.0457
3	180.35	0.7495	0.0259	0.0537	-0.4070	0.0893	-6.9211	0.0820	-1.7242	0.0450
3	180.35	0.7998	-0.0638	0.0537	-0.4896	0.1016	-8.3219	0.0950	-1.7350	0.0599
3	180.35	0.8577	-0.1201	0.0535	-0.5947	0.1172	-10.0976	0.1106	-1.6677	0.0608
3	180.35	0.9178	-0.0748	0.0528	-0.6442	0.1378	-12.0771	0.1343	-1.7753	0.0737
3	180.35	0.9729	-0.1935	0.0554	-0.7931	0.1565	-14.0664	0.1619	-2.1739	0.0600
4	180	0.2001	-0.0638	0.0136	-0.0025	0.0038	-0.0881	0.0023	-0.1769	0.0270
4	180	0.2502	-0.0182	0.0056	0.0018	0.0095	-0.2100	0.0075	-0.4364	0.0279
4	180	0.3001	-0.0137	0.0048	0.0028	0.0170	-0.3888	0.0101	-0.4721	0.0517
4	180	0.3502	-0.0062	0.0118	-0.0104	0.0298	-0.6843	0.0167	-0.6583	0.0517
4	180	0.4002	0.0115	0.0196	-0.0013	0.0471	-1.0694	0.0277	-0.7235	0.0487
4	180	0.4500	0.0342	0.0275	0.0081	0.0662	-1.6068	0.0406	-1.0501	0.0579
4	180	0.5001	0.0343	0.0348	-0.0261	0.0874	-2.2200	0.0564	-0.8845	0.0581
4	180	0.5560	0.0281	0.0418	-0.0452	0.1135	-3.1727	0.0767	-1.2023	0.0602
4	180	0.6001	0.0545	0.0475	-0.0870	0.1343	-4.0178	0.0945	-1.2236	0.0635
4	180	0.6501	0.0202	0.0527	-0.1185	0.1579	-5.1167	0.1175	-1.1231	0.0787
4	180	0.6999	0.0062	0.0600	-0.1666	0.1820	-6.3795	0.1444	-1.0529	0.0755
4	180	0.7500	-0.0024	0.0667	-0.2228	0.2054	-7.7845	0.1687	-0.9355	0.0775
4	180	0.8002	-0.0782	0.0723	-0.3188	0.2295	-9.3622	0.1976	-0.9388	0.0788
4	180	0.8582	-0.1534	0.0804	-0.3714	0.2576	-11.3548	0.2293	-1.2065	0.0765
4	180	0.9101	-0.2124	0.0863	-0.3676	0.2838	-13.2179	0.2614	-1.0591	0.0847
4	180	0.9728	-0.1927	0.0993	-0.4027	0.3172	-15.4986	0.2979	-0.8378	0.0803

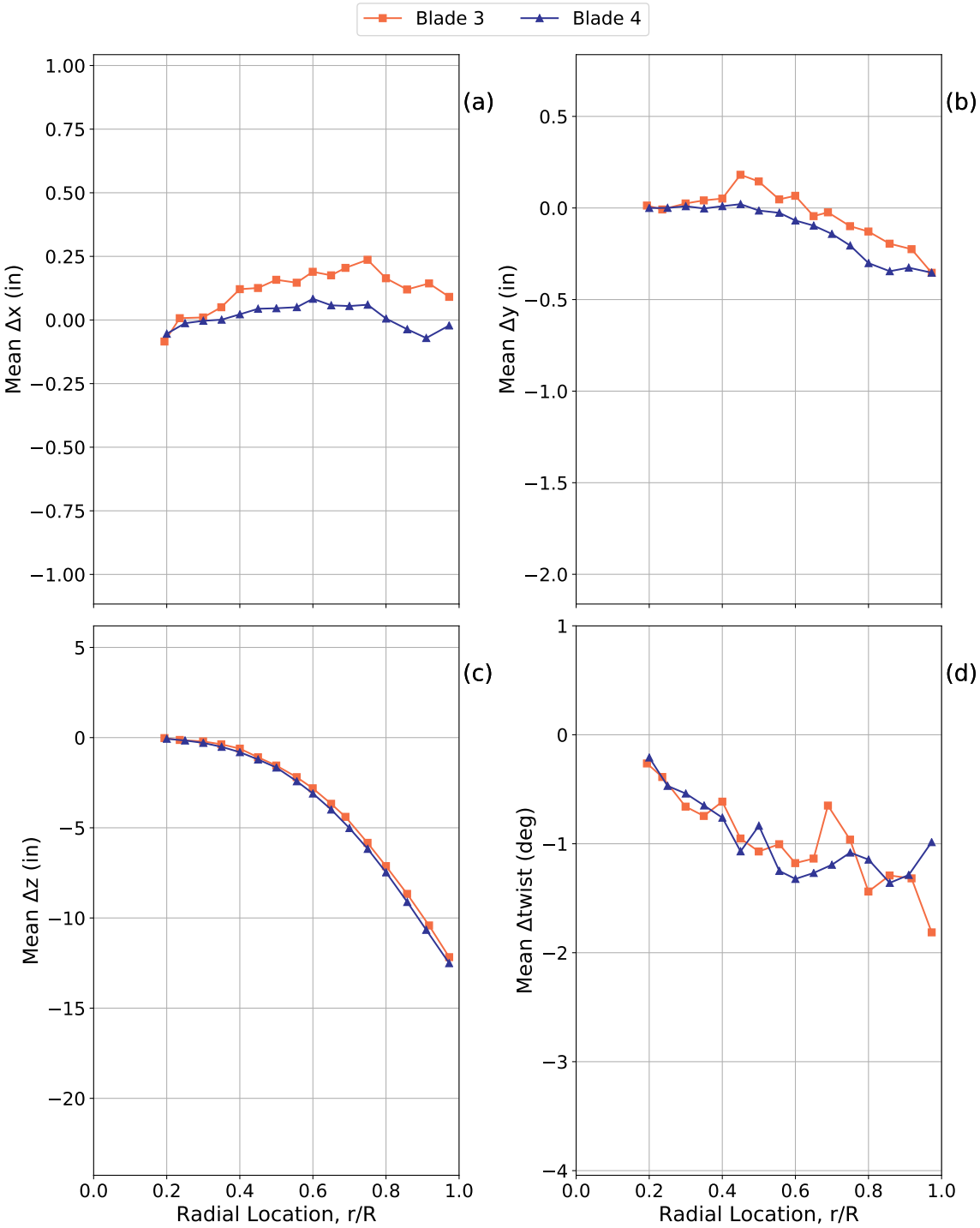


Figure 3.50-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0846	0.0016	0.0133	0.0014	-0.0271	0.0037	-0.2631	0.0311
3	184.92	0.2357	0.0071	0.0017	-0.0082	0.0037	-0.1304	0.0054	-0.3874	0.0675
3	184.92	0.2995	0.0100	0.0018	0.0247	0.0073	-0.2110	0.0142	-0.6593	0.0834
3	184.92	0.3493	0.0501	0.0021	0.0413	0.0114	-0.3712	0.0244	-0.7449	0.0756
3	184.92	0.4000	0.1211	0.0028	0.0512	0.0193	-0.6107	0.0373	-0.6137	0.0868
3	184.92	0.4497	0.1257	0.0411	0.1813	0.0445	-1.0898	0.0546	-0.9518	0.0821
3	184.92	0.4997	0.1580	0.0443	0.1448	0.0484	-1.5490	0.0691	-1.0710	0.1009
3	184.92	0.5556	0.1465	0.0448	0.0470	0.0537	-2.1927	0.0891	-1.0043	0.0946
3	184.92	0.5995	0.1894	0.0475	0.0665	0.0599	-2.8097	0.1077	-1.1776	0.1077
3	184.92	0.6498	0.1755	0.0446	-0.0445	0.0669	-3.6691	0.1328	-1.1362	0.1661
3	184.92	0.6890	0.2048	0.0473	-0.0239	0.0690	-4.3934	0.1486	-0.6496	0.1274
3	184.92	0.7495	0.2366	0.0417	-0.0994	0.0845	-5.8344	0.2023	-0.9621	0.1159
3	184.92	0.7998	0.1640	0.0334	-0.1285	0.0920	-7.1235	0.2328	-1.4384	0.1282
3	184.92	0.8577	0.1199	0.0240	-0.1949	0.0995	-8.6642	0.2709	-1.2912	0.1352
3	184.92	0.9178	0.1437	0.0207	-0.2250	0.1049	-10.4147	0.3141	-1.3177	0.1231
3	184.92	0.9729	0.0908	0.0290	-0.3539	0.1067	-12.1731	0.3563	-1.8133	0.1272
4	184.92	0.2001	-0.0542	0.0179	-0.0001	0.0035	-0.0648	0.0036	-0.2086	0.0232
4	184.92	0.2502	-0.0127	0.0061	0.0003	0.0067	-0.1613	0.0062	-0.4691	0.0420
4	184.92	0.3001	-0.0033	0.0041	0.0095	0.0135	-0.2940	0.0120	-0.5393	0.0448
4	184.92	0.3502	0.0011	0.0115	-0.0028	0.0241	-0.5127	0.0196	-0.6490	0.0522
4	184.92	0.4002	0.0223	0.0191	0.0099	0.0365	-0.8080	0.0295	-0.7609	0.0496
4	184.92	0.4500	0.0441	0.0247	0.0208	0.0524	-1.2150	0.0405	-1.0700	0.0361
4	184.92	0.5001	0.0461	0.0303	-0.0142	0.0716	-1.6614	0.0528	-0.8350	0.0467
4	184.92	0.5560	0.0503	0.0365	-0.0264	0.0947	-2.4222	0.0653	-1.2498	0.0413
4	184.92	0.6001	0.0833	0.0405	-0.0686	0.1130	-3.1012	0.0730	-1.3228	0.0528
4	184.92	0.6501	0.0576	0.0451	-0.0966	0.1347	-3.9908	0.0838	-1.2680	0.0454
4	184.92	0.6999	0.0548	0.0495	-0.1417	0.1544	-5.0174	0.0931	-1.1930	0.0490
4	184.92	0.7500	0.0599	0.0546	-0.2052	0.1756	-6.1702	0.1040	-1.0812	0.0587
4	184.92	0.8002	0.0055	0.0578	-0.3012	0.1953	-7.4737	0.1156	-1.1457	0.0568
4	184.92	0.8582	-0.0366	0.0614	-0.3454	0.2172	-9.1154	0.1330	-1.3593	0.0402
4	184.92	0.9101	-0.0710	0.0625	-0.3260	0.2395	-10.6607	0.1482	-1.2865	0.0646
4	184.92	0.9728	-0.0216	0.0621	-0.3533	0.2686	-12.5074	0.1705	-0.9852	0.0681

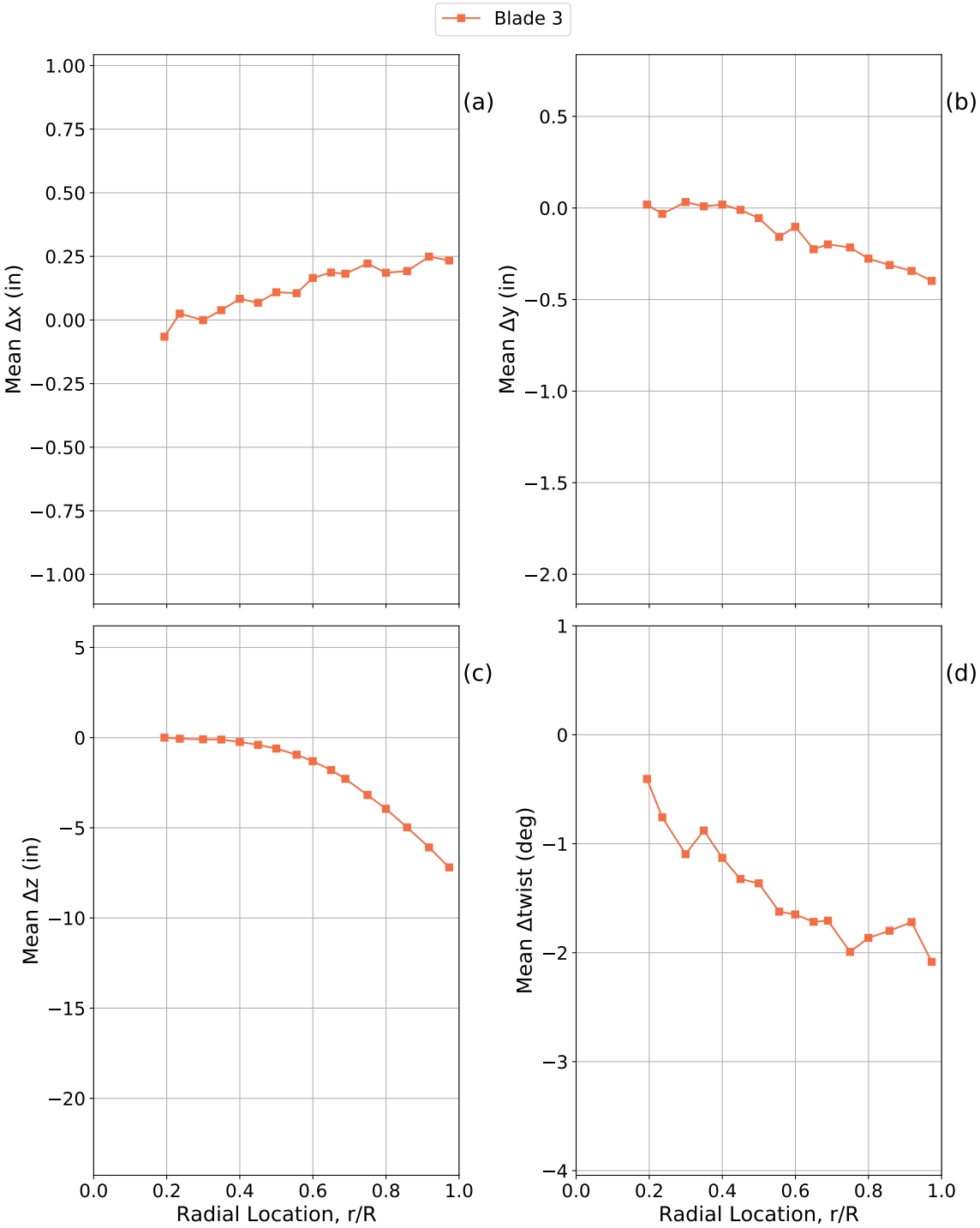


Figure 3.50-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0655	0.0121	0.0189	0.0025	0.0003	0.0056	-0.4056	0.0370
3	195.12	0.2357	0.0249	0.0051	-0.0323	0.0056	-0.0597	0.0108	-0.7574	0.0604
3	195.12	0.2995	-0.0007	0.0062	0.0321	0.0149	-0.0979	0.0272	-1.0955	0.0738
3	195.12	0.3493	0.0384	0.0138	0.0087	0.0165	-0.1077	0.0301	-0.8788	0.0909
3	195.12	0.4000	0.0833	0.0215	0.0187	0.0333	-0.2427	0.0590	-1.1295	0.0524
3	195.12	0.4497	0.0678	0.0264	-0.0104	0.0399	-0.4027	0.0687	-1.3241	0.0530
3	195.12	0.4997	0.1089	0.0301	-0.0554	0.0473	-0.6061	0.0776	-1.3634	0.0524
3	195.12	0.5556	0.1053	0.0355	-0.1577	0.0570	-0.9511	0.0960	-1.6227	0.0608
3	195.12	0.5995	0.1649	0.0381	-0.1029	0.0657	-1.3063	0.1075	-1.6488	0.0723
3	195.12	0.6498	0.1867	0.0391	-0.2255	0.0708	-1.7979	0.1163	-1.7167	0.0592
3	195.12	0.6890	0.1817	0.0401	-0.1988	0.0779	-2.2869	0.1280	-1.7062	0.0655
3	195.12	0.7495	0.2220	0.0409	-0.2155	0.0844	-3.1846	0.1415	-1.9923	0.0924
3	195.12	0.7998	0.1856	0.0404	-0.2765	0.0942	-3.9504	0.1572	-1.8641	0.0782
3	195.12	0.8577	0.1923	0.0390	-0.3116	0.1000	-4.9748	0.1765	-1.7984	0.0634
3	195.12	0.9178	0.2489	0.0370	-0.3433	0.1079	-6.0884	0.1911	-1.7192	0.0706
3	195.12	0.9729	0.2339	0.0366	-0.3981	0.1145	-7.1959	0.2043	-2.0837	0.0724

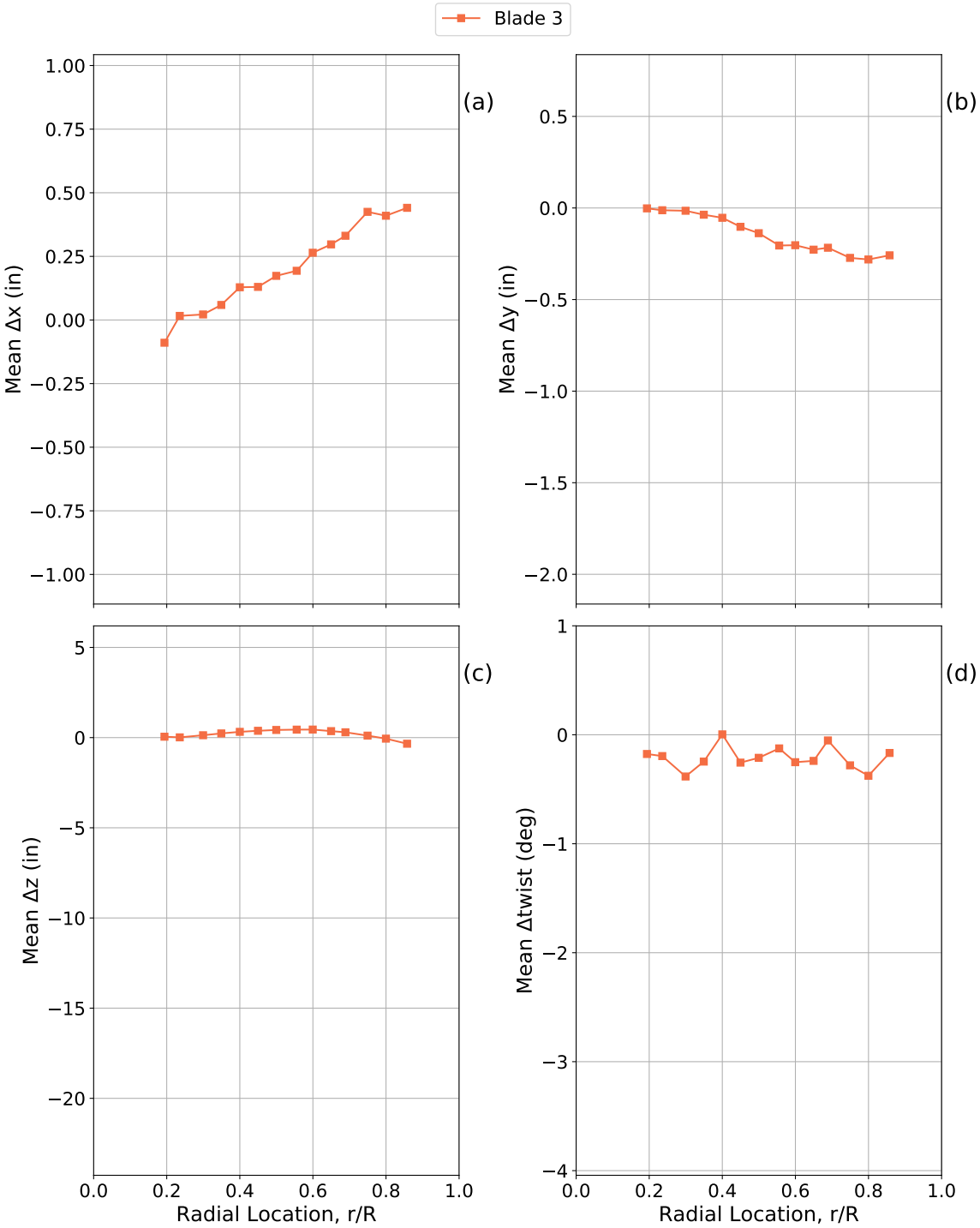


Figure 3.50-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0894	0.0014	-0.0022	0.0009	0.0505	0.0044	-0.1763	0.0258
3	209.88	0.2357	0.0161	0.0010	-0.0124	0.0033	0.0139	0.0064	-0.1954	0.0351
3	209.88	0.2995	0.0217	0.0015	-0.0152	0.0046	0.1316	0.0169	-0.3828	0.0593
3	209.88	0.3493	0.0591	0.0015	-0.0368	0.0081	0.2315	0.0282	-0.2461	0.0574
3	209.88	0.4000	0.1286	0.0015	-0.0536	0.0132	0.3198	0.0435	0.0038	0.0396
3	209.88	0.4497	0.1300	0.0014	-0.1028	0.0190	0.3777	0.0649	-0.2555	0.0573
3	209.88	0.4997	0.1734	0.0020	-0.1377	0.0220	0.4238	0.0839	-0.2114	0.0582
3	209.88	0.5556	0.1934	0.0016	-0.2049	0.0271	0.4422	0.1032	-0.1250	0.0501
3	209.88	0.5995	0.2643	0.0017	-0.2033	0.0330	0.4459	0.1190	-0.2515	0.0666
3	209.88	0.6498	0.2971	0.0022	-0.2276	0.0384	0.3601	0.1379	-0.2396	0.0697
3	209.88	0.6890	0.3310	0.0018	-0.2171	0.0422	0.2952	0.1483	-0.0519	0.0573
3	209.88	0.7495	0.4250	0.0026	-0.2725	0.0499	0.1104	0.1695	-0.2804	0.0579
3	209.88	0.7998	0.4097	0.0025	-0.2812	0.0555	-0.0572	0.1876	-0.3760	0.0613
3	209.88	0.8577	0.4408	0.0031	-0.2585	0.0606	-0.3388	0.2140	-0.1668	0.1663

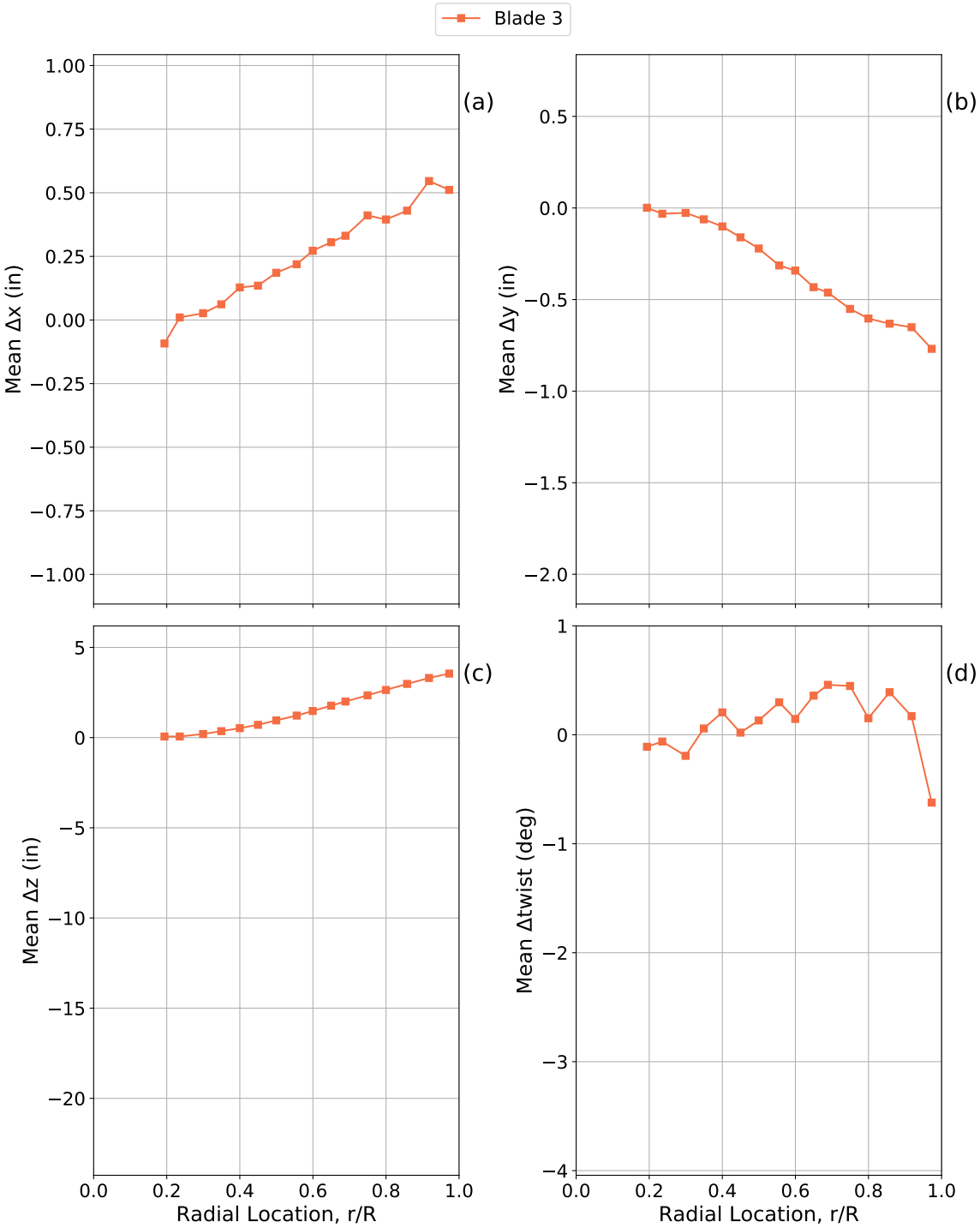


Figure 3.50-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0924	0.0012	0.0012	0.0009	0.0600	0.0046	-0.1102	0.0263
3	225	0.2357	0.0100	0.0016	-0.0315	0.0023	0.0615	0.0081	-0.0620	0.0363
3	225	0.2995	0.0266	0.0009	-0.0268	0.0047	0.2003	0.0173	-0.1931	0.0571
3	225	0.3493	0.0616	0.0013	-0.0621	0.0072	0.3585	0.0332	0.0580	0.0242
3	225	0.4000	0.1280	0.0018	-0.1009	0.0123	0.5231	0.0485	0.2058	0.0377
3	225	0.4497	0.1350	0.0017	-0.1604	0.0151	0.7092	0.0648	0.0198	0.0438
3	225	0.4997	0.1856	0.0018	-0.2212	0.0179	0.9543	0.0831	0.1314	0.0466
3	225	0.5556	0.2190	0.0019	-0.3139	0.0228	1.2214	0.1053	0.2982	0.0451
3	225	0.5995	0.2721	0.0023	-0.3418	0.0261	1.4757	0.1219	0.1451	0.0451
3	225	0.6498	0.3057	0.0026	-0.4325	0.0312	1.7706	0.1393	0.3593	0.0371
3	225	0.6890	0.3311	0.0028	-0.4618	0.0351	2.0016	0.1544	0.4585	0.0455
3	225	0.7495	0.4110	0.0032	-0.5510	0.0423	2.3423	0.1752	0.4481	0.0454
3	225	0.7998	0.3950	0.0034	-0.6035	0.0488	2.6420	0.1931	0.1520	0.0496
3	225	0.8577	0.4295	0.0038	-0.6319	0.0569	2.9774	0.2142	0.3907	0.0398
3	225	0.9178	0.5461	0.0121	-0.6511	0.0658	3.3068	0.2370	0.1709	0.1103
3	225	0.9729	0.5113	0.0048	-0.7691	0.0730	3.5499	0.2496	-0.6222	0.0807

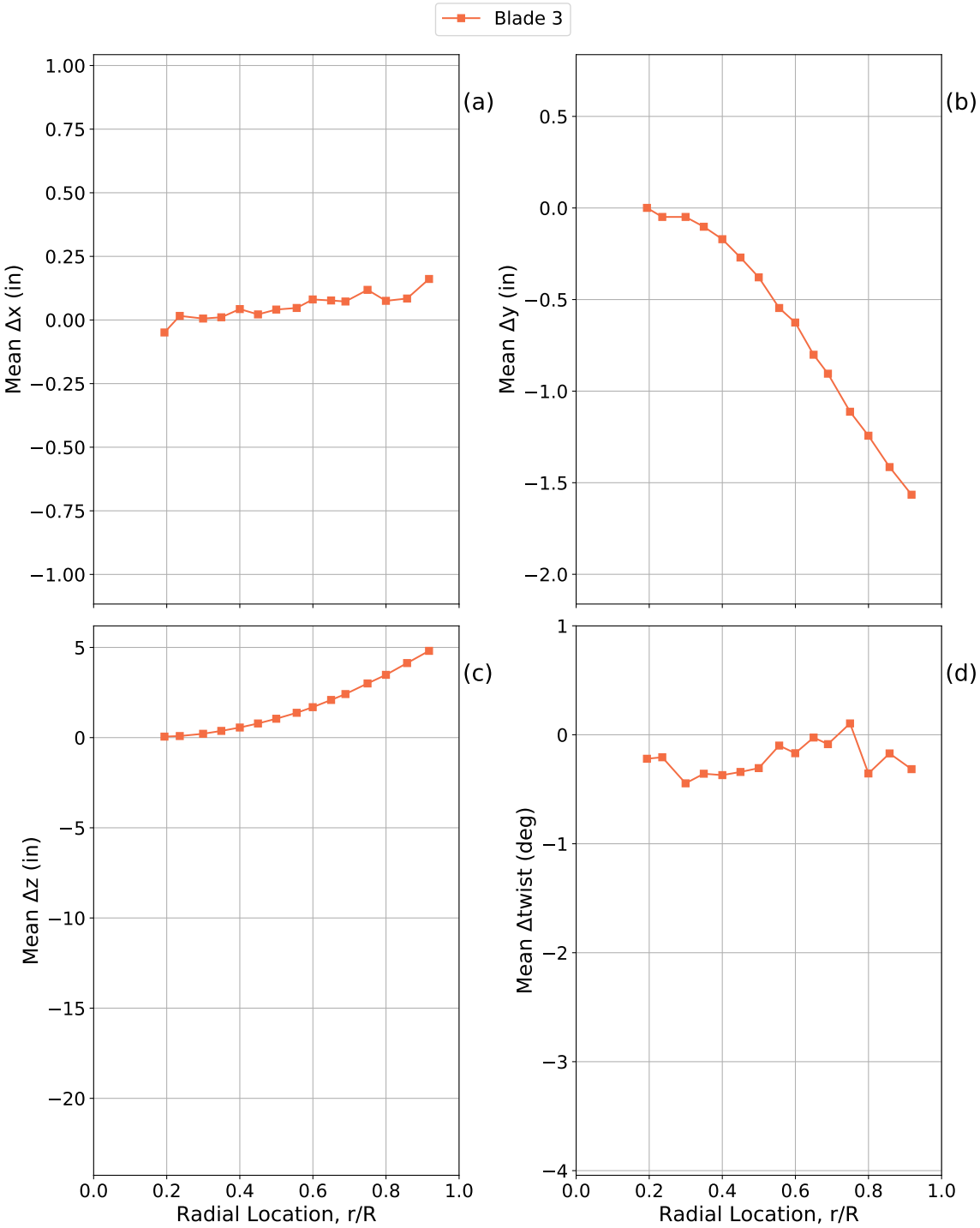


Figure 3.50-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0491	0.0039	0.0005	0.0010	0.0559	0.0033	-0.2200	0.0214
3	240.12	0.2357	0.0161	0.0013	-0.0490	0.0026	0.0869	0.0082	-0.2064	0.0354
3	240.12	0.2995	0.0056	0.0014	-0.0490	0.0056	0.2118	0.0172	-0.4455	0.0515
3	240.12	0.3493	0.0106	0.0028	-0.1024	0.0076	0.3721	0.0241	-0.3574	0.0623
3	240.12	0.4000	0.0429	0.0052	-0.1705	0.0139	0.5591	0.0417	-0.3702	0.0502
3	240.12	0.4497	0.0219	0.0062	-0.2706	0.0157	0.7838	0.0505	-0.3412	0.0513
3	240.12	0.4997	0.0410	0.0078	-0.3787	0.0201	1.0463	0.0650	-0.3060	0.0403
3	240.12	0.5556	0.0472	0.0095	-0.5462	0.0251	1.3756	0.0782	-0.0990	0.0536
3	240.12	0.5995	0.0807	0.0108	-0.6255	0.0300	1.6872	0.0916	-0.1692	0.0562
3	240.12	0.6498	0.0767	0.0131	-0.8013	0.0355	2.0878	0.1066	-0.0252	0.0572
3	240.12	0.6890	0.0726	0.0155	-0.9047	0.0410	2.4139	0.1178	-0.0861	0.0555
3	240.12	0.7495	0.1184	0.0199	-1.1124	0.0485	3.0030	0.1393	0.1042	0.0626
3	240.12	0.7998	0.0753	0.0242	-1.2433	0.0556	3.4802	0.1597	-0.3550	0.0560
3	240.12	0.8577	0.0843	0.0303	-1.4146	0.0633	4.1327	0.1845	-0.1710	0.0866
3	240.12	0.9178	0.1612	0.0388	-1.5654	0.0720	4.8091	0.2121	-0.3154	0.0852

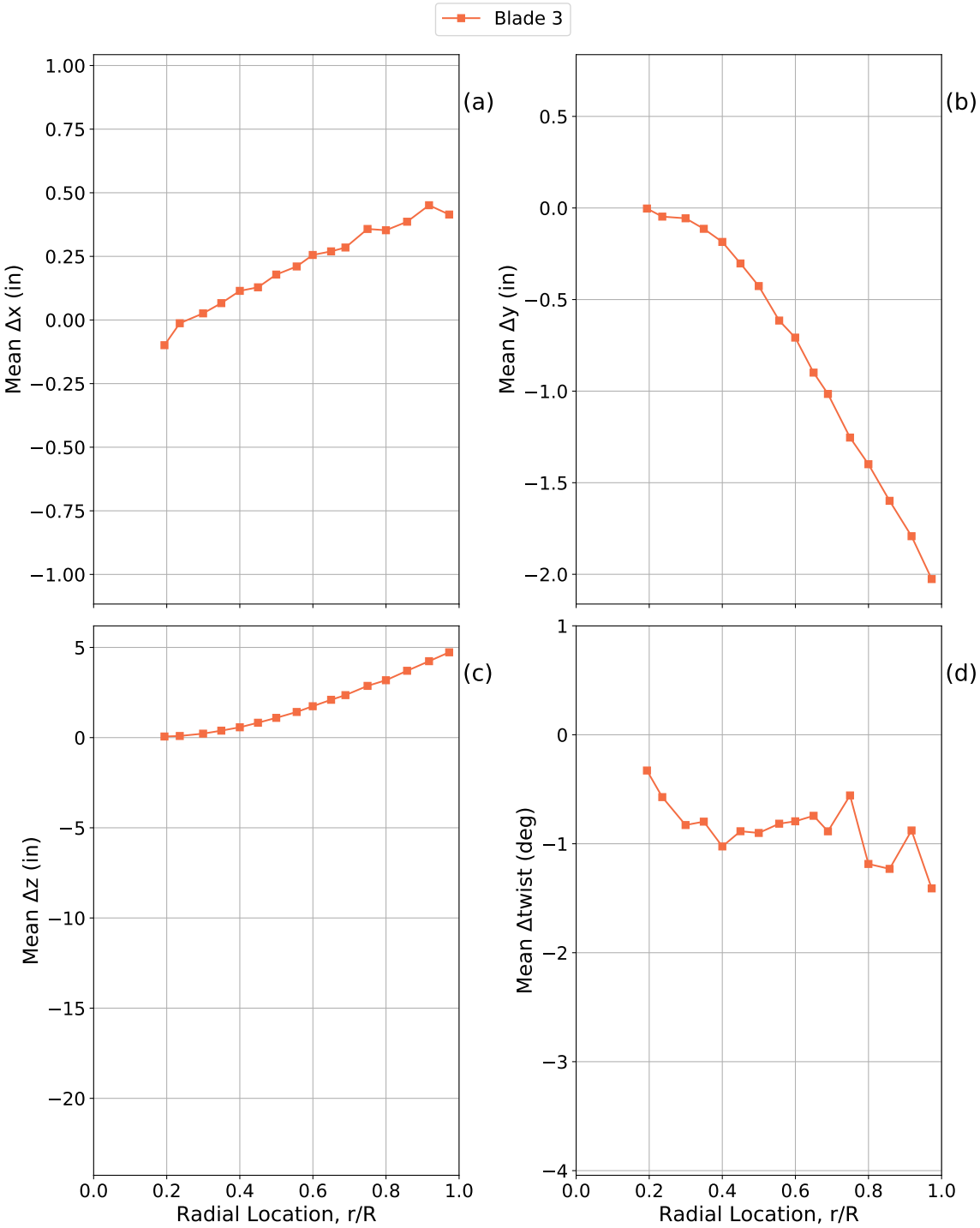


Figure 3.50-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0991	0.0024	-0.0031	0.0012	0.0617	0.0051	-0.3279	0.0257
3	254.88	0.2357	-0.0128	0.0012	-0.0472	0.0019	0.0901	0.0077	-0.5719	0.0515
3	254.88	0.2995	0.0260	0.0012	-0.0564	0.0042	0.2197	0.0186	-0.8284	0.0691
3	254.88	0.3493	0.0662	0.0012	-0.1138	0.0073	0.3859	0.0327	-0.7972	0.0785
3	254.88	0.4000	0.1144	0.0017	-0.1854	0.0111	0.5725	0.0488	-1.0248	0.0788
3	254.88	0.4497	0.1284	0.0022	-0.3029	0.0151	0.8243	0.0683	-0.8852	0.0865
3	254.88	0.4997	0.1785	0.0029	-0.4264	0.0198	1.0951	0.0882	-0.9009	0.0899
3	254.88	0.5556	0.2103	0.0033	-0.6147	0.0256	1.4208	0.1147	-0.8159	0.0974
3	254.88	0.5995	0.2555	0.0045	-0.7078	0.0308	1.7392	0.1323	-0.7941	0.0942
3	254.88	0.6498	0.2697	0.0045	-0.8989	0.0369	2.0972	0.1537	-0.7434	0.1033
3	254.88	0.6890	0.2848	0.0055	-1.0153	0.0419	2.3556	0.1698	-0.8858	0.1066
3	254.88	0.7495	0.3577	0.0066	-1.2535	0.0504	2.8673	0.1932	-0.5566	0.1166
3	254.88	0.7998	0.3527	0.0074	-1.3990	0.0573	3.1807	0.2139	-1.1855	0.1234
3	254.88	0.8577	0.3862	0.0082	-1.5988	0.0660	3.7052	0.2358	-1.2307	0.1219
3	254.88	0.9178	0.4510	0.0098	-1.7920	0.0755	4.2372	0.2612	-0.8781	0.1300
3	254.88	0.9729	0.4144	0.0132	-2.0260	0.0834	4.7295	0.2866	-1.4098	0.1264

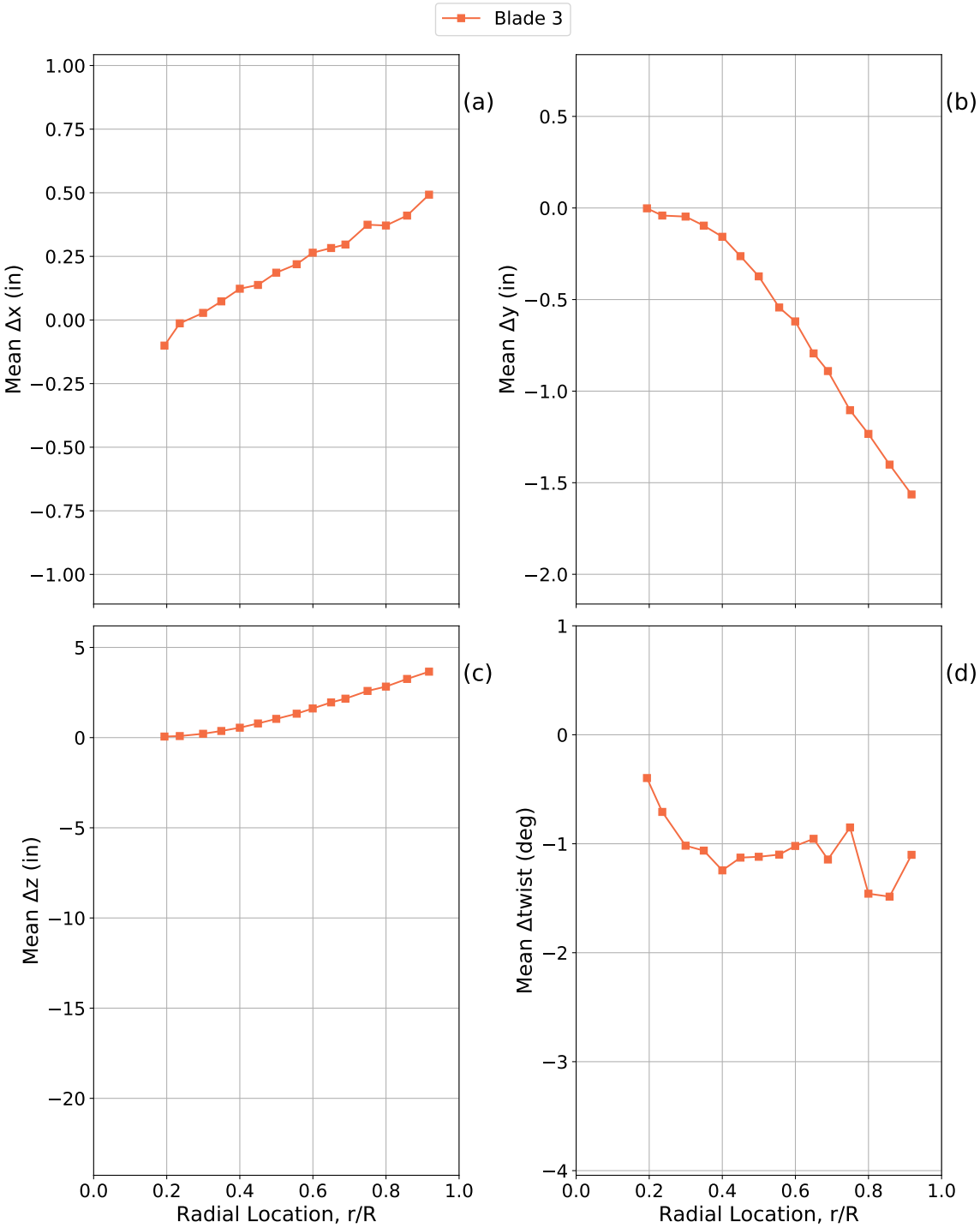


Figure 3.50-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.1006	0.0013	-0.0020	0.0008	0.0592	0.0043	-0.3970	0.0213
3	260.16	0.2357	-0.0132	0.0013	-0.0413	0.0014	0.0860	0.0037	-0.7079	0.0499
3	260.16	0.2995	0.0279	0.0017	-0.0471	0.0023	0.2130	0.0132	-1.0179	0.0560
3	260.16	0.3493	0.0731	0.0013	-0.0964	0.0041	0.3682	0.0210	-1.0629	0.0522
3	260.16	0.4000	0.1228	0.0021	-0.1573	0.0061	0.5503	0.0315	-1.2443	0.0495
3	260.16	0.4497	0.1377	0.0016	-0.2632	0.0079	0.7849	0.0451	-1.1273	0.0550
3	260.16	0.4997	0.1859	0.0020	-0.3734	0.0099	1.0387	0.0618	-1.1196	0.0636
3	260.16	0.5556	0.2191	0.0023	-0.5433	0.0130	1.3251	0.0823	-1.0998	0.0533
3	260.16	0.5995	0.2644	0.0022	-0.6194	0.0149	1.6155	0.1016	-1.0204	0.0519
3	260.16	0.6498	0.2828	0.0027	-0.7940	0.0180	1.9516	0.1275	-0.9547	0.0499
3	260.16	0.6890	0.2965	0.0030	-0.8904	0.0201	2.1592	0.1484	-1.1446	0.0483
3	260.16	0.7495	0.3744	0.0037	-1.1042	0.0243	2.5876	0.1867	-0.8506	0.0527
3	260.16	0.7998	0.3713	0.0038	-1.2335	0.0281	2.8285	0.2184	-1.4584	0.0563
3	260.16	0.8577	0.4103	0.0054	-1.4011	0.0324	3.2529	0.2587	-1.4853	0.0553
3	260.16	0.9178	0.4925	0.0062	-1.5641	0.0377	3.6560	0.3012	-1.1016	0.0600

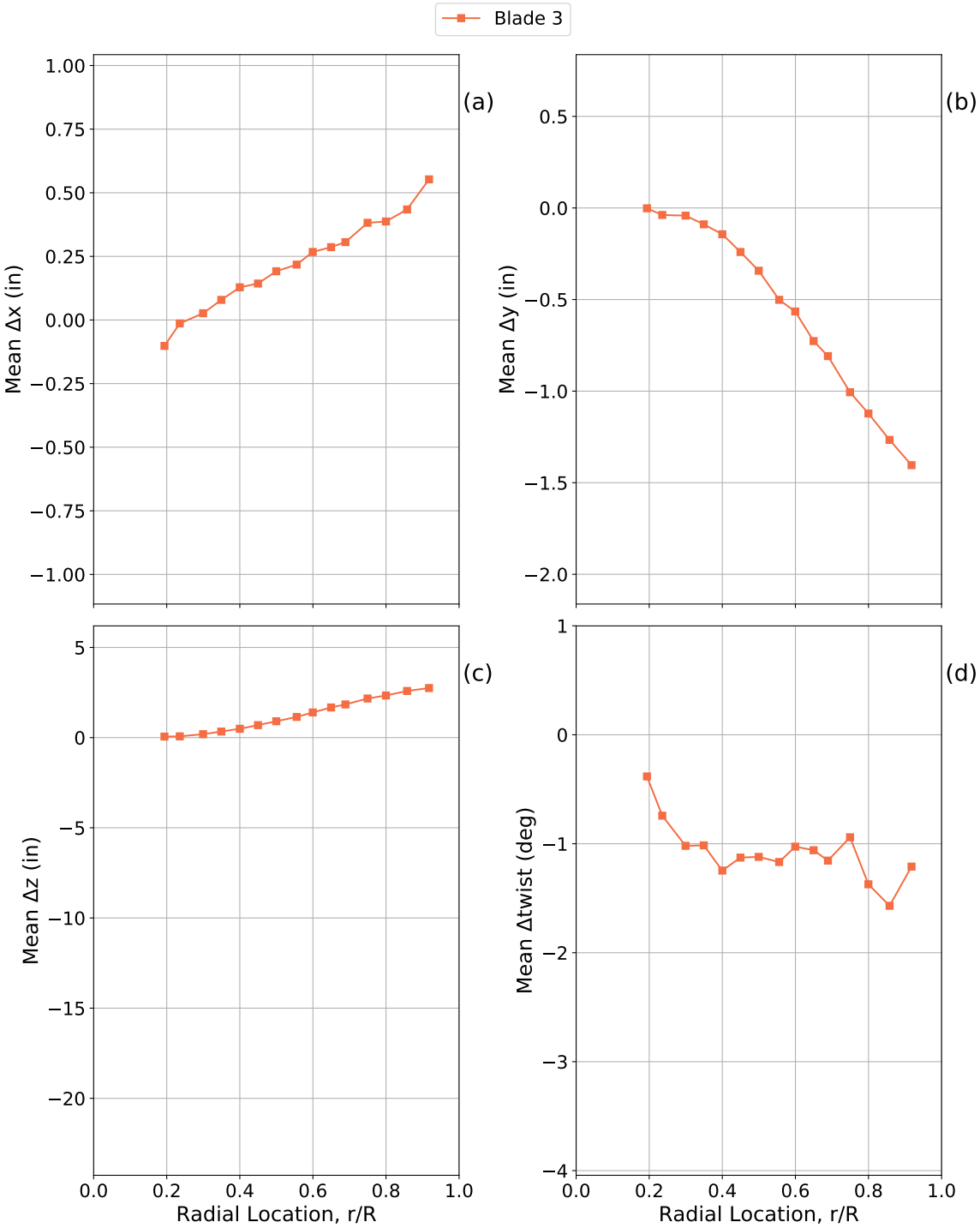


Figure 3.50-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.1019	0.0015	-0.0017	0.0009	0.0576	0.0030	-0.3823	0.0201
3	265.08	0.2357	-0.0136	0.0010	-0.0383	0.0023	0.0699	0.0084	-0.7425	0.0531
3	265.08	0.2995	0.0265	0.0012	-0.0418	0.0043	0.1900	0.0136	-1.0192	0.0622
3	265.08	0.3493	0.0789	0.0015	-0.0893	0.0072	0.3354	0.0245	-1.0148	0.0738
3	265.08	0.4000	0.1285	0.0017	-0.1435	0.0118	0.4890	0.0382	-1.2462	0.0807
3	265.08	0.4497	0.1432	0.0028	-0.2404	0.0162	0.6906	0.0521	-1.1268	0.0683
3	265.08	0.4997	0.1915	0.0029	-0.3427	0.0219	0.9063	0.0689	-1.1207	0.0735
3	265.08	0.5556	0.2176	0.0037	-0.5015	0.0298	1.1463	0.0910	-1.1677	0.0797
3	265.08	0.5995	0.2674	0.0039	-0.5653	0.0367	1.3951	0.1069	-1.0266	0.0798
3	265.08	0.6498	0.2863	0.0049	-0.7267	0.0453	1.6713	0.1273	-1.0593	0.0791
3	265.08	0.6890	0.3059	0.0056	-0.8087	0.0524	1.8390	0.1446	-1.1548	0.0904
3	265.08	0.7495	0.3819	0.0063	-1.0062	0.0639	2.1691	0.1719	-0.9404	0.0875
3	265.08	0.7998	0.3871	0.0066	-1.1221	0.0734	2.3341	0.2003	-1.3721	0.0996
3	265.08	0.8577	0.4344	0.0078	-1.2662	0.0847	2.5854	0.2384	-1.5695	0.0977
3	265.08	0.9178	0.5527	0.0101	-1.4042	0.0966	2.7476	0.2866	-1.2095	0.0923

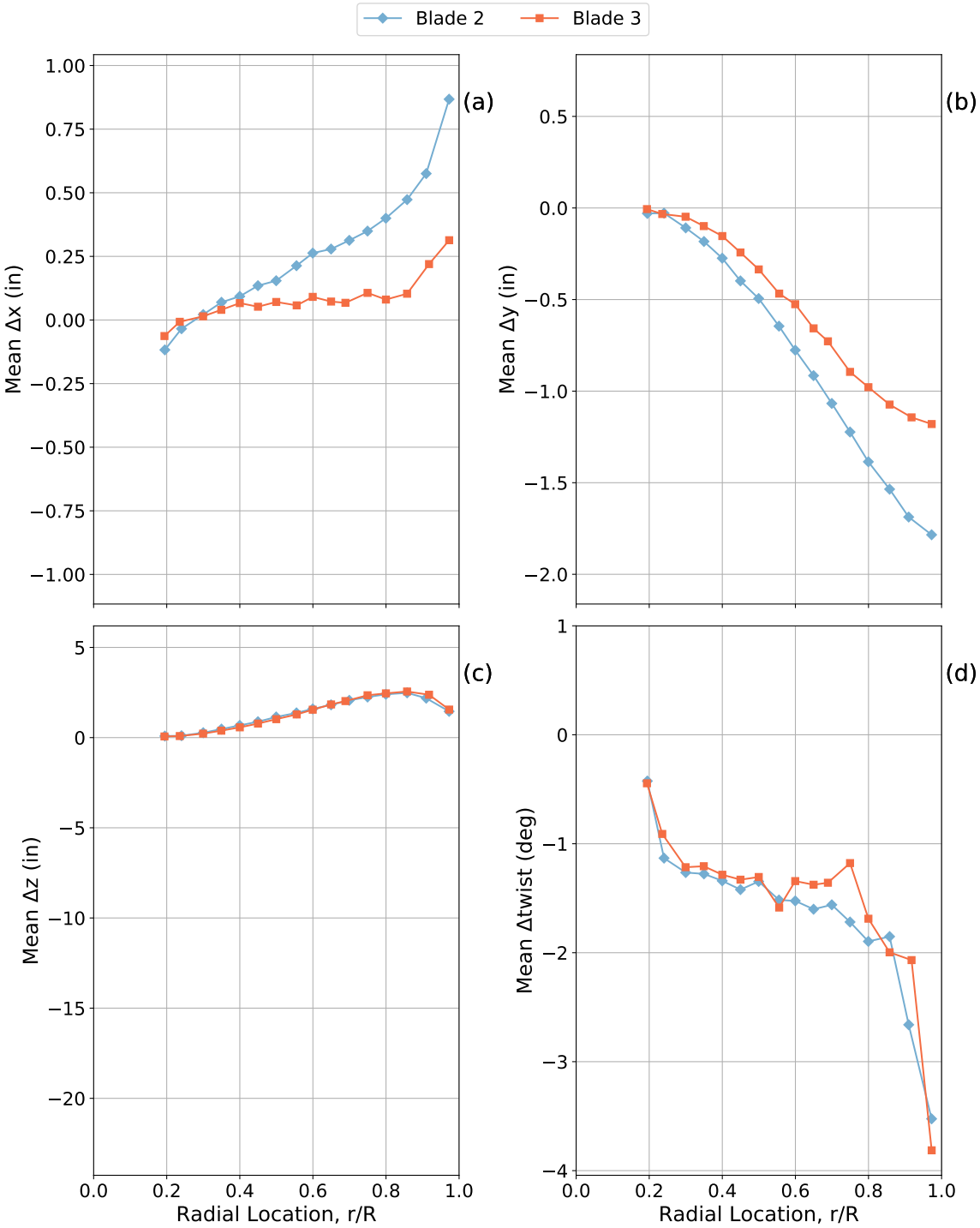


Figure 3.50-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.1175	0.0020	-0.0299	0.0016	0.0858	0.0064	-0.4244	0.0198
2	270.35	0.2405	-0.0344	0.0012	-0.0283	0.0021	0.1052	0.0094	-1.1321	0.0383
2	270.35	0.2999	0.0214	0.0021	-0.1087	0.0065	0.2700	0.0238	-1.2642	0.0474
2	270.35	0.3498	0.0696	0.0015	-0.1830	0.0107	0.4736	0.0385	-1.2766	0.0536
2	270.35	0.3998	0.0928	0.0026	-0.2743	0.0166	0.6771	0.0592	-1.3403	0.0628
2	270.35	0.4496	0.1348	0.0021	-0.3982	0.0224	0.8816	0.0796	-1.4209	0.0631
2	270.35	0.4995	0.1543	0.0028	-0.4944	0.0283	1.1443	0.1051	-1.3462	0.0634
2	270.35	0.5551	0.2133	0.0030	-0.6453	0.0367	1.3713	0.1397	-1.5160	0.0795
2	270.35	0.5996	0.2629	0.0037	-0.7764	0.0441	1.5895	0.1666	-1.5245	0.0777
2	270.35	0.6497	0.2788	0.0048	-0.9153	0.0533	1.8170	0.1974	-1.6010	0.0695
2	270.35	0.6996	0.3130	0.0054	-1.0672	0.0626	2.0658	0.2287	-1.5603	0.0773
2	270.35	0.7495	0.3494	0.0065	-1.2231	0.0731	2.2492	0.2583	-1.7182	0.0709
2	270.35	0.7996	0.3998	0.0071	-1.3857	0.0842	2.3996	0.2890	-1.8964	0.0911
2	270.35	0.8578	0.4730	0.0078	-1.5354	0.0984	2.4816	0.3207	-1.8518	0.0987
2	270.35	0.9100	0.5753	0.0075	-1.6873	0.1097	2.1850	0.3522	-2.6611	0.0984
2	270.35	0.9727	0.8677	0.0126	-1.7842	0.1256	1.4540	0.3862	-3.5246	0.1263
3	270	0.1938	-0.0631	0.0023	-0.0062	0.0007	0.0636	0.0049	-0.4451	0.0267
3	270	0.2357	-0.0071	0.0019	-0.0330	0.0014	0.0857	0.0066	-0.9101	0.0567
3	270	0.2995	0.0144	0.0013	-0.0479	0.0035	0.2209	0.0167	-1.2154	0.0710
3	270	0.3493	0.0399	0.0010	-0.0990	0.0052	0.3843	0.0283	-1.2063	0.0819
3	270	0.4000	0.0664	0.0015	-0.1534	0.0088	0.5691	0.0427	-1.2845	0.0791
3	270	0.4497	0.0521	0.0022	-0.2430	0.0127	0.7769	0.0622	-1.3297	0.0626
3	270	0.4997	0.0708	0.0024	-0.3355	0.0171	1.0229	0.0850	-1.3052	0.0719
3	270	0.5556	0.0574	0.0021	-0.4675	0.0234	1.2840	0.1162	-1.5855	0.0699
3	270	0.5995	0.0908	0.0026	-0.5254	0.0289	1.5471	0.1468	-1.3427	0.0732
3	270	0.6498	0.0724	0.0037	-0.6572	0.0367	1.8391	0.1862	-1.3760	0.0763
3	270	0.6890	0.0675	0.0039	-0.7279	0.0427	2.0258	0.2165	-1.3578	0.0696
3	270	0.7495	0.1065	0.0052	-0.8949	0.0530	2.3475	0.2679	-1.1775	0.0756
3	270	0.7998	0.0803	0.0063	-0.9786	0.0621	2.4538	0.3112	-1.6879	0.0886
3	270	0.8577	0.1032	0.0070	-1.0733	0.0724	2.5558	0.3622	-1.9964	0.0906
3	270	0.9178	0.2197	0.0091	-1.1432	0.0848	2.3762	0.4187	-2.0679	0.0732
3	270	0.9729	0.3135	0.0151	-1.1797	0.0964	1.5544	0.4852	-3.8135	0.1701

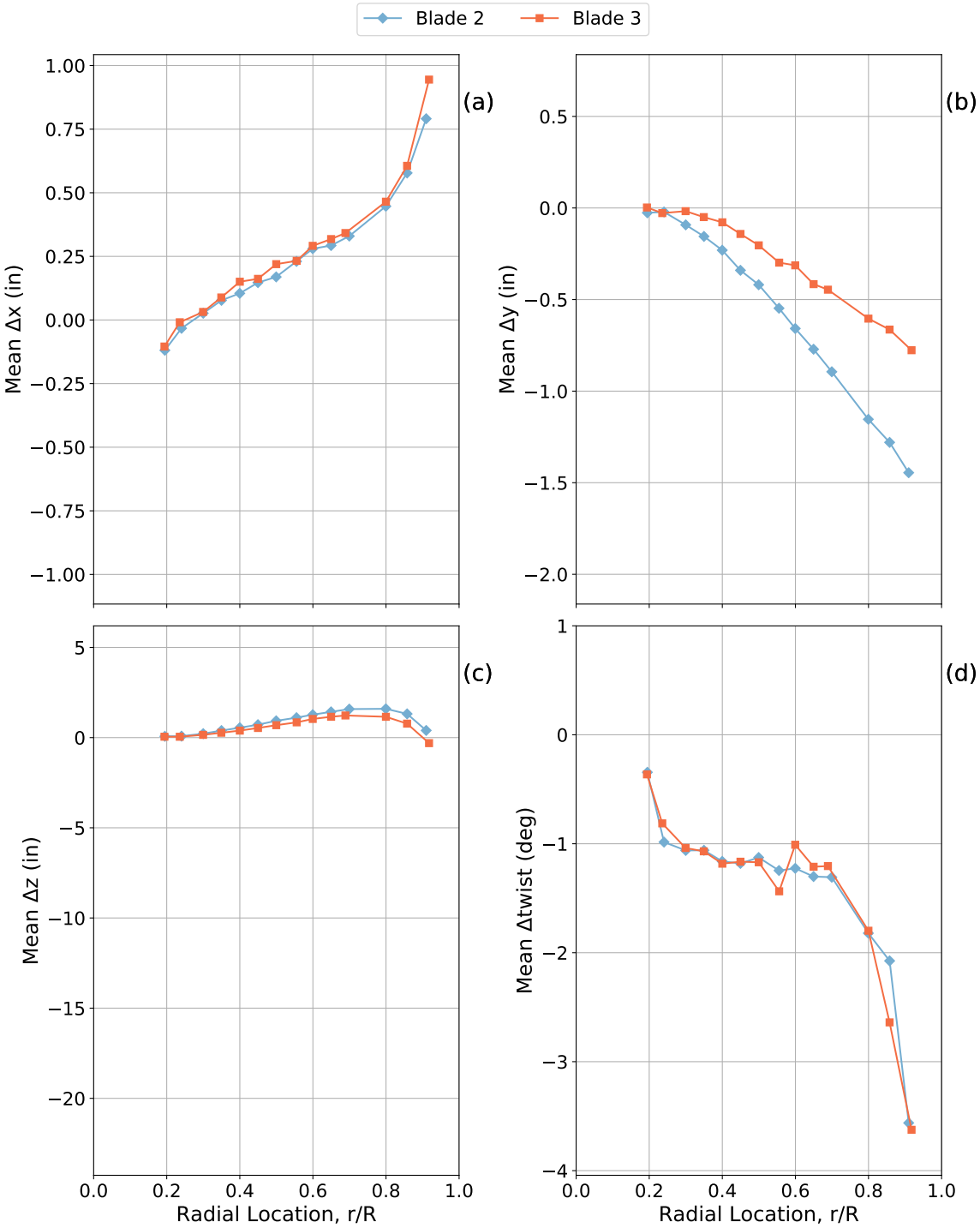


Figure 3.50-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	-0.1191	0.0033	-0.0264	0.0013	0.0728	0.0061	-0.3442	0.0186
2	274.92	0.2405	-0.0327	0.0013	-0.0217	0.0018	0.0808	0.0063	-0.9849	0.0728
2	274.92	0.2999	0.0265	0.0018	-0.0922	0.0047	0.2176	0.0187	-1.0614	0.0634
2	274.92	0.3498	0.0772	0.0018	-0.1553	0.0080	0.3909	0.0310	-1.0600	0.0709
2	274.92	0.3998	0.1047	0.0019	-0.2306	0.0121	0.5475	0.0448	-1.1618	0.0647
2	274.92	0.4496	0.1468	0.0029	-0.3404	0.0158	0.7170	0.0571	-1.1804	0.0705
2	274.92	0.4995	0.1693	0.0029	-0.4191	0.0216	0.9304	0.0743	-1.1262	0.0689
2	274.92	0.5551	0.2303	0.0031	-0.5475	0.0270	1.1062	0.0902	-1.2456	0.0741
2	274.92	0.5996	0.2801	0.0035	-0.6581	0.0323	1.2720	0.1021	-1.2255	0.0614
2	274.92	0.6497	0.2926	0.0042	-0.7712	0.0377	1.4284	0.1160	-1.3009	0.0700
2	274.92	0.6996	0.3298	0.0041	-0.8942	0.0438	1.5810	0.1298	-1.3072	0.0785
2	274.92	0.7996	0.4469	0.0049	-1.1538	0.0564	1.5965	0.1647	-1.8208	0.0949
2	274.92	0.8578	0.5778	0.0046	-1.2798	0.0649	1.3155	0.1895	-2.0748	0.0873
2	274.92	0.9100	0.7910	0.0046	-1.4454	0.0720	0.3974	0.2208	-3.5621	0.1106
3	274.92	0.1938	-0.1043	0.0035	0.0026	0.0014	0.0493	0.0086	-0.3634	0.0340
3	274.92	0.2357	-0.0089	0.0020	-0.0280	0.0019	0.0469	0.0111	-0.8130	0.0928
3	274.92	0.2995	0.0316	0.0021	-0.0174	0.0055	0.1528	0.0287	-1.0387	0.0979
3	274.92	0.3493	0.0885	0.0016	-0.0499	0.0095	0.2696	0.0482	-1.0696	0.0935
3	274.92	0.4000	0.1504	0.0022	-0.0783	0.0146	0.3879	0.0723	-1.1829	0.0956
3	274.92	0.4497	0.1617	0.0023	-0.1419	0.0201	0.5334	0.0974	-1.1648	0.0871
3	274.92	0.4997	0.2195	0.0032	-0.2040	0.0261	0.6892	0.1263	-1.1700	0.0917
3	274.92	0.5556	0.2324	0.0042	-0.2984	0.0336	0.8456	0.1607	-1.4364	0.0977
3	274.92	0.5995	0.2914	0.0053	-0.3132	0.0399	1.0342	0.1908	-1.0092	0.0840
3	274.92	0.6498	0.3180	0.0053	-0.4158	0.0478	1.1550	0.2250	-1.2113	0.0918
3	274.92	0.6890	0.3417	0.0060	-0.4461	0.0552	1.2268	0.2515	-1.2048	0.0961
3	274.92	0.7998	0.4649	0.0069	-0.6041	0.0766	1.1541	0.3225	-1.7982	0.1132
3	274.92	0.8577	0.6058	0.0071	-0.6639	0.0883	0.7747	0.3523	-2.6393	0.1148
3	274.92	0.9178	0.9447	0.0097	-0.7766	0.1044	-0.3059	0.3730	-3.6253	0.1100

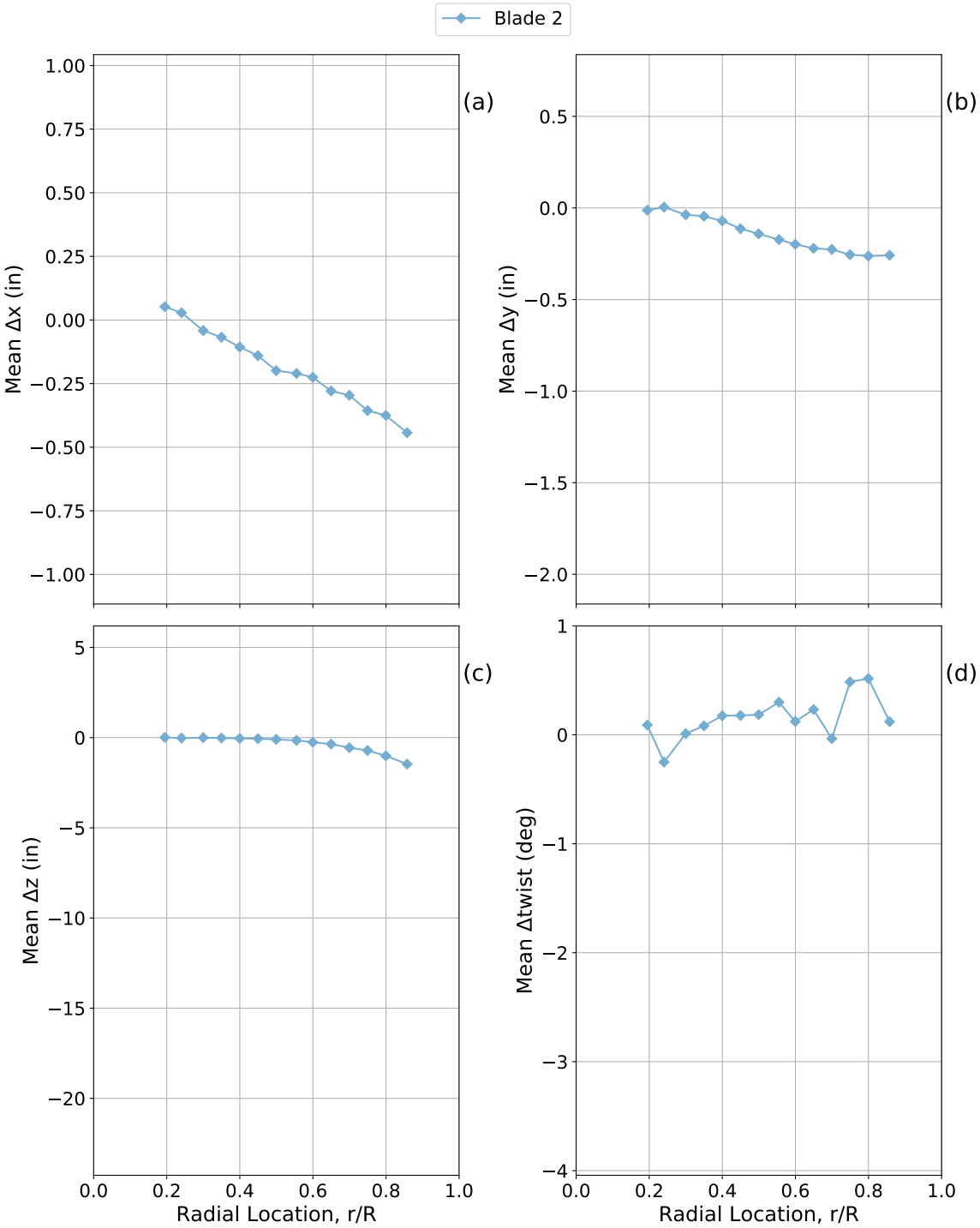


Figure 3.50-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0520	0.0016	-0.0126	0.0012	0.0095	0.0012	0.0898	0.0548
2	285.12	0.2405	0.0284	0.0014	0.0046	0.0009	-0.0258	0.0045	-0.2505	0.0722
2	285.12	0.2999	-0.0418	0.0022	-0.0369	0.0055	-0.0026	0.0065	0.0105	0.1226
2	285.12	0.3498	-0.0678	0.0015	-0.0452	0.0055	-0.0220	0.0119	0.0818	0.0844
2	285.12	0.3998	-0.1063	0.0031	-0.0705	0.0102	-0.0460	0.0170	0.1746	0.0920
2	285.12	0.4496	-0.1404	0.0028	-0.1130	0.0129	-0.0597	0.0239	0.1771	0.0881
2	285.12	0.4995	-0.1991	0.0038	-0.1415	0.0182	-0.0996	0.0343	0.1847	0.0910
2	285.12	0.5551	-0.2101	0.0029	-0.1729	0.0226	-0.1538	0.0416	0.2987	0.0900
2	285.12	0.5996	-0.2253	0.0036	-0.1984	0.0266	-0.2582	0.0496	0.1219	0.1073
2	285.12	0.6497	-0.2790	0.0040	-0.2204	0.0316	-0.3586	0.0586	0.2317	0.1173
2	285.12	0.6996	-0.2959	0.0040	-0.2265	0.0368	-0.5577	0.0678	-0.0353	0.1303
2	285.12	0.7495	-0.3561	0.0060	-0.2550	0.0433	-0.7133	0.0772	0.4856	0.1060
2	285.12	0.7996	-0.3750	0.0073	-0.2624	0.0484	-1.0120	0.0857	0.5158	0.1417
2	285.12	0.8578	-0.4430	0.0127	-0.2582	0.0556	-1.4673	0.0999	0.1205	0.2504

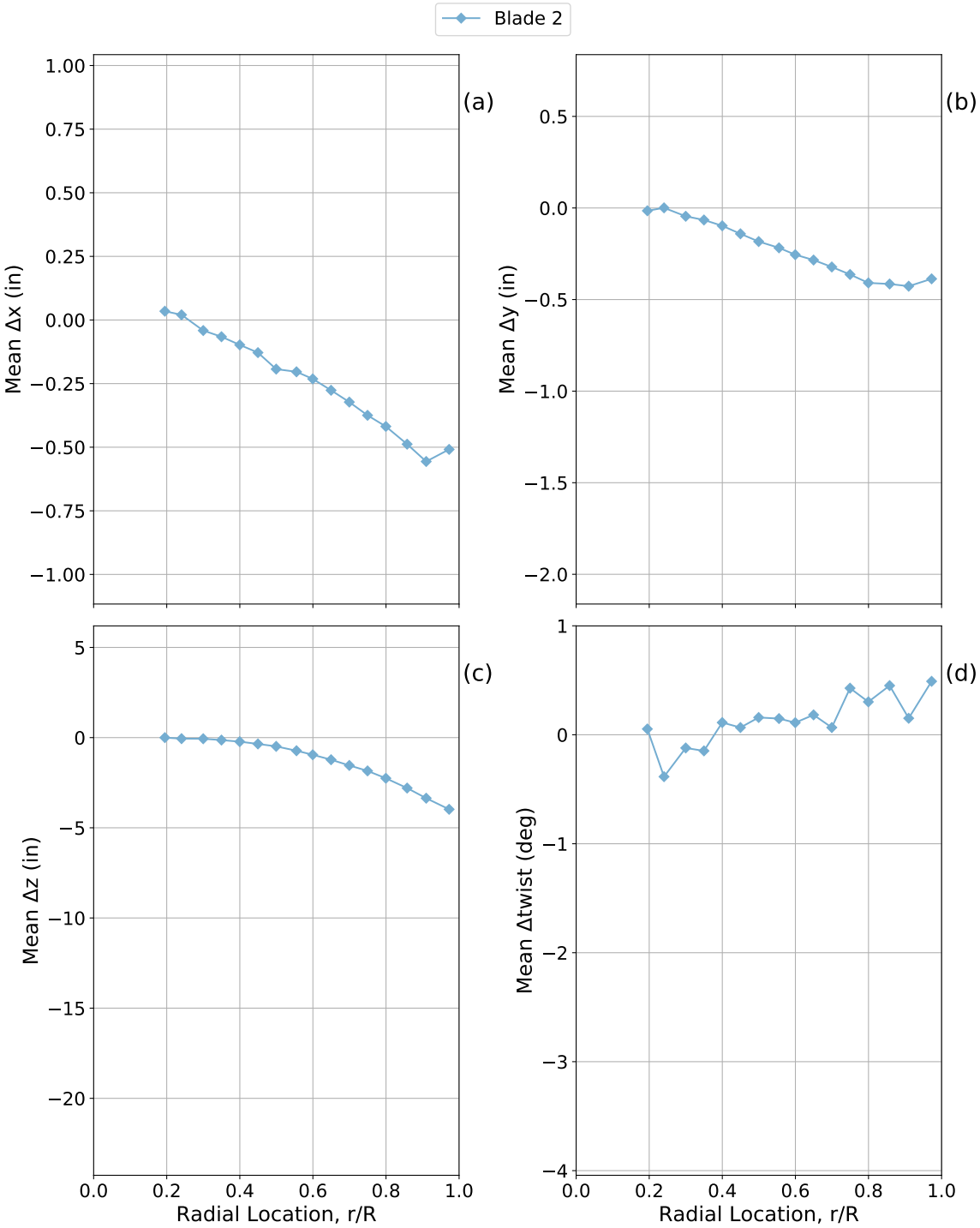


Figure 3.50-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0345	0.0028	-0.0153	0.0012	-0.0013	0.0038	0.0532	0.0220
2	299.88	0.2405	0.0203	0.0025	0.0007	0.0021	-0.0578	0.0063	-0.3845	0.0399
2	299.88	0.2999	-0.0415	0.0021	-0.0453	0.0030	-0.0631	0.0145	-0.1210	0.0525
2	299.88	0.3498	-0.0658	0.0027	-0.0655	0.0072	-0.1372	0.0227	-0.1477	0.0647
2	299.88	0.3998	-0.0978	0.0033	-0.0973	0.0095	-0.2245	0.0366	0.1122	0.0628
2	299.88	0.4496	-0.1283	0.0038	-0.1410	0.0111	-0.3509	0.0417	0.0666	0.0630
2	299.88	0.4995	-0.1931	0.0041	-0.1833	0.0144	-0.4860	0.0533	0.1588	0.0508
2	299.88	0.5551	-0.2036	0.0044	-0.2177	0.0200	-0.7278	0.0664	0.1487	0.0673
2	299.88	0.5996	-0.2316	0.0049	-0.2551	0.0245	-0.9508	0.0753	0.1113	0.0653
2	299.88	0.6497	-0.2763	0.0052	-0.2842	0.0298	-1.2259	0.0878	0.1827	0.0444
2	299.88	0.6996	-0.3226	0.0058	-0.3221	0.0365	-1.5425	0.1030	0.0665	0.0585
2	299.88	0.7495	-0.3747	0.0057	-0.3631	0.0437	-1.8455	0.1208	0.4278	0.0566
2	299.88	0.7996	-0.4185	0.0061	-0.4091	0.0514	-2.2541	0.1443	0.3021	0.0664
2	299.88	0.8578	-0.4881	0.0064	-0.4150	0.0609	-2.7980	0.1793	0.4514	0.0731
2	299.88	0.9100	-0.5562	0.0069	-0.4271	0.0696	-3.3598	0.2160	0.1515	0.0666
2	299.88	0.9727	-0.5086	0.0093	-0.3869	0.0802	-3.9756	0.2687	0.4906	0.0925

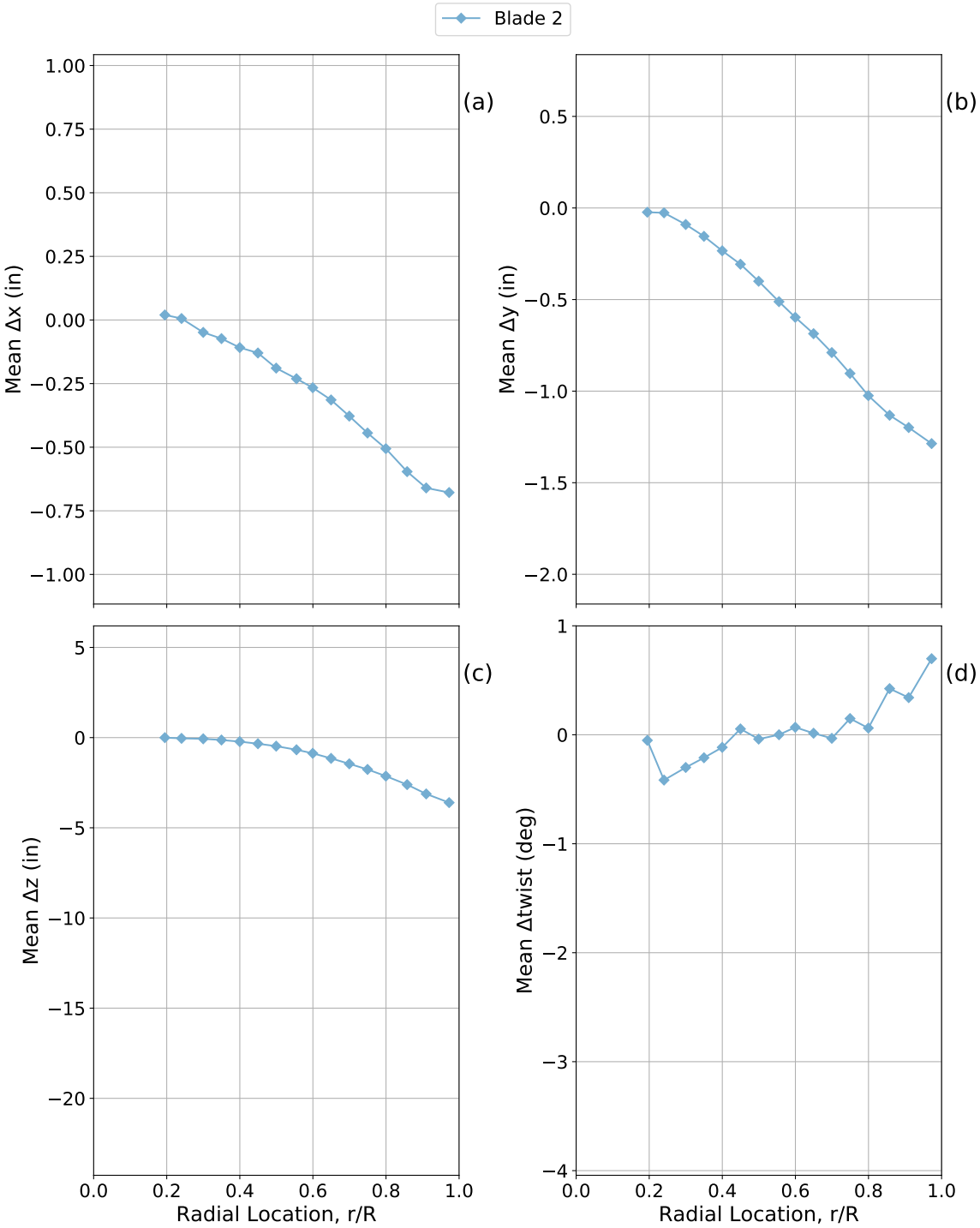


Figure 3.50-33. 315° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0198	0.0028	-0.0232	0.0005	-0.0029	0.0033	-0.0513	0.0285
2	315	0.2405	0.0058	0.0021	-0.0265	0.0017	-0.0419	0.0055	-0.4158	0.0327
2	315	0.2999	-0.0487	0.0021	-0.0902	0.0029	-0.0671	0.0114	-0.3000	0.0601
2	315	0.3498	-0.0732	0.0026	-0.1548	0.0046	-0.1330	0.0219	-0.2108	0.0613
2	315	0.3998	-0.1084	0.0039	-0.2338	0.0074	-0.2222	0.0310	-0.1155	0.0539
2	315	0.4496	-0.1297	0.0056	-0.3071	0.0103	-0.3391	0.0372	0.0538	0.0991
2	315	0.4995	-0.1892	0.0037	-0.4000	0.0145	-0.4745	0.0578	-0.0396	0.0741
2	315	0.5551	-0.2309	0.0036	-0.5115	0.0201	-0.6740	0.0803	0.0005	0.0848
2	315	0.5996	-0.2662	0.0046	-0.5970	0.0245	-0.8709	0.1013	0.0686	0.0755
2	315	0.6497	-0.3142	0.0055	-0.6863	0.0296	-1.1517	0.1256	0.0142	0.0820
2	315	0.6996	-0.3779	0.0058	-0.7895	0.0368	-1.4533	0.1584	-0.0326	0.0981
2	315	0.7495	-0.4442	0.0061	-0.9034	0.0422	-1.7648	0.1976	0.1490	0.0745
2	315	0.7996	-0.5057	0.0069	-1.0247	0.0483	-2.1358	0.2362	0.0615	0.0891
2	315	0.8578	-0.5960	0.0084	-1.1318	0.0570	-2.6066	0.2880	0.4236	0.0949
2	315	0.9100	-0.6601	0.0098	-1.1987	0.0641	-3.1222	0.3368	0.3411	0.0884
2	315	0.9727	-0.6781	0.0106	-1.2865	0.0725	-3.6049	0.3955	0.6983	0.1041

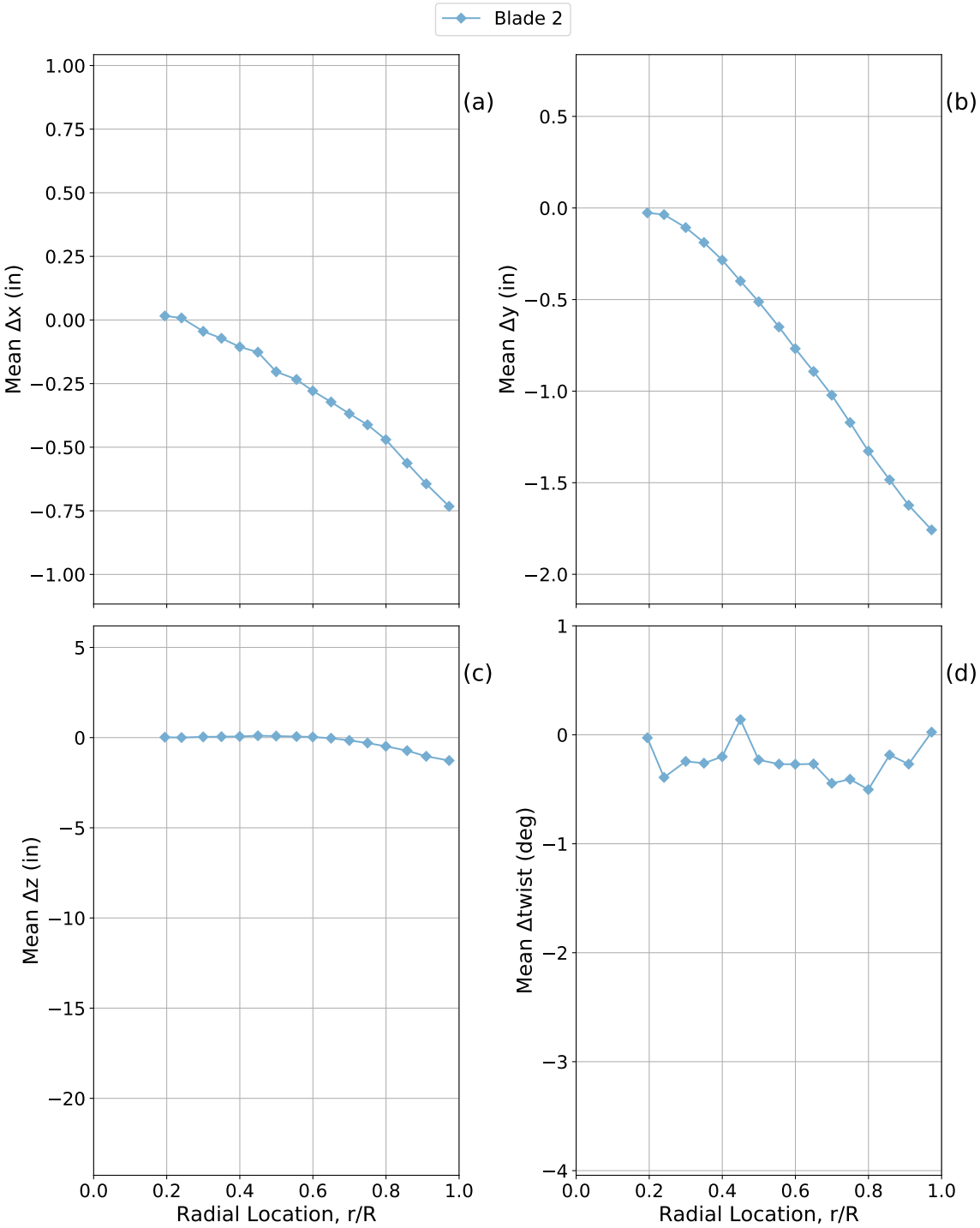


Figure 3.50-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0159	0.0022	-0.0265	0.0013	0.0209	0.0033	-0.0276	0.0226
2	330.12	0.2405	0.0079	0.0019	-0.0363	0.0019	0.0045	0.0049	-0.3914	0.0461
2	330.12	0.2999	-0.0446	0.0022	-0.1071	0.0052	0.0403	0.0096	-0.2442	0.0483
2	330.12	0.3498	-0.0720	0.0036	-0.1885	0.0085	0.0507	0.0160	-0.2607	0.0501
2	330.12	0.3998	-0.1056	0.0046	-0.2846	0.0134	0.0637	0.0236	-0.2011	0.0538
2	330.12	0.4496	-0.1266	0.0057	-0.3990	0.0174	0.1028	0.0386	0.1395	0.0725
2	330.12	0.4995	-0.2033	0.0036	-0.5121	0.0215	0.0848	0.0487	-0.2305	0.0686
2	330.12	0.5551	-0.2336	0.0044	-0.6496	0.0268	0.0584	0.0677	-0.2689	0.0432
2	330.12	0.5996	-0.2787	0.0062	-0.7680	0.0309	0.0350	0.0859	-0.2707	0.0531
2	330.12	0.6497	-0.3222	0.0071	-0.8928	0.0358	-0.0336	0.1111	-0.2677	0.0531
2	330.12	0.6996	-0.3683	0.0078	-1.0221	0.0421	-0.1564	0.1314	-0.4455	0.0850
2	330.12	0.7495	-0.4119	0.0070	-1.1715	0.0496	-0.2997	0.1599	-0.4077	0.0631
2	330.12	0.7996	-0.4703	0.0075	-1.3274	0.0572	-0.4829	0.1844	-0.5027	0.0576
2	330.12	0.8578	-0.5628	0.0081	-1.4842	0.0671	-0.7228	0.2125	-0.1851	0.0541
2	330.12	0.9100	-0.6440	0.0081	-1.6232	0.0754	-1.0376	0.2407	-0.2691	0.0670
2	330.12	0.9727	-0.7325	0.0112	-1.7574	0.0863	-1.2709	0.2771	0.0243	0.0725

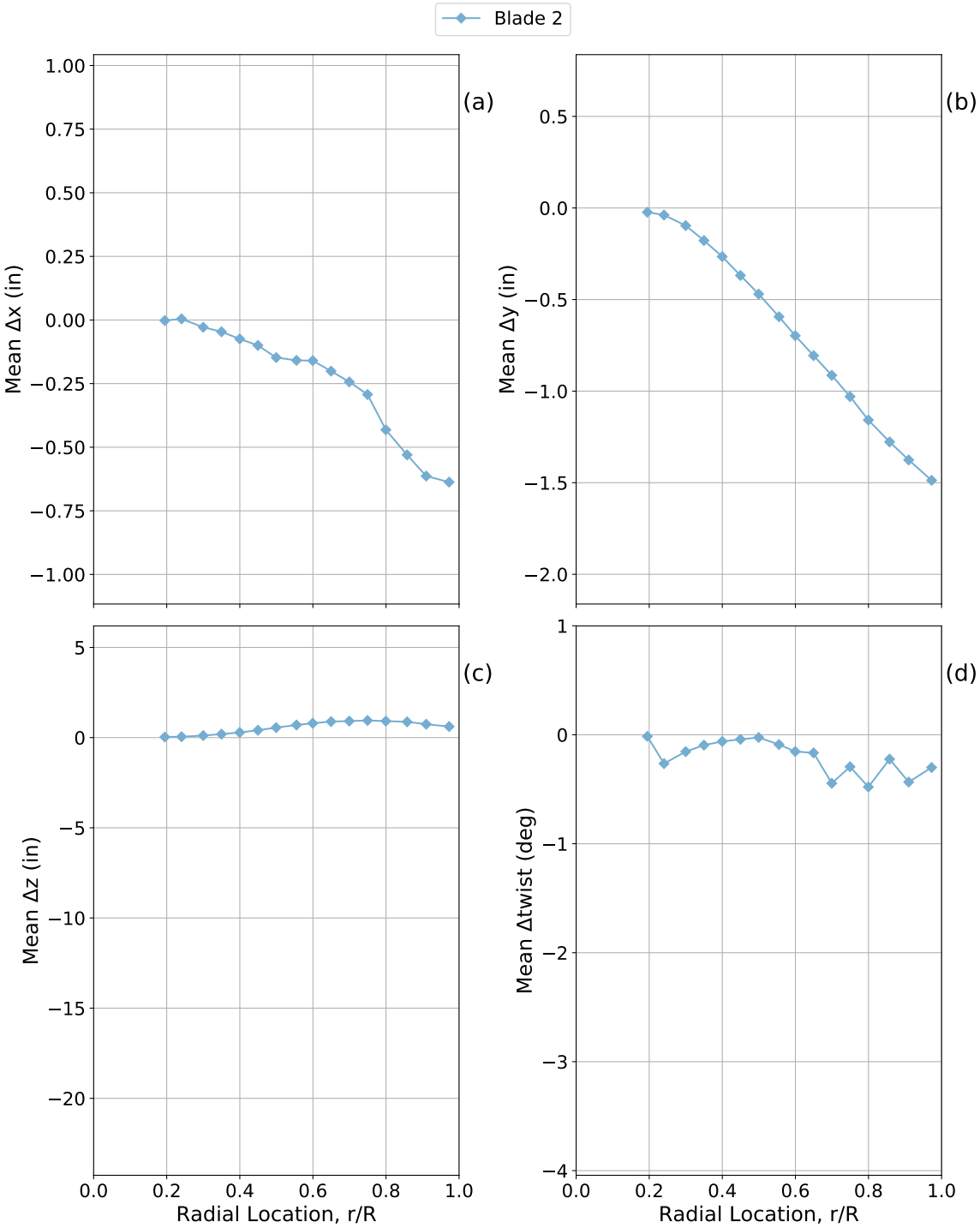


Figure 3.50-35. 345° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0022	0.0075	-0.0232	0.0023	0.0332	0.0039	-0.0144	0.0246
2	344.88	0.2405	0.0043	0.0028	-0.0385	0.0035	0.0495	0.0060	-0.2643	0.0540
2	344.88	0.2999	-0.0284	0.0030	-0.0962	0.0088	0.1138	0.0149	-0.1545	0.0660
2	344.88	0.3498	-0.0463	0.0058	-0.1778	0.0157	0.1932	0.0243	-0.0951	0.0700
2	344.88	0.3998	-0.0745	0.0073	-0.2656	0.0235	0.2850	0.0375	-0.0611	0.0671
2	344.88	0.4496	-0.1000	0.0101	-0.3686	0.0314	0.4079	0.0479	-0.0419	0.0708
2	344.88	0.4995	-0.1476	0.0110	-0.4699	0.0390	0.5553	0.0586	-0.0247	0.0698
2	344.88	0.5551	-0.1587	0.0143	-0.5938	0.0469	0.6991	0.0718	-0.0897	0.0783
2	344.88	0.5996	-0.1598	0.0145	-0.6973	0.0521	0.7954	0.0826	-0.1534	0.0769
2	344.88	0.6497	-0.2010	0.0191	-0.8061	0.0609	0.8890	0.0938	-0.1659	0.0759
2	344.88	0.6996	-0.2433	0.0120	-0.9138	0.0499	0.9160	0.0909	-0.4452	1.1629
2	344.88	0.7495	-0.2929	0.0174	-1.0299	0.0512	0.9500	0.1092	-0.2933	1.2621
2	344.88	0.7996	-0.4317	0.0230	-1.1576	0.1401	0.9154	0.3248	-0.4788	0.1114
2	344.88	0.8578	-0.5302	0.0220	-1.2772	0.1505	0.8752	0.3533	-0.2234	0.1396
2	344.88	0.9100	-0.6134	0.0218	-1.3757	0.1593	0.7424	0.3810	-0.4339	0.1182
2	344.88	0.9727	-0.6372	0.0197	-1.4870	0.1707	0.6146	0.4150	-0.3004	0.1397

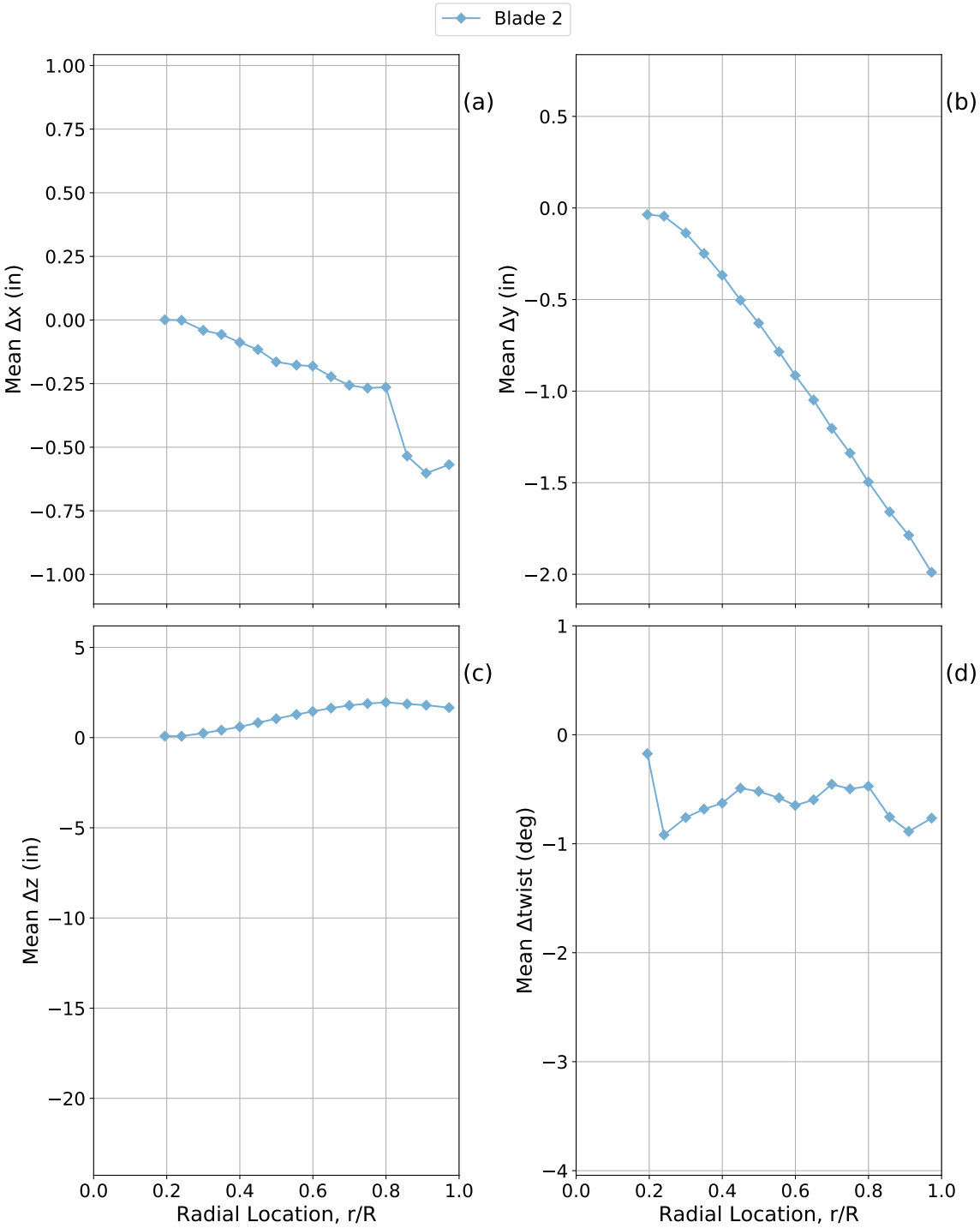


Figure 3.50-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0007	0.0069	-0.0361	0.0038	0.0797	0.0071	-0.1731	0.0298
2	350.16	0.2405	-0.0012	0.0028	-0.0450	0.0027	0.0793	0.0055	-0.9186	0.0935
2	350.16	0.2999	-0.0406	0.0025	-0.1367	0.0126	0.2458	0.0202	-0.7596	0.0914
2	350.16	0.3498	-0.0569	0.0040	-0.2488	0.0214	0.4157	0.0324	-0.6823	0.0907
2	350.16	0.3998	-0.0881	0.0048	-0.3672	0.0313	0.5971	0.0465	-0.6275	0.0885
2	350.16	0.4496	-0.1162	0.0060	-0.5037	0.0417	0.8227	0.0580	-0.4906	0.0870
2	350.16	0.4995	-0.1647	0.0060	-0.6292	0.0516	1.0471	0.0713	-0.5195	0.0814
2	350.16	0.5551	-0.1773	0.0052	-0.7851	0.0628	1.2811	0.0829	-0.5785	0.0834
2	350.16	0.5996	-0.1813	0.0052	-0.9144	0.0744	1.4523	0.0924	-0.6487	0.0874
2	350.16	0.6497	-0.2227	0.0048	-1.0484	0.0864	1.6352	0.1024	-0.5962	0.0932
2	350.16	0.6996	-0.2566	0.0053	-1.2034	0.0826	1.7835	0.1383	-0.4542	0.5561
2	350.16	0.7495	-0.2675	0.0100	-1.3386	0.1161	1.8864	0.1342	-0.4970	0.1024
2	350.16	0.7996	-0.2642	0.0181	-1.4960	0.1343	1.9544	0.1612	-0.4722	0.1853
2	350.16	0.8578	-0.5345	0.0144	-1.6590	0.1082	1.8651	0.1807	-0.7540	0.1118
2	350.16	0.9100	-0.6022	0.0140	-1.7871	0.1146	1.7962	0.2059	-0.8873	0.1002
2	350.16	0.9727	-0.5685	0.0151	-1.9891	0.1233	1.6618	0.2414	-0.7650	0.1040

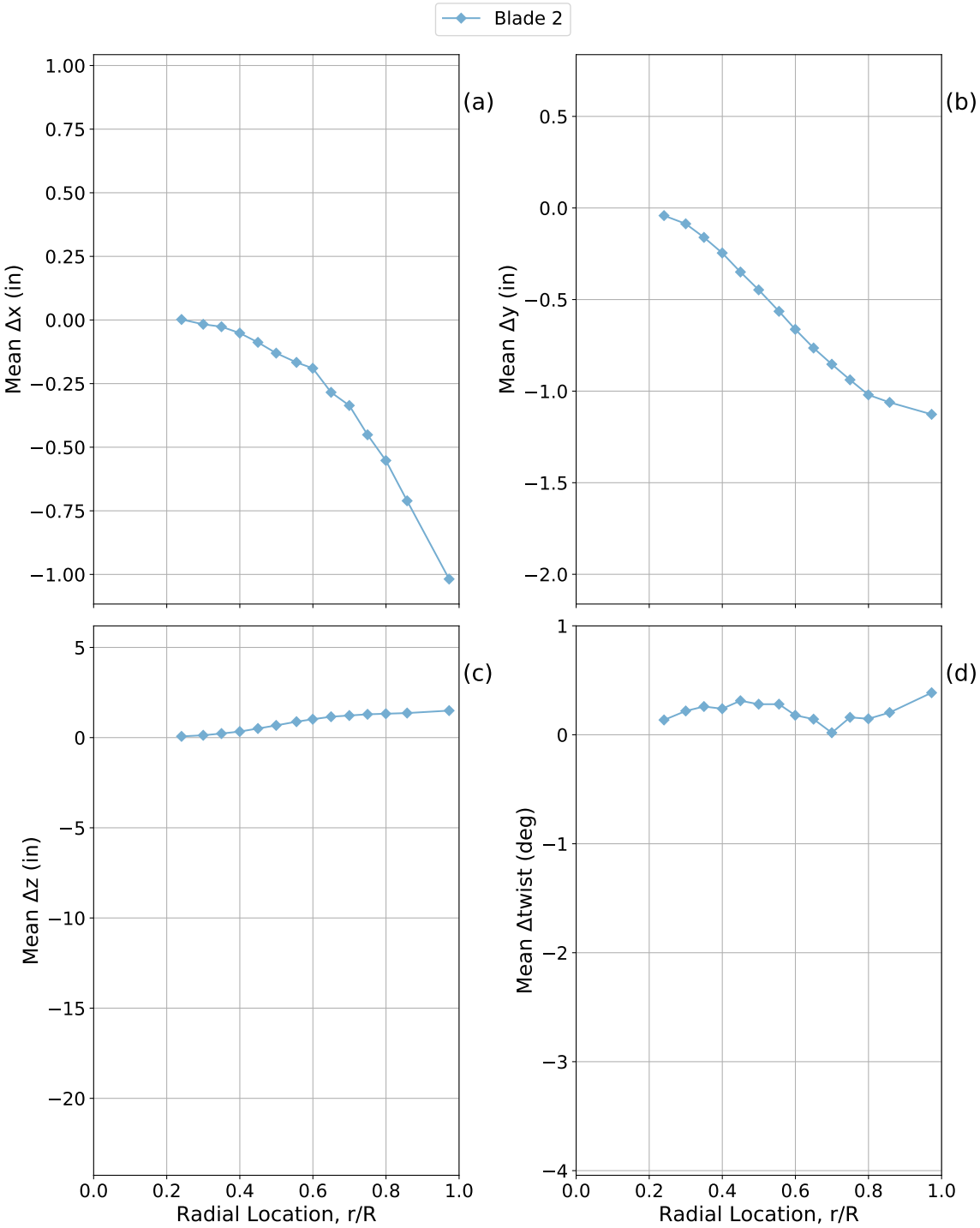


Figure 3.50-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$ NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Table 3.50-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.081$, $\mu = 0.3$, $\alpha = 8°$
NFAC run 98, point 39. BD run 46, points 8690 to 8700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2405	0.0020	0.0212	-0.0417	0.0063	0.0680	0.0131	0.1359	0.1245
2	355.08	0.2999	-0.0169	0.0079	-0.0864	0.0112	0.1287	0.0237	0.2184	0.1922
2	355.08	0.3498	-0.0264	0.0089	-0.1606	0.0244	0.2253	0.0441	0.2593	0.1749
2	355.08	0.3998	-0.0515	0.0227	-0.2458	0.0349	0.3357	0.0645	0.2391	0.1833
2	355.08	0.4496	-0.0879	0.0333	-0.3496	0.0465	0.5037	0.0822	0.3124	0.1833
2	355.08	0.4995	-0.1303	0.0448	-0.4471	0.0592	0.6765	0.1013	0.2805	0.1930
2	355.08	0.5551	-0.1667	0.0568	-0.5643	0.0782	0.8829	0.1211	0.2808	0.1952
2	355.08	0.5996	-0.1898	0.0637	-0.6625	0.0920	1.0185	0.1395	0.1789	0.1784
2	355.08	0.6497	-0.2844	0.0711	-0.7645	0.1085	1.1579	0.1591	0.1433	0.1854
2	355.08	0.6996	-0.3361	0.0776	-0.8532	0.1237	1.2250	0.1805	0.0184	0.1851
2	355.08	0.7495	-0.4512	0.0833	-0.9383	0.1373	1.2917	0.2035	0.1600	0.1996
2	355.08	0.7996	-0.5523	0.0834	-1.0203	0.1522	1.3243	0.2272	0.1467	0.1900
2	355.08	0.8578	-0.7107	0.0874	-1.0614	0.1720	1.3607	0.2506	0.2040	0.1953
2	355.08	0.9727	-1.0182	0.1064	-1.1267	0.2187	1.4961	0.2950	0.3859	0.1901

3.51 Run 98, Point 40

3.51.1 Pitch, Flap, and Lag

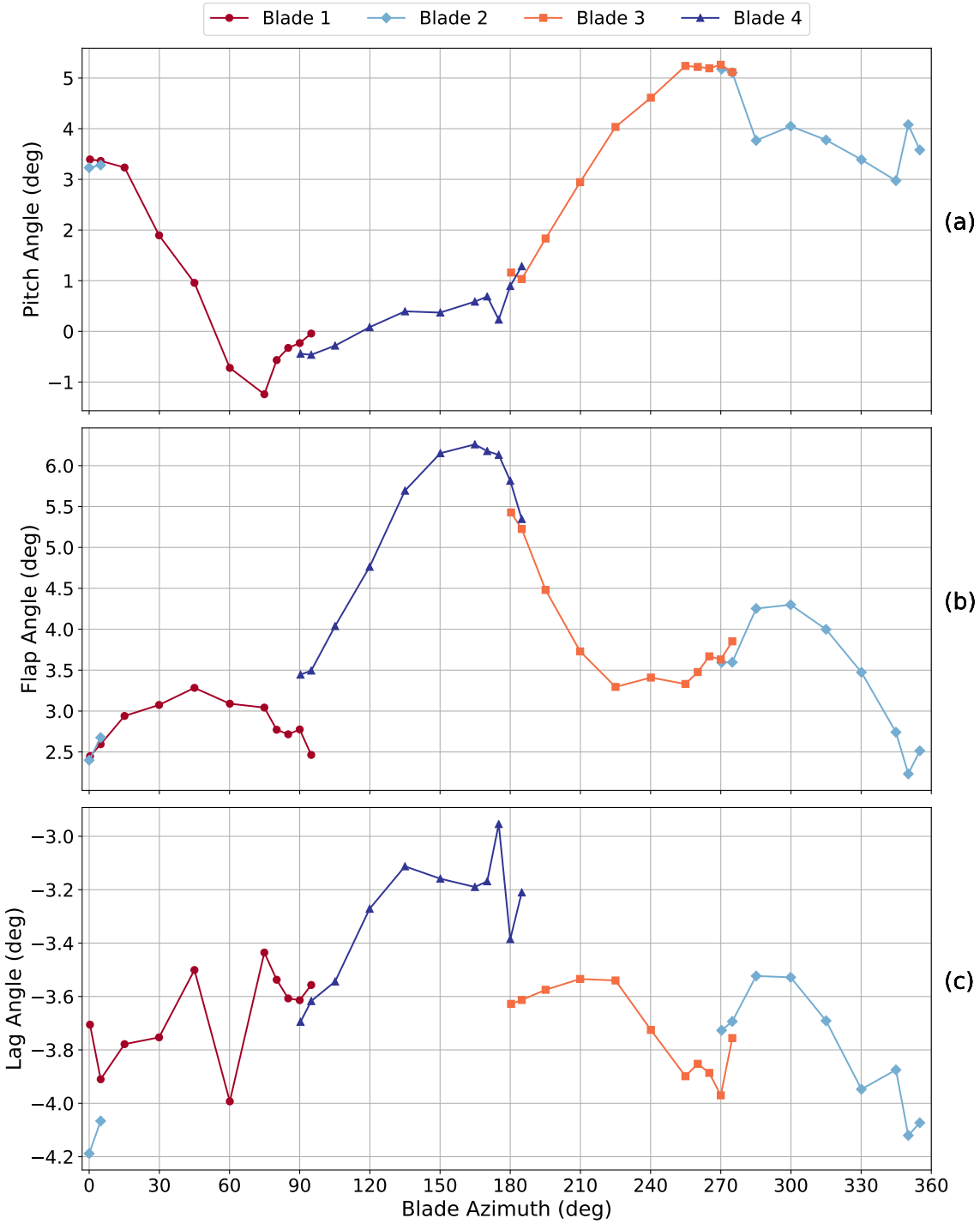


Figure 3.51-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	3.2301	2.3995	-4.1881	0.0914	0.0911	0.1066
0.35	1	3.3932	2.4483	-3.7055	0.0928	0.0409	0.0527
4.92	1	3.3648	2.5946	-3.9099	0.0830	0.0723	0.0508
4.92	2	3.2818	2.6761	-4.0663	0.1046	0.0883	0.0911
15.12	1	3.2335	2.9401	-3.7785	0.0969	0.0930	0.0652
29.88	1	1.8951	3.0747	-3.7531	0.0960	0.0736	0.0679
45	1	0.9573	3.2836	-3.5008	0.1369	0.1046	0.0855
60.12	1	-0.7208	3.0900	-3.9929	0.0993	0.0743	0.0615
74.88	1	-1.2409	3.0426	-3.4354	0.3288	0.0829	0.0906
80.16	1	-0.5666	2.7715	-3.5372	0.0972	0.1122	0.1030
85.08	1	-0.3266	2.7161	-3.6072	0.0535	0.0361	0.0647
90	1	-0.2312	2.7750	-3.6138	0.0394	0.0645	0.0740
90.35	4	-0.4417	3.4449	-3.6948	0.0496	0.0662	0.0443
94.92	1	-0.0428	2.4638	-3.5569	0.0785	0.0484	0.0683
94.92	4	-0.4628	3.4947	-3.6171	0.0575	0.0742	0.0685
105.12	4	-0.2817	4.0383	-3.5441	0.0360	0.0613	0.0404
119.88	4	0.0819	4.7630	-3.2715	0.0535	0.0739	0.0392
135	4	0.3951	5.6940	-3.1125	0.0376	0.0651	0.0397
150.12	4	0.3706	6.1516	-3.1588	0.0641	0.1633	0.0431
164.88	4	0.5866	6.2595	-3.1899	0.0649	0.1605	0.0659
170.16	4	0.6881	6.1776	-3.1685	0.1635	0.0926	0.0882
175.08	4	0.2312	6.1310	-2.9540	0.1512	0.1896	0.0683
180	4	0.8944	5.8144	-3.3852	0.0452	0.1514	0.1367
180.35	3	1.1607	5.4272	-3.6277	0.0621	0.1686	0.0996
184.92	3	1.0326	5.2260	-3.6130	0.0408	0.1007	0.0707
184.92	4	1.2848	5.3471	-3.2103	0.0653	0.1601	0.1380
195.12	3	1.8326	4.4804	-3.5749	0.0895	0.1454	0.0529
209.88	3	2.9435	3.7290	-3.5344	0.0510	0.0931	0.0489
225	3	4.0341	3.2949	-3.5400	0.0452	0.0660	0.0541
240.12	3	4.6110	3.4093	-3.7252	0.0729	0.1214	0.0743
254.88	3	5.2384	3.3310	-3.8987	0.1107	0.1055	0.0641
260.16	3	5.2188	3.4767	-3.8522	0.0897	0.1336	0.1112
265.08	3	5.1925	3.6688	-3.8862	0.0975	0.0790	0.0602
270	3	5.2613	3.6308	-3.9702	0.0581	0.0340	0.1012
270.35	2	5.1761	3.5949	-3.7267	0.0394	0.0650	0.0863
274.92	2	5.1066	3.5968	-3.6934	0.0775	0.0706	0.0637
274.92	3	5.1174	3.8521	-3.7558	0.0609	0.0530	0.0600
285.12	2	3.7676	4.2529	-3.5232	0.0872	0.0496	0.0397
299.88	2	4.0488	4.2990	-3.5282	0.0638	0.0614	0.0467
315	2	3.7774	3.9982	-3.6909	0.0526	0.0646	0.0448
330.12	2	3.3896	3.4739	-3.9473	0.0708	0.0985	0.0522
344.88	2	2.9745	2.7416	-3.8748	0.1107	0.1486	0.0962
350.16	2	4.0785	2.2321	-4.1204	0.0988	0.0813	0.1228
355.08	2	3.5797	2.5141	-4.0732	0.1039	0.0891	0.0730

3.51.2 Spanwise Elastic Deformations

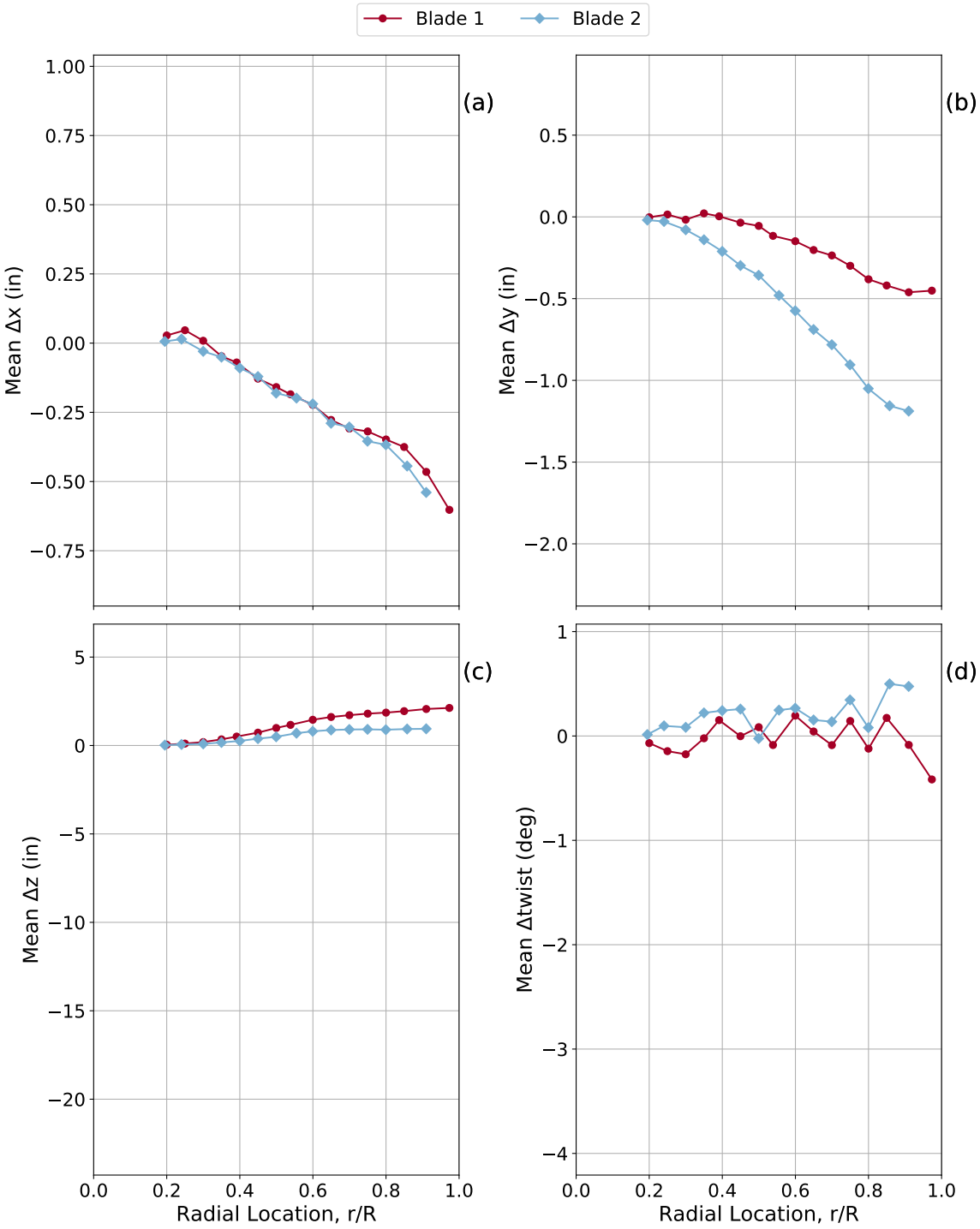


Figure 3.51-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0277	0.0046	-0.0022	0.0027	0.0423	0.0055	-0.0682	0.0393
1	0.35	0.2499	0.0465	0.0014	0.0145	0.0051	0.1081	0.0085	-0.1453	0.0722
1	0.35	0.2998	0.0086	0.0016	-0.0172	0.0097	0.1936	0.0173	-0.1752	0.0899
1	0.35	0.3498	-0.0472	0.0026	0.0215	0.0177	0.3462	0.0308	-0.0221	0.0672
1	0.35	0.3913	-0.0699	0.0033	0.0036	0.0242	0.5045	0.0412	0.1519	0.0772
1	0.35	0.4496	-0.1284	0.0043	-0.0354	0.0333	0.7262	0.0562	-0.0020	0.0885
1	0.35	0.4997	-0.1588	0.0043	-0.0552	0.0408	0.9903	0.0701	0.0844	0.0620
1	0.35	0.5387	-0.1849	0.0046	-0.1161	0.0448	1.1666	0.0786	-0.0866	0.0561
1	0.35	0.5996	-0.2231	0.0054	-0.1487	0.0544	1.4547	0.0946	0.1953	0.0728
1	0.35	0.6498	-0.2775	0.0052	-0.2027	0.0616	1.6114	0.1120	0.0431	0.0499
1	0.35	0.6998	-0.3087	0.0045	-0.2359	0.0716	1.7148	0.1300	-0.0876	0.0592
1	0.35	0.7500	-0.3190	0.0048	-0.2992	0.0798	1.8014	0.1454	0.1437	0.0753
1	0.35	0.8001	-0.3481	0.0056	-0.3817	0.0879	1.8584	0.1648	-0.1212	0.0808
1	0.35	0.8497	-0.3753	0.0087	-0.4196	0.0971	1.9434	0.1835	0.1732	0.0763
1	0.35	0.9102	-0.4651	0.0129	-0.4611	0.1122	2.0634	0.2121	-0.0856	0.1639
1	0.35	0.9734	-0.6023	0.0121	-0.4512	0.1208	2.1238	0.2577	-0.4165	0.1404
2	0	0.1949	0.0061	0.0026	-0.0195	0.0018	0.0212	0.0058	0.0137	0.0312
2	0	0.2405	0.0145	0.0021	-0.0282	0.0027	0.0587	0.0064	0.0971	0.0852
2	0	0.2999	-0.0297	0.0014	-0.0789	0.0070	0.0926	0.0191	0.0833	0.0756
2	0	0.3498	-0.0506	0.0018	-0.1400	0.0107	0.1712	0.0306	0.2212	0.0851
2	0	0.3998	-0.0899	0.0018	-0.2111	0.0170	0.2586	0.0459	0.2432	0.0694
2	0	0.4496	-0.1208	0.0022	-0.2978	0.0204	0.3869	0.0625	0.2578	0.0706
2	0	0.4995	-0.1806	0.0025	-0.3570	0.0261	0.4920	0.0853	-0.0241	0.0950
2	0	0.5551	-0.1985	0.0029	-0.4804	0.0288	0.6955	0.1047	0.2478	0.0648
2	0	0.5996	-0.2195	0.0034	-0.5747	0.0339	0.8022	0.1190	0.2662	0.0785
2	0	0.6497	-0.2894	0.0053	-0.6891	0.0398	0.8760	0.1344	0.1534	0.0637
2	0	0.6996	-0.3030	0.0055	-0.7820	0.0432	0.9057	0.1456	0.1371	0.0903
2	0	0.7495	-0.3543	0.0048	-0.9047	0.0474	0.9136	0.1604	0.3455	0.0774
2	0	0.7996	-0.3673	0.0048	-1.0505	0.0525	0.8929	0.1754	0.0804	0.0610
2	0	0.8578	-0.4441	0.0090	-1.1557	0.0544	0.9314	0.2055	0.4992	0.1165
2	0	0.9100	-0.5395	0.0080	-1.1880	0.0641	0.9431	0.2344	0.4751	0.1579

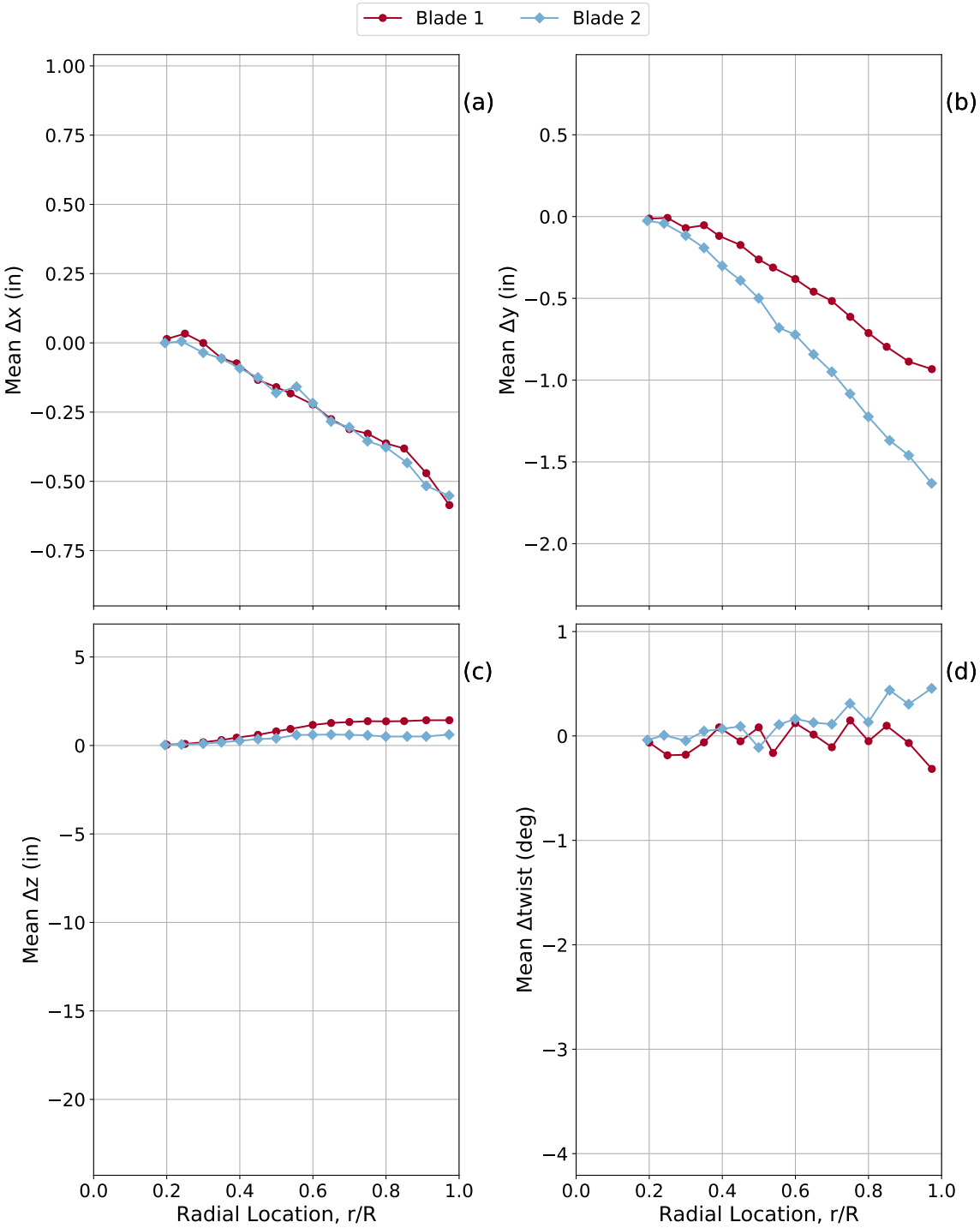


Figure 3.51-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0141	0.0036	-0.0124	0.0018	0.0448	0.0047	-0.0639	0.0373
1	4.92	0.2499	0.0334	0.0021	-0.0084	0.0036	0.0884	0.0117	-0.1849	0.0808
1	4.92	0.2998	-0.0004	0.0017	-0.0704	0.0074	0.1811	0.0198	-0.1798	0.0889
1	4.92	0.3498	-0.0554	0.0024	-0.0531	0.0118	0.3074	0.0337	-0.0613	0.0835
1	4.92	0.3913	-0.0739	0.0027	-0.1184	0.0176	0.4435	0.0499	0.0823	0.0705
1	4.92	0.4496	-0.1338	0.0030	-0.1740	0.0193	0.6008	0.0744	-0.0513	0.0777
1	4.92	0.4997	-0.1597	0.0030	-0.2624	0.0253	0.7968	0.1006	0.0822	0.0666
1	4.92	0.5387	-0.1827	0.0033	-0.3116	0.0297	0.9339	0.1123	-0.1631	0.0763
1	4.92	0.5996	-0.2225	0.0043	-0.3816	0.0353	1.1612	0.1284	0.1226	0.0909
1	4.92	0.6498	-0.2752	0.0038	-0.4590	0.0383	1.2701	0.1378	0.0136	0.0884
1	4.92	0.6998	-0.3117	0.0034	-0.5161	0.0432	1.3265	0.1480	-0.1080	0.0903
1	4.92	0.7500	-0.3279	0.0045	-0.6129	0.0479	1.3725	0.1632	0.1483	0.1048
1	4.92	0.8001	-0.3630	0.0046	-0.7122	0.0514	1.3625	0.1801	-0.0497	0.1153
1	4.92	0.8497	-0.3814	0.0047	-0.7964	0.0562	1.3763	0.2025	0.0978	0.1162
1	4.92	0.9102	-0.4706	0.0056	-0.8867	0.0621	1.4253	0.2354	-0.0677	0.1378
1	4.92	0.9734	-0.5859	0.0075	-0.9328	0.0660	1.4258	0.2758	-0.3157	0.1270
2	4.92	0.1949	-0.0002	0.0026	-0.0256	0.0017	0.0286	0.0057	-0.0387	0.0460
2	4.92	0.2405	0.0054	0.0016	-0.0419	0.0029	0.0540	0.0093	0.0064	0.1127
2	4.92	0.2999	-0.0355	0.0017	-0.1157	0.0060	0.1033	0.0194	-0.0457	0.1275
2	4.92	0.3498	-0.0569	0.0022	-0.1915	0.0088	0.1793	0.0342	0.0468	0.1213
2	4.92	0.3998	-0.0918	0.0023	-0.3015	0.0142	0.2662	0.0515	0.0684	0.1275
2	4.92	0.4496	-0.1251	0.0021	-0.3908	0.0173	0.3585	0.0711	0.0912	0.1332
2	4.92	0.4995	-0.1806	0.0028	-0.4995	0.0219	0.4060	0.0939	-0.1108	0.1425
2	4.92	0.5551	-0.1585	0.0077	-0.6800	0.0317	0.5921	0.1121	0.1090	0.1351
2	4.92	0.5996	-0.2178	0.0050	-0.7222	0.0336	0.6014	0.1289	0.1634	0.1379
2	4.92	0.6497	-0.2838	0.0053	-0.8425	0.0418	0.6179	0.1482	0.1276	0.1336
2	4.92	0.6996	-0.3045	0.0050	-0.9493	0.0484	0.5996	0.1636	0.1128	0.1490
2	4.92	0.7495	-0.3549	0.0052	-1.0840	0.0565	0.5734	0.1827	0.3102	0.1610
2	4.92	0.7996	-0.3769	0.0053	-1.2236	0.0678	0.5041	0.2039	0.1322	0.1555
2	4.92	0.8578	-0.4331	0.0063	-1.3688	0.0778	0.5087	0.2281	0.4383	0.1608
2	4.92	0.9100	-0.5164	0.0068	-1.4601	0.0877	0.5092	0.2598	0.3040	0.2020
2	4.92	0.9727	-0.5520	0.0107	-1.6308	0.1024	0.6142	0.2846	0.4560	0.1835

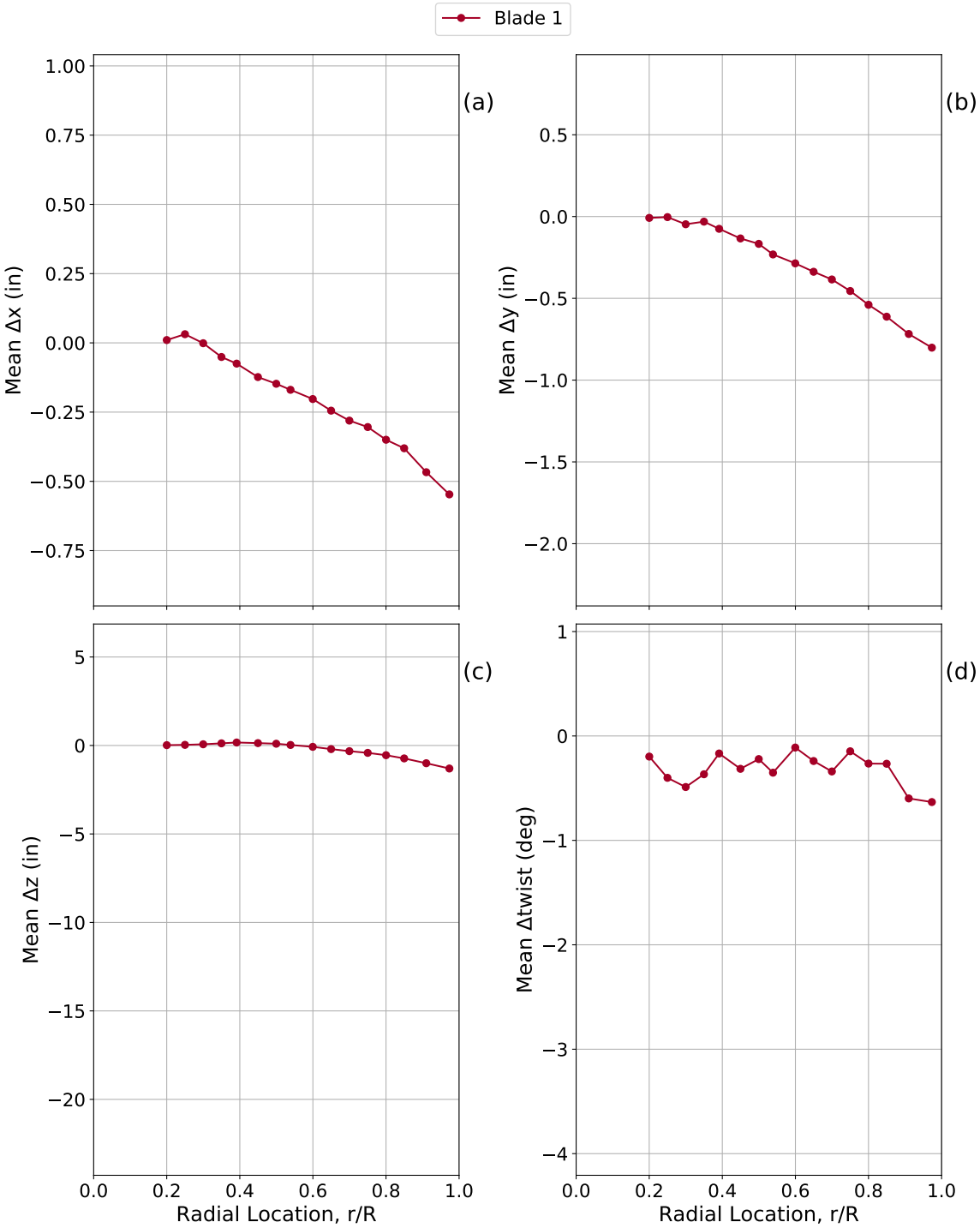


Figure 3.51-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0101	0.0031	-0.0082	0.0024	0.0184	0.0056	-0.1975	0.0431
1	15.12	0.2499	0.0313	0.0021	-0.0034	0.0042	0.0347	0.0102	-0.4009	0.0692
1	15.12	0.2998	-0.0013	0.0028	-0.0471	0.0078	0.0675	0.0201	-0.4891	0.0886
1	15.12	0.3498	-0.0510	0.0031	-0.0311	0.0144	0.1210	0.0345	-0.3668	0.0713
1	15.12	0.3913	-0.0749	0.0045	-0.0750	0.0194	0.1677	0.0486	-0.1679	0.0678
1	15.12	0.4496	-0.1235	0.0051	-0.1338	0.0262	0.1333	0.0714	-0.3147	0.0849
1	15.12	0.4997	-0.1477	0.0057	-0.1669	0.0339	0.0988	0.0960	-0.2215	0.0940
1	15.12	0.5387	-0.1695	0.0060	-0.2317	0.0396	0.0290	0.1172	-0.3517	0.0916
1	15.12	0.5996	-0.2028	0.0065	-0.2861	0.0476	-0.0767	0.1466	-0.1110	0.0955
1	15.12	0.6498	-0.2447	0.0054	-0.3375	0.0540	-0.2048	0.1733	-0.2399	0.0883
1	15.12	0.6998	-0.2807	0.0059	-0.3846	0.0613	-0.3210	0.2025	-0.3400	0.0746
1	15.12	0.7500	-0.3040	0.0056	-0.4552	0.0677	-0.4179	0.2318	-0.1467	0.0756
1	15.12	0.8001	-0.3498	0.0062	-0.5394	0.0756	-0.5494	0.2624	-0.2645	0.0751
1	15.12	0.8497	-0.3806	0.0066	-0.6121	0.0830	-0.7311	0.2966	-0.2662	0.0659
1	15.12	0.9102	-0.4670	0.0062	-0.7178	0.0934	-1.0035	0.3410	-0.5983	0.0922
1	15.12	0.9734	-0.5472	0.0086	-0.8015	0.1027	-1.3021	0.3996	-0.6330	0.0691

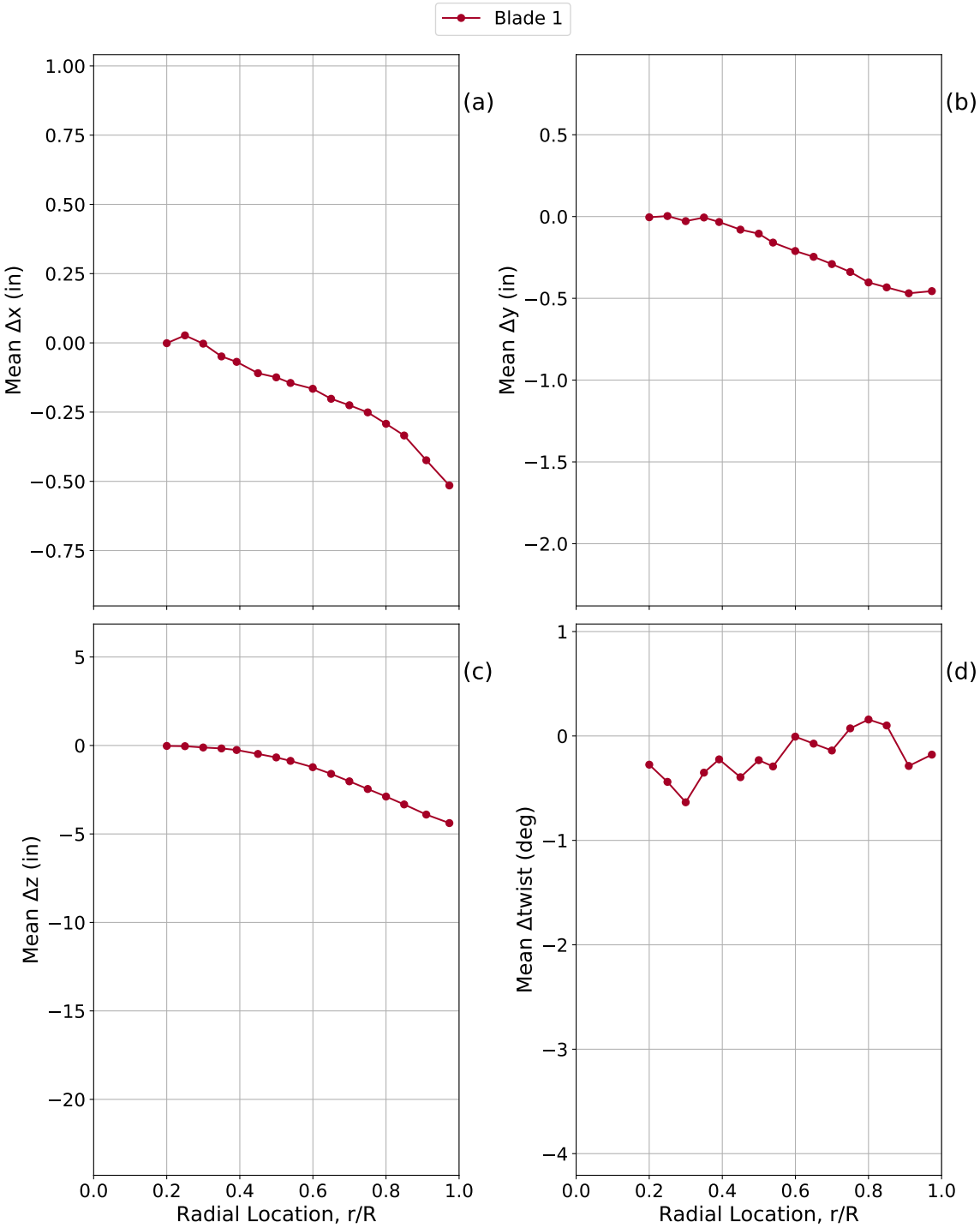


Figure 3.51-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0012	0.0033	-0.0043	0.0017	-0.0263	0.0037	-0.2750	0.0365
1	29.88	0.2499	0.0270	0.0026	0.0031	0.0037	-0.0398	0.0072	-0.4397	0.0714
1	29.88	0.2998	-0.0029	0.0016	-0.0280	0.0064	-0.1137	0.0138	-0.6351	0.0806
1	29.88	0.3498	-0.0490	0.0031	-0.0058	0.0123	-0.1678	0.0228	-0.3512	0.0722
1	29.88	0.3913	-0.0685	0.0039	-0.0333	0.0167	-0.2563	0.0328	-0.2241	0.0770
1	29.88	0.4496	-0.1095	0.0040	-0.0799	0.0227	-0.4785	0.0493	-0.3951	0.0786
1	29.88	0.4997	-0.1245	0.0050	-0.1048	0.0287	-0.6765	0.0621	-0.2318	0.0810
1	29.88	0.5387	-0.1448	0.0058	-0.1591	0.0340	-0.8700	0.0748	-0.2921	0.0847
1	29.88	0.5996	-0.1657	0.0064	-0.2107	0.0419	-1.2278	0.0968	-0.0065	0.0855
1	29.88	0.6498	-0.2019	0.0058	-0.2461	0.0490	-1.6044	0.1168	-0.0735	0.0925
1	29.88	0.6998	-0.2252	0.0055	-0.2905	0.0564	-2.0273	0.1389	-0.1394	0.0949
1	29.88	0.7500	-0.2510	0.0057	-0.3387	0.0653	-2.4594	0.1620	0.0726	0.1058
1	29.88	0.8001	-0.2921	0.0055	-0.4027	0.0731	-2.8861	0.1868	0.1574	0.0971
1	29.88	0.8497	-0.3344	0.0049	-0.4329	0.0807	-3.3323	0.2105	0.1005	0.1053
1	29.88	0.9102	-0.4238	0.0047	-0.4691	0.0896	-3.9046	0.2398	-0.2873	0.1060
1	29.88	0.9734	-0.5148	0.0054	-0.4559	0.0999	-4.3856	0.2671	-0.1787	0.1076

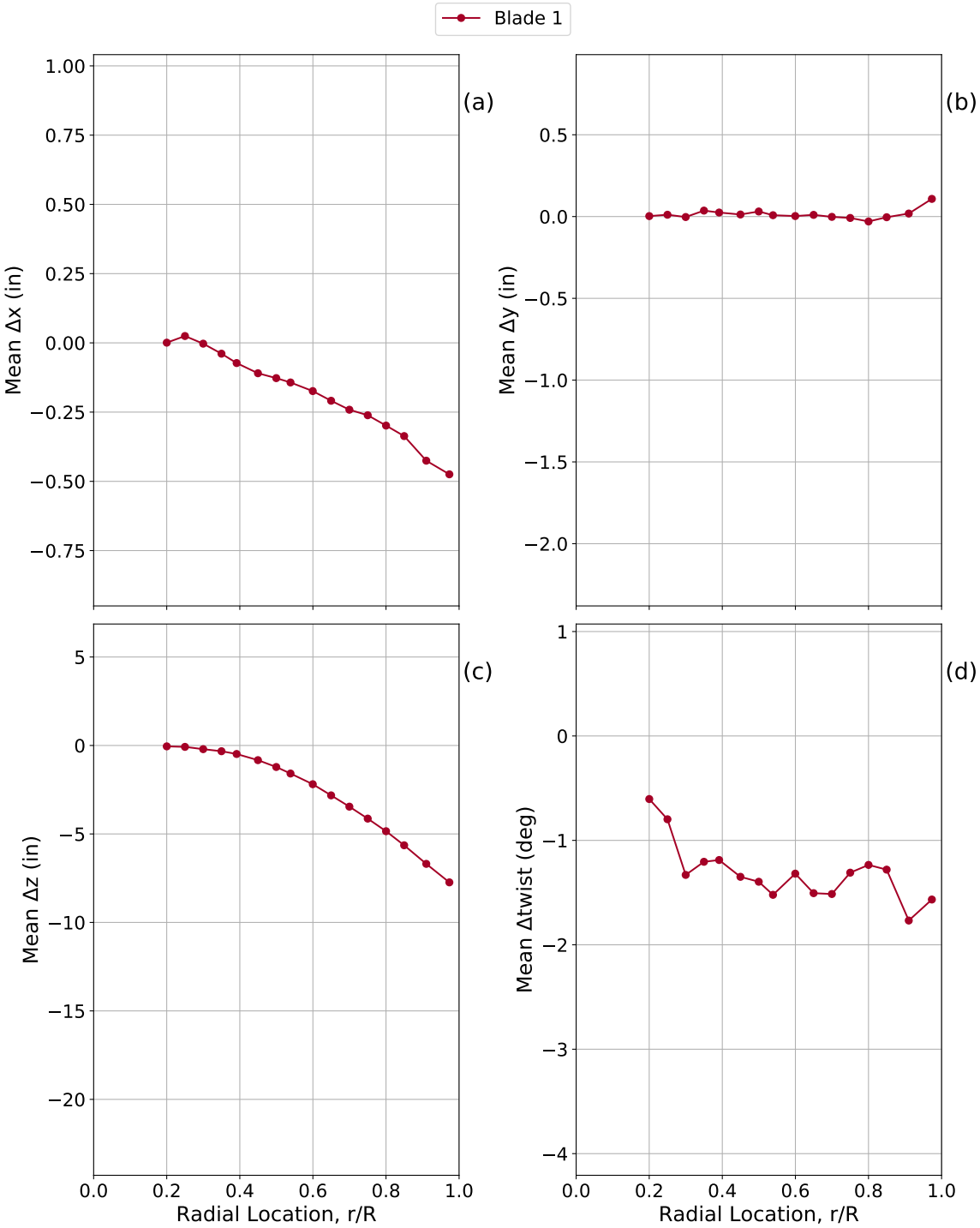


Figure 3.51-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0007	0.0041	0.0028	0.0034	-0.0502	0.0079	-0.6042	0.0478
1	45	0.2499	0.0247	0.0023	0.0111	0.0039	-0.0789	0.0138	-0.7978	0.1202
1	45	0.2998	-0.0029	0.0026	-0.0029	0.0113	-0.2081	0.0303	-1.3307	0.1246
1	45	0.3498	-0.0391	0.0019	0.0364	0.0202	-0.3249	0.0525	-1.2050	0.1352
1	45	0.3913	-0.0729	0.0021	0.0246	0.0268	-0.4814	0.0741	-1.1881	0.1331
1	45	0.4496	-0.1097	0.0015	0.0126	0.0374	-0.8291	0.1025	-1.3490	0.1377
1	45	0.4997	-0.1273	0.0017	0.0309	0.0461	-1.2162	0.1269	-1.3962	0.1345
1	45	0.5387	-0.1430	0.0018	0.0083	0.0538	-1.5848	0.1461	-1.5214	0.1380
1	45	0.5996	-0.1741	0.0029	0.0031	0.0648	-2.1893	0.1752	-1.3186	0.1359
1	45	0.6498	-0.2090	0.0038	0.0103	0.0753	-2.8195	0.1990	-1.5055	0.1343
1	45	0.6998	-0.2414	0.0045	-0.0019	0.0844	-3.4571	0.2219	-1.5136	0.1370
1	45	0.7500	-0.2613	0.0051	-0.0086	0.0944	-4.1333	0.2438	-1.3092	0.1401
1	45	0.8001	-0.2986	0.0063	-0.0300	0.1046	-4.8454	0.2670	-1.2350	0.1363
1	45	0.8497	-0.3366	0.0072	-0.0041	0.1152	-5.6406	0.2892	-1.2803	0.1404
1	45	0.9102	-0.4254	0.0081	0.0184	0.1276	-6.6904	0.3166	-1.7677	0.1531
1	45	0.9734	-0.4746	0.0082	0.1080	0.1415	-7.7359	0.3474	-1.5664	0.1494

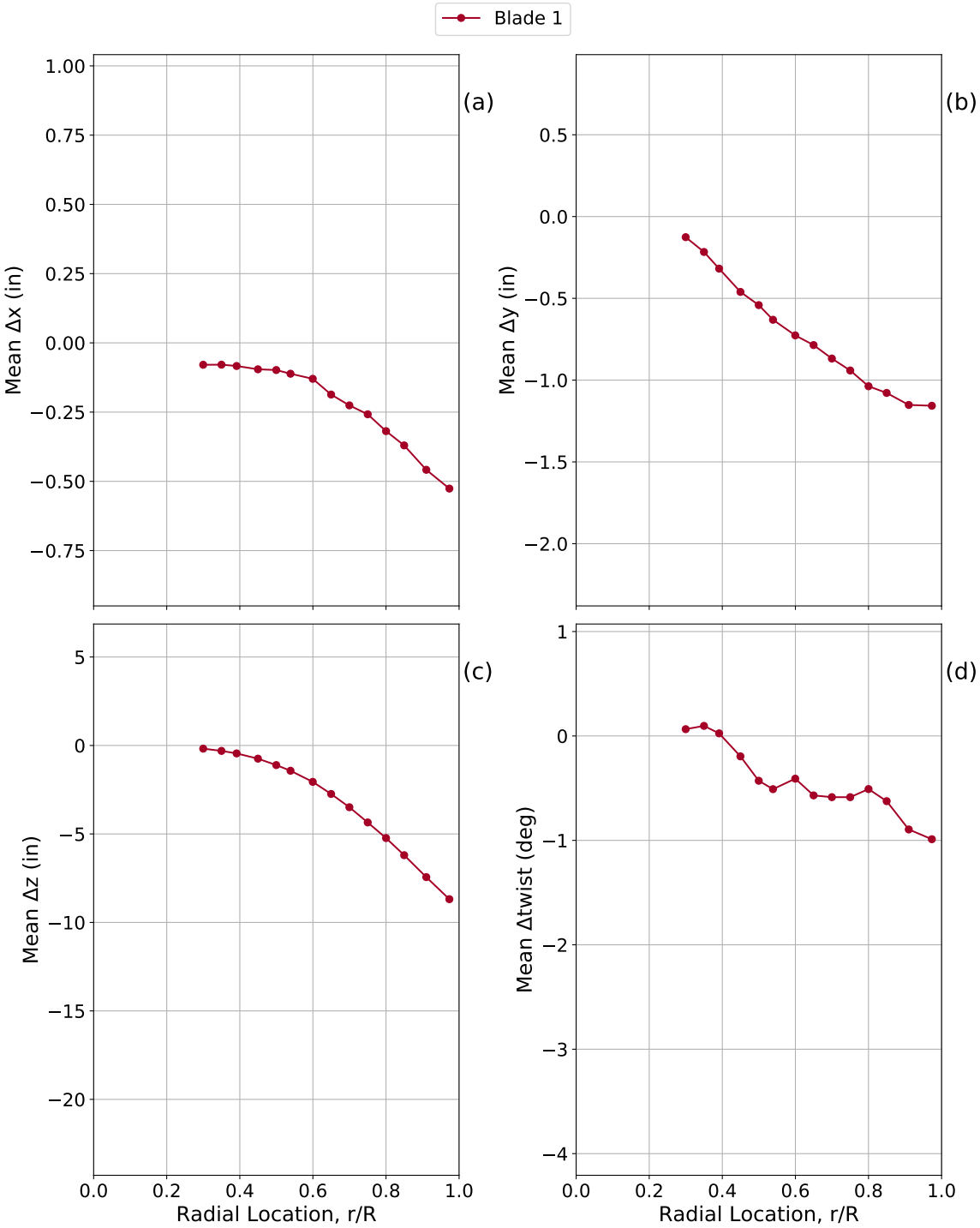


Figure 3.51-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2998	-0.0791	0.0047	-0.1260	0.0149	-0.1793	0.0164	0.0651	0.0850
1	60.12	0.3498	-0.0788	0.0045	-0.2164	0.0255	-0.3060	0.0288	0.0965	0.1129
1	60.12	0.3913	-0.0835	0.0059	-0.3184	0.0374	-0.4486	0.0429	0.0248	0.1075
1	60.12	0.4496	-0.0954	0.0067	-0.4607	0.0533	-0.7453	0.0618	-0.1953	0.1018
1	60.12	0.4997	-0.0981	0.0074	-0.5414	0.0678	-1.1075	0.0797	-0.4290	0.0964
1	60.12	0.5387	-0.1114	0.0077	-0.6310	0.0786	-1.4281	0.0928	-0.5095	0.0998
1	60.12	0.5996	-0.1298	0.0099	-0.7264	0.0964	-2.0567	0.1130	-0.4090	0.1011
1	60.12	0.6498	-0.1866	0.0252	-0.7857	0.1123	-2.7394	0.1467	-0.5692	0.0890
1	60.12	0.6998	-0.2257	0.0253	-0.8681	0.1252	-3.4895	0.1630	-0.5861	0.0842
1	60.12	0.7500	-0.2579	0.0250	-0.9411	0.1391	-4.3497	0.1814	-0.5863	0.0868
1	60.12	0.8001	-0.3187	0.0243	-1.0374	0.1526	-5.2318	0.2005	-0.5085	0.0905
1	60.12	0.8497	-0.3702	0.0233	-1.0783	0.1672	-6.2001	0.2202	-0.6243	0.0912
1	60.12	0.9102	-0.4583	0.0231	-1.1517	0.1848	-7.4392	0.2459	-0.8955	0.0909
1	60.12	0.9734	-0.5261	0.0249	-1.1567	0.2028	-8.6865	0.2754	-0.9889	0.1081

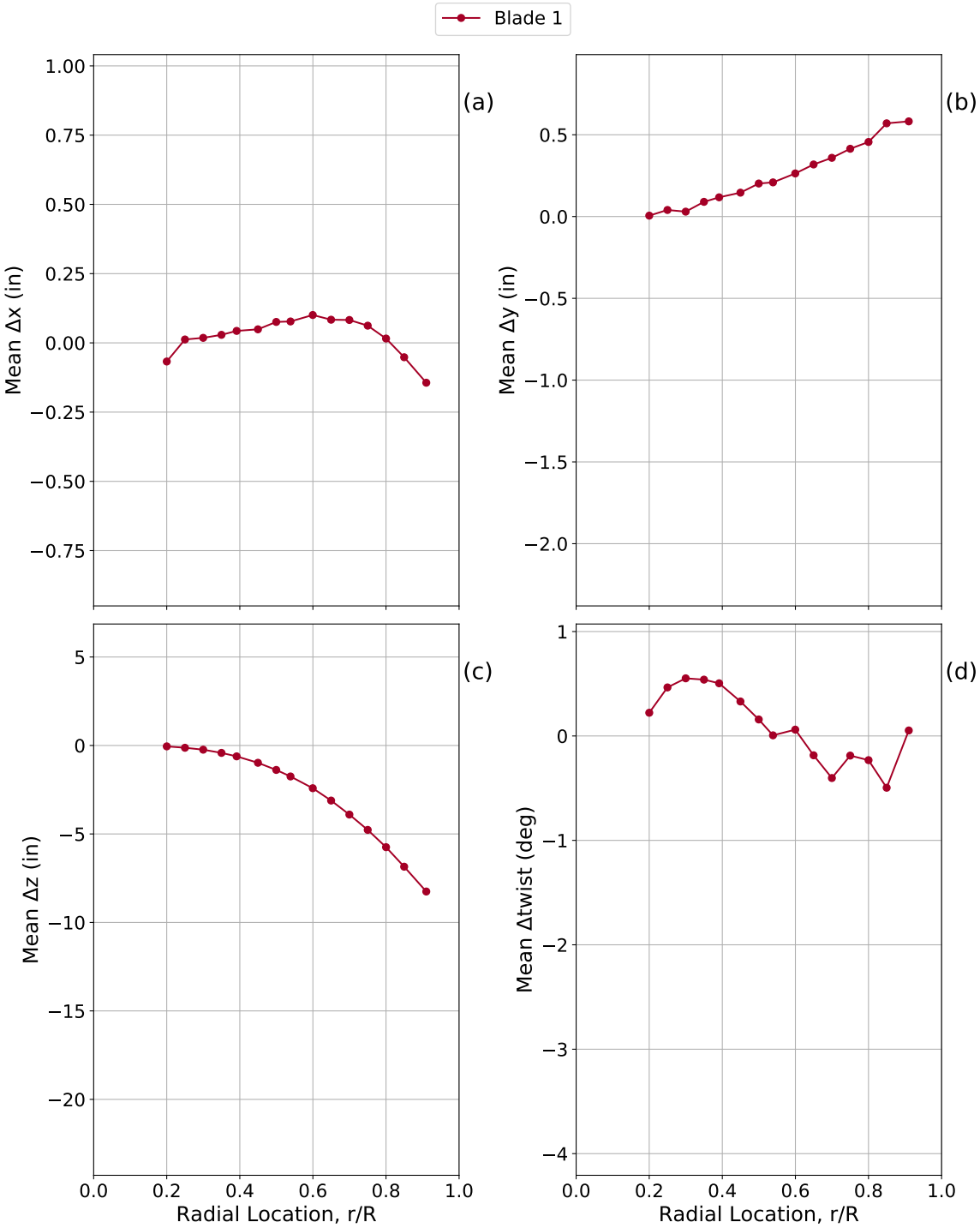


Figure 3.51-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0673	0.0113	0.0057	0.0024	-0.0509	0.0040	0.2222	0.1589
1	74.88	0.2499	0.0122	0.0079	0.0402	0.0117	-0.1295	0.0242	0.4648	0.1296
1	74.88	0.2998	0.0181	0.0065	0.0300	0.0105	-0.2375	0.0163	0.5520	0.3152
1	74.88	0.3498	0.0290	0.0082	0.0899	0.0256	-0.4189	0.0445	0.5393	0.3083
1	74.88	0.3913	0.0432	0.0119	0.1176	0.0353	-0.6151	0.0638	0.5043	0.3132
1	74.88	0.4496	0.0489	0.0156	0.1461	0.0485	-0.9780	0.0928	0.3302	0.3169
1	74.88	0.4997	0.0756	0.0178	0.2020	0.0606	-1.3822	0.1146	0.1580	0.3193
1	74.88	0.5387	0.0773	0.0196	0.2089	0.0698	-1.7513	0.1304	0.0060	0.3317
1	74.88	0.5996	0.1006	0.0205	0.2635	0.0844	-2.4152	0.1575	0.0605	0.3304
1	74.88	0.6498	0.0836	0.0211	0.3184	0.0962	-3.1127	0.1792	-0.1851	0.3311
1	74.88	0.6998	0.0826	0.0206	0.3591	0.1093	-3.9047	0.1991	-0.4029	0.3492
1	74.88	0.7500	0.0621	0.0202	0.4144	0.1228	-4.7713	0.2225	-0.1880	0.3346
1	74.88	0.8001	0.0156	0.0217	0.4560	0.1434	-5.7473	0.2811	-0.2317	0.3608
1	74.88	0.8497	-0.0519	0.0186	0.5700	0.1578	-6.8506	0.3131	-0.4958	0.4334
1	74.88	0.9102	-0.1439	0.0214	0.5819	0.1812	-8.2532	0.2144	0.0525	0.3986

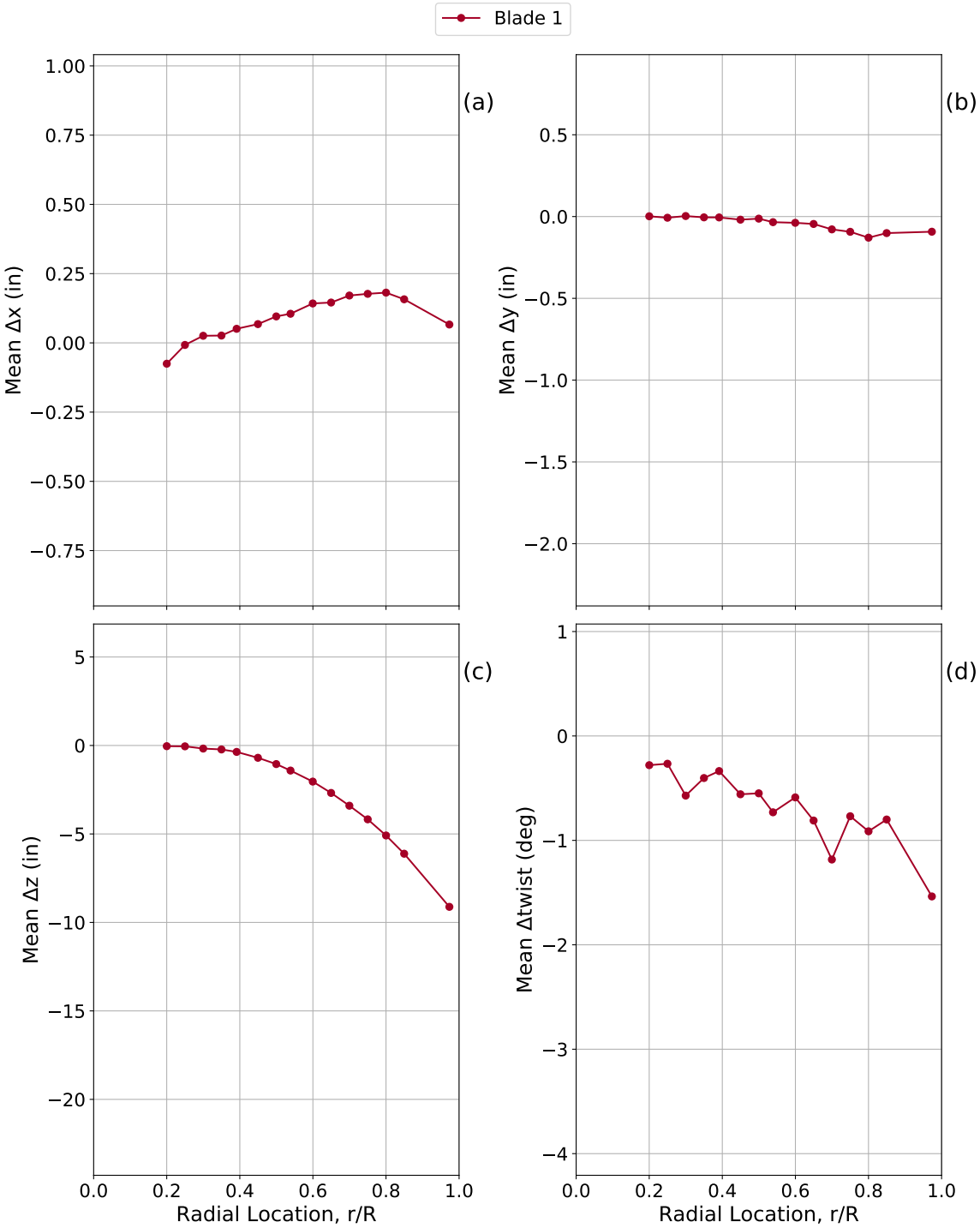


Figure 3.51-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0753	0.0019	0.0017	0.0009	-0.0396	0.0034	-0.2796	0.0272
1	80.16	0.2499	-0.0075	0.0009	-0.0072	0.0020	-0.0486	0.0087	-0.2661	0.0382
1	80.16	0.2998	0.0256	0.0016	0.0032	0.0034	-0.1746	0.0146	-0.5712	0.0532
1	80.16	0.3498	0.0264	0.0017	-0.0049	0.0063	-0.2251	0.0257	-0.4029	0.0503
1	80.16	0.3913	0.0508	0.0023	-0.0054	0.0088	-0.3633	0.0377	-0.3362	0.0516
1	80.16	0.4496	0.0677	0.0023	-0.0190	0.0146	-0.6960	0.0608	-0.5584	0.0671
1	80.16	0.4997	0.0955	0.0031	-0.0127	0.0195	-1.0507	0.0815	-0.5494	0.0607
1	80.16	0.5387	0.1051	0.0035	-0.0343	0.0231	-1.4171	0.0989	-0.7311	0.0680
1	80.16	0.5996	0.1423	0.0048	-0.0383	0.0314	-2.0411	0.1313	-0.5884	0.0513
1	80.16	0.6498	0.1456	0.0057	-0.0453	0.0376	-2.6829	0.1562	-0.8100	0.0769
1	80.16	0.6998	0.1709	0.0065	-0.0784	0.0440	-3.4036	0.1810	-1.1834	0.0836
1	80.16	0.7500	0.1770	0.0087	-0.0932	0.0514	-4.1740	0.2069	-0.7687	0.0541
1	80.16	0.8001	0.1814	0.0095	-0.1291	0.0585	-5.0866	0.2289	-0.9130	0.1171
1	80.16	0.8497	0.1573	0.0107	-0.1011	0.0657	-6.1170	0.2544	-0.8002	0.1192
1	80.16	0.9734	0.0662	0.0206	-0.0927	0.0849	-9.1193	0.3089	-1.5368	0.1601

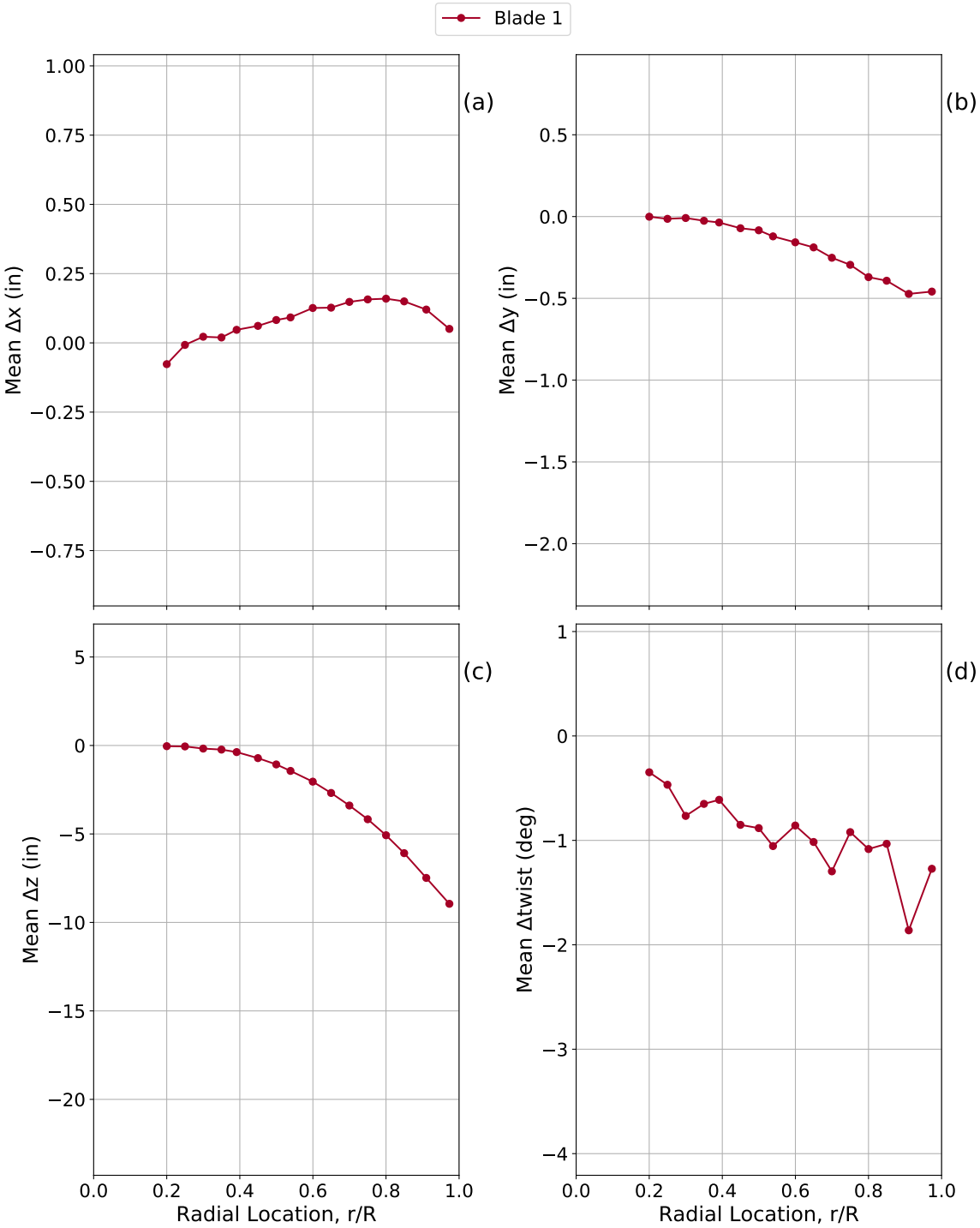


Figure 3.51-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.299, α = 8° NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0768	0.0014	-0.0009	0.0009	-0.0394	0.0043	-0.3479	0.0215
1	85.08	0.2499	-0.0074	0.0014	-0.0139	0.0016	-0.0543	0.0085	-0.4673	0.0364
1	85.08	0.2998	0.0221	0.0014	-0.0089	0.0036	-0.1756	0.0167	-0.7657	0.0477
1	85.08	0.3498	0.0194	0.0024	-0.0257	0.0057	-0.2332	0.0303	-0.6505	0.0417
1	85.08	0.3913	0.0471	0.0024	-0.0363	0.0083	-0.3737	0.0423	-0.6115	0.0528
1	85.08	0.4496	0.0613	0.0031	-0.0714	0.0131	-0.7142	0.0609	-0.8513	0.0712
1	85.08	0.4997	0.0825	0.0031	-0.0840	0.0190	-1.0713	0.0791	-0.8825	0.0754
1	85.08	0.5387	0.0919	0.0048	-0.1211	0.0234	-1.4371	0.0910	-1.0546	0.0720
1	85.08	0.5996	0.1259	0.0046	-0.1575	0.0311	-2.0445	0.1086	-0.8577	0.0704
1	85.08	0.6498	0.1271	0.0060	-0.1886	0.0384	-2.6843	0.1211	-1.0154	0.0732
1	85.08	0.6998	0.1479	0.0056	-0.2519	0.0470	-3.3932	0.1328	-1.2966	0.0858
1	85.08	0.7500	0.1569	0.0065	-0.2951	0.0556	-4.1698	0.1468	-0.9209	0.0956
1	85.08	0.8001	0.1596	0.0063	-0.3704	0.0651	-5.0732	0.1646	-1.0829	0.0913
1	85.08	0.8497	0.1498	0.0079	-0.3923	0.0742	-6.0857	0.1831	-1.0329	0.0999
1	85.08	0.9102	0.1202	0.0097	-0.4728	0.0834	-7.4850	0.2061	-1.8614	0.2124
1	85.08	0.9734	0.0505	0.0103	-0.4587	0.0960	-8.9477	0.2464	-1.2719	0.0583

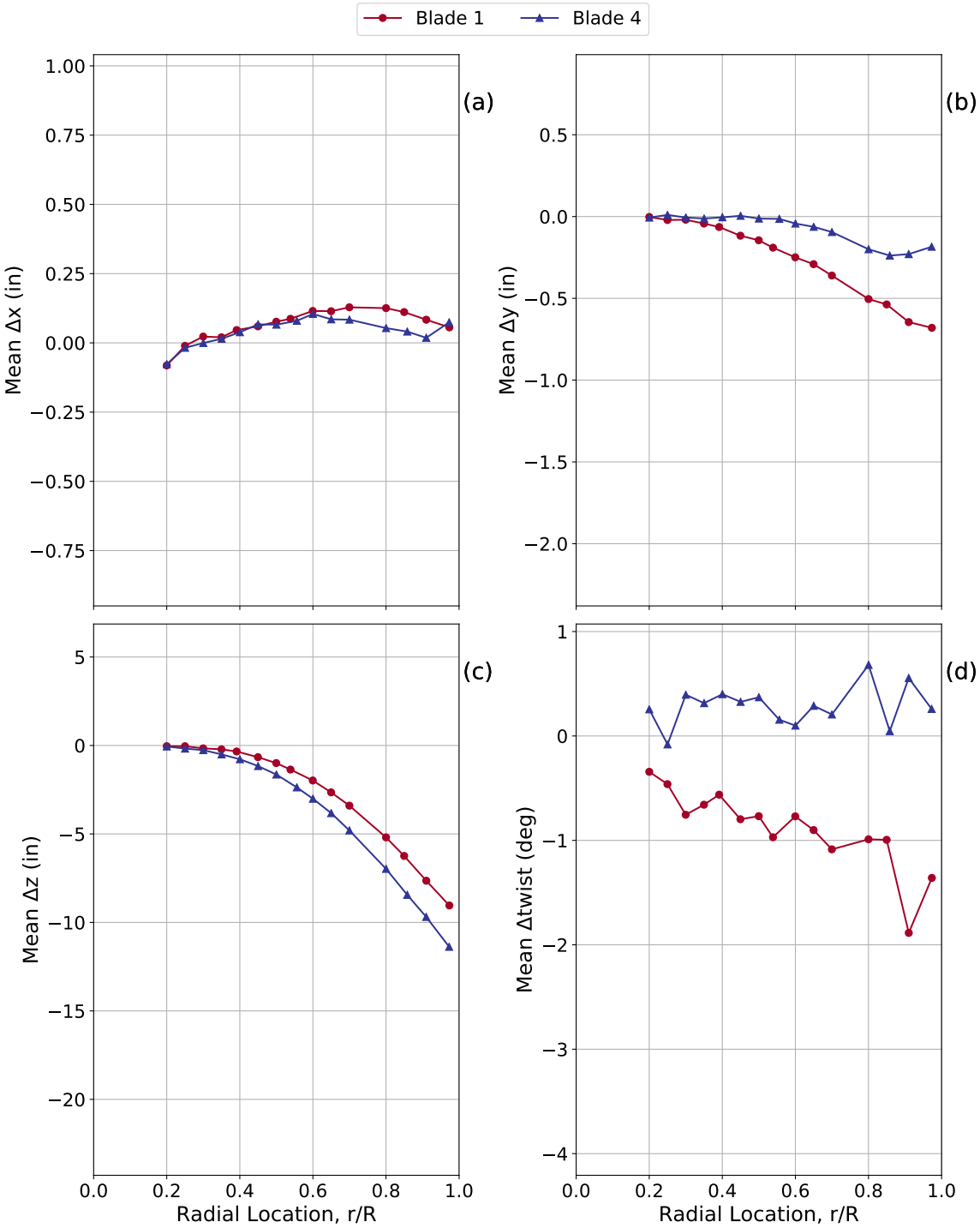


Figure 3.51-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0815	0.0015	-0.0025	0.0007	-0.0400	0.0023	-0.3431	0.0182
1	90	0.2499	-0.0108	0.0017	-0.0211	0.0016	-0.0419	0.0052	-0.4614	0.0376
1	90	0.2998	0.0227	0.0009	-0.0193	0.0028	-0.1629	0.0101	-0.7547	0.0427
1	90	0.3498	0.0201	0.0013	-0.0428	0.0048	-0.2185	0.0164	-0.6584	0.0313
1	90	0.3913	0.0462	0.0021	-0.0639	0.0070	-0.3390	0.0245	-0.5623	0.0408
1	90	0.4496	0.0596	0.0013	-0.1171	0.0108	-0.6602	0.0396	-0.7975	0.0456
1	90	0.4997	0.0764	0.0020	-0.1451	0.0139	-0.9956	0.0538	-0.7682	0.0498
1	90	0.5387	0.0869	0.0025	-0.1902	0.0168	-1.3614	0.0651	-0.9701	0.0504
1	90	0.5996	0.1152	0.0036	-0.2492	0.0217	-1.9778	0.0804	-0.7699	0.0516
1	90	0.6498	0.1143	0.0047	-0.2912	0.0258	-2.6495	0.0944	-0.9012	0.0605
1	90	0.6998	0.1284	0.0057	-0.3606	0.0303	-3.3999	0.1052	-1.0859	0.0757
1	90	0.8001	0.1254	0.0085	-0.5044	0.0401	-5.1959	0.1306	-0.9898	0.0898
1	90	0.8497	0.1112	0.0104	-0.5371	0.0446	-6.2435	0.1430	-0.9947	0.1042
1	90	0.9102	0.0836	0.0135	-0.6452	0.0513	-7.6440	0.1675	-1.8860	0.1238
1	90	0.9734	0.0559	0.0157	-0.6802	0.0581	-9.0421	0.1952	-1.3593	0.0862
4	90.35	0.2001	-0.0768	0.0014	-0.0064	0.0006	-0.0561	0.0022	0.2551	0.0166
4	90.35	0.2502	-0.0178	0.0008	0.0101	0.0013	-0.1777	0.0049	-0.0811	0.0344
4	90.35	0.3001	-0.0005	0.0019	-0.0058	0.0024	-0.2619	0.0098	0.3949	0.0388
4	90.35	0.3502	0.0147	0.0017	-0.0120	0.0045	-0.5048	0.0157	0.3141	0.0326
4	90.35	0.4002	0.0385	0.0020	-0.0046	0.0067	-0.7788	0.0253	0.4001	0.0434
4	90.35	0.4500	0.0667	0.0029	0.0045	0.0101	-1.1647	0.0326	0.3263	0.0393
4	90.35	0.5001	0.0657	0.0035	-0.0124	0.0140	-1.6425	0.0410	0.3707	0.0511
4	90.35	0.5560	0.0796	0.0042	-0.0143	0.0186	-2.3693	0.0500	0.1556	0.0394
4	90.35	0.6001	0.1044	0.0041	-0.0428	0.0230	-3.0100	0.0551	0.0990	0.0450
4	90.35	0.6501	0.0850	0.0047	-0.0628	0.0288	-3.8247	0.0631	0.2885	0.0553
4	90.35	0.6999	0.0838	0.0058	-0.0948	0.0347	-4.8030	0.0652	0.2057	0.0485
4	90.35	0.8002	0.0533	0.0078	-0.2000	0.0476	-6.9735	0.0779	0.6806	0.0594
4	90.35	0.8582	0.0407	0.0090	-0.2386	0.0559	-8.4432	0.0932	0.0461	0.0781
4	90.35	0.9101	0.0183	0.0102	-0.2298	0.0625	-9.6906	0.1025	0.5544	0.0643
4	90.35	0.9728	0.0741	0.0124	-0.1847	0.0701	-11.3789	0.1223	0.2586	0.0595

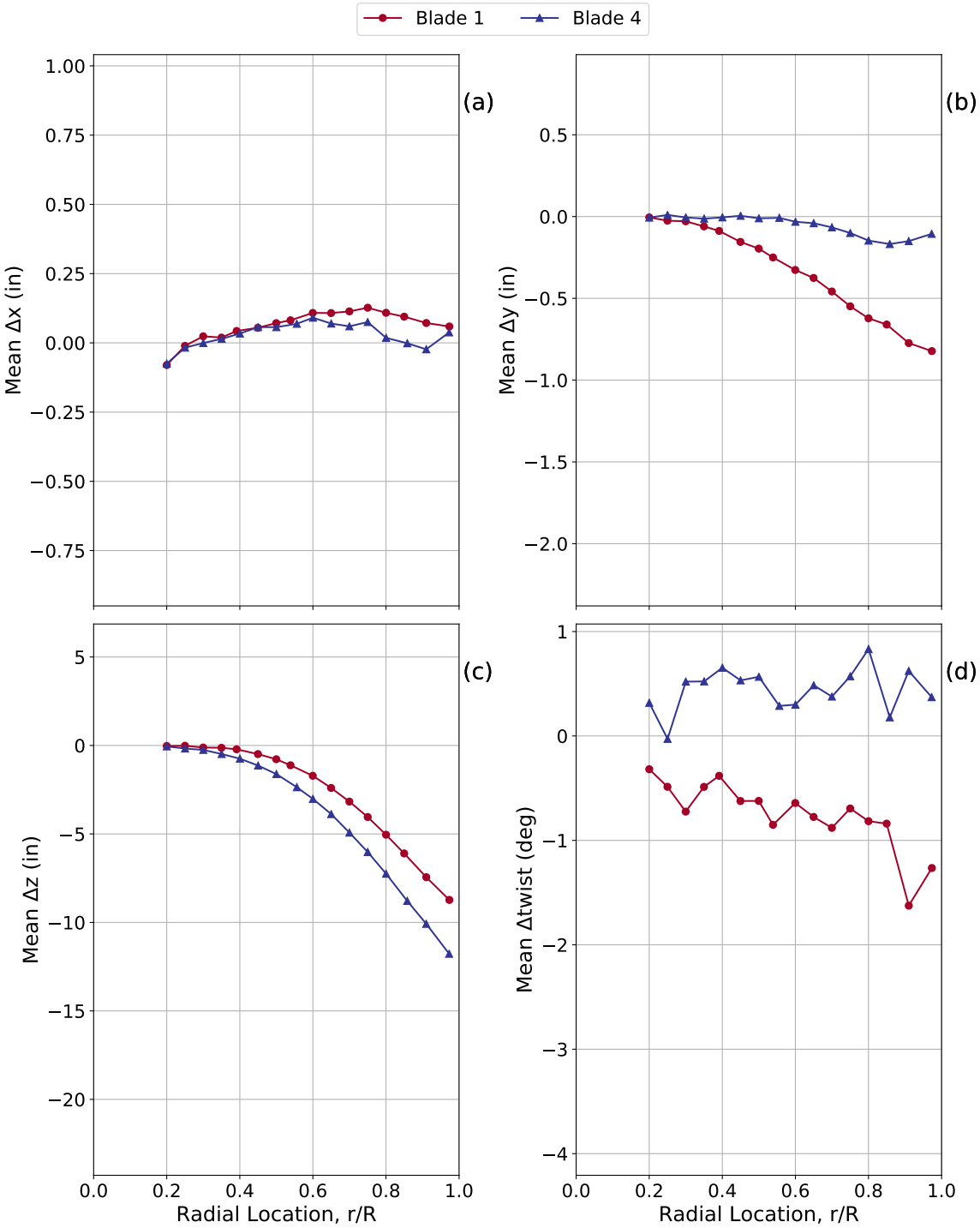


Figure 3.51-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0800	0.0020	-0.0051	0.0006	-0.0284	0.0028	-0.3187	0.0297
1	94.92	0.2499	-0.0108	0.0014	-0.0253	0.0013	-0.0161	0.0066	-0.4869	0.0568
1	94.92	0.2998	0.0237	0.0015	-0.0289	0.0027	-0.1158	0.0132	-0.7245	0.0708
1	94.92	0.3498	0.0191	0.0017	-0.0602	0.0040	-0.1307	0.0209	-0.4875	0.0799
1	94.92	0.3913	0.0429	0.0016	-0.0877	0.0062	-0.2162	0.0318	-0.3817	0.0786
1	94.92	0.4496	0.0546	0.0022	-0.1550	0.0084	-0.4856	0.0477	-0.6231	0.0772
1	94.92	0.4997	0.0713	0.0030	-0.1959	0.0108	-0.7778	0.0647	-0.6220	0.0794
1	94.92	0.5387	0.0815	0.0033	-0.2500	0.0127	-1.1191	0.0804	-0.8513	0.0773
1	94.92	0.5996	0.1081	0.0042	-0.3266	0.0160	-1.7121	0.1044	-0.6421	0.0896
1	94.92	0.6498	0.1076	0.0049	-0.3753	0.0188	-2.3989	0.1242	-0.7754	0.0905
1	94.92	0.6998	0.1137	0.0061	-0.4581	0.0220	-3.1718	0.1447	-0.8801	0.0785
1	94.92	0.7500	0.1269	0.0084	-0.5487	0.0260	-4.0438	0.1594	-0.6945	0.0894
1	94.92	0.8001	0.1085	0.0075	-0.6222	0.0304	-5.0445	0.1744	-0.8163	0.0853
1	94.92	0.8497	0.0946	0.0091	-0.6601	0.0348	-6.1014	0.1867	-0.8397	0.1010
1	94.92	0.9102	0.0717	0.0091	-0.7735	0.0416	-7.4443	0.2022	-1.6252	0.0923
1	94.92	0.9734	0.0592	0.0116	-0.8225	0.0478	-8.7291	0.2226	-1.2647	0.1083
4	94.92	0.2001	-0.0749	0.0011	-0.0064	0.0010	-0.0526	0.0023	0.3172	0.0189
4	94.92	0.2502	-0.0172	0.0013	0.0099	0.0015	-0.1729	0.0063	-0.0280	0.0349
4	94.92	0.3001	-0.0006	0.0015	-0.0054	0.0036	-0.2504	0.0110	0.5201	0.0441
4	94.92	0.3502	0.0145	0.0014	-0.0129	0.0062	-0.4825	0.0188	0.5221	0.0420
4	94.92	0.4002	0.0337	0.0015	-0.0050	0.0093	-0.7471	0.0302	0.6533	0.0470
4	94.92	0.4500	0.0569	0.0023	0.0047	0.0119	-1.1342	0.0406	0.5322	0.0315
4	94.92	0.5001	0.0567	0.0021	-0.0106	0.0155	-1.6166	0.0518	0.5666	0.0433
4	94.92	0.5560	0.0688	0.0028	-0.0081	0.0202	-2.3599	0.0623	0.2879	0.0477
4	94.92	0.6001	0.0909	0.0035	-0.0319	0.0236	-3.0196	0.0684	0.2995	0.0406
4	94.92	0.6501	0.0697	0.0039	-0.0408	0.0283	-3.8791	0.0759	0.4854	0.0442
4	94.92	0.6999	0.0597	0.0049	-0.0661	0.0327	-4.9250	0.0836	0.3770	0.0496
4	94.92	0.7500	0.0752	0.0060	-0.1006	0.0382	-6.0240	0.0933	0.5716	0.0537
4	94.92	0.8002	0.0181	0.0073	-0.1470	0.0429	-7.2480	0.1117	0.8321	0.0592
4	94.92	0.8582	-0.0014	0.0101	-0.1682	0.0487	-8.7861	0.1354	0.1778	0.0604
4	94.92	0.9101	-0.0233	0.0117	-0.1503	0.0544	-10.0802	0.1650	0.6227	0.0628
4	94.92	0.9728	0.0378	0.0146	-0.1058	0.0623	-11.7733	0.1920	0.3714	0.0864

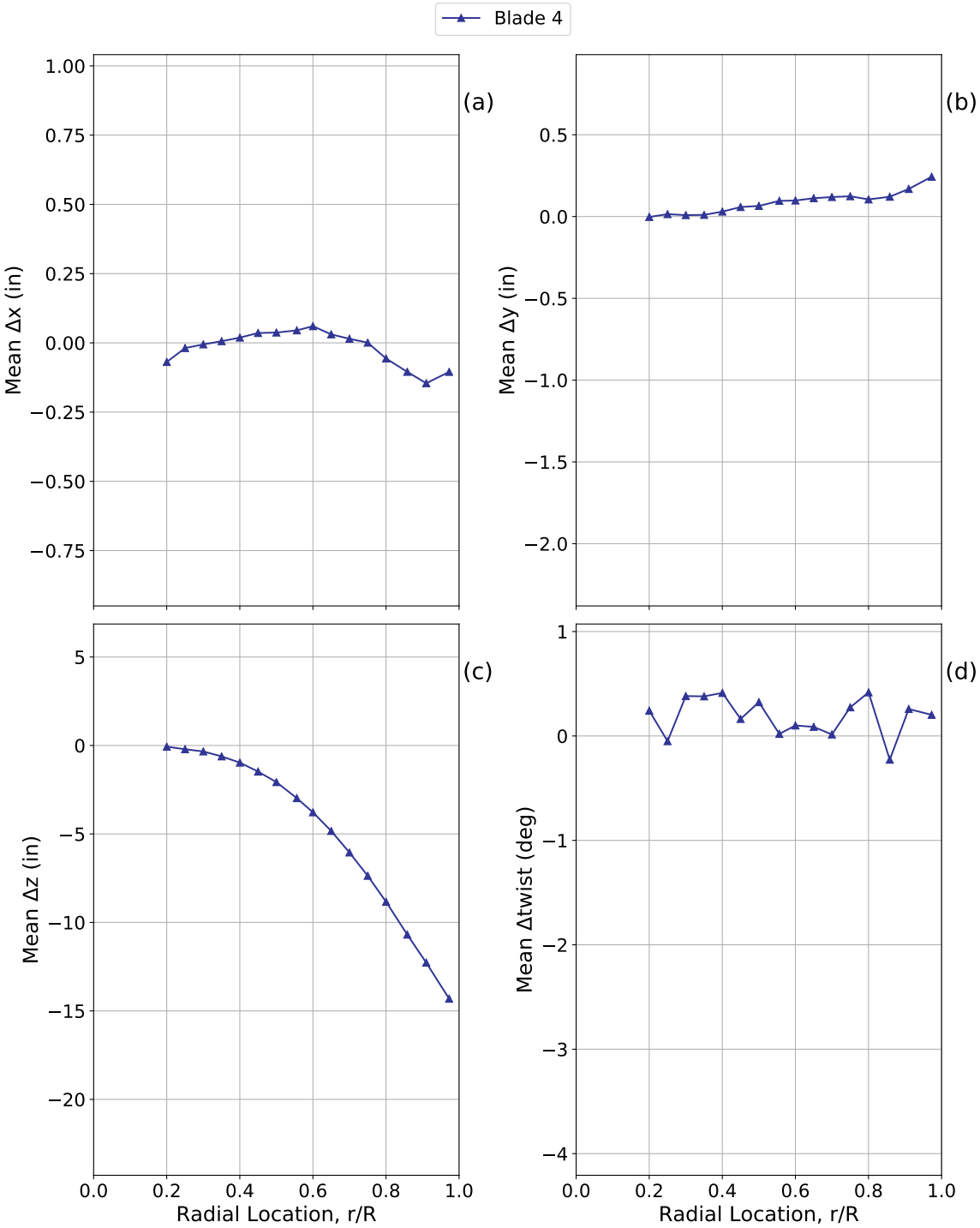


Figure 3.51-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0690	0.0016	-0.0026	0.0007	-0.0710	0.0022	0.2419	0.0194
4	105.12	0.2502	-0.0188	0.0009	0.0147	0.0012	-0.2131	0.0047	-0.0504	0.0235
4	105.12	0.3001	-0.0056	0.0012	0.0087	0.0027	-0.3383	0.0095	0.3818	0.0384
4	105.12	0.3502	0.0060	0.0013	0.0102	0.0042	-0.6173	0.0145	0.3791	0.0312
4	105.12	0.4002	0.0190	0.0014	0.0303	0.0065	-0.9705	0.0238	0.4122	0.0372
4	105.12	0.4500	0.0356	0.0018	0.0582	0.0089	-1.4769	0.0322	0.1628	0.0463
4	105.12	0.5001	0.0372	0.0016	0.0649	0.0115	-2.0717	0.0417	0.3233	0.0400
4	105.12	0.5560	0.0451	0.0027	0.0958	0.0154	-2.9781	0.0532	0.0196	0.0369
4	105.12	0.6001	0.0602	0.0035	0.0979	0.0182	-3.7787	0.0620	0.1003	0.0440
4	105.12	0.6501	0.0307	0.0037	0.1121	0.0213	-4.8322	0.0699	0.0870	0.0377
4	105.12	0.6999	0.0147	0.0045	0.1193	0.0244	-6.0486	0.0805	0.0140	0.0340
4	105.12	0.7500	0.0007	0.0055	0.1240	0.0289	-7.3666	0.0953	0.2738	0.0348
4	105.12	0.8002	-0.0565	0.0070	0.1049	0.0332	-8.8358	0.1106	0.4172	0.0446
4	105.12	0.8582	-0.1047	0.0092	0.1211	0.0386	-10.6894	0.1293	-0.2273	0.0468
4	105.12	0.9101	-0.1458	0.0111	0.1686	0.0436	-12.2747	0.1513	0.2579	0.0548
4	105.12	0.9728	-0.1049	0.0138	0.2432	0.0489	-14.3119	0.1844	0.2022	0.0476

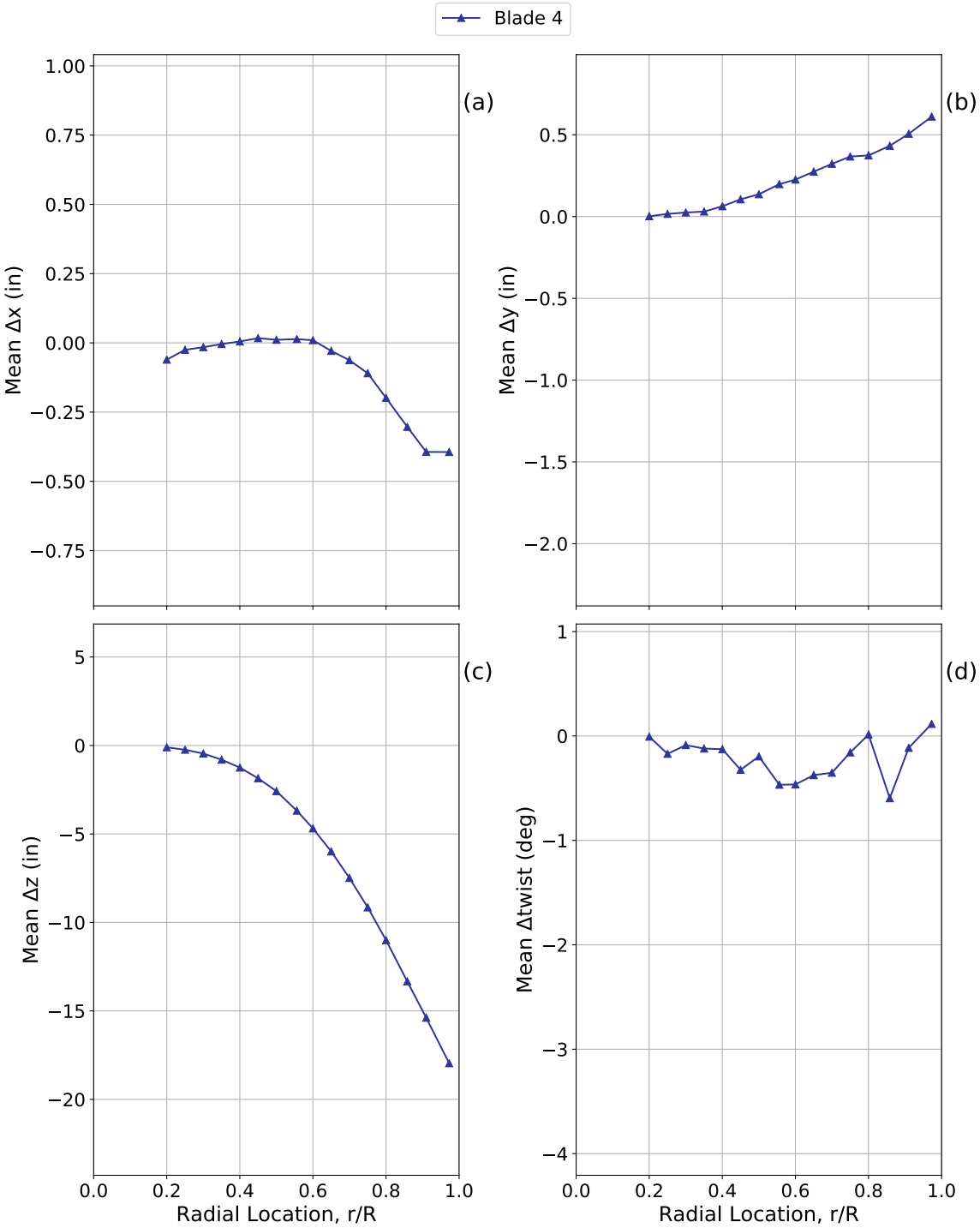


Figure 3.51-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0607	0.0008	0.0018	0.0007	-0.1053	0.0026	-0.0068	0.0309
4	119.88	0.2502	-0.0251	0.0011	0.0163	0.0012	-0.2426	0.0074	-0.1712	0.0256
4	119.88	0.3001	-0.0157	0.0013	0.0247	0.0026	-0.4563	0.0131	-0.0877	0.0600
4	119.88	0.3502	-0.0043	0.0018	0.0303	0.0045	-0.8028	0.0202	-0.1207	0.0562
4	119.88	0.4002	0.0051	0.0026	0.0630	0.0066	-1.2497	0.0339	-0.1269	0.0466
4	119.88	0.4500	0.0170	0.0032	0.1052	0.0093	-1.8553	0.0457	-0.3247	0.0388
4	119.88	0.5001	0.0111	0.0040	0.1362	0.0118	-2.5820	0.0624	-0.1960	0.0584
4	119.88	0.5560	0.0137	0.0058	0.1978	0.0158	-3.6865	0.0869	-0.4672	0.0507
4	119.88	0.6001	0.0094	0.0076	0.2260	0.0191	-4.6874	0.1111	-0.4645	0.0547
4	119.88	0.6501	-0.0291	0.0108	0.2744	0.0233	-5.9906	0.1438	-0.3752	0.0498
4	119.88	0.6999	-0.0626	0.0148	0.3220	0.0273	-7.4884	0.1814	-0.3525	0.0520
4	119.88	0.7500	-0.1098	0.0193	0.3668	0.0316	-9.1533	0.2269	-0.1580	0.0503
4	119.88	0.8002	-0.1988	0.0255	0.3737	0.0360	-11.0050	0.2798	0.0139	0.0490
4	119.88	0.8582	-0.3033	0.0337	0.4323	0.0408	-13.3344	0.3498	-0.5967	0.0528
4	119.88	0.9101	-0.3939	0.0420	0.5058	0.0454	-15.3871	0.4206	-0.1137	0.0584
4	119.88	0.9728	-0.3942	0.0523	0.6107	0.0499	-17.9586	0.5116	0.1154	0.0801

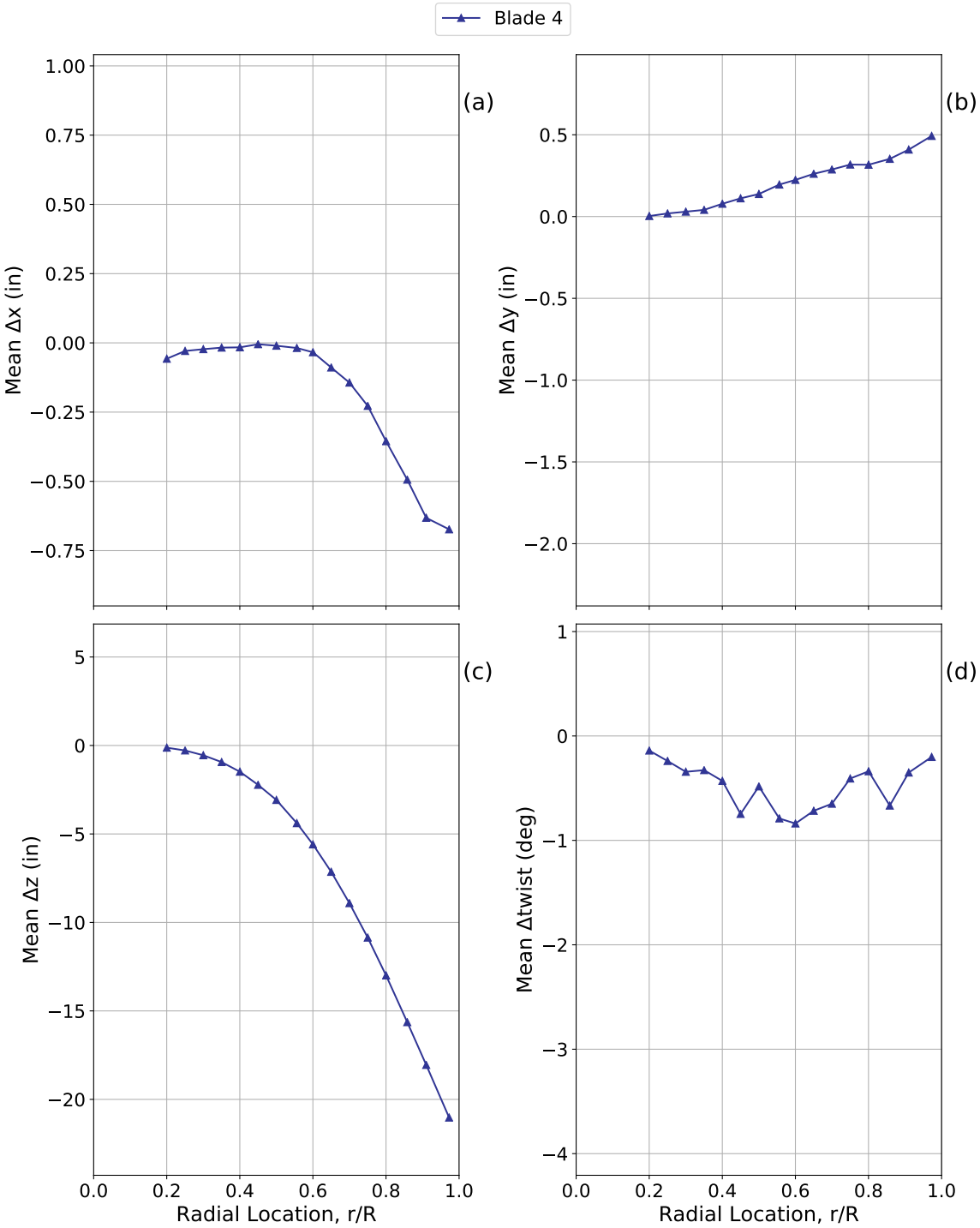


Figure 3.51-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0574	0.0016	0.0032	0.0006	-0.1254	0.0018	-0.1401	0.0204
4	135	0.2502	-0.0293	0.0006	0.0189	0.0024	-0.2821	0.0056	-0.2398	0.0127
4	135	0.3001	-0.0228	0.0013	0.0298	0.0037	-0.5536	0.0072	-0.3433	0.0368
4	135	0.3502	-0.0172	0.0020	0.0408	0.0046	-0.9392	0.0115	-0.3275	0.0435
4	135	0.4002	-0.0162	0.0019	0.0781	0.0092	-1.4832	0.0195	-0.4307	0.0437
4	135	0.4500	-0.0049	0.0020	0.1113	0.0117	-2.2258	0.0189	-0.7469	0.0482
4	135	0.5001	-0.0104	0.0030	0.1378	0.0146	-3.0802	0.0264	-0.4834	0.0340
4	135	0.5560	-0.0185	0.0039	0.1953	0.0188	-4.3917	0.0311	-0.7901	0.0506
4	135	0.6001	-0.0340	0.0043	0.2241	0.0220	-5.5921	0.0383	-0.8386	0.0432
4	135	0.6501	-0.0891	0.0055	0.2613	0.0258	-7.1433	0.0479	-0.7167	0.0475
4	135	0.6999	-0.1436	0.0067	0.2877	0.0309	-8.9125	0.0606	-0.6494	0.0524
4	135	0.7500	-0.2277	0.0081	0.3176	0.0358	-10.8598	0.0721	-0.4078	0.0496
4	135	0.8002	-0.3552	0.0098	0.3167	0.0416	-12.9965	0.0884	-0.3386	0.0574
4	135	0.8582	-0.4940	0.0128	0.3525	0.0480	-15.6372	0.1075	-0.6671	0.0579
4	135	0.9101	-0.6318	0.0158	0.4092	0.0535	-18.0537	0.1251	-0.3507	0.0535
4	135	0.9728	-0.6734	0.0193	0.4928	0.0600	-21.0299	0.1483	-0.2015	0.0569

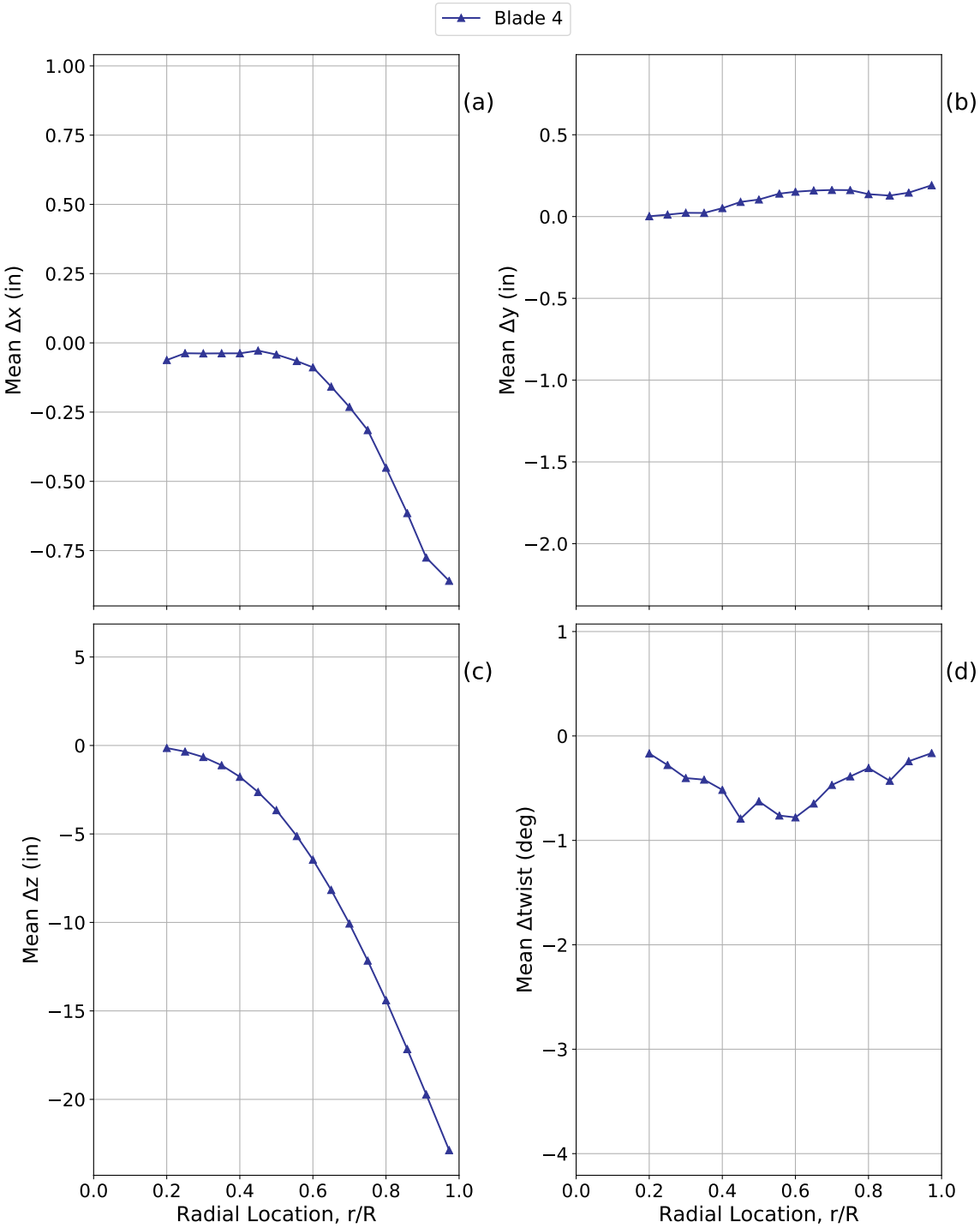


Figure 3.51-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0621	0.0015	0.0017	0.0014	-0.1445	0.0057	-0.1678	0.0469
4	150.12	0.2502	-0.0375	0.0019	0.0115	0.0047	-0.3462	0.0106	-0.2787	0.0712
4	150.12	0.3001	-0.0383	0.0026	0.0227	0.0067	-0.6550	0.0208	-0.4034	0.1017
4	150.12	0.3502	-0.0379	0.0026	0.0220	0.0131	-1.1197	0.0386	-0.4185	0.0960
4	150.12	0.4002	-0.0378	0.0034	0.0513	0.0200	-1.7742	0.0570	-0.5166	0.1048
4	150.12	0.4500	-0.0280	0.0044	0.0893	0.0269	-2.6333	0.0766	-0.7925	0.1216
4	150.12	0.5001	-0.0423	0.0058	0.1040	0.0337	-3.6589	0.0988	-0.6265	0.1279
4	150.12	0.5560	-0.0658	0.0080	0.1400	0.0433	-5.1215	0.1263	-0.7623	0.1395
4	150.12	0.6001	-0.0884	0.0103	0.1517	0.0496	-6.4562	0.1492	-0.7800	0.1502
4	150.12	0.6501	-0.1582	0.0132	0.1590	0.0588	-8.1685	0.1770	-0.6474	0.1546
4	150.12	0.6999	-0.2315	0.0169	0.1624	0.0680	-10.0673	0.2075	-0.4693	0.1531
4	150.12	0.7500	-0.3152	0.0224	0.1616	0.0780	-12.1621	0.2439	-0.3877	0.1594
4	150.12	0.8002	-0.4510	0.0285	0.1368	0.0886	-14.4001	0.2846	-0.3071	0.1661
4	150.12	0.8582	-0.6149	0.0368	0.1282	0.1004	-17.1623	0.3394	-0.4295	0.1708
4	150.12	0.9101	-0.7754	0.0444	0.1461	0.1113	-19.7234	0.3938	-0.2421	0.1779
4	150.12	0.9728	-0.8593	0.0541	0.1911	0.1243	-22.8742	0.4656	-0.1644	0.1755

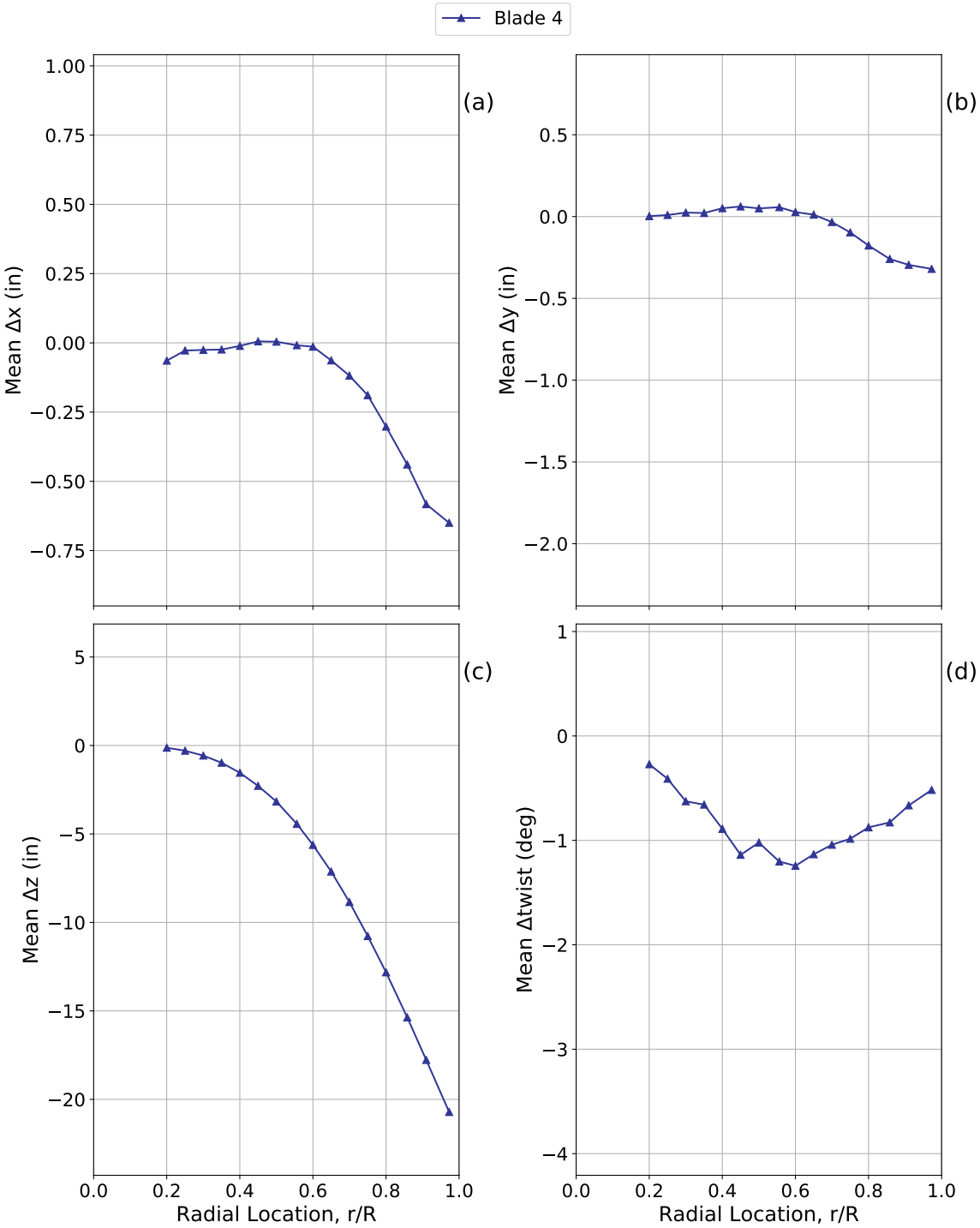


Figure 3.51-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0643	0.0017	0.0024	0.0011	-0.1283	0.0030	-0.2710	0.0310
4	164.88	0.2502	-0.0276	0.0021	0.0094	0.0030	-0.2971	0.0079	-0.4100	0.0322
4	164.88	0.3001	-0.0256	0.0014	0.0241	0.0041	-0.5723	0.0129	-0.6258	0.0624
4	164.88	0.3502	-0.0242	0.0021	0.0216	0.0082	-0.9774	0.0230	-0.6581	0.0471
4	164.88	0.4002	-0.0110	0.0024	0.0508	0.0122	-1.5439	0.0358	-0.8904	0.0448
4	164.88	0.4500	0.0053	0.0024	0.0615	0.0133	-2.2845	0.0493	-1.1384	0.0437
4	164.88	0.5001	0.0042	0.0034	0.0500	0.0162	-3.1678	0.0617	-1.0214	0.0556
4	164.88	0.5560	-0.0087	0.0040	0.0570	0.0225	-4.4325	0.0775	-1.2029	0.0437
4	164.88	0.6001	-0.0138	0.0050	0.0274	0.0263	-5.6217	0.0876	-1.2436	0.0610
4	164.88	0.6501	-0.0635	0.0070	0.0115	0.0310	-7.1277	0.1048	-1.1332	0.0533
4	164.88	0.6999	-0.1185	0.0095	-0.0338	0.0359	-8.8494	0.1229	-1.0421	0.0519
4	164.88	0.7500	-0.1892	0.0131	-0.0971	0.0416	-10.7730	0.1454	-0.9846	0.0585
4	164.88	0.8002	-0.3025	0.0177	-0.1771	0.0473	-12.8218	0.1727	-0.8755	0.0537
4	164.88	0.8582	-0.4394	0.0230	-0.2596	0.0540	-15.3708	0.2082	-0.8279	0.0588
4	164.88	0.9101	-0.5825	0.0273	-0.2956	0.0598	-17.7731	0.2426	-0.6652	0.0534
4	164.88	0.9728	-0.6498	0.0327	-0.3202	0.0673	-20.7138	0.2891	-0.5168	0.0673

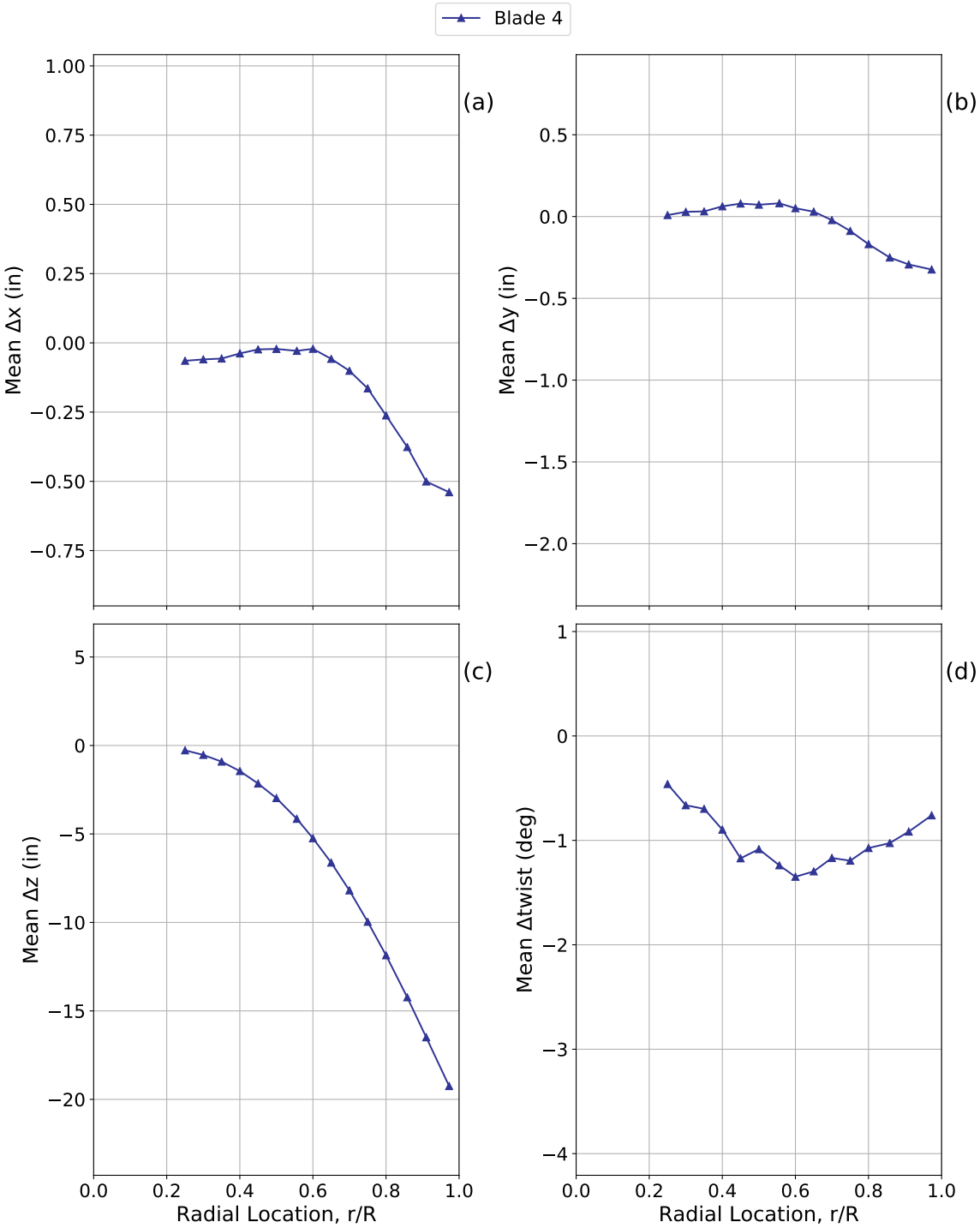


Figure 3.51-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2502	-0.0647	0.0043	0.0088	0.0050	-0.2746	0.0066	-0.4611	0.0969
4	170.16	0.3001	-0.0597	0.0034	0.0288	0.0085	-0.5352	0.0123	-0.6639	0.1382
4	170.16	0.3502	-0.0567	0.0036	0.0316	0.0166	-0.9132	0.0217	-0.6979	0.0948
4	170.16	0.4002	-0.0382	0.0045	0.0624	0.0249	-1.4480	0.0328	-0.8975	0.1292
4	170.16	0.4500	-0.0236	0.0046	0.0793	0.0306	-2.1530	0.0426	-1.1719	0.1279
4	170.16	0.5001	-0.0220	0.0048	0.0724	0.0388	-2.9755	0.0549	-1.0844	0.1475
4	170.16	0.5560	-0.0289	0.0057	0.0810	0.0452	-4.1474	0.0732	-1.2390	0.1220
4	170.16	0.6001	-0.0216	0.0081	0.0508	0.0517	-5.2439	0.0916	-1.3486	0.1381
4	170.16	0.6501	-0.0579	0.0100	0.0298	0.0587	-6.6221	0.1177	-1.2971	0.1320
4	170.16	0.6999	-0.1009	0.0124	-0.0220	0.0660	-8.1919	0.1500	-1.1686	0.1471
4	170.16	0.7500	-0.1646	0.0165	-0.0881	0.0725	-9.9660	0.1867	-1.1948	0.1449
4	170.16	0.8002	-0.2622	0.0213	-0.1690	0.0798	-11.8602	0.2259	-1.0735	0.1436
4	170.16	0.8582	-0.3763	0.0280	-0.2505	0.0874	-14.2342	0.2784	-1.0259	0.1444
4	170.16	0.9101	-0.5007	0.0341	-0.2931	0.0955	-16.4935	0.3250	-0.9163	0.1614
4	170.16	0.9728	-0.5394	0.0410	-0.3239	0.1049	-19.2499	0.3829	-0.7605	0.1536

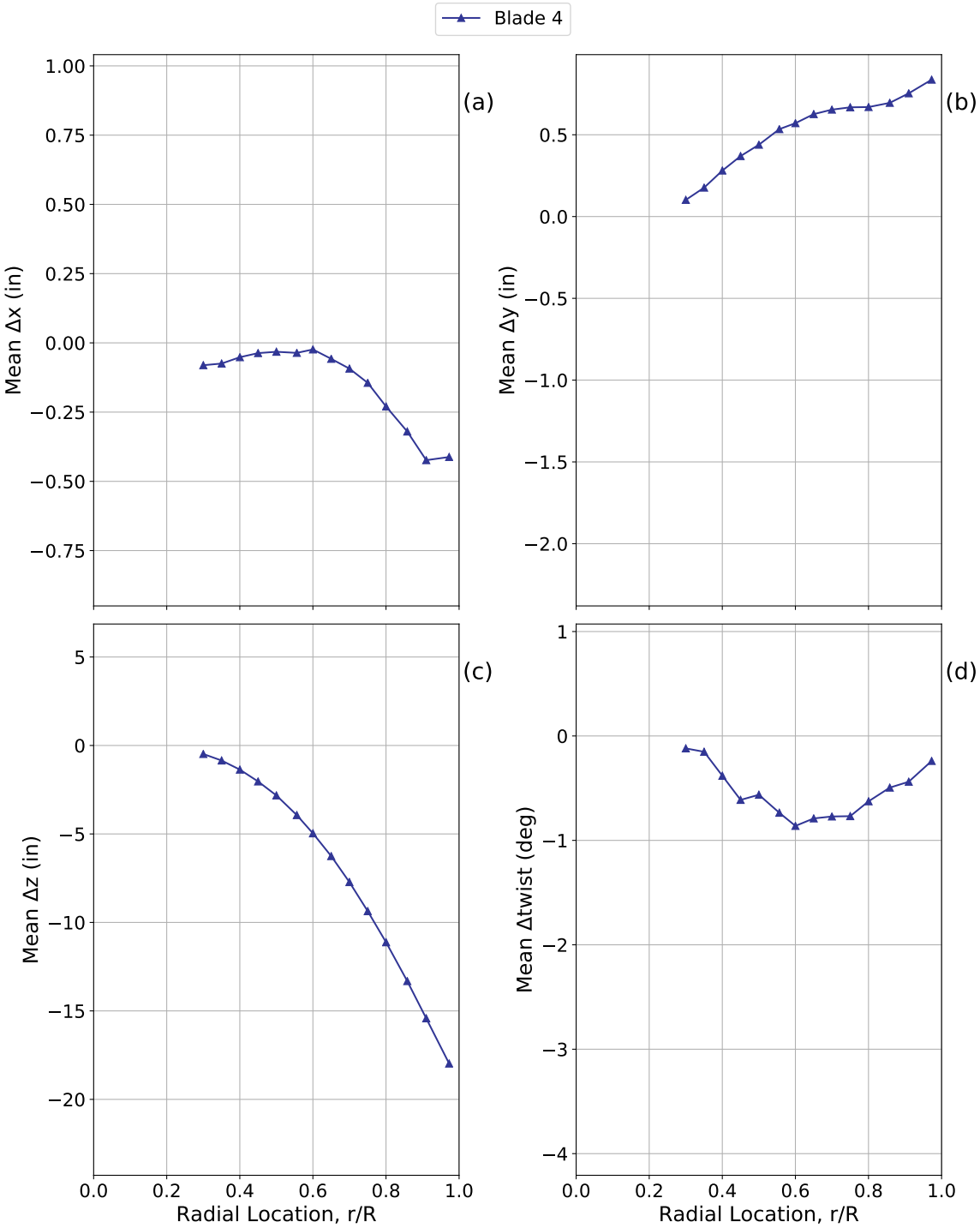


Figure 3.51-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.3001	-0.0807	0.0079	0.1018	0.0149	-0.4820	0.0266	-0.1192	0.1181
4	175.08	0.3502	-0.0747	0.0079	0.1767	0.0260	-0.8505	0.0470	-0.1517	0.1568
4	175.08	0.4002	-0.0518	0.0083	0.2811	0.0413	-1.3658	0.0756	-0.3817	0.1360
4	175.08	0.4500	-0.0370	0.0081	0.3696	0.0532	-2.0346	0.0998	-0.6125	0.1400
4	175.08	0.5001	-0.0322	0.0101	0.4391	0.0669	-2.8234	0.1216	-0.5631	0.1575
4	175.08	0.5560	-0.0362	0.0108	0.5343	0.0806	-3.9357	0.1519	-0.7357	0.1465
4	175.08	0.6001	-0.0238	0.0122	0.5709	0.0932	-4.9665	0.1758	-0.8615	0.1568
4	175.08	0.6501	-0.0577	0.0142	0.6261	0.1056	-6.2535	0.2025	-0.7898	0.1443
4	175.08	0.6999	-0.0930	0.0160	0.6536	0.1180	-7.7223	0.2291	-0.7712	0.1579
4	175.08	0.7500	-0.1444	0.0200	0.6679	0.1322	-9.3653	0.2559	-0.7682	0.1617
4	175.08	0.8002	-0.2298	0.0233	0.6694	0.1456	-11.1227	0.2871	-0.6260	0.1571
4	175.08	0.8582	-0.3202	0.0291	0.6951	0.1621	-13.3170	0.3310	-0.4949	0.1589
4	175.08	0.9101	-0.4236	0.0343	0.7533	0.1773	-15.4213	0.3739	-0.4385	0.1749
4	175.08	0.9728	-0.4121	0.0415	0.8367	0.1941	-17.9769	0.4329	-0.2395	0.1733

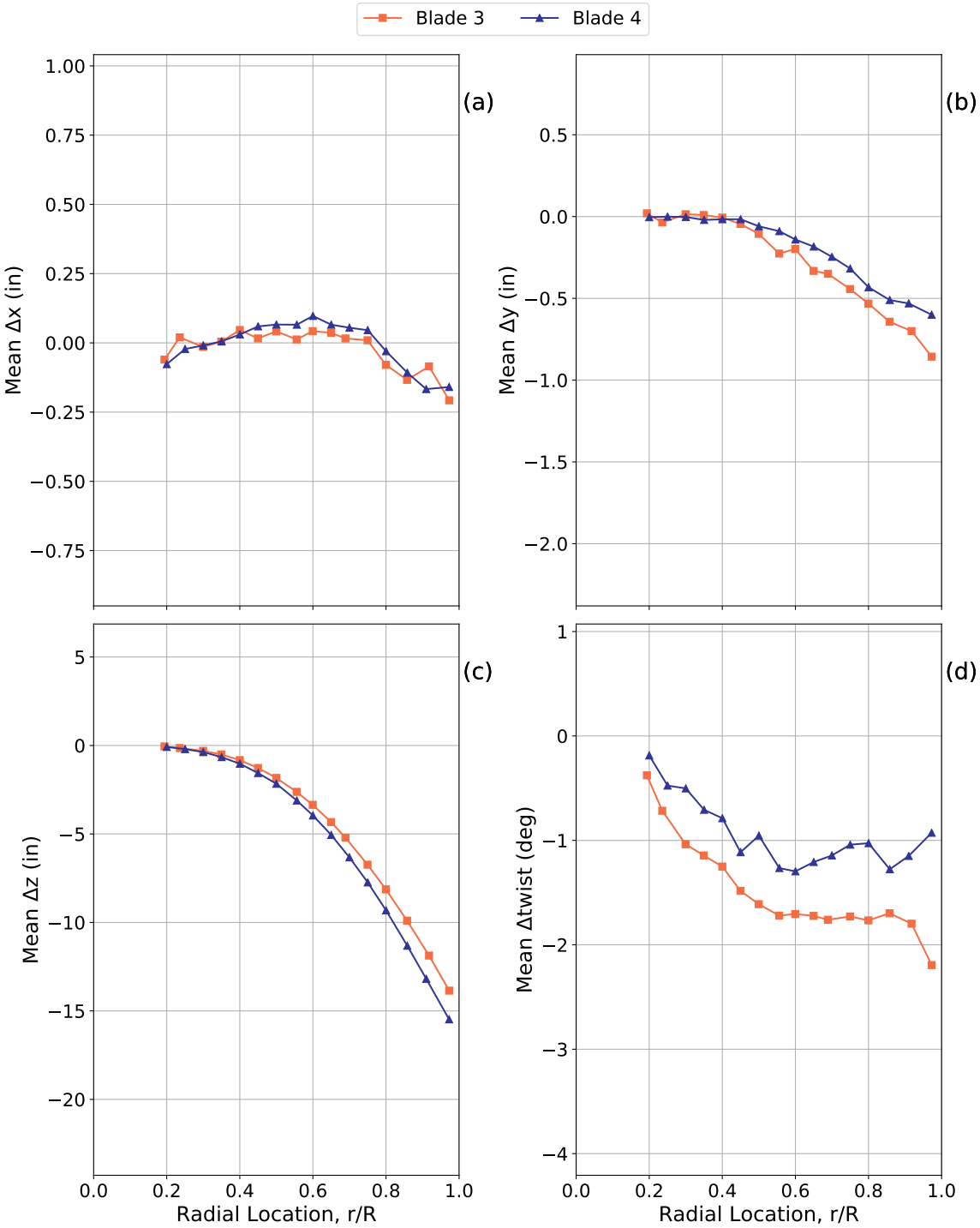


Figure 3.51-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0604	0.0158	0.0197	0.0018	-0.0529	0.0030	-0.3769	0.0277
3	180.35	0.2357	0.0199	0.0090	-0.0362	0.0031	-0.1443	0.0061	-0.7164	0.0402
3	180.35	0.2995	-0.0147	0.0063	0.0145	0.0066	-0.3047	0.0093	-1.0372	0.0568
3	180.35	0.3493	0.0045	0.0161	0.0094	0.0114	-0.5066	0.0175	-1.1444	0.0477
3	180.35	0.4000	0.0464	0.0257	-0.0063	0.0177	-0.8280	0.0259	-1.2509	0.0467
3	180.35	0.4497	0.0161	0.0347	-0.0454	0.0236	-1.2705	0.0354	-1.4832	0.0577
3	180.35	0.4997	0.0416	0.0416	-0.1059	0.0311	-1.8324	0.0468	-1.6108	0.0507
3	180.35	0.5556	0.0123	0.0470	-0.2262	0.0400	-2.6225	0.0592	-1.7203	0.0612
3	180.35	0.5995	0.0423	0.0493	-0.1986	0.0480	-3.3545	0.0686	-1.7052	0.0649
3	180.35	0.6498	0.0364	0.0502	-0.3323	0.0597	-4.3293	0.0800	-1.7229	0.0586
3	180.35	0.6890	0.0159	0.0508	-0.3498	0.0704	-5.2096	0.0925	-1.7602	0.0557
3	180.35	0.7495	0.0094	0.0492	-0.4433	0.0910	-6.7383	0.1078	-1.7287	0.0592
3	180.35	0.7998	-0.0794	0.0477	-0.5322	0.1093	-8.1341	0.1247	-1.7661	0.0618
3	180.35	0.8577	-0.1335	0.0466	-0.6430	0.1305	-9.9020	0.1452	-1.6980	0.0581
3	180.35	0.9178	-0.0851	0.0441	-0.7002	0.1558	-11.8726	0.1684	-1.7976	0.0568
3	180.35	0.9729	-0.2074	0.0489	-0.8564	0.1819	-13.8545	0.1876	-2.1943	0.0923
4	180	0.2001	-0.0770	0.0121	-0.0041	0.0028	-0.0835	0.0030	-0.1867	0.0260
4	180	0.2502	-0.0222	0.0053	-0.0005	0.0041	-0.2067	0.0060	-0.4756	0.0358
4	180	0.3001	-0.0093	0.0036	-0.0031	0.0103	-0.3746	0.0099	-0.5024	0.0527
4	180	0.3502	0.0054	0.0110	-0.0206	0.0169	-0.6598	0.0164	-0.7074	0.0421
4	180	0.4002	0.0304	0.0187	-0.0167	0.0258	-1.0344	0.0251	-0.7880	0.0413
4	180	0.4500	0.0595	0.0251	-0.0164	0.0363	-1.5588	0.0329	-1.1134	0.0428
4	180	0.5001	0.0661	0.0307	-0.0597	0.0478	-2.1654	0.0385	-0.9544	0.0464
4	180	0.5560	0.0655	0.0369	-0.0895	0.0626	-3.1118	0.0472	-1.2653	0.0460
4	180	0.6001	0.0972	0.0413	-0.1406	0.0736	-3.9563	0.0537	-1.2966	0.0521
4	180	0.6501	0.0656	0.0464	-0.1836	0.0871	-5.0579	0.0623	-1.2074	0.0532
4	180	0.6999	0.0547	0.0519	-0.2461	0.1023	-6.3233	0.0728	-1.1442	0.0530
4	180	0.7500	0.0458	0.0568	-0.3181	0.1193	-7.7381	0.0884	-1.0411	0.0574
4	180	0.8002	-0.0301	0.0637	-0.4324	0.1381	-9.3193	0.1119	-1.0273	0.0548
4	180	0.8582	-0.1076	0.0716	-0.5105	0.1636	-11.3180	0.1464	-1.2768	0.0665
4	180	0.9101	-0.1670	0.0803	-0.5312	0.1881	-13.1892	0.1806	-1.1493	0.0770
4	180	0.9728	-0.1594	0.0902	-0.6004	0.2184	-15.4797	0.2241	-0.9272	0.0485

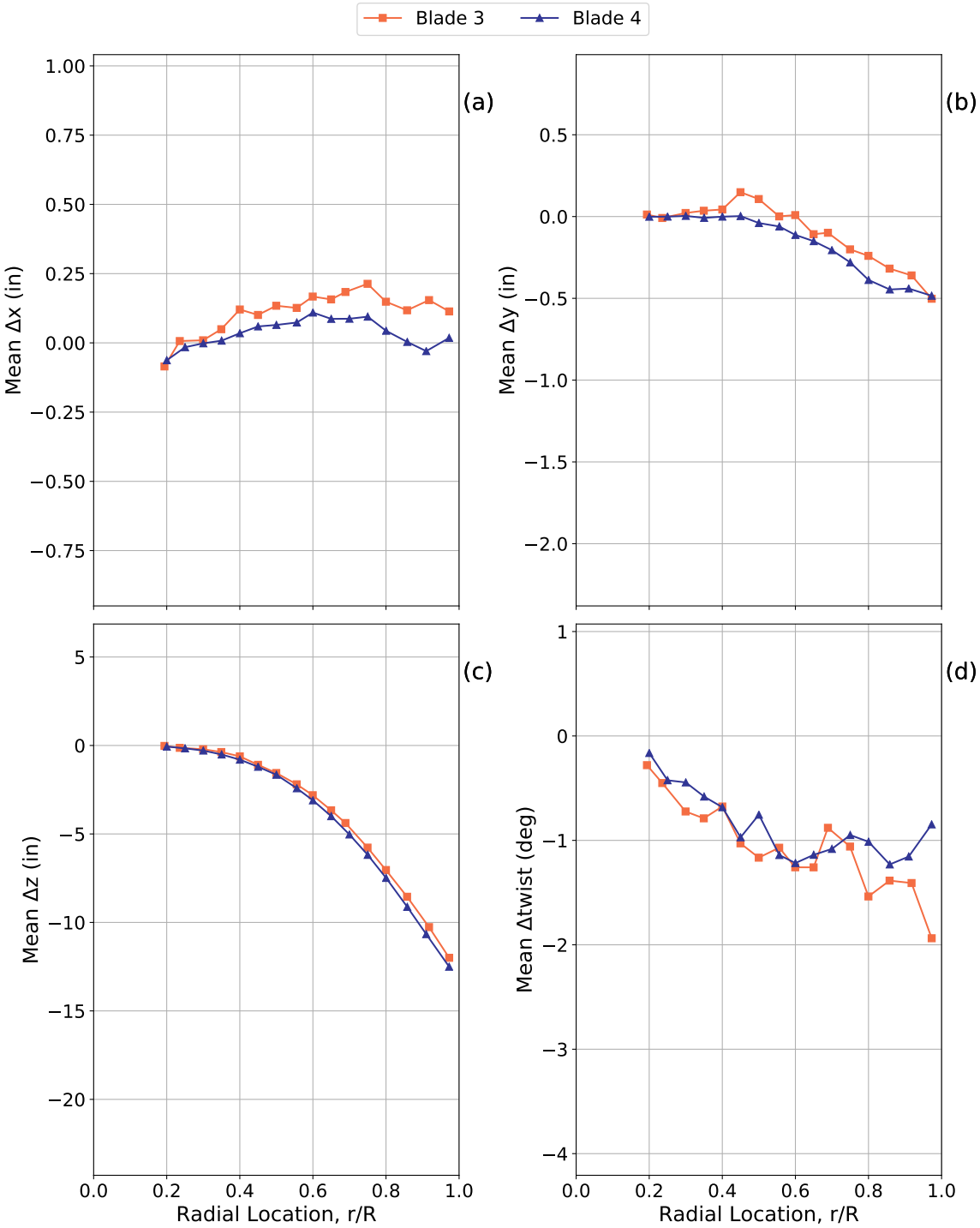


Figure 3.51-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.299, α = 8° NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0851	0.0013	0.0123	0.0015	-0.0259	0.0024	-0.2797	0.0237
3	184.92	0.2357	0.0066	0.0014	-0.0088	0.0023	-0.1331	0.0039	-0.4509	0.0470
3	184.92	0.2995	0.0093	0.0011	0.0218	0.0048	-0.2126	0.0088	-0.7233	0.0610
3	184.92	0.3493	0.0493	0.0012	0.0356	0.0059	-0.3712	0.0134	-0.7890	0.0511
3	184.92	0.4000	0.1205	0.0018	0.0432	0.0107	-0.6151	0.0216	-0.6756	0.0678
3	184.92	0.4497	0.1008	0.0473	0.1489	0.0624	-1.0931	0.0797	-1.0286	0.0436
3	184.92	0.4997	0.1340	0.0514	0.1070	0.0686	-1.5545	0.0907	-1.1655	0.0555
3	184.92	0.5556	0.1262	0.0540	0.0010	0.0758	-2.1948	0.1031	-1.0702	0.0569
3	184.92	0.5995	0.1672	0.0552	0.0090	0.0825	-2.8101	0.1160	-1.2579	0.0683
3	184.92	0.6498	0.1569	0.0574	-0.1078	0.0890	-3.6627	0.1315	-1.2582	0.1411
3	184.92	0.6890	0.1837	0.0529	-0.0991	0.0947	-4.3827	0.1381	-0.8795	0.2389
3	184.92	0.7495	0.2132	0.0463	-0.2006	0.1135	-5.7713	0.1973	-1.0593	0.0491
3	184.92	0.7998	0.1486	0.0421	-0.2403	0.1212	-7.0383	0.2169	-1.5371	0.0578
3	184.92	0.8577	0.1176	0.0347	-0.3183	0.1294	-8.5490	0.2435	-1.3853	0.0563
3	184.92	0.9178	0.1544	0.0270	-0.3599	0.1381	-10.2661	0.2732	-1.4085	0.0704
3	184.92	0.9729	0.1135	0.0199	-0.5024	0.1431	-11.9989	0.3075	-1.9373	0.0838
4	184.92	0.2001	-0.0628	0.0280	-0.0012	0.0024	-0.0632	0.0037	-0.1632	0.0202
4	184.92	0.2502	-0.0157	0.0098	-0.0004	0.0072	-0.1639	0.0073	-0.4245	0.0302
4	184.92	0.3001	-0.0017	0.0064	0.0040	0.0110	-0.2888	0.0143	-0.4450	0.0403
4	184.92	0.3502	0.0079	0.0220	-0.0082	0.0208	-0.5104	0.0237	-0.5805	0.0360
4	184.92	0.4002	0.0348	0.0370	-0.0006	0.0322	-0.8026	0.0369	-0.6828	0.0433
4	184.92	0.4500	0.0593	0.0506	0.0028	0.0452	-1.2053	0.0504	-0.9709	0.0441
4	184.92	0.5001	0.0647	0.0615	-0.0397	0.0616	-1.6559	0.0648	-0.7541	0.0552
4	184.92	0.5560	0.0735	0.0728	-0.0608	0.0835	-2.4190	0.0878	-1.1406	0.0590
4	184.92	0.6001	0.1094	0.0791	-0.1125	0.1048	-3.1028	0.1055	-1.2172	0.0469
4	184.92	0.6501	0.0866	0.0841	-0.1506	0.1322	-3.9970	0.1325	-1.1384	0.0722
4	184.92	0.6999	0.0871	0.0887	-0.2055	0.1648	-5.0304	0.1630	-1.0818	0.0605
4	184.92	0.7500	0.0946	0.0926	-0.2803	0.2005	-6.1828	0.1974	-0.9489	0.0630
4	184.92	0.8002	0.0436	0.0982	-0.3878	0.2394	-7.4856	0.2351	-1.0134	0.0679
4	184.92	0.8582	0.0033	0.1039	-0.4459	0.2855	-9.1232	0.2822	-1.2304	0.0710
4	184.92	0.9101	-0.0298	0.1117	-0.4403	0.3256	-10.6636	0.3267	-1.1549	0.0565
4	184.92	0.9728	0.0179	0.1228	-0.4843	0.3743	-12.5048	0.3773	-0.8471	0.0698

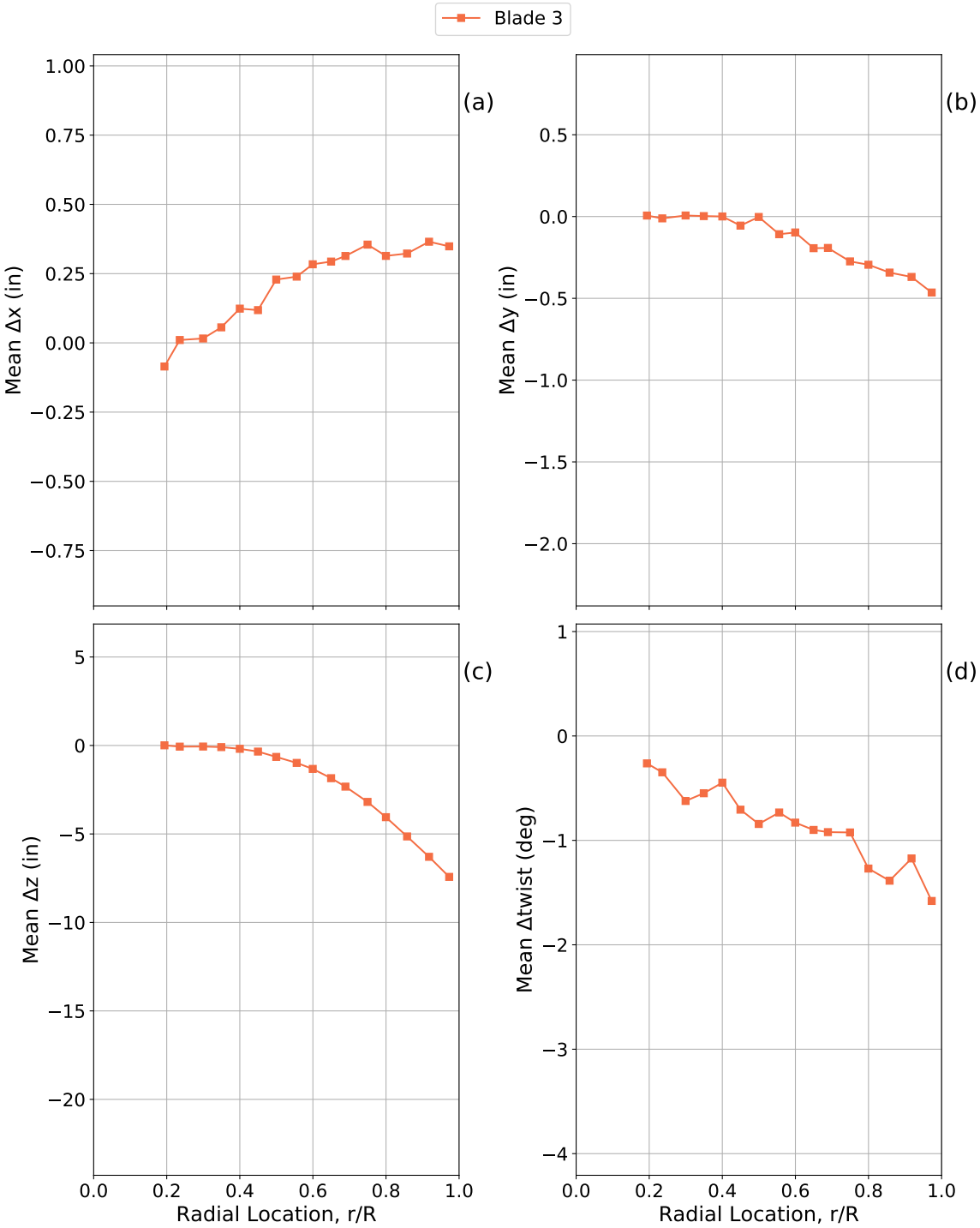


Figure 3.51-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0853	0.0023	0.0062	0.0014	0.0082	0.0037	-0.2627	0.0299
3	195.12	0.2357	0.0103	0.0014	-0.0112	0.0028	-0.0647	0.0061	-0.3481	0.0442
3	195.12	0.2995	0.0158	0.0013	0.0065	0.0047	-0.0596	0.0133	-0.6226	0.0714
3	195.12	0.3493	0.0560	0.0017	0.0028	0.0093	-0.0922	0.0258	-0.5485	0.0520
3	195.12	0.4000	0.1236	0.0012	0.0006	0.0134	-0.1888	0.0369	-0.4473	0.0610
3	195.12	0.4497	0.1182	0.0015	-0.0554	0.0168	-0.3448	0.0501	-0.7060	0.0566
3	195.12	0.4997	0.2286	0.0375	-0.0025	0.1569	-0.6468	0.1694	-0.8429	0.0382
3	195.12	0.5556	0.2391	0.0383	-0.1080	0.1743	-0.9852	0.1958	-0.7329	0.0449
3	195.12	0.5995	0.2837	0.0380	-0.0973	0.1890	-1.3243	0.2157	-0.8299	0.0537
3	195.12	0.6498	0.2935	0.0383	-0.1934	0.2022	-1.8482	0.2423	-0.9000	0.0507
3	195.12	0.6890	0.3137	0.0373	-0.1919	0.2140	-2.3259	0.2608	-0.9210	0.0567
3	195.12	0.7495	0.3548	0.0380	-0.2742	0.2274	-3.1892	0.2926	-0.9241	0.0760
3	195.12	0.7998	0.3140	0.0404	-0.2946	0.2375	-4.0526	0.3227	-1.2698	0.0761
3	195.12	0.8577	0.3225	0.0189	-0.3425	0.2752	-5.1407	0.4756	-1.3861	0.0609
3	195.12	0.9178	0.3652	0.0240	-0.3692	0.2861	-6.2927	0.5219	-1.1731	0.0699
3	195.12	0.9729	0.3485	0.0361	-0.4644	0.2977	-7.4262	0.5678	-1.5802	0.0885

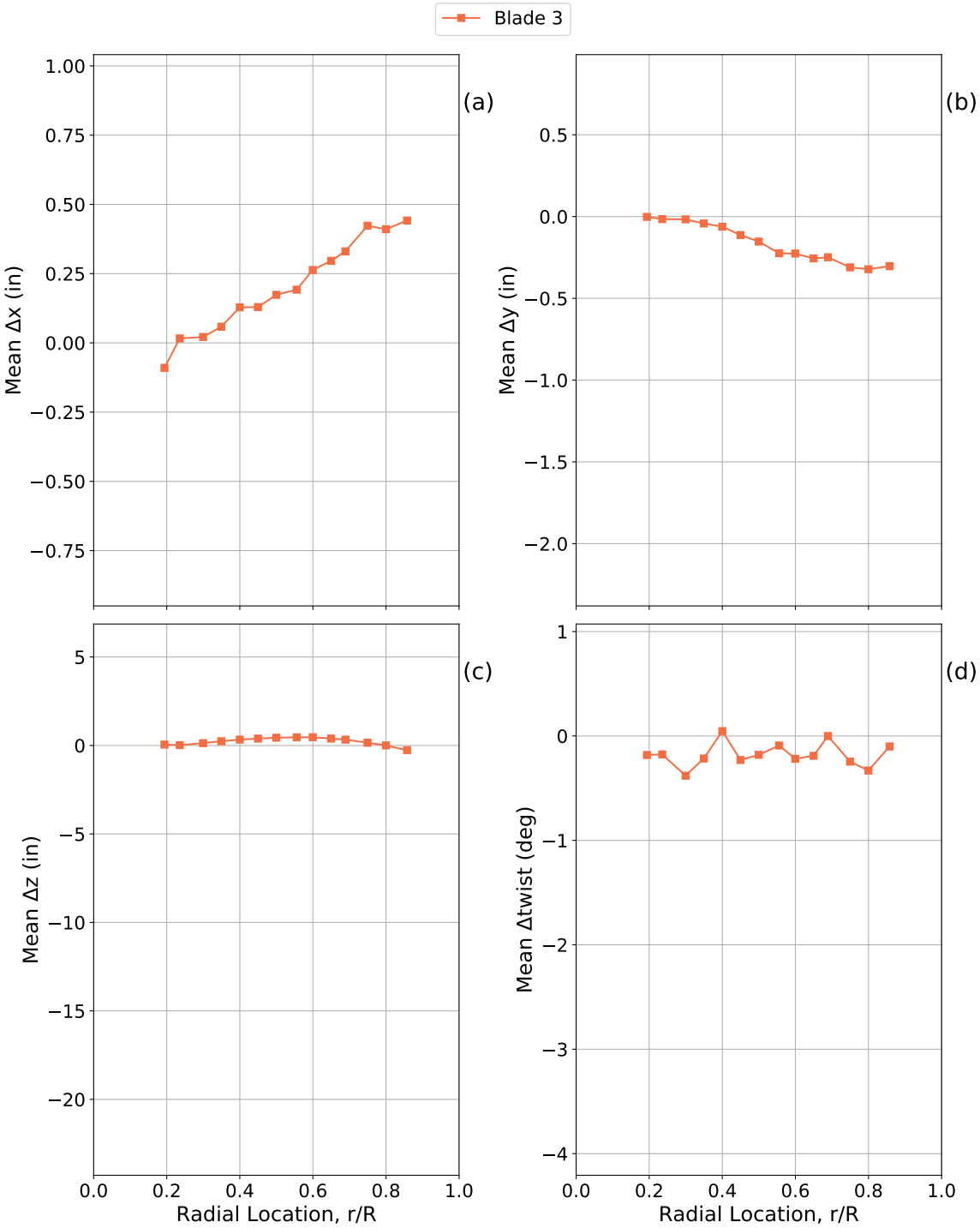


Figure 3.51-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0902	0.0014	-0.0020	0.0007	0.0498	0.0022	-0.1821	0.0284
3	209.88	0.2357	0.0161	0.0018	-0.0154	0.0039	0.0195	0.0054	-0.1768	0.0389
3	209.88	0.2995	0.0213	0.0021	-0.0170	0.0068	0.1331	0.0099	-0.3801	0.0593
3	209.88	0.3493	0.0583	0.0017	-0.0423	0.0101	0.2400	0.0168	-0.2158	0.0474
3	209.88	0.4000	0.1283	0.0020	-0.0620	0.0179	0.3314	0.0263	0.0459	0.0473
3	209.88	0.4497	0.1292	0.0028	-0.1131	0.0196	0.3886	0.0369	-0.2304	0.0519
3	209.88	0.4997	0.1735	0.0025	-0.1530	0.0216	0.4381	0.0568	-0.1809	0.0603
3	209.88	0.5556	0.1921	0.0025	-0.2245	0.0274	0.4612	0.0741	-0.0911	0.0604
3	209.88	0.5995	0.2631	0.0033	-0.2262	0.0309	0.4664	0.0913	-0.2188	0.0733
3	209.88	0.6498	0.2962	0.0025	-0.2559	0.0345	0.3891	0.1131	-0.1901	0.0628
3	209.88	0.6890	0.3304	0.0035	-0.2487	0.0380	0.3304	0.1263	-0.0006	0.0567
3	209.88	0.7495	0.4230	0.0041	-0.3106	0.0440	0.1562	0.1496	-0.2459	0.0723
3	209.88	0.7998	0.4102	0.0033	-0.3219	0.0477	0.0020	0.1717	-0.3311	0.0712
3	209.88	0.8577	0.4417	0.0056	-0.3034	0.0531	-0.2671	0.1931	-0.1006	0.2111

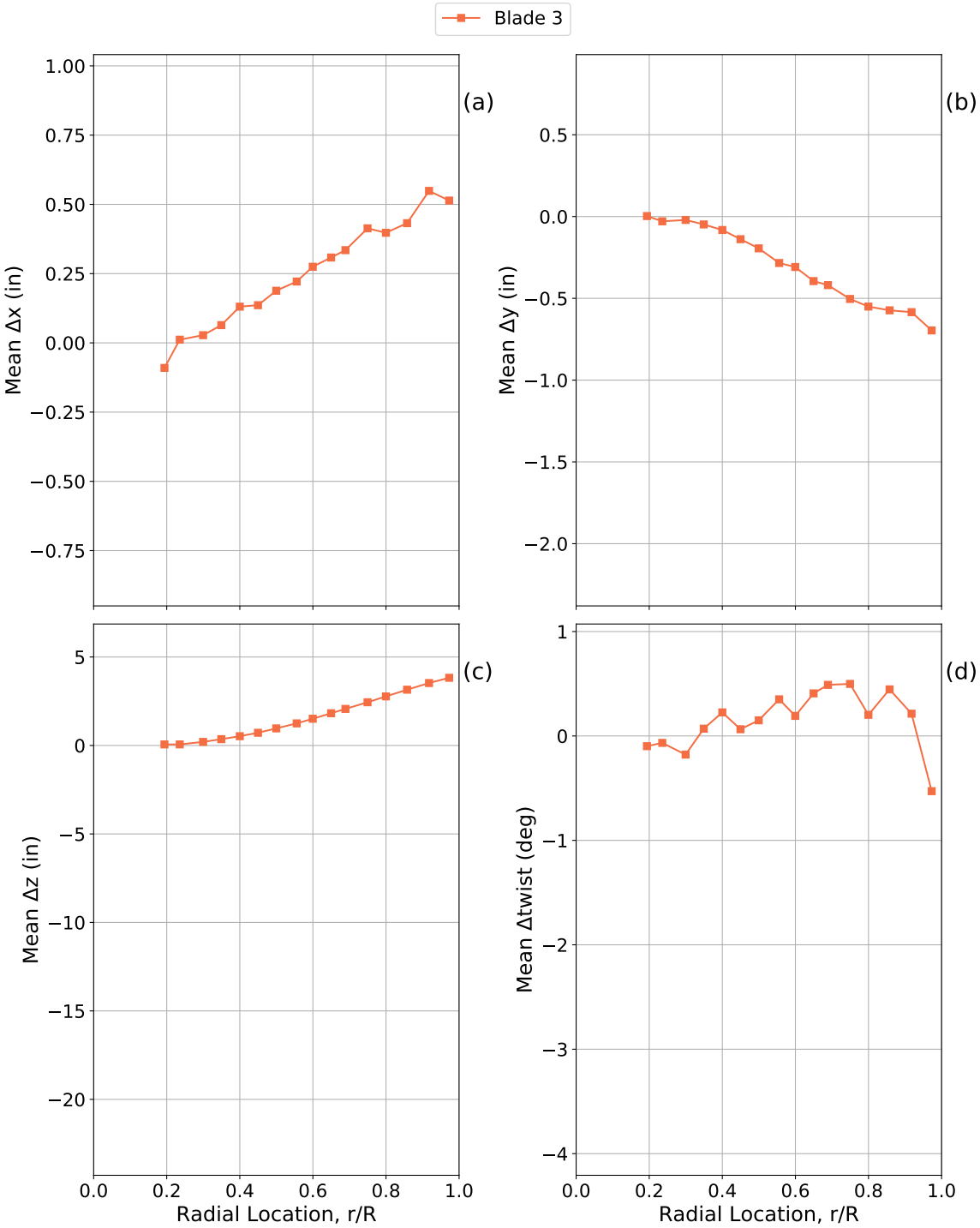


Figure 3.51-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0905	0.0014	0.0031	0.0010	0.0594	0.0032	-0.0979	0.0195
3	225	0.2357	0.0115	0.0013	-0.0291	0.0030	0.0607	0.0076	-0.0663	0.0385
3	225	0.2995	0.0278	0.0010	-0.0208	0.0043	0.2011	0.0145	-0.1783	0.0499
3	225	0.3493	0.0639	0.0016	-0.0482	0.0091	0.3573	0.0241	0.0699	0.0431
3	225	0.4000	0.1307	0.0025	-0.0823	0.0134	0.5243	0.0385	0.2257	0.0425
3	225	0.4497	0.1361	0.0028	-0.1383	0.0177	0.7182	0.0551	0.0644	0.0474
3	225	0.4997	0.1882	0.0026	-0.1945	0.0203	0.9651	0.0746	0.1500	0.0486
3	225	0.5556	0.2215	0.0031	-0.2840	0.0241	1.2486	0.0968	0.3509	0.0342
3	225	0.5995	0.2748	0.0032	-0.3085	0.0267	1.5106	0.1177	0.1922	0.0418
3	225	0.6498	0.3082	0.0033	-0.3946	0.0325	1.8212	0.1424	0.4079	0.0532
3	225	0.6890	0.3347	0.0038	-0.4192	0.0362	2.0667	0.1604	0.4895	0.0372
3	225	0.7495	0.4135	0.0042	-0.5038	0.0419	2.4416	0.1919	0.4985	0.0373
3	225	0.7998	0.3975	0.0047	-0.5505	0.0471	2.7732	0.2179	0.2024	0.0382
3	225	0.8577	0.4322	0.0056	-0.5732	0.0542	3.1517	0.2488	0.4461	0.0481
3	225	0.9178	0.5487	0.0133	-0.5844	0.0570	3.5290	0.2869	0.2133	0.1250
3	225	0.9729	0.5138	0.0087	-0.6961	0.0671	3.8250	0.3181	-0.5286	0.0786

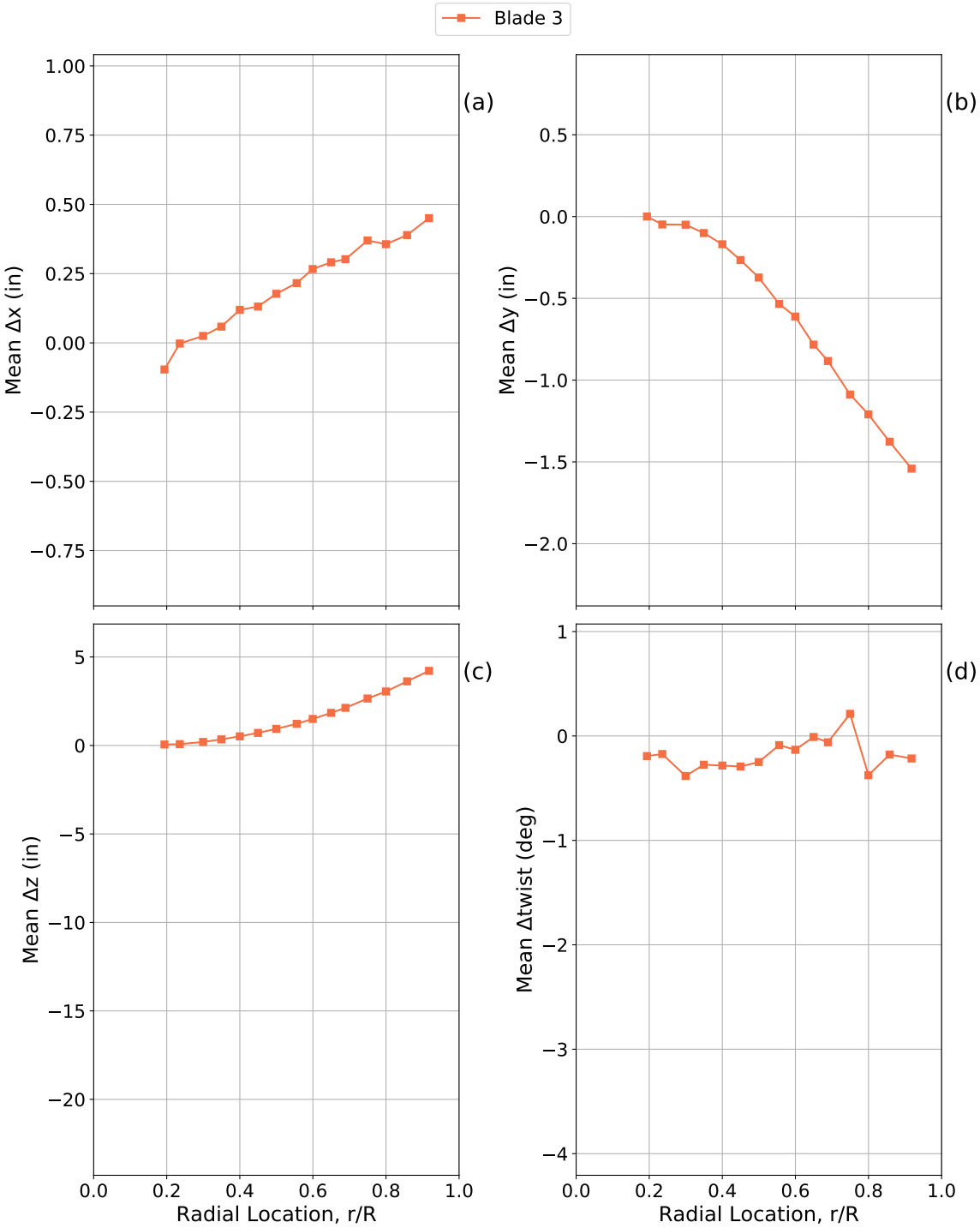


Figure 3.51-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0961	0.0016	0.0003	0.0010	0.0540	0.0048	-0.1926	0.0192
3	240.12	0.2357	-0.0024	0.0015	-0.0484	0.0023	0.0772	0.0093	-0.1730	0.0494
3	240.12	0.2995	0.0251	0.0011	-0.0497	0.0050	0.1979	0.0221	-0.3835	0.0546
3	240.12	0.3493	0.0586	0.0016	-0.1008	0.0062	0.3442	0.0321	-0.2754	0.0510
3	240.12	0.4000	0.1193	0.0017	-0.1694	0.0115	0.5155	0.0542	-0.2834	0.0785
3	240.12	0.4497	0.1310	0.0024	-0.2659	0.0136	0.7119	0.0709	-0.2927	0.0622
3	240.12	0.4997	0.1772	0.0018	-0.3728	0.0169	0.9386	0.0905	-0.2497	0.0681
3	240.12	0.5556	0.2158	0.0020	-0.5342	0.0213	1.2245	0.1159	-0.0876	0.0720
3	240.12	0.5995	0.2666	0.0021	-0.6114	0.0257	1.4992	0.1348	-0.1324	0.0716
3	240.12	0.6498	0.2910	0.0026	-0.7827	0.0317	1.8431	0.1585	-0.0098	0.0703
3	240.12	0.6890	0.3020	0.0033	-0.8830	0.0356	2.1267	0.1764	-0.0604	0.0857
3	240.12	0.7495	0.3697	0.0046	-1.0877	0.0438	2.6534	0.2051	0.2119	0.0888
3	240.12	0.7998	0.3563	0.0058	-1.2094	0.0514	3.0510	0.2269	-0.3758	0.0936
3	240.12	0.8577	0.3892	0.0067	-1.3766	0.0599	3.6243	0.2519	-0.1779	0.0959
3	240.12	0.9178	0.4504	0.0079	-1.5412	0.0699	4.2157	0.2791	-0.2156	0.1033

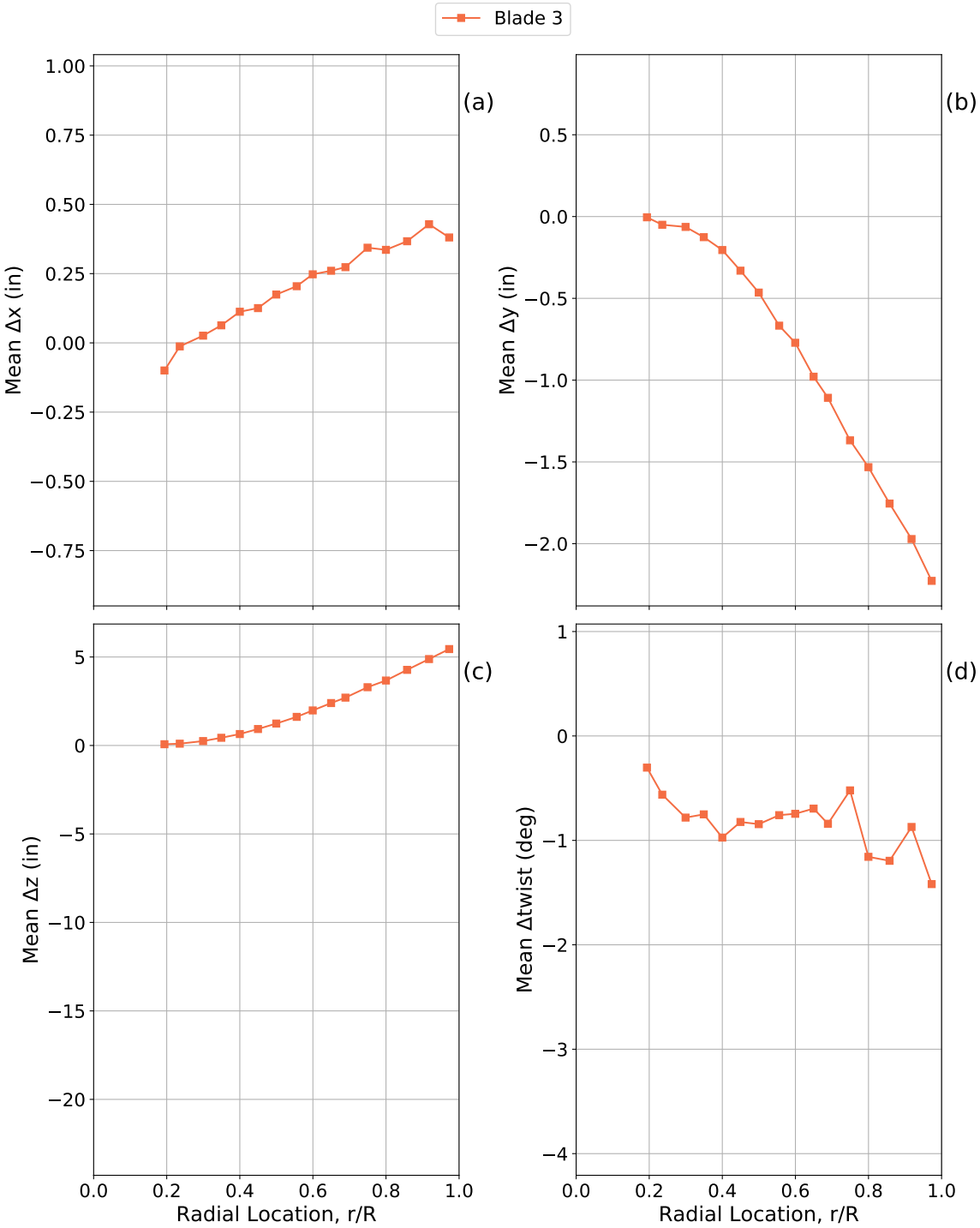


Figure 3.51-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0997	0.0038	-0.0045	0.0018	0.0698	0.0065	-0.3031	0.0243
3	254.88	0.2357	-0.0128	0.0012	-0.0502	0.0014	0.1009	0.0049	-0.5623	0.0809
3	254.88	0.2995	0.0261	0.0011	-0.0634	0.0053	0.2487	0.0163	-0.7817	0.0804
3	254.88	0.3493	0.0633	0.0012	-0.1260	0.0101	0.4345	0.0276	-0.7509	0.0835
3	254.88	0.4000	0.1124	0.0014	-0.2047	0.0142	0.6459	0.0384	-0.9731	0.0827
3	254.88	0.4497	0.1255	0.0013	-0.3309	0.0190	0.9299	0.0504	-0.8237	0.0809
3	254.88	0.4997	0.1745	0.0017	-0.4648	0.0235	1.2385	0.0635	-0.8447	0.0899
3	254.88	0.5556	0.2045	0.0026	-0.6670	0.0290	1.6168	0.0781	-0.7584	0.0826
3	254.88	0.5995	0.2475	0.0029	-0.7716	0.0332	1.9803	0.0882	-0.7453	0.0833
3	254.88	0.6498	0.2603	0.0034	-0.9790	0.0393	2.3969	0.1014	-0.6956	0.0825
3	254.88	0.6890	0.2733	0.0036	-1.1081	0.0435	2.7039	0.1124	-0.8408	0.0804
3	254.88	0.7495	0.3436	0.0044	-1.3682	0.0504	3.2922	0.1320	-0.5214	0.0828
3	254.88	0.7998	0.3359	0.0053	-1.5321	0.0567	3.6707	0.1489	-1.1575	0.0737
3	254.88	0.8577	0.3669	0.0062	-1.7546	0.0643	4.2730	0.1691	-1.1956	0.0796
3	254.88	0.9178	0.4283	0.0065	-1.9715	0.0725	4.8839	0.1919	-0.8714	0.0836
3	254.88	0.9729	0.3806	0.0102	-2.2272	0.0806	5.4480	0.2129	-1.4187	0.0782

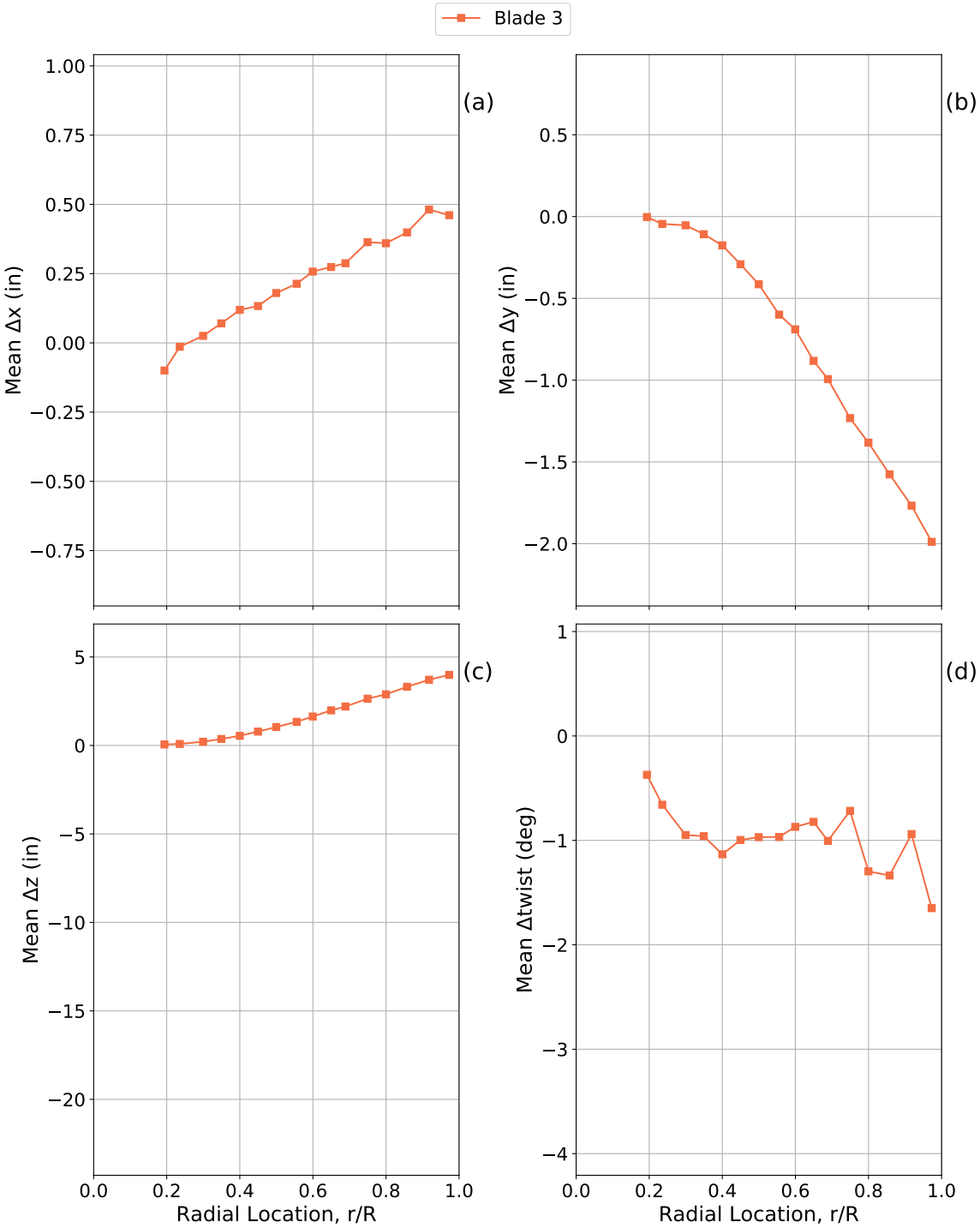


Figure 3.51-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0998	0.0021	-0.0029	0.0013	0.0589	0.0067	-0.3719	0.0288
3	260.16	0.2357	-0.0141	0.0013	-0.0450	0.0016	0.0873	0.0085	-0.6585	0.0708
3	260.16	0.2995	0.0253	0.0011	-0.0536	0.0044	0.2114	0.0229	-0.9491	0.0822
3	260.16	0.3493	0.0703	0.0014	-0.1078	0.0081	0.3663	0.0386	-0.9596	0.0759
3	260.16	0.4000	0.1191	0.0020	-0.1761	0.0119	0.5465	0.0579	-1.1336	0.0731
3	260.16	0.4497	0.1330	0.0015	-0.2915	0.0156	0.7840	0.0804	-0.9964	0.0598
3	260.16	0.4997	0.1799	0.0029	-0.4139	0.0205	1.0433	0.1082	-0.9691	0.0804
3	260.16	0.5556	0.2134	0.0027	-0.5996	0.0257	1.3360	0.1401	-0.9674	0.0702
3	260.16	0.5995	0.2574	0.0037	-0.6897	0.0308	1.6376	0.1716	-0.8706	0.0704
3	260.16	0.6498	0.2739	0.0045	-0.8822	0.0363	1.9849	0.2107	-0.8225	0.0698
3	260.16	0.6890	0.2876	0.0052	-0.9938	0.0408	2.2019	0.2446	-1.0049	0.0637
3	260.16	0.7495	0.3636	0.0067	-1.2322	0.0477	2.6436	0.2987	-0.7174	0.0691
3	260.16	0.7998	0.3596	0.0078	-1.3825	0.0544	2.8915	0.3484	-1.2965	0.0911
3	260.16	0.8577	0.3988	0.0093	-1.5761	0.0617	3.3174	0.4079	-1.3363	0.0708
3	260.16	0.9178	0.4813	0.0119	-1.7675	0.0689	3.7151	0.4724	-0.9397	0.0656
3	260.16	0.9729	0.4611	0.0165	-1.9885	0.0759	3.9887	0.5336	-1.6486	0.0633

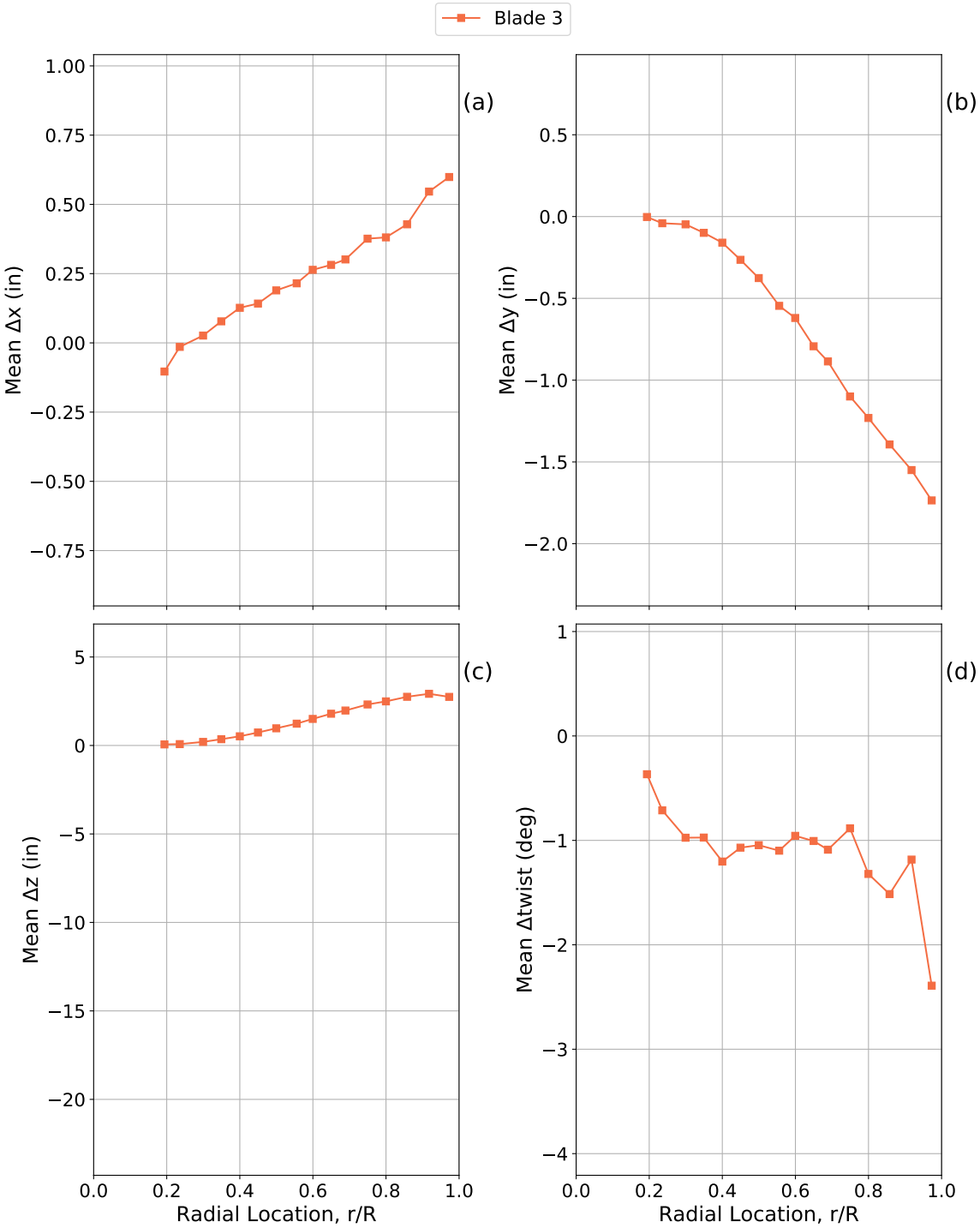


Figure 3.51-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.1035	0.0021	-0.0028	0.0015	0.0604	0.0054	-0.3666	0.0296
3	265.08	0.2357	-0.0145	0.0010	-0.0408	0.0025	0.0758	0.0067	-0.7122	0.0514
3	265.08	0.2995	0.0264	0.0023	-0.0477	0.0067	0.2014	0.0181	-0.9745	0.0733
3	265.08	0.3493	0.0777	0.0014	-0.0995	0.0112	0.3544	0.0290	-0.9730	0.0684
3	265.08	0.4000	0.1266	0.0024	-0.1596	0.0179	0.5183	0.0442	-1.2028	0.0640
3	265.08	0.4497	0.1419	0.0031	-0.2644	0.0253	0.7337	0.0597	-1.0697	0.0617
3	265.08	0.4997	0.1895	0.0032	-0.3761	0.0351	0.9698	0.0784	-1.0459	0.0623
3	265.08	0.5556	0.2150	0.0046	-0.5458	0.0469	1.2325	0.0978	-1.0986	0.0633
3	265.08	0.5995	0.2637	0.0047	-0.6200	0.0570	1.5009	0.1123	-0.9565	0.0589
3	265.08	0.6498	0.2816	0.0062	-0.7931	0.0705	1.7946	0.1325	-1.0059	0.0583
3	265.08	0.6890	0.3012	0.0064	-0.8856	0.0817	1.9751	0.1491	-1.0890	0.0601
3	265.08	0.7495	0.3762	0.0075	-1.1000	0.1004	2.3178	0.1803	-0.8845	0.0651
3	265.08	0.7998	0.3808	0.0087	-1.2313	0.1167	2.4919	0.2113	-1.3215	0.0589
3	265.08	0.8577	0.4280	0.0099	-1.3933	0.1359	2.7511	0.2524	-1.5145	0.0618
3	265.08	0.9178	0.5463	0.0116	-1.5499	0.1565	2.9207	0.3017	-1.1839	0.0627
3	265.08	0.9729	0.5988	0.0197	-1.7354	0.1747	2.7461	0.3539	-2.3914	0.0651

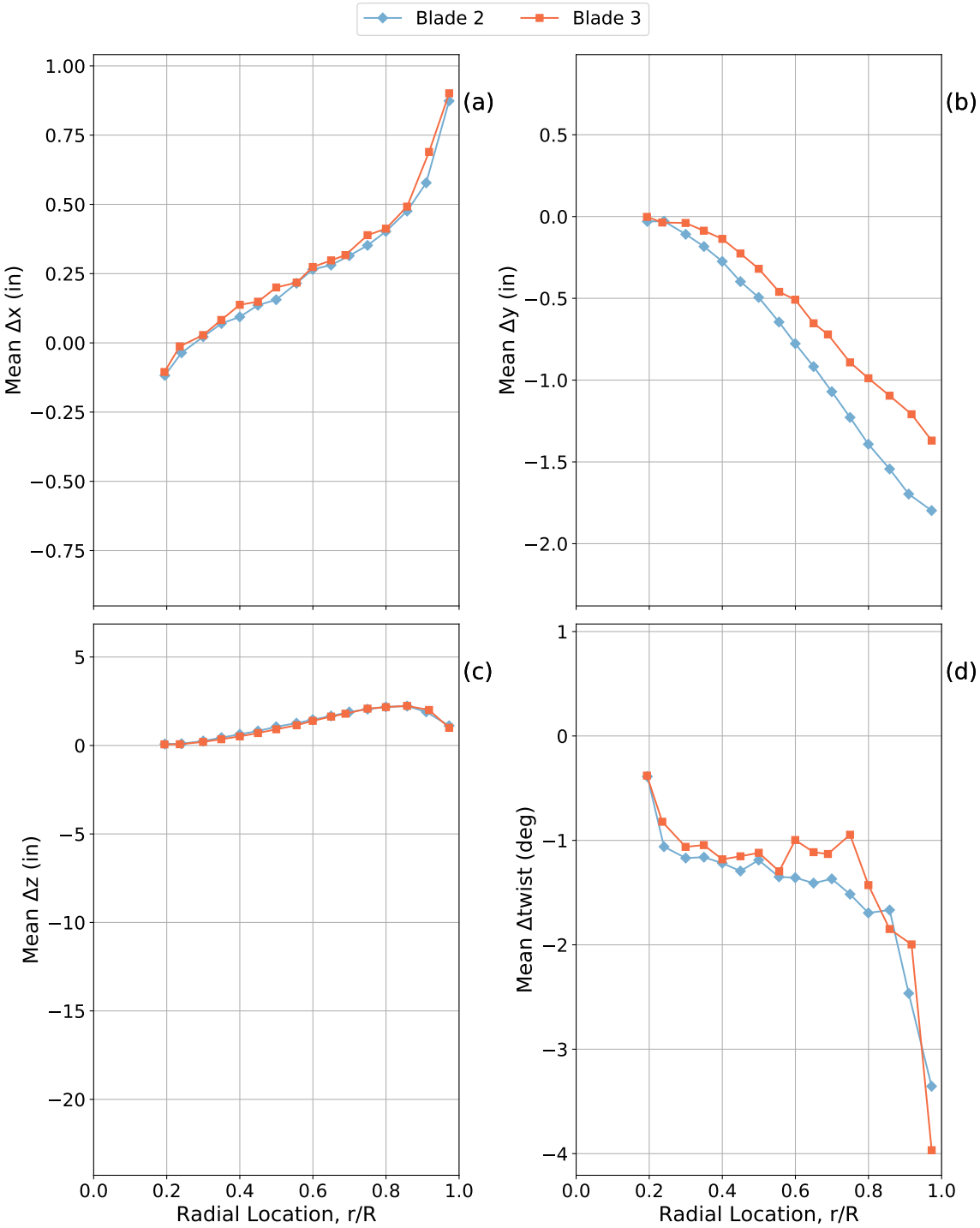


Figure 3.51-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.1177	0.0010	-0.0299	0.0010	0.0813	0.0048	-0.3884	0.0131
2	270.35	0.2405	-0.0359	0.0012	-0.0284	0.0016	0.0981	0.0096	-1.0607	0.0242
2	270.35	0.2999	0.0220	0.0011	-0.1086	0.0040	0.2519	0.0207	-1.1693	0.0244
2	270.35	0.3498	0.0700	0.0018	-0.1832	0.0071	0.4440	0.0332	-1.1609	0.0448
2	270.35	0.3998	0.0937	0.0019	-0.2743	0.0107	0.6313	0.0525	-1.2181	0.0351
2	270.35	0.4496	0.1360	0.0016	-0.3977	0.0146	0.8164	0.0744	-1.2937	0.0426
2	270.35	0.4995	0.1557	0.0027	-0.4942	0.0189	1.0593	0.0997	-1.1886	0.0548
2	270.35	0.5551	0.2152	0.0029	-0.6448	0.0252	1.2598	0.1357	-1.3496	0.0456
2	270.35	0.5996	0.2653	0.0039	-0.7768	0.0303	1.4570	0.1681	-1.3574	0.0529
2	270.35	0.6497	0.2809	0.0041	-0.9172	0.0363	1.6643	0.2096	-1.4093	0.0474
2	270.35	0.6996	0.3147	0.0052	-1.0705	0.0423	1.8917	0.2576	-1.3688	0.0542
2	270.35	0.7495	0.3519	0.0062	-1.2279	0.0493	2.0524	0.3102	-1.5153	0.0591
2	270.35	0.7996	0.4022	0.0065	-1.3917	0.0566	2.1797	0.3663	-1.6949	0.0583
2	270.35	0.8578	0.4759	0.0062	-1.5433	0.0648	2.2254	0.4344	-1.6666	0.0608
2	270.35	0.9100	0.5778	0.0073	-1.6965	0.0729	1.8990	0.5005	-2.4647	0.0589
2	270.35	0.9727	0.8735	0.0111	-1.7976	0.0848	1.1153	0.5757	-3.3550	0.0873
3	270	0.1938	-0.1051	0.0017	-0.0020	0.0009	0.0628	0.0033	-0.3798	0.0227
3	270	0.2357	-0.0126	0.0016	-0.0363	0.0012	0.0691	0.0063	-0.8216	0.0426
3	270	0.2995	0.0281	0.0014	-0.0391	0.0034	0.2010	0.0126	-1.0623	0.0550
3	270	0.3493	0.0827	0.0013	-0.0865	0.0057	0.3538	0.0219	-1.0451	0.0468
3	270	0.4000	0.1375	0.0016	-0.1365	0.0088	0.5130	0.0331	-1.1813	0.0413
3	270	0.4497	0.1486	0.0017	-0.2258	0.0112	0.7015	0.0426	-1.1524	0.0468
3	270	0.4997	0.2001	0.0018	-0.3193	0.0142	0.9156	0.0550	-1.1189	0.0517
3	270	0.5556	0.2177	0.0025	-0.4603	0.0182	1.1413	0.0726	-1.2955	0.0565
3	270	0.5995	0.2739	0.0019	-0.5084	0.0211	1.3921	0.0887	-0.9968	0.0599
3	270	0.6498	0.2978	0.0023	-0.6524	0.0257	1.6307	0.1100	-1.1130	0.0540
3	270	0.6890	0.3170	0.0024	-0.7205	0.0294	1.7943	0.1258	-1.1304	0.0589
3	270	0.7495	0.3888	0.0027	-0.8915	0.0346	2.0801	0.1517	-0.9459	0.0536
3	270	0.7998	0.4123	0.0033	-0.9887	0.0395	2.1682	0.1750	-1.4284	0.0588
3	270	0.8577	0.4920	0.0042	-1.0951	0.0458	2.2382	0.2028	-1.8488	0.0915
3	270	0.9178	0.6894	0.0045	-1.2087	0.0523	2.0066	0.2371	-1.9962	0.0841
3	270	0.9729	0.9011	0.0077	-1.3697	0.0611	0.9971	0.2629	-3.9674	0.0906

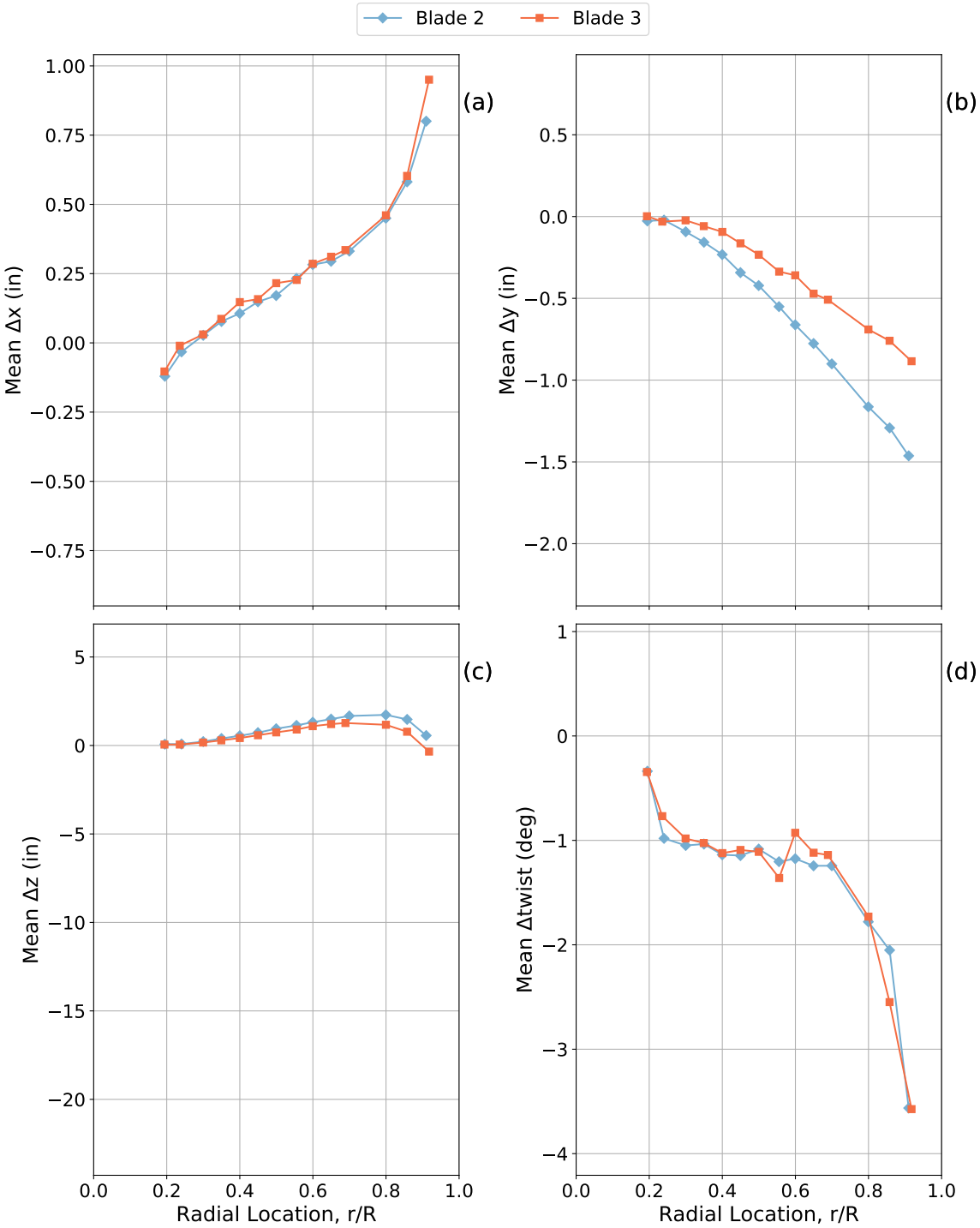


Figure 3.51-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	-0.1206	0.0027	-0.0268	0.0012	0.0736	0.0053	-0.3376	0.0247
2	274.92	0.2405	-0.0325	0.0016	-0.0216	0.0019	0.0810	0.0069	-0.9808	0.0712
2	274.92	0.2999	0.0272	0.0015	-0.0929	0.0047	0.2184	0.0176	-1.0489	0.0698
2	274.92	0.3498	0.0773	0.0015	-0.1571	0.0081	0.3940	0.0267	-1.0351	0.0733
2	274.92	0.3998	0.1064	0.0023	-0.2324	0.0124	0.5501	0.0409	-1.1377	0.0815
2	274.92	0.4496	0.1483	0.0025	-0.3427	0.0156	0.7248	0.0521	-1.1456	0.0745
2	274.92	0.4995	0.1707	0.0028	-0.4219	0.0191	0.9467	0.0618	-1.0831	0.0812
2	274.92	0.5551	0.2327	0.0031	-0.5507	0.0247	1.1348	0.0781	-1.2040	0.0710
2	274.92	0.5996	0.2825	0.0037	-0.6621	0.0289	1.3147	0.0920	-1.1754	0.0659
2	274.92	0.6497	0.2945	0.0036	-0.7762	0.0339	1.4915	0.1075	-1.2436	0.0784
2	274.92	0.6996	0.3312	0.0040	-0.9006	0.0389	1.6678	0.1251	-1.2429	0.0686
2	274.92	0.7996	0.4500	0.0046	-1.1632	0.0510	1.7302	0.1644	-1.7798	0.0727
2	274.92	0.8578	0.5814	0.0052	-1.2919	0.0600	1.4722	0.1869	-2.0515	0.0875
2	274.92	0.9100	0.8004	0.0041	-1.4628	0.0659	0.5626	0.2185	-3.5634	0.0745
3	274.92	0.1938	-0.1033	0.0029	0.0018	0.0008	0.0519	0.0048	-0.3453	0.0317
3	274.92	0.2357	-0.0103	0.0020	-0.0308	0.0019	0.0533	0.0097	-0.7681	0.0441
3	274.92	0.2995	0.0305	0.0014	-0.0232	0.0034	0.1658	0.0212	-0.9819	0.0710
3	274.92	0.3493	0.0867	0.0019	-0.0587	0.0057	0.2896	0.0340	-1.0249	0.0677
3	274.92	0.4000	0.1472	0.0020	-0.0937	0.0093	0.4209	0.0543	-1.1219	0.0618
3	274.92	0.4497	0.1579	0.0025	-0.1639	0.0116	0.5777	0.0726	-1.0918	0.0808
3	274.92	0.4997	0.2155	0.0024	-0.2335	0.0152	0.7396	0.0939	-1.1097	0.0766
3	274.92	0.5556	0.2272	0.0029	-0.3368	0.0198	0.9025	0.1188	-1.3600	0.0821
3	274.92	0.5995	0.2856	0.0032	-0.3591	0.0232	1.0908	0.1417	-0.9274	0.0856
3	274.92	0.6498	0.3110	0.0034	-0.4715	0.0279	1.2080	0.1666	-1.1182	0.0906
3	274.92	0.6890	0.3352	0.0041	-0.5083	0.0325	1.2685	0.1858	-1.1398	0.0836
3	274.92	0.7998	0.4606	0.0054	-0.6903	0.0458	1.1693	0.2338	-1.7302	0.0924
3	274.92	0.8577	0.6028	0.0049	-0.7593	0.0542	0.7762	0.2527	-2.5489	0.1011
3	274.92	0.9178	0.9502	0.0062	-0.8846	0.0619	-0.3453	0.2766	-3.5736	0.1117

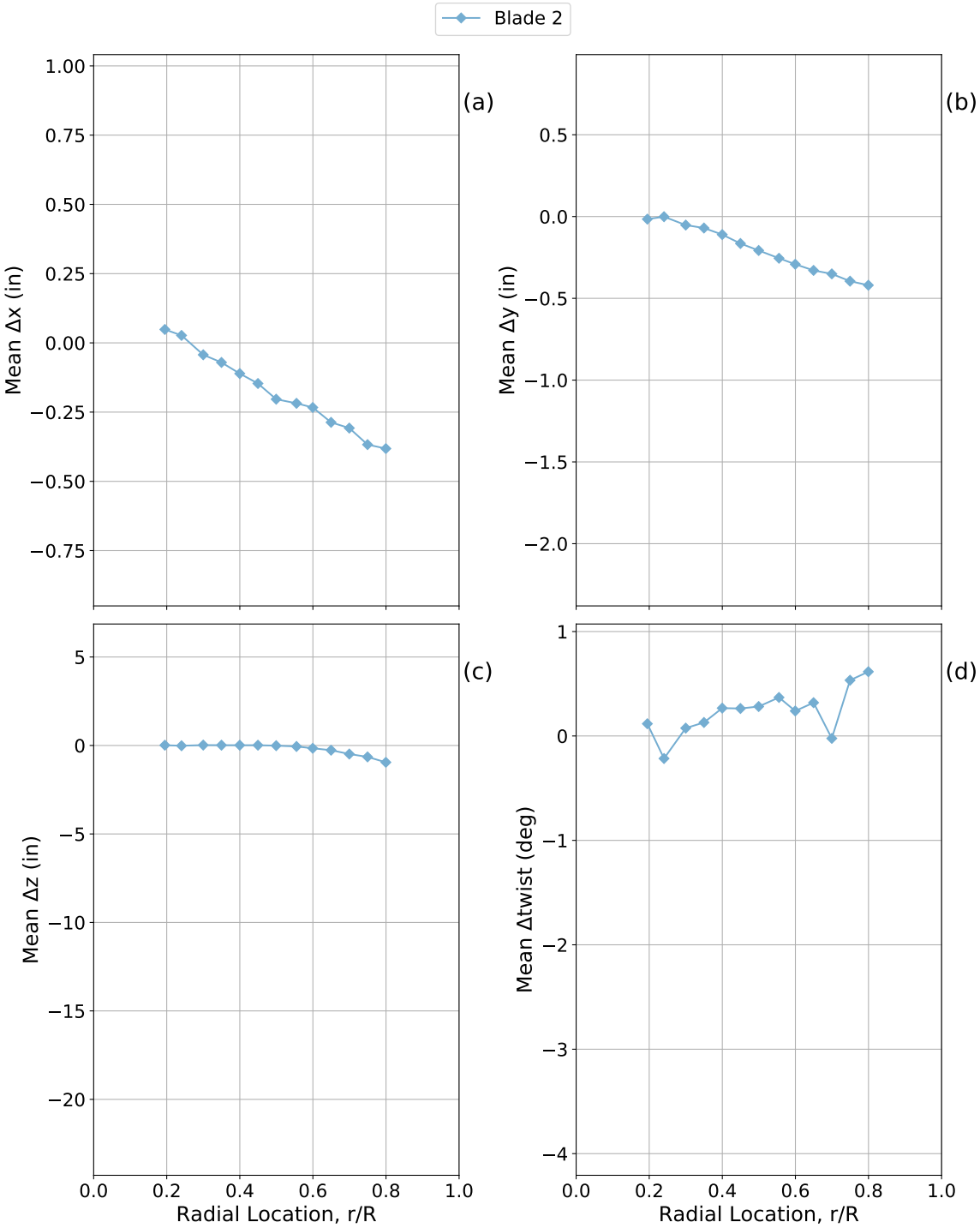


Figure 3.51-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0484	0.0018	-0.0158	0.0013	0.0157	0.0028	0.1169	0.0564
2	285.12	0.2405	0.0269	0.0021	-0.0009	0.0028	-0.0159	0.0070	-0.2160	0.0588
2	285.12	0.2999	-0.0430	0.0016	-0.0521	0.0049	0.0221	0.0109	0.0750	0.1181
2	285.12	0.3498	-0.0707	0.0017	-0.0701	0.0099	0.0164	0.0221	0.1291	0.0840
2	285.12	0.3998	-0.1108	0.0024	-0.1102	0.0137	0.0144	0.0311	0.2666	0.1112
2	285.12	0.4496	-0.1467	0.0031	-0.1647	0.0190	0.0155	0.0471	0.2630	0.0906
2	285.12	0.4995	-0.2034	0.0031	-0.2074	0.0226	-0.0105	0.0623	0.2819	0.0923
2	285.12	0.5551	-0.2183	0.0032	-0.2549	0.0298	-0.0565	0.0816	0.3688	0.1047
2	285.12	0.5996	-0.2333	0.0047	-0.2916	0.0371	-0.1582	0.0960	0.2392	0.1104
2	285.12	0.6497	-0.2870	0.0041	-0.3293	0.0424	-0.2675	0.1158	0.3188	0.0869
2	285.12	0.6996	-0.3077	0.0063	-0.3505	0.0510	-0.4830	0.1325	-0.0233	0.0972
2	285.12	0.7495	-0.3673	0.0078	-0.3950	0.0593	-0.6460	0.1521	0.5334	0.1154
2	285.12	0.7996	-0.3817	0.0070	-0.4198	0.0669	-0.9520	0.1785	0.6154	0.1145

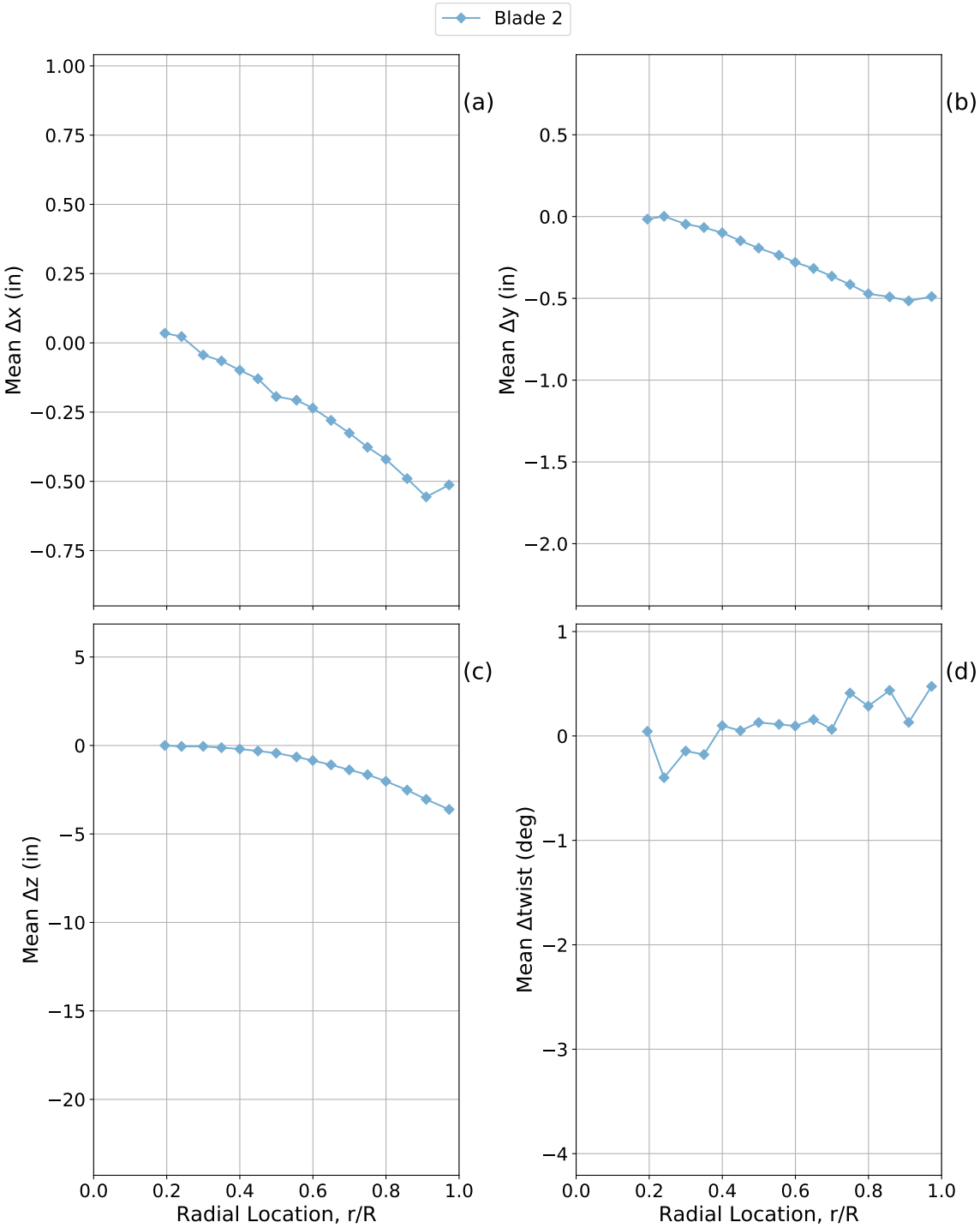


Figure 3.51-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0347	0.0021	-0.0159	0.0013	0.0005	0.0028	0.0433	0.0244
2	299.88	0.2405	0.0228	0.0029	0.0014	0.0046	-0.0541	0.0065	-0.3994	0.0308
2	299.88	0.2999	-0.0438	0.0013	-0.0466	0.0054	-0.0519	0.0118	-0.1447	0.0480
2	299.88	0.3498	-0.0652	0.0022	-0.0671	0.0113	-0.1244	0.0206	-0.1778	0.0691
2	299.88	0.3998	-0.0988	0.0051	-0.0993	0.0170	-0.1997	0.0313	0.0987	0.0680
2	299.88	0.4496	-0.1296	0.0038	-0.1482	0.0194	-0.3115	0.0411	0.0502	0.0459
2	299.88	0.4995	-0.1939	0.0047	-0.1930	0.0232	-0.4324	0.0553	0.1291	0.0441
2	299.88	0.5551	-0.2069	0.0045	-0.2363	0.0284	-0.6499	0.0729	0.1111	0.0580
2	299.88	0.5996	-0.2353	0.0043	-0.2800	0.0336	-0.8483	0.0894	0.0953	0.0483
2	299.88	0.6497	-0.2798	0.0051	-0.3174	0.0382	-1.0961	0.1111	0.1568	0.0489
2	299.88	0.6996	-0.3258	0.0056	-0.3648	0.0441	-1.3789	0.1345	0.0625	0.0371
2	299.88	0.7495	-0.3768	0.0057	-0.4157	0.0506	-1.6507	0.1629	0.4106	0.0563
2	299.88	0.7996	-0.4203	0.0060	-0.4721	0.0572	-2.0234	0.1982	0.2856	0.0477
2	299.88	0.8578	-0.4901	0.0076	-0.4909	0.0648	-2.5212	0.2405	0.4364	0.0442
2	299.88	0.9100	-0.5561	0.0080	-0.5156	0.0727	-3.0448	0.2841	0.1302	0.0638
2	299.88	0.9727	-0.5129	0.0094	-0.4893	0.0823	-3.6150	0.3391	0.4749	0.0663

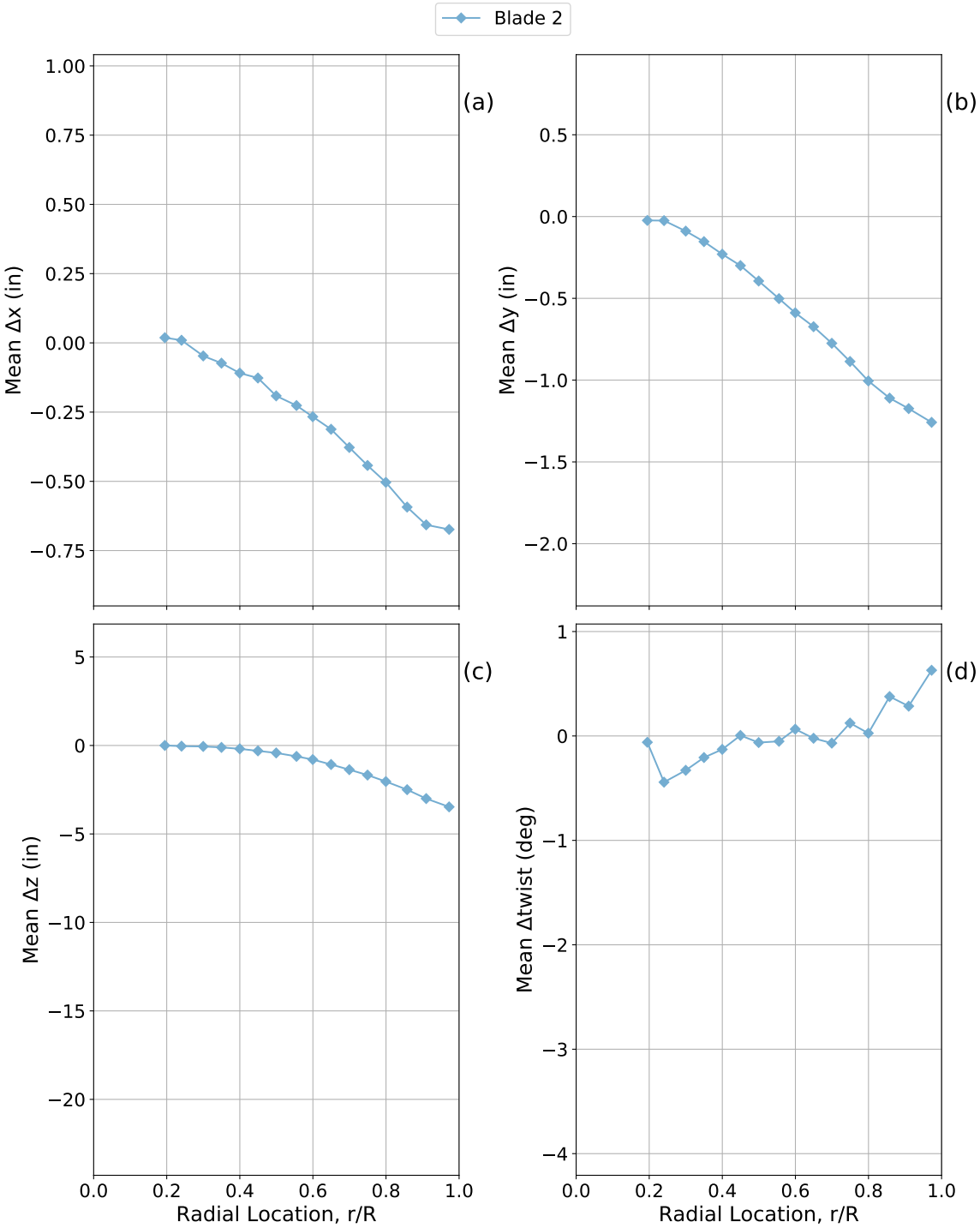


Figure 3.51-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0187	0.0018	-0.0236	0.0007	0.0011	0.0029	-0.0606	0.0366
2	315	0.2405	0.0094	0.0024	-0.0248	0.0020	-0.0391	0.0062	-0.4426	0.0410
2	315	0.2999	-0.0472	0.0019	-0.0891	0.0044	-0.0551	0.0137	-0.3289	0.0780
2	315	0.3498	-0.0733	0.0019	-0.1533	0.0048	-0.1090	0.0184	-0.2067	0.0625
2	315	0.3998	-0.1092	0.0041	-0.2301	0.0099	-0.1894	0.0323	-0.1286	0.0858
2	315	0.4496	-0.1269	0.0035	-0.2998	0.0148	-0.3057	0.0394	0.0049	0.0904
2	315	0.4995	-0.1914	0.0038	-0.3941	0.0173	-0.4222	0.0473	-0.0633	0.0896
2	315	0.5551	-0.2263	0.0057	-0.5018	0.0225	-0.6168	0.0612	-0.0513	0.0890
2	315	0.5996	-0.2667	0.0103	-0.5885	0.0277	-0.7956	0.0784	0.0650	0.0823
2	315	0.6497	-0.3120	0.0048	-0.6734	0.0319	-1.0746	0.0898	-0.0221	0.0955
2	315	0.6996	-0.3777	0.0048	-0.7747	0.0369	-1.3676	0.1032	-0.0688	0.0944
2	315	0.7495	-0.4427	0.0048	-0.8861	0.0444	-1.6725	0.1203	0.1234	0.0847
2	315	0.7996	-0.5036	0.0056	-1.0050	0.0509	-2.0378	0.1423	0.0263	0.0896
2	315	0.8578	-0.5930	0.0064	-1.1100	0.0582	-2.4981	0.1713	0.3772	0.0901
2	315	0.9100	-0.6571	0.0072	-1.1741	0.0648	-3.0018	0.2002	0.2854	0.0867
2	315	0.9727	-0.6736	0.0078	-1.2582	0.0735	-3.4710	0.2381	0.6291	0.0904

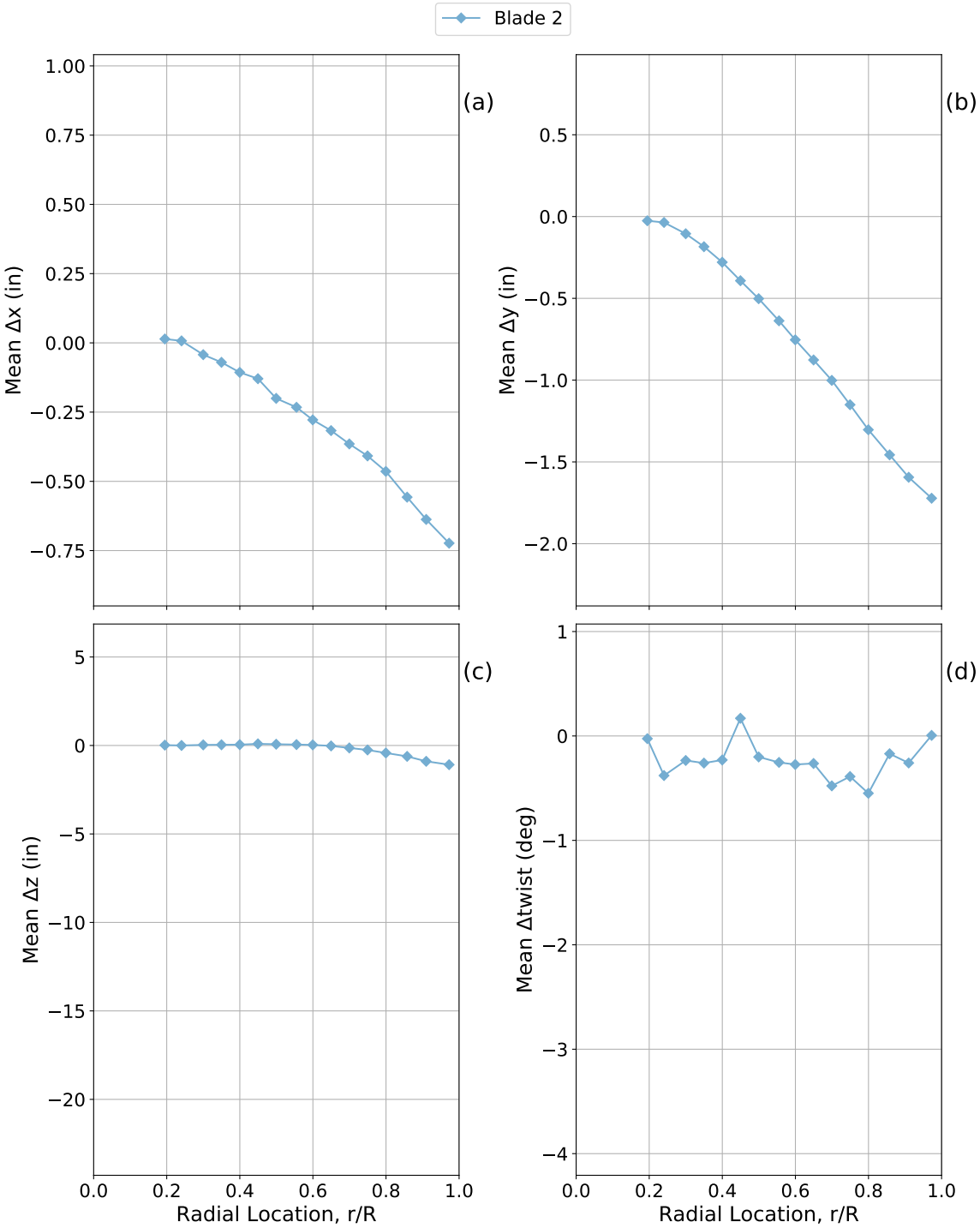


Figure 3.51-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0140	0.0012	-0.0257	0.0012	0.0194	0.0055	-0.0259	0.0312
2	330.12	0.2405	0.0072	0.0034	-0.0361	0.0025	0.0007	0.0082	-0.3792	0.0694
2	330.12	0.2999	-0.0426	0.0026	-0.1051	0.0060	0.0331	0.0213	-0.2346	0.0828
2	330.12	0.3498	-0.0703	0.0024	-0.1843	0.0092	0.0393	0.0353	-0.2598	0.0813
2	330.12	0.3998	-0.1066	0.0075	-0.2793	0.0152	0.0453	0.0544	-0.2300	0.0760
2	330.12	0.4496	-0.1294	0.0087	-0.3923	0.0179	0.0915	0.0664	0.1693	0.0926
2	330.12	0.4995	-0.2005	0.0059	-0.5022	0.0234	0.0702	0.0891	-0.2009	0.0887
2	330.12	0.5551	-0.2326	0.0052	-0.6374	0.0306	0.0506	0.1092	-0.2535	0.1186
2	330.12	0.5996	-0.2781	0.0084	-0.7536	0.0359	0.0330	0.1317	-0.2734	0.1000
2	330.12	0.6497	-0.3168	0.0073	-0.8767	0.0434	-0.0258	0.1556	-0.2635	0.1047
2	330.12	0.6996	-0.3649	0.0085	-1.0015	0.0509	-0.1389	0.1770	-0.4780	0.1246
2	330.12	0.7495	-0.4082	0.0075	-1.1504	0.0596	-0.2533	0.2060	-0.3885	0.1200
2	330.12	0.7996	-0.4641	0.0085	-1.3034	0.0684	-0.4235	0.2334	-0.5490	0.1139
2	330.12	0.8578	-0.5571	0.0092	-1.4569	0.0789	-0.6166	0.2777	-0.1703	0.1114
2	330.12	0.9100	-0.6375	0.0108	-1.5939	0.0890	-0.8948	0.3141	-0.2586	0.1083
2	330.12	0.9727	-0.7233	0.0139	-1.7221	0.1021	-1.0853	0.3560	0.0055	0.1218

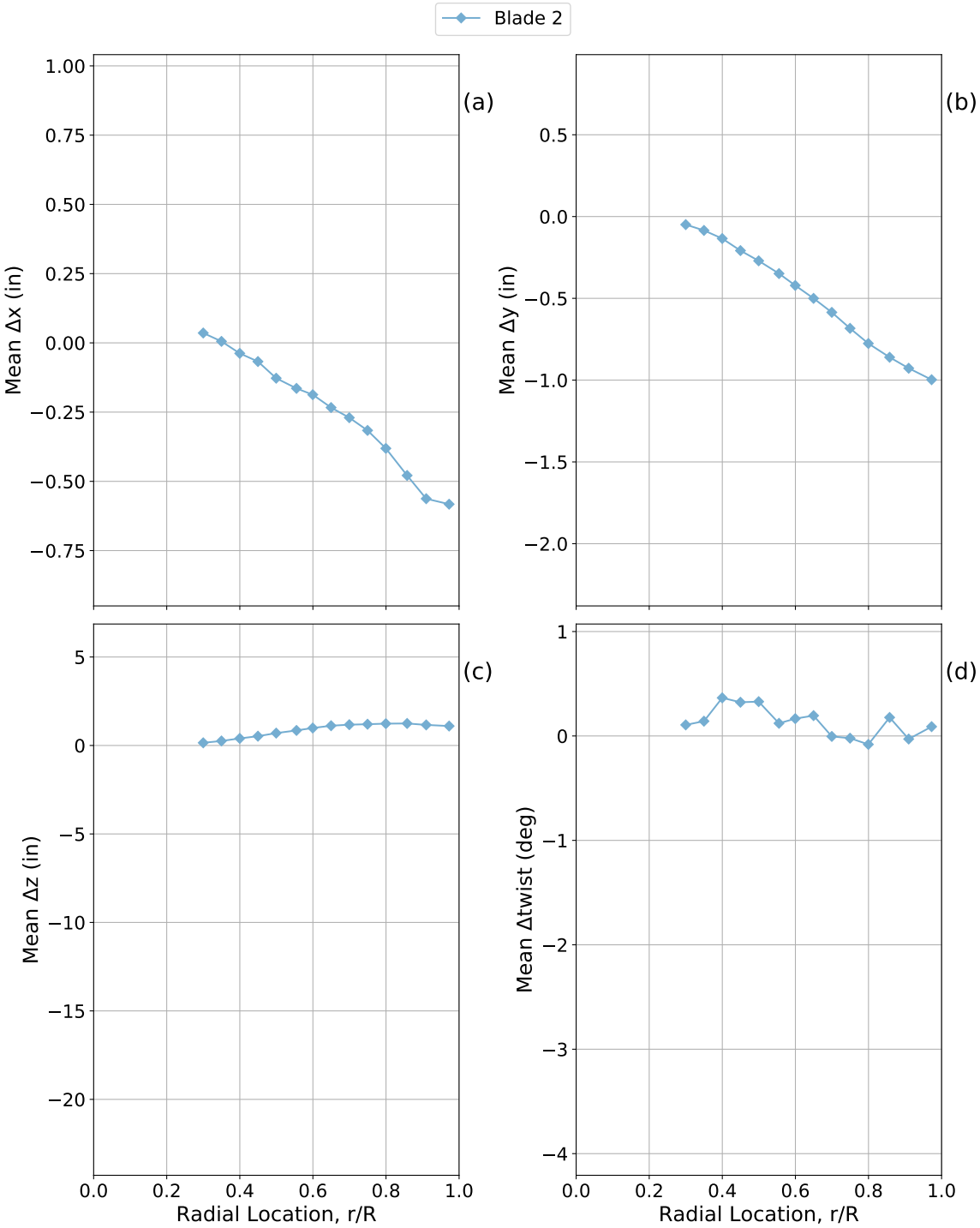


Figure 3.51-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.2999	0.0356	0.0050	-0.0492	0.0102	0.1506	0.0353	0.1060	0.0718
2	344.88	0.3498	0.0054	0.0071	-0.0848	0.0177	0.2546	0.0611	0.1414	0.0952
2	344.88	0.3998	-0.0379	0.0045	-0.1344	0.0281	0.3984	0.0971	0.3650	0.0997
2	344.88	0.4496	-0.0674	0.0051	-0.2081	0.0373	0.5248	0.1229	0.3228	0.1054
2	344.88	0.4995	-0.1276	0.0046	-0.2706	0.0479	0.6987	0.1550	0.3287	0.1003
2	344.88	0.5551	-0.1644	0.0044	-0.3486	0.0588	0.8501	0.1874	0.1211	0.1036
2	344.88	0.5996	-0.1871	0.0044	-0.4212	0.0681	0.9869	0.2147	0.1659	0.1028
2	344.88	0.6497	-0.2336	0.0056	-0.5002	0.0778	1.1159	0.2456	0.1948	0.0991
2	344.88	0.6996	-0.2702	0.0051	-0.5857	0.0887	1.1747	0.2733	-0.0045	0.0958
2	344.88	0.7495	-0.3162	0.0057	-0.6834	0.0998	1.2009	0.3052	-0.0213	0.1178
2	344.88	0.7996	-0.3810	0.0057	-0.7760	0.1106	1.2342	0.3303	-0.0810	0.1041
2	344.88	0.8578	-0.4788	0.0061	-0.8603	0.1237	1.2440	0.3641	0.1773	0.0986
2	344.88	0.9100	-0.5627	0.0063	-0.9274	0.1361	1.1621	0.3909	-0.0294	0.0906
2	344.88	0.9727	-0.5825	0.0107	-0.9974	0.1492	1.0984	0.4203	0.0892	0.1069

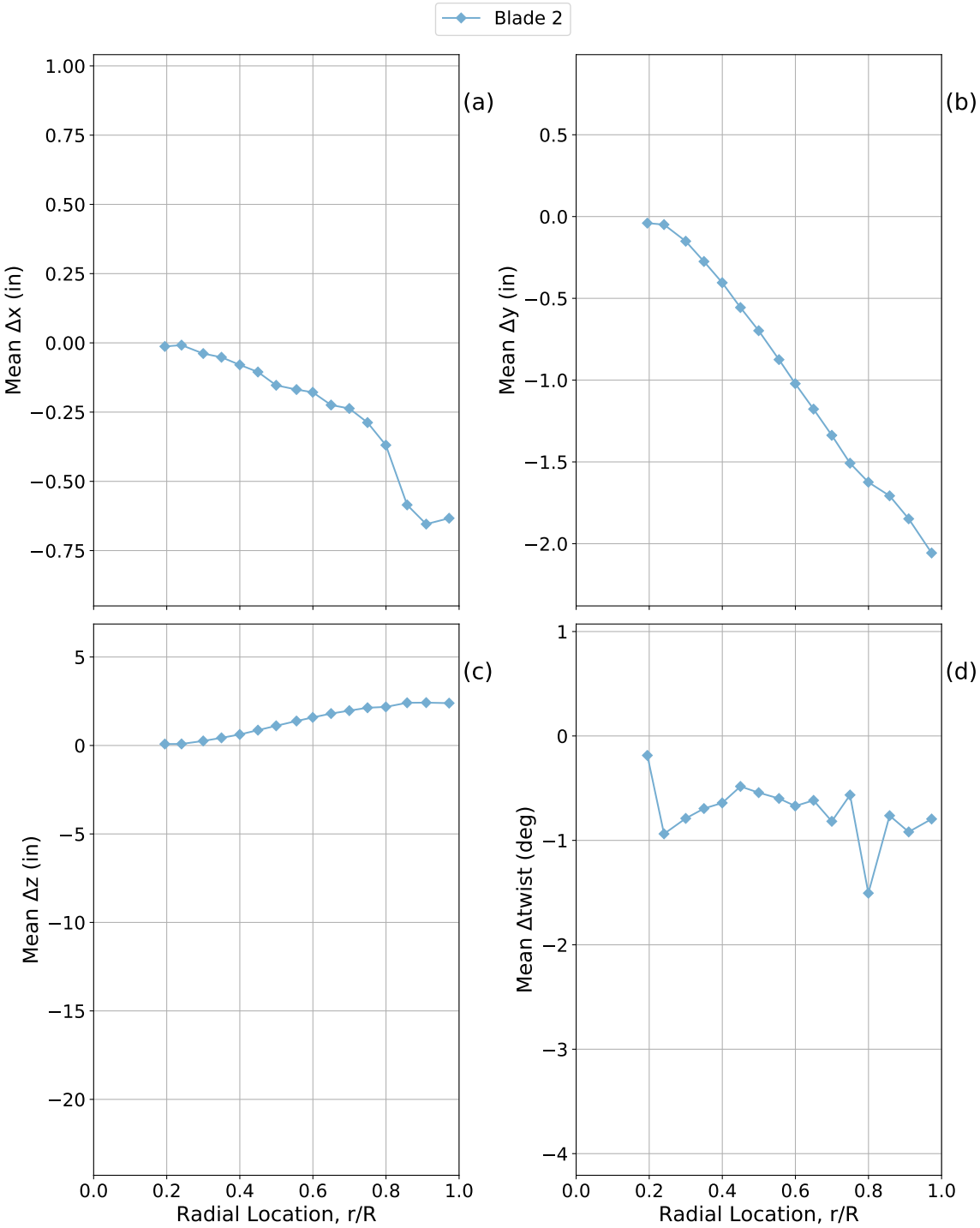


Figure 3.51-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0129	0.0091	-0.0402	0.0038	0.0822	0.0046	-0.1863	0.0326
2	350.16	0.2405	-0.0082	0.0040	-0.0492	0.0048	0.0860	0.0073	-0.9376	0.0696
2	350.16	0.2999	-0.0386	0.0018	-0.1508	0.0118	0.2553	0.0177	-0.7896	0.0891
2	350.16	0.3498	-0.0520	0.0038	-0.2748	0.0195	0.4315	0.0308	-0.6951	0.0837
2	350.16	0.3998	-0.0793	0.0054	-0.4045	0.0292	0.6212	0.0465	-0.6414	0.0841
2	350.16	0.4496	-0.1052	0.0068	-0.5562	0.0379	0.8655	0.0633	-0.4834	0.0820
2	350.16	0.4995	-0.1532	0.0066	-0.6978	0.0472	1.1110	0.0826	-0.5429	0.0916
2	350.16	0.5551	-0.1686	0.0063	-0.8747	0.0567	1.3822	0.1046	-0.5987	0.0916
2	350.16	0.5996	-0.1784	0.0070	-1.0215	0.0630	1.5846	0.1209	-0.6710	0.0858
2	350.16	0.6497	-0.2245	0.0100	-1.1772	0.0723	1.8032	0.1401	-0.6169	0.0784
2	350.16	0.6996	-0.2369	0.0136	-1.3375	0.0821	1.9680	0.1605	-0.8176	0.0850
2	350.16	0.7495	-0.2878	0.0185	-1.5079	0.0931	2.1322	0.1769	-0.5653	0.0938
2	350.16	0.7996	-0.3693	0.0255	-1.6239	0.0945	2.1790	0.2216	-1.5054	0.7584
2	350.16	0.8578	-0.5851	0.0342	-1.7074	0.1319	2.4121	0.2520	-0.7631	0.0770
2	350.16	0.9100	-0.6544	0.0334	-1.8479	0.1437	2.4203	0.2984	-0.9189	0.0819
2	350.16	0.9727	-0.6332	0.0338	-2.0567	0.1604	2.3920	0.3626	-0.7953	0.1022

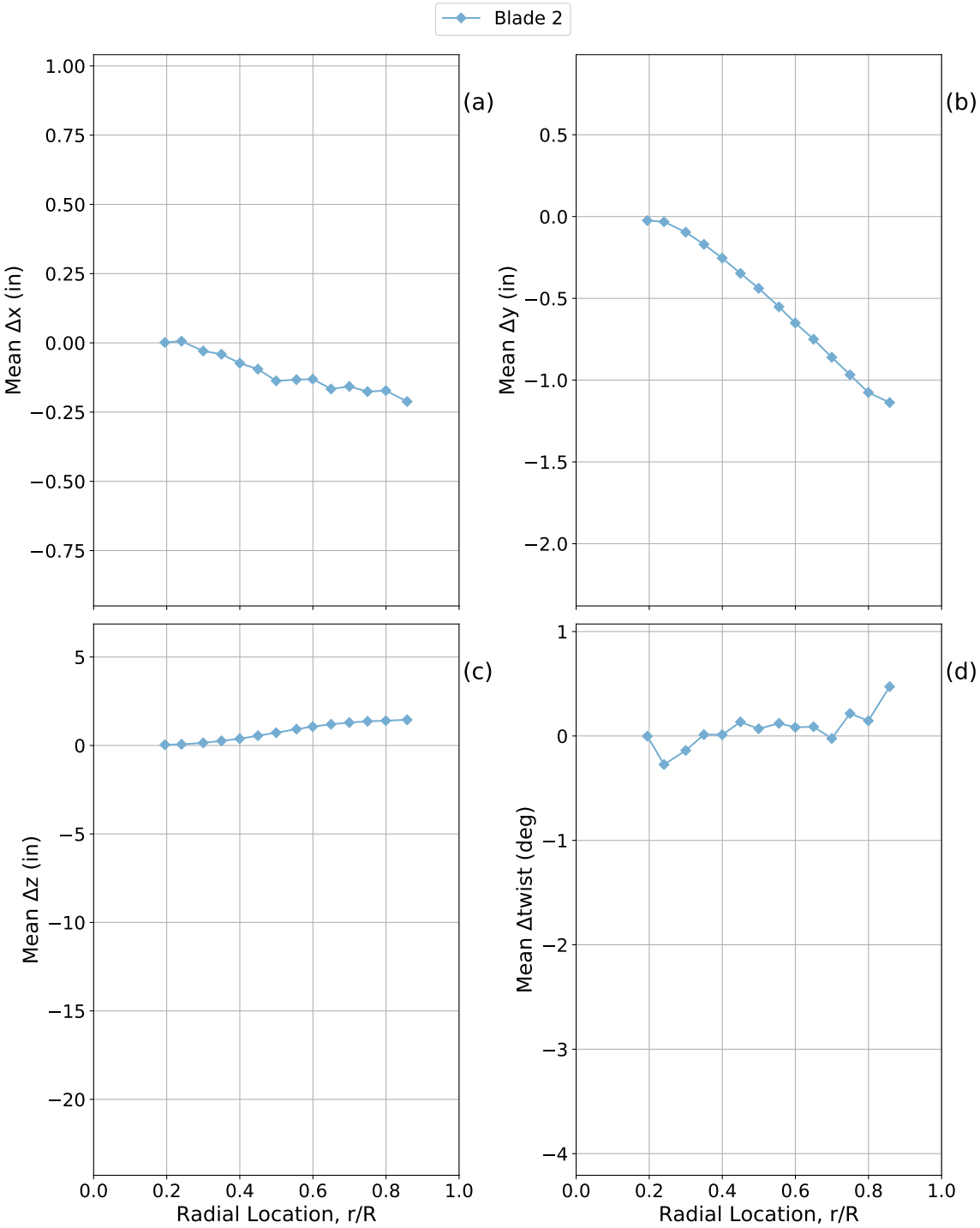


Figure 3.51-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Table 3.51-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 40. BD run 46, points 8701 to 8711.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0015	0.0162	-0.0244	0.0044	0.0414	0.0053	-0.0021	0.0390
2	355.08	0.2405	0.0061	0.0067	-0.0321	0.0072	0.0662	0.0089	-0.2736	0.0569
2	355.08	0.2999	-0.0294	0.0073	-0.0956	0.0185	0.1471	0.0201	-0.1393	0.0866
2	355.08	0.3498	-0.0411	0.0149	-0.1699	0.0311	0.2606	0.0327	0.0129	0.0761
2	355.08	0.3998	-0.0732	0.0239	-0.2543	0.0482	0.3828	0.0510	0.0118	0.0693
2	355.08	0.4496	-0.0949	0.0316	-0.3473	0.0676	0.5532	0.0615	0.1342	0.0828
2	355.08	0.4995	-0.1372	0.0403	-0.4385	0.0895	0.7207	0.0799	0.0685	0.0948
2	355.08	0.5551	-0.1329	0.0464	-0.5520	0.1156	0.9230	0.0980	0.1211	0.0771
2	355.08	0.5996	-0.1310	0.0535	-0.6503	0.1414	1.0650	0.1188	0.0829	0.0854
2	355.08	0.6497	-0.1665	0.0629	-0.7500	0.1706	1.1988	0.1394	0.0883	0.1077
2	355.08	0.6996	-0.1573	0.0724	-0.8603	0.1996	1.2939	0.1624	-0.0245	0.0838
2	355.08	0.7495	-0.1760	0.0818	-0.9673	0.2273	1.3677	0.1872	0.2156	0.0871
2	355.08	0.7996	-0.1723	0.0889	-1.0756	0.2526	1.3998	0.2155	0.1451	0.0868
2	355.08	0.8578	-0.2118	0.1019	-1.1370	0.2810	1.4536	0.2532	0.4725	0.1592

3.52 Run 98, Point 45

3.52.1 Pitch, Flap, and Lag

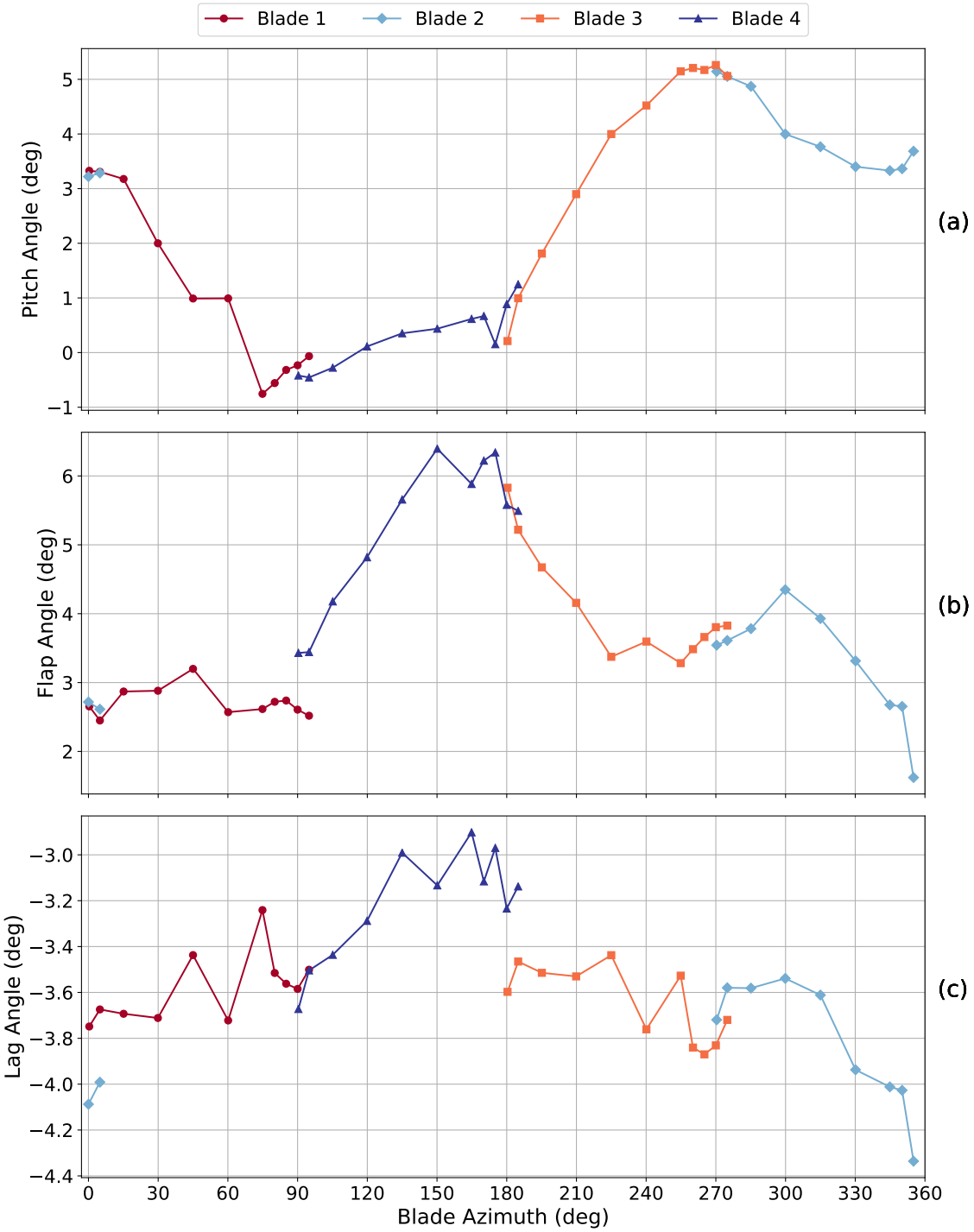


Figure 3.52-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	3.2200	2.7181	-4.0876	0.0590	0.0536	0.0466
0.35	1	3.3260	2.6544	-3.7486	0.1164	0.1078	0.0894
4.92	1	3.3082	2.4496	-3.6742	0.1423	0.0808	0.0426
4.92	2	3.2870	2.6133	-3.9914	0.0859	0.0777	0.0473
15.12	1	3.1766	2.8703	-3.6931	0.0776	0.0745	0.0483
29.88	1	1.9996	2.8813	-3.7115	0.0749	0.0627	0.0361
45	1	0.9894	3.1992	-3.4372	0.1385	0.0691	0.0590
60.12	1	0.9920	2.5706	-3.7222	0.1156	0.0537	0.0491
74.88	1	-0.7552	2.6160	-3.2409	0.0955	0.0485	0.1007
80.16	1	-0.5582	2.7209	-3.5152	0.0801	0.0471	0.0691
85.08	1	-0.3177	2.7392	-3.5621	0.0426	0.1030	0.0527
90	1	-0.2323	2.6070	-3.5848	0.0589	0.0889	0.0689
90.35	4	-0.4201	3.4299	-3.6724	0.0387	0.0941	0.0279
94.92	1	-0.0656	2.5188	-3.5010	0.0333	0.0893	0.0567
94.92	4	-0.4556	3.4430	-3.5040	0.0427	0.0290	0.0420
105.12	4	-0.2771	4.1781	-3.4362	0.0398	0.1190	0.0602
119.88	4	0.1114	4.8184	-3.2881	0.0458	0.0823	0.0318
135	4	0.3522	5.6567	-2.9908	0.0298	0.0756	0.0311
150.12	4	0.4367	6.3953	-3.1333	0.0443	0.0453	0.0195
164.88	4	0.6153	5.8828	-2.9021	0.0485	0.1082	0.0852
170.16	4	0.6686	6.2217	-3.1160	0.1074	0.1277	0.0782
175.08	4	0.1531	6.3406	-2.9700	0.1177	0.1519	0.0663
180	4	0.8855	5.5793	-3.2343	0.0357	0.0676	0.0915
180.35	3	0.2111	5.8284	-3.5975	0.3440	0.3688	0.0727
184.92	3	0.9947	5.2189	-3.4653	0.0634	0.1756	0.0336
184.92	4	1.2475	5.4926	-3.1379	0.0700	0.1220	0.0804
195.12	3	1.8117	4.6729	-3.5145	0.0851	0.1969	0.0776
209.88	3	2.8988	4.1575	-3.5301	0.0603	0.1084	0.0527
225	3	3.9982	3.3738	-3.4377	0.0462	0.0736	0.0604
240.12	3	4.5217	3.5954	-3.7609	0.0585	0.0508	0.0267
254.88	3	5.1465	3.2821	-3.5269	0.0912	0.1030	0.0890
260.16	3	5.2075	3.4847	-3.8404	0.0671	0.0460	0.0664
265.08	3	5.1712	3.6612	-3.8700	0.0555	0.0725	0.0601
270	3	5.2614	3.8042	-3.8309	0.0831	0.1643	0.0430
270.35	2	5.1446	3.5430	-3.7195	0.0702	0.0672	0.0567
274.92	2	5.0536	3.6110	-3.5798	0.0619	0.0631	0.0374
274.92	3	5.0610	3.8271	-3.7199	0.0733	0.0888	0.0581
285.12	2	4.8712	3.7828	-3.5813	0.1401	0.0573	0.0633
299.88	2	3.9984	4.3479	-3.5389	0.0775	0.0539	0.0374
315	2	3.7660	3.9298	-3.6115	0.0423	0.0332	0.0692
330.12	2	3.4015	3.3148	-3.9374	0.0640	0.0888	0.0397
344.88	2	3.3298	2.6758	-4.0119	0.0707	0.1307	0.1213
350.16	2	3.3635	2.6542	-4.0268	0.1042	0.0331	0.0534
355.08	2	3.6846	1.6216	-4.3359	0.0896	0.1293	0.1413

3.52.2 Spanwise Elastic Deformations

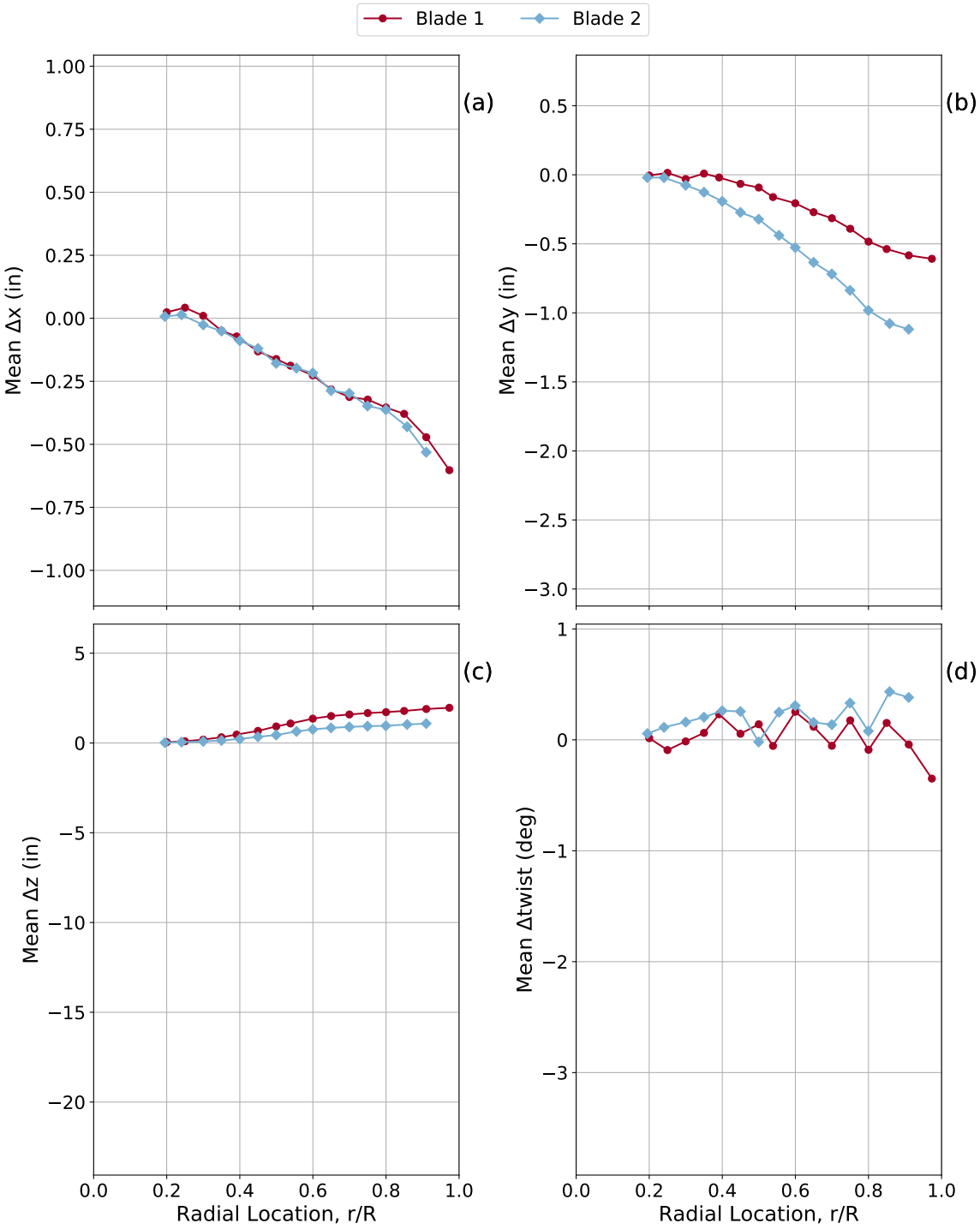


Figure 3.52-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0240	0.0046	-0.0054	0.0032	0.0423	0.0041	0.0152	0.0339
1	0.35	0.2499	0.0421	0.0032	0.0138	0.0037	0.0927	0.0078	-0.0923	0.0956
1	0.35	0.2998	0.0098	0.0024	-0.0310	0.0111	0.1866	0.0154	-0.0141	0.0864
1	0.35	0.3498	-0.0493	0.0025	0.0086	0.0173	0.3176	0.0223	0.0625	0.1092
1	0.35	0.3913	-0.0720	0.0028	-0.0197	0.0239	0.4661	0.0345	0.2306	0.0988
1	0.35	0.4496	-0.1316	0.0028	-0.0658	0.0296	0.6720	0.0463	0.0547	0.1206
1	0.35	0.4997	-0.1617	0.0027	-0.0926	0.0358	0.9210	0.0576	0.1401	0.1165
1	0.35	0.5387	-0.1880	0.0032	-0.1616	0.0408	1.0836	0.0705	-0.0549	0.1059
1	0.35	0.5996	-0.2266	0.0032	-0.2063	0.0481	1.3542	0.0849	0.2528	0.1140
1	0.35	0.6498	-0.2819	0.0040	-0.2709	0.0566	1.4999	0.1000	0.1182	0.1205
1	0.35	0.6998	-0.3123	0.0048	-0.3146	0.0621	1.5864	0.1147	-0.0535	0.1093
1	0.35	0.7500	-0.3224	0.0067	-0.3909	0.0721	1.6644	0.1275	0.1755	0.1165
1	0.35	0.8001	-0.3540	0.0066	-0.4842	0.0797	1.7159	0.1424	-0.0898	0.1171
1	0.35	0.8497	-0.3792	0.0080	-0.5380	0.0876	1.7836	0.1604	0.1525	0.1415
1	0.35	0.9102	-0.4718	0.0212	-0.5837	0.0986	1.8911	0.1802	-0.0420	0.1343
1	0.35	0.9734	-0.6026	0.0111	-0.6085	0.1112	1.9591	0.1913	-0.3495	0.1518
2	0	0.1949	0.0073	0.0028	-0.0198	0.0023	0.0178	0.0040	0.0560	0.0218
2	0	0.2405	0.0138	0.0017	-0.0208	0.0020	0.0487	0.0083	0.1131	0.0657
2	0	0.2999	-0.0262	0.0021	-0.0758	0.0066	0.0854	0.0165	0.1600	0.0599
2	0	0.3498	-0.0506	0.0011	-0.1265	0.0106	0.1371	0.0256	0.2041	0.0726
2	0	0.3998	-0.0890	0.0013	-0.1923	0.0147	0.2207	0.0421	0.2623	0.0671
2	0	0.4496	-0.1197	0.0019	-0.2724	0.0190	0.3417	0.0597	0.2556	0.0761
2	0	0.4995	-0.1789	0.0015	-0.3220	0.0231	0.4405	0.0781	-0.0190	0.0843
2	0	0.5551	-0.1977	0.0017	-0.4391	0.0297	0.6425	0.1000	0.2492	0.0823
2	0	0.5996	-0.2169	0.0033	-0.5273	0.0329	0.7563	0.1177	0.3083	0.0946
2	0	0.6497	-0.2870	0.0025	-0.6345	0.0417	0.8406	0.1414	0.1573	0.0878
2	0	0.6996	-0.2977	0.0033	-0.7188	0.0463	0.8924	0.1605	0.1370	0.1019
2	0	0.7495	-0.3480	0.0036	-0.8371	0.0531	0.9348	0.1800	0.3315	0.1125
2	0	0.7996	-0.3627	0.0046	-0.9820	0.0601	0.9554	0.2012	0.0787	0.0883
2	0	0.8578	-0.4305	0.0077	-1.0777	0.0709	1.0282	0.2301	0.4339	0.1113
2	0	0.9100	-0.5314	0.0060	-1.1186	0.0812	1.0793	0.2484	0.3820	0.2305

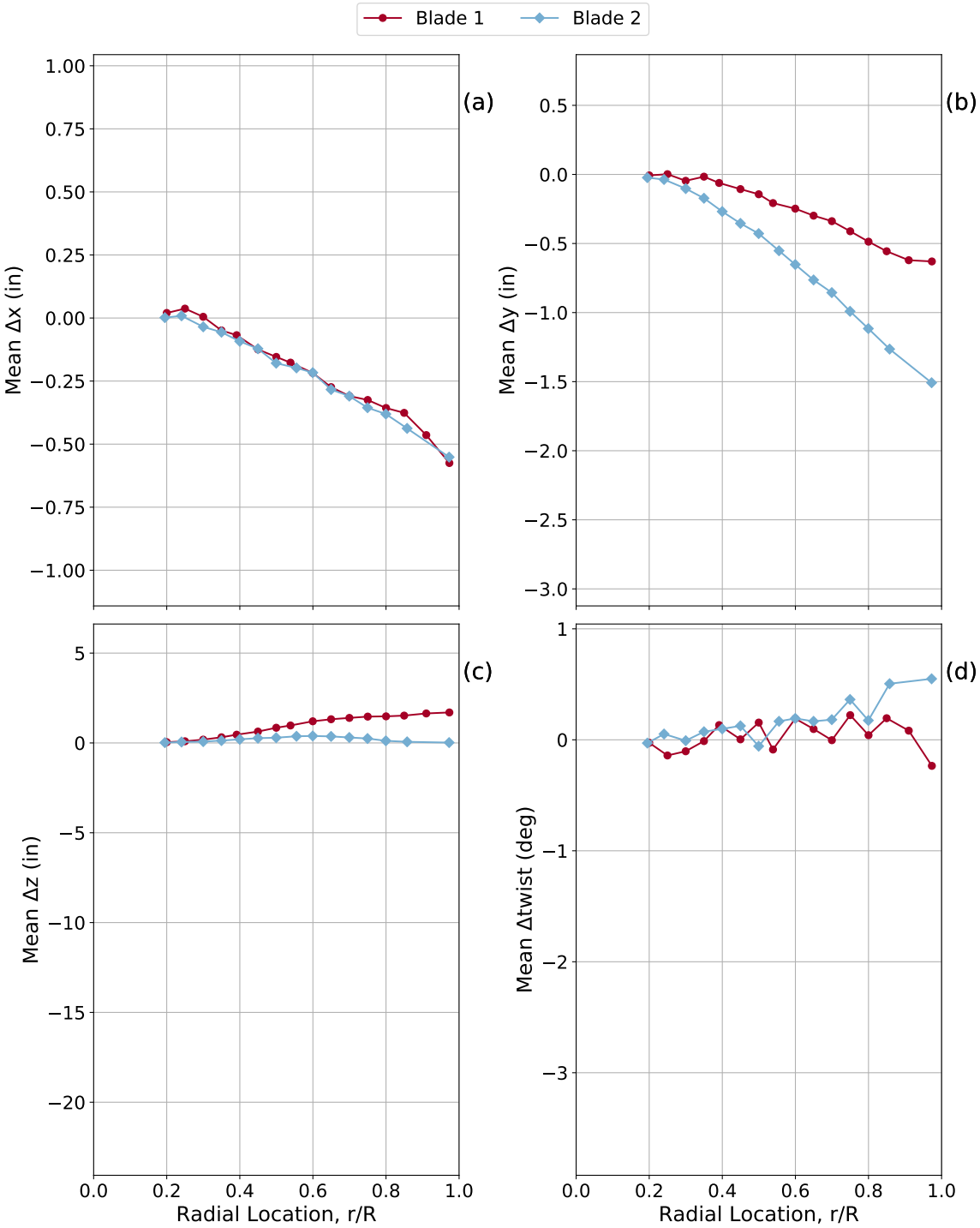


Figure 3.52-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0200	0.0036	-0.0071	0.0023	0.0430	0.0062	-0.0271	0.0448
1	4.92	0.2499	0.0373	0.0015	0.0017	0.0051	0.0921	0.0098	-0.1410	0.0970
1	4.92	0.2998	0.0049	0.0021	-0.0462	0.0095	0.1844	0.0216	-0.1032	0.1105
1	4.92	0.3498	-0.0492	0.0036	-0.0163	0.0170	0.3147	0.0376	-0.0114	0.1112
1	4.92	0.3913	-0.0680	0.0033	-0.0618	0.0242	0.4590	0.0517	0.1326	0.1108
1	4.92	0.4496	-0.1245	0.0042	-0.1064	0.0323	0.6327	0.0724	0.0042	0.1268
1	4.92	0.4997	-0.1542	0.0044	-0.1436	0.0438	0.8456	0.0897	0.1554	0.1184
1	4.92	0.5387	-0.1769	0.0043	-0.2074	0.0493	0.9718	0.1062	-0.0875	0.1151
1	4.92	0.5996	-0.2179	0.0052	-0.2478	0.0600	1.2048	0.1286	0.1911	0.1348
1	4.92	0.6498	-0.2740	0.0064	-0.2985	0.0703	1.3182	0.1482	0.0973	0.1367
1	4.92	0.6998	-0.3093	0.0068	-0.3384	0.0795	1.3928	0.1652	-0.0034	0.1213
1	4.92	0.7500	-0.3250	0.0073	-0.4115	0.0889	1.4654	0.1770	0.2224	0.1190
1	4.92	0.8001	-0.3568	0.0071	-0.4868	0.1015	1.4799	0.1894	0.0417	0.1374
1	4.92	0.8497	-0.3760	0.0076	-0.5562	0.1092	1.5211	0.2020	0.1946	0.1459
1	4.92	0.9102	-0.4642	0.0077	-0.6210	0.1232	1.6415	0.2243	0.0825	0.1632
1	4.92	0.9734	-0.5749	0.0089	-0.6299	0.1370	1.6965	0.2533	-0.2346	0.1132
2	4.92	0.1949	0.0015	0.0027	-0.0234	0.0016	0.0168	0.0050	-0.0295	0.0323
2	4.92	0.2405	0.0087	0.0013	-0.0367	0.0027	0.0528	0.0087	0.0524	0.0589
2	4.92	0.2999	-0.0349	0.0021	-0.1026	0.0048	0.0731	0.0201	-0.0077	0.0735
2	4.92	0.3498	-0.0563	0.0018	-0.1724	0.0092	0.1316	0.0350	0.0728	0.0746
2	4.92	0.3998	-0.0924	0.0021	-0.2687	0.0129	0.2004	0.0531	0.0987	0.0636
2	4.92	0.4496	-0.1218	0.0016	-0.3545	0.0168	0.2656	0.0701	0.1257	0.0774
2	4.92	0.4995	-0.1791	0.0029	-0.4283	0.0192	0.2909	0.0841	-0.0575	0.0740
2	4.92	0.5551	-0.1978	0.0031	-0.5524	0.0227	0.3707	0.0936	0.1667	0.0808
2	4.92	0.5996	-0.2166	0.0021	-0.6524	0.0259	0.3880	0.0994	0.1927	0.0662
2	4.92	0.6497	-0.2836	0.0040	-0.7639	0.0290	0.3634	0.1112	0.1666	0.0782
2	4.92	0.6996	-0.3097	0.0047	-0.8556	0.0339	0.3037	0.1179	0.1818	0.0730
2	4.92	0.7495	-0.3556	0.0035	-0.9910	0.0382	0.2463	0.1233	0.3634	0.0759
2	4.92	0.7996	-0.3807	0.0042	-1.1159	0.0440	0.1183	0.1282	0.1744	0.0858
2	4.92	0.8578	-0.4376	0.0044	-1.2643	0.0515	0.0613	0.1316	0.5054	0.0666
2	4.92	0.9727	-0.5514	0.0131	-1.5079	0.0608	0.0195	0.1397	0.5498	0.1844

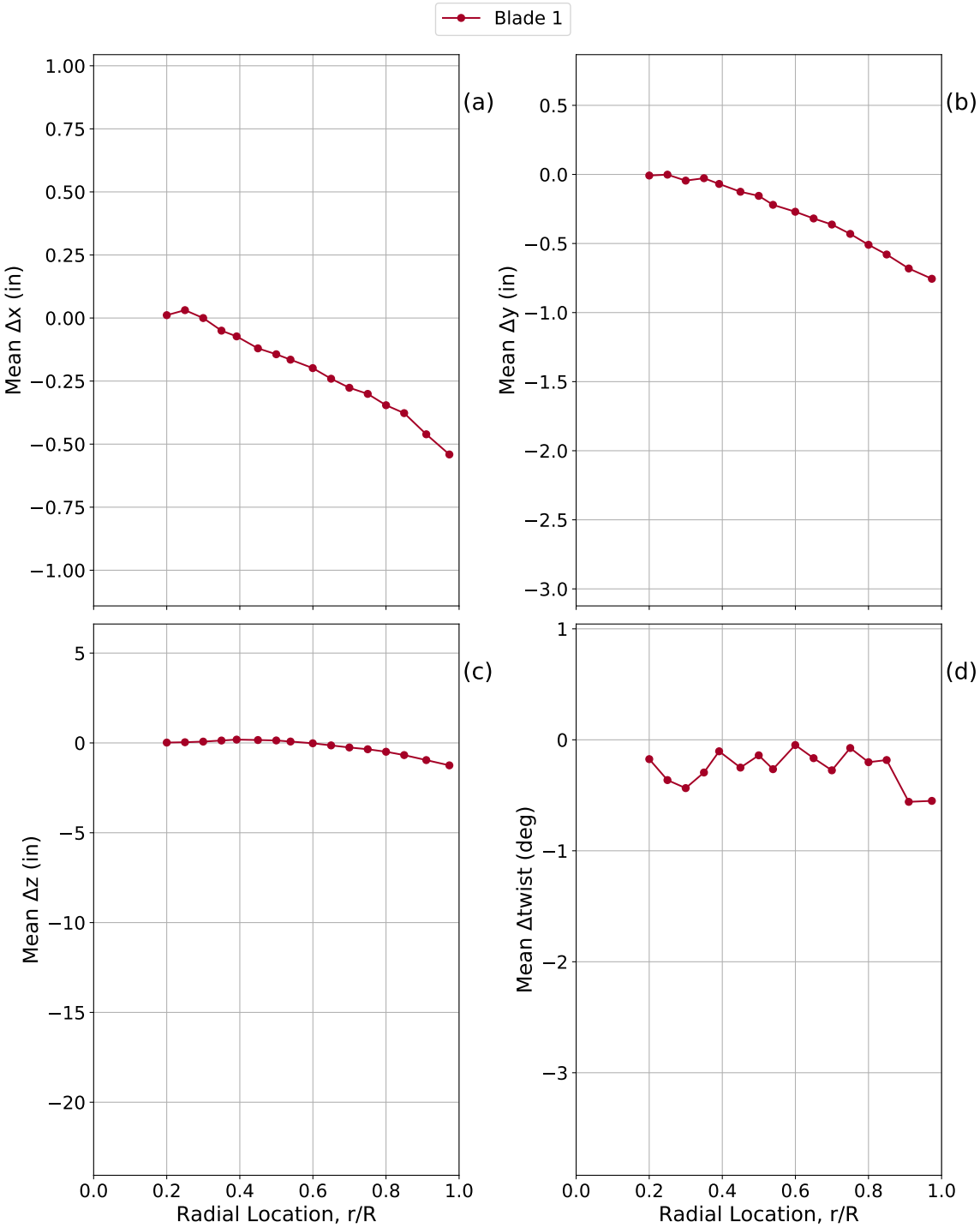


Figure 3.52-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0113	0.0038	-0.0080	0.0018	0.0198	0.0043	-0.1741	0.0434
1	15.12	0.2499	0.0312	0.0027	-0.0017	0.0034	0.0385	0.0082	-0.3629	0.0762
1	15.12	0.2998	-0.0001	0.0021	-0.0449	0.0068	0.0735	0.0160	-0.4352	0.0988
1	15.12	0.3498	-0.0501	0.0022	-0.0275	0.0116	0.1343	0.0257	-0.2946	0.0898
1	15.12	0.3913	-0.0728	0.0030	-0.0689	0.0166	0.1855	0.0375	-0.1034	0.0861
1	15.12	0.4496	-0.1203	0.0027	-0.1255	0.0247	0.1616	0.0531	-0.2504	0.0891
1	15.12	0.4997	-0.1437	0.0036	-0.1552	0.0326	0.1386	0.0665	-0.1397	0.1100
1	15.12	0.5387	-0.1651	0.0037	-0.2201	0.0386	0.0779	0.0793	-0.2646	0.1123
1	15.12	0.5996	-0.1986	0.0040	-0.2702	0.0496	-0.0194	0.1084	-0.0470	0.1165
1	15.12	0.6498	-0.2407	0.0043	-0.3189	0.0598	-0.1371	0.1323	-0.1654	0.1263
1	15.12	0.6998	-0.2766	0.0043	-0.3628	0.0702	-0.2529	0.1573	-0.2749	0.1317
1	15.12	0.7500	-0.3008	0.0048	-0.4305	0.0824	-0.3514	0.1850	-0.0739	0.1328
1	15.12	0.8001	-0.3457	0.0054	-0.5094	0.0941	-0.4906	0.2145	-0.2016	0.1298
1	15.12	0.8497	-0.3771	0.0053	-0.5797	0.1050	-0.6762	0.2487	-0.1823	0.1229
1	15.12	0.9102	-0.4610	0.0050	-0.6809	0.1197	-0.9553	0.2944	-0.5589	0.1512
1	15.12	0.9734	-0.5410	0.0102	-0.7554	0.1363	-1.2479	0.3476	-0.5502	0.0882

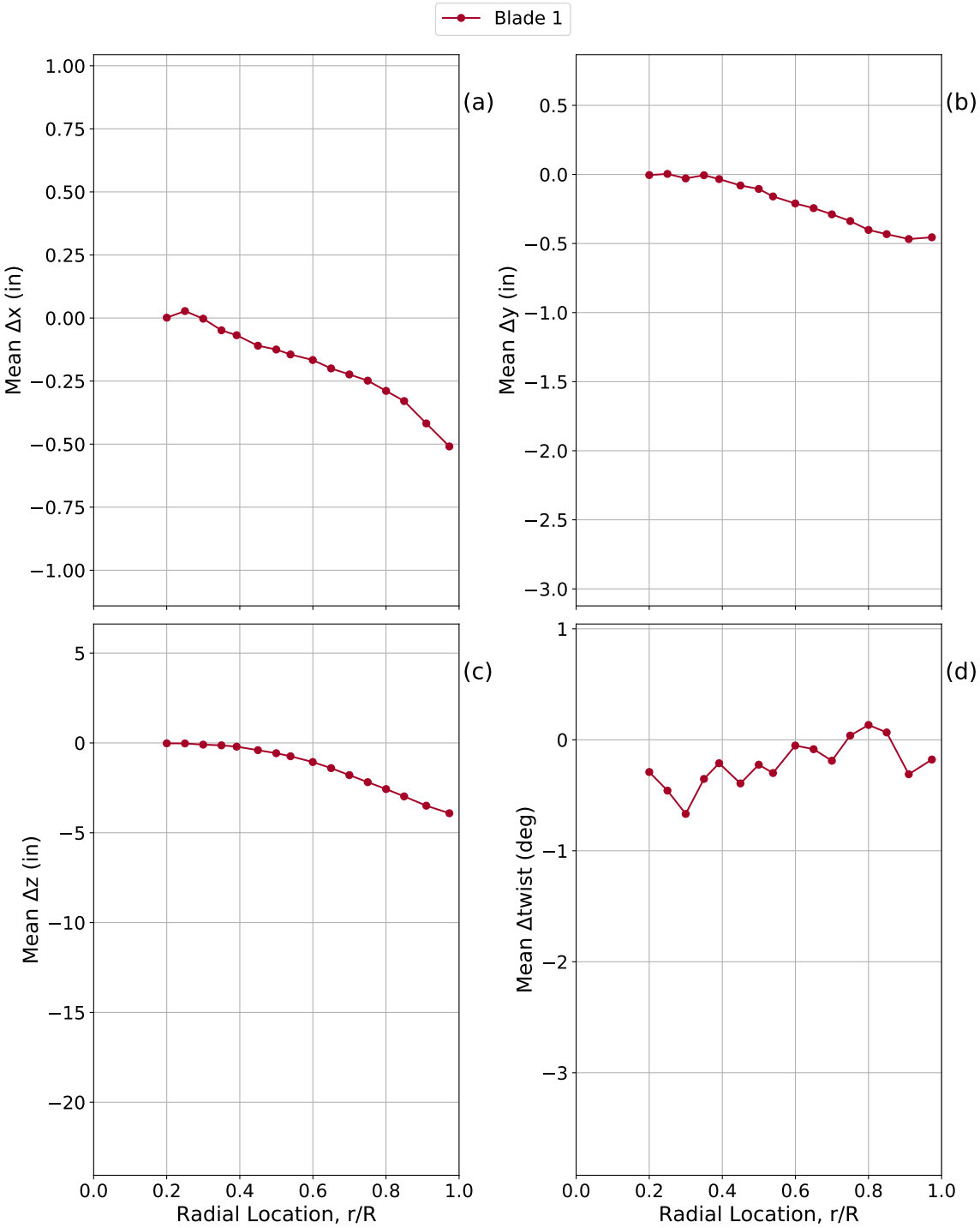


Figure 3.52-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0014	0.0039	-0.0047	0.0026	-0.0224	0.0057	-0.2902	0.0267
1	29.88	0.2499	0.0276	0.0015	0.0038	0.0040	-0.0279	0.0084	-0.4576	0.0609
1	29.88	0.2998	-0.0027	0.0017	-0.0289	0.0093	-0.0951	0.0200	-0.6676	0.0627
1	29.88	0.3498	-0.0487	0.0035	-0.0060	0.0164	-0.1338	0.0338	-0.3525	0.0642
1	29.88	0.3913	-0.0682	0.0042	-0.0338	0.0225	-0.2063	0.0469	-0.2110	0.0708
1	29.88	0.4496	-0.1098	0.0049	-0.0801	0.0311	-0.4022	0.0635	-0.3931	0.0786
1	29.88	0.4997	-0.1249	0.0061	-0.1050	0.0406	-0.5718	0.0778	-0.2241	0.0875
1	29.88	0.5387	-0.1445	0.0054	-0.1595	0.0477	-0.7424	0.0905	-0.2992	0.0997
1	29.88	0.5996	-0.1665	0.0066	-0.2104	0.0611	-1.0630	0.1137	-0.0516	0.0860
1	29.88	0.6498	-0.1999	0.0067	-0.2441	0.0728	-1.4028	0.1359	-0.0844	0.0927
1	29.88	0.6998	-0.2237	0.0082	-0.2890	0.0863	-1.7914	0.1588	-0.1885	0.0904
1	29.88	0.7500	-0.2483	0.0081	-0.3375	0.1003	-2.1824	0.1816	0.0386	0.0959
1	29.88	0.8001	-0.2889	0.0089	-0.4020	0.1139	-2.5681	0.2051	0.1338	0.0867
1	29.88	0.8497	-0.3293	0.0086	-0.4324	0.1284	-2.9755	0.2248	0.0664	0.0956
1	29.88	0.9102	-0.4179	0.0098	-0.4678	0.1465	-3.4935	0.2471	-0.3103	0.1040
1	29.88	0.9734	-0.5091	0.0138	-0.4553	0.1657	-3.9135	0.2696	-0.1778	0.1018

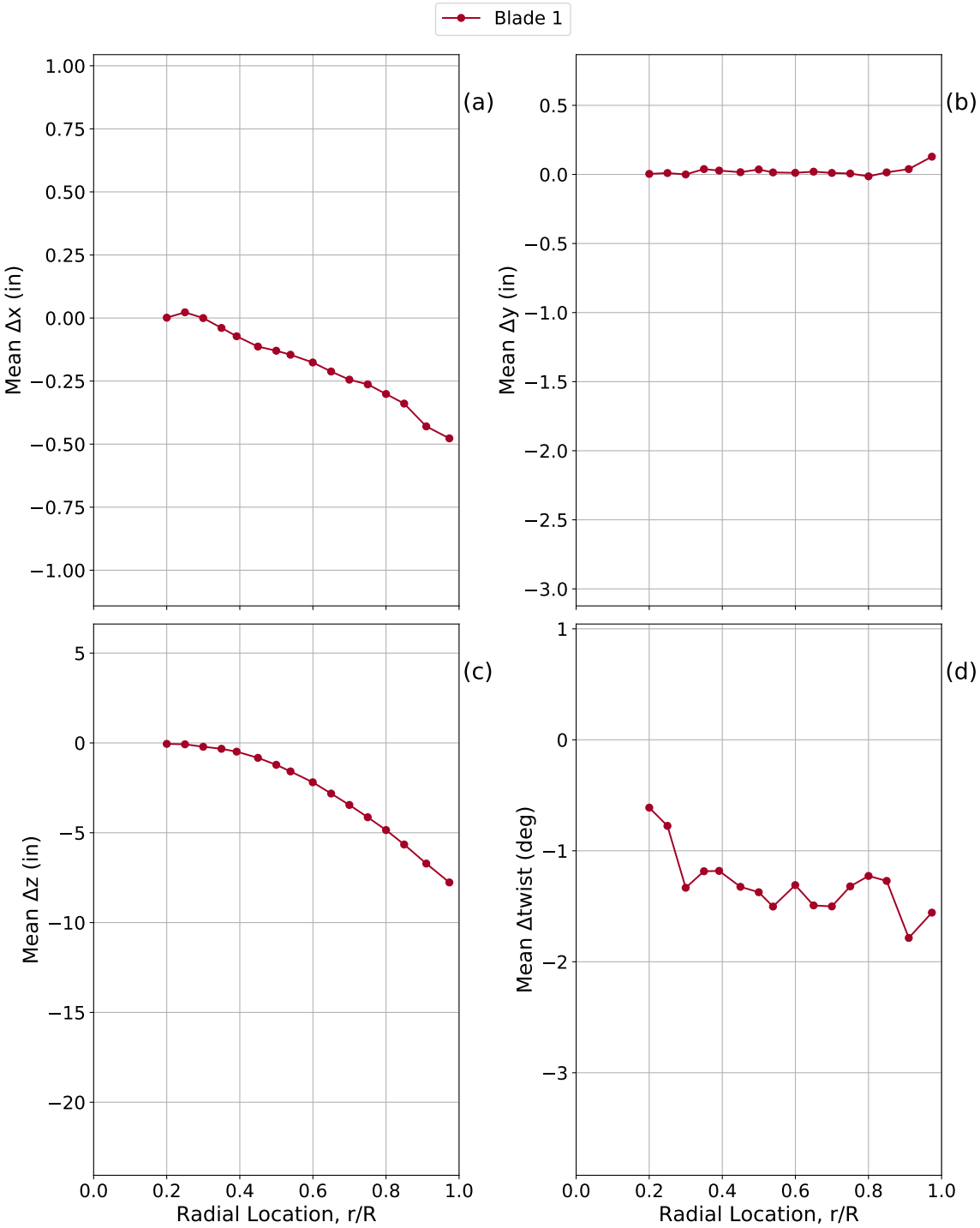


Figure 3.52-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0013	0.0054	0.0038	0.0037	-0.0518	0.0059	-0.6112	0.0598
1	45	0.2499	0.0226	0.0023	0.0100	0.0035	-0.0763	0.0123	-0.7754	0.1210
1	45	0.2998	-0.0002	0.0017	-0.0003	0.0122	-0.2128	0.0232	-1.3332	0.1423
1	45	0.3498	-0.0393	0.0024	0.0386	0.0205	-0.3264	0.0406	-1.1845	0.1493
1	45	0.3913	-0.0723	0.0029	0.0278	0.0276	-0.4851	0.0578	-1.1812	0.1526
1	45	0.4496	-0.1132	0.0028	0.0161	0.0377	-0.8294	0.0813	-1.3247	0.1503
1	45	0.4997	-0.1297	0.0021	0.0357	0.0467	-1.2167	0.0995	-1.3734	0.1571
1	45	0.5387	-0.1456	0.0027	0.0144	0.0533	-1.5855	0.1148	-1.5025	0.1599
1	45	0.5996	-0.1762	0.0037	0.0115	0.0643	-2.1899	0.1368	-1.3092	0.1624
1	45	0.6498	-0.2121	0.0026	0.0200	0.0737	-2.8176	0.1586	-1.4922	0.1521
1	45	0.6998	-0.2444	0.0034	0.0107	0.0825	-3.4531	0.1818	-1.5012	0.1612
1	45	0.7500	-0.2630	0.0049	0.0065	0.0923	-4.1362	0.2100	-1.3206	0.1602
1	45	0.8001	-0.3012	0.0061	-0.0139	0.1018	-4.8496	0.2416	-1.2266	0.1608
1	45	0.8497	-0.3393	0.0069	0.0147	0.1118	-5.6527	0.2713	-1.2715	0.1713
1	45	0.9102	-0.4297	0.0080	0.0385	0.1236	-6.7134	0.3043	-1.7852	0.1649
1	45	0.9734	-0.4771	0.0082	0.1283	0.1362	-7.7652	0.3342	-1.5572	0.1716

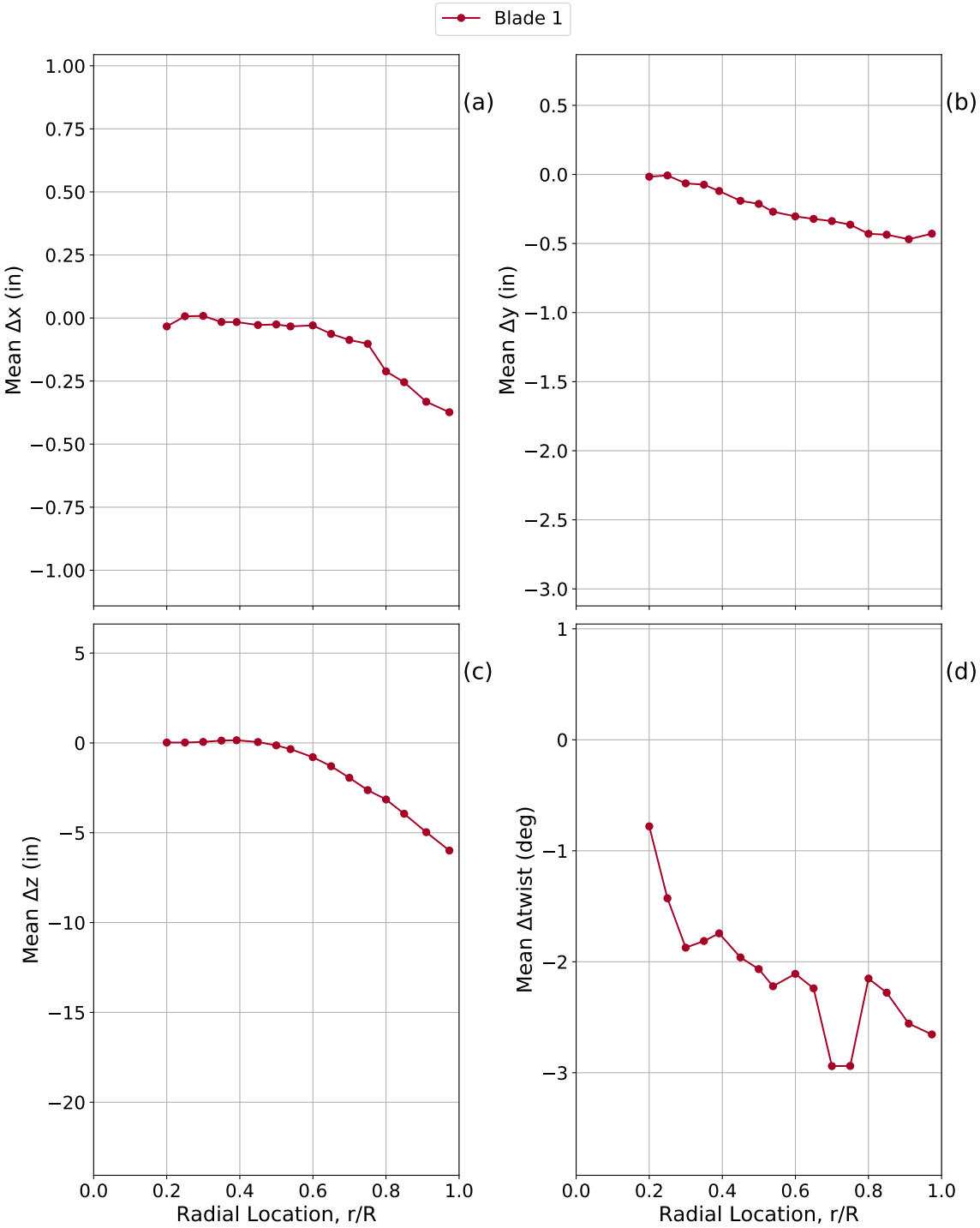


Figure 3.52-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0333	0.0037	-0.0165	0.0040	0.0228	0.0078	-0.7798	0.0423
1	60.12	0.2499	0.0070	0.0035	-0.0075	0.0045	0.0226	0.0056	-1.4281	0.1395
1	60.12	0.2998	0.0083	0.0042	-0.0648	0.0133	0.0562	0.0236	-1.8728	0.1217
1	60.12	0.3498	-0.0159	0.0074	-0.0743	0.0220	0.1309	0.0364	-1.8131	0.1233
1	60.12	0.3913	-0.0161	0.0093	-0.1202	0.0301	0.1484	0.0485	-1.7439	0.1222
1	60.12	0.4496	-0.0276	0.0134	-0.1909	0.0410	0.0498	0.0676	-1.9608	0.1060
1	60.12	0.4997	-0.0254	0.0169	-0.2134	0.0501	-0.1356	0.0811	-2.0662	0.1147
1	60.12	0.5387	-0.0333	0.0196	-0.2699	0.0584	-0.3454	0.0927	-2.2207	0.1089
1	60.12	0.5996	-0.0292	0.0220	-0.3037	0.0695	-0.7909	0.1097	-2.1089	0.1157
1	60.12	0.6498	-0.0631	0.0247	-0.3220	0.0805	-1.2965	0.1250	-2.2396	0.1343
1	60.12	0.6998	-0.0870	0.0168	-0.3379	0.0869	-1.9411	0.1435	-2.9401	0.4226
1	60.12	0.7500	-0.1022	0.0213	-0.3636	0.0956	-2.6278	0.1637	-2.9387	0.4939
1	60.12	0.8001	-0.2115	0.0127	-0.4297	0.1088	-3.1482	0.2005	-2.1513	0.1456
1	60.12	0.8497	-0.2546	0.0136	-0.4362	0.1194	-3.9429	0.2260	-2.2783	0.1423
1	60.12	0.9102	-0.3320	0.0138	-0.4692	0.1324	-4.9692	0.2585	-2.5570	0.1492
1	60.12	0.9734	-0.3735	0.0142	-0.4288	0.1463	-5.9889	0.2975	-2.6549	0.1454

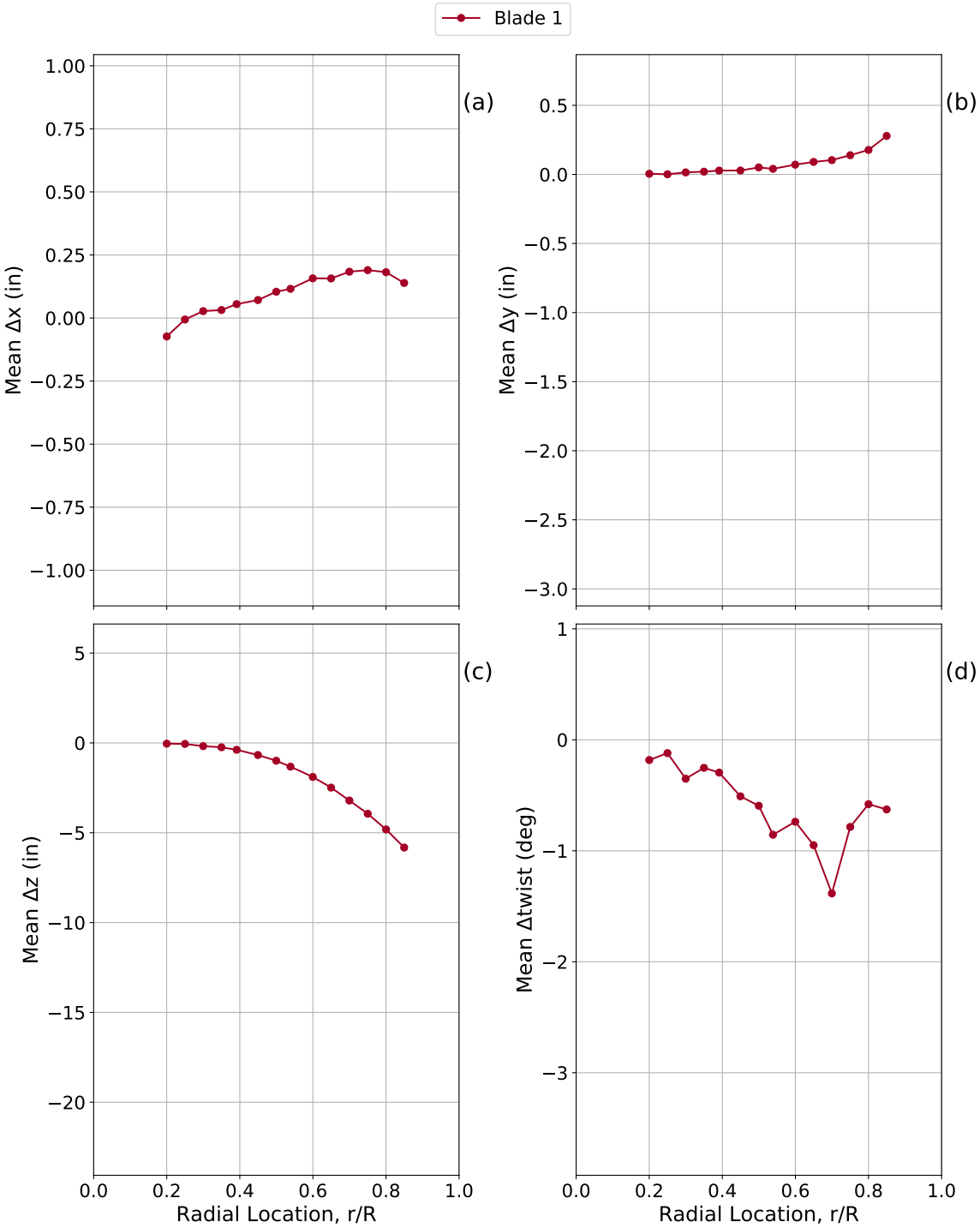


Figure 3.52-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0732	0.0014	0.0045	0.0011	-0.0409	0.0031	-0.1821	0.0337
1	74.88	0.2499	-0.0059	0.0014	0.0010	0.0029	-0.0545	0.0071	-0.1196	0.0557
1	74.88	0.2998	0.0274	0.0018	0.0146	0.0051	-0.1779	0.0136	-0.3505	0.0757
1	74.88	0.3498	0.0317	0.0016	0.0199	0.0084	-0.2430	0.0227	-0.2525	0.0775
1	74.88	0.3913	0.0551	0.0038	0.0279	0.0129	-0.3824	0.0336	-0.2951	0.0712
1	74.88	0.4496	0.0712	0.0044	0.0283	0.0183	-0.6719	0.0452	-0.5090	0.0892
1	74.88	0.4997	0.1043	0.0040	0.0505	0.0236	-0.9910	0.0569	-0.5943	0.0983
1	74.88	0.5387	0.1158	0.0056	0.0404	0.0291	-1.3205	0.0683	-0.8554	0.0774
1	74.88	0.5996	0.1574	0.0050	0.0705	0.0378	-1.8910	0.0894	-0.7381	0.0917
1	74.88	0.6498	0.1569	0.0061	0.0904	0.0464	-2.4868	0.1061	-0.9497	0.1212
1	74.88	0.6998	0.1836	0.0068	0.1036	0.0545	-3.2054	0.1290	-1.3841	0.1088
1	74.88	0.7500	0.1898	0.0078	0.1389	0.0658	-3.9410	0.1498	-0.7851	0.1225
1	74.88	0.8001	0.1818	0.0100	0.1772	0.0739	-4.8151	0.1720	-0.5799	0.1631
1	74.88	0.8497	0.1390	0.0098	0.2786	0.0864	-5.8232	0.1946	-0.6272	0.1836

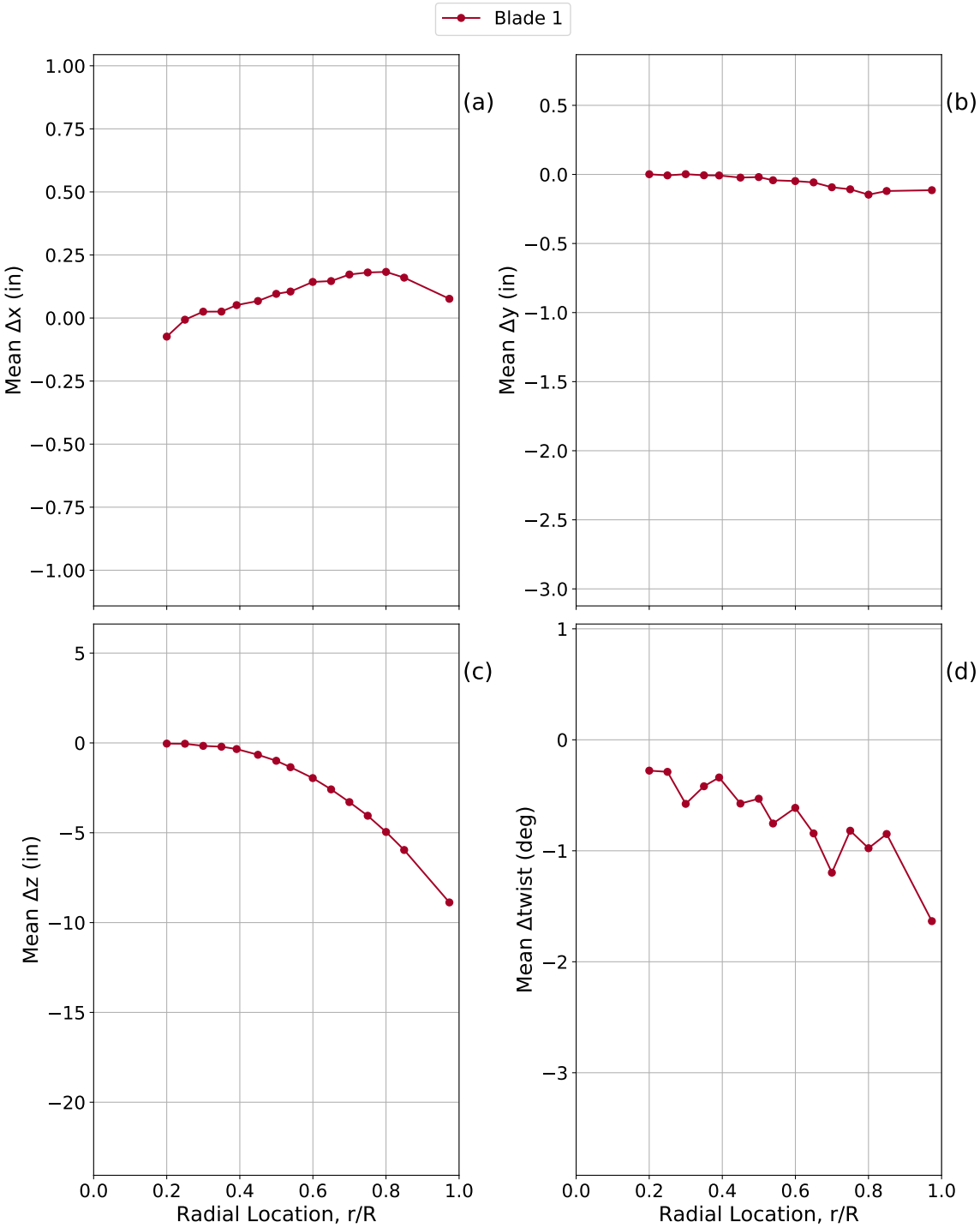


Figure 3.52-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0737	0.0011	0.0013	0.0011	-0.0373	0.0036	-0.2777	0.0196
1	80.16	0.2499	-0.0067	0.0011	-0.0071	0.0022	-0.0448	0.0078	-0.2886	0.0320
1	80.16	0.2998	0.0252	0.0014	0.0019	0.0041	-0.1642	0.0148	-0.5772	0.0436
1	80.16	0.3498	0.0255	0.0022	-0.0063	0.0081	-0.2102	0.0266	-0.4187	0.0404
1	80.16	0.3913	0.0512	0.0021	-0.0076	0.0107	-0.3402	0.0377	-0.3393	0.0465
1	80.16	0.4496	0.0675	0.0029	-0.0230	0.0159	-0.6590	0.0555	-0.5746	0.0452
1	80.16	0.4997	0.0958	0.0050	-0.0193	0.0210	-0.9933	0.0691	-0.5307	0.0507
1	80.16	0.5387	0.1050	0.0040	-0.0424	0.0255	-1.3505	0.0836	-0.7542	0.0497
1	80.16	0.5996	0.1431	0.0061	-0.0482	0.0325	-1.9564	0.0952	-0.6133	0.0577
1	80.16	0.6498	0.1465	0.0064	-0.0578	0.0389	-2.5849	0.1056	-0.8434	0.0575
1	80.16	0.6998	0.1725	0.0079	-0.0931	0.0464	-3.2927	0.1170	-1.1971	0.0509
1	80.16	0.7500	0.1806	0.0088	-0.1077	0.0553	-4.0534	0.1319	-0.8191	0.0910
1	80.16	0.8001	0.1829	0.0105	-0.1465	0.0636	-4.9557	0.1452	-0.9767	0.1121
1	80.16	0.8497	0.1600	0.0112	-0.1201	0.0718	-5.9589	0.1631	-0.8487	0.0688
1	80.16	0.9734	0.0762	0.0176	-0.1142	0.1015	-8.8781	0.2219	-1.6340	0.2122

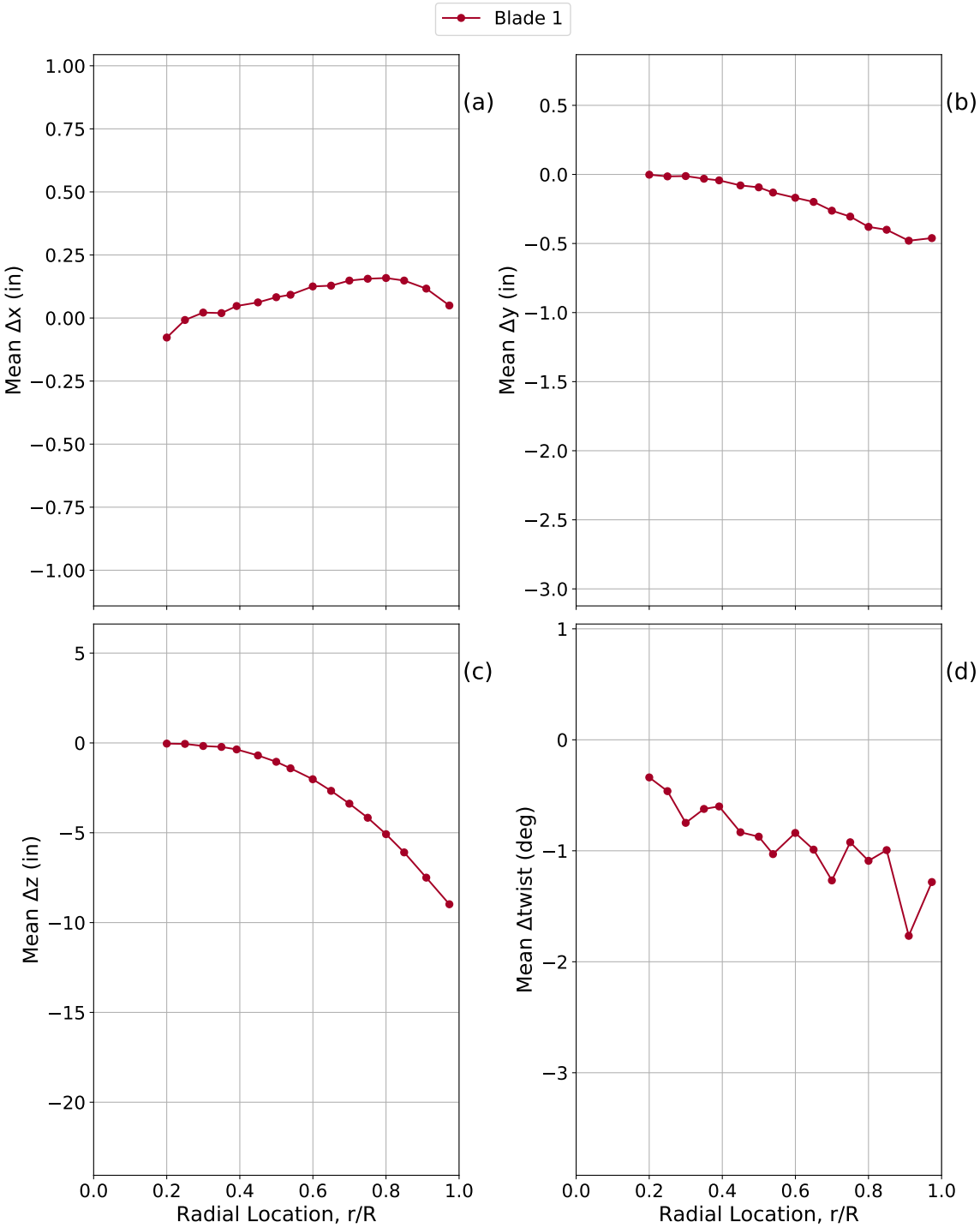


Figure 3.52-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0774	0.0020	-0.0020	0.0008	-0.0373	0.0032	-0.3388	0.0198
1	85.08	0.2499	-0.0079	0.0015	-0.0143	0.0009	-0.0531	0.0055	-0.4624	0.0302
1	85.08	0.2998	0.0216	0.0017	-0.0120	0.0030	-0.1703	0.0120	-0.7482	0.0408
1	85.08	0.3498	0.0195	0.0014	-0.0312	0.0043	-0.2220	0.0208	-0.6229	0.0480
1	85.08	0.3913	0.0476	0.0018	-0.0430	0.0063	-0.3608	0.0292	-0.6003	0.0635
1	85.08	0.4496	0.0619	0.0017	-0.0796	0.0094	-0.6958	0.0385	-0.8328	0.0695
1	85.08	0.4997	0.0825	0.0028	-0.0935	0.0124	-1.0496	0.0469	-0.8727	0.0687
1	85.08	0.5387	0.0922	0.0027	-0.1312	0.0154	-1.4122	0.0534	-1.0299	0.0865
1	85.08	0.5996	0.1252	0.0028	-0.1690	0.0211	-2.0212	0.0638	-0.8391	0.0765
1	85.08	0.6498	0.1283	0.0031	-0.1990	0.0257	-2.6667	0.0747	-0.9895	0.0801
1	85.08	0.6998	0.1485	0.0052	-0.2625	0.0315	-3.3812	0.0813	-1.2670	0.0750
1	85.08	0.7500	0.1557	0.0052	-0.3053	0.0379	-4.1648	0.0911	-0.9231	0.0810
1	85.08	0.8001	0.1586	0.0064	-0.3797	0.0430	-5.0794	0.1014	-1.0902	0.0859
1	85.08	0.8497	0.1485	0.0062	-0.4006	0.0503	-6.0928	0.1136	-0.9939	0.0845
1	85.08	0.9102	0.1166	0.0136	-0.4798	0.0579	-7.4980	0.1471	-1.7665	0.2107
1	85.08	0.9734	0.0497	0.0118	-0.4610	0.0659	-8.9794	0.1782	-1.2817	0.0765

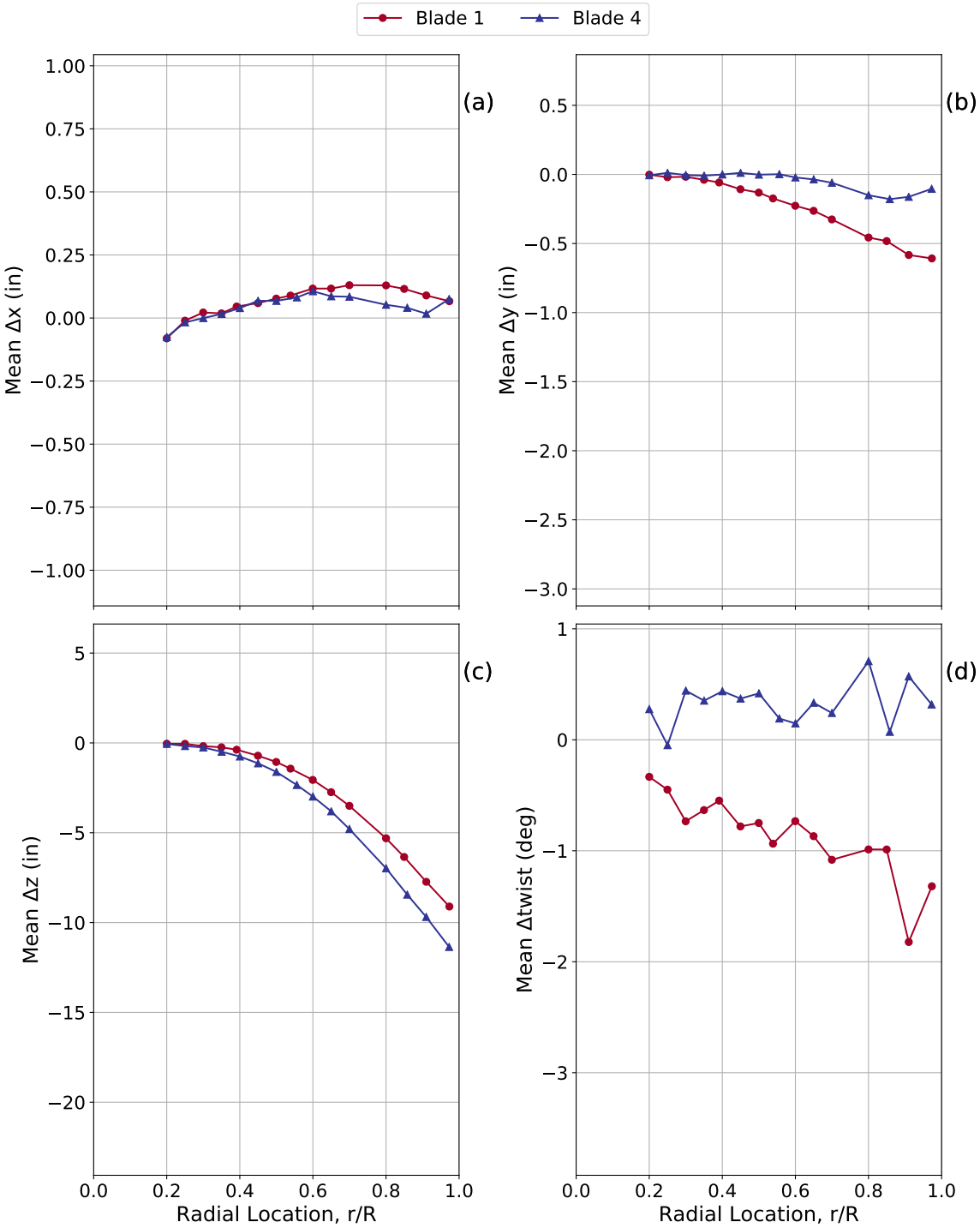


Figure 3.52-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0806	0.0021	-0.0019	0.0011	-0.0435	0.0049	-0.3337	0.0256
1	90	0.2499	-0.0106	0.0017	-0.0202	0.0024	-0.0494	0.0091	-0.4493	0.0543
1	90	0.2998	0.0219	0.0015	-0.0170	0.0044	-0.1782	0.0187	-0.7342	0.0607
1	90	0.3498	0.0184	0.0019	-0.0390	0.0078	-0.2441	0.0329	-0.6335	0.0613
1	90	0.3913	0.0456	0.0028	-0.0584	0.0112	-0.3769	0.0463	-0.5481	0.0675
1	90	0.4496	0.0590	0.0039	-0.1075	0.0167	-0.7110	0.0726	-0.7806	0.0705
1	90	0.4997	0.0769	0.0048	-0.1318	0.0217	-1.0590	0.0982	-0.7495	0.0784
1	90	0.5387	0.0891	0.0053	-0.1739	0.0265	-1.4312	0.1208	-0.9360	0.0814
1	90	0.5996	0.1168	0.0064	-0.2269	0.0341	-2.0592	0.1608	-0.7330	0.0822
1	90	0.6498	0.1168	0.0076	-0.2634	0.0412	-2.7411	0.1987	-0.8683	0.0817
1	90	0.6998	0.1301	0.0088	-0.3258	0.0496	-3.5024	0.2355	-1.0810	0.0835
1	90	0.8001	0.1293	0.0116	-0.4569	0.0673	-5.3078	0.3038	-0.9877	0.0977
1	90	0.8497	0.1155	0.0129	-0.4826	0.0764	-6.3479	0.3305	-0.9884	0.1069
1	90	0.9102	0.0895	0.0141	-0.5832	0.0895	-7.7303	0.3633	-1.8220	0.1159
1	90	0.9734	0.0667	0.0171	-0.6081	0.1015	-9.1068	0.3871	-1.3197	0.0887
4	90.35	0.2001	-0.0757	0.0017	-0.0062	0.0009	-0.0537	0.0032	0.2761	0.0272
4	90.35	0.2502	-0.0172	0.0014	0.0113	0.0020	-0.1746	0.0066	-0.0485	0.0526
4	90.35	0.3001	-0.0003	0.0014	-0.0047	0.0040	-0.2525	0.0133	0.4431	0.0639
4	90.35	0.3502	0.0162	0.0016	-0.0092	0.0067	-0.4909	0.0228	0.3527	0.0589
4	90.35	0.4002	0.0395	0.0022	-0.0005	0.0106	-0.7564	0.0354	0.4377	0.0719
4	90.35	0.4500	0.0683	0.0023	0.0111	0.0145	-1.1370	0.0512	0.3715	0.0723
4	90.35	0.5001	0.0679	0.0033	-0.0017	0.0196	-1.6129	0.0685	0.4186	0.0762
4	90.35	0.5560	0.0816	0.0043	0.0015	0.0262	-2.3420	0.0903	0.1918	0.0890
4	90.35	0.6001	0.1061	0.0056	-0.0220	0.0325	-2.9852	0.1094	0.1478	0.0825
4	90.35	0.6501	0.0861	0.0061	-0.0362	0.0404	-3.8082	0.1317	0.3333	0.0862
4	90.35	0.6999	0.0843	0.0082	-0.0604	0.0493	-4.7951	0.1562	0.2414	0.0830
4	90.35	0.8002	0.0525	0.0119	-0.1507	0.0700	-6.9770	0.2071	0.7081	0.0684
4	90.35	0.8582	0.0403	0.0143	-0.1790	0.0830	-8.4464	0.2385	0.0715	0.0693
4	90.35	0.9101	0.0171	0.0159	-0.1624	0.0948	-9.6889	0.2669	0.5710	0.0952
4	90.35	0.9728	0.0753	0.0200	-0.1045	0.1102	-11.3585	0.3202	0.3183	0.1245

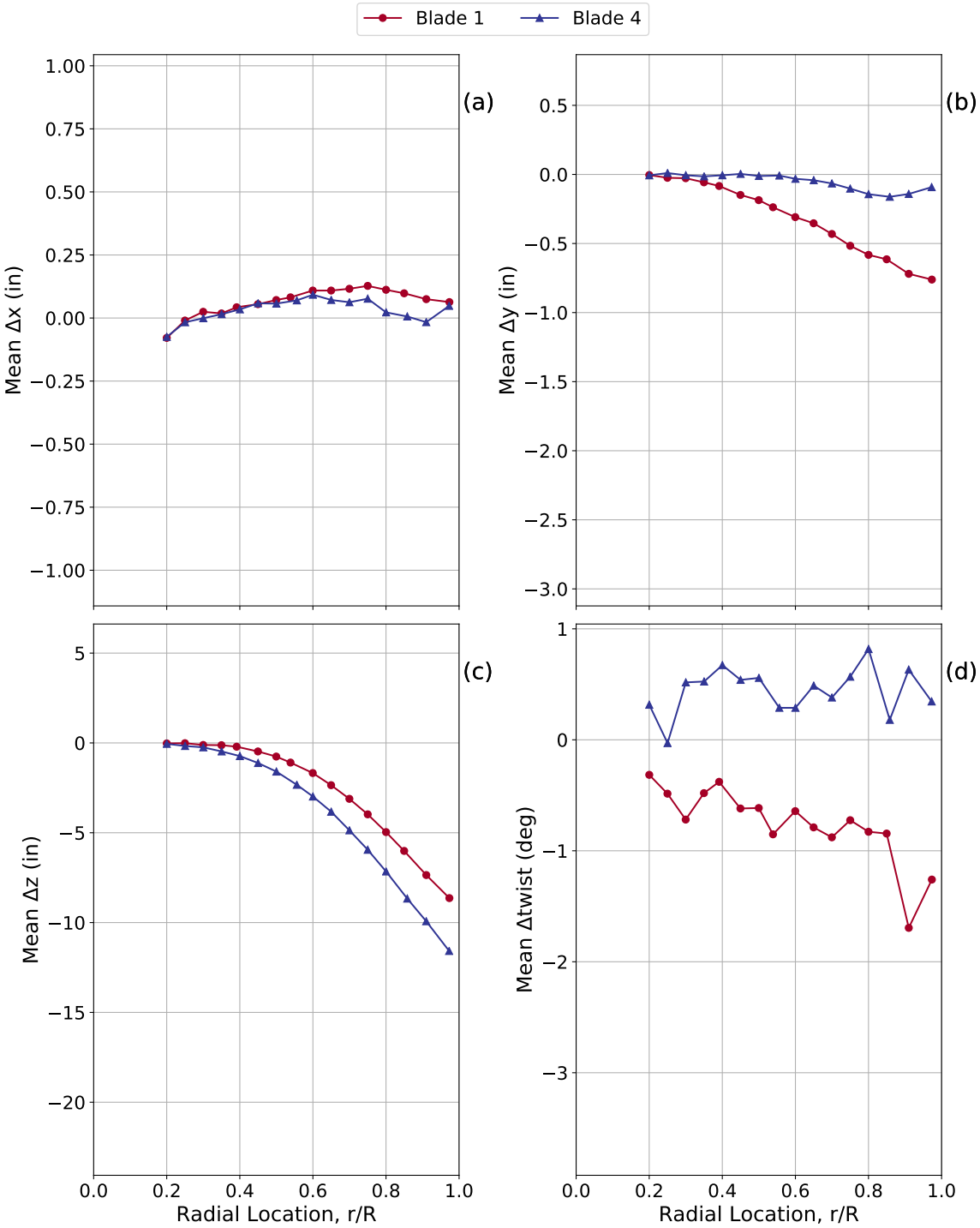


Figure 3.52-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0788	0.0014	-0.0047	0.0008	-0.0278	0.0027	-0.3156	0.0293
1	94.92	0.2499	-0.0099	0.0022	-0.0245	0.0018	-0.0143	0.0077	-0.4853	0.0287
1	94.92	0.2998	0.0247	0.0011	-0.0275	0.0033	-0.1138	0.0114	-0.7187	0.0577
1	94.92	0.3498	0.0182	0.0021	-0.0573	0.0055	-0.1254	0.0216	-0.4804	0.0604
1	94.92	0.3913	0.0426	0.0031	-0.0838	0.0081	-0.2094	0.0308	-0.3785	0.0586
1	94.92	0.4496	0.0549	0.0030	-0.1486	0.0122	-0.4739	0.0480	-0.6188	0.0589
1	94.92	0.4997	0.0713	0.0035	-0.1862	0.0162	-0.7587	0.0613	-0.6146	0.0769
1	94.92	0.5387	0.0820	0.0040	-0.2378	0.0199	-1.0937	0.0731	-0.8517	0.0830
1	94.92	0.5996	0.1089	0.0043	-0.3091	0.0273	-1.6751	0.0911	-0.6425	0.0903
1	94.92	0.6498	0.1089	0.0048	-0.3536	0.0335	-2.3514	0.1064	-0.7889	0.0954
1	94.92	0.6998	0.1159	0.0050	-0.4311	0.0403	-3.1117	0.1230	-0.8786	0.0886
1	94.92	0.7500	0.1274	0.0058	-0.5166	0.0478	-3.9750	0.1380	-0.7243	0.0917
1	94.92	0.8001	0.1119	0.0079	-0.5824	0.0553	-4.9625	0.1523	-0.8285	0.1084
1	94.92	0.8497	0.0980	0.0085	-0.6144	0.0631	-6.0110	0.1661	-0.8447	0.1064
1	94.92	0.9102	0.0748	0.0094	-0.7196	0.0730	-7.3540	0.1855	-1.6946	0.1376
1	94.92	0.9734	0.0632	0.0121	-0.7612	0.0834	-8.6371	0.2092	-1.2594	0.1234
4	94.92	0.2001	-0.0747	0.0013	-0.0067	0.0009	-0.0517	0.0027	0.3161	0.0157
4	94.92	0.2502	-0.0168	0.0010	0.0100	0.0015	-0.1696	0.0068	-0.0296	0.0291
4	94.92	0.3001	-0.0008	0.0013	-0.0061	0.0035	-0.2459	0.0130	0.5174	0.0360
4	94.92	0.3502	0.0152	0.0015	-0.0140	0.0059	-0.4733	0.0204	0.5252	0.0338
4	94.92	0.4002	0.0343	0.0016	-0.0063	0.0091	-0.7331	0.0337	0.6730	0.0268
4	94.92	0.4500	0.0583	0.0018	0.0037	0.0131	-1.1186	0.0459	0.5400	0.0353
4	94.92	0.5001	0.0571	0.0025	-0.0113	0.0181	-1.5955	0.0573	0.5579	0.0434
4	94.92	0.5560	0.0700	0.0032	-0.0084	0.0237	-2.3299	0.0676	0.2883	0.0454
4	94.92	0.6001	0.0923	0.0032	-0.0318	0.0285	-2.9830	0.0767	0.2882	0.0357
4	94.92	0.6501	0.0716	0.0043	-0.0420	0.0342	-3.8307	0.0829	0.4881	0.0407
4	94.92	0.6999	0.0625	0.0046	-0.0655	0.0393	-4.8660	0.0911	0.3810	0.0361
4	94.92	0.7500	0.0766	0.0065	-0.1028	0.0451	-5.9477	0.0987	0.5685	0.0424
4	94.92	0.8002	0.0224	0.0071	-0.1432	0.0514	-7.1556	0.1099	0.8177	0.0467
4	94.92	0.8582	0.0060	0.0092	-0.1621	0.0584	-8.6644	0.1341	0.1796	0.0334
4	94.92	0.9101	-0.0164	0.0100	-0.1416	0.0643	-9.9258	0.1584	0.6322	0.0531
4	94.92	0.9728	0.0482	0.0125	-0.0922	0.0722	-11.5804	0.1877	0.3456	0.0586

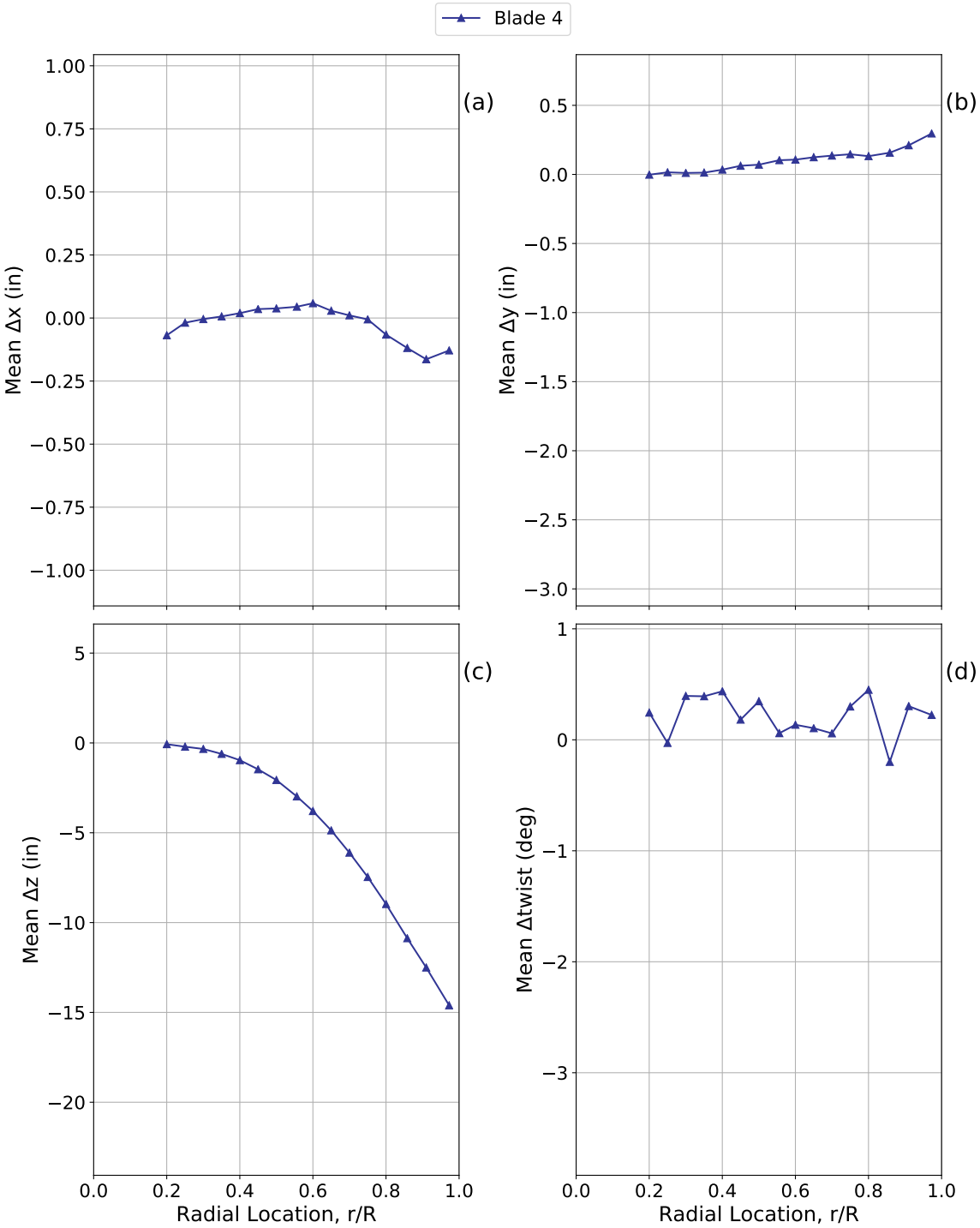


Figure 3.52-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.299, α = 8° NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0685	0.0021	-0.0022	0.0016	-0.0707	0.0033	0.2449	0.0160
4	105.12	0.2502	-0.0187	0.0012	0.0151	0.0031	-0.2105	0.0068	-0.0286	0.0398
4	105.12	0.3001	-0.0044	0.0014	0.0106	0.0066	-0.3362	0.0130	0.3954	0.0364
4	105.12	0.3502	0.0062	0.0011	0.0127	0.0112	-0.6119	0.0230	0.3921	0.0381
4	105.12	0.4002	0.0193	0.0019	0.0344	0.0174	-0.9622	0.0352	0.4372	0.0357
4	105.12	0.4500	0.0354	0.0031	0.0623	0.0223	-1.4692	0.0496	0.1815	0.0385
4	105.12	0.5001	0.0380	0.0037	0.0704	0.0291	-2.0658	0.0656	0.3471	0.0413
4	105.12	0.5560	0.0447	0.0045	0.1029	0.0381	-2.9798	0.0889	0.0595	0.0430
4	105.12	0.6001	0.0585	0.0058	0.1068	0.0450	-3.7931	0.1105	0.1355	0.0439
4	105.12	0.6501	0.0287	0.0074	0.1241	0.0529	-4.8699	0.1374	0.1046	0.0503
4	105.12	0.6999	0.0104	0.0095	0.1360	0.0624	-6.1105	0.1653	0.0580	0.0506
4	105.12	0.7500	-0.0055	0.0120	0.1459	0.0722	-7.4650	0.1946	0.2997	0.0596
4	105.12	0.8002	-0.0659	0.0142	0.1321	0.0824	-8.9714	0.2254	0.4504	0.0411
4	105.12	0.8582	-0.1190	0.0179	0.1570	0.0949	-10.8720	0.2587	-0.1991	0.0512
4	105.12	0.9101	-0.1636	0.0213	0.2107	0.1062	-12.5040	0.2930	0.3032	0.0532
4	105.12	0.9728	-0.1286	0.0242	0.2959	0.1201	-14.6080	0.3335	0.2237	0.0715

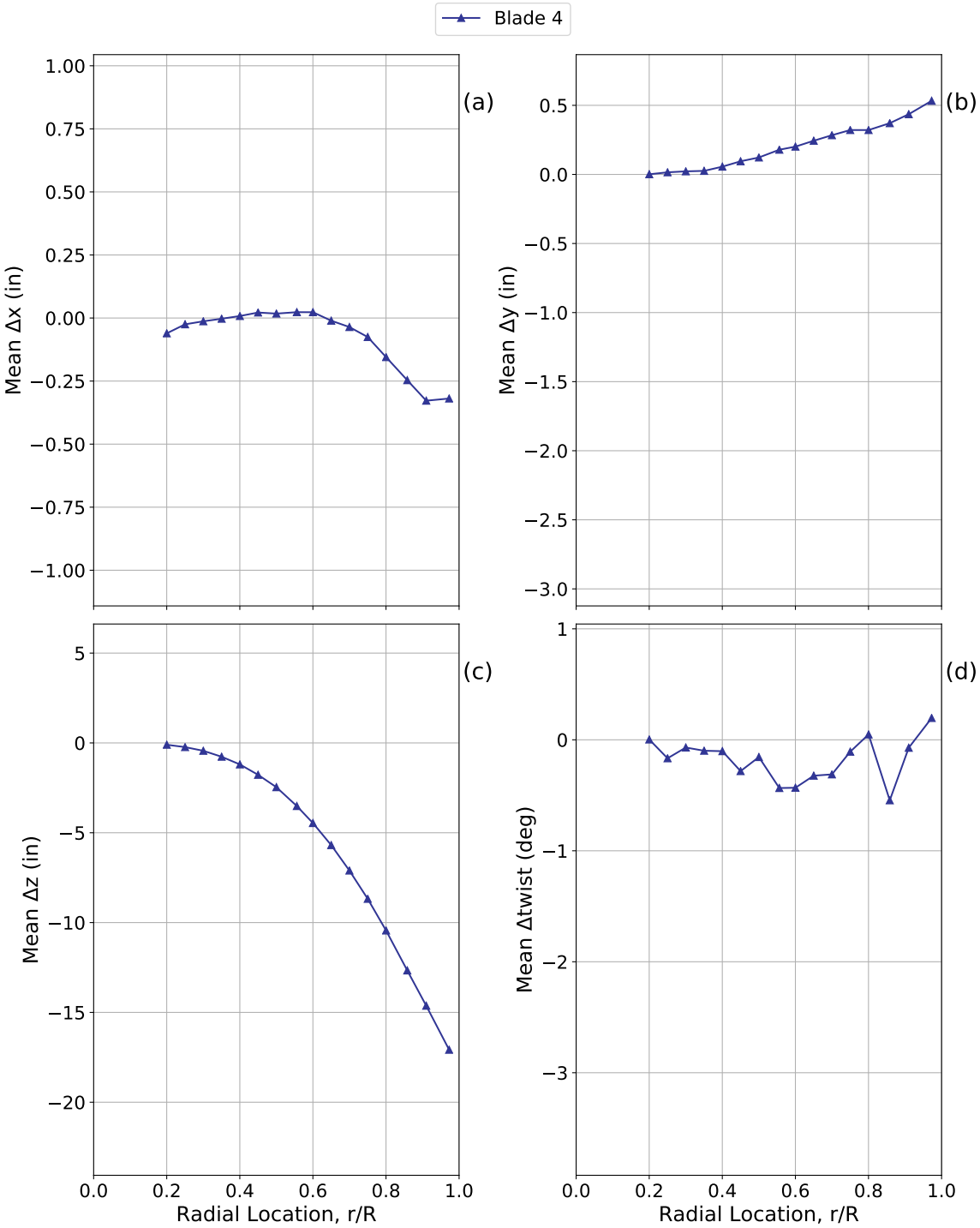


Figure 3.52-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0608	0.0009	0.0011	0.0009	-0.1011	0.0025	0.0027	0.0279
4	119.88	0.2502	-0.0250	0.0014	0.0152	0.0028	-0.2320	0.0074	-0.1666	0.0281
4	119.88	0.3001	-0.0130	0.0019	0.0222	0.0045	-0.4376	0.0126	-0.0695	0.0568
4	119.88	0.3502	-0.0029	0.0022	0.0256	0.0078	-0.7686	0.0211	-0.0984	0.0480
4	119.88	0.4002	0.0079	0.0022	0.0562	0.0126	-1.1969	0.0338	-0.1025	0.0444
4	119.88	0.4500	0.0218	0.0025	0.0950	0.0180	-1.7746	0.0470	-0.2821	0.0541
4	119.88	0.5001	0.0175	0.0034	0.1226	0.0242	-2.4639	0.0622	-0.1555	0.0569
4	119.88	0.5560	0.0232	0.0040	0.1787	0.0317	-3.5131	0.0790	-0.4345	0.0581
4	119.88	0.6001	0.0230	0.0046	0.2011	0.0386	-4.4611	0.0909	-0.4320	0.0608
4	119.88	0.6501	-0.0106	0.0054	0.2437	0.0464	-5.6881	0.1016	-0.3232	0.0766
4	119.88	0.6999	-0.0358	0.0072	0.2837	0.0555	-7.1051	0.1139	-0.3116	0.0626
4	119.88	0.7500	-0.0754	0.0095	0.3212	0.0642	-8.6790	0.1284	-0.1072	0.0817
4	119.88	0.8002	-0.1550	0.0131	0.3211	0.0736	-10.4419	0.1504	0.0482	0.0938
4	119.88	0.8582	-0.2465	0.0181	0.3708	0.0843	-12.6650	0.1873	-0.5452	0.0985
4	119.88	0.9101	-0.3278	0.0232	0.4357	0.0941	-14.6288	0.2300	-0.0719	0.0985
4	119.88	0.9728	-0.3192	0.0320	0.5327	0.1065	-17.0803	0.2918	0.1967	0.0906

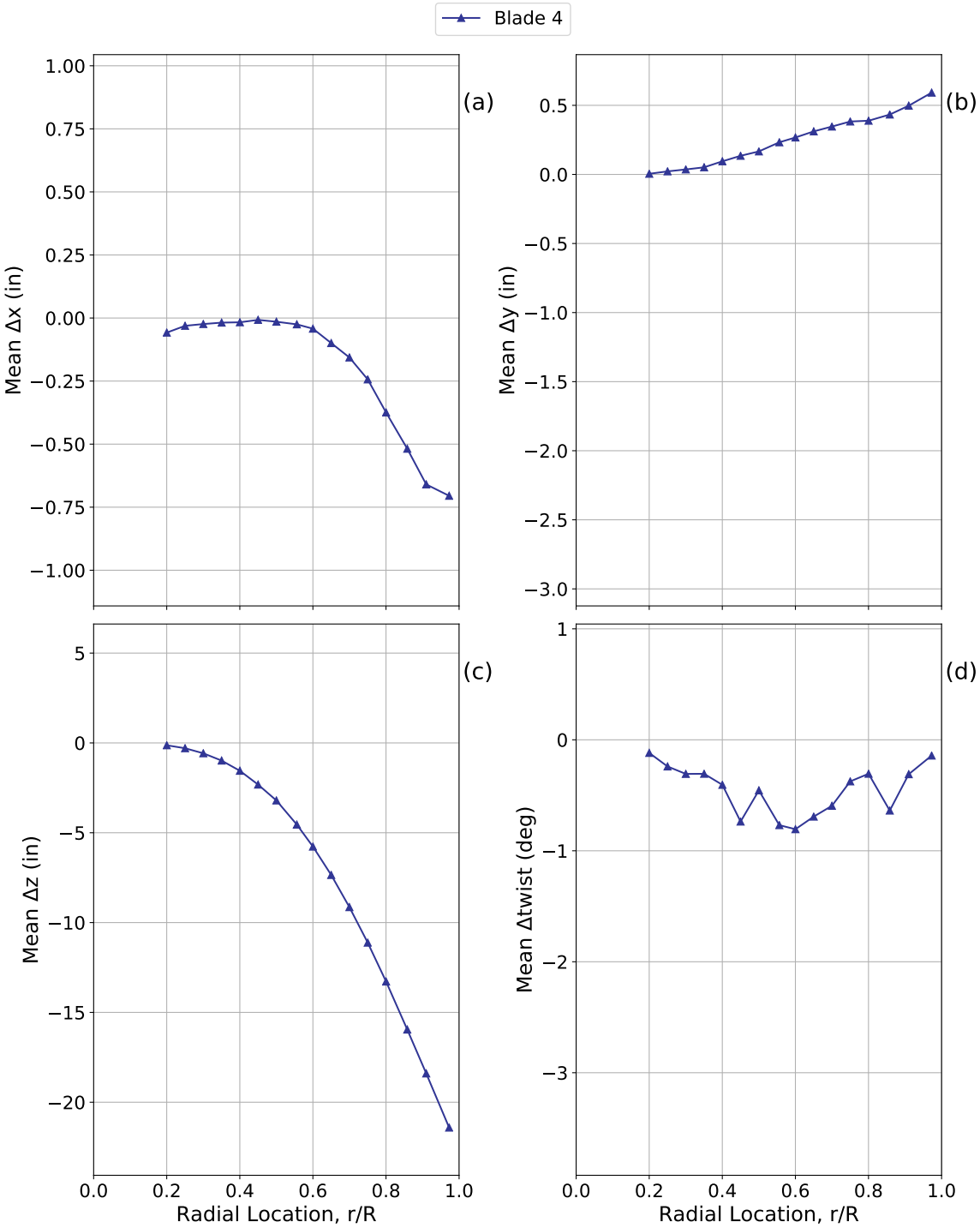


Figure 3.52-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0579	0.0014	0.0046	0.0007	-0.1308	0.0022	-0.1181	0.0090
4	135	0.2502	-0.0309	0.0013	0.0220	0.0021	-0.2957	0.0056	-0.2402	0.0251
4	135	0.3001	-0.0239	0.0012	0.0360	0.0033	-0.5771	0.0094	-0.3072	0.0233
4	135	0.3502	-0.0183	0.0014	0.0514	0.0049	-0.9831	0.0165	-0.3062	0.0459
4	135	0.4002	-0.0169	0.0017	0.0948	0.0085	-1.5506	0.0258	-0.4058	0.0575
4	135	0.4500	-0.0074	0.0020	0.1347	0.0110	-2.3194	0.0318	-0.7368	0.0409
4	135	0.5001	-0.0147	0.0030	0.1665	0.0143	-3.2024	0.0420	-0.4558	0.0417
4	135	0.5560	-0.0251	0.0040	0.2324	0.0183	-4.5457	0.0533	-0.7690	0.0475
4	135	0.6001	-0.0423	0.0047	0.2673	0.0219	-5.7718	0.0617	-0.8056	0.0539
4	135	0.6501	-0.0995	0.0064	0.3114	0.0257	-7.3508	0.0737	-0.6922	0.0421
4	135	0.6999	-0.1565	0.0085	0.3464	0.0298	-9.1412	0.0876	-0.5947	0.0522
4	135	0.7500	-0.2434	0.0104	0.3829	0.0349	-11.1182	0.1030	-0.3746	0.0503
4	135	0.8002	-0.3745	0.0141	0.3886	0.0387	-13.2812	0.1264	-0.3059	0.0465
4	135	0.8582	-0.5183	0.0197	0.4333	0.0446	-15.9549	0.1592	-0.6377	0.0599
4	135	0.9101	-0.6597	0.0251	0.4974	0.0494	-18.3984	0.1962	-0.3101	0.0642
4	135	0.9728	-0.7049	0.0332	0.5918	0.0548	-21.4121	0.2466	-0.1420	0.0730

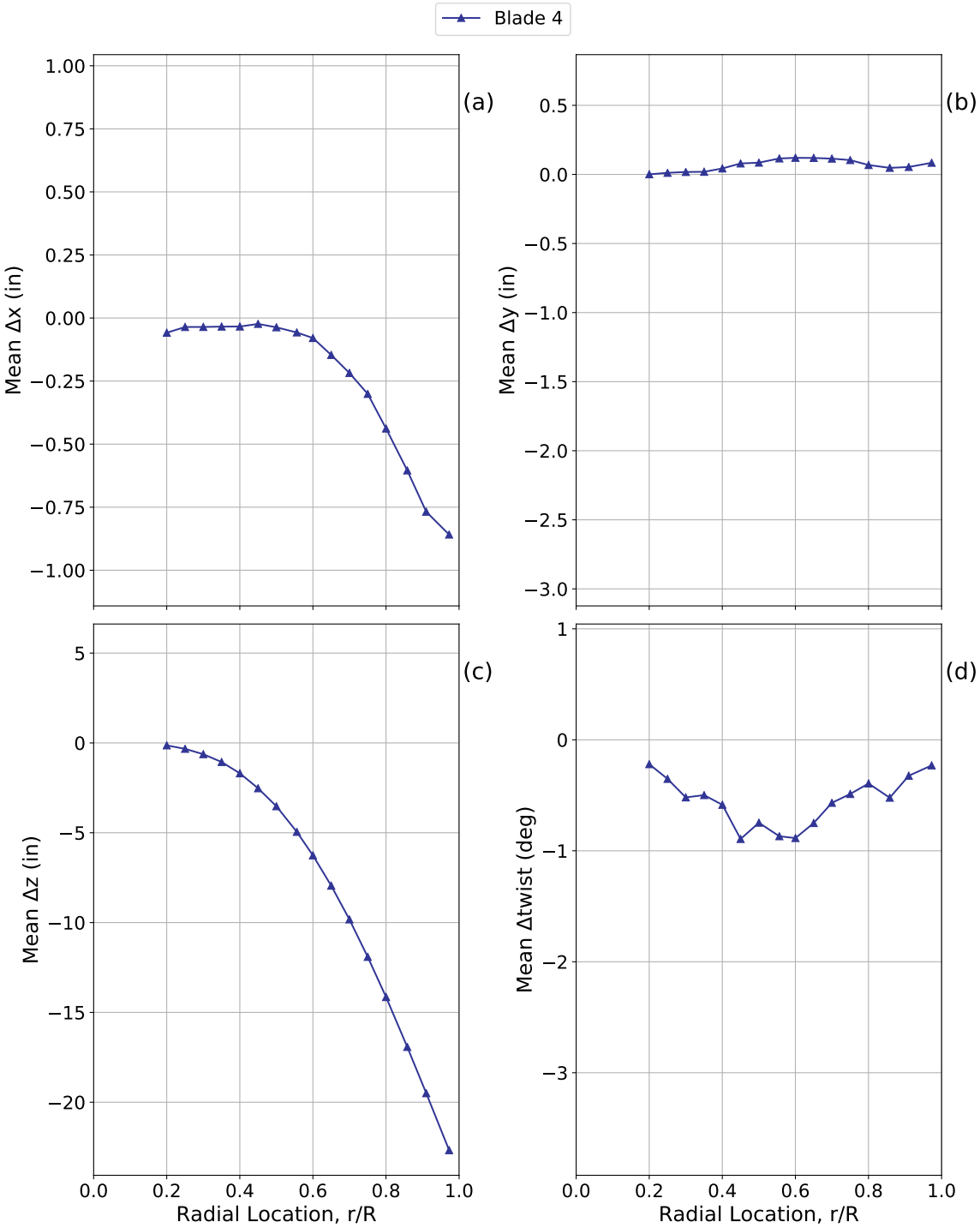


Figure 3.52-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0584	0.0016	0.0008	0.0007	-0.1374	0.0025	-0.2196	0.0160
4	150.12	0.2502	-0.0356	0.0010	0.0113	0.0017	-0.3290	0.0051	-0.3523	0.0203
4	150.12	0.3001	-0.0355	0.0010	0.0176	0.0024	-0.6280	0.0101	-0.5191	0.0304
4	150.12	0.3502	-0.0341	0.0020	0.0188	0.0053	-1.0633	0.0170	-0.4983	0.0280
4	150.12	0.4002	-0.0338	0.0023	0.0431	0.0072	-1.6924	0.0262	-0.5857	0.0272
4	150.12	0.4500	-0.0234	0.0027	0.0792	0.0096	-2.5247	0.0383	-0.8937	0.0366
4	150.12	0.5001	-0.0369	0.0040	0.0851	0.0107	-3.5254	0.0516	-0.7472	0.0378
4	150.12	0.5560	-0.0573	0.0066	0.1154	0.0162	-4.9503	0.0670	-0.8690	0.0332
4	150.12	0.6001	-0.0794	0.0074	0.1200	0.0158	-6.2605	0.0780	-0.8856	0.0472
4	150.12	0.6501	-0.1465	0.0089	0.1190	0.0196	-7.9473	0.0957	-0.7500	0.0385
4	150.12	0.6999	-0.2180	0.0126	0.1142	0.0224	-9.8254	0.1188	-0.5679	0.0363
4	150.12	0.7500	-0.3009	0.0160	0.1036	0.0252	-11.9103	0.1461	-0.4881	0.0447
4	150.12	0.8002	-0.4383	0.0210	0.0679	0.0292	-14.1466	0.1805	-0.3937	0.0580
4	150.12	0.8582	-0.6044	0.0294	0.0474	0.0336	-16.9226	0.2323	-0.5220	0.0615
4	150.12	0.9101	-0.7681	0.0368	0.0536	0.0377	-19.4984	0.2867	-0.3239	0.0647
4	150.12	0.9728	-0.8587	0.0474	0.0841	0.0426	-22.6719	0.3596	-0.2306	0.0711

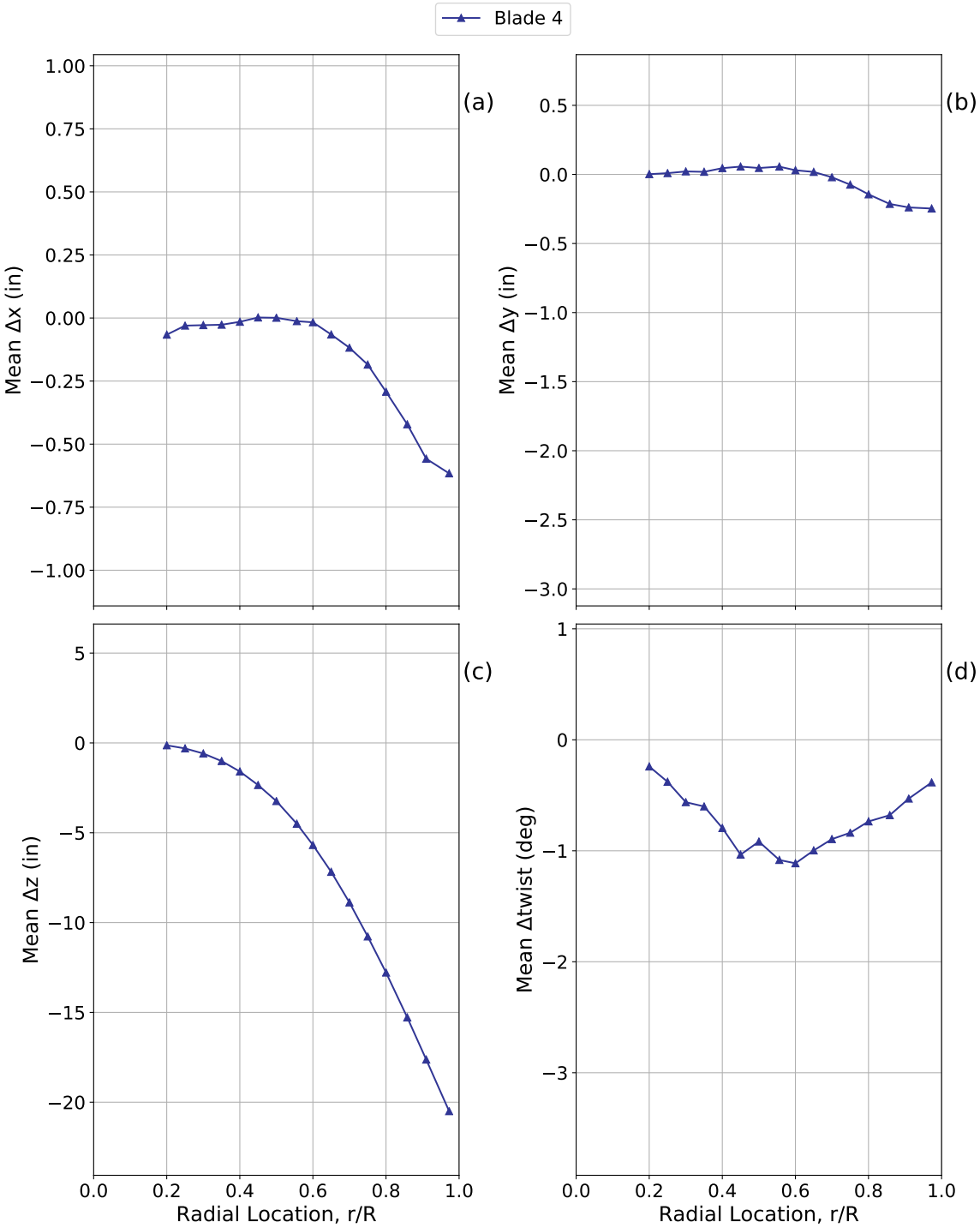


Figure 3.52-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0661	0.0013	0.0018	0.0007	-0.1330	0.0027	-0.2406	0.0306
4	164.88	0.2502	-0.0302	0.0015	0.0090	0.0028	-0.3060	0.0051	-0.3784	0.0285
4	164.88	0.3001	-0.0283	0.0018	0.0215	0.0035	-0.5890	0.0111	-0.5621	0.0609
4	164.88	0.3502	-0.0267	0.0015	0.0186	0.0063	-1.0110	0.0179	-0.6006	0.0367
4	164.88	0.4002	-0.0150	0.0018	0.0454	0.0102	-1.5922	0.0276	-0.7951	0.0471
4	164.88	0.4500	0.0020	0.0025	0.0565	0.0133	-2.3454	0.0332	-1.0349	0.0575
4	164.88	0.5001	0.0009	0.0042	0.0464	0.0165	-3.2377	0.0453	-0.9170	0.0629
4	164.88	0.5560	-0.0125	0.0049	0.0562	0.0204	-4.5012	0.0624	-1.0829	0.0820
4	164.88	0.6001	-0.0170	0.0074	0.0302	0.0243	-5.6837	0.0813	-1.1128	0.0736
4	164.88	0.6501	-0.0655	0.0109	0.0179	0.0287	-7.1793	0.1138	-0.9968	0.0785
4	164.88	0.6999	-0.1178	0.0175	-0.0207	0.0342	-8.8803	0.1606	-0.8950	0.0893
4	164.88	0.7500	-0.1849	0.0247	-0.0743	0.0400	-10.7739	0.2202	-0.8374	0.0921
4	164.88	0.8002	-0.2926	0.0351	-0.1445	0.0456	-12.7852	0.2981	-0.7354	0.0946
4	164.88	0.8582	-0.4216	0.0497	-0.2138	0.0537	-15.2795	0.4064	-0.6792	0.1071
4	164.88	0.9101	-0.5580	0.0633	-0.2390	0.0612	-17.6273	0.5154	-0.5299	0.0988
4	164.88	0.9728	-0.6160	0.0833	-0.2470	0.0702	-20.4982	0.6543	-0.3840	0.1145

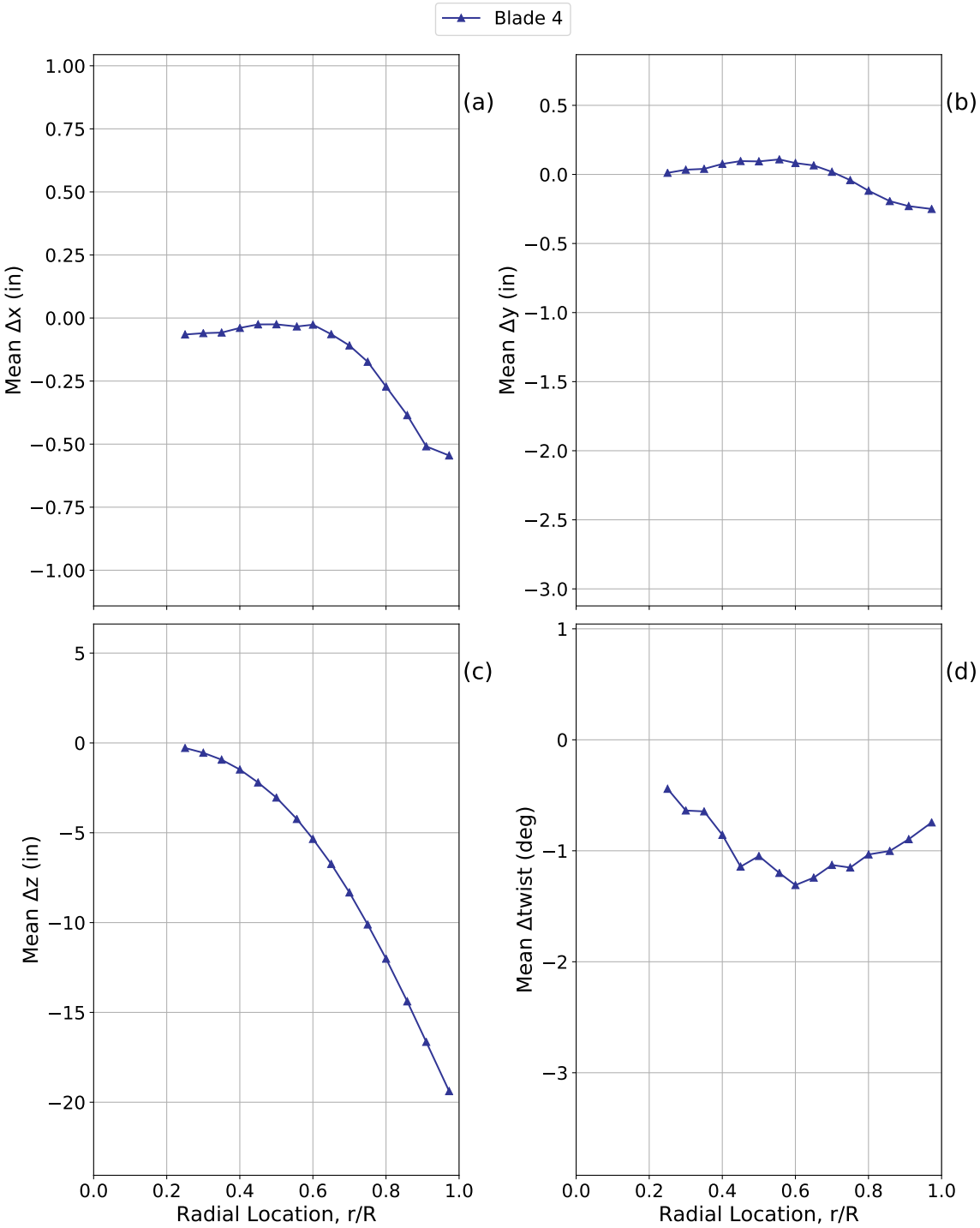


Figure 3.52-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2502	-0.0654	0.0038	0.0113	0.0041	-0.2811	0.0092	-0.4418	0.0755
4	170.16	0.3001	-0.0601	0.0032	0.0339	0.0070	-0.5489	0.0204	-0.6372	0.1074
4	170.16	0.3502	-0.0578	0.0031	0.0400	0.0136	-0.9341	0.0307	-0.6451	0.0894
4	170.16	0.4002	-0.0393	0.0036	0.0759	0.0205	-1.4824	0.0510	-0.8572	0.0854
4	170.16	0.4500	-0.0254	0.0054	0.0963	0.0274	-2.2044	0.0651	-1.1430	0.0785
4	170.16	0.5001	-0.0251	0.0054	0.0942	0.0324	-3.0432	0.0839	-1.0472	0.0789
4	170.16	0.5560	-0.0337	0.0054	0.1086	0.0398	-4.2351	0.0994	-1.1997	0.0798
4	170.16	0.6001	-0.0265	0.0061	0.0822	0.0458	-5.3461	0.1106	-1.3092	0.0823
4	170.16	0.6501	-0.0643	0.0069	0.0651	0.0534	-6.7399	0.1270	-1.2422	0.0872
4	170.16	0.6999	-0.1090	0.0075	0.0185	0.0596	-8.3264	0.1424	-1.1280	0.0752
4	170.16	0.7500	-0.1738	0.0090	-0.0416	0.0675	-10.1107	0.1542	-1.1513	0.0715
4	170.16	0.8002	-0.2721	0.0107	-0.1184	0.0755	-12.0121	0.1651	-1.0333	0.0746
4	170.16	0.8582	-0.3854	0.0123	-0.1933	0.0846	-14.3891	0.1771	-1.0018	0.0760
4	170.16	0.9101	-0.5090	0.0145	-0.2296	0.0929	-16.6423	0.1851	-0.8958	0.0729
4	170.16	0.9728	-0.5452	0.0150	-0.2503	0.1035	-19.3851	0.1988	-0.7445	0.0895

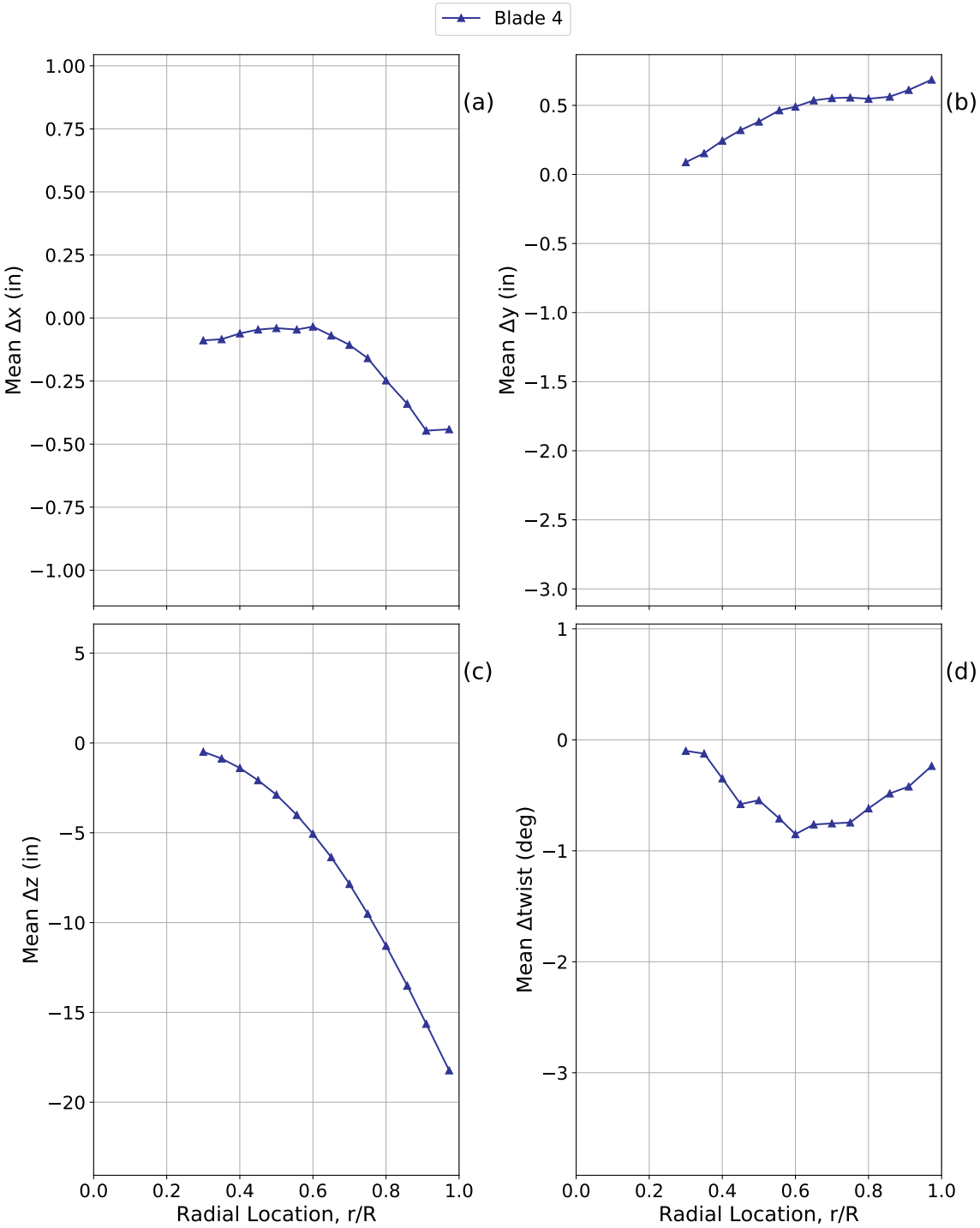


Figure 3.52-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.3001	-0.0887	0.0116	0.0883	0.0178	-0.4926	0.0247	-0.0998	0.0570
4	175.08	0.3502	-0.0841	0.0123	0.1534	0.0308	-0.8705	0.0437	-0.1241	0.0751
4	175.08	0.4002	-0.0611	0.0126	0.2440	0.0490	-1.3991	0.0702	-0.3489	0.0939
4	175.08	0.4500	-0.0459	0.0125	0.3207	0.0626	-2.0805	0.0919	-0.5794	0.1084
4	175.08	0.5001	-0.0401	0.0148	0.3818	0.0824	-2.8841	0.1153	-0.5451	0.0996
4	175.08	0.5560	-0.0458	0.0157	0.4641	0.1007	-4.0120	0.1450	-0.7090	0.1002
4	175.08	0.6001	-0.0341	0.0173	0.4902	0.1153	-5.0600	0.1682	-0.8506	0.1191
4	175.08	0.6501	-0.0695	0.0185	0.5356	0.1327	-6.3615	0.1898	-0.7630	0.1045
4	175.08	0.6999	-0.1066	0.0202	0.5522	0.1511	-7.8519	0.2136	-0.7536	0.1188
4	175.08	0.7500	-0.1593	0.0227	0.5562	0.1690	-9.5139	0.2356	-0.7456	0.1166
4	175.08	0.8002	-0.2476	0.0254	0.5475	0.1861	-11.2940	0.2580	-0.6183	0.1283
4	175.08	0.8582	-0.3402	0.0283	0.5624	0.2077	-13.5121	0.2843	-0.4835	0.1169
4	175.08	0.9101	-0.4466	0.0309	0.6112	0.2270	-15.6384	0.3055	-0.4212	0.1182
4	175.08	0.9728	-0.4412	0.0388	0.6856	0.2511	-18.2287	0.3375	-0.2357	0.1290

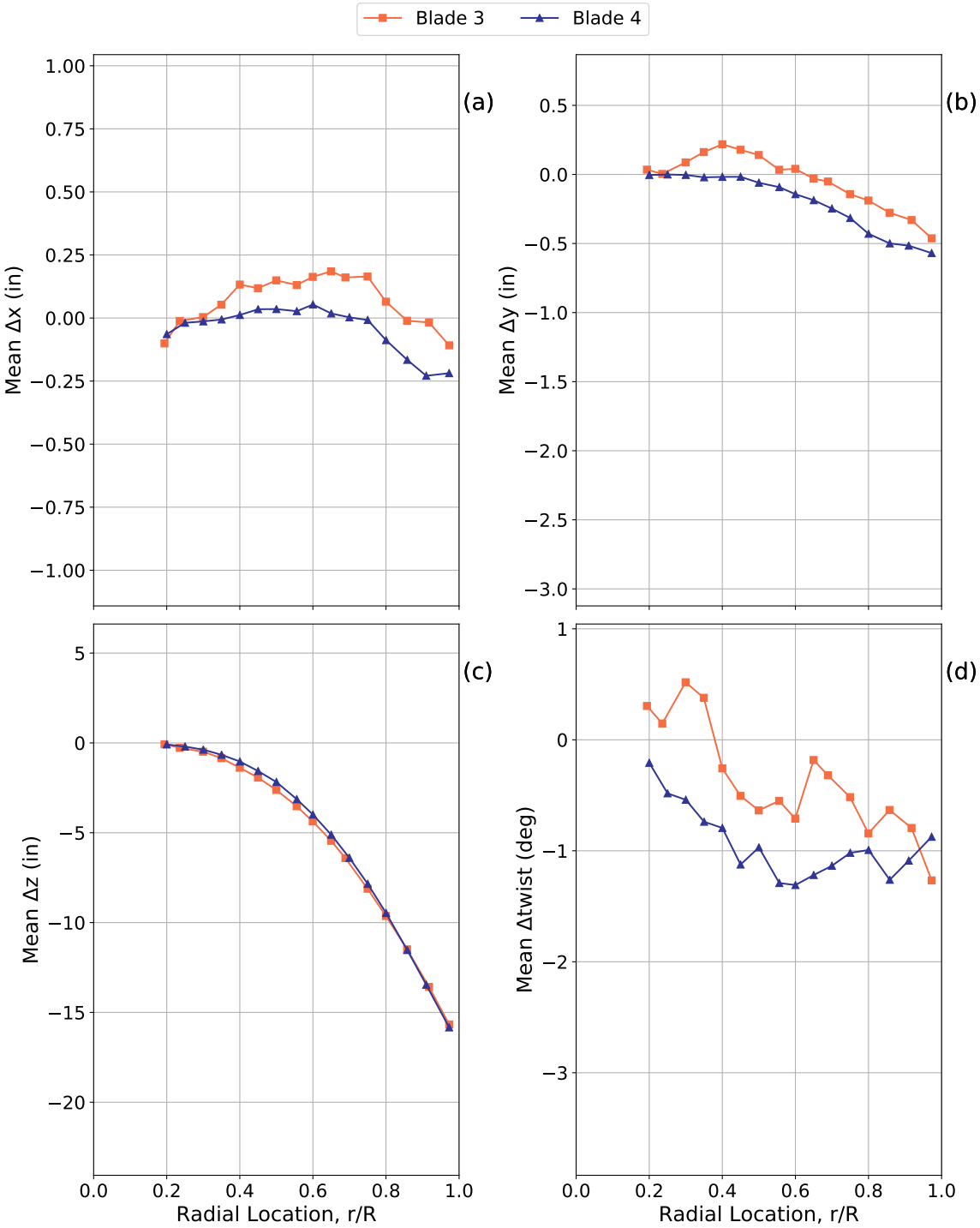


Figure 3.52-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.1007	0.0108	0.0345	0.0114	-0.0731	0.0189	0.3050	0.2843
3	180.35	0.2357	-0.0117	0.0097	0.0034	0.0256	-0.2728	0.0692	0.1469	0.2817
3	180.35	0.2995	0.0037	0.0048	0.0868	0.0595	-0.4895	0.1273	0.5186	0.5905
3	180.35	0.3493	0.0528	0.0221	0.1616	0.1030	-0.8452	0.2066	0.3786	0.6373
3	180.35	0.4000	0.1327	0.0445	0.2182	0.1642	-1.3825	0.3465	-0.2571	0.2673
3	180.35	0.4497	0.1181	0.0522	0.1783	0.1947	-1.9308	0.4144	-0.5054	0.2788
3	180.35	0.4997	0.1493	0.0594	0.1403	0.2293	-2.6162	0.4883	-0.6358	0.2469
3	180.35	0.5556	0.1309	0.0672	0.0338	0.2658	-3.5258	0.5629	-0.5502	0.2617
3	180.35	0.5995	0.1631	0.0726	0.0404	0.2934	-4.3618	0.6212	-0.7101	0.2600
3	180.35	0.6498	0.1850	0.0748	-0.0304	0.3269	-5.4459	0.6685	-0.1822	0.4834
3	180.35	0.6890	0.1608	0.0766	-0.0515	0.3580	-6.4110	0.7150	-0.3196	0.5008
3	180.35	0.7495	0.1646	0.0710	-0.1432	0.4168	-8.1158	0.8574	-0.5165	0.2189
3	180.35	0.7998	0.0649	0.0730	-0.1888	0.4574	-9.6344	0.9133	-0.8429	0.2328
3	180.35	0.8577	-0.0108	0.0749	-0.2773	0.5033	-11.4899	0.9821	-0.6324	0.2234
3	180.35	0.9178	-0.0176	0.0709	-0.3302	0.5533	-13.5825	1.0511	-0.7944	0.1975
3	180.35	0.9729	-0.1083	0.0621	-0.4625	0.5941	-15.6719	1.1090	-1.2671	0.2186
4	180	0.2001	-0.0640	0.0135	-0.0041	0.0021	-0.0847	0.0025	-0.2074	0.0269
4	180	0.2502	-0.0189	0.0050	-0.0007	0.0052	-0.2038	0.0054	-0.4824	0.0487
4	180	0.3001	-0.0135	0.0029	-0.0038	0.0089	-0.3762	0.0107	-0.5405	0.0599
4	180	0.3502	-0.0058	0.0095	-0.0211	0.0156	-0.6615	0.0149	-0.7384	0.0481
4	180	0.4002	0.0120	0.0162	-0.0180	0.0245	-1.0352	0.0255	-0.7945	0.0618
4	180	0.4500	0.0348	0.0230	-0.0174	0.0324	-1.5645	0.0323	-1.1241	0.0556
4	180	0.5001	0.0354	0.0302	-0.0605	0.0419	-2.1763	0.0403	-0.9695	0.0583
4	180	0.5560	0.0271	0.0393	-0.0922	0.0540	-3.1343	0.0476	-1.2906	0.0645
4	180	0.6001	0.0535	0.0464	-0.1433	0.0642	-3.9893	0.0524	-1.3087	0.0684
4	180	0.6501	0.0181	0.0546	-0.1867	0.0764	-5.1098	0.0604	-1.2184	0.0715
4	180	0.6999	0.0026	0.0619	-0.2474	0.0884	-6.3998	0.0770	-1.1350	0.0789
4	180	0.7500	-0.0080	0.0685	-0.3157	0.1012	-7.8456	0.1006	-1.0186	0.0917
4	180	0.8002	-0.0879	0.0749	-0.4298	0.1140	-9.4695	0.1308	-0.9932	0.1009
4	180	0.8582	-0.1660	0.0795	-0.4994	0.1309	-11.5298	0.1795	-1.2616	0.0947
4	180	0.9101	-0.2290	0.0842	-0.5157	0.1460	-13.4608	0.2231	-1.0889	0.1189
4	180	0.9728	-0.2188	0.0879	-0.5697	0.1646	-15.8375	0.2844	-0.8742	0.0953

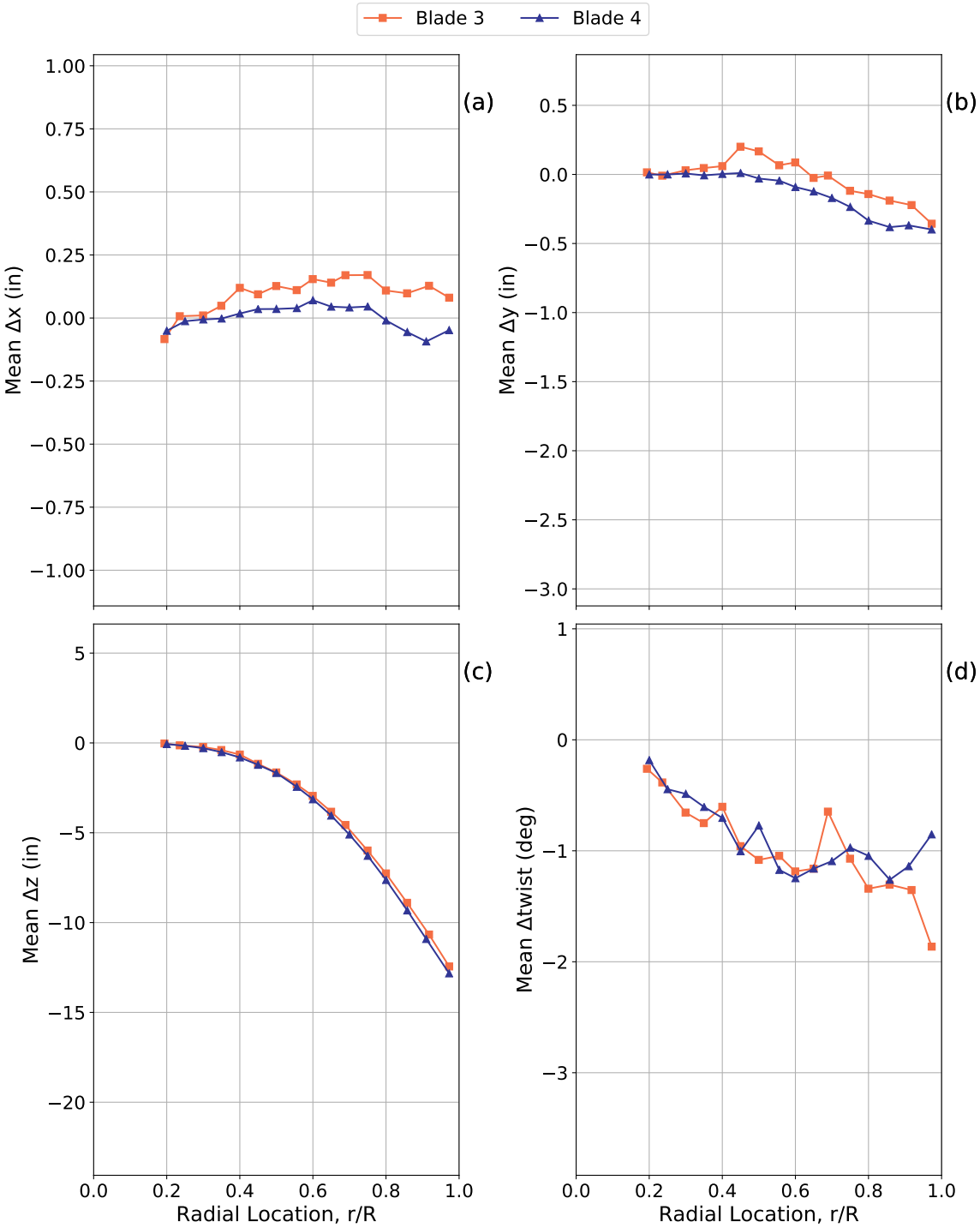


Figure 3.52-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.079, μ = 0.299, α = 8° NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0836	0.0028	0.0150	0.0017	-0.0308	0.0034	-0.2610	0.0387
3	184.92	0.2357	0.0072	0.0015	-0.0092	0.0031	-0.1347	0.0044	-0.3842	0.0598
3	184.92	0.2995	0.0102	0.0013	0.0297	0.0062	-0.2252	0.0106	-0.6556	0.0908
3	184.92	0.3493	0.0486	0.0010	0.0461	0.0103	-0.3942	0.0186	-0.7506	0.1068
3	184.92	0.4000	0.1196	0.0020	0.0597	0.0160	-0.6465	0.0275	-0.6036	0.0971
3	184.92	0.4497	0.0940	0.0355	0.2004	0.0996	-1.1632	0.0939	-0.9582	0.1049
3	184.92	0.4997	0.1268	0.0397	0.1667	0.1103	-1.6423	0.1080	-1.0819	0.1211
3	184.92	0.5556	0.1106	0.0447	0.0663	0.1234	-2.3109	0.1213	-1.0458	0.1510
3	184.92	0.5995	0.1543	0.0488	0.0867	0.1352	-2.9486	0.1327	-1.1861	0.1584
3	184.92	0.6498	0.1402	0.0532	-0.0252	0.1451	-3.8300	0.1386	-1.1610	0.2183
3	184.92	0.6890	0.1698	0.0457	-0.0083	0.1594	-4.5681	0.1246	-0.6470	0.2968
3	184.92	0.7495	0.1704	0.0462	-0.1184	0.1835	-5.9894	0.1717	-1.0711	0.1865
3	184.92	0.7998	0.1091	0.0436	-0.1422	0.2019	-7.2651	0.1802	-1.3415	0.1600
3	184.92	0.8577	0.0979	0.0287	-0.1892	0.2346	-8.8994	0.2343	-1.3052	0.1645
3	184.92	0.9178	0.1278	0.0251	-0.2221	0.2510	-10.6651	0.2428	-1.3537	0.1609
3	184.92	0.9729	0.0806	0.0238	-0.3567	0.2638	-12.4420	0.2534	-1.8636	0.1638
4	184.92	0.2001	-0.0507	0.0173	-0.0008	0.0023	-0.0642	0.0035	-0.1833	0.0227
4	184.92	0.2502	-0.0126	0.0068	-0.0004	0.0040	-0.1628	0.0061	-0.4452	0.0321
4	184.92	0.3001	-0.0058	0.0047	0.0065	0.0089	-0.2920	0.0107	-0.4874	0.0479
4	184.92	0.3502	-0.0021	0.0131	-0.0069	0.0147	-0.5136	0.0223	-0.6052	0.0585
4	184.92	0.4002	0.0179	0.0229	0.0032	0.0229	-0.8080	0.0307	-0.7037	0.0441
4	184.92	0.4500	0.0354	0.0295	0.0098	0.0329	-1.2189	0.0428	-1.0044	0.0547
4	184.92	0.5001	0.0358	0.0376	-0.0299	0.0441	-1.6733	0.0534	-0.7729	0.0621
4	184.92	0.5560	0.0392	0.0448	-0.0454	0.0580	-2.4448	0.0658	-1.1724	0.0694
4	184.92	0.6001	0.0704	0.0508	-0.0915	0.0687	-3.1382	0.0760	-1.2472	0.0699
4	184.92	0.6501	0.0450	0.0554	-0.1237	0.0804	-4.0451	0.0851	-1.1606	0.0708
4	184.92	0.6999	0.0418	0.0601	-0.1709	0.0914	-5.1002	0.0941	-1.0934	0.0768
4	184.92	0.7500	0.0455	0.0632	-0.2357	0.1032	-6.2848	0.1031	-0.9716	0.0644
4	184.92	0.8002	-0.0097	0.0667	-0.3348	0.1144	-7.6296	0.1126	-1.0460	0.0662
4	184.92	0.8582	-0.0559	0.0693	-0.3817	0.1308	-9.3249	0.1308	-1.2610	0.0785
4	184.92	0.9101	-0.0930	0.0735	-0.3688	0.1513	-10.9133	0.1466	-1.1393	0.0968
4	184.92	0.9728	-0.0482	0.0802	-0.3988	0.1747	-12.8290	0.1625	-0.8523	0.0790

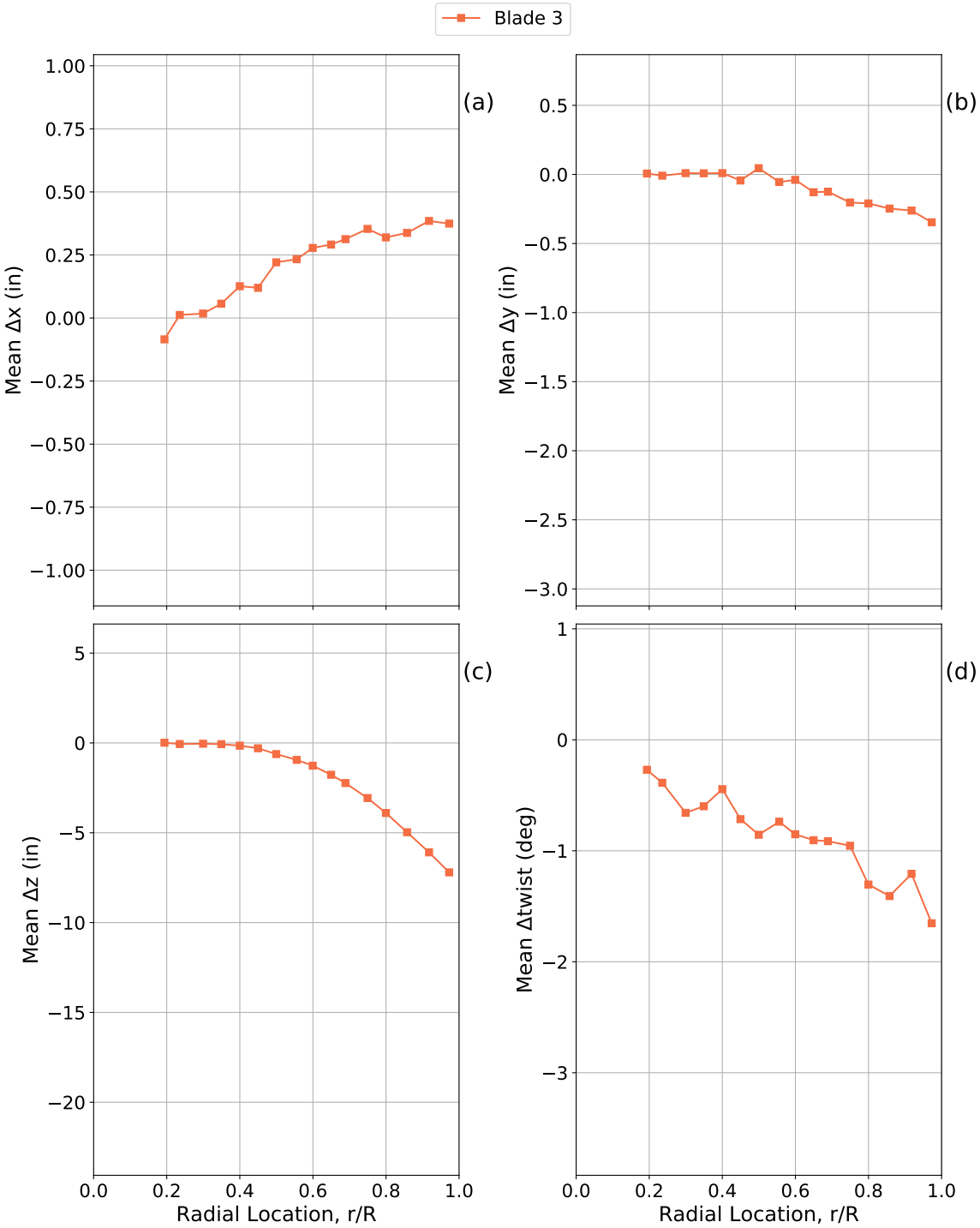


Figure 3.52-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0846	0.0012	0.0065	0.0010	0.0116	0.0055	-0.2702	0.0302
3	195.12	0.2357	0.0121	0.0013	-0.0091	0.0026	-0.0604	0.0094	-0.3873	0.0320
3	195.12	0.2995	0.0177	0.0009	0.0093	0.0048	-0.0442	0.0235	-0.6579	0.0611
3	195.12	0.3493	0.0569	0.0016	0.0082	0.0081	-0.0701	0.0387	-0.5987	0.0613
3	195.12	0.4000	0.1261	0.0023	0.0094	0.0132	-0.1516	0.0610	-0.4445	0.0623
3	195.12	0.4497	0.1197	0.0027	-0.0439	0.0175	-0.2971	0.0826	-0.7149	0.0587
3	195.12	0.4997	0.2209	0.0379	0.0450	0.1133	-0.6200	0.1231	-0.8554	0.0475
3	195.12	0.5556	0.2331	0.0399	-0.0551	0.1301	-0.9427	0.1379	-0.7377	0.0497
3	195.12	0.5995	0.2779	0.0408	-0.0392	0.1435	-1.2678	0.1505	-0.8511	0.0656
3	195.12	0.6498	0.2914	0.0401	-0.1289	0.1603	-1.7715	0.1639	-0.9047	0.0717
3	195.12	0.6890	0.3128	0.0385	-0.1250	0.1723	-2.2331	0.1716	-0.9133	0.0643
3	195.12	0.7495	0.3534	0.0361	-0.2032	0.1942	-3.0686	0.1928	-0.9544	0.0931
3	195.12	0.7998	0.3196	0.0320	-0.2101	0.2115	-3.8992	0.2092	-1.3039	0.1092
3	195.12	0.8577	0.3375	0.0238	-0.2473	0.2557	-4.9711	0.2771	-1.4077	0.1079
3	195.12	0.9178	0.3849	0.0343	-0.2615	0.2825	-6.0913	0.3044	-1.2078	0.1171
3	195.12	0.9729	0.3743	0.0472	-0.3466	0.3055	-7.2048	0.3273	-1.6532	0.1309

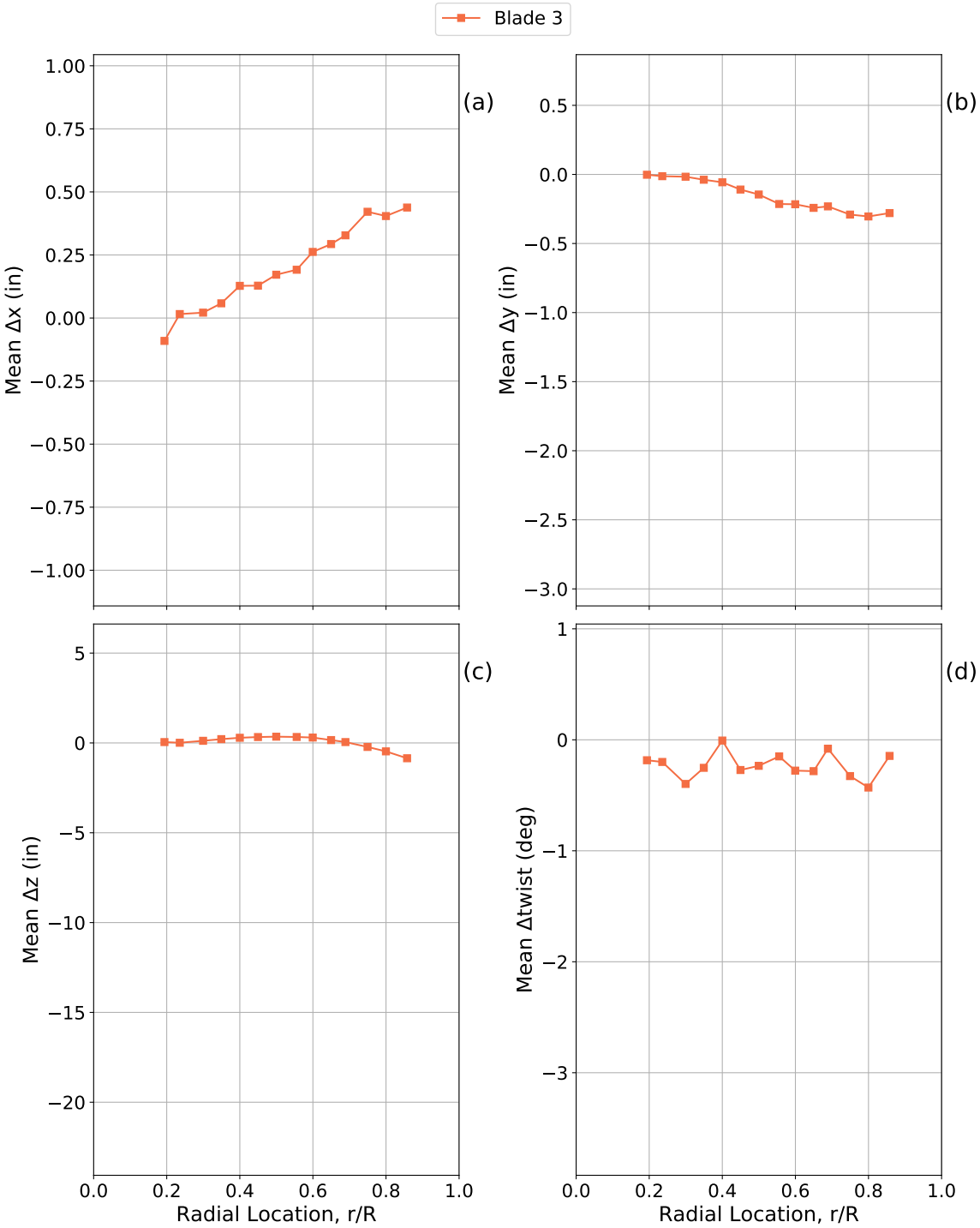


Figure 3.52-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0907	0.0013	-0.0024	0.0017	0.0478	0.0058	-0.1841	0.0340
3	209.88	0.2357	0.0157	0.0017	-0.0128	0.0039	0.0096	0.0118	-0.1994	0.0408
3	209.88	0.2995	0.0213	0.0016	-0.0167	0.0075	0.1187	0.0259	-0.3976	0.0736
3	209.88	0.3493	0.0583	0.0015	-0.0385	0.0133	0.2117	0.0438	-0.2524	0.0574
3	209.88	0.4000	0.1276	0.0023	-0.0570	0.0209	0.2873	0.0688	-0.0066	0.0488
3	209.88	0.4497	0.1283	0.0021	-0.1095	0.0258	0.3280	0.0929	-0.2721	0.0607
3	209.88	0.4997	0.1717	0.0035	-0.1454	0.0312	0.3485	0.1215	-0.2343	0.0740
3	209.88	0.5556	0.1914	0.0034	-0.2141	0.0394	0.3315	0.1526	-0.1493	0.0603
3	209.88	0.5995	0.2621	0.0034	-0.2160	0.0452	0.2997	0.1775	-0.2776	0.0603
3	209.88	0.6498	0.2932	0.0042	-0.2421	0.0530	0.1591	0.2051	-0.2824	0.0679
3	209.88	0.6890	0.3279	0.0038	-0.2315	0.0590	0.0478	0.2279	-0.0798	0.0533
3	209.88	0.7495	0.4213	0.0045	-0.2907	0.0686	-0.2229	0.2614	-0.3267	0.0660
3	209.88	0.7998	0.4043	0.0052	-0.3043	0.0780	-0.4701	0.2904	-0.4301	0.0596
3	209.88	0.8577	0.4381	0.0069	-0.2798	0.0872	-0.8529	0.3236	-0.1450	0.2209

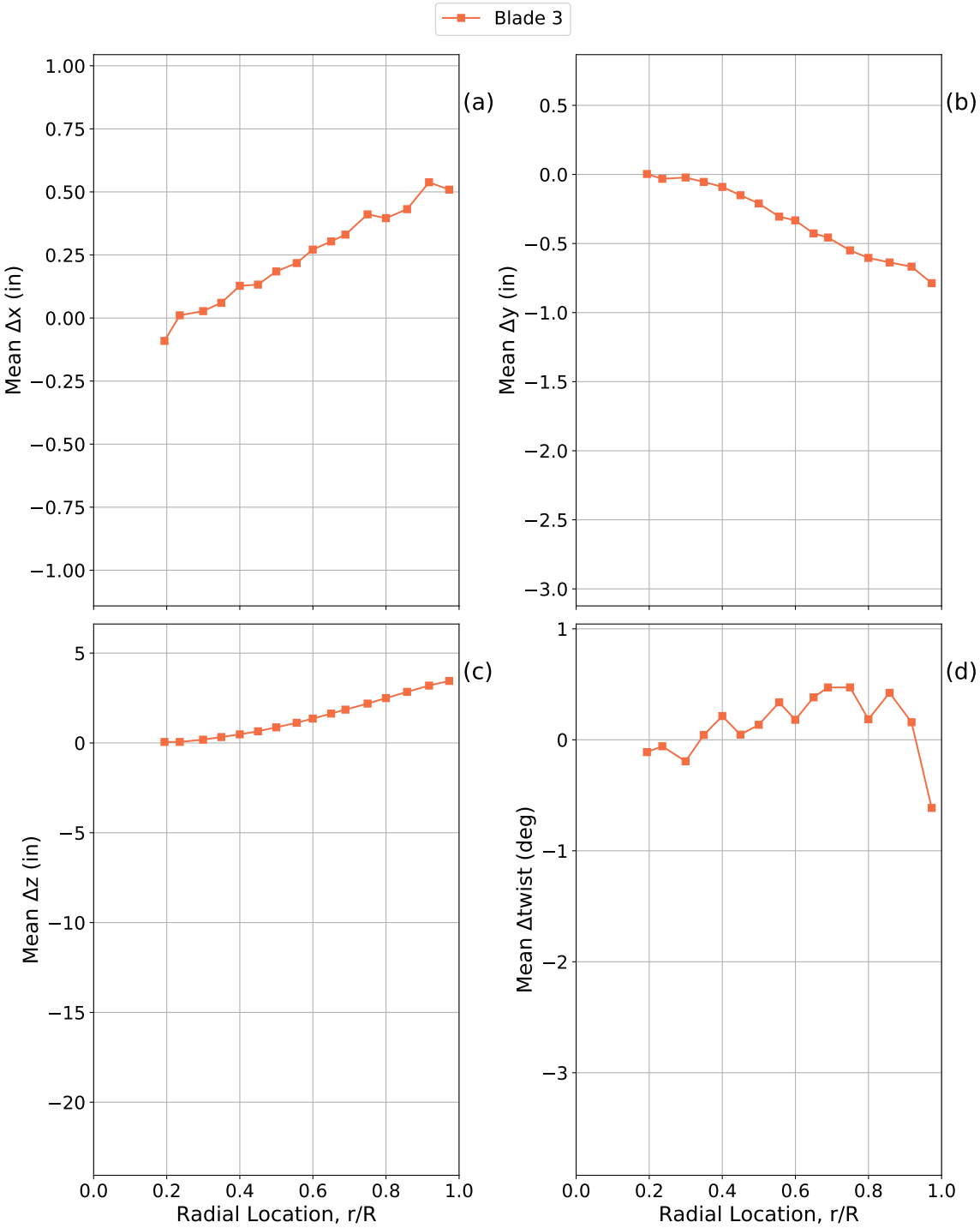


Figure 3.52-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0908	0.0009	0.0031	0.0009	0.0548	0.0032	-0.1108	0.0243
3	225	0.2357	0.0107	0.0010	-0.0319	0.0024	0.0558	0.0064	-0.0581	0.0542
3	225	0.2995	0.0273	0.0015	-0.0223	0.0028	0.1828	0.0138	-0.1937	0.0675
3	225	0.3493	0.0604	0.0010	-0.0544	0.0051	0.3269	0.0231	0.0441	0.0636
3	225	0.4000	0.1278	0.0015	-0.0905	0.0074	0.4771	0.0366	0.2139	0.0650
3	225	0.4497	0.1325	0.0020	-0.1508	0.0094	0.6478	0.0526	0.0466	0.0690
3	225	0.4997	0.1847	0.0018	-0.2102	0.0105	0.8688	0.0715	0.1354	0.0535
3	225	0.5556	0.2179	0.0019	-0.3057	0.0126	1.1204	0.0981	0.3377	0.0613
3	225	0.5995	0.2714	0.0024	-0.3325	0.0162	1.3543	0.1199	0.1804	0.0602
3	225	0.6498	0.3038	0.0025	-0.4270	0.0178	1.6343	0.1460	0.3829	0.0466
3	225	0.6890	0.3307	0.0030	-0.4568	0.0203	1.8539	0.1695	0.4720	0.0579
3	225	0.7495	0.4110	0.0032	-0.5496	0.0236	2.1890	0.2026	0.4724	0.0588
3	225	0.7998	0.3959	0.0041	-0.6043	0.0269	2.4941	0.2273	0.1854	0.0523
3	225	0.8577	0.4315	0.0048	-0.6371	0.0315	2.8425	0.2577	0.4235	0.0667
3	225	0.9178	0.5382	0.0168	-0.6674	0.0353	3.1930	0.2851	0.1584	0.1281
3	225	0.9729	0.5090	0.0070	-0.7872	0.0404	3.4512	0.3184	-0.6138	0.1011

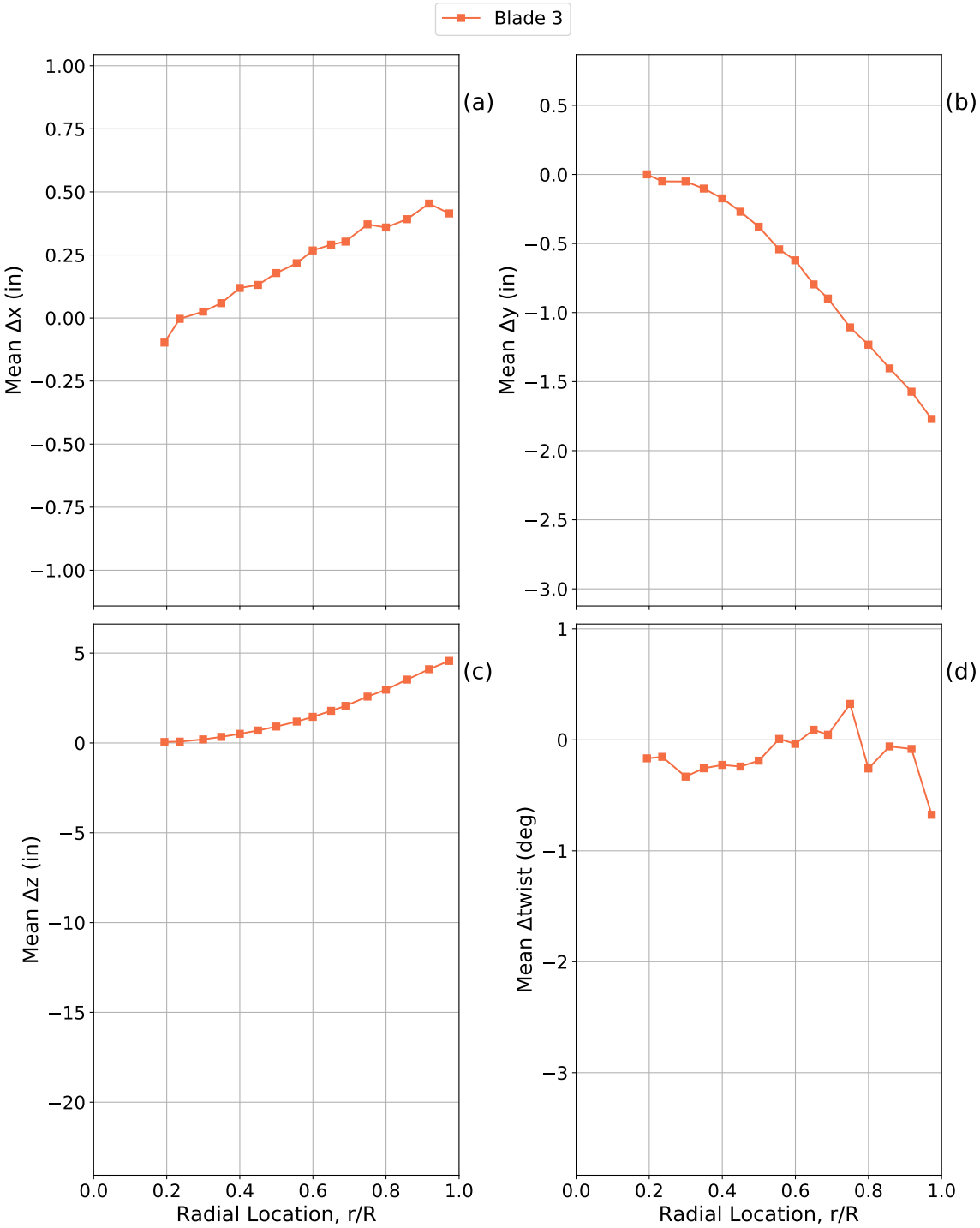


Figure 3.52-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0974	0.0012	0.0006	0.0008	0.0536	0.0031	-0.1668	0.0274
3	240.12	0.2357	-0.0033	0.0014	-0.0499	0.0022	0.0750	0.0083	-0.1532	0.0286
3	240.12	0.2995	0.0254	0.0013	-0.0511	0.0046	0.1973	0.0168	-0.3312	0.0559
3	240.12	0.3493	0.0591	0.0017	-0.1023	0.0076	0.3374	0.0244	-0.2566	0.0551
3	240.12	0.4000	0.1193	0.0018	-0.1733	0.0122	0.5086	0.0417	-0.2260	0.0438
3	240.12	0.4497	0.1313	0.0019	-0.2697	0.0135	0.6946	0.0529	-0.2408	0.0554
3	240.12	0.4997	0.1784	0.0018	-0.3788	0.0175	0.9133	0.0694	-0.1876	0.0385
3	240.12	0.5556	0.2174	0.0023	-0.5421	0.0225	1.1901	0.0915	0.0082	0.0497
3	240.12	0.5995	0.2681	0.0027	-0.6218	0.0269	1.4538	0.1092	-0.0362	0.0411
3	240.12	0.6498	0.2911	0.0033	-0.7961	0.0318	1.7880	0.1285	0.0909	0.0554
3	240.12	0.6890	0.3030	0.0042	-0.8983	0.0364	2.0624	0.1446	0.0461	0.0524
3	240.12	0.7495	0.3714	0.0050	-1.1074	0.0433	2.5778	0.1650	0.3235	0.0414
3	240.12	0.7998	0.3591	0.0059	-1.2326	0.0502	2.9664	0.1788	-0.2579	0.0442
3	240.12	0.8577	0.3920	0.0063	-1.4042	0.0575	3.5268	0.1904	-0.0592	0.0549
3	240.12	0.9178	0.4539	0.0065	-1.5728	0.0663	4.1041	0.2038	-0.0819	0.0513
3	240.12	0.9729	0.4148	0.0096	-1.7703	0.0750	4.5669	0.2166	-0.6753	0.0586

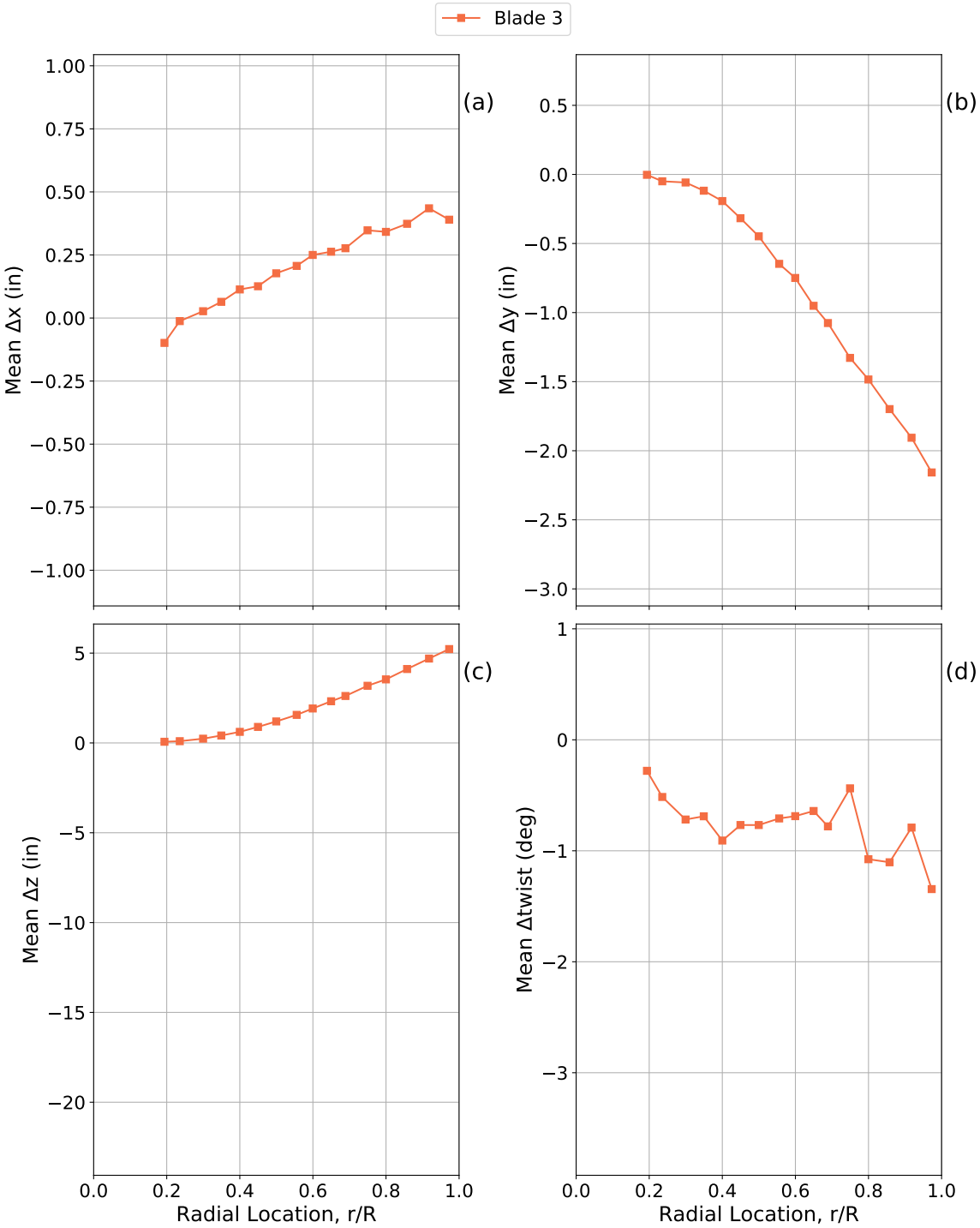


Figure 3.52-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0986	0.0014	-0.0029	0.0012	0.0652	0.0059	-0.2794	0.0211
3	254.88	0.2357	-0.0122	0.0010	-0.0498	0.0017	0.0973	0.0086	-0.5149	0.0457
3	254.88	0.2995	0.0270	0.0013	-0.0585	0.0050	0.2367	0.0203	-0.7182	0.0442
3	254.88	0.3493	0.0642	0.0019	-0.1179	0.0080	0.4133	0.0365	-0.6890	0.0291
3	254.88	0.4000	0.1133	0.0025	-0.1928	0.0126	0.6167	0.0538	-0.9078	0.0283
3	254.88	0.4497	0.1259	0.0031	-0.3171	0.0178	0.8919	0.0760	-0.7679	0.0275
3	254.88	0.4997	0.1773	0.0030	-0.4481	0.0237	1.1959	0.1024	-0.7680	0.0323
3	254.88	0.5556	0.2066	0.0044	-0.6474	0.0321	1.5623	0.1366	-0.7084	0.0427
3	254.88	0.5995	0.2501	0.0041	-0.7495	0.0391	1.9172	0.1662	-0.6879	0.0496
3	254.88	0.6498	0.2628	0.0048	-0.9510	0.0478	2.3203	0.2032	-0.6415	0.0415
3	254.88	0.6890	0.2767	0.0058	-1.0758	0.0552	2.6136	0.2312	-0.7800	0.0467
3	254.88	0.7495	0.3477	0.0065	-1.3280	0.0676	3.1815	0.2757	-0.4373	0.0401
3	254.88	0.7998	0.3416	0.0072	-1.4843	0.0792	3.5371	0.3110	-1.0760	0.0529
3	254.88	0.8577	0.3736	0.0086	-1.6987	0.0919	4.1145	0.3554	-1.1034	0.0498
3	254.88	0.9178	0.4350	0.0098	-1.9060	0.1063	4.6965	0.4024	-0.7909	0.0397
3	254.88	0.9729	0.3899	0.0136	-2.1572	0.1190	5.2247	0.4466	-1.3451	0.0502

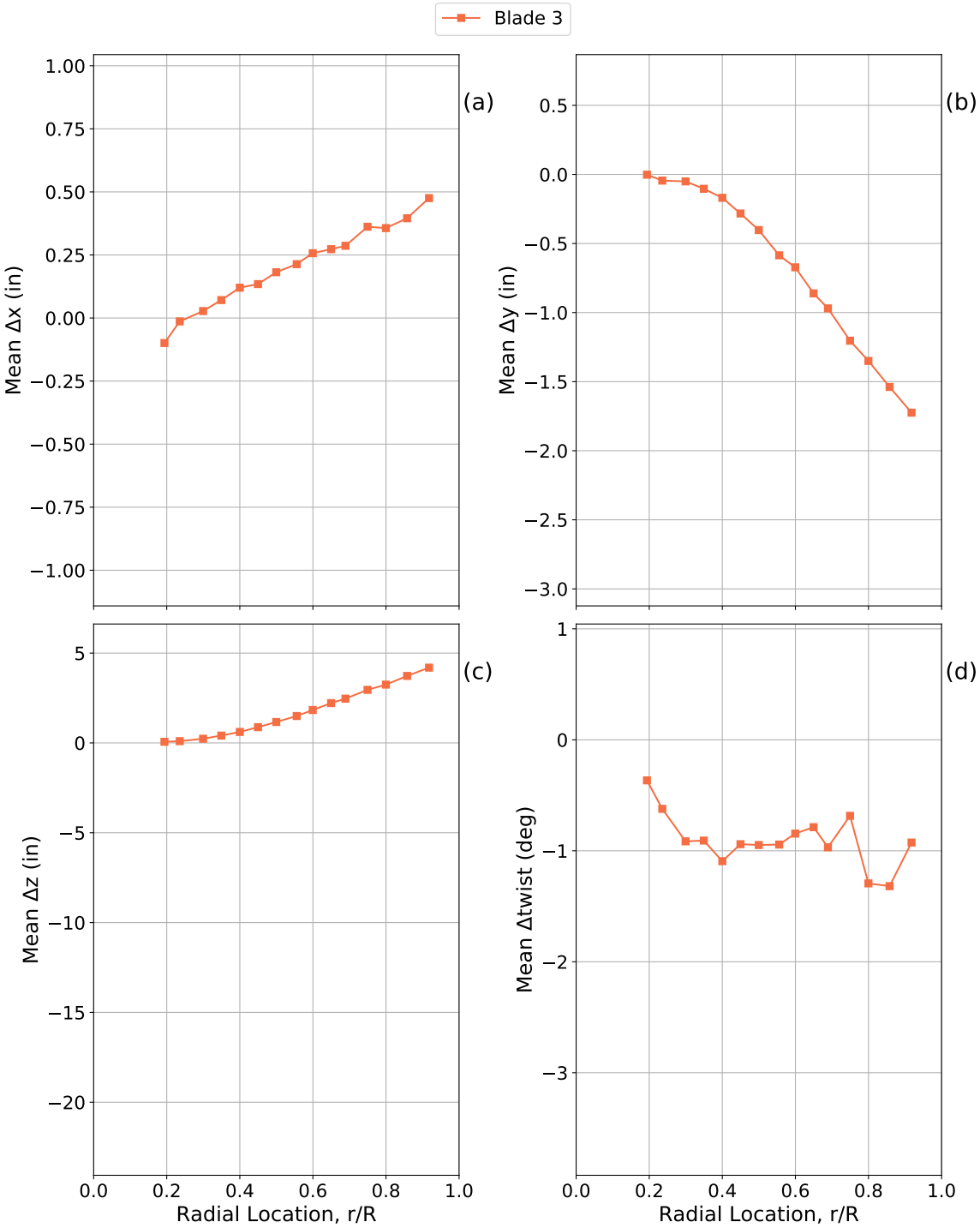


Figure 3.52-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0990	0.0012	-0.0020	0.0007	0.0634	0.0028	-0.3653	0.0285
3	260.16	0.2357	-0.0134	0.0010	-0.0448	0.0012	0.0982	0.0066	-0.6221	0.0368
3	260.16	0.2995	0.0276	0.0012	-0.0506	0.0027	0.2343	0.0124	-0.9151	0.0603
3	260.16	0.3493	0.0712	0.0012	-0.1039	0.0042	0.4083	0.0218	-0.9080	0.0386
3	260.16	0.4000	0.1203	0.0014	-0.1696	0.0068	0.6117	0.0335	-1.0938	0.0398
3	260.16	0.4497	0.1345	0.0017	-0.2828	0.0092	0.8784	0.0502	-0.9404	0.0392
3	260.16	0.4997	0.1815	0.0028	-0.4029	0.0130	1.1654	0.0706	-0.9480	0.0511
3	260.16	0.5556	0.2136	0.0029	-0.5856	0.0171	1.4975	0.0975	-0.9438	0.0350
3	260.16	0.5995	0.2570	0.0036	-0.6725	0.0208	1.8311	0.1213	-0.8451	0.0483
3	260.16	0.6498	0.2729	0.0047	-0.8613	0.0260	2.2173	0.1508	-0.7870	0.0472
3	260.16	0.6890	0.2863	0.0049	-0.9697	0.0298	2.4645	0.1764	-0.9687	0.0484
3	260.16	0.7495	0.3618	0.0064	-1.2036	0.0367	2.9547	0.2199	-0.6850	0.0555
3	260.16	0.7998	0.3566	0.0074	-1.3498	0.0430	3.2462	0.2561	-1.2940	0.0701
3	260.16	0.8577	0.3955	0.0086	-1.5385	0.0497	3.7285	0.3005	-1.3186	0.0636
3	260.16	0.9178	0.4755	0.0101	-1.7246	0.0578	4.1913	0.3485	-0.9256	0.0610

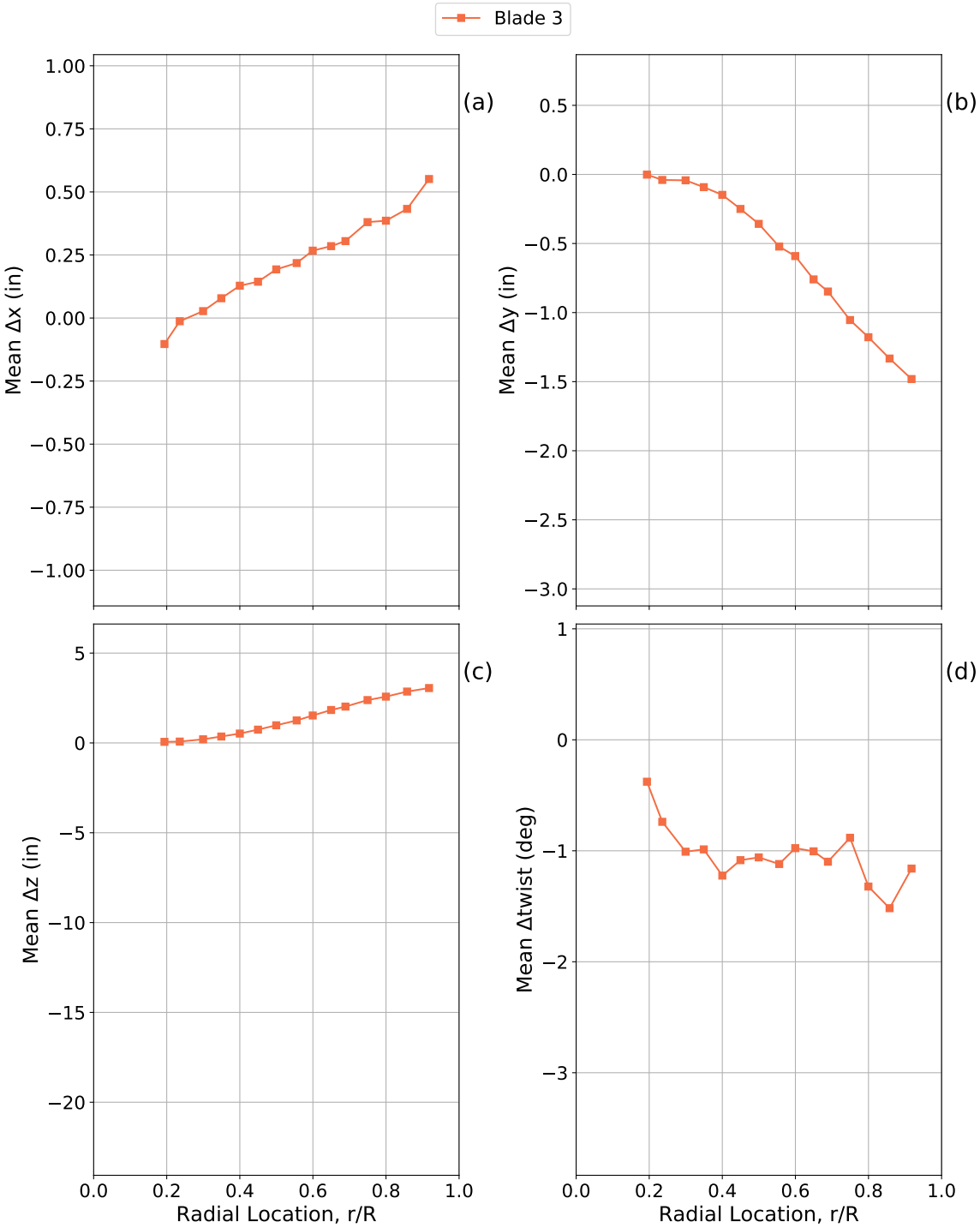


Figure 3.52-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.1031	0.0016	-0.0015	0.0011	0.0606	0.0052	-0.3775	0.0307
3	265.08	0.2357	-0.0128	0.0013	-0.0400	0.0016	0.0753	0.0060	-0.7389	0.0493
3	265.08	0.2995	0.0274	0.0013	-0.0427	0.0041	0.2019	0.0172	-1.0082	0.0745
3	265.08	0.3493	0.0784	0.0009	-0.0922	0.0066	0.3570	0.0291	-0.9873	0.0554
3	265.08	0.4000	0.1282	0.0019	-0.1480	0.0106	0.5215	0.0432	-1.2236	0.0603
3	265.08	0.4497	0.1439	0.0021	-0.2500	0.0143	0.7403	0.0565	-1.0845	0.0677
3	265.08	0.4997	0.1928	0.0029	-0.3578	0.0194	0.9819	0.0708	-1.0594	0.0662
3	265.08	0.5556	0.2179	0.0029	-0.5221	0.0252	1.2516	0.0857	-1.1192	0.0708
3	265.08	0.5995	0.2671	0.0036	-0.5910	0.0305	1.5264	0.0995	-0.9763	0.0667
3	265.08	0.6498	0.2850	0.0037	-0.7598	0.0365	1.8335	0.1116	-1.0047	0.0729
3	265.08	0.6890	0.3049	0.0039	-0.8475	0.0420	2.0230	0.1232	-1.0983	0.0723
3	265.08	0.7495	0.3802	0.0042	-1.0541	0.0509	2.3850	0.1414	-0.8826	0.0716
3	265.08	0.7998	0.3858	0.0050	-1.1784	0.0590	2.5761	0.1570	-1.3222	0.0724
3	265.08	0.8577	0.4325	0.0046	-1.3328	0.0686	2.8589	0.1797	-1.5174	0.0706
3	265.08	0.9178	0.5511	0.0042	-1.4811	0.0785	3.0542	0.2130	-1.1602	0.0766

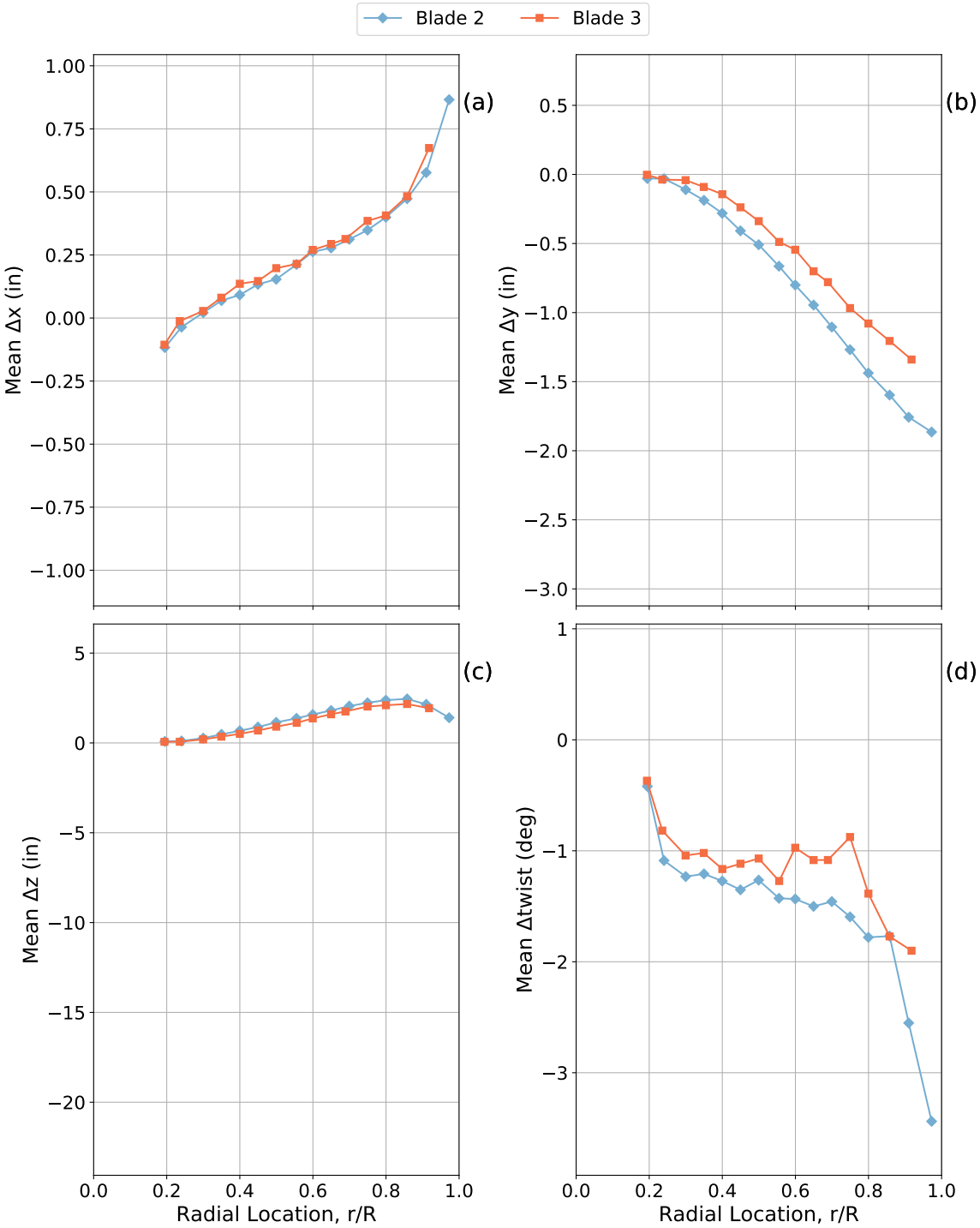


Figure 3.52-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.1171	0.0020	-0.0298	0.0013	0.0849	0.0066	-0.4195	0.0297
2	270.35	0.2405	-0.0361	0.0014	-0.0307	0.0021	0.1084	0.0093	-1.0882	0.0504
2	270.35	0.2999	0.0213	0.0012	-0.1103	0.0054	0.2682	0.0236	-1.2324	0.0683
2	270.35	0.3498	0.0690	0.0026	-0.1876	0.0092	0.4763	0.0389	-1.2081	0.0680
2	270.35	0.3998	0.0915	0.0031	-0.2812	0.0142	0.6792	0.0588	-1.2725	0.0798
2	270.35	0.4496	0.1335	0.0045	-0.4084	0.0189	0.8835	0.0801	-1.3516	0.0693
2	270.35	0.4995	0.1536	0.0052	-0.5090	0.0248	1.1455	0.1044	-1.2643	0.0879
2	270.35	0.5551	0.2122	0.0061	-0.6645	0.0323	1.3689	0.1327	-1.4281	0.0835
2	270.35	0.5996	0.2627	0.0064	-0.8008	0.0395	1.5832	0.1556	-1.4346	0.0901
2	270.35	0.6497	0.2778	0.0071	-0.9456	0.0476	1.8069	0.1814	-1.5009	0.0937
2	270.35	0.6996	0.3120	0.0076	-1.1045	0.0562	2.0516	0.2059	-1.4576	0.1023
2	270.35	0.7495	0.3486	0.0085	-1.2687	0.0653	2.2343	0.2313	-1.5953	0.0939
2	270.35	0.7996	0.3995	0.0086	-1.4380	0.0760	2.3808	0.2523	-1.7802	0.1074
2	270.35	0.8578	0.4729	0.0095	-1.5970	0.0879	2.4507	0.2799	-1.7686	0.1118
2	270.35	0.9100	0.5765	0.0115	-1.7573	0.0987	2.1482	0.3053	-2.5517	0.0732
2	270.35	0.9727	0.8658	0.0182	-1.8643	0.1116	1.4023	0.3371	-3.4381	0.0963
3	270	0.1938	-0.1057	0.0016	-0.0025	0.0013	0.0633	0.0057	-0.3685	0.0250
3	270	0.2357	-0.0122	0.0012	-0.0371	0.0022	0.0664	0.0086	-0.8180	0.0347
3	270	0.2995	0.0279	0.0017	-0.0415	0.0056	0.1988	0.0212	-1.0421	0.0552
3	270	0.3493	0.0807	0.0018	-0.0908	0.0094	0.3495	0.0345	-1.0198	0.0517
3	270	0.4000	0.1358	0.0028	-0.1432	0.0150	0.5047	0.0529	-1.1644	0.0638
3	270	0.4497	0.1466	0.0035	-0.2382	0.0218	0.6919	0.0728	-1.1166	0.0665
3	270	0.4997	0.1976	0.0039	-0.3382	0.0305	0.9045	0.0975	-1.0696	0.0703
3	270	0.5556	0.2146	0.0051	-0.4887	0.0417	1.1193	0.1305	-1.2723	0.0754
3	270	0.5995	0.2701	0.0054	-0.5452	0.0515	1.3644	0.1600	-0.9725	0.0734
3	270	0.6498	0.2935	0.0069	-0.7013	0.0634	1.5947	0.2009	-1.0835	0.0650
3	270	0.6890	0.3133	0.0078	-0.7796	0.0748	1.7510	0.2370	-1.0831	0.0721
3	270	0.7495	0.3850	0.0102	-0.9674	0.0920	2.0266	0.2939	-0.8759	0.0687
3	270	0.7998	0.4068	0.0107	-1.0793	0.1063	2.0979	0.3479	-1.3861	0.0695
3	270	0.8577	0.4827	0.0122	-1.2055	0.1241	2.1664	0.4201	-1.7718	0.0879
3	270	0.9178	0.6740	0.0137	-1.3400	0.1421	1.9315	0.5006	-1.9006	0.0645

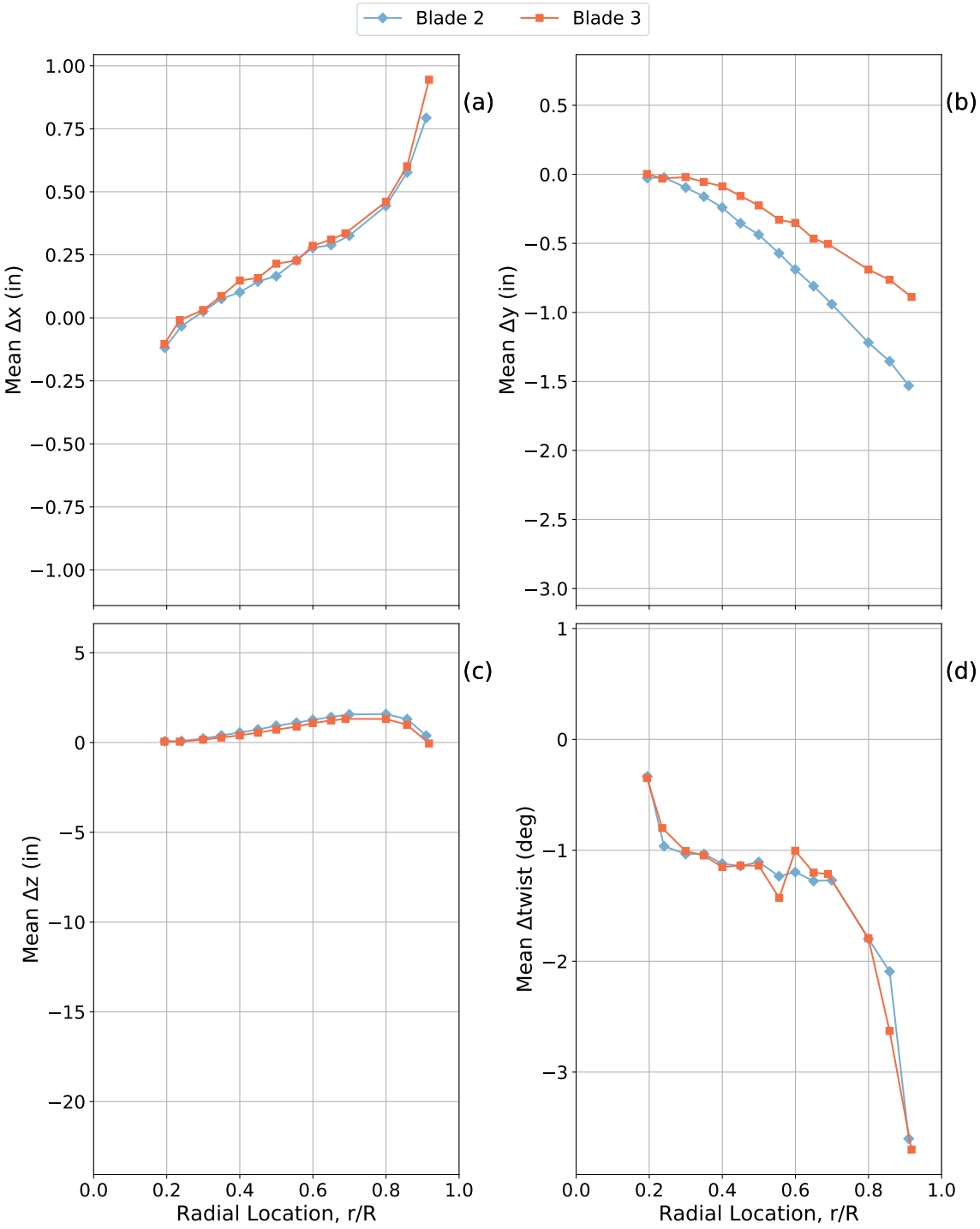


Figure 3.52-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	-0.1190	0.0033	-0.0271	0.0016	0.0731	0.0056	-0.3344	0.0345
2	274.92	0.2405	-0.0328	0.0018	-0.0234	0.0019	0.0827	0.0107	-0.9627	0.0670
2	274.92	0.2999	0.0252	0.0018	-0.0957	0.0063	0.2201	0.0237	-1.0334	0.0850
2	274.92	0.3498	0.0755	0.0014	-0.1617	0.0098	0.3932	0.0351	-1.0330	0.0680
2	274.92	0.3998	0.1014	0.0021	-0.2404	0.0154	0.5529	0.0575	-1.1201	0.0869
2	274.92	0.4496	0.1439	0.0030	-0.3543	0.0205	0.7211	0.0760	-1.1417	0.0812
2	274.92	0.4995	0.1655	0.0034	-0.4370	0.0268	0.9313	0.0953	-1.1051	0.0917
2	274.92	0.5551	0.2281	0.0040	-0.5717	0.0341	1.1004	0.1201	-1.2336	0.0787
2	274.92	0.5996	0.2776	0.0033	-0.6889	0.0404	1.2642	0.1388	-1.1965	0.0846
2	274.92	0.6497	0.2891	0.0045	-0.8097	0.0476	1.4168	0.1587	-1.2768	0.0937
2	274.92	0.6996	0.3260	0.0050	-0.9406	0.0560	1.5665	0.1754	-1.2704	0.0878
2	274.92	0.7996	0.4438	0.0049	-1.2187	0.0724	1.5822	0.2042	-1.7970	0.1076
2	274.92	0.8578	0.5769	0.0063	-1.3541	0.0838	1.3008	0.2217	-2.0930	0.1099
2	274.92	0.9100	0.7931	0.0061	-1.5305	0.0907	0.3836	0.2416	-3.6002	0.1386
3	274.92	0.1938	-0.1034	0.0017	0.0025	0.0010	0.0505	0.0053	-0.3484	0.0300
3	274.92	0.2357	-0.0091	0.0022	-0.0305	0.0021	0.0484	0.0104	-0.7992	0.0595
3	274.92	0.2995	0.0310	0.0016	-0.0201	0.0048	0.1579	0.0214	-1.0066	0.0752
3	274.92	0.3493	0.0860	0.0015	-0.0552	0.0078	0.2756	0.0351	-1.0462	0.0820
3	274.92	0.4000	0.1479	0.0021	-0.0873	0.0126	0.3987	0.0551	-1.1510	0.0637
3	274.92	0.4497	0.1581	0.0017	-0.1569	0.0165	0.5496	0.0701	-1.1375	0.0785
3	274.92	0.4997	0.2147	0.0019	-0.2254	0.0212	0.7166	0.0907	-1.1381	0.0712
3	274.92	0.5556	0.2273	0.0024	-0.3295	0.0262	0.8826	0.1130	-1.4287	0.0711
3	274.92	0.5995	0.2857	0.0027	-0.3520	0.0316	1.0837	0.1334	-1.0045	0.0762
3	274.92	0.6498	0.3107	0.0035	-0.4661	0.0364	1.2252	0.1552	-1.2014	0.0877
3	274.92	0.6890	0.3354	0.0035	-0.5042	0.0414	1.3136	0.1717	-1.2141	0.0797
3	274.92	0.7998	0.4604	0.0048	-0.6899	0.0557	1.3120	0.2285	-1.7930	0.0694
3	274.92	0.8577	0.6013	0.0050	-0.7641	0.0631	0.9840	0.2564	-2.6286	0.0764
3	274.92	0.9178	0.9449	0.0089	-0.8882	0.0723	-0.0548	0.2876	-3.6983	0.1582

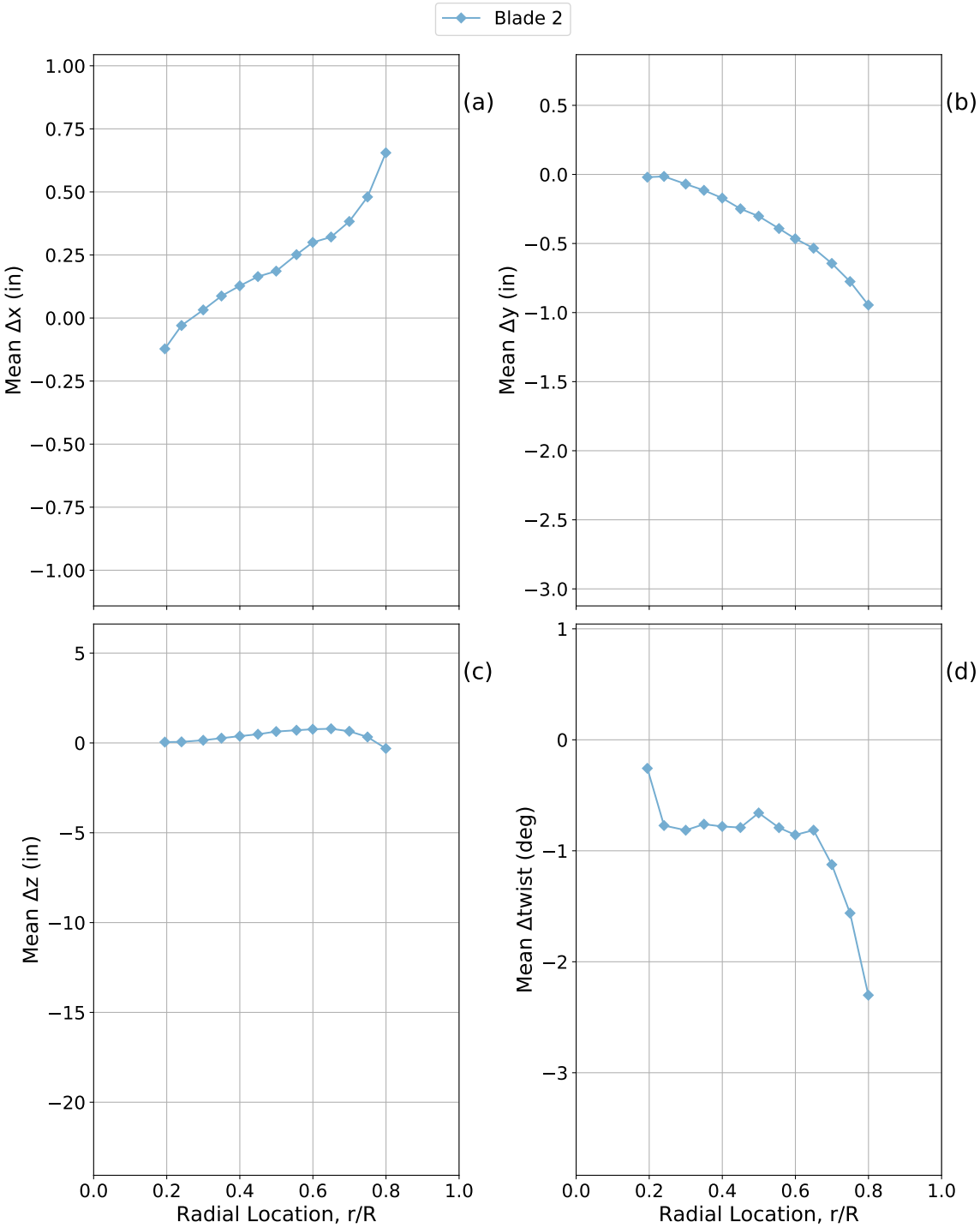


Figure 3.52-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	-0.1222	0.0023	-0.0203	0.0016	0.0472	0.0067	-0.2570	0.0578
2	285.12	0.2405	-0.0297	0.0020	-0.0146	0.0022	0.0602	0.0091	-0.7724	0.1246
2	285.12	0.2999	0.0321	0.0026	-0.0699	0.0058	0.1478	0.0245	-0.8147	0.1526
2	285.12	0.3498	0.0873	0.0025	-0.1152	0.0100	0.2660	0.0353	-0.7605	0.1367
2	285.12	0.3998	0.1275	0.0034	-0.1715	0.0151	0.3770	0.0565	-0.7808	0.1454
2	285.12	0.4496	0.1643	0.0027	-0.2488	0.0201	0.4828	0.0627	-0.7905	0.1195
2	285.12	0.4995	0.1859	0.0050	-0.3025	0.0263	0.6339	0.0780	-0.6591	0.1177
2	285.12	0.5551	0.2512	0.0038	-0.3918	0.0347	0.7059	0.0940	-0.7919	0.1267
2	285.12	0.5996	0.2999	0.0042	-0.4654	0.0423	0.7619	0.1054	-0.8568	0.1259
2	285.12	0.6497	0.3212	0.0057	-0.5343	0.0470	0.7898	0.1233	-0.8143	0.2058
2	285.12	0.6996	0.3828	0.0076	-0.6441	0.0605	0.6496	0.1361	-1.1241	0.1670
2	285.12	0.7495	0.4800	0.0076	-0.7756	0.0701	0.3307	0.1623	-1.5618	0.1076
2	285.12	0.7996	0.6551	0.0084	-0.9454	0.0801	-0.3089	0.1830	-2.3012	0.2018

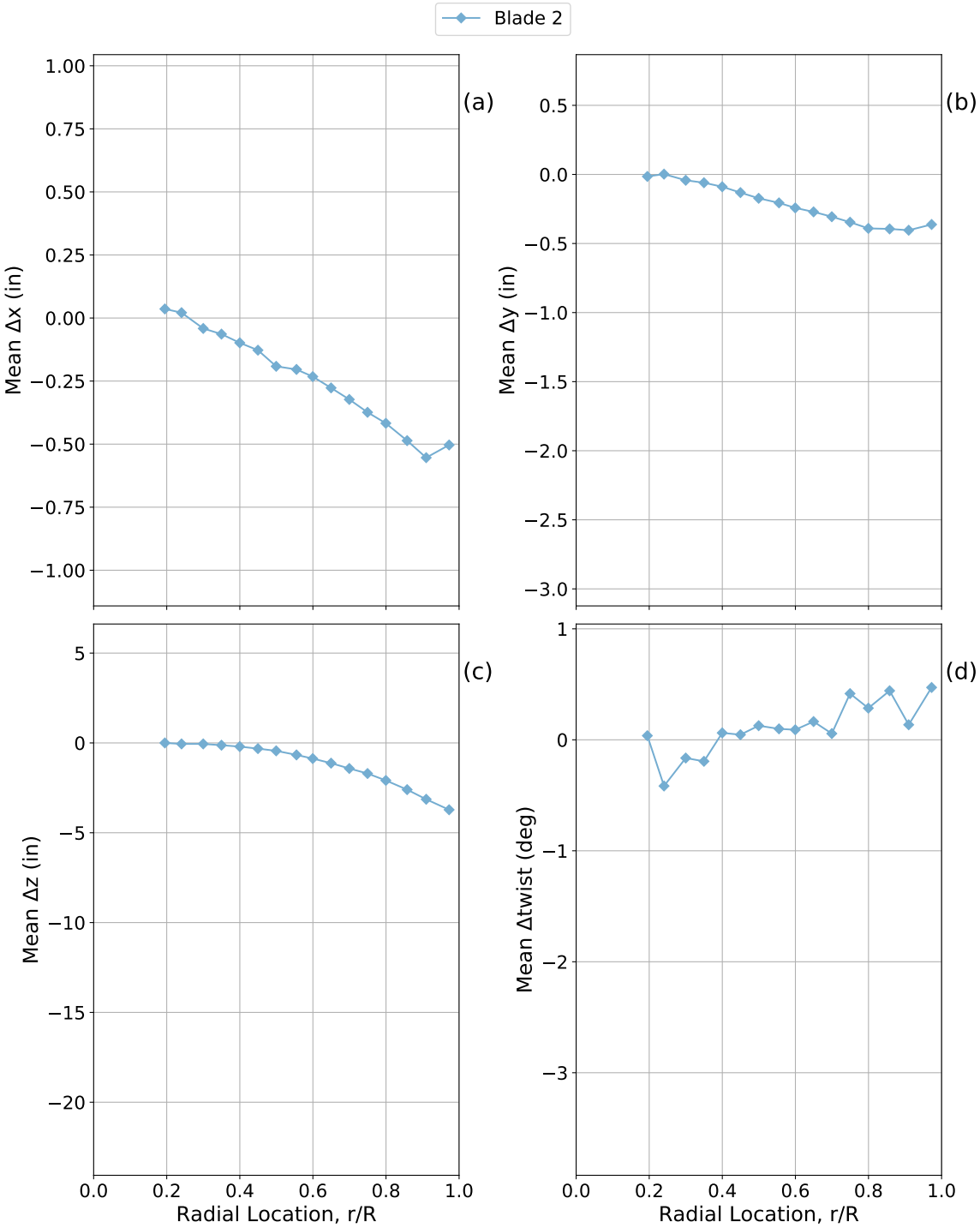


Figure 3.52-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0359	0.0020	-0.0147	0.0016	-0.0003	0.0032	0.0371	0.0309
2	299.88	0.2405	0.0212	0.0031	0.0020	0.0045	-0.0548	0.0089	-0.4162	0.0440
2	299.88	0.2999	-0.0414	0.0017	-0.0425	0.0059	-0.0549	0.0187	-0.1642	0.0705
2	299.88	0.3498	-0.0638	0.0032	-0.0602	0.0126	-0.1264	0.0271	-0.1937	0.0867
2	299.88	0.3998	-0.0983	0.0052	-0.0893	0.0184	-0.2043	0.0470	0.0624	0.0643
2	299.88	0.4496	-0.1276	0.0049	-0.1316	0.0222	-0.3167	0.0628	0.0462	0.0732
2	299.88	0.4995	-0.1915	0.0058	-0.1728	0.0269	-0.4401	0.0776	0.1273	0.0866
2	299.88	0.5551	-0.2039	0.0058	-0.2060	0.0335	-0.6666	0.0986	0.0987	0.0741
2	299.88	0.5996	-0.2323	0.0061	-0.2424	0.0386	-0.8709	0.1125	0.0906	0.0789
2	299.88	0.6497	-0.2771	0.0075	-0.2711	0.0456	-1.1264	0.1295	0.1644	0.0872
2	299.88	0.6996	-0.3229	0.0073	-0.3062	0.0541	-1.4219	0.1482	0.0562	0.0870
2	299.88	0.7495	-0.3739	0.0078	-0.3458	0.0629	-1.7017	0.1673	0.4165	0.0777
2	299.88	0.7996	-0.4173	0.0085	-0.3907	0.0720	-2.0878	0.1876	0.2854	0.0898
2	299.88	0.8578	-0.4862	0.0088	-0.3945	0.0833	-2.5993	0.2118	0.4421	0.0966
2	299.88	0.9100	-0.5537	0.0097	-0.4041	0.0934	-3.1368	0.2376	0.1356	0.0955
2	299.88	0.9727	-0.5034	0.0126	-0.3624	0.1077	-3.7199	0.2697	0.4717	0.1201

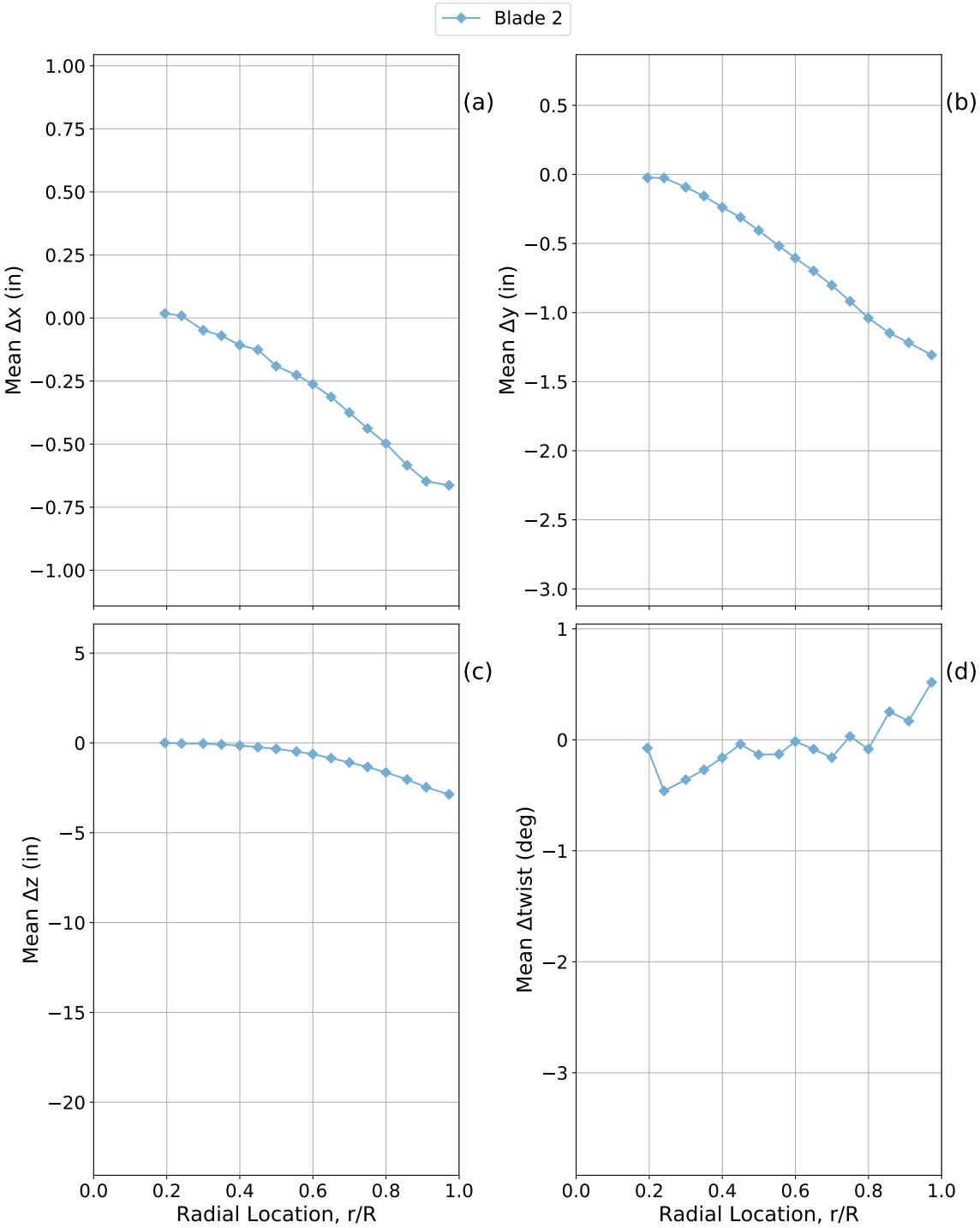


Figure 3.52-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0178	0.0019	-0.0241	0.0007	0.0037	0.0016	-0.0744	0.0150
2	315	0.2405	0.0089	0.0023	-0.0258	0.0022	-0.0309	0.0044	-0.4606	0.0290
2	315	0.2999	-0.0483	0.0018	-0.0928	0.0035	-0.0364	0.0085	-0.3597	0.0332
2	315	0.3498	-0.0703	0.0031	-0.1569	0.0057	-0.0857	0.0106	-0.2702	0.0468
2	315	0.3998	-0.1073	0.0028	-0.2378	0.0094	-0.1452	0.0195	-0.1619	0.0424
2	315	0.4496	-0.1259	0.0040	-0.3101	0.0139	-0.2385	0.0254	-0.0400	0.0598
2	315	0.4995	-0.1906	0.0052	-0.4061	0.0193	-0.3288	0.0311	-0.1341	0.0456
2	315	0.5551	-0.2261	0.0048	-0.5183	0.0235	-0.4818	0.0369	-0.1298	0.0337
2	315	0.5996	-0.2625	0.0056	-0.6058	0.0297	-0.6235	0.0458	-0.0151	0.0530
2	315	0.6497	-0.3129	0.0121	-0.6983	0.0387	-0.8473	0.0591	-0.0846	0.0644
2	315	0.6996	-0.3749	0.0063	-0.8027	0.0445	-1.0885	0.0755	-0.1600	0.0508
2	315	0.7495	-0.4381	0.0066	-0.9180	0.0529	-1.3374	0.0884	0.0305	0.0424
2	315	0.7996	-0.4974	0.0075	-1.0399	0.0612	-1.6438	0.1019	-0.0830	0.0419
2	315	0.8578	-0.5843	0.0079	-1.1486	0.0718	-2.0343	0.1197	0.2530	0.0431
2	315	0.9100	-0.6475	0.0088	-1.2176	0.0820	-2.4714	0.1359	0.1687	0.0451
2	315	0.9727	-0.6634	0.0111	-1.3068	0.0947	-2.8608	0.1531	0.5179	0.0467

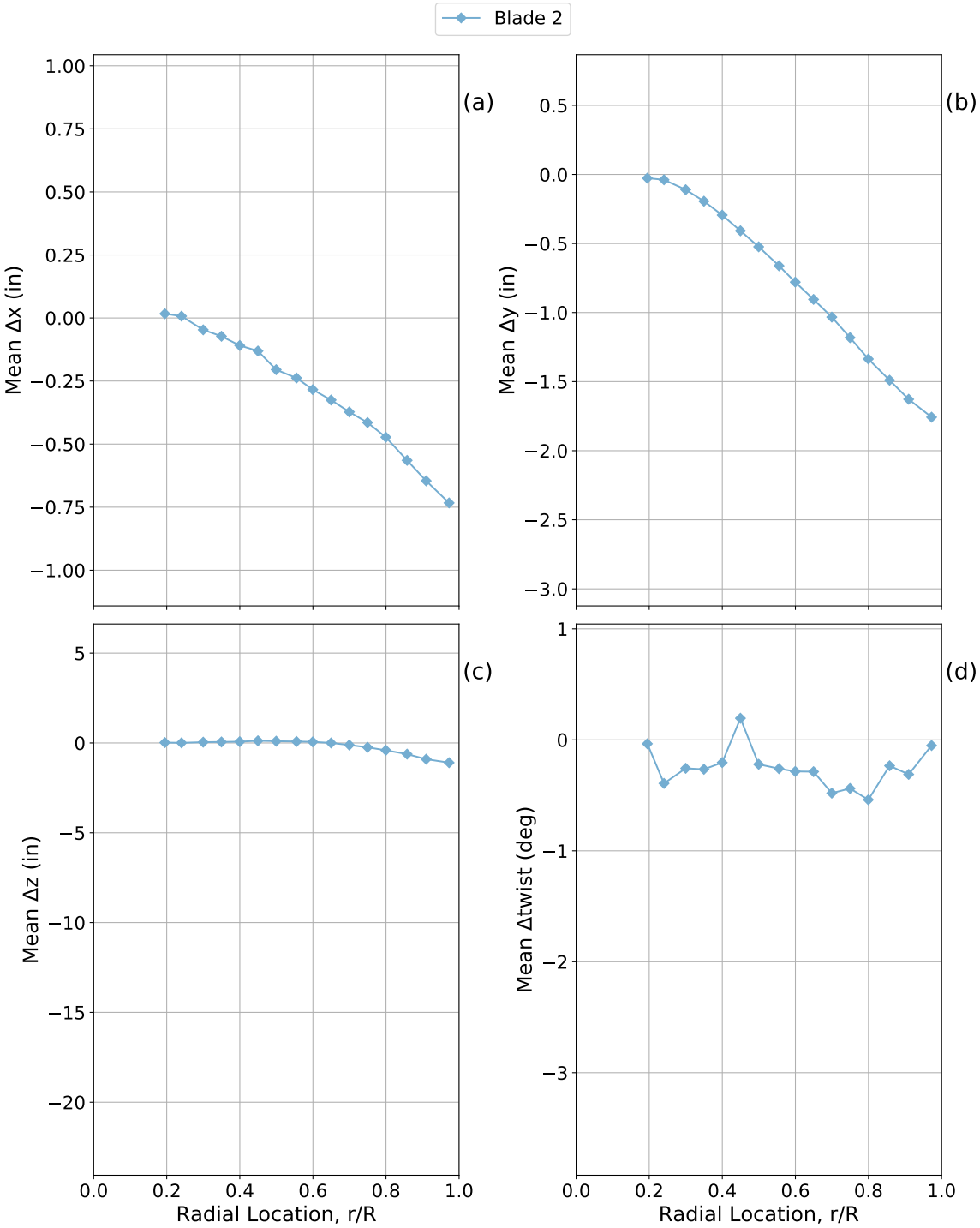


Figure 3.52-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.079, μ = 0.299, α = 8°
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0168	0.0014	-0.0267	0.0007	0.0215	0.0048	-0.0353	0.0258
2	330.12	0.2405	0.0072	0.0021	-0.0387	0.0022	0.0063	0.0062	-0.3926	0.0549
2	330.12	0.2999	-0.0470	0.0031	-0.1105	0.0037	0.0433	0.0170	-0.2565	0.0648
2	330.12	0.3498	-0.0725	0.0025	-0.1939	0.0061	0.0559	0.0301	-0.2654	0.0612
2	330.12	0.3998	-0.1091	0.0046	-0.2945	0.0100	0.0721	0.0444	-0.2047	0.0607
2	330.12	0.4496	-0.1309	0.0058	-0.4079	0.0109	0.1211	0.0574	0.1946	0.0829
2	330.12	0.4995	-0.2050	0.0033	-0.5239	0.0139	0.0989	0.0706	-0.2203	0.0737
2	330.12	0.5551	-0.2380	0.0038	-0.6614	0.0172	0.0809	0.0893	-0.2596	0.0510
2	330.12	0.5996	-0.2841	0.0039	-0.7795	0.0191	0.0606	0.1000	-0.2846	0.0590
2	330.12	0.6497	-0.3253	0.0036	-0.9048	0.0215	0.0000	0.1179	-0.2866	0.0496
2	330.12	0.6996	-0.3725	0.0041	-1.0331	0.0236	-0.1134	0.1429	-0.4802	0.1151
2	330.12	0.7495	-0.4147	0.0049	-1.1817	0.0291	-0.2420	0.1570	-0.4381	0.0674
2	330.12	0.7996	-0.4727	0.0057	-1.3363	0.0334	-0.4074	0.1802	-0.5398	0.0684
2	330.12	0.8578	-0.5646	0.0062	-1.4901	0.0385	-0.6207	0.2101	-0.2336	0.0611
2	330.12	0.9100	-0.6458	0.0086	-1.6277	0.0439	-0.9028	0.2403	-0.3113	0.0637
2	330.12	0.9727	-0.7331	0.0096	-1.7575	0.0490	-1.0966	0.2796	-0.0510	0.0708

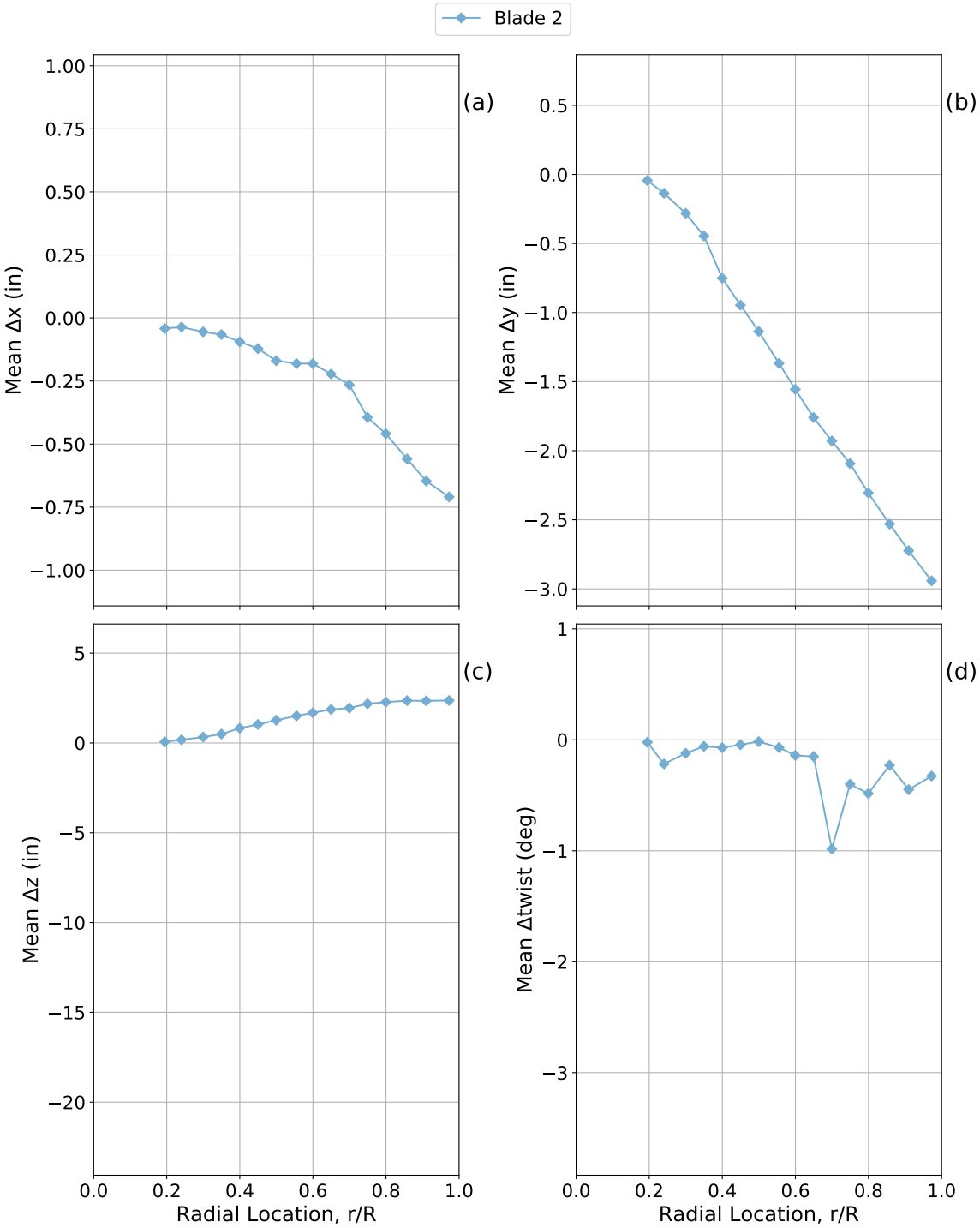


Figure 3.52-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0419	0.0237	-0.0442	0.0065	0.0664	0.0118	-0.0217	0.0374
2	344.88	0.2405	-0.0361	0.0133	-0.1364	0.0222	0.1746	0.0314	-0.2174	0.0683
2	344.88	0.2999	-0.0554	0.0029	-0.2817	0.0434	0.3296	0.0596	-0.1208	0.0776
2	344.88	0.3498	-0.0659	0.0073	-0.4456	0.0611	0.4952	0.0844	-0.0586	0.0669
2	344.88	0.3998	-0.0946	0.0299	-0.7511	0.1094	0.8221	0.1442	-0.0707	0.0594
2	344.88	0.4496	-0.1216	0.0307	-0.9461	0.1295	1.0302	0.1717	-0.0440	0.0711
2	344.88	0.4995	-0.1696	0.0332	-1.1367	0.1489	1.2626	0.1995	-0.0158	0.0720
2	344.88	0.5551	-0.1807	0.0367	-1.3676	0.1732	1.5061	0.2294	-0.0692	0.0856
2	344.88	0.5996	-0.1811	0.0416	-1.5563	0.1923	1.6803	0.2558	-0.1401	0.0843
2	344.88	0.6497	-0.2223	0.0471	-1.7601	0.2120	1.8641	0.2824	-0.1505	0.0914
2	344.88	0.6996	-0.2652	0.0621	-1.9295	0.1975	1.9437	0.2541	-0.9831	0.8443
2	344.88	0.7495	-0.3940	0.0819	-2.0934	0.1614	2.1785	0.4530	-0.3998	0.0942
2	344.88	0.7996	-0.4589	0.0829	-2.3059	0.1803	2.2727	0.4709	-0.4838	0.0854
2	344.88	0.8578	-0.5588	0.0843	-2.5312	0.2027	2.3542	0.4874	-0.2292	0.0865
2	344.88	0.9100	-0.6463	0.0847	-2.7242	0.2235	2.3417	0.4987	-0.4481	0.0850
2	344.88	0.9727	-0.7095	0.0899	-2.9419	0.2489	2.3661	0.5140	-0.3261	0.0918

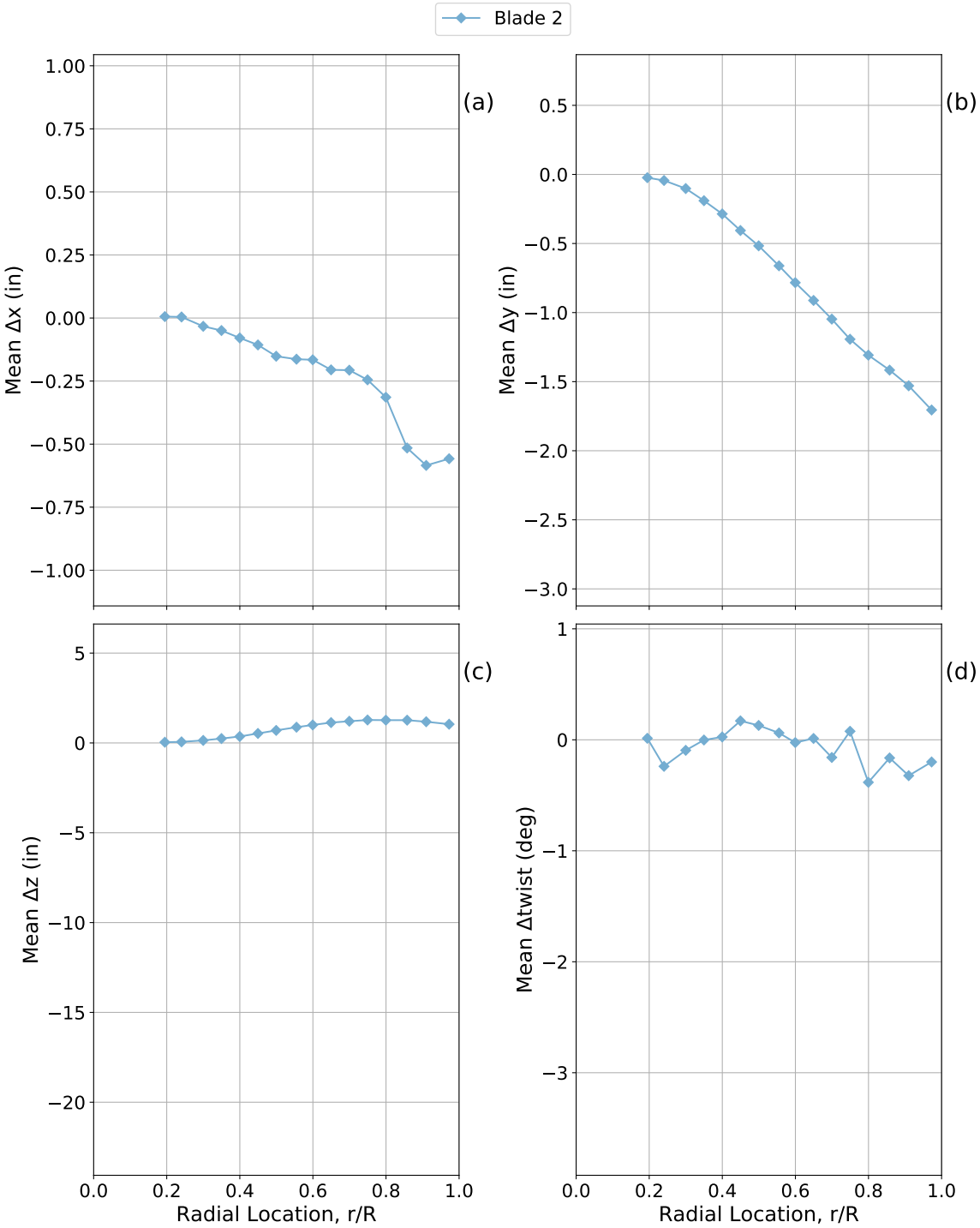


Figure 3.52-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0057	0.0076	-0.0236	0.0039	0.0403	0.0052	0.0136	0.0245
2	350.16	0.2405	0.0042	0.0032	-0.0439	0.0040	0.0602	0.0035	-0.2391	0.0631
2	350.16	0.2999	-0.0329	0.0033	-0.1022	0.0141	0.1401	0.0147	-0.0947	0.0689
2	350.16	0.3498	-0.0496	0.0047	-0.1902	0.0224	0.2441	0.0233	-0.0017	0.0607
2	350.16	0.3998	-0.0790	0.0068	-0.2859	0.0343	0.3586	0.0332	0.0259	0.0576
2	350.16	0.4496	-0.1067	0.0073	-0.4060	0.0433	0.5279	0.0432	0.1707	0.0600
2	350.16	0.4995	-0.1516	0.0078	-0.5169	0.0540	0.6977	0.0566	0.1296	0.0503
2	350.16	0.5551	-0.1633	0.0068	-0.6615	0.0684	0.8756	0.0729	0.0620	0.0613
2	350.16	0.5996	-0.1656	0.0087	-0.7835	0.0837	1.0009	0.0864	-0.0248	0.0692
2	350.16	0.6497	-0.2055	0.0077	-0.9122	0.1009	1.1325	0.1054	0.0122	0.0695
2	350.16	0.6996	-0.2068	0.0077	-1.0473	0.1185	1.2072	0.1216	-0.1590	0.0737
2	350.16	0.7495	-0.2451	0.0095	-1.1931	0.1334	1.2770	0.1323	0.0770	0.0610
2	350.16	0.7996	-0.3142	0.0135	-1.3082	0.1149	1.2680	0.1419	-0.3831	1.1735
2	350.16	0.8578	-0.5153	0.0191	-1.4166	0.1457	1.2668	0.3158	-0.1632	0.0784
2	350.16	0.9100	-0.5844	0.0194	-1.5300	0.1581	1.1800	0.3494	-0.3230	0.0616
2	350.16	0.9727	-0.5579	0.0206	-1.7050	0.1715	1.0424	0.3892	-0.1995	0.0687

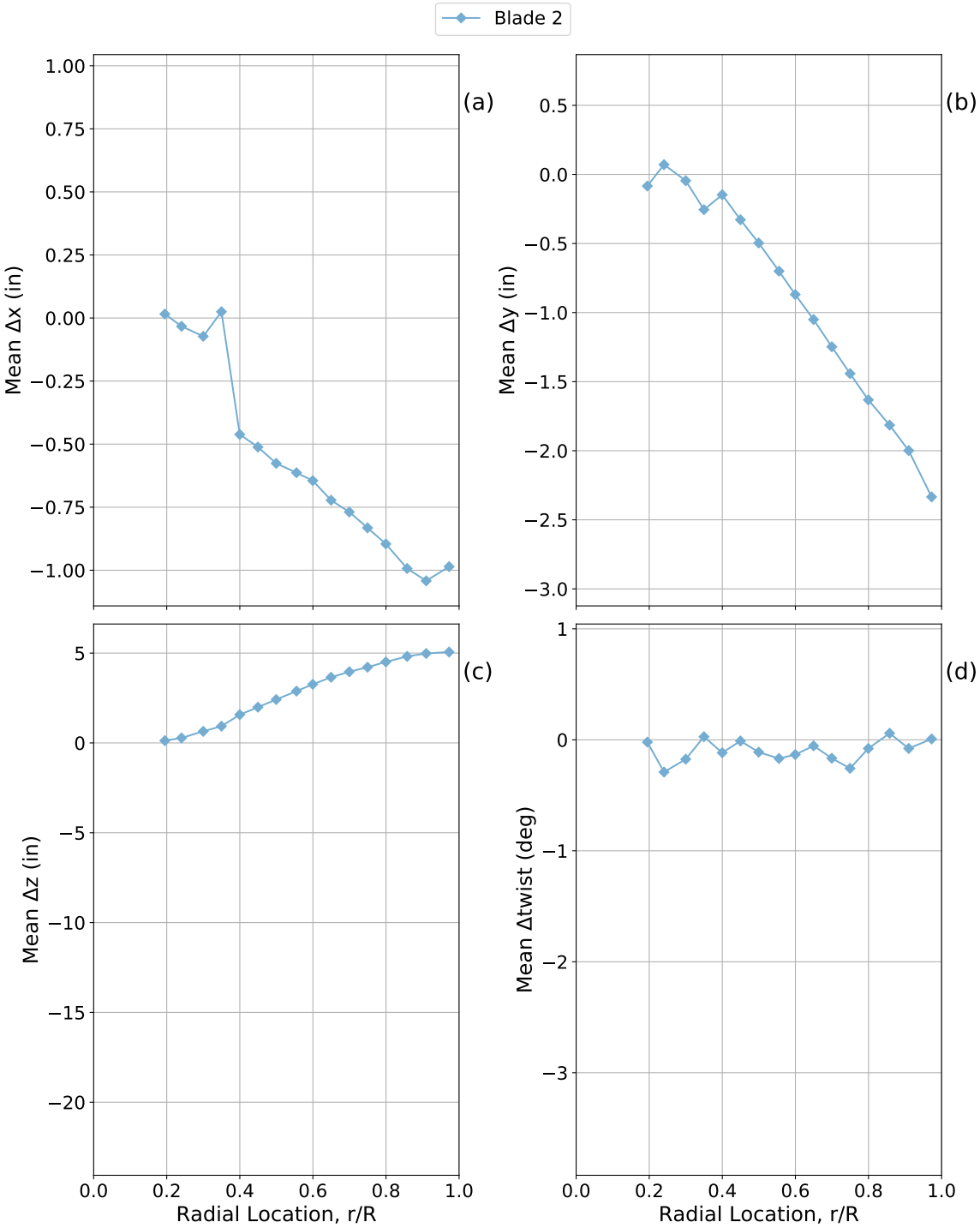


Figure 3.52-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$ NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Table 3.52-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.079$, $\mu = 0.299$, $\alpha = 8°$
NFAC run 98, point 45. BD run 46, points 8752 to 8762.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0157	0.0059	-0.0841	0.0063	0.1284	0.0042	-0.0204	0.0329
2	355.08	0.2405	-0.0328	0.0123	0.0708	0.0432	0.2759	0.0418	-0.2906	0.0547
2	355.08	0.2999	-0.0726	0.0188	-0.0457	0.0742	0.6450	0.0710	-0.1747	0.0593
2	355.08	0.3498	0.0249	0.0258	-0.2551	0.0990	0.9314	0.1007	0.0278	0.0558
2	355.08	0.3998	-0.4616	0.0312	-0.1474	0.1916	1.5729	0.1938	-0.1164	0.0835
2	355.08	0.4496	-0.5116	0.0299	-0.3284	0.2276	1.9898	0.2297	-0.0103	0.0785
2	355.08	0.4995	-0.5762	0.0309	-0.4964	0.2648	2.4148	0.2686	-0.1111	0.0446
2	355.08	0.5551	-0.6134	0.0320	-0.7003	0.3037	2.8845	0.3081	-0.1683	0.0661
2	355.08	0.5996	-0.6449	0.0319	-0.8694	0.3369	3.2624	0.3388	-0.1333	0.0664
2	355.08	0.6497	-0.7224	0.0315	-1.0502	0.3734	3.6539	0.3717	-0.0544	0.0826
2	355.08	0.6996	-0.7691	0.0320	-1.2475	0.4102	3.9624	0.4080	-0.1659	0.0662
2	355.08	0.7495	-0.8320	0.0314	-1.4415	0.4468	4.2143	0.4461	-0.2575	0.0684
2	355.08	0.7996	-0.8957	0.0316	-1.6321	0.4834	4.5108	0.4885	-0.0780	0.0858
2	355.08	0.8578	-0.9930	0.0330	-1.8145	0.5261	4.8158	0.5367	0.0590	0.0866
2	355.08	0.9100	-1.0421	0.0340	-1.9989	0.5652	4.9793	0.5854	-0.0780	0.0754
2	355.08	0.9727	-0.9857	0.0346	-2.3343	0.6134	5.0614	0.6327	0.0075	0.0814

4 Reference Data Points

Table 4-1. List of blade displacement Reference points.

Run	Start Point	End Point	CT/sigma	AdvRatio	Alpha (deg)	# Images
42	7	7	0.052	0.15	-0	15
42	21	21	0.051	0.149	-0	12
43	7	7	0.05	0.15	-0	12
45	7	7	0.05	0.15	-0	12
47	8	8	0.05	0.151	-0	12
50	23	23	0.05	0.15	-0	12
52	11	11	0.05	0.149	-0	12
52	55	55	0.05	0.149	-0	12
53	11	11	0.05	0.15	-0	12
57	7	7	0.05	0.15	-0	12
61	9	9	0.051	0.15	-0	12
63	8	8	0.05	0.15	-0	12
66	38	38	0.049	0.149	-0	12
67	9	9	0.051	0.149	-0	12
67	47	47	0.05	0.15	0	12
69	7	7	0.05	0.15	0	12
69	56	56	0.051	0.149	0	12
73	59	59	0.05	0.149	0	12
75	7	7	0.05	0.15	-0	12
75	53	53	0.052	0.152	0	12
77	8	8	0.05	0.149	0	12
77	16	16	0.051	0.15	-0	12
78	7	7	0.05	0.15	-0	12
78	34	34	0.05	0.15	-0	12
81	7	7	0.05	0.15	-0	12
81	53	53	0.05	0.149	-0	60
83	7	7	0.051	0.15	-0	12
83	77	77	0.051	0.15	-0	12
85	15	15	0.05	0.15	-0	12
85	47	47	0.05	0.15	-0	12
98	13	13	0.05	0.15	0	12
98	52	52	0.05	0.15	0	12

4.1 Run 42, Point 7

4.1.1 Pitch, Flap, and Lag

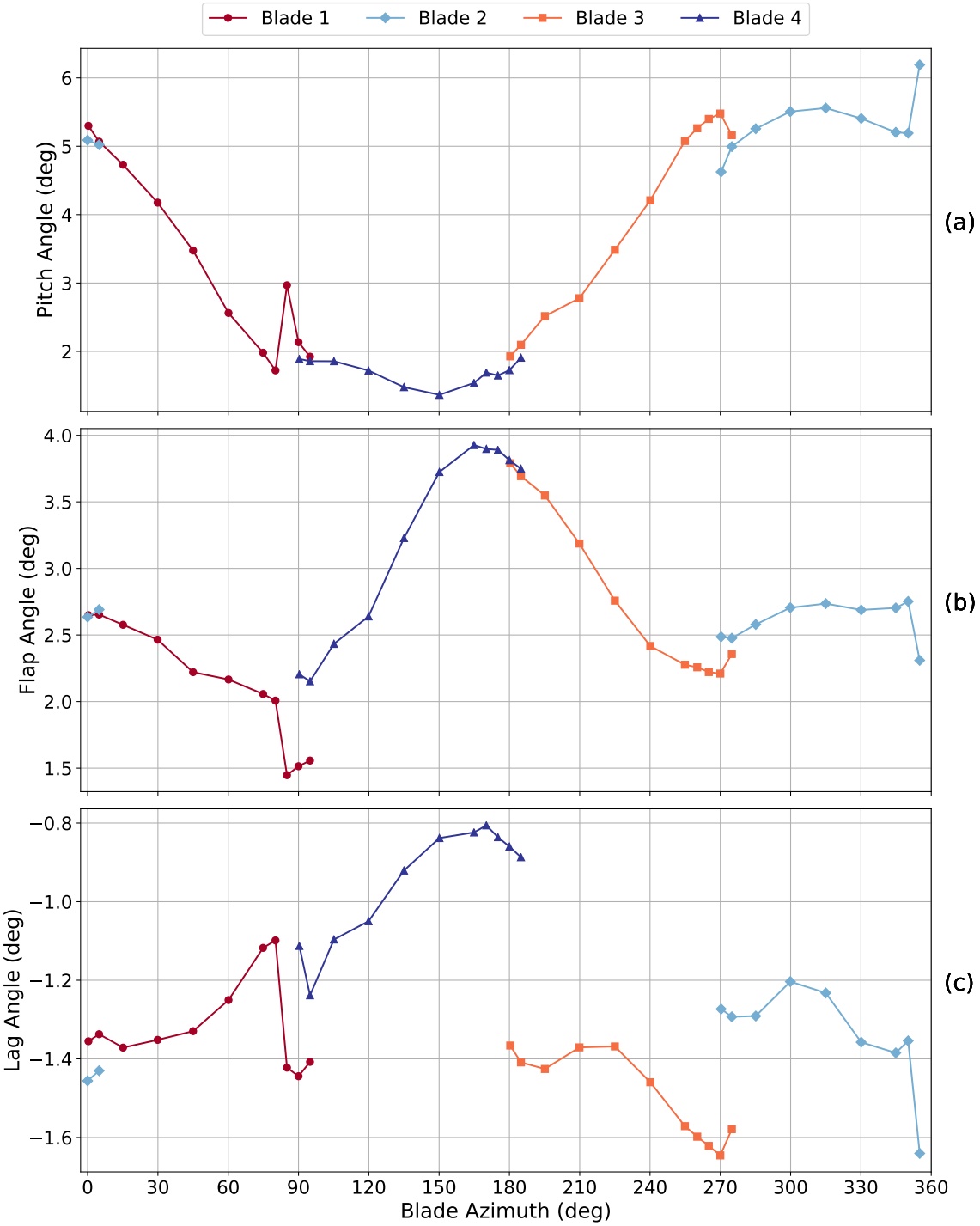


Figure 4.1-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, point 7. BD run 19, points 690 to 700.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.0895	2.6353	-1.4558	0.0691	0.0292	0.0136
0.35	1	5.2989	2.6494	-1.3552	0.0889	0.0319	0.0221
4.92	1	5.0676	2.6537	-1.3372	0.0724	0.0346	0.0209
4.92	2	5.0230	2.6914	-1.4302	0.0537	0.0275	0.0221
15.12	1	4.7310	2.5765	-1.3714	0.0602	0.0292	0.0302
29.88	1	4.1751	2.4647	-1.3517	0.0426	0.0292	0.0131
45	1	3.4751	2.2210	-1.3295	0.0716	0.0303	0.0169
60.12	1	2.5614	2.1661	-1.2504	0.0557	0.0267	0.0187
74.88	1	1.9801	2.0566	-1.1176	0.1119	0.0480	0.0300
80.16	1	1.7213	2.0073	-1.0986	0.1929	0.1092	0.0655
85.08	1	2.9676	1.4476	-1.4223	0.0310	0.0215	0.0219
90	1	2.1348	1.5143	-1.4441	0.0443	0.0170	0.0161
90.35	4	1.8888	2.2050	-1.1127	0.0295	0.0179	0.0138
94.92	1	1.9225	1.5569	-1.4077	0.0351	0.0134	0.0139
94.92	4	1.8565	2.1523	-1.2383	0.0216	0.0192	0.0129
105.12	4	1.8553	2.4333	-1.0963	0.0264	0.0136	0.0114
119.88	4	1.7195	2.6397	-1.0498	0.0260	0.0179	0.0124
135	4	1.4760	3.2282	-0.9208	0.0226	0.0184	0.0173
150.12	4	1.3632	3.7242	-0.8381	0.0228	0.0134	0.0228
164.88	4	1.5378	3.9263	-0.8238	0.0160	0.0110	0.0090
170.16	4	1.6888	3.8971	-0.8059	0.0191	0.0144	0.0143
175.08	4	1.6466	3.8903	-0.8359	0.0270	0.0121	0.0089
180	4	1.7251	3.8131	-0.8598	0.0296	0.0172	0.0116
180.35	3	1.9271	3.7898	-1.3661	0.0251	0.0157	0.0154
184.92	3	2.0958	3.6931	-1.4090	0.0278	0.0132	0.0098
184.92	4	1.9069	3.7489	-0.8869	0.0211	0.0198	0.0206
195.12	3	2.5155	3.5479	-1.4257	0.0452	0.0267	0.0208
209.88	3	2.7774	3.1873	-1.3708	0.0200	0.0140	0.0222
225	3	3.4858	2.7582	-1.3684	0.0315	0.0216	0.0153
240.12	3	4.2087	2.4173	-1.4594	0.0276	0.0166	0.0156
254.88	3	5.0771	2.2769	-1.5713	0.0548	0.0340	0.0116
260.16	3	5.2634	2.2576	-1.5980	0.0465	0.0305	0.0123
265.08	3	5.4002	2.2218	-1.6214	0.0578	0.0325	0.0161
270	3	5.4787	2.2105	-1.6456	0.0821	0.0361	0.0175
270.35	2	4.6258	2.4866	-1.2733	0.0507	0.0223	0.0124
274.92	2	4.9944	2.4761	-1.2929	0.0409	0.0171	0.0129
274.92	3	5.1628	2.3575	-1.5789	0.1070	0.0400	0.0164
285.12	2	5.2568	2.5793	-1.2910	0.0417	0.0393	0.0197
299.88	2	5.5077	2.7053	-1.2034	0.0321	0.0276	0.0216
315	2	5.5596	2.7359	-1.2323	0.0349	0.0180	0.0106
330.12	2	5.4070	2.6885	-1.3576	0.0220	0.0243	0.0155
344.88	2	5.2041	2.7036	-1.3848	0.0251	0.0125	0.0113
350.16	2	5.1918	2.7521	-1.3542	0.0242	0.0259	0.0124
355.08	2	6.1910	2.3099	-1.6405	0.0497	0.0269	0.0205

4.1.2 Spanwise Elastic Deformations

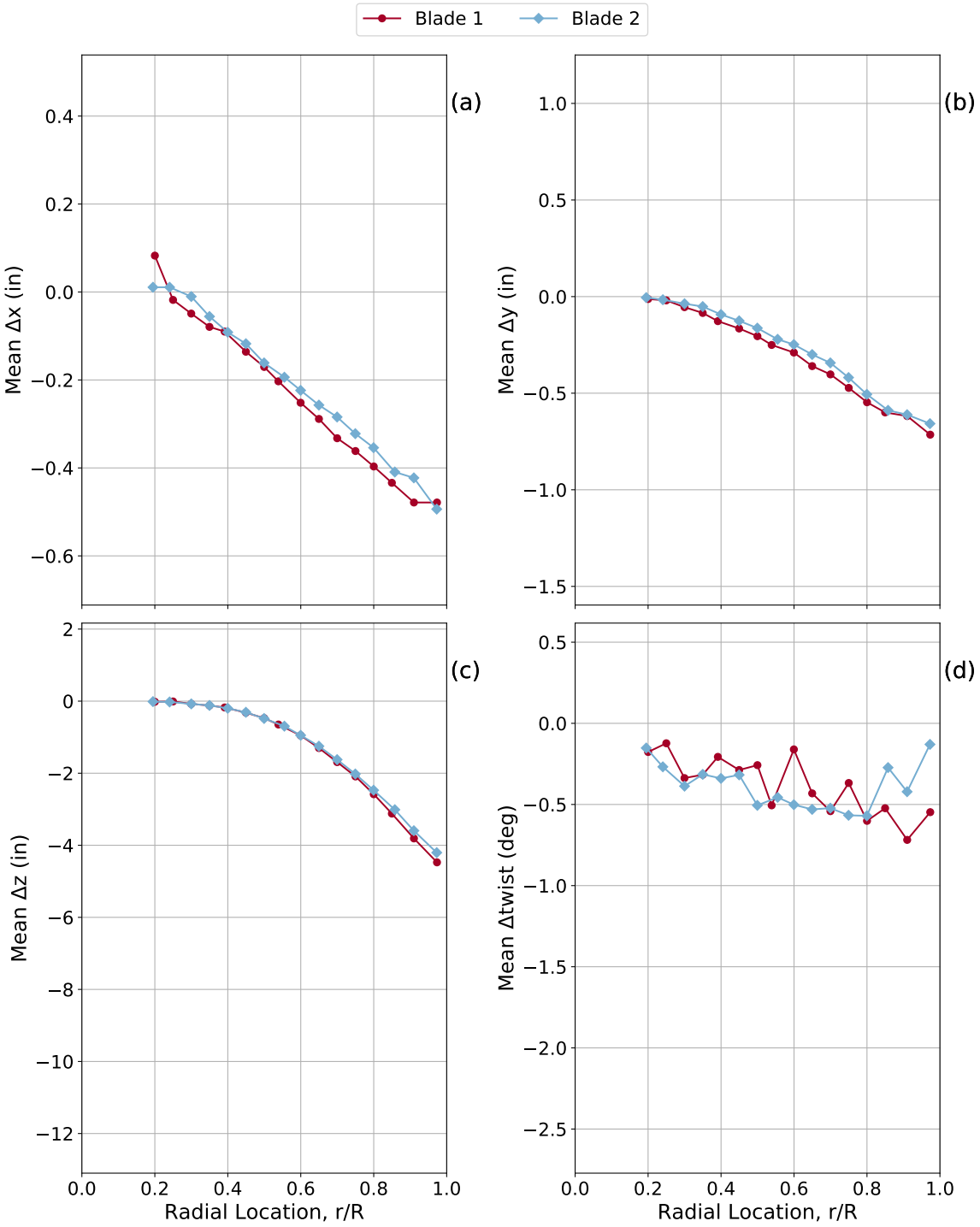


Figure 4.1-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0827	0.0042	-0.0125	0.0025	-0.0174	0.0050	-0.1766	0.0450
1	0.35	0.2499	-0.0180	0.0025	-0.0196	0.0045	-0.0091	0.0048	-0.1229	0.0854
1	0.35	0.2998	-0.0491	0.0015	-0.0547	0.0094	-0.0760	0.0153	-0.3374	0.0975
1	0.35	0.3498	-0.0793	0.0024	-0.0847	0.0171	-0.1223	0.0206	-0.3166	0.0840
1	0.35	0.3913	-0.0900	0.0027	-0.1271	0.0235	-0.1754	0.0291	-0.2067	0.0899
1	0.35	0.4496	-0.1358	0.0028	-0.1651	0.0299	-0.3195	0.0377	-0.2877	0.0862
1	0.35	0.4997	-0.1704	0.0028	-0.2049	0.0357	-0.4722	0.0469	-0.2577	0.0819
1	0.35	0.5387	-0.2031	0.0026	-0.2503	0.0411	-0.6484	0.0540	-0.5055	0.0798
1	0.35	0.5996	-0.2518	0.0022	-0.2896	0.0479	-0.9518	0.0625	-0.1606	0.0868
1	0.35	0.6498	-0.2886	0.0024	-0.3598	0.0529	-1.3011	0.0714	-0.4316	0.0865
1	0.35	0.6998	-0.3325	0.0024	-0.4027	0.0586	-1.6919	0.0789	-0.5412	0.0816
1	0.35	0.7500	-0.3616	0.0024	-0.4725	0.0637	-2.0897	0.0863	-0.3677	0.0830
1	0.35	0.8001	-0.3967	0.0022	-0.5470	0.0710	-2.5834	0.0952	-0.6010	0.0797
1	0.35	0.8497	-0.4338	0.0026	-0.5995	0.0740	-3.1205	0.1042	-0.5231	0.0773
1	0.35	0.9102	-0.4786	0.0029	-0.6183	0.0829	-3.8097	0.1139	-0.7183	0.0968
1	0.35	0.9734	-0.4786	0.0034	-0.7147	0.0902	-4.4738	0.1291	-0.5474	0.1019
2	0	0.1949	0.0108	0.0023	-0.0051	0.0013	-0.0131	0.0035	-0.1520	0.0278
2	0	0.2405	0.0108	0.0015	-0.0161	0.0023	-0.0229	0.0053	-0.2680	0.0790
2	0	0.2999	-0.0103	0.0013	-0.0368	0.0041	-0.0767	0.0108	-0.3871	0.0804
2	0	0.3498	-0.0557	0.0015	-0.0515	0.0075	-0.1187	0.0201	-0.3146	0.0713
2	0	0.3998	-0.0915	0.0016	-0.0926	0.0109	-0.1994	0.0286	-0.3393	0.0652
2	0	0.4496	-0.1176	0.0023	-0.1254	0.0145	-0.3089	0.0355	-0.3176	0.0644
2	0	0.4995	-0.1612	0.0030	-0.1631	0.0174	-0.4813	0.0422	-0.5055	0.0685
2	0	0.5551	-0.1937	0.0033	-0.2211	0.0206	-0.6941	0.0495	-0.4560	0.0749
2	0	0.5996	-0.2237	0.0033	-0.2480	0.0216	-0.9477	0.0558	-0.5015	0.0700
2	0	0.6497	-0.2571	0.0026	-0.2998	0.0242	-1.2499	0.0640	-0.5304	0.0687
2	0	0.6996	-0.2842	0.0025	-0.3431	0.0273	-1.6230	0.0713	-0.5226	0.0631
2	0	0.7495	-0.3221	0.0025	-0.4190	0.0302	-2.0216	0.0787	-0.5667	0.0668
2	0	0.7996	-0.3540	0.0029	-0.5059	0.0322	-2.4719	0.0847	-0.5701	0.0739
2	0	0.8578	-0.4093	0.0042	-0.5887	0.0355	-3.0125	0.0931	-0.2727	0.0934
2	0	0.9100	-0.4226	0.0040	-0.6112	0.0441	-3.5959	0.1005	-0.4214	0.1387
2	0	0.9727	-0.4937	0.0056	-0.6576	0.0425	-4.2046	0.1129	-0.1298	0.0957

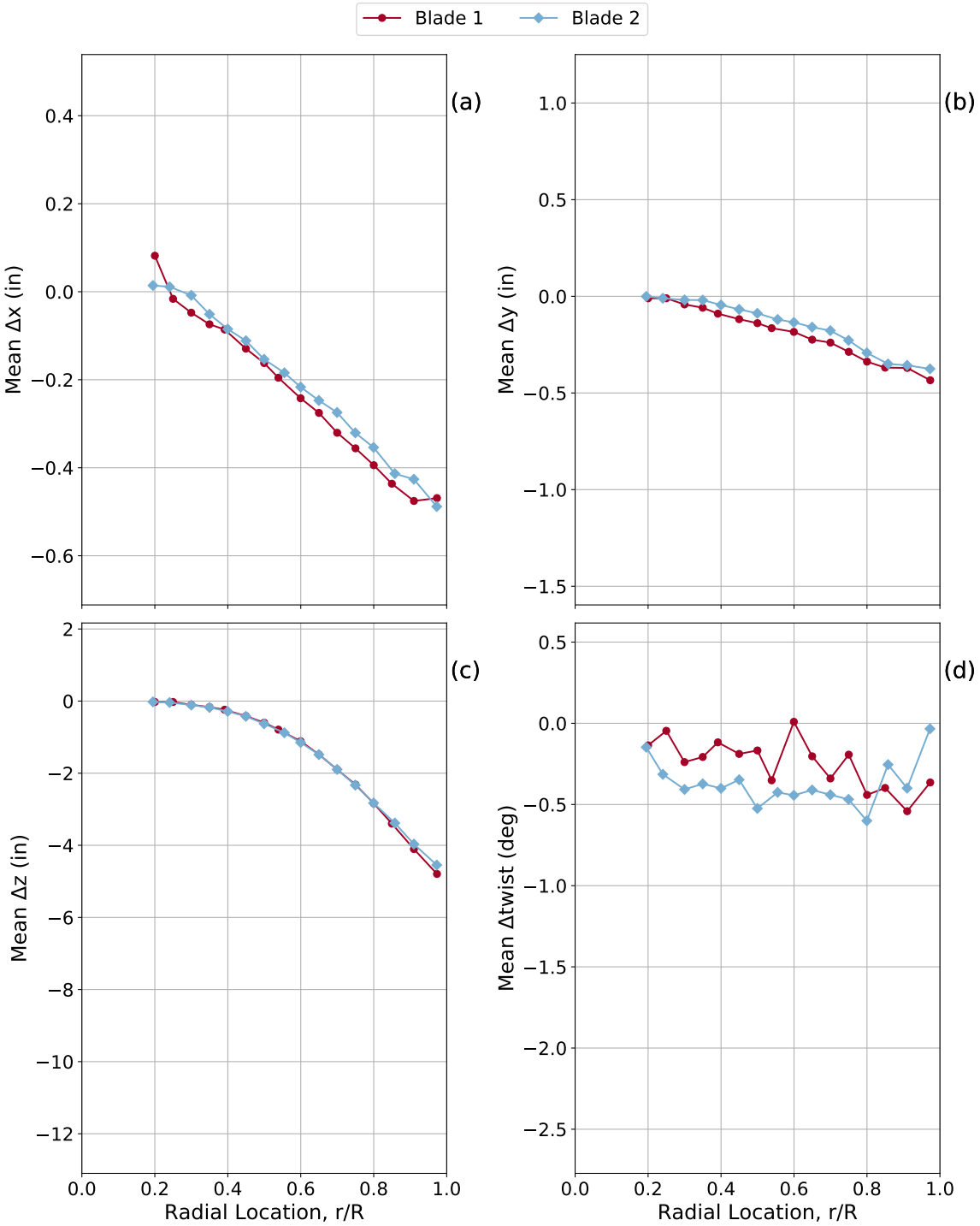


Figure 4.1-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0818	0.0040	-0.0103	0.0018	-0.0244	0.0045	-0.1359	0.0385
1	4.92	0.2499	-0.0162	0.0015	-0.0102	0.0034	-0.0250	0.0070	-0.0463	0.0806
1	4.92	0.2998	-0.0476	0.0012	-0.0420	0.0057	-0.1023	0.0147	-0.2390	0.0929
1	4.92	0.3498	-0.0740	0.0016	-0.0590	0.0112	-0.1669	0.0257	-0.2075	0.0822
1	4.92	0.3913	-0.0859	0.0016	-0.0897	0.0146	-0.2395	0.0349	-0.1173	0.0763
1	4.92	0.4496	-0.1294	0.0019	-0.1183	0.0189	-0.4149	0.0441	-0.1885	0.0897
1	4.92	0.4997	-0.1621	0.0018	-0.1389	0.0230	-0.5985	0.0563	-0.1674	0.0762
1	4.92	0.5387	-0.1955	0.0022	-0.1647	0.0263	-0.7916	0.0641	-0.3511	0.0836
1	4.92	0.5996	-0.2421	0.0020	-0.1841	0.0308	-1.1132	0.0765	0.0092	0.0766
1	4.92	0.6498	-0.2753	0.0023	-0.2242	0.0355	-1.4806	0.0848	-0.2033	0.0844
1	4.92	0.6998	-0.3205	0.0023	-0.2395	0.0379	-1.8985	0.0921	-0.3399	0.0794
1	4.92	0.7500	-0.3559	0.0024	-0.2873	0.0431	-2.3163	0.0974	-0.1931	0.0829
1	4.92	0.8001	-0.3942	0.0026	-0.3378	0.0463	-2.8369	0.1037	-0.4410	0.0892
1	4.92	0.8497	-0.4363	0.0033	-0.3689	0.0502	-3.3982	0.1105	-0.3982	0.0769
1	4.92	0.9102	-0.4755	0.0030	-0.3704	0.0551	-4.1047	0.1158	-0.5413	0.1100
1	4.92	0.9734	-0.4690	0.0039	-0.4342	0.0599	-4.7940	0.1209	-0.3643	0.1036
2	4.92	0.1949	0.0142	0.0038	-0.0005	0.0016	-0.0219	0.0028	-0.1475	0.0320
2	4.92	0.2405	0.0111	0.0018	-0.0102	0.0022	-0.0393	0.0048	-0.3142	0.0550
2	4.92	0.2999	-0.0082	0.0013	-0.0188	0.0054	-0.1102	0.0086	-0.4073	0.0740
2	4.92	0.3498	-0.0512	0.0013	-0.0196	0.0083	-0.1762	0.0144	-0.3730	0.0481
2	4.92	0.3998	-0.0849	0.0016	-0.0448	0.0126	-0.2861	0.0215	-0.4007	0.0543
2	4.92	0.4496	-0.1114	0.0021	-0.0675	0.0167	-0.4233	0.0278	-0.3474	0.0524
2	4.92	0.4995	-0.1535	0.0022	-0.0879	0.0196	-0.6288	0.0347	-0.5245	0.0570
2	4.92	0.5551	-0.1843	0.0020	-0.1198	0.0236	-0.8786	0.0428	-0.4254	0.0563
2	4.92	0.5996	-0.2166	0.0018	-0.1347	0.0267	-1.1488	0.0487	-0.4436	0.0613
2	4.92	0.6497	-0.2471	0.0017	-0.1595	0.0296	-1.4833	0.0545	-0.4107	0.0518
2	4.92	0.6996	-0.2744	0.0020	-0.1775	0.0334	-1.8954	0.0608	-0.4401	0.0491
2	4.92	0.7495	-0.3207	0.0015	-0.2277	0.0373	-2.3306	0.0644	-0.4684	0.0554
2	4.92	0.7996	-0.3538	0.0017	-0.2924	0.0405	-2.8269	0.0697	-0.6003	0.0565
2	4.92	0.8578	-0.4135	0.0014	-0.3497	0.0434	-3.3823	0.0718	-0.2544	0.0666
2	4.92	0.9100	-0.4261	0.0014	-0.3569	0.0481	-3.9667	0.0742	-0.3995	0.0574
2	4.92	0.9727	-0.4882	0.0027	-0.3753	0.0507	-4.5469	0.0803	-0.0339	0.0616

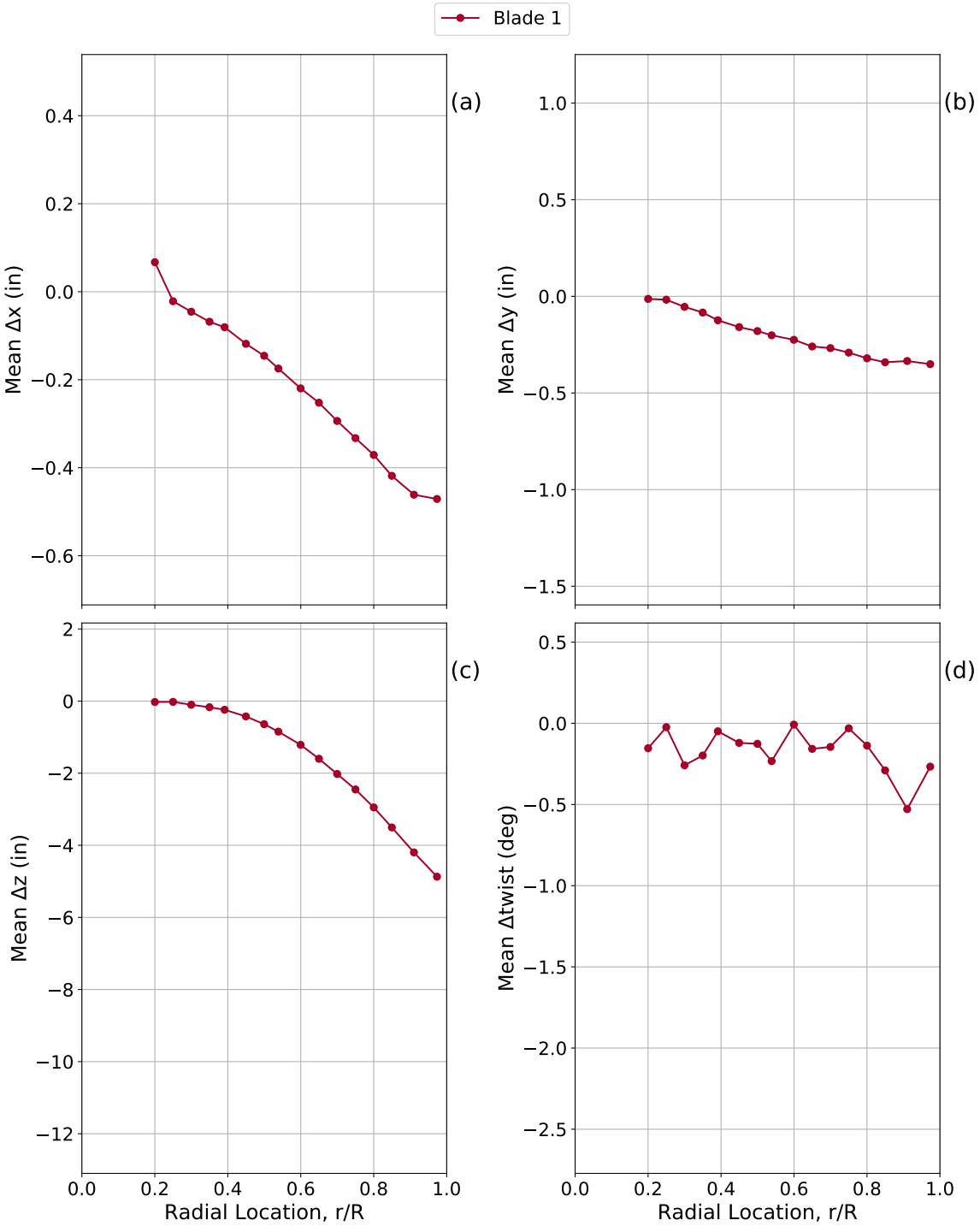


Figure 4.1-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0670	0.0036	-0.0133	0.0017	-0.0251	0.0029	-0.1536	0.0274
1	15.12	0.2499	-0.0216	0.0013	-0.0174	0.0022	-0.0218	0.0062	-0.0241	0.0488
1	15.12	0.2998	-0.0455	0.0015	-0.0545	0.0066	-0.1018	0.0108	-0.2586	0.0595
1	15.12	0.3498	-0.0682	0.0014	-0.0839	0.0101	-0.1707	0.0173	-0.1983	0.0538
1	15.12	0.3913	-0.0808	0.0020	-0.1239	0.0147	-0.2399	0.0251	-0.0492	0.0515
1	15.12	0.4496	-0.1183	0.0017	-0.1593	0.0193	-0.4256	0.0342	-0.1208	0.0458
1	15.12	0.4997	-0.1456	0.0019	-0.1798	0.0235	-0.6407	0.0429	-0.1264	0.0500
1	15.12	0.5387	-0.1746	0.0017	-0.2017	0.0271	-0.8472	0.0507	-0.2331	0.0510
1	15.12	0.5996	-0.2196	0.0018	-0.2250	0.0319	-1.2133	0.0623	-0.0081	0.0538
1	15.12	0.6498	-0.2522	0.0019	-0.2595	0.0369	-1.5997	0.0720	-0.1575	0.0538
1	15.12	0.6998	-0.2937	0.0024	-0.2680	0.0410	-2.0219	0.0829	-0.1455	0.0472
1	15.12	0.7500	-0.3327	0.0023	-0.2913	0.0458	-2.4509	0.0929	-0.0309	0.0453
1	15.12	0.8001	-0.3709	0.0022	-0.3205	0.0498	-2.9490	0.1046	-0.1373	0.0400
1	15.12	0.8497	-0.4184	0.0031	-0.3413	0.0540	-3.5049	0.1176	-0.2900	0.0598
1	15.12	0.9102	-0.4613	0.0032	-0.3347	0.0589	-4.1963	0.1326	-0.5287	0.0452
1	15.12	0.9734	-0.4710	0.0045	-0.3508	0.0648	-4.8707	0.1523	-0.2670	0.0757

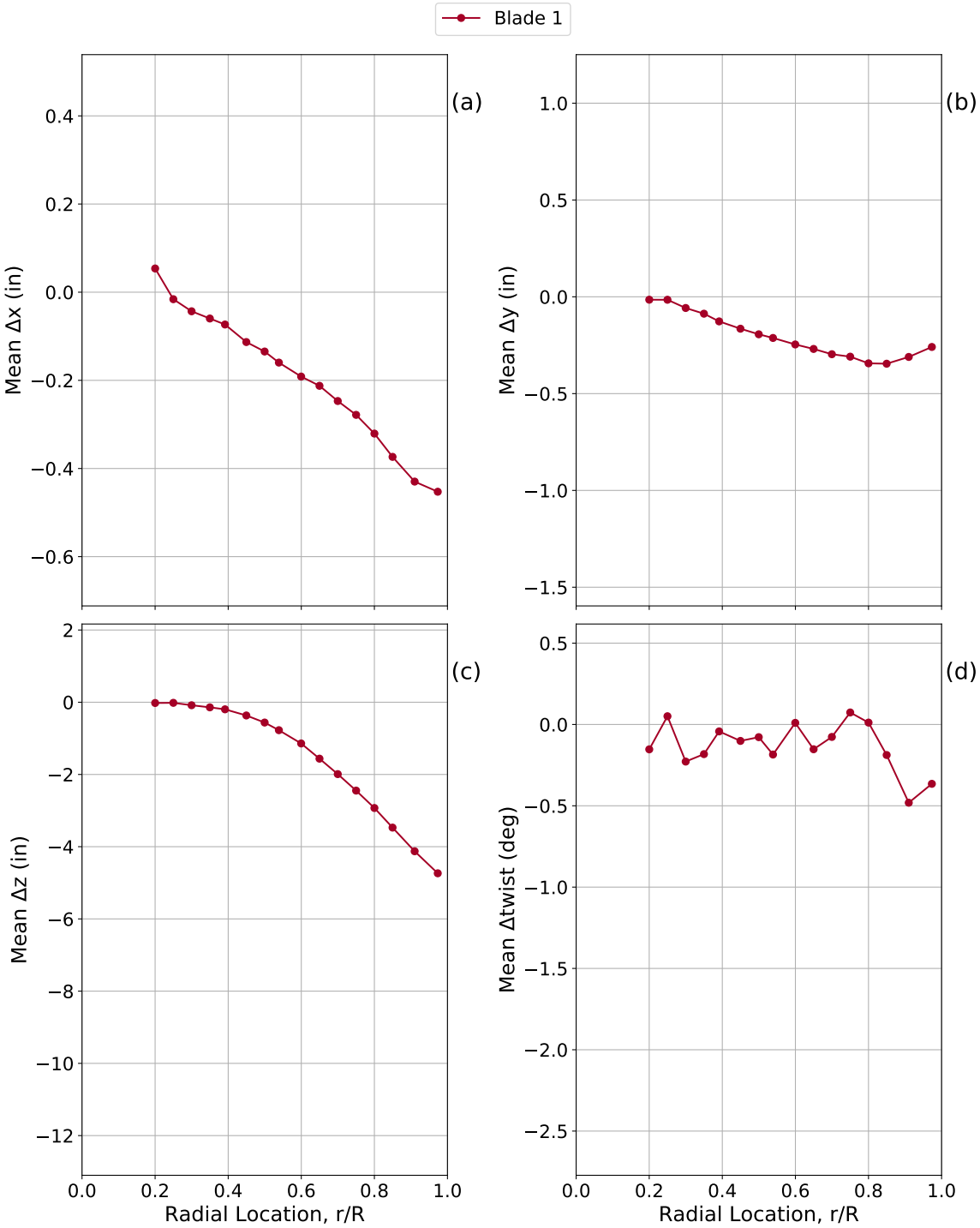


Figure 4.1-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0538	0.0019	-0.0150	0.0010	-0.0209	0.0025	-0.1530	0.0226
1	29.88	0.2499	-0.0159	0.0023	-0.0153	0.0018	-0.0165	0.0042	0.0506	0.0452
1	29.88	0.2998	-0.0433	0.0011	-0.0578	0.0039	-0.0830	0.0087	-0.2281	0.0504
1	29.88	0.3498	-0.0597	0.0011	-0.0873	0.0068	-0.1414	0.0140	-0.1823	0.0512
1	29.88	0.3913	-0.0733	0.0015	-0.1270	0.0095	-0.1963	0.0199	-0.0426	0.0453
1	29.88	0.4496	-0.1131	0.0016	-0.1648	0.0122	-0.3666	0.0288	-0.1011	0.0459
1	29.88	0.4997	-0.1346	0.0019	-0.1936	0.0152	-0.5622	0.0359	-0.0780	0.0417
1	29.88	0.5387	-0.1597	0.0020	-0.2126	0.0167	-0.7739	0.0413	-0.1849	0.0492
1	29.88	0.5996	-0.1914	0.0016	-0.2461	0.0201	-1.1414	0.0500	0.0099	0.0525
1	29.88	0.6498	-0.2124	0.0021	-0.2693	0.0227	-1.5624	0.0572	-0.1524	0.0519
1	29.88	0.6998	-0.2469	0.0019	-0.2966	0.0257	-1.9906	0.0650	-0.0766	0.0469
1	29.88	0.7500	-0.2783	0.0016	-0.3092	0.0280	-2.4465	0.0731	0.0738	0.0463
1	29.88	0.8001	-0.3208	0.0019	-0.3436	0.0306	-2.9287	0.0832	0.0116	0.0409
1	29.88	0.8497	-0.3736	0.0030	-0.3456	0.0337	-3.4714	0.0939	-0.1878	0.0462
1	29.88	0.9102	-0.4297	0.0033	-0.3106	0.0372	-4.1269	0.1073	-0.4812	0.0519
1	29.88	0.9734	-0.4527	0.0030	-0.2591	0.0401	-4.7366	0.1259	-0.3649	0.0404

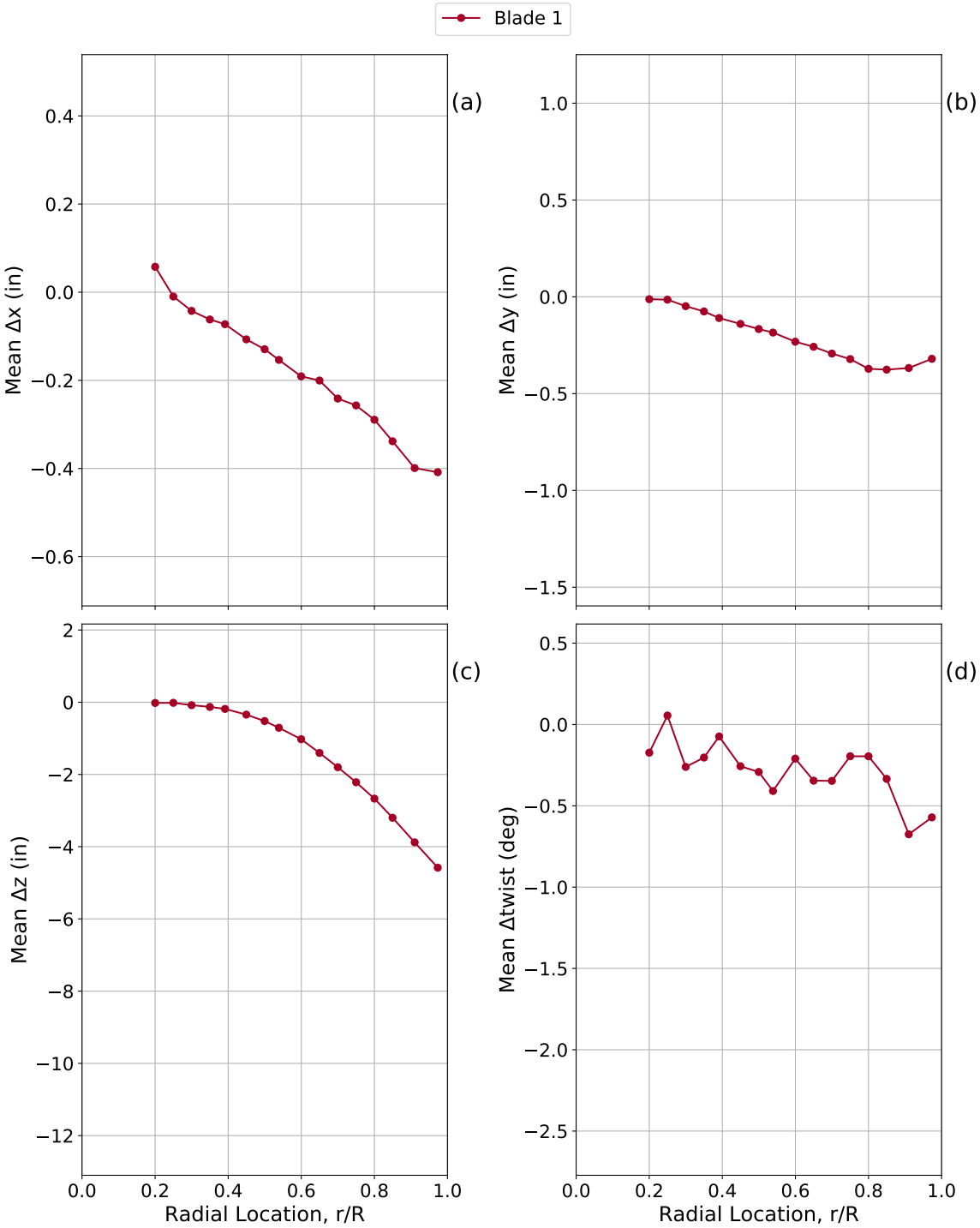


Figure 4.1-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0576	0.0027	-0.0124	0.0011	-0.0201	0.0041	-0.1734	0.0303
1	45	0.2499	-0.0098	0.0019	-0.0147	0.0014	-0.0164	0.0047	0.0550	0.0730
1	45	0.2998	-0.0424	0.0021	-0.0485	0.0040	-0.0809	0.0141	-0.2609	0.0767
1	45	0.3498	-0.0619	0.0015	-0.0756	0.0065	-0.1298	0.0233	-0.2033	0.0735
1	45	0.3913	-0.0726	0.0023	-0.1096	0.0089	-0.1851	0.0320	-0.0738	0.0674
1	45	0.4496	-0.1070	0.0030	-0.1400	0.0120	-0.3433	0.0413	-0.2568	0.0702
1	45	0.4997	-0.1294	0.0024	-0.1665	0.0144	-0.5215	0.0506	-0.2920	0.0716
1	45	0.5387	-0.1536	0.0029	-0.1847	0.0166	-0.7070	0.0583	-0.4090	0.0747
1	45	0.5996	-0.1909	0.0024	-0.2318	0.0197	-1.0238	0.0691	-0.2099	0.0716
1	45	0.6498	-0.2004	0.0023	-0.2582	0.0228	-1.4036	0.0785	-0.3455	0.0748
1	45	0.6998	-0.2413	0.0022	-0.2931	0.0260	-1.7992	0.0862	-0.3467	0.0843
1	45	0.7500	-0.2569	0.0022	-0.3217	0.0282	-2.2162	0.0946	-0.1954	0.0794
1	45	0.8001	-0.2894	0.0028	-0.3719	0.0313	-2.6692	0.1028	-0.1957	0.0817
1	45	0.8497	-0.3382	0.0028	-0.3762	0.0349	-3.1987	0.1104	-0.3344	0.0777
1	45	0.9102	-0.3990	0.0034	-0.3678	0.0385	-3.8794	0.1208	-0.6752	0.0816
1	45	0.9734	-0.4084	0.0039	-0.3203	0.0431	-4.5813	0.1329	-0.5713	0.0827

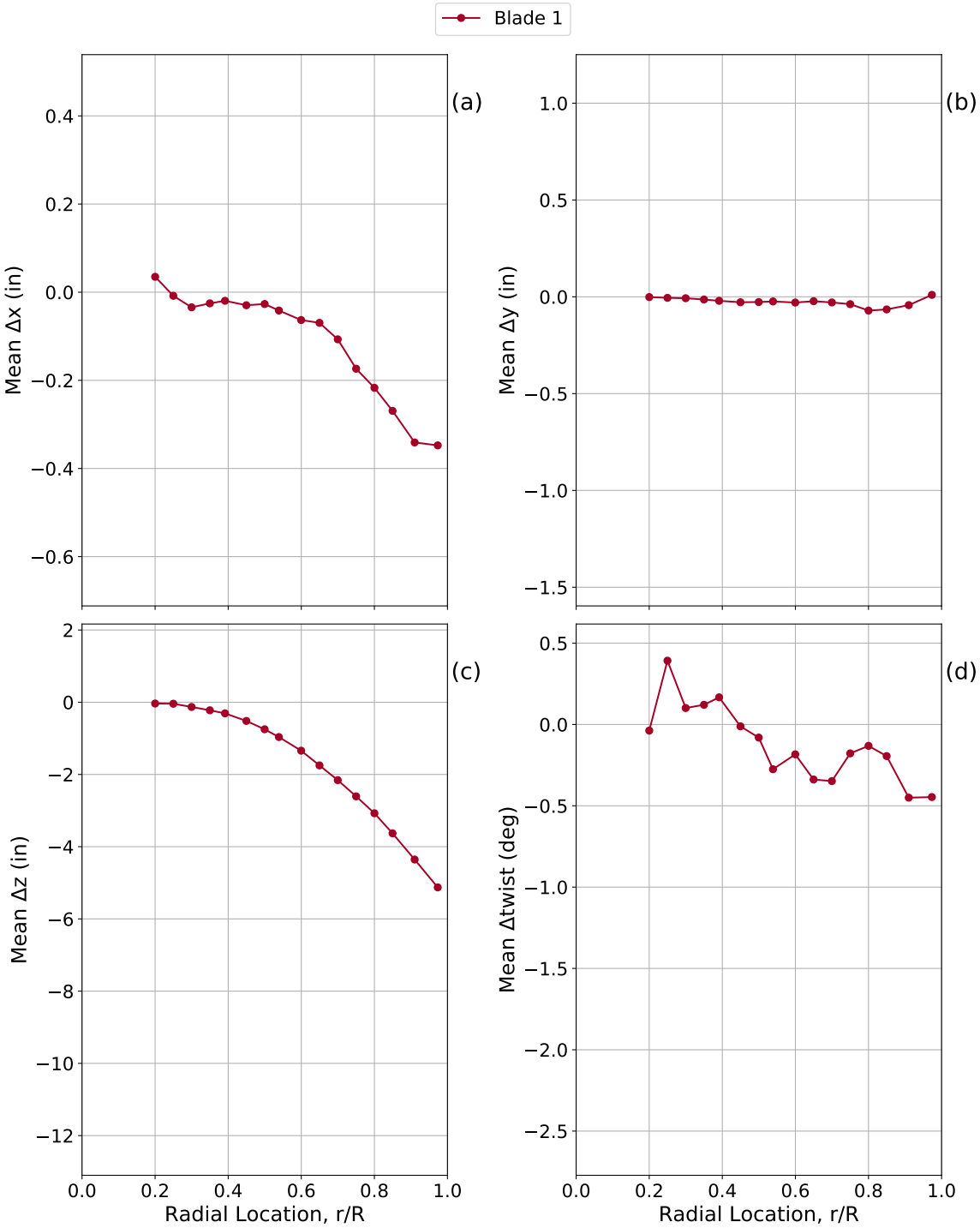


Figure 4.1-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.052, μ = 0.15, α = -0° NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0349	0.0016	-0.0014	0.0011	-0.0358	0.0034	-0.0376	0.0233
1	60.12	0.2499	-0.0082	0.0013	-0.0054	0.0012	-0.0414	0.0046	0.3922	0.0596
1	60.12	0.2998	-0.0343	0.0015	-0.0074	0.0033	-0.1311	0.0109	0.1012	0.0588
1	60.12	0.3498	-0.0253	0.0008	-0.0141	0.0060	-0.2227	0.0190	0.1210	0.0599
1	60.12	0.3913	-0.0195	0.0013	-0.0208	0.0077	-0.3079	0.0255	0.1669	0.0599
1	60.12	0.4496	-0.0296	0.0011	-0.0281	0.0106	-0.5175	0.0344	-0.0113	0.0582
1	60.12	0.4997	-0.0268	0.0014	-0.0271	0.0134	-0.7489	0.0436	-0.0806	0.0547
1	60.12	0.5387	-0.0416	0.0017	-0.0240	0.0151	-0.9637	0.0506	-0.2753	0.0577
1	60.12	0.5996	-0.0632	0.0015	-0.0297	0.0180	-1.3413	0.0622	-0.1836	0.0502
1	60.12	0.6498	-0.0695	0.0020	-0.0227	0.0204	-1.7491	0.0704	-0.3385	0.0545
1	60.12	0.6998	-0.1069	0.0015	-0.0292	0.0226	-2.1576	0.0800	-0.3480	0.0492
1	60.12	0.7500	-0.1736	0.0020	-0.0380	0.0250	-2.6062	0.0881	-0.1776	0.0578
1	60.12	0.8001	-0.2169	0.0022	-0.0711	0.0274	-3.0740	0.0964	-0.1316	0.0577
1	60.12	0.8497	-0.2692	0.0026	-0.0652	0.0294	-3.6303	0.1040	-0.1944	0.0541
1	60.12	0.9102	-0.3409	0.0030	-0.0431	0.0336	-4.3558	0.1133	-0.4501	0.0500
1	60.12	0.9734	-0.3475	0.0033	0.0099	0.0369	-5.1270	0.1210	-0.4463	0.0602

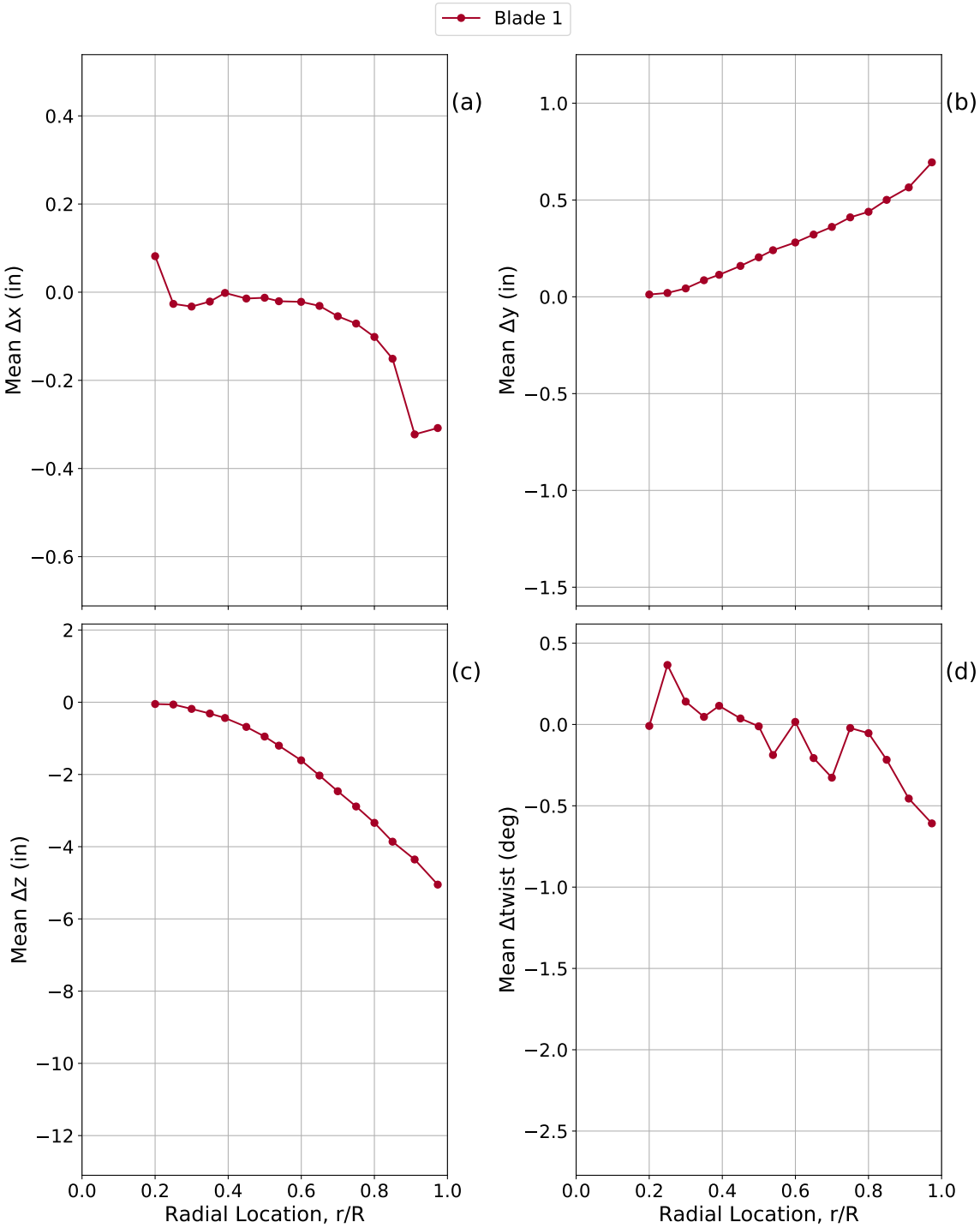


Figure 4.1-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0817	0.0040	0.0118	0.0031	-0.0492	0.0054	-0.0092	0.0420
1	74.88	0.2499	-0.0265	0.0010	0.0199	0.0033	-0.0633	0.0057	0.3657	0.1085
1	74.88	0.2998	-0.0326	0.0013	0.0433	0.0111	-0.1841	0.0186	0.1405	0.1121
1	74.88	0.3498	-0.0213	0.0014	0.0855	0.0179	-0.3130	0.0319	0.0468	0.1113
1	74.88	0.3913	-0.0017	0.0017	0.1137	0.0249	-0.4361	0.0431	0.1147	0.1067
1	74.88	0.4496	-0.0144	0.0017	0.1594	0.0336	-0.6830	0.0572	0.0370	0.1127
1	74.88	0.4997	-0.0126	0.0023	0.2040	0.0415	-0.9503	0.0693	-0.0114	0.1148
1	74.88	0.5387	-0.0205	0.0028	0.2406	0.0473	-1.2026	0.0787	-0.1878	0.1098
1	74.88	0.5996	-0.0219	0.0024	0.2805	0.0570	-1.6080	0.0918	0.0157	0.1133
1	74.88	0.6498	-0.0311	0.0022	0.3215	0.0653	-2.0303	0.1035	-0.2066	0.1106
1	74.88	0.6998	-0.0546	0.0039	0.3609	0.0726	-2.4650	0.1144	-0.3270	0.1281
1	74.88	0.7500	-0.0712	0.0057	0.4103	0.0817	-2.8864	0.1272	-0.0218	0.1299
1	74.88	0.8001	-0.1015	0.0115	0.4391	0.0919	-3.3398	0.1392	-0.0535	0.2274
1	74.88	0.8497	-0.1510	0.0053	0.5006	0.0993	-3.8613	0.1599	-0.2172	0.1366
1	74.88	0.9102	-0.3226	0.0028	0.5649	0.1104	-4.3545	0.1737	-0.4557	0.1064
1	74.88	0.9734	-0.3082	0.0029	0.6944	0.1216	-5.0501	0.1911	-0.6083	0.1121

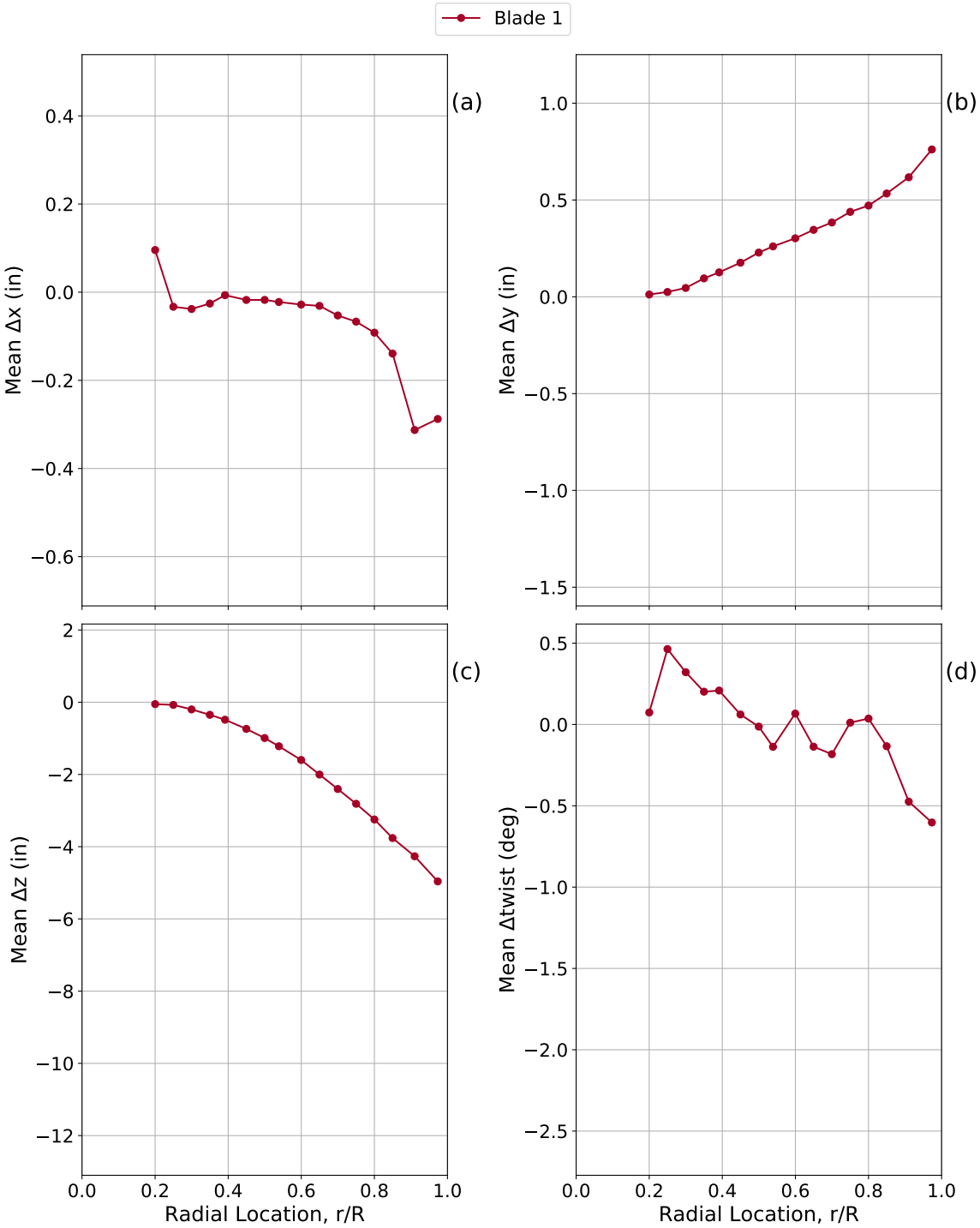


Figure 4.1-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0957	0.0043	0.0119	0.0069	-0.0517	0.0123	0.0737	0.0697
1	80.16	0.2499	-0.0331	0.0025	0.0249	0.0069	-0.0736	0.0115	0.4636	0.1911
1	80.16	0.2998	-0.0381	0.0021	0.0456	0.0239	-0.1989	0.0410	0.3214	0.1941
1	80.16	0.3498	-0.0257	0.0025	0.0952	0.0410	-0.3482	0.0717	0.2015	0.1876
1	80.16	0.3913	-0.0067	0.0024	0.1262	0.0554	-0.4843	0.0952	0.2086	0.1855
1	80.16	0.4496	-0.0176	0.0024	0.1762	0.0756	-0.7379	0.1296	0.0614	0.1841
1	80.16	0.4997	-0.0175	0.0026	0.2284	0.0926	-0.9909	0.1586	-0.0132	0.1891
1	80.16	0.5387	-0.0223	0.0026	0.2603	0.1066	-1.2196	0.1823	-0.1375	0.1864
1	80.16	0.5996	-0.0281	0.0029	0.3022	0.1274	-1.5992	0.2189	0.0671	0.1880
1	80.16	0.6498	-0.0310	0.0033	0.3458	0.1453	-2.0026	0.2505	-0.1367	0.1823
1	80.16	0.6998	-0.0528	0.0031	0.3837	0.1629	-2.4025	0.2796	-0.1826	0.1945
1	80.16	0.7500	-0.0668	0.0049	0.4386	0.1808	-2.8120	0.3103	0.0113	0.1880
1	80.16	0.8001	-0.0918	0.0048	0.4713	0.1996	-3.2471	0.3398	0.0363	0.1995
1	80.16	0.8497	-0.1392	0.0039	0.5335	0.2166	-3.7609	0.3659	-0.1339	0.2077
1	80.16	0.9102	-0.3127	0.0042	0.6173	0.2381	-4.2656	0.4003	-0.4743	0.1906
1	80.16	0.9734	-0.2876	0.0036	0.7610	0.2611	-4.9614	0.4358	-0.6027	0.1798

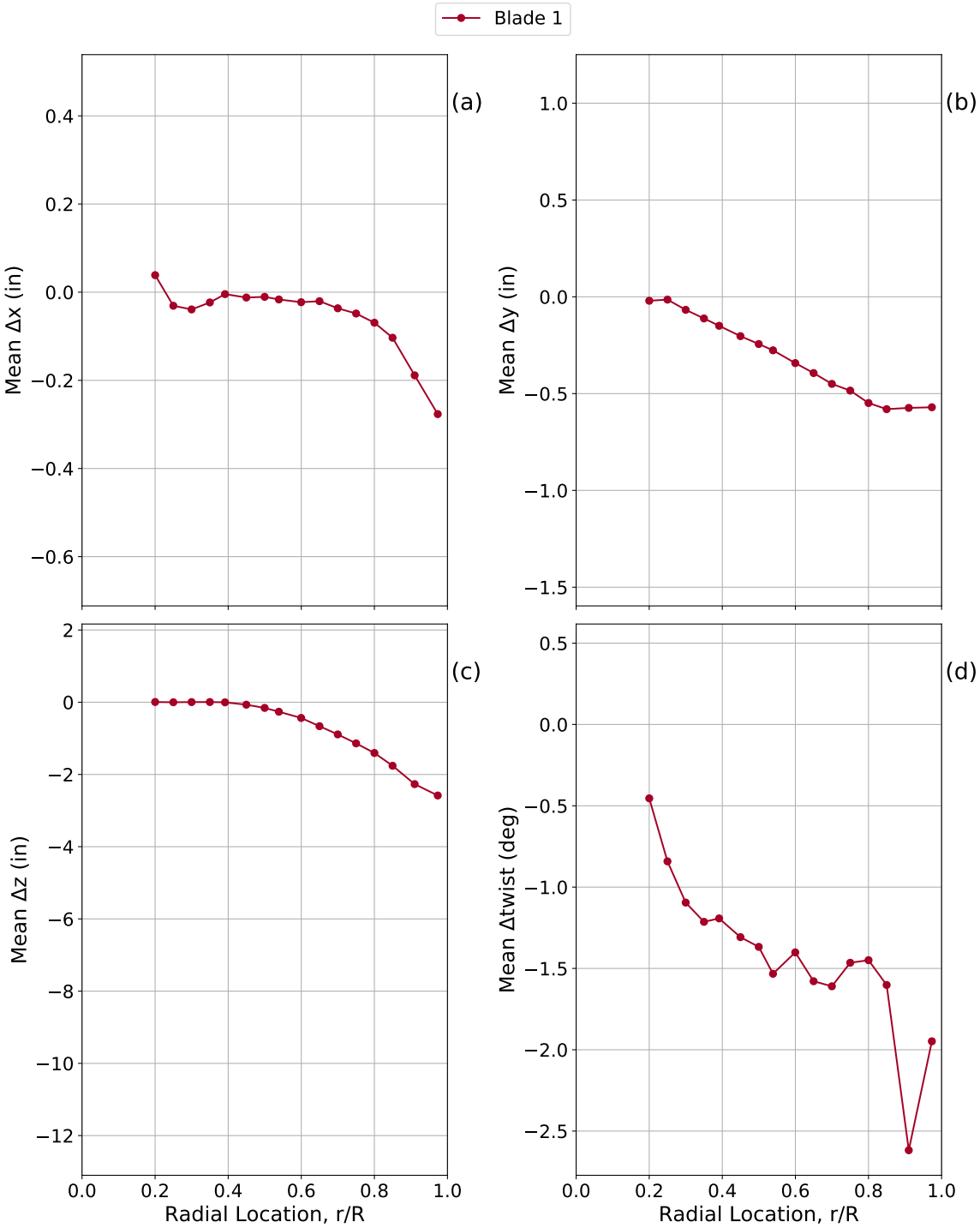


Figure 4.1-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0387	0.0030	-0.0204	0.0016	0.0064	0.0028	-0.4543	0.0183
1	85.08	0.2499	-0.0308	0.0013	-0.0145	0.0020	-0.0008	0.0046	-0.8416	0.0397
1	85.08	0.2998	-0.0391	0.0011	-0.0672	0.0052	0.0042	0.0088	-1.0950	0.0397
1	85.08	0.3498	-0.0233	0.0013	-0.1118	0.0089	0.0056	0.0144	-1.2135	0.0401
1	85.08	0.3913	-0.0044	0.0014	-0.1497	0.0120	-0.0029	0.0200	-1.1925	0.0349
1	85.08	0.4496	-0.0121	0.0014	-0.2032	0.0160	-0.0680	0.0269	-1.3077	0.0350
1	85.08	0.4997	-0.0106	0.0013	-0.2439	0.0193	-0.1570	0.0325	-1.3674	0.0386
1	85.08	0.5387	-0.0165	0.0013	-0.2763	0.0226	-0.2629	0.0378	-1.5329	0.0376
1	85.08	0.5996	-0.0227	0.0019	-0.3423	0.0270	-0.4352	0.0454	-1.4013	0.0368
1	85.08	0.6498	-0.0204	0.0015	-0.3938	0.0316	-0.6631	0.0527	-1.5787	0.0333
1	85.08	0.6998	-0.0365	0.0011	-0.4498	0.0367	-0.8908	0.0611	-1.6098	0.0453
1	85.08	0.7500	-0.0484	0.0018	-0.4845	0.0419	-1.1389	0.0671	-1.4651	0.0391
1	85.08	0.8001	-0.0692	0.0023	-0.5486	0.0447	-1.4052	0.0740	-1.4493	0.0707
1	85.08	0.8497	-0.1033	0.0024	-0.5803	0.0503	-1.7589	0.0817	-1.6017	0.0517
1	85.08	0.9102	-0.1886	0.0044	-0.5738	0.0564	-2.2677	0.0914	-2.6178	0.0322
1	85.08	0.9734	-0.2766	0.0031	-0.5705	0.0627	-2.5823	0.0975	-1.9480	0.0303

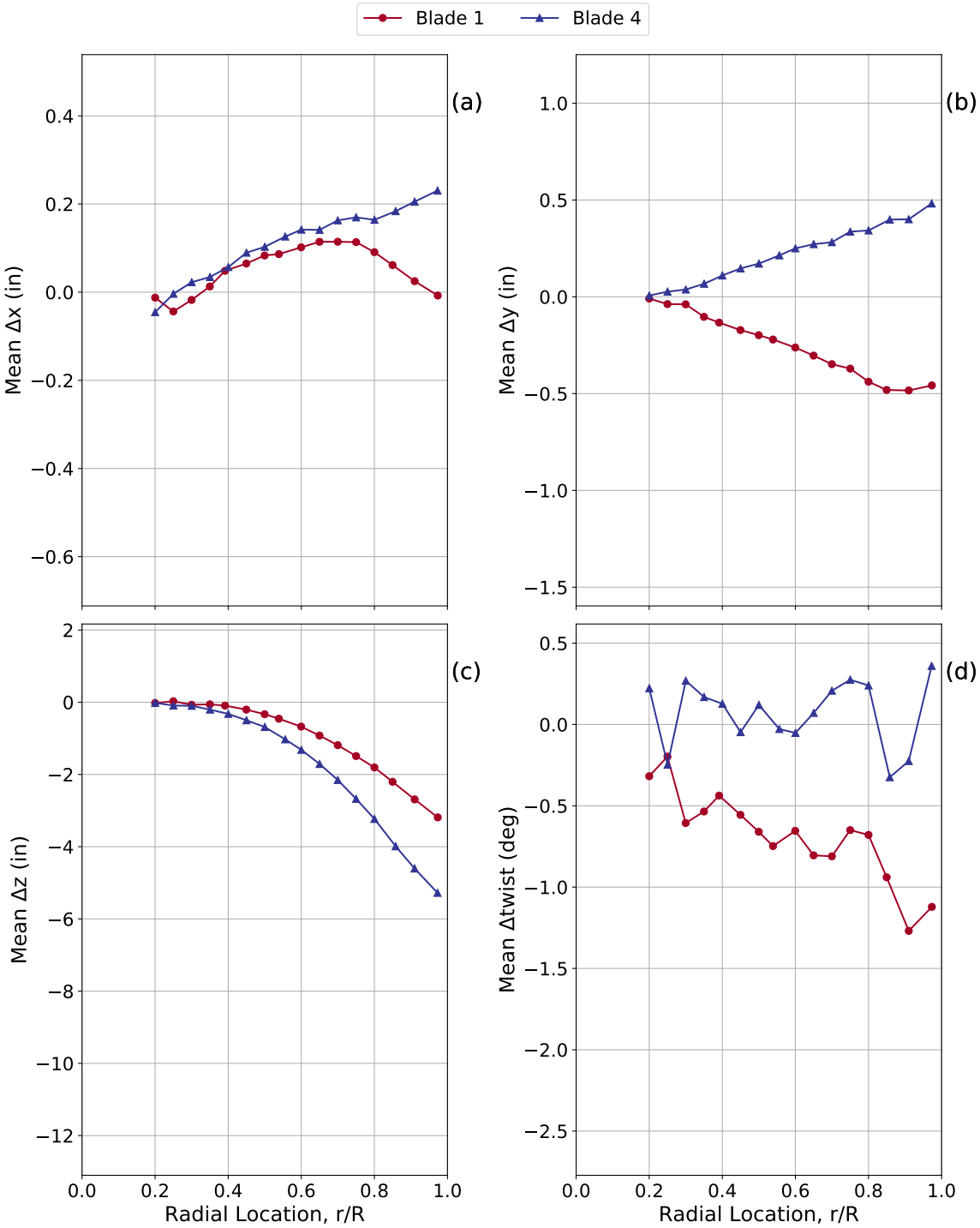


Figure 4.1-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0124	0.0014	-0.0092	0.0011	-0.0221	0.0018	-0.3181	0.0252
1	90	0.2499	-0.0437	0.0013	-0.0377	0.0020	0.0272	0.0036	-0.1973	0.0439
1	90	0.2998	-0.0176	0.0010	-0.0388	0.0038	-0.0705	0.0060	-0.6061	0.0578
1	90	0.3498	0.0130	0.0017	-0.1034	0.0067	-0.0588	0.0109	-0.5351	0.0492
1	90	0.3913	0.0485	0.0017	-0.1333	0.0093	-0.0933	0.0151	-0.4373	0.0493
1	90	0.4496	0.0650	0.0016	-0.1718	0.0112	-0.2042	0.0180	-0.5556	0.0510
1	90	0.4997	0.0833	0.0019	-0.1982	0.0144	-0.3318	0.0227	-0.6597	0.0342
1	90	0.5387	0.0864	0.0020	-0.2207	0.0165	-0.4565	0.0256	-0.7477	0.0517
1	90	0.5996	0.1018	0.0020	-0.2620	0.0199	-0.6763	0.0323	-0.6539	0.0448
1	90	0.6498	0.1143	0.0029	-0.3037	0.0223	-0.9231	0.0359	-0.8046	0.0444
1	90	0.6998	0.1144	0.0027	-0.3480	0.0250	-1.1892	0.0395	-0.8106	0.0445
1	90	0.7500	0.1136	0.0032	-0.3709	0.0285	-1.4911	0.0448	-0.6495	0.0375
1	90	0.8001	0.0908	0.0028	-0.4386	0.0315	-1.8053	0.0514	-0.6790	0.0606
1	90	0.8497	0.0615	0.0031	-0.4812	0.0345	-2.2034	0.0531	-0.9397	0.0831
1	90	0.9102	0.0250	0.0090	-0.4838	0.0358	-2.6914	0.0607	-1.2692	0.2299
1	90	0.9734	-0.0076	0.0065	-0.4576	0.0427	-3.1889	0.0689	-1.1215	0.1378
4	90.35	0.2001	-0.0453	0.0006	0.0064	0.0004	-0.0172	0.0011	0.2225	0.0133
4	90.35	0.2502	-0.0037	0.0008	0.0267	0.0020	-0.0919	0.0034	-0.2476	0.0315
4	90.35	0.3001	0.0227	0.0009	0.0375	0.0015	-0.0996	0.0040	0.2690	0.0318
4	90.35	0.3502	0.0344	0.0010	0.0672	0.0032	-0.2047	0.0073	0.1685	0.0304
4	90.35	0.4002	0.0570	0.0011	0.1100	0.0047	-0.3225	0.0112	0.1273	0.0375
4	90.35	0.4500	0.0896	0.0015	0.1466	0.0057	-0.4998	0.0135	-0.0474	0.0355
4	90.35	0.5001	0.1029	0.0016	0.1714	0.0071	-0.6861	0.0203	0.1202	0.0282
4	90.35	0.5560	0.1262	0.0018	0.2139	0.0089	-1.0278	0.0256	-0.0281	0.0365
4	90.35	0.6001	0.1418	0.0023	0.2502	0.0107	-1.3184	0.0297	-0.0520	0.0435
4	90.35	0.6501	0.1414	0.0018	0.2717	0.0131	-1.7099	0.0367	0.0709	0.0399
4	90.35	0.6999	0.1629	0.0024	0.2819	0.0155	-2.1545	0.0414	0.2075	0.0430
4	90.35	0.7500	0.1698	0.0028	0.3364	0.0178	-2.6756	0.0472	0.2750	0.0438
4	90.35	0.8002	0.1642	0.0032	0.3426	0.0206	-3.2316	0.0546	0.2395	0.0426
4	90.35	0.8582	0.1838	0.0034	0.3987	0.0241	-3.9888	0.0595	-0.3247	0.0689
4	90.35	0.9101	0.2053	0.0059	0.4004	0.0259	-4.6044	0.0636	-0.2250	0.0705
4	90.35	0.9728	0.2305	0.0036	0.4817	0.0310	-5.2792	0.0797	0.3600	0.0835

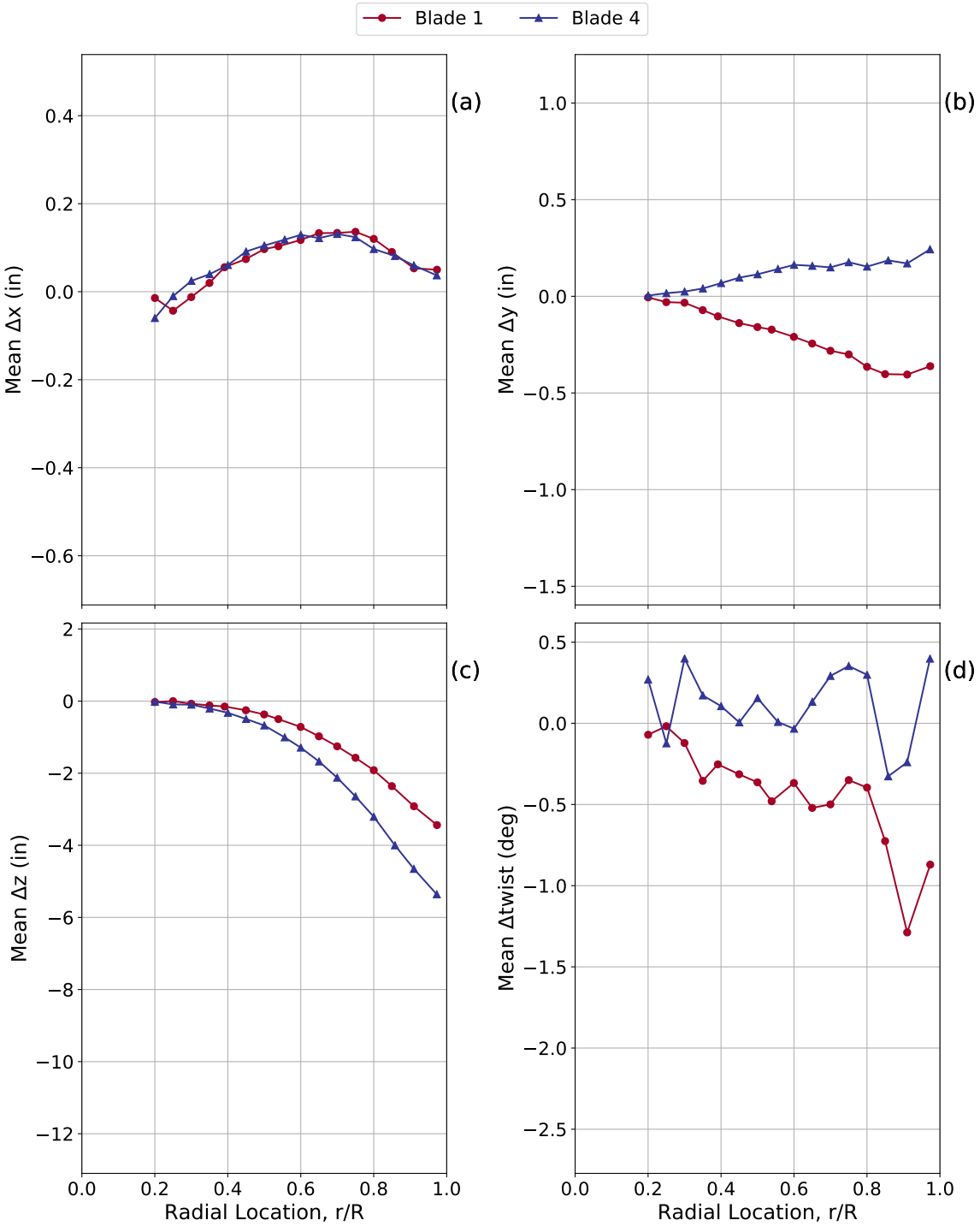


Figure 4.1-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.052, μ = 0.15, α = -0° NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0143	0.0010	-0.0055	0.0006	-0.0256	0.0011	-0.0706	0.0196
1	94.92	0.2499	-0.0432	0.0008	-0.0302	0.0012	-0.0005	0.0029	-0.0181	0.0388
1	94.92	0.2998	-0.0122	0.0013	-0.0331	0.0026	-0.0731	0.0039	-0.1215	0.0458
1	94.92	0.3498	0.0199	0.0011	-0.0714	0.0040	-0.1211	0.0073	-0.3544	0.0355
1	94.92	0.3913	0.0557	0.0018	-0.1037	0.0060	-0.1510	0.0101	-0.2527	0.0345
1	94.92	0.4496	0.0742	0.0019	-0.1385	0.0072	-0.2543	0.0132	-0.3140	0.0353
1	94.92	0.4997	0.0968	0.0019	-0.1590	0.0089	-0.3707	0.0158	-0.3636	0.0424
1	94.92	0.5387	0.1033	0.0020	-0.1723	0.0099	-0.4999	0.0195	-0.4802	0.0363
1	94.92	0.5996	0.1175	0.0022	-0.2097	0.0126	-0.7165	0.0236	-0.3677	0.0415
1	94.92	0.6498	0.1331	0.0022	-0.2443	0.0140	-0.9772	0.0272	-0.5211	0.0440
1	94.92	0.6998	0.1336	0.0029	-0.2816	0.0161	-1.2549	0.0335	-0.4993	0.0402
1	94.92	0.7500	0.1362	0.0036	-0.3006	0.0180	-1.5722	0.0388	-0.3499	0.0369
1	94.92	0.8001	0.1200	0.0028	-0.3648	0.0189	-1.9171	0.0430	-0.3959	0.0523
1	94.92	0.8497	0.0903	0.0035	-0.4025	0.0212	-2.3587	0.0468	-0.7255	0.0607
1	94.92	0.9102	0.0532	0.0036	-0.4048	0.0229	-2.9170	0.0555	-1.2880	0.1058
1	94.92	0.9734	0.0500	0.0039	-0.3615	0.0272	-3.4384	0.0701	-0.8704	0.0768
4	94.92	0.2001	-0.0598	0.0009	0.0040	0.0005	-0.0164	0.0016	0.2695	0.0138
4	94.92	0.2502	-0.0100	0.0006	0.0161	0.0015	-0.0931	0.0036	-0.1239	0.0198
4	94.92	0.3001	0.0247	0.0009	0.0245	0.0027	-0.0984	0.0062	0.3986	0.0292
4	94.92	0.3502	0.0398	0.0007	0.0405	0.0037	-0.2066	0.0103	0.1714	0.0229
4	94.92	0.4002	0.0606	0.0013	0.0684	0.0067	-0.3248	0.0161	0.1054	0.0280
4	94.92	0.4500	0.0913	0.0011	0.0967	0.0082	-0.4965	0.0224	0.0057	0.0231
4	94.92	0.5001	0.1050	0.0014	0.1139	0.0097	-0.6763	0.0262	0.1548	0.0259
4	94.92	0.5560	0.1183	0.0018	0.1411	0.0124	-1.0063	0.0327	0.0079	0.0321
4	94.92	0.6001	0.1293	0.0019	0.1628	0.0144	-1.2919	0.0368	-0.0336	0.0242
4	94.92	0.6501	0.1218	0.0021	0.1576	0.0165	-1.6753	0.0405	0.1325	0.0323
4	94.92	0.6999	0.1312	0.0026	0.1496	0.0185	-2.1247	0.0453	0.2917	0.0349
4	94.92	0.7500	0.1238	0.0030	0.1763	0.0224	-2.6446	0.0511	0.3526	0.0332
4	94.92	0.8002	0.0970	0.0027	0.1537	0.0247	-3.2086	0.0579	0.2988	0.0366
4	94.92	0.8582	0.0811	0.0023	0.1858	0.0289	-4.0014	0.0645	-0.3267	0.0446
4	94.92	0.9101	0.0597	0.0027	0.1701	0.0317	-4.6546	0.0708	-0.2400	0.0477
4	94.92	0.9728	0.0371	0.0044	0.2430	0.0361	-5.3590	0.0792	0.3979	0.0667

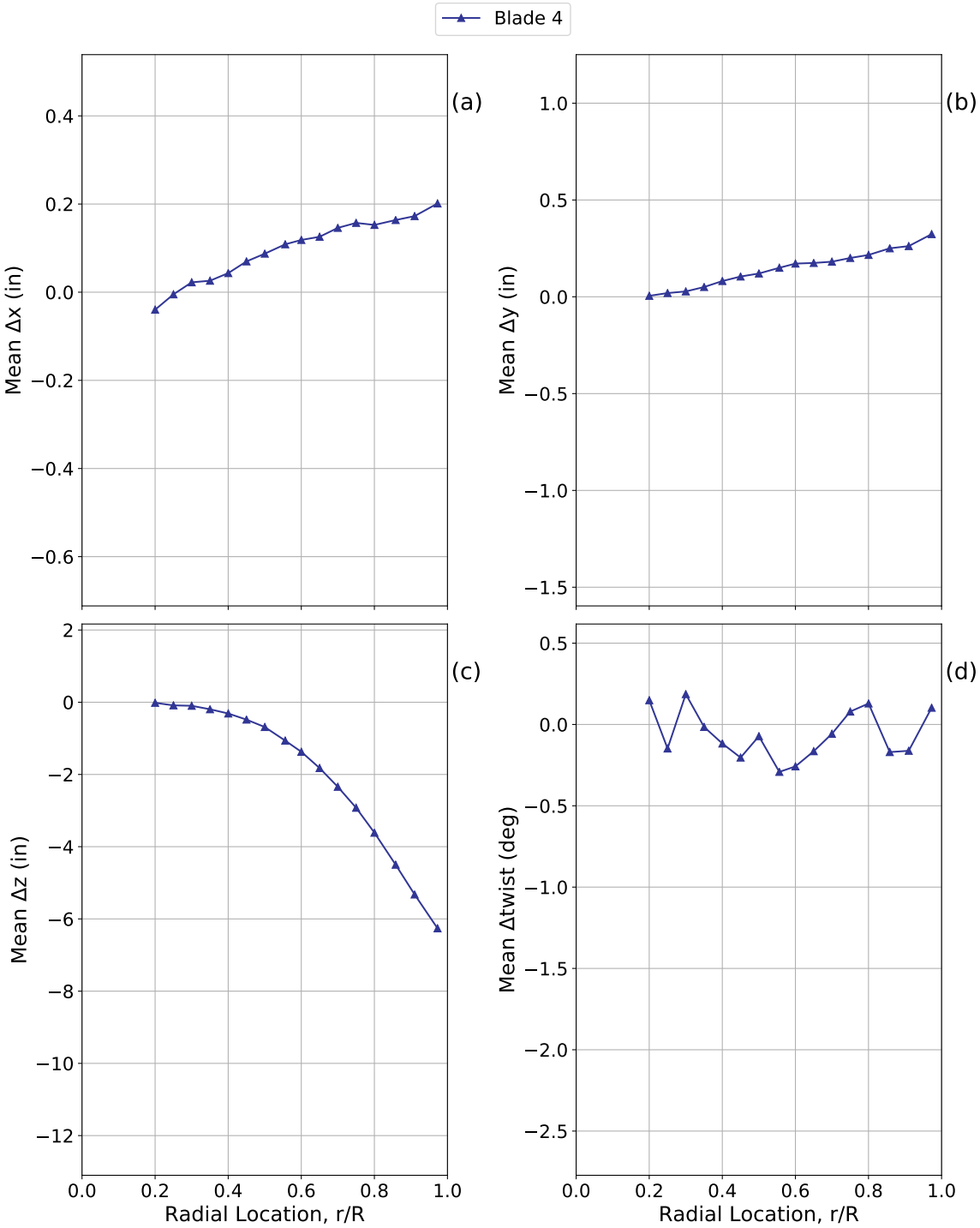


Figure 4.1-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0397	0.0012	0.0050	0.0003	-0.0162	0.0013	0.1489	0.0132
4	105.12	0.2502	-0.0049	0.0008	0.0193	0.0015	-0.0871	0.0023	-0.1479	0.0238
4	105.12	0.3001	0.0224	0.0006	0.0277	0.0017	-0.0986	0.0047	0.1864	0.0297
4	105.12	0.3502	0.0260	0.0008	0.0505	0.0036	-0.1947	0.0079	-0.0154	0.0276
4	105.12	0.4002	0.0433	0.0010	0.0813	0.0055	-0.3122	0.0119	-0.1173	0.0236
4	105.12	0.4500	0.0698	0.0017	0.1047	0.0065	-0.4812	0.0150	-0.2037	0.0301
4	105.12	0.5001	0.0874	0.0016	0.1203	0.0080	-0.6866	0.0200	-0.0723	0.0269
4	105.12	0.5560	0.1086	0.0019	0.1498	0.0105	-1.0632	0.0248	-0.2916	0.0292
4	105.12	0.6001	0.1185	0.0018	0.1715	0.0124	-1.3730	0.0305	-0.2578	0.0212
4	105.12	0.6501	0.1257	0.0021	0.1747	0.0143	-1.8230	0.0345	-0.1645	0.0268
4	105.12	0.6999	0.1459	0.0018	0.1813	0.0166	-2.3421	0.0377	-0.0574	0.0234
4	105.12	0.7500	0.1572	0.0022	0.2005	0.0186	-2.9226	0.0409	0.0793	0.0311
4	105.12	0.8002	0.1526	0.0021	0.2162	0.0210	-3.6140	0.0441	0.1290	0.0241
4	105.12	0.8582	0.1637	0.0022	0.2504	0.0240	-4.4998	0.0500	-0.1698	0.0267
4	105.12	0.9101	0.1726	0.0022	0.2618	0.0268	-5.3242	0.0540	-0.1619	0.0241
4	105.12	0.9728	0.2013	0.0023	0.3236	0.0299	-6.2611	0.0589	0.1027	0.0257

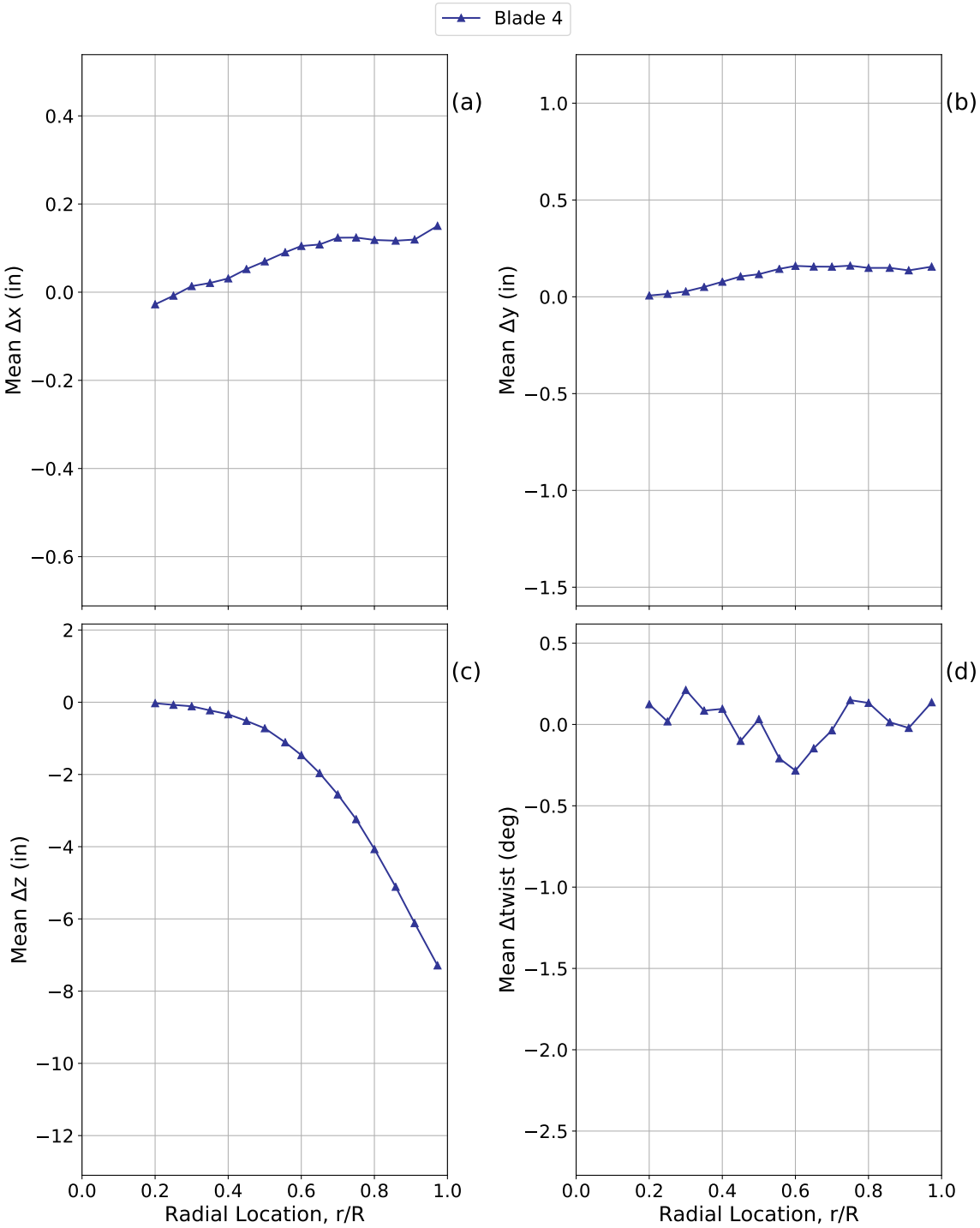


Figure 4.1-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0276	0.0007	0.0066	0.0005	-0.0280	0.0015	0.1242	0.0166
4	119.88	0.2502	-0.0080	0.0009	0.0149	0.0012	-0.0733	0.0030	0.0183	0.0237
4	119.88	0.3001	0.0137	0.0008	0.0277	0.0025	-0.1121	0.0057	0.2120	0.0336
4	119.88	0.3502	0.0209	0.0008	0.0508	0.0039	-0.2259	0.0087	0.0850	0.0300
4	119.88	0.4002	0.0312	0.0013	0.0776	0.0064	-0.3344	0.0140	0.0959	0.0266
4	119.88	0.4500	0.0524	0.0009	0.1051	0.0073	-0.5170	0.0167	-0.1011	0.0238
4	119.88	0.5001	0.0698	0.0012	0.1167	0.0092	-0.7214	0.0205	0.0321	0.0262
4	119.88	0.5560	0.0904	0.0014	0.1441	0.0109	-1.1105	0.0254	-0.2086	0.0295
4	119.88	0.6001	0.1048	0.0014	0.1596	0.0123	-1.4649	0.0301	-0.2834	0.0342
4	119.88	0.6501	0.1082	0.0018	0.1559	0.0139	-1.9636	0.0363	-0.1469	0.0303
4	119.88	0.6999	0.1236	0.0020	0.1554	0.0164	-2.5552	0.0427	-0.0362	0.0345
4	119.88	0.7500	0.1239	0.0022	0.1608	0.0188	-3.2397	0.0507	0.1496	0.0311
4	119.88	0.8002	0.1185	0.0024	0.1492	0.0208	-4.0689	0.0576	0.1325	0.0300
4	119.88	0.8582	0.1168	0.0020	0.1494	0.0235	-5.1116	0.0646	0.0140	0.0308
4	119.88	0.9101	0.1194	0.0024	0.1364	0.0257	-6.1172	0.0706	-0.0216	0.0318
4	119.88	0.9728	0.1504	0.0029	0.1555	0.0292	-7.2894	0.0794	0.1361	0.0292

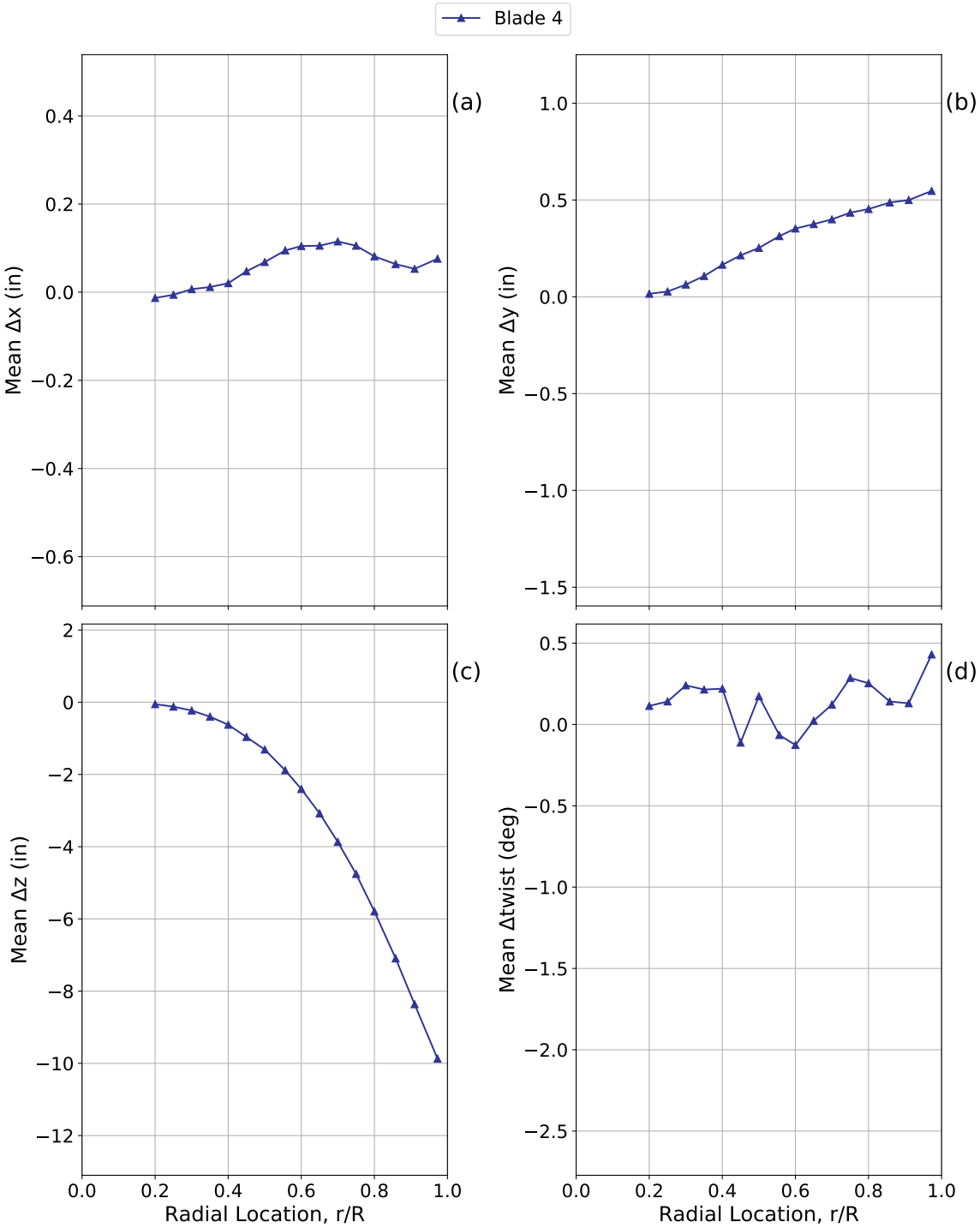


Figure 4.1-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0131	0.0009	0.0156	0.0003	-0.0537	0.0010	0.1138	0.0126
4	135	0.2502	-0.0059	0.0007	0.0271	0.0013	-0.1228	0.0029	0.1414	0.0193
4	135	0.3001	0.0068	0.0008	0.0631	0.0017	-0.2300	0.0035	0.2404	0.0265
4	135	0.3502	0.0117	0.0007	0.1071	0.0027	-0.4004	0.0064	0.2146	0.0235
4	135	0.4002	0.0204	0.0011	0.1654	0.0048	-0.6243	0.0098	0.2200	0.0249
4	135	0.4500	0.0474	0.0015	0.2140	0.0060	-0.9631	0.0139	-0.1118	0.0250
4	135	0.5001	0.0684	0.0013	0.2525	0.0072	-1.3107	0.0180	0.1730	0.0215
4	135	0.5560	0.0947	0.0020	0.3131	0.0091	-1.8864	0.0236	-0.0650	0.0190
4	135	0.6001	0.1046	0.0024	0.3526	0.0106	-2.4037	0.0275	-0.1263	0.0344
4	135	0.6501	0.1055	0.0022	0.3754	0.0123	-3.0789	0.0312	0.0228	0.0305
4	135	0.6999	0.1150	0.0020	0.4000	0.0140	-3.8687	0.0355	0.1220	0.0279
4	135	0.7500	0.1054	0.0024	0.4344	0.0157	-4.7559	0.0400	0.2860	0.0251
4	135	0.8002	0.0813	0.0023	0.4532	0.0179	-5.7941	0.0451	0.2532	0.0299
4	135	0.8582	0.0636	0.0026	0.4869	0.0207	-7.0951	0.0525	0.1412	0.0234
4	135	0.9101	0.0530	0.0033	0.4997	0.0231	-8.3624	0.0595	0.1302	0.0289
4	135	0.9728	0.0758	0.0035	0.5467	0.0256	-9.8712	0.0686	0.4302	0.0283

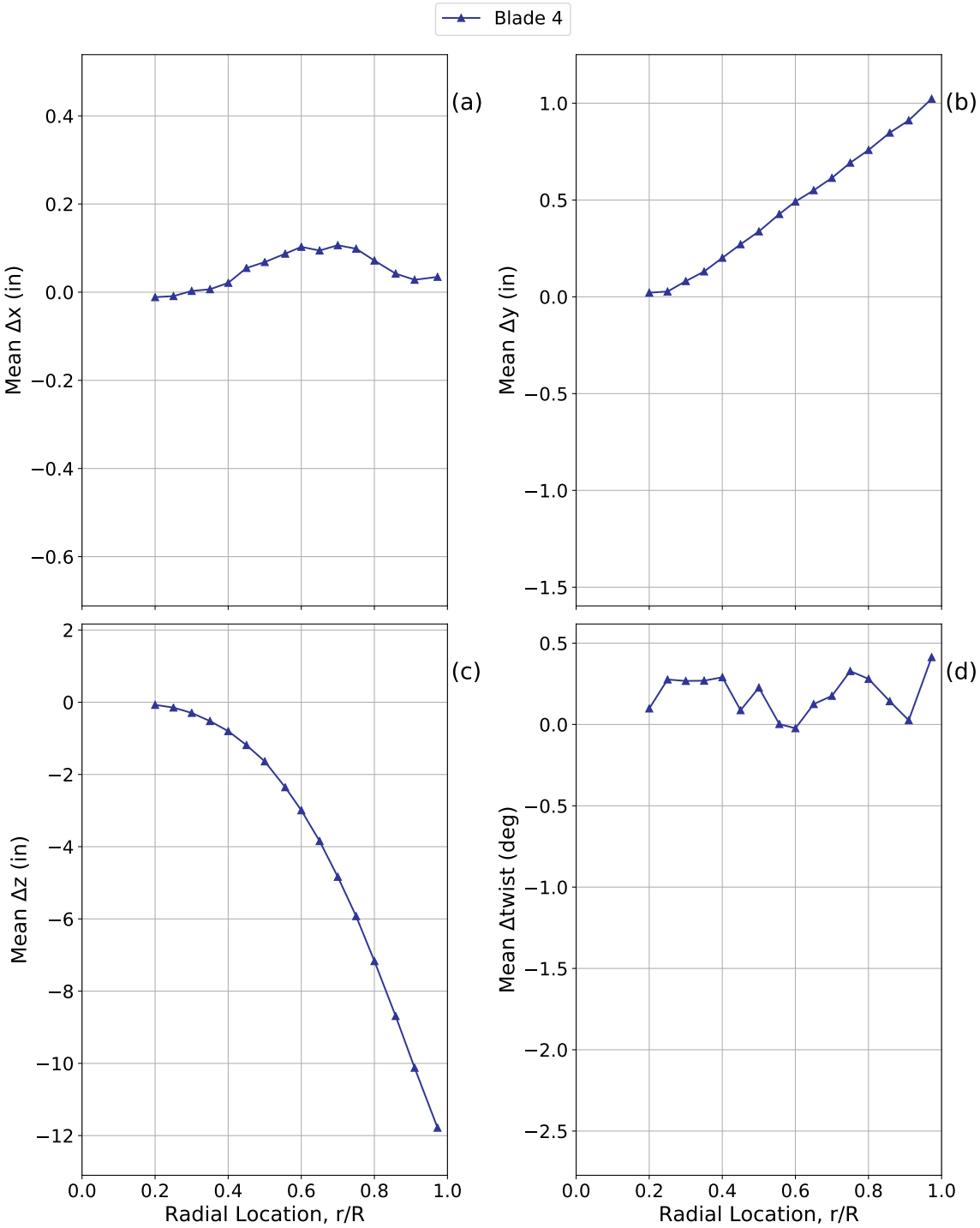


Figure 4.1-16. 150° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0113	0.0006	0.0213	0.0006	-0.0731	0.0009	0.0982	0.0130
4	150.12	0.2502	-0.0089	0.0013	0.0272	0.0027	-0.1481	0.0028	0.2764	0.0220
4	150.12	0.3001	0.0028	0.0012	0.0809	0.0031	-0.2966	0.0046	0.2675	0.0286
4	150.12	0.3502	0.0066	0.0011	0.1307	0.0062	-0.5221	0.0069	0.2692	0.0311
4	150.12	0.4002	0.0212	0.0010	0.2013	0.0096	-0.8009	0.0119	0.2903	0.0228
4	150.12	0.4500	0.0549	0.0018	0.2712	0.0114	-1.1875	0.0133	0.0875	0.0195
4	150.12	0.5001	0.0683	0.0020	0.3376	0.0147	-1.6390	0.0154	0.2263	0.0307
4	150.12	0.5560	0.0873	0.0018	0.4272	0.0161	-2.3545	0.0188	0.0024	0.0223
4	150.12	0.6001	0.1028	0.0019	0.4920	0.0176	-2.9933	0.0195	-0.0234	0.0294
4	150.12	0.6501	0.0945	0.0018	0.5502	0.0207	-3.8452	0.0237	0.1253	0.0330
4	150.12	0.6999	0.1065	0.0021	0.6140	0.0240	-4.8346	0.0257	0.1758	0.0307
4	150.12	0.7500	0.0986	0.0022	0.6921	0.0264	-5.9241	0.0279	0.3279	0.0291
4	150.12	0.8002	0.0717	0.0021	0.7582	0.0299	-7.1699	0.0306	0.2803	0.0324
4	150.12	0.8582	0.0421	0.0030	0.8473	0.0330	-8.6899	0.0341	0.1429	0.0315
4	150.12	0.9101	0.0281	0.0030	0.9110	0.0371	-10.1223	0.0379	0.0258	0.0321
4	150.12	0.9728	0.0347	0.0040	1.0226	0.0409	-11.7832	0.0433	0.4137	0.0307

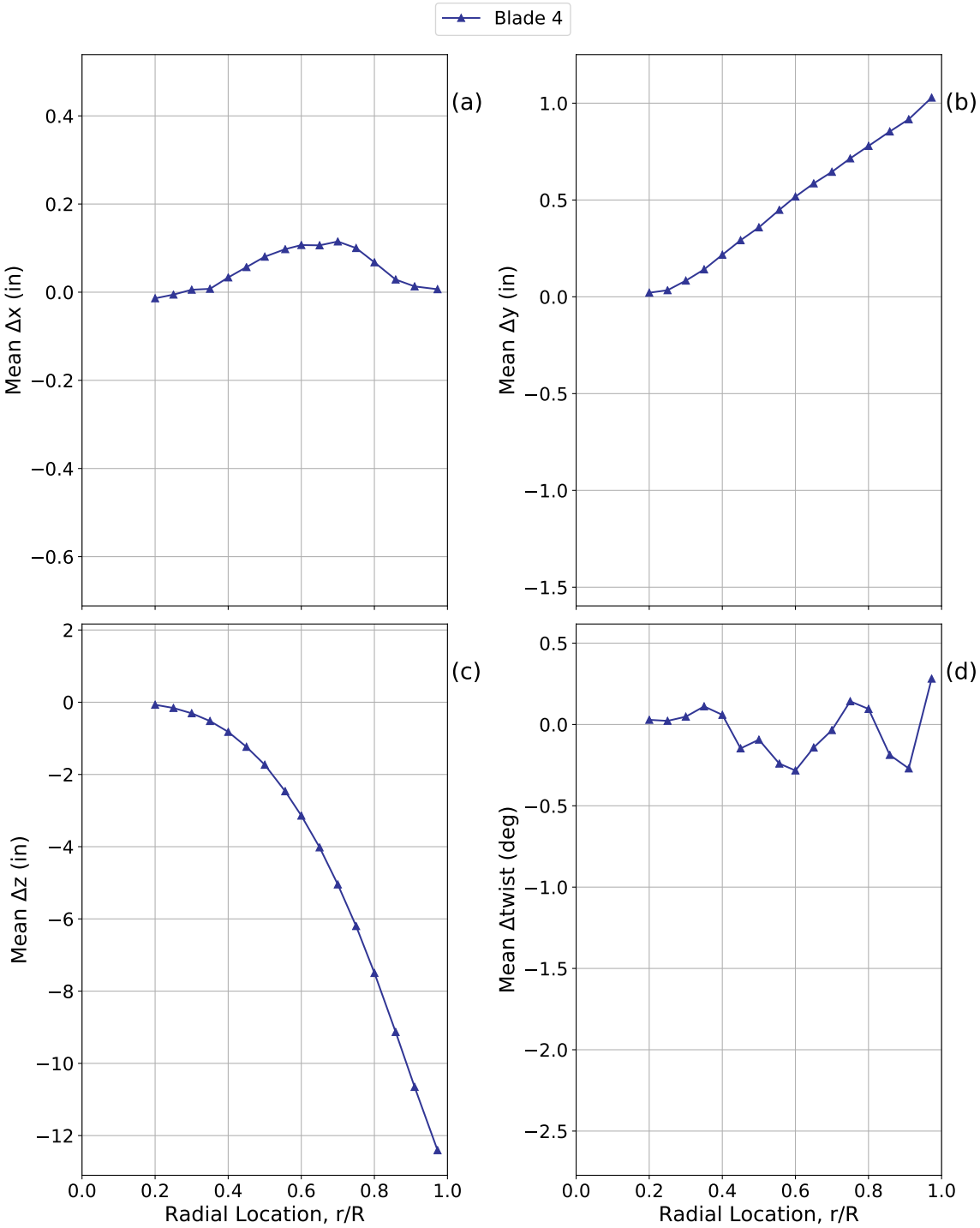


Figure 4.1-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0139	0.0008	0.0211	0.0005	-0.0701	0.0009	0.0285	0.0124
4	164.88	0.2502	-0.0055	0.0013	0.0339	0.0015	-0.1591	0.0019	0.0221	0.0176
4	164.88	0.3001	0.0056	0.0009	0.0834	0.0021	-0.3064	0.0035	0.0479	0.0261
4	164.88	0.3502	0.0076	0.0008	0.1414	0.0029	-0.5212	0.0056	0.1111	0.0270
4	164.88	0.4002	0.0335	0.0010	0.2171	0.0053	-0.8214	0.0087	0.0591	0.0278
4	164.88	0.4500	0.0569	0.0012	0.2920	0.0069	-1.2362	0.0100	-0.1473	0.0310
4	164.88	0.5001	0.0805	0.0014	0.3585	0.0089	-1.7324	0.0144	-0.0934	0.0196
4	164.88	0.5560	0.0976	0.0016	0.4489	0.0098	-2.4664	0.0154	-0.2408	0.0279
4	164.88	0.6001	0.1069	0.0014	0.5174	0.0119	-3.1408	0.0182	-0.2830	0.0292
4	164.88	0.6501	0.1063	0.0020	0.5856	0.0128	-4.0194	0.0202	-0.1419	0.0350
4	164.88	0.6999	0.1150	0.0020	0.6453	0.0153	-5.0464	0.0238	-0.0348	0.0282
4	164.88	0.7500	0.1001	0.0028	0.7148	0.0179	-6.1986	0.0276	0.1424	0.0263
4	164.88	0.8002	0.0677	0.0026	0.7792	0.0207	-7.4980	0.0298	0.0953	0.0218
4	164.88	0.8582	0.0287	0.0027	0.8536	0.0226	-9.1318	0.0346	-0.1874	0.0309
4	164.88	0.9101	0.0131	0.0032	0.9168	0.0261	-10.6536	0.0368	-0.2704	0.0267
4	164.88	0.9728	0.0067	0.0035	1.0286	0.0294	-12.4055	0.0414	0.2815	0.0217

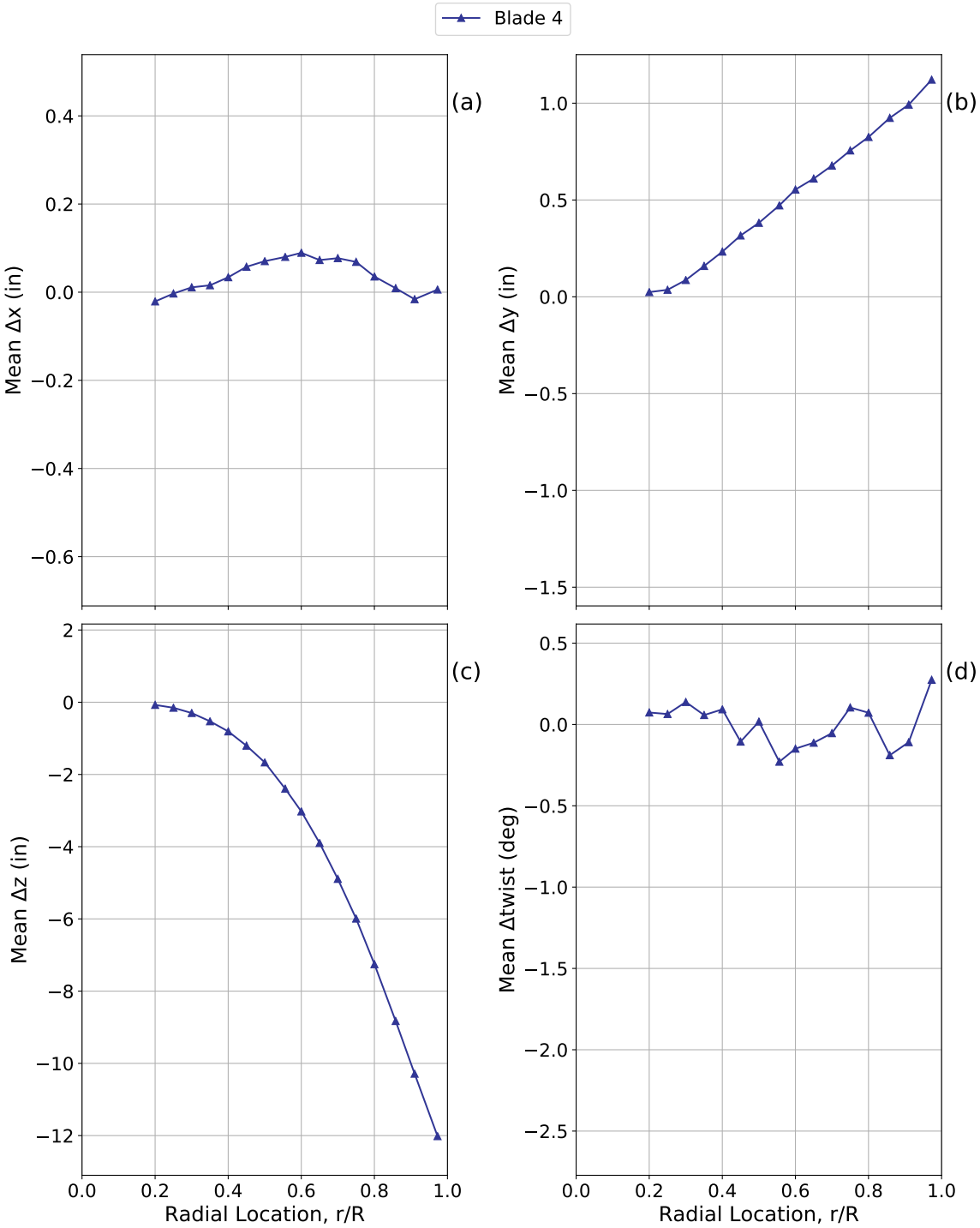


Figure 4.1-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.052, μ = 0.15, α = -0° NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0210	0.0016	0.0242	0.0012	-0.0741	0.0012	0.0735	0.0126
4	170.16	0.2502	-0.0031	0.0015	0.0360	0.0021	-0.1534	0.0035	0.0641	0.0141
4	170.16	0.3001	0.0110	0.0015	0.0865	0.0042	-0.2989	0.0037	0.1381	0.0225
4	170.16	0.3502	0.0156	0.0016	0.1590	0.0071	-0.5277	0.0079	0.0577	0.0228
4	170.16	0.4002	0.0339	0.0022	0.2332	0.0107	-0.8085	0.0111	0.0929	0.0208
4	170.16	0.4500	0.0576	0.0020	0.3165	0.0130	-1.2037	0.0155	-0.1057	0.0186
4	170.16	0.5001	0.0704	0.0029	0.3817	0.0158	-1.6662	0.0182	0.0175	0.0231
4	170.16	0.5560	0.0800	0.0029	0.4719	0.0194	-2.3954	0.0229	-0.2293	0.0243
4	170.16	0.6001	0.0893	0.0026	0.5539	0.0221	-3.0250	0.0273	-0.1488	0.0225
4	170.16	0.6501	0.0729	0.0033	0.6103	0.0258	-3.8977	0.0309	-0.1125	0.0264
4	170.16	0.6999	0.0772	0.0034	0.6776	0.0310	-4.8925	0.0357	-0.0536	0.0272
4	170.16	0.7500	0.0687	0.0034	0.7557	0.0349	-5.9922	0.0397	0.1042	0.0342
4	170.16	0.8002	0.0355	0.0047	0.8251	0.0377	-7.2549	0.0445	0.0720	0.0303
4	170.16	0.8582	0.0090	0.0073	0.9238	0.0430	-8.8279	0.0515	-0.1892	0.0334
4	170.16	0.9101	-0.0160	0.0064	0.9922	0.0476	-10.2874	0.0589	-0.1091	0.0352
4	170.16	0.9728	0.0059	0.0063	1.1213	0.0513	-12.0163	0.0663	0.2743	0.0650

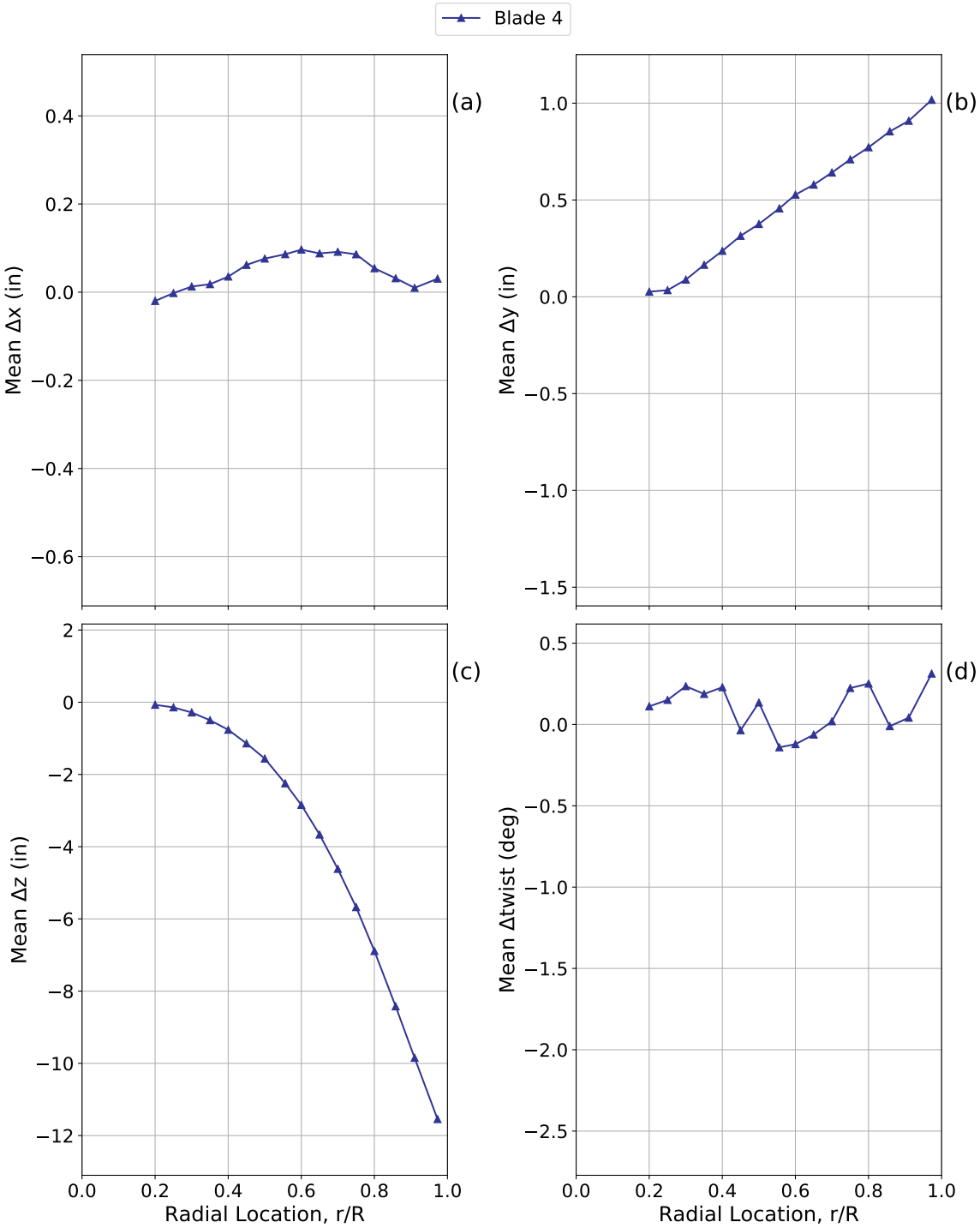


Figure 4.1-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0199	0.0019	0.0262	0.0010	-0.0712	0.0013	0.1112	0.0147
4	175.08	0.2502	-0.0021	0.0012	0.0341	0.0021	-0.1431	0.0024	0.1508	0.0248
4	175.08	0.3001	0.0128	0.0010	0.0884	0.0040	-0.2838	0.0041	0.2353	0.0304
4	175.08	0.3502	0.0181	0.0012	0.1649	0.0066	-0.4985	0.0058	0.1875	0.0252
4	175.08	0.4002	0.0354	0.0018	0.2372	0.0103	-0.7627	0.0089	0.2287	0.0253
4	175.08	0.4500	0.0618	0.0026	0.3147	0.0120	-1.1408	0.0099	-0.0359	0.0214
4	175.08	0.5001	0.0762	0.0025	0.3757	0.0145	-1.5619	0.0123	0.1345	0.0228
4	175.08	0.5560	0.0861	0.0021	0.4564	0.0171	-2.2475	0.0141	-0.1407	0.0295
4	175.08	0.6001	0.0965	0.0020	0.5274	0.0176	-2.8441	0.0164	-0.1212	0.0319
4	175.08	0.6501	0.0880	0.0023	0.5790	0.0193	-3.6653	0.0205	-0.0627	0.0244
4	175.08	0.6999	0.0916	0.0020	0.6416	0.0215	-4.6156	0.0239	0.0192	0.0253
4	175.08	0.7500	0.0859	0.0026	0.7095	0.0235	-5.6747	0.0274	0.2238	0.0330
4	175.08	0.8002	0.0542	0.0027	0.7719	0.0259	-6.8905	0.0331	0.2511	0.0271
4	175.08	0.8582	0.0316	0.0032	0.8540	0.0284	-8.4216	0.0376	-0.0108	0.0264
4	175.08	0.9101	0.0098	0.0050	0.9087	0.0315	-9.8471	0.0405	0.0416	0.0334
4	175.08	0.9728	0.0306	0.0040	1.0170	0.0341	-11.5446	0.0487	0.3126	0.0435

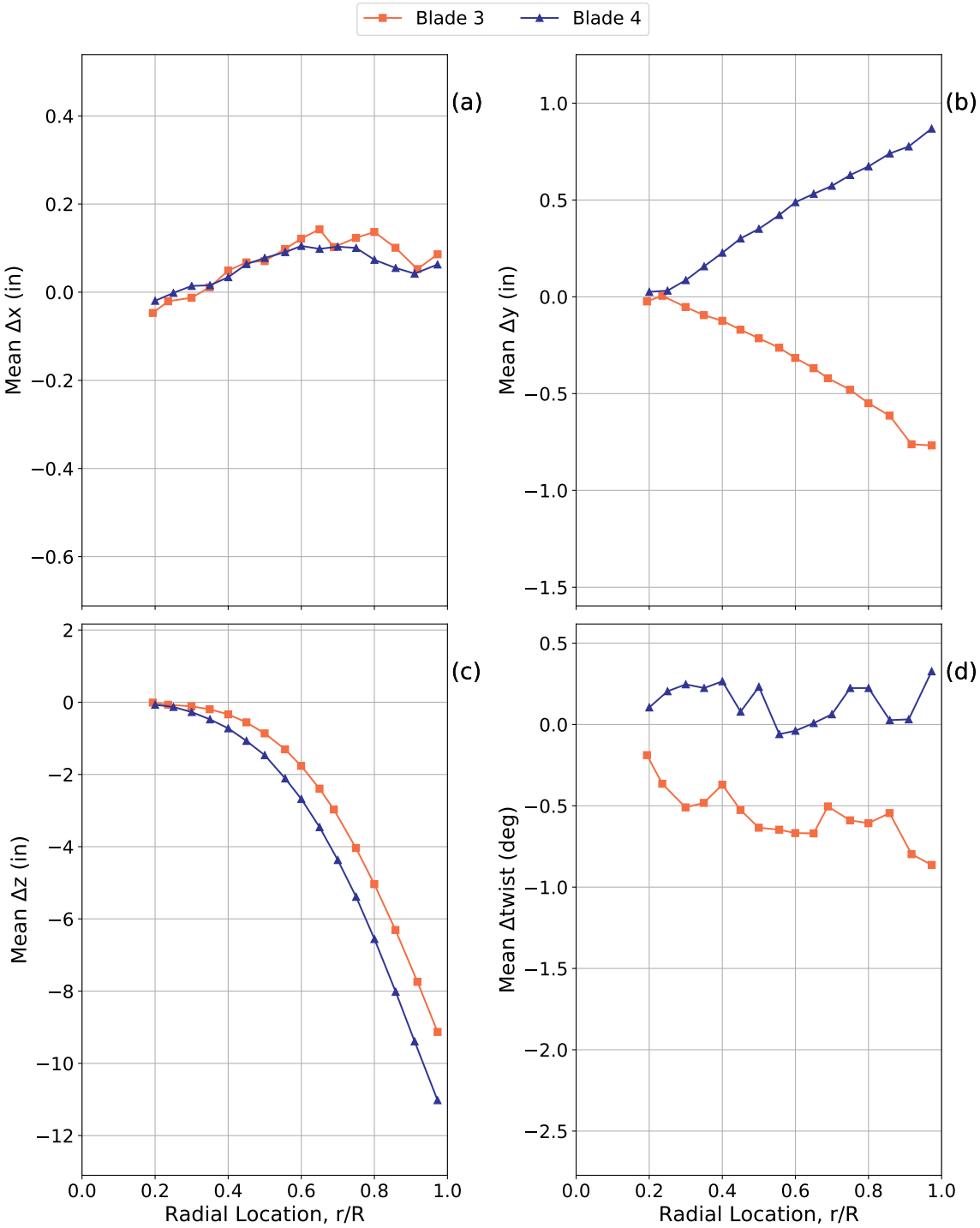


Figure 4.1-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0470	0.0011	-0.0238	0.0010	-0.0094	0.0016	-0.1886	0.0127
3	180.35	0.2357	-0.0206	0.0014	0.0051	0.0017	-0.0692	0.0029	-0.3646	0.0247
3	180.35	0.2995	-0.0126	0.0012	-0.0528	0.0038	-0.1142	0.0063	-0.5100	0.0317
3	180.35	0.3493	0.0110	0.0016	-0.0947	0.0075	-0.1944	0.0112	-0.4820	0.0235
3	180.35	0.4000	0.0491	0.0018	-0.1240	0.0108	-0.3345	0.0171	-0.3704	0.0235
3	180.35	0.4497	0.0676	0.0022	-0.1698	0.0132	-0.5574	0.0216	-0.5258	0.0241
3	180.35	0.4997	0.0707	0.0015	-0.2142	0.0152	-0.8622	0.0280	-0.6347	0.0259
3	180.35	0.5556	0.0980	0.0022	-0.2630	0.0177	-1.3036	0.0328	-0.6470	0.0252
3	180.35	0.5995	0.1214	0.0020	-0.3155	0.0194	-1.7611	0.0381	-0.6677	0.0323
3	180.35	0.6498	0.1426	0.0024	-0.3687	0.0229	-2.3936	0.0445	-0.6695	0.0281
3	180.35	0.6890	0.1024	0.0025	-0.4207	0.0245	-2.9693	0.0479	-0.5040	0.0302
3	180.35	0.7495	0.1232	0.0028	-0.4797	0.0280	-4.0358	0.0545	-0.5895	0.0279
3	180.35	0.7998	0.1366	0.0035	-0.5495	0.0301	-5.0370	0.0596	-0.6070	0.0279
3	180.35	0.8577	0.1008	0.0048	-0.6136	0.0332	-6.3072	0.0689	-0.5448	0.0305
3	180.35	0.9178	0.0524	0.0052	-0.7618	0.0353	-7.7415	0.0769	-0.7975	0.0337
3	180.35	0.9729	0.0860	0.0060	-0.7675	0.0382	-9.1293	0.0843	-0.8636	0.0428
4	180	0.2001	-0.0195	0.0011	0.0253	0.0009	-0.0700	0.0016	0.1047	0.0117
4	180	0.2502	-0.0016	0.0010	0.0318	0.0013	-0.1310	0.0031	0.2042	0.0268
4	180	0.3001	0.0142	0.0008	0.0859	0.0025	-0.2725	0.0055	0.2466	0.0251
4	180	0.3502	0.0157	0.0013	0.1573	0.0032	-0.4748	0.0089	0.2240	0.0227
4	180	0.4002	0.0340	0.0018	0.2274	0.0049	-0.7237	0.0138	0.2652	0.0271
4	180	0.4500	0.0637	0.0020	0.3013	0.0057	-1.0707	0.0191	0.0784	0.0258
4	180	0.5001	0.0777	0.0020	0.3509	0.0062	-1.4672	0.0230	0.2311	0.0323
4	180	0.5560	0.0909	0.0022	0.4223	0.0080	-2.1111	0.0295	-0.0597	0.0285
4	180	0.6001	0.1049	0.0022	0.4885	0.0089	-2.6797	0.0332	-0.0387	0.0293
4	180	0.6501	0.0983	0.0024	0.5318	0.0098	-3.4611	0.0361	0.0084	0.0291
4	180	0.6999	0.1032	0.0031	0.5731	0.0111	-4.3702	0.0388	0.0625	0.0305
4	180	0.7500	0.1004	0.0022	0.6288	0.0137	-5.3892	0.0412	0.2238	0.0319
4	180	0.8002	0.0734	0.0034	0.6736	0.0144	-6.5576	0.0438	0.2239	0.0292
4	180	0.8582	0.0550	0.0030	0.7402	0.0174	-8.0166	0.0487	0.0267	0.0300
4	180	0.9101	0.0421	0.0039	0.7764	0.0182	-9.3915	0.0530	0.0314	0.0362
4	180	0.9728	0.0628	0.0040	0.8685	0.0208	-11.0203	0.0614	0.3267	0.0378

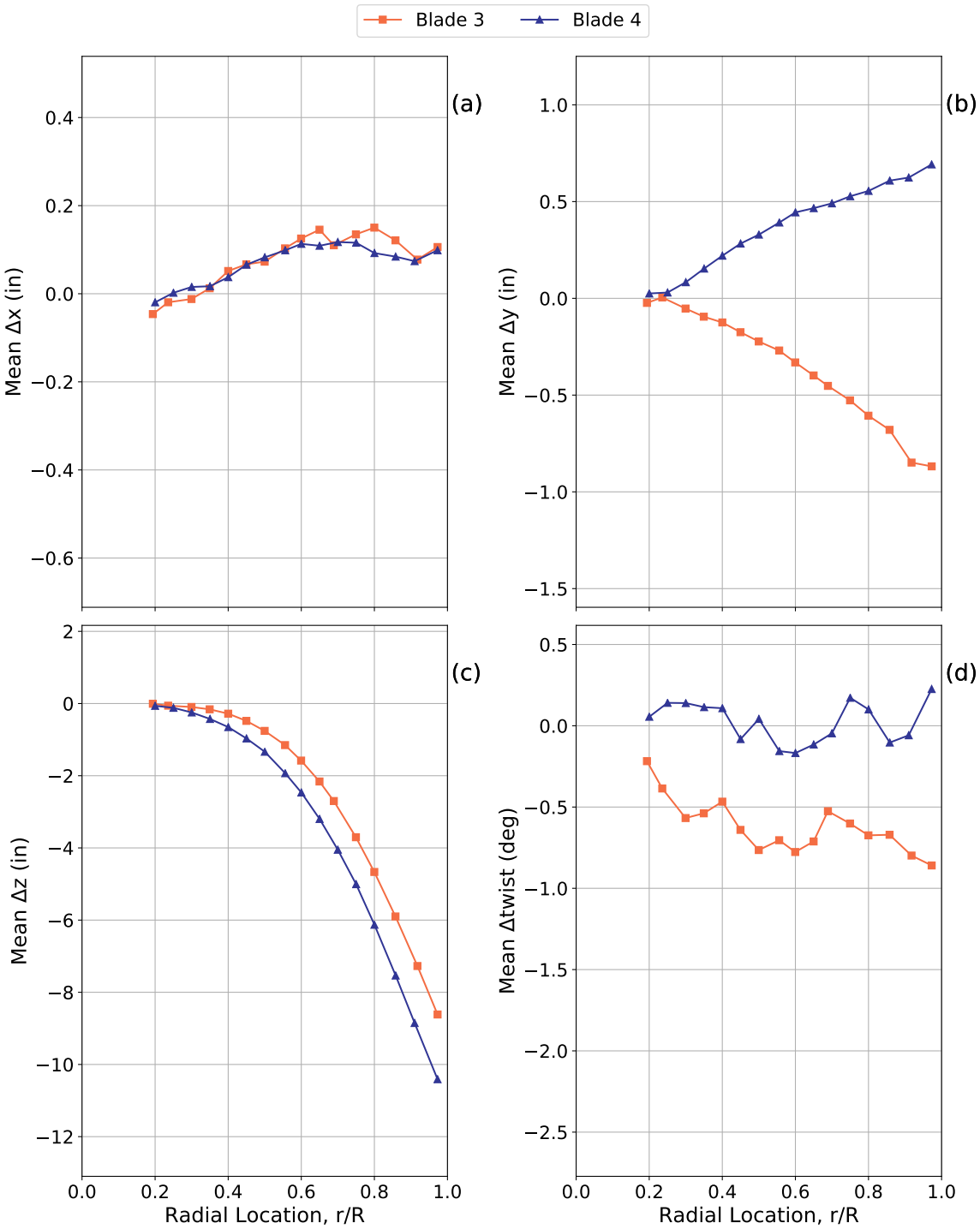


Figure 4.1-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0462	0.0013	-0.0235	0.0007	-0.0059	0.0011	-0.2177	0.0184
3	184.92	0.2357	-0.0194	0.0011	0.0046	0.0017	-0.0591	0.0042	-0.3858	0.0164
3	184.92	0.2995	-0.0120	0.0009	-0.0528	0.0029	-0.0956	0.0052	-0.5677	0.0355
3	184.92	0.3493	0.0124	0.0012	-0.0948	0.0046	-0.1599	0.0102	-0.5386	0.0274
3	184.92	0.4000	0.0516	0.0022	-0.1246	0.0077	-0.2808	0.0161	-0.4669	0.0237
3	184.92	0.4497	0.0668	0.0021	-0.1750	0.0092	-0.4803	0.0196	-0.6406	0.0306
3	184.92	0.4997	0.0728	0.0019	-0.2229	0.0117	-0.7577	0.0242	-0.7646	0.0251
3	184.92	0.5556	0.1030	0.0019	-0.2696	0.0135	-1.1513	0.0287	-0.7041	0.0289
3	184.92	0.5995	0.1253	0.0019	-0.3312	0.0159	-1.5804	0.0349	-0.7767	0.0283
3	184.92	0.6498	0.1454	0.0023	-0.3985	0.0172	-2.1600	0.0393	-0.7117	0.0303
3	184.92	0.6890	0.1100	0.0018	-0.4524	0.0187	-2.7010	0.0439	-0.5257	0.0240
3	184.92	0.7495	0.1348	0.0023	-0.5272	0.0218	-3.7040	0.0491	-0.6014	0.0318
3	184.92	0.7998	0.1501	0.0027	-0.6065	0.0242	-4.6664	0.0546	-0.6741	0.0322
3	184.92	0.8577	0.1212	0.0030	-0.6796	0.0277	-5.8994	0.0598	-0.6706	0.0348
3	184.92	0.9178	0.0775	0.0031	-0.8487	0.0305	-7.2726	0.0659	-0.7985	0.0304
3	184.92	0.9729	0.1060	0.0048	-0.8683	0.0334	-8.6154	0.0708	-0.8594	0.0371
4	184.92	0.2001	-0.0195	0.0018	0.0251	0.0011	-0.0634	0.0019	0.0553	0.0118
4	184.92	0.2502	0.0022	0.0013	0.0300	0.0018	-0.1189	0.0032	0.1409	0.0236
4	184.92	0.3001	0.0154	0.0009	0.0833	0.0040	-0.2471	0.0057	0.1395	0.0251
4	184.92	0.3502	0.0170	0.0016	0.1537	0.0063	-0.4272	0.0093	0.1145	0.0265
4	184.92	0.4002	0.0376	0.0018	0.2204	0.0095	-0.6531	0.0137	0.1080	0.0292
4	184.92	0.4500	0.0659	0.0019	0.2830	0.0111	-0.9674	0.0170	-0.0821	0.0237
4	184.92	0.5001	0.0826	0.0023	0.3293	0.0145	-1.3359	0.0219	0.0420	0.0268
4	184.92	0.5560	0.0986	0.0021	0.3918	0.0177	-1.9306	0.0244	-0.1560	0.0349
4	184.92	0.6001	0.1132	0.0021	0.4442	0.0195	-2.4654	0.0289	-0.1678	0.0277
4	184.92	0.6501	0.1089	0.0020	0.4660	0.0227	-3.1987	0.0345	-0.1155	0.0298
4	184.92	0.6999	0.1173	0.0024	0.4908	0.0249	-4.0505	0.0407	-0.0467	0.0248
4	184.92	0.7500	0.1158	0.0024	0.5275	0.0280	-5.0055	0.0477	0.1721	0.0286
4	184.92	0.8002	0.0923	0.0031	0.5551	0.0304	-6.1294	0.0529	0.1004	0.0334
4	184.92	0.8582	0.0842	0.0036	0.6084	0.0344	-7.5359	0.0610	-0.1033	0.0344
4	184.92	0.9101	0.0739	0.0049	0.6241	0.0377	-8.8515	0.0680	-0.0585	0.0368
4	184.92	0.9728	0.0987	0.0049	0.6920	0.0433	-10.4093	0.0766	0.2260	0.0314

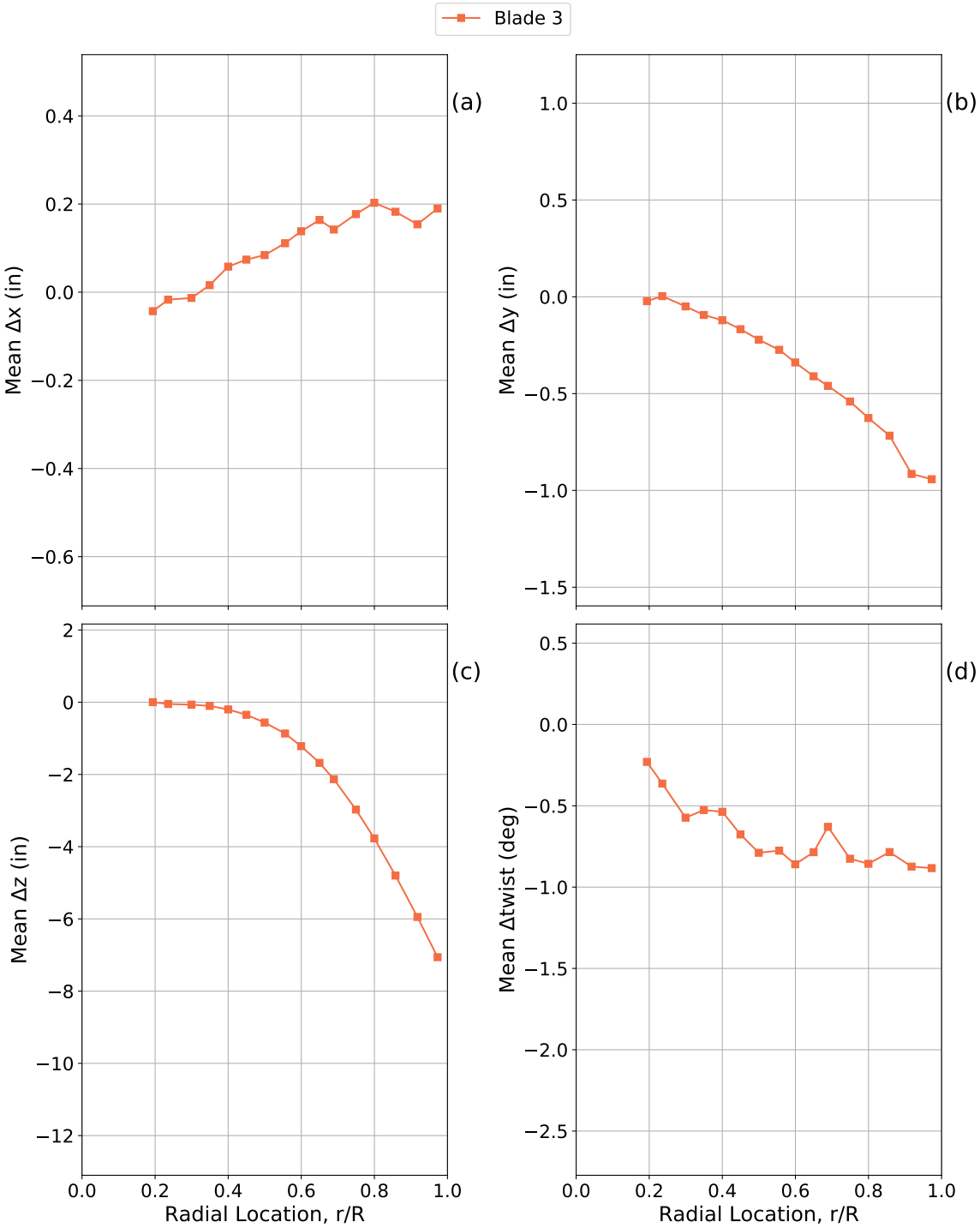


Figure 4.1-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0430	0.0018	-0.0226	0.0011	0.0027	0.0022	-0.2301	0.0347
3	195.12	0.2357	-0.0170	0.0016	0.0035	0.0022	-0.0485	0.0064	-0.3635	0.0309
3	195.12	0.2995	-0.0131	0.0012	-0.0497	0.0048	-0.0671	0.0087	-0.5733	0.0673
3	195.12	0.3493	0.0160	0.0015	-0.0939	0.0073	-0.1019	0.0163	-0.5261	0.0489
3	195.12	0.4000	0.0580	0.0017	-0.1211	0.0119	-0.1996	0.0250	-0.5368	0.0412
3	195.12	0.4497	0.0739	0.0016	-0.1673	0.0137	-0.3486	0.0284	-0.6761	0.0547
3	195.12	0.4997	0.0842	0.0021	-0.2216	0.0171	-0.5614	0.0344	-0.7889	0.0516
3	195.12	0.5556	0.1111	0.0021	-0.2738	0.0202	-0.8659	0.0405	-0.7758	0.0505
3	195.12	0.5995	0.1382	0.0028	-0.3391	0.0230	-1.2165	0.0458	-0.8596	0.0540
3	195.12	0.6498	0.1639	0.0030	-0.4104	0.0265	-1.6783	0.0519	-0.7853	0.0533
3	195.12	0.6890	0.1421	0.0027	-0.4601	0.0276	-2.1316	0.0558	-0.6293	0.0549
3	195.12	0.7495	0.1771	0.0020	-0.5408	0.0316	-2.9720	0.0639	-0.8255	0.0560
3	195.12	0.7998	0.2029	0.0026	-0.6261	0.0354	-3.7708	0.0702	-0.8566	0.0517
3	195.12	0.8577	0.1825	0.0027	-0.7172	0.0391	-4.7986	0.0795	-0.7846	0.0469
3	195.12	0.9178	0.1540	0.0037	-0.9149	0.0439	-5.9466	0.0879	-0.8738	0.0479
3	195.12	0.9729	0.1899	0.0037	-0.9422	0.0478	-7.0601	0.0967	-0.8832	0.0504

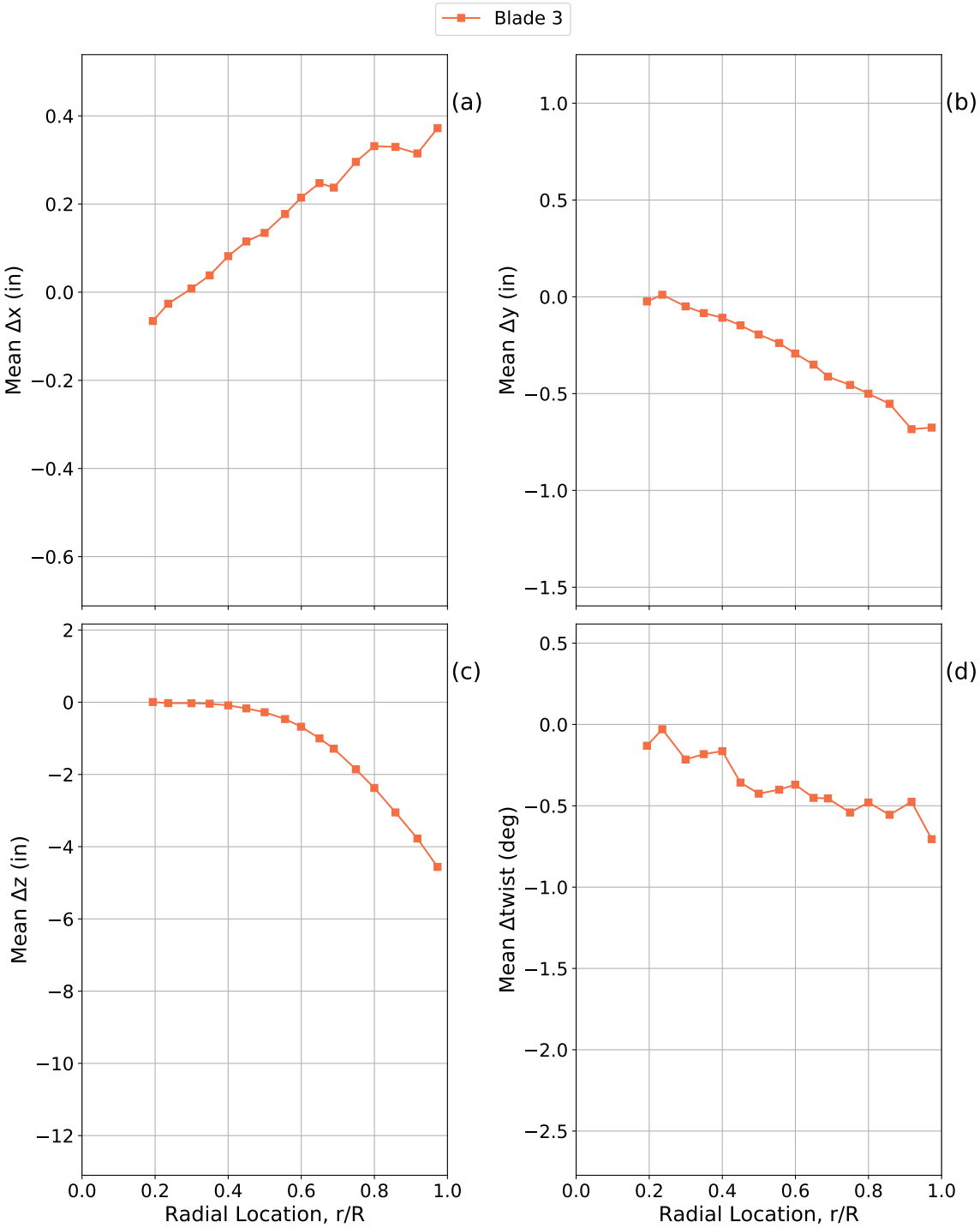


Figure 4.1-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.052, μ = 0.15, α = -0° NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0654	0.0009	-0.0242	0.0006	0.0056	0.0012	-0.1308	0.0102
3	209.88	0.2357	-0.0261	0.0011	0.0106	0.0012	-0.0243	0.0023	-0.0293	0.0139
3	209.88	0.2995	0.0083	0.0010	-0.0495	0.0029	-0.0261	0.0040	-0.2155	0.0203
3	209.88	0.3493	0.0382	0.0011	-0.0841	0.0045	-0.0401	0.0067	-0.1825	0.0210
3	209.88	0.4000	0.0818	0.0009	-0.1081	0.0074	-0.0868	0.0103	-0.1641	0.0273
3	209.88	0.4497	0.1150	0.0010	-0.1473	0.0107	-0.1709	0.0134	-0.3572	0.0249
3	209.88	0.4997	0.1345	0.0013	-0.1945	0.0124	-0.2768	0.0144	-0.4254	0.0196
3	209.88	0.5556	0.1774	0.0010	-0.2386	0.0155	-0.4659	0.0182	-0.4009	0.0196
3	209.88	0.5995	0.2144	0.0015	-0.2931	0.0190	-0.6777	0.0213	-0.3701	0.0232
3	209.88	0.6498	0.2475	0.0014	-0.3502	0.0208	-1.0015	0.0229	-0.4513	0.0212
3	209.88	0.6890	0.2372	0.0016	-0.4122	0.0228	-1.2868	0.0249	-0.4547	0.0237
3	209.88	0.7495	0.2957	0.0012	-0.4552	0.0270	-1.8576	0.0285	-0.5412	0.0246
3	209.88	0.7998	0.3314	0.0016	-0.5004	0.0307	-2.3744	0.0308	-0.4797	0.0239
3	209.88	0.8577	0.3296	0.0019	-0.5525	0.0339	-3.0517	0.0353	-0.5554	0.0298
3	209.88	0.9178	0.3148	0.0026	-0.6838	0.0384	-3.7743	0.0388	-0.4752	0.0391
3	209.88	0.9729	0.3721	0.0034	-0.6755	0.0409	-4.5613	0.0382	-0.7051	0.0285

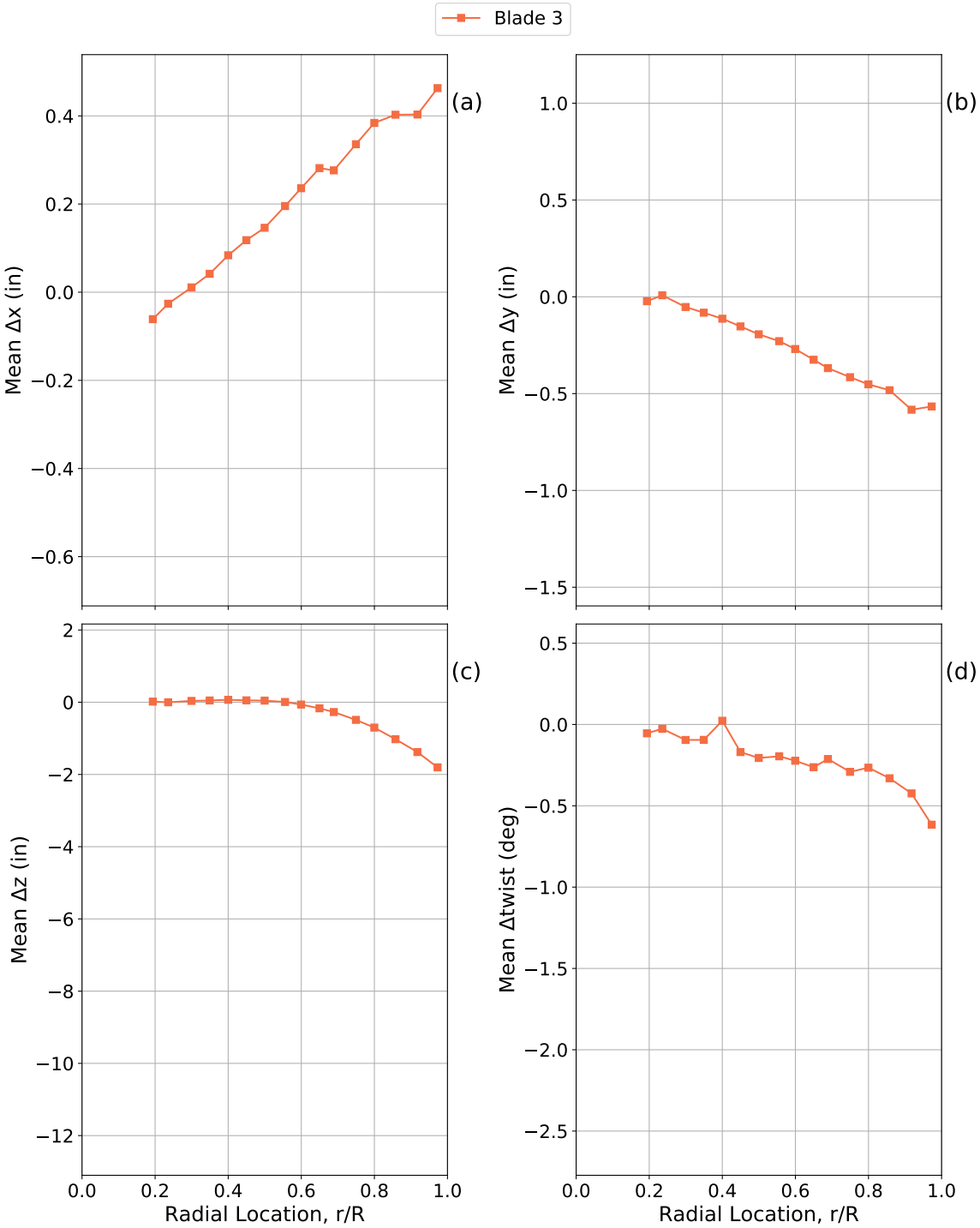


Figure 4.1-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0612	0.0009	-0.0227	0.0006	0.0171	0.0019	-0.0544	0.0187
3	225	0.2357	-0.0262	0.0009	0.0079	0.0011	-0.0013	0.0043	-0.0267	0.0258
3	225	0.2995	0.0109	0.0005	-0.0527	0.0023	0.0367	0.0069	-0.0952	0.0413
3	225	0.3493	0.0417	0.0006	-0.0820	0.0041	0.0488	0.0143	-0.0948	0.0352
3	225	0.4000	0.0837	0.0014	-0.1132	0.0058	0.0673	0.0205	0.0227	0.0225
3	225	0.4497	0.1180	0.0008	-0.1530	0.0072	0.0521	0.0242	-0.1698	0.0206
3	225	0.4997	0.1461	0.0007	-0.1936	0.0067	0.0450	0.0268	-0.2059	0.0308
3	225	0.5556	0.1954	0.0016	-0.2290	0.0087	0.0072	0.0308	-0.1956	0.0245
3	225	0.5995	0.2359	0.0010	-0.2696	0.0096	-0.0643	0.0356	-0.2230	0.0422
3	225	0.6498	0.2815	0.0010	-0.3251	0.0096	-0.1684	0.0408	-0.2628	0.0378
3	225	0.6890	0.2764	0.0020	-0.3683	0.0108	-0.2719	0.0468	-0.2125	0.0296
3	225	0.7495	0.3357	0.0011	-0.4152	0.0120	-0.4883	0.0525	-0.2913	0.0305
3	225	0.7998	0.3840	0.0009	-0.4521	0.0134	-0.7018	0.0589	-0.2656	0.0302
3	225	0.8577	0.4026	0.0009	-0.4826	0.0150	-1.0234	0.0656	-0.3308	0.0304
3	225	0.9178	0.4031	0.0012	-0.5831	0.0165	-1.3797	0.0722	-0.4238	0.0234
3	225	0.9729	0.4629	0.0014	-0.5664	0.0184	-1.8035	0.0755	-0.6161	0.0333

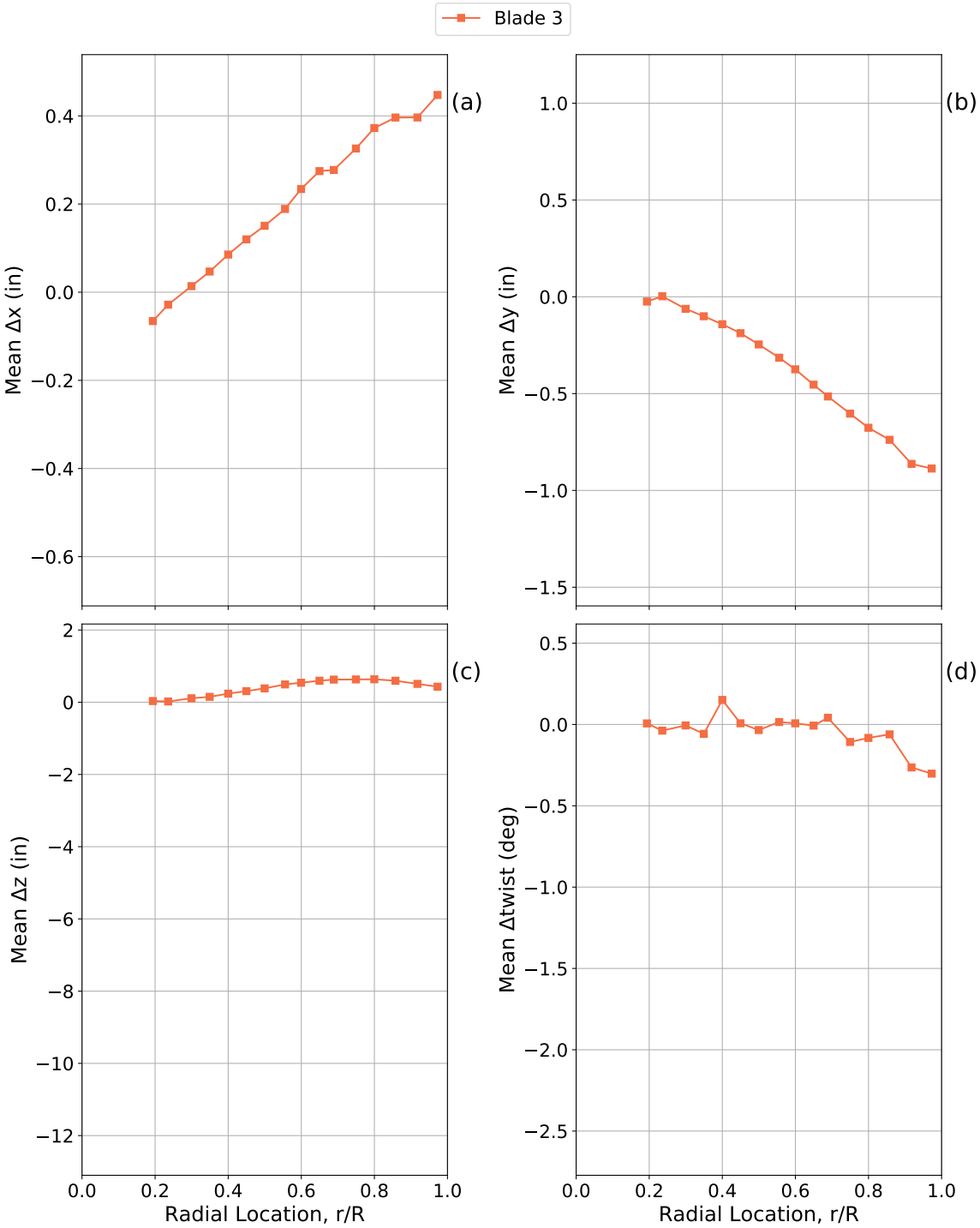


Figure 4.1-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.052, μ = 0.15, α = -0° NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0655	0.0011	-0.0245	0.0008	0.0332	0.0019	0.0065	0.0143
3	240.12	0.2357	-0.0283	0.0008	0.0028	0.0012	0.0213	0.0028	-0.0379	0.0236
3	240.12	0.2995	0.0137	0.0009	-0.0623	0.0030	0.1090	0.0061	-0.0058	0.0317
3	240.12	0.3493	0.0468	0.0009	-0.1005	0.0051	0.1497	0.0097	-0.0576	0.0338
3	240.12	0.4000	0.0854	0.0022	-0.1416	0.0079	0.2378	0.0148	0.1508	0.0295
3	240.12	0.4497	0.1199	0.0012	-0.1880	0.0093	0.3077	0.0199	0.0073	0.0320
3	240.12	0.4997	0.1507	0.0013	-0.2461	0.0098	0.3840	0.0229	-0.0343	0.0278
3	240.12	0.5556	0.1888	0.0016	-0.3145	0.0121	0.4933	0.0287	0.0151	0.0324
3	240.12	0.5995	0.2341	0.0014	-0.3746	0.0134	0.5403	0.0336	0.0071	0.0339
3	240.12	0.6498	0.2747	0.0022	-0.4538	0.0159	0.5961	0.0377	-0.0071	0.0388
3	240.12	0.6890	0.2773	0.0013	-0.5148	0.0163	0.6267	0.0392	0.0413	0.0372
3	240.12	0.7495	0.3260	0.0010	-0.6034	0.0192	0.6310	0.0423	-0.1077	0.0310
3	240.12	0.7998	0.3724	0.0010	-0.6763	0.0216	0.6359	0.0480	-0.0827	0.0365
3	240.12	0.8577	0.3963	0.0011	-0.7385	0.0246	0.5954	0.0506	-0.0609	0.0284
3	240.12	0.9178	0.3964	0.0011	-0.8630	0.0273	0.5082	0.0556	-0.2643	0.0289
3	240.12	0.9729	0.4474	0.0020	-0.8870	0.0302	0.4305	0.0613	-0.3024	0.0263

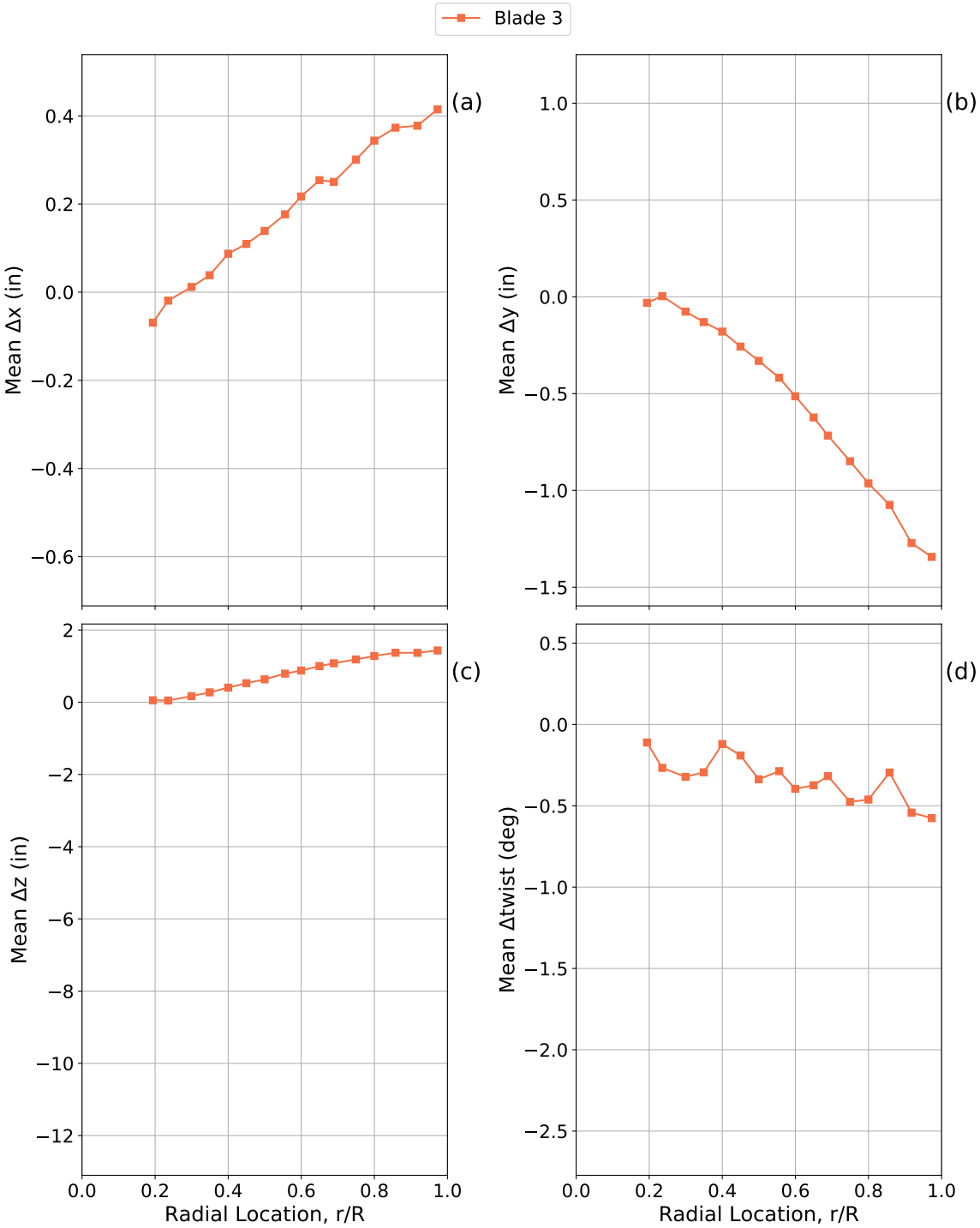


Figure 4.1-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0692	0.0017	-0.0312	0.0008	0.0541	0.0031	-0.1105	0.0196
3	254.88	0.2357	-0.0191	0.0013	0.0031	0.0006	0.0468	0.0042	-0.2669	0.0451
3	254.88	0.2995	0.0118	0.0009	-0.0765	0.0024	0.1688	0.0109	-0.3221	0.0545
3	254.88	0.3493	0.0385	0.0013	-0.1308	0.0034	0.2731	0.0172	-0.2940	0.0542
3	254.88	0.4000	0.0873	0.0013	-0.1795	0.0054	0.4043	0.0268	-0.1202	0.0471
3	254.88	0.4497	0.1095	0.0014	-0.2570	0.0072	0.5276	0.0344	-0.1906	0.0518
3	254.88	0.4997	0.1389	0.0017	-0.3307	0.0085	0.6331	0.0418	-0.3372	0.0473
3	254.88	0.5556	0.1767	0.0016	-0.4181	0.0105	0.7922	0.0489	-0.2870	0.0497
3	254.88	0.5995	0.2170	0.0020	-0.5138	0.0122	0.8772	0.0569	-0.3958	0.0476
3	254.88	0.6498	0.2542	0.0024	-0.6231	0.0144	0.9999	0.0650	-0.3740	0.0565
3	254.88	0.6890	0.2503	0.0021	-0.7167	0.0163	1.0799	0.0703	-0.3170	0.0612
3	254.88	0.7495	0.3009	0.0021	-0.8490	0.0189	1.1852	0.0791	-0.4760	0.0576
3	254.88	0.7998	0.3439	0.0023	-0.9635	0.0217	1.2798	0.0866	-0.4615	0.0548
3	254.88	0.8577	0.3732	0.0024	-1.0745	0.0250	1.3708	0.0950	-0.2957	0.0569
3	254.88	0.9178	0.3777	0.0024	-1.2719	0.0282	1.3682	0.1047	-0.5421	0.0514
3	254.88	0.9729	0.4148	0.0035	-1.3434	0.0316	1.4341	0.1128	-0.5756	0.0575

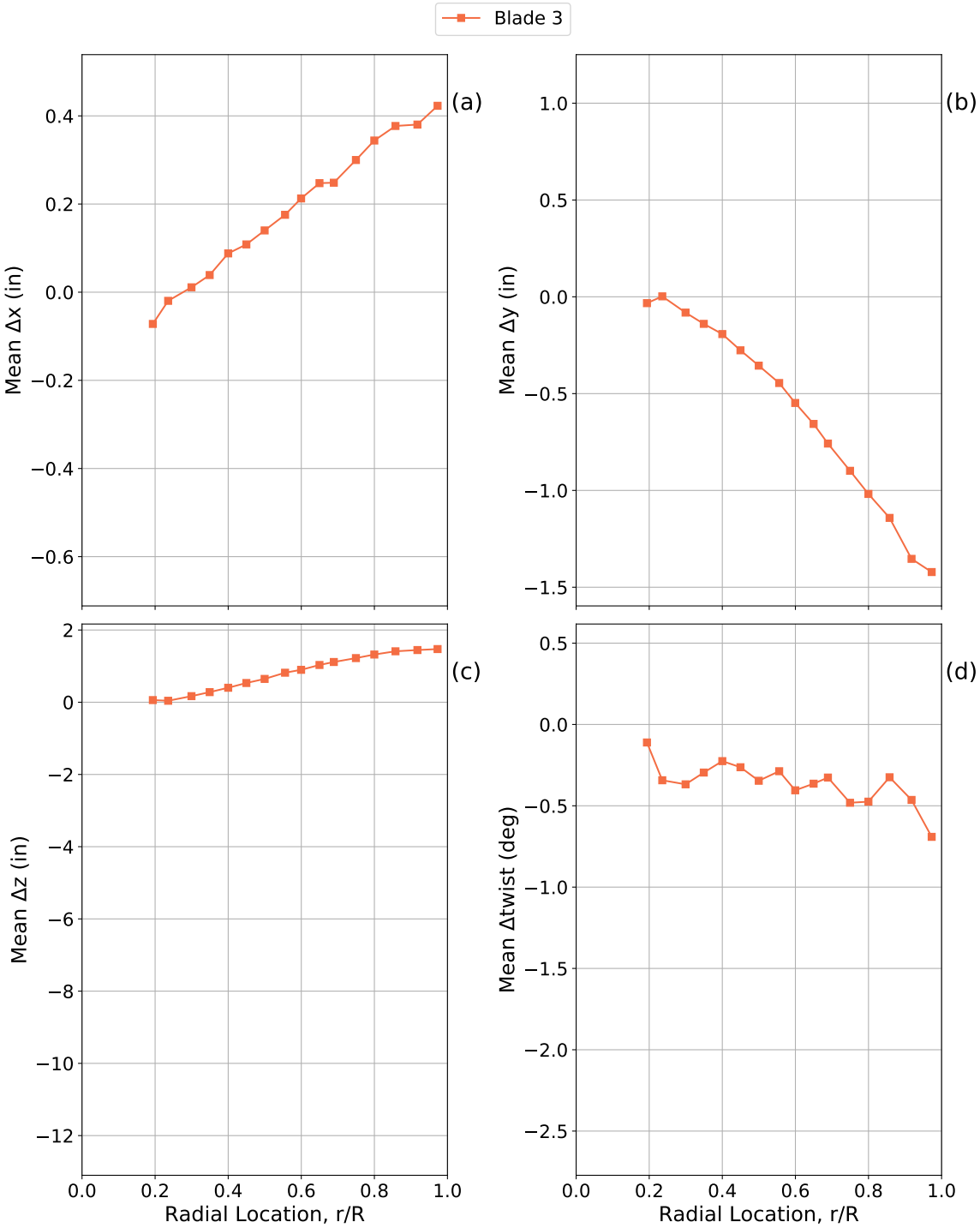


Figure 4.1-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0720	0.0014	-0.0328	0.0007	0.0593	0.0034	-0.1107	0.0194
3	260.16	0.2357	-0.0196	0.0010	0.0023	0.0009	0.0410	0.0034	-0.3430	0.0480
3	260.16	0.2995	0.0111	0.0011	-0.0816	0.0023	0.1684	0.0104	-0.3680	0.0540
3	260.16	0.3493	0.0389	0.0009	-0.1398	0.0040	0.2802	0.0167	-0.2956	0.0526
3	260.16	0.4000	0.0880	0.0016	-0.1925	0.0060	0.4011	0.0249	-0.2253	0.0470
3	260.16	0.4497	0.1084	0.0017	-0.2764	0.0076	0.5327	0.0305	-0.2630	0.0487
3	260.16	0.4997	0.1401	0.0019	-0.3555	0.0094	0.6460	0.0381	-0.3461	0.0438
3	260.16	0.5556	0.1756	0.0018	-0.4453	0.0116	0.8177	0.0444	-0.2874	0.0579
3	260.16	0.5995	0.2127	0.0019	-0.5483	0.0134	0.8978	0.0522	-0.4048	0.0489
3	260.16	0.6498	0.2474	0.0021	-0.6566	0.0154	1.0317	0.0580	-0.3640	0.0531
3	260.16	0.6890	0.2484	0.0025	-0.7580	0.0175	1.1142	0.0640	-0.3264	0.0492
3	260.16	0.7495	0.2999	0.0026	-0.8987	0.0201	1.2223	0.0728	-0.4814	0.0468
3	260.16	0.7998	0.3441	0.0027	-1.0182	0.0228	1.3209	0.0805	-0.4745	0.0475
3	260.16	0.8577	0.3771	0.0026	-1.1419	0.0262	1.4108	0.0893	-0.3245	0.0450
3	260.16	0.9178	0.3803	0.0026	-1.3534	0.0295	1.4452	0.0964	-0.4640	0.0499
3	260.16	0.9729	0.4229	0.0038	-1.4216	0.0326	1.4722	0.1043	-0.6910	0.0461

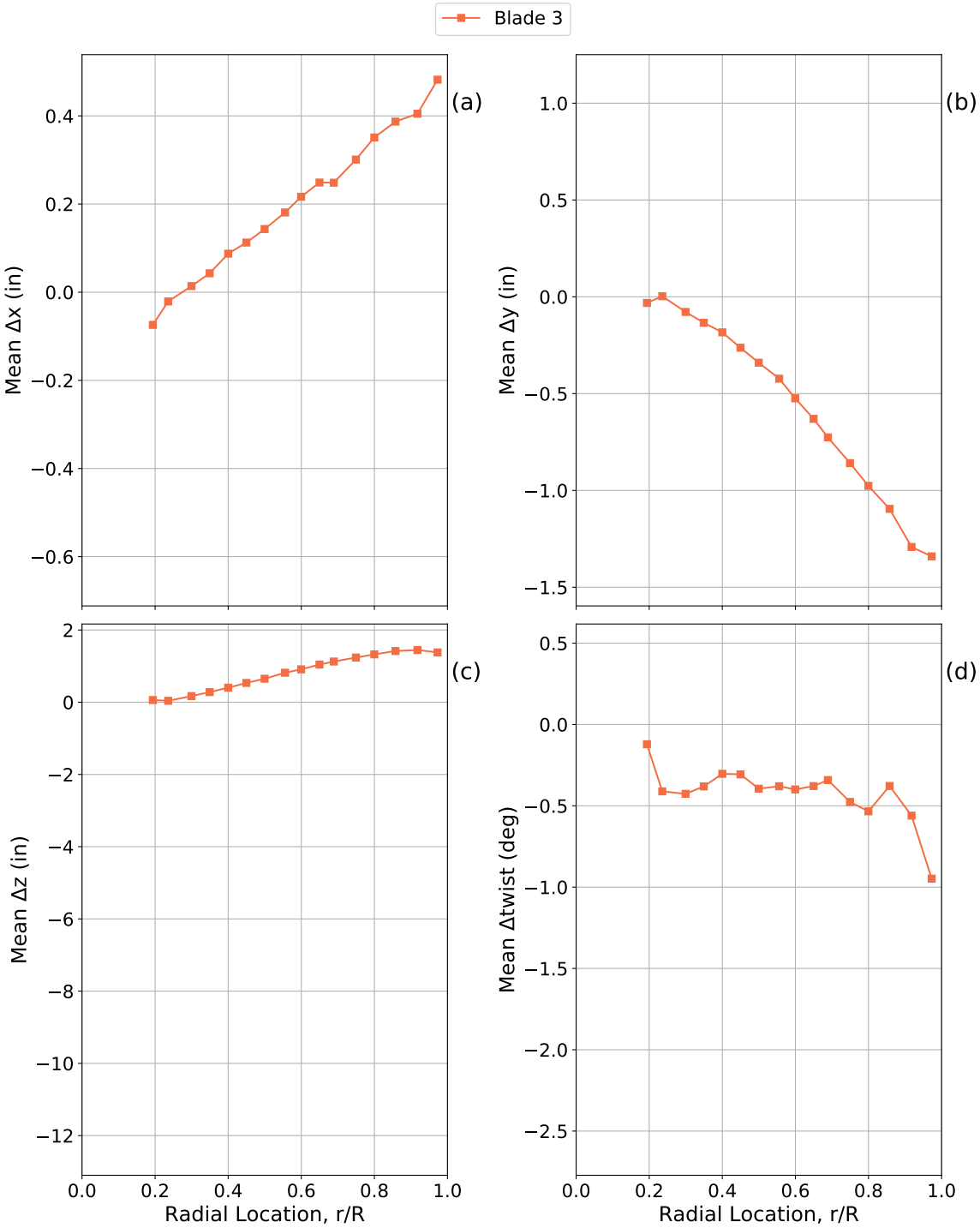


Figure 4.1-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0741	0.0023	-0.0318	0.0008	0.0606	0.0033	-0.1214	0.0233
3	265.08	0.2357	-0.0210	0.0010	0.0029	0.0013	0.0393	0.0043	-0.4113	0.0490
3	265.08	0.2995	0.0138	0.0011	-0.0781	0.0030	0.1703	0.0109	-0.4264	0.0609
3	265.08	0.3493	0.0429	0.0011	-0.1340	0.0049	0.2814	0.0172	-0.3809	0.0639
3	265.08	0.4000	0.0874	0.0014	-0.1836	0.0077	0.4026	0.0261	-0.3034	0.0546
3	265.08	0.4497	0.1126	0.0014	-0.2631	0.0099	0.5340	0.0333	-0.3068	0.0565
3	265.08	0.4997	0.1433	0.0024	-0.3403	0.0117	0.6507	0.0402	-0.3949	0.0615
3	265.08	0.5556	0.1809	0.0020	-0.4230	0.0144	0.8171	0.0482	-0.3797	0.0590
3	265.08	0.5995	0.2165	0.0019	-0.5244	0.0166	0.9108	0.0554	-0.3994	0.0601
3	265.08	0.6498	0.2488	0.0018	-0.6304	0.0189	1.0440	0.0624	-0.3789	0.0591
3	265.08	0.6890	0.2485	0.0023	-0.7263	0.0212	1.1267	0.0703	-0.3420	0.0548
3	265.08	0.7495	0.3009	0.0027	-0.8591	0.0246	1.2379	0.0802	-0.4763	0.0596
3	265.08	0.7998	0.3510	0.0022	-0.9766	0.0276	1.3253	0.0866	-0.5342	0.0607
3	265.08	0.8577	0.3870	0.0024	-1.0953	0.0313	1.4177	0.0963	-0.3781	0.0570
3	265.08	0.9178	0.4049	0.0029	-1.2922	0.0355	1.4470	0.1053	-0.5605	0.0619
3	265.08	0.9729	0.4821	0.0037	-1.3406	0.0392	1.3794	0.1134	-0.9480	0.0603

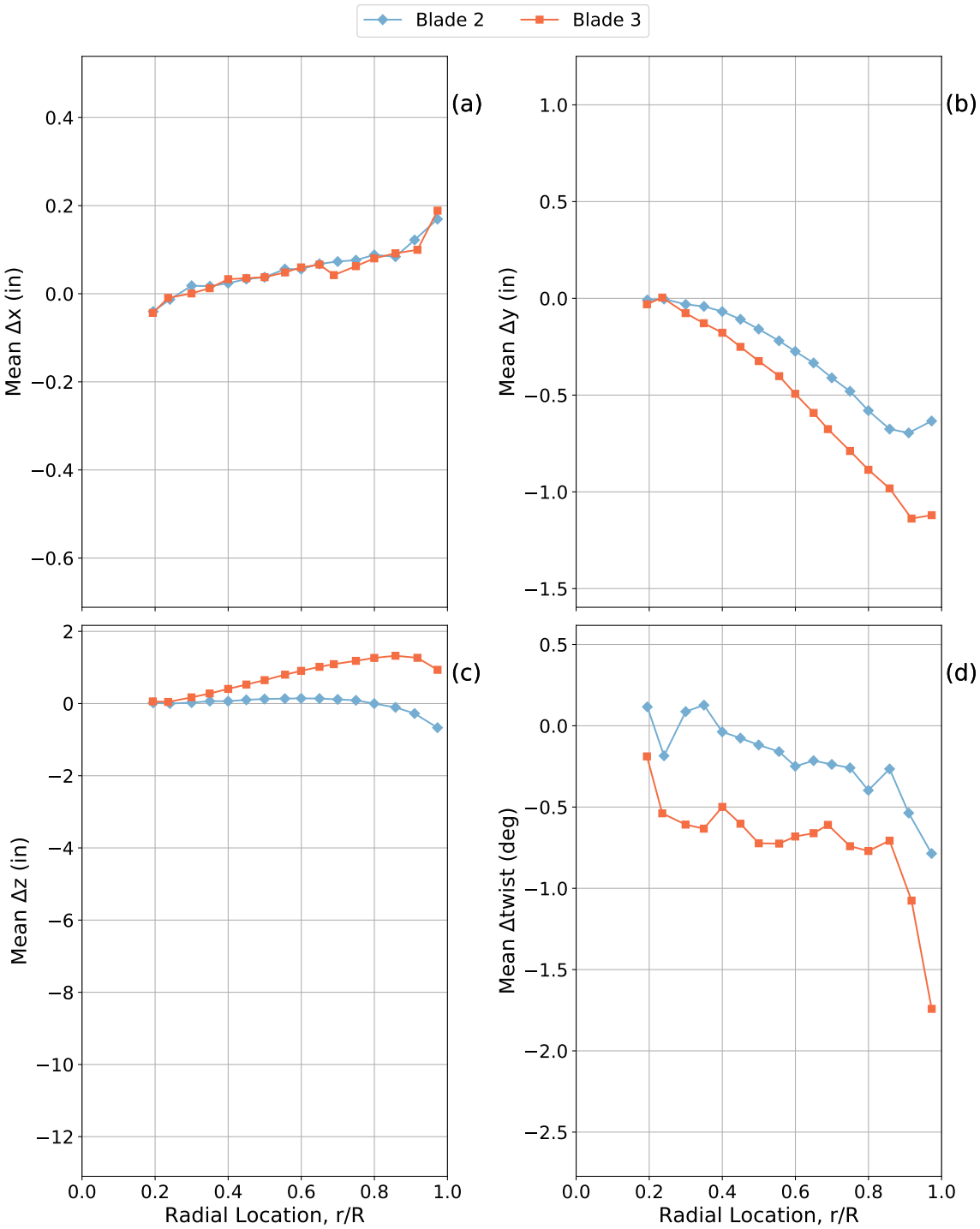


Figure 4.1-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.052, μ = 0.15, α = -0° NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0403	0.0026	-0.0083	0.0006	0.0179	0.0026	0.1163	0.0235
2	270.35	0.2405	-0.0129	0.0022	-0.0037	0.0014	-0.0009	0.0044	-0.1848	0.0484
2	270.35	0.2999	0.0182	0.0015	-0.0312	0.0020	0.0253	0.0077	0.0872	0.0580
2	270.35	0.3498	0.0171	0.0014	-0.0418	0.0041	0.0657	0.0142	0.1270	0.0559
2	270.35	0.3998	0.0239	0.0017	-0.0682	0.0060	0.0647	0.0201	-0.0376	0.0571
2	270.35	0.4496	0.0332	0.0017	-0.1083	0.0076	0.1026	0.0255	-0.0760	0.0487
2	270.35	0.4995	0.0374	0.0019	-0.1590	0.0088	0.1254	0.0308	-0.1181	0.0514
2	270.35	0.5551	0.0561	0.0020	-0.2194	0.0108	0.1356	0.0382	-0.1590	0.0586
2	270.35	0.5996	0.0557	0.0017	-0.2740	0.0122	0.1429	0.0432	-0.2494	0.0599
2	270.35	0.6497	0.0678	0.0019	-0.3339	0.0141	0.1380	0.0507	-0.2148	0.0560
2	270.35	0.6996	0.0731	0.0025	-0.4110	0.0157	0.1150	0.0568	-0.2378	0.0536
2	270.35	0.7495	0.0763	0.0025	-0.4803	0.0178	0.0896	0.0644	-0.2589	0.0595
2	270.35	0.7996	0.0882	0.0022	-0.5802	0.0201	-0.0025	0.0726	-0.3972	0.0564
2	270.35	0.8578	0.0840	0.0019	-0.6756	0.0227	-0.1057	0.0824	-0.2656	0.0565
2	270.35	0.9100	0.1220	0.0022	-0.6953	0.0251	-0.2766	0.0905	-0.5368	0.0567
2	270.35	0.9727	0.1694	0.0026	-0.6340	0.0281	-0.6696	0.0987	-0.7861	0.0598
3	270	0.1938	-0.0435	0.0033	-0.0308	0.0012	0.0583	0.0047	-0.1885	0.0354
3	270	0.2357	-0.0095	0.0015	0.0038	0.0013	0.0444	0.0056	-0.5387	0.0747
3	270	0.2995	0.0007	0.0012	-0.0764	0.0035	0.1706	0.0131	-0.6080	0.0917
3	270	0.3493	0.0125	0.0014	-0.1287	0.0065	0.2789	0.0233	-0.6330	0.0809
3	270	0.4000	0.0331	0.0018	-0.1777	0.0093	0.4045	0.0331	-0.4993	0.0871
3	270	0.4497	0.0352	0.0015	-0.2508	0.0121	0.5268	0.0420	-0.6028	0.0922
3	270	0.4997	0.0376	0.0020	-0.3242	0.0156	0.6485	0.0549	-0.7230	0.0835
3	270	0.5556	0.0484	0.0026	-0.4021	0.0180	0.8005	0.0669	-0.7249	0.0748
3	270	0.5995	0.0598	0.0023	-0.4933	0.0202	0.9056	0.0759	-0.6813	0.0882
3	270	0.6498	0.0662	0.0029	-0.5923	0.0233	1.0167	0.0895	-0.6610	0.0714
3	270	0.6890	0.0423	0.0027	-0.6758	0.0250	1.0912	0.0976	-0.6098	0.0801
3	270	0.7495	0.0626	0.0025	-0.7888	0.0285	1.1830	0.1113	-0.7410	0.0772
3	270	0.7998	0.0803	0.0023	-0.8859	0.0317	1.2643	0.1227	-0.7703	0.0773
3	270	0.8577	0.0918	0.0025	-0.9822	0.0350	1.3238	0.1359	-0.7067	0.0764
3	270	0.9178	0.0997	0.0028	-1.1380	0.0386	1.2674	0.1477	-1.0756	0.0775
3	270	0.9729	0.1886	0.0037	-1.1207	0.0423	0.9346	0.1602	-1.7417	0.0779

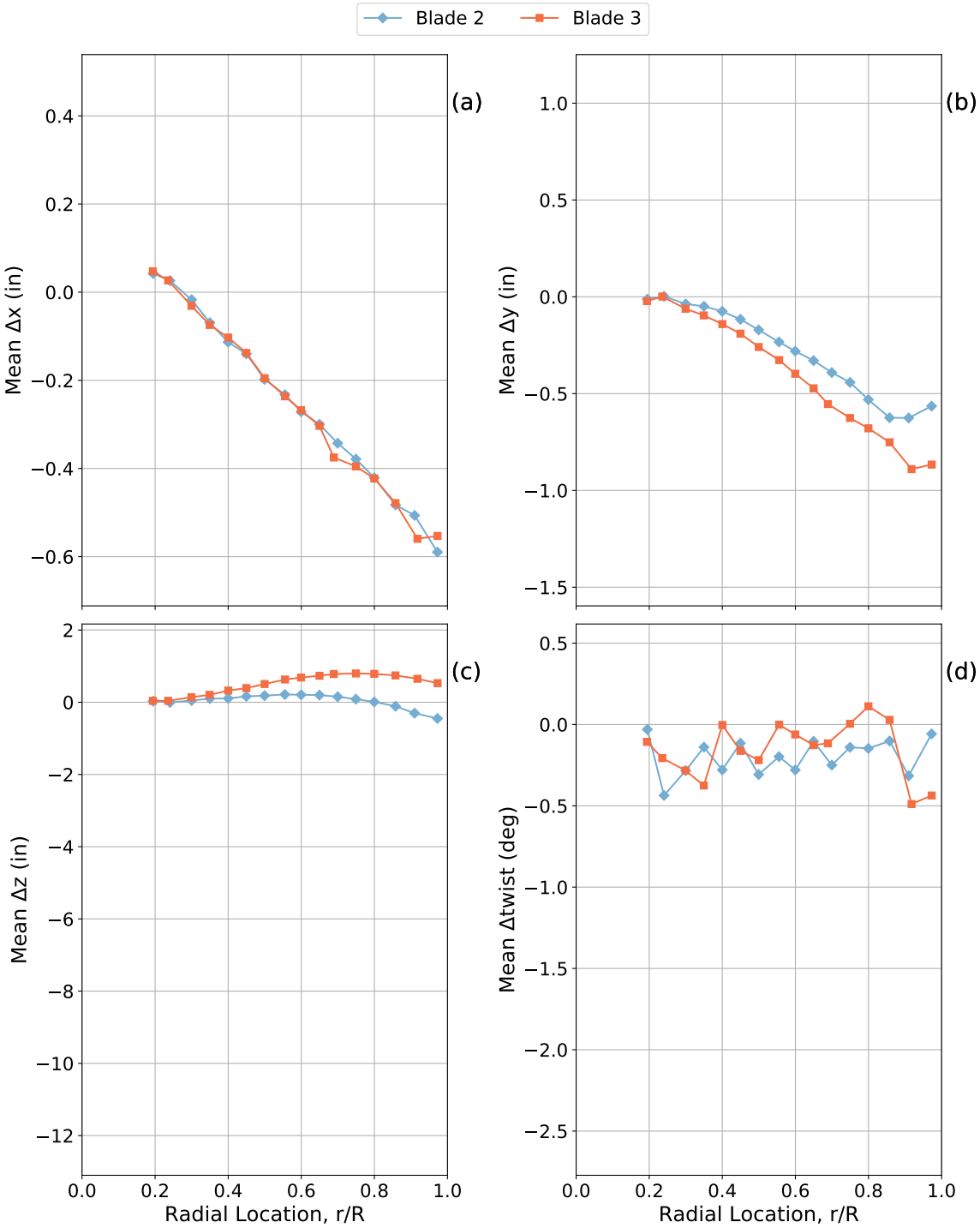


Figure 4.1-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0424	0.0022	-0.0124	0.0008	0.0296	0.0019	-0.0303	0.0291
2	274.92	0.2405	0.0261	0.0010	0.0023	0.0015	-0.0068	0.0031	-0.4364	0.0440
2	274.92	0.2999	-0.0171	0.0015	-0.0369	0.0031	0.0475	0.0076	-0.2836	0.0658
2	274.92	0.3498	-0.0693	0.0016	-0.0493	0.0051	0.1004	0.0082	-0.1392	0.0392
2	274.92	0.3998	-0.1133	0.0028	-0.0751	0.0079	0.1062	0.0148	-0.2794	0.0542
2	274.92	0.4496	-0.1399	0.0026	-0.1164	0.0106	0.1618	0.0209	-0.1153	0.0590
2	274.92	0.4995	-0.1977	0.0021	-0.1711	0.0126	0.1827	0.0221	-0.3079	0.0318
2	274.92	0.5551	-0.2325	0.0025	-0.2334	0.0165	0.2152	0.0274	-0.1978	0.0493
2	274.92	0.5996	-0.2713	0.0021	-0.2806	0.0175	0.2055	0.0301	-0.2798	0.0628
2	274.92	0.6497	-0.2998	0.0027	-0.3297	0.0203	0.1987	0.0344	-0.1036	0.0421
2	274.92	0.6996	-0.3426	0.0026	-0.3914	0.0228	0.1523	0.0362	-0.2499	0.0694
2	274.92	0.7495	-0.3786	0.0030	-0.4420	0.0252	0.0851	0.0387	-0.1403	0.0425
2	274.92	0.7996	-0.4209	0.0032	-0.5310	0.0277	0.0091	0.0449	-0.1473	0.0795
2	274.92	0.8578	-0.4825	0.0044	-0.6247	0.0326	-0.1116	0.0476	-0.1017	0.0543
2	274.92	0.9100	-0.5064	0.0054	-0.6258	0.0358	-0.3029	0.0555	-0.3159	0.1048
2	274.92	0.9727	-0.5897	0.0056	-0.5647	0.0402	-0.4502	0.0707	-0.0578	0.1094
3	274.92	0.1938	0.0474	0.0068	-0.0222	0.0020	0.0394	0.0071	-0.1068	0.0326
3	274.92	0.2357	0.0268	0.0021	0.0012	0.0023	0.0389	0.0057	-0.2066	0.1000
3	274.92	0.2995	-0.0310	0.0029	-0.0617	0.0061	0.1394	0.0200	-0.2833	0.1049
3	274.92	0.3493	-0.0743	0.0017	-0.0961	0.0099	0.2043	0.0294	-0.3754	0.1347
3	274.92	0.4000	-0.1029	0.0017	-0.1408	0.0151	0.3224	0.0436	-0.0033	0.1213
3	274.92	0.4497	-0.1379	0.0029	-0.1903	0.0192	0.3921	0.0589	-0.1622	0.0944
3	274.92	0.4997	-0.1951	0.0020	-0.2594	0.0214	0.5047	0.0626	-0.2193	0.1054
3	274.92	0.5556	-0.2363	0.0017	-0.3268	0.0245	0.6297	0.0738	-0.0012	0.1107
3	274.92	0.5995	-0.2677	0.0016	-0.3974	0.0280	0.6846	0.0843	-0.0616	0.0914
3	274.92	0.6498	-0.3032	0.0020	-0.4726	0.0302	0.7330	0.0902	-0.1271	0.1109
3	274.92	0.6890	-0.3750	0.0023	-0.5540	0.0340	0.7822	0.1010	-0.1158	0.1040
3	274.92	0.7495	-0.3953	0.0024	-0.6261	0.0391	0.7962	0.1151	0.0043	0.1120
3	274.92	0.7998	-0.4227	0.0028	-0.6792	0.0425	0.7850	0.1281	0.1118	0.0950
3	274.92	0.8577	-0.4785	0.0026	-0.7515	0.0467	0.7424	0.1404	0.0282	0.1084
3	274.92	0.9178	-0.5595	0.0074	-0.8901	0.0533	0.6493	0.1506	-0.4891	0.1509
3	274.92	0.9729	-0.5530	0.0055	-0.8665	0.0531	0.5291	0.1722	-0.4368	0.1468

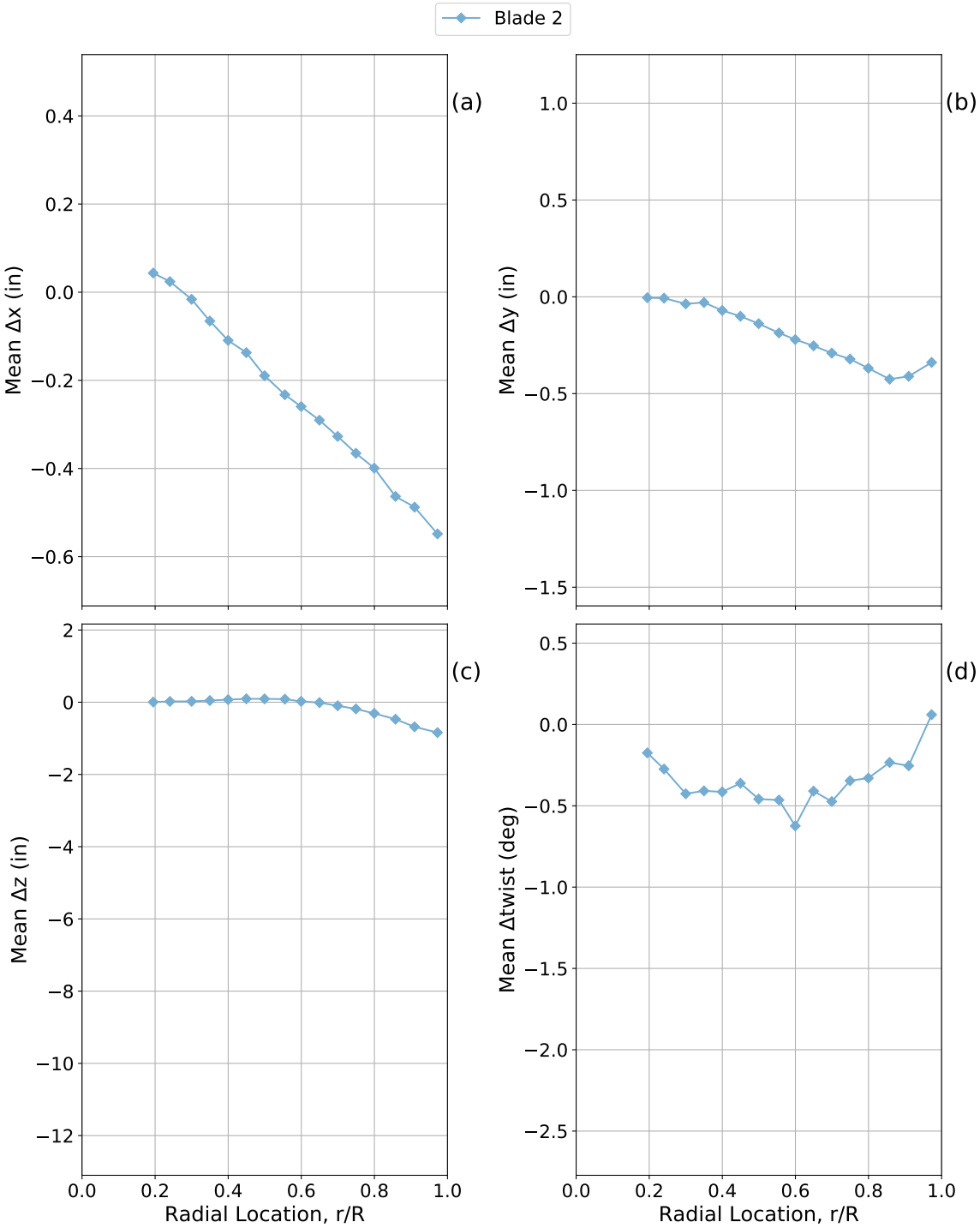


Figure 4.1-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0434	0.0013	-0.0047	0.0005	0.0054	0.0018	-0.1747	0.0295
2	285.12	0.2405	0.0241	0.0012	-0.0070	0.0017	0.0212	0.0083	-0.2740	0.0347
2	285.12	0.2999	-0.0161	0.0009	-0.0366	0.0041	0.0249	0.0120	-0.4261	0.0627
2	285.12	0.3498	-0.0654	0.0015	-0.0294	0.0047	0.0471	0.0203	-0.4082	0.0575
2	285.12	0.3998	-0.1094	0.0019	-0.0706	0.0086	0.0713	0.0337	-0.4145	0.0389
2	285.12	0.4496	-0.1371	0.0021	-0.1005	0.0114	0.0947	0.0364	-0.3615	0.0645
2	285.12	0.4995	-0.1895	0.0030	-0.1389	0.0131	0.0929	0.0452	-0.4585	0.0472
2	285.12	0.5551	-0.2326	0.0026	-0.1865	0.0144	0.0860	0.0522	-0.4647	0.0625
2	285.12	0.5996	-0.2594	0.0031	-0.2209	0.0176	0.0237	0.0637	-0.6238	0.0497
2	285.12	0.6497	-0.2904	0.0026	-0.2532	0.0190	-0.0110	0.0774	-0.4097	0.0561
2	285.12	0.6996	-0.3272	0.0031	-0.2908	0.0225	-0.0977	0.0871	-0.4738	0.0525
2	285.12	0.7495	-0.3655	0.0017	-0.3217	0.0244	-0.1850	0.0978	-0.3458	0.0491
2	285.12	0.7996	-0.3992	0.0035	-0.3690	0.0258	-0.3095	0.1077	-0.3297	0.0547
2	285.12	0.8578	-0.4633	0.0028	-0.4256	0.0282	-0.4701	0.1243	-0.2336	0.0501
2	285.12	0.9100	-0.4877	0.0033	-0.4107	0.0304	-0.6810	0.1376	-0.2542	0.0475
2	285.12	0.9727	-0.5484	0.0048	-0.3389	0.0335	-0.8404	0.1453	0.0603	0.0848

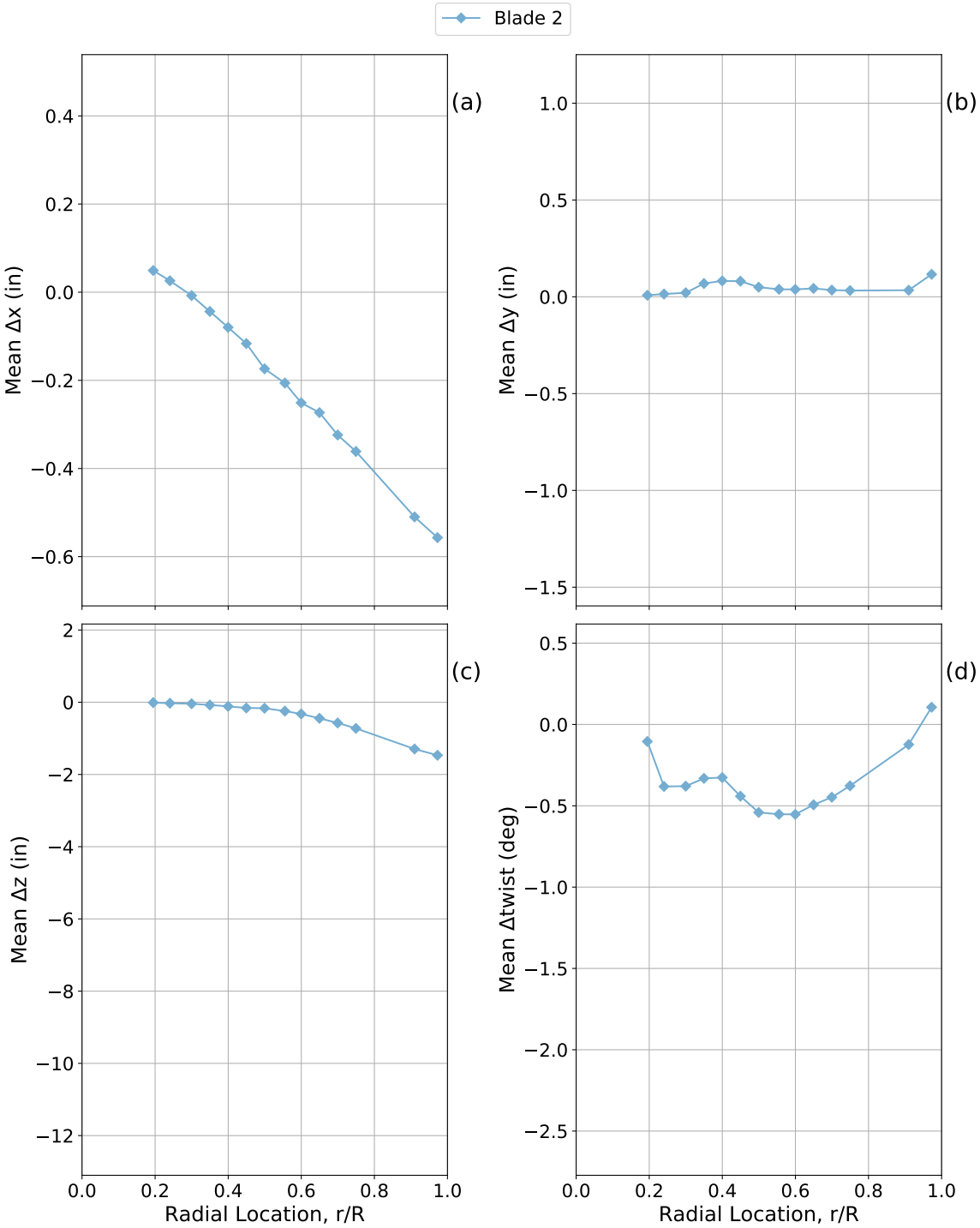


Figure 4.1-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0492	0.0020	0.0080	0.0015	-0.0104	0.0038	-0.1045	0.0296
2	299.88	0.2405	0.0259	0.0017	0.0143	0.0023	-0.0277	0.0091	-0.3814	0.0338
2	299.88	0.2999	-0.0077	0.0027	0.0208	0.0057	-0.0418	0.0158	-0.3794	0.0645
2	299.88	0.3498	-0.0437	0.0024	0.0686	0.0103	-0.0765	0.0291	-0.3313	0.0303
2	299.88	0.3998	-0.0798	0.0030	0.0822	0.0152	-0.1141	0.0436	-0.3264	0.0586
2	299.88	0.4496	-0.1165	0.0035	0.0806	0.0153	-0.1585	0.0447	-0.4410	0.0602
2	299.88	0.4995	-0.1738	0.0025	0.0497	0.0184	-0.1655	0.0515	-0.5409	0.0487
2	299.88	0.5551	-0.2061	0.0033	0.0386	0.0198	-0.2456	0.0564	-0.5520	0.0588
2	299.88	0.5996	-0.2509	0.0021	0.0382	0.0223	-0.3238	0.0621	-0.5527	0.0478
2	299.88	0.6497	-0.2732	0.0026	0.0432	0.0239	-0.4448	0.0699	-0.4940	0.0312
2	299.88	0.6996	-0.3240	0.0028	0.0346	0.0289	-0.5746	0.0752	-0.4473	0.0562
2	299.88	0.7495	-0.3613	0.0032	0.0323	0.0312	-0.7236	0.0818	-0.3775	0.0384
2	299.88	0.9100	-0.5099	0.0029	0.0339	0.0421	-1.2951	0.1077	-0.1233	0.0382
2	299.88	0.9727	-0.5568	0.0041	0.1163	0.0462	-1.4684	0.1225	0.1062	0.0387

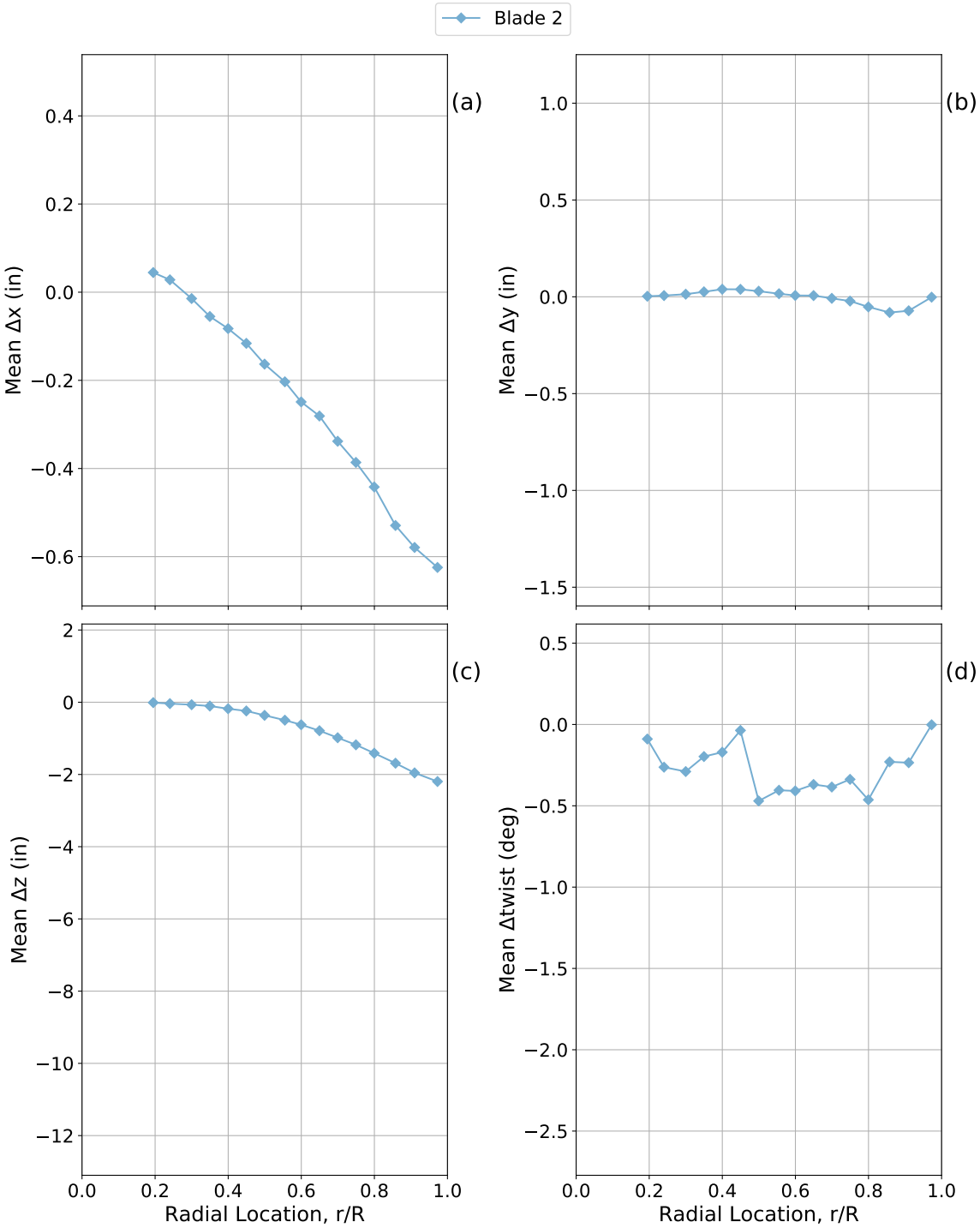


Figure 4.1-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.052, μ = 0.15, α = -0° NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0446	0.0014	0.0028	0.0008	-0.0106	0.0023	-0.0894	0.0205
2	315	0.2405	0.0281	0.0010	0.0063	0.0026	-0.0386	0.0043	-0.2626	0.0305
2	315	0.2999	-0.0144	0.0016	0.0135	0.0034	-0.0684	0.0088	-0.2894	0.0405
2	315	0.3498	-0.0551	0.0020	0.0258	0.0049	-0.1052	0.0125	-0.1972	0.0334
2	315	0.3998	-0.0826	0.0039	0.0390	0.0092	-0.1798	0.0212	-0.1706	0.0449
2	315	0.4496	-0.1161	0.0038	0.0385	0.0100	-0.2413	0.0297	-0.0366	0.0700
2	315	0.4995	-0.1632	0.0029	0.0289	0.0121	-0.3631	0.0305	-0.4703	0.0389
2	315	0.5551	-0.2033	0.0030	0.0158	0.0147	-0.4969	0.0332	-0.4044	0.0351
2	315	0.5996	-0.2489	0.0040	0.0068	0.0168	-0.6234	0.0384	-0.4086	0.0596
2	315	0.6497	-0.2809	0.0035	0.0063	0.0199	-0.7885	0.0427	-0.3689	0.0425
2	315	0.6996	-0.3382	0.0037	-0.0080	0.0220	-0.9831	0.0480	-0.3846	0.0478
2	315	0.7495	-0.3862	0.0043	-0.0221	0.0247	-1.1793	0.0559	-0.3374	0.0592
2	315	0.7996	-0.4419	0.0041	-0.0522	0.0281	-1.4116	0.0616	-0.4632	0.0439
2	315	0.8578	-0.5293	0.0040	-0.0812	0.0311	-1.6884	0.0661	-0.2298	0.0361
2	315	0.9100	-0.5791	0.0041	-0.0722	0.0348	-1.9561	0.0693	-0.2350	0.0466
2	315	0.9727	-0.6245	0.0046	-0.0020	0.0386	-2.1953	0.0762	-0.0019	0.0261

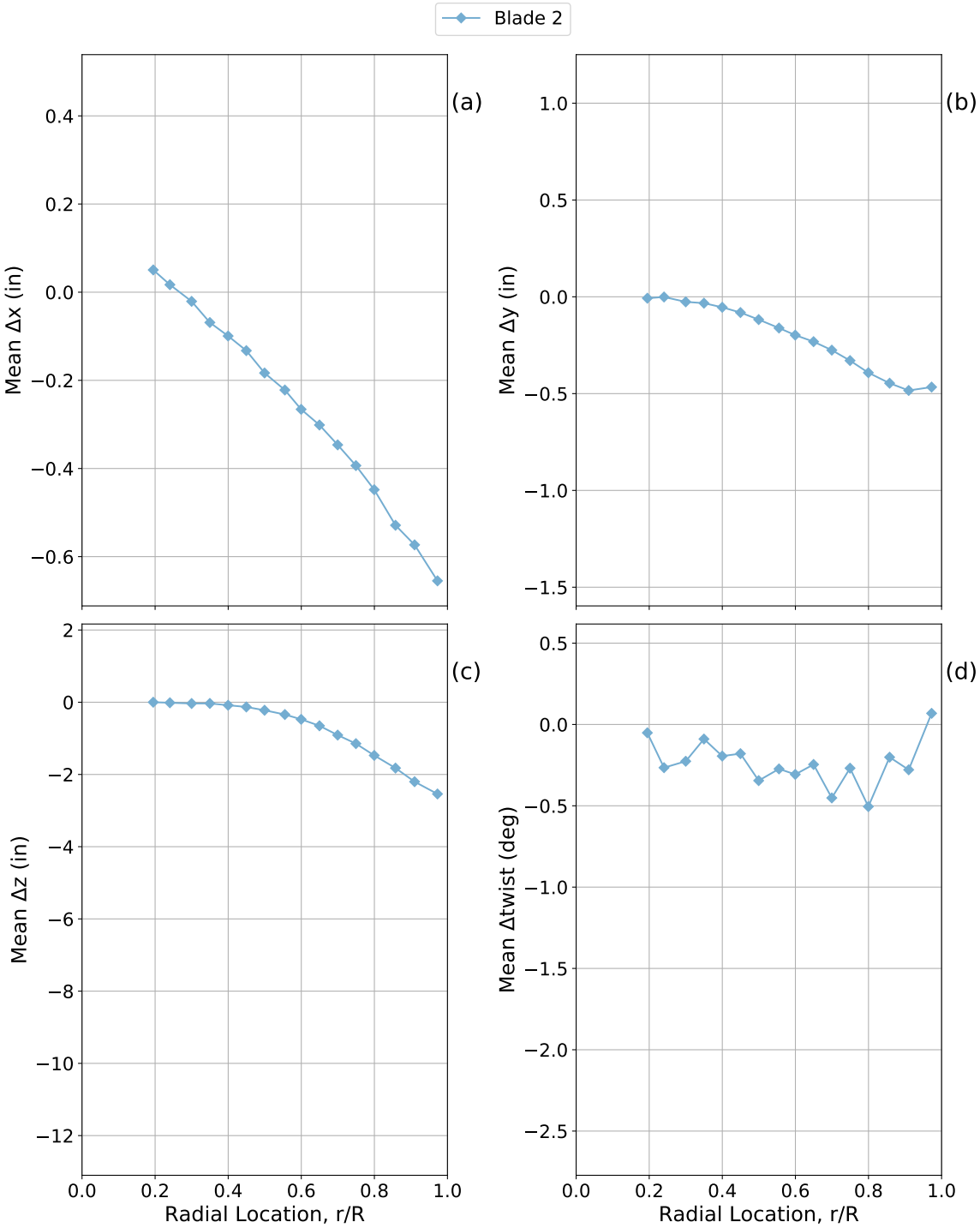


Figure 4.1-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0505	0.0023	-0.0073	0.0005	0.0005	0.0021	-0.0513	0.0206
2	330.12	0.2405	0.0170	0.0016	-0.0010	0.0018	-0.0145	0.0036	-0.2657	0.0320
2	330.12	0.2999	-0.0208	0.0019	-0.0261	0.0032	-0.0349	0.0083	-0.2261	0.0473
2	330.12	0.3498	-0.0688	0.0016	-0.0329	0.0048	-0.0331	0.0153	-0.0895	0.0250
2	330.12	0.3998	-0.0994	0.0020	-0.0542	0.0072	-0.0828	0.0228	-0.1944	0.0315
2	330.12	0.4496	-0.1326	0.0036	-0.0813	0.0079	-0.1308	0.0257	-0.1794	0.0274
2	330.12	0.4995	-0.1833	0.0023	-0.1177	0.0086	-0.2222	0.0330	-0.3452	0.0373
2	330.12	0.5551	-0.2219	0.0015	-0.1613	0.0103	-0.3405	0.0395	-0.2732	0.0534
2	330.12	0.5996	-0.2658	0.0041	-0.1979	0.0117	-0.4733	0.0420	-0.3071	0.0489
2	330.12	0.6497	-0.3013	0.0027	-0.2317	0.0142	-0.6522	0.0452	-0.2459	0.0267
2	330.12	0.6996	-0.3464	0.0036	-0.2755	0.0164	-0.9094	0.0492	-0.4517	0.0502
2	330.12	0.7495	-0.3934	0.0038	-0.3295	0.0169	-1.1467	0.0580	-0.2687	0.0343
2	330.12	0.7996	-0.4481	0.0038	-0.3920	0.0189	-1.4724	0.0644	-0.5049	0.0396
2	330.12	0.8578	-0.5288	0.0029	-0.4463	0.0225	-1.8232	0.0704	-0.2012	0.0338
2	330.12	0.9100	-0.5732	0.0030	-0.4838	0.0245	-2.2004	0.0773	-0.2787	0.0413
2	330.12	0.9727	-0.6549	0.0032	-0.4663	0.0275	-2.5404	0.0815	0.0685	0.0308

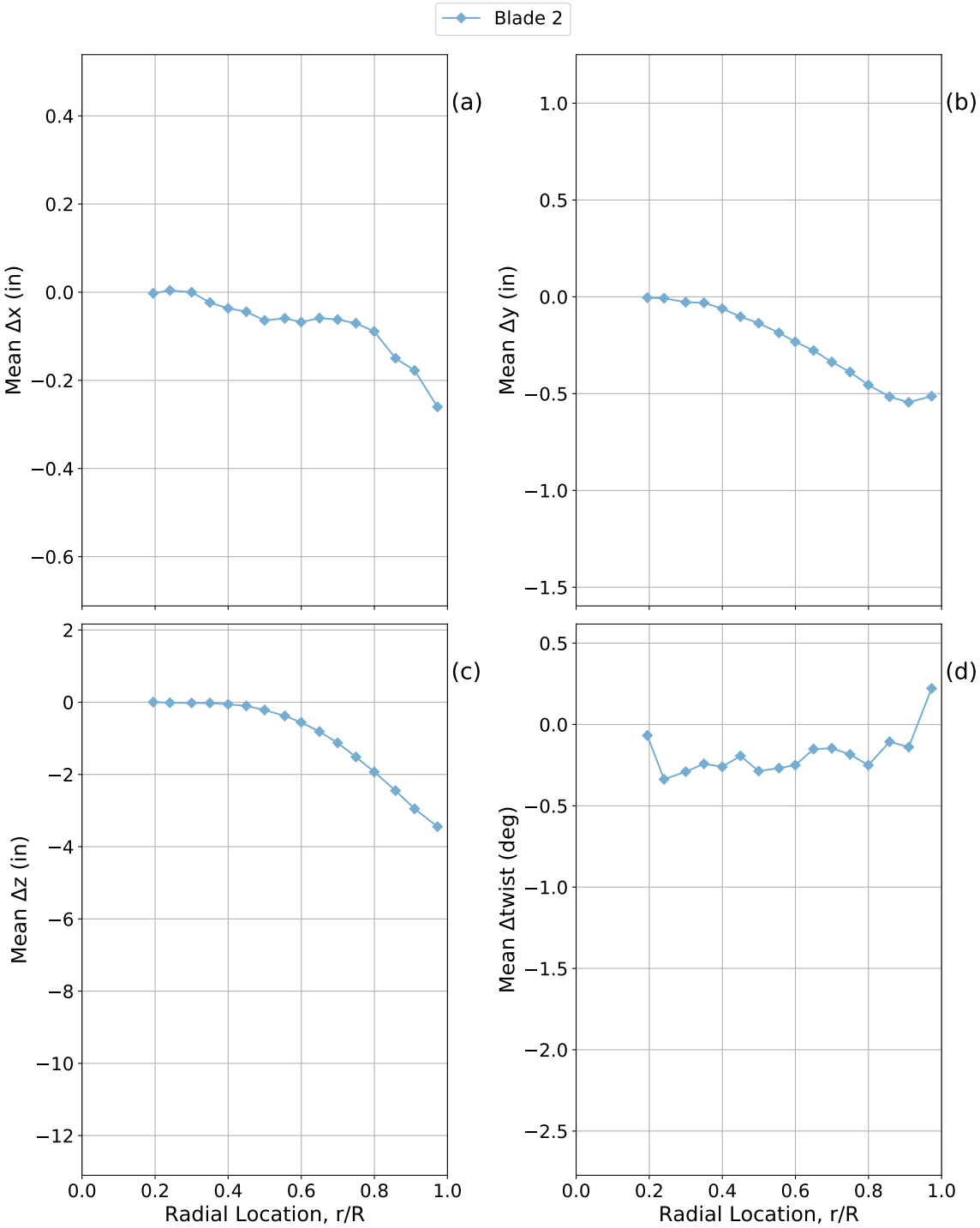


Figure 4.1-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.052, μ = 0.15, α = -0° NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0026	0.0011	-0.0044	0.0006	0.0038	0.0011	-0.0675	0.0154
2	344.88	0.2405	0.0041	0.0013	-0.0074	0.0017	-0.0136	0.0036	-0.3371	0.0209
2	344.88	0.2999	-0.0001	0.0013	-0.0279	0.0033	-0.0207	0.0057	-0.2904	0.0330
2	344.88	0.3498	-0.0234	0.0014	-0.0310	0.0059	-0.0211	0.0084	-0.2420	0.0287
2	344.88	0.3998	-0.0367	0.0018	-0.0609	0.0091	-0.0579	0.0140	-0.2603	0.0286
2	344.88	0.4496	-0.0443	0.0016	-0.1027	0.0094	-0.1004	0.0158	-0.1933	0.0560
2	344.88	0.4995	-0.0640	0.0017	-0.1363	0.0117	-0.2146	0.0200	-0.2867	0.0513
2	344.88	0.5551	-0.0593	0.0028	-0.1860	0.0127	-0.3793	0.0232	-0.2686	0.0419
2	344.88	0.5996	-0.0679	0.0018	-0.2323	0.0158	-0.5567	0.0262	-0.2500	0.0509
2	344.88	0.6497	-0.0588	0.0016	-0.2774	0.0157	-0.8134	0.0276	-0.1513	0.0492
2	344.88	0.6996	-0.0621	0.0028	-0.3368	0.0187	-1.1259	0.0345	-0.1467	0.0511
2	344.88	0.7495	-0.0705	0.0023	-0.3884	0.0223	-1.5157	0.0372	-0.1837	0.0470
2	344.88	0.7996	-0.0890	0.0028	-0.4552	0.0244	-1.9287	0.0431	-0.2506	0.0364
2	344.88	0.8578	-0.1499	0.0047	-0.5164	0.0255	-2.4487	0.0439	-0.1062	0.0815
2	344.88	0.9100	-0.1775	0.0100	-0.5448	0.0286	-2.9499	0.0552	-0.1389	0.1416
2	344.88	0.9727	-0.2603	0.0154	-0.5134	0.0346	-3.4454	0.0604	0.2215	0.3015

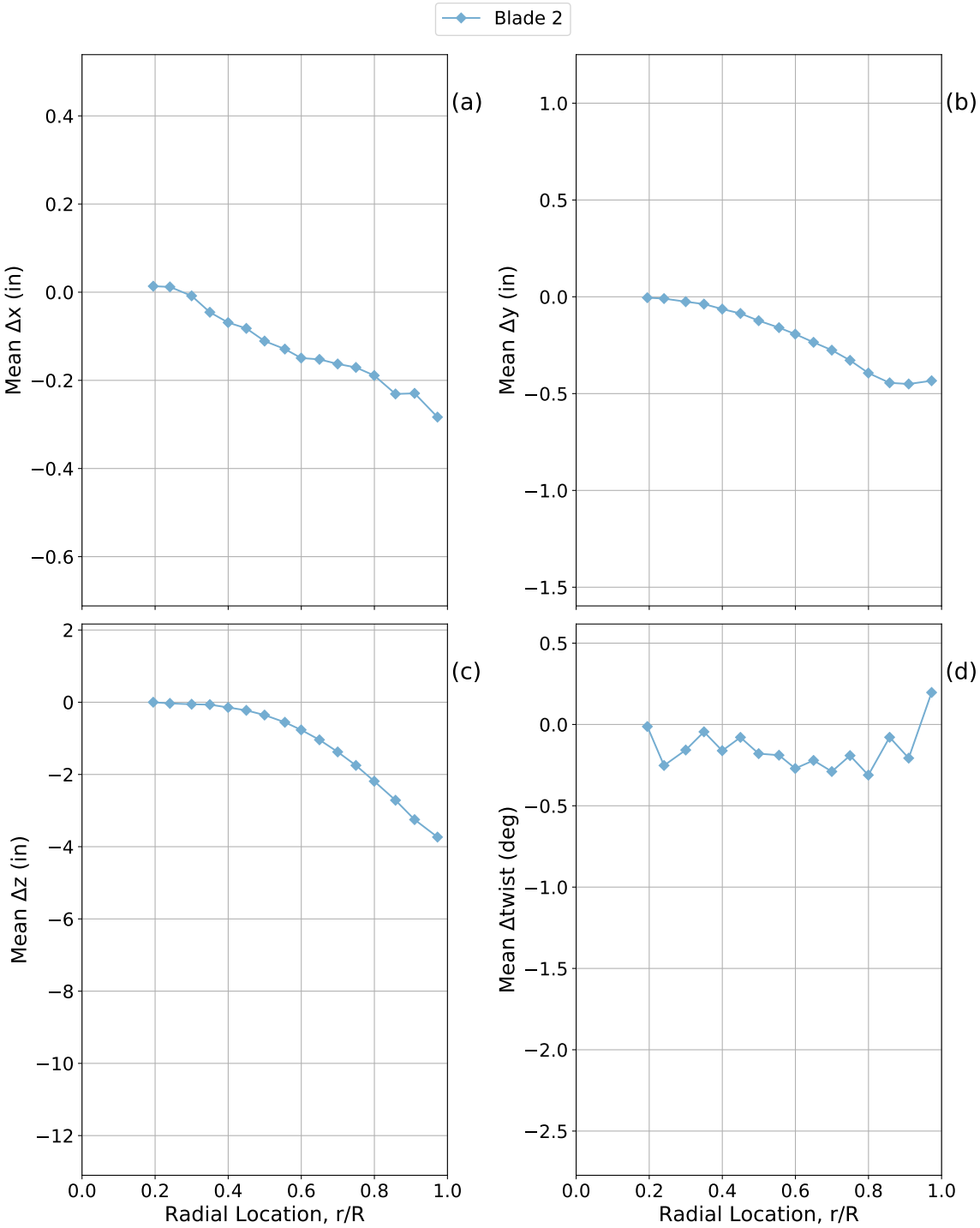


Figure 4.1-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.052, μ = 0.15, α = -0° NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0136	0.0014	-0.0047	0.0010	0.0004	0.0014	-0.0127	0.0149
2	350.16	0.2405	0.0120	0.0011	-0.0092	0.0024	-0.0323	0.0039	-0.2522	0.0190
2	350.16	0.2999	-0.0083	0.0009	-0.0253	0.0037	-0.0553	0.0055	-0.1570	0.0306
2	350.16	0.3498	-0.0455	0.0011	-0.0375	0.0071	-0.0662	0.0101	-0.0451	0.0194
2	350.16	0.3998	-0.0689	0.0018	-0.0634	0.0106	-0.1447	0.0154	-0.1613	0.0261
2	350.16	0.4496	-0.0821	0.0015	-0.0861	0.0120	-0.2248	0.0198	-0.0792	0.0380
2	350.16	0.4995	-0.1109	0.0022	-0.1233	0.0155	-0.3547	0.0234	-0.1794	0.0301
2	350.16	0.5551	-0.1290	0.0021	-0.1593	0.0179	-0.5553	0.0296	-0.1889	0.0252
2	350.16	0.5996	-0.1494	0.0021	-0.1928	0.0199	-0.7658	0.0321	-0.2706	0.0242
2	350.16	0.6497	-0.1524	0.0022	-0.2350	0.0235	-1.0409	0.0374	-0.2209	0.0504
2	350.16	0.6996	-0.1628	0.0026	-0.2756	0.0271	-1.3758	0.0408	-0.2894	0.0232
2	350.16	0.7495	-0.1707	0.0025	-0.3282	0.0285	-1.7493	0.0453	-0.1912	0.0401
2	350.16	0.7996	-0.1890	0.0019	-0.3937	0.0333	-2.1878	0.0506	-0.3114	0.0430
2	350.16	0.8578	-0.2309	0.0036	-0.4444	0.0366	-2.7142	0.0561	-0.0786	0.0608
2	350.16	0.9100	-0.2295	0.0051	-0.4503	0.0411	-3.2504	0.0614	-0.2070	0.0494
2	350.16	0.9727	-0.2834	0.0059	-0.4336	0.0454	-3.7343	0.0687	0.1968	0.0575

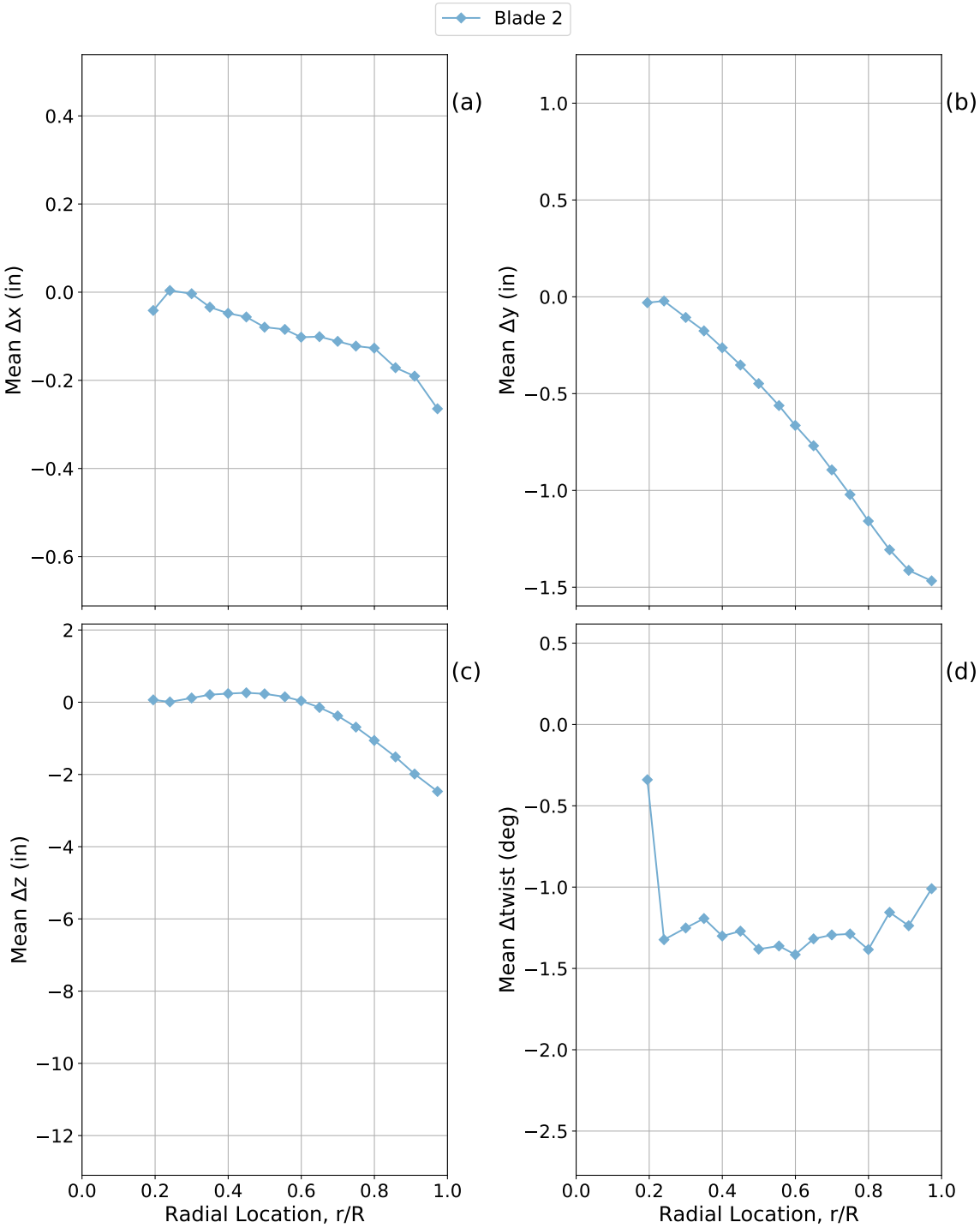


Figure 4.1-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.052, μ = 0.15, α = -0° NFAC run 42, point 7. BD run 19, points 690 to 700.

Table 4.1-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.15, α = -0°
NFAC run 42, point 7. BD run 19, points 690 to 700.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0415	0.0016	-0.0304	0.0014	0.0652	0.0041	-0.3398	0.0196
2	355.08	0.2405	0.0038	0.0014	-0.0217	0.0016	0.0087	0.0048	-1.3233	0.0433
2	355.08	0.2999	-0.0035	0.0012	-0.1066	0.0040	0.1175	0.0121	-1.2511	0.0518
2	355.08	0.3498	-0.0339	0.0011	-0.1761	0.0069	0.2089	0.0210	-1.1931	0.0416
2	355.08	0.3998	-0.0479	0.0018	-0.2631	0.0098	0.2392	0.0297	-1.3008	0.0458
2	355.08	0.4496	-0.0562	0.0012	-0.3524	0.0125	0.2616	0.0387	-1.2708	0.0542
2	355.08	0.4995	-0.0794	0.0016	-0.4483	0.0153	0.2321	0.0474	-1.3814	0.0479
2	355.08	0.5551	-0.0844	0.0018	-0.5618	0.0182	0.1498	0.0559	-1.3619	0.0450
2	355.08	0.5996	-0.1021	0.0019	-0.6644	0.0214	0.0381	0.0619	-1.4151	0.0399
2	355.08	0.6497	-0.1009	0.0022	-0.7693	0.0232	-0.1454	0.0678	-1.3181	0.0487
2	355.08	0.6996	-0.1115	0.0029	-0.8939	0.0267	-0.3779	0.0734	-1.2939	0.0609
2	355.08	0.7495	-0.1223	0.0028	-1.0215	0.0289	-0.6888	0.0812	-1.2879	0.0370
2	355.08	0.7996	-0.1269	0.0025	-1.1583	0.0322	-1.0590	0.0866	-1.3839	0.0595
2	355.08	0.8578	-0.1713	0.0030	-1.3067	0.0353	-1.5143	0.0955	-1.1552	0.0518
2	355.08	0.9100	-0.1905	0.0036	-1.4129	0.0384	-1.9871	0.1030	-1.2374	0.0706
2	355.08	0.9727	-0.2645	0.0040	-1.4671	0.0419	-2.4699	0.1144	-1.0096	0.0714

4.2 Run 42, Point 21

4.2.1 Pitch, Flap, and Lag

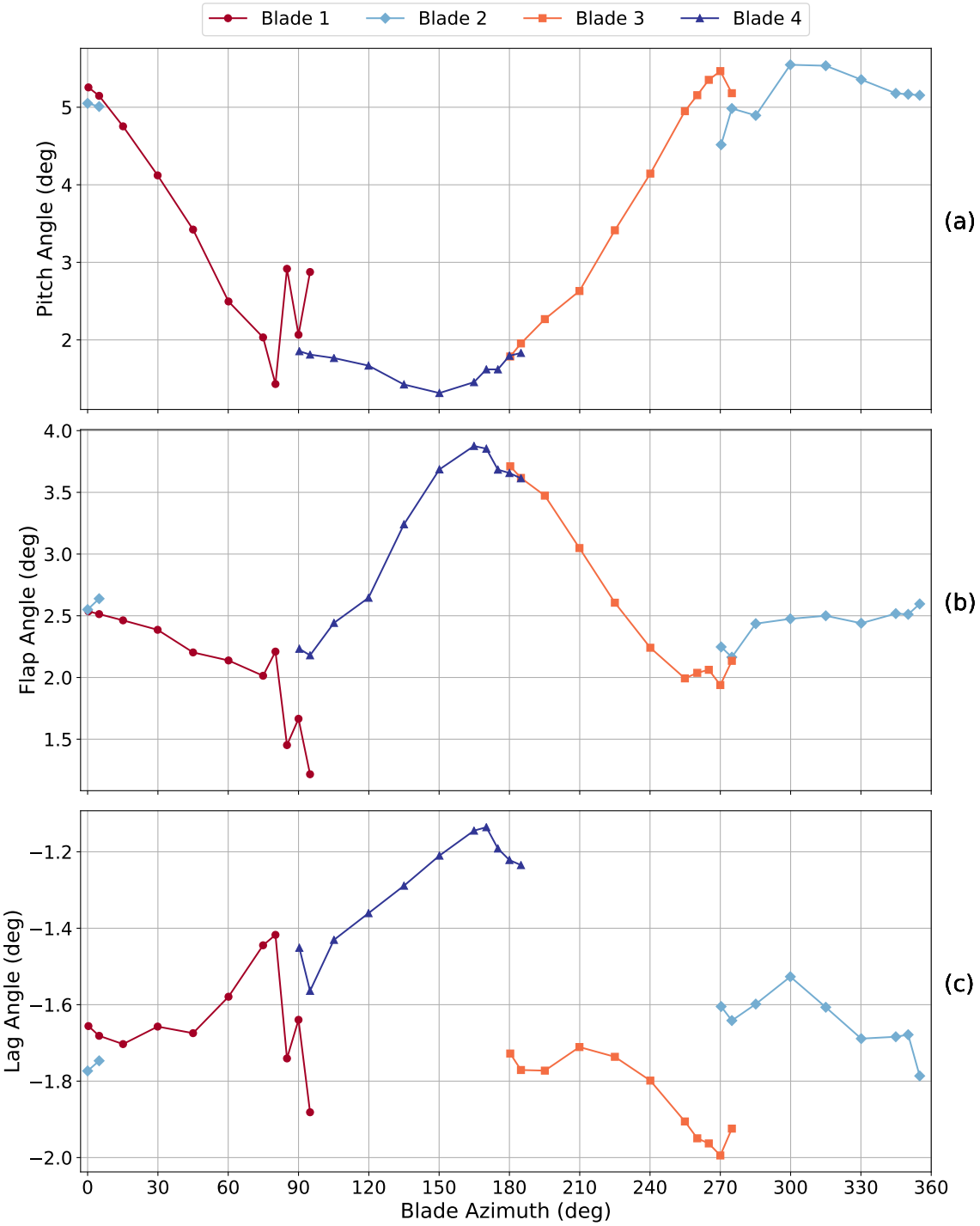


Figure 4.2-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 42, point 21. BD run 19, points 826 to 836.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.0501	2.5502	-1.7733	0.0409	0.0208	0.0205
0.35	1	5.2557	2.5357	-1.6560	0.0748	0.0392	0.0322
4.92	1	5.1472	2.5134	-1.6814	0.0806	0.0361	0.0209
4.92	2	5.0091	2.6384	-1.7468	0.0850	0.0313	0.0139
15.12	1	4.7537	2.4628	-1.7031	0.0624	0.0355	0.0341
29.88	1	4.1215	2.3862	-1.6573	0.0405	0.0241	0.0205
45	1	3.4227	2.2030	-1.6745	0.0684	0.0192	0.0169
60.12	1	2.4956	2.1378	-1.5792	0.0470	0.0284	0.0236
74.88	1	2.0322	2.0139	-1.4446	0.1152	0.0443	0.0352
80.16	1	1.4310	2.2096	-1.4173	0.1550	0.0583	0.0387
85.08	1	2.9168	1.4519	-1.7406	0.0569	0.0201	0.0171
90	1	2.0669	1.6653	-1.6396	0.0141	0.0166	0.0194
90.35	4	1.8542	2.2323	-1.4512	0.0255	0.0172	0.0153
94.92	1	2.8754	1.2157	-1.8814	0.0793	0.0305	0.0145
94.92	4	1.8106	2.1795	-1.5639	0.0191	0.0167	0.0168
105.12	4	1.7661	2.4420	-1.4305	0.0209	0.0177	0.0243
119.88	4	1.6684	2.6457	-1.3606	0.0177	0.0197	0.0267
135	4	1.4249	3.2409	-1.2888	0.0201	0.0333	0.0143
150.12	4	1.3148	3.6856	-1.2101	0.0159	0.0188	0.0159
164.88	4	1.4549	3.8756	-1.1447	0.0153	0.0207	0.0296
170.16	4	1.6198	3.8535	-1.1357	0.0188	0.0274	0.0147
175.08	4	1.6197	3.6838	-1.1915	0.0239	0.0149	0.0137
180	4	1.7954	3.6565	-1.2216	0.0300	0.0176	0.0117
180.35	3	1.7862	3.7109	-1.7278	0.0203	0.0122	0.0240
184.92	3	1.9545	3.6170	-1.7709	0.0296	0.0232	0.0204
184.92	4	1.8317	3.6137	-1.2348	0.0334	0.0197	0.0194
195.12	3	2.2679	3.4732	-1.7725	0.0259	0.0228	0.0250
209.88	3	2.6305	3.0486	-1.7108	0.0217	0.0235	0.0192
225	3	3.4136	2.6058	-1.7364	0.0207	0.0203	0.0101
240.12	3	4.1441	2.2409	-1.7986	0.0309	0.0185	0.0270
254.88	3	4.9490	1.9927	-1.9055	0.0572	0.0202	0.0259
260.16	3	5.1552	2.0376	-1.9496	0.0343	0.0236	0.0133
265.08	3	5.3529	2.0621	-1.9630	0.0581	0.0231	0.0120
270	3	5.4656	1.9385	-1.9945	0.1024	0.0292	0.0260
270.35	2	4.5168	2.2475	-1.6048	0.0495	0.0271	0.0212
274.92	2	4.9839	2.1642	-1.6415	0.0431	0.0312	0.0151
274.92	3	5.1809	2.1348	-1.9242	0.0938	0.0483	0.0163
285.12	2	4.8940	2.4361	-1.5984	0.0762	0.0226	0.0290
299.88	2	5.5474	2.4752	-1.5268	0.0632	0.0307	0.0315
315	2	5.5349	2.5000	-1.6067	0.0238	0.0213	0.0153
330.12	2	5.3563	2.4395	-1.6888	0.0271	0.0281	0.0391
344.88	2	5.1791	2.5175	-1.6839	0.0330	0.0284	0.0146
350.16	2	5.1670	2.5114	-1.6785	0.0418	0.0193	0.0123
355.08	2	5.1546	2.5960	-1.7864	0.0612	0.0257	0.0239

4.2.2 Spanwise Elastic Deformations

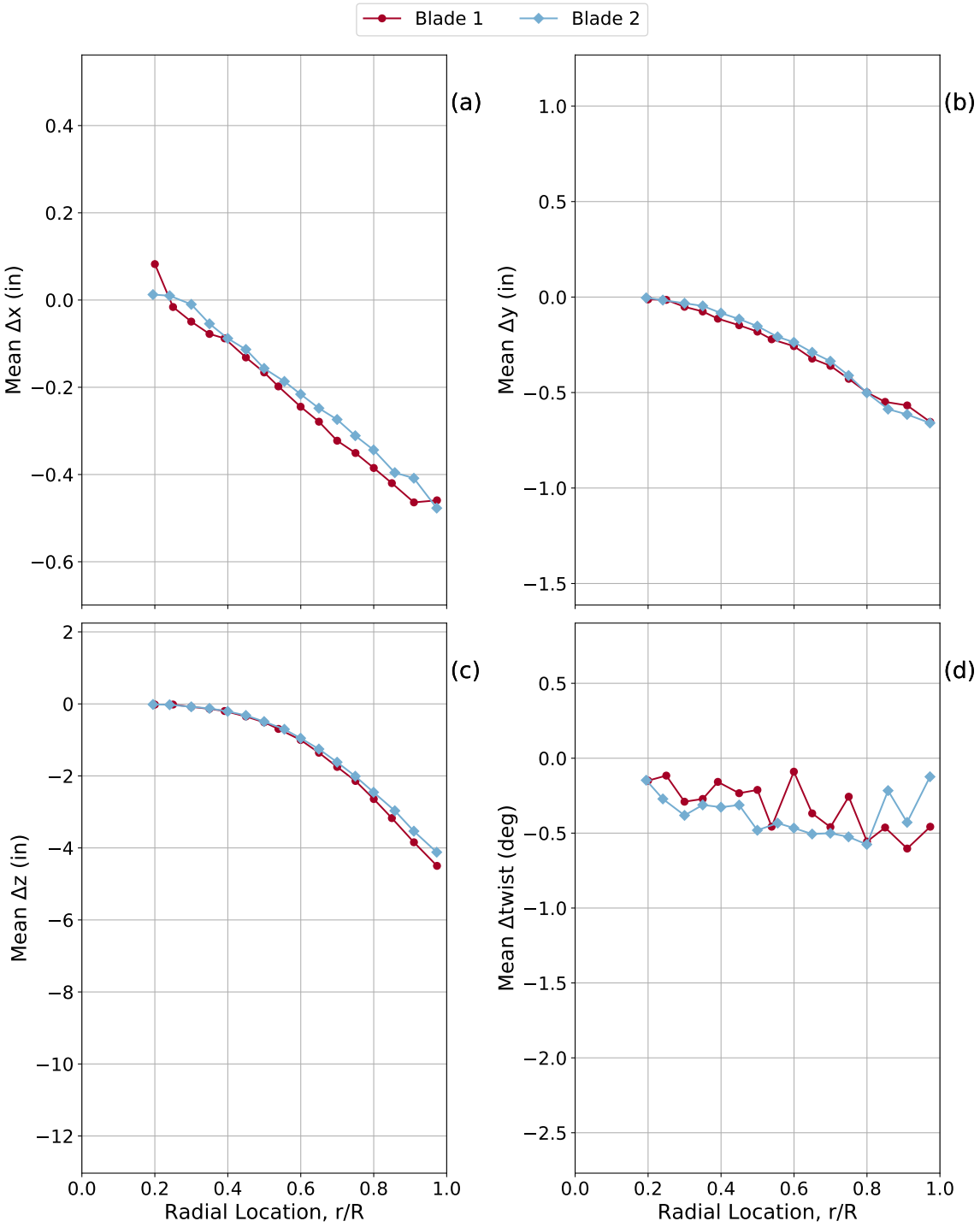


Figure 4.2-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0824	0.0030	-0.0123	0.0018	-0.0186	0.0044	-0.1496	0.0370
1	0.35	0.2499	-0.0160	0.0026	-0.0147	0.0043	-0.0179	0.0090	-0.1160	0.0690
1	0.35	0.2998	-0.0494	0.0018	-0.0510	0.0068	-0.0822	0.0144	-0.2902	0.0827
1	0.35	0.3498	-0.0777	0.0017	-0.0756	0.0135	-0.1382	0.0285	-0.2719	0.0658
1	0.35	0.3913	-0.0879	0.0017	-0.1132	0.0181	-0.1975	0.0377	-0.1579	0.0722
1	0.35	0.4496	-0.1316	0.0023	-0.1476	0.0254	-0.3495	0.0515	-0.2335	0.0785
1	0.35	0.4997	-0.1660	0.0026	-0.1810	0.0303	-0.5109	0.0639	-0.2116	0.0670
1	0.35	0.5387	-0.1980	0.0026	-0.2212	0.0352	-0.6947	0.0737	-0.4571	0.0696
1	0.35	0.5996	-0.2446	0.0025	-0.2570	0.0412	-1.0015	0.0857	-0.0897	0.0818
1	0.35	0.6498	-0.2789	0.0025	-0.3224	0.0464	-1.3565	0.0990	-0.3682	0.0672
1	0.35	0.6998	-0.3225	0.0027	-0.3602	0.0513	-1.7502	0.1110	-0.4599	0.0729
1	0.35	0.7500	-0.3507	0.0025	-0.4281	0.0577	-2.1405	0.1225	-0.2570	0.0791
1	0.35	0.8001	-0.3850	0.0034	-0.4996	0.0615	-2.6419	0.1319	-0.5565	0.0867
1	0.35	0.8497	-0.4198	0.0023	-0.5489	0.0662	-3.1720	0.1435	-0.4627	0.0771
1	0.35	0.9102	-0.4639	0.0057	-0.5674	0.0733	-3.8436	0.1501	-0.6030	0.1343
1	0.35	0.9734	-0.4592	0.0034	-0.6539	0.0785	-4.4977	0.1689	-0.4574	0.1083
2	0	0.1949	0.0125	0.0022	-0.0040	0.0016	-0.0149	0.0030	-0.1469	0.0322
2	0	0.2405	0.0099	0.0017	-0.0159	0.0028	-0.0234	0.0045	-0.2717	0.0290
2	0	0.2999	-0.0099	0.0016	-0.0325	0.0051	-0.0810	0.0100	-0.3815	0.0543
2	0	0.3498	-0.0544	0.0015	-0.0464	0.0087	-0.1251	0.0142	-0.3117	0.0479
2	0	0.3998	-0.0880	0.0014	-0.0839	0.0129	-0.2082	0.0221	-0.3269	0.0415
2	0	0.4496	-0.1133	0.0015	-0.1152	0.0158	-0.3201	0.0250	-0.3124	0.0324
2	0	0.4995	-0.1567	0.0013	-0.1524	0.0183	-0.4908	0.0281	-0.4809	0.0431
2	0	0.5551	-0.1866	0.0023	-0.2083	0.0221	-0.7054	0.0304	-0.4331	0.0524
2	0	0.5996	-0.2159	0.0020	-0.2365	0.0248	-0.9530	0.0325	-0.4661	0.0426
2	0	0.6497	-0.2480	0.0023	-0.2894	0.0292	-1.2542	0.0346	-0.5060	0.0445
2	0	0.6996	-0.2739	0.0014	-0.3359	0.0297	-1.6190	0.0388	-0.5007	0.0510
2	0	0.7495	-0.3111	0.0015	-0.4108	0.0345	-2.0088	0.0431	-0.5250	0.0500
2	0	0.7996	-0.3437	0.0019	-0.5012	0.0365	-2.4546	0.0481	-0.5757	0.0504
2	0	0.8578	-0.3957	0.0030	-0.5870	0.0402	-2.9678	0.0532	-0.2161	0.0397
2	0	0.9100	-0.4085	0.0027	-0.6147	0.0441	-3.5353	0.0575	-0.4283	0.0990
2	0	0.9727	-0.4770	0.0032	-0.6596	0.0462	-4.1188	0.0674	-0.1236	0.0453

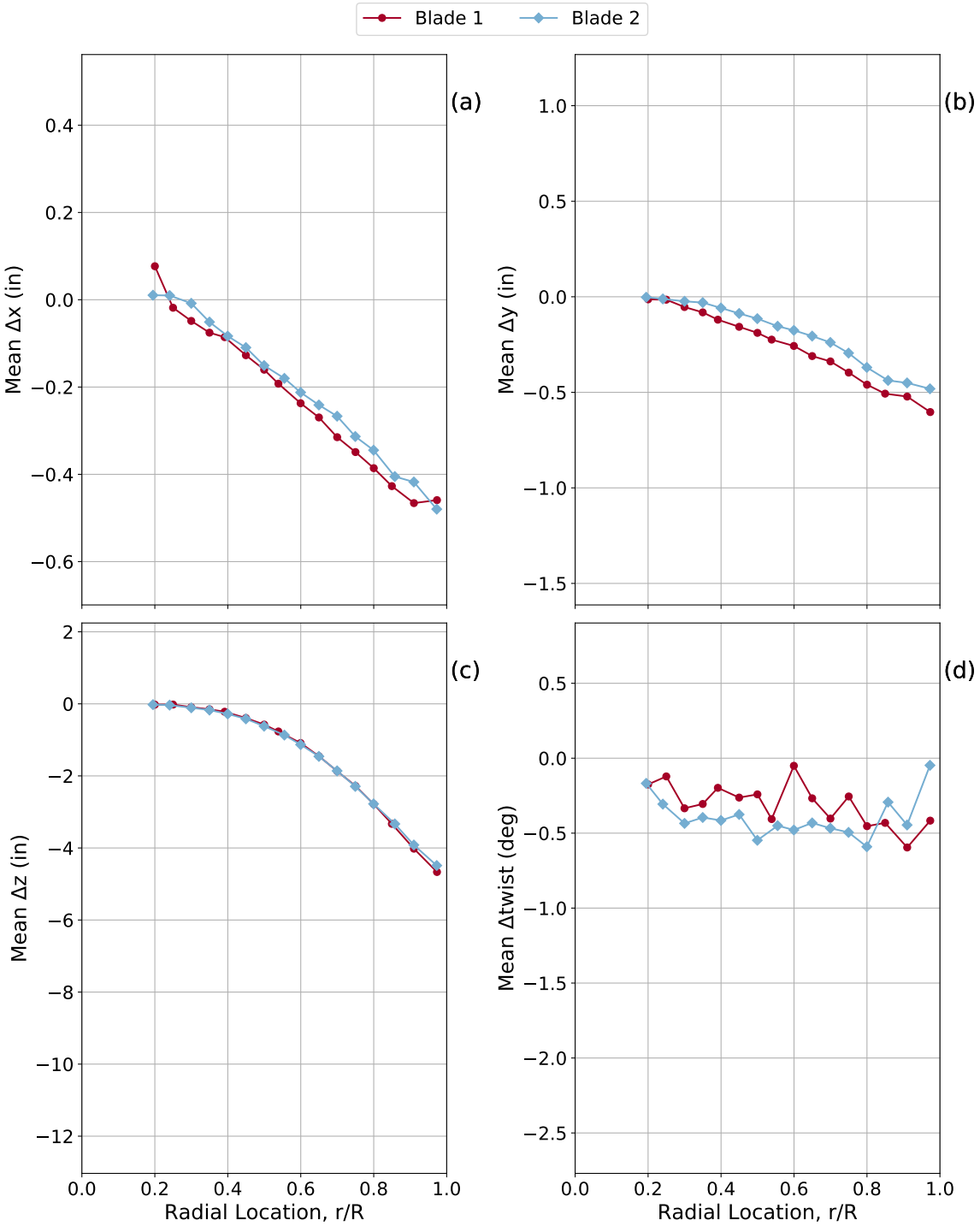


Figure 4.2-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0768	0.0025	-0.0135	0.0015	-0.0211	0.0039	-0.1749	0.0387
1	4.92	0.2499	-0.0183	0.0029	-0.0152	0.0037	-0.0195	0.0043	-0.1215	0.0703
1	4.92	0.2998	-0.0485	0.0017	-0.0537	0.0060	-0.0929	0.0123	-0.3342	0.0823
1	4.92	0.3498	-0.0754	0.0016	-0.0816	0.0102	-0.1515	0.0185	-0.3054	0.0691
1	4.92	0.3913	-0.0857	0.0018	-0.1199	0.0147	-0.2190	0.0253	-0.1976	0.0679
1	4.92	0.4496	-0.1271	0.0014	-0.1572	0.0184	-0.3940	0.0325	-0.2627	0.0713
1	4.92	0.4997	-0.1603	0.0016	-0.1888	0.0229	-0.5761	0.0412	-0.2412	0.0690
1	4.92	0.5387	-0.1923	0.0018	-0.2242	0.0258	-0.7668	0.0477	-0.4061	0.0769
1	4.92	0.5996	-0.2371	0.0017	-0.2574	0.0303	-1.0884	0.0562	-0.0506	0.0649
1	4.92	0.6498	-0.2697	0.0017	-0.3103	0.0340	-1.4537	0.0617	-0.2675	0.0731
1	4.92	0.6998	-0.3149	0.0018	-0.3383	0.0377	-1.8676	0.0685	-0.4028	0.0696
1	4.92	0.7500	-0.3490	0.0023	-0.3967	0.0414	-2.2797	0.0737	-0.2553	0.0772
1	4.92	0.8001	-0.3859	0.0020	-0.4601	0.0452	-2.7848	0.0796	-0.4533	0.0863
1	4.92	0.8497	-0.4270	0.0025	-0.5070	0.0476	-3.3304	0.0856	-0.4314	0.0732
1	4.92	0.9102	-0.4659	0.0030	-0.5222	0.0523	-4.0203	0.0951	-0.5956	0.0663
1	4.92	0.9734	-0.4591	0.0023	-0.6033	0.0571	-4.6671	0.0980	-0.4165	0.0809
2	4.92	0.1949	0.0104	0.0024	-0.0024	0.0015	-0.0218	0.0032	-0.1678	0.0343
2	4.92	0.2405	0.0098	0.0010	-0.0112	0.0012	-0.0353	0.0063	-0.3063	0.0823
2	4.92	0.2999	-0.0082	0.0012	-0.0237	0.0054	-0.1094	0.0119	-0.4348	0.0937
2	4.92	0.3498	-0.0510	0.0016	-0.0305	0.0085	-0.1718	0.0197	-0.3954	0.0680
2	4.92	0.3998	-0.0833	0.0018	-0.0587	0.0129	-0.2806	0.0306	-0.4152	0.0694
2	4.92	0.4496	-0.1095	0.0013	-0.0873	0.0160	-0.4166	0.0398	-0.3752	0.0763
2	4.92	0.4995	-0.1507	0.0012	-0.1145	0.0195	-0.6194	0.0508	-0.5476	0.0724
2	4.92	0.5551	-0.1801	0.0018	-0.1541	0.0225	-0.8661	0.0591	-0.4501	0.0744
2	4.92	0.5996	-0.2123	0.0017	-0.1757	0.0254	-1.1308	0.0663	-0.4789	0.0788
2	4.92	0.6497	-0.2411	0.0016	-0.2057	0.0284	-1.4587	0.0736	-0.4317	0.0784
2	4.92	0.6996	-0.2668	0.0018	-0.2390	0.0324	-1.8603	0.0861	-0.4671	0.0779
2	4.92	0.7495	-0.3133	0.0021	-0.2947	0.0364	-2.2906	0.0937	-0.4949	0.0727
2	4.92	0.7996	-0.3447	0.0020	-0.3697	0.0403	-2.7771	0.1021	-0.5908	0.0823
2	4.92	0.8578	-0.4051	0.0024	-0.4379	0.0447	-3.3331	0.1147	-0.2931	0.0695
2	4.92	0.9100	-0.4175	0.0027	-0.4507	0.0492	-3.9177	0.1246	-0.4456	0.1110
2	4.92	0.9727	-0.4798	0.0048	-0.4815	0.0530	-4.4876	0.1363	-0.0475	0.0732

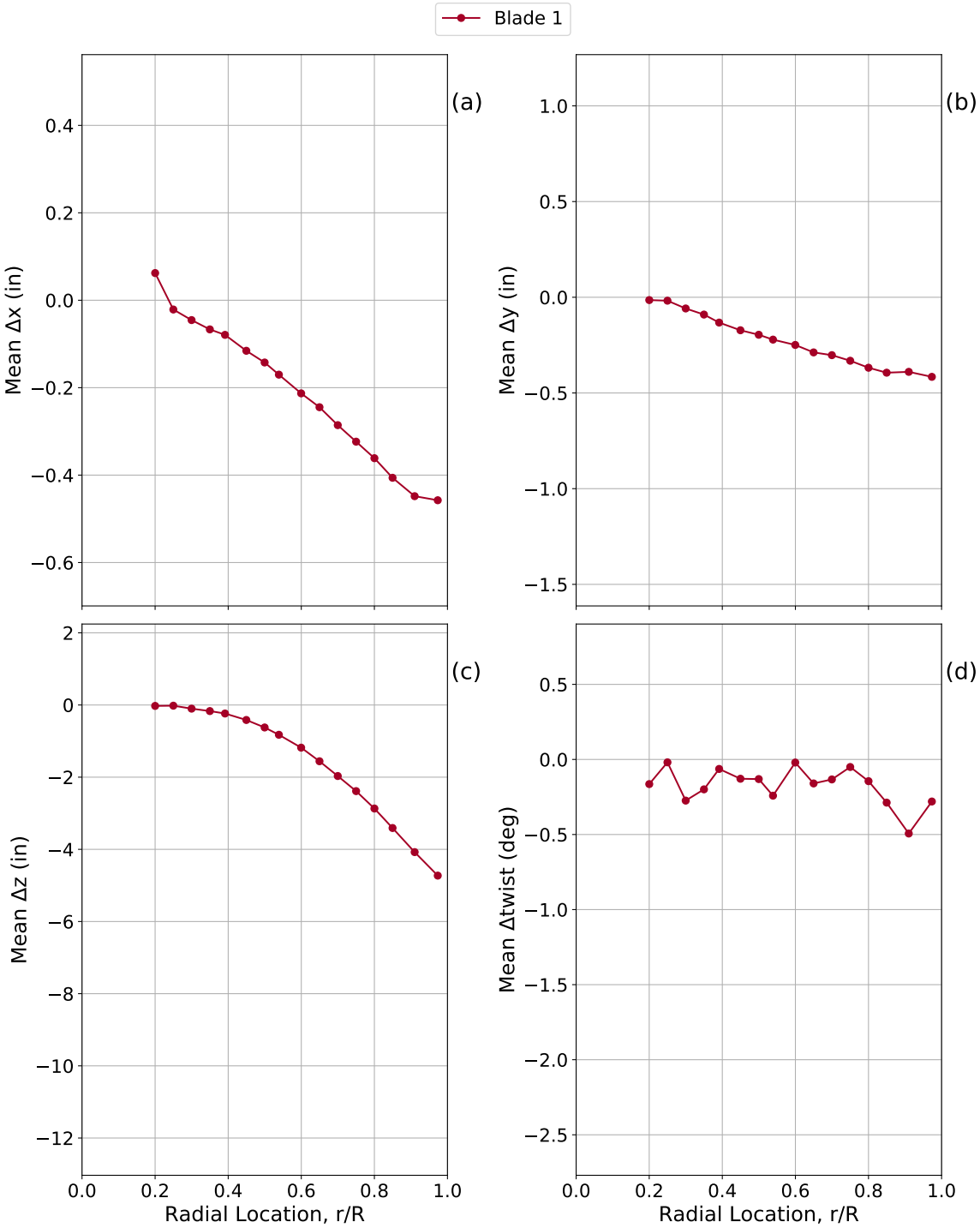


Figure 4.2-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0622	0.0022	-0.0147	0.0014	-0.0251	0.0033	-0.1641	0.0302
1	15.12	0.2499	-0.0212	0.0017	-0.0179	0.0021	-0.0190	0.0048	-0.0193	0.0707
1	15.12	0.2998	-0.0454	0.0012	-0.0586	0.0048	-0.1011	0.0093	-0.2741	0.0717
1	15.12	0.3498	-0.0667	0.0016	-0.0904	0.0084	-0.1683	0.0167	-0.1992	0.0555
1	15.12	0.3913	-0.0792	0.0020	-0.1323	0.0114	-0.2359	0.0215	-0.0633	0.0550
1	15.12	0.4496	-0.1156	0.0025	-0.1724	0.0154	-0.4152	0.0279	-0.1286	0.0608
1	15.12	0.4997	-0.1424	0.0029	-0.1959	0.0188	-0.6228	0.0349	-0.1307	0.0549
1	15.12	0.5387	-0.1702	0.0021	-0.2213	0.0210	-0.8251	0.0403	-0.2414	0.0571
1	15.12	0.5996	-0.2130	0.0020	-0.2491	0.0256	-1.1818	0.0495	-0.0206	0.0594
1	15.12	0.6498	-0.2447	0.0022	-0.2881	0.0294	-1.5591	0.0577	-0.1598	0.0633
1	15.12	0.6998	-0.2857	0.0021	-0.3025	0.0338	-1.9681	0.0663	-0.1331	0.0599
1	15.12	0.7500	-0.3235	0.0021	-0.3317	0.0375	-2.3863	0.0754	-0.0503	0.0614
1	15.12	0.8001	-0.3613	0.0019	-0.3682	0.0413	-2.8685	0.0845	-0.1447	0.0687
1	15.12	0.8497	-0.4061	0.0022	-0.3941	0.0450	-3.4088	0.0934	-0.2876	0.0685
1	15.12	0.9102	-0.4482	0.0024	-0.3897	0.0504	-4.0770	0.1045	-0.4934	0.0819
1	15.12	0.9734	-0.4575	0.0030	-0.4158	0.0553	-4.7279	0.1096	-0.2802	0.0864

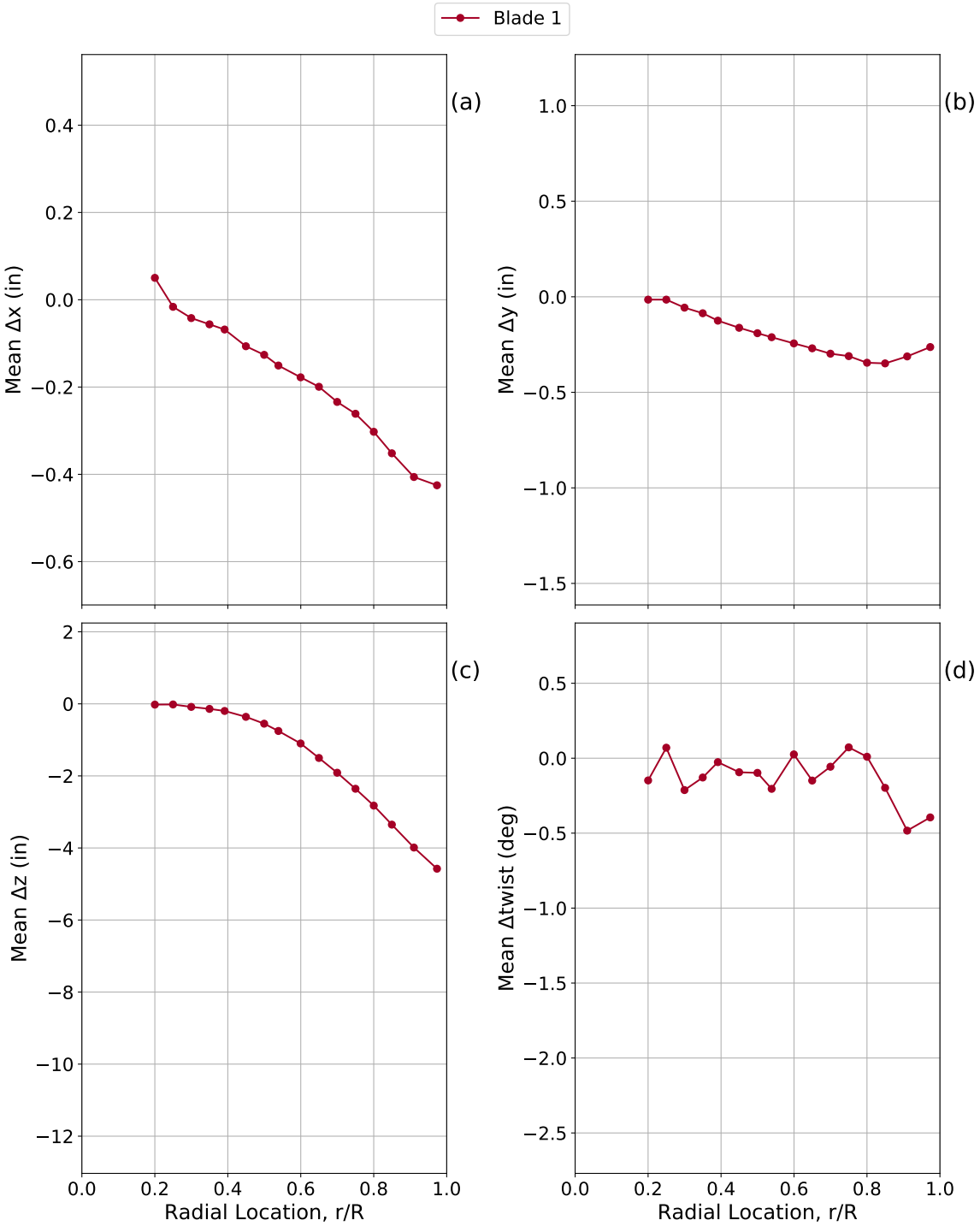


Figure 4.2-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0502	0.0023	-0.0149	0.0009	-0.0208	0.0027	-0.1483	0.0278
1	29.88	0.2499	-0.0162	0.0010	-0.0149	0.0015	-0.0169	0.0059	0.0701	0.0351
1	29.88	0.2998	-0.0420	0.0013	-0.0569	0.0037	-0.0844	0.0105	-0.2126	0.0584
1	29.88	0.3498	-0.0563	0.0012	-0.0862	0.0060	-0.1398	0.0180	-0.1288	0.0494
1	29.88	0.3913	-0.0682	0.0012	-0.1250	0.0088	-0.1971	0.0259	-0.0262	0.0421
1	29.88	0.4496	-0.1065	0.0017	-0.1623	0.0122	-0.3606	0.0358	-0.0937	0.0438
1	29.88	0.4997	-0.1262	0.0020	-0.1906	0.0147	-0.5501	0.0451	-0.0979	0.0451
1	29.88	0.5387	-0.1507	0.0024	-0.2116	0.0181	-0.7531	0.0523	-0.2044	0.0410
1	29.88	0.5996	-0.1777	0.0028	-0.2440	0.0215	-1.0996	0.0620	0.0255	0.0472
1	29.88	0.6498	-0.1994	0.0025	-0.2697	0.0257	-1.5019	0.0707	-0.1492	0.0413
1	29.88	0.6998	-0.2341	0.0028	-0.2978	0.0295	-1.9121	0.0795	-0.0569	0.0420
1	29.88	0.7500	-0.2612	0.0025	-0.3105	0.0327	-2.3568	0.0902	0.0724	0.0446
1	29.88	0.8001	-0.3025	0.0022	-0.3452	0.0363	-2.8244	0.1037	0.0098	0.0422
1	29.88	0.8497	-0.3518	0.0026	-0.3486	0.0403	-3.3523	0.1146	-0.1977	0.0468
1	29.88	0.9102	-0.4061	0.0030	-0.3121	0.0461	-3.9884	0.1279	-0.4832	0.0411
1	29.88	0.9734	-0.4251	0.0031	-0.2631	0.0508	-4.5761	0.1398	-0.3950	0.0562

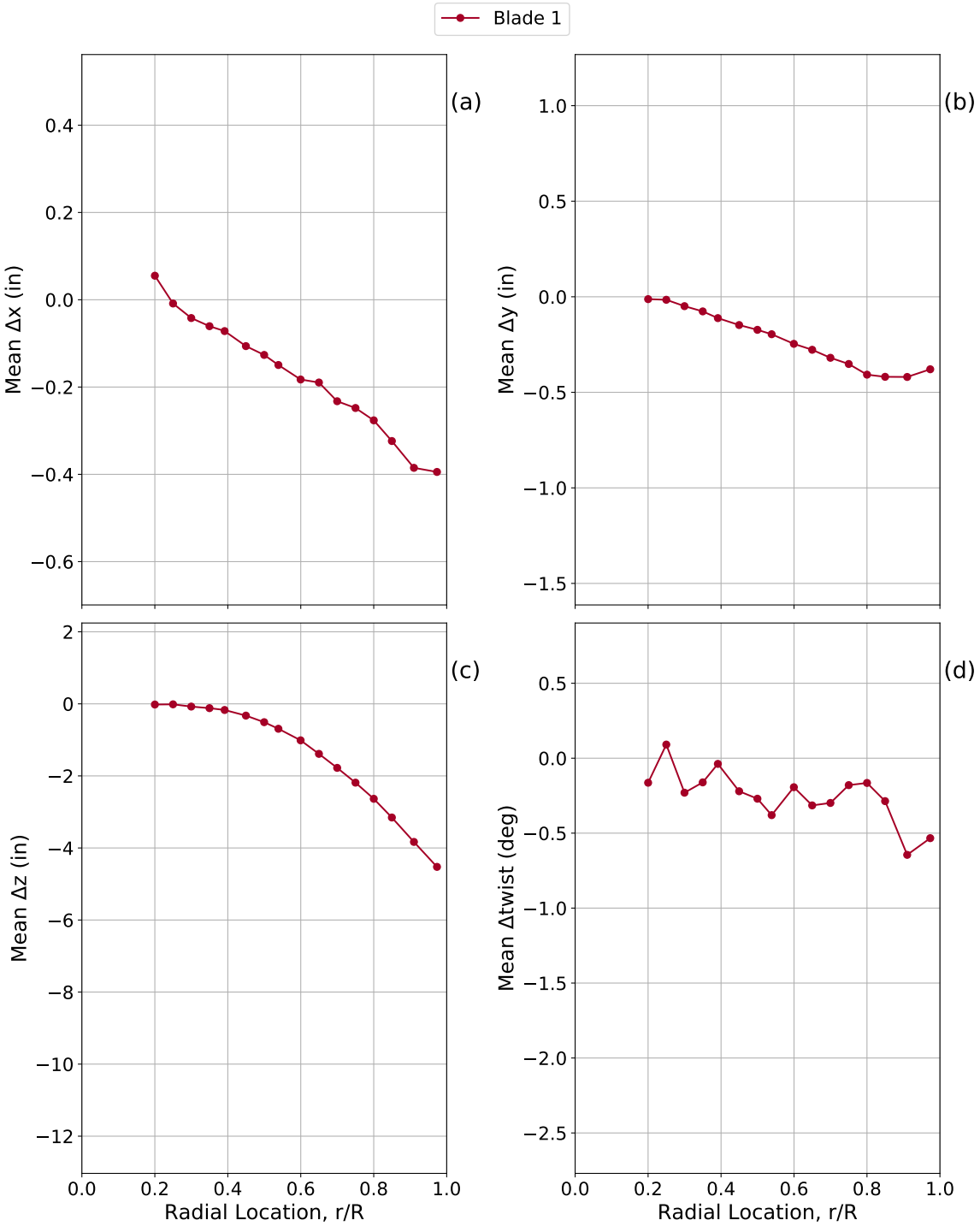


Figure 4.2-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0551	0.0016	-0.0123	0.0009	-0.0188	0.0035	-0.1636	0.0323
1	45	0.2499	-0.0086	0.0015	-0.0157	0.0022	-0.0133	0.0067	0.0910	0.0583
1	45	0.2998	-0.0419	0.0016	-0.0491	0.0040	-0.0756	0.0129	-0.2301	0.0760
1	45	0.3498	-0.0606	0.0013	-0.0765	0.0068	-0.1192	0.0234	-0.1612	0.0681
1	45	0.3913	-0.0718	0.0017	-0.1117	0.0101	-0.1705	0.0323	-0.0379	0.0649
1	45	0.4496	-0.1062	0.0020	-0.1479	0.0134	-0.3264	0.0434	-0.2205	0.0677
1	45	0.4997	-0.1264	0.0021	-0.1730	0.0163	-0.5088	0.0542	-0.2702	0.0711
1	45	0.5387	-0.1495	0.0022	-0.1960	0.0179	-0.6916	0.0600	-0.3798	0.0743
1	45	0.5996	-0.1827	0.0022	-0.2463	0.0224	-1.0125	0.0711	-0.1934	0.0659
1	45	0.6498	-0.1896	0.0024	-0.2774	0.0253	-1.3883	0.0794	-0.3149	0.0846
1	45	0.6998	-0.2325	0.0021	-0.3193	0.0283	-1.7770	0.0874	-0.2985	0.0816
1	45	0.7500	-0.2480	0.0025	-0.3517	0.0324	-2.1871	0.0978	-0.1796	0.0733
1	45	0.8001	-0.2763	0.0029	-0.4076	0.0344	-2.6350	0.1050	-0.1651	0.0813
1	45	0.8497	-0.3237	0.0032	-0.4189	0.0376	-3.1548	0.1161	-0.2864	0.0873
1	45	0.9102	-0.3851	0.0030	-0.4196	0.0421	-3.8325	0.1328	-0.6447	0.0714
1	45	0.9734	-0.3945	0.0026	-0.3794	0.0463	-4.5251	0.1509	-0.5334	0.0724

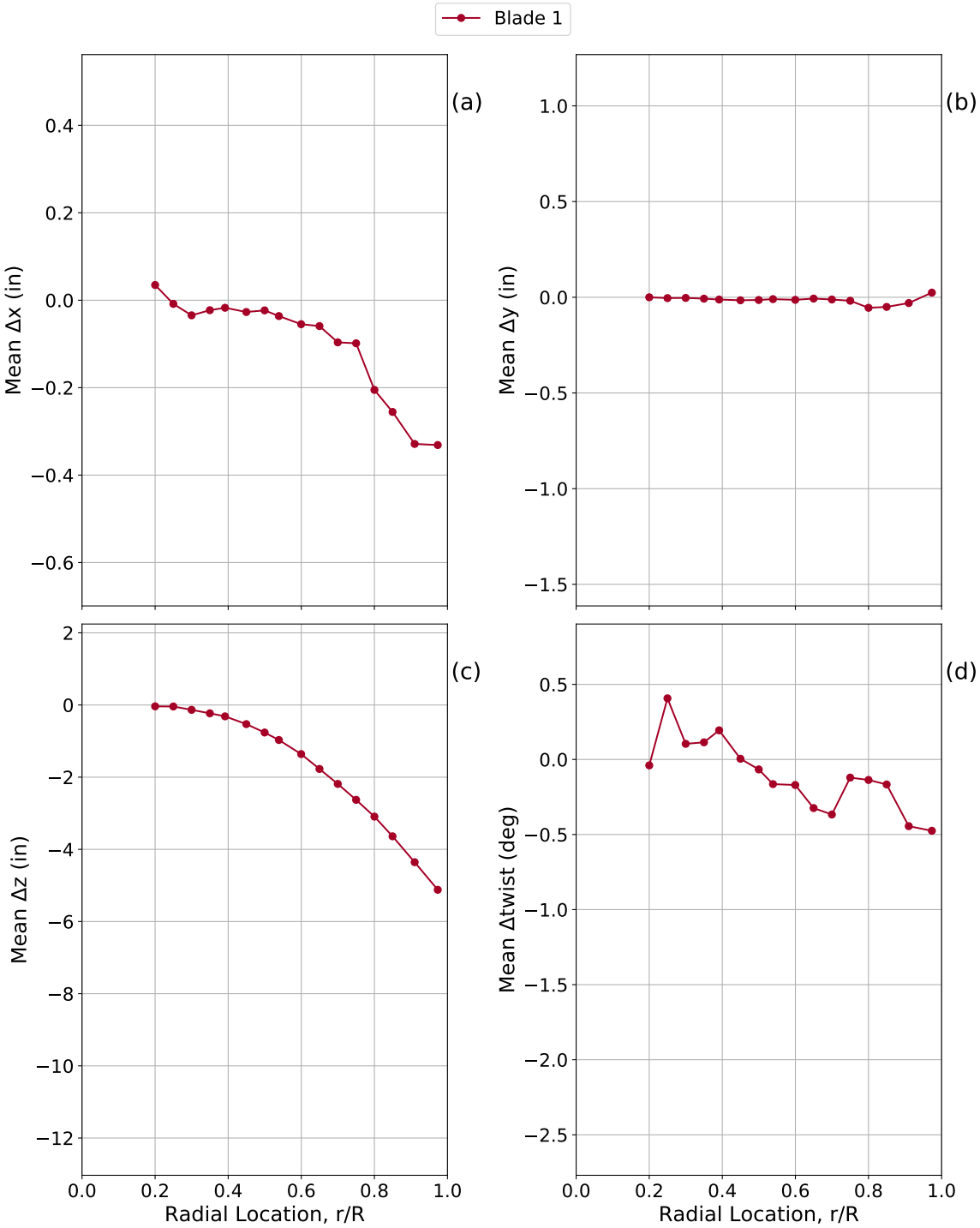


Figure 4.2-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0349	0.0014	-0.0002	0.0010	-0.0377	0.0025	-0.0396	0.0183
1	60.12	0.2499	-0.0083	0.0016	-0.0044	0.0012	-0.0410	0.0048	0.4070	0.0364
1	60.12	0.2998	-0.0345	0.0015	-0.0035	0.0032	-0.1341	0.0100	0.1039	0.0436
1	60.12	0.3498	-0.0228	0.0008	-0.0073	0.0045	-0.2306	0.0170	0.1140	0.0429
1	60.12	0.3913	-0.0172	0.0010	-0.0118	0.0063	-0.3146	0.0243	0.1939	0.0441
1	60.12	0.4496	-0.0269	0.0012	-0.0158	0.0089	-0.5294	0.0334	0.0046	0.0487
1	60.12	0.4997	-0.0232	0.0012	-0.0142	0.0113	-0.7624	0.0437	-0.0665	0.0468
1	60.12	0.5387	-0.0362	0.0012	-0.0098	0.0136	-0.9696	0.0501	-0.1643	0.0539
1	60.12	0.5996	-0.0548	0.0020	-0.0135	0.0159	-1.3602	0.0619	-0.1702	0.0553
1	60.12	0.6498	-0.0591	0.0019	-0.0069	0.0183	-1.7727	0.0690	-0.3239	0.0567
1	60.12	0.6998	-0.0963	0.0023	-0.0117	0.0203	-2.1867	0.0765	-0.3668	0.0496
1	60.12	0.7500	-0.0985	0.0027	-0.0183	0.0233	-2.6280	0.0826	-0.1209	0.0457
1	60.12	0.8001	-0.2051	0.0025	-0.0551	0.0248	-3.0931	0.0865	-0.1367	0.0554
1	60.12	0.8497	-0.2555	0.0028	-0.0504	0.0274	-3.6386	0.0967	-0.1666	0.0462
1	60.12	0.9102	-0.3287	0.0039	-0.0302	0.0311	-4.3561	0.1028	-0.4444	0.0527
1	60.12	0.9734	-0.3312	0.0045	0.0242	0.0340	-5.1208	0.1129	-0.4751	0.0528

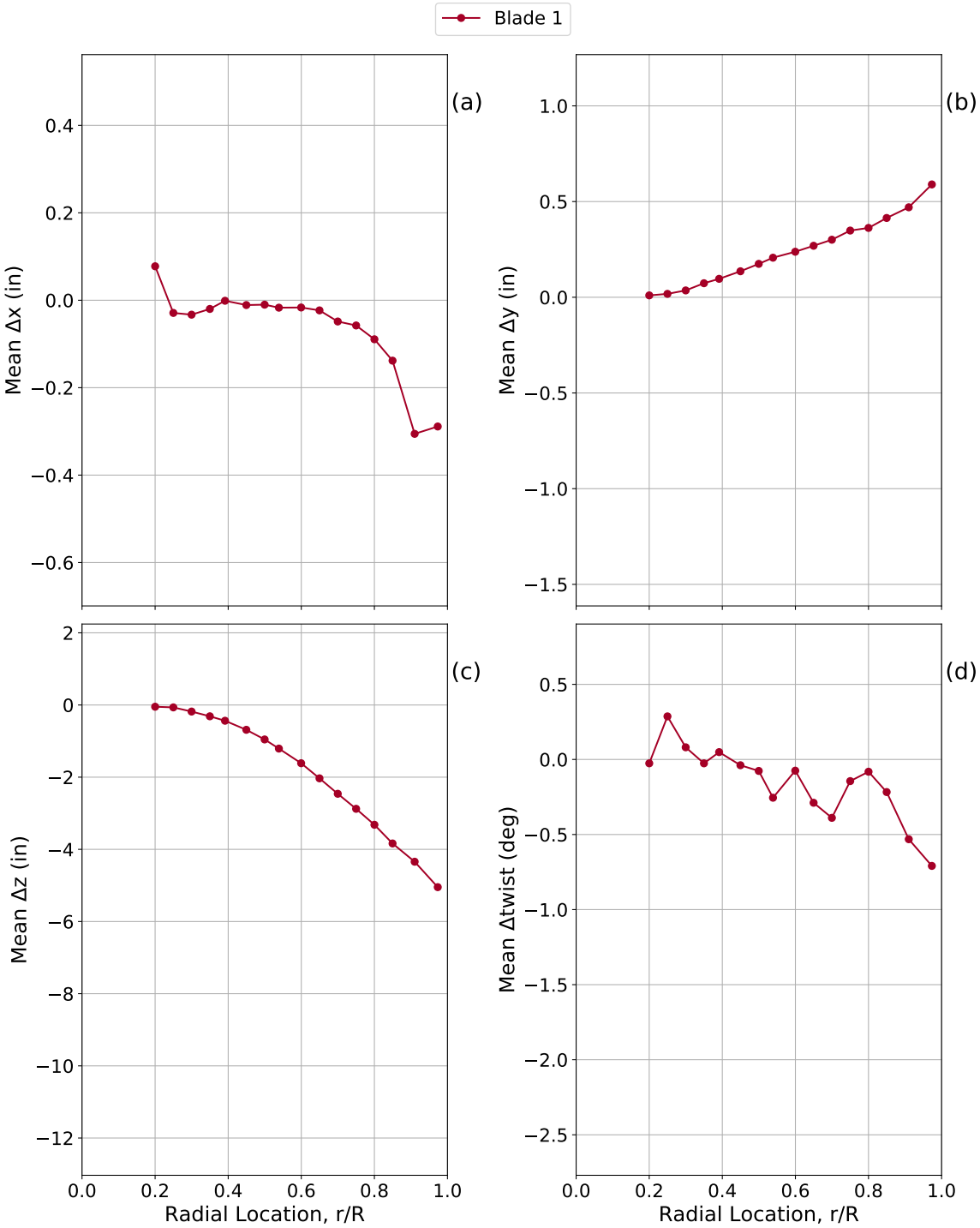


Figure 4.2-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0777	0.0043	0.0098	0.0032	-0.0480	0.0056	-0.0258	0.0371
1	74.88	0.2499	-0.0290	0.0010	0.0177	0.0025	-0.0661	0.0037	0.2868	0.1135
1	74.88	0.2998	-0.0330	0.0015	0.0357	0.0105	-0.1817	0.0183	0.0808	0.1054
1	74.88	0.3498	-0.0199	0.0008	0.0733	0.0171	-0.3129	0.0288	-0.0259	0.1057
1	74.88	0.3913	-0.0012	0.0012	0.0963	0.0230	-0.4363	0.0391	0.0488	0.1058
1	74.88	0.4496	-0.0110	0.0021	0.1358	0.0310	-0.6873	0.0538	-0.0386	0.1087
1	74.88	0.4997	-0.0101	0.0017	0.1745	0.0380	-0.9547	0.0648	-0.0765	0.1122
1	74.88	0.5387	-0.0170	0.0022	0.2067	0.0436	-1.2077	0.0747	-0.2551	0.1045
1	74.88	0.5996	-0.0166	0.0025	0.2378	0.0519	-1.6135	0.0881	-0.0748	0.1147
1	74.88	0.6498	-0.0232	0.0020	0.2690	0.0594	-2.0323	0.1005	-0.2886	0.1069
1	74.88	0.6998	-0.0486	0.0024	0.3006	0.0654	-2.4601	0.1119	-0.3890	0.1165
1	74.88	0.7500	-0.0577	0.0052	0.3485	0.0741	-2.8768	0.1246	-0.1443	0.1186
1	74.88	0.8001	-0.0893	0.0105	0.3623	0.0804	-3.3187	0.1363	-0.0817	0.1838
1	74.88	0.8497	-0.1382	0.0049	0.4142	0.0864	-3.8372	0.1428	-0.2172	0.1736
1	74.88	0.9102	-0.3056	0.0029	0.4700	0.0952	-4.3429	0.1639	-0.5313	0.1105
1	74.88	0.9734	-0.2888	0.0031	0.5895	0.1040	-5.0478	0.1809	-0.7091	0.1018

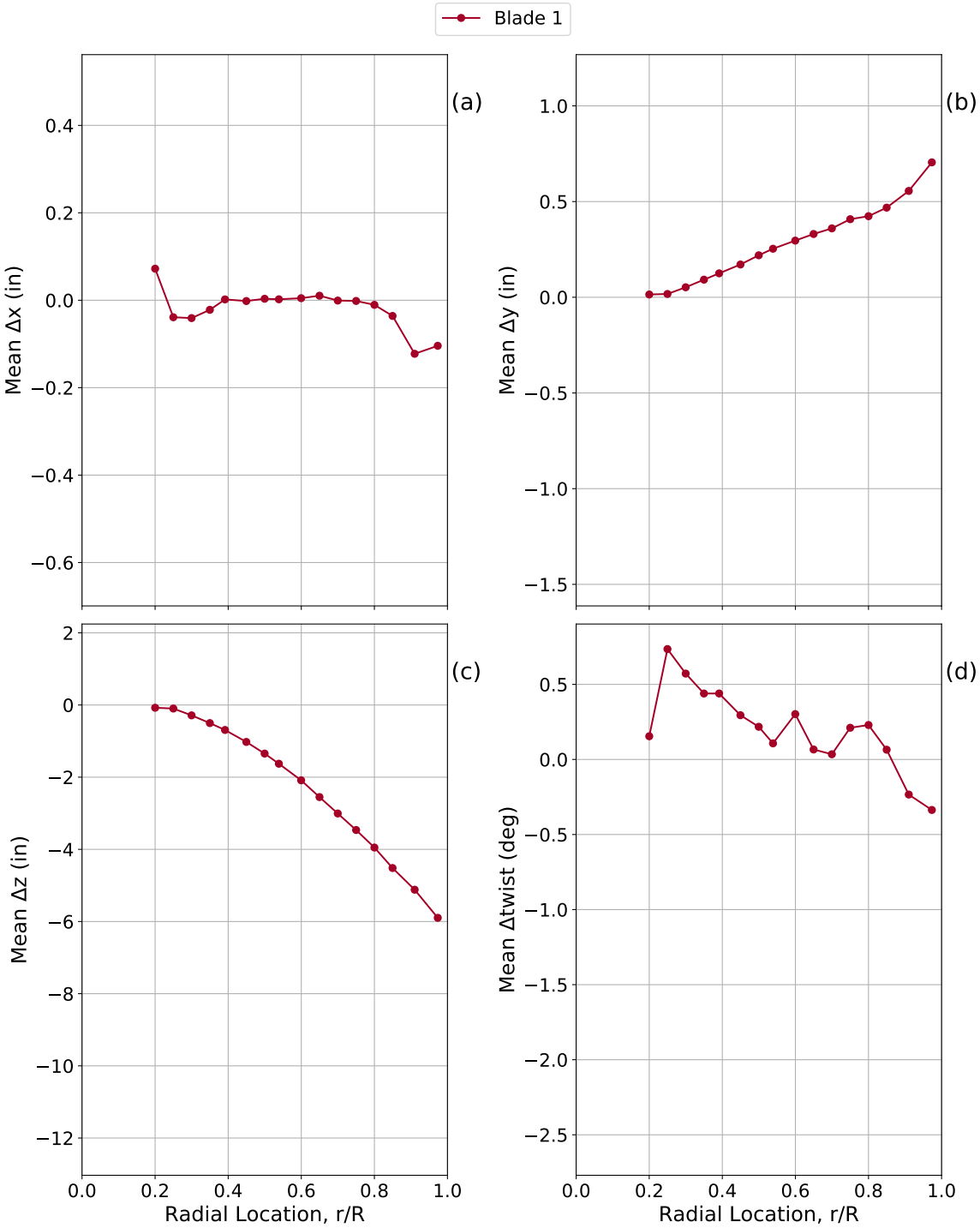


Figure 4.2-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0722	0.0042	0.0145	0.0029	-0.0762	0.0057	0.1544	0.0507
1	80.16	0.2499	-0.0389	0.0020	0.0172	0.0023	-0.0981	0.0053	0.7351	0.1378
1	80.16	0.2998	-0.0408	0.0015	0.0522	0.0092	-0.2870	0.0204	0.5719	0.1415
1	80.16	0.3498	-0.0219	0.0015	0.0919	0.0157	-0.5012	0.0354	0.4391	0.1443
1	80.16	0.3913	0.0019	0.0020	0.1250	0.0206	-0.6922	0.0479	0.4393	0.1509
1	80.16	0.4496	-0.0018	0.0019	0.1712	0.0296	-1.0237	0.0665	0.2946	0.1416
1	80.16	0.4997	0.0034	0.0026	0.2193	0.0366	-1.3463	0.0802	0.2175	0.1461
1	80.16	0.5387	0.0022	0.0026	0.2535	0.0423	-1.6275	0.0918	0.1070	0.1486
1	80.16	0.5996	0.0047	0.0030	0.2960	0.0507	-2.0869	0.1084	0.3020	0.1595
1	80.16	0.6498	0.0104	0.0031	0.3305	0.0579	-2.5515	0.1235	0.0663	0.1507
1	80.16	0.6998	-0.0007	0.0034	0.3599	0.0649	-3.0066	0.1392	0.0346	0.1528
1	80.16	0.7500	-0.0016	0.0039	0.4078	0.0723	-3.4642	0.1548	0.2110	0.1439
1	80.16	0.8001	-0.0105	0.0041	0.4236	0.0786	-3.9498	0.1659	0.2293	0.1840
1	80.16	0.8497	-0.0359	0.0040	0.4682	0.0867	-4.5175	0.1815	0.0649	0.1477
1	80.16	0.9102	-0.1225	0.0041	0.5555	0.0941	-5.1186	0.1992	-0.2339	0.1451
1	80.16	0.9734	-0.1042	0.0035	0.7048	0.1032	-5.8975	0.2155	-0.3365	0.1480

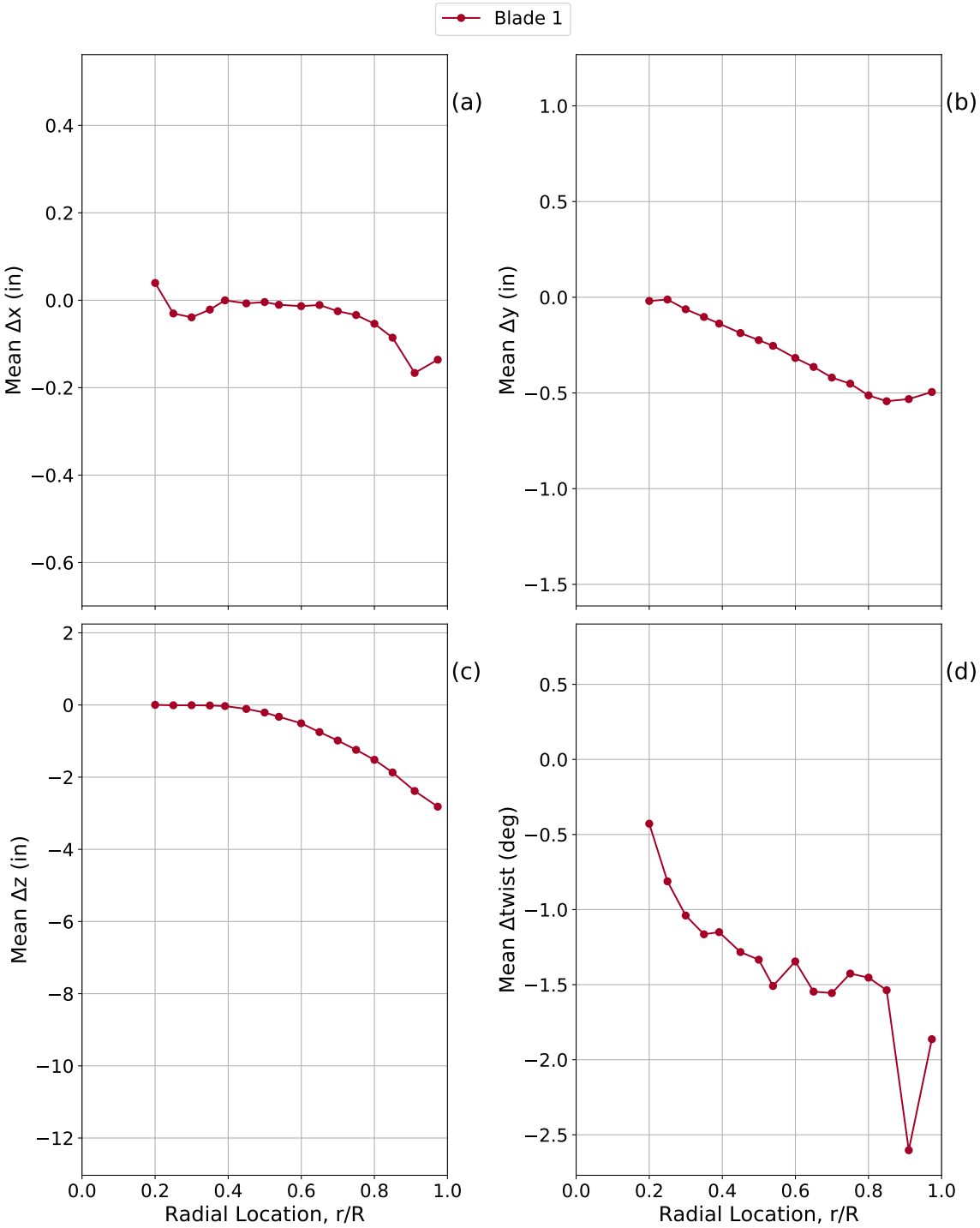


Figure 4.2-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0395	0.0026	-0.0193	0.0013	0.0040	0.0029	-0.4281	0.0367
1	85.08	0.2499	-0.0303	0.0016	-0.0119	0.0026	-0.0076	0.0061	-0.8119	0.0562
1	85.08	0.2998	-0.0391	0.0014	-0.0628	0.0046	-0.0059	0.0092	-1.0395	0.0795
1	85.08	0.3498	-0.0214	0.0016	-0.1030	0.0079	-0.0130	0.0172	-1.1645	0.0601
1	85.08	0.3913	-0.0002	0.0012	-0.1375	0.0112	-0.0298	0.0228	-1.1503	0.0600
1	85.08	0.4496	-0.0072	0.0015	-0.1870	0.0134	-0.1087	0.0299	-1.2829	0.0590
1	85.08	0.4997	-0.0042	0.0017	-0.2239	0.0162	-0.2091	0.0354	-1.3339	0.0593
1	85.08	0.5387	-0.0104	0.0013	-0.2537	0.0178	-0.3260	0.0398	-1.5090	0.0678
1	85.08	0.5996	-0.0135	0.0016	-0.3170	0.0214	-0.5072	0.0485	-1.3456	0.0673
1	85.08	0.6498	-0.0109	0.0016	-0.3640	0.0244	-0.7502	0.0556	-1.5464	0.0659
1	85.08	0.6998	-0.0251	0.0017	-0.4197	0.0278	-0.9847	0.0606	-1.5560	0.0639
1	85.08	0.7500	-0.0338	0.0034	-0.4515	0.0308	-1.2426	0.0666	-1.4261	0.0554
1	85.08	0.8001	-0.0538	0.0027	-0.5127	0.0349	-1.5183	0.0703	-1.4532	0.0778
1	85.08	0.8497	-0.0856	0.0035	-0.5432	0.0367	-1.8687	0.0762	-1.5371	0.0689
1	85.08	0.9102	-0.1663	0.0070	-0.5319	0.0429	-2.3830	0.0837	-2.6028	0.1016
1	85.08	0.9734	-0.1360	0.0093	-0.4950	0.0481	-2.8175	0.0892	-1.8633	0.1448

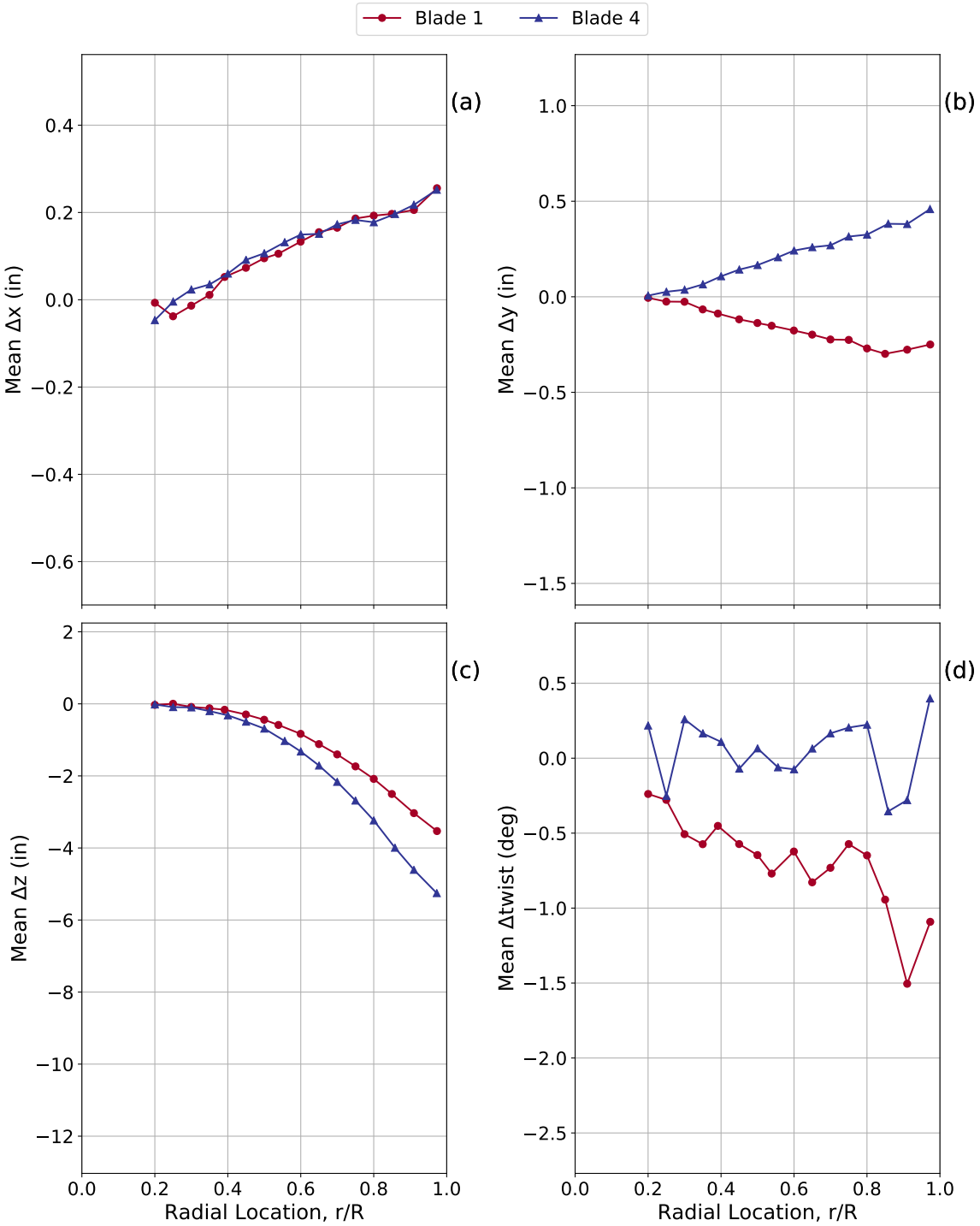


Figure 4.2-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0069	0.0012	-0.0056	0.0005	-0.0280	0.0015	-0.2387	0.0107
1	90	0.2499	-0.0379	0.0007	-0.0252	0.0017	0.0028	0.0039	-0.2780	0.0162
1	90	0.2998	-0.0136	0.0005	-0.0261	0.0027	-0.0856	0.0073	-0.5067	0.0200
1	90	0.3498	0.0111	0.0009	-0.0661	0.0047	-0.1228	0.0106	-0.5737	0.0219
1	90	0.3913	0.0522	0.0008	-0.0879	0.0071	-0.1637	0.0168	-0.4516	0.0223
1	90	0.4496	0.0732	0.0011	-0.1180	0.0081	-0.2955	0.0203	-0.5727	0.0279
1	90	0.4997	0.0951	0.0018	-0.1373	0.0101	-0.4414	0.0247	-0.6462	0.0165
1	90	0.5387	0.1055	0.0017	-0.1516	0.0117	-0.5860	0.0282	-0.7697	0.0208
1	90	0.5996	0.1331	0.0018	-0.1765	0.0142	-0.8326	0.0330	-0.6224	0.0186
1	90	0.6498	0.1548	0.0025	-0.1981	0.0163	-1.1173	0.0363	-0.8281	0.0186
1	90	0.6998	0.1650	0.0020	-0.2235	0.0190	-1.4036	0.0380	-0.7312	0.0354
1	90	0.7500	0.1862	0.0022	-0.2257	0.0211	-1.7364	0.0403	-0.5728	0.0246
1	90	0.8001	0.1927	0.0025	-0.2704	0.0244	-2.0835	0.0392	-0.6486	0.0686
1	90	0.8497	0.1967	0.0021	-0.2985	0.0265	-2.5020	0.0408	-0.9435	0.0561
1	90	0.9102	0.2057	0.0136	-0.2769	0.0257	-3.0336	0.0481	-1.5048	0.2459
1	90	0.9734	0.2556	0.0045	-0.2498	0.0335	-3.5313	0.0511	-1.0915	0.0706
4	90.35	0.2001	-0.0467	0.0008	0.0061	0.0006	-0.0169	0.0011	0.2178	0.0138
4	90.35	0.2502	-0.0043	0.0012	0.0262	0.0017	-0.0905	0.0034	-0.2517	0.0273
4	90.35	0.3001	0.0233	0.0005	0.0368	0.0022	-0.0994	0.0048	0.2596	0.0326
4	90.35	0.3502	0.0351	0.0009	0.0648	0.0052	-0.2019	0.0083	0.1652	0.0330
4	90.35	0.4002	0.0599	0.0012	0.1072	0.0072	-0.3196	0.0134	0.1087	0.0318
4	90.35	0.4500	0.0915	0.0015	0.1423	0.0087	-0.4956	0.0153	-0.0699	0.0279
4	90.35	0.5001	0.1065	0.0019	0.1658	0.0113	-0.6874	0.0191	0.0655	0.0369
4	90.35	0.5560	0.1317	0.0019	0.2068	0.0129	-1.0304	0.0222	-0.0611	0.0315
4	90.35	0.6001	0.1493	0.0020	0.2419	0.0150	-1.3234	0.0232	-0.0741	0.0281
4	90.35	0.6501	0.1510	0.0021	0.2594	0.0173	-1.7128	0.0268	0.0643	0.0271
4	90.35	0.6999	0.1727	0.0022	0.2693	0.0200	-2.1661	0.0285	0.1657	0.0381
4	90.35	0.7500	0.1829	0.0025	0.3150	0.0228	-2.6847	0.0328	0.2044	0.0484
4	90.35	0.8002	0.1775	0.0026	0.3253	0.0254	-3.2369	0.0378	0.2235	0.0667
4	90.35	0.8582	0.1964	0.0035	0.3819	0.0294	-3.9943	0.0453	-0.3545	0.0727
4	90.35	0.9101	0.2174	0.0051	0.3805	0.0332	-4.6069	0.0477	-0.2796	0.0435
4	90.35	0.9728	0.2520	0.0044	0.4587	0.0367	-5.2545	0.0562	0.3985	0.0625

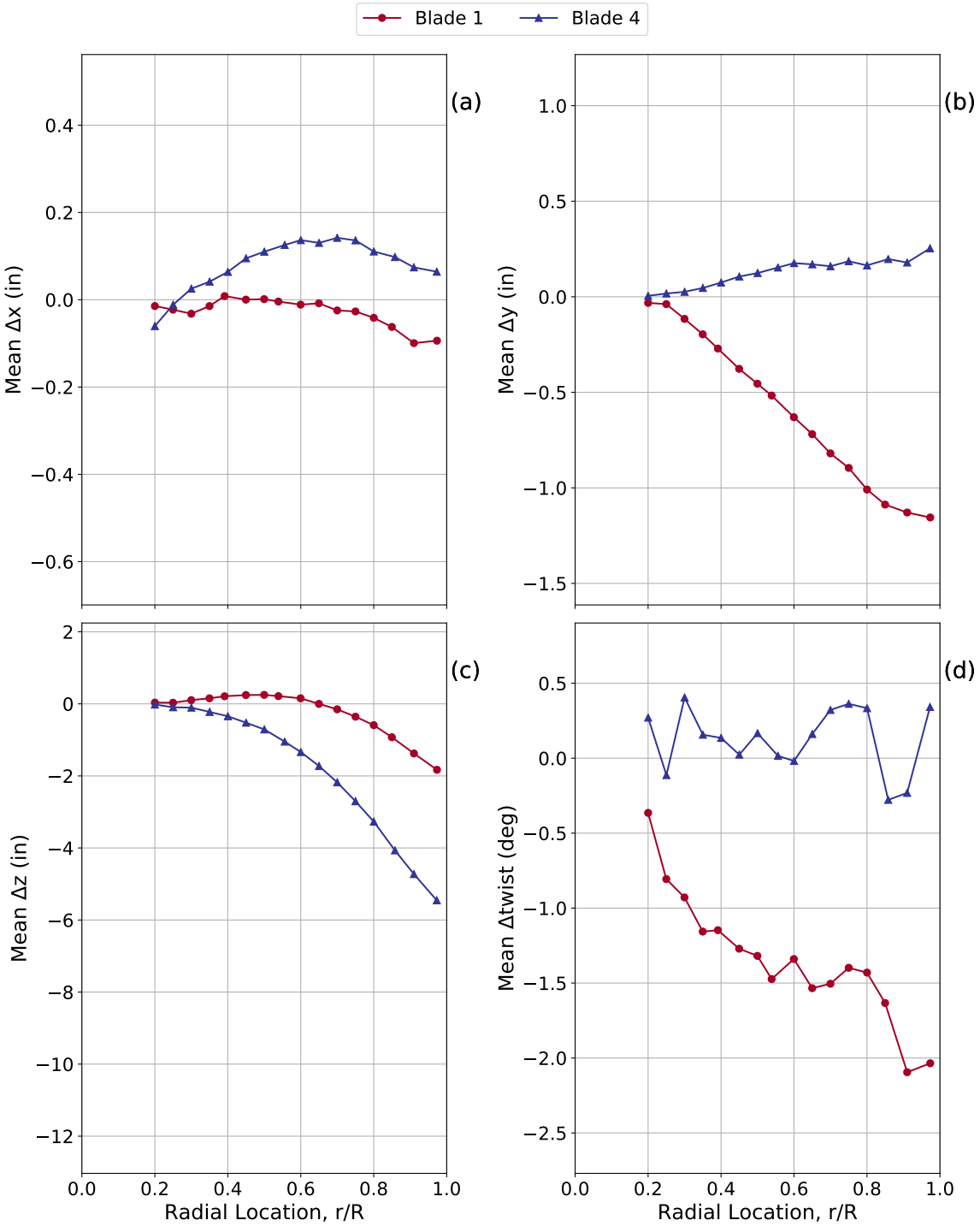


Figure 4.2-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0144	0.0028	-0.0321	0.0017	0.0344	0.0041	-0.3647	0.0554
1	94.92	0.2499	-0.0227	0.0040	-0.0383	0.0050	0.0309	0.0132	-0.8063	0.0641
1	94.92	0.2998	-0.0320	0.0034	-0.1156	0.0055	0.1029	0.0141	-0.9287	0.1085
1	94.92	0.3498	-0.0145	0.0025	-0.1964	0.0113	0.1540	0.0290	-1.1569	0.0709
1	94.92	0.3913	0.0084	0.0025	-0.2710	0.0154	0.2101	0.0395	-1.1474	0.0730
1	94.92	0.4496	0.0003	0.0028	-0.3772	0.0198	0.2450	0.0503	-1.2708	0.0758
1	94.92	0.4997	0.0014	0.0027	-0.4549	0.0235	0.2490	0.0609	-1.3188	0.0744
1	94.92	0.5387	-0.0041	0.0027	-0.5168	0.0276	0.2146	0.0707	-1.4734	0.0783
1	94.92	0.5996	-0.0112	0.0031	-0.6302	0.0336	0.1543	0.0819	-1.3397	0.0813
1	94.92	0.6498	-0.0081	0.0032	-0.7190	0.0384	-0.0006	0.0928	-1.5342	0.0799
1	94.92	0.6998	-0.0245	0.0031	-0.8195	0.0431	-0.1518	0.1041	-1.5046	0.0809
1	94.92	0.7500	-0.0268	0.0033	-0.8956	0.0481	-0.3562	0.1152	-1.3982	0.0804
1	94.92	0.8001	-0.0414	0.0030	-1.0088	0.0543	-0.5914	0.1292	-1.4304	0.0755
1	94.92	0.8497	-0.0623	0.0039	-1.0873	0.0599	-0.9259	0.1380	-1.6332	0.0883
1	94.92	0.9102	-0.0994	0.0038	-1.1290	0.0663	-1.3764	0.1567	-2.0949	0.0714
1	94.92	0.9734	-0.0938	0.0037	-1.1550	0.0735	-1.8309	0.1713	-2.0351	0.0731
4	94.92	0.2001	-0.0604	0.0010	0.0049	0.0005	-0.0201	0.0011	0.2708	0.0161
4	94.92	0.2502	-0.0114	0.0005	0.0170	0.0018	-0.0942	0.0056	-0.1128	0.0178
4	94.92	0.3001	0.0254	0.0007	0.0260	0.0025	-0.1052	0.0077	0.4050	0.0303
4	94.92	0.3502	0.0415	0.0007	0.0461	0.0041	-0.2245	0.0109	0.1567	0.0385
4	94.92	0.4002	0.0638	0.0012	0.0745	0.0069	-0.3444	0.0204	0.1354	0.0222
4	94.92	0.4500	0.0950	0.0016	0.1060	0.0078	-0.5228	0.0247	0.0235	0.0286
4	94.92	0.5001	0.1101	0.0015	0.1242	0.0104	-0.7100	0.0302	0.1669	0.0245
4	94.92	0.5560	0.1255	0.0018	0.1531	0.0123	-1.0487	0.0359	0.0156	0.0197
4	94.92	0.6001	0.1366	0.0010	0.1761	0.0142	-1.3383	0.0398	-0.0184	0.0269
4	94.92	0.6501	0.1303	0.0012	0.1697	0.0163	-1.7266	0.0450	0.1613	0.0244
4	94.92	0.6999	0.1419	0.0020	0.1596	0.0189	-2.1787	0.0500	0.3221	0.0234
4	94.92	0.7500	0.1360	0.0014	0.1859	0.0210	-2.7034	0.0543	0.3628	0.0293
4	94.92	0.8002	0.1105	0.0018	0.1641	0.0236	-3.2703	0.0606	0.3337	0.0412
4	94.92	0.8582	0.0978	0.0033	0.1973	0.0265	-4.0678	0.0664	-0.2780	0.0515
4	94.92	0.9101	0.0742	0.0033	0.1792	0.0300	-4.7251	0.0700	-0.2314	0.0654
4	94.92	0.9728	0.0642	0.0026	0.2535	0.0336	-5.4540	0.0730	0.3416	0.0485

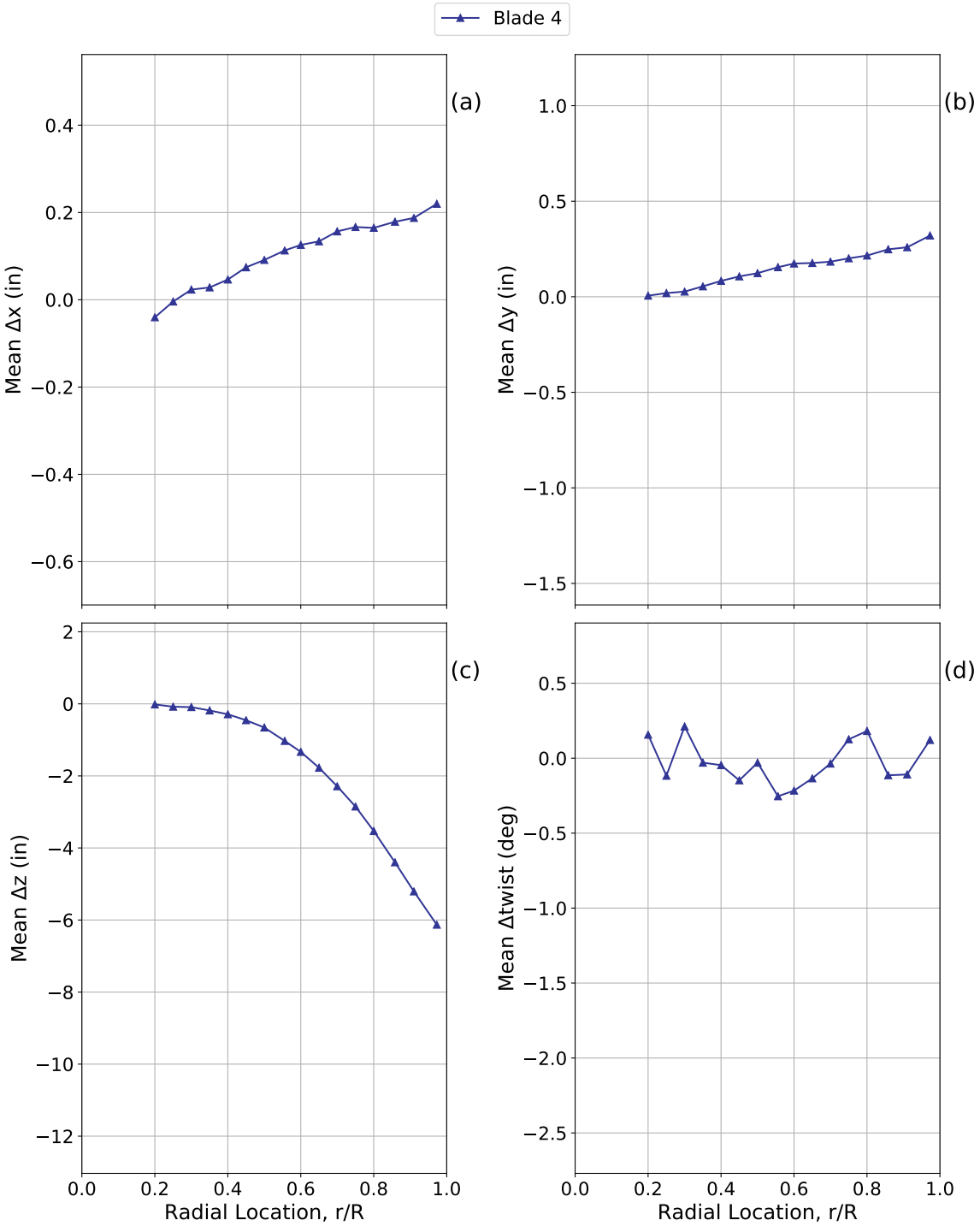


Figure 4.2-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0402	0.0005	0.0058	0.0004	-0.0161	0.0014	0.1567	0.0127
4	105.12	0.2502	-0.0041	0.0014	0.0192	0.0020	-0.0799	0.0028	-0.1172	0.0258
4	105.12	0.3001	0.0232	0.0006	0.0271	0.0020	-0.0909	0.0058	0.2117	0.0277
4	105.12	0.3502	0.0282	0.0011	0.0545	0.0042	-0.1840	0.0088	-0.0299	0.0310
4	105.12	0.4002	0.0463	0.0012	0.0830	0.0066	-0.2899	0.0142	-0.0464	0.0277
4	105.12	0.4500	0.0743	0.0019	0.1066	0.0082	-0.4545	0.0197	-0.1478	0.0248
4	105.12	0.5001	0.0912	0.0009	0.1235	0.0092	-0.6574	0.0268	-0.0301	0.0240
4	105.12	0.5560	0.1129	0.0014	0.1547	0.0119	-1.0292	0.0337	-0.2540	0.0262
4	105.12	0.6001	0.1256	0.0016	0.1739	0.0137	-1.3330	0.0398	-0.2163	0.0226
4	105.12	0.6501	0.1338	0.0013	0.1766	0.0154	-1.7752	0.0463	-0.1344	0.0268
4	105.12	0.6999	0.1566	0.0014	0.1836	0.0176	-2.2888	0.0504	-0.0360	0.0260
4	105.12	0.7500	0.1666	0.0013	0.2012	0.0200	-2.8508	0.0547	0.1260	0.0276
4	105.12	0.8002	0.1647	0.0017	0.2157	0.0220	-3.5308	0.0585	0.1814	0.0273
4	105.12	0.8582	0.1787	0.0019	0.2483	0.0245	-4.3993	0.0625	-0.1138	0.0297
4	105.12	0.9101	0.1875	0.0021	0.2590	0.0269	-5.2070	0.0671	-0.1087	0.0184
4	105.12	0.9728	0.2198	0.0030	0.3203	0.0303	-6.1311	0.0711	0.1215	0.0236

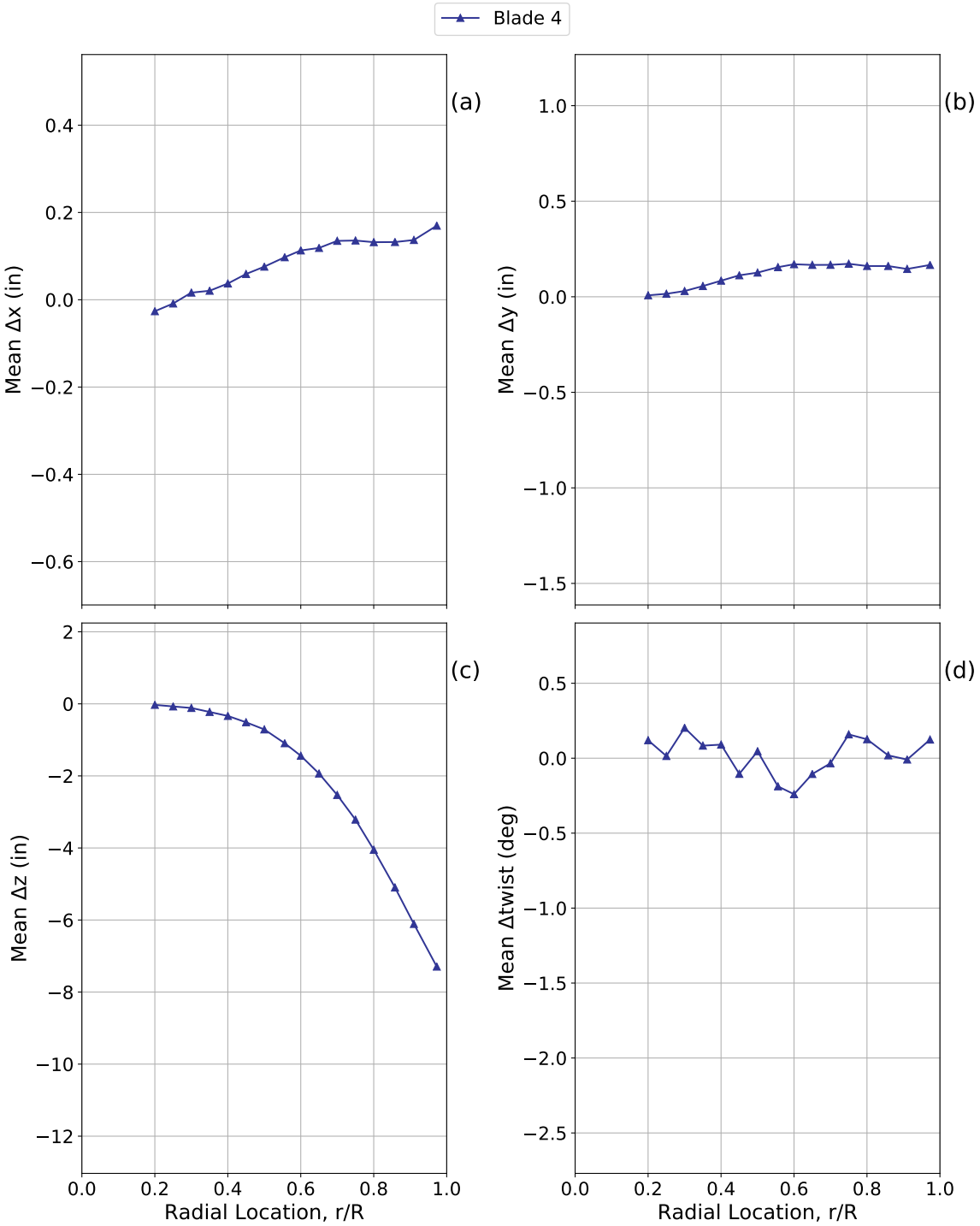


Figure 4.2-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0263	0.0007	0.0076	0.0004	-0.0283	0.0013	0.1196	0.0155
4	119.88	0.2502	-0.0086	0.0007	0.0155	0.0011	-0.0723	0.0034	0.0146	0.0201
4	119.88	0.3001	0.0163	0.0008	0.0300	0.0017	-0.1143	0.0045	0.2027	0.0334
4	119.88	0.3502	0.0206	0.0011	0.0560	0.0030	-0.2252	0.0109	0.0836	0.0154
4	119.88	0.4002	0.0372	0.0014	0.0841	0.0045	-0.3357	0.0147	0.0906	0.0227
4	119.88	0.4500	0.0590	0.0011	0.1123	0.0061	-0.5115	0.0174	-0.1047	0.0180
4	119.88	0.5001	0.0758	0.0012	0.1264	0.0071	-0.7103	0.0210	0.0461	0.0273
4	119.88	0.5560	0.0974	0.0010	0.1548	0.0093	-1.0937	0.0280	-0.1880	0.0296
4	119.88	0.6001	0.1130	0.0012	0.1702	0.0107	-1.4418	0.0341	-0.2401	0.0243
4	119.88	0.6501	0.1187	0.0010	0.1667	0.0124	-1.9353	0.0385	-0.1054	0.0179
4	119.88	0.6999	0.1349	0.0014	0.1670	0.0146	-2.5299	0.0417	-0.0341	0.0272
4	119.88	0.7500	0.1357	0.0014	0.1726	0.0164	-3.2147	0.0445	0.1587	0.0258
4	119.88	0.8002	0.1319	0.0019	0.1609	0.0196	-4.0518	0.0490	0.1261	0.0182
4	119.88	0.8582	0.1322	0.0020	0.1608	0.0229	-5.0974	0.0532	0.0187	0.0186
4	119.88	0.9101	0.1369	0.0024	0.1455	0.0262	-6.1100	0.0572	-0.0091	0.0190
4	119.88	0.9728	0.1697	0.0033	0.1665	0.0303	-7.2943	0.0632	0.1241	0.0207

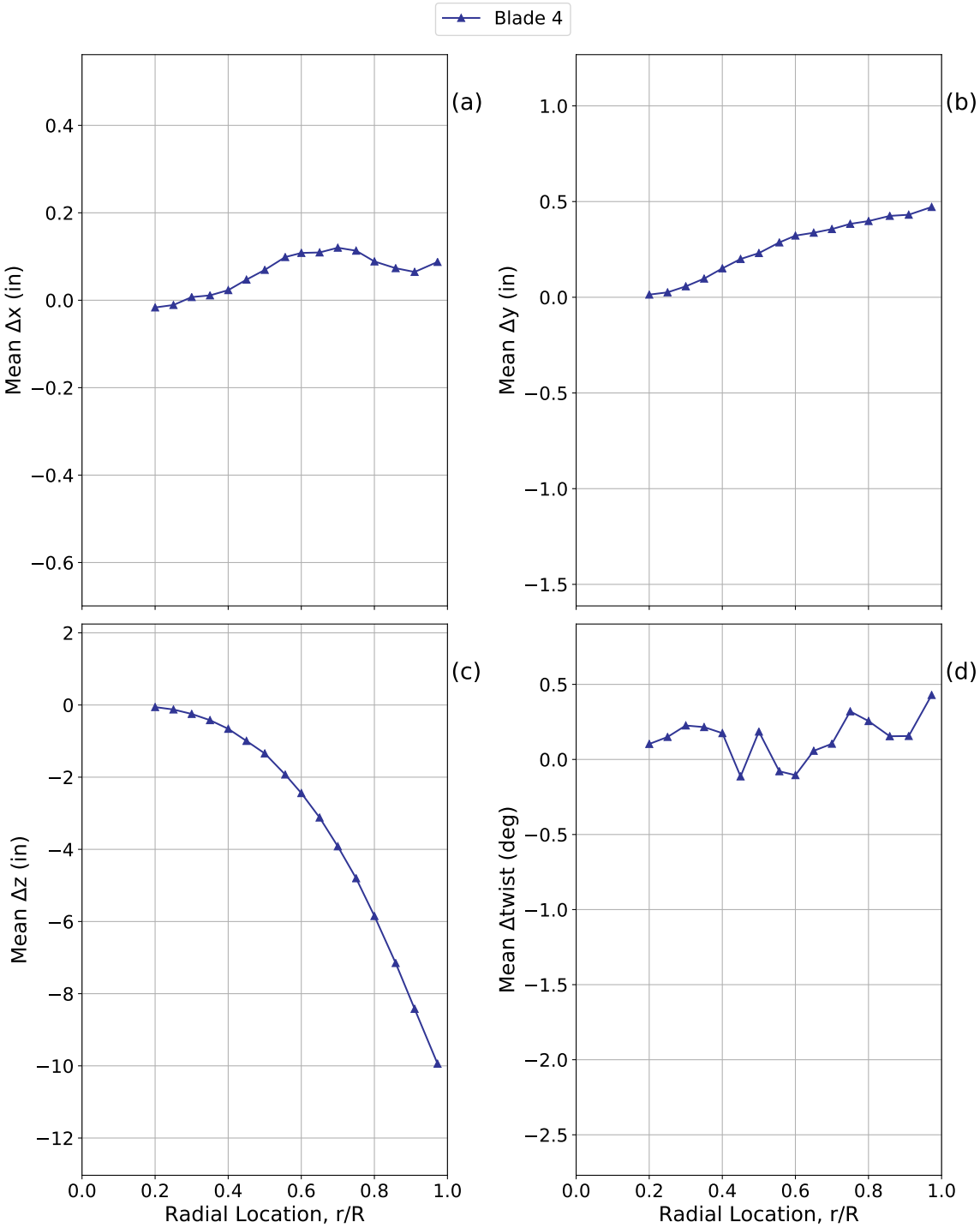


Figure 4.2-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0165	0.0009	0.0138	0.0003	-0.0579	0.0007	0.1030	0.0172
4	135	0.2502	-0.0109	0.0006	0.0256	0.0011	-0.1249	0.0027	0.1496	0.0183
4	135	0.3001	0.0072	0.0011	0.0570	0.0016	-0.2481	0.0034	0.2260	0.0348
4	135	0.3502	0.0111	0.0006	0.0974	0.0027	-0.4210	0.0070	0.2153	0.0288
4	135	0.4002	0.0231	0.0016	0.1509	0.0042	-0.6609	0.0104	0.1750	0.0330
4	135	0.4500	0.0471	0.0015	0.1998	0.0056	-0.9962	0.0129	-0.1132	0.0286
4	135	0.5001	0.0694	0.0019	0.2307	0.0065	-1.3428	0.0171	0.1853	0.0233
4	135	0.5560	0.0987	0.0016	0.2863	0.0081	-1.9275	0.0222	-0.0790	0.0290
4	135	0.6001	0.1082	0.0019	0.3220	0.0092	-2.4424	0.0241	-0.1048	0.0403
4	135	0.6501	0.1093	0.0014	0.3371	0.0113	-3.1195	0.0293	0.0574	0.0380
4	135	0.6999	0.1201	0.0017	0.3561	0.0126	-3.9177	0.0338	0.1043	0.0275
4	135	0.7500	0.1133	0.0014	0.3834	0.0141	-4.8021	0.0369	0.3201	0.0322
4	135	0.8002	0.0887	0.0018	0.3980	0.0157	-5.8493	0.0413	0.2554	0.0315
4	135	0.8582	0.0733	0.0021	0.4251	0.0185	-7.1509	0.0484	0.1545	0.0293
4	135	0.9101	0.0647	0.0024	0.4311	0.0201	-8.4209	0.0539	0.1559	0.0309
4	135	0.9728	0.0876	0.0030	0.4716	0.0230	-9.9411	0.0616	0.4292	0.0256

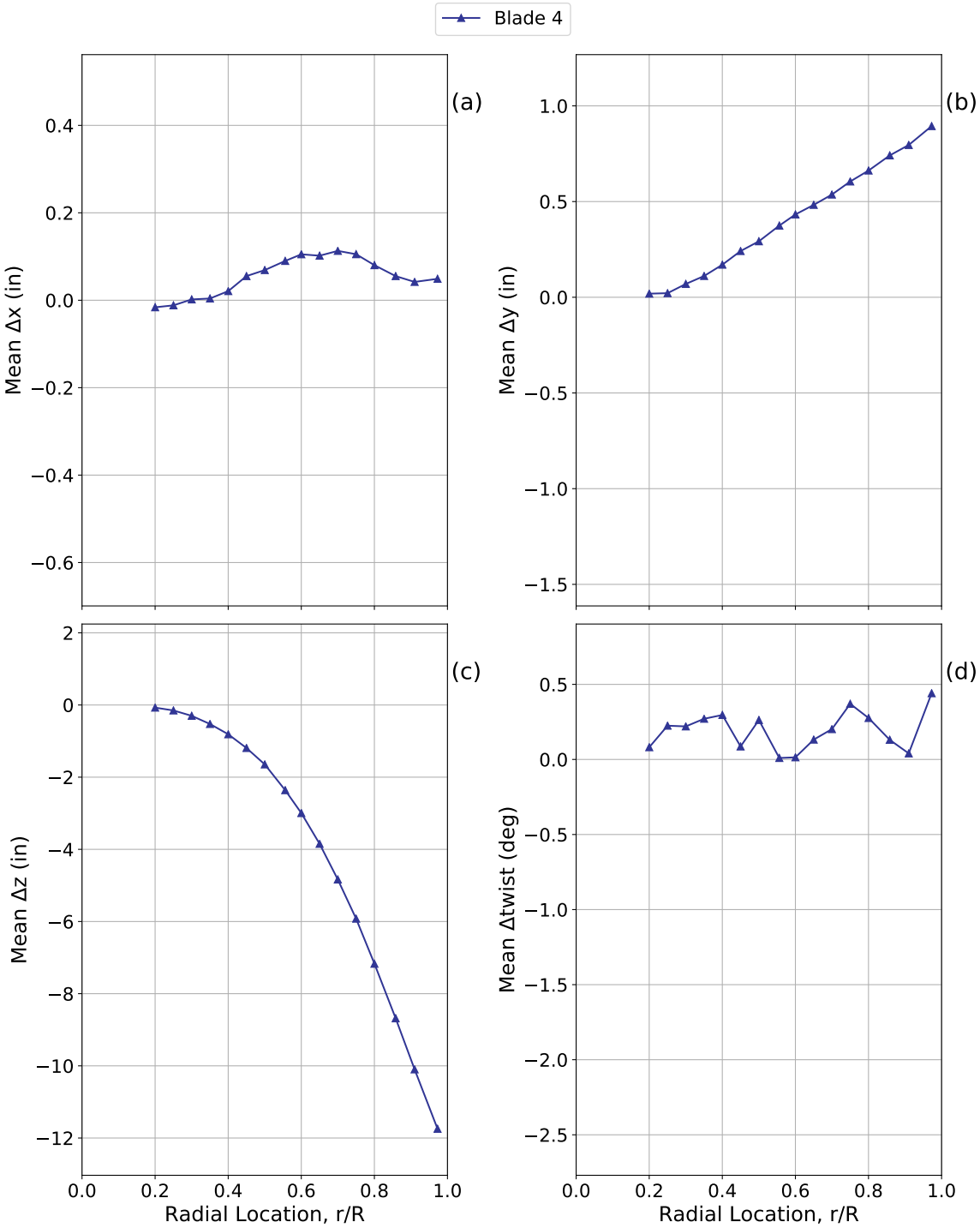


Figure 4.2-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0161	0.0008	0.0188	0.0007	-0.0728	0.0007	0.0813	0.0172
4	150.12	0.2502	-0.0117	0.0008	0.0213	0.0011	-0.1512	0.0037	0.2248	0.0134
4	150.12	0.3001	0.0019	0.0009	0.0695	0.0017	-0.3003	0.0041	0.2200	0.0324
4	150.12	0.3502	0.0040	0.0013	0.1111	0.0040	-0.5267	0.0060	0.2709	0.0295
4	150.12	0.4002	0.0209	0.0015	0.1702	0.0048	-0.8118	0.0116	0.2961	0.0225
4	150.12	0.4500	0.0552	0.0014	0.2414	0.0071	-1.1919	0.0159	0.0863	0.0197
4	150.12	0.5001	0.0690	0.0016	0.2924	0.0081	-1.6468	0.0183	0.2626	0.0339
4	150.12	0.5560	0.0899	0.0018	0.3744	0.0116	-2.3610	0.0195	0.0097	0.0337
4	150.12	0.6001	0.1051	0.0020	0.4327	0.0145	-2.9956	0.0238	0.0141	0.0285
4	150.12	0.6501	0.1019	0.0027	0.4827	0.0169	-3.8477	0.0251	0.1320	0.0481
4	150.12	0.6999	0.1129	0.0021	0.5365	0.0189	-4.8353	0.0314	0.2018	0.0211
4	150.12	0.7500	0.1053	0.0022	0.6049	0.0230	-5.9216	0.0350	0.3703	0.0339
4	150.12	0.8002	0.0802	0.0024	0.6620	0.0260	-7.1710	0.0426	0.2759	0.0178
4	150.12	0.8582	0.0552	0.0028	0.7411	0.0299	-8.6816	0.0470	0.1304	0.0454
4	150.12	0.9101	0.0419	0.0032	0.7955	0.0333	-10.0983	0.0547	0.0402	0.0391
4	150.12	0.9728	0.0490	0.0042	0.8942	0.0376	-11.7445	0.0633	0.4409	0.0299

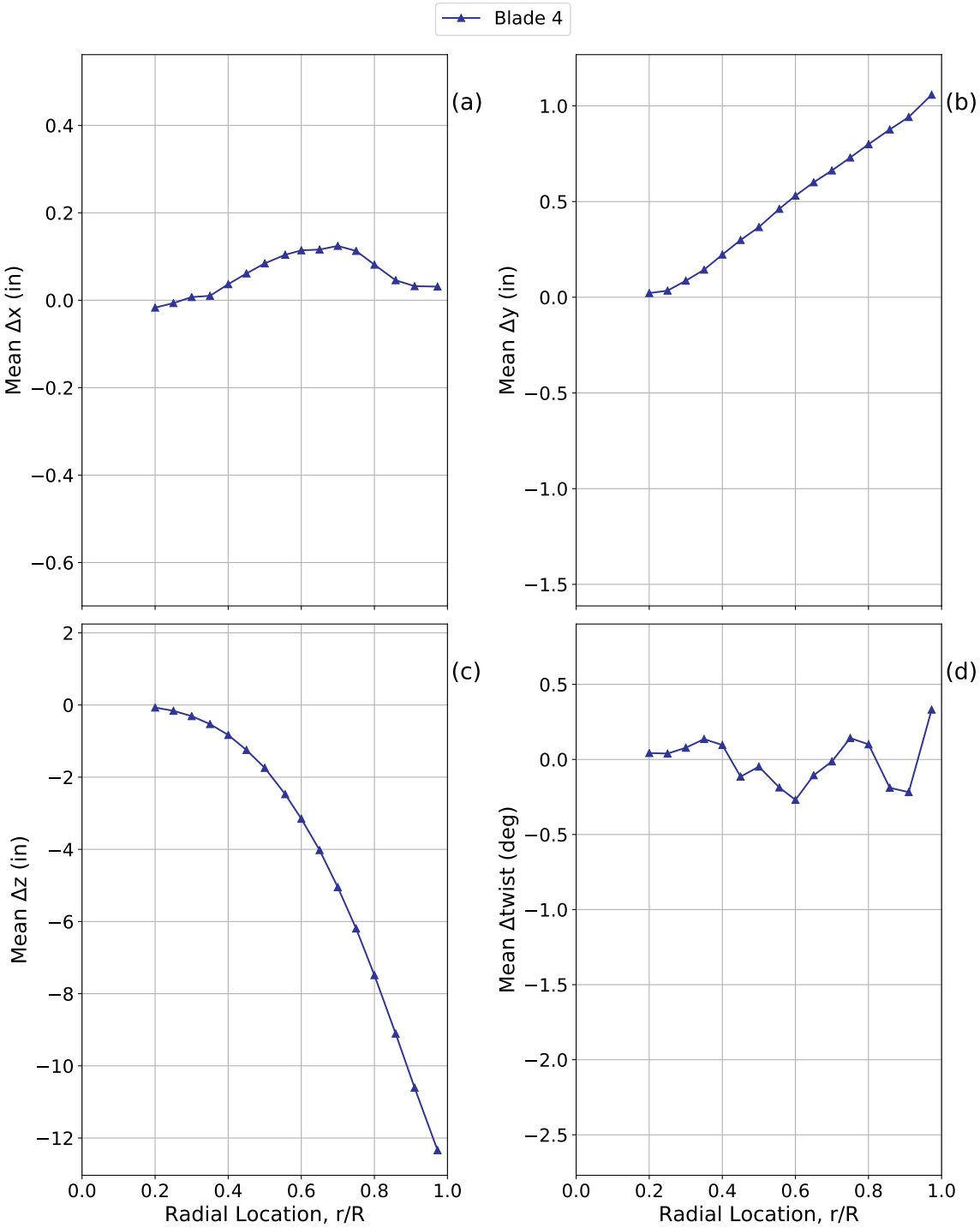


Figure 4.2-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0169	0.0009	0.0216	0.0009	-0.0709	0.0014	0.0425	0.0105
4	164.88	0.2502	-0.0065	0.0015	0.0346	0.0028	-0.1618	0.0032	0.0391	0.0189
4	164.88	0.3001	0.0072	0.0012	0.0864	0.0047	-0.3088	0.0046	0.0778	0.0213
4	164.88	0.3502	0.0101	0.0012	0.1441	0.0062	-0.5289	0.0065	0.1357	0.0237
4	164.88	0.4002	0.0367	0.0010	0.2229	0.0116	-0.8312	0.0113	0.0958	0.0311
4	164.88	0.4500	0.0613	0.0011	0.2989	0.0145	-1.2480	0.0127	-0.1146	0.0331
4	164.88	0.5001	0.0843	0.0015	0.3665	0.0169	-1.7435	0.0145	-0.0479	0.0288
4	164.88	0.5560	0.1040	0.0020	0.4617	0.0212	-2.4728	0.0181	-0.1870	0.0235
4	164.88	0.6001	0.1141	0.0022	0.5306	0.0245	-3.1536	0.0232	-0.2695	0.0173
4	164.88	0.6501	0.1159	0.0022	0.6006	0.0284	-4.0225	0.0253	-0.1053	0.0226
4	164.88	0.6999	0.1243	0.0019	0.6623	0.0320	-5.0499	0.0301	-0.0134	0.0240
4	164.88	0.7500	0.1128	0.0026	0.7298	0.0358	-6.1954	0.0352	0.1422	0.0216
4	164.88	0.8002	0.0813	0.0028	0.7995	0.0401	-7.4878	0.0402	0.1004	0.0233
4	164.88	0.8582	0.0457	0.0030	0.8763	0.0453	-9.1074	0.0459	-0.1888	0.0272
4	164.88	0.9101	0.0322	0.0032	0.9416	0.0491	-10.6071	0.0527	-0.2178	0.0241
4	164.88	0.9728	0.0312	0.0048	1.0580	0.0539	-12.3383	0.0584	0.3317	0.0184

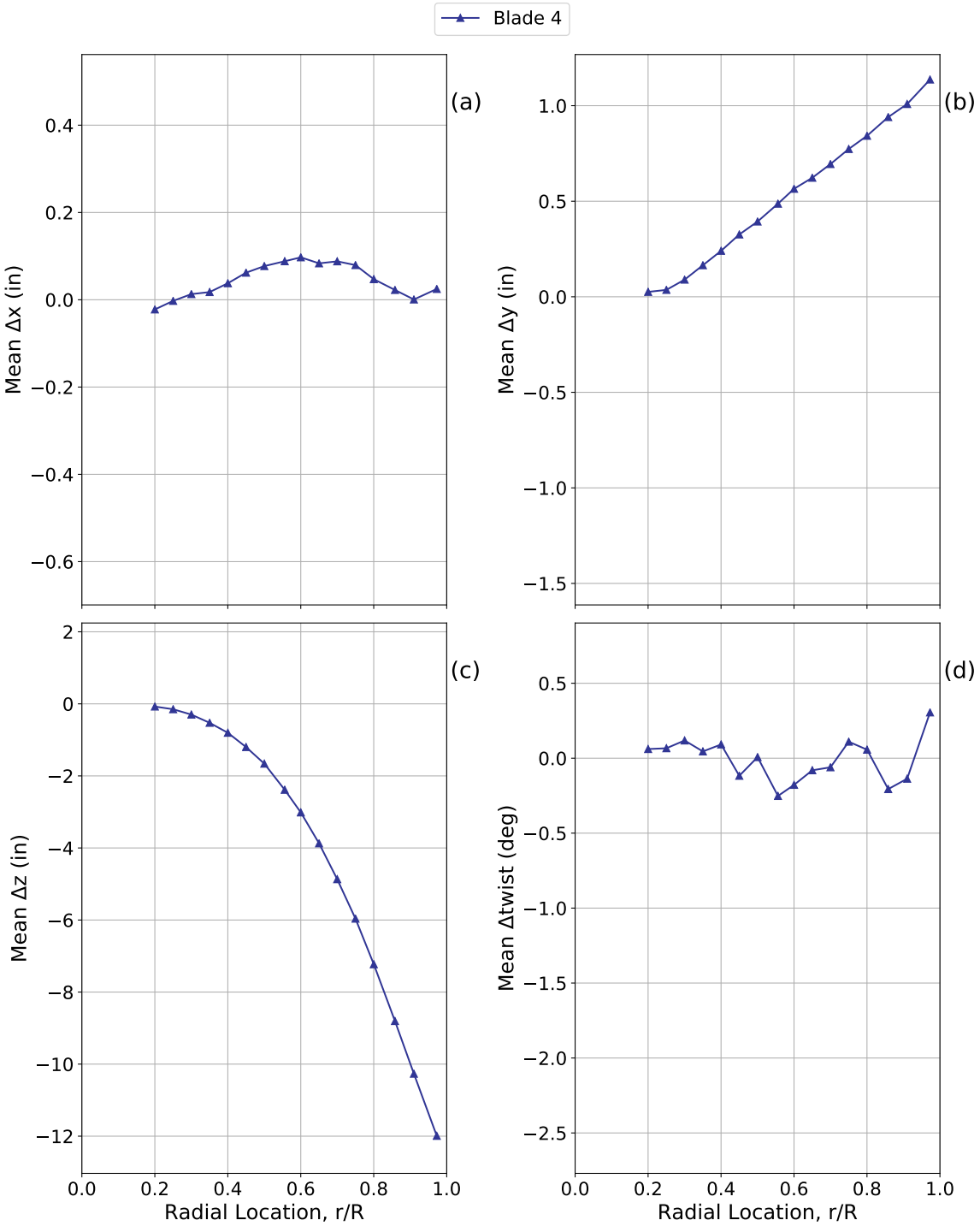


Figure 4.2-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0222	0.0016	0.0256	0.0010	-0.0751	0.0014	0.0611	0.0100
4	170.16	0.2502	-0.0026	0.0009	0.0360	0.0025	-0.1498	0.0030	0.0664	0.0256
4	170.16	0.3001	0.0129	0.0010	0.0896	0.0040	-0.2981	0.0038	0.1182	0.0239
4	170.16	0.3502	0.0176	0.0012	0.1650	0.0077	-0.5266	0.0066	0.0452	0.0253
4	170.16	0.4002	0.0378	0.0019	0.2404	0.0116	-0.8035	0.0104	0.0917	0.0297
4	170.16	0.4500	0.0620	0.0013	0.3260	0.0136	-1.1996	0.0116	-0.1174	0.0326
4	170.16	0.5001	0.0771	0.0010	0.3937	0.0160	-1.6606	0.0157	0.0072	0.0243
4	170.16	0.5560	0.0882	0.0017	0.4870	0.0186	-2.3854	0.0202	-0.2519	0.0294
4	170.16	0.6001	0.0972	0.0021	0.5651	0.0225	-3.0139	0.0245	-0.1779	0.0356
4	170.16	0.6501	0.0834	0.0025	0.6228	0.0259	-3.8717	0.0274	-0.0806	0.0269
4	170.16	0.6999	0.0880	0.0028	0.6945	0.0279	-4.8673	0.0320	-0.0607	0.0263
4	170.16	0.7500	0.0794	0.0032	0.7733	0.0306	-5.9628	0.0342	0.1100	0.0293
4	170.16	0.8002	0.0471	0.0033	0.8425	0.0357	-7.2290	0.0382	0.0569	0.0270
4	170.16	0.8582	0.0224	0.0028	0.9403	0.0374	-8.8048	0.0458	-0.2062	0.0429
4	170.16	0.9101	0.0006	0.0079	1.0086	0.0433	-10.2670	0.0499	-0.1369	0.0361
4	170.16	0.9728	0.0247	0.0065	1.1367	0.0501	-11.9914	0.0614	0.3054	0.0707

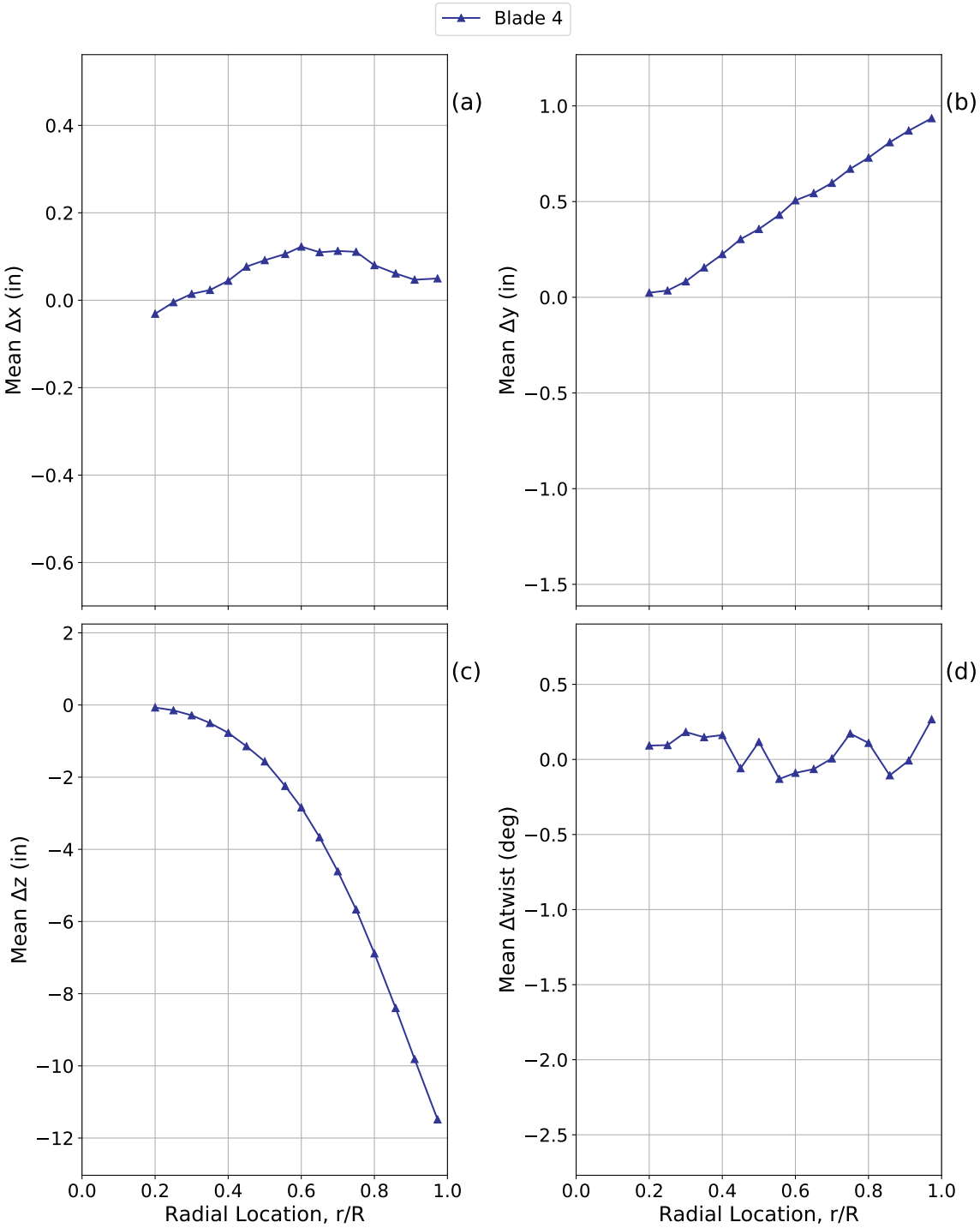


Figure 4.2-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0310	0.0011	0.0237	0.0007	-0.0701	0.0012	0.0923	0.0110
4	175.08	0.2502	-0.0046	0.0009	0.0351	0.0019	-0.1473	0.0022	0.0952	0.0245
4	175.08	0.3001	0.0145	0.0005	0.0827	0.0029	-0.2869	0.0042	0.1828	0.0271
4	175.08	0.3502	0.0234	0.0009	0.1555	0.0045	-0.5000	0.0064	0.1476	0.0225
4	175.08	0.4002	0.0445	0.0009	0.2253	0.0074	-0.7716	0.0101	0.1623	0.0234
4	175.08	0.4500	0.0768	0.0008	0.3037	0.0089	-1.1442	0.0131	-0.0591	0.0266
4	175.08	0.5001	0.0916	0.0009	0.3563	0.0113	-1.5656	0.0167	0.1167	0.0284
4	175.08	0.5560	0.1057	0.0011	0.4305	0.0124	-2.2458	0.0206	-0.1298	0.0212
4	175.08	0.6001	0.1226	0.0009	0.5061	0.0146	-2.8404	0.0225	-0.0897	0.0270
4	175.08	0.6501	0.1097	0.0018	0.5436	0.0158	-3.6660	0.0264	-0.0643	0.0246
4	175.08	0.6999	0.1128	0.0022	0.5974	0.0176	-4.6102	0.0307	0.0062	0.0254
4	175.08	0.7500	0.1107	0.0031	0.6711	0.0203	-5.6692	0.0349	0.1723	0.0372
4	175.08	0.8002	0.0801	0.0039	0.7290	0.0233	-6.8856	0.0416	0.1097	0.0651
4	175.08	0.8582	0.0612	0.0027	0.8096	0.0231	-8.3993	0.0451	-0.1061	0.0419
4	175.08	0.9101	0.0469	0.0041	0.8704	0.0263	-9.8129	0.0534	-0.0075	0.0359
4	175.08	0.9728	0.0498	0.0046	0.9351	0.0300	-11.4857	0.0622	0.2668	0.0772

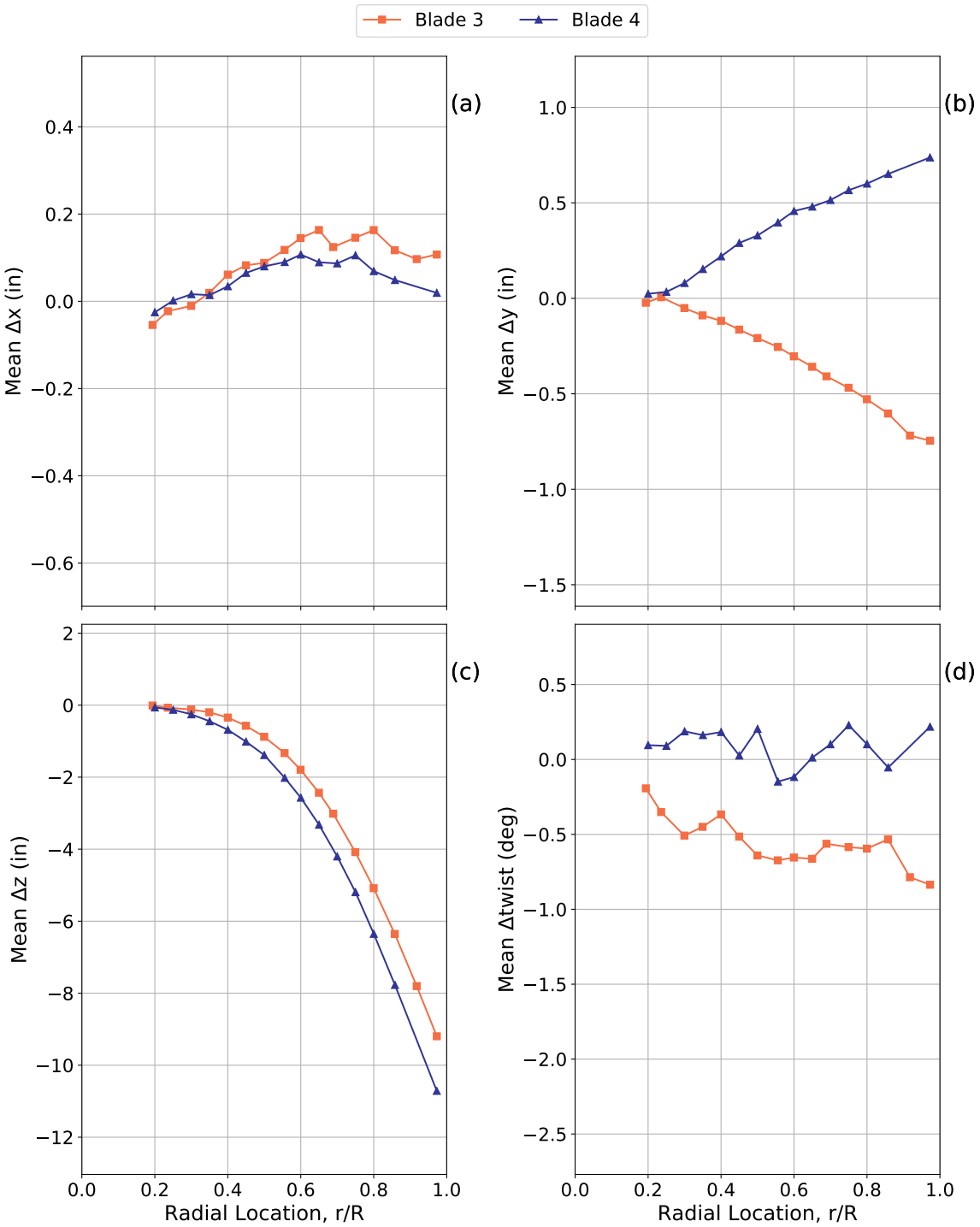


Figure 4.2-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0542	0.0006	-0.0230	0.0009	-0.0103	0.0011	-0.1926	0.0100
3	180.35	0.2357	-0.0227	0.0010	0.0057	0.0012	-0.0701	0.0021	-0.3509	0.0171
3	180.35	0.2995	-0.0106	0.0008	-0.0510	0.0030	-0.1208	0.0045	-0.5080	0.0231
3	180.35	0.3493	0.0194	0.0010	-0.0895	0.0047	-0.1976	0.0067	-0.4498	0.0200
3	180.35	0.4000	0.0612	0.0009	-0.1179	0.0074	-0.3449	0.0111	-0.3670	0.0228
3	180.35	0.4497	0.0825	0.0012	-0.1638	0.0089	-0.5722	0.0129	-0.5149	0.0254
3	180.35	0.4997	0.0880	0.0014	-0.2082	0.0107	-0.8787	0.0176	-0.6406	0.0185
3	180.35	0.5556	0.1178	0.0014	-0.2548	0.0127	-1.3321	0.0205	-0.6731	0.0244
3	180.35	0.5995	0.1449	0.0019	-0.3037	0.0137	-1.7933	0.0229	-0.6545	0.0286
3	180.35	0.6498	0.1634	0.0033	-0.3585	0.0163	-2.4323	0.0272	-0.6629	0.0318
3	180.35	0.6890	0.1243	0.0015	-0.4085	0.0190	-3.0149	0.0304	-0.5628	0.0228
3	180.35	0.7495	0.1457	0.0032	-0.4685	0.0217	-4.0815	0.0348	-0.5848	0.0247
3	180.35	0.7998	0.1632	0.0033	-0.5287	0.0229	-5.0835	0.0396	-0.5951	0.0320
3	180.35	0.8577	0.1170	0.0066	-0.6031	0.0302	-6.3544	0.0454	-0.5332	0.0733
3	180.35	0.9178	0.0967	0.0050	-0.7187	0.0298	-7.8022	0.0531	-0.7862	0.0208
3	180.35	0.9729	0.1072	0.0077	-0.7457	0.0306	-9.1963	0.0588	-0.8359	0.0561
4	180	0.2001	-0.0252	0.0012	0.0235	0.0015	-0.0641	0.0017	0.0955	0.0199
4	180	0.2502	0.0016	0.0015	0.0337	0.0027	-0.1292	0.0032	0.0908	0.0272
4	180	0.3001	0.0162	0.0009	0.0800	0.0051	-0.2551	0.0064	0.1876	0.0414
4	180	0.3502	0.0142	0.0018	0.1533	0.0089	-0.4477	0.0100	0.1624	0.0298
4	180	0.4002	0.0344	0.0017	0.2196	0.0133	-0.6850	0.0156	0.1832	0.0383
4	180	0.4500	0.0651	0.0014	0.2899	0.0163	-1.0137	0.0182	0.0262	0.0351
4	180	0.5001	0.0800	0.0015	0.3291	0.0179	-1.3864	0.0198	0.2042	0.0388
4	180	0.5560	0.0899	0.0015	0.3971	0.0225	-2.0187	0.0264	-0.1478	0.0473
4	180	0.6001	0.1071	0.0018	0.4572	0.0260	-2.5705	0.0313	-0.1170	0.0388
4	180	0.6501	0.0894	0.0030	0.4801	0.0284	-3.3217	0.0349	0.0127	0.0485
4	180	0.6999	0.0868	0.0020	0.5145	0.0311	-4.2023	0.0400	0.1014	0.0481
4	180	0.7500	0.1054	0.0034	0.5663	0.0330	-5.1941	0.0444	0.2288	0.0582
4	180	0.8002	0.0691	0.0057	0.6004	0.0365	-6.3522	0.0493	0.1015	0.0561
4	180	0.8582	0.0487	0.0061	0.6512	0.0379	-7.7711	0.0545	-0.0536	0.0622
4	180	0.9728	0.0193	0.0070	0.7374	0.0435	-10.7133	0.0667	0.2184	0.0855

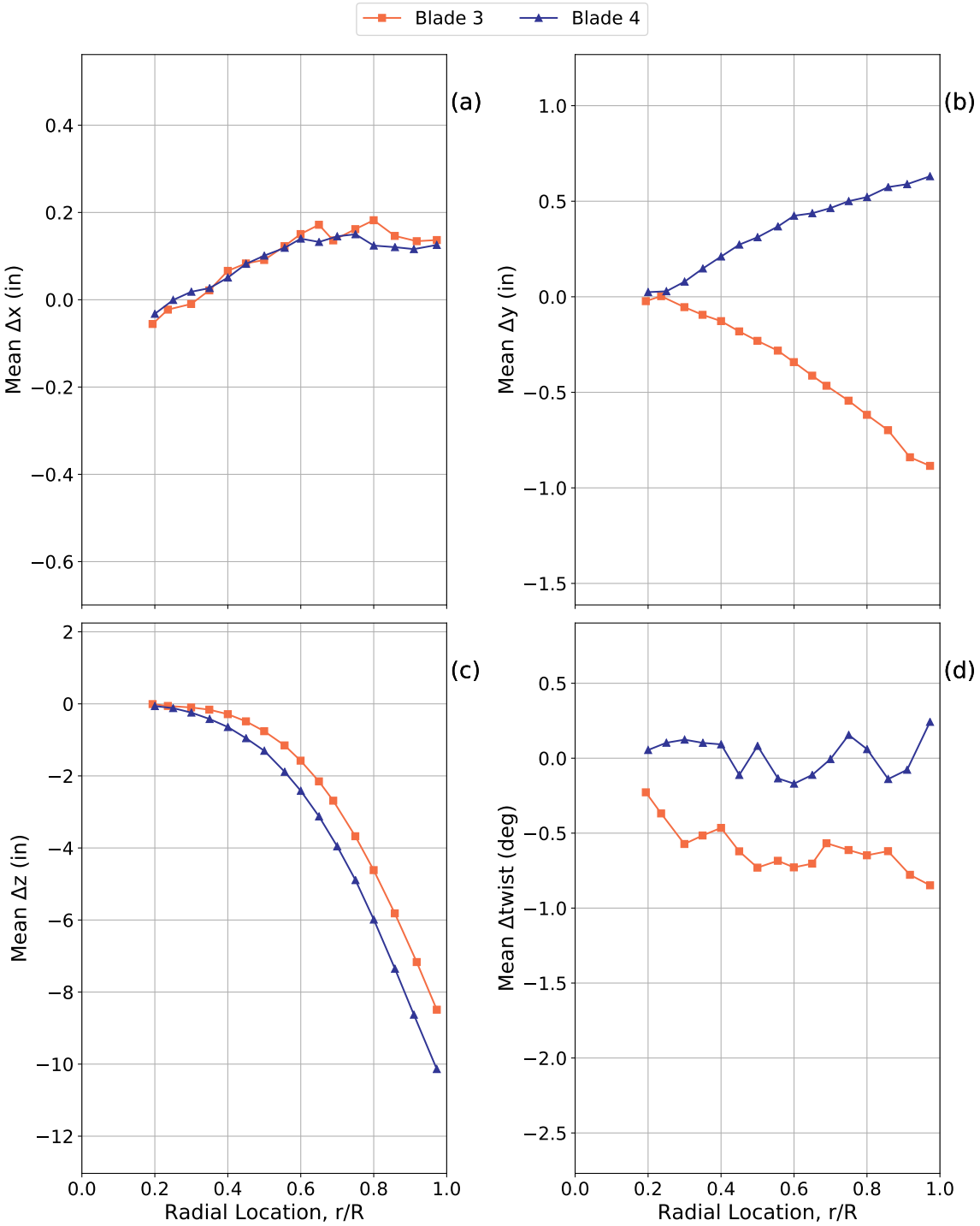


Figure 4.2-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0555	0.0014	-0.0229	0.0010	-0.0070	0.0012	-0.2276	0.0134
3	184.92	0.2357	-0.0226	0.0010	0.0032	0.0017	-0.0584	0.0024	-0.3684	0.0183
3	184.92	0.2995	-0.0097	0.0009	-0.0543	0.0044	-0.1003	0.0053	-0.5723	0.0309
3	184.92	0.3493	0.0215	0.0010	-0.0944	0.0066	-0.1613	0.0079	-0.5155	0.0346
3	184.92	0.4000	0.0662	0.0012	-0.1274	0.0108	-0.2867	0.0132	-0.4649	0.0287
3	184.92	0.4497	0.0832	0.0017	-0.1812	0.0137	-0.4855	0.0177	-0.6211	0.0314
3	184.92	0.4997	0.0911	0.0015	-0.2306	0.0160	-0.7587	0.0210	-0.7300	0.0310
3	184.92	0.5556	0.1229	0.0019	-0.2818	0.0190	-1.1533	0.0260	-0.6842	0.0335
3	184.92	0.5995	0.1505	0.0016	-0.3419	0.0220	-1.5767	0.0305	-0.7283	0.0324
3	184.92	0.6498	0.1718	0.0017	-0.4127	0.0252	-2.1516	0.0355	-0.7033	0.0359
3	184.92	0.6890	0.1360	0.0016	-0.4657	0.0281	-2.6877	0.0400	-0.5671	0.0284
3	184.92	0.7495	0.1618	0.0025	-0.5437	0.0299	-3.6746	0.0455	-0.6127	0.0317
3	184.92	0.7998	0.1822	0.0025	-0.6178	0.0342	-4.6150	0.0499	-0.6477	0.0261
3	184.92	0.8577	0.1463	0.0060	-0.6981	0.0379	-5.8150	0.0587	-0.6201	0.0369
3	184.92	0.9178	0.1342	0.0040	-0.8399	0.0427	-7.1668	0.0680	-0.7779	0.0373
3	184.92	0.9729	0.1368	0.0078	-0.8849	0.0455	-8.4892	0.0802	-0.8479	0.0487
4	184.92	0.2001	-0.0322	0.0010	0.0243	0.0013	-0.0620	0.0016	0.0546	0.0163
4	184.92	0.2502	-0.0005	0.0011	0.0287	0.0022	-0.1182	0.0030	0.1031	0.0261
4	184.92	0.3001	0.0183	0.0011	0.0791	0.0047	-0.2432	0.0047	0.1237	0.0321
4	184.92	0.3502	0.0267	0.0013	0.1481	0.0069	-0.4208	0.0052	0.1022	0.0360
4	184.92	0.4002	0.0508	0.0011	0.2106	0.0112	-0.6443	0.0089	0.0922	0.0372
4	184.92	0.4500	0.0822	0.0014	0.2728	0.0125	-0.9537	0.0110	-0.1119	0.0324
4	184.92	0.5001	0.1011	0.0019	0.3115	0.0150	-1.3035	0.0141	0.0819	0.0261
4	184.92	0.5560	0.1190	0.0012	0.3681	0.0181	-1.8873	0.0161	-0.1348	0.0470
4	184.92	0.6001	0.1400	0.0015	0.4240	0.0201	-2.4152	0.0185	-0.1699	0.0363
4	184.92	0.6501	0.1324	0.0011	0.4371	0.0225	-3.1261	0.0241	-0.1113	0.0324
4	184.92	0.6999	0.1453	0.0019	0.4641	0.0257	-3.9557	0.0273	-0.0059	0.0375
4	184.92	0.7500	0.1500	0.0020	0.5004	0.0283	-4.8929	0.0313	0.1553	0.0295
4	184.92	0.8002	0.1241	0.0024	0.5217	0.0316	-5.9882	0.0338	0.0602	0.0343
4	184.92	0.8582	0.1205	0.0020	0.5740	0.0346	-7.3538	0.0381	-0.1391	0.0337
4	184.92	0.9101	0.1160	0.0038	0.5891	0.0382	-8.6288	0.0421	-0.0773	0.0396
4	184.92	0.9728	0.1255	0.0026	0.6307	0.0410	-10.1374	0.0475	0.2423	0.0434

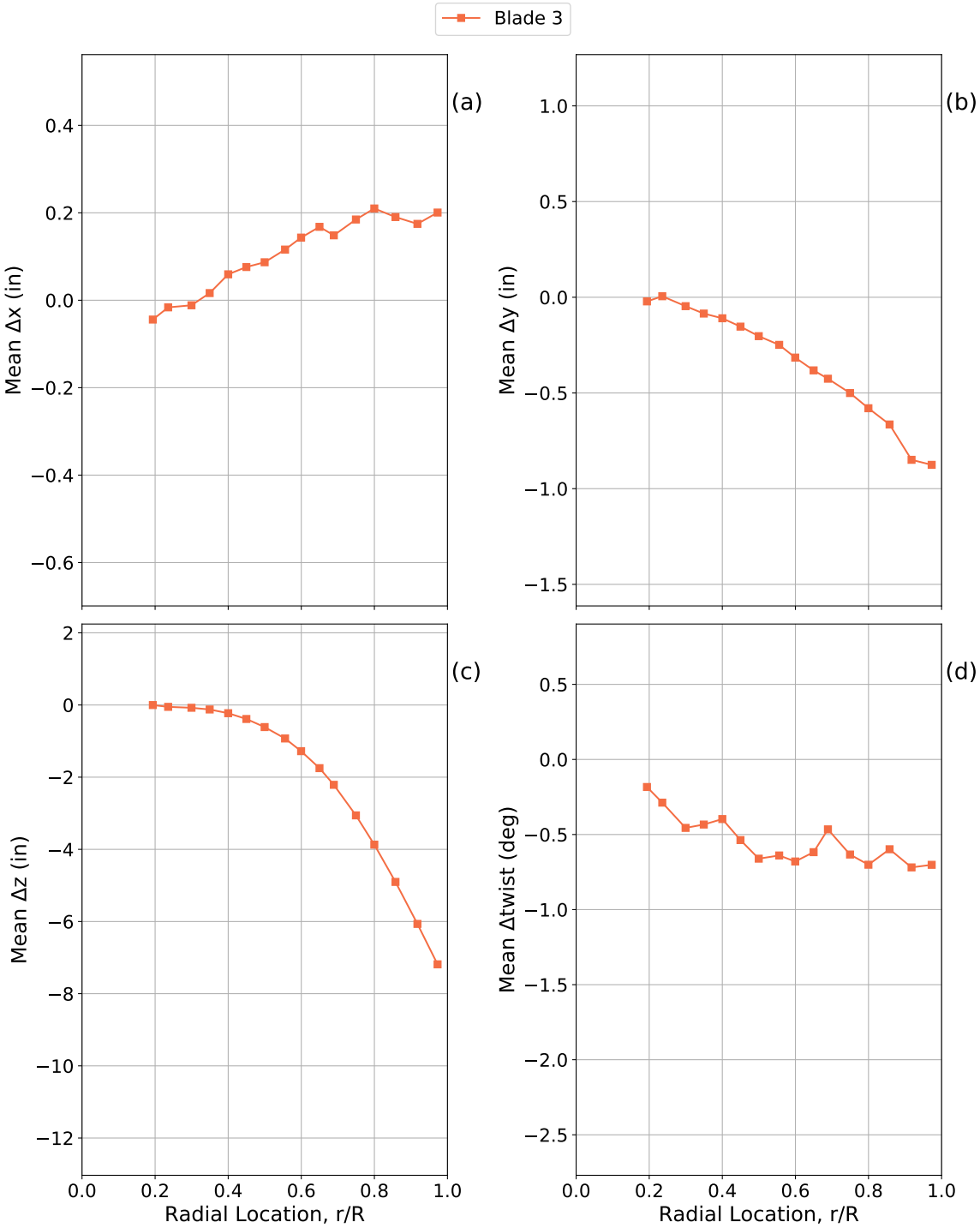


Figure 4.2-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0442	0.0017	-0.0216	0.0013	-0.0014	0.0024	-0.1836	0.0116
3	195.12	0.2357	-0.0163	0.0018	0.0053	0.0024	-0.0517	0.0043	-0.2877	0.0329
3	195.12	0.2995	-0.0115	0.0011	-0.0465	0.0045	-0.0767	0.0096	-0.4559	0.0303
3	195.12	0.3493	0.0164	0.0021	-0.0852	0.0072	-0.1242	0.0143	-0.4335	0.0332
3	195.12	0.4000	0.0593	0.0025	-0.1098	0.0117	-0.2273	0.0239	-0.3971	0.0380
3	195.12	0.4497	0.0760	0.0015	-0.1534	0.0147	-0.3873	0.0289	-0.5370	0.0312
3	195.12	0.4997	0.0869	0.0017	-0.2032	0.0173	-0.6118	0.0351	-0.6609	0.0305
3	195.12	0.5556	0.1159	0.0019	-0.2487	0.0200	-0.9279	0.0416	-0.6396	0.0389
3	195.12	0.5995	0.1433	0.0019	-0.3152	0.0225	-1.2792	0.0475	-0.6796	0.0412
3	195.12	0.6498	0.1679	0.0023	-0.3820	0.0258	-1.7502	0.0558	-0.6176	0.0456
3	195.12	0.6890	0.1485	0.0020	-0.4256	0.0280	-2.2123	0.0619	-0.4657	0.0372
3	195.12	0.7495	0.1847	0.0027	-0.5004	0.0316	-3.0589	0.0734	-0.6333	0.0359
3	195.12	0.7998	0.2099	0.0034	-0.5798	0.0342	-3.8696	0.0795	-0.7012	0.0395
3	195.12	0.8577	0.1903	0.0033	-0.6647	0.0374	-4.9024	0.0889	-0.5981	0.0393
3	195.12	0.9178	0.1747	0.0033	-0.8493	0.0396	-6.0666	0.0969	-0.7190	0.0373
3	195.12	0.9729	0.2006	0.0041	-0.8756	0.0439	-7.1863	0.1064	-0.7018	0.0291

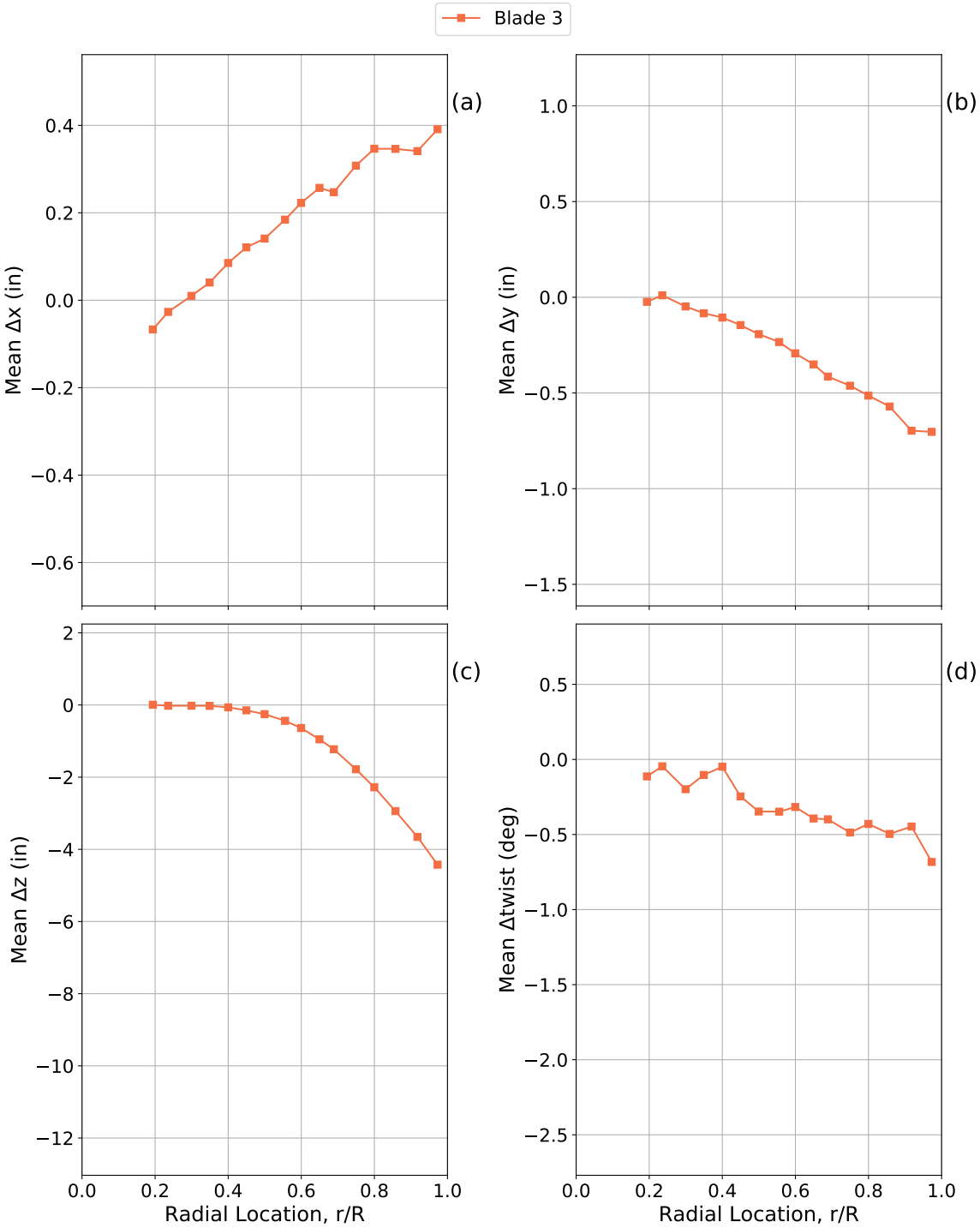


Figure 4.2-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0668	0.0013	-0.0239	0.0010	0.0073	0.0018	-0.1129	0.0138
3	209.88	0.2357	-0.0267	0.0010	0.0103	0.0031	-0.0208	0.0047	-0.0459	0.0200
3	209.88	0.2995	0.0101	0.0010	-0.0481	0.0052	-0.0204	0.0073	-0.1983	0.0284
3	209.88	0.3493	0.0406	0.0013	-0.0835	0.0105	-0.0234	0.0142	-0.1034	0.0178
3	209.88	0.4000	0.0852	0.0021	-0.1061	0.0157	-0.0652	0.0210	-0.0485	0.0219
3	209.88	0.4497	0.1210	0.0016	-0.1456	0.0197	-0.1483	0.0243	-0.2464	0.0230
3	209.88	0.4997	0.1410	0.0013	-0.1928	0.0213	-0.2542	0.0279	-0.3469	0.0273
3	209.88	0.5556	0.1844	0.0016	-0.2340	0.0256	-0.4378	0.0327	-0.3478	0.0232
3	209.88	0.5995	0.2227	0.0011	-0.2929	0.0288	-0.6386	0.0391	-0.3170	0.0189
3	209.88	0.6498	0.2570	0.0018	-0.3508	0.0313	-0.9508	0.0442	-0.3933	0.0241
3	209.88	0.6890	0.2471	0.0021	-0.4145	0.0342	-1.2270	0.0479	-0.3988	0.0269
3	209.88	0.7495	0.3079	0.0018	-0.4622	0.0383	-1.7811	0.0548	-0.4868	0.0295
3	209.88	0.7998	0.3466	0.0016	-0.5138	0.0418	-2.2801	0.0602	-0.4295	0.0198
3	209.88	0.8577	0.3463	0.0018	-0.5708	0.0462	-2.9411	0.0662	-0.4960	0.0249
3	209.88	0.9178	0.3411	0.0030	-0.6971	0.0511	-3.6550	0.0727	-0.4467	0.0562
3	209.88	0.9729	0.3911	0.0032	-0.7031	0.0539	-4.4251	0.0772	-0.6829	0.0536

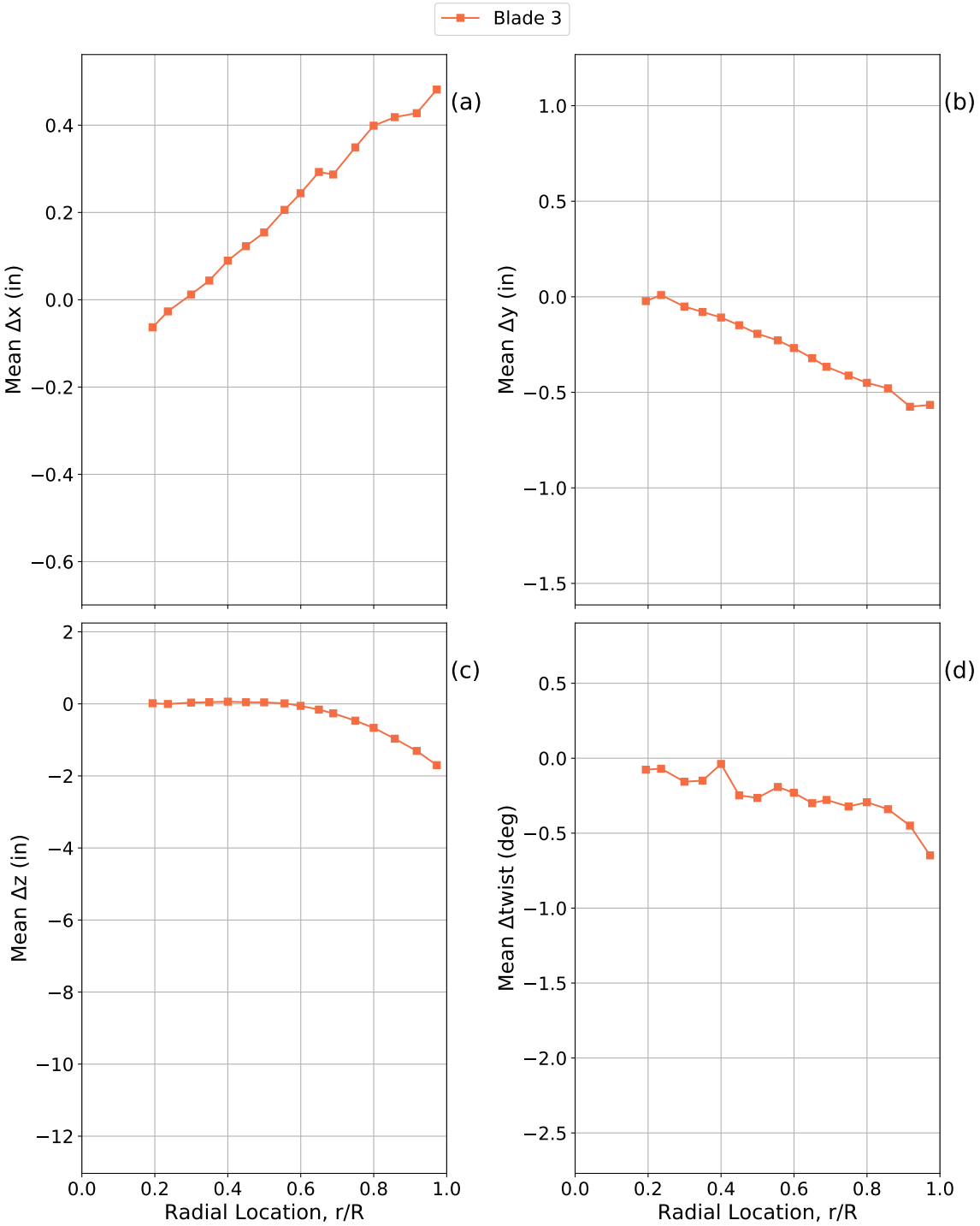


Figure 4.2-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0632	0.0009	-0.0227	0.0005	0.0173	0.0012	-0.0766	0.0157
3	225	0.2357	-0.0267	0.0006	0.0090	0.0009	-0.0036	0.0021	-0.0702	0.0169
3	225	0.2995	0.0121	0.0008	-0.0512	0.0016	0.0351	0.0043	-0.1567	0.0313
3	225	0.3493	0.0440	0.0005	-0.0794	0.0035	0.0456	0.0082	-0.1496	0.0272
3	225	0.4000	0.0896	0.0013	-0.1085	0.0048	0.0617	0.0106	-0.0385	0.0272
3	225	0.4497	0.1227	0.0011	-0.1489	0.0054	0.0451	0.0111	-0.2479	0.0311
3	225	0.4997	0.1541	0.0018	-0.1934	0.0075	0.0413	0.0167	-0.2649	0.0249
3	225	0.5556	0.2059	0.0010	-0.2281	0.0091	0.0143	0.0207	-0.1920	0.0444
3	225	0.5995	0.2440	0.0016	-0.2684	0.0122	-0.0562	0.0208	-0.2304	0.0197
3	225	0.6498	0.2927	0.0017	-0.3215	0.0136	-0.1597	0.0227	-0.3001	0.0159
3	225	0.6890	0.2870	0.0013	-0.3664	0.0148	-0.2633	0.0265	-0.2784	0.0343
3	225	0.7495	0.3492	0.0013	-0.4124	0.0172	-0.4660	0.0282	-0.3224	0.0241
3	225	0.7998	0.3988	0.0013	-0.4504	0.0199	-0.6668	0.0311	-0.2937	0.0221
3	225	0.8577	0.4183	0.0019	-0.4792	0.0226	-0.9679	0.0335	-0.3402	0.0146
3	225	0.9178	0.4276	0.0020	-0.5754	0.0257	-1.3064	0.0382	-0.4497	0.0235
3	225	0.9729	0.4817	0.0026	-0.5658	0.0289	-1.7021	0.0420	-0.6484	0.0225

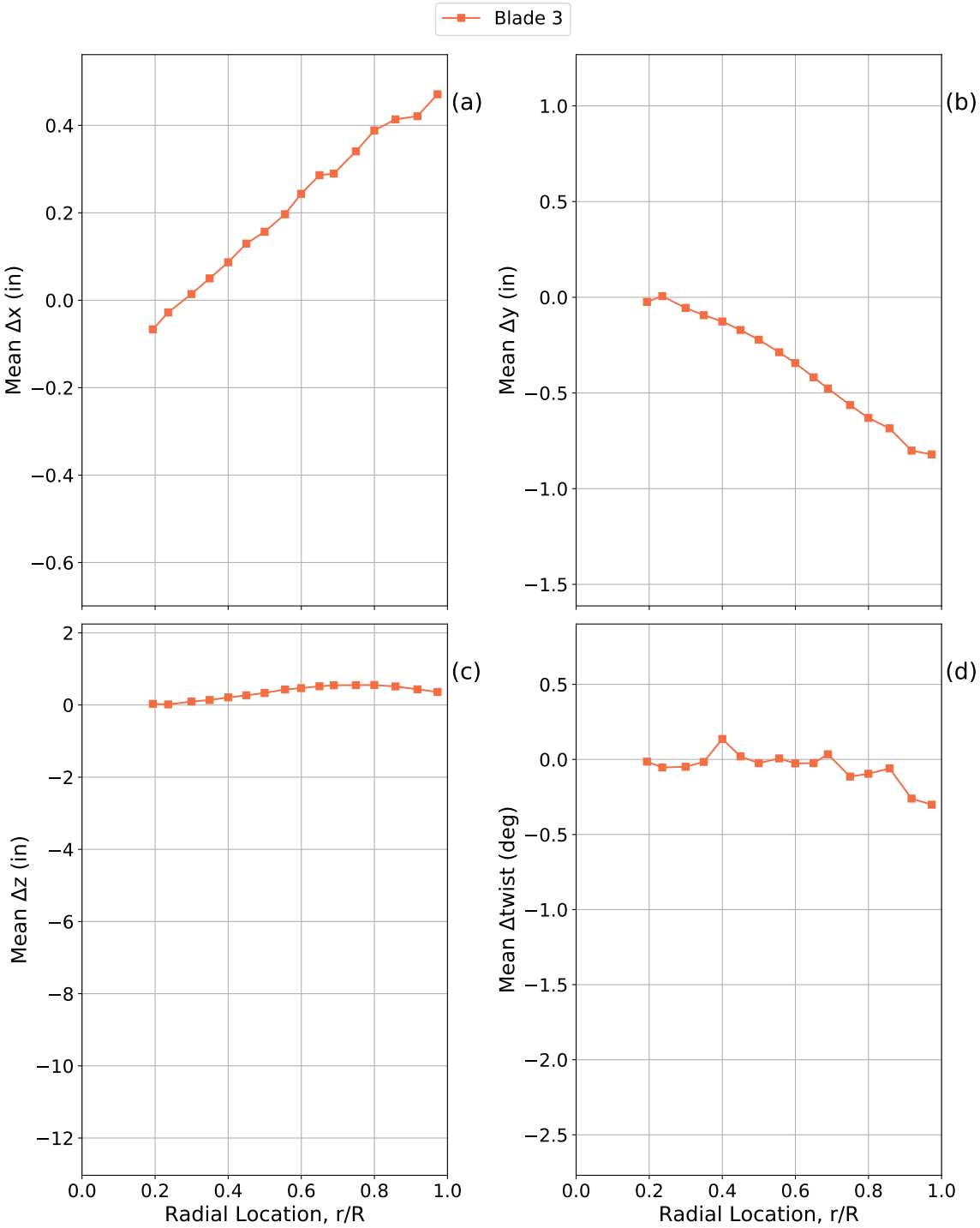


Figure 4.2-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0665	0.0005	-0.0243	0.0004	0.0316	0.0022	-0.0146	0.0202
3	240.12	0.2357	-0.0279	0.0005	0.0059	0.0010	0.0165	0.0065	-0.0533	0.0161
3	240.12	0.2995	0.0142	0.0010	-0.0559	0.0014	0.0953	0.0104	-0.0490	0.0381
3	240.12	0.3493	0.0500	0.0010	-0.0938	0.0033	0.1382	0.0211	-0.0163	0.0251
3	240.12	0.4000	0.0868	0.0018	-0.1266	0.0044	0.2106	0.0313	0.1362	0.0312
3	240.12	0.4497	0.1296	0.0032	-0.1709	0.0061	0.2661	0.0333	0.0204	0.0246
3	240.12	0.4997	0.1567	0.0015	-0.2219	0.0077	0.3337	0.0419	-0.0247	0.0262
3	240.12	0.5556	0.1967	0.0023	-0.2871	0.0072	0.4308	0.0498	0.0070	0.0219
3	240.12	0.5995	0.2434	0.0016	-0.3438	0.0105	0.4674	0.0588	-0.0263	0.0442
3	240.12	0.6498	0.2860	0.0018	-0.4182	0.0110	0.5185	0.0614	-0.0246	0.0258
3	240.12	0.6890	0.2897	0.0018	-0.4767	0.0131	0.5461	0.0660	0.0346	0.0379
3	240.12	0.7495	0.3406	0.0013	-0.5631	0.0148	0.5516	0.0764	-0.1138	0.0271
3	240.12	0.7998	0.3884	0.0018	-0.6306	0.0170	0.5534	0.0833	-0.0955	0.0393
3	240.12	0.8577	0.4137	0.0015	-0.6849	0.0198	0.5147	0.0927	-0.0597	0.0237
3	240.12	0.9178	0.4211	0.0015	-0.8011	0.0222	0.4342	0.1019	-0.2606	0.0213
3	240.12	0.9729	0.4711	0.0022	-0.8212	0.0253	0.3606	0.1117	-0.3013	0.0265

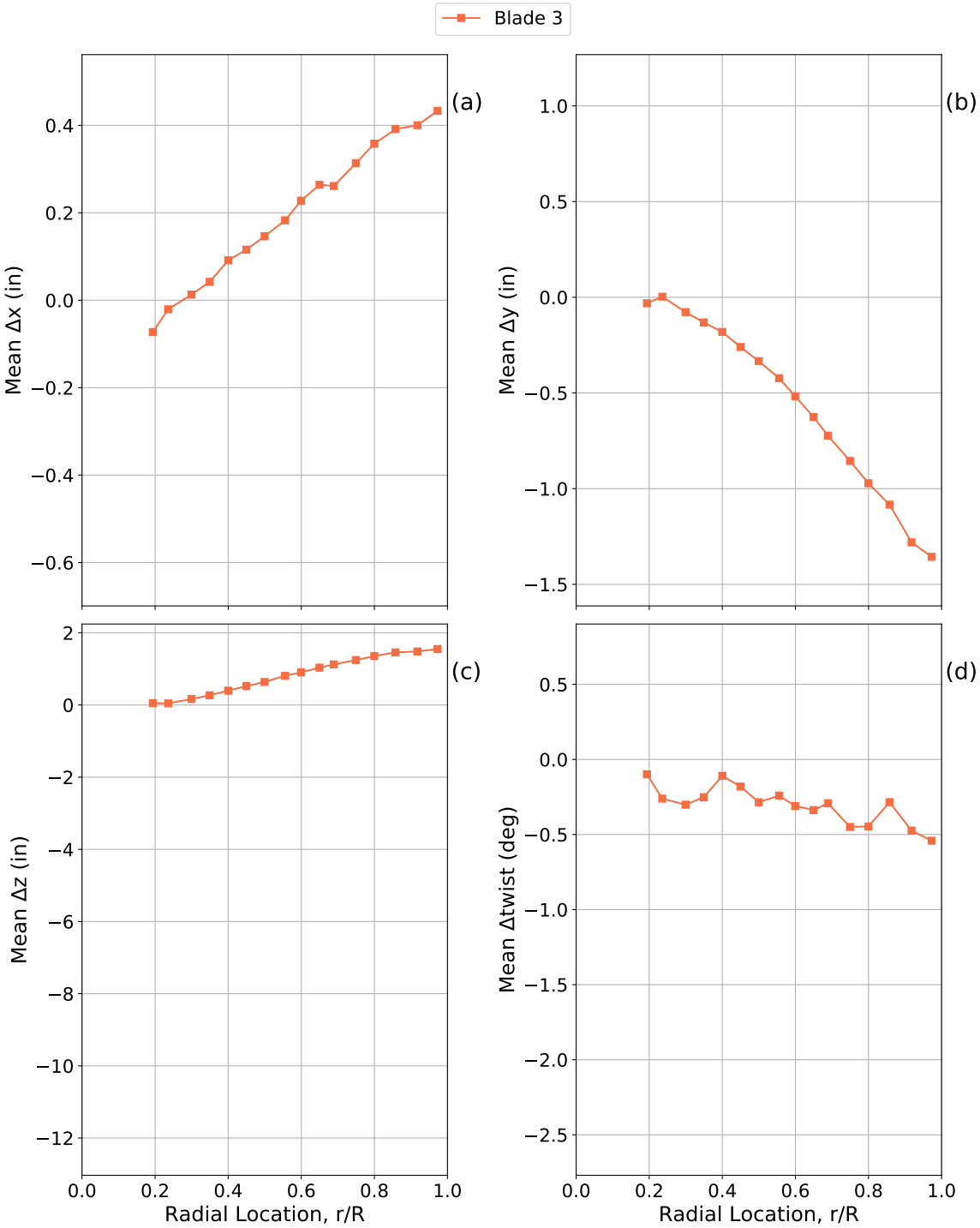


Figure 4.2-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0728	0.0017	-0.0315	0.0007	0.0534	0.0027	-0.0988	0.0235
3	254.88	0.2357	-0.0207	0.0008	0.0031	0.0010	0.0450	0.0042	-0.2609	0.0406
3	254.88	0.2995	0.0129	0.0010	-0.0777	0.0029	0.1655	0.0090	-0.3014	0.0577
3	254.88	0.3493	0.0420	0.0014	-0.1316	0.0050	0.2682	0.0160	-0.2517	0.0517
3	254.88	0.4000	0.0913	0.0008	-0.1813	0.0077	0.3963	0.0235	-0.1090	0.0503
3	254.88	0.4497	0.1156	0.0009	-0.2598	0.0095	0.5228	0.0293	-0.1807	0.0504
3	254.88	0.4997	0.1463	0.0014	-0.3338	0.0123	0.6369	0.0361	-0.2850	0.0506
3	254.88	0.5556	0.1828	0.0025	-0.4231	0.0146	0.8109	0.0404	-0.2409	0.0609
3	254.88	0.5995	0.2277	0.0015	-0.5176	0.0162	0.9050	0.0438	-0.3098	0.0674
3	254.88	0.6498	0.2643	0.0016	-0.6258	0.0194	1.0342	0.0508	-0.3372	0.0544
3	254.88	0.6890	0.2613	0.0018	-0.7227	0.0213	1.1239	0.0536	-0.2917	0.0578
3	254.88	0.7495	0.3135	0.0014	-0.8553	0.0241	1.2465	0.0585	-0.4496	0.0516
3	254.88	0.7998	0.3581	0.0019	-0.9719	0.0274	1.3556	0.0617	-0.4463	0.0631
3	254.88	0.8577	0.3913	0.0024	-1.0836	0.0314	1.4579	0.0685	-0.2845	0.0586
3	254.88	0.9178	0.4004	0.0022	-1.2803	0.0350	1.4834	0.0764	-0.4739	0.0564
3	254.88	0.9729	0.4332	0.0032	-1.3562	0.0384	1.5499	0.0843	-0.5413	0.0630

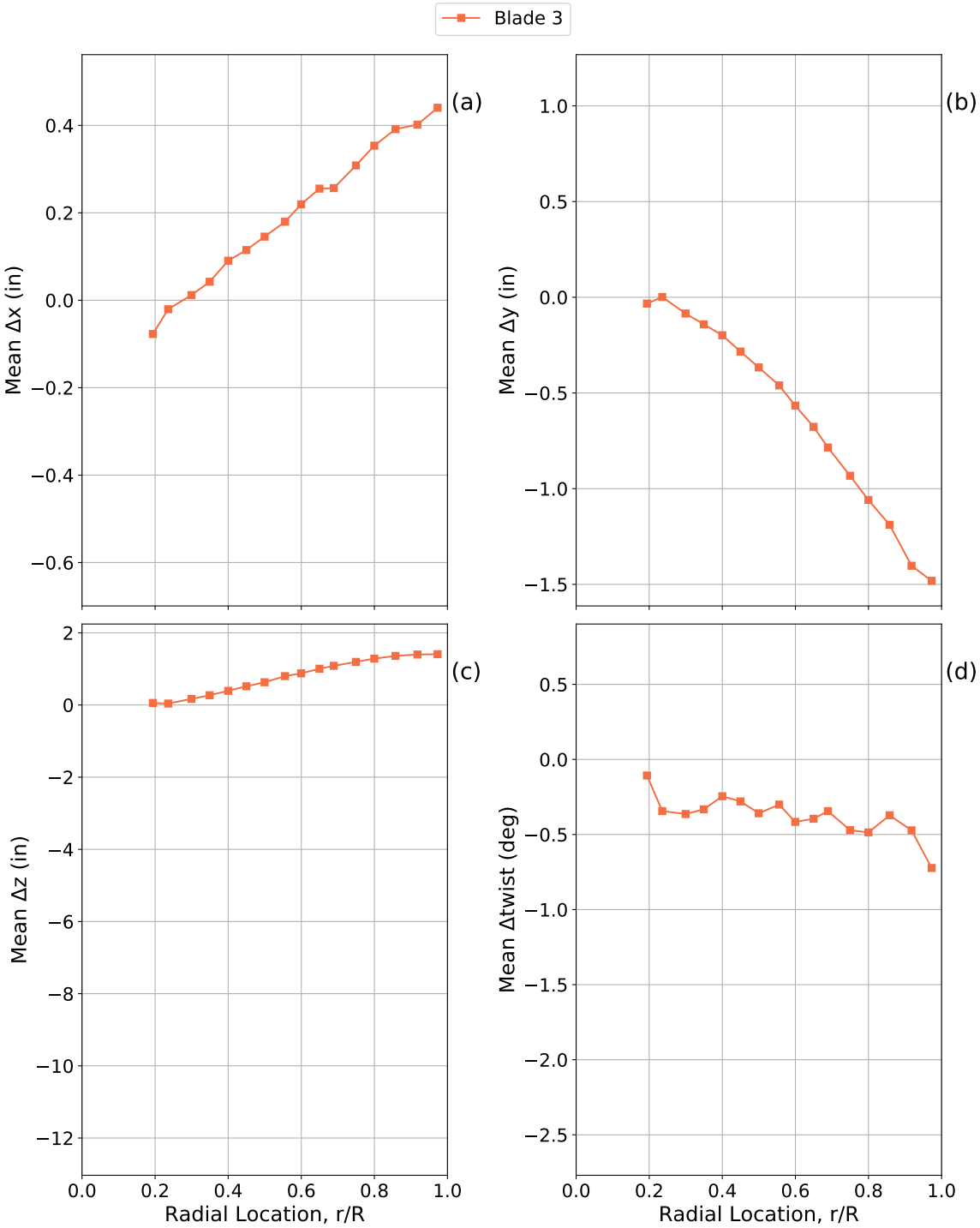


Figure 4.2-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0772	0.0017	-0.0329	0.0006	0.0577	0.0027	-0.1071	0.0137
3	260.16	0.2357	-0.0206	0.0012	0.0013	0.0006	0.0404	0.0034	-0.3437	0.0270
3	260.16	0.2995	0.0119	0.0007	-0.0850	0.0022	0.1680	0.0091	-0.3635	0.0328
3	260.16	0.3493	0.0423	0.0014	-0.1414	0.0033	0.2702	0.0160	-0.3322	0.0330
3	260.16	0.4000	0.0905	0.0015	-0.1985	0.0053	0.3935	0.0237	-0.2451	0.0296
3	260.16	0.4497	0.1148	0.0016	-0.2837	0.0057	0.5182	0.0291	-0.2795	0.0353
3	260.16	0.4997	0.1455	0.0018	-0.3665	0.0080	0.6303	0.0361	-0.3585	0.0308
3	260.16	0.5556	0.1795	0.0023	-0.4607	0.0093	0.8000	0.0421	-0.3007	0.0292
3	260.16	0.5995	0.2194	0.0022	-0.5659	0.0108	0.8766	0.0464	-0.4159	0.0308
3	260.16	0.6498	0.2553	0.0017	-0.6772	0.0122	1.0051	0.0525	-0.3952	0.0322
3	260.16	0.6890	0.2565	0.0021	-0.7849	0.0137	1.0857	0.0555	-0.3442	0.0340
3	260.16	0.7495	0.3084	0.0019	-0.9325	0.0152	1.1946	0.0605	-0.4708	0.0351
3	260.16	0.7998	0.3536	0.0017	-1.0593	0.0173	1.2847	0.0665	-0.4863	0.0362
3	260.16	0.8577	0.3912	0.0017	-1.1887	0.0190	1.3607	0.0725	-0.3719	0.0354
3	260.16	0.9178	0.4017	0.0017	-1.4028	0.0210	1.3988	0.0789	-0.4723	0.0419
3	260.16	0.9729	0.4403	0.0024	-1.4817	0.0230	1.4078	0.0876	-0.7230	0.0344

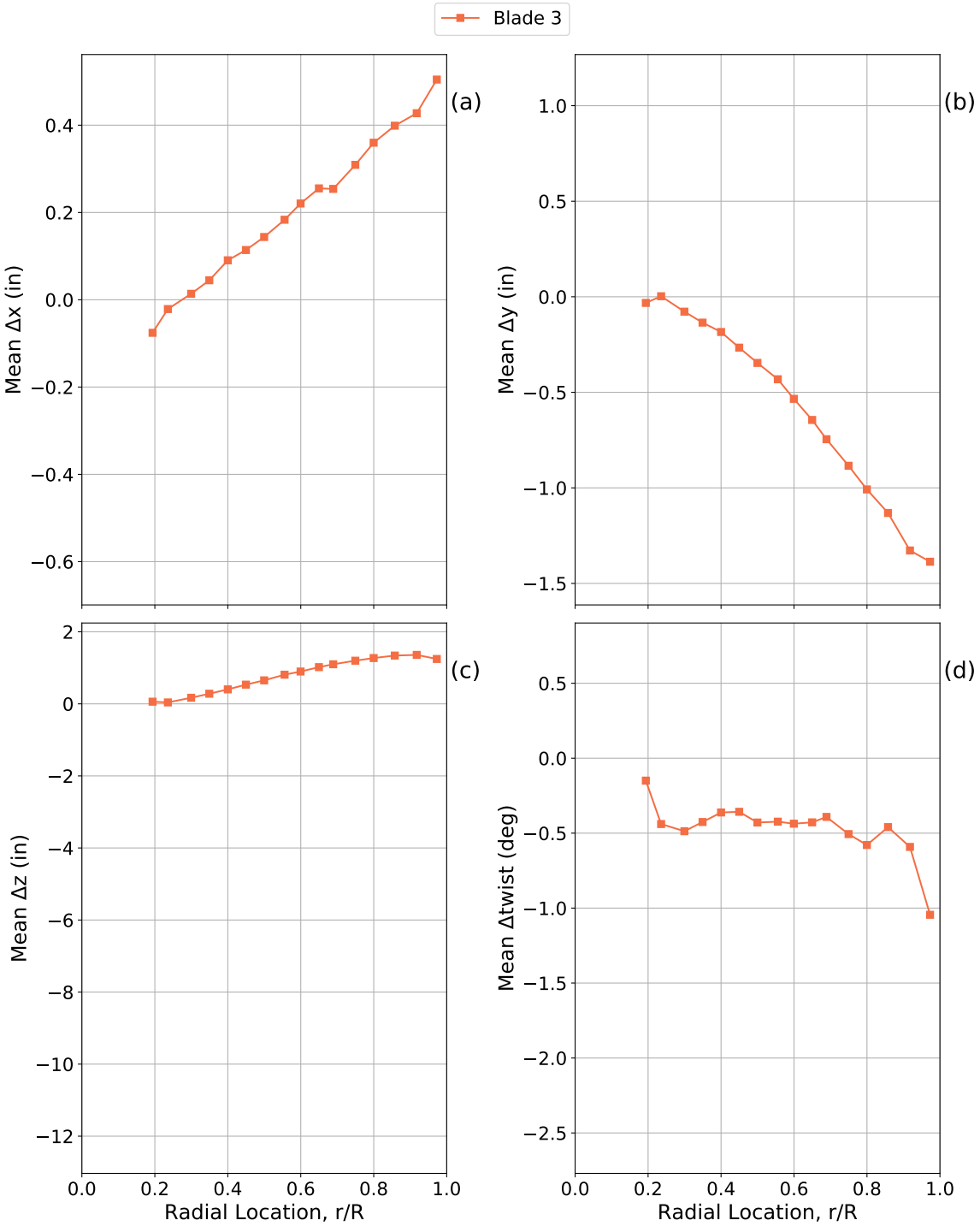


Figure 4.2-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0757	0.0032	-0.0320	0.0008	0.0603	0.0037	-0.1496	0.0205
3	265.08	0.2357	-0.0213	0.0008	0.0029	0.0010	0.0398	0.0041	-0.4391	0.0533
3	265.08	0.2995	0.0137	0.0011	-0.0779	0.0027	0.1693	0.0110	-0.4870	0.0542
3	265.08	0.3493	0.0446	0.0011	-0.1352	0.0039	0.2810	0.0162	-0.4257	0.0599
3	265.08	0.4000	0.0904	0.0015	-0.1842	0.0062	0.4014	0.0246	-0.3620	0.0561
3	265.08	0.4497	0.1140	0.0014	-0.2662	0.0079	0.5336	0.0289	-0.3576	0.0596
3	265.08	0.4997	0.1438	0.0015	-0.3460	0.0091	0.6525	0.0348	-0.4290	0.0551
3	265.08	0.5556	0.1833	0.0013	-0.4316	0.0117	0.8092	0.0409	-0.4233	0.0567
3	265.08	0.5995	0.2205	0.0011	-0.5341	0.0134	0.8974	0.0467	-0.4369	0.0516
3	265.08	0.6498	0.2552	0.0014	-0.6447	0.0158	1.0186	0.0511	-0.4279	0.0535
3	265.08	0.6890	0.2540	0.0016	-0.7454	0.0178	1.0985	0.0536	-0.3917	0.0574
3	265.08	0.7495	0.3091	0.0014	-0.8843	0.0208	1.1980	0.0592	-0.5063	0.0545
3	265.08	0.7998	0.3598	0.0015	-1.0082	0.0237	1.2718	0.0640	-0.5789	0.0537
3	265.08	0.8577	0.3988	0.0016	-1.1313	0.0272	1.3401	0.0701	-0.4596	0.0559
3	265.08	0.9178	0.4274	0.0018	-1.3277	0.0312	1.3590	0.0775	-0.5919	0.0554
3	265.08	0.9729	0.5045	0.0030	-1.3865	0.0347	1.2463	0.0866	-1.0444	0.0615

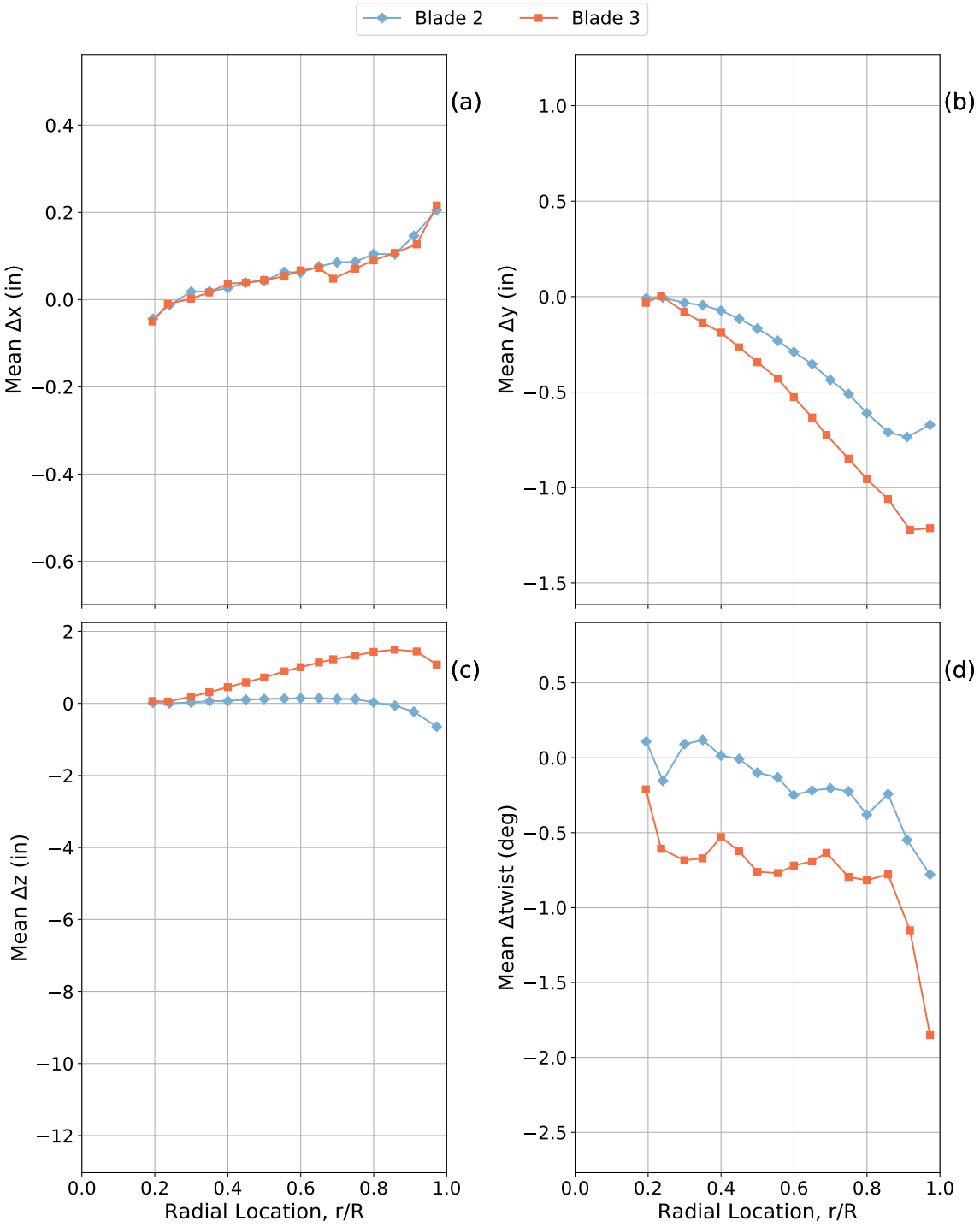


Figure 4.2-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0443	0.0023	-0.0085	0.0006	0.0164	0.0034	0.1079	0.0290
2	270.35	0.2405	-0.0123	0.0018	-0.0050	0.0014	0.0021	0.0044	-0.1540	0.0421
2	270.35	0.2999	0.0180	0.0014	-0.0328	0.0020	0.0278	0.0090	0.0905	0.0647
2	270.35	0.3498	0.0187	0.0015	-0.0448	0.0043	0.0628	0.0170	0.1180	0.0519
2	270.35	0.3998	0.0262	0.0015	-0.0732	0.0059	0.0683	0.0228	0.0143	0.0527
2	270.35	0.4496	0.0386	0.0014	-0.1163	0.0070	0.1046	0.0270	-0.0079	0.0510
2	270.35	0.4995	0.0431	0.0014	-0.1671	0.0088	0.1211	0.0349	-0.0997	0.0451
2	270.35	0.5551	0.0631	0.0019	-0.2314	0.0102	0.1334	0.0400	-0.1309	0.0528
2	270.35	0.5996	0.0617	0.0015	-0.2897	0.0115	0.1433	0.0449	-0.2491	0.0474
2	270.35	0.6497	0.0762	0.0021	-0.3535	0.0137	0.1425	0.0533	-0.2185	0.0512
2	270.35	0.6996	0.0851	0.0021	-0.4365	0.0148	0.1257	0.0582	-0.2042	0.0508
2	270.35	0.7495	0.0867	0.0020	-0.5103	0.0165	0.1208	0.0647	-0.2245	0.0533
2	270.35	0.7996	0.1046	0.0020	-0.6103	0.0180	0.0269	0.0707	-0.3799	0.0550
2	270.35	0.8578	0.1039	0.0013	-0.7099	0.0207	-0.0619	0.0787	-0.2420	0.0490
2	270.35	0.9100	0.1459	0.0012	-0.7350	0.0230	-0.2305	0.0845	-0.5484	0.0558
2	270.35	0.9727	0.2049	0.0021	-0.6715	0.0259	-0.6447	0.0941	-0.7798	0.0546
3	270	0.1938	-0.0503	0.0029	-0.0322	0.0013	0.0638	0.0053	-0.2112	0.0434
3	270	0.2357	-0.0104	0.0019	0.0028	0.0017	0.0504	0.0057	-0.6076	0.0940
3	270	0.2995	0.0022	0.0021	-0.0801	0.0038	0.1892	0.0120	-0.6846	0.1142
3	270	0.3493	0.0164	0.0015	-0.1367	0.0075	0.3090	0.0229	-0.6716	0.0983
3	270	0.4000	0.0366	0.0011	-0.1883	0.0107	0.4501	0.0304	-0.5295	0.0929
3	270	0.4497	0.0386	0.0014	-0.2658	0.0127	0.5866	0.0361	-0.6238	0.1114
3	270	0.4997	0.0443	0.0015	-0.3438	0.0160	0.7184	0.0457	-0.7620	0.1004
3	270	0.5556	0.0536	0.0015	-0.4291	0.0186	0.8902	0.0547	-0.7696	0.0979
3	270	0.5995	0.0668	0.0017	-0.5268	0.0200	1.0070	0.0628	-0.7198	0.0971
3	270	0.6498	0.0726	0.0020	-0.6330	0.0232	1.1360	0.0711	-0.6915	0.0944
3	270	0.6890	0.0477	0.0023	-0.7246	0.0250	1.2266	0.0778	-0.6346	0.0878
3	270	0.7495	0.0707	0.0025	-0.8483	0.0283	1.3313	0.0862	-0.7956	0.0966
3	270	0.7998	0.0903	0.0022	-0.9555	0.0313	1.4320	0.0948	-0.8178	0.0972
3	270	0.8577	0.1069	0.0021	-1.0602	0.0340	1.4947	0.1038	-0.7781	0.1005
3	270	0.9178	0.1267	0.0020	-1.2213	0.0376	1.4425	0.1130	-1.1515	0.1067
3	270	0.9729	0.2157	0.0027	-1.2131	0.0406	1.0787	0.1247	-1.8509	0.0981

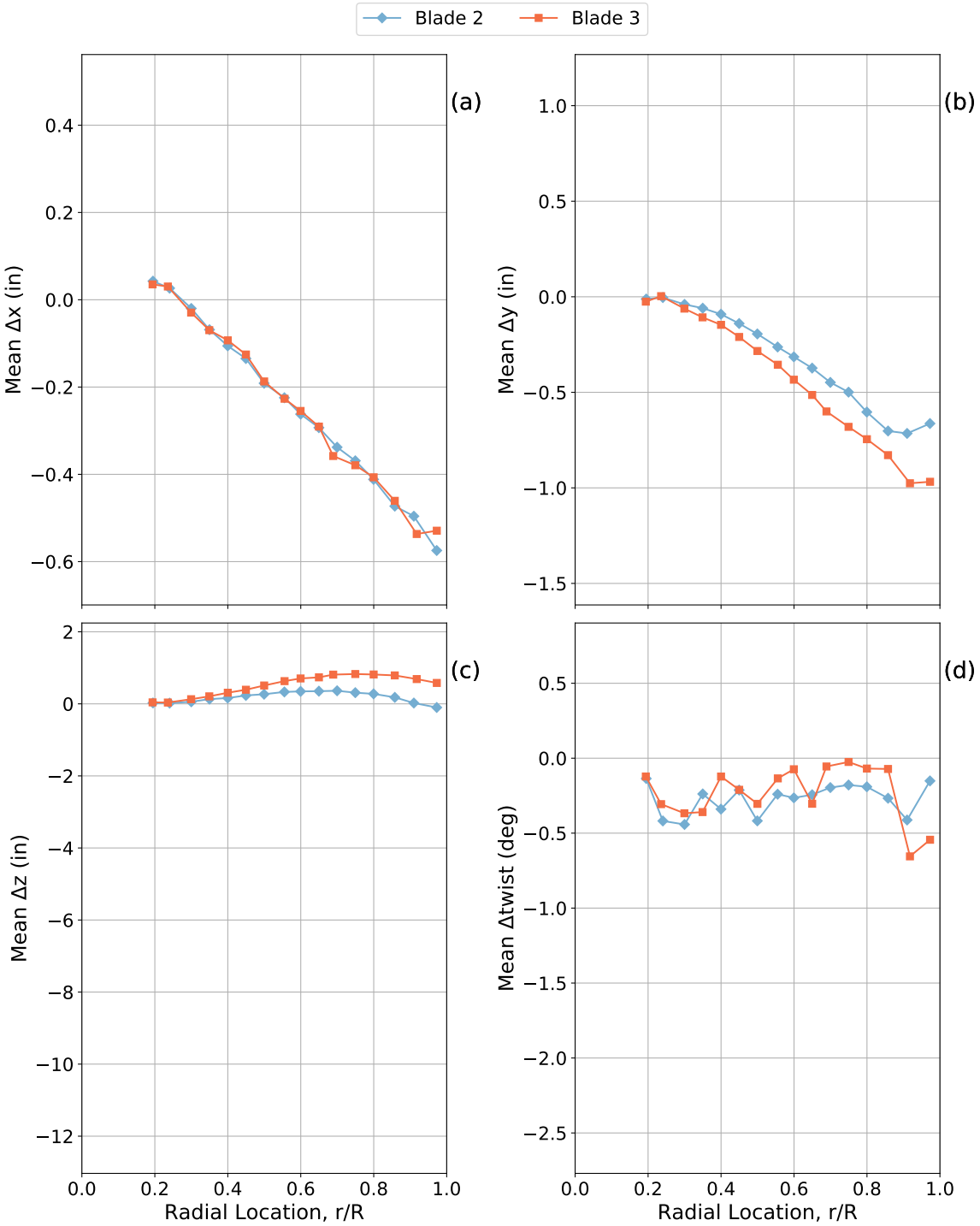


Figure 4.2-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0426	0.0018	-0.0118	0.0014	0.0254	0.0029	-0.1358	0.0233
2	274.92	0.2405	0.0265	0.0013	-0.0041	0.0023	0.0203	0.0073	-0.4186	0.0337
2	274.92	0.2999	-0.0199	0.0019	-0.0399	0.0057	0.0574	0.0128	-0.4421	0.0480
2	274.92	0.3498	-0.0686	0.0013	-0.0597	0.0090	0.1319	0.0219	-0.2384	0.0378
2	274.92	0.3998	-0.1057	0.0028	-0.0912	0.0142	0.1608	0.0338	-0.3397	0.0509
2	274.92	0.4496	-0.1347	0.0043	-0.1399	0.0179	0.2330	0.0364	-0.2126	0.0587
2	274.92	0.4995	-0.1913	0.0032	-0.1944	0.0202	0.2672	0.0433	-0.4181	0.0521
2	274.92	0.5551	-0.2245	0.0034	-0.2628	0.0248	0.3306	0.0552	-0.2401	0.0392
2	274.92	0.5996	-0.2621	0.0028	-0.3144	0.0261	0.3461	0.0620	-0.2645	0.0433
2	274.92	0.6497	-0.2931	0.0032	-0.3732	0.0284	0.3521	0.0636	-0.2436	0.0590
2	274.92	0.6996	-0.3379	0.0039	-0.4481	0.0332	0.3631	0.0755	-0.1959	0.0581
2	274.92	0.7495	-0.3690	0.0045	-0.4990	0.0384	0.3101	0.0849	-0.1787	0.0454
2	274.92	0.7996	-0.4116	0.0039	-0.6033	0.0412	0.2772	0.0962	-0.1907	0.0538
2	274.92	0.8578	-0.4729	0.0027	-0.7024	0.0451	0.1802	0.1021	-0.2670	0.0955
2	274.92	0.9100	-0.4959	0.0042	-0.7151	0.0497	0.0231	0.1168	-0.4123	0.0833
2	274.92	0.9727	-0.5745	0.0053	-0.6633	0.0530	-0.1007	0.1369	-0.1515	0.1071
3	274.92	0.1938	0.0352	0.0031	-0.0254	0.0015	0.0412	0.0055	-0.1220	0.0230
3	274.92	0.2357	0.0303	0.0034	0.0032	0.0036	0.0366	0.0039	-0.3065	0.0792
3	274.92	0.2995	-0.0294	0.0010	-0.0619	0.0042	0.1290	0.0133	-0.3673	0.0744
3	274.92	0.3493	-0.0697	0.0010	-0.1077	0.0074	0.2084	0.0185	-0.3593	0.0997
3	274.92	0.4000	-0.0930	0.0034	-0.1468	0.0122	0.3087	0.0271	-0.1223	0.1086
3	274.92	0.4497	-0.1255	0.0059	-0.2103	0.0138	0.3919	0.0412	-0.2107	0.0626
3	274.92	0.4997	-0.1872	0.0020	-0.2838	0.0158	0.5095	0.0553	-0.3045	0.0809
3	274.92	0.5556	-0.2268	0.0030	-0.3557	0.0186	0.6310	0.0638	-0.1347	0.0877
3	274.92	0.5995	-0.2548	0.0021	-0.4340	0.0209	0.7050	0.0770	-0.0737	0.0748
3	274.92	0.6498	-0.2906	0.0019	-0.5138	0.0227	0.7357	0.0878	-0.3039	0.1310
3	274.92	0.6890	-0.3580	0.0032	-0.6001	0.0273	0.8116	0.0984	-0.0553	0.1229
3	274.92	0.7495	-0.3792	0.0020	-0.6807	0.0276	0.8278	0.1094	-0.0251	0.1273
3	274.92	0.7998	-0.4068	0.0023	-0.7454	0.0311	0.8149	0.1238	-0.0691	0.1352
3	274.92	0.8577	-0.4607	0.0028	-0.8288	0.0347	0.7895	0.1456	-0.0718	0.0913
3	274.92	0.9178	-0.5367	0.0039	-0.9759	0.0378	0.6880	0.1559	-0.6549	0.1365
3	274.92	0.9729	-0.5291	0.0065	-0.9681	0.0440	0.5806	0.1678	-0.5440	0.1459

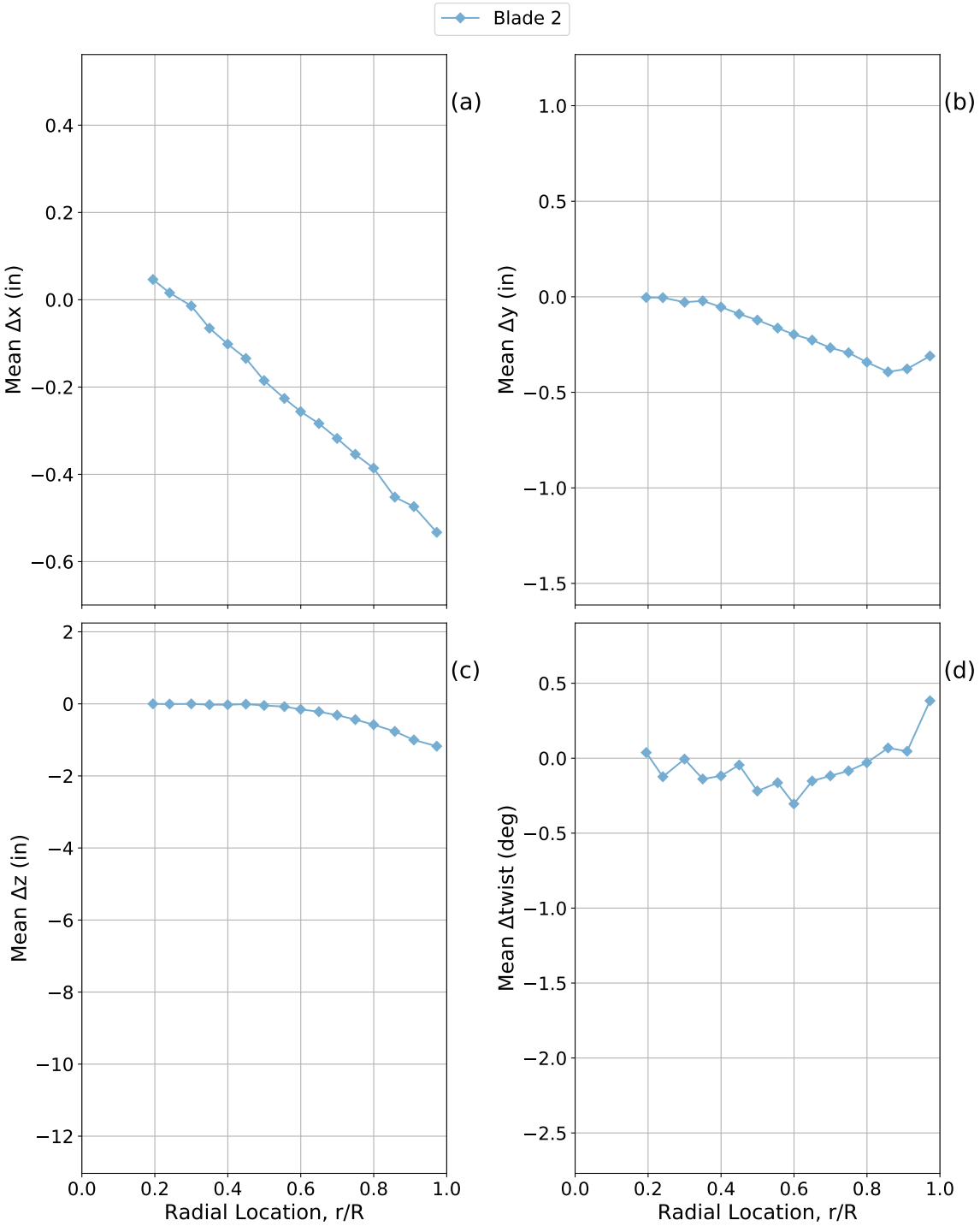


Figure 4.2-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0464	0.0025	-0.0038	0.0011	0.0001	0.0028	0.0376	0.0470
2	285.12	0.2405	0.0158	0.0029	-0.0047	0.0036	-0.0048	0.0078	-0.1235	0.0646
2	285.12	0.2999	-0.0141	0.0016	-0.0286	0.0058	-0.0008	0.0110	-0.0059	0.1043
2	285.12	0.3498	-0.0652	0.0025	-0.0215	0.0110	-0.0226	0.0230	-0.1389	0.0778
2	285.12	0.3998	-0.1016	0.0021	-0.0535	0.0168	-0.0245	0.0327	-0.1180	0.0863
2	285.12	0.4496	-0.1345	0.0029	-0.0901	0.0216	-0.0074	0.0410	-0.0453	0.0824
2	285.12	0.4995	-0.1852	0.0021	-0.1220	0.0253	-0.0448	0.0470	-0.2190	0.0949
2	285.12	0.5551	-0.2262	0.0026	-0.1639	0.0299	-0.0766	0.0529	-0.1635	0.0837
2	285.12	0.5996	-0.2562	0.0025	-0.1970	0.0352	-0.1523	0.0609	-0.3048	0.0890
2	285.12	0.6497	-0.2836	0.0028	-0.2267	0.0398	-0.2185	0.0672	-0.1520	0.0889
2	285.12	0.6996	-0.3177	0.0029	-0.2670	0.0450	-0.3132	0.0765	-0.1177	0.0704
2	285.12	0.7495	-0.3541	0.0027	-0.2928	0.0496	-0.4371	0.0825	-0.0845	0.0715
2	285.12	0.7996	-0.3858	0.0022	-0.3424	0.0542	-0.5787	0.0857	-0.0302	0.0781
2	285.12	0.8578	-0.4522	0.0028	-0.3930	0.0607	-0.7648	0.0895	0.0684	0.0985
2	285.12	0.9100	-0.4739	0.0036	-0.3775	0.0673	-1.0019	0.0978	0.0462	0.0777
2	285.12	0.9727	-0.5329	0.0042	-0.3100	0.0733	-1.1752	0.0960	0.3832	0.0999

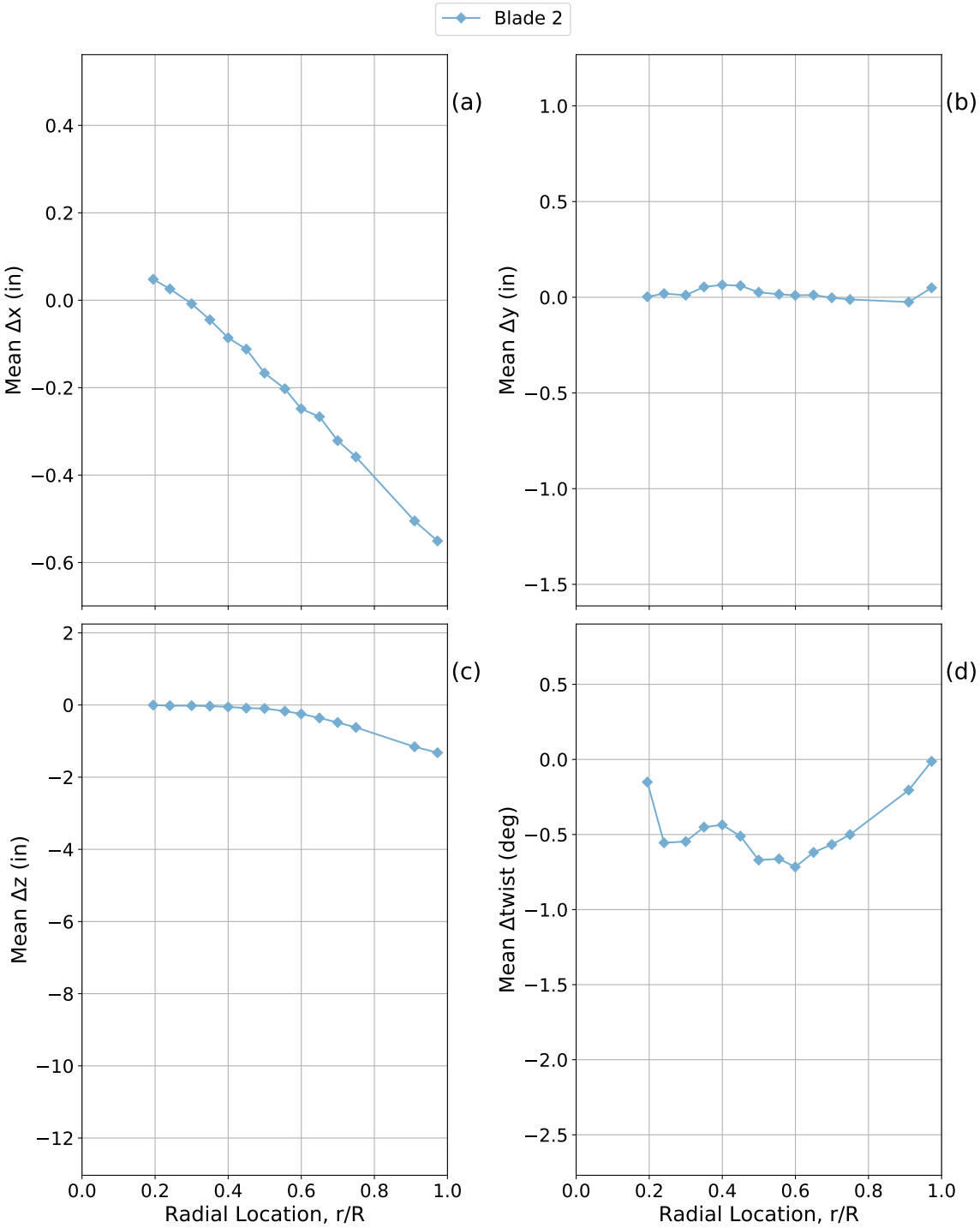


Figure 4.2-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0479	0.0017	0.0026	0.0016	-0.0023	0.0039	-0.1507	0.0455
2	299.88	0.2405	0.0259	0.0016	0.0192	0.0034	-0.0194	0.0109	-0.5552	0.0397
2	299.88	0.2999	-0.0080	0.0019	0.0108	0.0061	-0.0194	0.0151	-0.5469	0.0845
2	299.88	0.3498	-0.0447	0.0035	0.0540	0.0115	-0.0309	0.0233	-0.4510	0.0778
2	299.88	0.3998	-0.0860	0.0051	0.0647	0.0166	-0.0536	0.0388	-0.4357	0.0594
2	299.88	0.4496	-0.1119	0.0032	0.0604	0.0186	-0.0872	0.0411	-0.5110	0.1066
2	299.88	0.4995	-0.1667	0.0027	0.0259	0.0178	-0.0967	0.0425	-0.6704	0.1023
2	299.88	0.5551	-0.2025	0.0016	0.0156	0.0211	-0.1703	0.0553	-0.6623	0.0773
2	299.88	0.5996	-0.2483	0.0025	0.0100	0.0245	-0.2476	0.0624	-0.7161	0.0789
2	299.88	0.6497	-0.2665	0.0033	0.0118	0.0280	-0.3606	0.0721	-0.6190	0.0671
2	299.88	0.6996	-0.3212	0.0020	-0.0026	0.0324	-0.4833	0.0810	-0.5667	0.0831
2	299.88	0.7495	-0.3584	0.0026	-0.0116	0.0363	-0.6214	0.0928	-0.5006	0.0669
2	299.88	0.9100	-0.5049	0.0021	-0.0248	0.0498	-1.1587	0.1311	-0.2046	0.0720
2	299.88	0.9727	-0.5506	0.0030	0.0494	0.0550	-1.3219	0.1480	-0.0129	0.0822

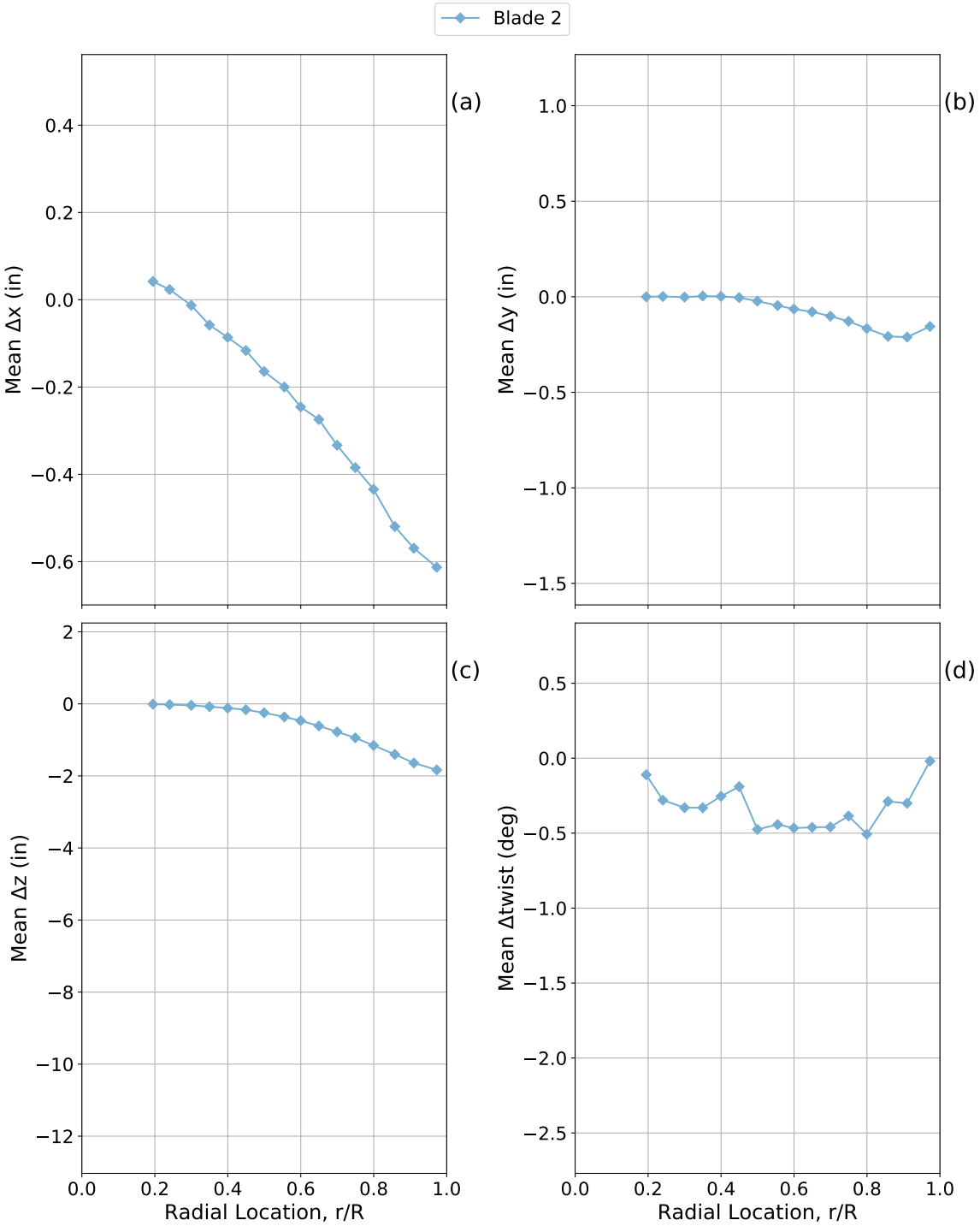


Figure 4.2-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0419	0.0019	-0.0000	0.0007	-0.0088	0.0016	-0.1102	0.0197
2	315	0.2405	0.0233	0.0017	0.0015	0.0007	-0.0209	0.0062	-0.2799	0.0259
2	315	0.2999	-0.0128	0.0027	-0.0016	0.0023	-0.0422	0.0106	-0.3300	0.0434
2	315	0.3498	-0.0580	0.0022	0.0038	0.0037	-0.0783	0.0156	-0.3304	0.0463
2	315	0.3998	-0.0862	0.0031	0.0018	0.0049	-0.1196	0.0272	-0.2542	0.0282
2	315	0.4496	-0.1164	0.0037	-0.0046	0.0067	-0.1613	0.0293	-0.1899	0.0717
2	315	0.4995	-0.1643	0.0044	-0.0226	0.0066	-0.2491	0.0363	-0.4750	0.0424
2	315	0.5551	-0.2000	0.0029	-0.0460	0.0085	-0.3629	0.0464	-0.4425	0.0403
2	315	0.5996	-0.2455	0.0051	-0.0641	0.0113	-0.4677	0.0480	-0.4658	0.0344
2	315	0.6497	-0.2744	0.0060	-0.0788	0.0134	-0.6132	0.0538	-0.4613	0.0363
2	315	0.6996	-0.3333	0.0052	-0.1015	0.0141	-0.7762	0.0637	-0.4587	0.0536
2	315	0.7495	-0.3846	0.0048	-0.1281	0.0170	-0.9433	0.0697	-0.3855	0.0279
2	315	0.7996	-0.4343	0.0039	-0.1660	0.0200	-1.1555	0.0745	-0.5072	0.0314
2	315	0.8578	-0.5196	0.0040	-0.2076	0.0228	-1.4024	0.0833	-0.2884	0.0242
2	315	0.9100	-0.5693	0.0040	-0.2110	0.0254	-1.6401	0.0904	-0.3006	0.0325
2	315	0.9727	-0.6130	0.0046	-0.1553	0.0284	-1.8343	0.0995	-0.0192	0.0264

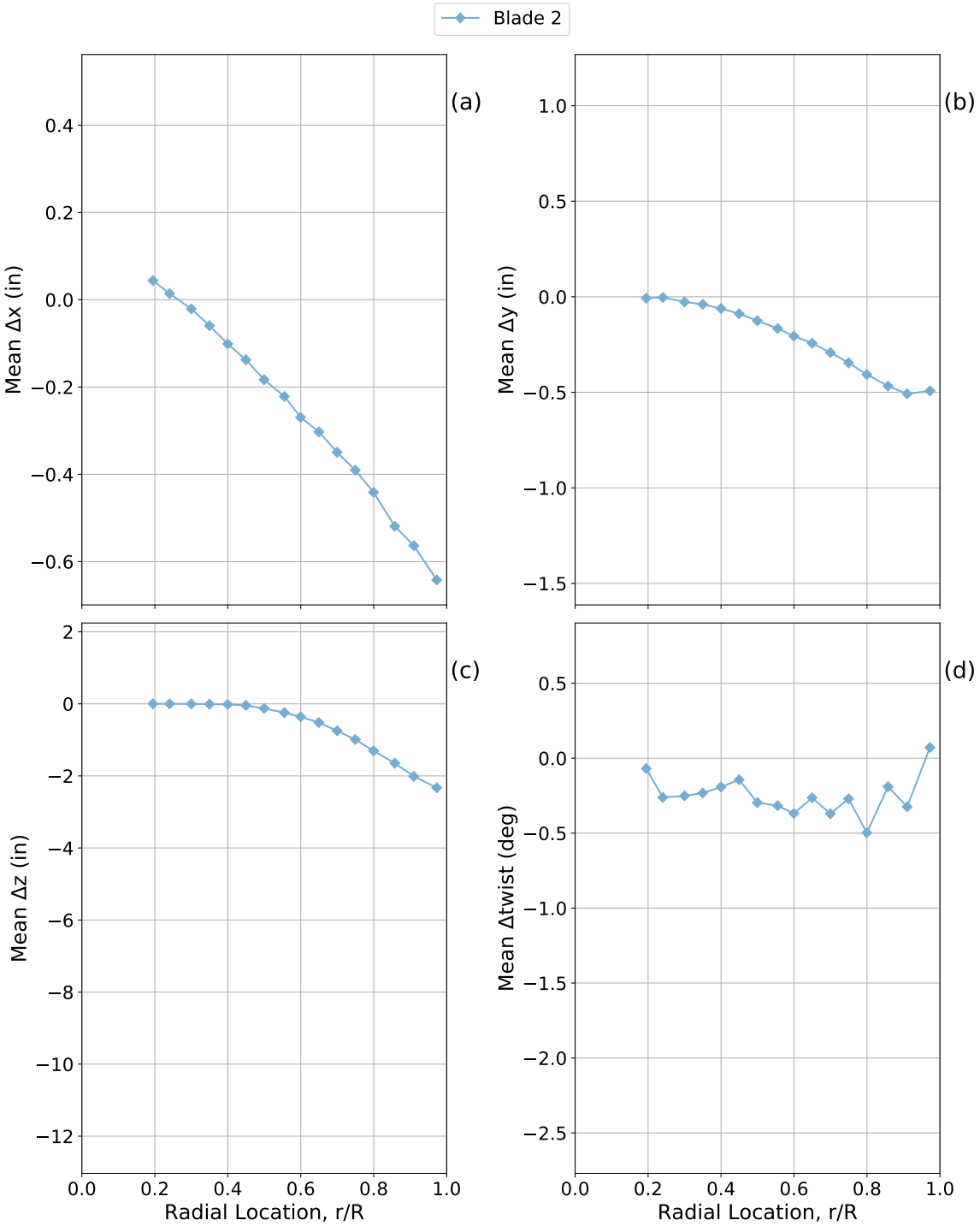


Figure 4.2-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0440	0.0020	-0.0075	0.0013	0.0019	0.0022	-0.0690	0.0177
2	330.12	0.2405	0.0141	0.0022	-0.0034	0.0046	0.0006	0.0033	-0.2618	0.0285
2	330.12	0.2999	-0.0209	0.0034	-0.0268	0.0087	-0.0023	0.0091	-0.2513	0.0388
2	330.12	0.3498	-0.0592	0.0033	-0.0395	0.0140	-0.0078	0.0098	-0.2323	0.0557
2	330.12	0.3998	-0.1012	0.0016	-0.0615	0.0235	-0.0150	0.0174	-0.1919	0.0363
2	330.12	0.4496	-0.1375	0.0034	-0.0890	0.0280	-0.0429	0.0241	-0.1437	0.0244
2	330.12	0.4995	-0.1831	0.0023	-0.1252	0.0353	-0.1264	0.0267	-0.2962	0.0504
2	330.12	0.5551	-0.2215	0.0016	-0.1660	0.0393	-0.2437	0.0382	-0.3171	0.0288
2	330.12	0.5996	-0.2694	0.0025	-0.2057	0.0462	-0.3588	0.0475	-0.3682	0.0346
2	330.12	0.6497	-0.3027	0.0028	-0.2430	0.0530	-0.5200	0.0508	-0.2638	0.0354
2	330.12	0.6996	-0.3495	0.0032	-0.2917	0.0596	-0.7473	0.0515	-0.3704	0.0482
2	330.12	0.7495	-0.3904	0.0030	-0.3455	0.0652	-0.9893	0.0584	-0.2710	0.0518
2	330.12	0.7996	-0.4413	0.0031	-0.4069	0.0728	-1.3059	0.0654	-0.4973	0.0386
2	330.12	0.8578	-0.5190	0.0027	-0.4672	0.0802	-1.6468	0.0720	-0.1896	0.0273
2	330.12	0.9100	-0.5634	0.0031	-0.5079	0.0877	-2.0133	0.0803	-0.3236	0.0239
2	330.12	0.9727	-0.6419	0.0050	-0.4927	0.0958	-2.3277	0.0882	0.0712	0.0244

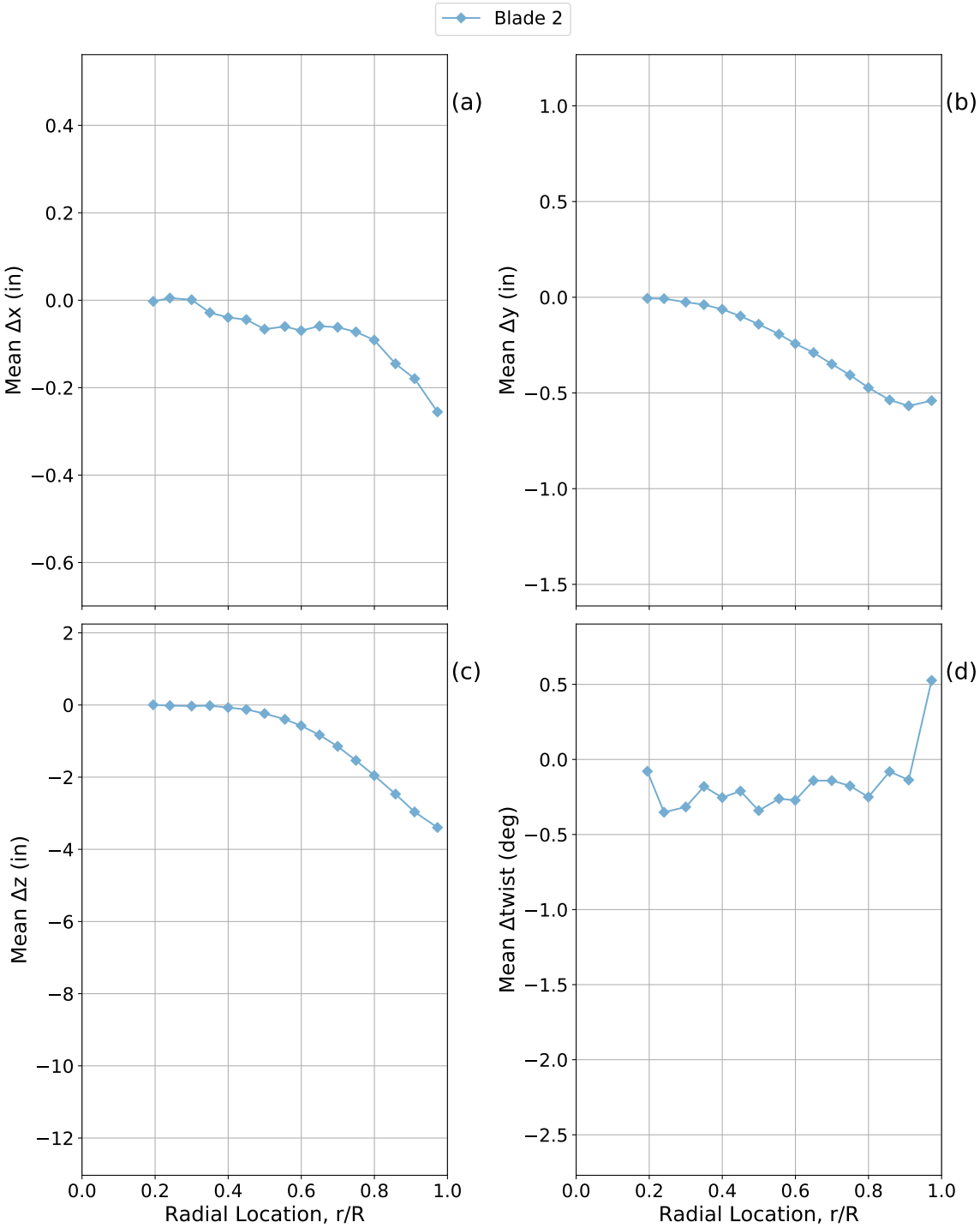


Figure 4.2-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0026	0.0020	-0.0057	0.0010	0.0053	0.0023	-0.0790	0.0143
2	344.88	0.2405	0.0050	0.0014	-0.0075	0.0030	-0.0171	0.0034	-0.3518	0.0215
2	344.88	0.2999	0.0011	0.0013	-0.0254	0.0071	-0.0298	0.0080	-0.3168	0.0314
2	344.88	0.3498	-0.0284	0.0009	-0.0389	0.0095	-0.0189	0.0124	-0.1803	0.0353
2	344.88	0.3998	-0.0394	0.0021	-0.0628	0.0174	-0.0714	0.0192	-0.2540	0.0260
2	344.88	0.4496	-0.0443	0.0020	-0.0985	0.0200	-0.1240	0.0238	-0.2106	0.0332
2	344.88	0.4995	-0.0662	0.0017	-0.1410	0.0237	-0.2368	0.0290	-0.3408	0.0556
2	344.88	0.5551	-0.0601	0.0025	-0.1928	0.0284	-0.3970	0.0411	-0.2615	0.0271
2	344.88	0.5996	-0.0695	0.0019	-0.2425	0.0316	-0.5749	0.0438	-0.2720	0.0244
2	344.88	0.6497	-0.0591	0.0024	-0.2894	0.0351	-0.8300	0.0475	-0.1409	0.0502
2	344.88	0.6996	-0.0619	0.0030	-0.3492	0.0398	-1.1471	0.0550	-0.1411	0.0300
2	344.88	0.7495	-0.0723	0.0019	-0.4064	0.0424	-1.5368	0.0585	-0.1762	0.0439
2	344.88	0.7996	-0.0911	0.0036	-0.4723	0.0471	-1.9548	0.0671	-0.2502	0.0465
2	344.88	0.8578	-0.1453	0.0066	-0.5366	0.0509	-2.4691	0.0714	-0.0811	0.0801
2	344.88	0.9100	-0.1794	0.0100	-0.5675	0.0554	-2.9631	0.0799	-0.1370	0.0890
2	344.88	0.9727	-0.2555	0.0168	-0.5403	0.0569	-3.3953	0.0827	0.5265	0.2011

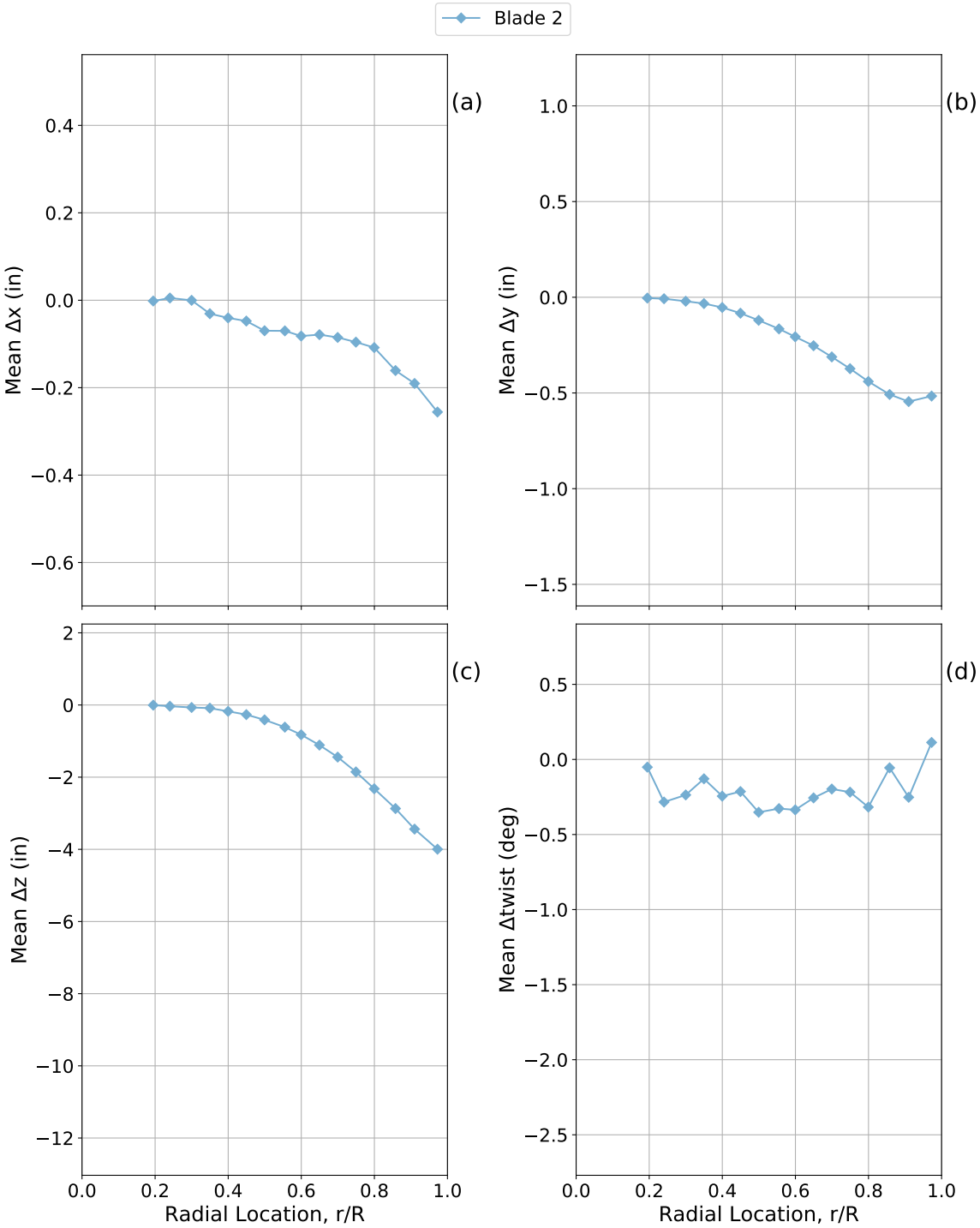


Figure 4.2-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0018	0.0012	-0.0042	0.0005	-0.0040	0.0016	-0.0514	0.0223
2	350.16	0.2405	0.0051	0.0009	-0.0077	0.0012	-0.0340	0.0033	-0.2838	0.0353
2	350.16	0.2999	-0.0002	0.0010	-0.0208	0.0022	-0.0690	0.0064	-0.2364	0.0519
2	350.16	0.3498	-0.0308	0.0012	-0.0329	0.0036	-0.0869	0.0101	-0.1289	0.0445
2	350.16	0.3998	-0.0404	0.0009	-0.0534	0.0057	-0.1754	0.0158	-0.2444	0.0490
2	350.16	0.4496	-0.0476	0.0015	-0.0834	0.0066	-0.2667	0.0186	-0.2139	0.0496
2	350.16	0.4995	-0.0698	0.0015	-0.1204	0.0087	-0.4122	0.0235	-0.3518	0.0378
2	350.16	0.5551	-0.0701	0.0015	-0.1653	0.0105	-0.6145	0.0291	-0.3273	0.0455
2	350.16	0.5996	-0.0819	0.0024	-0.2066	0.0130	-0.8238	0.0317	-0.3357	0.0410
2	350.16	0.6497	-0.0787	0.0019	-0.2532	0.0137	-1.1115	0.0345	-0.2562	0.0568
2	350.16	0.6996	-0.0851	0.0019	-0.3117	0.0158	-1.4437	0.0366	-0.1970	0.0621
2	350.16	0.7495	-0.0958	0.0016	-0.3731	0.0180	-1.8542	0.0428	-0.2178	0.0390
2	350.16	0.7996	-0.1083	0.0018	-0.4400	0.0211	-2.3206	0.0494	-0.3174	0.0643
2	350.16	0.8578	-0.1608	0.0027	-0.5079	0.0237	-2.8698	0.0551	-0.0558	0.0448
2	350.16	0.9100	-0.1904	0.0024	-0.5451	0.0264	-3.4395	0.0594	-0.2521	0.0786
2	350.16	0.9727	-0.2557	0.0055	-0.5162	0.0305	-3.9965	0.0785	0.1132	0.1156

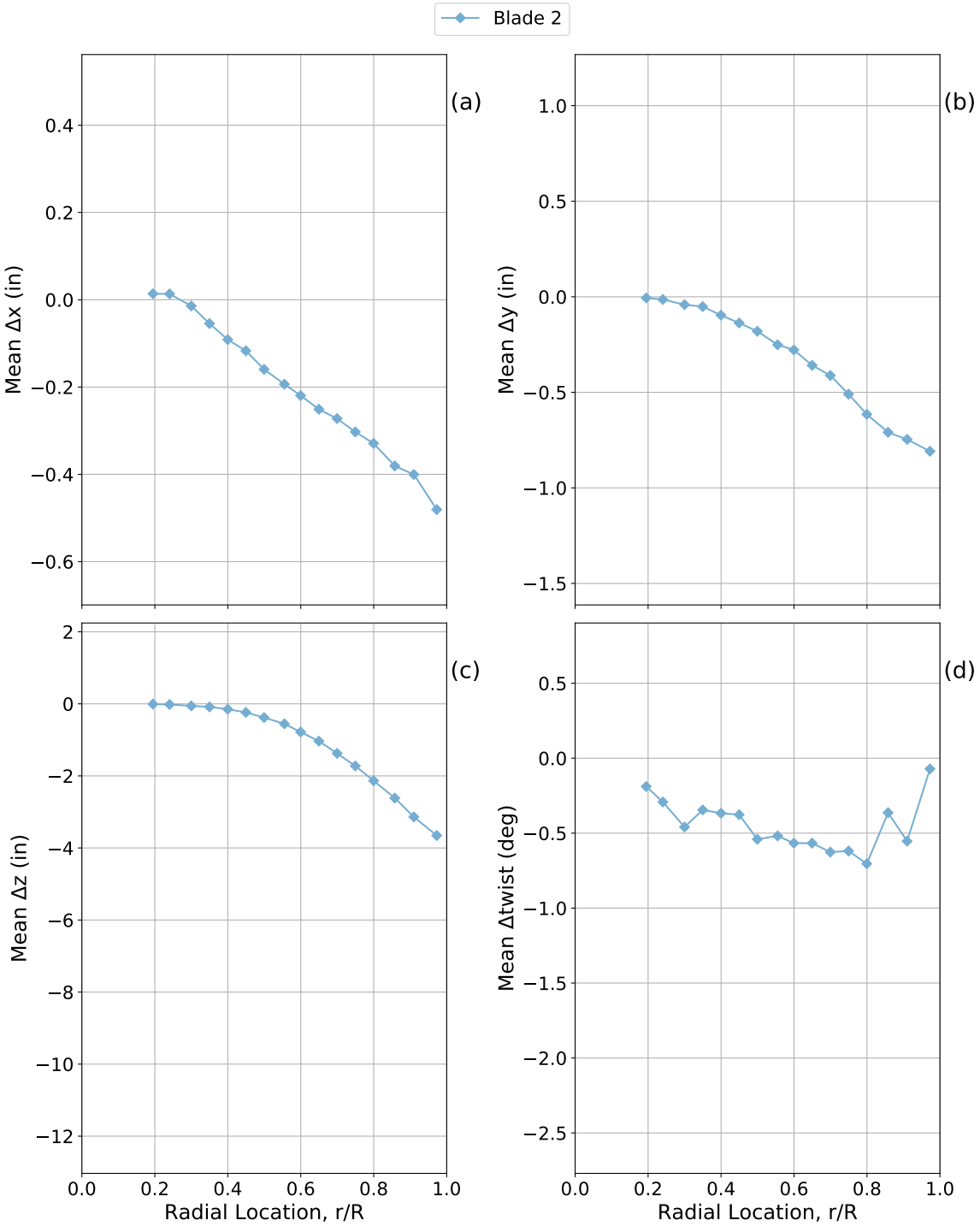


Figure 4.2-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 42, point 21. BD run 19, points 826 to 836.

Table 4.2-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 42, point 21. BD run 19, points 826 to 836.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0138	0.0020	-0.0061	0.0019	-0.0071	0.0035	-0.1890	0.0257
2	355.08	0.2405	0.0134	0.0018	-0.0143	0.0031	-0.0174	0.0040	-0.2922	0.0719
2	355.08	0.2999	-0.0142	0.0015	-0.0412	0.0075	-0.0567	0.0092	-0.4591	0.0739
2	355.08	0.3498	-0.0545	0.0016	-0.0515	0.0111	-0.0841	0.0156	-0.3452	0.0658
2	355.08	0.3998	-0.0913	0.0012	-0.0965	0.0181	-0.1491	0.0214	-0.3669	0.0607
2	355.08	0.4496	-0.1170	0.0018	-0.1371	0.0211	-0.2375	0.0259	-0.3770	0.0603
2	355.08	0.4995	-0.1595	0.0021	-0.1804	0.0251	-0.3808	0.0313	-0.5408	0.0651
2	355.08	0.5551	-0.1935	0.0027	-0.2513	0.0302	-0.5548	0.0387	-0.5182	0.0719
2	355.08	0.5996	-0.2195	0.0028	-0.2783	0.0344	-0.7821	0.0467	-0.5668	0.0510
2	355.08	0.6497	-0.2510	0.0018	-0.3588	0.0379	-1.0350	0.0535	-0.5667	0.0836
2	355.08	0.6996	-0.2723	0.0020	-0.4119	0.0429	-1.3738	0.0591	-0.6264	0.0768
2	355.08	0.7495	-0.3028	0.0031	-0.5097	0.0468	-1.7244	0.0651	-0.6189	0.0708
2	355.08	0.7996	-0.3292	0.0030	-0.6150	0.0532	-2.1334	0.0728	-0.7043	0.0838
2	355.08	0.8578	-0.3808	0.0032	-0.7093	0.0562	-2.6156	0.0798	-0.3635	0.0911
2	355.08	0.9100	-0.4003	0.0044	-0.7465	0.0672	-3.1387	0.0815	-0.5533	0.1642
2	355.08	0.9727	-0.4807	0.0077	-0.8085	0.0696	-3.6545	0.0881	-0.0713	0.1152

4.3 Run 43, Point 7

4.3.1 Pitch, Flap, and Lag

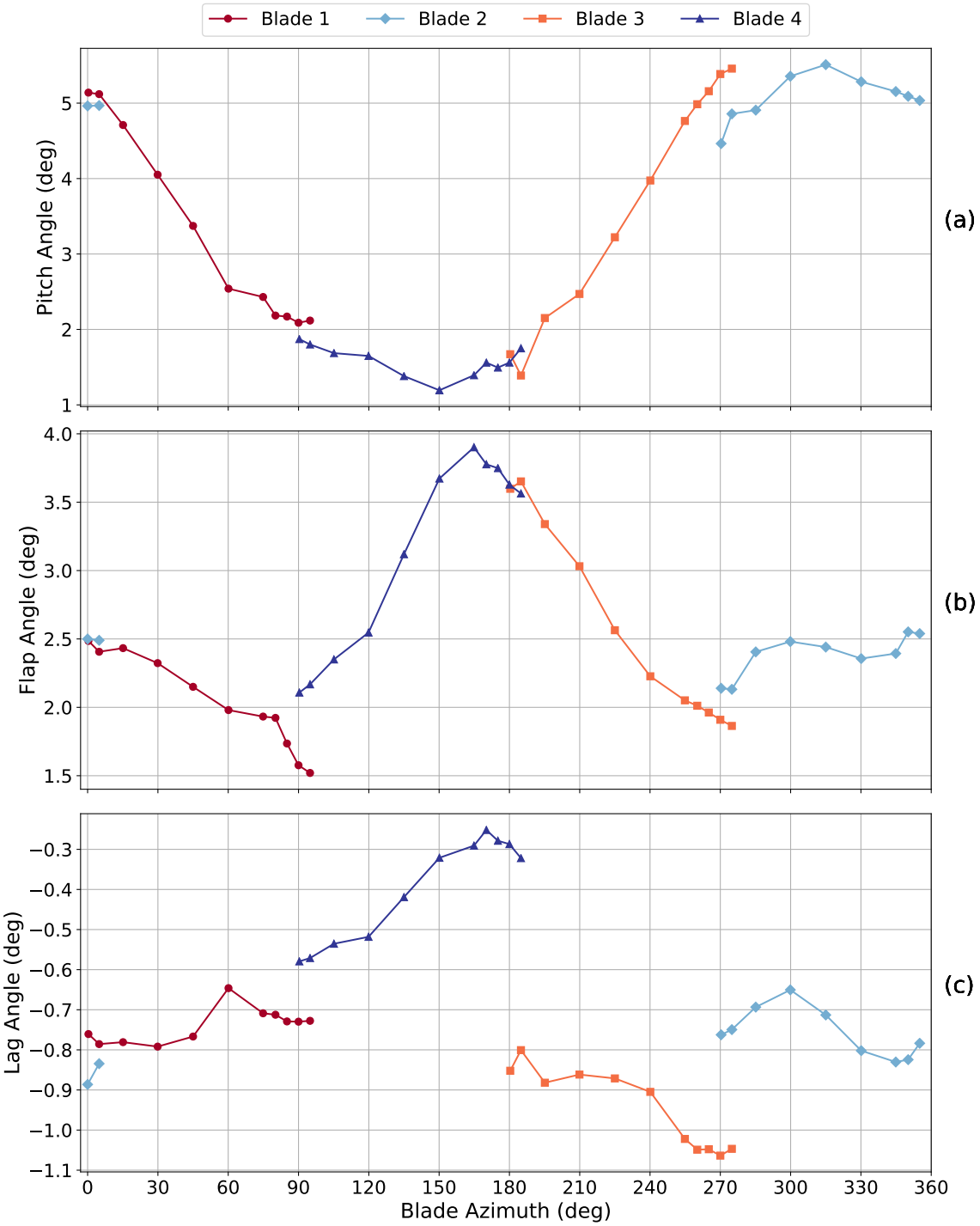


Figure 4.3-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.9626	2.4998	-0.8863	0.0772	0.0206	0.0134
0.35	1	5.1394	2.4856	-0.7606	0.1072	0.0580	0.0317
4.92	1	5.1192	2.4064	-0.7856	0.0801	0.0363	0.0335
4.92	2	4.9681	2.4901	-0.8344	0.0581	0.0291	0.0274
15.12	1	4.7098	2.4328	-0.7808	0.1080	0.0320	0.0200
29.88	1	4.0510	2.3232	-0.7919	0.0541	0.0285	0.0197
45	1	3.3726	2.1499	-0.7668	0.0620	0.0243	0.0189
60.12	1	2.5407	1.9799	-0.6461	0.0774	0.0325	0.0150
74.88	1	2.4304	1.9325	-0.7088	0.0281	0.0215	0.0159
80.16	1	2.1843	1.9229	-0.7124	0.0240	0.0192	0.0129
85.08	1	2.1708	1.7353	-0.7291	0.0331	0.0161	0.0171
90	1	2.0892	1.5765	-0.7297	0.0269	0.0205	0.0207
90.35	4	1.8720	2.1078	-0.5794	0.0206	0.0130	0.0214
94.92	1	2.1178	1.5202	-0.7276	0.0244	0.0168	0.0228
94.92	4	1.8005	2.1680	-0.5711	0.0194	0.0130	0.0224
105.12	4	1.6861	2.3501	-0.5354	0.0393	0.0157	0.0130
119.88	4	1.6489	2.5466	-0.5182	0.0211	0.0177	0.0150
135	4	1.3815	3.1194	-0.4192	0.0154	0.0107	0.0166
150.12	4	1.1936	3.6727	-0.3211	0.0160	0.0155	0.0169
164.88	4	1.3930	3.9013	-0.2908	0.0258	0.0183	0.0082
170.16	4	1.5598	3.7768	-0.2517	0.0326	0.0224	0.0099
175.08	4	1.4944	3.7488	-0.2786	0.0181	0.0150	0.0178
180	4	1.5605	3.6285	-0.2870	0.0321	0.0169	0.0195
180.35	3	1.6719	3.5980	-0.8521	0.0205	0.0166	0.0114
184.92	3	1.3895	3.6520	-0.8007	0.0270	0.0165	0.0229
184.92	4	1.7499	3.5633	-0.3219	0.0457	0.0181	0.0262
195.12	3	2.1515	3.3398	-0.8819	0.0430	0.0155	0.0203
209.88	3	2.4704	3.0318	-0.8616	0.0252	0.0218	0.0223
225	3	3.2221	2.5638	-0.8712	0.0175	0.0239	0.0120
240.12	3	3.9745	2.2270	-0.9048	0.0366	0.0175	0.0265
254.88	3	4.7634	2.0511	-1.0221	0.0348	0.0315	0.0163
260.16	3	4.9854	2.0116	-1.0489	0.0438	0.0247	0.0176
265.08	3	5.1580	1.9621	-1.0478	0.0695	0.0304	0.0187
270	3	5.3857	1.9090	-1.0637	0.0973	0.0397	0.0189
270.35	2	4.4640	2.1395	-0.7624	0.0733	0.0325	0.0185
274.92	2	4.8576	2.1317	-0.7495	0.0597	0.0302	0.0100
274.92	3	5.4573	1.8640	-1.0468	0.0564	0.0175	0.0306
285.12	2	4.9070	2.4054	-0.6934	0.1591	0.0428	0.0247
299.88	2	5.3561	2.4808	-0.6504	0.0179	0.0300	0.0195
315	2	5.5101	2.4407	-0.7130	0.0358	0.0172	0.0193
330.12	2	5.2837	2.3565	-0.8020	0.0062	0.0276	0.0116
344.88	2	5.1538	2.3935	-0.8303	0.0364	0.0120	0.0153
350.16	2	5.0905	2.5518	-0.8244	0.0264	0.0169	0.0153
355.08	2	5.0352	2.5391	-0.7836	0.0362	0.0193	0.0147

4.3.2 Spanwise Elastic Deformations

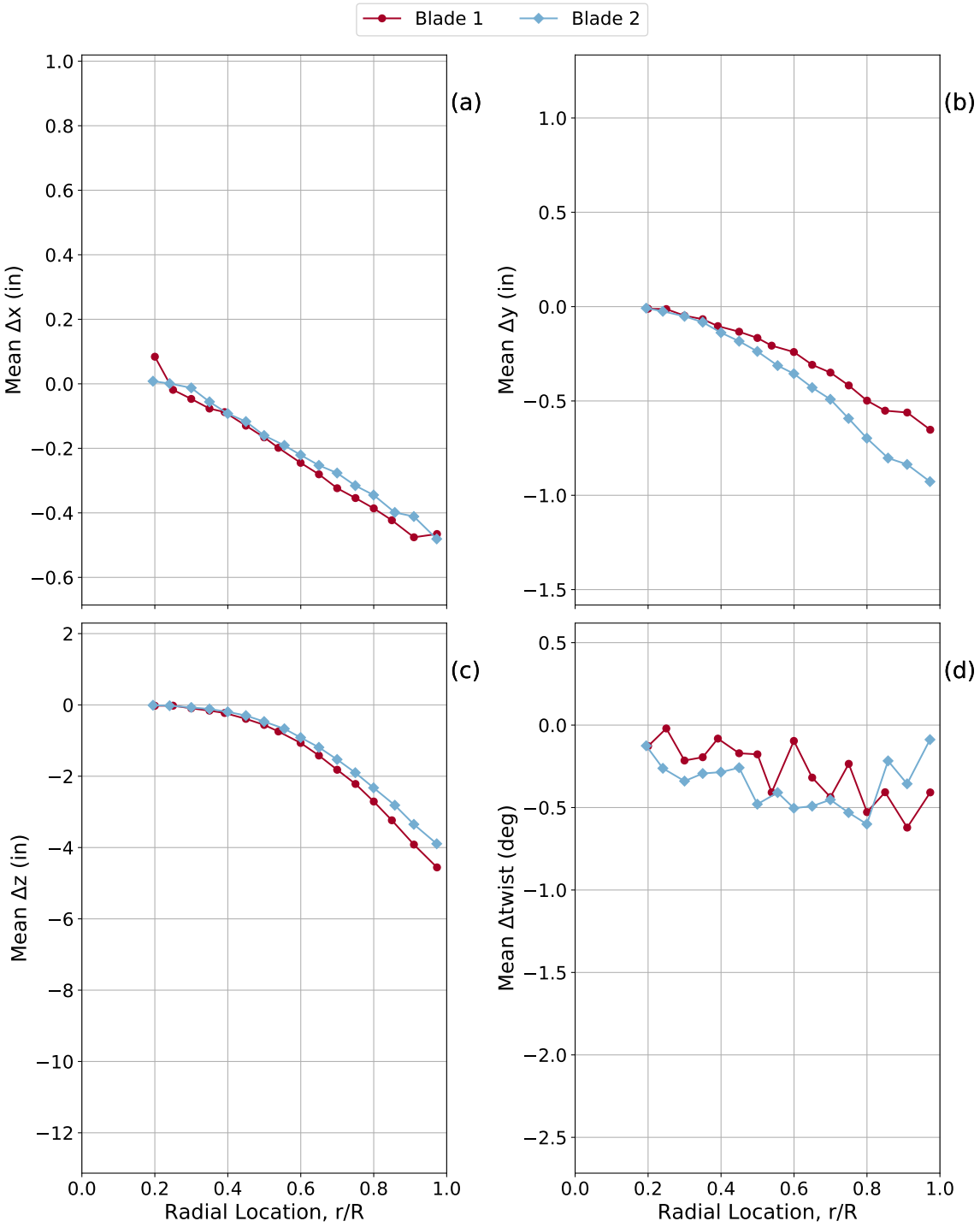


Figure 4.3-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0840	0.0035	-0.0111	0.0019	-0.0237	0.0052	-0.1272	0.0499
1	0.35	0.2499	-0.0187	0.0015	-0.0130	0.0027	-0.0215	0.0086	-0.0203	0.0923
1	0.35	0.2998	-0.0468	0.0018	-0.0480	0.0070	-0.0960	0.0180	-0.2147	0.1158
1	0.35	0.3498	-0.0767	0.0016	-0.0666	0.0108	-0.1611	0.0306	-0.1948	0.1058
1	0.35	0.3913	-0.0877	0.0017	-0.1033	0.0153	-0.2265	0.0425	-0.0818	0.1055
1	0.35	0.4496	-0.1297	0.0015	-0.1330	0.0194	-0.3907	0.0571	-0.1707	0.0967
1	0.35	0.4997	-0.1660	0.0021	-0.1661	0.0247	-0.5606	0.0685	-0.1771	0.1001
1	0.35	0.5387	-0.1984	0.0021	-0.2068	0.0270	-0.7448	0.0806	-0.4081	0.0846
1	0.35	0.5996	-0.2449	0.0020	-0.2406	0.0328	-1.0665	0.0927	-0.0958	0.1049
1	0.35	0.6498	-0.2805	0.0013	-0.3084	0.0375	-1.4196	0.1029	-0.3182	0.0993
1	0.35	0.6998	-0.3236	0.0021	-0.3496	0.0420	-1.8190	0.1146	-0.4367	0.1034
1	0.35	0.7500	-0.3541	0.0027	-0.4178	0.0469	-2.2171	0.1245	-0.2348	0.1025
1	0.35	0.8001	-0.3861	0.0027	-0.4983	0.0491	-2.7096	0.1360	-0.5277	0.1034
1	0.35	0.8497	-0.4229	0.0031	-0.5515	0.0546	-3.2360	0.1457	-0.4070	0.1219
1	0.35	0.9102	-0.4757	0.0041	-0.5613	0.0588	-3.9171	0.1624	-0.6215	0.1031
1	0.35	0.9734	-0.4656	0.0038	-0.6526	0.0643	-4.5569	0.1741	-0.4081	0.1090
2	0	0.1949	0.0081	0.0025	-0.0081	0.0018	-0.0097	0.0039	-0.1253	0.0431
2	0	0.2405	0.0009	0.0019	-0.0248	0.0035	-0.0228	0.0077	-0.2619	0.0686
2	0	0.2999	-0.0126	0.0016	-0.0514	0.0058	-0.0704	0.0105	-0.3395	0.0895
2	0	0.3498	-0.0558	0.0013	-0.0825	0.0093	-0.1146	0.0191	-0.2934	0.0710
2	0	0.3998	-0.0923	0.0021	-0.1380	0.0143	-0.1937	0.0280	-0.2851	0.0590
2	0	0.4496	-0.1170	0.0021	-0.1834	0.0169	-0.2994	0.0334	-0.2583	0.0631
2	0	0.4995	-0.1601	0.0017	-0.2374	0.0202	-0.4671	0.0389	-0.4796	0.0690
2	0	0.5551	-0.1909	0.0015	-0.3126	0.0252	-0.6688	0.0457	-0.4091	0.0710
2	0	0.5996	-0.2206	0.0020	-0.3555	0.0275	-0.9148	0.0503	-0.5037	0.0770
2	0	0.6497	-0.2527	0.0022	-0.4292	0.0321	-1.1903	0.0578	-0.4916	0.0687
2	0	0.6996	-0.2765	0.0017	-0.4913	0.0361	-1.5303	0.0629	-0.4527	0.0726
2	0	0.7495	-0.3156	0.0025	-0.5927	0.0387	-1.9013	0.0682	-0.5307	0.0790
2	0	0.7996	-0.3447	0.0024	-0.6976	0.0437	-2.3251	0.0709	-0.6003	0.0960
2	0	0.8578	-0.3987	0.0028	-0.8027	0.0483	-2.8131	0.0798	-0.2169	0.0913
2	0	0.9100	-0.4113	0.0035	-0.8364	0.0579	-3.3496	0.0894	-0.3561	0.1644
2	0	0.9727	-0.4808	0.0062	-0.9275	0.0559	-3.8943	0.0954	-0.0879	0.0807

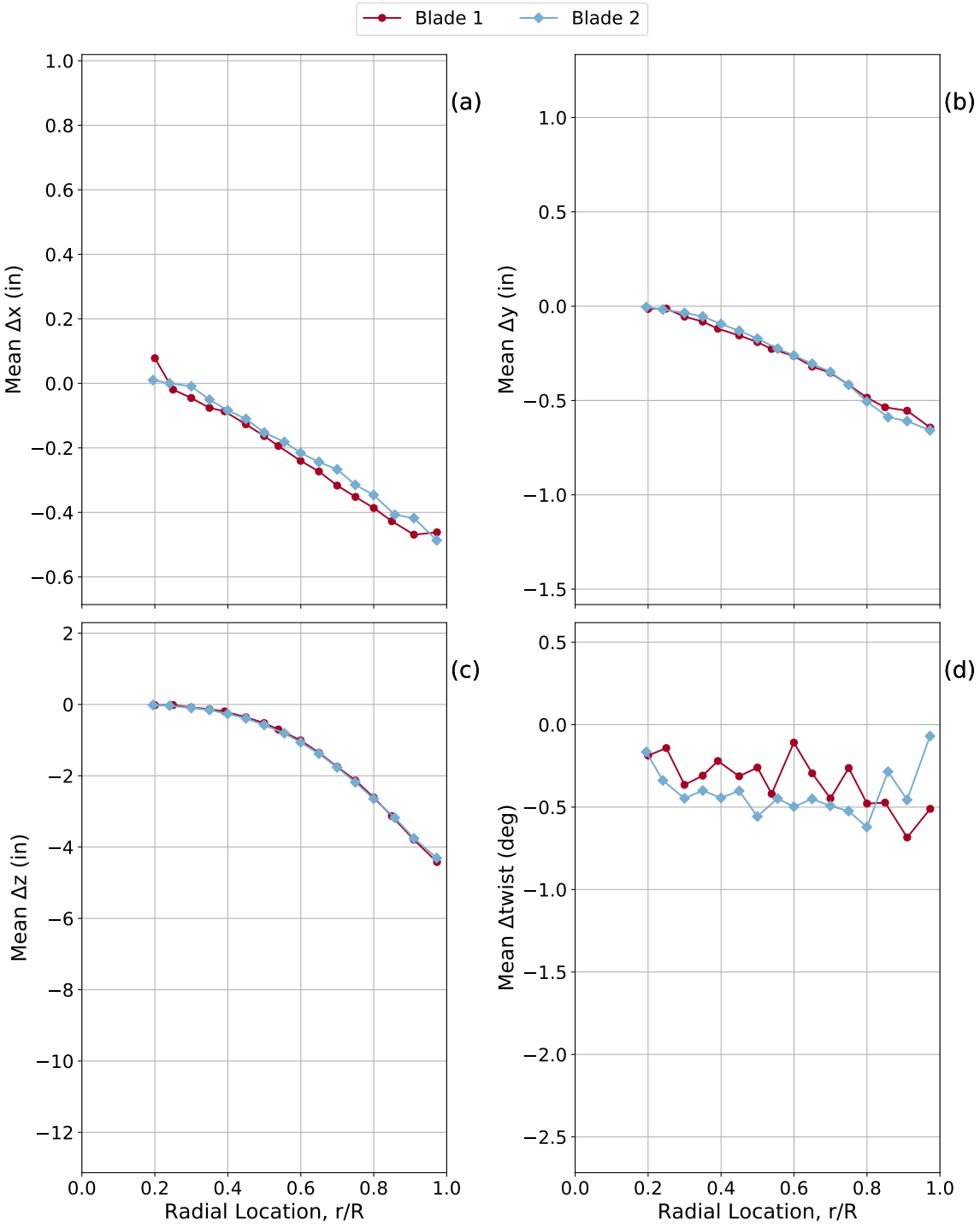


Figure 4.3-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0781	0.0049	-0.0145	0.0021	-0.0187	0.0051	-0.1877	0.0316
1	4.92	0.2499	-0.0193	0.0019	-0.0128	0.0051	-0.0155	0.0073	-0.1418	0.0875
1	4.92	0.2998	-0.0453	0.0018	-0.0552	0.0085	-0.0839	0.0150	-0.3648	0.0836
1	4.92	0.3498	-0.0759	0.0014	-0.0818	0.0158	-0.1336	0.0280	-0.3093	0.0746
1	4.92	0.3913	-0.0866	0.0021	-0.1193	0.0225	-0.1948	0.0358	-0.2204	0.0805
1	4.92	0.4496	-0.1270	0.0019	-0.1550	0.0297	-0.3585	0.0493	-0.3128	0.0731
1	4.92	0.4997	-0.1633	0.0020	-0.1905	0.0361	-0.5215	0.0604	-0.2600	0.0786
1	4.92	0.5387	-0.1940	0.0014	-0.2267	0.0404	-0.7018	0.0702	-0.4195	0.0775
1	4.92	0.5996	-0.2401	0.0019	-0.2641	0.0493	-1.0069	0.0853	-0.1087	0.0786
1	4.92	0.6498	-0.2731	0.0021	-0.3203	0.0545	-1.3557	0.0957	-0.2950	0.0815
1	4.92	0.6998	-0.3168	0.0020	-0.3534	0.0620	-1.7471	0.1078	-0.4474	0.0695
1	4.92	0.7500	-0.3519	0.0011	-0.4168	0.0680	-2.1315	0.1163	-0.2630	0.0873
1	4.92	0.8001	-0.3864	0.0024	-0.4853	0.0749	-2.6109	0.1237	-0.4785	0.0810
1	4.92	0.8497	-0.4272	0.0022	-0.5361	0.0819	-3.1330	0.1334	-0.4727	0.0700
1	4.92	0.9102	-0.4690	0.0024	-0.5541	0.0903	-3.7941	0.1429	-0.6842	0.0894
1	4.92	0.9734	-0.4617	0.0037	-0.6436	0.0988	-4.4184	0.1600	-0.5106	0.0964
2	4.92	0.1949	0.0098	0.0023	-0.0048	0.0013	-0.0169	0.0027	-0.1653	0.0241
2	4.92	0.2405	0.0001	0.0020	-0.0180	0.0025	-0.0344	0.0064	-0.3383	0.0676
2	4.92	0.2999	-0.0091	0.0018	-0.0353	0.0039	-0.0999	0.0082	-0.4470	0.0637
2	4.92	0.3498	-0.0505	0.0017	-0.0545	0.0061	-0.1572	0.0151	-0.3994	0.0524
2	4.92	0.3998	-0.0837	0.0016	-0.0944	0.0096	-0.2627	0.0231	-0.4444	0.0592
2	4.92	0.4496	-0.1101	0.0014	-0.1306	0.0114	-0.3900	0.0300	-0.4016	0.0599
2	4.92	0.4995	-0.1524	0.0016	-0.1717	0.0141	-0.5767	0.0379	-0.5569	0.0534
2	4.92	0.5551	-0.1814	0.0026	-0.2254	0.0177	-0.8088	0.0474	-0.4479	0.0467
2	4.92	0.5996	-0.2156	0.0018	-0.2611	0.0195	-1.0622	0.0532	-0.4975	0.0564
2	4.92	0.6497	-0.2437	0.0020	-0.3050	0.0229	-1.3815	0.0620	-0.4502	0.0482
2	4.92	0.6996	-0.2667	0.0021	-0.3488	0.0260	-1.7660	0.0672	-0.4926	0.0555
2	4.92	0.7495	-0.3145	0.0016	-0.4168	0.0282	-2.1806	0.0736	-0.5239	0.0569
2	4.92	0.7996	-0.3461	0.0020	-0.5053	0.0311	-2.6460	0.0765	-0.6212	0.0498
2	4.92	0.8578	-0.4071	0.0029	-0.5883	0.0368	-3.1756	0.0860	-0.2849	0.0697
2	4.92	0.9100	-0.4177	0.0033	-0.6092	0.0410	-3.7535	0.0931	-0.4562	0.1155
2	4.92	0.9727	-0.4866	0.0042	-0.6580	0.0426	-4.3062	0.1010	-0.0697	0.0572

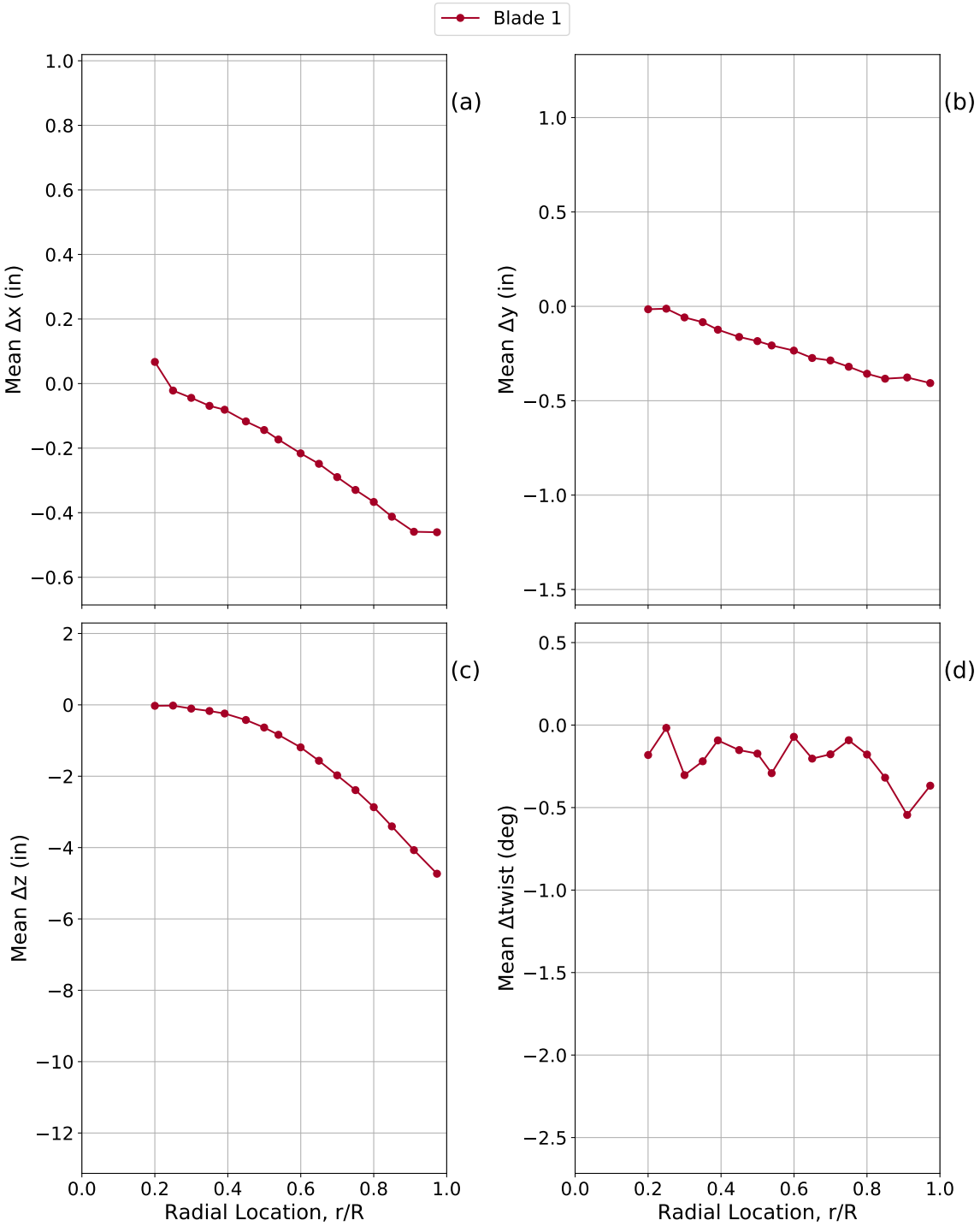


Figure 4.3-4. 15° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0671	0.0036	-0.0154	0.0011	-0.0263	0.0031	-0.1814	0.0407
1	15.12	0.2499	-0.0216	0.0023	-0.0124	0.0025	-0.0206	0.0050	-0.0169	0.0819
1	15.12	0.2998	-0.0442	0.0018	-0.0587	0.0028	-0.1052	0.0104	-0.3032	0.0973
1	15.12	0.3498	-0.0690	0.0017	-0.0838	0.0068	-0.1717	0.0173	-0.2194	0.0923
1	15.12	0.3913	-0.0810	0.0018	-0.1238	0.0080	-0.2426	0.0242	-0.0927	0.0911
1	15.12	0.4496	-0.1172	0.0016	-0.1621	0.0110	-0.4237	0.0338	-0.1516	0.0887
1	15.12	0.4997	-0.1439	0.0018	-0.1841	0.0133	-0.6352	0.0424	-0.1730	0.0884
1	15.12	0.5387	-0.1733	0.0017	-0.2072	0.0157	-0.8390	0.0479	-0.2915	0.0938
1	15.12	0.5996	-0.2161	0.0015	-0.2344	0.0188	-1.1902	0.0591	-0.0711	0.0895
1	15.12	0.6498	-0.2485	0.0017	-0.2737	0.0218	-1.5661	0.0686	-0.2033	0.0902
1	15.12	0.6998	-0.2897	0.0020	-0.2866	0.0243	-1.9748	0.0800	-0.1771	0.0970
1	15.12	0.7500	-0.3295	0.0020	-0.3200	0.0277	-2.3897	0.0892	-0.0918	0.0934
1	15.12	0.8001	-0.3667	0.0024	-0.3571	0.0316	-2.8680	0.0982	-0.1785	0.1027
1	15.12	0.8497	-0.4124	0.0026	-0.3833	0.0342	-3.4060	0.1063	-0.3188	0.1014
1	15.12	0.9102	-0.4590	0.0022	-0.3767	0.0385	-4.0715	0.1118	-0.5446	0.1141
1	15.12	0.9734	-0.4605	0.0032	-0.4065	0.0419	-4.7323	0.1171	-0.3674	0.1223

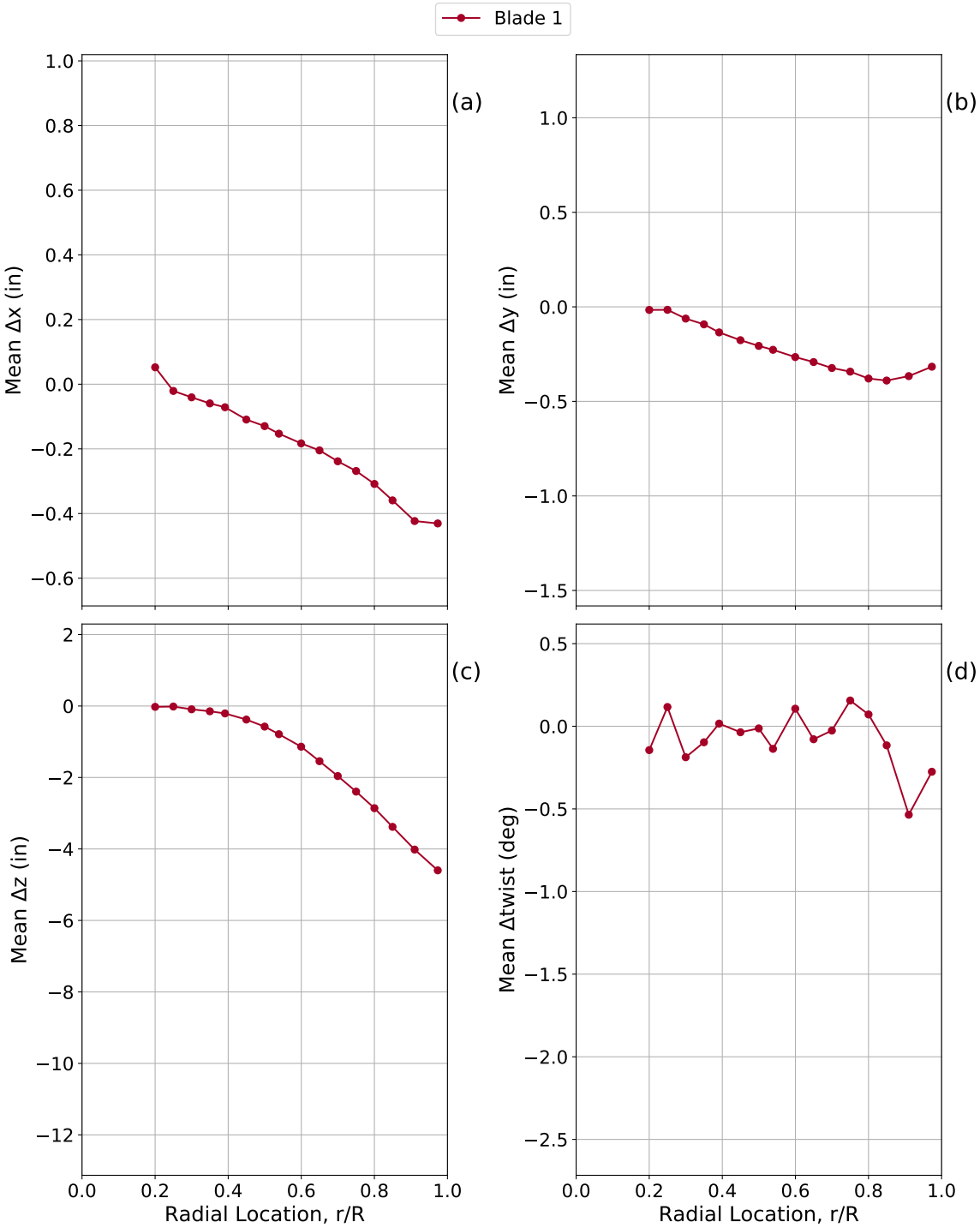


Figure 4.3-5. 30° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0523	0.0025	-0.0162	0.0012	-0.0234	0.0038	-0.1444	0.0306
1	29.88	0.2499	-0.0208	0.0026	-0.0157	0.0020	-0.0145	0.0058	0.1166	0.0682
1	29.88	0.2998	-0.0406	0.0014	-0.0621	0.0042	-0.0917	0.0131	-0.1874	0.0760
1	29.88	0.3498	-0.0593	0.0020	-0.0925	0.0076	-0.1475	0.0230	-0.0969	0.0582
1	29.88	0.3913	-0.0713	0.0018	-0.1352	0.0103	-0.2076	0.0311	0.0161	0.0629
1	29.88	0.4496	-0.1093	0.0013	-0.1763	0.0137	-0.3791	0.0420	-0.0362	0.0612
1	29.88	0.4997	-0.1296	0.0017	-0.2065	0.0170	-0.5761	0.0512	-0.0129	0.0647
1	29.88	0.5387	-0.1530	0.0017	-0.2273	0.0194	-0.7882	0.0578	-0.1366	0.0640
1	29.88	0.5996	-0.1830	0.0017	-0.2656	0.0242	-1.1385	0.0667	0.1064	0.0610
1	29.88	0.6498	-0.2047	0.0017	-0.2920	0.0277	-1.5443	0.0733	-0.0786	0.0552
1	29.88	0.6998	-0.2384	0.0014	-0.3235	0.0318	-1.9598	0.0790	-0.0260	0.0616
1	29.88	0.7500	-0.2684	0.0014	-0.3426	0.0358	-2.3949	0.0858	0.1558	0.0481
1	29.88	0.8001	-0.3084	0.0015	-0.3791	0.0398	-2.8590	0.0922	0.0714	0.0527
1	29.88	0.8497	-0.3593	0.0021	-0.3898	0.0437	-3.3816	0.0995	-0.1155	0.0521
1	29.88	0.9102	-0.4232	0.0023	-0.3663	0.0492	-4.0174	0.1098	-0.5354	0.0565
1	29.88	0.9734	-0.4306	0.0030	-0.3166	0.0542	-4.5984	0.1205	-0.2752	0.0572

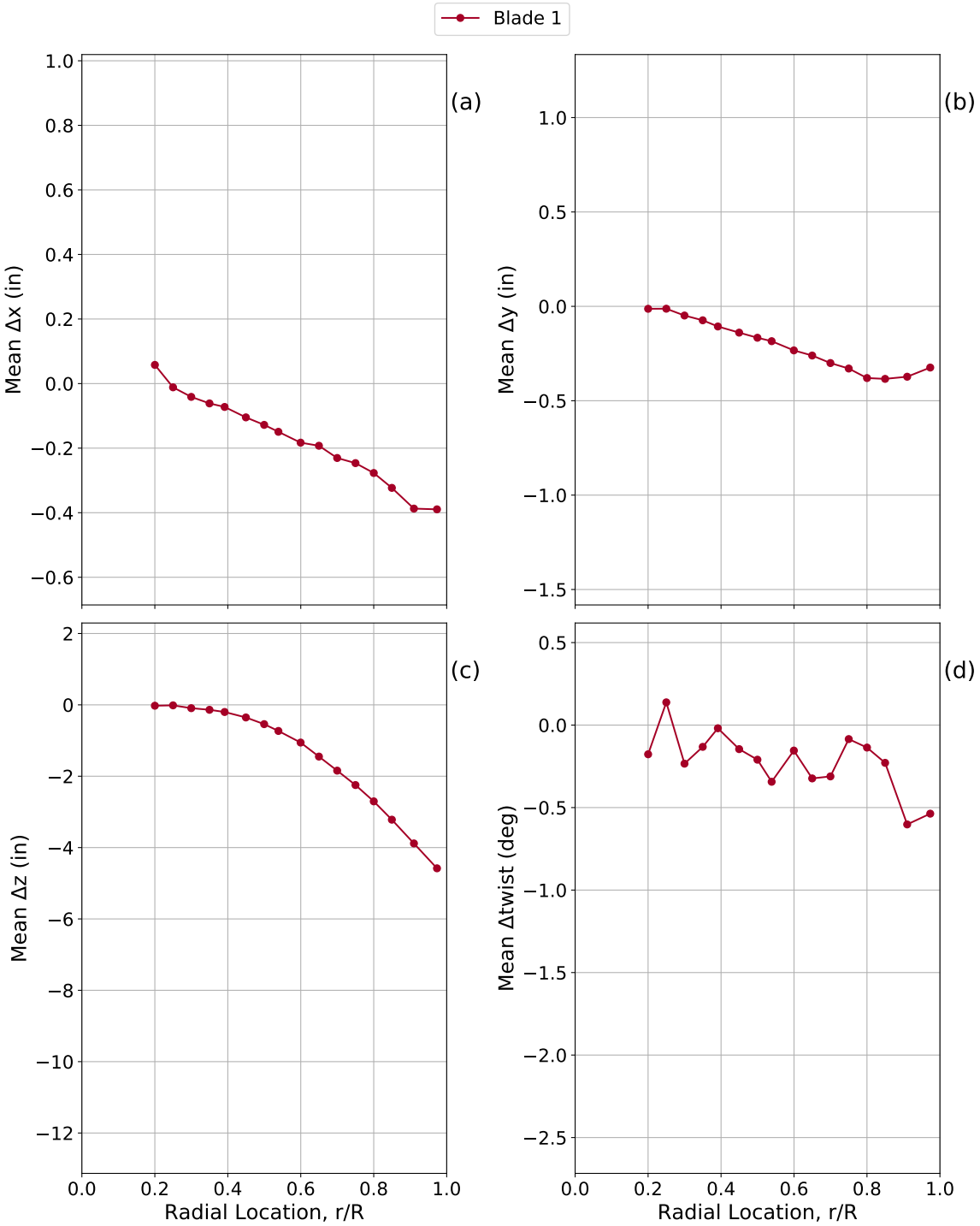


Figure 4.3-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0579	0.0029	-0.0129	0.0011	-0.0238	0.0026	-0.1769	0.0243
1	45	0.2499	-0.0116	0.0020	-0.0125	0.0018	-0.0136	0.0035	0.1378	0.0607
1	45	0.2998	-0.0412	0.0020	-0.0486	0.0041	-0.0926	0.0081	-0.2338	0.0590
1	45	0.3498	-0.0614	0.0020	-0.0739	0.0067	-0.1383	0.0138	-0.1320	0.0485
1	45	0.3913	-0.0724	0.0010	-0.1066	0.0093	-0.1998	0.0185	-0.0192	0.0476
1	45	0.4496	-0.1047	0.0019	-0.1392	0.0120	-0.3529	0.0272	-0.1457	0.0431
1	45	0.4997	-0.1279	0.0015	-0.1663	0.0149	-0.5406	0.0350	-0.2098	0.0440
1	45	0.5387	-0.1494	0.0018	-0.1845	0.0158	-0.7313	0.0395	-0.3436	0.0482
1	45	0.5996	-0.1830	0.0017	-0.2333	0.0190	-1.0566	0.0484	-0.1545	0.0534
1	45	0.6498	-0.1926	0.0018	-0.2605	0.0202	-1.4496	0.0547	-0.3233	0.0462
1	45	0.6998	-0.2305	0.0018	-0.3004	0.0244	-1.8434	0.0611	-0.3111	0.0633
1	45	0.7500	-0.2464	0.0017	-0.3294	0.0242	-2.2474	0.0686	-0.0849	0.0501
1	45	0.8001	-0.2770	0.0023	-0.3798	0.0281	-2.7048	0.0754	-0.1363	0.0472
1	45	0.8497	-0.3231	0.0026	-0.3842	0.0306	-3.2183	0.0829	-0.2288	0.0469
1	45	0.9102	-0.3873	0.0023	-0.3728	0.0340	-3.8840	0.0941	-0.6021	0.0478
1	45	0.9734	-0.3896	0.0031	-0.3242	0.0372	-4.5810	0.1061	-0.5369	0.0423

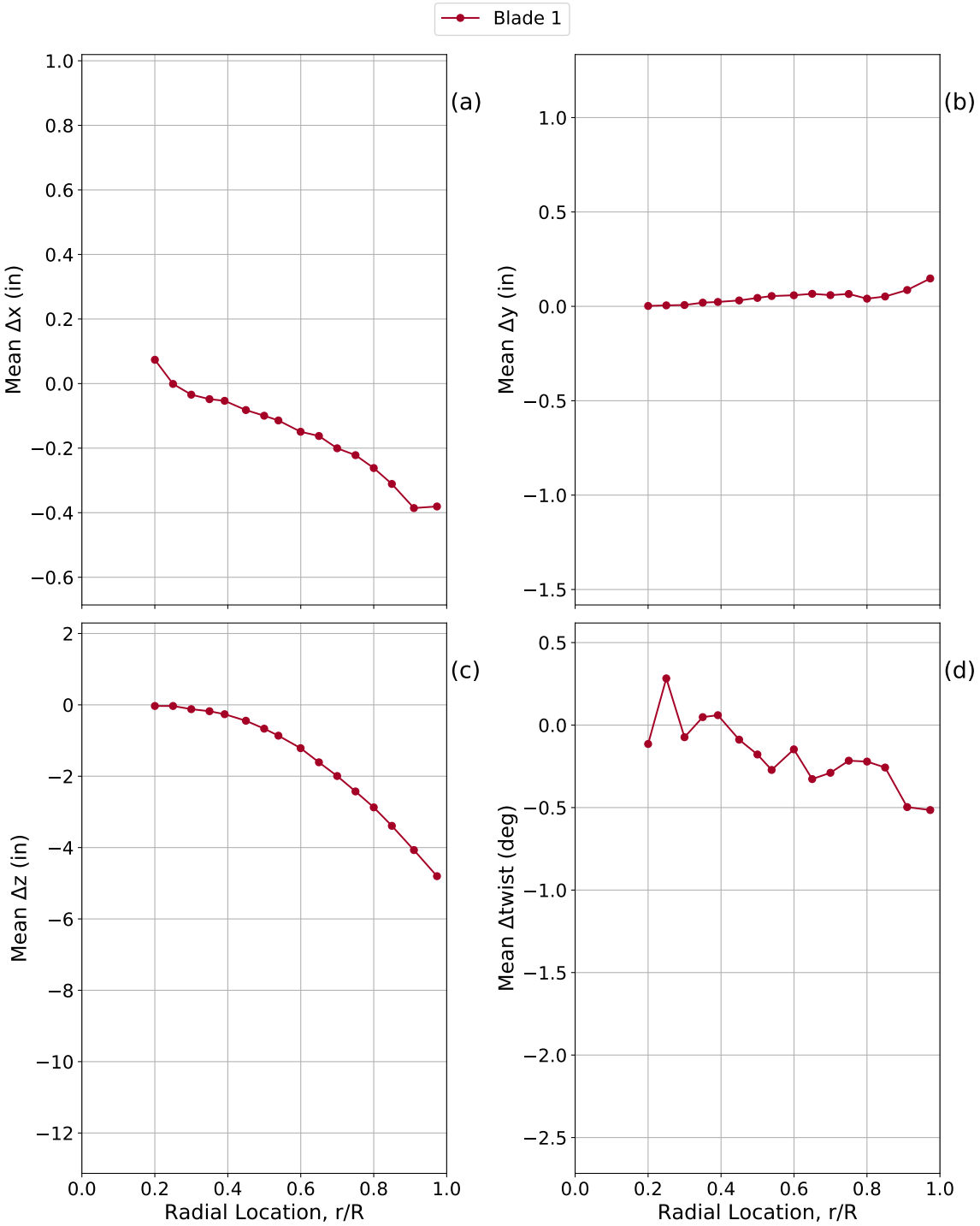


Figure 4.3-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0738	0.0028	0.0022	0.0014	-0.0313	0.0028	-0.1144	0.0345
1	60.12	0.2499	-0.0011	0.0020	0.0052	0.0024	-0.0316	0.0043	0.2830	0.0659
1	60.12	0.2998	-0.0343	0.0012	0.0070	0.0051	-0.1205	0.0087	-0.0735	0.0816
1	60.12	0.3498	-0.0482	0.0016	0.0196	0.0086	-0.1782	0.0167	0.0482	0.0697
1	60.12	0.3913	-0.0534	0.0016	0.0233	0.0122	-0.2617	0.0214	0.0600	0.0757
1	60.12	0.4496	-0.0820	0.0017	0.0313	0.0162	-0.4452	0.0316	-0.0884	0.0653
1	60.12	0.4997	-0.0996	0.0013	0.0446	0.0194	-0.6671	0.0397	-0.1782	0.0740
1	60.12	0.5387	-0.1142	0.0015	0.0546	0.0233	-0.8633	0.0484	-0.2719	0.0696
1	60.12	0.5996	-0.1492	0.0017	0.0586	0.0281	-1.2141	0.0606	-0.1471	0.0697
1	60.12	0.6498	-0.1623	0.0014	0.0665	0.0327	-1.6098	0.0695	-0.3272	0.0748
1	60.12	0.6998	-0.2004	0.0014	0.0594	0.0372	-1.9942	0.0807	-0.2892	0.0742
1	60.12	0.7500	-0.2217	0.0019	0.0656	0.0415	-2.4265	0.0917	-0.2158	0.0708
1	60.12	0.8001	-0.2617	0.0014	0.0407	0.0470	-2.8731	0.1006	-0.2211	0.0708
1	60.12	0.8497	-0.3109	0.0021	0.0522	0.0513	-3.3909	0.1096	-0.2572	0.0777
1	60.12	0.9102	-0.3856	0.0025	0.0865	0.0581	-4.0695	0.1201	-0.4970	0.0728
1	60.12	0.9734	-0.3807	0.0026	0.1476	0.0656	-4.8013	0.1263	-0.5150	0.0768

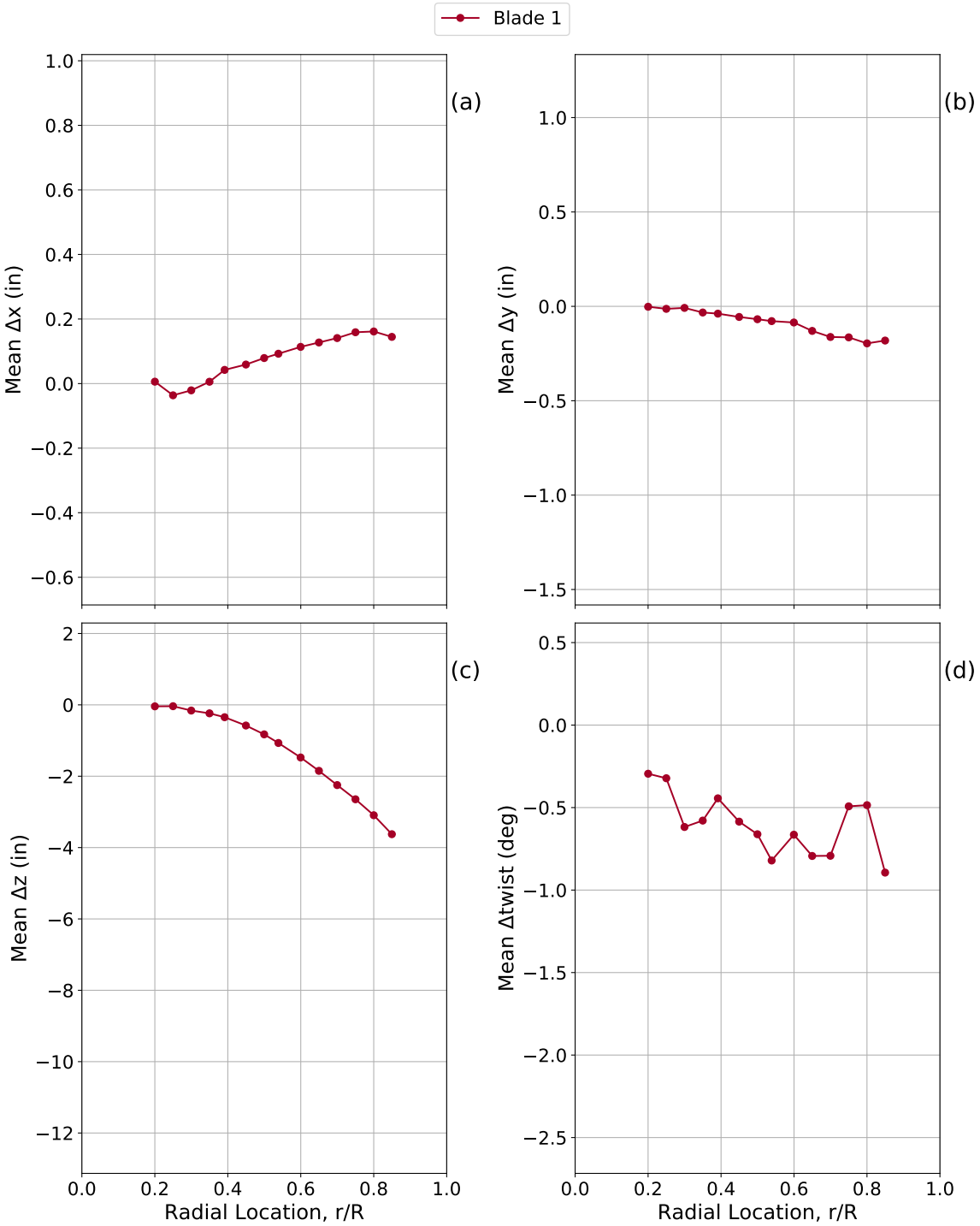


Figure 4.3-8. 75° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	0.0059	0.0010	-0.0021	0.0005	-0.0416	0.0017	-0.2949	0.0189
1	74.88	0.2499	-0.0363	0.0009	-0.0132	0.0010	-0.0376	0.0027	-0.3222	0.0204
1	74.88	0.2998	-0.0209	0.0009	-0.0082	0.0018	-0.1595	0.0079	-0.6177	0.0361
1	74.88	0.3498	0.0057	0.0009	-0.0326	0.0023	-0.2374	0.0089	-0.5789	0.0231
1	74.88	0.3913	0.0424	0.0011	-0.0386	0.0038	-0.3462	0.0154	-0.4439	0.0342
1	74.88	0.4496	0.0590	0.0011	-0.0562	0.0048	-0.5791	0.0230	-0.5852	0.0351
1	74.88	0.4997	0.0791	0.0022	-0.0682	0.0064	-0.8270	0.0308	-0.6616	0.0363
1	74.88	0.5387	0.0925	0.0015	-0.0782	0.0071	-1.0684	0.0374	-0.8208	0.0669
1	74.88	0.5996	0.1137	0.0021	-0.0855	0.0094	-1.4745	0.0492	-0.6643	0.0472
1	74.88	0.6498	0.1273	0.0036	-0.1301	0.0112	-1.8493	0.0501	-0.7933	0.0791
1	74.88	0.6998	0.1410	0.0051	-0.1623	0.0145	-2.2487	0.0621	-0.7921	0.1213
1	74.88	0.7500	0.1590	0.0073	-0.1643	0.0156	-2.6464	0.0761	-0.4924	0.1998
1	74.88	0.8001	0.1614	0.0100	-0.1962	0.0187	-3.0936	0.0694	-0.4854	0.2641
1	74.88	0.8497	0.1447	0.0061	-0.1812	0.0225	-3.6249	0.0826	-0.8941	0.1401

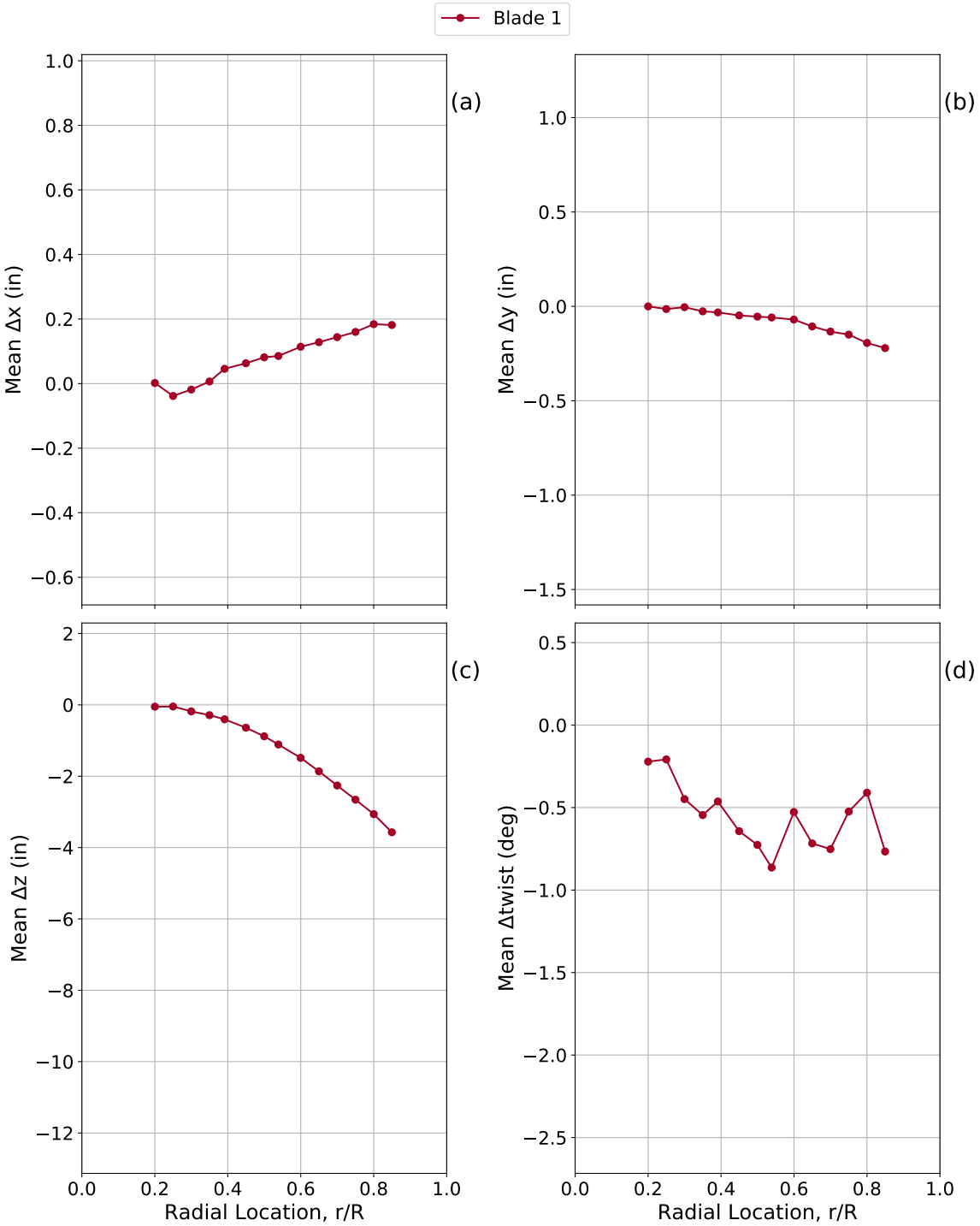


Figure 4.3-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0018	0.0010	-0.0003	0.0006	-0.0504	0.0011	-0.2213	0.0149
1	80.16	0.2499	-0.0384	0.0007	-0.0142	0.0012	-0.0457	0.0033	-0.2081	0.0222
1	80.16	0.2998	-0.0186	0.0009	-0.0045	0.0020	-0.1821	0.0048	-0.4486	0.0315
1	80.16	0.3498	0.0065	0.0010	-0.0263	0.0042	-0.2890	0.0083	-0.5451	0.0271
1	80.16	0.3913	0.0458	0.0010	-0.0321	0.0055	-0.4055	0.0124	-0.4631	0.0242
1	80.16	0.4496	0.0630	0.0011	-0.0481	0.0072	-0.6398	0.0145	-0.6432	0.0307
1	80.16	0.4997	0.0814	0.0017	-0.0544	0.0090	-0.8807	0.0191	-0.7261	0.0259
1	80.16	0.5387	0.0855	0.0014	-0.0590	0.0108	-1.1110	0.0198	-0.8638	0.0430
1	80.16	0.5996	0.1141	0.0020	-0.0700	0.0134	-1.4843	0.0270	-0.5271	0.0319
1	80.16	0.6498	0.1282	0.0028	-0.1064	0.0170	-1.8624	0.0336	-0.7170	0.0446
1	80.16	0.6998	0.1439	0.0030	-0.1336	0.0192	-2.2602	0.0411	-0.7518	0.0725
1	80.16	0.7500	0.1600	0.0041	-0.1498	0.0213	-2.6580	0.0414	-0.5243	0.1105
1	80.16	0.8001	0.1841	0.0055	-0.1938	0.0245	-3.0625	0.0493	-0.4099	0.1875
1	80.16	0.8497	0.1815	0.0046	-0.2210	0.0289	-3.5713	0.0589	-0.7664	0.1186

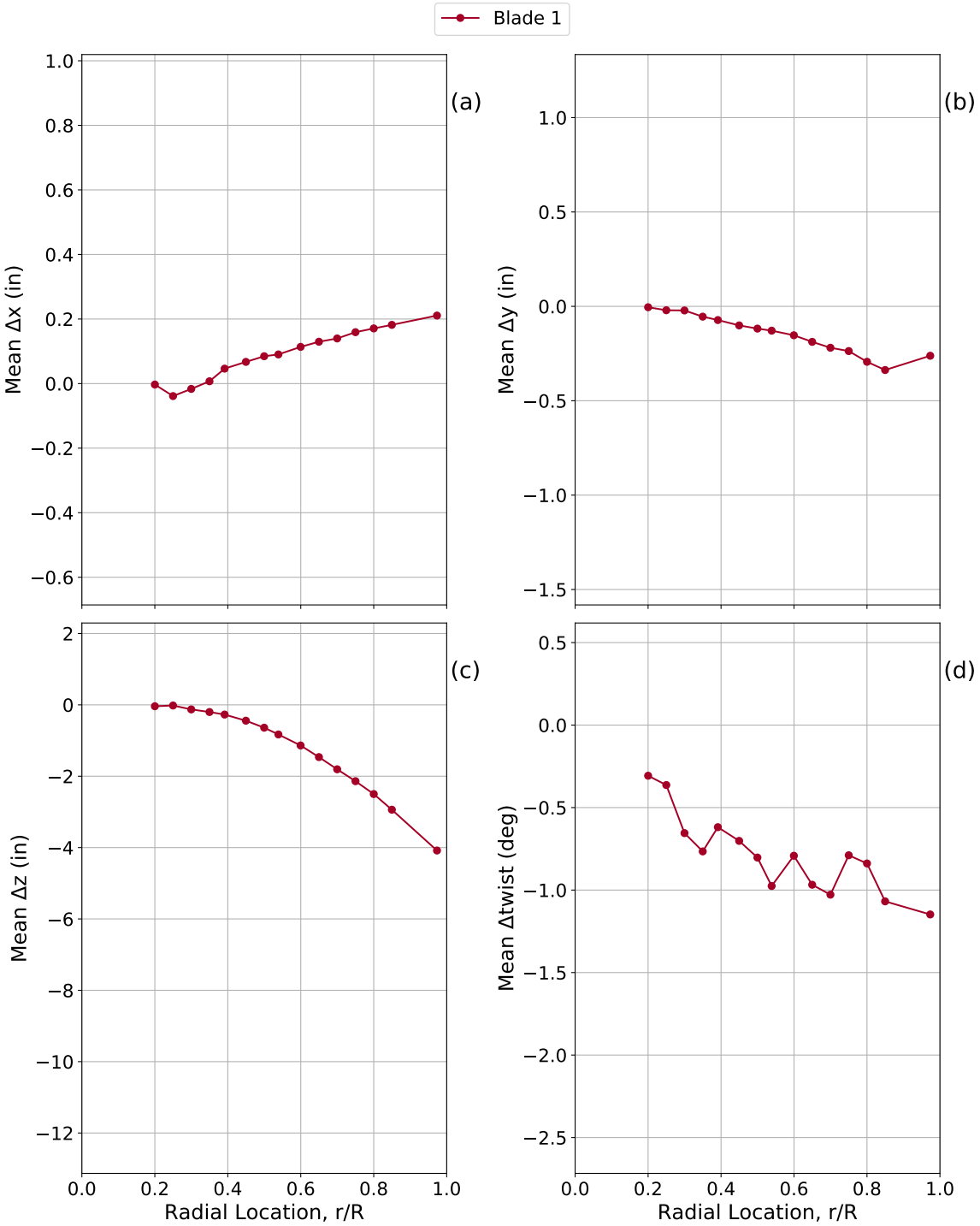


Figure 4.3-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0030	0.0007	-0.0047	0.0005	-0.0386	0.0016	-0.3070	0.0155
1	85.08	0.2499	-0.0387	0.0007	-0.0206	0.0011	-0.0180	0.0031	-0.3633	0.0325
1	85.08	0.2998	-0.0165	0.0011	-0.0217	0.0017	-0.1275	0.0059	-0.6548	0.0359
1	85.08	0.3498	0.0071	0.0011	-0.0546	0.0032	-0.2005	0.0096	-0.7657	0.0357
1	85.08	0.3913	0.0463	0.0010	-0.0726	0.0044	-0.2716	0.0141	-0.6188	0.0275
1	85.08	0.4496	0.0672	0.0011	-0.1009	0.0057	-0.4436	0.0177	-0.7019	0.0489
1	85.08	0.4997	0.0847	0.0015	-0.1179	0.0071	-0.6399	0.0228	-0.8029	0.0396
1	85.08	0.5387	0.0903	0.0016	-0.1288	0.0084	-0.8295	0.0270	-0.9754	0.0322
1	85.08	0.5996	0.1137	0.0015	-0.1532	0.0104	-1.1383	0.0318	-0.7919	0.0425
1	85.08	0.6498	0.1296	0.0019	-0.1881	0.0120	-1.4637	0.0344	-0.9677	0.0653
1	85.08	0.6998	0.1398	0.0022	-0.2193	0.0138	-1.8056	0.0368	-1.0278	0.0454
1	85.08	0.7500	0.1592	0.0039	-0.2369	0.0176	-2.1391	0.0391	-0.7890	0.0654
1	85.08	0.8001	0.1709	0.0031	-0.2937	0.0187	-2.5001	0.0503	-0.8388	0.1087
1	85.08	0.8497	0.1819	0.0034	-0.3373	0.0222	-2.9388	0.0492	-1.0684	0.0876
1	85.08	0.9734	0.2107	0.0175	-0.2617	0.0399	-4.0822	0.1133	-1.1478	0.3379

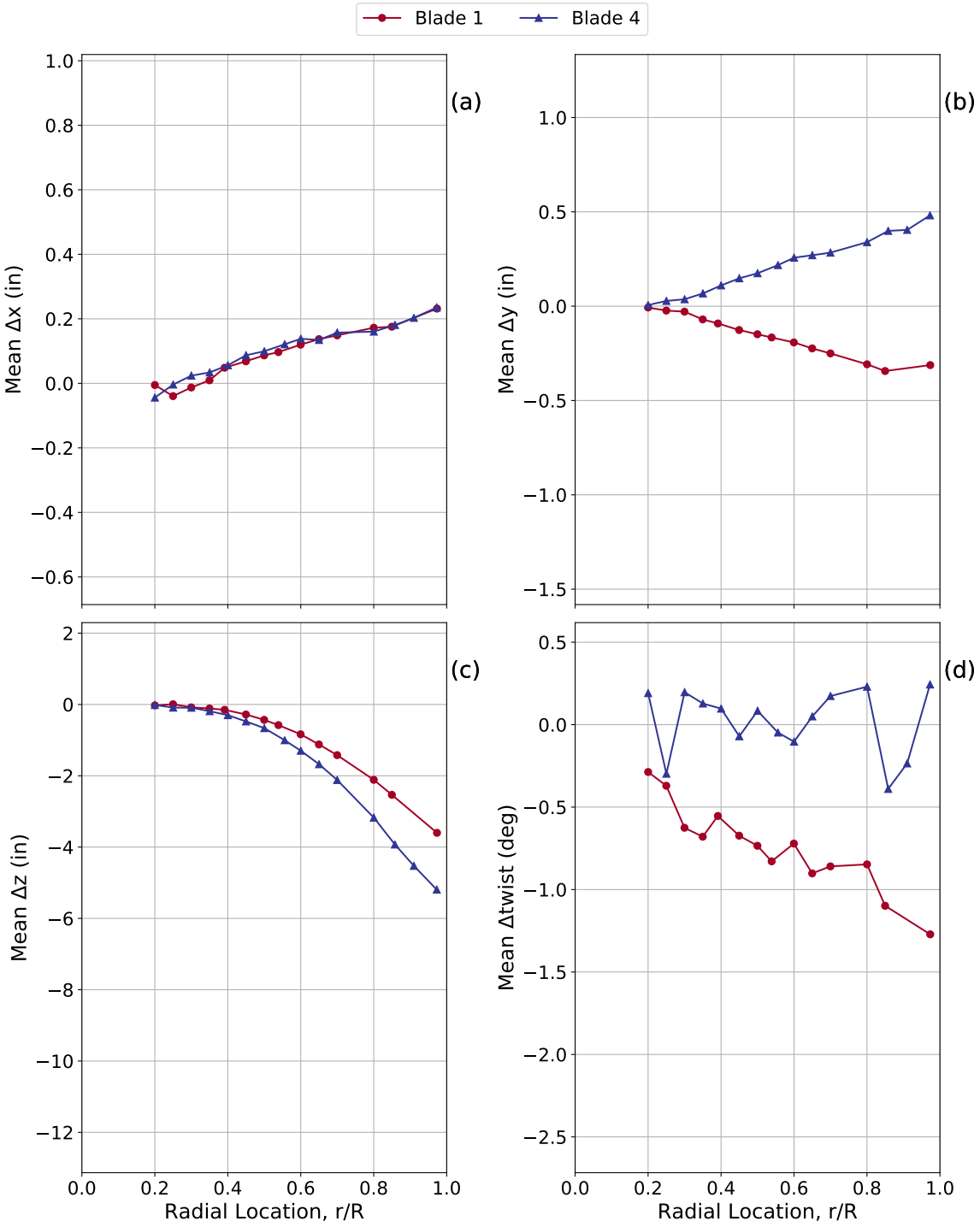


Figure 4.3-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0052	0.0009	-0.0072	0.0004	-0.0268	0.0009	-0.2871	0.0151
1	90	0.2499	-0.0395	0.0012	-0.0233	0.0011	0.0059	0.0035	-0.3706	0.0302
1	90	0.2998	-0.0128	0.0010	-0.0291	0.0023	-0.0812	0.0048	-0.6253	0.0359
1	90	0.3498	0.0095	0.0008	-0.0701	0.0032	-0.1129	0.0069	-0.6795	0.0370
1	90	0.3913	0.0484	0.0007	-0.0916	0.0053	-0.1508	0.0118	-0.5537	0.0236
1	90	0.4496	0.0684	0.0011	-0.1264	0.0070	-0.2808	0.0168	-0.6732	0.0365
1	90	0.4997	0.0867	0.0011	-0.1488	0.0085	-0.4314	0.0207	-0.7345	0.0347
1	90	0.5387	0.0969	0.0015	-0.1660	0.0100	-0.5790	0.0262	-0.8290	0.0316
1	90	0.5996	0.1199	0.0015	-0.1921	0.0126	-0.8366	0.0324	-0.7211	0.0290
1	90	0.6498	0.1371	0.0018	-0.2238	0.0150	-1.1221	0.0379	-0.9020	0.0371
1	90	0.6998	0.1488	0.0024	-0.2504	0.0176	-1.4213	0.0420	-0.8595	0.0519
1	90	0.8001	0.1724	0.0024	-0.3080	0.0230	-2.1136	0.0509	-0.8473	0.0543
1	90	0.8497	0.1756	0.0029	-0.3438	0.0267	-2.5337	0.0593	-1.0984	0.0353
1	90	0.9734	0.2317	0.0075	-0.3123	0.0353	-3.6005	0.0645	-1.2716	0.1350
4	90.35	0.2001	-0.0442	0.0011	0.0060	0.0004	-0.0146	0.0014	0.1913	0.0141
4	90.35	0.2502	-0.0038	0.0008	0.0278	0.0014	-0.0890	0.0029	-0.2976	0.0214
4	90.35	0.3001	0.0240	0.0008	0.0366	0.0018	-0.0914	0.0041	0.1967	0.0285
4	90.35	0.3502	0.0338	0.0006	0.0674	0.0037	-0.1895	0.0083	0.1283	0.0174
4	90.35	0.4002	0.0561	0.0007	0.1101	0.0054	-0.3010	0.0114	0.0972	0.0255
4	90.35	0.4500	0.0871	0.0009	0.1477	0.0062	-0.4763	0.0129	-0.0707	0.0230
4	90.35	0.5001	0.0996	0.0010	0.1745	0.0085	-0.6647	0.0178	0.0839	0.0168
4	90.35	0.5560	0.1211	0.0012	0.2176	0.0105	-1.0030	0.0202	-0.0480	0.0300
4	90.35	0.6001	0.1382	0.0009	0.2569	0.0124	-1.2983	0.0236	-0.1033	0.0282
4	90.35	0.6501	0.1345	0.0017	0.2700	0.0144	-1.6753	0.0288	0.0499	0.0200
4	90.35	0.6999	0.1572	0.0016	0.2837	0.0162	-2.1194	0.0304	0.1736	0.0309
4	90.35	0.8002	0.1604	0.0020	0.3392	0.0211	-3.1737	0.0375	0.2303	0.0469
4	90.35	0.8582	0.1809	0.0037	0.3991	0.0253	-3.9284	0.0455	-0.3897	0.0622
4	90.35	0.9101	0.2030	0.0071	0.4042	0.0276	-4.5262	0.0456	-0.2350	0.0566
4	90.35	0.9728	0.2352	0.0044	0.4814	0.0289	-5.1936	0.0560	0.2435	0.0931

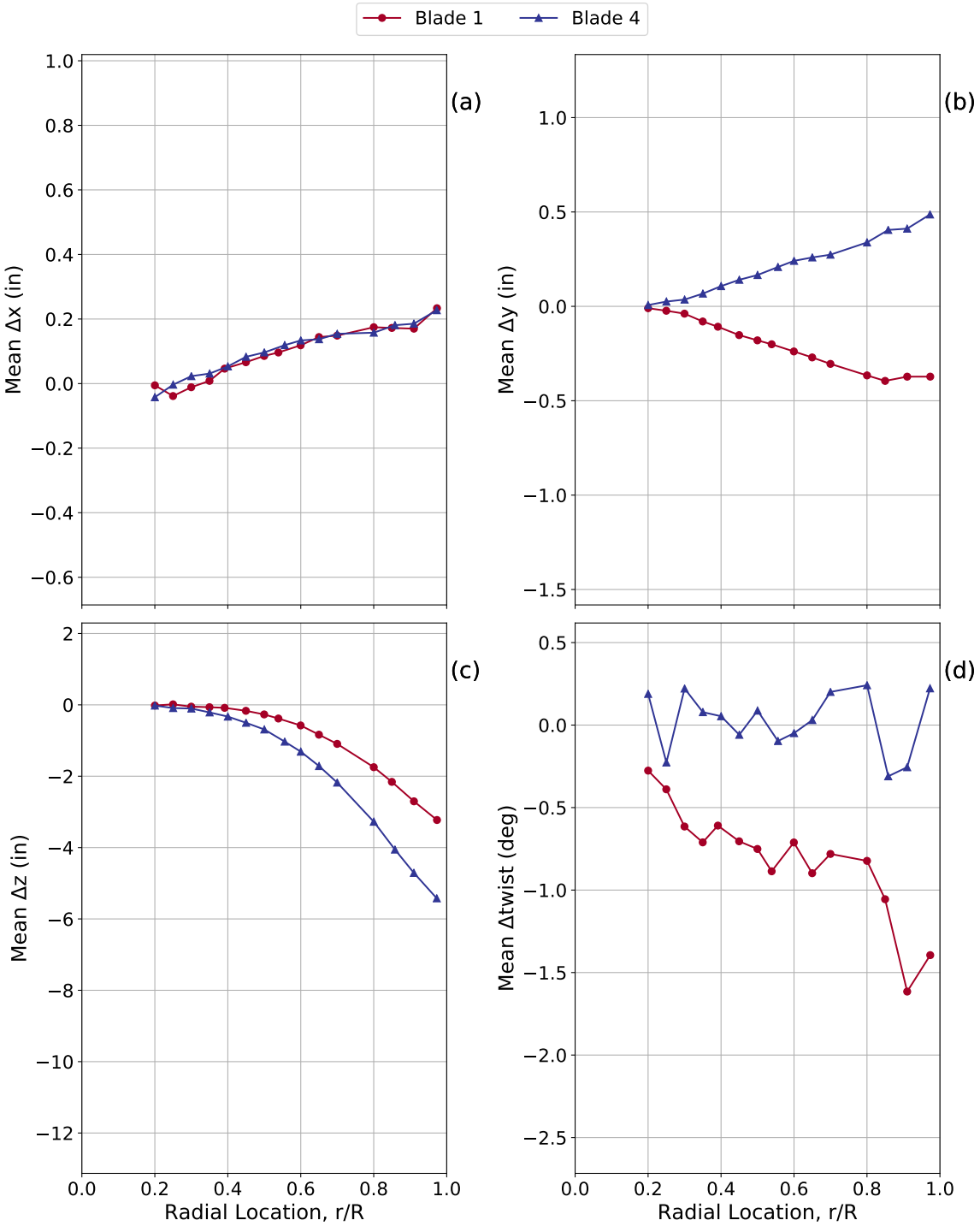


Figure 4.3-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0054	0.0007	-0.0098	0.0005	-0.0182	0.0012	-0.2760	0.0108
1	94.92	0.2499	-0.0386	0.0008	-0.0233	0.0021	0.0143	0.0033	-0.3893	0.0163
1	94.92	0.2998	-0.0113	0.0007	-0.0387	0.0023	-0.0503	0.0053	-0.6148	0.0231
1	94.92	0.3498	0.0084	0.0009	-0.0802	0.0051	-0.0653	0.0091	-0.7108	0.0201
1	94.92	0.3913	0.0463	0.0007	-0.1080	0.0071	-0.0831	0.0134	-0.6092	0.0154
1	94.92	0.4496	0.0661	0.0010	-0.1523	0.0084	-0.1668	0.0168	-0.7044	0.0219
1	94.92	0.4997	0.0856	0.0009	-0.1801	0.0103	-0.2679	0.0209	-0.7509	0.0222
1	94.92	0.5387	0.0963	0.0012	-0.2009	0.0118	-0.3829	0.0249	-0.8862	0.0232
1	94.92	0.5996	0.1186	0.0007	-0.2389	0.0142	-0.5767	0.0310	-0.7114	0.0242
1	94.92	0.6498	0.1441	0.0010	-0.2706	0.0161	-0.8356	0.0357	-0.8978	0.0243
1	94.92	0.6998	0.1486	0.0014	-0.3048	0.0182	-1.0937	0.0401	-0.7810	0.0230
1	94.92	0.8001	0.1746	0.0018	-0.3658	0.0224	-1.7469	0.0499	-0.8230	0.0308
1	94.92	0.8497	0.1724	0.0024	-0.3949	0.0250	-2.1585	0.0540	-1.0555	0.0339
1	94.92	0.9102	0.1701	0.0040	-0.3725	0.0280	-2.7036	0.0573	-1.6152	0.1046
1	94.92	0.9734	0.2334	0.0032	-0.3724	0.0308	-3.2272	0.0676	-1.3944	0.0704
4	94.92	0.2001	-0.0423	0.0009	0.0069	0.0006	-0.0195	0.0014	0.1891	0.0096
4	94.92	0.2502	-0.0034	0.0008	0.0253	0.0012	-0.0895	0.0027	-0.2267	0.0205
4	94.92	0.3001	0.0230	0.0010	0.0359	0.0018	-0.1029	0.0057	0.2215	0.0216
4	94.92	0.3502	0.0310	0.0008	0.0676	0.0040	-0.2118	0.0083	0.0783	0.0254
4	94.92	0.4002	0.0533	0.0012	0.1071	0.0054	-0.3288	0.0137	0.0535	0.0199
4	94.92	0.4500	0.0829	0.0012	0.1407	0.0074	-0.5021	0.0185	-0.0589	0.0227
4	94.92	0.5001	0.0965	0.0013	0.1660	0.0093	-0.6896	0.0226	0.0876	0.0254
4	94.92	0.5560	0.1190	0.0013	0.2084	0.0116	-1.0304	0.0280	-0.0967	0.0229
4	94.92	0.6001	0.1337	0.0013	0.2410	0.0136	-1.3120	0.0318	-0.0488	0.0216
4	94.92	0.6501	0.1374	0.0012	0.2591	0.0165	-1.7156	0.0359	0.0303	0.0320
4	94.92	0.6999	0.1541	0.0017	0.2737	0.0190	-2.1785	0.0388	0.2009	0.0345
4	94.92	0.8002	0.1577	0.0019	0.3385	0.0250	-3.2757	0.0439	0.2415	0.0373
4	94.92	0.8582	0.1809	0.0022	0.4048	0.0289	-4.0566	0.0469	-0.3105	0.0556
4	94.92	0.9101	0.1855	0.0033	0.4116	0.0328	-4.7102	0.0524	-0.2554	0.0394
4	94.92	0.9728	0.2273	0.0041	0.4868	0.0370	-5.4227	0.0661	0.2226	0.0558

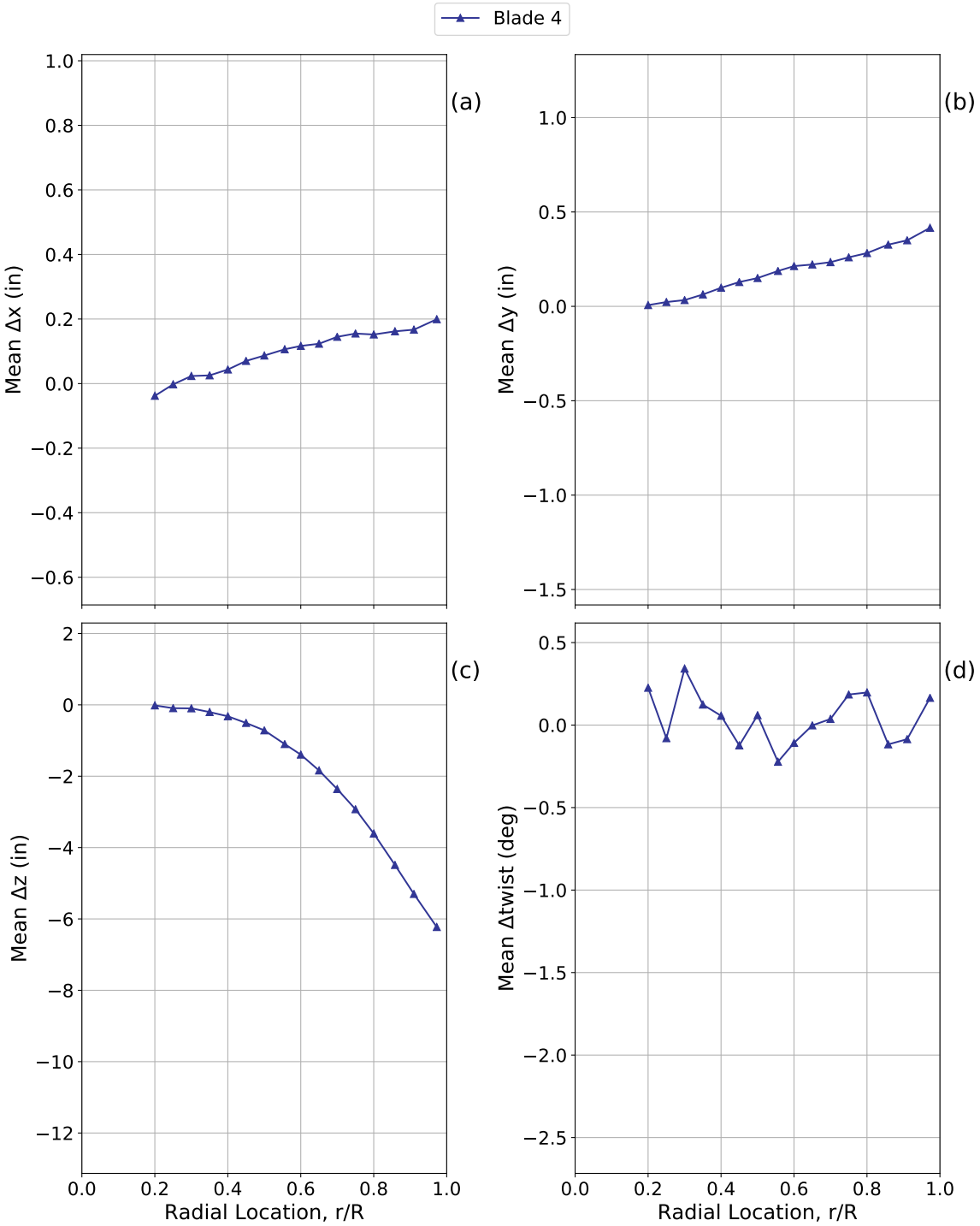


Figure 4.3-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0379	0.0006	0.0066	0.0006	-0.0158	0.0016	0.2260	0.0272
4	105.12	0.2502	-0.0024	0.0007	0.0228	0.0012	-0.0931	0.0030	-0.0797	0.0385
4	105.12	0.3001	0.0234	0.0009	0.0331	0.0023	-0.0979	0.0049	0.3423	0.0605
4	105.12	0.3502	0.0254	0.0009	0.0628	0.0042	-0.2024	0.0111	0.1241	0.0280
4	105.12	0.4002	0.0435	0.0011	0.0984	0.0063	-0.3209	0.0147	0.0563	0.0430
4	105.12	0.4500	0.0701	0.0008	0.1287	0.0074	-0.5070	0.0198	-0.1233	0.0335
4	105.12	0.5001	0.0868	0.0009	0.1498	0.0088	-0.7148	0.0231	0.0598	0.0455
4	105.12	0.5560	0.1062	0.0014	0.1873	0.0113	-1.0990	0.0288	-0.2227	0.0473
4	105.12	0.6001	0.1166	0.0010	0.2132	0.0127	-1.3954	0.0325	-0.1081	0.0436
4	105.12	0.6501	0.1234	0.0014	0.2216	0.0154	-1.8395	0.0366	-0.0020	0.0425
4	105.12	0.6999	0.1448	0.0016	0.2339	0.0175	-2.3596	0.0401	0.0368	0.0437
4	105.12	0.7500	0.1550	0.0015	0.2597	0.0202	-2.9261	0.0439	0.1852	0.0384
4	105.12	0.8002	0.1520	0.0016	0.2822	0.0224	-3.6084	0.0469	0.1976	0.0437
4	105.12	0.8582	0.1618	0.0018	0.3268	0.0255	-4.4879	0.0510	-0.1170	0.0479
4	105.12	0.9101	0.1670	0.0022	0.3498	0.0287	-5.3004	0.0579	-0.0856	0.0352
4	105.12	0.9728	0.1993	0.0024	0.4158	0.0313	-6.2276	0.0654	0.1650	0.0498

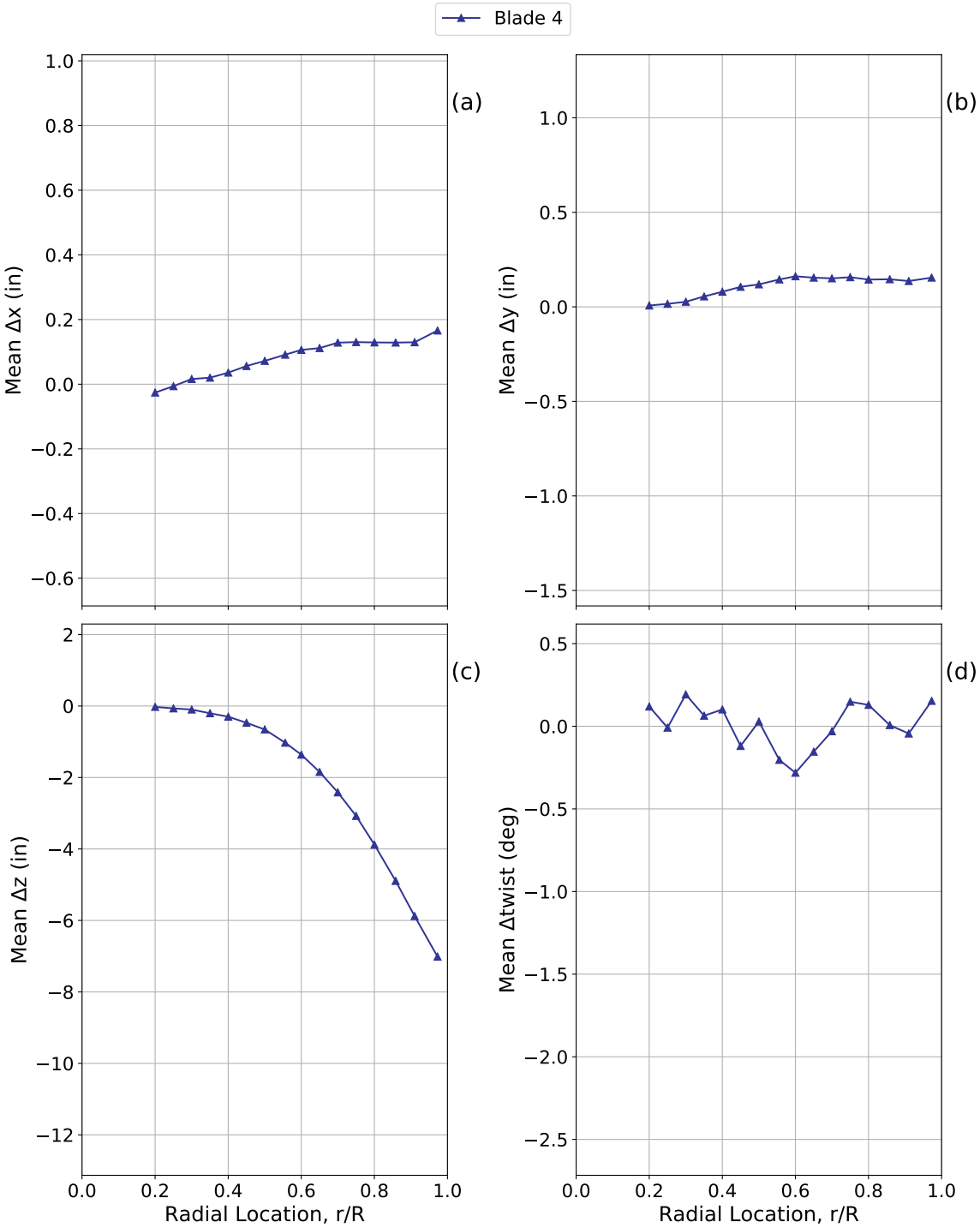


Figure 4.3-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0259	0.0007	0.0071	0.0004	-0.0248	0.0008	0.1192	0.0143
4	119.88	0.2502	-0.0061	0.0007	0.0157	0.0010	-0.0668	0.0040	-0.0086	0.0249
4	119.88	0.3001	0.0161	0.0009	0.0269	0.0013	-0.0993	0.0041	0.1926	0.0298
4	119.88	0.3502	0.0201	0.0008	0.0550	0.0022	-0.2028	0.0070	0.0638	0.0282
4	119.88	0.4002	0.0358	0.0004	0.0798	0.0036	-0.2993	0.0121	0.1016	0.0233
4	119.88	0.4500	0.0562	0.0005	0.1058	0.0044	-0.4696	0.0155	-0.1192	0.0216
4	119.88	0.5001	0.0721	0.0007	0.1188	0.0057	-0.6572	0.0197	0.0284	0.0216
4	119.88	0.5560	0.0913	0.0011	0.1448	0.0071	-1.0268	0.0223	-0.2036	0.0221
4	119.88	0.6001	0.1061	0.0009	0.1616	0.0086	-1.3623	0.0252	-0.2814	0.0226
4	119.88	0.6501	0.1117	0.0013	0.1543	0.0099	-1.8449	0.0263	-0.1540	0.0192
4	119.88	0.6999	0.1285	0.0013	0.1507	0.0114	-2.4161	0.0301	-0.0304	0.0223
4	119.88	0.7500	0.1302	0.0011	0.1567	0.0136	-3.0757	0.0301	0.1483	0.0219
4	119.88	0.8002	0.1292	0.0013	0.1442	0.0162	-3.8812	0.0334	0.1293	0.0225
4	119.88	0.8582	0.1287	0.0017	0.1459	0.0185	-4.8949	0.0373	0.0070	0.0266
4	119.88	0.9101	0.1297	0.0019	0.1364	0.0204	-5.8784	0.0404	-0.0442	0.0254
4	119.88	0.9728	0.1660	0.0026	0.1545	0.0233	-7.0144	0.0484	0.1537	0.0258

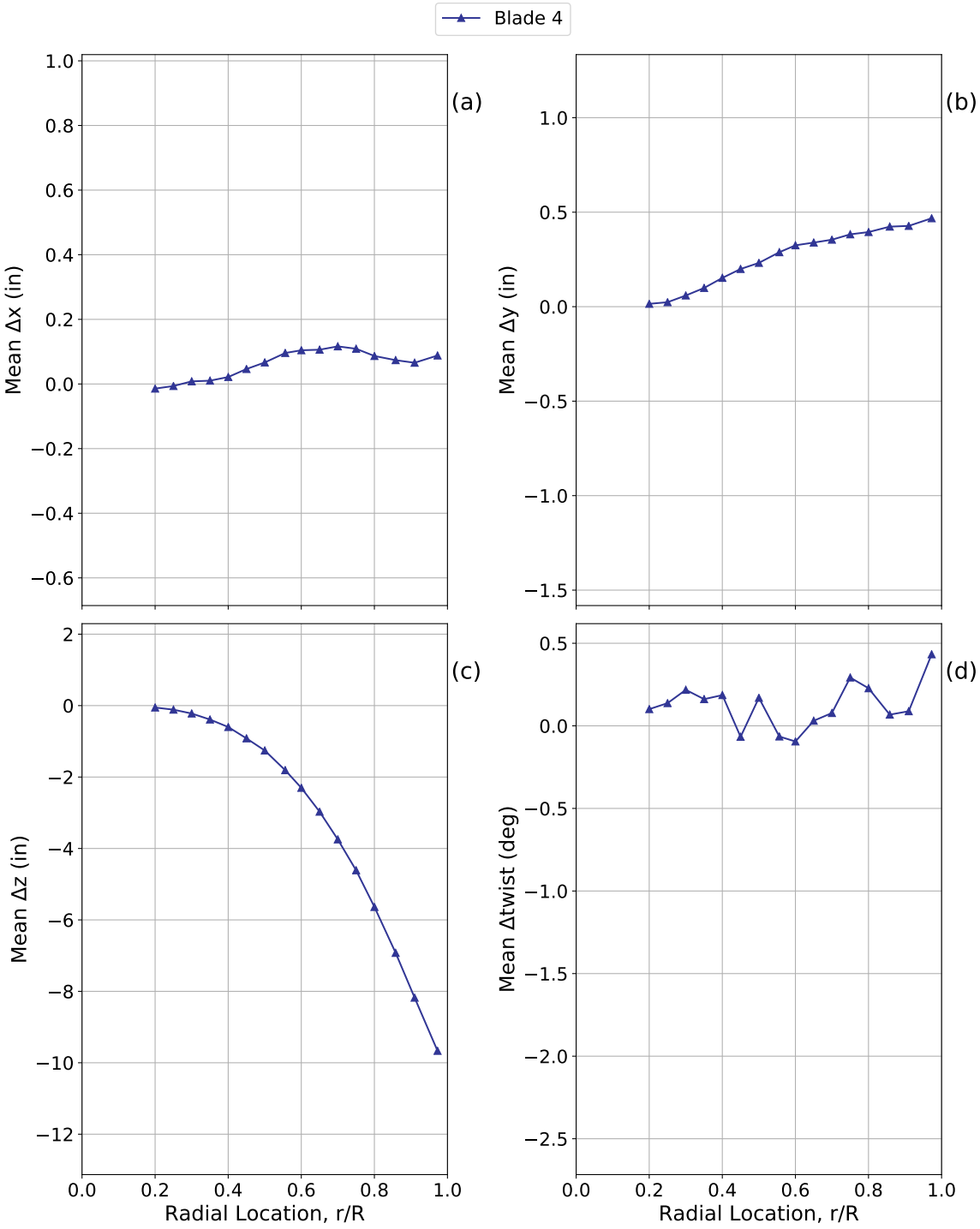


Figure 4.3-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0143	0.0004	0.0150	0.0004	-0.0540	0.0009	0.1011	0.0112
4	135	0.2502	-0.0063	0.0005	0.0236	0.0010	-0.1137	0.0033	0.1374	0.0205
4	135	0.3001	0.0081	0.0007	0.0591	0.0014	-0.2216	0.0034	0.2180	0.0218
4	135	0.3502	0.0102	0.0008	0.0990	0.0030	-0.3903	0.0049	0.1615	0.0201
4	135	0.4002	0.0216	0.0014	0.1523	0.0038	-0.6003	0.0093	0.1861	0.0227
4	135	0.4500	0.0463	0.0008	0.1994	0.0047	-0.9177	0.0114	-0.0666	0.0234
4	135	0.5001	0.0666	0.0005	0.2317	0.0065	-1.2577	0.0144	0.1698	0.0249
4	135	0.5560	0.0959	0.0011	0.2881	0.0069	-1.8089	0.0182	-0.0646	0.0235
4	135	0.6001	0.1043	0.0009	0.3247	0.0080	-2.3033	0.0205	-0.0946	0.0312
4	135	0.6501	0.1061	0.0014	0.3392	0.0090	-2.9709	0.0214	0.0307	0.0324
4	135	0.6999	0.1164	0.0013	0.3544	0.0098	-3.7470	0.0223	0.0776	0.0262
4	135	0.7500	0.1090	0.0015	0.3828	0.0106	-4.6116	0.0258	0.2925	0.0268
4	135	0.8002	0.0866	0.0009	0.3948	0.0108	-5.6388	0.0265	0.2275	0.0210
4	135	0.8582	0.0737	0.0015	0.4235	0.0115	-6.9240	0.0299	0.0678	0.0185
4	135	0.9101	0.0657	0.0013	0.4274	0.0123	-8.1780	0.0317	0.0884	0.0235
4	135	0.9728	0.0881	0.0014	0.4678	0.0134	-9.6672	0.0369	0.4331	0.0229

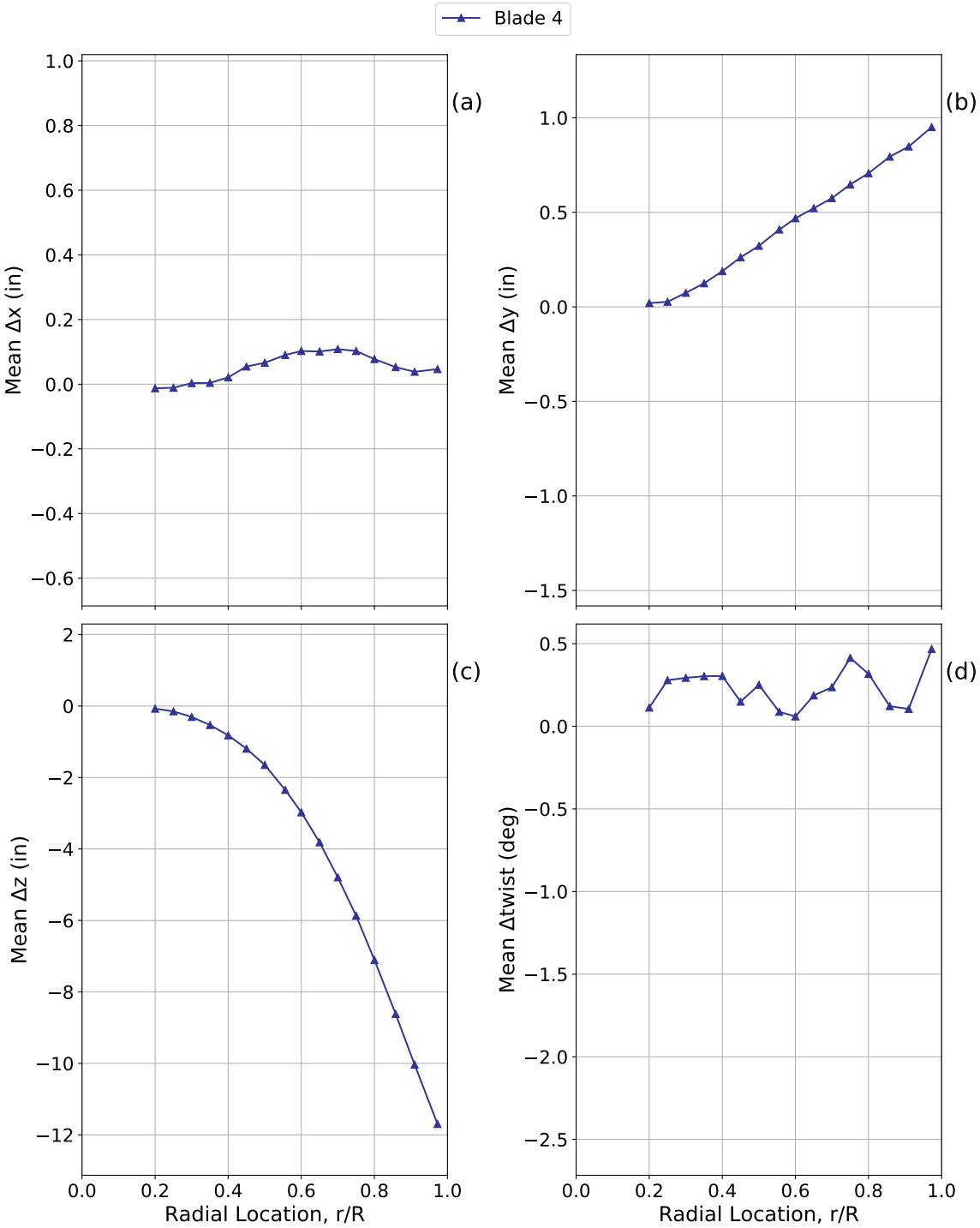


Figure 4.3-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0127	0.0008	0.0198	0.0003	-0.0750	0.0010	0.1129	0.0089
4	150.12	0.2502	-0.0110	0.0008	0.0267	0.0010	-0.1499	0.0028	0.2788	0.0182
4	150.12	0.3001	0.0033	0.0010	0.0740	0.0012	-0.3065	0.0040	0.2929	0.0206
4	150.12	0.3502	0.0040	0.0006	0.1245	0.0029	-0.5327	0.0065	0.3025	0.0108
4	150.12	0.4002	0.0212	0.0008	0.1888	0.0036	-0.8213	0.0108	0.3040	0.0215
4	150.12	0.4500	0.0546	0.0008	0.2619	0.0061	-1.1945	0.0141	0.1487	0.0213
4	150.12	0.5001	0.0662	0.0015	0.3224	0.0074	-1.6489	0.0193	0.2505	0.0287
4	150.12	0.5560	0.0903	0.0012	0.4086	0.0077	-2.3479	0.0230	0.0872	0.0220
4	150.12	0.6001	0.1027	0.0013	0.4686	0.0107	-2.9759	0.0275	0.0592	0.0281
4	150.12	0.6501	0.1011	0.0015	0.5215	0.0114	-3.8151	0.0321	0.1862	0.0196
4	150.12	0.6999	0.1085	0.0023	0.5749	0.0129	-4.7947	0.0361	0.2360	0.0172
4	150.12	0.7500	0.1026	0.0020	0.6472	0.0162	-5.8691	0.0419	0.4137	0.0195
4	150.12	0.8002	0.0776	0.0021	0.7067	0.0187	-7.1086	0.0464	0.3166	0.0231
4	150.12	0.8582	0.0528	0.0026	0.7941	0.0216	-8.6185	0.0527	0.1215	0.0200
4	150.12	0.9101	0.0384	0.0029	0.8478	0.0247	-10.0364	0.0588	0.1048	0.0185
4	150.12	0.9728	0.0466	0.0034	0.9505	0.0287	-11.6964	0.0662	0.4671	0.0184

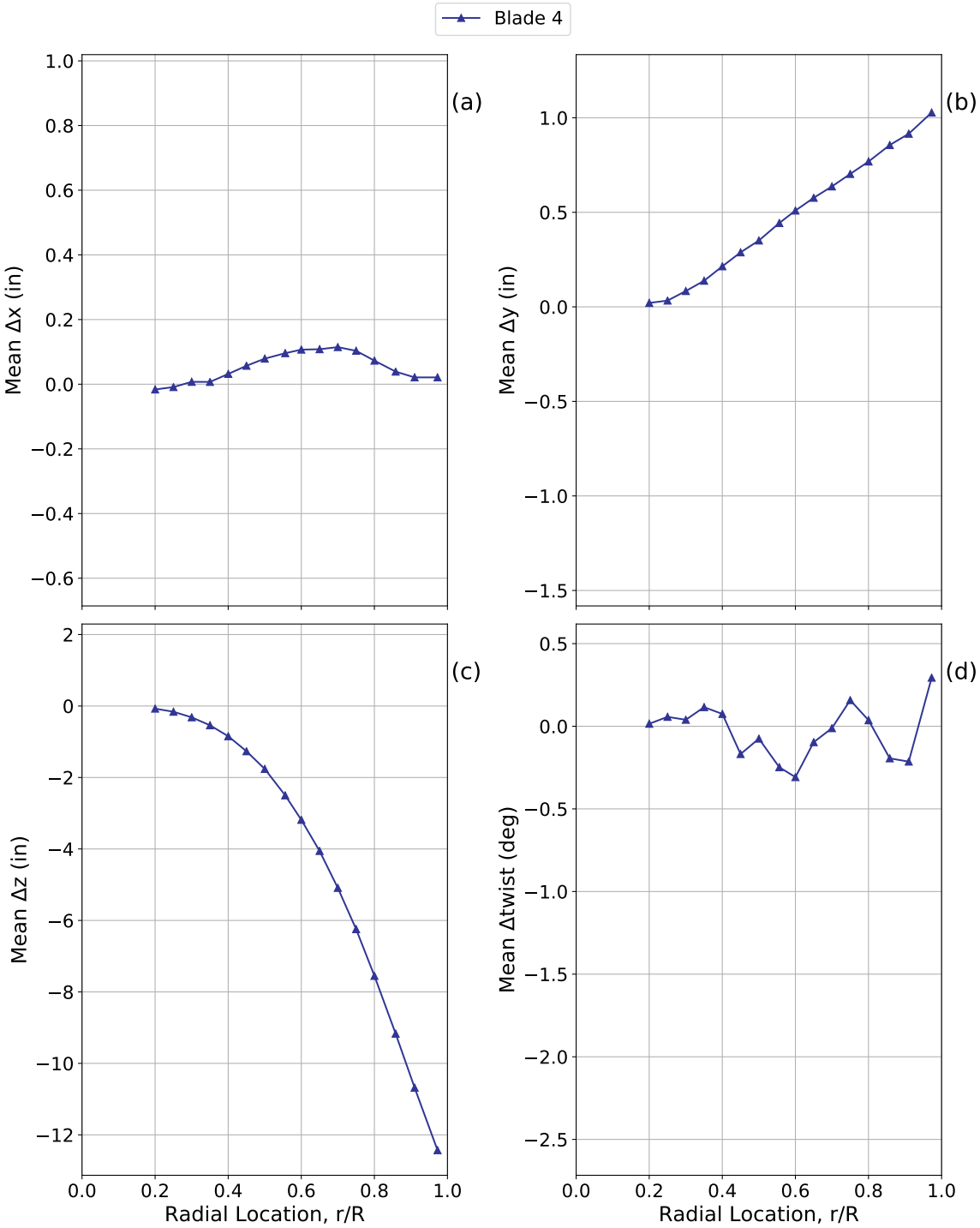


Figure 4.3-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0163	0.0006	0.0207	0.0004	-0.0739	0.0011	0.0152	0.0136
4	164.88	0.2502	-0.0089	0.0013	0.0331	0.0024	-0.1605	0.0027	0.0569	0.0242
4	164.88	0.3001	0.0073	0.0006	0.0836	0.0038	-0.3170	0.0038	0.0392	0.0305
4	164.88	0.3502	0.0071	0.0009	0.1380	0.0036	-0.5397	0.0063	0.1155	0.0337
4	164.88	0.4002	0.0318	0.0007	0.2144	0.0087	-0.8465	0.0100	0.0745	0.0231
4	164.88	0.4500	0.0570	0.0012	0.2882	0.0100	-1.2662	0.0131	-0.1683	0.0230
4	164.88	0.5001	0.0791	0.0009	0.3509	0.0150	-1.7620	0.0174	-0.0751	0.0307
4	164.88	0.5560	0.0959	0.0010	0.4433	0.0152	-2.5008	0.0208	-0.2481	0.0240
4	164.88	0.6001	0.1069	0.0014	0.5092	0.0172	-3.1861	0.0235	-0.3079	0.0330
4	164.88	0.6501	0.1082	0.0012	0.5767	0.0186	-4.0571	0.0257	-0.0964	0.0269
4	164.88	0.6999	0.1147	0.0022	0.6368	0.0215	-5.0894	0.0276	-0.0116	0.0274
4	164.88	0.7500	0.1033	0.0015	0.7028	0.0246	-6.2445	0.0310	0.1579	0.0244
4	164.88	0.8002	0.0728	0.0023	0.7686	0.0269	-7.5520	0.0336	0.0363	0.0294
4	164.88	0.8582	0.0389	0.0029	0.8558	0.0311	-9.1695	0.0385	-0.1942	0.0252
4	164.88	0.9101	0.0211	0.0032	0.9154	0.0339	-10.6804	0.0424	-0.2139	0.0267
4	164.88	0.9728	0.0211	0.0034	1.0276	0.0381	-12.4305	0.0475	0.2937	0.0296

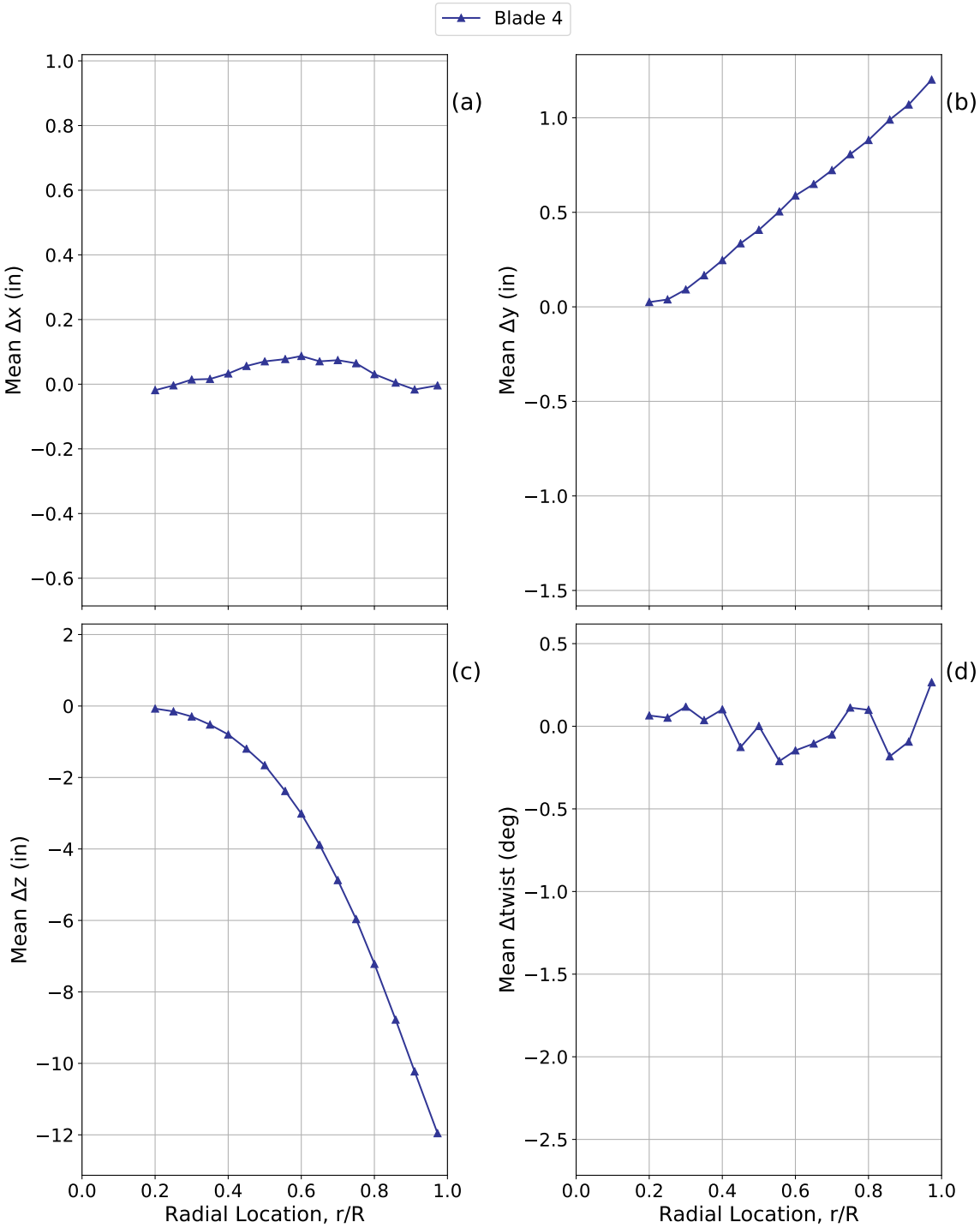


Figure 4.3-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0186	0.0009	0.0250	0.0005	-0.0734	0.0015	0.0651	0.0124
4	170.16	0.2502	-0.0038	0.0010	0.0389	0.0016	-0.1512	0.0028	0.0514	0.0261
4	170.16	0.3001	0.0143	0.0008	0.0918	0.0026	-0.2954	0.0050	0.1181	0.0295
4	170.16	0.3502	0.0161	0.0011	0.1666	0.0037	-0.5215	0.0094	0.0365	0.0281
4	170.16	0.4002	0.0329	0.0008	0.2467	0.0064	-0.7985	0.0136	0.1021	0.0254
4	170.16	0.4500	0.0562	0.0011	0.3356	0.0075	-1.1954	0.0180	-0.1261	0.0266
4	170.16	0.5001	0.0706	0.0014	0.4068	0.0082	-1.6581	0.0231	0.0009	0.0281
4	170.16	0.5560	0.0776	0.0013	0.5042	0.0088	-2.3807	0.0298	-0.2110	0.0301
4	170.16	0.6001	0.0871	0.0018	0.5887	0.0098	-3.0124	0.0346	-0.1463	0.0398
4	170.16	0.6501	0.0707	0.0026	0.6496	0.0105	-3.8841	0.0422	-0.1050	0.0337
4	170.16	0.6999	0.0743	0.0028	0.7227	0.0114	-4.8735	0.0492	-0.0502	0.0318
4	170.16	0.7500	0.0646	0.0038	0.8070	0.0132	-5.9653	0.0541	0.1127	0.0326
4	170.16	0.8002	0.0309	0.0052	0.8820	0.0129	-7.2175	0.0620	0.0989	0.0428
4	170.16	0.8582	0.0047	0.0068	0.9899	0.0154	-8.7783	0.0700	-0.1822	0.0446
4	170.16	0.9101	-0.0165	0.0100	1.0696	0.0171	-10.2271	0.0800	-0.0937	0.0537
4	170.16	0.9728	-0.0039	0.0103	1.2014	0.0215	-11.9562	0.0859	0.2662	0.0658

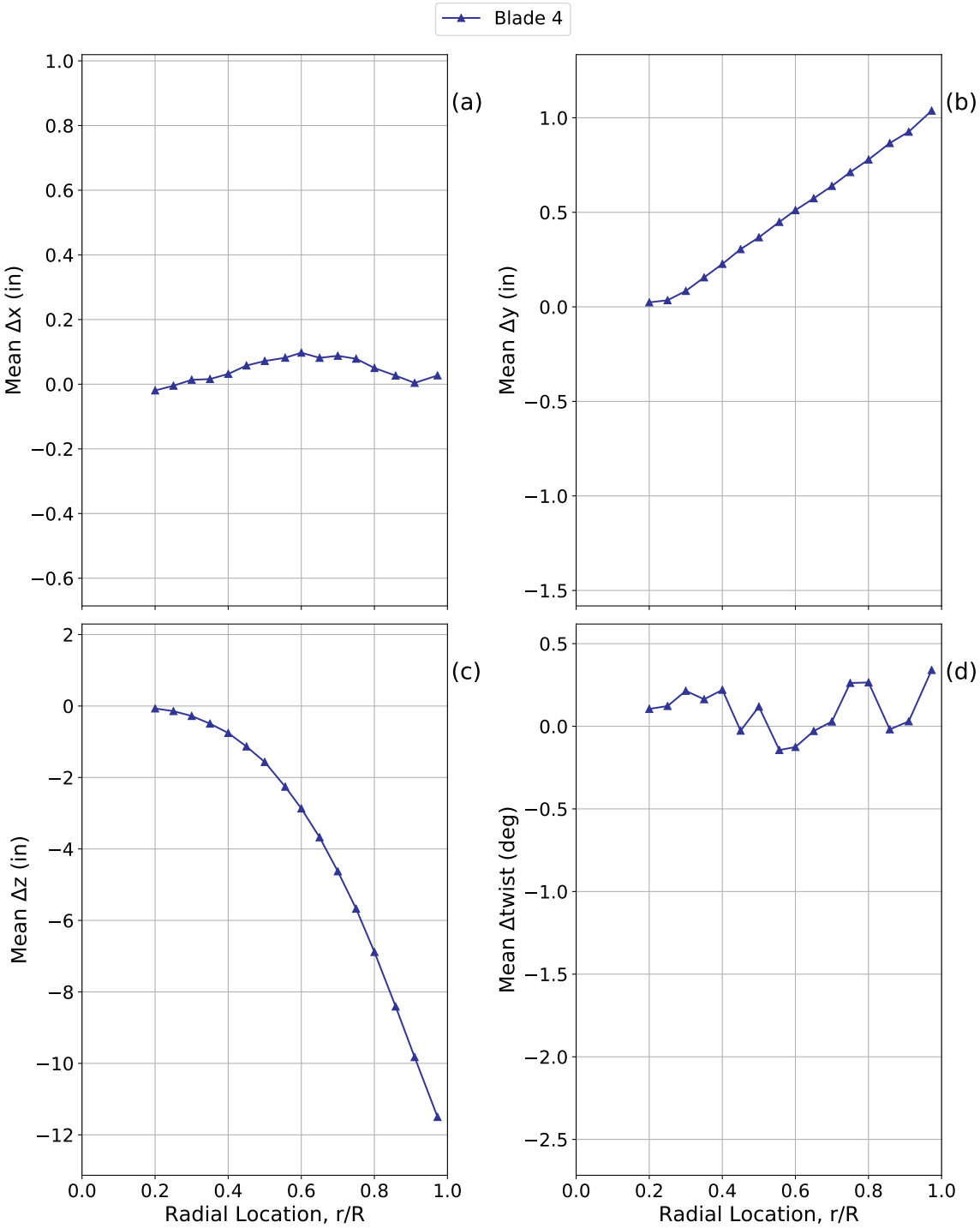


Figure 4.3-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0193	0.0009	0.0238	0.0010	-0.0694	0.0017	0.1049	0.0101
4	175.08	0.2502	-0.0048	0.0013	0.0348	0.0020	-0.1433	0.0025	0.1224	0.0190
4	175.08	0.3001	0.0136	0.0009	0.0840	0.0037	-0.2797	0.0046	0.2143	0.0196
4	175.08	0.3502	0.0159	0.0010	0.1558	0.0068	-0.4937	0.0087	0.1632	0.0198
4	175.08	0.4002	0.0318	0.0010	0.2270	0.0102	-0.7562	0.0119	0.2203	0.0190
4	175.08	0.4500	0.0577	0.0015	0.3049	0.0113	-1.1333	0.0143	-0.0269	0.0224
4	175.08	0.5001	0.0717	0.0013	0.3676	0.0142	-1.5677	0.0183	0.1187	0.0203
4	175.08	0.5560	0.0818	0.0010	0.4488	0.0184	-2.2588	0.0242	-0.1440	0.0155
4	175.08	0.6001	0.0974	0.0012	0.5115	0.0192	-2.8684	0.0262	-0.1255	0.0247
4	175.08	0.6501	0.0815	0.0014	0.5738	0.0223	-3.6754	0.0313	-0.0290	0.0273
4	175.08	0.6999	0.0878	0.0011	0.6393	0.0257	-4.6261	0.0347	0.0284	0.0239
4	175.08	0.7500	0.0787	0.0017	0.7122	0.0283	-5.6730	0.0390	0.2619	0.0115
4	175.08	0.8002	0.0500	0.0029	0.7788	0.0319	-6.8845	0.0409	0.2651	0.0269
4	175.08	0.8582	0.0265	0.0013	0.8660	0.0350	-8.4102	0.0468	-0.0190	0.0391
4	175.08	0.9101	0.0040	0.0044	0.9259	0.0393	-9.8247	0.0491	0.0297	0.0398
4	175.08	0.9728	0.0271	0.0032	1.0375	0.0438	-11.5006	0.0554	0.3403	0.0417

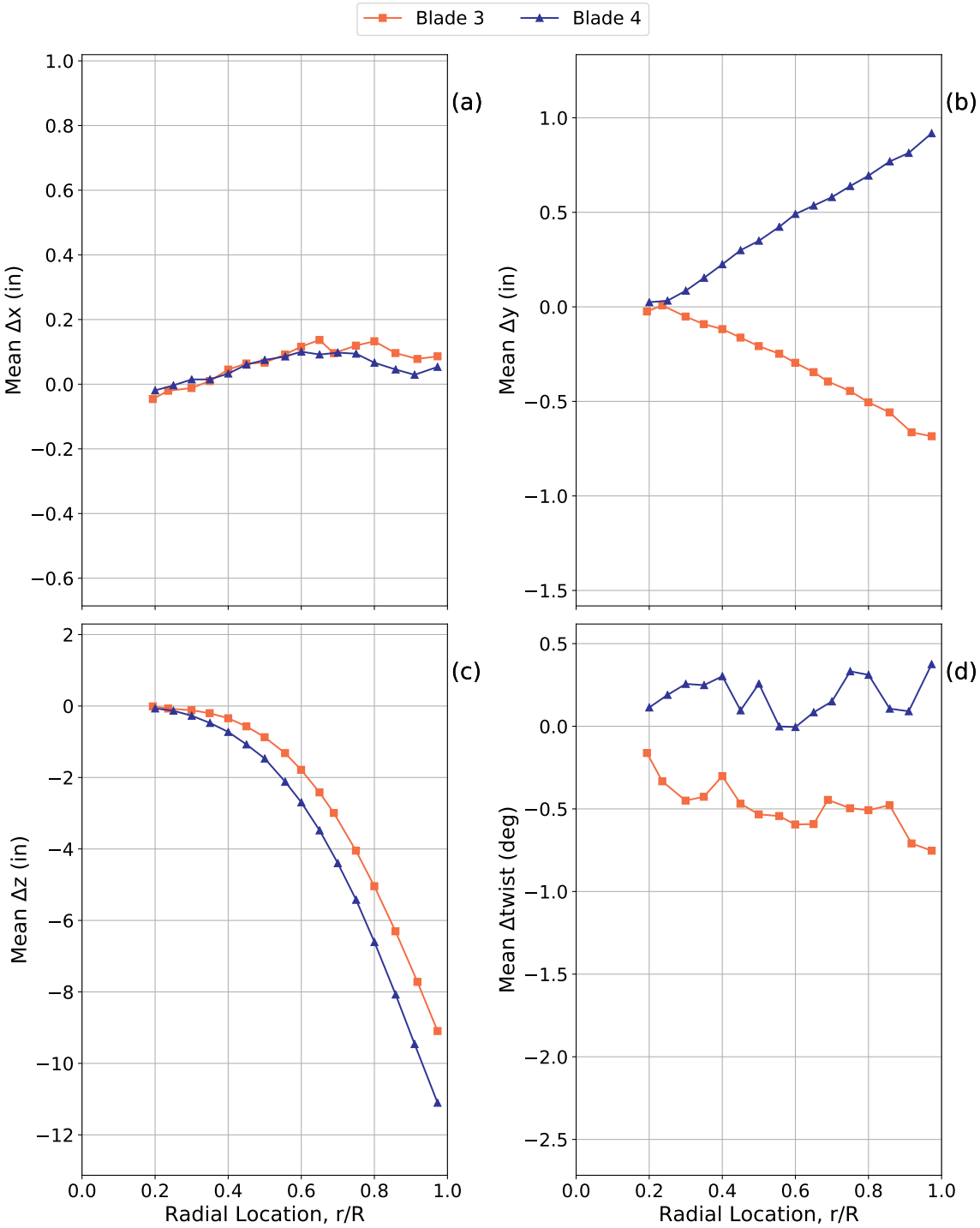


Figure 4.3-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0459	0.0017	-0.0243	0.0007	-0.0109	0.0010	-0.1618	0.0154
3	180.35	0.2357	-0.0203	0.0013	0.0077	0.0022	-0.0701	0.0029	-0.3329	0.0208
3	180.35	0.2995	-0.0119	0.0010	-0.0513	0.0034	-0.1175	0.0043	-0.4500	0.0334
3	180.35	0.3493	0.0097	0.0022	-0.0914	0.0063	-0.2004	0.0072	-0.4266	0.0269
3	180.35	0.4000	0.0453	0.0031	-0.1178	0.0099	-0.3421	0.0116	-0.3017	0.0230
3	180.35	0.4497	0.0641	0.0051	-0.1626	0.0121	-0.5683	0.0145	-0.4685	0.0293
3	180.35	0.4997	0.0665	0.0071	-0.2076	0.0154	-0.8721	0.0142	-0.5331	0.0309
3	180.35	0.5556	0.0920	0.0098	-0.2481	0.0190	-1.3183	0.0180	-0.5432	0.0277
3	180.35	0.5995	0.1161	0.0117	-0.2958	0.0217	-1.7855	0.0205	-0.5943	0.0320
3	180.35	0.6498	0.1368	0.0152	-0.3453	0.0251	-2.4165	0.0228	-0.5918	0.0214
3	180.35	0.6890	0.0961	0.0175	-0.3947	0.0259	-2.9918	0.0240	-0.4455	0.0301
3	180.35	0.7495	0.1193	0.0202	-0.4449	0.0303	-4.0471	0.0275	-0.4959	0.0256
3	180.35	0.7998	0.1328	0.0241	-0.5048	0.0334	-5.0412	0.0310	-0.5078	0.0242
3	180.35	0.8577	0.0964	0.0279	-0.5581	0.0354	-6.3035	0.0331	-0.4775	0.0309
3	180.35	0.9178	0.0781	0.0326	-0.6635	0.0373	-7.7199	0.0372	-0.7092	0.0319
3	180.35	0.9729	0.0863	0.0382	-0.6843	0.0426	-9.0946	0.0397	-0.7529	0.0409
4	180	0.2001	-0.0192	0.0015	0.0243	0.0012	-0.0689	0.0019	0.1136	0.0159
4	180	0.2502	-0.0035	0.0013	0.0326	0.0018	-0.1327	0.0033	0.1899	0.0321
4	180	0.3001	0.0147	0.0006	0.0854	0.0034	-0.2725	0.0059	0.2562	0.0369
4	180	0.3502	0.0149	0.0009	0.1535	0.0056	-0.4742	0.0108	0.2488	0.0327
4	180	0.4002	0.0329	0.0013	0.2252	0.0080	-0.7258	0.0157	0.3027	0.0328
4	180	0.4500	0.0605	0.0010	0.2994	0.0102	-1.0755	0.0195	0.0961	0.0272
4	180	0.5001	0.0749	0.0012	0.3494	0.0128	-1.4704	0.0264	0.2575	0.0238
4	180	0.5560	0.0858	0.0010	0.4233	0.0145	-2.1187	0.0313	-0.0011	0.0265
4	180	0.6001	0.1006	0.0013	0.4912	0.0177	-2.6968	0.0359	-0.0047	0.0292
4	180	0.6501	0.0919	0.0015	0.5355	0.0204	-3.4817	0.0407	0.0844	0.0322
4	180	0.6999	0.0975	0.0011	0.5803	0.0232	-4.3979	0.0455	0.1502	0.0342
4	180	0.7500	0.0944	0.0022	0.6388	0.0266	-5.4235	0.0508	0.3323	0.0332
4	180	0.8002	0.0664	0.0016	0.6939	0.0291	-6.6063	0.0572	0.3111	0.0366
4	180	0.8582	0.0455	0.0031	0.7689	0.0331	-8.0744	0.0658	0.1063	0.0341
4	180	0.9101	0.0291	0.0045	0.8140	0.0367	-9.4606	0.0732	0.0907	0.0358
4	180	0.9728	0.0535	0.0050	0.9181	0.0418	-11.1021	0.0818	0.3756	0.0340

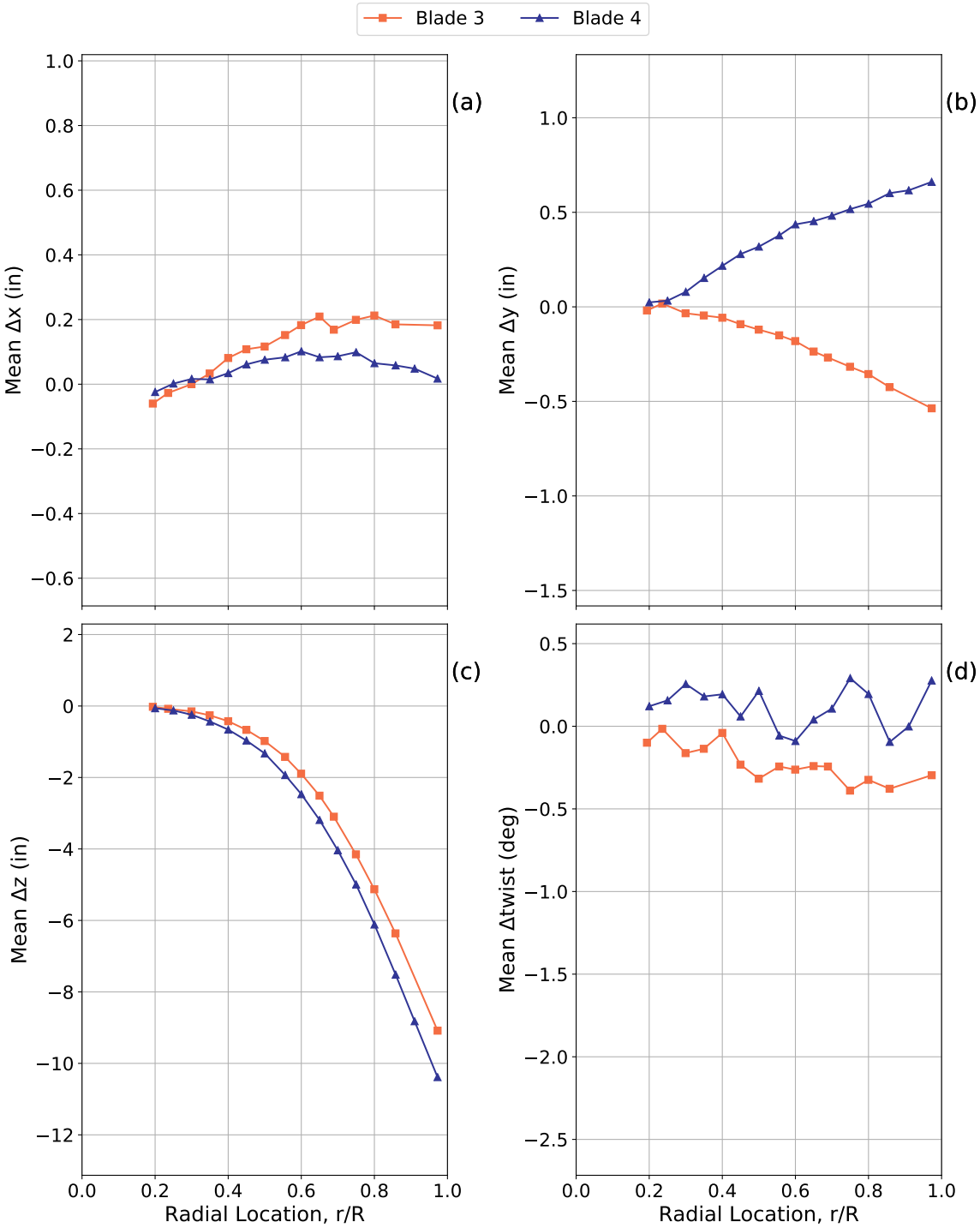


Figure 4.3-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0599	0.0011	-0.0191	0.0014	-0.0223	0.0026	-0.0994	0.0075
3	184.92	0.2357	-0.0270	0.0010	0.0175	0.0024	-0.0781	0.0025	-0.0154	0.0329
3	184.92	0.2995	0.0001	0.0006	-0.0339	0.0036	-0.1500	0.0062	-0.1625	0.0250
3	184.92	0.3493	0.0332	0.0009	-0.0456	0.0073	-0.2593	0.0108	-0.1363	0.0178
3	184.92	0.4000	0.0811	0.0015	-0.0576	0.0104	-0.4246	0.0150	-0.0404	0.0252
3	184.92	0.4497	0.1081	0.0014	-0.0918	0.0141	-0.6669	0.0191	-0.2322	0.0233
3	184.92	0.4997	0.1165	0.0015	-0.1205	0.0155	-0.9794	0.0240	-0.3172	0.0279
3	184.92	0.5556	0.1520	0.0015	-0.1506	0.0180	-1.4240	0.0283	-0.2435	0.0341
3	184.92	0.5995	0.1827	0.0017	-0.1811	0.0198	-1.8933	0.0351	-0.2623	0.0259
3	184.92	0.6498	0.2092	0.0015	-0.2363	0.0236	-2.5088	0.0405	-0.2410	0.0385
3	184.92	0.6890	0.1686	0.0010	-0.2680	0.0248	-3.0970	0.0458	-0.2437	0.0682
3	184.92	0.7495	0.1991	0.0024	-0.3169	0.0273	-4.1507	0.0517	-0.3893	0.0681
3	184.92	0.7998	0.2124	0.0027	-0.3555	0.0378	-5.1274	0.0614	-0.3242	0.0559
3	184.92	0.8577	0.1851	0.0036	-0.4245	0.0409	-6.3616	0.0726	-0.3782	0.1918
3	184.92	0.9729	0.1821	0.0049	-0.5366	0.0504	-9.0842	0.0937	-0.2962	0.1295
4	184.92	0.2001	-0.0242	0.0012	0.0237	0.0014	-0.0629	0.0013	0.1210	0.0228
4	184.92	0.2502	0.0019	0.0018	0.0327	0.0034	-0.1240	0.0055	0.1566	0.0316
4	184.92	0.3001	0.0164	0.0017	0.0792	0.0058	-0.2456	0.0052	0.2558	0.0476
4	184.92	0.3502	0.0148	0.0015	0.1526	0.0081	-0.4346	0.0095	0.1802	0.0526
4	184.92	0.4002	0.0342	0.0012	0.2172	0.0141	-0.6608	0.0156	0.1934	0.0390
4	184.92	0.4500	0.0612	0.0020	0.2792	0.0172	-0.9670	0.0200	0.0591	0.0380
4	184.92	0.5001	0.0757	0.0012	0.3185	0.0204	-1.3278	0.0246	0.2138	0.0475
4	184.92	0.5560	0.0832	0.0024	0.3782	0.0259	-1.9331	0.0304	-0.0567	0.0423
4	184.92	0.6001	0.1017	0.0021	0.4361	0.0290	-2.4683	0.0336	-0.0895	0.0452
4	184.92	0.6501	0.0833	0.0029	0.4532	0.0336	-3.1895	0.0376	0.0406	0.0452
4	184.92	0.6999	0.0865	0.0033	0.4820	0.0382	-4.0382	0.0429	0.1066	0.0448
4	184.92	0.7500	0.0988	0.0047	0.5170	0.0438	-4.9951	0.0496	0.2907	0.0512
4	184.92	0.8002	0.0649	0.0049	0.5454	0.0464	-6.1151	0.0567	0.1949	0.0914
4	184.92	0.8582	0.0581	0.0087	0.6014	0.0544	-7.5190	0.0627	-0.0947	0.0527
4	184.92	0.9101	0.0481	0.0164	0.6163	0.0533	-8.8209	0.0673	-0.0013	0.1196
4	184.92	0.9728	0.0173	0.0083	0.6607	0.0643	-10.3853	0.0814	0.2766	0.0597

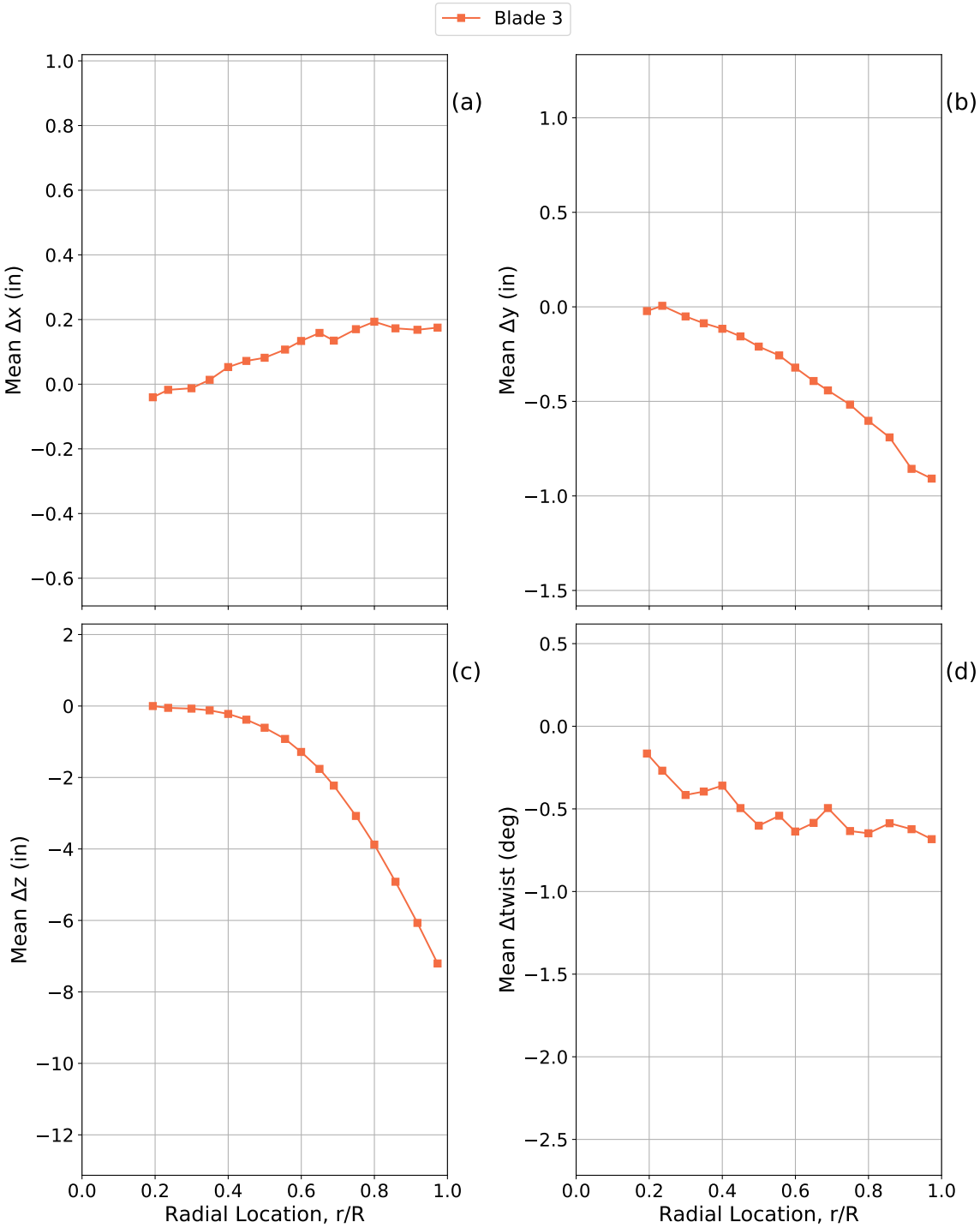


Figure 4.3-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0404	0.0013	-0.0223	0.0008	-0.0008	0.0019	-0.1651	0.0246
3	195.12	0.2357	-0.0174	0.0019	0.0055	0.0019	-0.0516	0.0044	-0.2688	0.0309
3	195.12	0.2995	-0.0125	0.0012	-0.0507	0.0031	-0.0739	0.0056	-0.4158	0.0524
3	195.12	0.3493	0.0136	0.0017	-0.0867	0.0057	-0.1211	0.0121	-0.3951	0.0419
3	195.12	0.4000	0.0530	0.0014	-0.1159	0.0086	-0.2215	0.0167	-0.3593	0.0417
3	195.12	0.4497	0.0720	0.0017	-0.1562	0.0099	-0.3824	0.0198	-0.4952	0.0406
3	195.12	0.4997	0.0818	0.0012	-0.2102	0.0115	-0.6078	0.0223	-0.6015	0.0435
3	195.12	0.5556	0.1071	0.0013	-0.2568	0.0143	-0.9212	0.0270	-0.5415	0.0530
3	195.12	0.5995	0.1337	0.0021	-0.3214	0.0173	-1.2852	0.0343	-0.6369	0.0381
3	195.12	0.6498	0.1586	0.0017	-0.3922	0.0204	-1.7594	0.0383	-0.5848	0.0460
3	195.12	0.6890	0.1348	0.0014	-0.4419	0.0218	-2.2275	0.0412	-0.4950	0.0442
3	195.12	0.7495	0.1702	0.0020	-0.5170	0.0264	-3.0759	0.0477	-0.6341	0.0524
3	195.12	0.7998	0.1933	0.0018	-0.6027	0.0301	-3.8779	0.0533	-0.6477	0.0559
3	195.12	0.8577	0.1728	0.0019	-0.6904	0.0342	-4.9176	0.0599	-0.5869	0.0423
3	195.12	0.9178	0.1683	0.0026	-0.8568	0.0408	-6.0699	0.0666	-0.6229	0.0501
3	195.12	0.9729	0.1750	0.0034	-0.9084	0.0456	-7.2046	0.0776	-0.6832	0.0418

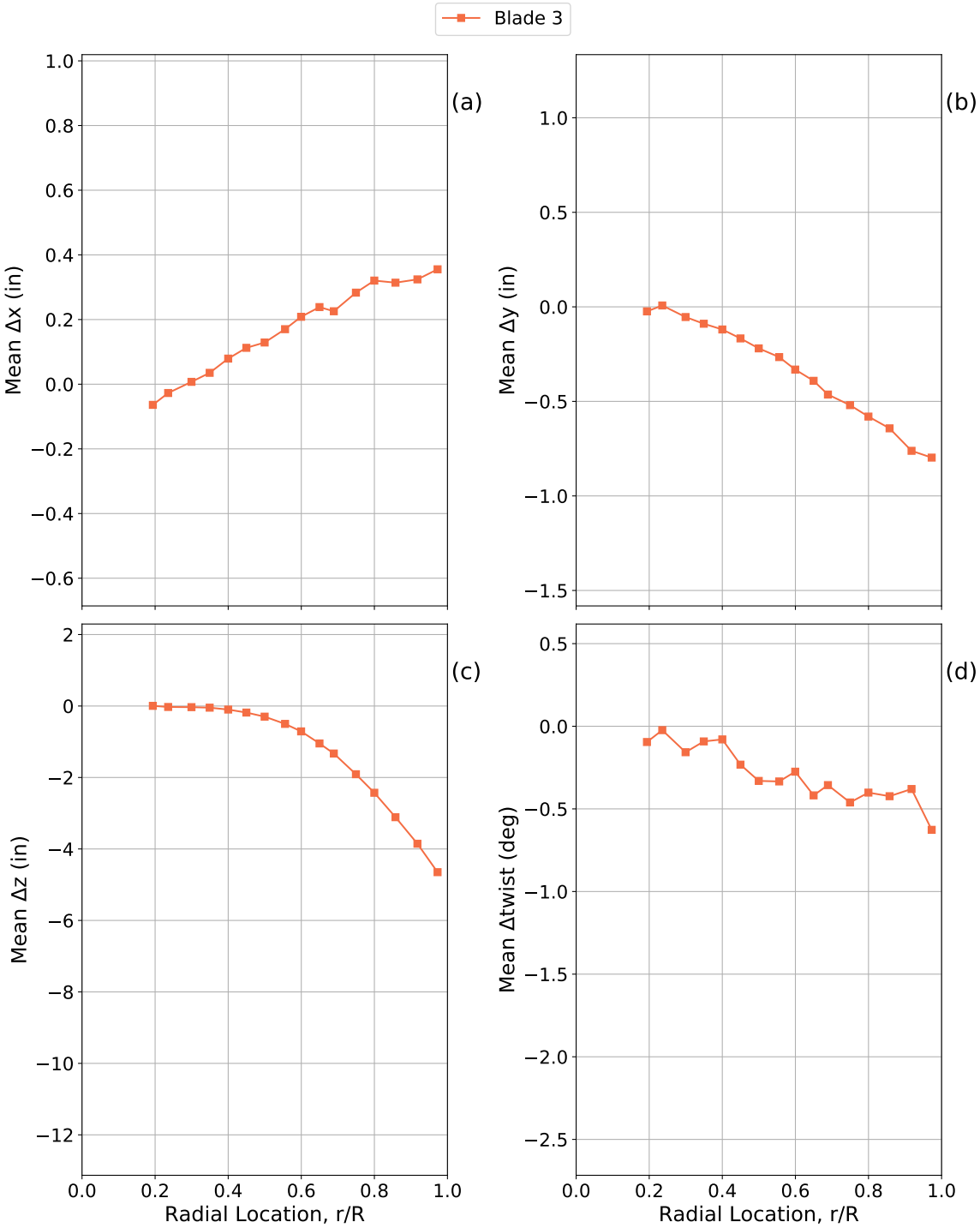


Figure 4.3-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0639	0.0007	-0.0240	0.0004	0.0049	0.0011	-0.0953	0.0086
3	209.88	0.2357	-0.0272	0.0008	0.0073	0.0016	-0.0268	0.0025	-0.0234	0.0155
3	209.88	0.2995	0.0073	0.0006	-0.0539	0.0023	-0.0317	0.0047	-0.1571	0.0187
3	209.88	0.3493	0.0352	0.0009	-0.0893	0.0042	-0.0462	0.0084	-0.0917	0.0254
3	209.88	0.4000	0.0792	0.0010	-0.1197	0.0068	-0.0992	0.0128	-0.0796	0.0226
3	209.88	0.4497	0.1125	0.0007	-0.1670	0.0090	-0.1831	0.0185	-0.2323	0.0259
3	209.88	0.4997	0.1290	0.0009	-0.2196	0.0093	-0.2979	0.0200	-0.3307	0.0238
3	209.88	0.5556	0.1702	0.0009	-0.2657	0.0124	-0.5001	0.0271	-0.3339	0.0257
3	209.88	0.5995	0.2085	0.0013	-0.3318	0.0147	-0.7101	0.0322	-0.2748	0.0192
3	209.88	0.6498	0.2385	0.0016	-0.3912	0.0169	-1.0476	0.0361	-0.4182	0.0225
3	209.88	0.6890	0.2256	0.0016	-0.4638	0.0183	-1.3294	0.0398	-0.3560	0.0289
3	209.88	0.7495	0.2832	0.0009	-0.5199	0.0224	-1.9092	0.0446	-0.4611	0.0178
3	209.88	0.7998	0.3205	0.0015	-0.5803	0.0252	-2.4276	0.0494	-0.4014	0.0258
3	209.88	0.8577	0.3140	0.0010	-0.6426	0.0284	-3.1108	0.0538	-0.4233	0.0384
3	209.88	0.9178	0.3242	0.0027	-0.7614	0.0296	-3.8536	0.0619	-0.3797	0.0685
3	209.88	0.9729	0.3554	0.0025	-0.7973	0.0348	-4.6498	0.0636	-0.6267	0.0458

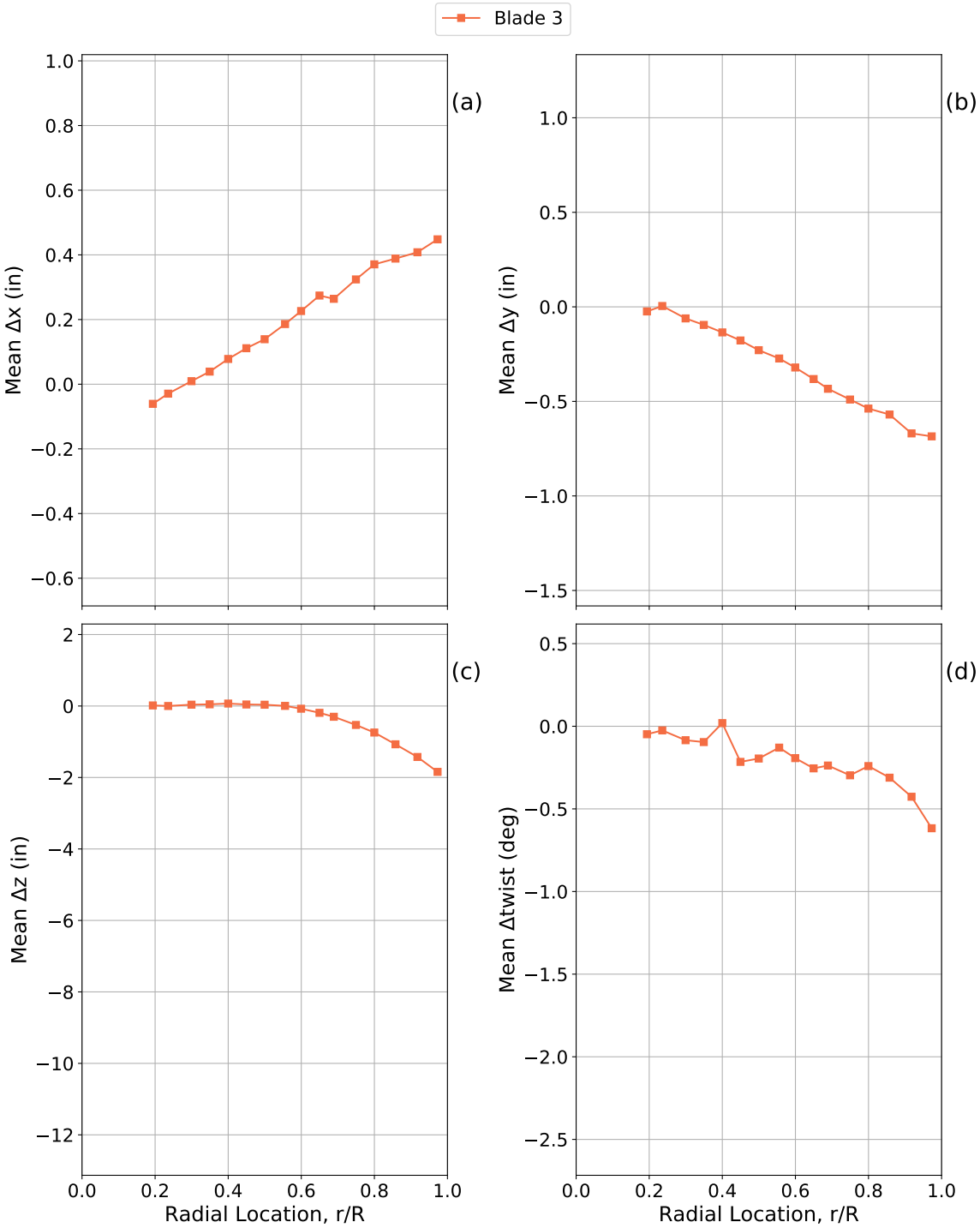


Figure 4.3-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0607	0.0011	-0.0243	0.0006	0.0163	0.0018	-0.0483	0.0084
3	225	0.2357	-0.0292	0.0008	0.0045	0.0013	0.0007	0.0041	-0.0251	0.0117
3	225	0.2995	0.0094	0.0007	-0.0611	0.0033	0.0376	0.0105	-0.0844	0.0147
3	225	0.3493	0.0390	0.0007	-0.0955	0.0047	0.0476	0.0137	-0.0957	0.0222
3	225	0.4000	0.0781	0.0017	-0.1352	0.0081	0.0688	0.0248	0.0191	0.0104
3	225	0.4497	0.1113	0.0011	-0.1779	0.0084	0.0430	0.0282	-0.2155	0.0123
3	225	0.4997	0.1391	0.0012	-0.2292	0.0113	0.0362	0.0347	-0.1952	0.0153
3	225	0.5556	0.1861	0.0014	-0.2732	0.0133	0.0038	0.0436	-0.1292	0.0361
3	225	0.5995	0.2263	0.0015	-0.3208	0.0160	-0.0756	0.0476	-0.1927	0.0150
3	225	0.6498	0.2742	0.0015	-0.3818	0.0184	-0.1905	0.0540	-0.2547	0.0152
3	225	0.6890	0.2641	0.0016	-0.4333	0.0204	-0.3011	0.0582	-0.2376	0.0188
3	225	0.7495	0.3241	0.0018	-0.4901	0.0235	-0.5300	0.0632	-0.2968	0.0232
3	225	0.7998	0.3707	0.0017	-0.5380	0.0266	-0.7423	0.0689	-0.2409	0.0204
3	225	0.8577	0.3885	0.0018	-0.5695	0.0297	-1.0712	0.0760	-0.3111	0.0162
3	225	0.9178	0.4081	0.0019	-0.6693	0.0333	-1.4263	0.0851	-0.4265	0.0174
3	225	0.9729	0.4481	0.0026	-0.6850	0.0366	-1.8429	0.0921	-0.6171	0.0274

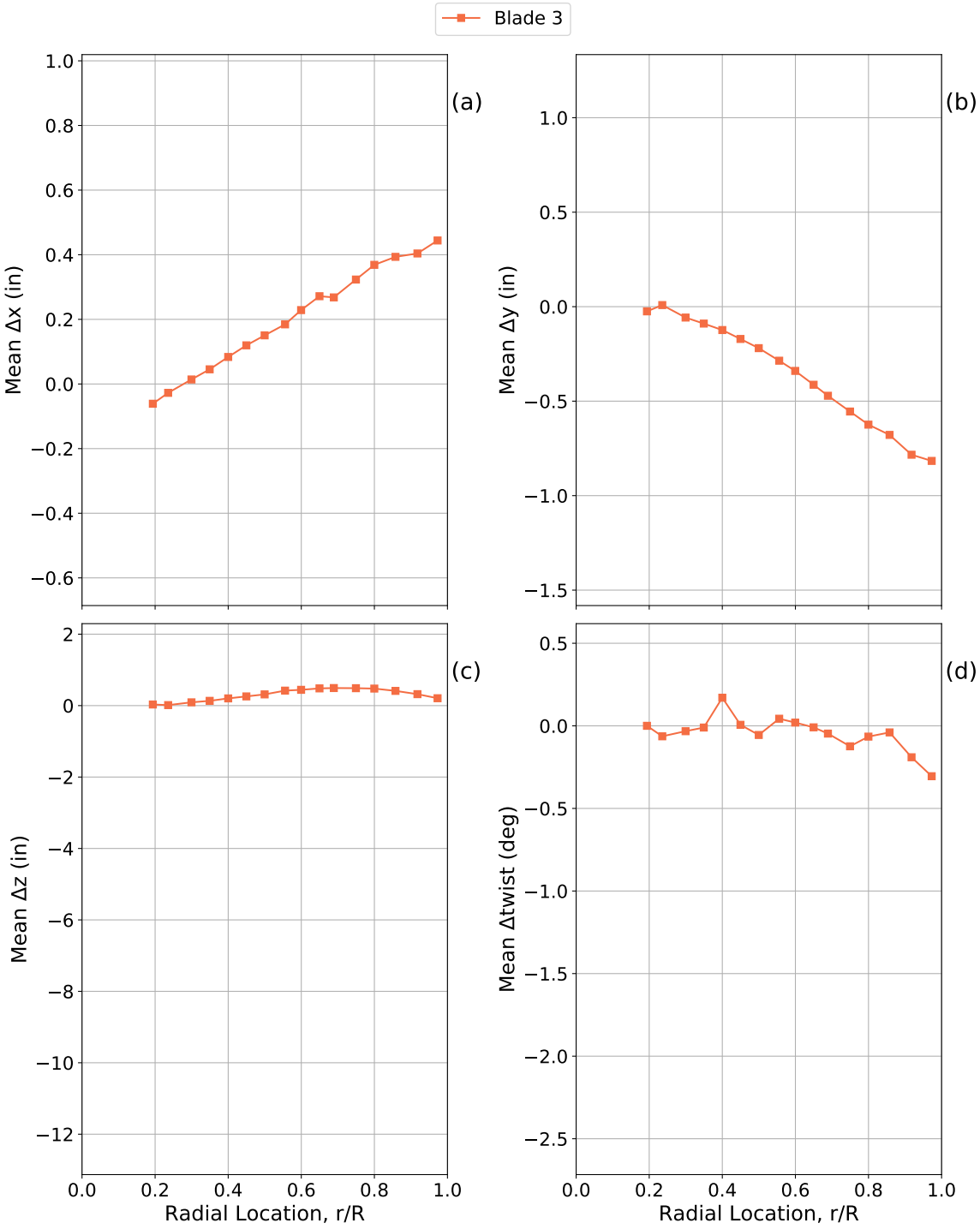


Figure 4.3-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0611	0.0015	-0.0248	0.0007	0.0311	0.0020	0.0002	0.0143
3	240.12	0.2357	-0.0274	0.0006	0.0085	0.0013	0.0140	0.0019	-0.0634	0.0343
3	240.12	0.2995	0.0140	0.0010	-0.0576	0.0033	0.0918	0.0064	-0.0324	0.0404
3	240.12	0.3493	0.0454	0.0006	-0.0895	0.0055	0.1333	0.0099	-0.0103	0.0342
3	240.12	0.4000	0.0836	0.0027	-0.1237	0.0087	0.2019	0.0147	0.1704	0.0417
3	240.12	0.4497	0.1196	0.0009	-0.1709	0.0096	0.2576	0.0183	0.0062	0.0291
3	240.12	0.4997	0.1505	0.0010	-0.2195	0.0123	0.3138	0.0215	-0.0552	0.0466
3	240.12	0.5556	0.1845	0.0028	-0.2859	0.0170	0.4192	0.0303	0.0431	0.0384
3	240.12	0.5995	0.2287	0.0022	-0.3399	0.0191	0.4420	0.0340	0.0198	0.0455
3	240.12	0.6498	0.2716	0.0019	-0.4131	0.0220	0.4819	0.0360	-0.0091	0.0439
3	240.12	0.6890	0.2680	0.0024	-0.4714	0.0253	0.4915	0.0388	-0.0469	0.0472
3	240.12	0.7495	0.3232	0.0019	-0.5549	0.0296	0.4876	0.0429	-0.1239	0.0471
3	240.12	0.7998	0.3687	0.0018	-0.6243	0.0335	0.4765	0.0475	-0.0652	0.0478
3	240.12	0.8577	0.3934	0.0022	-0.6786	0.0394	0.4122	0.0540	-0.0398	0.0402
3	240.12	0.9178	0.4039	0.0026	-0.7835	0.0443	0.3205	0.0584	-0.1902	0.0428
3	240.12	0.9729	0.4441	0.0039	-0.8162	0.0493	0.2063	0.0655	-0.3050	0.0457

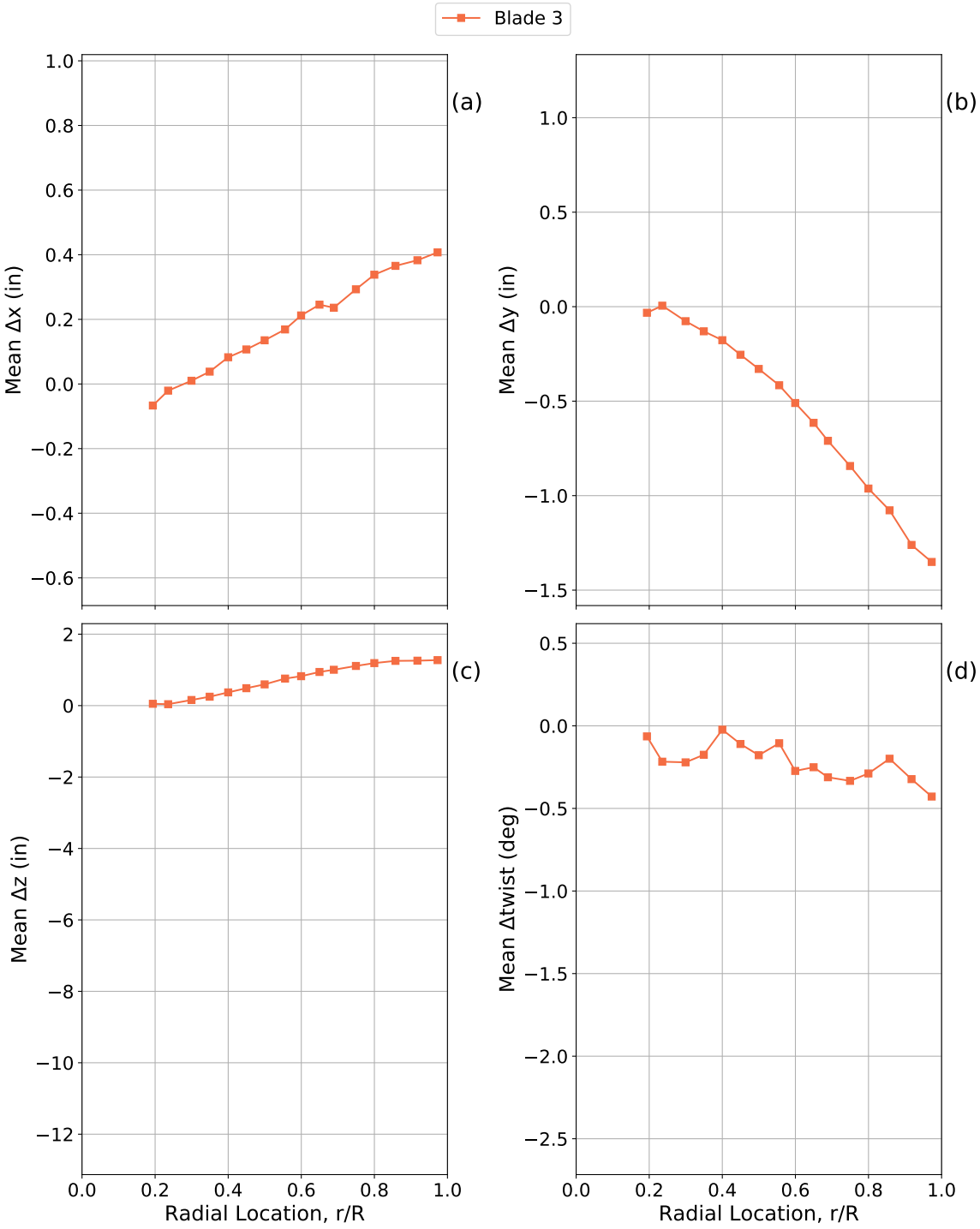


Figure 4.3-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0666	0.0015	-0.0322	0.0007	0.0509	0.0016	-0.0639	0.0120
3	254.88	0.2357	-0.0206	0.0008	0.0053	0.0008	0.0392	0.0020	-0.2170	0.0331
3	254.88	0.2995	0.0100	0.0006	-0.0767	0.0017	0.1571	0.0043	-0.2210	0.0335
3	254.88	0.3493	0.0382	0.0007	-0.1304	0.0028	0.2490	0.0068	-0.1752	0.0270
3	254.88	0.4000	0.0827	0.0013	-0.1774	0.0040	0.3701	0.0102	-0.0230	0.0298
3	254.88	0.4497	0.1069	0.0010	-0.2544	0.0056	0.4873	0.0164	-0.1099	0.0364
3	254.88	0.4997	0.1352	0.0010	-0.3295	0.0072	0.5944	0.0190	-0.1778	0.0330
3	254.88	0.5556	0.1688	0.0015	-0.4158	0.0087	0.7565	0.0257	-0.1053	0.0346
3	254.88	0.5995	0.2121	0.0011	-0.5098	0.0100	0.8233	0.0324	-0.2730	0.0368
3	254.88	0.6498	0.2455	0.0015	-0.6147	0.0119	0.9417	0.0393	-0.2506	0.0295
3	254.88	0.6890	0.2360	0.0013	-0.7098	0.0136	1.0036	0.0439	-0.3113	0.0326
3	254.88	0.7495	0.2930	0.0014	-0.8431	0.0157	1.1103	0.0510	-0.3332	0.0299
3	254.88	0.7998	0.3382	0.0010	-0.9625	0.0174	1.1901	0.0568	-0.2884	0.0300
3	254.88	0.8577	0.3655	0.0012	-1.0777	0.0198	1.2526	0.0630	-0.1991	0.0311
3	254.88	0.9178	0.3829	0.0015	-1.2609	0.0226	1.2579	0.0725	-0.3226	0.0343
3	254.88	0.9729	0.4073	0.0019	-1.3509	0.0249	1.2733	0.0799	-0.4281	0.0334

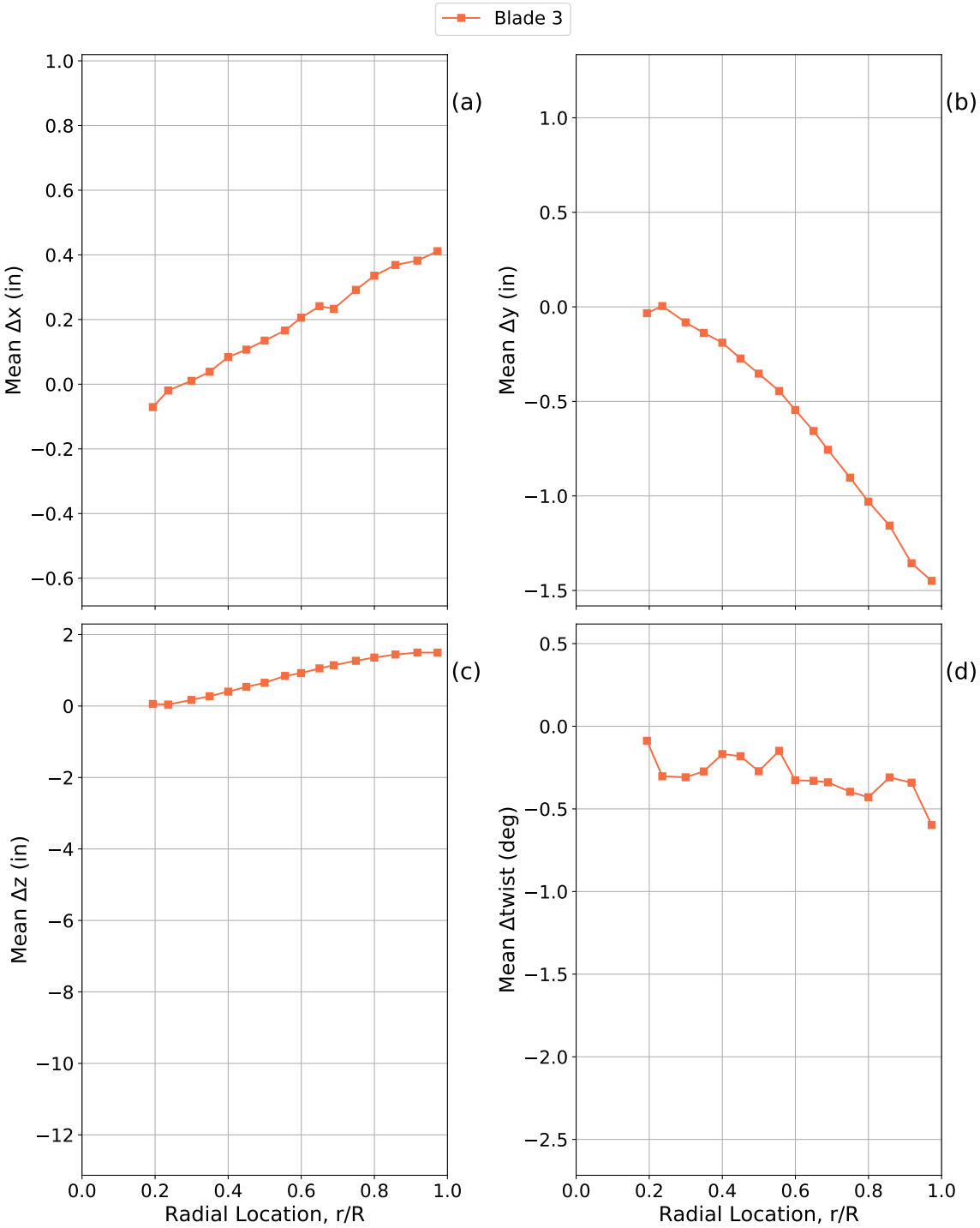


Figure 4.3-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0708	0.0010	-0.0334	0.0004	0.0572	0.0019	-0.0877	0.0229
3	260.16	0.2357	-0.0194	0.0008	0.0042	0.0006	0.0418	0.0027	-0.3027	0.0400
3	260.16	0.2995	0.0105	0.0007	-0.0819	0.0021	0.1706	0.0086	-0.3086	0.0561
3	260.16	0.3493	0.0385	0.0008	-0.1376	0.0027	0.2746	0.0103	-0.2733	0.0402
3	260.16	0.4000	0.0840	0.0009	-0.1896	0.0048	0.4027	0.0186	-0.1683	0.0561
3	260.16	0.4497	0.1070	0.0012	-0.2730	0.0070	0.5355	0.0246	-0.1811	0.0456
3	260.16	0.4997	0.1350	0.0014	-0.3531	0.0090	0.6507	0.0295	-0.2720	0.0606
3	260.16	0.5556	0.1661	0.0019	-0.4447	0.0117	0.8419	0.0377	-0.1484	0.0503
3	260.16	0.5995	0.2057	0.0019	-0.5455	0.0145	0.9213	0.0416	-0.3268	0.0408
3	260.16	0.6498	0.2414	0.0013	-0.6566	0.0170	1.0533	0.0480	-0.3302	0.0385
3	260.16	0.6890	0.2331	0.0017	-0.7560	0.0201	1.1418	0.0526	-0.3393	0.0433
3	260.16	0.7495	0.2918	0.0020	-0.9031	0.0241	1.2656	0.0597	-0.3963	0.0447
3	260.16	0.7998	0.3355	0.0020	-1.0303	0.0280	1.3560	0.0643	-0.4293	0.0426
3	260.16	0.8577	0.3687	0.0024	-1.1569	0.0330	1.4406	0.0724	-0.3094	0.0451
3	260.16	0.9178	0.3823	0.0025	-1.3561	0.0370	1.4958	0.0795	-0.3413	0.0430
3	260.16	0.9729	0.4114	0.0037	-1.4492	0.0417	1.4942	0.0881	-0.5978	0.0413

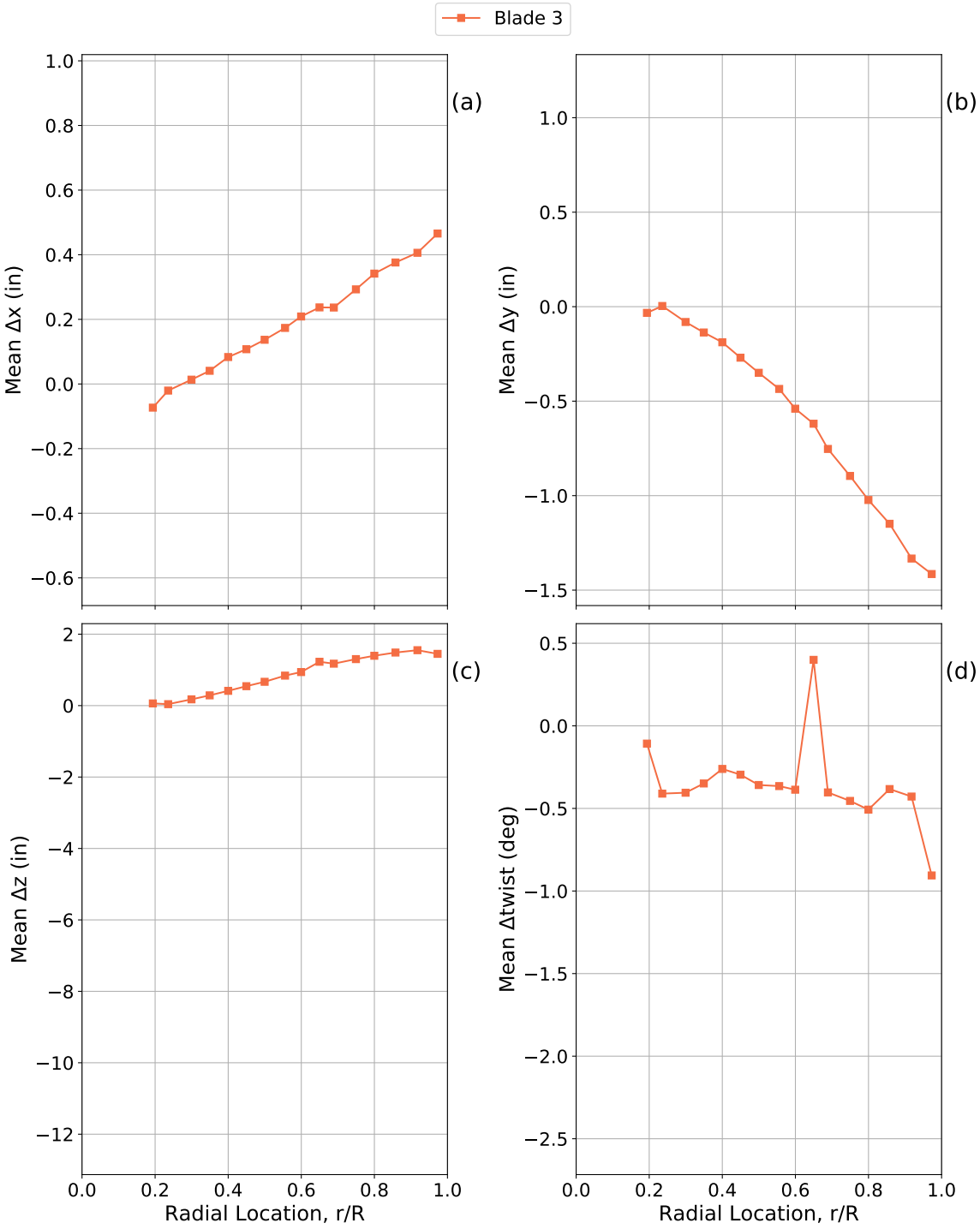


Figure 4.3-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0732	0.0034	-0.0328	0.0010	0.0610	0.0047	-0.1076	0.0213
3	265.08	0.2357	-0.0204	0.0014	0.0036	0.0013	0.0405	0.0031	-0.4104	0.0651
3	265.08	0.2995	0.0134	0.0011	-0.0811	0.0032	0.1749	0.0115	-0.4049	0.0654
3	265.08	0.3493	0.0408	0.0012	-0.1366	0.0055	0.2866	0.0197	-0.3489	0.0625
3	265.08	0.4000	0.0834	0.0017	-0.1884	0.0081	0.4134	0.0271	-0.2609	0.0745
3	265.08	0.4497	0.1076	0.0011	-0.2699	0.0107	0.5438	0.0365	-0.2957	0.0686
3	265.08	0.4997	0.1368	0.0011	-0.3500	0.0138	0.6668	0.0448	-0.3583	0.0678
3	265.08	0.5556	0.1735	0.0008	-0.4353	0.0170	0.8393	0.0544	-0.3648	0.0699
3	265.08	0.5995	0.2089	0.0014	-0.5399	0.0202	0.9393	0.0636	-0.3867	0.0733
3	265.08	0.6498	0.2370	0.0019	-0.6194	0.0237	1.2274	0.0731	0.3995	0.0808
3	265.08	0.6890	0.2366	0.0016	-0.7529	0.0263	1.1739	0.0825	-0.4031	0.0687
3	265.08	0.7495	0.2928	0.0015	-0.8957	0.0306	1.3019	0.0943	-0.4545	0.0771
3	265.08	0.7998	0.3416	0.0018	-1.0231	0.0348	1.3957	0.1051	-0.5073	0.0653
3	265.08	0.8577	0.3760	0.0016	-1.1489	0.0399	1.4856	0.1145	-0.3828	0.0672
3	265.08	0.9178	0.4060	0.0019	-1.3328	0.0448	1.5517	0.1243	-0.4281	0.0708
3	265.08	0.9729	0.4656	0.0033	-1.4149	0.0505	1.4488	0.1335	-0.9057	0.0705

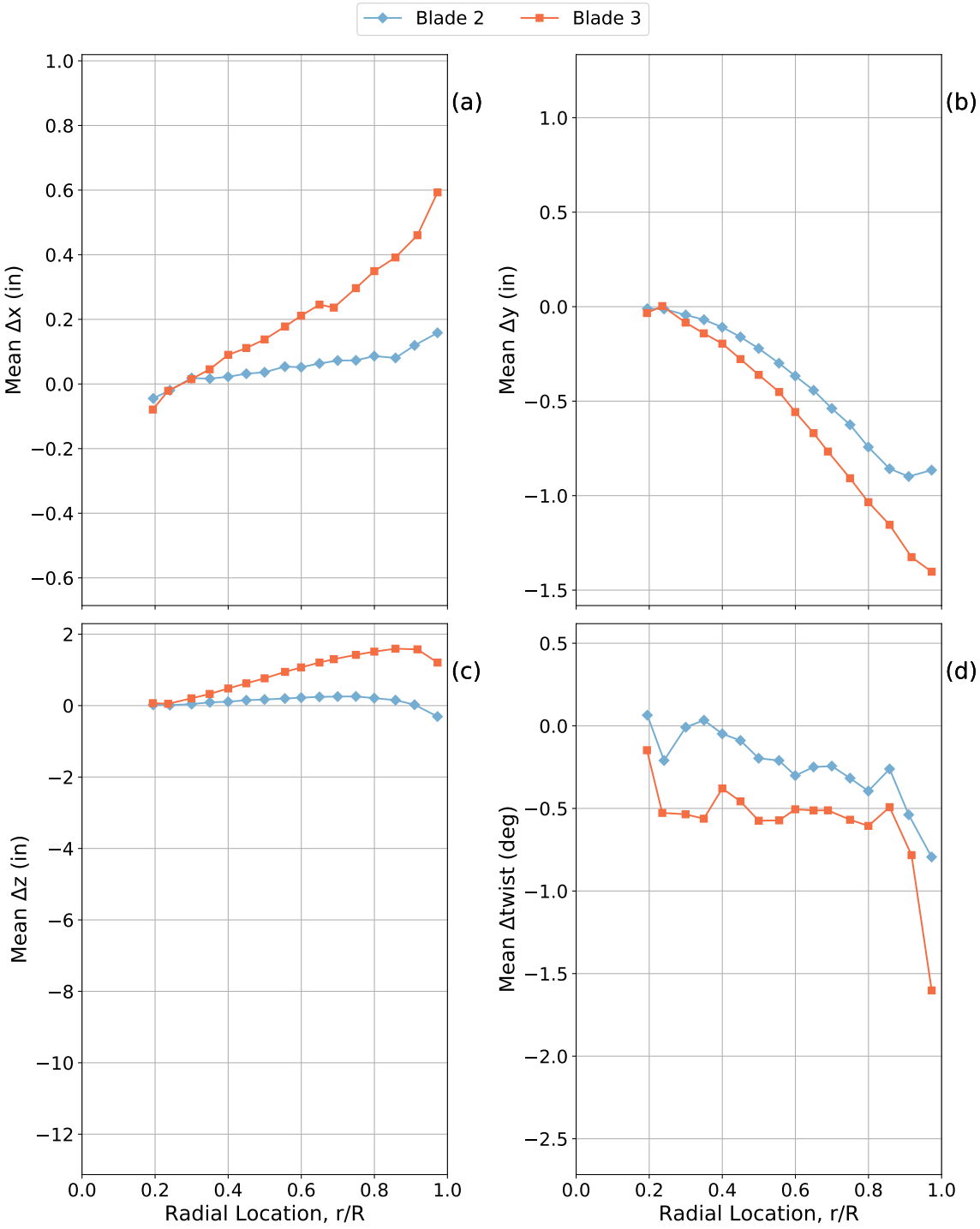


Figure 4.3-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0447	0.0023	-0.0106	0.0012	0.0204	0.0045	0.0645	0.0297
2	270.35	0.2405	-0.0195	0.0015	-0.0124	0.0013	0.0120	0.0053	-0.2099	0.0668
2	270.35	0.2999	0.0185	0.0011	-0.0439	0.0042	0.0417	0.0143	-0.0085	0.0789
2	270.35	0.3498	0.0164	0.0011	-0.0689	0.0069	0.0915	0.0238	0.0339	0.0637
2	270.35	0.3998	0.0224	0.0010	-0.1088	0.0103	0.1086	0.0346	-0.0483	0.0662
2	270.35	0.4496	0.0318	0.0017	-0.1602	0.0132	0.1506	0.0430	-0.0887	0.0700
2	270.35	0.4995	0.0363	0.0017	-0.2212	0.0152	0.1711	0.0526	-0.1964	0.0671
2	270.35	0.5551	0.0537	0.0019	-0.2992	0.0182	0.1979	0.0628	-0.2098	0.0664
2	270.35	0.5996	0.0519	0.0018	-0.3669	0.0213	0.2224	0.0728	-0.3012	0.0681
2	270.35	0.6497	0.0633	0.0020	-0.4425	0.0243	0.2439	0.0838	-0.2495	0.0654
2	270.35	0.6996	0.0726	0.0023	-0.5387	0.0279	0.2529	0.0957	-0.2437	0.0577
2	270.35	0.7495	0.0731	0.0021	-0.6248	0.0310	0.2566	0.1078	-0.3168	0.0573
2	270.35	0.7996	0.0863	0.0025	-0.7430	0.0347	0.2092	0.1200	-0.3948	0.0625
2	270.35	0.8578	0.0806	0.0026	-0.8577	0.0388	0.1535	0.1329	-0.2609	0.0666
2	270.35	0.9100	0.1194	0.0024	-0.8986	0.0425	0.0242	0.1441	-0.5383	0.0655
2	270.35	0.9727	0.1584	0.0038	-0.8651	0.0481	-0.3065	0.1598	-0.7940	0.0597
3	270	0.1938	-0.0790	0.0037	-0.0336	0.0008	0.0679	0.0045	-0.1476	0.0367
3	270	0.2357	-0.0210	0.0021	0.0030	0.0011	0.0506	0.0063	-0.5271	0.0835
3	270	0.2995	0.0151	0.0017	-0.0841	0.0026	0.2037	0.0148	-0.5355	0.1047
3	270	0.3493	0.0454	0.0011	-0.1411	0.0047	0.3258	0.0260	-0.5623	0.1012
3	270	0.4000	0.0901	0.0018	-0.1956	0.0070	0.4793	0.0381	-0.3789	0.0977
3	270	0.4497	0.1113	0.0017	-0.2774	0.0088	0.6240	0.0459	-0.4575	0.0959
3	270	0.4997	0.1379	0.0014	-0.3610	0.0116	0.7640	0.0591	-0.5744	0.0859
3	270	0.5556	0.1779	0.0013	-0.4515	0.0135	0.9443	0.0676	-0.5722	0.0958
3	270	0.5995	0.2113	0.0017	-0.5575	0.0154	1.0691	0.0757	-0.5054	0.0962
3	270	0.6498	0.2456	0.0017	-0.6694	0.0179	1.2062	0.0848	-0.5120	0.0954
3	270	0.6890	0.2364	0.0013	-0.7665	0.0198	1.2991	0.0919	-0.5116	0.0989
3	270	0.7495	0.2966	0.0016	-0.9082	0.0230	1.4218	0.1058	-0.5685	0.0914
3	270	0.7998	0.3493	0.0017	-1.0348	0.0254	1.5113	0.1156	-0.6058	0.0993
3	270	0.8577	0.3916	0.0014	-1.1543	0.0286	1.5934	0.1288	-0.4925	0.1040
3	270	0.9178	0.4604	0.0020	-1.3256	0.0323	1.5751	0.1434	-0.7828	0.0971
3	270	0.9729	0.5931	0.0032	-1.4026	0.0360	1.2051	0.1513	-1.6019	0.1118

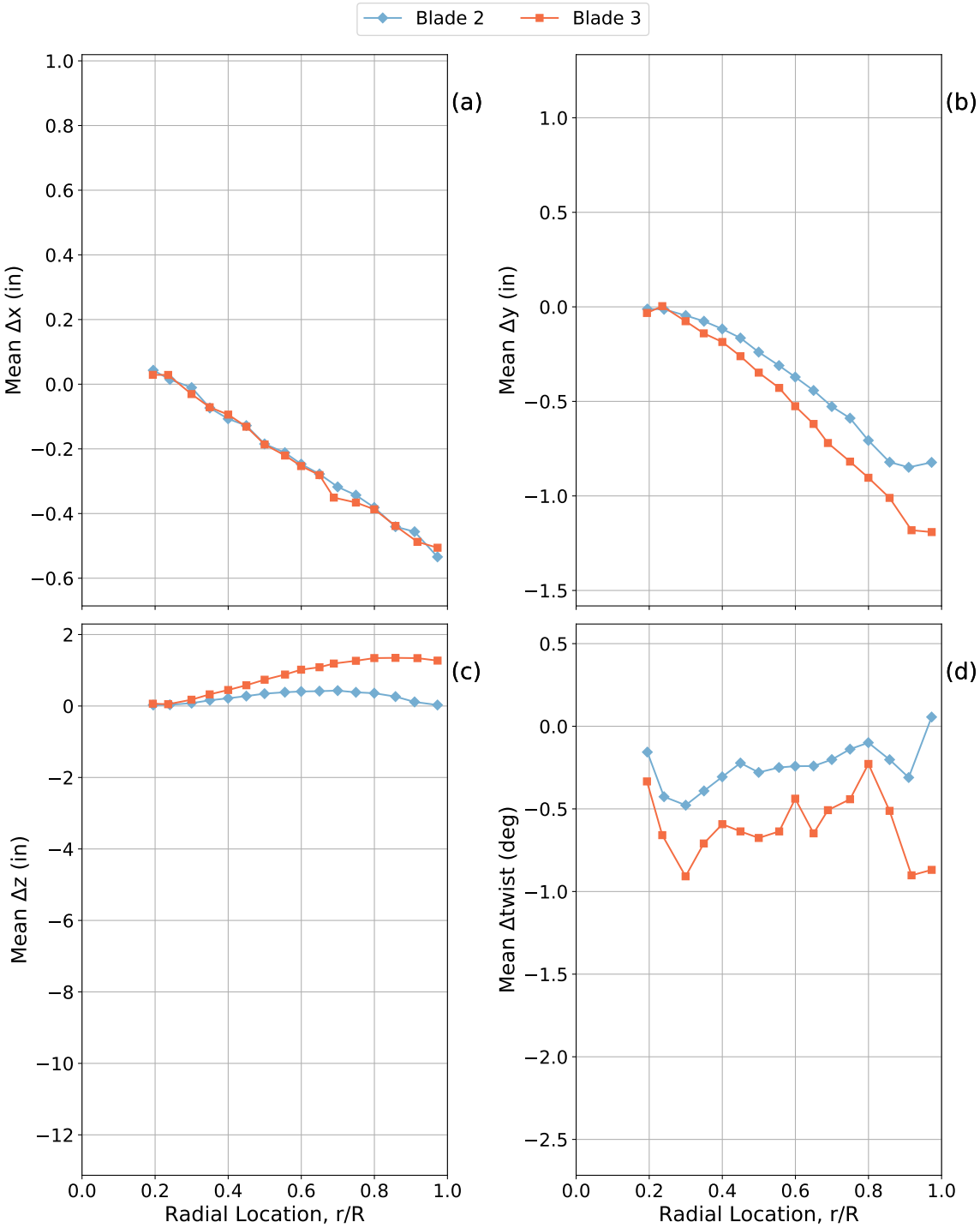


Figure 4.3-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0431	0.0016	-0.0115	0.0020	0.0276	0.0056	-0.1564	0.0451
2	274.92	0.2405	0.0145	0.0009	-0.0128	0.0015	0.0350	0.0052	-0.4264	0.0579
2	274.92	0.2999	-0.0104	0.0016	-0.0458	0.0059	0.0800	0.0164	-0.4777	0.0859
2	274.92	0.3498	-0.0735	0.0040	-0.0761	0.0111	0.1599	0.0247	-0.3913	0.0723
2	274.92	0.3998	-0.1071	0.0034	-0.1168	0.0154	0.2160	0.0366	-0.3061	0.0565
2	274.92	0.4496	-0.1280	0.0018	-0.1648	0.0170	0.2781	0.0419	-0.2223	0.0495
2	274.92	0.4995	-0.1847	0.0026	-0.2393	0.0211	0.3453	0.0533	-0.2793	0.0781
2	274.92	0.5551	-0.2117	0.0017	-0.3106	0.0219	0.3857	0.0509	-0.2495	0.0711
2	274.92	0.5996	-0.2471	0.0013	-0.3713	0.0249	0.4065	0.0596	-0.2416	0.0483
2	274.92	0.6497	-0.2777	0.0023	-0.4423	0.0300	0.4160	0.0710	-0.2408	0.0801
2	274.92	0.6996	-0.3176	0.0028	-0.5274	0.0342	0.4307	0.0794	-0.2016	0.0791
2	274.92	0.7495	-0.3432	0.0036	-0.5889	0.0369	0.3834	0.0864	-0.1386	0.0980
2	274.92	0.7996	-0.3813	0.0029	-0.7065	0.0391	0.3585	0.0946	-0.0993	0.0813
2	274.92	0.8578	-0.4407	0.0038	-0.8213	0.0435	0.2637	0.1040	-0.2020	0.0717
2	274.92	0.9100	-0.4562	0.0068	-0.8486	0.0467	0.1141	0.1158	-0.3102	0.0918
2	274.92	0.9727	-0.5341	0.0049	-0.8227	0.0514	0.0287	0.1206	0.0558	0.1144
3	274.92	0.1938	0.0290	0.0026	-0.0324	0.0011	0.0647	0.0031	-0.3338	0.0207
3	274.92	0.2357	0.0287	0.0013	0.0038	0.0032	0.0507	0.0036	-0.6588	0.0436
3	274.92	0.2995	-0.0305	0.0009	-0.0760	0.0049	0.1767	0.0058	-0.9081	0.0555
3	274.92	0.3493	-0.0712	0.0017	-0.1402	0.0101	0.3262	0.0135	-0.7093	0.0452
3	274.92	0.4000	-0.0940	0.0021	-0.1858	0.0149	0.4485	0.0161	-0.5925	0.0702
3	274.92	0.4497	-0.1314	0.0024	-0.2611	0.0168	0.5812	0.0163	-0.6362	0.0752
3	274.92	0.4997	-0.1863	0.0023	-0.3480	0.0204	0.7360	0.0209	-0.6759	0.0846
3	274.92	0.5556	-0.2206	0.0028	-0.4287	0.0231	0.8809	0.0249	-0.6363	0.0715
3	274.92	0.5995	-0.2532	0.0026	-0.5255	0.0259	1.0167	0.0274	-0.4382	0.0734
3	274.92	0.6498	-0.2811	0.0023	-0.6193	0.0308	1.0853	0.0306	-0.6480	0.0944
3	274.92	0.6890	-0.3507	0.0020	-0.7202	0.0325	1.1886	0.0346	-0.5077	0.0518
3	274.92	0.7495	-0.3660	0.0038	-0.8185	0.0362	1.2654	0.0462	-0.4415	0.0706
3	274.92	0.7998	-0.3869	0.0027	-0.9039	0.0397	1.3415	0.0493	-0.2280	0.0422
3	274.92	0.8577	-0.4383	0.0037	-1.0104	0.0433	1.3471	0.0571	-0.5118	0.0896
3	274.92	0.9178	-0.4876	0.0120	-1.1814	0.0486	1.3399	0.0651	-0.9020	0.1800
3	274.92	0.9729	-0.5057	0.0100	-1.1912	0.0551	1.2705	0.0540	-0.8689	0.2465

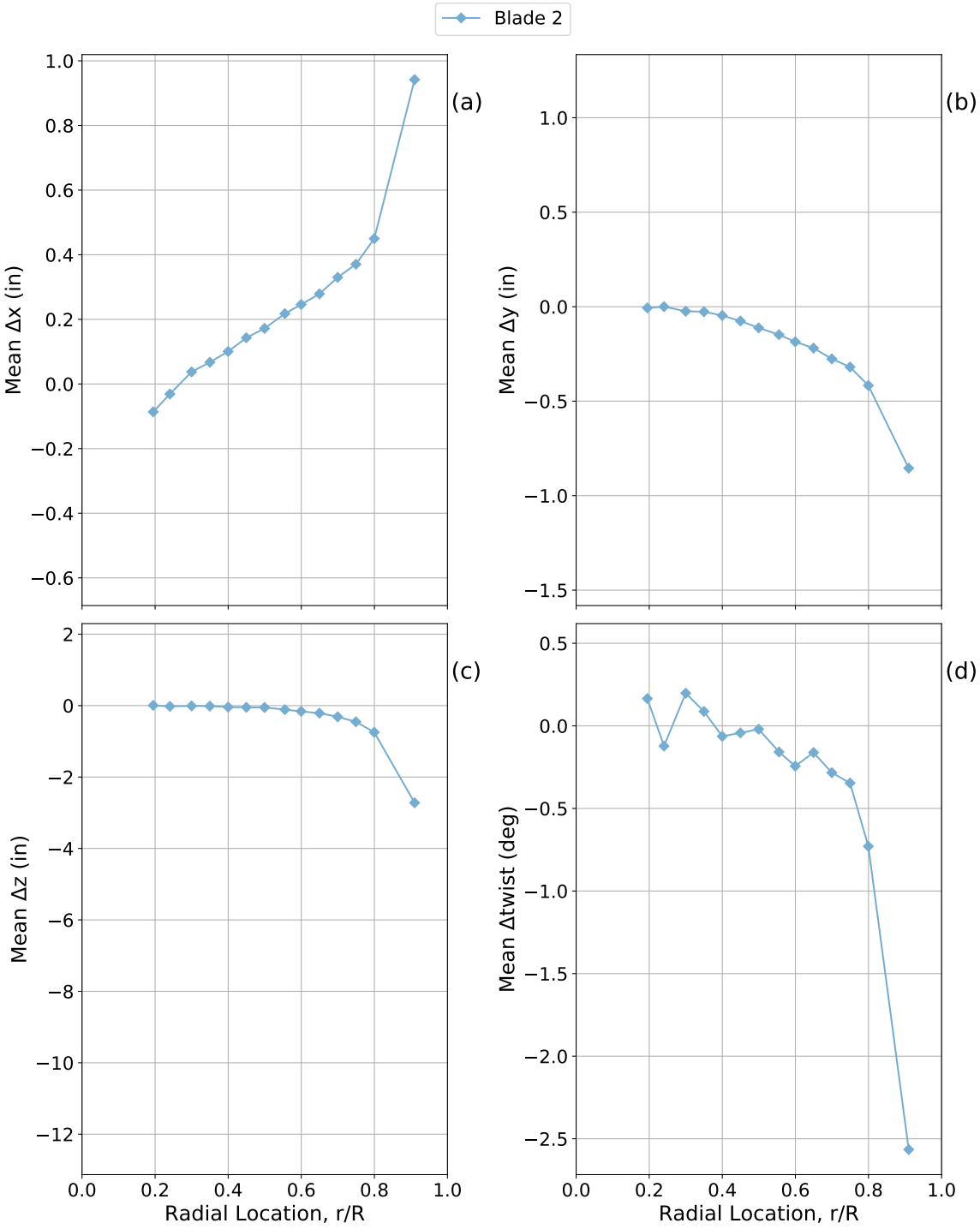


Figure 4.3-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	-0.0862	0.0088	-0.0066	0.0011	0.0072	0.0075	0.1650	0.0987
2	285.12	0.2405	-0.0310	0.0071	-0.0001	0.0028	-0.0214	0.0173	-0.1225	0.1129
2	285.12	0.2999	0.0375	0.0069	-0.0243	0.0038	-0.0084	0.0154	0.1977	0.1951
2	285.12	0.3498	0.0672	0.0040	-0.0267	0.0071	-0.0148	0.0361	0.0872	0.1611
2	285.12	0.3998	0.1006	0.0052	-0.0468	0.0107	-0.0418	0.0471	-0.0633	0.1603
2	285.12	0.4496	0.1430	0.0054	-0.0758	0.0135	-0.0485	0.0607	-0.0428	0.1565
2	285.12	0.4995	0.1719	0.0053	-0.1122	0.0171	-0.0525	0.0741	-0.0202	0.1582
2	285.12	0.5551	0.2178	0.0047	-0.1484	0.0205	-0.1119	0.0902	-0.1581	0.1439
2	285.12	0.5996	0.2460	0.0042	-0.1858	0.0234	-0.1622	0.0995	-0.2438	0.1689
2	285.12	0.6497	0.2788	0.0053	-0.2194	0.0273	-0.2114	0.1130	-0.1617	0.1607
2	285.12	0.6996	0.3300	0.0045	-0.2763	0.0316	-0.3141	0.1243	-0.2833	0.1644
2	285.12	0.7495	0.3706	0.0051	-0.3193	0.0357	-0.4533	0.1329	-0.3464	0.1930
2	285.12	0.7996	0.4498	0.0051	-0.4172	0.0402	-0.7462	0.1502	-0.7296	0.1608
2	285.12	0.9100	0.9418	0.0054	-0.8547	0.0562	-2.7215	0.1817	-2.5655	0.2267

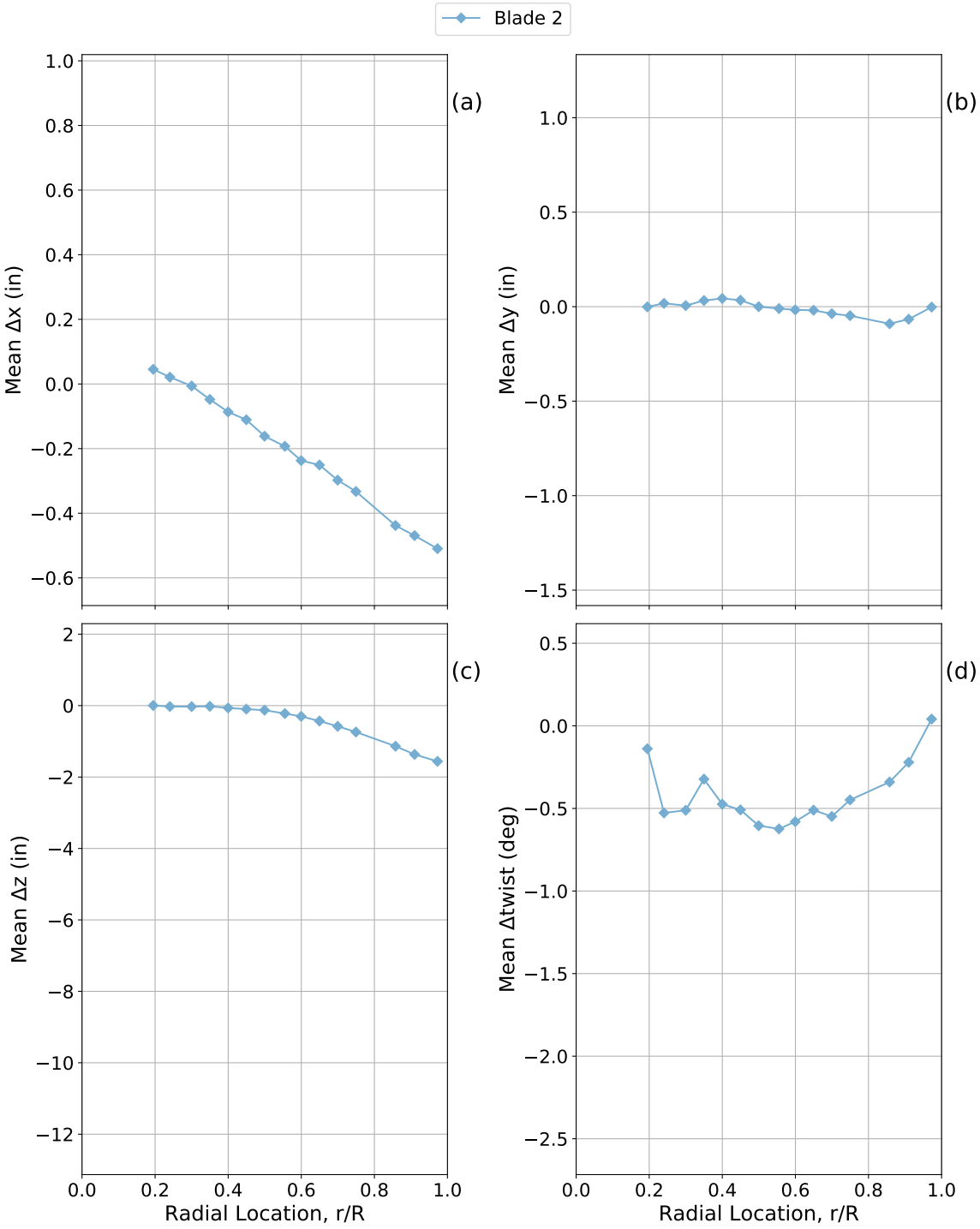


Figure 4.3-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0454	0.0010	-0.0011	0.0008	0.0035	0.0028	-0.1385	0.0173
2	299.88	0.2405	0.0211	0.0015	0.0177	0.0036	-0.0261	0.0127	-0.5271	0.0208
2	299.88	0.2999	-0.0062	0.0008	0.0057	0.0055	-0.0280	0.0194	-0.5113	0.0281
2	299.88	0.3498	-0.0478	0.0016	0.0325	0.0089	-0.0195	0.0273	-0.3227	0.0590
2	299.88	0.3998	-0.0865	0.0028	0.0435	0.0155	-0.0659	0.0501	-0.4741	0.0647
2	299.88	0.4496	-0.1107	0.0027	0.0342	0.0188	-0.0981	0.0515	-0.5088	0.0350
2	299.88	0.4995	-0.1616	0.0031	-0.0001	0.0167	-0.1278	0.0560	-0.6045	0.0339
2	299.88	0.5551	-0.1928	0.0021	-0.0100	0.0217	-0.2222	0.0666	-0.6238	0.0343
2	299.88	0.5996	-0.2371	0.0019	-0.0170	0.0237	-0.3021	0.0758	-0.5801	0.0249
2	299.88	0.6497	-0.2507	0.0015	-0.0191	0.0283	-0.4316	0.0828	-0.5102	0.0430
2	299.88	0.6996	-0.2976	0.0017	-0.0372	0.0305	-0.5805	0.0914	-0.5486	0.0235
2	299.88	0.7495	-0.3326	0.0019	-0.0477	0.0335	-0.7394	0.1000	-0.4485	0.0255
2	299.88	0.8578	-0.4380	0.0019	-0.0905	0.0402	-1.1380	0.1182	-0.3400	0.0266
2	299.88	0.9100	-0.4693	0.0017	-0.0664	0.0432	-1.3666	0.1263	-0.2207	0.0282
2	299.88	0.9727	-0.5096	0.0029	-0.0022	0.0474	-1.5613	0.1362	0.0410	0.0253

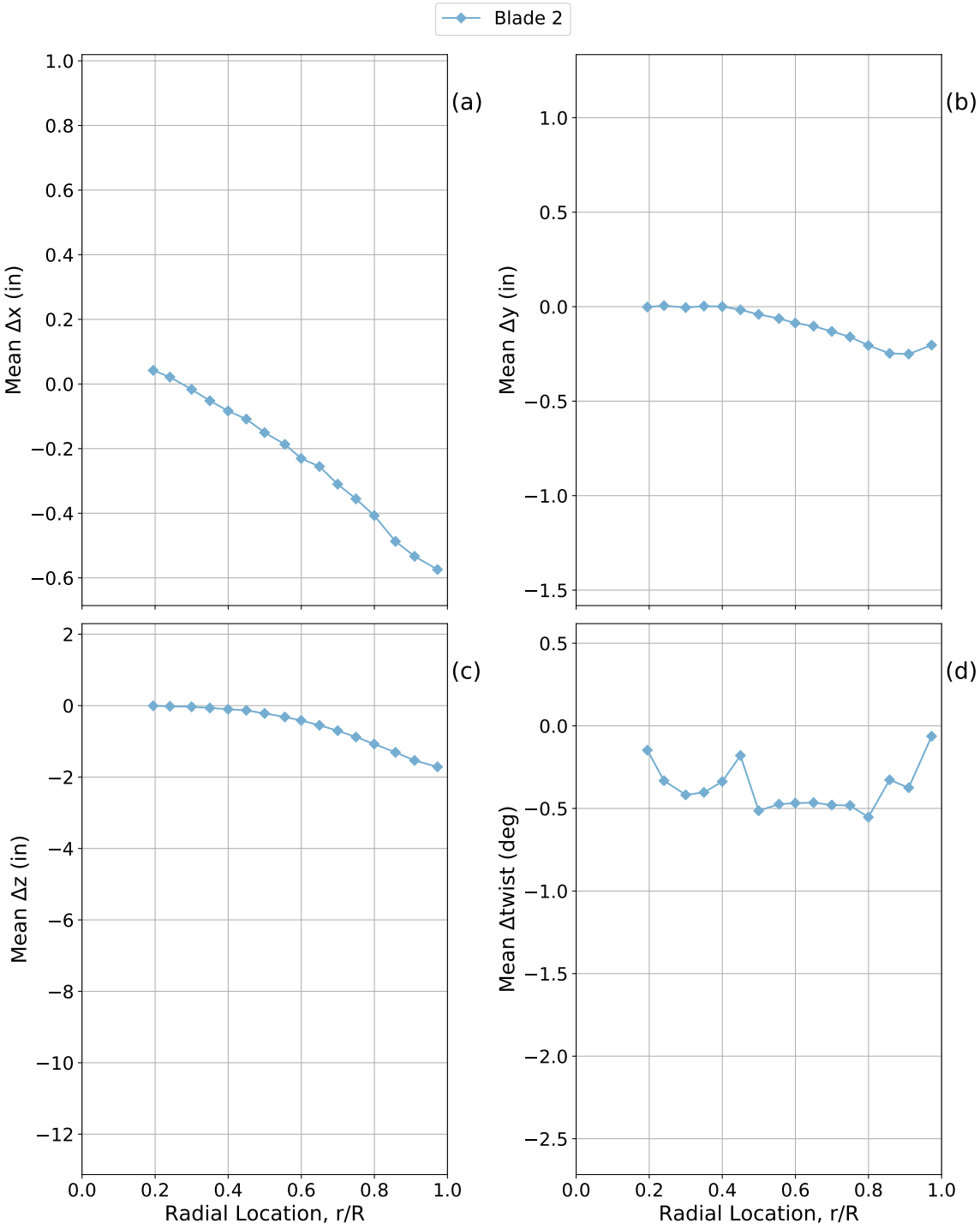


Figure 4.3-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0421	0.0014	-0.0020	0.0006	-0.0061	0.0021	-0.1474	0.0160
2	315	0.2405	0.0214	0.0013	0.0053	0.0012	-0.0201	0.0053	-0.3323	0.0311
2	315	0.2999	-0.0168	0.0022	-0.0047	0.0015	-0.0338	0.0083	-0.4178	0.0379
2	315	0.3498	-0.0520	0.0026	0.0029	0.0033	-0.0666	0.0165	-0.4032	0.0496
2	315	0.3998	-0.0834	0.0026	0.0007	0.0046	-0.1019	0.0244	-0.3374	0.0725
2	315	0.4496	-0.1086	0.0018	-0.0167	0.0047	-0.1334	0.0256	-0.1797	0.0578
2	315	0.4995	-0.1504	0.0021	-0.0408	0.0052	-0.2177	0.0251	-0.5140	0.0435
2	315	0.5551	-0.1868	0.0023	-0.0627	0.0081	-0.3190	0.0329	-0.4743	0.0558
2	315	0.5996	-0.2304	0.0012	-0.0868	0.0081	-0.4155	0.0337	-0.4681	0.0310
2	315	0.6497	-0.2554	0.0027	-0.1031	0.0096	-0.5510	0.0384	-0.4649	0.0480
2	315	0.6996	-0.3101	0.0022	-0.1309	0.0116	-0.7025	0.0442	-0.4796	0.0395
2	315	0.7495	-0.3556	0.0022	-0.1598	0.0136	-0.8810	0.0513	-0.4824	0.0537
2	315	0.7996	-0.4072	0.0018	-0.2051	0.0149	-1.0760	0.0577	-0.5529	0.0419
2	315	0.8578	-0.4872	0.0020	-0.2472	0.0177	-1.3085	0.0658	-0.3272	0.0391
2	315	0.9100	-0.5333	0.0020	-0.2508	0.0199	-1.5365	0.0731	-0.3748	0.0339
2	315	0.9727	-0.5742	0.0025	-0.2033	0.0225	-1.7149	0.0818	-0.0631	0.0350

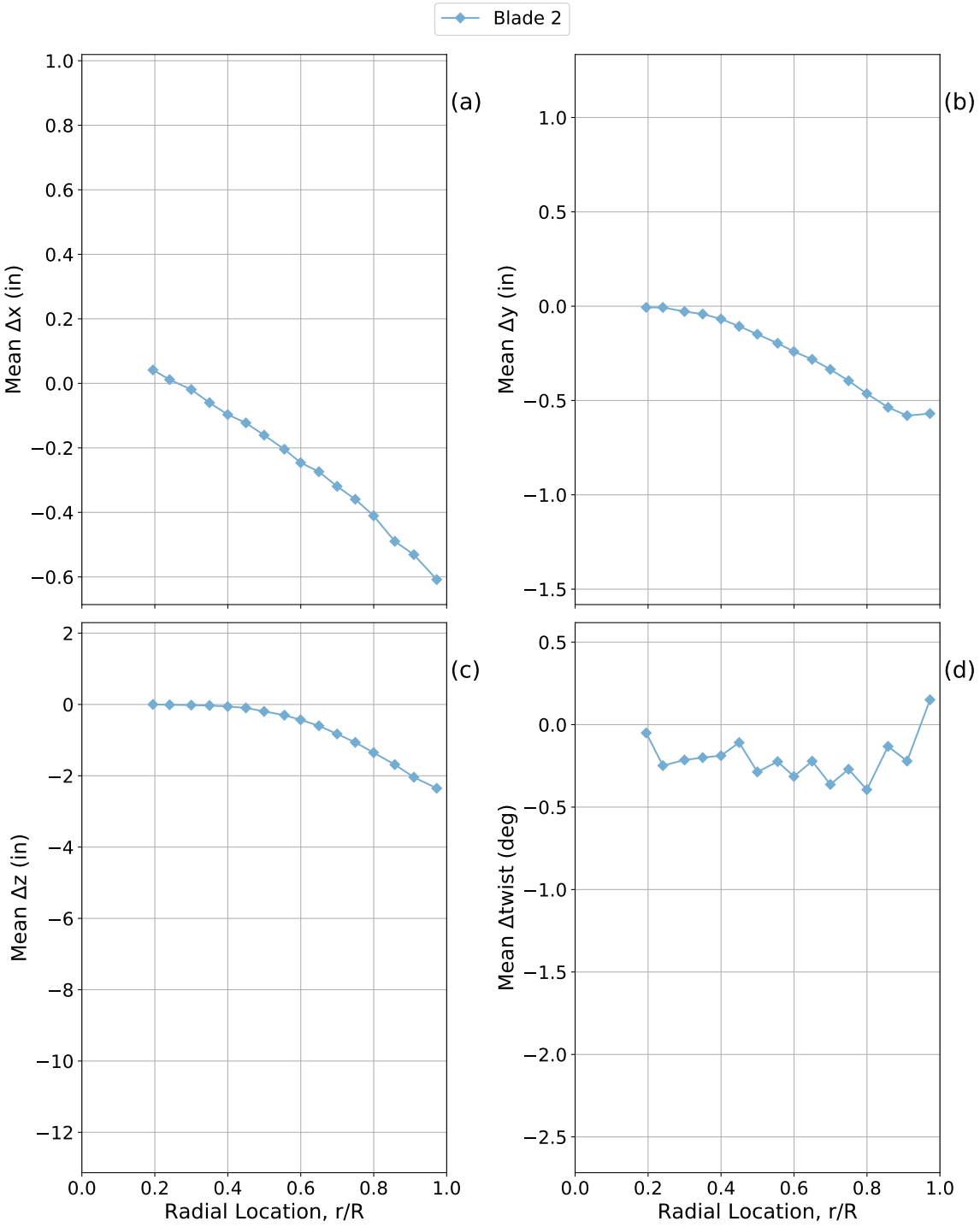


Figure 4.3-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0415	0.0014	-0.0067	0.0004	0.0011	0.0021	-0.0503	0.0166
2	330.12	0.2405	0.0115	0.0011	-0.0068	0.0014	-0.0095	0.0069	-0.2483	0.0172
2	330.12	0.2999	-0.0191	0.0013	-0.0284	0.0029	-0.0195	0.0138	-0.2142	0.0341
2	330.12	0.3498	-0.0600	0.0025	-0.0418	0.0020	-0.0291	0.0208	-0.1998	0.0204
2	330.12	0.3998	-0.0968	0.0019	-0.0679	0.0057	-0.0587	0.0361	-0.1882	0.0495
2	330.12	0.4496	-0.1225	0.0018	-0.1068	0.0089	-0.0962	0.0363	-0.1085	0.0252
2	330.12	0.4995	-0.1606	0.0028	-0.1487	0.0097	-0.1959	0.0487	-0.2867	0.0322
2	330.12	0.5551	-0.2043	0.0018	-0.1966	0.0117	-0.3006	0.0605	-0.2240	0.0340
2	330.12	0.5996	-0.2459	0.0023	-0.2405	0.0146	-0.4308	0.0646	-0.3142	0.0334
2	330.12	0.6497	-0.2739	0.0019	-0.2817	0.0157	-0.5987	0.0732	-0.2214	0.0260
2	330.12	0.6996	-0.3192	0.0022	-0.3350	0.0178	-0.8282	0.0762	-0.3627	0.0328
2	330.12	0.7495	-0.3594	0.0017	-0.3954	0.0194	-1.0638	0.0886	-0.2705	0.0305
2	330.12	0.7996	-0.4104	0.0012	-0.4637	0.0208	-1.3505	0.0929	-0.3943	0.0380
2	330.12	0.8578	-0.4897	0.0011	-0.5364	0.0251	-1.6872	0.1045	-0.1319	0.0279
2	330.12	0.9100	-0.5309	0.0019	-0.5801	0.0279	-2.0413	0.1139	-0.2211	0.0227
2	330.12	0.9727	-0.6082	0.0023	-0.5693	0.0315	-2.3511	0.1259	0.1507	0.0252

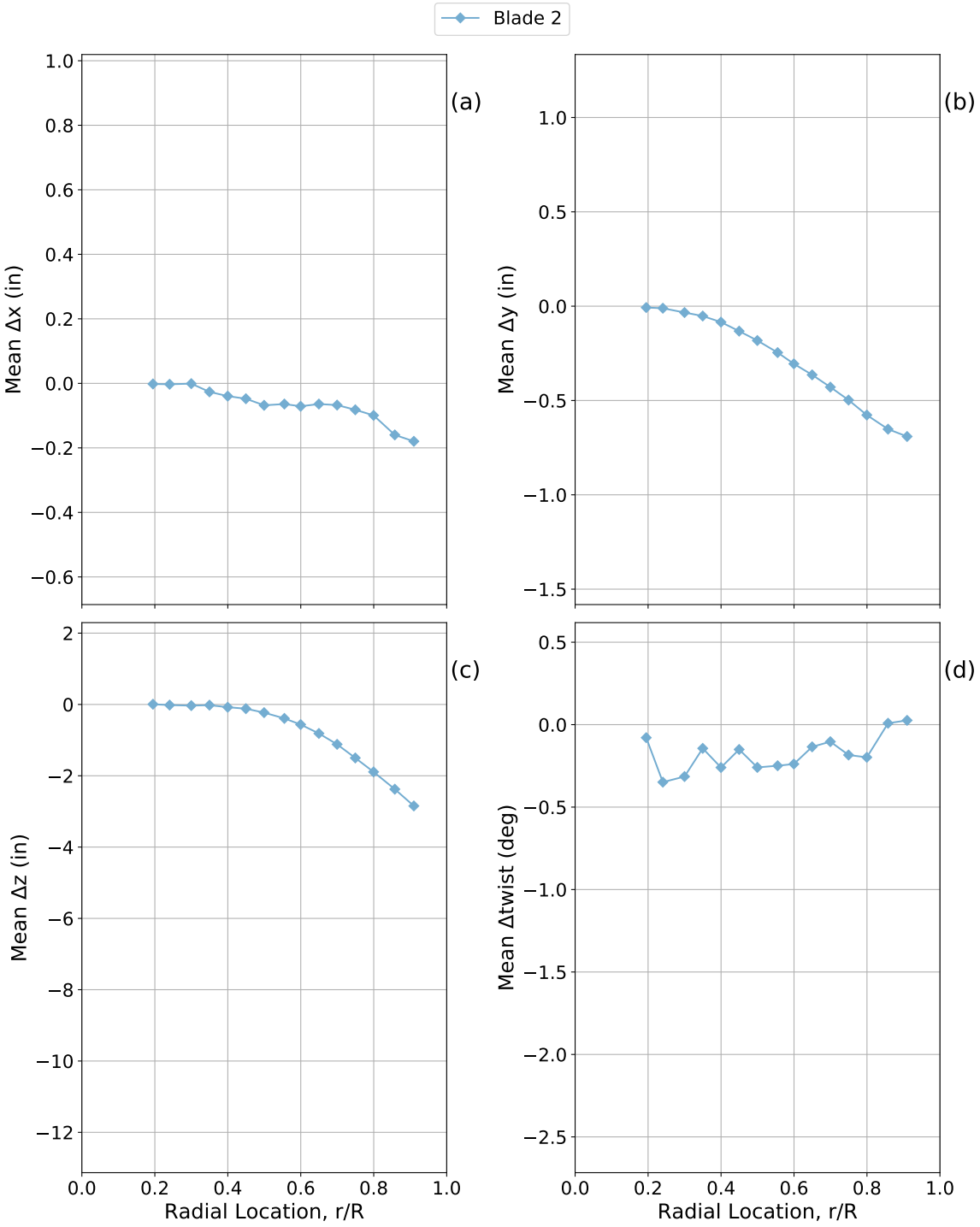


Figure 4.3-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0019	0.0007	-0.0073	0.0006	0.0062	0.0011	-0.0790	0.0216
2	344.88	0.2405	-0.0028	0.0007	-0.0109	0.0012	-0.0176	0.0032	-0.3487	0.0243
2	344.88	0.2999	-0.0009	0.0008	-0.0337	0.0024	-0.0325	0.0052	-0.3146	0.0466
2	344.88	0.3498	-0.0264	0.0013	-0.0522	0.0037	-0.0195	0.0092	-0.1437	0.0443
2	344.88	0.3998	-0.0396	0.0013	-0.0845	0.0061	-0.0776	0.0139	-0.2599	0.0368
2	344.88	0.4496	-0.0476	0.0022	-0.1323	0.0069	-0.1184	0.0153	-0.1505	0.0428
2	344.88	0.4995	-0.0680	0.0018	-0.1821	0.0088	-0.2295	0.0162	-0.2593	0.0472
2	344.88	0.5551	-0.0641	0.0022	-0.2460	0.0111	-0.3912	0.0192	-0.2490	0.0473
2	344.88	0.5996	-0.0711	0.0023	-0.3056	0.0117	-0.5633	0.0220	-0.2387	0.0324
2	344.88	0.6497	-0.0641	0.0021	-0.3640	0.0138	-0.8131	0.0248	-0.1345	0.0392
2	344.88	0.6996	-0.0673	0.0020	-0.4290	0.0167	-1.1184	0.0303	-0.1031	0.0350
2	344.88	0.7495	-0.0819	0.0021	-0.4976	0.0187	-1.5004	0.0313	-0.1840	0.0451
2	344.88	0.7996	-0.0993	0.0046	-0.5771	0.0204	-1.8919	0.0339	-0.1981	0.0644
2	344.88	0.8578	-0.1598	0.0065	-0.6520	0.0235	-2.3763	0.0422	0.0086	0.0706
2	344.88	0.9100	-0.1797	0.0153	-0.6908	0.0265	-2.8461	0.0461	0.0260	0.2524

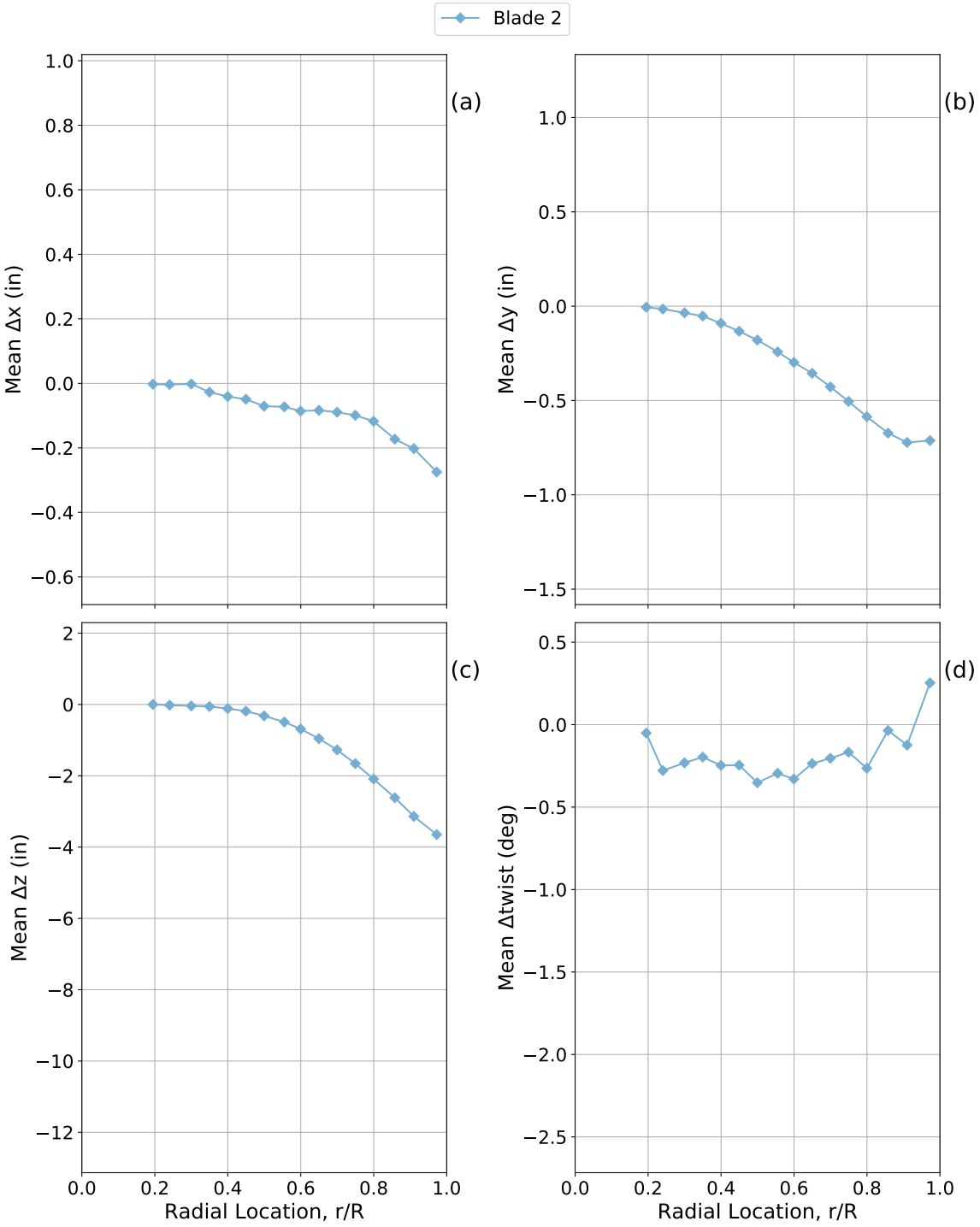


Figure 4.3-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0025	0.0032	-0.0056	0.0007	-0.0005	0.0016	-0.0513	0.0120
2	350.16	0.2405	-0.0036	0.0019	-0.0152	0.0018	-0.0203	0.0034	-0.2784	0.0251
2	350.16	0.2999	-0.0018	0.0014	-0.0354	0.0044	-0.0420	0.0078	-0.2317	0.0291
2	350.16	0.3498	-0.0272	0.0023	-0.0524	0.0058	-0.0573	0.0103	-0.1969	0.0293
2	350.16	0.3998	-0.0408	0.0028	-0.0907	0.0105	-0.1152	0.0184	-0.2473	0.0402
2	350.16	0.4496	-0.0492	0.0038	-0.1329	0.0110	-0.1883	0.0212	-0.2456	0.0277
2	350.16	0.4995	-0.0708	0.0058	-0.1797	0.0120	-0.3203	0.0280	-0.3519	0.0463
2	350.16	0.5551	-0.0728	0.0044	-0.2422	0.0156	-0.4933	0.0313	-0.2950	0.0490
2	350.16	0.5996	-0.0860	0.0062	-0.2980	0.0157	-0.6886	0.0324	-0.3296	0.0341
2	350.16	0.6497	-0.0835	0.0062	-0.3557	0.0183	-0.9586	0.0351	-0.2361	0.0364
2	350.16	0.6996	-0.0893	0.0070	-0.4278	0.0202	-1.2745	0.0412	-0.2036	0.0417
2	350.16	0.7495	-0.0991	0.0080	-0.5050	0.0216	-1.6595	0.0459	-0.1669	0.0453
2	350.16	0.7996	-0.1175	0.0087	-0.5857	0.0232	-2.0908	0.0493	-0.2645	0.0393
2	350.16	0.8578	-0.1729	0.0087	-0.6728	0.0263	-2.6159	0.0570	-0.0354	0.0571
2	350.16	0.9100	-0.2023	0.0110	-0.7226	0.0279	-3.1387	0.0612	-0.1243	0.0547
2	350.16	0.9727	-0.2748	0.0165	-0.7123	0.0321	-3.6495	0.0844	0.2533	0.2228

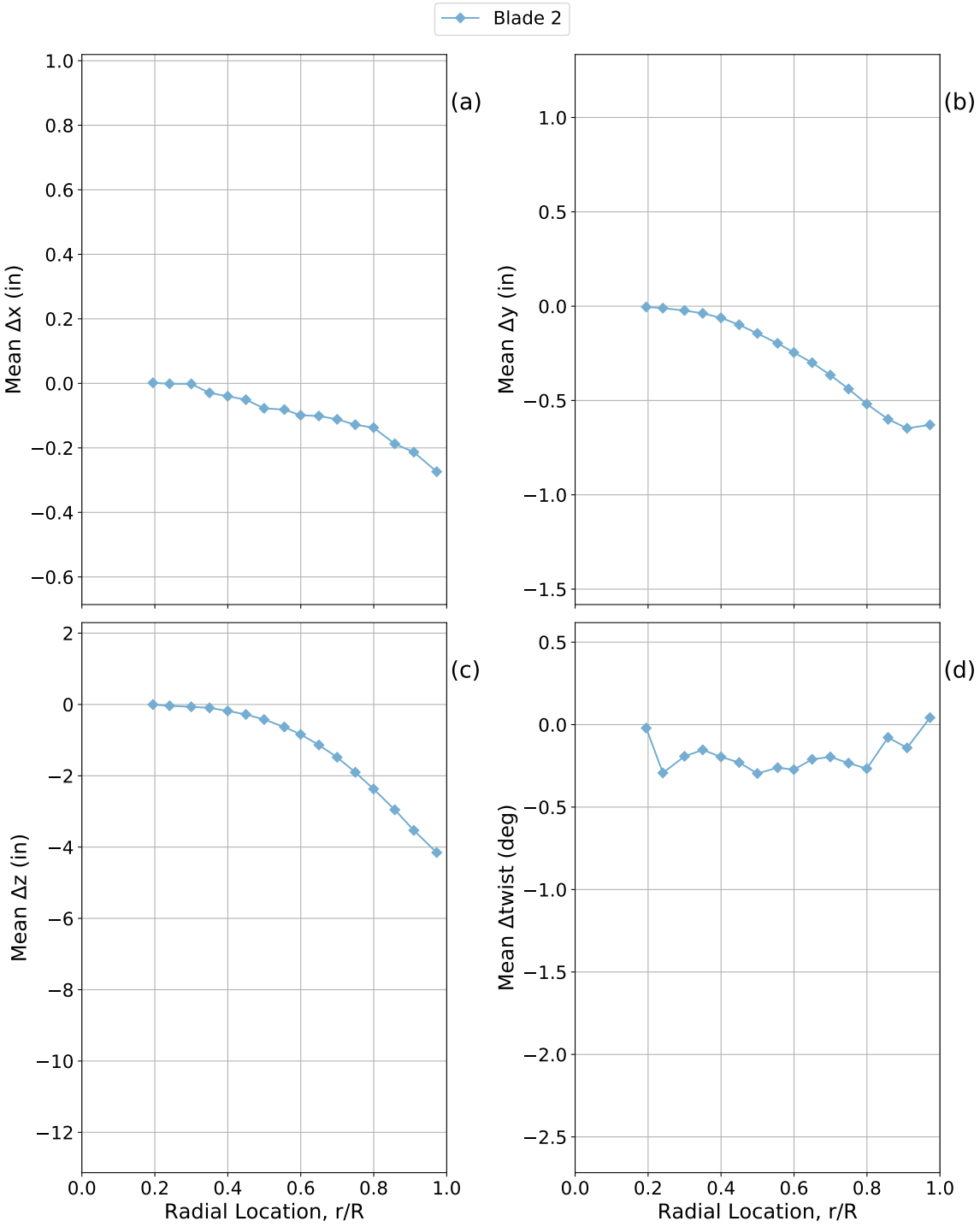


Figure 4.3-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Table 4.3-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 43, point 7. BD run 20, points 1367 to 1377.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0017	0.0016	-0.0042	0.0007	-0.0034	0.0021	-0.0208	0.0172
2	355.08	0.2405	-0.0013	0.0014	-0.0104	0.0018	-0.0380	0.0036	-0.2926	0.0335
2	355.08	0.2999	-0.0017	0.0009	-0.0230	0.0034	-0.0666	0.0074	-0.1921	0.0437
2	355.08	0.3498	-0.0295	0.0011	-0.0381	0.0050	-0.0953	0.0125	-0.1529	0.0352
2	355.08	0.3998	-0.0399	0.0019	-0.0619	0.0085	-0.1820	0.0191	-0.1955	0.0396
2	355.08	0.4496	-0.0506	0.0011	-0.0986	0.0095	-0.2798	0.0202	-0.2296	0.0332
2	355.08	0.4995	-0.0774	0.0010	-0.1446	0.0109	-0.4227	0.0264	-0.2962	0.0352
2	355.08	0.5551	-0.0813	0.0015	-0.1969	0.0133	-0.6314	0.0305	-0.2611	0.0292
2	355.08	0.5996	-0.0989	0.0017	-0.2457	0.0148	-0.8396	0.0328	-0.2726	0.0368
2	355.08	0.6497	-0.1012	0.0023	-0.2997	0.0170	-1.1358	0.0364	-0.2102	0.0483
2	355.08	0.6996	-0.1115	0.0019	-0.3653	0.0187	-1.4815	0.0428	-0.1956	0.0333
2	355.08	0.7495	-0.1282	0.0016	-0.4390	0.0203	-1.9028	0.0476	-0.2332	0.0322
2	355.08	0.7996	-0.1373	0.0038	-0.5187	0.0217	-2.3708	0.0509	-0.2666	0.0621
2	355.08	0.8578	-0.1875	0.0025	-0.5996	0.0241	-2.9542	0.0552	-0.0778	0.0584
2	355.08	0.9100	-0.2133	0.0025	-0.6471	0.0252	-3.5322	0.0553	-0.1407	0.0453
2	355.08	0.9727	-0.2738	0.0050	-0.6292	0.0286	-4.1537	0.0588	0.0423	0.0583

4.4 Run 45, Point 7

4.4.1 Pitch, Flap, and Lag

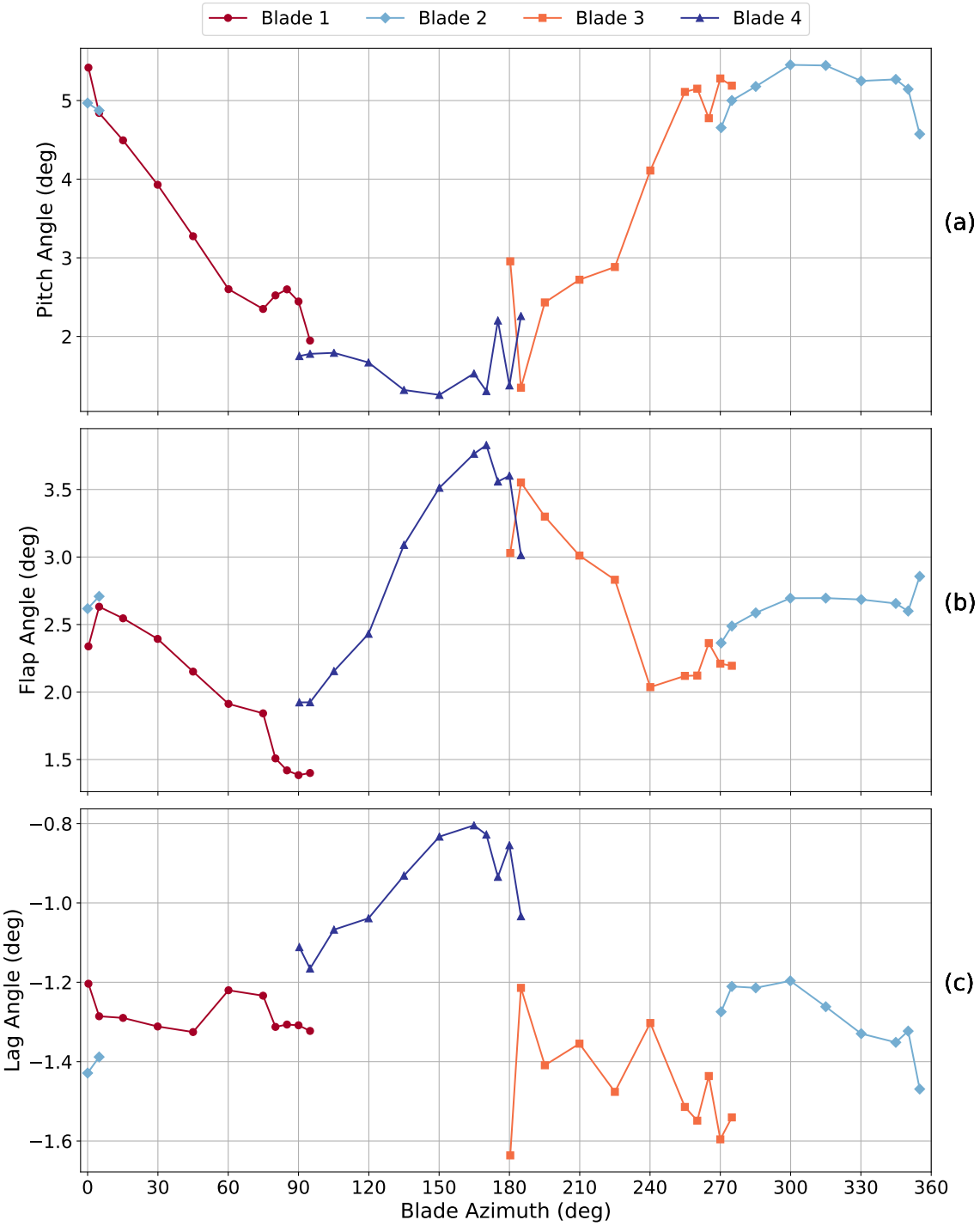


Figure 4.4-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.9680	2.6175	-1.4288	0.0529	0.0264	0.0195
0.35	1	5.4185	2.3381	-1.2036	0.1590	0.0614	0.0356
4.92	1	4.8418	2.6318	-1.2856	0.0819	0.0403	0.0313
4.92	2	4.8735	2.7084	-1.3882	0.0571	0.0295	0.0299
15.12	1	4.4943	2.5459	-1.2898	0.0800	0.0442	0.0143
29.88	1	3.9292	2.3935	-1.3114	0.0677	0.0291	0.0171
45	1	3.2744	2.1514	-1.3254	0.0466	0.0141	0.0163
60.12	1	2.6013	1.9124	-1.2201	0.0643	0.0409	0.0207
74.88	1	2.3498	1.8423	-1.2338	0.0310	0.0338	0.0154
80.16	1	2.5225	1.5084	-1.3124	0.0592	0.0234	0.0120
85.08	1	2.5990	1.4198	-1.3065	0.0779	0.0282	0.0176
90	1	2.4445	1.3846	-1.3084	0.0919	0.0357	0.0253
90.35	4	1.7506	1.9233	-1.1115	0.0326	0.0140	0.0205
94.92	1	1.9474	1.4005	-1.3226	0.0352	0.0132	0.0130
94.92	4	1.7789	1.9241	-1.1655	0.0219	0.0101	0.0057
105.12	4	1.7918	2.1549	-1.0674	0.0148	0.0232	0.0184
119.88	4	1.6691	2.4312	-1.0387	0.0231	0.0157	0.0177
135	4	1.3193	3.0895	-0.9312	0.0158	0.0169	0.0095
150.12	4	1.2571	3.5125	-0.8329	0.0283	0.0201	0.0142
164.88	4	1.5291	3.7643	-0.8045	0.0230	0.0211	0.0230
170.16	4	1.3052	3.8286	-0.8278	0.0334	0.0285	0.0174
175.08	4	2.2024	3.5586	-0.9343	0.0452	0.0156	0.0145
180	4	1.3774	3.6018	-0.8544	0.0265	0.0282	0.0102
180.35	3	2.9554	3.0297	-1.6363	0.0378	0.0342	0.0223
184.92	3	1.3486	3.5520	-1.2141	0.0341	0.0378	0.0227
184.92	4	2.2593	3.0137	-1.0336	0.0595	0.0346	0.0283
195.12	3	2.4328	3.2990	-1.4091	0.0205	0.0159	0.0184
209.88	3	2.7215	3.0106	-1.3547	0.0386	0.0221	0.0130
225	3	2.8831	2.8314	-1.4762	0.0307	0.0142	0.0128
240.12	3	4.1101	2.0364	-1.3027	0.0384	0.0180	0.0171
254.88	3	5.1097	2.1197	-1.5142	0.1189	0.0244	0.0245
260.16	3	5.1509	2.1220	-1.5488	0.0347	0.0208	0.0155
265.08	3	4.7754	2.3624	-1.4363	0.1951	0.0983	0.0349
270	3	5.2804	2.2100	-1.5958	0.0402	0.0210	0.0196
270.35	2	4.6549	2.3636	-1.2743	0.0510	0.0261	0.0184
274.92	2	5.0006	2.4886	-1.2105	0.0617	0.0194	0.0182
274.92	3	5.1890	2.1945	-1.5405	0.1039	0.0525	0.0239
285.12	2	5.1788	2.5863	-1.2140	0.0662	0.0326	0.0093
299.88	2	5.4536	2.6950	-1.1964	0.0394	0.0217	0.0164
315	2	5.4457	2.6956	-1.2616	0.0339	0.0131	0.0175
330.12	2	5.2492	2.6852	-1.3295	0.0315	0.0197	0.0083
344.88	2	5.2690	2.6559	-1.3514	0.0185	0.0255	0.0251
350.16	2	5.1449	2.5994	-1.3230	0.0290	0.0172	0.0116
355.08	2	4.5732	2.8565	-1.4691	0.0580	0.0429	0.0197

4.4.2 Spanwise Elastic Deformations

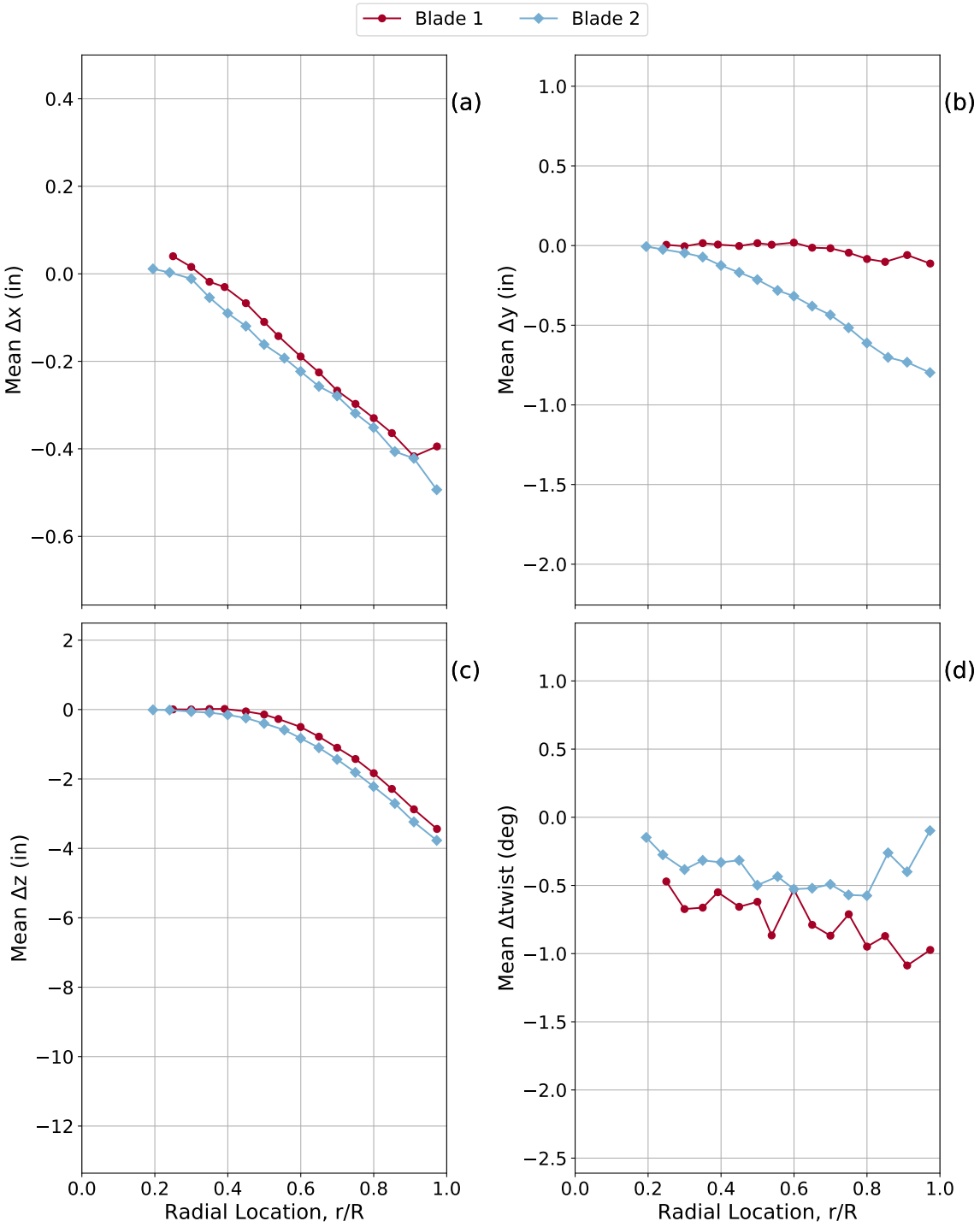


Figure 4.4-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2499	0.0402	0.0035	0.0047	0.0050	0.0046	0.0125	-0.4707	0.1112
1	0.35	0.2998	0.0157	0.0029	-0.0045	0.0094	0.0029	0.0218	-0.6731	0.1588
1	0.35	0.3498	-0.0182	0.0024	0.0150	0.0169	0.0168	0.0390	-0.6628	0.1588
1	0.35	0.3913	-0.0302	0.0033	0.0064	0.0245	0.0174	0.0549	-0.5501	0.1570
1	0.35	0.4496	-0.0671	0.0034	-0.0027	0.0326	-0.0535	0.0750	-0.6566	0.1487
1	0.35	0.4997	-0.1100	0.0033	0.0149	0.0386	-0.1436	0.0907	-0.6201	0.1502
1	0.35	0.5387	-0.1423	0.0041	0.0053	0.0452	-0.2727	0.1047	-0.8664	0.1448
1	0.35	0.5996	-0.1890	0.0043	0.0185	0.0531	-0.5026	0.1225	-0.5305	0.1494
1	0.35	0.6498	-0.2253	0.0042	-0.0134	0.0609	-0.7818	0.1388	-0.7889	0.1568
1	0.35	0.6998	-0.2670	0.0035	-0.0169	0.0687	-1.1005	0.1560	-0.8686	0.1517
1	0.35	0.7500	-0.2973	0.0038	-0.0450	0.0760	-1.4248	0.1715	-0.7114	0.1570
1	0.35	0.8001	-0.3298	0.0042	-0.0843	0.0835	-1.8341	0.1900	-0.9486	0.1508
1	0.35	0.8497	-0.3640	0.0044	-0.1023	0.0891	-2.2858	0.2050	-0.8713	0.1719
1	0.35	0.9102	-0.4170	0.0048	-0.0597	0.1016	-2.8756	0.2271	-1.0871	0.1613
1	0.35	0.9734	-0.3945	0.0069	-0.1129	0.1106	-3.4405	0.2504	-0.9729	0.1826
2	0	0.1949	0.0113	0.0031	-0.0062	0.0016	-0.0087	0.0029	-0.1480	0.0195
2	0	0.2405	0.0030	0.0027	-0.0242	0.0041	-0.0135	0.0066	-0.2751	0.0691
2	0	0.2999	-0.0113	0.0012	-0.0464	0.0054	-0.0591	0.0073	-0.3832	0.0607
2	0	0.3498	-0.0543	0.0020	-0.0723	0.0112	-0.0889	0.0108	-0.3162	0.0489
2	0	0.3998	-0.0900	0.0019	-0.1250	0.0162	-0.1539	0.0170	-0.3306	0.0614
2	0	0.4496	-0.1196	0.0024	-0.1686	0.0205	-0.2443	0.0225	-0.3157	0.0513
2	0	0.4995	-0.1614	0.0022	-0.2140	0.0246	-0.4006	0.0301	-0.4980	0.0583
2	0	0.5551	-0.1927	0.0029	-0.2817	0.0299	-0.5886	0.0386	-0.4347	0.0620
2	0	0.5996	-0.2231	0.0031	-0.3175	0.0331	-0.8276	0.0437	-0.5273	0.0652
2	0	0.6497	-0.2572	0.0035	-0.3803	0.0386	-1.1011	0.0498	-0.5206	0.0513
2	0	0.6996	-0.2790	0.0025	-0.4354	0.0429	-1.4362	0.0560	-0.4918	0.0575
2	0	0.7495	-0.3187	0.0024	-0.5159	0.0491	-1.8107	0.0609	-0.5695	0.0483
2	0	0.7996	-0.3513	0.0036	-0.6116	0.0531	-2.2197	0.0660	-0.5752	0.0717
2	0	0.8578	-0.4063	0.0038	-0.7019	0.0577	-2.7065	0.0752	-0.2608	0.0737
2	0	0.9100	-0.4216	0.0036	-0.7322	0.0655	-3.2376	0.0841	-0.3999	0.1090
2	0	0.9727	-0.4935	0.0058	-0.7974	0.0686	-3.7698	0.0899	-0.0982	0.0665

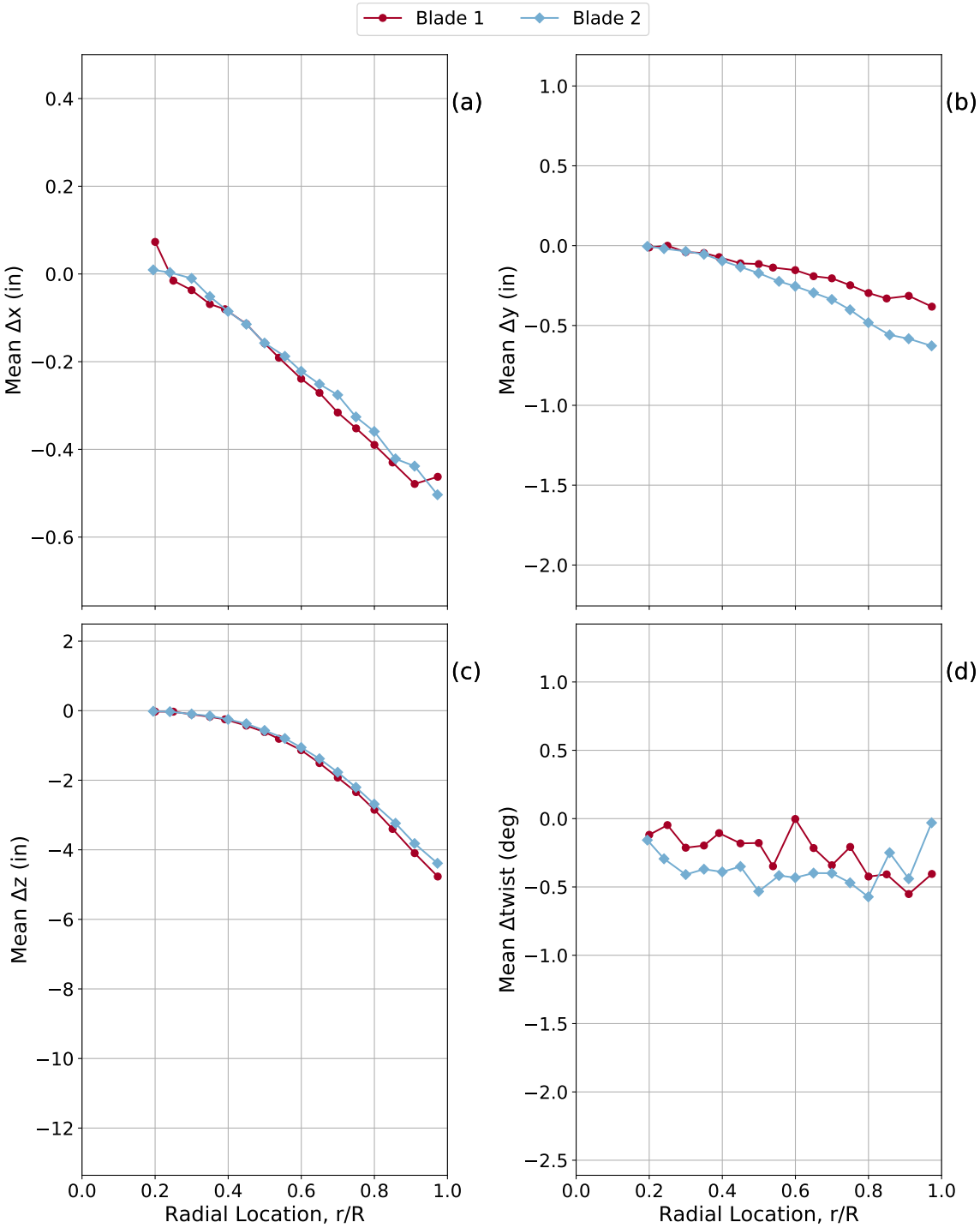


Figure 4.4-3. 5° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0731	0.0040	-0.0113	0.0027	-0.0268	0.0054	-0.1185	0.0352
1	4.92	0.2499	-0.0153	0.0022	-0.0006	0.0038	-0.0296	0.0074	-0.0474	0.0730
1	4.92	0.2998	-0.0369	0.0015	-0.0405	0.0096	-0.1067	0.0175	-0.2129	0.0829
1	4.92	0.3498	-0.0687	0.0015	-0.0462	0.0166	-0.1763	0.0296	-0.1970	0.0718
1	4.92	0.3913	-0.0804	0.0023	-0.0719	0.0228	-0.2500	0.0402	-0.1060	0.0799
1	4.92	0.4496	-0.1140	0.0023	-0.1110	0.0302	-0.4298	0.0537	-0.1812	0.0832
1	4.92	0.4997	-0.1582	0.0022	-0.1153	0.0376	-0.6160	0.0657	-0.1783	0.0668
1	4.92	0.5387	-0.1909	0.0029	-0.1373	0.0433	-0.8102	0.0741	-0.3490	0.0747
1	4.92	0.5996	-0.2389	0.0026	-0.1534	0.0515	-1.1364	0.0891	-0.0026	0.0716
1	4.92	0.6498	-0.2710	0.0024	-0.1915	0.0574	-1.5080	0.0992	-0.2154	0.0612
1	4.92	0.6998	-0.3160	0.0030	-0.2047	0.0633	-1.9244	0.1069	-0.3412	0.0755
1	4.92	0.7500	-0.3521	0.0031	-0.2480	0.0699	-2.3424	0.1156	-0.2073	0.0688
1	4.92	0.8001	-0.3898	0.0029	-0.2968	0.0777	-2.8493	0.1250	-0.4239	0.0872
1	4.92	0.8497	-0.4299	0.0037	-0.3309	0.0850	-3.4011	0.1364	-0.4079	0.0806
1	4.92	0.9102	-0.4788	0.0034	-0.3145	0.0939	-4.0968	0.1533	-0.5520	0.0968
1	4.92	0.9734	-0.4625	0.0040	-0.3821	0.1000	-4.7686	0.1616	-0.4049	0.0894
2	4.92	0.1949	0.0093	0.0031	-0.0045	0.0016	-0.0179	0.0039	-0.1571	0.0229
2	4.92	0.2405	0.0034	0.0017	-0.0187	0.0031	-0.0298	0.0059	-0.2940	0.0492
2	4.92	0.2999	-0.0101	0.0015	-0.0359	0.0059	-0.0965	0.0127	-0.4094	0.0496
2	4.92	0.3498	-0.0515	0.0025	-0.0541	0.0100	-0.1525	0.0220	-0.3702	0.0530
2	4.92	0.3998	-0.0853	0.0025	-0.0955	0.0156	-0.2513	0.0323	-0.3899	0.0527
2	4.92	0.4496	-0.1147	0.0035	-0.1334	0.0199	-0.3766	0.0435	-0.3505	0.0537
2	4.92	0.4995	-0.1575	0.0030	-0.1721	0.0237	-0.5692	0.0530	-0.5328	0.0555
2	4.92	0.5551	-0.1878	0.0033	-0.2235	0.0272	-0.8003	0.0647	-0.4167	0.0522
2	4.92	0.5996	-0.2218	0.0027	-0.2546	0.0313	-1.0584	0.0738	-0.4318	0.0560
2	4.92	0.6497	-0.2512	0.0027	-0.2952	0.0373	-1.3814	0.0849	-0.3986	0.0654
2	4.92	0.6996	-0.2758	0.0030	-0.3371	0.0419	-1.7707	0.0949	-0.3995	0.0560
2	4.92	0.7495	-0.3260	0.0037	-0.4016	0.0451	-2.2041	0.1046	-0.4696	0.0570
2	4.92	0.7996	-0.3592	0.0027	-0.4823	0.0477	-2.6876	0.1139	-0.5726	0.0648
2	4.92	0.8578	-0.4216	0.0037	-0.5590	0.0547	-3.2377	0.1303	-0.2494	0.0558
2	4.92	0.9100	-0.4382	0.0035	-0.5830	0.0595	-3.8199	0.1441	-0.4399	0.0751
2	4.92	0.9727	-0.5034	0.0054	-0.6276	0.0646	-4.3880	0.1564	-0.0305	0.0595

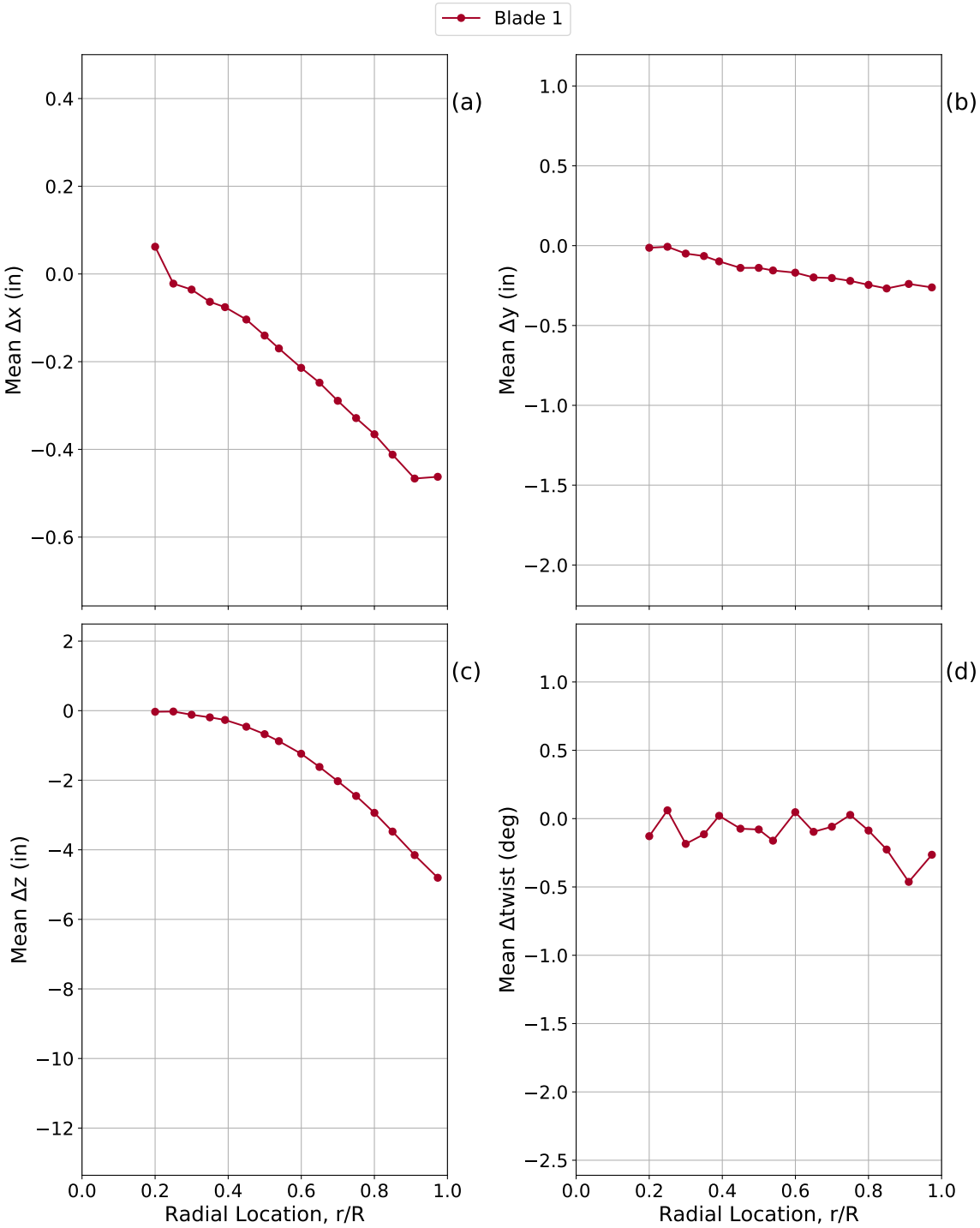


Figure 4.4-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0621	0.0026	-0.0132	0.0011	-0.0317	0.0037	-0.1285	0.0386
1	15.12	0.2499	-0.0220	0.0024	-0.0071	0.0023	-0.0246	0.0045	0.0607	0.0635
1	15.12	0.2998	-0.0356	0.0019	-0.0497	0.0040	-0.1170	0.0119	-0.1850	0.0841
1	15.12	0.3498	-0.0635	0.0016	-0.0651	0.0075	-0.1929	0.0198	-0.1145	0.0730
1	15.12	0.3913	-0.0757	0.0019	-0.0985	0.0103	-0.2668	0.0263	0.0205	0.0741
1	15.12	0.4496	-0.1039	0.0020	-0.1394	0.0121	-0.4618	0.0330	-0.0737	0.0784
1	15.12	0.4997	-0.1404	0.0019	-0.1391	0.0142	-0.6753	0.0395	-0.0796	0.0818
1	15.12	0.5387	-0.1698	0.0014	-0.1553	0.0163	-0.8763	0.0437	-0.1614	0.0792
1	15.12	0.5996	-0.2141	0.0020	-0.1692	0.0192	-1.2382	0.0489	0.0471	0.0779
1	15.12	0.6498	-0.2479	0.0031	-0.1991	0.0214	-1.6186	0.0534	-0.0965	0.0731
1	15.12	0.6998	-0.2892	0.0030	-0.2028	0.0240	-2.0277	0.0585	-0.0593	0.0817
1	15.12	0.7500	-0.3286	0.0032	-0.2206	0.0260	-2.4516	0.0659	0.0271	0.0762
1	15.12	0.8001	-0.3655	0.0034	-0.2455	0.0290	-2.9373	0.0738	-0.0871	0.0757
1	15.12	0.8497	-0.4120	0.0032	-0.2682	0.0310	-3.4762	0.0811	-0.2262	0.0743
1	15.12	0.9102	-0.4665	0.0029	-0.2399	0.0330	-4.1523	0.0924	-0.4628	0.0931
1	15.12	0.9734	-0.4625	0.0033	-0.2615	0.0359	-4.8037	0.1032	-0.2644	0.1066

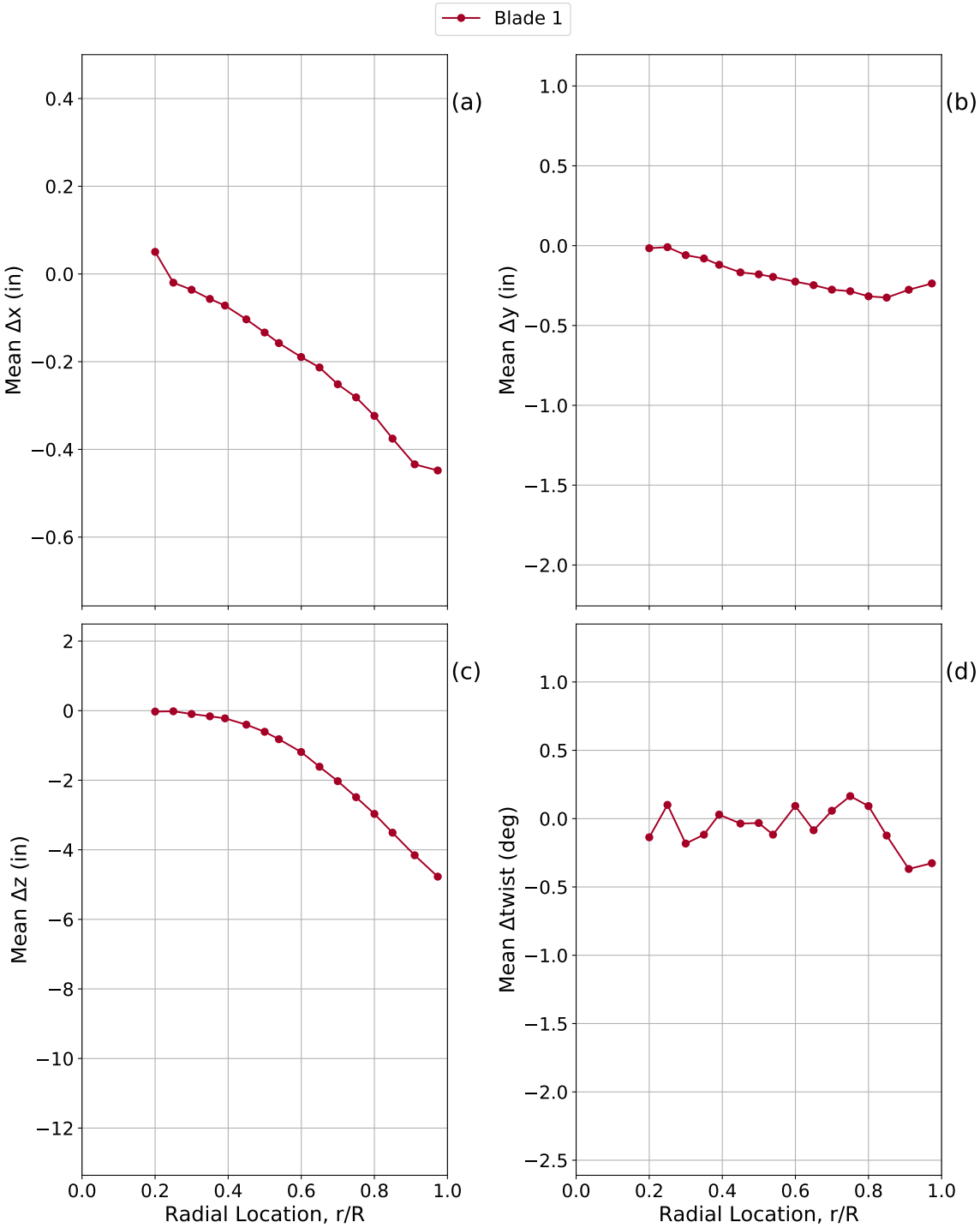


Figure 4.4-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0504	0.0029	-0.0160	0.0012	-0.0266	0.0031	-0.1368	0.0361
1	29.88	0.2499	-0.0198	0.0031	-0.0094	0.0023	-0.0179	0.0066	0.1005	0.0570
1	29.88	0.2998	-0.0360	0.0013	-0.0595	0.0040	-0.0960	0.0113	-0.1825	0.0804
1	29.88	0.3498	-0.0569	0.0009	-0.0803	0.0071	-0.1627	0.0210	-0.1174	0.0669
1	29.88	0.3913	-0.0720	0.0019	-0.1197	0.0097	-0.2210	0.0288	0.0295	0.0614
1	29.88	0.4496	-0.1035	0.0023	-0.1674	0.0122	-0.4028	0.0373	-0.0362	0.0660
1	29.88	0.4997	-0.1335	0.0028	-0.1797	0.0153	-0.6070	0.0467	-0.0322	0.0625
1	29.88	0.5387	-0.1576	0.0040	-0.1957	0.0174	-0.8205	0.0514	-0.1171	0.0720
1	29.88	0.5996	-0.1894	0.0037	-0.2254	0.0207	-1.1884	0.0600	0.0928	0.0616
1	29.88	0.6498	-0.2132	0.0032	-0.2476	0.0241	-1.6119	0.0673	-0.0851	0.0621
1	29.88	0.6998	-0.2515	0.0035	-0.2756	0.0265	-2.0265	0.0762	0.0577	0.0672
1	29.88	0.7500	-0.2814	0.0032	-0.2855	0.0298	-2.4878	0.0849	0.1646	0.0662
1	29.88	0.8001	-0.3236	0.0031	-0.3172	0.0335	-2.9684	0.0957	0.0917	0.0610
1	29.88	0.8497	-0.3755	0.0029	-0.3256	0.0368	-3.5083	0.1042	-0.1238	0.0701
1	29.88	0.9102	-0.4341	0.0026	-0.2762	0.0408	-4.1572	0.1163	-0.3685	0.0604
1	29.88	0.9734	-0.4481	0.0034	-0.2368	0.0457	-4.7720	0.1327	-0.3261	0.0711

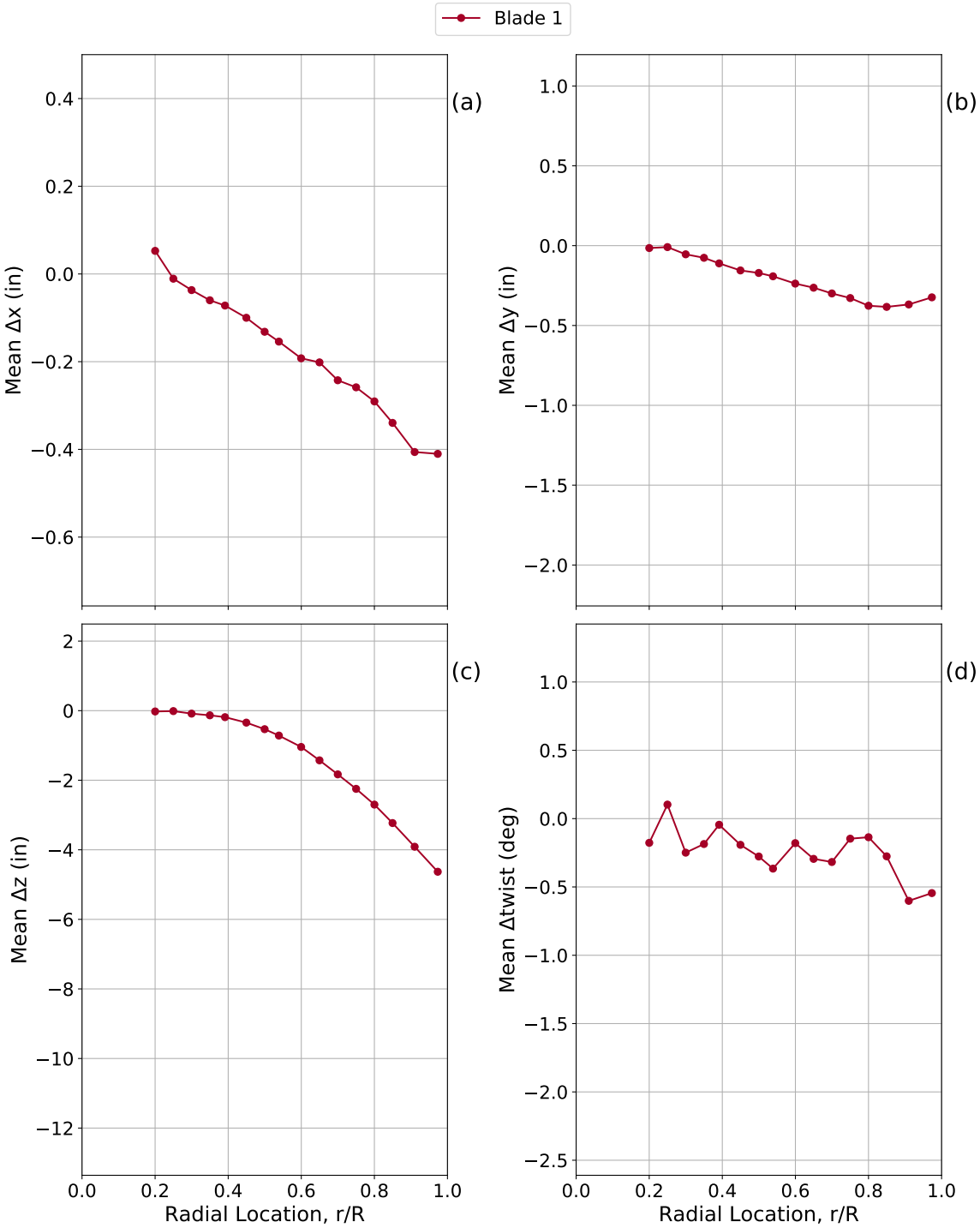


Figure 4.4-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0527	0.0028	-0.0150	0.0011	-0.0231	0.0025	-0.1771	0.0243
1	45	0.2499	-0.0108	0.0035	-0.0091	0.0018	-0.0125	0.0042	0.1027	0.0517
1	45	0.2998	-0.0368	0.0015	-0.0542	0.0039	-0.0851	0.0067	-0.2491	0.0570
1	45	0.3498	-0.0600	0.0019	-0.0761	0.0068	-0.1338	0.0115	-0.1858	0.0478
1	45	0.3913	-0.0720	0.0017	-0.1110	0.0093	-0.1868	0.0147	-0.0449	0.0578
1	45	0.4496	-0.0999	0.0024	-0.1552	0.0122	-0.3440	0.0171	-0.1918	0.0567
1	45	0.4997	-0.1318	0.0028	-0.1710	0.0148	-0.5323	0.0218	-0.2772	0.0611
1	45	0.5387	-0.1542	0.0026	-0.1920	0.0162	-0.7160	0.0234	-0.3658	0.0513
1	45	0.5996	-0.1923	0.0037	-0.2377	0.0189	-1.0433	0.0281	-0.1794	0.0548
1	45	0.6498	-0.2016	0.0038	-0.2634	0.0211	-1.4285	0.0315	-0.2946	0.0510
1	45	0.6998	-0.2424	0.0028	-0.2993	0.0239	-1.8316	0.0356	-0.3174	0.0546
1	45	0.7500	-0.2585	0.0023	-0.3282	0.0266	-2.2478	0.0386	-0.1468	0.0574
1	45	0.8001	-0.2906	0.0019	-0.3764	0.0289	-2.7008	0.0417	-0.1362	0.0534
1	45	0.8497	-0.3396	0.0018	-0.3835	0.0319	-3.2312	0.0440	-0.2760	0.0533
1	45	0.9102	-0.4060	0.0022	-0.3683	0.0356	-3.9121	0.0451	-0.6017	0.0533
1	45	0.9734	-0.4102	0.0028	-0.3237	0.0396	-4.6312	0.0441	-0.5450	0.0636

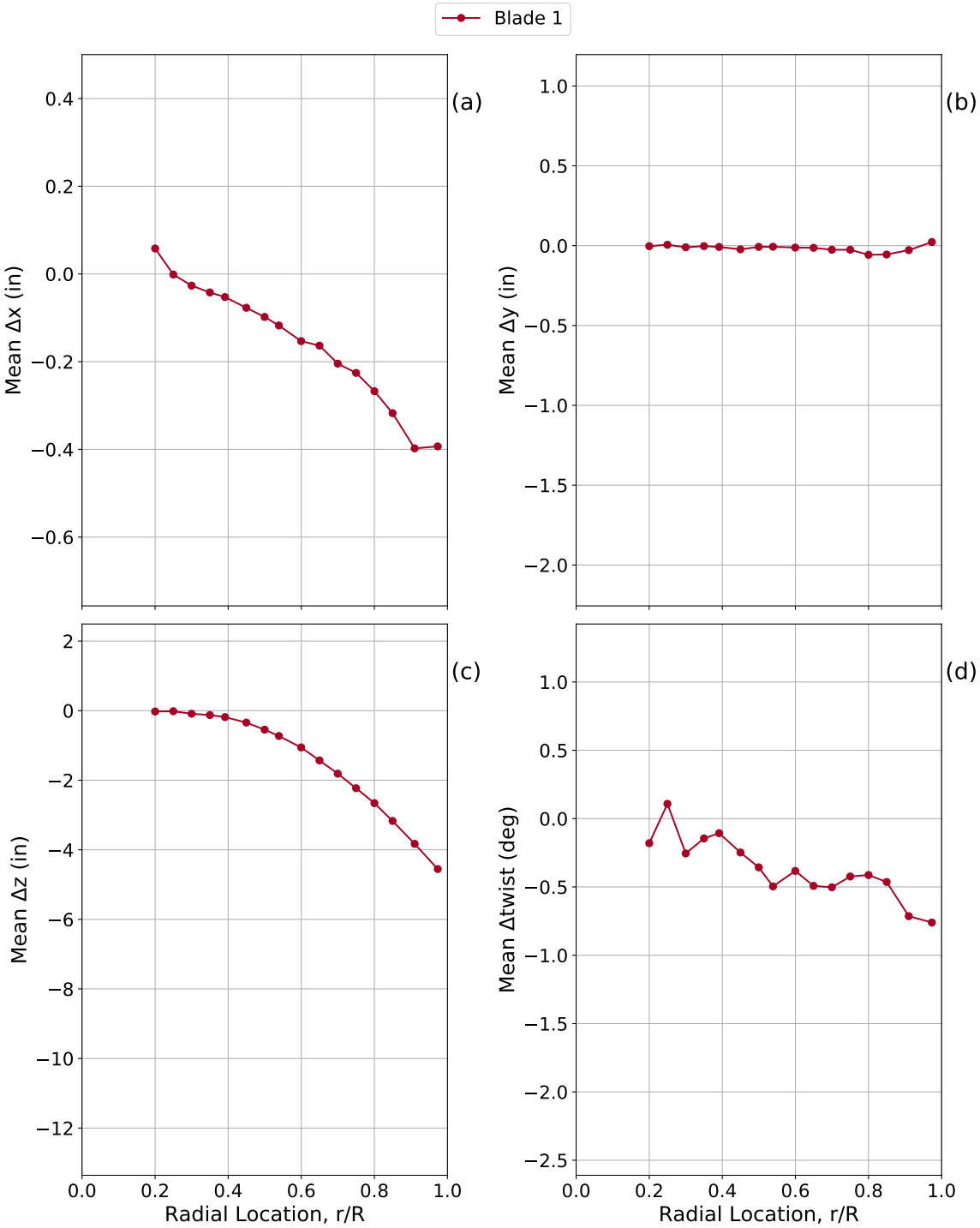


Figure 4.4-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0581	0.0030	-0.0033	0.0017	-0.0244	0.0044	-0.1799	0.0347
1	60.12	0.2499	-0.0013	0.0015	0.0055	0.0027	-0.0169	0.0066	0.1082	0.0801
1	60.12	0.2998	-0.0266	0.0022	-0.0102	0.0062	-0.0891	0.0155	-0.2550	0.0871
1	60.12	0.3498	-0.0421	0.0014	-0.0029	0.0109	-0.1266	0.0270	-0.1450	0.0787
1	60.12	0.3913	-0.0527	0.0019	-0.0082	0.0150	-0.1848	0.0370	-0.1066	0.0806
1	60.12	0.4496	-0.0772	0.0016	-0.0231	0.0201	-0.3435	0.0499	-0.2478	0.0785
1	60.12	0.4997	-0.0980	0.0022	-0.0078	0.0250	-0.5460	0.0614	-0.3566	0.0835
1	60.12	0.5387	-0.1175	0.0020	-0.0069	0.0287	-0.7285	0.0703	-0.4959	0.0797
1	60.12	0.5996	-0.1532	0.0031	-0.0123	0.0346	-1.0574	0.0833	-0.3828	0.0873
1	60.12	0.6498	-0.1634	0.0028	-0.0136	0.0396	-1.4316	0.0941	-0.4922	0.0775
1	60.12	0.6998	-0.2044	0.0024	-0.0258	0.0447	-1.8109	0.1044	-0.5027	0.0847
1	60.12	0.7500	-0.2256	0.0027	-0.0256	0.0498	-2.2295	0.1162	-0.4233	0.0821
1	60.12	0.8001	-0.2674	0.0030	-0.0574	0.0546	-2.6597	0.1295	-0.4128	0.0782
1	60.12	0.8497	-0.3174	0.0029	-0.0554	0.0594	-3.1708	0.1399	-0.4637	0.0881
1	60.12	0.9102	-0.3977	0.0035	-0.0281	0.0664	-3.8287	0.1548	-0.7138	0.0830
1	60.12	0.9734	-0.3932	0.0043	0.0225	0.0733	-4.5540	0.1670	-0.7604	0.0846

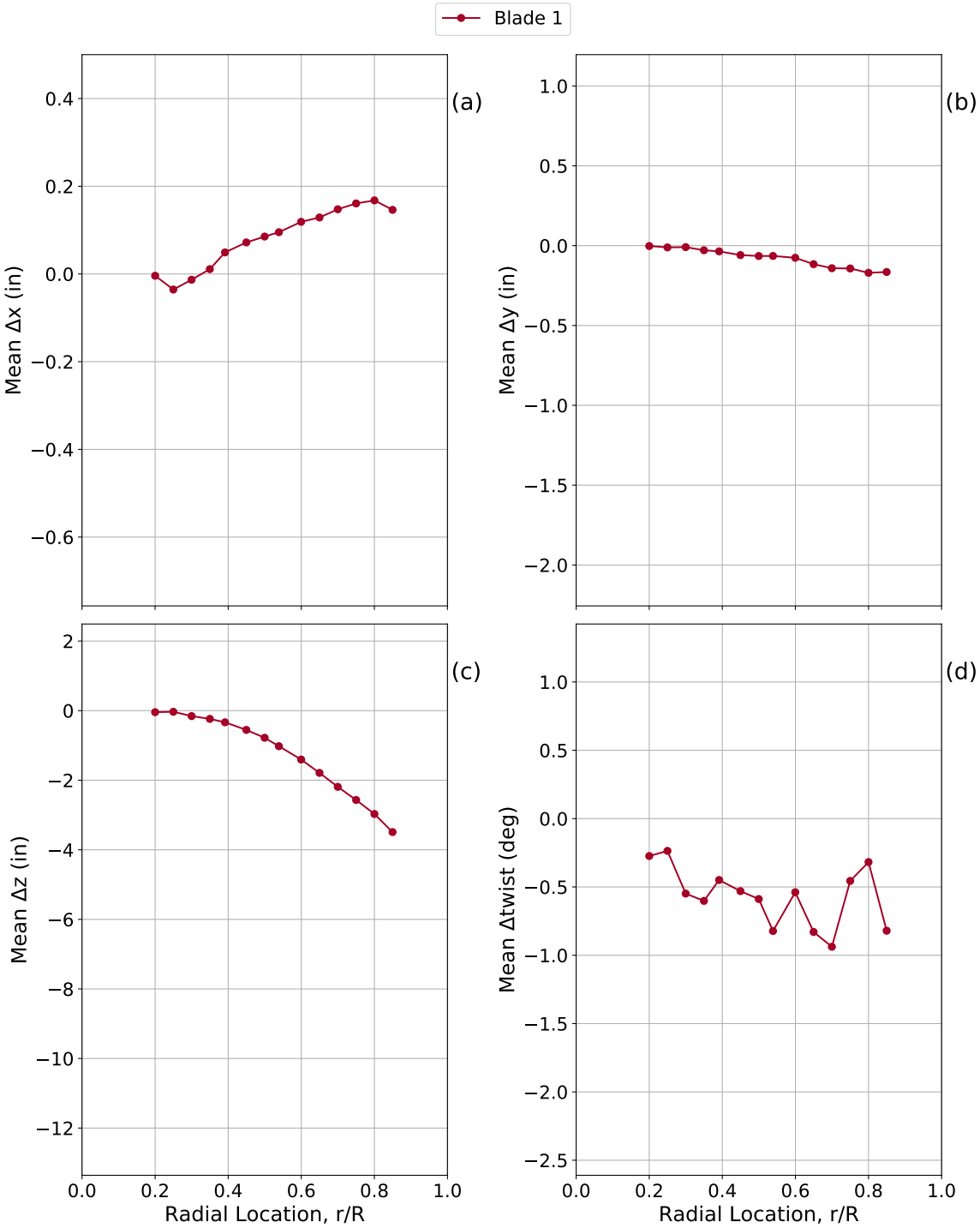


Figure 4.4-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0041	0.0014	-0.0023	0.0010	-0.0435	0.0022	-0.2738	0.0178
1	74.88	0.2499	-0.0355	0.0009	-0.0110	0.0024	-0.0323	0.0062	-0.2361	0.0317
1	74.88	0.2998	-0.0132	0.0013	-0.0093	0.0044	-0.1559	0.0093	-0.5486	0.0405
1	74.88	0.3498	0.0110	0.0011	-0.0289	0.0079	-0.2364	0.0171	-0.6020	0.0290
1	74.88	0.3913	0.0492	0.0014	-0.0358	0.0114	-0.3351	0.0246	-0.4491	0.0348
1	74.88	0.4496	0.0719	0.0019	-0.0590	0.0150	-0.5538	0.0324	-0.5306	0.0396
1	74.88	0.4997	0.0853	0.0026	-0.0649	0.0179	-0.7797	0.0404	-0.5884	0.0511
1	74.88	0.5387	0.0952	0.0028	-0.0646	0.0206	-1.0222	0.0471	-0.8222	0.0487
1	74.88	0.5996	0.1189	0.0024	-0.0761	0.0233	-1.4051	0.0537	-0.5387	0.0661
1	74.88	0.6498	0.1288	0.0033	-0.1160	0.0265	-1.7886	0.0623	-0.8295	0.0786
1	74.88	0.6998	0.1475	0.0035	-0.1414	0.0291	-2.1902	0.0723	-0.9376	0.0950
1	74.88	0.7500	0.1608	0.0086	-0.1429	0.0324	-2.5675	0.0759	-0.4558	0.1829
1	74.88	0.8001	0.1678	0.0223	-0.1702	0.0372	-2.9711	0.0904	-0.3179	0.2826
1	74.88	0.8497	0.1462	0.0046	-0.1650	0.0360	-3.4906	0.0993	-0.8204	0.2256

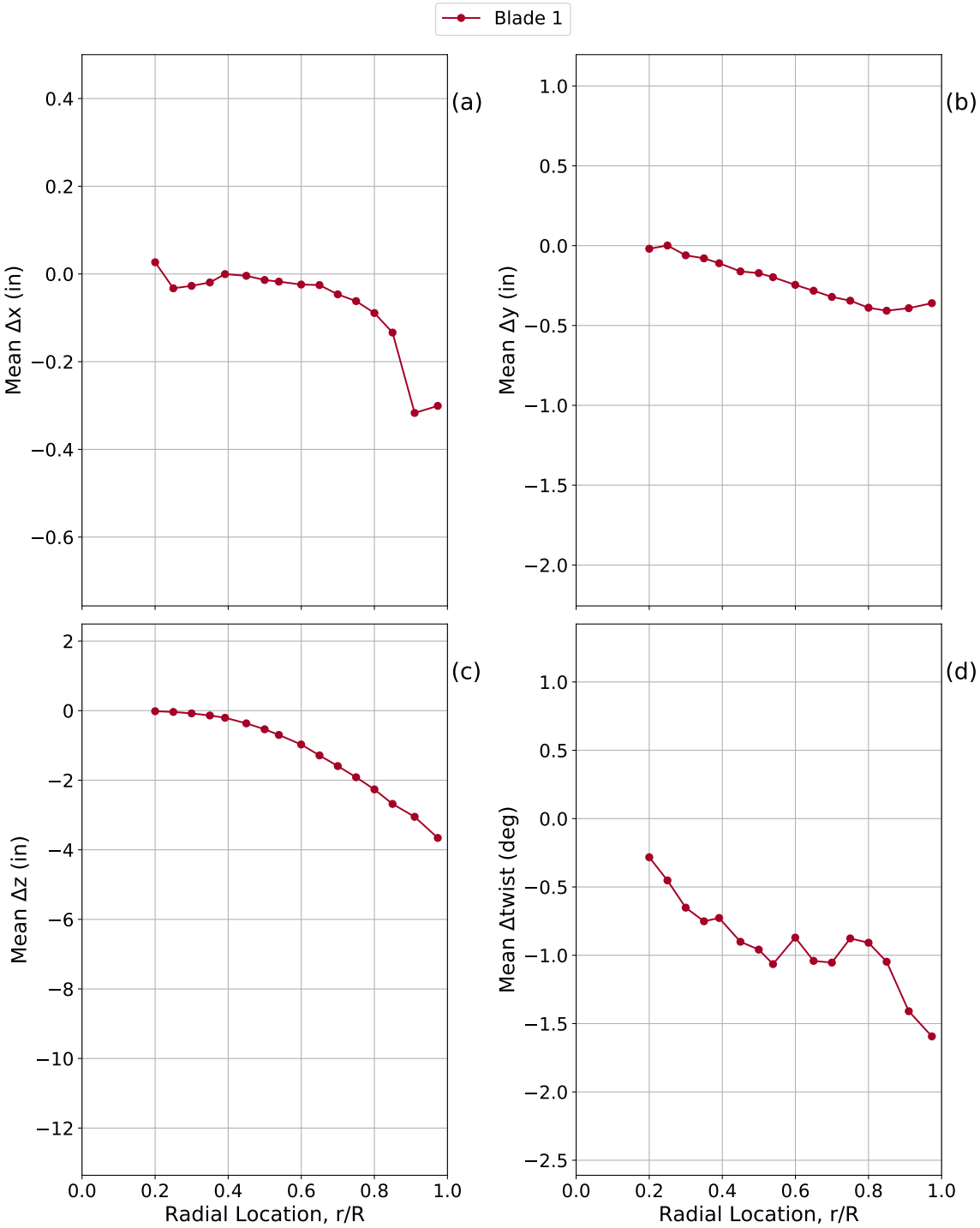


Figure 4.4-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	0.0267	0.0026	-0.0195	0.0020	-0.0159	0.0041	-0.2828	0.0186
1	80.16	0.2499	-0.0327	0.0013	0.0010	0.0022	-0.0373	0.0044	-0.4524	0.0632
1	80.16	0.2998	-0.0271	0.0014	-0.0604	0.0066	-0.0786	0.0118	-0.6516	0.0546
1	80.16	0.3498	-0.0193	0.0016	-0.0795	0.0113	-0.1387	0.0205	-0.7513	0.0452
1	80.16	0.3913	-0.0003	0.0021	-0.1101	0.0152	-0.2040	0.0263	-0.7272	0.0522
1	80.16	0.4496	-0.0042	0.0023	-0.1613	0.0207	-0.3651	0.0344	-0.9011	0.0535
1	80.16	0.4997	-0.0137	0.0031	-0.1720	0.0241	-0.5357	0.0422	-0.9586	0.0518
1	80.16	0.5387	-0.0175	0.0042	-0.1975	0.0272	-0.6975	0.0475	-1.0647	0.0544
1	80.16	0.5996	-0.0241	0.0057	-0.2456	0.0326	-0.9730	0.0565	-0.8705	0.0486
1	80.16	0.6498	-0.0253	0.0054	-0.2824	0.0359	-1.2861	0.0636	-1.0414	0.0576
1	80.16	0.6998	-0.0465	0.0079	-0.3211	0.0406	-1.5929	0.0703	-1.0536	0.0667
1	80.16	0.7500	-0.0619	0.0067	-0.3447	0.0451	-1.9148	0.0757	-0.8766	0.0617
1	80.16	0.8001	-0.0891	0.0122	-0.3889	0.0482	-2.2642	0.0825	-0.9082	0.0631
1	80.16	0.8497	-0.1336	0.0096	-0.4076	0.0536	-2.6819	0.0916	-1.0474	0.0487
1	80.16	0.9102	-0.3169	0.0050	-0.3916	0.0776	-3.0518	0.0626	-1.4095	0.0460
1	80.16	0.9734	-0.3008	0.0041	-0.3604	0.0844	-3.6584	0.0679	-1.5936	0.0598

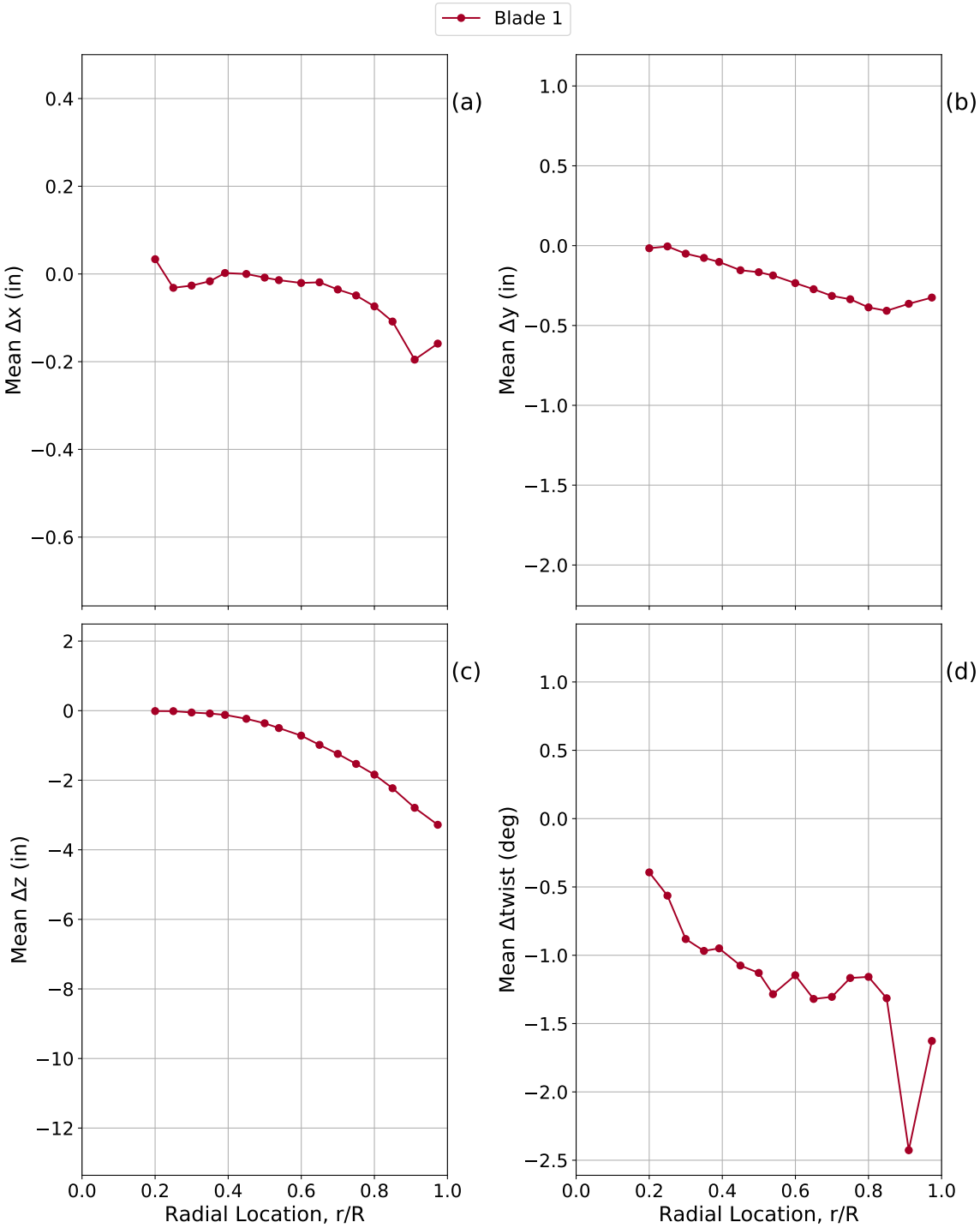


Figure 4.4-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	0.0337	0.0028	-0.0162	0.0016	-0.0116	0.0047	-0.3934	0.0325
1	85.08	0.2499	-0.0316	0.0016	-0.0048	0.0015	-0.0139	0.0063	-0.5638	0.0843
1	85.08	0.2998	-0.0265	0.0020	-0.0502	0.0050	-0.0529	0.0156	-0.8813	0.0851
1	85.08	0.3498	-0.0166	0.0024	-0.0767	0.0089	-0.0813	0.0276	-0.9680	0.0773
1	85.08	0.3913	0.0022	0.0024	-0.1022	0.0113	-0.1220	0.0367	-0.9495	0.0744
1	85.08	0.4496	0.0000	0.0038	-0.1539	0.0154	-0.2337	0.0482	-1.0752	0.0761
1	85.08	0.4997	-0.0083	0.0041	-0.1662	0.0193	-0.3626	0.0589	-1.1291	0.0805
1	85.08	0.5387	-0.0141	0.0054	-0.1867	0.0218	-0.5002	0.0671	-1.2848	0.0760
1	85.08	0.5996	-0.0205	0.0070	-0.2345	0.0270	-0.7175	0.0812	-1.1462	0.0783
1	85.08	0.6498	-0.0190	0.0079	-0.2728	0.0315	-0.9836	0.0916	-1.3197	0.0830
1	85.08	0.6998	-0.0354	0.0092	-0.3148	0.0365	-1.2433	0.1047	-1.3045	0.0718
1	85.08	0.7500	-0.0490	0.0109	-0.3356	0.0412	-1.5311	0.1170	-1.1663	0.0841
1	85.08	0.8001	-0.0739	0.0125	-0.3866	0.0461	-1.8386	0.1293	-1.1581	0.0768
1	85.08	0.8497	-0.1085	0.0136	-0.4078	0.0524	-2.2300	0.1361	-1.3144	0.0975
1	85.08	0.9102	-0.1953	0.0152	-0.3641	0.0647	-2.7925	0.1596	-2.4268	0.2625
1	85.08	0.9734	-0.1588	0.0161	-0.3251	0.0687	-3.2810	0.1722	-1.6271	0.1684

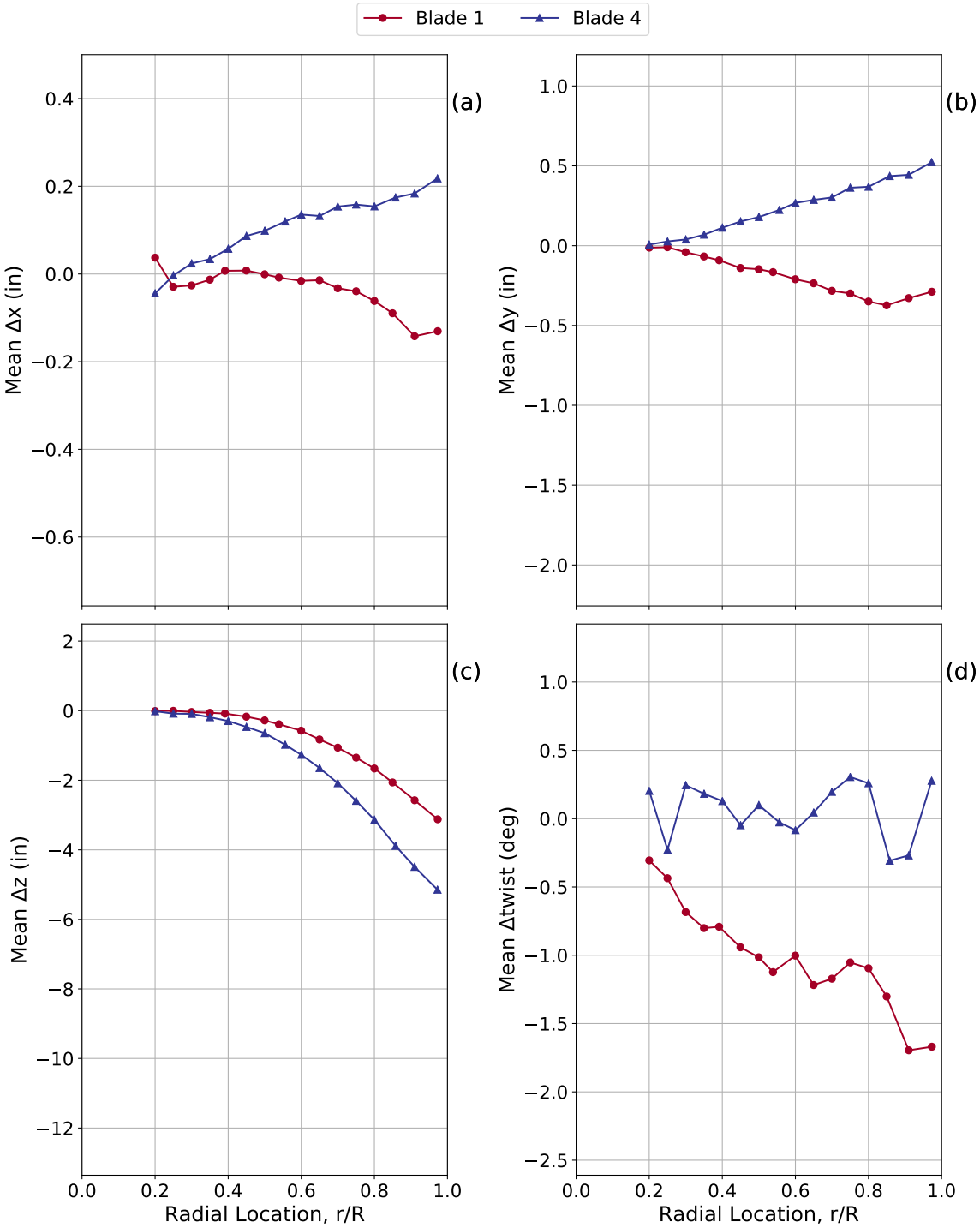


Figure 4.4-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	0.0373	0.0044	-0.0122	0.0027	-0.0104	0.0059	-0.3055	0.0299
1	90	0.2499	-0.0291	0.0032	-0.0096	0.0033	-0.0049	0.0060	-0.4360	0.0928
1	90	0.2998	-0.0261	0.0024	-0.0411	0.0087	-0.0375	0.0184	-0.6836	0.0819
1	90	0.3498	-0.0129	0.0023	-0.0674	0.0143	-0.0610	0.0300	-0.8012	0.0843
1	90	0.3913	0.0073	0.0030	-0.0914	0.0194	-0.0834	0.0403	-0.7915	0.0817
1	90	0.4496	0.0078	0.0034	-0.1397	0.0262	-0.1715	0.0527	-0.9419	0.0871
1	90	0.4997	-0.0006	0.0042	-0.1474	0.0320	-0.2801	0.0649	-1.0152	0.0864
1	90	0.5387	-0.0082	0.0047	-0.1656	0.0365	-0.3899	0.0735	-1.1234	0.0852
1	90	0.5996	-0.0156	0.0057	-0.2102	0.0437	-0.5739	0.0885	-1.0029	0.0819
1	90	0.6498	-0.0141	0.0070	-0.2355	0.0500	-0.8280	0.0989	-1.2181	0.0838
1	90	0.6998	-0.0325	0.0073	-0.2827	0.0566	-1.0625	0.1120	-1.1717	0.0787
1	90	0.7500	-0.0393	0.0104	-0.2993	0.0627	-1.3493	0.1244	-1.0529	0.0866
1	90	0.8001	-0.0615	0.0110	-0.3495	0.0687	-1.6617	0.1370	-1.0952	0.0975
1	90	0.8497	-0.0896	0.0114	-0.3737	0.0745	-2.0620	0.1512	-1.3022	0.0696
1	90	0.9102	-0.1420	0.0133	-0.3283	0.0826	-2.5753	0.1686	-1.6956	0.1284
1	90	0.9734	-0.1305	0.0182	-0.2885	0.0899	-3.1221	0.1848	-1.6696	0.1192
4	90.35	0.2001	-0.0442	0.0014	0.0069	0.0003	-0.0155	0.0010	0.2032	0.0239
4	90.35	0.2502	-0.0032	0.0009	0.0267	0.0015	-0.0853	0.0035	-0.2280	0.0232
4	90.35	0.3001	0.0241	0.0012	0.0390	0.0017	-0.0919	0.0052	0.2451	0.0488
4	90.35	0.3502	0.0340	0.0016	0.0690	0.0033	-0.1878	0.0089	0.1819	0.0269
4	90.35	0.4002	0.0576	0.0012	0.1128	0.0050	-0.2973	0.0141	0.1288	0.0387
4	90.35	0.4500	0.0868	0.0020	0.1519	0.0060	-0.4666	0.0187	-0.0481	0.0409
4	90.35	0.5001	0.0987	0.0013	0.1793	0.0072	-0.6470	0.0238	0.0989	0.0371
4	90.35	0.5560	0.1198	0.0020	0.2238	0.0086	-0.9788	0.0303	-0.0270	0.0379
4	90.35	0.6001	0.1355	0.0017	0.2680	0.0102	-1.2697	0.0361	-0.0840	0.0306
4	90.35	0.6501	0.1323	0.0020	0.2869	0.0120	-1.6488	0.0404	0.0449	0.0464
4	90.35	0.6999	0.1538	0.0019	0.3021	0.0143	-2.0848	0.0474	0.1961	0.0368
4	90.35	0.7500	0.1583	0.0032	0.3630	0.0156	-2.5913	0.0488	0.3048	0.0535
4	90.35	0.8002	0.1542	0.0027	0.3690	0.0185	-3.1360	0.0486	0.2593	0.0716
4	90.35	0.8582	0.1745	0.0037	0.4360	0.0210	-3.8869	0.0523	-0.3075	0.0465
4	90.35	0.9101	0.1836	0.0039	0.4439	0.0249	-4.4899	0.0567	-0.2688	0.0958
4	90.35	0.9728	0.2180	0.0031	0.5227	0.0258	-5.1458	0.0609	0.2772	0.0814

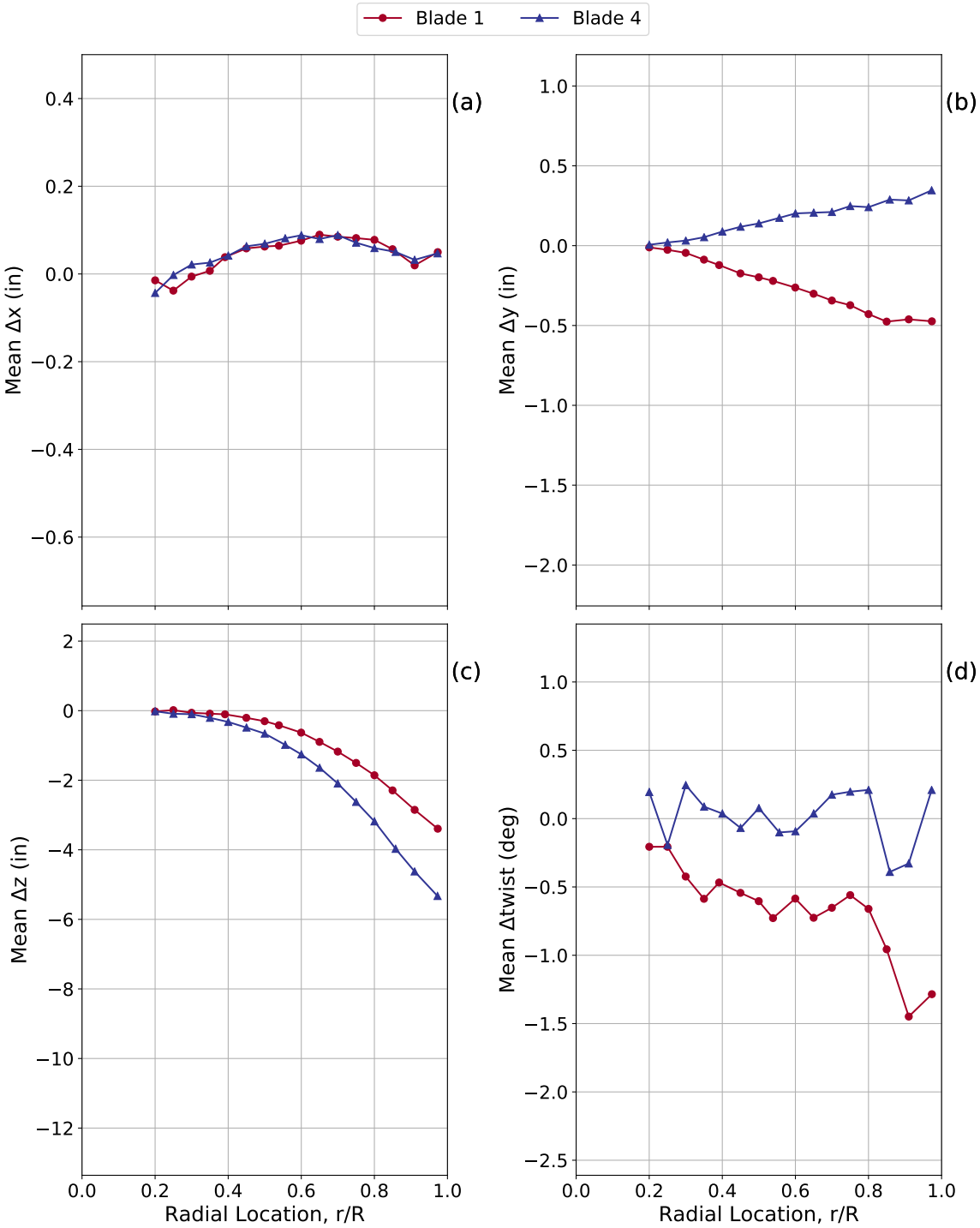


Figure 4.4-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0145	0.0011	-0.0109	0.0007	-0.0231	0.0017	-0.2061	0.0157
1	94.92	0.2499	-0.0380	0.0006	-0.0260	0.0011	0.0143	0.0037	-0.2059	0.0229
1	94.92	0.2998	-0.0060	0.0009	-0.0452	0.0027	-0.0604	0.0055	-0.4240	0.0329
1	94.92	0.3498	0.0072	0.0011	-0.0877	0.0042	-0.0868	0.0113	-0.5869	0.0221
1	94.92	0.3913	0.0383	0.0020	-0.1218	0.0062	-0.1052	0.0150	-0.4675	0.0289
1	94.92	0.4496	0.0583	0.0025	-0.1739	0.0082	-0.2060	0.0187	-0.5432	0.0307
1	94.92	0.4997	0.0625	0.0025	-0.1983	0.0095	-0.3029	0.0222	-0.6041	0.0226
1	94.92	0.5387	0.0644	0.0026	-0.2207	0.0111	-0.4196	0.0251	-0.7280	0.0262
1	94.92	0.5996	0.0759	0.0033	-0.2625	0.0130	-0.6312	0.0276	-0.5851	0.0264
1	94.92	0.6498	0.0896	0.0034	-0.3011	0.0147	-0.8972	0.0312	-0.7256	0.0282
1	94.92	0.6998	0.0850	0.0031	-0.3437	0.0161	-1.1772	0.0328	-0.6524	0.0252
1	94.92	0.7500	0.0818	0.0044	-0.3728	0.0316	-1.5024	0.0800	-0.5598	0.3470
1	94.92	0.8001	0.0778	0.0029	-0.4287	0.0196	-1.8575	0.0416	-0.6605	0.0391
1	94.92	0.8497	0.0565	0.0029	-0.4757	0.0221	-2.2922	0.0476	-0.9565	0.0400
1	94.92	0.9102	0.0196	0.0052	-0.4616	0.0242	-2.8516	0.0511	-1.4486	0.0823
1	94.92	0.9734	0.0498	0.0034	-0.4738	0.0271	-3.3942	0.0625	-1.2849	0.0811
4	94.92	0.2001	-0.0433	0.0015	0.0055	0.0004	-0.0179	0.0013	0.1944	0.0159
4	94.92	0.2502	-0.0024	0.0007	0.0200	0.0008	-0.0898	0.0017	-0.1931	0.0261
4	94.92	0.3001	0.0215	0.0008	0.0316	0.0014	-0.1015	0.0034	0.2448	0.0340
4	94.92	0.3502	0.0259	0.0014	0.0529	0.0028	-0.2062	0.0061	0.0874	0.0273
4	94.92	0.4002	0.0418	0.0019	0.0881	0.0039	-0.3248	0.0081	0.0366	0.0306
4	94.92	0.4500	0.0631	0.0025	0.1183	0.0047	-0.4870	0.0094	-0.0684	0.0315
4	94.92	0.5001	0.0688	0.0026	0.1392	0.0060	-0.6598	0.0112	0.0768	0.0335
4	94.92	0.5560	0.0813	0.0031	0.1740	0.0075	-0.9834	0.0137	-0.1009	0.0324
4	94.92	0.6001	0.0883	0.0034	0.2018	0.0087	-1.2570	0.0155	-0.0927	0.0261
4	94.92	0.6501	0.0797	0.0031	0.2064	0.0094	-1.6414	0.0160	0.0372	0.0372
4	94.92	0.6999	0.0885	0.0038	0.2106	0.0105	-2.0951	0.0188	0.1748	0.0337
4	94.92	0.7500	0.0713	0.0049	0.2478	0.0283	-2.6240	0.0611	0.1971	0.3457
4	94.92	0.8002	0.0590	0.0033	0.2410	0.0131	-3.1841	0.0213	0.2101	0.0383
4	94.92	0.8582	0.0502	0.0019	0.2883	0.0150	-3.9730	0.0239	-0.3903	0.0649
4	94.92	0.9101	0.0322	0.0021	0.2832	0.0159	-4.6236	0.0288	-0.3284	0.0522
4	94.92	0.9728	0.0470	0.0029	0.3464	0.0183	-5.3289	0.0394	0.2096	0.0628

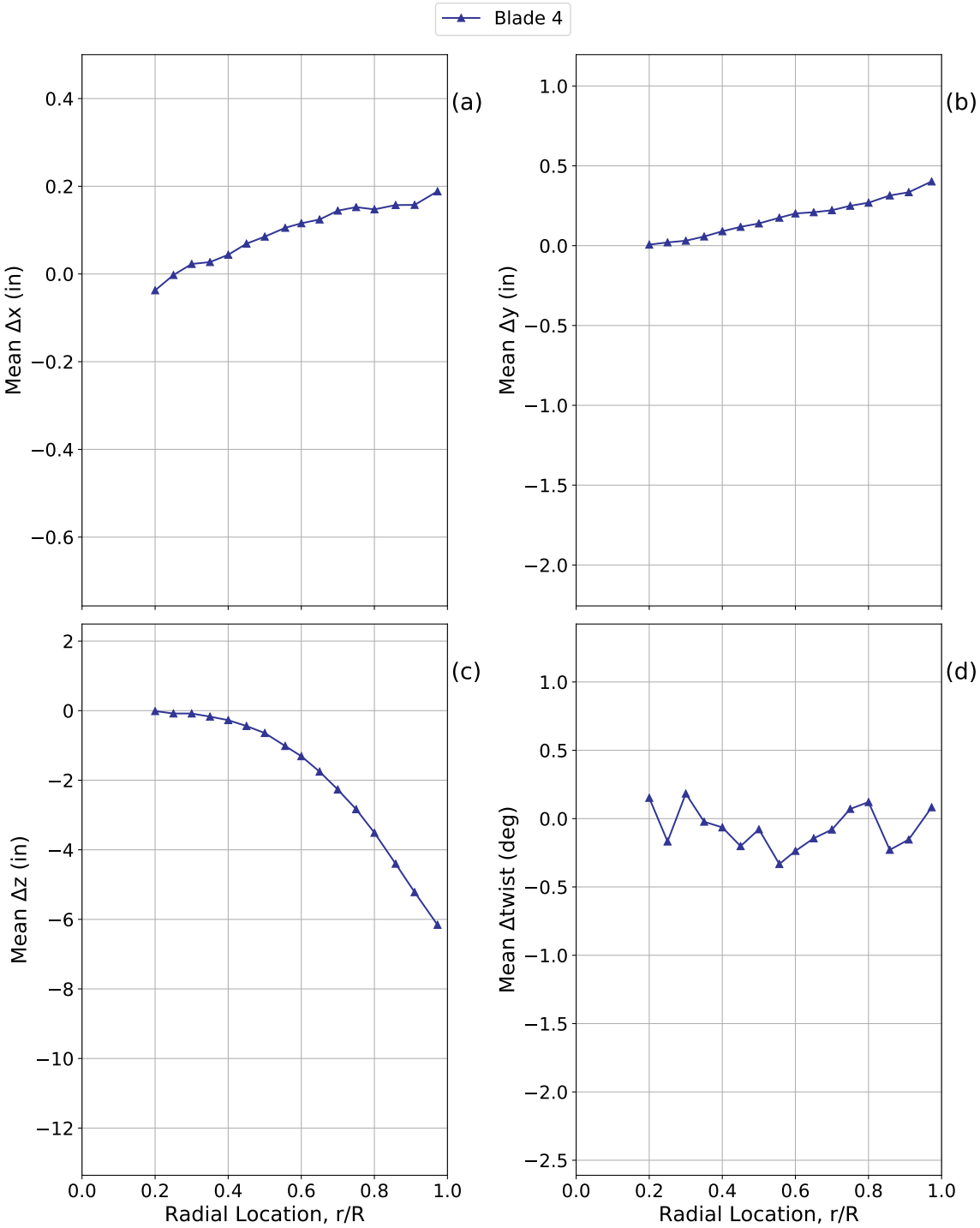


Figure 4.4-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0373	0.0008	0.0062	0.0003	-0.0127	0.0020	0.1518	0.0139
4	105.12	0.2502	-0.0024	0.0014	0.0204	0.0014	-0.0813	0.0044	-0.1678	0.0205
4	105.12	0.3001	0.0228	0.0006	0.0307	0.0016	-0.0824	0.0084	0.1833	0.0293
4	105.12	0.3502	0.0271	0.0007	0.0572	0.0032	-0.1716	0.0143	-0.0228	0.0275
4	105.12	0.4002	0.0438	0.0012	0.0900	0.0051	-0.2734	0.0223	-0.0644	0.0197
4	105.12	0.4500	0.0691	0.0014	0.1176	0.0062	-0.4425	0.0282	-0.2016	0.0258
4	105.12	0.5001	0.0851	0.0013	0.1390	0.0069	-0.6436	0.0344	-0.0784	0.0223
4	105.12	0.5560	0.1052	0.0017	0.1748	0.0092	-1.0157	0.0418	-0.3323	0.0266
4	105.12	0.6001	0.1156	0.0011	0.2016	0.0097	-1.3105	0.0485	-0.2365	0.0273
4	105.12	0.6501	0.1242	0.0016	0.2092	0.0118	-1.7542	0.0564	-0.1442	0.0190
4	105.12	0.6999	0.1444	0.0018	0.2217	0.0135	-2.2682	0.0644	-0.0803	0.0276
4	105.12	0.7500	0.1524	0.0020	0.2495	0.0156	-2.8341	0.0744	0.0709	0.0295
4	105.12	0.8002	0.1473	0.0026	0.2688	0.0178	-3.5125	0.0841	0.1209	0.0292
4	105.12	0.8582	0.1571	0.0029	0.3141	0.0205	-4.4022	0.0963	-0.2287	0.0379
4	105.12	0.9101	0.1575	0.0030	0.3345	0.0232	-5.2192	0.1058	-0.1533	0.0351
4	105.12	0.9728	0.1884	0.0034	0.4020	0.0268	-6.1583	0.1224	0.0828	0.0235

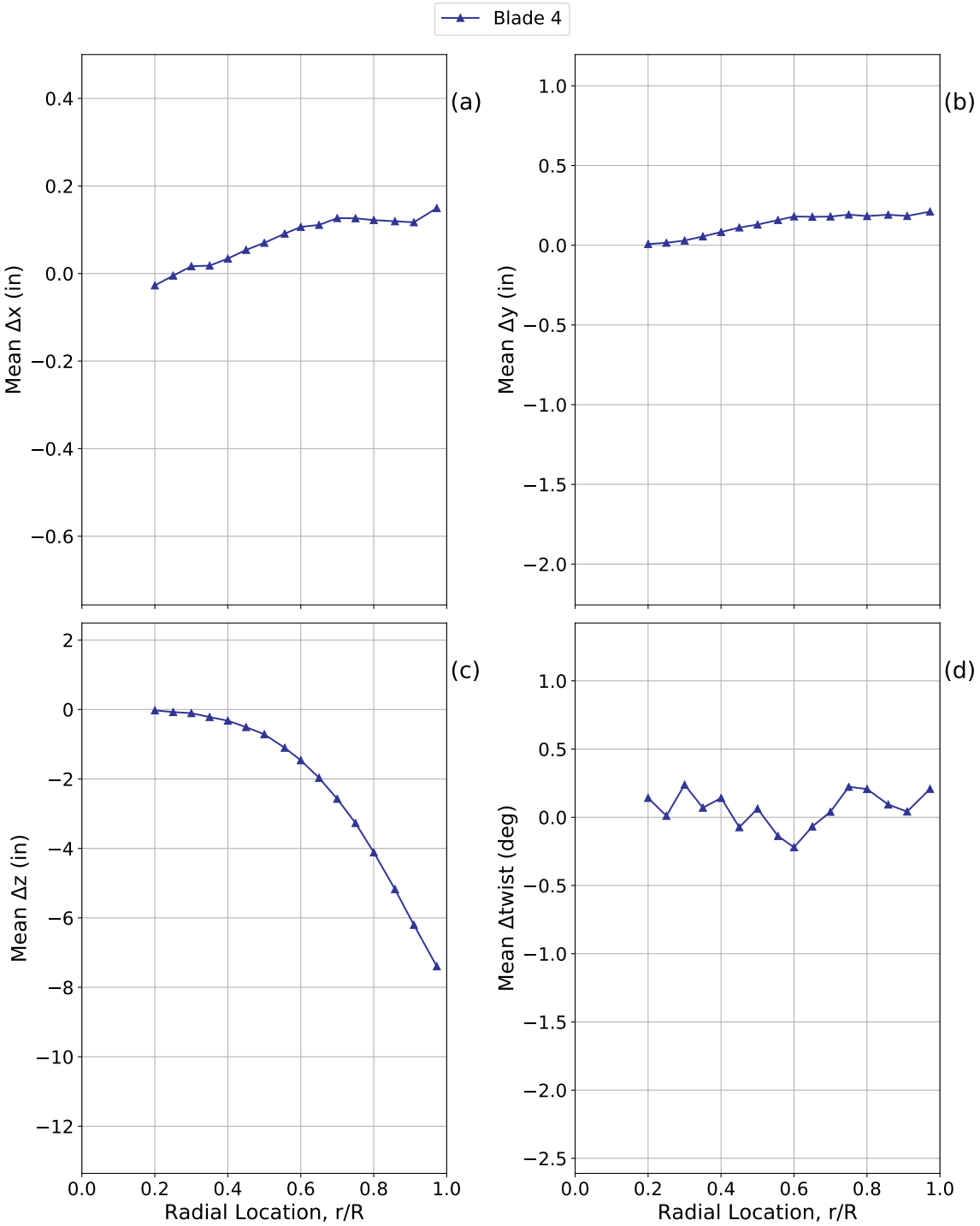


Figure 4.4-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0272	0.0015	0.0074	0.0006	-0.0256	0.0012	0.1420	0.0149
4	119.88	0.2502	-0.0049	0.0008	0.0154	0.0014	-0.0747	0.0025	0.0103	0.0168
4	119.88	0.3001	0.0166	0.0011	0.0295	0.0023	-0.1058	0.0038	0.2386	0.0304
4	119.88	0.3502	0.0180	0.0013	0.0552	0.0044	-0.2181	0.0077	0.0697	0.0179
4	119.88	0.4002	0.0341	0.0015	0.0828	0.0064	-0.3235	0.0105	0.1416	0.0227
4	119.88	0.4500	0.0539	0.0014	0.1111	0.0076	-0.5076	0.0128	-0.0734	0.0290
4	119.88	0.5001	0.0701	0.0017	0.1293	0.0091	-0.7138	0.0144	0.0629	0.0214
4	119.88	0.5560	0.0910	0.0016	0.1579	0.0099	-1.1038	0.0194	-0.1374	0.0218
4	119.88	0.6001	0.1064	0.0017	0.1806	0.0107	-1.4623	0.0208	-0.2201	0.0355
4	119.88	0.6501	0.1110	0.0016	0.1782	0.0124	-1.9697	0.0250	-0.0680	0.0302
4	119.88	0.6999	0.1265	0.0019	0.1800	0.0133	-2.5720	0.0273	0.0402	0.0280
4	119.88	0.7500	0.1261	0.0021	0.1920	0.0147	-3.2699	0.0294	0.2233	0.0222
4	119.88	0.8002	0.1220	0.0021	0.1828	0.0154	-4.1161	0.0315	0.2071	0.0290
4	119.88	0.8582	0.1193	0.0019	0.1913	0.0175	-5.1763	0.0338	0.0934	0.0295
4	119.88	0.9101	0.1170	0.0014	0.1835	0.0190	-6.2032	0.0366	0.0418	0.0266
4	119.88	0.9728	0.1494	0.0020	0.2108	0.0207	-7.3957	0.0407	0.2080	0.0279

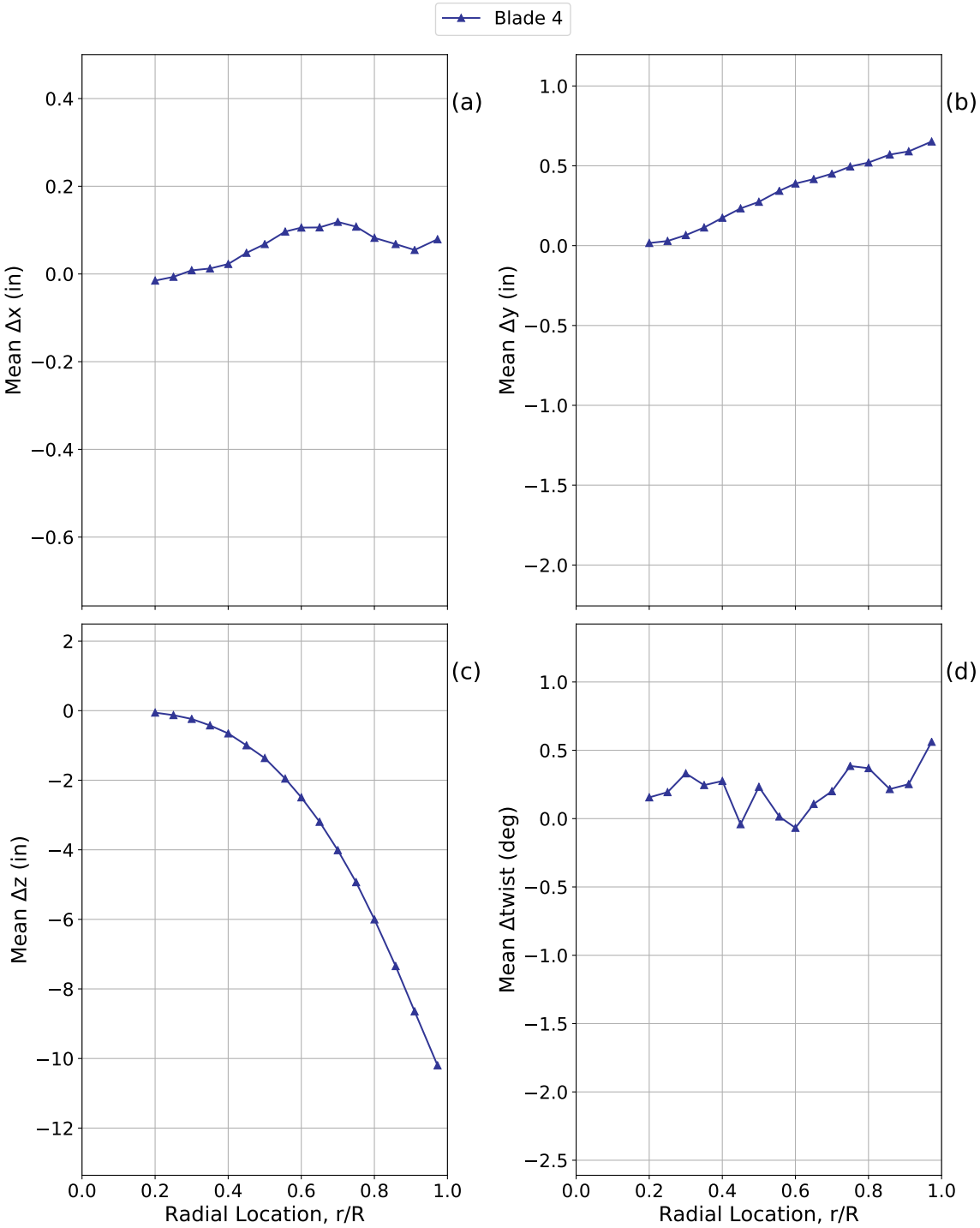


Figure 4.4-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0152	0.0011	0.0164	0.0005	-0.0569	0.0012	0.1554	0.0093
4	135	0.2502	-0.0066	0.0009	0.0291	0.0009	-0.1289	0.0029	0.1935	0.0198
4	135	0.3001	0.0083	0.0004	0.0658	0.0019	-0.2387	0.0056	0.3309	0.0209
4	135	0.3502	0.0124	0.0011	0.1134	0.0032	-0.4248	0.0084	0.2453	0.0219
4	135	0.4002	0.0227	0.0011	0.1743	0.0049	-0.6552	0.0140	0.2751	0.0224
4	135	0.4500	0.0481	0.0020	0.2331	0.0057	-0.9977	0.0169	-0.0413	0.0194
4	135	0.5001	0.0681	0.0020	0.2743	0.0074	-1.3635	0.0200	0.2324	0.0229
4	135	0.5560	0.0966	0.0015	0.3431	0.0090	-1.9547	0.0256	0.0149	0.0171
4	135	0.6001	0.1057	0.0024	0.3888	0.0109	-2.4940	0.0289	-0.0679	0.0225
4	135	0.6501	0.1061	0.0017	0.4166	0.0129	-3.1972	0.0345	0.1069	0.0223
4	135	0.6999	0.1187	0.0022	0.4506	0.0148	-4.0131	0.0389	0.2002	0.0253
4	135	0.7500	0.1078	0.0021	0.4954	0.0175	-4.9323	0.0465	0.3851	0.0159
4	135	0.8002	0.0823	0.0023	0.5205	0.0204	-6.0025	0.0548	0.3691	0.0227
4	135	0.8582	0.0681	0.0033	0.5701	0.0230	-7.3447	0.0649	0.2159	0.0188
4	135	0.9101	0.0547	0.0037	0.5903	0.0254	-8.6451	0.0752	0.2522	0.0233
4	135	0.9728	0.0791	0.0047	0.6519	0.0293	-10.1980	0.0893	0.5618	0.0248

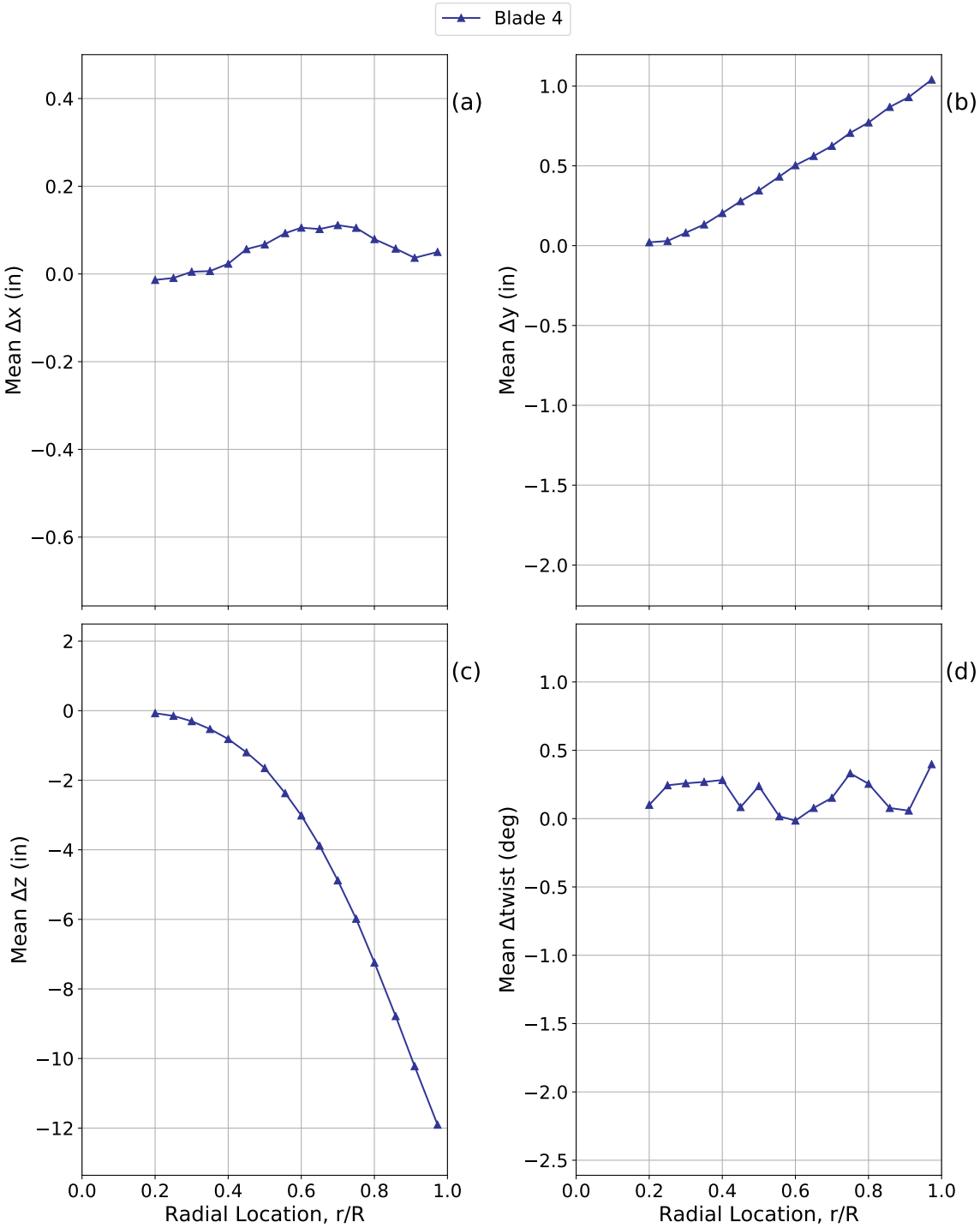


Figure 4.4-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0136	0.0011	0.0209	0.0005	-0.0741	0.0009	0.1006	0.0133
4	150.12	0.2502	-0.0092	0.0015	0.0292	0.0008	-0.1505	0.0026	0.2438	0.0217
4	150.12	0.3001	0.0050	0.0012	0.0809	0.0030	-0.3037	0.0039	0.2585	0.0302
4	150.12	0.3502	0.0066	0.0016	0.1323	0.0027	-0.5291	0.0048	0.2684	0.0285
4	150.12	0.4002	0.0233	0.0011	0.2040	0.0057	-0.8159	0.0092	0.2825	0.0271
4	150.12	0.4500	0.0566	0.0012	0.2783	0.0051	-1.1988	0.0128	0.0841	0.0228
4	150.12	0.5001	0.0673	0.0011	0.3456	0.0071	-1.6529	0.0165	0.2373	0.0215
4	150.12	0.5560	0.0930	0.0013	0.4325	0.0078	-2.3740	0.0224	0.0167	0.0216
4	150.12	0.6001	0.1055	0.0017	0.5033	0.0086	-3.0152	0.0260	-0.0147	0.0234
4	150.12	0.6501	0.1024	0.0021	0.5612	0.0109	-3.8814	0.0307	0.0779	0.0414
4	150.12	0.6999	0.1113	0.0022	0.6247	0.0126	-4.8810	0.0352	0.1521	0.0352
4	150.12	0.7500	0.1051	0.0019	0.7063	0.0146	-5.9835	0.0379	0.3313	0.0298
4	150.12	0.8002	0.0794	0.0018	0.7712	0.0169	-7.2443	0.0400	0.2546	0.0298
4	150.12	0.8582	0.0577	0.0026	0.8685	0.0198	-8.7826	0.0444	0.0776	0.0370
4	150.12	0.9101	0.0368	0.0027	0.9299	0.0221	-10.2212	0.0465	0.0584	0.0291
4	150.12	0.9728	0.0501	0.0027	1.0393	0.0255	-11.9042	0.0502	0.3979	0.0291

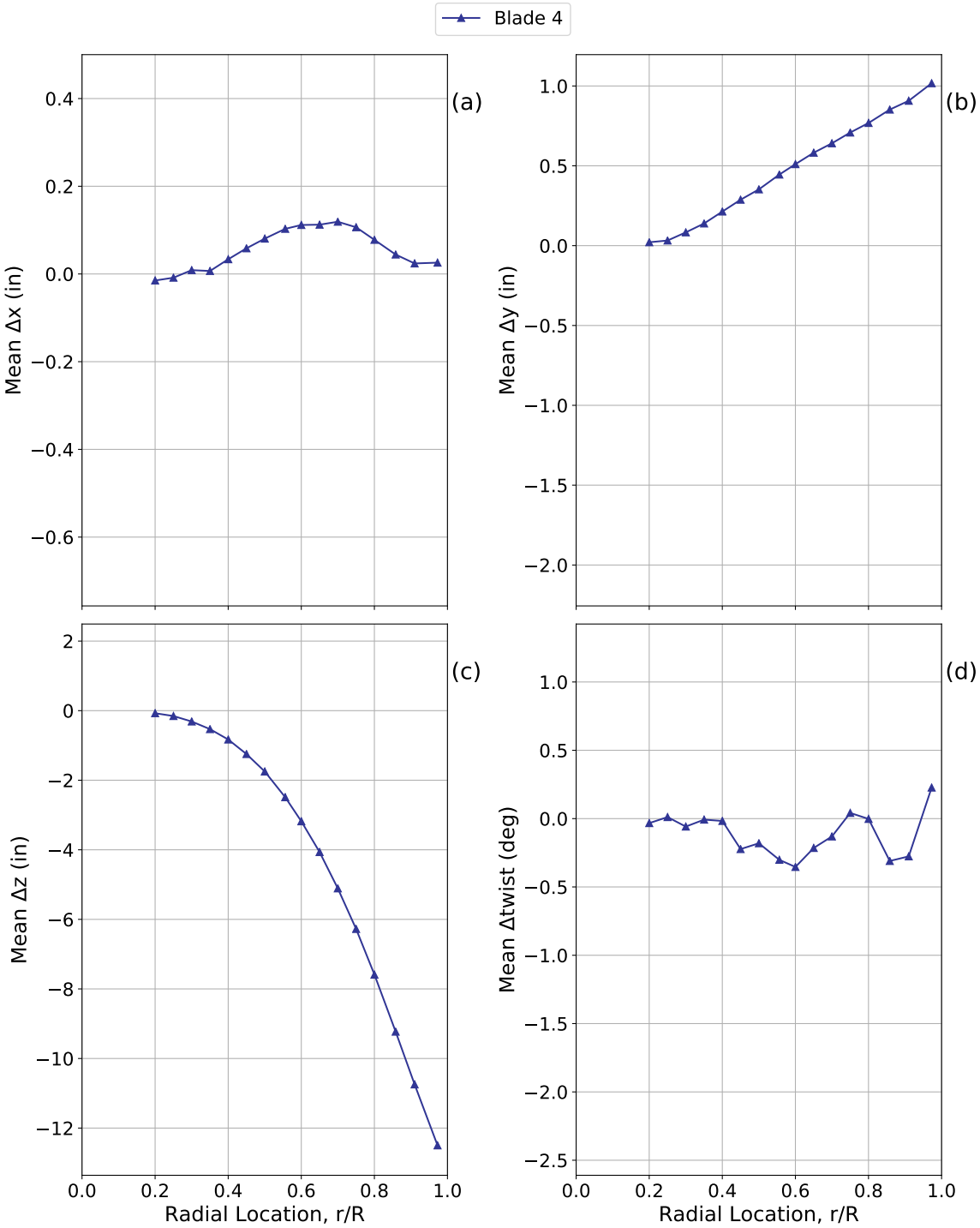


Figure 4.4-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0149	0.0015	0.0213	0.0006	-0.0740	0.0019	-0.0329	0.0112
4	164.88	0.2502	-0.0085	0.0016	0.0321	0.0024	-0.1546	0.0031	0.0111	0.0233
4	164.88	0.3001	0.0087	0.0011	0.0832	0.0038	-0.3120	0.0065	-0.0583	0.0261
4	164.88	0.3502	0.0068	0.0012	0.1389	0.0052	-0.5315	0.0119	-0.0074	0.0285
4	164.88	0.4002	0.0336	0.0015	0.2136	0.0098	-0.8303	0.0170	-0.0171	0.0202
4	164.88	0.4500	0.0585	0.0016	0.2876	0.0118	-1.2476	0.0189	-0.2230	0.0223
4	164.88	0.5001	0.0806	0.0021	0.3524	0.0148	-1.7496	0.0232	-0.1804	0.0286
4	164.88	0.5560	0.1029	0.0022	0.4451	0.0175	-2.4887	0.0276	-0.3016	0.0253
4	164.88	0.6001	0.1117	0.0025	0.5104	0.0197	-3.1813	0.0307	-0.3538	0.0300
4	164.88	0.6501	0.1124	0.0022	0.5820	0.0213	-4.0660	0.0362	-0.2148	0.0278
4	164.88	0.6999	0.1191	0.0025	0.6409	0.0257	-5.1093	0.0415	-0.1306	0.0254
4	164.88	0.7500	0.1065	0.0025	0.7083	0.0288	-6.2760	0.0468	0.0417	0.0241
4	164.88	0.8002	0.0778	0.0029	0.7683	0.0324	-7.5897	0.0523	-0.0022	0.0261
4	164.88	0.8582	0.0443	0.0034	0.8520	0.0349	-9.2290	0.0601	-0.3100	0.0291
4	164.88	0.9101	0.0240	0.0038	0.9072	0.0377	-10.7451	0.0653	-0.2763	0.0258
4	164.88	0.9728	0.0258	0.0043	1.0170	0.0410	-12.4978	0.0764	0.2271	0.0188

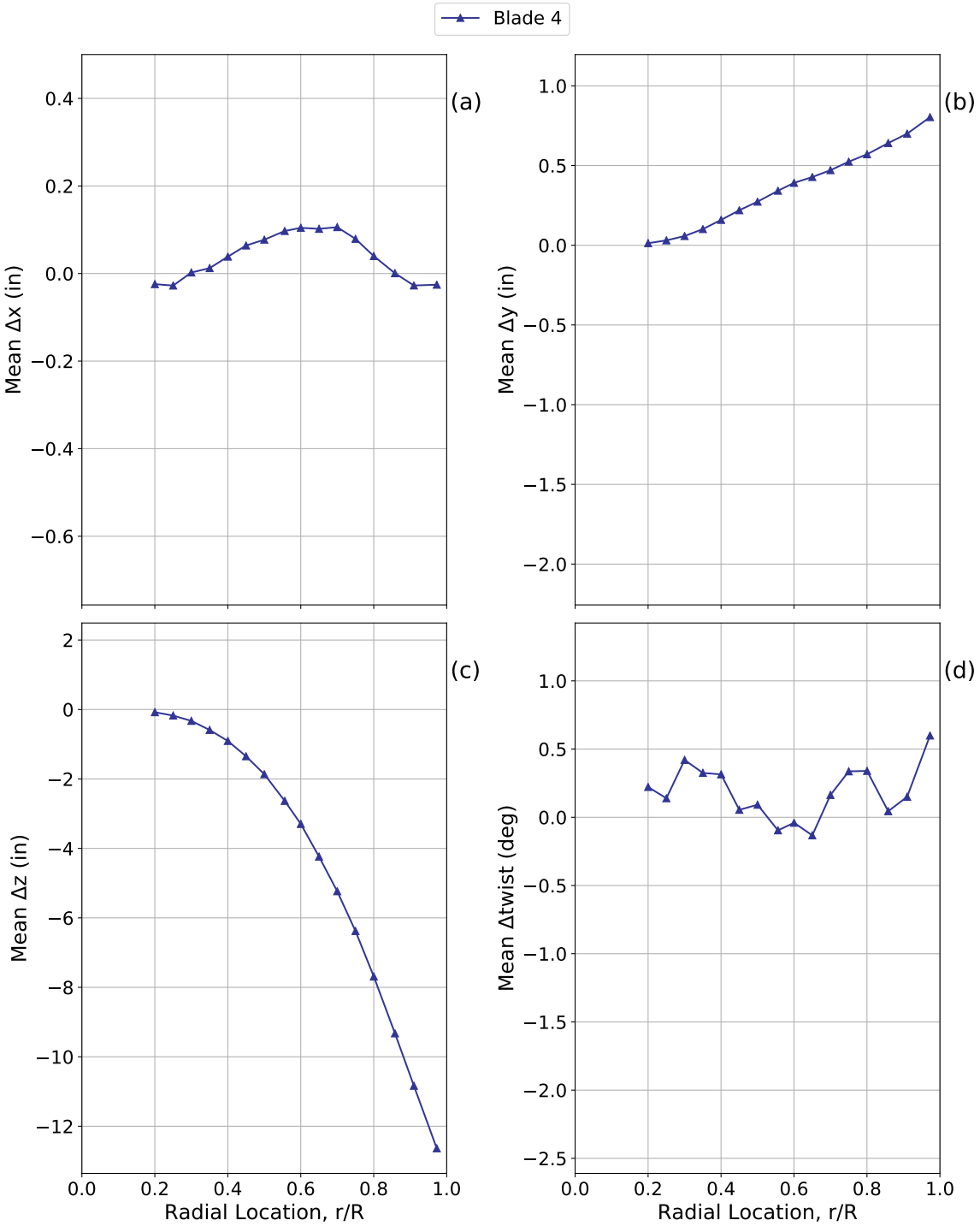


Figure 4.4-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0243	0.0014	0.0128	0.0008	-0.0785	0.0016	0.2219	0.0123
4	170.16	0.2502	-0.0275	0.0016	0.0305	0.0020	-0.1752	0.0030	0.1393	0.0329
4	170.16	0.3001	0.0023	0.0017	0.0577	0.0034	-0.3284	0.0072	0.4203	0.0314
4	170.16	0.3502	0.0123	0.0013	0.1014	0.0063	-0.5901	0.0107	0.3253	0.0317
4	170.16	0.4002	0.0385	0.0016	0.1590	0.0096	-0.9065	0.0176	0.3145	0.0243
4	170.16	0.4500	0.0639	0.0018	0.2195	0.0118	-1.3472	0.0213	0.0546	0.0271
4	170.16	0.5001	0.0773	0.0016	0.2734	0.0138	-1.8633	0.0247	0.0920	0.0384
4	170.16	0.5560	0.0971	0.0029	0.3417	0.0165	-2.6317	0.0316	-0.0958	0.0299
4	170.16	0.6001	0.1044	0.0019	0.3914	0.0190	-3.2964	0.0349	-0.0402	0.0464
4	170.16	0.6501	0.1020	0.0029	0.4278	0.0232	-4.2374	0.0374	-0.1326	0.0858
4	170.16	0.6999	0.1059	0.0030	0.4708	0.0251	-5.2334	0.0417	0.1635	0.0590
4	170.16	0.7500	0.0791	0.0028	0.5241	0.0287	-6.3803	0.0464	0.3366	0.0436
4	170.16	0.8002	0.0398	0.0042	0.5706	0.0322	-7.6893	0.0515	0.3399	0.0495
4	170.16	0.8582	0.0006	0.0039	0.6408	0.0365	-9.3266	0.0539	0.0443	0.0635
4	170.16	0.9101	-0.0273	0.0063	0.6998	0.0398	-10.8351	0.0636	0.1503	0.0854
4	170.16	0.9728	-0.0256	0.0060	0.8036	0.0446	-12.6372	0.0731	0.5992	0.1047

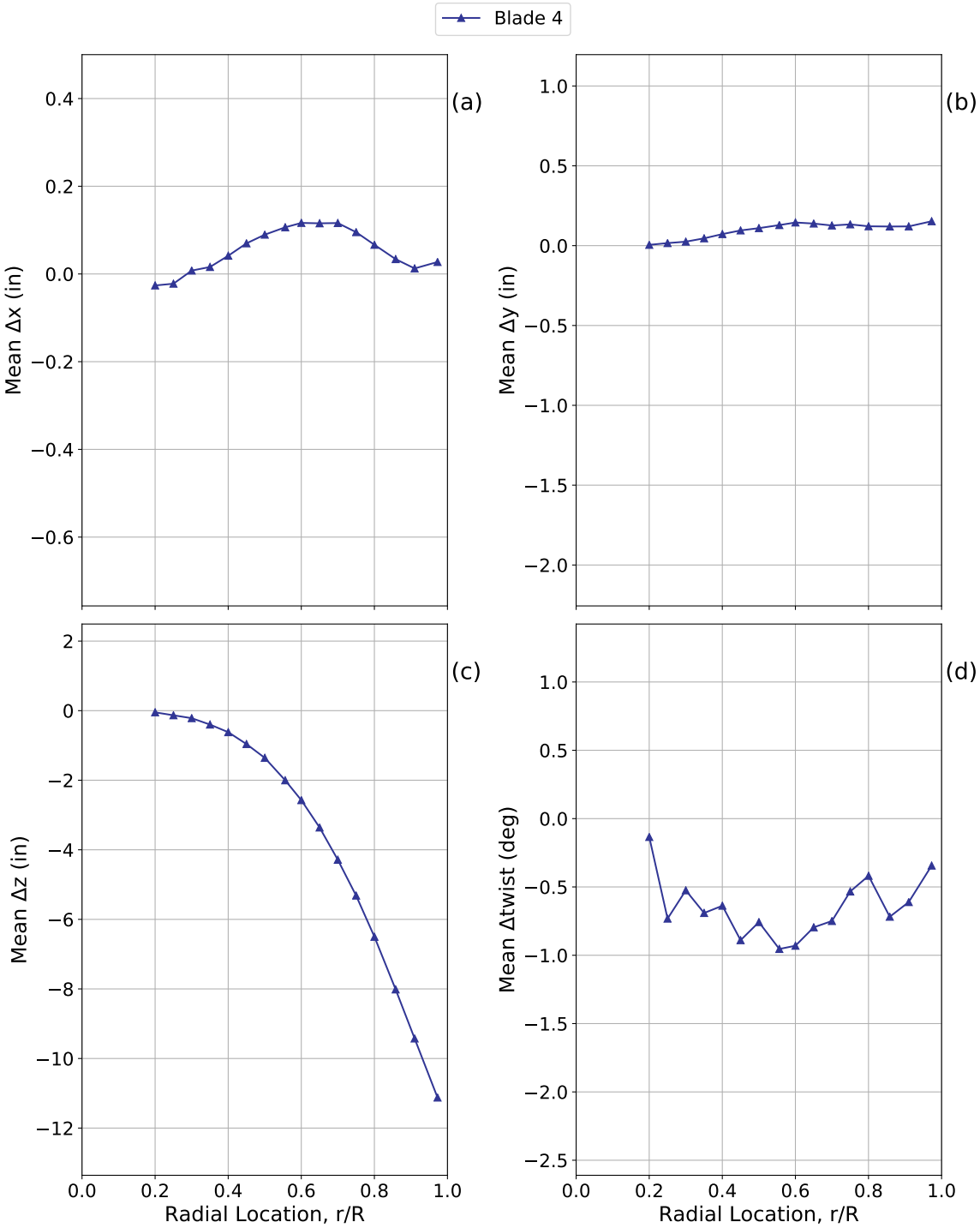


Figure 4.4-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0262	0.0013	0.0050	0.0010	-0.0485	0.0010	-0.1343	0.0199
4	175.08	0.2502	-0.0222	0.0011	0.0159	0.0014	-0.1329	0.0024	-0.7321	0.0457
4	175.08	0.3001	0.0077	0.0007	0.0249	0.0035	-0.2165	0.0042	-0.5250	0.0507
4	175.08	0.3502	0.0159	0.0013	0.0458	0.0058	-0.4003	0.0064	-0.6907	0.0510
4	175.08	0.4002	0.0416	0.0023	0.0723	0.0087	-0.6192	0.0104	-0.6376	0.0488
4	175.08	0.4500	0.0698	0.0017	0.0953	0.0103	-0.9606	0.0126	-0.8898	0.0568
4	175.08	0.5001	0.0896	0.0024	0.1096	0.0132	-1.3575	0.0177	-0.7575	0.0569
4	175.08	0.5560	0.1064	0.0015	0.1287	0.0160	-2.0028	0.0233	-0.9540	0.0456
4	175.08	0.6001	0.1164	0.0020	0.1450	0.0182	-2.5737	0.0270	-0.9303	0.0533
4	175.08	0.6501	0.1155	0.0022	0.1383	0.0202	-3.3597	0.0350	-0.7956	0.0566
4	175.08	0.6999	0.1161	0.0022	0.1262	0.0237	-4.2868	0.0374	-0.7494	0.0551
4	175.08	0.7500	0.0953	0.0028	0.1332	0.0261	-5.3167	0.0440	-0.5333	0.0474
4	175.08	0.8002	0.0665	0.0028	0.1212	0.0291	-6.5020	0.0473	-0.4186	0.0618
4	175.08	0.8582	0.0338	0.0030	0.1198	0.0330	-8.0148	0.0505	-0.7182	0.0630
4	175.08	0.9101	0.0126	0.0046	0.1205	0.0379	-9.4249	0.0557	-0.6108	0.0648
4	175.08	0.9728	0.0273	0.0032	0.1527	0.0422	-11.1231	0.0566	-0.3438	0.0860

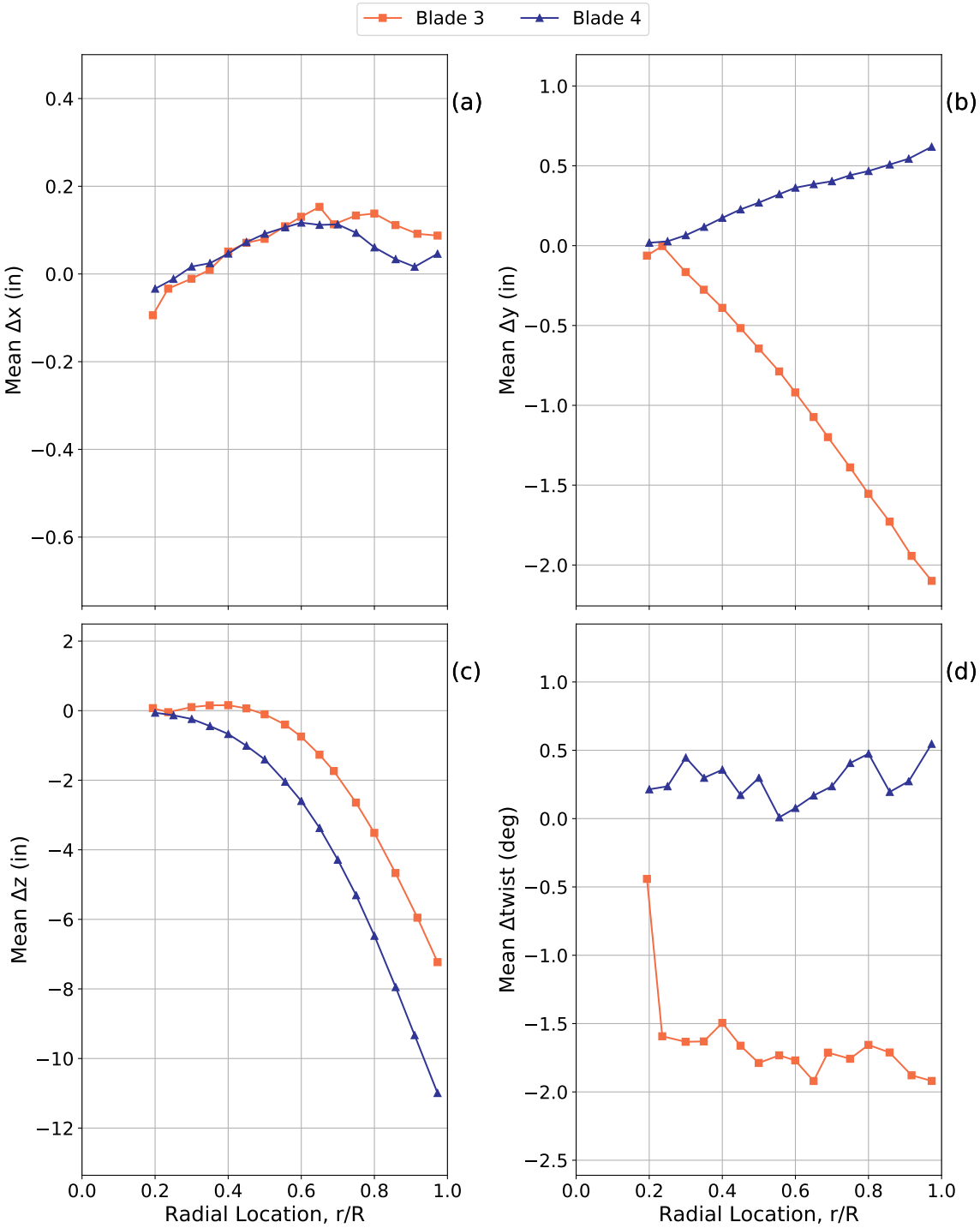


Figure 4.4-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0941	0.0053	-0.0625	0.0014	0.0725	0.0029	-0.4410	0.0138
3	180.35	0.2357	-0.0335	0.0027	-0.0024	0.0011	-0.0432	0.0029	-1.5928	0.0400
3	180.35	0.2995	-0.0108	0.0022	-0.1655	0.0040	0.1021	0.0078	-1.6333	0.0388
3	180.35	0.3493	0.0096	0.0027	-0.2759	0.0075	0.1518	0.0126	-1.6305	0.0419
3	180.35	0.4000	0.0511	0.0043	-0.3897	0.0104	0.1575	0.0185	-1.4948	0.0443
3	180.35	0.4497	0.0710	0.0038	-0.5165	0.0145	0.0654	0.0259	-1.6617	0.0355
3	180.35	0.4997	0.0801	0.0047	-0.6445	0.0180	-0.1053	0.0323	-1.7883	0.0393
3	180.35	0.5556	0.1087	0.0035	-0.7878	0.0217	-0.3999	0.0403	-1.7324	0.0348
3	180.35	0.5995	0.1304	0.0030	-0.9191	0.0234	-0.7459	0.0433	-1.7697	0.0488
3	180.35	0.6498	0.1530	0.0032	-1.0732	0.0276	-1.2671	0.0508	-1.9201	0.0451
3	180.35	0.6890	0.1132	0.0037	-1.1993	0.0299	-1.7348	0.0552	-1.7123	0.0505
3	180.35	0.7495	0.1333	0.0054	-1.3888	0.0341	-2.6429	0.0646	-1.7575	0.0406
3	180.35	0.7998	0.1378	0.0076	-1.5540	0.0378	-3.5134	0.0716	-1.6561	0.0402
3	180.35	0.8577	0.1115	0.0119	-1.7285	0.0426	-4.6674	0.0799	-1.7113	0.0412
3	180.35	0.9178	0.0916	0.0157	-1.9428	0.0477	-5.9521	0.0889	-1.8784	0.0510
3	180.35	0.9729	0.0875	0.0244	-2.0993	0.0501	-7.2302	0.0967	-1.9198	0.0726
4	180	0.2001	-0.0336	0.0030	0.0179	0.0006	-0.0596	0.0008	0.2141	0.0140
4	180	0.2502	-0.0113	0.0009	0.0271	0.0016	-0.1330	0.0027	0.2365	0.0154
4	180	0.3001	0.0168	0.0017	0.0652	0.0027	-0.2400	0.0036	0.4464	0.0291
4	180	0.3502	0.0246	0.0026	0.1174	0.0045	-0.4446	0.0066	0.2985	0.0167
4	180	0.4002	0.0464	0.0028	0.1740	0.0072	-0.6722	0.0101	0.3579	0.0244
4	180	0.4500	0.0726	0.0040	0.2269	0.0080	-1.0098	0.0110	0.1729	0.0187
4	180	0.5001	0.0916	0.0032	0.2695	0.0098	-1.4031	0.0141	0.2986	0.0247
4	180	0.5560	0.1063	0.0042	0.3222	0.0122	-2.0449	0.0157	0.0094	0.0238
4	180	0.6001	0.1170	0.0041	0.3628	0.0146	-2.5976	0.0184	0.0778	0.0309
4	180	0.6501	0.1119	0.0038	0.3846	0.0165	-3.3747	0.0208	0.1691	0.0238
4	180	0.6999	0.1130	0.0054	0.4032	0.0184	-4.2875	0.0238	0.2367	0.0287
4	180	0.7500	0.0938	0.0056	0.4409	0.0206	-5.3065	0.0254	0.4067	0.0309
4	180	0.8002	0.0606	0.0070	0.4672	0.0230	-6.4739	0.0290	0.4750	0.0344
4	180	0.8582	0.0336	0.0103	0.5079	0.0250	-7.9488	0.0322	0.1952	0.0351
4	180	0.9101	0.0164	0.0134	0.5444	0.0275	-9.3298	0.0377	0.2733	0.0395
4	180	0.9728	0.0460	0.0185	0.6189	0.0301	-10.9934	0.0429	0.5468	0.0264

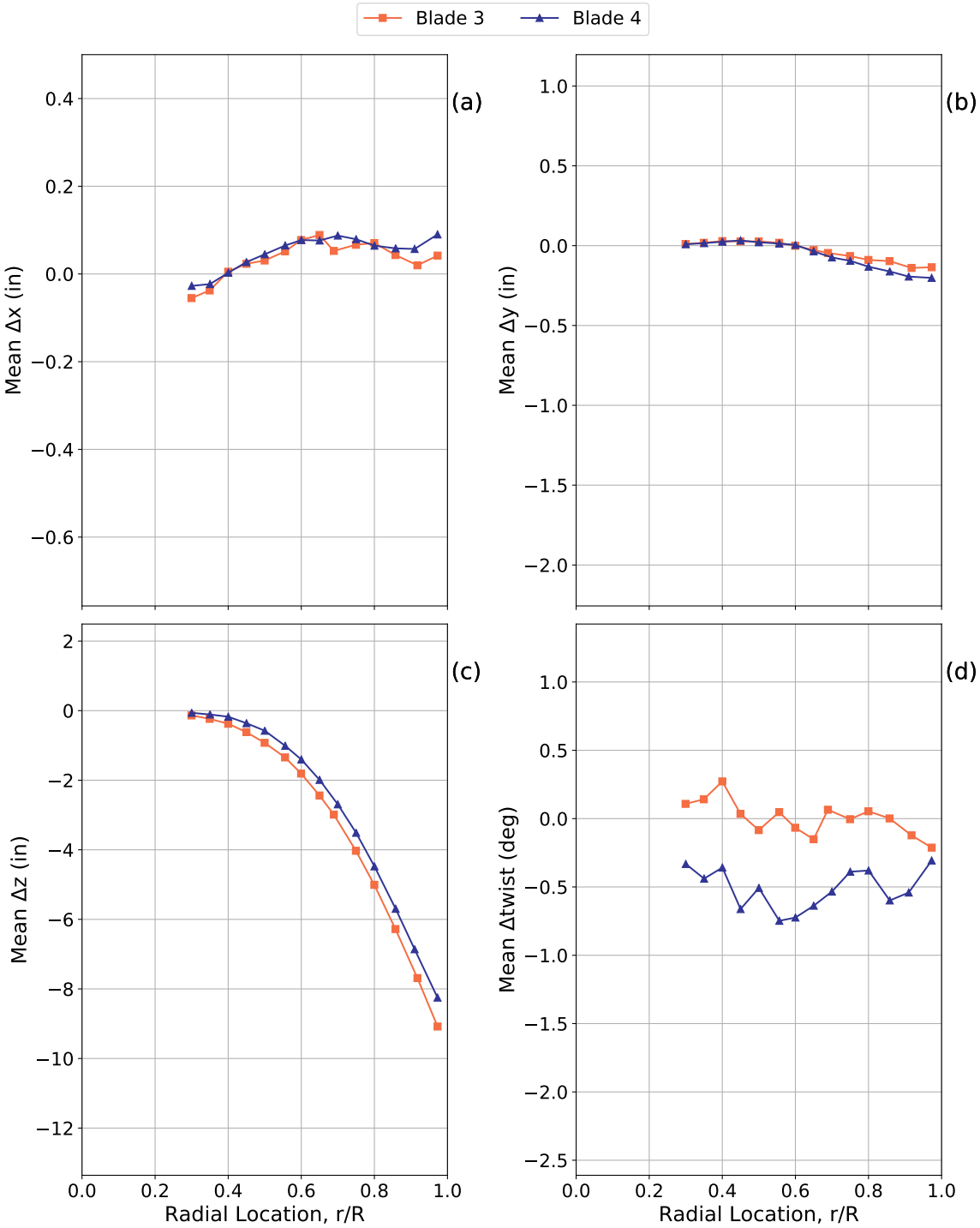


Figure 4.4-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0550	0.0036	0.0103	0.0070	-0.1372	0.0093	0.1080	0.0254
3	184.92	0.3493	-0.0376	0.0034	0.0179	0.0121	-0.2361	0.0161	0.1413	0.0333
3	184.92	0.4000	0.0052	0.0032	0.0286	0.0193	-0.3769	0.0257	0.2722	0.0327
3	184.92	0.4497	0.0231	0.0033	0.0261	0.0252	-0.6168	0.0338	0.0351	0.0329
3	184.92	0.4997	0.0307	0.0031	0.0266	0.0312	-0.9246	0.0425	-0.0840	0.0390
3	184.92	0.5556	0.0515	0.0034	0.0180	0.0393	-1.3440	0.0531	0.0477	0.0313
3	184.92	0.5995	0.0774	0.0041	-0.0007	0.0443	-1.8084	0.0619	-0.0667	0.0286
3	184.92	0.6498	0.0889	0.0046	-0.0275	0.0504	-2.4393	0.0686	-0.1507	0.0356
3	184.92	0.6890	0.0526	0.0062	-0.0458	0.0552	-2.9879	0.0767	0.0650	0.0262
3	184.92	0.7495	0.0666	0.0087	-0.0652	0.0632	-4.0290	0.0860	-0.0043	0.0351
3	184.92	0.7998	0.0705	0.0122	-0.0896	0.0701	-5.0078	0.0958	0.0537	0.0309
3	184.92	0.8577	0.0432	0.0154	-0.0968	0.0784	-6.2791	0.1034	0.0014	0.0255
3	184.92	0.9178	0.0198	0.0204	-0.1395	0.0864	-7.6887	0.1152	-0.1223	0.0263
3	184.92	0.9729	0.0419	0.0258	-0.1352	0.0940	-9.0807	0.1251	-0.2124	0.0318
4	184.92	0.3001	-0.0272	0.0052	0.0089	0.0058	-0.0629	0.0091	-0.3322	0.0507
4	184.92	0.3502	-0.0231	0.0026	0.0155	0.0101	-0.1099	0.0157	-0.4392	0.0671
4	184.92	0.4002	0.0028	0.0018	0.0246	0.0160	-0.1754	0.0248	-0.3583	0.0584
4	184.92	0.4500	0.0271	0.0023	0.0324	0.0211	-0.3611	0.0334	-0.6620	0.0625
4	184.92	0.5001	0.0449	0.0025	0.0210	0.0272	-0.5774	0.0431	-0.5075	0.0592
4	184.92	0.5560	0.0649	0.0027	0.0129	0.0327	-1.0115	0.0533	-0.7480	0.0656
4	184.92	0.6001	0.0773	0.0018	0.0046	0.0368	-1.4047	0.0605	-0.7240	0.0634
4	184.92	0.6501	0.0763	0.0023	-0.0361	0.0417	-1.9912	0.0702	-0.6374	0.0589
4	184.92	0.6999	0.0875	0.0039	-0.0740	0.0471	-2.6940	0.0814	-0.5342	0.0526
4	184.92	0.7500	0.0792	0.0065	-0.0952	0.0530	-3.5119	0.0905	-0.3887	0.0612
4	184.92	0.8002	0.0645	0.0104	-0.1319	0.0592	-4.4774	0.0995	-0.3798	0.0589
4	184.92	0.8582	0.0584	0.0158	-0.1618	0.0653	-5.6970	0.1105	-0.5989	0.0576
4	184.92	0.9101	0.0570	0.0214	-0.1937	0.0728	-6.8593	0.1189	-0.5412	0.0644
4	184.92	0.9728	0.0901	0.0307	-0.2019	0.0795	-8.2499	0.1303	-0.3066	0.0608

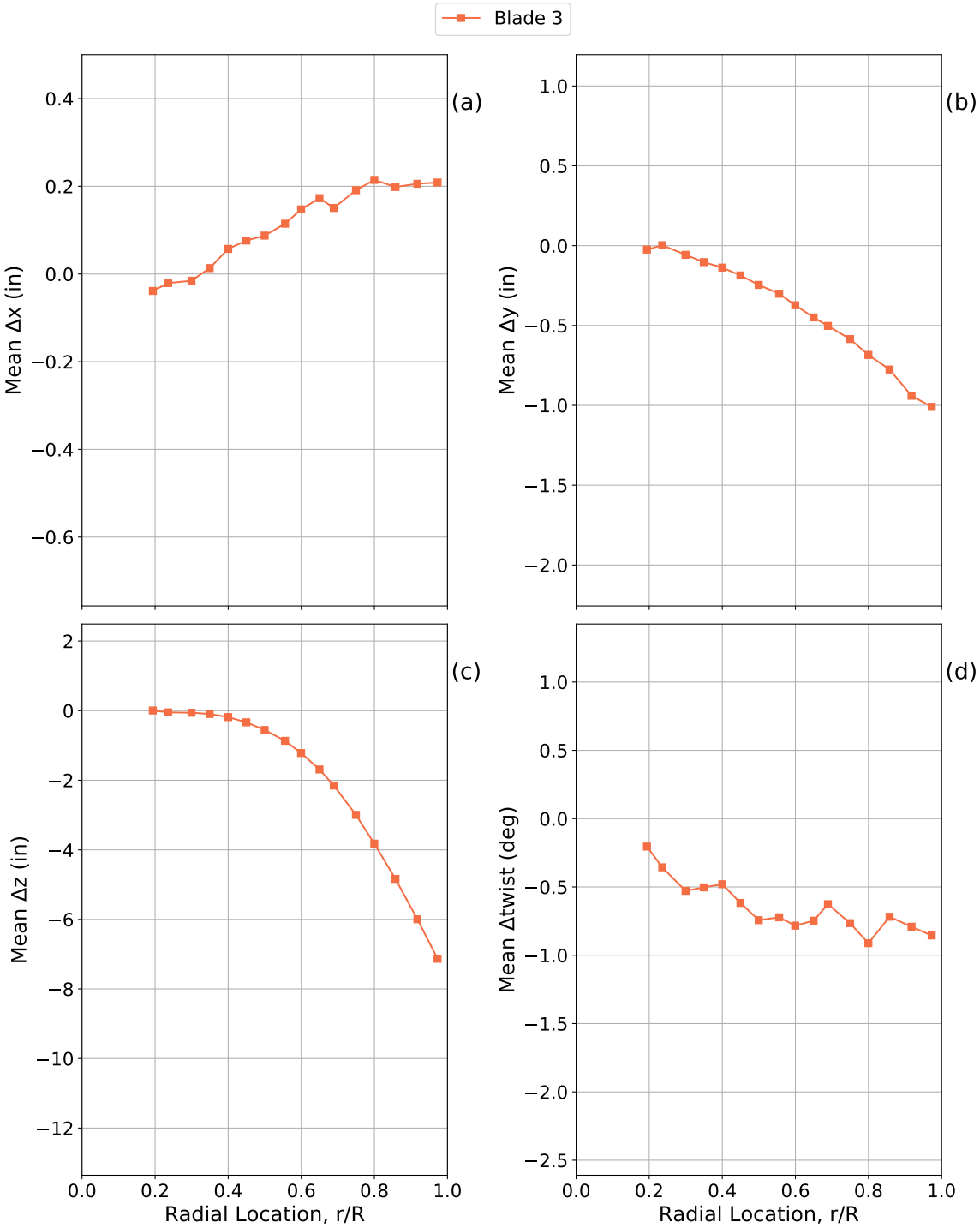


Figure 4.4-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0387	0.0030	-0.0245	0.0018	0.0052	0.0024	-0.2042	0.0205
3	195.12	0.2357	-0.0207	0.0046	0.0028	0.0023	-0.0486	0.0037	-0.3562	0.0292
3	195.12	0.2995	-0.0154	0.0021	-0.0574	0.0051	-0.0591	0.0059	-0.5286	0.0418
3	195.12	0.3493	0.0134	0.0037	-0.1031	0.0092	-0.0937	0.0094	-0.5030	0.0443
3	195.12	0.4000	0.0572	0.0047	-0.1375	0.0132	-0.1849	0.0134	-0.4802	0.0410
3	195.12	0.4497	0.0762	0.0073	-0.1864	0.0179	-0.3353	0.0169	-0.6169	0.0421
3	195.12	0.4997	0.0875	0.0070	-0.2457	0.0240	-0.5552	0.0212	-0.7430	0.0311
3	195.12	0.5556	0.1147	0.0091	-0.3011	0.0292	-0.8672	0.0262	-0.7221	0.0304
3	195.12	0.5995	0.1473	0.0094	-0.3732	0.0353	-1.2165	0.0306	-0.7830	0.0362
3	195.12	0.6498	0.1729	0.0116	-0.4497	0.0406	-1.6899	0.0341	-0.7466	0.0343
3	195.12	0.6890	0.1506	0.0142	-0.5028	0.0460	-2.1511	0.0373	-0.6257	0.0356
3	195.12	0.7495	0.1910	0.0172	-0.5850	0.0541	-2.9956	0.0431	-0.7649	0.0299
3	195.12	0.7998	0.2145	0.0194	-0.6845	0.0610	-3.8216	0.0460	-0.9115	0.0606
3	195.12	0.8577	0.1984	0.0229	-0.7758	0.0693	-4.8373	0.0568	-0.7182	0.0348
3	195.12	0.9178	0.2057	0.0265	-0.9405	0.0791	-5.9979	0.0597	-0.7910	0.0379
3	195.12	0.9729	0.2086	0.0309	-1.0095	0.0887	-7.1319	0.0682	-0.8550	0.0340

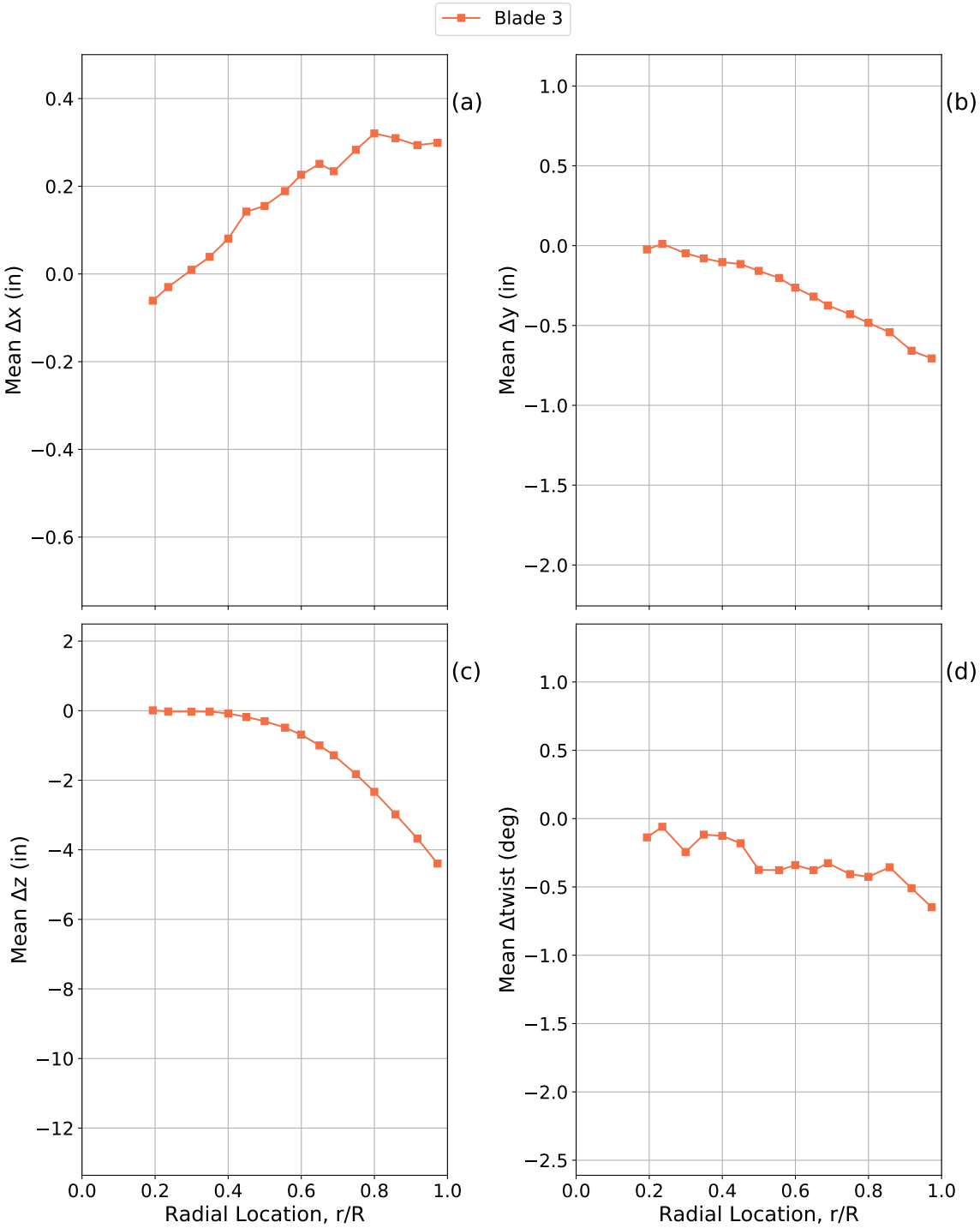


Figure 4.4-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0610	0.0013	-0.0236	0.0015	0.0075	0.0026	-0.1372	0.0188
3	209.88	0.2357	-0.0299	0.0012	0.0111	0.0020	-0.0238	0.0028	-0.0599	0.0410
3	209.88	0.2995	0.0095	0.0008	-0.0481	0.0051	-0.0288	0.0077	-0.2448	0.0521
3	209.88	0.3493	0.0390	0.0013	-0.0800	0.0086	-0.0266	0.0125	-0.1175	0.0427
3	209.88	0.4000	0.0805	0.0016	-0.1034	0.0130	-0.0803	0.0185	-0.1263	0.0427
3	209.88	0.4497	0.1422	0.0077	-0.1151	0.0197	-0.1820	0.0208	-0.1803	0.0405
3	209.88	0.4997	0.1550	0.0070	-0.1579	0.0242	-0.3037	0.0266	-0.3750	0.0355
3	209.88	0.5556	0.1889	0.0065	-0.2024	0.0265	-0.4891	0.0299	-0.3773	0.0406
3	209.88	0.5995	0.2262	0.0054	-0.2632	0.0295	-0.6881	0.0364	-0.3404	0.0396
3	209.88	0.6498	0.2511	0.0038	-0.3187	0.0320	-0.9992	0.0389	-0.3774	0.0408
3	209.88	0.6890	0.2342	0.0028	-0.3742	0.0350	-1.2832	0.0448	-0.3264	0.0467
3	209.88	0.7495	0.2831	0.0016	-0.4294	0.0381	-1.8259	0.0506	-0.4063	0.0372
3	209.88	0.7998	0.3204	0.0028	-0.4835	0.0411	-2.3338	0.0571	-0.4258	0.0335
3	209.88	0.8577	0.3097	0.0051	-0.5424	0.0446	-2.9804	0.0646	-0.3560	0.0322
3	209.88	0.9178	0.2938	0.0074	-0.6584	0.0474	-3.6773	0.0733	-0.5093	0.0476
3	209.88	0.9729	0.2991	0.0102	-0.7062	0.0517	-4.3969	0.0808	-0.6485	0.0489

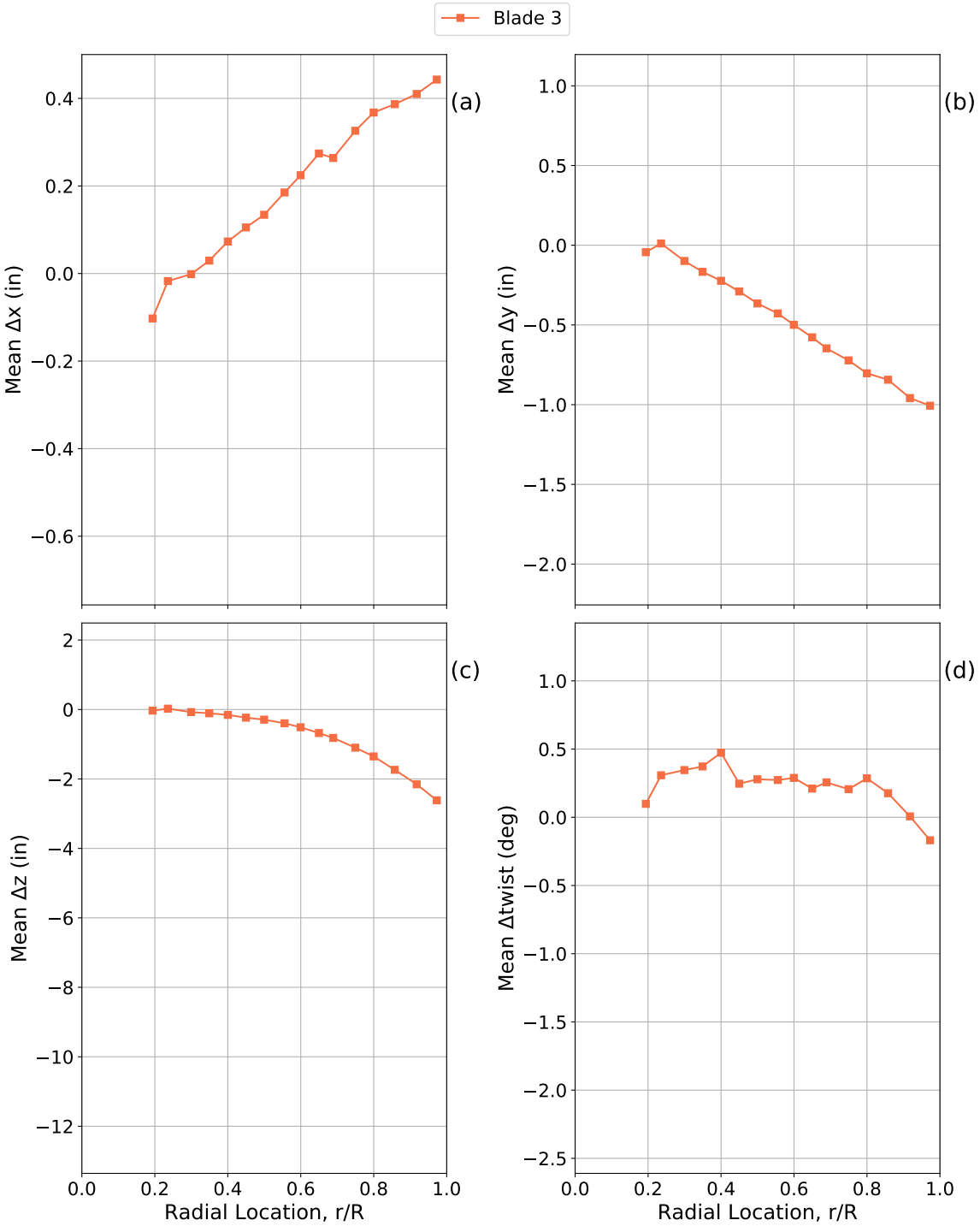


Figure 4.4-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.1027	0.0013	-0.0437	0.0006	-0.0315	0.0017	0.0984	0.0129
3	225	0.2357	-0.0173	0.0011	0.0112	0.0014	0.0241	0.0031	0.3081	0.0297
3	225	0.2995	-0.0014	0.0013	-0.0987	0.0027	-0.0751	0.0059	0.3461	0.0342
3	225	0.3493	0.0295	0.0014	-0.1668	0.0043	-0.1088	0.0092	0.3725	0.0299
3	225	0.4000	0.0731	0.0017	-0.2229	0.0071	-0.1560	0.0148	0.4736	0.0246
3	225	0.4497	0.1053	0.0016	-0.2897	0.0087	-0.2350	0.0177	0.2463	0.0303
3	225	0.4997	0.1342	0.0015	-0.3651	0.0092	-0.2919	0.0207	0.2784	0.0274
3	225	0.5556	0.1851	0.0018	-0.4277	0.0110	-0.3972	0.0231	0.2732	0.0258
3	225	0.5995	0.2245	0.0017	-0.4992	0.0125	-0.5118	0.0262	0.2888	0.0303
3	225	0.6498	0.2741	0.0013	-0.5775	0.0144	-0.6781	0.0291	0.2104	0.0234
3	225	0.6890	0.2639	0.0016	-0.6467	0.0153	-0.8181	0.0306	0.2560	0.0302
3	225	0.7495	0.3260	0.0011	-0.7222	0.0176	-1.0992	0.0358	0.2058	0.0246
3	225	0.7998	0.3678	0.0016	-0.8034	0.0193	-1.3507	0.0378	0.2855	0.0325
3	225	0.8577	0.3868	0.0012	-0.8436	0.0217	-1.7372	0.0430	0.1766	0.0318
3	225	0.9178	0.4101	0.0021	-0.9584	0.0246	-2.1535	0.0504	0.0068	0.0341
3	225	0.9729	0.4430	0.0021	-1.0065	0.0260	-2.6156	0.0576	-0.1683	0.0347

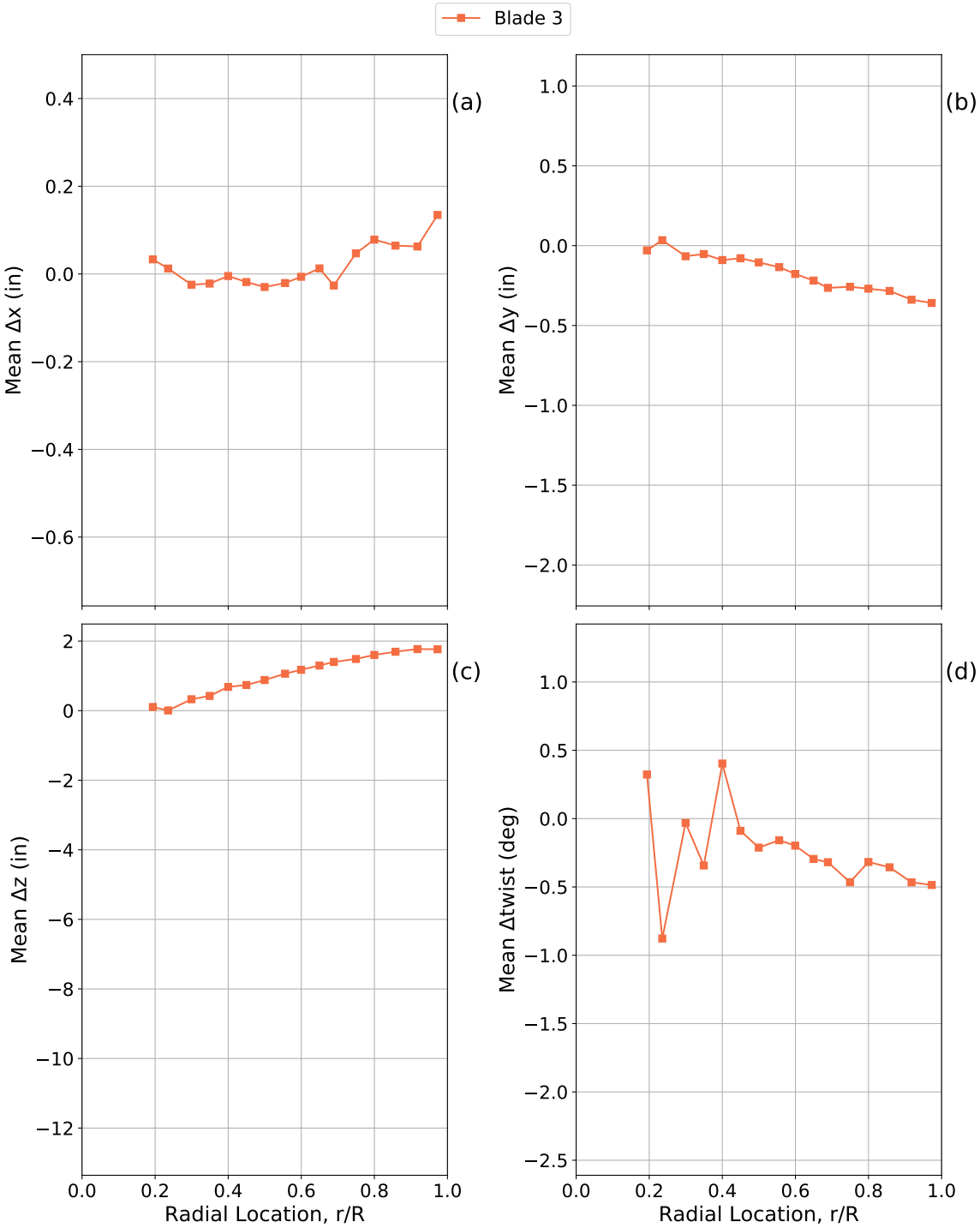


Figure 4.4-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	0.0333	0.0025	-0.0297	0.0022	0.1049	0.0031	0.3230	0.0186
3	240.12	0.2357	0.0124	0.0012	0.0339	0.0036	0.0062	0.0064	-0.8777	0.0423
3	240.12	0.2995	-0.0245	0.0011	-0.0664	0.0033	0.3279	0.0047	-0.0318	0.0414
3	240.12	0.3493	-0.0219	0.0015	-0.0526	0.0052	0.4236	0.0076	-0.3432	0.0482
3	240.12	0.4000	-0.0047	0.0014	-0.0903	0.0075	0.6829	0.0133	0.4030	0.0395
3	240.12	0.4497	-0.0184	0.0014	-0.0790	0.0089	0.7369	0.0166	-0.0892	0.0364
3	240.12	0.4997	-0.0298	0.0017	-0.1049	0.0112	0.8800	0.0212	-0.2120	0.0543
3	240.12	0.5556	-0.0207	0.0015	-0.1346	0.0144	1.0629	0.0288	-0.1583	0.0505
3	240.12	0.5995	-0.0064	0.0022	-0.1772	0.0166	1.1749	0.0333	-0.1977	0.0475
3	240.12	0.6498	0.0127	0.0049	-0.2186	0.0184	1.2980	0.0338	-0.2952	0.0839
3	240.12	0.6890	-0.0263	0.0109	-0.2643	0.0162	1.4005	0.0444	-0.3190	0.2711
3	240.12	0.7495	0.0470	0.0018	-0.2576	0.0207	1.4861	0.0423	-0.4652	0.0395
3	240.12	0.7998	0.0784	0.0020	-0.2696	0.0224	1.6017	0.0497	-0.3173	0.0487
3	240.12	0.8577	0.0647	0.0027	-0.2836	0.0244	1.6939	0.0548	-0.3562	0.0449
3	240.12	0.9178	0.0626	0.0028	-0.3386	0.0270	1.7705	0.0618	-0.4659	0.0483
3	240.12	0.9729	0.1346	0.0029	-0.3590	0.0295	1.7654	0.0662	-0.4858	0.0609

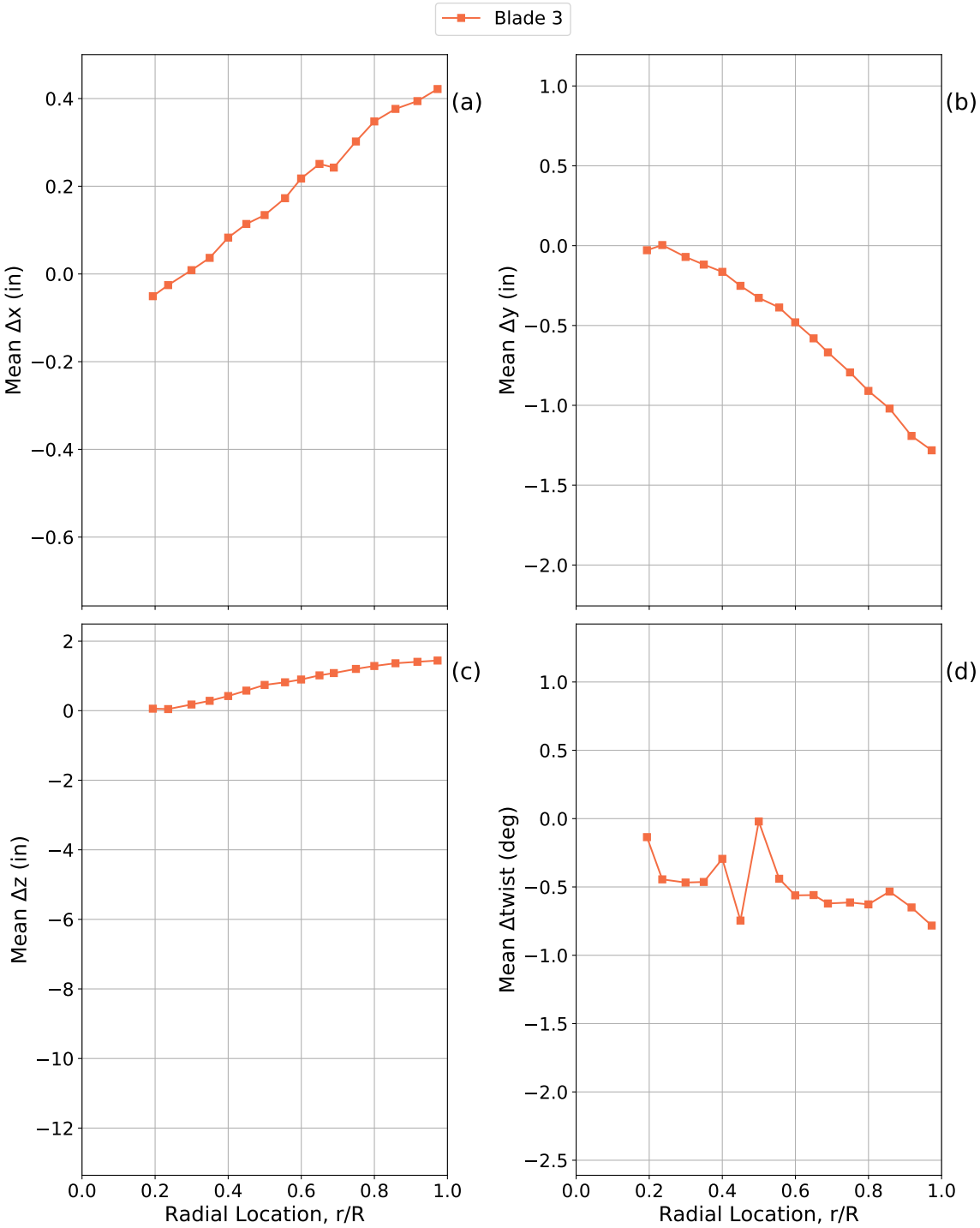


Figure 4.4-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0507	0.0053	-0.0287	0.0011	0.0566	0.0040	-0.1355	0.0315
3	254.88	0.2357	-0.0254	0.0017	0.0037	0.0011	0.0453	0.0044	-0.4445	0.1164
3	254.88	0.2995	0.0087	0.0013	-0.0708	0.0033	0.1770	0.0122	-0.4678	0.1156
3	254.88	0.3493	0.0367	0.0012	-0.1187	0.0055	0.2825	0.0215	-0.4635	0.1135
3	254.88	0.4000	0.0829	0.0011	-0.1641	0.0082	0.4205	0.0311	-0.2943	0.1110
3	254.88	0.4497	0.1140	0.0019	-0.2516	0.0128	0.5760	0.0299	-0.7461	0.1864
3	254.88	0.4997	0.1343	0.0019	-0.3270	0.0129	0.7398	0.0453	-0.0207	0.1221
3	254.88	0.5556	0.1728	0.0014	-0.3873	0.0158	0.8157	0.0560	-0.4401	0.1152
3	254.88	0.5995	0.2177	0.0016	-0.4802	0.0183	0.8952	0.0638	-0.5616	0.1085
3	254.88	0.6498	0.2509	0.0025	-0.5807	0.0206	1.0148	0.0719	-0.5595	0.1111
3	254.88	0.6890	0.2426	0.0024	-0.6682	0.0221	1.0807	0.0772	-0.6211	0.1172
3	254.88	0.7495	0.3021	0.0024	-0.7938	0.0254	1.2001	0.0850	-0.6137	0.1206
3	254.88	0.7998	0.3478	0.0021	-0.9097	0.0279	1.2841	0.0930	-0.6276	0.1165
3	254.88	0.8577	0.3764	0.0023	-1.0201	0.0309	1.3628	0.1016	-0.5336	0.1220
3	254.88	0.9178	0.3942	0.0028	-1.1916	0.0346	1.4045	0.1120	-0.6500	0.1187
3	254.88	0.9729	0.4217	0.0029	-1.2818	0.0374	1.4406	0.1231	-0.7825	0.1177

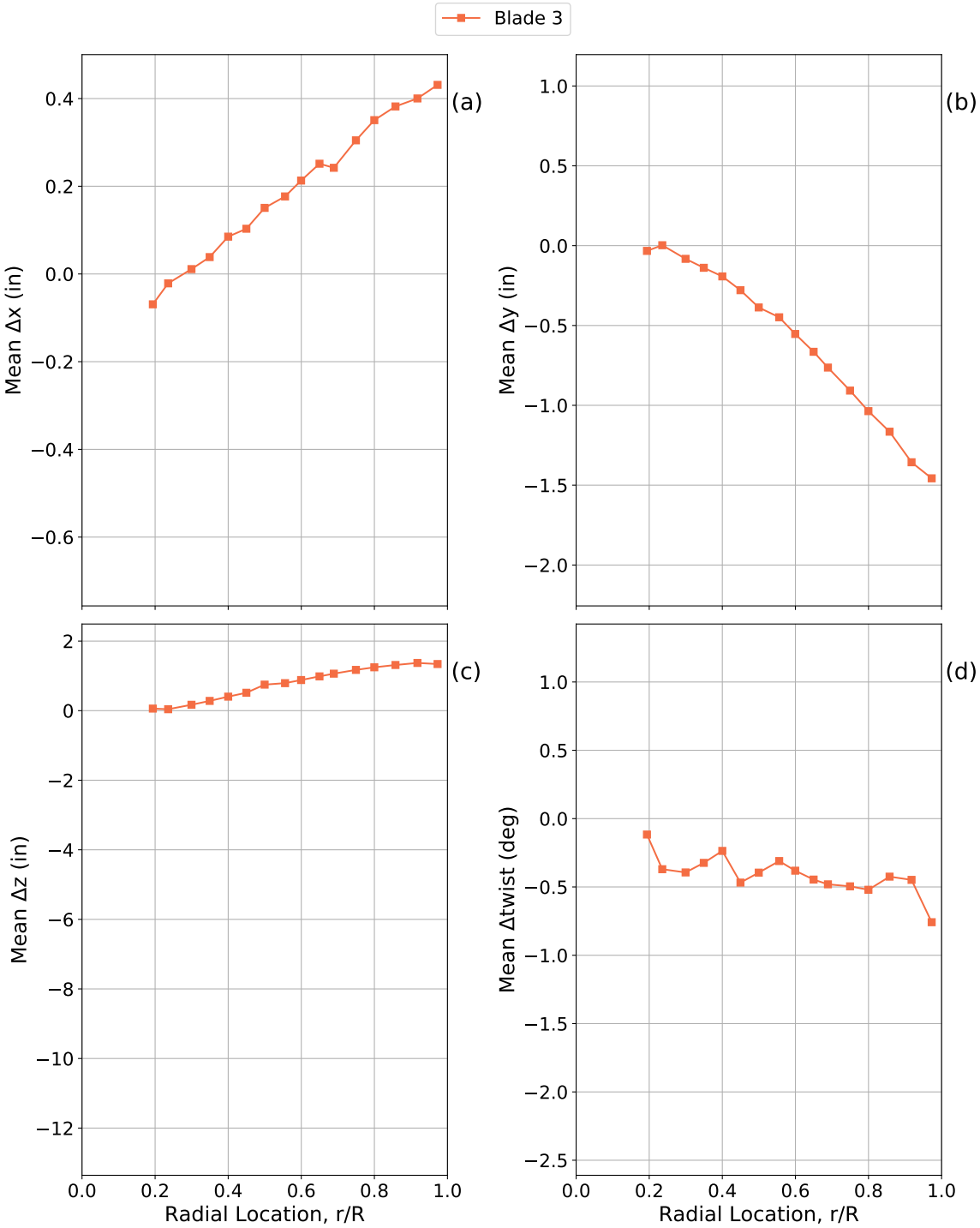


Figure 4.4-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0692	0.0027	-0.0329	0.0009	0.0591	0.0032	-0.1165	0.0121
3	260.16	0.2357	-0.0214	0.0014	0.0027	0.0010	0.0411	0.0038	-0.3702	0.0431
3	260.16	0.2995	0.0111	0.0012	-0.0826	0.0026	0.1693	0.0096	-0.3938	0.0364
3	260.16	0.3493	0.0385	0.0014	-0.1387	0.0045	0.2802	0.0147	-0.3238	0.0359
3	260.16	0.4000	0.0851	0.0017	-0.1926	0.0066	0.4028	0.0223	-0.2363	0.0307
3	260.16	0.4497	0.1031	0.0021	-0.2790	0.0087	0.5148	0.0285	-0.4682	0.0822
3	260.16	0.4997	0.1507	0.0025	-0.3871	0.0115	0.7483	0.0388	-0.3952	0.0900
3	260.16	0.5556	0.1768	0.0024	-0.4486	0.0125	0.7913	0.0399	-0.3105	0.0350
3	260.16	0.5995	0.2130	0.0022	-0.5532	0.0140	0.8804	0.0461	-0.3810	0.0353
3	260.16	0.6498	0.2514	0.0019	-0.6648	0.0154	0.9855	0.0518	-0.4461	0.0334
3	260.16	0.6890	0.2421	0.0024	-0.7636	0.0165	1.0638	0.0575	-0.4808	0.0330
3	260.16	0.7495	0.3047	0.0022	-0.9078	0.0187	1.1716	0.0639	-0.4955	0.0398
3	260.16	0.7998	0.3508	0.0025	-1.0364	0.0199	1.2462	0.0703	-0.5206	0.0368
3	260.16	0.8577	0.3820	0.0024	-1.1652	0.0221	1.3128	0.0785	-0.4246	0.0363
3	260.16	0.9178	0.4002	0.0029	-1.3566	0.0238	1.3718	0.0843	-0.4483	0.0342
3	260.16	0.9729	0.4312	0.0028	-1.4571	0.0261	1.3401	0.0901	-0.7580	0.0412

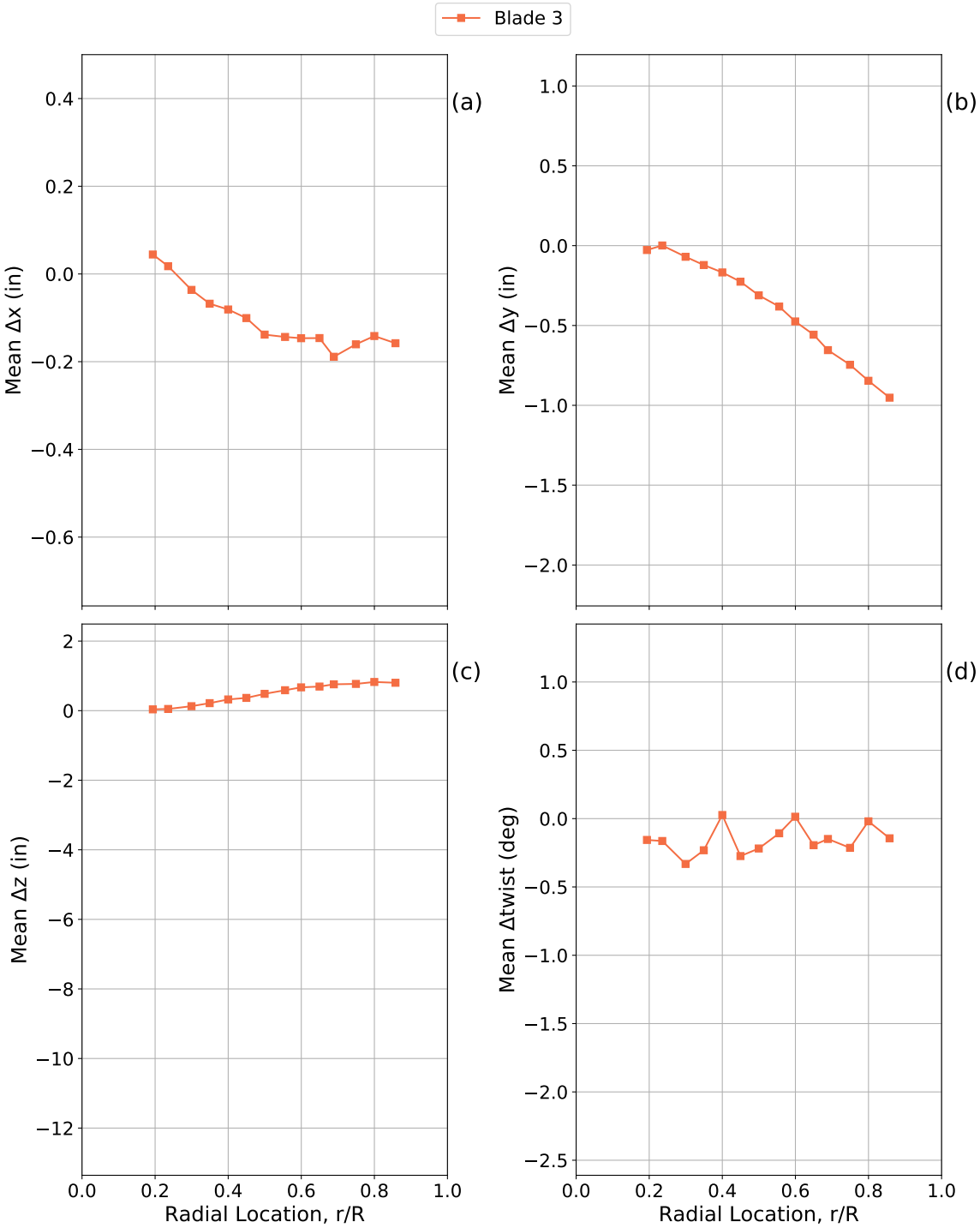


Figure 4.4-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	0.0444	0.0060	-0.0273	0.0030	0.0373	0.0134	-0.1560	0.0410
3	265.08	0.2357	0.0177	0.0011	0.0010	0.0023	0.0485	0.0072	-0.1638	0.1891
3	265.08	0.2995	-0.0363	0.0013	-0.0697	0.0106	0.1283	0.0408	-0.3317	0.1728
3	265.08	0.3493	-0.0678	0.0010	-0.1214	0.0179	0.2160	0.0621	-0.2315	0.1949
3	265.08	0.4000	-0.0810	0.0030	-0.1678	0.0270	0.3226	0.0933	0.0265	0.1741
3	265.08	0.4497	-0.1006	0.0024	-0.2257	0.0336	0.3666	0.1198	-0.2741	0.1575
3	265.08	0.4997	-0.1383	0.0032	-0.3110	0.0424	0.4840	0.1475	-0.2186	0.1714
3	265.08	0.5556	-0.1436	0.0037	-0.3814	0.0508	0.5873	0.1801	-0.1073	0.1769
3	265.08	0.5995	-0.1465	0.0043	-0.4746	0.0582	0.6702	0.2032	0.0139	0.1843
3	265.08	0.6498	-0.1462	0.0038	-0.5576	0.0656	0.6932	0.2315	-0.1944	0.1580
3	265.08	0.6890	-0.1888	0.0043	-0.6543	0.0700	0.7576	0.2491	-0.1489	0.1731
3	265.08	0.7495	-0.1604	0.0057	-0.7460	0.0818	0.7691	0.2824	-0.2140	0.2079
3	265.08	0.7998	-0.1415	0.0046	-0.8462	0.0889	0.8245	0.3097	-0.0197	0.2037
3	265.08	0.8577	-0.1579	0.0085	-0.9521	0.1028	0.8022	0.3400	-0.1440	0.4176

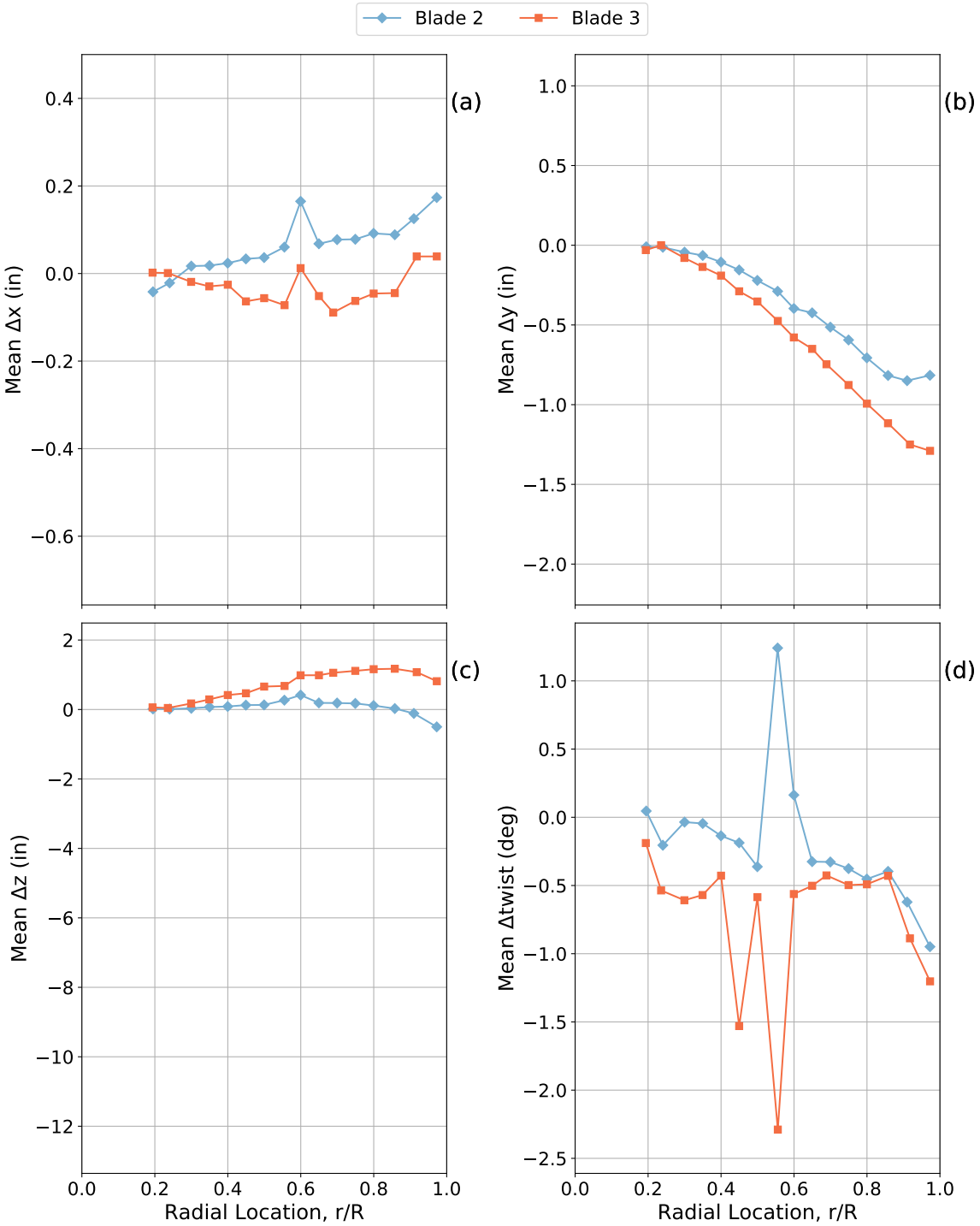


Figure 4.4-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0418	0.0015	-0.0096	0.0010	0.0161	0.0036	0.0459	0.0212
2	270.35	0.2405	-0.0215	0.0012	-0.0127	0.0014	0.0117	0.0043	-0.2049	0.0645
2	270.35	0.2999	0.0170	0.0017	-0.0434	0.0034	0.0341	0.0115	-0.0353	0.0637
2	270.35	0.3498	0.0181	0.0020	-0.0643	0.0065	0.0715	0.0189	-0.0454	0.0519
2	270.35	0.3998	0.0237	0.0025	-0.1055	0.0091	0.0866	0.0280	-0.1357	0.0498
2	270.35	0.4496	0.0334	0.0024	-0.1549	0.0116	0.1266	0.0339	-0.1871	0.0493
2	270.35	0.4995	0.0364	0.0039	-0.2207	0.0131	0.1320	0.0399	-0.3622	0.0589
2	270.35	0.5551	0.0603	0.0055	-0.2888	0.0159	0.2682	0.0485	1.2408	0.0826
2	270.35	0.5996	0.1649	0.0054	-0.3967	0.0176	0.4153	0.0507	0.1633	0.1517
2	270.35	0.6497	0.0680	0.0027	-0.4240	0.0206	0.1898	0.0592	-0.3251	0.0455
2	270.35	0.6996	0.0774	0.0030	-0.5136	0.0233	0.1863	0.0655	-0.3276	0.0459
2	270.35	0.7495	0.0782	0.0028	-0.5942	0.0265	0.1749	0.0715	-0.3761	0.0482
2	270.35	0.7996	0.0917	0.0035	-0.7064	0.0298	0.1138	0.0765	-0.4529	0.0525
2	270.35	0.8578	0.0886	0.0028	-0.8170	0.0333	0.0272	0.0824	-0.3965	0.0521
2	270.35	0.9100	0.1253	0.0031	-0.8495	0.0362	-0.1128	0.0891	-0.6212	0.0535
2	270.35	0.9727	0.1736	0.0039	-0.8159	0.0401	-0.5004	0.0969	-0.9487	0.0575
3	270	0.1938	0.0020	0.0023	-0.0304	0.0011	0.0607	0.0026	-0.1889	0.0167
3	270	0.2357	0.0011	0.0012	0.0003	0.0016	0.0436	0.0038	-0.5361	0.0404
3	270	0.2995	-0.0191	0.0021	-0.0796	0.0042	0.1736	0.0085	-0.6081	0.0426
3	270	0.3493	-0.0294	0.0010	-0.1361	0.0063	0.2905	0.0131	-0.5699	0.0405
3	270	0.4000	-0.0256	0.0018	-0.1904	0.0103	0.4161	0.0199	-0.4280	0.0446
3	270	0.4497	-0.0636	0.0021	-0.2889	0.0121	0.4672	0.0264	-1.5304	0.0564
3	270	0.4997	-0.0563	0.0020	-0.3528	0.0144	0.6599	0.0311	-0.5852	0.0398
3	270	0.5556	-0.0723	0.0033	-0.4748	0.0178	0.6780	0.0403	-2.2891	0.0808
3	270	0.5995	0.0123	0.0032	-0.5784	0.0204	0.9852	0.0423	-0.5625	0.0545
3	270	0.6498	-0.0515	0.0029	-0.6501	0.0239	0.9869	0.0486	-0.5019	0.0440
3	270	0.6890	-0.0891	0.0027	-0.7467	0.0262	1.0574	0.0532	-0.4261	0.0545
3	270	0.7495	-0.0626	0.0030	-0.8767	0.0294	1.1125	0.0583	-0.4969	0.0304
3	270	0.7998	-0.0457	0.0032	-0.9937	0.0324	1.1606	0.0651	-0.4912	0.0379
3	270	0.8577	-0.0447	0.0028	-1.1167	0.0359	1.1735	0.0730	-0.4290	0.0668
3	270	0.9178	0.0390	0.0058	-1.2499	0.0402	1.0758	0.0813	-0.8874	0.1122
3	270	0.9729	0.0390	0.0050	-1.2897	0.0431	0.8147	0.0806	-1.2025	0.1176

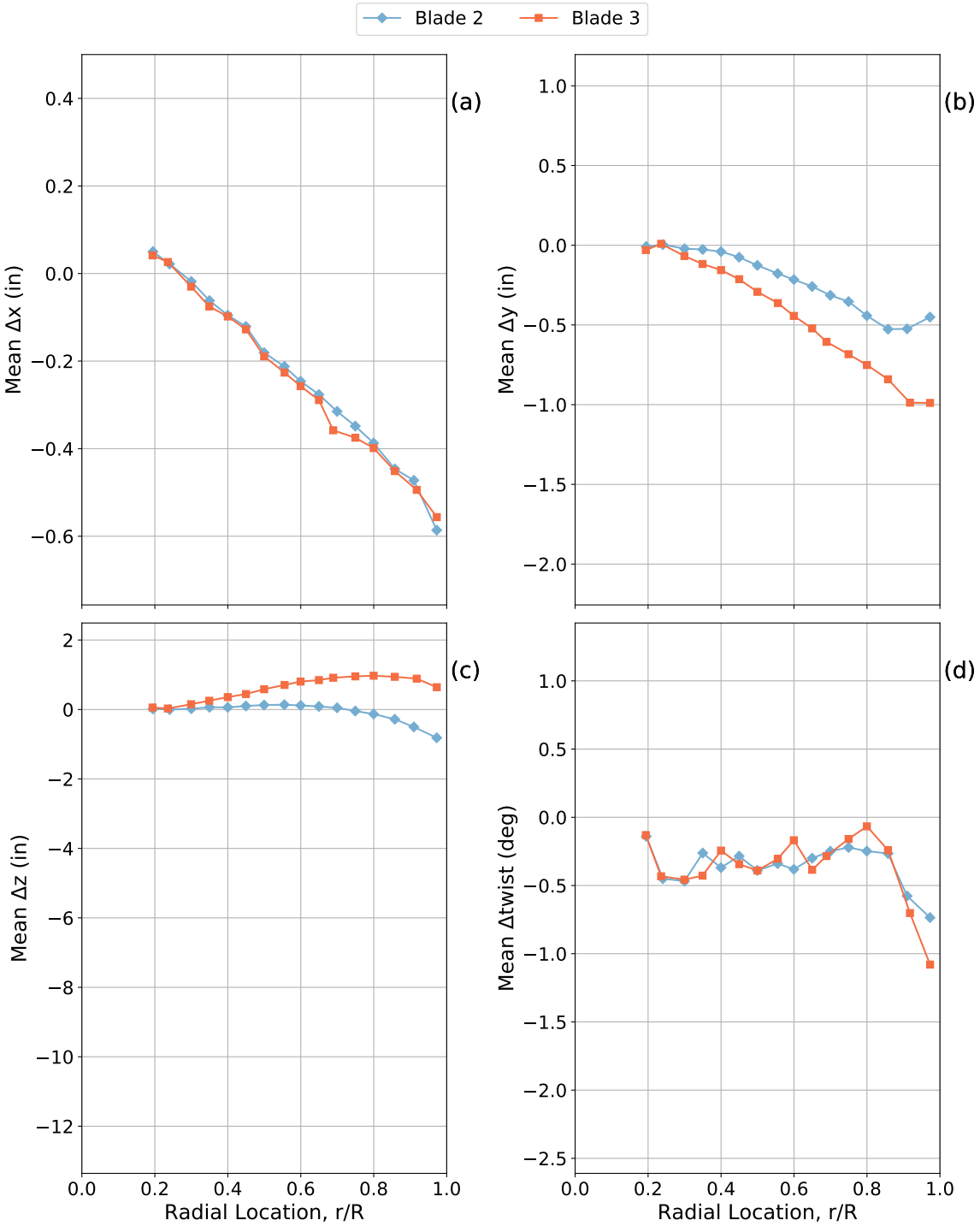


Figure 4.4-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0501	0.0020	-0.0080	0.0013	0.0174	0.0015	-0.1398	0.0424
2	274.92	0.2405	0.0217	0.0011	0.0043	0.0012	-0.0025	0.0040	-0.4502	0.0446
2	274.92	0.2999	-0.0182	0.0009	-0.0216	0.0035	0.0229	0.0039	-0.4677	0.0904
2	274.92	0.3498	-0.0619	0.0016	-0.0265	0.0070	0.0649	0.0091	-0.2620	0.0485
2	274.92	0.3998	-0.0951	0.0015	-0.0399	0.0093	0.0615	0.0115	-0.3692	0.0618
2	274.92	0.4496	-0.1209	0.0018	-0.0752	0.0107	0.1010	0.0140	-0.2847	0.0612
2	274.92	0.4995	-0.1808	0.0031	-0.1261	0.0139	0.1286	0.0141	-0.3898	0.0943
2	274.92	0.5551	-0.2122	0.0025	-0.1775	0.0158	0.1374	0.0231	-0.3393	0.0465
2	274.92	0.5996	-0.2461	0.0018	-0.2151	0.0188	0.1157	0.0290	-0.3814	0.0691
2	274.92	0.6497	-0.2764	0.0023	-0.2587	0.0202	0.0879	0.0327	-0.2999	0.0652
2	274.92	0.6996	-0.3149	0.0030	-0.3141	0.0206	0.0487	0.0339	-0.2488	0.0548
2	274.92	0.7495	-0.3485	0.0028	-0.3535	0.0236	-0.0436	0.0382	-0.2214	0.0588
2	274.92	0.7996	-0.3872	0.0033	-0.4421	0.0251	-0.1316	0.0385	-0.2478	0.0779
2	274.92	0.8578	-0.4464	0.0041	-0.5264	0.0271	-0.2803	0.0444	-0.2657	0.0711
2	274.92	0.9100	-0.4723	0.0048	-0.5246	0.0279	-0.5021	0.0494	-0.5768	0.1121
2	274.92	0.9727	-0.5861	0.0067	-0.4505	0.0330	-0.8149	0.0631	-0.7353	0.1393
3	274.92	0.1938	0.0414	0.0018	-0.0301	0.0018	0.0564	0.0027	-0.1306	0.0562
3	274.92	0.2357	0.0263	0.0018	0.0089	0.0038	0.0282	0.0112	-0.4323	0.0572
3	274.92	0.2995	-0.0300	0.0022	-0.0675	0.0057	0.1520	0.0180	-0.4570	0.1189
3	274.92	0.3493	-0.0753	0.0017	-0.1176	0.0090	0.2527	0.0290	-0.4276	0.1465
3	274.92	0.4000	-0.0981	0.0023	-0.1558	0.0147	0.3569	0.0490	-0.2440	0.1112
3	274.92	0.4497	-0.1277	0.0023	-0.2130	0.0181	0.4446	0.0640	-0.3436	0.1040
3	274.92	0.4997	-0.1893	0.0035	-0.2923	0.0219	0.5834	0.0787	-0.3905	0.1075
3	274.92	0.5556	-0.2263	0.0032	-0.3625	0.0245	0.7071	0.0912	-0.3040	0.1112
3	274.92	0.5995	-0.2573	0.0035	-0.4432	0.0266	0.8045	0.1083	-0.1682	0.1025
3	274.92	0.6498	-0.2891	0.0036	-0.5216	0.0311	0.8461	0.1159	-0.3849	0.1141
3	274.92	0.6890	-0.3581	0.0055	-0.6059	0.0346	0.9142	0.1345	-0.2838	0.1011
3	274.92	0.7495	-0.3750	0.0053	-0.6834	0.0399	0.9537	0.1474	-0.1591	0.1428
3	274.92	0.7998	-0.3987	0.0048	-0.7512	0.0453	0.9724	0.1707	-0.0665	0.0836
3	274.92	0.8577	-0.4512	0.0034	-0.8407	0.0509	0.9413	0.1814	-0.2404	0.1381
3	274.92	0.9178	-0.4942	0.0072	-0.9876	0.0566	0.8888	0.2090	-0.7020	0.0973
3	274.92	0.9729	-0.5564	0.0077	-0.9890	0.0672	0.6423	0.1912	-1.0797	0.2586

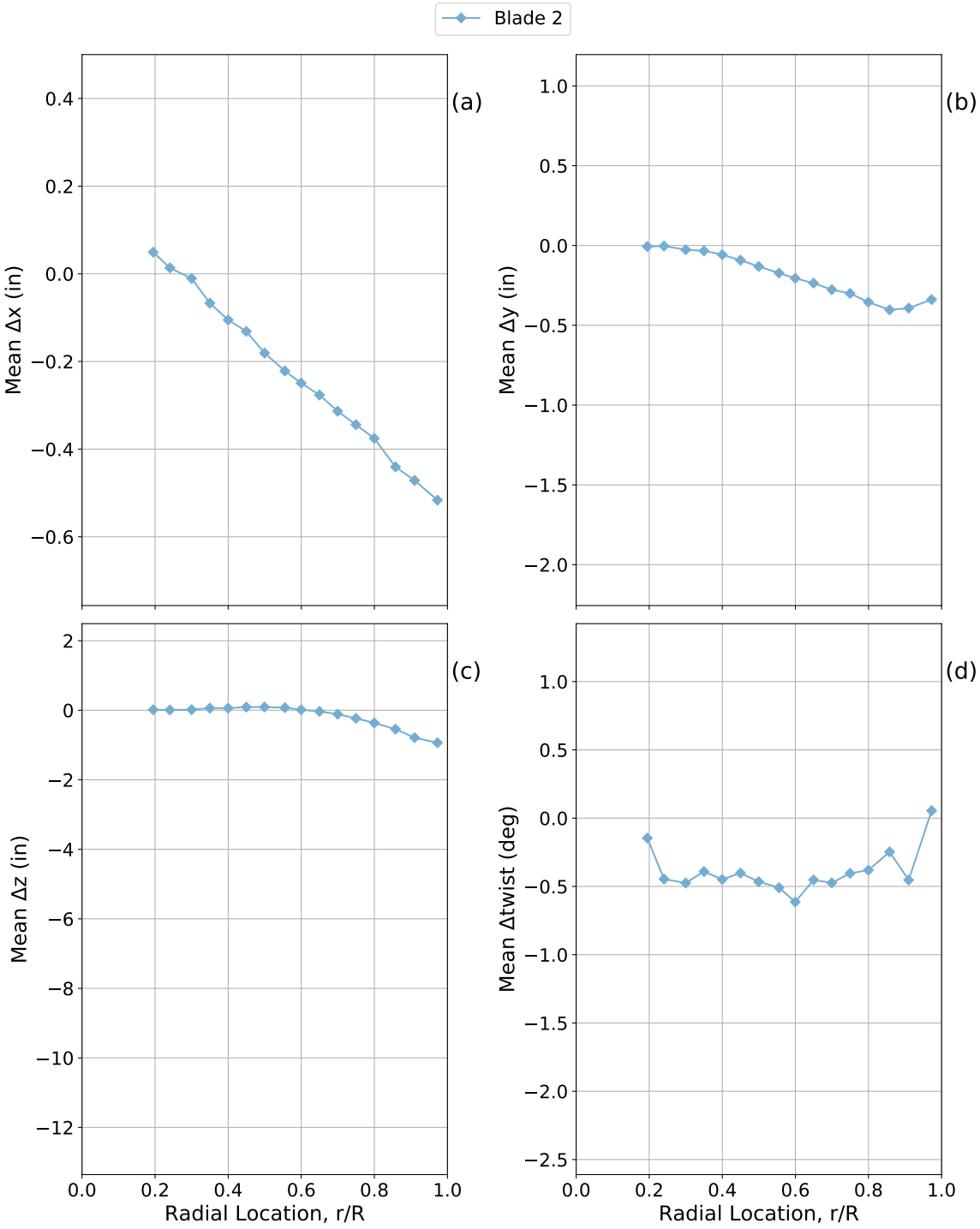


Figure 4.4-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0493	0.0010	-0.0064	0.0006	0.0134	0.0026	-0.1463	0.0293
2	285.12	0.2405	0.0135	0.0021	-0.0033	0.0036	0.0078	0.0085	-0.4464	0.0674
2	285.12	0.2999	-0.0106	0.0015	-0.0265	0.0039	0.0173	0.0119	-0.4748	0.0791
2	285.12	0.3498	-0.0670	0.0009	-0.0337	0.0052	0.0611	0.0231	-0.3909	0.0593
2	285.12	0.3998	-0.1053	0.0031	-0.0574	0.0112	0.0584	0.0351	-0.4486	0.0604
2	285.12	0.4496	-0.1314	0.0016	-0.0922	0.0111	0.0907	0.0356	-0.4021	0.0875
2	285.12	0.4995	-0.1808	0.0022	-0.1314	0.0163	0.0921	0.0457	-0.4652	0.0856
2	285.12	0.5551	-0.2218	0.0031	-0.1727	0.0173	0.0738	0.0553	-0.5093	0.0909
2	285.12	0.5996	-0.2493	0.0026	-0.2056	0.0185	0.0148	0.0636	-0.6136	0.0693
2	285.12	0.6497	-0.2765	0.0029	-0.2358	0.0221	-0.0333	0.0727	-0.4523	0.0750
2	285.12	0.6996	-0.3134	0.0037	-0.2771	0.0230	-0.1130	0.0816	-0.4741	0.0730
2	285.12	0.7495	-0.3443	0.0022	-0.3004	0.0263	-0.2336	0.0939	-0.4038	0.0710
2	285.12	0.7996	-0.3754	0.0035	-0.3548	0.0284	-0.3648	0.1061	-0.3812	0.0584
2	285.12	0.8578	-0.4406	0.0028	-0.4034	0.0316	-0.5442	0.1189	-0.2469	0.0855
2	285.12	0.9100	-0.4714	0.0035	-0.3924	0.0339	-0.7889	0.1310	-0.4532	0.0786
2	285.12	0.9727	-0.5164	0.0042	-0.3388	0.0366	-0.9350	0.1466	0.0547	0.0627

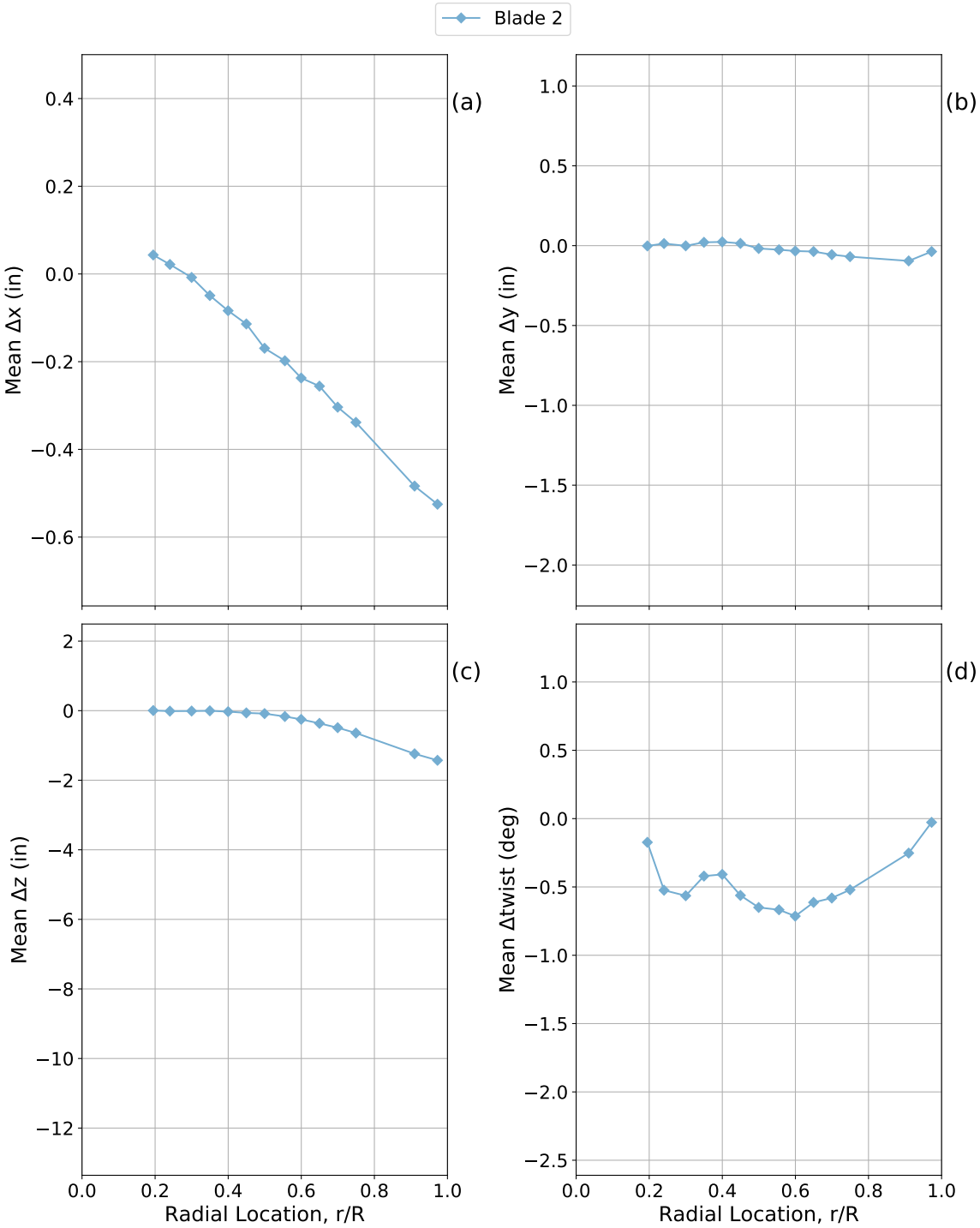


Figure 4.4-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0433	0.0021	-0.0018	0.0007	0.0034	0.0021	-0.1734	0.0193
2	299.88	0.2405	0.0217	0.0011	0.0131	0.0023	-0.0138	0.0061	-0.5241	0.0345
2	299.88	0.2999	-0.0079	0.0026	-0.0011	0.0038	-0.0112	0.0105	-0.5644	0.0361
2	299.88	0.3498	-0.0492	0.0019	0.0208	0.0069	-0.0049	0.0154	-0.4206	0.0508
2	299.88	0.3998	-0.0838	0.0025	0.0235	0.0109	-0.0277	0.0261	-0.4082	0.0665
2	299.88	0.4496	-0.1140	0.0049	0.0140	0.0113	-0.0645	0.0265	-0.5621	0.0521
2	299.88	0.4995	-0.1694	0.0042	-0.0178	0.0129	-0.0847	0.0327	-0.6501	0.0461
2	299.88	0.5551	-0.1980	0.0045	-0.0255	0.0163	-0.1679	0.0407	-0.6671	0.0749
2	299.88	0.5996	-0.2372	0.0026	-0.0337	0.0168	-0.2503	0.0412	-0.7137	0.0562
2	299.88	0.6497	-0.2558	0.0027	-0.0369	0.0201	-0.3655	0.0467	-0.6132	0.0398
2	299.88	0.6996	-0.3037	0.0032	-0.0564	0.0219	-0.4909	0.0546	-0.5810	0.0485
2	299.88	0.7495	-0.3384	0.0025	-0.0690	0.0252	-0.6428	0.0578	-0.5207	0.0436
2	299.88	0.9100	-0.4837	0.0018	-0.0956	0.0334	-1.2402	0.0705	-0.2524	0.0447
2	299.88	0.9727	-0.5251	0.0032	-0.0371	0.0374	-1.4274	0.0727	-0.0274	0.0457

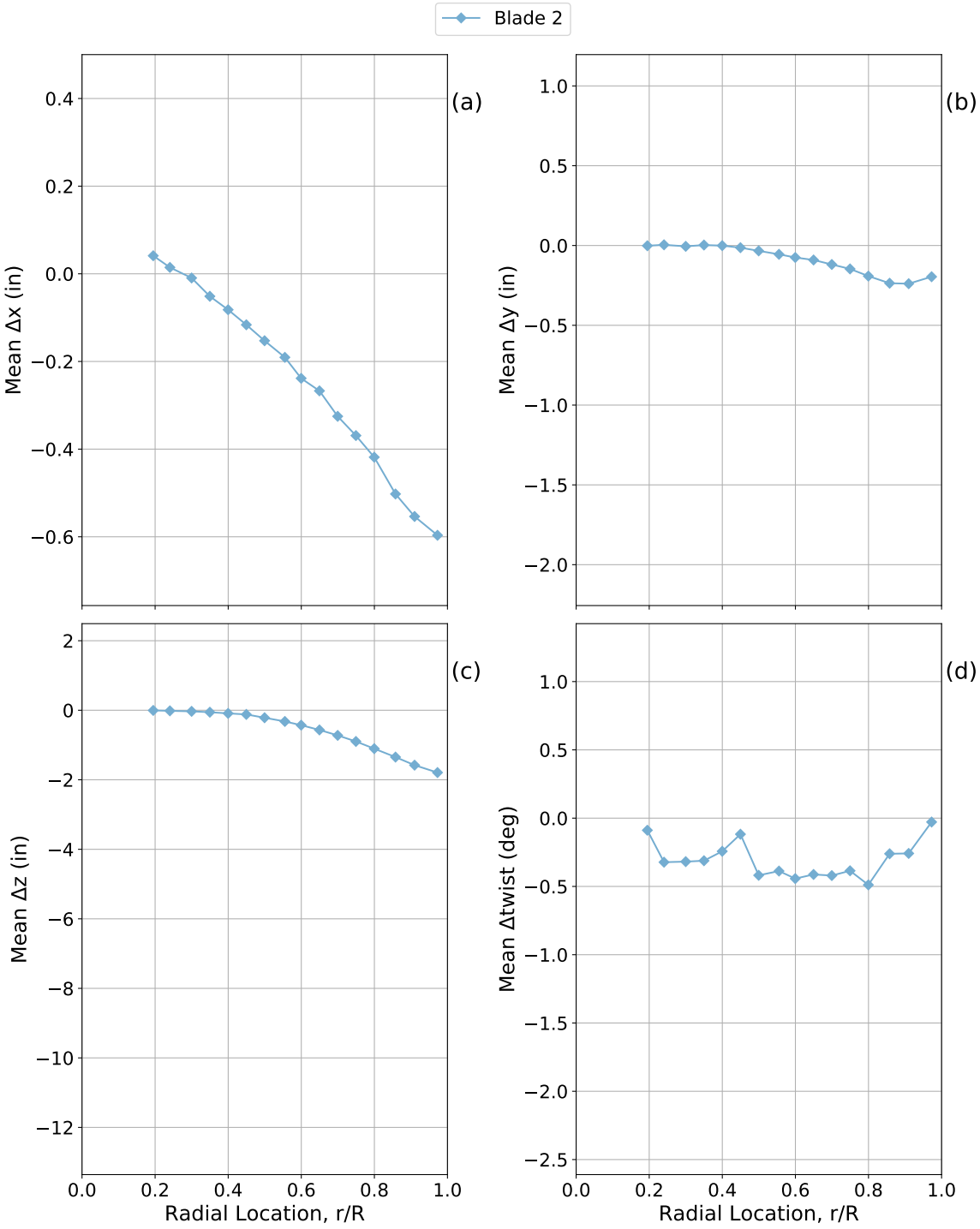


Figure 4.4-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0412	0.0020	-0.0016	0.0008	-0.0054	0.0015	-0.0886	0.0245
2	315	0.2405	0.0146	0.0007	0.0044	0.0015	-0.0170	0.0029	-0.3226	0.0388
2	315	0.2999	-0.0095	0.0015	-0.0053	0.0033	-0.0318	0.0059	-0.3184	0.0573
2	315	0.3498	-0.0513	0.0029	0.0030	0.0058	-0.0564	0.0095	-0.3118	0.0475
2	315	0.3998	-0.0820	0.0025	-0.0008	0.0090	-0.0901	0.0145	-0.2427	0.0294
2	315	0.4496	-0.1163	0.0027	-0.0136	0.0096	-0.1201	0.0160	-0.1176	0.0695
2	315	0.4995	-0.1527	0.0032	-0.0336	0.0115	-0.2155	0.0241	-0.4186	0.0358
2	315	0.5551	-0.1906	0.0039	-0.0552	0.0148	-0.3224	0.0334	-0.3874	0.0228
2	315	0.5996	-0.2385	0.0033	-0.0751	0.0164	-0.4293	0.0346	-0.4427	0.0570
2	315	0.6497	-0.2671	0.0031	-0.0907	0.0187	-0.5666	0.0413	-0.4123	0.0312
2	315	0.6996	-0.3252	0.0027	-0.1189	0.0204	-0.7234	0.0483	-0.4205	0.0426
2	315	0.7495	-0.3691	0.0023	-0.1467	0.0233	-0.8981	0.0542	-0.3854	0.0417
2	315	0.7996	-0.4184	0.0021	-0.1916	0.0248	-1.1049	0.0615	-0.4886	0.0428
2	315	0.8578	-0.5024	0.0019	-0.2364	0.0281	-1.3474	0.0716	-0.2608	0.0397
2	315	0.9100	-0.5537	0.0024	-0.2393	0.0303	-1.5799	0.0831	-0.2583	0.0331
2	315	0.9727	-0.5966	0.0028	-0.1956	0.0332	-1.7925	0.0960	-0.0285	0.0348

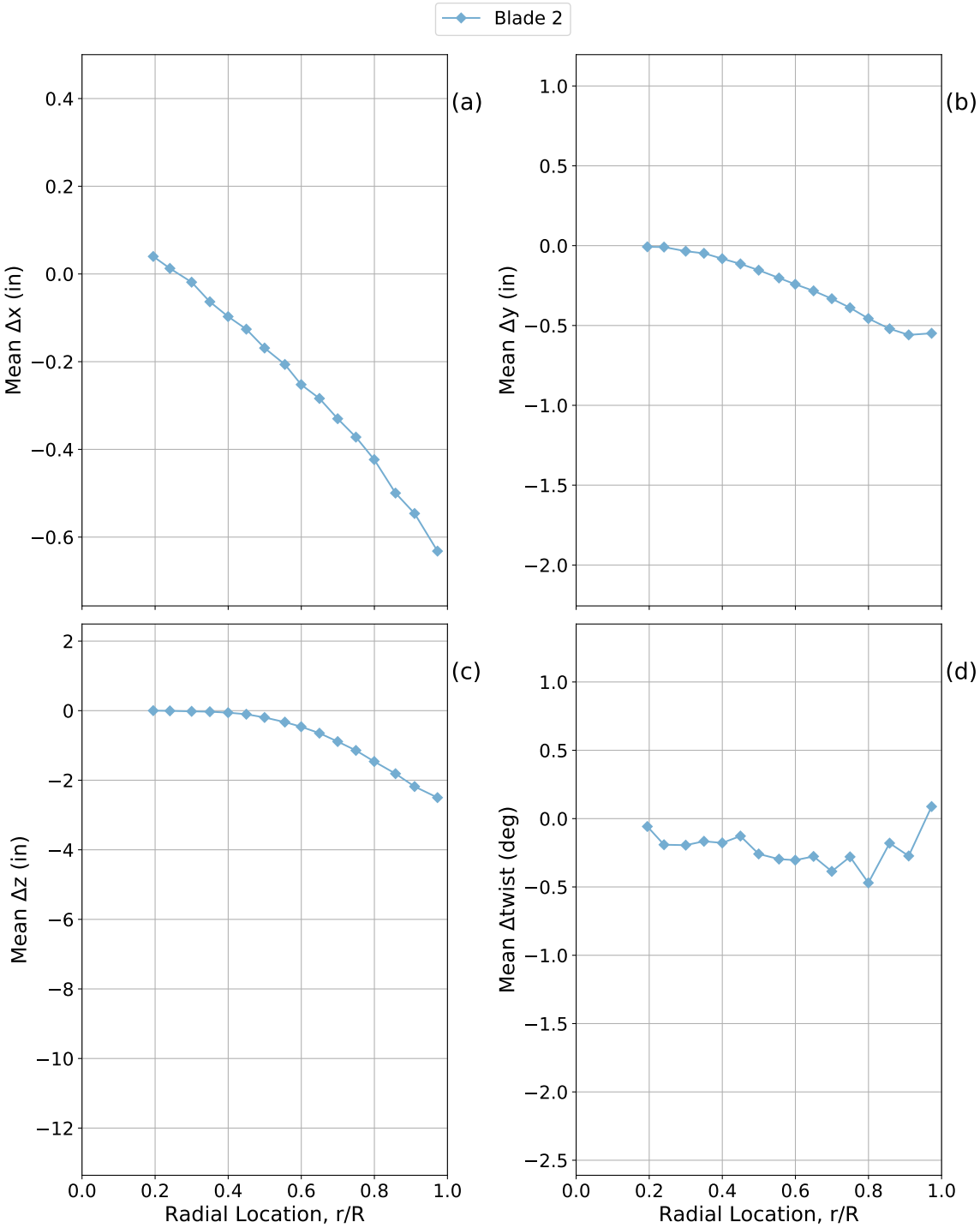


Figure 4.4-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0399	0.0020	-0.0073	0.0008	-0.0001	0.0015	-0.0577	0.0233
2	330.12	0.2405	0.0127	0.0024	-0.0089	0.0009	-0.0062	0.0050	-0.1911	0.0196
2	330.12	0.2999	-0.0187	0.0015	-0.0348	0.0053	-0.0196	0.0116	-0.1942	0.0459
2	330.12	0.3498	-0.0634	0.0018	-0.0480	0.0036	-0.0305	0.0129	-0.1659	0.0233
2	330.12	0.3998	-0.0972	0.0027	-0.0817	0.0093	-0.0577	0.0259	-0.1777	0.0690
2	330.12	0.4496	-0.1259	0.0032	-0.1143	0.0088	-0.1024	0.0253	-0.1276	0.0450
2	330.12	0.4995	-0.1689	0.0028	-0.1537	0.0121	-0.1960	0.0309	-0.2587	0.0633
2	330.12	0.5551	-0.2063	0.0034	-0.2025	0.0130	-0.3296	0.0366	-0.2964	0.0804
2	330.12	0.5996	-0.2523	0.0019	-0.2419	0.0118	-0.4622	0.0365	-0.3039	0.0244
2	330.12	0.6497	-0.2839	0.0024	-0.2831	0.0152	-0.6480	0.0414	-0.2767	0.0314
2	330.12	0.6996	-0.3301	0.0024	-0.3323	0.0187	-0.8883	0.0474	-0.3860	0.0450
2	330.12	0.7495	-0.3720	0.0021	-0.3890	0.0202	-1.1438	0.0535	-0.2796	0.0341
2	330.12	0.7996	-0.4233	0.0023	-0.4565	0.0235	-1.4620	0.0575	-0.4701	0.0360
2	330.12	0.8578	-0.4996	0.0023	-0.5206	0.0250	-1.8121	0.0642	-0.1797	0.0319
2	330.12	0.9100	-0.5462	0.0021	-0.5589	0.0283	-2.1813	0.0692	-0.2733	0.0322
2	330.12	0.9727	-0.6320	0.0020	-0.5490	0.0311	-2.5000	0.0762	0.0884	0.0365

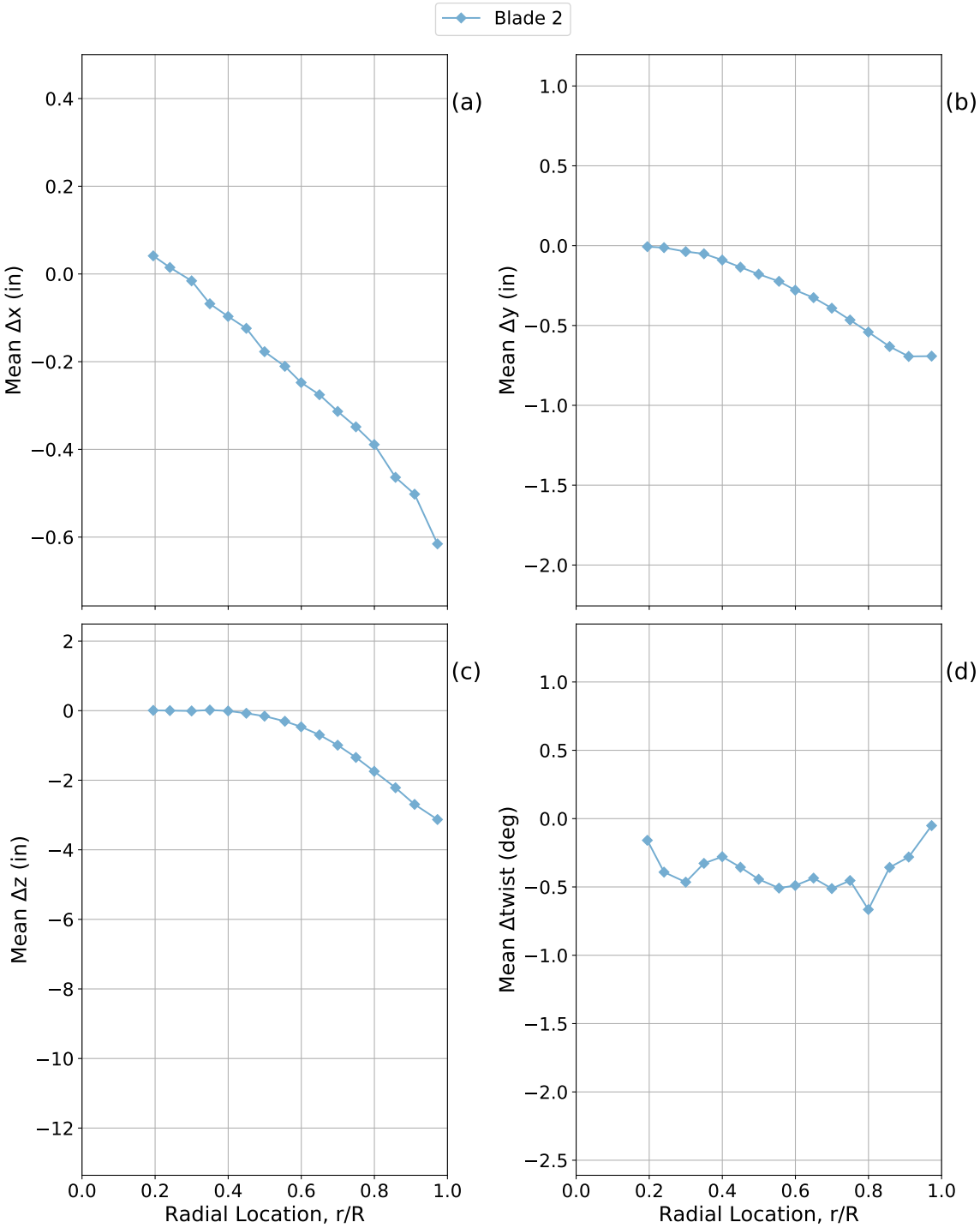


Figure 4.4-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0413	0.0012	-0.0064	0.0004	0.0072	0.0020	-0.1588	0.0121
2	344.88	0.2405	0.0148	0.0011	-0.0125	0.0017	0.0018	0.0062	-0.3917	0.0235
2	344.88	0.2999	-0.0157	0.0017	-0.0374	0.0035	-0.0090	0.0111	-0.4648	0.0285
2	344.88	0.3498	-0.0680	0.0008	-0.0510	0.0037	0.0182	0.0163	-0.3275	0.0318
2	344.88	0.3998	-0.0969	0.0020	-0.0902	0.0079	-0.0086	0.0282	-0.2787	0.0337
2	344.88	0.4496	-0.1240	0.0022	-0.1350	0.0116	-0.0750	0.0319	-0.3561	0.0210
2	344.88	0.4995	-0.1772	0.0024	-0.1789	0.0130	-0.1587	0.0416	-0.4439	0.0253
2	344.88	0.5551	-0.2106	0.0026	-0.2234	0.0159	-0.3054	0.0461	-0.5085	0.0383
2	344.88	0.5996	-0.2476	0.0033	-0.2790	0.0167	-0.4651	0.0515	-0.4896	0.0363
2	344.88	0.6497	-0.2754	0.0032	-0.3257	0.0207	-0.6972	0.0590	-0.4354	0.0348
2	344.88	0.6996	-0.3135	0.0029	-0.3918	0.0207	-0.9932	0.0661	-0.5119	0.0267
2	344.88	0.7495	-0.3486	0.0038	-0.4655	0.0254	-1.3452	0.0725	-0.4532	0.0560
2	344.88	0.7996	-0.3890	0.0034	-0.5413	0.0276	-1.7448	0.0801	-0.6654	0.0404
2	344.88	0.8578	-0.4637	0.0031	-0.6320	0.0309	-2.2158	0.0879	-0.3569	0.0316
2	344.88	0.9100	-0.5021	0.0035	-0.6938	0.0338	-2.6949	0.0977	-0.2811	0.0380
2	344.88	0.9727	-0.6155	0.0039	-0.6921	0.0370	-3.1298	0.1088	-0.0512	0.0273

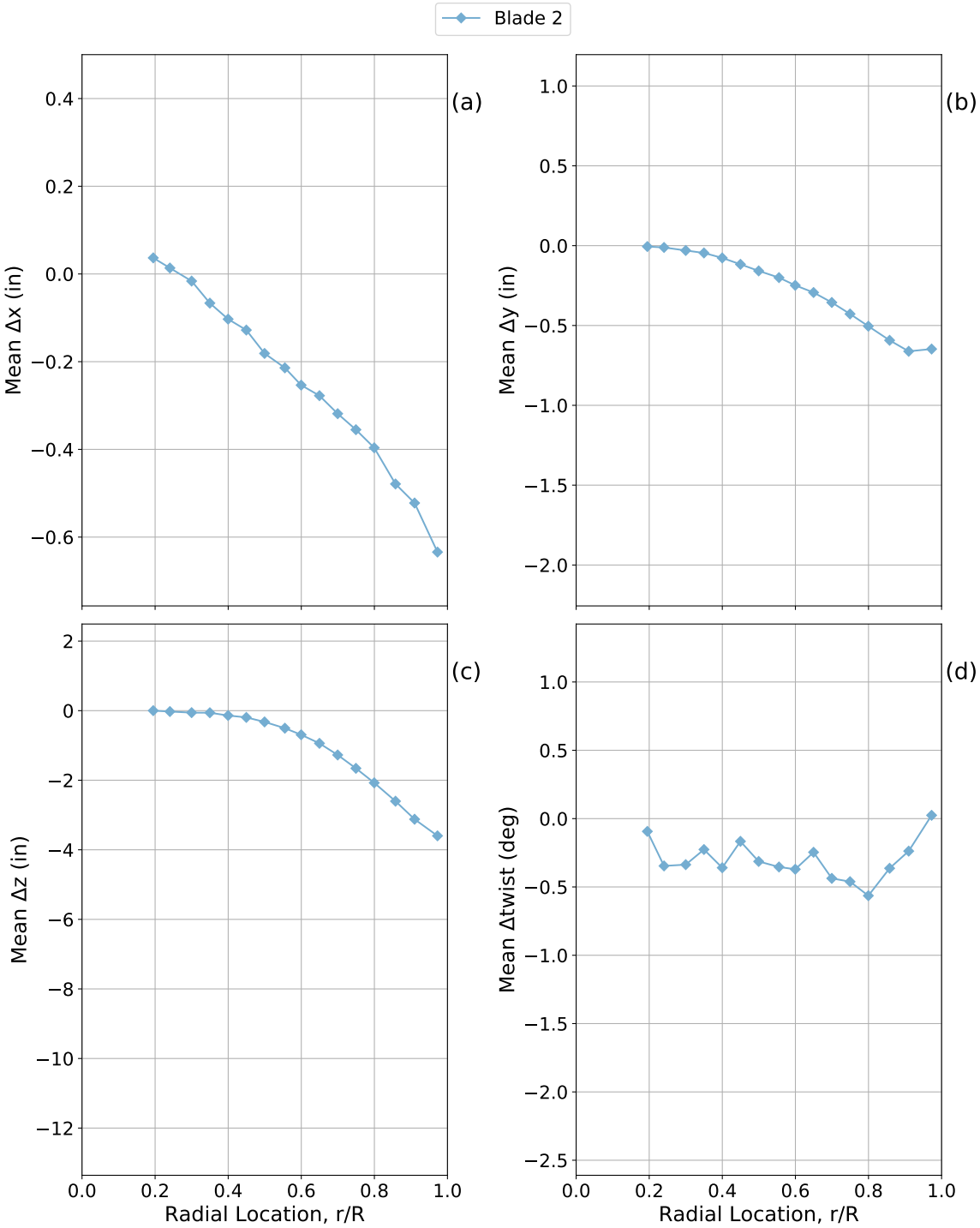


Figure 4.4-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0367	0.0015	-0.0056	0.0008	-0.0002	0.0016	-0.0935	0.0108
2	350.16	0.2405	0.0136	0.0017	-0.0113	0.0017	-0.0255	0.0025	-0.3462	0.0198
2	350.16	0.2999	-0.0162	0.0020	-0.0303	0.0037	-0.0574	0.0044	-0.3368	0.0235
2	350.16	0.3498	-0.0665	0.0018	-0.0458	0.0058	-0.0598	0.0091	-0.2261	0.0230
2	350.16	0.3998	-0.1030	0.0015	-0.0768	0.0095	-0.1396	0.0124	-0.3595	0.0275
2	350.16	0.4496	-0.1279	0.0031	-0.1169	0.0103	-0.1940	0.0154	-0.1664	0.0262
2	350.16	0.4995	-0.1812	0.0021	-0.1581	0.0139	-0.3236	0.0217	-0.3134	0.0218
2	350.16	0.5551	-0.2141	0.0023	-0.2002	0.0161	-0.5046	0.0252	-0.3539	0.0212
2	350.16	0.5996	-0.2535	0.0024	-0.2486	0.0184	-0.6930	0.0256	-0.3706	0.0413
2	350.16	0.6497	-0.2775	0.0020	-0.2934	0.0208	-0.9395	0.0276	-0.2462	0.0563
2	350.16	0.6996	-0.3186	0.0022	-0.3558	0.0226	-1.2737	0.0324	-0.4373	0.0285
2	350.16	0.7495	-0.3551	0.0031	-0.4278	0.0258	-1.6583	0.0356	-0.4613	0.0466
2	350.16	0.7996	-0.3964	0.0021	-0.5045	0.0284	-2.0749	0.0374	-0.5640	0.0404
2	350.16	0.8578	-0.4789	0.0026	-0.5929	0.0316	-2.6031	0.0445	-0.3634	0.0318
2	350.16	0.9100	-0.5223	0.0033	-0.6617	0.0335	-3.1217	0.0496	-0.2378	0.0413
2	350.16	0.9727	-0.6342	0.0032	-0.6474	0.0364	-3.5986	0.0538	0.0243	0.0294

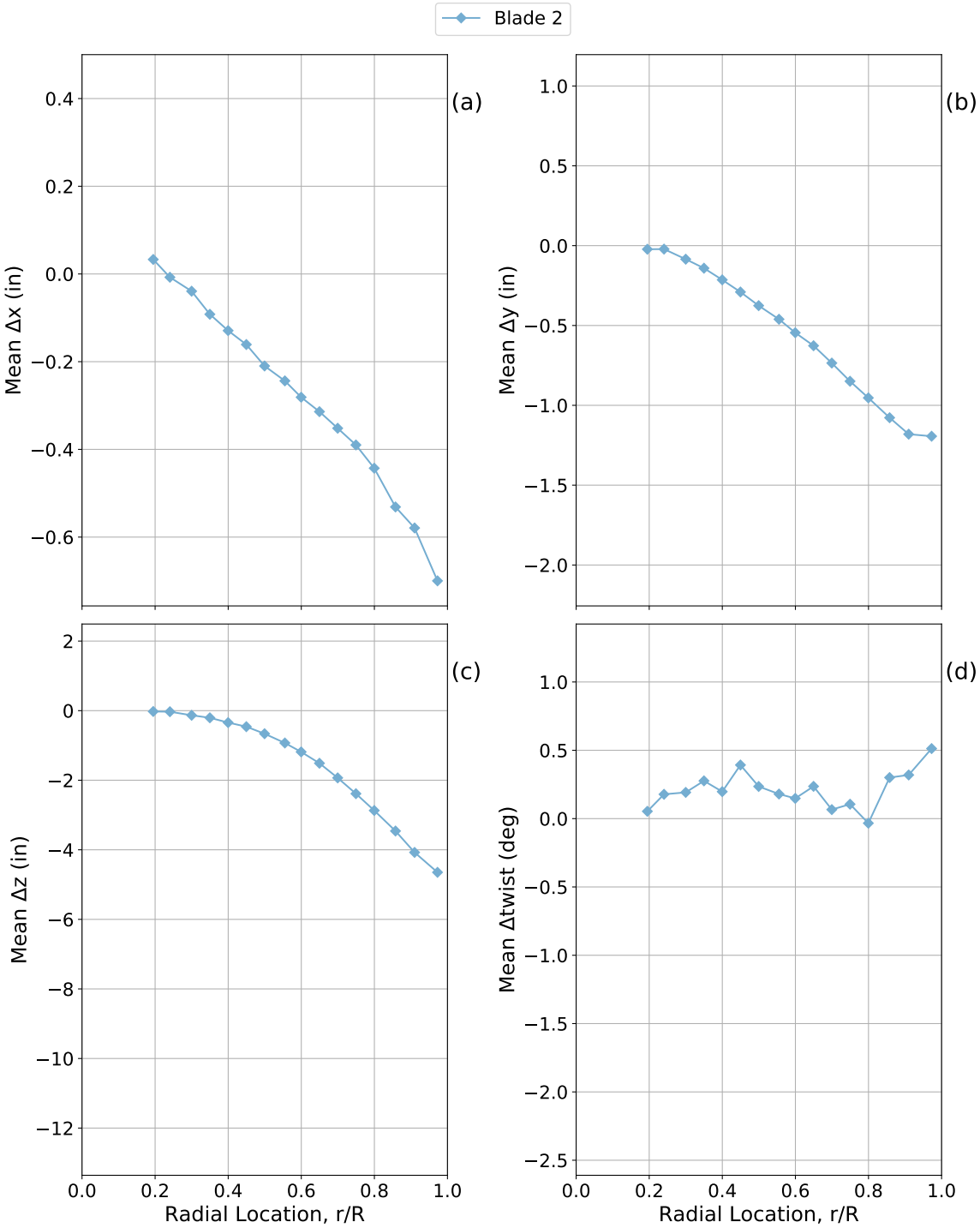


Figure 4.4-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Table 4.4-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 45, point 7. BD run 21, points 1627 to 1637.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0331	0.0028	-0.0225	0.0013	-0.0240	0.0030	0.0534	0.0226
2	355.08	0.2405	-0.0075	0.0025	-0.0216	0.0024	-0.0303	0.0051	0.1780	0.0557
2	355.08	0.2999	-0.0393	0.0035	-0.0848	0.0050	-0.1333	0.0116	0.1919	0.0631
2	355.08	0.3498	-0.0919	0.0042	-0.1412	0.0077	-0.2049	0.0186	0.2763	0.0575
2	355.08	0.3998	-0.1292	0.0043	-0.2141	0.0124	-0.3424	0.0295	0.1974	0.0663
2	355.08	0.4496	-0.1609	0.0039	-0.2903	0.0138	-0.4605	0.0333	0.3924	0.0549
2	355.08	0.4995	-0.2098	0.0039	-0.3758	0.0180	-0.6631	0.0432	0.2353	0.0810
2	355.08	0.5551	-0.2438	0.0048	-0.4610	0.0208	-0.9293	0.0473	0.1799	0.0491
2	355.08	0.5996	-0.2811	0.0037	-0.5452	0.0240	-1.1855	0.0551	0.1480	0.1026
2	355.08	0.6497	-0.3140	0.0035	-0.6268	0.0277	-1.5118	0.0568	0.2361	0.0745
2	355.08	0.6996	-0.3518	0.0041	-0.7353	0.0292	-1.9324	0.0642	0.0661	0.0670
2	355.08	0.7495	-0.3899	0.0042	-0.8493	0.0330	-2.3870	0.0718	0.1056	0.0646
2	355.08	0.7996	-0.4429	0.0046	-0.9533	0.0363	-2.8704	0.0797	-0.0335	0.0706
2	355.08	0.8578	-0.5313	0.0043	-1.0776	0.0390	-3.4601	0.0886	0.3006	0.0505
2	355.08	0.9100	-0.5792	0.0048	-1.1807	0.0416	-4.0748	0.1044	0.3195	0.0700
2	355.08	0.9727	-0.6998	0.0050	-1.1936	0.0453	-4.6480	0.1104	0.5126	0.0504

4.5 Run 47, Point 8

4.5.1 Pitch, Flap, and Lag

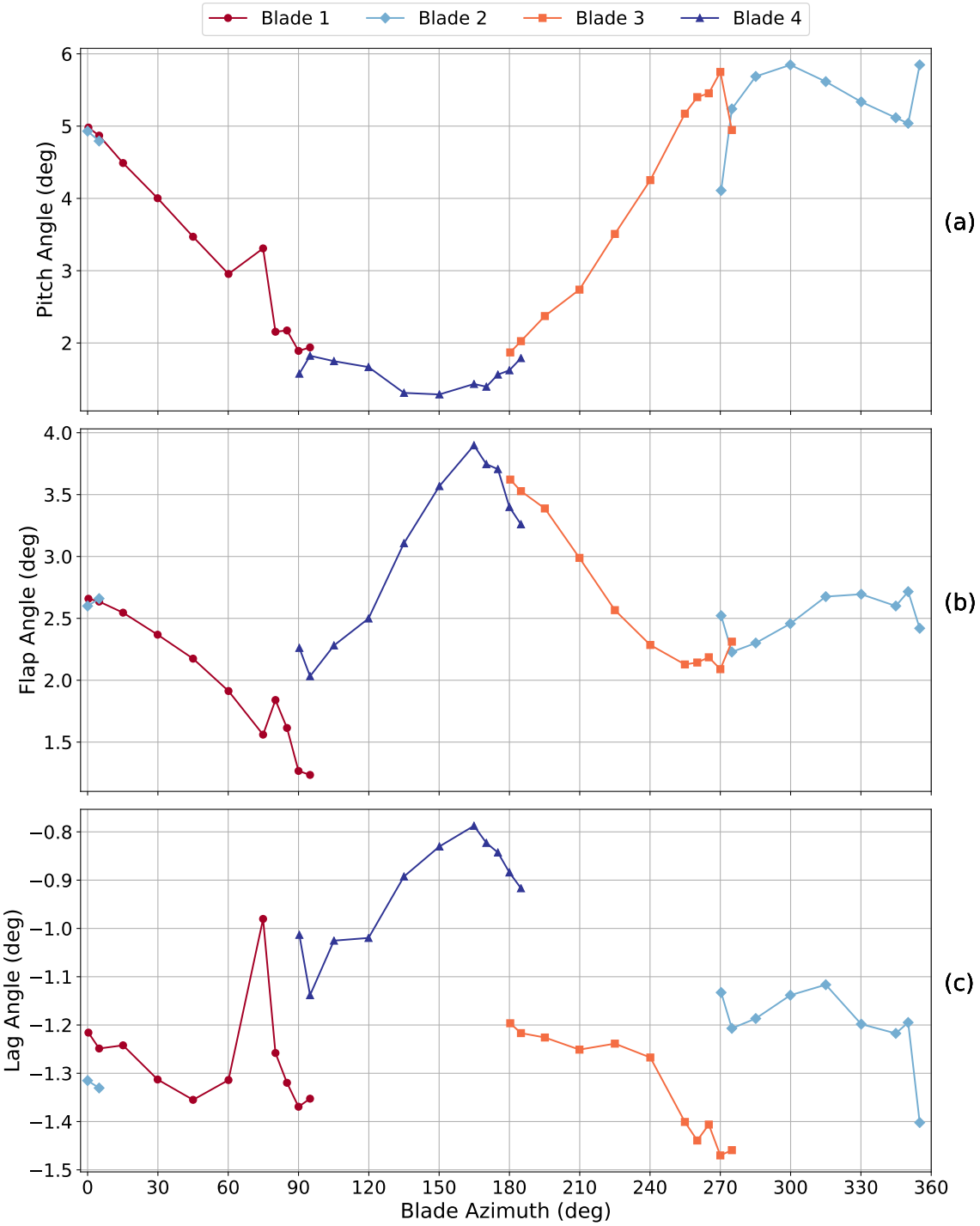


Figure 4.5-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.9305	2.5996	-1.3151	0.0675	0.0297	0.0210
0.35	1	4.9801	2.6583	-1.2158	0.1407	0.0410	0.0349
4.92	1	4.8688	2.6357	-1.2487	0.1316	0.0714	0.0260
4.92	2	4.7935	2.6599	-1.3305	0.0627	0.0335	0.0156
15.12	1	4.4894	2.5460	-1.2421	0.0872	0.0351	0.0171
29.88	1	4.0024	2.3680	-1.3129	0.0688	0.0347	0.0233
45	1	3.4697	2.1744	-1.3550	0.0786	0.0277	0.0240
60.12	1	2.9548	1.9129	-1.3140	0.2419	0.1060	0.0540
74.88	1	3.3086	1.5603	-0.9803	0.1379	0.0440	0.0286
80.16	1	2.1554	1.8400	-1.2580	0.0362	0.0215	0.0206
85.08	1	2.1730	1.6144	-1.3197	0.0327	0.0227	0.0081
90	1	1.8908	1.2671	-1.3693	0.0261	0.0221	0.0108
90.35	4	1.5749	2.2612	-1.0133	0.1860	0.0423	0.0245
94.92	1	1.9386	1.2348	-1.3526	0.0707	0.0616	0.0177
94.92	4	1.8233	2.0323	-1.1382	0.0233	0.0119	0.0070
105.12	4	1.7486	2.2810	-1.0253	0.0310	0.0176	0.0140
119.88	4	1.6666	2.4989	-1.0197	0.0252	0.0106	0.0191
135	4	1.3096	3.1072	-0.8925	0.0242	0.0307	0.0139
150.12	4	1.2883	3.5684	-0.8303	0.0264	0.0221	0.0096
164.88	4	1.4329	3.8982	-0.7875	0.0279	0.0159	0.0257
170.16	4	1.3950	3.7457	-0.8229	0.0278	0.0217	0.0110
175.08	4	1.5629	3.7058	-0.8428	0.0200	0.0121	0.0114
180	4	1.6221	3.3996	-0.8841	0.0333	0.0382	0.0153
180.35	3	1.8692	3.6214	-1.1964	0.0249	0.0343	0.0135
184.92	3	2.0254	3.5280	-1.2168	0.0290	0.0132	0.0209
184.92	4	1.7905	3.2599	-0.9168	0.0379	0.0892	0.0209
195.12	3	2.3723	3.3880	-1.2259	0.0423	0.0118	0.0229
209.88	3	2.7381	2.9886	-1.2510	0.0406	0.0321	0.0303
225	3	3.5083	2.5664	-1.2386	0.0369	0.0224	0.0088
240.12	3	4.2529	2.2849	-1.2673	0.0426	0.0228	0.0210
254.88	3	5.1717	2.1275	-1.4008	0.0418	0.0220	0.0245
260.16	3	5.4011	2.1432	-1.4392	0.0442	0.0207	0.0203
265.08	3	5.4542	2.1854	-1.4062	0.0762	0.0210	0.0061
270	3	5.7492	2.0893	-1.4701	0.1173	0.0687	0.0194
270.35	2	4.1096	2.5217	-1.1327	0.1306	0.0502	0.0268
274.92	2	5.2381	2.2281	-1.2069	0.0449	0.0211	0.0092
274.92	3	4.9456	2.3116	-1.4592	0.0256	0.0158	0.0155
285.12	2	5.6873	2.3008	-1.1866	0.0322	0.0172	0.0151
299.88	2	5.8468	2.4573	-1.1383	0.0363	0.0170	0.0211
315	2	5.6156	2.6757	-1.1166	0.0371	0.0326	0.0179
330.12	2	5.3358	2.6950	-1.1982	0.0343	0.0323	0.0095
344.88	2	5.1158	2.5998	-1.2174	0.0373	0.0154	0.0123
350.16	2	5.0384	2.7160	-1.1948	0.0323	0.0288	0.0149
355.08	2	5.8477	2.4196	-1.4021	0.0427	0.0267	0.0202

4.5.2 Spanwise Elastic Deformations

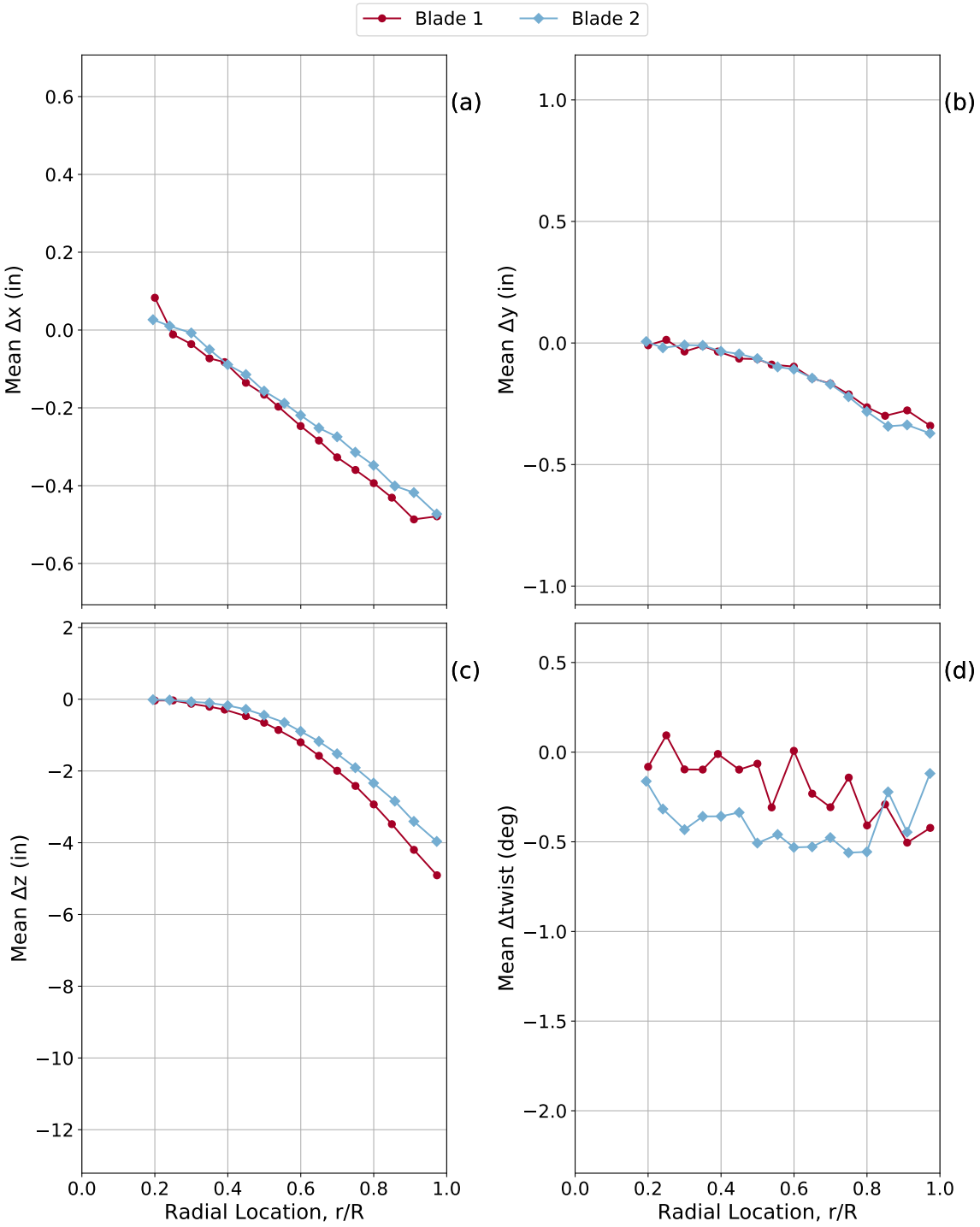


Figure 4.5-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0830	0.0056	-0.0094	0.0027	-0.0353	0.0067	-0.0819	0.0468
1	0.35	0.2499	-0.0115	0.0025	0.0131	0.0044	-0.0330	0.0064	0.0937	0.1401
1	0.35	0.2998	-0.0362	0.0018	-0.0350	0.0091	-0.1273	0.0197	-0.0963	0.1317
1	0.35	0.3498	-0.0728	0.0020	-0.0121	0.0172	-0.2084	0.0332	-0.0972	0.1230
1	0.35	0.3913	-0.0825	0.0025	-0.0351	0.0225	-0.2891	0.0432	-0.0102	0.1354
1	0.35	0.4496	-0.1355	0.0028	-0.0643	0.0305	-0.4694	0.0605	-0.0974	0.1353
1	0.35	0.4997	-0.1661	0.0033	-0.0660	0.0378	-0.6550	0.0724	-0.0646	0.1413
1	0.35	0.5387	-0.1969	0.0026	-0.0886	0.0409	-0.8568	0.0837	-0.3083	0.1356
1	0.35	0.5996	-0.2468	0.0028	-0.0972	0.0492	-1.2003	0.0989	0.0075	0.1458
1	0.35	0.6498	-0.2840	0.0027	-0.1456	0.0561	-1.5770	0.1142	-0.2317	0.1494
1	0.35	0.6998	-0.3272	0.0023	-0.1669	0.0616	-1.9939	0.1262	-0.3072	0.1501
1	0.35	0.7500	-0.3596	0.0030	-0.2111	0.0680	-2.4173	0.1398	-0.1419	0.1368
1	0.35	0.8001	-0.3935	0.0033	-0.2644	0.0750	-2.9326	0.1521	-0.4088	0.1147
1	0.35	0.8497	-0.4308	0.0040	-0.2995	0.0816	-3.4824	0.1620	-0.2911	0.1553
1	0.35	0.9102	-0.4867	0.0049	-0.2772	0.0933	-4.1985	0.1798	-0.5047	0.1744
1	0.35	0.9734	-0.4788	0.0050	-0.3406	0.0971	-4.9078	0.1815	-0.4225	0.1852
2	0	0.1949	0.0266	0.0032	0.0060	0.0017	-0.0130	0.0045	-0.1623	0.0278
2	0	0.2405	0.0104	0.0018	-0.0197	0.0023	-0.0231	0.0053	-0.3172	0.0701
2	0	0.2999	-0.0075	0.0012	-0.0084	0.0047	-0.0701	0.0149	-0.4321	0.0696
2	0	0.3498	-0.0501	0.0023	-0.0099	0.0083	-0.1046	0.0239	-0.3586	0.0664
2	0	0.3998	-0.0890	0.0029	-0.0343	0.0120	-0.1763	0.0362	-0.3578	0.0631
2	0	0.4496	-0.1144	0.0030	-0.0450	0.0150	-0.2818	0.0470	-0.3365	0.0690
2	0	0.4995	-0.1568	0.0019	-0.0640	0.0169	-0.4462	0.0577	-0.5071	0.0530
2	0	0.5551	-0.1883	0.0018	-0.0985	0.0213	-0.6499	0.0652	-0.4593	0.0636
2	0	0.5996	-0.2191	0.0028	-0.1080	0.0245	-0.8947	0.0713	-0.5314	0.0749
2	0	0.6497	-0.2518	0.0028	-0.1446	0.0272	-1.1758	0.0767	-0.5281	0.0559
2	0	0.6996	-0.2744	0.0031	-0.1694	0.0307	-1.5203	0.0829	-0.4766	0.0646
2	0	0.7495	-0.3141	0.0033	-0.2209	0.0350	-1.9091	0.0890	-0.5607	0.0751
2	0	0.7996	-0.3477	0.0027	-0.2820	0.0369	-2.3380	0.0951	-0.5561	0.0826
2	0	0.8578	-0.4008	0.0030	-0.3425	0.0408	-2.8411	0.1103	-0.2217	0.0876
2	0	0.9100	-0.4178	0.0044	-0.3370	0.0478	-3.4055	0.1187	-0.4462	0.0929
2	0	0.9727	-0.4728	0.0066	-0.3715	0.0488	-3.9644	0.1296	-0.1191	0.1041

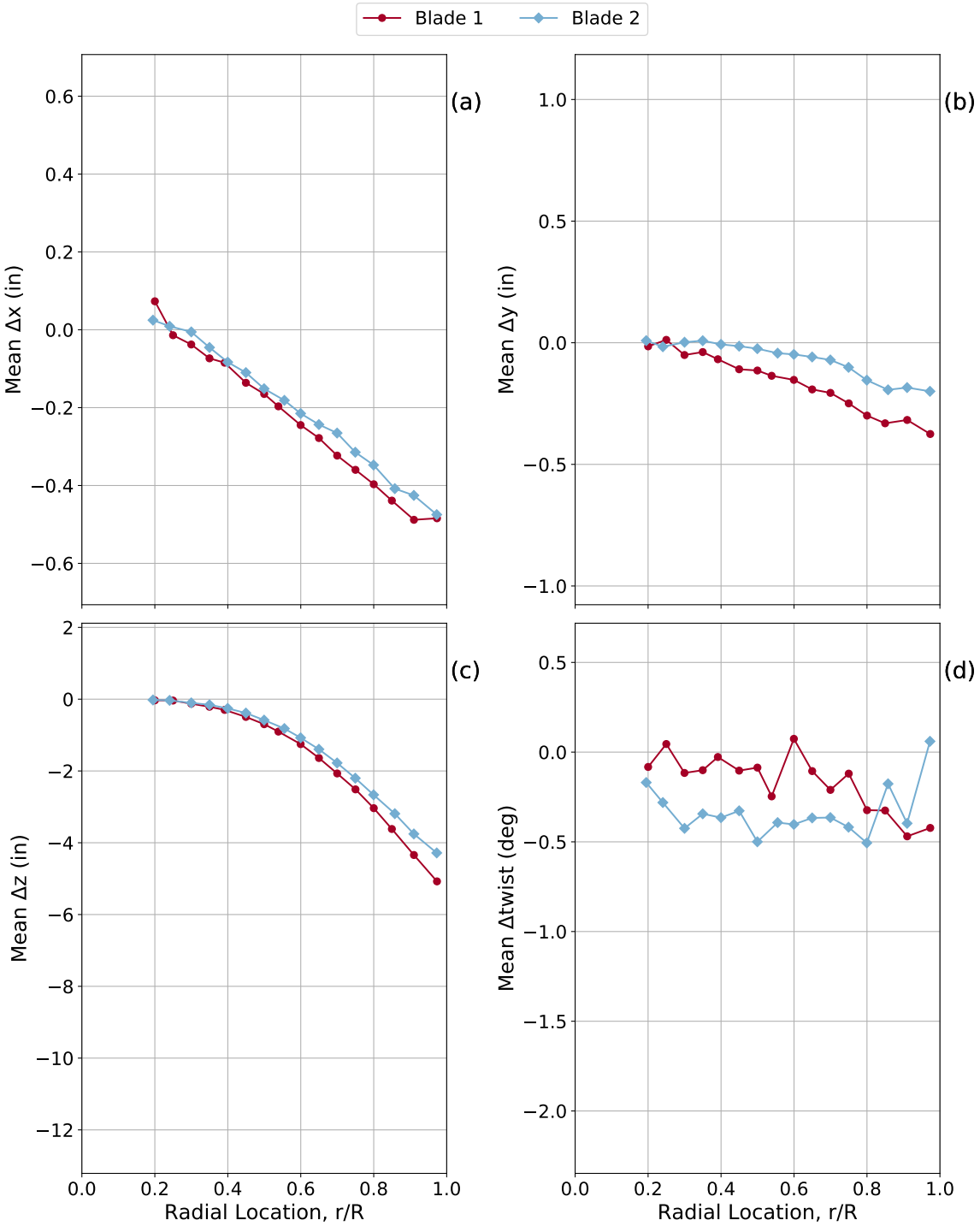


Figure 4.5-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$ NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0732	0.0052	-0.0148	0.0032	-0.0322	0.0076	-0.0827	0.0626
1	4.92	0.2499	-0.0140	0.0023	0.0118	0.0034	-0.0384	0.0108	0.0452	0.1196
1	4.92	0.2998	-0.0378	0.0015	-0.0504	0.0109	-0.1263	0.0244	-0.1161	0.1458
1	4.92	0.3498	-0.0734	0.0023	-0.0383	0.0170	-0.2117	0.0423	-0.1007	0.1208
1	4.92	0.3913	-0.0846	0.0027	-0.0678	0.0236	-0.2985	0.0569	-0.0273	0.1265
1	4.92	0.4496	-0.1362	0.0027	-0.1090	0.0322	-0.4944	0.0767	-0.1031	0.1294
1	4.92	0.4997	-0.1649	0.0038	-0.1141	0.0400	-0.6975	0.0957	-0.0863	0.1307
1	4.92	0.5387	-0.1967	0.0035	-0.1359	0.0458	-0.9034	0.1106	-0.2467	0.1256
1	4.92	0.5996	-0.2448	0.0033	-0.1527	0.0534	-1.2517	0.1312	0.0742	0.1302
1	4.92	0.6498	-0.2781	0.0036	-0.1919	0.0604	-1.6389	0.1504	-0.1057	0.1205
1	4.92	0.6998	-0.3232	0.0042	-0.2061	0.0674	-2.0694	0.1660	-0.2105	0.1260
1	4.92	0.7500	-0.3598	0.0041	-0.2493	0.0748	-2.5129	0.1819	-0.1199	0.1323
1	4.92	0.8001	-0.3968	0.0043	-0.2995	0.0812	-3.0369	0.1976	-0.3236	0.1324
1	4.92	0.8497	-0.4388	0.0043	-0.3312	0.0896	-3.6166	0.2148	-0.3254	0.1324
1	4.92	0.9102	-0.4881	0.0050	-0.3175	0.0984	-4.3415	0.2336	-0.4694	0.1416
1	4.92	0.9734	-0.4842	0.0059	-0.3752	0.1085	-5.0762	0.2546	-0.4225	0.1479
2	4.92	0.1949	0.0247	0.0027	0.0087	0.0020	-0.0221	0.0035	-0.1694	0.0432
2	4.92	0.2405	0.0091	0.0018	-0.0164	0.0019	-0.0337	0.0058	-0.2810	0.0635
2	4.92	0.2999	-0.0055	0.0012	0.0021	0.0058	-0.1036	0.0106	-0.4248	0.0952
2	4.92	0.3498	-0.0455	0.0011	0.0084	0.0090	-0.1568	0.0182	-0.3438	0.0704
2	4.92	0.3998	-0.0831	0.0016	-0.0067	0.0132	-0.2566	0.0263	-0.3652	0.0564
2	4.92	0.4496	-0.1100	0.0015	-0.0142	0.0167	-0.3864	0.0337	-0.3271	0.0697
2	4.92	0.4995	-0.1514	0.0019	-0.0244	0.0212	-0.5829	0.0411	-0.4997	0.0701
2	4.92	0.5551	-0.1813	0.0018	-0.0429	0.0258	-0.8186	0.0519	-0.3927	0.0668
2	4.92	0.5996	-0.2150	0.0027	-0.0479	0.0280	-1.0758	0.0591	-0.4030	0.0792
2	4.92	0.6497	-0.2434	0.0025	-0.0585	0.0330	-1.3957	0.0673	-0.3667	0.0840
2	4.92	0.6996	-0.2653	0.0028	-0.0707	0.0382	-1.7769	0.0780	-0.3647	0.0687
2	4.92	0.7495	-0.3146	0.0031	-0.1011	0.0413	-2.2012	0.0862	-0.4183	0.0710
2	4.92	0.7996	-0.3474	0.0034	-0.1539	0.0456	-2.6647	0.0976	-0.5060	0.0653
2	4.92	0.8578	-0.4081	0.0032	-0.1935	0.0500	-3.1902	0.1085	-0.1765	0.0727
2	4.92	0.9100	-0.4254	0.0040	-0.1843	0.0592	-3.7544	0.1193	-0.3970	0.0816
2	4.92	0.9727	-0.4748	0.0043	-0.1997	0.0647	-4.2834	0.1331	0.0602	0.0826

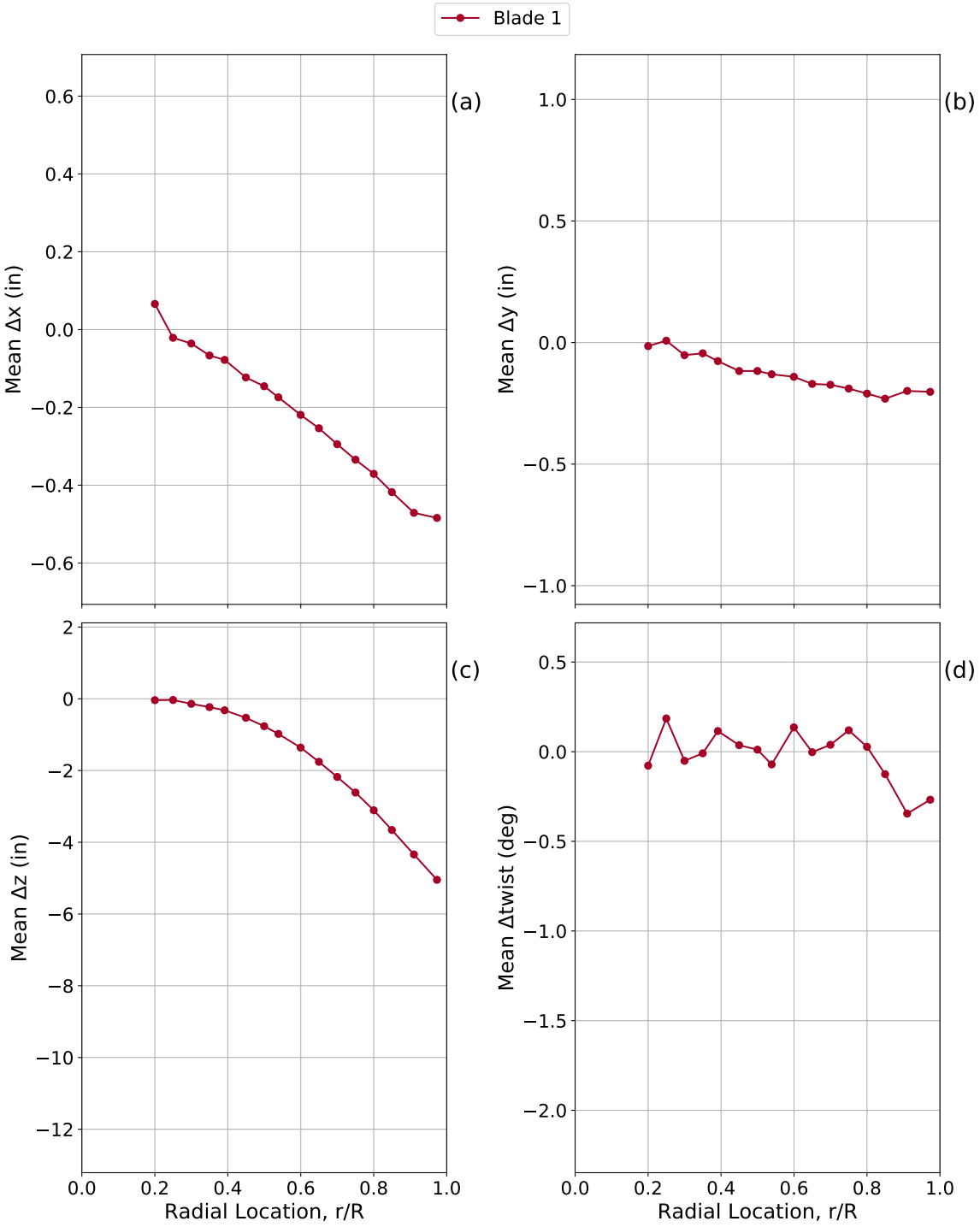


Figure 4.5-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0659	0.0034	-0.0146	0.0020	-0.0385	0.0049	-0.0780	0.0392
1	15.12	0.2499	-0.0211	0.0024	0.0076	0.0029	-0.0346	0.0056	0.1853	0.0814
1	15.12	0.2998	-0.0358	0.0017	-0.0518	0.0066	-0.1404	0.0146	-0.0509	0.0939
1	15.12	0.3498	-0.0665	0.0016	-0.0443	0.0122	-0.2331	0.0258	-0.0090	0.0763
1	15.12	0.3913	-0.0779	0.0020	-0.0764	0.0162	-0.3219	0.0332	0.1152	0.0855
1	15.12	0.4496	-0.1230	0.0023	-0.1171	0.0216	-0.5298	0.0466	0.0363	0.0863
1	15.12	0.4997	-0.1456	0.0016	-0.1169	0.0263	-0.7644	0.0584	0.0114	0.0893
1	15.12	0.5387	-0.1741	0.0019	-0.1305	0.0297	-0.9792	0.0663	-0.0710	0.0878
1	15.12	0.5996	-0.2192	0.0020	-0.1409	0.0356	-1.3611	0.0787	0.1357	0.0888
1	15.12	0.6498	-0.2536	0.0020	-0.1702	0.0397	-1.7574	0.0875	-0.0027	0.0827
1	15.12	0.6998	-0.2946	0.0025	-0.1736	0.0453	-2.1789	0.0962	0.0385	0.0865
1	15.12	0.7500	-0.3344	0.0022	-0.1893	0.0502	-2.6141	0.1036	0.1193	0.0840
1	15.12	0.8001	-0.3708	0.0018	-0.2100	0.0559	-3.1088	0.1125	0.0271	0.0799
1	15.12	0.8497	-0.4177	0.0014	-0.2310	0.0605	-3.6581	0.1221	-0.1254	0.0864
1	15.12	0.9102	-0.4709	0.0027	-0.1990	0.0664	-4.3404	0.1321	-0.3453	0.0852
1	15.12	0.9734	-0.4841	0.0034	-0.2027	0.0741	-5.0471	0.1488	-0.2678	0.0877

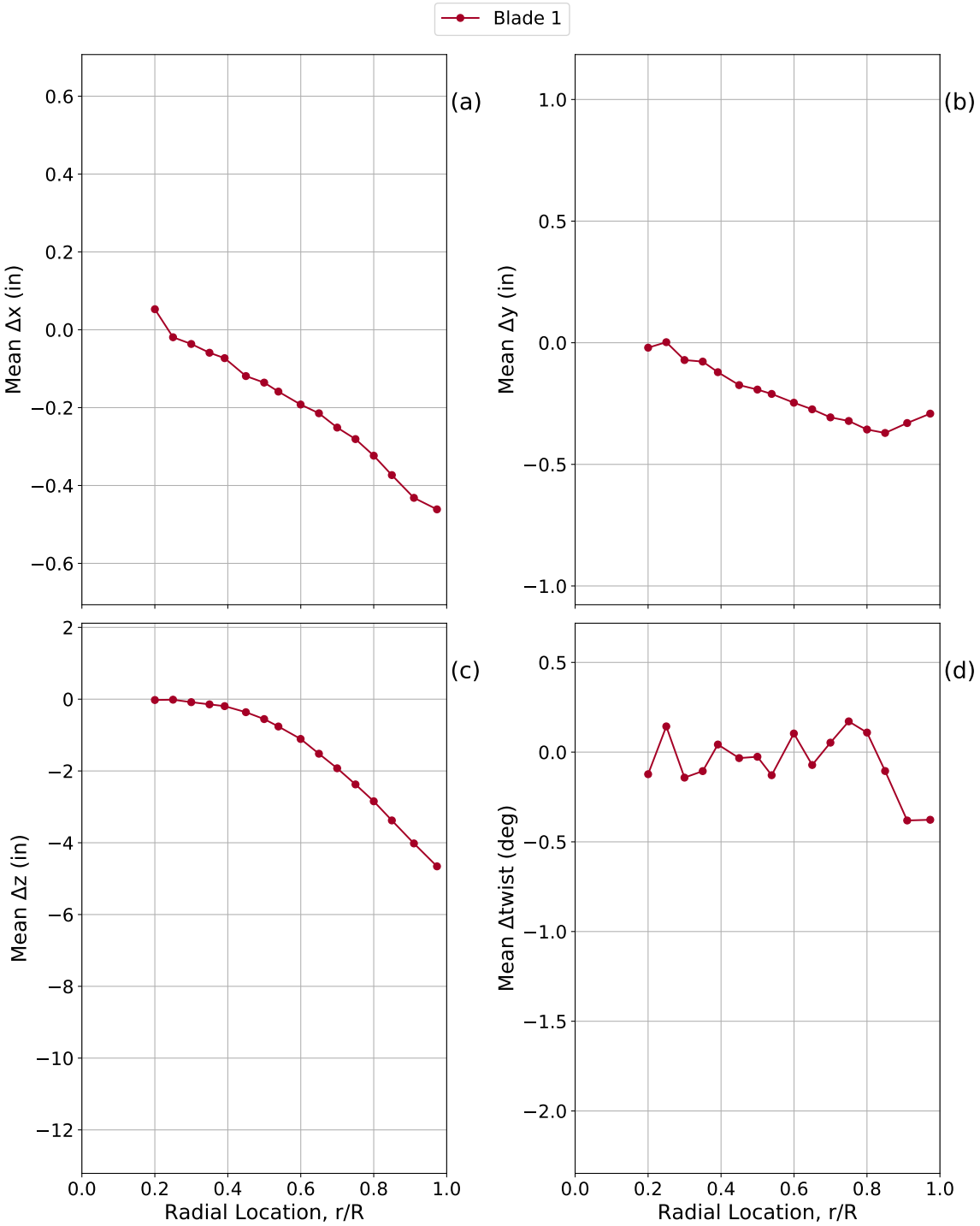


Figure 4.5-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0528	0.0033	-0.0203	0.0009	-0.0232	0.0035	-0.1230	0.0289
1	29.88	0.2499	-0.0192	0.0026	0.0023	0.0019	-0.0143	0.0066	0.1434	0.0571
1	29.88	0.2998	-0.0365	0.0022	-0.0711	0.0037	-0.0832	0.0130	-0.1421	0.0690
1	29.88	0.3498	-0.0590	0.0027	-0.0775	0.0059	-0.1446	0.0231	-0.1058	0.0624
1	29.88	0.3913	-0.0729	0.0024	-0.1210	0.0088	-0.1939	0.0321	0.0424	0.0555
1	29.88	0.4496	-0.1189	0.0028	-0.1741	0.0113	-0.3627	0.0425	-0.0333	0.0602
1	29.88	0.4997	-0.1357	0.0032	-0.1925	0.0140	-0.5546	0.0517	-0.0259	0.0617
1	29.88	0.5387	-0.1588	0.0033	-0.2104	0.0159	-0.7610	0.0586	-0.1287	0.0597
1	29.88	0.5996	-0.1920	0.0028	-0.2465	0.0187	-1.1079	0.0685	0.1037	0.0679
1	29.88	0.6498	-0.2145	0.0032	-0.2737	0.0212	-1.5200	0.0750	-0.0717	0.0611
1	29.88	0.6998	-0.2512	0.0036	-0.3068	0.0241	-1.9250	0.0840	0.0528	0.0576
1	29.88	0.7500	-0.2808	0.0038	-0.3216	0.0271	-2.3750	0.0916	0.1714	0.0574
1	29.88	0.8001	-0.3234	0.0035	-0.3567	0.0299	-2.8450	0.1012	0.1091	0.0523
1	29.88	0.8497	-0.3733	0.0030	-0.3709	0.0320	-3.3781	0.1105	-0.1053	0.0590
1	29.88	0.9102	-0.4317	0.0033	-0.3301	0.0357	-4.0189	0.1221	-0.3810	0.0614
1	29.88	0.9734	-0.4613	0.0041	-0.2914	0.0391	-4.6574	0.1350	-0.3771	0.0653

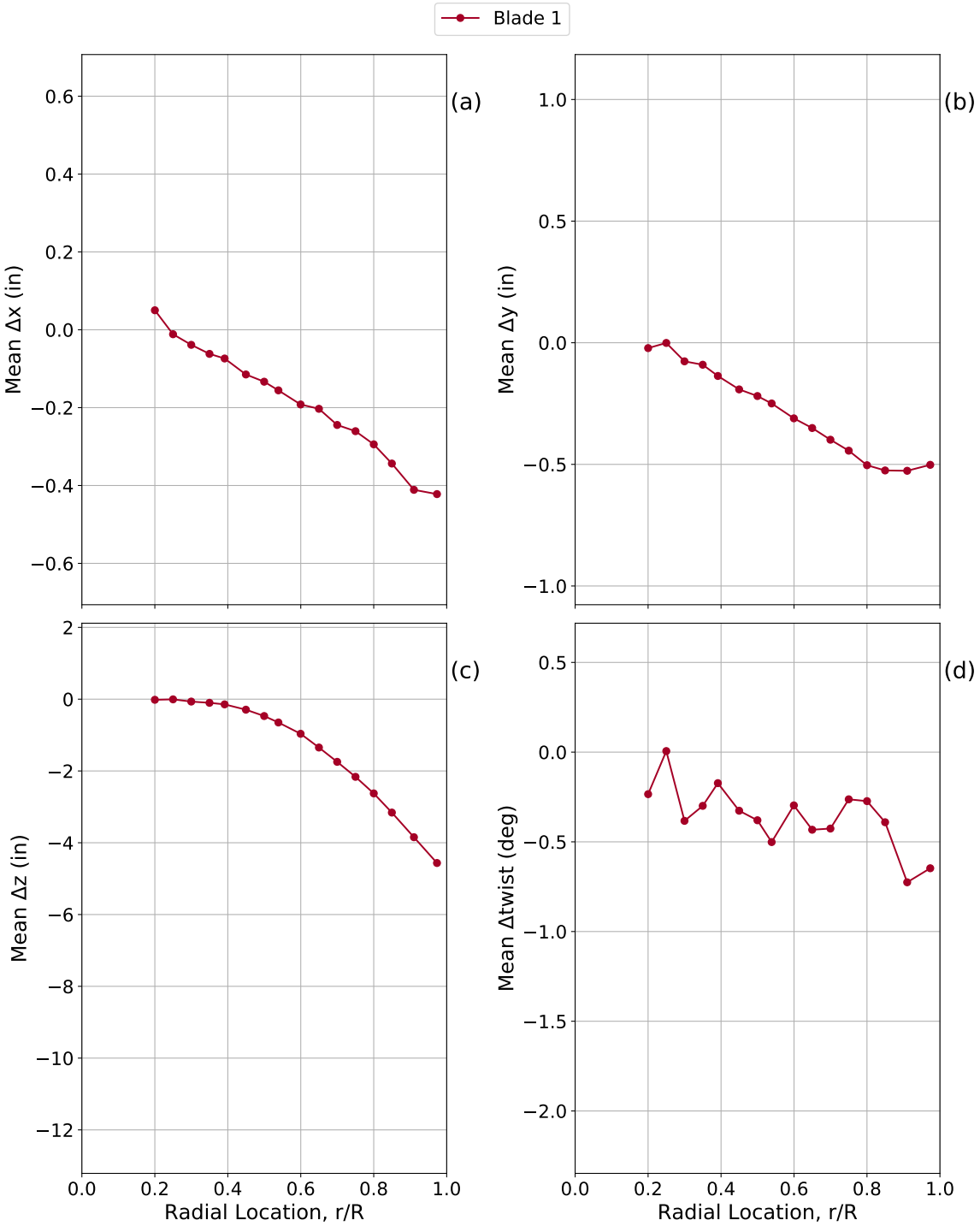


Figure 4.5-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0501	0.0027	-0.0220	0.0014	-0.0171	0.0030	-0.2343	0.0366
1	45	0.2499	-0.0115	0.0018	-0.0008	0.0024	-0.0050	0.0049	0.0059	0.0655
1	45	0.2998	-0.0387	0.0024	-0.0764	0.0052	-0.0668	0.0106	-0.3831	0.0839
1	45	0.3498	-0.0619	0.0019	-0.0904	0.0096	-0.1015	0.0181	-0.2995	0.0727
1	45	0.3913	-0.0738	0.0028	-0.1366	0.0131	-0.1445	0.0252	-0.1729	0.0773
1	45	0.4496	-0.1148	0.0016	-0.1918	0.0171	-0.2927	0.0346	-0.3266	0.0721
1	45	0.4997	-0.1334	0.0021	-0.2191	0.0211	-0.4696	0.0432	-0.3798	0.0646
1	45	0.5387	-0.1556	0.0025	-0.2496	0.0244	-0.6491	0.0501	-0.5013	0.0684
1	45	0.5996	-0.1919	0.0024	-0.3108	0.0301	-0.9641	0.0586	-0.2968	0.0674
1	45	0.6498	-0.2030	0.0027	-0.3506	0.0349	-1.3467	0.0664	-0.4326	0.0703
1	45	0.6998	-0.2445	0.0026	-0.3987	0.0398	-1.7459	0.0772	-0.4260	0.0699
1	45	0.7500	-0.2605	0.0032	-0.4437	0.0463	-2.1636	0.0843	-0.2630	0.0720
1	45	0.8001	-0.2943	0.0022	-0.5035	0.0509	-2.6255	0.0916	-0.2732	0.0755
1	45	0.8497	-0.3436	0.0030	-0.5250	0.0552	-3.1590	0.1003	-0.3908	0.0690
1	45	0.9102	-0.4111	0.0028	-0.5264	0.0626	-3.8455	0.1118	-0.7255	0.0741
1	45	0.9734	-0.4221	0.0040	-0.5019	0.0696	-4.5641	0.1227	-0.6473	0.0803

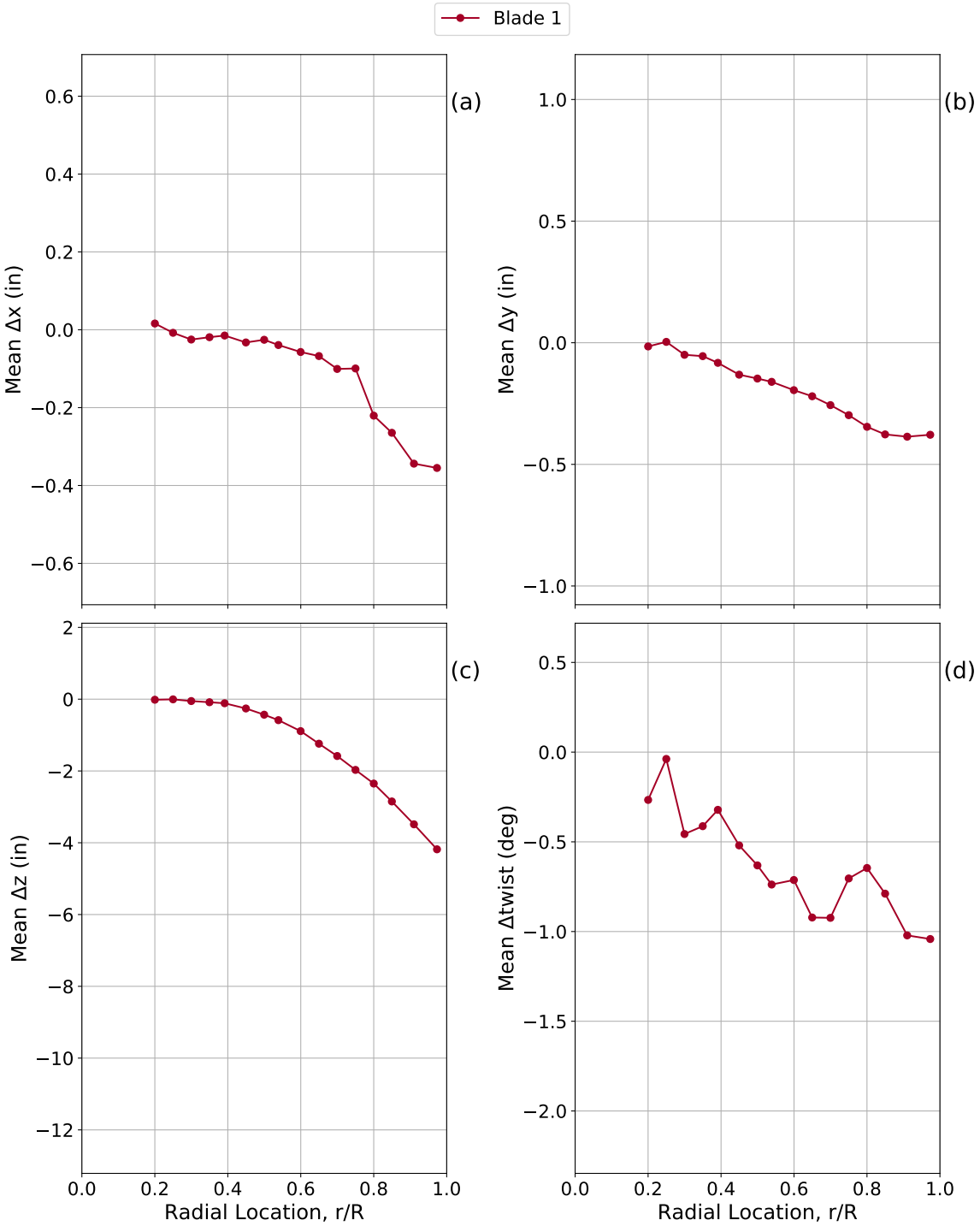


Figure 4.5-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	0.0161	0.0072	-0.0152	0.0046	-0.0155	0.0126	-0.2664	0.0844
1	60.12	0.2499	-0.0078	0.0012	0.0036	0.0052	-0.0049	0.0144	-0.0380	0.2250
1	60.12	0.2998	-0.0251	0.0016	-0.0495	0.0161	-0.0521	0.0403	-0.4566	0.2302
1	60.12	0.3498	-0.0191	0.0019	-0.0551	0.0276	-0.0851	0.0682	-0.4128	0.2330
1	60.12	0.3913	-0.0148	0.0025	-0.0826	0.0376	-0.1135	0.0916	-0.3217	0.2336
1	60.12	0.4496	-0.0326	0.0025	-0.1313	0.0517	-0.2589	0.1229	-0.5199	0.2344
1	60.12	0.4997	-0.0257	0.0018	-0.1472	0.0648	-0.4322	0.1519	-0.6314	0.2336
1	60.12	0.5387	-0.0392	0.0023	-0.1607	0.0749	-0.5846	0.1740	-0.7381	0.2374
1	60.12	0.5996	-0.0571	0.0026	-0.1949	0.0900	-0.8897	0.2098	-0.7128	0.2271
1	60.12	0.6498	-0.0675	0.0032	-0.2200	0.1040	-1.2402	0.2388	-0.9218	0.2349
1	60.12	0.6998	-0.1006	0.0046	-0.2564	0.1181	-1.5834	0.2700	-0.9237	0.2264
1	60.12	0.7500	-0.0994	0.0056	-0.2977	0.1326	-1.9704	0.3008	-0.7042	0.2278
1	60.12	0.8001	-0.2206	0.0056	-0.3456	0.1491	-2.3514	0.3274	-0.6458	0.2385
1	60.12	0.8497	-0.2646	0.0056	-0.3768	0.1643	-2.8497	0.3582	-0.7889	0.2358
1	60.12	0.9102	-0.3439	0.0061	-0.3862	0.1827	-3.4862	0.3934	-1.0215	0.2289
1	60.12	0.9734	-0.3549	0.0067	-0.3783	0.2022	-4.1828	0.4279	-1.0417	0.2354

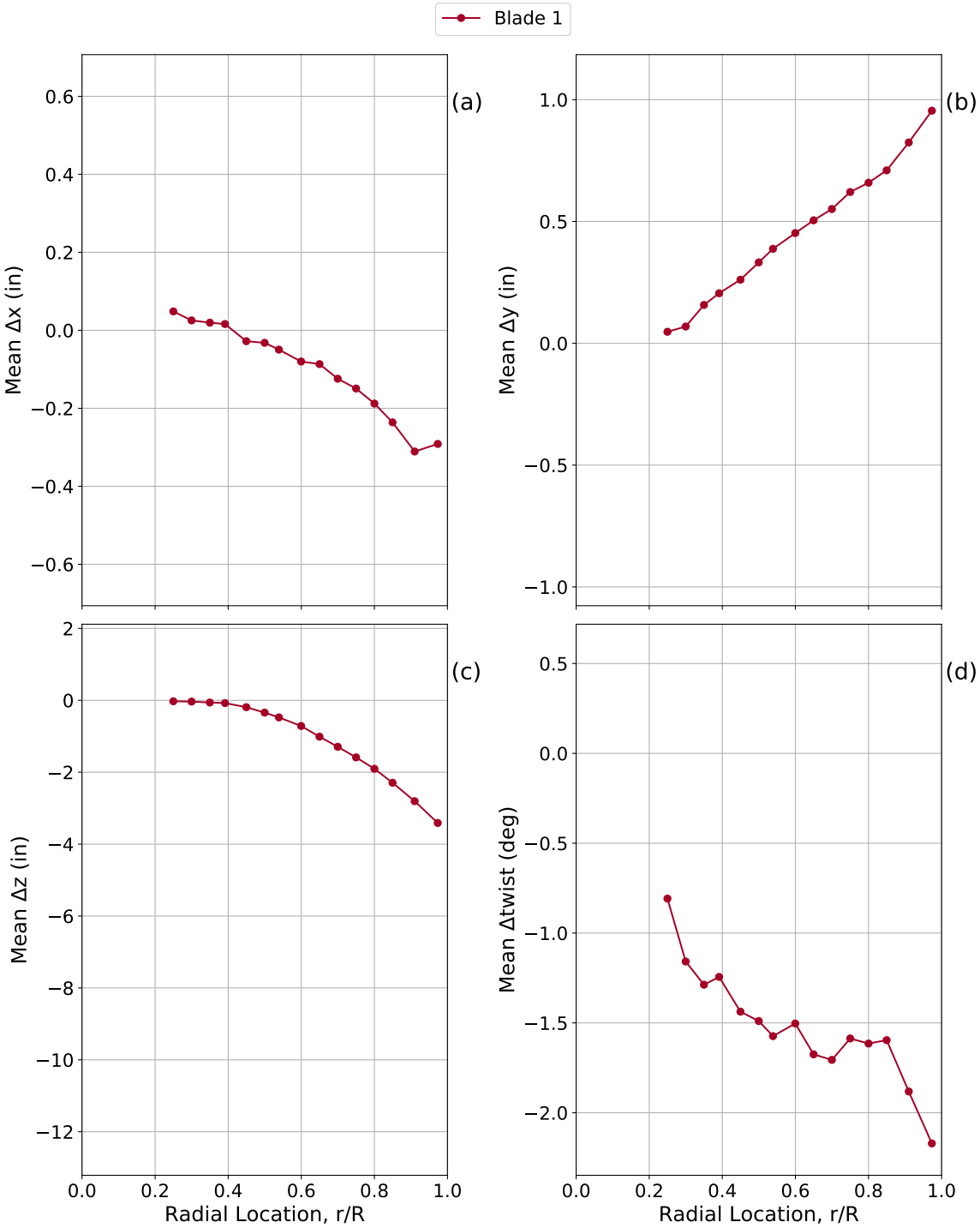


Figure 4.5-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2499	0.0485	0.0029	0.0473	0.0038	-0.0266	0.0075	-0.8083	0.1055
1	74.88	0.2998	0.0254	0.0032	0.0689	0.0073	-0.0361	0.0117	-1.1584	0.1505
1	74.88	0.3498	0.0196	0.0022	0.1575	0.0126	-0.0609	0.0238	-1.2874	0.1323
1	74.88	0.3913	0.0161	0.0018	0.2054	0.0185	-0.0764	0.0315	-1.2441	0.1407
1	74.88	0.4496	-0.0279	0.0032	0.2611	0.0243	-0.1914	0.0466	-1.4375	0.1326
1	74.88	0.4997	-0.0321	0.0027	0.3320	0.0294	-0.3415	0.0559	-1.4896	0.1355
1	74.88	0.5387	-0.0496	0.0036	0.3879	0.0336	-0.4748	0.0654	-1.5736	0.1328
1	74.88	0.5996	-0.0801	0.0035	0.4524	0.0402	-0.7142	0.0793	-1.5033	0.1331
1	74.88	0.6498	-0.0866	0.0043	0.5049	0.0461	-1.0114	0.0923	-1.6750	0.1263
1	74.88	0.6998	-0.1242	0.0036	0.5512	0.0518	-1.2927	0.1023	-1.7059	0.1439
1	74.88	0.7500	-0.1493	0.0033	0.6210	0.0585	-1.5875	0.1151	-1.5868	0.1412
1	74.88	0.8001	-0.1879	0.0038	0.6591	0.0636	-1.9044	0.1269	-1.6149	0.1439
1	74.88	0.8497	-0.2361	0.0042	0.7099	0.0702	-2.2933	0.1396	-1.5960	0.1320
1	74.88	0.9102	-0.3108	0.0041	0.8243	0.0775	-2.8046	0.1552	-1.8817	0.1270
1	74.88	0.9734	-0.2914	0.0053	0.9547	0.0866	-3.4115	0.1713	-2.1707	0.1318

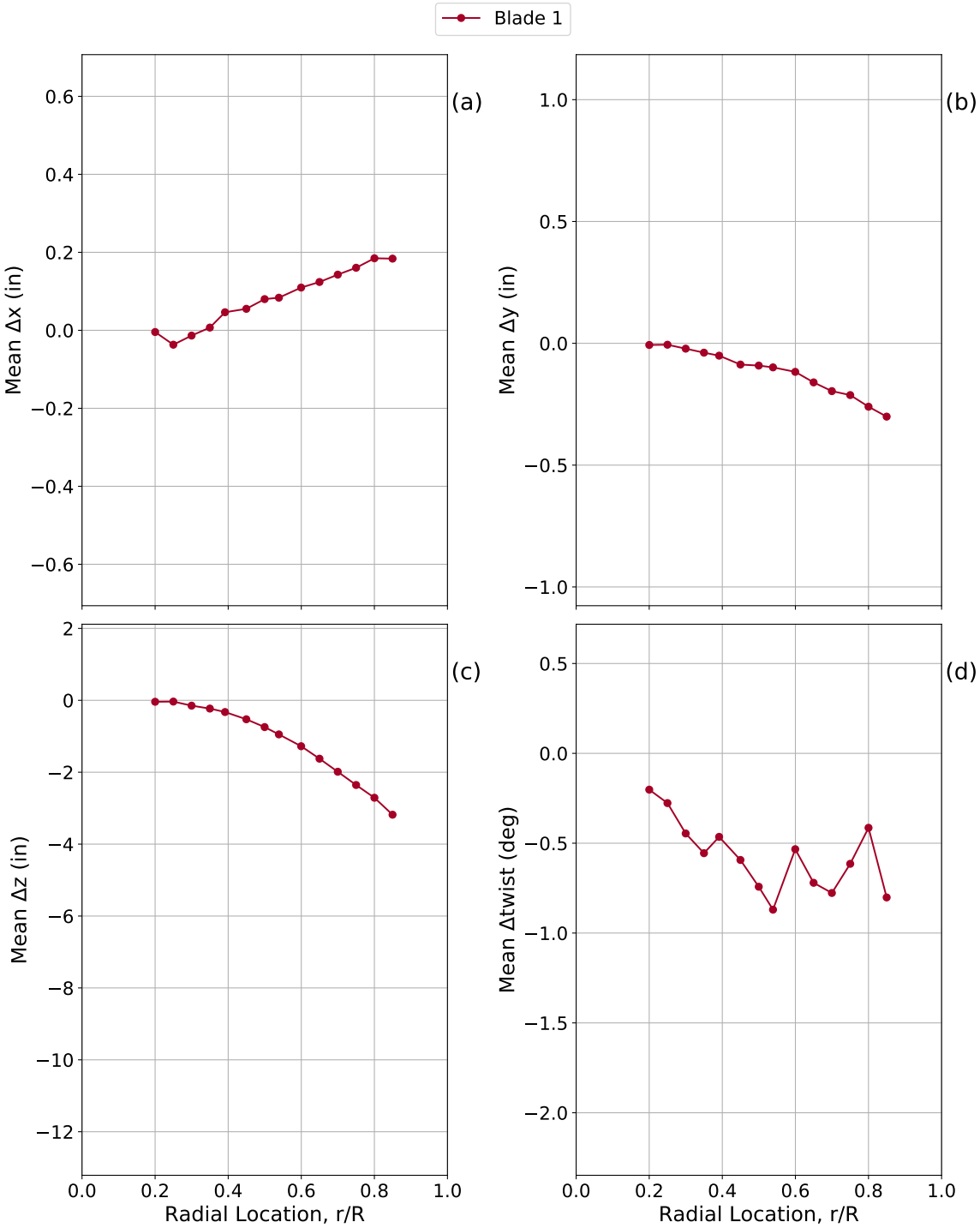


Figure 4.5-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0044	0.0016	-0.0068	0.0011	-0.0405	0.0020	-0.2021	0.0194
1	80.16	0.2499	-0.0369	0.0011	-0.0058	0.0018	-0.0350	0.0049	-0.2767	0.0332
1	80.16	0.2998	-0.0135	0.0009	-0.0220	0.0041	-0.1485	0.0083	-0.4458	0.0432
1	80.16	0.3498	0.0070	0.0010	-0.0384	0.0068	-0.2295	0.0149	-0.5555	0.0361
1	80.16	0.3913	0.0463	0.0012	-0.0507	0.0097	-0.3258	0.0212	-0.4647	0.0373
1	80.16	0.4496	0.0551	0.0013	-0.0872	0.0131	-0.5273	0.0281	-0.5933	0.0451
1	80.16	0.4997	0.0800	0.0011	-0.0914	0.0157	-0.7445	0.0335	-0.7423	0.0347
1	80.16	0.5387	0.0836	0.0020	-0.0988	0.0185	-0.9478	0.0374	-0.8698	0.0421
1	80.16	0.5996	0.1096	0.0017	-0.1172	0.0230	-1.2767	0.0472	-0.5333	0.0364
1	80.16	0.6498	0.1239	0.0027	-0.1604	0.0254	-1.6234	0.0526	-0.7203	0.0404
1	80.16	0.6998	0.1428	0.0024	-0.1963	0.0293	-1.9867	0.0554	-0.7770	0.0687
1	80.16	0.7500	0.1604	0.0046	-0.2125	0.0336	-2.3553	0.0671	-0.6147	0.0759
1	80.16	0.8001	0.1847	0.0064	-0.2602	0.0383	-2.7100	0.0797	-0.4143	0.1517
1	80.16	0.8497	0.1838	0.0062	-0.3009	0.0426	-3.1813	0.0854	-0.8018	0.1094

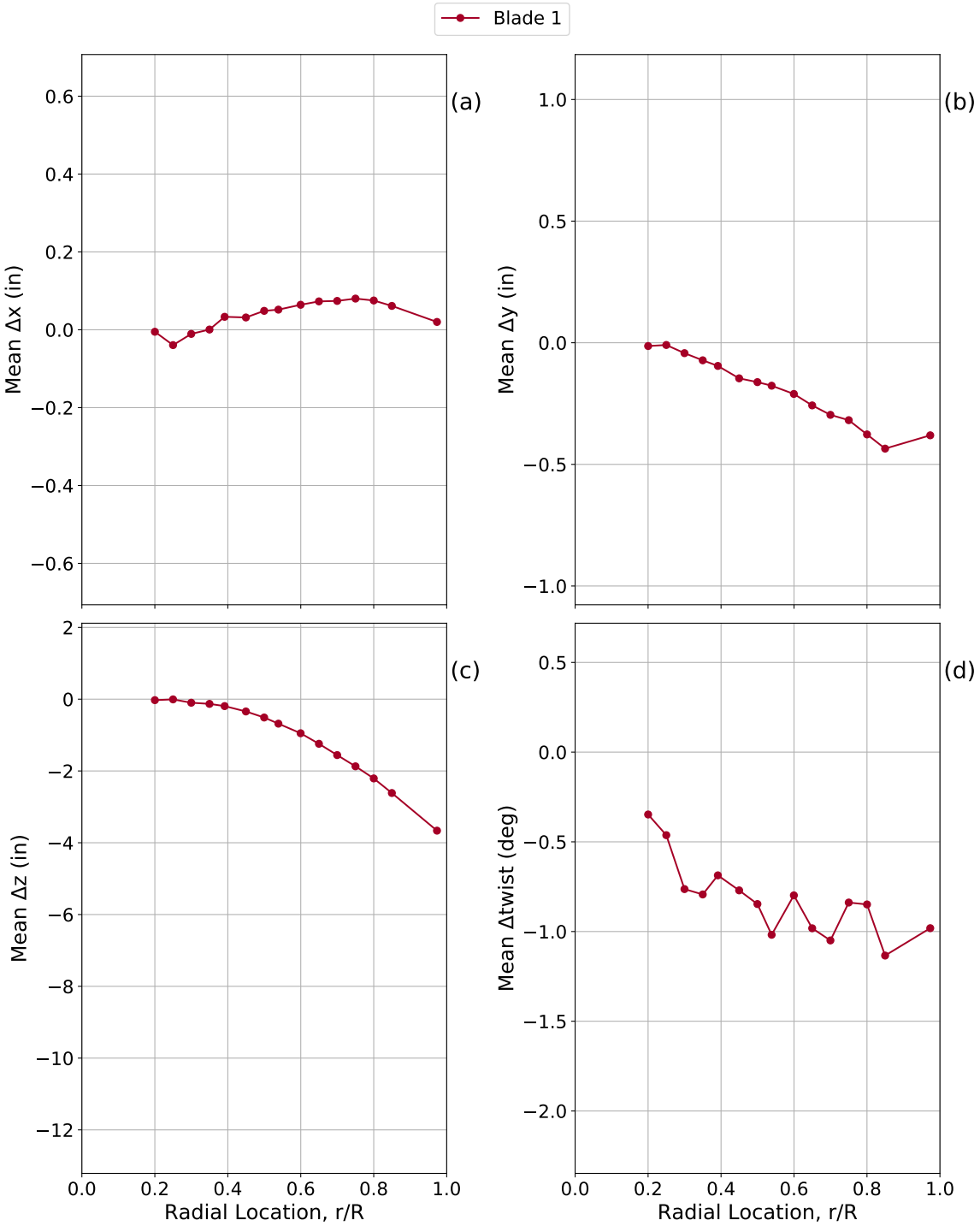


Figure 4.5-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0051	0.0021	-0.0135	0.0006	-0.0272	0.0022	-0.3476	0.0136
1	85.08	0.2499	-0.0394	0.0011	-0.0092	0.0014	-0.0058	0.0053	-0.4628	0.0286
1	85.08	0.2998	-0.0106	0.0012	-0.0428	0.0025	-0.0990	0.0088	-0.7634	0.0297
1	85.08	0.3498	0.0006	0.0018	-0.0722	0.0045	-0.1307	0.0153	-0.7933	0.0270
1	85.08	0.3913	0.0333	0.0025	-0.0953	0.0062	-0.1928	0.0221	-0.6868	0.0262
1	85.08	0.4496	0.0316	0.0027	-0.1463	0.0082	-0.3419	0.0304	-0.7706	0.0199
1	85.08	0.4997	0.0486	0.0032	-0.1619	0.0106	-0.5105	0.0371	-0.8468	0.0300
1	85.08	0.5387	0.0517	0.0035	-0.1766	0.0131	-0.6819	0.0439	-1.0181	0.0345
1	85.08	0.5996	0.0642	0.0037	-0.2105	0.0161	-0.9494	0.0525	-0.7983	0.0369
1	85.08	0.6498	0.0729	0.0024	-0.2576	0.0188	-1.2429	0.0599	-0.9818	0.0553
1	85.08	0.6998	0.0741	0.0037	-0.2964	0.0223	-1.5576	0.0659	-1.0496	0.0732
1	85.08	0.7500	0.0801	0.0041	-0.3183	0.0266	-1.8710	0.0801	-0.8384	0.0696
1	85.08	0.8001	0.0752	0.0036	-0.3769	0.0306	-2.2083	0.0904	-0.8490	0.0550
1	85.08	0.8497	0.0613	0.0031	-0.4353	0.0334	-2.6143	0.0986	-1.1339	0.0944
1	85.08	0.9734	0.0201	0.0099	-0.3806	0.0454	-3.6629	0.1071	-0.9813	0.2072

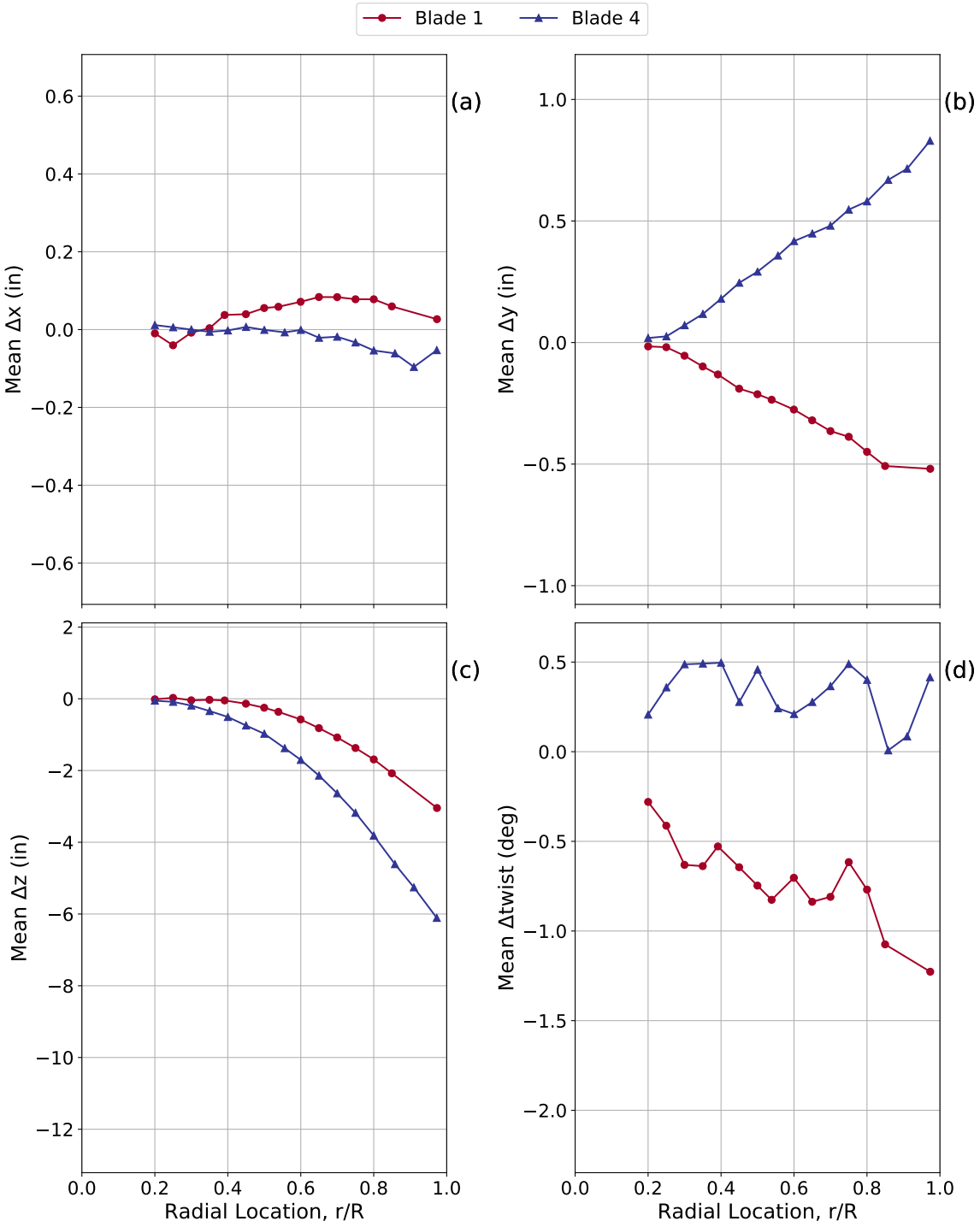


Figure 4.5-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0098	0.0016	-0.0159	0.0004	-0.0144	0.0014	-0.2801	0.0122
1	90	0.2499	-0.0404	0.0010	-0.0191	0.0008	0.0257	0.0024	-0.4129	0.0253
1	90	0.2998	-0.0079	0.0008	-0.0543	0.0015	-0.0428	0.0057	-0.6312	0.0284
1	90	0.3498	0.0035	0.0015	-0.0984	0.0027	-0.0286	0.0083	-0.6382	0.0298
1	90	0.3913	0.0375	0.0020	-0.1313	0.0037	-0.0460	0.0127	-0.5284	0.0275
1	90	0.4496	0.0396	0.0025	-0.1897	0.0050	-0.1373	0.0167	-0.6445	0.0357
1	90	0.4997	0.0554	0.0027	-0.2126	0.0060	-0.2497	0.0204	-0.7467	0.0266
1	90	0.5387	0.0586	0.0037	-0.2352	0.0065	-0.3643	0.0256	-0.8262	0.0255
1	90	0.5996	0.0714	0.0040	-0.2757	0.0084	-0.5756	0.0319	-0.7032	0.0408
1	90	0.6498	0.0836	0.0047	-0.3199	0.0101	-0.8182	0.0379	-0.8371	0.0476
1	90	0.6998	0.0834	0.0036	-0.3641	0.0117	-1.0789	0.0437	-0.8096	0.0423
1	90	0.7500	0.0779	0.0049	-0.3877	0.0143	-1.3724	0.0485	-0.6159	0.0861
1	90	0.8001	0.0779	0.0030	-0.4496	0.0146	-1.6912	0.0553	-0.7693	0.0488
1	90	0.8497	0.0596	0.0040	-0.5079	0.0162	-2.0779	0.0609	-1.0746	0.0563
1	90	0.9734	0.0267	0.0074	-0.5193	0.0219	-3.0451	0.0807	-1.2272	0.1721
4	90.35	0.2001	0.0116	0.0072	0.0187	0.0083	-0.0524	0.0233	0.2068	0.1418
4	90.35	0.2502	0.0059	0.0158	0.0255	0.0095	-0.0857	0.0240	0.3586	0.2020
4	90.35	0.3001	0.0000	0.0072	0.0712	0.0171	-0.1894	0.0491	0.4874	0.1902
4	90.35	0.3502	-0.0057	0.0073	0.1176	0.0211	-0.3427	0.0598	0.4912	0.1750
4	90.35	0.4002	-0.0023	0.0074	0.1801	0.0254	-0.5073	0.0737	0.4961	0.1802
4	90.35	0.4500	0.0067	0.0073	0.2460	0.0293	-0.7458	0.0858	0.2773	0.1774
4	90.35	0.5001	-0.0008	0.0074	0.2916	0.0336	-0.9757	0.0972	0.4578	0.1705
4	90.35	0.5560	-0.0071	0.0070	0.3577	0.0383	-1.3777	0.1098	0.2419	0.1762
4	90.35	0.6001	-0.0009	0.0066	0.4172	0.0425	-1.7043	0.1218	0.2100	0.1739
4	90.35	0.6501	-0.0211	0.0072	0.4484	0.0469	-2.1425	0.1340	0.2770	0.1745
4	90.35	0.6999	-0.0184	0.0072	0.4806	0.0513	-2.6360	0.1460	0.3652	0.1777
4	90.35	0.7500	-0.0331	0.0067	0.5467	0.0554	-3.1796	0.1609	0.4889	0.1818
4	90.35	0.8002	-0.0537	0.0067	0.5807	0.0595	-3.8156	0.1713	0.4004	0.1946
4	90.35	0.8582	-0.0612	0.0073	0.6692	0.0643	-4.6107	0.1854	0.0074	0.1835
4	90.35	0.9101	-0.0961	0.0071	0.7151	0.0697	-5.2578	0.1932	0.0853	0.1960
4	90.35	0.9728	-0.0529	0.0097	0.8299	0.0734	-6.1083	0.2104	0.4150	0.2085

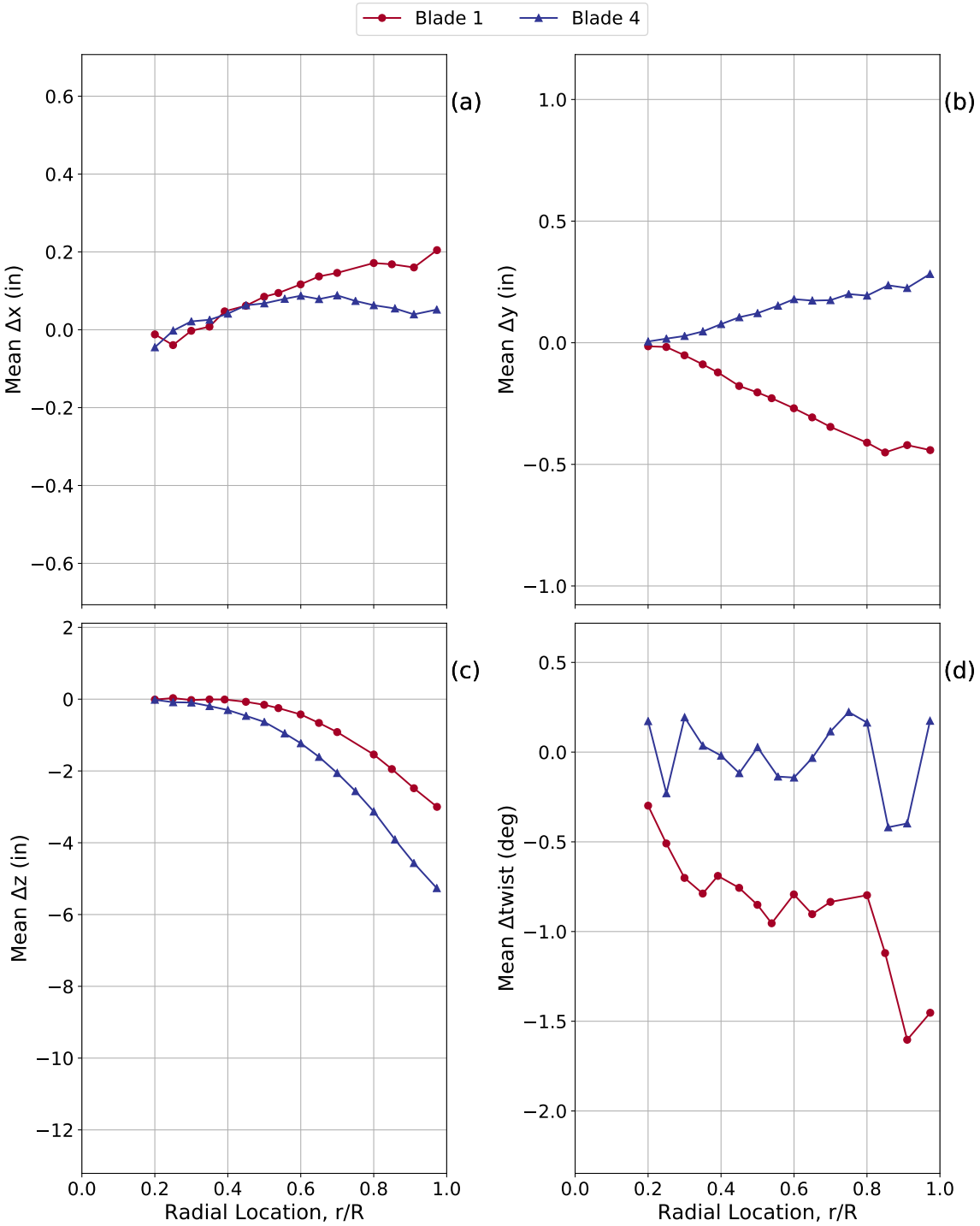


Figure 4.5-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0119	0.0007	-0.0145	0.0006	-0.0104	0.0023	-0.2985	0.0156
1	94.92	0.2499	-0.0394	0.0007	-0.0175	0.0013	0.0294	0.0067	-0.5091	0.0217
1	94.92	0.2998	-0.0026	0.0013	-0.0517	0.0027	-0.0242	0.0106	-0.7011	0.0295
1	94.92	0.3498	0.0080	0.0009	-0.0889	0.0043	-0.0073	0.0182	-0.7884	0.0230
1	94.92	0.3913	0.0473	0.0013	-0.1218	0.0064	-0.0095	0.0273	-0.6899	0.0330
1	94.92	0.4496	0.0618	0.0018	-0.1777	0.0087	-0.0736	0.0358	-0.7565	0.0236
1	94.92	0.4997	0.0848	0.0015	-0.2042	0.0102	-0.1562	0.0434	-0.8511	0.0248
1	94.92	0.5387	0.0945	0.0016	-0.2281	0.0117	-0.2490	0.0488	-0.9540	0.0278
1	94.92	0.5996	0.1166	0.0017	-0.2694	0.0140	-0.4246	0.0572	-0.7930	0.0247
1	94.92	0.6498	0.1370	0.0014	-0.3069	0.0159	-0.6620	0.0646	-0.9032	0.0376
1	94.92	0.6998	0.1461	0.0020	-0.3459	0.0182	-0.9166	0.0721	-0.8349	0.0341
1	94.92	0.8001	0.1714	0.0021	-0.4107	0.0220	-1.5423	0.0867	-0.7976	0.0362
1	94.92	0.8497	0.1682	0.0016	-0.4510	0.0244	-1.9472	0.0965	-1.1201	0.0473
1	94.92	0.9102	0.1601	0.0054	-0.4209	0.0276	-2.4817	0.1088	-1.6033	0.1048
1	94.92	0.9734	0.2045	0.0037	-0.4414	0.0303	-3.0000	0.1151	-1.4527	0.0647
4	94.92	0.2001	-0.0450	0.0011	0.0051	0.0004	-0.0159	0.0015	0.1726	0.0105
4	94.92	0.2502	-0.0022	0.0007	0.0168	0.0013	-0.0857	0.0024	-0.2291	0.0200
4	94.92	0.3001	0.0215	0.0005	0.0278	0.0021	-0.0933	0.0045	0.1938	0.0240
4	94.92	0.3502	0.0257	0.0017	0.0464	0.0036	-0.1928	0.0090	0.0356	0.0194
4	94.92	0.4002	0.0414	0.0023	0.0766	0.0058	-0.3034	0.0124	-0.0196	0.0280
4	94.92	0.4500	0.0629	0.0022	0.1048	0.0066	-0.4645	0.0162	-0.1173	0.0200
4	94.92	0.5001	0.0678	0.0029	0.1216	0.0082	-0.6343	0.0206	0.0270	0.0210
4	94.92	0.5560	0.0794	0.0033	0.1522	0.0101	-0.9539	0.0246	-0.1363	0.0318
4	94.92	0.6001	0.0874	0.0025	0.1792	0.0120	-1.2285	0.0273	-0.1419	0.0277
4	94.92	0.6501	0.0788	0.0027	0.1733	0.0140	-1.6086	0.0298	-0.0323	0.0356
4	94.92	0.6999	0.0883	0.0029	0.1750	0.0158	-2.0578	0.0325	0.1154	0.0404
4	94.92	0.7500	0.0740	0.0041	0.2001	0.0190	-2.5622	0.0506	0.2234	0.1816
4	94.92	0.8002	0.0630	0.0027	0.1937	0.0202	-3.1319	0.0396	0.1644	0.0414
4	94.92	0.8582	0.0547	0.0029	0.2361	0.0227	-3.9115	0.0466	-0.4190	0.0497
4	94.92	0.9101	0.0395	0.0039	0.2250	0.0257	-4.5660	0.0473	-0.3976	0.0679
4	94.92	0.9728	0.0518	0.0040	0.2827	0.0300	-5.2645	0.0552	0.1745	0.0718

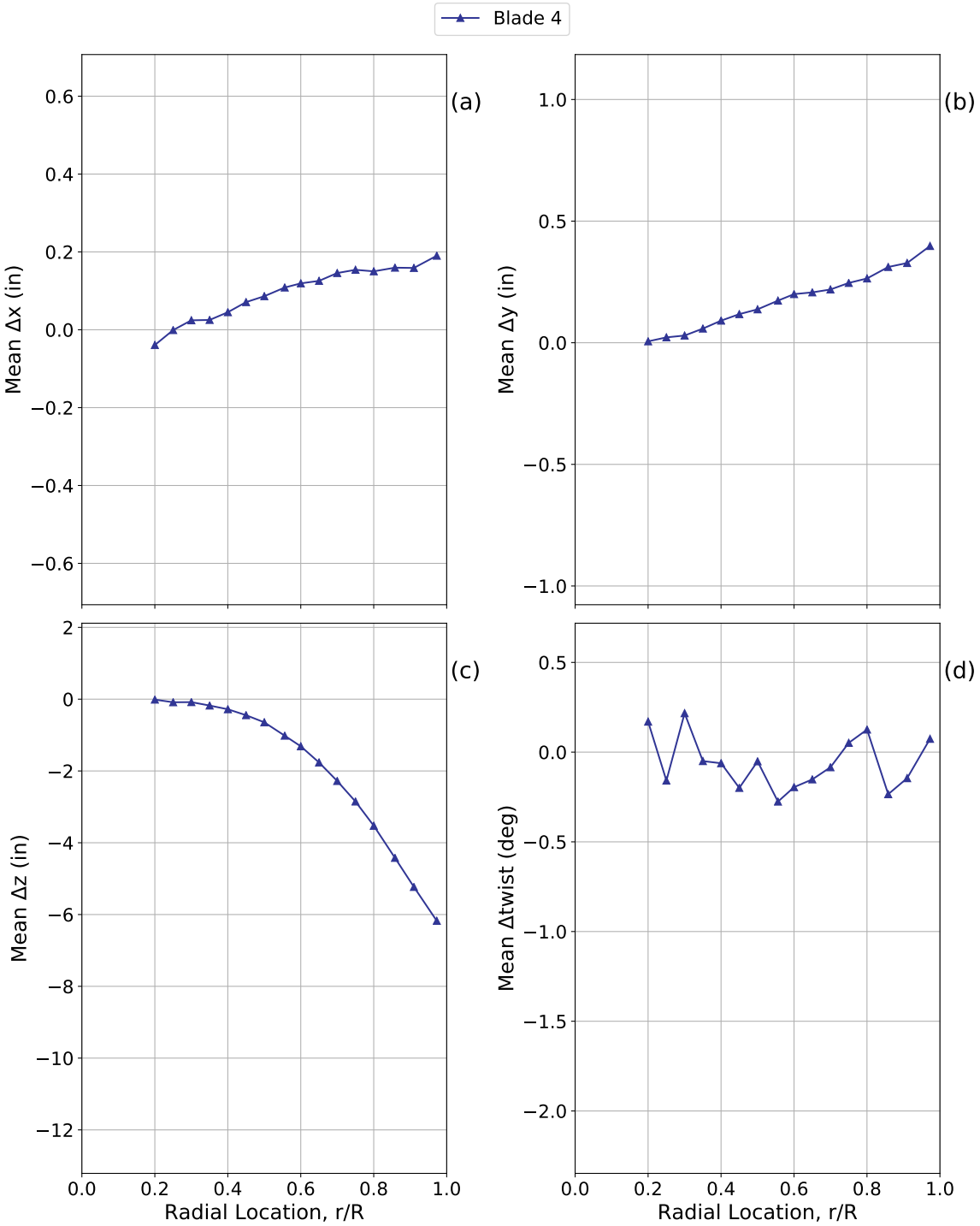


Figure 4.5-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0391	0.0011	0.0057	0.0003	-0.0122	0.0016	0.1699	0.0175
4	105.12	0.2502	-0.0008	0.0009	0.0221	0.0010	-0.0859	0.0039	-0.1587	0.0181
4	105.12	0.3001	0.0243	0.0004	0.0296	0.0015	-0.0823	0.0054	0.2169	0.0351
4	105.12	0.3502	0.0252	0.0011	0.0582	0.0026	-0.1776	0.0122	-0.0500	0.0225
4	105.12	0.4002	0.0451	0.0016	0.0909	0.0041	-0.2812	0.0169	-0.0620	0.0234
4	105.12	0.4500	0.0710	0.0015	0.1176	0.0051	-0.4461	0.0217	-0.1995	0.0229
4	105.12	0.5001	0.0862	0.0015	0.1373	0.0062	-0.6449	0.0271	-0.0514	0.0197
4	105.12	0.5560	0.1085	0.0014	0.1731	0.0077	-1.0172	0.0327	-0.2759	0.0214
4	105.12	0.6001	0.1192	0.0016	0.1999	0.0089	-1.3135	0.0372	-0.1953	0.0294
4	105.12	0.6501	0.1256	0.0018	0.2071	0.0101	-1.7637	0.0426	-0.1521	0.0310
4	105.12	0.6999	0.1457	0.0019	0.2189	0.0117	-2.2797	0.0492	-0.0844	0.0242
4	105.12	0.7500	0.1540	0.0021	0.2459	0.0134	-2.8515	0.0553	0.0516	0.0293
4	105.12	0.8002	0.1501	0.0024	0.2643	0.0149	-3.5278	0.0627	0.1257	0.0304
4	105.12	0.8582	0.1595	0.0030	0.3114	0.0173	-4.4212	0.0731	-0.2346	0.0365
4	105.12	0.9101	0.1588	0.0032	0.3278	0.0189	-5.2310	0.0820	-0.1453	0.0379
4	105.12	0.9728	0.1902	0.0037	0.3978	0.0206	-6.1759	0.0960	0.0740	0.0416

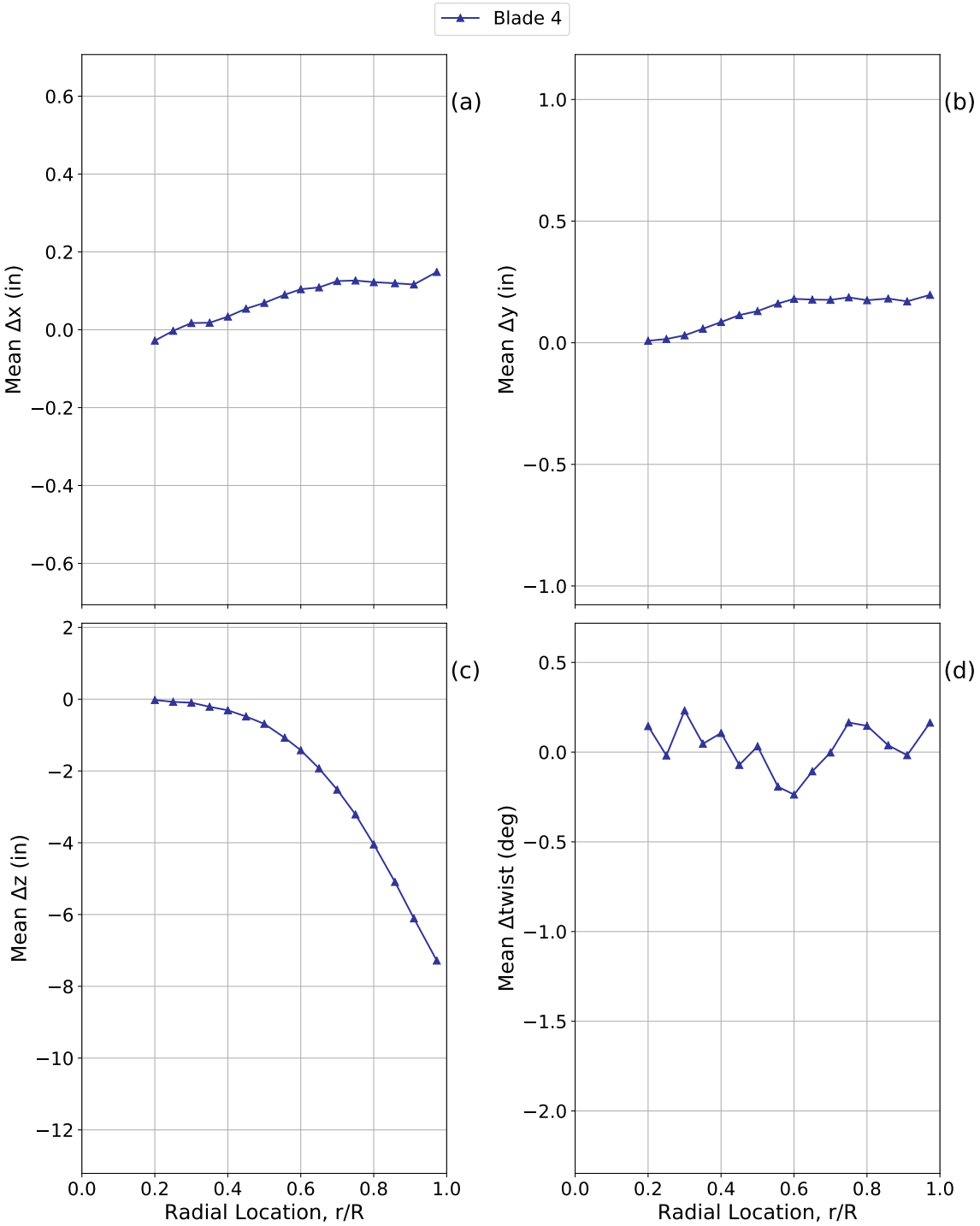


Figure 4.5-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0279	0.0009	0.0080	0.0005	-0.0240	0.0013	0.1449	0.0115
4	119.88	0.2502	-0.0027	0.0007	0.0154	0.0011	-0.0746	0.0027	-0.0190	0.0199
4	119.88	0.3001	0.0173	0.0010	0.0303	0.0020	-0.0982	0.0045	0.2314	0.0256
4	119.88	0.3502	0.0180	0.0008	0.0575	0.0031	-0.2117	0.0087	0.0465	0.0255
4	119.88	0.4002	0.0338	0.0014	0.0851	0.0051	-0.3102	0.0128	0.1065	0.0241
4	119.88	0.4500	0.0541	0.0019	0.1136	0.0061	-0.4824	0.0146	-0.0715	0.0249
4	119.88	0.5001	0.0690	0.0022	0.1301	0.0083	-0.6877	0.0178	0.0320	0.0286
4	119.88	0.5560	0.0900	0.0024	0.1610	0.0096	-1.0747	0.0203	-0.1927	0.0376
4	119.88	0.6001	0.1041	0.0023	0.1804	0.0118	-1.4233	0.0232	-0.2368	0.0326
4	119.88	0.6501	0.1088	0.0024	0.1774	0.0133	-1.9287	0.0256	-0.1072	0.0314
4	119.88	0.6999	0.1251	0.0022	0.1764	0.0154	-2.5222	0.0284	-0.0023	0.0369
4	119.88	0.7500	0.1265	0.0026	0.1865	0.0181	-3.2123	0.0317	0.1649	0.0315
4	119.88	0.8002	0.1222	0.0031	0.1748	0.0213	-4.0486	0.0354	0.1466	0.0296
4	119.88	0.8582	0.1195	0.0031	0.1817	0.0249	-5.0931	0.0415	0.0380	0.0266
4	119.88	0.9101	0.1163	0.0036	0.1700	0.0282	-6.1072	0.0473	-0.0173	0.0351
4	119.88	0.9728	0.1484	0.0041	0.1968	0.0322	-7.2839	0.0558	0.1642	0.0326

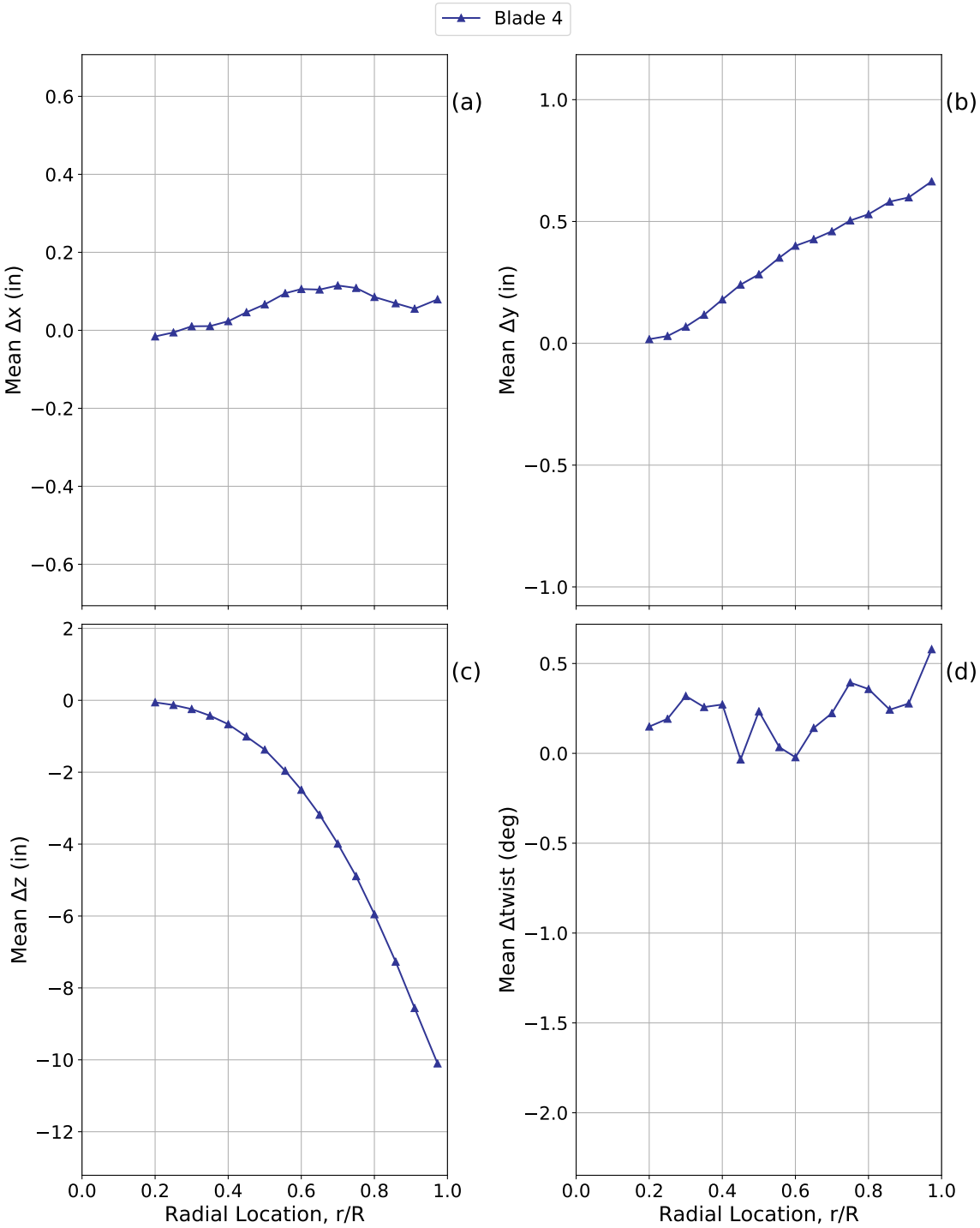


Figure 4.5-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0158	0.0008	0.0169	0.0005	-0.0571	0.0018	0.1489	0.0198
4	135	0.2502	-0.0055	0.0009	0.0299	0.0011	-0.1310	0.0037	0.1923	0.0252
4	135	0.3001	0.0103	0.0009	0.0681	0.0020	-0.2445	0.0077	0.3191	0.0415
4	135	0.3502	0.0107	0.0012	0.1169	0.0035	-0.4275	0.0128	0.2574	0.0386
4	135	0.4002	0.0233	0.0013	0.1798	0.0053	-0.6656	0.0200	0.2718	0.0293
4	135	0.4500	0.0462	0.0012	0.2407	0.0065	-1.0082	0.0243	-0.0347	0.0296
4	135	0.5001	0.0665	0.0016	0.2830	0.0068	-1.3717	0.0298	0.2334	0.0315
4	135	0.5560	0.0950	0.0021	0.3513	0.0091	-1.9606	0.0356	0.0343	0.0332
4	135	0.6001	0.1058	0.0023	0.4003	0.0107	-2.4895	0.0447	-0.0218	0.0158
4	135	0.6501	0.1044	0.0026	0.4271	0.0117	-3.1837	0.0496	0.1411	0.0340
4	135	0.6999	0.1149	0.0032	0.4597	0.0138	-3.9884	0.0596	0.2235	0.0360
4	135	0.7500	0.1085	0.0039	0.5039	0.0150	-4.8932	0.0713	0.3937	0.0343
4	135	0.8002	0.0854	0.0040	0.5297	0.0172	-5.9515	0.0817	0.3577	0.0329
4	135	0.8582	0.0692	0.0045	0.5813	0.0197	-7.2705	0.0917	0.2429	0.0320
4	135	0.9101	0.0552	0.0050	0.5988	0.0220	-8.5610	0.0989	0.2773	0.0322
4	135	0.9728	0.0792	0.0055	0.6644	0.0242	-10.1017	0.1058	0.5792	0.0314

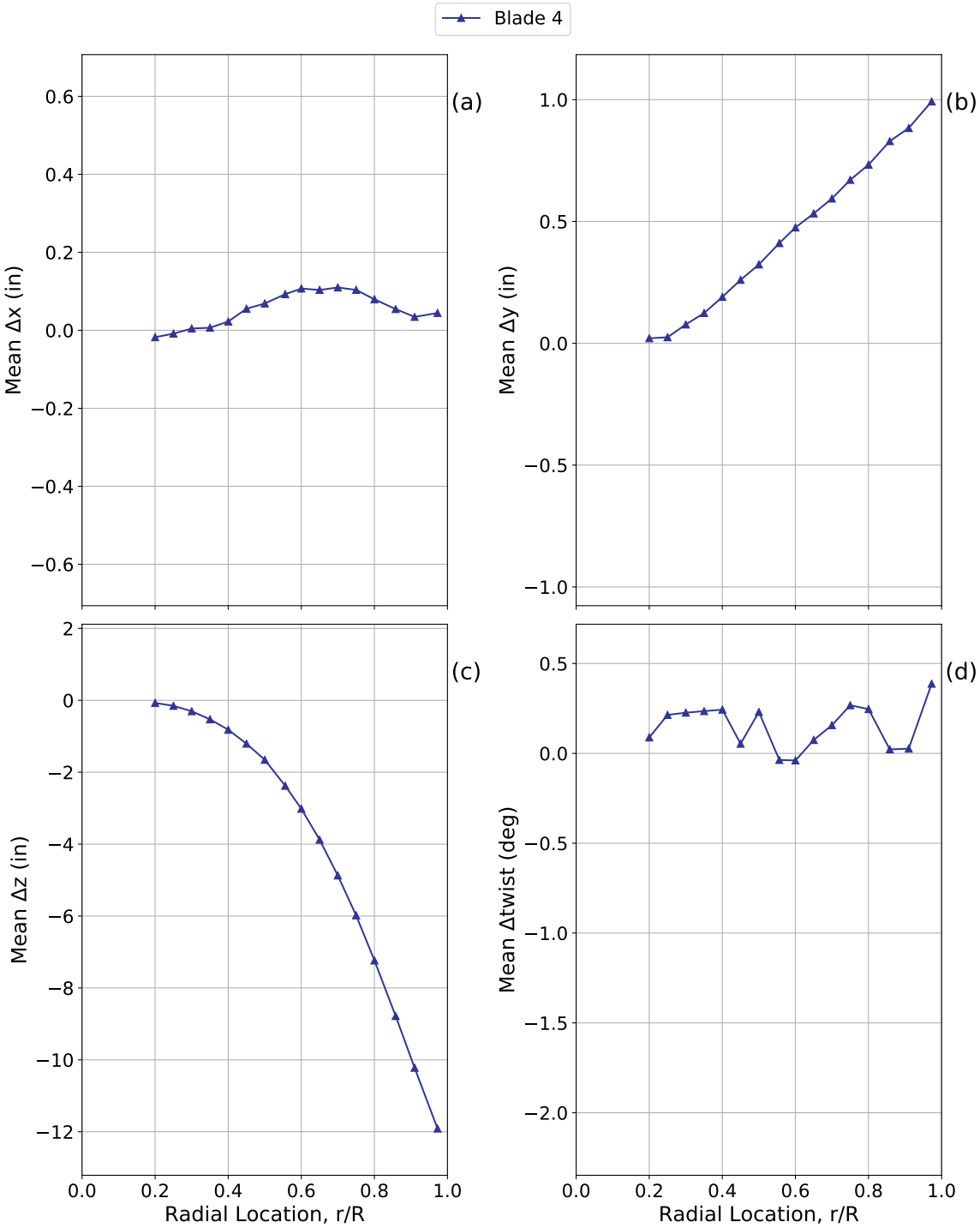


Figure 4.5-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0177	0.0010	0.0207	0.0005	-0.0733	0.0005	0.0885	0.0123
4	150.12	0.2502	-0.0086	0.0010	0.0247	0.0019	-0.1535	0.0036	0.2138	0.0176
4	150.12	0.3001	0.0046	0.0012	0.0772	0.0023	-0.3039	0.0054	0.2263	0.0270
4	150.12	0.3502	0.0066	0.0010	0.1241	0.0043	-0.5299	0.0074	0.2349	0.0339
4	150.12	0.4002	0.0225	0.0010	0.1903	0.0070	-0.8192	0.0142	0.2432	0.0264
4	150.12	0.4500	0.0553	0.0010	0.2603	0.0078	-1.2065	0.0167	0.0534	0.0283
4	150.12	0.5001	0.0688	0.0018	0.3235	0.0087	-1.6544	0.0192	0.2304	0.0313
4	150.12	0.5560	0.0926	0.0021	0.4111	0.0104	-2.3779	0.0250	-0.0368	0.0267
4	150.12	0.6001	0.1070	0.0022	0.4753	0.0117	-3.0169	0.0289	-0.0394	0.0253
4	150.12	0.6501	0.1035	0.0018	0.5328	0.0130	-3.8785	0.0333	0.0743	0.0325
4	150.12	0.6999	0.1098	0.0017	0.5941	0.0141	-4.8722	0.0371	0.1567	0.0330
4	150.12	0.7500	0.1036	0.0019	0.6707	0.0161	-5.9816	0.0410	0.2675	0.0330
4	150.12	0.8002	0.0795	0.0027	0.7331	0.0175	-7.2361	0.0466	0.2462	0.0282
4	150.12	0.8582	0.0544	0.0028	0.8296	0.0195	-8.7816	0.0506	0.0220	0.0365
4	150.12	0.9101	0.0344	0.0032	0.8834	0.0208	-10.2217	0.0565	0.0261	0.0224
4	150.12	0.9728	0.0444	0.0035	0.9926	0.0238	-11.9127	0.0596	0.3874	0.0308

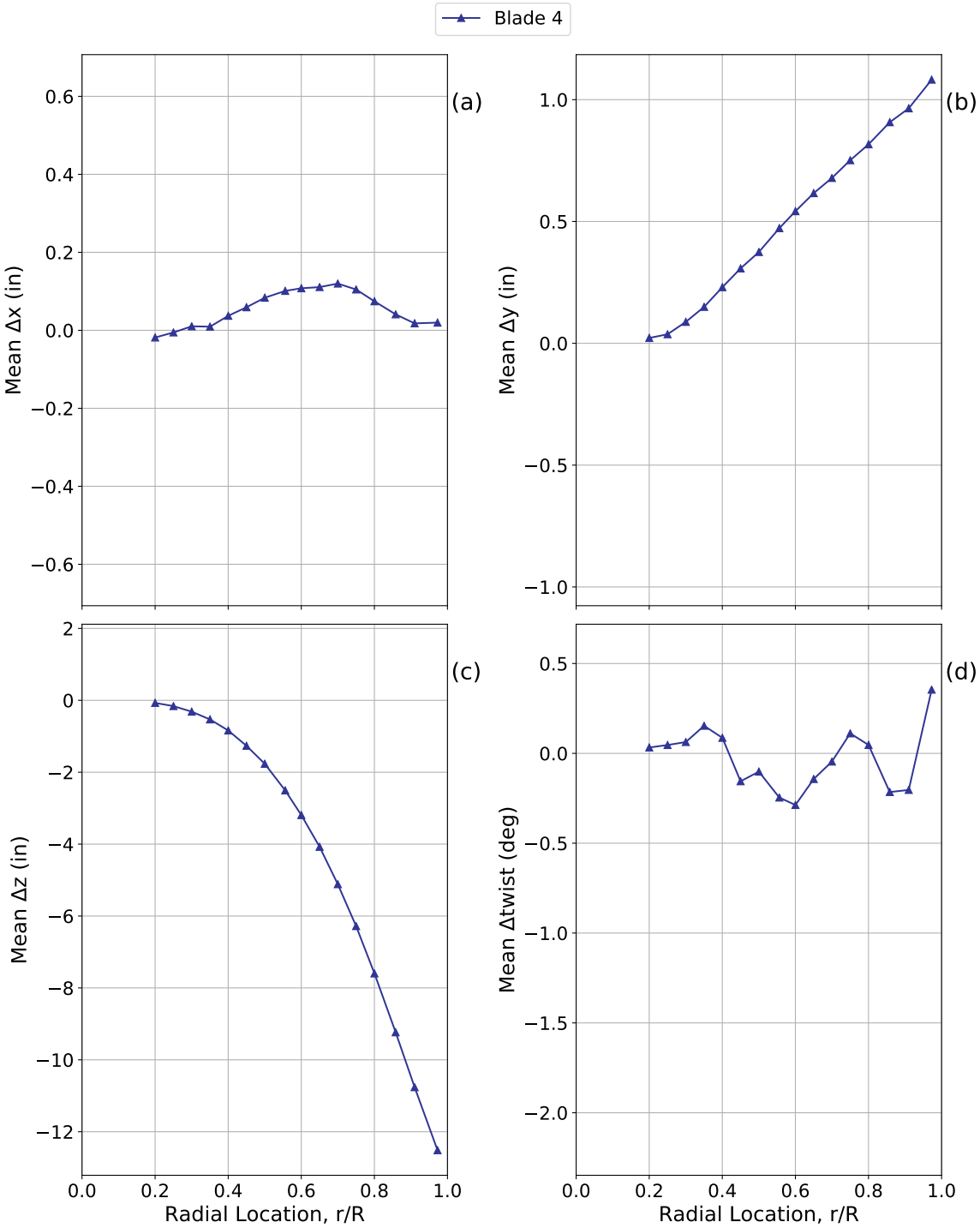


Figure 4.5-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0185	0.0011	0.0219	0.0010	-0.0724	0.0015	0.0326	0.0197
4	164.88	0.2502	-0.0055	0.0015	0.0371	0.0022	-0.1610	0.0038	0.0463	0.0304
4	164.88	0.3001	0.0103	0.0012	0.0879	0.0045	-0.3157	0.0057	0.0630	0.0430
4	164.88	0.3502	0.0093	0.0008	0.1494	0.0069	-0.5316	0.0092	0.1534	0.0360
4	164.88	0.4002	0.0372	0.0008	0.2302	0.0113	-0.8399	0.0149	0.0863	0.0345
4	164.88	0.4500	0.0591	0.0010	0.3073	0.0133	-1.2653	0.0182	-0.1554	0.0318
4	164.88	0.5001	0.0835	0.0012	0.3746	0.0159	-1.7667	0.0221	-0.1018	0.0487
4	164.88	0.5560	0.1010	0.0011	0.4725	0.0200	-2.5067	0.0296	-0.2460	0.0395
4	164.88	0.6001	0.1078	0.0012	0.5421	0.0230	-3.1929	0.0350	-0.2874	0.0339
4	164.88	0.6501	0.1108	0.0014	0.6162	0.0256	-4.0758	0.0419	-0.1429	0.0272
4	164.88	0.6999	0.1198	0.0017	0.6786	0.0307	-5.1150	0.0488	-0.0457	0.0333
4	164.88	0.7500	0.1047	0.0021	0.7513	0.0342	-6.2811	0.0539	0.1112	0.0436
4	164.88	0.8002	0.0744	0.0028	0.8167	0.0389	-7.5976	0.0627	0.0466	0.0385
4	164.88	0.8582	0.0409	0.0040	0.9073	0.0443	-9.2343	0.0713	-0.2154	0.0453
4	164.88	0.9101	0.0178	0.0042	0.9643	0.0482	-10.7607	0.0819	-0.2036	0.0382
4	164.88	0.9728	0.0197	0.0047	1.0820	0.0544	-12.5147	0.0918	0.3544	0.0474

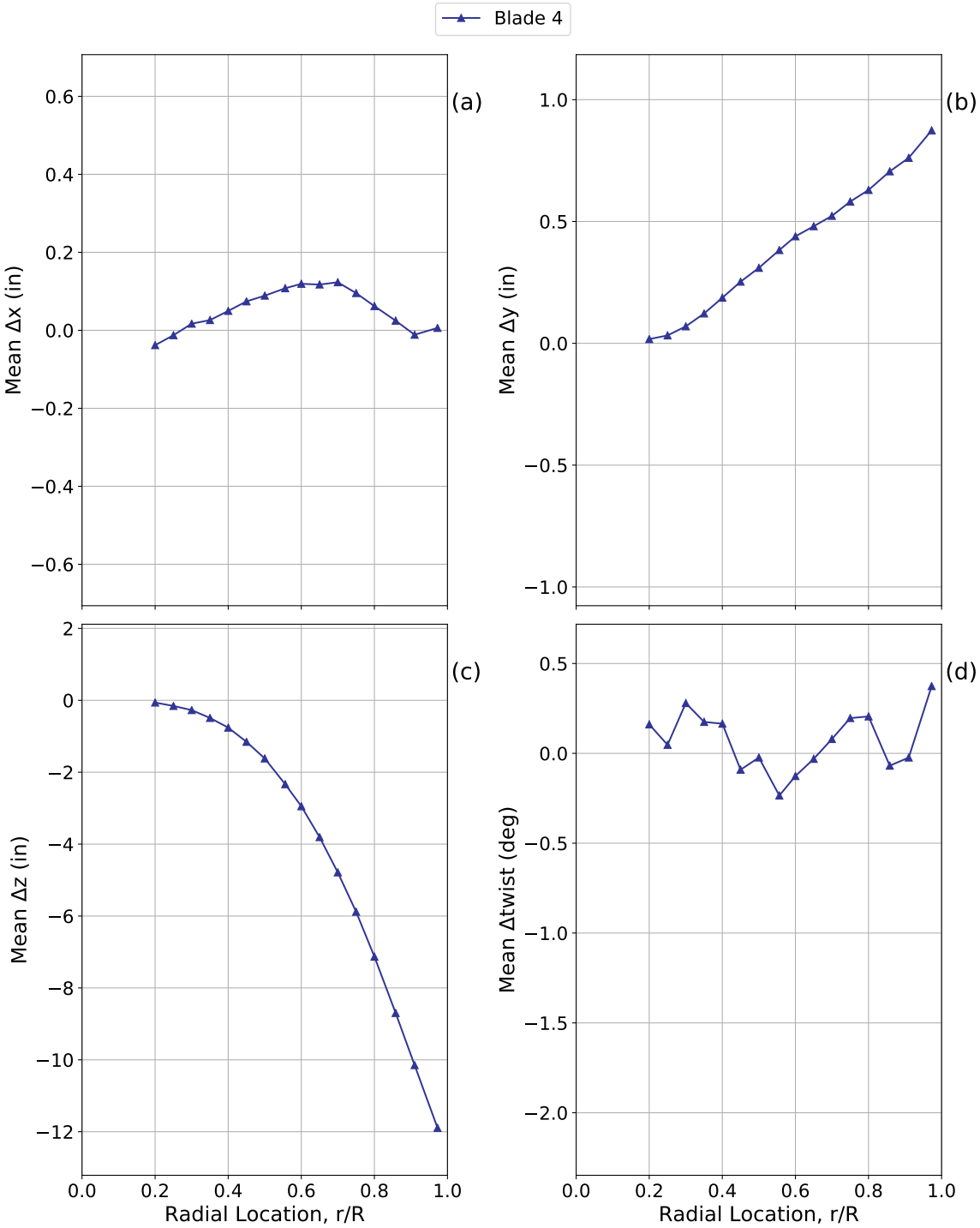


Figure 4.5-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0381	0.0027	0.0173	0.0007	-0.0628	0.0011	0.1610	0.0153
4	170.16	0.2502	-0.0126	0.0014	0.0323	0.0012	-0.1570	0.0028	0.0471	0.0166
4	170.16	0.3001	0.0169	0.0010	0.0695	0.0023	-0.2727	0.0038	0.2797	0.0305
4	170.16	0.3502	0.0262	0.0030	0.1224	0.0049	-0.4907	0.0076	0.1748	0.0181
4	170.16	0.4002	0.0497	0.0043	0.1871	0.0066	-0.7606	0.0111	0.1650	0.0254
4	170.16	0.4500	0.0742	0.0052	0.2529	0.0086	-1.1548	0.0131	-0.0911	0.0257
4	170.16	0.5001	0.0888	0.0049	0.3096	0.0101	-1.6180	0.0184	-0.0233	0.0241
4	170.16	0.5560	0.1078	0.0065	0.3826	0.0124	-2.3341	0.0196	-0.2348	0.0346
4	170.16	0.6001	0.1192	0.0061	0.4390	0.0142	-2.9480	0.0261	-0.1263	0.0299
4	170.16	0.6501	0.1174	0.0070	0.4804	0.0159	-3.8071	0.0272	-0.0308	0.0401
4	170.16	0.6999	0.1232	0.0081	0.5230	0.0174	-4.7867	0.0317	0.0797	0.0270
4	170.16	0.7500	0.0954	0.0094	0.5817	0.0203	-5.8826	0.0389	0.1962	0.0460
4	170.16	0.8002	0.0620	0.0123	0.6293	0.0230	-7.1318	0.0399	0.2053	0.0364
4	170.16	0.8582	0.0246	0.0164	0.7056	0.0264	-8.6982	0.0479	-0.0687	0.0734
4	170.16	0.9101	-0.0114	0.0179	0.7611	0.0288	-10.1482	0.0554	-0.0235	0.0510
4	170.16	0.9728	0.0061	0.0189	0.8739	0.0336	-11.8945	0.0657	0.3741	0.0980

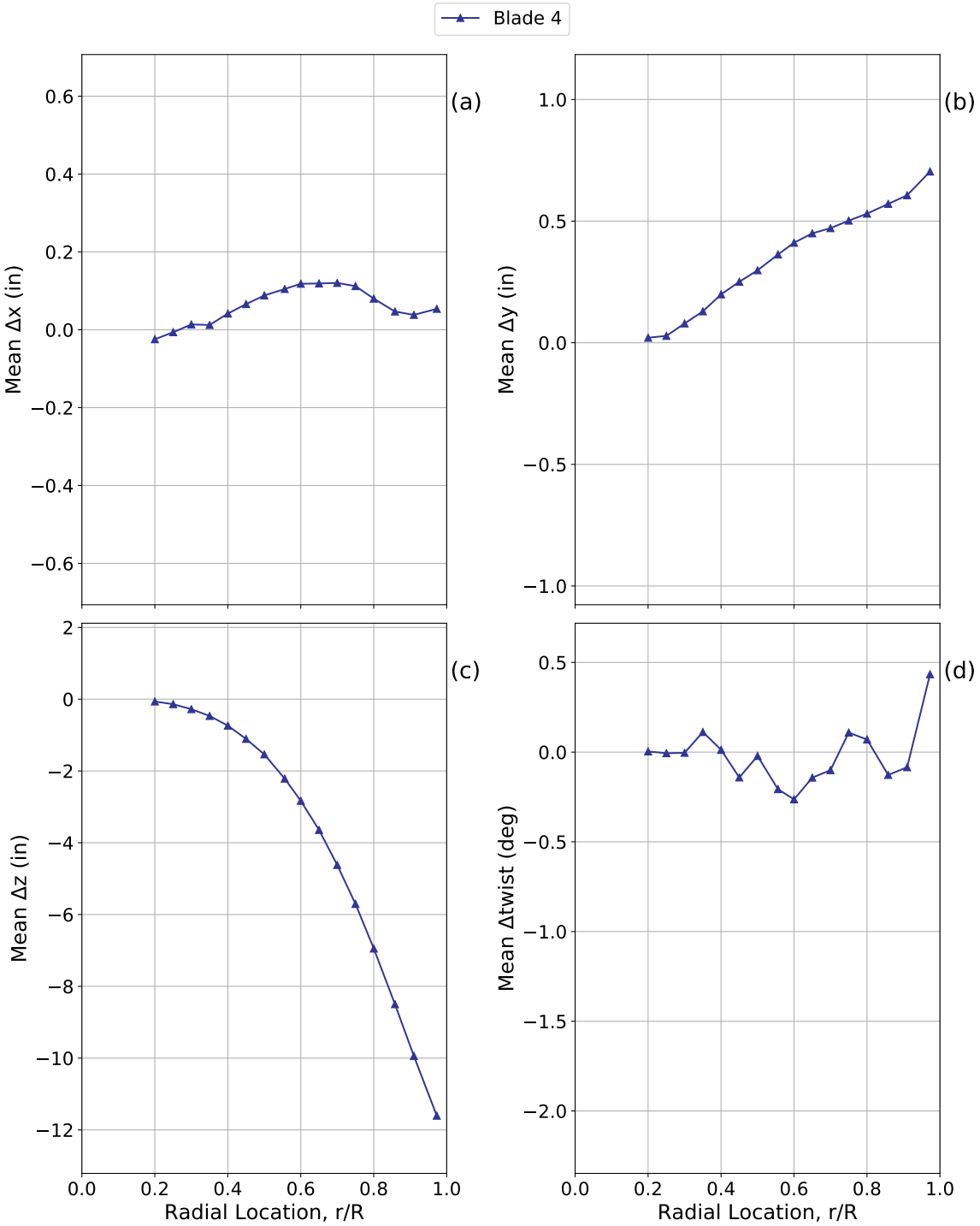


Figure 4.5-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0244	0.0011	0.0206	0.0007	-0.0651	0.0016	0.0037	0.0152
4	175.08	0.2502	-0.0063	0.0017	0.0282	0.0016	-0.1395	0.0030	-0.0062	0.0247
4	175.08	0.3001	0.0136	0.0011	0.0792	0.0028	-0.2790	0.0060	-0.0039	0.0300
4	175.08	0.3502	0.0123	0.0011	0.1291	0.0055	-0.4678	0.0060	0.1120	0.0328
4	175.08	0.4002	0.0416	0.0010	0.1989	0.0081	-0.7374	0.0114	0.0125	0.0254
4	175.08	0.4500	0.0659	0.0022	0.2507	0.0087	-1.1064	0.0128	-0.1413	0.0423
4	175.08	0.5001	0.0881	0.0020	0.2979	0.0111	-1.5377	0.0159	-0.0215	0.0275
4	175.08	0.5560	0.1047	0.0021	0.3627	0.0125	-2.2144	0.0184	-0.2065	0.0343
4	175.08	0.6001	0.1182	0.0022	0.4111	0.0146	-2.8329	0.0198	-0.2633	0.0340
4	175.08	0.6501	0.1189	0.0017	0.4498	0.0166	-3.6442	0.0213	-0.1423	0.0302
4	175.08	0.6999	0.1203	0.0023	0.4710	0.0185	-4.6195	0.0260	-0.1007	0.0458
4	175.08	0.7500	0.1121	0.0022	0.5020	0.0205	-5.7054	0.0250	0.1088	0.0338
4	175.08	0.8002	0.0799	0.0021	0.5307	0.0227	-6.9482	0.0276	0.0701	0.0266
4	175.08	0.8582	0.0469	0.0023	0.5709	0.0256	-8.4991	0.0337	-0.1273	0.0430
4	175.08	0.9101	0.0382	0.0030	0.6062	0.0285	-9.9425	0.0357	-0.0843	0.0333
4	175.08	0.9728	0.0537	0.0044	0.7038	0.0326	-11.6053	0.0417	0.4339	0.0337

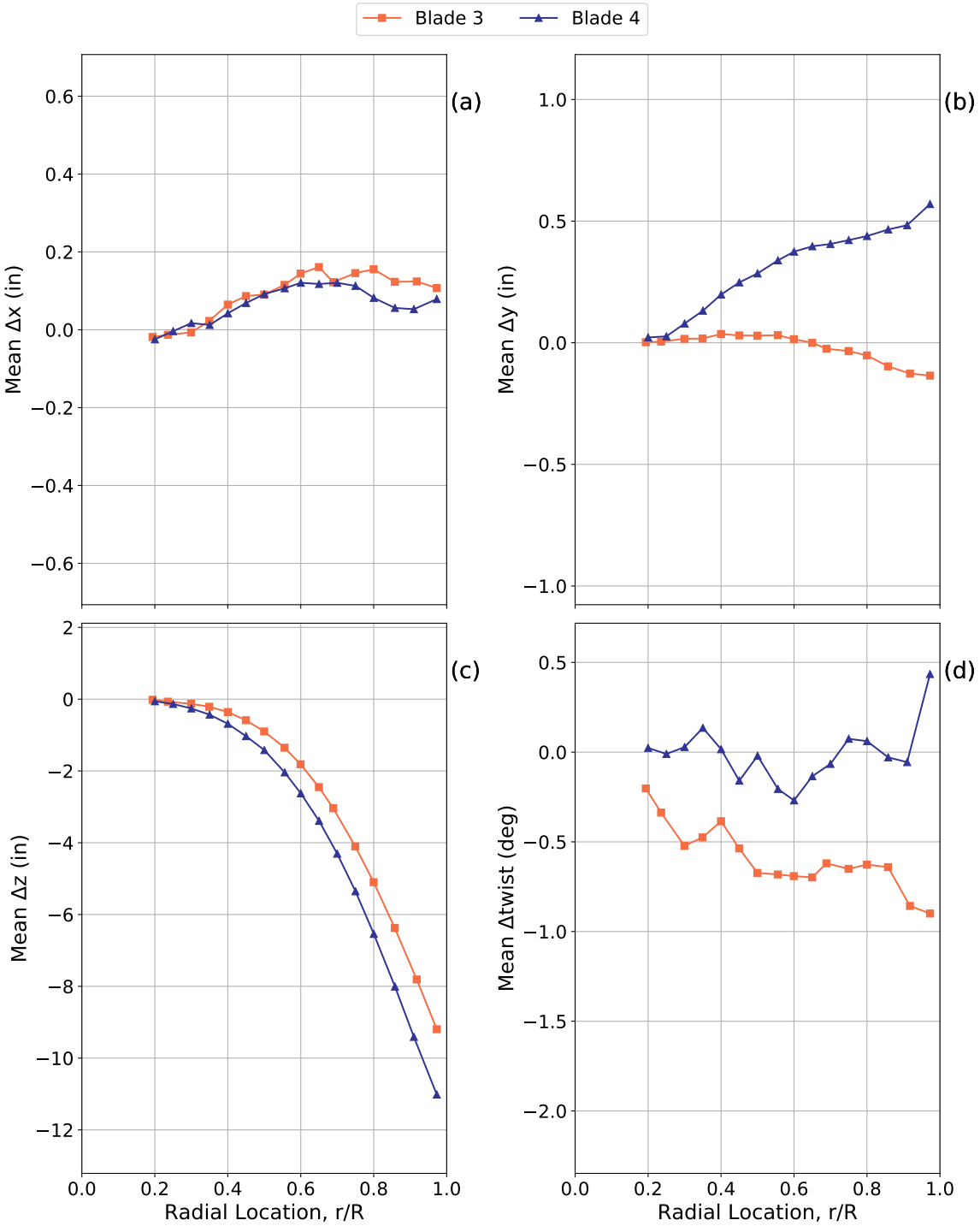


Figure 4.5-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0185	0.0021	0.0021	0.0009	-0.0162	0.0018	-0.2024	0.0155
3	180.35	0.2357	-0.0129	0.0016	0.0049	0.0023	-0.0696	0.0031	-0.3373	0.0228
3	180.35	0.2995	-0.0068	0.0012	0.0161	0.0027	-0.1296	0.0056	-0.5222	0.0317
3	180.35	0.3493	0.0228	0.0024	0.0175	0.0055	-0.2102	0.0097	-0.4753	0.0242
3	180.35	0.4000	0.0646	0.0048	0.0359	0.0084	-0.3585	0.0147	-0.3853	0.0227
3	180.35	0.4497	0.0866	0.0069	0.0301	0.0119	-0.5875	0.0185	-0.5367	0.0232
3	180.35	0.4997	0.0904	0.0088	0.0293	0.0139	-0.8996	0.0223	-0.6733	0.0233
3	180.35	0.5556	0.1153	0.0121	0.0311	0.0180	-1.3525	0.0270	-0.6819	0.0316
3	180.35	0.5995	0.1443	0.0147	0.0146	0.0204	-1.8138	0.0305	-0.6912	0.0199
3	180.35	0.6498	0.1611	0.0187	-0.0001	0.0235	-2.4500	0.0332	-0.6982	0.0396
3	180.35	0.6890	0.1223	0.0204	-0.0248	0.0257	-3.0372	0.0377	-0.6198	0.0366
3	180.35	0.7495	0.1456	0.0256	-0.0341	0.0311	-4.1035	0.0440	-0.6507	0.0257
3	180.35	0.7998	0.1554	0.0292	-0.0522	0.0337	-5.0984	0.0467	-0.6270	0.0354
3	180.35	0.8577	0.1232	0.0353	-0.0970	0.0408	-6.3755	0.0509	-0.6409	0.0541
3	180.35	0.9178	0.1241	0.0365	-0.1265	0.0467	-7.8094	0.0599	-0.8574	0.0904
3	180.35	0.9729	0.1072	0.0508	-0.1352	0.0558	-9.1962	0.0641	-0.8997	0.0479
4	180	0.2001	-0.0246	0.0016	0.0218	0.0009	-0.0588	0.0018	0.0235	0.0209
4	180	0.2502	-0.0036	0.0022	0.0263	0.0024	-0.1339	0.0036	-0.0103	0.0298
4	180	0.3001	0.0171	0.0015	0.0789	0.0046	-0.2588	0.0057	0.0282	0.0428
4	180	0.3502	0.0123	0.0016	0.1317	0.0070	-0.4320	0.0102	0.1352	0.0314
4	180	0.4002	0.0423	0.0016	0.1982	0.0118	-0.6860	0.0148	0.0161	0.0376
4	180	0.4500	0.0687	0.0018	0.2480	0.0139	-1.0306	0.0184	-0.1592	0.0313
4	180	0.5001	0.0916	0.0020	0.2849	0.0148	-1.4187	0.0229	-0.0206	0.0266
4	180	0.5560	0.1065	0.0019	0.3386	0.0202	-2.0403	0.0277	-0.2055	0.0159
4	180	0.6001	0.1207	0.0023	0.3745	0.0225	-2.6238	0.0288	-0.2691	0.0342
4	180	0.6501	0.1176	0.0016	0.3965	0.0257	-3.3901	0.0335	-0.1344	0.0352
4	180	0.6999	0.1206	0.0021	0.4060	0.0287	-4.3049	0.0362	-0.0659	0.0229
4	180	0.7500	0.1127	0.0019	0.4220	0.0331	-5.3524	0.0413	0.0742	0.0353
4	180	0.8002	0.0819	0.0020	0.4386	0.0365	-6.5399	0.0429	0.0611	0.0301
4	180	0.8582	0.0561	0.0023	0.4656	0.0408	-8.0075	0.0479	-0.0293	0.0281
4	180	0.9101	0.0528	0.0029	0.4832	0.0450	-9.4092	0.0529	-0.0560	0.0385
4	180	0.9728	0.0789	0.0043	0.5701	0.0502	-11.0160	0.0582	0.4350	0.0376

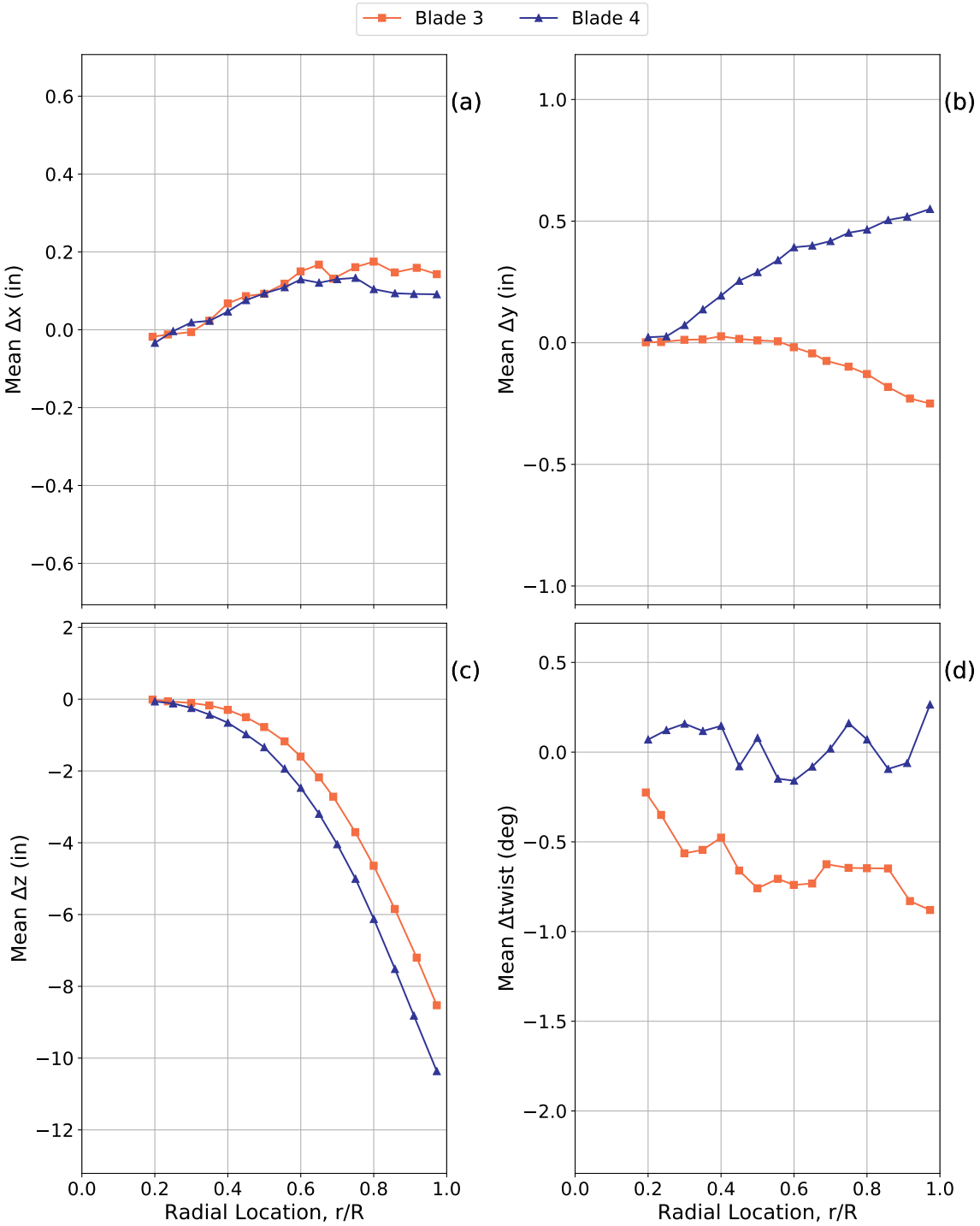


Figure 4.5-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0180	0.0014	0.0020	0.0013	-0.0123	0.0028	-0.2248	0.0164
3	184.92	0.2357	-0.0122	0.0011	0.0029	0.0013	-0.0599	0.0025	-0.3501	0.0313
3	184.92	0.2995	-0.0059	0.0008	0.0121	0.0039	-0.1062	0.0071	-0.5642	0.0338
3	184.92	0.3493	0.0232	0.0014	0.0136	0.0052	-0.1746	0.0113	-0.5450	0.0289
3	184.92	0.4000	0.0677	0.0022	0.0266	0.0084	-0.2979	0.0164	-0.4766	0.0296
3	184.92	0.4497	0.0864	0.0019	0.0159	0.0112	-0.5024	0.0217	-0.6602	0.0310
3	184.92	0.4997	0.0923	0.0025	0.0097	0.0132	-0.7763	0.0238	-0.7589	0.0293
3	184.92	0.5556	0.1184	0.0029	0.0060	0.0162	-1.1754	0.0287	-0.7062	0.0280
3	184.92	0.5995	0.1499	0.0022	-0.0185	0.0193	-1.5975	0.0318	-0.7402	0.0303
3	184.92	0.6498	0.1673	0.0027	-0.0437	0.0221	-2.1790	0.0360	-0.7324	0.0415
3	184.92	0.6890	0.1312	0.0030	-0.0747	0.0255	-2.7166	0.0398	-0.6248	0.0424
3	184.92	0.7495	0.1607	0.0028	-0.0983	0.0291	-3.7067	0.0453	-0.6453	0.0374
3	184.92	0.7998	0.1750	0.0033	-0.1285	0.0334	-4.6407	0.0496	-0.6471	0.0464
3	184.92	0.8577	0.1473	0.0076	-0.1818	0.0424	-5.8461	0.0580	-0.6484	0.0503
3	184.92	0.9178	0.1591	0.0083	-0.2294	0.0457	-7.2011	0.0654	-0.8302	0.0590
3	184.92	0.9729	0.1428	0.0047	-0.2499	0.0484	-8.5274	0.0739	-0.8800	0.0584
4	184.92	0.2001	-0.0336	0.0015	0.0226	0.0012	-0.0638	0.0012	0.0699	0.0152
4	184.92	0.2502	-0.0036	0.0016	0.0261	0.0030	-0.1198	0.0037	0.1225	0.0223
4	184.92	0.3001	0.0188	0.0012	0.0726	0.0052	-0.2464	0.0046	0.1583	0.0312
4	184.92	0.3502	0.0231	0.0011	0.1371	0.0081	-0.4332	0.0079	0.1175	0.0310
4	184.92	0.4002	0.0468	0.0014	0.1937	0.0132	-0.6576	0.0120	0.1462	0.0432
4	184.92	0.4500	0.0761	0.0015	0.2547	0.0159	-0.9783	0.0136	-0.0792	0.0411
4	184.92	0.5001	0.0934	0.0015	0.2903	0.0191	-1.3406	0.0171	0.0790	0.0334
4	184.92	0.5560	0.1092	0.0021	0.3396	0.0236	-1.9373	0.0220	-0.1481	0.0344
4	184.92	0.6001	0.1294	0.0016	0.3924	0.0252	-2.4705	0.0232	-0.1594	0.0374
4	184.92	0.6501	0.1207	0.0021	0.3993	0.0283	-3.1951	0.0259	-0.0808	0.0446
4	184.92	0.6999	0.1299	0.0032	0.4178	0.0310	-4.0423	0.0290	0.0196	0.0479
4	184.92	0.7500	0.1333	0.0032	0.4521	0.0362	-5.0049	0.0345	0.1608	0.0382
4	184.92	0.8002	0.1043	0.0019	0.4650	0.0394	-6.1242	0.0407	0.0703	0.0393
4	184.92	0.8582	0.0938	0.0052	0.5045	0.0448	-7.5182	0.0468	-0.0938	0.0484
4	184.92	0.9101	0.0919	0.0039	0.5186	0.0462	-8.8173	0.0526	-0.0608	0.0507
4	184.92	0.9728	0.0911	0.0046	0.5499	0.0516	-10.3643	0.0647	0.2647	0.0448

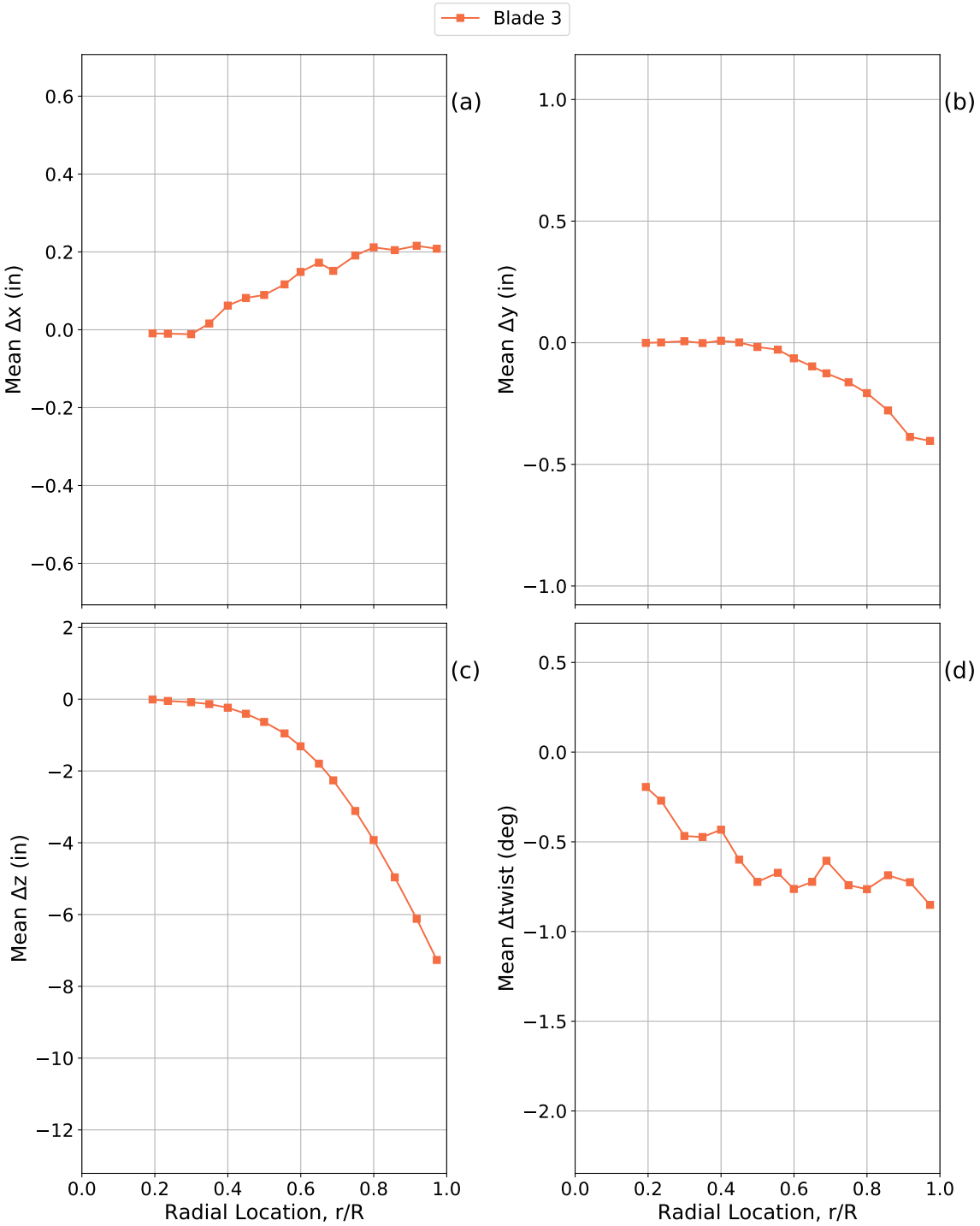


Figure 4.5-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0092	0.0028	-0.0005	0.0016	-0.0082	0.0031	-0.1943	0.0257
3	195.12	0.2357	-0.0100	0.0037	0.0014	0.0028	-0.0495	0.0060	-0.2705	0.0333
3	195.12	0.2995	-0.0114	0.0022	0.0062	0.0058	-0.0847	0.0058	-0.4676	0.0438
3	195.12	0.3493	0.0161	0.0025	-0.0013	0.0097	-0.1371	0.0085	-0.4732	0.0372
3	195.12	0.4000	0.0621	0.0026	0.0081	0.0154	-0.2384	0.0136	-0.4324	0.0446
3	195.12	0.4497	0.0817	0.0024	0.0015	0.0167	-0.4048	0.0148	-0.5993	0.0324
3	195.12	0.4997	0.0894	0.0025	-0.0175	0.0213	-0.6342	0.0183	-0.7233	0.0363
3	195.12	0.5556	0.1166	0.0027	-0.0283	0.0252	-0.9529	0.0214	-0.6726	0.0475
3	195.12	0.5995	0.1486	0.0023	-0.0640	0.0293	-1.3132	0.0228	-0.7626	0.0353
3	195.12	0.6498	0.1723	0.0025	-0.0972	0.0339	-1.7968	0.0284	-0.7230	0.0357
3	195.12	0.6890	0.1513	0.0029	-0.1257	0.0363	-2.2622	0.0300	-0.6055	0.0395
3	195.12	0.7495	0.1908	0.0028	-0.1626	0.0418	-3.1146	0.0350	-0.7414	0.0431
3	195.12	0.7998	0.2118	0.0028	-0.2070	0.0464	-3.9249	0.0404	-0.7639	0.0354
3	195.12	0.8577	0.2045	0.0035	-0.2783	0.0516	-4.9641	0.0462	-0.6863	0.0487
3	195.12	0.9178	0.2157	0.0030	-0.3870	0.0580	-6.1196	0.0526	-0.7250	0.0445
3	195.12	0.9729	0.2082	0.0046	-0.4036	0.0623	-7.2653	0.0575	-0.8513	0.0586

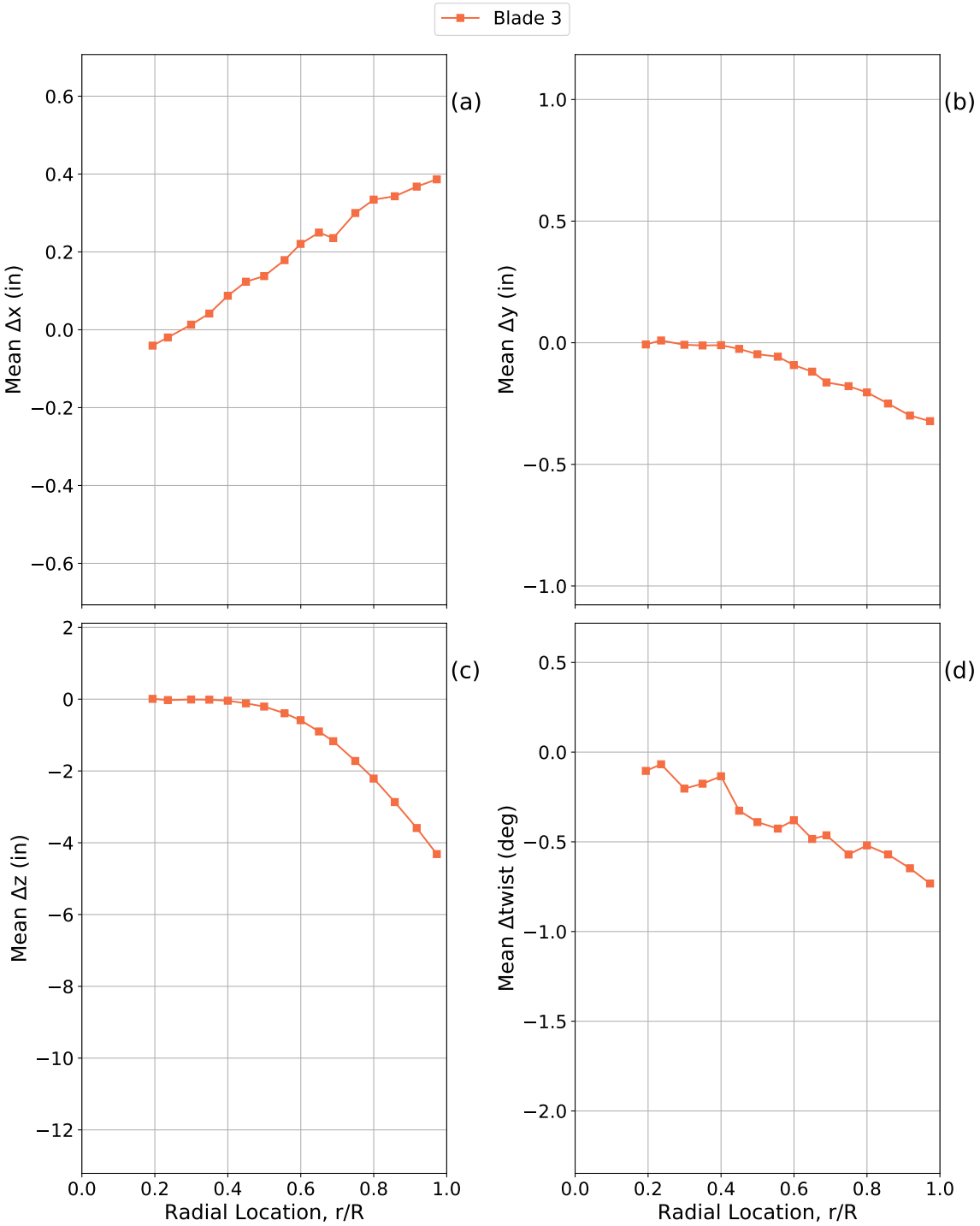


Figure 4.5-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0407	0.0015	-0.0070	0.0009	0.0090	0.0023	-0.1047	0.0276
3	209.88	0.2357	-0.0198	0.0011	0.0093	0.0036	-0.0252	0.0063	-0.0678	0.0352
3	209.88	0.2995	0.0132	0.0009	-0.0084	0.0043	-0.0091	0.0097	-0.2032	0.0618
3	209.88	0.3493	0.0417	0.0010	-0.0112	0.0098	-0.0141	0.0203	-0.1760	0.0367
3	209.88	0.4000	0.0873	0.0014	-0.0100	0.0145	-0.0430	0.0294	-0.1346	0.0345
3	209.88	0.4497	0.1234	0.0013	-0.0252	0.0171	-0.1157	0.0348	-0.3264	0.0402
3	209.88	0.4997	0.1379	0.0014	-0.0472	0.0220	-0.2065	0.0445	-0.3900	0.0390
3	209.88	0.5556	0.1789	0.0013	-0.0572	0.0258	-0.3920	0.0508	-0.4262	0.0500
3	209.88	0.5995	0.2206	0.0014	-0.0918	0.0291	-0.5861	0.0577	-0.3797	0.0380
3	209.88	0.6498	0.2497	0.0016	-0.1188	0.0330	-0.8999	0.0648	-0.4839	0.0381
3	209.88	0.6890	0.2355	0.0017	-0.1633	0.0368	-1.1709	0.0699	-0.4637	0.0484
3	209.88	0.7495	0.2999	0.0017	-0.1786	0.0409	-1.7216	0.0784	-0.5706	0.0432
3	209.88	0.7998	0.3343	0.0019	-0.2040	0.0454	-2.2119	0.0865	-0.5201	0.0372
3	209.88	0.8577	0.3429	0.0025	-0.2499	0.0512	-2.8660	0.0956	-0.5702	0.0564
3	209.88	0.9178	0.3677	0.0021	-0.2993	0.0567	-3.5897	0.1056	-0.6474	0.0638
3	209.88	0.9729	0.3864	0.0026	-0.3223	0.0618	-4.3156	0.1153	-0.7325	0.0483

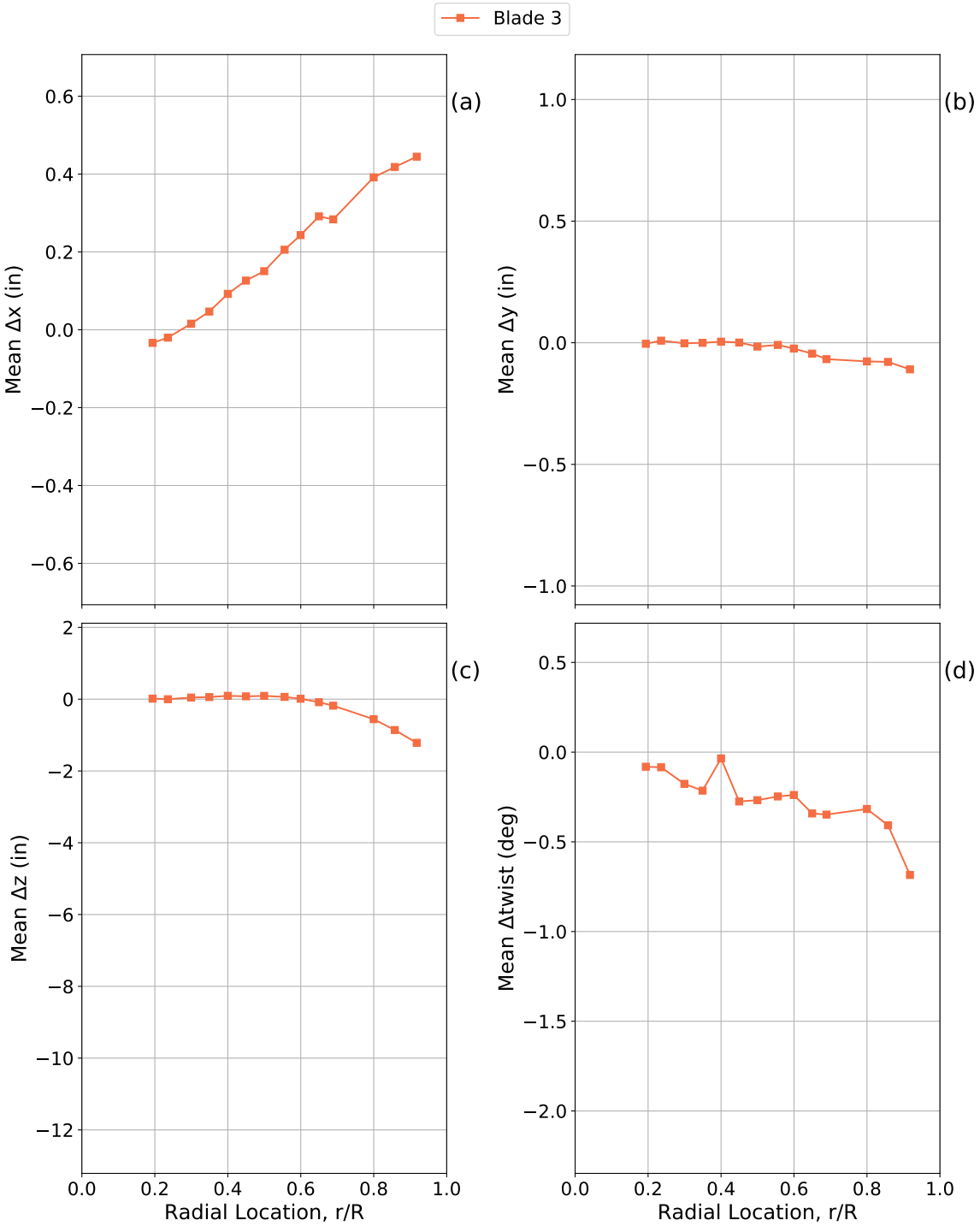


Figure 4.5-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0337	0.0012	-0.0042	0.0006	0.0149	0.0013	-0.0815	0.0182
3	225	0.2357	-0.0202	0.0011	0.0086	0.0013	-0.0010	0.0027	-0.0845	0.0199
3	225	0.2995	0.0156	0.0005	-0.0022	0.0025	0.0457	0.0033	-0.1770	0.0373
3	225	0.3493	0.0468	0.0014	-0.0003	0.0048	0.0583	0.0065	-0.2146	0.0349
3	225	0.4000	0.0922	0.0016	0.0044	0.0072	0.0941	0.0093	-0.0352	0.0356
3	225	0.4497	0.1264	0.0013	0.0009	0.0073	0.0789	0.0119	-0.2751	0.0331
3	225	0.4997	0.1505	0.0016	-0.0157	0.0107	0.0918	0.0154	-0.2678	0.0503
3	225	0.5556	0.2056	0.0017	-0.0090	0.0124	0.0638	0.0183	-0.2470	0.0359
3	225	0.5995	0.2432	0.0013	-0.0239	0.0144	0.0122	0.0220	-0.2390	0.0302
3	225	0.6498	0.2913	0.0011	-0.0447	0.0177	-0.0848	0.0256	-0.3419	0.0322
3	225	0.6890	0.2836	0.0015	-0.0673	0.0199	-0.1813	0.0298	-0.3481	0.0373
3	225	0.7998	0.3916	0.0016	-0.0767	0.0237	-0.5573	0.0377	-0.3170	0.0446
3	225	0.8577	0.4181	0.0021	-0.0788	0.0268	-0.8596	0.0405	-0.4075	0.0435
3	225	0.9178	0.4446	0.0024	-0.1093	0.0306	-1.2160	0.0431	-0.6845	0.0339

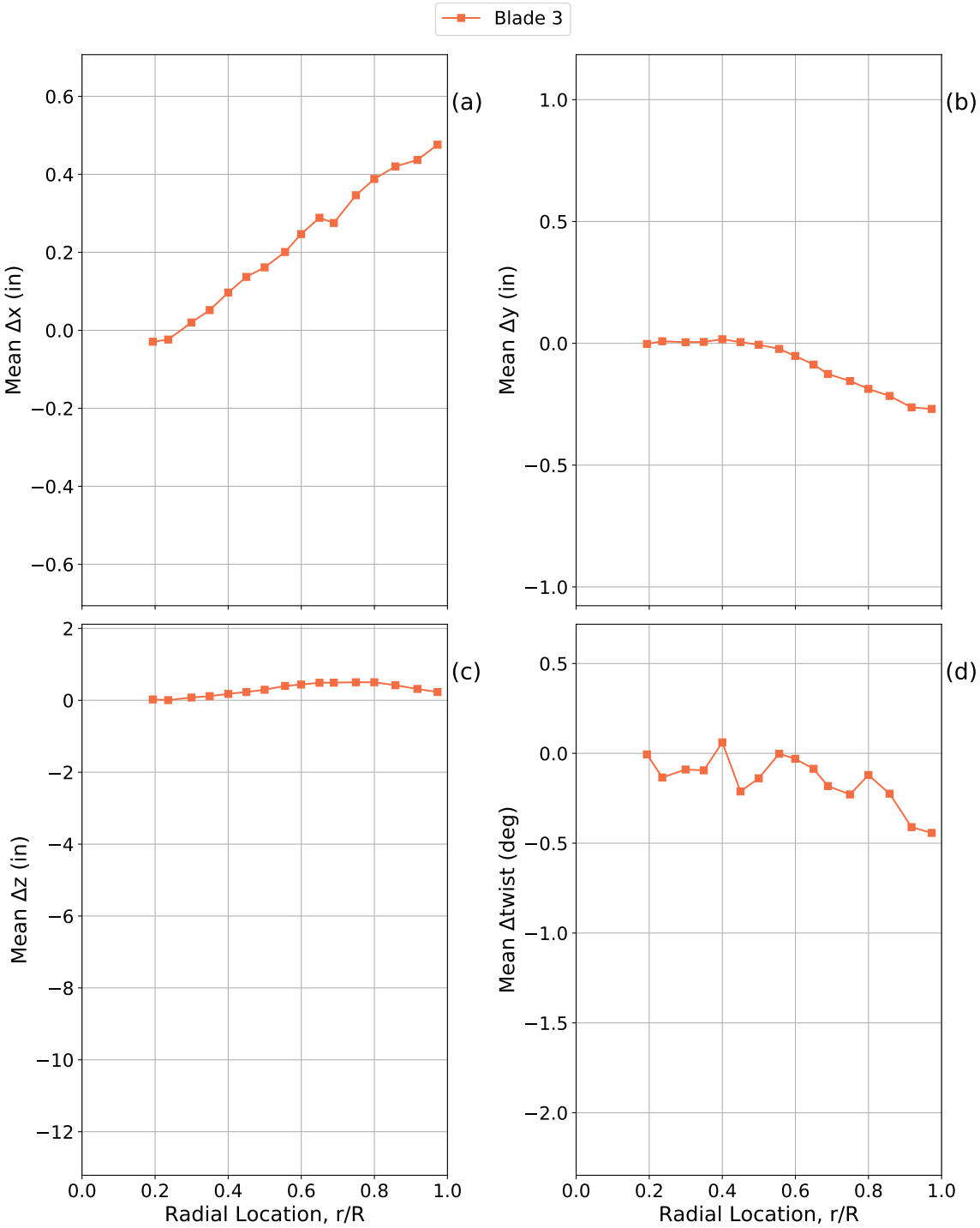


Figure 4.5-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0293	0.0014	-0.0026	0.0008	0.0245	0.0021	-0.0058	0.0199
3	240.12	0.2357	-0.0237	0.0007	0.0085	0.0011	0.0054	0.0035	-0.1343	0.0305
3	240.12	0.2995	0.0201	0.0009	0.0046	0.0030	0.0776	0.0074	-0.0899	0.0458
3	240.12	0.3493	0.0518	0.0007	0.0057	0.0048	0.1164	0.0128	-0.0945	0.0425
3	240.12	0.4000	0.0968	0.0011	0.0166	0.0076	0.1785	0.0195	0.0610	0.0432
3	240.12	0.4497	0.1370	0.0020	0.0050	0.0106	0.2305	0.0241	-0.2121	0.0513
3	240.12	0.4997	0.1614	0.0015	-0.0058	0.0106	0.2943	0.0291	-0.1387	0.0457
3	240.12	0.5556	0.2008	0.0010	-0.0229	0.0129	0.4008	0.0343	-0.0021	0.0503
3	240.12	0.5995	0.2468	0.0017	-0.0521	0.0153	0.4386	0.0390	-0.0304	0.0307
3	240.12	0.6498	0.2886	0.0015	-0.0874	0.0172	0.4889	0.0413	-0.0860	0.0308
3	240.12	0.6890	0.2753	0.0018	-0.1259	0.0191	0.4917	0.0418	-0.1820	0.0585
3	240.12	0.7495	0.3463	0.0023	-0.1548	0.0218	0.5019	0.0468	-0.2286	0.0409
3	240.12	0.7998	0.3881	0.0018	-0.1872	0.0245	0.5023	0.0523	-0.1205	0.0315
3	240.12	0.8577	0.4202	0.0022	-0.2161	0.0272	0.4198	0.0573	-0.2243	0.0410
3	240.12	0.9178	0.4370	0.0023	-0.2631	0.0300	0.3169	0.0623	-0.4105	0.0387
3	240.12	0.9729	0.4760	0.0032	-0.2692	0.0326	0.2305	0.0697	-0.4427	0.0373

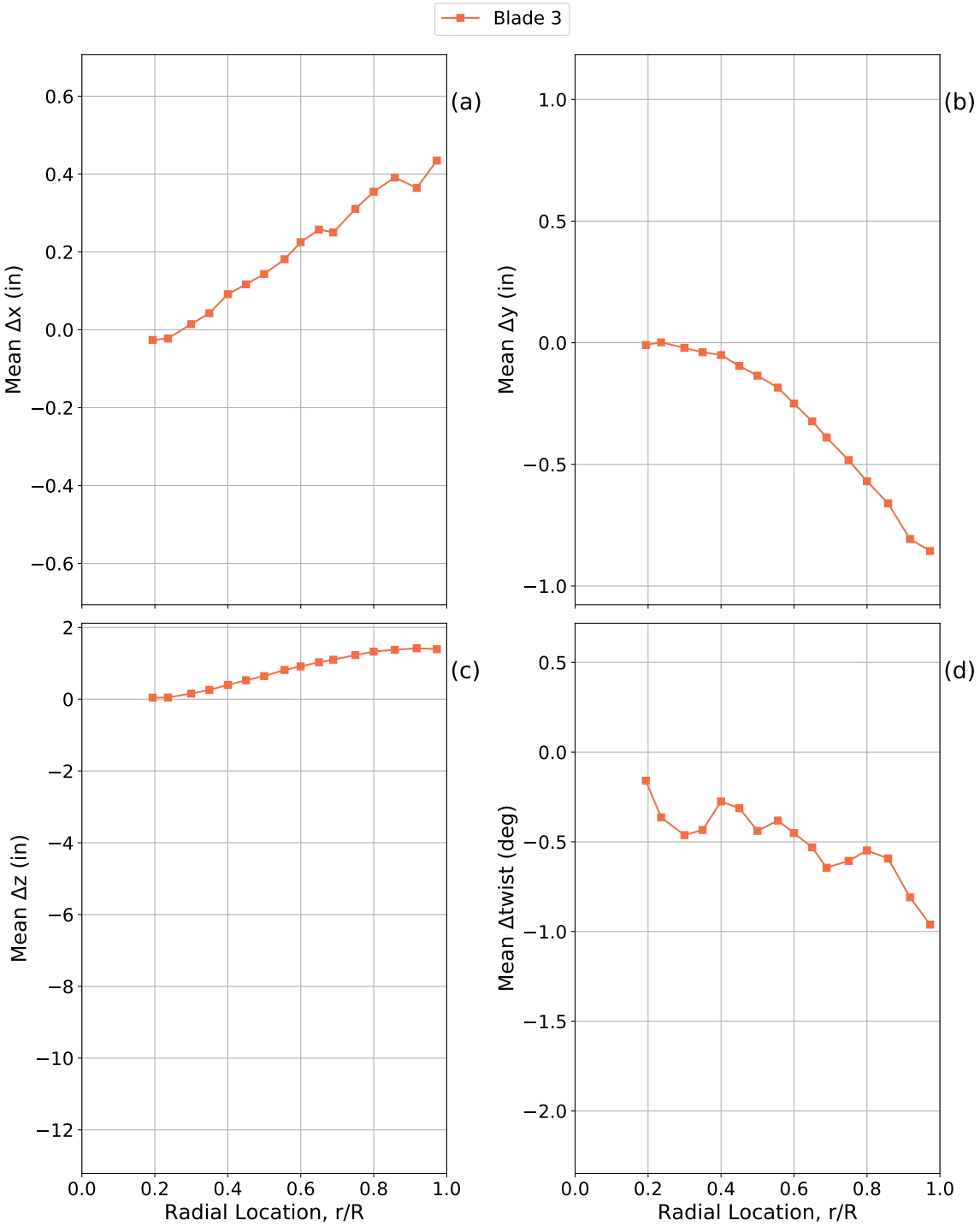


Figure 4.5-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0262	0.0029	-0.0094	0.0013	0.0422	0.0031	-0.1598	0.0192
3	254.88	0.2357	-0.0223	0.0009	0.0017	0.0013	0.0475	0.0036	-0.3640	0.0332
3	254.88	0.2995	0.0144	0.0011	-0.0209	0.0047	0.1558	0.0092	-0.4625	0.0443
3	254.88	0.3493	0.0426	0.0010	-0.0390	0.0076	0.2589	0.0139	-0.4337	0.0398
3	254.88	0.4000	0.0914	0.0019	-0.0507	0.0117	0.3953	0.0211	-0.2752	0.0436
3	254.88	0.4497	0.1167	0.0017	-0.0951	0.0142	0.5277	0.0234	-0.3122	0.0478
3	254.88	0.4997	0.1433	0.0023	-0.1353	0.0178	0.6429	0.0303	-0.4387	0.0389
3	254.88	0.5556	0.1812	0.0026	-0.1844	0.0206	0.8150	0.0342	-0.3815	0.0492
3	254.88	0.5995	0.2249	0.0021	-0.2500	0.0234	0.9125	0.0370	-0.4512	0.0640
3	254.88	0.6498	0.2574	0.0025	-0.3228	0.0267	1.0293	0.0414	-0.5310	0.0543
3	254.88	0.6890	0.2500	0.0023	-0.3892	0.0294	1.0989	0.0458	-0.6443	0.0359
3	254.88	0.7495	0.3104	0.0023	-0.4829	0.0338	1.2293	0.0489	-0.6062	0.0434
3	254.88	0.7998	0.3546	0.0023	-0.5691	0.0369	1.3249	0.0512	-0.5480	0.0422
3	254.88	0.8577	0.3912	0.0026	-0.6602	0.0413	1.3754	0.0570	-0.5927	0.0360
3	254.88	0.9178	0.3644	0.0048	-0.8068	0.0462	1.4200	0.0595	-0.8093	0.0638
3	254.88	0.9729	0.4346	0.0035	-0.8560	0.0493	1.3925	0.0642	-0.9615	0.0422

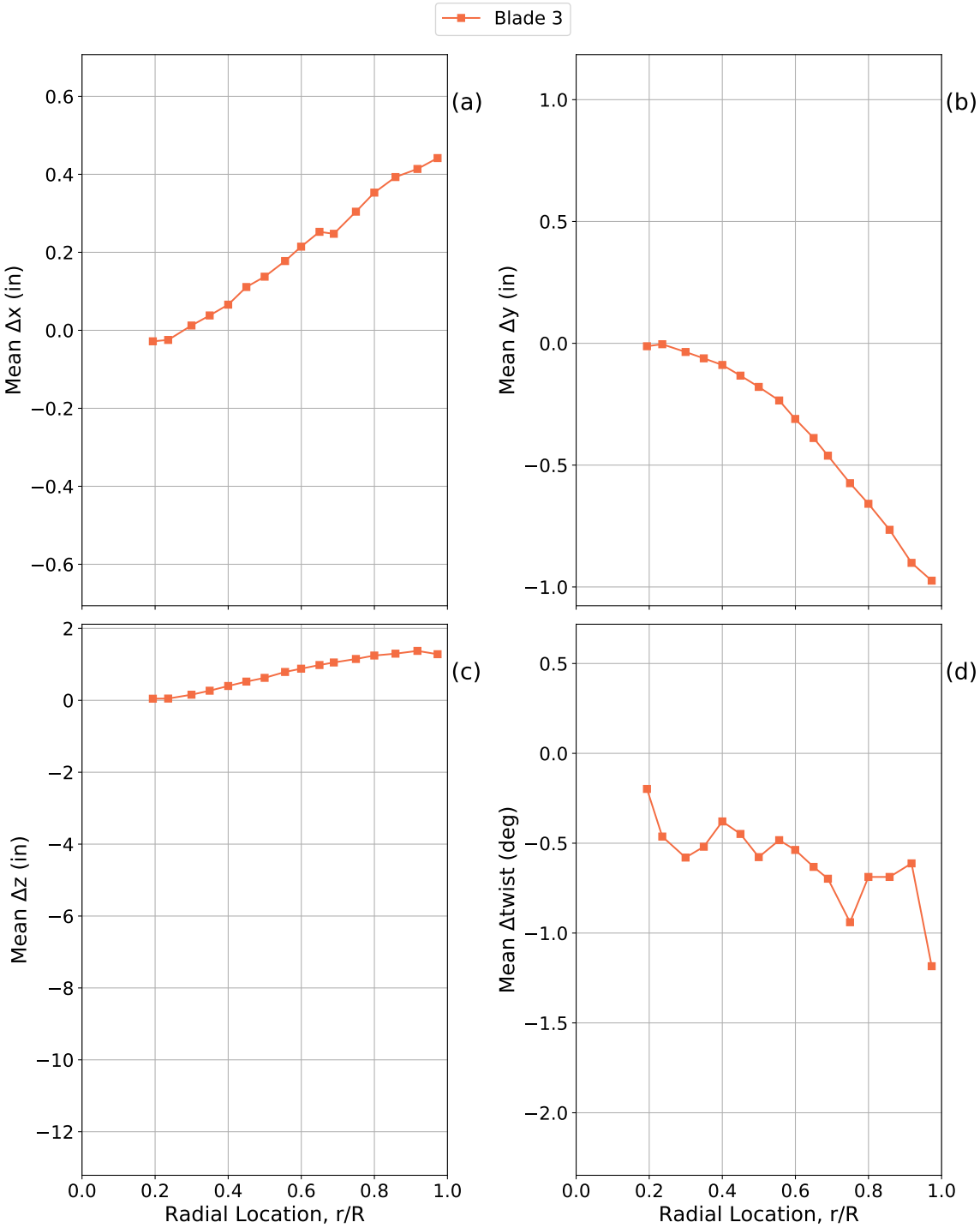


Figure 4.5-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0282	0.0035	-0.0120	0.0010	0.0453	0.0034	-0.1980	0.0160
3	260.16	0.2357	-0.0247	0.0014	-0.0038	0.0010	0.0493	0.0028	-0.4630	0.0417
3	260.16	0.2995	0.0123	0.0010	-0.0356	0.0031	0.1566	0.0093	-0.5799	0.0417
3	260.16	0.3493	0.0381	0.0008	-0.0617	0.0052	0.2675	0.0141	-0.5195	0.0408
3	260.16	0.4000	0.0658	0.0012	-0.0889	0.0077	0.3988	0.0208	-0.3789	0.0445
3	260.16	0.4497	0.1110	0.0012	-0.1327	0.0098	0.5207	0.0263	-0.4486	0.0455
3	260.16	0.4997	0.1375	0.0013	-0.1790	0.0121	0.6249	0.0325	-0.5774	0.0334
3	260.16	0.5556	0.1776	0.0014	-0.2347	0.0148	0.7888	0.0391	-0.4831	0.0460
3	260.16	0.5995	0.2145	0.0015	-0.3105	0.0171	0.8800	0.0452	-0.5376	0.0293
3	260.16	0.6498	0.2525	0.0015	-0.3887	0.0193	0.9818	0.0494	-0.6318	0.0463
3	260.16	0.6890	0.2475	0.0010	-0.4612	0.0214	1.0527	0.0542	-0.6976	0.0382
3	260.16	0.7495	0.3042	0.0024	-0.5742	0.0244	1.1500	0.0602	-0.9397	0.0419
3	260.16	0.7998	0.3531	0.0011	-0.6587	0.0277	1.2459	0.0656	-0.6878	0.0421
3	260.16	0.8577	0.3930	0.0010	-0.7654	0.0308	1.2977	0.0733	-0.6878	0.0417
3	260.16	0.9178	0.4138	0.0011	-0.9012	0.0343	1.3750	0.0823	-0.6122	0.0402
3	260.16	0.9729	0.4417	0.0019	-0.9742	0.0383	1.2825	0.0919	-1.1845	0.0373

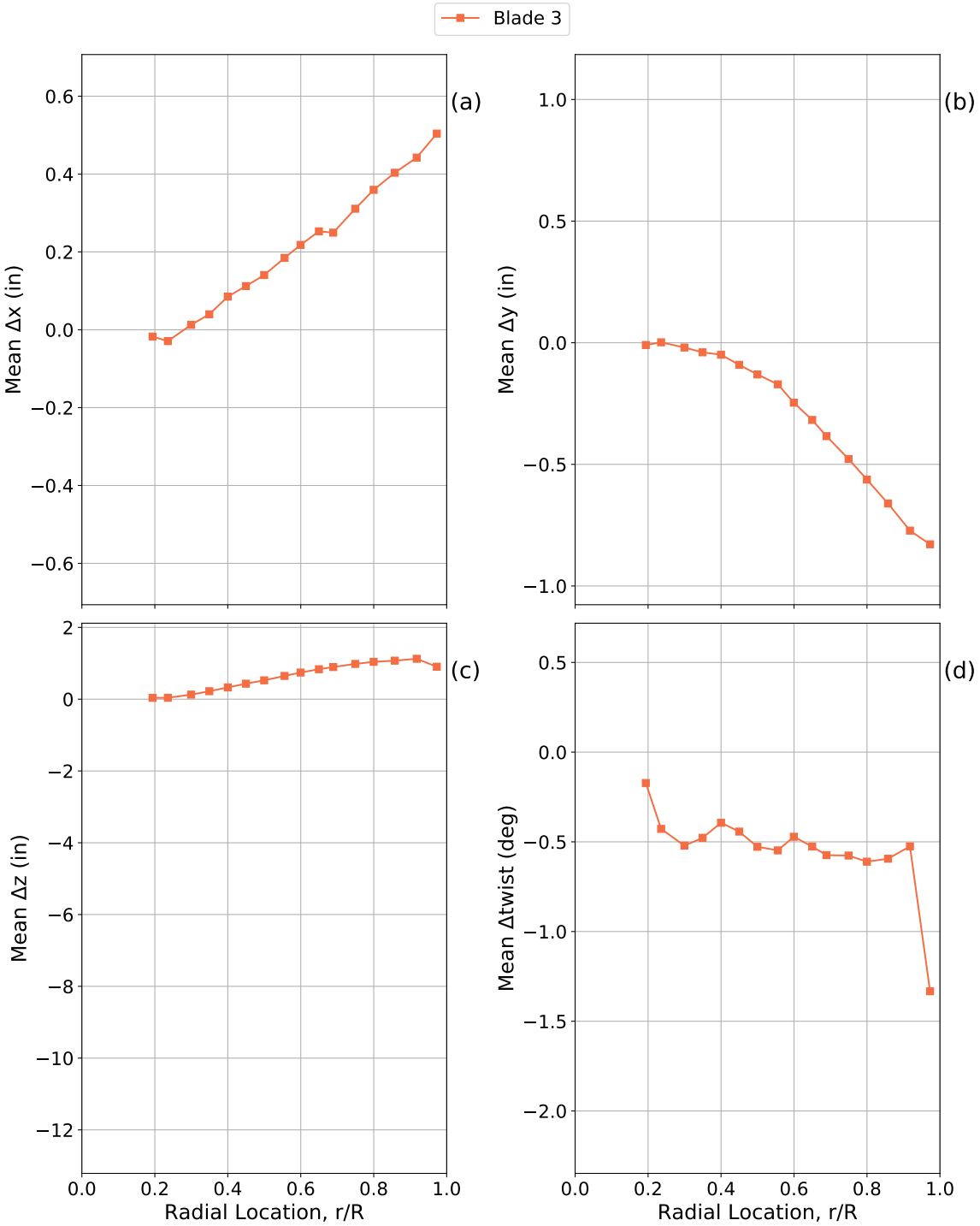


Figure 4.5-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0175	0.0031	-0.0094	0.0010	0.0373	0.0039	-0.1722	0.0201
3	265.08	0.2357	-0.0291	0.0021	0.0019	0.0010	0.0385	0.0028	-0.4278	0.0769
3	265.08	0.2995	0.0128	0.0017	-0.0196	0.0022	0.1273	0.0085	-0.5214	0.0702
3	265.08	0.3493	0.0397	0.0015	-0.0394	0.0034	0.2218	0.0146	-0.4778	0.0769
3	265.08	0.4000	0.0852	0.0015	-0.0492	0.0048	0.3278	0.0194	-0.3936	0.0899
3	265.08	0.4497	0.1122	0.0014	-0.0908	0.0062	0.4321	0.0268	-0.4430	0.0814
3	265.08	0.4997	0.1406	0.0020	-0.1303	0.0073	0.5251	0.0335	-0.5277	0.0845
3	265.08	0.5556	0.1846	0.0013	-0.1710	0.0089	0.6477	0.0419	-0.5476	0.0695
3	265.08	0.5995	0.2180	0.0017	-0.2463	0.0099	0.7422	0.0469	-0.4718	0.0710
3	265.08	0.6498	0.2528	0.0014	-0.3174	0.0114	0.8348	0.0536	-0.5264	0.0789
3	265.08	0.6890	0.2495	0.0019	-0.3840	0.0121	0.8957	0.0604	-0.5742	0.0746
3	265.08	0.7495	0.3109	0.0022	-0.4780	0.0132	0.9826	0.0688	-0.5764	0.0783
3	265.08	0.7998	0.3594	0.0020	-0.5624	0.0140	1.0401	0.0781	-0.6106	0.0692
3	265.08	0.8577	0.4033	0.0018	-0.6608	0.0155	1.0734	0.0882	-0.5942	0.0719
3	265.08	0.9178	0.4423	0.0021	-0.7724	0.0163	1.1260	0.0986	-0.5254	0.0720
3	265.08	0.9729	0.5038	0.0024	-0.8286	0.0181	0.9037	0.1061	-1.3328	0.0775

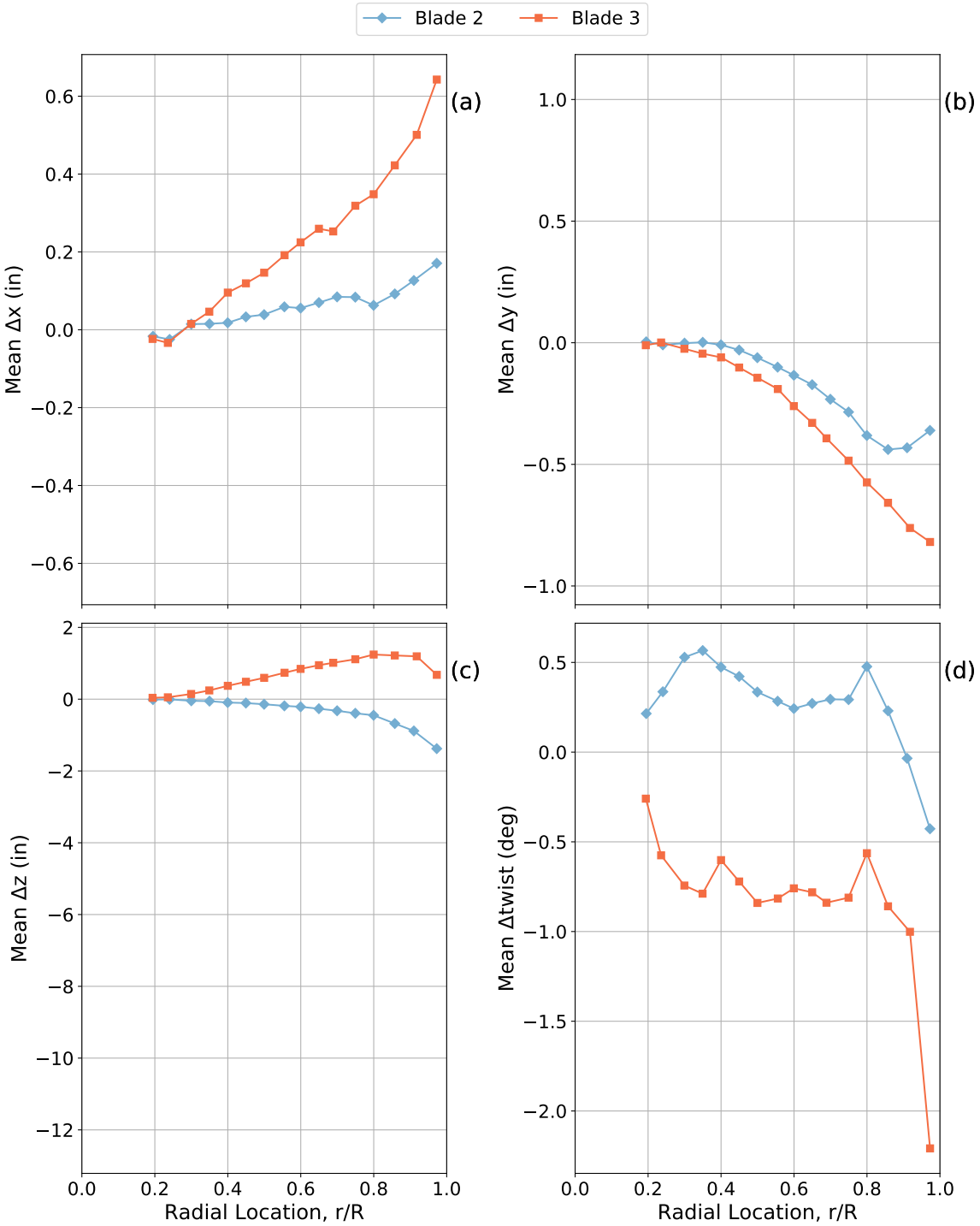


Figure 4.5-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0168	0.0054	0.0039	0.0019	-0.0116	0.0076	0.2148	0.0424
2	270.35	0.2405	-0.0248	0.0031	-0.0087	0.0018	-0.0044	0.0061	0.3366	0.1231
2	270.35	0.2999	0.0146	0.0030	-0.0016	0.0050	-0.0451	0.0200	0.5288	0.1268
2	270.35	0.3498	0.0153	0.0016	0.0017	0.0091	-0.0547	0.0349	0.5663	0.1168
2	270.35	0.3998	0.0180	0.0023	-0.0086	0.0124	-0.0939	0.0480	0.4738	0.1254
2	270.35	0.4496	0.0332	0.0020	-0.0298	0.0163	-0.1083	0.0619	0.4216	0.1156
2	270.35	0.4995	0.0389	0.0022	-0.0615	0.0191	-0.1416	0.0742	0.3350	0.1268
2	270.35	0.5551	0.0589	0.0018	-0.1003	0.0229	-0.1862	0.0874	0.2839	0.1278
2	270.35	0.5996	0.0557	0.0020	-0.1337	0.0257	-0.2126	0.0999	0.2428	0.1227
2	270.35	0.6497	0.0698	0.0016	-0.1725	0.0292	-0.2657	0.1122	0.2714	0.1245
2	270.35	0.6996	0.0845	0.0019	-0.2323	0.0325	-0.3226	0.1250	0.2945	0.1244
2	270.35	0.7495	0.0838	0.0022	-0.2848	0.0360	-0.3931	0.1375	0.2927	0.1290
2	270.35	0.7996	0.0628	0.0027	-0.3814	0.0399	-0.4482	0.1534	0.4768	0.1449
2	270.35	0.8578	0.0921	0.0026	-0.4389	0.0440	-0.6787	0.1685	0.2301	0.1267
2	270.35	0.9100	0.1266	0.0024	-0.4317	0.0482	-0.8846	0.1832	-0.0345	0.1256
2	270.35	0.9727	0.1708	0.0029	-0.3605	0.0532	-1.3783	0.2002	-0.4274	0.1262
3	270	0.1938	-0.0235	0.0061	-0.0102	0.0013	0.0382	0.0077	-0.2593	0.0425
3	270	0.2357	-0.0337	0.0025	0.0010	0.0011	0.0521	0.0073	-0.5752	0.1037
3	270	0.2995	0.0151	0.0018	-0.0248	0.0038	0.1451	0.0211	-0.7436	0.1194
3	270	0.3493	0.0465	0.0026	-0.0447	0.0067	0.2438	0.0356	-0.7889	0.1136
3	270	0.4000	0.0955	0.0030	-0.0602	0.0097	0.3724	0.0511	-0.6019	0.1124
3	270	0.4497	0.1193	0.0025	-0.1019	0.0118	0.4851	0.0631	-0.7211	0.1260
3	270	0.4997	0.1466	0.0026	-0.1438	0.0151	0.5947	0.0779	-0.8407	0.1233
3	270	0.5556	0.1916	0.0023	-0.1903	0.0185	0.7367	0.0965	-0.8159	0.1253
3	270	0.5995	0.2246	0.0026	-0.2605	0.0209	0.8435	0.1111	-0.7592	0.1173
3	270	0.6498	0.2595	0.0032	-0.3294	0.0238	0.9469	0.1270	-0.7814	0.1206
3	270	0.6890	0.2526	0.0026	-0.3929	0.0264	1.0137	0.1401	-0.8394	0.1192
3	270	0.7495	0.3186	0.0028	-0.4847	0.0308	1.1125	0.1581	-0.8111	0.1176
3	270	0.7998	0.3481	0.0030	-0.5743	0.0342	1.2434	0.1759	-0.5634	0.1151
3	270	0.8577	0.4224	0.0029	-0.6580	0.0389	1.2180	0.1956	-0.8593	0.1106
3	270	0.9178	0.5007	0.0031	-0.7615	0.0426	1.1939	0.2165	-1.0014	0.1309
3	270	0.9729	0.6427	0.0036	-0.8191	0.0464	0.6779	0.2405	-2.2086	0.1141

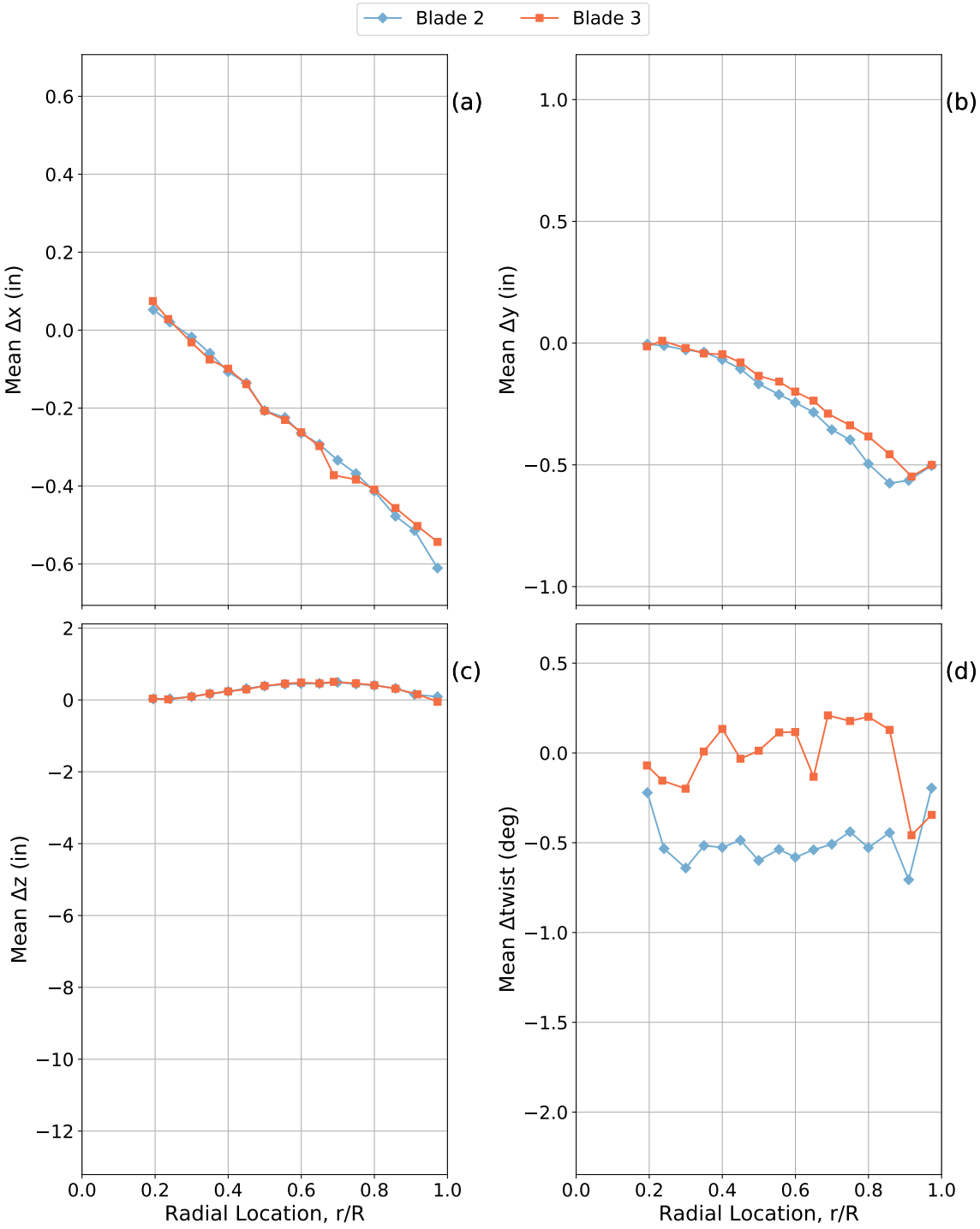


Figure 4.5-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$ NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0523	0.0014	-0.0041	0.0006	0.0278	0.0024	-0.2212	0.0196
2	274.92	0.2405	0.0204	0.0013	-0.0104	0.0022	0.0329	0.0040	-0.5329	0.0424
2	274.92	0.2999	-0.0177	0.0011	-0.0277	0.0030	0.0900	0.0088	-0.6411	0.0513
2	274.92	0.3498	-0.0594	0.0015	-0.0372	0.0047	0.1672	0.0138	-0.5162	0.0534
2	274.92	0.3998	-0.1070	0.0024	-0.0677	0.0082	0.2369	0.0213	-0.5262	0.0531
2	274.92	0.4496	-0.1357	0.0035	-0.1056	0.0092	0.3179	0.0267	-0.4862	0.0651
2	274.92	0.4995	-0.2065	0.0026	-0.1675	0.0125	0.3853	0.0352	-0.5989	0.0369
2	274.92	0.5551	-0.2243	0.0035	-0.2112	0.0141	0.4366	0.0439	-0.5368	0.0449
2	274.92	0.5996	-0.2646	0.0031	-0.2442	0.0169	0.4525	0.0488	-0.5812	0.0754
2	274.92	0.6497	-0.2931	0.0048	-0.2841	0.0196	0.4573	0.0601	-0.5396	0.0563
2	274.92	0.6996	-0.3338	0.0035	-0.3555	0.0217	0.4895	0.0681	-0.5083	0.0576
2	274.92	0.7495	-0.3682	0.0031	-0.3970	0.0234	0.4421	0.0712	-0.4391	0.0684
2	274.92	0.7996	-0.4131	0.0032	-0.4958	0.0276	0.4058	0.0820	-0.5277	0.0888
2	274.92	0.8578	-0.4775	0.0038	-0.5754	0.0316	0.3226	0.0916	-0.4442	0.0609
2	274.92	0.9100	-0.5144	0.0040	-0.5641	0.0330	0.1527	0.1027	-0.7061	0.0832
2	274.92	0.9727	-0.6105	0.0055	-0.5034	0.0390	0.0887	0.1101	-0.1955	0.1015
3	274.92	0.1938	0.0746	0.0014	-0.0134	0.0005	0.0354	0.0021	-0.0700	0.0226
3	274.92	0.2357	0.0284	0.0012	0.0094	0.0017	0.0155	0.0047	-0.1540	0.0298
3	274.92	0.2995	-0.0316	0.0007	-0.0205	0.0024	0.0917	0.0078	-0.1994	0.0432
3	274.92	0.3493	-0.0755	0.0012	-0.0423	0.0030	0.1748	0.0117	0.0077	0.0247
3	274.92	0.4000	-0.0989	0.0015	-0.0462	0.0057	0.2358	0.0194	0.1334	0.0290
3	274.92	0.4497	-0.1387	0.0022	-0.0794	0.0064	0.2941	0.0215	-0.0326	0.0391
3	274.92	0.4997	-0.2071	0.0017	-0.1346	0.0077	0.3899	0.0231	0.0124	0.0483
3	274.92	0.5556	-0.2304	0.0016	-0.1581	0.0089	0.4546	0.0281	0.1142	0.0363
3	274.92	0.5995	-0.2623	0.0025	-0.1992	0.0099	0.4827	0.0311	0.1165	0.0534
3	274.92	0.6498	-0.2976	0.0024	-0.2365	0.0121	0.4595	0.0379	-0.1331	0.0590
3	274.92	0.6890	-0.3723	0.0032	-0.2895	0.0130	0.5035	0.0403	0.2092	0.0561
3	274.92	0.7495	-0.3835	0.0024	-0.3378	0.0152	0.4610	0.0505	0.1776	0.0576
3	274.92	0.7998	-0.4093	0.0034	-0.3834	0.0179	0.4090	0.0559	0.2013	0.0256
3	274.92	0.8577	-0.4565	0.0045	-0.4566	0.0237	0.3138	0.0694	0.1284	0.0847
3	274.92	0.9178	-0.5026	0.0049	-0.5479	0.0260	0.1556	0.0844	-0.4580	0.1425
3	274.92	0.9729	-0.5434	0.0088	-0.5002	0.0341	-0.0494	0.1037	-0.3449	0.1431

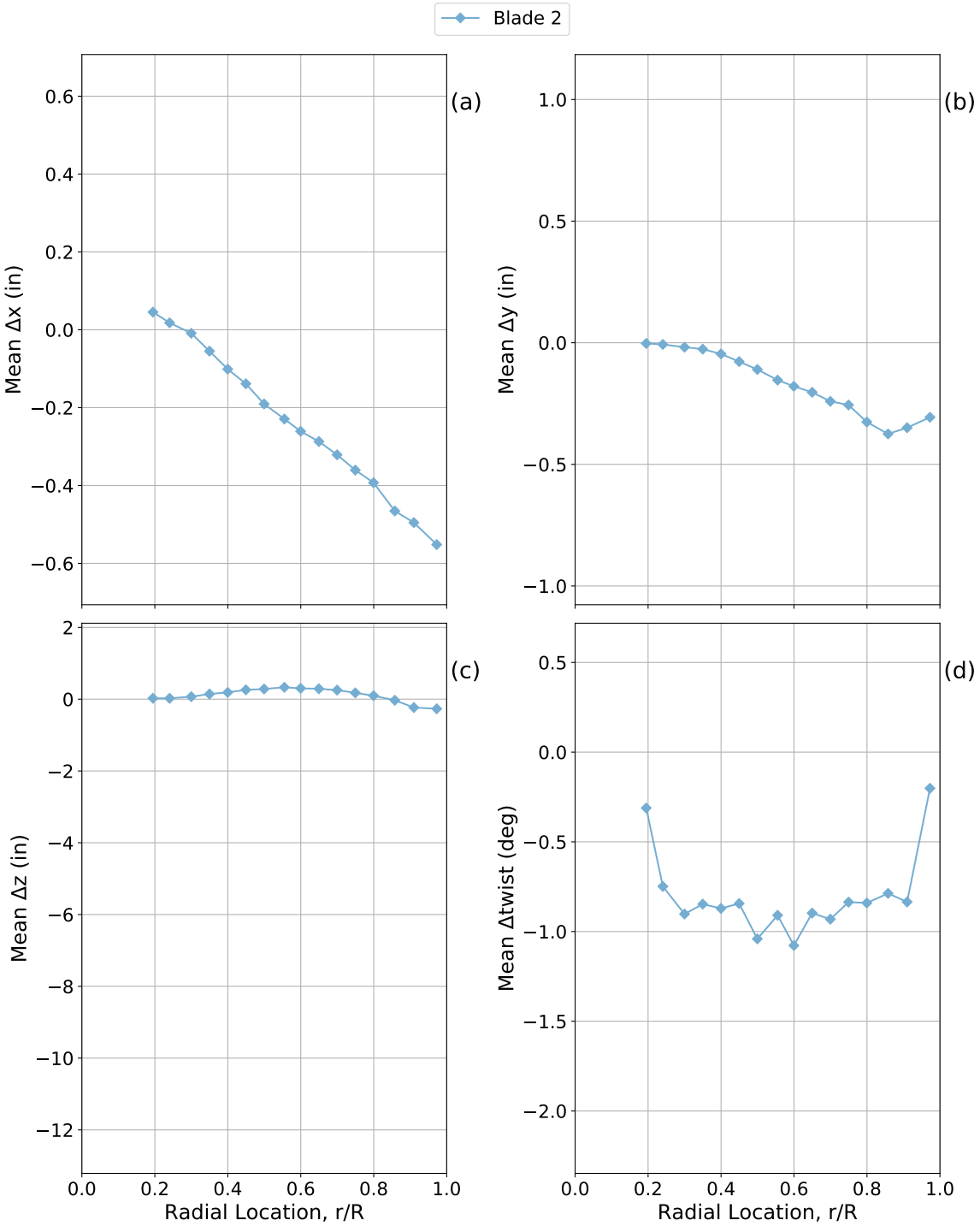


Figure 4.5-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0454	0.0017	-0.0028	0.0006	0.0257	0.0023	-0.3114	0.0194
2	285.12	0.2405	0.0179	0.0014	-0.0070	0.0018	0.0247	0.0038	-0.7486	0.0234
2	285.12	0.2999	-0.0089	0.0013	-0.0183	0.0028	0.0696	0.0096	-0.9025	0.0383
2	285.12	0.3498	-0.0549	0.0018	-0.0262	0.0050	0.1439	0.0135	-0.8472	0.0285
2	285.12	0.3998	-0.1012	0.0029	-0.0459	0.0073	0.1892	0.0218	-0.8713	0.0430
2	285.12	0.4496	-0.1387	0.0030	-0.0775	0.0082	0.2604	0.0266	-0.8438	0.0552
2	285.12	0.4995	-0.1906	0.0034	-0.1099	0.0107	0.2837	0.0311	-1.0409	0.0397
2	285.12	0.5551	-0.2292	0.0031	-0.1536	0.0135	0.3312	0.0399	-0.9094	0.0331
2	285.12	0.5996	-0.2607	0.0041	-0.1790	0.0167	0.3011	0.0456	-1.0779	0.0403
2	285.12	0.6497	-0.2871	0.0027	-0.2037	0.0177	0.2901	0.0515	-0.8973	0.0413
2	285.12	0.6996	-0.3211	0.0040	-0.2409	0.0203	0.2525	0.0566	-0.9313	0.0477
2	285.12	0.7495	-0.3605	0.0037	-0.2559	0.0235	0.1764	0.0638	-0.8360	0.0331
2	285.12	0.7996	-0.3929	0.0030	-0.3259	0.0253	0.0970	0.0727	-0.8407	0.0431
2	285.12	0.8578	-0.4655	0.0027	-0.3748	0.0283	-0.0307	0.0829	-0.7874	0.0674
2	285.12	0.9100	-0.4953	0.0034	-0.3493	0.0322	-0.2321	0.0897	-0.8352	0.0391
2	285.12	0.9727	-0.5518	0.0035	-0.3064	0.0381	-0.2677	0.0997	-0.2016	0.0561

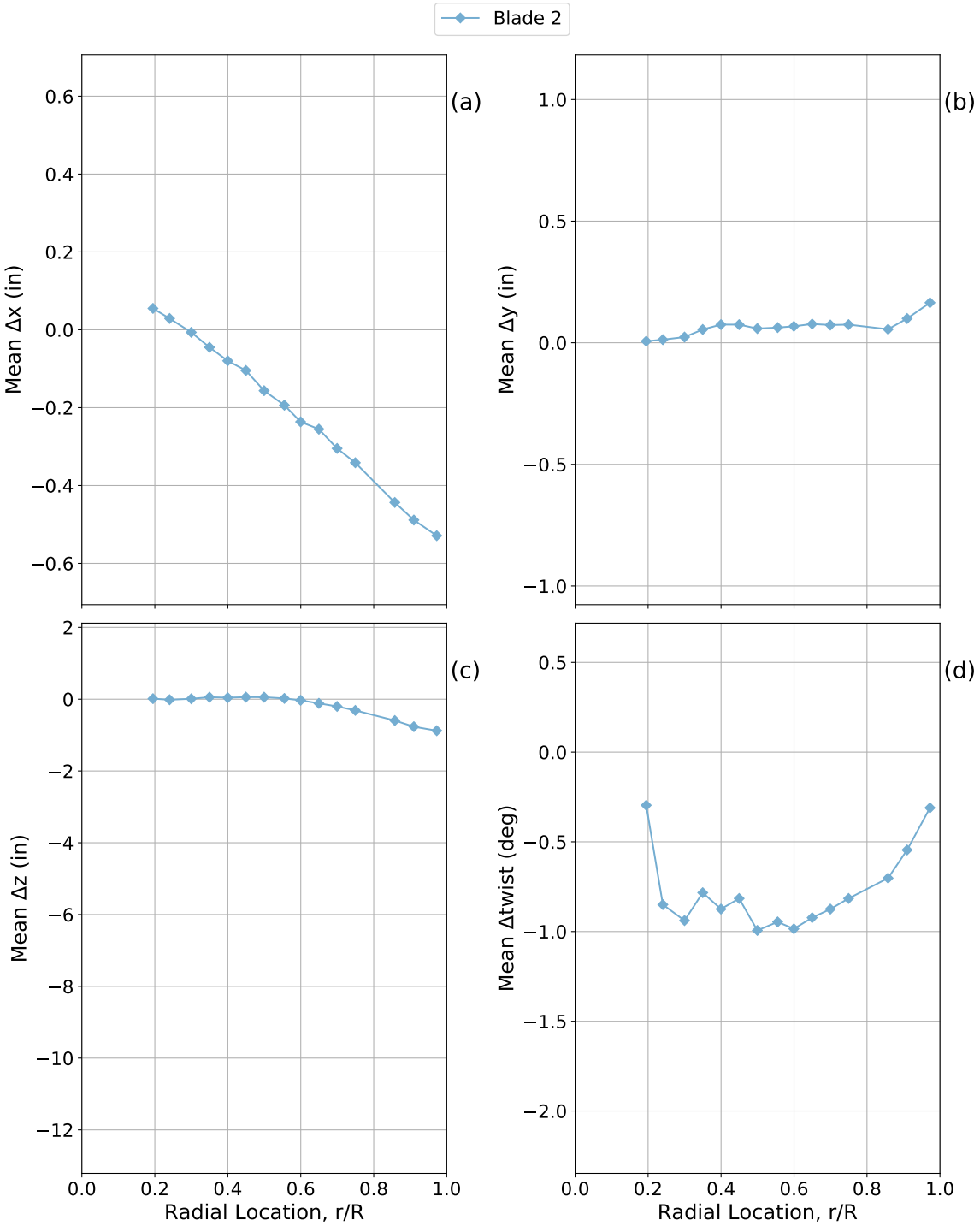


Figure 4.5-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0549	0.0013	0.0063	0.0006	0.0145	0.0019	-0.2962	0.0232
2	299.88	0.2405	0.0290	0.0012	0.0127	0.0021	-0.0150	0.0049	-0.8499	0.0233
2	299.88	0.2999	-0.0066	0.0010	0.0233	0.0026	0.0118	0.0099	-0.9387	0.0457
2	299.88	0.3498	-0.0451	0.0013	0.0546	0.0059	0.0554	0.0149	-0.7835	0.0387
2	299.88	0.3998	-0.0798	0.0022	0.0747	0.0080	0.0423	0.0245	-0.8747	0.0802
2	299.88	0.4496	-0.1046	0.0034	0.0745	0.0105	0.0576	0.0253	-0.8158	0.0532
2	299.88	0.4995	-0.1565	0.0027	0.0584	0.0106	0.0554	0.0274	-0.9938	0.0434
2	299.88	0.5551	-0.1937	0.0026	0.0625	0.0134	0.0216	0.0297	-0.9464	0.0397
2	299.88	0.5996	-0.2365	0.0025	0.0676	0.0132	-0.0303	0.0376	-0.9849	0.0459
2	299.88	0.6497	-0.2553	0.0016	0.0771	0.0158	-0.1160	0.0406	-0.9227	0.0457
2	299.88	0.6996	-0.3048	0.0027	0.0729	0.0176	-0.2013	0.0444	-0.8749	0.0468
2	299.88	0.7495	-0.3415	0.0025	0.0746	0.0203	-0.3119	0.0468	-0.8158	0.0345
2	299.88	0.8578	-0.4436	0.0026	0.0554	0.0262	-0.5947	0.0554	-0.7022	0.0294
2	299.88	0.9100	-0.4887	0.0027	0.0996	0.0283	-0.7663	0.0561	-0.5454	0.0361
2	299.88	0.9727	-0.5289	0.0035	0.1645	0.0314	-0.8783	0.0596	-0.3106	0.0331

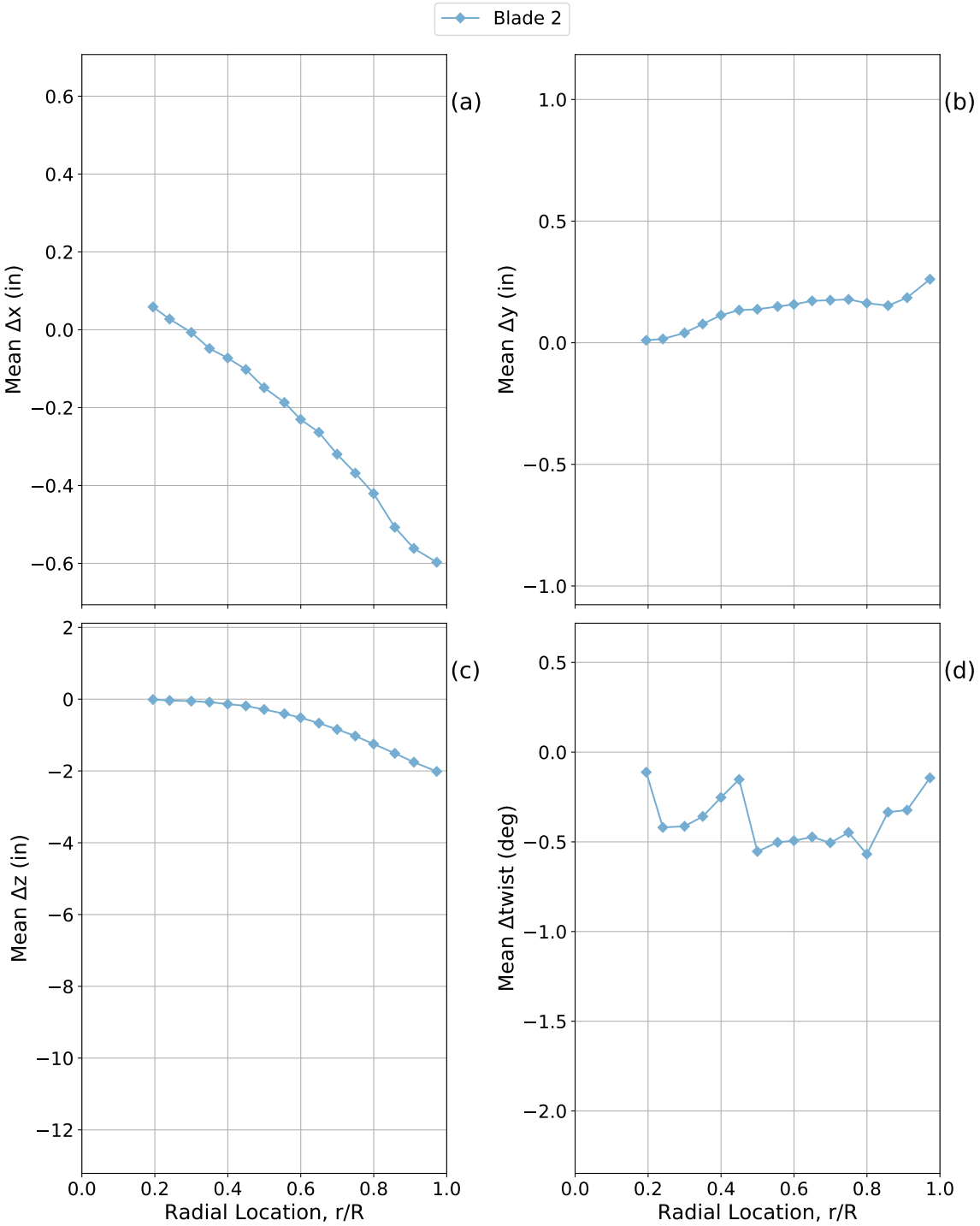


Figure 4.5-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0587	0.0019	0.0101	0.0007	-0.0098	0.0015	-0.1119	0.0292
2	315	0.2405	0.0275	0.0021	0.0156	0.0026	-0.0370	0.0082	-0.4198	0.0442
2	315	0.2999	-0.0068	0.0025	0.0404	0.0037	-0.0543	0.0126	-0.4133	0.0691
2	315	0.3498	-0.0481	0.0013	0.0771	0.0063	-0.0816	0.0176	-0.3585	0.0712
2	315	0.3998	-0.0726	0.0035	0.1133	0.0104	-0.1381	0.0331	-0.2528	0.0321
2	315	0.4496	-0.1021	0.0039	0.1340	0.0134	-0.1875	0.0352	-0.1523	0.0648
2	315	0.4995	-0.1487	0.0025	0.1376	0.0167	-0.2873	0.0440	-0.5538	0.0352
2	315	0.5551	-0.1868	0.0036	0.1490	0.0194	-0.4046	0.0472	-0.5025	0.0435
2	315	0.5996	-0.2303	0.0042	0.1576	0.0219	-0.5159	0.0518	-0.4938	0.0448
2	315	0.6497	-0.2634	0.0046	0.1722	0.0262	-0.6681	0.0470	-0.4729	0.0746
2	315	0.6996	-0.3197	0.0038	0.1750	0.0281	-0.8422	0.0493	-0.5055	0.0740
2	315	0.7495	-0.3683	0.0044	0.1782	0.0309	-1.0271	0.0547	-0.4478	0.0554
2	315	0.7996	-0.4207	0.0038	0.1627	0.0343	-1.2490	0.0578	-0.5688	0.0515
2	315	0.8578	-0.5074	0.0035	0.1528	0.0393	-1.5085	0.0633	-0.3342	0.0526
2	315	0.9100	-0.5616	0.0032	0.1851	0.0436	-1.7548	0.0683	-0.3233	0.0436
2	315	0.9727	-0.5971	0.0043	0.2611	0.0482	-2.0132	0.0731	-0.1435	0.0477

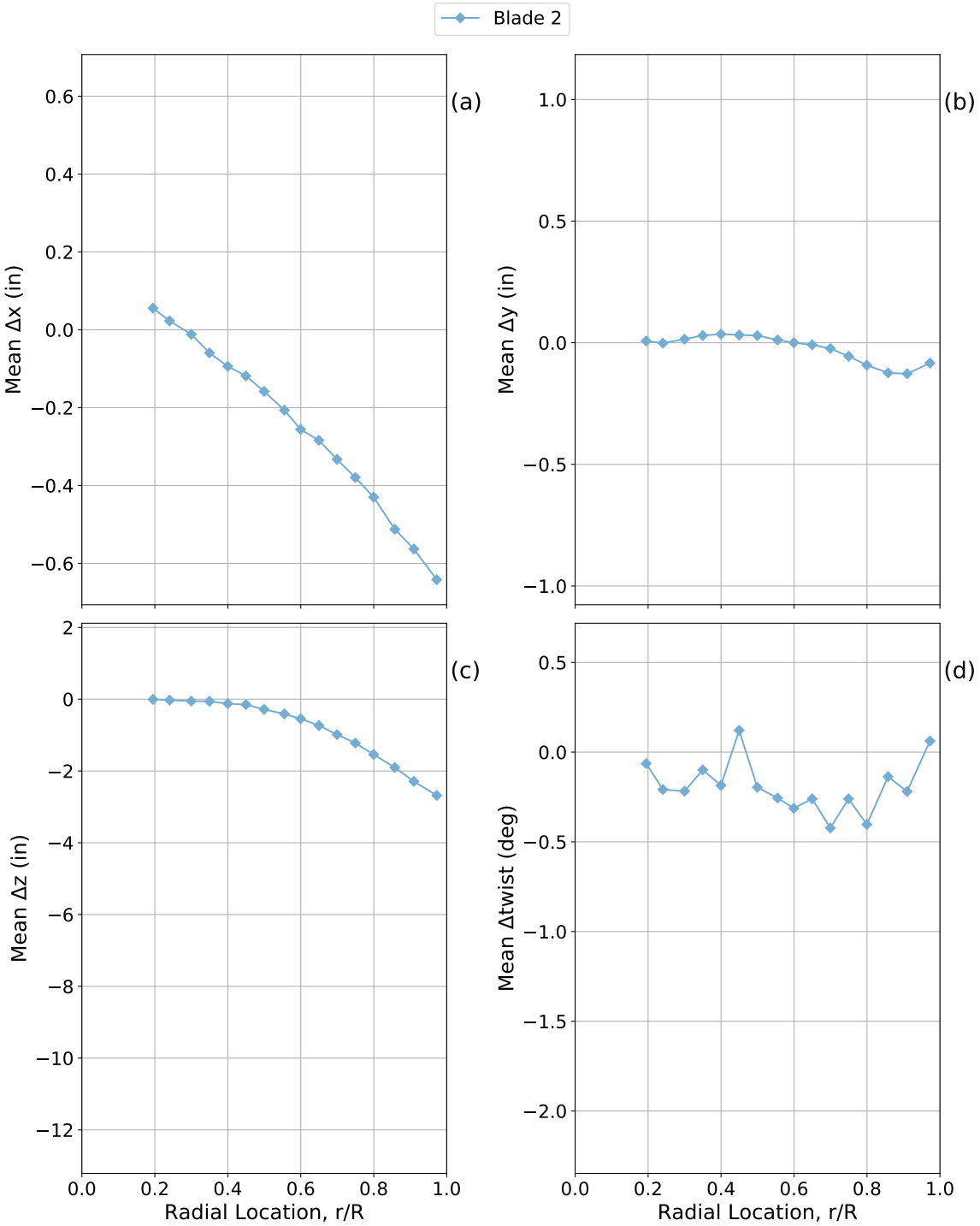


Figure 4.5-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0555	0.0013	0.0071	0.0004	-0.0060	0.0022	-0.0639	0.0232
2	330.12	0.2405	0.0227	0.0015	-0.0017	0.0020	-0.0265	0.0064	-0.2082	0.0433
2	330.12	0.2999	-0.0118	0.0018	0.0147	0.0048	-0.0545	0.0103	-0.2178	0.0557
2	330.12	0.3498	-0.0594	0.0015	0.0296	0.0046	-0.0604	0.0177	-0.0991	0.0452
2	330.12	0.3998	-0.0939	0.0025	0.0356	0.0103	-0.1243	0.0281	-0.1854	0.0543
2	330.12	0.4496	-0.1186	0.0083	0.0319	0.0110	-0.1505	0.0246	0.1214	0.0531
2	330.12	0.4995	-0.1582	0.0201	0.0295	0.0160	-0.2841	0.0359	-0.1963	0.1465
2	330.12	0.5551	-0.2065	0.0020	0.0115	0.0166	-0.4099	0.0412	-0.2560	0.0607
2	330.12	0.5996	-0.2560	0.0024	0.0001	0.0179	-0.5451	0.0462	-0.3129	0.0660
2	330.12	0.6497	-0.2839	0.0033	-0.0085	0.0205	-0.7336	0.0541	-0.2604	0.0507
2	330.12	0.6996	-0.3329	0.0033	-0.0237	0.0236	-0.9851	0.0643	-0.4226	0.0567
2	330.12	0.7495	-0.3795	0.0032	-0.0554	0.0274	-1.2228	0.0688	-0.2605	0.0487
2	330.12	0.7996	-0.4299	0.0032	-0.0921	0.0305	-1.5395	0.0761	-0.4033	0.0502
2	330.12	0.8578	-0.5125	0.0030	-0.1238	0.0333	-1.9043	0.0810	-0.1370	0.0475
2	330.12	0.9100	-0.5631	0.0034	-0.1275	0.0366	-2.2906	0.0873	-0.2192	0.0474
2	330.12	0.9727	-0.6420	0.0037	-0.0835	0.0400	-2.6819	0.0966	0.0621	0.0441

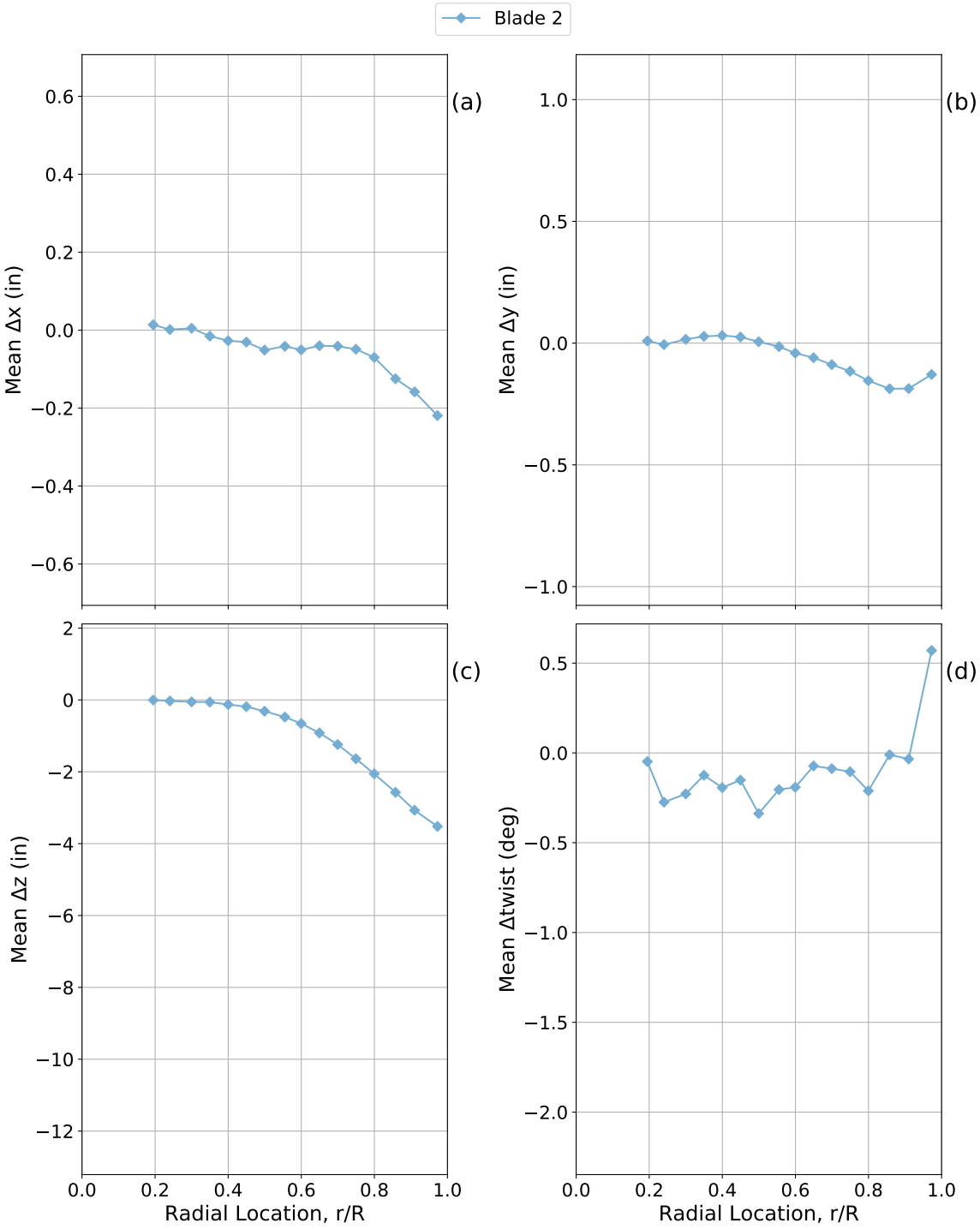


Figure 4.5-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0136	0.0037	0.0088	0.0009	-0.0046	0.0022	-0.0482	0.0192
2	344.88	0.2405	0.0014	0.0017	-0.0062	0.0012	-0.0290	0.0049	-0.2742	0.0353
2	344.88	0.2999	0.0048	0.0014	0.0155	0.0028	-0.0551	0.0097	-0.2283	0.0488
2	344.88	0.3498	-0.0155	0.0031	0.0276	0.0050	-0.0609	0.0162	-0.1243	0.0569
2	344.88	0.3998	-0.0272	0.0032	0.0311	0.0071	-0.1286	0.0257	-0.1934	0.0300
2	344.88	0.4496	-0.0308	0.0023	0.0249	0.0084	-0.1886	0.0302	-0.1515	0.0391
2	344.88	0.4995	-0.0512	0.0033	0.0058	0.0103	-0.3154	0.0368	-0.3378	0.0372
2	344.88	0.5551	-0.0415	0.0023	-0.0146	0.0111	-0.4776	0.0415	-0.2042	0.0454
2	344.88	0.5996	-0.0507	0.0031	-0.0412	0.0123	-0.6573	0.0482	-0.1912	0.0481
2	344.88	0.6497	-0.0401	0.0039	-0.0600	0.0127	-0.9186	0.0542	-0.0727	0.0348
2	344.88	0.6996	-0.0411	0.0051	-0.0885	0.0144	-1.2421	0.0566	-0.0876	0.0575
2	344.88	0.7495	-0.0491	0.0062	-0.1155	0.0157	-1.6375	0.0611	-0.1048	0.0535
2	344.88	0.7996	-0.0700	0.0107	-0.1545	0.0159	-2.0567	0.0645	-0.2114	0.0765
2	344.88	0.8578	-0.1249	0.0145	-0.1874	0.0190	-2.5726	0.0679	-0.0102	0.0977
2	344.88	0.9100	-0.1584	0.0185	-0.1868	0.0201	-3.0716	0.0725	-0.0339	0.1526
2	344.88	0.9727	-0.2193	0.0329	-0.1288	0.0220	-3.5212	0.1229	0.5703	0.4368

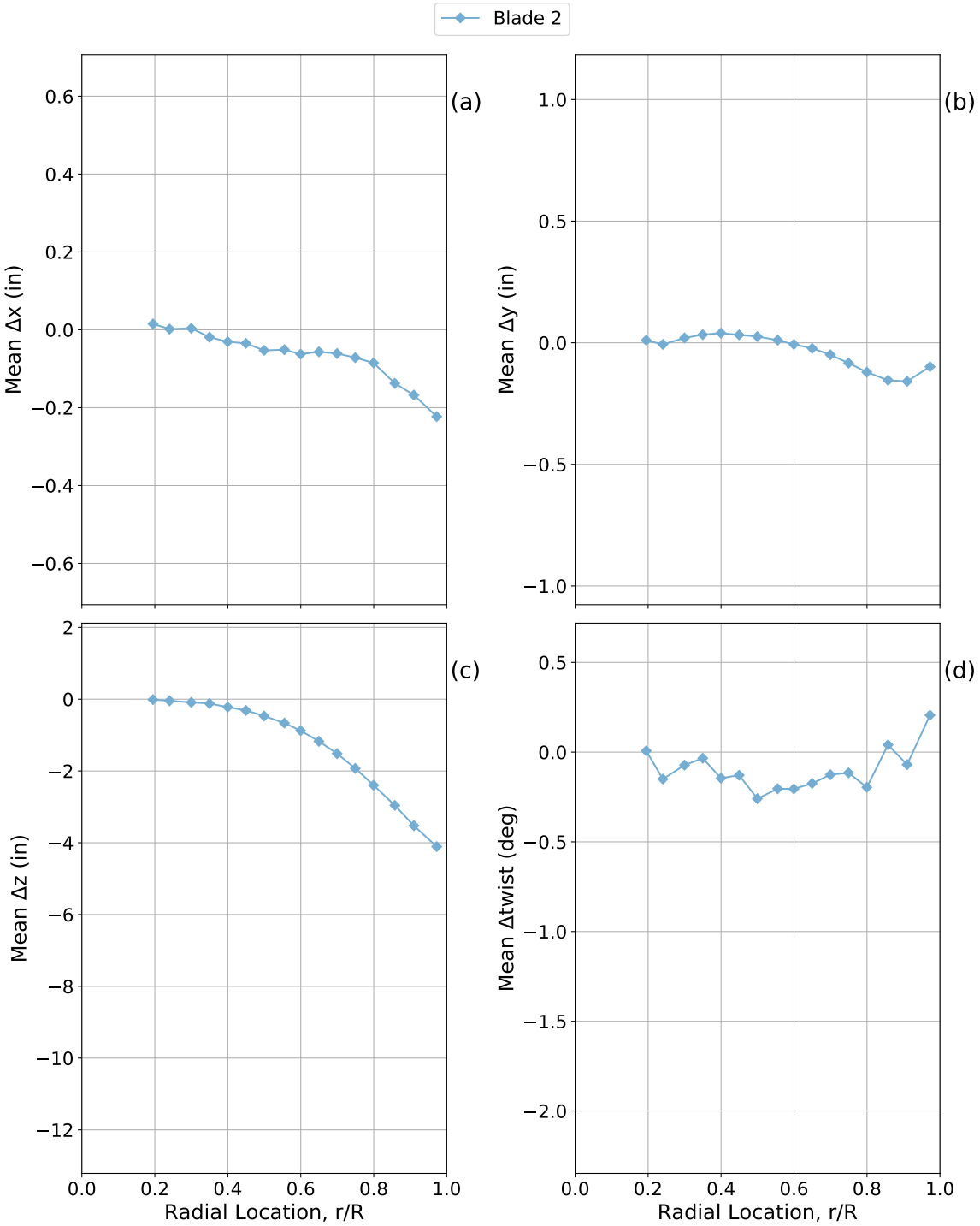


Figure 4.5-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.151$, $\alpha = -0°$
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0152	0.0026	0.0103	0.0011	-0.0124	0.0027	0.0071	0.0121
2	350.16	0.2405	0.0018	0.0011	-0.0068	0.0015	-0.0445	0.0036	-0.1500	0.0373
2	350.16	0.2999	0.0038	0.0012	0.0197	0.0047	-0.0890	0.0094	-0.0726	0.0363
2	350.16	0.3498	-0.0190	0.0024	0.0334	0.0069	-0.1208	0.0151	-0.0340	0.0387
2	350.16	0.3998	-0.0307	0.0044	0.0396	0.0112	-0.2203	0.0229	-0.1450	0.0357
2	350.16	0.4496	-0.0349	0.0046	0.0324	0.0127	-0.3119	0.0284	-0.1285	0.0427
2	350.16	0.4995	-0.0530	0.0052	0.0256	0.0153	-0.4682	0.0358	-0.2592	0.0422
2	350.16	0.5551	-0.0513	0.0059	0.0108	0.0188	-0.6653	0.0424	-0.2040	0.0458
2	350.16	0.5996	-0.0627	0.0057	-0.0069	0.0217	-0.8761	0.0506	-0.2050	0.0375
2	350.16	0.6497	-0.0568	0.0059	-0.0230	0.0241	-1.1745	0.0588	-0.1743	0.0466
2	350.16	0.6996	-0.0610	0.0066	-0.0494	0.0270	-1.5178	0.0658	-0.1256	0.0366
2	350.16	0.7495	-0.0717	0.0066	-0.0837	0.0293	-1.9286	0.0740	-0.1153	0.0366
2	350.16	0.7996	-0.0852	0.0078	-0.1208	0.0327	-2.3957	0.0792	-0.1958	0.0665
2	350.16	0.8578	-0.1375	0.0109	-0.1543	0.0362	-2.9584	0.0896	0.0406	0.0683
2	350.16	0.9100	-0.1675	0.0115	-0.1588	0.0394	-3.5241	0.1010	-0.0696	0.0693
2	350.16	0.9727	-0.2229	0.0145	-0.0985	0.0424	-4.1075	0.1127	0.2062	0.1261

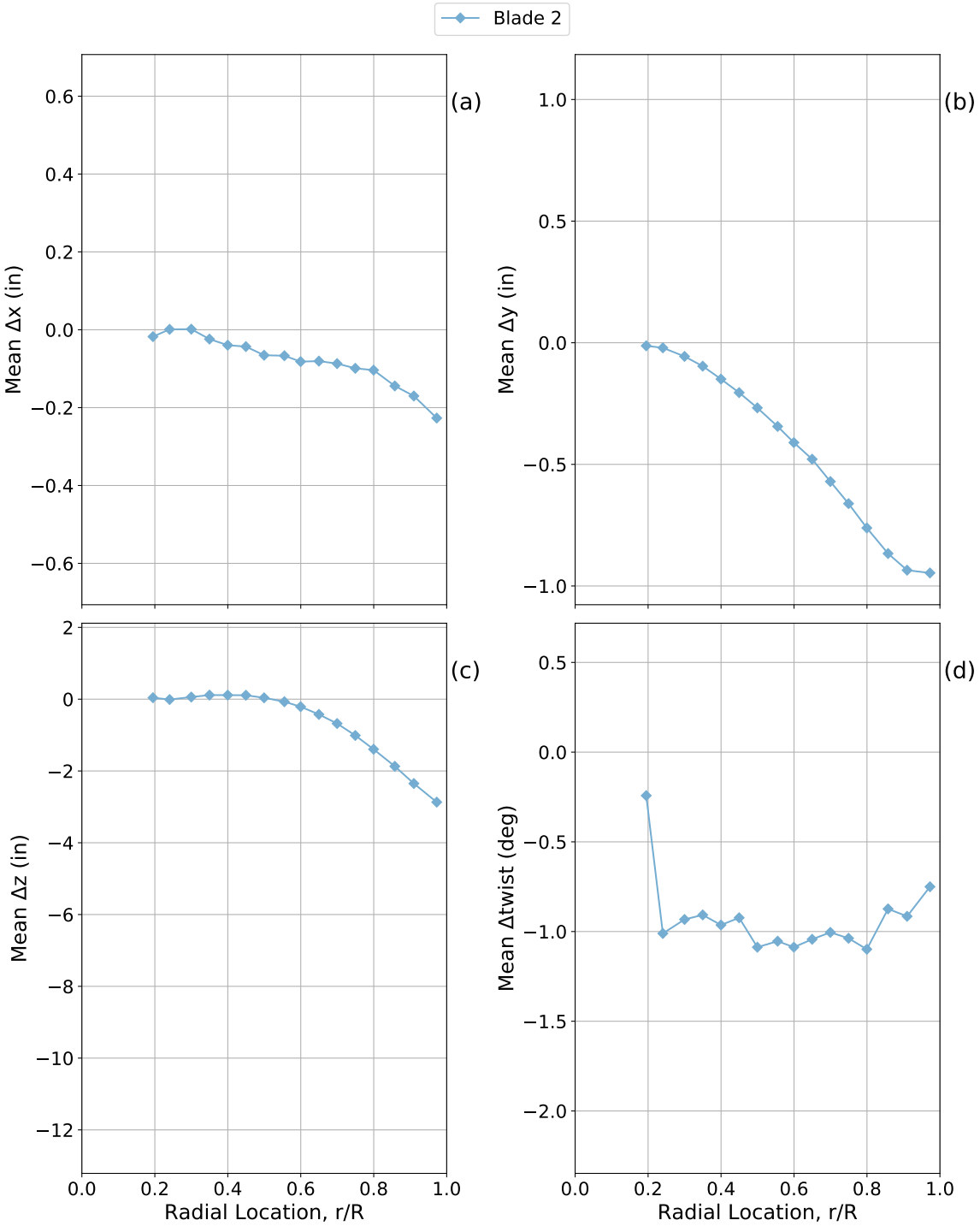


Figure 4.5-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.151, α = -0° NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Table 4.5-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.151, α = -0°
NFAC run 47, point 8. BD run 22, points 2208 to 2218.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0176	0.0020	-0.0126	0.0013	0.0409	0.0036	-0.2424	0.0197
2	355.08	0.2405	0.0011	0.0012	-0.0209	0.0012	-0.0102	0.0044	-1.0107	0.0397
2	355.08	0.2999	0.0015	0.0014	-0.0562	0.0044	0.0595	0.0119	-0.9327	0.0483
2	355.08	0.3498	-0.0240	0.0012	-0.0963	0.0074	0.1137	0.0186	-0.9074	0.0457
2	355.08	0.3998	-0.0396	0.0022	-0.1495	0.0109	0.1127	0.0281	-0.9637	0.0417
2	355.08	0.4496	-0.0432	0.0016	-0.2051	0.0133	0.1093	0.0342	-0.9232	0.0440
2	355.08	0.4995	-0.0654	0.0013	-0.2677	0.0155	0.0385	0.0394	-1.0874	0.0428
2	355.08	0.5551	-0.0667	0.0014	-0.3440	0.0193	-0.0707	0.0480	-1.0538	0.0453
2	355.08	0.5996	-0.0818	0.0018	-0.4104	0.0210	-0.2094	0.0554	-1.0872	0.0286
2	355.08	0.6497	-0.0805	0.0018	-0.4787	0.0244	-0.4245	0.0637	-1.0432	0.0490
2	355.08	0.6996	-0.0869	0.0013	-0.5705	0.0278	-0.6784	0.0707	-1.0047	0.0504
2	355.08	0.7495	-0.0990	0.0020	-0.6614	0.0295	-1.0110	0.0790	-1.0377	0.0396
2	355.08	0.7996	-0.1037	0.0019	-0.7614	0.0331	-1.3951	0.0849	-1.0988	0.0421
2	355.08	0.8578	-0.1443	0.0015	-0.8665	0.0374	-1.8705	0.0958	-0.8738	0.0449
2	355.08	0.9100	-0.1701	0.0030	-0.9351	0.0406	-2.3499	0.1061	-0.9152	0.0625
2	355.08	0.9727	-0.2268	0.0050	-0.9464	0.0451	-2.8686	0.1168	-0.7503	0.0676

4.6 Run 50, Point 23

4.6.1 Pitch, Flap, and Lag

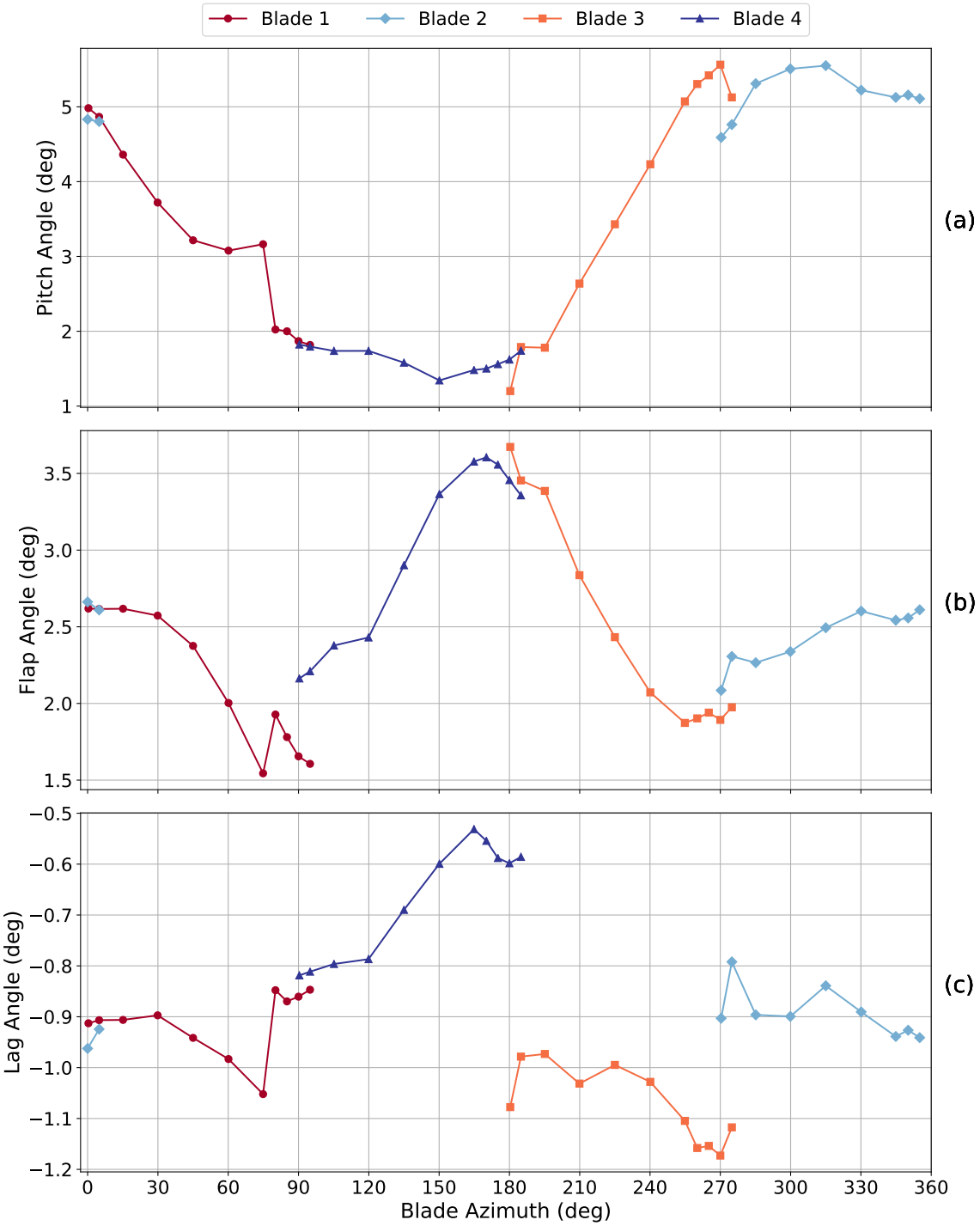


Figure 4.6-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.8321	2.6620	-0.9624	0.0712	0.0272	0.0219
0.35	1	4.9821	2.6188	-0.9128	0.0856	0.0161	0.0338
4.92	1	4.8658	2.6161	-0.9067	0.0823	0.0352	0.0214
4.92	2	4.8032	2.6096	-0.9244	0.0472	0.0461	0.0170
15.12	1	4.3605	2.6177	-0.9062	0.0653	0.0364	0.0177
29.88	1	3.7200	2.5730	-0.8972	0.0618	0.0220	0.0200
45	1	3.2161	2.3754	-0.9415	0.0514	0.0272	0.0146
60.12	1	3.0781	2.0031	-0.9831	0.0903	0.0233	0.0117
74.88	1	3.1634	1.5443	-1.0521	0.0887	0.0366	0.0193
80.16	1	2.0237	1.9279	-0.8478	0.0574	0.0176	0.0180
85.08	1	1.9999	1.7804	-0.8698	0.0339	0.0200	0.0146
90	1	1.8680	1.6551	-0.8605	0.0323	0.0215	0.0221
90.35	4	1.8222	2.1629	-0.8187	0.0222	0.0225	0.0217
94.92	1	1.8170	1.6061	-0.8469	0.0225	0.0156	0.0138
94.92	4	1.7949	2.2099	-0.8114	0.0301	0.0161	0.0181
105.12	4	1.7374	2.3777	-0.7963	0.0281	0.0173	0.0159
119.88	4	1.7377	2.4302	-0.7868	0.0166	0.0111	0.0120
135	4	1.5803	2.9011	-0.6899	0.0155	0.0199	0.0107
150.12	4	1.3430	3.3653	-0.5994	0.0196	0.0231	0.0159
164.88	4	1.4820	3.5773	-0.5313	0.0186	0.0231	0.0204
170.16	4	1.5012	3.6051	-0.5542	0.0197	0.0147	0.0207
175.08	4	1.5601	3.5572	-0.5880	0.0256	0.0192	0.0176
180	4	1.6216	3.4565	-0.5983	0.0381	0.0174	0.0213
180.35	3	1.2007	3.6729	-1.0776	0.0230	0.0192	0.0227
184.92	3	1.7895	3.4543	-0.9784	0.0264	0.0178	0.0160
184.92	4	1.7395	3.3572	-0.5858	0.0316	0.0260	0.0115
195.12	3	1.7802	3.3861	-0.9732	0.0326	0.0119	0.0171
209.88	3	2.6369	2.8364	-1.0314	0.0352	0.0175	0.0219
225	3	3.4300	2.4323	-0.9947	0.0208	0.0232	0.0092
240.12	3	4.2322	2.0720	-1.0280	0.0363	0.0299	0.0121
254.88	3	5.0713	1.8731	-1.1047	0.0524	0.0255	0.0234
260.16	3	5.3045	1.9027	-1.1580	0.0560	0.0334	0.0219
265.08	3	5.4203	1.9402	-1.1539	0.0674	0.0312	0.0176
270	3	5.5629	1.8929	-1.1729	0.1069	0.0410	0.0213
270.35	2	4.5902	2.0854	-0.9030	0.1150	0.0396	0.0178
274.92	2	4.7627	2.3067	-0.7921	0.0232	0.0239	0.0147
274.92	3	5.1260	1.9749	-1.1174	0.0603	0.0371	0.0235
285.12	2	5.3095	2.2658	-0.8963	0.0262	0.0683	0.0286
299.88	2	5.5069	2.3383	-0.8994	0.0443	0.0275	0.0237
315	2	5.5503	2.4937	-0.8391	0.0213	0.0154	0.0110
330.12	2	5.2220	2.6021	-0.8905	0.0422	0.0140	0.0071
344.88	2	5.1255	2.5427	-0.9388	0.0451	0.0304	0.0161
350.16	2	5.1575	2.5575	-0.9265	0.0338	0.0314	0.0156
355.08	2	5.1081	2.6107	-0.9411	0.0370	0.0269	0.0219

4.6.2 Spanwise Elastic Deformations

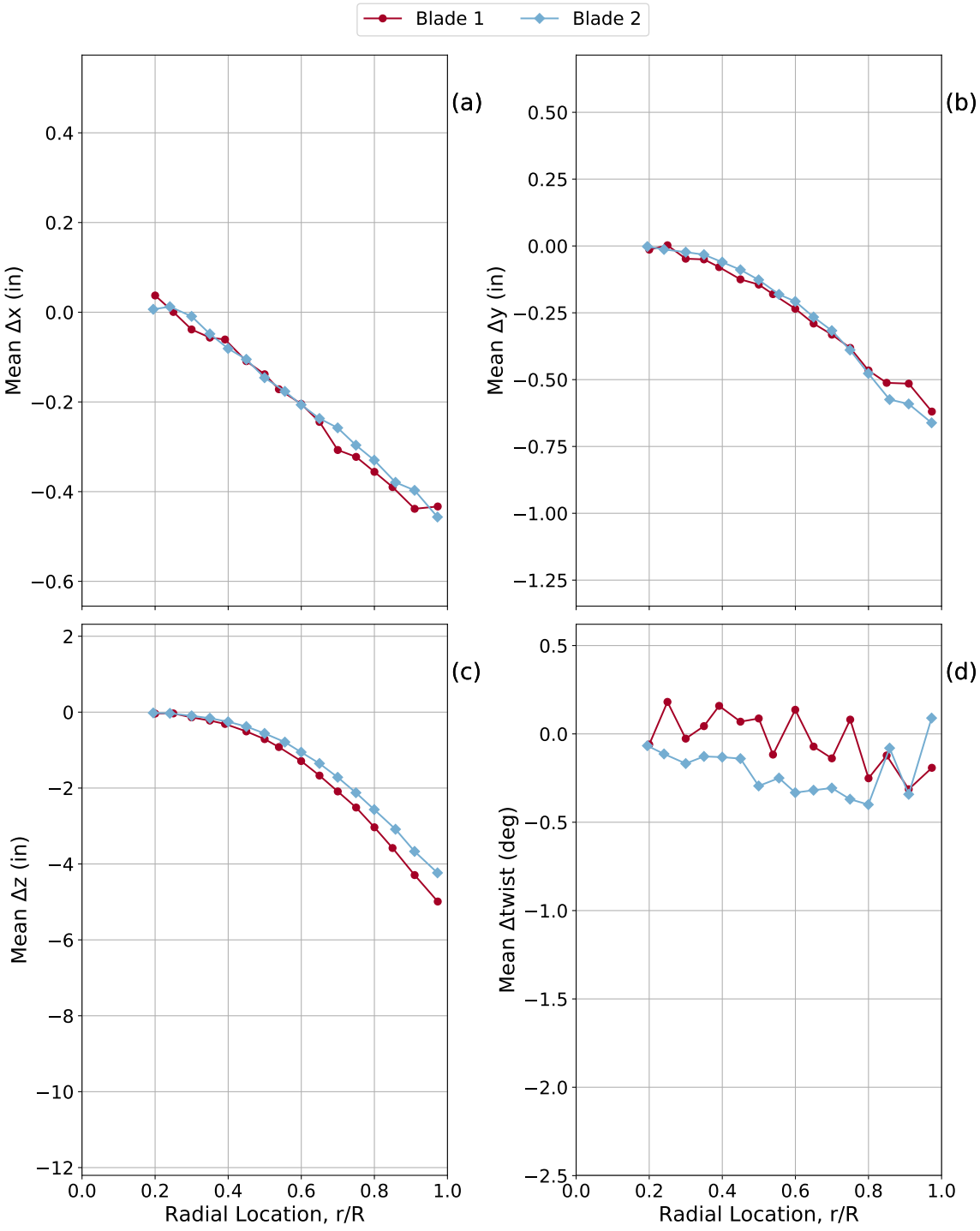


Figure 4.6-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0373	0.0038	-0.0138	0.0027	-0.0376	0.0044	-0.0600	0.0315
1	0.35	0.2499	0.0006	0.0021	0.0026	0.0044	-0.0339	0.0042	0.1812	0.0758
1	0.35	0.2998	-0.0384	0.0018	-0.0477	0.0091	-0.1383	0.0118	-0.0267	0.0731
1	0.35	0.3498	-0.0566	0.0022	-0.0502	0.0159	-0.2218	0.0186	0.0439	0.0625
1	0.35	0.3913	-0.0608	0.0027	-0.0791	0.0216	-0.3110	0.0234	0.1587	0.0729
1	0.35	0.4496	-0.1091	0.0027	-0.1249	0.0284	-0.5078	0.0290	0.0692	0.0821
1	0.35	0.4997	-0.1383	0.0027	-0.1444	0.0342	-0.7106	0.0350	0.0873	0.0850
1	0.35	0.5387	-0.1717	0.0026	-0.1802	0.0397	-0.9199	0.0409	-0.1173	0.0849
1	0.35	0.5996	-0.2043	0.0026	-0.2348	0.0485	-1.2884	0.0474	0.1366	0.0819
1	0.35	0.6498	-0.2445	0.0032	-0.2902	0.0552	-1.6708	0.0529	-0.0717	0.0823
1	0.35	0.6998	-0.3072	0.0029	-0.3318	0.0595	-2.0894	0.0583	-0.1384	0.0794
1	0.35	0.7500	-0.3225	0.0035	-0.3814	0.0680	-2.5129	0.0660	0.0809	0.0778
1	0.35	0.8001	-0.3559	0.0033	-0.4657	0.0741	-3.0343	0.0737	-0.2513	0.0617
1	0.35	0.8497	-0.3898	0.0043	-0.5120	0.0818	-3.5800	0.0787	-0.1222	0.0920
1	0.35	0.9102	-0.4383	0.0044	-0.5150	0.0897	-4.2931	0.0864	-0.3133	0.1158
1	0.35	0.9734	-0.4331	0.0064	-0.6195	0.0958	-4.9899	0.1056	-0.1919	0.1388
2	0	0.1949	0.0065	0.0036	-0.0021	0.0020	-0.0206	0.0029	-0.0670	0.0323
2	0	0.2405	0.0124	0.0019	-0.0130	0.0033	-0.0315	0.0060	-0.1135	0.0698
2	0	0.2999	-0.0092	0.0013	-0.0230	0.0056	-0.0966	0.0119	-0.1678	0.0844
2	0	0.3498	-0.0483	0.0011	-0.0324	0.0106	-0.1596	0.0199	-0.1276	0.0716
2	0	0.3998	-0.0810	0.0019	-0.0605	0.0147	-0.2530	0.0307	-0.1316	0.0656
2	0	0.4496	-0.1050	0.0019	-0.0891	0.0190	-0.3790	0.0373	-0.1399	0.0740
2	0	0.4995	-0.1460	0.0020	-0.1268	0.0233	-0.5604	0.0479	-0.2946	0.0714
2	0	0.5551	-0.1765	0.0023	-0.1811	0.0270	-0.7892	0.0611	-0.2498	0.0655
2	0	0.5996	-0.2064	0.0024	-0.2075	0.0321	-1.0549	0.0693	-0.3323	0.0735
2	0	0.6497	-0.2369	0.0020	-0.2659	0.0370	-1.3526	0.0827	-0.3187	0.0679
2	0	0.6996	-0.2578	0.0025	-0.3168	0.0426	-1.7164	0.0919	-0.3063	0.0777
2	0	0.7495	-0.2965	0.0028	-0.3893	0.0461	-2.1228	0.1037	-0.3696	0.0730
2	0	0.7996	-0.3299	0.0031	-0.4770	0.0510	-2.5671	0.1073	-0.4002	0.0842
2	0	0.8578	-0.3793	0.0043	-0.5745	0.0561	-3.0857	0.1163	-0.0803	0.0944
2	0	0.9100	-0.3971	0.0040	-0.5910	0.0607	-3.6696	0.1267	-0.3420	0.1090
2	0	0.9727	-0.4566	0.0091	-0.6616	0.0640	-4.2344	0.1332	0.0897	0.0738

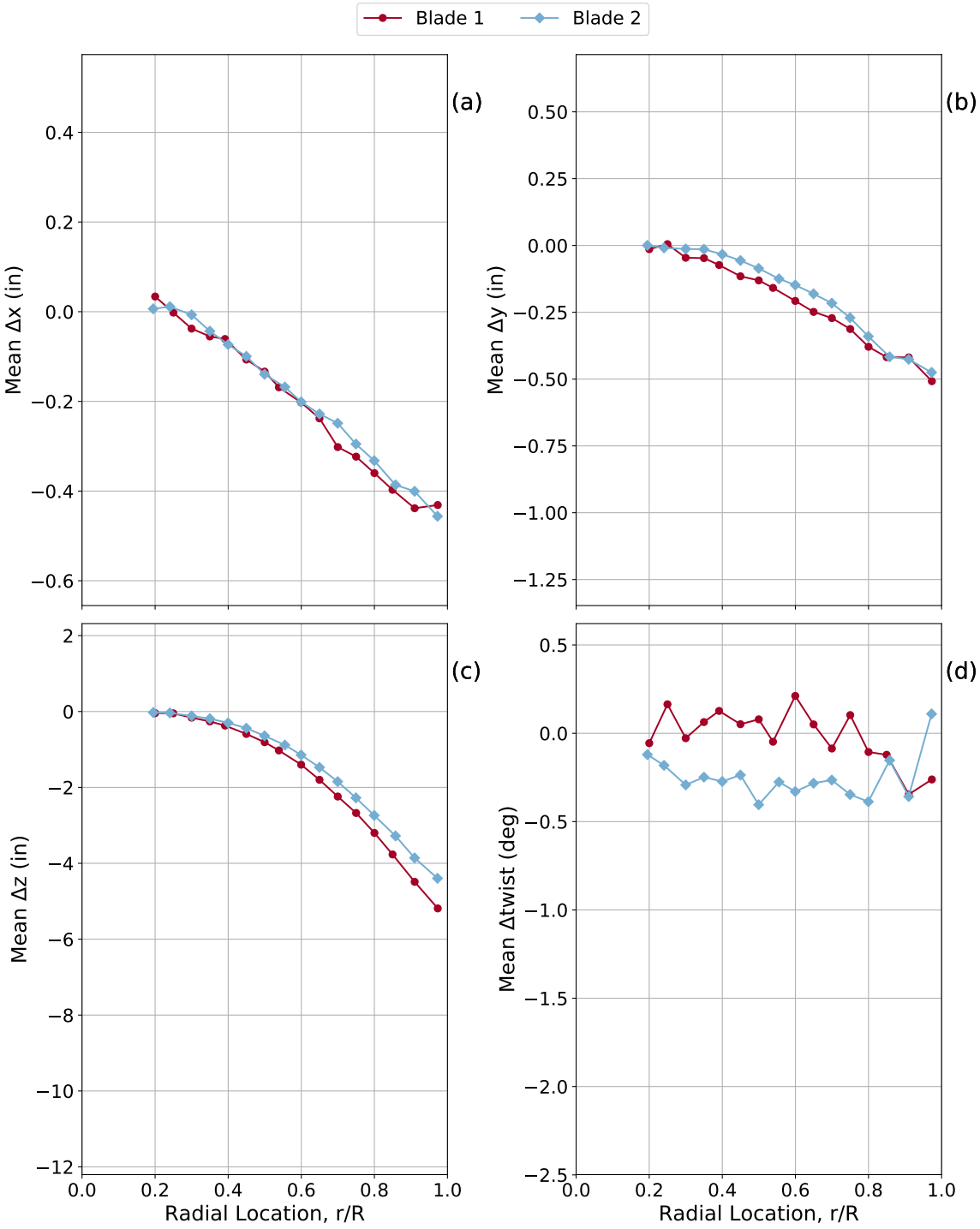


Figure 4.6-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0338	0.0048	-0.0139	0.0023	-0.0427	0.0036	-0.0561	0.0327
1	4.92	0.2499	-0.0020	0.0019	0.0049	0.0038	-0.0478	0.0063	0.1640	0.0678
1	4.92	0.2998	-0.0377	0.0016	-0.0460	0.0084	-0.1617	0.0117	-0.0280	0.0745
1	4.92	0.3498	-0.0552	0.0017	-0.0474	0.0157	-0.2617	0.0201	0.0634	0.0765
1	4.92	0.3913	-0.0609	0.0024	-0.0733	0.0212	-0.3706	0.0278	0.1266	0.0754
1	4.92	0.4496	-0.1067	0.0027	-0.1153	0.0272	-0.5908	0.0360	0.0512	0.0704
1	4.92	0.4997	-0.1336	0.0025	-0.1308	0.0322	-0.8090	0.0450	0.0788	0.0724
1	4.92	0.5387	-0.1686	0.0024	-0.1587	0.0369	-1.0255	0.0517	-0.0478	0.0737
1	4.92	0.5996	-0.2024	0.0027	-0.2075	0.0440	-1.4006	0.0633	0.2115	0.0832
1	4.92	0.6498	-0.2379	0.0024	-0.2486	0.0507	-1.7994	0.0744	0.0503	0.0766
1	4.92	0.6998	-0.3019	0.0028	-0.2718	0.0541	-2.2402	0.0828	-0.0863	0.0920
1	4.92	0.7500	-0.3233	0.0026	-0.3126	0.0601	-2.6737	0.0921	0.1030	0.0808
1	4.92	0.8001	-0.3600	0.0022	-0.3792	0.0669	-3.1998	0.0987	-0.1061	0.0852
1	4.92	0.8497	-0.3972	0.0026	-0.4179	0.0721	-3.7672	0.1109	-0.1219	0.0712
1	4.92	0.9102	-0.4383	0.0036	-0.4188	0.0785	-4.4878	0.1223	-0.3458	0.0871
1	4.92	0.9734	-0.4311	0.0053	-0.5079	0.0820	-5.1888	0.1353	-0.2615	0.1007
2	4.92	0.1949	0.0064	0.0032	0.0003	0.0019	-0.0267	0.0026	-0.1209	0.0295
2	4.92	0.2405	0.0113	0.0019	-0.0091	0.0022	-0.0368	0.0068	-0.1816	0.0408
2	4.92	0.2999	-0.0069	0.0014	-0.0130	0.0057	-0.1177	0.0094	-0.2923	0.0569
2	4.92	0.3498	-0.0433	0.0015	-0.0143	0.0093	-0.1892	0.0164	-0.2484	0.0463
2	4.92	0.3998	-0.0733	0.0019	-0.0332	0.0136	-0.2997	0.0258	-0.2729	0.0430
2	4.92	0.4496	-0.0996	0.0018	-0.0563	0.0177	-0.4388	0.0319	-0.2364	0.0387
2	4.92	0.4995	-0.1395	0.0021	-0.0858	0.0216	-0.6410	0.0417	-0.4045	0.0433
2	4.92	0.5551	-0.1680	0.0017	-0.1248	0.0256	-0.8833	0.0534	-0.2757	0.0340
2	4.92	0.5996	-0.2012	0.0022	-0.1480	0.0284	-1.1458	0.0612	-0.3299	0.0454
2	4.92	0.6497	-0.2280	0.0022	-0.1809	0.0316	-1.4710	0.0705	-0.2828	0.0374
2	4.92	0.6996	-0.2487	0.0028	-0.2160	0.0353	-1.8477	0.0799	-0.2646	0.0518
2	4.92	0.7495	-0.2951	0.0028	-0.2705	0.0375	-2.2748	0.0934	-0.3468	0.0576
2	4.92	0.7996	-0.3323	0.0044	-0.3404	0.0433	-2.7382	0.1014	-0.3874	0.0643
2	4.92	0.8578	-0.3863	0.0043	-0.4168	0.0459	-3.2787	0.1181	-0.1530	0.0318
2	4.92	0.9100	-0.4005	0.0023	-0.4261	0.0512	-3.8577	0.1248	-0.3581	0.0852
2	4.92	0.9727	-0.4562	0.0054	-0.4751	0.0555	-4.3964	0.1393	0.1097	0.0714

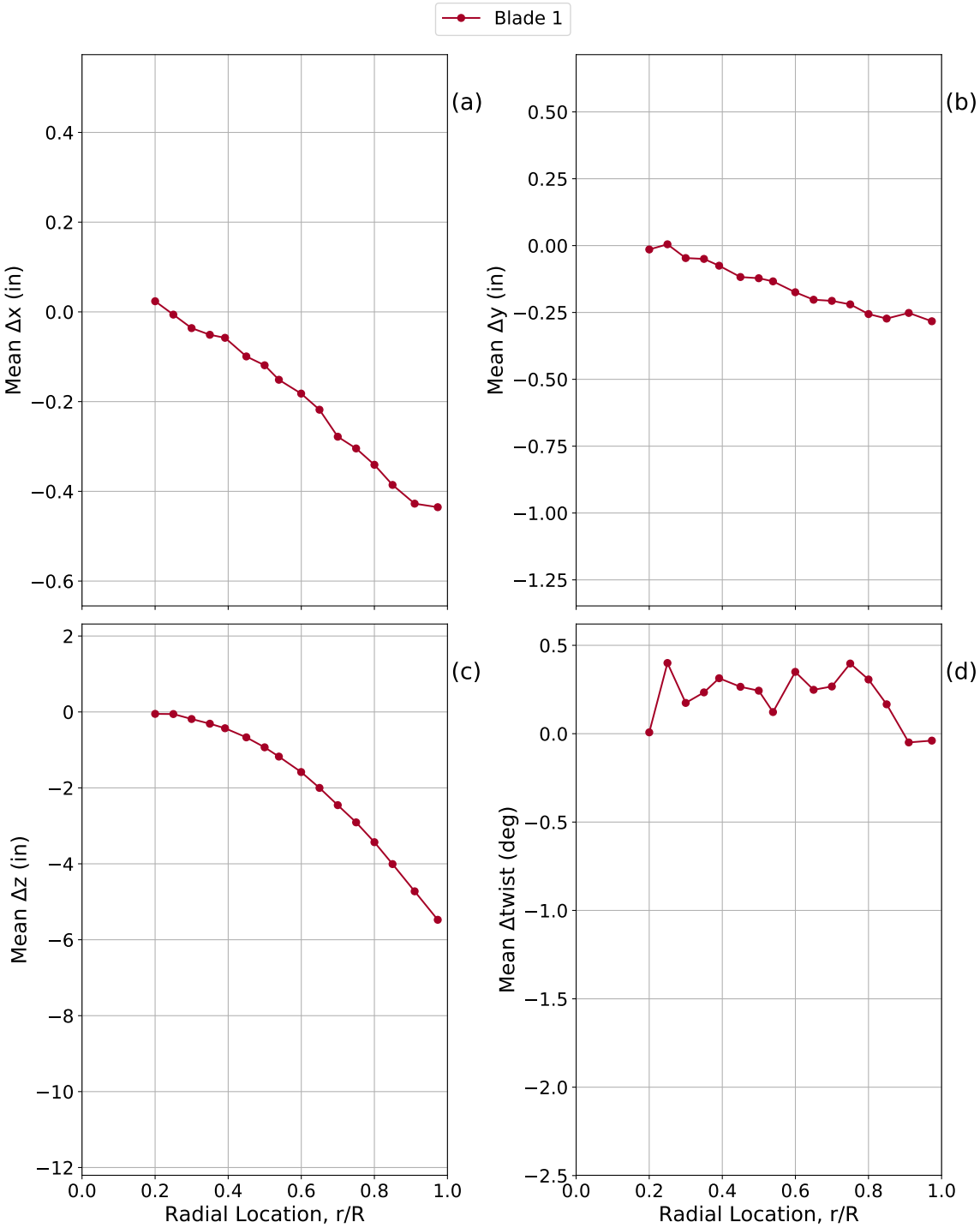


Figure 4.6-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0237	0.0040	-0.0145	0.0020	-0.0514	0.0033	0.0076	0.0274
1	15.12	0.2499	-0.0061	0.0009	0.0049	0.0034	-0.0555	0.0058	0.4000	0.0573
1	15.12	0.2998	-0.0362	0.0015	-0.0466	0.0076	-0.1862	0.0115	0.1741	0.0669
1	15.12	0.3498	-0.0510	0.0025	-0.0498	0.0134	-0.3099	0.0190	0.2337	0.0561
1	15.12	0.3913	-0.0578	0.0033	-0.0752	0.0186	-0.4295	0.0269	0.3138	0.0556
1	15.12	0.4496	-0.0993	0.0027	-0.1175	0.0232	-0.6694	0.0321	0.2653	0.0543
1	15.12	0.4997	-0.1190	0.0021	-0.1220	0.0279	-0.9318	0.0391	0.2433	0.0560
1	15.12	0.5387	-0.1513	0.0021	-0.1337	0.0321	-1.1760	0.0458	0.1224	0.0583
1	15.12	0.5996	-0.1821	0.0021	-0.1744	0.0371	-1.5832	0.0528	0.3498	0.0512
1	15.12	0.6498	-0.2181	0.0019	-0.2024	0.0429	-2.0009	0.0609	0.2483	0.0569
1	15.12	0.6998	-0.2782	0.0023	-0.2066	0.0467	-2.4549	0.0672	0.2671	0.0573
1	15.12	0.7500	-0.3044	0.0025	-0.2198	0.0511	-2.9086	0.0747	0.3970	0.0549
1	15.12	0.8001	-0.3408	0.0024	-0.2560	0.0556	-3.4307	0.0800	0.3067	0.0588
1	15.12	0.8497	-0.3857	0.0027	-0.2729	0.0600	-4.0074	0.0850	0.1662	0.0598
1	15.12	0.9102	-0.4274	0.0029	-0.2518	0.0663	-4.7247	0.0932	-0.0494	0.0650
1	15.12	0.9734	-0.4353	0.0045	-0.2829	0.0723	-5.4747	0.1047	-0.0392	0.0699

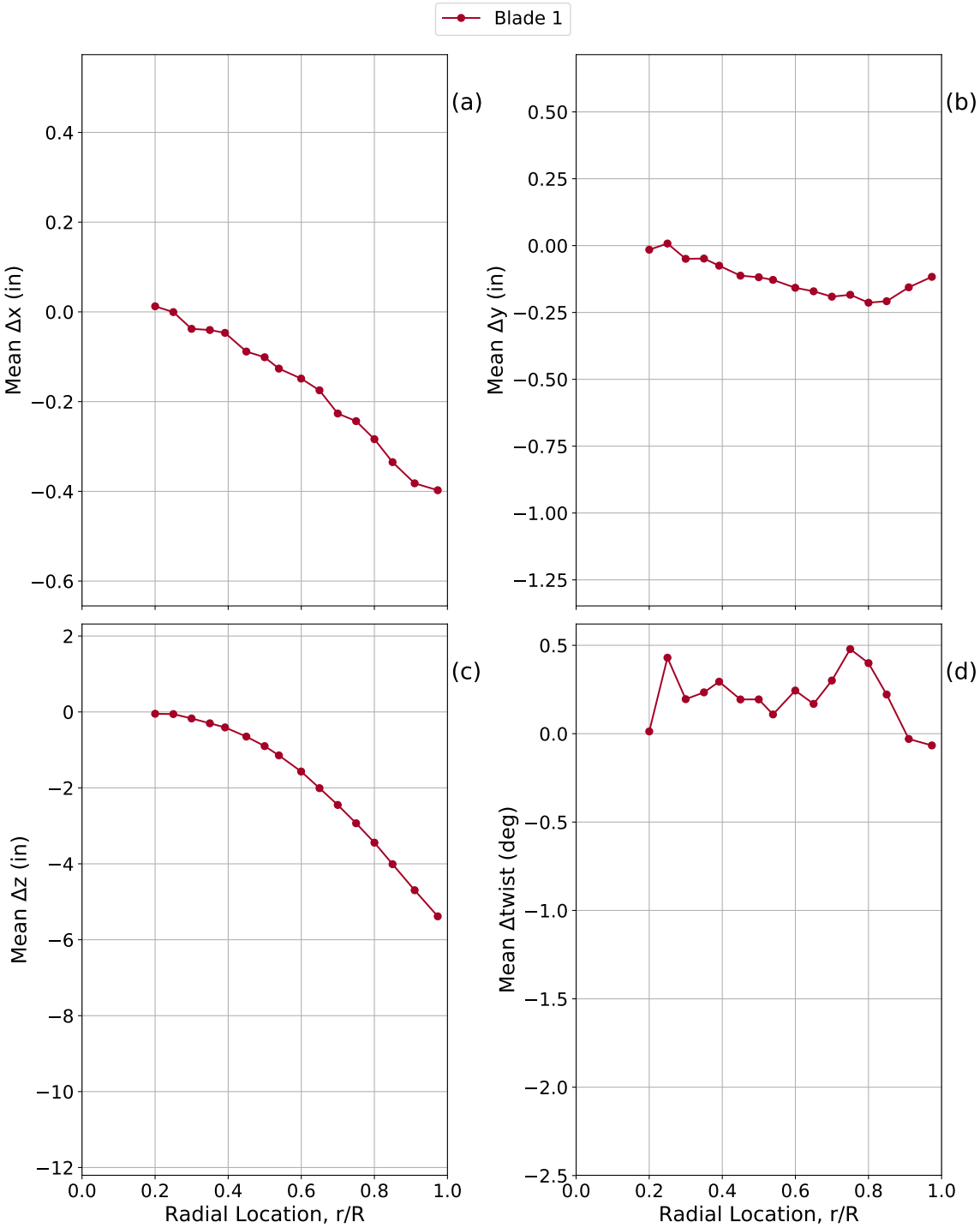


Figure 4.6-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0124	0.0033	-0.0154	0.0012	-0.0481	0.0028	0.0128	0.0260
1	29.88	0.2499	-0.0005	0.0016	0.0077	0.0012	-0.0568	0.0054	0.4301	0.0571
1	29.88	0.2998	-0.0378	0.0014	-0.0494	0.0035	-0.1718	0.0105	0.1954	0.0653
1	29.88	0.3498	-0.0404	0.0016	-0.0485	0.0062	-0.2989	0.0186	0.2338	0.0620
1	29.88	0.3913	-0.0468	0.0020	-0.0751	0.0079	-0.4078	0.0259	0.2943	0.0553
1	29.88	0.4496	-0.0884	0.0018	-0.1124	0.0109	-0.6491	0.0348	0.1938	0.0587
1	29.88	0.4997	-0.1011	0.0023	-0.1183	0.0129	-0.9002	0.0431	0.1941	0.0567
1	29.88	0.5387	-0.1264	0.0022	-0.1282	0.0159	-1.1441	0.0478	0.1089	0.0592
1	29.88	0.5996	-0.1487	0.0022	-0.1577	0.0181	-1.5691	0.0530	0.2441	0.0540
1	29.88	0.6498	-0.1748	0.0019	-0.1709	0.0206	-2.0073	0.0579	0.1687	0.0581
1	29.88	0.6998	-0.2265	0.0018	-0.1910	0.0237	-2.4497	0.0625	0.3008	0.0561
1	29.88	0.7500	-0.2435	0.0020	-0.1839	0.0264	-2.9321	0.0691	0.4788	0.0580
1	29.88	0.8001	-0.2837	0.0022	-0.2134	0.0291	-3.4430	0.0767	0.3993	0.0550
1	29.88	0.8497	-0.3349	0.0027	-0.2080	0.0312	-4.0100	0.0828	0.2217	0.0608
1	29.88	0.9102	-0.3821	0.0029	-0.1560	0.0346	-4.6959	0.0938	-0.0298	0.0681
1	29.88	0.9734	-0.3975	0.0032	-0.1168	0.0387	-5.3838	0.1031	-0.0664	0.0793

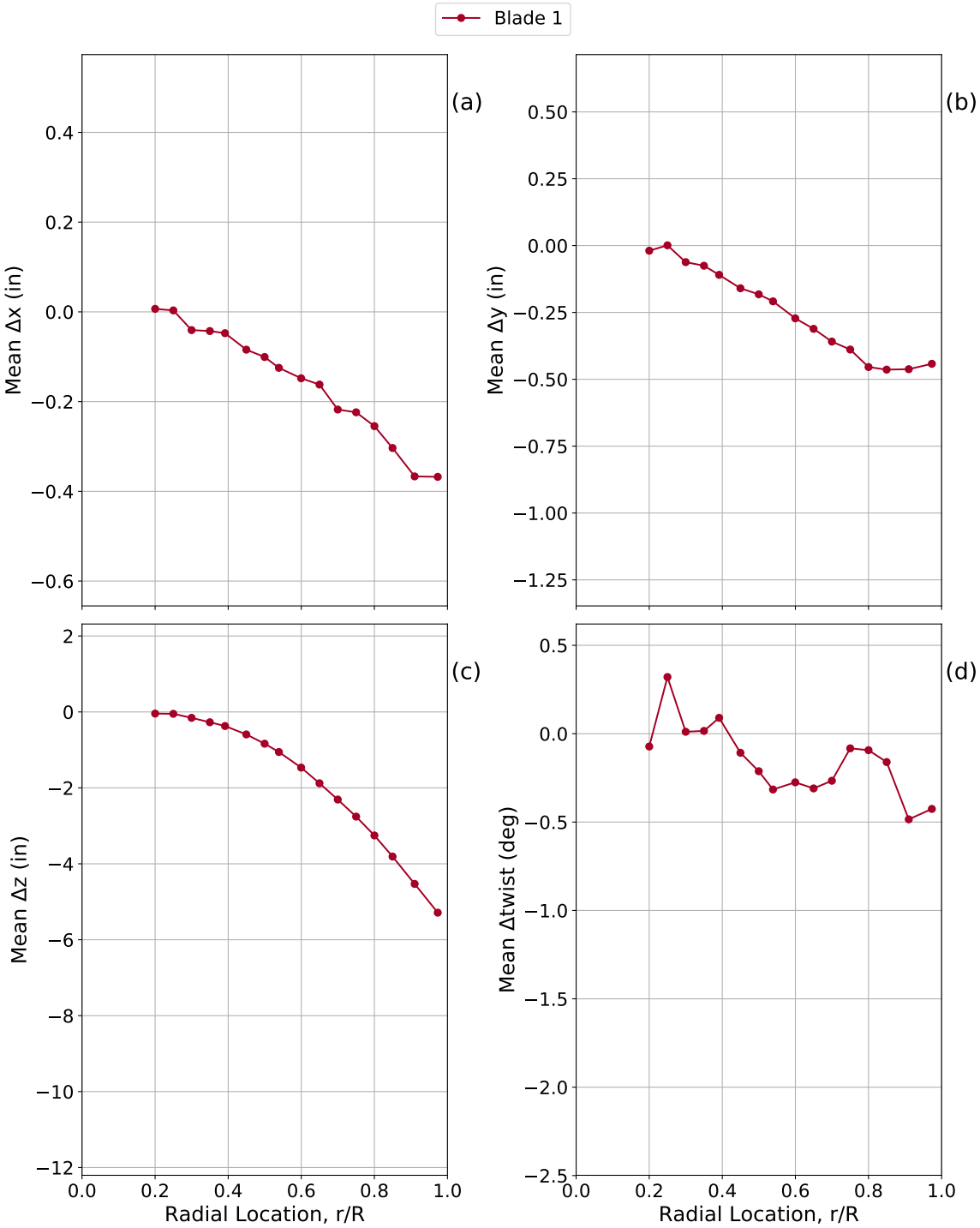


Figure 4.6-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0067	0.0027	-0.0191	0.0014	-0.0430	0.0028	-0.0725	0.0193
1	45	0.2499	0.0033	0.0012	0.0011	0.0015	-0.0494	0.0042	0.3206	0.0495
1	45	0.2998	-0.0406	0.0011	-0.0619	0.0049	-0.1555	0.0084	0.0109	0.0496
1	45	0.3498	-0.0427	0.0012	-0.0753	0.0080	-0.2717	0.0150	0.0157	0.0447
1	45	0.3913	-0.0475	0.0017	-0.1094	0.0110	-0.3707	0.0199	0.0898	0.0395
1	45	0.4496	-0.0842	0.0022	-0.1596	0.0150	-0.5926	0.0264	-0.1081	0.0449
1	45	0.4997	-0.1006	0.0021	-0.1822	0.0183	-0.8365	0.0323	-0.2123	0.0448
1	45	0.5387	-0.1247	0.0030	-0.2084	0.0207	-1.0555	0.0373	-0.3158	0.0435
1	45	0.5996	-0.1480	0.0023	-0.2720	0.0245	-1.4663	0.0434	-0.2751	0.0465
1	45	0.6498	-0.1620	0.0024	-0.3113	0.0287	-1.8786	0.0485	-0.3096	0.0477
1	45	0.6998	-0.2177	0.0029	-0.3589	0.0321	-2.3076	0.0533	-0.2662	0.0460
1	45	0.7500	-0.2238	0.0025	-0.3887	0.0349	-2.7570	0.0594	-0.0829	0.0472
1	45	0.8001	-0.2547	0.0027	-0.4542	0.0401	-3.2535	0.0640	-0.0933	0.0540
1	45	0.8497	-0.3034	0.0024	-0.4638	0.0439	-3.8088	0.0706	-0.1605	0.0471
1	45	0.9102	-0.3667	0.0026	-0.4622	0.0487	-4.5291	0.0772	-0.4846	0.0519
1	45	0.9734	-0.3677	0.0035	-0.4420	0.0547	-5.2868	0.0835	-0.4256	0.0495

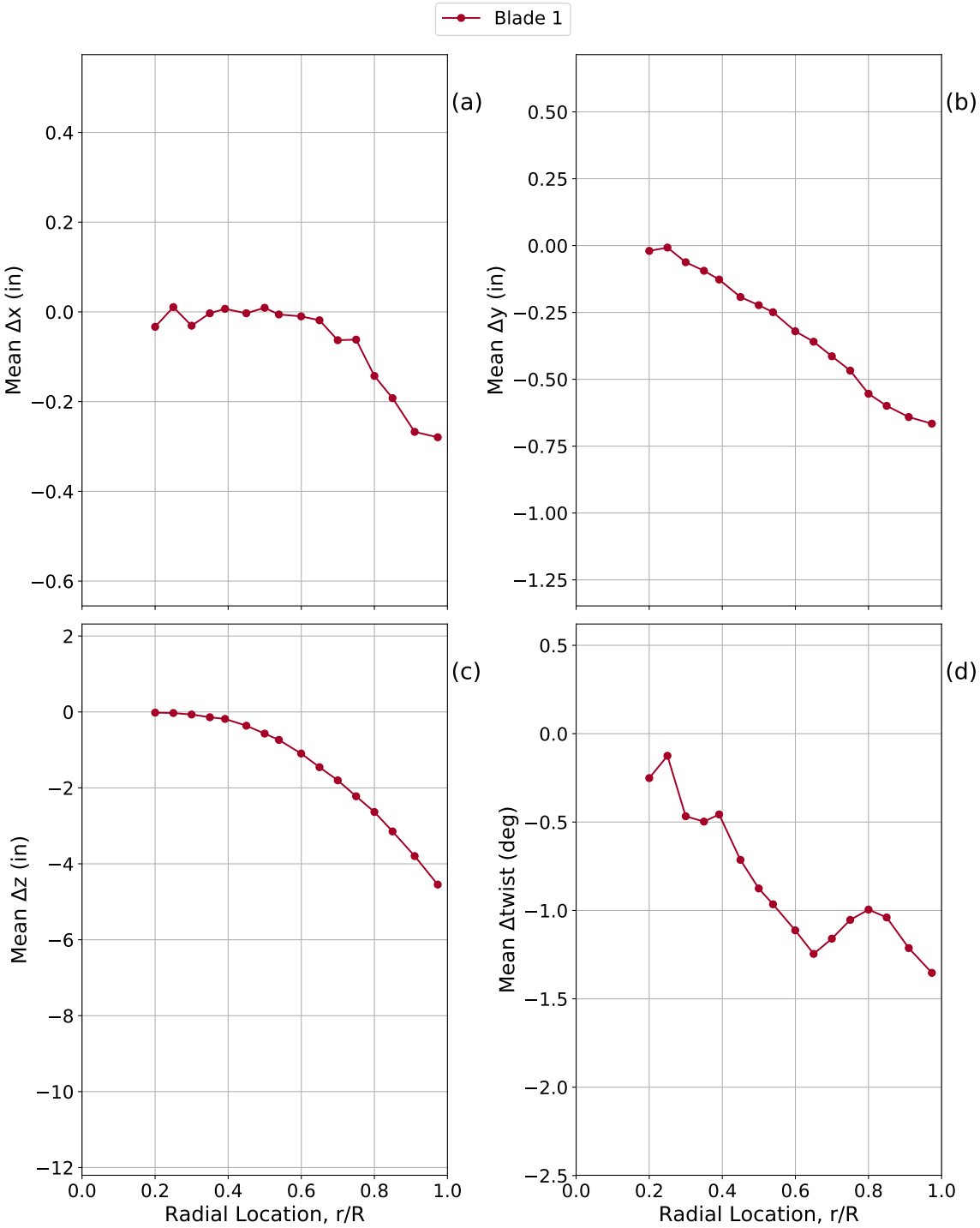


Figure 4.6-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0333	0.0019	-0.0198	0.0014	-0.0180	0.0042	-0.2512	0.0371
1	60.12	0.2499	0.0106	0.0012	-0.0074	0.0020	-0.0287	0.0065	-0.1250	0.0675
1	60.12	0.2998	-0.0308	0.0009	-0.0622	0.0046	-0.0681	0.0143	-0.4670	0.0860
1	60.12	0.3498	-0.0031	0.0023	-0.0941	0.0081	-0.1396	0.0243	-0.4973	0.0816
1	60.12	0.3913	0.0068	0.0036	-0.1269	0.0109	-0.1837	0.0333	-0.4568	0.0807
1	60.12	0.4496	-0.0031	0.0041	-0.1923	0.0152	-0.3626	0.0448	-0.7139	0.0814
1	60.12	0.4997	0.0092	0.0051	-0.2228	0.0188	-0.5704	0.0541	-0.8755	0.0839
1	60.12	0.5387	-0.0058	0.0054	-0.2490	0.0209	-0.7361	0.0610	-0.9651	0.0878
1	60.12	0.5996	-0.0100	0.0047	-0.3204	0.0248	-1.0955	0.0718	-1.1126	0.0785
1	60.12	0.6498	-0.0187	0.0054	-0.3593	0.0279	-1.4553	0.0814	-1.2458	0.0700
1	60.12	0.6998	-0.0631	0.0042	-0.4137	0.0299	-1.8020	0.0860	-1.1596	0.0743
1	60.12	0.7500	-0.0618	0.0030	-0.4675	0.0387	-2.2219	0.0979	-1.0535	0.1572
1	60.12	0.8001	-0.1428	0.0062	-0.5540	0.0548	-2.6357	0.0933	-0.9953	0.0829
1	60.12	0.8497	-0.1923	0.0061	-0.5991	0.0589	-3.1469	0.1009	-1.0396	0.0765
1	60.12	0.9102	-0.2674	0.0064	-0.6411	0.0628	-3.7959	0.1095	-1.2129	0.0747
1	60.12	0.9734	-0.2795	0.0064	-0.6658	0.0665	-4.5472	0.1146	-1.3530	0.0930

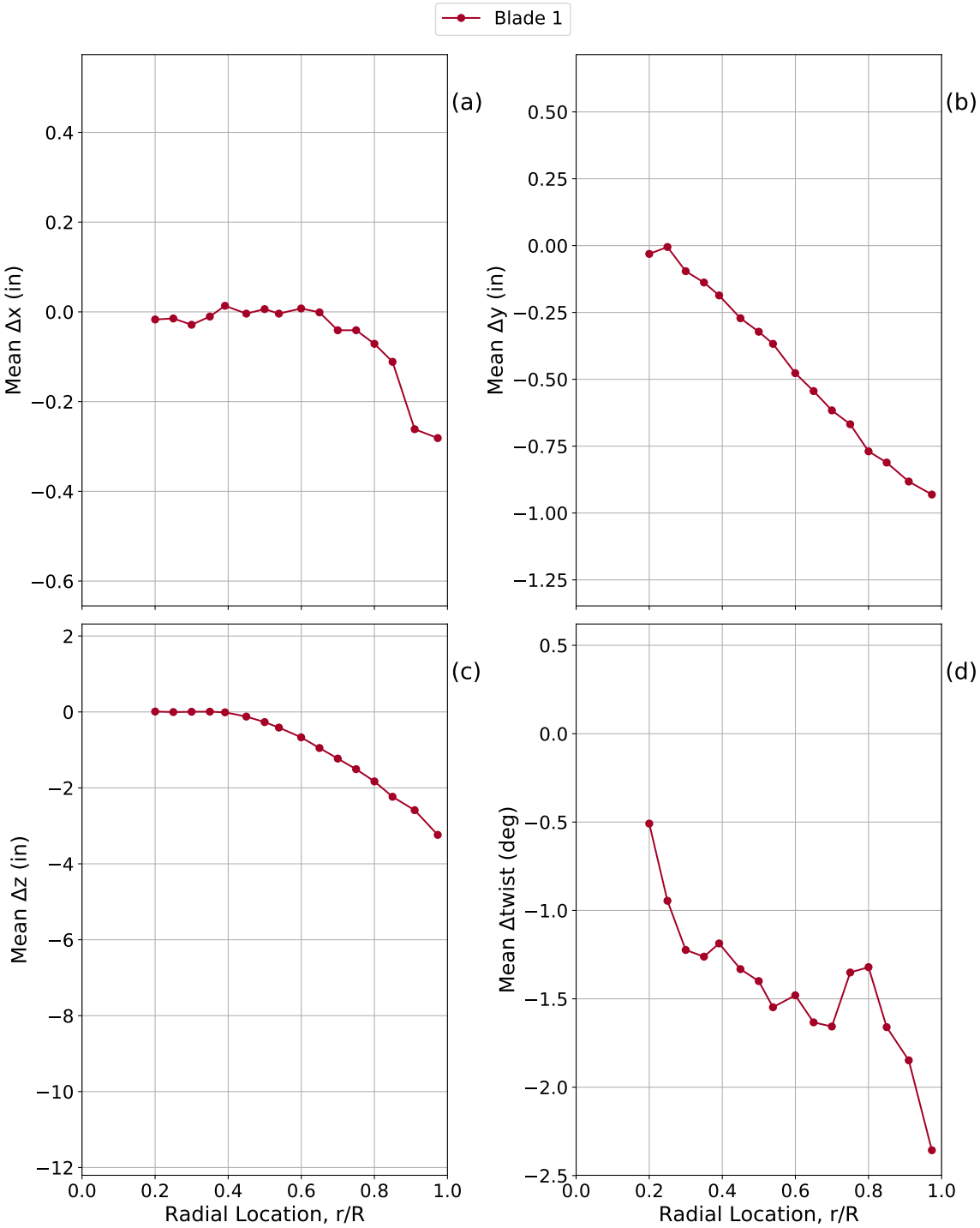


Figure 4.6-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0169	0.0023	-0.0310	0.0013	0.0105	0.0049	-0.5086	0.0390
1	74.88	0.2499	-0.0147	0.0010	-0.0052	0.0025	-0.0034	0.0075	-0.9453	0.0785
1	74.88	0.2998	-0.0287	0.0017	-0.0957	0.0050	0.0046	0.0156	-1.2236	0.0943
1	74.88	0.3498	-0.0104	0.0023	-0.1380	0.0087	0.0070	0.0280	-1.2615	0.0843
1	74.88	0.3913	0.0136	0.0041	-0.1864	0.0124	-0.0103	0.0375	-1.1867	0.0840
1	74.88	0.4496	-0.0039	0.0055	-0.2716	0.0163	-0.1219	0.0487	-1.3320	0.0881
1	74.88	0.4997	0.0062	0.0062	-0.3221	0.0202	-0.2675	0.0602	-1.3998	0.0846
1	74.88	0.5387	-0.0039	0.0065	-0.3673	0.0230	-0.4119	0.0685	-1.5478	0.0858
1	74.88	0.5996	0.0076	0.0079	-0.4770	0.0281	-0.6690	0.0837	-1.4801	0.0812
1	74.88	0.6498	-0.0011	0.0068	-0.5440	0.0333	-0.9500	0.0908	-1.6332	0.0966
1	74.88	0.6998	-0.0410	0.0077	-0.6162	0.0381	-1.2286	0.1065	-1.6567	0.0645
1	74.88	0.7500	-0.0409	0.0066	-0.6681	0.0435	-1.5079	0.1125	-1.3511	0.1200
1	74.88	0.8001	-0.0712	0.0189	-0.7694	0.0449	-1.8296	0.1186	-1.3209	0.3744
1	74.88	0.8497	-0.1113	0.0050	-0.8113	0.0508	-2.2341	0.1420	-1.6601	0.1275
1	74.88	0.9102	-0.2615	0.0061	-0.8823	0.0740	-2.5877	0.1158	-1.8481	0.1021
1	74.88	0.9734	-0.2813	0.0060	-0.9309	0.0825	-3.2383	0.1263	-2.3567	0.0992

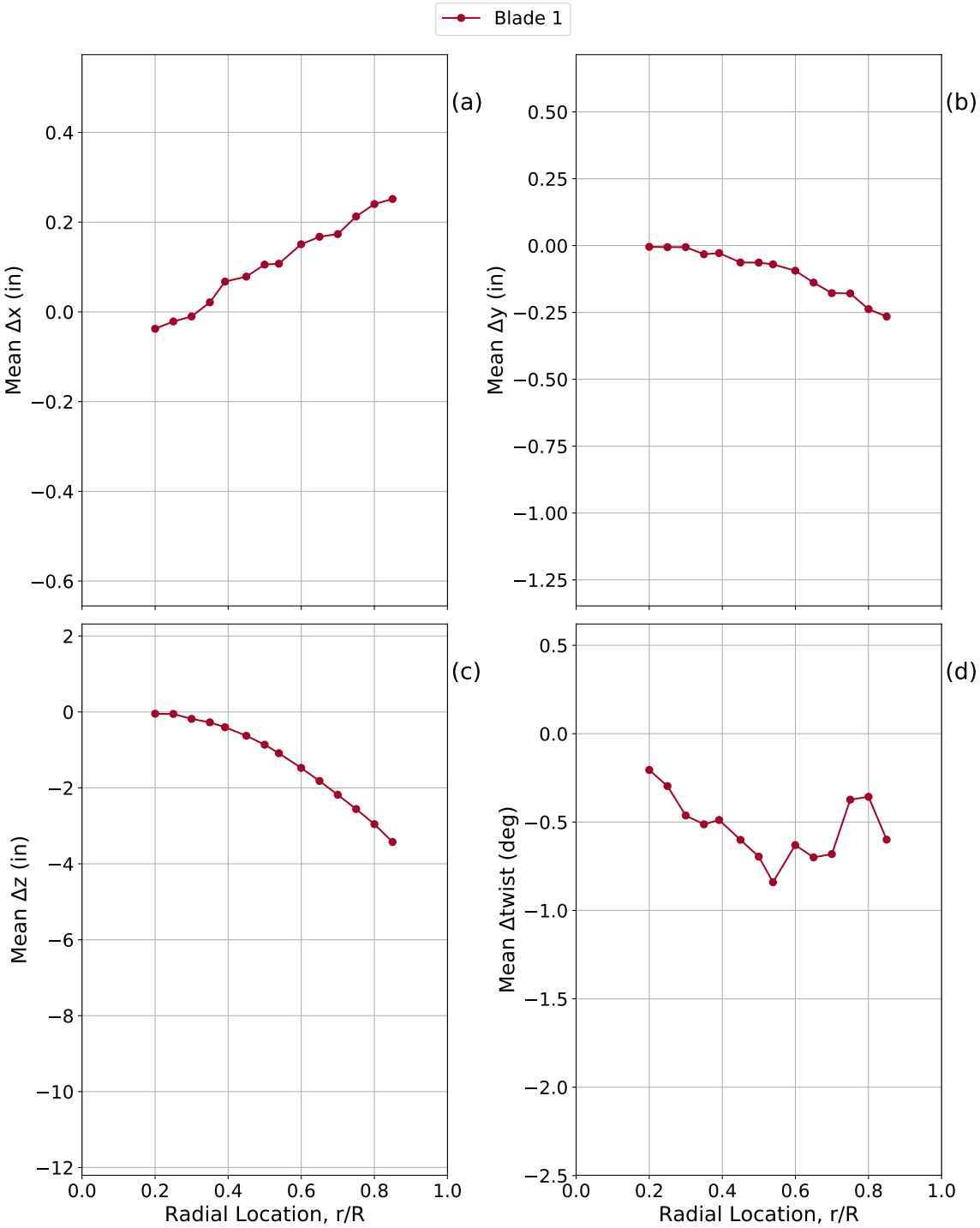


Figure 4.6-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0376	0.0007	-0.0046	0.0006	-0.0469	0.0020	-0.2053	0.0304
1	80.16	0.2499	-0.0214	0.0011	-0.0057	0.0011	-0.0533	0.0034	-0.2967	0.0522
1	80.16	0.2998	-0.0102	0.0008	-0.0058	0.0027	-0.1833	0.0073	-0.4627	0.0700
1	80.16	0.3498	0.0213	0.0007	-0.0325	0.0035	-0.2735	0.0114	-0.5127	0.0573
1	80.16	0.3913	0.0675	0.0011	-0.0280	0.0057	-0.4031	0.0161	-0.4882	0.0601
1	80.16	0.4496	0.0786	0.0012	-0.0631	0.0074	-0.6265	0.0199	-0.6004	0.0684
1	80.16	0.4997	0.1054	0.0014	-0.0636	0.0089	-0.8631	0.0254	-0.6956	0.0636
1	80.16	0.5387	0.1074	0.0019	-0.0701	0.0109	-1.0869	0.0283	-0.8404	0.0546
1	80.16	0.5996	0.1507	0.0017	-0.0940	0.0136	-1.4745	0.0342	-0.6302	0.0521
1	80.16	0.6498	0.1674	0.0027	-0.1383	0.0154	-1.8176	0.0414	-0.6998	0.0586
1	80.16	0.6998	0.1734	0.0028	-0.1777	0.0177	-2.1820	0.0394	-0.6811	0.0728
1	80.16	0.7500	0.2126	0.0055	-0.1788	0.0182	-2.5575	0.0512	-0.3732	0.0939
1	80.16	0.8001	0.2403	0.0060	-0.2376	0.0199	-2.9567	0.0548	-0.3569	0.2196
1	80.16	0.8497	0.2516	0.0058	-0.2651	0.0242	-3.4250	0.0582	-0.5993	0.1732

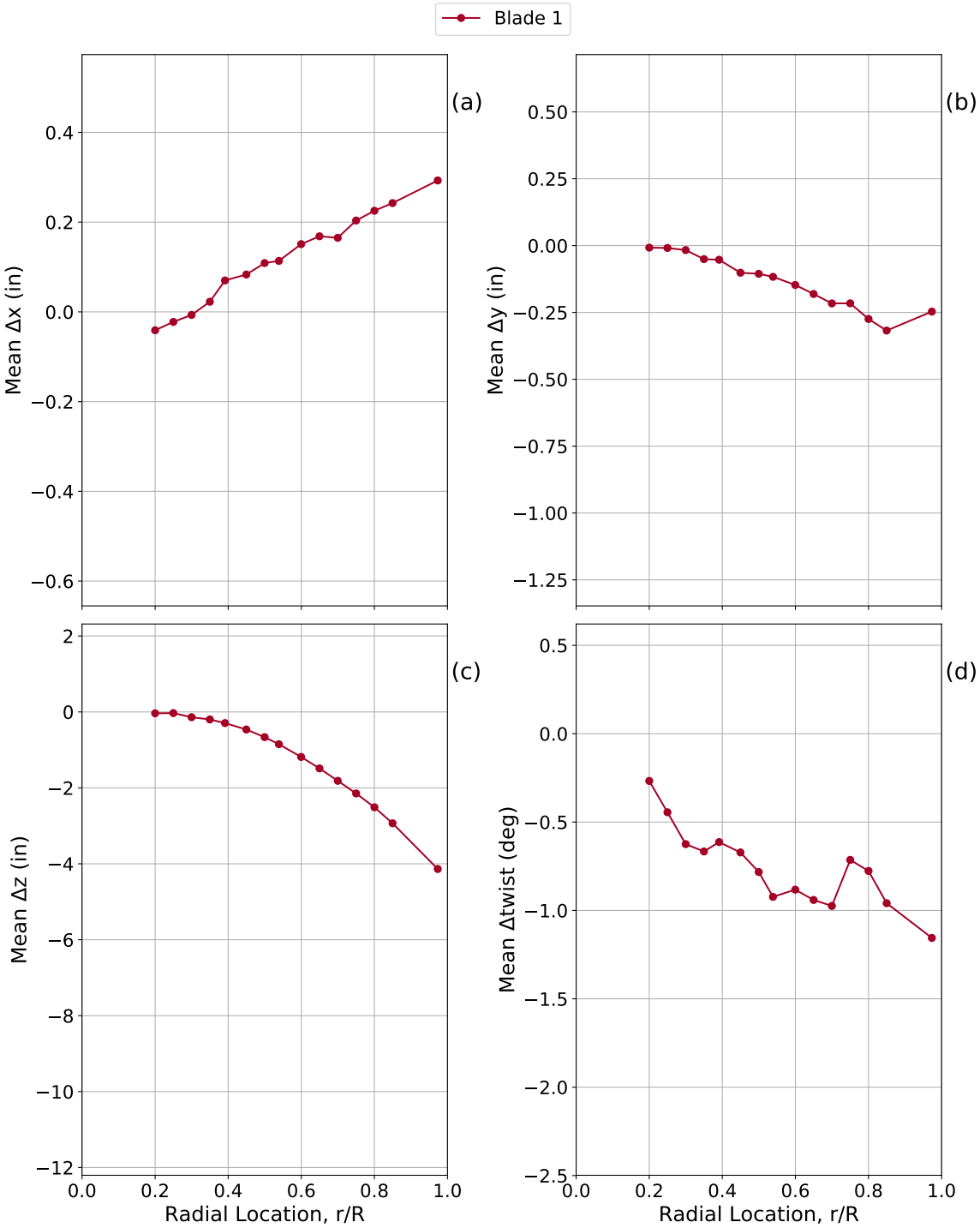


Figure 4.6-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0410	0.0015	-0.0077	0.0007	-0.0362	0.0023	-0.2674	0.0150
1	85.08	0.2499	-0.0223	0.0010	-0.0089	0.0014	-0.0307	0.0051	-0.4446	0.0322
1	85.08	0.2998	-0.0068	0.0012	-0.0167	0.0028	-0.1390	0.0098	-0.6248	0.0362
1	85.08	0.3498	0.0226	0.0010	-0.0506	0.0047	-0.1980	0.0160	-0.6662	0.0379
1	85.08	0.3913	0.0701	0.0012	-0.0529	0.0068	-0.2937	0.0239	-0.6133	0.0284
1	85.08	0.4496	0.0833	0.0015	-0.1015	0.0088	-0.4631	0.0303	-0.6718	0.0290
1	85.08	0.4997	0.1088	0.0019	-0.1055	0.0110	-0.6641	0.0367	-0.7825	0.0286
1	85.08	0.5387	0.1136	0.0017	-0.1168	0.0132	-0.8500	0.0411	-0.9230	0.0419
1	85.08	0.5996	0.1510	0.0016	-0.1472	0.0160	-1.1855	0.0476	-0.8824	0.0356
1	85.08	0.6498	0.1685	0.0026	-0.1809	0.0179	-1.4873	0.0536	-0.9408	0.0674
1	85.08	0.6998	0.1651	0.0024	-0.2162	0.0214	-1.8145	0.0602	-0.9744	0.0559
1	85.08	0.7500	0.2036	0.0036	-0.2158	0.0255	-2.1471	0.0660	-0.7140	0.0847
1	85.08	0.8001	0.2254	0.0042	-0.2744	0.0273	-2.5111	0.0734	-0.7766	0.0706
1	85.08	0.8497	0.2425	0.0048	-0.3177	0.0316	-2.9328	0.0769	-0.9590	0.1193
1	85.08	0.9734	0.2929	0.0160	-0.2468	0.0399	-4.1369	0.1557	-1.1555	0.4177

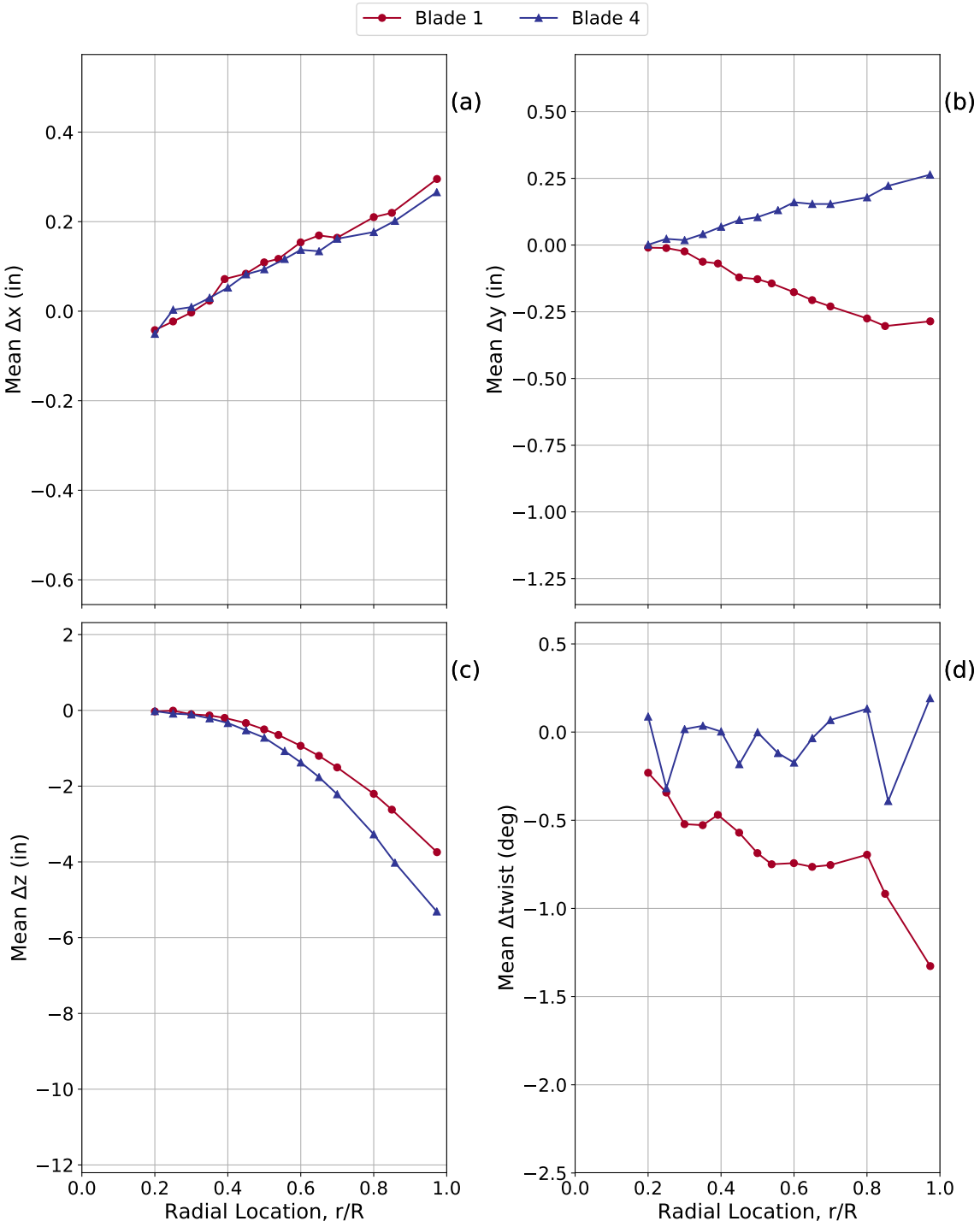


Figure 4.6-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0423	0.0007	-0.0097	0.0005	-0.0288	0.0011	-0.2307	0.0164
1	90	0.2499	-0.0229	0.0010	-0.0111	0.0012	-0.0085	0.0032	-0.3431	0.0334
1	90	0.2998	-0.0031	0.0011	-0.0238	0.0017	-0.1029	0.0045	-0.5220	0.0386
1	90	0.3498	0.0234	0.0011	-0.0625	0.0035	-0.1344	0.0081	-0.5278	0.0360
1	90	0.3913	0.0718	0.0017	-0.0692	0.0046	-0.1988	0.0117	-0.4694	0.0358
1	90	0.4496	0.0837	0.0018	-0.1211	0.0071	-0.3352	0.0188	-0.5704	0.0351
1	90	0.4997	0.1091	0.0021	-0.1279	0.0087	-0.5025	0.0214	-0.6863	0.0362
1	90	0.5387	0.1168	0.0015	-0.1438	0.0107	-0.6494	0.0276	-0.7495	0.0368
1	90	0.5996	0.1537	0.0025	-0.1765	0.0149	-0.9360	0.0364	-0.7431	0.0378
1	90	0.6498	0.1692	0.0029	-0.2064	0.0183	-1.2009	0.0402	-0.7642	0.0494
1	90	0.6998	0.1640	0.0024	-0.2300	0.0221	-1.5064	0.0472	-0.7538	0.0503
1	90	0.8001	0.2101	0.0032	-0.2751	0.0301	-2.2033	0.0600	-0.6955	0.0723
1	90	0.8497	0.2197	0.0034	-0.3036	0.0346	-2.6209	0.0646	-0.9173	0.0556
1	90	0.9734	0.2953	0.0068	-0.2858	0.0481	-3.7431	0.0728	-1.3269	0.1611
4	90.35	0.2001	-0.0506	0.0008	0.0012	0.0008	-0.0205	0.0014	0.0878	0.0132
4	90.35	0.2502	0.0031	0.0010	0.0232	0.0024	-0.0857	0.0036	-0.3181	0.0241
4	90.35	0.3001	0.0092	0.0007	0.0184	0.0029	-0.1101	0.0058	0.0167	0.0285
4	90.35	0.3502	0.0298	0.0012	0.0411	0.0070	-0.2114	0.0092	0.0357	0.0236
4	90.35	0.4002	0.0527	0.0018	0.0684	0.0098	-0.3352	0.0149	0.0028	0.0266
4	90.35	0.4500	0.0823	0.0020	0.0938	0.0128	-0.5266	0.0192	-0.1823	0.0269
4	90.35	0.5001	0.0936	0.0015	0.1045	0.0159	-0.7217	0.0246	-0.0016	0.0225
4	90.35	0.5560	0.1166	0.0018	0.1307	0.0196	-1.0743	0.0281	-0.1191	0.0334
4	90.35	0.6001	0.1370	0.0025	0.1604	0.0230	-1.3758	0.0342	-0.1733	0.0199
4	90.35	0.6501	0.1339	0.0019	0.1539	0.0265	-1.7631	0.0405	-0.0348	0.0345
4	90.35	0.6999	0.1618	0.0023	0.1538	0.0305	-2.2146	0.0456	0.0680	0.0325
4	90.35	0.8002	0.1768	0.0032	0.1788	0.0386	-3.2730	0.0523	0.1324	0.0677
4	90.35	0.8582	0.2017	0.0032	0.2218	0.0450	-4.0223	0.0554	-0.3912	0.0830
4	90.35	0.9728	0.2658	0.0064	0.2636	0.0566	-5.3097	0.0771	0.1921	0.1060

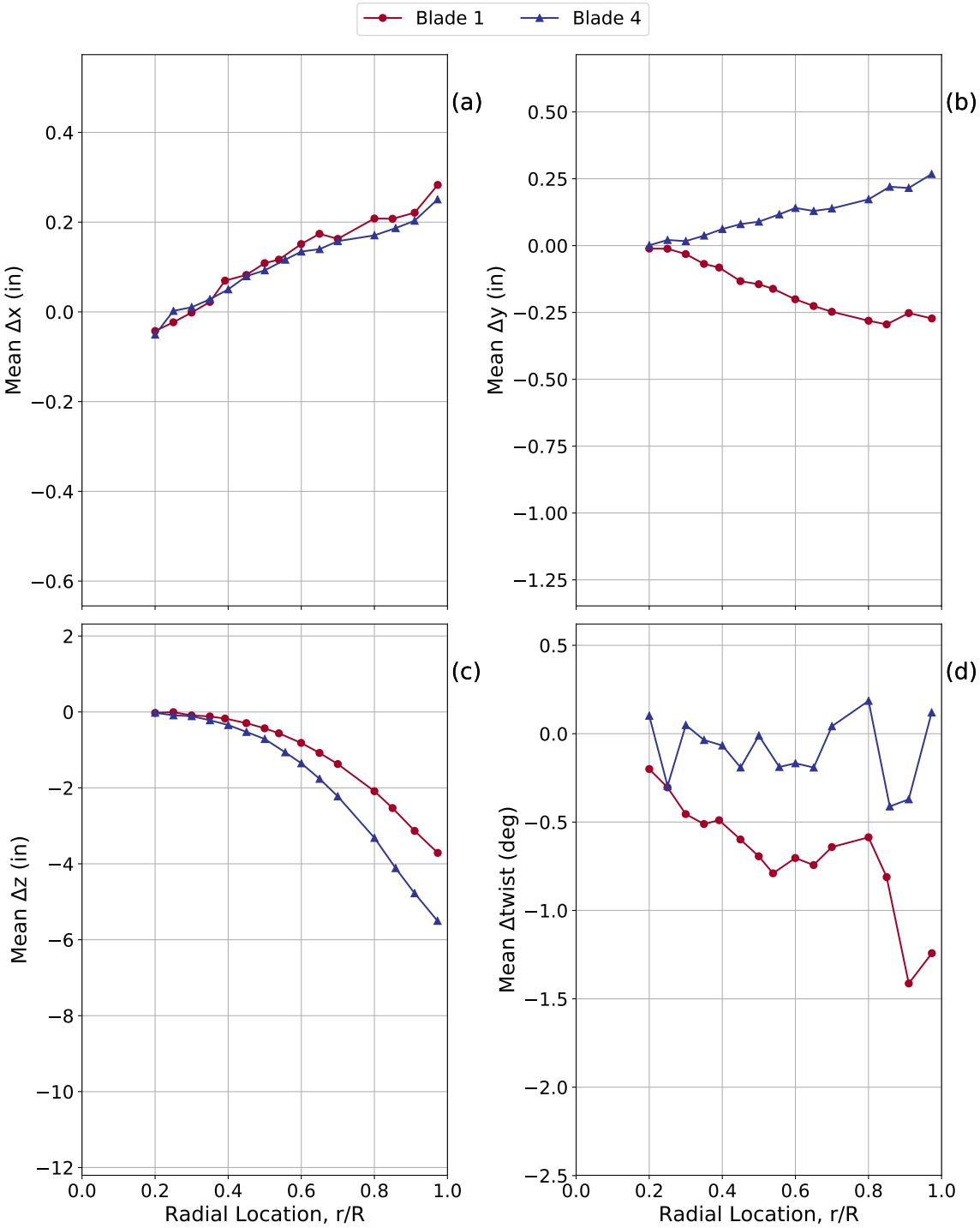


Figure 4.6-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0426	0.0009	-0.0112	0.0005	-0.0259	0.0010	-0.2000	0.0147
1	94.92	0.2499	-0.0232	0.0009	-0.0117	0.0009	-0.0050	0.0022	-0.3036	0.0198
1	94.92	0.2998	-0.0016	0.0005	-0.0317	0.0020	-0.0917	0.0041	-0.4547	0.0308
1	94.92	0.3498	0.0222	0.0009	-0.0684	0.0031	-0.1178	0.0062	-0.5110	0.0222
1	94.92	0.3913	0.0697	0.0014	-0.0820	0.0046	-0.1742	0.0094	-0.4895	0.0333
1	94.92	0.4496	0.0823	0.0012	-0.1330	0.0064	-0.2945	0.0149	-0.5985	0.0344
1	94.92	0.4997	0.1086	0.0012	-0.1444	0.0082	-0.4314	0.0187	-0.6936	0.0288
1	94.92	0.5387	0.1165	0.0015	-0.1616	0.0095	-0.5624	0.0226	-0.7899	0.0303
1	94.92	0.5996	0.1511	0.0012	-0.2007	0.0118	-0.8157	0.0284	-0.7034	0.0277
1	94.92	0.6498	0.1740	0.0018	-0.2259	0.0140	-1.0792	0.0300	-0.7433	0.0307
1	94.92	0.6998	0.1627	0.0015	-0.2475	0.0160	-1.3727	0.0329	-0.6413	0.0229
1	94.92	0.8001	0.2081	0.0026	-0.2809	0.0211	-2.0881	0.0367	-0.5863	0.0464
1	94.92	0.8497	0.2075	0.0026	-0.2947	0.0234	-2.5320	0.0429	-0.8112	0.0389
1	94.92	0.9102	0.2210	0.0050	-0.2523	0.0269	-3.1333	0.0453	-1.4133	0.0895
1	94.92	0.9734	0.2830	0.0035	-0.2725	0.0297	-3.7130	0.0564	-1.2420	0.0948
4	94.92	0.2001	-0.0507	0.0009	0.0011	0.0005	-0.0208	0.0017	0.1017	0.0186
4	94.92	0.2502	0.0022	0.0007	0.0210	0.0021	-0.0896	0.0045	-0.2959	0.0297
4	94.92	0.3001	0.0104	0.0006	0.0167	0.0025	-0.1116	0.0064	0.0488	0.0393
4	94.92	0.3502	0.0282	0.0012	0.0374	0.0044	-0.2199	0.0113	-0.0358	0.0361
4	94.92	0.4002	0.0502	0.0010	0.0620	0.0074	-0.3460	0.0178	-0.0670	0.0305
4	94.92	0.4500	0.0795	0.0011	0.0803	0.0087	-0.5268	0.0210	-0.1913	0.0371
4	94.92	0.5001	0.0926	0.0017	0.0895	0.0104	-0.7139	0.0274	-0.0111	0.0296
4	94.92	0.5560	0.1163	0.0007	0.1168	0.0129	-1.0638	0.0308	-0.1884	0.0383
4	94.92	0.6001	0.1344	0.0013	0.1407	0.0153	-1.3531	0.0356	-0.1674	0.0264
4	94.92	0.6501	0.1398	0.0015	0.1294	0.0180	-1.7616	0.0385	-0.1915	0.0330
4	94.92	0.6999	0.1576	0.0010	0.1389	0.0203	-2.2244	0.0422	0.0421	0.0394
4	94.92	0.8002	0.1706	0.0013	0.1730	0.0265	-3.3181	0.0519	0.1857	0.0495
4	94.92	0.8582	0.1867	0.0019	0.2200	0.0297	-4.1146	0.0543	-0.4116	0.0853
4	94.92	0.9101	0.2031	0.0033	0.2154	0.0330	-4.7764	0.0570	-0.3713	0.0409
4	94.92	0.9728	0.2507	0.0041	0.2676	0.0362	-5.5037	0.0629	0.1200	0.0355

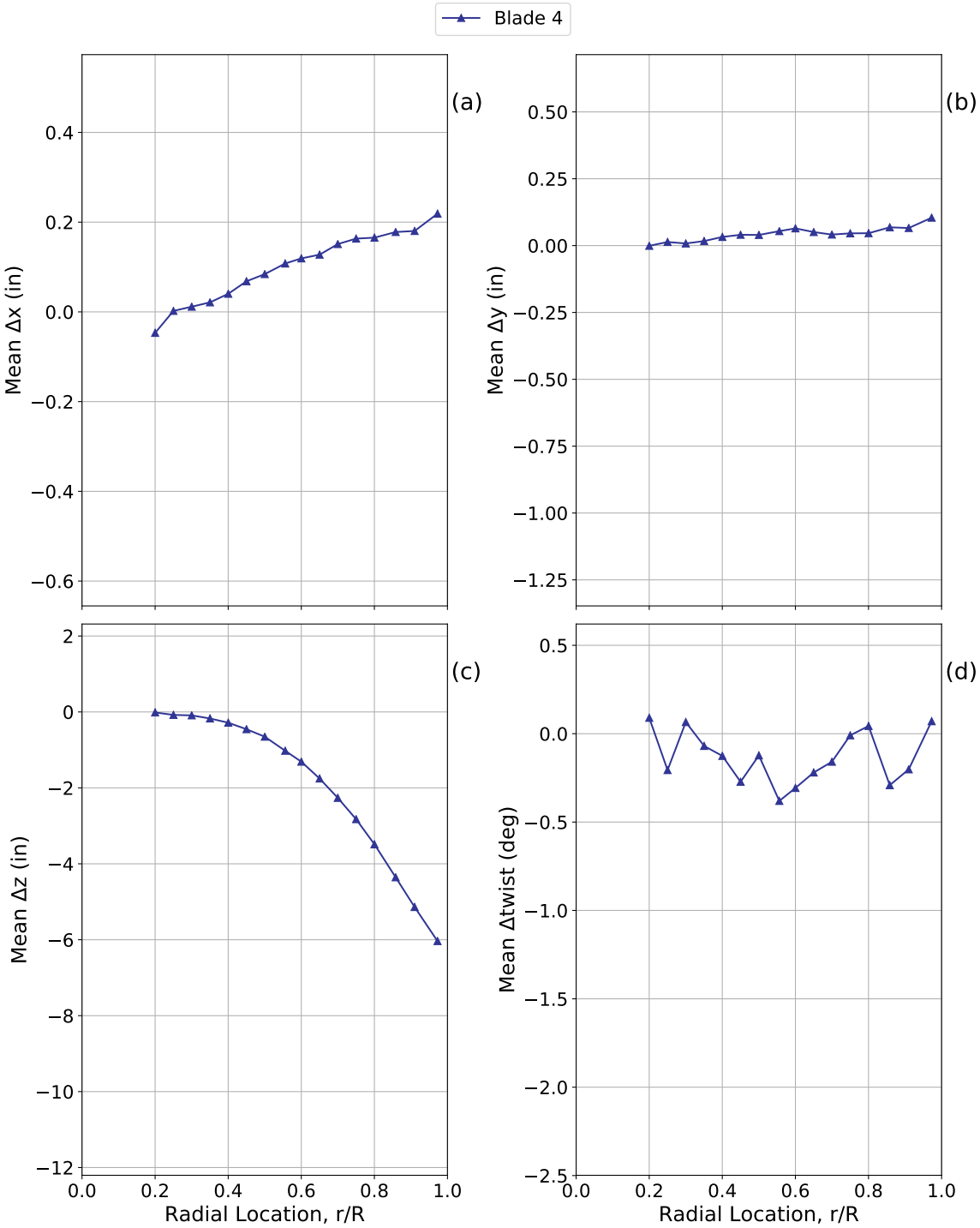


Figure 4.6-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0468	0.0009	-0.0009	0.0005	-0.0131	0.0015	0.0898	0.0124
4	105.12	0.2502	0.0022	0.0007	0.0135	0.0008	-0.0790	0.0033	-0.2060	0.0198
4	105.12	0.3001	0.0115	0.0010	0.0079	0.0011	-0.0905	0.0060	0.0658	0.0269
4	105.12	0.3502	0.0212	0.0008	0.0170	0.0027	-0.1725	0.0105	-0.0694	0.0288
4	105.12	0.4002	0.0403	0.0012	0.0323	0.0034	-0.2837	0.0162	-0.1258	0.0242
4	105.12	0.4500	0.0682	0.0012	0.0404	0.0045	-0.4550	0.0221	-0.2723	0.0148
4	105.12	0.5001	0.0842	0.0016	0.0398	0.0053	-0.6524	0.0268	-0.1229	0.0286
4	105.12	0.5560	0.1078	0.0020	0.0541	0.0071	-1.0234	0.0314	-0.3805	0.0243
4	105.12	0.6001	0.1192	0.0020	0.0644	0.0084	-1.3110	0.0331	-0.3070	0.0414
4	105.12	0.6501	0.1275	0.0020	0.0506	0.0098	-1.7542	0.0379	-0.2196	0.0280
4	105.12	0.6999	0.1511	0.0023	0.0412	0.0118	-2.2641	0.0407	-0.1588	0.0326
4	105.12	0.7500	0.1633	0.0023	0.0458	0.0142	-2.8250	0.0448	-0.0094	0.0307
4	105.12	0.8002	0.1654	0.0026	0.0463	0.0160	-3.4876	0.0508	0.0435	0.0274
4	105.12	0.8582	0.1780	0.0029	0.0684	0.0190	-4.3557	0.0571	-0.2914	0.0363
4	105.12	0.9101	0.1803	0.0033	0.0657	0.0213	-5.1391	0.0650	-0.2018	0.0332
4	105.12	0.9728	0.2189	0.0037	0.1043	0.0245	-6.0362	0.0759	0.0705	0.0369

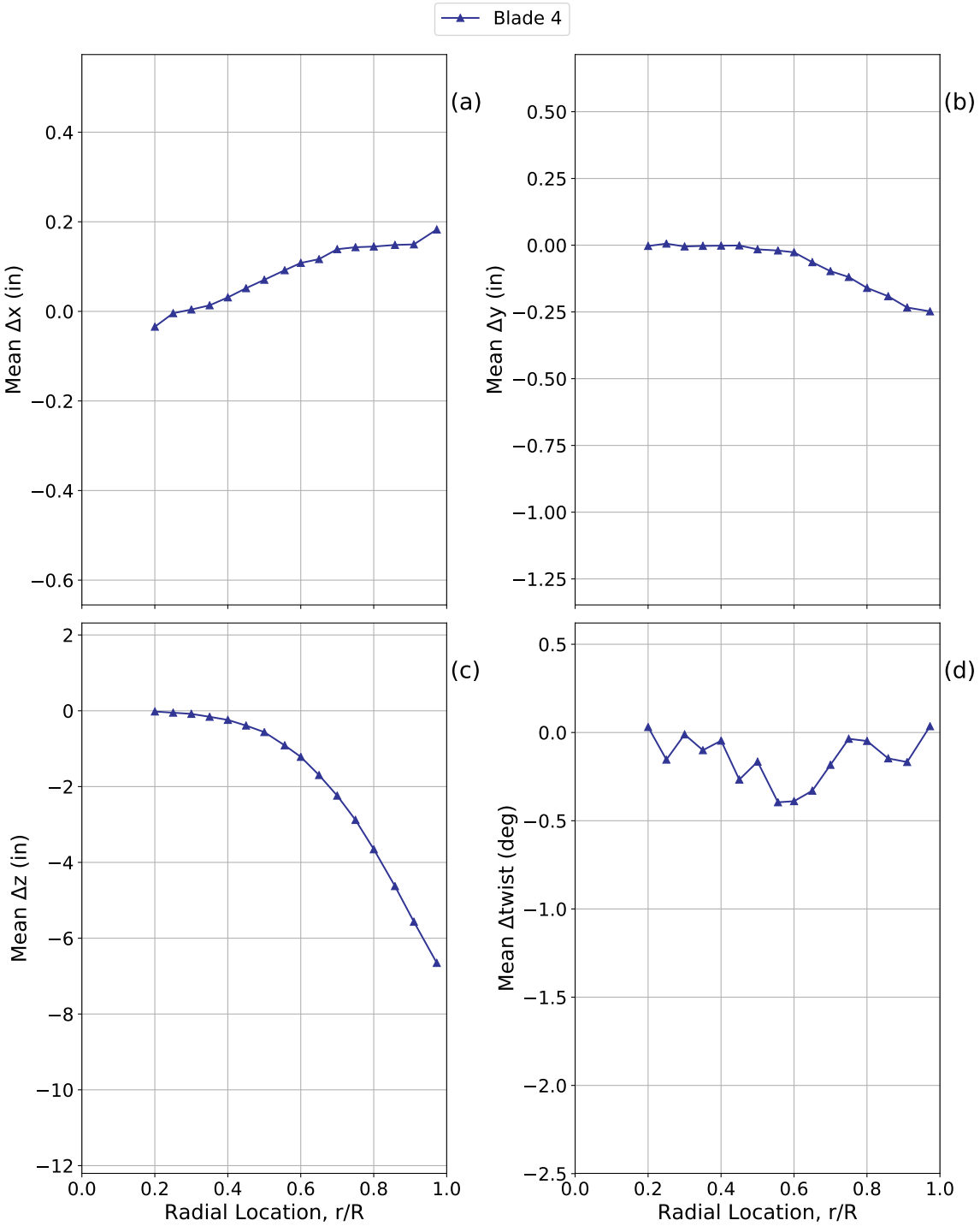


Figure 4.6-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0343	0.0006	-0.0029	0.0002	-0.0192	0.0009	0.0308	0.0080
4	119.88	0.2502	-0.0041	0.0008	0.0058	0.0009	-0.0508	0.0017	-0.1540	0.0147
4	119.88	0.3001	0.0041	0.0005	-0.0048	0.0009	-0.0824	0.0037	-0.0111	0.0184
4	119.88	0.3502	0.0135	0.0008	-0.0027	0.0018	-0.1592	0.0056	-0.1005	0.0202
4	119.88	0.4002	0.0312	0.0010	-0.0018	0.0028	-0.2411	0.0091	-0.0464	0.0219
4	119.88	0.4500	0.0517	0.0011	-0.0011	0.0034	-0.3903	0.0125	-0.2670	0.0210
4	119.88	0.5001	0.0705	0.0010	-0.0156	0.0047	-0.5630	0.0149	-0.1655	0.0204
4	119.88	0.5560	0.0918	0.0011	-0.0200	0.0059	-0.9129	0.0203	-0.3955	0.0240
4	119.88	0.6001	0.1081	0.0012	-0.0266	0.0075	-1.2163	0.0234	-0.3893	0.0209
4	119.88	0.6501	0.1166	0.0012	-0.0638	0.0093	-1.6965	0.0272	-0.3301	0.0242
4	119.88	0.6999	0.1388	0.0017	-0.0973	0.0112	-2.2398	0.0320	-0.1834	0.0238
4	119.88	0.7500	0.1432	0.0016	-0.1192	0.0140	-2.8807	0.0386	-0.0358	0.0250
4	119.88	0.8002	0.1447	0.0018	-0.1601	0.0165	-3.6543	0.0444	-0.0481	0.0274
4	119.88	0.8582	0.1483	0.0021	-0.1913	0.0195	-4.6261	0.0515	-0.1469	0.0237
4	119.88	0.9101	0.1495	0.0025	-0.2334	0.0225	-5.5670	0.0580	-0.1674	0.0221
4	119.88	0.9728	0.1827	0.0035	-0.2479	0.0271	-6.6526	0.0667	0.0355	0.0224

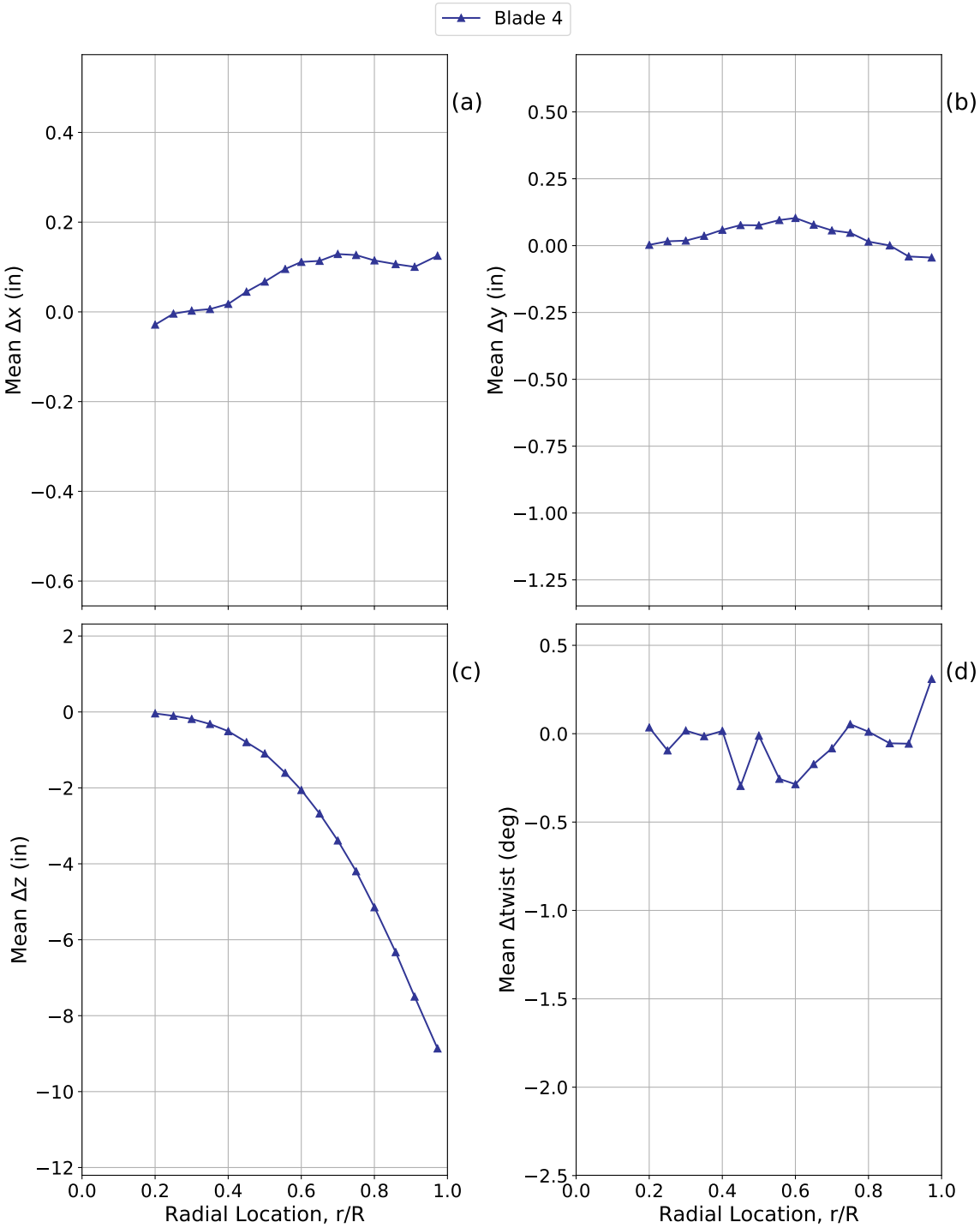


Figure 4.6-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0285	0.0007	0.0027	0.0005	-0.0403	0.0011	0.0352	0.0072
4	135	0.2502	-0.0040	0.0007	0.0161	0.0015	-0.1036	0.0031	-0.0949	0.0168
4	135	0.3001	0.0026	0.0009	0.0185	0.0023	-0.1860	0.0051	0.0175	0.0167
4	135	0.3502	0.0062	0.0007	0.0362	0.0039	-0.3192	0.0081	-0.0144	0.0218
4	135	0.4002	0.0177	0.0010	0.0589	0.0063	-0.5076	0.0134	0.0155	0.0126
4	135	0.4500	0.0448	0.0011	0.0766	0.0086	-0.7973	0.0170	-0.2958	0.0208
4	135	0.5001	0.0674	0.0014	0.0758	0.0108	-1.0971	0.0197	-0.0113	0.0176
4	135	0.5560	0.0956	0.0012	0.0954	0.0139	-1.6038	0.0243	-0.2556	0.0205
4	135	0.6001	0.1113	0.0017	0.1031	0.0160	-2.0583	0.0268	-0.2859	0.0213
4	135	0.6501	0.1136	0.0014	0.0780	0.0182	-2.6773	0.0314	-0.1721	0.0188
4	135	0.6999	0.1289	0.0018	0.0567	0.0221	-3.3876	0.0353	-0.0828	0.0222
4	135	0.7500	0.1266	0.0021	0.0478	0.0250	-4.1971	0.0386	0.0536	0.0175
4	135	0.8002	0.1146	0.0026	0.0148	0.0289	-5.1463	0.0439	0.0111	0.0203
4	135	0.8582	0.1064	0.0029	0.0004	0.0327	-6.3276	0.0496	-0.0544	0.0209
4	135	0.9101	0.1003	0.0031	-0.0407	0.0366	-7.4991	0.0535	-0.0565	0.0259
4	135	0.9728	0.1250	0.0037	-0.0448	0.0411	-8.8654	0.0568	0.3097	0.0225

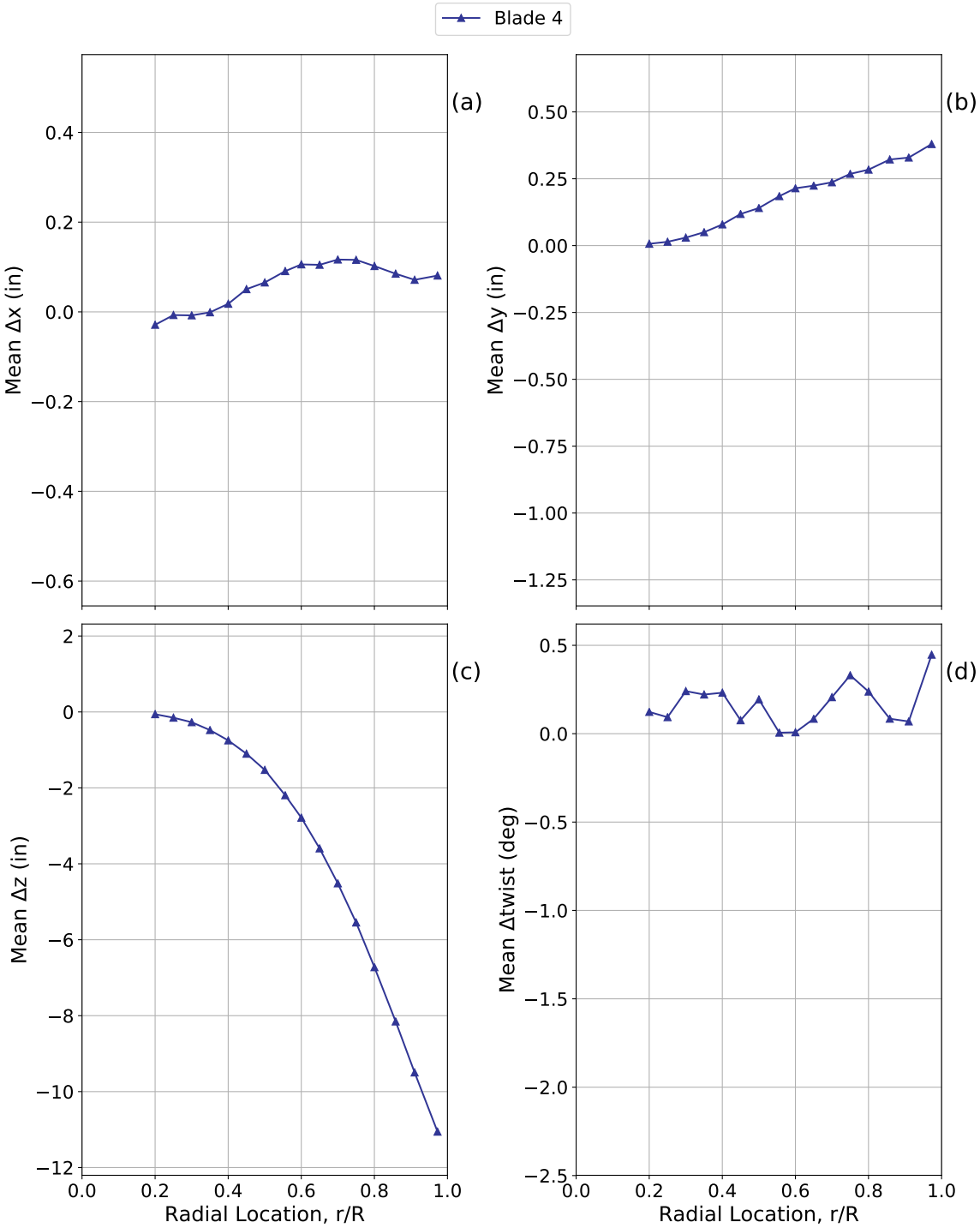


Figure 4.6-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0288	0.0005	0.0067	0.0005	-0.0603	0.0009	0.1232	0.0132
4	150.12	0.2502	-0.0071	0.0007	0.0142	0.0011	-0.1521	0.0021	0.0933	0.0175
4	150.12	0.3001	-0.0078	0.0007	0.0298	0.0021	-0.2710	0.0042	0.2408	0.0275
4	150.12	0.3502	-0.0010	0.0012	0.0501	0.0033	-0.4788	0.0057	0.2214	0.0205
4	150.12	0.4002	0.0180	0.0012	0.0791	0.0052	-0.7506	0.0099	0.2319	0.0260
4	150.12	0.4500	0.0506	0.0025	0.1182	0.0054	-1.1014	0.0110	0.0759	0.0283
4	150.12	0.5001	0.0655	0.0022	0.1405	0.0073	-1.5278	0.0144	0.1941	0.0196
4	150.12	0.5560	0.0908	0.0026	0.1848	0.0102	-2.1949	0.0175	0.0056	0.0263
4	150.12	0.6001	0.1058	0.0021	0.2144	0.0114	-2.7864	0.0185	0.0079	0.0273
4	150.12	0.6501	0.1049	0.0016	0.2241	0.0144	-3.5953	0.0208	0.0843	0.0250
4	150.12	0.6999	0.1166	0.0019	0.2366	0.0179	-4.5157	0.0244	0.2065	0.0292
4	150.12	0.7500	0.1159	0.0018	0.2682	0.0206	-5.5467	0.0289	0.3305	0.0259
4	150.12	0.8002	0.1021	0.0019	0.2839	0.0234	-6.7242	0.0333	0.2381	0.0243
4	150.12	0.8582	0.0850	0.0024	0.3220	0.0272	-8.1536	0.0400	0.0847	0.0310
4	150.12	0.9101	0.0714	0.0022	0.3291	0.0303	-9.4963	0.0450	0.0692	0.0291
4	150.12	0.9728	0.0809	0.0037	0.3796	0.0354	-11.0560	0.0525	0.4467	0.0292

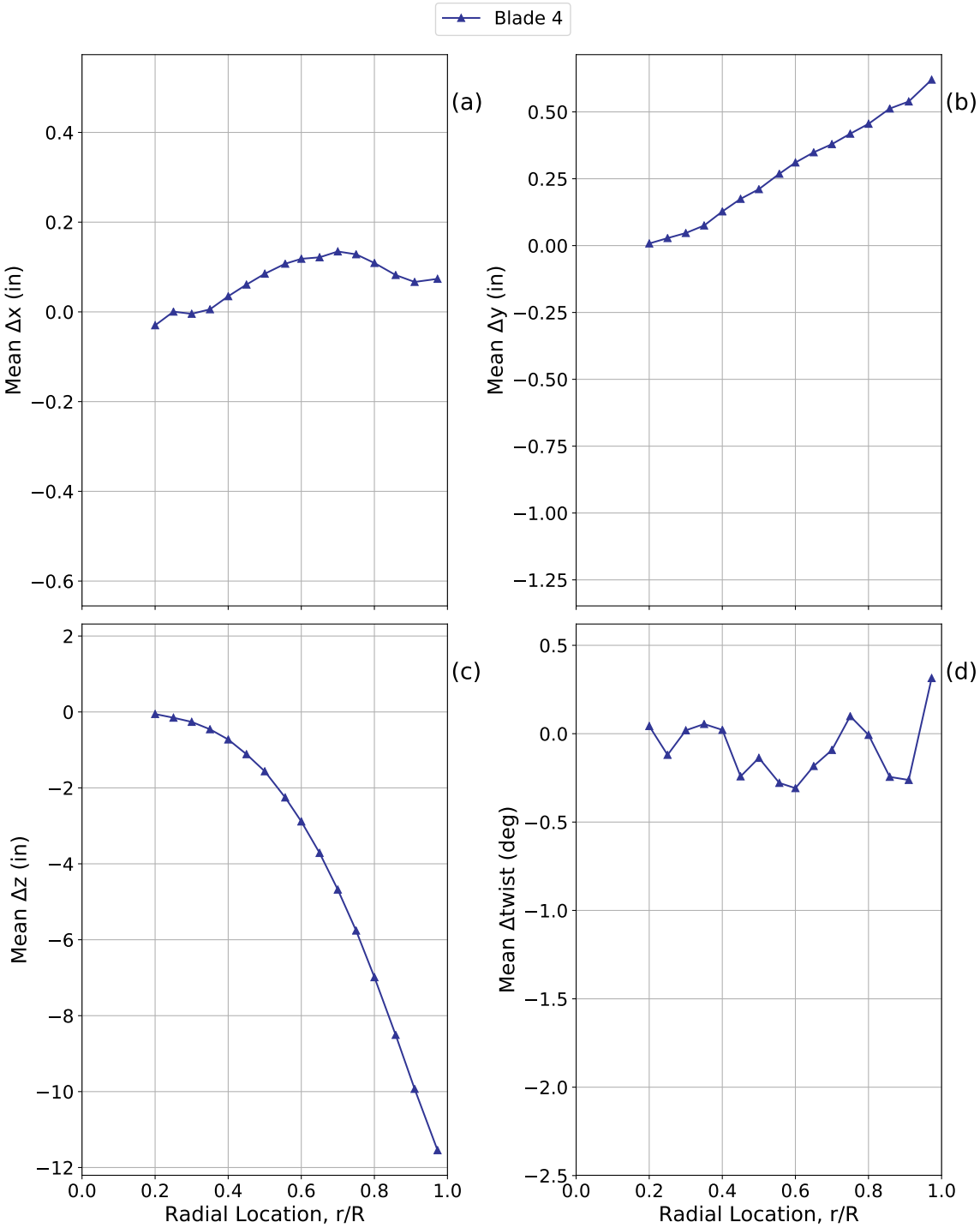


Figure 4.6-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0299	0.0007	0.0079	0.0006	-0.0559	0.0013	0.0430	0.0133
4	164.88	0.2502	0.0005	0.0016	0.0280	0.0018	-0.1524	0.0022	-0.1200	0.0157
4	164.88	0.3001	-0.0043	0.0011	0.0470	0.0028	-0.2625	0.0049	0.0189	0.0265
4	164.88	0.3502	0.0057	0.0016	0.0751	0.0037	-0.4573	0.0073	0.0547	0.0212
4	164.88	0.4002	0.0349	0.0014	0.1277	0.0069	-0.7266	0.0115	0.0213	0.0217
4	164.88	0.4500	0.0608	0.0013	0.1747	0.0102	-1.1139	0.0137	-0.2417	0.0379
4	164.88	0.5001	0.0850	0.0019	0.2110	0.0094	-1.5644	0.0172	-0.1370	0.0509
4	164.88	0.5560	0.1073	0.0016	0.2685	0.0130	-2.2539	0.0219	-0.2786	0.0210
4	164.88	0.6001	0.1183	0.0017	0.3107	0.0142	-2.8862	0.0268	-0.3082	0.0298
4	164.88	0.6501	0.1216	0.0016	0.3488	0.0171	-3.7153	0.0317	-0.1831	0.0420
4	164.88	0.6999	0.1346	0.0020	0.3793	0.0182	-4.6803	0.0362	-0.0922	0.0250
4	164.88	0.7500	0.1283	0.0026	0.4183	0.0210	-5.7603	0.0431	0.0990	0.0241
4	164.88	0.8002	0.1089	0.0031	0.4554	0.0236	-6.9884	0.0487	-0.0070	0.0217
4	164.88	0.8582	0.0821	0.0029	0.5124	0.0259	-8.5068	0.0553	-0.2444	0.0214
4	164.88	0.9101	0.0667	0.0039	0.5388	0.0281	-9.9287	0.0609	-0.2618	0.0272
4	164.88	0.9728	0.0736	0.0043	0.6204	0.0313	-11.5442	0.0661	0.3145	0.0354

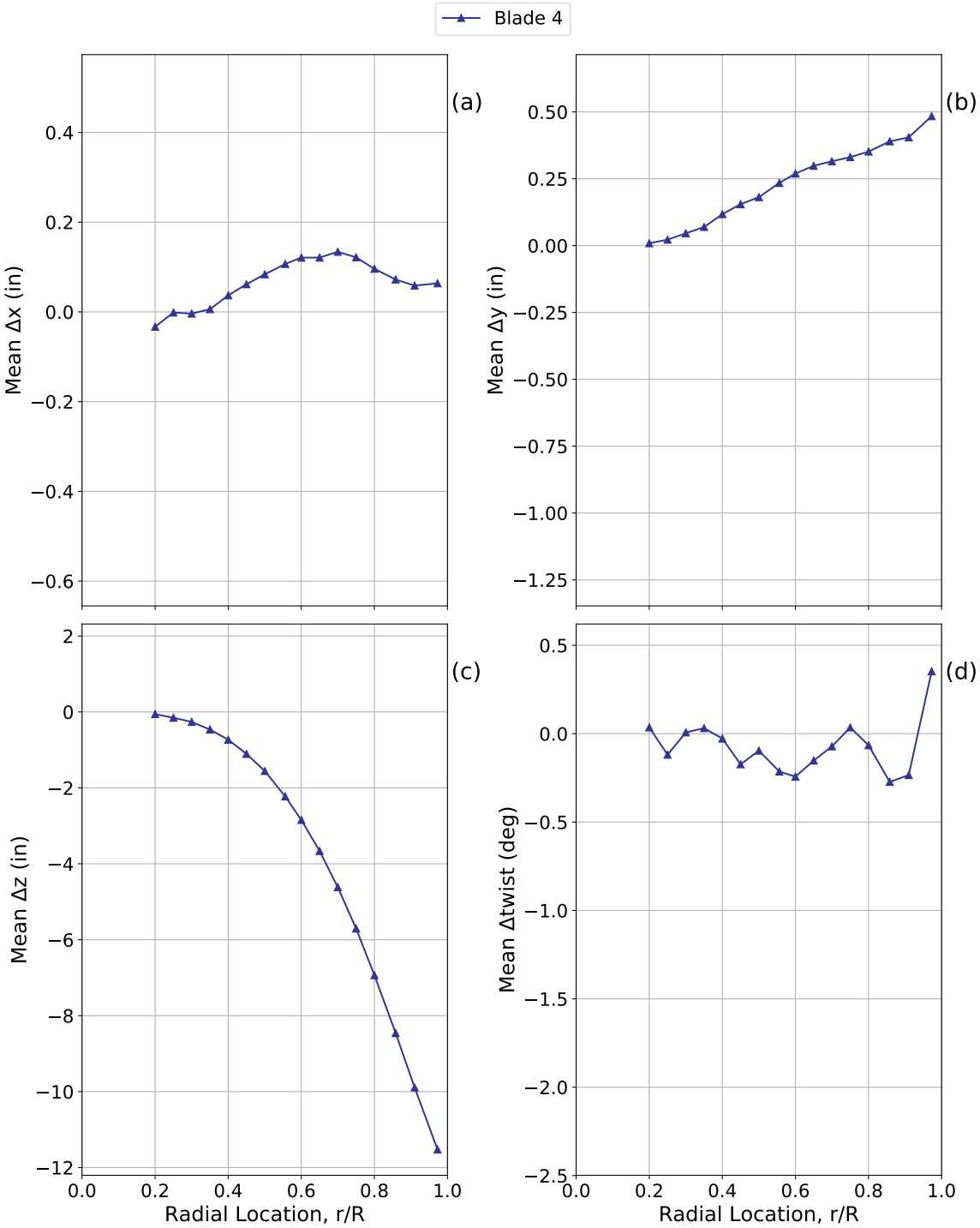


Figure 4.6-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0332	0.0009	0.0088	0.0007	-0.0569	0.0014	0.0355	0.0153
4	170.16	0.2502	-0.0014	0.0011	0.0222	0.0017	-0.1535	0.0030	-0.1188	0.0254
4	170.16	0.3001	-0.0039	0.0013	0.0458	0.0026	-0.2633	0.0064	0.0074	0.0337
4	170.16	0.3502	0.0060	0.0010	0.0696	0.0050	-0.4640	0.0086	0.0313	0.0322
4	170.16	0.4002	0.0369	0.0011	0.1175	0.0071	-0.7325	0.0150	-0.0277	0.0256
4	170.16	0.4500	0.0616	0.0011	0.1548	0.0097	-1.1048	0.0162	-0.1734	0.0249
4	170.16	0.5001	0.0837	0.0010	0.1810	0.0122	-1.5555	0.0194	-0.0961	0.0239
4	170.16	0.5560	0.1067	0.0008	0.2342	0.0143	-2.2258	0.0240	-0.2141	0.0284
4	170.16	0.6001	0.1209	0.0010	0.2695	0.0167	-2.8449	0.0261	-0.2429	0.0330
4	170.16	0.6501	0.1210	0.0016	0.2984	0.0200	-3.6636	0.0302	-0.1518	0.0262
4	170.16	0.6999	0.1339	0.0015	0.3152	0.0239	-4.6171	0.0314	-0.0720	0.0387
4	170.16	0.7500	0.1215	0.0015	0.3308	0.0274	-5.7058	0.0342	0.0352	0.0259
4	170.16	0.8002	0.0960	0.0017	0.3515	0.0310	-6.9359	0.0366	-0.0655	0.0400
4	170.16	0.8582	0.0721	0.0019	0.3897	0.0357	-8.4594	0.0395	-0.2729	0.0311
4	170.16	0.9101	0.0585	0.0025	0.4048	0.0405	-9.8917	0.0416	-0.2341	0.0328
4	170.16	0.9728	0.0637	0.0029	0.4838	0.0458	-11.5262	0.0438	0.3528	0.0345

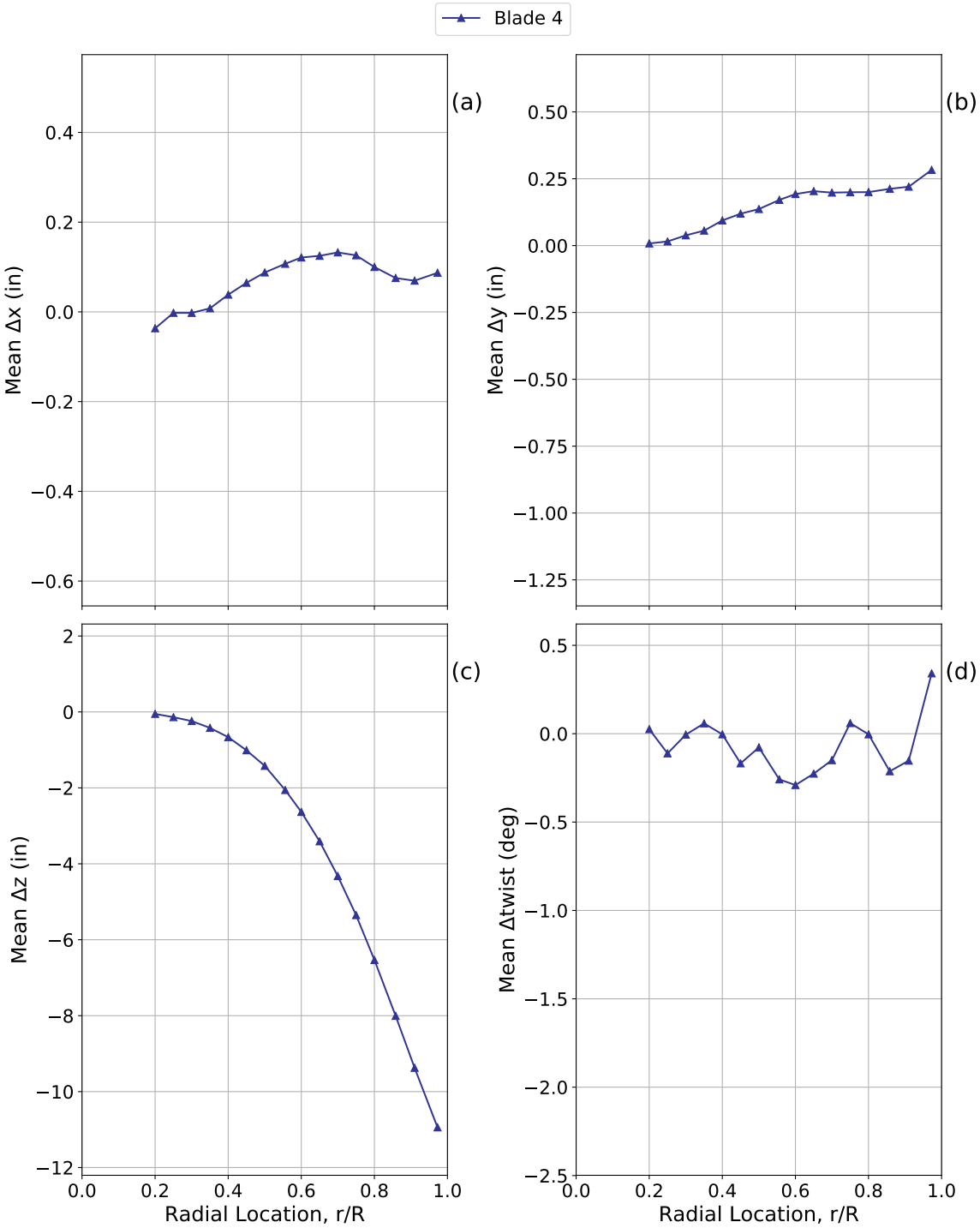


Figure 4.6-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0366	0.0010	0.0080	0.0007	-0.0521	0.0012	0.0255	0.0090
4	175.08	0.2502	-0.0022	0.0013	0.0155	0.0020	-0.1381	0.0034	-0.1115	0.0171
4	175.08	0.3001	-0.0023	0.0012	0.0383	0.0033	-0.2405	0.0054	-0.0053	0.0189
4	175.08	0.3502	0.0079	0.0015	0.0559	0.0050	-0.4208	0.0082	0.0582	0.0234
4	175.08	0.4002	0.0384	0.0012	0.0940	0.0086	-0.6654	0.0138	-0.0038	0.0232
4	175.08	0.4500	0.0648	0.0011	0.1193	0.0101	-1.0109	0.0166	-0.1679	0.0255
4	175.08	0.5001	0.0878	0.0017	0.1366	0.0121	-1.4205	0.0212	-0.0777	0.0257
4	175.08	0.5560	0.1071	0.0017	0.1708	0.0147	-2.0572	0.0269	-0.2587	0.0264
4	175.08	0.6001	0.1212	0.0013	0.1927	0.0161	-2.6349	0.0298	-0.2906	0.0287
4	175.08	0.6501	0.1249	0.0018	0.2036	0.0187	-3.4081	0.0343	-0.2261	0.0260
4	175.08	0.6999	0.1325	0.0025	0.1981	0.0221	-4.3239	0.0381	-0.1500	0.0410
4	175.08	0.7500	0.1260	0.0022	0.1995	0.0254	-5.3520	0.0423	0.0598	0.0279
4	175.08	0.8002	0.1000	0.0023	0.2000	0.0284	-6.5350	0.0462	-0.0037	0.0225
4	175.08	0.8582	0.0754	0.0028	0.2123	0.0323	-8.0062	0.0508	-0.2127	0.0245
4	175.08	0.9101	0.0695	0.0033	0.2202	0.0365	-9.3746	0.0571	-0.1527	0.0203
4	175.08	0.9728	0.0871	0.0043	0.2829	0.0409	-10.9427	0.0641	0.3414	0.0293

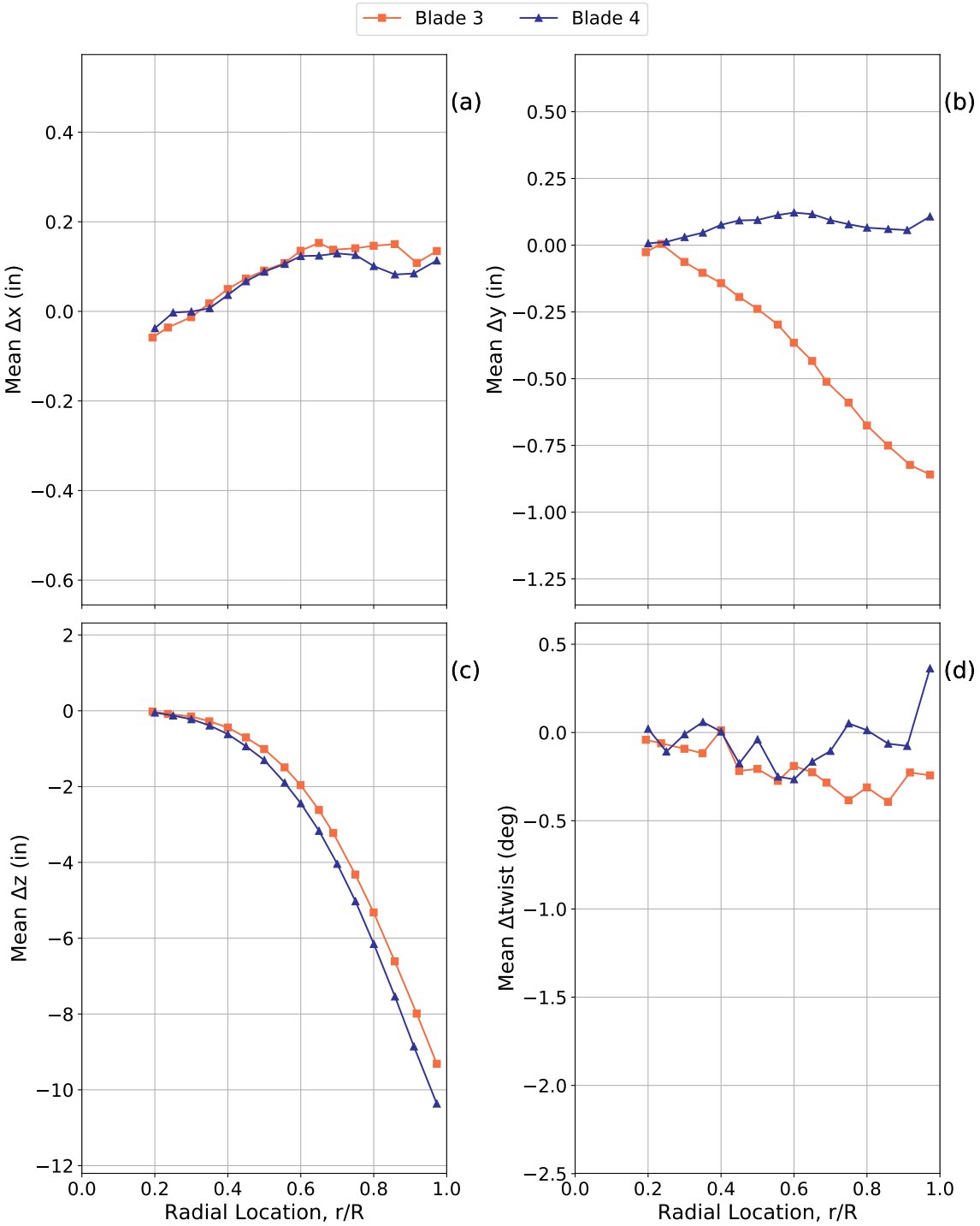


Figure 4.6-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0583	0.0012	-0.0261	0.0013	-0.0221	0.0013	-0.0413	0.0183
3	180.35	0.2357	-0.0361	0.0018	0.0050	0.0018	-0.0825	0.0035	-0.0608	0.0260
3	180.35	0.2995	-0.0130	0.0012	-0.0626	0.0044	-0.1489	0.0055	-0.0922	0.0393
3	180.35	0.3493	0.0180	0.0017	-0.1034	0.0083	-0.2773	0.0094	-0.1174	0.0278
3	180.35	0.4000	0.0499	0.0017	-0.1421	0.0122	-0.4416	0.0149	0.0121	0.0332
3	180.35	0.4497	0.0732	0.0025	-0.1939	0.0153	-0.7033	0.0176	-0.2180	0.0390
3	180.35	0.4997	0.0910	0.0015	-0.2385	0.0185	-1.0103	0.0231	-0.2063	0.0325
3	180.35	0.5556	0.1079	0.0020	-0.2974	0.0229	-1.4934	0.0306	-0.2740	0.0270
3	180.35	0.5995	0.1353	0.0019	-0.3653	0.0245	-1.9607	0.0342	-0.1897	0.0259
3	180.35	0.6498	0.1528	0.0019	-0.4335	0.0278	-2.6162	0.0390	-0.2252	0.0444
3	180.35	0.6890	0.1376	0.0034	-0.5113	0.0329	-3.2249	0.0425	-0.2841	0.0407
3	180.35	0.7495	0.1409	0.0028	-0.5896	0.0373	-4.3196	0.0509	-0.3840	0.0308
3	180.35	0.7998	0.1464	0.0035	-0.6751	0.0406	-5.3210	0.0550	-0.3113	0.0405
3	180.35	0.8577	0.1501	0.0044	-0.7503	0.0464	-6.6106	0.0616	-0.3929	0.0483
3	180.35	0.9178	0.1081	0.0042	-0.8231	0.0509	-7.9888	0.0672	-0.2266	0.0520
3	180.35	0.9729	0.1346	0.0054	-0.8591	0.0552	-9.3141	0.0761	-0.2428	0.0439
4	180	0.2001	-0.0377	0.0010	0.0068	0.0006	-0.0483	0.0019	0.0210	0.0205
4	180	0.2502	-0.0027	0.0013	0.0125	0.0012	-0.1274	0.0042	-0.1083	0.0297
4	180	0.3001	-0.0005	0.0015	0.0304	0.0020	-0.2233	0.0048	-0.0103	0.0404
4	180	0.3502	0.0070	0.0011	0.0469	0.0036	-0.3896	0.0084	0.0594	0.0446
4	180	0.4002	0.0366	0.0013	0.0763	0.0051	-0.6168	0.0128	0.0052	0.0342
4	180	0.4500	0.0672	0.0013	0.0928	0.0073	-0.9375	0.0152	-0.1752	0.0370
4	180	0.5001	0.0885	0.0015	0.0944	0.0071	-1.3025	0.0187	-0.0397	0.0411
4	180	0.5560	0.1059	0.0018	0.1130	0.0105	-1.8978	0.0218	-0.2502	0.0452
4	180	0.6001	0.1234	0.0018	0.1221	0.0120	-2.4420	0.0231	-0.2653	0.0351
4	180	0.6501	0.1244	0.0020	0.1161	0.0138	-3.1692	0.0263	-0.1652	0.0270
4	180	0.6999	0.1294	0.0022	0.0937	0.0154	-4.0392	0.0300	-0.1046	0.0421
4	180	0.7500	0.1259	0.0024	0.0783	0.0180	-5.0260	0.0357	0.0513	0.0333
4	180	0.8002	0.1011	0.0025	0.0657	0.0207	-6.1513	0.0419	0.0128	0.0336
4	180	0.8582	0.0823	0.0025	0.0606	0.0245	-7.5390	0.0436	-0.0634	0.0456
4	180	0.9101	0.0846	0.0023	0.0565	0.0272	-8.8555	0.0472	-0.0764	0.0321
4	180	0.9728	0.1135	0.0040	0.1074	0.0310	-10.3647	0.0547	0.3634	0.0353

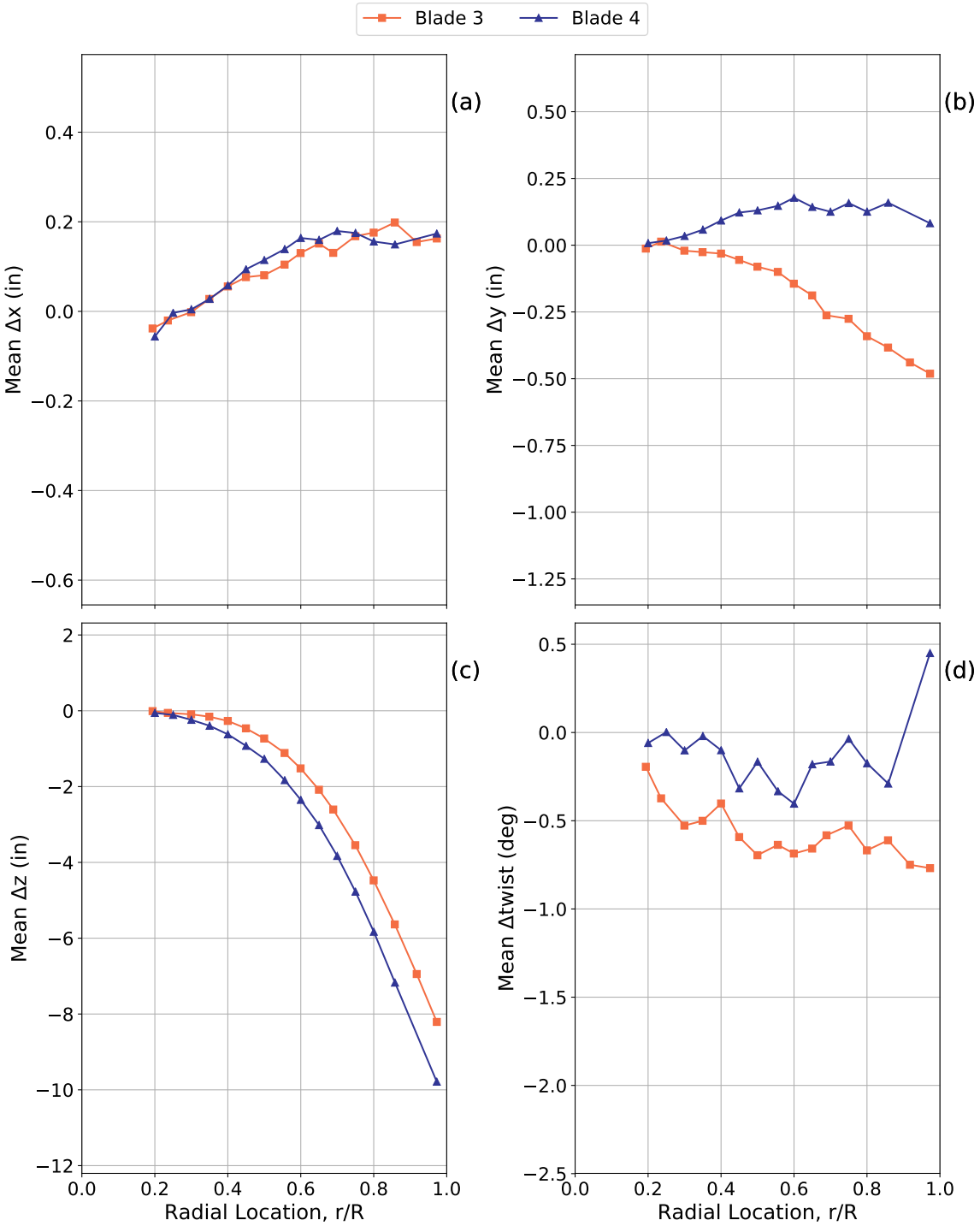


Figure 4.6-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0382	0.0012	-0.0126	0.0009	-0.0085	0.0016	-0.1944	0.0188
3	184.92	0.2357	-0.0204	0.0012	0.0134	0.0017	-0.0561	0.0035	-0.3731	0.0245
3	184.92	0.2995	-0.0018	0.0011	-0.0205	0.0032	-0.0927	0.0061	-0.5275	0.0361
3	184.92	0.3493	0.0277	0.0014	-0.0260	0.0059	-0.1559	0.0096	-0.5004	0.0249
3	184.92	0.4000	0.0557	0.0009	-0.0314	0.0087	-0.2678	0.0151	-0.4024	0.0194
3	184.92	0.4497	0.0764	0.0010	-0.0551	0.0103	-0.4636	0.0178	-0.5927	0.0321
3	184.92	0.4997	0.0807	0.0013	-0.0806	0.0132	-0.7316	0.0232	-0.6954	0.0268
3	184.92	0.5556	0.1044	0.0016	-0.1000	0.0162	-1.1137	0.0291	-0.6367	0.0261
3	184.92	0.5995	0.1302	0.0014	-0.1442	0.0184	-1.5199	0.0357	-0.6860	0.0192
3	184.92	0.6498	0.1514	0.0017	-0.1881	0.0209	-2.0834	0.0407	-0.6578	0.0148
3	184.92	0.6890	0.1306	0.0013	-0.2626	0.0230	-2.6050	0.0429	-0.5825	0.0260
3	184.92	0.7495	0.1678	0.0010	-0.2757	0.0251	-3.5462	0.0476	-0.5271	0.0211
3	184.92	0.7998	0.1758	0.0013	-0.3409	0.0271	-4.4749	0.0516	-0.6680	0.0188
3	184.92	0.8577	0.1984	0.0017	-0.3834	0.0310	-5.6360	0.0546	-0.6108	0.0302
3	184.92	0.9178	0.1547	0.0021	-0.4391	0.0343	-6.9453	0.0626	-0.7495	0.0320
3	184.92	0.9729	0.1627	0.0040	-0.4812	0.0379	-8.2089	0.0614	-0.7686	0.0468
4	184.92	0.2001	-0.0562	0.0011	0.0076	0.0010	-0.0577	0.0017	-0.0596	0.0162
4	184.92	0.2502	-0.0033	0.0007	0.0174	0.0019	-0.1094	0.0043	0.0024	0.0367
4	184.92	0.3001	0.0045	0.0012	0.0344	0.0047	-0.2397	0.0068	-0.1015	0.0384
4	184.92	0.3502	0.0278	0.0009	0.0581	0.0058	-0.3966	0.0108	-0.0204	0.0396
4	184.92	0.4002	0.0579	0.0012	0.0923	0.0103	-0.6222	0.0175	-0.1006	0.0348
4	184.92	0.4500	0.0940	0.0010	0.1223	0.0122	-0.9257	0.0197	-0.3170	0.0391
4	184.92	0.5001	0.1146	0.0011	0.1303	0.0149	-1.2677	0.0225	-0.1659	0.0454
4	184.92	0.5560	0.1389	0.0014	0.1473	0.0175	-1.8307	0.0272	-0.3331	0.0628
4	184.92	0.6001	0.1638	0.0014	0.1776	0.0206	-2.3512	0.0309	-0.4036	0.0406
4	184.92	0.6501	0.1595	0.0020	0.1432	0.0227	-3.0171	0.0354	-0.1803	0.0601
4	184.92	0.6999	0.1794	0.0024	0.1252	0.0277	-3.8311	0.0396	-0.1648	0.0526
4	184.92	0.7500	0.1750	0.0026	0.1576	0.0322	-4.7736	0.0425	-0.0359	0.0797
4	184.92	0.8002	0.1559	0.0028	0.1254	0.0412	-5.8307	0.0470	-0.1747	0.1023
4	184.92	0.8582	0.1494	0.0029	0.1589	0.0444	-7.1721	0.0548	-0.2897	0.1154
4	184.92	0.9728	0.1737	0.0058	0.0822	0.0514	-9.7860	0.0806	0.4499	0.0992

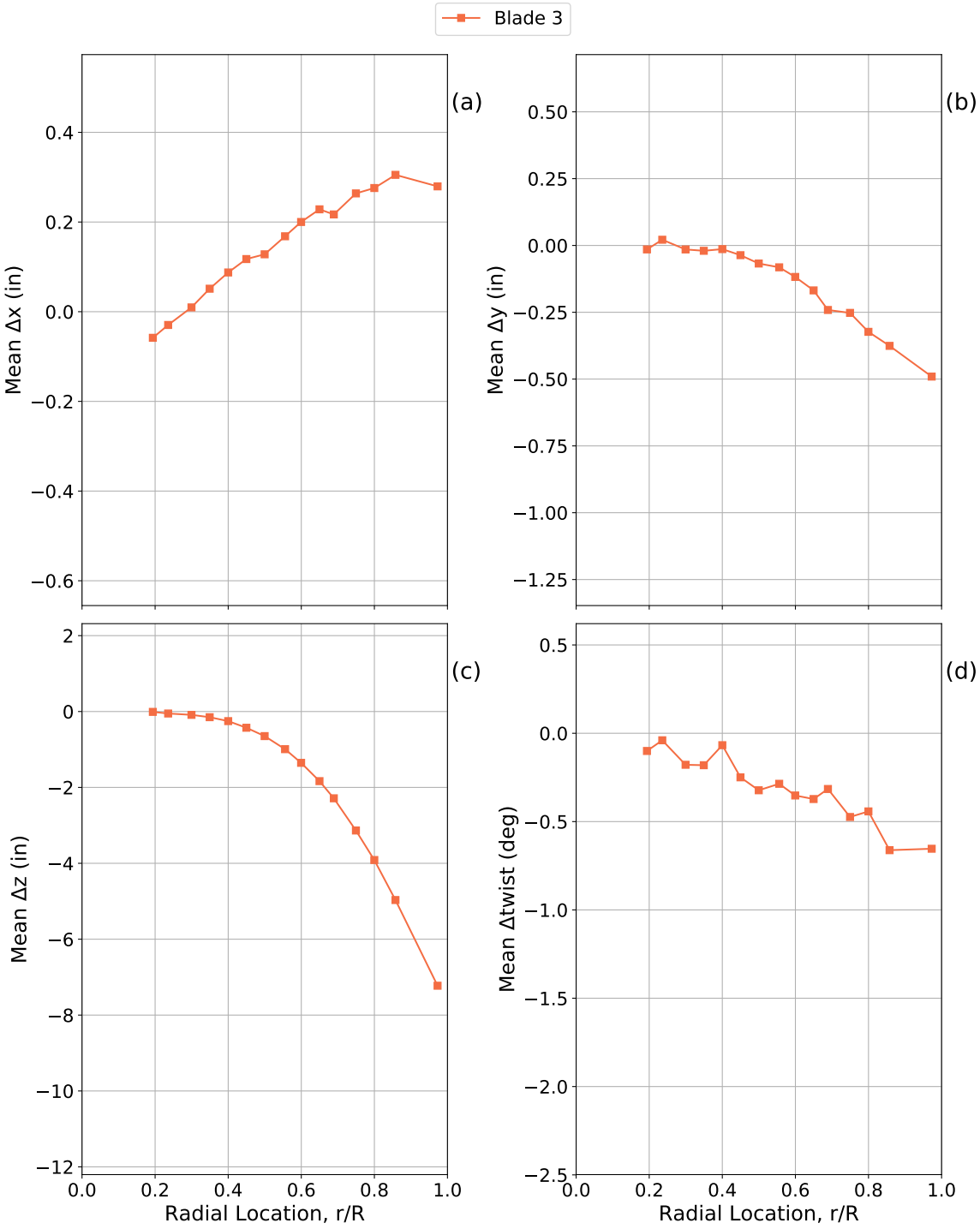


Figure 4.6-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0582	0.0008	-0.0148	0.0007	-0.0094	0.0013	-0.1002	0.0110
3	195.12	0.2357	-0.0296	0.0008	0.0214	0.0018	-0.0522	0.0023	-0.0397	0.0204
3	195.12	0.2995	0.0096	0.0006	-0.0149	0.0025	-0.0877	0.0051	-0.1784	0.0273
3	195.12	0.3493	0.0513	0.0011	-0.0200	0.0048	-0.1494	0.0087	-0.1808	0.0301
3	195.12	0.4000	0.0875	0.0015	-0.0137	0.0072	-0.2527	0.0132	-0.0674	0.0223
3	195.12	0.4497	0.1174	0.0018	-0.0364	0.0083	-0.4274	0.0155	-0.2495	0.0255
3	195.12	0.4997	0.1280	0.0021	-0.0676	0.0107	-0.6478	0.0199	-0.3227	0.0228
3	195.12	0.5556	0.1682	0.0017	-0.0818	0.0117	-0.9921	0.0238	-0.2860	0.0278
3	195.12	0.5995	0.2001	0.0017	-0.1178	0.0132	-1.3525	0.0256	-0.3522	0.0377
3	195.12	0.6498	0.2283	0.0016	-0.1681	0.0151	-1.8342	0.0304	-0.3723	0.0228
3	195.12	0.6890	0.2169	0.0017	-0.2414	0.0166	-2.2867	0.0355	-0.3154	0.0402
3	195.12	0.7495	0.2638	0.0023	-0.2523	0.0188	-3.1353	0.0413	-0.4739	0.0340
3	195.12	0.7998	0.2758	0.0023	-0.3232	0.0219	-3.9135	0.0483	-0.4423	0.0425
3	195.12	0.8577	0.3052	0.0031	-0.3757	0.0249	-4.9679	0.0536	-0.6618	0.0779
3	195.12	0.9729	0.2795	0.0025	-0.4906	0.0334	-7.2262	0.0723	-0.6537	0.1606

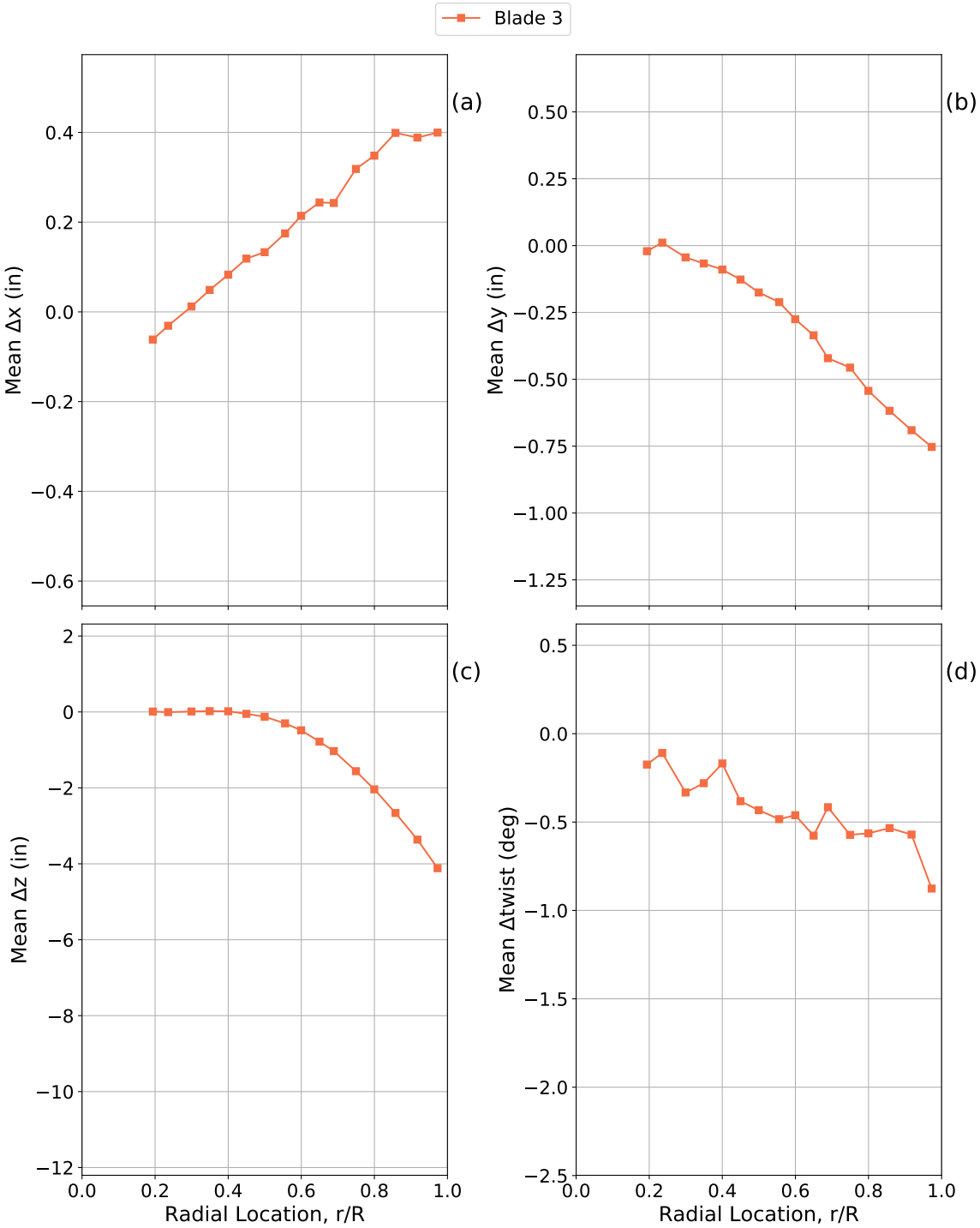


Figure 4.6-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0617	0.0013	-0.0209	0.0010	0.0104	0.0015	-0.1745	0.0215
3	209.88	0.2357	-0.0309	0.0006	0.0111	0.0014	-0.0054	0.0034	-0.1090	0.0247
3	209.88	0.2995	0.0119	0.0008	-0.0441	0.0022	0.0117	0.0054	-0.3328	0.0452
3	209.88	0.3493	0.0488	0.0009	-0.0669	0.0044	0.0204	0.0105	-0.2801	0.0318
3	209.88	0.4000	0.0829	0.0011	-0.0896	0.0060	0.0172	0.0153	-0.1684	0.0301
3	209.88	0.4497	0.1187	0.0008	-0.1269	0.0074	-0.0501	0.0174	-0.3820	0.0296
3	209.88	0.4997	0.1330	0.0010	-0.1753	0.0086	-0.1265	0.0224	-0.4326	0.0301
3	209.88	0.5556	0.1748	0.0009	-0.2113	0.0107	-0.3011	0.0260	-0.4836	0.0276
3	209.88	0.5995	0.2140	0.0009	-0.2753	0.0115	-0.4838	0.0281	-0.4613	0.0403
3	209.88	0.6498	0.2439	0.0008	-0.3353	0.0134	-0.7823	0.0321	-0.5766	0.0322
3	209.88	0.6890	0.2427	0.0009	-0.4211	0.0149	-1.0307	0.0360	-0.4160	0.0296
3	209.88	0.7495	0.3186	0.0014	-0.4562	0.0165	-1.5607	0.0396	-0.5723	0.0316
3	209.88	0.7998	0.3482	0.0017	-0.5431	0.0182	-2.0390	0.0434	-0.5636	0.0331
3	209.88	0.8577	0.3990	0.0019	-0.6178	0.0217	-2.6608	0.0478	-0.5339	0.0403
3	209.88	0.9178	0.3885	0.0042	-0.6903	0.0258	-3.3631	0.0558	-0.5708	0.1233
3	209.88	0.9729	0.3996	0.0026	-0.7528	0.0245	-4.1148	0.0597	-0.8762	0.0337

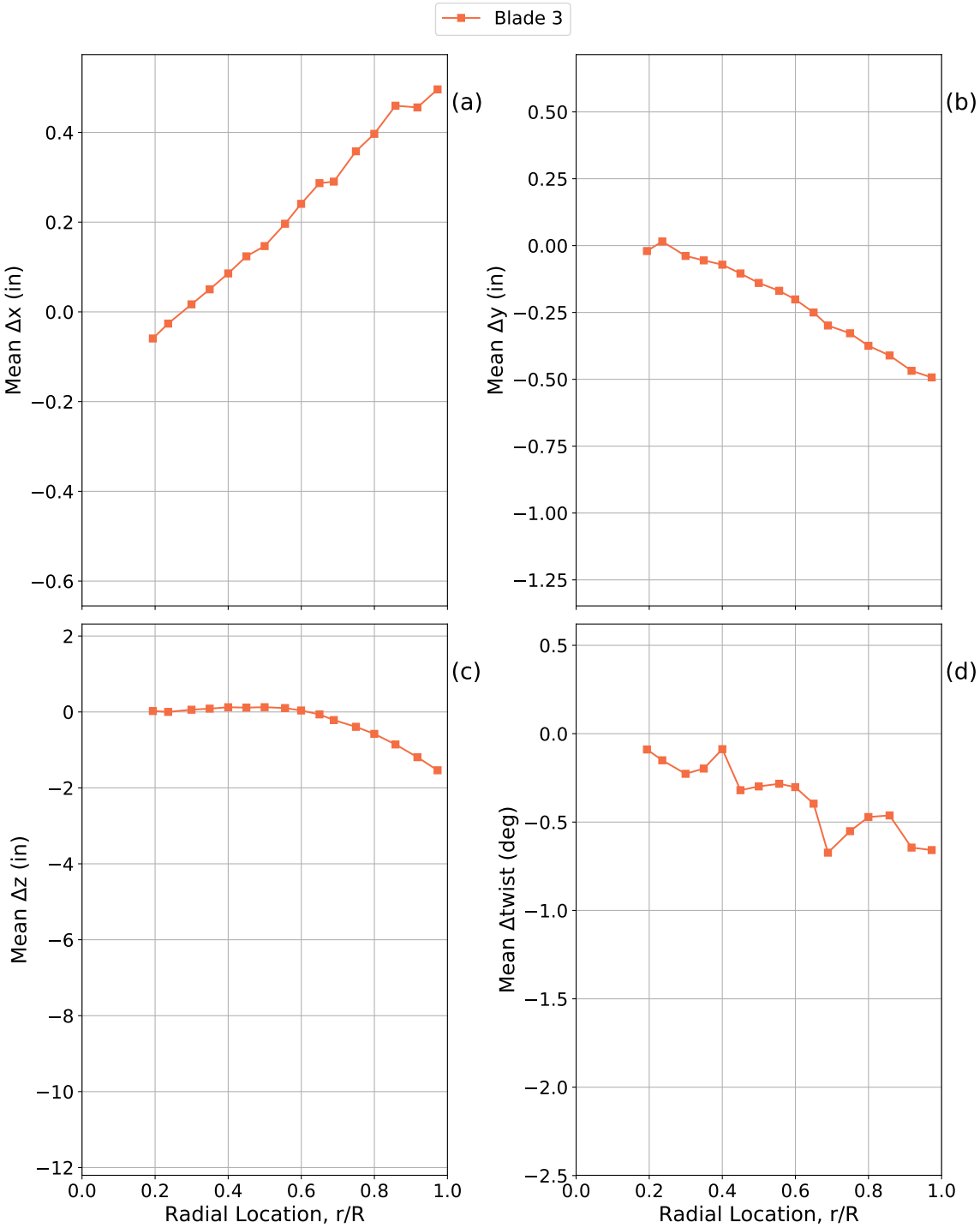


Figure 4.6-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0593	0.0010	-0.0204	0.0004	0.0237	0.0012	-0.0892	0.0112
3	225	0.2357	-0.0261	0.0006	0.0155	0.0010	0.0005	0.0024	-0.1505	0.0209
3	225	0.2995	0.0168	0.0004	-0.0386	0.0017	0.0587	0.0050	-0.2269	0.0282
3	225	0.3493	0.0503	0.0017	-0.0553	0.0025	0.0868	0.0076	-0.1972	0.0196
3	225	0.4000	0.0857	0.0012	-0.0714	0.0040	0.1237	0.0124	-0.0874	0.0296
3	225	0.4497	0.1238	0.0006	-0.1042	0.0069	0.1147	0.0154	-0.3197	0.0262
3	225	0.4997	0.1467	0.0010	-0.1397	0.0064	0.1251	0.0186	-0.2983	0.0172
3	225	0.5556	0.1964	0.0013	-0.1690	0.0085	0.1022	0.0224	-0.2834	0.0222
3	225	0.5995	0.2408	0.0012	-0.2013	0.0114	0.0381	0.0276	-0.3022	0.0400
3	225	0.6498	0.2869	0.0011	-0.2501	0.0123	-0.0645	0.0273	-0.3959	0.0258
3	225	0.6890	0.2903	0.0014	-0.2988	0.0143	-0.2149	0.0305	-0.6731	0.0184
3	225	0.7495	0.3579	0.0014	-0.3279	0.0180	-0.3917	0.0344	-0.5516	0.0149
3	225	0.7998	0.3968	0.0019	-0.3747	0.0214	-0.5784	0.0371	-0.4715	0.0240
3	225	0.8577	0.4595	0.0014	-0.4108	0.0249	-0.8565	0.0408	-0.4624	0.0214
3	225	0.9178	0.4557	0.0022	-0.4682	0.0294	-1.1920	0.0458	-0.6443	0.0318
3	225	0.9729	0.4959	0.0028	-0.4929	0.0330	-1.5369	0.0507	-0.6585	0.0276

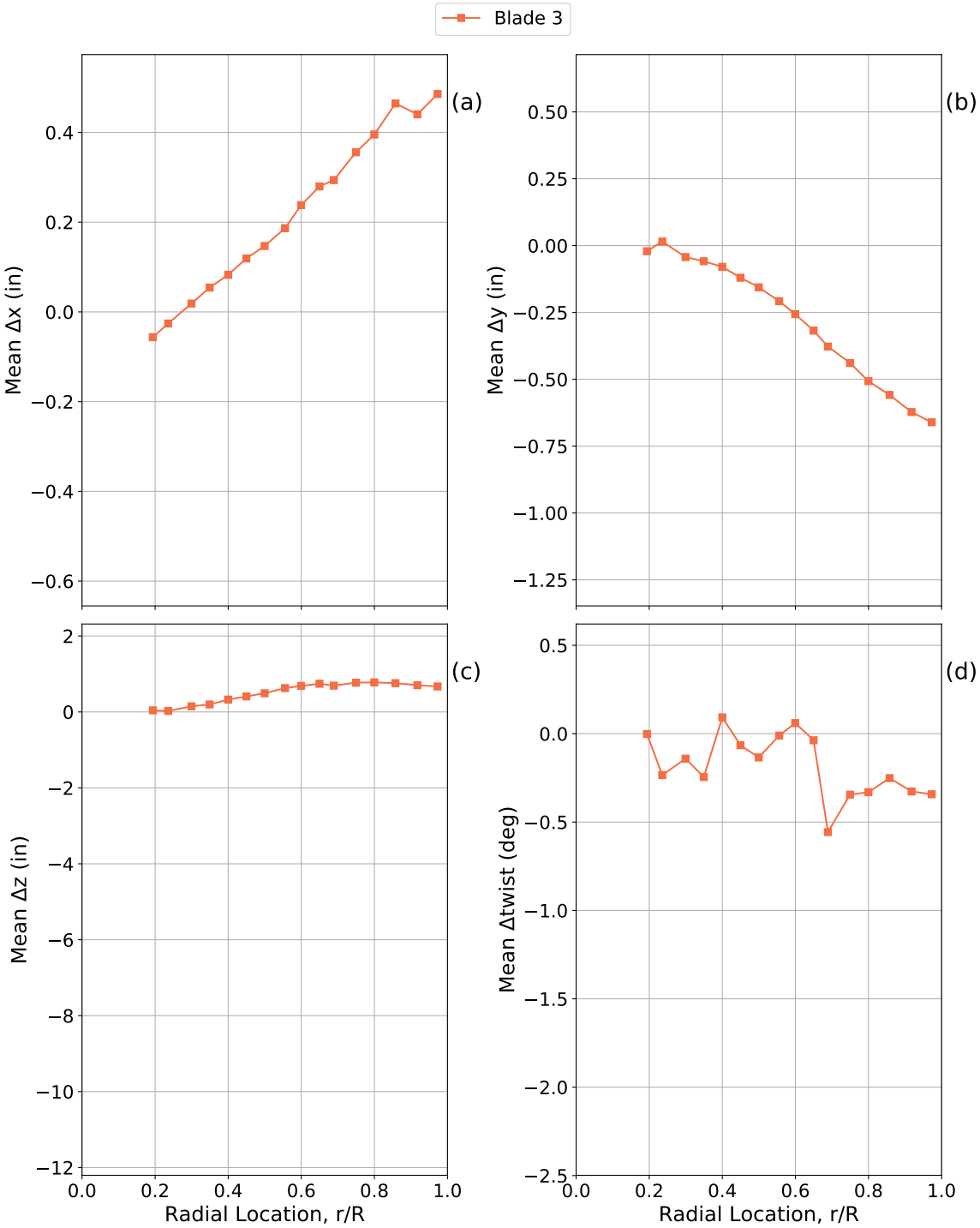


Figure 4.6-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0564	0.0012	-0.0210	0.0005	0.0416	0.0010	-0.0019	0.0177
3	240.12	0.2357	-0.0259	0.0008	0.0151	0.0007	0.0244	0.0031	-0.2339	0.0303
3	240.12	0.2995	0.0186	0.0010	-0.0429	0.0020	0.1481	0.0058	-0.1412	0.0449
3	240.12	0.3493	0.0541	0.0011	-0.0586	0.0029	0.1977	0.0095	-0.2450	0.0390
3	240.12	0.4000	0.0828	0.0018	-0.0794	0.0048	0.3247	0.0156	0.0923	0.0417
3	240.12	0.4497	0.1191	0.0014	-0.1201	0.0059	0.4096	0.0195	-0.0654	0.0379
3	240.12	0.4997	0.1469	0.0016	-0.1559	0.0072	0.4919	0.0225	-0.1342	0.0400
3	240.12	0.5556	0.1866	0.0027	-0.2079	0.0096	0.6268	0.0285	-0.0109	0.0429
3	240.12	0.5995	0.2379	0.0020	-0.2563	0.0107	0.6855	0.0358	0.0603	0.0455
3	240.12	0.6498	0.2796	0.0017	-0.3178	0.0118	0.7426	0.0401	-0.0372	0.0457
3	240.12	0.6890	0.2938	0.0022	-0.3774	0.0129	0.6931	0.0440	-0.5568	0.0486
3	240.12	0.7495	0.3557	0.0017	-0.4389	0.0148	0.7708	0.0474	-0.3446	0.0461
3	240.12	0.7998	0.3954	0.0019	-0.5070	0.0165	0.7785	0.0538	-0.3308	0.0461
3	240.12	0.8577	0.4645	0.0026	-0.5585	0.0189	0.7578	0.0580	-0.2513	0.0437
3	240.12	0.9178	0.4403	0.0023	-0.6224	0.0206	0.7040	0.0648	-0.3267	0.0470
3	240.12	0.9729	0.4856	0.0029	-0.6608	0.0220	0.6708	0.0693	-0.3427	0.0470

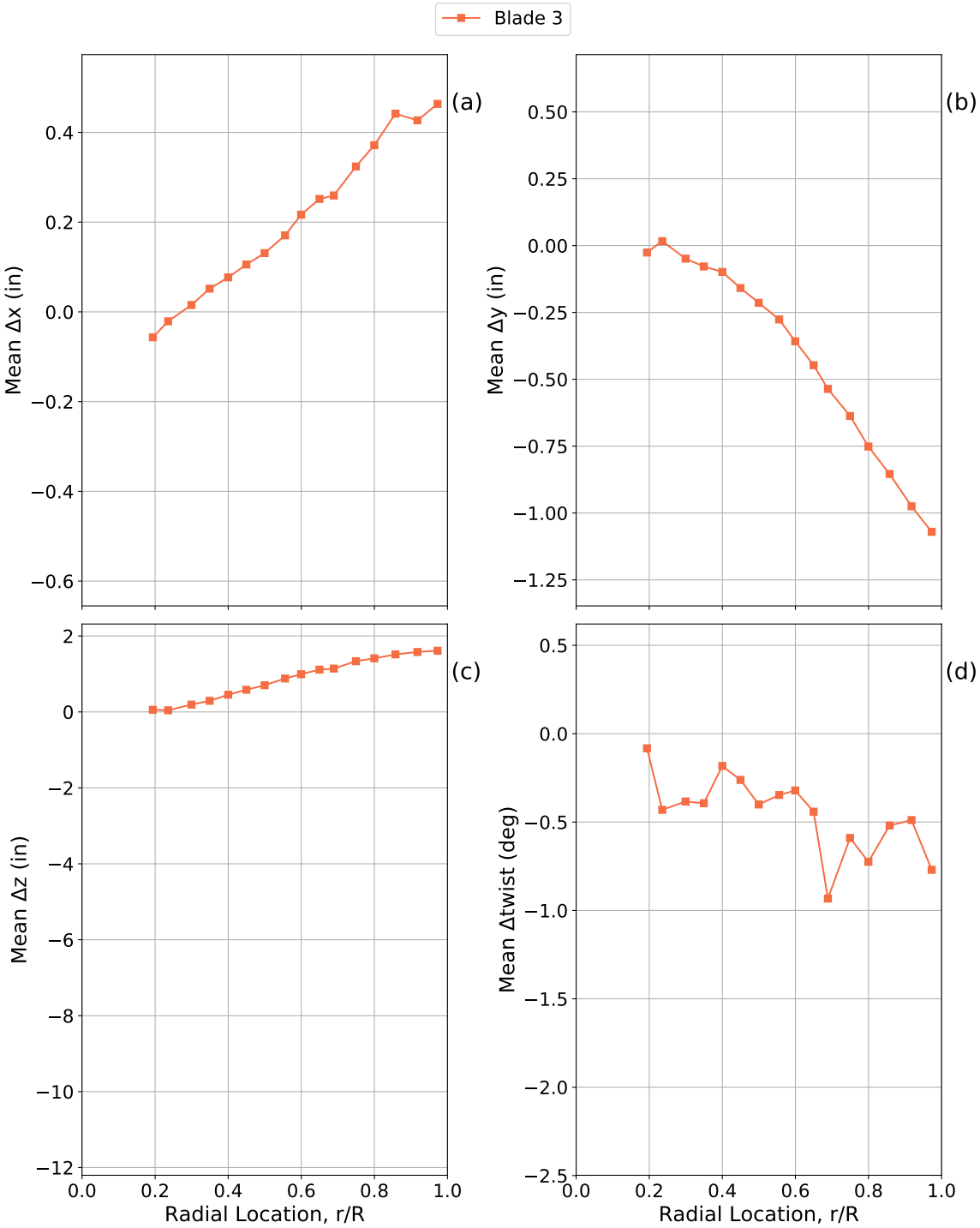


Figure 4.6-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0567	0.0020	-0.0258	0.0005	0.0574	0.0023	-0.0826	0.0190
3	254.88	0.2357	-0.0210	0.0007	0.0167	0.0010	0.0430	0.0027	-0.4307	0.0437
3	254.88	0.2995	0.0154	0.0010	-0.0490	0.0022	0.1934	0.0081	-0.3835	0.0540
3	254.88	0.3493	0.0517	0.0011	-0.0780	0.0037	0.2933	0.0125	-0.3936	0.0554
3	254.88	0.4000	0.0769	0.0009	-0.0985	0.0058	0.4531	0.0194	-0.1827	0.0556
3	254.88	0.4497	0.1056	0.0013	-0.1587	0.0074	0.5843	0.0265	-0.2614	0.0601
3	254.88	0.4997	0.1310	0.0011	-0.2139	0.0091	0.7038	0.0320	-0.4005	0.0571
3	254.88	0.5556	0.1706	0.0013	-0.2762	0.0112	0.8802	0.0412	-0.3467	0.0594
3	254.88	0.5995	0.2167	0.0020	-0.3578	0.0133	0.9937	0.0492	-0.3213	0.0680
3	254.88	0.6498	0.2517	0.0014	-0.4472	0.0156	1.1137	0.0607	-0.4412	0.0694
3	254.88	0.6890	0.2594	0.0016	-0.5359	0.0178	1.1425	0.0674	-0.9327	0.0594
3	254.88	0.7495	0.3241	0.0009	-0.6371	0.0202	1.3361	0.0818	-0.5899	0.0557
3	254.88	0.7998	0.3715	0.0013	-0.7514	0.0225	1.4119	0.0926	-0.7250	0.0563
3	254.88	0.8577	0.4418	0.0015	-0.8540	0.0256	1.5156	0.1059	-0.5195	0.0520
3	254.88	0.9178	0.4269	0.0016	-0.9749	0.0284	1.5789	0.1180	-0.4887	0.0525
3	254.88	0.9729	0.4636	0.0024	-1.0703	0.0309	1.6121	0.1295	-0.7701	0.0610

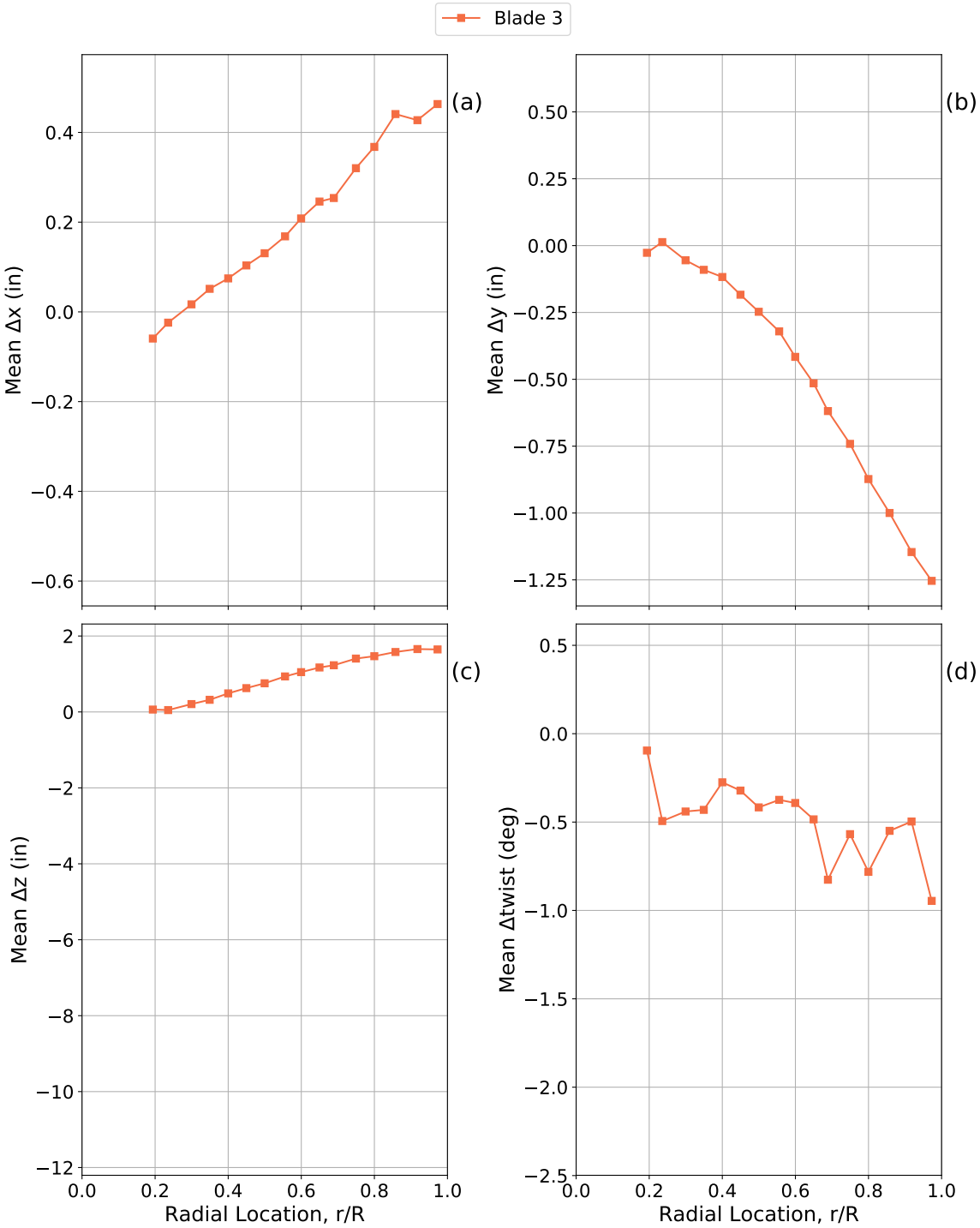


Figure 4.6-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0594	0.0035	-0.0269	0.0012	0.0625	0.0051	-0.0953	0.0211
3	260.16	0.2357	-0.0240	0.0012	0.0131	0.0009	0.0489	0.0039	-0.4941	0.0612
3	260.16	0.2995	0.0168	0.0014	-0.0549	0.0033	0.2069	0.0136	-0.4402	0.0592
3	260.16	0.3493	0.0514	0.0015	-0.0906	0.0053	0.3199	0.0241	-0.4309	0.0551
3	260.16	0.4000	0.0746	0.0018	-0.1174	0.0077	0.4887	0.0337	-0.2751	0.0554
3	260.16	0.4497	0.1035	0.0014	-0.1837	0.0097	0.6273	0.0421	-0.3218	0.0457
3	260.16	0.4997	0.1307	0.0017	-0.2475	0.0118	0.7543	0.0522	-0.4169	0.0542
3	260.16	0.5556	0.1683	0.0009	-0.3208	0.0137	0.9348	0.0620	-0.3743	0.0538
3	260.16	0.5995	0.2082	0.0015	-0.4161	0.0160	1.0482	0.0744	-0.3920	0.0584
3	260.16	0.6498	0.2459	0.0015	-0.5149	0.0182	1.1708	0.0839	-0.4847	0.0555
3	260.16	0.6890	0.2538	0.0011	-0.6187	0.0201	1.2296	0.0918	-0.8262	0.0514
3	260.16	0.7495	0.3203	0.0016	-0.7414	0.0233	1.4055	0.1058	-0.5684	0.0516
3	260.16	0.7998	0.3677	0.0011	-0.8730	0.0262	1.4678	0.1172	-0.7817	0.0572
3	260.16	0.8577	0.4409	0.0018	-0.9999	0.0300	1.5785	0.1288	-0.5496	0.0568
3	260.16	0.9178	0.4273	0.0018	-1.1459	0.0342	1.6558	0.1406	-0.4968	0.0563
3	260.16	0.9729	0.4632	0.0031	-1.2537	0.0373	1.6463	0.1541	-0.9460	0.0592

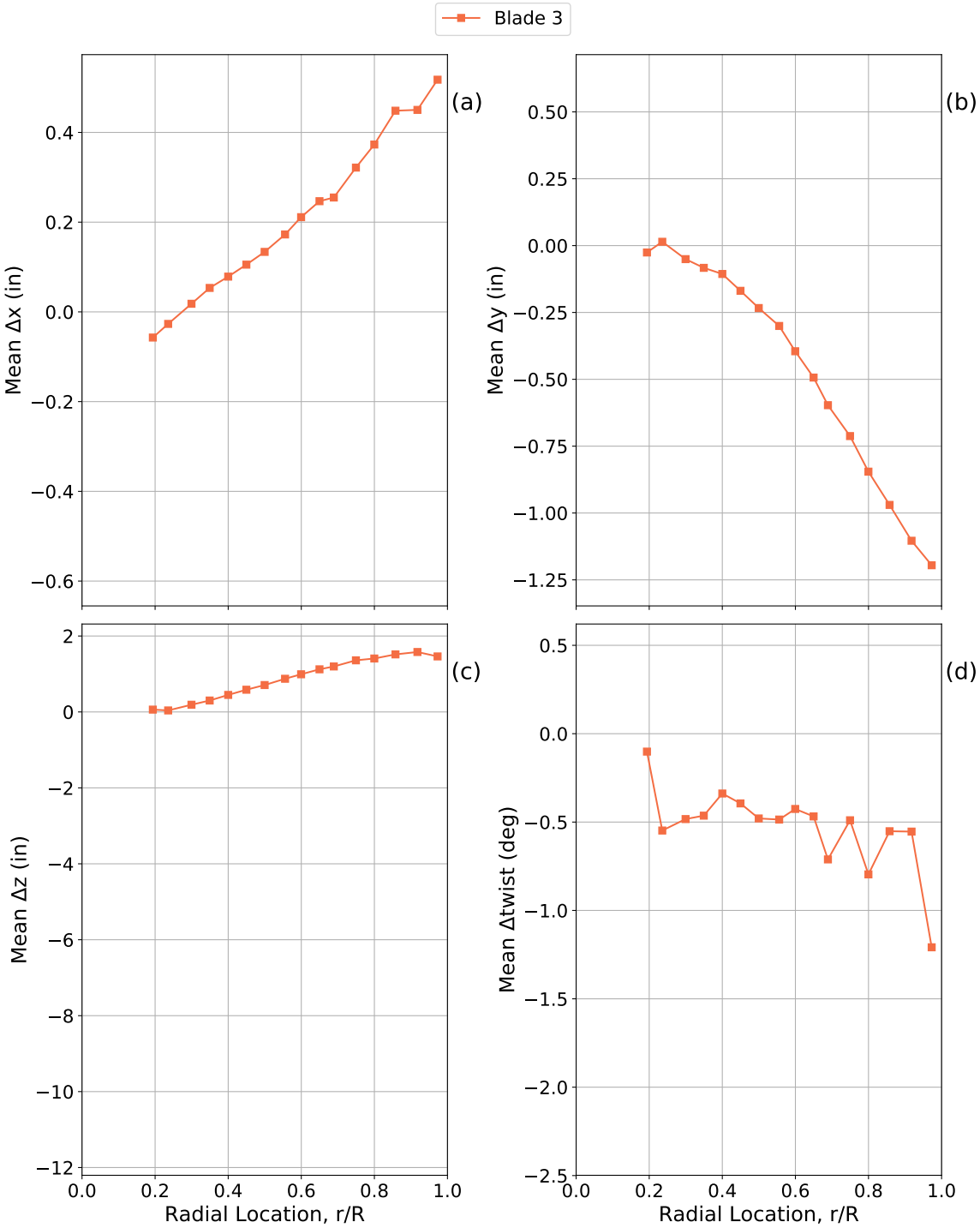


Figure 4.6-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0572	0.0023	-0.0257	0.0012	0.0613	0.0052	-0.1013	0.0286
3	265.08	0.2357	-0.0268	0.0018	0.0143	0.0010	0.0396	0.0041	-0.5478	0.0696
3	265.08	0.2995	0.0181	0.0013	-0.0506	0.0036	0.1898	0.0118	-0.4831	0.0724
3	265.08	0.3493	0.0534	0.0018	-0.0832	0.0064	0.3008	0.0205	-0.4637	0.0600
3	265.08	0.4000	0.0786	0.0026	-0.1061	0.0093	0.4482	0.0272	-0.3384	0.0691
3	265.08	0.4497	0.1053	0.0024	-0.1691	0.0112	0.5849	0.0354	-0.3944	0.0585
3	265.08	0.4997	0.1337	0.0018	-0.2335	0.0136	0.7083	0.0413	-0.4795	0.0690
3	265.08	0.5556	0.1726	0.0020	-0.3005	0.0160	0.8739	0.0516	-0.4858	0.0628
3	265.08	0.5995	0.2111	0.0021	-0.3951	0.0187	0.9915	0.0578	-0.4258	0.0714
3	265.08	0.6498	0.2467	0.0023	-0.4935	0.0213	1.1228	0.0673	-0.4681	0.0636
3	265.08	0.6890	0.2549	0.0023	-0.5968	0.0232	1.1976	0.0736	-0.7113	0.0647
3	265.08	0.7495	0.3216	0.0025	-0.7123	0.0268	1.3594	0.0858	-0.4898	0.0627
3	265.08	0.7998	0.3730	0.0023	-0.8453	0.0300	1.4072	0.0939	-0.7960	0.0705
3	265.08	0.8577	0.4484	0.0026	-0.9697	0.0329	1.5157	0.1047	-0.5518	0.0651
3	265.08	0.9178	0.4502	0.0029	-1.1037	0.0375	1.5784	0.1137	-0.5539	0.0699
3	265.08	0.9729	0.5175	0.0042	-1.1953	0.0411	1.4621	0.1219	-1.2085	0.0598

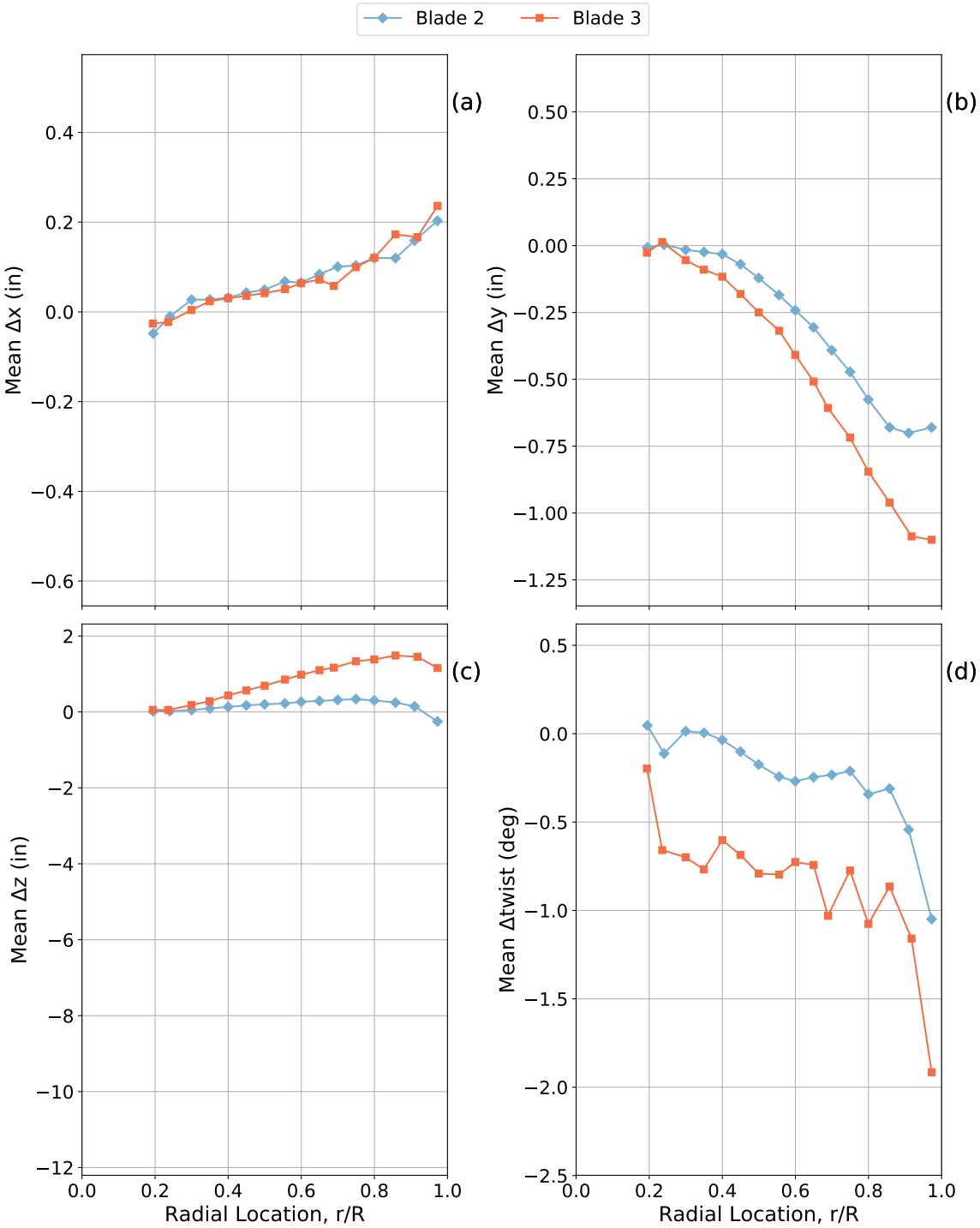


Figure 4.6-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0483	0.0041	-0.0070	0.0015	0.0144	0.0063	0.0464	0.0449
2	270.35	0.2405	-0.0102	0.0021	0.0032	0.0017	0.0199	0.0075	-0.1123	0.1002
2	270.35	0.2999	0.0271	0.0019	-0.0159	0.0043	0.0502	0.0183	0.0140	0.1184
2	270.35	0.3498	0.0275	0.0017	-0.0241	0.0079	0.0915	0.0312	0.0052	0.1083
2	270.35	0.3998	0.0317	0.0017	-0.0319	0.0111	0.1326	0.0447	-0.0353	0.1055
2	270.35	0.4496	0.0428	0.0022	-0.0697	0.0135	0.1737	0.0543	-0.1019	0.1172
2	270.35	0.4995	0.0493	0.0021	-0.1213	0.0173	0.2003	0.0668	-0.1749	0.1034
2	270.35	0.5551	0.0679	0.0017	-0.1850	0.0208	0.2241	0.0782	-0.2432	0.1118
2	270.35	0.5996	0.0652	0.0016	-0.2418	0.0238	0.2670	0.0871	-0.2689	0.1078
2	270.35	0.6497	0.0838	0.0018	-0.3060	0.0274	0.2893	0.0966	-0.2461	0.1088
2	270.35	0.6996	0.1006	0.0021	-0.3913	0.0307	0.3168	0.1078	-0.2329	0.1066
2	270.35	0.7495	0.1034	0.0018	-0.4721	0.0343	0.3388	0.1173	-0.2114	0.1138
2	270.35	0.7996	0.1202	0.0022	-0.5757	0.0381	0.3019	0.1295	-0.3426	0.1015
2	270.35	0.8578	0.1199	0.0026	-0.6798	0.0427	0.2479	0.1397	-0.3107	0.1133
2	270.35	0.9100	0.1589	0.0027	-0.7010	0.0475	0.1458	0.1509	-0.5431	0.1077
2	270.35	0.9727	0.2031	0.0040	-0.6799	0.0533	-0.2513	0.1679	-1.0489	0.1183
3	270	0.1938	-0.0260	0.0035	-0.0266	0.0012	0.0538	0.0058	-0.1974	0.0351
3	270	0.2357	-0.0225	0.0013	0.0134	0.0008	0.0511	0.0053	-0.6586	0.0983
3	270	0.2995	0.0042	0.0018	-0.0542	0.0036	0.1819	0.0165	-0.6992	0.1046
3	270	0.3493	0.0235	0.0016	-0.0901	0.0057	0.2844	0.0263	-0.7678	0.1030
3	270	0.4000	0.0304	0.0020	-0.1165	0.0085	0.4344	0.0389	-0.6020	0.0936
3	270	0.4497	0.0357	0.0018	-0.1809	0.0102	0.5654	0.0498	-0.6866	0.1057
3	270	0.4997	0.0417	0.0025	-0.2498	0.0127	0.6914	0.0610	-0.7911	0.0947
3	270	0.5556	0.0506	0.0026	-0.3184	0.0152	0.8519	0.0752	-0.7973	0.0996
3	270	0.5995	0.0640	0.0024	-0.4087	0.0175	0.9791	0.0860	-0.7261	0.1092
3	270	0.6498	0.0721	0.0024	-0.5082	0.0200	1.1001	0.1013	-0.7428	0.1021
3	270	0.6890	0.0578	0.0024	-0.6072	0.0219	1.1677	0.1118	-1.0301	0.0949
3	270	0.7495	0.0996	0.0026	-0.7177	0.0258	1.3335	0.1263	-0.7741	0.1043
3	270	0.7998	0.1206	0.0026	-0.8453	0.0290	1.3816	0.1380	-1.0762	0.0993
3	270	0.8577	0.1727	0.0029	-0.9609	0.0320	1.4859	0.1507	-0.8651	0.0993
3	270	0.9178	0.1668	0.0026	-1.0874	0.0368	1.4535	0.1638	-1.1590	0.1024
3	270	0.9729	0.2363	0.0079	-1.1001	0.0434	1.1567	0.1856	-1.9156	0.1307

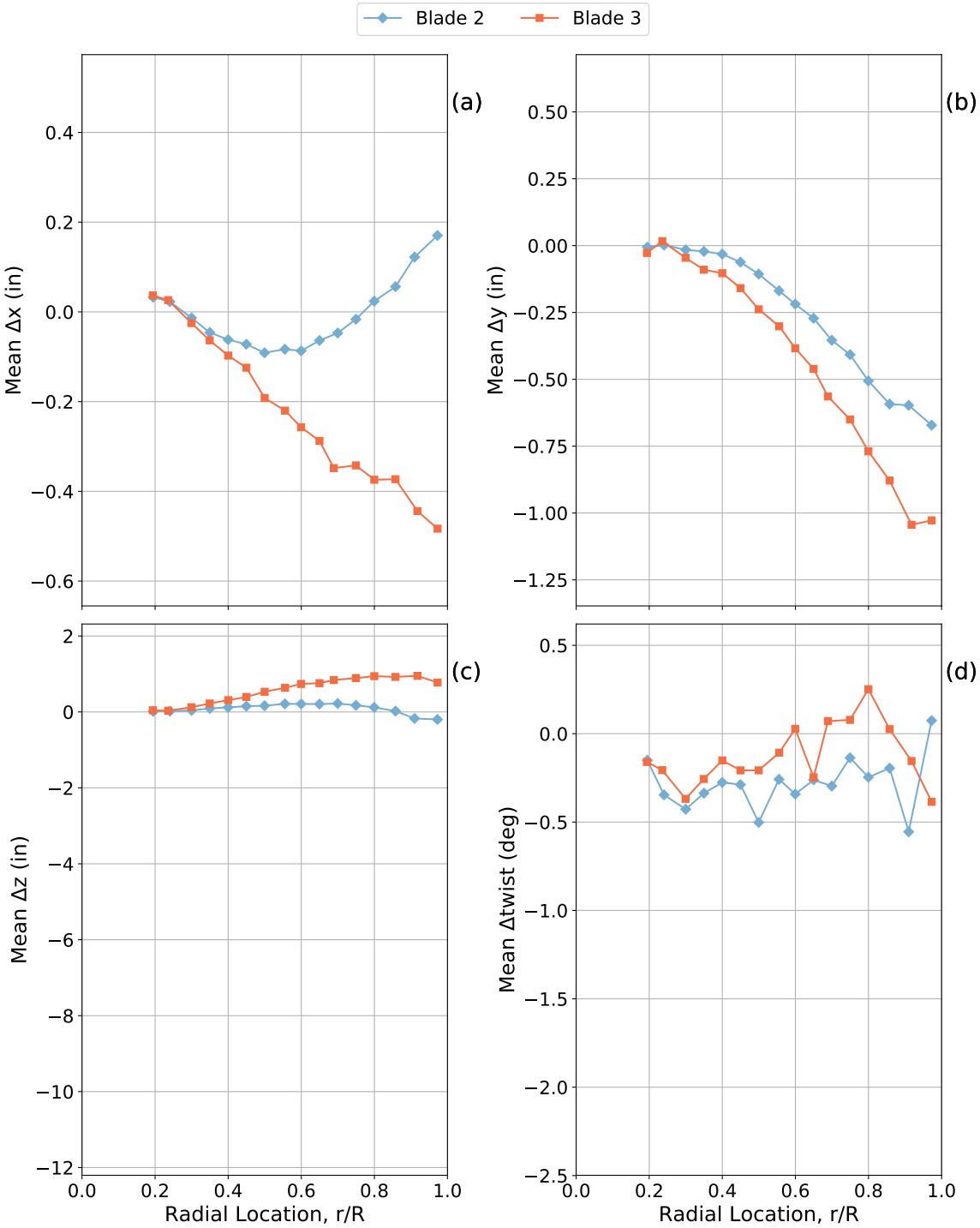


Figure 4.6-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0328	0.0010	-0.0057	0.0003	0.0147	0.0024	-0.1504	0.0152
2	274.92	0.2405	0.0226	0.0009	0.0018	0.0008	0.0188	0.0043	-0.3463	0.0274
2	274.92	0.2999	-0.0135	0.0020	-0.0158	0.0014	0.0411	0.0101	-0.4276	0.0341
2	274.92	0.3498	-0.0461	0.0014	-0.0218	0.0021	0.0924	0.0168	-0.3365	0.0625
2	274.92	0.3998	-0.0619	0.0013	-0.0319	0.0030	0.1204	0.0247	-0.2759	0.0254
2	274.92	0.4496	-0.0721	0.0019	-0.0618	0.0041	0.1520	0.0280	-0.2881	0.0332
2	274.92	0.4995	-0.0912	0.0014	-0.1065	0.0053	0.1630	0.0370	-0.5019	0.0291
2	274.92	0.5551	-0.0831	0.0016	-0.1688	0.0067	0.2132	0.0446	-0.2579	0.0390
2	274.92	0.5996	-0.0869	0.0019	-0.2188	0.0077	0.2115	0.0534	-0.3416	0.0428
2	274.92	0.6497	-0.0638	0.0024	-0.2719	0.0091	0.2072	0.0587	-0.2610	0.0517
2	274.92	0.6996	-0.0471	0.0026	-0.3539	0.0107	0.2221	0.0688	-0.2964	0.0347
2	274.92	0.7495	-0.0164	0.0029	-0.4078	0.0125	0.1742	0.0777	-0.1364	0.0430
2	274.92	0.7996	0.0239	0.0033	-0.5059	0.0155	0.1208	0.0848	-0.2463	0.0386
2	274.92	0.8578	0.0562	0.0029	-0.5926	0.0181	0.0224	0.0918	-0.1951	0.0452
2	274.92	0.9100	0.1222	0.0048	-0.5972	0.0210	-0.1725	0.0981	-0.5551	0.0928
2	274.92	0.9727	0.1702	0.0060	-0.6714	0.0258	-0.1974	0.1142	0.0740	0.0977
3	274.92	0.1938	0.0366	0.0011	-0.0274	0.0007	0.0435	0.0020	-0.1599	0.0329
3	274.92	0.2357	0.0262	0.0018	0.0165	0.0023	0.0329	0.0058	-0.2063	0.0520
3	274.92	0.2995	-0.0250	0.0015	-0.0456	0.0058	0.1234	0.0094	-0.3685	0.0801
3	274.92	0.3493	-0.0635	0.0011	-0.0902	0.0058	0.2226	0.0197	-0.2561	0.0432
3	274.92	0.4000	-0.0974	0.0018	-0.1033	0.0124	0.3115	0.0279	-0.1512	0.0701
3	274.92	0.4497	-0.1244	0.0022	-0.1591	0.0166	0.3948	0.0317	-0.2075	0.0631
3	274.92	0.4997	-0.1918	0.0041	-0.2383	0.0203	0.5308	0.0418	-0.2073	0.0602
3	274.92	0.5556	-0.2201	0.0052	-0.3018	0.0246	0.6369	0.0479	-0.1075	0.0450
3	274.92	0.5995	-0.2571	0.0049	-0.3838	0.0262	0.7375	0.0580	0.0276	0.0609
3	274.92	0.6498	-0.2876	0.0046	-0.4610	0.0303	0.7574	0.0585	-0.2470	0.0890
3	274.92	0.6890	-0.3482	0.0051	-0.5641	0.0326	0.8404	0.0750	0.0711	0.0613
3	274.92	0.7495	-0.3422	0.0049	-0.6503	0.0379	0.8915	0.0787	0.0782	0.0881
3	274.92	0.7998	-0.3742	0.0044	-0.7695	0.0428	0.9420	0.0857	0.2519	0.0821
3	274.92	0.8577	-0.3729	0.0046	-0.8786	0.0450	0.9220	0.0990	0.0256	0.0840
3	274.92	0.9178	-0.4439	0.0148	-1.0439	0.0588	0.9509	0.1205	-0.1545	0.2056
3	274.92	0.9729	-0.4832	0.0139	-1.0275	0.0671	0.7738	0.1358	-0.3855	0.1850

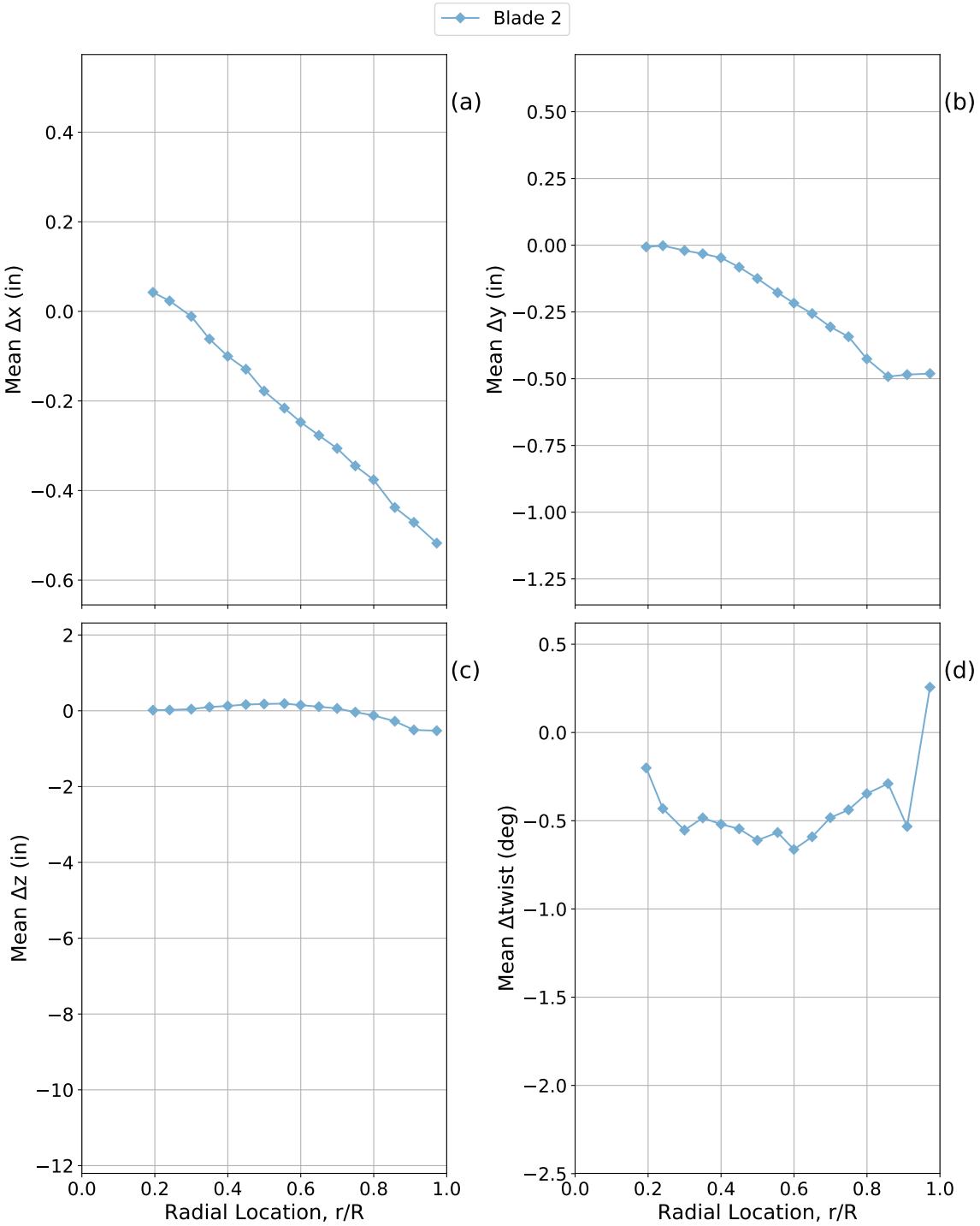


Figure 4.6-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0425	0.0038	-0.0063	0.0015	0.0161	0.0059	-0.2007	0.0252
2	285.12	0.2405	0.0234	0.0029	-0.0019	0.0040	0.0219	0.0128	-0.4313	0.0488
2	285.12	0.2999	-0.0112	0.0019	-0.0200	0.0085	0.0435	0.0257	-0.5534	0.0569
2	285.12	0.3498	-0.0617	0.0023	-0.0320	0.0130	0.0995	0.0414	-0.4839	0.0313
2	285.12	0.3998	-0.1002	0.0022	-0.0471	0.0217	0.1280	0.0655	-0.5198	0.0500
2	285.12	0.4496	-0.1292	0.0017	-0.0822	0.0245	0.1649	0.0744	-0.5459	0.0305
2	285.12	0.4995	-0.1780	0.0018	-0.1248	0.0298	0.1793	0.0864	-0.6109	0.0426
2	285.12	0.5551	-0.2160	0.0024	-0.1777	0.0365	0.1889	0.1068	-0.5666	0.0352
2	285.12	0.5996	-0.2472	0.0040	-0.2169	0.0406	0.1498	0.1233	-0.6629	0.0300
2	285.12	0.6497	-0.2769	0.0019	-0.2561	0.0450	0.1080	0.1406	-0.5910	0.0361
2	285.12	0.6996	-0.3059	0.0022	-0.3060	0.0495	0.0615	0.1560	-0.4828	0.0459
2	285.12	0.7495	-0.3449	0.0038	-0.3427	0.0545	-0.0358	0.1779	-0.4382	0.0424
2	285.12	0.7996	-0.3759	0.0032	-0.4260	0.0597	-0.1237	0.1989	-0.3464	0.0381
2	285.12	0.8578	-0.4378	0.0031	-0.4922	0.0648	-0.2753	0.2181	-0.2897	0.0406
2	285.12	0.9100	-0.4710	0.0030	-0.4847	0.0699	-0.5057	0.2276	-0.5326	0.0724
2	285.12	0.9727	-0.5174	0.0058	-0.4808	0.0736	-0.5258	0.2608	0.2567	0.0759

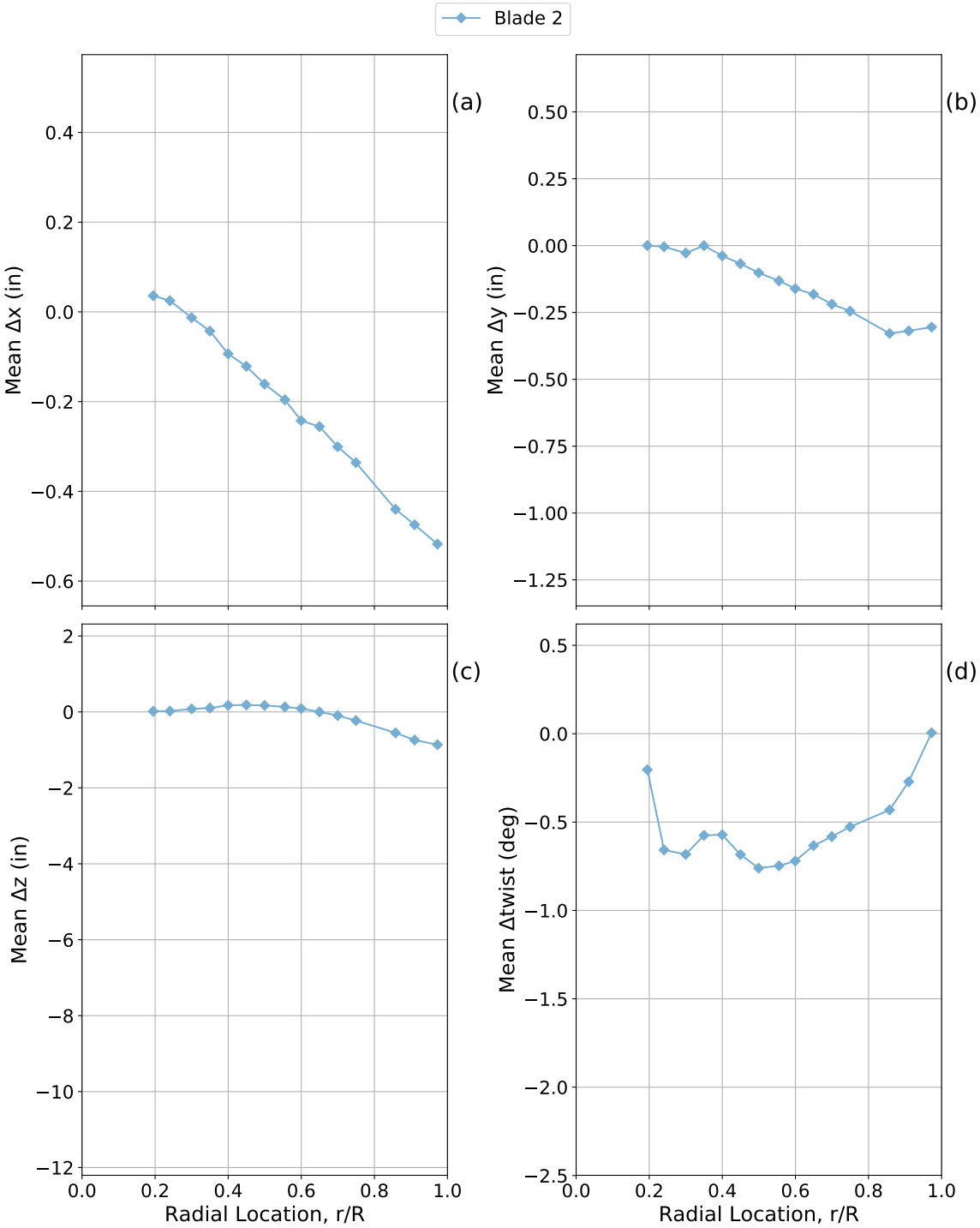


Figure 4.6-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0360	0.0010	0.0002	0.0008	0.0175	0.0021	-0.2038	0.0194
2	299.88	0.2405	0.0249	0.0013	-0.0043	0.0026	0.0222	0.0080	-0.6576	0.0320
2	299.88	0.2999	-0.0129	0.0013	-0.0276	0.0054	0.0787	0.0123	-0.6829	0.0369
2	299.88	0.3498	-0.0428	0.0022	-0.0001	0.0062	0.1023	0.0152	-0.5751	0.0353
2	299.88	0.3998	-0.0934	0.0031	-0.0385	0.0116	0.1766	0.0293	-0.5719	0.0504
2	299.88	0.4496	-0.1214	0.0020	-0.0676	0.0136	0.1832	0.0359	-0.6839	0.0386
2	299.88	0.4995	-0.1609	0.0018	-0.1018	0.0165	0.1708	0.0467	-0.7607	0.0530
2	299.88	0.5551	-0.1959	0.0017	-0.1319	0.0188	0.1314	0.0527	-0.7473	0.0465
2	299.88	0.5996	-0.2424	0.0012	-0.1608	0.0212	0.0897	0.0604	-0.7203	0.0459
2	299.88	0.6497	-0.2556	0.0016	-0.1821	0.0233	0.0007	0.0693	-0.6331	0.0340
2	299.88	0.6996	-0.3005	0.0019	-0.2190	0.0262	-0.0956	0.0789	-0.5822	0.0451
2	299.88	0.7495	-0.3360	0.0020	-0.2449	0.0284	-0.2269	0.0883	-0.5269	0.0277
2	299.88	0.8578	-0.4400	0.0028	-0.3286	0.0345	-0.5508	0.1099	-0.4313	0.0305
2	299.88	0.9100	-0.4745	0.0023	-0.3190	0.0371	-0.7394	0.1246	-0.2715	0.0321
2	299.88	0.9727	-0.5175	0.0033	-0.3049	0.0405	-0.8644	0.1408	0.0053	0.0402

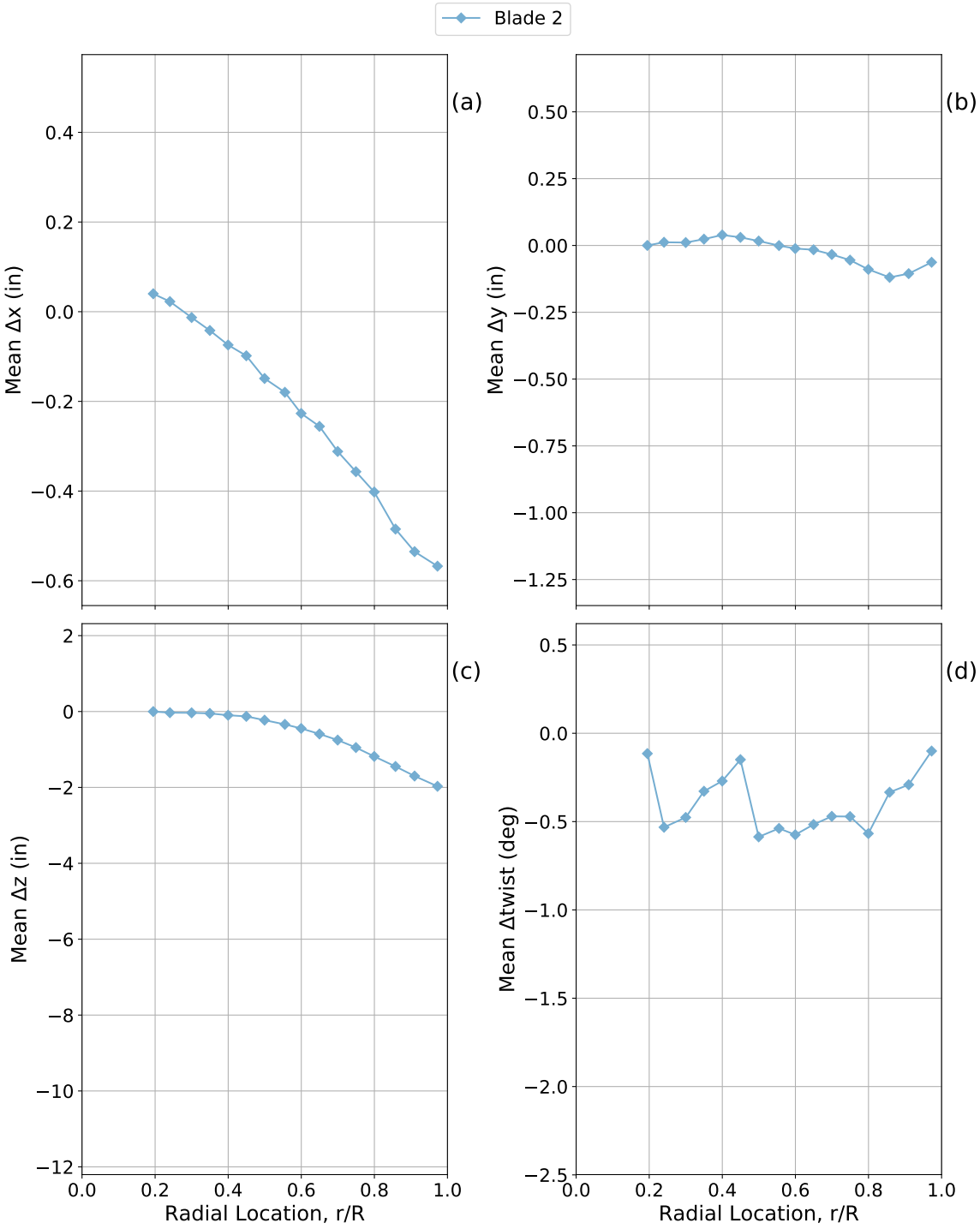


Figure 4.6-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0400	0.0012	-0.0000	0.0005	-0.0008	0.0013	-0.1149	0.0154
2	315	0.2405	0.0226	0.0012	0.0119	0.0016	-0.0306	0.0048	-0.5321	0.0242
2	315	0.2999	-0.0130	0.0013	0.0109	0.0031	-0.0343	0.0091	-0.4765	0.0281
2	315	0.3498	-0.0419	0.0029	0.0236	0.0030	-0.0506	0.0113	-0.3282	0.0177
2	315	0.3998	-0.0742	0.0035	0.0392	0.0066	-0.0975	0.0220	-0.2704	0.0405
2	315	0.4496	-0.0983	0.0026	0.0303	0.0072	-0.1281	0.0219	-0.1492	0.0245
2	315	0.4995	-0.1489	0.0014	0.0166	0.0081	-0.2274	0.0266	-0.5865	0.0328
2	315	0.5551	-0.1797	0.0015	-0.0005	0.0085	-0.3393	0.0339	-0.5384	0.0304
2	315	0.5996	-0.2269	0.0019	-0.0116	0.0098	-0.4457	0.0383	-0.5745	0.0329
2	315	0.6497	-0.2557	0.0014	-0.0161	0.0108	-0.5917	0.0424	-0.5164	0.0477
2	315	0.6996	-0.3117	0.0018	-0.0338	0.0129	-0.7528	0.0477	-0.4703	0.0260
2	315	0.7495	-0.3568	0.0019	-0.0549	0.0152	-0.9497	0.0538	-0.4713	0.0273
2	315	0.7996	-0.4021	0.0017	-0.0896	0.0172	-1.1838	0.0578	-0.5676	0.0286
2	315	0.8578	-0.4848	0.0016	-0.1195	0.0199	-1.4482	0.0657	-0.3339	0.0257
2	315	0.9100	-0.5351	0.0015	-0.1055	0.0223	-1.7003	0.0731	-0.2913	0.0308
2	315	0.9727	-0.5675	0.0022	-0.0629	0.0253	-1.9712	0.0797	-0.1006	0.0227

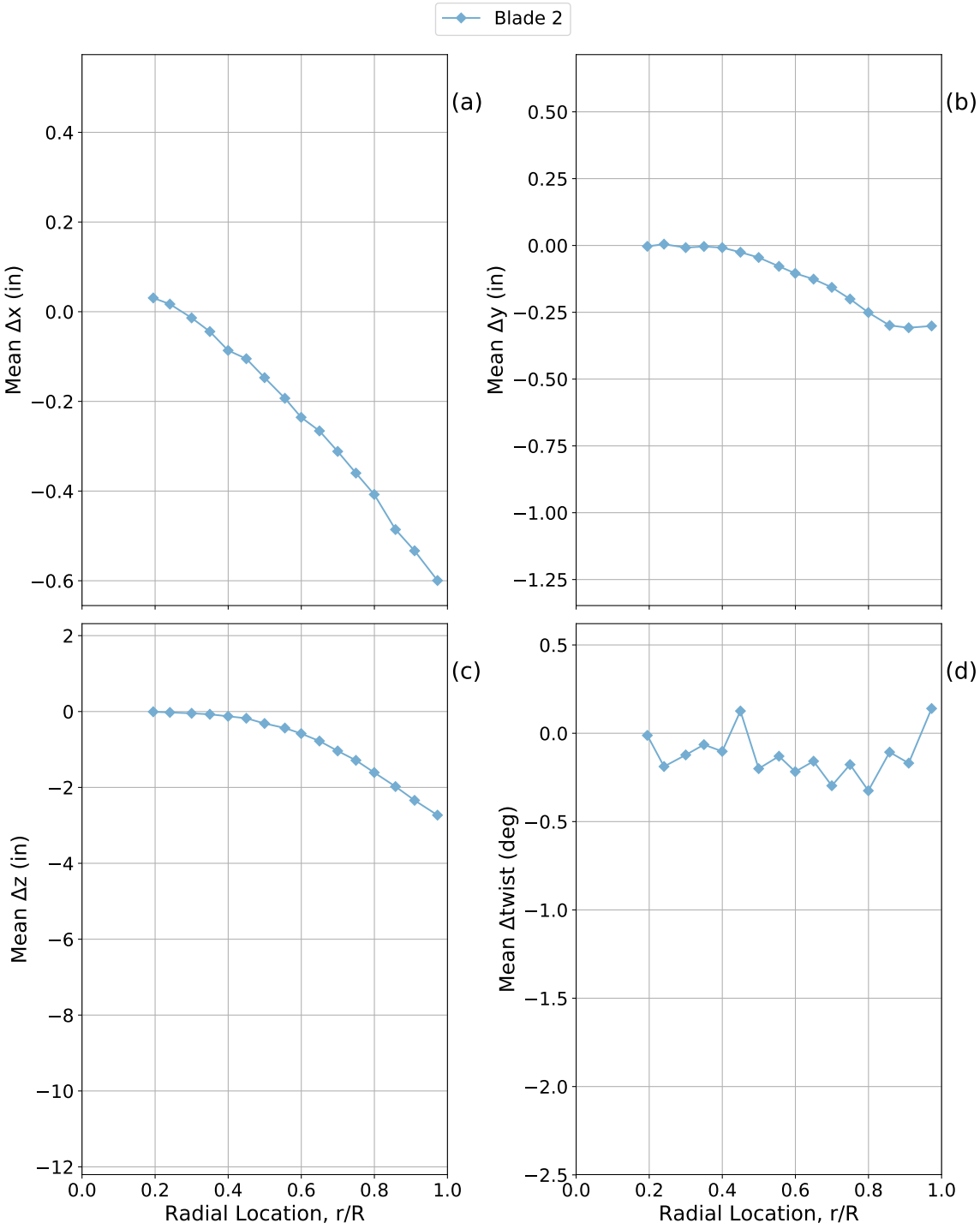


Figure 4.6-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0307	0.0016	-0.0033	0.0010	-0.0065	0.0015	-0.0121	0.0422
2	330.12	0.2405	0.0169	0.0012	0.0048	0.0027	-0.0240	0.0077	-0.1883	0.0271
2	330.12	0.2999	-0.0138	0.0020	-0.0081	0.0025	-0.0472	0.0074	-0.1226	0.0766
2	330.12	0.3498	-0.0443	0.0018	-0.0039	0.0050	-0.0728	0.0100	-0.0643	0.0860
2	330.12	0.3998	-0.0864	0.0018	-0.0082	0.0077	-0.1259	0.0211	-0.1026	0.0423
2	330.12	0.4496	-0.1049	0.0041	-0.0254	0.0096	-0.1778	0.0282	0.1260	0.0504
2	330.12	0.4995	-0.1471	0.0036	-0.0451	0.0123	-0.3150	0.0315	-0.2003	0.0500
2	330.12	0.5551	-0.1931	0.0017	-0.0782	0.0146	-0.4351	0.0319	-0.1299	0.0537
2	330.12	0.5996	-0.2356	0.0032	-0.1044	0.0165	-0.5814	0.0334	-0.2174	0.0454
2	330.12	0.6497	-0.2659	0.0025	-0.1260	0.0166	-0.7777	0.0334	-0.1581	0.0698
2	330.12	0.6996	-0.3116	0.0044	-0.1568	0.0209	-1.0387	0.0473	-0.2971	0.0786
2	330.12	0.7495	-0.3599	0.0027	-0.2004	0.0208	-1.2866	0.0428	-0.1772	0.0576
2	330.12	0.7996	-0.4076	0.0026	-0.2509	0.0226	-1.6081	0.0462	-0.3251	0.0555
2	330.12	0.8578	-0.4858	0.0029	-0.2993	0.0244	-1.9772	0.0502	-0.1068	0.0519
2	330.12	0.9100	-0.5332	0.0029	-0.3079	0.0259	-2.3408	0.0539	-0.1692	0.0545
2	330.12	0.9727	-0.5995	0.0031	-0.3013	0.0281	-2.7311	0.0569	0.1402	0.0527

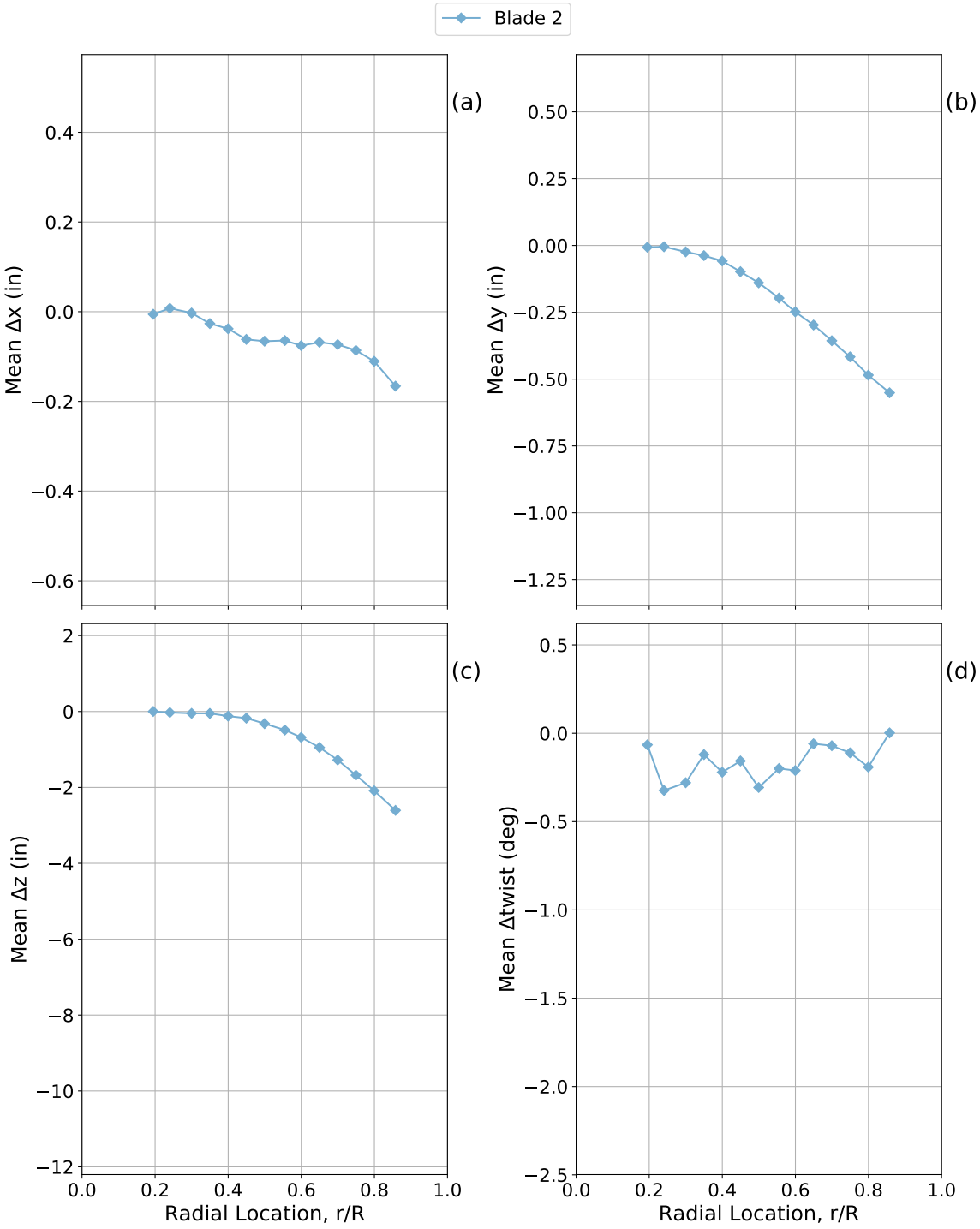


Figure 4.6-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0057	0.0043	-0.0066	0.0010	0.0017	0.0027	-0.0653	0.0188
2	344.88	0.2405	0.0076	0.0020	-0.0049	0.0024	-0.0262	0.0057	-0.3236	0.0412
2	344.88	0.2999	-0.0029	0.0019	-0.0240	0.0045	-0.0483	0.0133	-0.2798	0.0493
2	344.88	0.3498	-0.0265	0.0038	-0.0380	0.0060	-0.0497	0.0178	-0.1206	0.0588
2	344.88	0.3998	-0.0381	0.0046	-0.0582	0.0110	-0.1209	0.0312	-0.2205	0.0441
2	344.88	0.4496	-0.0618	0.0076	-0.0983	0.0146	-0.1745	0.0385	-0.1567	0.0476
2	344.88	0.4995	-0.0658	0.0052	-0.1400	0.0175	-0.3190	0.0433	-0.3067	0.0587
2	344.88	0.5551	-0.0643	0.0065	-0.1970	0.0187	-0.4874	0.0523	-0.1993	0.0524
2	344.88	0.5996	-0.0757	0.0058	-0.2484	0.0224	-0.6815	0.0600	-0.2107	0.0320
2	344.88	0.6497	-0.0682	0.0042	-0.2977	0.0255	-0.9469	0.0645	-0.0592	0.0362
2	344.88	0.6996	-0.0732	0.0053	-0.3565	0.0282	-1.2765	0.0730	-0.0705	0.0488
2	344.88	0.7495	-0.0862	0.0064	-0.4168	0.0321	-1.6762	0.0786	-0.1106	0.0555
2	344.88	0.7996	-0.1107	0.0087	-0.4851	0.0351	-2.0894	0.0873	-0.1913	0.0828
2	344.88	0.8578	-0.1659	0.0114	-0.5512	0.0383	-2.6050	0.0928	0.0022	0.1105

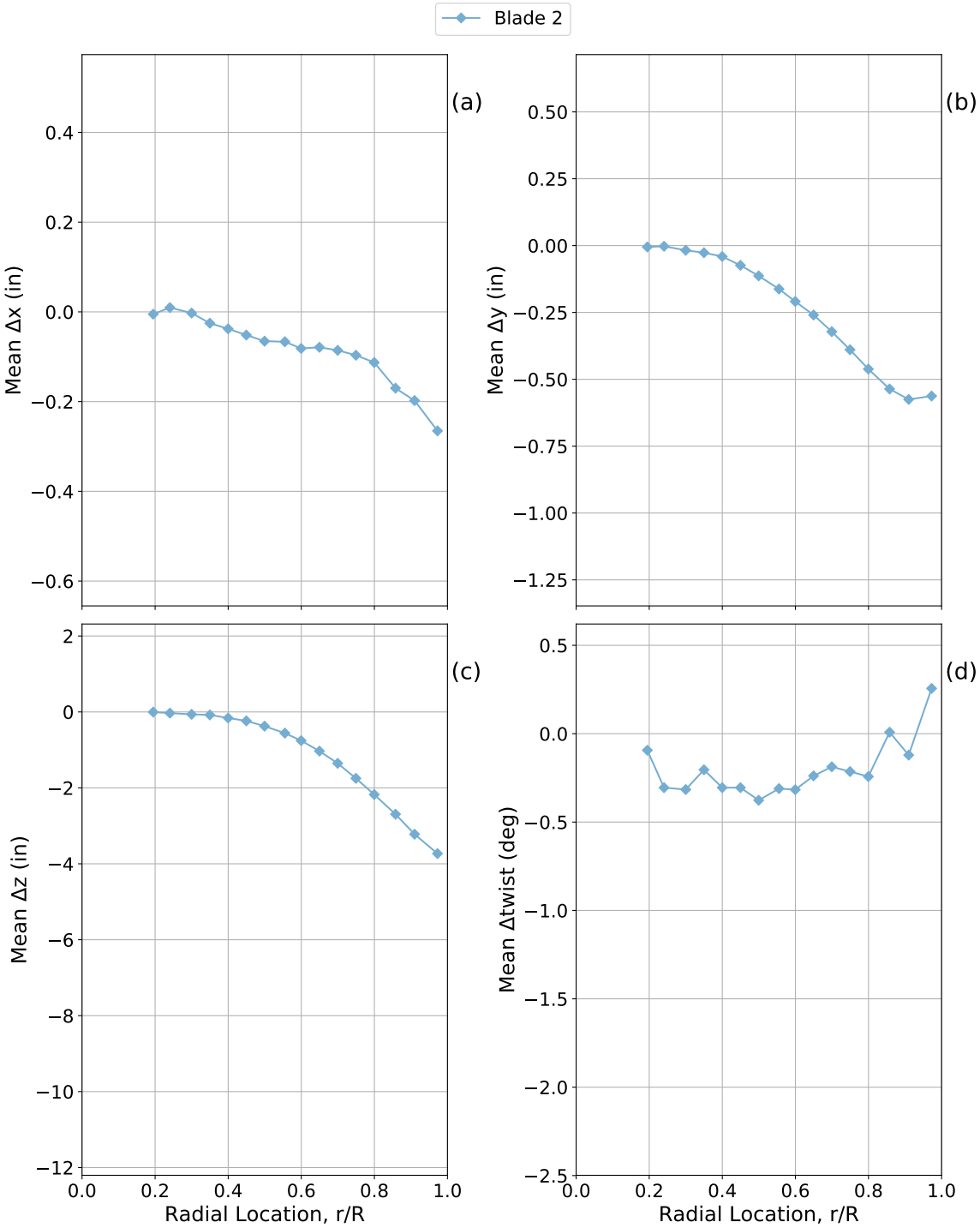


Figure 4.6-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0051	0.0033	-0.0051	0.0008	-0.0038	0.0021	-0.0937	0.0155
2	350.16	0.2405	0.0095	0.0015	-0.0025	0.0018	-0.0310	0.0048	-0.3053	0.0387
2	350.16	0.2999	-0.0026	0.0016	-0.0175	0.0033	-0.0631	0.0106	-0.3159	0.0431
2	350.16	0.3498	-0.0252	0.0030	-0.0267	0.0056	-0.0789	0.0132	-0.2042	0.0606
2	350.16	0.3998	-0.0378	0.0055	-0.0408	0.0089	-0.1597	0.0246	-0.3054	0.0350
2	350.16	0.4496	-0.0516	0.0057	-0.0738	0.0095	-0.2355	0.0248	-0.3052	0.0511
2	350.16	0.4995	-0.0653	0.0057	-0.1132	0.0121	-0.3747	0.0314	-0.3767	0.0371
2	350.16	0.5551	-0.0666	0.0055	-0.1624	0.0133	-0.5582	0.0385	-0.3105	0.0485
2	350.16	0.5996	-0.0815	0.0053	-0.2090	0.0154	-0.7552	0.0444	-0.3167	0.0478
2	350.16	0.6497	-0.0789	0.0064	-0.2595	0.0180	-1.0316	0.0503	-0.2386	0.0405
2	350.16	0.6996	-0.0857	0.0044	-0.3218	0.0197	-1.3536	0.0520	-0.1872	0.0619
2	350.16	0.7495	-0.0966	0.0053	-0.3894	0.0223	-1.7492	0.0602	-0.2142	0.0559
2	350.16	0.7996	-0.1128	0.0060	-0.4617	0.0252	-2.1757	0.0674	-0.2425	0.0386
2	350.16	0.8578	-0.1700	0.0079	-0.5362	0.0288	-2.6937	0.0718	0.0086	0.0849
2	350.16	0.9100	-0.1977	0.0100	-0.5752	0.0311	-3.2208	0.0845	-0.1210	0.0616
2	350.16	0.9727	-0.2652	0.0145	-0.5626	0.0356	-3.7311	0.0939	0.2561	0.1317

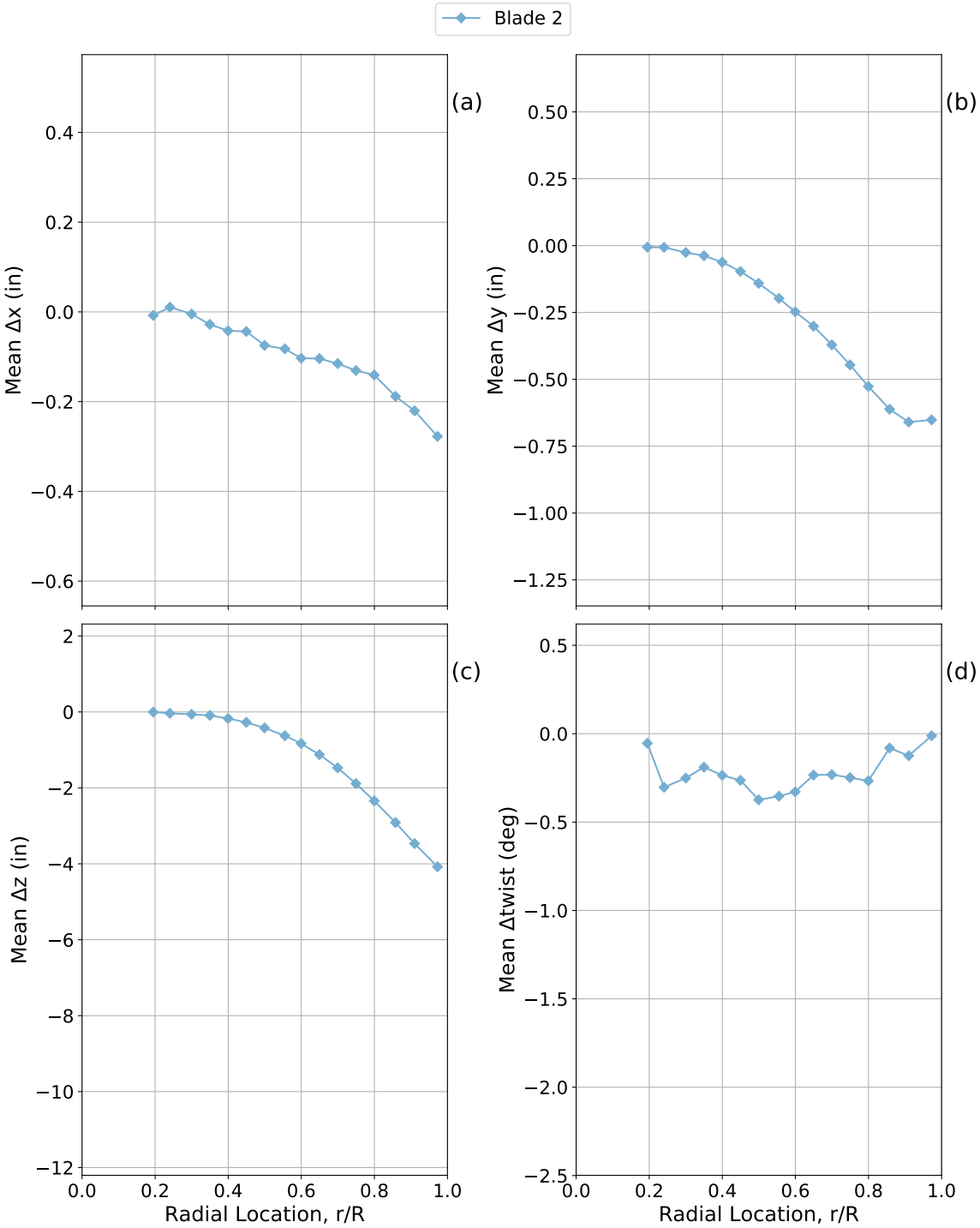


Figure 4.6-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Table 4.6-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 50, point 23. BD run 24, points 2612 to 2622.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0078	0.0046	-0.0059	0.0011	-0.0029	0.0022	-0.0541	0.0131
2	355.08	0.2405	0.0104	0.0018	-0.0067	0.0016	-0.0366	0.0033	-0.3032	0.0298
2	355.08	0.2999	-0.0048	0.0013	-0.0259	0.0044	-0.0624	0.0079	-0.2511	0.0345
2	355.08	0.3498	-0.0279	0.0035	-0.0379	0.0067	-0.0911	0.0123	-0.1893	0.0381
2	355.08	0.3998	-0.0421	0.0049	-0.0621	0.0107	-0.1731	0.0193	-0.2353	0.0376
2	355.08	0.4496	-0.0437	0.0049	-0.0965	0.0152	-0.2748	0.0272	-0.2639	0.0427
2	355.08	0.4995	-0.0747	0.0064	-0.1411	0.0168	-0.4212	0.0305	-0.3743	0.0347
2	355.08	0.5551	-0.0823	0.0063	-0.1975	0.0199	-0.6262	0.0352	-0.3533	0.0362
2	355.08	0.5996	-0.1033	0.0054	-0.2477	0.0231	-0.8308	0.0425	-0.3287	0.0419
2	355.08	0.6497	-0.1041	0.0051	-0.3015	0.0257	-1.1253	0.0485	-0.2340	0.0378
2	355.08	0.6996	-0.1153	0.0066	-0.3711	0.0284	-1.4723	0.0554	-0.2316	0.0441
2	355.08	0.7495	-0.1307	0.0067	-0.4461	0.0328	-1.8878	0.0629	-0.2488	0.0463
2	355.08	0.7996	-0.1407	0.0084	-0.5267	0.0375	-2.3423	0.0706	-0.2666	0.0690
2	355.08	0.8578	-0.1883	0.0093	-0.6120	0.0427	-2.9134	0.0760	-0.0813	0.0595
2	355.08	0.9100	-0.2205	0.0124	-0.6598	0.0467	-3.4674	0.0854	-0.1245	0.0753
2	355.08	0.9727	-0.2775	0.0122	-0.6517	0.0512	-4.0784	0.1049	-0.0118	0.0902

4.7 Run 52, Point 11

4.7.1 Pitch, Flap, and Lag

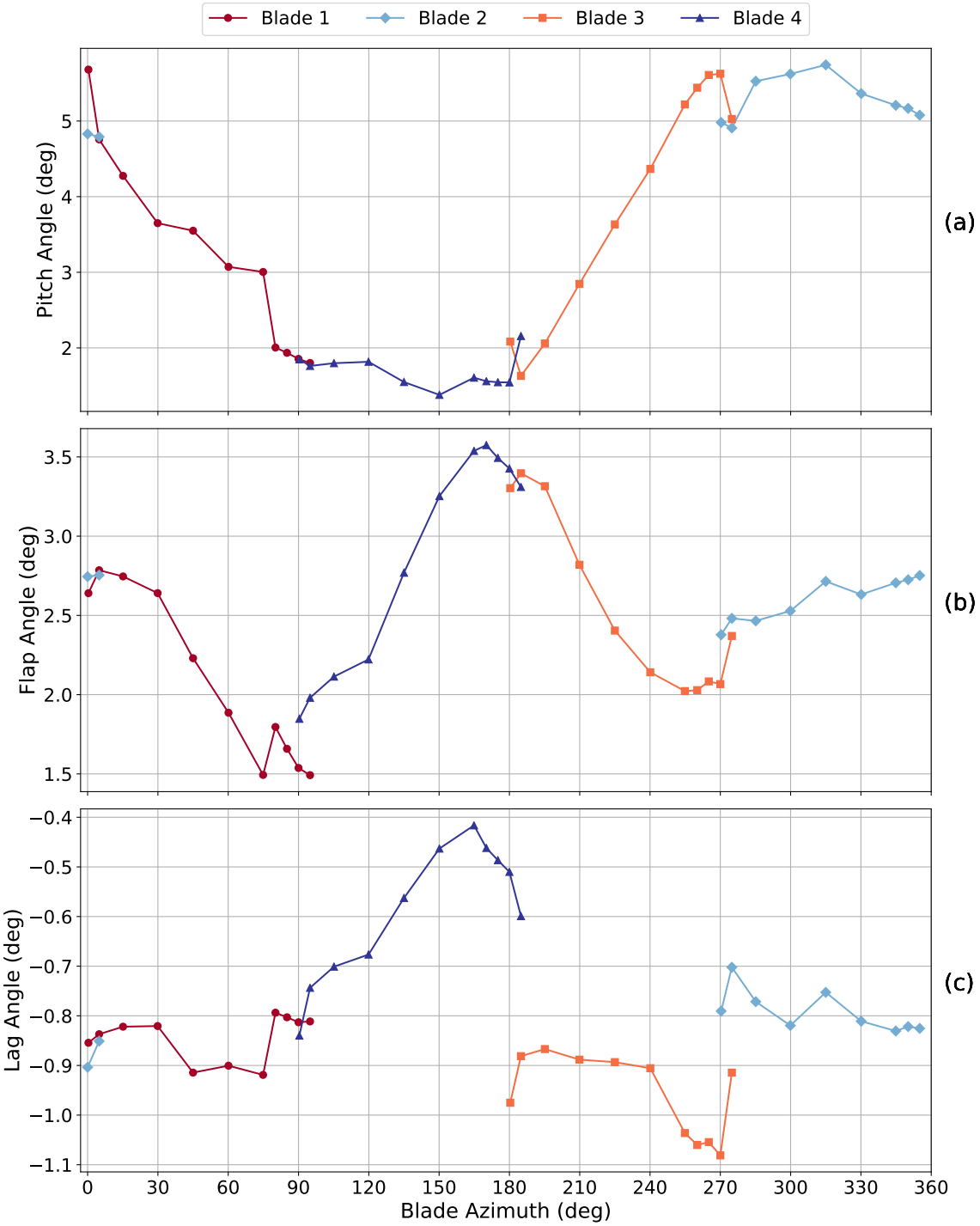


Figure 4.7-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.8298	2.7449	-0.9037	0.0487	0.0361	0.0186
0.35	1	5.6800	2.6401	-0.8543	0.0882	0.0474	0.0335
4.92	1	4.7567	2.7851	-0.8370	0.0926	0.0314	0.0228
4.92	2	4.7914	2.7546	-0.8510	0.0735	0.0297	0.0231
15.12	1	4.2747	2.7459	-0.8219	0.0690	0.0373	0.0264
29.88	1	3.6495	2.6406	-0.8206	0.0720	0.0278	0.0209
45	1	3.5498	2.2300	-0.9144	0.0331	0.0144	0.0185
60.12	1	3.0720	1.8861	-0.9005	0.1076	0.0401	0.0152
74.88	1	3.0042	1.4936	-0.9190	0.0616	0.0247	0.0186
80.16	1	2.0049	1.7961	-0.7937	0.0309	0.0196	0.0054
85.08	1	1.9356	1.6583	-0.8029	0.0304	0.0184	0.0181
90	1	1.8546	1.5376	-0.8130	0.0292	0.0214	0.0174
90.35	4	1.8482	1.8476	-0.8399	0.0366	0.0146	0.0106
94.92	1	1.8011	1.4922	-0.8113	0.0162	0.0081	0.0171
94.92	4	1.7614	1.9802	-0.7436	0.0198	0.0158	0.0118
105.12	4	1.7978	2.1136	-0.7010	0.0336	0.0157	0.0221
119.88	4	1.8165	2.2222	-0.6766	0.0150	0.0160	0.0157
135	4	1.5489	2.7692	-0.5627	0.0223	0.0160	0.0187
150.12	4	1.3789	3.2524	-0.4631	0.0227	0.0207	0.0161
164.88	4	1.6063	3.5378	-0.4163	0.0185	0.0184	0.0191
170.16	4	1.5595	3.5744	-0.4619	0.0184	0.0143	0.0115
175.08	4	1.5459	3.4935	-0.4865	0.0177	0.0222	0.0218
180	4	1.5436	3.4264	-0.5101	0.0347	0.0217	0.0193
180.35	3	2.0837	3.3031	-0.9751	0.0344	0.0340	0.0207
184.92	3	1.6306	3.3968	-0.8813	0.0424	0.0398	0.0167
184.92	4	2.1568	3.3101	-0.5992	0.0248	0.0199	0.0189
195.12	3	2.0585	3.3149	-0.8670	0.0178	0.0135	0.0159
209.88	3	2.8460	2.8194	-0.8883	0.0177	0.0236	0.0157
225	3	3.6328	2.4042	-0.8933	0.0474	0.0306	0.0111
240.12	3	4.3671	2.1413	-0.9056	0.0235	0.0150	0.0176
254.88	3	5.2192	2.0225	-1.0362	0.0421	0.0188	0.0166
260.16	3	5.4406	2.0283	-1.0602	0.0535	0.0268	0.0088
265.08	3	5.6081	2.0836	-1.0545	0.0634	0.0278	0.0144
270	3	5.6251	2.0666	-1.0812	0.0966	0.0539	0.0267
270.35	2	4.9812	2.3780	-0.7905	0.0984	0.0300	0.0227
274.92	2	4.9085	2.4814	-0.7022	0.0207	0.0170	0.0075
274.92	3	5.0268	2.3702	-0.9144	0.0679	0.0346	0.0098
285.12	2	5.5265	2.4655	-0.7715	0.0175	0.0297	0.0127
299.88	2	5.6219	2.5282	-0.8195	0.0402	0.0310	0.0285
315	2	5.7426	2.7147	-0.7527	0.0252	0.0189	0.0191
330.12	2	5.3628	2.6321	-0.8109	0.0260	0.0226	0.0112
344.88	2	5.2080	2.7055	-0.8306	0.0301	0.0164	0.0126
350.16	2	5.1672	2.7252	-0.8217	0.0428	0.0229	0.0117
355.08	2	5.0777	2.7519	-0.8254	0.0223	0.0266	0.0129

4.7.2 Spanwise Elastic Deformations

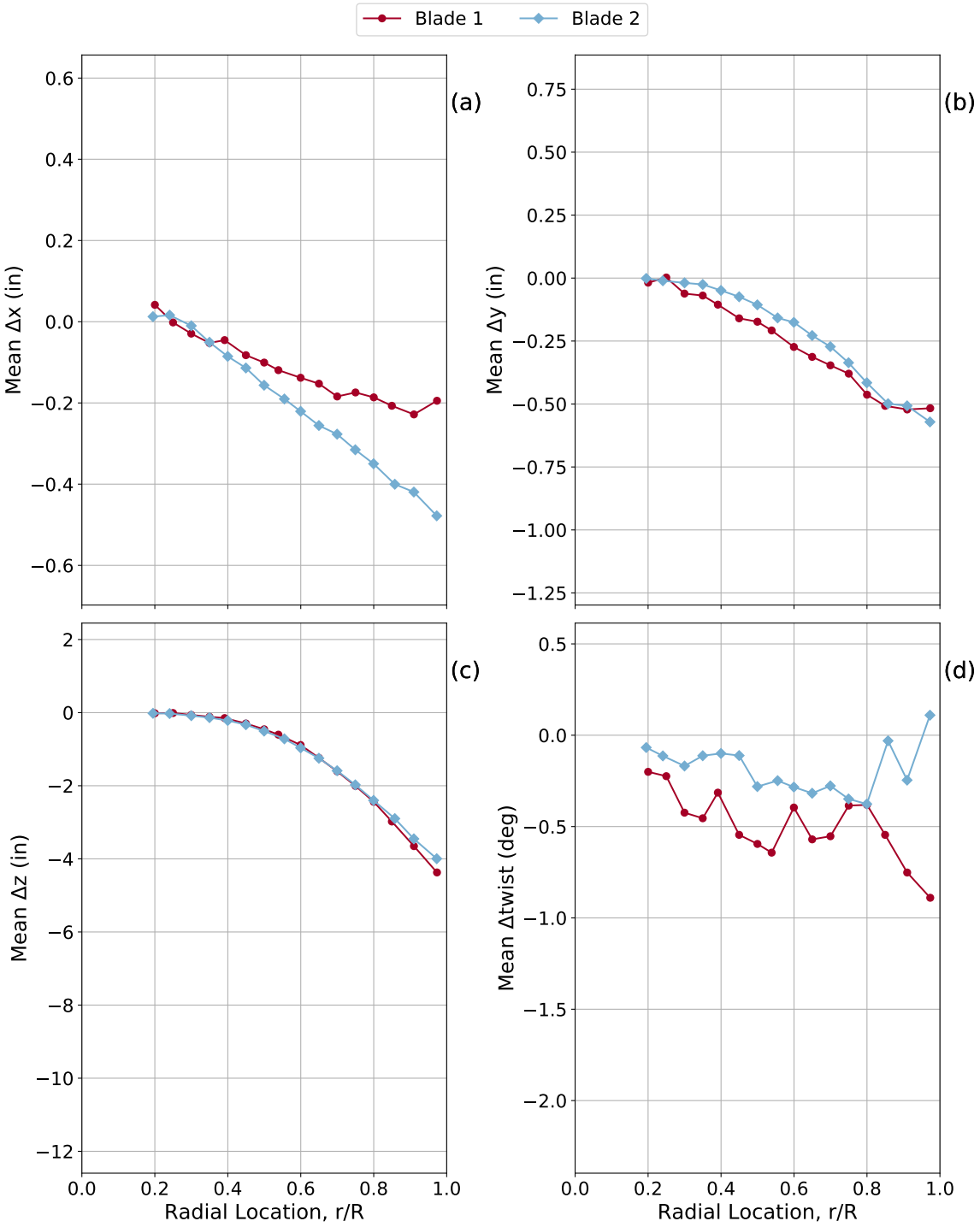


Figure 4.7-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0416	0.0036	-0.0181	0.0021	-0.0178	0.0066	-0.2003	0.0305
1	0.35	0.2499	-0.0018	0.0024	0.0023	0.0043	-0.0106	0.0091	-0.2242	0.0915
1	0.35	0.2998	-0.0293	0.0012	-0.0616	0.0086	-0.0629	0.0221	-0.4239	0.0836
1	0.35	0.3498	-0.0524	0.0025	-0.0693	0.0145	-0.1135	0.0327	-0.4546	0.0913
1	0.35	0.3913	-0.0453	0.0023	-0.1055	0.0212	-0.1496	0.0473	-0.3142	0.0893
1	0.35	0.4496	-0.0824	0.0033	-0.1598	0.0282	-0.2969	0.0597	-0.5453	0.0895
1	0.35	0.4997	-0.1006	0.0039	-0.1733	0.0355	-0.4558	0.0750	-0.5950	0.0895
1	0.35	0.5387	-0.1193	0.0046	-0.2079	0.0409	-0.6025	0.0833	-0.6427	0.0903
1	0.35	0.5996	-0.1380	0.0068	-0.2734	0.0496	-0.8864	0.1016	-0.3958	0.0911
1	0.35	0.6498	-0.1526	0.0084	-0.3129	0.0563	-1.2388	0.1137	-0.5701	0.0781
1	0.35	0.6998	-0.1841	0.0118	-0.3464	0.0637	-1.6062	0.1257	-0.5530	0.0907
1	0.35	0.7500	-0.1742	0.0136	-0.3795	0.0692	-2.0054	0.1344	-0.3851	0.0940
1	0.35	0.8001	-0.1863	0.0168	-0.4630	0.0772	-2.4400	0.1488	-0.3812	0.0893
1	0.35	0.8497	-0.2070	0.0199	-0.5072	0.0858	-2.9784	0.1627	-0.5454	0.0910
1	0.35	0.9102	-0.2283	0.0254	-0.5217	0.0959	-3.6515	0.1770	-0.7516	0.0968
1	0.35	0.9734	-0.1946	0.0308	-0.5168	0.1071	-4.3722	0.1859	-0.8898	0.1051
2	0	0.1949	0.0125	0.0020	-0.0014	0.0015	-0.0187	0.0039	-0.0673	0.0167
2	0	0.2405	0.0162	0.0014	-0.0106	0.0022	-0.0252	0.0044	-0.1132	0.0595
2	0	0.2999	-0.0100	0.0011	-0.0190	0.0050	-0.0836	0.0123	-0.1685	0.0482
2	0	0.3498	-0.0506	0.0014	-0.0253	0.0089	-0.1370	0.0206	-0.1122	0.0494
2	0	0.3998	-0.0854	0.0022	-0.0491	0.0131	-0.2161	0.0302	-0.0997	0.0383
2	0	0.4496	-0.1139	0.0024	-0.0742	0.0159	-0.3310	0.0381	-0.1112	0.0433
2	0	0.4995	-0.1564	0.0022	-0.1063	0.0201	-0.5048	0.0475	-0.2810	0.0580
2	0	0.5551	-0.1903	0.0020	-0.1581	0.0225	-0.7172	0.0560	-0.2487	0.0567
2	0	0.5996	-0.2207	0.0030	-0.1757	0.0251	-0.9644	0.0630	-0.2837	0.0631
2	0	0.6497	-0.2556	0.0019	-0.2281	0.0282	-1.2473	0.0735	-0.3176	0.0552
2	0	0.6996	-0.2769	0.0024	-0.2722	0.0318	-1.5896	0.0811	-0.2772	0.0518
2	0	0.7495	-0.3153	0.0037	-0.3361	0.0337	-1.9760	0.0892	-0.3487	0.0630
2	0	0.7996	-0.3498	0.0023	-0.4157	0.0365	-2.4012	0.0983	-0.3767	0.0699
2	0	0.8578	-0.4002	0.0030	-0.4987	0.0429	-2.8983	0.1090	-0.0305	0.0752
2	0	0.9100	-0.4194	0.0040	-0.5072	0.0499	-3.4526	0.1248	-0.2459	0.1371
2	0	0.9727	-0.4780	0.0038	-0.5711	0.0526	-3.9959	0.1323	0.1098	0.0657

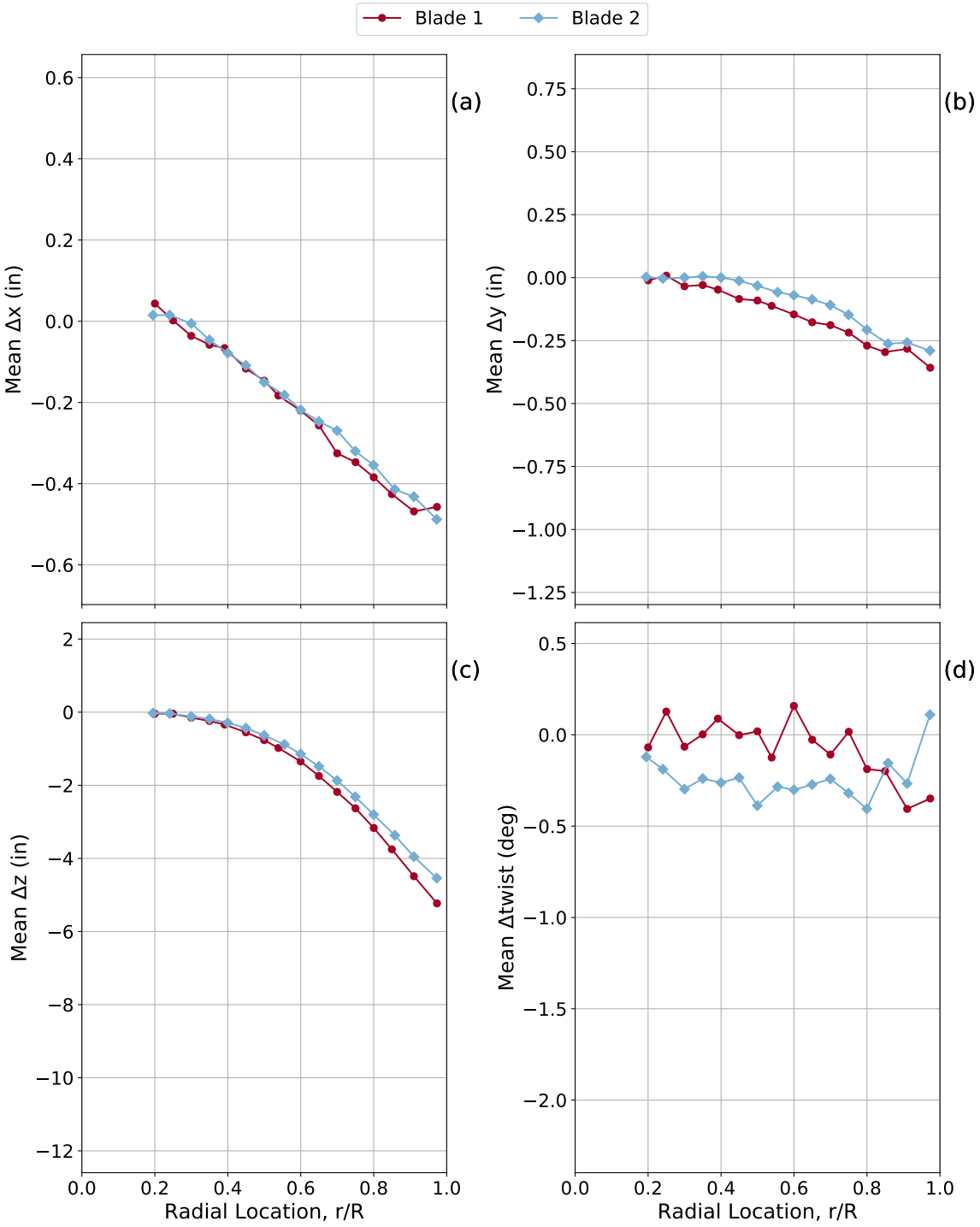


Figure 4.7-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0436	0.0041	-0.0108	0.0022	-0.0412	0.0044	-0.0690	0.0376
1	4.92	0.2499	0.0021	0.0014	0.0078	0.0032	-0.0416	0.0072	0.1270	0.0779
1	4.92	0.2998	-0.0360	0.0014	-0.0344	0.0079	-0.1504	0.0134	-0.0650	0.0900
1	4.92	0.3498	-0.0579	0.0017	-0.0294	0.0130	-0.2411	0.0231	0.0022	0.0819
1	4.92	0.3913	-0.0661	0.0025	-0.0478	0.0182	-0.3389	0.0313	0.0882	0.0855
1	4.92	0.4496	-0.1166	0.0021	-0.0848	0.0233	-0.5512	0.0422	-0.0020	0.0885
1	4.92	0.4997	-0.1460	0.0021	-0.0909	0.0286	-0.7648	0.0499	0.0187	0.0805
1	4.92	0.5387	-0.1830	0.0026	-0.1122	0.0325	-0.9784	0.0553	-0.1247	0.0946
1	4.92	0.5996	-0.2201	0.0020	-0.1461	0.0386	-1.3484	0.0661	0.1580	0.0875
1	4.92	0.6498	-0.2566	0.0024	-0.1772	0.0441	-1.7446	0.0754	-0.0271	0.0798
1	4.92	0.6998	-0.3252	0.0024	-0.1885	0.0499	-2.1813	0.0852	-0.1082	0.0733
1	4.92	0.7500	-0.3470	0.0026	-0.2183	0.0546	-2.6300	0.0941	0.0163	0.0770
1	4.92	0.8001	-0.3842	0.0029	-0.2700	0.0607	-3.1676	0.1046	-0.1878	0.0814
1	4.92	0.8497	-0.4257	0.0035	-0.2958	0.0676	-3.7524	0.1157	-0.1990	0.0769
1	4.92	0.9102	-0.4682	0.0030	-0.2827	0.0743	-4.4882	0.1270	-0.4058	0.0998
1	4.92	0.9734	-0.4571	0.0053	-0.3577	0.0829	-5.2311	0.1376	-0.3489	0.1240
2	4.92	0.1949	0.0149	0.0025	0.0024	0.0014	-0.0274	0.0033	-0.1209	0.0263
2	4.92	0.2405	0.0153	0.0012	-0.0034	0.0017	-0.0368	0.0047	-0.1885	0.0599
2	4.92	0.2999	-0.0054	0.0012	0.0002	0.0057	-0.1177	0.0111	-0.2975	0.0705
2	4.92	0.3498	-0.0459	0.0010	0.0051	0.0079	-0.1845	0.0189	-0.2397	0.0683
2	4.92	0.3998	-0.0783	0.0009	0.0004	0.0130	-0.2935	0.0278	-0.2626	0.0681
2	4.92	0.4496	-0.1086	0.0019	-0.0127	0.0165	-0.4347	0.0367	-0.2348	0.0677
2	4.92	0.4995	-0.1501	0.0019	-0.0322	0.0201	-0.6353	0.0467	-0.3878	0.0629
2	4.92	0.5551	-0.1820	0.0019	-0.0580	0.0256	-0.8816	0.0552	-0.2845	0.0801
2	4.92	0.5996	-0.2182	0.0021	-0.0700	0.0280	-1.1458	0.0616	-0.3014	0.0805
2	4.92	0.6497	-0.2467	0.0024	-0.0865	0.0337	-1.4818	0.0728	-0.2726	0.0640
2	4.92	0.6996	-0.2693	0.0026	-0.1090	0.0379	-1.8702	0.0796	-0.2418	0.0701
2	4.92	0.7495	-0.3200	0.0019	-0.1476	0.0419	-2.3159	0.0894	-0.3195	0.0627
2	4.92	0.7996	-0.3543	0.0028	-0.2071	0.0454	-2.8012	0.0963	-0.4055	0.0705
2	4.92	0.8578	-0.4143	0.0030	-0.2627	0.0521	-3.3688	0.1052	-0.1549	0.0866
2	4.92	0.9100	-0.4319	0.0031	-0.2576	0.0569	-3.9530	0.1153	-0.2673	0.1369
2	4.92	0.9727	-0.4877	0.0057	-0.2899	0.0626	-4.5382	0.1315	0.1102	0.0912

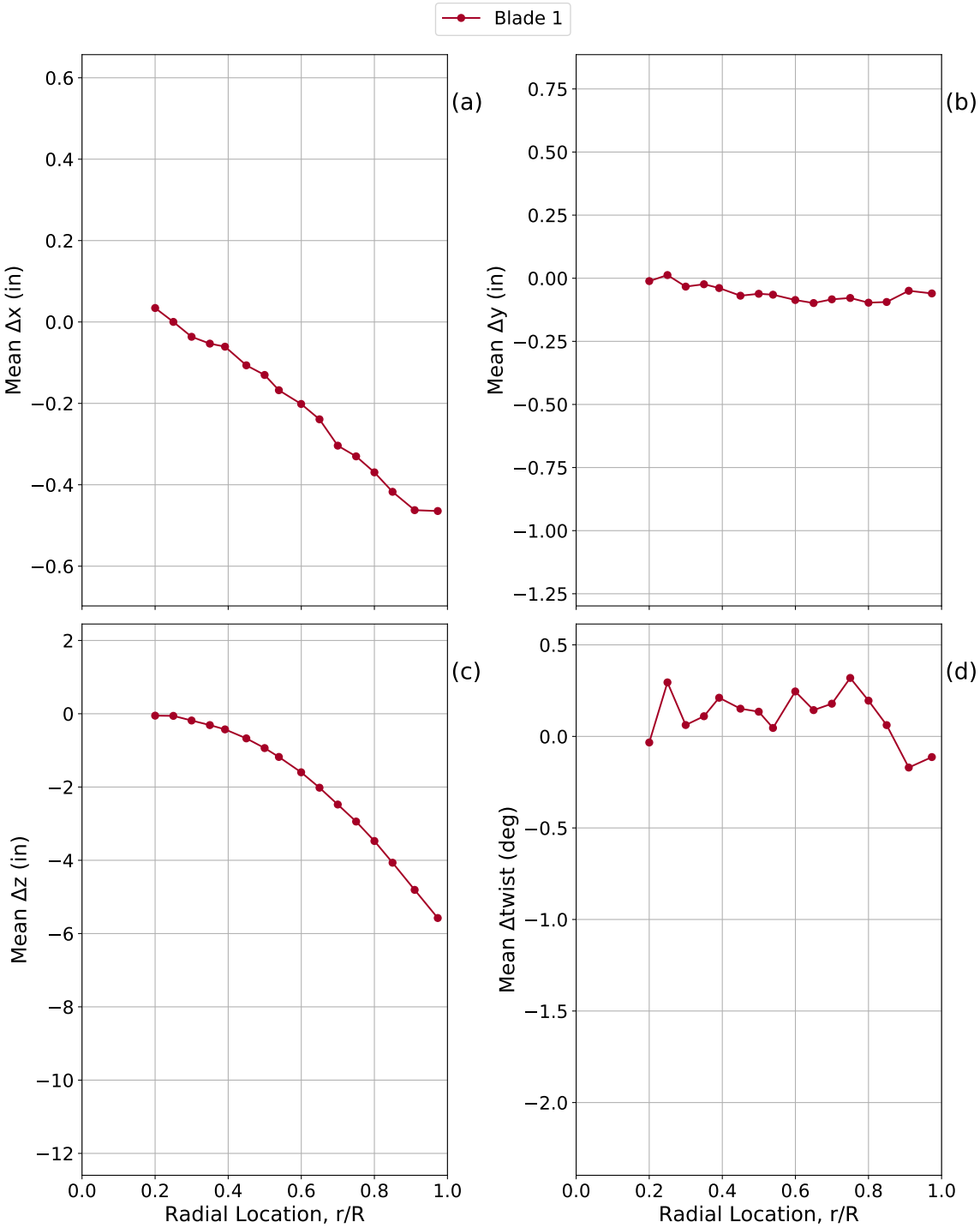


Figure 4.7-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0343	0.0035	-0.0113	0.0019	-0.0518	0.0037	-0.0332	0.0245
1	15.12	0.2499	0.0002	0.0016	0.0126	0.0035	-0.0579	0.0071	0.2950	0.0533
1	15.12	0.2998	-0.0364	0.0012	-0.0331	0.0074	-0.1846	0.0133	0.0622	0.0591
1	15.12	0.3498	-0.0532	0.0031	-0.0238	0.0130	-0.3094	0.0222	0.1101	0.0657
1	15.12	0.3913	-0.0607	0.0042	-0.0388	0.0183	-0.4269	0.0317	0.2112	0.0621
1	15.12	0.4496	-0.1065	0.0035	-0.0692	0.0232	-0.6724	0.0436	0.1514	0.0685
1	15.12	0.4997	-0.1302	0.0034	-0.0616	0.0291	-0.9371	0.0557	0.1349	0.0704
1	15.12	0.5387	-0.1677	0.0027	-0.0652	0.0334	-1.1789	0.0659	0.0461	0.0653
1	15.12	0.5996	-0.2015	0.0033	-0.0862	0.0390	-1.5981	0.0788	0.2455	0.0698
1	15.12	0.6498	-0.2392	0.0029	-0.0983	0.0444	-2.0183	0.0895	0.1436	0.0651
1	15.12	0.6998	-0.3039	0.0018	-0.0835	0.0492	-2.4775	0.0997	0.1786	0.0692
1	15.12	0.7500	-0.3302	0.0025	-0.0782	0.0550	-2.9421	0.1104	0.3193	0.0637
1	15.12	0.8001	-0.3695	0.0029	-0.0968	0.0601	-3.4738	0.1215	0.1952	0.0626
1	15.12	0.8497	-0.4173	0.0031	-0.0941	0.0656	-4.0657	0.1332	0.0617	0.0801
1	15.12	0.9102	-0.4624	0.0042	-0.0496	0.0730	-4.8072	0.1534	-0.1701	0.0819
1	15.12	0.9734	-0.4645	0.0044	-0.0602	0.0789	-5.5754	0.1753	-0.1129	0.0815

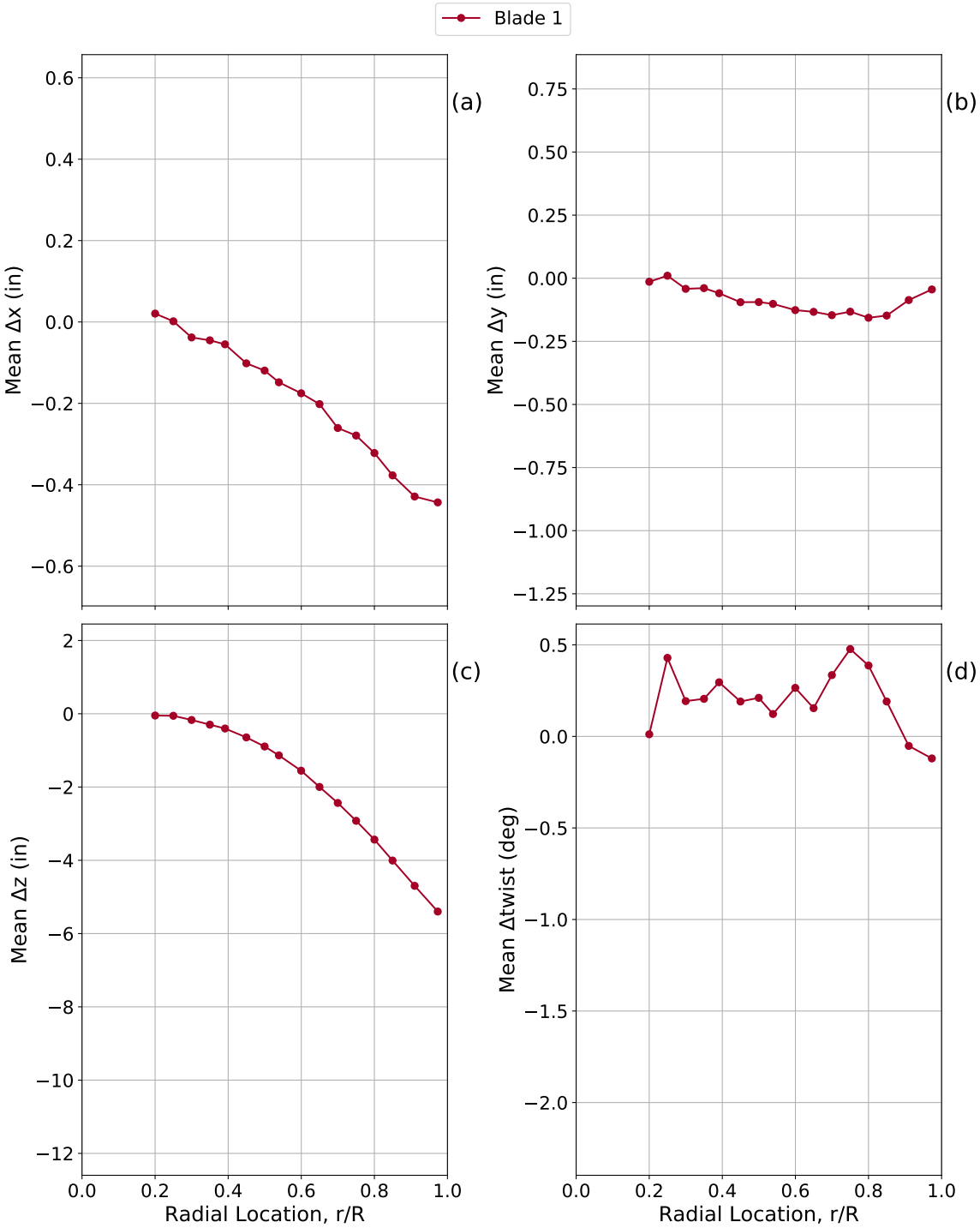


Figure 4.7-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0206	0.0037	-0.0139	0.0015	-0.0484	0.0036	0.0116	0.0298
1	29.88	0.2499	0.0017	0.0015	0.0100	0.0022	-0.0556	0.0051	0.4289	0.0525
1	29.88	0.2998	-0.0380	0.0016	-0.0420	0.0056	-0.1701	0.0105	0.1928	0.0681
1	29.88	0.3498	-0.0451	0.0015	-0.0392	0.0097	-0.2971	0.0200	0.2052	0.0616
1	29.88	0.3913	-0.0549	0.0019	-0.0594	0.0133	-0.4029	0.0258	0.2956	0.0616
1	29.88	0.4496	-0.1016	0.0022	-0.0949	0.0177	-0.6453	0.0347	0.1905	0.0621
1	29.88	0.4997	-0.1194	0.0027	-0.0944	0.0216	-0.8936	0.0429	0.2107	0.0699
1	29.88	0.5387	-0.1482	0.0024	-0.1015	0.0249	-1.1360	0.0495	0.1223	0.0675
1	29.88	0.5996	-0.1752	0.0025	-0.1263	0.0295	-1.5545	0.0583	0.2652	0.0568
1	29.88	0.6498	-0.2018	0.0019	-0.1331	0.0340	-1.9979	0.0655	0.1542	0.0660
1	29.88	0.6998	-0.2605	0.0022	-0.1463	0.0385	-2.4342	0.0705	0.3349	0.0637
1	29.88	0.7500	-0.2790	0.0022	-0.1324	0.0431	-2.9222	0.0736	0.4770	0.0673
1	29.88	0.8001	-0.3220	0.0024	-0.1566	0.0477	-3.4351	0.0781	0.3872	0.0645
1	29.88	0.8497	-0.3769	0.0028	-0.1479	0.0519	-4.0063	0.0820	0.1907	0.0684
1	29.88	0.9102	-0.4289	0.0033	-0.0864	0.0578	-4.6970	0.0875	-0.0519	0.0835
1	29.88	0.9734	-0.4433	0.0039	-0.0444	0.0632	-5.3984	0.0951	-0.1204	0.0795

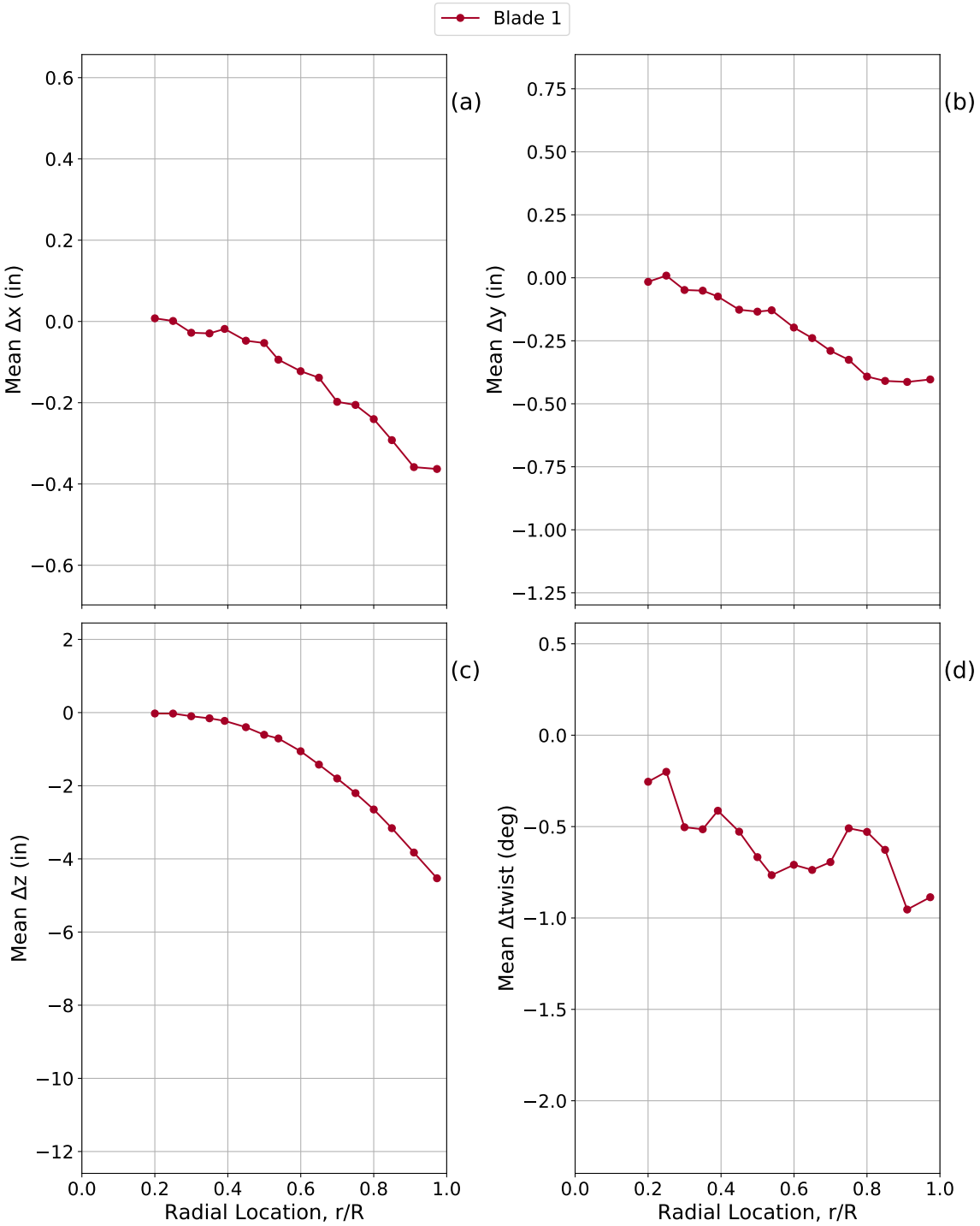


Figure 4.7-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0077	0.0019	-0.0160	0.0011	-0.0248	0.0021	-0.2546	0.0130
1	45	0.2499	0.0012	0.0014	0.0086	0.0015	-0.0266	0.0026	-0.2003	0.0291
1	45	0.2998	-0.0278	0.0013	-0.0484	0.0036	-0.1000	0.0063	-0.5035	0.0318
1	45	0.3498	-0.0294	0.0017	-0.0511	0.0067	-0.1563	0.0103	-0.5146	0.0269
1	45	0.3913	-0.0184	0.0036	-0.0745	0.0087	-0.2269	0.0138	-0.4132	0.0300
1	45	0.4496	-0.0474	0.0048	-0.1267	0.0115	-0.3993	0.0192	-0.5278	0.0296
1	45	0.4997	-0.0531	0.0095	-0.1343	0.0151	-0.6063	0.0201	-0.6671	0.0997
1	45	0.5387	-0.0941	0.0054	-0.1289	0.0197	-0.7074	0.0280	-0.7656	0.0389
1	45	0.5996	-0.1224	0.0053	-0.1974	0.0232	-1.0565	0.0316	-0.7091	0.0431
1	45	0.6498	-0.1384	0.0049	-0.2393	0.0271	-1.4220	0.0359	-0.7372	0.0469
1	45	0.6998	-0.1978	0.0047	-0.2897	0.0305	-1.8019	0.0396	-0.6942	0.0402
1	45	0.7500	-0.2055	0.0047	-0.3254	0.0324	-2.2022	0.0440	-0.5092	0.0410
1	45	0.8001	-0.2404	0.0048	-0.3920	0.0370	-2.6492	0.0481	-0.5290	0.0468
1	45	0.8497	-0.2921	0.0049	-0.4093	0.0404	-3.1597	0.0520	-0.6272	0.0434
1	45	0.9102	-0.3585	0.0055	-0.4133	0.0451	-3.8262	0.0578	-0.9537	0.0465
1	45	0.9734	-0.3631	0.0057	-0.4034	0.0502	-4.5296	0.0651	-0.8864	0.0534

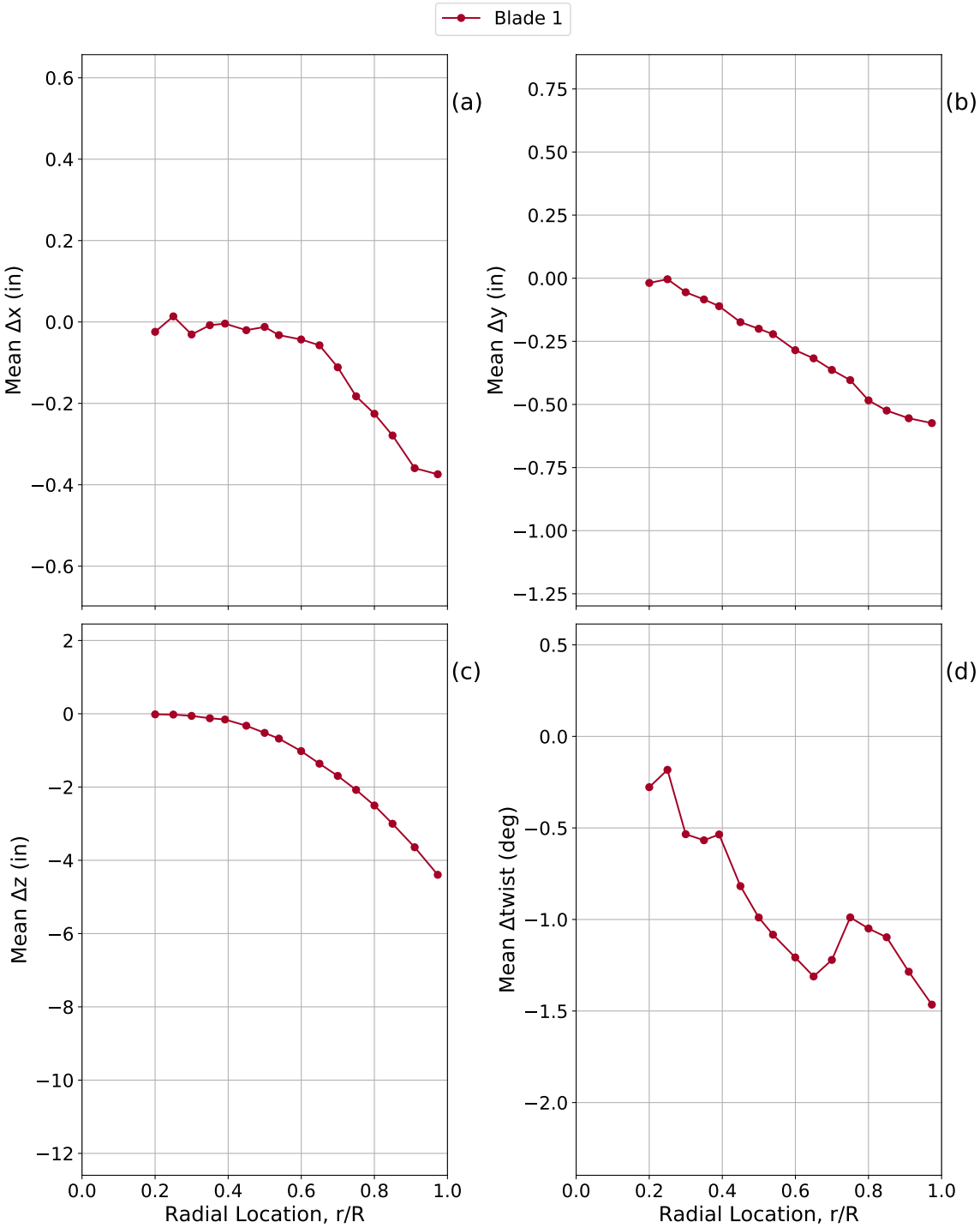


Figure 4.7-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0242	0.0027	-0.0186	0.0018	-0.0166	0.0059	-0.2775	0.0353
1	60.12	0.2499	0.0138	0.0015	-0.0040	0.0017	-0.0226	0.0065	-0.1826	0.0982
1	60.12	0.2998	-0.0307	0.0014	-0.0555	0.0060	-0.0581	0.0197	-0.5343	0.0960
1	60.12	0.3498	-0.0079	0.0027	-0.0840	0.0097	-0.1230	0.0308	-0.5674	0.1030
1	60.12	0.3913	-0.0041	0.0035	-0.1107	0.0132	-0.1570	0.0429	-0.5357	0.0925
1	60.12	0.4496	-0.0202	0.0042	-0.1740	0.0181	-0.3271	0.0560	-0.8178	0.0942
1	60.12	0.4997	-0.0122	0.0055	-0.2002	0.0229	-0.5224	0.0680	-0.9892	0.0970
1	60.12	0.5387	-0.0323	0.0055	-0.2216	0.0257	-0.6785	0.0753	-1.0832	0.1167
1	60.12	0.5996	-0.0430	0.0063	-0.2850	0.0307	-1.0195	0.0919	-1.2075	0.0956
1	60.12	0.6498	-0.0573	0.0063	-0.3174	0.0340	-1.3630	0.0998	-1.3113	0.1087
1	60.12	0.6998	-0.1114	0.0067	-0.3632	0.0383	-1.6971	0.1100	-1.2209	0.1125
1	60.12	0.7500	-0.1827	0.0086	-0.4036	0.0715	-2.0778	0.1027	-0.9886	0.1052
1	60.12	0.8001	-0.2256	0.0096	-0.4839	0.0773	-2.5045	0.1146	-1.0493	0.1028
1	60.12	0.8497	-0.2789	0.0089	-0.5243	0.0824	-3.0028	0.1225	-1.0972	0.1206
1	60.12	0.9102	-0.3592	0.0102	-0.5547	0.0918	-3.6441	0.1406	-1.2854	0.0981
1	60.12	0.9734	-0.3742	0.0093	-0.5739	0.1002	-4.3957	0.1544	-1.4650	0.1109

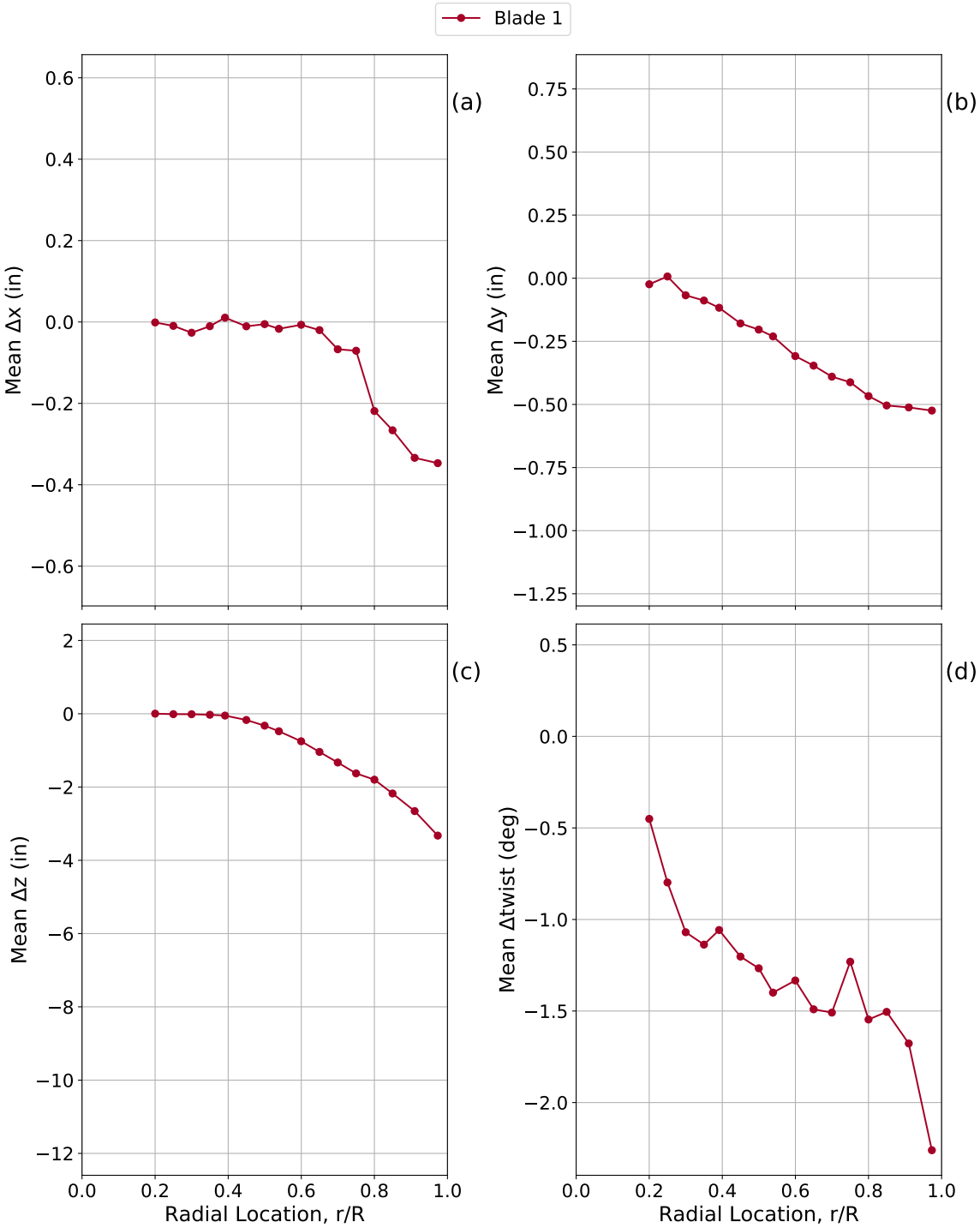


Figure 4.7-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0012	0.0022	-0.0238	0.0015	0.0025	0.0039	-0.4505	0.0246
1	74.88	0.2499	-0.0096	0.0014	0.0070	0.0020	-0.0115	0.0048	-0.7980	0.0595
1	74.88	0.2998	-0.0264	0.0017	-0.0676	0.0049	-0.0130	0.0121	-1.0696	0.0606
1	74.88	0.3498	-0.0104	0.0015	-0.0882	0.0093	-0.0277	0.0199	-1.1373	0.0534
1	74.88	0.3913	0.0106	0.0025	-0.1169	0.0118	-0.0500	0.0267	-1.0576	0.0525
1	74.88	0.4496	-0.0107	0.0035	-0.1790	0.0159	-0.1703	0.0364	-1.2027	0.0504
1	74.88	0.4997	-0.0053	0.0043	-0.2035	0.0183	-0.3247	0.0425	-1.2666	0.0581
1	74.88	0.5387	-0.0168	0.0051	-0.2304	0.0211	-0.4782	0.0488	-1.3995	0.0619
1	74.88	0.5996	-0.0069	0.0060	-0.3084	0.0248	-0.7509	0.0594	-1.3332	0.0535
1	74.88	0.6498	-0.0200	0.0079	-0.3462	0.0280	-1.0422	0.0655	-1.4907	0.0682
1	74.88	0.6998	-0.0671	0.0098	-0.3899	0.0304	-1.3311	0.0712	-1.5085	0.0759
1	74.88	0.7500	-0.0707	0.0092	-0.4121	0.0352	-1.6281	0.0833	-1.2307	0.1073
1	74.88	0.8001	-0.2188	0.0047	-0.4670	0.0502	-1.7997	0.0599	-1.5463	0.0595
1	74.88	0.8497	-0.2661	0.0052	-0.5041	0.0542	-2.1764	0.0667	-1.5047	0.0733
1	74.88	0.9102	-0.3338	0.0041	-0.5118	0.0585	-2.6566	0.0746	-1.6773	0.0756
1	74.88	0.9734	-0.3469	0.0042	-0.5243	0.0647	-3.3262	0.0862	-2.2604	0.0755

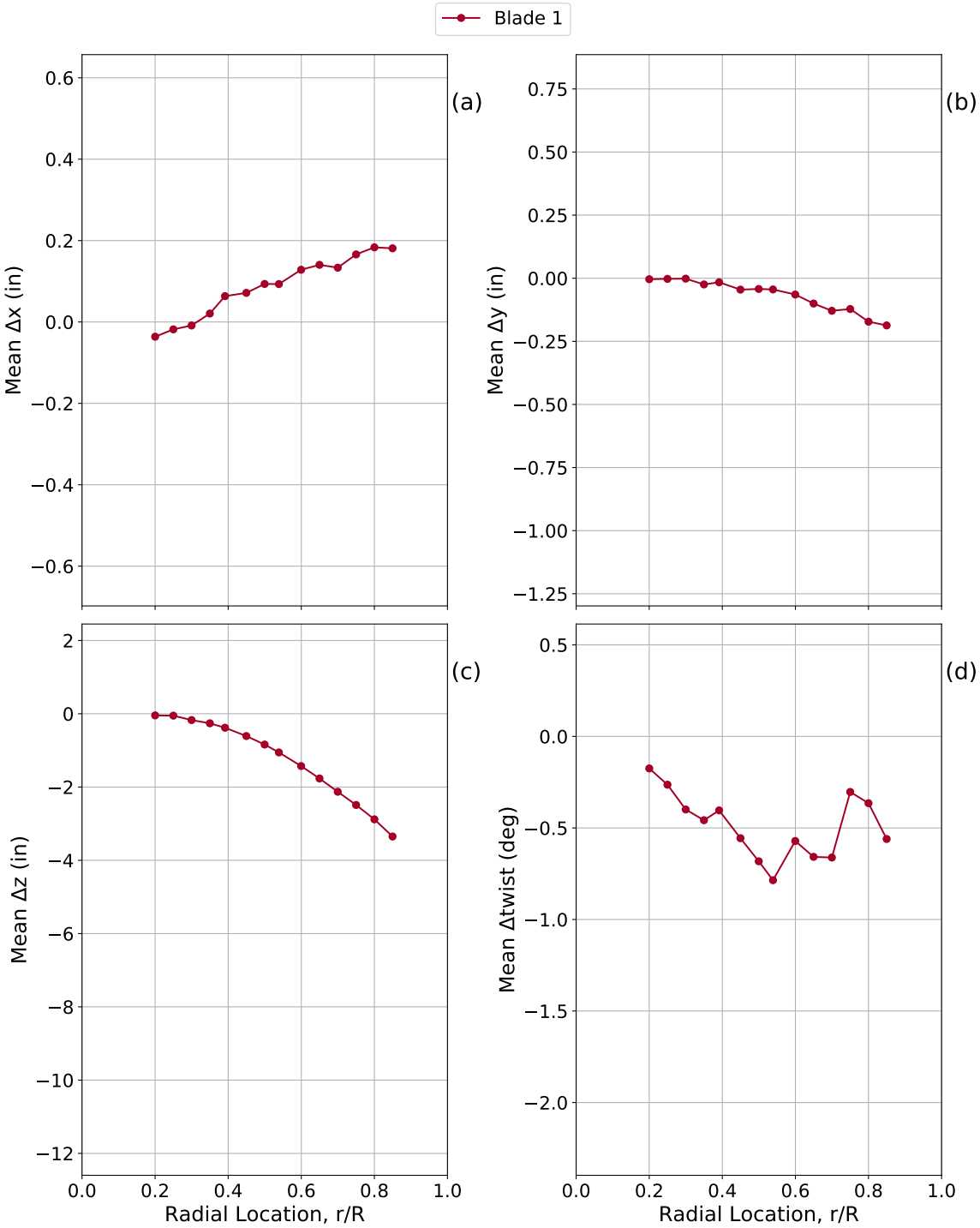


Figure 4.7-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0362	0.0010	-0.0038	0.0003	-0.0445	0.0015	-0.1749	0.0164
1	80.16	0.2499	-0.0182	0.0010	-0.0025	0.0012	-0.0516	0.0037	-0.2638	0.0274
1	80.16	0.2998	-0.0086	0.0008	-0.0016	0.0021	-0.1727	0.0057	-0.3991	0.0378
1	80.16	0.3498	0.0207	0.0010	-0.0246	0.0026	-0.2607	0.0102	-0.4578	0.0396
1	80.16	0.3913	0.0635	0.0019	-0.0160	0.0049	-0.3820	0.0148	-0.4041	0.0365
1	80.16	0.4496	0.0715	0.0018	-0.0451	0.0058	-0.6084	0.0169	-0.5560	0.0401
1	80.16	0.4997	0.0934	0.0022	-0.0425	0.0068	-0.8404	0.0232	-0.6821	0.0498
1	80.16	0.5387	0.0931	0.0024	-0.0444	0.0085	-1.0557	0.0291	-0.7855	0.0371
1	80.16	0.5996	0.1283	0.0029	-0.0645	0.0103	-1.4279	0.0341	-0.5713	0.0515
1	80.16	0.6498	0.1404	0.0038	-0.1002	0.0119	-1.7668	0.0410	-0.6580	0.0744
1	80.16	0.6998	0.1334	0.0035	-0.1289	0.0142	-2.1292	0.0430	-0.6617	0.0961
1	80.16	0.7500	0.1660	0.0071	-0.1219	0.0171	-2.4898	0.0584	-0.3034	0.1068
1	80.16	0.8001	0.1834	0.0093	-0.1721	0.0201	-2.8826	0.0582	-0.3648	0.2640
1	80.16	0.8497	0.1810	0.0058	-0.1868	0.0246	-3.3507	0.0718	-0.5603	0.1170

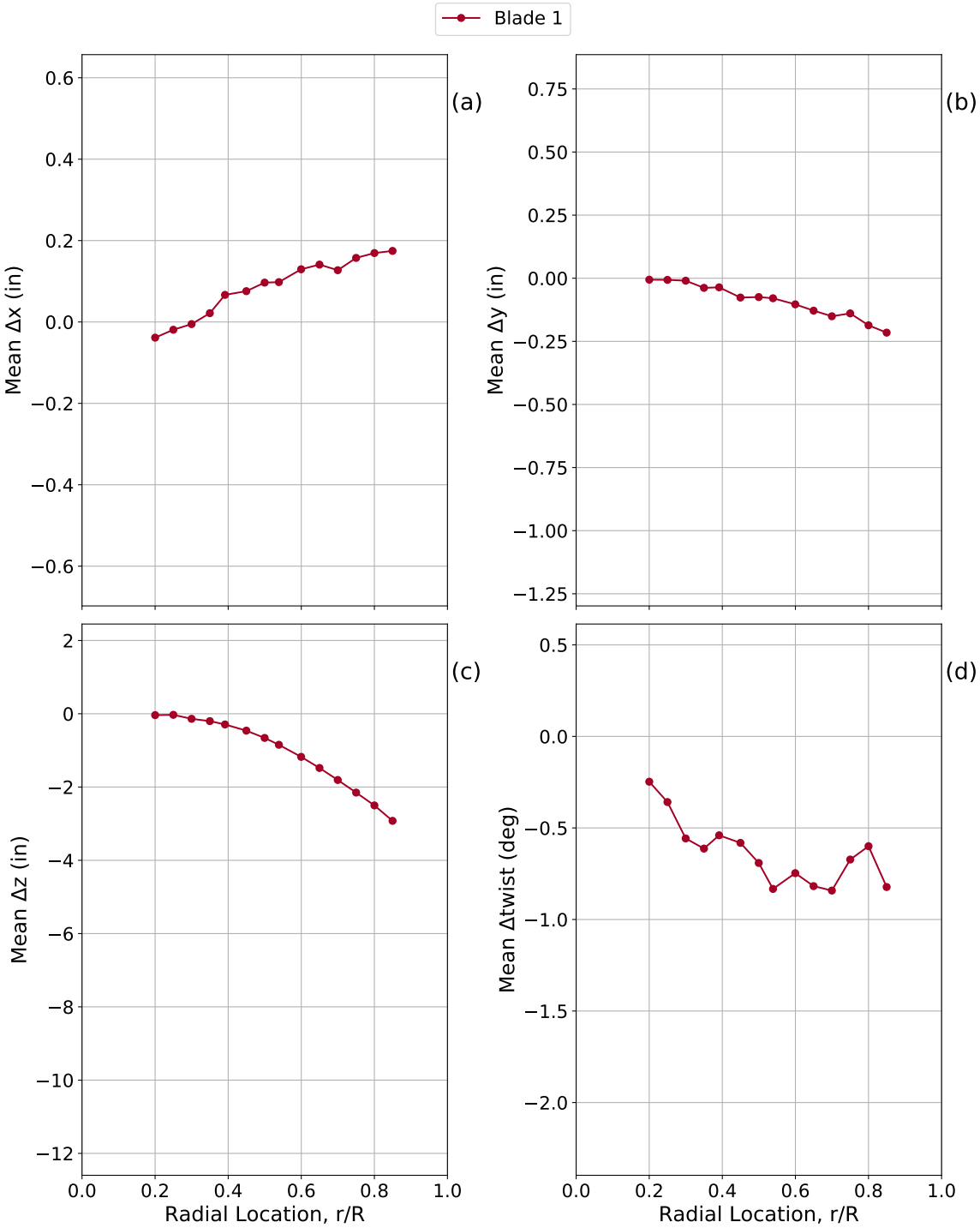


Figure 4.7-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0385	0.0016	-0.0057	0.0007	-0.0375	0.0014	-0.2475	0.0132
1	85.08	0.2499	-0.0191	0.0007	-0.0064	0.0011	-0.0297	0.0024	-0.3586	0.0323
1	85.08	0.2998	-0.0052	0.0007	-0.0097	0.0026	-0.1386	0.0059	-0.5573	0.0333
1	85.08	0.3498	0.0216	0.0016	-0.0381	0.0044	-0.2012	0.0086	-0.6128	0.0292
1	85.08	0.3913	0.0666	0.0014	-0.0360	0.0061	-0.2927	0.0130	-0.5402	0.0276
1	85.08	0.4496	0.0757	0.0017	-0.0765	0.0079	-0.4611	0.0168	-0.5816	0.0340
1	85.08	0.4997	0.0967	0.0021	-0.0746	0.0100	-0.6600	0.0189	-0.6912	0.0366
1	85.08	0.5387	0.0979	0.0032	-0.0793	0.0118	-0.8472	0.0214	-0.8331	0.0390
1	85.08	0.5996	0.1295	0.0032	-0.1034	0.0149	-1.1766	0.0297	-0.7469	0.0389
1	85.08	0.6498	0.1410	0.0027	-0.1284	0.0174	-1.4801	0.0336	-0.8178	0.0417
1	85.08	0.6998	0.1272	0.0041	-0.1506	0.0210	-1.8080	0.0433	-0.8420	0.0425
1	85.08	0.7500	0.1574	0.0031	-0.1393	0.0239	-2.1515	0.0454	-0.6726	0.0753
1	85.08	0.8001	0.1693	0.0063	-0.1864	0.0274	-2.5023	0.0429	-0.5998	0.1198
1	85.08	0.8497	0.1746	0.0043	-0.2155	0.0309	-2.9231	0.0543	-0.8227	0.0644

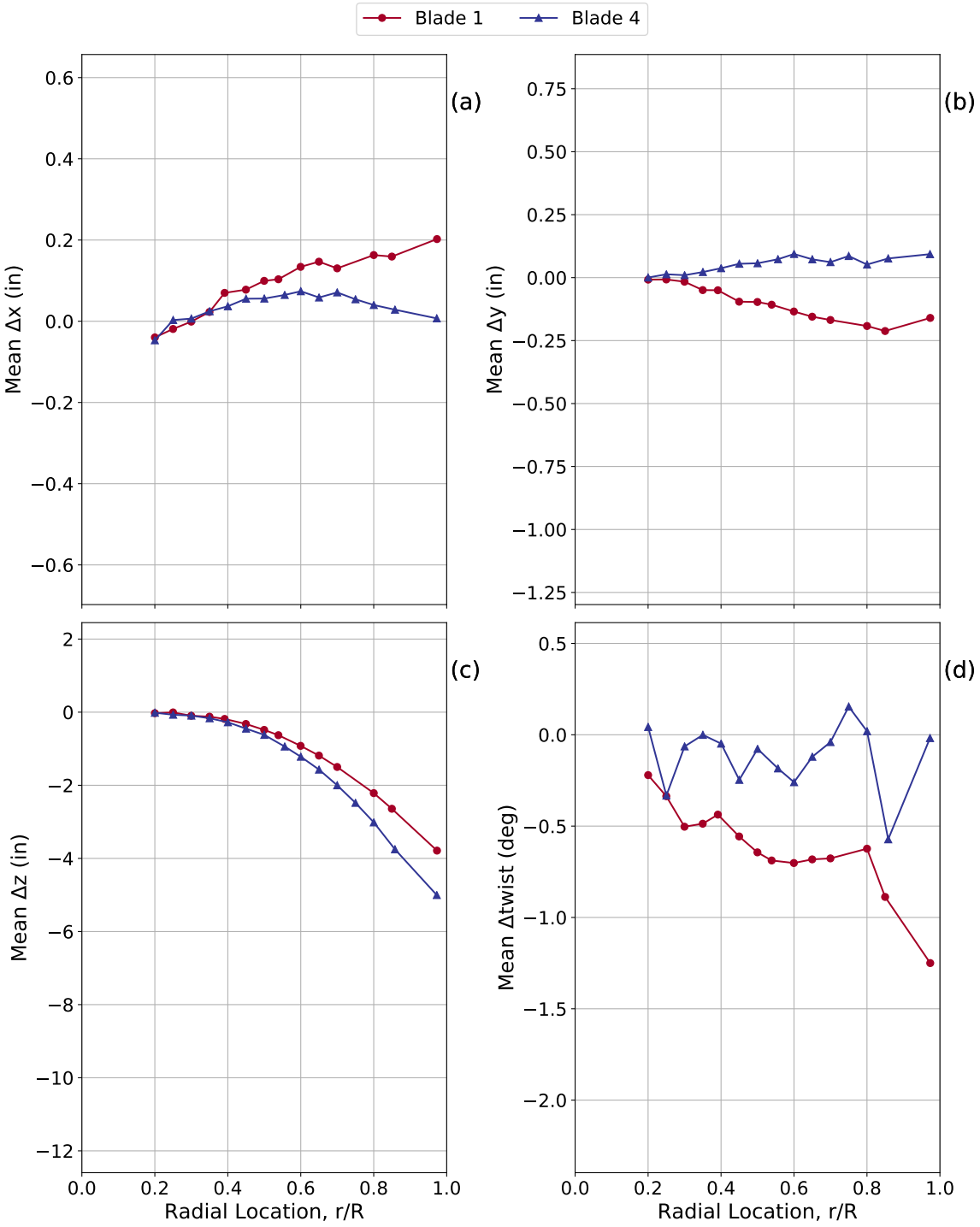


Figure 4.7-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0397	0.0011	-0.0080	0.0005	-0.0273	0.0015	-0.2208	0.0130
1	90	0.2499	-0.0190	0.0008	-0.0073	0.0017	-0.0066	0.0032	-0.3363	0.0273
1	90	0.2998	-0.0009	0.0009	-0.0162	0.0023	-0.0980	0.0058	-0.5033	0.0308
1	90	0.3498	0.0229	0.0008	-0.0495	0.0044	-0.1229	0.0099	-0.4869	0.0242
1	90	0.3913	0.0699	0.0012	-0.0501	0.0063	-0.1847	0.0141	-0.4370	0.0244
1	90	0.4496	0.0778	0.0016	-0.0955	0.0083	-0.3220	0.0196	-0.5566	0.0316
1	90	0.4997	0.0995	0.0019	-0.0967	0.0108	-0.4845	0.0264	-0.6437	0.0269
1	90	0.5387	0.1034	0.0027	-0.1075	0.0128	-0.6295	0.0312	-0.6881	0.0407
1	90	0.5996	0.1340	0.0017	-0.1345	0.0159	-0.9214	0.0404	-0.7020	0.0282
1	90	0.6498	0.1467	0.0025	-0.1551	0.0186	-1.1873	0.0467	-0.6821	0.0423
1	90	0.6998	0.1303	0.0033	-0.1682	0.0217	-1.4990	0.0559	-0.6767	0.0401
1	90	0.8001	0.1630	0.0048	-0.1921	0.0281	-2.2145	0.0676	-0.6236	0.0787
1	90	0.8497	0.1593	0.0042	-0.2120	0.0315	-2.6420	0.0766	-0.8877	0.0708
1	90	0.9734	0.2024	0.0069	-0.1600	0.0396	-3.7867	0.0927	-1.2498	0.1815
4	90.35	0.2001	-0.0469	0.0013	0.0004	0.0003	-0.0155	0.0014	0.0425	0.0190
4	90.35	0.2502	0.0030	0.0009	0.0133	0.0013	-0.0702	0.0034	-0.3325	0.0324
4	90.35	0.3001	0.0065	0.0008	0.0097	0.0015	-0.0942	0.0062	-0.0638	0.0438
4	90.35	0.3502	0.0246	0.0017	0.0222	0.0025	-0.1671	0.0097	-0.0006	0.0238
4	90.35	0.4002	0.0369	0.0021	0.0374	0.0040	-0.2764	0.0158	-0.0485	0.0307
4	90.35	0.4500	0.0555	0.0029	0.0550	0.0042	-0.4502	0.0201	-0.2469	0.0287
4	90.35	0.5001	0.0559	0.0032	0.0570	0.0049	-0.6216	0.0253	-0.0772	0.0257
4	90.35	0.5560	0.0648	0.0033	0.0730	0.0064	-0.9401	0.0333	-0.1842	0.0212
4	90.35	0.6001	0.0739	0.0041	0.0938	0.0080	-1.2189	0.0423	-0.2596	0.0254
4	90.35	0.6501	0.0585	0.0045	0.0726	0.0089	-1.5714	0.0487	-0.1205	0.0324
4	90.35	0.6999	0.0710	0.0044	0.0615	0.0102	-2.0002	0.0540	-0.0401	0.0308
4	90.35	0.7500	0.0541	0.0066	0.0857	0.0221	-2.4811	0.0626	0.1541	0.3028
4	90.35	0.8002	0.0400	0.0044	0.0519	0.0128	-3.0150	0.0642	0.0193	0.0566
4	90.35	0.8582	0.0285	0.0030	0.0761	0.0137	-3.7517	0.0672	-0.5723	0.0492
4	90.35	0.9728	0.0071	0.0056	0.0932	0.0171	-5.0022	0.0806	-0.0181	0.0590

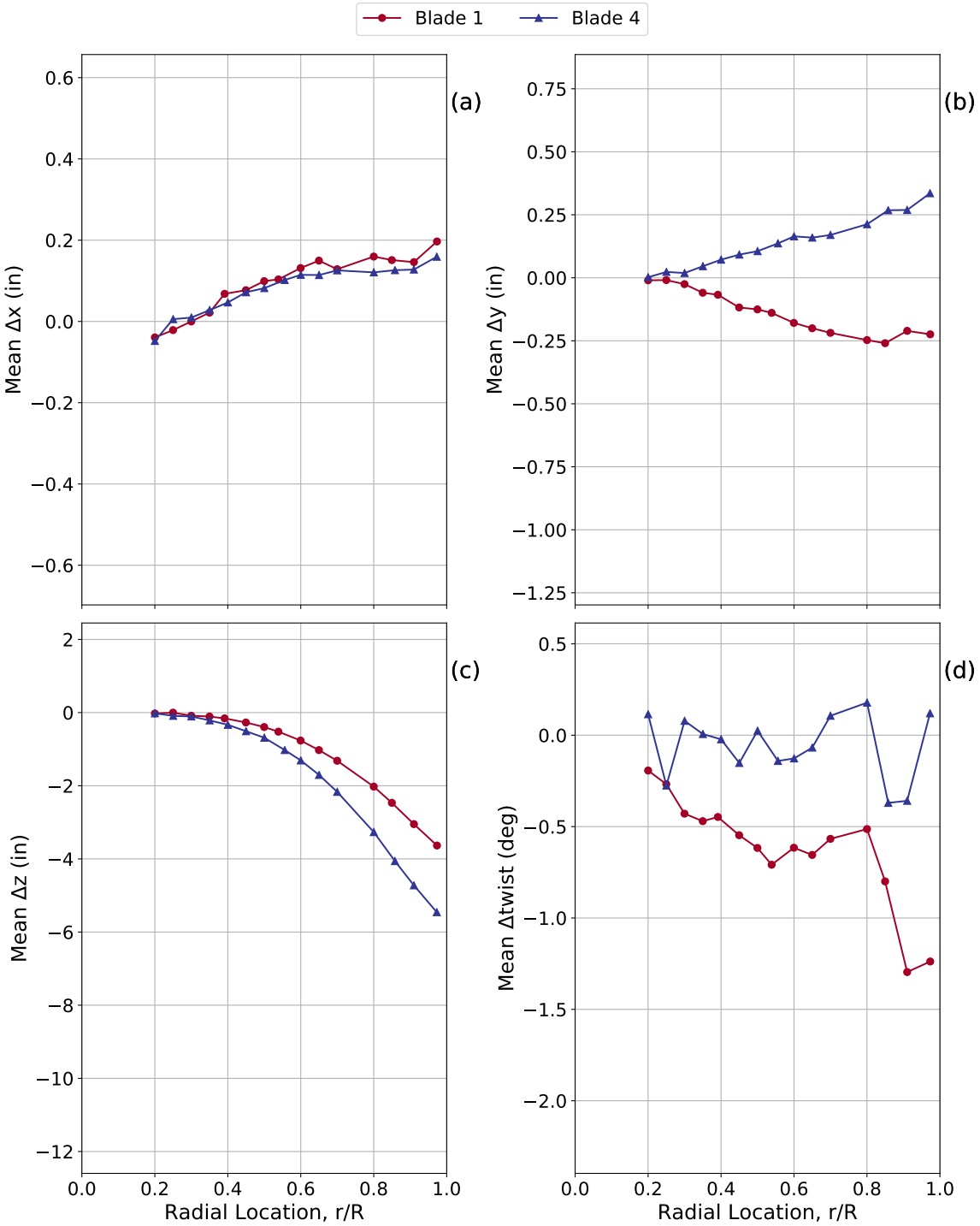


Figure 4.7-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0393	0.0011	-0.0100	0.0006	-0.0247	0.0006	-0.1932	0.0117
1	94.92	0.2499	-0.0213	0.0007	-0.0091	0.0009	-0.0020	0.0015	-0.2679	0.0210
1	94.92	0.2998	0.0000	0.0007	-0.0252	0.0020	-0.0853	0.0027	-0.4293	0.0266
1	94.92	0.3498	0.0217	0.0007	-0.0594	0.0031	-0.1076	0.0031	-0.4702	0.0210
1	94.92	0.3913	0.0680	0.0013	-0.0674	0.0045	-0.1582	0.0055	-0.4473	0.0173
1	94.92	0.4496	0.0769	0.0014	-0.1178	0.0056	-0.2703	0.0078	-0.5472	0.0198
1	94.92	0.4997	0.0992	0.0011	-0.1254	0.0071	-0.3951	0.0111	-0.6168	0.0172
1	94.92	0.5387	0.1035	0.0012	-0.1392	0.0086	-0.5220	0.0148	-0.7087	0.0263
1	94.92	0.5996	0.1314	0.0020	-0.1790	0.0110	-0.7643	0.0194	-0.6157	0.0246
1	94.92	0.6498	0.1497	0.0018	-0.2003	0.0136	-1.0257	0.0205	-0.6550	0.0292
1	94.92	0.6998	0.1286	0.0028	-0.2185	0.0160	-1.3167	0.0240	-0.5671	0.0270
1	94.92	0.8001	0.1597	0.0022	-0.2472	0.0210	-2.0238	0.0282	-0.5136	0.0383
1	94.92	0.8497	0.1510	0.0027	-0.2595	0.0237	-2.4672	0.0314	-0.7998	0.0431
1	94.92	0.9102	0.1460	0.0086	-0.2106	0.0274	-3.0497	0.0351	-1.2958	0.1210
1	94.92	0.9734	0.1968	0.0038	-0.2243	0.0303	-3.6344	0.0440	-1.2380	0.0829
4	94.92	0.2001	-0.0479	0.0010	0.0022	0.0005	-0.0196	0.0013	0.1147	0.0102
4	94.92	0.2502	0.0056	0.0008	0.0233	0.0011	-0.0891	0.0028	-0.2755	0.0206
4	94.92	0.3001	0.0096	0.0009	0.0189	0.0018	-0.1064	0.0044	0.0785	0.0211
4	94.92	0.3502	0.0278	0.0006	0.0459	0.0030	-0.2134	0.0080	0.0063	0.0189
4	94.92	0.4002	0.0468	0.0014	0.0719	0.0047	-0.3349	0.0119	-0.0226	0.0222
4	94.92	0.4500	0.0718	0.0015	0.0920	0.0064	-0.5091	0.0156	-0.1519	0.0322
4	94.92	0.5001	0.0820	0.0018	0.1056	0.0076	-0.6879	0.0188	0.0243	0.0231
4	94.92	0.5560	0.1020	0.0019	0.1365	0.0091	-1.0240	0.0219	-0.1409	0.0249
4	94.92	0.6001	0.1147	0.0014	0.1644	0.0107	-1.3084	0.0245	-0.1272	0.0248
4	94.92	0.6501	0.1142	0.0019	0.1594	0.0125	-1.7040	0.0290	-0.0678	0.0363
4	94.92	0.6999	0.1257	0.0020	0.1699	0.0139	-2.1681	0.0320	0.1063	0.0235
4	94.92	0.8002	0.1208	0.0017	0.2125	0.0179	-3.2675	0.0416	0.1781	0.0353
4	94.92	0.8582	0.1262	0.0023	0.2680	0.0205	-4.0606	0.0477	-0.3703	0.0381
4	94.92	0.9101	0.1277	0.0027	0.2690	0.0218	-4.7231	0.0547	-0.3590	0.0751
4	94.92	0.9728	0.1592	0.0026	0.3355	0.0250	-5.4566	0.0601	0.1199	0.0732

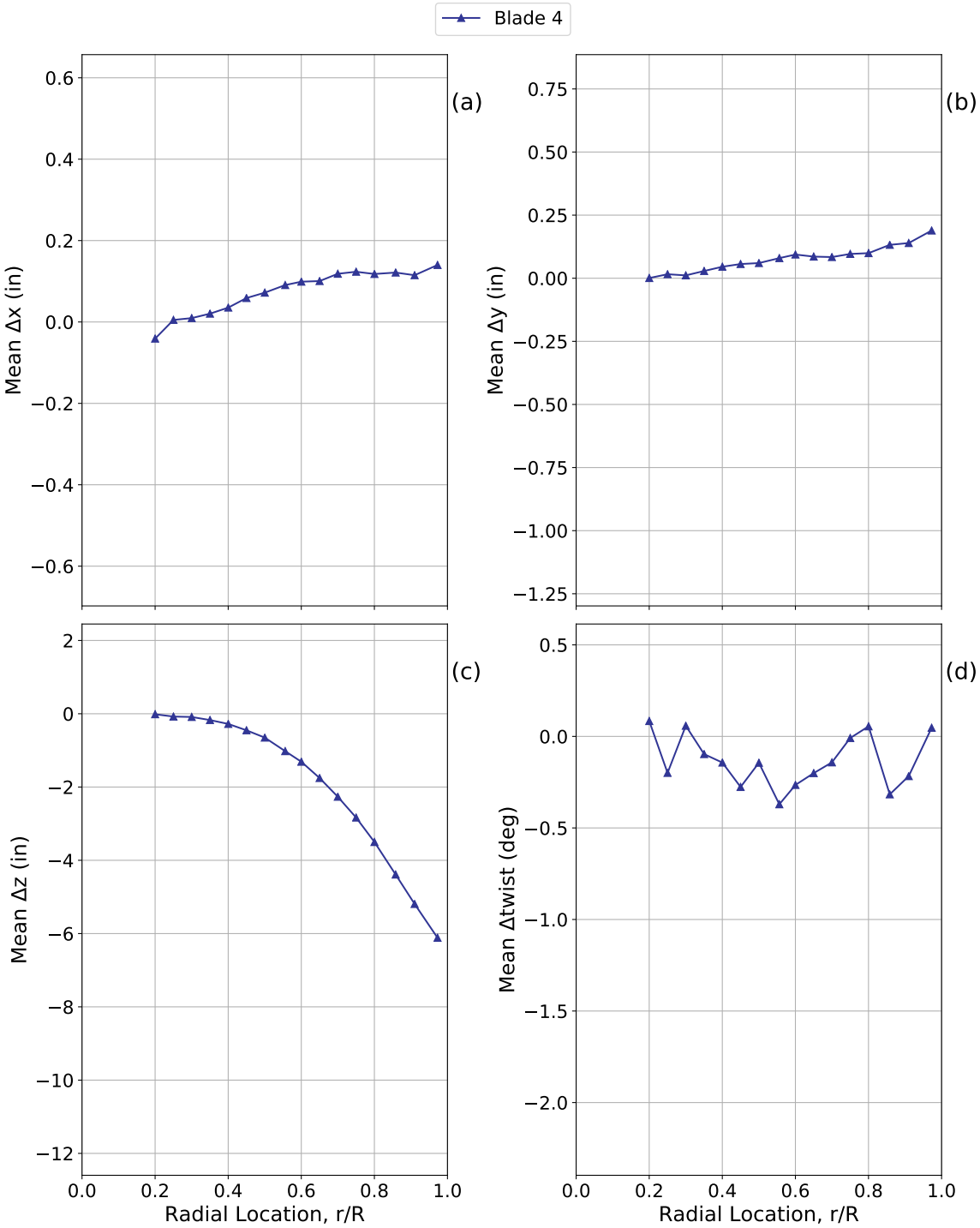


Figure 4.7-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0409	0.0013	0.0008	0.0010	-0.0138	0.0021	0.0838	0.0159
4	105.12	0.2502	0.0050	0.0008	0.0159	0.0017	-0.0770	0.0037	-0.1995	0.0309
4	105.12	0.3001	0.0095	0.0012	0.0113	0.0031	-0.0880	0.0076	0.0580	0.0378
4	105.12	0.3502	0.0204	0.0013	0.0287	0.0065	-0.1720	0.0134	-0.0968	0.0308
4	105.12	0.4002	0.0353	0.0015	0.0456	0.0090	-0.2781	0.0198	-0.1431	0.0303
4	105.12	0.4500	0.0588	0.0015	0.0563	0.0102	-0.4518	0.0225	-0.2764	0.0412
4	105.12	0.5001	0.0720	0.0017	0.0601	0.0123	-0.6513	0.0287	-0.1441	0.0419
4	105.12	0.5560	0.0907	0.0014	0.0797	0.0156	-1.0212	0.0344	-0.3709	0.0321
4	105.12	0.6001	0.0990	0.0022	0.0939	0.0181	-1.3104	0.0378	-0.2652	0.0360
4	105.12	0.6501	0.1005	0.0022	0.0857	0.0207	-1.7547	0.0422	-0.2007	0.0386
4	105.12	0.6999	0.1184	0.0021	0.0839	0.0235	-2.2660	0.0478	-0.1419	0.0391
4	105.12	0.7500	0.1234	0.0022	0.0963	0.0266	-2.8338	0.0502	-0.0089	0.0452
4	105.12	0.8002	0.1179	0.0024	0.0994	0.0297	-3.5019	0.0550	0.0549	0.0450
4	105.12	0.8582	0.1214	0.0024	0.1323	0.0337	-4.3897	0.0624	-0.3167	0.0363
4	105.12	0.9101	0.1149	0.0030	0.1394	0.0373	-5.1924	0.0675	-0.2170	0.0412
4	105.12	0.9728	0.1400	0.0034	0.1890	0.0411	-6.1156	0.0795	0.0470	0.0435

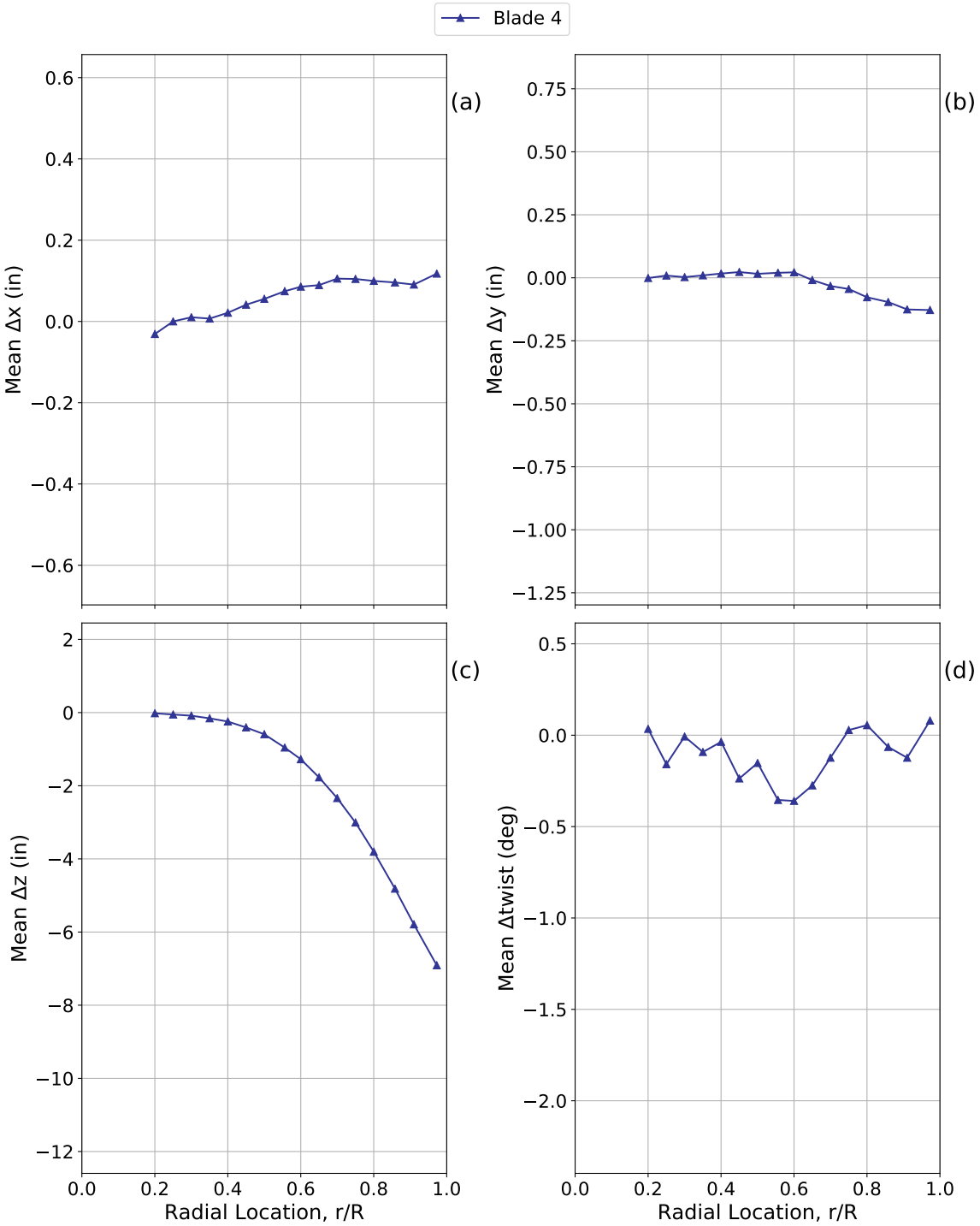


Figure 4.7-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0310	0.0006	-0.0010	0.0003	-0.0184	0.0008	0.0344	0.0094
4	119.88	0.2502	0.0001	0.0010	0.0087	0.0008	-0.0536	0.0035	-0.1589	0.0142
4	119.88	0.3001	0.0103	0.0009	0.0025	0.0016	-0.0850	0.0040	-0.0074	0.0199
4	119.88	0.3502	0.0070	0.0010	0.0095	0.0023	-0.1575	0.0078	-0.0921	0.0203
4	119.88	0.4002	0.0214	0.0013	0.0168	0.0038	-0.2450	0.0121	-0.0366	0.0202
4	119.88	0.4500	0.0411	0.0018	0.0228	0.0053	-0.4061	0.0154	-0.2369	0.0170
4	119.88	0.5001	0.0555	0.0013	0.0158	0.0062	-0.5931	0.0195	-0.1522	0.0226
4	119.88	0.5560	0.0743	0.0014	0.0198	0.0084	-0.9566	0.0249	-0.3545	0.0177
4	119.88	0.6001	0.0855	0.0010	0.0217	0.0101	-1.2761	0.0274	-0.3595	0.0235
4	119.88	0.6501	0.0894	0.0007	-0.0092	0.0121	-1.7715	0.0319	-0.2750	0.0156
4	119.88	0.6999	0.1054	0.0016	-0.0326	0.0142	-2.3384	0.0356	-0.1233	0.0215
4	119.88	0.7500	0.1045	0.0018	-0.0445	0.0171	-3.0062	0.0404	0.0280	0.0221
4	119.88	0.8002	0.0997	0.0020	-0.0773	0.0199	-3.8052	0.0440	0.0547	0.0207
4	119.88	0.8582	0.0959	0.0020	-0.0963	0.0231	-4.8148	0.0489	-0.0646	0.0205
4	119.88	0.9101	0.0907	0.0026	-0.1256	0.0259	-5.7911	0.0547	-0.1234	0.0211
4	119.88	0.9728	0.1176	0.0033	-0.1281	0.0291	-6.9092	0.0632	0.0796	0.0214

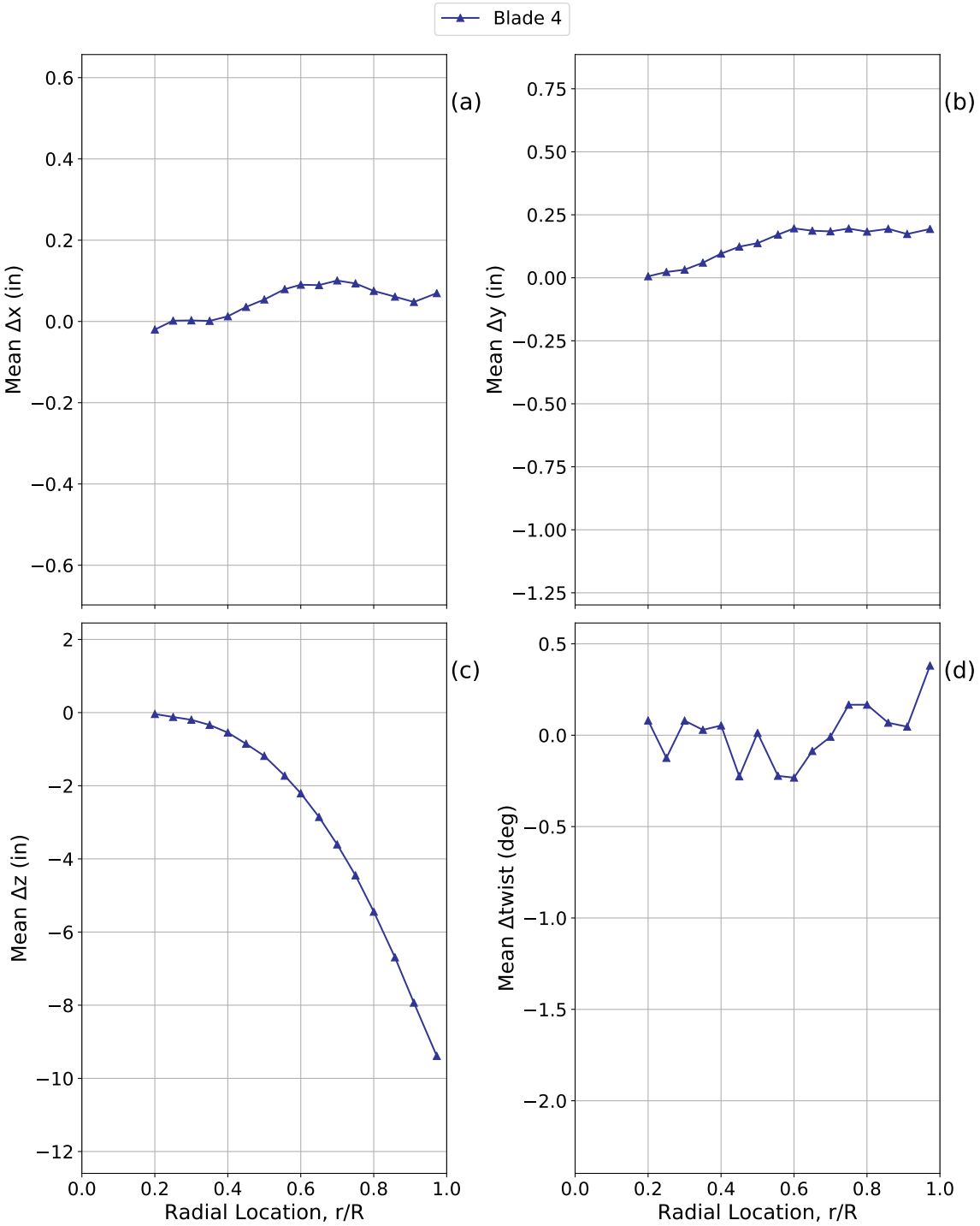


Figure 4.7-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0200	0.0007	0.0058	0.0005	-0.0394	0.0008	0.0802	0.0137
4	135	0.2502	0.0019	0.0009	0.0229	0.0011	-0.1207	0.0015	-0.1244	0.0212
4	135	0.3001	0.0025	0.0008	0.0321	0.0020	-0.1972	0.0031	0.0794	0.0305
4	135	0.3502	0.0013	0.0008	0.0598	0.0031	-0.3388	0.0048	0.0292	0.0243
4	135	0.4002	0.0126	0.0013	0.0958	0.0051	-0.5476	0.0075	0.0530	0.0217
4	135	0.4500	0.0356	0.0014	0.1234	0.0055	-0.8543	0.0093	-0.2254	0.0234
4	135	0.5001	0.0540	0.0014	0.1375	0.0069	-1.1859	0.0117	0.0123	0.0191
4	135	0.5560	0.0794	0.0022	0.1712	0.0078	-1.7270	0.0140	-0.2226	0.0326
4	135	0.6001	0.0903	0.0015	0.1960	0.0093	-2.2082	0.0153	-0.2323	0.0260
4	135	0.6501	0.0894	0.0012	0.1868	0.0103	-2.8564	0.0182	-0.0866	0.0245
4	135	0.6999	0.1007	0.0023	0.1841	0.0112	-3.6066	0.0207	-0.0088	0.0226
4	135	0.7500	0.0934	0.0020	0.1953	0.0123	-4.4519	0.0239	0.1666	0.0319
4	135	0.8002	0.0751	0.0027	0.1830	0.0143	-5.4448	0.0281	0.1667	0.0262
4	135	0.8582	0.0609	0.0032	0.1941	0.0157	-6.6923	0.0344	0.0680	0.0246
4	135	0.9101	0.0478	0.0036	0.1736	0.0168	-7.9322	0.0414	0.0465	0.0220
4	135	0.9728	0.0696	0.0045	0.1936	0.0191	-9.3881	0.0513	0.3807	0.0266

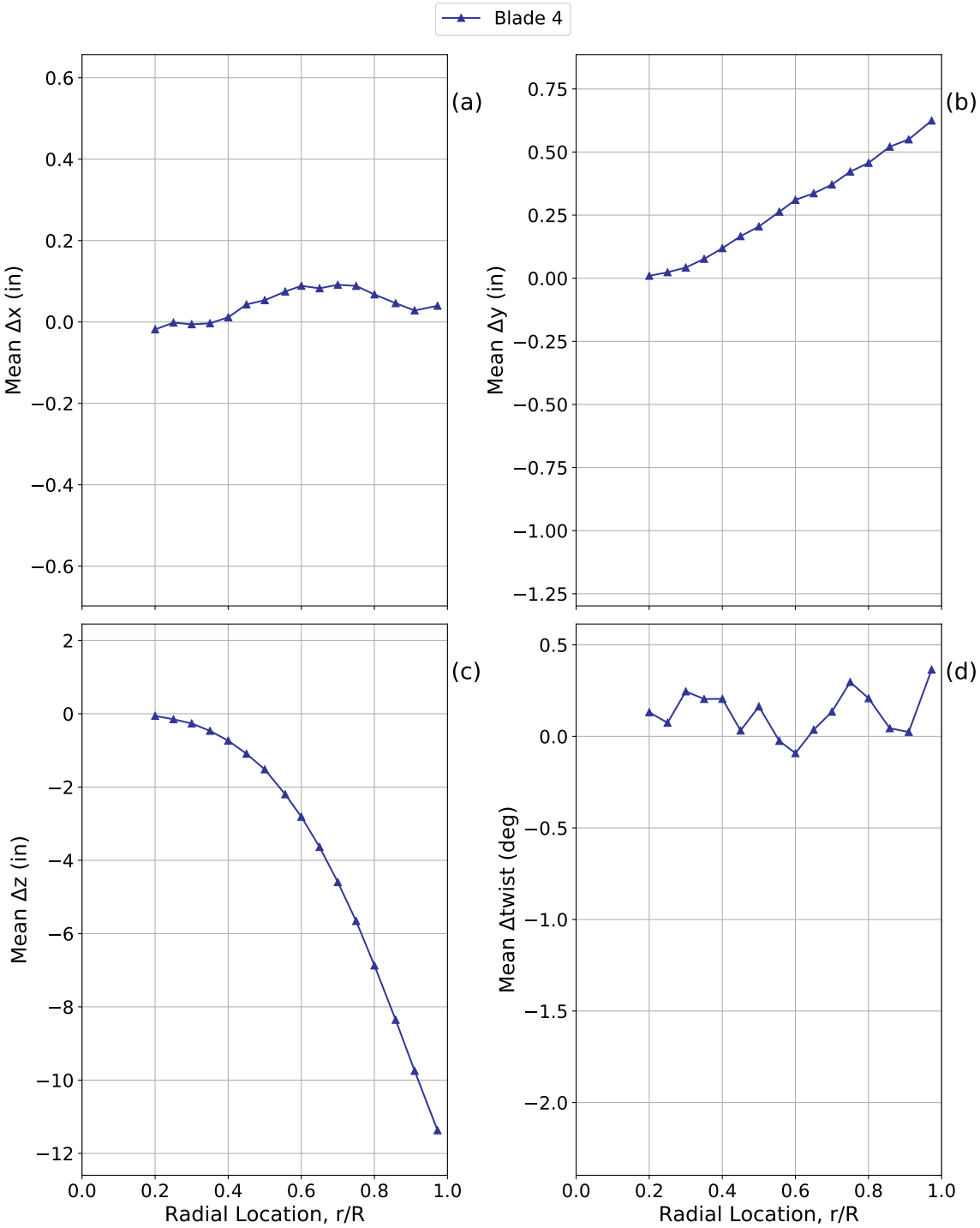


Figure 4.7-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0183	0.0010	0.0095	0.0004	-0.0588	0.0009	0.1318	0.0140
4	150.12	0.2502	-0.0016	0.0015	0.0236	0.0011	-0.1503	0.0033	0.0743	0.0148
4	150.12	0.3001	-0.0057	0.0008	0.0422	0.0022	-0.2655	0.0047	0.2457	0.0273
4	150.12	0.3502	-0.0033	0.0007	0.0767	0.0028	-0.4677	0.0068	0.2043	0.0216
4	150.12	0.4002	0.0115	0.0013	0.1189	0.0049	-0.7347	0.0123	0.2047	0.0165
4	150.12	0.4500	0.0430	0.0018	0.1665	0.0050	-1.0922	0.0145	0.0320	0.0228
4	150.12	0.5001	0.0534	0.0012	0.2050	0.0064	-1.5195	0.0196	0.1631	0.0185
4	150.12	0.5560	0.0747	0.0019	0.2633	0.0084	-2.1997	0.0232	-0.0248	0.0170
4	150.12	0.6001	0.0888	0.0020	0.3104	0.0100	-2.8128	0.0255	-0.0919	0.0291
4	150.12	0.6501	0.0827	0.0015	0.3365	0.0114	-3.6386	0.0296	0.0361	0.0226
4	150.12	0.6999	0.0914	0.0020	0.3710	0.0140	-4.5955	0.0320	0.1348	0.0237
4	150.12	0.7500	0.0886	0.0018	0.4223	0.0167	-5.6579	0.0347	0.2969	0.0228
4	150.12	0.8002	0.0676	0.0023	0.4569	0.0191	-6.8720	0.0386	0.2082	0.0295
4	150.12	0.8582	0.0461	0.0029	0.5211	0.0230	-8.3546	0.0444	0.0444	0.0358
4	150.12	0.9101	0.0282	0.0029	0.5499	0.0264	-9.7474	0.0497	0.0241	0.0291
4	150.12	0.9728	0.0398	0.0032	0.6245	0.0303	-11.3704	0.0595	0.3648	0.0219

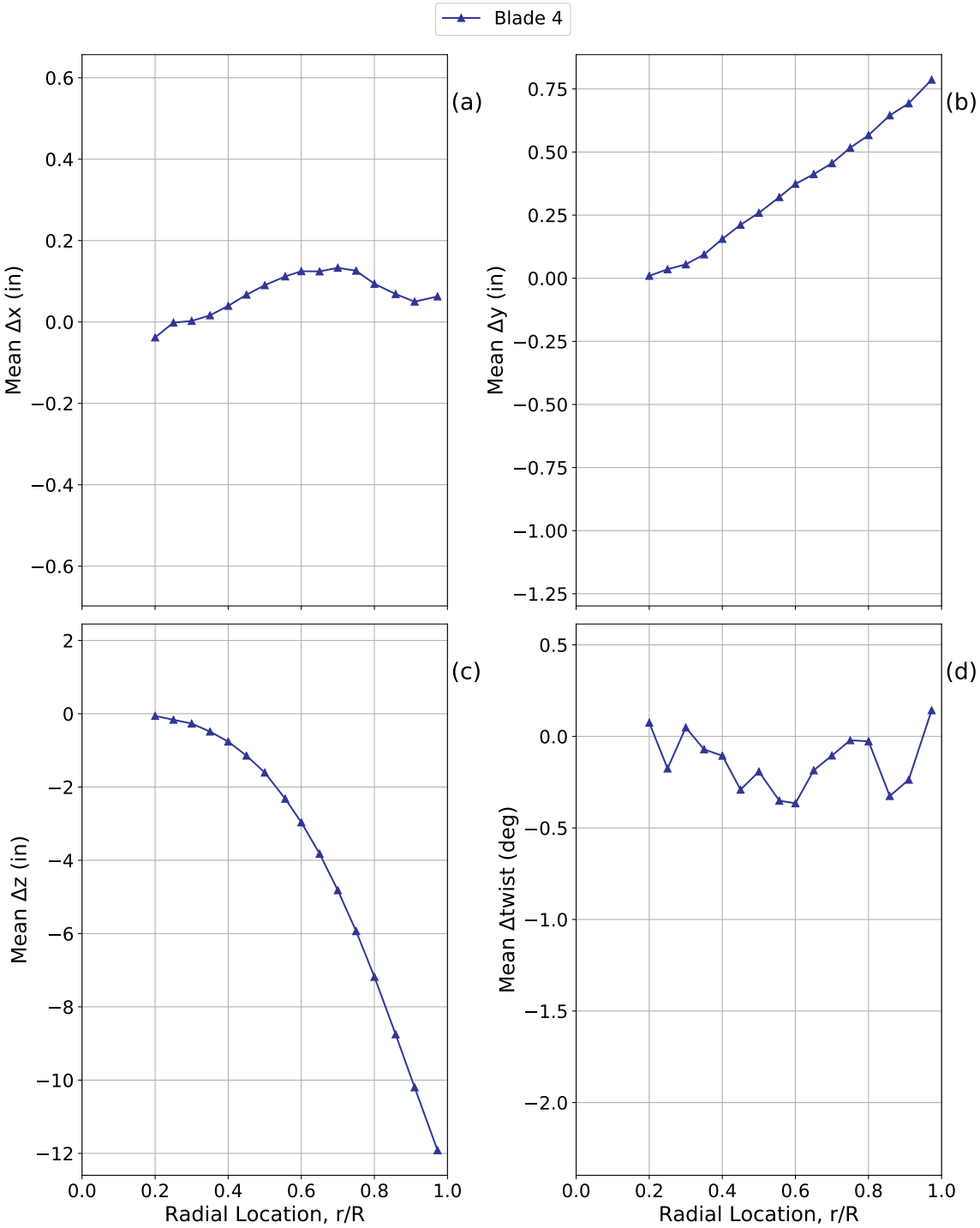


Figure 4.7-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0380	0.0008	0.0096	0.0006	-0.0588	0.0008	0.0750	0.0079
4	164.88	0.2502	-0.0016	0.0006	0.0356	0.0012	-0.1644	0.0028	-0.1757	0.0155
4	164.88	0.3001	0.0025	0.0007	0.0550	0.0021	-0.2678	0.0042	0.0486	0.0167
4	164.88	0.3502	0.0163	0.0009	0.0943	0.0037	-0.4873	0.0061	-0.0711	0.0188
4	164.88	0.4002	0.0396	0.0016	0.1558	0.0054	-0.7604	0.0109	-0.1057	0.0114
4	164.88	0.4500	0.0670	0.0012	0.2119	0.0068	-1.1445	0.0128	-0.2911	0.0252
4	164.88	0.5001	0.0903	0.0012	0.2589	0.0075	-1.6060	0.0151	-0.1923	0.0291
4	164.88	0.5560	0.1119	0.0018	0.3214	0.0109	-2.3202	0.0177	-0.3510	0.0258
4	164.88	0.6001	0.1247	0.0010	0.3738	0.0125	-2.9658	0.0202	-0.3655	0.0325
4	164.88	0.6501	0.1242	0.0017	0.4122	0.0143	-3.8216	0.0213	-0.1855	0.0314
4	164.88	0.6999	0.1331	0.0018	0.4556	0.0161	-4.8168	0.0262	-0.1045	0.0356
4	164.88	0.7500	0.1258	0.0021	0.5170	0.0184	-5.9341	0.0278	-0.0211	0.0375
4	164.88	0.8002	0.0937	0.0023	0.5668	0.0215	-7.1824	0.0296	-0.0270	0.0517
4	164.88	0.8582	0.0685	0.0028	0.6452	0.0235	-8.7507	0.0277	-0.3258	0.0543
4	164.88	0.9101	0.0499	0.0047	0.6927	0.0260	-10.1975	0.0296	-0.2368	0.0657
4	164.88	0.9728	0.0627	0.0158	0.7866	0.0270	-11.9138	0.0333	0.1427	0.1677

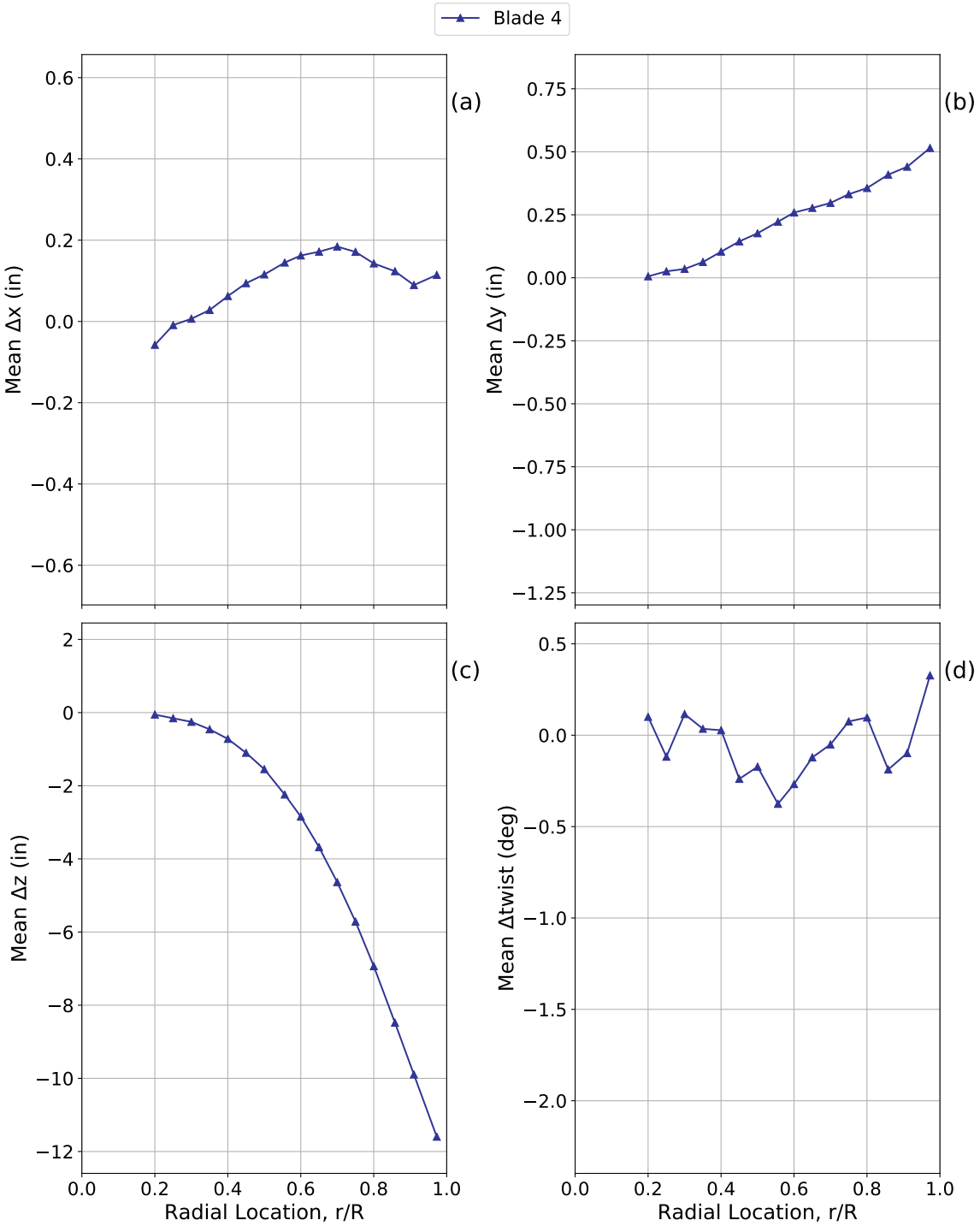


Figure 4.7-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0576	0.0018	0.0056	0.0004	-0.0549	0.0012	0.1002	0.0072
4	170.16	0.2502	-0.0091	0.0009	0.0256	0.0008	-0.1557	0.0033	-0.1180	0.0178
4	170.16	0.3001	0.0066	0.0013	0.0351	0.0011	-0.2541	0.0052	0.1155	0.0146
4	170.16	0.3502	0.0281	0.0014	0.0625	0.0024	-0.4583	0.0088	0.0349	0.0178
4	170.16	0.4002	0.0624	0.0016	0.1036	0.0032	-0.7193	0.0142	0.0271	0.0215
4	170.16	0.4500	0.0940	0.0019	0.1443	0.0040	-1.1009	0.0187	-0.2391	0.0228
4	170.16	0.5001	0.1156	0.0014	0.1766	0.0047	-1.5484	0.0236	-0.1727	0.0249
4	170.16	0.5560	0.1448	0.0027	0.2224	0.0063	-2.2413	0.0303	-0.3757	0.0417
4	170.16	0.6001	0.1623	0.0032	0.2590	0.0068	-2.8447	0.0344	-0.2677	0.0222
4	170.16	0.6501	0.1716	0.0025	0.2771	0.0085	-3.6806	0.0386	-0.1216	0.0229
4	170.16	0.6999	0.1842	0.0016	0.2969	0.0102	-4.6363	0.0468	-0.0509	0.0283
4	170.16	0.7500	0.1712	0.0024	0.3315	0.0125	-5.7155	0.0487	0.0750	0.0537
4	170.16	0.8002	0.1427	0.0035	0.3561	0.0147	-6.9351	0.0527	0.0967	0.0359
4	170.16	0.8582	0.1235	0.0061	0.4092	0.0174	-8.4795	0.0591	-0.1879	0.0658
4	170.16	0.9101	0.0895	0.0081	0.4405	0.0220	-9.8936	0.0601	-0.0982	0.0590
4	170.16	0.9728	0.1145	0.0061	0.5150	0.0242	-11.5967	0.0715	0.3267	0.1485

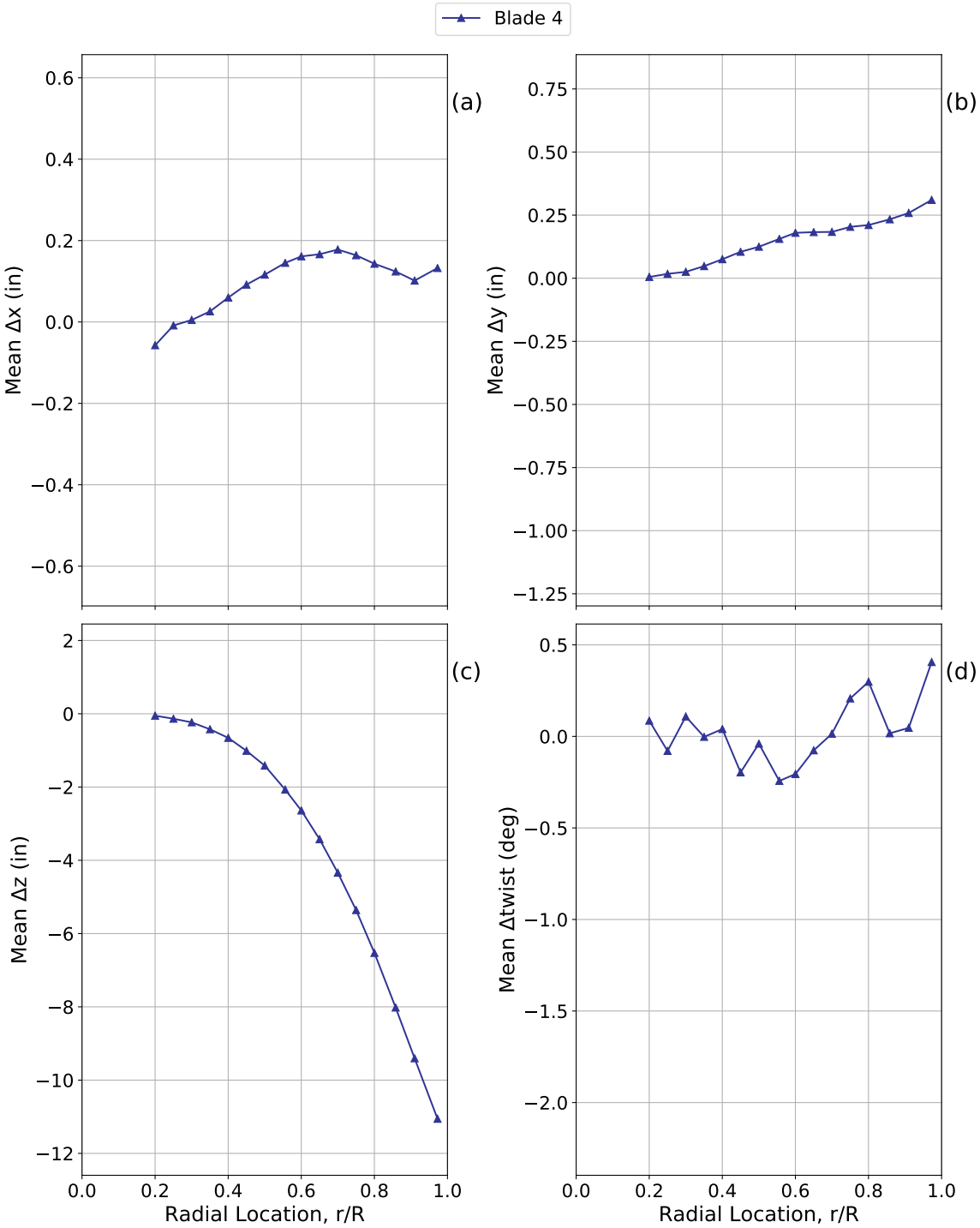


Figure 4.7-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0572	0.0012	0.0050	0.0006	-0.0533	0.0011	0.0857	0.0091
4	175.08	0.2502	-0.0086	0.0006	0.0173	0.0017	-0.1365	0.0033	-0.0796	0.0133
4	175.08	0.3001	0.0049	0.0008	0.0254	0.0036	-0.2349	0.0055	0.1085	0.0178
4	175.08	0.3502	0.0260	0.0012	0.0479	0.0045	-0.4245	0.0085	-0.0027	0.0162
4	175.08	0.4002	0.0600	0.0012	0.0753	0.0084	-0.6591	0.0142	0.0401	0.0193
4	175.08	0.4500	0.0917	0.0012	0.1047	0.0100	-1.0124	0.0168	-0.1968	0.0108
4	175.08	0.5001	0.1163	0.0023	0.1247	0.0108	-1.4171	0.0210	-0.0398	0.0226
4	175.08	0.5560	0.1452	0.0019	0.1558	0.0146	-2.0710	0.0252	-0.2432	0.0267
4	175.08	0.6001	0.1612	0.0022	0.1799	0.0151	-2.6416	0.0278	-0.2056	0.0231
4	175.08	0.6501	0.1664	0.0018	0.1827	0.0179	-3.4261	0.0311	-0.0763	0.0250
4	175.08	0.6999	0.1779	0.0025	0.1835	0.0194	-4.3399	0.0358	0.0145	0.0391
4	175.08	0.7500	0.1639	0.0023	0.2036	0.0223	-5.3597	0.0415	0.2072	0.0197
4	175.08	0.8002	0.1430	0.0021	0.2107	0.0248	-6.5293	0.0451	0.2983	0.0232
4	175.08	0.8582	0.1240	0.0027	0.2333	0.0284	-8.0196	0.0512	0.0168	0.0388
4	175.08	0.9101	0.1016	0.0046	0.2585	0.0300	-9.4051	0.0544	0.0466	0.0479
4	175.08	0.9728	0.1325	0.0033	0.3102	0.0334	-11.0564	0.0599	0.4060	0.0549

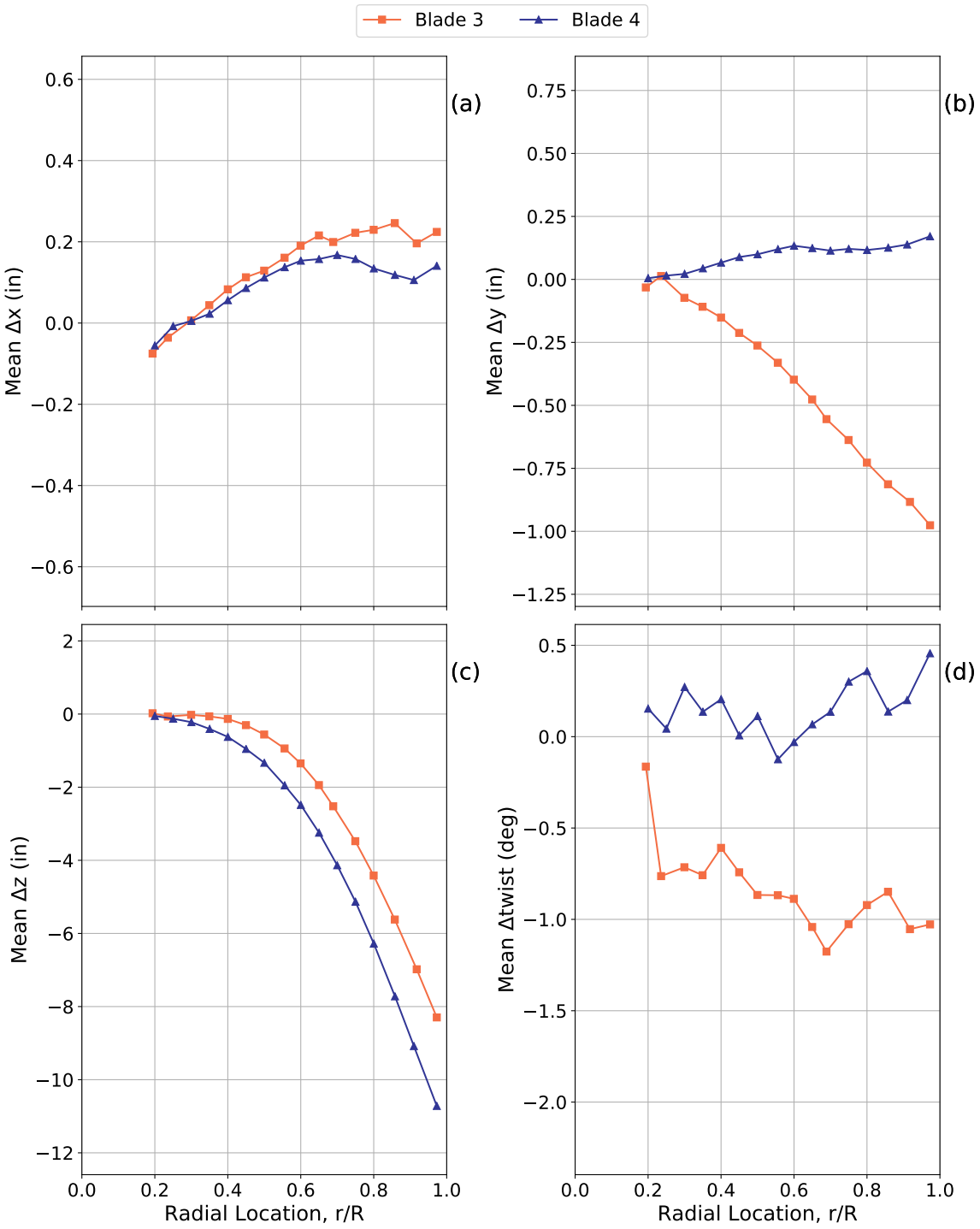


Figure 4.7-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0752	0.0055	-0.0319	0.0011	0.0220	0.0026	-0.1640	0.0149
3	180.35	0.2357	-0.0360	0.0015	0.0134	0.0005	-0.0670	0.0017	-0.7633	0.0426
3	180.35	0.2995	0.0068	0.0021	-0.0731	0.0033	-0.0217	0.0059	-0.7147	0.0470
3	180.35	0.3493	0.0440	0.0034	-0.1086	0.0053	-0.0629	0.0110	-0.7583	0.0369
3	180.35	0.4000	0.0830	0.0044	-0.1513	0.0079	-0.1331	0.0146	-0.6087	0.0535
3	180.35	0.4497	0.1127	0.0045	-0.2124	0.0108	-0.3031	0.0198	-0.7424	0.0470
3	180.35	0.4997	0.1290	0.0046	-0.2626	0.0143	-0.5599	0.0260	-0.8665	0.0294
3	180.35	0.5556	0.1609	0.0047	-0.3309	0.0171	-0.9408	0.0310	-0.8678	0.0372
3	180.35	0.5995	0.1905	0.0054	-0.3980	0.0178	-1.3497	0.0339	-0.8876	0.0377
3	180.35	0.6498	0.2157	0.0055	-0.4766	0.0204	-1.9425	0.0393	-1.0417	0.0523
3	180.35	0.6890	0.1995	0.0065	-0.5547	0.0231	-2.5224	0.0451	-1.1762	0.0355
3	180.35	0.7495	0.2222	0.0083	-0.6376	0.0255	-3.4765	0.0512	-1.0265	0.0467
3	180.35	0.7998	0.2296	0.0116	-0.7274	0.0274	-4.4170	0.0575	-0.9216	0.0401
3	180.35	0.8577	0.2460	0.0152	-0.8132	0.0308	-5.6199	0.0625	-0.8489	0.0644
3	180.35	0.9178	0.1962	0.0208	-0.8833	0.0335	-6.9803	0.0714	-1.0535	0.0765
3	180.35	0.9729	0.2244	0.0278	-0.9759	0.0345	-8.2969	0.0831	-1.0276	0.0693
4	180	0.2001	-0.0553	0.0005	0.0048	0.0006	-0.0520	0.0011	0.1533	0.0140
4	180	0.2502	-0.0077	0.0012	0.0150	0.0015	-0.1279	0.0027	0.0436	0.0255
4	180	0.3001	0.0052	0.0005	0.0218	0.0028	-0.2215	0.0048	0.2714	0.0331
4	180	0.3502	0.0229	0.0012	0.0439	0.0040	-0.4077	0.0070	0.1362	0.0323
4	180	0.4002	0.0562	0.0020	0.0665	0.0068	-0.6252	0.0119	0.2048	0.0383
4	180	0.4500	0.0862	0.0013	0.0887	0.0071	-0.9537	0.0151	0.0068	0.0346
4	180	0.5001	0.1120	0.0014	0.0996	0.0081	-1.3329	0.0210	0.1123	0.0377
4	180	0.5560	0.1375	0.0022	0.1198	0.0105	-1.9521	0.0247	-0.1240	0.0357
4	180	0.6001	0.1535	0.0019	0.1335	0.0108	-2.4859	0.0276	-0.0297	0.0330
4	180	0.6501	0.1575	0.0017	0.1241	0.0131	-3.2450	0.0317	0.0674	0.0367
4	180	0.6999	0.1675	0.0018	0.1141	0.0148	-4.1358	0.0330	0.1359	0.0389
4	180	0.7500	0.1577	0.0018	0.1212	0.0169	-5.1339	0.0381	0.3010	0.0435
4	180	0.8002	0.1344	0.0019	0.1166	0.0190	-6.2785	0.0394	0.3587	0.0437
4	180	0.8582	0.1184	0.0022	0.1258	0.0220	-7.7208	0.0420	0.1371	0.0499
4	180	0.9101	0.1058	0.0015	0.1383	0.0251	-9.0809	0.0458	0.1999	0.0424
4	180	0.9728	0.1409	0.0038	0.1710	0.0286	-10.7180	0.0537	0.4562	0.0618

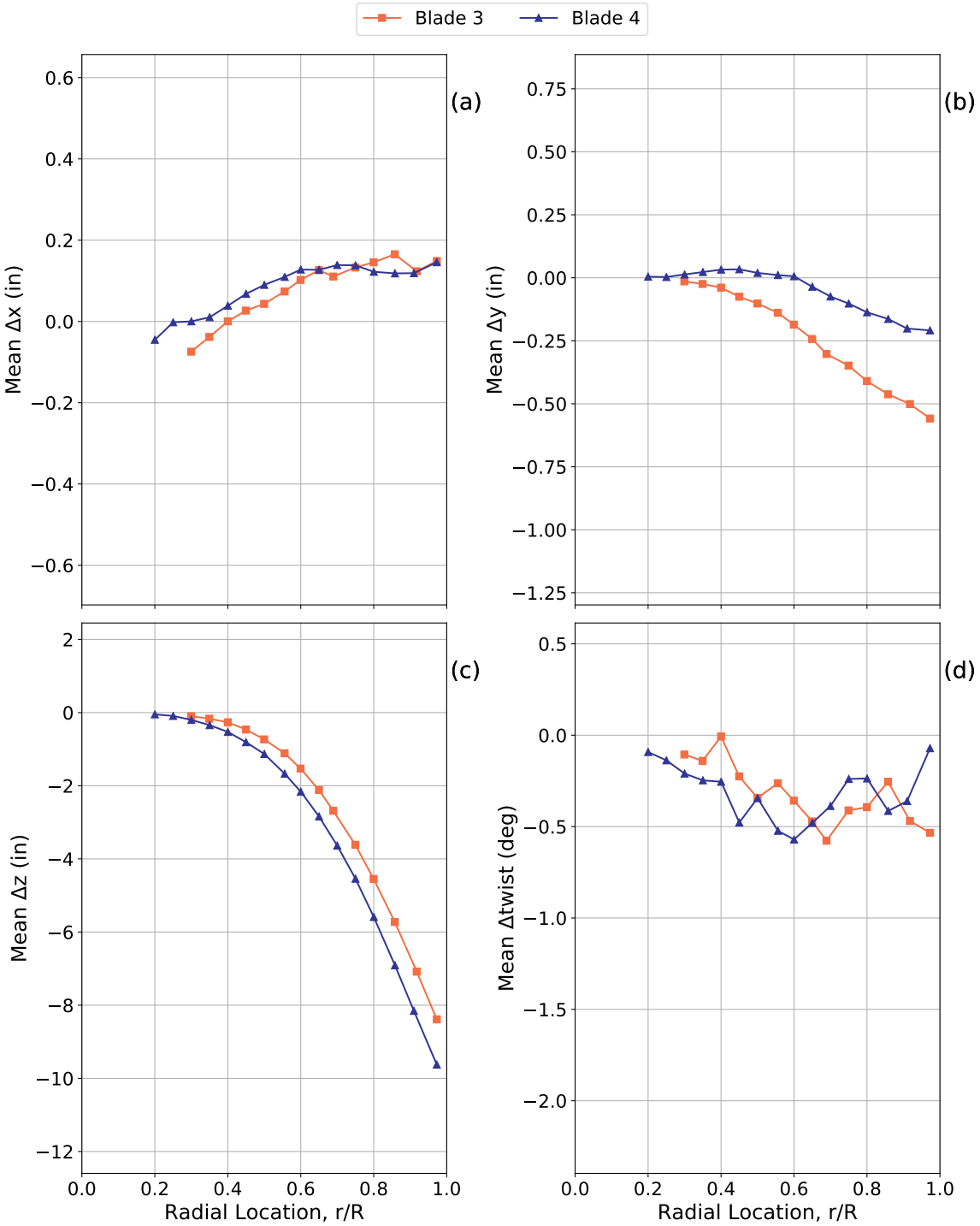


Figure 4.7-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0743	0.0018	-0.0143	0.0030	-0.0983	0.0122	-0.1056	0.0347
3	184.92	0.3493	-0.0382	0.0017	-0.0246	0.0051	-0.1675	0.0207	-0.1406	0.0457
3	184.92	0.4000	0.0002	0.0017	-0.0391	0.0081	-0.2657	0.0327	-0.0069	0.0410
3	184.92	0.4497	0.0267	0.0016	-0.0750	0.0111	-0.4625	0.0425	-0.2253	0.0475
3	184.92	0.4997	0.0434	0.0018	-0.1020	0.0139	-0.7325	0.0529	-0.3433	0.0435
3	184.92	0.5556	0.0738	0.0015	-0.1389	0.0167	-1.1126	0.0643	-0.2630	0.0433
3	184.92	0.5995	0.1023	0.0024	-0.1860	0.0193	-1.5310	0.0729	-0.3581	0.0411
3	184.92	0.6498	0.1263	0.0028	-0.2430	0.0233	-2.1166	0.0820	-0.4715	0.0495
3	184.92	0.6890	0.1105	0.0030	-0.3024	0.0259	-2.6840	0.0900	-0.5773	0.0533
3	184.92	0.7495	0.1328	0.0034	-0.3485	0.0296	-3.6146	0.1013	-0.4115	0.0546
3	184.92	0.7998	0.1456	0.0040	-0.4097	0.0332	-4.5489	0.1132	-0.3939	0.0452
3	184.92	0.8577	0.1653	0.0039	-0.4623	0.0371	-5.7253	0.1246	-0.2544	0.0497
3	184.92	0.9178	0.1234	0.0044	-0.5011	0.0421	-7.0805	0.1364	-0.4693	0.0495
3	184.92	0.9729	0.1488	0.0071	-0.5585	0.0466	-8.3879	0.1466	-0.5341	0.0587
4	184.92	0.2001	-0.0451	0.0010	0.0043	0.0010	-0.0495	0.0019	-0.0922	0.0139
4	184.92	0.2502	-0.0021	0.0014	0.0030	0.0013	-0.0920	0.0025	-0.1375	0.0301
4	184.92	0.3001	0.0002	0.0008	0.0133	0.0028	-0.2001	0.0051	-0.2099	0.0281
4	184.92	0.3502	0.0103	0.0015	0.0227	0.0047	-0.3430	0.0071	-0.2471	0.0313
4	184.92	0.4002	0.0387	0.0010	0.0324	0.0067	-0.5290	0.0109	-0.2547	0.0370
4	184.92	0.4500	0.0679	0.0018	0.0337	0.0086	-0.8096	0.0149	-0.4778	0.0368
4	184.92	0.5001	0.0900	0.0012	0.0193	0.0115	-1.1328	0.0181	-0.3442	0.0365
4	184.92	0.5560	0.1096	0.0012	0.0106	0.0136	-1.6722	0.0218	-0.5232	0.0335
4	184.92	0.6001	0.1277	0.0013	0.0060	0.0155	-2.1630	0.0225	-0.5707	0.0313
4	184.92	0.6501	0.1270	0.0012	-0.0356	0.0176	-2.8413	0.0279	-0.4799	0.0340
4	184.92	0.6999	0.1388	0.0014	-0.0743	0.0195	-3.6364	0.0304	-0.3874	0.0402
4	184.92	0.7500	0.1380	0.0019	-0.1024	0.0222	-4.5422	0.0331	-0.2394	0.0349
4	184.92	0.8002	0.1222	0.0020	-0.1370	0.0244	-5.5894	0.0366	-0.2369	0.0401
4	184.92	0.8582	0.1183	0.0020	-0.1635	0.0276	-6.9111	0.0420	-0.4146	0.0394
4	184.92	0.9101	0.1188	0.0023	-0.2014	0.0308	-8.1544	0.0468	-0.3605	0.0407
4	184.92	0.9728	0.1458	0.0030	-0.2088	0.0333	-9.6239	0.0521	-0.0711	0.0413

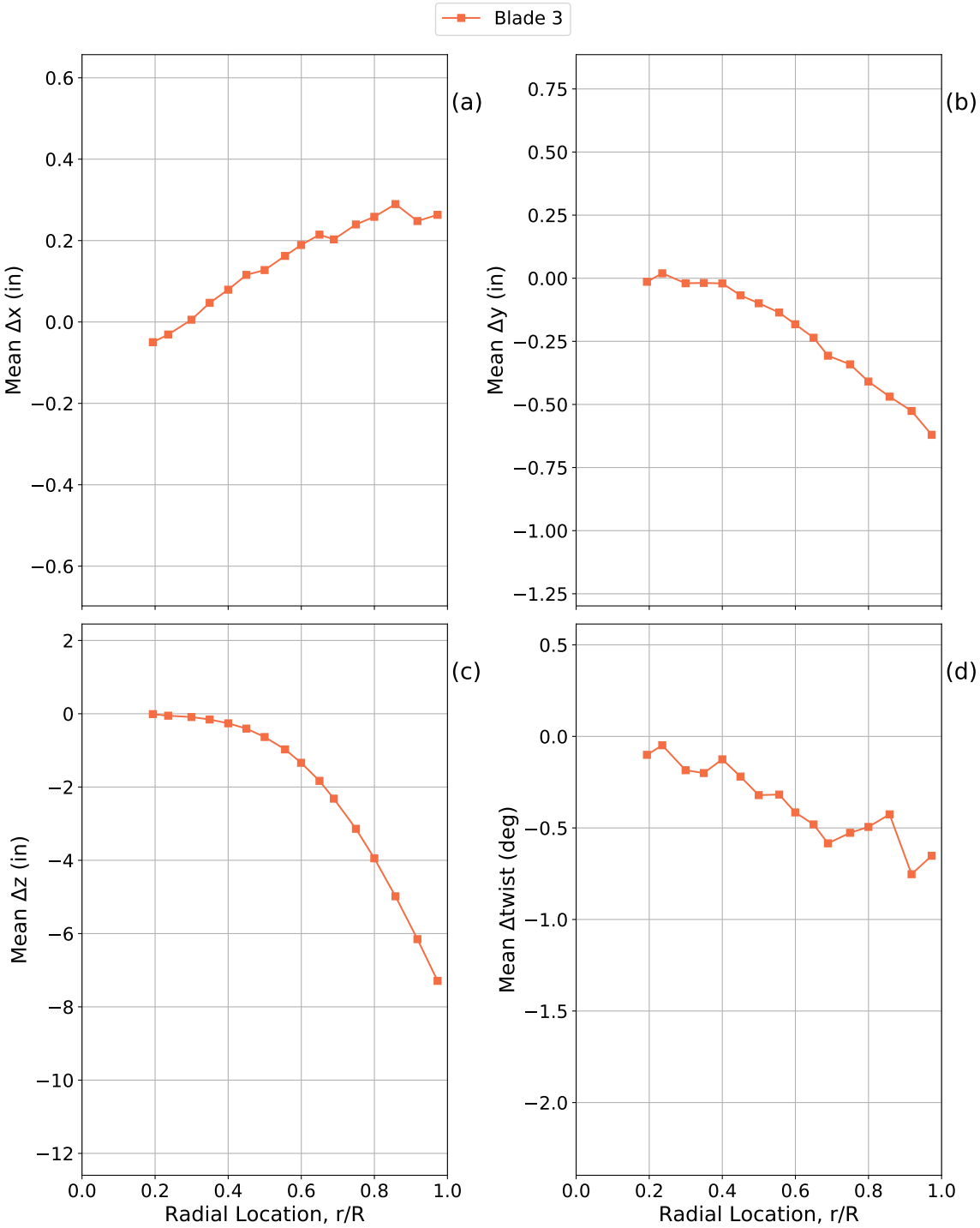


Figure 4.7-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0497	0.0010	-0.0140	0.0012	-0.0103	0.0017	-0.1007	0.0126
3	195.12	0.2357	-0.0309	0.0013	0.0195	0.0024	-0.0531	0.0022	-0.0485	0.0165
3	195.12	0.2995	0.0056	0.0009	-0.0199	0.0043	-0.0895	0.0057	-0.1846	0.0240
3	195.12	0.3493	0.0470	0.0013	-0.0185	0.0078	-0.1567	0.0088	-0.2002	0.0268
3	195.12	0.4000	0.0793	0.0012	-0.0205	0.0121	-0.2608	0.0136	-0.1251	0.0161
3	195.12	0.4497	0.1157	0.0093	-0.0677	0.0300	-0.4049	0.0311	-0.2194	0.0195
3	195.12	0.4997	0.1276	0.0094	-0.0991	0.0323	-0.6345	0.0354	-0.3208	0.0181
3	195.12	0.5556	0.1624	0.0086	-0.1358	0.0353	-0.9728	0.0405	-0.3177	0.0238
3	195.12	0.5995	0.1892	0.0082	-0.1823	0.0376	-1.3380	0.0450	-0.4152	0.0229
3	195.12	0.6498	0.2146	0.0071	-0.2358	0.0398	-1.8319	0.0493	-0.4809	0.0275
3	195.12	0.6890	0.2029	0.0062	-0.3068	0.0418	-2.3173	0.0514	-0.5840	0.0262
3	195.12	0.7495	0.2396	0.0048	-0.3411	0.0446	-3.1400	0.0559	-0.5267	0.0277
3	195.12	0.7998	0.2584	0.0041	-0.4091	0.0470	-3.9458	0.0610	-0.4945	0.0270
3	195.12	0.8577	0.2897	0.0050	-0.4691	0.0514	-4.9829	0.0643	-0.4258	0.0208
3	195.12	0.9178	0.2480	0.0031	-0.5257	0.0590	-6.1522	0.0704	-0.7527	0.1332
3	195.12	0.9729	0.2633	0.0117	-0.6203	0.0623	-7.2911	0.0758	-0.6519	0.0313

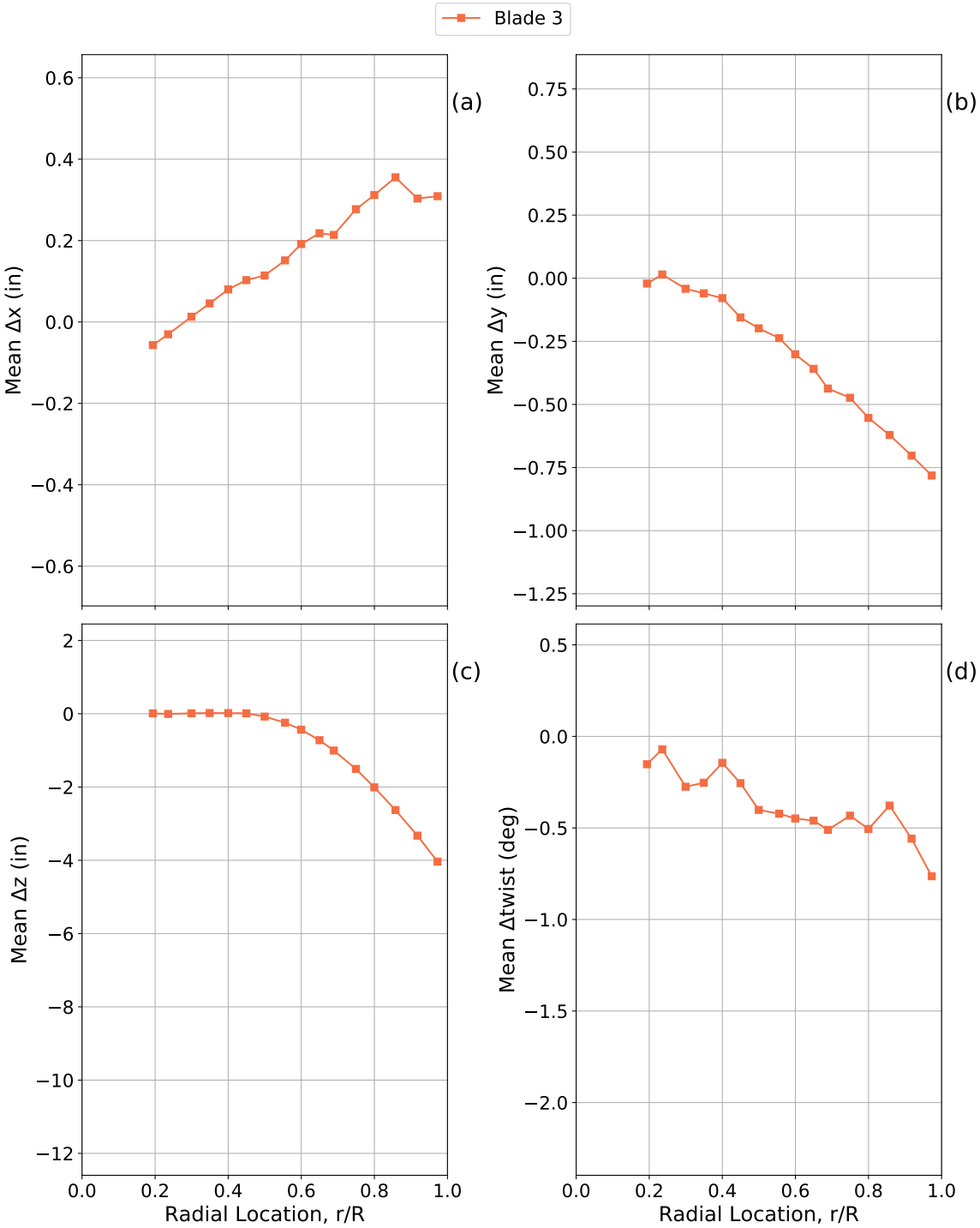


Figure 4.7-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0568	0.0010	-0.0211	0.0008	0.0104	0.0014	-0.1522	0.0169
3	209.88	0.2357	-0.0302	0.0006	0.0148	0.0017	-0.0057	0.0029	-0.0705	0.0180
3	209.88	0.2995	0.0129	0.0011	-0.0418	0.0033	0.0129	0.0036	-0.2751	0.0326
3	209.88	0.3493	0.0456	0.0012	-0.0597	0.0051	0.0197	0.0065	-0.2532	0.0218
3	209.88	0.4000	0.0801	0.0013	-0.0789	0.0082	0.0181	0.0094	-0.1444	0.0231
3	209.88	0.4497	0.1028	0.0009	-0.1554	0.0096	0.0126	0.0102	-0.2555	0.0210
3	209.88	0.4997	0.1142	0.0010	-0.1984	0.0116	-0.0772	0.0120	-0.4016	0.0233
3	209.88	0.5556	0.1513	0.0011	-0.2371	0.0141	-0.2442	0.0141	-0.4218	0.0183
3	209.88	0.5995	0.1915	0.0010	-0.3014	0.0161	-0.4332	0.0155	-0.4484	0.0173
3	209.88	0.6498	0.2181	0.0009	-0.3590	0.0179	-0.7221	0.0171	-0.4603	0.0149
3	209.88	0.6890	0.2140	0.0011	-0.4370	0.0202	-1.0045	0.0185	-0.5106	0.0350
3	209.88	0.7495	0.2771	0.0017	-0.4734	0.0234	-1.5057	0.0216	-0.4330	0.0097
3	209.88	0.7998	0.3119	0.0020	-0.5533	0.0266	-2.0095	0.0228	-0.5056	0.0212
3	209.88	0.8577	0.3554	0.0023	-0.6209	0.0293	-2.6289	0.0252	-0.3778	0.0217
3	209.88	0.9178	0.3033	0.0032	-0.7026	0.0330	-3.3271	0.0267	-0.5586	0.0418
3	209.88	0.9729	0.3090	0.0032	-0.7814	0.0351	-4.0378	0.0306	-0.7639	0.0256

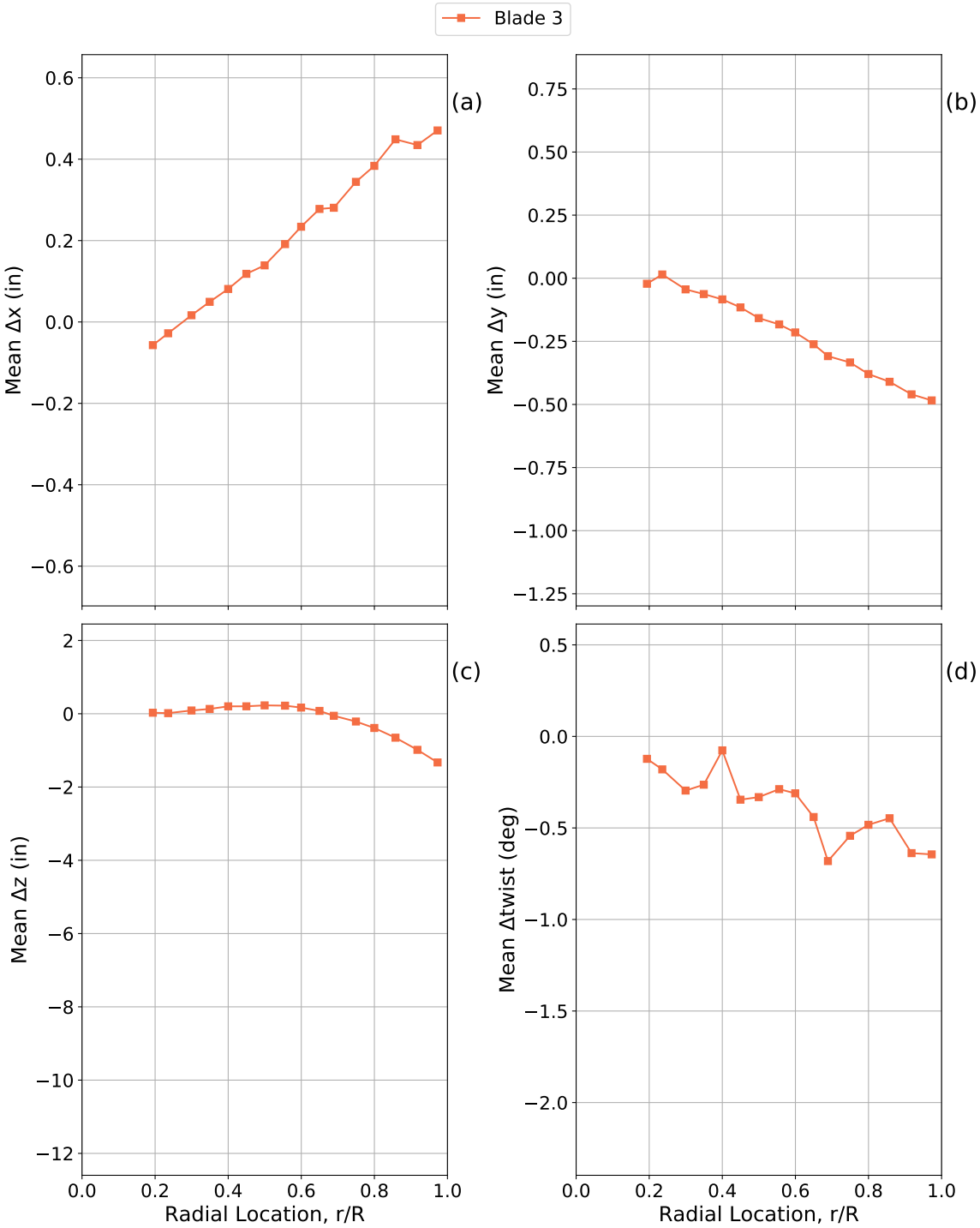


Figure 4.7-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0569	0.0008	-0.0218	0.0005	0.0278	0.0012	-0.1226	0.0282
3	225	0.2357	-0.0278	0.0008	0.0149	0.0010	0.0164	0.0056	-0.1802	0.0320
3	225	0.2995	0.0165	0.0006	-0.0441	0.0022	0.0892	0.0085	-0.2958	0.0615
3	225	0.3493	0.0495	0.0011	-0.0627	0.0037	0.1311	0.0141	-0.2639	0.0625
3	225	0.4000	0.0811	0.0018	-0.0838	0.0060	0.2024	0.0237	-0.0763	0.0457
3	225	0.4497	0.1183	0.0016	-0.1155	0.0053	0.2029	0.0304	-0.3456	0.0355
3	225	0.4997	0.1391	0.0021	-0.1580	0.0085	0.2285	0.0355	-0.3316	0.0538
3	225	0.5556	0.1913	0.0017	-0.1828	0.0096	0.2206	0.0451	-0.2881	0.0289
3	225	0.5995	0.2340	0.0020	-0.2147	0.0101	0.1687	0.0481	-0.3109	0.0485
3	225	0.6498	0.2777	0.0022	-0.2615	0.0123	0.0778	0.0577	-0.4404	0.0351
3	225	0.6890	0.2806	0.0023	-0.3086	0.0138	-0.0556	0.0622	-0.6810	0.0441
3	225	0.7495	0.3443	0.0021	-0.3336	0.0159	-0.2121	0.0699	-0.5429	0.0468
3	225	0.7998	0.3836	0.0023	-0.3795	0.0168	-0.3883	0.0772	-0.4829	0.0409
3	225	0.8577	0.4488	0.0023	-0.4102	0.0193	-0.6534	0.0840	-0.4470	0.0381
3	225	0.9178	0.4347	0.0021	-0.4600	0.0205	-0.9852	0.0929	-0.6376	0.0407
3	225	0.9729	0.4706	0.0024	-0.4840	0.0226	-1.3294	0.0978	-0.6444	0.0470

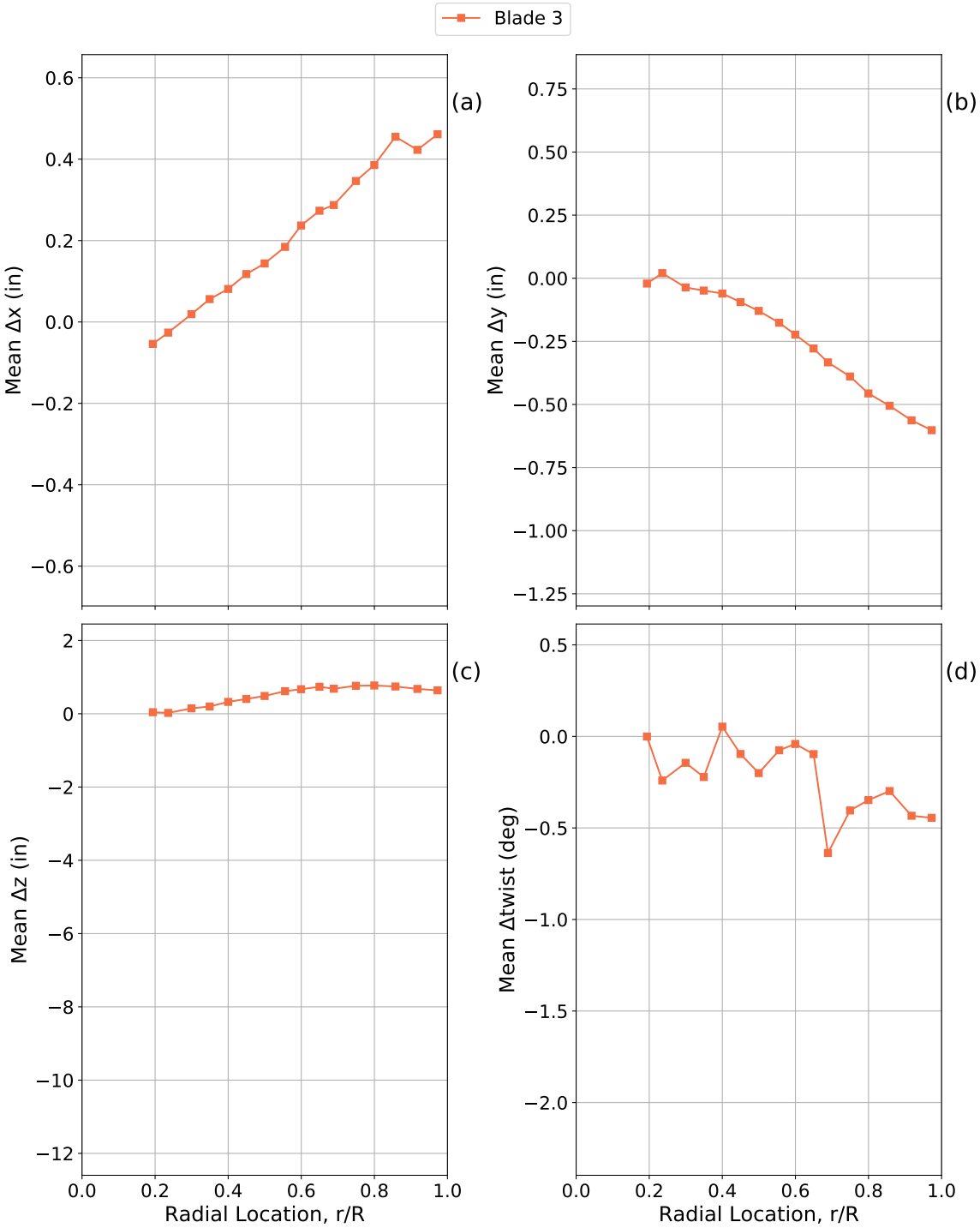


Figure 4.7-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0539	0.0011	-0.0211	0.0006	0.0421	0.0019	-0.0009	0.0088
3	240.12	0.2357	-0.0261	0.0007	0.0202	0.0012	0.0225	0.0024	-0.2410	0.0210
3	240.12	0.2995	0.0192	0.0009	-0.0364	0.0027	0.1473	0.0064	-0.1443	0.0216
3	240.12	0.3493	0.0562	0.0008	-0.0488	0.0047	0.1985	0.0103	-0.2218	0.0330
3	240.12	0.4000	0.0811	0.0018	-0.0605	0.0073	0.3237	0.0155	0.0533	0.0260
3	240.12	0.4497	0.1177	0.0013	-0.0945	0.0085	0.4040	0.0201	-0.0962	0.0249
3	240.12	0.4997	0.1438	0.0012	-0.1295	0.0098	0.4851	0.0266	-0.2002	0.0296
3	240.12	0.5556	0.1845	0.0014	-0.1762	0.0113	0.6163	0.0302	-0.0759	0.0211
3	240.12	0.5995	0.2371	0.0012	-0.2232	0.0130	0.6695	0.0355	-0.0412	0.0257
3	240.12	0.6498	0.2733	0.0014	-0.2783	0.0157	0.7357	0.0413	-0.0968	0.0283
3	240.12	0.6890	0.2874	0.0020	-0.3333	0.0174	0.6825	0.0459	-0.6369	0.0298
3	240.12	0.7495	0.3464	0.0017	-0.3893	0.0196	0.7632	0.0512	-0.4046	0.0265
3	240.12	0.7998	0.3857	0.0024	-0.4564	0.0218	0.7712	0.0569	-0.3479	0.0270
3	240.12	0.8577	0.4551	0.0023	-0.5053	0.0241	0.7443	0.0616	-0.2984	0.0292
3	240.12	0.9178	0.4229	0.0024	-0.5630	0.0272	0.6777	0.0683	-0.4335	0.0218
3	240.12	0.9729	0.4613	0.0024	-0.6020	0.0296	0.6391	0.0726	-0.4448	0.0196

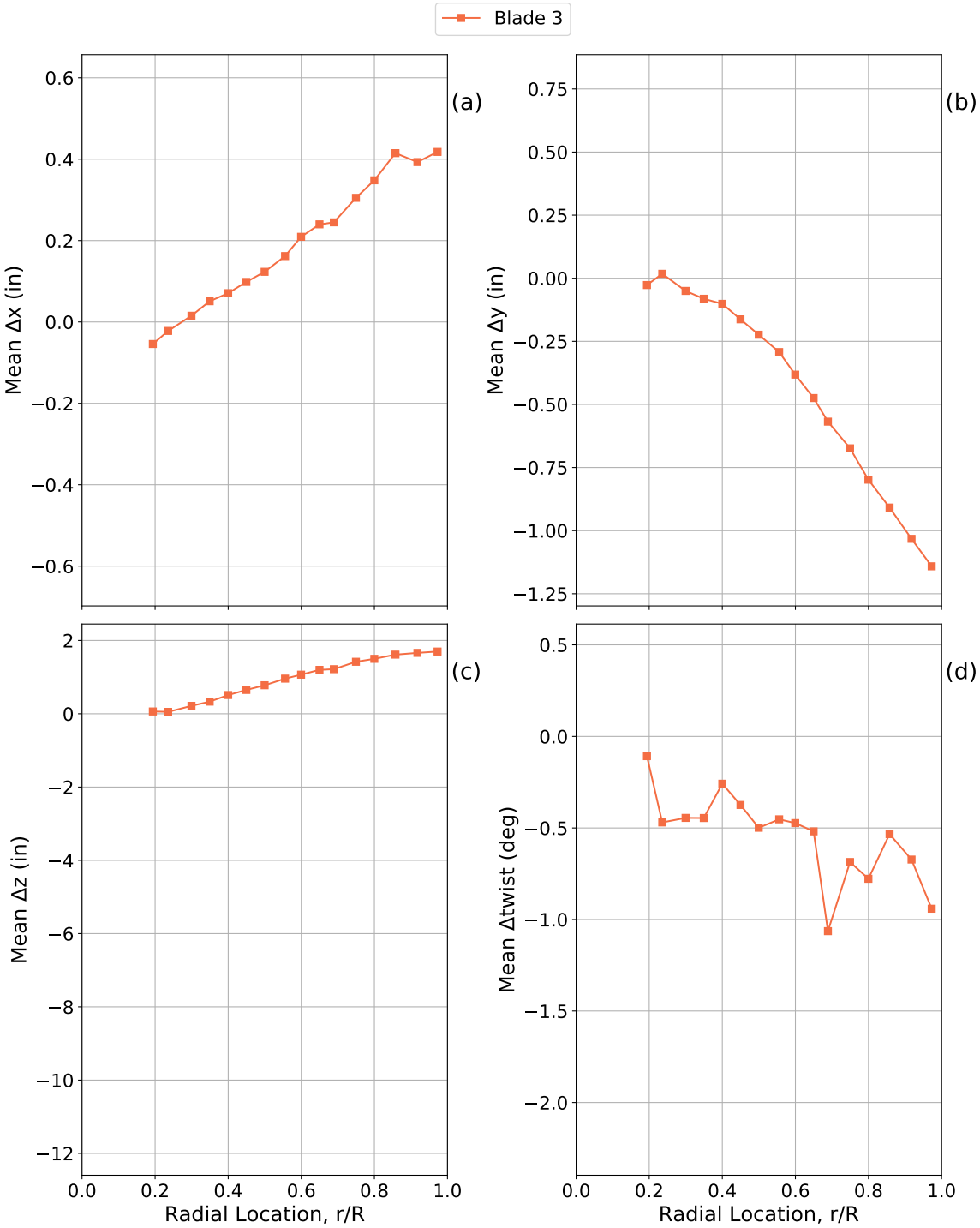


Figure 4.7-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0542	0.0015	-0.0269	0.0006	0.0628	0.0026	-0.1078	0.0207
3	254.88	0.2357	-0.0221	0.0007	0.0177	0.0009	0.0521	0.0039	-0.4697	0.0310
3	254.88	0.2995	0.0153	0.0007	-0.0502	0.0018	0.2159	0.0073	-0.4450	0.0444
3	254.88	0.3493	0.0509	0.0013	-0.0812	0.0030	0.3310	0.0131	-0.4456	0.0328
3	254.88	0.4000	0.0708	0.0016	-0.1014	0.0047	0.5116	0.0188	-0.2582	0.0349
3	254.88	0.4497	0.0984	0.0011	-0.1629	0.0058	0.6507	0.0229	-0.3742	0.0396
3	254.88	0.4997	0.1232	0.0010	-0.2238	0.0070	0.7782	0.0283	-0.4989	0.0350
3	254.88	0.5556	0.1619	0.0019	-0.2925	0.0085	0.9587	0.0334	-0.4527	0.0417
3	254.88	0.5995	0.2093	0.0019	-0.3820	0.0098	1.0671	0.0392	-0.4732	0.0515
3	254.88	0.6498	0.2399	0.0018	-0.4748	0.0117	1.1981	0.0450	-0.5185	0.0355
3	254.88	0.6890	0.2448	0.0020	-0.5682	0.0130	1.2164	0.0495	-1.0636	0.0393
3	254.88	0.7495	0.3050	0.0020	-0.6740	0.0153	1.4191	0.0561	-0.6859	0.0373
3	254.88	0.7998	0.3481	0.0023	-0.7982	0.0173	1.4987	0.0612	-0.7776	0.0411
3	254.88	0.8577	0.4149	0.0018	-0.9086	0.0194	1.6139	0.0682	-0.5334	0.0401
3	254.88	0.9178	0.3929	0.0017	-1.0325	0.0226	1.6612	0.0715	-0.6725	0.0485
3	254.88	0.9729	0.4179	0.0023	-1.1414	0.0244	1.6985	0.0779	-0.9409	0.0396

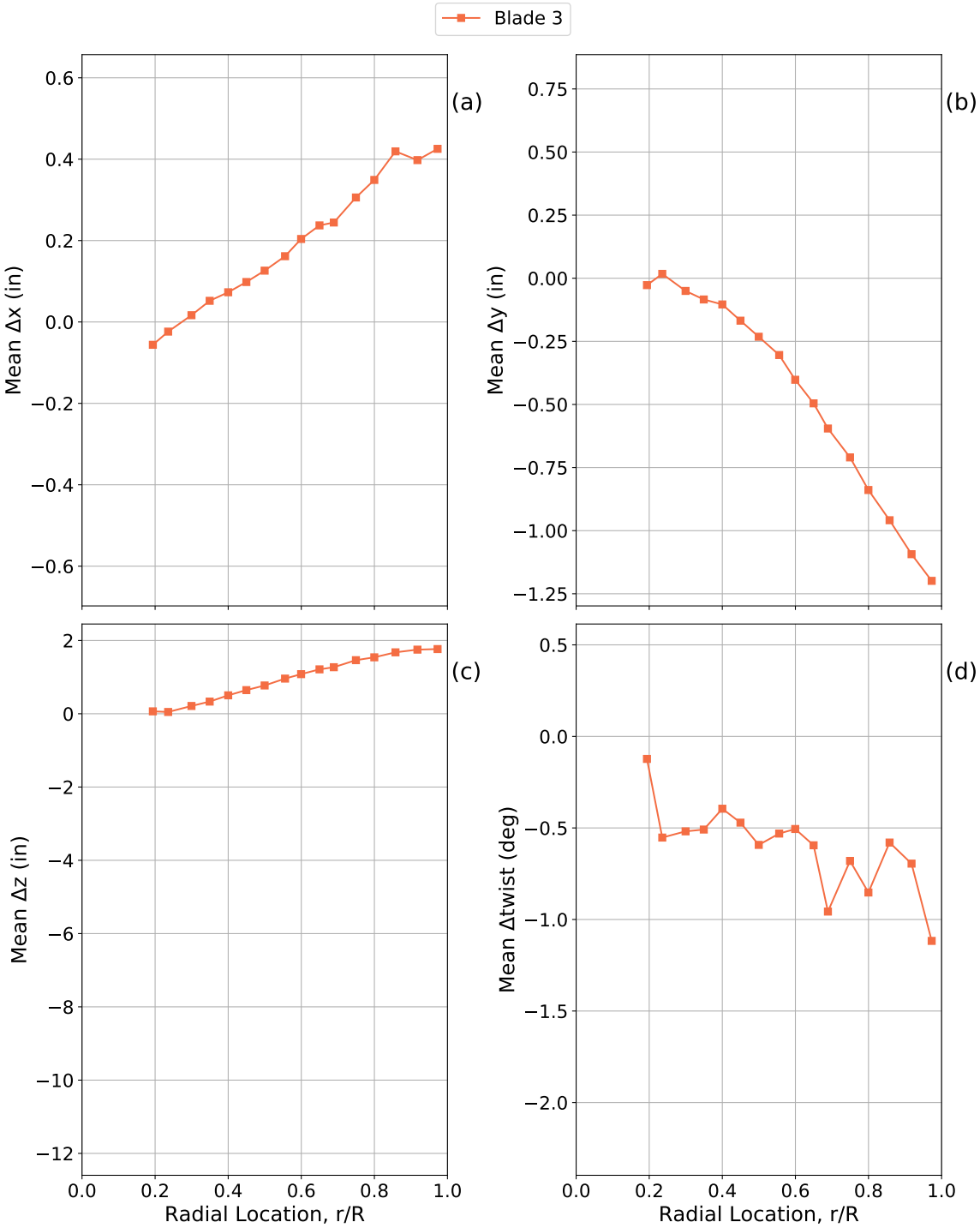


Figure 4.7-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0561	0.0030	-0.0273	0.0010	0.0654	0.0030	-0.1230	0.0137
3	260.16	0.2357	-0.0237	0.0010	0.0173	0.0008	0.0482	0.0028	-0.5526	0.0390
3	260.16	0.2995	0.0166	0.0010	-0.0503	0.0034	0.2121	0.0100	-0.5186	0.0422
3	260.16	0.3493	0.0520	0.0012	-0.0841	0.0053	0.3320	0.0137	-0.5088	0.0443
3	260.16	0.4000	0.0730	0.0014	-0.1038	0.0081	0.5027	0.0219	-0.3950	0.0533
3	260.16	0.4497	0.0982	0.0008	-0.1681	0.0104	0.6449	0.0274	-0.4711	0.0452
3	260.16	0.4997	0.1261	0.0012	-0.2318	0.0128	0.7717	0.0326	-0.5926	0.0438
3	260.16	0.5556	0.1616	0.0015	-0.3042	0.0151	0.9593	0.0390	-0.5307	0.0494
3	260.16	0.5995	0.2039	0.0015	-0.4022	0.0178	1.0810	0.0435	-0.5058	0.0482
3	260.16	0.6498	0.2373	0.0019	-0.4956	0.0205	1.2119	0.0504	-0.5948	0.0530
3	260.16	0.6890	0.2444	0.0017	-0.5953	0.0231	1.2701	0.0551	-0.9568	0.0455
3	260.16	0.7495	0.3059	0.0018	-0.7098	0.0269	1.4624	0.0630	-0.6802	0.0499
3	260.16	0.7998	0.3490	0.0015	-0.8390	0.0295	1.5402	0.0702	-0.8526	0.0502
3	260.16	0.8577	0.4192	0.0019	-0.9587	0.0333	1.6765	0.0781	-0.5798	0.0438
3	260.16	0.9178	0.3977	0.0021	-1.0933	0.0378	1.7501	0.0848	-0.6949	0.0507
3	260.16	0.9729	0.4254	0.0033	-1.1989	0.0411	1.7654	0.0945	-1.1170	0.0560

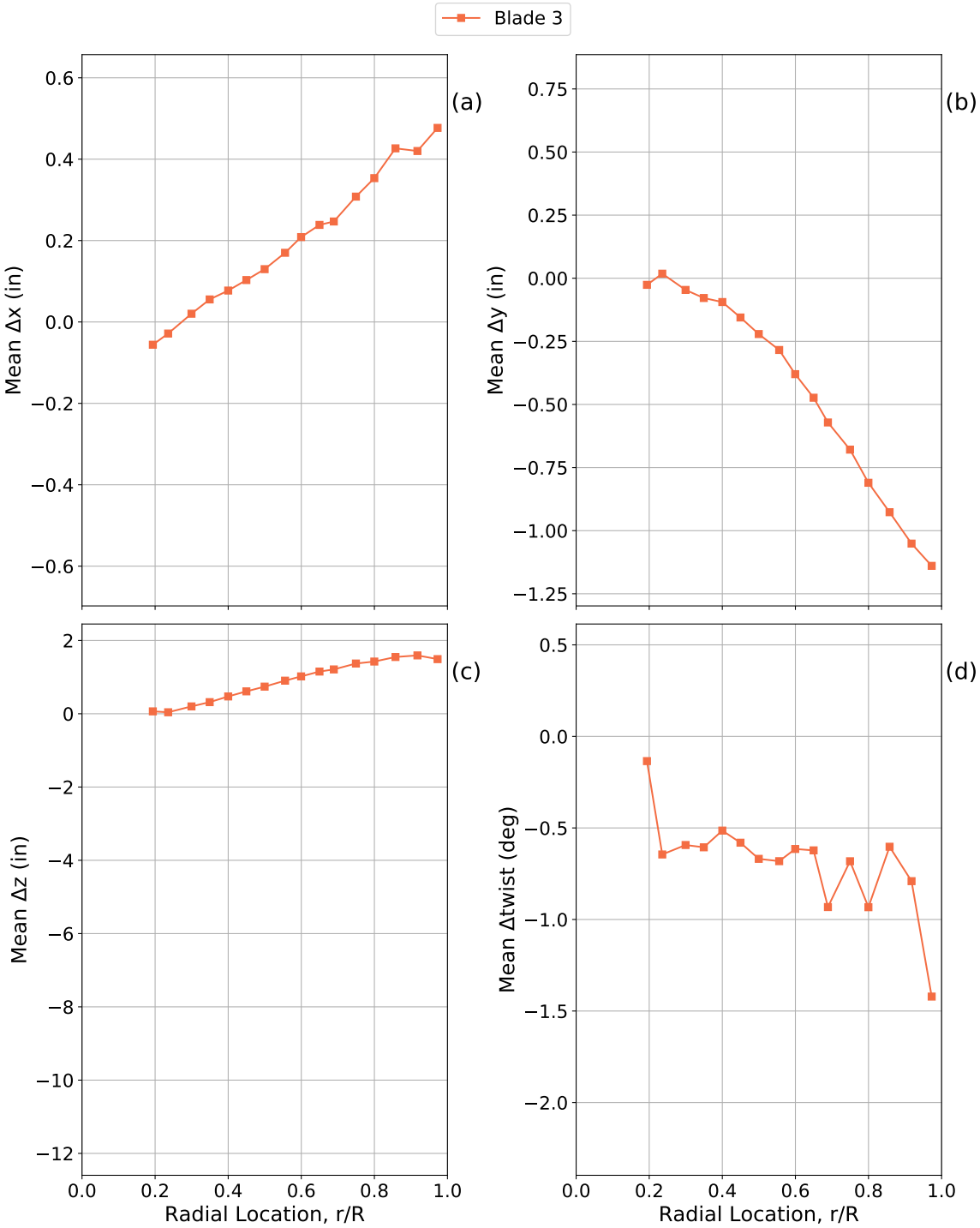


Figure 4.7-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0559	0.0036	-0.0262	0.0010	0.0650	0.0038	-0.1349	0.0195
3	265.08	0.2357	-0.0284	0.0019	0.0181	0.0011	0.0407	0.0021	-0.6449	0.0662
3	265.08	0.2995	0.0203	0.0012	-0.0463	0.0028	0.2004	0.0073	-0.5932	0.0681
3	265.08	0.3493	0.0554	0.0016	-0.0783	0.0050	0.3168	0.0135	-0.6058	0.0580
3	265.08	0.4000	0.0772	0.0015	-0.0943	0.0071	0.4722	0.0167	-0.5145	0.0745
3	265.08	0.4497	0.1030	0.0014	-0.1555	0.0099	0.6109	0.0242	-0.5806	0.0622
3	265.08	0.4997	0.1298	0.0014	-0.2211	0.0122	0.7404	0.0292	-0.6688	0.0628
3	265.08	0.5556	0.1700	0.0015	-0.2842	0.0141	0.9033	0.0366	-0.6815	0.0626
3	265.08	0.5995	0.2086	0.0019	-0.3800	0.0162	1.0195	0.0427	-0.6149	0.0566
3	265.08	0.6498	0.2385	0.0020	-0.4733	0.0178	1.1516	0.0477	-0.6225	0.0648
3	265.08	0.6890	0.2469	0.0021	-0.5714	0.0198	1.2100	0.0529	-0.9321	0.0645
3	265.08	0.7495	0.3080	0.0022	-0.6790	0.0232	1.3708	0.0630	-0.6819	0.0644
3	265.08	0.7998	0.3534	0.0022	-0.8103	0.0252	1.4247	0.0695	-0.9329	0.0625
3	265.08	0.8577	0.4266	0.0016	-0.9269	0.0287	1.5490	0.0767	-0.6027	0.0685
3	265.08	0.9178	0.4201	0.0023	-1.0513	0.0314	1.5924	0.0870	-0.7906	0.0600
3	265.08	0.9729	0.4769	0.0021	-1.1395	0.0343	1.4912	0.0930	-1.4211	0.0714

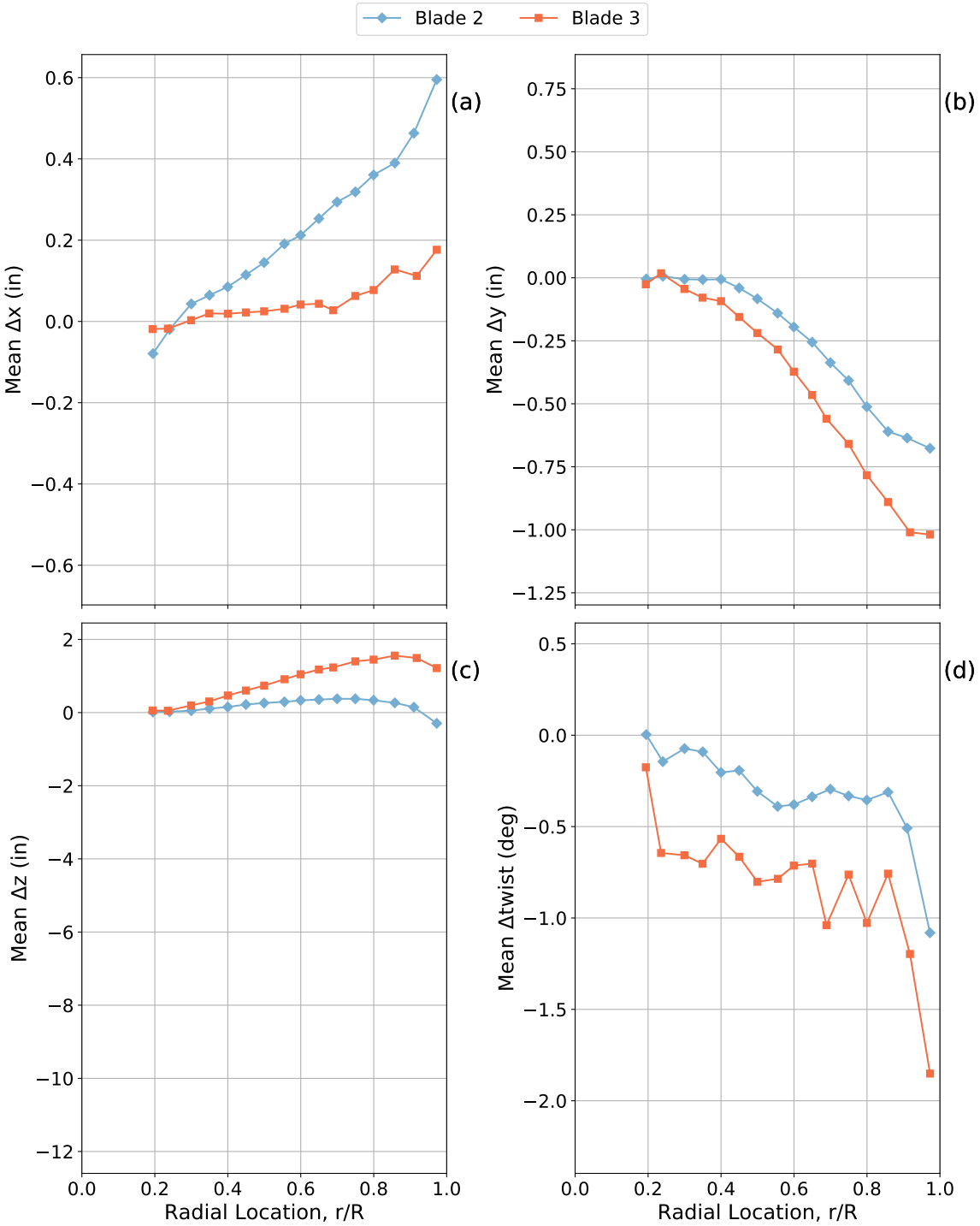


Figure 4.7-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0792	0.0026	-0.0045	0.0011	0.0150	0.0041	0.0032	0.0431
2	270.35	0.2405	-0.0196	0.0030	0.0064	0.0019	0.0237	0.0060	-0.1446	0.0757
2	270.35	0.2999	0.0432	0.0015	-0.0059	0.0033	0.0528	0.0121	-0.0732	0.1057
2	270.35	0.3498	0.0646	0.0019	-0.0071	0.0062	0.1081	0.0218	-0.0908	0.0903
2	270.35	0.3998	0.0852	0.0022	-0.0061	0.0090	0.1520	0.0306	-0.2038	0.0927
2	270.35	0.4496	0.1148	0.0017	-0.0404	0.0115	0.2206	0.0389	-0.1927	0.0922
2	270.35	0.4995	0.1450	0.0020	-0.0834	0.0143	0.2619	0.0453	-0.3070	0.0890
2	270.35	0.5551	0.1910	0.0016	-0.1404	0.0173	0.2942	0.0541	-0.3899	0.0946
2	270.35	0.5996	0.2122	0.0019	-0.1953	0.0200	0.3336	0.0603	-0.3797	0.0932
2	270.35	0.6497	0.2532	0.0023	-0.2555	0.0231	0.3560	0.0683	-0.3371	0.0935
2	270.35	0.6996	0.2940	0.0021	-0.3367	0.0264	0.3767	0.0766	-0.2952	0.0904
2	270.35	0.7495	0.3188	0.0022	-0.4076	0.0299	0.3754	0.0831	-0.3324	0.0951
2	270.35	0.7996	0.3606	0.0027	-0.5121	0.0330	0.3373	0.0919	-0.3548	0.0850
2	270.35	0.8578	0.3900	0.0024	-0.6102	0.0372	0.2665	0.0994	-0.3115	0.0887
2	270.35	0.9100	0.4633	0.0026	-0.6356	0.0417	0.1479	0.1031	-0.5082	0.1035
2	270.35	0.9727	0.5953	0.0034	-0.6767	0.0454	-0.2940	0.1183	-1.0811	0.0901
3	270	0.1938	-0.0187	0.0059	-0.0259	0.0016	0.0575	0.0076	-0.1755	0.0245
3	270	0.2357	-0.0176	0.0023	0.0179	0.0010	0.0513	0.0041	-0.6441	0.1007
3	270	0.2995	0.0030	0.0012	-0.0443	0.0042	0.1960	0.0203	-0.6566	0.0906
3	270	0.3493	0.0198	0.0023	-0.0788	0.0072	0.3044	0.0315	-0.7032	0.0900
3	270	0.4000	0.0190	0.0018	-0.0928	0.0099	0.4672	0.0455	-0.5669	0.1027
3	270	0.4497	0.0222	0.0020	-0.1556	0.0130	0.6037	0.0588	-0.6650	0.1023
3	270	0.4997	0.0249	0.0020	-0.2192	0.0162	0.7376	0.0735	-0.8023	0.0956
3	270	0.5556	0.0312	0.0021	-0.2845	0.0196	0.9122	0.0884	-0.7856	0.1023
3	270	0.5995	0.0416	0.0017	-0.3726	0.0217	1.0475	0.1013	-0.7135	0.0860
3	270	0.6498	0.0435	0.0017	-0.4652	0.0245	1.1775	0.1146	-0.7025	0.0931
3	270	0.6890	0.0276	0.0018	-0.5593	0.0272	1.2345	0.1270	-1.0396	0.0891
3	270	0.7495	0.0627	0.0015	-0.6592	0.0307	1.4006	0.1456	-0.7624	0.0983
3	270	0.7998	0.0773	0.0018	-0.7836	0.0336	1.4486	0.1596	-1.0274	0.1052
3	270	0.8577	0.1280	0.0018	-0.8900	0.0369	1.5567	0.1803	-0.7574	0.1005
3	270	0.9178	0.1121	0.0029	-1.0099	0.0409	1.4926	0.2001	-1.1969	0.0983
3	270	0.9729	0.1765	0.0082	-1.0190	0.0478	1.2160	0.2130	-1.8513	0.1391

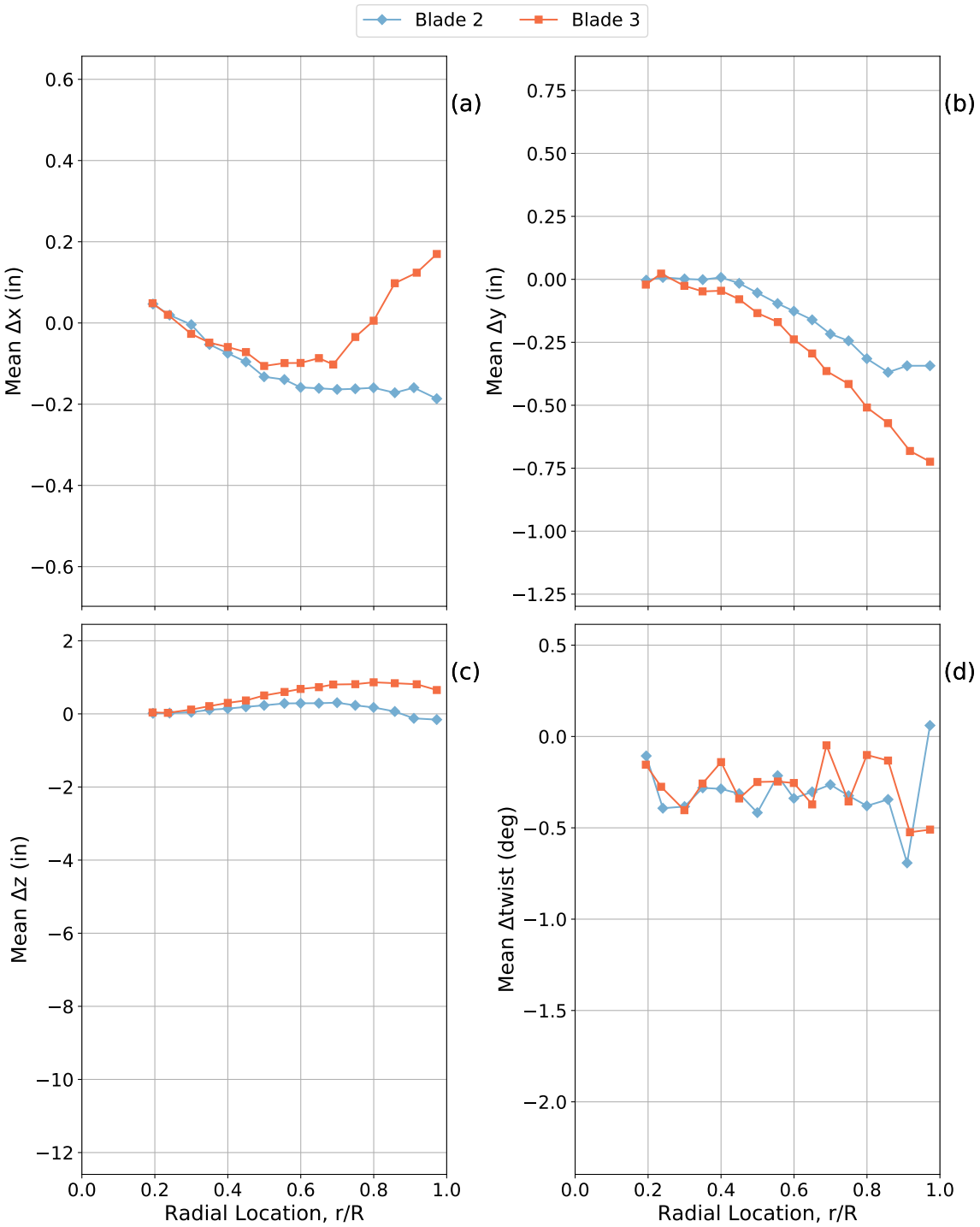


Figure 4.7-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0467	0.0012	-0.0032	0.0006	0.0156	0.0012	-0.1064	0.0136
2	274.92	0.2405	0.0194	0.0008	0.0074	0.0005	0.0219	0.0031	-0.3927	0.0169
2	274.92	0.2999	-0.0041	0.0007	0.0017	0.0014	0.0454	0.0064	-0.3836	0.0280
2	274.92	0.3498	-0.0529	0.0012	-0.0012	0.0033	0.1116	0.0089	-0.2813	0.0333
2	274.92	0.3998	-0.0747	0.0008	0.0077	0.0039	0.1439	0.0152	-0.2868	0.0207
2	274.92	0.4496	-0.0956	0.0012	-0.0157	0.0051	0.1916	0.0185	-0.3129	0.0247
2	274.92	0.4995	-0.1325	0.0015	-0.0537	0.0061	0.2336	0.0227	-0.4169	0.0237
2	274.92	0.5551	-0.1393	0.0012	-0.0962	0.0067	0.2862	0.0293	-0.2144	0.0308
2	274.92	0.5996	-0.1587	0.0020	-0.1263	0.0082	0.2902	0.0314	-0.3386	0.0341
2	274.92	0.6497	-0.1609	0.0019	-0.1608	0.0084	0.2920	0.0342	-0.3030	0.0243
2	274.92	0.6996	-0.1636	0.0016	-0.2169	0.0091	0.3063	0.0397	-0.2636	0.0278
2	274.92	0.7495	-0.1621	0.0017	-0.2441	0.0106	0.2332	0.0440	-0.3241	0.0470
2	274.92	0.7996	-0.1596	0.0031	-0.3150	0.0114	0.1763	0.0439	-0.3798	0.0626
2	274.92	0.8578	-0.1718	0.0021	-0.3690	0.0117	0.0657	0.0521	-0.3447	0.0466
2	274.92	0.9100	-0.1594	0.0041	-0.3432	0.0140	-0.1223	0.0533	-0.6922	0.1058
2	274.92	0.9727	-0.1864	0.0039	-0.3431	0.0164	-0.1571	0.0645	0.0604	0.0911
3	274.92	0.1938	0.0486	0.0013	-0.0210	0.0007	0.0392	0.0040	-0.1543	0.0229
3	274.92	0.2357	0.0203	0.0013	0.0228	0.0007	0.0288	0.0037	-0.2753	0.0610
3	274.92	0.2995	-0.0268	0.0006	-0.0258	0.0027	0.1176	0.0139	-0.4035	0.0686
3	274.92	0.3493	-0.0484	0.0010	-0.0479	0.0038	0.2115	0.0203	-0.2576	0.0851
3	274.92	0.4000	-0.0593	0.0010	-0.0454	0.0062	0.3009	0.0322	-0.1403	0.0648
3	274.92	0.4497	-0.0717	0.0015	-0.0791	0.0081	0.3675	0.0404	-0.3395	0.0646
3	274.92	0.4997	-0.1059	0.0022	-0.1340	0.0104	0.5040	0.0508	-0.2491	0.0597
3	274.92	0.5556	-0.0987	0.0026	-0.1697	0.0120	0.5999	0.0576	-0.2466	0.0783
3	274.92	0.5995	-0.0985	0.0029	-0.2385	0.0134	0.6820	0.0662	-0.2546	0.0662
3	274.92	0.6498	-0.0866	0.0025	-0.2943	0.0160	0.7308	0.0785	-0.3719	0.0649
3	274.92	0.6890	-0.1023	0.0029	-0.3642	0.0181	0.8035	0.0896	-0.0483	0.0944
3	274.92	0.7495	-0.0345	0.0029	-0.4155	0.0197	0.8125	0.1008	-0.3556	0.0627
3	274.92	0.7998	0.0056	0.0038	-0.5089	0.0233	0.8639	0.1094	-0.1014	0.0728
3	274.92	0.8577	0.0979	0.0050	-0.5710	0.0256	0.8391	0.1164	-0.1317	0.1291
3	274.92	0.9178	0.1238	0.0110	-0.6815	0.0305	0.8104	0.1289	-0.5244	0.2491
3	274.92	0.9729	0.1699	0.0061	-0.7242	0.0320	0.6527	0.1385	-0.5096	0.1990

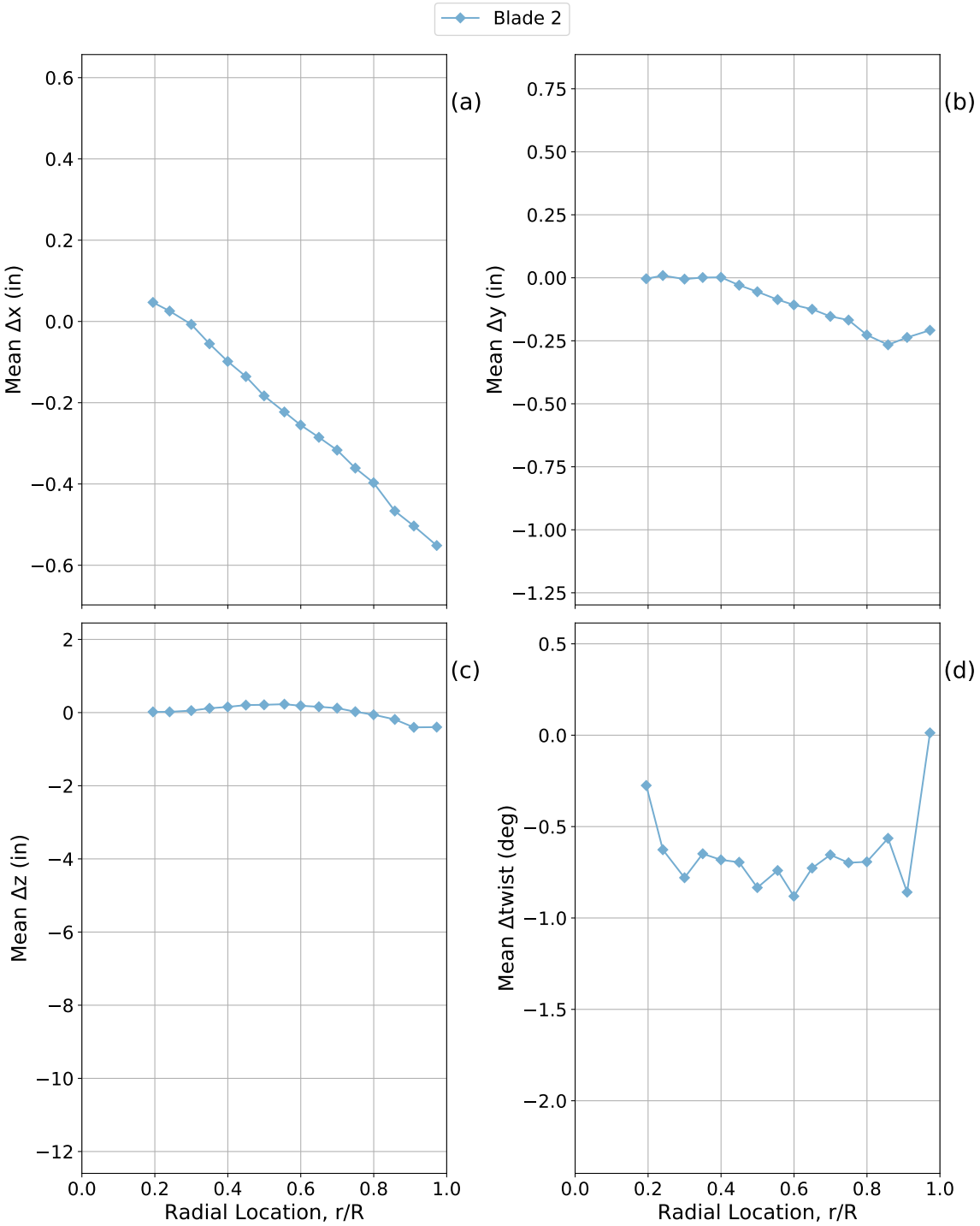


Figure 4.7-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0469	0.0016	-0.0038	0.0005	0.0188	0.0015	-0.2750	0.0186
2	285.12	0.2405	0.0256	0.0013	0.0089	0.0017	0.0204	0.0090	-0.6266	0.0177
2	285.12	0.2999	-0.0072	0.0008	-0.0052	0.0019	0.0539	0.0150	-0.7798	0.0323
2	285.12	0.3498	-0.0550	0.0023	0.0010	0.0038	0.1175	0.0155	-0.6486	0.0593
2	285.12	0.3998	-0.0984	0.0016	0.0018	0.0051	0.1552	0.0351	-0.6820	0.0436
2	285.12	0.4496	-0.1356	0.0023	-0.0295	0.0052	0.2053	0.0372	-0.6951	0.0354
2	285.12	0.4995	-0.1832	0.0023	-0.0554	0.0073	0.2127	0.0505	-0.8339	0.0378
2	285.12	0.5551	-0.2228	0.0019	-0.0867	0.0083	0.2296	0.0543	-0.7402	0.0380
2	285.12	0.5996	-0.2550	0.0022	-0.1077	0.0091	0.1868	0.0599	-0.8812	0.0373
2	285.12	0.6497	-0.2852	0.0016	-0.1248	0.0103	0.1590	0.0662	-0.7270	0.0522
2	285.12	0.6996	-0.3167	0.0021	-0.1532	0.0115	0.1217	0.0758	-0.6546	0.0495
2	285.12	0.7495	-0.3609	0.0018	-0.1678	0.0121	0.0242	0.0817	-0.6978	0.0356
2	285.12	0.7996	-0.3970	0.0020	-0.2269	0.0135	-0.0585	0.0926	-0.6928	0.0525
2	285.12	0.8578	-0.4665	0.0018	-0.2660	0.0168	-0.1871	0.0982	-0.5641	0.0521
2	285.12	0.9100	-0.5034	0.0038	-0.2367	0.0178	-0.4035	0.1133	-0.8589	0.0585
2	285.12	0.9727	-0.5515	0.0041	-0.2083	0.0188	-0.3974	0.1281	0.0128	0.0729

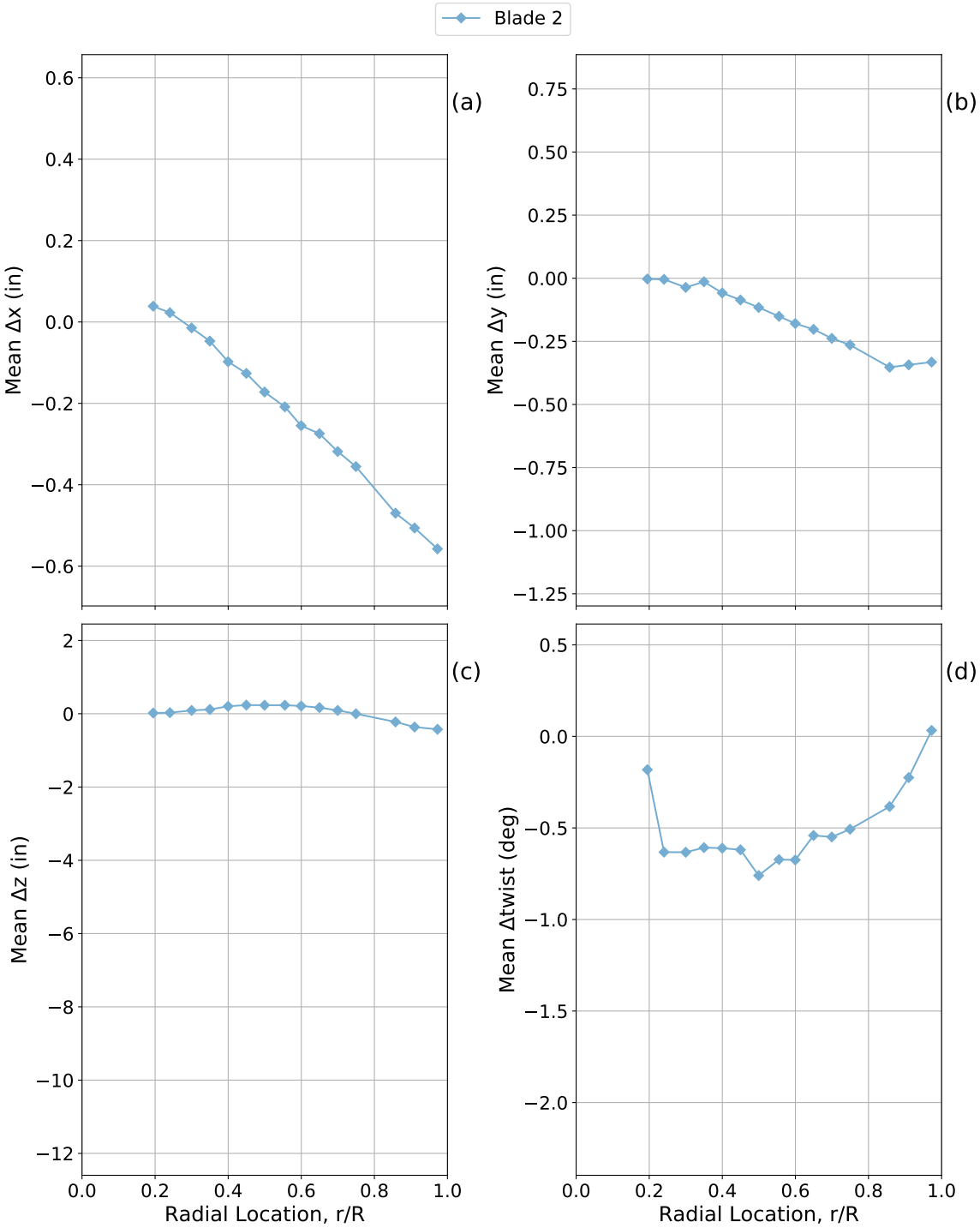


Figure 4.7-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0387	0.0012	-0.0029	0.0012	0.0192	0.0025	-0.1819	0.0256
2	299.88	0.2405	0.0228	0.0028	-0.0044	0.0024	0.0293	0.0074	-0.6321	0.0469
2	299.88	0.2999	-0.0146	0.0013	-0.0363	0.0058	0.0905	0.0119	-0.6329	0.0645
2	299.88	0.3498	-0.0470	0.0020	-0.0139	0.0082	0.1164	0.0177	-0.6076	0.0575
2	299.88	0.3998	-0.0976	0.0037	-0.0582	0.0140	0.2036	0.0294	-0.6105	0.0413
2	299.88	0.4496	-0.1263	0.0035	-0.0862	0.0157	0.2362	0.0288	-0.6193	0.0728
2	299.88	0.4995	-0.1721	0.0032	-0.1158	0.0214	0.2331	0.0443	-0.7601	0.0345
2	299.88	0.5551	-0.2086	0.0030	-0.1510	0.0251	0.2334	0.0469	-0.6727	0.0708
2	299.88	0.5996	-0.2548	0.0018	-0.1794	0.0281	0.2110	0.0558	-0.6749	0.0445
2	299.88	0.6497	-0.2744	0.0015	-0.2024	0.0308	0.1670	0.0621	-0.5411	0.0458
2	299.88	0.6996	-0.3183	0.0029	-0.2382	0.0357	0.0908	0.0717	-0.5493	0.0374
2	299.88	0.7495	-0.3552	0.0035	-0.2643	0.0399	-0.0007	0.0817	-0.5072	0.0333
2	299.88	0.8578	-0.4698	0.0038	-0.3527	0.0487	-0.2228	0.1009	-0.3832	0.0489
2	299.88	0.9100	-0.5062	0.0046	-0.3431	0.0536	-0.3626	0.1122	-0.2249	0.0413
2	299.88	0.9727	-0.5575	0.0056	-0.3322	0.0593	-0.4250	0.1254	0.0326	0.0439

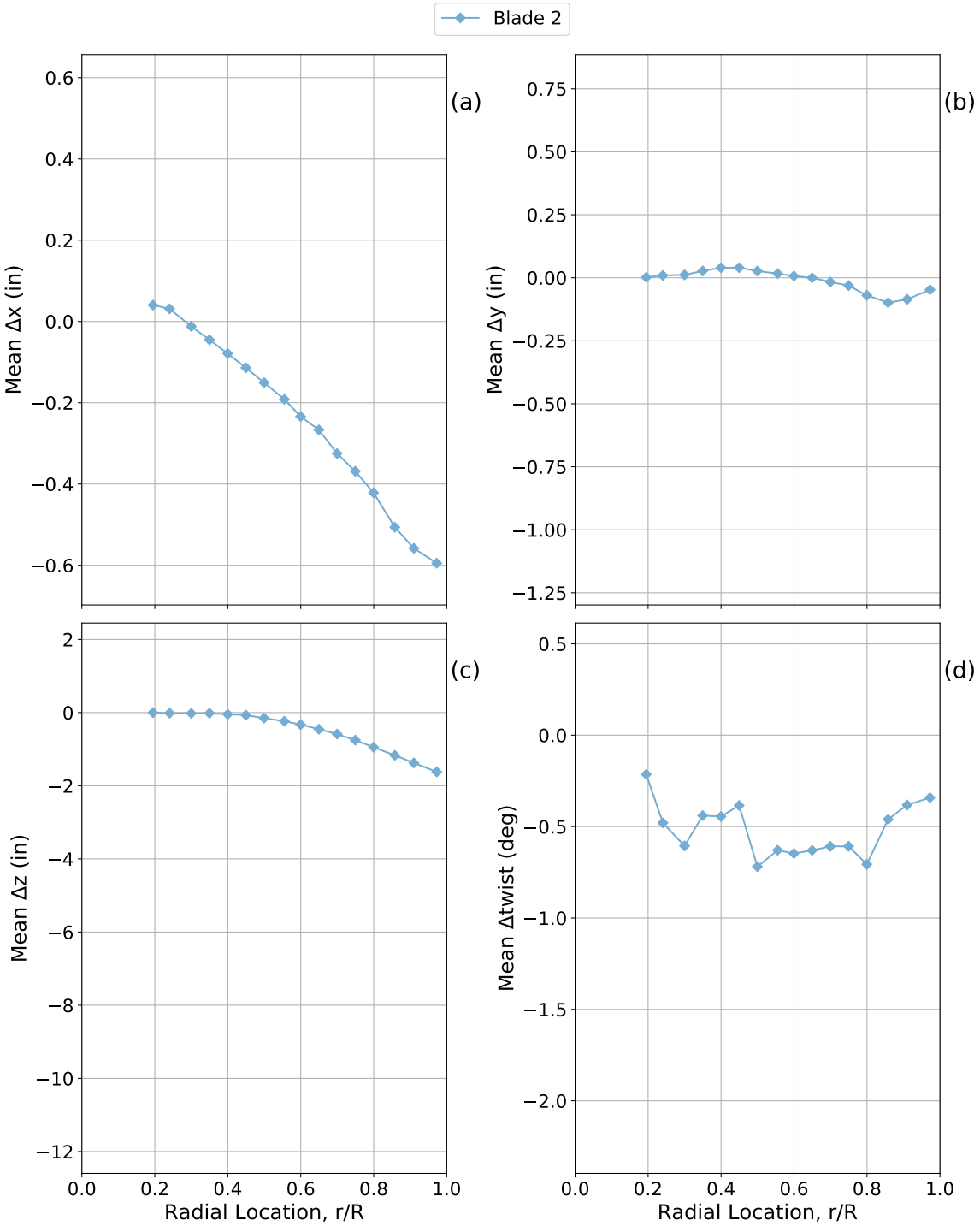


Figure 4.7-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0403	0.0016	0.0018	0.0006	-0.0003	0.0019	-0.2139	0.0130
2	315	0.2405	0.0310	0.0020	0.0093	0.0012	-0.0152	0.0060	-0.4797	0.0237
2	315	0.2999	-0.0123	0.0012	0.0115	0.0026	-0.0214	0.0104	-0.6057	0.0286
2	315	0.3498	-0.0452	0.0020	0.0271	0.0045	-0.0170	0.0157	-0.4398	0.0239
2	315	0.3998	-0.0791	0.0022	0.0398	0.0067	-0.0465	0.0270	-0.4450	0.0449
2	315	0.4496	-0.1141	0.0018	0.0400	0.0082	-0.0682	0.0304	-0.3845	0.0259
2	315	0.4995	-0.1506	0.0025	0.0267	0.0107	-0.1519	0.0396	-0.7193	0.0475
2	315	0.5551	-0.1916	0.0021	0.0166	0.0100	-0.2352	0.0449	-0.6293	0.0210
2	315	0.5996	-0.2341	0.0018	0.0069	0.0114	-0.3294	0.0473	-0.6470	0.0337
2	315	0.6497	-0.2668	0.0022	-0.0002	0.0134	-0.4544	0.0550	-0.6301	0.0445
2	315	0.6996	-0.3250	0.0020	-0.0168	0.0159	-0.5881	0.0682	-0.6080	0.0326
2	315	0.7495	-0.3687	0.0013	-0.0311	0.0186	-0.7543	0.0711	-0.6077	0.0186
2	315	0.7996	-0.4217	0.0018	-0.0695	0.0201	-0.9483	0.0764	-0.7063	0.0264
2	315	0.8578	-0.5064	0.0018	-0.0987	0.0228	-1.1687	0.0857	-0.4605	0.0235
2	315	0.9100	-0.5583	0.0020	-0.0856	0.0250	-1.3761	0.0935	-0.3819	0.0227
2	315	0.9727	-0.5948	0.0025	-0.0475	0.0273	-1.6208	0.1011	-0.3415	0.0264

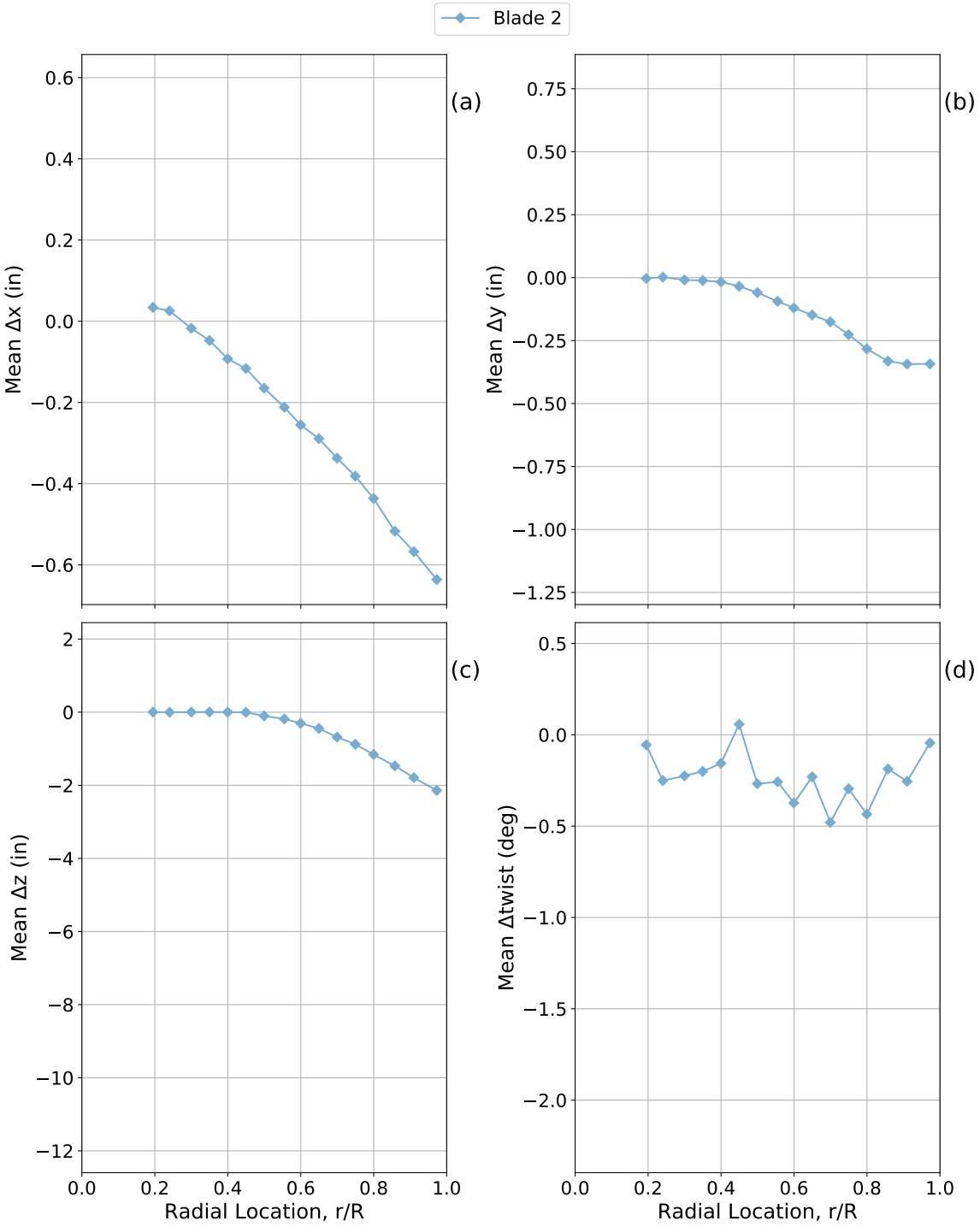


Figure 4.7-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0340	0.0012	-0.0034	0.0007	0.0027	0.0019	-0.0551	0.0130
2	330.12	0.2405	0.0256	0.0013	0.0018	0.0015	-0.0011	0.0032	-0.2511	0.0286
2	330.12	0.2999	-0.0173	0.0013	-0.0091	0.0025	0.0028	0.0088	-0.2247	0.0317
2	330.12	0.3498	-0.0472	0.0020	-0.0114	0.0047	0.0048	0.0124	-0.2007	0.0525
2	330.12	0.3998	-0.0926	0.0019	-0.0170	0.0070	0.0030	0.0204	-0.1565	0.0471
2	330.12	0.4496	-0.1163	0.0039	-0.0344	0.0079	-0.0057	0.0239	0.0576	0.0534
2	330.12	0.4995	-0.1647	0.0035	-0.0594	0.0090	-0.1025	0.0285	-0.2682	0.0304
2	330.12	0.5551	-0.2118	0.0027	-0.0942	0.0114	-0.1869	0.0365	-0.2576	0.0387
2	330.12	0.5996	-0.2553	0.0024	-0.1205	0.0129	-0.3034	0.0419	-0.3734	0.0371
2	330.12	0.6497	-0.2890	0.0028	-0.1483	0.0156	-0.4467	0.0472	-0.2304	0.0377
2	330.12	0.6996	-0.3371	0.0039	-0.1756	0.0187	-0.6814	0.0536	-0.4797	0.0754
2	330.12	0.7495	-0.3815	0.0031	-0.2262	0.0204	-0.8795	0.0577	-0.2957	0.0373
2	330.12	0.7996	-0.4364	0.0028	-0.2832	0.0224	-1.1583	0.0652	-0.4348	0.0434
2	330.12	0.8578	-0.5169	0.0027	-0.3318	0.0256	-1.4704	0.0718	-0.1871	0.0387
2	330.12	0.9100	-0.5673	0.0028	-0.3432	0.0282	-1.7919	0.0793	-0.2552	0.0316
2	330.12	0.9727	-0.6361	0.0028	-0.3427	0.0314	-2.1411	0.0886	-0.0444	0.0374

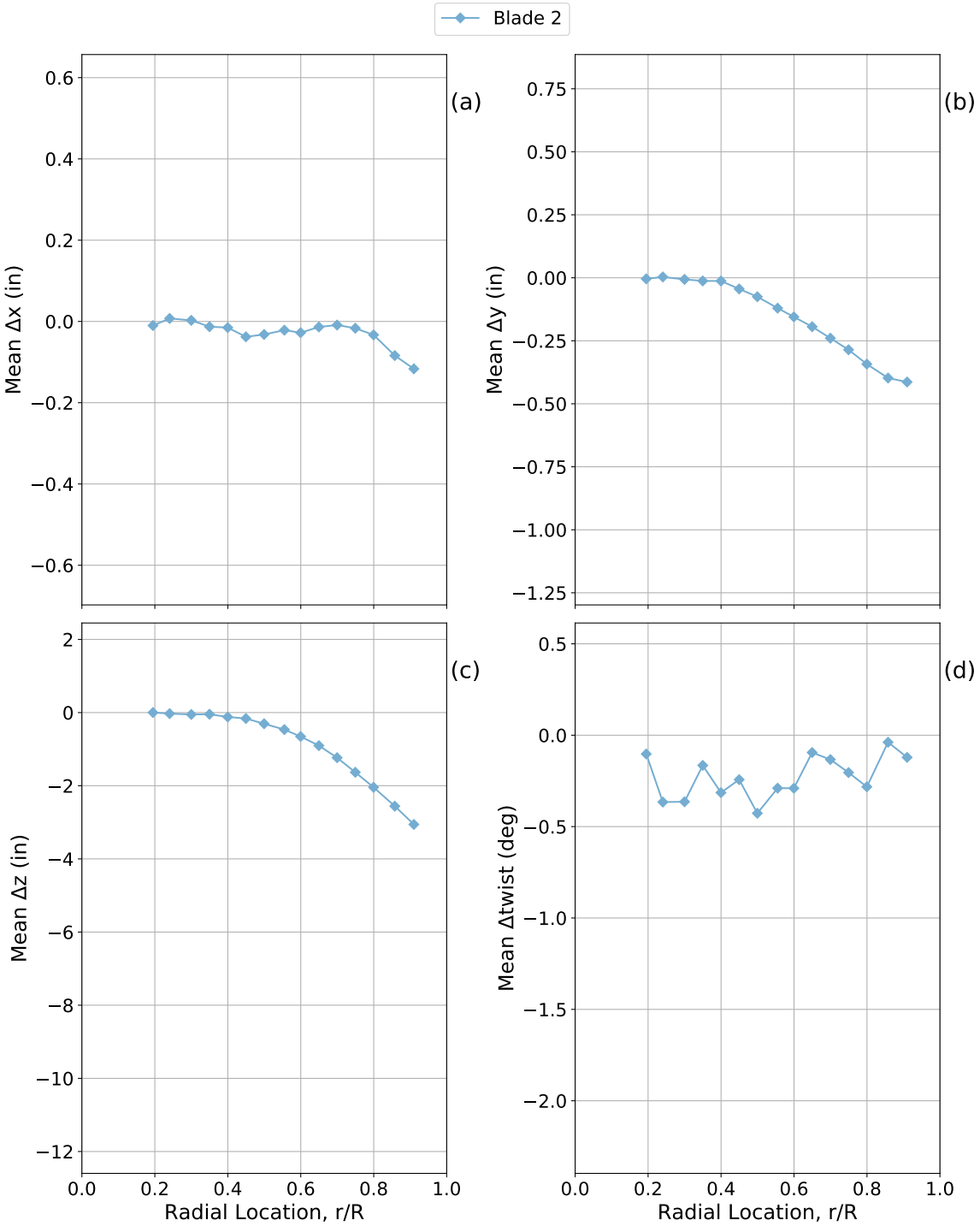


Figure 4.7-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0100	0.0031	-0.0042	0.0007	0.0013	0.0015	-0.1027	0.0153
2	344.88	0.2405	0.0074	0.0013	0.0034	0.0021	-0.0285	0.0030	-0.3658	0.0291
2	344.88	0.2999	0.0027	0.0019	-0.0064	0.0032	-0.0515	0.0056	-0.3641	0.0369
2	344.88	0.3498	-0.0129	0.0029	-0.0124	0.0060	-0.0448	0.0088	-0.1653	0.0323
2	344.88	0.3998	-0.0151	0.0048	-0.0127	0.0093	-0.1196	0.0139	-0.3142	0.0472
2	344.88	0.4496	-0.0379	0.0057	-0.0442	0.0114	-0.1623	0.0150	-0.2431	0.0394
2	344.88	0.4995	-0.0320	0.0046	-0.0752	0.0141	-0.3048	0.0169	-0.4272	0.0318
2	344.88	0.5551	-0.0215	0.0056	-0.1205	0.0167	-0.4646	0.0221	-0.2897	0.0489
2	344.88	0.5996	-0.0277	0.0052	-0.1552	0.0201	-0.6545	0.0251	-0.2902	0.0530
2	344.88	0.6497	-0.0136	0.0053	-0.1941	0.0238	-0.9034	0.0278	-0.0948	0.0456
2	344.88	0.6996	-0.0088	0.0067	-0.2397	0.0251	-1.2334	0.0325	-0.1331	0.0398
2	344.88	0.7495	-0.0167	0.0074	-0.2856	0.0285	-1.6322	0.0323	-0.2045	0.0671
2	344.88	0.7996	-0.0331	0.0108	-0.3425	0.0318	-2.0432	0.0392	-0.2824	0.0617
2	344.88	0.8578	-0.0840	0.0111	-0.3978	0.0359	-2.5587	0.0442	-0.0386	0.0598
2	344.88	0.9100	-0.1166	0.0201	-0.4136	0.0386	-3.0575	0.0456	-0.1213	0.1336

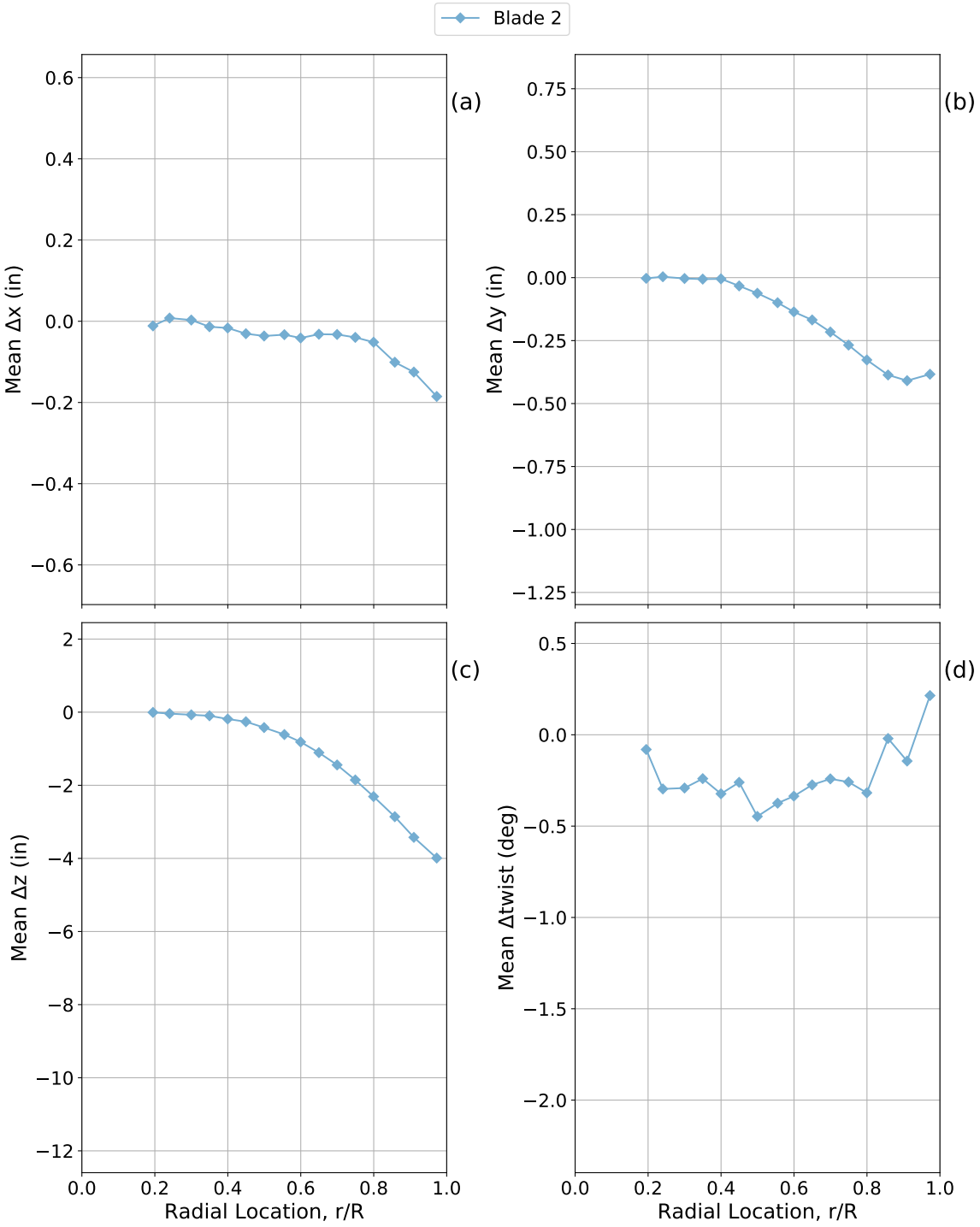


Figure 4.7-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0114	0.0037	-0.0028	0.0008	-0.0063	0.0022	-0.0806	0.0215
2	350.16	0.2405	0.0079	0.0021	0.0035	0.0019	-0.0393	0.0028	-0.2966	0.0429
2	350.16	0.2999	0.0030	0.0014	-0.0035	0.0031	-0.0723	0.0068	-0.2915	0.0528
2	350.16	0.3498	-0.0135	0.0023	-0.0059	0.0055	-0.0985	0.0112	-0.2402	0.0366
2	350.16	0.3998	-0.0166	0.0029	-0.0049	0.0087	-0.1872	0.0164	-0.3230	0.0384
2	350.16	0.4496	-0.0306	0.0039	-0.0329	0.0096	-0.2607	0.0201	-0.2604	0.0432
2	350.16	0.4995	-0.0363	0.0040	-0.0621	0.0120	-0.4210	0.0275	-0.4470	0.0337
2	350.16	0.5551	-0.0330	0.0036	-0.0996	0.0142	-0.6119	0.0323	-0.3745	0.0441
2	350.16	0.5996	-0.0412	0.0036	-0.1360	0.0167	-0.8148	0.0389	-0.3358	0.0431
2	350.16	0.6497	-0.0319	0.0050	-0.1680	0.0192	-1.1069	0.0469	-0.2742	0.0526
2	350.16	0.6996	-0.0325	0.0050	-0.2159	0.0217	-1.4436	0.0519	-0.2413	0.0611
2	350.16	0.7495	-0.0397	0.0065	-0.2679	0.0239	-1.8541	0.0566	-0.2586	0.0476
2	350.16	0.7996	-0.0516	0.0074	-0.3269	0.0264	-2.3083	0.0616	-0.3178	0.0514
2	350.16	0.8578	-0.1009	0.0100	-0.3865	0.0301	-2.8597	0.0732	-0.0204	0.0875
2	350.16	0.9100	-0.1251	0.0142	-0.4091	0.0330	-3.4244	0.0811	-0.1438	0.0755
2	350.16	0.9727	-0.1852	0.0202	-0.3836	0.0351	-3.9904	0.0830	0.2146	0.1400

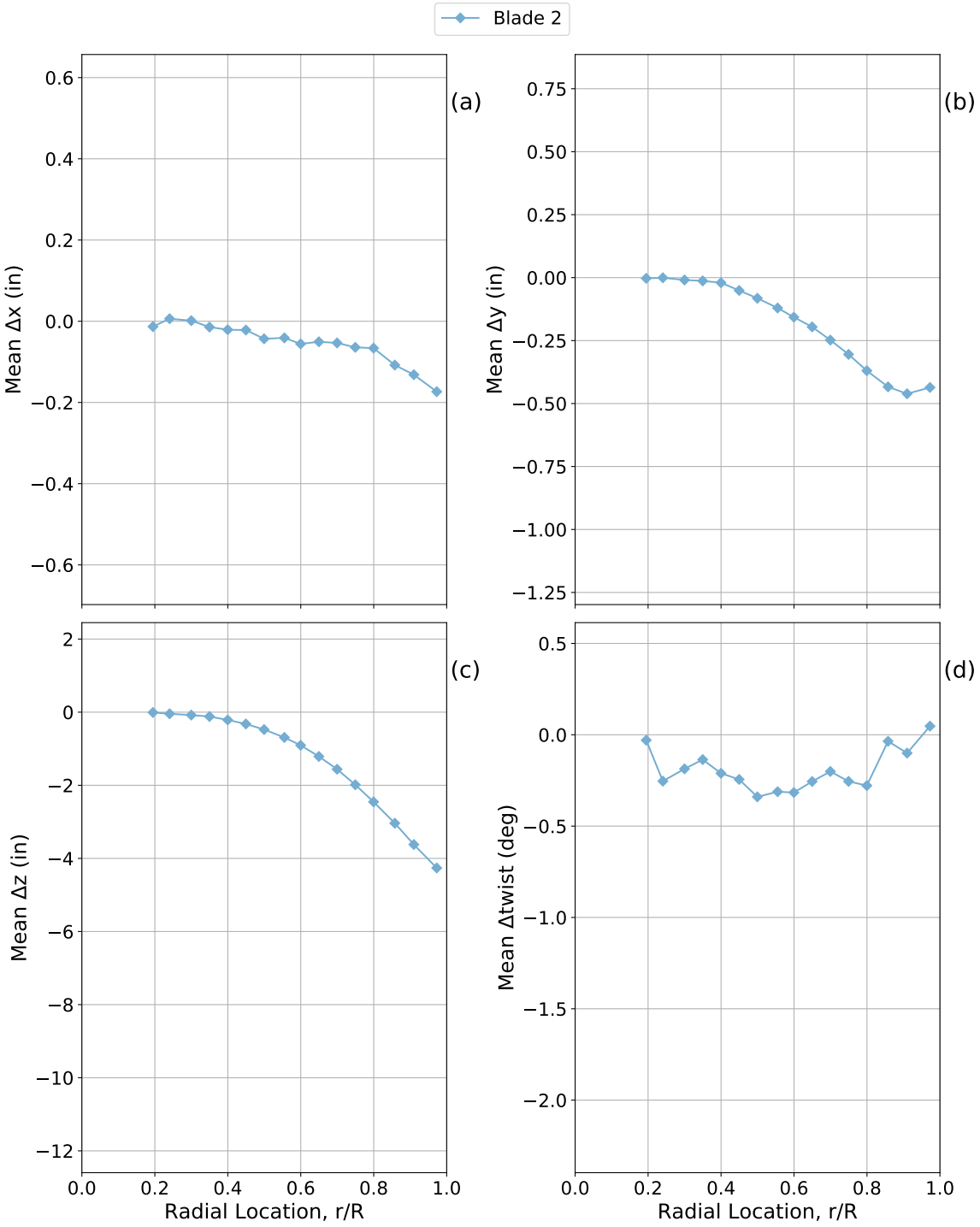


Figure 4.7-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Table 4.7-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 11. BD run 25, points 2623 to 2633.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0132	0.0035	-0.0028	0.0011	-0.0082	0.0021	-0.0297	0.0116
2	355.08	0.2405	0.0063	0.0016	-0.0006	0.0016	-0.0442	0.0027	-0.2540	0.0215
2	355.08	0.2999	0.0015	0.0016	-0.0093	0.0042	-0.0792	0.0069	-0.1866	0.0243
2	355.08	0.3498	-0.0143	0.0029	-0.0130	0.0071	-0.1186	0.0110	-0.1358	0.0278
2	355.08	0.3998	-0.0208	0.0042	-0.0202	0.0108	-0.2131	0.0169	-0.2108	0.0299
2	355.08	0.4496	-0.0216	0.0048	-0.0510	0.0116	-0.3222	0.0200	-0.2445	0.0342
2	355.08	0.4995	-0.0432	0.0054	-0.0819	0.0144	-0.4750	0.0260	-0.3398	0.0202
2	355.08	0.5551	-0.0409	0.0067	-0.1206	0.0188	-0.6915	0.0311	-0.3117	0.0279
2	355.08	0.5996	-0.0557	0.0072	-0.1570	0.0206	-0.9059	0.0344	-0.3162	0.0269
2	355.08	0.6497	-0.0505	0.0059	-0.1957	0.0218	-1.2114	0.0370	-0.2557	0.0496
2	355.08	0.6996	-0.0534	0.0061	-0.2479	0.0261	-1.5610	0.0442	-0.2008	0.0311
2	355.08	0.7495	-0.0642	0.0084	-0.3047	0.0286	-1.9858	0.0481	-0.2551	0.0298
2	355.08	0.7996	-0.0662	0.0081	-0.3696	0.0340	-2.4545	0.0532	-0.2783	0.0343
2	355.08	0.8578	-0.1079	0.0082	-0.4336	0.0358	-3.0378	0.0582	-0.0354	0.0467
2	355.08	0.9100	-0.1316	0.0086	-0.4612	0.0383	-3.6209	0.0667	-0.1003	0.0471
2	355.08	0.9727	-0.1734	0.0096	-0.4361	0.0443	-4.2623	0.0733	0.0472	0.0678

4.8 Run 52, Point 55

4.8.1 Pitch, Flap, and Lag

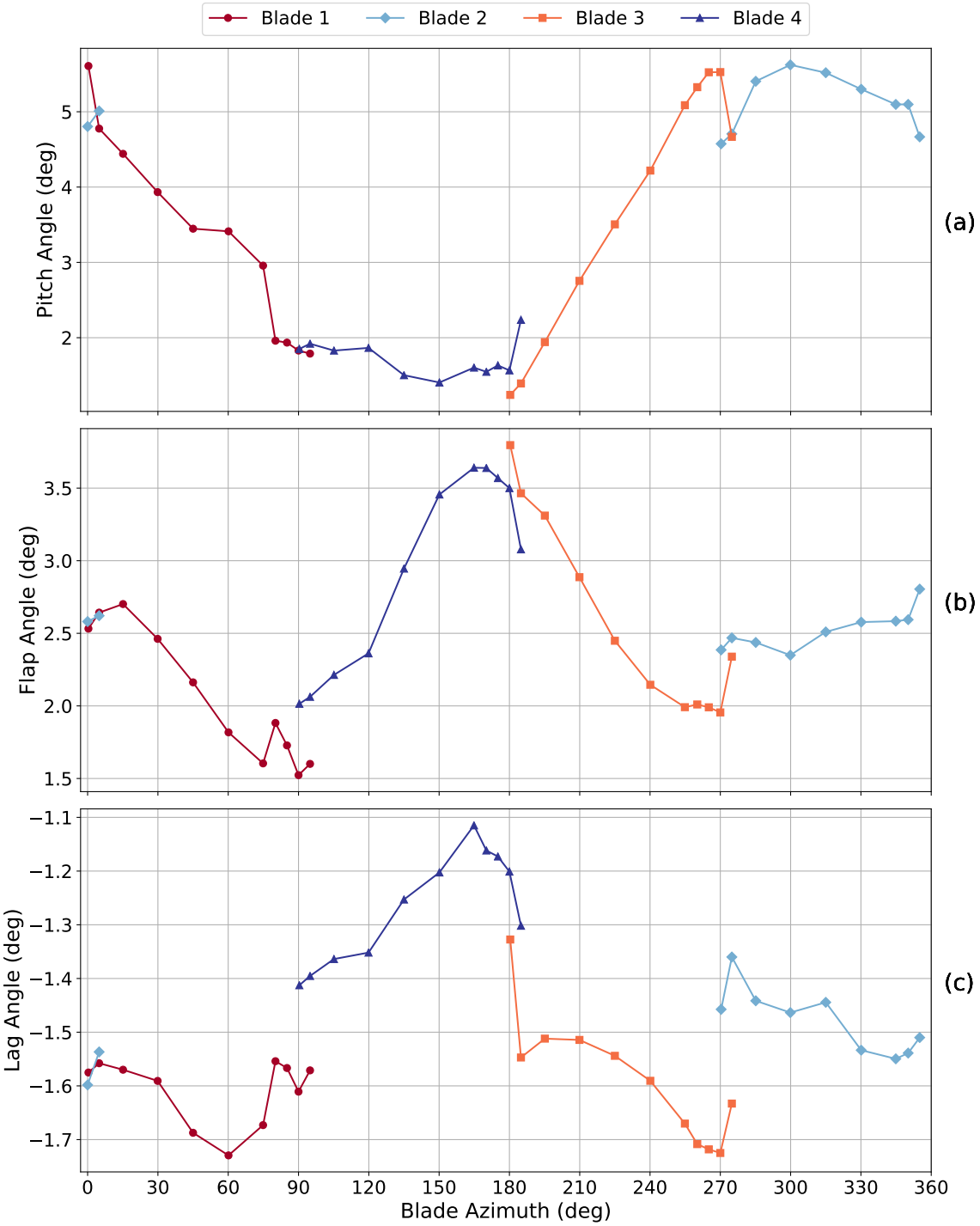


Figure 4.8-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.8037	2.5809	-1.5982	0.0715	0.0404	0.0173
0.35	1	5.6077	2.5322	-1.5751	0.1239	0.0643	0.0348
4.92	1	4.7765	2.6427	-1.5578	0.0635	0.0307	0.0314
4.92	2	5.0102	2.6211	-1.5367	0.0329	0.0194	0.0192
15.12	1	4.4413	2.7015	-1.5699	0.0965	0.0299	0.0187
29.88	1	3.9330	2.4619	-1.5907	0.0635	0.0291	0.0196
45	1	3.4472	2.1622	-1.6873	0.0483	0.0259	0.0158
60.12	1	3.4124	1.8178	-1.7294	0.0961	0.0457	0.0207
74.88	1	2.9570	1.6041	-1.6730	0.0507	0.0211	0.0213
80.16	1	1.9600	1.8825	-1.5540	0.0284	0.0164	0.0268
85.08	1	1.9349	1.7279	-1.5667	0.0185	0.0112	0.0253
90	1	1.8295	1.5231	-1.6107	0.0260	0.0147	0.0120
90.35	4	1.8509	2.0145	-1.4126	0.0293	0.0171	0.0159
94.92	1	1.7891	1.6006	-1.5711	0.0379	0.0141	0.0205
94.92	4	1.9201	2.0624	-1.3953	0.0270	0.0148	0.0130
105.12	4	1.8289	2.2134	-1.3638	0.0167	0.0179	0.0131
119.88	4	1.8648	2.3619	-1.3518	0.0237	0.0190	0.0187
135	4	1.5022	2.9457	-1.2530	0.0184	0.0139	0.0155
150.12	4	1.4053	3.4560	-1.2026	0.0220	0.0149	0.0144
164.88	4	1.6027	3.6404	-1.1149	0.0203	0.0199	0.0152
170.16	4	1.5470	3.6387	-1.1617	0.0283	0.0129	0.0266
175.08	4	1.6323	3.5690	-1.1729	0.0348	0.0123	0.0190
180	4	1.5659	3.4999	-1.2010	0.0146	0.0244	0.0154
180.35	3	1.2408	3.7962	-1.3274	0.0515	0.0301	0.0204
184.92	3	1.3928	3.4647	-1.5471	0.0732	0.0399	0.0232
184.92	4	2.2366	3.0782	-1.3018	0.0391	0.0643	0.0409
195.12	3	1.9419	3.3109	-1.5120	0.0332	0.0146	0.0150
209.88	3	2.7548	2.8866	-1.5144	0.0319	0.0149	0.0168
225	3	3.5051	2.4487	-1.5440	0.0275	0.0156	0.0103
240.12	3	4.2191	2.1455	-1.5905	0.0275	0.0094	0.0145
254.88	3	5.0869	1.9912	-1.6702	0.0289	0.0133	0.0214
260.16	3	5.3263	2.0098	-1.7084	0.0737	0.0284	0.0202
265.08	3	5.5240	1.9904	-1.7182	0.0610	0.0300	0.0238
270	3	5.5264	1.9551	-1.7249	0.1155	0.0382	0.0203
270.35	2	4.5748	2.3858	-1.4575	0.3648	0.1403	0.1083
274.92	2	4.7055	2.4684	-1.3600	0.0288	0.0206	0.0157
274.92	3	4.6666	2.3392	-1.6329	0.0455	0.0172	0.0137
285.12	2	5.4044	2.4370	-1.4415	0.0446	0.0163	0.0095
299.88	2	5.6225	2.3493	-1.4635	0.0281	0.0238	0.0342
315	2	5.5180	2.5097	-1.4444	0.0174	0.0205	0.0176
330.12	2	5.2992	2.5772	-1.5335	0.0235	0.0283	0.0171
344.88	2	5.0974	2.5837	-1.5496	0.0317	0.0284	0.0172
350.16	2	5.0978	2.5940	-1.5389	0.0365	0.0292	0.0203
355.08	2	4.6664	2.8044	-1.5100	0.0388	0.0380	0.0188

4.8.2 Spanwise Elastic Deformations

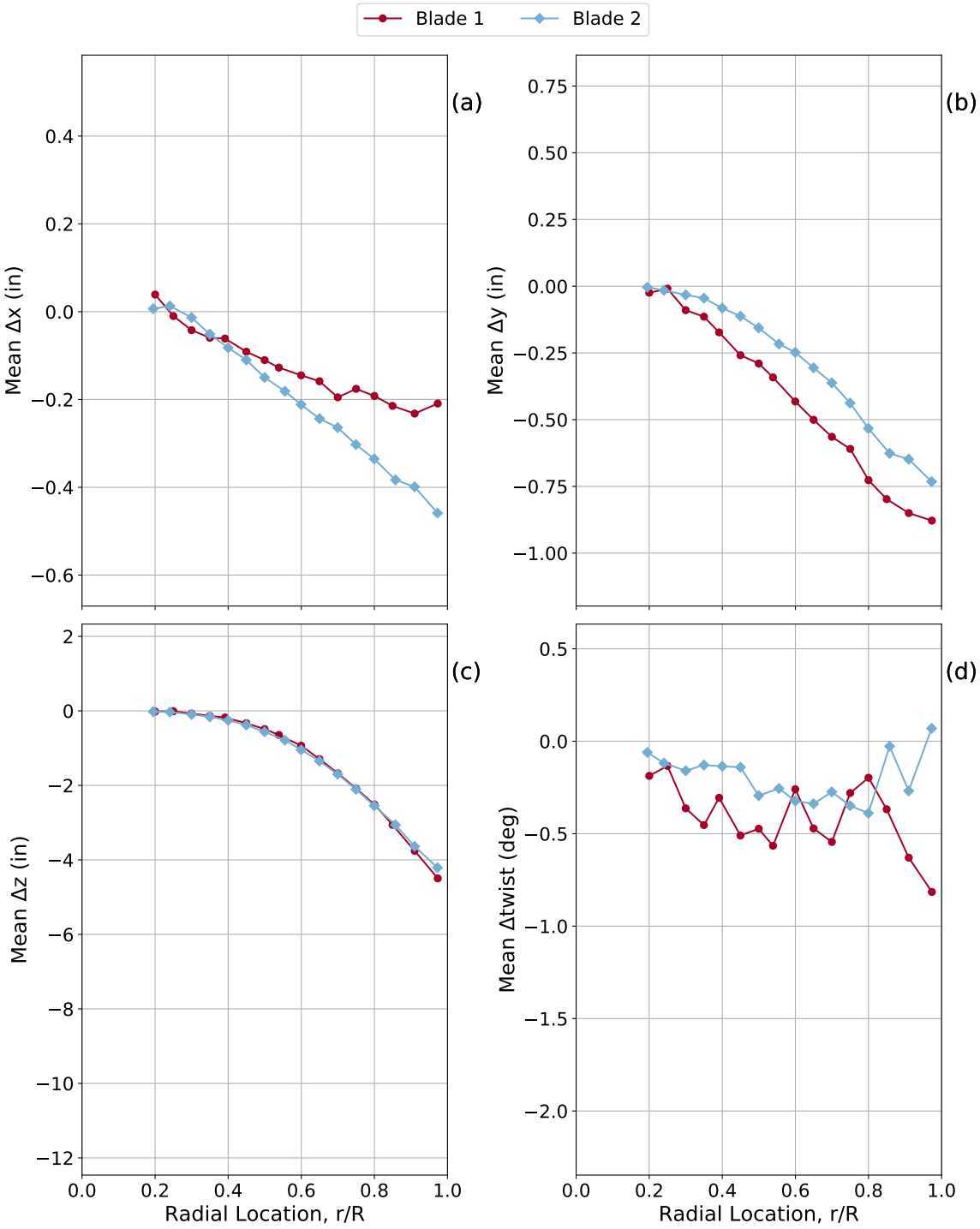


Figure 4.8-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0390	0.0048	-0.0244	0.0036	-0.0186	0.0100	-0.1872	0.0479
1	0.35	0.2499	-0.0099	0.0015	-0.0092	0.0044	-0.0093	0.0120	-0.1333	0.1311
1	0.35	0.2998	-0.0421	0.0019	-0.0897	0.0124	-0.0714	0.0298	-0.3629	0.1276
1	0.35	0.3498	-0.0594	0.0017	-0.1142	0.0211	-0.1350	0.0483	-0.4534	0.1313
1	0.35	0.3913	-0.0612	0.0022	-0.1728	0.0290	-0.1776	0.0651	-0.3058	0.1198
1	0.35	0.4496	-0.0911	0.0030	-0.2585	0.0414	-0.3304	0.0852	-0.5099	0.1206
1	0.35	0.4997	-0.1103	0.0047	-0.2895	0.0526	-0.4892	0.1048	-0.4733	0.1144
1	0.35	0.5387	-0.1274	0.0048	-0.3416	0.0605	-0.6464	0.1156	-0.5655	0.1362
1	0.35	0.5996	-0.1449	0.0064	-0.4318	0.0726	-0.9349	0.1384	-0.2595	0.1283
1	0.35	0.6498	-0.1585	0.0085	-0.5006	0.0817	-1.2936	0.1590	-0.4718	0.1106
1	0.35	0.6998	-0.1951	0.0100	-0.5643	0.0891	-1.6734	0.1746	-0.5446	0.1247
1	0.35	0.7500	-0.1758	0.0117	-0.6095	0.0995	-2.0853	0.1905	-0.2799	0.1308
1	0.35	0.8001	-0.1920	0.0135	-0.7266	0.1084	-2.5143	0.2087	-0.1974	0.1425
1	0.35	0.8497	-0.2145	0.0155	-0.7976	0.1198	-3.0596	0.2276	-0.3678	0.1299
1	0.35	0.9102	-0.2321	0.0174	-0.8499	0.1329	-3.7537	0.2519	-0.6296	0.1265
1	0.35	0.9734	-0.2092	0.0187	-0.8782	0.1490	-4.4959	0.2713	-0.8150	0.1507
2	0	0.1949	0.0067	0.0027	-0.0039	0.0015	-0.0198	0.0035	-0.0604	0.0282
2	0	0.2405	0.0129	0.0013	-0.0153	0.0018	-0.0310	0.0055	-0.1183	0.0662
2	0	0.2999	-0.0134	0.0012	-0.0323	0.0044	-0.0949	0.0130	-0.1595	0.0759
2	0	0.3498	-0.0513	0.0015	-0.0448	0.0089	-0.1595	0.0198	-0.1285	0.0647
2	0	0.3998	-0.0821	0.0019	-0.0820	0.0120	-0.2523	0.0314	-0.1357	0.0705
2	0	0.4496	-0.1100	0.0011	-0.1121	0.0145	-0.3796	0.0383	-0.1404	0.0738
2	0	0.4995	-0.1498	0.0017	-0.1561	0.0178	-0.5608	0.0477	-0.2942	0.0709
2	0	0.5551	-0.1811	0.0016	-0.2165	0.0196	-0.7858	0.0551	-0.2555	0.0627
2	0	0.5996	-0.2116	0.0012	-0.2478	0.0234	-1.0454	0.0607	-0.3233	0.0712
2	0	0.6497	-0.2436	0.0021	-0.3056	0.0267	-1.3460	0.0674	-0.3384	0.0775
2	0	0.6996	-0.2641	0.0014	-0.3620	0.0305	-1.6989	0.0740	-0.2741	0.0714
2	0	0.7495	-0.3026	0.0026	-0.4378	0.0318	-2.1030	0.0811	-0.3485	0.0722
2	0	0.7996	-0.3354	0.0015	-0.5326	0.0358	-2.5455	0.0866	-0.3891	0.0771
2	0	0.8578	-0.3832	0.0028	-0.6262	0.0414	-3.0613	0.0974	-0.0273	0.0884
2	0	0.9100	-0.3989	0.0028	-0.6480	0.0385	-3.6373	0.1035	-0.2685	0.1345
2	0	0.9727	-0.4587	0.0077	-0.7321	0.0477	-4.2082	0.1255	0.0697	0.0710

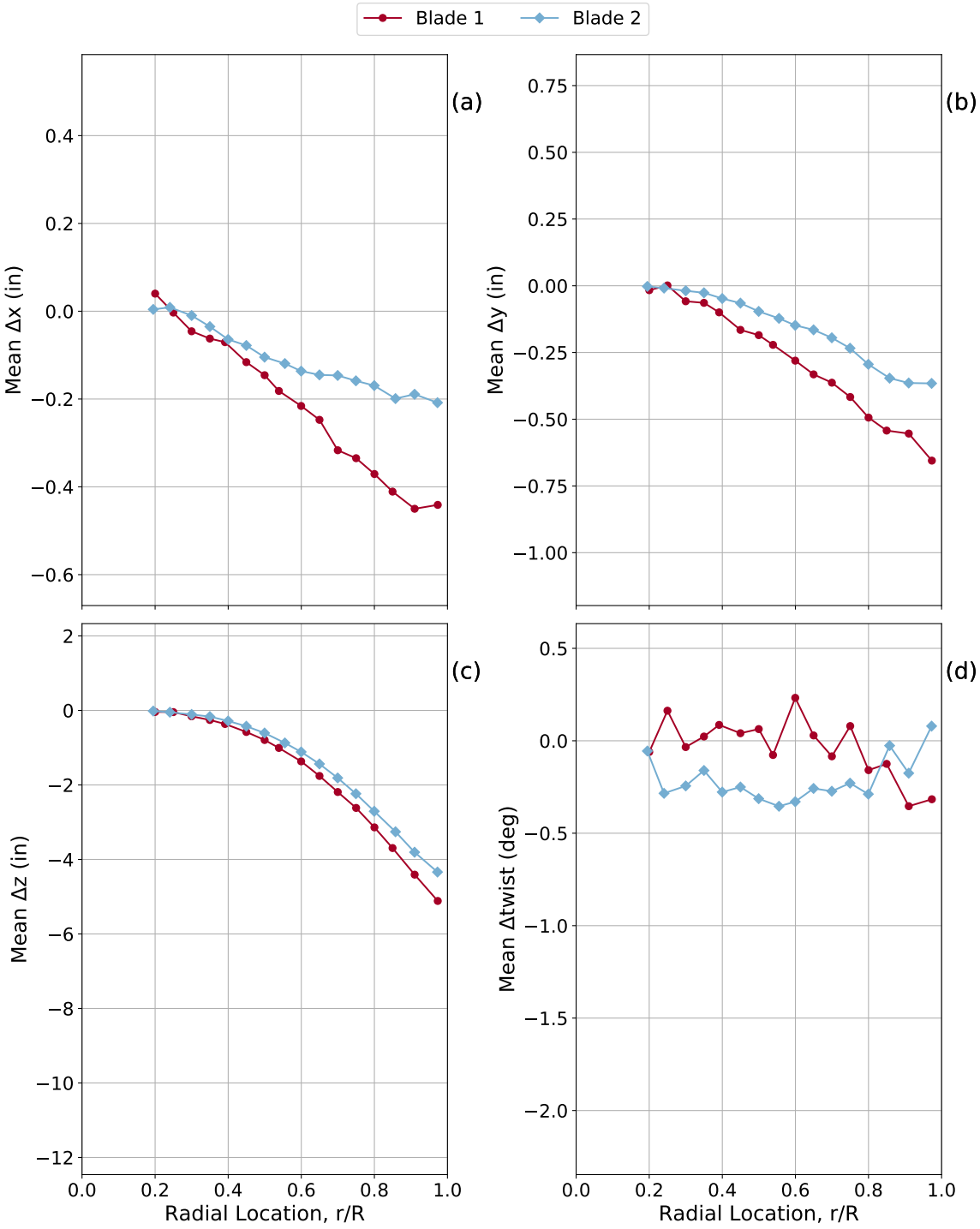


Figure 4.8-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0401	0.0046	-0.0166	0.0021	-0.0406	0.0032	-0.0605	0.0304
1	4.92	0.2499	-0.0031	0.0023	0.0013	0.0044	-0.0448	0.0042	0.1627	0.0673
1	4.92	0.2998	-0.0457	0.0015	-0.0581	0.0078	-0.1576	0.0091	-0.0340	0.0669
1	4.92	0.3498	-0.0623	0.0012	-0.0640	0.0146	-0.2560	0.0144	0.0230	0.0718
1	4.92	0.3913	-0.0705	0.0020	-0.0997	0.0201	-0.3636	0.0194	0.0859	0.0701
1	4.92	0.4496	-0.1160	0.0023	-0.1653	0.0263	-0.5781	0.0294	0.0409	0.0648
1	4.92	0.4997	-0.1457	0.0016	-0.1850	0.0325	-0.7938	0.0378	0.0633	0.0721
1	4.92	0.5387	-0.1816	0.0015	-0.2213	0.0374	-1.0069	0.0474	-0.0769	0.0605
1	4.92	0.5996	-0.2158	0.0019	-0.2806	0.0450	-1.3674	0.0561	0.2323	0.0640
1	4.92	0.6498	-0.2474	0.0017	-0.3320	0.0527	-1.7589	0.0639	0.0289	0.0752
1	4.92	0.6998	-0.3167	0.0019	-0.3631	0.0595	-2.1898	0.0714	-0.0841	0.0723
1	4.92	0.7500	-0.3348	0.0017	-0.4168	0.0656	-2.6173	0.0766	0.0796	0.0696
1	4.92	0.8001	-0.3708	0.0022	-0.4939	0.0728	-3.1391	0.0816	-0.1588	0.0731
1	4.92	0.8497	-0.4109	0.0022	-0.5425	0.0790	-3.6940	0.0864	-0.1250	0.0531
1	4.92	0.9102	-0.4500	0.0031	-0.5538	0.0895	-4.4079	0.0906	-0.3539	0.0710
1	4.92	0.9734	-0.4411	0.0061	-0.6551	0.0982	-5.1142	0.0905	-0.3163	0.0776
2	4.92	0.1949	0.0042	0.0033	-0.0024	0.0014	-0.0163	0.0032	-0.0554	0.0160
2	4.92	0.2405	0.0088	0.0027	-0.0088	0.0019	-0.0483	0.0047	-0.2843	0.0499
2	4.92	0.2999	-0.0098	0.0018	-0.0188	0.0048	-0.1081	0.0089	-0.2442	0.0415
2	4.92	0.3498	-0.0350	0.0036	-0.0264	0.0074	-0.1650	0.0124	-0.1606	0.0405
2	4.92	0.3998	-0.0642	0.0054	-0.0478	0.0115	-0.2834	0.0198	-0.2775	0.0387
2	4.92	0.4496	-0.0780	0.0069	-0.0651	0.0165	-0.4243	0.0212	-0.2502	0.0386
2	4.92	0.4995	-0.1046	0.0082	-0.0961	0.0215	-0.6062	0.0262	-0.3131	0.0442
2	4.92	0.5551	-0.1192	0.0094	-0.1222	0.0276	-0.8726	0.0339	-0.3542	0.0349
2	4.92	0.5996	-0.1364	0.0101	-0.1483	0.0309	-1.1137	0.0367	-0.3294	0.0431
2	4.92	0.6497	-0.1450	0.0115	-0.1652	0.0358	-1.4363	0.0412	-0.2578	0.0354
2	4.92	0.6996	-0.1463	0.0129	-0.1949	0.0413	-1.8124	0.0457	-0.2729	0.0364
2	4.92	0.7495	-0.1585	0.0148	-0.2340	0.0473	-2.2365	0.0520	-0.2291	0.0380
2	4.92	0.7996	-0.1694	0.0158	-0.2943	0.0522	-2.7072	0.0533	-0.2886	0.0392
2	4.92	0.8578	-0.1990	0.0147	-0.3462	0.0568	-3.2572	0.0640	-0.0262	0.0339
2	4.92	0.9100	-0.1891	0.0162	-0.3643	0.0628	-3.8061	0.0674	-0.1753	0.0510
2	4.92	0.9727	-0.2083	0.0166	-0.3658	0.0726	-4.3387	0.0732	0.0793	0.0403

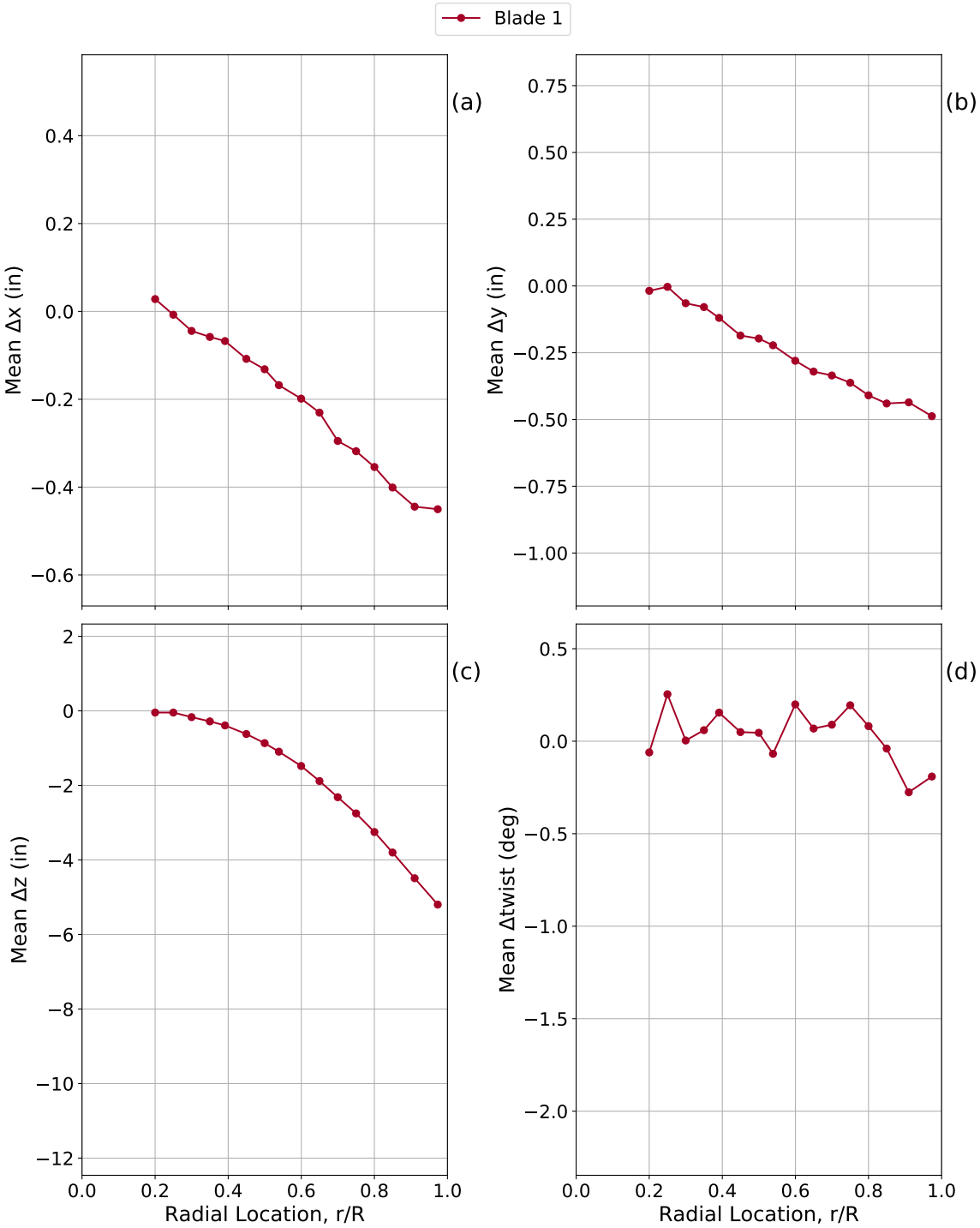


Figure 4.8-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0281	0.0037	-0.0183	0.0017	-0.0457	0.0043	-0.0606	0.0366
1	15.12	0.2499	-0.0076	0.0017	-0.0034	0.0025	-0.0457	0.0066	0.2539	0.0961
1	15.12	0.2998	-0.0444	0.0015	-0.0649	0.0055	-0.1687	0.0146	0.0039	0.0980
1	15.12	0.3498	-0.0581	0.0016	-0.0792	0.0106	-0.2829	0.0249	0.0597	0.0988
1	15.12	0.3913	-0.0675	0.0015	-0.1197	0.0139	-0.3915	0.0342	0.1547	0.0849
1	15.12	0.4496	-0.1080	0.0017	-0.1857	0.0180	-0.6218	0.0431	0.0493	0.0828
1	15.12	0.4997	-0.1317	0.0020	-0.1970	0.0222	-0.8662	0.0492	0.0456	0.0879
1	15.12	0.5387	-0.1679	0.0020	-0.2222	0.0256	-1.0959	0.0544	-0.0681	0.0994
1	15.12	0.5996	-0.1986	0.0020	-0.2802	0.0296	-1.4789	0.0638	0.1990	0.0861
1	15.12	0.6498	-0.2304	0.0013	-0.3207	0.0337	-1.8835	0.0726	0.0685	0.0888
1	15.12	0.6998	-0.2949	0.0014	-0.3353	0.0377	-2.3176	0.0791	0.0894	0.0892
1	15.12	0.7500	-0.3183	0.0017	-0.3625	0.0420	-2.7515	0.0868	0.1943	0.0920
1	15.12	0.8001	-0.3542	0.0019	-0.4097	0.0465	-3.2516	0.0957	0.0815	0.0916
1	15.12	0.8497	-0.4009	0.0018	-0.4401	0.0504	-3.8009	0.1031	-0.0396	0.0884
1	15.12	0.9102	-0.4445	0.0028	-0.4359	0.0565	-4.4905	0.1130	-0.2760	0.0886
1	15.12	0.9734	-0.4503	0.0026	-0.4877	0.0622	-5.1978	0.1202	-0.1910	0.1104

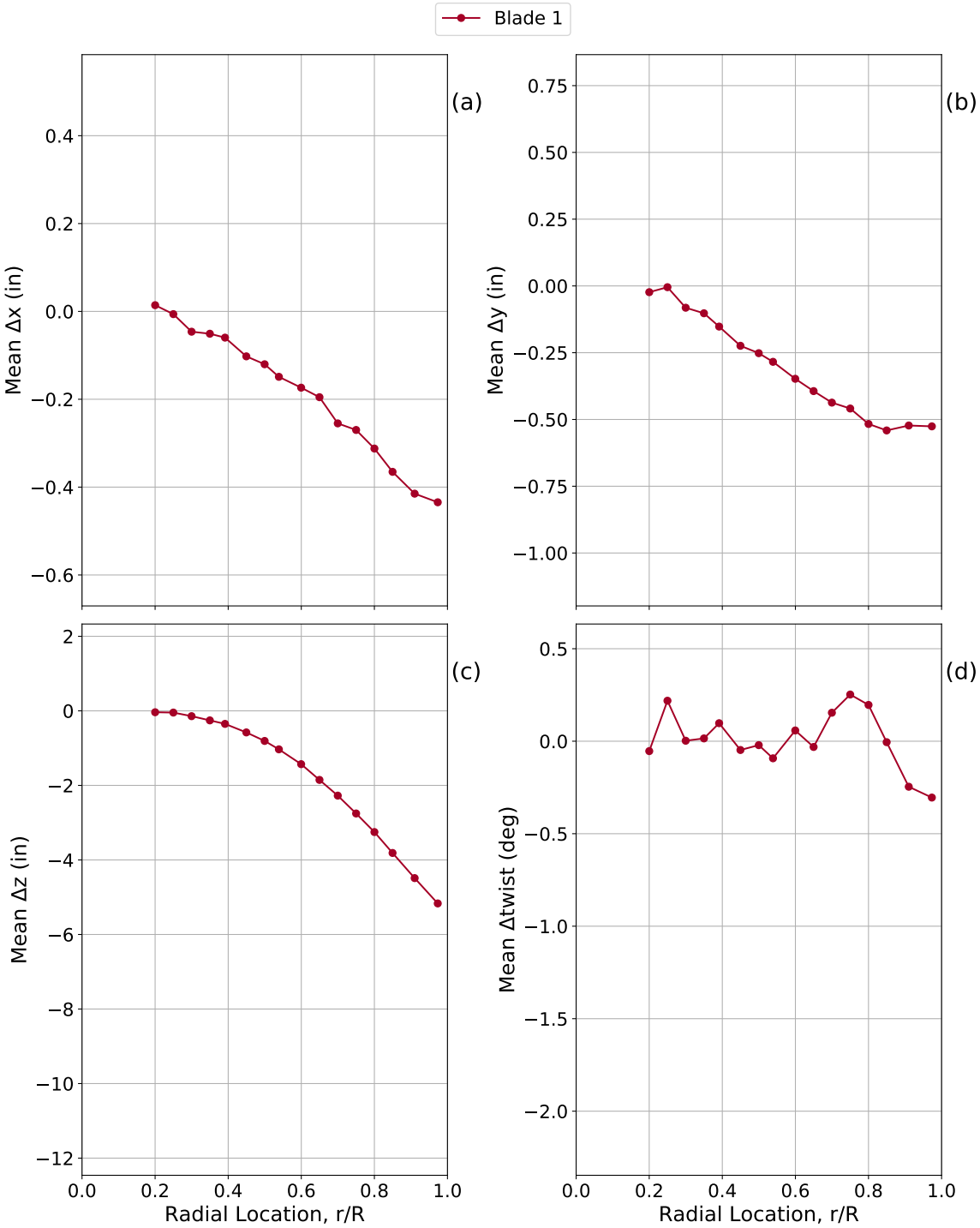


Figure 4.8-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0142	0.0025	-0.0234	0.0010	-0.0376	0.0027	-0.0535	0.0254
1	29.88	0.2499	-0.0062	0.0009	-0.0047	0.0010	-0.0462	0.0041	0.2189	0.0557
1	29.88	0.2998	-0.0462	0.0013	-0.0816	0.0037	-0.1428	0.0087	0.0026	0.0637
1	29.88	0.3498	-0.0508	0.0015	-0.1024	0.0056	-0.2558	0.0153	0.0151	0.0657
1	29.88	0.3913	-0.0597	0.0011	-0.1522	0.0079	-0.3498	0.0205	0.0974	0.0657
1	29.88	0.4496	-0.1023	0.0015	-0.2241	0.0103	-0.5788	0.0266	-0.0475	0.0747
1	29.88	0.4997	-0.1203	0.0015	-0.2518	0.0133	-0.8073	0.0330	-0.0212	0.0746
1	29.88	0.5387	-0.1489	0.0017	-0.2842	0.0150	-1.0328	0.0377	-0.0924	0.0720
1	29.88	0.5996	-0.1736	0.0014	-0.3477	0.0187	-1.4303	0.0473	0.0581	0.0724
1	29.88	0.6498	-0.1953	0.0018	-0.3938	0.0216	-1.8532	0.0553	-0.0311	0.0706
1	29.88	0.6998	-0.2549	0.0013	-0.4369	0.0241	-2.2745	0.0636	0.1541	0.0734
1	29.88	0.7500	-0.2699	0.0012	-0.4590	0.0276	-2.7536	0.0726	0.2524	0.0720
1	29.88	0.8001	-0.3122	0.0010	-0.5168	0.0307	-3.2519	0.0798	0.1961	0.0703
1	29.88	0.8497	-0.3652	0.0015	-0.5411	0.0343	-3.8130	0.0870	-0.0052	0.0646
1	29.88	0.9102	-0.4149	0.0013	-0.5226	0.0378	-4.4873	0.0962	-0.2461	0.0638
1	29.88	0.9734	-0.4345	0.0024	-0.5258	0.0426	-5.1671	0.1068	-0.3046	0.0724

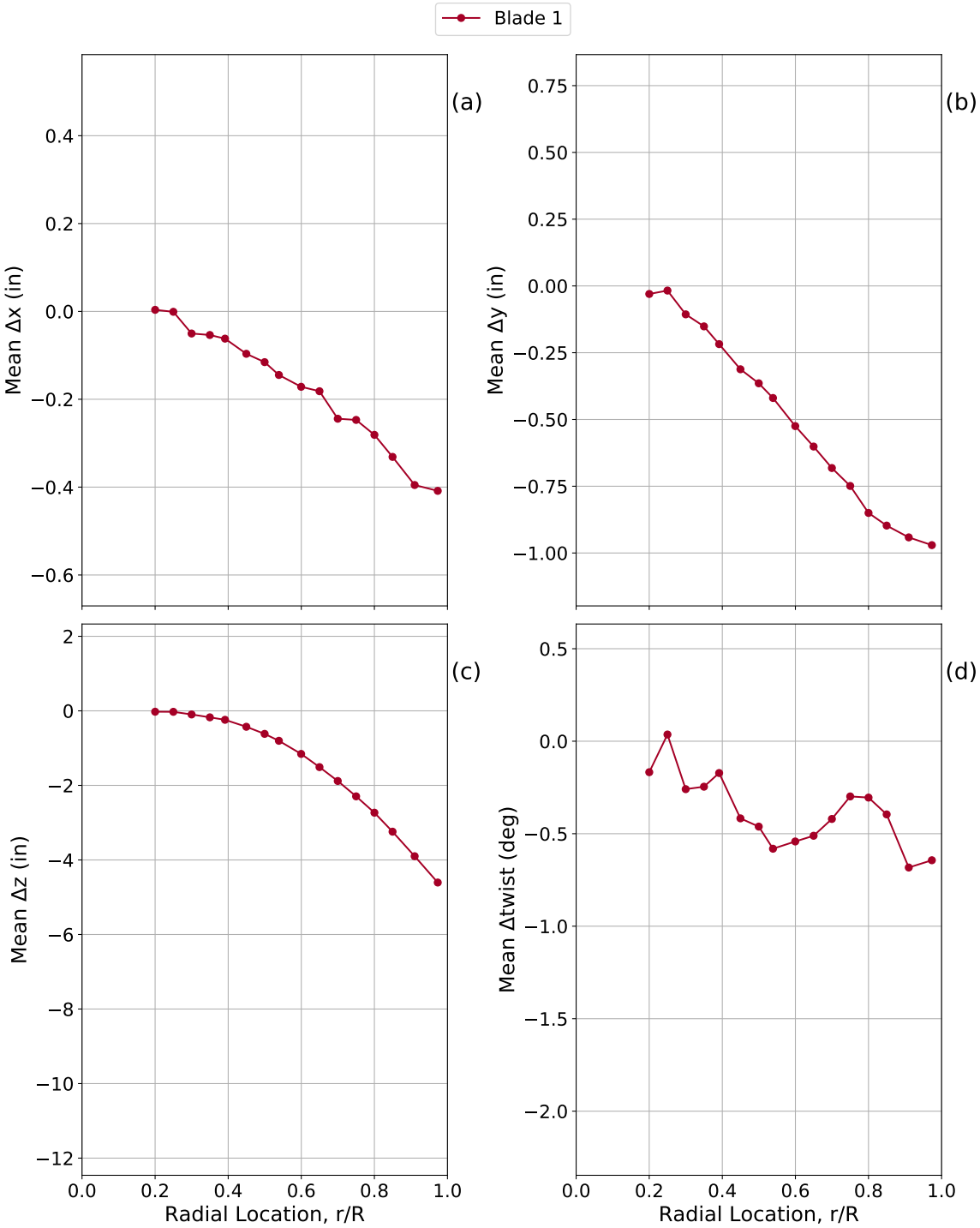


Figure 4.8-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0036	0.0017	-0.0301	0.0011	-0.0236	0.0023	-0.1675	0.0300
1	45	0.2499	-0.0009	0.0020	-0.0174	0.0014	-0.0260	0.0049	0.0362	0.0504
1	45	0.2998	-0.0503	0.0015	-0.1064	0.0036	-0.0970	0.0079	-0.2592	0.0665
1	45	0.3498	-0.0537	0.0016	-0.1515	0.0058	-0.1742	0.0132	-0.2459	0.0585
1	45	0.3913	-0.0620	0.0019	-0.2179	0.0079	-0.2405	0.0188	-0.1719	0.0620
1	45	0.4496	-0.0965	0.0026	-0.3121	0.0104	-0.4273	0.0244	-0.4171	0.0561
1	45	0.4997	-0.1155	0.0024	-0.3646	0.0125	-0.6176	0.0290	-0.4616	0.0619
1	45	0.5387	-0.1447	0.0020	-0.4196	0.0149	-0.8033	0.0339	-0.5812	0.0623
1	45	0.5996	-0.1716	0.0021	-0.5248	0.0191	-1.1557	0.0410	-0.5420	0.0545
1	45	0.6498	-0.1817	0.0023	-0.6014	0.0219	-1.5096	0.0483	-0.5111	0.0591
1	45	0.6998	-0.2443	0.0022	-0.6818	0.0255	-1.8820	0.0557	-0.4203	0.0564
1	45	0.7500	-0.2470	0.0023	-0.7489	0.0294	-2.2939	0.0614	-0.2985	0.0630
1	45	0.8001	-0.2810	0.0023	-0.8500	0.0339	-2.7323	0.0696	-0.3047	0.0622
1	45	0.8497	-0.3312	0.0026	-0.8973	0.0384	-3.2419	0.0787	-0.3956	0.0551
1	45	0.9102	-0.3952	0.0028	-0.9415	0.0433	-3.9001	0.0879	-0.6828	0.0603
1	45	0.9734	-0.4085	0.0026	-0.9705	0.0491	-4.6059	0.1006	-0.6435	0.0611

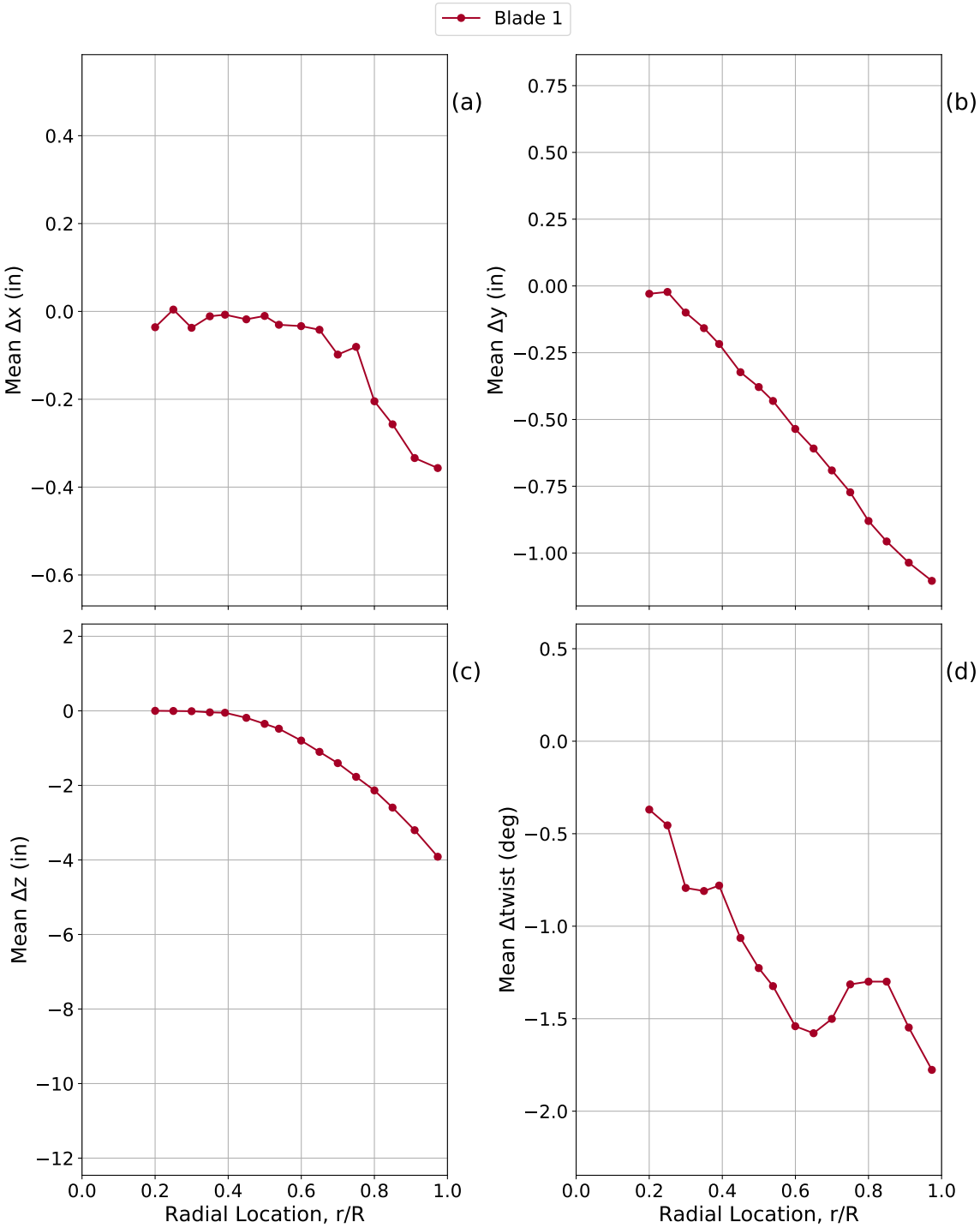


Figure 4.8-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0360	0.0032	-0.0294	0.0018	0.0011	0.0064	-0.3696	0.0346
1	60.12	0.2499	0.0042	0.0013	-0.0225	0.0024	-0.0033	0.0079	-0.4548	0.0917
1	60.12	0.2998	-0.0373	0.0013	-0.0998	0.0063	-0.0096	0.0200	-0.7932	0.0923
1	60.12	0.3498	-0.0111	0.0016	-0.1581	0.0112	-0.0402	0.0344	-0.8097	0.0836
1	60.12	0.3913	-0.0075	0.0019	-0.2175	0.0150	-0.0509	0.0456	-0.7803	0.0870
1	60.12	0.4496	-0.0180	0.0029	-0.3230	0.0208	-0.1872	0.0606	-1.0638	0.0853
1	60.12	0.4997	-0.0103	0.0028	-0.3786	0.0261	-0.3485	0.0730	-1.2265	0.0901
1	60.12	0.5387	-0.0304	0.0029	-0.4307	0.0305	-0.4800	0.0828	-1.3240	0.0924
1	60.12	0.5996	-0.0335	0.0034	-0.5355	0.0364	-0.7974	0.0987	-1.5407	0.0937
1	60.12	0.6498	-0.0418	0.0036	-0.6088	0.0416	-1.1003	0.1102	-1.5786	0.0979
1	60.12	0.6998	-0.0983	0.0039	-0.6908	0.0464	-1.4024	0.1241	-1.5010	0.0827
1	60.12	0.7500	-0.0807	0.0041	-0.7727	0.0526	-1.7706	0.1347	-1.3146	0.0912
1	60.12	0.8001	-0.2046	0.0043	-0.8801	0.0571	-2.1353	0.1533	-1.2995	0.0984
1	60.12	0.8497	-0.2570	0.0044	-0.9568	0.0622	-2.5951	0.1681	-1.2997	0.1018
1	60.12	0.9102	-0.3338	0.0055	-1.0362	0.0680	-3.2021	0.1860	-1.5478	0.1023
1	60.12	0.9734	-0.3566	0.0049	-1.1043	0.0745	-3.9144	0.2105	-1.7767	0.0890

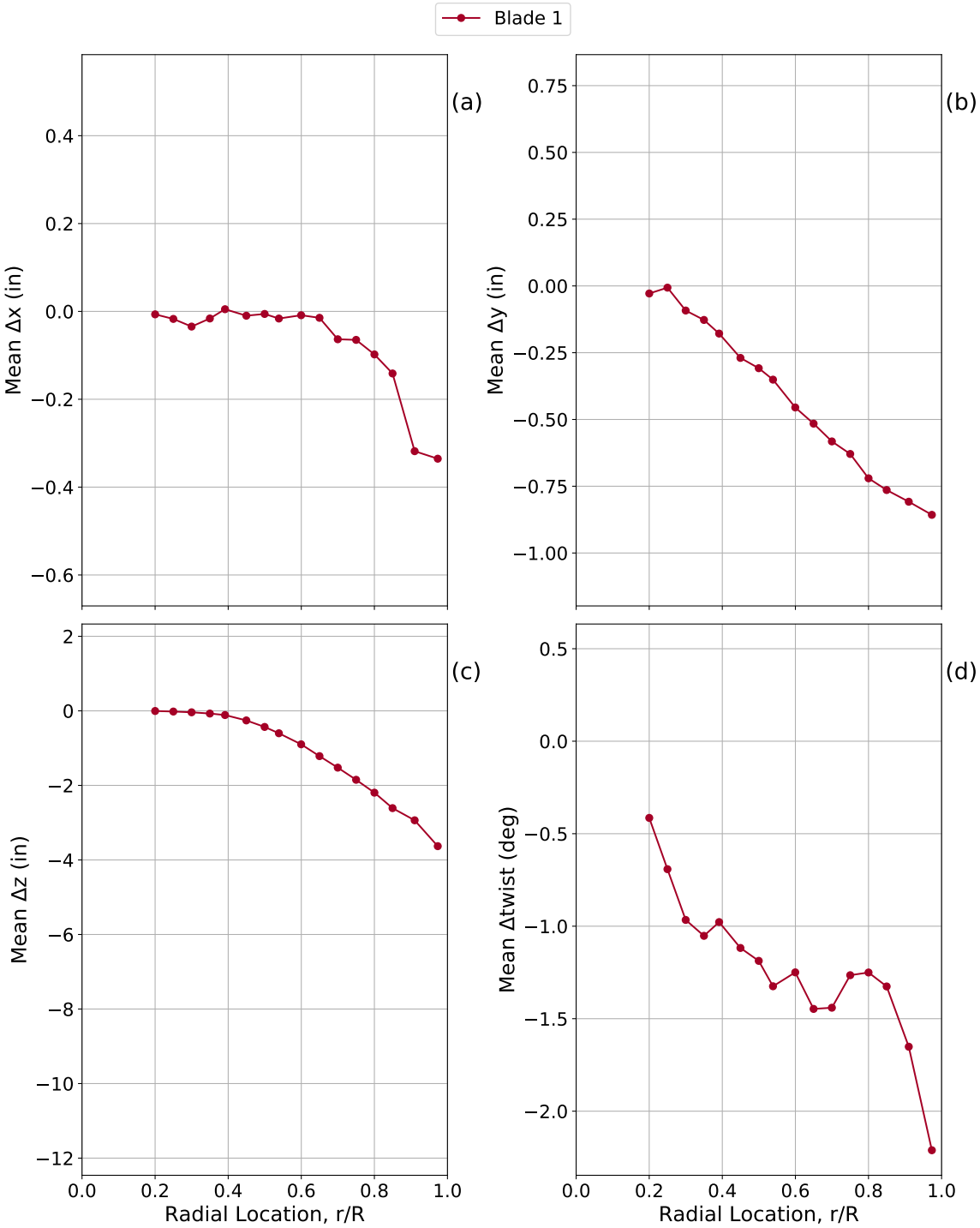


Figure 4.8-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0067	0.0022	-0.0283	0.0016	-0.0038	0.0038	-0.4146	0.0238
1	74.88	0.2499	-0.0171	0.0014	-0.0064	0.0018	-0.0188	0.0050	-0.6918	0.0525
1	74.88	0.2998	-0.0345	0.0016	-0.0921	0.0053	-0.0389	0.0121	-0.9661	0.0578
1	74.88	0.3498	-0.0161	0.0023	-0.1274	0.0085	-0.0722	0.0207	-1.0521	0.0455
1	74.88	0.3913	0.0050	0.0029	-0.1784	0.0117	-0.1126	0.0279	-0.9777	0.0520
1	74.88	0.4496	-0.0098	0.0037	-0.2695	0.0175	-0.2570	0.0377	-1.1177	0.0481
1	74.88	0.4997	-0.0058	0.0051	-0.3081	0.0221	-0.4318	0.0434	-1.1874	0.0649
1	74.88	0.5387	-0.0162	0.0063	-0.3509	0.0262	-0.6015	0.0491	-1.3248	0.0712
1	74.88	0.5996	-0.0087	0.0074	-0.4551	0.0322	-0.8980	0.0576	-1.2496	0.0578
1	74.88	0.6498	-0.0146	0.0088	-0.5156	0.0369	-1.2150	0.0642	-1.4472	0.0656
1	74.88	0.6998	-0.0634	0.0101	-0.5822	0.0421	-1.5238	0.0701	-1.4407	0.0646
1	74.88	0.7500	-0.0648	0.0121	-0.6292	0.0461	-1.8496	0.0749	-1.2649	0.0984
1	74.88	0.8001	-0.0979	0.0172	-0.7203	0.0509	-2.1953	0.0838	-1.2503	0.1672
1	74.88	0.8497	-0.1413	0.0136	-0.7642	0.0594	-2.6100	0.0892	-1.3257	0.0796
1	74.88	0.9102	-0.3182	0.0035	-0.8080	0.0613	-2.9366	0.0939	-1.6515	0.0659
1	74.88	0.9734	-0.3353	0.0039	-0.8571	0.0683	-3.6306	0.1016	-2.2111	0.0670

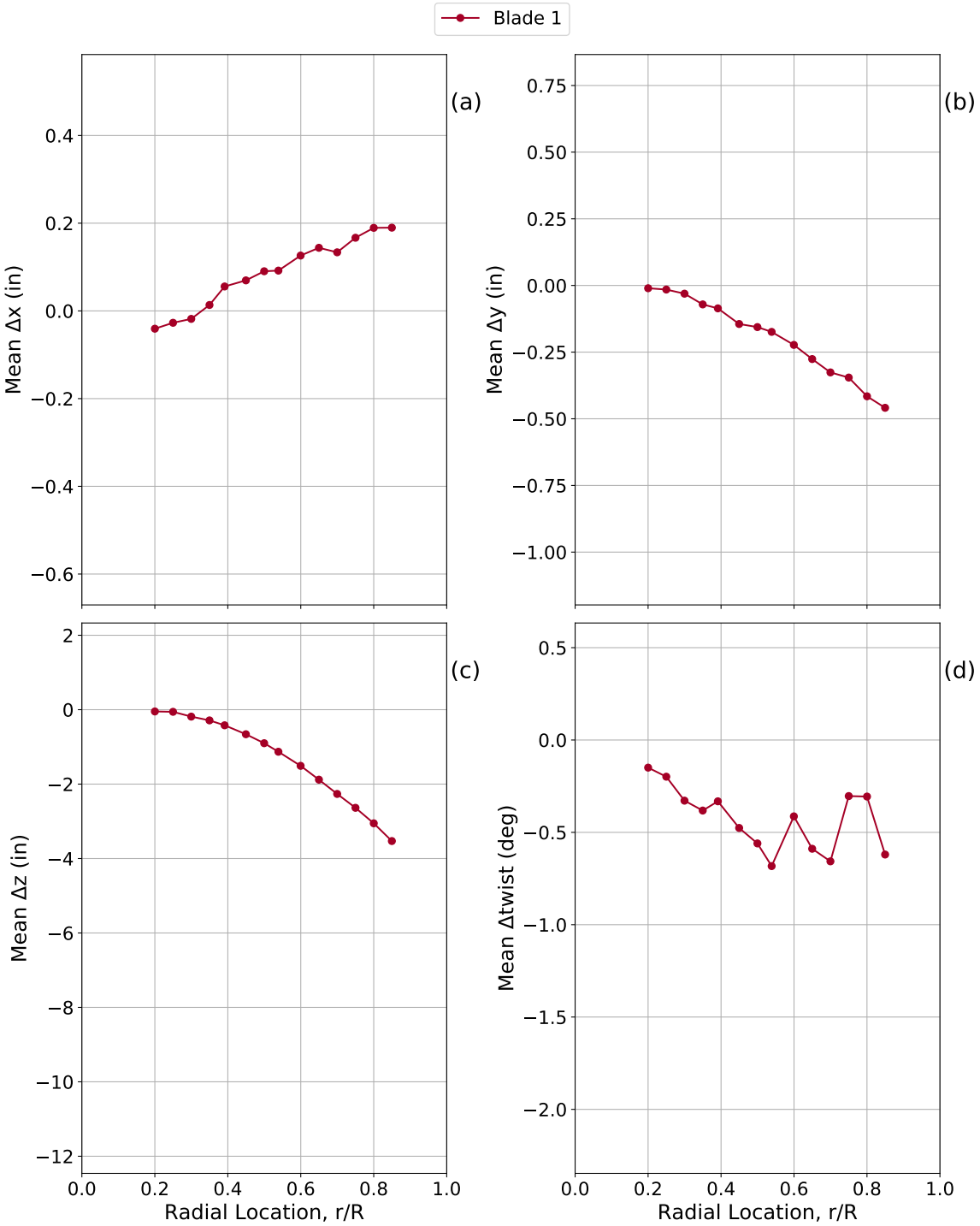


Figure 4.8-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0406	0.0012	-0.0104	0.0006	-0.0473	0.0015	-0.1496	0.0165
1	80.16	0.2499	-0.0271	0.0007	-0.0153	0.0014	-0.0572	0.0040	-0.1987	0.0206
1	80.16	0.2998	-0.0182	0.0006	-0.0308	0.0025	-0.1860	0.0065	-0.3284	0.0325
1	80.16	0.3498	0.0135	0.0013	-0.0711	0.0043	-0.2877	0.0101	-0.3820	0.0232
1	80.16	0.3913	0.0557	0.0012	-0.0859	0.0063	-0.4193	0.0156	-0.3319	0.0330
1	80.16	0.4496	0.0696	0.0015	-0.1445	0.0082	-0.6596	0.0205	-0.4762	0.0330
1	80.16	0.4997	0.0904	0.0020	-0.1561	0.0106	-0.9009	0.0260	-0.5600	0.0322
1	80.16	0.5387	0.0919	0.0023	-0.1741	0.0122	-1.1302	0.0293	-0.6827	0.0464
1	80.16	0.5996	0.1262	0.0023	-0.2229	0.0159	-1.5087	0.0403	-0.4134	0.0305
1	80.16	0.6498	0.1439	0.0020	-0.2760	0.0185	-1.8807	0.0461	-0.5889	0.0439
1	80.16	0.6998	0.1336	0.0046	-0.3261	0.0219	-2.2639	0.0570	-0.6570	0.0582
1	80.16	0.7500	0.1668	0.0042	-0.3454	0.0263	-2.6368	0.0588	-0.3036	0.0831
1	80.16	0.8001	0.1894	0.0050	-0.4157	0.0273	-3.0538	0.0735	-0.3062	0.1161
1	80.16	0.8497	0.1898	0.0062	-0.4588	0.0339	-3.5297	0.0679	-0.6201	0.1207

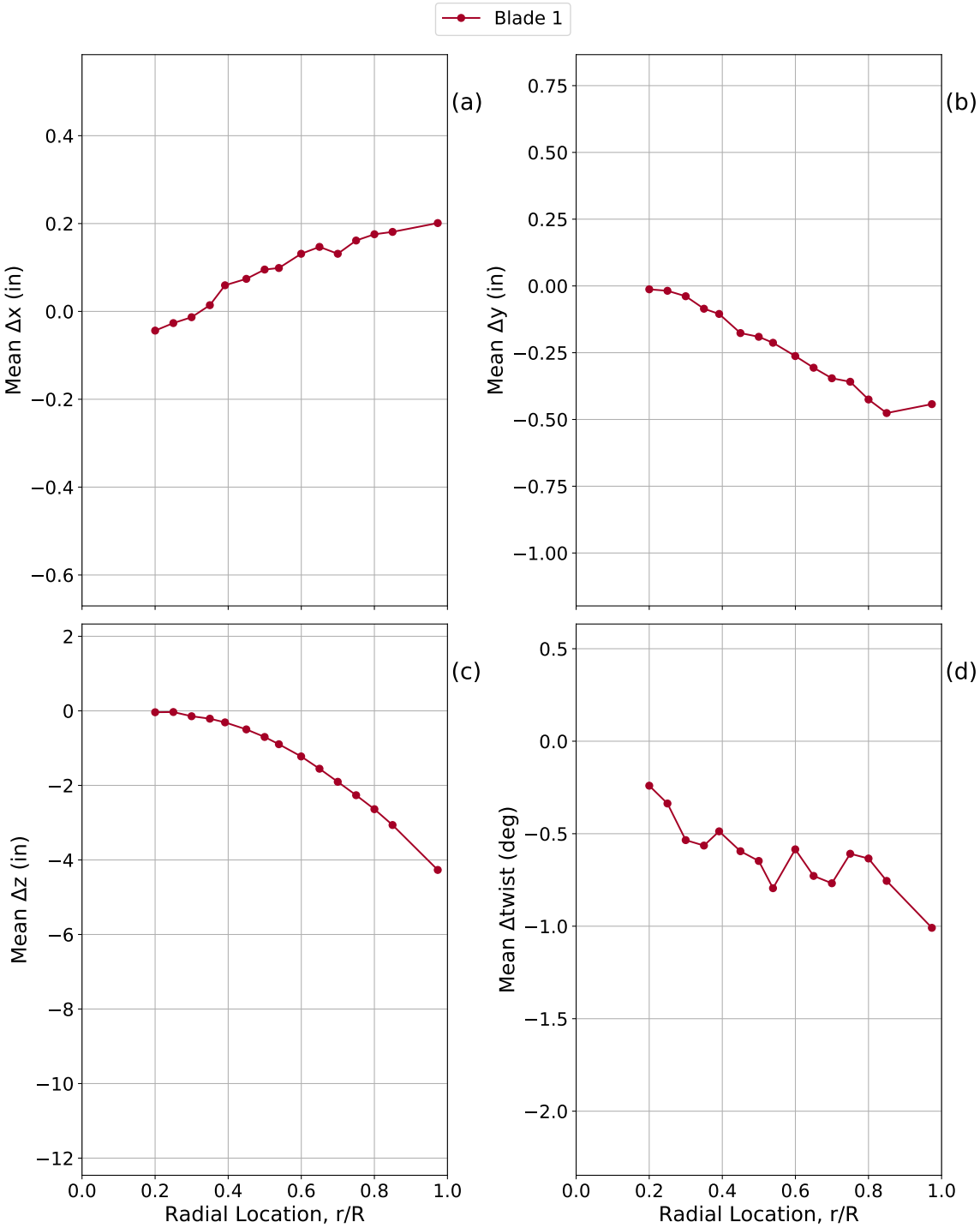


Figure 4.8-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0437	0.0009	-0.0127	0.0004	-0.0375	0.0012	-0.2404	0.0200
1	85.08	0.2499	-0.0266	0.0009	-0.0182	0.0009	-0.0320	0.0036	-0.3367	0.0183
1	85.08	0.2998	-0.0132	0.0008	-0.0386	0.0016	-0.1447	0.0057	-0.5346	0.0394
1	85.08	0.3498	0.0142	0.0009	-0.0854	0.0028	-0.2101	0.0089	-0.5641	0.0205
1	85.08	0.3913	0.0595	0.0011	-0.1049	0.0038	-0.3095	0.0136	-0.4872	0.0288
1	85.08	0.4496	0.0741	0.0013	-0.1765	0.0051	-0.4977	0.0171	-0.5947	0.0365
1	85.08	0.4997	0.0953	0.0019	-0.1905	0.0065	-0.7009	0.0194	-0.6473	0.0358
1	85.08	0.5387	0.0988	0.0024	-0.2128	0.0078	-0.8957	0.0218	-0.7946	0.0297
1	85.08	0.5996	0.1312	0.0023	-0.2626	0.0091	-1.2231	0.0247	-0.5845	0.0307
1	85.08	0.6498	0.1469	0.0034	-0.3063	0.0113	-1.5532	0.0264	-0.7282	0.0579
1	85.08	0.6998	0.1312	0.0028	-0.3458	0.0132	-1.9039	0.0262	-0.7679	0.0449
1	85.08	0.7500	0.1614	0.0032	-0.3588	0.0154	-2.2632	0.0297	-0.6083	0.0676
1	85.08	0.8001	0.1756	0.0047	-0.4252	0.0170	-2.6386	0.0351	-0.6341	0.0772
1	85.08	0.8497	0.1810	0.0033	-0.4760	0.0206	-3.0631	0.0318	-0.7551	0.0552
1	85.08	0.9734	0.2011	0.0149	-0.4426	0.0290	-4.2682	0.0691	-1.0087	0.3517

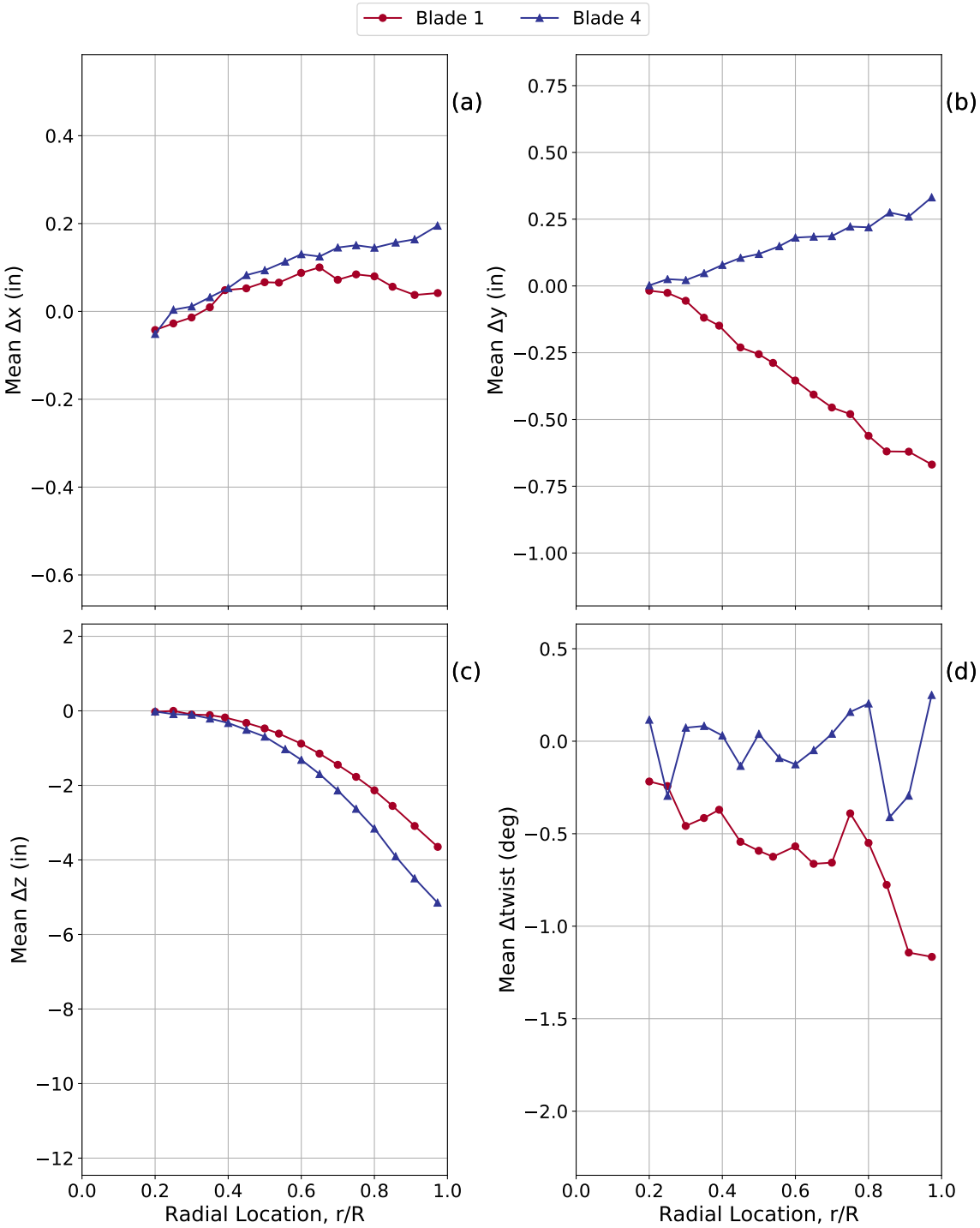


Figure 4.8-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0424	0.0018	-0.0177	0.0005	-0.0257	0.0012	-0.2179	0.0134
1	90	0.2499	-0.0274	0.0009	-0.0259	0.0010	-0.0010	0.0024	-0.2424	0.0267
1	90	0.2998	-0.0138	0.0007	-0.0556	0.0026	-0.0972	0.0057	-0.4582	0.0320
1	90	0.3498	0.0094	0.0019	-0.1189	0.0033	-0.1151	0.0075	-0.4152	0.0279
1	90	0.3913	0.0484	0.0021	-0.1488	0.0055	-0.1787	0.0123	-0.3705	0.0234
1	90	0.4496	0.0525	0.0027	-0.2303	0.0072	-0.3241	0.0175	-0.5438	0.0252
1	90	0.4997	0.0664	0.0035	-0.2557	0.0091	-0.4719	0.0241	-0.5924	0.0232
1	90	0.5387	0.0655	0.0032	-0.2882	0.0110	-0.6113	0.0285	-0.6245	0.0363
1	90	0.5996	0.0877	0.0033	-0.3542	0.0135	-0.8802	0.0357	-0.5686	0.0246
1	90	0.6498	0.1002	0.0038	-0.4068	0.0155	-1.1477	0.0414	-0.6628	0.0365
1	90	0.6998	0.0720	0.0037	-0.4552	0.0182	-1.4479	0.0481	-0.6565	0.0404
1	90	0.7500	0.0843	0.0064	-0.4800	0.0257	-1.7709	0.0566	-0.3901	0.2644
1	90	0.8001	0.0798	0.0024	-0.5612	0.0233	-2.1335	0.0622	-0.5498	0.0609
1	90	0.8497	0.0562	0.0032	-0.6196	0.0263	-2.5514	0.0675	-0.7765	0.0346
1	90	0.9102	0.0374	0.0106	-0.6206	0.0282	-3.0889	0.0809	-1.1426	0.2497
1	90	0.9734	0.0418	0.0062	-0.6689	0.0303	-3.6496	0.0953	-1.1657	0.1586
4	90.35	0.2001	-0.0513	0.0009	0.0020	0.0003	-0.0190	0.0012	0.1161	0.0102
4	90.35	0.2502	0.0038	0.0007	0.0255	0.0009	-0.0869	0.0036	-0.2954	0.0242
4	90.35	0.3001	0.0112	0.0010	0.0217	0.0015	-0.1048	0.0056	0.0730	0.0253
4	90.35	0.3502	0.0323	0.0007	0.0480	0.0022	-0.2069	0.0091	0.0823	0.0262
4	90.35	0.4002	0.0531	0.0011	0.0785	0.0036	-0.3267	0.0151	0.0305	0.0254
4	90.35	0.4500	0.0826	0.0012	0.1052	0.0046	-0.5077	0.0199	-0.1335	0.0285
4	90.35	0.5001	0.0936	0.0012	0.1196	0.0060	-0.6925	0.0258	0.0391	0.0240
4	90.35	0.5560	0.1133	0.0011	0.1487	0.0073	-1.0293	0.0310	-0.0907	0.0337
4	90.35	0.6001	0.1302	0.0012	0.1809	0.0085	-1.3148	0.0342	-0.1252	0.0253
4	90.35	0.6501	0.1250	0.0023	0.1844	0.0109	-1.6971	0.0393	-0.0485	0.0445
4	90.35	0.6999	0.1454	0.0013	0.1865	0.0120	-2.1369	0.0419	0.0402	0.0456
4	90.35	0.7500	0.1506	0.0023	0.2221	0.0145	-2.6282	0.0454	0.1581	0.0401
4	90.35	0.8002	0.1450	0.0028	0.2195	0.0167	-3.1585	0.0495	0.2038	0.0449
4	90.35	0.8582	0.1567	0.0026	0.2750	0.0192	-3.9062	0.0549	-0.4101	0.0751
4	90.35	0.9101	0.1640	0.0101	0.2595	0.0234	-4.4949	0.0564	-0.2944	0.0813
4	90.35	0.9728	0.1951	0.0043	0.3315	0.0242	-5.1468	0.0560	0.2498	0.0936

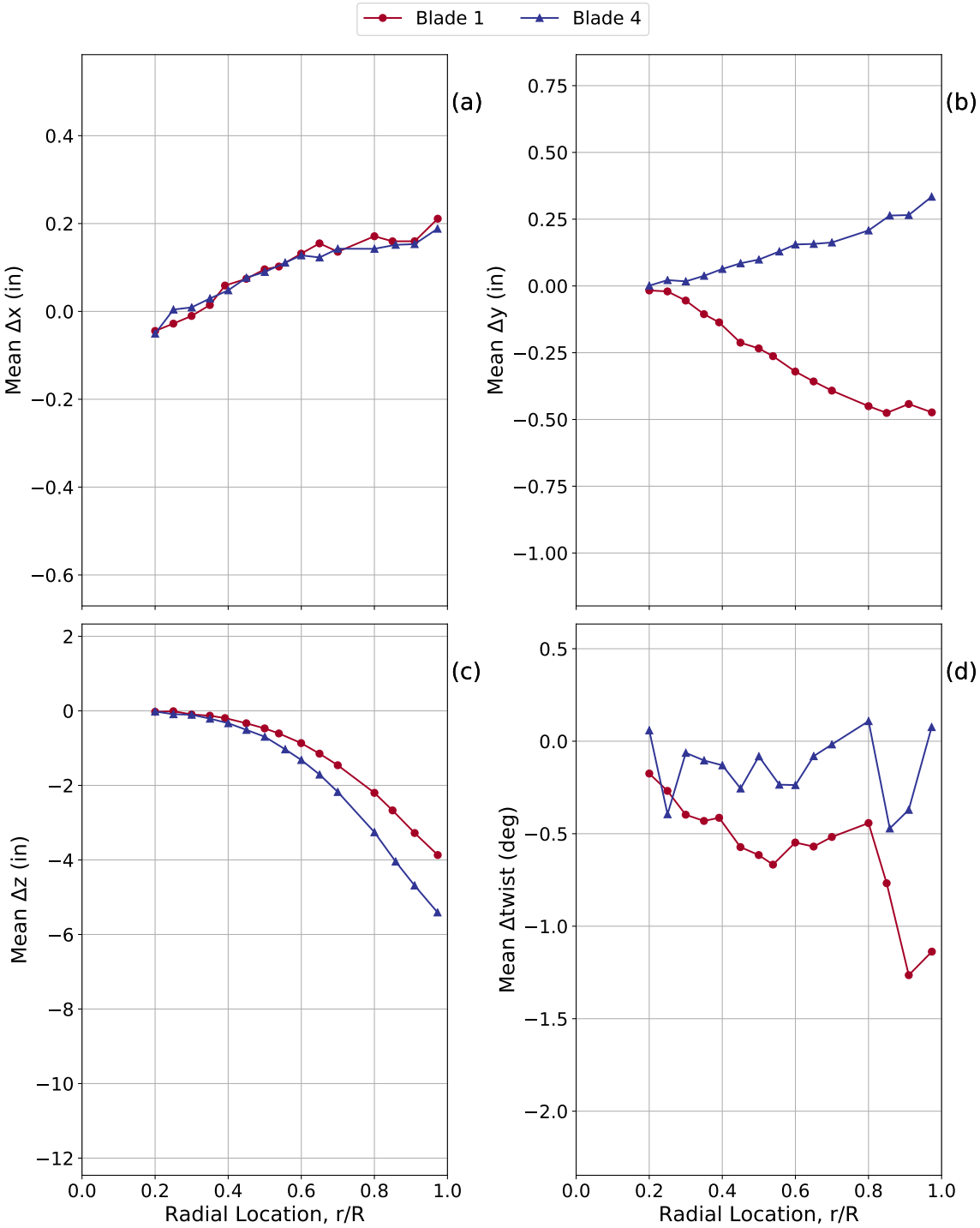


Figure 4.8-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0445	0.0010	-0.0169	0.0004	-0.0259	0.0015	-0.1747	0.0129
1	94.92	0.2499	-0.0278	0.0008	-0.0206	0.0011	-0.0103	0.0027	-0.2685	0.0229
1	94.92	0.2998	-0.0103	0.0008	-0.0548	0.0019	-0.0967	0.0056	-0.3973	0.0286
1	94.92	0.3498	0.0145	0.0010	-0.1057	0.0031	-0.1307	0.0090	-0.4310	0.0252
1	94.92	0.3913	0.0589	0.0011	-0.1364	0.0047	-0.1937	0.0130	-0.4139	0.0271
1	94.92	0.4496	0.0742	0.0013	-0.2124	0.0062	-0.3335	0.0167	-0.5723	0.0184
1	94.92	0.4997	0.0958	0.0015	-0.2339	0.0078	-0.4708	0.0188	-0.6153	0.0298
1	94.92	0.5387	0.1022	0.0015	-0.2630	0.0097	-0.6062	0.0216	-0.6672	0.0273
1	94.92	0.5996	0.1315	0.0017	-0.3206	0.0129	-0.8656	0.0250	-0.5477	0.0321
1	94.92	0.6498	0.1549	0.0017	-0.3576	0.0162	-1.1483	0.0287	-0.5696	0.0397
1	94.92	0.6998	0.1358	0.0026	-0.3920	0.0191	-1.4590	0.0324	-0.5176	0.0456
1	94.92	0.8001	0.1711	0.0028	-0.4502	0.0268	-2.2000	0.0448	-0.4425	0.0436
1	94.92	0.8497	0.1596	0.0023	-0.4755	0.0304	-2.6703	0.0516	-0.7677	0.0373
1	94.92	0.9102	0.1597	0.0038	-0.4421	0.0341	-3.2778	0.0642	-1.2646	0.1079
1	94.92	0.9734	0.2110	0.0050	-0.4735	0.0397	-3.8675	0.0750	-1.1376	0.0754
4	94.92	0.2001	-0.0506	0.0006	0.0010	0.0004	-0.0181	0.0009	0.0587	0.0127
4	94.92	0.2502	0.0042	0.0006	0.0218	0.0011	-0.0903	0.0021	-0.3947	0.0182
4	94.92	0.3001	0.0092	0.0007	0.0171	0.0017	-0.1046	0.0039	-0.0629	0.0274
4	94.92	0.3502	0.0295	0.0006	0.0379	0.0030	-0.2097	0.0060	-0.1042	0.0319
4	94.92	0.4002	0.0481	0.0011	0.0636	0.0047	-0.3321	0.0096	-0.1303	0.0290
4	94.92	0.4500	0.0767	0.0011	0.0848	0.0059	-0.5106	0.0118	-0.2555	0.0266
4	94.92	0.5001	0.0898	0.0011	0.0987	0.0078	-0.6952	0.0156	-0.0819	0.0294
4	94.92	0.5560	0.1110	0.0010	0.1290	0.0100	-1.0330	0.0196	-0.2350	0.0240
4	94.92	0.6001	0.1276	0.0014	0.1553	0.0118	-1.3189	0.0230	-0.2371	0.0244
4	94.92	0.6501	0.1228	0.0016	0.1573	0.0140	-1.7100	0.0275	-0.0808	0.0433
4	94.92	0.6999	0.1427	0.0015	0.1627	0.0169	-2.1761	0.0326	-0.0173	0.0344
4	94.92	0.8002	0.1425	0.0023	0.2077	0.0223	-3.2576	0.0412	0.1086	0.0483
4	94.92	0.8582	0.1516	0.0033	0.2635	0.0253	-4.0438	0.0494	-0.4716	0.0447
4	94.92	0.9101	0.1532	0.0026	0.2652	0.0290	-4.6869	0.0571	-0.3709	0.0478
4	94.92	0.9728	0.1882	0.0035	0.3340	0.0327	-5.4072	0.0689	0.0764	0.0637

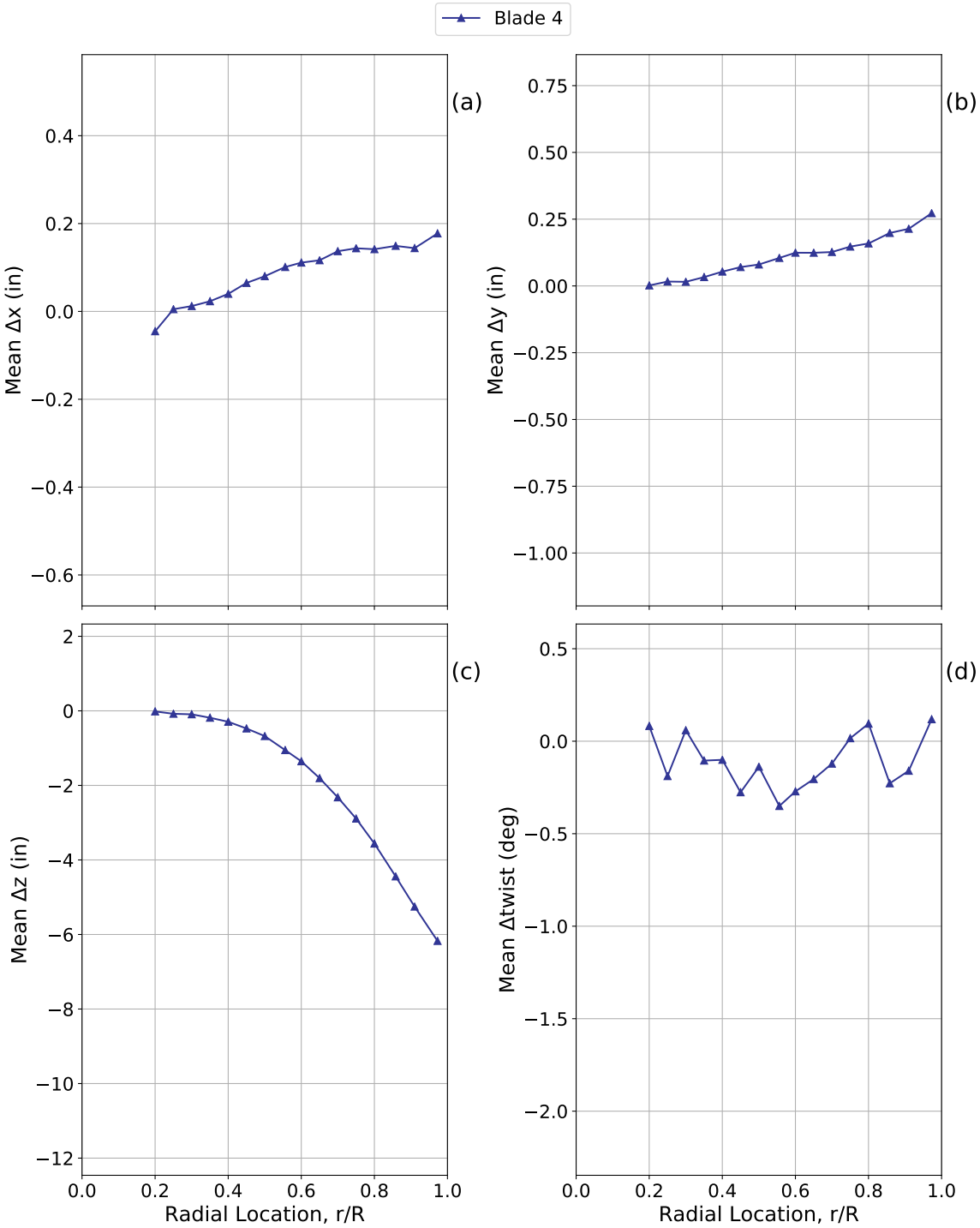


Figure 4.8-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0452	0.0005	0.0018	0.0004	-0.0164	0.0013	0.0822	0.0090
4	105.12	0.2502	0.0050	0.0007	0.0164	0.0006	-0.0788	0.0028	-0.1887	0.0168
4	105.12	0.3001	0.0121	0.0008	0.0154	0.0018	-0.0932	0.0065	0.0593	0.0200
4	105.12	0.3502	0.0231	0.0004	0.0330	0.0020	-0.1853	0.0087	-0.1048	0.0199
4	105.12	0.4002	0.0400	0.0011	0.0535	0.0035	-0.2934	0.0152	-0.1007	0.0250
4	105.12	0.4500	0.0648	0.0010	0.0705	0.0049	-0.4733	0.0213	-0.2761	0.0142
4	105.12	0.5001	0.0801	0.0011	0.0802	0.0068	-0.6779	0.0279	-0.1381	0.0198
4	105.12	0.5560	0.1010	0.0008	0.1047	0.0088	-1.0541	0.0366	-0.3504	0.0243
4	105.12	0.6001	0.1111	0.0010	0.1243	0.0101	-1.3538	0.0399	-0.2712	0.0238
4	105.12	0.6501	0.1164	0.0009	0.1241	0.0118	-1.8069	0.0449	-0.2047	0.0226
4	105.12	0.6999	0.1370	0.0013	0.1269	0.0138	-2.3211	0.0498	-0.1214	0.0183
4	105.12	0.7500	0.1437	0.0013	0.1472	0.0158	-2.8909	0.0525	0.0160	0.0210
4	105.12	0.8002	0.1416	0.0020	0.1590	0.0178	-3.5622	0.0578	0.0947	0.0181
4	105.12	0.8582	0.1492	0.0019	0.1982	0.0204	-4.4424	0.0637	-0.2277	0.0278
4	105.12	0.9101	0.1440	0.0021	0.2139	0.0222	-5.2528	0.0717	-0.1600	0.0248
4	105.12	0.9728	0.1775	0.0022	0.2723	0.0251	-6.1741	0.0818	0.1187	0.0373

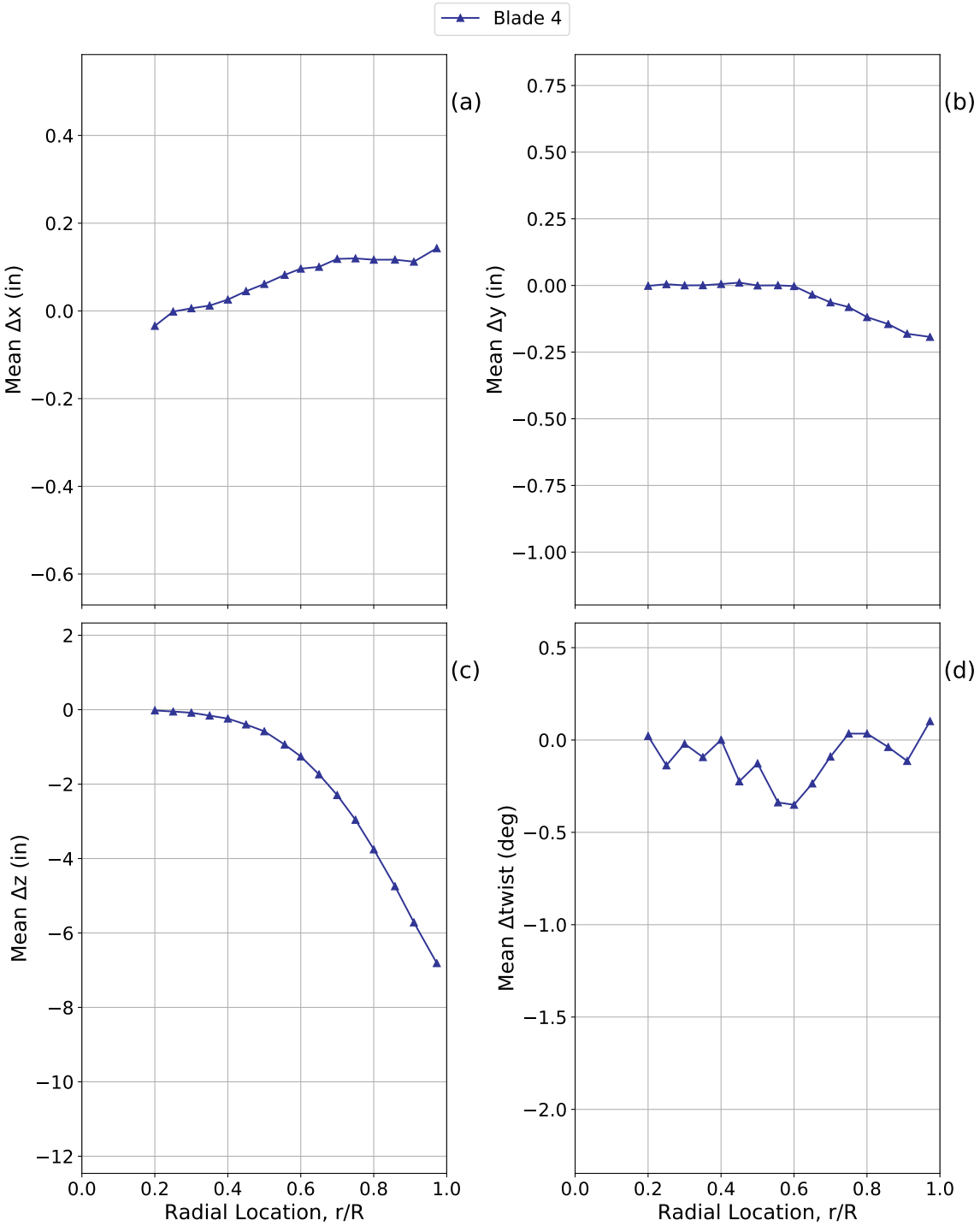


Figure 4.8-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0342	0.0005	-0.0015	0.0005	-0.0196	0.0012	0.0213	0.0101
4	119.88	0.2502	-0.0016	0.0007	0.0047	0.0007	-0.0503	0.0022	-0.1375	0.0115
4	119.88	0.3001	0.0059	0.0007	0.0004	0.0016	-0.0815	0.0041	-0.0207	0.0197
4	119.88	0.3502	0.0121	0.0005	0.0007	0.0028	-0.1597	0.0077	-0.0928	0.0172
4	119.88	0.4002	0.0258	0.0007	0.0053	0.0039	-0.2396	0.0110	0.0010	0.0178
4	119.88	0.4500	0.0449	0.0010	0.0106	0.0052	-0.3984	0.0145	-0.2241	0.0197
4	119.88	0.5001	0.0613	0.0013	-0.0001	0.0069	-0.5804	0.0181	-0.1270	0.0288
4	119.88	0.5560	0.0821	0.0009	0.0006	0.0095	-0.9384	0.0244	-0.3380	0.0380
4	119.88	0.6001	0.0963	0.0009	-0.0025	0.0115	-1.2571	0.0281	-0.3509	0.0187
4	119.88	0.6501	0.1004	0.0009	-0.0345	0.0141	-1.7390	0.0342	-0.2355	0.0235
4	119.88	0.6999	0.1186	0.0014	-0.0634	0.0165	-2.2959	0.0383	-0.0900	0.0187
4	119.88	0.7500	0.1197	0.0016	-0.0811	0.0198	-2.9604	0.0452	0.0346	0.0339
4	119.88	0.8002	0.1167	0.0017	-0.1188	0.0227	-3.7549	0.0490	0.0346	0.0296
4	119.88	0.8582	0.1168	0.0022	-0.1448	0.0272	-4.7450	0.0553	-0.0382	0.0231
4	119.88	0.9101	0.1122	0.0027	-0.1812	0.0305	-5.7174	0.0621	-0.1136	0.0234
4	119.88	0.9728	0.1429	0.0027	-0.1930	0.0348	-6.8110	0.0714	0.1018	0.0306

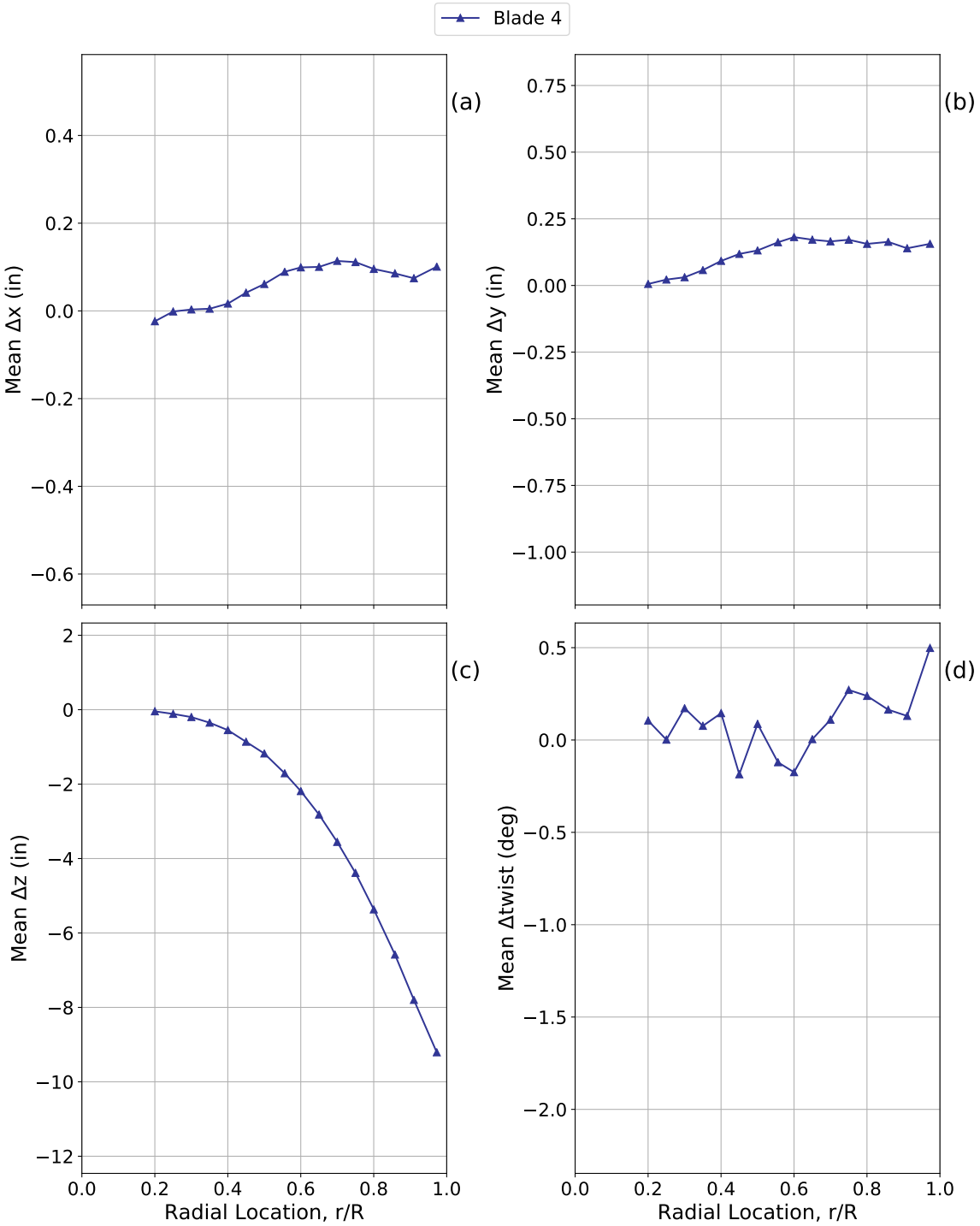


Figure 4.8-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0237	0.0007	0.0056	0.0006	-0.0441	0.0009	0.1051	0.0098
4	135	0.2502	-0.0014	0.0011	0.0220	0.0007	-0.1137	0.0016	0.0016	0.0227
4	135	0.3001	0.0032	0.0007	0.0307	0.0019	-0.1990	0.0032	0.1720	0.0237
4	135	0.3502	0.0049	0.0005	0.0577	0.0032	-0.3496	0.0044	0.0765	0.0213
4	135	0.4002	0.0166	0.0006	0.0920	0.0047	-0.5500	0.0072	0.1452	0.0188
4	135	0.4500	0.0415	0.0014	0.1182	0.0062	-0.8625	0.0078	-0.1859	0.0282
4	135	0.5001	0.0612	0.0010	0.1314	0.0075	-1.1773	0.0122	0.0870	0.0192
4	135	0.5560	0.0892	0.0010	0.1619	0.0085	-1.7096	0.0133	-0.1207	0.0310
4	135	0.6001	0.0992	0.0011	0.1813	0.0108	-2.1887	0.0179	-0.1744	0.0210
4	135	0.6501	0.1003	0.0014	0.1716	0.0123	-2.8193	0.0221	0.0043	0.0191
4	135	0.6999	0.1139	0.0019	0.1652	0.0141	-3.5547	0.0273	0.1097	0.0245
4	135	0.7500	0.1112	0.0018	0.1714	0.0162	-4.3881	0.0335	0.2710	0.0248
4	135	0.8002	0.0956	0.0020	0.1559	0.0186	-5.3688	0.0405	0.2386	0.0217
4	135	0.8582	0.0854	0.0024	0.1635	0.0219	-6.5821	0.0483	0.1642	0.0199
4	135	0.9101	0.0744	0.0026	0.1394	0.0244	-7.7992	0.0543	0.1302	0.0205
4	135	0.9728	0.1008	0.0030	0.1561	0.0280	-9.2084	0.0597	0.4981	0.0132

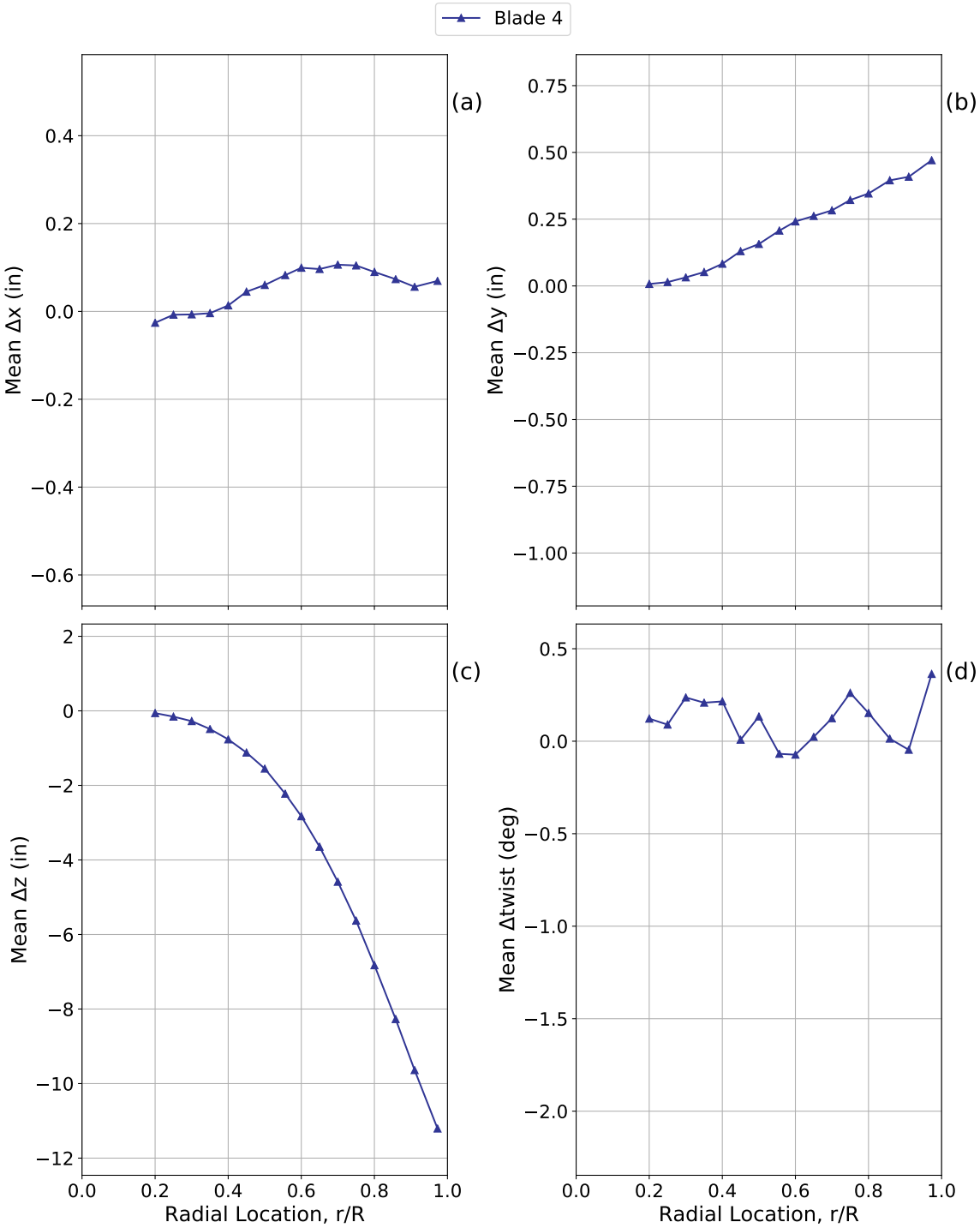


Figure 4.8-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0259	0.0011	0.0072	0.0004	-0.0614	0.0008	0.1219	0.0148
4	150.12	0.2502	-0.0076	0.0008	0.0142	0.0015	-0.1555	0.0021	0.0896	0.0172
4	150.12	0.3001	-0.0069	0.0012	0.0320	0.0018	-0.2764	0.0028	0.2364	0.0306
4	150.12	0.3502	-0.0041	0.0007	0.0518	0.0035	-0.4885	0.0048	0.2082	0.0180
4	150.12	0.4002	0.0136	0.0008	0.0829	0.0053	-0.7659	0.0068	0.2151	0.0232
4	150.12	0.4500	0.0448	0.0010	0.1300	0.0065	-1.1207	0.0092	0.0079	0.0186
4	150.12	0.5001	0.0601	0.0009	0.1570	0.0077	-1.5505	0.0114	0.1333	0.0228
4	150.12	0.5560	0.0825	0.0010	0.2070	0.0084	-2.2247	0.0149	-0.0682	0.0226
4	150.12	0.6001	0.0993	0.0011	0.2414	0.0103	-2.8291	0.0178	-0.0729	0.0250
4	150.12	0.6501	0.0964	0.0013	0.2619	0.0113	-3.6480	0.0217	0.0234	0.0302
4	150.12	0.6999	0.1063	0.0017	0.2828	0.0126	-4.5869	0.0258	0.1240	0.0285
4	150.12	0.7500	0.1045	0.0030	0.3217	0.0145	-5.6304	0.0305	0.2611	0.0231
4	150.12	0.8002	0.0897	0.0020	0.3460	0.0165	-6.8255	0.0359	0.1523	0.0246
4	150.12	0.8582	0.0734	0.0020	0.3953	0.0192	-8.2705	0.0414	0.0138	0.0243
4	150.12	0.9101	0.0560	0.0026	0.4086	0.0213	-9.6397	0.0472	-0.0464	0.0232
4	150.12	0.9728	0.0694	0.0032	0.4705	0.0242	-11.2074	0.0530	0.3634	0.0183

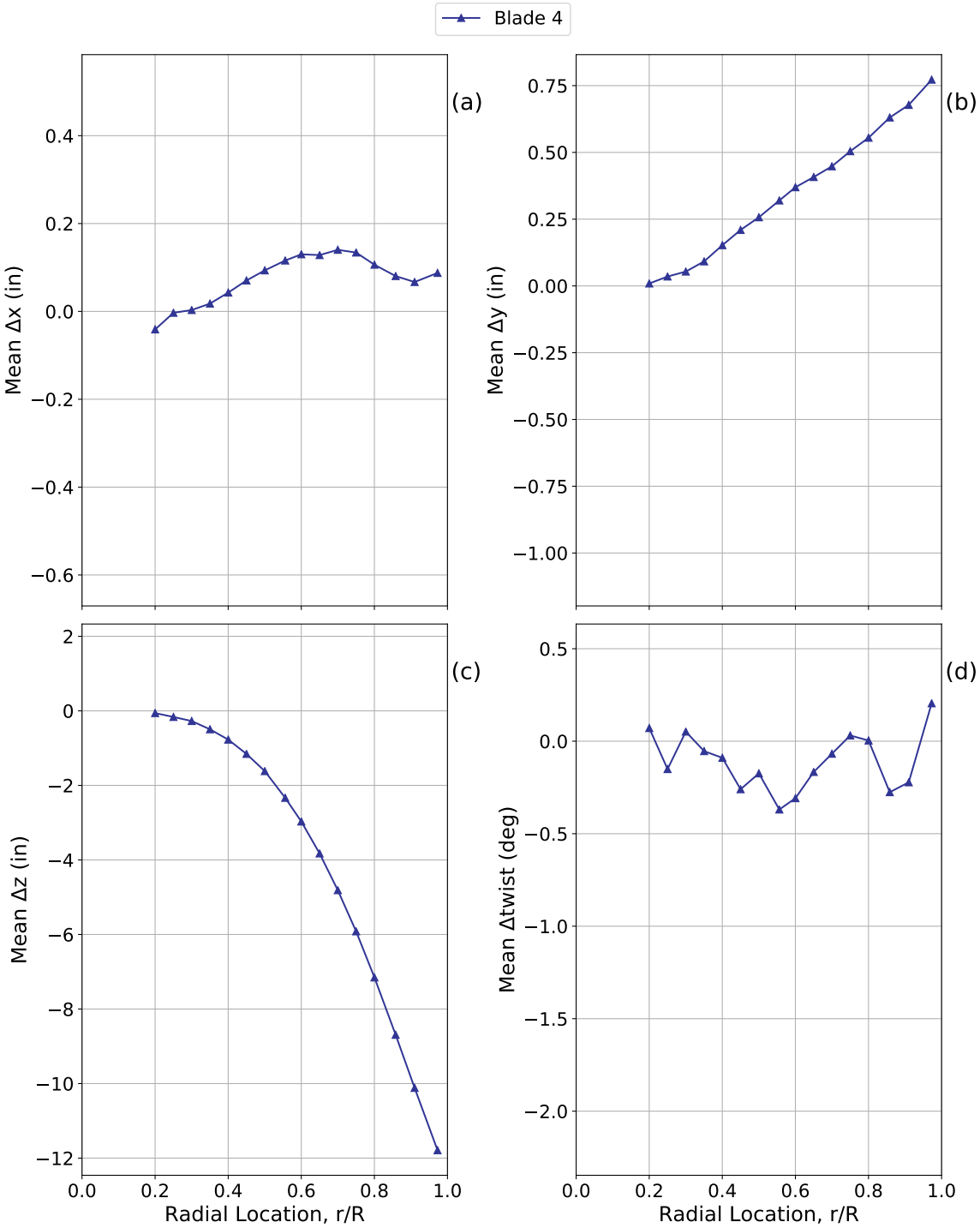


Figure 4.8-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0410	0.0006	0.0091	0.0006	-0.0609	0.0013	0.0709	0.0073
4	164.88	0.2502	-0.0032	0.0009	0.0352	0.0016	-0.1640	0.0020	-0.1508	0.0145
4	164.88	0.3001	0.0031	0.0008	0.0537	0.0031	-0.2740	0.0041	0.0518	0.0158
4	164.88	0.3502	0.0178	0.0008	0.0918	0.0043	-0.4956	0.0073	-0.0537	0.0143
4	164.88	0.4002	0.0429	0.0008	0.1525	0.0076	-0.7726	0.0106	-0.0900	0.0156
4	164.88	0.4500	0.0704	0.0008	0.2095	0.0101	-1.1552	0.0141	-0.2597	0.0181
4	164.88	0.5001	0.0934	0.0010	0.2570	0.0097	-1.6174	0.0159	-0.1740	0.0161
4	164.88	0.5560	0.1158	0.0013	0.3199	0.0139	-2.3347	0.0181	-0.3693	0.0311
4	164.88	0.6001	0.1300	0.0012	0.3695	0.0146	-2.9698	0.0216	-0.3081	0.0265
4	164.88	0.6501	0.1282	0.0011	0.4077	0.0175	-3.8264	0.0235	-0.1663	0.0274
4	164.88	0.6999	0.1402	0.0015	0.4478	0.0199	-4.8119	0.0232	-0.0678	0.0316
4	164.88	0.7500	0.1340	0.0018	0.5043	0.0219	-5.9165	0.0267	0.0310	0.0279
4	164.88	0.8002	0.1063	0.0035	0.5548	0.0248	-7.1532	0.0275	0.0038	0.0451
4	164.88	0.8582	0.0804	0.0076	0.6306	0.0253	-8.6921	0.0315	-0.2756	0.1028
4	164.88	0.9101	0.0669	0.0082	0.6777	0.0294	-10.1163	0.0334	-0.2223	0.0608
4	164.88	0.9728	0.0876	0.0142	0.7722	0.0344	-11.7883	0.0613	0.2048	0.1786

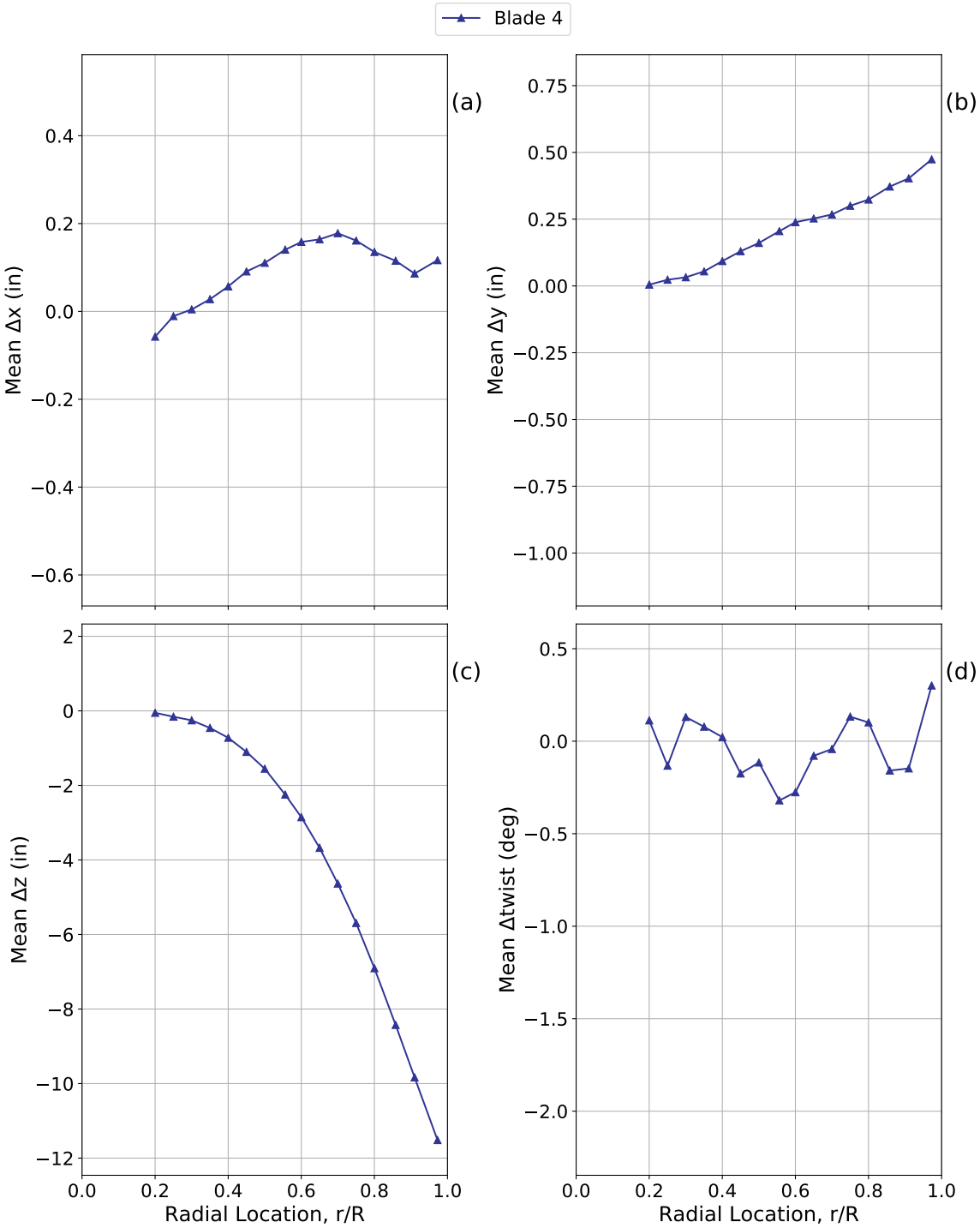


Figure 4.8-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0576	0.0008	0.0047	0.0005	-0.0541	0.0013	0.1125	0.0123
4	170.16	0.2502	-0.0108	0.0008	0.0231	0.0020	-0.1578	0.0039	-0.1326	0.0153
4	170.16	0.3001	0.0045	0.0003	0.0323	0.0025	-0.2552	0.0067	0.1307	0.0256
4	170.16	0.3502	0.0277	0.0009	0.0545	0.0049	-0.4593	0.0102	0.0780	0.0307
4	170.16	0.4002	0.0569	0.0014	0.0930	0.0078	-0.7236	0.0173	0.0219	0.0276
4	170.16	0.4500	0.0909	0.0014	0.1298	0.0097	-1.1028	0.0231	-0.1747	0.0466
4	170.16	0.5001	0.1105	0.0022	0.1608	0.0112	-1.5539	0.0276	-0.1153	0.0308
4	170.16	0.5560	0.1404	0.0017	0.2050	0.0122	-2.2485	0.0326	-0.3202	0.0280
4	170.16	0.6001	0.1581	0.0016	0.2386	0.0156	-2.8541	0.0397	-0.2760	0.0463
4	170.16	0.6501	0.1640	0.0012	0.2524	0.0188	-3.6771	0.0439	-0.0789	0.0357
4	170.16	0.6999	0.1779	0.0020	0.2674	0.0220	-4.6356	0.0508	-0.0426	0.0375
4	170.16	0.7500	0.1612	0.0015	0.3001	0.0247	-5.6929	0.0554	0.1325	0.0501
4	170.16	0.8002	0.1352	0.0043	0.3232	0.0283	-6.9074	0.0646	0.1014	0.0573
4	170.16	0.8582	0.1152	0.0053	0.3719	0.0326	-8.4281	0.0780	-0.1587	0.0445
4	170.16	0.9101	0.0861	0.0067	0.4027	0.0375	-9.8350	0.0942	-0.1473	0.0855
4	170.16	0.9728	0.1165	0.0078	0.4738	0.0425	-11.5170	0.1198	0.3008	0.1460

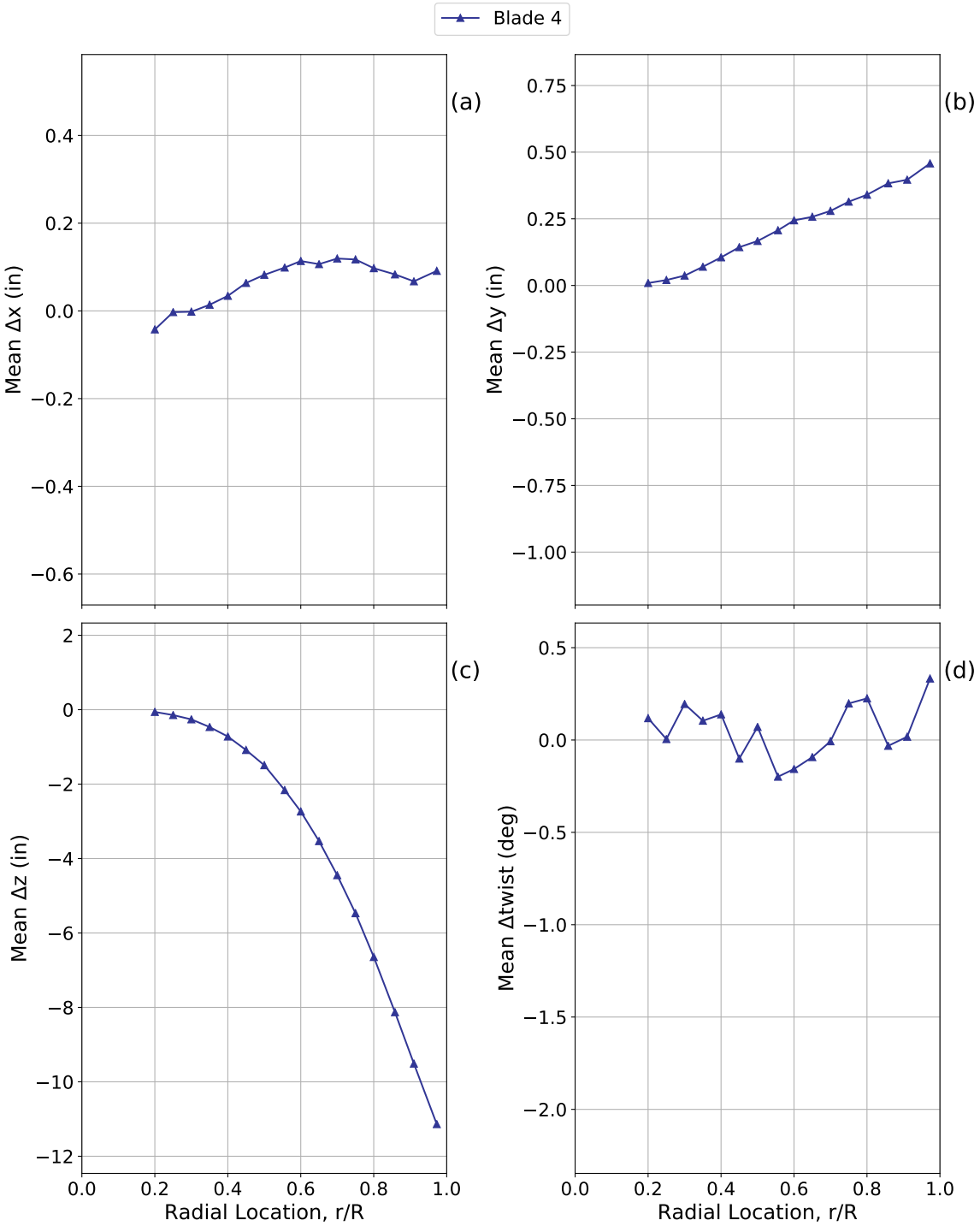


Figure 4.8-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0423	0.0024	0.0091	0.0012	-0.0607	0.0016	0.1179	0.0147
4	175.08	0.2502	-0.0028	0.0015	0.0203	0.0021	-0.1449	0.0026	0.0048	0.0288
4	175.08	0.3001	-0.0019	0.0010	0.0369	0.0041	-0.2607	0.0048	0.1948	0.0339
4	175.08	0.3502	0.0140	0.0027	0.0701	0.0077	-0.4665	0.0089	0.1042	0.0344
4	175.08	0.4002	0.0343	0.0050	0.1054	0.0111	-0.7222	0.0125	0.1385	0.0337
4	175.08	0.4500	0.0637	0.0069	0.1435	0.0150	-1.0837	0.0162	-0.1009	0.0257
4	175.08	0.5001	0.0822	0.0089	0.1667	0.0190	-1.4930	0.0177	0.0708	0.0339
4	175.08	0.5560	0.0988	0.0119	0.2069	0.0249	-2.1618	0.0219	-0.1990	0.0287
4	175.08	0.6001	0.1137	0.0151	0.2442	0.0288	-2.7372	0.0227	-0.1570	0.0314
4	175.08	0.6501	0.1066	0.0185	0.2574	0.0340	-3.5324	0.0254	-0.0928	0.0289
4	175.08	0.6999	0.1194	0.0223	0.2795	0.0388	-4.4484	0.0268	-0.0070	0.0378
4	175.08	0.7500	0.1173	0.0255	0.3142	0.0442	-5.4699	0.0304	0.1980	0.0318
4	175.08	0.8002	0.0973	0.0299	0.3402	0.0497	-6.6469	0.0323	0.2253	0.0326
4	175.08	0.8582	0.0832	0.0339	0.3829	0.0567	-8.1304	0.0364	-0.0317	0.0391
4	175.08	0.9101	0.0674	0.0400	0.3965	0.0612	-9.5115	0.0394	0.0175	0.0417
4	175.08	0.9728	0.0912	0.0469	0.4576	0.0693	-11.1379	0.0456	0.3327	0.0315

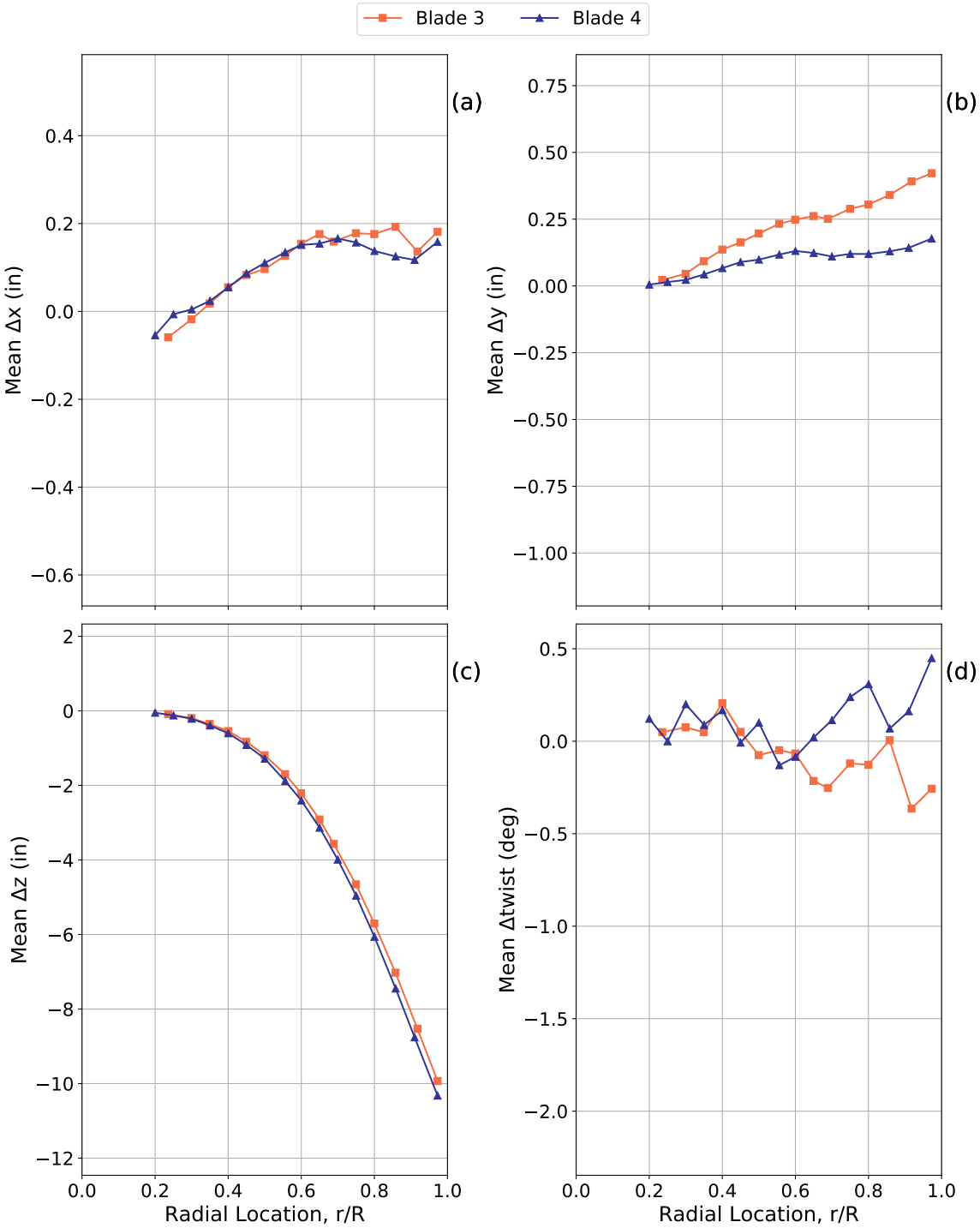


Figure 4.8-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0591	0.0015	0.0226	0.0014	-0.0880	0.0036	0.0494	0.0278
3	180.35	0.2995	-0.0178	0.0010	0.0451	0.0033	-0.1944	0.0077	0.0749	0.0448
3	180.35	0.3493	0.0181	0.0011	0.0923	0.0059	-0.3514	0.0147	0.0492	0.0367
3	180.35	0.4000	0.0550	0.0015	0.1362	0.0092	-0.5421	0.0223	0.2059	0.0312
3	180.35	0.4497	0.0828	0.0019	0.1630	0.0112	-0.8275	0.0279	0.0503	0.0311
3	180.35	0.4997	0.0965	0.0015	0.1965	0.0145	-1.1903	0.0346	-0.0750	0.0456
3	180.35	0.5556	0.1267	0.0020	0.2326	0.0184	-1.6988	0.0440	-0.0488	0.0373
3	180.35	0.5995	0.1542	0.0017	0.2481	0.0210	-2.2088	0.0502	-0.0666	0.0373
3	180.35	0.6498	0.1760	0.0029	0.2618	0.0224	-2.9139	0.0561	-0.2151	0.0421
3	180.35	0.6890	0.1590	0.0021	0.2511	0.0252	-3.5709	0.0626	-0.2527	0.0376
3	180.35	0.7495	0.1780	0.0028	0.2885	0.0304	-4.6546	0.0695	-0.1202	0.0428
3	180.35	0.7998	0.1761	0.0035	0.3049	0.0338	-5.7074	0.0751	-0.1270	0.0489
3	180.35	0.8577	0.1925	0.0037	0.3404	0.0380	-7.0245	0.0843	0.0053	0.0397
3	180.35	0.9178	0.1363	0.0047	0.3913	0.0425	-8.5303	0.0936	-0.3643	0.0477
3	180.35	0.9729	0.1813	0.0050	0.4220	0.0482	-9.9313	0.1046	-0.2568	0.0522
4	180	0.2001	-0.0543	0.0006	0.0049	0.0006	-0.0498	0.0011	0.1214	0.0082
4	180	0.2502	-0.0065	0.0009	0.0145	0.0014	-0.1244	0.0027	-0.0008	0.0156
4	180	0.3001	0.0045	0.0009	0.0226	0.0026	-0.2117	0.0052	0.1998	0.0181
4	180	0.3502	0.0240	0.0009	0.0431	0.0043	-0.3937	0.0074	0.0878	0.0223
4	180	0.4002	0.0548	0.0013	0.0665	0.0069	-0.6018	0.0126	0.1674	0.0131
4	180	0.4500	0.0866	0.0016	0.0894	0.0078	-0.9155	0.0148	-0.0077	0.0198
4	180	0.5001	0.1104	0.0010	0.0985	0.0093	-1.2833	0.0188	0.1001	0.0238
4	180	0.5560	0.1344	0.0023	0.1173	0.0132	-1.8836	0.0242	-0.1299	0.0202
4	180	0.6001	0.1514	0.0023	0.1310	0.0145	-2.4050	0.0268	-0.0844	0.0214
4	180	0.6501	0.1543	0.0023	0.1234	0.0170	-3.1359	0.0296	0.0207	0.0221
4	180	0.6999	0.1659	0.0028	0.1101	0.0189	-3.9919	0.0329	0.1139	0.0280
4	180	0.7500	0.1568	0.0027	0.1200	0.0217	-4.9590	0.0358	0.2386	0.0255
4	180	0.8002	0.1376	0.0023	0.1195	0.0239	-6.0621	0.0398	0.3083	0.0274
4	180	0.8582	0.1251	0.0029	0.1297	0.0269	-7.4503	0.0424	0.0687	0.0322
4	180	0.9101	0.1172	0.0043	0.1426	0.0303	-8.7594	0.0475	0.1619	0.0269
4	180	0.9728	0.1583	0.0042	0.1772	0.0336	-10.3224	0.0559	0.4492	0.0336

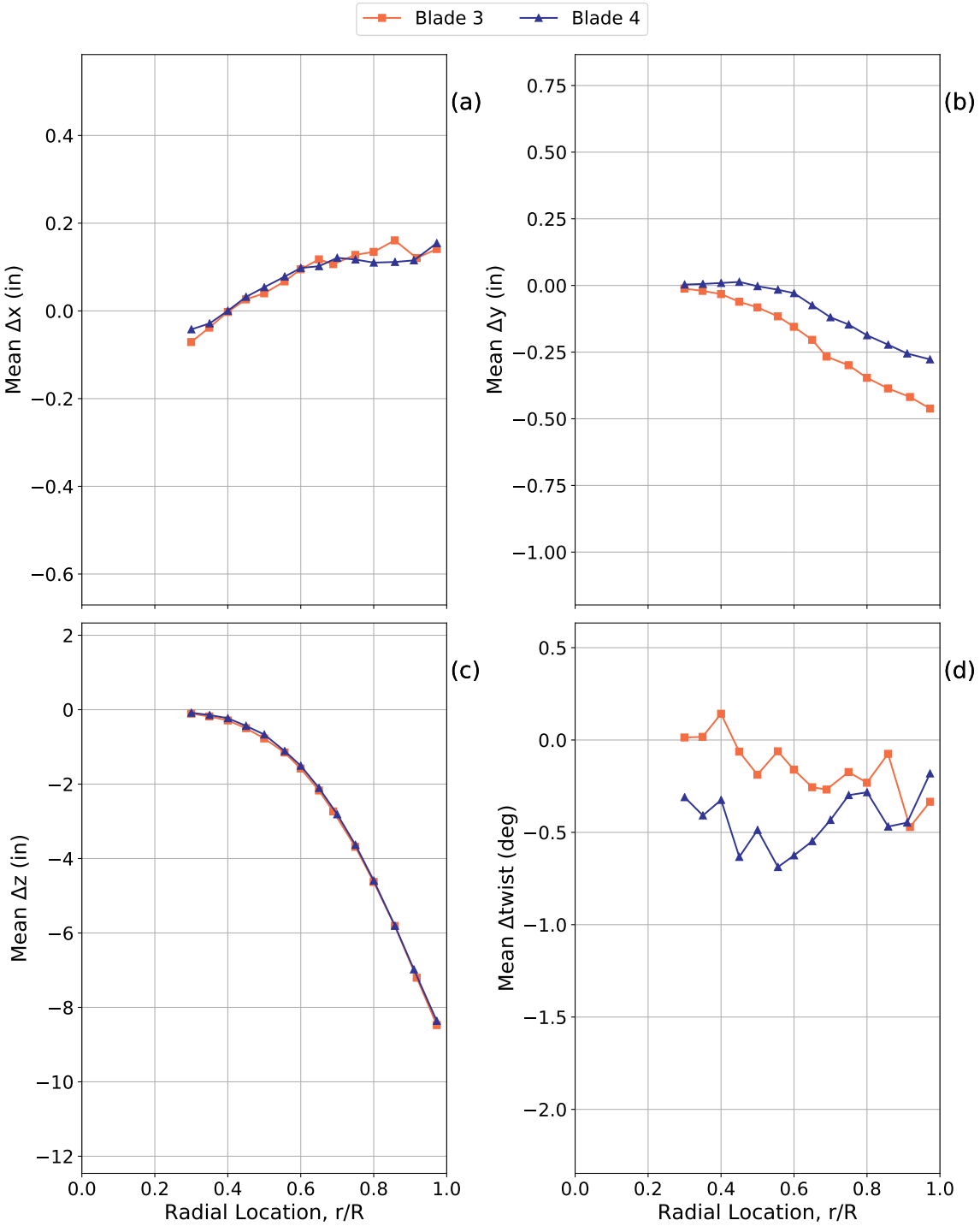


Figure 4.8-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0711	0.0023	-0.0118	0.0063	-0.1069	0.0139	0.0137	0.0567
3	184.92	0.3493	-0.0381	0.0017	-0.0203	0.0107	-0.1821	0.0234	0.0171	0.0747
3	184.92	0.4000	-0.0023	0.0021	-0.0323	0.0171	-0.2891	0.0368	0.1421	0.0704
3	184.92	0.4497	0.0262	0.0027	-0.0611	0.0232	-0.4969	0.0483	-0.0629	0.0721
3	184.92	0.4997	0.0401	0.0032	-0.0822	0.0294	-0.7724	0.0594	-0.1879	0.0718
3	184.92	0.5556	0.0672	0.0030	-0.1158	0.0370	-1.1501	0.0731	-0.0610	0.0704
3	184.92	0.5995	0.0949	0.0044	-0.1550	0.0427	-1.5797	0.0836	-0.1605	0.0675
3	184.92	0.6498	0.1175	0.0049	-0.2040	0.0490	-2.1715	0.0940	-0.2556	0.0715
3	184.92	0.6890	0.1066	0.0057	-0.2668	0.0543	-2.7341	0.1031	-0.2682	0.0634
3	184.92	0.7495	0.1277	0.0079	-0.2991	0.0630	-3.6855	0.1167	-0.1735	0.0663
3	184.92	0.7998	0.1346	0.0095	-0.3463	0.0692	-4.6293	0.1276	-0.2312	0.0677
3	184.92	0.8577	0.1608	0.0121	-0.3862	0.0782	-5.8125	0.1385	-0.0748	0.0770
3	184.92	0.9178	0.1205	0.0137	-0.4183	0.0867	-7.2032	0.1535	-0.4713	0.0608
3	184.92	0.9729	0.1411	0.0174	-0.4617	0.0968	-8.4752	0.1634	-0.3344	0.0795
4	184.92	0.3001	-0.0421	0.0056	0.0033	0.0101	-0.0821	0.0147	-0.3096	0.0344
4	184.92	0.3502	-0.0286	0.0030	0.0058	0.0175	-0.1438	0.0252	-0.4085	0.0453
4	184.92	0.4002	0.0004	0.0028	0.0092	0.0277	-0.2300	0.0398	-0.3246	0.0429
4	184.92	0.4500	0.0320	0.0016	0.0133	0.0358	-0.4352	0.0515	-0.6331	0.0367
4	184.92	0.5001	0.0540	0.0019	-0.0029	0.0456	-0.6680	0.0646	-0.4872	0.0357
4	184.92	0.5560	0.0782	0.0024	-0.0160	0.0566	-1.1119	0.0774	-0.6879	0.0397
4	184.92	0.6001	0.0979	0.0026	-0.0289	0.0637	-1.5075	0.0885	-0.6247	0.0351
4	184.92	0.6501	0.1019	0.0033	-0.0742	0.0734	-2.1043	0.1010	-0.5477	0.0350
4	184.92	0.6999	0.1210	0.0050	-0.1194	0.0814	-2.8114	0.1120	-0.4330	0.0408
4	184.92	0.7500	0.1171	0.0077	-0.1468	0.0909	-3.6343	0.1249	-0.2986	0.0321
4	184.92	0.8002	0.1101	0.0107	-0.1869	0.1001	-4.5956	0.1355	-0.2830	0.0394
4	184.92	0.8582	0.1116	0.0148	-0.2224	0.1112	-5.8083	0.1473	-0.4689	0.0444
4	184.92	0.9101	0.1152	0.0200	-0.2552	0.1223	-6.9804	0.1615	-0.4473	0.0450
4	184.92	0.9728	0.1545	0.0291	-0.2773	0.1341	-8.3638	0.1771	-0.1811	0.0416

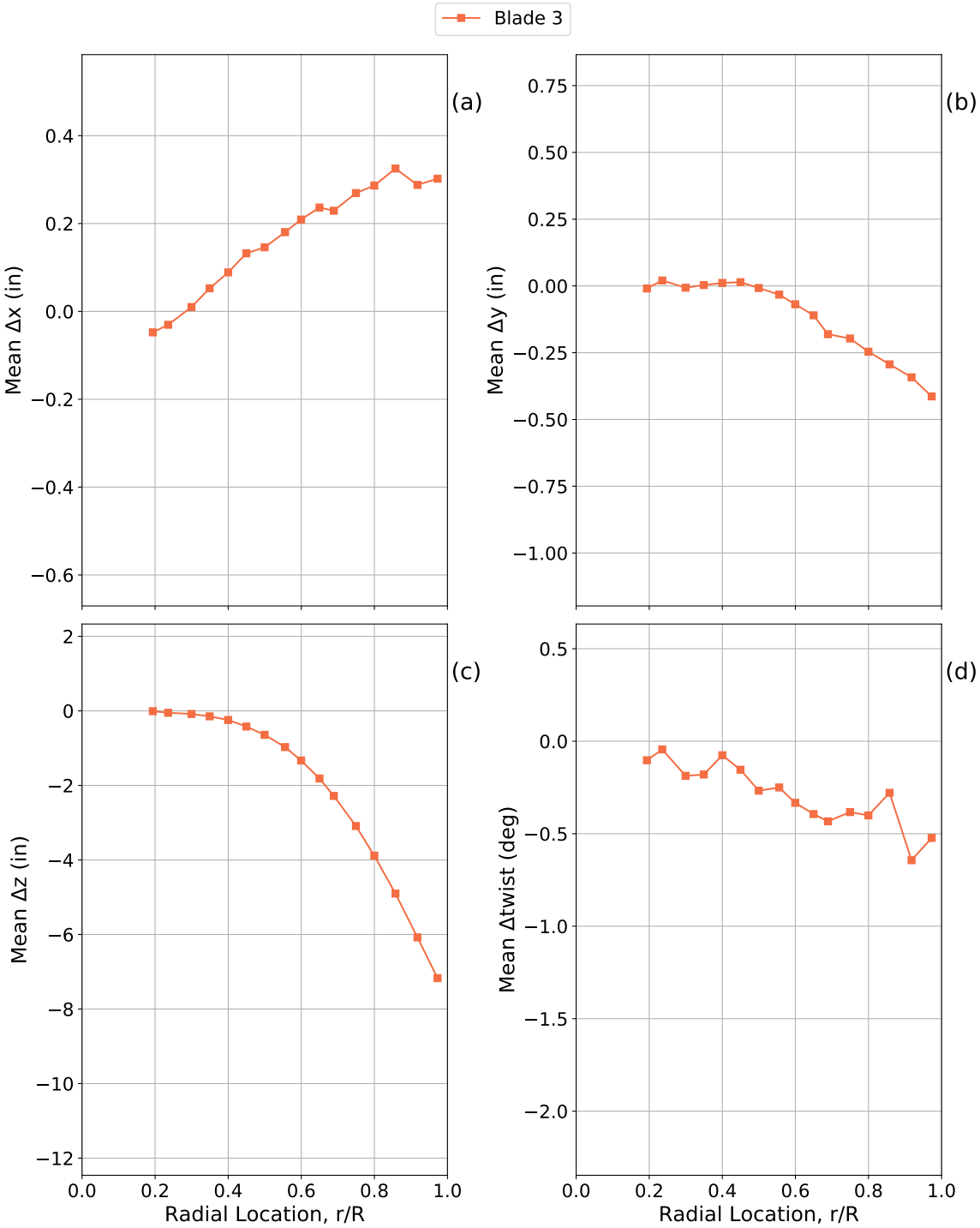


Figure 4.8-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0477	0.0008	-0.0094	0.0007	-0.0096	0.0016	-0.1028	0.0114
3	195.12	0.2357	-0.0304	0.0008	0.0204	0.0017	-0.0517	0.0021	-0.0444	0.0269
3	195.12	0.2995	0.0099	0.0013	-0.0066	0.0027	-0.0841	0.0050	-0.1871	0.0289
3	195.12	0.3493	0.0526	0.0010	0.0033	0.0052	-0.1473	0.0078	-0.1801	0.0261
3	195.12	0.4000	0.0888	0.0010	0.0112	0.0078	-0.2452	0.0118	-0.0761	0.0335
3	195.12	0.4497	0.1322	0.0010	0.0139	0.0098	-0.4215	0.0154	-0.1543	0.0335
3	195.12	0.4997	0.1459	0.0005	-0.0078	0.0122	-0.6446	0.0209	-0.2675	0.0278
3	195.12	0.5556	0.1804	0.0014	-0.0326	0.0143	-0.9729	0.0258	-0.2501	0.0302
3	195.12	0.5995	0.2091	0.0013	-0.0687	0.0162	-1.3317	0.0291	-0.3331	0.0370
3	195.12	0.6498	0.2365	0.0017	-0.1100	0.0184	-1.8152	0.0336	-0.3939	0.0320
3	195.12	0.6890	0.2291	0.0014	-0.1807	0.0205	-2.2826	0.0368	-0.4332	0.0385
3	195.12	0.7495	0.2694	0.0014	-0.1969	0.0236	-3.0904	0.0419	-0.3832	0.0388
3	195.12	0.7998	0.2865	0.0024	-0.2464	0.0269	-3.8855	0.0471	-0.4011	0.0340
3	195.12	0.8577	0.3253	0.0025	-0.2935	0.0277	-4.9034	0.0529	-0.2789	0.0429
3	195.12	0.9178	0.2880	0.0018	-0.3421	0.0330	-6.0788	0.0608	-0.6432	0.0372
3	195.12	0.9729	0.3021	0.0035	-0.4137	0.0376	-7.1712	0.0644	-0.5229	0.0772

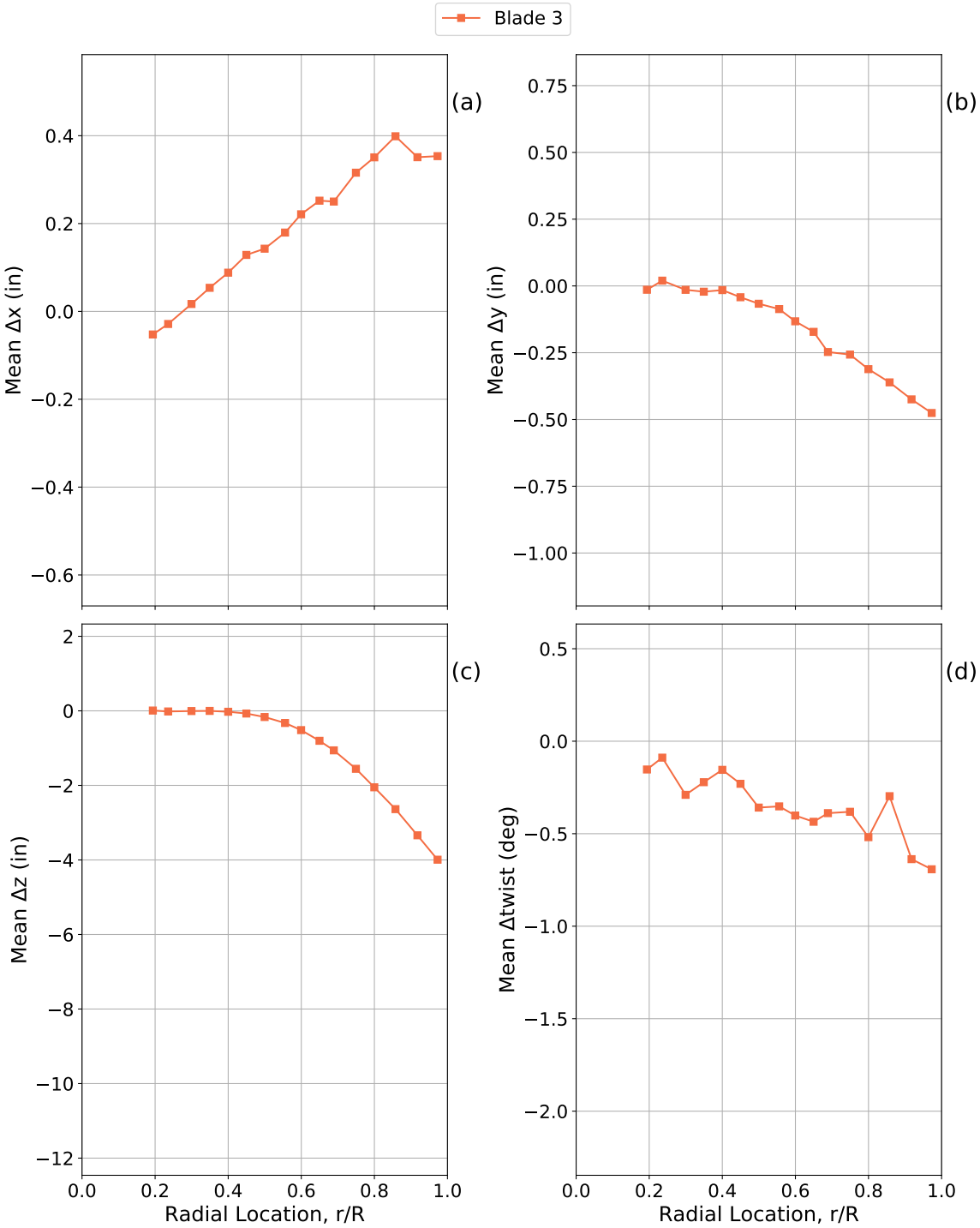


Figure 4.8-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0525	0.0006	-0.0143	0.0005	0.0082	0.0007	-0.1529	0.0115
3	209.88	0.2357	-0.0286	0.0005	0.0198	0.0012	-0.0166	0.0029	-0.0888	0.0185
3	209.88	0.2995	0.0169	0.0009	-0.0146	0.0024	-0.0056	0.0044	-0.2899	0.0271
3	209.88	0.3493	0.0537	0.0007	-0.0216	0.0041	-0.0018	0.0076	-0.2216	0.0265
3	209.88	0.4000	0.0882	0.0011	-0.0156	0.0066	-0.0246	0.0124	-0.1548	0.0272
3	209.88	0.4497	0.1286	0.0008	-0.0424	0.0078	-0.0719	0.0146	-0.2302	0.0308
3	209.88	0.4997	0.1428	0.0007	-0.0667	0.0088	-0.1658	0.0181	-0.3588	0.0301
3	209.88	0.5556	0.1795	0.0010	-0.0867	0.0111	-0.3256	0.0216	-0.3523	0.0271
3	209.88	0.5995	0.2211	0.0015	-0.1325	0.0120	-0.5169	0.0236	-0.4016	0.0384
3	209.88	0.6498	0.2521	0.0015	-0.1719	0.0141	-0.8036	0.0295	-0.4355	0.0300
3	209.88	0.6890	0.2501	0.0013	-0.2474	0.0157	-1.0600	0.0331	-0.3889	0.0347
3	209.88	0.7495	0.3158	0.0011	-0.2571	0.0176	-1.5549	0.0375	-0.3815	0.0380
3	209.88	0.7998	0.3507	0.0010	-0.3116	0.0201	-2.0515	0.0423	-0.5187	0.0283
3	209.88	0.8577	0.3987	0.0010	-0.3611	0.0223	-2.6366	0.0455	-0.2971	0.0312
3	209.88	0.9178	0.3510	0.0027	-0.4247	0.0267	-3.3390	0.0515	-0.6376	0.0566
3	209.88	0.9729	0.3535	0.0022	-0.4758	0.0279	-3.9933	0.0534	-0.6923	0.0356

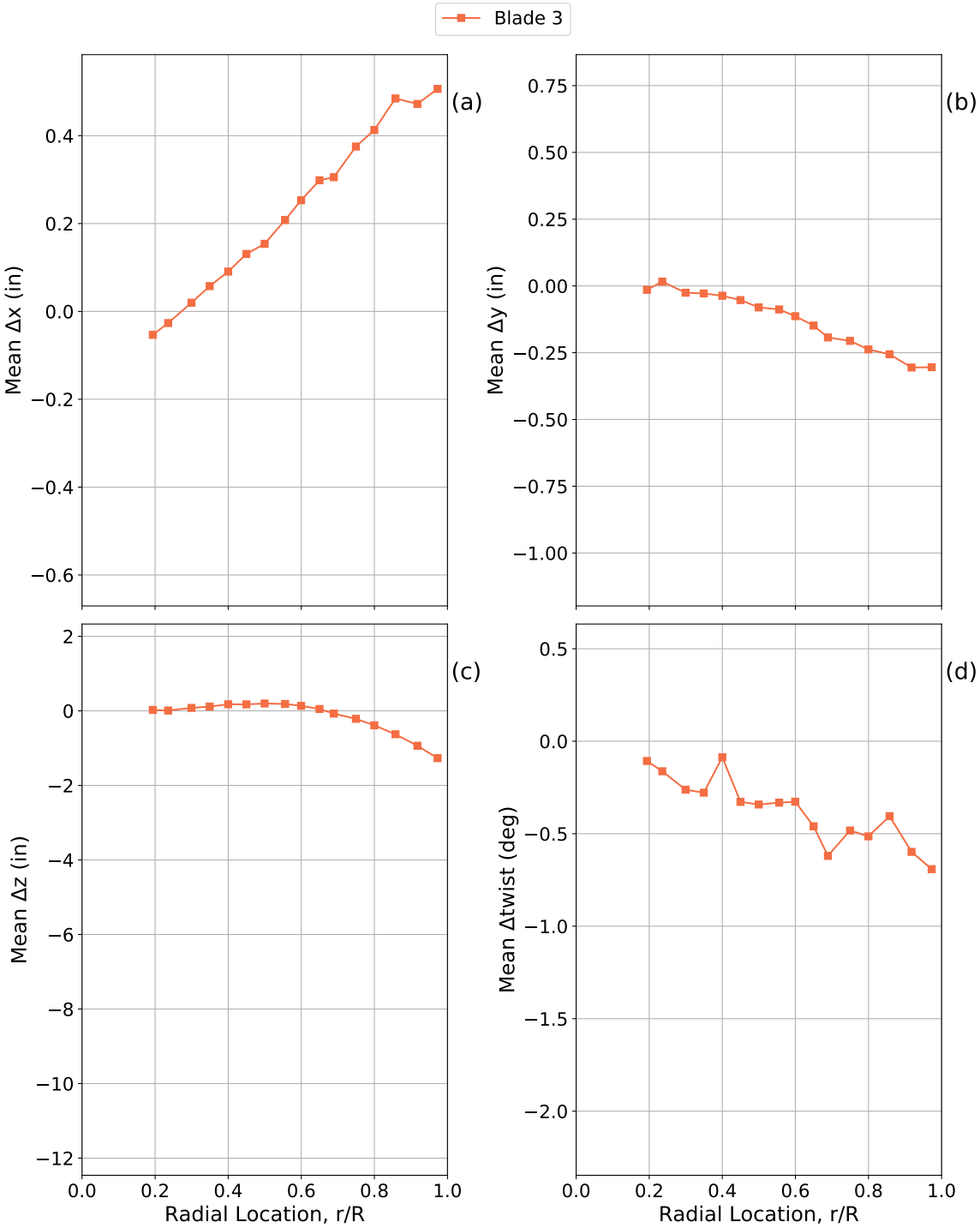


Figure 4.8-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0533	0.0009	-0.0145	0.0005	0.0252	0.0010	-0.1068	0.0132
3	225	0.2357	-0.0265	0.0005	0.0160	0.0011	0.0087	0.0030	-0.1625	0.0194
3	225	0.2995	0.0198	0.0009	-0.0254	0.0016	0.0791	0.0065	-0.2620	0.0278
3	225	0.3493	0.0575	0.0009	-0.0281	0.0044	0.1134	0.0081	-0.2783	0.0333
3	225	0.4000	0.0907	0.0015	-0.0368	0.0056	0.1759	0.0144	-0.0865	0.0197
3	225	0.4497	0.1308	0.0010	-0.0530	0.0062	0.1743	0.0166	-0.3279	0.0281
3	225	0.4997	0.1538	0.0014	-0.0804	0.0073	0.1965	0.0173	-0.3423	0.0263
3	225	0.5556	0.2081	0.0008	-0.0880	0.0090	0.1846	0.0206	-0.3321	0.0292
3	225	0.5995	0.2530	0.0017	-0.1133	0.0101	0.1350	0.0230	-0.3270	0.0371
3	225	0.6498	0.2985	0.0019	-0.1484	0.0127	0.0491	0.0270	-0.4599	0.0251
3	225	0.6890	0.3055	0.0018	-0.1930	0.0137	-0.0737	0.0287	-0.6198	0.0339
3	225	0.7495	0.3753	0.0019	-0.2057	0.0171	-0.2144	0.0332	-0.4825	0.0259
3	225	0.7998	0.4130	0.0022	-0.2378	0.0199	-0.3885	0.0372	-0.5144	0.0248
3	225	0.8577	0.4848	0.0017	-0.2559	0.0235	-0.6286	0.0398	-0.4053	0.0350
3	225	0.9178	0.4724	0.0022	-0.3055	0.0273	-0.9364	0.0457	-0.5981	0.0357
3	225	0.9729	0.5066	0.0031	-0.3043	0.0306	-1.2694	0.0523	-0.6916	0.0351

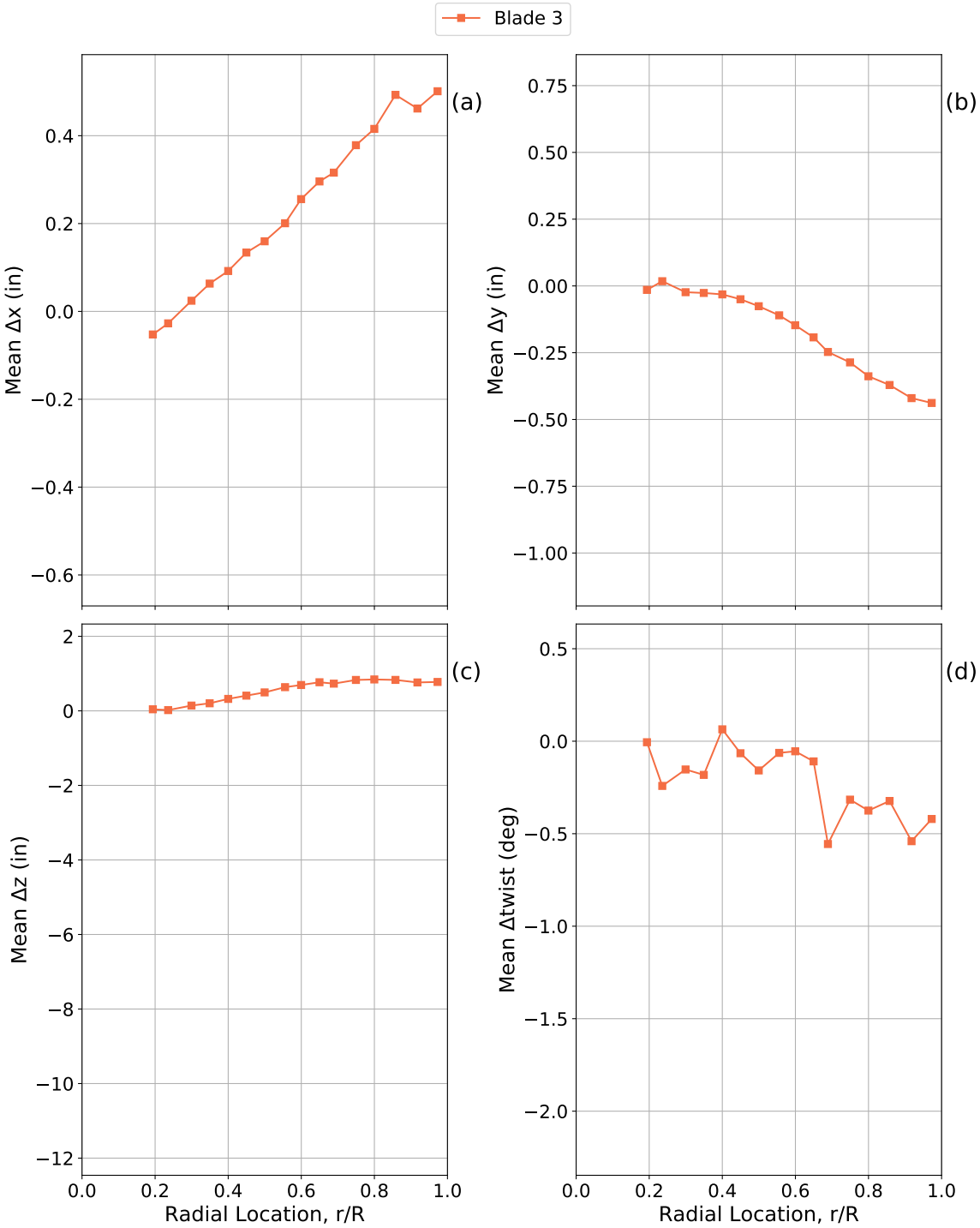


Figure 4.8-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0525	0.0009	-0.0148	0.0005	0.0417	0.0013	-0.0055	0.0102
3	240.12	0.2357	-0.0272	0.0009	0.0177	0.0008	0.0201	0.0025	-0.2416	0.0226
3	240.12	0.2995	0.0243	0.0007	-0.0235	0.0016	0.1411	0.0038	-0.1528	0.0244
3	240.12	0.3493	0.0633	0.0007	-0.0263	0.0024	0.2028	0.0065	-0.1820	0.0263
3	240.12	0.4000	0.0920	0.0010	-0.0317	0.0039	0.3205	0.0102	0.0642	0.0218
3	240.12	0.4497	0.1340	0.0013	-0.0499	0.0060	0.4080	0.0107	-0.0650	0.0308
3	240.12	0.4997	0.1596	0.0011	-0.0760	0.0070	0.4948	0.0147	-0.1580	0.0244
3	240.12	0.5556	0.2007	0.0017	-0.1101	0.0094	0.6354	0.0185	-0.0631	0.0229
3	240.12	0.5995	0.2556	0.0013	-0.1471	0.0109	0.6931	0.0219	-0.0545	0.0312
3	240.12	0.6498	0.2959	0.0016	-0.1927	0.0138	0.7674	0.0224	-0.1091	0.0228
3	240.12	0.6890	0.3159	0.0016	-0.2473	0.0147	0.7298	0.0275	-0.5558	0.0260
3	240.12	0.7495	0.3784	0.0015	-0.2864	0.0182	0.8290	0.0301	-0.3158	0.0239
3	240.12	0.7998	0.4155	0.0019	-0.3383	0.0208	0.8422	0.0326	-0.3750	0.0300
3	240.12	0.8577	0.4930	0.0018	-0.3710	0.0242	0.8300	0.0379	-0.3230	0.0249
3	240.12	0.9178	0.4619	0.0019	-0.4201	0.0281	0.7617	0.0425	-0.5405	0.0235
3	240.12	0.9729	0.5012	0.0026	-0.4382	0.0313	0.7750	0.0468	-0.4204	0.0239

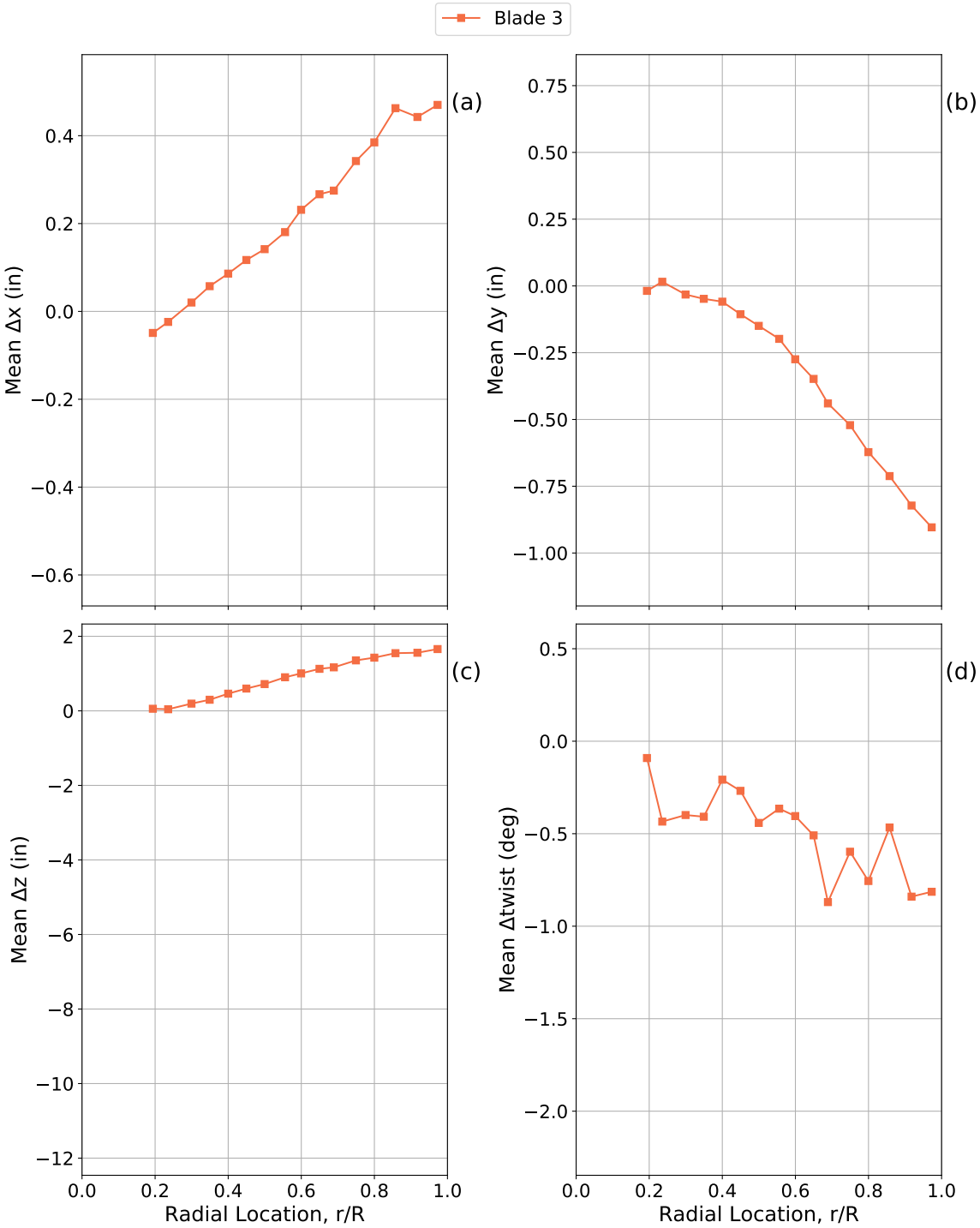


Figure 4.8-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0490	0.0014	-0.0185	0.0005	0.0560	0.0015	-0.0909	0.0164
3	254.88	0.2357	-0.0239	0.0012	0.0156	0.0011	0.0430	0.0031	-0.4345	0.0221
3	254.88	0.2995	0.0202	0.0007	-0.0322	0.0020	0.1939	0.0048	-0.3990	0.0304
3	254.88	0.3493	0.0574	0.0012	-0.0483	0.0041	0.2978	0.0087	-0.4081	0.0295
3	254.88	0.4000	0.0860	0.0011	-0.0589	0.0060	0.4612	0.0131	-0.2079	0.0268
3	254.88	0.4497	0.1170	0.0010	-0.1060	0.0074	0.5977	0.0160	-0.2683	0.0271
3	254.88	0.4997	0.1417	0.0008	-0.1495	0.0097	0.7181	0.0199	-0.4417	0.0270
3	254.88	0.5556	0.1805	0.0017	-0.1982	0.0121	0.9009	0.0230	-0.3646	0.0236
3	254.88	0.5995	0.2313	0.0018	-0.2746	0.0136	1.0042	0.0255	-0.4047	0.0408
3	254.88	0.6498	0.2667	0.0012	-0.3481	0.0166	1.1271	0.0286	-0.5090	0.0372
3	254.88	0.6890	0.2750	0.0013	-0.4400	0.0184	1.1667	0.0301	-0.8697	0.0298
3	254.88	0.7495	0.3423	0.0015	-0.5212	0.0221	1.3536	0.0333	-0.5974	0.0298
3	254.88	0.7998	0.3848	0.0017	-0.6223	0.0249	1.4272	0.0374	-0.7557	0.0276
3	254.88	0.8577	0.4627	0.0020	-0.7120	0.0289	1.5477	0.0425	-0.4663	0.0281
3	254.88	0.9178	0.4426	0.0022	-0.8223	0.0331	1.5585	0.0472	-0.8402	0.0416
3	254.88	0.9729	0.4701	0.0028	-0.9039	0.0369	1.6573	0.0512	-0.8139	0.0379

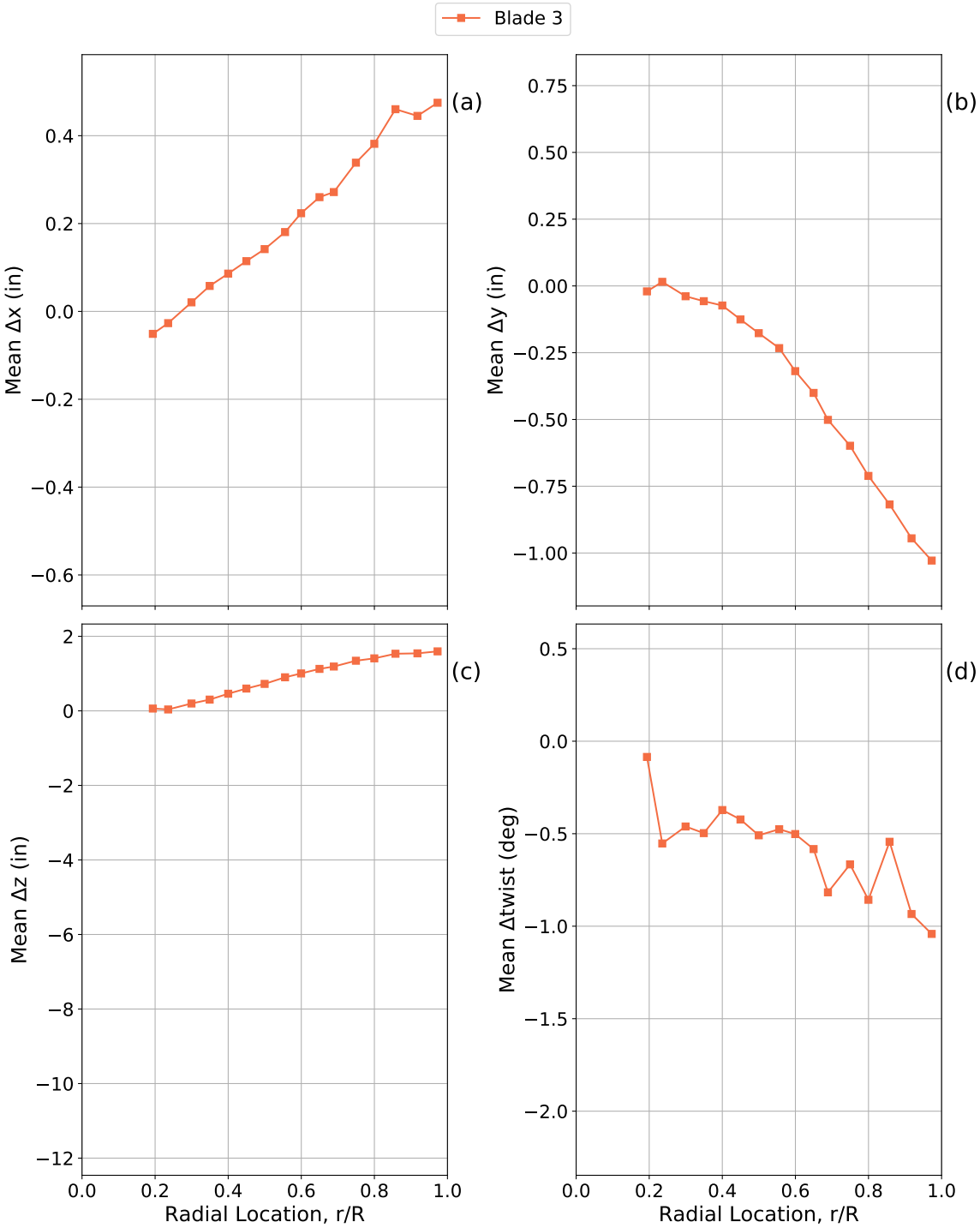


Figure 4.8-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0511	0.0026	-0.0204	0.0012	0.0611	0.0041	-0.0851	0.0280
3	260.16	0.2357	-0.0267	0.0009	0.0153	0.0011	0.0370	0.0047	-0.5528	0.0660
3	260.16	0.2995	0.0206	0.0012	-0.0387	0.0044	0.1967	0.0136	-0.4610	0.0786
3	260.16	0.3493	0.0580	0.0008	-0.0571	0.0073	0.3016	0.0213	-0.4968	0.0730
3	260.16	0.4000	0.0860	0.0018	-0.0733	0.0111	0.4595	0.0323	-0.3722	0.0643
3	260.16	0.4497	0.1144	0.0017	-0.1255	0.0131	0.5978	0.0391	-0.4231	0.0661
3	260.16	0.4997	0.1418	0.0012	-0.1769	0.0158	0.7232	0.0448	-0.5087	0.0692
3	260.16	0.5556	0.1806	0.0018	-0.2328	0.0193	0.9002	0.0522	-0.4757	0.0773
3	260.16	0.5995	0.2235	0.0018	-0.3190	0.0213	1.0033	0.0585	-0.5019	0.0729
3	260.16	0.6498	0.2601	0.0020	-0.4006	0.0244	1.1255	0.0660	-0.5831	0.0708
3	260.16	0.6890	0.2717	0.0024	-0.5015	0.0265	1.1886	0.0709	-0.8169	0.0688
3	260.16	0.7495	0.3386	0.0022	-0.5984	0.0299	1.3445	0.0796	-0.6659	0.0703
3	260.16	0.7998	0.3815	0.0025	-0.7114	0.0329	1.4080	0.0881	-0.8573	0.0654
3	260.16	0.8577	0.4603	0.0027	-0.8182	0.0365	1.5322	0.0957	-0.5436	0.0727
3	260.16	0.9178	0.4451	0.0035	-0.9450	0.0396	1.5423	0.1063	-0.9341	0.0700
3	260.16	0.9729	0.4750	0.0041	-1.0283	0.0434	1.5956	0.1122	-1.0417	0.0833

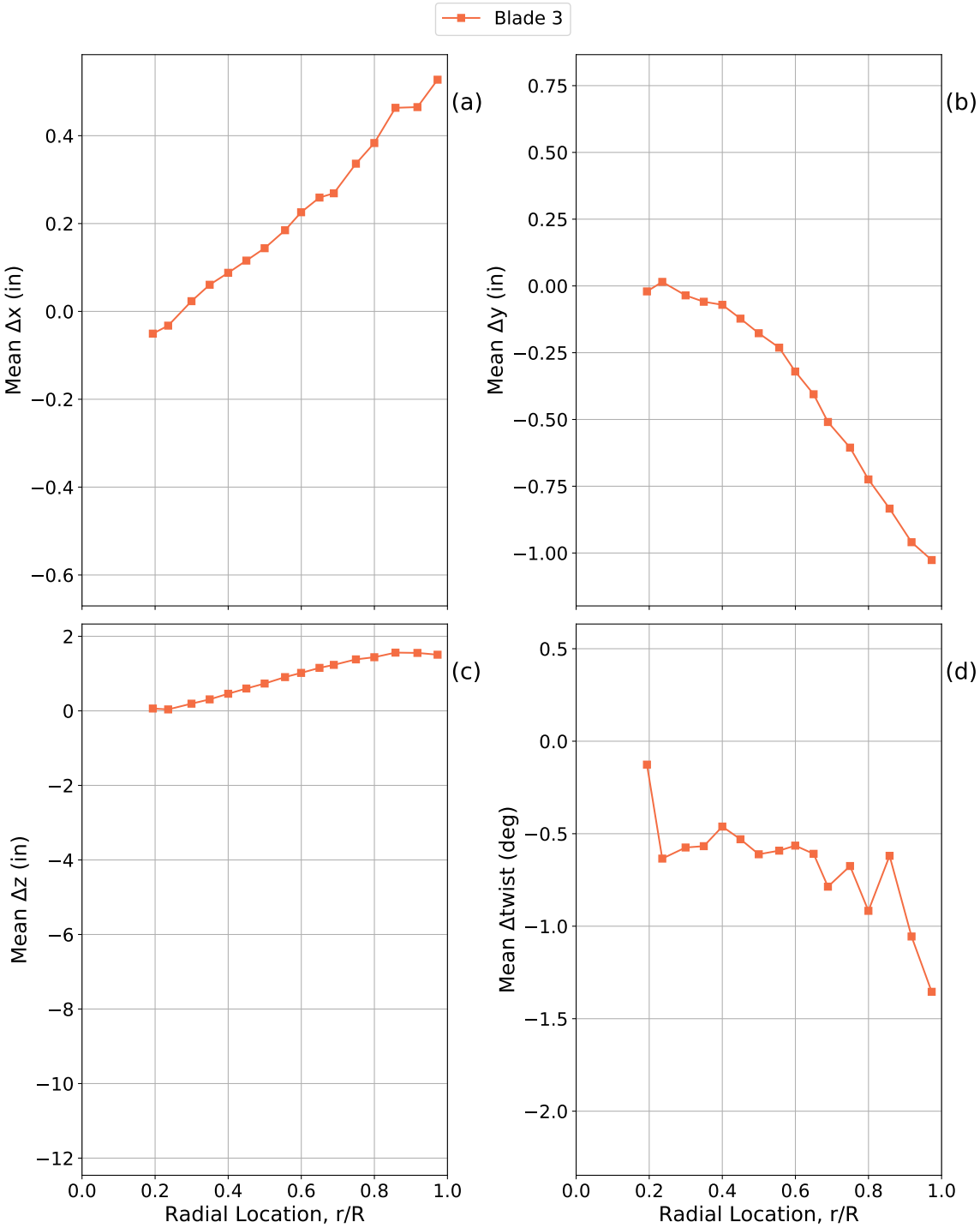


Figure 4.8-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0506	0.0043	-0.0205	0.0018	0.0619	0.0058	-0.1265	0.0289
3	265.08	0.2357	-0.0324	0.0020	0.0151	0.0012	0.0381	0.0047	-0.6346	0.0657
3	265.08	0.2995	0.0233	0.0011	-0.0354	0.0046	0.1927	0.0134	-0.5746	0.0707
3	265.08	0.3493	0.0607	0.0010	-0.0592	0.0075	0.3080	0.0224	-0.5674	0.0587
3	265.08	0.4000	0.0879	0.0016	-0.0707	0.0106	0.4587	0.0305	-0.4614	0.0670
3	265.08	0.4497	0.1157	0.0016	-0.1225	0.0136	0.5991	0.0371	-0.5301	0.0719
3	265.08	0.4997	0.1439	0.0019	-0.1771	0.0166	0.7324	0.0449	-0.6112	0.0575
3	265.08	0.5556	0.1848	0.0022	-0.2311	0.0207	0.9053	0.0528	-0.5916	0.0624
3	265.08	0.5995	0.2257	0.0022	-0.3205	0.0232	1.0182	0.0590	-0.5644	0.0616
3	265.08	0.6498	0.2592	0.0020	-0.4056	0.0266	1.1528	0.0658	-0.6087	0.0664
3	265.08	0.6890	0.2689	0.0023	-0.5095	0.0292	1.2333	0.0712	-0.7863	0.0679
3	265.08	0.7495	0.3363	0.0024	-0.6054	0.0328	1.3806	0.0817	-0.6747	0.0689
3	265.08	0.7998	0.3833	0.0024	-0.7245	0.0363	1.4385	0.0890	-0.9170	0.0706
3	265.08	0.8577	0.4635	0.0022	-0.8338	0.0404	1.5622	0.0996	-0.6195	0.0664
3	265.08	0.9178	0.4651	0.0023	-0.9596	0.0443	1.5541	0.1088	-1.0557	0.0677
3	265.08	0.9729	0.5275	0.0035	-1.0264	0.0482	1.5062	0.1158	-1.3547	0.0637

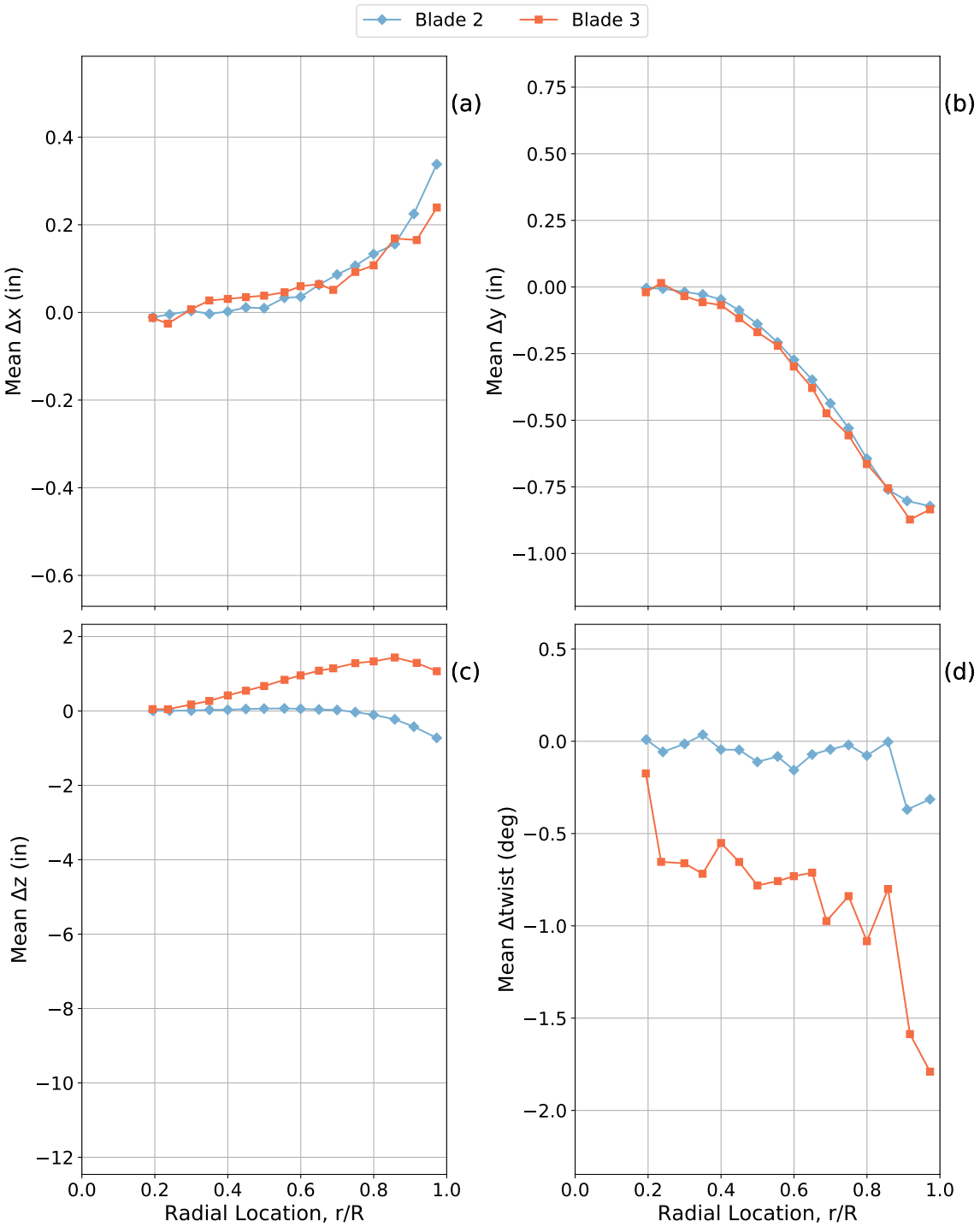


Figure 4.8-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0109	0.0263	-0.0039	0.0111	0.0064	0.0213	0.0090	0.0960
2	270.35	0.2405	-0.0045	0.0040	-0.0061	0.0052	0.0084	0.0126	-0.0575	0.3576
2	270.35	0.2999	0.0033	0.0037	-0.0188	0.0346	0.0096	0.0608	-0.0141	0.3468
2	270.35	0.3498	-0.0032	0.0035	-0.0280	0.0587	0.0324	0.0998	0.0358	0.3591
2	270.35	0.3998	0.0020	0.0031	-0.0464	0.0845	0.0331	0.1412	-0.0447	0.3483
2	270.35	0.4496	0.0113	0.0026	-0.0876	0.1084	0.0527	0.1794	-0.0465	0.3570
2	270.35	0.4995	0.0097	0.0023	-0.1388	0.1340	0.0635	0.2196	-0.1116	0.3553
2	270.35	0.5551	0.0334	0.0023	-0.2079	0.1624	0.0675	0.2639	-0.0824	0.3563
2	270.35	0.5996	0.0355	0.0018	-0.2733	0.1851	0.0566	0.3008	-0.1562	0.3468
2	270.35	0.6497	0.0629	0.0017	-0.3479	0.2104	0.0404	0.3392	-0.0713	0.3510
2	270.35	0.6996	0.0864	0.0018	-0.4367	0.2356	0.0274	0.3780	-0.0439	0.3601
2	270.35	0.7495	0.1065	0.0013	-0.5295	0.2618	-0.0304	0.4185	-0.0197	0.3452
2	270.35	0.7996	0.1333	0.0022	-0.6443	0.2881	-0.1033	0.4569	-0.0776	0.3504
2	270.35	0.8578	0.1559	0.0035	-0.7604	0.3187	-0.2243	0.5010	-0.0032	0.3491
2	270.35	0.9100	0.2249	0.0056	-0.8028	0.3473	-0.4230	0.5459	-0.3698	0.3232
2	270.35	0.9727	0.3381	0.0107	-0.8221	0.3804	-0.7232	0.5908	-0.3143	0.3647
3	270	0.1938	-0.0125	0.0055	-0.0197	0.0015	0.0489	0.0067	-0.1743	0.0332
3	270	0.2357	-0.0256	0.0021	0.0150	0.0018	0.0475	0.0063	-0.6534	0.1043
3	270	0.2995	0.0071	0.0022	-0.0341	0.0044	0.1742	0.0172	-0.6608	0.1081
3	270	0.3493	0.0273	0.0018	-0.0569	0.0080	0.2700	0.0278	-0.7178	0.1171
3	270	0.4000	0.0308	0.0022	-0.0680	0.0115	0.4188	0.0398	-0.5511	0.1193
3	270	0.4497	0.0349	0.0025	-0.1169	0.0144	0.5450	0.0497	-0.6537	0.1218
3	270	0.4997	0.0382	0.0023	-0.1695	0.0178	0.6707	0.0609	-0.7812	0.1168
3	270	0.5556	0.0460	0.0020	-0.2207	0.0217	0.8378	0.0739	-0.7575	0.1113
3	270	0.5995	0.0598	0.0023	-0.2984	0.0256	0.9570	0.0833	-0.7309	0.1138
3	270	0.6498	0.0645	0.0026	-0.3789	0.0291	1.0834	0.0943	-0.7117	0.1128
3	270	0.6890	0.0515	0.0028	-0.4739	0.0325	1.1471	0.1015	-0.9740	0.1163
3	270	0.7495	0.0924	0.0024	-0.5565	0.0371	1.2870	0.1138	-0.8388	0.1148
3	270	0.7998	0.1074	0.0025	-0.6644	0.0419	1.3345	0.1249	-1.0831	0.1127
3	270	0.8577	0.1688	0.0029	-0.7552	0.0468	1.4377	0.1374	-0.8003	0.1142
3	270	0.9178	0.1651	0.0033	-0.8726	0.0531	1.2920	0.1496	-1.5864	0.1282
3	270	0.9729	0.2393	0.0068	-0.8347	0.0594	1.0698	0.1699	-1.7899	0.1479

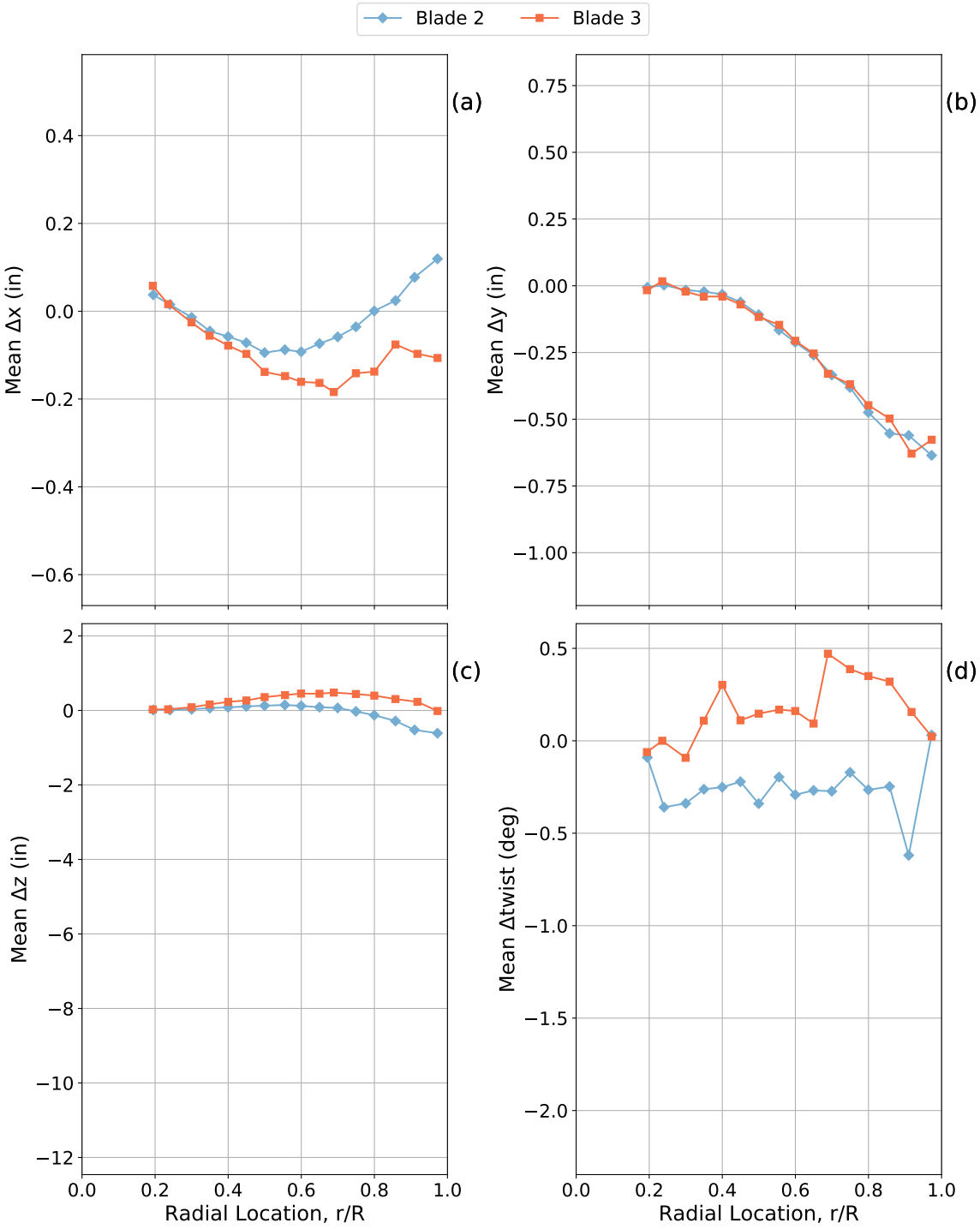


Figure 4.8-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0374	0.0008	-0.0061	0.0008	0.0116	0.0018	-0.0900	0.0171
2	274.92	0.2405	0.0152	0.0011	0.0024	0.0009	0.0107	0.0029	-0.3595	0.0317
2	274.92	0.2999	-0.0140	0.0009	-0.0163	0.0026	0.0313	0.0071	-0.3387	0.0408
2	274.92	0.3498	-0.0453	0.0016	-0.0220	0.0035	0.0628	0.0089	-0.2622	0.0264
2	274.92	0.3998	-0.0578	0.0010	-0.0321	0.0057	0.0830	0.0152	-0.2511	0.0410
2	274.92	0.4496	-0.0718	0.0009	-0.0611	0.0066	0.1082	0.0177	-0.2214	0.0263
2	274.92	0.4995	-0.0944	0.0012	-0.1081	0.0086	0.1275	0.0219	-0.3399	0.0270
2	274.92	0.5551	-0.0877	0.0018	-0.1658	0.0102	0.1473	0.0277	-0.1963	0.0437
2	274.92	0.5996	-0.0924	0.0018	-0.2116	0.0119	0.1227	0.0342	-0.2920	0.0222
2	274.92	0.6497	-0.0737	0.0021	-0.2597	0.0144	0.0865	0.0422	-0.2685	0.0275
2	274.92	0.6996	-0.0585	0.0024	-0.3344	0.0168	0.0672	0.0470	-0.2728	0.0440
2	274.92	0.7495	-0.0355	0.0021	-0.3810	0.0180	-0.0266	0.0534	-0.1710	0.0495
2	274.92	0.7996	0.0006	0.0022	-0.4745	0.0214	-0.1279	0.0614	-0.2651	0.0329
2	274.92	0.8578	0.0243	0.0029	-0.5534	0.0254	-0.2837	0.0687	-0.2477	0.0473
2	274.92	0.9100	0.0772	0.0050	-0.5607	0.0296	-0.5230	0.0744	-0.6197	0.1021
2	274.92	0.9727	0.1194	0.0041	-0.6354	0.0300	-0.6122	0.0908	0.0307	0.1172
3	274.92	0.1938	0.0578	0.0029	-0.0167	0.0005	0.0256	0.0019	-0.0612	0.0398
3	274.92	0.2357	0.0161	0.0013	0.0168	0.0013	0.0298	0.0061	0.0000	0.0429
3	274.92	0.2995	-0.0255	0.0030	-0.0218	0.0026	0.0851	0.0107	-0.0922	0.0867
3	274.92	0.3493	-0.0557	0.0016	-0.0406	0.0038	0.1614	0.0178	0.1089	0.0700
3	274.92	0.4000	-0.0783	0.0035	-0.0403	0.0066	0.2310	0.0288	0.3025	0.0434
3	274.92	0.4497	-0.0971	0.0038	-0.0701	0.0086	0.2678	0.0330	0.1108	0.0405
3	274.92	0.4997	-0.1382	0.0048	-0.1168	0.0104	0.3578	0.0378	0.1468	0.0759
3	274.92	0.5556	-0.1477	0.0048	-0.1465	0.0129	0.4121	0.0428	0.1687	0.0802
3	274.92	0.5995	-0.1608	0.0036	-0.2061	0.0145	0.4528	0.0488	0.1611	0.0576
3	274.92	0.6498	-0.1633	0.0030	-0.2538	0.0180	0.4482	0.0556	0.0929	0.0404
3	274.92	0.6890	-0.1840	0.0041	-0.3298	0.0203	0.4802	0.0607	0.4711	0.0814
3	274.92	0.7495	-0.1413	0.0034	-0.3687	0.0236	0.4409	0.0708	0.3877	0.0427
3	274.92	0.7998	-0.1376	0.0050	-0.4475	0.0261	0.3977	0.0755	0.3501	0.0627
3	274.92	0.8577	-0.0757	0.0069	-0.4976	0.0310	0.3059	0.0776	0.3198	0.0672
3	274.92	0.9178	-0.0970	0.0124	-0.6289	0.0336	0.2306	0.0853	0.1557	0.1690
3	274.92	0.9729	-0.1065	0.0179	-0.5769	0.0553	-0.0149	0.1142	0.0228	0.2105

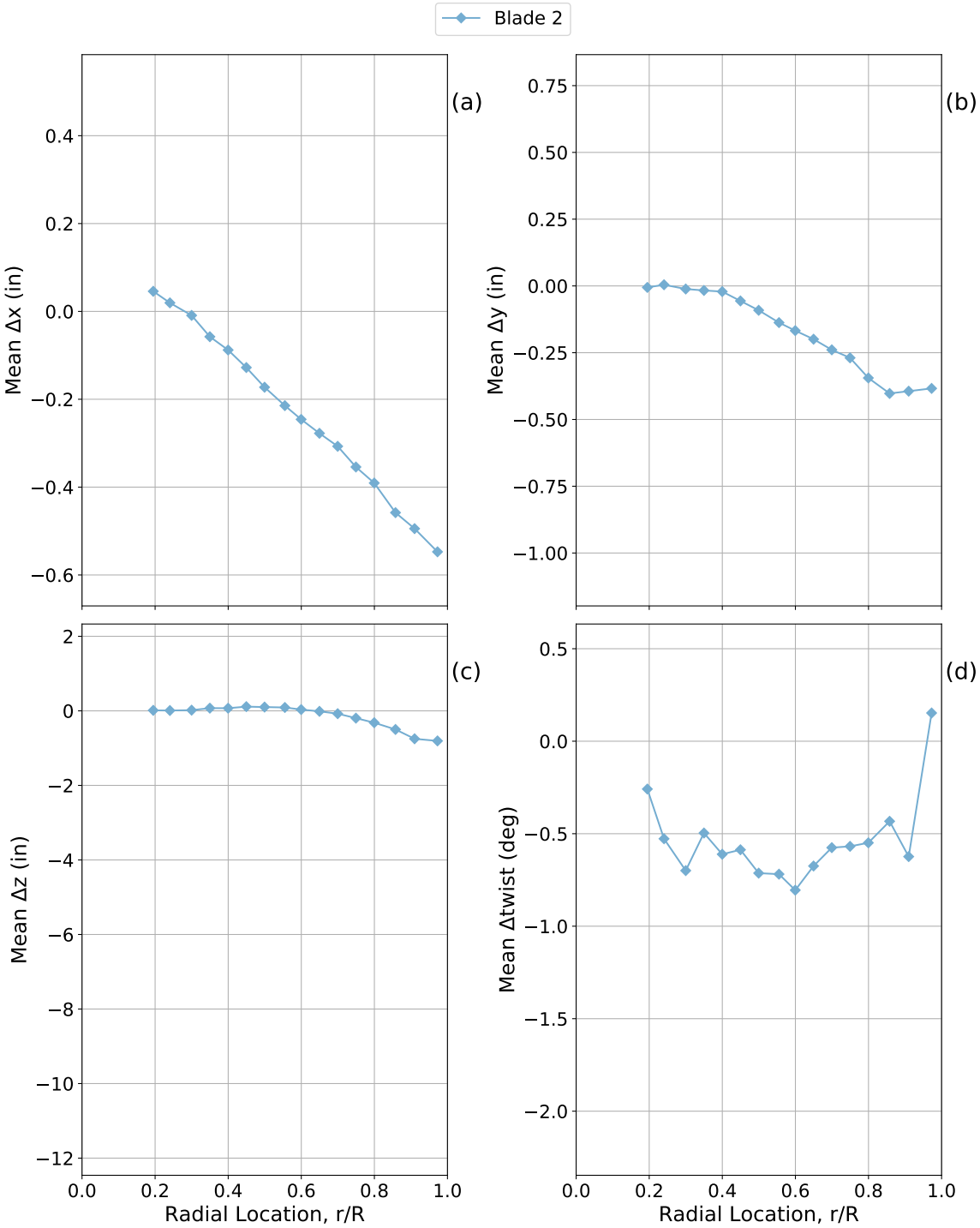


Figure 4.8-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0458	0.0006	-0.0056	0.0006	0.0134	0.0014	-0.2586	0.0402
2	285.12	0.2405	0.0195	0.0017	0.0044	0.0020	0.0089	0.0042	-0.5273	0.0224
2	285.12	0.2999	-0.0091	0.0014	-0.0115	0.0048	0.0182	0.0120	-0.6995	0.0747
2	285.12	0.3498	-0.0576	0.0017	-0.0169	0.0026	0.0722	0.0110	-0.4963	0.0292
2	285.12	0.3998	-0.0879	0.0021	-0.0212	0.0090	0.0710	0.0214	-0.6110	0.0525
2	285.12	0.4496	-0.1278	0.0012	-0.0562	0.0070	0.1126	0.0248	-0.5868	0.0521
2	285.12	0.4995	-0.1726	0.0021	-0.0912	0.0089	0.1014	0.0285	-0.7132	0.0275
2	285.12	0.5551	-0.2145	0.0017	-0.1373	0.0111	0.0902	0.0337	-0.7187	0.0228
2	285.12	0.5996	-0.2458	0.0021	-0.1674	0.0130	0.0347	0.0416	-0.8052	0.0425
2	285.12	0.6497	-0.2775	0.0019	-0.1995	0.0136	-0.0135	0.0462	-0.6747	0.0300
2	285.12	0.6996	-0.3071	0.0022	-0.2393	0.0153	-0.0761	0.0526	-0.5754	0.0506
2	285.12	0.7495	-0.3542	0.0015	-0.2693	0.0165	-0.1954	0.0598	-0.5684	0.0608
2	285.12	0.7996	-0.3907	0.0030	-0.3446	0.0183	-0.3182	0.0646	-0.5492	0.0446
2	285.12	0.8578	-0.4581	0.0028	-0.4026	0.0193	-0.4994	0.0729	-0.4328	0.0584
2	285.12	0.9100	-0.4945	0.0025	-0.3941	0.0202	-0.7498	0.0783	-0.6238	0.0722
2	285.12	0.9727	-0.5473	0.0028	-0.3837	0.0242	-0.8068	0.0966	0.1526	0.0851

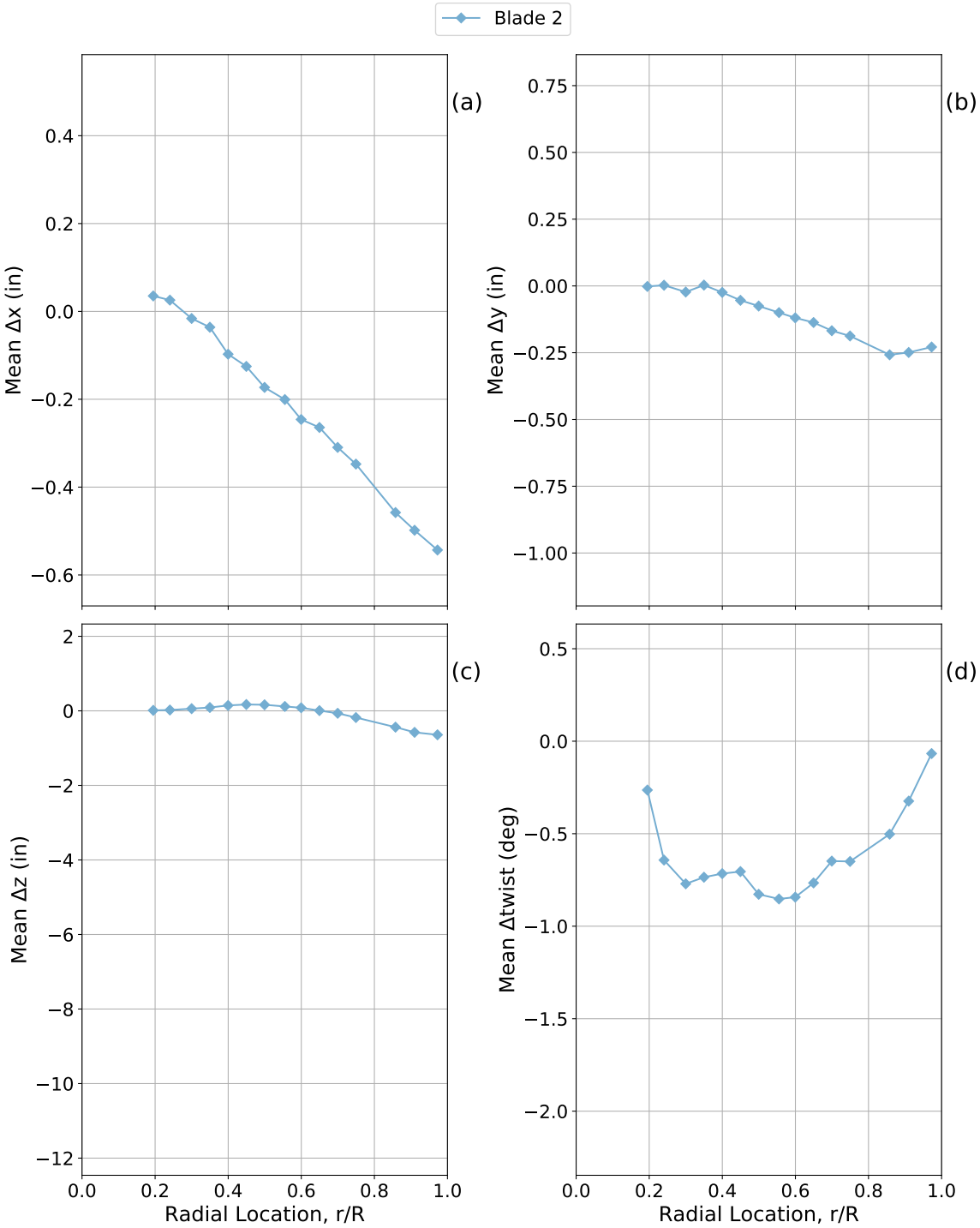


Figure 4.8-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0352	0.0028	-0.0019	0.0013	0.0130	0.0038	-0.2640	0.0200
2	299.88	0.2405	0.0257	0.0015	0.0026	0.0037	0.0224	0.0081	-0.6426	0.0273
2	299.88	0.2999	-0.0161	0.0013	-0.0228	0.0079	0.0587	0.0180	-0.7709	0.0404
2	299.88	0.3498	-0.0360	0.0020	0.0031	0.0120	0.0894	0.0242	-0.7353	0.0418
2	299.88	0.3998	-0.0974	0.0100	-0.0243	0.0205	0.1452	0.0424	-0.7158	0.0595
2	299.88	0.4496	-0.1252	0.0033	-0.0539	0.0221	0.1705	0.0454	-0.7047	0.0461
2	299.88	0.4995	-0.1730	0.0064	-0.0753	0.0284	0.1631	0.0575	-0.8275	0.0530
2	299.88	0.5551	-0.2006	0.0023	-0.0999	0.0300	0.1175	0.0657	-0.8528	0.0382
2	299.88	0.5996	-0.2460	0.0017	-0.1195	0.0344	0.0824	0.0737	-0.8429	0.0438
2	299.88	0.6497	-0.2642	0.0024	-0.1369	0.0406	0.0059	0.0850	-0.7661	0.0428
2	299.88	0.6996	-0.3096	0.0026	-0.1677	0.0464	-0.0652	0.0967	-0.6480	0.0235
2	299.88	0.7495	-0.3476	0.0027	-0.1874	0.0519	-0.1794	0.1099	-0.6500	0.0230
2	299.88	0.8578	-0.4579	0.0029	-0.2579	0.0636	-0.4377	0.1361	-0.5024	0.0292
2	299.88	0.9100	-0.4982	0.0028	-0.2491	0.0692	-0.5769	0.1464	-0.3238	0.0287
2	299.88	0.9727	-0.5432	0.0045	-0.2287	0.0768	-0.6425	0.1575	-0.0667	0.0371

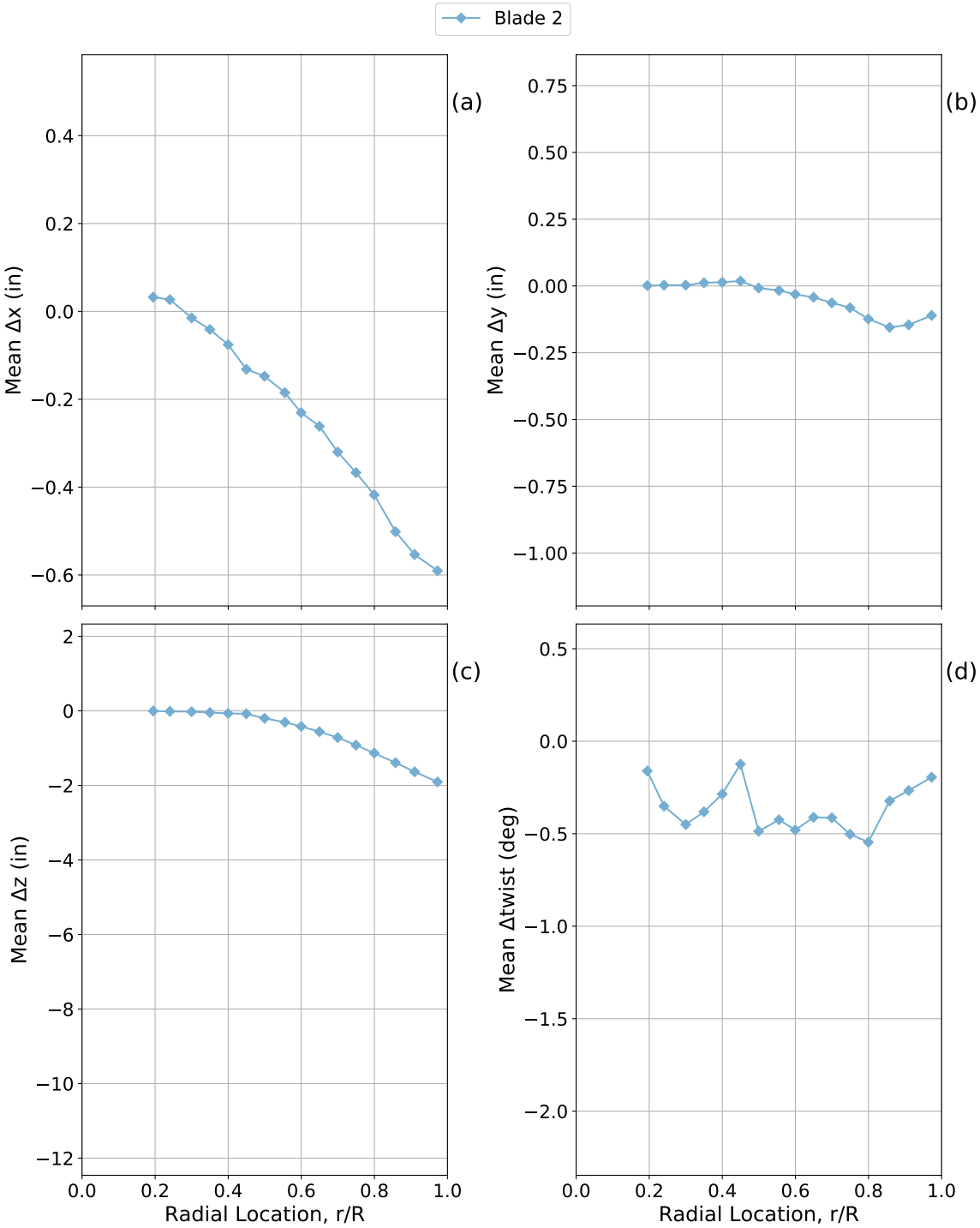


Figure 4.8-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0325	0.0015	0.0012	0.0004	-0.0050	0.0017	-0.1610	0.0105
2	315	0.2405	0.0268	0.0018	0.0028	0.0014	-0.0143	0.0074	-0.3510	0.0185
2	315	0.2999	-0.0147	0.0030	0.0030	0.0023	-0.0234	0.0113	-0.4502	0.0238
2	315	0.3498	-0.0411	0.0014	0.0117	0.0030	-0.0459	0.0193	-0.3815	0.0229
2	315	0.3998	-0.0756	0.0016	0.0137	0.0057	-0.0687	0.0319	-0.2855	0.0477
2	315	0.4496	-0.1318	0.0031	0.0184	0.0059	-0.0799	0.0389	-0.1242	0.0403
2	315	0.4995	-0.1475	0.0025	-0.0078	0.0071	-0.1995	0.0485	-0.4867	0.0234
2	315	0.5551	-0.1849	0.0028	-0.0170	0.0084	-0.3062	0.0526	-0.4245	0.0311
2	315	0.5996	-0.2305	0.0039	-0.0315	0.0097	-0.4174	0.0677	-0.4801	0.0514
2	315	0.6497	-0.2615	0.0029	-0.0426	0.0113	-0.5600	0.0735	-0.4114	0.0382
2	315	0.6996	-0.3200	0.0012	-0.0634	0.0133	-0.7168	0.0806	-0.4140	0.0371
2	315	0.7495	-0.3669	0.0017	-0.0816	0.0145	-0.9197	0.0889	-0.5029	0.0253
2	315	0.7996	-0.4176	0.0017	-0.1237	0.0166	-1.1335	0.0972	-0.5459	0.0299
2	315	0.8578	-0.5015	0.0020	-0.1552	0.0188	-1.3914	0.1073	-0.3227	0.0228
2	315	0.9100	-0.5534	0.0020	-0.1458	0.0212	-1.6354	0.1175	-0.2666	0.0306
2	315	0.9727	-0.5905	0.0022	-0.1106	0.0241	-1.9073	0.1298	-0.1948	0.0261

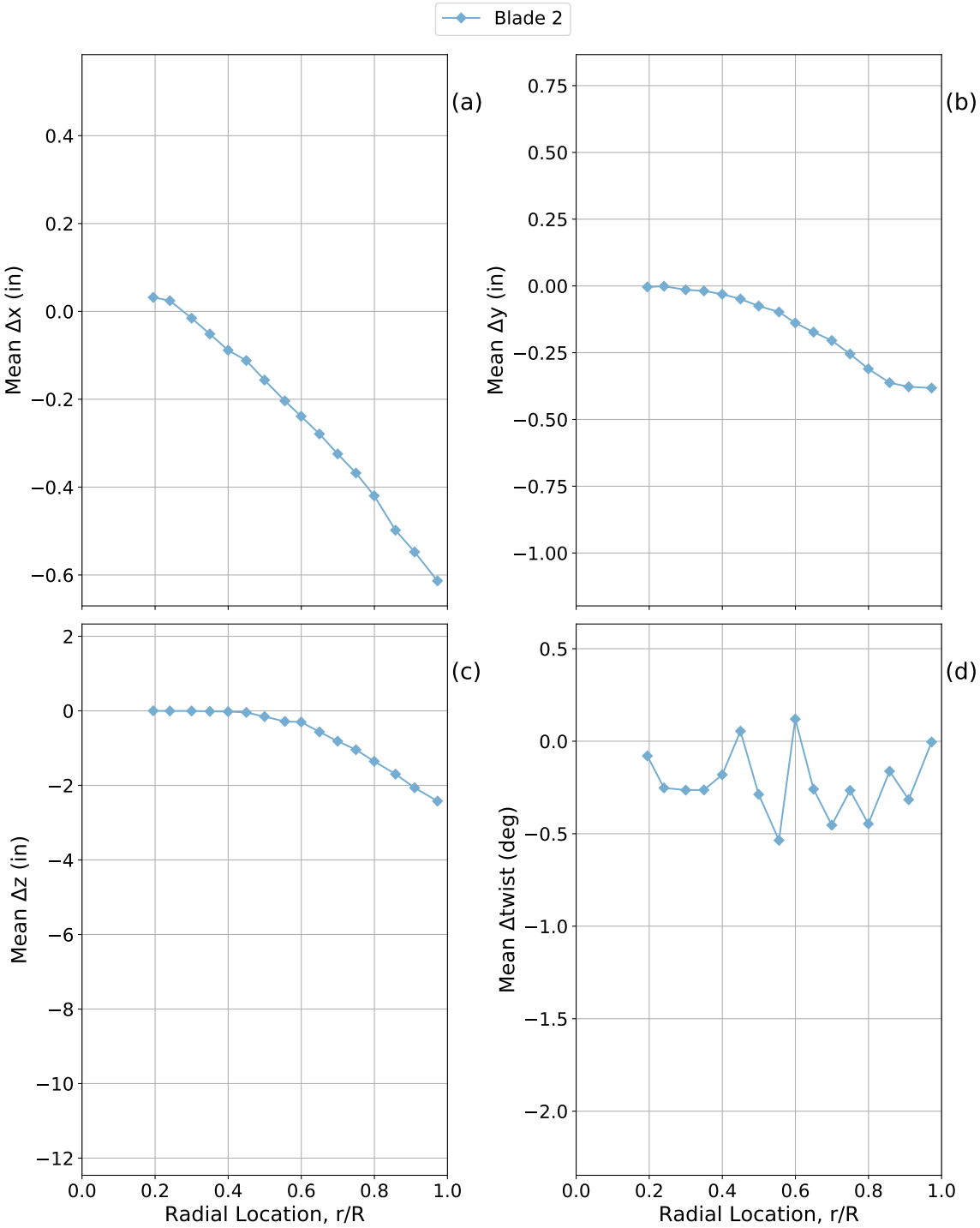


Figure 4.8-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0319	0.0010	-0.0039	0.0005	0.0007	0.0016	-0.0796	0.0157
2	330.12	0.2405	0.0243	0.0017	-0.0012	0.0020	-0.0037	0.0041	-0.2526	0.0417
2	330.12	0.2999	-0.0154	0.0013	-0.0144	0.0039	-0.0030	0.0077	-0.2643	0.0466
2	330.12	0.3498	-0.0514	0.0017	-0.0188	0.0041	-0.0135	0.0113	-0.2632	0.0319
2	330.12	0.3998	-0.0884	0.0033	-0.0310	0.0089	-0.0193	0.0187	-0.1813	0.0411
2	330.12	0.4496	-0.1119	0.0034	-0.0489	0.0105	-0.0428	0.0226	0.0543	0.0410
2	330.12	0.4995	-0.1563	0.0022	-0.0752	0.0118	-0.1549	0.0261	-0.2875	0.0299
2	330.12	0.5551	-0.2038	0.0022	-0.0976	0.0143	-0.2839	0.0293	-0.5358	0.0288
2	330.12	0.5996	-0.2388	0.0016	-0.1385	0.0175	-0.3008	0.0373	0.1197	0.0460
2	330.12	0.6497	-0.2790	0.0039	-0.1731	0.0199	-0.5650	0.0413	-0.2590	0.0465
2	330.12	0.6996	-0.3244	0.0026	-0.2045	0.0216	-0.8140	0.0486	-0.4537	0.0635
2	330.12	0.7495	-0.3679	0.0021	-0.2549	0.0243	-1.0435	0.0517	-0.2660	0.0240
2	330.12	0.7996	-0.4198	0.0017	-0.3106	0.0274	-1.3540	0.0574	-0.4467	0.0499
2	330.12	0.8578	-0.4981	0.0015	-0.3624	0.0307	-1.6978	0.0650	-0.1621	0.0296
2	330.12	0.9100	-0.5476	0.0018	-0.3776	0.0339	-2.0637	0.0718	-0.3160	0.0228
2	330.12	0.9727	-0.6134	0.0022	-0.3822	0.0379	-2.4224	0.0816	-0.0041	0.0171

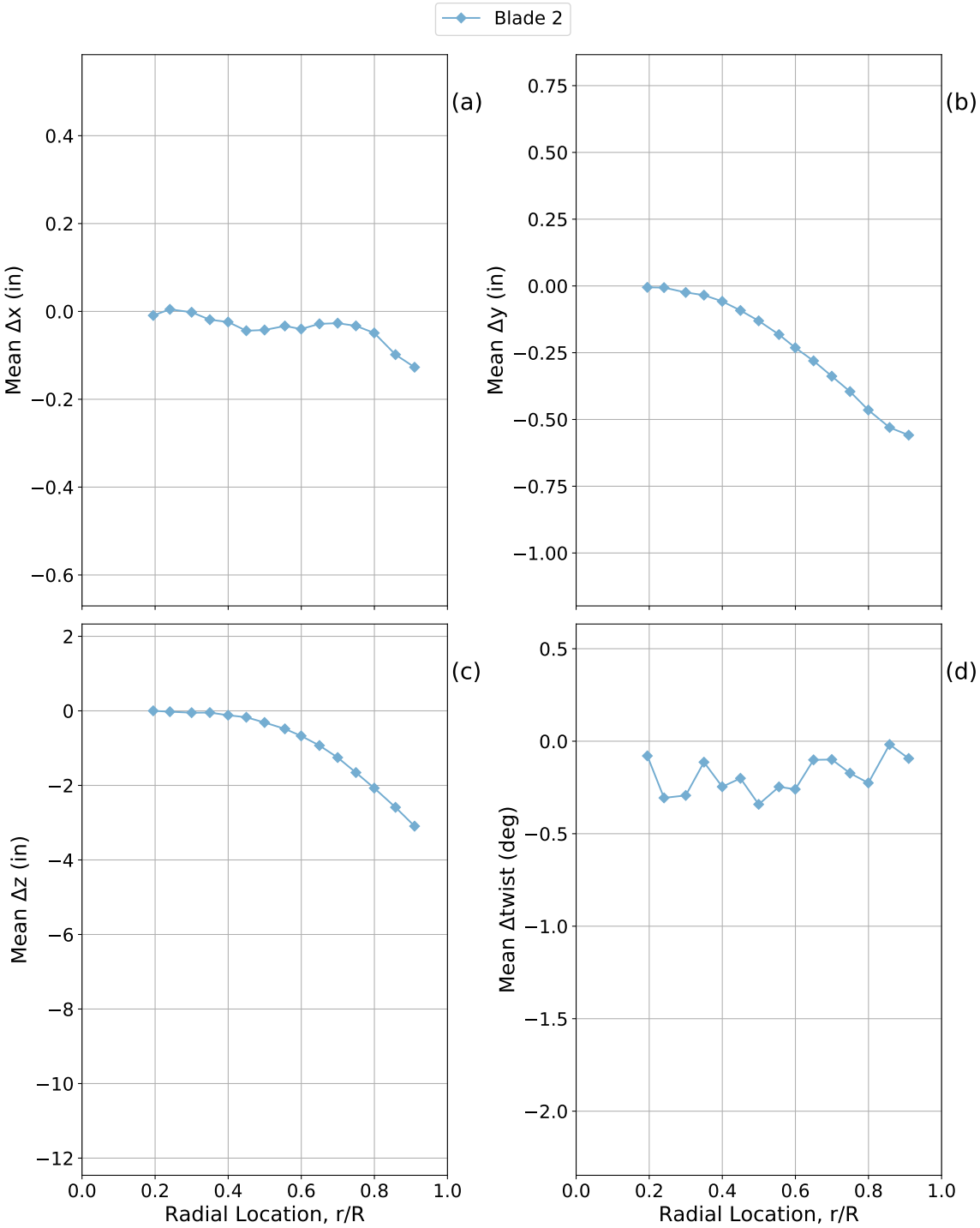


Figure 4.8-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0092	0.0036	-0.0053	0.0008	0.0006	0.0017	-0.0794	0.0202
2	344.88	0.2405	0.0047	0.0020	-0.0063	0.0013	-0.0232	0.0025	-0.3064	0.0339
2	344.88	0.2999	-0.0019	0.0017	-0.0244	0.0036	-0.0498	0.0053	-0.2931	0.0474
2	344.88	0.3498	-0.0189	0.0031	-0.0345	0.0054	-0.0469	0.0086	-0.1133	0.0478
2	344.88	0.3998	-0.0241	0.0047	-0.0577	0.0089	-0.1177	0.0129	-0.2462	0.0368
2	344.88	0.4496	-0.0440	0.0083	-0.0919	0.0115	-0.1720	0.0158	-0.2005	0.0583
2	344.88	0.4995	-0.0423	0.0081	-0.1307	0.0157	-0.3133	0.0189	-0.3415	0.0414
2	344.88	0.5551	-0.0332	0.0097	-0.1821	0.0181	-0.4838	0.0210	-0.2467	0.0384
2	344.88	0.5996	-0.0401	0.0115	-0.2314	0.0206	-0.6727	0.0242	-0.2598	0.0475
2	344.88	0.6497	-0.0283	0.0112	-0.2806	0.0251	-0.9303	0.0282	-0.1009	0.0542
2	344.88	0.6996	-0.0268	0.0121	-0.3381	0.0278	-1.2532	0.0318	-0.0990	0.0344
2	344.88	0.7495	-0.0329	0.0149	-0.3956	0.0306	-1.6559	0.0348	-0.1728	0.0673
2	344.88	0.7996	-0.0491	0.0161	-0.4648	0.0334	-2.0727	0.0362	-0.2257	0.0524
2	344.88	0.8578	-0.0984	0.0185	-0.5301	0.0380	-2.5885	0.0428	-0.0179	0.1023
2	344.88	0.9100	-0.1271	0.0198	-0.5587	0.0415	-3.0941	0.0476	-0.0933	0.1156

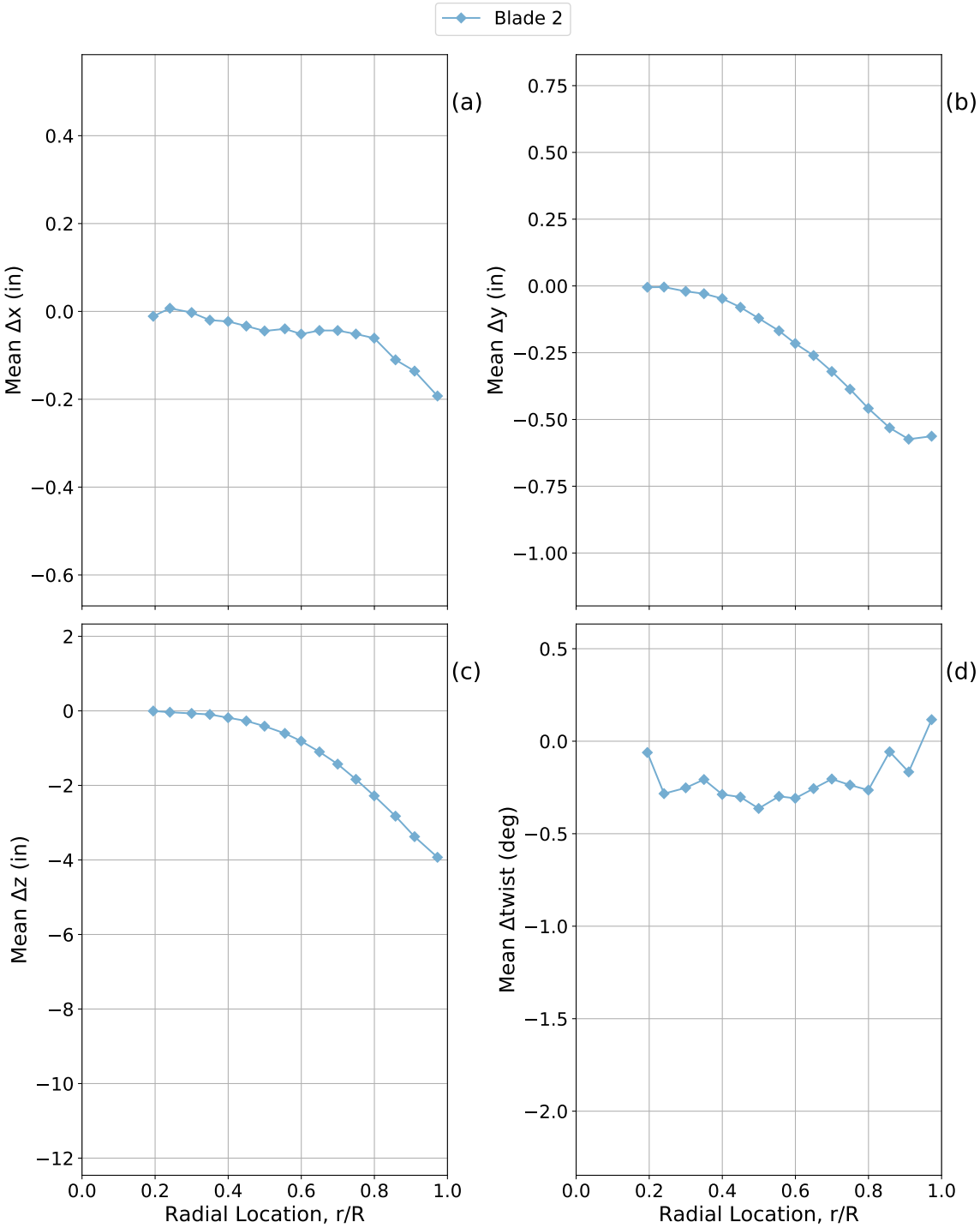


Figure 4.8-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0111	0.0043	-0.0049	0.0009	-0.0047	0.0020	-0.0612	0.0174
2	350.16	0.2405	0.0071	0.0018	-0.0043	0.0025	-0.0374	0.0044	-0.2835	0.0319
2	350.16	0.2999	-0.0026	0.0023	-0.0203	0.0048	-0.0690	0.0083	-0.2520	0.0421
2	350.16	0.3498	-0.0199	0.0036	-0.0291	0.0080	-0.0970	0.0132	-0.2071	0.0510
2	350.16	0.3998	-0.0228	0.0055	-0.0474	0.0130	-0.1844	0.0209	-0.2876	0.0373
2	350.16	0.4496	-0.0334	0.0074	-0.0800	0.0143	-0.2707	0.0250	-0.3018	0.0547
2	350.16	0.4995	-0.0445	0.0072	-0.1212	0.0166	-0.4121	0.0313	-0.3636	0.0477
2	350.16	0.5551	-0.0397	0.0081	-0.1680	0.0215	-0.6051	0.0372	-0.2981	0.0362
2	350.16	0.5996	-0.0516	0.0087	-0.2156	0.0241	-0.8119	0.0407	-0.3085	0.0468
2	350.16	0.6497	-0.0434	0.0091	-0.2606	0.0276	-1.1003	0.0482	-0.2561	0.0507
2	350.16	0.6996	-0.0435	0.0101	-0.3204	0.0308	-1.4292	0.0522	-0.2044	0.0551
2	350.16	0.7495	-0.0515	0.0114	-0.3867	0.0324	-1.8380	0.0585	-0.2371	0.0555
2	350.16	0.7996	-0.0609	0.0127	-0.4586	0.0354	-2.2803	0.0649	-0.2643	0.0511
2	350.16	0.8578	-0.1102	0.0158	-0.5313	0.0388	-2.8256	0.0687	-0.0570	0.0705
2	350.16	0.9100	-0.1359	0.0183	-0.5739	0.0416	-3.3758	0.0775	-0.1662	0.0527
2	350.16	0.9727	-0.1926	0.0184	-0.5628	0.0456	-3.9292	0.0963	0.1165	0.1635

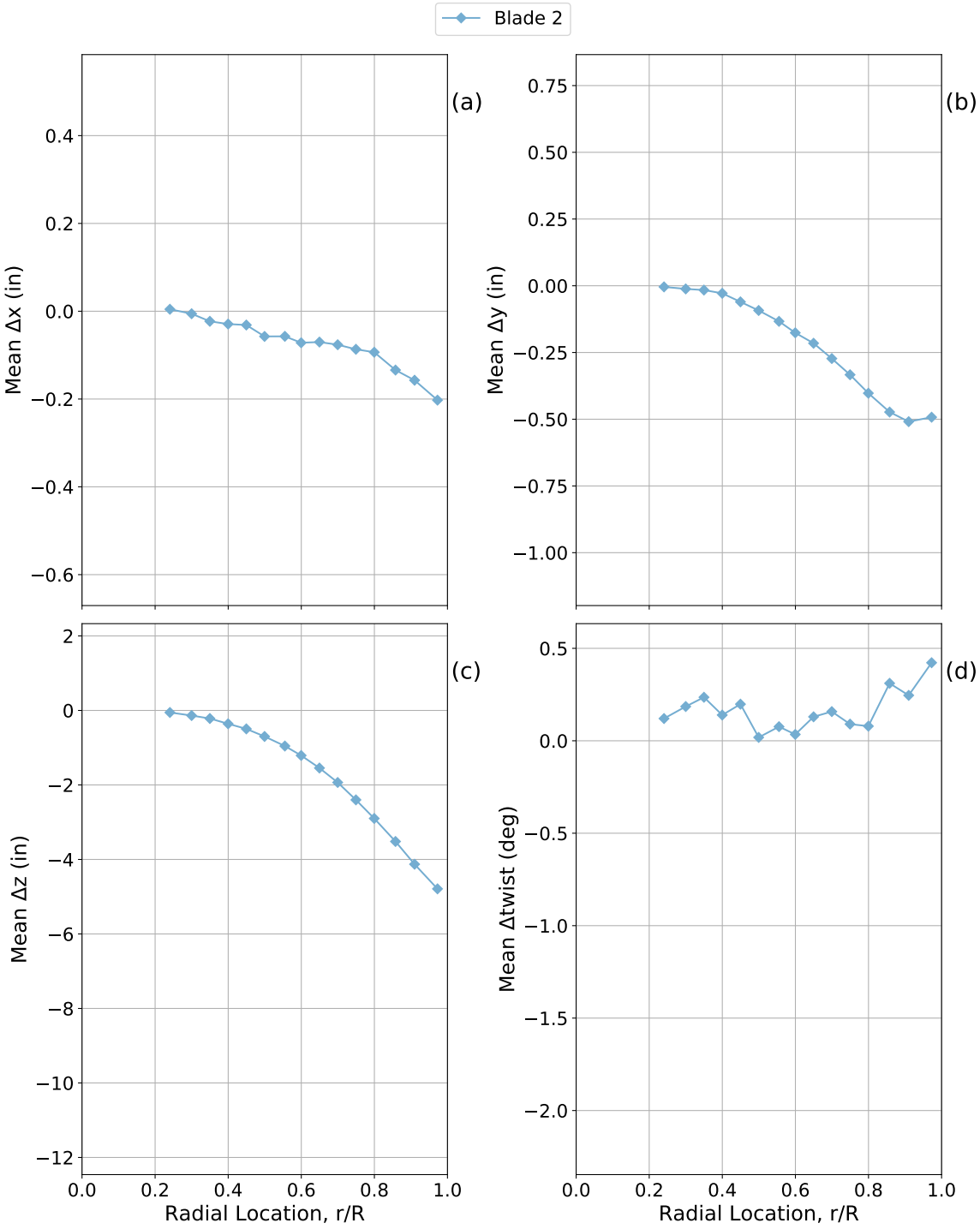


Figure 4.8-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Table 4.8-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 52, point 55. BD run 25, points 3112 to 3122.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2405	0.0045	0.0062	-0.0042	0.0016	-0.0550	0.0036	0.1203	0.0305
2	355.08	0.2999	-0.0057	0.0017	-0.0118	0.0034	-0.1375	0.0075	0.1853	0.0471
2	355.08	0.3498	-0.0230	0.0028	-0.0161	0.0063	-0.2166	0.0135	0.2354	0.0348
2	355.08	0.3998	-0.0292	0.0044	-0.0283	0.0096	-0.3585	0.0207	0.1393	0.0474
2	355.08	0.4496	-0.0314	0.0068	-0.0603	0.0119	-0.4952	0.0240	0.1981	0.0556
2	355.08	0.4995	-0.0574	0.0074	-0.0926	0.0158	-0.6988	0.0289	0.0183	0.0462
2	355.08	0.5551	-0.0572	0.0075	-0.1333	0.0206	-0.9556	0.0356	0.0764	0.0413
2	355.08	0.5996	-0.0718	0.0073	-0.1762	0.0246	-1.2094	0.0409	0.0344	0.0378
2	355.08	0.6497	-0.0702	0.0082	-0.2154	0.0270	-1.5458	0.0449	0.1297	0.0489
2	355.08	0.6996	-0.0763	0.0065	-0.2727	0.0295	-1.9339	0.0497	0.1579	0.0361
2	355.08	0.7495	-0.0867	0.0063	-0.3334	0.0322	-2.4010	0.0542	0.0902	0.0434
2	355.08	0.7996	-0.0934	0.0062	-0.4025	0.0345	-2.8996	0.0613	0.0790	0.0390
2	355.08	0.8578	-0.1340	0.0083	-0.4731	0.0366	-3.5179	0.0677	0.3108	0.0551
2	355.08	0.9100	-0.1572	0.0127	-0.5091	0.0390	-4.1287	0.0730	0.2457	0.0596
2	355.08	0.9727	-0.2025	0.0184	-0.4924	0.0408	-4.7897	0.0805	0.4222	0.0846

4.9 Run 53, Point 11

4.9.1 Pitch, Flap, and Lag

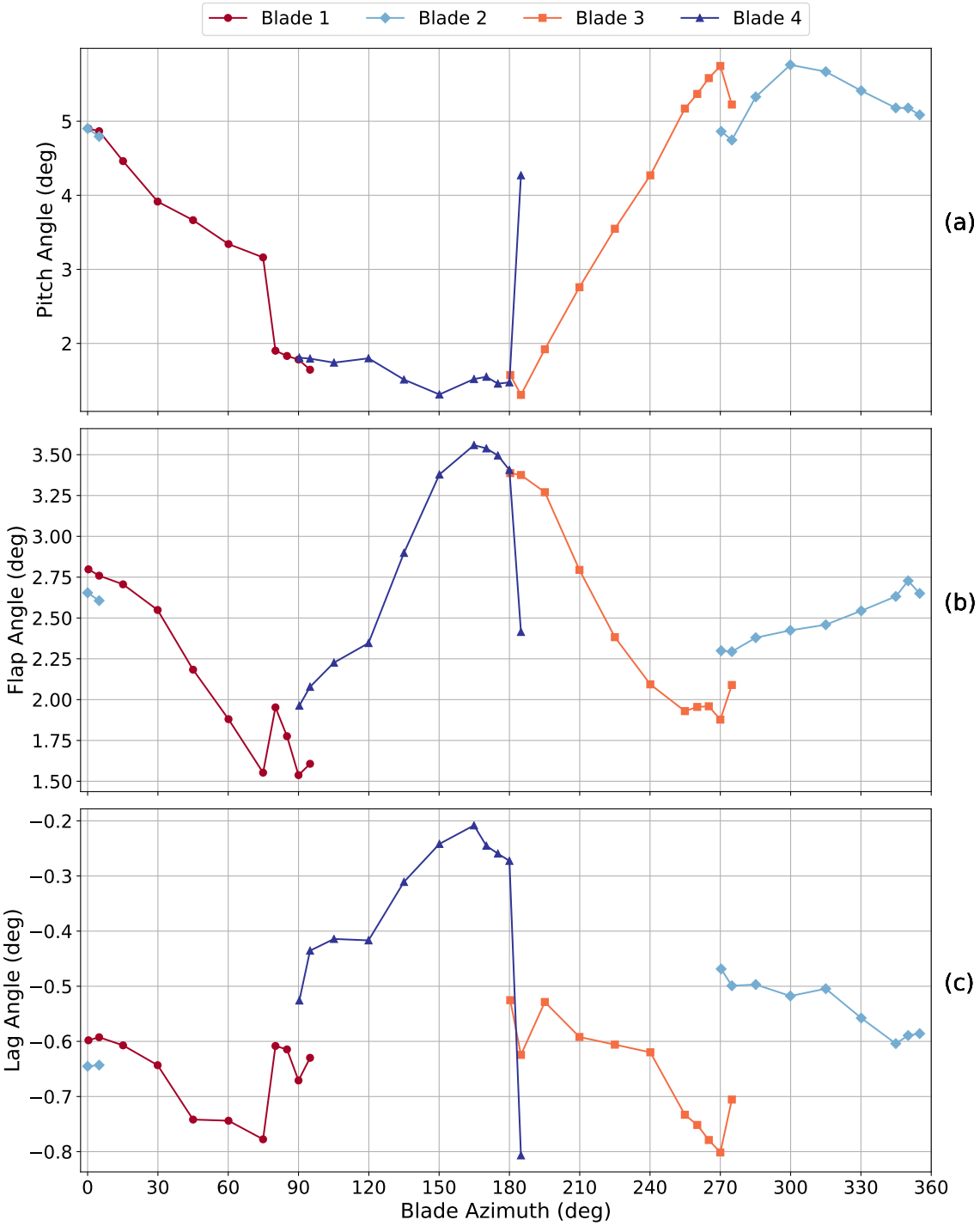


Figure 4.9-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.9020	2.6544	-0.6452	0.0624	0.0163	0.0234
0.35	1	4.9010	2.7979	-0.5980	0.1256	0.0333	0.0179
4.92	1	4.8660	2.7591	-0.5925	0.0741	0.0180	0.0276
4.92	2	4.7942	2.6062	-0.6430	0.0377	0.0218	0.0137
15.12	1	4.4618	2.7061	-0.6072	0.0559	0.0185	0.0168
29.88	1	3.9151	2.5489	-0.6432	0.0588	0.0201	0.0219
45	1	3.6643	2.1835	-0.7418	0.0353	0.0210	0.0125
60.12	1	3.3418	1.8803	-0.7439	0.0930	0.0486	0.0201
74.88	1	3.1613	1.5527	-0.7776	0.0850	0.0349	0.0158
80.16	1	1.9015	1.9526	-0.6083	0.0141	0.0099	0.0218
85.08	1	1.8306	1.7759	-0.6146	0.0294	0.0124	0.0176
90	1	1.7821	1.5375	-0.6709	0.0271	0.0096	0.0152
90.35	4	1.8072	1.9627	-0.5259	0.0290	0.0161	0.0135
94.92	1	1.6449	1.6069	-0.6298	0.0400	0.0243	0.0126
94.92	4	1.7945	2.0782	-0.4355	0.0433	0.0109	0.0191
105.12	4	1.7404	2.2263	-0.4142	0.0310	0.0158	0.0213
119.88	4	1.7991	2.3463	-0.4168	0.0208	0.0112	0.0161
135	4	1.5114	2.8985	-0.3108	0.0183	0.0218	0.0124
150.12	4	1.3107	3.3785	-0.2419	0.0331	0.0148	0.0076
164.88	4	1.5185	3.5587	-0.2082	0.0228	0.0120	0.0070
170.16	4	1.5493	3.5386	-0.2452	0.0318	0.0237	0.0202
175.08	4	1.4563	3.4951	-0.2594	0.0200	0.0282	0.0107
180	4	1.4737	3.4064	-0.2726	0.0271	0.0212	0.0105
180.35	3	1.5732	3.3872	-0.5252	0.0318	0.0292	0.0110
184.92	3	1.3050	3.3756	-0.6245	0.0590	0.0425	0.0328
184.92	4	4.2699	2.4145	-0.8068	0.1368	0.0696	0.0340
195.12	3	1.9209	3.2702	-0.5286	0.0202	0.0159	0.0159
209.88	3	2.7585	2.7944	-0.5920	0.0203	0.0103	0.0183
225	3	3.5484	2.3825	-0.6059	0.0242	0.0115	0.0096
240.12	3	4.2695	2.0936	-0.6198	0.0406	0.0148	0.0193
254.88	3	5.1715	1.9296	-0.7331	0.0236	0.0229	0.0162
260.16	3	5.3688	1.9552	-0.7516	0.0546	0.0369	0.0261
265.08	3	5.5822	1.9593	-0.7789	0.0864	0.0345	0.0256
270	3	5.7459	1.8776	-0.8014	0.1484	0.0467	0.0289
270.35	2	4.8625	2.2995	-0.4686	0.1052	0.0331	0.0160
274.92	2	4.7464	2.2939	-0.4991	0.1015	0.0445	0.0278
274.92	3	5.2252	2.0896	-0.7055	0.1203	0.0472	0.0265
285.12	2	5.3294	2.3793	-0.4969	0.0233	0.0203	0.0143
299.88	2	5.7613	2.4242	-0.5177	0.0262	0.0251	0.0176
315	2	5.6698	2.4587	-0.5045	0.0339	0.0331	0.0135
330.12	2	5.4120	2.5439	-0.5577	0.0235	0.0264	0.0120
344.88	2	5.1800	2.6318	-0.6040	0.0313	0.0367	0.0128
350.16	2	5.1786	2.7276	-0.5893	0.0323	0.0196	0.0209
355.08	2	5.0864	2.6502	-0.5859	0.0217	0.0286	0.0121

4.9.2 Spanwise Elastic Deformations

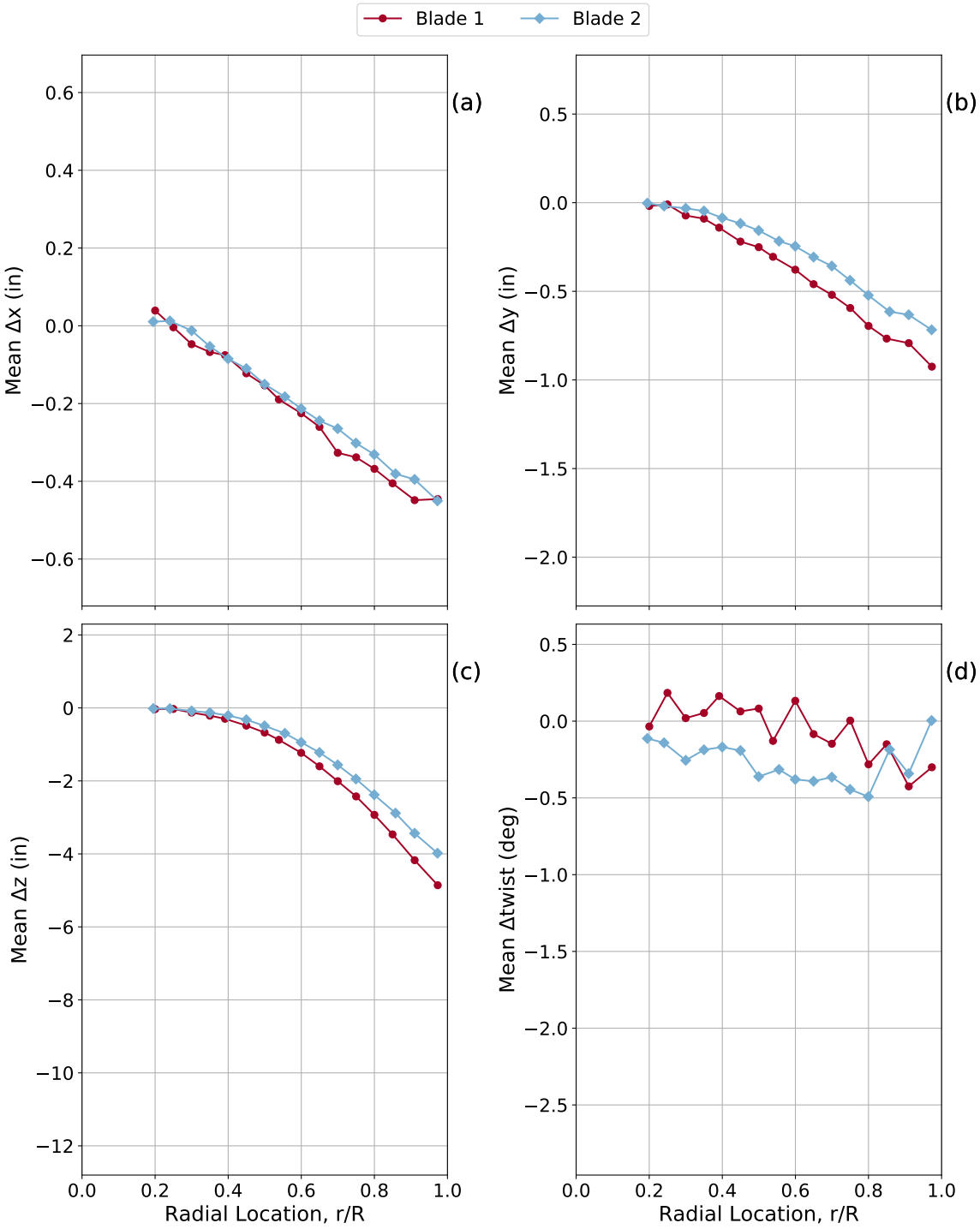


Figure 4.9-2. 0° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0392	0.0034	-0.0185	0.0022	-0.0336	0.0052	-0.0348	0.0545
1	0.35	0.2499	-0.0039	0.0016	-0.0100	0.0035	-0.0285	0.0060	0.1844	0.1325
1	0.35	0.2998	-0.0473	0.0016	-0.0724	0.0069	-0.1292	0.0144	0.0197	0.1379
1	0.35	0.3498	-0.0675	0.0023	-0.0901	0.0127	-0.2124	0.0253	0.0531	0.1249
1	0.35	0.3913	-0.0755	0.0024	-0.1408	0.0163	-0.2974	0.0321	0.1636	0.1182
1	0.35	0.4496	-0.1223	0.0025	-0.2193	0.0212	-0.4845	0.0400	0.0635	0.1180
1	0.35	0.4997	-0.1533	0.0026	-0.2510	0.0252	-0.6759	0.0457	0.0822	0.1242
1	0.35	0.5387	-0.1894	0.0025	-0.3053	0.0306	-0.8748	0.0524	-0.1286	0.1163
1	0.35	0.5996	-0.2250	0.0024	-0.3780	0.0365	-1.2311	0.0632	0.1325	0.1262
1	0.35	0.6498	-0.2601	0.0029	-0.4596	0.0435	-1.6004	0.0717	-0.0843	0.1126
1	0.35	0.6998	-0.3268	0.0029	-0.5200	0.0496	-2.0077	0.0801	-0.1473	0.1145
1	0.35	0.7500	-0.3383	0.0020	-0.5940	0.0566	-2.4251	0.0890	0.0038	0.1402
1	0.35	0.8001	-0.3680	0.0026	-0.6953	0.0609	-2.9310	0.0977	-0.2815	0.1352
1	0.35	0.8497	-0.4052	0.0041	-0.7668	0.0667	-3.4660	0.1064	-0.1504	0.1263
1	0.35	0.9102	-0.4485	0.0055	-0.7922	0.0784	-4.1731	0.1173	-0.4249	0.1286
1	0.35	0.9734	-0.4457	0.0066	-0.9250	0.0828	-4.8582	0.1302	-0.3005	0.1632
2	0	0.1949	0.0106	0.0028	-0.0028	0.0020	-0.0177	0.0038	-0.1127	0.0362
2	0	0.2405	0.0125	0.0013	-0.0187	0.0025	-0.0199	0.0041	-0.1411	0.0608
2	0	0.2999	-0.0124	0.0018	-0.0318	0.0061	-0.0825	0.0089	-0.2552	0.0743
2	0	0.3498	-0.0531	0.0017	-0.0468	0.0093	-0.1298	0.0124	-0.1866	0.0587
2	0	0.3998	-0.0848	0.0020	-0.0858	0.0140	-0.2091	0.0173	-0.1688	0.0699
2	0	0.4496	-0.1101	0.0021	-0.1171	0.0189	-0.3242	0.0232	-0.1916	0.0670
2	0	0.4995	-0.1503	0.0015	-0.1569	0.0214	-0.4923	0.0290	-0.3612	0.0577
2	0	0.5551	-0.1827	0.0018	-0.2169	0.0261	-0.6966	0.0356	-0.3149	0.0498
2	0	0.5996	-0.2131	0.0017	-0.2457	0.0297	-0.9431	0.0426	-0.3797	0.0669
2	0	0.6497	-0.2442	0.0027	-0.3067	0.0351	-1.2211	0.0528	-0.3914	0.0582
2	0	0.6996	-0.2645	0.0028	-0.3573	0.0398	-1.5619	0.0608	-0.3647	0.0721
2	0	0.7495	-0.3017	0.0028	-0.4380	0.0425	-1.9473	0.0689	-0.4447	0.0735
2	0	0.7996	-0.3309	0.0014	-0.5227	0.0492	-2.3803	0.0770	-0.4919	0.0690
2	0	0.8578	-0.3808	0.0029	-0.6147	0.0538	-2.8836	0.0840	-0.1849	0.1055
2	0	0.9100	-0.3951	0.0034	-0.6324	0.0607	-3.4352	0.0962	-0.3416	0.1566
2	0	0.9727	-0.4503	0.0043	-0.7172	0.0661	-3.9805	0.1040	0.0041	0.0903

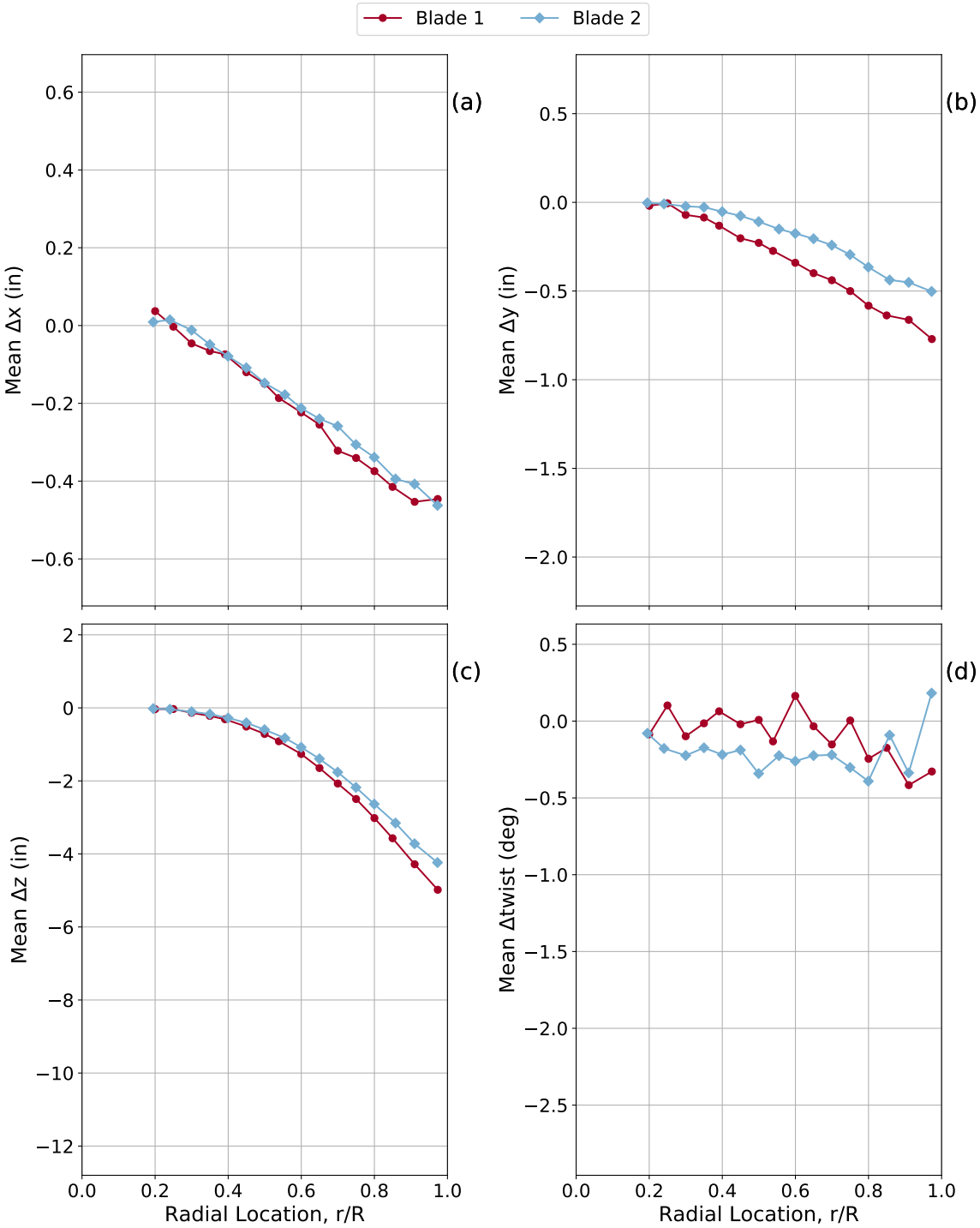


Figure 4.9-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0370	0.0030	-0.0192	0.0014	-0.0351	0.0031	-0.0854	0.0363
1	4.92	0.2499	-0.0030	0.0023	-0.0052	0.0033	-0.0320	0.0037	0.1021	0.0787
1	4.92	0.2998	-0.0460	0.0007	-0.0705	0.0050	-0.1361	0.0095	-0.0986	0.0836
1	4.92	0.3498	-0.0655	0.0021	-0.0856	0.0106	-0.2207	0.0153	-0.0144	0.0644
1	4.92	0.3913	-0.0741	0.0019	-0.1315	0.0139	-0.3118	0.0203	0.0639	0.0659
1	4.92	0.4496	-0.1201	0.0015	-0.2025	0.0179	-0.5130	0.0282	-0.0204	0.0725
1	4.92	0.4997	-0.1497	0.0022	-0.2284	0.0221	-0.7141	0.0354	0.0081	0.0682
1	4.92	0.5387	-0.1864	0.0021	-0.2737	0.0254	-0.9152	0.0413	-0.1320	0.0727
1	4.92	0.5996	-0.2234	0.0023	-0.3406	0.0305	-1.2631	0.0519	0.1640	0.0722
1	4.92	0.6498	-0.2547	0.0025	-0.3993	0.0353	-1.6481	0.0610	-0.0337	0.0690
1	4.92	0.6998	-0.3218	0.0031	-0.4391	0.0392	-2.0724	0.0706	-0.1522	0.0709
1	4.92	0.7500	-0.3405	0.0032	-0.5003	0.0432	-2.4958	0.0775	0.0041	0.0810
1	4.92	0.8001	-0.3744	0.0032	-0.5828	0.0473	-3.0187	0.0889	-0.2452	0.0824
1	4.92	0.8497	-0.4148	0.0032	-0.6374	0.0527	-3.5703	0.0961	-0.1741	0.0811
1	4.92	0.9102	-0.4532	0.0047	-0.6625	0.0587	-4.2825	0.1074	-0.4167	0.0846
1	4.92	0.9734	-0.4460	0.0051	-0.7708	0.0649	-4.9818	0.1116	-0.3281	0.1078
2	4.92	0.1949	0.0090	0.0025	-0.0029	0.0012	-0.0209	0.0024	-0.0795	0.0169
2	4.92	0.2405	0.0148	0.0019	-0.0087	0.0025	-0.0384	0.0050	-0.1781	0.0421
2	4.92	0.2999	-0.0119	0.0017	-0.0223	0.0042	-0.1057	0.0078	-0.2238	0.0413
2	4.92	0.3498	-0.0489	0.0017	-0.0273	0.0067	-0.1715	0.0144	-0.1737	0.0372
2	4.92	0.3998	-0.0791	0.0023	-0.0527	0.0108	-0.2771	0.0211	-0.2183	0.0377
2	4.92	0.4496	-0.1086	0.0025	-0.0760	0.0142	-0.4083	0.0259	-0.1882	0.0354
2	4.92	0.4995	-0.1479	0.0021	-0.1089	0.0171	-0.5967	0.0335	-0.3414	0.0429
2	4.92	0.5551	-0.1779	0.0024	-0.1507	0.0205	-0.8267	0.0391	-0.2250	0.0337
2	4.92	0.5996	-0.2124	0.0023	-0.1753	0.0227	-1.0788	0.0462	-0.2608	0.0414
2	4.92	0.6497	-0.2399	0.0015	-0.2053	0.0271	-1.3950	0.0532	-0.2245	0.0510
2	4.92	0.6996	-0.2587	0.0018	-0.2417	0.0300	-1.7616	0.0612	-0.2196	0.0393
2	4.92	0.7495	-0.3062	0.0018	-0.2948	0.0323	-2.1786	0.0665	-0.3020	0.0441
2	4.92	0.7996	-0.3387	0.0024	-0.3653	0.0367	-2.6354	0.0738	-0.3912	0.0526
2	4.92	0.8578	-0.3945	0.0020	-0.4377	0.0411	-3.1546	0.0820	-0.0913	0.0512
2	4.92	0.9100	-0.4076	0.0025	-0.4511	0.0449	-3.7209	0.0919	-0.3370	0.0735
2	4.92	0.9727	-0.4624	0.0034	-0.5024	0.0490	-4.2364	0.0947	0.1822	0.0785

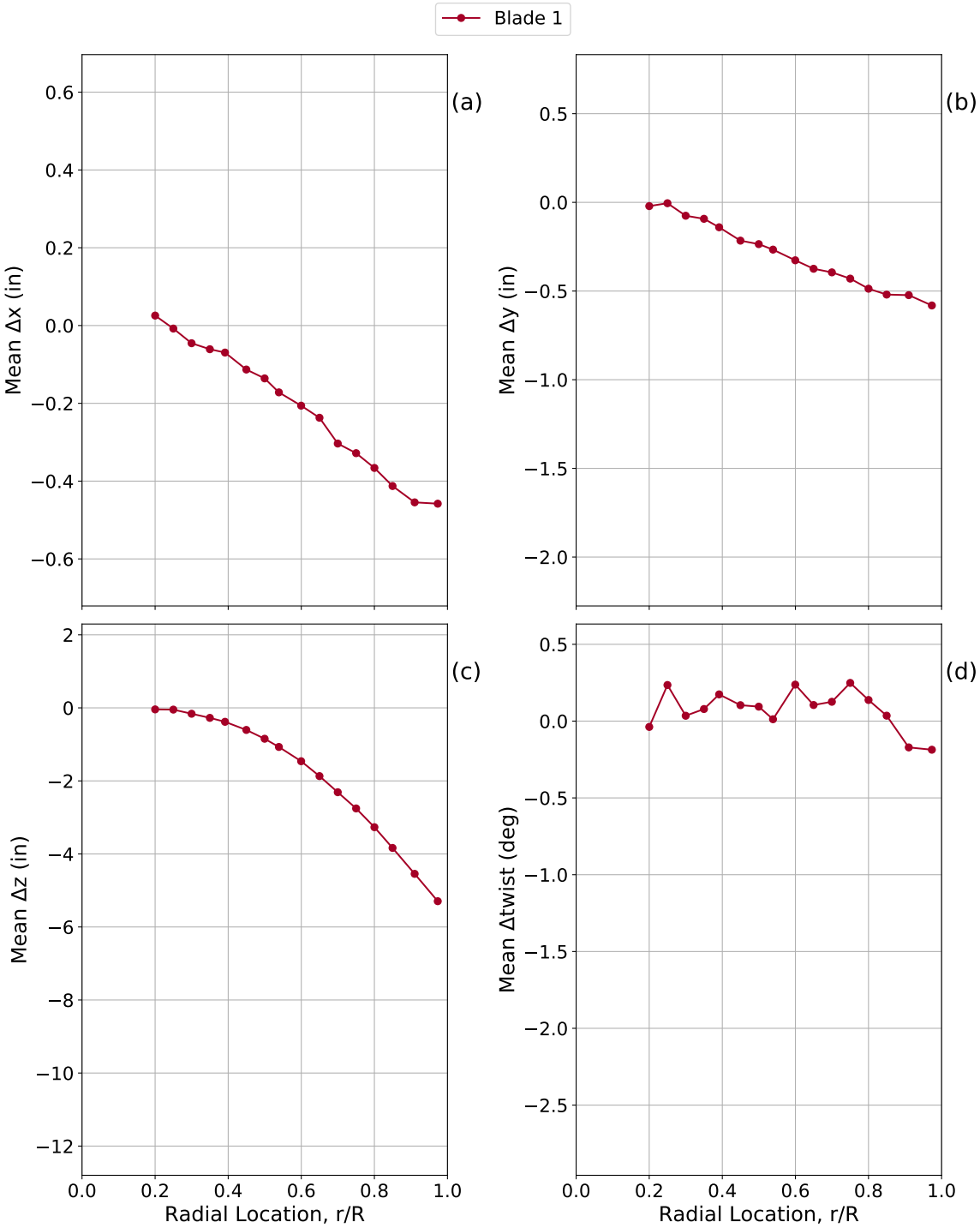


Figure 4.9-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0256	0.0029	-0.0211	0.0014	-0.0418	0.0029	-0.0378	0.0286
1	15.12	0.2499	-0.0078	0.0015	-0.0049	0.0017	-0.0476	0.0039	0.2350	0.0523
1	15.12	0.2998	-0.0455	0.0017	-0.0754	0.0044	-0.1610	0.0077	0.0349	0.0627
1	15.12	0.3498	-0.0609	0.0012	-0.0928	0.0070	-0.2737	0.0136	0.0786	0.0514
1	15.12	0.3913	-0.0695	0.0015	-0.1405	0.0095	-0.3818	0.0168	0.1740	0.0509
1	15.12	0.4496	-0.1131	0.0019	-0.2159	0.0117	-0.6046	0.0242	0.1038	0.0513
1	15.12	0.4997	-0.1359	0.0019	-0.2355	0.0143	-0.8457	0.0297	0.0942	0.0543
1	15.12	0.5387	-0.1718	0.0020	-0.2665	0.0164	-1.0703	0.0340	0.0122	0.0452
1	15.12	0.5996	-0.2060	0.0022	-0.3267	0.0202	-1.4614	0.0391	0.2376	0.0537
1	15.12	0.6498	-0.2371	0.0017	-0.3744	0.0226	-1.8689	0.0447	0.1048	0.0508
1	15.12	0.6998	-0.3034	0.0023	-0.3948	0.0250	-2.3101	0.0504	0.1258	0.0494
1	15.12	0.7500	-0.3281	0.0024	-0.4300	0.0280	-2.7541	0.0562	0.2487	0.0608
1	15.12	0.8001	-0.3661	0.0023	-0.4869	0.0311	-3.2680	0.0597	0.1375	0.0522
1	15.12	0.8497	-0.4126	0.0031	-0.5200	0.0352	-3.8361	0.0634	0.0354	0.0560
1	15.12	0.9102	-0.4546	0.0022	-0.5232	0.0401	-4.5448	0.0714	-0.1712	0.0600
1	15.12	0.9734	-0.4580	0.0040	-0.5814	0.0436	-5.2946	0.0832	-0.1863	0.0424

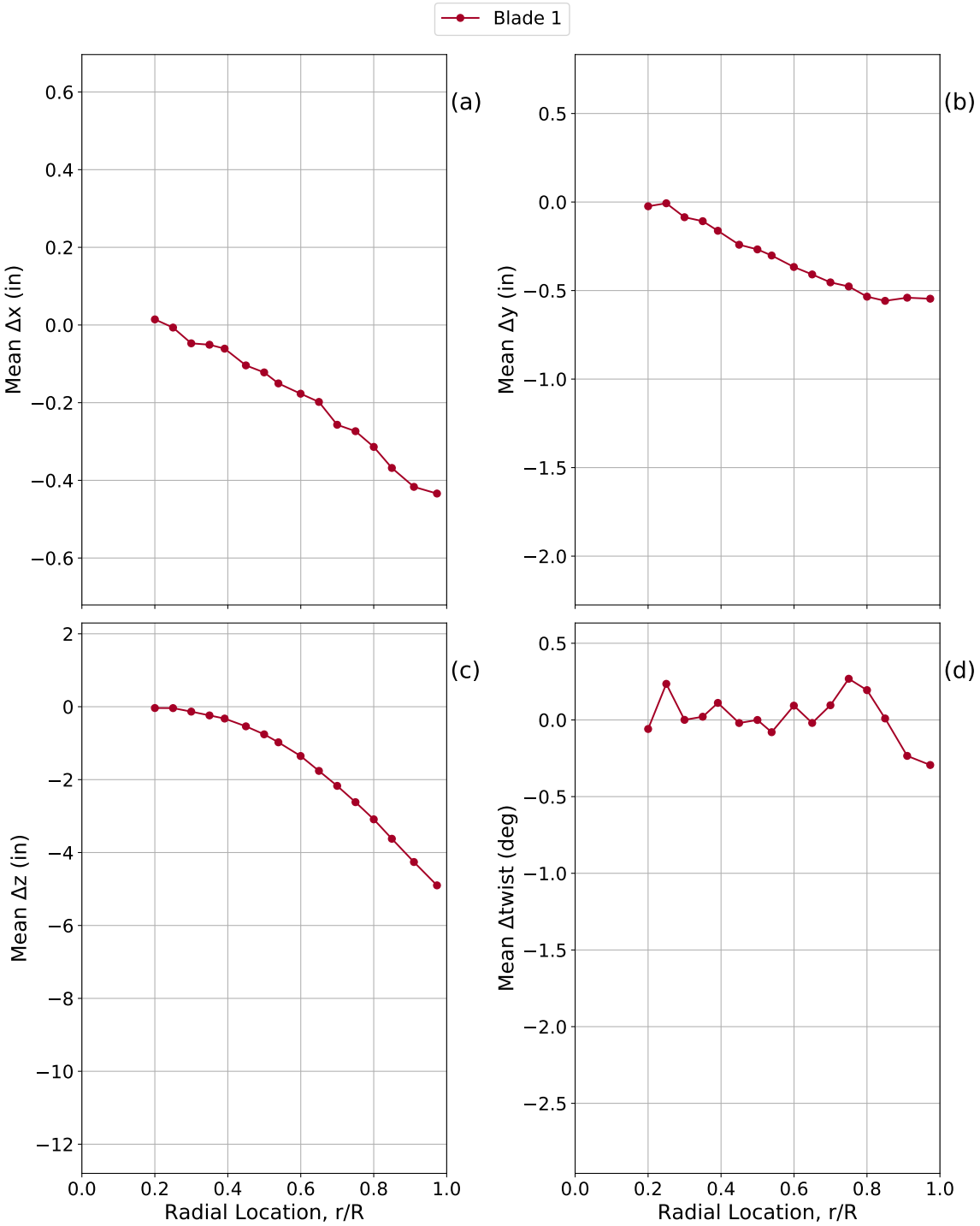


Figure 4.9-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0144	0.0024	-0.0240	0.0014	-0.0360	0.0033	-0.0590	0.0237
1	29.88	0.2499	-0.0066	0.0011	-0.0071	0.0019	-0.0386	0.0058	0.2353	0.0470
1	29.88	0.2998	-0.0472	0.0013	-0.0858	0.0051	-0.1346	0.0123	0.0006	0.0536
1	29.88	0.3498	-0.0508	0.0011	-0.1082	0.0085	-0.2387	0.0190	0.0209	0.0489
1	29.88	0.3913	-0.0609	0.0018	-0.1624	0.0118	-0.3252	0.0277	0.1111	0.0401
1	29.88	0.4496	-0.1040	0.0020	-0.2412	0.0156	-0.5381	0.0344	-0.0200	0.0546
1	29.88	0.4997	-0.1221	0.0020	-0.2676	0.0196	-0.7579	0.0430	-0.0003	0.0491
1	29.88	0.5387	-0.1504	0.0020	-0.3020	0.0234	-0.9767	0.0488	-0.0799	0.0536
1	29.88	0.5996	-0.1769	0.0027	-0.3669	0.0285	-1.3521	0.0550	0.0932	0.0521
1	29.88	0.6498	-0.1981	0.0026	-0.4090	0.0329	-1.7607	0.0608	-0.0196	0.0502
1	29.88	0.6998	-0.2569	0.0025	-0.4538	0.0369	-2.1710	0.0657	0.0957	0.0521
1	29.88	0.7500	-0.2735	0.0025	-0.4769	0.0417	-2.6181	0.0730	0.2685	0.0553
1	29.88	0.8001	-0.3139	0.0023	-0.5345	0.0457	-3.0891	0.0824	0.1942	0.0560
1	29.88	0.8497	-0.3681	0.0021	-0.5580	0.0504	-3.6218	0.0945	0.0096	0.0517
1	29.88	0.9102	-0.4168	0.0029	-0.5404	0.0560	-4.2598	0.1098	-0.2344	0.0530
1	29.88	0.9734	-0.4340	0.0028	-0.5461	0.0616	-4.9004	0.1222	-0.2939	0.0620

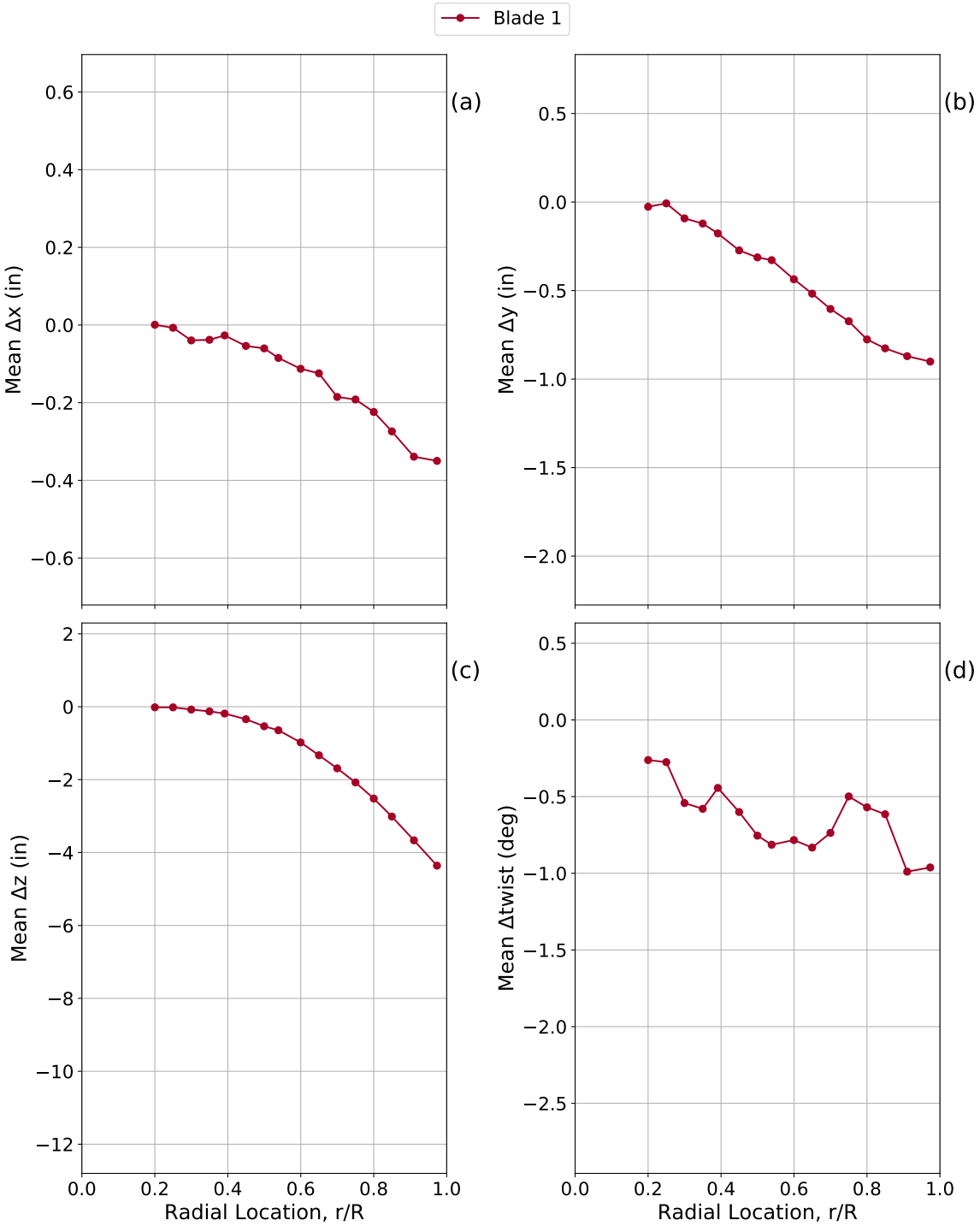


Figure 4.9-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	0.0006	0.0030	-0.0267	0.0009	-0.0166	0.0024	-0.2616	0.0206
1	45	0.2499	-0.0071	0.0017	-0.0077	0.0014	-0.0175	0.0052	-0.2751	0.0324
1	45	0.2998	-0.0397	0.0012	-0.0923	0.0038	-0.0783	0.0093	-0.5420	0.0464
1	45	0.3498	-0.0381	0.0029	-0.1217	0.0054	-0.1278	0.0157	-0.5795	0.0332
1	45	0.3913	-0.0268	0.0044	-0.1774	0.0082	-0.1873	0.0226	-0.4433	0.0328
1	45	0.4496	-0.0539	0.0059	-0.2732	0.0097	-0.3427	0.0287	-0.6003	0.0479
1	45	0.4997	-0.0602	0.0073	-0.3128	0.0118	-0.5362	0.0395	-0.7545	0.0910
1	45	0.5387	-0.0848	0.0077	-0.3282	0.0197	-0.6463	0.0517	-0.8137	0.0533
1	45	0.5996	-0.1127	0.0081	-0.4362	0.0228	-0.9791	0.0589	-0.7833	0.0454
1	45	0.6498	-0.1244	0.0076	-0.5176	0.0245	-1.3312	0.0619	-0.8325	0.0516
1	45	0.6998	-0.1853	0.0075	-0.6039	0.0281	-1.6902	0.0670	-0.7365	0.0484
1	45	0.7500	-0.1918	0.0077	-0.6733	0.0306	-2.0769	0.0724	-0.4988	0.0604
1	45	0.8001	-0.2239	0.0079	-0.7761	0.0331	-2.5198	0.0787	-0.5700	0.0435
1	45	0.8497	-0.2739	0.0077	-0.8264	0.0355	-3.0128	0.0830	-0.6147	0.0516
1	45	0.9102	-0.3391	0.0072	-0.8705	0.0394	-3.6646	0.0928	-0.9895	0.0431
1	45	0.9734	-0.3499	0.0085	-0.9012	0.0432	-4.3595	0.1017	-0.9620	0.0471

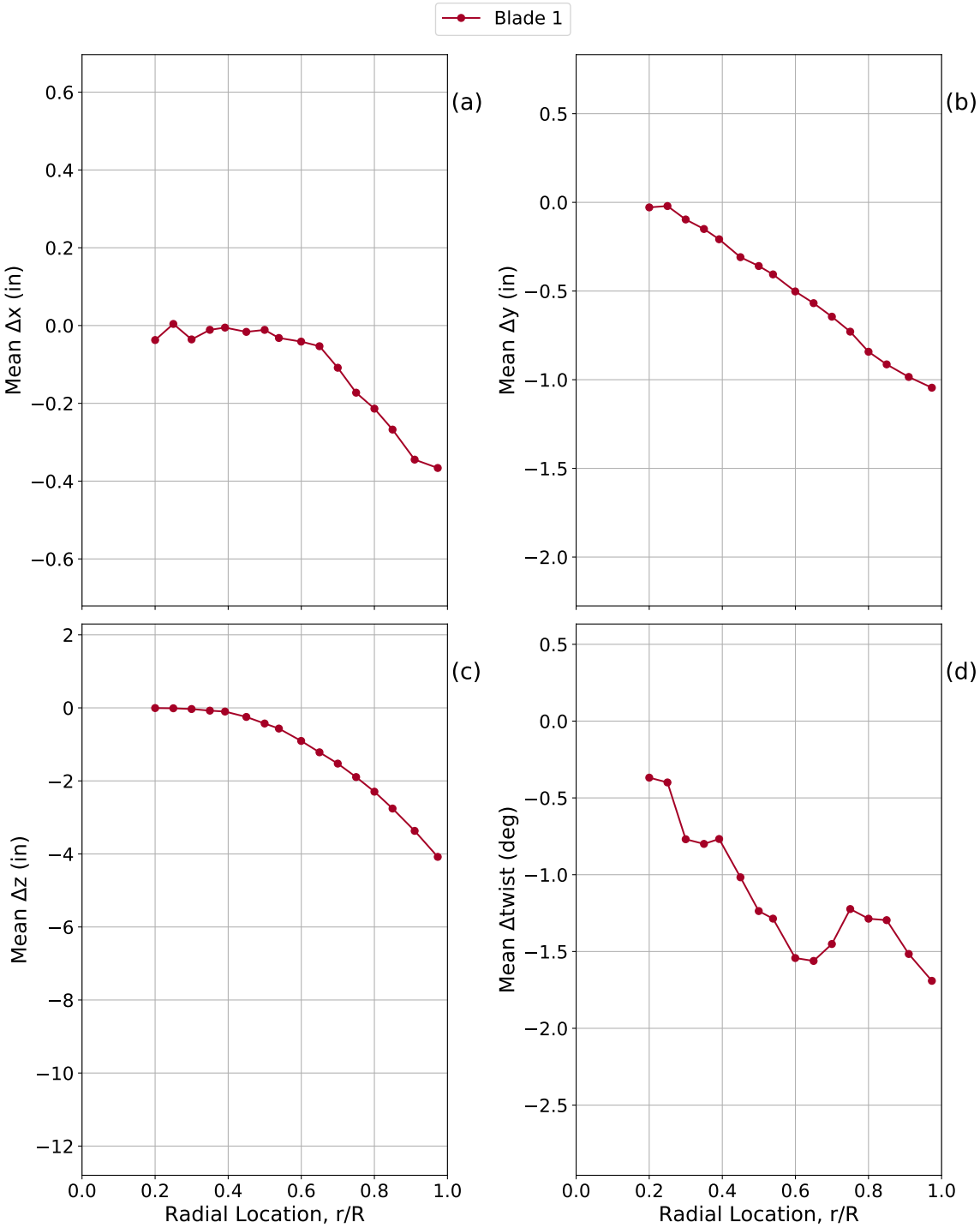


Figure 4.9-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0373	0.0037	-0.0283	0.0015	-0.0054	0.0050	-0.3681	0.0370
1	60.12	0.2499	0.0041	0.0015	-0.0208	0.0027	-0.0113	0.0087	-0.3992	0.0836
1	60.12	0.2998	-0.0357	0.0018	-0.0965	0.0055	-0.0318	0.0165	-0.7690	0.0912
1	60.12	0.3498	-0.0111	0.0019	-0.1503	0.0096	-0.0762	0.0293	-0.7994	0.0845
1	60.12	0.3913	-0.0053	0.0025	-0.2081	0.0135	-0.1009	0.0398	-0.7674	0.0838
1	60.12	0.4496	-0.0163	0.0033	-0.3091	0.0177	-0.2483	0.0548	-1.0168	0.0856
1	60.12	0.4997	-0.0112	0.0027	-0.3590	0.0222	-0.4285	0.0670	-1.2366	0.0823
1	60.12	0.5387	-0.0320	0.0039	-0.4062	0.0251	-0.5664	0.0768	-1.2859	0.0765
1	60.12	0.5996	-0.0413	0.0037	-0.5023	0.0300	-0.9050	0.0917	-1.5424	0.0768
1	60.12	0.6498	-0.0532	0.0034	-0.5684	0.0329	-1.2171	0.1023	-1.5613	0.0883
1	60.12	0.6998	-0.1085	0.0036	-0.6446	0.0371	-1.5260	0.1140	-1.4512	0.0863
1	60.12	0.7500	-0.1726	0.0058	-0.7291	0.0356	-1.8948	0.1297	-1.2234	0.0909
1	60.12	0.8001	-0.2137	0.0057	-0.8424	0.0389	-2.2951	0.1421	-1.2864	0.0784
1	60.12	0.8497	-0.2675	0.0056	-0.9136	0.0432	-2.7568	0.1527	-1.2959	0.0934
1	60.12	0.9102	-0.3447	0.0061	-0.9845	0.0474	-3.3682	0.1702	-1.5161	0.0787
1	60.12	0.9734	-0.3662	0.0061	-1.0451	0.0532	-4.0801	0.1845	-1.6908	0.0969

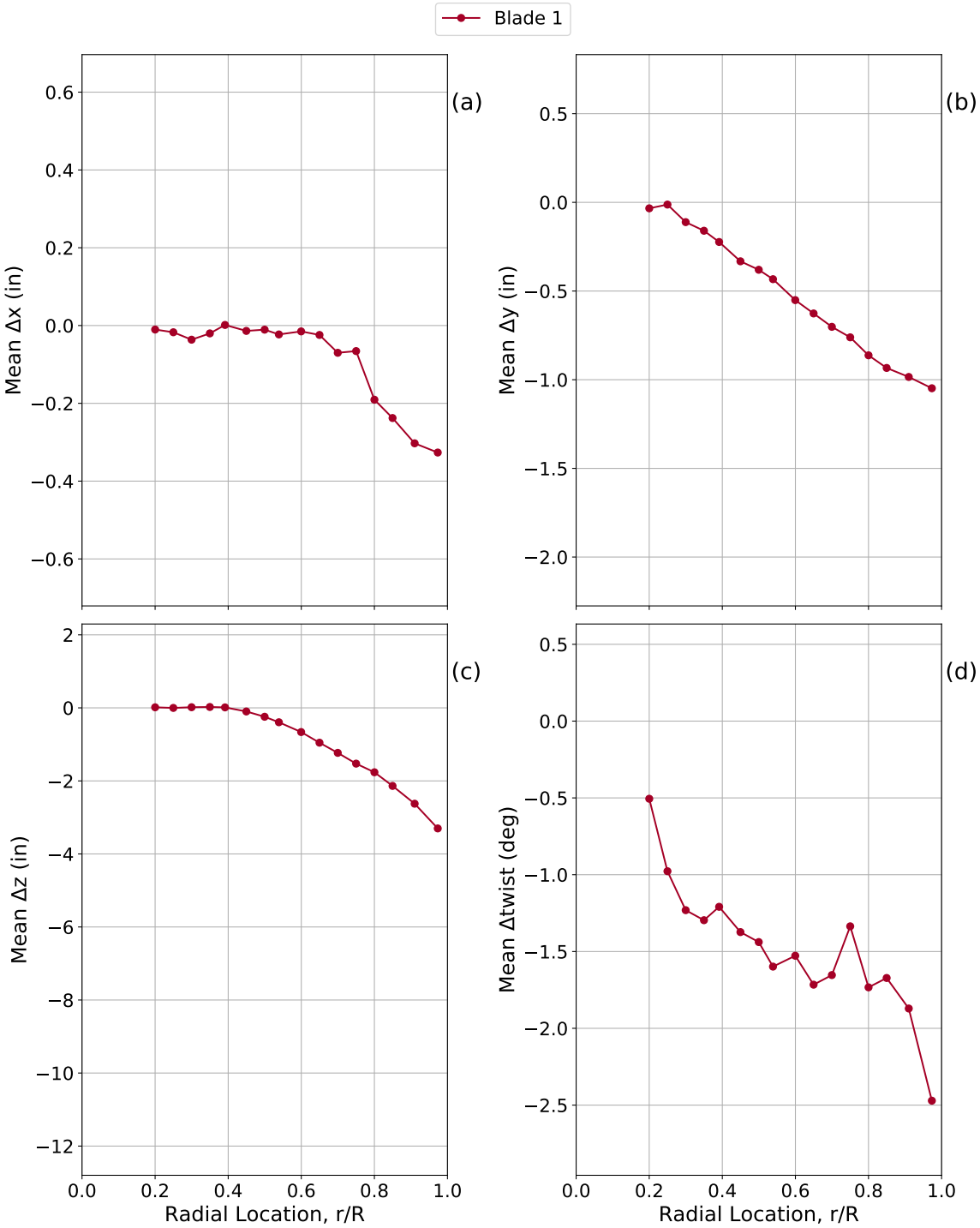


Figure 4.9-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0103	0.0022	-0.0337	0.0015	0.0152	0.0041	-0.5055	0.0357
1	74.88	0.2499	-0.0173	0.0013	-0.0125	0.0025	-0.0014	0.0061	-0.9773	0.0769
1	74.88	0.2998	-0.0364	0.0012	-0.1115	0.0054	0.0177	0.0128	-1.2308	0.0880
1	74.88	0.3498	-0.0202	0.0023	-0.1601	0.0095	0.0240	0.0232	-1.2962	0.0752
1	74.88	0.3913	0.0015	0.0020	-0.2235	0.0131	0.0130	0.0305	-1.2089	0.0795
1	74.88	0.4496	-0.0138	0.0035	-0.3324	0.0166	-0.0986	0.0408	-1.3736	0.0846
1	74.88	0.4997	-0.0106	0.0033	-0.3802	0.0207	-0.2435	0.0501	-1.4385	0.0849
1	74.88	0.5387	-0.0229	0.0032	-0.4332	0.0235	-0.3943	0.0588	-1.5983	0.0750
1	74.88	0.5996	-0.0151	0.0035	-0.5512	0.0281	-0.6621	0.0695	-1.5274	0.0878
1	74.88	0.6498	-0.0242	0.0041	-0.6265	0.0318	-0.9537	0.0824	-1.7159	0.1013
1	74.88	0.6998	-0.0701	0.0048	-0.7019	0.0377	-1.2324	0.0916	-1.6534	0.1063
1	74.88	0.7500	-0.0657	0.0094	-0.7611	0.0397	-1.5271	0.1014	-1.3359	0.1536
1	74.88	0.8001	-0.1907	0.0041	-0.8625	0.0581	-1.7636	0.0940	-1.7333	0.0884
1	74.88	0.8497	-0.2378	0.0045	-0.9337	0.0627	-2.1374	0.1018	-1.6723	0.0892
1	74.88	0.9102	-0.3028	0.0042	-0.9845	0.0697	-2.6247	0.1169	-1.8711	0.0782
1	74.88	0.9734	-0.3265	0.0062	-1.0482	0.0754	-3.3015	0.1327	-2.4712	0.0772

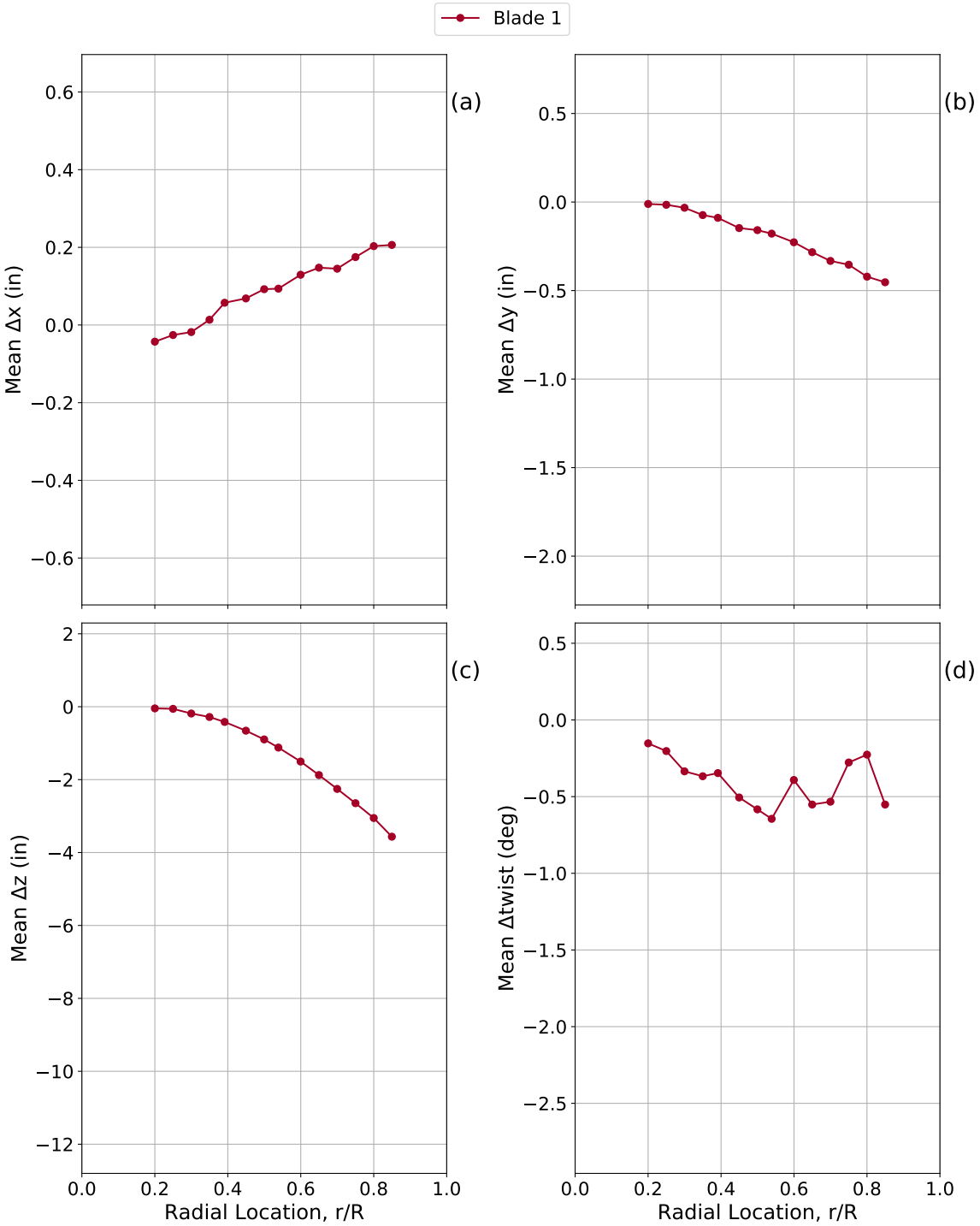


Figure 4.9-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0429	0.0013	-0.0109	0.0005	-0.0459	0.0018	-0.1527	0.0125
1	80.16	0.2499	-0.0258	0.0008	-0.0156	0.0015	-0.0582	0.0029	-0.2030	0.0189
1	80.16	0.2998	-0.0182	0.0011	-0.0323	0.0024	-0.1863	0.0070	-0.3352	0.0232
1	80.16	0.3498	0.0135	0.0013	-0.0737	0.0039	-0.2819	0.0107	-0.3671	0.0351
1	80.16	0.3913	0.0573	0.0018	-0.0893	0.0058	-0.4178	0.0154	-0.3466	0.0285
1	80.16	0.4496	0.0684	0.0016	-0.1470	0.0077	-0.6576	0.0205	-0.5057	0.0252
1	80.16	0.4997	0.0922	0.0016	-0.1588	0.0096	-0.8974	0.0249	-0.5832	0.0259
1	80.16	0.5387	0.0936	0.0025	-0.1785	0.0109	-1.1213	0.0260	-0.6449	0.0399
1	80.16	0.5996	0.1294	0.0019	-0.2273	0.0135	-1.5040	0.0327	-0.3916	0.0356
1	80.16	0.6498	0.1476	0.0025	-0.2834	0.0156	-1.8747	0.0348	-0.5516	0.0456
1	80.16	0.6998	0.1450	0.0031	-0.3326	0.0195	-2.2547	0.0392	-0.5332	0.0709
1	80.16	0.7500	0.1749	0.0029	-0.3541	0.0201	-2.6466	0.0372	-0.2774	0.1080
1	80.16	0.8001	0.2031	0.0106	-0.4215	0.0267	-3.0534	0.0470	-0.2263	0.1769
1	80.16	0.8497	0.2062	0.0054	-0.4532	0.0266	-3.5650	0.0538	-0.5517	0.1077

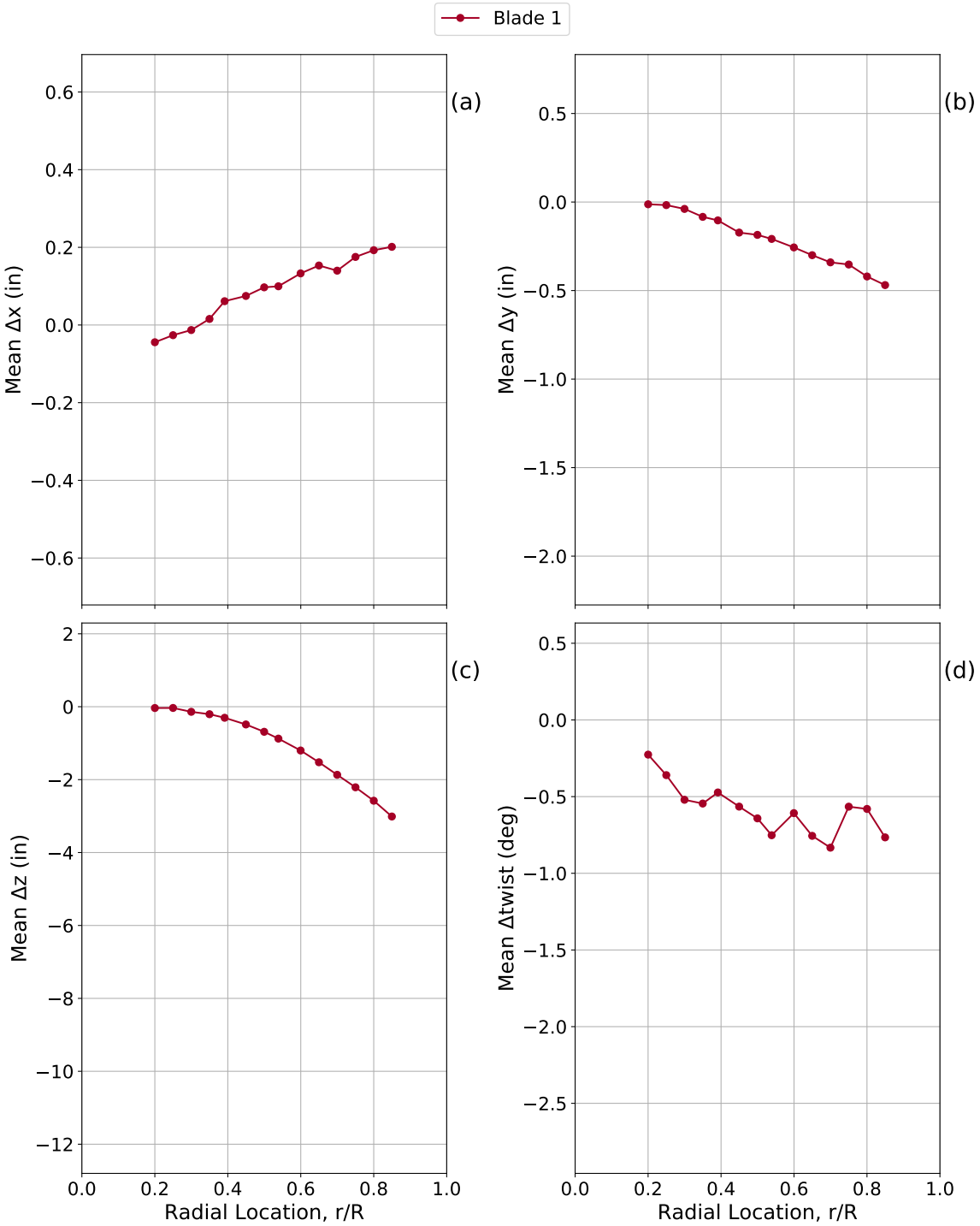


Figure 4.9-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0444	0.0010	-0.0127	0.0005	-0.0357	0.0012	-0.2262	0.0148
1	85.08	0.2499	-0.0262	0.0008	-0.0173	0.0015	-0.0342	0.0036	-0.3599	0.0272
1	85.08	0.2998	-0.0130	0.0010	-0.0389	0.0021	-0.1399	0.0058	-0.5206	0.0339
1	85.08	0.3498	0.0156	0.0007	-0.0838	0.0040	-0.2055	0.0095	-0.5452	0.0298
1	85.08	0.3913	0.0613	0.0009	-0.1037	0.0058	-0.3033	0.0145	-0.4729	0.0334
1	85.08	0.4496	0.0748	0.0015	-0.1726	0.0083	-0.4867	0.0174	-0.5652	0.0374
1	85.08	0.4997	0.0970	0.0020	-0.1855	0.0103	-0.6879	0.0213	-0.6418	0.0416
1	85.08	0.5387	0.0997	0.0021	-0.2084	0.0124	-0.8750	0.0256	-0.7518	0.0394
1	85.08	0.5996	0.1329	0.0022	-0.2564	0.0152	-1.2009	0.0285	-0.6077	0.0415
1	85.08	0.6498	0.1532	0.0030	-0.3002	0.0176	-1.5236	0.0295	-0.7558	0.0304
1	85.08	0.6998	0.1399	0.0028	-0.3407	0.0204	-1.8676	0.0331	-0.8329	0.0671
1	85.08	0.7500	0.1753	0.0043	-0.3529	0.0237	-2.2103	0.0334	-0.5656	0.0826
1	85.08	0.8001	0.1926	0.0044	-0.4205	0.0263	-2.5789	0.0348	-0.5803	0.1046
1	85.08	0.8497	0.2013	0.0040	-0.4691	0.0299	-3.0117	0.0398	-0.7658	0.0708

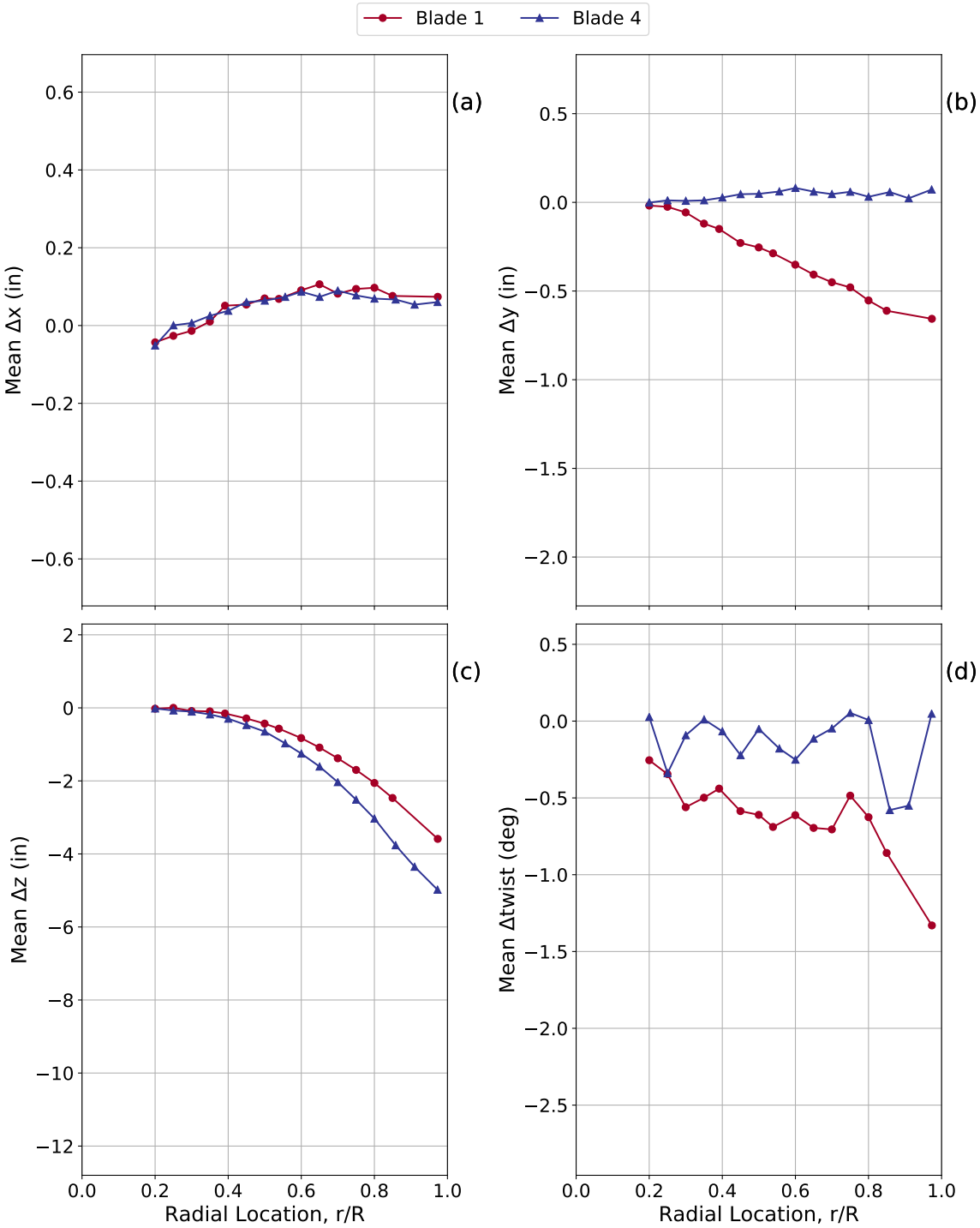


Figure 4.9-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0432	0.0015	-0.0182	0.0003	-0.0219	0.0012	-0.2547	0.0126
1	90	0.2499	-0.0265	0.0007	-0.0251	0.0010	0.0009	0.0017	-0.3447	0.0319
1	90	0.2998	-0.0136	0.0007	-0.0569	0.0014	-0.0853	0.0032	-0.5606	0.0326
1	90	0.3498	0.0102	0.0010	-0.1198	0.0019	-0.0965	0.0061	-0.4985	0.0353
1	90	0.3913	0.0510	0.0013	-0.1500	0.0034	-0.1539	0.0075	-0.4395	0.0388
1	90	0.4496	0.0538	0.0015	-0.2290	0.0053	-0.2897	0.0106	-0.5858	0.0357
1	90	0.4997	0.0697	0.0019	-0.2542	0.0065	-0.4310	0.0132	-0.6104	0.0270
1	90	0.5387	0.0685	0.0022	-0.2873	0.0074	-0.5697	0.0161	-0.6891	0.0444
1	90	0.5996	0.0905	0.0030	-0.3515	0.0087	-0.8263	0.0190	-0.6123	0.0363
1	90	0.6498	0.1061	0.0026	-0.4073	0.0105	-1.0871	0.0210	-0.6953	0.0421
1	90	0.6998	0.0820	0.0033	-0.4505	0.0123	-1.3811	0.0233	-0.7050	0.0483
1	90	0.7500	0.0940	0.0033	-0.4794	0.0148	-1.7000	0.0321	-0.4853	0.0973
1	90	0.8001	0.0971	0.0036	-0.5531	0.0160	-2.0566	0.0277	-0.6254	0.0690
1	90	0.8497	0.0761	0.0027	-0.6112	0.0168	-2.4676	0.0311	-0.8582	0.0996
1	90	0.9734	0.0738	0.0075	-0.6566	0.0252	-3.5879	0.0475	-1.3302	0.1123
4	90.35	0.2001	-0.0514	0.0014	-0.0012	0.0006	-0.0175	0.0014	0.0269	0.0152
4	90.35	0.2502	0.0005	0.0007	0.0112	0.0015	-0.0723	0.0035	-0.3389	0.0278
4	90.35	0.3001	0.0065	0.0011	0.0084	0.0025	-0.1030	0.0051	-0.0921	0.0341
4	90.35	0.3502	0.0251	0.0014	0.0113	0.0043	-0.1795	0.0088	0.0105	0.0293
4	90.35	0.4002	0.0379	0.0024	0.0273	0.0068	-0.2968	0.0138	-0.0666	0.0345
4	90.35	0.4500	0.0602	0.0027	0.0459	0.0080	-0.4714	0.0158	-0.2217	0.0261
4	90.35	0.5001	0.0640	0.0032	0.0480	0.0100	-0.6490	0.0185	-0.0512	0.0436
4	90.35	0.5560	0.0736	0.0033	0.0612	0.0122	-0.9724	0.0225	-0.1786	0.0307
4	90.35	0.6001	0.0869	0.0031	0.0811	0.0142	-1.2528	0.0268	-0.2511	0.0424
4	90.35	0.6501	0.0736	0.0032	0.0603	0.0167	-1.6085	0.0323	-0.1140	0.0357
4	90.35	0.6999	0.0898	0.0028	0.0464	0.0192	-2.0347	0.0369	-0.0479	0.0536
4	90.35	0.7500	0.0774	0.0040	0.0596	0.0240	-2.5149	0.0408	0.0535	0.1562
4	90.35	0.8002	0.0692	0.0027	0.0314	0.0239	-3.0328	0.0461	0.0072	0.0318
4	90.35	0.8582	0.0668	0.0038	0.0581	0.0266	-3.7631	0.0481	-0.5792	0.0662
4	90.35	0.9101	0.0537	0.0093	0.0229	0.0296	-4.3525	0.0596	-0.5505	0.1149
4	90.35	0.9728	0.0603	0.0053	0.0721	0.0347	-4.9805	0.0673	0.0482	0.1559

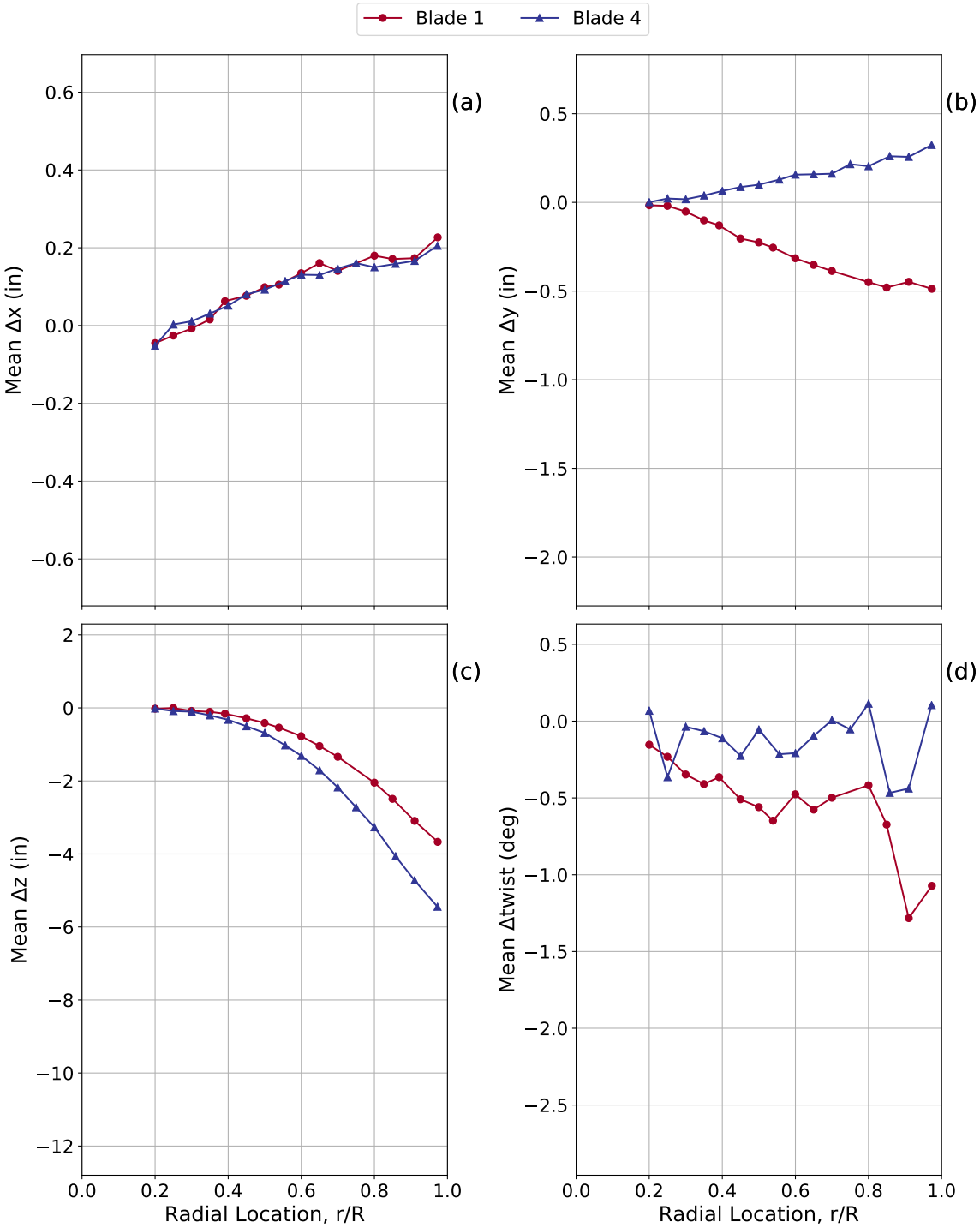


Figure 4.9-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0453	0.0010	-0.0162	0.0006	-0.0231	0.0020	-0.1537	0.0169
1	94.92	0.2499	-0.0258	0.0009	-0.0197	0.0011	-0.0041	0.0035	-0.2319	0.0326
1	94.92	0.2998	-0.0078	0.0008	-0.0519	0.0023	-0.0833	0.0074	-0.3473	0.0395
1	94.92	0.3498	0.0157	0.0008	-0.1011	0.0036	-0.1085	0.0125	-0.4095	0.0345
1	94.92	0.3913	0.0627	0.0011	-0.1298	0.0053	-0.1603	0.0176	-0.3647	0.0364
1	94.92	0.4496	0.0766	0.0016	-0.2036	0.0064	-0.2849	0.0216	-0.5088	0.0405
1	94.92	0.4997	0.0987	0.0018	-0.2256	0.0074	-0.4121	0.0257	-0.5602	0.0371
1	94.92	0.5387	0.1054	0.0015	-0.2551	0.0085	-0.5405	0.0305	-0.6479	0.0419
1	94.92	0.5996	0.1346	0.0014	-0.3150	0.0100	-0.7739	0.0352	-0.4761	0.0347
1	94.92	0.6498	0.1606	0.0029	-0.3525	0.0118	-1.0453	0.0428	-0.5760	0.0530
1	94.92	0.6998	0.1405	0.0024	-0.3868	0.0134	-1.3396	0.0457	-0.4988	0.0541
1	94.92	0.8001	0.1797	0.0028	-0.4496	0.0171	-2.0471	0.0559	-0.4173	0.0600
1	94.92	0.8497	0.1711	0.0032	-0.4799	0.0197	-2.4910	0.0619	-0.6733	0.0517
1	94.92	0.9102	0.1733	0.0048	-0.4479	0.0214	-3.0943	0.0700	-1.2824	0.1403
1	94.92	0.9734	0.2268	0.0056	-0.4874	0.0262	-3.6680	0.0780	-1.0723	0.0825
4	94.92	0.2001	-0.0516	0.0011	0.0012	0.0005	-0.0182	0.0015	0.0674	0.0219
4	94.92	0.2502	0.0026	0.0009	0.0218	0.0012	-0.0877	0.0035	-0.3647	0.0250
4	94.92	0.3001	0.0111	0.0009	0.0177	0.0022	-0.1043	0.0048	-0.0363	0.0457
4	94.92	0.3502	0.0309	0.0010	0.0387	0.0033	-0.2057	0.0107	-0.0658	0.0414
4	94.92	0.4002	0.0512	0.0012	0.0648	0.0053	-0.3269	0.0148	-0.1115	0.0410
4	94.92	0.4500	0.0803	0.0009	0.0865	0.0062	-0.5023	0.0192	-0.2260	0.0332
4	94.92	0.5001	0.0924	0.0012	0.0998	0.0078	-0.6861	0.0235	-0.0554	0.0387
4	94.92	0.5560	0.1144	0.0015	0.1285	0.0093	-1.0268	0.0289	-0.2153	0.0411
4	94.92	0.6001	0.1307	0.0012	0.1564	0.0111	-1.3133	0.0337	-0.2081	0.0398
4	94.92	0.6501	0.1300	0.0015	0.1586	0.0127	-1.7094	0.0365	-0.0962	0.0465
4	94.92	0.6999	0.1467	0.0016	0.1617	0.0143	-2.1778	0.0416	0.0065	0.0398
4	94.92	0.7500	0.1604	0.0015	0.2154	0.0160	-2.7212	0.0447	-0.0534	0.0411
4	94.92	0.8002	0.1499	0.0024	0.2041	0.0170	-3.2699	0.0487	0.1135	0.0601
4	94.92	0.8582	0.1587	0.0020	0.2601	0.0188	-4.0633	0.0546	-0.4668	0.0822
4	94.92	0.9101	0.1662	0.0043	0.2566	0.0220	-4.7238	0.0592	-0.4386	0.0569
4	94.92	0.9728	0.2051	0.0032	0.3236	0.0234	-5.4460	0.0716	0.1043	0.0645

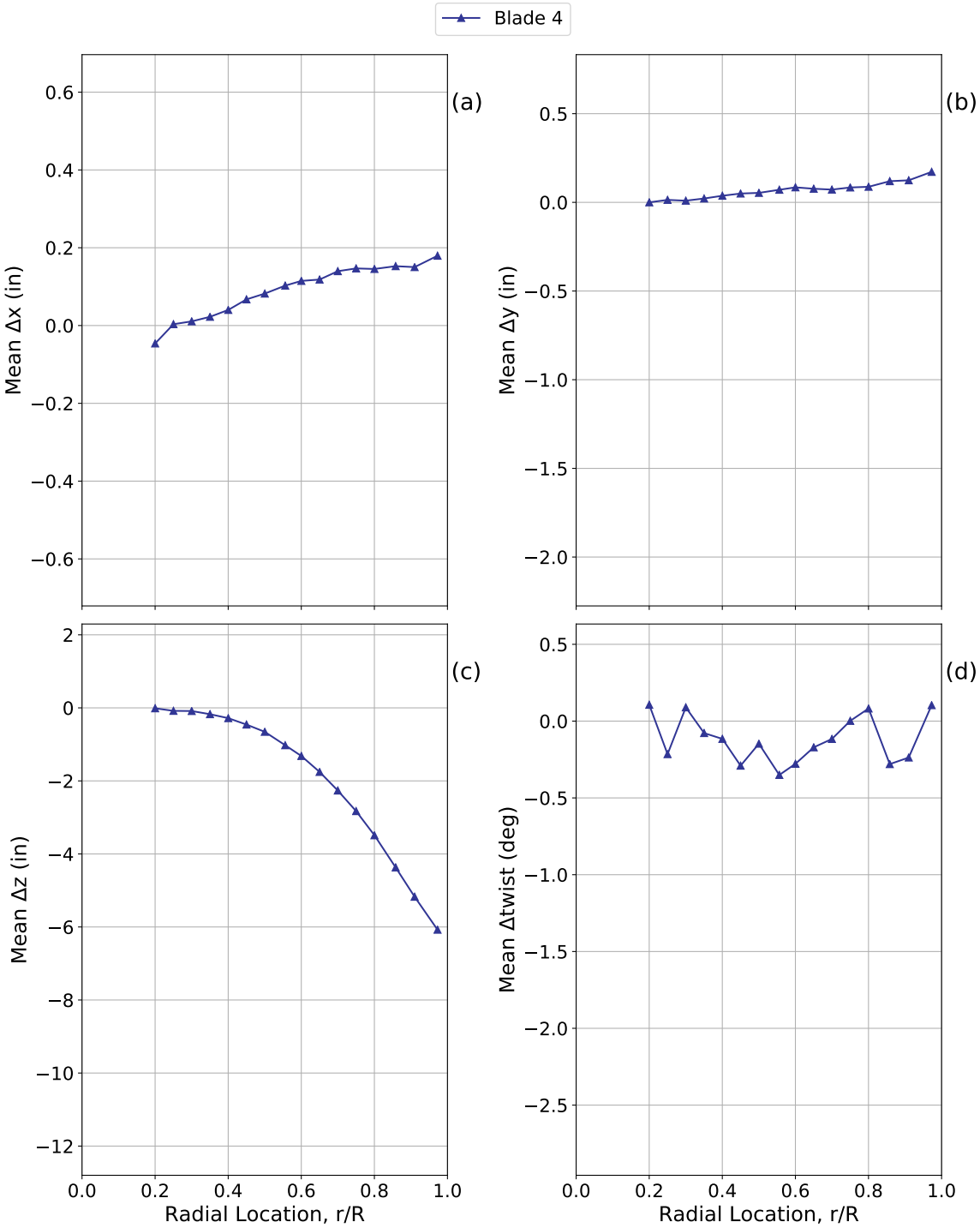


Figure 4.9-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0461	0.0008	0.0000	0.0004	-0.0120	0.0014	0.1063	0.0143
4	105.12	0.2502	0.0034	0.0008	0.0139	0.0015	-0.0820	0.0027	-0.2152	0.0235
4	105.12	0.3001	0.0107	0.0007	0.0094	0.0017	-0.0865	0.0048	0.0895	0.0319
4	105.12	0.3502	0.0224	0.0008	0.0217	0.0034	-0.1735	0.0090	-0.0779	0.0141
4	105.12	0.4002	0.0401	0.0010	0.0372	0.0054	-0.2822	0.0130	-0.1157	0.0270
4	105.12	0.4500	0.0672	0.0011	0.0497	0.0076	-0.4574	0.0180	-0.2902	0.0206
4	105.12	0.5001	0.0821	0.0012	0.0534	0.0092	-0.6563	0.0234	-0.1471	0.0284
4	105.12	0.5560	0.1026	0.0013	0.0709	0.0122	-1.0234	0.0298	-0.3506	0.0240
4	105.12	0.6001	0.1147	0.0018	0.0846	0.0147	-1.3178	0.0355	-0.2780	0.0227
4	105.12	0.6501	0.1182	0.0017	0.0767	0.0176	-1.7543	0.0407	-0.1708	0.0326
4	105.12	0.6999	0.1397	0.0018	0.0719	0.0205	-2.2641	0.0450	-0.1163	0.0271
4	105.12	0.7500	0.1468	0.0018	0.0839	0.0234	-2.8276	0.0511	0.0015	0.0240
4	105.12	0.8002	0.1454	0.0019	0.0877	0.0268	-3.4895	0.0565	0.0821	0.0260
4	105.12	0.8582	0.1526	0.0016	0.1193	0.0307	-4.3696	0.0658	-0.2800	0.0218
4	105.12	0.9101	0.1502	0.0018	0.1243	0.0338	-5.1729	0.0741	-0.2371	0.0335
4	105.12	0.9728	0.1794	0.0027	0.1718	0.0375	-6.0757	0.0878	0.1038	0.0253

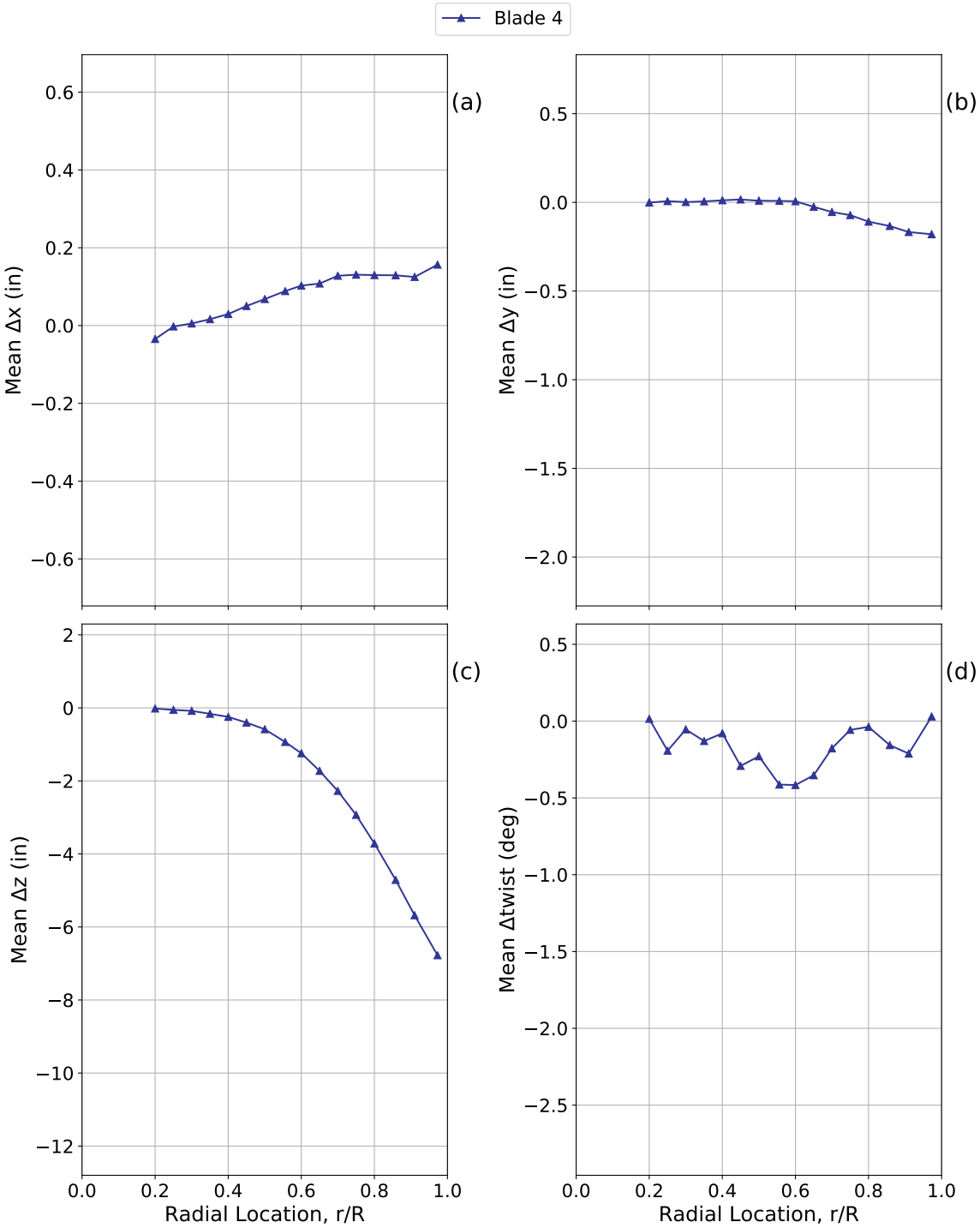


Figure 4.9-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0346	0.0013	-0.0012	0.0003	-0.0187	0.0007	0.0147	0.0109
4	119.88	0.2502	-0.0025	0.0005	0.0067	0.0009	-0.0554	0.0020	-0.1929	0.0143
4	119.88	0.3001	0.0052	0.0008	0.0017	0.0017	-0.0826	0.0026	-0.0542	0.0224
4	119.88	0.3502	0.0163	0.0010	0.0054	0.0019	-0.1634	0.0048	-0.1298	0.0153
4	119.88	0.4002	0.0295	0.0014	0.0116	0.0036	-0.2477	0.0074	-0.0794	0.0201
4	119.88	0.4500	0.0501	0.0015	0.0161	0.0043	-0.4039	0.0084	-0.2918	0.0227
4	119.88	0.5001	0.0680	0.0015	0.0092	0.0058	-0.5862	0.0116	-0.2291	0.0201
4	119.88	0.5560	0.0885	0.0015	0.0081	0.0072	-0.9351	0.0152	-0.4134	0.0181
4	119.88	0.6001	0.1026	0.0015	0.0061	0.0085	-1.2438	0.0183	-0.4162	0.0198
4	119.88	0.6501	0.1079	0.0020	-0.0251	0.0106	-1.7267	0.0211	-0.3526	0.0280
4	119.88	0.6999	0.1279	0.0022	-0.0546	0.0130	-2.2750	0.0247	-0.1773	0.0263
4	119.88	0.7500	0.1307	0.0023	-0.0720	0.0157	-2.9315	0.0278	-0.0572	0.0218
4	119.88	0.8002	0.1296	0.0028	-0.1089	0.0186	-3.7158	0.0318	-0.0375	0.0229
4	119.88	0.8582	0.1291	0.0028	-0.1335	0.0217	-4.7120	0.0359	-0.1566	0.0243
4	119.88	0.9101	0.1248	0.0030	-0.1674	0.0243	-5.6807	0.0396	-0.2116	0.0274
4	119.88	0.9728	0.1564	0.0045	-0.1800	0.0282	-6.7754	0.0460	0.0299	0.0222

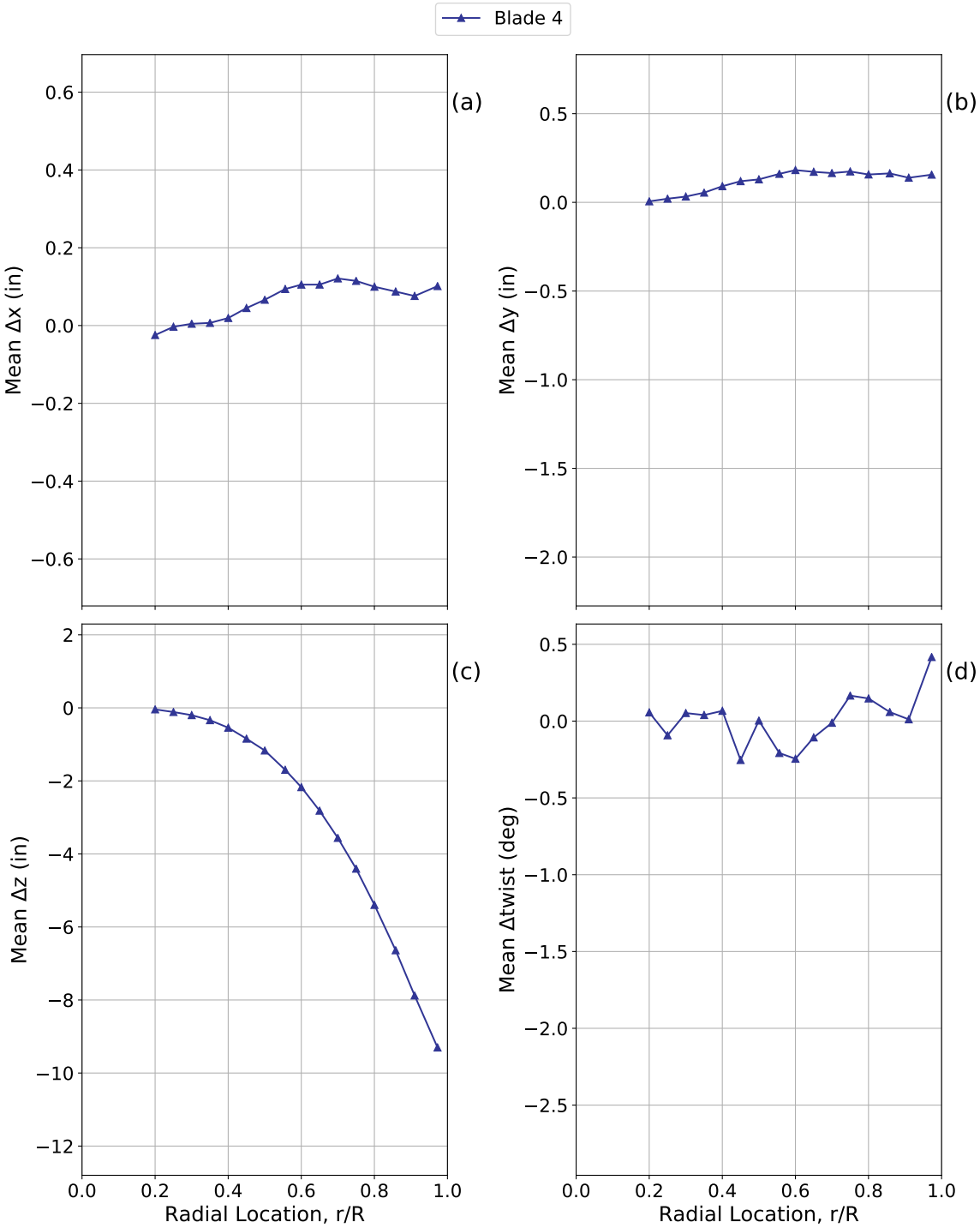


Figure 4.9-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0245	0.0007	0.0056	0.0006	-0.0418	0.0012	0.0564	0.0093
4	135	0.2502	-0.0032	0.0007	0.0205	0.0007	-0.1138	0.0022	-0.0927	0.0212
4	135	0.3001	0.0045	0.0009	0.0325	0.0019	-0.1997	0.0050	0.0524	0.0221
4	135	0.3502	0.0067	0.0007	0.0547	0.0029	-0.3382	0.0079	0.0393	0.0223
4	135	0.4002	0.0193	0.0011	0.0909	0.0045	-0.5439	0.0125	0.0666	0.0214
4	135	0.4500	0.0449	0.0010	0.1192	0.0057	-0.8442	0.0156	-0.2535	0.0171
4	135	0.5001	0.0662	0.0020	0.1294	0.0079	-1.1680	0.0201	0.0035	0.0145
4	135	0.5560	0.0938	0.0022	0.1605	0.0093	-1.6978	0.0247	-0.2078	0.0263
4	135	0.6001	0.1051	0.0017	0.1819	0.0107	-2.1722	0.0282	-0.2453	0.0347
4	135	0.6501	0.1052	0.0016	0.1720	0.0126	-2.8167	0.0334	-0.1064	0.0306
4	135	0.6999	0.1210	0.0021	0.1649	0.0144	-3.5613	0.0396	-0.0111	0.0273
4	135	0.7500	0.1147	0.0029	0.1740	0.0170	-4.4047	0.0481	0.1660	0.0214
4	135	0.8002	0.0997	0.0034	0.1570	0.0190	-5.3971	0.0557	0.1473	0.0235
4	135	0.8582	0.0873	0.0037	0.1632	0.0219	-6.6389	0.0668	0.0590	0.0196
4	135	0.9101	0.0759	0.0042	0.1387	0.0246	-7.8765	0.0781	0.0114	0.0244
4	135	0.9728	0.1013	0.0051	0.1560	0.0280	-9.3012	0.0930	0.4171	0.0276

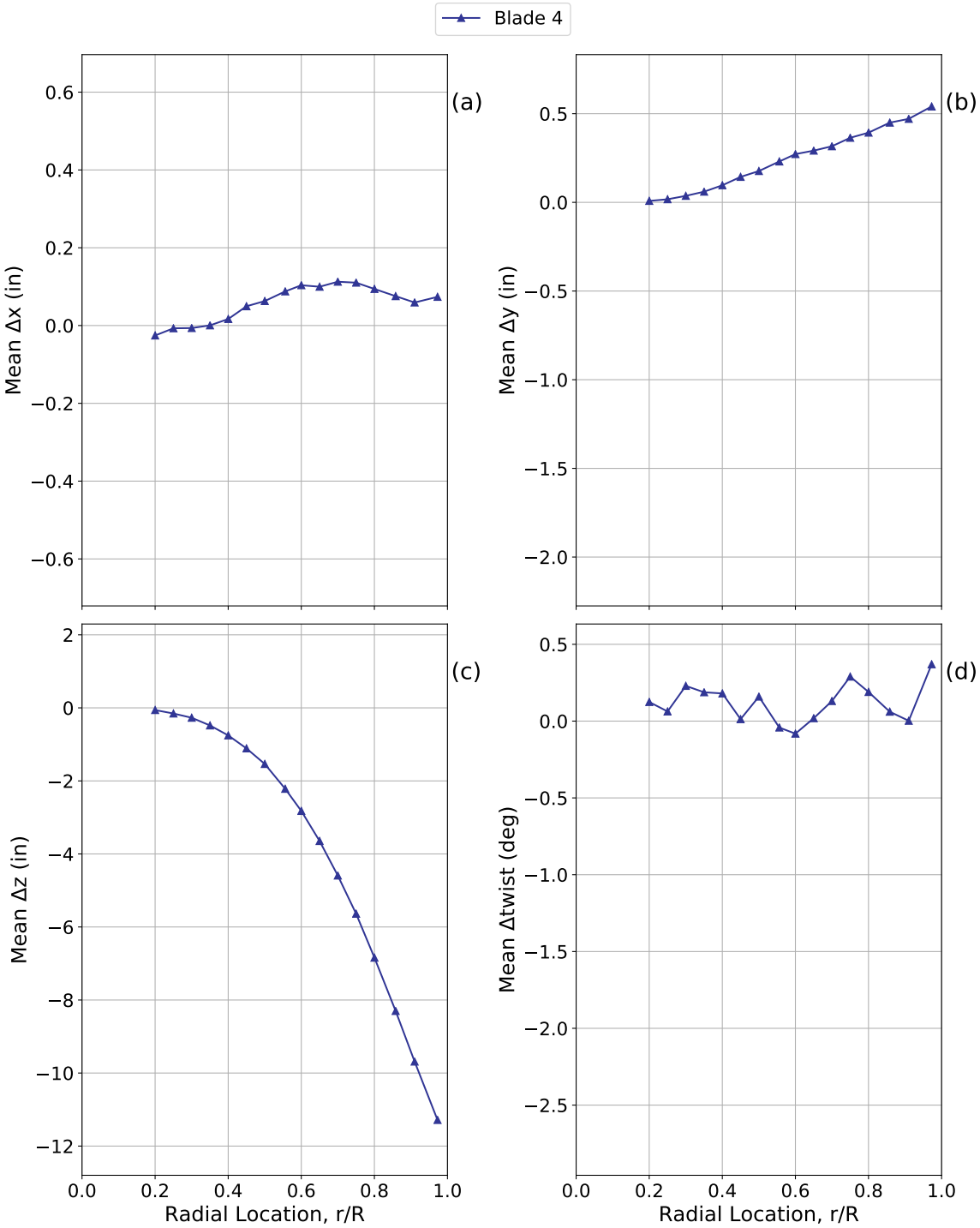


Figure 4.9-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0256	0.0013	0.0081	0.0006	-0.0600	0.0013	0.1244	0.0186
4	150.12	0.2502	-0.0071	0.0008	0.0174	0.0018	-0.1549	0.0029	0.0629	0.0277
4	150.12	0.3001	-0.0065	0.0008	0.0365	0.0025	-0.2709	0.0051	0.2293	0.0407
4	150.12	0.3502	0.0004	0.0005	0.0602	0.0054	-0.4816	0.0090	0.1877	0.0256
4	150.12	0.4002	0.0168	0.0010	0.0963	0.0078	-0.7545	0.0137	0.1801	0.0275
4	150.12	0.4500	0.0495	0.0011	0.1435	0.0081	-1.1102	0.0154	0.0126	0.0444
4	150.12	0.5001	0.0629	0.0010	0.1765	0.0107	-1.5370	0.0186	0.1594	0.0337
4	150.12	0.5560	0.0877	0.0011	0.2304	0.0123	-2.2171	0.0224	-0.0420	0.0425
4	150.12	0.6001	0.1036	0.0011	0.2720	0.0145	-2.8237	0.0252	-0.0817	0.0446
4	150.12	0.6501	0.0997	0.0011	0.2916	0.0162	-3.6473	0.0263	0.0187	0.0577
4	150.12	0.6999	0.1126	0.0015	0.3163	0.0194	-4.5918	0.0303	0.1306	0.0431
4	150.12	0.7500	0.1102	0.0017	0.3640	0.0222	-5.6384	0.0330	0.2896	0.0517
4	150.12	0.8002	0.0940	0.0017	0.3930	0.0254	-6.8414	0.0361	0.1895	0.0530
4	150.12	0.8582	0.0755	0.0022	0.4494	0.0287	-8.3005	0.0392	0.0611	0.0437
4	150.12	0.9101	0.0592	0.0026	0.4708	0.0320	-9.6862	0.0450	0.0021	0.0515
4	150.12	0.9728	0.0737	0.0038	0.5406	0.0370	-11.2855	0.0512	0.3700	0.0449

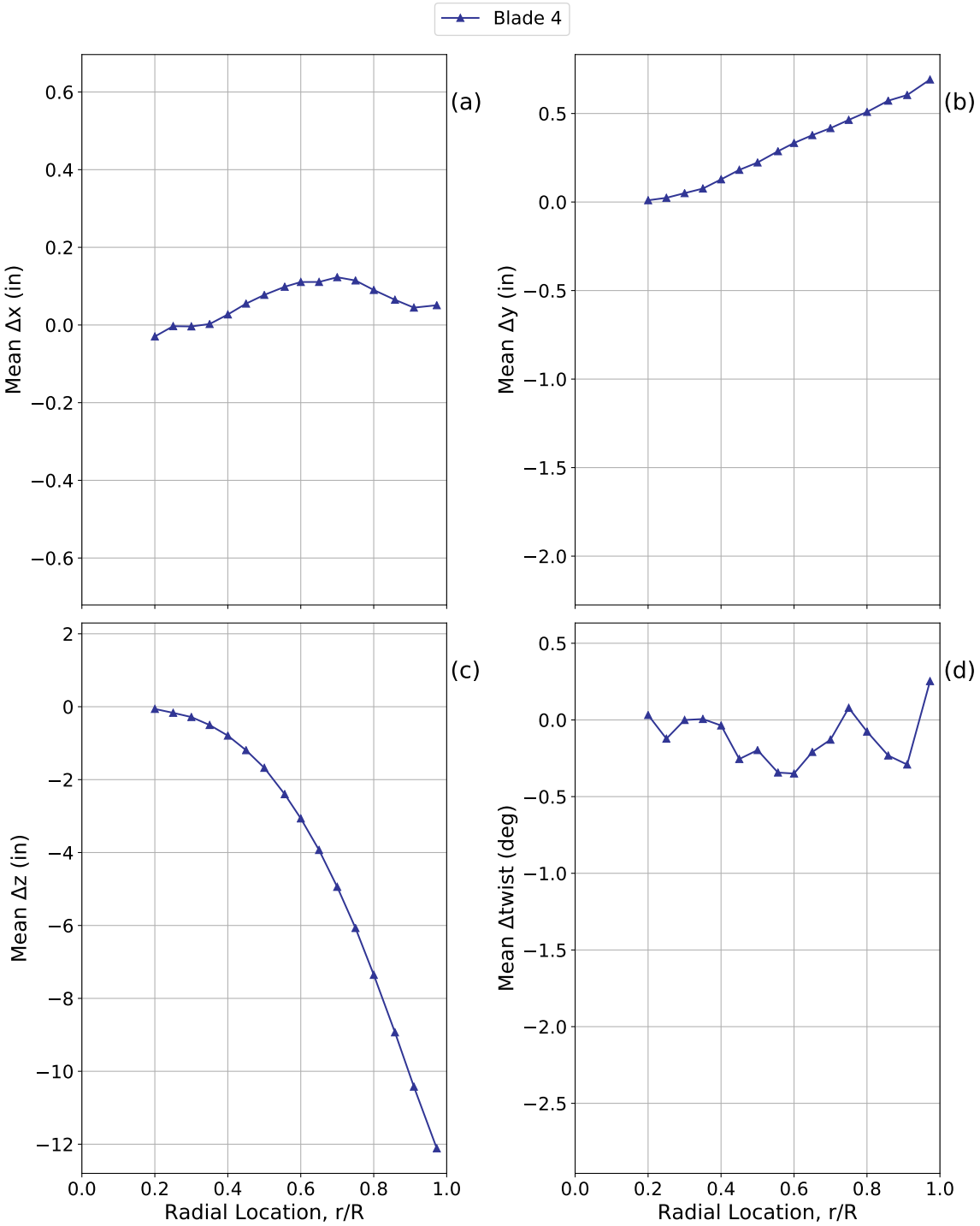


Figure 4.9-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0296	0.0009	0.0098	0.0006	-0.0608	0.0008	0.0321	0.0125
4	164.88	0.2502	-0.0030	0.0011	0.0237	0.0016	-0.1683	0.0022	-0.1225	0.0186
4	164.88	0.3001	-0.0037	0.0011	0.0501	0.0027	-0.2841	0.0028	-0.0005	0.0260
4	164.88	0.3502	0.0025	0.0006	0.0760	0.0042	-0.5026	0.0045	0.0059	0.0188
4	164.88	0.4002	0.0271	0.0010	0.1280	0.0069	-0.7942	0.0069	-0.0364	0.0234
4	164.88	0.4500	0.0550	0.0010	0.1815	0.0081	-1.1932	0.0090	-0.2550	0.0317
4	164.88	0.5001	0.0775	0.0011	0.2232	0.0084	-1.6776	0.0127	-0.1967	0.0231
4	164.88	0.5560	0.0984	0.0016	0.2867	0.0108	-2.4009	0.0160	-0.3433	0.0258
4	164.88	0.6001	0.1107	0.0016	0.3334	0.0122	-3.0652	0.0185	-0.3495	0.0287
4	164.88	0.6501	0.1108	0.0012	0.3775	0.0144	-3.9310	0.0205	-0.2091	0.0319
4	164.88	0.6999	0.1230	0.0014	0.4171	0.0158	-4.9425	0.0234	-0.1290	0.0369
4	164.88	0.7500	0.1146	0.0015	0.4637	0.0180	-6.0710	0.0266	0.0786	0.0295
4	164.88	0.8002	0.0901	0.0016	0.5088	0.0201	-7.3561	0.0308	-0.0764	0.0342
4	164.88	0.8582	0.0649	0.0020	0.5723	0.0223	-8.9319	0.0348	-0.2322	0.0414
4	164.88	0.9101	0.0447	0.0025	0.6041	0.0245	-10.4221	0.0395	-0.2910	0.0352
4	164.88	0.9728	0.0509	0.0032	0.6916	0.0273	-12.1139	0.0451	0.2529	0.0288

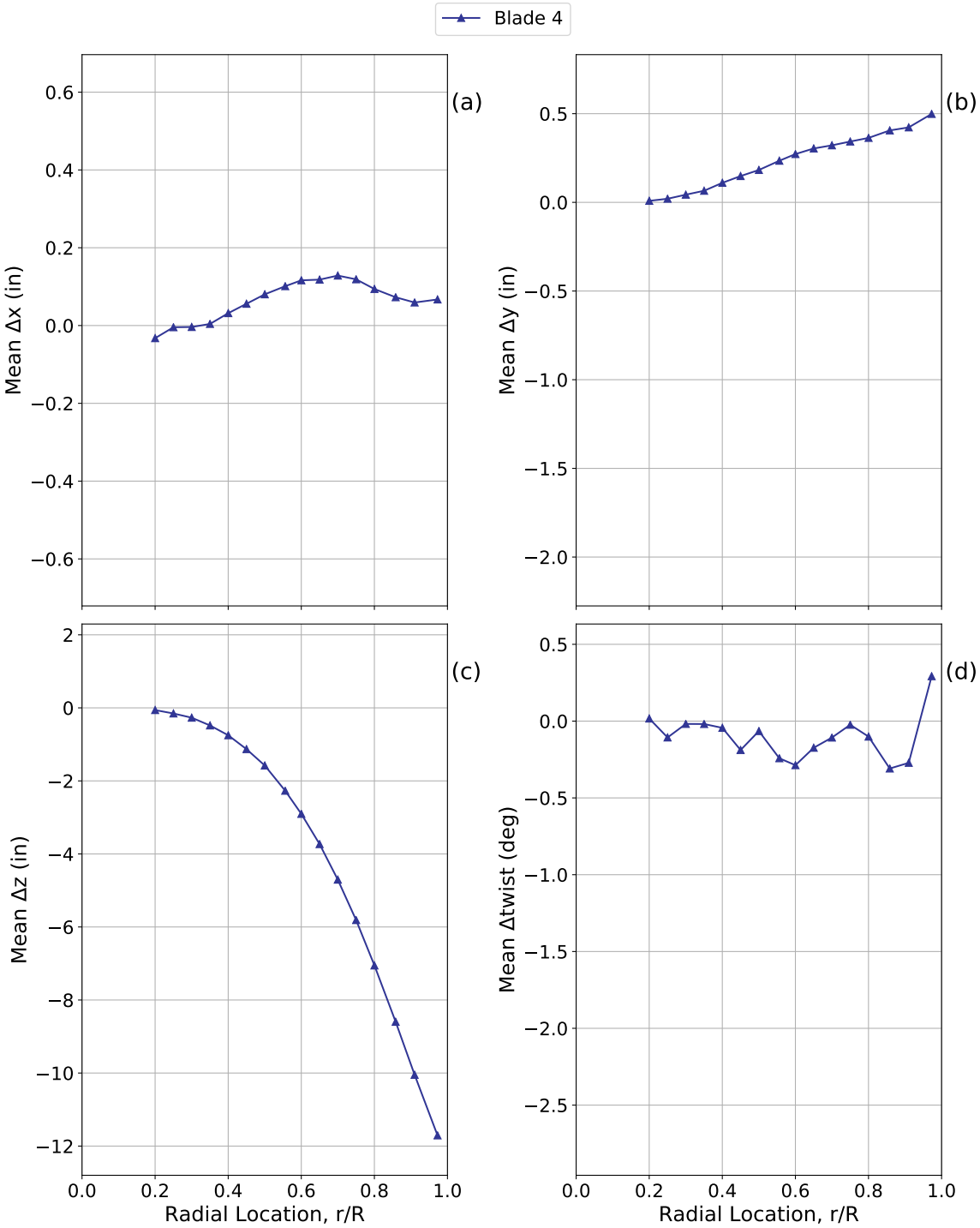


Figure 4.9-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0325	0.0010	0.0085	0.0005	-0.0605	0.0022	0.0168	0.0133
4	170.16	0.2502	-0.0044	0.0013	0.0203	0.0014	-0.1537	0.0033	-0.1066	0.0288
4	170.16	0.3001	-0.0038	0.0009	0.0432	0.0023	-0.2694	0.0062	-0.0183	0.0307
4	170.16	0.3502	0.0041	0.0011	0.0653	0.0033	-0.4814	0.0119	-0.0189	0.0311
4	170.16	0.4002	0.0318	0.0014	0.1101	0.0057	-0.7510	0.0166	-0.0440	0.0249
4	170.16	0.4500	0.0559	0.0016	0.1482	0.0083	-1.1303	0.0202	-0.1883	0.0268
4	170.16	0.5001	0.0802	0.0026	0.1825	0.0092	-1.5790	0.0232	-0.0650	0.0316
4	170.16	0.5560	0.1011	0.0014	0.2345	0.0115	-2.2697	0.0273	-0.2419	0.0372
4	170.16	0.6001	0.1162	0.0023	0.2722	0.0132	-2.9038	0.0327	-0.2870	0.0365
4	170.16	0.6501	0.1180	0.0023	0.3038	0.0159	-3.7318	0.0411	-0.1736	0.0311
4	170.16	0.6999	0.1284	0.0030	0.3215	0.0183	-4.7046	0.0429	-0.1072	0.0384
4	170.16	0.7500	0.1188	0.0032	0.3429	0.0213	-5.8111	0.0504	-0.0238	0.0362
4	170.16	0.8002	0.0939	0.0032	0.3634	0.0239	-7.0545	0.0553	-0.1010	0.0426
4	170.16	0.8582	0.0727	0.0041	0.4055	0.0274	-8.5974	0.0642	-0.3087	0.0311
4	170.16	0.9101	0.0592	0.0045	0.4227	0.0303	-10.0489	0.0704	-0.2716	0.0374
4	170.16	0.9728	0.0670	0.0050	0.4985	0.0341	-11.7080	0.0791	0.2923	0.0371

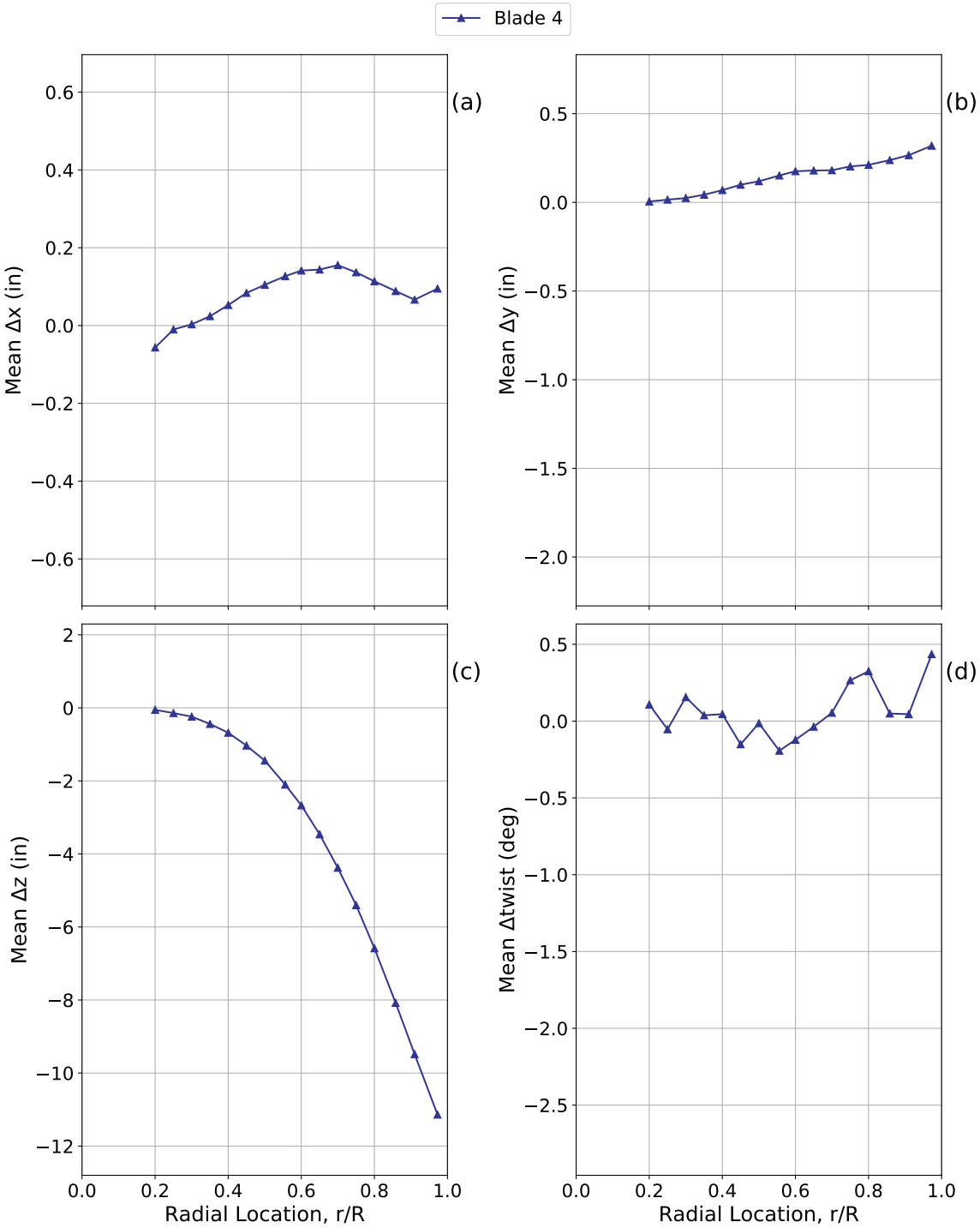


Figure 4.9-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0565	0.0036	0.0047	0.0005	-0.0545	0.0011	0.1076	0.0121
4	175.08	0.2502	-0.0102	0.0014	0.0151	0.0013	-0.1427	0.0032	-0.0534	0.0255
4	175.08	0.3001	0.0031	0.0015	0.0243	0.0022	-0.2404	0.0039	0.1558	0.0277
4	175.08	0.3502	0.0240	0.0031	0.0429	0.0036	-0.4407	0.0076	0.0378	0.0260
4	175.08	0.4002	0.0527	0.0055	0.0689	0.0059	-0.6815	0.0117	0.0455	0.0218
4	175.08	0.4500	0.0838	0.0046	0.0993	0.0079	-1.0335	0.0140	-0.1510	0.0229
4	175.08	0.5001	0.1046	0.0054	0.1189	0.0095	-1.4443	0.0193	-0.0138	0.0261
4	175.08	0.5560	0.1269	0.0055	0.1514	0.0117	-2.1022	0.0228	-0.1929	0.0299
4	175.08	0.6001	0.1413	0.0051	0.1754	0.0132	-2.6703	0.0260	-0.1216	0.0240
4	175.08	0.6501	0.1438	0.0067	0.1794	0.0159	-3.4632	0.0310	-0.0367	0.0230
4	175.08	0.6999	0.1552	0.0061	0.1810	0.0177	-4.3795	0.0339	0.0539	0.0309
4	175.08	0.7500	0.1367	0.0068	0.2026	0.0202	-5.4030	0.0376	0.2656	0.0345
4	175.08	0.8002	0.1136	0.0074	0.2113	0.0237	-6.5845	0.0396	0.3245	0.0263
4	175.08	0.8582	0.0885	0.0122	0.2381	0.0267	-8.0808	0.0423	0.0494	0.0397
4	175.08	0.9101	0.0664	0.0120	0.2658	0.0303	-9.4837	0.0442	0.0450	0.0361
4	175.08	0.9728	0.0948	0.0197	0.3192	0.0354	-11.1397	0.0468	0.4355	0.0697

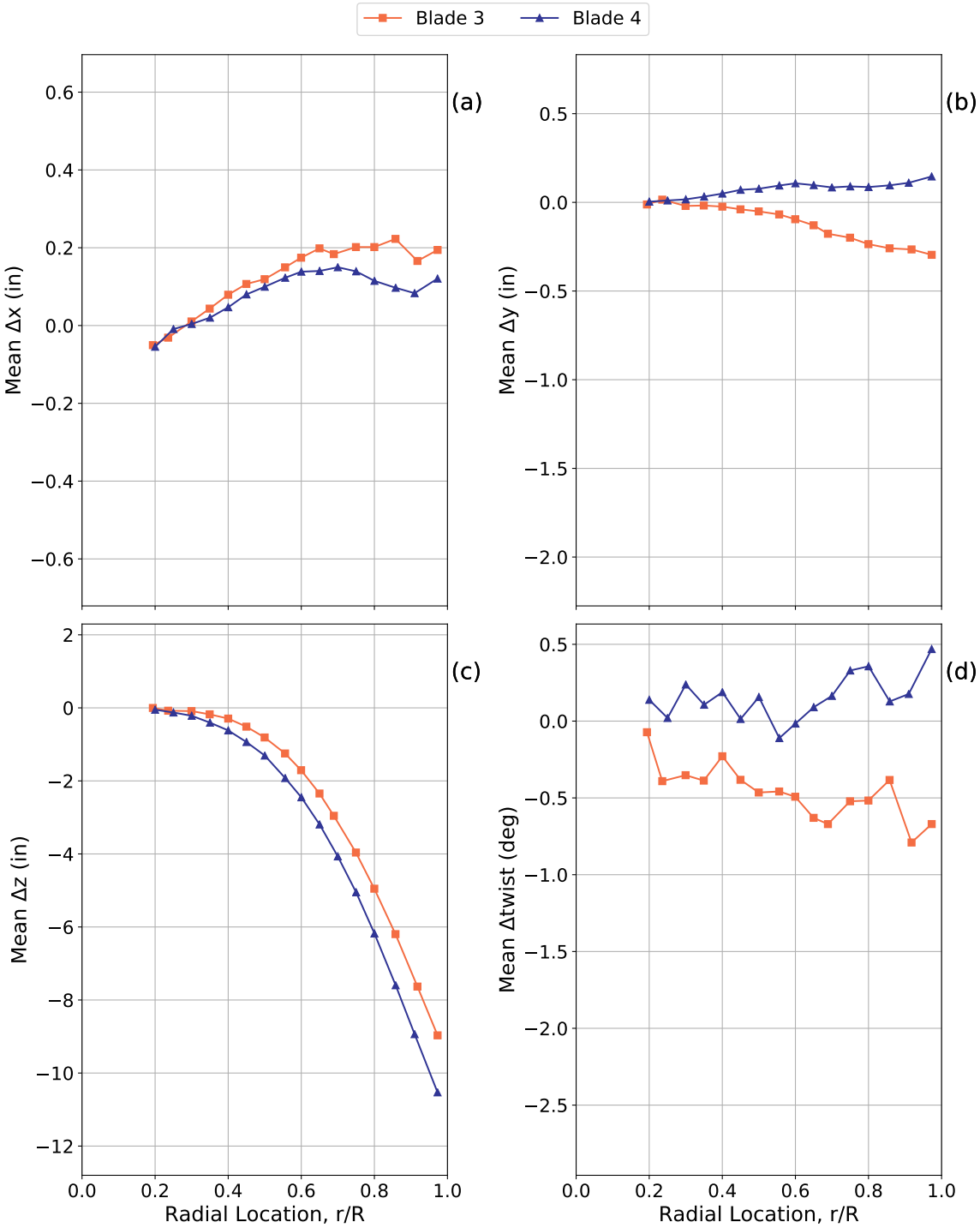


Figure 4.9-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0504	0.0038	-0.0119	0.0006	-0.0028	0.0017	-0.0723	0.0161
3	180.35	0.2357	-0.0312	0.0015	0.0153	0.0008	-0.0781	0.0018	-0.3909	0.0232
3	180.35	0.2995	0.0105	0.0020	-0.0203	0.0021	-0.0886	0.0050	-0.3520	0.0369
3	180.35	0.3493	0.0435	0.0031	-0.0178	0.0034	-0.1770	0.0092	-0.3874	0.0242
3	180.35	0.4000	0.0792	0.0041	-0.0241	0.0053	-0.2933	0.0130	-0.2288	0.0316
3	180.35	0.4497	0.1068	0.0052	-0.0393	0.0060	-0.5149	0.0157	-0.3822	0.0212
3	180.35	0.4997	0.1191	0.0064	-0.0510	0.0081	-0.8105	0.0179	-0.4648	0.0291
3	180.35	0.5556	0.1496	0.0070	-0.0681	0.0105	-1.2489	0.0219	-0.4581	0.0339
3	180.35	0.5995	0.1744	0.0076	-0.0952	0.0134	-1.7070	0.0255	-0.4923	0.0403
3	180.35	0.6498	0.1984	0.0087	-0.1293	0.0161	-2.3456	0.0300	-0.6298	0.0307
3	180.35	0.6890	0.1835	0.0084	-0.1771	0.0173	-2.9555	0.0332	-0.6704	0.0404
3	180.35	0.7495	0.2017	0.0089	-0.1993	0.0205	-3.9619	0.0378	-0.5219	0.0423
3	180.35	0.7998	0.2017	0.0106	-0.2357	0.0229	-4.9519	0.0427	-0.5170	0.0354
3	180.35	0.8577	0.2227	0.0135	-0.2591	0.0260	-6.1958	0.0455	-0.3833	0.0594
3	180.35	0.9178	0.1660	0.0132	-0.2654	0.0291	-7.6322	0.0513	-0.7903	0.0439
3	180.35	0.9729	0.1943	0.0200	-0.2959	0.0305	-8.9676	0.0619	-0.6702	0.0657
4	180	0.2001	-0.0546	0.0040	0.0038	0.0006	-0.0511	0.0010	0.1386	0.0093
4	180	0.2502	-0.0091	0.0013	0.0105	0.0014	-0.1269	0.0021	0.0203	0.0242
4	180	0.3001	0.0040	0.0020	0.0168	0.0024	-0.2173	0.0039	0.2382	0.0245
4	180	0.3502	0.0202	0.0026	0.0322	0.0039	-0.4048	0.0067	0.1065	0.0259
4	180	0.4002	0.0470	0.0032	0.0493	0.0063	-0.6184	0.0104	0.1885	0.0262
4	180	0.4500	0.0800	0.0039	0.0706	0.0087	-0.9361	0.0130	0.0138	0.0282
4	180	0.5001	0.0997	0.0046	0.0767	0.0110	-1.3060	0.0154	0.1566	0.0272
4	180	0.5560	0.1228	0.0044	0.0949	0.0141	-1.9226	0.0172	-0.1108	0.0349
4	180	0.6001	0.1384	0.0046	0.1073	0.0149	-2.4493	0.0197	-0.0162	0.0267
4	180	0.6501	0.1402	0.0047	0.0969	0.0180	-3.1935	0.0242	0.0905	0.0191
4	180	0.6999	0.1498	0.0055	0.0842	0.0200	-4.0682	0.0262	0.1641	0.0333
4	180	0.7500	0.1393	0.0061	0.0899	0.0216	-5.0507	0.0278	0.3294	0.0350
4	180	0.8002	0.1148	0.0071	0.0862	0.0248	-6.1795	0.0316	0.3568	0.0337
4	180	0.8582	0.0970	0.0114	0.0960	0.0279	-7.5962	0.0349	0.1280	0.0335
4	180	0.9101	0.0831	0.0156	0.1102	0.0307	-8.9354	0.0370	0.1766	0.0291
4	180	0.9728	0.1206	0.0197	0.1459	0.0335	-10.5289	0.0447	0.4690	0.0390

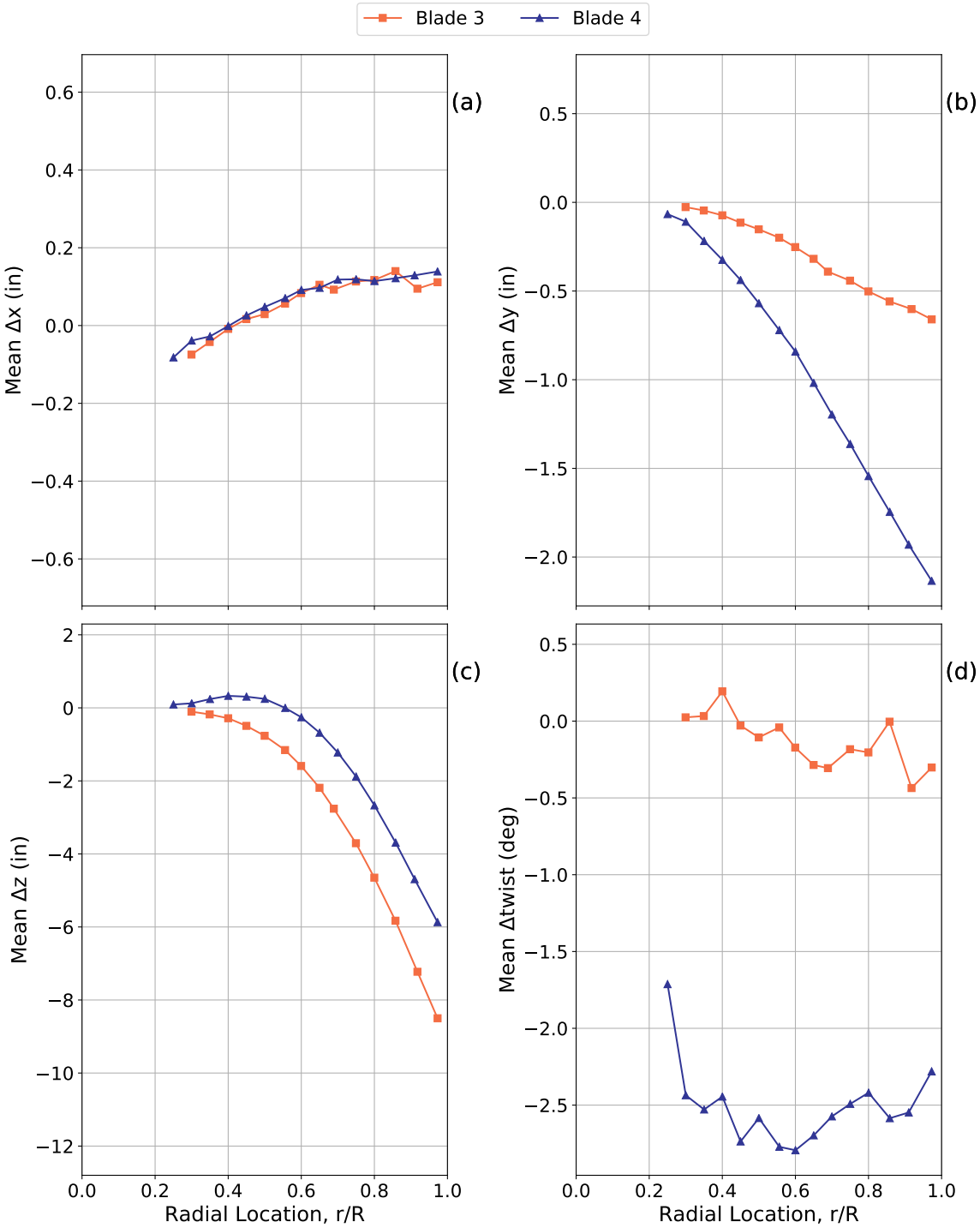


Figure 4.9-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0747	0.0032	-0.0268	0.0098	-0.1042	0.0112	0.0246	0.0437
3	184.92	0.3493	-0.0423	0.0031	-0.0459	0.0168	-0.1786	0.0188	0.0329	0.0576
3	184.92	0.4000	-0.0086	0.0036	-0.0731	0.0268	-0.2844	0.0296	0.1938	0.0522
3	184.92	0.4497	0.0165	0.0034	-0.1144	0.0338	-0.4929	0.0372	-0.0288	0.0549
3	184.92	0.4997	0.0293	0.0042	-0.1520	0.0430	-0.7645	0.0471	-0.1061	0.0572
3	184.92	0.5556	0.0564	0.0045	-0.1994	0.0525	-1.1561	0.0568	-0.0412	0.0487
3	184.92	0.5995	0.0834	0.0047	-0.2523	0.0614	-1.5910	0.0647	-0.1723	0.0522
3	184.92	0.6498	0.1048	0.0038	-0.3184	0.0696	-2.1885	0.0738	-0.2855	0.0593
3	184.92	0.6890	0.0923	0.0049	-0.3907	0.0781	-2.7608	0.0814	-0.3061	0.0503
3	184.92	0.7495	0.1132	0.0059	-0.4415	0.0884	-3.7066	0.0931	-0.1830	0.0632
3	184.92	0.7998	0.1170	0.0092	-0.5020	0.0983	-4.6500	0.1019	-0.2038	0.0581
3	184.92	0.8577	0.1399	0.0126	-0.5589	0.1086	-5.8284	0.1138	-0.0036	0.0592
3	184.92	0.9178	0.0947	0.0160	-0.6018	0.1208	-7.2268	0.1257	-0.4357	0.0598
3	184.92	0.9729	0.1113	0.0209	-0.6599	0.1322	-8.4999	0.1414	-0.3019	0.0589
4	184.92	0.2502	-0.0821	0.0050	-0.0665	0.0036	0.0916	0.0128	-1.7127	0.0973
4	184.92	0.3001	-0.0387	0.0024	-0.1094	0.0065	0.1244	0.0219	-2.4360	0.1381
4	184.92	0.3502	-0.0279	0.0013	-0.2181	0.0118	0.2408	0.0365	-2.5286	0.1432
4	184.92	0.4002	-0.0013	0.0015	-0.3245	0.0181	0.3285	0.0551	-2.4447	0.1291
4	184.92	0.4500	0.0259	0.0015	-0.4382	0.0255	0.3065	0.0705	-2.7369	0.1326
4	184.92	0.5001	0.0478	0.0019	-0.5688	0.0323	0.2463	0.0873	-2.5843	0.1327
4	184.92	0.5560	0.0704	0.0026	-0.7208	0.0419	-0.0026	0.1065	-2.7715	0.1304
4	184.92	0.6001	0.0914	0.0026	-0.8416	0.0490	-0.2584	0.1181	-2.7937	0.1443
4	184.92	0.6501	0.0968	0.0033	-1.0181	0.0572	-0.6816	0.1357	-2.6970	0.1387
4	184.92	0.6999	0.1181	0.0048	-1.1964	0.0642	-1.2236	0.1518	-2.5735	0.1348
4	184.92	0.7500	0.1189	0.0061	-1.3627	0.0738	-1.8821	0.1699	-2.4921	0.1310
4	184.92	0.8002	0.1142	0.0077	-1.5437	0.0821	-2.6713	0.1878	-2.4192	0.1210
4	184.92	0.8582	0.1216	0.0095	-1.7456	0.0927	-3.6925	0.2059	-2.5853	0.1324
4	184.92	0.9101	0.1290	0.0122	-1.9303	0.1021	-4.6927	0.2234	-2.5480	0.1392
4	184.92	0.9728	0.1389	0.0174	-2.1342	0.1142	-5.8693	0.2437	-2.2805	0.1367

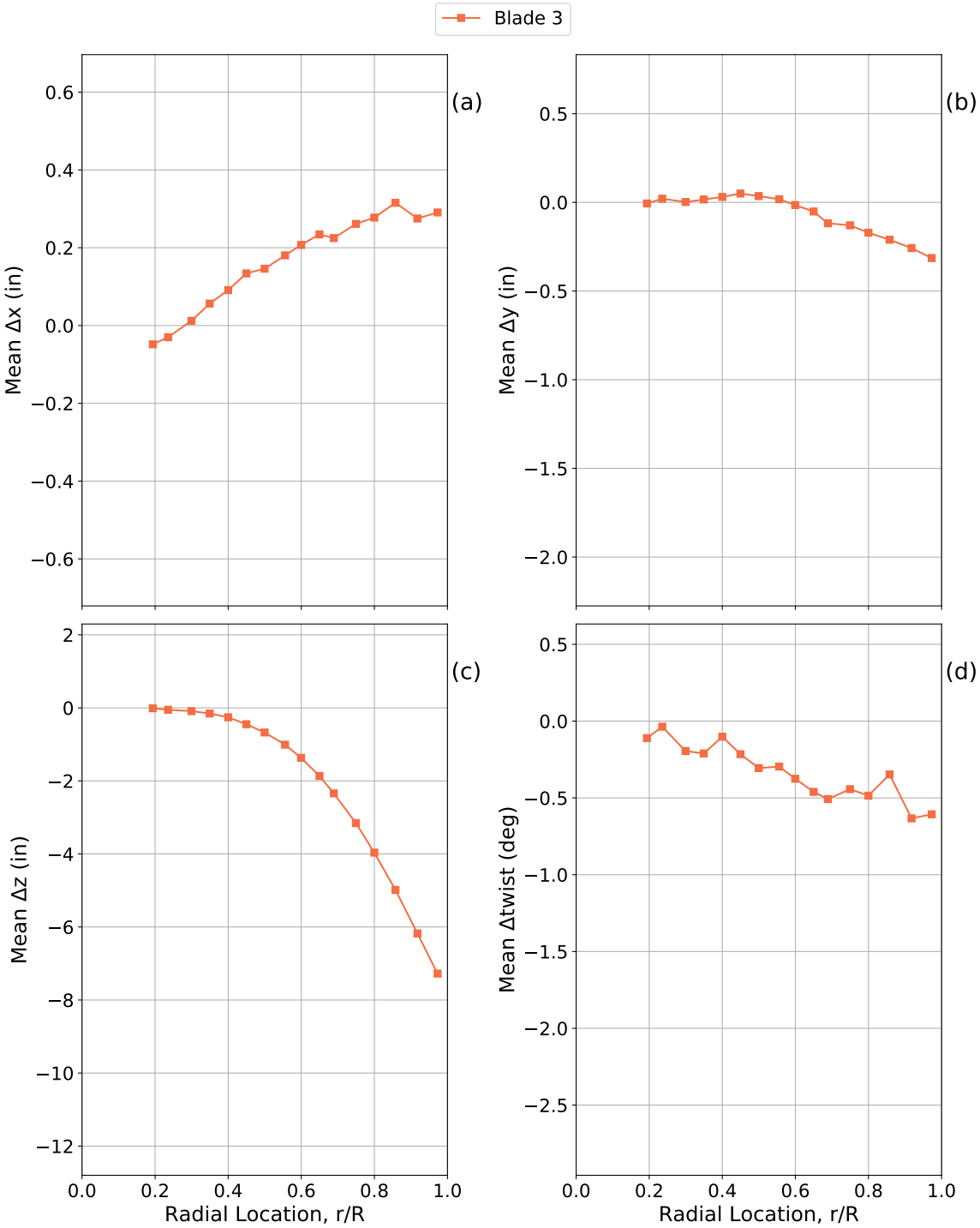


Figure 4.9-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0483	0.0010	-0.0064	0.0007	-0.0110	0.0013	-0.1105	0.0113
3	195.12	0.2357	-0.0299	0.0008	0.0205	0.0022	-0.0534	0.0038	-0.0363	0.0239
3	195.12	0.2995	0.0121	0.0008	0.0020	0.0029	-0.0900	0.0052	-0.1950	0.0258
3	195.12	0.3493	0.0565	0.0007	0.0162	0.0043	-0.1546	0.0081	-0.2105	0.0237
3	195.12	0.4000	0.0910	0.0008	0.0305	0.0077	-0.2580	0.0139	-0.1017	0.0258
3	195.12	0.4497	0.1340	0.0081	0.0496	0.0337	-0.4481	0.0372	-0.2154	0.0177
3	195.12	0.4997	0.1461	0.0078	0.0353	0.0369	-0.6744	0.0423	-0.3059	0.0240
3	195.12	0.5556	0.1804	0.0069	0.0175	0.0405	-1.0083	0.0483	-0.2959	0.0222
3	195.12	0.5995	0.2072	0.0068	-0.0153	0.0433	-1.3699	0.0528	-0.3754	0.0208
3	195.12	0.6498	0.2343	0.0058	-0.0517	0.0464	-1.8652	0.0571	-0.4606	0.0248
3	195.12	0.6890	0.2248	0.0050	-0.1181	0.0484	-2.3423	0.0613	-0.5076	0.0260
3	195.12	0.7495	0.2613	0.0051	-0.1295	0.0524	-3.1557	0.0686	-0.4429	0.0256
3	195.12	0.7998	0.2775	0.0048	-0.1711	0.0557	-3.9637	0.0742	-0.4857	0.0211
3	195.12	0.8577	0.3156	0.0065	-0.2109	0.0596	-4.9849	0.0820	-0.3469	0.0388
3	195.12	0.9178	0.2751	0.0029	-0.2579	0.0677	-6.1775	0.0885	-0.6332	0.1278
3	195.12	0.9729	0.2907	0.0111	-0.3140	0.0663	-7.2765	0.0932	-0.6067	0.0454

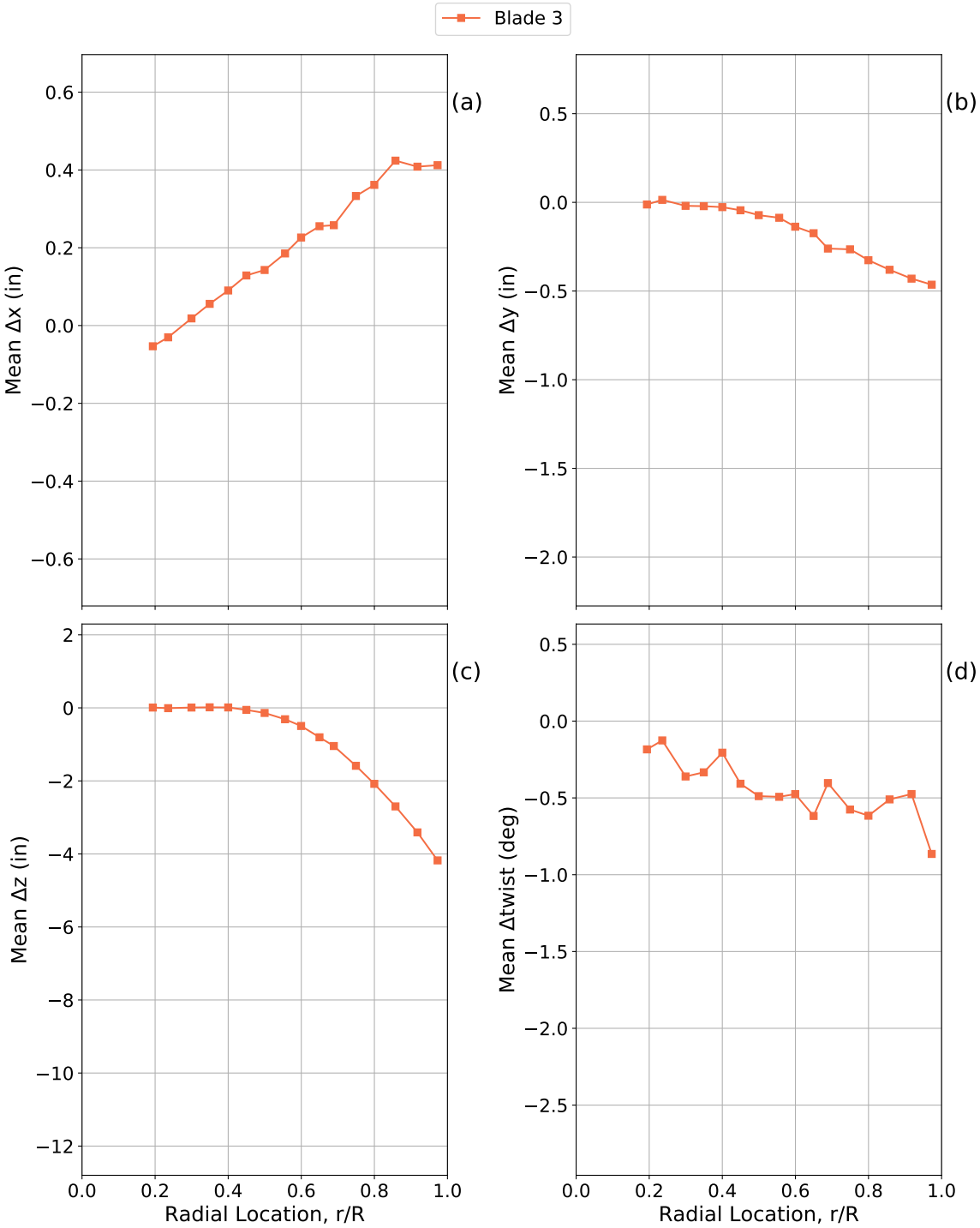


Figure 4.9-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0533	0.0008	-0.0120	0.0005	0.0087	0.0007	-0.1841	0.0116
3	209.88	0.2357	-0.0303	0.0006	0.0140	0.0015	-0.0082	0.0023	-0.1258	0.0110
3	209.88	0.2995	0.0183	0.0005	-0.0197	0.0027	0.0092	0.0031	-0.3605	0.0221
3	209.88	0.3493	0.0557	0.0007	-0.0215	0.0042	0.0149	0.0050	-0.3334	0.0181
3	209.88	0.4000	0.0901	0.0009	-0.0270	0.0071	0.0116	0.0084	-0.2056	0.0211
3	209.88	0.4497	0.1287	0.0012	-0.0447	0.0091	-0.0560	0.0108	-0.4077	0.0186
3	209.88	0.4997	0.1428	0.0009	-0.0722	0.0120	-0.1393	0.0131	-0.4885	0.0272
3	209.88	0.5556	0.1853	0.0011	-0.0870	0.0138	-0.3120	0.0169	-0.4930	0.0224
3	209.88	0.5995	0.2263	0.0016	-0.1373	0.0143	-0.4957	0.0181	-0.4752	0.0242
3	209.88	0.6498	0.2553	0.0020	-0.1740	0.0160	-0.8060	0.0212	-0.6174	0.0334
3	209.88	0.6890	0.2579	0.0025	-0.2606	0.0182	-1.0450	0.0223	-0.4034	0.0296
3	209.88	0.7495	0.3330	0.0020	-0.2649	0.0206	-1.5860	0.0261	-0.5757	0.0316
3	209.88	0.7998	0.3616	0.0019	-0.3263	0.0225	-2.0810	0.0278	-0.6159	0.0353
3	209.88	0.8577	0.4239	0.0022	-0.3802	0.0252	-2.6991	0.0337	-0.5098	0.0473
3	209.88	0.9178	0.4084	0.0034	-0.4301	0.0263	-3.4101	0.0333	-0.4747	0.0604
3	209.88	0.9729	0.4122	0.0018	-0.4642	0.0285	-4.1771	0.0435	-0.8648	0.0865

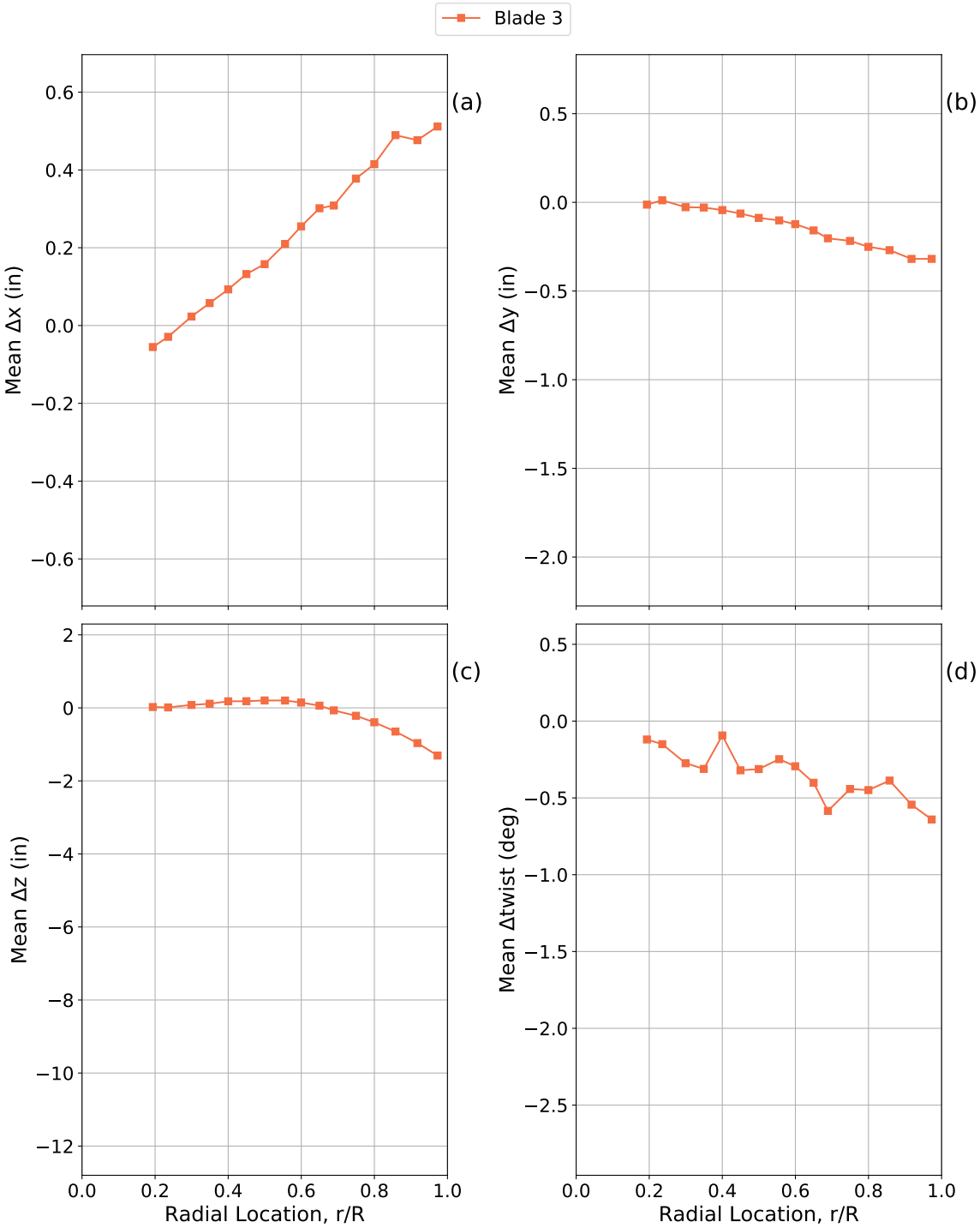


Figure 4.9-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0553	0.0005	-0.0128	0.0006	0.0235	0.0015	-0.1196	0.0110
3	225	0.2357	-0.0290	0.0009	0.0116	0.0009	0.0126	0.0025	-0.1502	0.0146
3	225	0.2995	0.0231	0.0007	-0.0274	0.0021	0.0800	0.0045	-0.2742	0.0223
3	225	0.3493	0.0577	0.0008	-0.0291	0.0036	0.1127	0.0075	-0.3110	0.0161
3	225	0.4000	0.0929	0.0015	-0.0436	0.0054	0.1794	0.0113	-0.0934	0.0191
3	225	0.4497	0.1323	0.0010	-0.0630	0.0070	0.1825	0.0150	-0.3203	0.0178
3	225	0.4997	0.1578	0.0015	-0.0877	0.0087	0.2028	0.0179	-0.3123	0.0213
3	225	0.5556	0.2097	0.0016	-0.1016	0.0109	0.2012	0.0212	-0.2478	0.0271
3	225	0.5995	0.2549	0.0013	-0.1229	0.0130	0.1461	0.0244	-0.2939	0.0247
3	225	0.6498	0.3015	0.0014	-0.1583	0.0155	0.0608	0.0279	-0.4015	0.0251
3	225	0.6890	0.3085	0.0013	-0.2027	0.0176	-0.0686	0.0310	-0.5846	0.0232
3	225	0.7495	0.3777	0.0017	-0.2173	0.0210	-0.2166	0.0337	-0.4419	0.0262
3	225	0.7998	0.4149	0.0018	-0.2508	0.0240	-0.3954	0.0380	-0.4491	0.0256
3	225	0.8577	0.4894	0.0014	-0.2696	0.0274	-0.6486	0.0426	-0.3872	0.0250
3	225	0.9178	0.4765	0.0018	-0.3188	0.0313	-0.9643	0.0511	-0.5440	0.0390
3	225	0.9729	0.5117	0.0032	-0.3187	0.0353	-1.3054	0.0586	-0.6404	0.0388

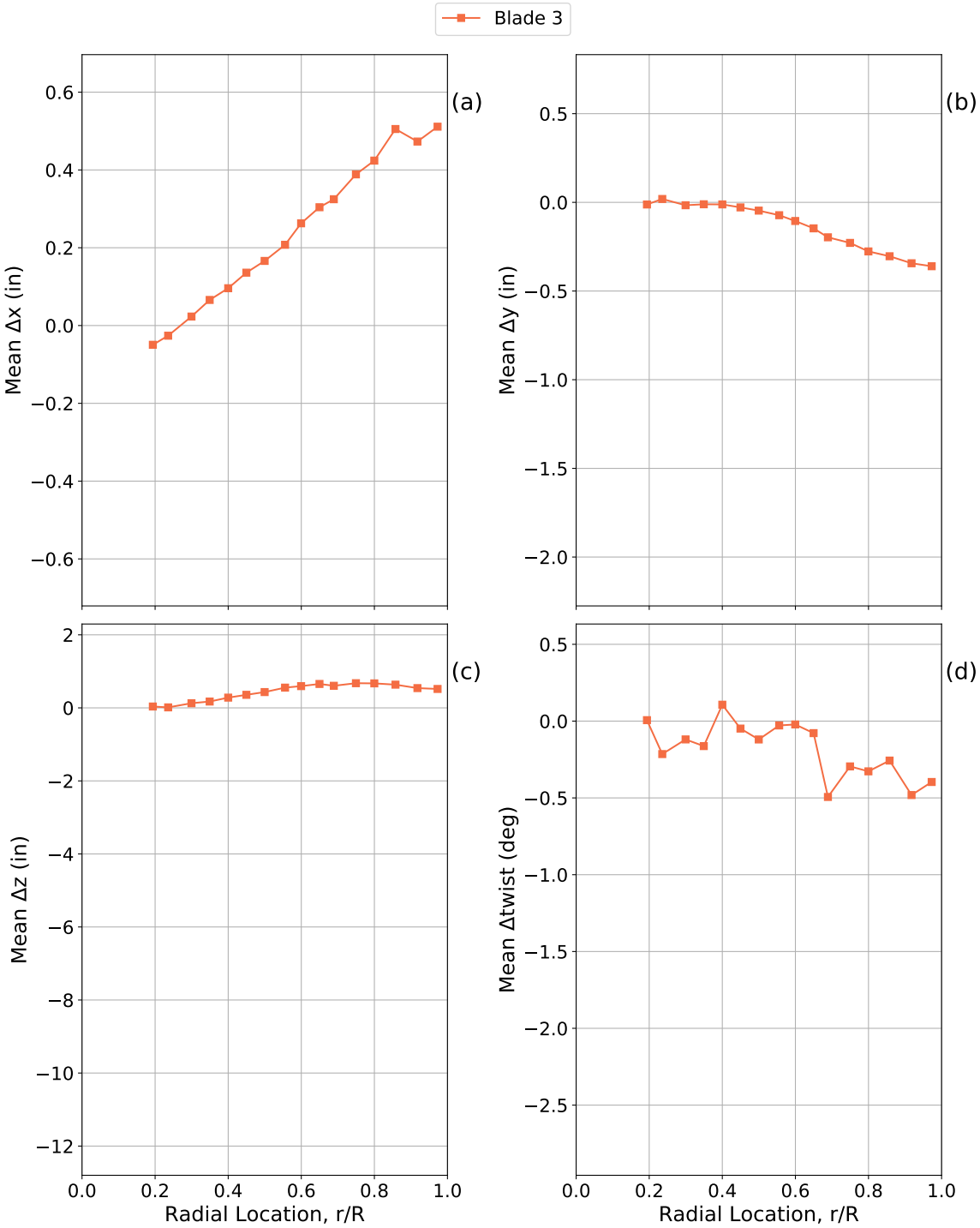


Figure 4.9-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0495	0.0013	-0.0120	0.0005	0.0370	0.0017	0.0062	0.0148
3	240.12	0.2357	-0.0261	0.0005	0.0190	0.0008	0.0134	0.0022	-0.2146	0.0313
3	240.12	0.2995	0.0231	0.0017	-0.0163	0.0021	0.1272	0.0054	-0.1192	0.0406
3	240.12	0.3493	0.0658	0.0012	-0.0109	0.0029	0.1734	0.0099	-0.1626	0.0316
3	240.12	0.4000	0.0959	0.0011	-0.0116	0.0048	0.2807	0.0125	0.1068	0.0320
3	240.12	0.4497	0.1359	0.0011	-0.0285	0.0056	0.3570	0.0168	-0.0486	0.0321
3	240.12	0.4997	0.1661	0.0012	-0.0466	0.0070	0.4325	0.0224	-0.1195	0.0276
3	240.12	0.5556	0.2076	0.0019	-0.0725	0.0085	0.5541	0.0280	-0.0282	0.0280
3	240.12	0.5995	0.2628	0.0012	-0.1051	0.0100	0.5954	0.0328	-0.0218	0.0361
3	240.12	0.6498	0.3041	0.0014	-0.1466	0.0119	0.6549	0.0362	-0.0782	0.0315
3	240.12	0.6890	0.3247	0.0013	-0.1971	0.0131	0.6047	0.0396	-0.4938	0.0297
3	240.12	0.7495	0.3886	0.0018	-0.2286	0.0153	0.6754	0.0440	-0.2949	0.0355
3	240.12	0.7998	0.4240	0.0017	-0.2767	0.0178	0.6707	0.0469	-0.3270	0.0321
3	240.12	0.8577	0.5052	0.0021	-0.3039	0.0200	0.6354	0.0517	-0.2569	0.0369
3	240.12	0.9178	0.4730	0.0018	-0.3434	0.0227	0.5411	0.0553	-0.4813	0.0279
3	240.12	0.9729	0.5112	0.0024	-0.3602	0.0251	0.5179	0.0595	-0.3963	0.0345

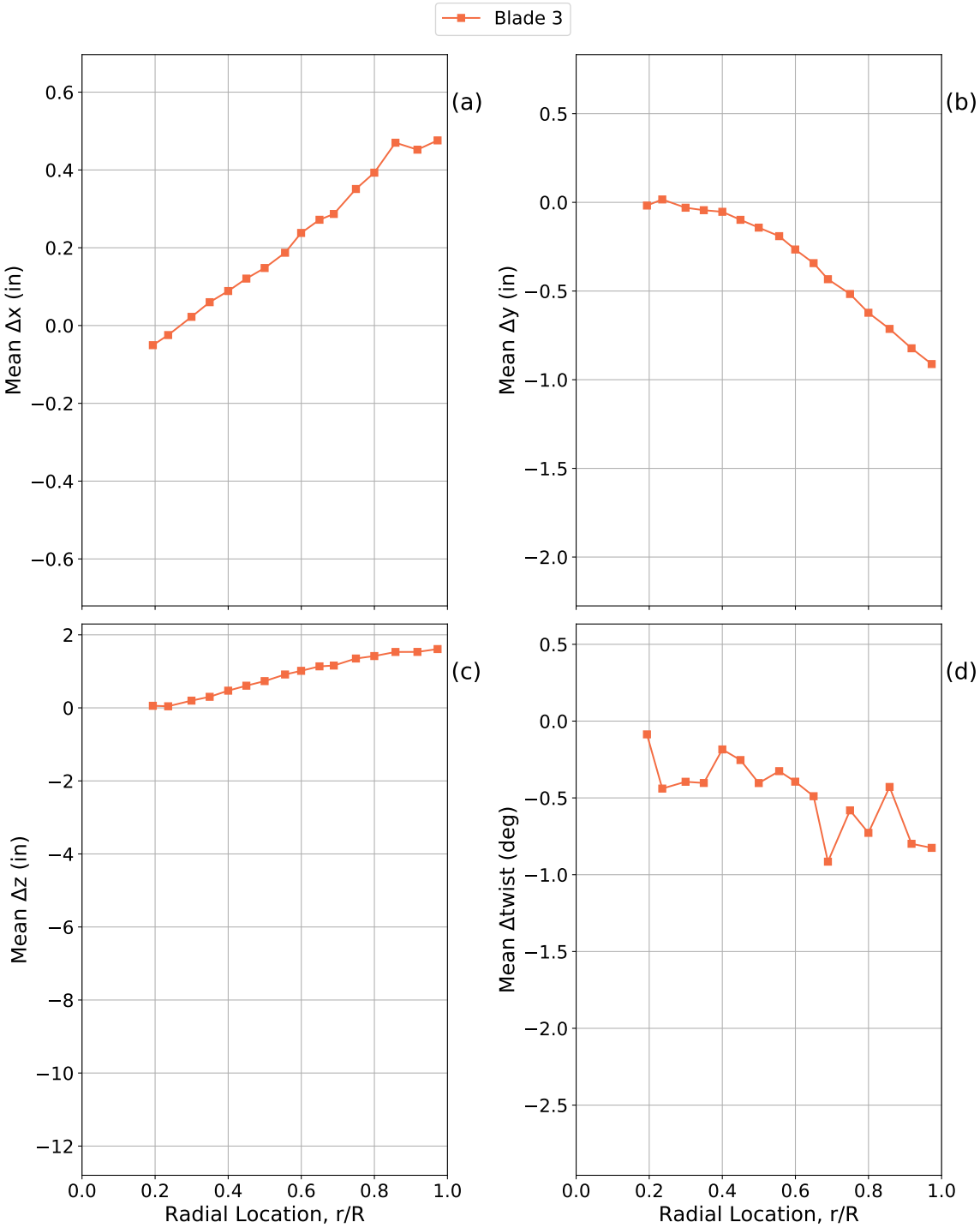


Figure 4.9-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0505	0.0015	-0.0180	0.0007	0.0568	0.0027	-0.0864	0.0110
3	254.88	0.2357	-0.0245	0.0010	0.0164	0.0009	0.0437	0.0034	-0.4392	0.0356
3	254.88	0.2995	0.0223	0.0007	-0.0302	0.0022	0.1981	0.0081	-0.3948	0.0313
3	254.88	0.3493	0.0600	0.0011	-0.0442	0.0041	0.3030	0.0136	-0.4028	0.0192
3	254.88	0.4000	0.0887	0.0018	-0.0532	0.0060	0.4708	0.0202	-0.1843	0.0195
3	254.88	0.4497	0.1207	0.0013	-0.0985	0.0067	0.6074	0.0253	-0.2536	0.0246
3	254.88	0.4997	0.1479	0.0013	-0.1425	0.0077	0.7324	0.0311	-0.4034	0.0216
3	254.88	0.5556	0.1871	0.0024	-0.1906	0.0090	0.9143	0.0374	-0.3257	0.0281
3	254.88	0.5995	0.2380	0.0024	-0.2659	0.0102	1.0140	0.0414	-0.3942	0.0263
3	254.88	0.6498	0.2719	0.0026	-0.3427	0.0104	1.1367	0.0467	-0.4889	0.0302
3	254.88	0.6890	0.2868	0.0027	-0.4334	0.0113	1.1587	0.0505	-0.9150	0.0290
3	254.88	0.7495	0.3510	0.0028	-0.5167	0.0118	1.3514	0.0576	-0.5811	0.0252
3	254.88	0.7998	0.3930	0.0023	-0.6225	0.0127	1.4187	0.0621	-0.7275	0.0261
3	254.88	0.8577	0.4700	0.0021	-0.7136	0.0133	1.5309	0.0715	-0.4287	0.0298
3	254.88	0.9178	0.4521	0.0022	-0.8229	0.0143	1.5322	0.0798	-0.7986	0.0272
3	254.88	0.9729	0.4759	0.0034	-0.9118	0.0151	1.6100	0.0894	-0.8253	0.0328

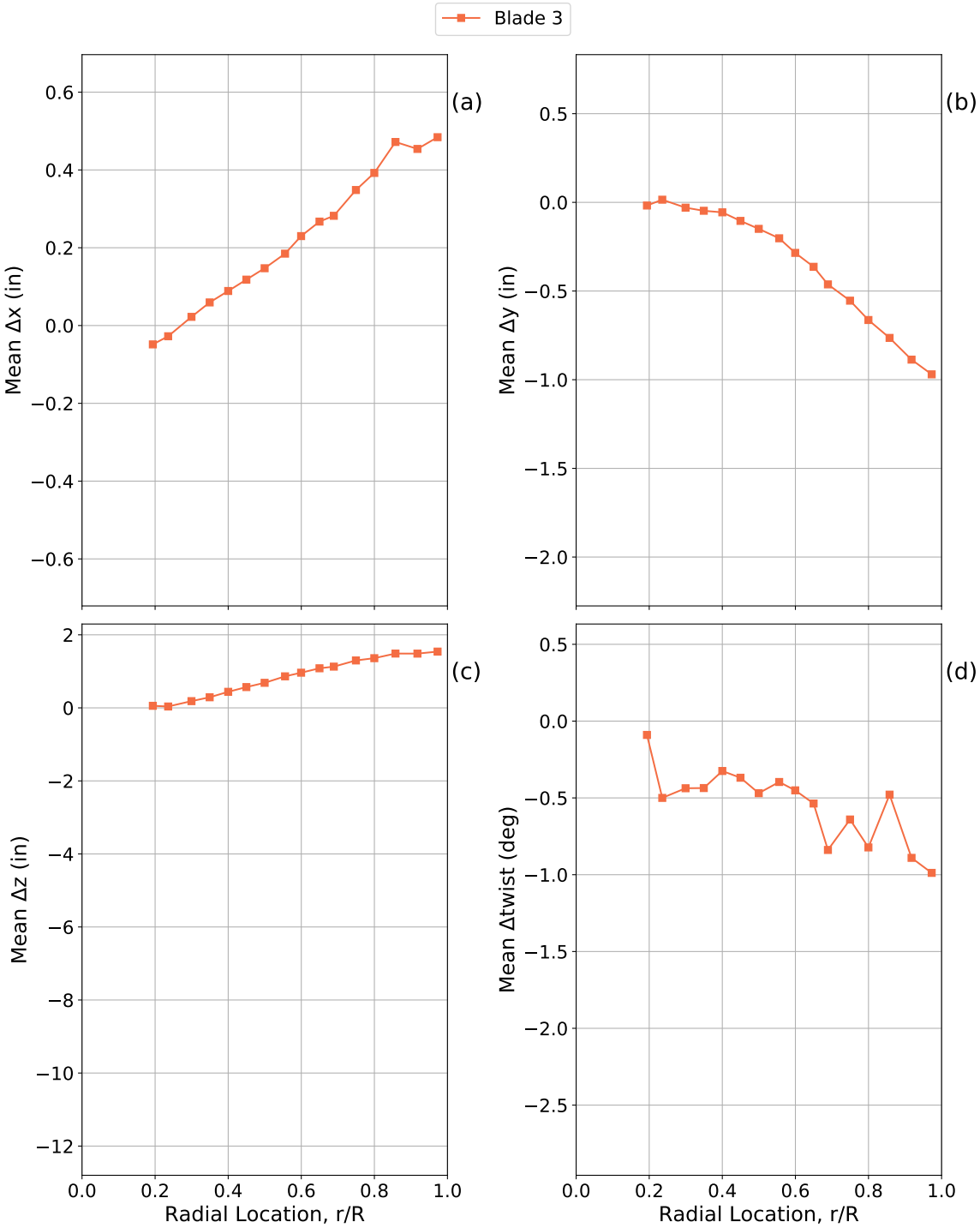


Figure 4.9-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0485	0.0038	-0.0179	0.0010	0.0565	0.0027	-0.0899	0.0219
3	260.16	0.2357	-0.0276	0.0009	0.0150	0.0011	0.0375	0.0038	-0.4999	0.0405
3	260.16	0.2995	0.0223	0.0016	-0.0300	0.0027	0.1845	0.0083	-0.4371	0.0525
3	260.16	0.3493	0.0594	0.0009	-0.0475	0.0050	0.2900	0.0148	-0.4358	0.0495
3	260.16	0.4000	0.0888	0.0014	-0.0563	0.0070	0.4395	0.0214	-0.3248	0.0517
3	260.16	0.4497	0.1180	0.0018	-0.1046	0.0085	0.5692	0.0264	-0.3686	0.0554
3	260.16	0.4997	0.1473	0.0017	-0.1494	0.0110	0.6860	0.0331	-0.4691	0.0565
3	260.16	0.5556	0.1848	0.0021	-0.2026	0.0125	0.8634	0.0394	-0.3963	0.0543
3	260.16	0.5995	0.2299	0.0019	-0.2849	0.0148	0.9630	0.0435	-0.4508	0.0577
3	260.16	0.6498	0.2672	0.0021	-0.3634	0.0171	1.0838	0.0530	-0.5365	0.0521
3	260.16	0.6890	0.2821	0.0020	-0.4626	0.0187	1.1291	0.0568	-0.8389	0.0463
3	260.16	0.7495	0.3484	0.0018	-0.5544	0.0223	1.2985	0.0639	-0.6406	0.0506
3	260.16	0.7998	0.3923	0.0019	-0.6634	0.0253	1.3606	0.0710	-0.8224	0.0470
3	260.16	0.8577	0.4719	0.0018	-0.7643	0.0291	1.4873	0.0785	-0.4787	0.0511
3	260.16	0.9178	0.4540	0.0025	-0.8868	0.0322	1.4857	0.0901	-0.8903	0.0544
3	260.16	0.9729	0.4842	0.0028	-0.9698	0.0361	1.5407	0.0991	-0.9881	0.0529

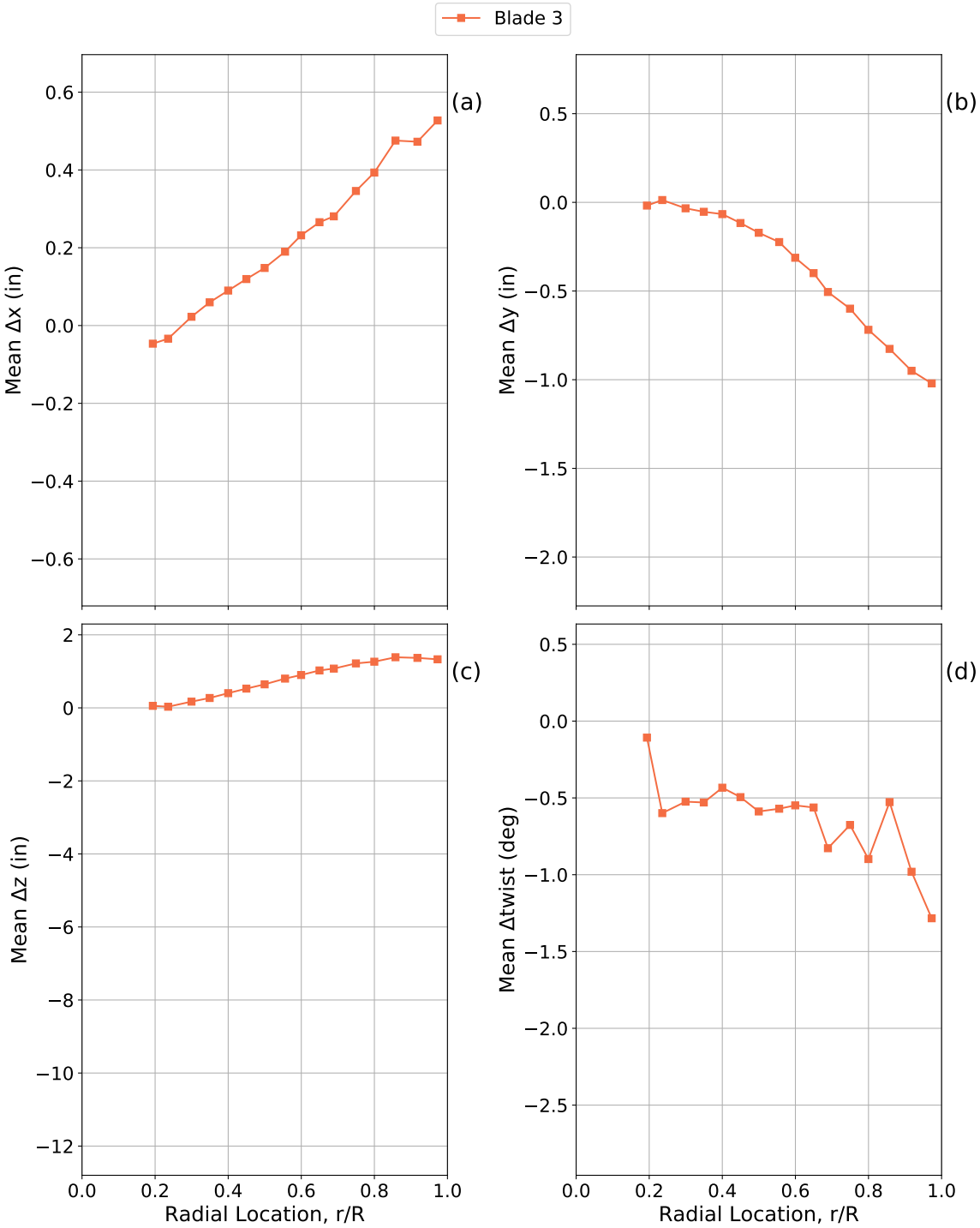


Figure 4.9-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0466	0.0044	-0.0182	0.0013	0.0556	0.0050	-0.1074	0.0329
3	265.08	0.2357	-0.0338	0.0015	0.0130	0.0013	0.0312	0.0044	-0.5990	0.0863
3	265.08	0.2995	0.0225	0.0014	-0.0336	0.0041	0.1706	0.0137	-0.5244	0.0973
3	265.08	0.3493	0.0597	0.0008	-0.0532	0.0070	0.2704	0.0230	-0.5297	0.0948
3	265.08	0.4000	0.0899	0.0019	-0.0664	0.0105	0.4024	0.0327	-0.4335	0.0912
3	265.08	0.4497	0.1195	0.0019	-0.1166	0.0131	0.5274	0.0430	-0.4949	0.0845
3	265.08	0.4997	0.1480	0.0022	-0.1715	0.0157	0.6445	0.0509	-0.5883	0.0941
3	265.08	0.5556	0.1899	0.0020	-0.2240	0.0191	0.8012	0.0626	-0.5704	0.0942
3	265.08	0.5995	0.2319	0.0024	-0.3124	0.0214	0.9000	0.0733	-0.5486	0.0869
3	265.08	0.6498	0.2656	0.0020	-0.3991	0.0242	1.0245	0.0833	-0.5624	0.0882
3	265.08	0.6890	0.2807	0.0023	-0.5055	0.0265	1.0752	0.0933	-0.8275	0.0877
3	265.08	0.7495	0.3459	0.0023	-0.5994	0.0297	1.2175	0.1068	-0.6761	0.0931
3	265.08	0.7998	0.3933	0.0025	-0.7187	0.0324	1.2644	0.1179	-0.8980	0.0921
3	265.08	0.8577	0.4755	0.0023	-0.8262	0.0355	1.3859	0.1308	-0.5273	0.0953
3	265.08	0.9178	0.4725	0.0027	-0.9498	0.0388	1.3685	0.1434	-0.9807	0.0998
3	265.08	0.9729	0.5272	0.0034	-1.0209	0.0414	1.3296	0.1539	-1.2835	0.0963

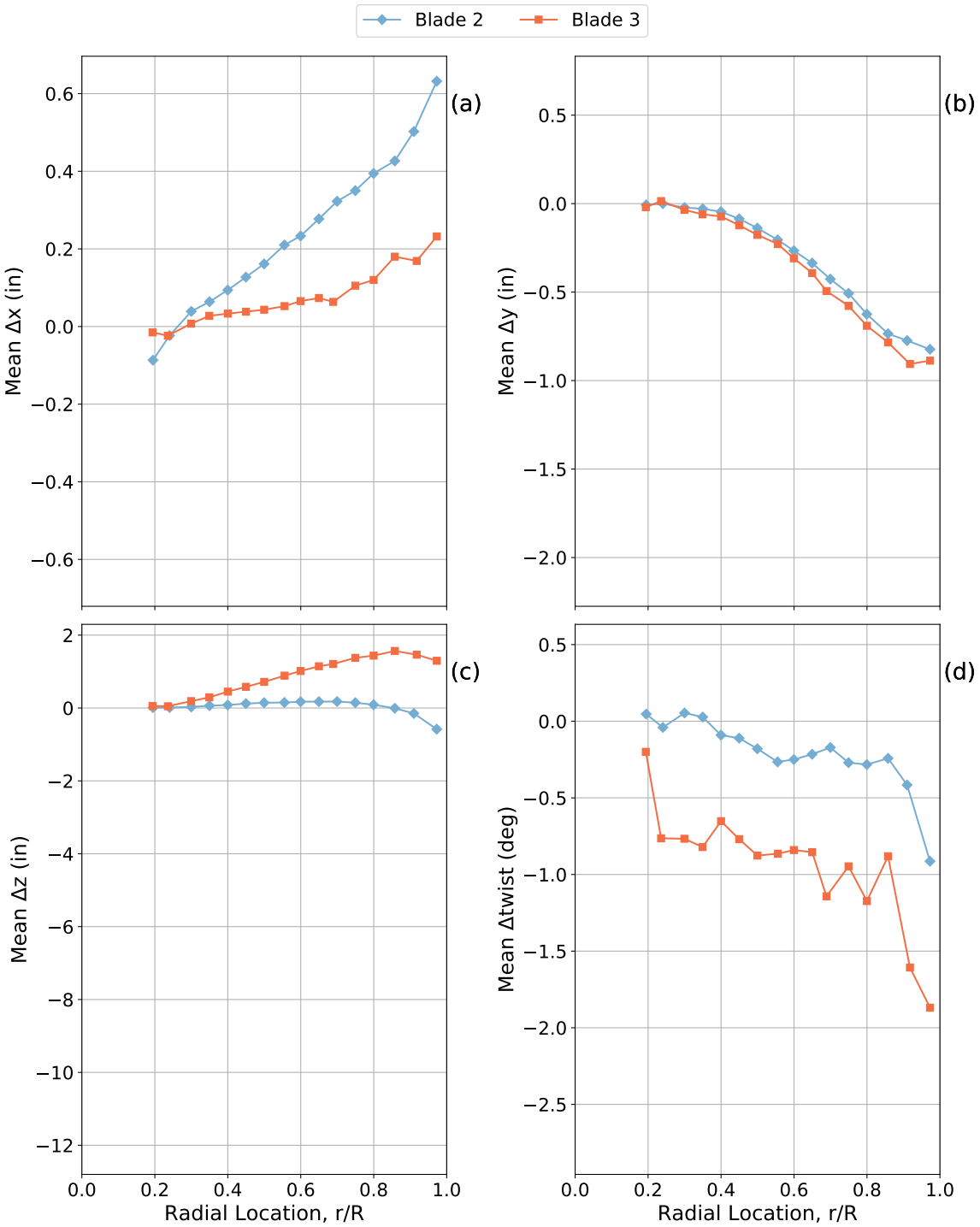


Figure 4.9-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0868	0.0044	-0.0070	0.0011	0.0109	0.0036	0.0466	0.0372
2	270.35	0.2405	-0.0231	0.0016	-0.0002	0.0016	0.0127	0.0045	-0.0404	0.0811
2	270.35	0.2999	0.0390	0.0013	-0.0221	0.0042	0.0288	0.0109	0.0538	0.1018
2	270.35	0.3498	0.0639	0.0013	-0.0293	0.0076	0.0641	0.0200	0.0275	0.0989
2	270.35	0.3998	0.0939	0.0027	-0.0458	0.0113	0.0824	0.0280	-0.0907	0.0994
2	270.35	0.4496	0.1273	0.0022	-0.0858	0.0147	0.1219	0.0374	-0.1105	0.0977
2	270.35	0.4995	0.1614	0.0020	-0.1380	0.0173	0.1444	0.0428	-0.1797	0.1079
2	270.35	0.5551	0.2100	0.0021	-0.2047	0.0215	0.1510	0.0529	-0.2653	0.1016
2	270.35	0.5996	0.2333	0.0020	-0.2660	0.0240	0.1729	0.0612	-0.2498	0.1078
2	270.35	0.6497	0.2773	0.0021	-0.3361	0.0271	0.1754	0.0688	-0.2153	0.1057
2	270.35	0.6996	0.3227	0.0021	-0.4265	0.0301	0.1777	0.0769	-0.1714	0.1047
2	270.35	0.7495	0.3501	0.0023	-0.5074	0.0342	0.1463	0.0857	-0.2703	0.1076
2	270.35	0.7996	0.3944	0.0025	-0.6247	0.0377	0.0900	0.0953	-0.2826	0.1057
2	270.35	0.8578	0.4267	0.0028	-0.7353	0.0417	-0.0066	0.1055	-0.2421	0.1041
2	270.35	0.9100	0.5024	0.0025	-0.7739	0.0451	-0.1490	0.1132	-0.4160	0.1151
2	270.35	0.9727	0.6320	0.0034	-0.8233	0.0499	-0.5809	0.1260	-0.9135	0.1158
3	270	0.1938	-0.0151	0.0049	-0.0201	0.0017	0.0550	0.0078	-0.1997	0.0485
3	270	0.2357	-0.0237	0.0024	0.0143	0.0018	0.0480	0.0056	-0.7638	0.1315
3	270	0.2995	0.0075	0.0015	-0.0353	0.0054	0.1887	0.0200	-0.7668	0.1496
3	270	0.3493	0.0275	0.0016	-0.0604	0.0096	0.2927	0.0353	-0.8209	0.1359
3	270	0.4000	0.0333	0.0018	-0.0725	0.0141	0.4502	0.0484	-0.6522	0.1443
3	270	0.4497	0.0382	0.0021	-0.1226	0.0185	0.5815	0.0632	-0.7696	0.1351
3	270	0.4997	0.0433	0.0022	-0.1767	0.0231	0.7168	0.0779	-0.8764	0.1326
3	270	0.5556	0.0525	0.0022	-0.2287	0.0275	0.8884	0.0935	-0.8643	0.1438
3	270	0.5995	0.0655	0.0029	-0.3092	0.0316	1.0158	0.1059	-0.8406	0.1424
3	270	0.6498	0.0734	0.0034	-0.3926	0.0365	1.1462	0.1185	-0.8542	0.1462
3	270	0.6890	0.0635	0.0030	-0.4941	0.0402	1.2092	0.1286	-1.1426	0.1455
3	270	0.7495	0.1052	0.0042	-0.5779	0.0470	1.3765	0.1437	-0.9469	0.1459
3	270	0.7998	0.1200	0.0043	-0.6905	0.0523	1.4381	0.1542	-1.1733	0.1439
3	270	0.8577	0.1800	0.0043	-0.7844	0.0583	1.5649	0.1667	-0.8813	0.1498
3	270	0.9178	0.1690	0.0045	-0.9062	0.0658	1.4640	0.1812	-1.6071	0.1666
3	270	0.9729	0.2322	0.0077	-0.8873	0.0737	1.2968	0.1950	-1.8692	0.1929

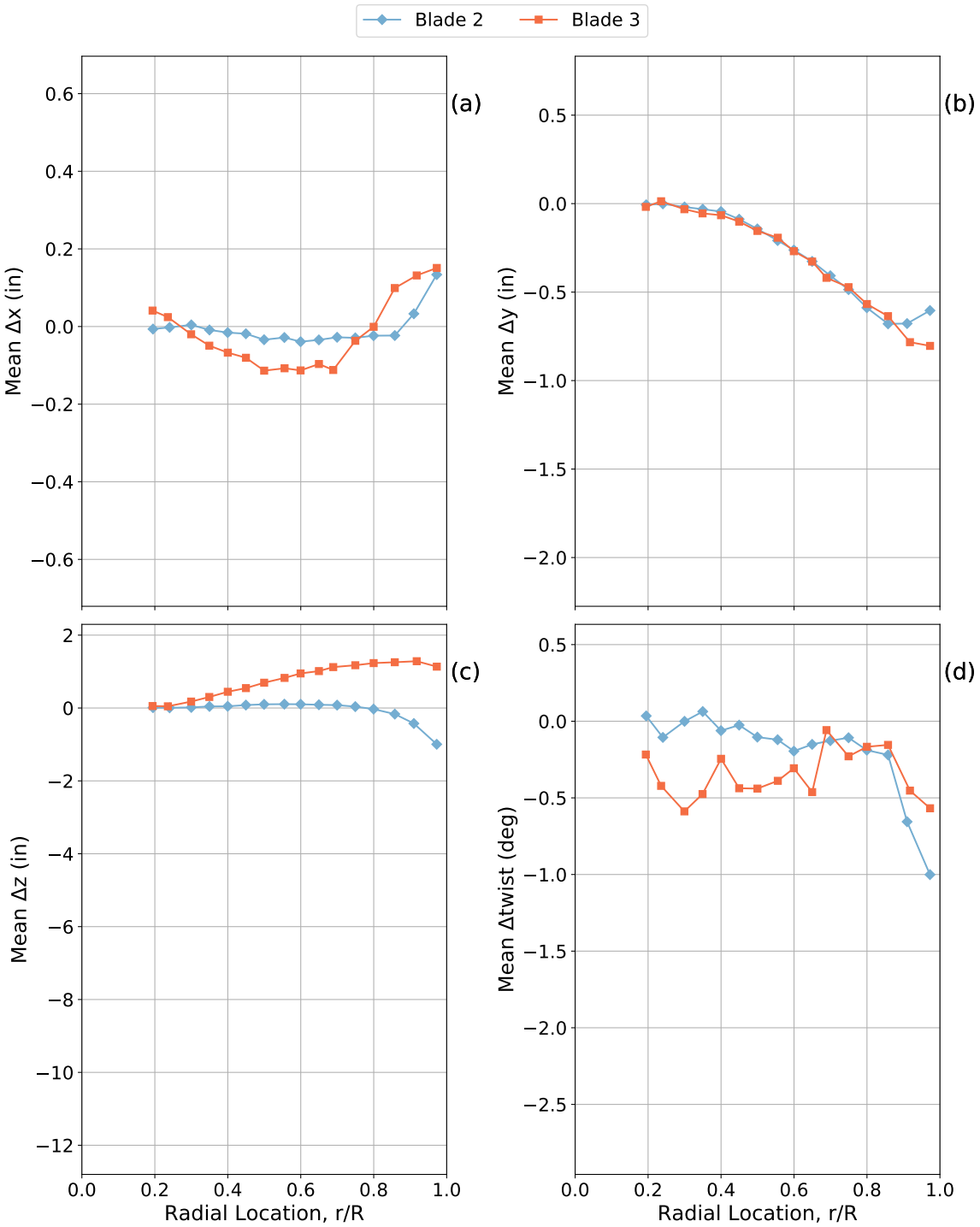


Figure 4.9-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	-0.0065	0.0037	-0.0066	0.0019	0.0095	0.0064	0.0347	0.0335
2	274.92	0.2405	-0.0022	0.0017	-0.0014	0.0016	0.0053	0.0051	-0.1055	0.1046
2	274.92	0.2999	0.0042	0.0013	-0.0191	0.0057	0.0165	0.0184	-0.0007	0.1067
2	274.92	0.3498	-0.0088	0.0015	-0.0316	0.0106	0.0431	0.0317	0.0633	0.1040
2	274.92	0.3998	-0.0156	0.0018	-0.0448	0.0148	0.0470	0.0444	-0.0615	0.1035
2	274.92	0.4496	-0.0186	0.0018	-0.0880	0.0199	0.0807	0.0571	-0.0254	0.0978
2	274.92	0.4995	-0.0340	0.0017	-0.1431	0.0246	0.1013	0.0704	-0.1036	0.0953
2	274.92	0.5551	-0.0283	0.0017	-0.2086	0.0297	0.1060	0.0854	-0.1206	0.0979
2	274.92	0.5996	-0.0391	0.0018	-0.2620	0.0333	0.1028	0.0961	-0.1951	0.1036
2	274.92	0.6497	-0.0344	0.0015	-0.3267	0.0382	0.0891	0.1107	-0.1510	0.0923
2	274.92	0.6996	-0.0277	0.0023	-0.4075	0.0427	0.0794	0.1228	-0.1269	0.0942
2	274.92	0.7495	-0.0292	0.0018	-0.4860	0.0474	0.0382	0.1368	-0.1077	0.0971
2	274.92	0.7996	-0.0236	0.0021	-0.5884	0.0521	-0.0298	0.1506	-0.1887	0.1044
2	274.92	0.8578	-0.0232	0.0024	-0.6795	0.0587	-0.1665	0.1670	-0.2198	0.1085
2	274.92	0.9100	0.0329	0.0027	-0.6777	0.0645	-0.4252	0.1827	-0.6557	0.0861
2	274.92	0.9727	0.1338	0.0045	-0.6041	0.0721	-0.9952	0.1995	-1.0009	0.0989
3	274.92	0.1938	0.0411	0.0048	-0.0183	0.0013	0.0541	0.0071	-0.2174	0.0364
3	274.92	0.2357	0.0242	0.0013	0.0133	0.0011	0.0468	0.0027	-0.4217	0.1127
3	274.92	0.2995	-0.0200	0.0016	-0.0317	0.0034	0.1769	0.0172	-0.5883	0.1231
3	274.92	0.3493	-0.0493	0.0017	-0.0552	0.0065	0.3029	0.0312	-0.4750	0.1012
3	274.92	0.4000	-0.0673	0.0024	-0.0656	0.0090	0.4462	0.0417	-0.2451	0.1242
3	274.92	0.4497	-0.0805	0.0019	-0.1019	0.0111	0.5461	0.0520	-0.4374	0.1555
3	274.92	0.4997	-0.1137	0.0017	-0.1543	0.0137	0.6947	0.0665	-0.4394	0.1232
3	274.92	0.5556	-0.1076	0.0019	-0.1927	0.0175	0.8261	0.0820	-0.3887	0.1107
3	274.92	0.5995	-0.1131	0.0018	-0.2690	0.0197	0.9490	0.0947	-0.3068	0.1008
3	274.92	0.6498	-0.0966	0.0028	-0.3274	0.0221	1.0133	0.1067	-0.4624	0.1266
3	274.92	0.6890	-0.1120	0.0026	-0.4193	0.0235	1.1232	0.1147	-0.0580	0.1097
3	274.92	0.7495	-0.0368	0.0023	-0.4722	0.0276	1.1740	0.1290	-0.2289	0.1189
3	274.92	0.7998	-0.0007	0.0020	-0.5674	0.0299	1.2328	0.1389	-0.1668	0.1394
3	274.92	0.8577	0.0991	0.0034	-0.6360	0.0351	1.2565	0.1547	-0.1544	0.1435
3	274.92	0.9178	0.1316	0.0084	-0.7829	0.0403	1.2844	0.1675	-0.4526	0.2185
3	274.92	0.9729	0.1509	0.0073	-0.8040	0.0411	1.1356	0.2047	-0.5679	0.1274

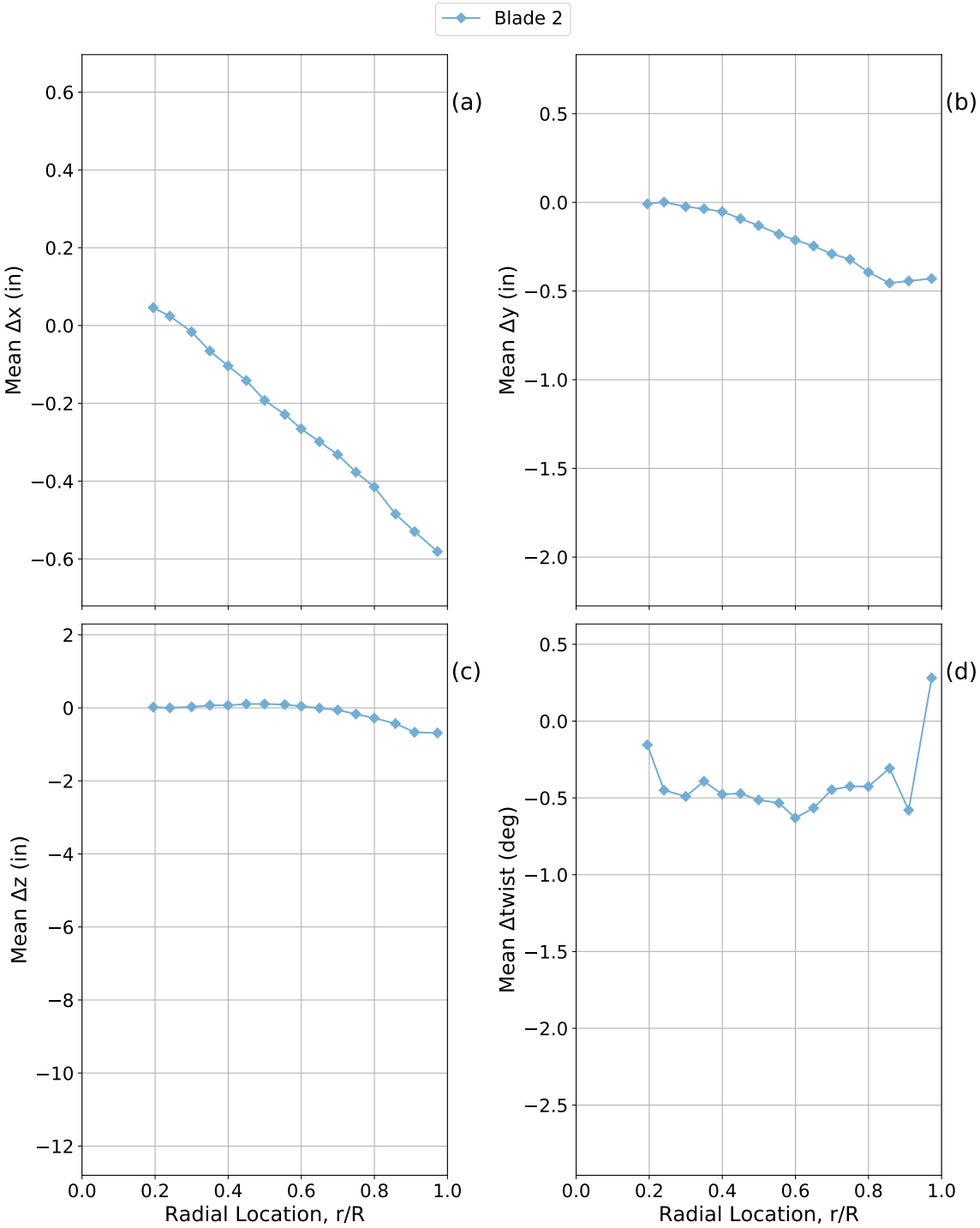


Figure 4.9-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0458	0.0023	-0.0088	0.0012	0.0183	0.0020	-0.1547	0.0262
2	285.12	0.2405	0.0241	0.0020	0.0015	0.0021	0.0010	0.0036	-0.4497	0.0317
2	285.12	0.2999	-0.0163	0.0011	-0.0243	0.0044	0.0259	0.0058	-0.4905	0.0545
2	285.12	0.3498	-0.0655	0.0019	-0.0364	0.0081	0.0701	0.0075	-0.3918	0.0421
2	285.12	0.3998	-0.1038	0.0035	-0.0522	0.0118	0.0692	0.0123	-0.4763	0.0482
2	285.12	0.4496	-0.1414	0.0025	-0.0923	0.0136	0.1063	0.0135	-0.4716	0.0614
2	285.12	0.4995	-0.1924	0.0039	-0.1311	0.0147	0.1060	0.0154	-0.5132	0.0493
2	285.12	0.5551	-0.2285	0.0022	-0.1794	0.0171	0.0912	0.0192	-0.5331	0.0326
2	285.12	0.5996	-0.2655	0.0016	-0.2132	0.0190	0.0451	0.0239	-0.6304	0.0345
2	285.12	0.6497	-0.2986	0.0023	-0.2465	0.0222	-0.0073	0.0285	-0.5656	0.0335
2	285.12	0.6996	-0.3317	0.0021	-0.2905	0.0247	-0.0591	0.0352	-0.4464	0.0407
2	285.12	0.7495	-0.3770	0.0025	-0.3216	0.0273	-0.1691	0.0404	-0.4247	0.0481
2	285.12	0.7996	-0.4149	0.0024	-0.3941	0.0289	-0.2804	0.0485	-0.4258	0.0488
2	285.12	0.8578	-0.4847	0.0039	-0.4550	0.0326	-0.4304	0.0591	-0.3078	0.0702
2	285.12	0.9100	-0.5297	0.0027	-0.4435	0.0361	-0.6675	0.0619	-0.5796	0.0371
2	285.12	0.9727	-0.5811	0.0052	-0.4299	0.0365	-0.6889	0.0611	0.2810	0.0805

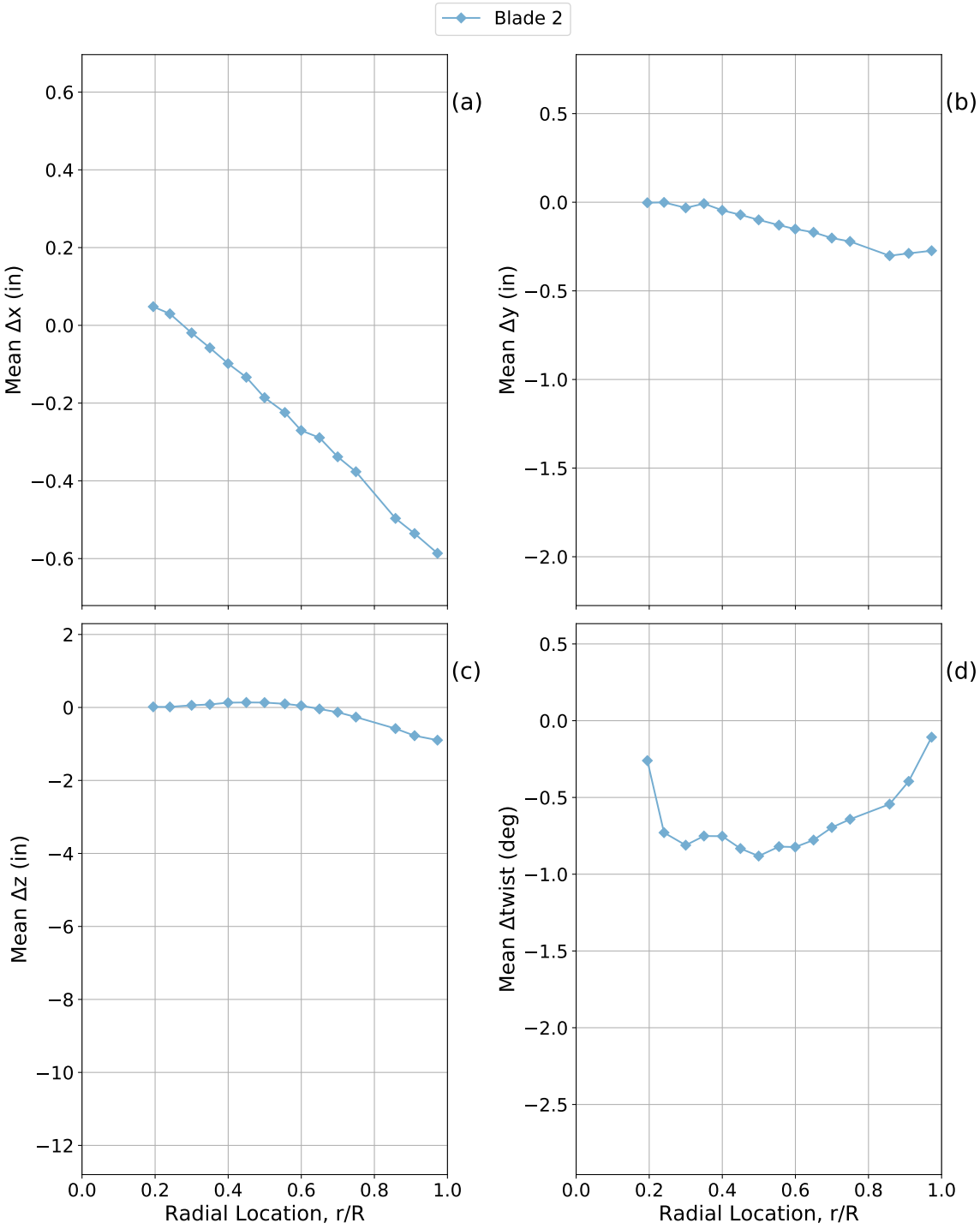


Figure 4.9-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0480	0.0010	-0.0028	0.0006	0.0162	0.0017	-0.2600	0.0199
2	299.88	0.2405	0.0297	0.0014	-0.0010	0.0016	0.0150	0.0060	-0.7293	0.0219
2	299.88	0.2999	-0.0194	0.0020	-0.0317	0.0034	0.0590	0.0105	-0.8111	0.0385
2	299.88	0.3498	-0.0579	0.0019	-0.0077	0.0056	0.0822	0.0141	-0.7513	0.0525
2	299.88	0.3998	-0.0984	0.0021	-0.0456	0.0090	0.1315	0.0256	-0.7523	0.0508
2	299.88	0.4496	-0.1336	0.0023	-0.0710	0.0108	0.1374	0.0311	-0.8328	0.0485
2	299.88	0.4995	-0.1860	0.0034	-0.0995	0.0133	0.1340	0.0401	-0.8818	0.0413
2	299.88	0.5551	-0.2242	0.0019	-0.1292	0.0167	0.0988	0.0480	-0.8203	0.0434
2	299.88	0.5996	-0.2704	0.0026	-0.1514	0.0188	0.0489	0.0556	-0.8231	0.0397
2	299.88	0.6497	-0.2890	0.0023	-0.1697	0.0216	-0.0413	0.0623	-0.7776	0.0271
2	299.88	0.6996	-0.3382	0.0022	-0.2020	0.0240	-0.1314	0.0688	-0.6957	0.0243
2	299.88	0.7495	-0.3766	0.0026	-0.2213	0.0269	-0.2638	0.0748	-0.6421	0.0250
2	299.88	0.8578	-0.4966	0.0016	-0.3018	0.0344	-0.5789	0.0931	-0.5438	0.0274
2	299.88	0.9100	-0.5356	0.0017	-0.2885	0.0383	-0.7736	0.1019	-0.3952	0.0366
2	299.88	0.9727	-0.5864	0.0028	-0.2736	0.0425	-0.8962	0.1139	-0.1074	0.0383

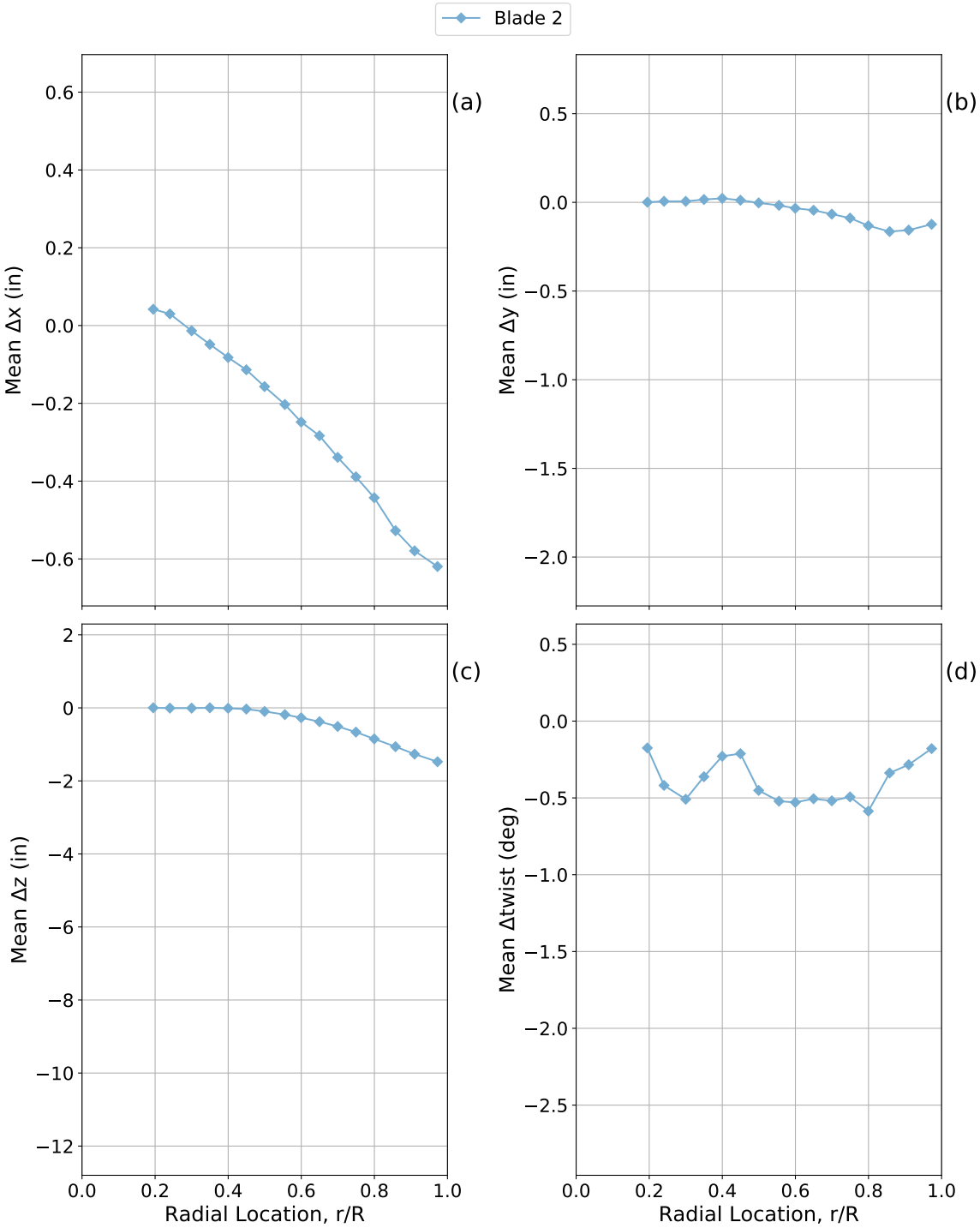


Figure 4.9-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0419	0.0010	0.0008	0.0006	0.0017	0.0027	-0.1748	0.0158
2	315	0.2405	0.0299	0.0013	0.0060	0.0014	-0.0068	0.0036	-0.4185	0.0314
2	315	0.2999	-0.0135	0.0017	0.0057	0.0030	-0.0073	0.0089	-0.5088	0.0383
2	315	0.3498	-0.0485	0.0012	0.0160	0.0050	0.0022	0.0153	-0.3619	0.0350
2	315	0.3998	-0.0822	0.0025	0.0225	0.0080	-0.0114	0.0221	-0.2288	0.0459
2	315	0.4496	-0.1138	0.0018	0.0120	0.0093	-0.0339	0.0267	-0.2119	0.0638
2	315	0.4995	-0.1570	0.0022	-0.0030	0.0114	-0.0984	0.0317	-0.4512	0.0578
2	315	0.5551	-0.2030	0.0024	-0.0171	0.0141	-0.1847	0.0415	-0.5215	0.0400
2	315	0.5996	-0.2480	0.0025	-0.0334	0.0154	-0.2701	0.0468	-0.5289	0.0365
2	315	0.6497	-0.2833	0.0021	-0.0446	0.0171	-0.3785	0.0545	-0.5056	0.0364
2	315	0.6996	-0.3389	0.0028	-0.0664	0.0206	-0.5097	0.0654	-0.5192	0.0391
2	315	0.7495	-0.3890	0.0025	-0.0887	0.0226	-0.6635	0.0740	-0.4934	0.0308
2	315	0.7996	-0.4427	0.0023	-0.1316	0.0248	-0.8503	0.0836	-0.5862	0.0318
2	315	0.8578	-0.5274	0.0027	-0.1647	0.0286	-1.0632	0.0984	-0.3376	0.0311
2	315	0.9100	-0.5793	0.0028	-0.1564	0.0320	-1.2657	0.1102	-0.2837	0.0369
2	315	0.9727	-0.6196	0.0035	-0.1238	0.0360	-1.4755	0.1251	-0.1791	0.0425

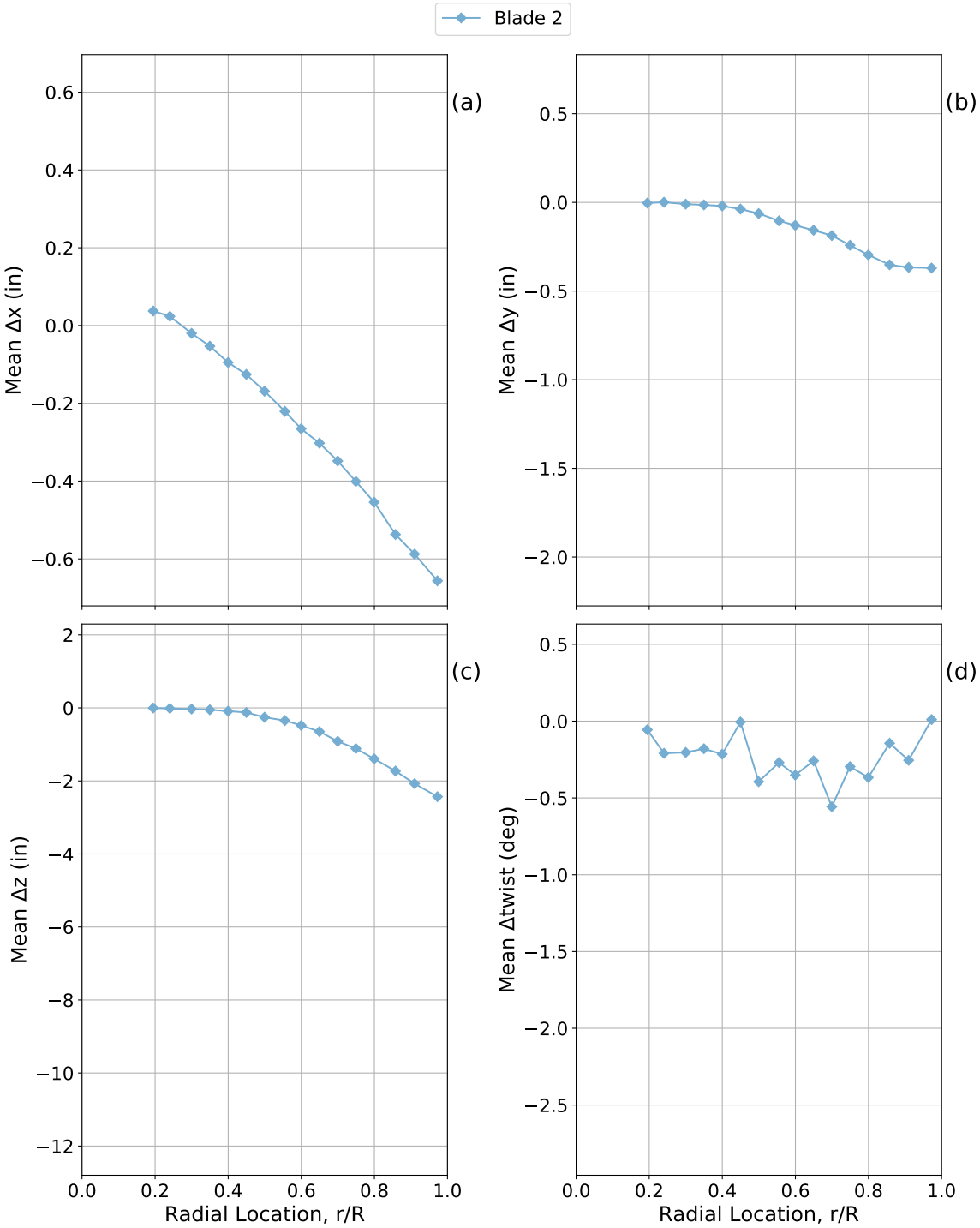


Figure 4.9-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0372	0.0013	-0.0036	0.0006	-0.0041	0.0017	-0.0560	0.0119
2	330.12	0.2405	0.0235	0.0017	0.0008	0.0020	-0.0157	0.0039	-0.2093	0.0210
2	330.12	0.2999	-0.0201	0.0012	-0.0098	0.0034	-0.0322	0.0073	-0.2036	0.0270
2	330.12	0.3498	-0.0532	0.0026	-0.0142	0.0055	-0.0520	0.0142	-0.1796	0.0494
2	330.12	0.3998	-0.0951	0.0026	-0.0204	0.0092	-0.0890	0.0203	-0.2151	0.0381
2	330.12	0.4496	-0.1258	0.0024	-0.0377	0.0090	-0.1253	0.0267	-0.0058	0.0657
2	330.12	0.4995	-0.1690	0.0127	-0.0630	0.0164	-0.2573	0.0477	-0.3941	0.2659
2	330.12	0.5551	-0.2208	0.0035	-0.1040	0.0130	-0.3469	0.0335	-0.2695	0.0251
2	330.12	0.5996	-0.2655	0.0028	-0.1296	0.0153	-0.4796	0.0378	-0.3511	0.0388
2	330.12	0.6497	-0.3025	0.0030	-0.1571	0.0191	-0.6490	0.0458	-0.2586	0.0421
2	330.12	0.6996	-0.3483	0.0048	-0.1871	0.0226	-0.9151	0.0484	-0.5572	0.0894
2	330.12	0.7495	-0.4011	0.0025	-0.2417	0.0216	-1.1131	0.0530	-0.2960	0.0303
2	330.12	0.7996	-0.4543	0.0023	-0.2965	0.0235	-1.3941	0.0560	-0.3667	0.0280
2	330.12	0.8578	-0.5372	0.0024	-0.3521	0.0267	-1.7296	0.0607	-0.1439	0.0332
2	330.12	0.9100	-0.5876	0.0029	-0.3668	0.0292	-2.0727	0.0638	-0.2549	0.0275
2	330.12	0.9727	-0.6564	0.0034	-0.3703	0.0327	-2.4315	0.0697	0.0103	0.0317

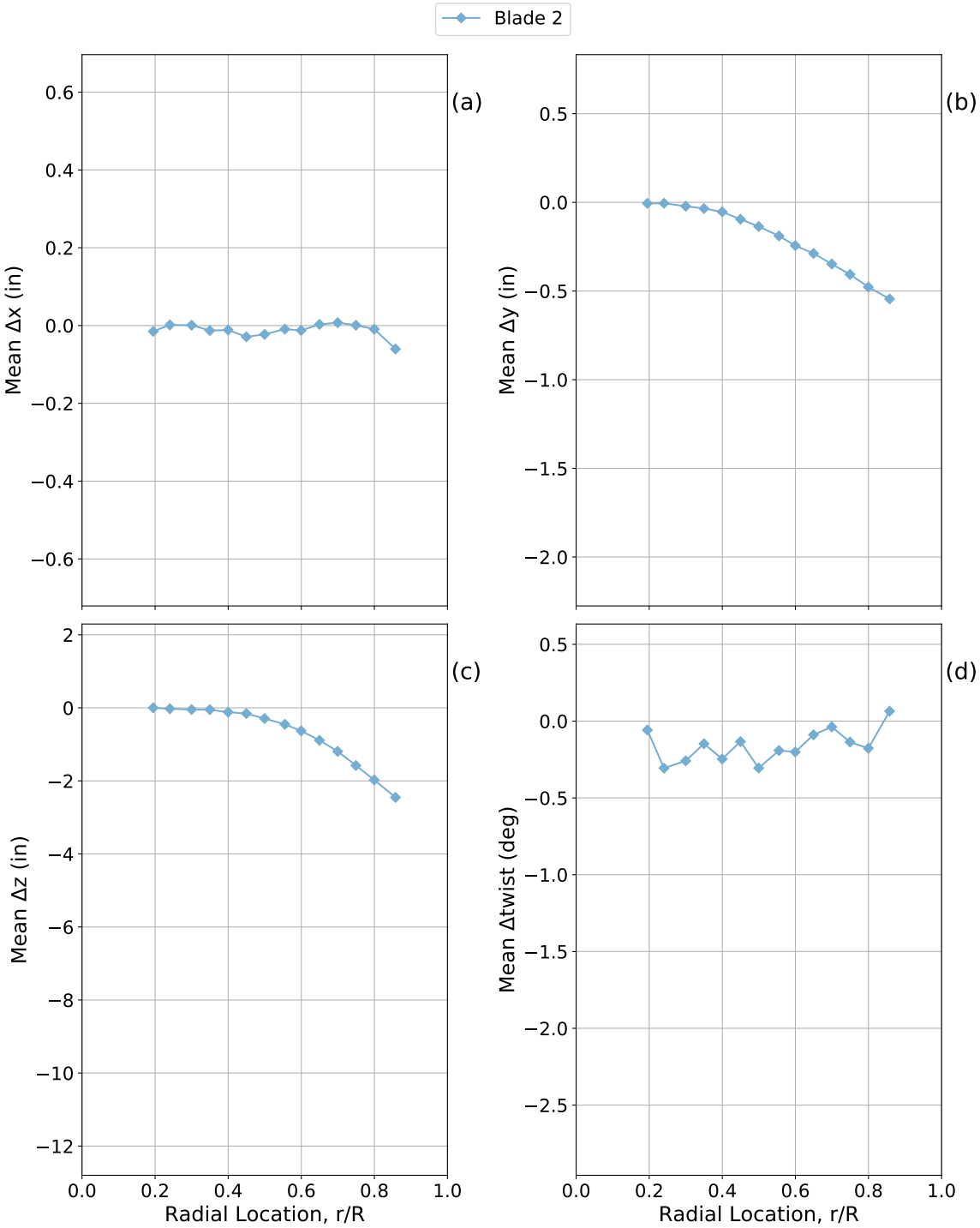


Figure 4.9-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0151	0.0032	-0.0057	0.0006	0.0009	0.0016	-0.0580	0.0130
2	344.88	0.2405	0.0017	0.0010	-0.0053	0.0020	-0.0244	0.0056	-0.3063	0.0291
2	344.88	0.2999	0.0008	0.0015	-0.0217	0.0041	-0.0466	0.0093	-0.2587	0.0316
2	344.88	0.3498	-0.0129	0.0022	-0.0349	0.0045	-0.0497	0.0142	-0.1472	0.0276
2	344.88	0.3998	-0.0114	0.0037	-0.0538	0.0094	-0.1168	0.0244	-0.2465	0.0442
2	344.88	0.4496	-0.0291	0.0047	-0.0951	0.0114	-0.1554	0.0271	-0.1334	0.0418
2	344.88	0.4995	-0.0226	0.0045	-0.1361	0.0122	-0.2919	0.0326	-0.3053	0.0491
2	344.88	0.5551	-0.0092	0.0058	-0.1893	0.0174	-0.4506	0.0422	-0.1915	0.0519
2	344.88	0.5996	-0.0126	0.0061	-0.2438	0.0166	-0.6299	0.0436	-0.2009	0.0375
2	344.88	0.6497	0.0029	0.0062	-0.2883	0.0188	-0.8877	0.0489	-0.0888	0.0473
2	344.88	0.6996	0.0073	0.0065	-0.3477	0.0211	-1.1920	0.0552	-0.0378	0.0449
2	344.88	0.7495	0.0009	0.0088	-0.4065	0.0237	-1.5772	0.0637	-0.1363	0.0552
2	344.88	0.7996	-0.0092	0.0121	-0.4774	0.0270	-1.9736	0.0683	-0.1771	0.0513
2	344.88	0.8578	-0.0604	0.0146	-0.5447	0.0296	-2.4522	0.0797	0.0645	0.0818

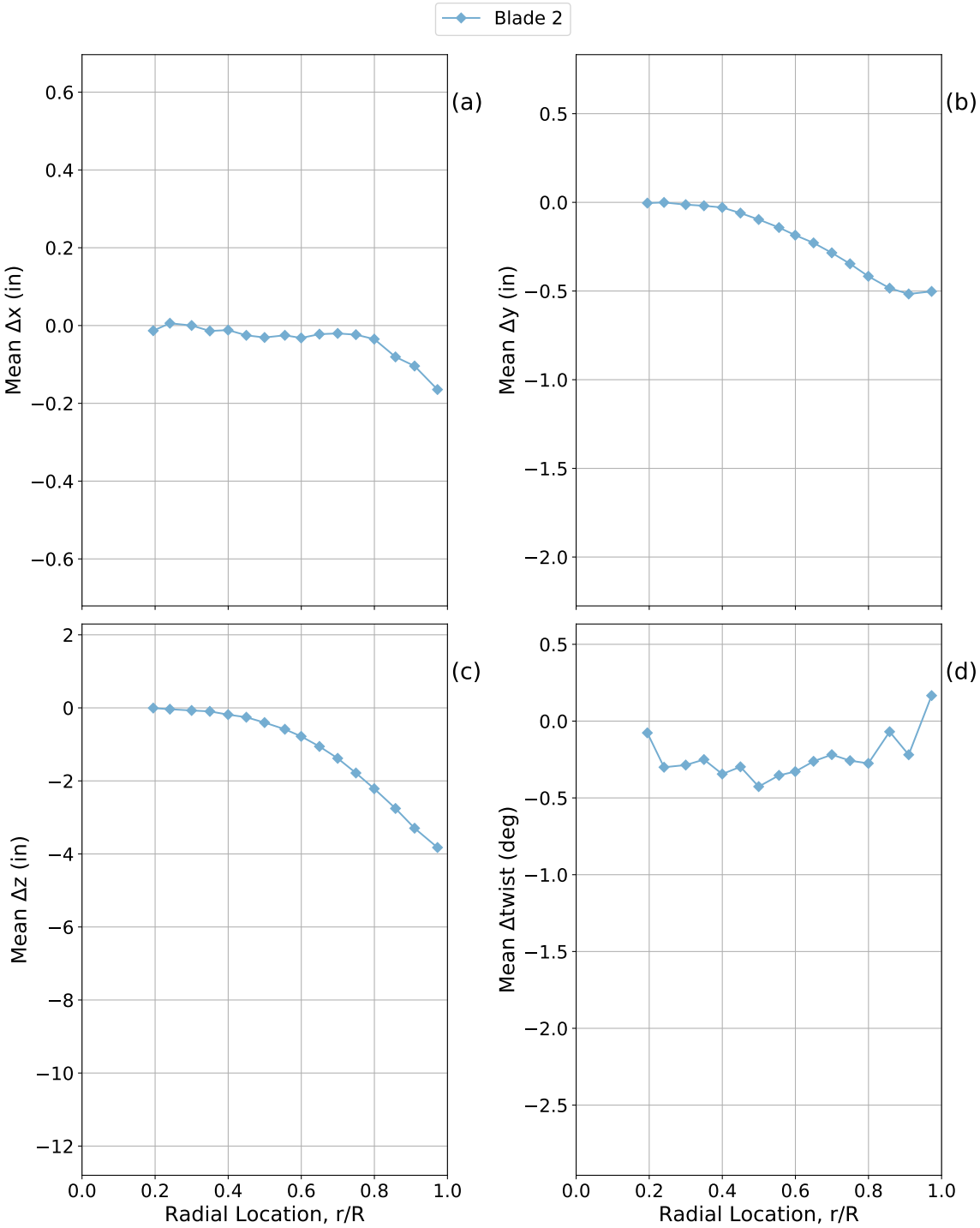


Figure 4.9-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0133	0.0040	-0.0042	0.0008	-0.0056	0.0011	-0.0765	0.0188
2	350.16	0.2405	0.0059	0.0019	-0.0006	0.0018	-0.0371	0.0030	-0.3003	0.0224
2	350.16	0.2999	0.0001	0.0019	-0.0130	0.0040	-0.0714	0.0041	-0.2861	0.0371
2	350.16	0.3498	-0.0140	0.0028	-0.0193	0.0058	-0.0966	0.0058	-0.2502	0.0308
2	350.16	0.3998	-0.0117	0.0043	-0.0289	0.0100	-0.1853	0.0099	-0.3446	0.0347
2	350.16	0.4496	-0.0252	0.0063	-0.0605	0.0114	-0.2567	0.0144	-0.2975	0.0533
2	350.16	0.4995	-0.0307	0.0068	-0.0967	0.0130	-0.4032	0.0137	-0.4264	0.0341
2	350.16	0.5551	-0.0251	0.0064	-0.1420	0.0156	-0.5861	0.0185	-0.3531	0.0344
2	350.16	0.5996	-0.0319	0.0065	-0.1852	0.0184	-0.7808	0.0216	-0.3285	0.0458
2	350.16	0.6497	-0.0222	0.0052	-0.2286	0.0197	-1.0572	0.0264	-0.2617	0.0499
2	350.16	0.6996	-0.0203	0.0070	-0.2847	0.0223	-1.3818	0.0301	-0.2184	0.0550
2	350.16	0.7495	-0.0235	0.0070	-0.3465	0.0242	-1.7834	0.0313	-0.2574	0.0371
2	350.16	0.7996	-0.0349	0.0088	-0.4169	0.0259	-2.2142	0.0371	-0.2751	0.0575
2	350.16	0.8578	-0.0807	0.0103	-0.4839	0.0300	-2.7549	0.0399	-0.0690	0.0625
2	350.16	0.9100	-0.1041	0.0144	-0.5167	0.0335	-3.2958	0.0440	-0.2191	0.0649
2	350.16	0.9727	-0.1646	0.0138	-0.5022	0.0369	-3.8242	0.0605	0.1661	0.1772

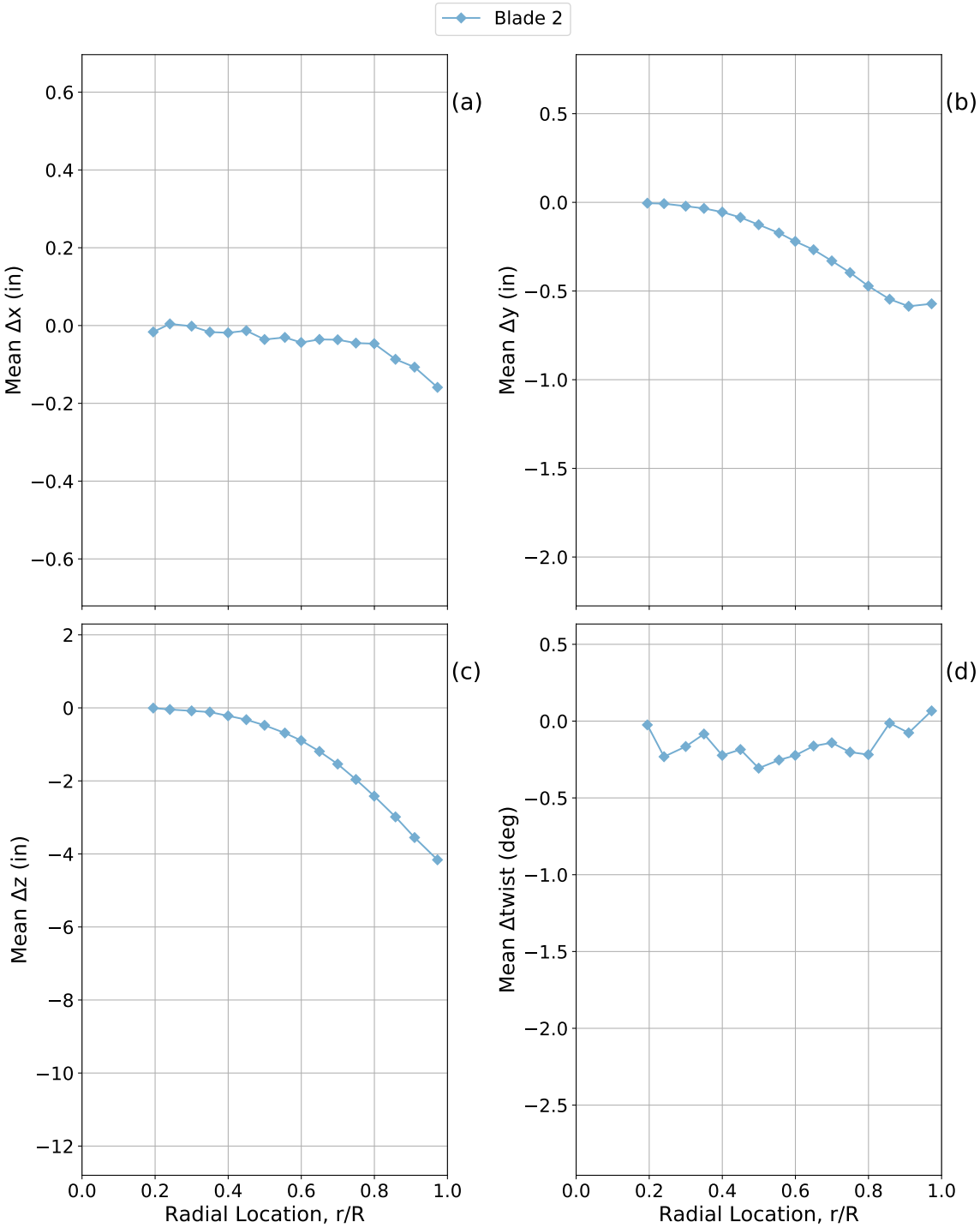


Figure 4.9-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Table 4.9-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 53, point 11. BD run 26, points 3123 to 3133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0165	0.0025	-0.0047	0.0007	-0.0061	0.0016	-0.0247	0.0087
2	355.08	0.2405	0.0042	0.0018	-0.0074	0.0016	-0.0444	0.0019	-0.2318	0.0208
2	355.08	0.2999	-0.0017	0.0018	-0.0217	0.0030	-0.0824	0.0052	-0.1654	0.0230
2	355.08	0.3498	-0.0168	0.0023	-0.0341	0.0041	-0.1152	0.0092	-0.0839	0.0265
2	355.08	0.3998	-0.0186	0.0042	-0.0549	0.0072	-0.2185	0.0131	-0.2231	0.0238
2	355.08	0.4496	-0.0133	0.0054	-0.0851	0.0072	-0.3236	0.0152	-0.1849	0.0321
2	355.08	0.4995	-0.0359	0.0051	-0.1261	0.0084	-0.4771	0.0172	-0.3065	0.0272
2	355.08	0.5551	-0.0306	0.0063	-0.1727	0.0118	-0.6881	0.0223	-0.2534	0.0241
2	355.08	0.5996	-0.0436	0.0073	-0.2201	0.0119	-0.8940	0.0235	-0.2230	0.0356
2	355.08	0.6497	-0.0357	0.0077	-0.2671	0.0151	-1.1921	0.0298	-0.1622	0.0357
2	355.08	0.6996	-0.0365	0.0091	-0.3301	0.0165	-1.5392	0.0365	-0.1410	0.0409
2	355.08	0.7495	-0.0451	0.0107	-0.3962	0.0198	-1.9611	0.0436	-0.2019	0.0396
2	355.08	0.7996	-0.0467	0.0119	-0.4720	0.0227	-2.4177	0.0508	-0.2183	0.0397
2	355.08	0.8578	-0.0868	0.0153	-0.5462	0.0256	-2.9855	0.0558	-0.0132	0.0434
2	355.08	0.9100	-0.1070	0.0133	-0.5859	0.0275	-3.5513	0.0586	-0.0764	0.0581
2	355.08	0.9727	-0.1590	0.0160	-0.5720	0.0309	-4.1613	0.0684	0.0666	0.0737

4.10 Run 57, Point 7

4.10.1 Pitch, Flap, and Lag

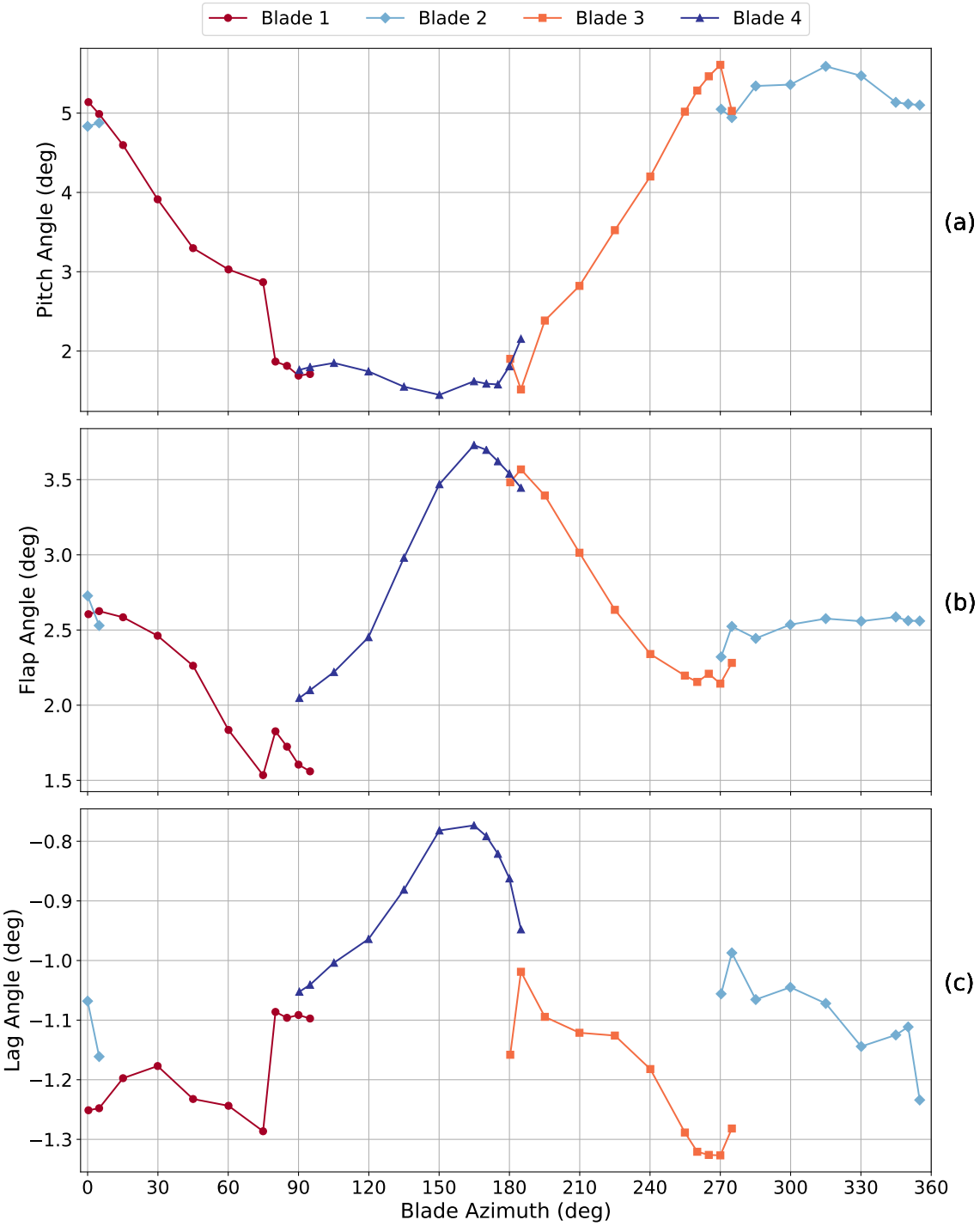


Figure 4.10-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.8333	2.7274	-1.0681	0.0391	0.0165	0.0152
0.35	1	5.1391	2.6052	-1.2512	0.0654	0.0327	0.0242
4.92	1	4.9883	2.6255	-1.2478	0.1204	0.0321	0.0263
4.92	2	4.8771	2.5297	-1.1612	0.0525	0.0216	0.0131
15.12	1	4.5965	2.5847	-1.1974	0.0584	0.0317	0.0274
29.88	1	3.9127	2.4617	-1.1770	0.0454	0.0247	0.0211
45	1	3.2973	2.2624	-1.2323	0.0480	0.0255	0.0150
60.12	1	3.0286	1.8354	-1.2437	0.0656	0.0160	0.0181
74.88	1	2.8681	1.5348	-1.2864	0.0490	0.0195	0.0172
80.16	1	1.8670	1.8264	-1.0862	0.0290	0.0130	0.0130
85.08	1	1.8129	1.7241	-1.0961	0.0315	0.0197	0.0110
90	1	1.6902	1.6048	-1.0914	0.0340	0.0225	0.0127
90.35	4	1.7621	2.0478	-1.0524	0.0254	0.0078	0.0175
94.92	1	1.7099	1.5600	-1.0973	0.0297	0.0152	0.0179
94.92	4	1.7974	2.1002	-1.0407	0.0324	0.0172	0.0140
105.12	4	1.8497	2.2205	-1.0038	0.0167	0.0149	0.0249
119.88	4	1.7428	2.4523	-0.9640	0.0226	0.0330	0.0172
135	4	1.5504	2.9805	-0.8812	0.0202	0.0230	0.0122
150.12	4	1.4471	3.4695	-0.7819	0.0253	0.0143	0.0127
164.88	4	1.6190	3.7296	-0.7733	0.0169	0.0137	0.0119
170.16	4	1.5884	3.6977	-0.7915	0.0263	0.0246	0.0118
175.08	4	1.5784	3.6219	-0.8210	0.0304	0.0144	0.0100
180	4	1.8073	3.5397	-0.8623	0.0247	0.0237	0.0174
180.35	3	1.9014	3.4828	-1.1581	0.0302	0.0105	0.0122
184.92	3	1.5161	3.5679	-1.0189	0.0792	0.0714	0.0337
184.92	4	2.1534	3.4456	-0.9478	0.0226	0.0201	0.0189
195.12	3	2.3845	3.3943	-1.0945	0.0361	0.0213	0.0190
209.88	3	2.8213	3.0139	-1.1212	0.0123	0.0124	0.0128
225	3	3.5239	2.6341	-1.1259	0.0304	0.0244	0.0197
240.12	3	4.2008	2.3401	-1.1821	0.0236	0.0262	0.0210
254.88	3	5.0179	2.1967	-1.2885	0.0337	0.0239	0.0176
260.16	3	5.2845	2.1546	-1.3208	0.0427	0.0257	0.0183
265.08	3	5.4641	2.2091	-1.3261	0.0676	0.0285	0.0147
270	3	5.6084	2.1433	-1.3269	0.1212	0.0369	0.0202
270.35	2	5.0491	2.3209	-1.0559	0.0686	0.0240	0.0227
274.92	2	4.9435	2.5239	-0.9872	0.0368	0.0329	0.0177
274.92	3	5.0279	2.2813	-1.2818	0.0297	0.0252	0.0098
285.12	2	5.3419	2.4441	-1.0655	0.0609	0.0296	0.0300
299.88	2	5.3593	2.5359	-1.0449	0.0465	0.0231	0.0204
315	2	5.5897	2.5756	-1.0720	0.0326	0.0161	0.0156
330.12	2	5.4708	2.5584	-1.1442	0.0224	0.0167	0.0129
344.88	2	5.1359	2.5868	-1.1249	0.0370	0.0288	0.0133
350.16	2	5.1149	2.5618	-1.1114	0.0330	0.0144	0.0079
355.08	2	5.1009	2.5599	-1.2340	0.0789	0.0419	0.0196

4.10.2 Spanwise Elastic Deformations

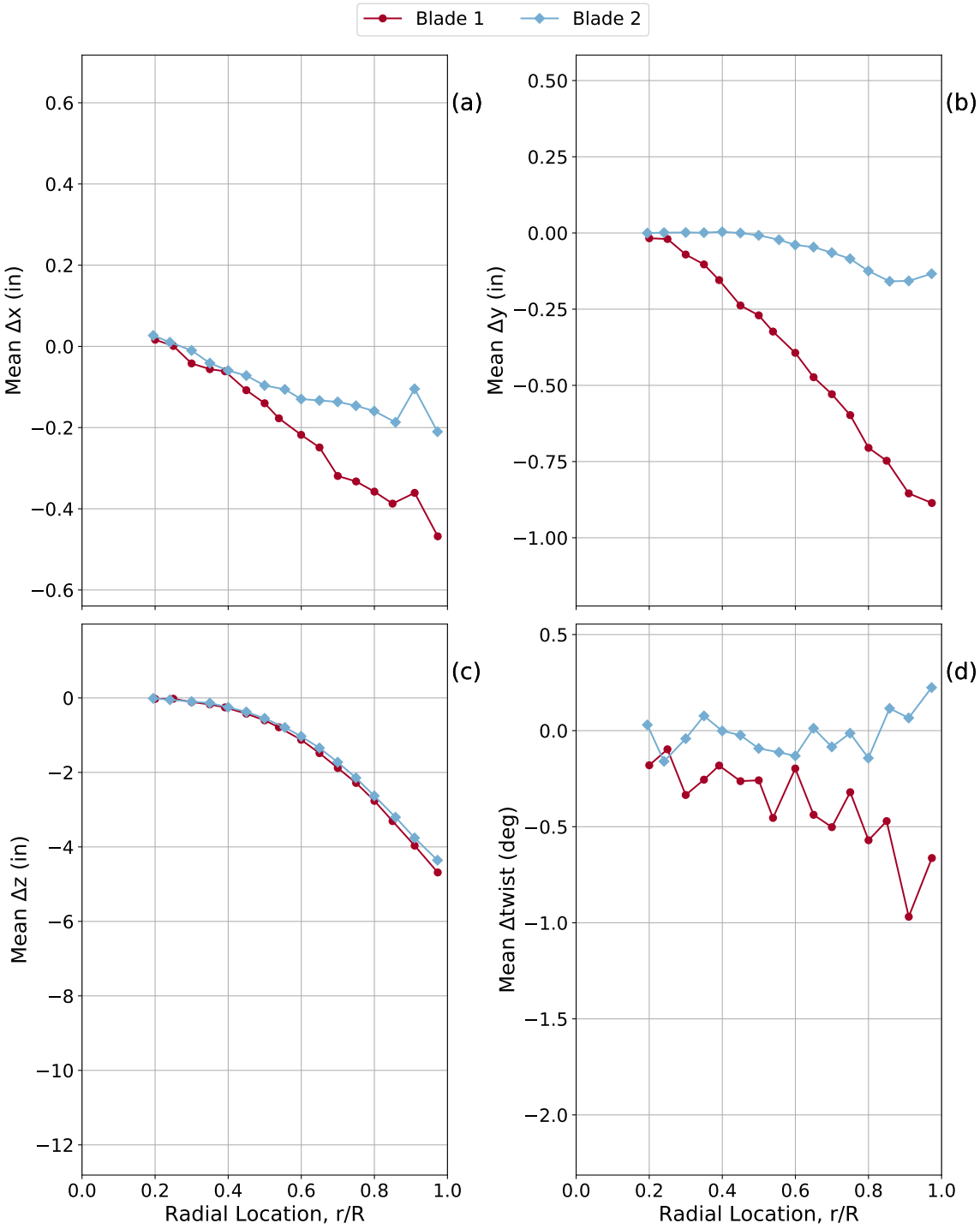


Figure 4.10-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0164	0.0025	-0.0174	0.0018	-0.0256	0.0049	-0.1802	0.0298
1	0.35	0.2499	0.0010	0.0018	-0.0198	0.0026	-0.0222	0.0052	-0.0970	0.0741
1	0.35	0.2998	-0.0420	0.0011	-0.0707	0.0063	-0.1105	0.0165	-0.3349	0.0713
1	0.35	0.3498	-0.0561	0.0015	-0.1032	0.0097	-0.1752	0.0238	-0.2552	0.0713
1	0.35	0.3913	-0.0614	0.0020	-0.1546	0.0139	-0.2546	0.0340	-0.1818	0.0622
1	0.35	0.4496	-0.1080	0.0027	-0.2379	0.0181	-0.4229	0.0451	-0.2629	0.0622
1	0.35	0.4997	-0.1401	0.0019	-0.2703	0.0226	-0.6026	0.0564	-0.2585	0.0551
1	0.35	0.5387	-0.1772	0.0015	-0.3235	0.0250	-0.7885	0.0639	-0.4543	0.0599
1	0.35	0.5996	-0.2179	0.0024	-0.3933	0.0297	-1.1243	0.0781	-0.1971	0.0633
1	0.35	0.6498	-0.2489	0.0024	-0.4733	0.0339	-1.4834	0.0888	-0.4380	0.0625
1	0.35	0.6998	-0.3192	0.0025	-0.5290	0.0402	-1.8811	0.0984	-0.5023	0.0747
1	0.35	0.7500	-0.3327	0.0029	-0.5977	0.0453	-2.2831	0.1086	-0.3204	0.0871
1	0.35	0.8001	-0.3578	0.0034	-0.7050	0.0498	-2.7636	0.1224	-0.5704	0.0757
1	0.35	0.8497	-0.3873	0.0032	-0.7474	0.0556	-3.3076	0.1319	-0.4708	0.0681
1	0.35	0.9102	-0.3608	0.0118	-0.8545	0.0605	-3.9662	0.1329	-0.9686	0.1310
1	0.35	0.9734	-0.4678	0.0041	-0.8860	0.0698	-4.6861	0.1553	-0.6631	0.0739
2	0	0.1949	0.0269	0.0015	-0.0004	0.0010	-0.0119	0.0020	0.0299	0.0164
2	0	0.2405	0.0101	0.0006	0.0012	0.0018	-0.0505	0.0022	-0.1599	0.0231
2	0	0.2999	-0.0101	0.0011	0.0015	0.0042	-0.0980	0.0057	-0.0416	0.0343
2	0	0.3498	-0.0413	0.0024	0.0010	0.0073	-0.1380	0.0093	0.0768	0.0285
2	0	0.3998	-0.0594	0.0032	0.0038	0.0111	-0.2512	0.0136	-0.0015	0.0282
2	0	0.4496	-0.0720	0.0039	-0.0002	0.0141	-0.3754	0.0173	-0.0236	0.0363
2	0	0.4995	-0.0962	0.0051	-0.0079	0.0179	-0.5485	0.0218	-0.0927	0.0222
2	0	0.5551	-0.1059	0.0050	-0.0222	0.0191	-0.7940	0.0290	-0.1126	0.0539
2	0	0.5996	-0.1297	0.0053	-0.0393	0.0212	-1.0309	0.0303	-0.1315	0.0704
2	0	0.6497	-0.1332	0.0070	-0.0465	0.0232	-1.3437	0.0333	0.0122	0.0458
2	0	0.6996	-0.1367	0.0073	-0.0646	0.0267	-1.7256	0.0357	-0.0847	0.0424
2	0	0.7495	-0.1462	0.0088	-0.0846	0.0289	-2.1456	0.0357	-0.0134	0.0320
2	0	0.7996	-0.1593	0.0110	-0.1247	0.0328	-2.6294	0.0375	-0.1429	0.0549
2	0	0.8578	-0.1869	0.0135	-0.1586	0.0377	-3.2028	0.0421	0.1157	0.0303
2	0	0.9100	-0.1046	0.0225	-0.1573	0.0380	-3.7593	0.0458	0.0660	0.0646
2	0	0.9727	-0.2102	0.0194	-0.1338	0.0444	-4.3574	0.0524	0.2241	0.0665

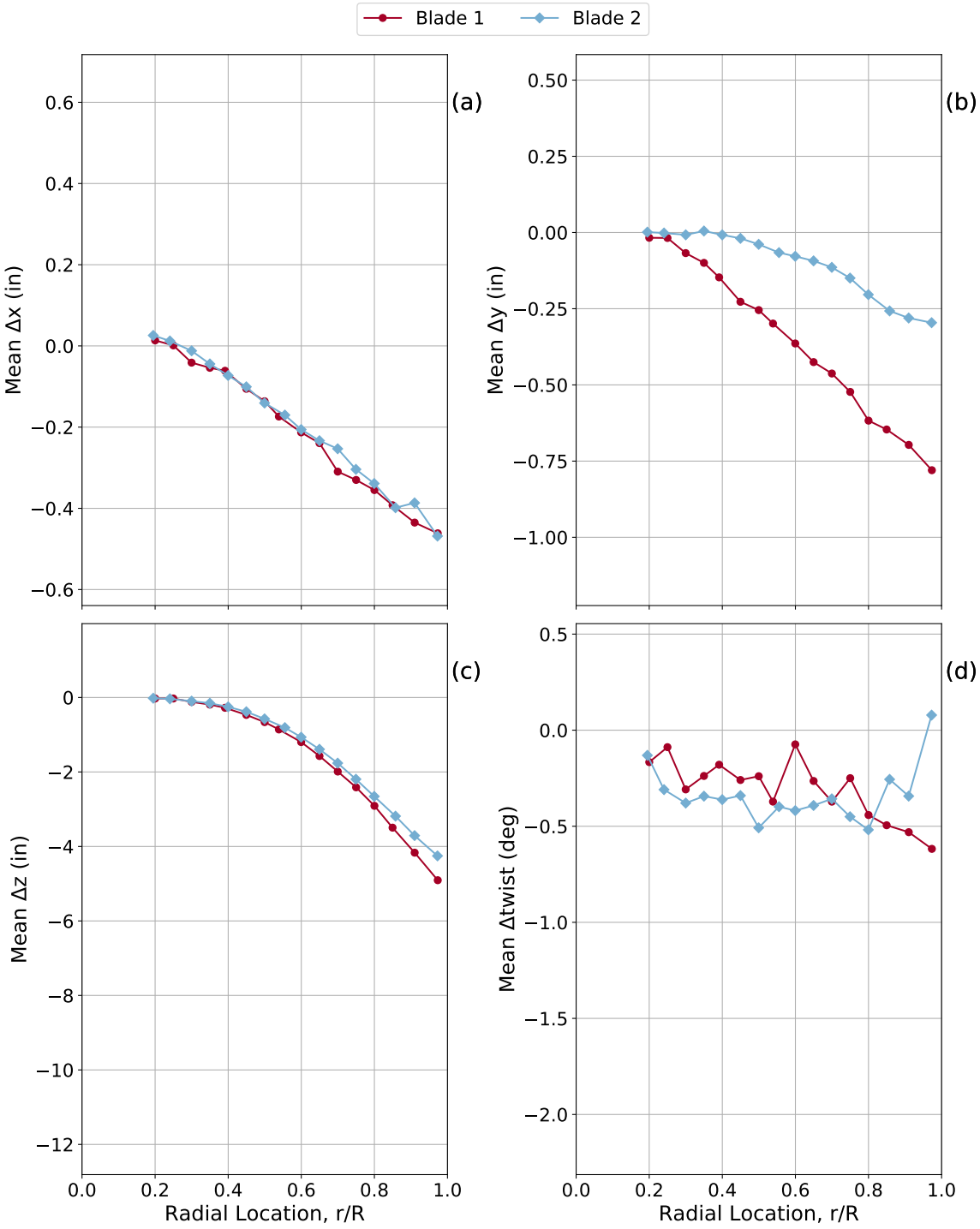


Figure 4.10-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0136	0.0026	-0.0173	0.0016	-0.0280	0.0040	-0.1662	0.0507
1	4.92	0.2499	0.0013	0.0020	-0.0179	0.0030	-0.0280	0.0065	-0.0884	0.1074
1	4.92	0.2998	-0.0412	0.0020	-0.0676	0.0060	-0.1196	0.0128	-0.3083	0.1246
1	4.92	0.3498	-0.0539	0.0017	-0.0996	0.0099	-0.1912	0.0209	-0.2382	0.1164
1	4.92	0.3913	-0.0612	0.0022	-0.1472	0.0138	-0.2774	0.0291	-0.1798	0.1127
1	4.92	0.4496	-0.1056	0.0018	-0.2273	0.0188	-0.4680	0.0390	-0.2593	0.1183
1	4.92	0.4997	-0.1363	0.0017	-0.2546	0.0246	-0.6619	0.0479	-0.2396	0.1165
1	4.92	0.5387	-0.1739	0.0016	-0.2987	0.0286	-0.8592	0.0558	-0.3719	0.1085
1	4.92	0.5996	-0.2130	0.0019	-0.3641	0.0353	-1.1979	0.0674	-0.0738	0.1134
1	4.92	0.6498	-0.2395	0.0019	-0.4252	0.0410	-1.5723	0.0763	-0.2644	0.1192
1	4.92	0.6998	-0.3096	0.0018	-0.4626	0.0478	-1.9894	0.0852	-0.3720	0.1217
1	4.92	0.7500	-0.3301	0.0024	-0.5230	0.0539	-2.4133	0.0931	-0.2497	0.1164
1	4.92	0.8001	-0.3550	0.0028	-0.6172	0.0602	-2.9094	0.1022	-0.4416	0.1239
1	4.92	0.8497	-0.3924	0.0026	-0.6463	0.0673	-3.4955	0.1106	-0.4948	0.1252
1	4.92	0.9102	-0.4351	0.0044	-0.6968	0.0774	-4.1670	0.1224	-0.5308	0.1187
1	4.92	0.9734	-0.4615	0.0039	-0.7799	0.0831	-4.9068	0.1385	-0.6177	0.1135
2	4.92	0.1949	0.0259	0.0025	0.0012	0.0015	-0.0198	0.0019	-0.1310	0.0235
2	4.92	0.2405	0.0122	0.0011	-0.0017	0.0016	-0.0371	0.0048	-0.3094	0.0493
2	4.92	0.2999	-0.0121	0.0010	-0.0076	0.0047	-0.0984	0.0070	-0.3794	0.0606
2	4.92	0.3498	-0.0444	0.0014	0.0049	0.0086	-0.1546	0.0136	-0.3435	0.0599
2	4.92	0.3998	-0.0729	0.0019	-0.0078	0.0121	-0.2522	0.0201	-0.3614	0.0619
2	4.92	0.4496	-0.1007	0.0024	-0.0192	0.0149	-0.3835	0.0266	-0.3404	0.0521
2	4.92	0.4995	-0.1407	0.0022	-0.0388	0.0184	-0.5748	0.0342	-0.5081	0.0472
2	4.92	0.5551	-0.1703	0.0024	-0.0660	0.0229	-0.8098	0.0412	-0.3982	0.0579
2	4.92	0.5996	-0.2059	0.0021	-0.0781	0.0248	-1.0663	0.0450	-0.4186	0.0641
2	4.92	0.6497	-0.2334	0.0028	-0.0931	0.0295	-1.3916	0.0516	-0.3918	0.0591
2	4.92	0.6996	-0.2533	0.0025	-0.1143	0.0336	-1.7632	0.0549	-0.3572	0.0646
2	4.92	0.7495	-0.3040	0.0036	-0.1495	0.0366	-2.1952	0.0603	-0.4503	0.0668
2	4.92	0.7996	-0.3389	0.0032	-0.2038	0.0422	-2.6562	0.0656	-0.5186	0.0647
2	4.92	0.8578	-0.3985	0.0043	-0.2573	0.0460	-3.1866	0.0732	-0.2560	0.0722
2	4.92	0.9100	-0.3866	0.0030	-0.2805	0.0501	-3.7089	0.0803	-0.3431	0.0829
2	4.92	0.9727	-0.4684	0.0053	-0.2959	0.0550	-4.2538	0.0833	0.0785	0.0865

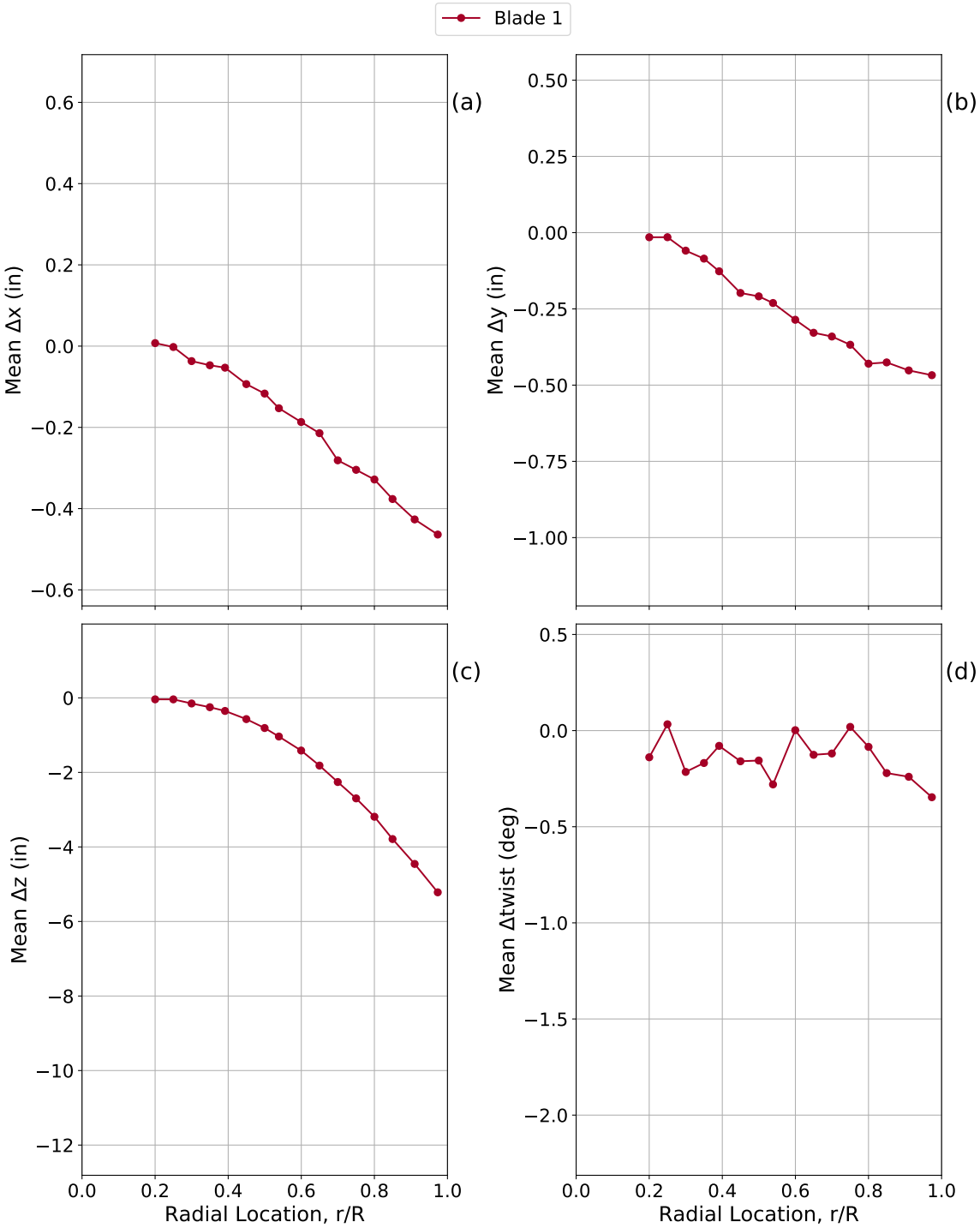


Figure 4.10-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0074	0.0030	-0.0151	0.0011	-0.0395	0.0030	-0.1388	0.0281
1	15.12	0.2499	-0.0022	0.0018	-0.0150	0.0025	-0.0401	0.0040	0.0329	0.0603
1	15.12	0.2998	-0.0369	0.0011	-0.0590	0.0042	-0.1507	0.0084	-0.2149	0.0658
1	15.12	0.3498	-0.0471	0.0019	-0.0852	0.0074	-0.2507	0.0150	-0.1685	0.0491
1	15.12	0.3913	-0.0531	0.0023	-0.1267	0.0106	-0.3507	0.0193	-0.0794	0.0513
1	15.12	0.4496	-0.0935	0.0024	-0.1978	0.0140	-0.5700	0.0254	-0.1595	0.0532
1	15.12	0.4997	-0.1168	0.0023	-0.2089	0.0151	-0.8090	0.0326	-0.1556	0.0549
1	15.12	0.5387	-0.1529	0.0024	-0.2307	0.0166	-1.0372	0.0378	-0.2799	0.0530
1	15.12	0.5996	-0.1868	0.0028	-0.2857	0.0206	-1.4135	0.0468	0.0022	0.0527
1	15.12	0.6498	-0.2143	0.0025	-0.3283	0.0234	-1.8166	0.0570	-0.1259	0.0521
1	15.12	0.6998	-0.2811	0.0028	-0.3406	0.0261	-2.2581	0.0653	-0.1191	0.0534
1	15.12	0.7500	-0.3045	0.0031	-0.3676	0.0287	-2.6968	0.0750	0.0192	0.0525
1	15.12	0.8001	-0.3283	0.0037	-0.4297	0.0326	-3.1901	0.0844	-0.0846	0.0526
1	15.12	0.8497	-0.3764	0.0035	-0.4255	0.0352	-3.7883	0.0962	-0.2209	0.0538
1	15.12	0.9102	-0.4266	0.0034	-0.4518	0.0396	-4.4562	0.1073	-0.2402	0.0607
1	15.12	0.9734	-0.4638	0.0042	-0.4674	0.0447	-5.2179	0.1201	-0.3466	0.0625

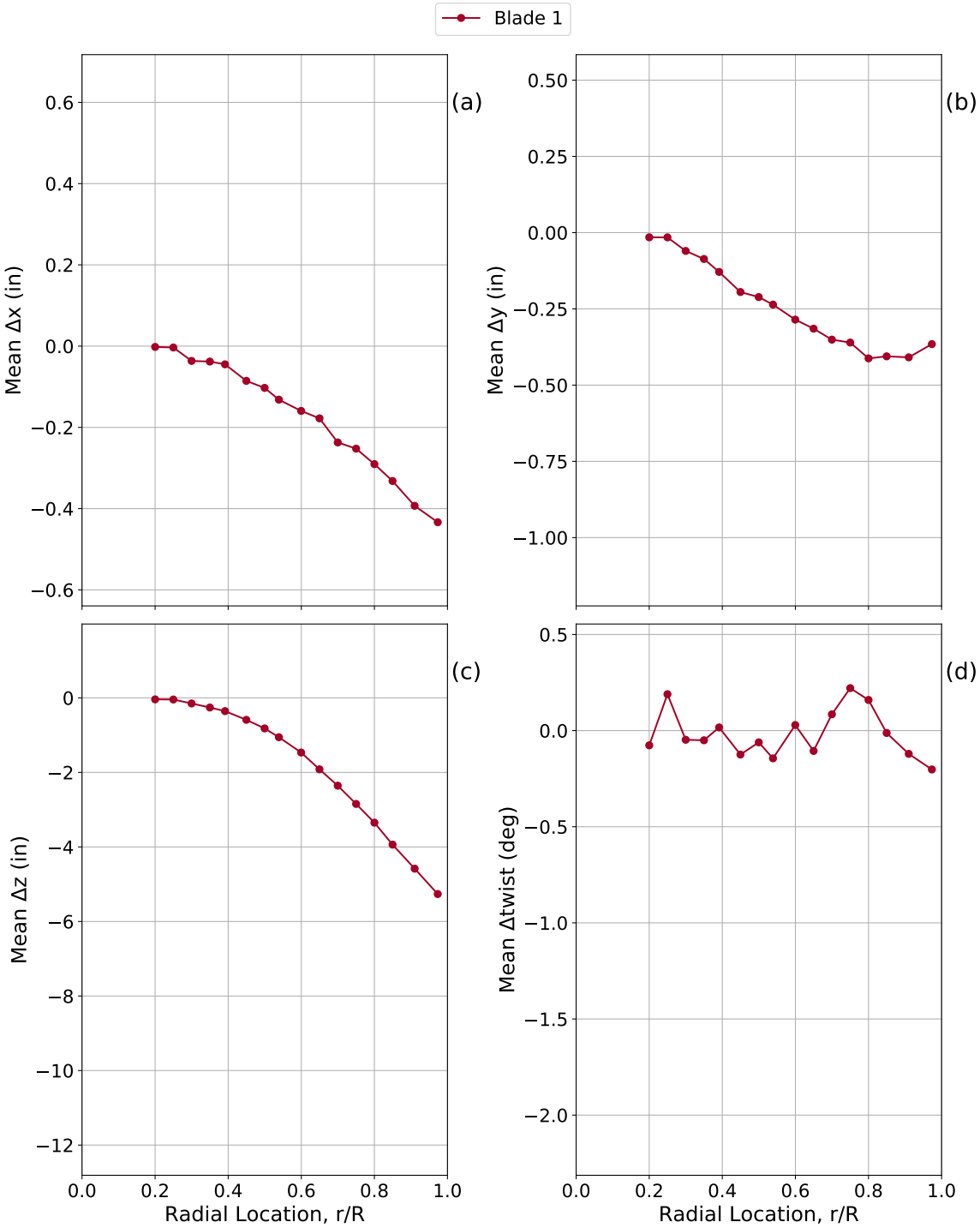


Figure 4.10-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0020	0.0026	-0.0153	0.0013	-0.0405	0.0030	-0.0765	0.0206
1	29.88	0.2499	-0.0034	0.0014	-0.0155	0.0020	-0.0440	0.0042	0.1894	0.0374
1	29.88	0.2998	-0.0364	0.0011	-0.0600	0.0042	-0.1501	0.0098	-0.0477	0.0449
1	29.88	0.3498	-0.0380	0.0015	-0.0864	0.0080	-0.2586	0.0166	-0.0503	0.0376
1	29.88	0.3913	-0.0448	0.0022	-0.1288	0.0105	-0.3556	0.0225	0.0165	0.0384
1	29.88	0.4496	-0.0855	0.0024	-0.1947	0.0141	-0.5895	0.0317	-0.1246	0.0410
1	29.88	0.4997	-0.1028	0.0021	-0.2113	0.0178	-0.8198	0.0383	-0.0611	0.0379
1	29.88	0.5387	-0.1318	0.0023	-0.2359	0.0208	-1.0559	0.0437	-0.1444	0.0400
1	29.88	0.5996	-0.1595	0.0025	-0.2852	0.0252	-1.4665	0.0516	0.0289	0.0362
1	29.88	0.6498	-0.1778	0.0027	-0.3149	0.0291	-1.9178	0.0563	-0.1057	0.0401
1	29.88	0.6998	-0.2371	0.0026	-0.3508	0.0338	-2.3565	0.0619	0.0847	0.0339
1	29.88	0.7500	-0.2524	0.0033	-0.3604	0.0381	-2.8462	0.0647	0.2210	0.0347
1	29.88	0.8001	-0.2905	0.0031	-0.4123	0.0421	-3.3485	0.0696	0.1594	0.0304
1	29.88	0.8497	-0.3320	0.0028	-0.4056	0.0460	-3.9382	0.0735	-0.0123	0.0327
1	29.88	0.9102	-0.3931	0.0033	-0.4089	0.0516	-4.5820	0.0817	-0.1209	0.0448
1	29.88	0.9734	-0.4335	0.0042	-0.3655	0.0569	-5.2642	0.0952	-0.2022	0.0411

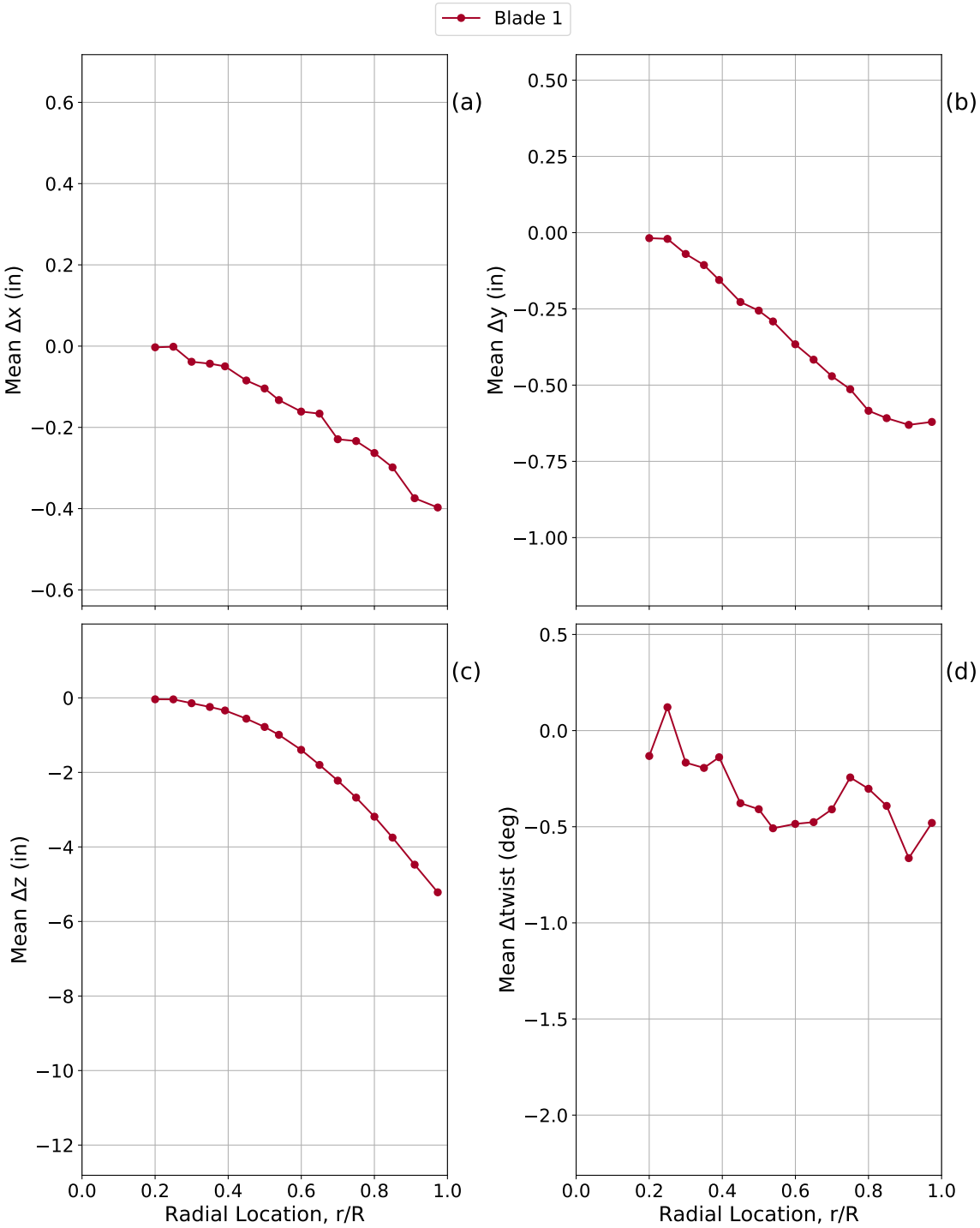


Figure 4.10-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0029	0.0018	-0.0180	0.0010	-0.0382	0.0032	-0.1321	0.0203
1	45	0.2499	-0.0015	0.0024	-0.0205	0.0018	-0.0399	0.0057	0.1216	0.0557
1	45	0.2998	-0.0385	0.0012	-0.0699	0.0035	-0.1438	0.0118	-0.1665	0.0547
1	45	0.3498	-0.0432	0.0028	-0.1063	0.0069	-0.2442	0.0200	-0.1941	0.0429
1	45	0.3913	-0.0498	0.0037	-0.1552	0.0091	-0.3383	0.0282	-0.1385	0.0411
1	45	0.4496	-0.0846	0.0037	-0.2275	0.0119	-0.5587	0.0376	-0.3775	0.0546
1	45	0.4997	-0.1043	0.0046	-0.2557	0.0150	-0.7805	0.0476	-0.4088	0.0516
1	45	0.5387	-0.1328	0.0029	-0.2912	0.0169	-0.9919	0.0528	-0.5081	0.0613
1	45	0.5996	-0.1611	0.0031	-0.3661	0.0203	-1.3947	0.0630	-0.4853	0.0504
1	45	0.6498	-0.1662	0.0026	-0.4165	0.0227	-1.7991	0.0693	-0.4761	0.0511
1	45	0.6998	-0.2292	0.0027	-0.4707	0.0257	-2.2208	0.0777	-0.4096	0.0420
1	45	0.7500	-0.2337	0.0030	-0.5135	0.0280	-2.6764	0.0836	-0.2436	0.0511
1	45	0.8001	-0.2631	0.0022	-0.5841	0.0310	-3.1881	0.0905	-0.3026	0.0473
1	45	0.8497	-0.2984	0.0020	-0.6083	0.0339	-3.7494	0.0977	-0.3916	0.0512
1	45	0.9102	-0.3744	0.0026	-0.6303	0.0371	-4.4760	0.1084	-0.6634	0.0486
1	45	0.9734	-0.3972	0.0031	-0.6207	0.0407	-5.2177	0.1204	-0.4802	0.0447

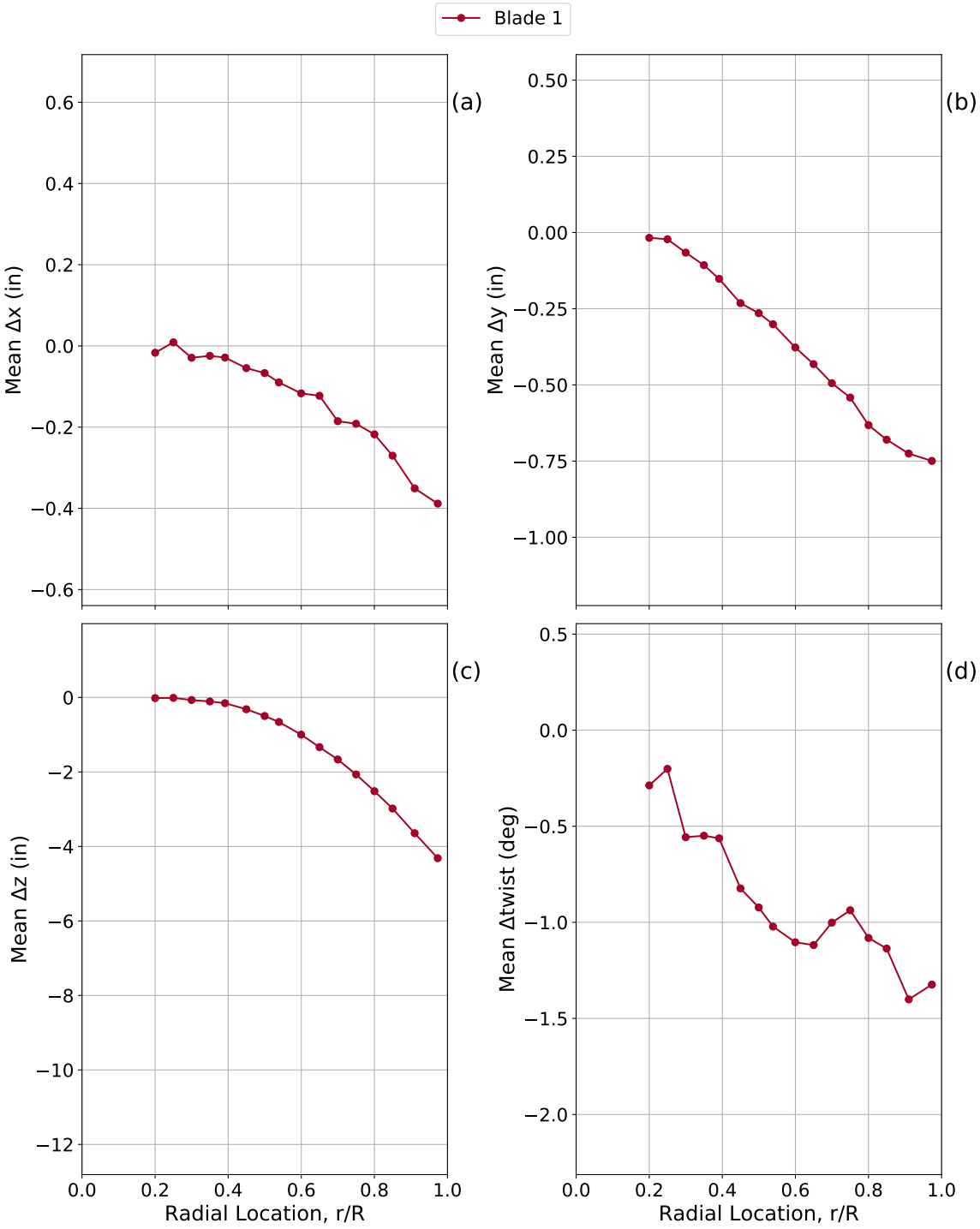


Figure 4.10-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0168	0.0033	-0.0175	0.0019	-0.0172	0.0034	-0.2873	0.0275
1	60.12	0.2499	0.0089	0.0014	-0.0221	0.0025	-0.0109	0.0052	-0.2012	0.0607
1	60.12	0.2998	-0.0291	0.0023	-0.0660	0.0069	-0.0689	0.0109	-0.5570	0.0662
1	60.12	0.3498	-0.0244	0.0018	-0.1072	0.0115	-0.1070	0.0182	-0.5492	0.0560
1	60.12	0.3913	-0.0287	0.0018	-0.1521	0.0159	-0.1534	0.0249	-0.5628	0.0597
1	60.12	0.4496	-0.0546	0.0025	-0.2317	0.0217	-0.3169	0.0311	-0.8233	0.0620
1	60.12	0.4997	-0.0669	0.0022	-0.2646	0.0265	-0.4976	0.0364	-0.9228	0.0642
1	60.12	0.5387	-0.0898	0.0030	-0.3008	0.0293	-0.6578	0.0434	-1.0220	0.0567
1	60.12	0.5996	-0.1169	0.0019	-0.3771	0.0363	-0.9978	0.0477	-1.1038	0.0579
1	60.12	0.6498	-0.1228	0.0027	-0.4318	0.0415	-1.3345	0.0519	-1.1183	0.0605
1	60.12	0.6998	-0.1854	0.0021	-0.4944	0.0458	-1.6650	0.0553	-1.0016	0.0702
1	60.12	0.7500	-0.1917	0.0015	-0.5416	0.0513	-2.0675	0.0594	-0.9373	0.0629
1	60.12	0.8001	-0.2178	0.0020	-0.6321	0.0557	-2.5158	0.0625	-1.0814	0.0689
1	60.12	0.8497	-0.2703	0.0023	-0.6797	0.0605	-2.9814	0.0666	-1.1365	0.0720
1	60.12	0.9102	-0.3508	0.0028	-0.7253	0.0677	-3.6437	0.0731	-1.4010	0.0712
1	60.12	0.9734	-0.3884	0.0031	-0.7494	0.0740	-4.3155	0.0833	-1.3240	0.0746

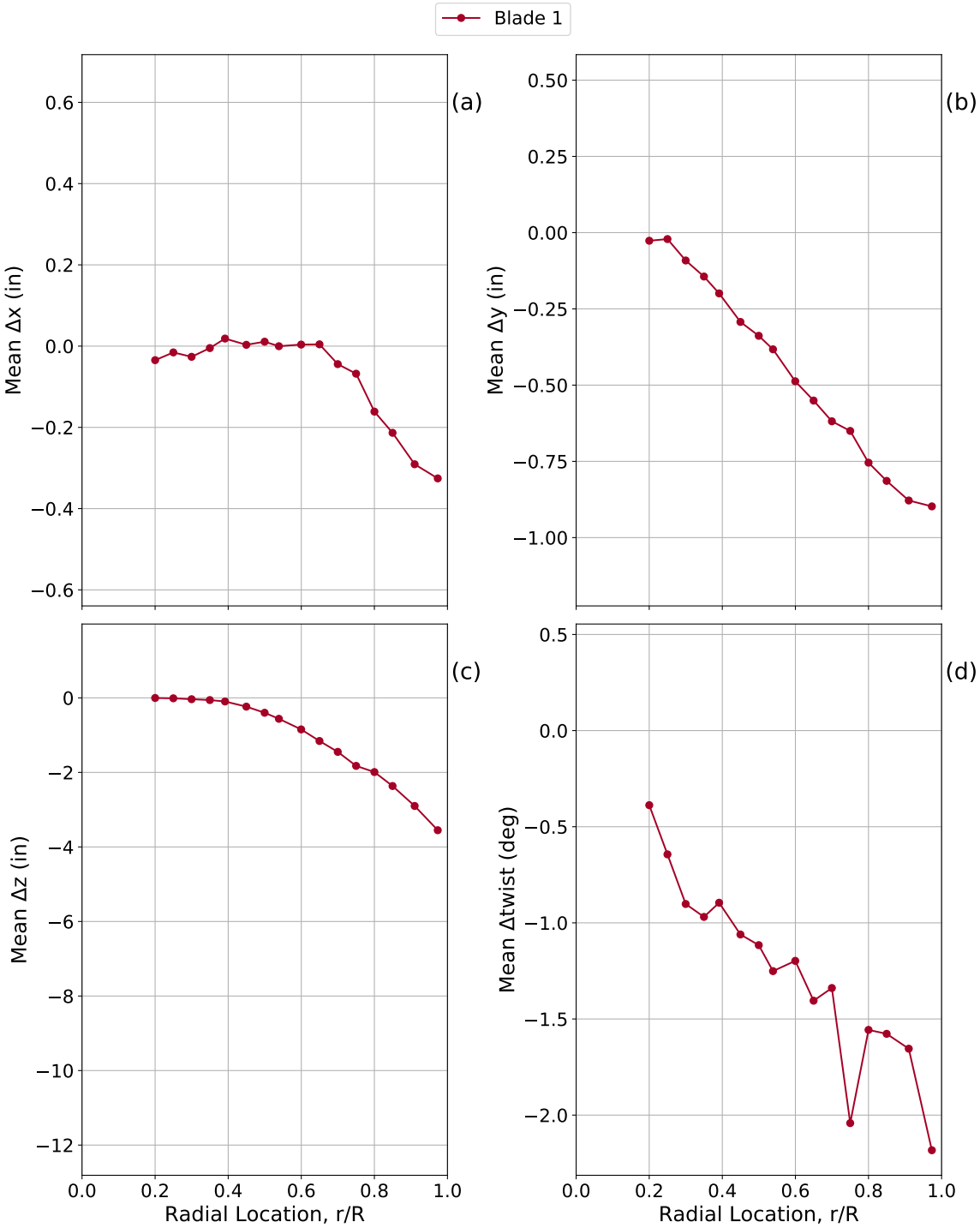


Figure 4.10-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0346	0.0014	-0.0266	0.0011	-0.0030	0.0028	-0.3878	0.0208
1	74.88	0.2499	-0.0155	0.0017	-0.0211	0.0021	-0.0119	0.0034	-0.6437	0.0429
1	74.88	0.2998	-0.0263	0.0014	-0.0913	0.0037	-0.0360	0.0092	-0.9018	0.0494
1	74.88	0.3498	-0.0048	0.0014	-0.1439	0.0066	-0.0590	0.0151	-0.9691	0.0398
1	74.88	0.3913	0.0186	0.0031	-0.1992	0.0087	-0.0970	0.0206	-0.8953	0.0533
1	74.88	0.4496	0.0032	0.0025	-0.2928	0.0129	-0.2354	0.0269	-1.0605	0.0463
1	74.88	0.4997	0.0109	0.0038	-0.3383	0.0163	-0.3993	0.0325	-1.1159	0.0400
1	74.88	0.5387	-0.0002	0.0042	-0.3826	0.0192	-0.5618	0.0365	-1.2510	0.0522
1	74.88	0.5996	0.0038	0.0053	-0.4874	0.0234	-0.8462	0.0426	-1.1977	0.0569
1	74.88	0.6498	0.0044	0.0044	-0.5506	0.0265	-1.1572	0.0502	-1.4049	0.0804
1	74.88	0.6998	-0.0443	0.0076	-0.6186	0.0308	-1.4489	0.0542	-1.3389	0.0587
1	74.88	0.7500	-0.0679	0.0059	-0.6502	0.0334	-1.8249	0.0613	-2.0416	0.0997
1	74.88	0.8001	-0.1612	0.0031	-0.7543	0.0341	-1.9907	0.0726	-1.5568	0.0559
1	74.88	0.8497	-0.2134	0.0031	-0.8140	0.0373	-2.3651	0.0805	-1.5772	0.0494
1	74.88	0.9102	-0.2908	0.0039	-0.8783	0.0412	-2.9004	0.0886	-1.6546	0.0639
1	74.88	0.9734	-0.3256	0.0039	-0.8976	0.0450	-3.5516	0.1007	-2.1827	0.0573

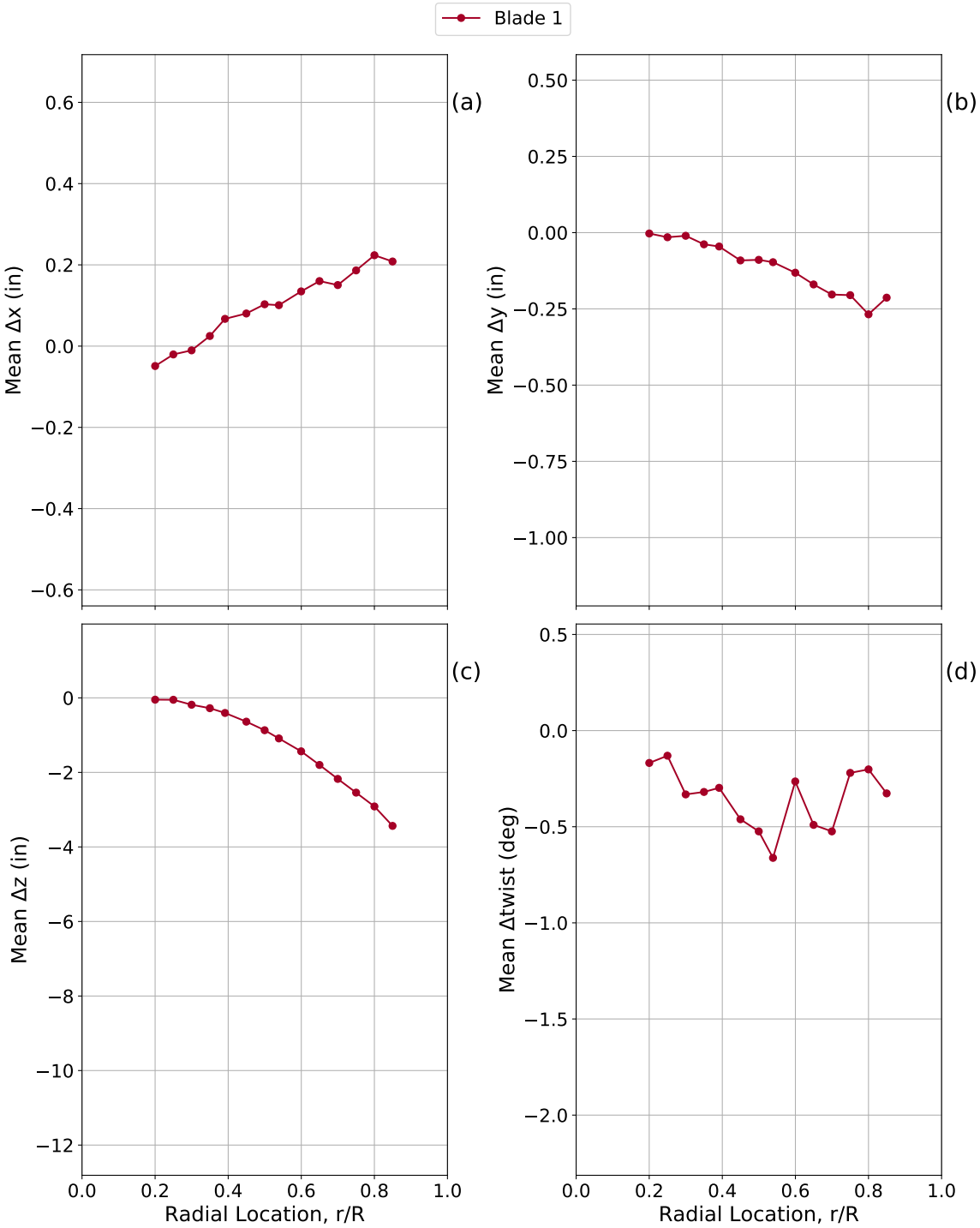


Figure 4.10-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0490	0.0010	-0.0028	0.0003	-0.0482	0.0008	-0.1683	0.0151
1	80.16	0.2499	-0.0205	0.0010	-0.0151	0.0015	-0.0510	0.0035	-0.1306	0.0176
1	80.16	0.2998	-0.0104	0.0006	-0.0103	0.0019	-0.1846	0.0046	-0.3319	0.0298
1	80.16	0.3498	0.0249	0.0009	-0.0383	0.0036	-0.2773	0.0075	-0.3191	0.0347
1	80.16	0.3913	0.0671	0.0016	-0.0454	0.0052	-0.4048	0.0120	-0.2977	0.0324
1	80.16	0.4496	0.0803	0.0017	-0.0911	0.0072	-0.6385	0.0161	-0.4612	0.0388
1	80.16	0.4997	0.1030	0.0013	-0.0892	0.0087	-0.8683	0.0202	-0.5241	0.0282
1	80.16	0.5387	0.1008	0.0022	-0.0969	0.0101	-1.0883	0.0231	-0.6620	0.0346
1	80.16	0.5996	0.1347	0.0021	-0.1314	0.0120	-1.4347	0.0287	-0.2645	0.0528
1	80.16	0.6498	0.1601	0.0033	-0.1699	0.0140	-1.7998	0.0317	-0.4903	0.0743
1	80.16	0.6998	0.1503	0.0033	-0.2030	0.0179	-2.1744	0.0385	-0.5242	0.0960
1	80.16	0.7500	0.1864	0.0035	-0.2050	0.0183	-2.5427	0.0453	-0.2199	0.0963
1	80.16	0.8001	0.2237	0.0113	-0.2678	0.0261	-2.9137	0.0554	-0.2018	0.1706
1	80.16	0.8497	0.2083	0.0063	-0.2132	0.0236	-3.4351	0.0507	-0.3266	0.2118

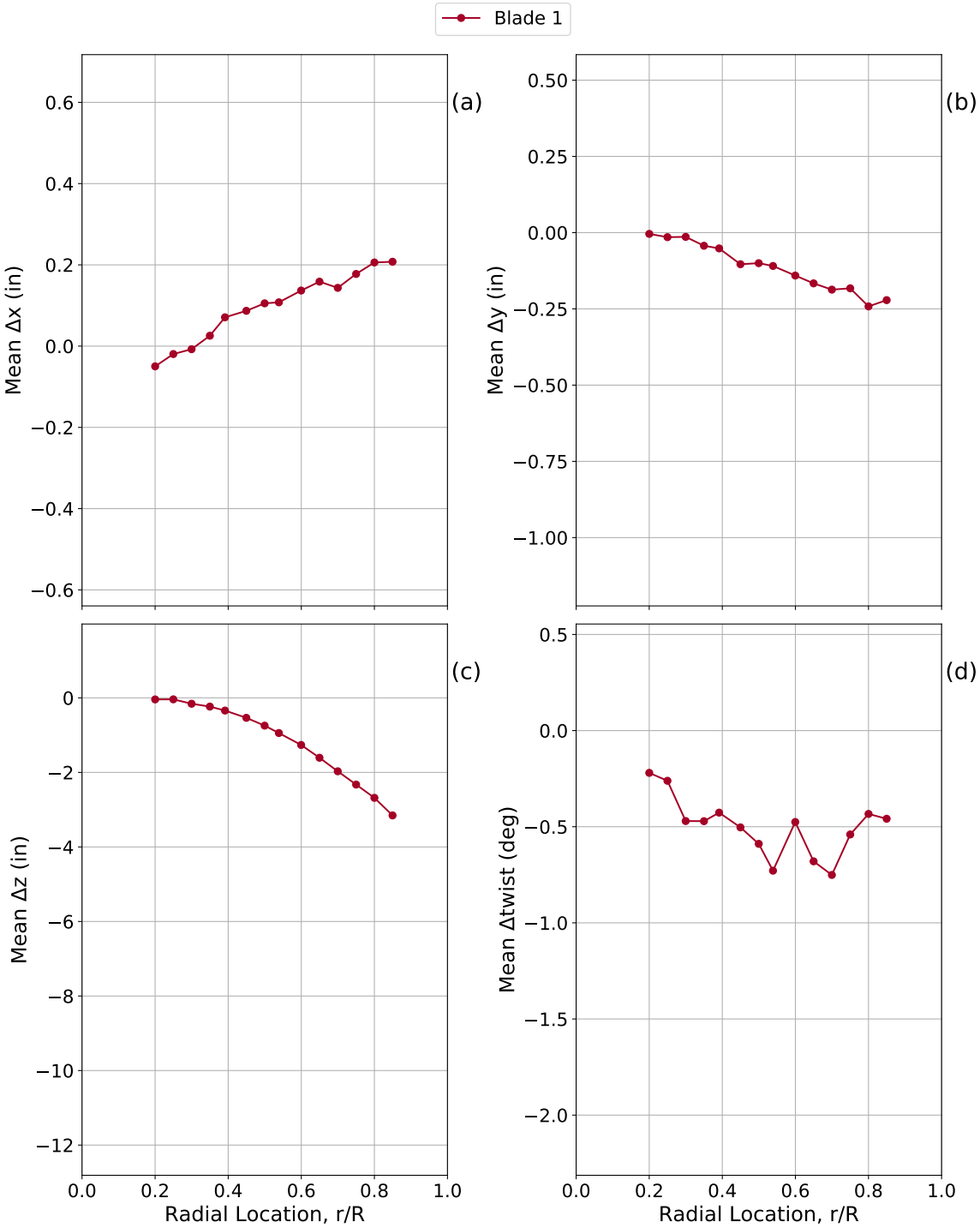


Figure 4.10-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0498	0.0008	-0.0041	0.0006	-0.0417	0.0013	-0.2198	0.0161
1	85.08	0.2499	-0.0195	0.0009	-0.0148	0.0011	-0.0394	0.0035	-0.2610	0.0226
1	85.08	0.2998	-0.0076	0.0010	-0.0139	0.0026	-0.1574	0.0061	-0.4704	0.0342
1	85.08	0.3498	0.0256	0.0010	-0.0430	0.0041	-0.2342	0.0100	-0.4711	0.0344
1	85.08	0.3913	0.0709	0.0013	-0.0517	0.0059	-0.3407	0.0149	-0.4266	0.0316
1	85.08	0.4496	0.0869	0.0016	-0.1036	0.0076	-0.5354	0.0199	-0.5034	0.0347
1	85.08	0.4997	0.1053	0.0017	-0.1001	0.0092	-0.7451	0.0256	-0.5890	0.0256
1	85.08	0.5387	0.1078	0.0017	-0.1093	0.0105	-0.9435	0.0295	-0.7287	0.0388
1	85.08	0.5996	0.1368	0.0014	-0.1407	0.0124	-1.2636	0.0349	-0.4754	0.0370
1	85.08	0.6498	0.1587	0.0029	-0.1663	0.0144	-1.6070	0.0383	-0.6800	0.0683
1	85.08	0.6998	0.1434	0.0018	-0.1869	0.0167	-1.9702	0.0398	-0.7508	0.0419
1	85.08	0.7500	0.1776	0.0026	-0.1825	0.0182	-2.3261	0.0482	-0.5403	0.0559
1	85.08	0.8001	0.2059	0.0050	-0.2418	0.0198	-2.6828	0.0489	-0.4334	0.0618
1	85.08	0.8497	0.2077	0.0042	-0.2213	0.0230	-3.1539	0.0517	-0.4586	0.1280

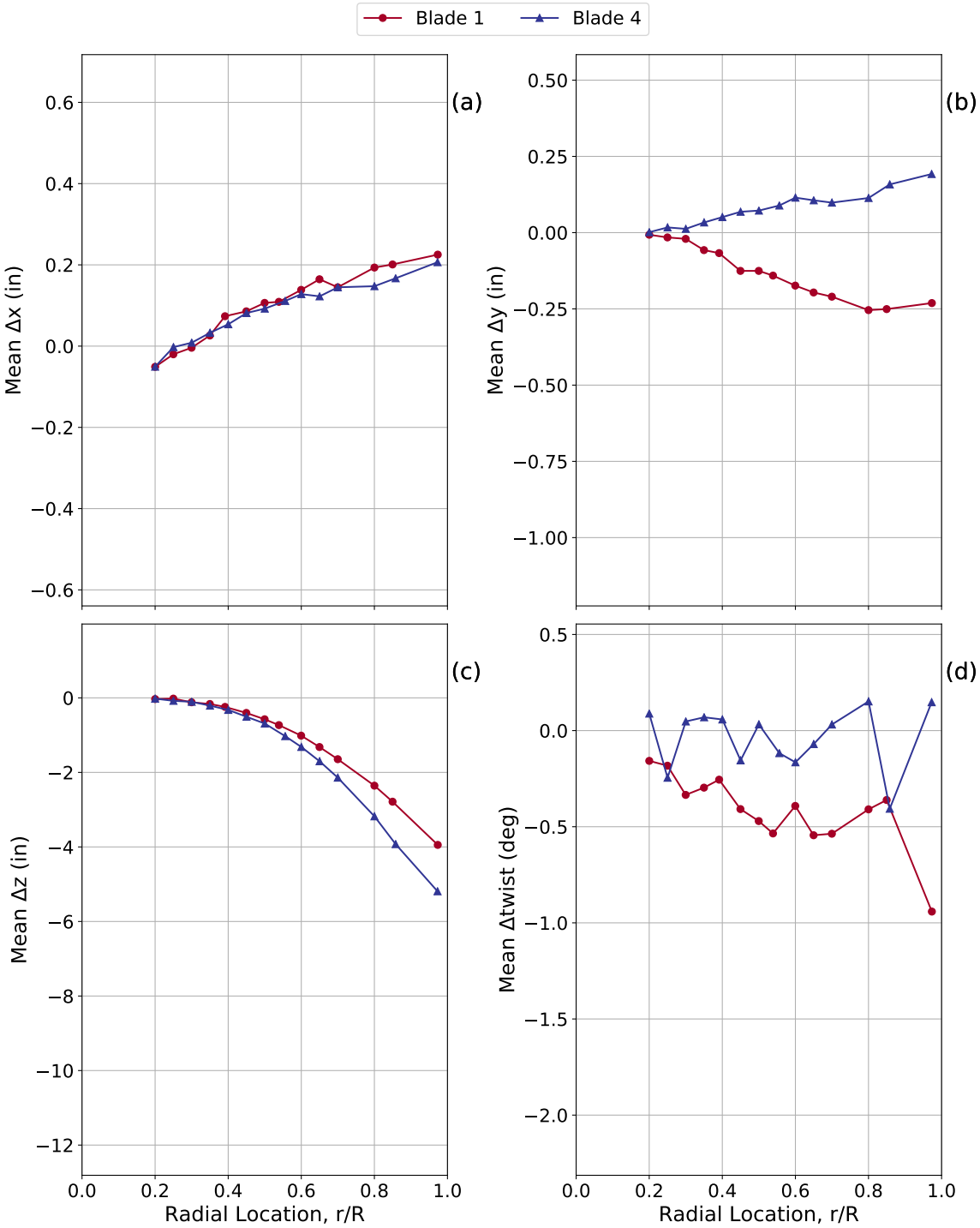


Figure 4.10-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0510	0.0007	-0.0069	0.0005	-0.0319	0.0015	-0.1574	0.0170
1	90	0.2499	-0.0201	0.0008	-0.0157	0.0012	-0.0203	0.0037	-0.1825	0.0275
1	90	0.2998	-0.0040	0.0008	-0.0204	0.0017	-0.1181	0.0065	-0.3344	0.0387
1	90	0.3498	0.0261	0.0008	-0.0573	0.0030	-0.1645	0.0113	-0.2967	0.0335
1	90	0.3913	0.0736	0.0012	-0.0671	0.0044	-0.2423	0.0163	-0.2552	0.0294
1	90	0.4496	0.0856	0.0007	-0.1254	0.0054	-0.4039	0.0238	-0.4082	0.0273
1	90	0.4997	0.1064	0.0014	-0.1254	0.0066	-0.5744	0.0280	-0.4705	0.0385
1	90	0.5387	0.1090	0.0015	-0.1408	0.0071	-0.7309	0.0320	-0.5349	0.0383
1	90	0.5996	0.1384	0.0019	-0.1737	0.0087	-1.0134	0.0388	-0.3918	0.0325
1	90	0.6498	0.1646	0.0013	-0.1962	0.0101	-1.3191	0.0452	-0.5443	0.0455
1	90	0.6998	0.1448	0.0030	-0.2100	0.0113	-1.6456	0.0467	-0.5364	0.0357
1	90	0.8001	0.1934	0.0027	-0.2540	0.0149	-2.3558	0.0588	-0.4096	0.0806
1	90	0.8497	0.2010	0.0026	-0.2507	0.0166	-2.7858	0.0598	-0.3609	0.0895
1	90	0.9734	0.2252	0.0104	-0.2309	0.0204	-3.9452	0.0975	-0.9413	0.1835
4	90.35	0.2001	-0.0506	0.0008	0.0014	0.0003	-0.0217	0.0009	0.0885	0.0150
4	90.35	0.2502	-0.0025	0.0009	0.0171	0.0012	-0.0795	0.0025	-0.2452	0.0216
4	90.35	0.3001	0.0084	0.0009	0.0124	0.0015	-0.1059	0.0046	0.0475	0.0320
4	90.35	0.3502	0.0328	0.0007	0.0334	0.0033	-0.2090	0.0065	0.0693	0.0250
4	90.35	0.4002	0.0538	0.0014	0.0509	0.0047	-0.3235	0.0111	0.0579	0.0256
4	90.35	0.4500	0.0814	0.0010	0.0684	0.0060	-0.5071	0.0129	-0.1549	0.0306
4	90.35	0.5001	0.0923	0.0010	0.0723	0.0077	-0.6892	0.0137	0.0323	0.0323
4	90.35	0.5560	0.1112	0.0017	0.0889	0.0102	-1.0275	0.0140	-0.1173	0.0341
4	90.35	0.6001	0.1280	0.0021	0.1147	0.0122	-1.3173	0.0151	-0.1649	0.0253
4	90.35	0.6501	0.1225	0.0018	0.1060	0.0147	-1.7012	0.0149	-0.0701	0.0398
4	90.35	0.6999	0.1448	0.0011	0.0984	0.0166	-2.1412	0.0179	0.0317	0.0371
4	90.35	0.8002	0.1475	0.0022	0.1136	0.0224	-3.1788	0.0231	0.1518	0.0578
4	90.35	0.8582	0.1670	0.0039	0.1581	0.0253	-3.9249	0.0250	-0.4064	0.0740
4	90.35	0.9728	0.2065	0.0055	0.1922	0.0324	-5.1904	0.0317	0.1476	0.1173

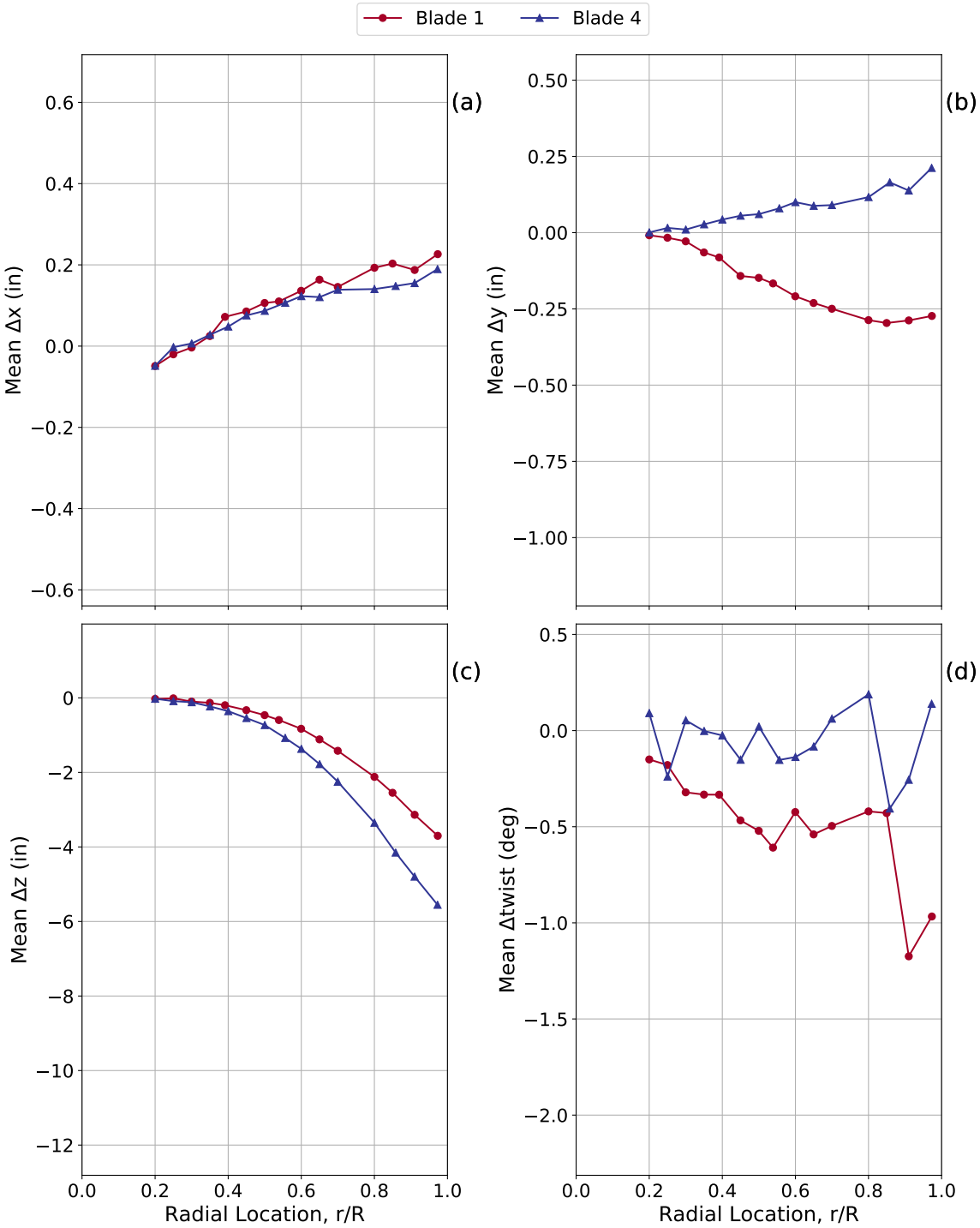


Figure 4.10-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0490	0.0012	-0.0087	0.0004	-0.0270	0.0012	-0.1501	0.0142
1	94.92	0.2499	-0.0202	0.0009	-0.0167	0.0017	-0.0125	0.0026	-0.1792	0.0277
1	94.92	0.2998	-0.0035	0.0012	-0.0285	0.0025	-0.0987	0.0044	-0.3210	0.0328
1	94.92	0.3498	0.0248	0.0011	-0.0649	0.0038	-0.1336	0.0081	-0.3329	0.0349
1	94.92	0.3913	0.0720	0.0014	-0.0814	0.0064	-0.1971	0.0112	-0.3334	0.0273
1	94.92	0.4496	0.0853	0.0020	-0.1420	0.0081	-0.3306	0.0154	-0.4668	0.0367
1	94.92	0.4997	0.1062	0.0017	-0.1482	0.0100	-0.4636	0.0204	-0.5213	0.0325
1	94.92	0.5387	0.1100	0.0014	-0.1666	0.0115	-0.5950	0.0231	-0.6087	0.0326
1	94.92	0.5996	0.1361	0.0012	-0.2087	0.0143	-0.8291	0.0274	-0.4236	0.0312
1	94.92	0.6498	0.1636	0.0020	-0.2307	0.0171	-1.1142	0.0335	-0.5399	0.0404
1	94.92	0.6998	0.1456	0.0017	-0.2496	0.0192	-1.4201	0.0349	-0.4960	0.0356
1	94.92	0.8001	0.1929	0.0023	-0.2869	0.0245	-2.1200	0.0464	-0.4202	0.0516
1	94.92	0.8497	0.2032	0.0029	-0.2963	0.0275	-2.5467	0.0478	-0.4289	0.0729
1	94.92	0.9102	0.1874	0.0063	-0.2878	0.0294	-3.1372	0.0554	-1.1741	0.1137
1	94.92	0.9734	0.2264	0.0067	-0.2732	0.0326	-3.7013	0.0621	-0.9669	0.0868
4	94.92	0.2001	-0.0484	0.0006	0.0006	0.0005	-0.0236	0.0017	0.0908	0.0150
4	94.92	0.2502	-0.0026	0.0007	0.0155	0.0009	-0.0877	0.0030	-0.2394	0.0315
4	94.92	0.3001	0.0065	0.0007	0.0101	0.0017	-0.1173	0.0057	0.0535	0.0361
4	94.92	0.3502	0.0280	0.0009	0.0272	0.0030	-0.2302	0.0103	-0.0022	0.0292
4	94.92	0.4002	0.0481	0.0011	0.0428	0.0044	-0.3577	0.0151	-0.0252	0.0296
4	94.92	0.4500	0.0755	0.0013	0.0555	0.0055	-0.5422	0.0188	-0.1517	0.0262
4	94.92	0.5001	0.0868	0.0015	0.0607	0.0068	-0.7305	0.0218	0.0207	0.0321
4	94.92	0.5560	0.1067	0.0012	0.0797	0.0085	-1.0763	0.0268	-0.1527	0.0311
4	94.92	0.6001	0.1230	0.0010	0.0999	0.0094	-1.3687	0.0291	-0.1374	0.0352
4	94.92	0.6501	0.1206	0.0018	0.0878	0.0117	-1.7784	0.0330	-0.0830	0.0505
4	94.92	0.6999	0.1388	0.0023	0.0903	0.0128	-2.2510	0.0346	0.0620	0.0263
4	94.92	0.8002	0.1404	0.0023	0.1165	0.0168	-3.3522	0.0369	0.1884	0.0497
4	94.92	0.8582	0.1480	0.0027	0.1648	0.0195	-4.1537	0.0429	-0.4056	0.0623
4	94.92	0.9101	0.1551	0.0032	0.1381	0.0215	-4.7974	0.0474	-0.2560	0.0642
4	94.92	0.9728	0.1895	0.0050	0.2121	0.0249	-5.5527	0.0474	0.1390	0.0755

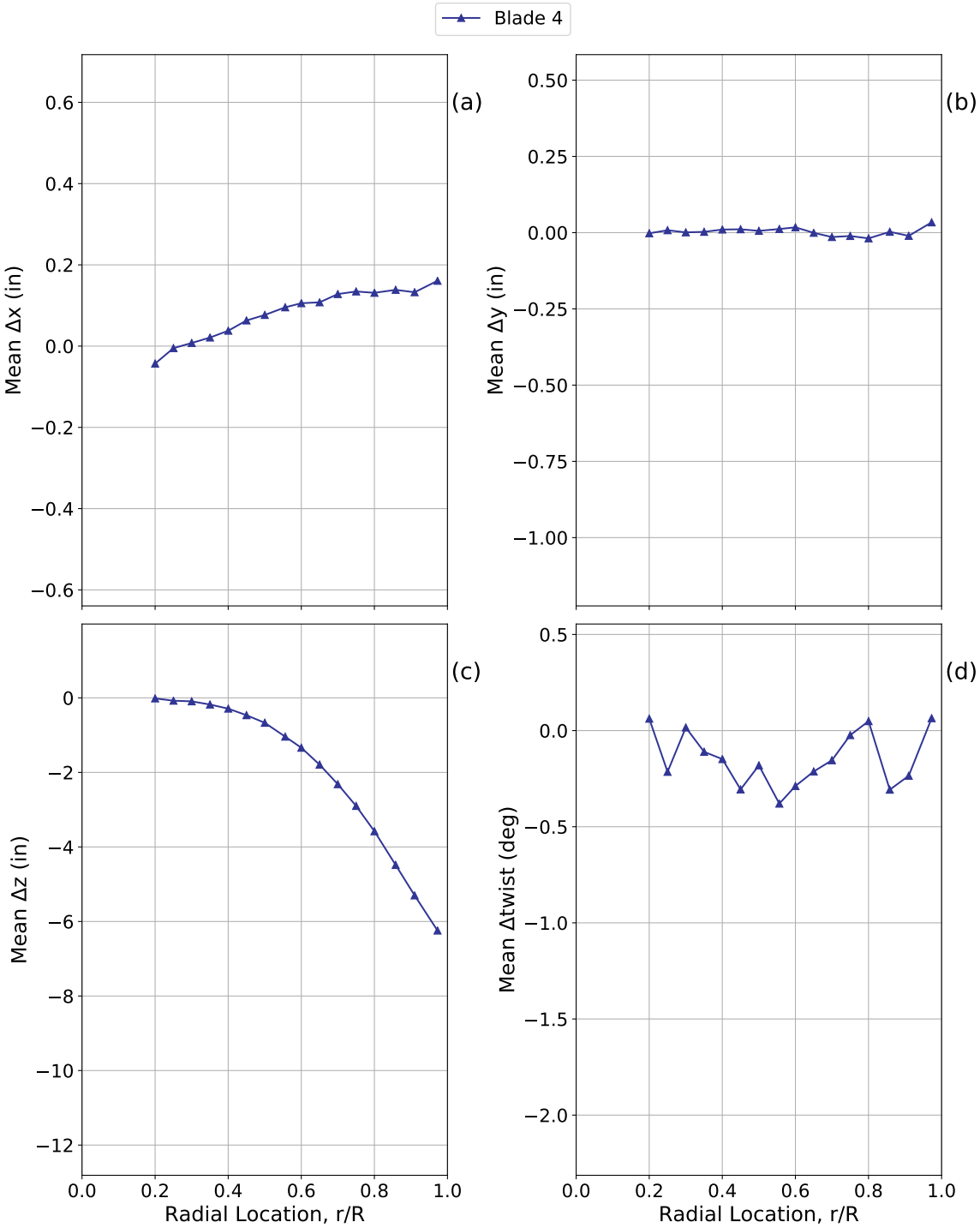


Figure 4.10-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0430	0.0014	-0.0022	0.0006	-0.0151	0.0016	0.0620	0.0099
4	105.12	0.2502	-0.0050	0.0009	0.0079	0.0018	-0.0765	0.0043	-0.2146	0.0139
4	105.12	0.3001	0.0077	0.0008	0.0009	0.0030	-0.0934	0.0068	0.0161	0.0198
4	105.12	0.3502	0.0211	0.0008	0.0026	0.0045	-0.1792	0.0112	-0.1104	0.0208
4	105.12	0.4002	0.0379	0.0015	0.0101	0.0078	-0.2897	0.0182	-0.1484	0.0122
4	105.12	0.4500	0.0631	0.0013	0.0110	0.0096	-0.4654	0.0222	-0.3061	0.0205
4	105.12	0.5001	0.0767	0.0014	0.0058	0.0122	-0.6692	0.0298	-0.1810	0.0208
4	105.12	0.5560	0.0955	0.0015	0.0119	0.0139	-1.0408	0.0338	-0.3800	0.0158
4	105.12	0.6001	0.1056	0.0014	0.0174	0.0161	-1.3389	0.0383	-0.2883	0.0082
4	105.12	0.6501	0.1078	0.0014	-0.0006	0.0181	-1.7919	0.0420	-0.2127	0.0083
4	105.12	0.6999	0.1281	0.0012	-0.0144	0.0205	-2.3173	0.0450	-0.1544	0.0144
4	105.12	0.7500	0.1345	0.0015	-0.0110	0.0229	-2.9000	0.0499	-0.0237	0.0153
4	105.12	0.8002	0.1312	0.0016	-0.0188	0.0251	-3.5806	0.0521	0.0491	0.0129
4	105.12	0.8582	0.1385	0.0020	0.0027	0.0284	-4.4846	0.0559	-0.3074	0.0228
4	105.12	0.9101	0.1326	0.0018	-0.0106	0.0310	-5.3010	0.0615	-0.2350	0.0185
4	105.12	0.9728	0.1608	0.0026	0.0337	0.0345	-6.2443	0.0671	0.0644	0.0192

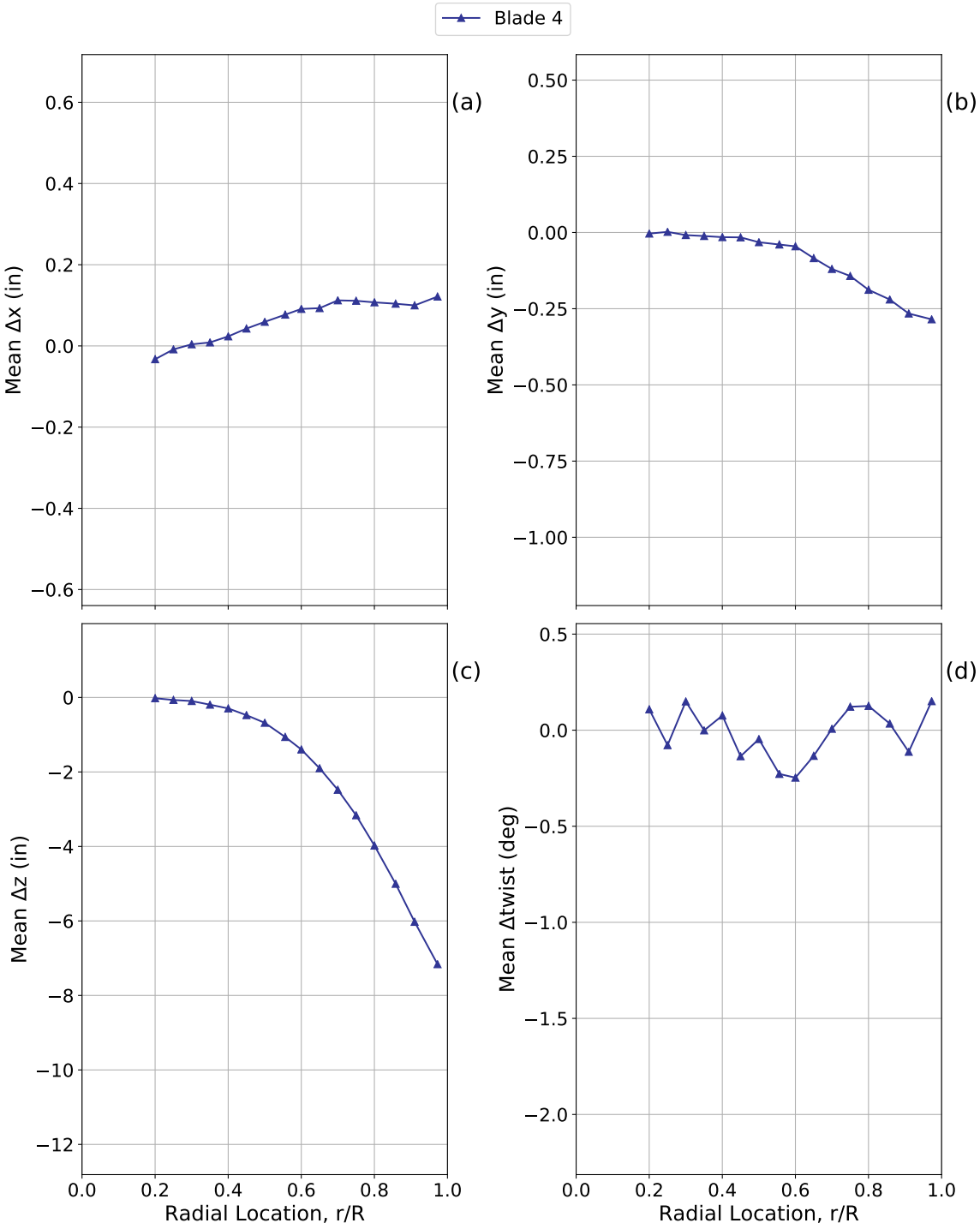


Figure 4.10-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0328	0.0009	-0.0036	0.0005	-0.0212	0.0011	0.1083	0.0172
4	119.88	0.2502	-0.0085	0.0007	0.0020	0.0015	-0.0673	0.0053	-0.0782	0.0129
4	119.88	0.3001	0.0039	0.0009	-0.0085	0.0021	-0.0964	0.0063	0.1493	0.0330
4	119.88	0.3502	0.0086	0.0011	-0.0116	0.0042	-0.1944	0.0123	-0.0011	0.0312
4	119.88	0.4002	0.0235	0.0009	-0.0153	0.0062	-0.2948	0.0197	0.0761	0.0259
4	119.88	0.4500	0.0427	0.0010	-0.0160	0.0076	-0.4753	0.0261	-0.1358	0.0243
4	119.88	0.5001	0.0593	0.0009	-0.0319	0.0093	-0.6809	0.0325	-0.0465	0.0232
4	119.88	0.5560	0.0770	0.0011	-0.0395	0.0102	-1.0614	0.0372	-0.2278	0.0311
4	119.88	0.6001	0.0911	0.0011	-0.0454	0.0127	-1.3976	0.0427	-0.2472	0.0339
4	119.88	0.6501	0.0930	0.0012	-0.0843	0.0143	-1.9016	0.0500	-0.1338	0.0213
4	119.88	0.6999	0.1122	0.0012	-0.1197	0.0162	-2.4795	0.0554	0.0071	0.0234
4	119.88	0.7500	0.1111	0.0011	-0.1428	0.0183	-3.1638	0.0615	0.1218	0.0226
4	119.88	0.8002	0.1073	0.0012	-0.1881	0.0201	-3.9779	0.0665	0.1261	0.0251
4	119.88	0.8582	0.1039	0.0018	-0.2199	0.0224	-5.0041	0.0719	0.0341	0.0277
4	119.88	0.9101	0.0998	0.0018	-0.2659	0.0243	-6.0252	0.0776	-0.1126	0.0221
4	119.88	0.9728	0.1215	0.0026	-0.2849	0.0268	-7.1618	0.0859	0.1508	0.0221

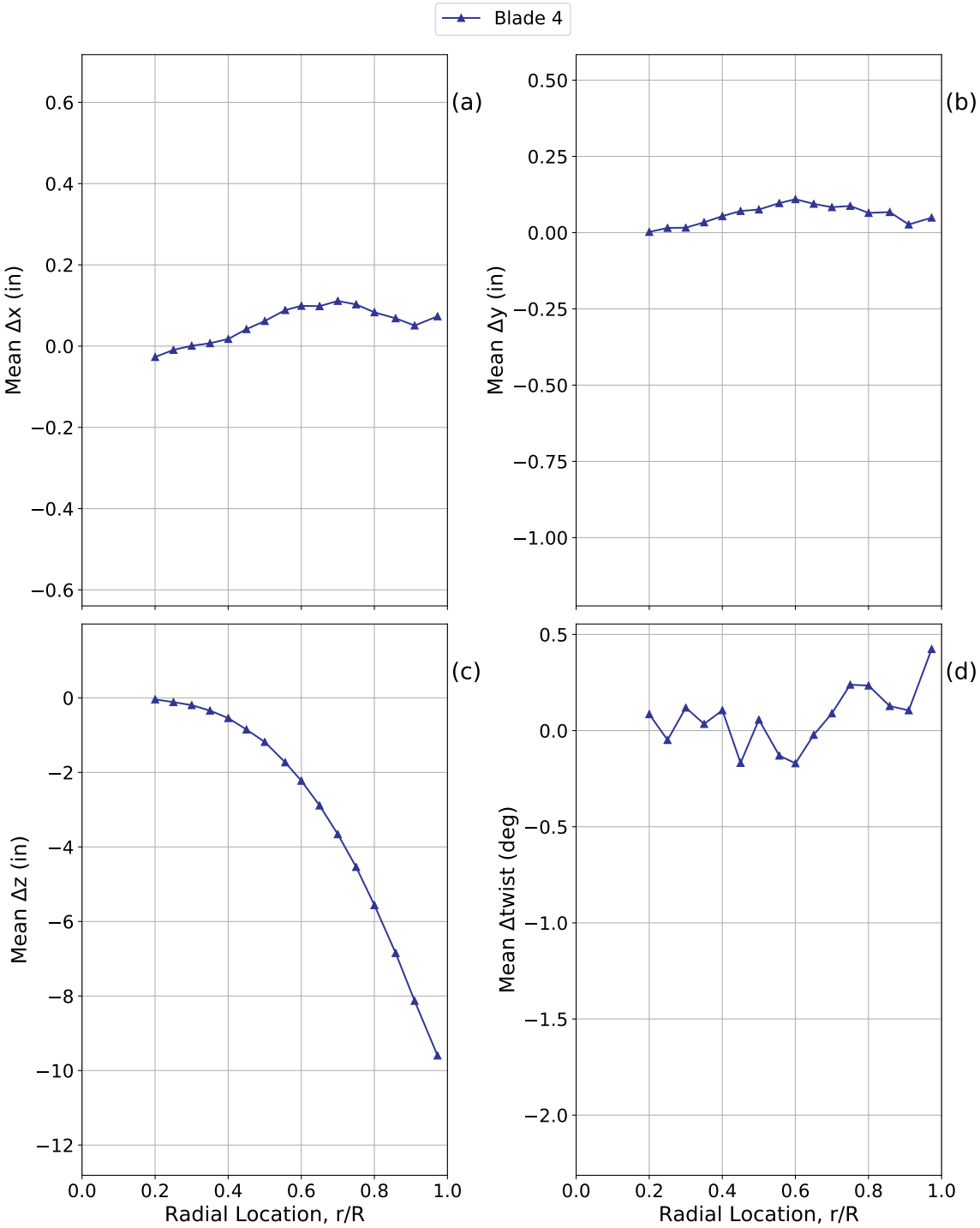


Figure 4.10-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0268	0.0007	0.0023	0.0004	-0.0417	0.0009	0.0855	0.0088
4	135	0.2502	-0.0093	0.0006	0.0154	0.0006	-0.1144	0.0024	-0.0490	0.0207
4	135	0.3001	0.0008	0.0005	0.0162	0.0017	-0.1959	0.0042	0.1194	0.0223
4	135	0.3502	0.0071	0.0006	0.0338	0.0024	-0.3423	0.0066	0.0346	0.0205
4	135	0.4002	0.0176	0.0011	0.0541	0.0038	-0.5434	0.0110	0.1057	0.0191
4	135	0.4500	0.0418	0.0008	0.0709	0.0051	-0.8502	0.0160	-0.1681	0.0208
4	135	0.5001	0.0618	0.0011	0.0758	0.0068	-1.1838	0.0209	0.0569	0.0212
4	135	0.5560	0.0887	0.0011	0.0968	0.0093	-1.7306	0.0260	-0.1302	0.0238
4	135	0.6001	0.0991	0.0009	0.1096	0.0113	-2.2244	0.0317	-0.1701	0.0236
4	135	0.6501	0.0983	0.0012	0.0944	0.0130	-2.8894	0.0354	-0.0222	0.0225
4	135	0.6999	0.1112	0.0010	0.0834	0.0148	-3.6592	0.0410	0.0896	0.0259
4	135	0.7500	0.1027	0.0016	0.0876	0.0169	-4.5379	0.0444	0.2387	0.0212
4	135	0.8002	0.0832	0.0017	0.0646	0.0194	-5.5634	0.0503	0.2343	0.0156
4	135	0.8582	0.0684	0.0023	0.0674	0.0222	-6.8474	0.0563	0.1274	0.0219
4	135	0.9101	0.0507	0.0026	0.0266	0.0250	-8.1307	0.0615	0.1053	0.0178
4	135	0.9728	0.0733	0.0025	0.0491	0.0284	-9.5981	0.0682	0.4241	0.0204

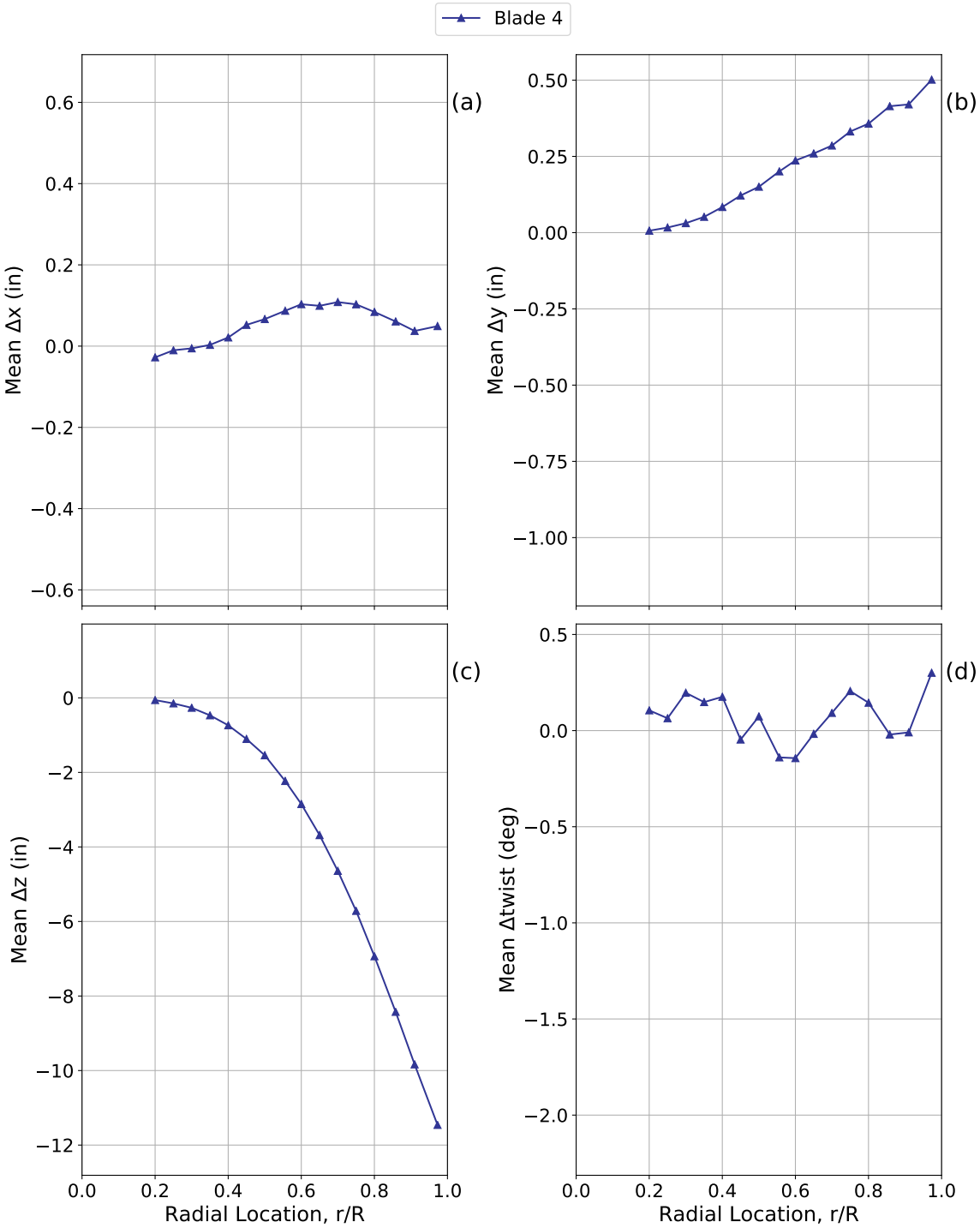


Figure 4.10-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0277	0.0009	0.0063	0.0007	-0.0595	0.0012	0.1052	0.0182
4	150.12	0.2502	-0.0102	0.0013	0.0167	0.0026	-0.1491	0.0024	0.0642	0.0186
4	150.12	0.3001	-0.0055	0.0016	0.0310	0.0035	-0.2670	0.0048	0.1966	0.0353
4	150.12	0.3502	0.0030	0.0010	0.0517	0.0070	-0.4690	0.0074	0.1482	0.0275
4	150.12	0.4002	0.0213	0.0010	0.0840	0.0108	-0.7365	0.0118	0.1757	0.0337
4	150.12	0.4500	0.0522	0.0012	0.1217	0.0112	-1.1033	0.0152	-0.0467	0.0303
4	150.12	0.5001	0.0665	0.0014	0.1504	0.0129	-1.5417	0.0186	0.0736	0.0361
4	150.12	0.5560	0.0870	0.0010	0.2008	0.0148	-2.2310	0.0234	-0.1394	0.0467
4	150.12	0.6001	0.1031	0.0019	0.2366	0.0170	-2.8504	0.0257	-0.1433	0.0260
4	150.12	0.6501	0.0992	0.0014	0.2595	0.0189	-3.6838	0.0287	-0.0172	0.0449
4	150.12	0.6999	0.1084	0.0016	0.2855	0.0209	-4.6437	0.0312	0.0919	0.0269
4	150.12	0.7500	0.1028	0.0019	0.3316	0.0215	-5.7167	0.0326	0.2054	0.0410
4	150.12	0.8002	0.0841	0.0015	0.3574	0.0241	-6.9351	0.0347	0.1448	0.0389
4	150.12	0.8582	0.0606	0.0017	0.4146	0.0256	-8.4259	0.0380	-0.0205	0.0278
4	150.12	0.9101	0.0373	0.0018	0.4204	0.0287	-9.8355	0.0414	-0.0093	0.0303
4	150.12	0.9728	0.0492	0.0029	0.5015	0.0311	-11.4593	0.0466	0.3005	0.0259

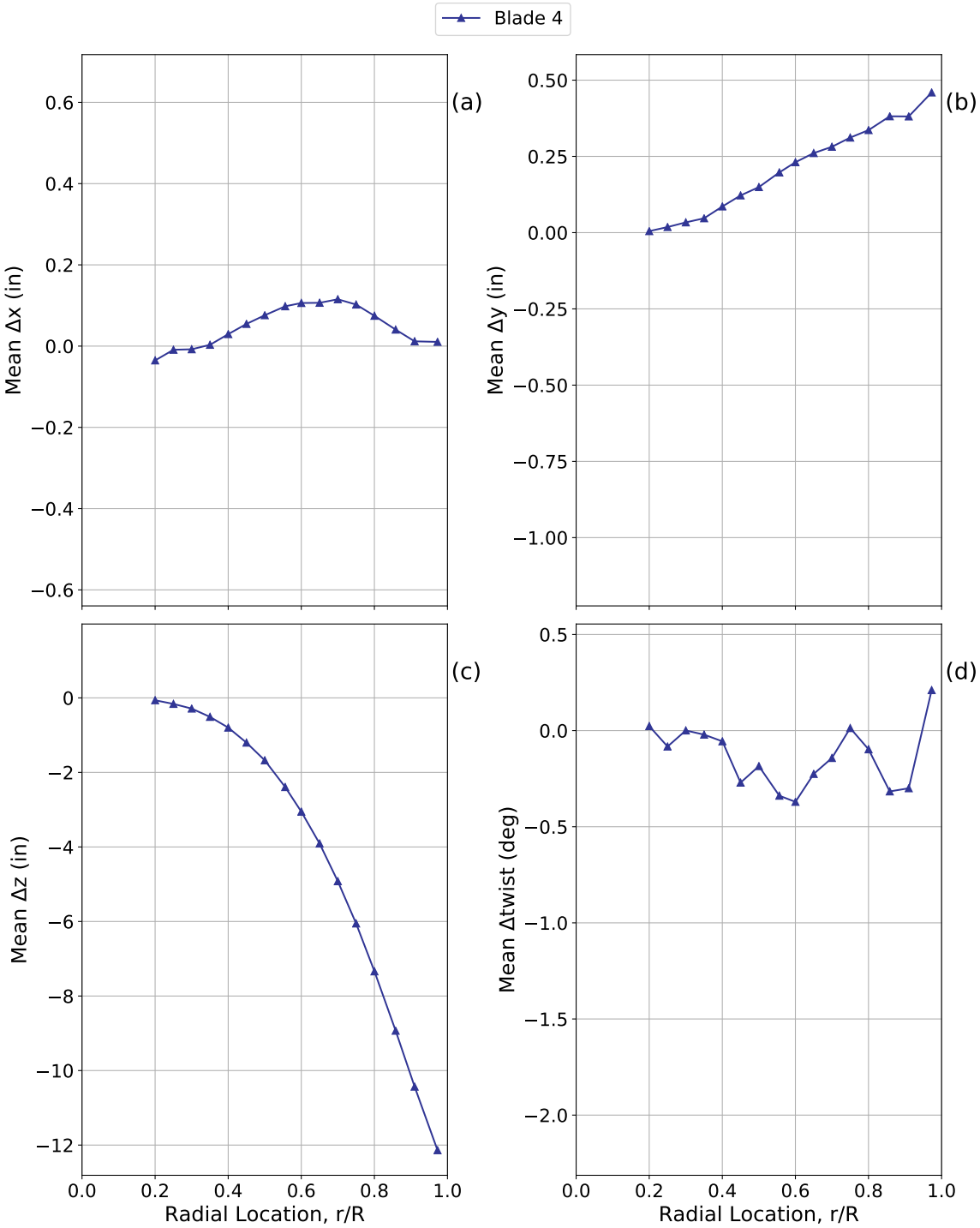


Figure 4.10-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0352	0.0011	0.0049	0.0005	-0.0643	0.0012	0.0232	0.0113
4	164.88	0.2502	-0.0090	0.0012	0.0183	0.0008	-0.1625	0.0024	-0.0829	0.0173
4	164.88	0.3001	-0.0078	0.0006	0.0336	0.0022	-0.2880	0.0043	0.0007	0.0244
4	164.88	0.3502	0.0032	0.0010	0.0471	0.0029	-0.5107	0.0074	-0.0210	0.0154
4	164.88	0.4002	0.0295	0.0013	0.0858	0.0047	-0.7992	0.0111	-0.0559	0.0162
4	164.88	0.4500	0.0546	0.0017	0.1220	0.0056	-1.2018	0.0120	-0.2707	0.0189
4	164.88	0.5001	0.0760	0.0016	0.1493	0.0070	-1.6767	0.0156	-0.1848	0.0186
4	164.88	0.5560	0.0980	0.0014	0.1974	0.0089	-2.3940	0.0184	-0.3387	0.0259
4	164.88	0.6001	0.1061	0.0015	0.2309	0.0103	-3.0549	0.0213	-0.3706	0.0263
4	164.88	0.6501	0.1066	0.0018	0.2608	0.0126	-3.9097	0.0241	-0.2254	0.0227
4	164.88	0.6999	0.1153	0.0022	0.2815	0.0151	-4.9205	0.0272	-0.1425	0.0224
4	164.88	0.7500	0.1023	0.0019	0.3116	0.0169	-6.0541	0.0319	0.0130	0.0235
4	164.88	0.8002	0.0746	0.0023	0.3362	0.0191	-7.3391	0.0359	-0.0974	0.0151
4	164.88	0.8582	0.0406	0.0023	0.3815	0.0226	-8.9319	0.0412	-0.3164	0.0277
4	164.88	0.9101	0.0118	0.0025	0.3810	0.0256	-10.4326	0.0458	-0.2999	0.0305
4	164.88	0.9728	0.0104	0.0038	0.4595	0.0288	-12.1383	0.0539	0.2105	0.0205

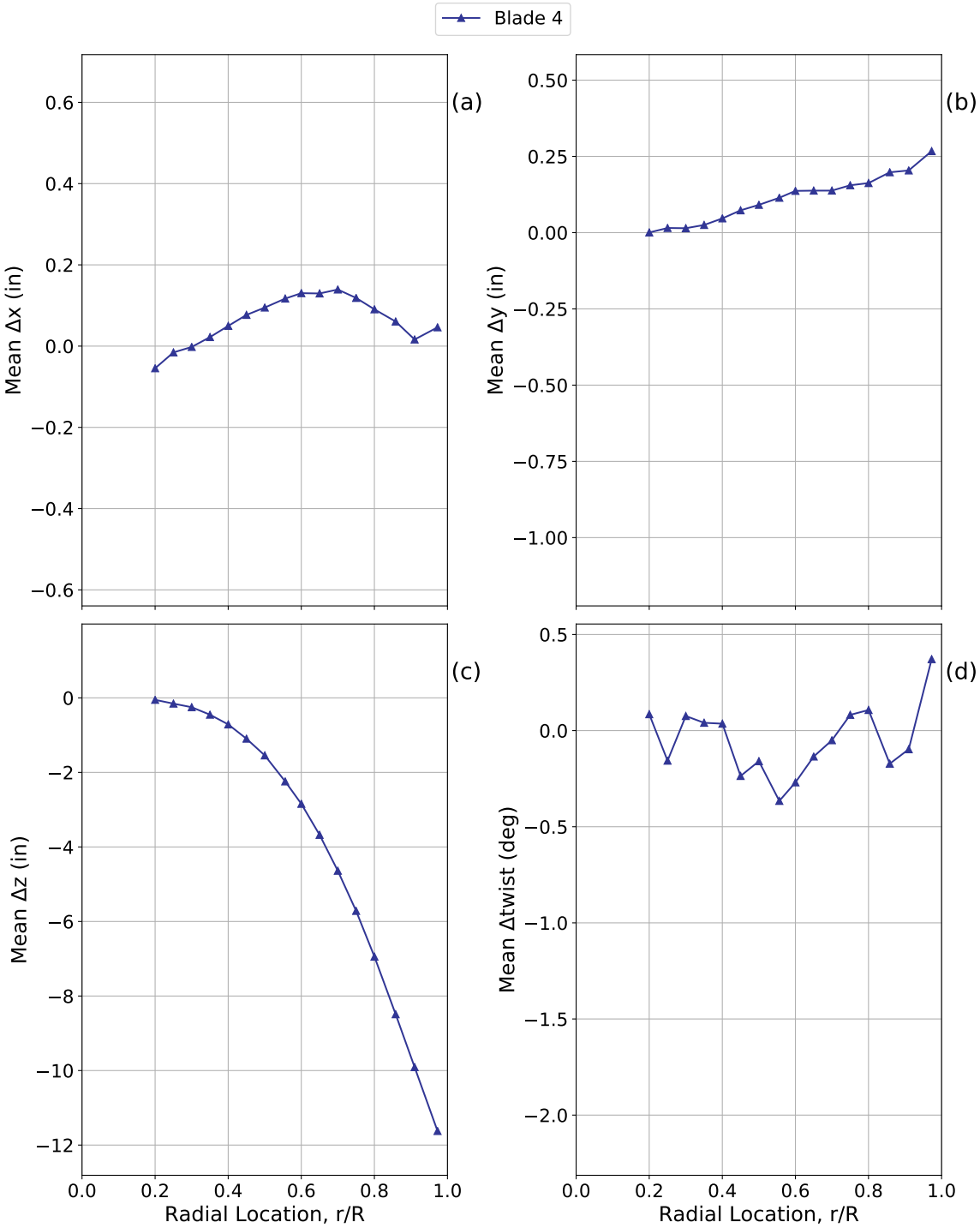


Figure 4.10-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0545	0.0011	0.0005	0.0005	-0.0529	0.0013	0.0851	0.0118
4	170.16	0.2502	-0.0155	0.0007	0.0152	0.0010	-0.1547	0.0032	-0.1565	0.0212
4	170.16	0.3001	-0.0021	0.0007	0.0145	0.0021	-0.2511	0.0057	0.0758	0.0271
4	170.16	0.3502	0.0222	0.0013	0.0251	0.0036	-0.4521	0.0095	0.0406	0.0211
4	170.16	0.4002	0.0498	0.0017	0.0467	0.0053	-0.7129	0.0152	0.0360	0.0240
4	170.16	0.4500	0.0768	0.0019	0.0731	0.0068	-1.0960	0.0180	-0.2361	0.0227
4	170.16	0.5001	0.0949	0.0009	0.0911	0.0089	-1.5445	0.0231	-0.1593	0.0209
4	170.16	0.5560	0.1170	0.0016	0.1143	0.0099	-2.2424	0.0272	-0.3658	0.0460
4	170.16	0.6001	0.1303	0.0028	0.1369	0.0117	-2.8441	0.0304	-0.2694	0.0294
4	170.16	0.6501	0.1296	0.0037	0.1377	0.0132	-3.6768	0.0349	-0.1350	0.0341
4	170.16	0.6999	0.1393	0.0025	0.1378	0.0153	-4.6397	0.0388	-0.0502	0.0423
4	170.16	0.7500	0.1186	0.0030	0.1553	0.0171	-5.7167	0.0443	0.0818	0.0329
4	170.16	0.8002	0.0905	0.0022	0.1625	0.0198	-6.9455	0.0489	0.1071	0.0528
4	170.16	0.8582	0.0605	0.0052	0.1979	0.0231	-8.4900	0.0521	-0.1722	0.0688
4	170.16	0.9101	0.0163	0.0124	0.2039	0.0251	-9.9098	0.0543	-0.0971	0.0673
4	170.16	0.9728	0.0462	0.0053	0.2672	0.0293	-11.6228	0.0592	0.3716	0.1482

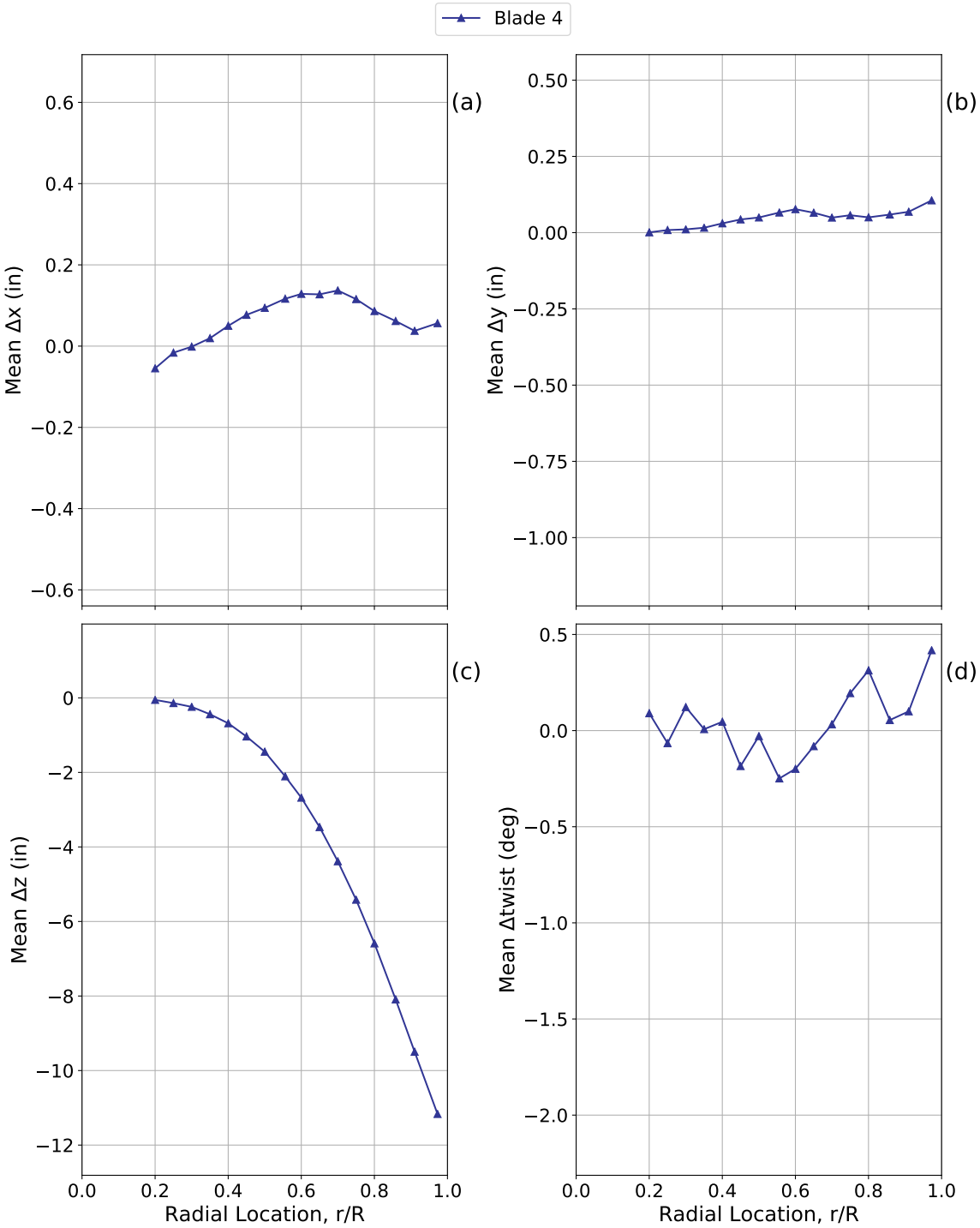


Figure 4.10-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0547	0.0009	0.0009	0.0004	-0.0545	0.0010	0.0901	0.0100
4	175.08	0.2502	-0.0162	0.0011	0.0084	0.0010	-0.1411	0.0027	-0.0655	0.0208
4	175.08	0.3001	-0.0014	0.0009	0.0107	0.0018	-0.2417	0.0047	0.1222	0.0228
4	175.08	0.3502	0.0195	0.0012	0.0161	0.0029	-0.4405	0.0070	0.0074	0.0250
4	175.08	0.4002	0.0500	0.0014	0.0304	0.0047	-0.6825	0.0120	0.0459	0.0212
4	175.08	0.4500	0.0769	0.0014	0.0432	0.0065	-1.0370	0.0148	-0.1847	0.0244
4	175.08	0.5001	0.0941	0.0014	0.0497	0.0078	-1.4455	0.0198	-0.0290	0.0276
4	175.08	0.5560	0.1166	0.0016	0.0658	0.0103	-2.1070	0.0241	-0.2489	0.0303
4	175.08	0.6001	0.1285	0.0013	0.0769	0.0117	-2.6795	0.0273	-0.1990	0.0285
4	175.08	0.6501	0.1274	0.0020	0.0652	0.0138	-3.4689	0.0321	-0.0812	0.0266
4	175.08	0.6999	0.1370	0.0026	0.0492	0.0167	-4.3858	0.0381	0.0326	0.0210
4	175.08	0.7500	0.1156	0.0020	0.0571	0.0196	-5.4172	0.0436	0.1947	0.0299
4	175.08	0.8002	0.0862	0.0028	0.0501	0.0220	-6.5893	0.0472	0.3133	0.0332
4	175.08	0.8582	0.0617	0.0039	0.0592	0.0252	-8.0922	0.0540	0.0547	0.0391
4	175.08	0.9101	0.0376	0.0059	0.0684	0.0285	-9.4965	0.0583	0.1000	0.0461
4	175.08	0.9728	0.0564	0.0065	0.1057	0.0328	-11.1662	0.0633	0.4179	0.0580

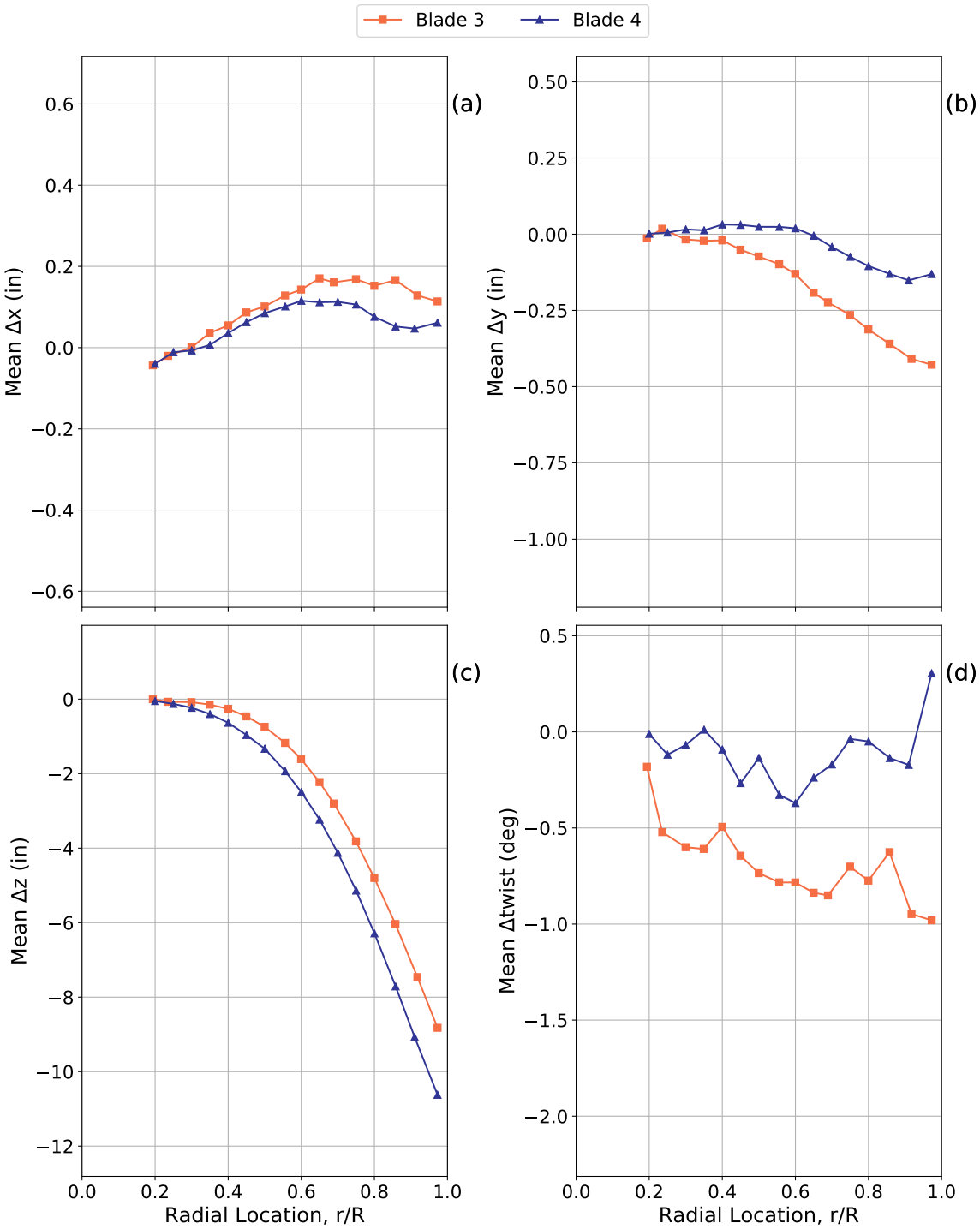


Figure 4.10-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0434	0.0015	-0.0136	0.0007	0.0007	0.0009	-0.1815	0.0125
3	180.35	0.2357	-0.0202	0.0007	0.0179	0.0008	-0.0707	0.0022	-0.5219	0.0195
3	180.35	0.2995	0.0004	0.0005	-0.0170	0.0017	-0.0807	0.0034	-0.6000	0.0289
3	180.35	0.3493	0.0362	0.0010	-0.0216	0.0027	-0.1465	0.0060	-0.6092	0.0251
3	180.35	0.4000	0.0547	0.0009	-0.0203	0.0040	-0.2586	0.0094	-0.4943	0.0253
3	180.35	0.4497	0.0867	0.0009	-0.0508	0.0052	-0.4623	0.0123	-0.6446	0.0262
3	180.35	0.4997	0.1014	0.0015	-0.0731	0.0067	-0.7419	0.0145	-0.7351	0.0250
3	180.35	0.5556	0.1284	0.0015	-0.0985	0.0071	-1.1753	0.0185	-0.7833	0.0264
3	180.35	0.5995	0.1430	0.0020	-0.1303	0.0079	-1.6067	0.0208	-0.7835	0.0277
3	180.35	0.6498	0.1704	0.0021	-0.1922	0.0086	-2.2259	0.0256	-0.8371	0.0264
3	180.35	0.6890	0.1607	0.0035	-0.2233	0.0098	-2.8019	0.0275	-0.8509	0.0293
3	180.35	0.7495	0.1684	0.0047	-0.2652	0.0112	-3.8177	0.0331	-0.7014	0.0329
3	180.35	0.7998	0.1522	0.0058	-0.3123	0.0129	-4.8006	0.0385	-0.7742	0.0270
3	180.35	0.8577	0.1662	0.0070	-0.3597	0.0138	-6.0370	0.0468	-0.6259	0.0216
3	180.35	0.9178	0.1286	0.0098	-0.4090	0.0167	-7.4631	0.0539	-0.9478	0.0326
3	180.35	0.9729	0.1138	0.0128	-0.4282	0.0175	-8.8233	0.0558	-0.9805	0.0371
4	180	0.2001	-0.0398	0.0012	0.0016	0.0009	-0.0504	0.0014	-0.0110	0.0152
4	180	0.2502	-0.0113	0.0015	0.0054	0.0027	-0.1273	0.0023	-0.1186	0.0247
4	180	0.3001	-0.0070	0.0016	0.0159	0.0044	-0.2318	0.0046	-0.0678	0.0335
4	180	0.3502	0.0068	0.0012	0.0128	0.0072	-0.4004	0.0074	0.0116	0.0345
4	180	0.4002	0.0359	0.0021	0.0318	0.0119	-0.6346	0.0112	-0.0919	0.0267
4	180	0.4500	0.0627	0.0012	0.0307	0.0131	-0.9619	0.0153	-0.2669	0.0238
4	180	0.5001	0.0849	0.0021	0.0243	0.0162	-1.3316	0.0159	-0.1354	0.0296
4	180	0.5560	0.1014	0.0024	0.0241	0.0195	-1.9335	0.0183	-0.3280	0.0254
4	180	0.6001	0.1153	0.0015	0.0194	0.0210	-2.4941	0.0199	-0.3706	0.0332
4	180	0.6501	0.1117	0.0021	-0.0053	0.0228	-3.2347	0.0226	-0.2377	0.0247
4	180	0.6999	0.1127	0.0014	-0.0419	0.0263	-4.1244	0.0262	-0.1696	0.0222
4	180	0.7500	0.1060	0.0024	-0.0743	0.0292	-5.1388	0.0292	-0.0366	0.0275
4	180	0.8002	0.0758	0.0020	-0.1047	0.0319	-6.2872	0.0337	-0.0497	0.0330
4	180	0.8582	0.0520	0.0024	-0.1303	0.0359	-7.7115	0.0401	-0.1362	0.0220
4	180	0.9101	0.0469	0.0030	-0.1515	0.0385	-9.0686	0.0447	-0.1717	0.0334
4	180	0.9728	0.0613	0.0043	-0.1309	0.0424	-10.6209	0.0517	0.3046	0.0262

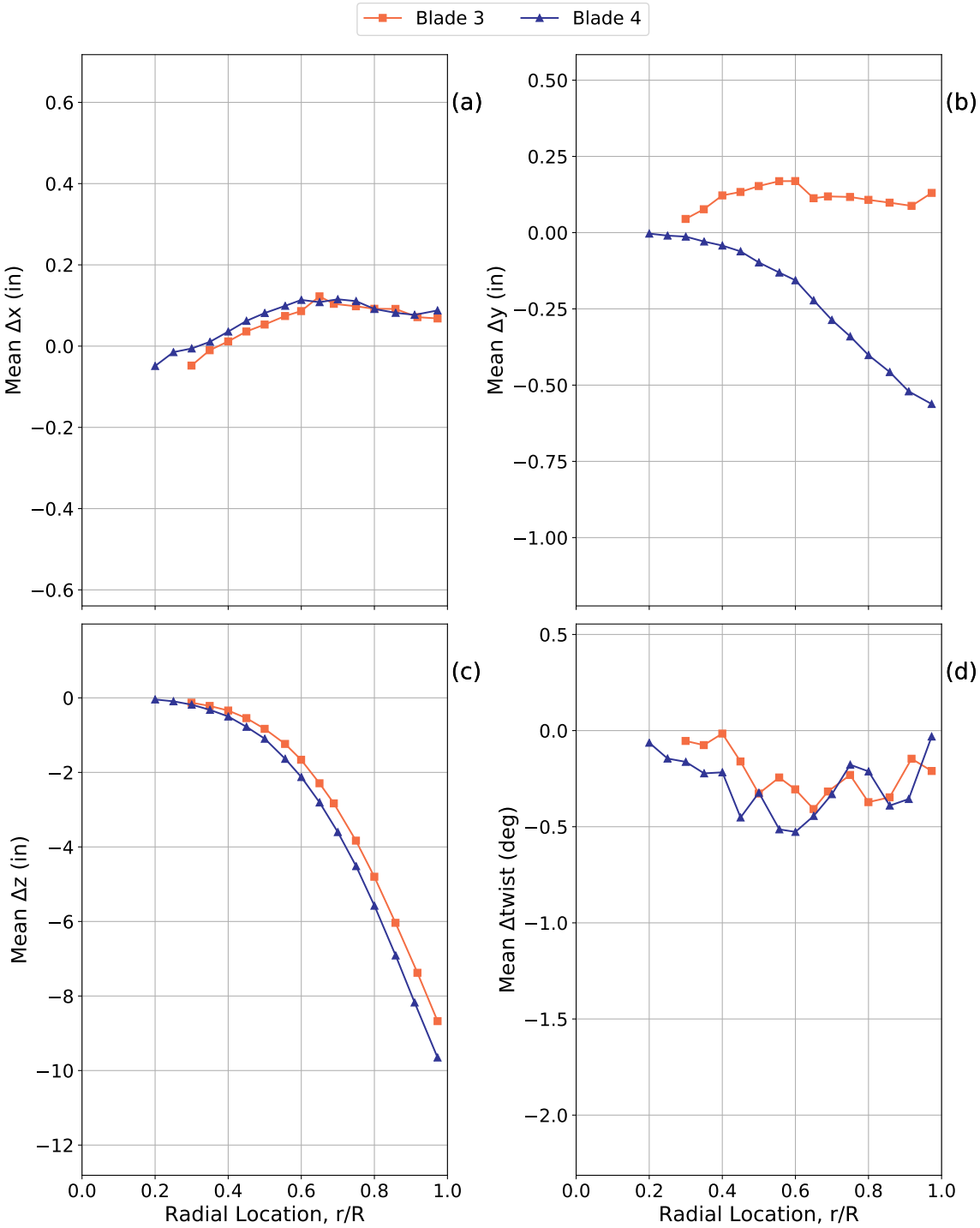


Figure 4.10-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0479	0.0046	0.0449	0.0073	-0.1294	0.0227	-0.0537	0.0560
3	184.92	0.3493	-0.0101	0.0051	0.0767	0.0125	-0.2167	0.0389	-0.0754	0.0740
3	184.92	0.4000	0.0116	0.0051	0.1220	0.0198	-0.3400	0.0618	-0.0154	0.0755
3	184.92	0.4497	0.0360	0.0057	0.1334	0.0274	-0.5438	0.0795	-0.1605	0.0795
3	184.92	0.4997	0.0531	0.0057	0.1528	0.0329	-0.8312	0.1013	-0.3274	0.0744
3	184.92	0.5556	0.0741	0.0063	0.1688	0.0410	-1.2358	0.1230	-0.2439	0.0558
3	184.92	0.5995	0.0862	0.0065	0.1691	0.0464	-1.6606	0.1380	-0.3056	0.0730
3	184.92	0.6498	0.1225	0.0067	0.1128	0.0533	-2.2915	0.1582	-0.4081	0.0730
3	184.92	0.6890	0.1041	0.0076	0.1188	0.0592	-2.8310	0.1739	-0.3168	0.0763
3	184.92	0.7495	0.0981	0.0083	0.1170	0.0670	-3.8310	0.1970	-0.2308	0.0647
3	184.92	0.7998	0.0919	0.0095	0.1075	0.0739	-4.7997	0.2137	-0.3721	0.0744
3	184.92	0.8577	0.0916	0.0107	0.0983	0.0826	-6.0363	0.2382	-0.3471	0.0729
3	184.92	0.9178	0.0713	0.0123	0.0878	0.0907	-7.3768	0.2639	-0.1463	0.0798
3	184.92	0.9729	0.0681	0.0158	0.1303	0.0990	-8.6740	0.2887	-0.2100	0.0723
4	184.92	0.2001	-0.0489	0.0029	-0.0032	0.0014	-0.0426	0.0018	-0.0630	0.0127
4	184.92	0.2502	-0.0148	0.0013	-0.0098	0.0023	-0.0926	0.0029	-0.1454	0.0208
4	184.92	0.3001	-0.0058	0.0008	-0.0131	0.0051	-0.1831	0.0055	-0.1626	0.0253
4	184.92	0.3502	0.0107	0.0008	-0.0292	0.0085	-0.3224	0.0081	-0.2224	0.0206
4	184.92	0.4002	0.0358	0.0013	-0.0424	0.0129	-0.5003	0.0126	-0.2171	0.0204
4	184.92	0.4500	0.0621	0.0016	-0.0615	0.0164	-0.7772	0.0144	-0.4519	0.0257
4	184.92	0.5001	0.0815	0.0015	-0.0979	0.0196	-1.0969	0.0159	-0.3229	0.0271
4	184.92	0.5560	0.0992	0.0020	-0.1310	0.0239	-1.6362	0.0190	-0.5137	0.0232
4	184.92	0.6001	0.1137	0.0023	-0.1563	0.0281	-2.1251	0.0215	-0.5269	0.0216
4	184.92	0.6501	0.1082	0.0030	-0.2222	0.0316	-2.8073	0.0243	-0.4438	0.0206
4	184.92	0.6999	0.1153	0.0042	-0.2865	0.0359	-3.6021	0.0262	-0.3308	0.0206
4	184.92	0.7500	0.1107	0.0052	-0.3404	0.0398	-4.5159	0.0295	-0.1775	0.0262
4	184.92	0.8002	0.0914	0.0069	-0.4017	0.0436	-5.5779	0.0316	-0.2124	0.0222
4	184.92	0.8582	0.0819	0.0090	-0.4572	0.0483	-6.9126	0.0352	-0.3900	0.0217
4	184.92	0.9101	0.0770	0.0111	-0.5205	0.0522	-8.1742	0.0387	-0.3558	0.0234
4	184.92	0.9728	0.0878	0.0151	-0.5619	0.0566	-9.6504	0.0440	-0.0308	0.0268

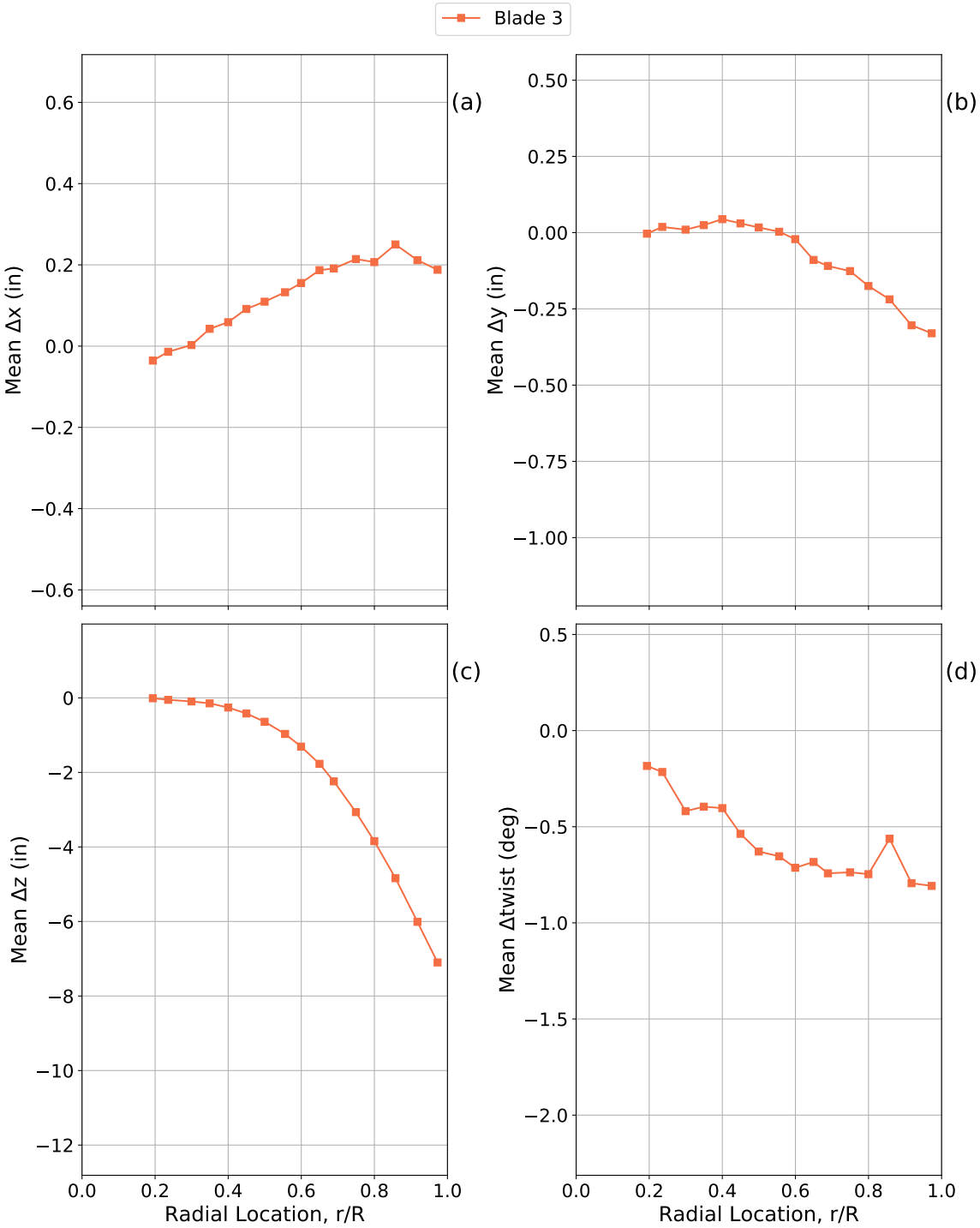


Figure 4.10-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0356	0.0044	-0.0034	0.0011	-0.0106	0.0018	-0.1838	0.0193
3	195.12	0.2357	-0.0139	0.0018	0.0187	0.0019	-0.0524	0.0039	-0.2153	0.0270
3	195.12	0.2995	0.0027	0.0015	0.0098	0.0045	-0.0958	0.0061	-0.4190	0.0426
3	195.12	0.3493	0.0426	0.0020	0.0246	0.0066	-0.1469	0.0085	-0.3957	0.0470
3	195.12	0.4000	0.0589	0.0038	0.0442	0.0112	-0.2589	0.0152	-0.4032	0.0460
3	195.12	0.4497	0.0915	0.0054	0.0303	0.0144	-0.4186	0.0177	-0.5370	0.0386
3	195.12	0.4997	0.1094	0.0068	0.0170	0.0197	-0.6408	0.0239	-0.6290	0.0434
3	195.12	0.5556	0.1326	0.0072	0.0029	0.0247	-0.9676	0.0274	-0.6537	0.0422
3	195.12	0.5995	0.1553	0.0086	-0.0213	0.0301	-1.3077	0.0324	-0.7133	0.0487
3	195.12	0.6498	0.1870	0.0109	-0.0896	0.0325	-1.7702	0.0395	-0.6833	0.0530
3	195.12	0.6890	0.1911	0.0117	-0.1093	0.0364	-2.2404	0.0404	-0.7423	0.0403
3	195.12	0.7495	0.2143	0.0144	-0.1261	0.0426	-3.0657	0.0457	-0.7371	0.0356
3	195.12	0.7998	0.2068	0.0167	-0.1749	0.0482	-3.8453	0.0537	-0.7467	0.0338
3	195.12	0.8577	0.2502	0.0203	-0.2187	0.0529	-4.8388	0.0596	-0.5623	0.0494
3	195.12	0.9178	0.2116	0.0245	-0.3038	0.0604	-6.0100	0.0685	-0.7937	0.0362
3	195.12	0.9729	0.1879	0.0286	-0.3300	0.0671	-7.0993	0.0729	-0.8078	0.0503

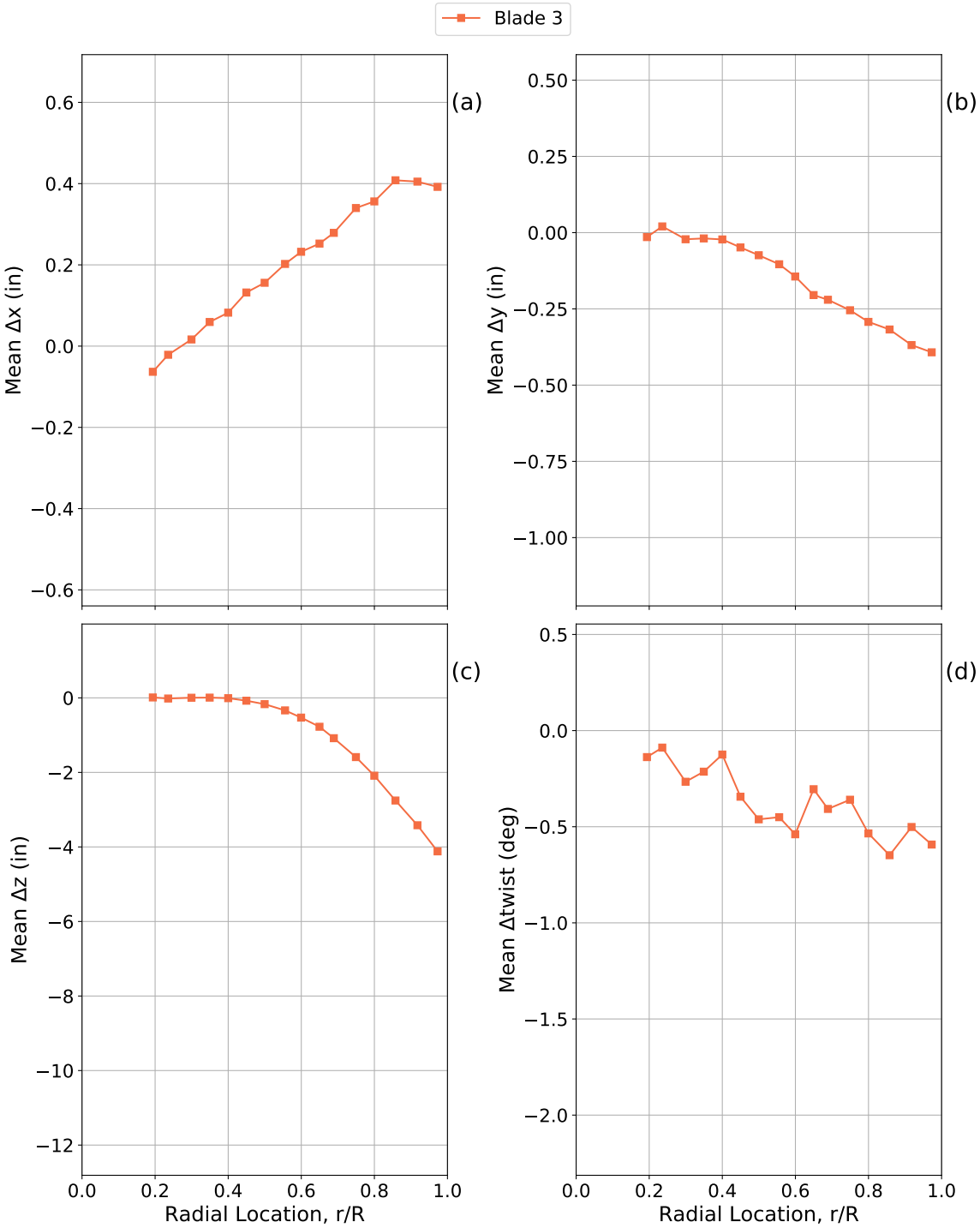


Figure 4.10-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0632	0.0007	-0.0146	0.0005	0.0107	0.0010	-0.1378	0.0112
3	209.88	0.2357	-0.0213	0.0008	0.0204	0.0014	-0.0172	0.0015	-0.0884	0.0101
3	209.88	0.2995	0.0164	0.0007	-0.0217	0.0029	0.0033	0.0036	-0.2660	0.0192
3	209.88	0.3493	0.0594	0.0010	-0.0190	0.0034	0.0067	0.0050	-0.2136	0.0200
3	209.88	0.4000	0.0824	0.0007	-0.0223	0.0066	-0.0083	0.0080	-0.1245	0.0182
3	209.88	0.4497	0.1320	0.0008	-0.0485	0.0077	-0.0762	0.0104	-0.3439	0.0357
3	209.88	0.4997	0.1559	0.0007	-0.0741	0.0095	-0.1688	0.0121	-0.4615	0.0233
3	209.88	0.5556	0.2023	0.0012	-0.1037	0.0098	-0.3361	0.0154	-0.4503	0.0210
3	209.88	0.5995	0.2322	0.0013	-0.1439	0.0102	-0.5297	0.0200	-0.5392	0.0302
3	209.88	0.6498	0.2524	0.0013	-0.2047	0.0143	-0.7752	0.0205	-0.3048	0.0142
3	209.88	0.6890	0.2788	0.0010	-0.2201	0.0144	-1.0822	0.0200	-0.4074	0.0268
3	209.88	0.7495	0.3399	0.0013	-0.2545	0.0177	-1.5894	0.0236	-0.3595	0.0250
3	209.88	0.7998	0.3562	0.0018	-0.2926	0.0191	-2.0883	0.0254	-0.5348	0.0241
3	209.88	0.8577	0.4082	0.0019	-0.3176	0.0228	-2.7542	0.0281	-0.6482	0.0323
3	209.88	0.9178	0.4049	0.0028	-0.3686	0.0254	-3.4177	0.0339	-0.5013	0.0521
3	209.88	0.9729	0.3920	0.0022	-0.3924	0.0272	-4.1187	0.0382	-0.5927	0.0485

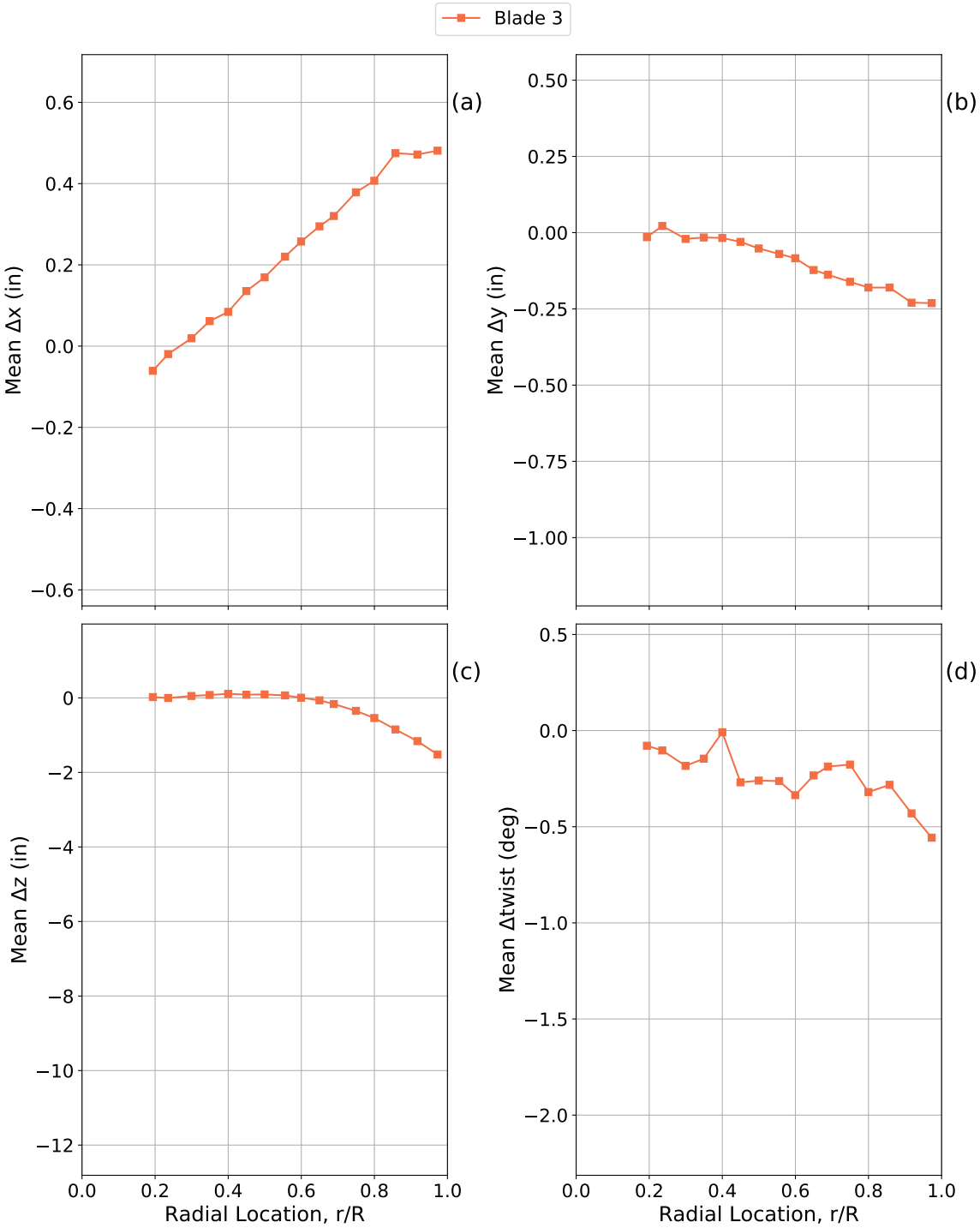


Figure 4.10-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0608	0.0011	-0.0147	0.0004	0.0211	0.0011	-0.0787	0.0161
3	225	0.2357	-0.0196	0.0006	0.0219	0.0018	-0.0034	0.0027	-0.1032	0.0293
3	225	0.2995	0.0193	0.0008	-0.0205	0.0029	0.0507	0.0051	-0.1833	0.0416
3	225	0.3493	0.0616	0.0010	-0.0159	0.0041	0.0771	0.0062	-0.1459	0.0329
3	225	0.4000	0.0843	0.0013	-0.0175	0.0077	0.1082	0.0114	-0.0085	0.0370
3	225	0.4497	0.1355	0.0012	-0.0303	0.0087	0.0857	0.0144	-0.2692	0.0250
3	225	0.4997	0.1693	0.0028	-0.0519	0.0114	0.0925	0.0196	-0.2600	0.0294
3	225	0.5556	0.2202	0.0023	-0.0698	0.0144	0.0654	0.0235	-0.2625	0.0263
3	225	0.5995	0.2575	0.0017	-0.0840	0.0148	0.0041	0.0225	-0.3357	0.0560
3	225	0.6498	0.2949	0.0018	-0.1226	0.0167	-0.0658	0.0314	-0.2333	0.0299
3	225	0.6890	0.3203	0.0023	-0.1379	0.0178	-0.1646	0.0298	-0.1872	0.0371
3	225	0.7495	0.3786	0.0015	-0.1612	0.0220	-0.3483	0.0395	-0.1766	0.0372
3	225	0.7998	0.4070	0.0021	-0.1801	0.0239	-0.5413	0.0431	-0.3197	0.0224
3	225	0.8577	0.4749	0.0014	-0.1800	0.0266	-0.8469	0.0498	-0.2820	0.0448
3	225	0.9178	0.4717	0.0021	-0.2296	0.0305	-1.1615	0.0538	-0.4305	0.0317
3	225	0.9729	0.4811	0.0031	-0.2311	0.0333	-1.5193	0.0643	-0.5569	0.0402

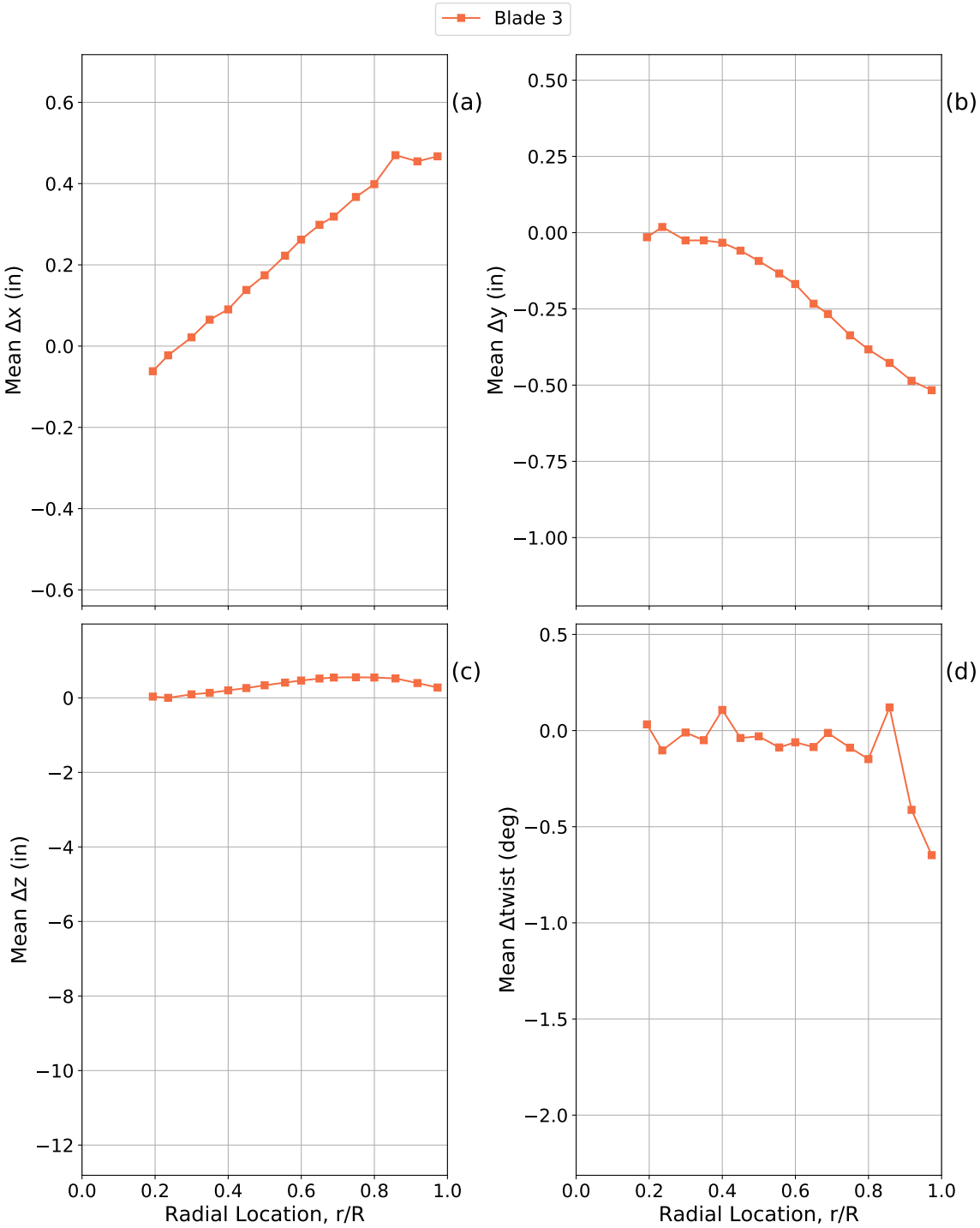


Figure 4.10-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0618	0.0011	-0.0151	0.0006	0.0337	0.0013	0.0324	0.0161
3	240.12	0.2357	-0.0226	0.0005	0.0184	0.0014	0.0012	0.0039	-0.1029	0.0243
3	240.12	0.2995	0.0216	0.0012	-0.0255	0.0030	0.0937	0.0075	-0.0100	0.0377
3	240.12	0.3493	0.0651	0.0011	-0.0254	0.0044	0.1346	0.0113	-0.0499	0.0280
3	240.12	0.4000	0.0904	0.0023	-0.0330	0.0076	0.2017	0.0195	0.1074	0.0329
3	240.12	0.4497	0.1382	0.0022	-0.0590	0.0089	0.2629	0.0225	-0.0385	0.0304
3	240.12	0.4997	0.1745	0.0014	-0.0929	0.0106	0.3371	0.0269	-0.0298	0.0278
3	240.12	0.5556	0.2226	0.0016	-0.1339	0.0127	0.4095	0.0351	-0.0876	0.0264
3	240.12	0.5995	0.2621	0.0022	-0.1685	0.0144	0.4652	0.0404	-0.0609	0.0382
3	240.12	0.6498	0.2987	0.0013	-0.2330	0.0176	0.5176	0.0501	-0.0854	0.0391
3	240.12	0.6890	0.3188	0.0021	-0.2668	0.0189	0.5457	0.0519	-0.0123	0.0425
3	240.12	0.7495	0.3671	0.0017	-0.3366	0.0234	0.5519	0.0593	-0.0889	0.0239
3	240.12	0.7998	0.3987	0.0017	-0.3828	0.0261	0.5466	0.0640	-0.1482	0.0262
3	240.12	0.8577	0.4700	0.0021	-0.4273	0.0292	0.5211	0.0707	0.1206	0.0206
3	240.12	0.9178	0.4548	0.0017	-0.4858	0.0326	0.3974	0.0767	-0.4122	0.0263
3	240.12	0.9729	0.4672	0.0027	-0.5166	0.0362	0.2777	0.0816	-0.6479	0.0219

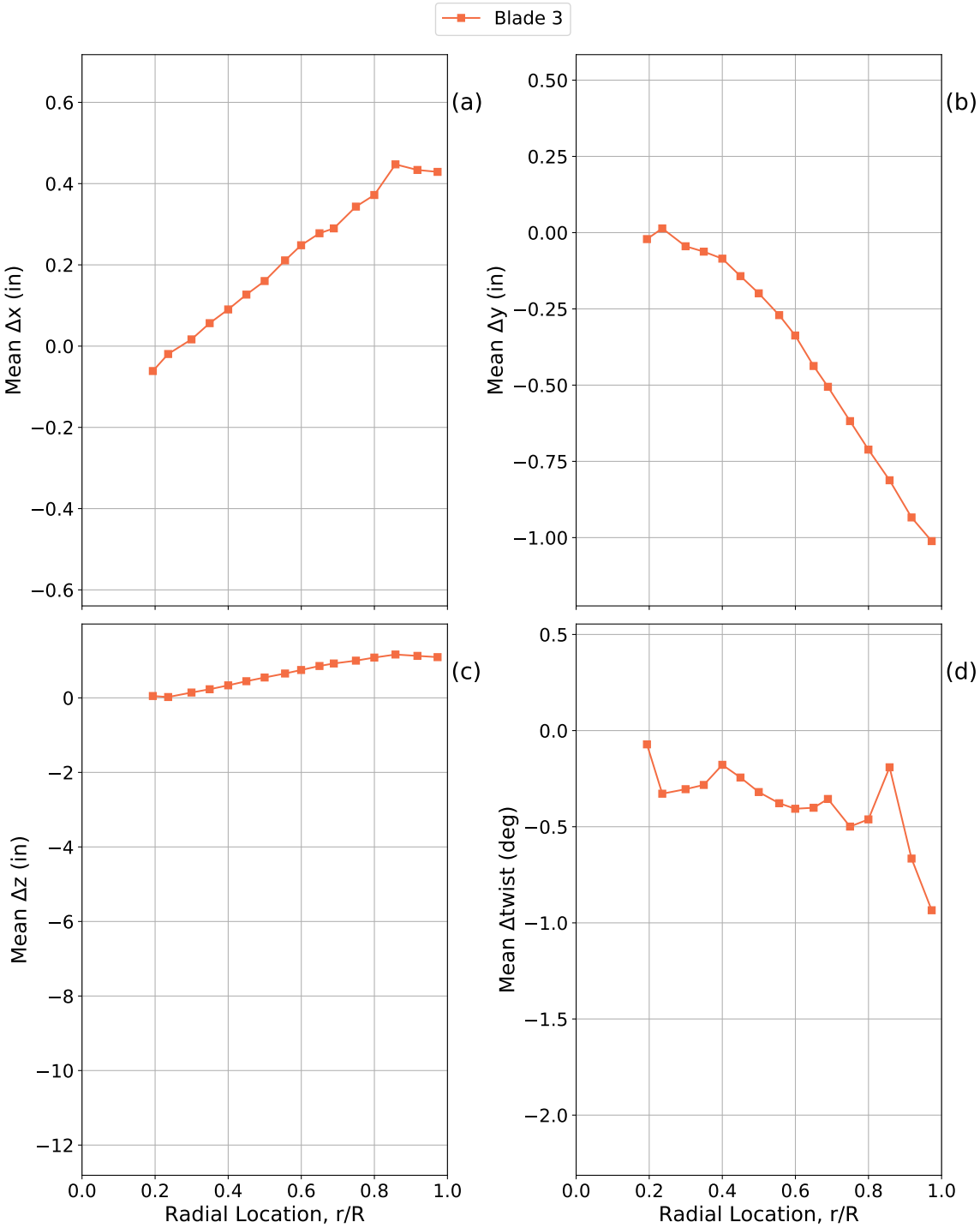


Figure 4.10-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0613	0.0019	-0.0212	0.0009	0.0499	0.0031	-0.0716	0.0158
3	254.88	0.2357	-0.0194	0.0010	0.0139	0.0010	0.0223	0.0033	-0.3282	0.0372
3	254.88	0.2995	0.0166	0.0007	-0.0447	0.0022	0.1431	0.0082	-0.3047	0.0415
3	254.88	0.3493	0.0565	0.0009	-0.0623	0.0042	0.2311	0.0153	-0.2826	0.0341
3	254.88	0.4000	0.0903	0.0010	-0.0853	0.0058	0.3358	0.0213	-0.1779	0.0358
3	254.88	0.4497	0.1268	0.0013	-0.1426	0.0070	0.4468	0.0255	-0.2441	0.0380
3	254.88	0.4997	0.1602	0.0011	-0.1990	0.0081	0.5466	0.0305	-0.3196	0.0352
3	254.88	0.5556	0.2110	0.0015	-0.2705	0.0102	0.6534	0.0377	-0.3779	0.0294
3	254.88	0.5995	0.2483	0.0010	-0.3373	0.0118	0.7479	0.0432	-0.4065	0.0386
3	254.88	0.6498	0.2778	0.0013	-0.4372	0.0140	0.8554	0.0476	-0.4013	0.0462
3	254.88	0.6890	0.2898	0.0011	-0.5055	0.0155	0.9227	0.0526	-0.3556	0.0348
3	254.88	0.7495	0.3434	0.0008	-0.6180	0.0185	0.9987	0.0609	-0.4992	0.0353
3	254.88	0.7998	0.3720	0.0013	-0.7114	0.0212	1.0813	0.0668	-0.4618	0.0384
3	254.88	0.8577	0.4474	0.0015	-0.8120	0.0244	1.1631	0.0741	-0.1908	0.0310
3	254.88	0.9178	0.4336	0.0016	-0.9339	0.0276	1.1265	0.0817	-0.6656	0.0304
3	254.88	0.9729	0.4289	0.0024	-1.0115	0.0311	1.0928	0.0883	-0.9344	0.0329

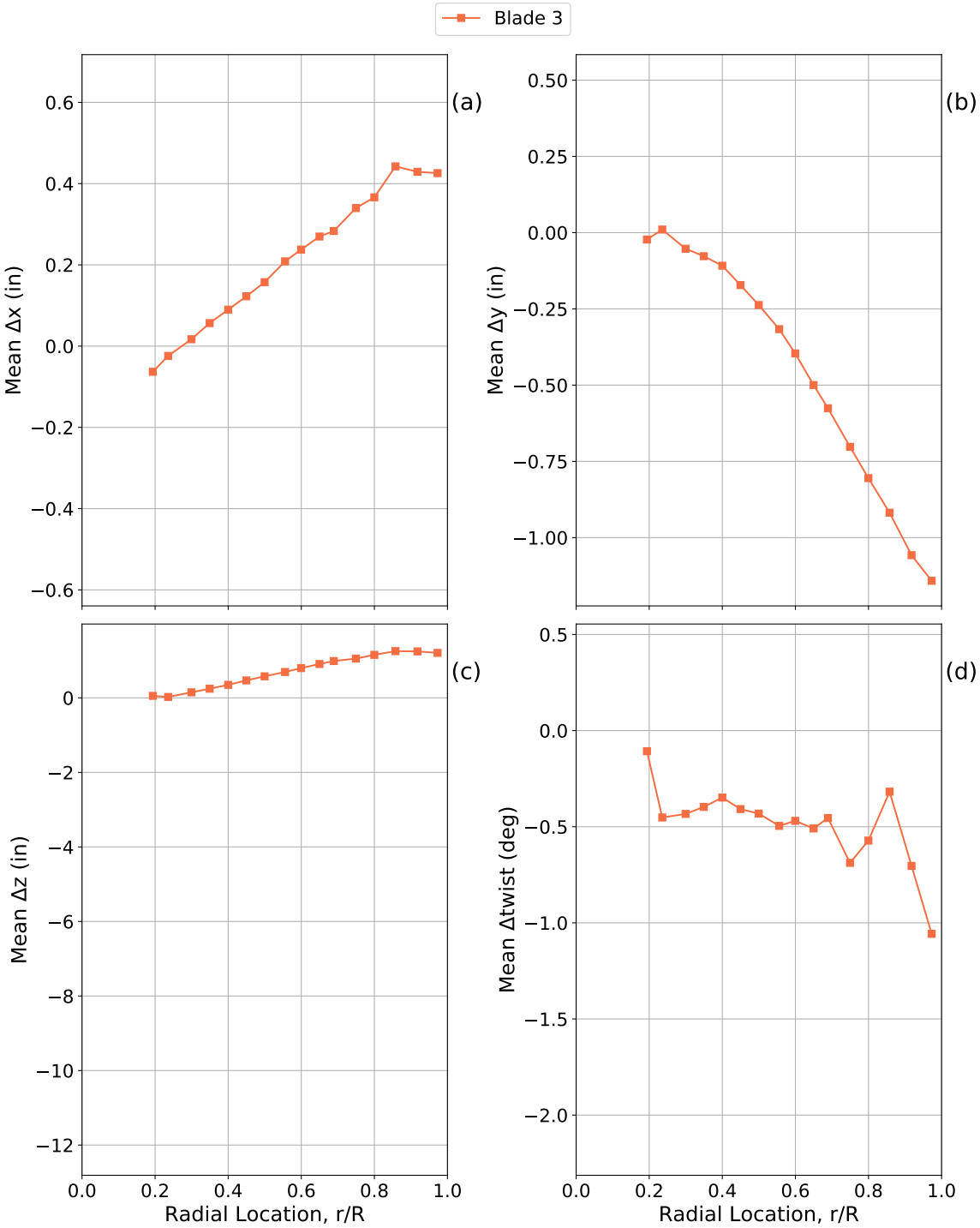


Figure 4.10-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0631	0.0031	-0.0227	0.0009	0.0539	0.0029	-0.1070	0.0221
3	260.16	0.2357	-0.0241	0.0011	0.0101	0.0011	0.0245	0.0035	-0.4519	0.0424
3	260.16	0.2995	0.0170	0.0009	-0.0527	0.0033	0.1481	0.0083	-0.4334	0.0547
3	260.16	0.3493	0.0567	0.0008	-0.0772	0.0052	0.2457	0.0146	-0.3968	0.0410
3	260.16	0.4000	0.0897	0.0011	-0.1085	0.0081	0.3496	0.0207	-0.3483	0.0446
3	260.16	0.4497	0.1227	0.0015	-0.1719	0.0104	0.4686	0.0275	-0.4082	0.0546
3	260.16	0.4997	0.1574	0.0009	-0.2374	0.0130	0.5782	0.0340	-0.4318	0.0327
3	260.16	0.5556	0.2086	0.0011	-0.3164	0.0150	0.6942	0.0403	-0.4955	0.0562
3	260.16	0.5995	0.2376	0.0013	-0.3960	0.0173	0.7986	0.0463	-0.4693	0.0409
3	260.16	0.6498	0.2698	0.0015	-0.4998	0.0194	0.9080	0.0523	-0.5091	0.0484
3	260.16	0.6890	0.2834	0.0013	-0.5758	0.0210	0.9883	0.0565	-0.4545	0.0480
3	260.16	0.7495	0.3399	0.0020	-0.7024	0.0240	1.0543	0.0668	-0.6879	0.0420
3	260.16	0.7998	0.3662	0.0016	-0.8050	0.0260	1.1544	0.0728	-0.5721	0.0479
3	260.16	0.8577	0.4424	0.0014	-0.9184	0.0283	1.2543	0.0818	-0.3176	0.0356
3	260.16	0.9178	0.4291	0.0015	-1.0576	0.0307	1.2469	0.0904	-0.7036	0.0454
3	260.16	0.9729	0.4259	0.0019	-1.1416	0.0331	1.2065	0.0998	-1.0571	0.0334

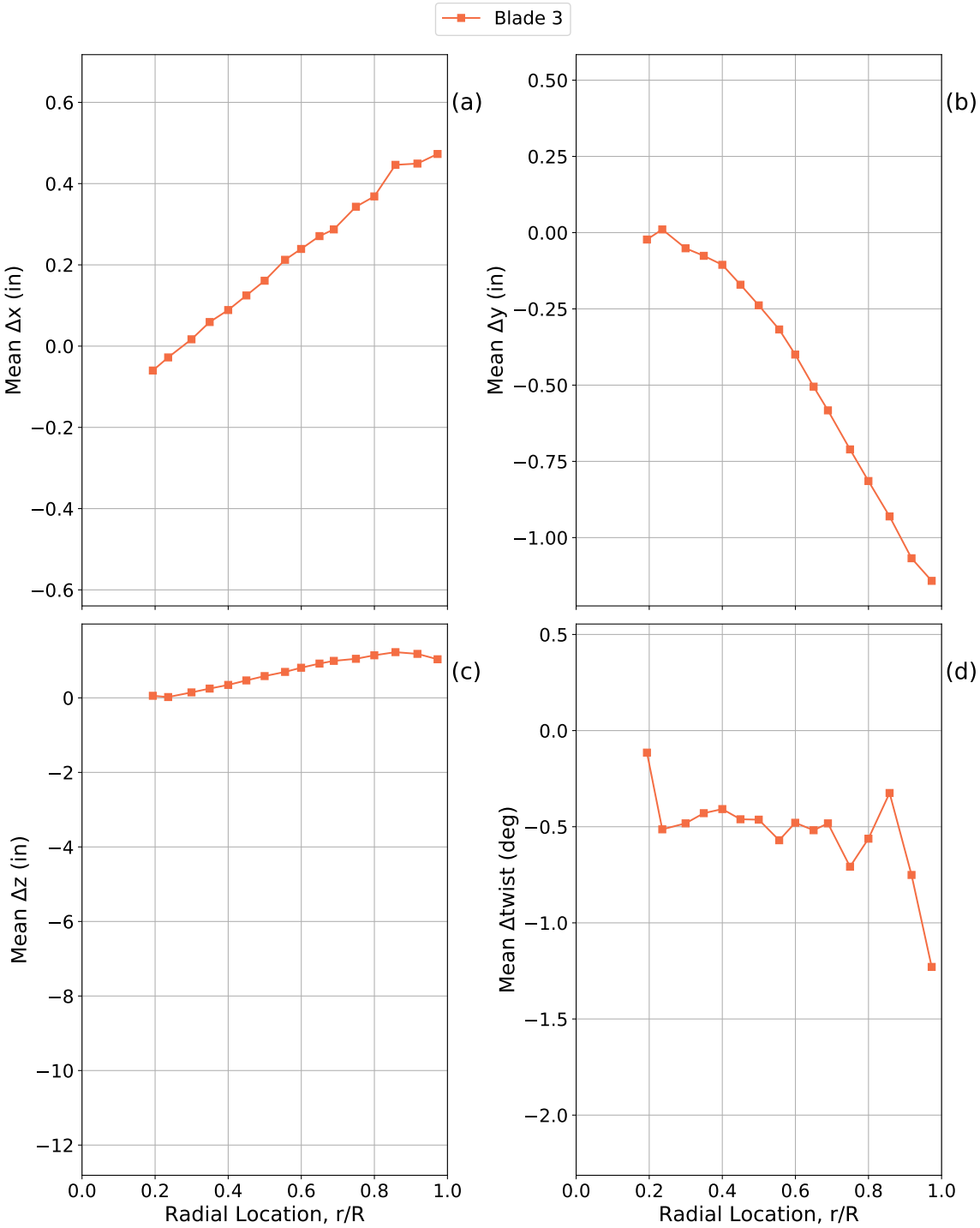


Figure 4.10-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0601	0.0032	-0.0226	0.0009	0.0558	0.0041	-0.1145	0.0260
3	265.08	0.2357	-0.0278	0.0020	0.0105	0.0015	0.0218	0.0048	-0.5136	0.0535
3	265.08	0.2995	0.0168	0.0014	-0.0513	0.0036	0.1465	0.0133	-0.4824	0.0673
3	265.08	0.3493	0.0593	0.0014	-0.0760	0.0060	0.2492	0.0210	-0.4295	0.0689
3	265.08	0.4000	0.0888	0.0016	-0.1055	0.0094	0.3474	0.0316	-0.4082	0.0533
3	265.08	0.4497	0.1247	0.0014	-0.1707	0.0119	0.4681	0.0398	-0.4612	0.0531
3	265.08	0.4997	0.1610	0.0018	-0.2384	0.0143	0.5843	0.0470	-0.4632	0.0655
3	265.08	0.5556	0.2125	0.0020	-0.3175	0.0177	0.6966	0.0551	-0.5703	0.0649
3	265.08	0.5995	0.2392	0.0022	-0.3998	0.0205	0.8084	0.0616	-0.4793	0.0672
3	265.08	0.6498	0.2708	0.0025	-0.5050	0.0242	0.9201	0.0692	-0.5182	0.0640
3	265.08	0.6890	0.2873	0.0023	-0.5828	0.0271	0.9929	0.0734	-0.4825	0.0671
3	265.08	0.7495	0.3431	0.0024	-0.7108	0.0317	1.0480	0.0831	-0.7079	0.0635
3	265.08	0.7998	0.3685	0.0029	-0.8145	0.0361	1.1423	0.0901	-0.5622	0.0655
3	265.08	0.8577	0.4462	0.0032	-0.9305	0.0408	1.2267	0.1004	-0.3246	0.0604
3	265.08	0.9178	0.4493	0.0031	-1.0677	0.0459	1.1804	0.1094	-0.7508	0.0696
3	265.08	0.9729	0.4730	0.0043	-1.1418	0.0505	1.0356	0.1176	-1.2292	0.0739

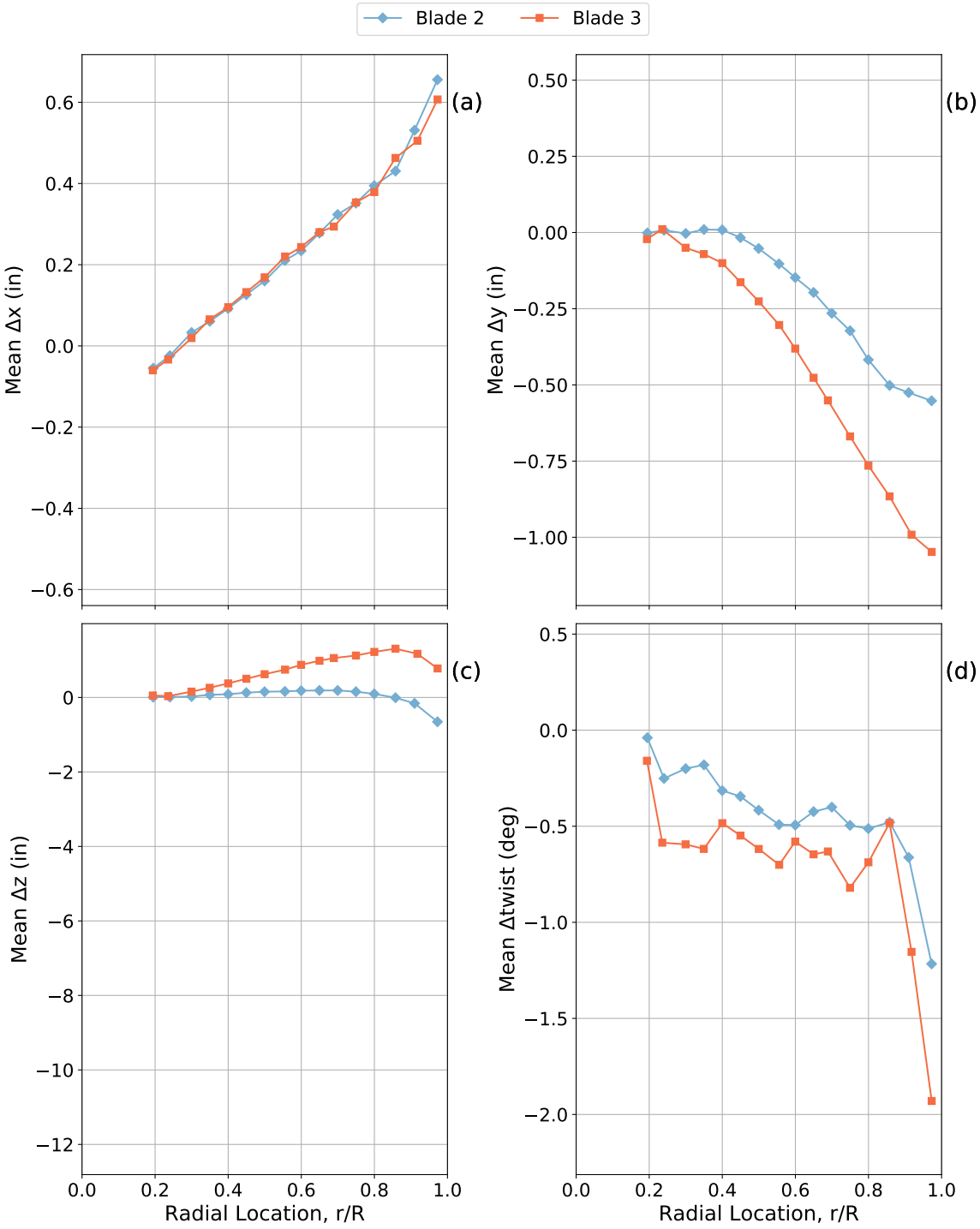


Figure 4.10-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0550	0.0034	-0.0015	0.0011	0.0096	0.0042	-0.0393	0.0333
2	270.35	0.2405	-0.0240	0.0026	0.0073	0.0016	0.0115	0.0064	-0.2513	0.0618
2	270.35	0.2999	0.0330	0.0018	-0.0032	0.0035	0.0256	0.0122	-0.2001	0.0756
2	270.35	0.3498	0.0607	0.0015	0.0098	0.0060	0.0705	0.0208	-0.1805	0.0656
2	270.35	0.3998	0.0921	0.0023	0.0087	0.0089	0.0872	0.0298	-0.3146	0.0622
2	270.35	0.4496	0.1262	0.0022	-0.0168	0.0103	0.1287	0.0352	-0.3446	0.0640
2	270.35	0.4995	0.1601	0.0021	-0.0524	0.0126	0.1540	0.0433	-0.4163	0.0654
2	270.35	0.5551	0.2105	0.0021	-0.1029	0.0151	0.1620	0.0504	-0.4914	0.0666
2	270.35	0.5996	0.2342	0.0019	-0.1479	0.0168	0.1814	0.0586	-0.4937	0.0642
2	270.35	0.6497	0.2778	0.0022	-0.1967	0.0198	0.1891	0.0670	-0.4239	0.0647
2	270.35	0.6996	0.3236	0.0019	-0.2650	0.0223	0.1877	0.0749	-0.4006	0.0625
2	270.35	0.7495	0.3517	0.0016	-0.3223	0.0251	0.1549	0.0824	-0.4954	0.0677
2	270.35	0.7996	0.3947	0.0022	-0.4176	0.0277	0.0961	0.0907	-0.5124	0.0668
2	270.35	0.8578	0.4306	0.0020	-0.5017	0.0315	-0.0076	0.0996	-0.4791	0.0675
2	270.35	0.9100	0.5312	0.0020	-0.5254	0.0342	-0.1582	0.1059	-0.6621	0.0667
2	270.35	0.9727	0.6558	0.0033	-0.5521	0.0382	-0.6533	0.1158	-1.2163	0.0569
3	270	0.1938	-0.0601	0.0058	-0.0215	0.0015	0.0532	0.0077	-0.1591	0.0313
3	270	0.2357	-0.0336	0.0030	0.0106	0.0014	0.0342	0.0053	-0.5855	0.1141
3	270	0.2995	0.0193	0.0019	-0.0500	0.0046	0.1574	0.0191	-0.5942	0.1066
3	270	0.3493	0.0654	0.0023	-0.0708	0.0078	0.2596	0.0309	-0.6178	0.1135
3	270	0.4000	0.0955	0.0019	-0.1004	0.0115	0.3773	0.0433	-0.4839	0.1109
3	270	0.4497	0.1325	0.0020	-0.1631	0.0147	0.5023	0.0565	-0.5484	0.1092
3	270	0.4997	0.1689	0.0016	-0.2260	0.0185	0.6245	0.0687	-0.6182	0.1109
3	270	0.5556	0.2202	0.0020	-0.3035	0.0222	0.7468	0.0790	-0.7006	0.1216
3	270	0.5995	0.2435	0.0019	-0.3809	0.0257	0.8762	0.0891	-0.5799	0.1190
3	270	0.6498	0.2803	0.0020	-0.4766	0.0298	0.9854	0.0990	-0.6462	0.1181
3	270	0.6890	0.2939	0.0022	-0.5509	0.0333	1.0574	0.1076	-0.6312	0.1121
3	270	0.7495	0.3534	0.0022	-0.6690	0.0389	1.1258	0.1198	-0.8202	0.1118
3	270	0.7998	0.3790	0.0028	-0.7650	0.0435	1.2231	0.1291	-0.6877	0.1164
3	270	0.8577	0.4629	0.0033	-0.8657	0.0483	1.3093	0.1408	-0.4830	0.1156
3	270	0.9178	0.5053	0.0038	-0.9915	0.0544	1.1719	0.1535	-1.1539	0.1109
3	270	0.9729	0.6070	0.0042	-1.0480	0.0606	0.7786	0.1633	-1.9299	0.1161

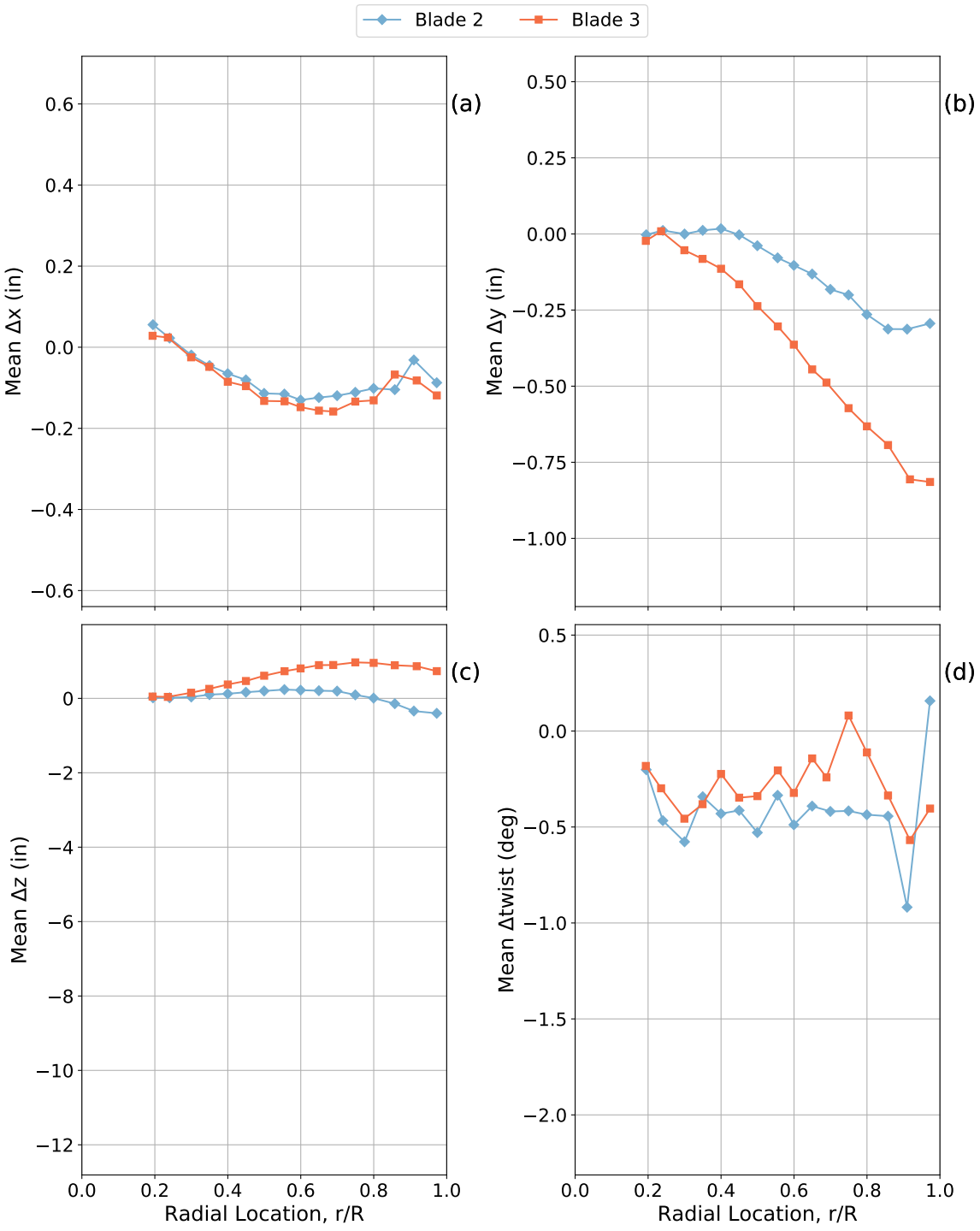


Figure 4.10-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0556	0.0013	-0.0026	0.0005	0.0146	0.0016	-0.2016	0.0270
2	274.92	0.2405	0.0226	0.0009	0.0114	0.0013	0.0157	0.0051	-0.4669	0.0343
2	274.92	0.2999	-0.0193	0.0010	-0.0002	0.0025	0.0375	0.0088	-0.5770	0.0573
2	274.92	0.3498	-0.0452	0.0024	0.0118	0.0043	0.1003	0.0134	-0.3420	0.0405
2	274.92	0.3998	-0.0651	0.0023	0.0173	0.0067	0.1237	0.0224	-0.4304	0.0343
2	274.92	0.4496	-0.0805	0.0016	-0.0028	0.0068	0.1652	0.0262	-0.4135	0.0354
2	274.92	0.4995	-0.1138	0.0020	-0.0387	0.0089	0.1986	0.0355	-0.5292	0.0327
2	274.92	0.5551	-0.1154	0.0019	-0.0785	0.0106	0.2362	0.0442	-0.3349	0.0291
2	274.92	0.5996	-0.1302	0.0016	-0.1032	0.0119	0.2205	0.0499	-0.4885	0.0206
2	274.92	0.6497	-0.1241	0.0023	-0.1316	0.0134	0.2062	0.0562	-0.3911	0.0392
2	274.92	0.6996	-0.1195	0.0028	-0.1821	0.0155	0.1956	0.0666	-0.4189	0.0570
2	274.92	0.7495	-0.1112	0.0020	-0.2004	0.0171	0.0932	0.0692	-0.4161	0.0709
2	274.92	0.7996	-0.1015	0.0020	-0.2646	0.0194	0.0067	0.0841	-0.4359	0.0316
2	274.92	0.8578	-0.1046	0.0020	-0.3124	0.0205	-0.1434	0.0907	-0.4435	0.0738
2	274.92	0.9100	-0.0314	0.0038	-0.3128	0.0233	-0.3409	0.1088	-0.9180	0.1395
2	274.92	0.9727	-0.0875	0.0036	-0.2940	0.0275	-0.4015	0.1019	0.1572	0.1001
3	274.92	0.1938	0.0282	0.0014	-0.0227	0.0006	0.0487	0.0011	-0.1819	0.0189
3	274.92	0.2357	0.0240	0.0009	0.0088	0.0011	0.0395	0.0019	-0.2983	0.0276
3	274.92	0.2995	-0.0249	0.0012	-0.0535	0.0019	0.1516	0.0039	-0.4567	0.0452
3	274.92	0.3493	-0.0484	0.0025	-0.0819	0.0035	0.2555	0.0063	-0.3812	0.0459
3	274.92	0.4000	-0.0851	0.0031	-0.1143	0.0054	0.3738	0.0090	-0.2237	0.0509
3	274.92	0.4497	-0.0960	0.0046	-0.1654	0.0055	0.4669	0.0087	-0.3472	0.0429
3	274.92	0.4997	-0.1324	0.0034	-0.2371	0.0064	0.6086	0.0103	-0.3391	0.0377
3	274.92	0.5556	-0.1333	0.0020	-0.3038	0.0071	0.7301	0.0127	-0.2051	0.0404
3	274.92	0.5995	-0.1478	0.0027	-0.3637	0.0085	0.8046	0.0146	-0.3224	0.0769
3	274.92	0.6498	-0.1563	0.0023	-0.4450	0.0098	0.8934	0.0215	-0.1428	0.0426
3	274.92	0.6890	-0.1585	0.0025	-0.4881	0.0112	0.8967	0.0218	-0.2413	0.0546
3	274.92	0.7495	-0.1340	0.0020	-0.5723	0.0128	0.9675	0.0296	0.0809	0.0450
3	274.92	0.7998	-0.1310	0.0022	-0.6320	0.0149	0.9536	0.0341	-0.1114	0.0528
3	274.92	0.8577	-0.0674	0.0037	-0.6934	0.0166	0.8901	0.0421	-0.3358	0.1233
3	274.92	0.9178	-0.0820	0.0122	-0.8061	0.0207	0.8635	0.0496	-0.5681	0.2814
3	274.92	0.9729	-0.1188	0.0042	-0.8147	0.0167	0.7317	0.0675	-0.4037	0.1945

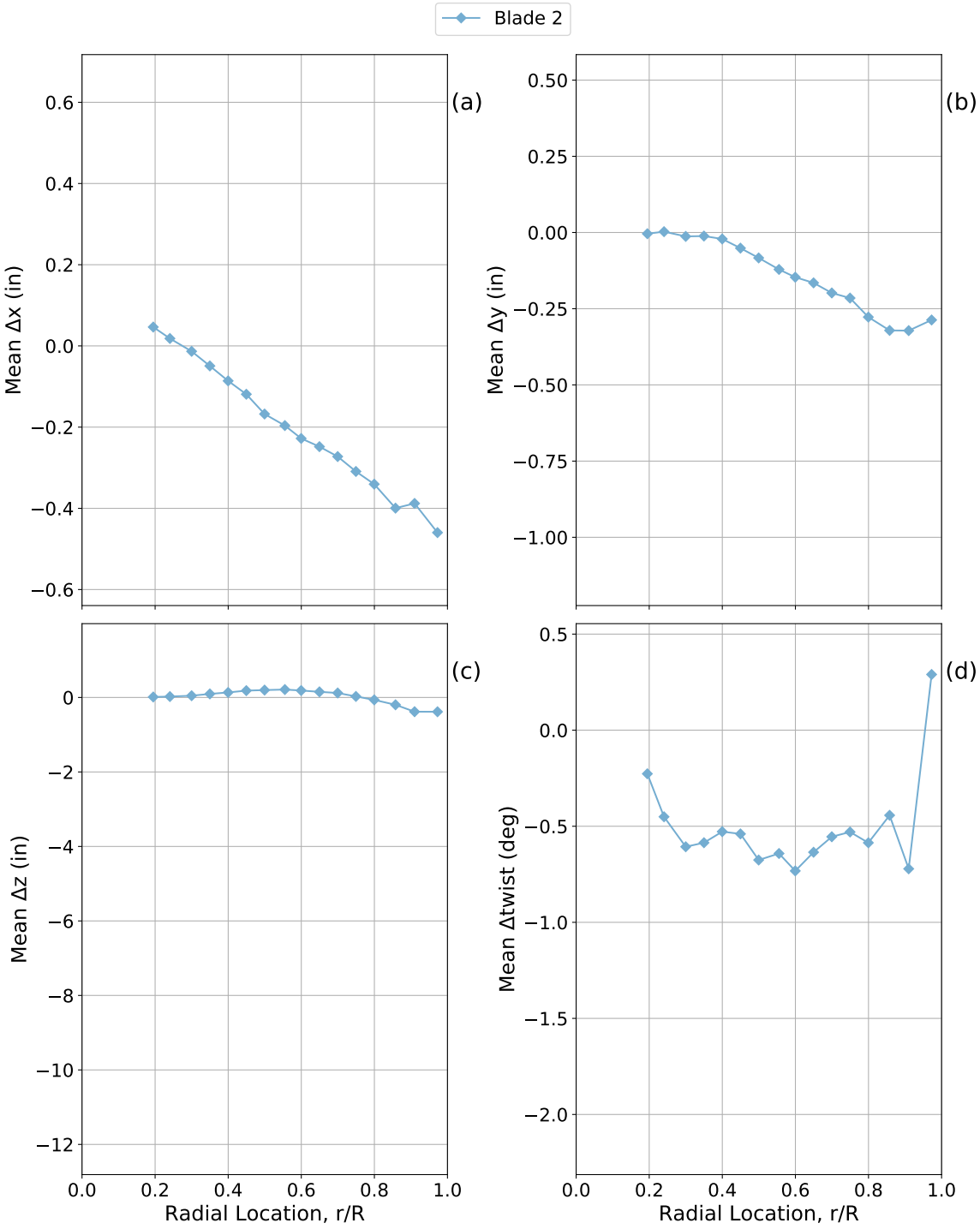


Figure 4.10-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0465	0.0013	-0.0040	0.0005	0.0130	0.0035	-0.2269	0.0445
2	285.12	0.2405	0.0183	0.0011	0.0027	0.0032	0.0245	0.0077	-0.4507	0.0841
2	285.12	0.2999	-0.0133	0.0009	-0.0128	0.0013	0.0470	0.0109	-0.6068	0.1163
2	285.12	0.3498	-0.0493	0.0007	-0.0117	0.0063	0.0950	0.0280	-0.5857	0.0572
2	285.12	0.3998	-0.0861	0.0012	-0.0212	0.0070	0.1348	0.0362	-0.5281	0.0720
2	285.12	0.4496	-0.1190	0.0013	-0.0513	0.0080	0.1835	0.0447	-0.5398	0.0529
2	285.12	0.4995	-0.1677	0.0023	-0.0834	0.0137	0.1983	0.0526	-0.6757	0.0696
2	285.12	0.5551	-0.1962	0.0020	-0.1212	0.0141	0.2124	0.0557	-0.6418	0.0797
2	285.12	0.5996	-0.2279	0.0028	-0.1467	0.0160	0.1865	0.0681	-0.7324	0.0574
2	285.12	0.6497	-0.2481	0.0032	-0.1652	0.0188	0.1511	0.0740	-0.6353	0.0776
2	285.12	0.6996	-0.2725	0.0024	-0.1984	0.0205	0.1202	0.0849	-0.5547	0.0574
2	285.12	0.7495	-0.3092	0.0030	-0.2151	0.0223	0.0279	0.0922	-0.5298	0.0411
2	285.12	0.7996	-0.3405	0.0038	-0.2775	0.0250	-0.0649	0.1021	-0.5860	0.0676
2	285.12	0.8578	-0.3995	0.0041	-0.3213	0.0275	-0.1970	0.1098	-0.4430	0.0685
2	285.12	0.9100	-0.3879	0.0048	-0.3219	0.0309	-0.3823	0.1248	-0.7215	0.0558
2	285.12	0.9727	-0.4598	0.0060	-0.2870	0.0355	-0.3840	0.1387	0.2900	0.0886

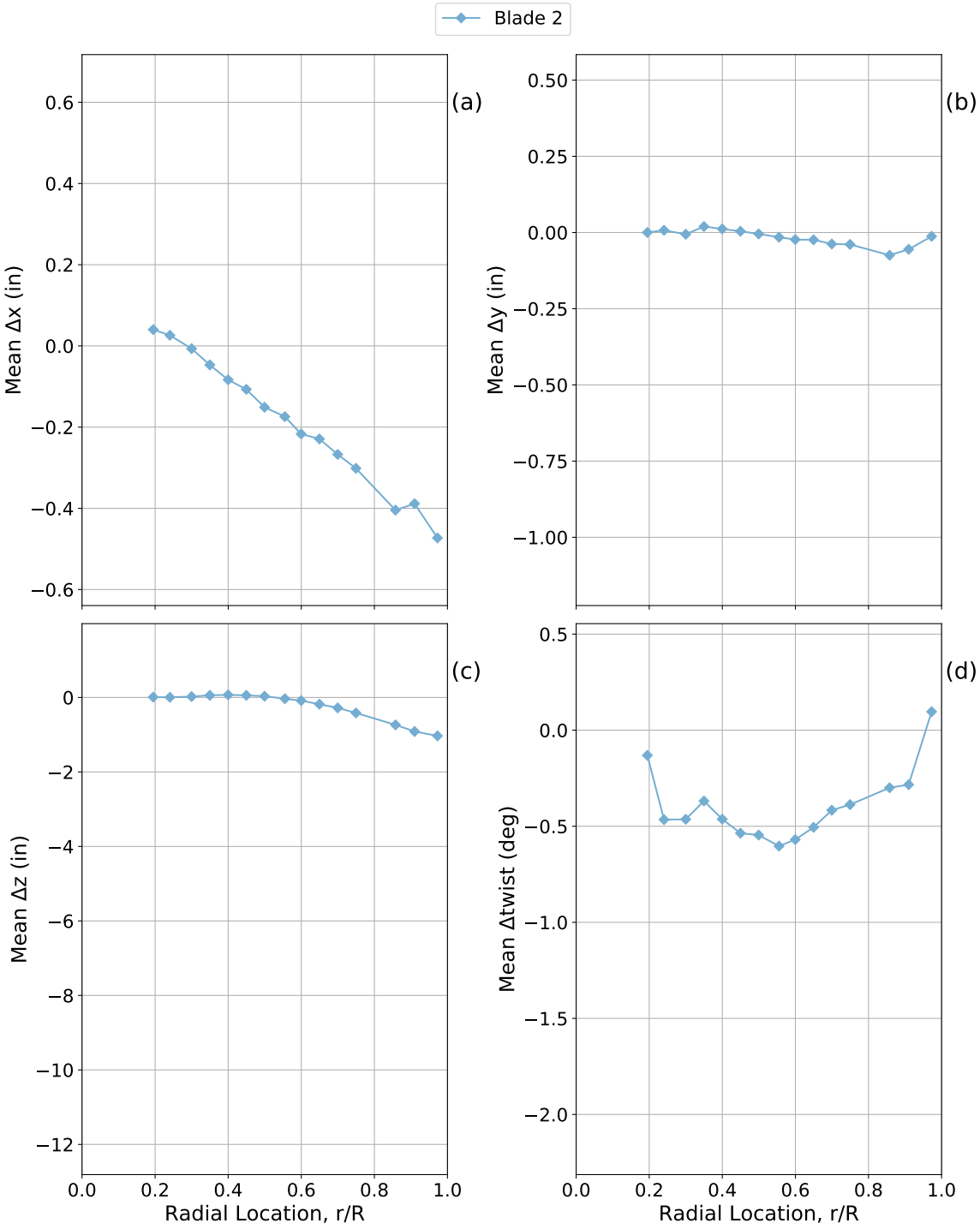


Figure 4.10-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0402	0.0021	0.0002	0.0011	0.0100	0.0019	-0.1310	0.0189
2	299.88	0.2405	0.0262	0.0017	0.0073	0.0013	0.0045	0.0029	-0.4655	0.0357
2	299.88	0.2999	-0.0068	0.0014	-0.0057	0.0046	0.0234	0.0082	-0.4639	0.0483
2	299.88	0.3498	-0.0468	0.0015	0.0196	0.0044	0.0572	0.0095	-0.3686	0.0273
2	299.88	0.3998	-0.0834	0.0029	0.0117	0.0082	0.0698	0.0152	-0.4630	0.0429
2	299.88	0.4496	-0.1070	0.0037	0.0040	0.0107	0.0562	0.0197	-0.5361	0.0442
2	299.88	0.4995	-0.1510	0.0023	-0.0047	0.0136	0.0333	0.0206	-0.5459	0.0525
2	299.88	0.5551	-0.1742	0.0021	-0.0155	0.0141	-0.0340	0.0264	-0.6033	0.0415
2	299.88	0.5996	-0.2169	0.0016	-0.0231	0.0167	-0.0847	0.0291	-0.5694	0.0607
2	299.88	0.6497	-0.2291	0.0021	-0.0240	0.0185	-0.1816	0.0355	-0.5056	0.0375
2	299.88	0.6996	-0.2672	0.0024	-0.0376	0.0210	-0.2798	0.0405	-0.4165	0.0444
2	299.88	0.7495	-0.3015	0.0022	-0.0391	0.0230	-0.4149	0.0460	-0.3875	0.0379
2	299.88	0.8578	-0.4044	0.0018	-0.0746	0.0268	-0.7355	0.0599	-0.2997	0.0409
2	299.88	0.9100	-0.3886	0.0025	-0.0551	0.0283	-0.9135	0.0669	-0.2833	0.0501
2	299.88	0.9727	-0.4730	0.0026	-0.0126	0.0310	-1.0310	0.0767	0.0961	0.0600

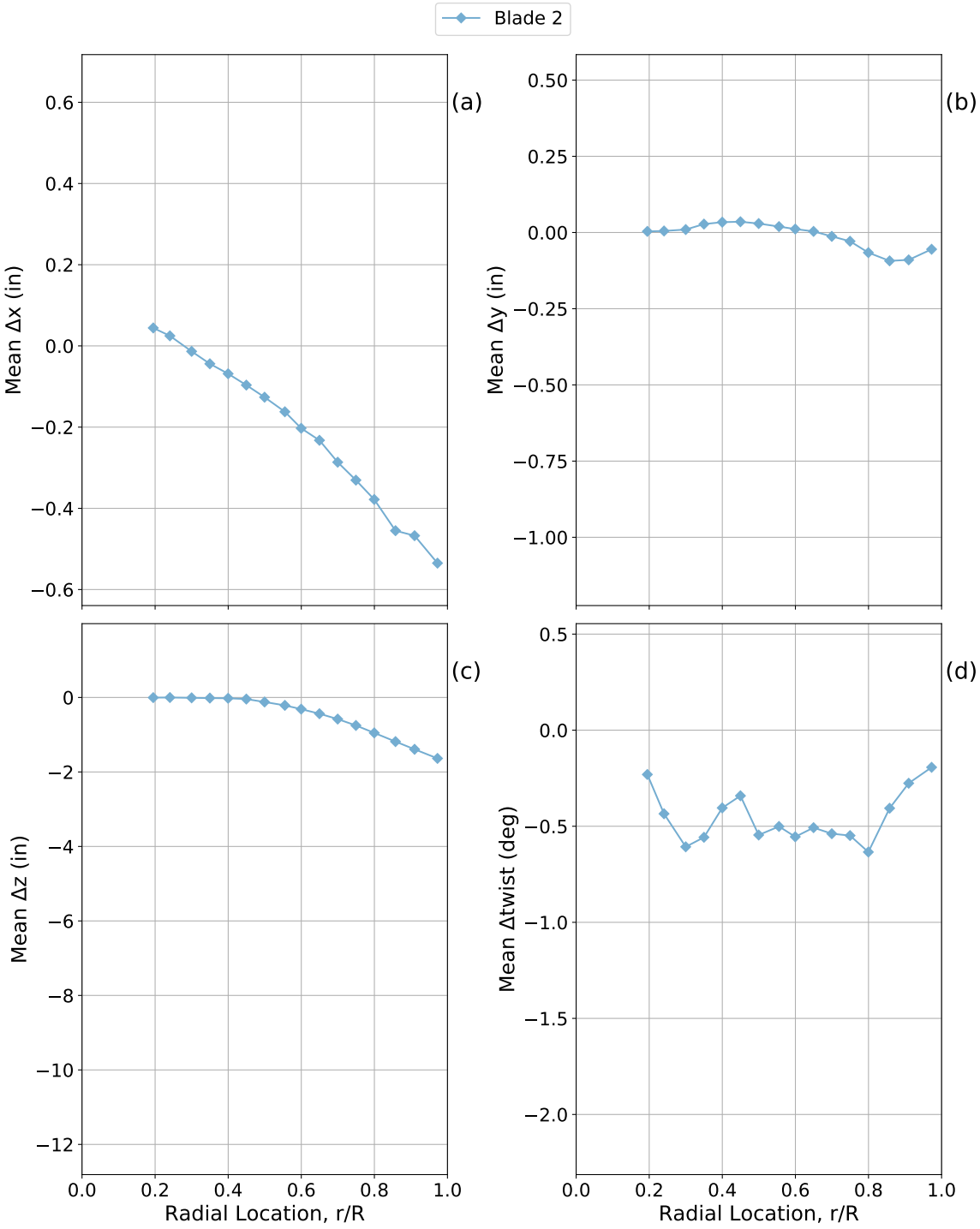


Figure 4.10-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0443	0.0010	0.0037	0.0005	-0.0044	0.0013	-0.2305	0.0194
2	315	0.2405	0.0248	0.0014	0.0050	0.0017	-0.0017	0.0049	-0.4350	0.0159
2	315	0.2999	-0.0134	0.0019	0.0097	0.0033	-0.0100	0.0072	-0.6071	0.0371
2	315	0.3498	-0.0440	0.0014	0.0276	0.0045	-0.0164	0.0090	-0.5575	0.0463
2	315	0.3998	-0.0685	0.0017	0.0339	0.0083	-0.0215	0.0176	-0.4045	0.0349
2	315	0.4496	-0.0965	0.0021	0.0353	0.0107	-0.0430	0.0218	-0.3414	0.0527
2	315	0.4995	-0.1263	0.0023	0.0294	0.0112	-0.1218	0.0231	-0.5456	0.0491
2	315	0.5551	-0.1622	0.0021	0.0194	0.0130	-0.2126	0.0297	-0.5010	0.0340
2	315	0.5996	-0.2028	0.0015	0.0113	0.0136	-0.3130	0.0294	-0.5549	0.0516
2	315	0.6497	-0.2325	0.0021	0.0036	0.0166	-0.4364	0.0335	-0.5073	0.0380
2	315	0.6996	-0.2864	0.0029	-0.0127	0.0172	-0.5805	0.0355	-0.5388	0.0407
2	315	0.7495	-0.3306	0.0027	-0.0287	0.0201	-0.7516	0.0401	-0.5485	0.0386
2	315	0.7996	-0.3782	0.0021	-0.0660	0.0222	-0.9512	0.0443	-0.6342	0.0317
2	315	0.8578	-0.4551	0.0022	-0.0931	0.0244	-1.1848	0.0495	-0.4063	0.0325
2	315	0.9100	-0.4674	0.0018	-0.0898	0.0266	-1.3918	0.0549	-0.2762	0.0312
2	315	0.9727	-0.5350	0.0019	-0.0550	0.0296	-1.6363	0.0617	-0.1933	0.0336

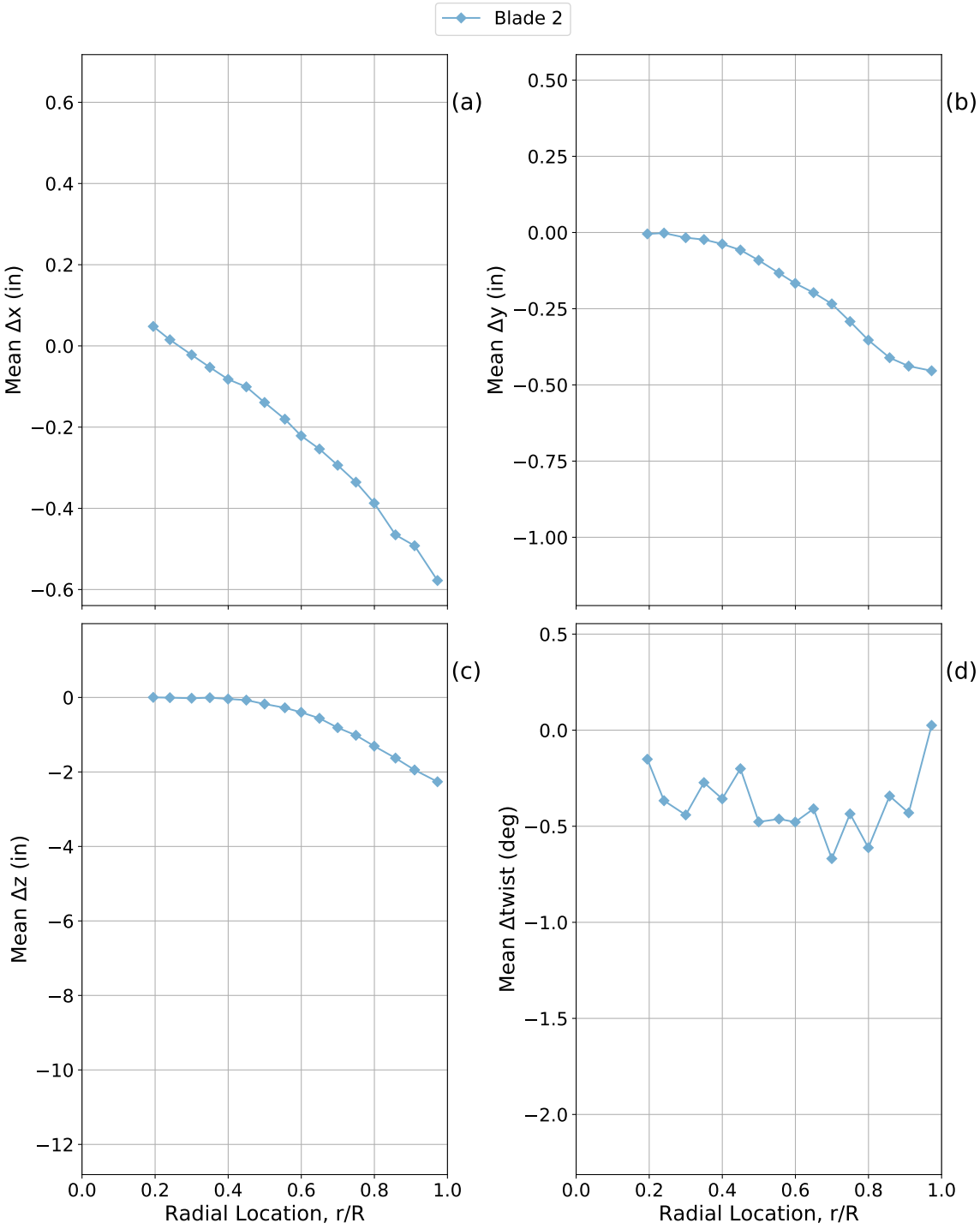


Figure 4.10-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0480	0.0015	-0.0046	0.0005	0.0021	0.0018	-0.1511	0.0228
2	330.12	0.2405	0.0152	0.0017	-0.0019	0.0022	-0.0064	0.0048	-0.3670	0.0222
2	330.12	0.2999	-0.0220	0.0014	-0.0171	0.0040	-0.0204	0.0080	-0.4412	0.0452
2	330.12	0.3498	-0.0527	0.0020	-0.0232	0.0054	-0.0065	0.0143	-0.2728	0.0295
2	330.12	0.3998	-0.0823	0.0019	-0.0377	0.0101	-0.0392	0.0221	-0.3573	0.0263
2	330.12	0.4496	-0.1008	0.0038	-0.0575	0.0094	-0.0714	0.0172	-0.2004	0.0672
2	330.12	0.4995	-0.1393	0.0021	-0.0911	0.0102	-0.1758	0.0255	-0.4772	0.0432
2	330.12	0.5551	-0.1804	0.0023	-0.1332	0.0137	-0.2771	0.0329	-0.4623	0.0443
2	330.12	0.5996	-0.2214	0.0046	-0.1669	0.0144	-0.3992	0.0383	-0.4781	0.0635
2	330.12	0.6497	-0.2539	0.0033	-0.1974	0.0143	-0.5592	0.0402	-0.4092	0.0319
2	330.12	0.6996	-0.2939	0.0034	-0.2342	0.0163	-0.8114	0.0523	-0.6684	0.0876
2	330.12	0.7495	-0.3356	0.0025	-0.2921	0.0182	-1.0159	0.0529	-0.4354	0.0352
2	330.12	0.7996	-0.3873	0.0028	-0.3531	0.0202	-1.3073	0.0592	-0.6117	0.0237
2	330.12	0.8578	-0.4653	0.0028	-0.4109	0.0217	-1.6279	0.0649	-0.3427	0.0261
2	330.12	0.9100	-0.4922	0.0028	-0.4384	0.0237	-1.9464	0.0710	-0.4303	0.0262
2	330.12	0.9727	-0.5778	0.0032	-0.4537	0.0255	-2.2630	0.0758	0.0250	0.0267

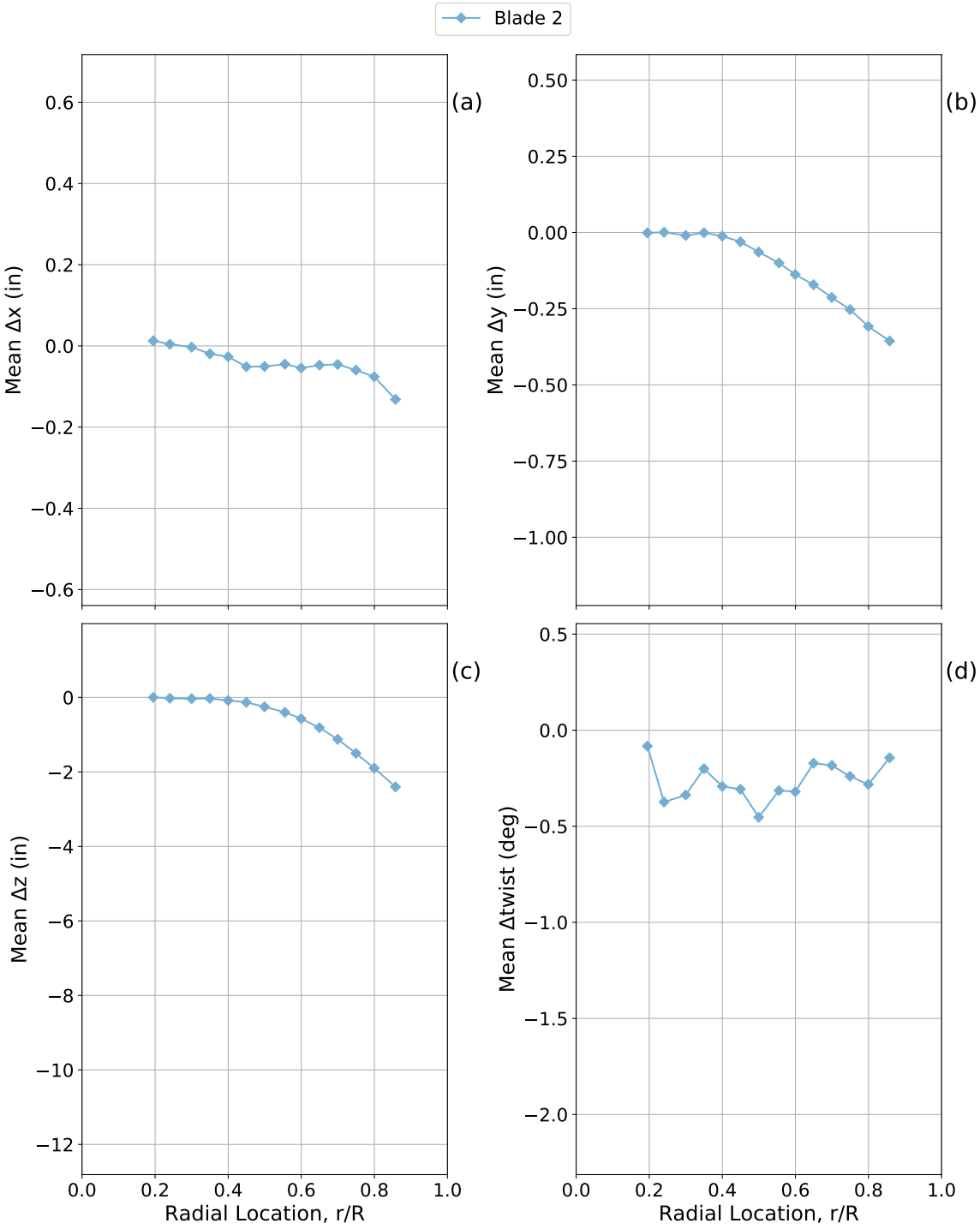


Figure 4.10-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0125	0.0020	-0.0011	0.0005	0.0022	0.0014	-0.0830	0.0167
2	344.88	0.2405	0.0042	0.0016	0.0008	0.0011	-0.0213	0.0040	-0.3739	0.0314
2	344.88	0.2999	-0.0030	0.0015	-0.0097	0.0027	-0.0348	0.0088	-0.3373	0.0420
2	344.88	0.3498	-0.0194	0.0020	-0.0008	0.0039	-0.0264	0.0112	-0.2006	0.0373
2	344.88	0.3998	-0.0266	0.0026	-0.0118	0.0063	-0.0796	0.0206	-0.2925	0.0410
2	344.88	0.4496	-0.0512	0.0047	-0.0305	0.0096	-0.1305	0.0259	-0.3075	0.0390
2	344.88	0.4995	-0.0506	0.0049	-0.0641	0.0107	-0.2507	0.0303	-0.4531	0.0316
2	344.88	0.5551	-0.0449	0.0066	-0.0999	0.0134	-0.3986	0.0336	-0.3140	0.0407
2	344.88	0.5996	-0.0545	0.0046	-0.1377	0.0158	-0.5710	0.0419	-0.3203	0.0401
2	344.88	0.6497	-0.0472	0.0063	-0.1712	0.0180	-0.8110	0.0477	-0.1718	0.0440
2	344.88	0.6996	-0.0456	0.0084	-0.2131	0.0193	-1.1226	0.0517	-0.1835	0.0434
2	344.88	0.7495	-0.0596	0.0099	-0.2529	0.0215	-1.5004	0.0585	-0.2401	0.0510
2	344.88	0.7996	-0.0759	0.0102	-0.3081	0.0232	-1.8987	0.0698	-0.2821	0.0861
2	344.88	0.8578	-0.1317	0.0124	-0.3560	0.0264	-2.4017	0.0798	-0.1435	0.0863

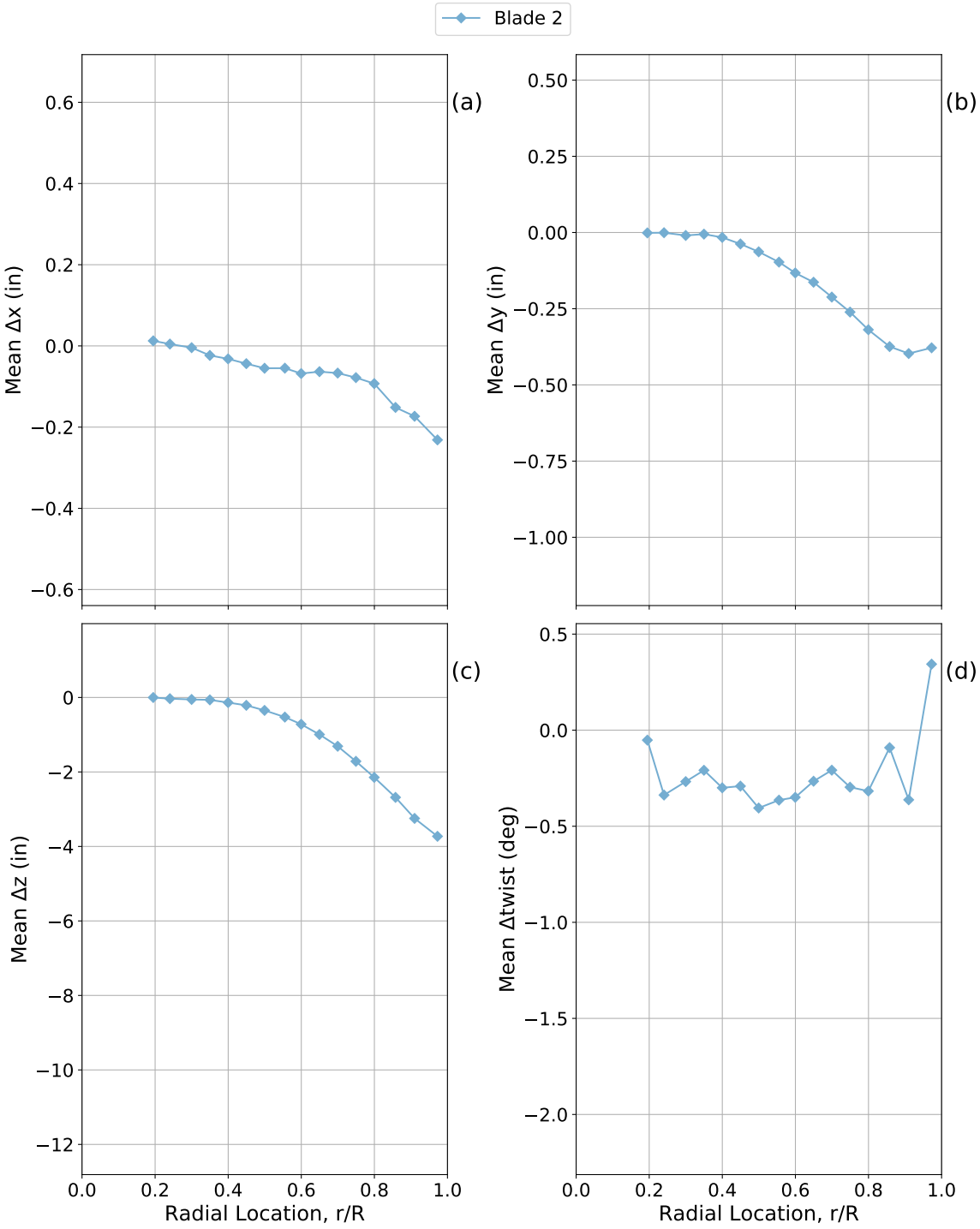


Figure 4.10-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0125	0.0031	-0.0013	0.0007	-0.0013	0.0020	-0.0517	0.0147
2	350.16	0.2405	0.0046	0.0010	-0.0007	0.0019	-0.0329	0.0040	-0.3376	0.0369
2	350.16	0.2999	-0.0043	0.0019	-0.0097	0.0033	-0.0535	0.0078	-0.2676	0.0419
2	350.16	0.3498	-0.0234	0.0023	-0.0053	0.0050	-0.0649	0.0126	-0.2086	0.0342
2	350.16	0.3998	-0.0319	0.0036	-0.0161	0.0087	-0.1374	0.0199	-0.2999	0.0414
2	350.16	0.4496	-0.0437	0.0037	-0.0376	0.0105	-0.2114	0.0231	-0.2912	0.0473
2	350.16	0.4995	-0.0550	0.0041	-0.0633	0.0120	-0.3473	0.0266	-0.4050	0.0478
2	350.16	0.5551	-0.0548	0.0045	-0.0971	0.0139	-0.5270	0.0329	-0.3640	0.0396
2	350.16	0.5996	-0.0680	0.0044	-0.1327	0.0158	-0.7194	0.0366	-0.3494	0.0361
2	350.16	0.6497	-0.0634	0.0049	-0.1631	0.0188	-0.9944	0.0428	-0.2657	0.0497
2	350.16	0.6996	-0.0669	0.0029	-0.2118	0.0202	-1.3099	0.0496	-0.2082	0.0599
2	350.16	0.7495	-0.0781	0.0052	-0.2610	0.0226	-1.7148	0.0595	-0.2966	0.0508
2	350.16	0.7996	-0.0928	0.0042	-0.3190	0.0238	-2.1459	0.0652	-0.3170	0.0609
2	350.16	0.8578	-0.1515	0.0067	-0.3743	0.0265	-2.6828	0.0701	-0.0909	0.0643
2	350.16	0.9100	-0.1733	0.0081	-0.3971	0.0280	-3.2469	0.0750	-0.3624	0.1269
2	350.16	0.9727	-0.2315	0.0155	-0.3783	0.0302	-3.7282	0.1001	0.3438	0.1461

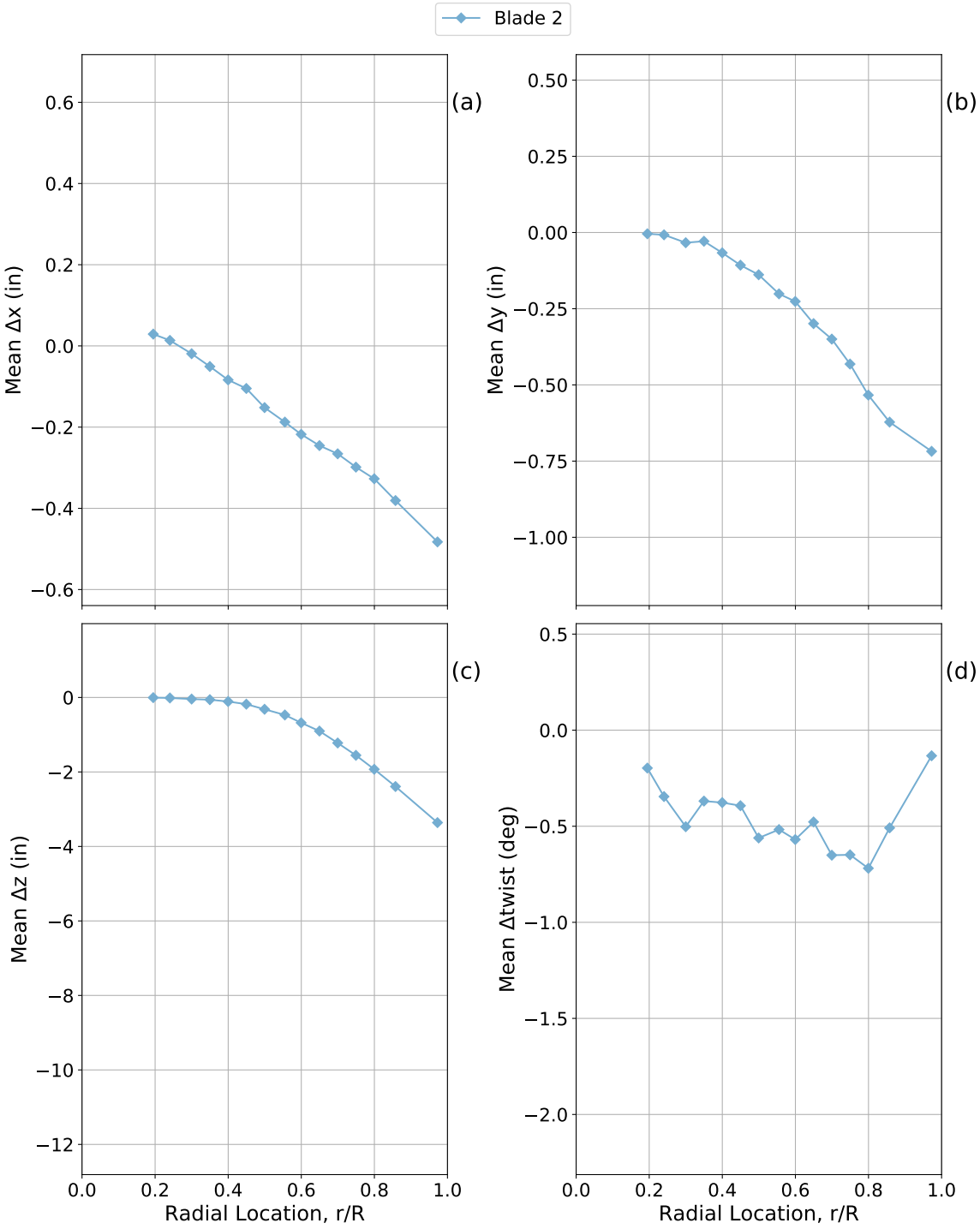


Figure 4.10-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Table 4.10-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 57, point 7. BD run 27, points 3412 to 3422.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0291	0.0018	-0.0042	0.0019	-0.0049	0.0029	-0.1972	0.0318
2	355.08	0.2405	0.0136	0.0022	-0.0076	0.0031	-0.0135	0.0056	-0.3455	0.0738
2	355.08	0.2999	-0.0192	0.0013	-0.0335	0.0064	-0.0428	0.0099	-0.5024	0.0844
2	355.08	0.3498	-0.0507	0.0019	-0.0287	0.0122	-0.0596	0.0154	-0.3689	0.0748
2	355.08	0.3998	-0.0837	0.0027	-0.0667	0.0176	-0.1096	0.0247	-0.3769	0.0713
2	355.08	0.4496	-0.1048	0.0031	-0.1072	0.0216	-0.1803	0.0323	-0.3931	0.0717
2	355.08	0.4995	-0.1519	0.0024	-0.1386	0.0266	-0.3172	0.0386	-0.5609	0.0815
2	355.08	0.5551	-0.1876	0.0025	-0.2013	0.0297	-0.4702	0.0502	-0.5172	0.0675
2	355.08	0.5996	-0.2177	0.0037	-0.2262	0.0338	-0.6796	0.0574	-0.5691	0.0687
2	355.08	0.6497	-0.2455	0.0036	-0.2989	0.0390	-0.9024	0.0643	-0.4776	0.0864
2	355.08	0.6996	-0.2657	0.0023	-0.3497	0.0452	-1.2221	0.0720	-0.6507	0.0849
2	355.08	0.7495	-0.2985	0.0031	-0.4316	0.0480	-1.5537	0.0795	-0.6487	0.0797
2	355.08	0.7996	-0.3272	0.0039	-0.5335	0.0538	-1.9287	0.0916	-0.7188	0.0809
2	355.08	0.8578	-0.3808	0.0046	-0.6221	0.0610	-2.3912	0.0983	-0.5084	0.0981
2	355.08	0.9727	-0.4827	0.0078	-0.7179	0.0683	-3.3604	0.1156	-0.1332	0.1475

4.11 Run 61, Point 9

4.11.1 Pitch, Flap, and Lag

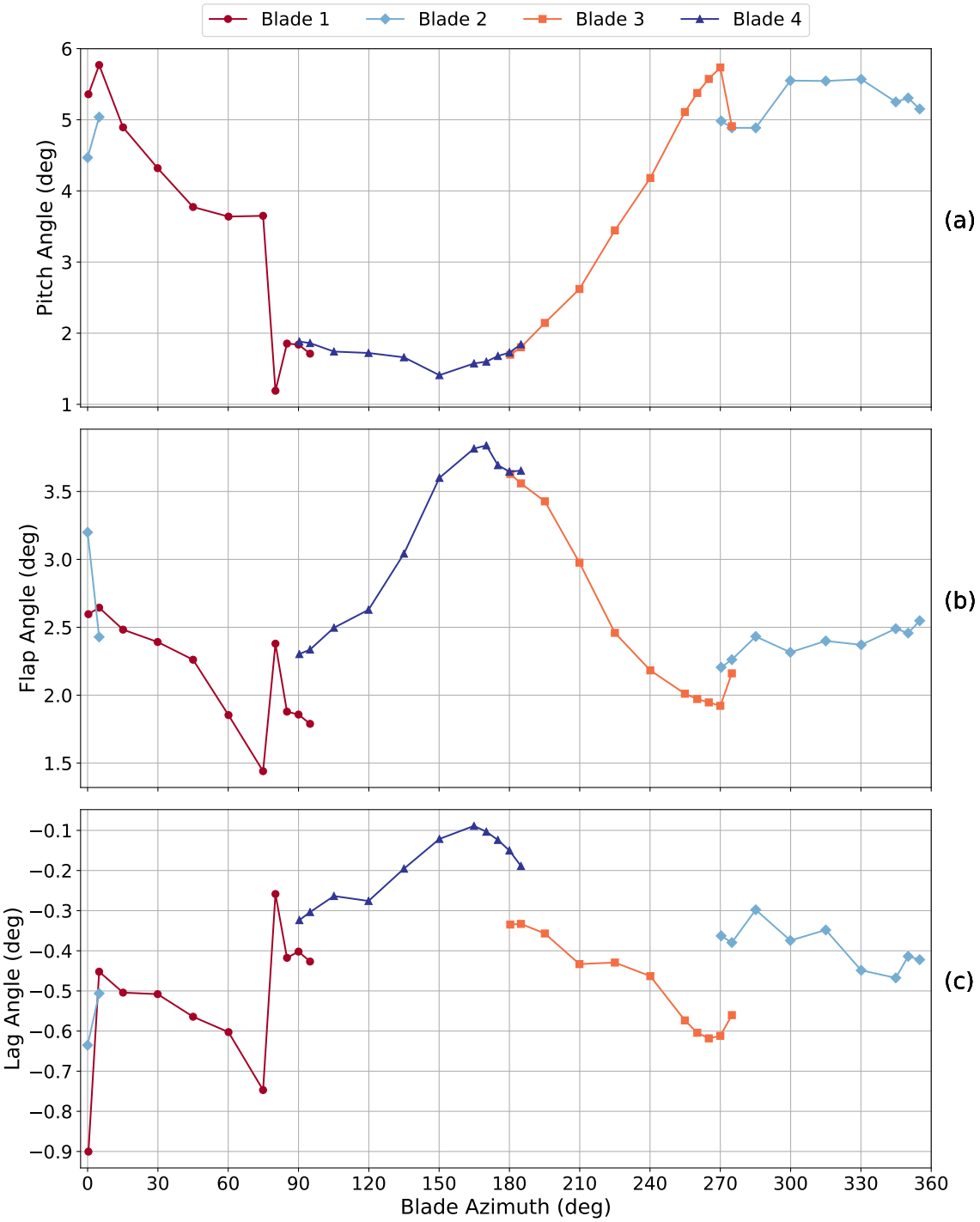


Figure 4.11-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.4679	3.1994	-0.6352	0.0516	0.0613	0.0274
0.35	1	5.3578	2.5965	-0.9004	0.0831	0.0676	0.0501
4.92	1	5.7689	2.6447	-0.4520	0.1574	0.0553	0.0263
4.92	2	5.0380	2.4288	-0.5063	0.0545	0.0269	0.0179
15.12	1	4.8934	2.4828	-0.5042	0.0757	0.0352	0.0194
29.88	1	4.3196	2.3920	-0.5080	0.0684	0.0359	0.0141
45	1	3.7736	2.2612	-0.5643	0.0562	0.0251	0.0101
60.12	1	3.6389	1.8536	-0.6026	0.0653	0.0210	0.0137
74.88	1	3.6496	1.4404	-0.7470	0.0523	0.0243	0.0147
80.16	1	1.1908	2.3796	-0.2585	0.0608	0.0285	0.0194
85.08	1	1.8540	1.8789	-0.4175	0.0314	0.0217	0.0139
90	1	1.8397	1.8576	-0.4020	0.0640	0.0321	0.0192
90.35	4	1.8830	2.3028	-0.3237	0.0188	0.0136	0.0167
94.92	1	1.7120	1.7892	-0.4268	0.0200	0.0191	0.0207
94.92	4	1.8611	2.3360	-0.3036	0.0291	0.0152	0.0159
105.12	4	1.7418	2.4968	-0.2636	0.0234	0.0120	0.0108
119.88	4	1.7219	2.6290	-0.2759	0.0202	0.0140	0.0076
135	4	1.6608	3.0424	-0.1954	0.0183	0.0132	0.0158
150.12	4	1.4099	3.6003	-0.1214	0.0268	0.0210	0.0172
164.88	4	1.5745	3.8159	-0.0888	0.0317	0.0145	0.0138
170.16	4	1.6001	3.8390	-0.1034	0.0246	0.0183	0.0177
175.08	4	1.6795	3.6936	-0.1239	0.0325	0.0258	0.0170
180	4	1.7276	3.6464	-0.1503	0.0252	0.0181	0.0145
180.35	3	1.6977	3.6291	-0.3346	0.0351	0.0192	0.0119
184.92	3	1.8017	3.5593	-0.3330	0.0217	0.0252	0.0125
184.92	4	1.8436	3.6532	-0.1888	0.0211	0.0189	0.0173
195.12	3	2.1447	3.4274	-0.3569	0.0327	0.0245	0.0186
209.88	3	2.6209	2.9762	-0.4331	0.0266	0.0269	0.0093
225	3	3.4448	2.4592	-0.4293	0.0230	0.0219	0.0114
240.12	3	4.1810	2.1830	-0.4632	0.0176	0.0276	0.0218
254.88	3	5.1082	2.0111	-0.5734	0.0549	0.0194	0.0202
260.16	3	5.3764	1.9719	-0.6042	0.0482	0.0214	0.0202
265.08	3	5.5730	1.9469	-0.6182	0.0660	0.0317	0.0253
270	3	5.7344	1.9218	-0.6119	0.0789	0.0364	0.0176
270.35	2	4.9831	2.2052	-0.3628	0.0615	0.0241	0.0188
274.92	2	4.8860	2.2617	-0.3795	0.1073	0.0374	0.0222
274.92	3	4.9084	2.1610	-0.5603	0.0636	0.0546	0.0119
285.12	2	4.8854	2.4324	-0.2978	0.0417	0.0264	0.0163
299.88	2	5.5502	2.3158	-0.3744	0.0427	0.0127	0.0097
315	2	5.5445	2.3998	-0.3481	0.0306	0.0120	0.0109
330.12	2	5.5690	2.3709	-0.4487	0.0277	0.0215	0.0177
344.88	2	5.2501	2.4898	-0.4675	0.0362	0.0174	0.0151
350.16	2	5.3054	2.4576	-0.4139	0.0209	0.0100	0.0196
355.08	2	5.1513	2.5482	-0.4221	0.0338	0.0230	0.0178

4.11.2 Spanwise Elastic Deformations

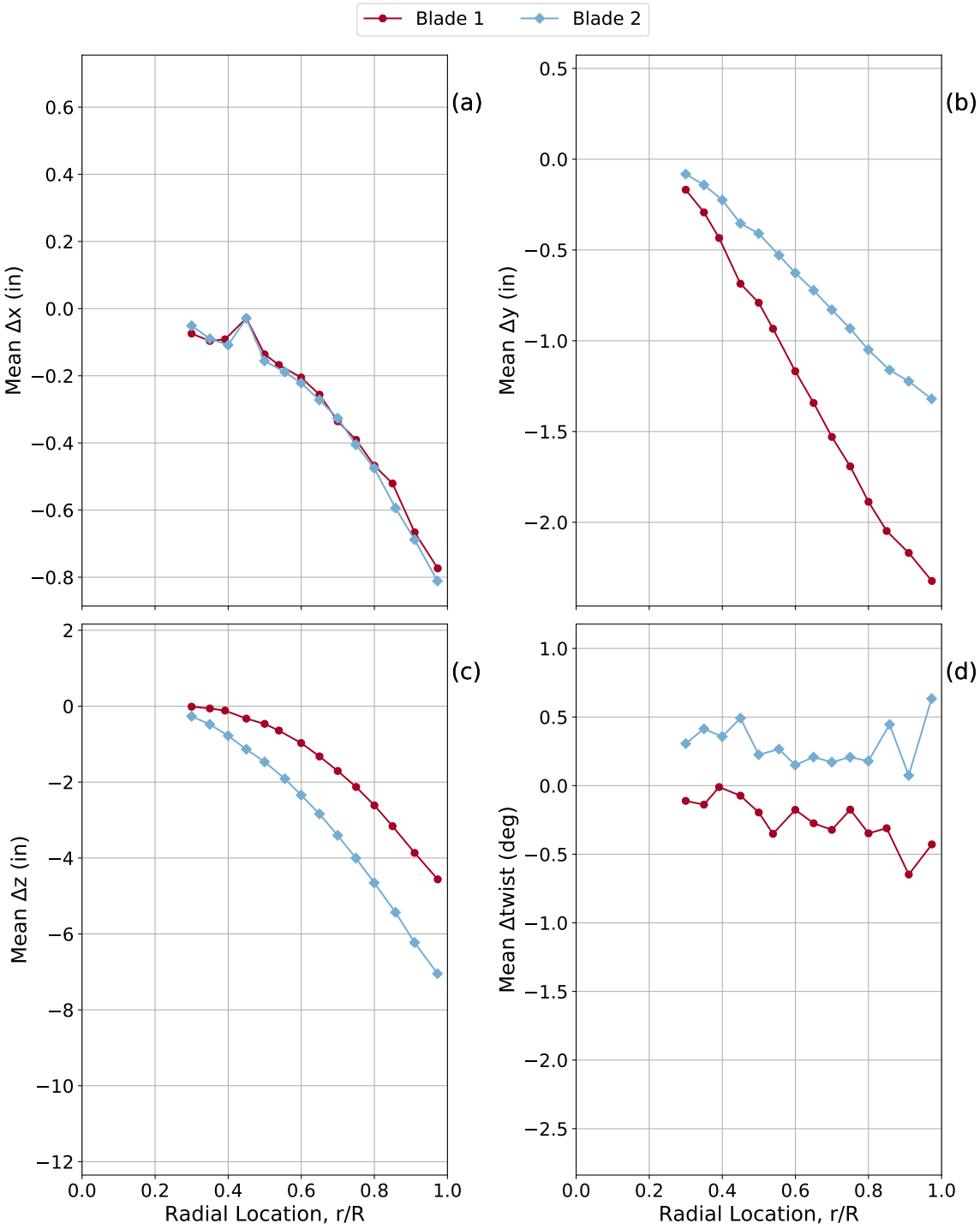


Figure 4.11-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2998	-0.0743	0.0050	-0.1681	0.0131	-0.0135	0.0214	-0.1110	0.0611
1	0.35	0.3498	-0.0964	0.0057	-0.2929	0.0229	-0.0598	0.0358	-0.1385	0.0816
1	0.35	0.3913	-0.0915	0.0063	-0.4340	0.0339	-0.1161	0.0519	-0.0105	0.0739
1	0.35	0.4496	-0.0286	0.0070	-0.6859	0.0466	-0.3276	0.0717	-0.0732	0.0786
1	0.35	0.4997	-0.1363	0.0266	-0.7907	0.0557	-0.4656	0.0907	-0.1955	0.0689
1	0.35	0.5387	-0.1678	0.0292	-0.9338	0.0652	-0.6426	0.1059	-0.3512	0.0715
1	0.35	0.5996	-0.2052	0.0320	-1.1680	0.0793	-0.9707	0.1264	-0.1761	0.0788
1	0.35	0.6498	-0.2562	0.0354	-1.3427	0.0906	-1.3231	0.1440	-0.2743	0.0701
1	0.35	0.6998	-0.3356	0.0391	-1.5297	0.1021	-1.7068	0.1620	-0.3221	0.0728
1	0.35	0.7500	-0.3908	0.0416	-1.6921	0.1129	-2.1285	0.1805	-0.1748	0.0882
1	0.35	0.8001	-0.4679	0.0409	-1.8871	0.1282	-2.6139	0.2013	-0.3475	0.0785
1	0.35	0.8497	-0.5208	0.0436	-2.0479	0.1374	-3.1612	0.2179	-0.3103	0.0843
1	0.35	0.9102	-0.6662	0.0438	-2.1686	0.1503	-3.8650	0.2425	-0.6478	0.0842
1	0.35	0.9734	-0.7736	0.0452	-2.3232	0.1636	-4.5624	0.2687	-0.4283	0.0872
2	0	0.2999	-0.0510	0.0027	-0.0820	0.0068	-0.2671	0.0163	0.3066	0.0496
2	0	0.3498	-0.0898	0.0041	-0.1417	0.0119	-0.4797	0.0275	0.4141	0.0656
2	0	0.3998	-0.1084	0.0064	-0.2247	0.0189	-0.7784	0.0430	0.3574	0.0538
2	0	0.4496	-0.0291	0.0081	-0.3537	0.0253	-1.1346	0.0583	0.4920	0.0475
2	0	0.4995	-0.1559	0.0124	-0.4095	0.0315	-1.4674	0.0768	0.2252	0.0594
2	0	0.5551	-0.1889	0.0115	-0.5291	0.0400	-1.9111	0.0943	0.2663	0.0654
2	0	0.5996	-0.2218	0.0121	-0.6267	0.0470	-2.3426	0.1117	0.1495	0.0561
2	0	0.6497	-0.2722	0.0111	-0.7222	0.0543	-2.8380	0.1283	0.2080	0.0616
2	0	0.6996	-0.3263	0.0117	-0.8289	0.0614	-3.4035	0.1455	0.1712	0.0645
2	0	0.7495	-0.4052	0.0115	-0.9325	0.0672	-4.0031	0.1597	0.2073	0.0587
2	0	0.7996	-0.4754	0.0121	-1.0498	0.0727	-4.6539	0.1734	0.1791	0.0550
2	0	0.8578	-0.5939	0.0128	-1.1613	0.0784	-5.4312	0.1892	0.4459	0.0725
2	0	0.9100	-0.6882	0.0148	-1.2231	0.0904	-6.2273	0.2049	0.0741	0.1796
2	0	0.9727	-0.8111	0.0161	-1.3202	0.0934	-7.0473	0.2233	0.6337	0.0594

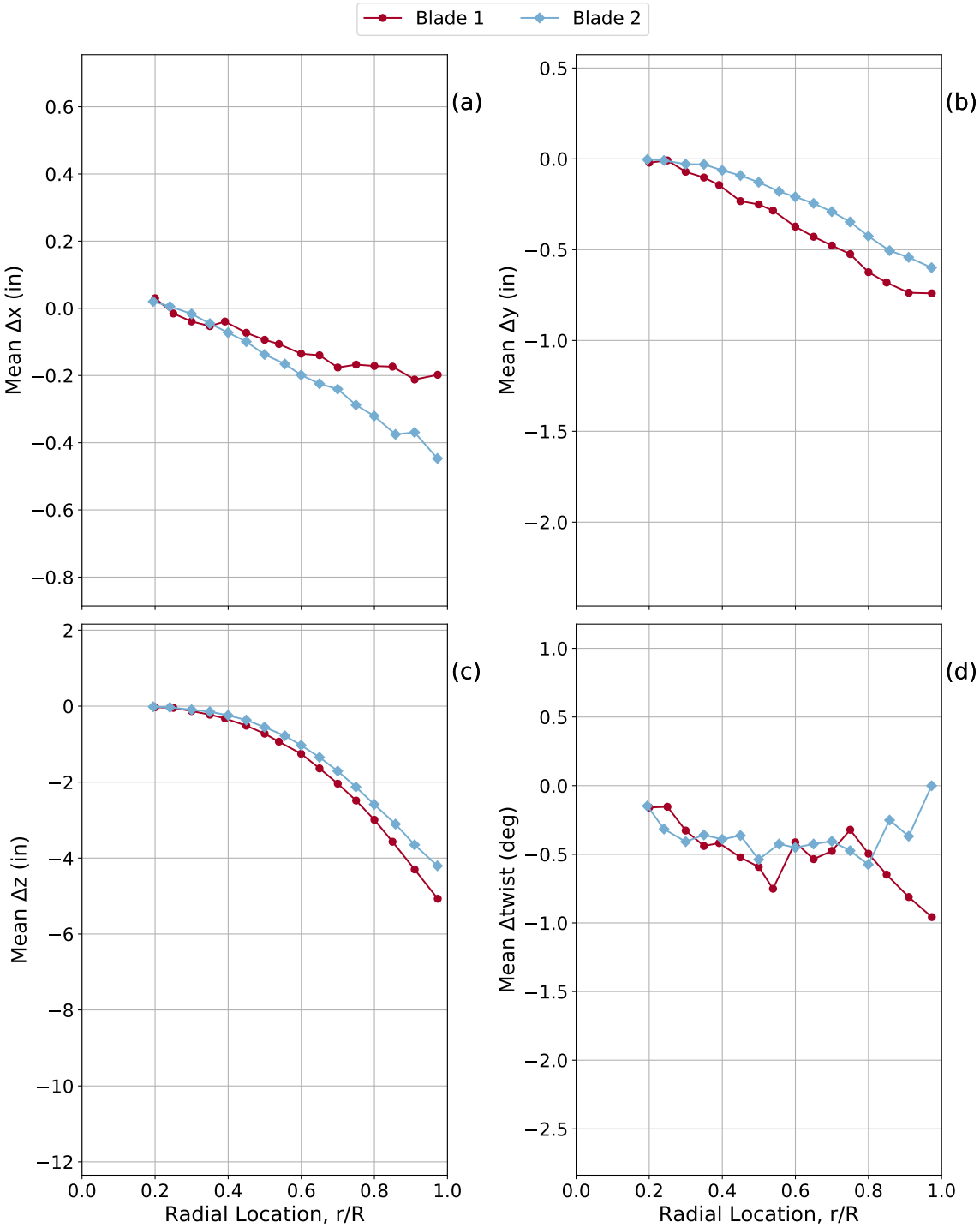


Figure 4.11-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0301	0.0044	-0.0211	0.0020	-0.0288	0.0073	-0.1589	0.0729
1	4.92	0.2499	-0.0154	0.0028	-0.0086	0.0041	-0.0457	0.0092	-0.1538	0.1413
1	4.92	0.2998	-0.0392	0.0024	-0.0710	0.0075	-0.1297	0.0223	-0.3267	0.1718
1	4.92	0.3498	-0.0530	0.0028	-0.1028	0.0138	-0.2249	0.0365	-0.4392	0.1496
1	4.92	0.3913	-0.0394	0.0026	-0.1440	0.0183	-0.3237	0.0477	-0.4181	0.1583
1	4.92	0.4496	-0.0729	0.0040	-0.2327	0.0267	-0.5136	0.0672	-0.5223	0.1517
1	4.92	0.4997	-0.0937	0.0053	-0.2509	0.0342	-0.7239	0.0827	-0.5921	0.1599
1	4.92	0.5387	-0.1062	0.0060	-0.2845	0.0406	-0.9353	0.0953	-0.7508	0.1561
1	4.92	0.5996	-0.1351	0.0076	-0.3728	0.0492	-1.2529	0.1148	-0.4124	0.1547
1	4.92	0.6498	-0.1398	0.0082	-0.4287	0.0551	-1.6385	0.1291	-0.5352	0.1573
1	4.92	0.6998	-0.1762	0.0103	-0.4771	0.0637	-2.0407	0.1473	-0.4750	0.1619
1	4.92	0.7500	-0.1676	0.0128	-0.5246	0.0698	-2.4846	0.1628	-0.3212	0.1785
1	4.92	0.8001	-0.1717	0.0130	-0.6240	0.0762	-2.9927	0.1795	-0.4951	0.1679
1	4.92	0.8497	-0.1737	0.0140	-0.6810	0.0824	-3.5688	0.1932	-0.6479	0.1633
1	4.92	0.9102	-0.2121	0.0153	-0.7371	0.0914	-4.2991	0.2137	-0.8112	0.1445
1	4.92	0.9734	-0.1979	0.0189	-0.7403	0.0986	-5.0701	0.2276	-0.9573	0.1536
2	4.92	0.1949	0.0202	0.0027	-0.0037	0.0015	-0.0168	0.0031	-0.1478	0.0280
2	4.92	0.2405	0.0057	0.0016	-0.0090	0.0014	-0.0324	0.0055	-0.3158	0.0455
2	4.92	0.2999	-0.0166	0.0010	-0.0289	0.0043	-0.0935	0.0114	-0.4077	0.0648
2	4.92	0.3498	-0.0454	0.0013	-0.0305	0.0075	-0.1458	0.0171	-0.3586	0.0519
2	4.92	0.3998	-0.0725	0.0024	-0.0632	0.0103	-0.2425	0.0273	-0.3906	0.0479
2	4.92	0.4496	-0.0993	0.0014	-0.0916	0.0125	-0.3668	0.0329	-0.3631	0.0502
2	4.92	0.4995	-0.1375	0.0016	-0.1289	0.0158	-0.5523	0.0415	-0.5375	0.0470
2	4.92	0.5551	-0.1656	0.0016	-0.1791	0.0187	-0.7794	0.0495	-0.4249	0.0513
2	4.92	0.5996	-0.1987	0.0010	-0.2090	0.0215	-1.0298	0.0554	-0.4506	0.0562
2	4.92	0.6497	-0.2246	0.0016	-0.2451	0.0233	-1.3463	0.0627	-0.4249	0.0557
2	4.92	0.6996	-0.2405	0.0019	-0.2908	0.0274	-1.7081	0.0711	-0.4046	0.0514
2	4.92	0.7495	-0.2877	0.0017	-0.3473	0.0317	-2.1279	0.0776	-0.4735	0.0629
2	4.92	0.7996	-0.3206	0.0022	-0.4255	0.0346	-2.5876	0.0841	-0.5748	0.0517
2	4.92	0.8578	-0.3752	0.0022	-0.5053	0.0397	-3.1045	0.0959	-0.2509	0.0617
2	4.92	0.9100	-0.3693	0.0033	-0.5422	0.0450	-3.6498	0.1022	-0.3681	0.1096
2	4.92	0.9727	-0.4469	0.0044	-0.5990	0.0484	-4.2043	0.1145	-0.0008	0.0709

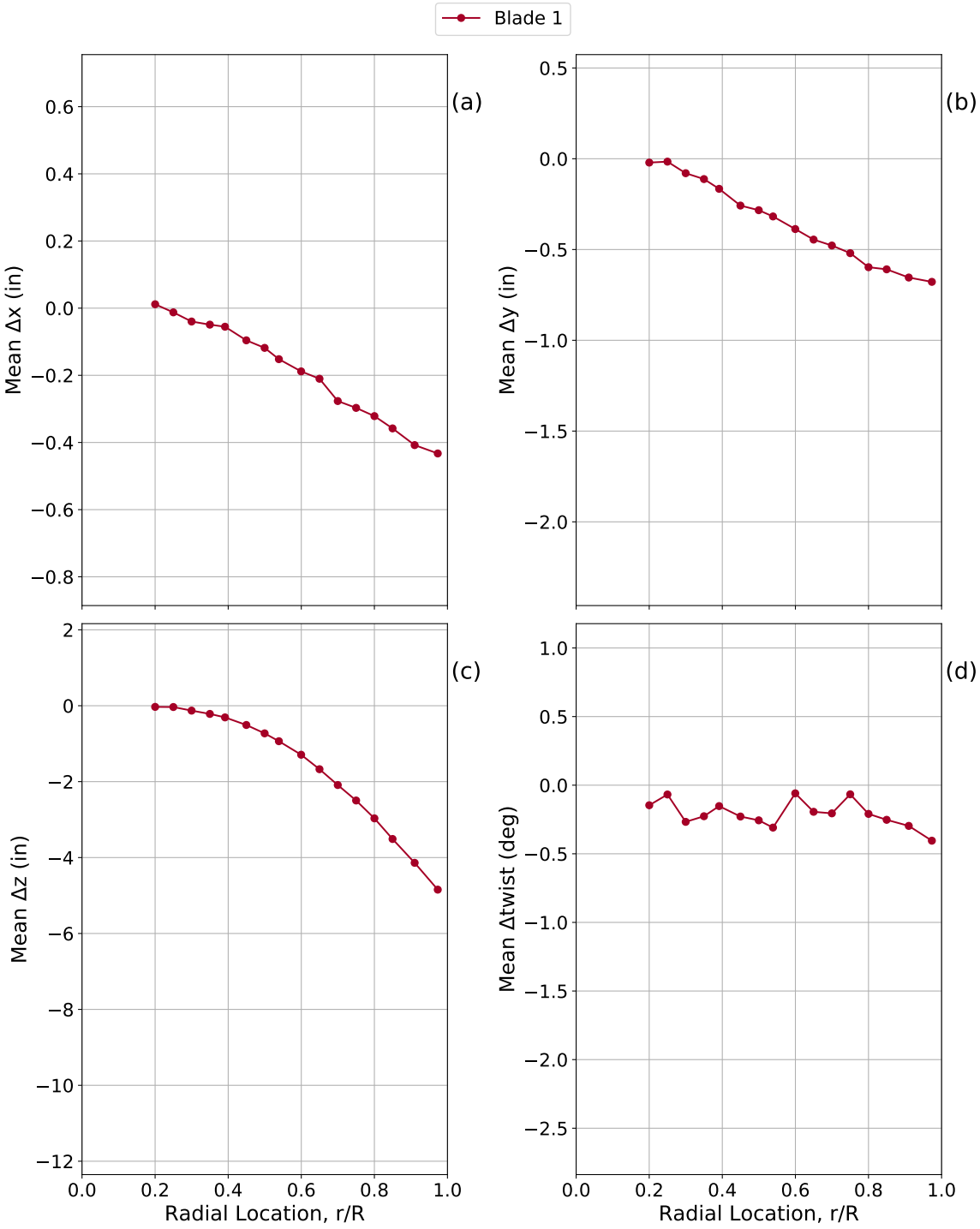


Figure 4.11-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0116	0.0027	-0.0211	0.0017	-0.0307	0.0039	-0.1462	0.0314
1	15.12	0.2499	-0.0125	0.0021	-0.0159	0.0030	-0.0342	0.0062	-0.0678	0.0853
1	15.12	0.2998	-0.0398	0.0012	-0.0796	0.0059	-0.1289	0.0118	-0.2673	0.0812
1	15.12	0.3498	-0.0491	0.0015	-0.1120	0.0102	-0.2156	0.0210	-0.2263	0.0730
1	15.12	0.3913	-0.0553	0.0018	-0.1657	0.0143	-0.3074	0.0277	-0.1524	0.0745
1	15.12	0.4496	-0.0958	0.0017	-0.2579	0.0189	-0.5072	0.0409	-0.2284	0.0784
1	15.12	0.4997	-0.1183	0.0017	-0.2834	0.0232	-0.7279	0.0538	-0.2562	0.0696
1	15.12	0.5387	-0.1519	0.0027	-0.3178	0.0271	-0.9349	0.0646	-0.3091	0.0632
1	15.12	0.5996	-0.1883	0.0022	-0.3872	0.0325	-1.2912	0.0799	-0.0595	0.0678
1	15.12	0.6498	-0.2102	0.0023	-0.4453	0.0376	-1.6724	0.0934	-0.1940	0.0620
1	15.12	0.6998	-0.2766	0.0026	-0.4779	0.0435	-2.0888	0.1041	-0.2053	0.0714
1	15.12	0.7500	-0.2970	0.0030	-0.5200	0.0474	-2.4963	0.1168	-0.0665	0.0676
1	15.12	0.8001	-0.3215	0.0028	-0.5974	0.0534	-2.9673	0.1280	-0.2093	0.0674
1	15.12	0.8497	-0.3581	0.0032	-0.6091	0.0589	-3.5106	0.1392	-0.2524	0.0623
1	15.12	0.9102	-0.4078	0.0035	-0.6543	0.0651	-4.1388	0.1538	-0.2967	0.0881
1	15.12	0.9734	-0.4327	0.0044	-0.6781	0.0738	-4.8451	0.1698	-0.4045	0.0642

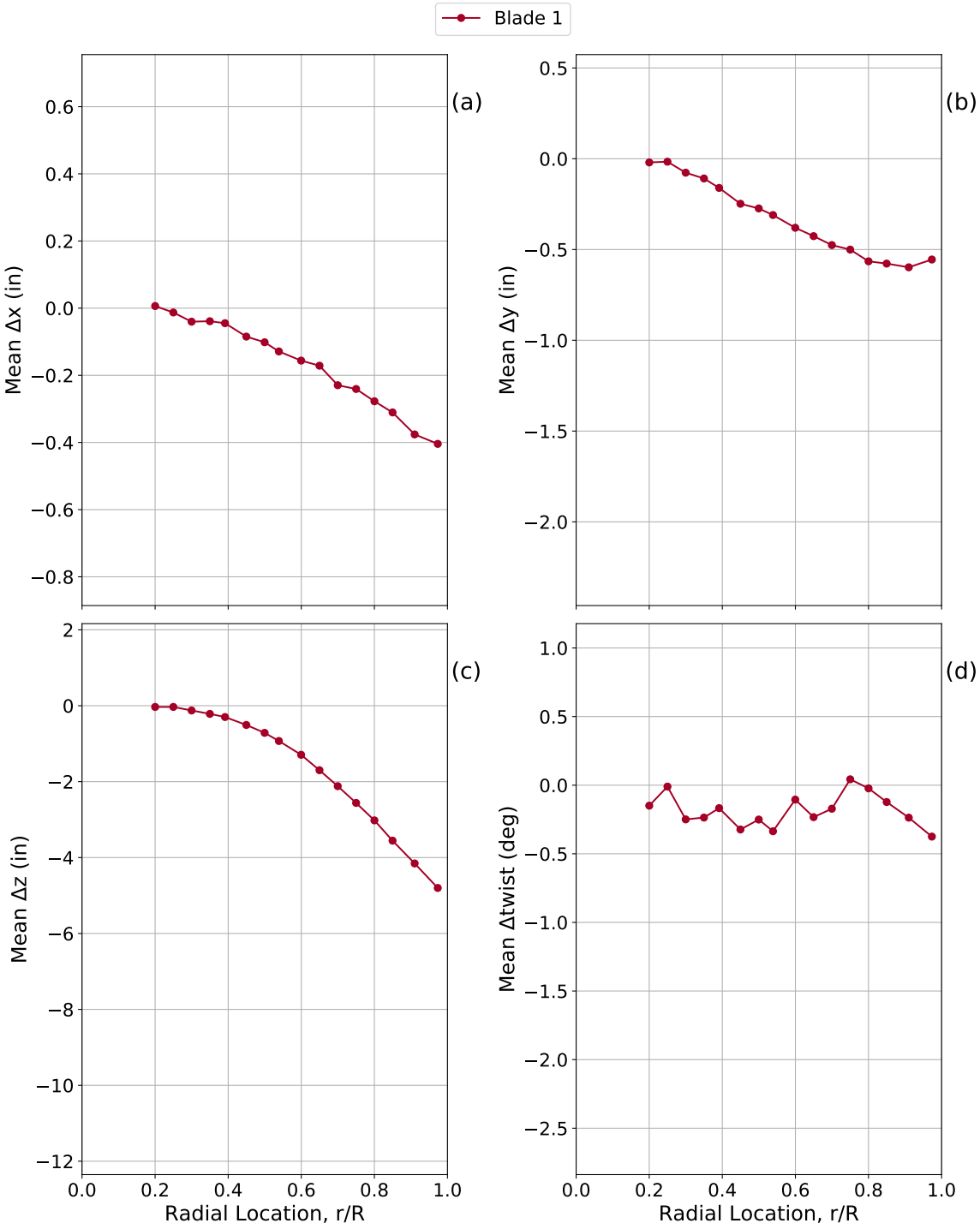


Figure 4.11-5. 30° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0063	0.0026	-0.0203	0.0009	-0.0322	0.0026	-0.1492	0.0263
1	29.88	0.2499	-0.0129	0.0011	-0.0162	0.0018	-0.0319	0.0042	-0.0103	0.0465
1	29.88	0.2998	-0.0403	0.0012	-0.0767	0.0032	-0.1252	0.0087	-0.2493	0.0592
1	29.88	0.3498	-0.0389	0.0013	-0.1086	0.0058	-0.2146	0.0140	-0.2360	0.0643
1	29.88	0.3913	-0.0448	0.0018	-0.1607	0.0079	-0.2976	0.0194	-0.1672	0.0580
1	29.88	0.4496	-0.0847	0.0027	-0.2480	0.0113	-0.5067	0.0274	-0.3229	0.0690
1	29.88	0.4997	-0.1016	0.0029	-0.2736	0.0133	-0.7144	0.0363	-0.2505	0.0653
1	29.88	0.5387	-0.1289	0.0035	-0.3100	0.0151	-0.9291	0.0444	-0.3357	0.0525
1	29.88	0.5996	-0.1562	0.0031	-0.3802	0.0186	-1.2931	0.0554	-0.1050	0.0587
1	29.88	0.6498	-0.1714	0.0028	-0.4263	0.0215	-1.6991	0.0657	-0.2330	0.0528
1	29.88	0.6998	-0.2295	0.0030	-0.4755	0.0241	-2.1196	0.0738	-0.1715	0.0603
1	29.88	0.7500	-0.2407	0.0031	-0.5004	0.0267	-2.5608	0.0828	0.0428	0.0553
1	29.88	0.8001	-0.2773	0.0028	-0.5650	0.0288	-3.0207	0.0917	-0.0231	0.0560
1	29.88	0.8497	-0.3105	0.0035	-0.5775	0.0309	-3.5545	0.1046	-0.1227	0.0547
1	29.88	0.9102	-0.3760	0.0038	-0.5979	0.0344	-4.1551	0.1225	-0.2366	0.0650
1	29.88	0.9734	-0.4041	0.0041	-0.5550	0.0369	-4.8008	0.1421	-0.3747	0.0743

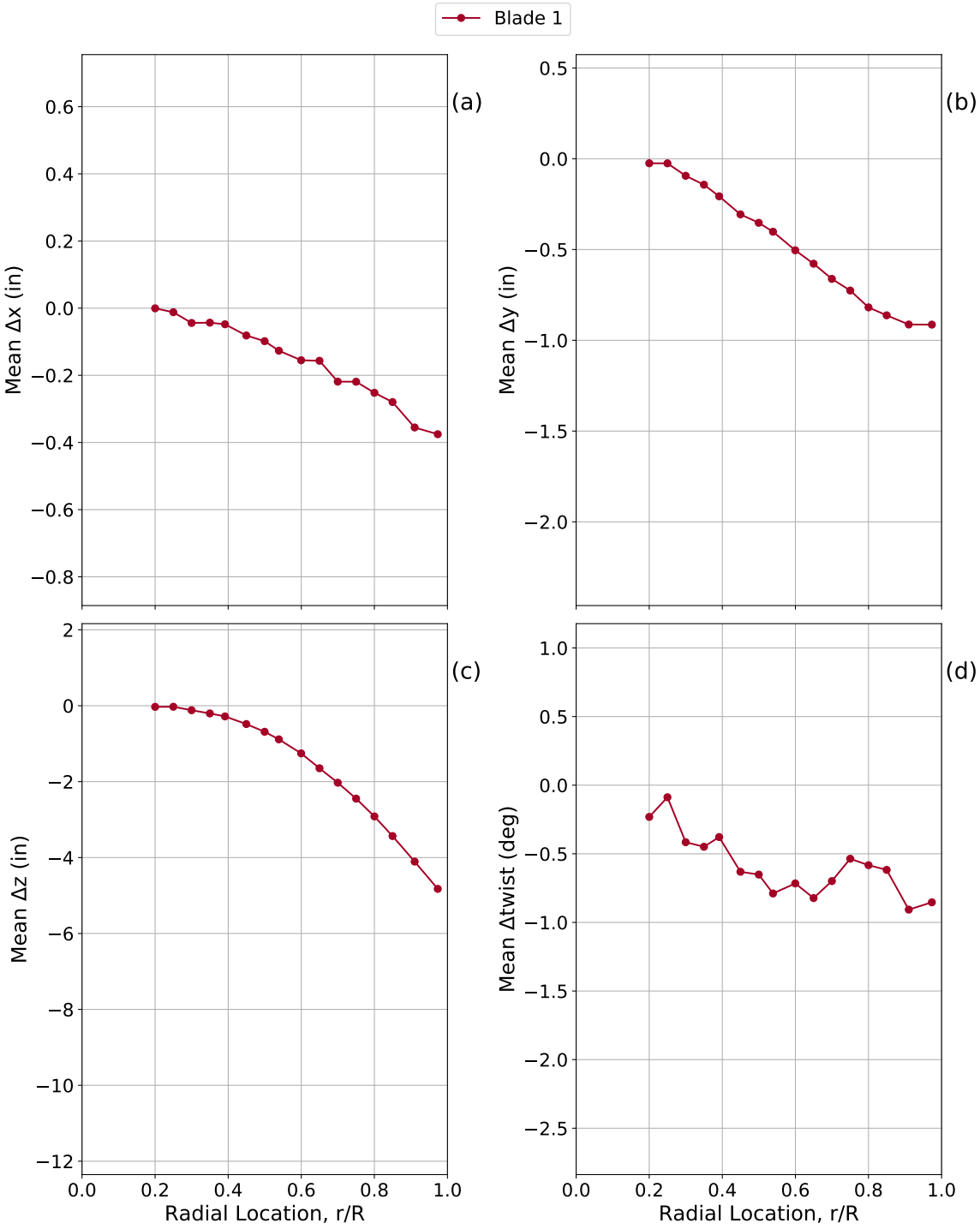


Figure 4.11-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0005	0.0019	-0.0249	0.0009	-0.0299	0.0027	-0.2312	0.0225
1	45	0.2499	-0.0121	0.0018	-0.0253	0.0014	-0.0270	0.0045	-0.0879	0.0577
1	45	0.2998	-0.0440	0.0008	-0.0940	0.0033	-0.1185	0.0093	-0.4156	0.0586
1	45	0.3498	-0.0432	0.0011	-0.1429	0.0050	-0.2028	0.0153	-0.4487	0.0554
1	45	0.3913	-0.0480	0.0021	-0.2068	0.0073	-0.2817	0.0216	-0.3781	0.0561
1	45	0.4496	-0.0814	0.0023	-0.3063	0.0101	-0.4827	0.0298	-0.6310	0.0492
1	45	0.4997	-0.0983	0.0021	-0.3529	0.0131	-0.6864	0.0379	-0.6513	0.0559
1	45	0.5387	-0.1267	0.0014	-0.4019	0.0154	-0.8863	0.0433	-0.7892	0.0540
1	45	0.5996	-0.1551	0.0020	-0.5043	0.0192	-1.2549	0.0513	-0.7159	0.0533
1	45	0.6498	-0.1567	0.0024	-0.5782	0.0226	-1.6472	0.0574	-0.8227	0.0528
1	45	0.6998	-0.2188	0.0031	-0.6617	0.0262	-2.0278	0.0638	-0.6989	0.0519
1	45	0.7500	-0.2191	0.0033	-0.7260	0.0299	-2.4467	0.0659	-0.5361	0.0668
1	45	0.8001	-0.2520	0.0035	-0.8188	0.0326	-2.9167	0.0748	-0.5831	0.0542
1	45	0.8497	-0.2797	0.0040	-0.8625	0.0364	-3.4333	0.0825	-0.6172	0.0476
1	45	0.9102	-0.3553	0.0035	-0.9130	0.0407	-4.1061	0.0905	-0.9069	0.0543
1	45	0.9734	-0.3754	0.0035	-0.9136	0.0455	-4.8246	0.1005	-0.8537	0.0462

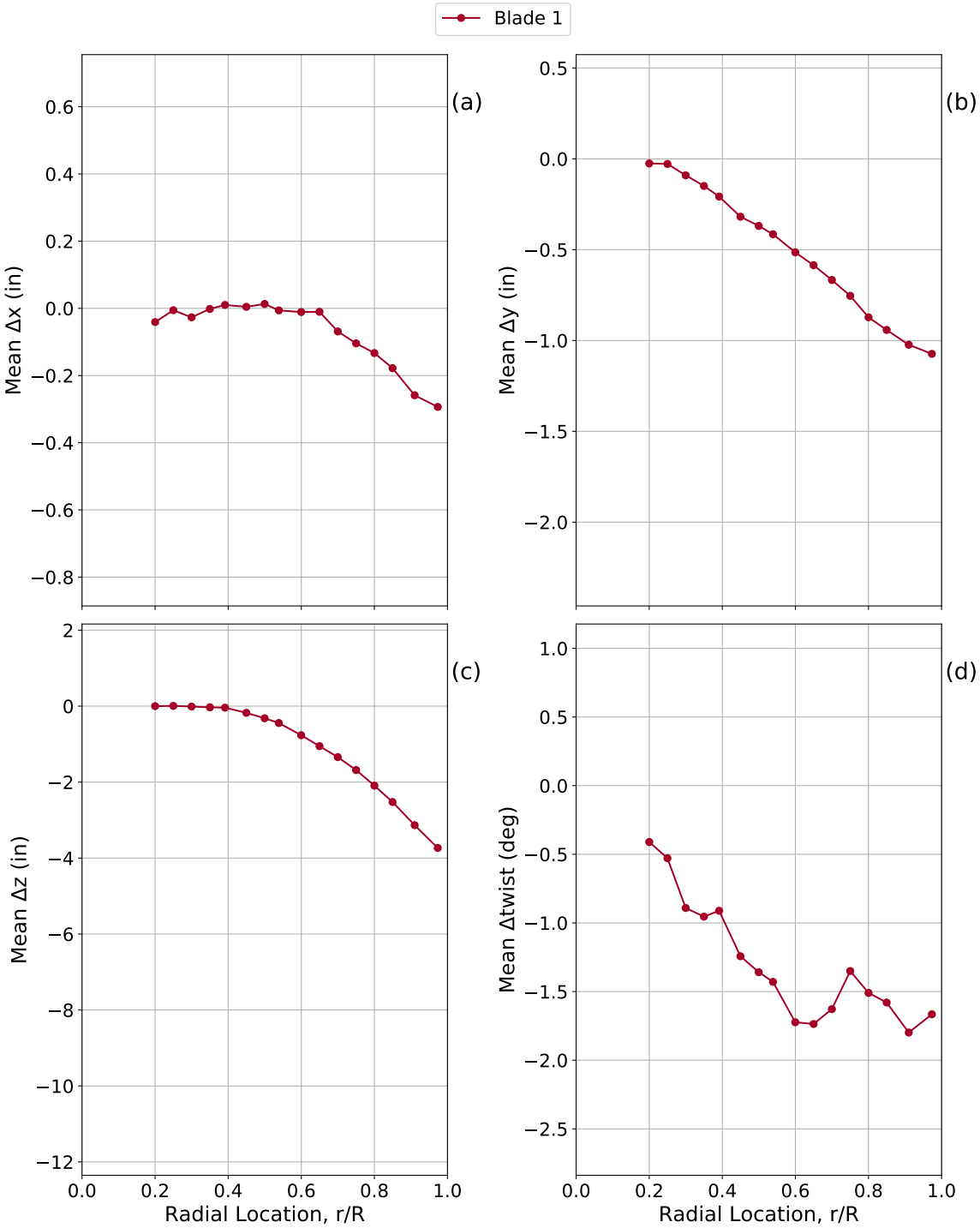


Figure 4.11-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0409	0.0021	-0.0252	0.0010	-0.0003	0.0037	-0.4105	0.0229
1	60.12	0.2499	-0.0056	0.0016	-0.0280	0.0015	0.0064	0.0037	-0.5284	0.0514
1	60.12	0.2998	-0.0267	0.0012	-0.0905	0.0034	-0.0113	0.0106	-0.8909	0.0563
1	60.12	0.3498	-0.0018	0.0021	-0.1494	0.0062	-0.0311	0.0189	-0.9541	0.0532
1	60.12	0.3913	0.0101	0.0024	-0.2076	0.0082	-0.0398	0.0239	-0.9113	0.0513
1	60.12	0.4496	0.0045	0.0043	-0.3187	0.0116	-0.1758	0.0328	-1.2426	0.0492
1	60.12	0.4997	0.0131	0.0041	-0.3693	0.0140	-0.3199	0.0391	-1.3587	0.0547
1	60.12	0.5387	-0.0061	0.0036	-0.4150	0.0163	-0.4441	0.0460	-1.4292	0.0587
1	60.12	0.5996	-0.0110	0.0044	-0.5146	0.0198	-0.7652	0.0562	-1.7234	0.0519
1	60.12	0.6498	-0.0103	0.0046	-0.5855	0.0231	-1.0535	0.0620	-1.7361	0.0528
1	60.12	0.6998	-0.0688	0.0047	-0.6669	0.0261	-1.3415	0.0683	-1.6277	0.0502
1	60.12	0.7500	-0.1042	0.0052	-0.7541	0.0328	-1.6836	0.0824	-1.3504	0.0644
1	60.12	0.8001	-0.1331	0.0052	-0.8723	0.0365	-2.0928	0.0903	-1.5095	0.0681
1	60.12	0.8497	-0.1780	0.0055	-0.9419	0.0389	-2.5242	0.0966	-1.5798	0.0562
1	60.12	0.9102	-0.2587	0.0059	-1.0235	0.0429	-3.1337	0.1052	-1.7982	0.0598
1	60.12	0.9734	-0.2934	0.0056	-1.0736	0.0467	-3.7347	0.1149	-1.6653	0.0495

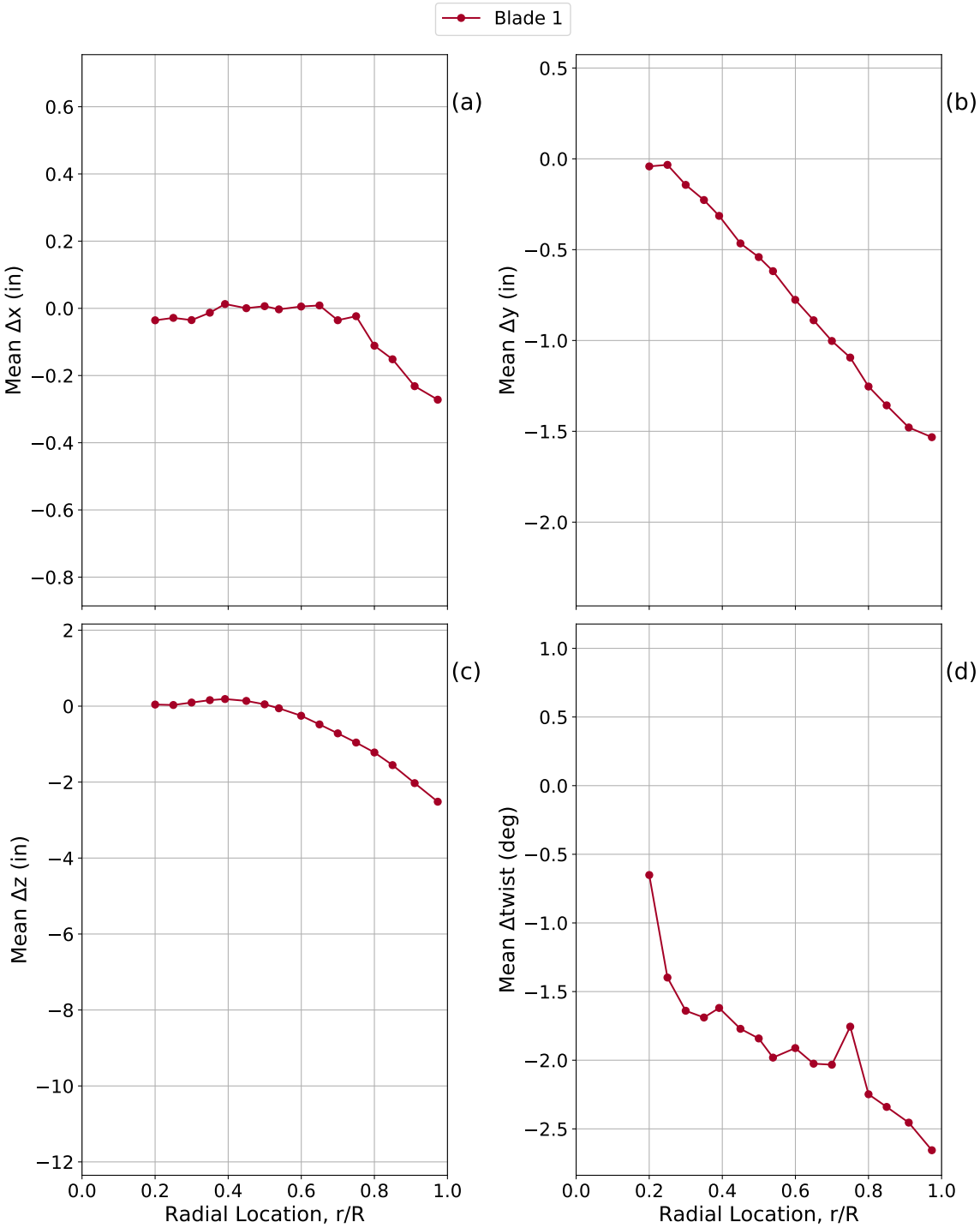


Figure 4.11-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0356	0.0017	-0.0415	0.0012	0.0417	0.0035	-0.6510	0.0221
1	74.88	0.2499	-0.0284	0.0016	-0.0331	0.0025	0.0298	0.0036	-1.3979	0.0548
1	74.88	0.2998	-0.0350	0.0016	-0.1433	0.0039	0.0946	0.0101	-1.6396	0.0534
1	74.88	0.3498	-0.0130	0.0023	-0.2268	0.0064	0.1579	0.0160	-1.6889	0.0497
1	74.88	0.3913	0.0128	0.0035	-0.3139	0.0093	0.1869	0.0212	-1.6193	0.0488
1	74.88	0.4496	0.0004	0.0046	-0.4655	0.0109	0.1378	0.0272	-1.7712	0.0562
1	74.88	0.4997	0.0064	0.0051	-0.5409	0.0145	0.0479	0.0332	-1.8415	0.0481
1	74.88	0.5387	-0.0030	0.0071	-0.6183	0.0161	-0.0569	0.0357	-1.9809	0.0682
1	74.88	0.5996	0.0054	0.0074	-0.7762	0.0189	-0.2530	0.0459	-1.9115	0.0449
1	74.88	0.6498	0.0086	0.0086	-0.8886	0.0221	-0.4810	0.0513	-2.0252	0.0579
1	74.88	0.6998	-0.0354	0.0072	-1.0026	0.0253	-0.7169	0.0549	-2.0327	0.0593
1	74.88	0.7500	-0.0234	0.0117	-1.0939	0.0313	-0.9586	0.0638	-1.7554	0.1292
1	74.88	0.8001	-0.1113	0.0027	-1.2534	0.0345	-1.2200	0.0457	-2.2479	0.0644
1	74.88	0.8497	-0.1516	0.0033	-1.3571	0.0371	-1.5527	0.0517	-2.3400	0.0502
1	74.88	0.9102	-0.2317	0.0038	-1.4789	0.0427	-2.0273	0.0581	-2.4546	0.0521
1	74.88	0.9734	-0.2719	0.0043	-1.5323	0.0474	-2.5165	0.0704	-2.6556	0.0568

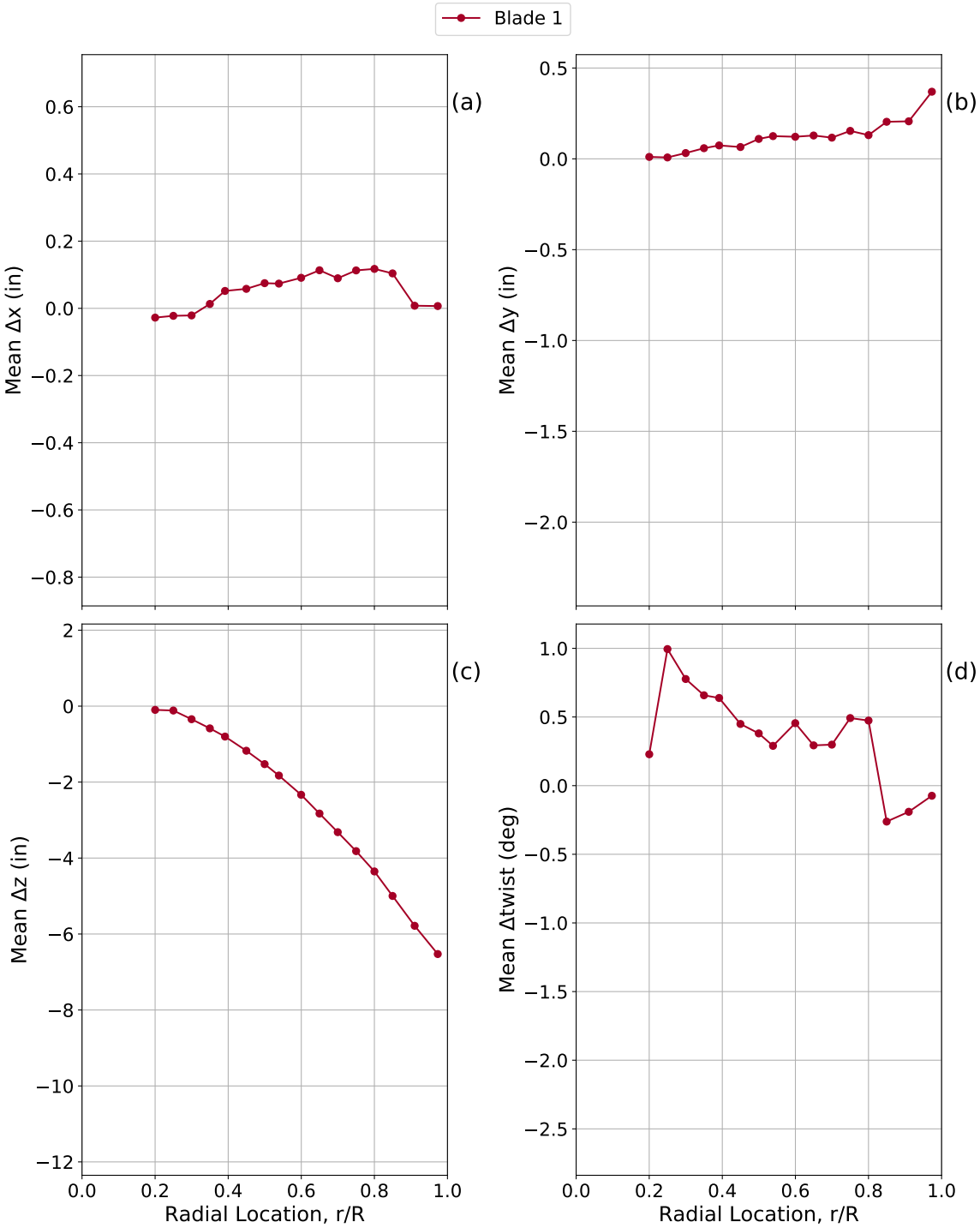


Figure 4.11-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0276	0.0029	0.0106	0.0026	-0.0985	0.0037	0.2285	0.0211
1	80.16	0.2499	-0.0223	0.0014	0.0077	0.0021	-0.1154	0.0036	0.9947	0.0799
1	80.16	0.2998	-0.0211	0.0020	0.0318	0.0084	-0.3443	0.0114	0.7767	0.0651
1	80.16	0.3498	0.0131	0.0015	0.0586	0.0133	-0.5853	0.0177	0.6581	0.0652
1	80.16	0.3913	0.0518	0.0016	0.0739	0.0180	-0.8014	0.0239	0.6385	0.0588
1	80.16	0.4496	0.0580	0.0019	0.0650	0.0243	-1.1744	0.0311	0.4493	0.0595
1	80.16	0.4997	0.0749	0.0020	0.1097	0.0291	-1.5269	0.0373	0.3804	0.0627
1	80.16	0.5387	0.0736	0.0025	0.1251	0.0333	-1.8271	0.0415	0.2897	0.0626
1	80.16	0.5996	0.0909	0.0030	0.1215	0.0392	-2.3339	0.0507	0.4549	0.0672
1	80.16	0.6498	0.1133	0.0038	0.1285	0.0445	-2.8282	0.0586	0.2933	0.0543
1	80.16	0.6998	0.0895	0.0036	0.1167	0.0500	-3.3182	0.0655	0.2986	0.0611
1	80.16	0.7500	0.1129	0.0043	0.1539	0.0546	-3.8175	0.0730	0.4922	0.0767
1	80.16	0.8001	0.1174	0.0097	0.1305	0.0602	-4.3525	0.0822	0.4740	0.0998
1	80.16	0.8497	0.1040	0.0026	0.2040	0.0653	-4.9976	0.0994	-0.2618	0.2096
1	80.16	0.9102	0.0078	0.0030	0.2066	0.0740	-5.7835	0.0663	-0.1905	0.0720
1	80.16	0.9734	0.0068	0.0062	0.3695	0.0781	-6.5274	0.0704	-0.0737	0.0899

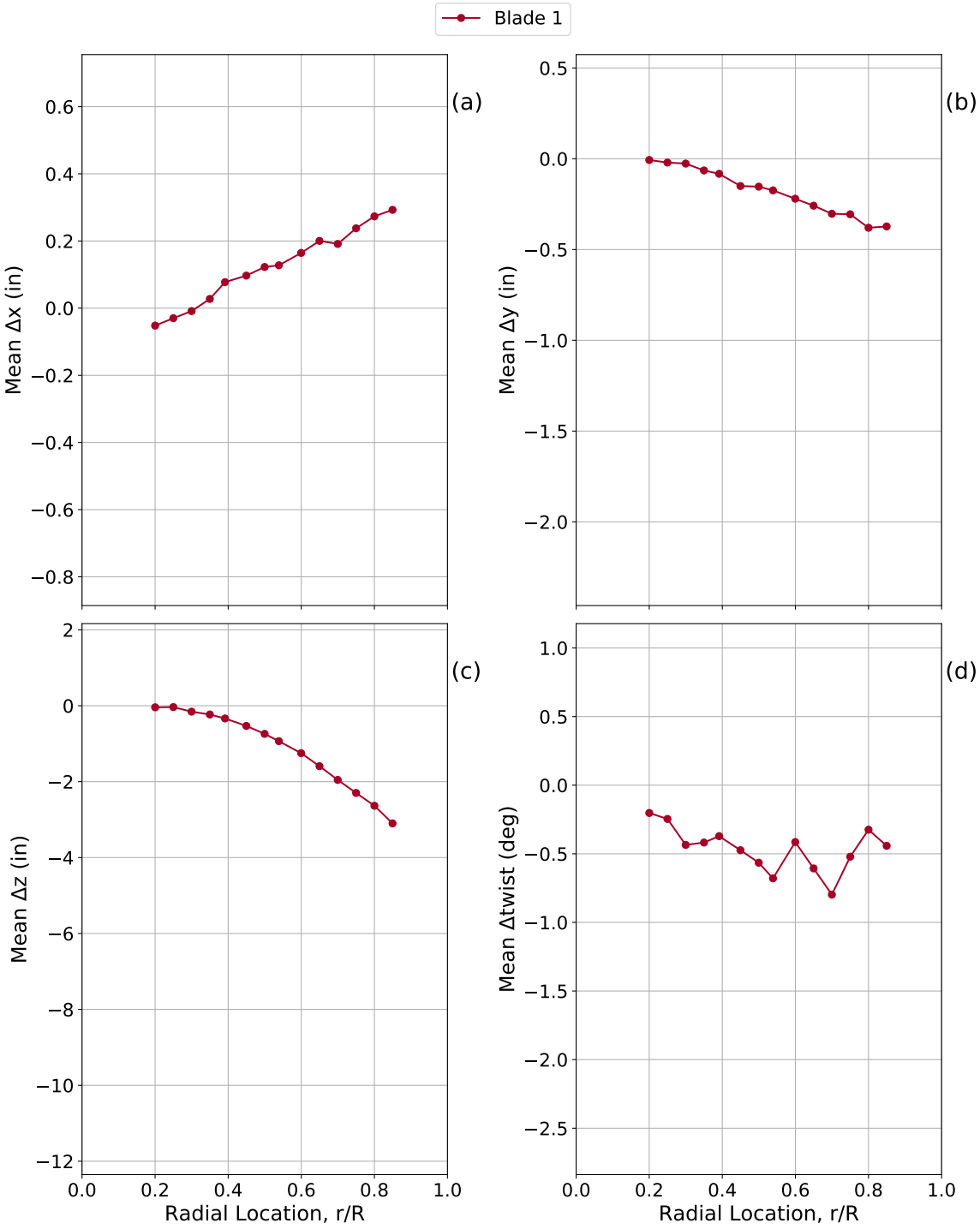


Figure 4.11-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0520	0.0012	-0.0070	0.0006	-0.0416	0.0010	-0.2026	0.0234
1	85.08	0.2499	-0.0299	0.0011	-0.0209	0.0015	-0.0359	0.0036	-0.2461	0.0374
1	85.08	0.2998	-0.0088	0.0012	-0.0266	0.0027	-0.1563	0.0051	-0.4351	0.0521
1	85.08	0.3498	0.0275	0.0013	-0.0644	0.0045	-0.2309	0.0078	-0.4181	0.0475
1	85.08	0.3913	0.0775	0.0016	-0.0830	0.0067	-0.3357	0.0127	-0.3715	0.0404
1	85.08	0.4496	0.0969	0.0012	-0.1502	0.0085	-0.5316	0.0169	-0.4739	0.0500
1	85.08	0.4997	0.1226	0.0011	-0.1537	0.0100	-0.7410	0.0219	-0.5650	0.0450
1	85.08	0.5387	0.1276	0.0018	-0.1742	0.0118	-0.9339	0.0270	-0.6791	0.0527
1	85.08	0.5996	0.1645	0.0018	-0.2202	0.0141	-1.2506	0.0346	-0.4144	0.0313
1	85.08	0.6498	0.2003	0.0024	-0.2587	0.0169	-1.5925	0.0411	-0.6065	0.0536
1	85.08	0.6998	0.1913	0.0025	-0.3029	0.0187	-1.9543	0.0426	-0.7977	0.0784
1	85.08	0.7500	0.2378	0.0028	-0.3058	0.0194	-2.2971	0.0524	-0.5213	0.0458
1	85.08	0.8001	0.2734	0.0052	-0.3802	0.0221	-2.6348	0.0651	-0.3243	0.1006
1	85.08	0.8497	0.2928	0.0051	-0.3728	0.0237	-3.1000	0.0652	-0.4420	0.0862

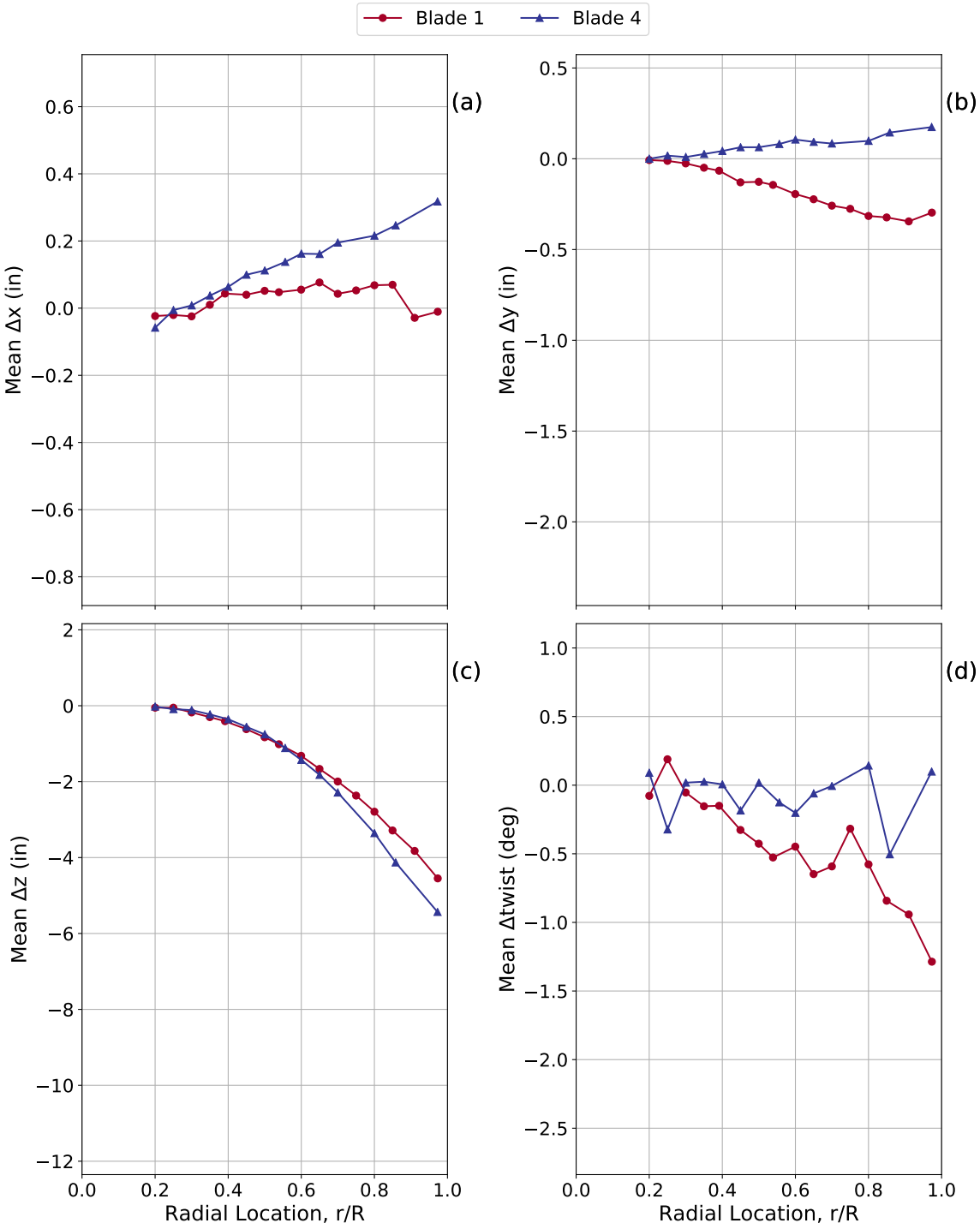


Figure 4.11-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0235	0.0026	-0.0072	0.0024	-0.0511	0.0063	-0.0779	0.0318
1	90	0.2499	-0.0204	0.0027	-0.0117	0.0021	-0.0519	0.0040	0.1889	0.0678
1	90	0.2998	-0.0244	0.0023	-0.0257	0.0071	-0.1764	0.0167	-0.0534	0.0671
1	90	0.3498	0.0101	0.0027	-0.0494	0.0120	-0.3001	0.0267	-0.1536	0.0623
1	90	0.3913	0.0434	0.0027	-0.0659	0.0154	-0.4075	0.0330	-0.1502	0.0679
1	90	0.4496	0.0399	0.0025	-0.1300	0.0203	-0.6172	0.0424	-0.3263	0.0639
1	90	0.4997	0.0517	0.0024	-0.1271	0.0248	-0.8305	0.0511	-0.4264	0.0581
1	90	0.5387	0.0475	0.0023	-0.1441	0.0281	-1.0142	0.0569	-0.5270	0.0632
1	90	0.5996	0.0551	0.0023	-0.1944	0.0342	-1.3190	0.0675	-0.4478	0.0603
1	90	0.6498	0.0765	0.0029	-0.2232	0.0387	-1.6655	0.0749	-0.6479	0.0745
1	90	0.6998	0.0428	0.0027	-0.2585	0.0435	-1.9968	0.0846	-0.5920	0.0667
1	90	0.7500	0.0529	0.0045	-0.2758	0.0445	-2.3674	0.0949	-0.3173	0.0572
1	90	0.8001	0.0682	0.0036	-0.3152	0.0535	-2.7916	0.1062	-0.5772	0.0691
1	90	0.8497	0.0697	0.0036	-0.3232	0.0588	-3.2860	0.1140	-0.8421	0.0742
1	90	0.9102	-0.0288	0.0041	-0.3450	0.0717	-3.8249	0.0959	-0.9422	0.0682
1	90	0.9734	-0.0106	0.0032	-0.2967	0.0772	-4.5486	0.1102	-1.2865	0.0514
4	90.35	0.2001	-0.0582	0.0008	-0.0002	0.0006	-0.0224	0.0014	0.0899	0.0120
4	90.35	0.2502	-0.0057	0.0006	0.0171	0.0012	-0.0906	0.0029	-0.3229	0.0231
4	90.35	0.3001	0.0081	0.0007	0.0092	0.0022	-0.1153	0.0046	0.0184	0.0272
4	90.35	0.3502	0.0375	0.0011	0.0261	0.0039	-0.2296	0.0084	0.0251	0.0199
4	90.35	0.4002	0.0634	0.0009	0.0427	0.0059	-0.3576	0.0125	0.0062	0.0265
4	90.35	0.4500	0.0995	0.0014	0.0633	0.0077	-0.5564	0.0166	-0.1847	0.0220
4	90.35	0.5001	0.1123	0.0016	0.0634	0.0099	-0.7556	0.0196	0.0175	0.0291
4	90.35	0.5560	0.1377	0.0023	0.0812	0.0125	-1.1158	0.0243	-0.1256	0.0410
4	90.35	0.6001	0.1622	0.0016	0.1056	0.0152	-1.4282	0.0275	-0.2020	0.0358
4	90.35	0.6501	0.1612	0.0020	0.0929	0.0181	-1.8228	0.0311	-0.0604	0.0444
4	90.35	0.6999	0.1951	0.0025	0.0838	0.0208	-2.2882	0.0359	-0.0057	0.0441
4	90.35	0.8002	0.2158	0.0035	0.0983	0.0276	-3.3570	0.0396	0.1431	0.0600
4	90.35	0.8582	0.2464	0.0049	0.1445	0.0326	-4.1303	0.0468	-0.5040	0.1337
4	90.35	0.9728	0.3175	0.0028	0.1744	0.0388	-5.4337	0.0664	0.0989	0.0998

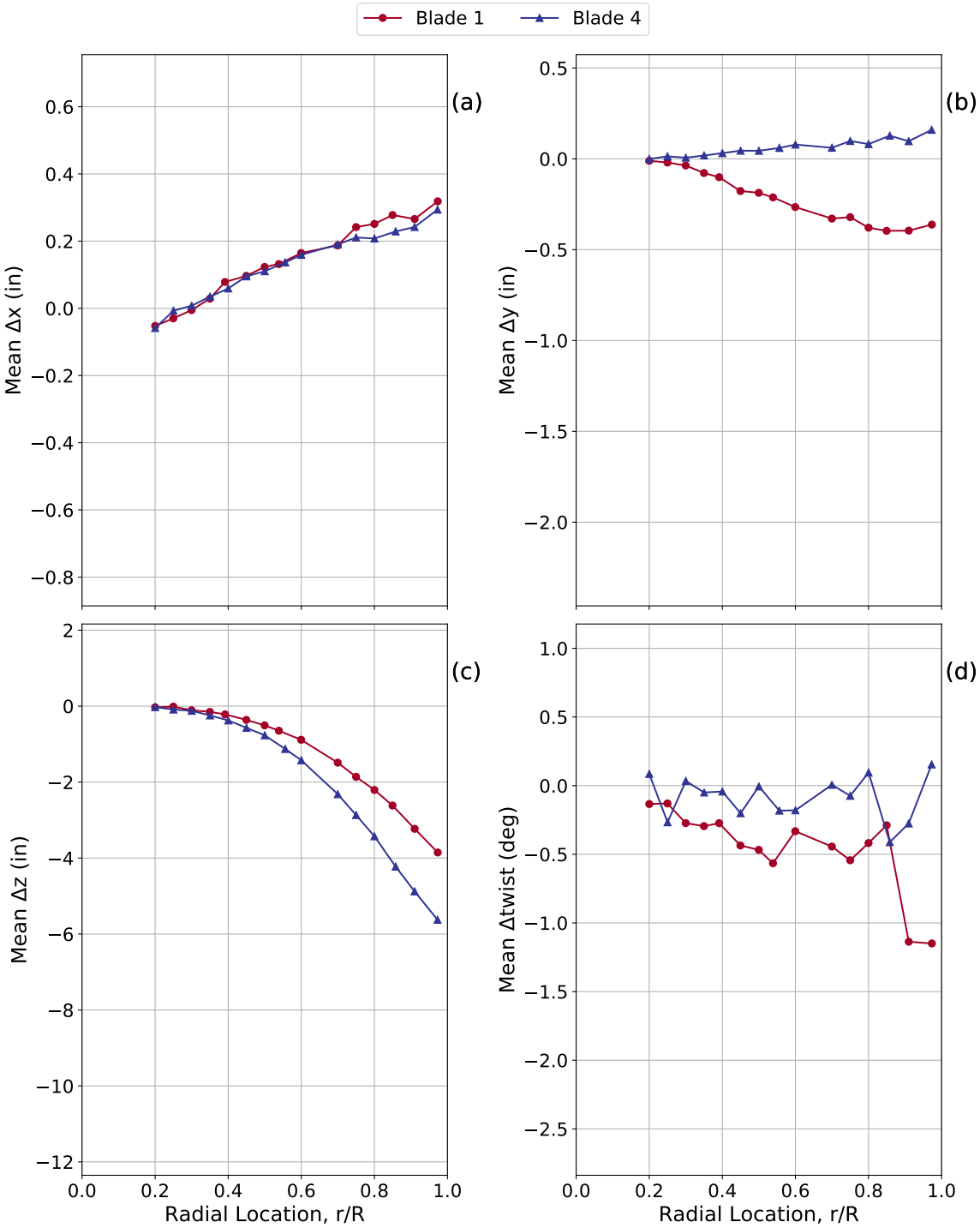


Figure 4.11-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0523	0.0008	-0.0104	0.0006	-0.0307	0.0015	-0.1339	0.0151
1	94.92	0.2499	-0.0299	0.0008	-0.0204	0.0013	-0.0121	0.0031	-0.1297	0.0184
1	94.92	0.2998	-0.0052	0.0007	-0.0367	0.0023	-0.1080	0.0064	-0.2731	0.0304
1	94.92	0.3498	0.0288	0.0006	-0.0779	0.0040	-0.1505	0.0100	-0.2950	0.0275
1	94.92	0.3913	0.0784	0.0013	-0.1011	0.0058	-0.2166	0.0149	-0.2735	0.0263
1	94.92	0.4496	0.0967	0.0014	-0.1772	0.0075	-0.3618	0.0179	-0.4358	0.0279
1	94.92	0.4997	0.1232	0.0017	-0.1870	0.0092	-0.5065	0.0207	-0.4679	0.0293
1	94.92	0.5387	0.1318	0.0021	-0.2121	0.0111	-0.6475	0.0237	-0.5655	0.0211
1	94.92	0.5996	0.1646	0.0016	-0.2653	0.0137	-0.8860	0.0249	-0.3320	0.0323
1	94.92	0.6998	0.1873	0.0018	-0.3288	0.0189	-1.4888	0.0302	-0.4437	0.0303
1	94.92	0.7500	0.2418	0.0027	-0.3210	0.0208	-1.8618	0.0320	-0.5437	0.0327
1	94.92	0.8001	0.2512	0.0027	-0.3790	0.0244	-2.2072	0.0312	-0.4181	0.0523
1	94.92	0.8497	0.2777	0.0026	-0.3965	0.0278	-2.6168	0.0363	-0.2886	0.0483
1	94.92	0.9102	0.2659	0.0089	-0.3952	0.0314	-3.2296	0.0467	-1.1369	0.1462
1	94.92	0.9734	0.3184	0.0054	-0.3619	0.0366	-3.8531	0.0493	-1.1495	0.1099
4	94.92	0.2001	-0.0586	0.0008	-0.0008	0.0005	-0.0261	0.0012	0.0855	0.0134
4	94.92	0.2502	-0.0071	0.0010	0.0137	0.0015	-0.0899	0.0034	-0.2669	0.0229
4	94.92	0.3001	0.0079	0.0007	0.0063	0.0021	-0.1233	0.0066	0.0338	0.0298
4	94.92	0.3502	0.0348	0.0010	0.0184	0.0037	-0.2453	0.0087	-0.0500	0.0325
4	94.92	0.4002	0.0592	0.0013	0.0314	0.0056	-0.3763	0.0156	-0.0429	0.0353
4	94.92	0.4500	0.0952	0.0016	0.0449	0.0076	-0.5712	0.0180	-0.2009	0.0375
4	94.92	0.5001	0.1104	0.0019	0.0443	0.0093	-0.7688	0.0229	-0.0057	0.0328
4	94.92	0.5560	0.1367	0.0022	0.0600	0.0107	-1.1279	0.0260	-0.1822	0.0322
4	94.92	0.6001	0.1591	0.0027	0.0785	0.0123	-1.4264	0.0313	-0.1796	0.0318
4	94.92	0.6999	0.1902	0.0030	0.0609	0.0162	-2.3182	0.0399	0.0061	0.0395
4	94.92	0.7500	0.2109	0.0036	0.0983	0.0189	-2.8674	0.0442	-0.0741	0.0380
4	94.92	0.8002	0.2078	0.0037	0.0811	0.0209	-3.4276	0.0507	0.0952	0.0387
4	94.92	0.8582	0.2288	0.0044	0.1273	0.0245	-4.2261	0.0544	-0.4118	0.0800
4	94.92	0.9101	0.2420	0.0054	0.0970	0.0270	-4.8778	0.0595	-0.2755	0.0718
4	94.92	0.9728	0.2939	0.0050	0.1596	0.0284	-5.6253	0.0738	0.1544	0.0962

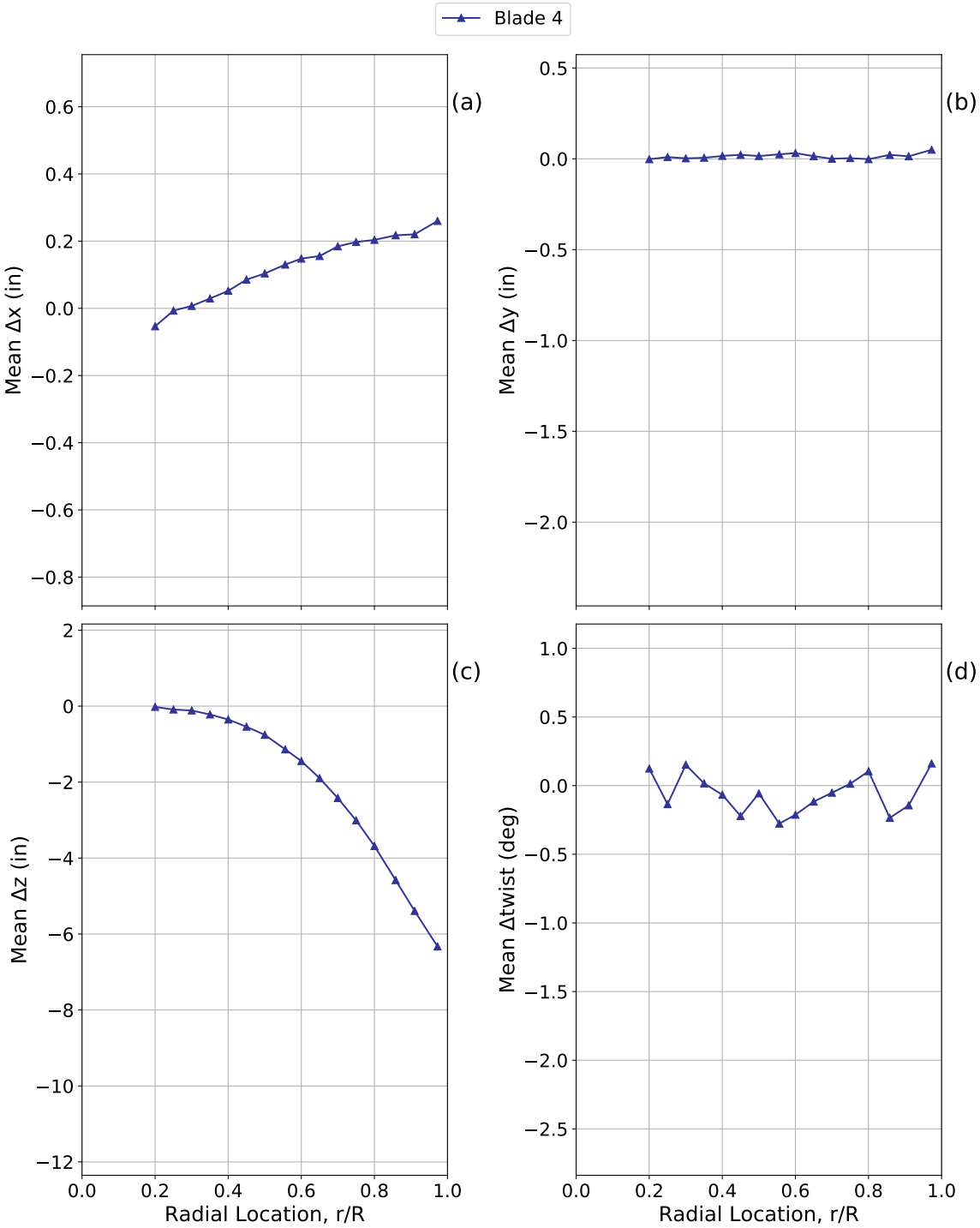


Figure 4.11-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0535	0.0012	-0.0021	0.0004	-0.0202	0.0008	0.1242	0.0126
4	105.12	0.2502	-0.0068	0.0006	0.0098	0.0008	-0.0899	0.0024	-0.1351	0.0187
4	105.12	0.3001	0.0071	0.0009	0.0028	0.0017	-0.1148	0.0035	0.1519	0.0269
4	105.12	0.3502	0.0292	0.0011	0.0058	0.0024	-0.2201	0.0057	0.0160	0.0202
4	105.12	0.4002	0.0521	0.0011	0.0160	0.0041	-0.3519	0.0094	-0.0668	0.0329
4	105.12	0.4500	0.0855	0.0011	0.0224	0.0056	-0.5424	0.0114	-0.2213	0.0292
4	105.12	0.5001	0.1037	0.0013	0.0154	0.0072	-0.7564	0.0146	-0.0568	0.0200
4	105.12	0.5560	0.1301	0.0013	0.0249	0.0090	-1.1384	0.0192	-0.2771	0.0289
4	105.12	0.6001	0.1480	0.0015	0.0316	0.0105	-1.4464	0.0224	-0.2119	0.0268
4	105.12	0.6501	0.1556	0.0020	0.0146	0.0127	-1.8972	0.0248	-0.1166	0.0255
4	105.12	0.6999	0.1844	0.0017	0.0004	0.0150	-2.4215	0.0280	-0.0518	0.0179
4	105.12	0.7500	0.1975	0.0015	0.0039	0.0175	-3.0085	0.0304	0.0136	0.0201
4	105.12	0.8002	0.2037	0.0021	-0.0019	0.0204	-3.6837	0.0365	0.1047	0.0348
4	105.12	0.8582	0.2174	0.0022	0.0221	0.0235	-4.5818	0.0403	-0.2348	0.0352
4	105.12	0.9101	0.2203	0.0028	0.0140	0.0269	-5.3929	0.0469	-0.1436	0.0253
4	105.12	0.9728	0.2601	0.0036	0.0499	0.0297	-6.3285	0.0542	0.1609	0.0400

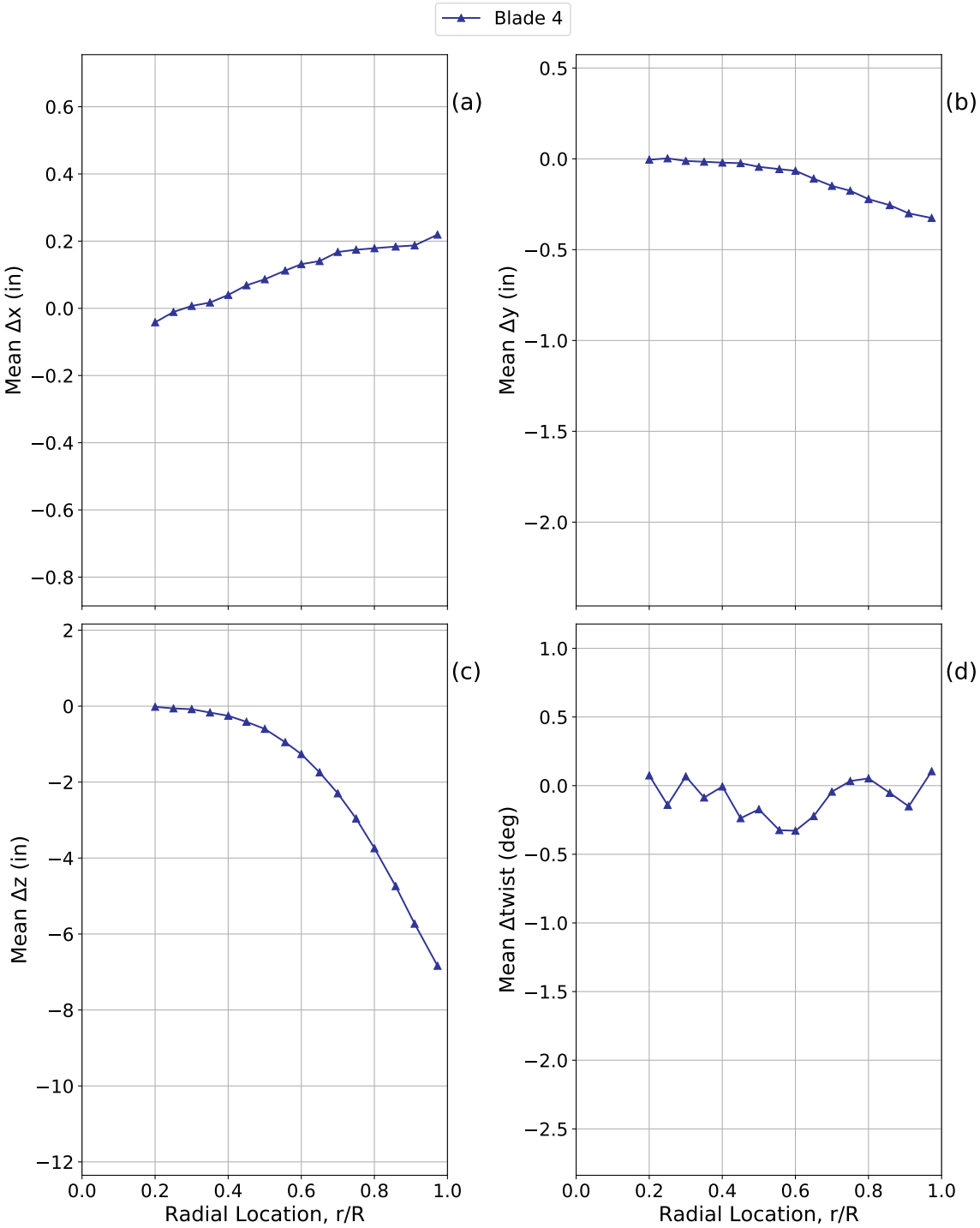


Figure 4.11-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0416	0.0008	-0.0048	0.0004	-0.0176	0.0009	0.0740	0.0090
4	119.88	0.2502	-0.0108	0.0009	0.0026	0.0012	-0.0598	0.0023	-0.1406	0.0193
4	119.88	0.3001	0.0071	0.0006	-0.0115	0.0019	-0.0806	0.0037	0.0671	0.0222
4	119.88	0.3502	0.0172	0.0005	-0.0159	0.0033	-0.1694	0.0063	-0.0869	0.0200
4	119.88	0.4002	0.0399	0.0011	-0.0209	0.0053	-0.2542	0.0099	-0.0066	0.0267
4	119.88	0.4500	0.0685	0.0010	-0.0239	0.0065	-0.4133	0.0120	-0.2375	0.0188
4	119.88	0.5001	0.0865	0.0011	-0.0440	0.0078	-0.6000	0.0155	-0.1725	0.0266
4	119.88	0.5560	0.1123	0.0015	-0.0566	0.0100	-0.9502	0.0205	-0.3243	0.0280
4	119.88	0.6001	0.1315	0.0016	-0.0658	0.0130	-1.2630	0.0233	-0.3286	0.0200
4	119.88	0.6501	0.1406	0.0018	-0.1092	0.0147	-1.7459	0.0272	-0.2223	0.0229
4	119.88	0.6999	0.1677	0.0020	-0.1490	0.0179	-2.2967	0.0313	-0.0445	0.0276
4	119.88	0.7500	0.1744	0.0020	-0.1757	0.0207	-2.9603	0.0332	0.0336	0.0208
4	119.88	0.8002	0.1788	0.0024	-0.2220	0.0236	-3.7429	0.0367	0.0525	0.0220
4	119.88	0.8582	0.1838	0.0027	-0.2550	0.0275	-4.7404	0.0408	-0.0531	0.0246
4	119.88	0.9101	0.1872	0.0027	-0.3001	0.0307	-5.7296	0.0470	-0.1513	0.0214
4	119.88	0.9728	0.2193	0.0033	-0.3257	0.0345	-6.8375	0.0544	0.1046	0.0266

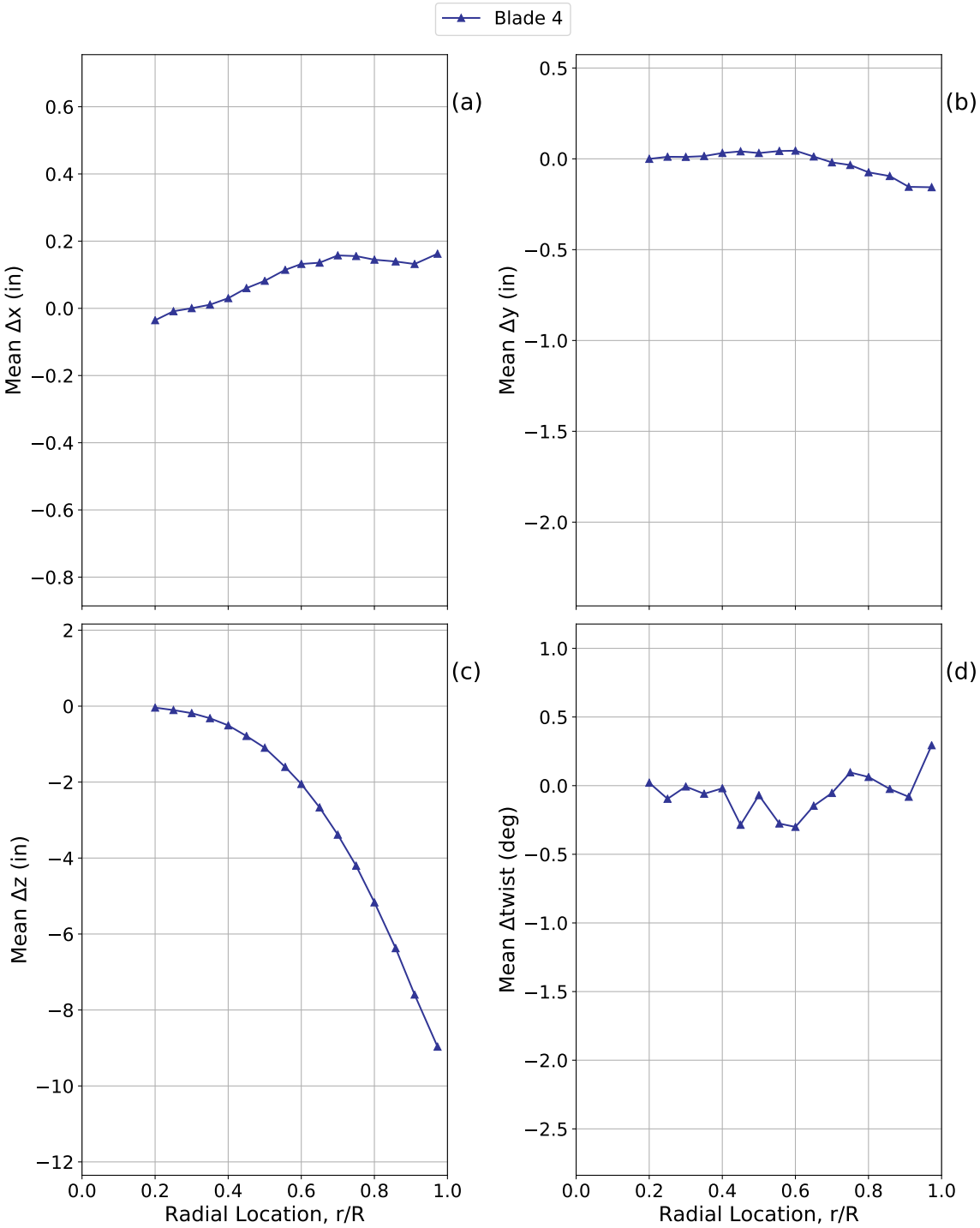


Figure 4.11-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0354	0.0007	-0.0003	0.0003	-0.0397	0.0008	0.0209	0.0049
4	135	0.2502	-0.0087	0.0008	0.0113	0.0010	-0.1039	0.0022	-0.0962	0.0146
4	135	0.3001	0.0004	0.0010	0.0105	0.0015	-0.1850	0.0037	-0.0067	0.0131
4	135	0.3502	0.0108	0.0007	0.0150	0.0027	-0.3191	0.0061	-0.0595	0.0182
4	135	0.4002	0.0302	0.0012	0.0321	0.0043	-0.5077	0.0099	-0.0194	0.0202
4	135	0.4500	0.0601	0.0013	0.0411	0.0064	-0.7870	0.0131	-0.2857	0.0217
4	135	0.5001	0.0819	0.0013	0.0318	0.0073	-1.0973	0.0158	-0.0700	0.0129
4	135	0.5560	0.1145	0.0016	0.0431	0.0092	-1.6024	0.0200	-0.2763	0.0207
4	135	0.6001	0.1320	0.0021	0.0448	0.0107	-2.0509	0.0232	-0.3007	0.0186
4	135	0.6501	0.1358	0.0021	0.0126	0.0128	-2.6691	0.0269	-0.1471	0.0231
4	135	0.6999	0.1575	0.0020	-0.0196	0.0151	-3.3862	0.0304	-0.0538	0.0195
4	135	0.7500	0.1555	0.0022	-0.0341	0.0173	-4.2028	0.0342	0.0961	0.0209
4	135	0.8002	0.1447	0.0023	-0.0743	0.0197	-5.1684	0.0380	0.0629	0.0176
4	135	0.8582	0.1394	0.0025	-0.0949	0.0226	-6.3742	0.0433	-0.0242	0.0205
4	135	0.9101	0.1319	0.0030	-0.1542	0.0257	-7.5962	0.0488	-0.0815	0.0193
4	135	0.9728	0.1624	0.0037	-0.1564	0.0289	-8.9676	0.0580	0.2940	0.0232

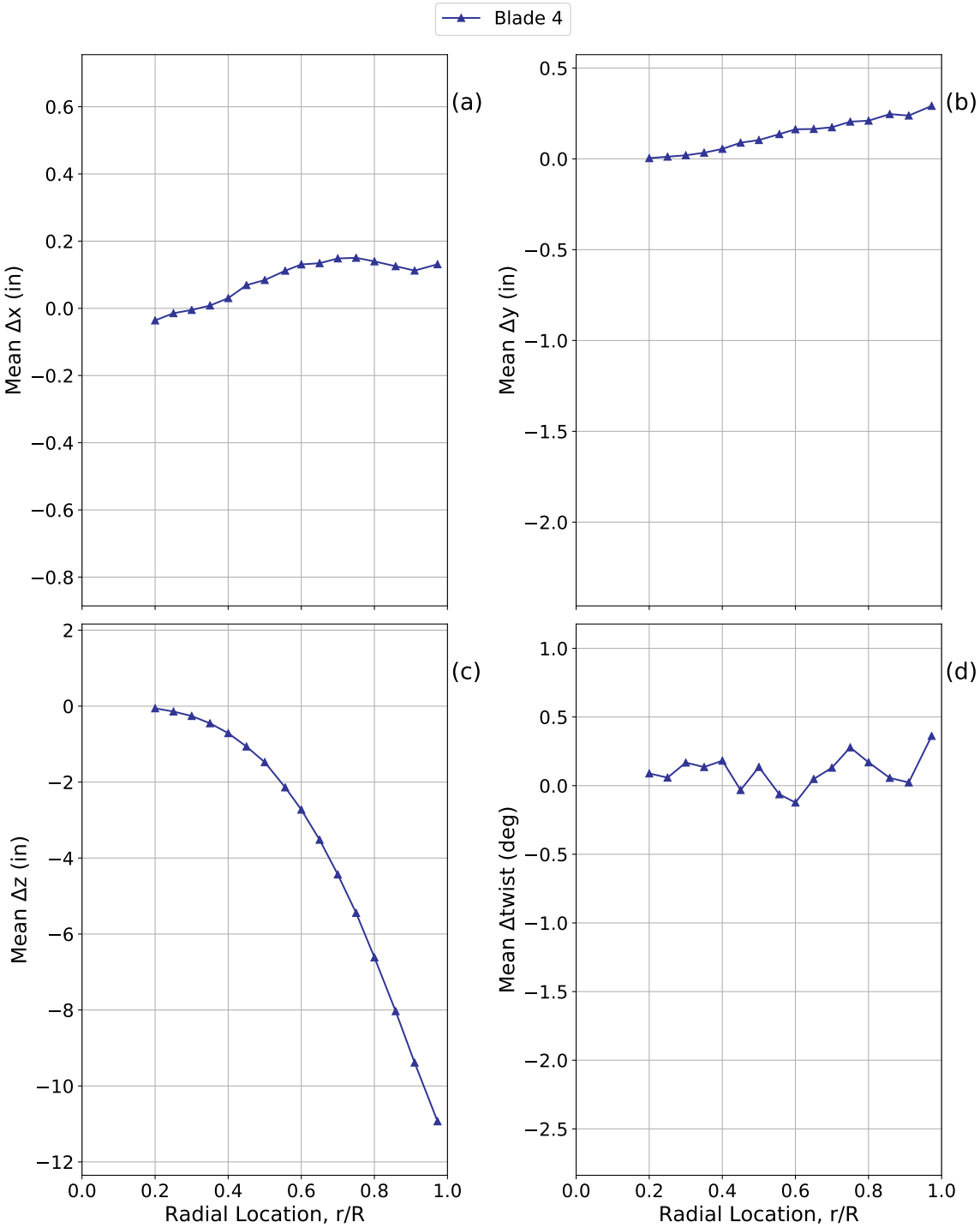


Figure 4.11-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0360	0.0008	0.0037	0.0006	-0.0576	0.0015	0.0886	0.0158
4	150.12	0.2502	-0.0145	0.0008	0.0118	0.0016	-0.1424	0.0027	0.0583	0.0268
4	150.12	0.3001	-0.0048	0.0008	0.0195	0.0030	-0.2597	0.0067	0.1677	0.0363
4	150.12	0.3502	0.0083	0.0012	0.0337	0.0046	-0.4521	0.0102	0.1352	0.0280
4	150.12	0.4002	0.0304	0.0013	0.0548	0.0077	-0.7121	0.0164	0.1818	0.0392
4	150.12	0.4500	0.0691	0.0023	0.0887	0.0079	-1.0637	0.0215	-0.0324	0.0287
4	150.12	0.5001	0.0842	0.0020	0.1033	0.0102	-1.4770	0.0278	0.1357	0.0279
4	150.12	0.5560	0.1119	0.0018	0.1359	0.0135	-2.1397	0.0328	-0.0633	0.0356
4	150.12	0.6001	0.1306	0.0020	0.1626	0.0152	-2.7271	0.0381	-0.1232	0.0285
4	150.12	0.6501	0.1343	0.0017	0.1644	0.0184	-3.5186	0.0448	0.0482	0.0255
4	150.12	0.6999	0.1485	0.0019	0.1736	0.0206	-4.4330	0.0482	0.1305	0.0300
4	150.12	0.7500	0.1503	0.0031	0.2046	0.0234	-5.4455	0.0542	0.2782	0.0279
4	150.12	0.8002	0.1397	0.0040	0.2099	0.0261	-6.6165	0.0593	0.1697	0.0336
4	150.12	0.8582	0.1253	0.0042	0.2462	0.0302	-8.0327	0.0689	0.0563	0.0299
4	150.12	0.9101	0.1123	0.0051	0.2380	0.0331	-9.3862	0.0787	0.0230	0.0295
4	150.12	0.9728	0.1311	0.0068	0.2915	0.0379	-10.9319	0.0903	0.3621	0.0342

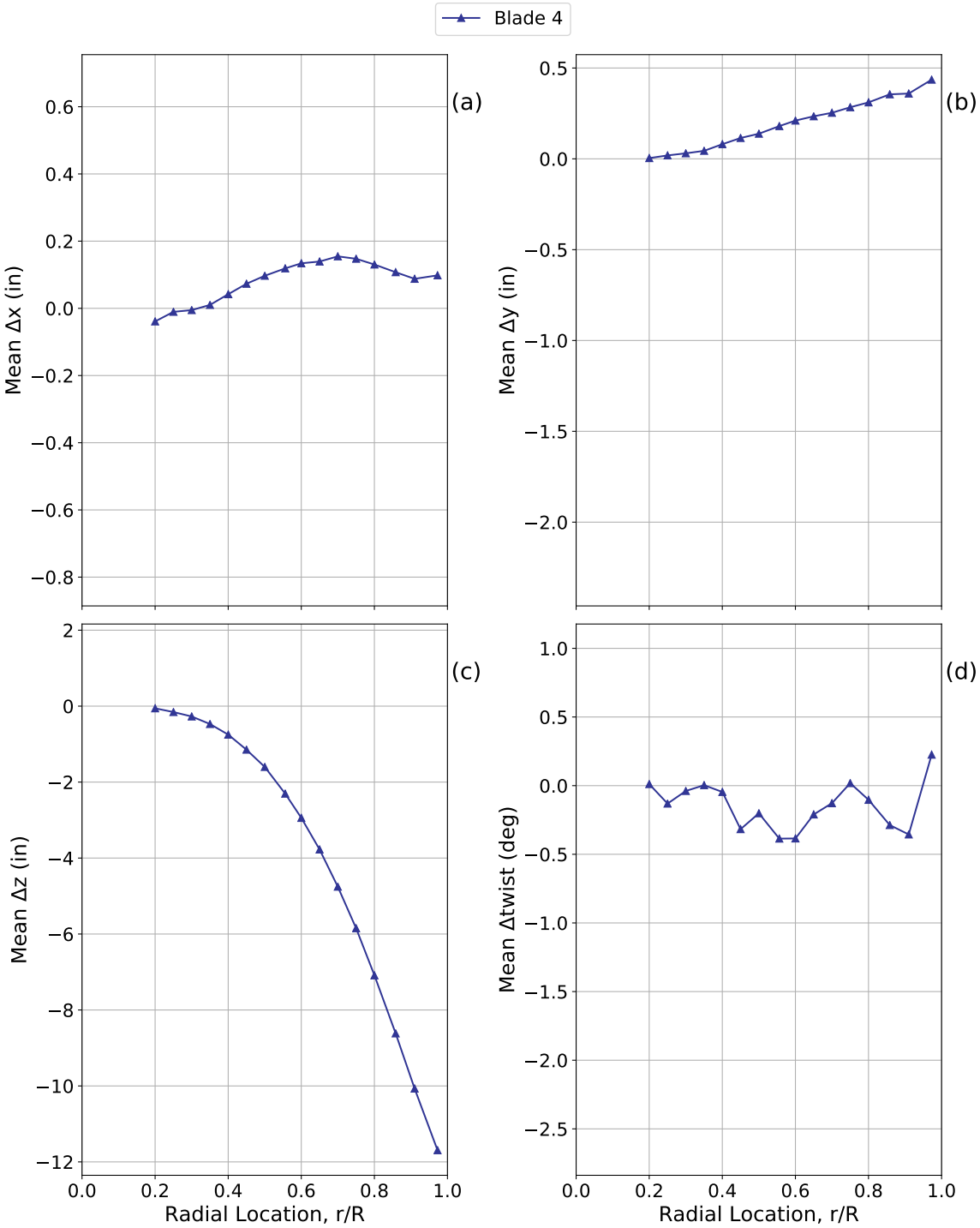


Figure 4.11-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0390	0.0009	0.0040	0.0007	-0.0577	0.0012	0.0111	0.0158
4	164.88	0.2502	-0.0104	0.0014	0.0188	0.0017	-0.1558	0.0037	-0.1309	0.0243
4	164.88	0.3001	-0.0053	0.0008	0.0304	0.0026	-0.2725	0.0047	-0.0389	0.0351
4	164.88	0.3502	0.0102	0.0010	0.0441	0.0044	-0.4713	0.0095	0.0033	0.0322
4	164.88	0.4002	0.0421	0.0014	0.0806	0.0070	-0.7510	0.0144	-0.0462	0.0376
4	164.88	0.4500	0.0731	0.0014	0.1147	0.0087	-1.1467	0.0203	-0.3171	0.0347
4	164.88	0.5001	0.0969	0.0020	0.1383	0.0102	-1.6015	0.0262	-0.2015	0.0321
4	164.88	0.5560	0.1189	0.0019	0.1801	0.0112	-2.3047	0.0282	-0.3859	0.0347
4	164.88	0.6001	0.1340	0.0022	0.2106	0.0127	-2.9429	0.0329	-0.3848	0.0404
4	164.88	0.6501	0.1393	0.0017	0.2342	0.0140	-3.7752	0.0355	-0.2100	0.0337
4	164.88	0.6999	0.1547	0.0021	0.2535	0.0165	-4.7540	0.0404	-0.1281	0.0427
4	164.88	0.7500	0.1475	0.0018	0.2839	0.0178	-5.8483	0.0444	0.0182	0.0306
4	164.88	0.8002	0.1304	0.0020	0.3108	0.0189	-7.0891	0.0468	-0.1036	0.0451
4	164.88	0.8582	0.1075	0.0033	0.3551	0.0213	-8.6168	0.0517	-0.2873	0.0383
4	164.88	0.9101	0.0878	0.0029	0.3594	0.0232	-10.0690	0.0558	-0.3556	0.0397
4	164.88	0.9728	0.0982	0.0036	0.4357	0.0256	-11.6928	0.0614	0.2255	0.0385

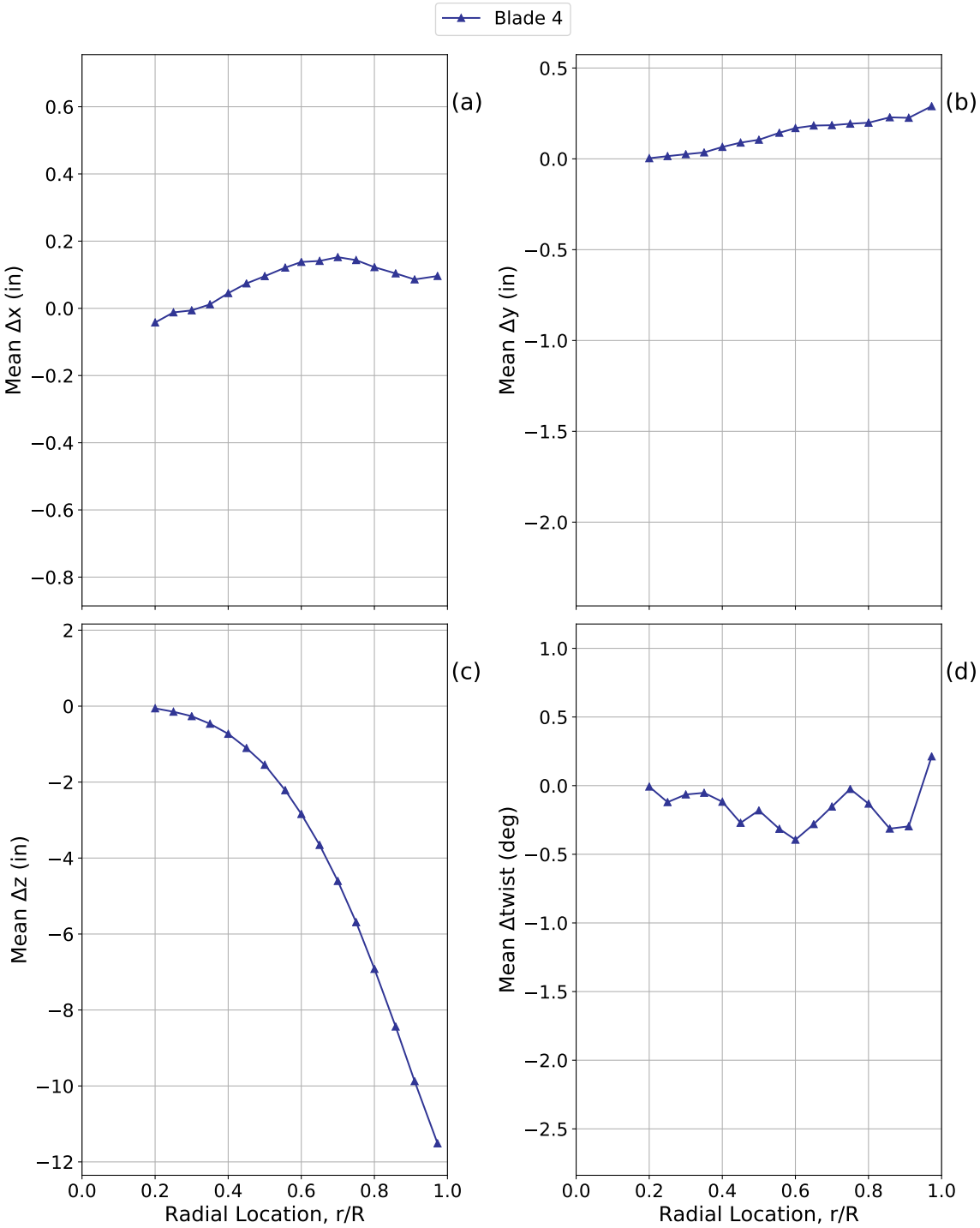


Figure 4.11-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0422	0.0010	0.0033	0.0007	-0.0587	0.0015	-0.0073	0.0133
4	170.16	0.2502	-0.0121	0.0014	0.0148	0.0019	-0.1477	0.0016	-0.1205	0.0259
4	170.16	0.3001	-0.0061	0.0013	0.0253	0.0028	-0.2647	0.0047	-0.0645	0.0307
4	170.16	0.3502	0.0118	0.0009	0.0352	0.0053	-0.4649	0.0077	-0.0525	0.0300
4	170.16	0.4002	0.0452	0.0013	0.0654	0.0080	-0.7304	0.0110	-0.1177	0.0315
4	170.16	0.4500	0.0741	0.0011	0.0892	0.0097	-1.1035	0.0132	-0.2712	0.0270
4	170.16	0.5001	0.0957	0.0015	0.1050	0.0116	-1.5458	0.0154	-0.1804	0.0296
4	170.16	0.5560	0.1211	0.0015	0.1432	0.0145	-2.2151	0.0192	-0.3150	0.0236
4	170.16	0.6001	0.1380	0.0018	0.1692	0.0169	-2.8419	0.0211	-0.3943	0.0409
4	170.16	0.6501	0.1410	0.0019	0.1831	0.0197	-3.6557	0.0259	-0.2804	0.0370
4	170.16	0.6999	0.1523	0.0016	0.1851	0.0224	-4.6044	0.0285	-0.1527	0.0273
4	170.16	0.7500	0.1435	0.0024	0.1932	0.0260	-5.6895	0.0326	-0.0244	0.0251
4	170.16	0.8002	0.1225	0.0028	0.1987	0.0291	-6.9196	0.0365	-0.1317	0.0259
4	170.16	0.8582	0.1039	0.0032	0.2285	0.0330	-8.4376	0.0401	-0.3134	0.0425
4	170.16	0.9101	0.0860	0.0029	0.2257	0.0369	-9.8754	0.0439	-0.2965	0.0273
4	170.16	0.9728	0.0962	0.0035	0.2896	0.0405	-11.5128	0.0478	0.2129	0.0301

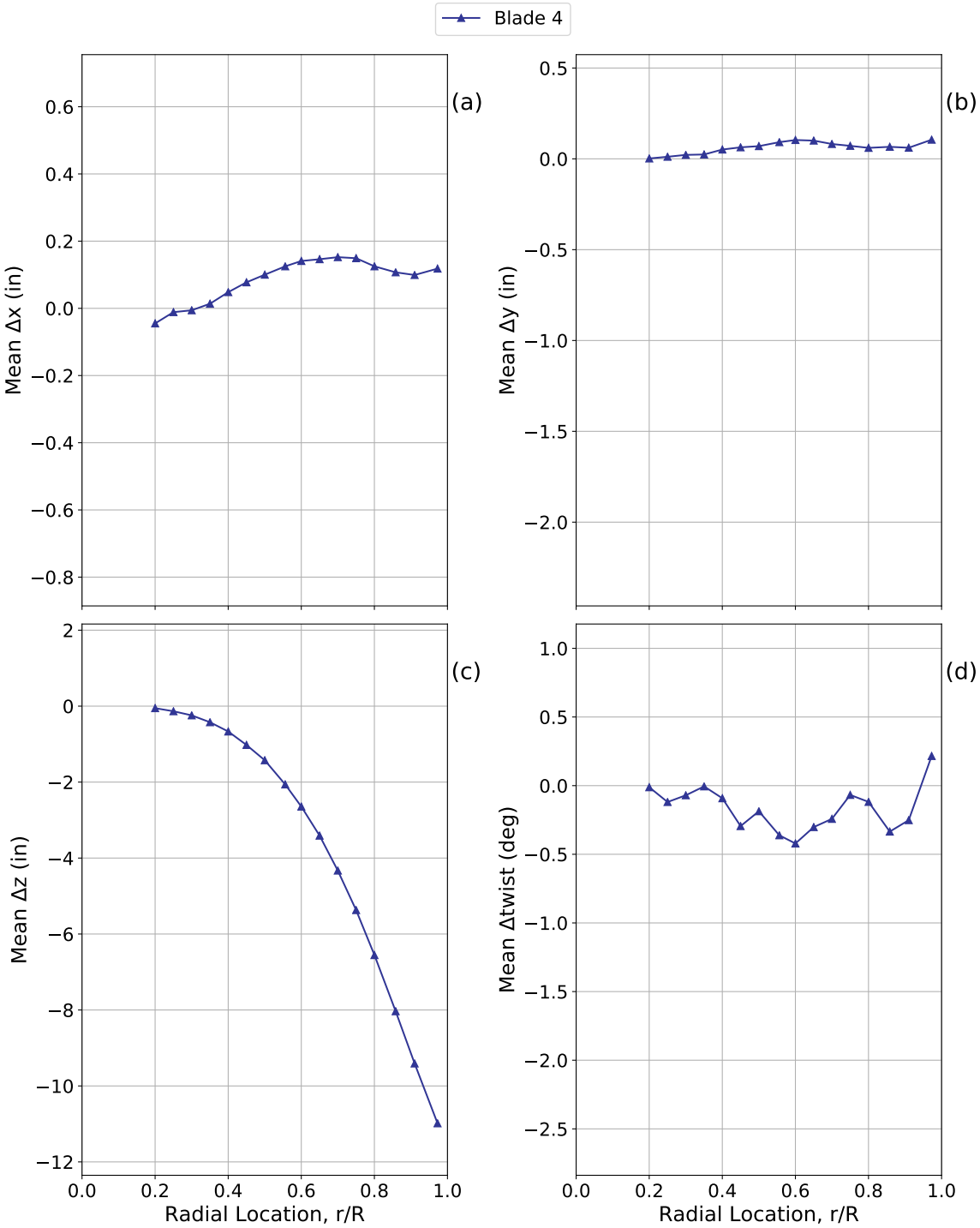


Figure 4.11-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0449	0.0017	0.0021	0.0005	-0.0535	0.0014	-0.0117	0.0155
4	175.08	0.2502	-0.0113	0.0010	0.0114	0.0018	-0.1349	0.0036	-0.1194	0.0231
4	175.08	0.3001	-0.0058	0.0019	0.0218	0.0024	-0.2428	0.0058	-0.0703	0.0322
4	175.08	0.3502	0.0137	0.0018	0.0240	0.0044	-0.4240	0.0085	-0.0055	0.0337
4	175.08	0.4002	0.0482	0.0013	0.0512	0.0070	-0.6681	0.0145	-0.0920	0.0306
4	175.08	0.4500	0.0774	0.0013	0.0634	0.0085	-1.0223	0.0194	-0.2948	0.0296
4	175.08	0.5001	0.1001	0.0019	0.0699	0.0103	-1.4253	0.0251	-0.1866	0.0350
4	175.08	0.5560	0.1250	0.0020	0.0918	0.0129	-2.0619	0.0314	-0.3617	0.0313
4	175.08	0.6001	0.1409	0.0017	0.1036	0.0148	-2.6453	0.0362	-0.4213	0.0414
4	175.08	0.6501	0.1462	0.0020	0.1004	0.0170	-3.4100	0.0401	-0.3020	0.0284
4	175.08	0.6999	0.1523	0.0028	0.0817	0.0201	-4.3301	0.0452	-0.2422	0.0349
4	175.08	0.7500	0.1492	0.0026	0.0715	0.0231	-5.3701	0.0508	-0.0677	0.0275
4	175.08	0.8002	0.1250	0.0030	0.0604	0.0270	-6.5554	0.0530	-0.1185	0.0370
4	175.08	0.8582	0.1072	0.0035	0.0661	0.0315	-8.0338	0.0598	-0.3349	0.0267
4	175.08	0.9101	0.0992	0.0036	0.0611	0.0348	-9.4088	0.0663	-0.2515	0.0349
4	175.08	0.9728	0.1182	0.0051	0.1053	0.0393	-10.9843	0.0728	0.2159	0.0268

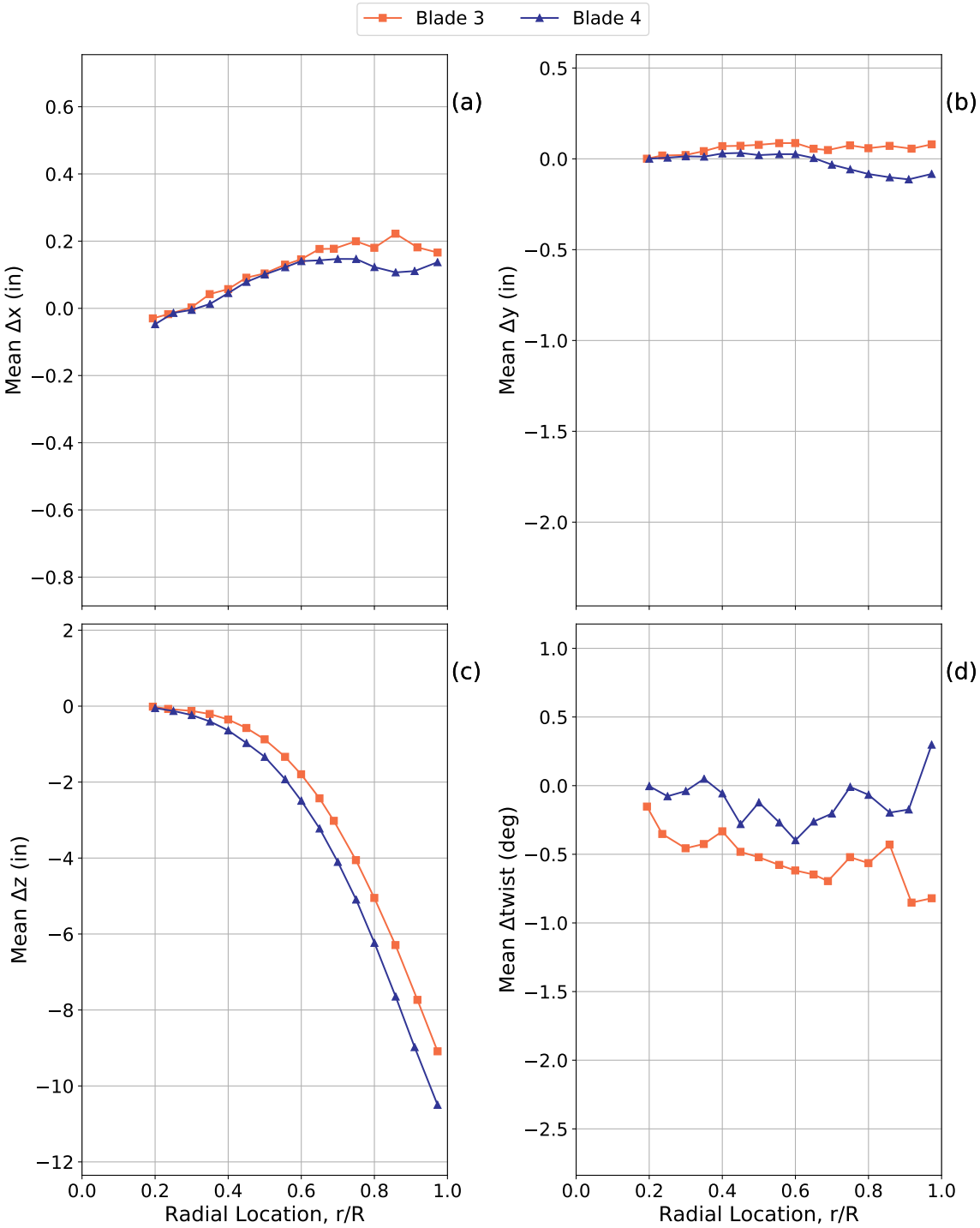


Figure 4.11-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0299	0.0014	0.0008	0.0010	-0.0142	0.0016	-0.1525	0.0125
3	180.35	0.2357	-0.0174	0.0015	0.0184	0.0020	-0.0738	0.0019	-0.3521	0.0287
3	180.35	0.2995	0.0026	0.0009	0.0211	0.0031	-0.1251	0.0044	-0.4562	0.0332
3	180.35	0.3493	0.0423	0.0014	0.0424	0.0056	-0.2067	0.0073	-0.4252	0.0272
3	180.35	0.4000	0.0572	0.0016	0.0698	0.0086	-0.3522	0.0104	-0.3328	0.0259
3	180.35	0.4497	0.0912	0.0021	0.0718	0.0114	-0.5754	0.0124	-0.4820	0.0342
3	180.35	0.4997	0.1038	0.0021	0.0771	0.0140	-0.8745	0.0174	-0.5215	0.0275
3	180.35	0.5556	0.1301	0.0016	0.0864	0.0165	-1.3347	0.0211	-0.5775	0.0286
3	180.35	0.5995	0.1459	0.0011	0.0869	0.0189	-1.7938	0.0240	-0.6179	0.0309
3	180.35	0.6498	0.1767	0.0014	0.0556	0.0218	-2.4269	0.0282	-0.6473	0.0397
3	180.35	0.6890	0.1773	0.0018	0.0484	0.0241	-3.0194	0.0321	-0.6954	0.0312
3	180.35	0.7495	0.1997	0.0020	0.0743	0.0283	-4.0547	0.0367	-0.5209	0.0270
3	180.35	0.7998	0.1802	0.0024	0.0585	0.0311	-5.0499	0.0408	-0.5643	0.0327
3	180.35	0.8577	0.2222	0.0031	0.0715	0.0344	-6.2909	0.0450	-0.4293	0.0455
3	180.35	0.9178	0.1815	0.0058	0.0560	0.0392	-7.7340	0.0505	-0.8519	0.0412
3	180.35	0.9729	0.1661	0.0084	0.0798	0.0426	-9.0881	0.0573	-0.8202	0.0262
4	180	0.2001	-0.0472	0.0009	0.0010	0.0009	-0.0514	0.0028	-0.0040	0.0198
4	180	0.2502	-0.0137	0.0013	0.0064	0.0013	-0.1273	0.0033	-0.0774	0.0333
4	180	0.3001	-0.0046	0.0015	0.0138	0.0032	-0.2350	0.0093	-0.0394	0.0387
4	180	0.3502	0.0131	0.0012	0.0121	0.0049	-0.4037	0.0125	0.0499	0.0339
4	180	0.4002	0.0454	0.0018	0.0297	0.0075	-0.6401	0.0195	-0.0563	0.0276
4	180	0.4500	0.0787	0.0013	0.0324	0.0097	-0.9720	0.0237	-0.2802	0.0267
4	180	0.5001	0.1007	0.0017	0.0205	0.0102	-1.3357	0.0280	-0.1228	0.0286
4	180	0.5560	0.1224	0.0015	0.0257	0.0128	-1.9265	0.0343	-0.2686	0.0361
4	180	0.6001	0.1405	0.0018	0.0257	0.0149	-2.4921	0.0385	-0.3977	0.0330
4	180	0.6501	0.1429	0.0017	0.0043	0.0182	-3.2223	0.0410	-0.2618	0.0397
4	180	0.6999	0.1470	0.0019	-0.0322	0.0202	-4.1018	0.0451	-0.2035	0.0384
4	180	0.7500	0.1468	0.0026	-0.0579	0.0233	-5.0932	0.0499	-0.0096	0.0337
4	180	0.8002	0.1228	0.0024	-0.0837	0.0261	-6.2337	0.0561	-0.0671	0.0281
4	180	0.8582	0.1070	0.0025	-0.1018	0.0291	-7.6475	0.0635	-0.1964	0.0304
4	180	0.9101	0.1109	0.0028	-0.1131	0.0327	-8.9782	0.0682	-0.1739	0.0370
4	180	0.9728	0.1373	0.0040	-0.0831	0.0365	-10.4978	0.0773	0.2982	0.0360

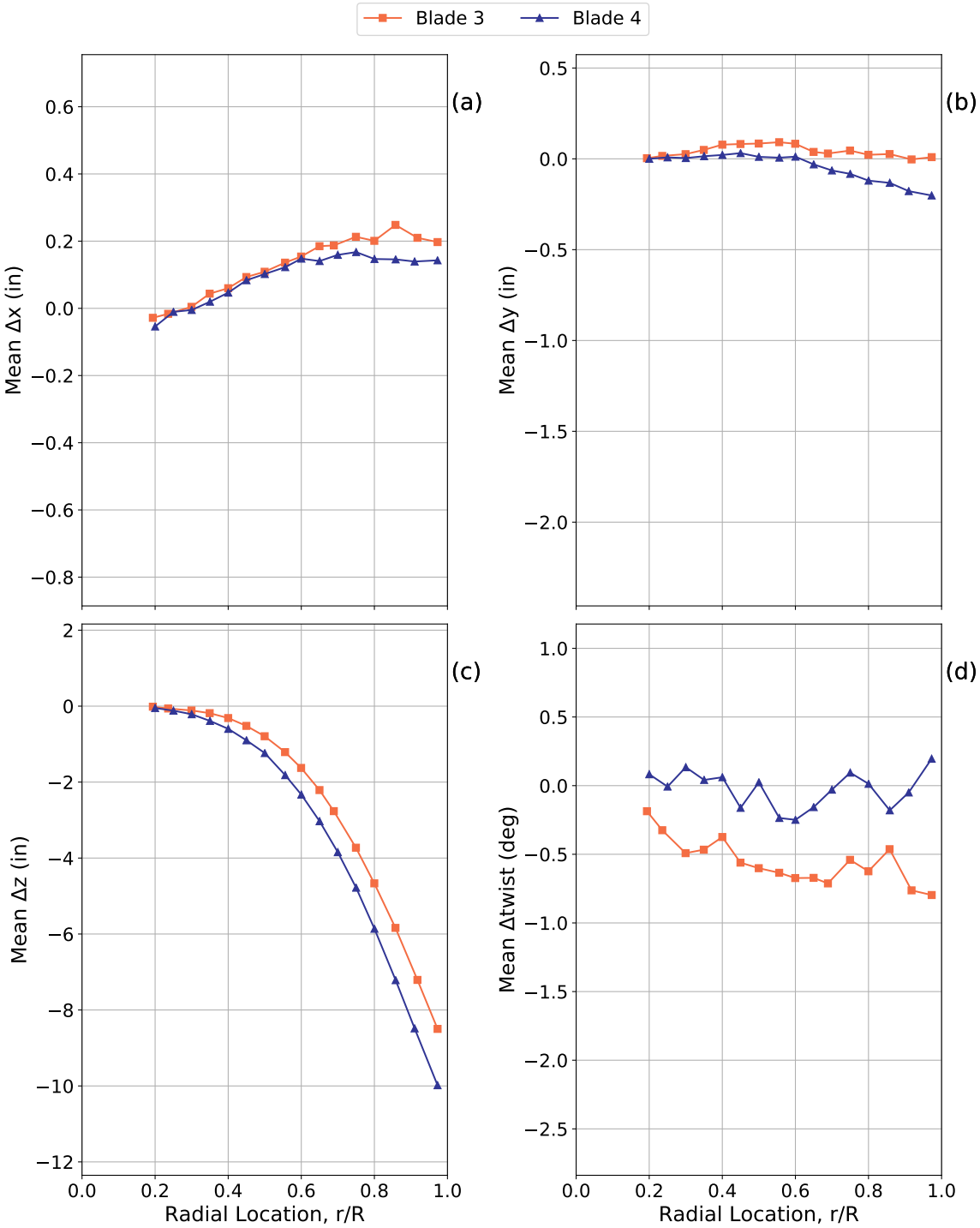


Figure 4.11-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0282	0.0021	0.0035	0.0009	-0.0148	0.0017	-0.1862	0.0090
3	184.92	0.2357	-0.0163	0.0017	0.0161	0.0012	-0.0624	0.0026	-0.3247	0.0266
3	184.92	0.2995	0.0045	0.0012	0.0258	0.0026	-0.1138	0.0054	-0.4917	0.0264
3	184.92	0.3493	0.0437	0.0028	0.0491	0.0045	-0.1847	0.0087	-0.4664	0.0186
3	184.92	0.4000	0.0599	0.0049	0.0781	0.0064	-0.3137	0.0137	-0.3742	0.0206
3	184.92	0.4497	0.0932	0.0072	0.0816	0.0093	-0.5199	0.0172	-0.5608	0.0196
3	184.92	0.4997	0.1089	0.0095	0.0842	0.0123	-0.7926	0.0204	-0.6012	0.0321
3	184.92	0.5556	0.1360	0.0128	0.0916	0.0155	-1.2104	0.0248	-0.6347	0.0179
3	184.92	0.5995	0.1541	0.0145	0.0830	0.0177	-1.6268	0.0283	-0.6731	0.0201
3	184.92	0.6498	0.1850	0.0175	0.0381	0.0208	-2.2100	0.0325	-0.6718	0.0239
3	184.92	0.6890	0.1872	0.0189	0.0294	0.0223	-2.7646	0.0338	-0.7121	0.0227
3	184.92	0.7495	0.2129	0.0219	0.0455	0.0250	-3.7272	0.0392	-0.5405	0.0311
3	184.92	0.7998	0.2009	0.0257	0.0223	0.0267	-4.6662	0.0468	-0.6237	0.0181
3	184.92	0.8577	0.2483	0.0288	0.0263	0.0309	-5.8386	0.0538	-0.4628	0.0188
3	184.92	0.9178	0.2099	0.0324	-0.0032	0.0353	-7.2086	0.0615	-0.7627	0.0234
3	184.92	0.9729	0.1972	0.0359	0.0093	0.0398	-8.4980	0.0683	-0.7968	0.0332
4	184.92	0.2001	-0.0541	0.0013	0.0003	0.0010	-0.0501	0.0018	0.0828	0.0111
4	184.92	0.2502	-0.0105	0.0013	0.0080	0.0020	-0.1187	0.0033	-0.0071	0.0178
4	184.92	0.3001	-0.0049	0.0011	0.0043	0.0035	-0.2140	0.0066	0.1342	0.0217
4	184.92	0.3502	0.0197	0.0012	0.0144	0.0055	-0.3892	0.0098	0.0414	0.0278
4	184.92	0.4002	0.0467	0.0011	0.0214	0.0085	-0.5986	0.0156	0.0611	0.0225
4	184.92	0.4500	0.0836	0.0011	0.0314	0.0101	-0.9002	0.0193	-0.1618	0.0243
4	184.92	0.5001	0.1021	0.0011	0.0109	0.0136	-1.2361	0.0247	0.0243	0.0187
4	184.92	0.5560	0.1226	0.0014	0.0064	0.0149	-1.8171	0.0299	-0.2355	0.0236
4	184.92	0.6001	0.1479	0.0019	0.0119	0.0174	-2.3298	0.0347	-0.2490	0.0214
4	184.92	0.6501	0.1407	0.0023	-0.0306	0.0208	-3.0310	0.0400	-0.1565	0.0246
4	184.92	0.6999	0.1591	0.0019	-0.0640	0.0233	-3.8459	0.0438	-0.0294	0.0217
4	184.92	0.7500	0.1674	0.0031	-0.0828	0.0274	-4.7807	0.0494	0.0946	0.0328
4	184.92	0.8002	0.1468	0.0026	-0.1200	0.0287	-5.8619	0.0543	0.0131	0.0343
4	184.92	0.8582	0.1457	0.0029	-0.1323	0.0346	-7.2154	0.0602	-0.1800	0.0459
4	184.92	0.9101	0.1393	0.0039	-0.1778	0.0356	-8.4849	0.0671	-0.0498	0.0368
4	184.92	0.9728	0.1429	0.0067	-0.2017	0.0400	-9.9816	0.0756	0.1957	0.0623

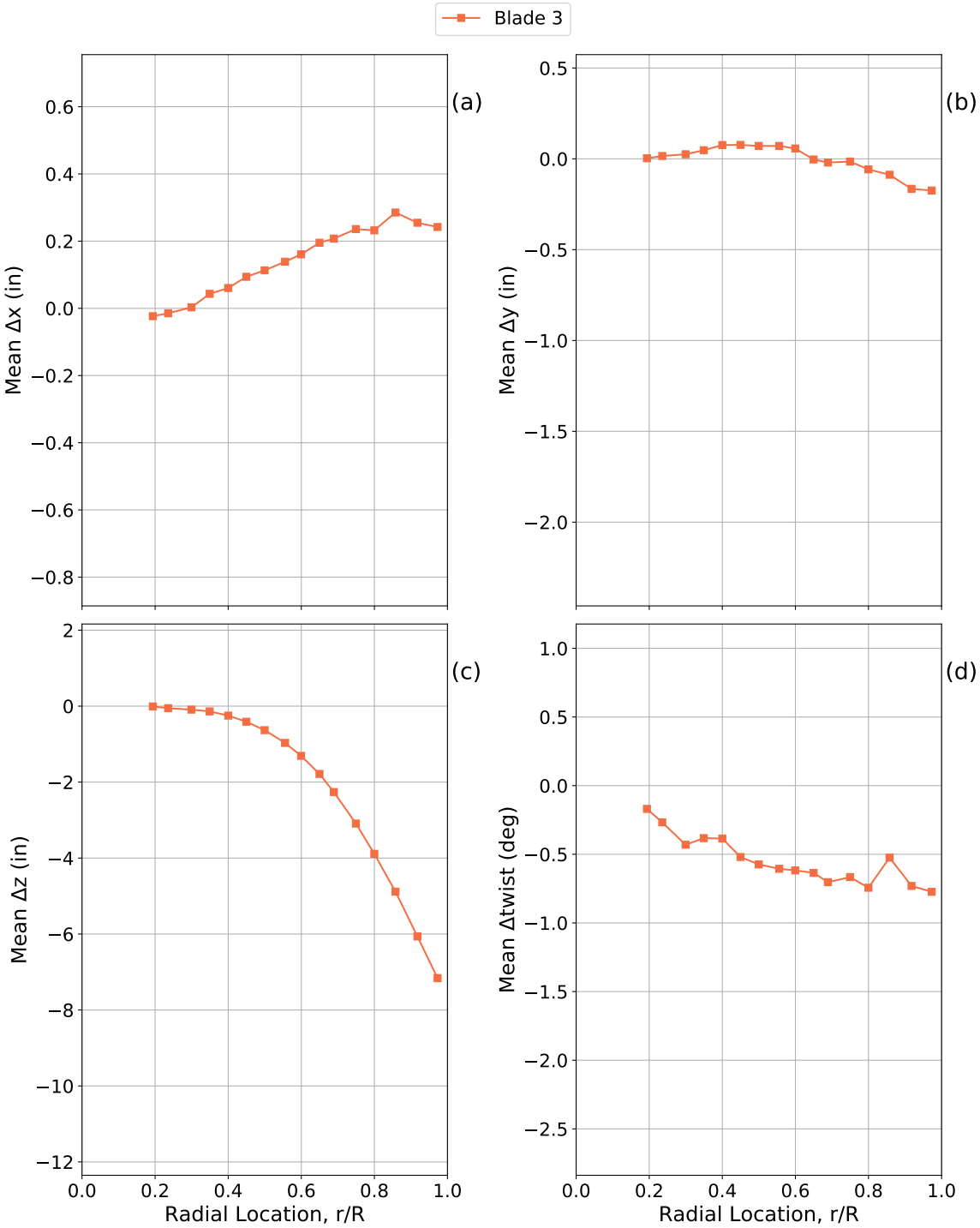


Figure 4.11-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0234	0.0014	0.0033	0.0011	-0.0083	0.0022	-0.1695	0.0207
3	195.12	0.2357	-0.0147	0.0016	0.0156	0.0022	-0.0546	0.0043	-0.2673	0.0304
3	195.12	0.2995	0.0031	0.0016	0.0252	0.0041	-0.0919	0.0078	-0.4304	0.0443
3	195.12	0.3493	0.0432	0.0024	0.0473	0.0077	-0.1383	0.0144	-0.3824	0.0358
3	195.12	0.4000	0.0605	0.0034	0.0759	0.0117	-0.2490	0.0216	-0.3852	0.0374
3	195.12	0.4497	0.0939	0.0026	0.0767	0.0136	-0.4109	0.0265	-0.5198	0.0321
3	195.12	0.4997	0.1131	0.0023	0.0711	0.0174	-0.6325	0.0333	-0.5737	0.0399
3	195.12	0.5556	0.1388	0.0032	0.0710	0.0209	-0.9681	0.0389	-0.6057	0.0385
3	195.12	0.5995	0.1607	0.0021	0.0570	0.0237	-1.3092	0.0451	-0.6174	0.0319
3	195.12	0.6498	0.1952	0.0025	-0.0035	0.0279	-1.7850	0.0519	-0.6354	0.0376
3	195.12	0.6890	0.2076	0.0022	-0.0203	0.0293	-2.2614	0.0552	-0.7031	0.0324
3	195.12	0.7495	0.2359	0.0029	-0.0149	0.0336	-3.0914	0.0620	-0.6663	0.0345
3	195.12	0.7998	0.2321	0.0035	-0.0580	0.0380	-3.8886	0.0665	-0.7437	0.0386
3	195.12	0.8577	0.2852	0.0037	-0.0877	0.0432	-4.8840	0.0737	-0.5243	0.0506
3	195.12	0.9178	0.2547	0.0038	-0.1652	0.0472	-6.0637	0.0800	-0.7305	0.0309
3	195.12	0.9729	0.2420	0.0048	-0.1744	0.0523	-7.1623	0.0895	-0.7734	0.0488

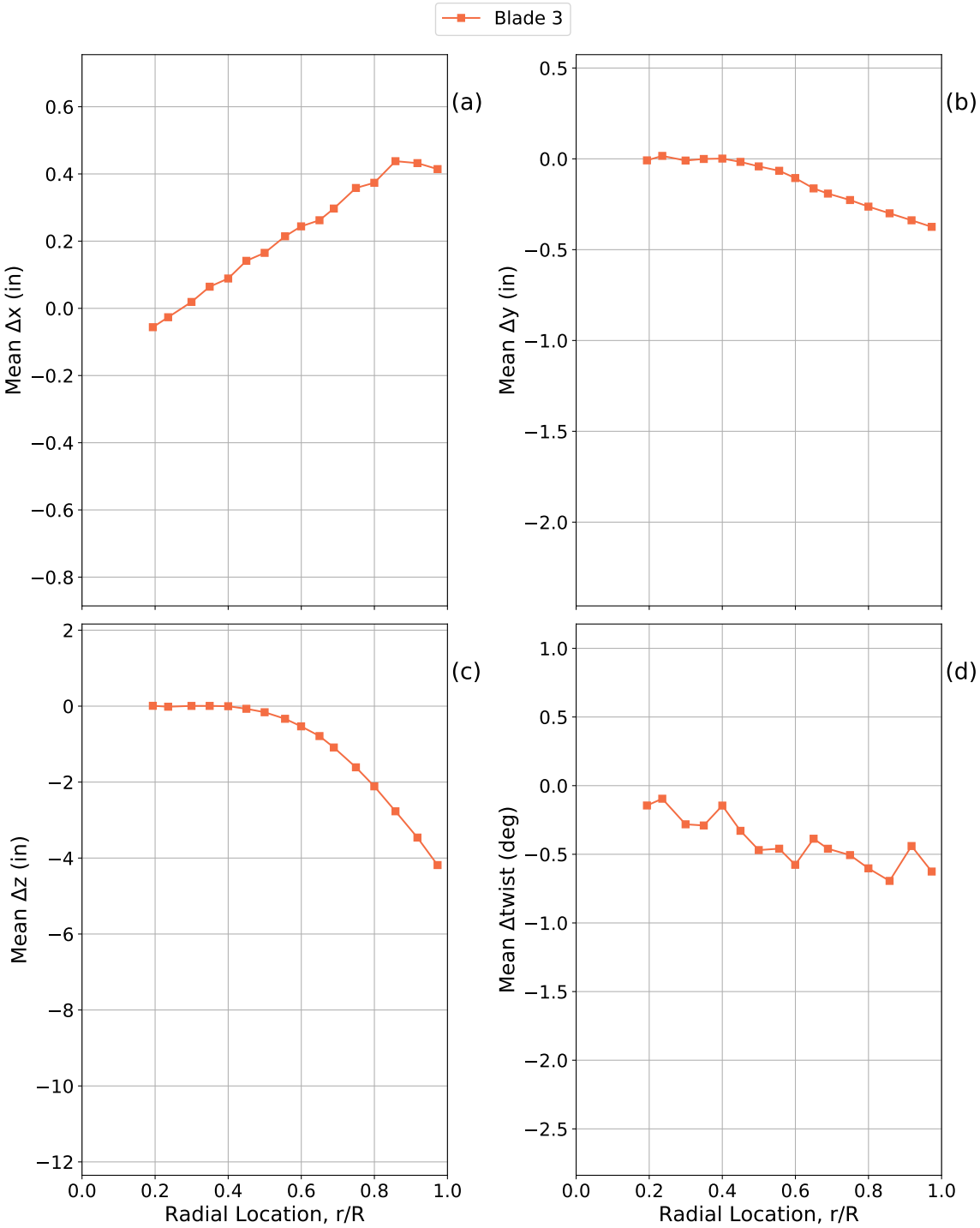


Figure 4.11-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0561	0.0011	-0.0084	0.0008	0.0089	0.0020	-0.1446	0.0129
3	209.88	0.2357	-0.0265	0.0006	0.0162	0.0011	-0.0150	0.0044	-0.0952	0.0213
3	209.88	0.2995	0.0190	0.0008	-0.0094	0.0031	0.0059	0.0087	-0.2817	0.0303
3	209.88	0.3493	0.0644	0.0007	-0.0007	0.0054	0.0063	0.0151	-0.2901	0.0277
3	209.88	0.4000	0.0888	0.0011	0.0014	0.0081	-0.0019	0.0236	-0.1452	0.0272
3	209.88	0.4497	0.1414	0.0007	-0.0168	0.0087	-0.0697	0.0270	-0.3291	0.0252
3	209.88	0.4997	0.1651	0.0006	-0.0415	0.0098	-0.1607	0.0310	-0.4694	0.0294
3	209.88	0.5556	0.2144	0.0013	-0.0657	0.0128	-0.3333	0.0381	-0.4593	0.0300
3	209.88	0.5995	0.2440	0.0011	-0.1057	0.0139	-0.5321	0.0432	-0.5766	0.0290
3	209.88	0.6498	0.2622	0.0012	-0.1628	0.0161	-0.7880	0.0488	-0.3866	0.0312
3	209.88	0.6890	0.2970	0.0015	-0.1913	0.0190	-1.0885	0.0527	-0.4596	0.0406
3	209.88	0.7495	0.3582	0.0011	-0.2268	0.0217	-1.6110	0.0611	-0.5060	0.0248
3	209.88	0.7998	0.3737	0.0009	-0.2630	0.0251	-2.1117	0.0660	-0.6024	0.0338
3	209.88	0.8577	0.4380	0.0012	-0.2999	0.0270	-2.7689	0.0729	-0.6939	0.0256
3	209.88	0.9178	0.4322	0.0030	-0.3383	0.0324	-3.4607	0.0825	-0.4398	0.0721
3	209.88	0.9729	0.4144	0.0023	-0.3744	0.0338	-4.1847	0.0866	-0.6257	0.0566

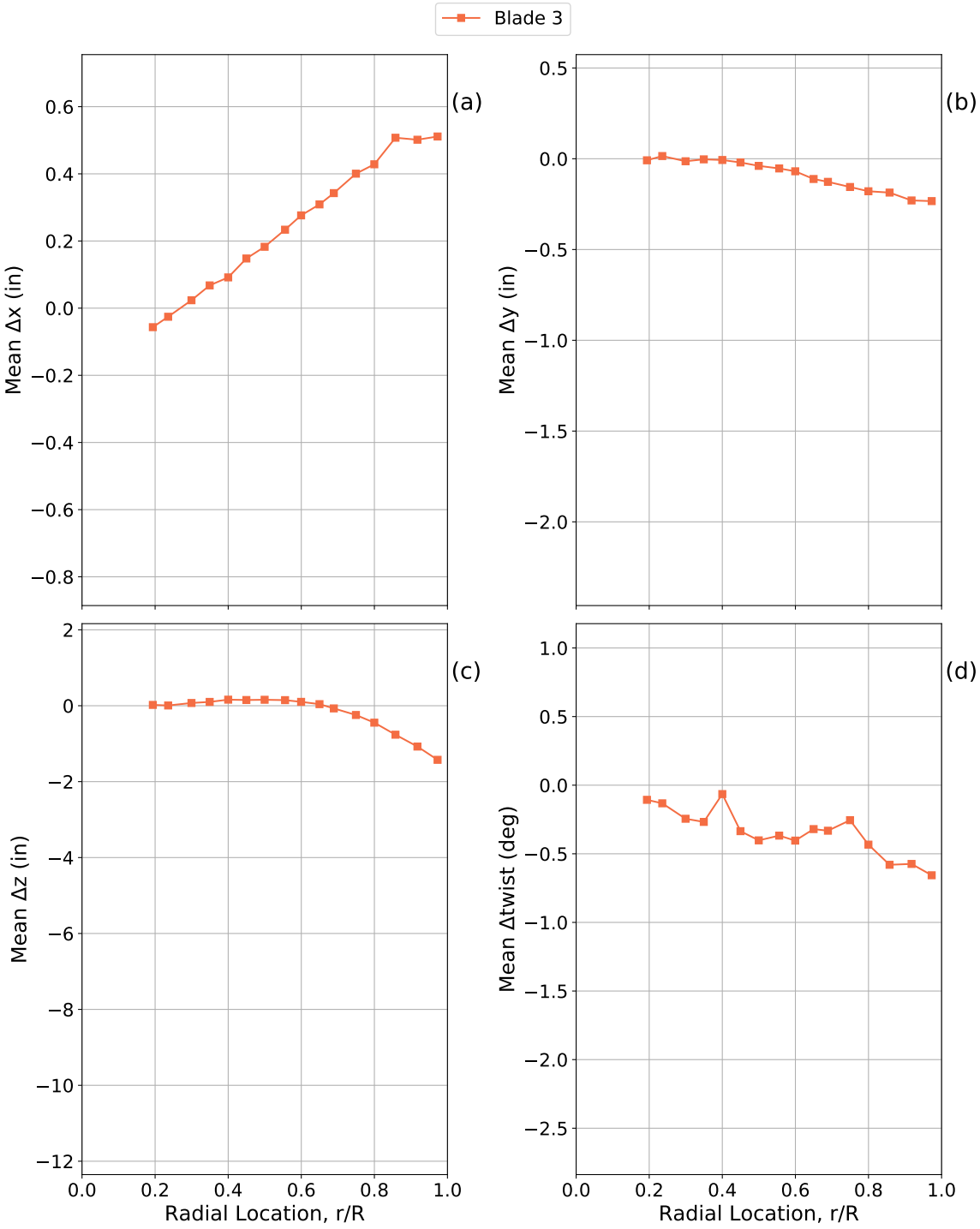


Figure 4.11-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0566	0.0012	-0.0085	0.0008	0.0218	0.0022	-0.1068	0.0097
3	225	0.2357	-0.0256	0.0005	0.0149	0.0009	0.0067	0.0033	-0.1322	0.0261
3	225	0.2995	0.0236	0.0008	-0.0138	0.0025	0.0720	0.0088	-0.2447	0.0255
3	225	0.3493	0.0678	0.0008	-0.0033	0.0045	0.1006	0.0123	-0.2677	0.0324
3	225	0.4000	0.0916	0.0013	-0.0069	0.0065	0.1597	0.0207	-0.0648	0.0241
3	225	0.4497	0.1479	0.0012	-0.0204	0.0073	0.1505	0.0229	-0.3351	0.0266
3	225	0.4997	0.1828	0.0007	-0.0392	0.0089	0.1570	0.0290	-0.4022	0.0317
3	225	0.5556	0.2337	0.0011	-0.0534	0.0107	0.1474	0.0347	-0.3675	0.0363
3	225	0.5995	0.2763	0.0010	-0.0691	0.0131	0.1021	0.0411	-0.4039	0.0291
3	225	0.6498	0.3090	0.0007	-0.1115	0.0151	0.0417	0.0473	-0.3200	0.0327
3	225	0.6890	0.3426	0.0010	-0.1272	0.0160	-0.0704	0.0528	-0.3319	0.0404
3	225	0.7495	0.4005	0.0013	-0.1556	0.0184	-0.2441	0.0613	-0.2551	0.0351
3	225	0.7998	0.4284	0.0017	-0.1791	0.0201	-0.4461	0.0669	-0.4333	0.0339
3	225	0.8577	0.5075	0.0018	-0.1864	0.0221	-0.7632	0.0762	-0.5801	0.0353
3	225	0.9178	0.5016	0.0013	-0.2297	0.0247	-1.0755	0.0840	-0.5739	0.0268
3	225	0.9729	0.5112	0.0014	-0.2333	0.0273	-1.4249	0.0914	-0.6565	0.0440

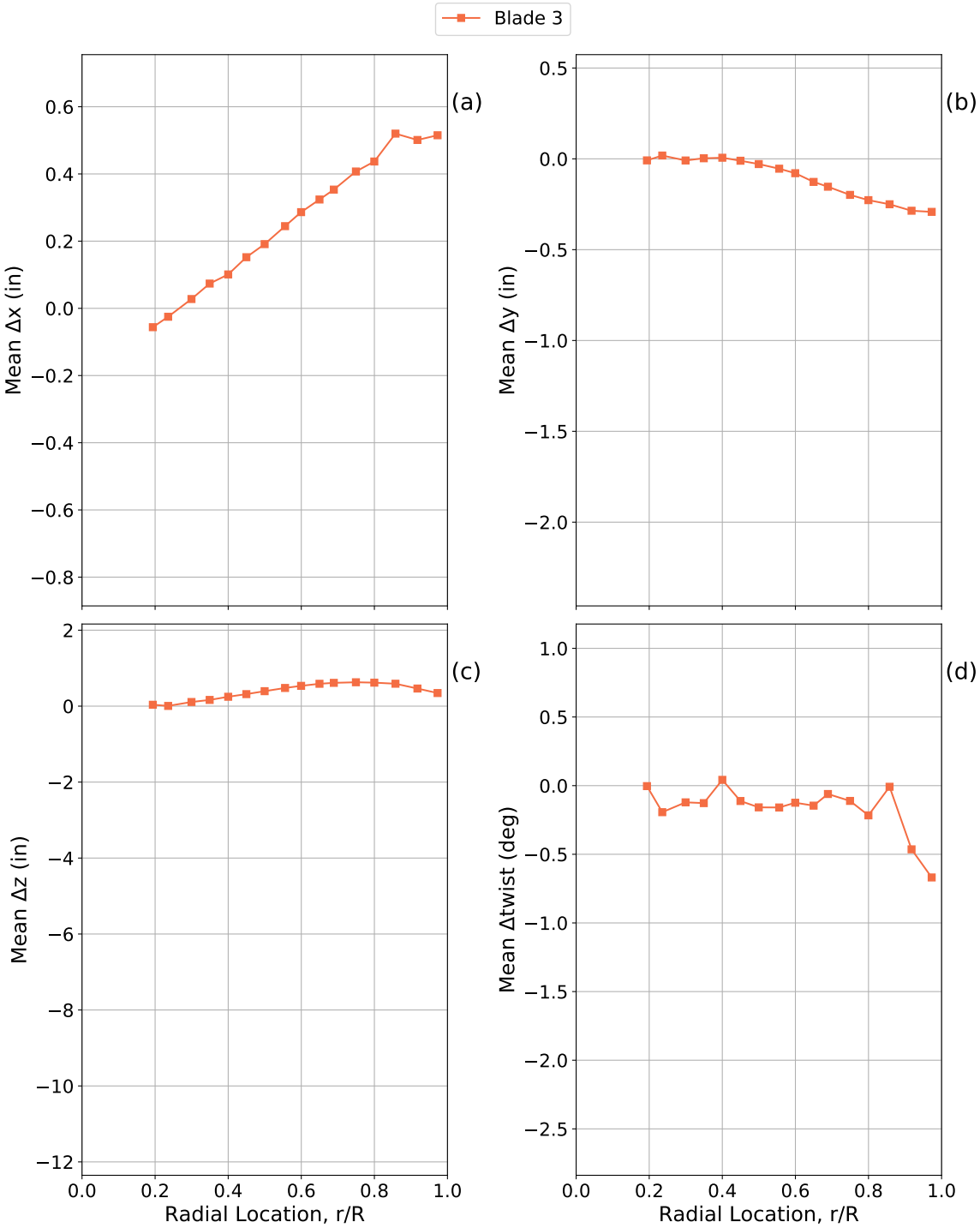


Figure 4.11-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0561	0.0013	-0.0085	0.0007	0.0363	0.0019	-0.0035	0.0125
3	240.12	0.2357	-0.0250	0.0009	0.0182	0.0008	0.0057	0.0022	-0.1934	0.0179
3	240.12	0.2995	0.0277	0.0011	-0.0090	0.0023	0.1090	0.0053	-0.1217	0.0255
3	240.12	0.3493	0.0737	0.0009	0.0031	0.0044	0.1633	0.0106	-0.1272	0.0215
3	240.12	0.4000	0.1009	0.0010	0.0061	0.0061	0.2470	0.0144	0.0421	0.0231
3	240.12	0.4497	0.1522	0.0020	-0.0104	0.0080	0.3162	0.0155	-0.1120	0.0289
3	240.12	0.4997	0.1911	0.0017	-0.0288	0.0106	0.3940	0.0233	-0.1582	0.0267
3	240.12	0.5556	0.2446	0.0022	-0.0543	0.0134	0.4783	0.0227	-0.1591	0.0433
3	240.12	0.5995	0.2863	0.0023	-0.0790	0.0149	0.5341	0.0309	-0.1244	0.0162
3	240.12	0.6498	0.3239	0.0027	-0.1270	0.0174	0.5885	0.0341	-0.1457	0.0283
3	240.12	0.6890	0.3534	0.0028	-0.1535	0.0197	0.6128	0.0377	-0.0609	0.0203
3	240.12	0.7495	0.4073	0.0019	-0.1984	0.0235	0.6286	0.0421	-0.1113	0.0261
3	240.12	0.7998	0.4370	0.0021	-0.2274	0.0266	0.6185	0.0477	-0.2165	0.0218
3	240.12	0.8577	0.5200	0.0017	-0.2501	0.0306	0.5899	0.0518	-0.0082	0.0242
3	240.12	0.9178	0.5011	0.0023	-0.2857	0.0352	0.4635	0.0579	-0.4639	0.0201
3	240.12	0.9729	0.5151	0.0032	-0.2919	0.0391	0.3448	0.0648	-0.6688	0.0272

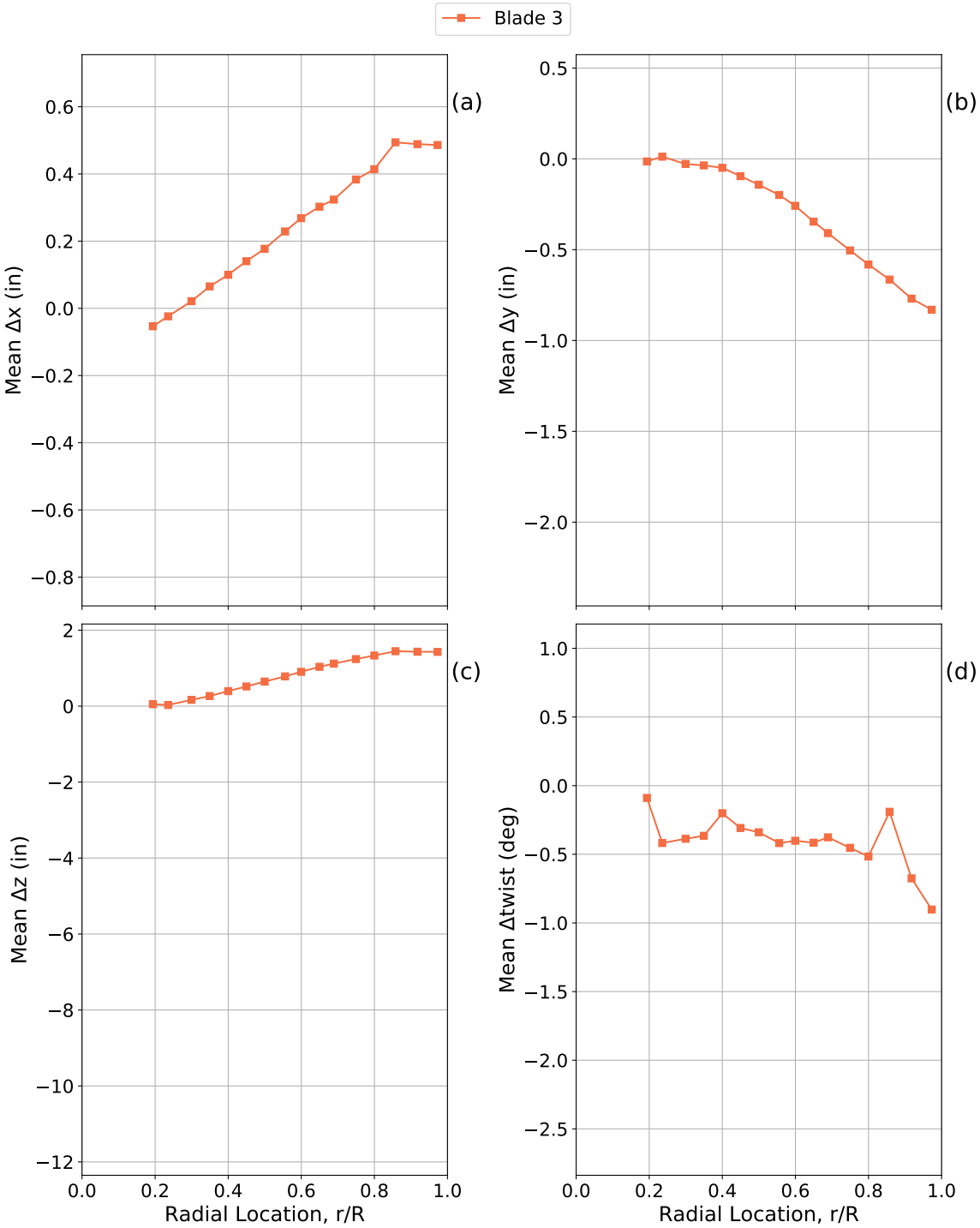


Figure 4.11-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0533	0.0016	-0.0142	0.0007	0.0526	0.0023	-0.0896	0.0187
3	254.88	0.2357	-0.0238	0.0009	0.0119	0.0009	0.0298	0.0018	-0.4178	0.0489
3	254.88	0.2995	0.0213	0.0007	-0.0284	0.0016	0.1649	0.0059	-0.3871	0.0556
3	254.88	0.3493	0.0652	0.0010	-0.0361	0.0024	0.2653	0.0086	-0.3655	0.0597
3	254.88	0.4000	0.0999	0.0008	-0.0494	0.0036	0.3953	0.0127	-0.2010	0.0564
3	254.88	0.4497	0.1403	0.0013	-0.0954	0.0044	0.5185	0.0150	-0.3085	0.0544
3	254.88	0.4997	0.1772	0.0013	-0.1424	0.0060	0.6464	0.0177	-0.3397	0.0586
3	254.88	0.5556	0.2289	0.0013	-0.1989	0.0071	0.7831	0.0212	-0.4184	0.0542
3	254.88	0.5995	0.2684	0.0016	-0.2586	0.0081	0.9033	0.0247	-0.4015	0.0590
3	254.88	0.6498	0.3025	0.0016	-0.3456	0.0104	1.0357	0.0289	-0.4157	0.0551
3	254.88	0.6890	0.3236	0.0015	-0.4088	0.0115	1.1199	0.0319	-0.3765	0.0520
3	254.88	0.7495	0.3835	0.0022	-0.5043	0.0137	1.2394	0.0357	-0.4529	0.0539
3	254.88	0.7998	0.4142	0.0019	-0.5819	0.0159	1.3321	0.0398	-0.5162	0.0587
3	254.88	0.8577	0.4941	0.0024	-0.6645	0.0186	1.4460	0.0447	-0.1905	0.0531
3	254.88	0.9178	0.4887	0.0019	-0.7695	0.0218	1.4325	0.0501	-0.6753	0.0540
3	254.88	0.9729	0.4861	0.0031	-0.8307	0.0247	1.4294	0.0564	-0.9024	0.0484

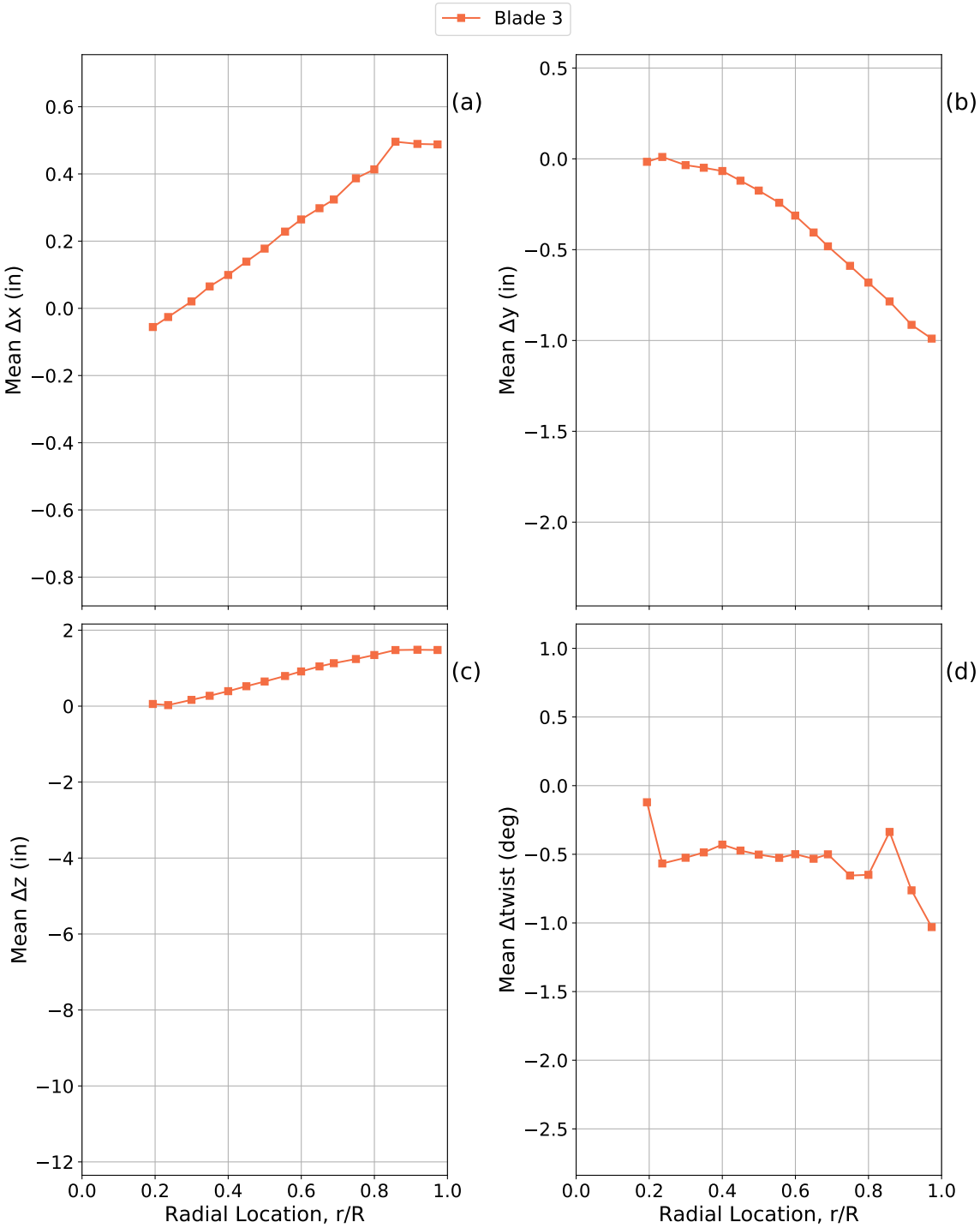


Figure 4.11-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0556	0.0026	-0.0164	0.0008	0.0569	0.0026	-0.1210	0.0209
3	260.16	0.2357	-0.0259	0.0015	0.0104	0.0013	0.0269	0.0037	-0.5670	0.0458
3	260.16	0.2995	0.0205	0.0011	-0.0346	0.0028	0.1649	0.0082	-0.5253	0.0575
3	260.16	0.3493	0.0652	0.0014	-0.0491	0.0050	0.2725	0.0150	-0.4863	0.0485
3	260.16	0.4000	0.0993	0.0018	-0.0670	0.0077	0.3943	0.0215	-0.4296	0.0481
3	260.16	0.4497	0.1391	0.0013	-0.1203	0.0091	0.5237	0.0254	-0.4728	0.0485
3	260.16	0.4997	0.1778	0.0028	-0.1747	0.0112	0.6484	0.0313	-0.5021	0.0503
3	260.16	0.5556	0.2284	0.0021	-0.2417	0.0137	0.7930	0.0384	-0.5259	0.0472
3	260.16	0.5995	0.2646	0.0019	-0.3124	0.0160	0.9134	0.0439	-0.4994	0.0500
3	260.16	0.6498	0.2980	0.0017	-0.4054	0.0180	1.0463	0.0493	-0.5324	0.0493
3	260.16	0.6890	0.3239	0.0019	-0.4816	0.0201	1.1303	0.0537	-0.5003	0.0480
3	260.16	0.7495	0.3870	0.0020	-0.5889	0.0230	1.2407	0.0626	-0.6547	0.0462
3	260.16	0.7998	0.4135	0.0018	-0.6812	0.0256	1.3457	0.0686	-0.6497	0.0430
3	260.16	0.8577	0.4959	0.0021	-0.7852	0.0290	1.4768	0.0776	-0.3372	0.0466
3	260.16	0.9178	0.4893	0.0021	-0.9138	0.0324	1.4844	0.0854	-0.7625	0.0589
3	260.16	0.9729	0.4879	0.0028	-0.9896	0.0364	1.4783	0.0931	-1.0304	0.0506

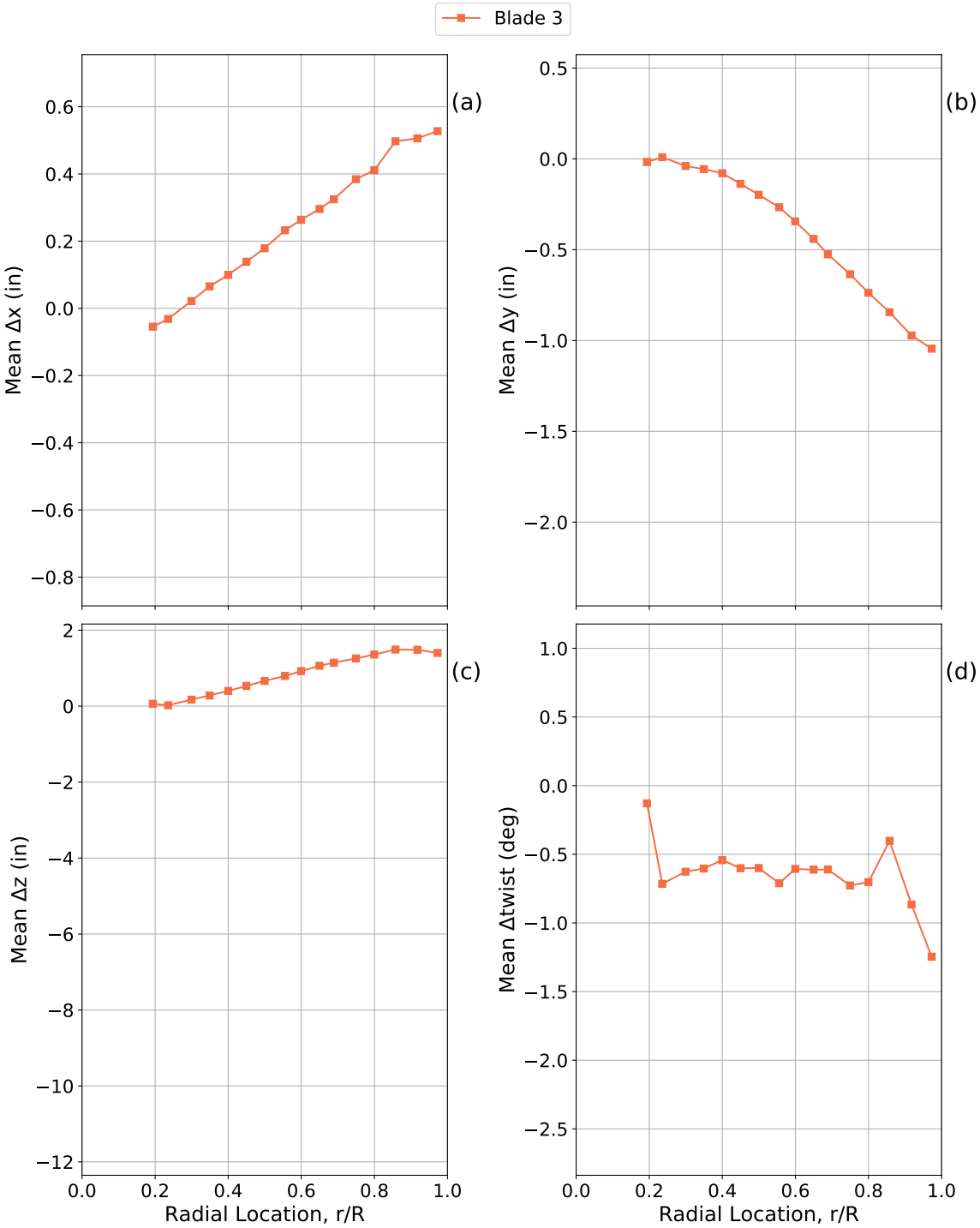


Figure 4.11-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0547	0.0032	-0.0174	0.0009	0.0625	0.0049	-0.1288	0.0224
3	265.08	0.2357	-0.0315	0.0016	0.0091	0.0010	0.0221	0.0030	-0.7148	0.0707
3	265.08	0.2995	0.0216	0.0013	-0.0394	0.0034	0.1702	0.0132	-0.6267	0.0668
3	265.08	0.3493	0.0655	0.0013	-0.0566	0.0052	0.2813	0.0215	-0.6036	0.0625
3	265.08	0.4000	0.0996	0.0016	-0.0791	0.0084	0.4002	0.0303	-0.5426	0.0634
3	265.08	0.4497	0.1386	0.0015	-0.1375	0.0113	0.5317	0.0405	-0.6017	0.0593
3	265.08	0.4997	0.1789	0.0022	-0.1978	0.0139	0.6630	0.0503	-0.6003	0.0573
3	265.08	0.5556	0.2323	0.0021	-0.2666	0.0177	0.7953	0.0601	-0.7107	0.0591
3	265.08	0.5995	0.2636	0.0019	-0.3447	0.0205	0.9226	0.0667	-0.6068	0.0647
3	265.08	0.6498	0.2957	0.0021	-0.4406	0.0239	1.0630	0.0753	-0.6119	0.0603
3	265.08	0.6890	0.3246	0.0021	-0.5255	0.0266	1.1440	0.0807	-0.6109	0.0608
3	265.08	0.7495	0.3843	0.0027	-0.6353	0.0310	1.2558	0.0895	-0.7271	0.0594
3	265.08	0.7998	0.4112	0.0028	-0.7369	0.0349	1.3583	0.0978	-0.7027	0.0612
3	265.08	0.8577	0.4971	0.0030	-0.8445	0.0394	1.4905	0.1084	-0.4017	0.0562
3	265.08	0.9178	0.5060	0.0034	-0.9723	0.0434	1.4832	0.1195	-0.8660	0.0577
3	265.08	0.9729	0.5274	0.0045	-1.0450	0.0482	1.4014	0.1297	-1.2461	0.0620

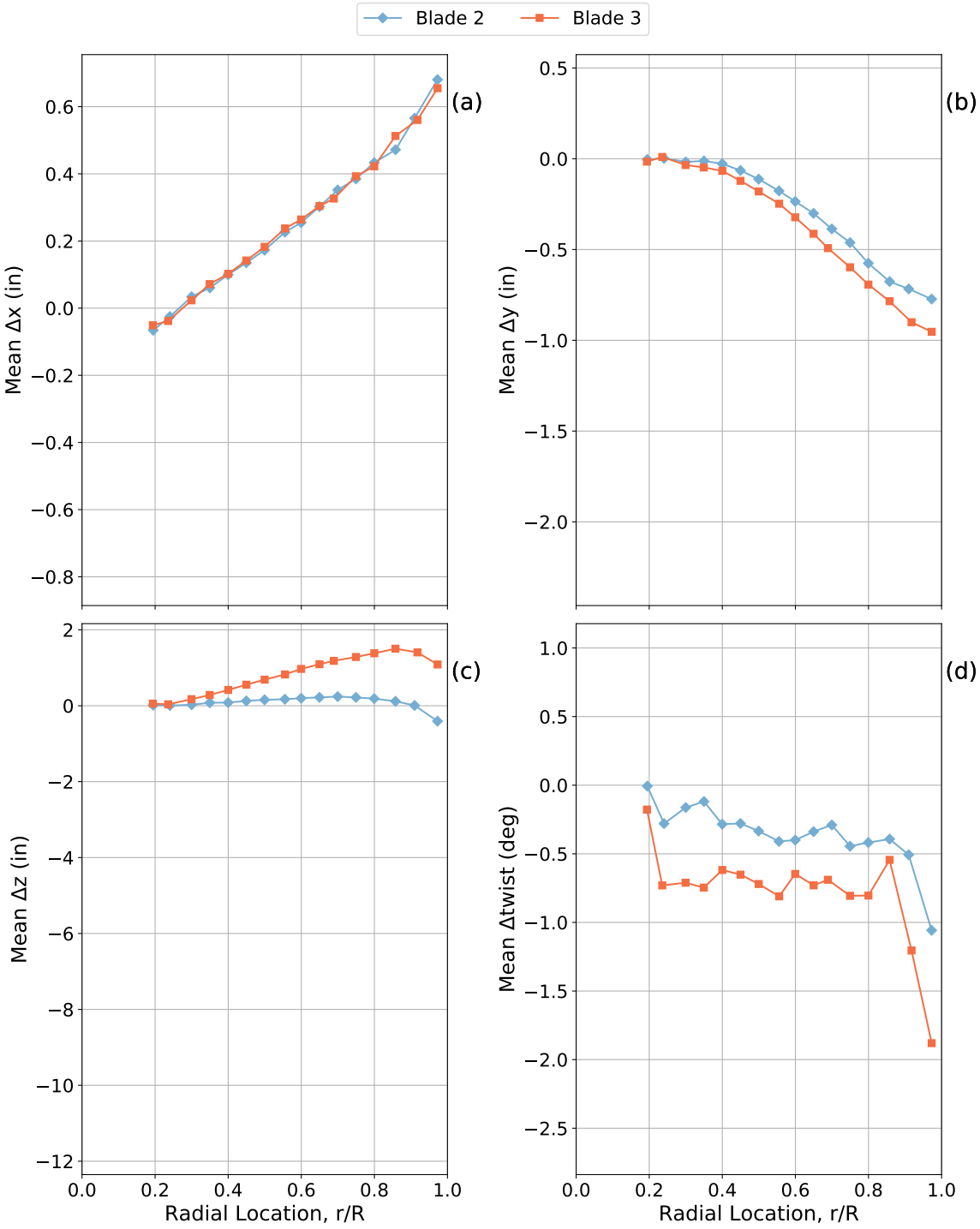


Figure 4.11-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0658	0.0027	-0.0043	0.0008	0.0158	0.0034	-0.0068	0.0209
2	270.35	0.2405	-0.0251	0.0018	0.0021	0.0011	0.0045	0.0037	-0.2797	0.0629
2	270.35	0.2999	0.0339	0.0017	-0.0175	0.0024	0.0256	0.0087	-0.1630	0.0606
2	270.35	0.3498	0.0606	0.0016	-0.0122	0.0032	0.0788	0.0127	-0.1190	0.0632
2	270.35	0.3998	0.0996	0.0017	-0.0275	0.0051	0.0826	0.0183	-0.2844	0.0652
2	270.35	0.4496	0.1353	0.0021	-0.0647	0.0061	0.1268	0.0220	-0.2788	0.0650
2	270.35	0.4995	0.1727	0.0022	-0.1124	0.0075	0.1556	0.0263	-0.3345	0.0672
2	270.35	0.5551	0.2263	0.0022	-0.1769	0.0092	0.1710	0.0322	-0.4098	0.0628
2	270.35	0.5996	0.2547	0.0027	-0.2353	0.0109	0.1974	0.0373	-0.4002	0.0570
2	270.35	0.6497	0.3024	0.0027	-0.3006	0.0129	0.2206	0.0424	-0.3385	0.0690
2	270.35	0.6996	0.3519	0.0026	-0.3866	0.0149	0.2407	0.0491	-0.2901	0.0644
2	270.35	0.7495	0.3851	0.0028	-0.4618	0.0175	0.2193	0.0550	-0.4447	0.0647
2	270.35	0.7996	0.4333	0.0022	-0.5757	0.0207	0.1874	0.0628	-0.4180	0.0581
2	270.35	0.8578	0.4717	0.0023	-0.6765	0.0233	0.1166	0.0691	-0.3930	0.0726
2	270.35	0.9100	0.5658	0.0024	-0.7171	0.0272	0.0083	0.0728	-0.5071	0.0833
2	270.35	0.9727	0.6805	0.0029	-0.7728	0.0306	-0.4074	0.0859	-1.0576	0.0473
3	270	0.1938	-0.0510	0.0072	-0.0159	0.0016	0.0560	0.0068	-0.1778	0.0144
3	270	0.2357	-0.0383	0.0028	0.0099	0.0013	0.0366	0.0040	-0.7305	0.0962
3	270	0.2995	0.0233	0.0020	-0.0345	0.0048	0.1723	0.0181	-0.7108	0.0704
3	270	0.3493	0.0717	0.0022	-0.0480	0.0075	0.2828	0.0249	-0.7467	0.0873
3	270	0.4000	0.1023	0.0022	-0.0667	0.0113	0.4163	0.0373	-0.6182	0.0740
3	270	0.4497	0.1419	0.0014	-0.1217	0.0136	0.5545	0.0445	-0.6518	0.0859
3	270	0.4997	0.1827	0.0020	-0.1801	0.0164	0.6867	0.0535	-0.7202	0.0842
3	270	0.5556	0.2375	0.0020	-0.2479	0.0195	0.8241	0.0653	-0.8101	0.0824
3	270	0.5995	0.2640	0.0021	-0.3227	0.0221	0.9698	0.0739	-0.6468	0.0809
3	270	0.6498	0.3041	0.0019	-0.4133	0.0244	1.0934	0.0842	-0.7299	0.0806
3	270	0.6890	0.3263	0.0017	-0.4922	0.0266	1.1823	0.0938	-0.6894	0.0801
3	270	0.7495	0.3927	0.0021	-0.5978	0.0298	1.2846	0.1082	-0.8063	0.0858
3	270	0.7998	0.4225	0.0019	-0.6932	0.0324	1.3817	0.1202	-0.8043	0.0860
3	270	0.8577	0.5127	0.0021	-0.7845	0.0355	1.5025	0.1349	-0.5443	0.0779
3	270	0.9178	0.5605	0.0021	-0.9003	0.0386	1.4055	0.1473	-1.2047	0.0759
3	270	0.9729	0.6550	0.0039	-0.9533	0.0416	1.0868	0.1562	-1.8801	0.0827

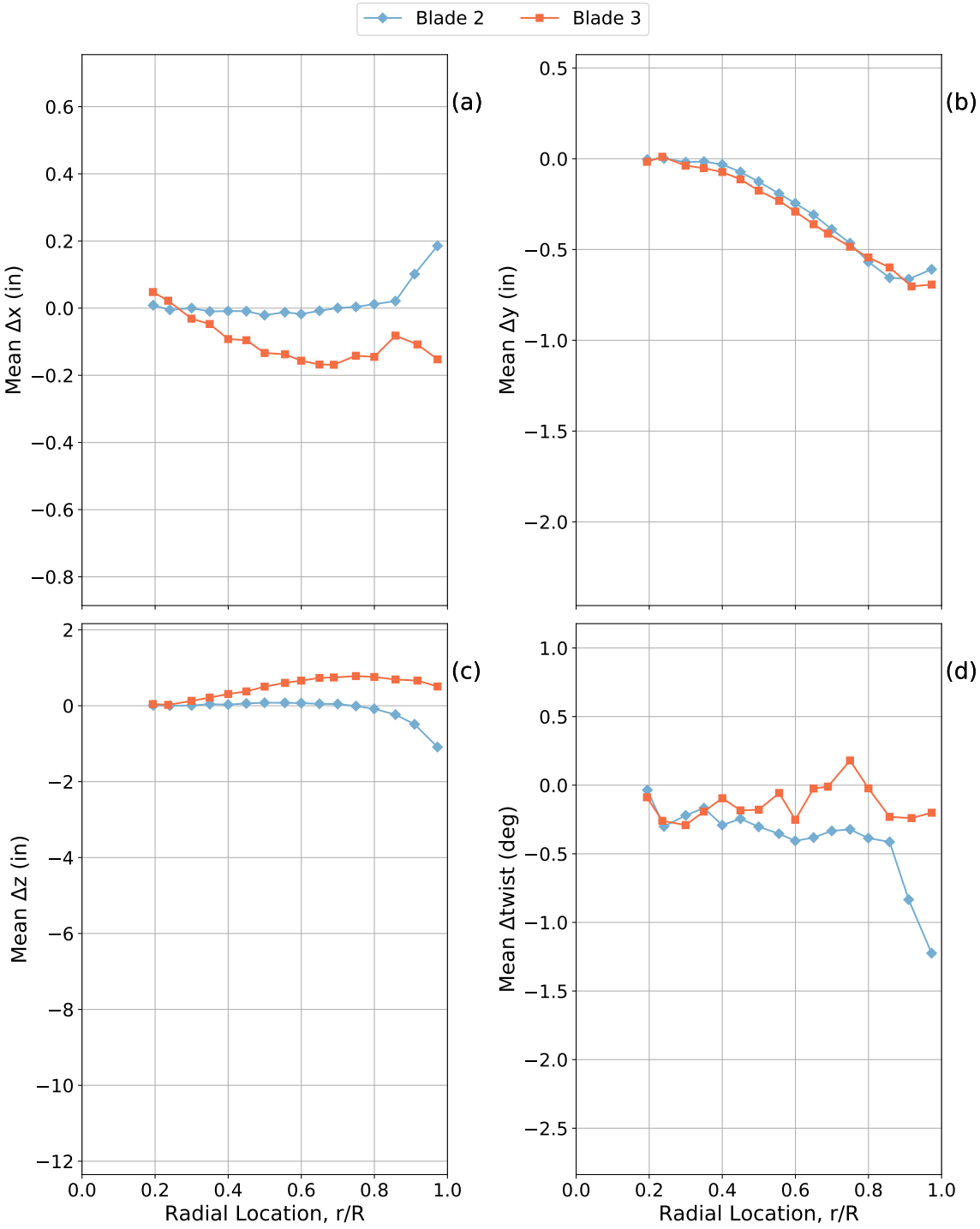


Figure 4.11-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0087	0.0043	-0.0046	0.0017	0.0092	0.0056	-0.0353	0.0356
2	274.92	0.2405	-0.0050	0.0014	0.0014	0.0014	0.0007	0.0058	-0.3009	0.1047
2	274.92	0.2999	0.0001	0.0017	-0.0188	0.0053	0.0063	0.0157	-0.2199	0.1080
2	274.92	0.3498	-0.0098	0.0014	-0.0152	0.0090	0.0392	0.0257	-0.1670	0.1071
2	274.92	0.3998	-0.0086	0.0014	-0.0317	0.0129	0.0294	0.0367	-0.2913	0.1047
2	274.92	0.4496	-0.0090	0.0013	-0.0728	0.0168	0.0594	0.0470	-0.2446	0.1065
2	274.92	0.4995	-0.0209	0.0015	-0.1263	0.0209	0.0788	0.0586	-0.3033	0.0964
2	274.92	0.5551	-0.0121	0.0012	-0.1920	0.0250	0.0761	0.0709	-0.3538	0.1006
2	274.92	0.5996	-0.0176	0.0013	-0.2453	0.0288	0.0698	0.0809	-0.4058	0.1049
2	274.92	0.6497	-0.0079	0.0011	-0.3085	0.0330	0.0503	0.0925	-0.3818	0.1051
2	274.92	0.6996	0.0005	0.0014	-0.3888	0.0365	0.0448	0.1019	-0.3333	0.1063
2	274.92	0.7495	0.0038	0.0013	-0.4649	0.0404	-0.0076	0.1114	-0.3221	0.1116
2	274.92	0.7996	0.0118	0.0016	-0.5680	0.0445	-0.0822	0.1237	-0.3860	0.1106
2	274.92	0.8578	0.0211	0.0018	-0.6553	0.0502	-0.2347	0.1356	-0.4133	0.1023
2	274.92	0.9100	0.1014	0.0036	-0.6628	0.0538	-0.4891	0.1460	-0.8341	0.1095
2	274.92	0.9727	0.1855	0.0058	-0.6090	0.0617	-1.0885	0.1534	-1.2246	0.1237
3	274.92	0.1938	0.0480	0.0022	-0.0170	0.0008	0.0438	0.0039	-0.0884	0.0254
3	274.92	0.2357	0.0222	0.0016	0.0109	0.0025	0.0224	0.0088	-0.2594	0.0526
3	274.92	0.2995	-0.0312	0.0012	-0.0379	0.0051	0.1283	0.0203	-0.2911	0.0667
3	274.92	0.3493	-0.0472	0.0011	-0.0519	0.0081	0.2137	0.0293	-0.1924	0.0798
3	274.92	0.4000	-0.0921	0.0040	-0.0731	0.0138	0.3095	0.0498	-0.0954	0.0639
3	274.92	0.4497	-0.0955	0.0016	-0.1137	0.0142	0.3777	0.0581	-0.1836	0.0541
3	274.92	0.4997	-0.1334	0.0019	-0.1758	0.0168	0.5023	0.0665	-0.1791	0.0789
3	274.92	0.5556	-0.1374	0.0018	-0.2320	0.0200	0.6031	0.0772	-0.0568	0.0966
3	274.92	0.5995	-0.1564	0.0024	-0.2909	0.0223	0.6613	0.0890	-0.2523	0.0818
3	274.92	0.6498	-0.1679	0.0028	-0.3610	0.0260	0.7326	0.1001	-0.0244	0.0832
3	274.92	0.6890	-0.1685	0.0030	-0.4125	0.0286	0.7449	0.1126	-0.0106	0.0429
3	274.92	0.7495	-0.1416	0.0036	-0.4846	0.0310	0.7810	0.1219	0.1800	0.0982
3	274.92	0.7998	-0.1450	0.0029	-0.5438	0.0347	0.7573	0.1389	-0.0231	0.0906
3	274.92	0.8577	-0.0818	0.0045	-0.5987	0.0381	0.6910	0.1597	-0.2312	0.0633
3	274.92	0.9178	-0.1080	0.0067	-0.7032	0.0447	0.6624	0.1744	-0.2399	0.2010
3	274.92	0.9729	-0.1525	0.0073	-0.6929	0.0466	0.5069	0.1951	-0.2008	0.1820

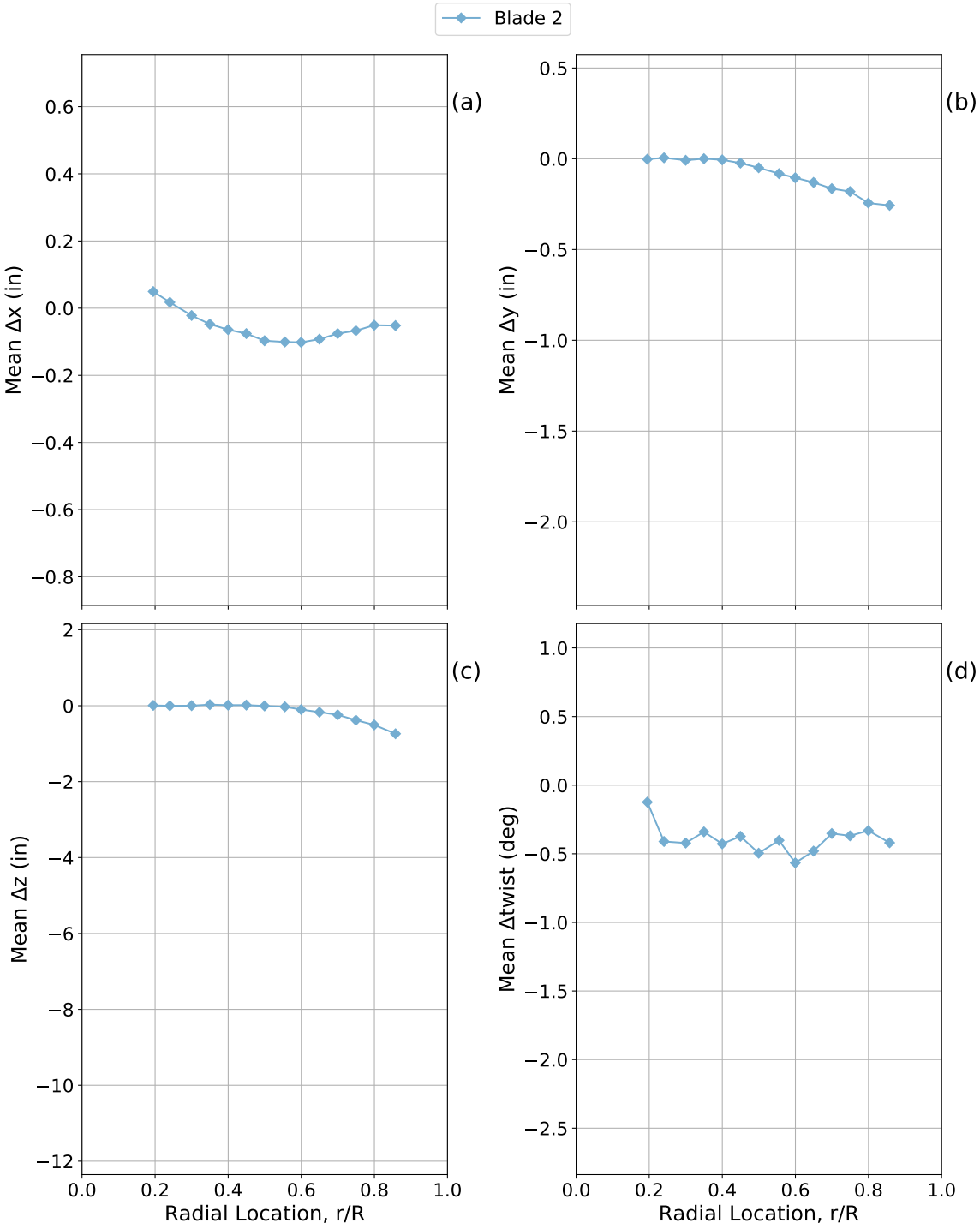


Figure 4.11-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0494	0.0023	-0.0025	0.0005	0.0078	0.0024	-0.1238	0.0324
2	285.12	0.2405	0.0175	0.0008	0.0051	0.0015	-0.0026	0.0046	-0.4103	0.0240
2	285.12	0.2999	-0.0219	0.0012	-0.0085	0.0023	0.0016	0.0098	-0.4216	0.0590
2	285.12	0.3498	-0.0476	0.0024	0.0002	0.0046	0.0286	0.0131	-0.3404	0.0561
2	285.12	0.3998	-0.0642	0.0030	-0.0061	0.0069	0.0150	0.0222	-0.4276	0.0557
2	285.12	0.4496	-0.0758	0.0037	-0.0240	0.0094	0.0165	0.0277	-0.3729	0.0634
2	285.12	0.4995	-0.0970	0.0039	-0.0498	0.0114	-0.0059	0.0324	-0.4956	0.0395
2	285.12	0.5551	-0.1007	0.0037	-0.0822	0.0140	-0.0283	0.0411	-0.4023	0.0619
2	285.12	0.5996	-0.1018	0.0041	-0.1049	0.0160	-0.1017	0.0457	-0.5662	0.0548
2	285.12	0.6497	-0.0923	0.0040	-0.1306	0.0185	-0.1700	0.0559	-0.4804	0.0571
2	285.12	0.6996	-0.0757	0.0038	-0.1647	0.0210	-0.2404	0.0629	-0.3523	0.0376
2	285.12	0.7495	-0.0671	0.0052	-0.1808	0.0235	-0.3806	0.0727	-0.3692	0.0555
2	285.12	0.7996	-0.0508	0.0071	-0.2439	0.0270	-0.5048	0.0811	-0.3314	0.0462
2	285.12	0.8578	-0.0519	0.0126	-0.2569	0.0338	-0.7390	0.0950	-0.4197	0.0970

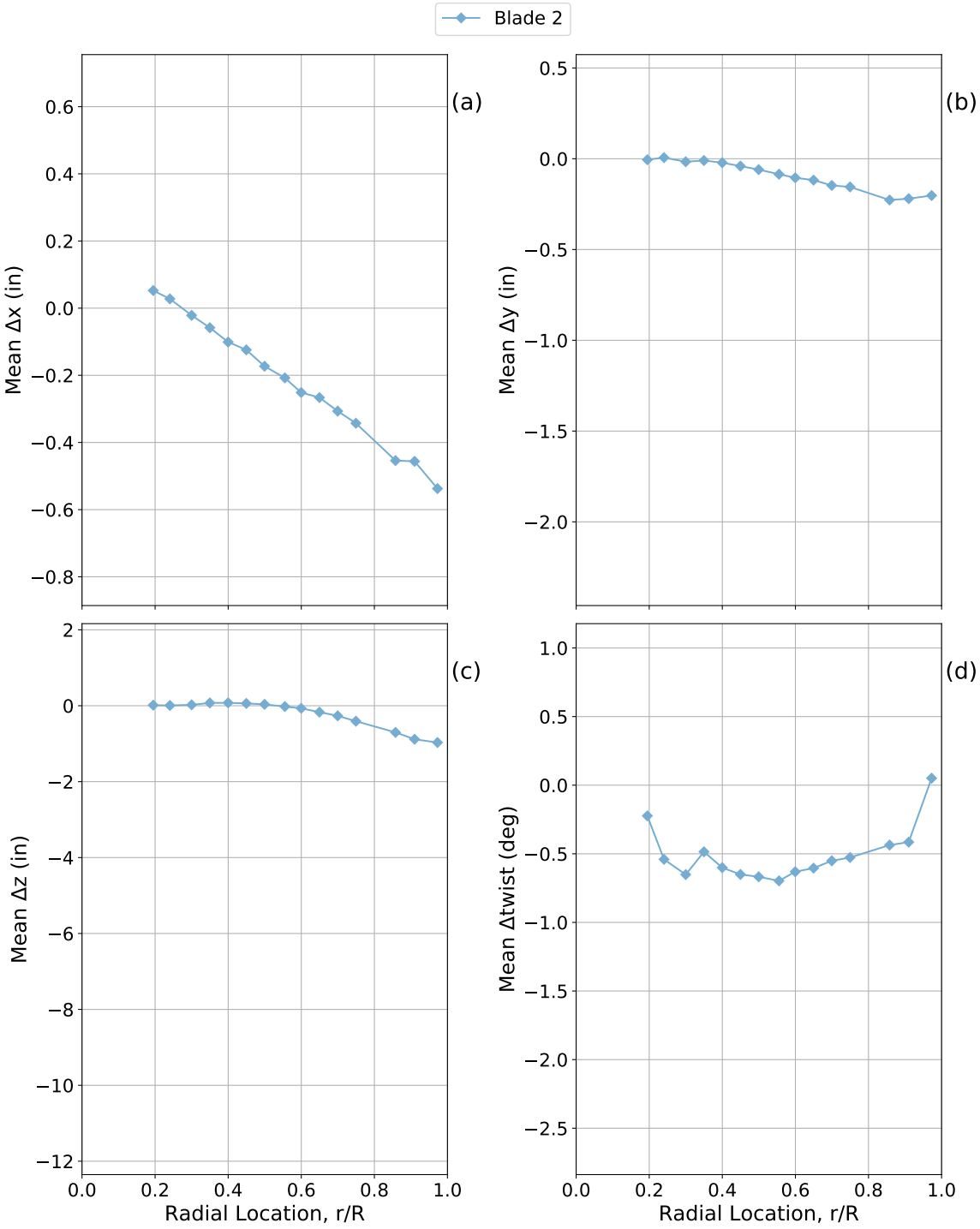


Figure 4.11-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0525	0.0014	-0.0054	0.0004	0.0146	0.0016	-0.2236	0.0278
2	299.88	0.2405	0.0276	0.0017	0.0061	0.0015	0.0067	0.0062	-0.5406	0.0185
2	299.88	0.2999	-0.0214	0.0024	-0.0166	0.0030	0.0232	0.0076	-0.6515	0.0477
2	299.88	0.3498	-0.0583	0.0027	-0.0098	0.0036	0.0736	0.0126	-0.4855	0.0628
2	299.88	0.3998	-0.1009	0.0034	-0.0217	0.0070	0.0768	0.0207	-0.6010	0.0429
2	299.88	0.4496	-0.1242	0.0008	-0.0405	0.0080	0.0609	0.0265	-0.6505	0.0426
2	299.88	0.4995	-0.1730	0.0016	-0.0598	0.0088	0.0366	0.0300	-0.6677	0.0538
2	299.88	0.5551	-0.2077	0.0030	-0.0852	0.0123	-0.0216	0.0403	-0.6973	0.0282
2	299.88	0.5996	-0.2512	0.0019	-0.1048	0.0143	-0.0682	0.0474	-0.6307	0.0347
2	299.88	0.6497	-0.2663	0.0025	-0.1177	0.0166	-0.1687	0.0530	-0.6045	0.0382
2	299.88	0.6996	-0.3066	0.0019	-0.1471	0.0186	-0.2664	0.0620	-0.5512	0.0309
2	299.88	0.7495	-0.3427	0.0021	-0.1553	0.0219	-0.4074	0.0685	-0.5271	0.0396
2	299.88	0.8578	-0.4539	0.0026	-0.2273	0.0292	-0.7021	0.0845	-0.4364	0.0524
2	299.88	0.9100	-0.4562	0.0033	-0.2198	0.0313	-0.8831	0.0954	-0.4149	0.0352
2	299.88	0.9727	-0.5373	0.0042	-0.2026	0.0353	-0.9689	0.1100	0.0509	0.0287

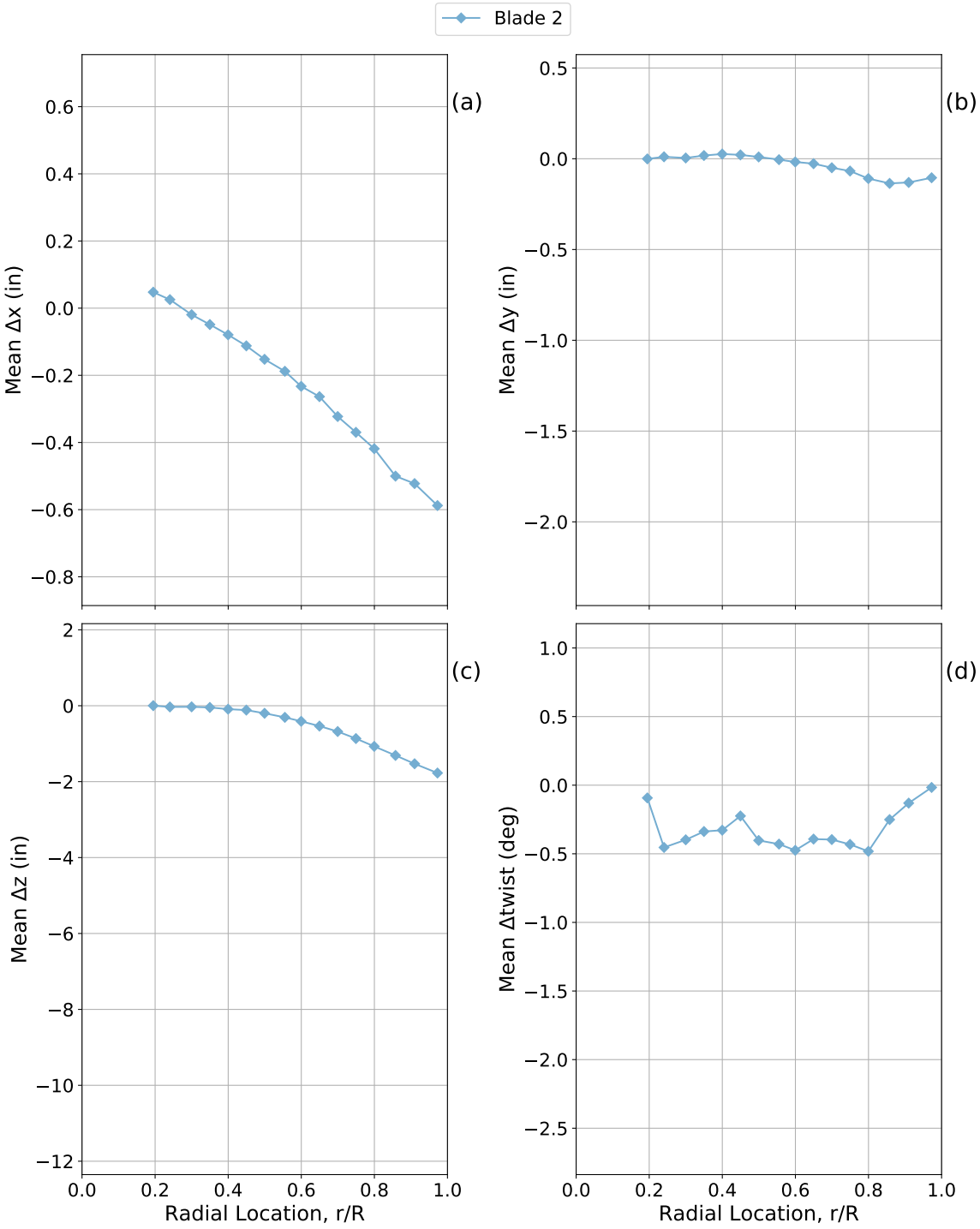


Figure 4.11-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0476	0.0011	-0.0010	0.0007	0.0019	0.0022	-0.0929	0.0172
2	315	0.2405	0.0254	0.0012	0.0107	0.0011	-0.0318	0.0030	-0.4539	0.0321
2	315	0.2999	-0.0194	0.0009	0.0043	0.0026	-0.0291	0.0073	-0.3980	0.0351
2	315	0.3498	-0.0488	0.0011	0.0177	0.0043	-0.0452	0.0115	-0.3376	0.0383
2	315	0.3998	-0.0794	0.0013	0.0261	0.0066	-0.0903	0.0173	-0.3282	0.0552
2	315	0.4496	-0.1123	0.0019	0.0212	0.0080	-0.1148	0.0166	-0.2244	0.0349
2	315	0.4995	-0.1523	0.0030	0.0100	0.0095	-0.1990	0.0204	-0.4028	0.0467
2	315	0.5551	-0.1880	0.0021	-0.0050	0.0102	-0.3067	0.0218	-0.4294	0.0298
2	315	0.5996	-0.2328	0.0016	-0.0177	0.0121	-0.4101	0.0263	-0.4749	0.0385
2	315	0.6497	-0.2635	0.0017	-0.0271	0.0134	-0.5360	0.0296	-0.3929	0.0311
2	315	0.6996	-0.3227	0.0019	-0.0495	0.0148	-0.6797	0.0366	-0.3965	0.0324
2	315	0.7495	-0.3698	0.0016	-0.0677	0.0162	-0.8646	0.0389	-0.4316	0.0273
2	315	0.7996	-0.4185	0.0019	-0.1091	0.0180	-1.0713	0.0440	-0.4821	0.0284
2	315	0.8578	-0.5002	0.0016	-0.1358	0.0203	-1.3096	0.0480	-0.2508	0.0289
2	315	0.9100	-0.5224	0.0018	-0.1306	0.0227	-1.5288	0.0525	-0.1307	0.0305
2	315	0.9727	-0.5879	0.0024	-0.1047	0.0255	-1.7727	0.0573	-0.0164	0.0288

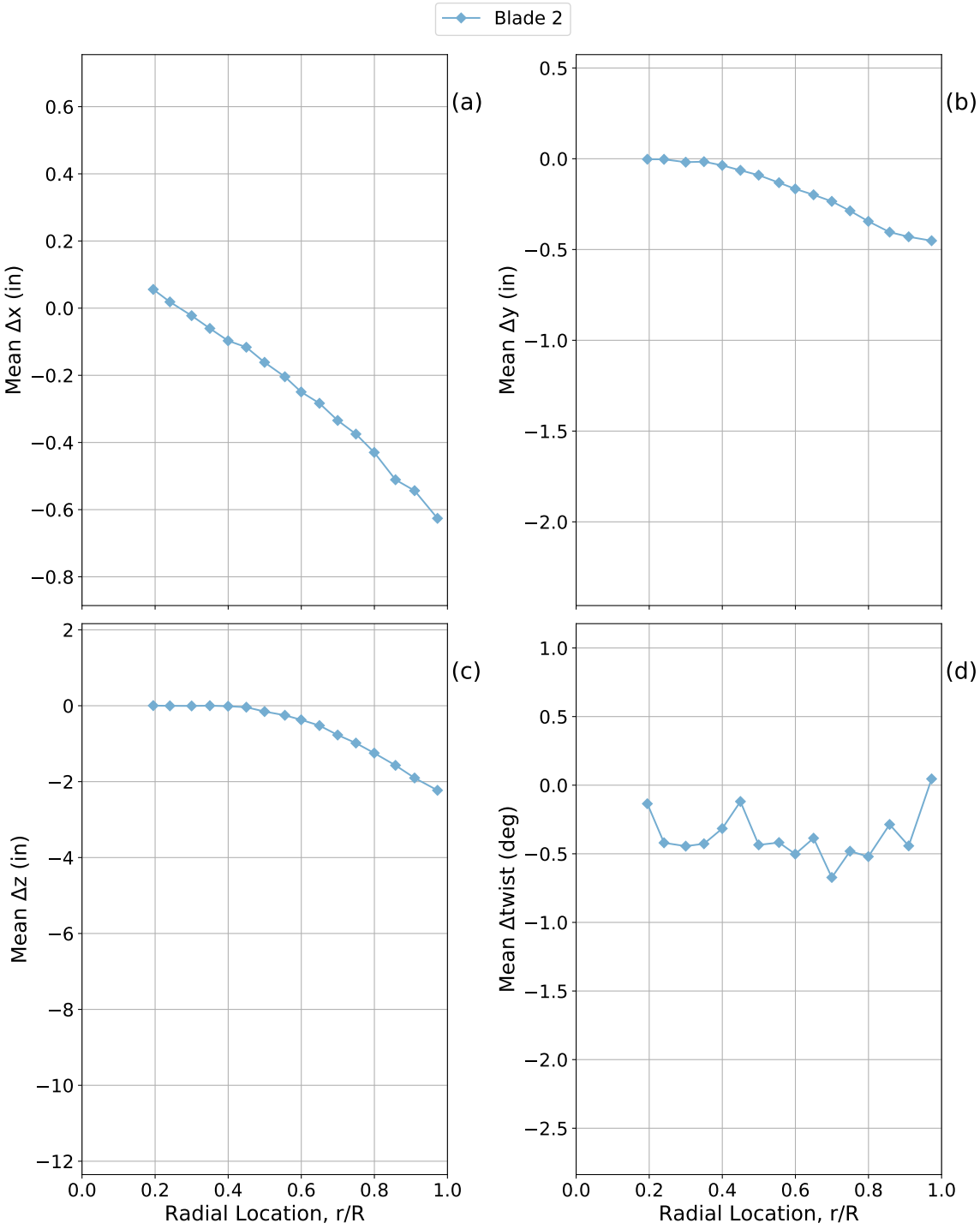


Figure 4.11-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0558	0.0013	-0.0027	0.0005	0.0032	0.0023	-0.1351	0.0126
2	330.12	0.2405	0.0186	0.0008	-0.0032	0.0011	-0.0031	0.0030	-0.4200	0.0225
2	330.12	0.2999	-0.0224	0.0022	-0.0188	0.0031	-0.0053	0.0090	-0.4444	0.0255
2	330.12	0.3498	-0.0604	0.0021	-0.0161	0.0031	0.0010	0.0138	-0.4270	0.0338
2	330.12	0.3998	-0.0971	0.0019	-0.0366	0.0065	-0.0130	0.0213	-0.3161	0.0331
2	330.12	0.4496	-0.1164	0.0026	-0.0637	0.0072	-0.0389	0.0266	-0.1190	0.0549
2	330.12	0.4995	-0.1614	0.0024	-0.0904	0.0105	-0.1533	0.0297	-0.4352	0.0245
2	330.12	0.5551	-0.2043	0.0024	-0.1319	0.0111	-0.2513	0.0352	-0.4181	0.0348
2	330.12	0.5996	-0.2495	0.0026	-0.1662	0.0148	-0.3706	0.0425	-0.5022	0.0322
2	330.12	0.6497	-0.2833	0.0029	-0.1985	0.0153	-0.5227	0.0495	-0.3862	0.0334
2	330.12	0.6996	-0.3344	0.0086	-0.2348	0.0166	-0.7714	0.0585	-0.6726	0.1285
2	330.12	0.7495	-0.3750	0.0024	-0.2871	0.0203	-0.9838	0.0675	-0.4812	0.0425
2	330.12	0.7996	-0.4297	0.0028	-0.3447	0.0228	-1.2479	0.0741	-0.5205	0.0288
2	330.12	0.8578	-0.5110	0.0033	-0.4042	0.0261	-1.5713	0.0838	-0.2862	0.0384
2	330.12	0.9100	-0.5435	0.0031	-0.4299	0.0285	-1.9029	0.0923	-0.4424	0.0315
2	330.12	0.9727	-0.6260	0.0035	-0.4515	0.0325	-2.2286	0.1023	0.0459	0.0412

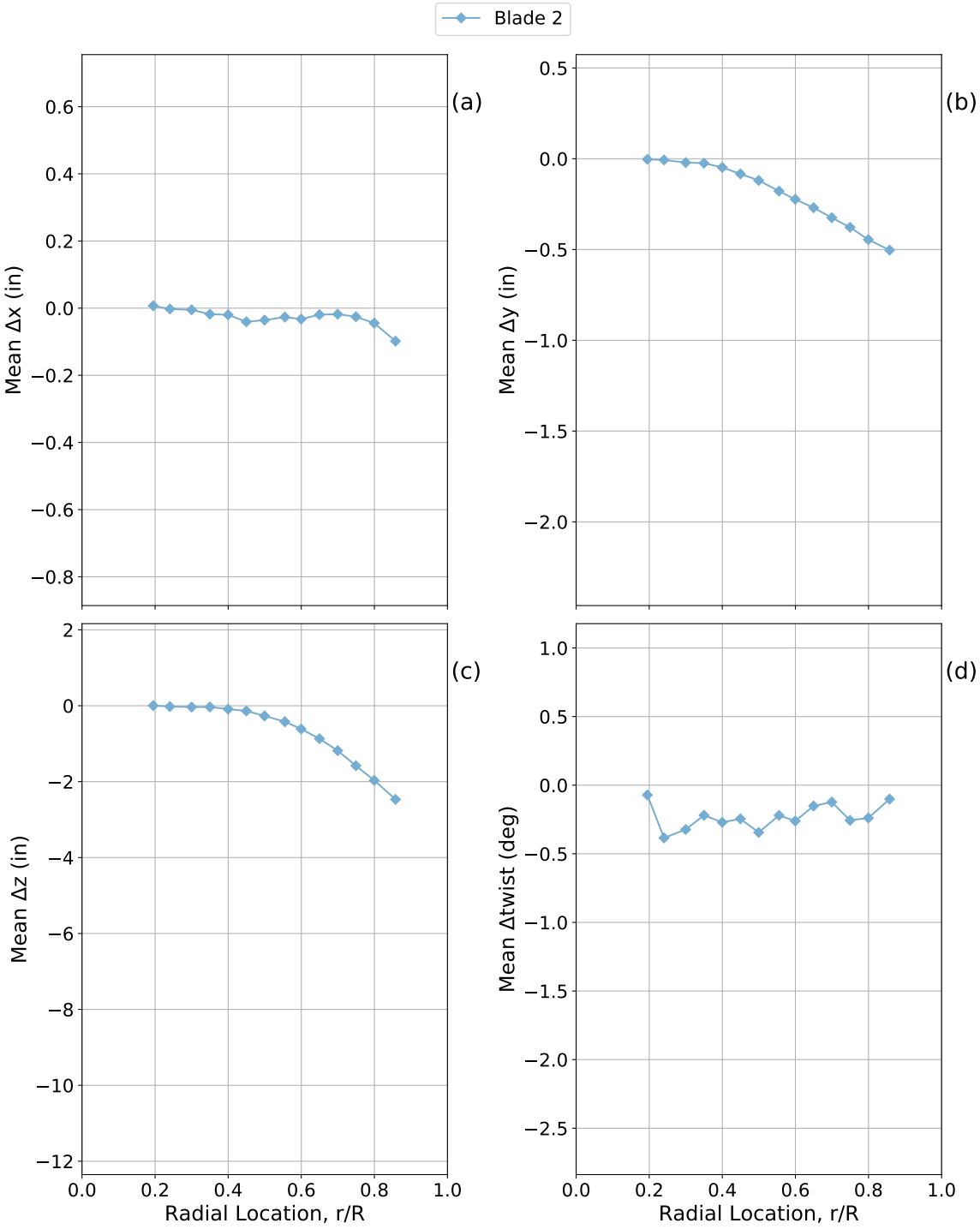


Figure 4.11-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0070	0.0048	-0.0030	0.0006	0.0035	0.0016	-0.0715	0.0181
2	344.88	0.2405	-0.0025	0.0024	-0.0066	0.0010	-0.0221	0.0028	-0.3841	0.0283
2	344.88	0.2999	-0.0050	0.0021	-0.0211	0.0028	-0.0353	0.0054	-0.3232	0.0415
2	344.88	0.3498	-0.0179	0.0035	-0.0244	0.0040	-0.0319	0.0095	-0.2194	0.0401
2	344.88	0.3998	-0.0197	0.0054	-0.0476	0.0066	-0.0885	0.0142	-0.2705	0.0342
2	344.88	0.4496	-0.0407	0.0077	-0.0835	0.0069	-0.1367	0.0170	-0.2454	0.0456
2	344.88	0.4995	-0.0356	0.0081	-0.1194	0.0082	-0.2683	0.0225	-0.3443	0.0276
2	344.88	0.5551	-0.0265	0.0073	-0.1781	0.0103	-0.4211	0.0263	-0.2202	0.0425
2	344.88	0.5996	-0.0325	0.0079	-0.2234	0.0120	-0.6125	0.0322	-0.2610	0.0513
2	344.88	0.6497	-0.0194	0.0050	-0.2697	0.0148	-0.8692	0.0355	-0.1519	0.0426
2	344.88	0.6996	-0.0179	0.0048	-0.3247	0.0165	-1.1836	0.0390	-0.1230	0.0550
2	344.88	0.7495	-0.0257	0.0065	-0.3777	0.0185	-1.5801	0.0470	-0.2562	0.0505
2	344.88	0.7996	-0.0446	0.0085	-0.4455	0.0203	-1.9668	0.0486	-0.2391	0.0733
2	344.88	0.8578	-0.0982	0.0137	-0.5032	0.0234	-2.4670	0.0536	-0.1015	0.1244

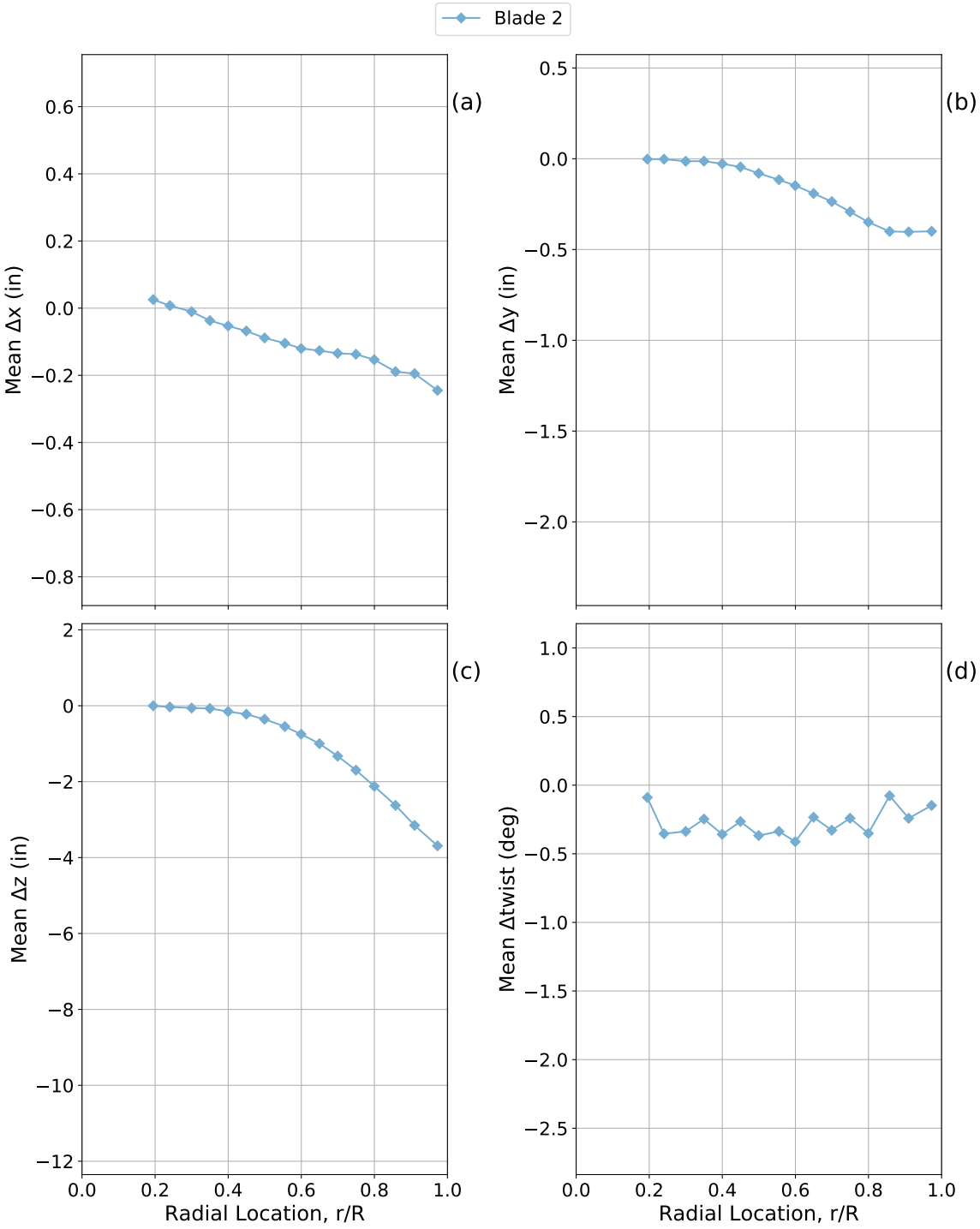


Figure 4.11-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0253	0.0019	-0.0023	0.0011	-0.0026	0.0018	-0.0897	0.0122
2	350.16	0.2405	0.0076	0.0014	-0.0025	0.0036	-0.0327	0.0039	-0.3540	0.0161
2	350.16	0.2999	-0.0105	0.0014	-0.0138	0.0057	-0.0609	0.0082	-0.3370	0.0260
2	350.16	0.3498	-0.0371	0.0016	-0.0132	0.0101	-0.0721	0.0117	-0.2469	0.0236
2	350.16	0.3998	-0.0530	0.0016	-0.0277	0.0163	-0.1522	0.0199	-0.3582	0.0347
2	350.16	0.4496	-0.0680	0.0033	-0.0452	0.0211	-0.2237	0.0241	-0.2648	0.0351
2	350.16	0.4995	-0.0887	0.0032	-0.0805	0.0265	-0.3563	0.0253	-0.3671	0.0292
2	350.16	0.5551	-0.1045	0.0040	-0.1157	0.0310	-0.5477	0.0269	-0.3368	0.0313
2	350.16	0.5996	-0.1202	0.0049	-0.1482	0.0342	-0.7501	0.0336	-0.4116	0.0286
2	350.16	0.6497	-0.1265	0.0054	-0.1915	0.0365	-0.9993	0.0333	-0.2338	0.0276
2	350.16	0.6996	-0.1345	0.0062	-0.2359	0.0388	-1.3293	0.0369	-0.3288	0.0378
2	350.16	0.7495	-0.1372	0.0071	-0.2919	0.0423	-1.6961	0.0394	-0.2409	0.0244
2	350.16	0.7996	-0.1536	0.0092	-0.3491	0.0469	-2.1216	0.0472	-0.3513	0.0415
2	350.16	0.8578	-0.1891	0.0108	-0.4006	0.0535	-2.6241	0.0492	-0.0772	0.0508
2	350.16	0.9100	-0.1950	0.0147	-0.4030	0.0581	-3.1514	0.0532	-0.2413	0.0470
2	350.16	0.9727	-0.2449	0.0179	-0.3995	0.0591	-3.6906	0.0635	-0.1476	0.1223

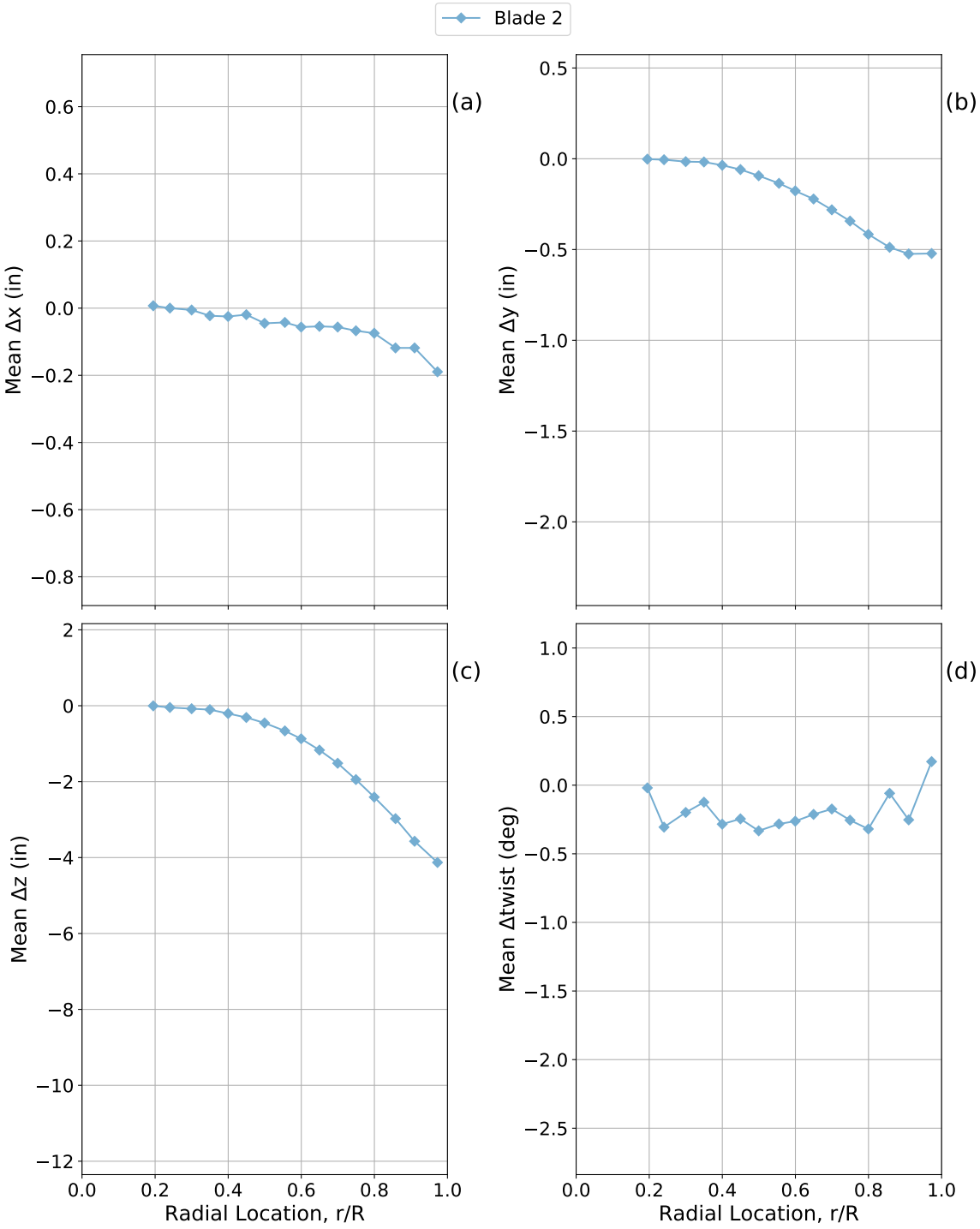


Figure 4.11-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Table 4.11-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 61, point 9. BD run 29, points 4064 to 4074.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0071	0.0022	-0.0022	0.0010	-0.0040	0.0021	-0.0197	0.0167
2	355.08	0.2405	0.0001	0.0011	-0.0053	0.0019	-0.0456	0.0038	-0.3058	0.0266
2	355.08	0.2999	-0.0055	0.0013	-0.0160	0.0043	-0.0788	0.0082	-0.1987	0.0397
2	355.08	0.3498	-0.0226	0.0012	-0.0178	0.0072	-0.1028	0.0136	-0.1241	0.0383
2	355.08	0.3998	-0.0248	0.0019	-0.0358	0.0113	-0.2054	0.0208	-0.2841	0.0435
2	355.08	0.4496	-0.0194	0.0020	-0.0595	0.0138	-0.3103	0.0259	-0.2454	0.0368
2	355.08	0.4995	-0.0451	0.0030	-0.0936	0.0164	-0.4544	0.0314	-0.3327	0.0395
2	355.08	0.5551	-0.0425	0.0037	-0.1354	0.0188	-0.6635	0.0375	-0.2825	0.0400
2	355.08	0.5996	-0.0563	0.0045	-0.1771	0.0221	-0.8708	0.0424	-0.2625	0.0389
2	355.08	0.6497	-0.0542	0.0058	-0.2217	0.0257	-1.1690	0.0502	-0.2128	0.0298
2	355.08	0.6996	-0.0562	0.0048	-0.2813	0.0293	-1.5154	0.0552	-0.1738	0.0340
2	355.08	0.7495	-0.0673	0.0062	-0.3432	0.0330	-1.9452	0.0605	-0.2552	0.0510
2	355.08	0.7996	-0.0747	0.0078	-0.4163	0.0377	-2.4079	0.0704	-0.3193	0.0524
2	355.08	0.8578	-0.1184	0.0074	-0.4879	0.0420	-2.9748	0.0742	-0.0592	0.0581
2	355.08	0.9100	-0.1184	0.0137	-0.5242	0.0460	-3.5707	0.0833	-0.2528	0.0440
2	355.08	0.9727	-0.1896	0.0118	-0.5219	0.0501	-4.1296	0.0978	0.1718	0.0956

4.12 Run 63, Point 8

4.12.1 Pitch, Flap, and Lag

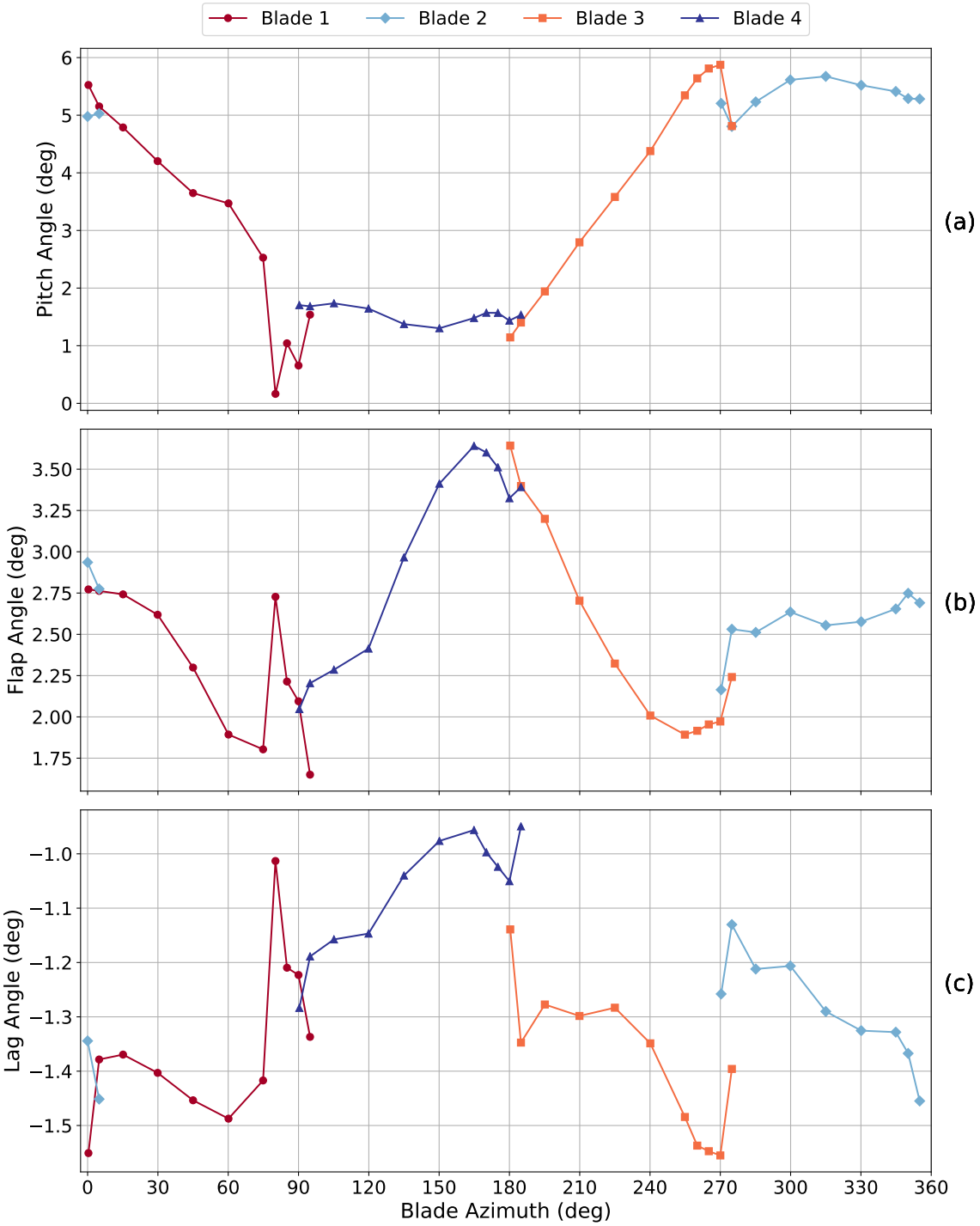


Figure 4.12-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.9778	2.9360	-1.3443	0.0518	0.0168	0.0120
0.35	1	5.5243	2.7720	-1.5508	0.0784	0.0404	0.0268
4.92	1	5.1527	2.7630	-1.3785	0.1397	0.0445	0.0305
4.92	2	5.0282	2.7750	-1.4514	0.0889	0.0389	0.0261
15.12	1	4.7878	2.7420	-1.3695	0.0886	0.0363	0.0217
29.88	1	4.2032	2.6186	-1.4031	0.0648	0.0357	0.0185
45	1	3.6487	2.2987	-1.4536	0.0907	0.0439	0.0156
60.12	1	3.4702	1.8931	-1.4874	0.1178	0.0425	0.0334
74.88	1	2.5277	1.8034	-1.4171	0.0762	0.0316	0.0250
80.16	1	0.1641	2.7273	-1.0132	0.0778	0.0341	0.0140
85.08	1	1.0418	2.2141	-1.2096	0.0807	0.0387	0.0153
90	1	0.6562	2.0946	-1.2230	0.0768	0.0376	0.0147
90.35	4	1.7038	2.0471	-1.2836	0.0259	0.0128	0.0173
94.92	1	1.5382	1.6502	-1.3369	0.0336	0.0306	0.0134
94.92	4	1.6841	2.2041	-1.1889	0.0254	0.0117	0.0168
105.12	4	1.7355	2.2855	-1.1575	0.0258	0.0113	0.0144
119.88	4	1.6440	2.4135	-1.1468	0.0197	0.0145	0.0187
135	4	1.3748	2.9657	-1.0400	0.0277	0.0190	0.0209
150.12	4	1.3026	3.4122	-0.9763	0.0187	0.0140	0.0109
164.88	4	1.4800	3.6411	-0.9563	0.0226	0.0217	0.0215
170.16	4	1.5711	3.6011	-0.9973	0.0203	0.0208	0.0200
175.08	4	1.5695	3.5114	-1.0240	0.0272	0.0169	0.0181
180	4	1.4354	3.3239	-1.0504	0.0264	0.0261	0.0086
180.35	3	1.1441	3.6429	-1.1391	0.0332	0.0226	0.0106
184.92	3	1.4022	3.3982	-1.3474	0.0612	0.0532	0.0180
184.92	4	1.5359	3.3913	-0.9495	0.1207	0.0979	0.0343
195.12	3	1.9417	3.1993	-1.2773	0.0462	0.0213	0.0162
209.88	3	2.7940	2.7040	-1.2984	0.0204	0.0181	0.0156
225	3	3.5817	2.3228	-1.2832	0.0352	0.0158	0.0139
240.12	3	4.3772	2.0081	-1.3488	0.0276	0.0173	0.0173
254.88	3	5.3449	1.8926	-1.4843	0.0639	0.0364	0.0124
260.16	3	5.6399	1.9159	-1.5370	0.0514	0.0267	0.0130
265.08	3	5.8108	1.9542	-1.5473	0.1386	0.0508	0.0181
270	3	5.8746	1.9722	-1.5551	0.1890	0.0835	0.0238
270.35	2	5.2053	2.1643	-1.2579	0.1190	0.0403	0.0117
274.92	2	4.8053	2.5310	-1.1302	0.0307	0.0184	0.0110
274.92	3	4.8115	2.2414	-1.3959	0.0368	0.0211	0.0180
285.12	2	5.2316	2.5118	-1.2120	0.0215	0.0288	0.0141
299.88	2	5.6132	2.6353	-1.2064	0.0597	0.0257	0.0123
315	2	5.6737	2.5544	-1.2901	0.0248	0.0261	0.0079
330.12	2	5.5204	2.5764	-1.3254	0.0220	0.0198	0.0123
344.88	2	5.4123	2.6539	-1.3282	0.0320	0.0256	0.0149
350.16	2	5.2885	2.7486	-1.3673	0.0288	0.0217	0.0113
355.08	2	5.2818	2.6907	-1.4549	0.0851	0.0477	0.0257

4.12.2 Spanwise Elastic Deformations

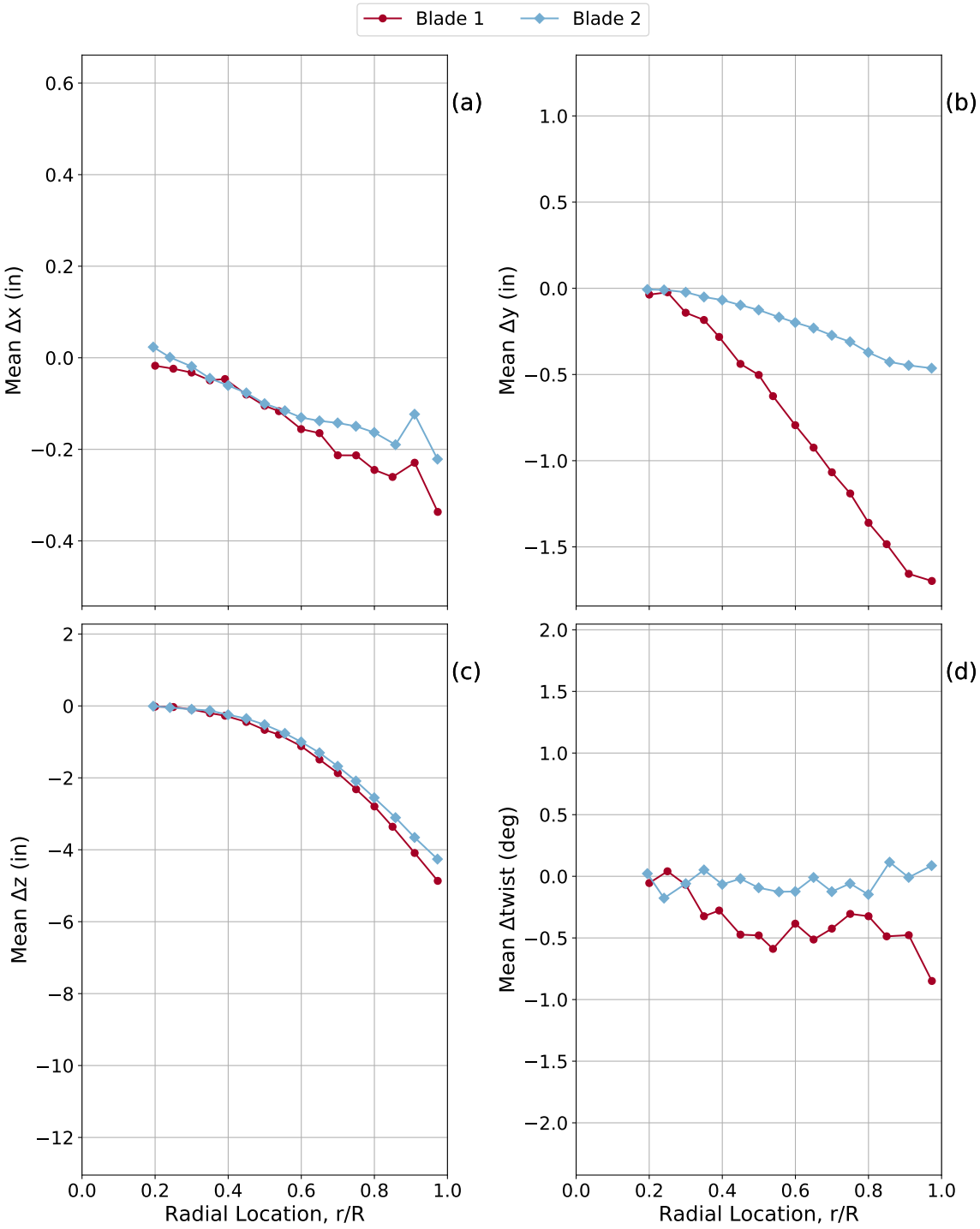


Figure 4.12-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	-0.0174	0.0042	-0.0365	0.0026	-0.0201	0.0071	-0.0548	0.0315
1	0.35	0.2499	-0.0239	0.0018	-0.0232	0.0032	-0.0313	0.0078	0.0406	0.0885
1	0.35	0.2998	-0.0323	0.0012	-0.1416	0.0094	-0.0967	0.0214	-0.0685	0.0841
1	0.35	0.3498	-0.0492	0.0033	-0.1837	0.0160	-0.2016	0.0338	-0.3239	0.0723
1	0.35	0.3913	-0.0464	0.0041	-0.2821	0.0220	-0.2725	0.0455	-0.2775	0.0834
1	0.35	0.4496	-0.0804	0.0041	-0.4385	0.0290	-0.4458	0.0593	-0.4732	0.0818
1	0.35	0.4997	-0.1048	0.0091	-0.5026	0.0359	-0.6660	0.0761	-0.4795	0.0675
1	0.35	0.5387	-0.1166	0.0040	-0.6256	0.0405	-0.7991	0.0810	-0.5887	0.0796
1	0.35	0.5996	-0.1558	0.0039	-0.7941	0.0491	-1.1187	0.0949	-0.3843	0.1004
1	0.35	0.6498	-0.1646	0.0034	-0.9243	0.0555	-1.4909	0.1093	-0.5130	0.0938
1	0.35	0.6998	-0.2130	0.0038	-1.0672	0.0624	-1.8680	0.1218	-0.4244	0.0827
1	0.35	0.7500	-0.2131	0.0037	-1.1902	0.0685	-2.3178	0.1359	-0.3051	0.0744
1	0.35	0.8001	-0.2449	0.0041	-1.3602	0.0742	-2.7952	0.1456	-0.3239	0.0812
1	0.35	0.8497	-0.2603	0.0050	-1.4845	0.0812	-3.3599	0.1581	-0.4871	0.0786
1	0.35	0.9102	-0.2292	0.0122	-1.6564	0.0918	-4.0898	0.1768	-0.4775	0.0797
1	0.35	0.9734	-0.3366	0.0106	-1.6978	0.0990	-4.8649	0.1941	-0.8493	0.0854
2	0	0.1949	0.0234	0.0022	-0.0069	0.0015	-0.0077	0.0024	0.0221	0.0225
2	0	0.2405	0.0010	0.0018	-0.0093	0.0031	-0.0463	0.0065	-0.1772	0.0470
2	0	0.2999	-0.0190	0.0009	-0.0226	0.0025	-0.0937	0.0054	-0.0595	0.0554
2	0	0.3498	-0.0449	0.0017	-0.0504	0.0044	-0.1300	0.0100	0.0518	0.0461
2	0	0.3998	-0.0606	0.0033	-0.0680	0.0064	-0.2459	0.0161	-0.0654	0.0765
2	0	0.4496	-0.0767	0.0044	-0.0976	0.0097	-0.3527	0.0208	-0.0193	0.0544
2	0	0.4995	-0.1002	0.0056	-0.1256	0.0108	-0.5217	0.0217	-0.0933	0.0441
2	0	0.5551	-0.1157	0.0066	-0.1672	0.0139	-0.7633	0.0237	-0.1259	0.0514
2	0	0.5996	-0.1305	0.0069	-0.1986	0.0165	-1.0000	0.0286	-0.1232	0.0402
2	0	0.6497	-0.1378	0.0087	-0.2308	0.0210	-1.3031	0.0337	-0.0095	0.0639
2	0	0.6996	-0.1423	0.0093	-0.2726	0.0235	-1.6787	0.0397	-0.1243	0.0496
2	0	0.7495	-0.1496	0.0110	-0.3102	0.0272	-2.0892	0.0433	-0.0585	0.0567
2	0	0.7996	-0.1631	0.0123	-0.3719	0.0307	-2.5540	0.0469	-0.1475	0.0432
2	0	0.8578	-0.1898	0.0129	-0.4272	0.0336	-3.1073	0.0501	0.1146	0.0523
2	0	0.9100	-0.1232	0.0176	-0.4472	0.0387	-3.6578	0.0552	-0.0089	0.0715
2	0	0.9727	-0.2214	0.0161	-0.4635	0.0460	-4.2601	0.0693	0.0866	0.0673

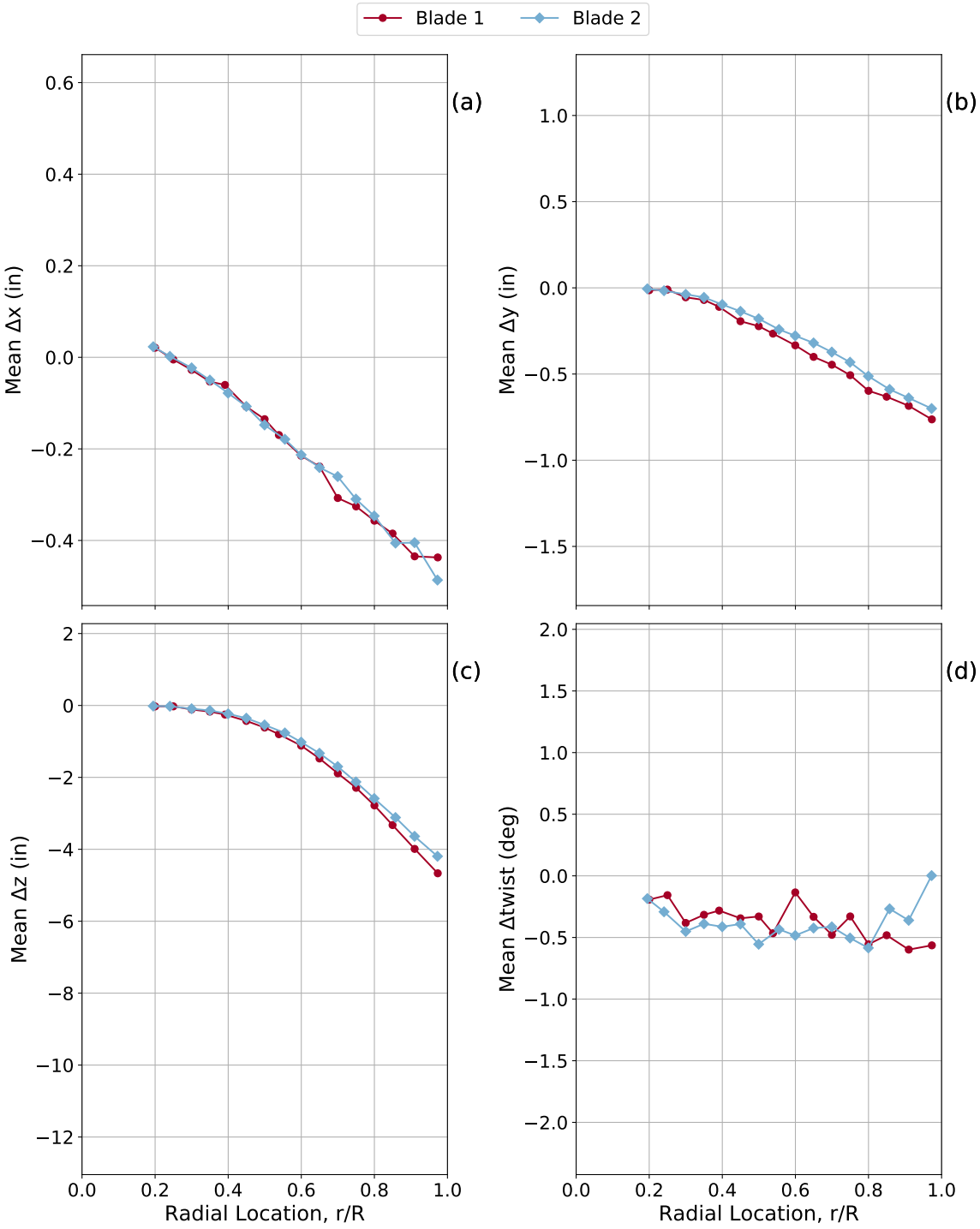


Figure 4.12-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0210	0.0039	-0.0136	0.0029	-0.0266	0.0071	-0.1927	0.0554
1	4.92	0.2499	-0.0048	0.0022	-0.0100	0.0043	-0.0253	0.0087	-0.1567	0.1404
1	4.92	0.2998	-0.0274	0.0023	-0.0549	0.0095	-0.1123	0.0203	-0.3820	0.1441
1	4.92	0.3498	-0.0530	0.0025	-0.0703	0.0177	-0.1723	0.0354	-0.3161	0.1329
1	4.92	0.3913	-0.0603	0.0027	-0.1101	0.0230	-0.2534	0.0454	-0.2818	0.1305
1	4.92	0.4496	-0.1078	0.0024	-0.1936	0.0318	-0.4306	0.0598	-0.3444	0.1279
1	4.92	0.4997	-0.1351	0.0027	-0.2224	0.0375	-0.6147	0.0701	-0.3298	0.1381
1	4.92	0.5387	-0.1697	0.0022	-0.2655	0.0427	-0.8005	0.0798	-0.4655	0.1351
1	4.92	0.5996	-0.2150	0.0018	-0.3334	0.0502	-1.1178	0.0946	-0.1343	0.1280
1	4.92	0.6498	-0.2384	0.0026	-0.4004	0.0574	-1.4750	0.1060	-0.3325	0.1503
1	4.92	0.6998	-0.3073	0.0029	-0.4459	0.0642	-1.8872	0.1229	-0.4785	0.1257
1	4.92	0.7500	-0.3257	0.0027	-0.5066	0.0710	-2.2902	0.1345	-0.3292	0.1324
1	4.92	0.8001	-0.3569	0.0030	-0.5973	0.0789	-2.7804	0.1506	-0.5553	0.1409
1	4.92	0.8497	-0.3849	0.0024	-0.6315	0.0840	-3.3264	0.1643	-0.4819	0.1534
1	4.92	0.9102	-0.4347	0.0039	-0.6845	0.0972	-3.9891	0.1911	-0.5984	0.1078
1	4.92	0.9734	-0.4371	0.0063	-0.7630	0.1029	-4.6674	0.2054	-0.5639	0.1629
2	4.92	0.1949	0.0231	0.0042	-0.0056	0.0020	-0.0176	0.0037	-0.1846	0.0349
2	4.92	0.2405	0.0021	0.0021	-0.0166	0.0032	-0.0229	0.0042	-0.2917	0.0788
2	4.92	0.2999	-0.0230	0.0018	-0.0377	0.0068	-0.0914	0.0130	-0.4514	0.0961
2	4.92	0.3498	-0.0497	0.0028	-0.0553	0.0126	-0.1401	0.0205	-0.3891	0.0937
2	4.92	0.3998	-0.0781	0.0035	-0.0967	0.0183	-0.2321	0.0311	-0.4130	0.0828
2	4.92	0.4496	-0.1073	0.0027	-0.1363	0.0221	-0.3546	0.0397	-0.3909	0.0954
2	4.92	0.4995	-0.1477	0.0030	-0.1794	0.0271	-0.5424	0.0530	-0.5548	0.0784
2	4.92	0.5551	-0.1790	0.0030	-0.2413	0.0329	-0.7644	0.0671	-0.4342	0.0893
2	4.92	0.5996	-0.2129	0.0031	-0.2781	0.0361	-1.0190	0.0805	-0.4838	0.0931
2	4.92	0.6497	-0.2407	0.0038	-0.3195	0.0401	-1.3295	0.0960	-0.4238	0.0970
2	4.92	0.6996	-0.2604	0.0029	-0.3726	0.0454	-1.7003	0.1122	-0.4139	0.1010
2	4.92	0.7495	-0.3097	0.0034	-0.4314	0.0493	-2.1262	0.1293	-0.5044	0.0841
2	4.92	0.7996	-0.3465	0.0049	-0.5125	0.0528	-2.5882	0.1471	-0.5849	0.0997
2	4.92	0.8578	-0.4057	0.0062	-0.5892	0.0562	-3.1168	0.1682	-0.2675	0.0964
2	4.92	0.9100	-0.4048	0.0070	-0.6388	0.0630	-3.6393	0.1867	-0.3610	0.0844
2	4.92	0.9727	-0.4865	0.0076	-0.7001	0.0668	-4.1948	0.2097	0.0021	0.0967

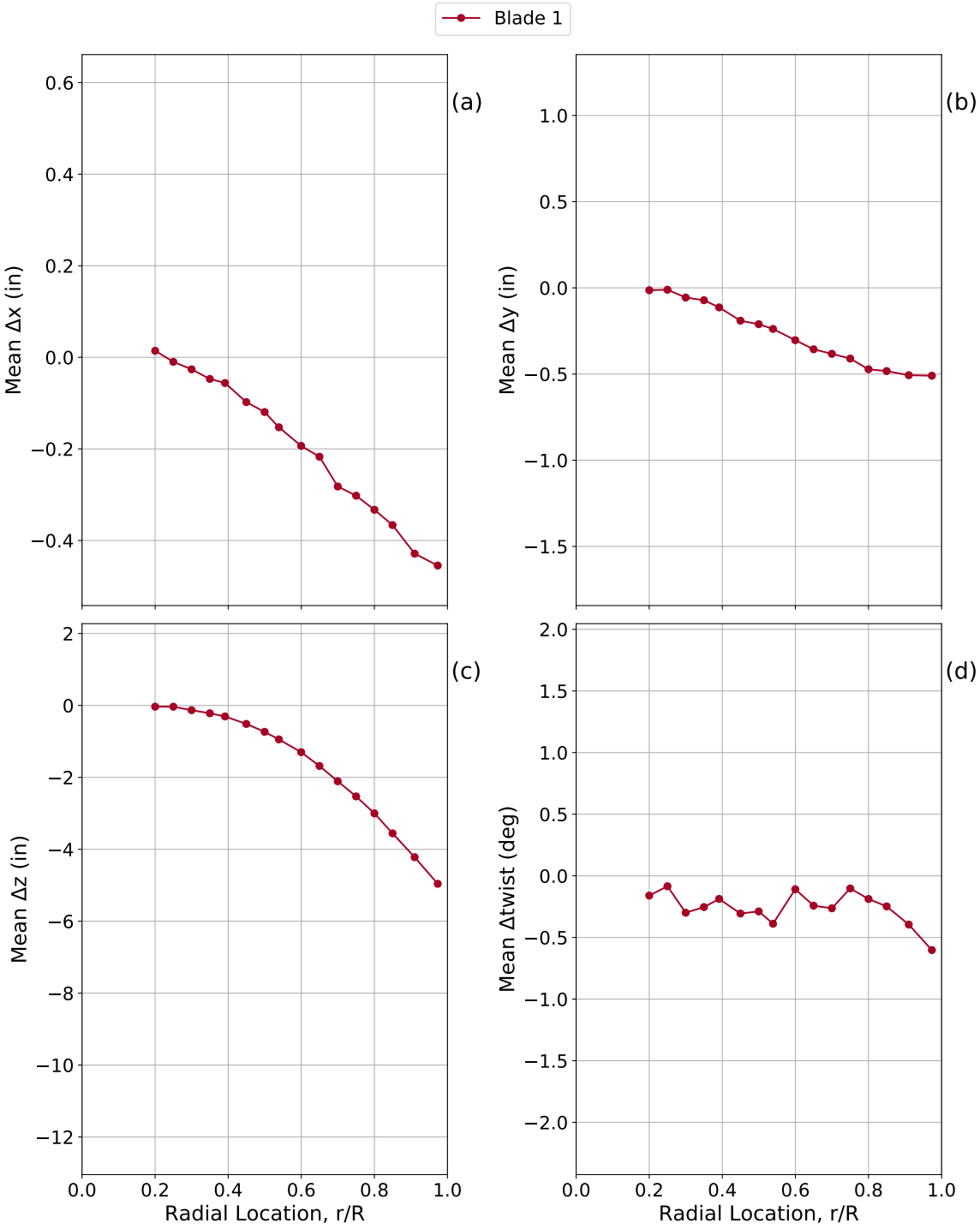


Figure 4.12-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0143	0.0028	-0.0137	0.0014	-0.0342	0.0041	-0.1600	0.0409
1	15.12	0.2499	-0.0099	0.0022	-0.0110	0.0029	-0.0349	0.0069	-0.0842	0.0750
1	15.12	0.2998	-0.0262	0.0016	-0.0564	0.0049	-0.1315	0.0135	-0.2991	0.0958
1	15.12	0.3498	-0.0472	0.0019	-0.0717	0.0096	-0.2174	0.0233	-0.2534	0.0770
1	15.12	0.3913	-0.0561	0.0025	-0.1134	0.0129	-0.3055	0.0319	-0.1872	0.0788
1	15.12	0.4496	-0.0978	0.0022	-0.1906	0.0180	-0.5138	0.0414	-0.3056	0.0740
1	15.12	0.4997	-0.1195	0.0028	-0.2109	0.0218	-0.7330	0.0502	-0.2885	0.0851
1	15.12	0.5387	-0.1528	0.0027	-0.2383	0.0251	-0.9443	0.0582	-0.3885	0.0828
1	15.12	0.5996	-0.1934	0.0026	-0.3035	0.0316	-1.2990	0.0697	-0.1087	0.0872
1	15.12	0.6498	-0.2171	0.0028	-0.3564	0.0374	-1.6828	0.0797	-0.2419	0.0810
1	15.12	0.6998	-0.2821	0.0033	-0.3827	0.0431	-2.1086	0.0889	-0.2633	0.0910
1	15.12	0.7500	-0.3022	0.0037	-0.4104	0.0486	-2.5293	0.0998	-0.1020	0.0870
1	15.12	0.8001	-0.3330	0.0042	-0.4724	0.0543	-3.0012	0.1095	-0.1878	0.0788
1	15.12	0.8497	-0.3664	0.0047	-0.4829	0.0607	-3.5567	0.1152	-0.2479	0.0928
1	15.12	0.9102	-0.4288	0.0058	-0.5066	0.0682	-4.2195	0.1244	-0.3953	0.1233
1	15.12	0.9734	-0.4548	0.0099	-0.5098	0.0774	-4.9599	0.1583	-0.6023	0.1210

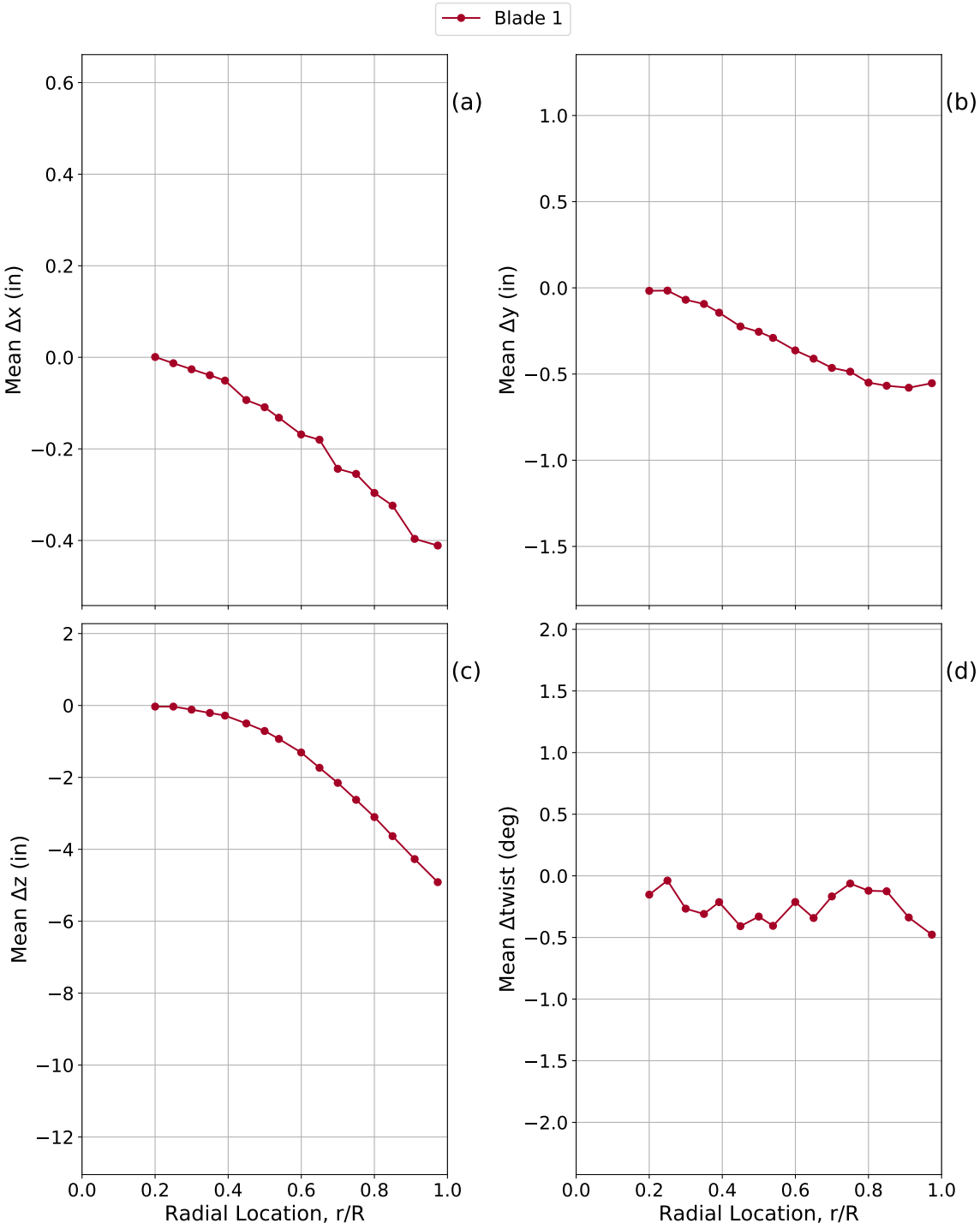


Figure 4.12-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	0.0007	0.0025	-0.0171	0.0010	-0.0317	0.0049	-0.1523	0.0311
1	29.88	0.2499	-0.0129	0.0020	-0.0159	0.0020	-0.0320	0.0061	-0.0383	0.0814
1	29.88	0.2998	-0.0261	0.0019	-0.0692	0.0035	-0.1165	0.0153	-0.2663	0.0754
1	29.88	0.3498	-0.0391	0.0024	-0.0935	0.0056	-0.2089	0.0264	-0.3092	0.0639
1	29.88	0.3913	-0.0508	0.0025	-0.1439	0.0082	-0.2820	0.0351	-0.2133	0.0704
1	29.88	0.4496	-0.0933	0.0029	-0.2241	0.0103	-0.5012	0.0471	-0.4084	0.0647
1	29.88	0.4997	-0.1090	0.0022	-0.2548	0.0122	-0.7100	0.0560	-0.3303	0.0692
1	29.88	0.5387	-0.1319	0.0026	-0.2902	0.0142	-0.9302	0.0631	-0.4055	0.0697
1	29.88	0.5996	-0.1685	0.0021	-0.3628	0.0180	-1.3074	0.0771	-0.2122	0.0672
1	29.88	0.6498	-0.1800	0.0023	-0.4109	0.0209	-1.7334	0.0897	-0.3420	0.0654
1	29.88	0.6998	-0.2435	0.0028	-0.4643	0.0237	-2.1532	0.1010	-0.1670	0.0752
1	29.88	0.7500	-0.2546	0.0028	-0.4863	0.0272	-2.6240	0.1154	-0.0623	0.0752
1	29.88	0.8001	-0.2962	0.0035	-0.5497	0.0302	-3.1041	0.1300	-0.1207	0.0733
1	29.88	0.8497	-0.3239	0.0043	-0.5678	0.0335	-3.6339	0.1435	-0.1252	0.0748
1	29.88	0.9102	-0.3965	0.0042	-0.5794	0.0378	-4.2721	0.1602	-0.3378	0.0703
1	29.88	0.9734	-0.4111	0.0039	-0.5532	0.0416	-4.9131	0.1777	-0.4770	0.0772

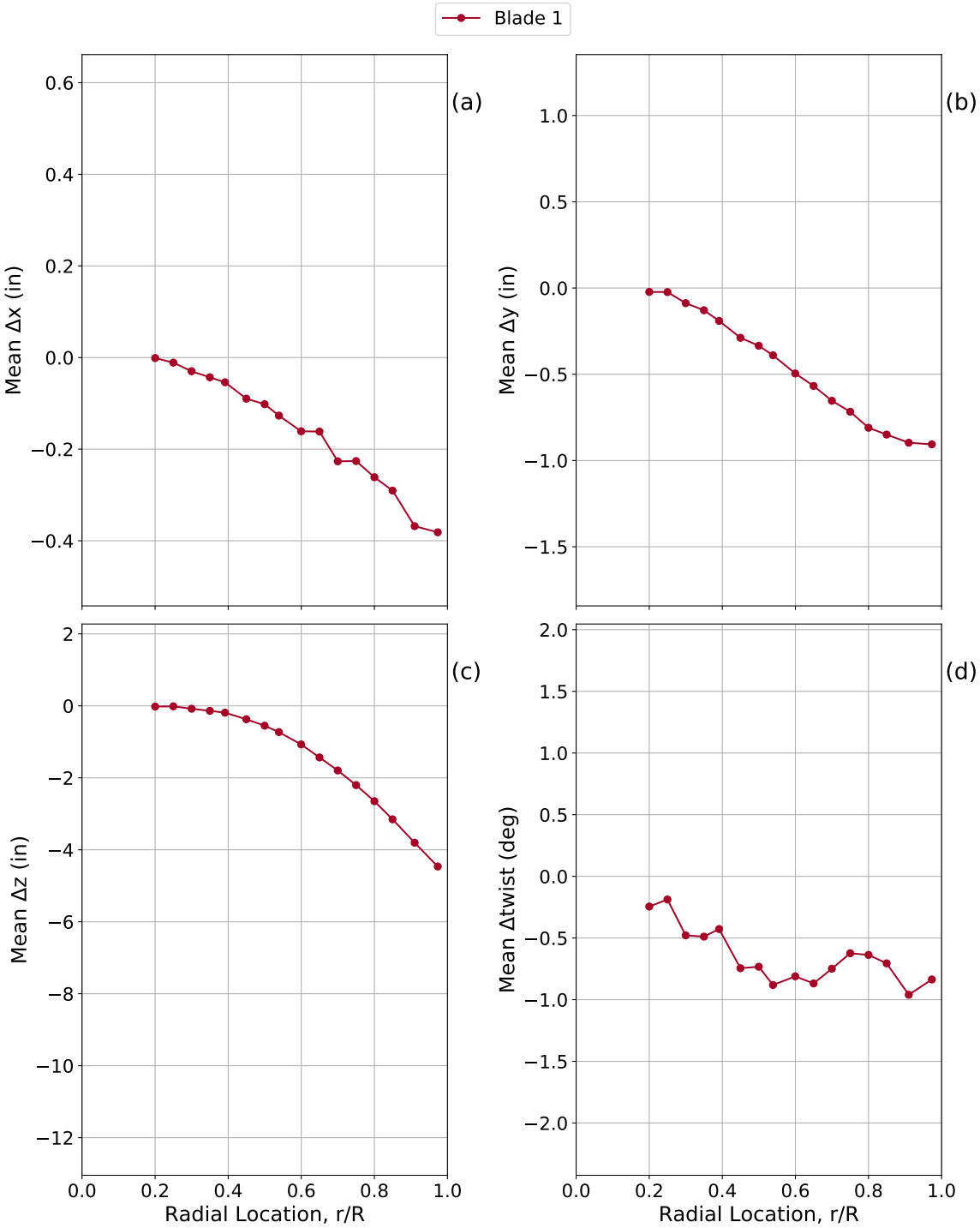


Figure 4.12-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0011	0.0028	-0.0225	0.0014	-0.0203	0.0045	-0.2447	0.0414
1	45	0.2499	-0.0111	0.0033	-0.0235	0.0026	-0.0135	0.0086	-0.1875	0.0790
1	45	0.2998	-0.0299	0.0028	-0.0878	0.0056	-0.0798	0.0168	-0.4786	0.0975
1	45	0.3498	-0.0432	0.0031	-0.1288	0.0092	-0.1381	0.0277	-0.4886	0.0937
1	45	0.3913	-0.0540	0.0024	-0.1906	0.0136	-0.1894	0.0395	-0.4272	0.0832
1	45	0.4496	-0.0898	0.0020	-0.2885	0.0182	-0.3724	0.0533	-0.7449	0.0890
1	45	0.4997	-0.1018	0.0023	-0.3346	0.0221	-0.5509	0.0665	-0.7326	0.0838
1	45	0.5387	-0.1267	0.0028	-0.3899	0.0261	-0.7292	0.0778	-0.8808	0.0790
1	45	0.5996	-0.1610	0.0031	-0.4954	0.0312	-1.0710	0.0913	-0.8108	0.0943
1	45	0.6498	-0.1616	0.0026	-0.5677	0.0366	-1.4335	0.1048	-0.8683	0.0831
1	45	0.6998	-0.2265	0.0023	-0.6535	0.0412	-1.7957	0.1151	-0.7489	0.0847
1	45	0.7500	-0.2260	0.0025	-0.7173	0.0452	-2.2028	0.1270	-0.6234	0.0780
1	45	0.8001	-0.2612	0.0024	-0.8102	0.0507	-2.6499	0.1360	-0.6371	0.0854
1	45	0.8497	-0.2905	0.0030	-0.8497	0.0558	-3.1537	0.1487	-0.7055	0.0780
1	45	0.9102	-0.3681	0.0033	-0.8969	0.0607	-3.8032	0.1640	-0.9602	0.0872
1	45	0.9734	-0.3815	0.0045	-0.9062	0.0669	-4.4650	0.1846	-0.8361	0.0870

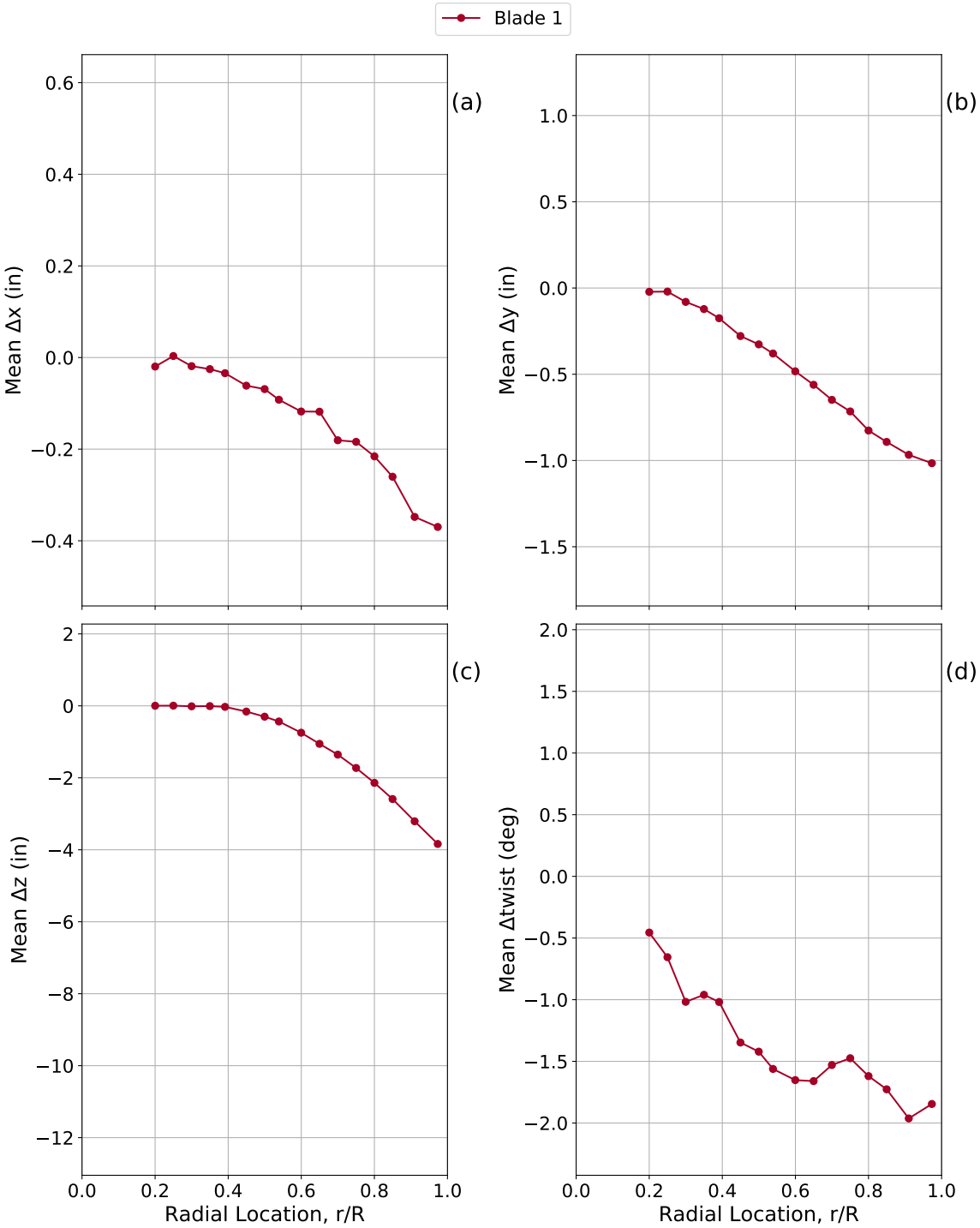


Figure 4.12-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0197	0.0036	-0.0219	0.0024	0.0032	0.0067	-0.4558	0.0523
1	60.12	0.2499	0.0033	0.0020	-0.0207	0.0043	0.0055	0.0093	-0.6556	0.1037
1	60.12	0.2998	-0.0188	0.0019	-0.0804	0.0089	-0.0122	0.0200	-1.0174	0.1224
1	60.12	0.3498	-0.0252	0.0020	-0.1220	0.0160	-0.0068	0.0351	-0.9604	0.1042
1	60.12	0.3913	-0.0342	0.0036	-0.1751	0.0220	-0.0276	0.0464	-1.0186	0.1028
1	60.12	0.4496	-0.0614	0.0030	-0.2784	0.0285	-0.1586	0.0581	-1.3473	0.1134
1	60.12	0.4997	-0.0689	0.0030	-0.3268	0.0348	-0.3008	0.0705	-1.4214	0.1181
1	60.12	0.5387	-0.0921	0.0037	-0.3797	0.0409	-0.4342	0.0834	-1.5616	0.1025
1	60.12	0.5996	-0.1178	0.0027	-0.4829	0.0487	-0.7465	0.0980	-1.6521	0.1165
1	60.12	0.6498	-0.1182	0.0045	-0.5610	0.0555	-1.0555	0.1118	-1.6602	0.1057
1	60.12	0.6998	-0.1806	0.0038	-0.6484	0.0637	-1.3551	0.1237	-1.5297	0.1202
1	60.12	0.7500	-0.1840	0.0036	-0.7155	0.0710	-1.7260	0.1382	-1.4747	0.1032
1	60.12	0.8001	-0.2157	0.0030	-0.8262	0.0777	-2.1393	0.1501	-1.6197	0.1114
1	60.12	0.8497	-0.2602	0.0026	-0.8922	0.0851	-2.5896	0.1625	-1.7267	0.1067
1	60.12	0.9102	-0.3479	0.0031	-0.9671	0.0944	-3.2081	0.1775	-1.9629	0.1116
1	60.12	0.9734	-0.3698	0.0052	-1.0157	0.1017	-3.8374	0.2003	-1.8457	0.0904

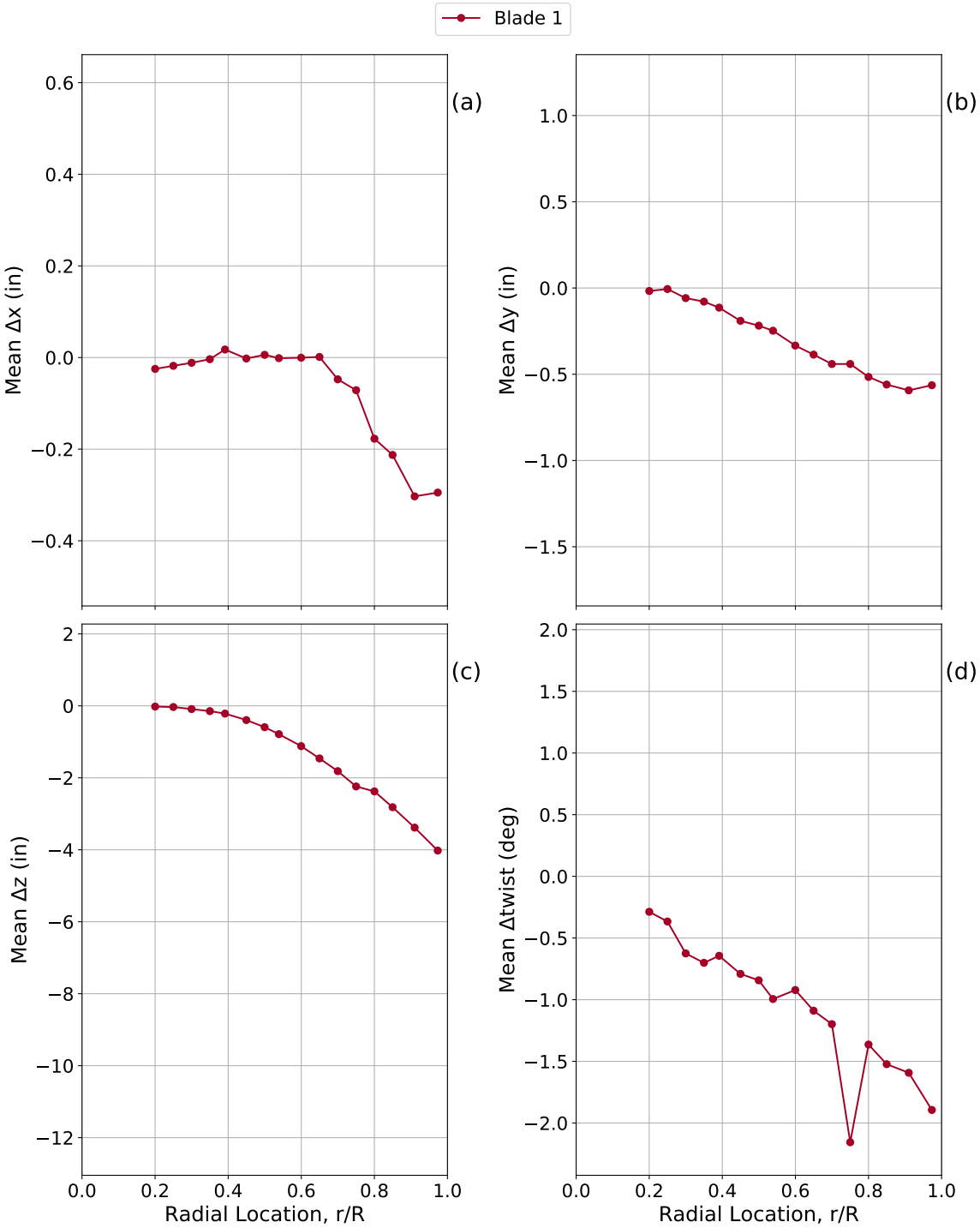


Figure 4.12-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0248	0.0025	-0.0172	0.0025	-0.0202	0.0054	-0.2874	0.0270
1	74.88	0.2499	-0.0181	0.0017	-0.0059	0.0030	-0.0322	0.0065	-0.3663	0.0735
1	74.88	0.2998	-0.0115	0.0013	-0.0585	0.0082	-0.0894	0.0172	-0.6249	0.0692
1	74.88	0.3498	-0.0036	0.0014	-0.0789	0.0132	-0.1463	0.0268	-0.7011	0.0778
1	74.88	0.3913	0.0175	0.0022	-0.1138	0.0182	-0.2148	0.0373	-0.6443	0.0673
1	74.88	0.4496	-0.0022	0.0033	-0.1903	0.0236	-0.3944	0.0476	-0.7908	0.0710
1	74.88	0.4997	0.0059	0.0045	-0.2182	0.0289	-0.5929	0.0567	-0.8431	0.0646
1	74.88	0.5387	-0.0014	0.0054	-0.2475	0.0336	-0.7870	0.0646	-0.9946	0.0600
1	74.88	0.5996	-0.0004	0.0064	-0.3336	0.0395	-1.1194	0.0739	-0.9218	0.0737
1	74.88	0.6498	0.0013	0.0091	-0.3862	0.0439	-1.4614	0.0834	-1.0894	0.0820
1	74.88	0.6998	-0.0476	0.0089	-0.4406	0.0492	-1.8139	0.0920	-1.1983	0.0866
1	74.88	0.7500	-0.0713	0.0084	-0.4404	0.0575	-2.2399	0.1056	-2.1562	0.1326
1	74.88	0.8001	-0.1772	0.0051	-0.5155	0.0666	-2.3770	0.1022	-1.3638	0.0717
1	74.88	0.8497	-0.2126	0.0043	-0.5597	0.0728	-2.8167	0.1083	-1.5228	0.0809
1	74.88	0.9102	-0.3031	0.0053	-0.5933	0.0798	-3.3839	0.1175	-1.5928	0.1009
1	74.88	0.9734	-0.2948	0.0061	-0.5636	0.0860	-4.0215	0.1296	-1.8943	0.1665

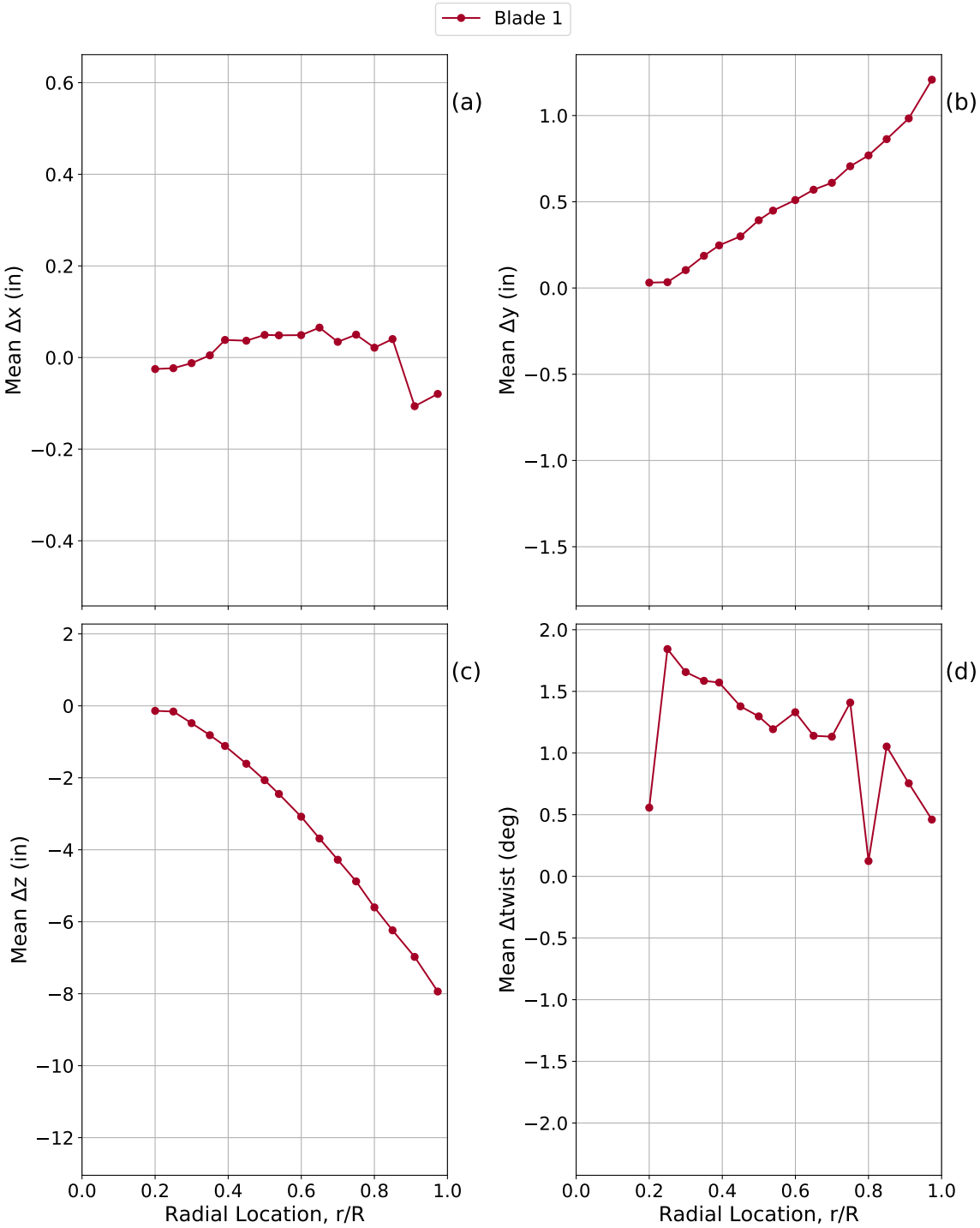


Figure 4.12-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0251	0.0034	0.0311	0.0018	-0.1376	0.0036	0.5571	0.0318
1	80.16	0.2499	-0.0233	0.0014	0.0338	0.0029	-0.1580	0.0061	1.8429	0.0739
1	80.16	0.2998	-0.0122	0.0020	0.1039	0.0062	-0.4802	0.0122	1.6565	0.0784
1	80.16	0.3498	0.0048	0.0018	0.1867	0.0118	-0.8144	0.0234	1.5854	0.0669
1	80.16	0.3913	0.0384	0.0023	0.2473	0.0156	-1.1148	0.0311	1.5718	0.0686
1	80.16	0.4496	0.0367	0.0025	0.2995	0.0201	-1.6088	0.0415	1.3787	0.0646
1	80.16	0.4997	0.0494	0.0028	0.3930	0.0235	-2.0658	0.0483	1.2972	0.0704
1	80.16	0.5387	0.0485	0.0029	0.4486	0.0269	-2.4478	0.0563	1.1933	0.0678
1	80.16	0.5996	0.0489	0.0025	0.5099	0.0313	-3.0797	0.0672	1.3310	0.0631
1	80.16	0.6498	0.0653	0.0038	0.5699	0.0345	-3.6865	0.0703	1.1398	0.0905
1	80.16	0.6998	0.0342	0.0043	0.6100	0.0397	-4.2768	0.0823	1.1325	0.0897
1	80.16	0.7500	0.0499	0.0048	0.7059	0.0436	-4.8777	0.0911	1.4089	0.0724
1	80.16	0.8001	0.0215	0.0049	0.7688	0.0483	-5.6006	0.0994	0.1243	0.2252
1	80.16	0.8497	0.0403	0.0076	0.8631	0.0524	-6.2377	0.1088	1.0526	0.1504
1	80.16	0.9102	-0.1062	0.0040	0.9835	0.0550	-6.9760	0.1271	0.7546	0.0871
1	80.16	0.9734	-0.0794	0.0060	1.2078	0.0603	-7.9387	0.1470	0.4604	0.1024

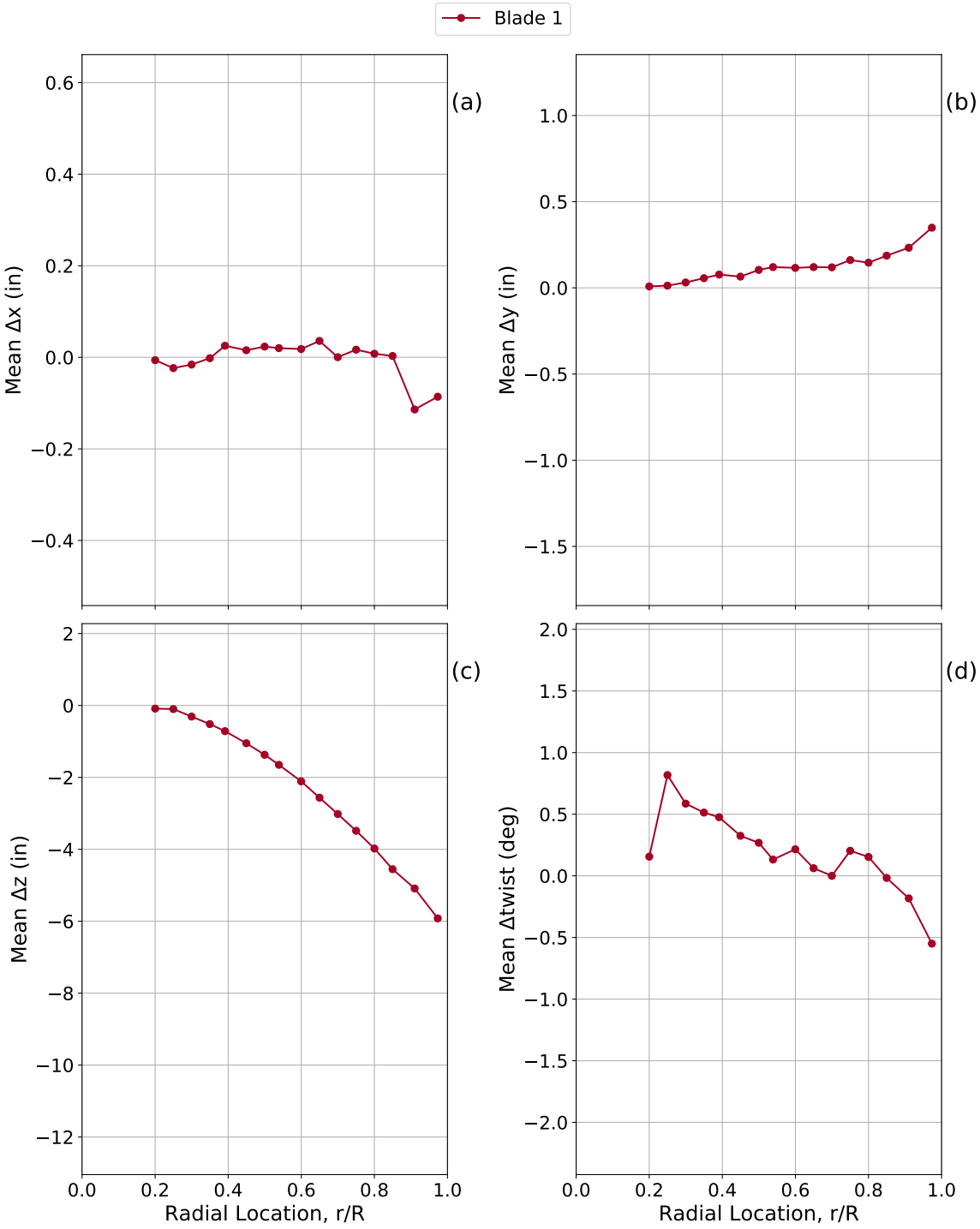


Figure 4.12-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0062	0.0045	0.0084	0.0014	-0.0876	0.0039	0.1558	0.0397
1	85.08	0.2499	-0.0235	0.0018	0.0129	0.0022	-0.1009	0.0071	0.8177	0.0780
1	85.08	0.2998	-0.0158	0.0019	0.0312	0.0050	-0.3095	0.0130	0.5859	0.0908
1	85.08	0.3498	-0.0019	0.0016	0.0562	0.0075	-0.5183	0.0224	0.5132	0.0878
1	85.08	0.3913	0.0253	0.0018	0.0771	0.0110	-0.7149	0.0313	0.4757	0.0736
1	85.08	0.4496	0.0155	0.0023	0.0651	0.0153	-1.0514	0.0426	0.3249	0.0760
1	85.08	0.4997	0.0234	0.0016	0.1041	0.0198	-1.3711	0.0510	0.2682	0.0832
1	85.08	0.5387	0.0201	0.0017	0.1204	0.0223	-1.6513	0.0595	0.1321	0.0802
1	85.08	0.5996	0.0181	0.0020	0.1159	0.0272	-2.1098	0.0717	0.2157	0.0825
1	85.08	0.6498	0.0358	0.0021	0.1203	0.0312	-2.5647	0.0813	0.0620	0.0839
1	85.08	0.6998	0.0003	0.0039	0.1190	0.0372	-3.0190	0.0920	0.0001	0.0891
1	85.08	0.7500	0.0167	0.0034	0.1612	0.0401	-3.4856	0.1043	0.2034	0.0724
1	85.08	0.8001	0.0079	0.0038	0.1461	0.0435	-3.9781	0.1081	0.1533	0.0934
1	85.08	0.8497	0.0029	0.0047	0.1868	0.0488	-4.5535	0.1243	-0.0168	0.0741
1	85.08	0.9102	-0.1139	0.0046	0.2327	0.0543	-5.0890	0.1138	-0.1826	0.0737
1	85.08	0.9734	-0.0860	0.0029	0.3489	0.0582	-5.9213	0.1296	-0.5500	0.0656

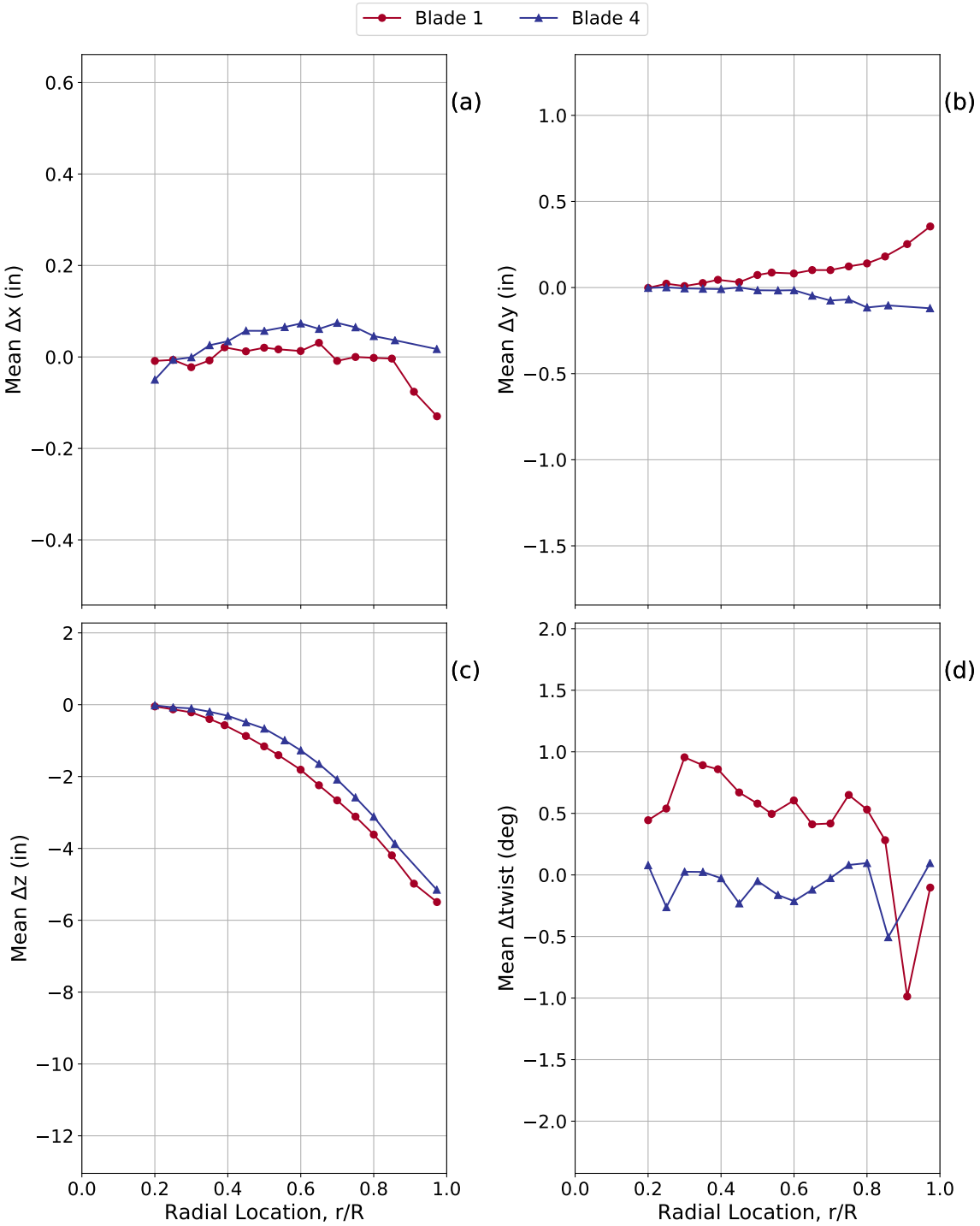


Figure 4.12-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0087	0.0034	-0.0022	0.0013	-0.0479	0.0022	0.4443	0.0460
1	90	0.2499	-0.0064	0.0019	0.0224	0.0034	-0.1289	0.0089	0.5391	0.0457
1	90	0.2998	-0.0224	0.0022	0.0086	0.0054	-0.2132	0.0098	0.9552	0.0919
1	90	0.3498	-0.0076	0.0016	0.0262	0.0103	-0.3979	0.0220	0.8912	0.0782
1	90	0.3913	0.0210	0.0020	0.0450	0.0143	-0.5700	0.0302	0.8585	0.0781
1	90	0.4496	0.0123	0.0026	0.0309	0.0191	-0.8712	0.0403	0.6699	0.0766
1	90	0.4997	0.0202	0.0024	0.0729	0.0240	-1.1601	0.0489	0.5795	0.0715
1	90	0.5387	0.0167	0.0021	0.0870	0.0277	-1.4043	0.0554	0.4953	0.0733
1	90	0.5996	0.0130	0.0026	0.0816	0.0341	-1.8093	0.0659	0.6049	0.0876
1	90	0.6498	0.0309	0.0027	0.1015	0.0393	-2.2422	0.0774	0.4110	0.0717
1	90	0.6998	-0.0086	0.0029	0.1014	0.0444	-2.6627	0.0881	0.4178	0.0654
1	90	0.7500	-0.0001	0.0045	0.1227	0.0442	-3.1153	0.0961	0.6494	0.0807
1	90	0.8001	-0.0020	0.0043	0.1401	0.0554	-3.6154	0.1071	0.5309	0.0970
1	90	0.8497	-0.0036	0.0057	0.1803	0.0606	-4.1939	0.1172	0.2821	0.0917
1	90	0.9102	-0.0761	0.0053	0.2524	0.0665	-4.9816	0.1351	-0.9872	0.2233
1	90	0.9734	-0.1298	0.0031	0.3547	0.0629	-5.4937	0.1293	-0.1028	0.1820
4	90.35	0.2001	-0.0497	0.0010	-0.0021	0.0004	-0.0193	0.0010	0.0786	0.0105
4	90.35	0.2502	-0.0061	0.0006	0.0012	0.0012	-0.0747	0.0025	-0.2620	0.0187
4	90.35	0.3001	-0.0008	0.0007	-0.0049	0.0020	-0.1025	0.0036	0.0259	0.0227
4	90.35	0.3502	0.0256	0.0013	-0.0070	0.0031	-0.1956	0.0054	0.0240	0.0331
4	90.35	0.4002	0.0343	0.0020	-0.0089	0.0052	-0.3093	0.0089	-0.0269	0.0253
4	90.35	0.4500	0.0572	0.0024	0.0007	0.0060	-0.4894	0.0095	-0.2313	0.0332
4	90.35	0.5001	0.0571	0.0025	-0.0158	0.0076	-0.6655	0.0122	-0.0495	0.0333
4	90.35	0.5560	0.0653	0.0020	-0.0168	0.0093	-0.9907	0.0119	-0.1633	0.0355
4	90.35	0.6001	0.0732	0.0030	-0.0155	0.0106	-1.2720	0.0136	-0.2127	0.0282
4	90.35	0.6501	0.0613	0.0028	-0.0472	0.0128	-1.6475	0.0184	-0.1196	0.0364
4	90.35	0.6999	0.0745	0.0035	-0.0754	0.0143	-2.0837	0.0196	-0.0259	0.0592
4	90.35	0.7500	0.0648	0.0025	-0.0687	0.0169	-2.5813	0.0238	0.0809	0.0389
4	90.35	0.8002	0.0456	0.0023	-0.1159	0.0179	-3.1168	0.0300	0.0963	0.0445
4	90.35	0.8582	0.0365	0.0020	-0.1038	0.0211	-3.8722	0.0314	-0.5061	0.0530
4	90.35	0.9728	0.0172	0.0055	-0.1203	0.0249	-5.1506	0.0617	0.0963	0.1177

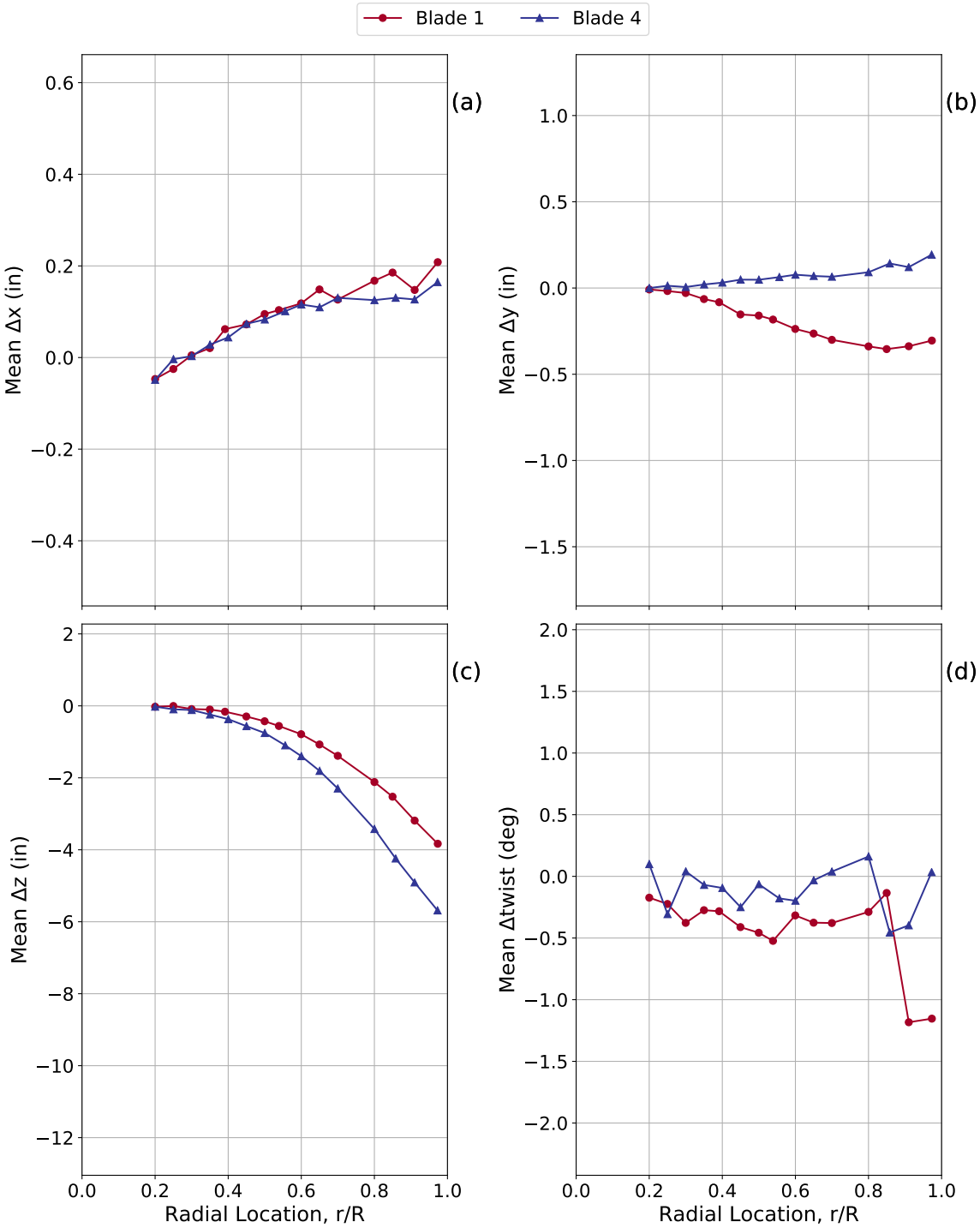


Figure 4.12-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0469	0.0009	-0.0084	0.0007	-0.0234	0.0025	-0.1729	0.0181
1	94.92	0.2499	-0.0250	0.0011	-0.0174	0.0017	-0.0043	0.0056	-0.2239	0.0284
1	94.92	0.2998	0.0048	0.0011	-0.0291	0.0029	-0.0888	0.0113	-0.3771	0.0396
1	94.92	0.3498	0.0206	0.0008	-0.0641	0.0052	-0.1026	0.0174	-0.2743	0.0359
1	94.92	0.3913	0.0620	0.0011	-0.0824	0.0075	-0.1621	0.0267	-0.2828	0.0301
1	94.92	0.4496	0.0723	0.0014	-0.1533	0.0104	-0.2955	0.0345	-0.4115	0.0292
1	94.92	0.4997	0.0949	0.0020	-0.1597	0.0139	-0.4278	0.0431	-0.4573	0.0385
1	94.92	0.5387	0.1035	0.0021	-0.1829	0.0168	-0.5590	0.0474	-0.5230	0.0414
1	94.92	0.5996	0.1182	0.0018	-0.2372	0.0214	-0.7874	0.0605	-0.3167	0.0322
1	94.92	0.6498	0.1486	0.0017	-0.2640	0.0257	-1.0732	0.0685	-0.3755	0.0384
1	94.92	0.6998	0.1265	0.0023	-0.3004	0.0304	-1.3884	0.0752	-0.3784	0.0488
1	94.92	0.8001	0.1677	0.0026	-0.3385	0.0399	-2.1177	0.0969	-0.2881	0.0295
1	94.92	0.8497	0.1855	0.0023	-0.3542	0.0449	-2.5243	0.1061	-0.1348	0.0621
1	94.92	0.9102	0.1475	0.0080	-0.3376	0.0500	-3.1886	0.1233	-1.1830	0.1043
1	94.92	0.9734	0.2082	0.0046	-0.3047	0.0560	-3.8318	0.1370	-1.1536	0.1200
4	94.92	0.2001	-0.0487	0.0010	-0.0002	0.0004	-0.0225	0.0011	0.0989	0.0131
4	94.92	0.2502	-0.0036	0.0009	0.0131	0.0011	-0.0962	0.0022	-0.3065	0.0176
4	94.92	0.3001	0.0031	0.0006	0.0056	0.0016	-0.1153	0.0044	0.0400	0.0269
4	94.92	0.3502	0.0282	0.0010	0.0205	0.0029	-0.2415	0.0060	-0.0694	0.0249
4	94.92	0.4002	0.0440	0.0012	0.0313	0.0044	-0.3706	0.0101	-0.0941	0.0316
4	94.92	0.4500	0.0736	0.0015	0.0485	0.0055	-0.5643	0.0115	-0.2499	0.0267
4	94.92	0.5001	0.0830	0.0016	0.0480	0.0069	-0.7550	0.0137	-0.0640	0.0260
4	94.92	0.5560	0.1011	0.0011	0.0633	0.0083	-1.0979	0.0154	-0.1788	0.0271
4	94.92	0.6001	0.1157	0.0014	0.0772	0.0099	-1.3982	0.0165	-0.1976	0.0281
4	94.92	0.6501	0.1097	0.0019	0.0698	0.0116	-1.8082	0.0189	-0.0317	0.0325
4	94.92	0.6999	0.1302	0.0014	0.0654	0.0134	-2.2976	0.0200	0.0387	0.0282
4	94.92	0.8002	0.1253	0.0019	0.0916	0.0174	-3.4229	0.0289	0.1610	0.0526
4	94.92	0.8582	0.1304	0.0029	0.1423	0.0200	-4.2424	0.0333	-0.4560	0.0492
4	94.92	0.9101	0.1268	0.0044	0.1211	0.0228	-4.9072	0.0427	-0.3970	0.0306
4	94.92	0.9728	0.1646	0.0045	0.1932	0.0256	-5.6854	0.0538	0.0343	0.0676

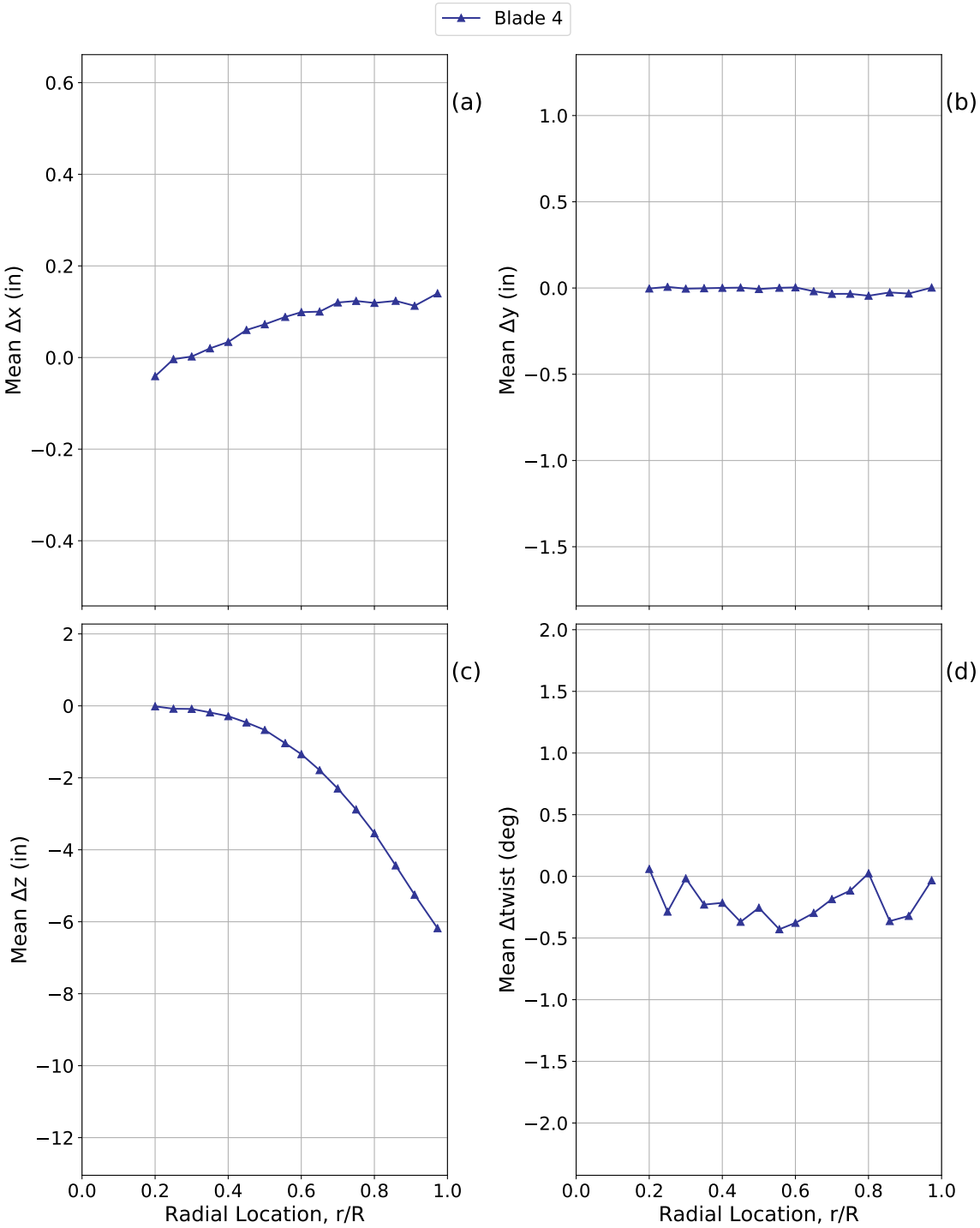


Figure 4.12-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0408	0.0006	-0.0030	0.0004	-0.0137	0.0011	0.0597	0.0138
4	105.12	0.2502	-0.0036	0.0006	0.0067	0.0012	-0.0807	0.0030	-0.2865	0.0238
4	105.12	0.3001	0.0022	0.0006	-0.0038	0.0017	-0.0858	0.0051	-0.0164	0.0319
4	105.12	0.3502	0.0200	0.0010	-0.0017	0.0032	-0.1833	0.0082	-0.2292	0.0224
4	105.12	0.4002	0.0340	0.0011	0.0007	0.0049	-0.2877	0.0133	-0.2148	0.0247
4	105.12	0.4500	0.0601	0.0014	0.0023	0.0064	-0.4629	0.0165	-0.3689	0.0293
4	105.12	0.5001	0.0725	0.0012	-0.0060	0.0080	-0.6699	0.0195	-0.2549	0.0334
4	105.12	0.5560	0.0886	0.0016	0.0012	0.0104	-1.0386	0.0251	-0.4292	0.0242
4	105.12	0.6001	0.0990	0.0015	0.0035	0.0124	-1.3437	0.0291	-0.3771	0.0258
4	105.12	0.6501	0.1002	0.0011	-0.0188	0.0148	-1.7879	0.0326	-0.2971	0.0236
4	105.12	0.6999	0.1201	0.0018	-0.0340	0.0170	-2.2990	0.0381	-0.1847	0.0314
4	105.12	0.7500	0.1235	0.0017	-0.0336	0.0197	-2.8806	0.0437	-0.1157	0.0394
4	105.12	0.8002	0.1192	0.0021	-0.0448	0.0223	-3.5409	0.0509	0.0244	0.0320
4	105.12	0.8582	0.1237	0.0024	-0.0256	0.0252	-4.4362	0.0591	-0.3629	0.0360
4	105.12	0.9101	0.1129	0.0026	-0.0323	0.0283	-5.2504	0.0715	-0.3209	0.0373
4	105.12	0.9728	0.1400	0.0034	0.0022	0.0318	-6.1805	0.0832	-0.0326	0.0433

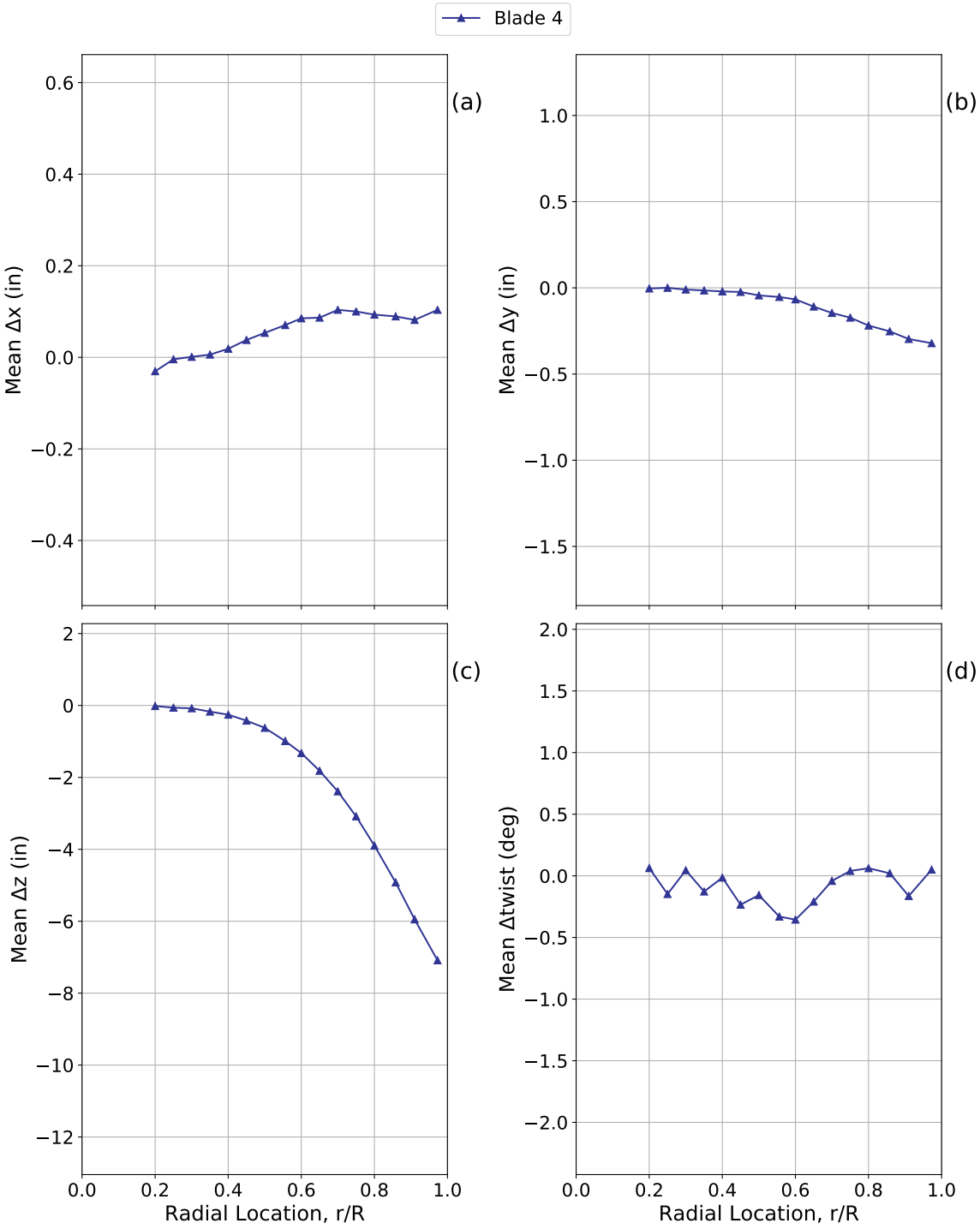


Figure 4.12-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0304	0.0007	-0.0037	0.0005	-0.0173	0.0009	0.0628	0.0082
4	119.88	0.2502	-0.0043	0.0008	0.0001	0.0010	-0.0623	0.0019	-0.1478	0.0163
4	119.88	0.3001	0.0010	0.0010	-0.0099	0.0020	-0.0795	0.0036	0.0452	0.0181
4	119.88	0.3502	0.0059	0.0009	-0.0152	0.0034	-0.1723	0.0057	-0.1273	0.0213
4	119.88	0.4002	0.0187	0.0016	-0.0209	0.0052	-0.2570	0.0089	-0.0142	0.0183
4	119.88	0.4500	0.0378	0.0018	-0.0239	0.0063	-0.4232	0.0102	-0.2342	0.0164
4	119.88	0.5001	0.0534	0.0015	-0.0440	0.0082	-0.6235	0.0148	-0.1562	0.0224
4	119.88	0.5560	0.0704	0.0015	-0.0530	0.0097	-0.9905	0.0190	-0.3309	0.0255
4	119.88	0.6001	0.0852	0.0016	-0.0669	0.0109	-1.3255	0.0233	-0.3552	0.0167
4	119.88	0.6501	0.0866	0.0013	-0.1088	0.0127	-1.8179	0.0284	-0.2091	0.0181
4	119.88	0.6999	0.1037	0.0017	-0.1458	0.0145	-2.3900	0.0326	-0.0410	0.0201
4	119.88	0.7500	0.1001	0.0020	-0.1729	0.0158	-3.0852	0.0360	0.0397	0.0222
4	119.88	0.8002	0.0932	0.0018	-0.2188	0.0182	-3.8992	0.0402	0.0618	0.0189
4	119.88	0.8582	0.0894	0.0021	-0.2523	0.0208	-4.9228	0.0468	0.0208	0.0219
4	119.88	0.9101	0.0817	0.0021	-0.2968	0.0230	-5.9490	0.0536	-0.1637	0.0190
4	119.88	0.9728	0.1036	0.0026	-0.3211	0.0254	-7.0883	0.0603	0.0503	0.0201

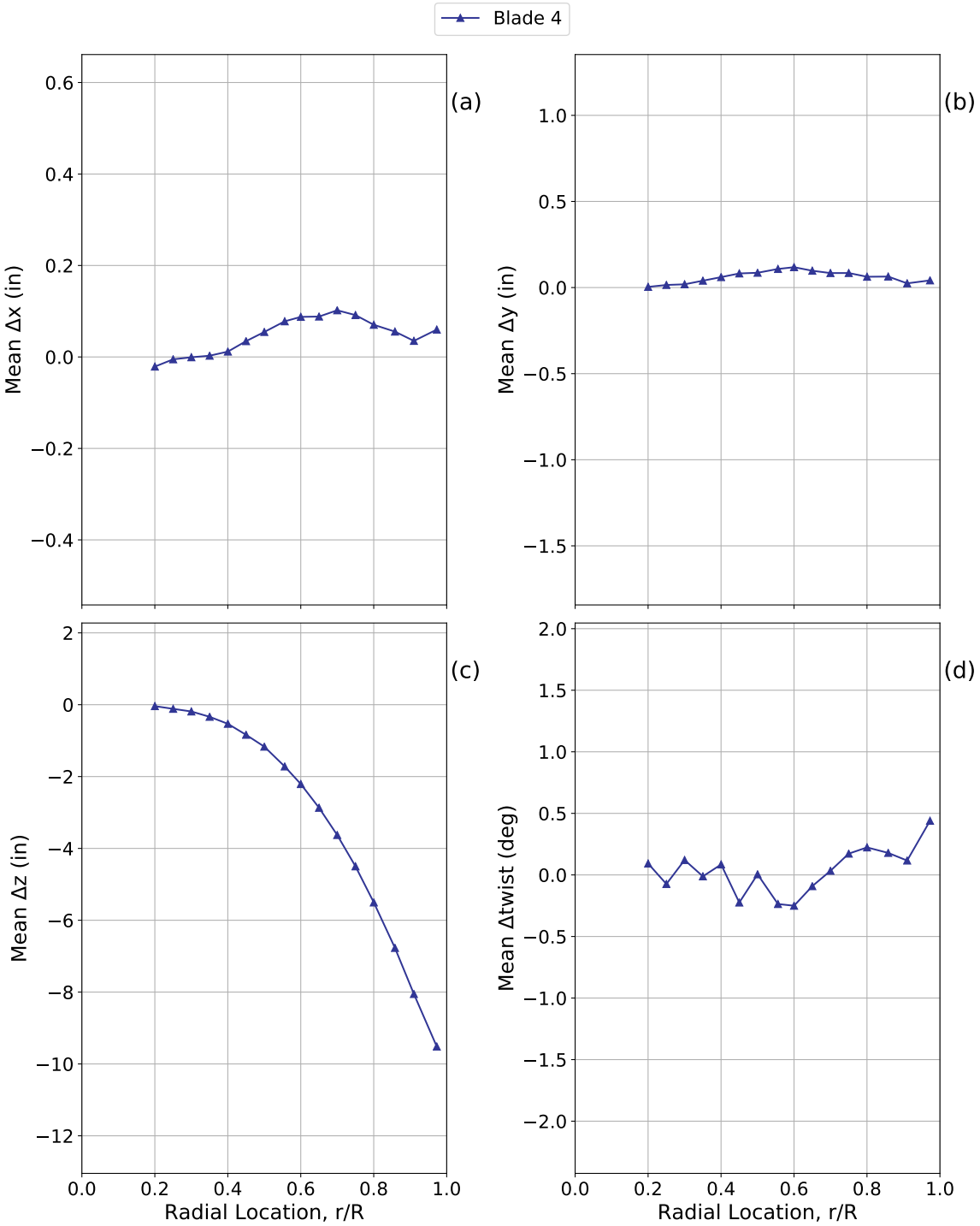


Figure 4.12-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0211	0.0010	0.0038	0.0006	-0.0399	0.0014	0.0924	0.0112
4	135	0.2502	-0.0052	0.0010	0.0150	0.0010	-0.1149	0.0022	-0.0738	0.0227
4	135	0.3001	-0.0007	0.0006	0.0188	0.0023	-0.1885	0.0048	0.1209	0.0262
4	135	0.3502	0.0027	0.0010	0.0398	0.0037	-0.3369	0.0081	-0.0116	0.0258
4	135	0.4002	0.0117	0.0010	0.0605	0.0059	-0.5320	0.0121	0.0850	0.0241
4	135	0.4500	0.0345	0.0011	0.0819	0.0075	-0.8372	0.0153	-0.2243	0.0263
4	135	0.5001	0.0546	0.0014	0.0858	0.0098	-1.1680	0.0196	0.0049	0.0218
4	135	0.5560	0.0779	0.0012	0.1079	0.0123	-1.7193	0.0232	-0.2363	0.0264
4	135	0.6001	0.0876	0.0017	0.1182	0.0149	-2.2090	0.0268	-0.2503	0.0289
4	135	0.6501	0.0883	0.0011	0.0976	0.0170	-2.8696	0.0298	-0.0913	0.0304
4	135	0.6999	0.1020	0.0017	0.0841	0.0199	-3.6277	0.0346	0.0335	0.0297
4	135	0.7500	0.0915	0.0017	0.0844	0.0225	-4.5000	0.0370	0.1729	0.0336
4	135	0.8002	0.0703	0.0019	0.0627	0.0254	-5.5047	0.0405	0.2234	0.0317
4	135	0.8582	0.0554	0.0025	0.0638	0.0286	-6.7707	0.0432	0.1788	0.0298
4	135	0.9101	0.0351	0.0022	0.0244	0.0317	-8.0526	0.0473	0.1167	0.0266
4	135	0.9728	0.0598	0.0030	0.0416	0.0347	-9.5156	0.0525	0.4395	0.0370

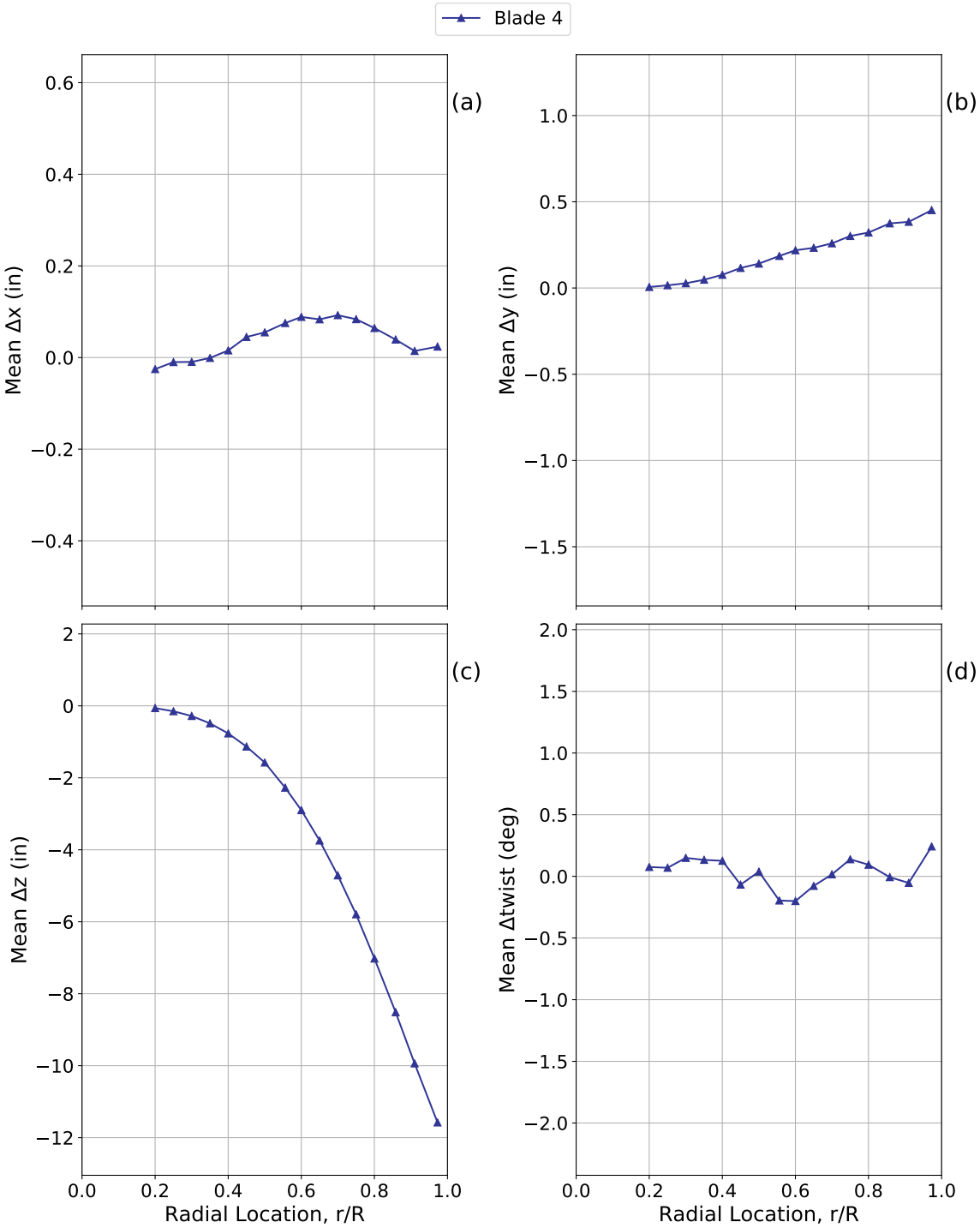


Figure 4.12-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0253	0.0007	0.0057	0.0004	-0.0632	0.0007	0.0757	0.0083
4	150.12	0.2502	-0.0100	0.0008	0.0156	0.0010	-0.1505	0.0015	0.0695	0.0164
4	150.12	0.3001	-0.0096	0.0007	0.0274	0.0019	-0.2824	0.0032	0.1495	0.0195
4	150.12	0.3502	-0.0009	0.0010	0.0481	0.0031	-0.4868	0.0040	0.1335	0.0241
4	150.12	0.4002	0.0155	0.0009	0.0765	0.0048	-0.7674	0.0071	0.1259	0.0213
4	150.12	0.4500	0.0448	0.0008	0.1162	0.0057	-1.1320	0.0081	-0.0676	0.0202
4	150.12	0.5001	0.0549	0.0008	0.1413	0.0074	-1.5752	0.0096	0.0380	0.0242
4	150.12	0.5560	0.0752	0.0010	0.1858	0.0088	-2.2754	0.0115	-0.1962	0.0249
4	150.12	0.6001	0.0886	0.0011	0.2188	0.0099	-2.8994	0.0131	-0.2005	0.0198
4	150.12	0.6501	0.0833	0.0008	0.2330	0.0125	-3.7436	0.0147	-0.0775	0.0213
4	150.12	0.6999	0.0924	0.0014	0.2589	0.0145	-4.7122	0.0171	0.0160	0.0231
4	150.12	0.7500	0.0836	0.0016	0.3016	0.0163	-5.7945	0.0218	0.1384	0.0267
4	150.12	0.8002	0.0643	0.0020	0.3217	0.0191	-7.0226	0.0236	0.0940	0.0305
4	150.12	0.8582	0.0392	0.0014	0.3747	0.0232	-8.5153	0.0298	-0.0066	0.0209
4	150.12	0.9101	0.0143	0.0025	0.3835	0.0257	-9.9379	0.0337	-0.0534	0.0314
4	150.12	0.9728	0.0238	0.0037	0.4515	0.0302	-11.5787	0.0392	0.2422	0.0246

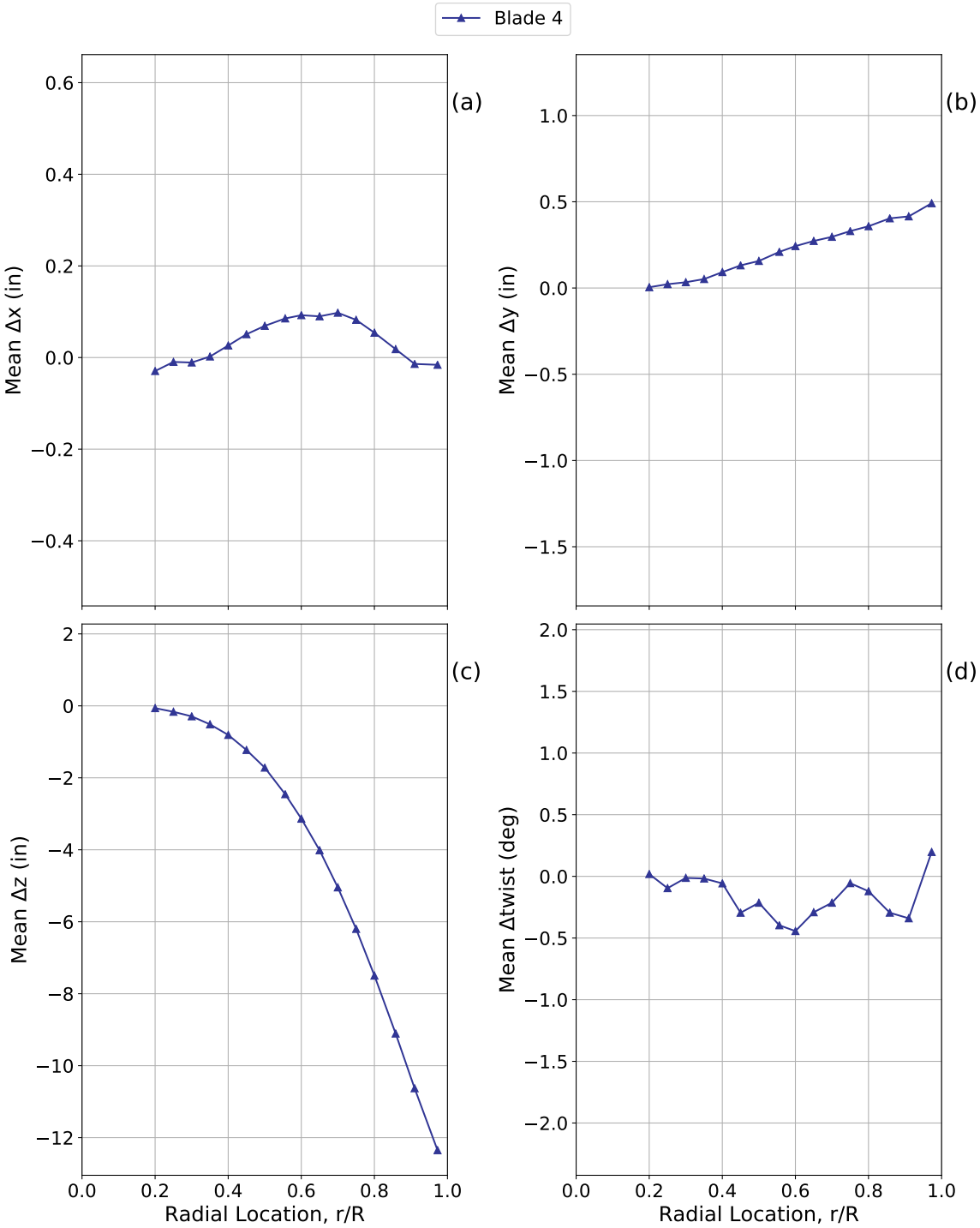


Figure 4.12-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0295	0.0010	0.0045	0.0008	-0.0641	0.0014	0.0185	0.0120
4	164.88	0.2502	-0.0096	0.0009	0.0221	0.0010	-0.1651	0.0032	-0.0960	0.0228
4	164.88	0.3001	-0.0109	0.0009	0.0335	0.0033	-0.2918	0.0051	-0.0127	0.0270
4	164.88	0.3502	0.0022	0.0011	0.0519	0.0043	-0.5139	0.0092	-0.0177	0.0206
4	164.88	0.4002	0.0263	0.0014	0.0922	0.0073	-0.8084	0.0139	-0.0571	0.0275
4	164.88	0.4500	0.0508	0.0012	0.1312	0.0075	-1.2273	0.0181	-0.2952	0.0174
4	164.88	0.5001	0.0691	0.0010	0.1568	0.0104	-1.7174	0.0219	-0.2143	0.0215
4	164.88	0.5560	0.0853	0.0020	0.2093	0.0126	-2.4559	0.0253	-0.3968	0.0306
4	164.88	0.6001	0.0924	0.0017	0.2429	0.0140	-3.1368	0.0294	-0.4438	0.0259
4	164.88	0.6501	0.0899	0.0019	0.2727	0.0165	-4.0138	0.0325	-0.2913	0.0328
4	164.88	0.6999	0.0977	0.0023	0.2966	0.0180	-5.0457	0.0357	-0.2140	0.0315
4	164.88	0.7500	0.0822	0.0027	0.3300	0.0209	-6.1993	0.0395	-0.0554	0.0291
4	164.88	0.8002	0.0541	0.0030	0.3581	0.0227	-7.4975	0.0449	-0.1209	0.0260
4	164.88	0.8582	0.0182	0.0032	0.4039	0.0260	-9.1074	0.0513	-0.2948	0.0297
4	164.88	0.9101	-0.0140	0.0034	0.4152	0.0282	-10.6282	0.0561	-0.3403	0.0239
4	164.88	0.9728	-0.0159	0.0043	0.4913	0.0318	-12.3496	0.0648	0.1974	0.0244

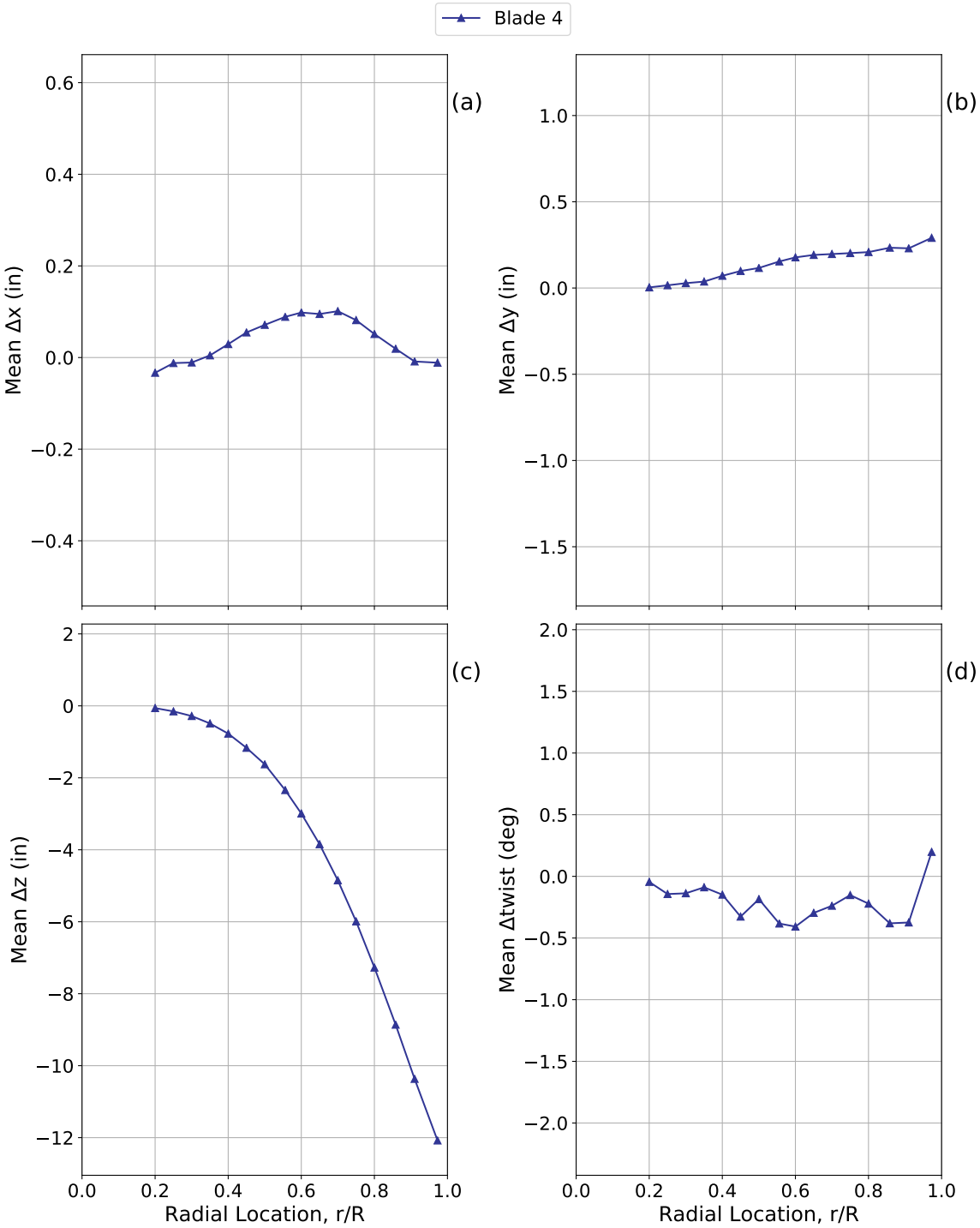


Figure 4.12-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0333	0.0011	0.0036	0.0005	-0.0625	0.0014	-0.0452	0.0140
4	170.16	0.2502	-0.0121	0.0013	0.0157	0.0014	-0.1539	0.0030	-0.1435	0.0144
4	170.16	0.3001	-0.0109	0.0018	0.0281	0.0020	-0.2829	0.0061	-0.1374	0.0264
4	170.16	0.3502	0.0047	0.0011	0.0373	0.0040	-0.4894	0.0085	-0.0890	0.0291
4	170.16	0.4002	0.0293	0.0008	0.0708	0.0055	-0.7729	0.0144	-0.1486	0.0261
4	170.16	0.4500	0.0547	0.0015	0.0986	0.0070	-1.1665	0.0174	-0.3266	0.0332
4	170.16	0.5001	0.0713	0.0014	0.1163	0.0087	-1.6249	0.0222	-0.1848	0.0284
4	170.16	0.5560	0.0888	0.0018	0.1539	0.0096	-2.3413	0.0277	-0.3828	0.0330
4	170.16	0.6001	0.0982	0.0019	0.1776	0.0115	-2.9929	0.0320	-0.4074	0.0352
4	170.16	0.6501	0.0950	0.0016	0.1917	0.0137	-3.8469	0.0360	-0.2964	0.0334
4	170.16	0.6999	0.1012	0.0015	0.1970	0.0148	-4.8481	0.0401	-0.2386	0.0350
4	170.16	0.7500	0.0816	0.0020	0.2023	0.0175	-5.9910	0.0423	-0.1519	0.0361
4	170.16	0.8002	0.0513	0.0023	0.2083	0.0197	-7.2742	0.0460	-0.2217	0.0318
4	170.16	0.8582	0.0191	0.0022	0.2336	0.0220	-8.8613	0.0478	-0.3810	0.0331
4	170.16	0.9101	-0.0086	0.0026	0.2301	0.0243	-10.3673	0.0513	-0.3741	0.0311
4	170.16	0.9728	-0.0113	0.0026	0.2907	0.0266	-12.0789	0.0536	0.1981	0.0285

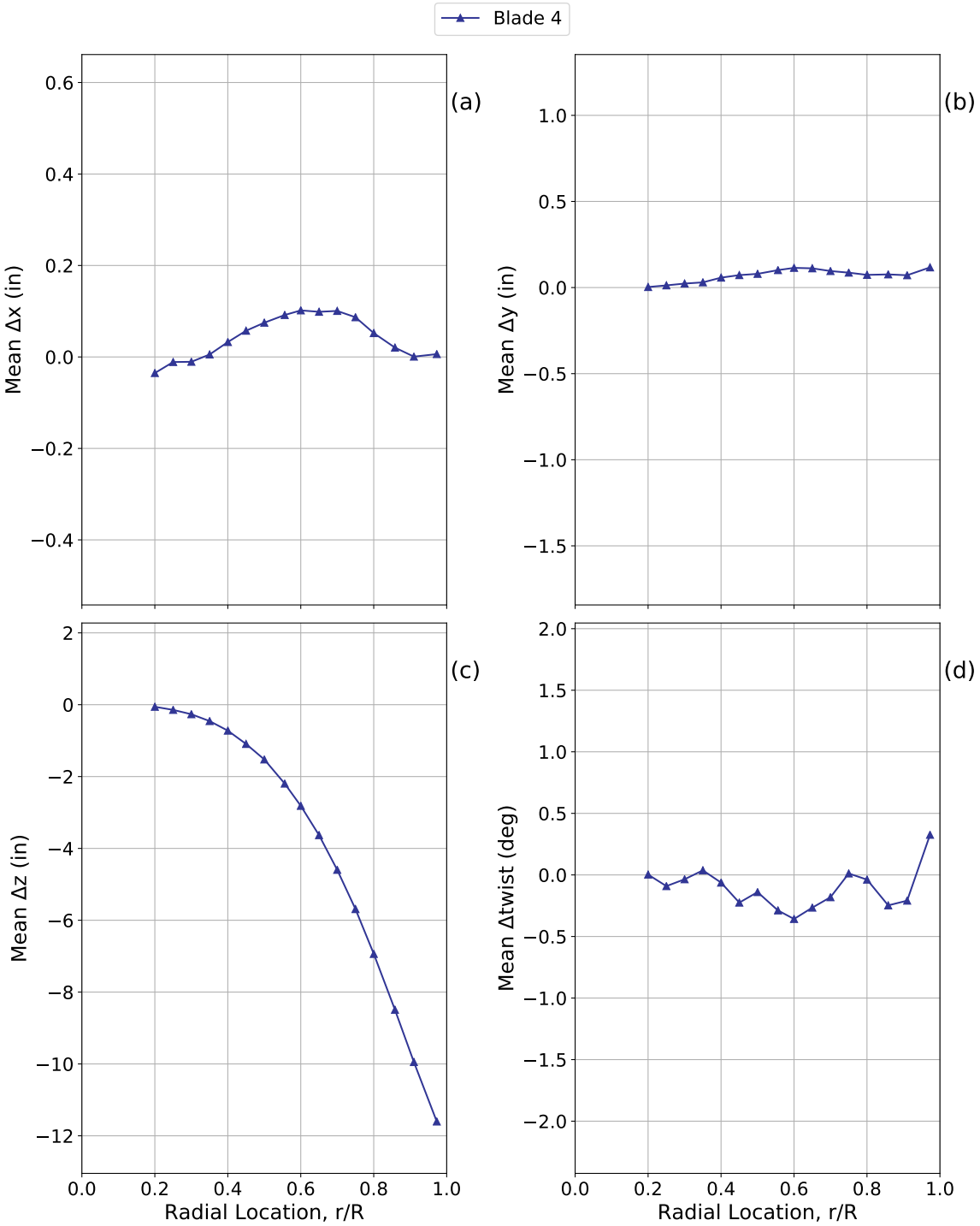


Figure 4.12-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0352	0.0007	0.0030	0.0005	-0.0581	0.0024	0.0028	0.0142
4	175.08	0.2502	-0.0111	0.0012	0.0126	0.0014	-0.1442	0.0025	-0.0910	0.0315
4	175.08	0.3001	-0.0106	0.0012	0.0231	0.0013	-0.2652	0.0075	-0.0353	0.0331
4	175.08	0.3502	0.0054	0.0013	0.0301	0.0035	-0.4561	0.0133	0.0373	0.0298
4	175.08	0.4002	0.0326	0.0009	0.0576	0.0047	-0.7227	0.0188	-0.0627	0.0242
4	175.08	0.4500	0.0573	0.0015	0.0722	0.0063	-1.0926	0.0245	-0.2250	0.0283
4	175.08	0.5001	0.0749	0.0016	0.0795	0.0073	-1.5242	0.0282	-0.1395	0.0295
4	175.08	0.5560	0.0917	0.0017	0.1012	0.0093	-2.1964	0.0348	-0.2884	0.0330
4	175.08	0.6001	0.1018	0.0017	0.1143	0.0116	-2.8162	0.0401	-0.3578	0.0283
4	175.08	0.6501	0.0987	0.0014	0.1116	0.0129	-3.6317	0.0434	-0.2658	0.0363
4	175.08	0.6999	0.1006	0.0020	0.0958	0.0147	-4.5969	0.0447	-0.1811	0.0393
4	175.08	0.7500	0.0868	0.0022	0.0865	0.0168	-5.6898	0.0508	0.0118	0.0358
4	175.08	0.8002	0.0521	0.0023	0.0735	0.0182	-6.9380	0.0568	-0.0382	0.0192
4	175.08	0.8582	0.0204	0.0031	0.0764	0.0214	-8.4923	0.0632	-0.2474	0.0271
4	175.08	0.9101	0.0007	0.0036	0.0714	0.0234	-9.9472	0.0709	-0.2089	0.0314
4	175.08	0.9728	0.0062	0.0039	0.1171	0.0262	-11.6025	0.0784	0.3259	0.0357

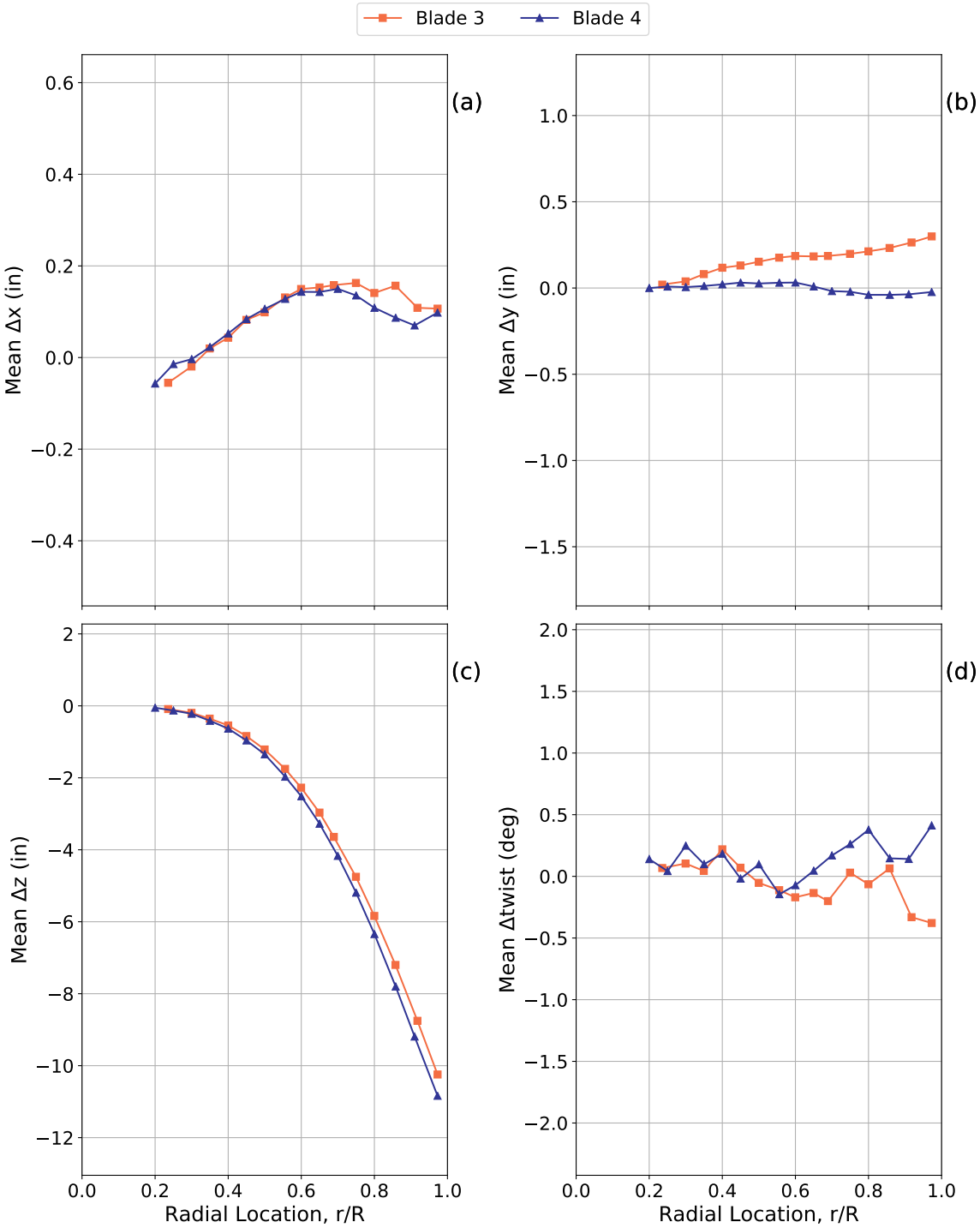


Figure 4.12-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0551	0.0014	0.0198	0.0014	-0.0888	0.0023	0.0677	0.0222
3	180.35	0.2995	-0.0196	0.0017	0.0385	0.0037	-0.1935	0.0061	0.1040	0.0357
3	180.35	0.3493	0.0198	0.0016	0.0806	0.0058	-0.3547	0.0097	0.0441	0.0254
3	180.35	0.4000	0.0432	0.0012	0.1177	0.0096	-0.5440	0.0159	0.2193	0.0324
3	180.35	0.4497	0.0821	0.0030	0.1307	0.0133	-0.8387	0.0193	0.0701	0.0270
3	180.35	0.4997	0.0987	0.0021	0.1524	0.0149	-1.2121	0.0244	-0.0528	0.0369
3	180.35	0.5556	0.1312	0.0023	0.1762	0.0191	-1.7514	0.0291	-0.1120	0.0317
3	180.35	0.5995	0.1496	0.0019	0.1856	0.0213	-2.2726	0.0325	-0.1699	0.0329
3	180.35	0.6498	0.1530	0.0023	0.1832	0.0235	-2.9663	0.0367	-0.1349	0.0353
3	180.35	0.6890	0.1581	0.0023	0.1859	0.0263	-3.6419	0.0394	-0.2007	0.0380
3	180.35	0.7495	0.1628	0.0023	0.1980	0.0296	-4.7506	0.0474	0.0301	0.0307
3	180.35	0.7998	0.1409	0.0032	0.2125	0.0331	-5.8385	0.0515	-0.0640	0.0339
3	180.35	0.8577	0.1568	0.0043	0.2320	0.0365	-7.1999	0.0594	0.0644	0.0402
3	180.35	0.9178	0.1085	0.0038	0.2640	0.0408	-8.7534	0.0694	-0.3311	0.0696
3	180.35	0.9729	0.1068	0.0057	0.2992	0.0438	-10.2448	0.0754	-0.3783	0.0721
4	180	0.2001	-0.0568	0.0035	-0.0002	0.0006	-0.0521	0.0013	0.1395	0.0148
4	180	0.2502	-0.0144	0.0016	0.0083	0.0018	-0.1300	0.0024	0.0426	0.0308
4	180	0.3001	-0.0035	0.0022	0.0052	0.0029	-0.2211	0.0052	0.2487	0.0359
4	180	0.3502	0.0231	0.0030	0.0118	0.0048	-0.4161	0.0084	0.0986	0.0298
4	180	0.4002	0.0525	0.0048	0.0211	0.0079	-0.6334	0.0131	0.1832	0.0363
4	180	0.4500	0.0839	0.0054	0.0313	0.0095	-0.9621	0.0163	-0.0184	0.0336
4	180	0.5001	0.1061	0.0065	0.0262	0.0109	-1.3478	0.0191	0.0974	0.0325
4	180	0.5560	0.1280	0.0070	0.0306	0.0135	-1.9695	0.0234	-0.1449	0.0431
4	180	0.6001	0.1435	0.0066	0.0318	0.0149	-2.5140	0.0263	-0.0719	0.0354
4	180	0.6501	0.1430	0.0063	0.0088	0.0171	-3.2768	0.0290	0.0459	0.0375
4	180	0.6999	0.1499	0.0075	-0.0178	0.0194	-4.1696	0.0321	0.1693	0.0354
4	180	0.7500	0.1355	0.0072	-0.0217	0.0206	-5.1922	0.0346	0.2619	0.0351
4	180	0.8002	0.1085	0.0073	-0.0395	0.0228	-6.3433	0.0381	0.3776	0.0344
4	180	0.8582	0.0868	0.0094	-0.0397	0.0253	-7.7997	0.0429	0.1462	0.0441
4	180	0.9101	0.0700	0.0121	-0.0365	0.0271	-9.1910	0.0452	0.1407	0.0497
4	180	0.9728	0.0980	0.0174	-0.0233	0.0298	-10.8370	0.0532	0.4122	0.0707

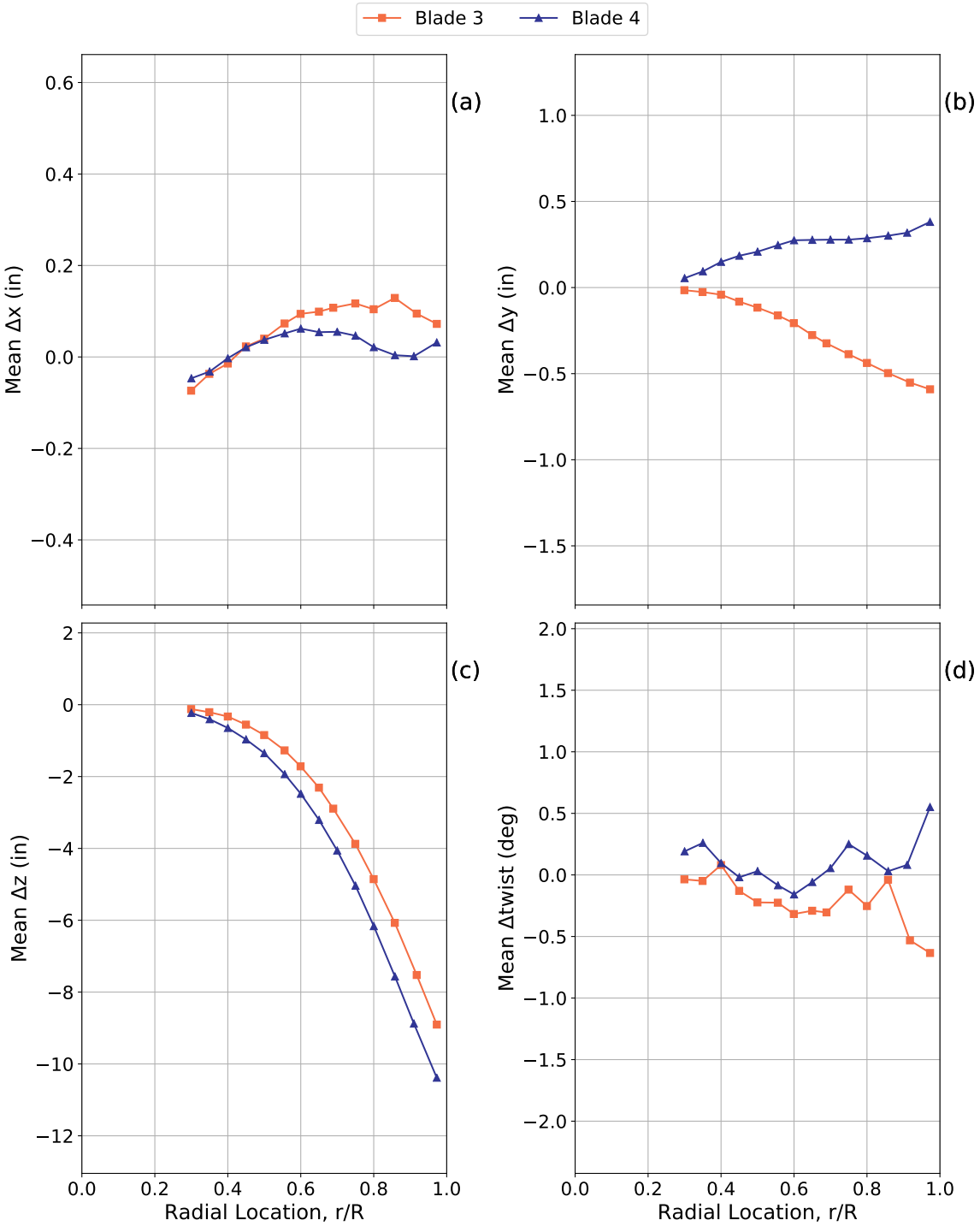


Figure 4.12-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0737	0.0032	-0.0153	0.0040	-0.1226	0.0155	-0.0359	0.0470
3	184.92	0.3493	-0.0370	0.0030	-0.0261	0.0068	-0.2080	0.0263	-0.0489	0.0620
3	184.92	0.4000	-0.0144	0.0021	-0.0415	0.0107	-0.3290	0.0417	0.0802	0.0615
3	184.92	0.4497	0.0230	0.0027	-0.0818	0.0140	-0.5543	0.0542	-0.1295	0.0589
3	184.92	0.4997	0.0400	0.0027	-0.1165	0.0179	-0.8448	0.0670	-0.2231	0.0608
3	184.92	0.5556	0.0732	0.0031	-0.1617	0.0234	-1.2715	0.0827	-0.2255	0.0614
3	184.92	0.5995	0.0942	0.0031	-0.2066	0.0272	-1.7155	0.0943	-0.3174	0.0625
3	184.92	0.6498	0.0991	0.0031	-0.2760	0.0320	-2.3081	0.1088	-0.2909	0.0648
3	184.92	0.6890	0.1076	0.0041	-0.3238	0.0354	-2.8925	0.1198	-0.3043	0.0587
3	184.92	0.7495	0.1170	0.0057	-0.3869	0.0406	-3.8730	0.1379	-0.1193	0.0586
3	184.92	0.7998	0.1043	0.0075	-0.4379	0.0451	-4.8552	0.1529	-0.2528	0.0631
3	184.92	0.8577	0.1290	0.0103	-0.4967	0.0506	-6.0724	0.1695	-0.0389	0.0636
3	184.92	0.9178	0.0948	0.0147	-0.5520	0.0556	-7.5234	0.1875	-0.5311	0.0772
3	184.92	0.9729	0.0723	0.0190	-0.5908	0.0605	-8.9038	0.2044	-0.6340	0.0793
4	184.92	0.3001	-0.0467	0.0056	0.0545	0.0109	-0.2305	0.0215	0.1914	0.0968
4	184.92	0.3502	-0.0319	0.0068	0.0940	0.0187	-0.4046	0.0386	0.2601	0.1293
4	184.92	0.4002	-0.0028	0.0062	0.1490	0.0296	-0.6479	0.0628	0.0958	0.1247
4	184.92	0.4500	0.0211	0.0063	0.1847	0.0384	-0.9668	0.0847	-0.0189	0.1215
4	184.92	0.5001	0.0374	0.0064	0.2082	0.0470	-1.3503	0.1092	0.0306	0.1174
4	184.92	0.5560	0.0515	0.0064	0.2460	0.0588	-1.9342	0.1382	-0.0843	0.1033
4	184.92	0.6001	0.0619	0.0084	0.2745	0.0680	-2.4801	0.1577	-0.1587	0.1161
4	184.92	0.6501	0.0542	0.0088	0.2766	0.0770	-3.2080	0.1803	-0.0581	0.1112
4	184.92	0.6999	0.0550	0.0095	0.2781	0.0855	-4.0601	0.2003	0.0552	0.1131
4	184.92	0.7500	0.0464	0.0107	0.2782	0.0968	-5.0386	0.2217	0.2503	0.1272
4	184.92	0.8002	0.0213	0.0112	0.2864	0.1056	-6.1642	0.2448	0.1564	0.1179
4	184.92	0.8582	0.0038	0.0127	0.3011	0.1165	-7.5670	0.2677	0.0303	0.1242
4	184.92	0.9101	0.0015	0.0141	0.3183	0.1268	-8.8766	0.2889	0.0814	0.1226
4	184.92	0.9728	0.0316	0.0160	0.3810	0.1385	-10.3836	0.3166	0.5508	0.1197

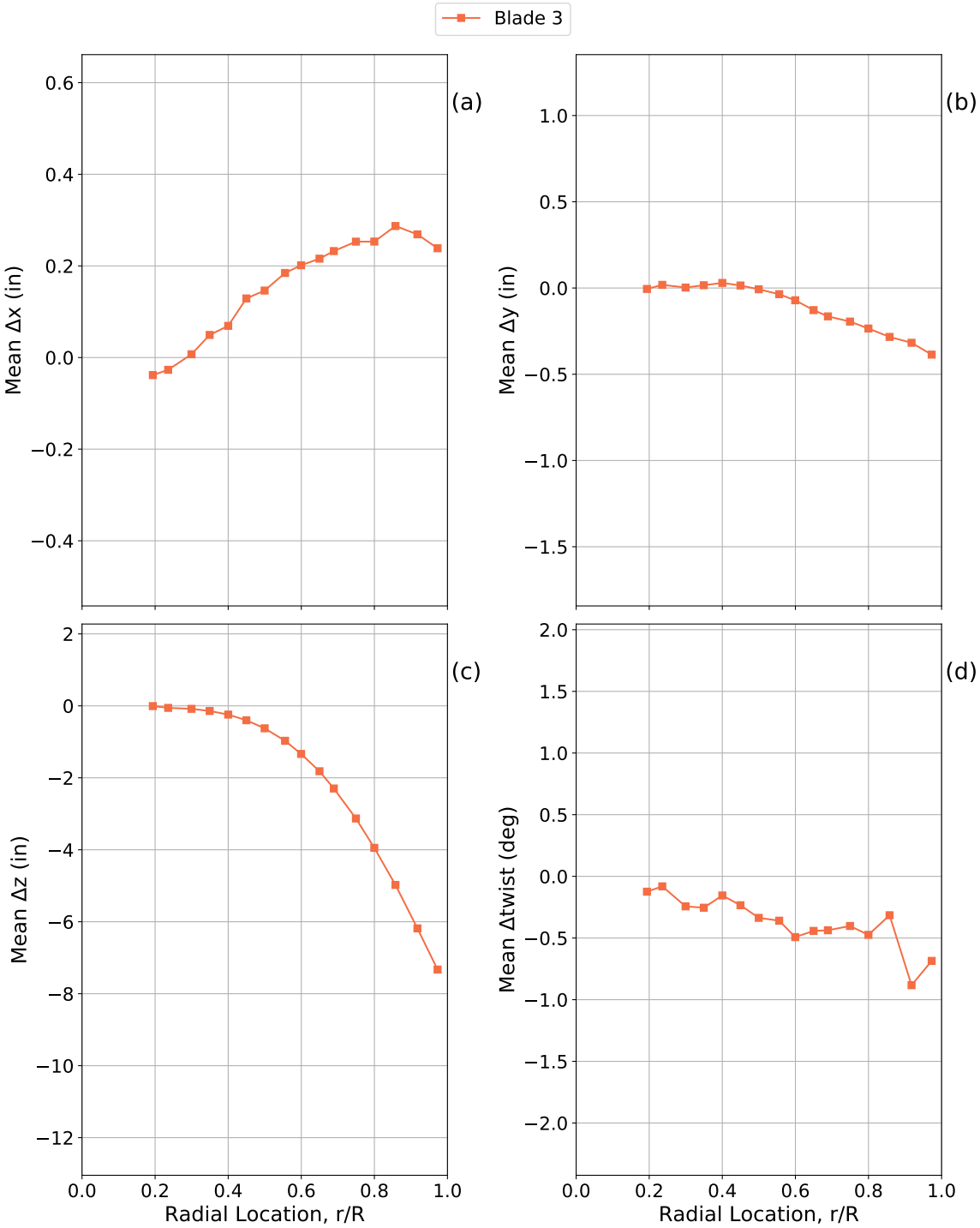


Figure 4.12-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0383	0.0012	-0.0054	0.0009	-0.0066	0.0020	-0.1243	0.0219
3	195.12	0.2357	-0.0268	0.0013	0.0184	0.0023	-0.0561	0.0033	-0.0812	0.0382
3	195.12	0.2995	0.0071	0.0011	0.0028	0.0041	-0.0823	0.0071	-0.2433	0.0552
3	195.12	0.3493	0.0493	0.0014	0.0161	0.0071	-0.1421	0.0143	-0.2543	0.0396
3	195.12	0.4000	0.0692	0.0014	0.0296	0.0115	-0.2429	0.0203	-0.1548	0.0444
3	195.12	0.4497	0.1290	0.0073	0.0147	0.0309	-0.3998	0.0387	-0.2342	0.0459
3	195.12	0.4997	0.1462	0.0074	-0.0073	0.0342	-0.6242	0.0444	-0.3365	0.0450
3	195.12	0.5556	0.1846	0.0065	-0.0359	0.0382	-0.9706	0.0521	-0.3594	0.0427
3	195.12	0.5995	0.2014	0.0060	-0.0711	0.0407	-1.3361	0.0574	-0.4926	0.0461
3	195.12	0.6498	0.2158	0.0055	-0.1282	0.0450	-1.8171	0.0633	-0.4423	0.0437
3	195.12	0.6890	0.2324	0.0045	-0.1644	0.0476	-2.2967	0.0669	-0.4373	0.0463
3	195.12	0.7495	0.2530	0.0028	-0.1945	0.0533	-3.1297	0.0741	-0.4025	0.0405
3	195.12	0.7998	0.2531	0.0025	-0.2348	0.0596	-3.9467	0.0798	-0.4744	0.0483
3	195.12	0.8577	0.2871	0.0039	-0.2835	0.0649	-4.9758	0.0857	-0.3152	0.0658
3	195.12	0.9178	0.2689	0.0019	-0.3175	0.0746	-6.1843	0.0892	-0.8825	0.1167
3	195.12	0.9729	0.2385	0.0081	-0.3861	0.0759	-7.3285	0.0951	-0.6854	0.0621

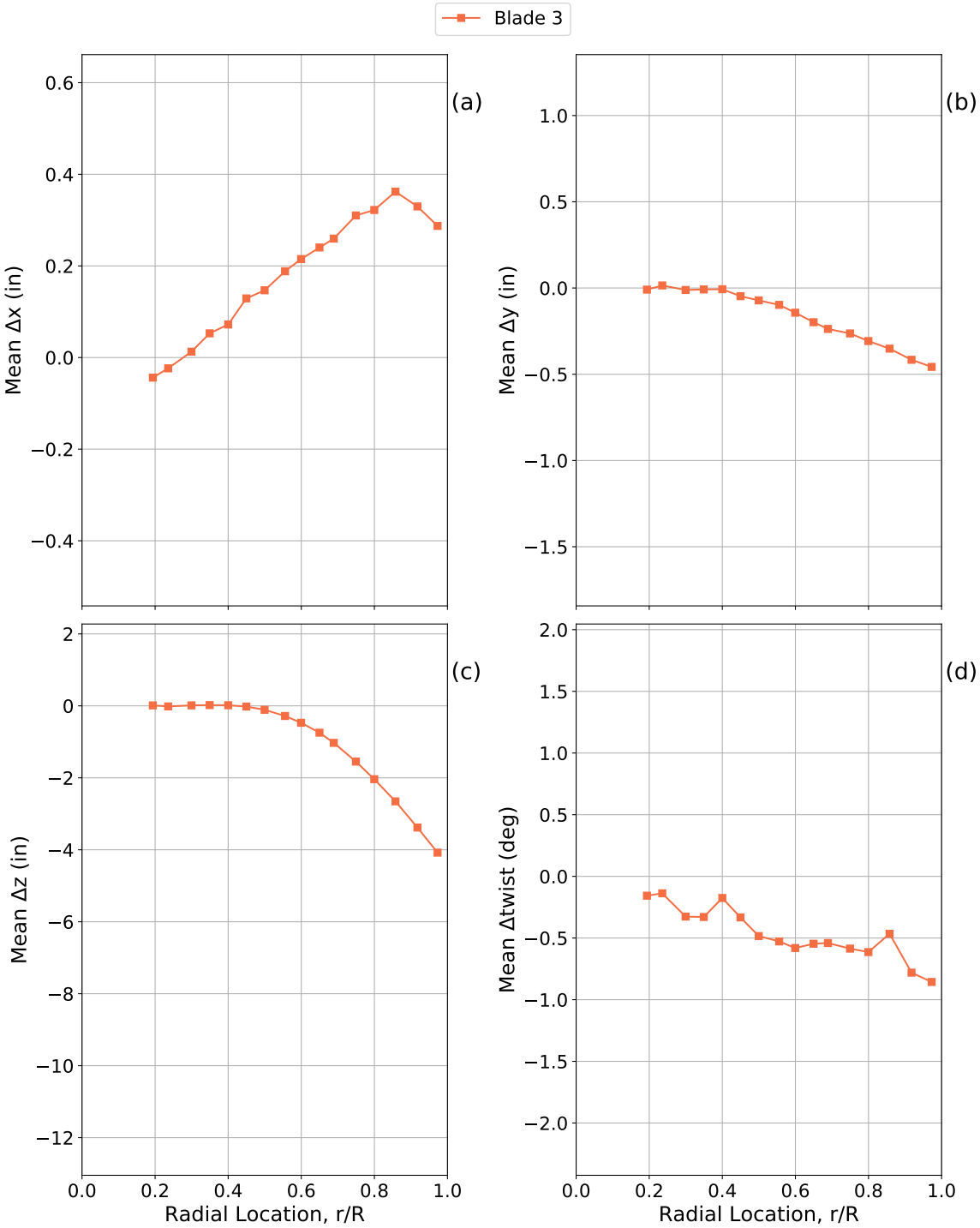


Figure 4.12-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0438	0.0009	-0.0093	0.0007	0.0129	0.0012	-0.1567	0.0071
3	209.88	0.2357	-0.0236	0.0011	0.0149	0.0019	-0.0153	0.0028	-0.1375	0.0220
3	209.88	0.2995	0.0128	0.0010	-0.0114	0.0031	0.0140	0.0044	-0.3262	0.0205
3	209.88	0.3493	0.0528	0.0010	-0.0082	0.0057	0.0210	0.0073	-0.3295	0.0235
3	209.88	0.4000	0.0721	0.0015	-0.0070	0.0089	0.0167	0.0116	-0.1754	0.0233
3	209.88	0.4497	0.1291	0.0014	-0.0473	0.0110	-0.0186	0.0137	-0.3329	0.0277
3	209.88	0.4997	0.1468	0.0019	-0.0717	0.0137	-0.1096	0.0181	-0.4841	0.0325
3	209.88	0.5556	0.1883	0.0021	-0.0978	0.0165	-0.2815	0.0204	-0.5276	0.0349
3	209.88	0.5995	0.2149	0.0018	-0.1430	0.0191	-0.4704	0.0240	-0.5811	0.0351
3	209.88	0.6498	0.2402	0.0019	-0.1982	0.0224	-0.7454	0.0263	-0.5463	0.0297
3	209.88	0.6890	0.2596	0.0018	-0.2373	0.0247	-1.0289	0.0280	-0.5406	0.0274
3	209.88	0.7495	0.3101	0.0019	-0.2633	0.0292	-1.5490	0.0316	-0.5859	0.0259
3	209.88	0.7998	0.3221	0.0022	-0.3075	0.0324	-2.0385	0.0344	-0.6140	0.0291
3	209.88	0.8577	0.3621	0.0020	-0.3516	0.0370	-2.6543	0.0395	-0.4654	0.0382
3	209.88	0.9178	0.3298	0.0023	-0.4162	0.0425	-3.3817	0.0430	-0.7808	0.0354
3	209.88	0.9729	0.2873	0.0038	-0.4572	0.0460	-4.0783	0.0490	-0.8564	0.0365

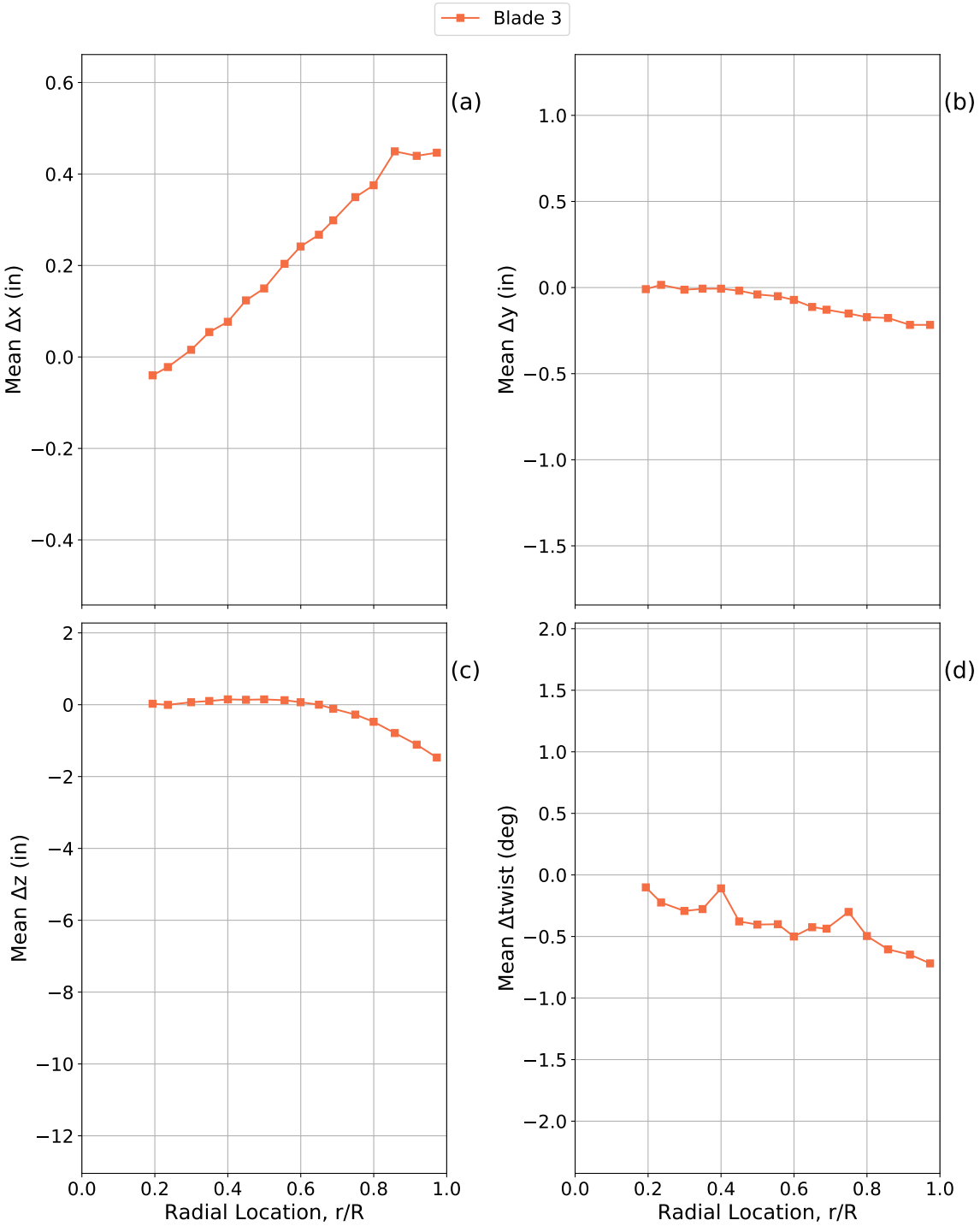


Figure 4.12-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0402	0.0010	-0.0093	0.0008	0.0273	0.0014	-0.1010	0.0130
3	225	0.2357	-0.0221	0.0014	0.0156	0.0016	-0.0044	0.0023	-0.2240	0.0238
3	225	0.2995	0.0156	0.0010	-0.0124	0.0020	0.0691	0.0038	-0.2925	0.0325
3	225	0.3493	0.0544	0.0007	-0.0065	0.0041	0.1033	0.0058	-0.2773	0.0326
3	225	0.4000	0.0769	0.0009	-0.0067	0.0060	0.1484	0.0089	-0.1093	0.0308
3	225	0.4497	0.1237	0.0013	-0.0182	0.0091	0.1373	0.0126	-0.3778	0.0357
3	225	0.4997	0.1498	0.0012	-0.0400	0.0112	0.1478	0.0140	-0.4033	0.0419
3	225	0.5556	0.2036	0.0012	-0.0503	0.0128	0.1256	0.0159	-0.4003	0.0373
3	225	0.5995	0.2415	0.0008	-0.0717	0.0155	0.0688	0.0200	-0.5001	0.0310
3	225	0.6498	0.2673	0.0011	-0.1127	0.0186	0.0010	0.0227	-0.4248	0.0322
3	225	0.6890	0.2987	0.0018	-0.1287	0.0209	-0.1131	0.0244	-0.4365	0.0272
3	225	0.7495	0.3494	0.0022	-0.1507	0.0252	-0.2741	0.0283	-0.3006	0.0308
3	225	0.7998	0.3754	0.0018	-0.1720	0.0283	-0.4755	0.0294	-0.4961	0.0294
3	225	0.8577	0.4495	0.0019	-0.1768	0.0324	-0.7886	0.0304	-0.6045	0.0339
3	225	0.9178	0.4397	0.0024	-0.2168	0.0373	-1.1115	0.0312	-0.6472	0.0369
3	225	0.9729	0.4466	0.0030	-0.2168	0.0415	-1.4705	0.0364	-0.7183	0.0377

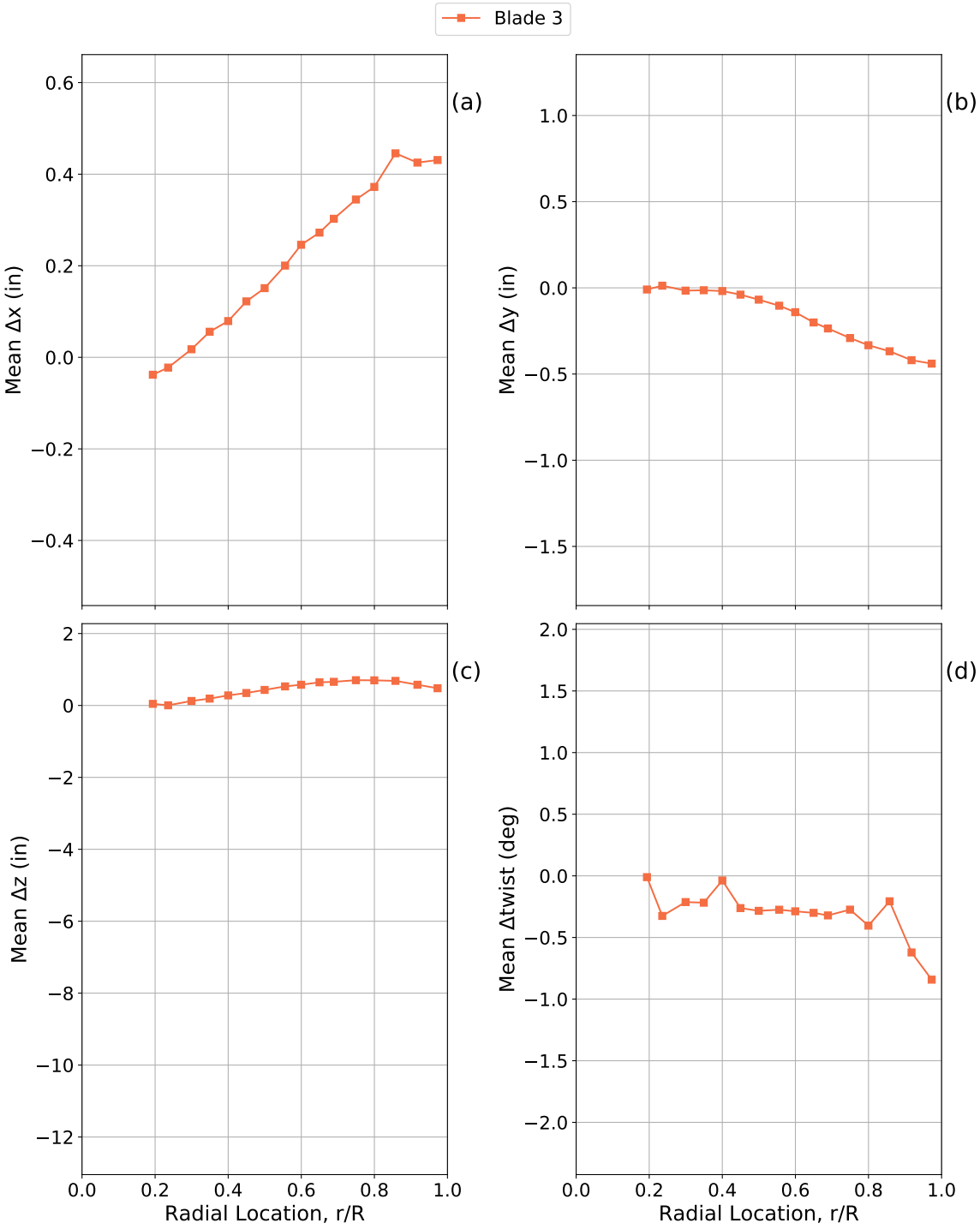


Figure 4.12-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0380	0.0013	-0.0096	0.0007	0.0445	0.0020	-0.0104	0.0142
3	240.12	0.2357	-0.0224	0.0008	0.0126	0.0011	0.0040	0.0023	-0.3251	0.0283
3	240.12	0.2995	0.0176	0.0006	-0.0160	0.0024	0.1243	0.0064	-0.2128	0.0366
3	240.12	0.3493	0.0559	0.0012	-0.0139	0.0042	0.1901	0.0110	-0.2177	0.0338
3	240.12	0.4000	0.0792	0.0018	-0.0186	0.0064	0.2796	0.0161	-0.0376	0.0344
3	240.12	0.4497	0.1222	0.0013	-0.0394	0.0076	0.3461	0.0201	-0.2616	0.0374
3	240.12	0.4997	0.1511	0.0012	-0.0685	0.0092	0.4320	0.0259	-0.2838	0.0379
3	240.12	0.5556	0.2004	0.0011	-0.1036	0.0110	0.5296	0.0317	-0.2748	0.0443
3	240.12	0.5995	0.2458	0.0018	-0.1411	0.0133	0.5761	0.0373	-0.2877	0.0427
3	240.12	0.6498	0.2724	0.0016	-0.2008	0.0153	0.6431	0.0440	-0.3003	0.0303
3	240.12	0.6890	0.3026	0.0015	-0.2355	0.0168	0.6571	0.0482	-0.3211	0.0333
3	240.12	0.7495	0.3447	0.0018	-0.2912	0.0194	0.7026	0.0552	-0.2741	0.0248
3	240.12	0.7998	0.3722	0.0018	-0.3330	0.0219	0.6984	0.0596	-0.4039	0.0259
3	240.12	0.8577	0.4456	0.0015	-0.3679	0.0246	0.6836	0.0661	-0.2064	0.0315
3	240.12	0.9178	0.4253	0.0024	-0.4196	0.0276	0.5760	0.0740	-0.6214	0.0265
3	240.12	0.9729	0.4309	0.0025	-0.4395	0.0306	0.4787	0.0805	-0.8422	0.0267

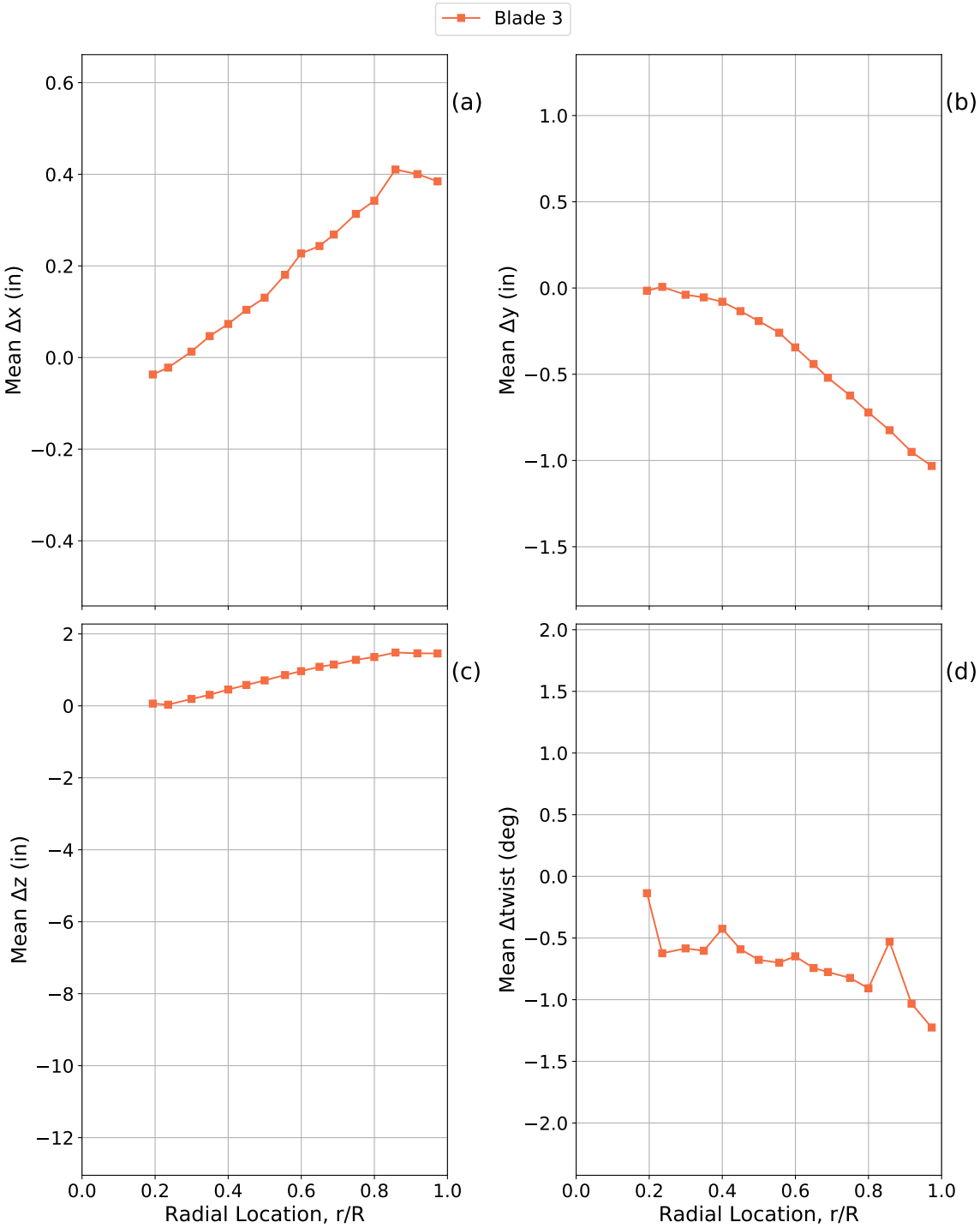


Figure 4.12-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0370	0.0028	-0.0157	0.0010	0.0632	0.0038	-0.1363	0.0249
3	254.88	0.2357	-0.0220	0.0014	0.0064	0.0014	0.0331	0.0045	-0.6233	0.0622
3	254.88	0.2995	0.0128	0.0010	-0.0391	0.0033	0.1920	0.0117	-0.5844	0.0707
3	254.88	0.3493	0.0468	0.0014	-0.0543	0.0058	0.3062	0.0193	-0.6031	0.0673
3	254.88	0.4000	0.0733	0.0009	-0.0796	0.0088	0.4537	0.0288	-0.4250	0.0682
3	254.88	0.4497	0.1041	0.0015	-0.1341	0.0107	0.5795	0.0358	-0.5915	0.0658
3	254.88	0.4997	0.1307	0.0011	-0.1914	0.0128	0.7074	0.0466	-0.6767	0.0651
3	254.88	0.5556	0.1806	0.0016	-0.2589	0.0155	0.8558	0.0550	-0.6999	0.0653
3	254.88	0.5995	0.2272	0.0014	-0.3443	0.0173	0.9653	0.0647	-0.6486	0.0578
3	254.88	0.6498	0.2434	0.0014	-0.4409	0.0194	1.0855	0.0735	-0.7429	0.0602
3	254.88	0.6890	0.2684	0.0016	-0.5202	0.0214	1.1486	0.0820	-0.7759	0.0599
3	254.88	0.7495	0.3135	0.0019	-0.6233	0.0240	1.2792	0.0952	-0.8236	0.0647
3	254.88	0.7998	0.3423	0.0022	-0.7214	0.0268	1.3573	0.1063	-0.9078	0.0599
3	254.88	0.8577	0.4104	0.0026	-0.8245	0.0300	1.4818	0.1196	-0.5292	0.0649
3	254.88	0.9178	0.4004	0.0021	-0.9502	0.0331	1.4610	0.1350	-1.0323	0.0638
3	254.88	0.9729	0.3846	0.0034	-1.0317	0.0368	1.4566	0.1490	-1.2254	0.0639

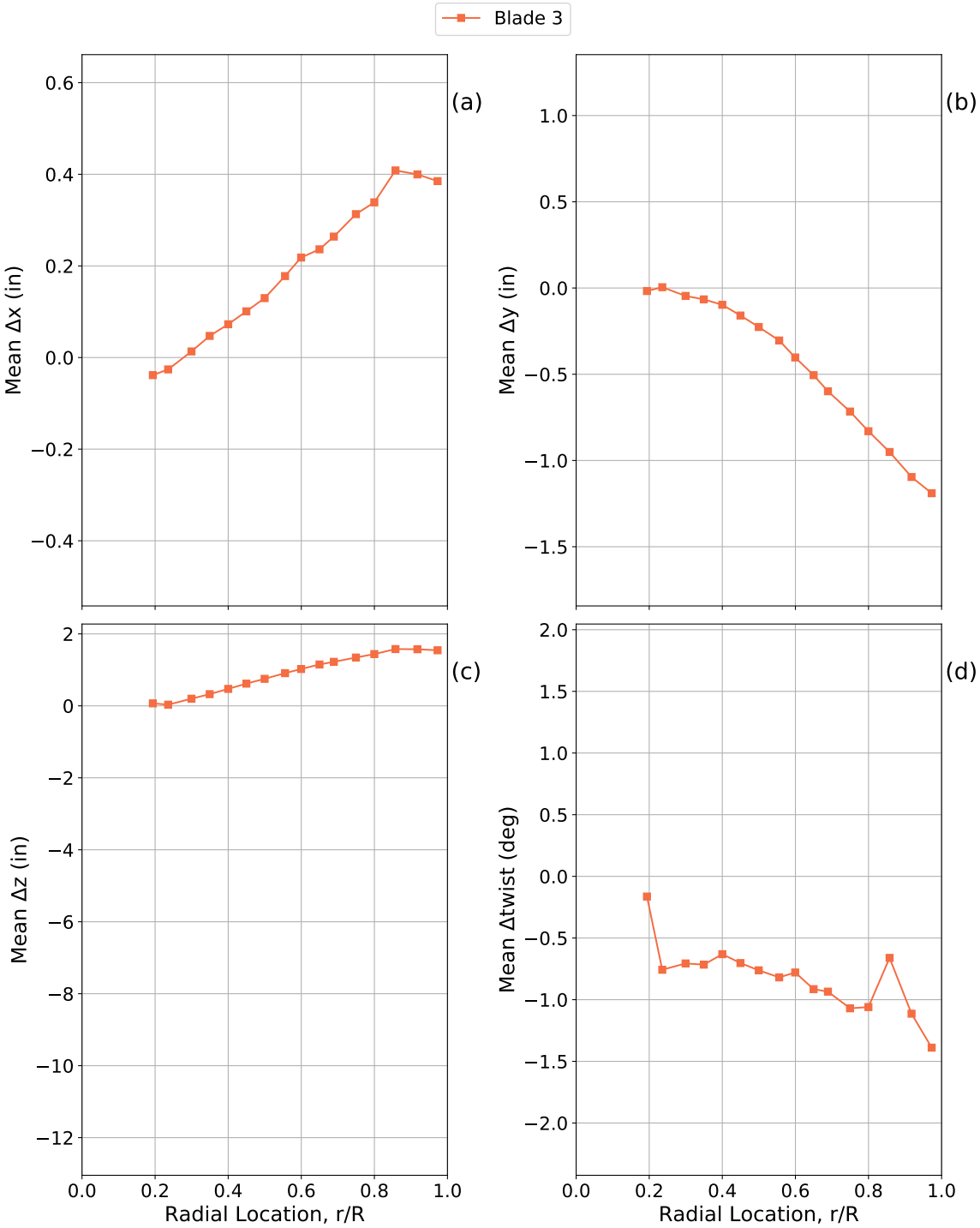


Figure 4.12-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0384	0.0039	-0.0174	0.0010	0.0690	0.0034	-0.1636	0.0240
3	260.16	0.2357	-0.0259	0.0018	0.0047	0.0009	0.0334	0.0033	-0.7573	0.0419
3	260.16	0.2995	0.0133	0.0014	-0.0458	0.0026	0.1989	0.0083	-0.7061	0.0556
3	260.16	0.3493	0.0472	0.0013	-0.0659	0.0048	0.3251	0.0155	-0.7157	0.0416
3	260.16	0.4000	0.0726	0.0010	-0.0972	0.0066	0.4712	0.0210	-0.6311	0.0512
3	260.16	0.4497	0.1009	0.0011	-0.1595	0.0085	0.6178	0.0265	-0.7029	0.0514
3	260.16	0.4997	0.1297	0.0013	-0.2260	0.0107	0.7516	0.0317	-0.7619	0.0447
3	260.16	0.5556	0.1778	0.0010	-0.3042	0.0131	0.9091	0.0383	-0.8190	0.0556
3	260.16	0.5995	0.2183	0.0013	-0.4027	0.0152	1.0244	0.0425	-0.7794	0.0552
3	260.16	0.6498	0.2362	0.0015	-0.5054	0.0176	1.1498	0.0491	-0.9146	0.0407
3	260.16	0.6890	0.2640	0.0017	-0.5986	0.0195	1.2235	0.0550	-0.9347	0.0469
3	260.16	0.7495	0.3130	0.0017	-0.7162	0.0227	1.3430	0.0617	-1.0699	0.0456
3	260.16	0.7998	0.3387	0.0019	-0.8302	0.0255	1.4389	0.0684	-1.0598	0.0465
3	260.16	0.8577	0.4084	0.0021	-0.9507	0.0289	1.5782	0.0778	-0.6612	0.0479
3	260.16	0.9178	0.3998	0.0021	-1.0956	0.0323	1.5734	0.0867	-1.1137	0.0451
3	260.16	0.9729	0.3851	0.0028	-1.1896	0.0360	1.5447	0.0967	-1.3888	0.0419

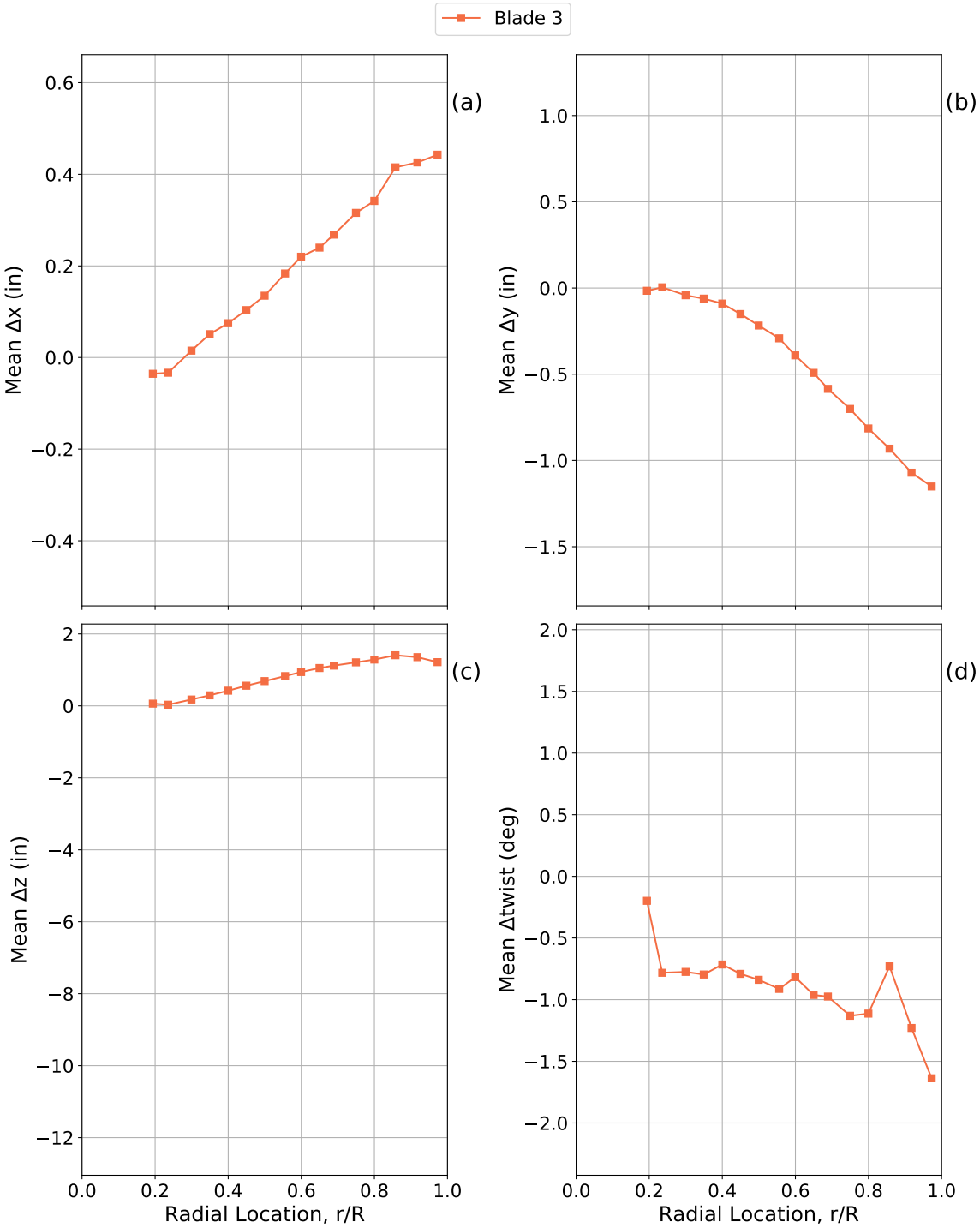


Figure 4.12-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0356	0.0072	-0.0160	0.0015	0.0617	0.0077	-0.1984	0.0502
3	265.08	0.2357	-0.0333	0.0030	0.0041	0.0017	0.0323	0.0078	-0.7822	0.1304
3	265.08	0.2995	0.0150	0.0027	-0.0420	0.0049	0.1770	0.0212	-0.7750	0.1511
3	265.08	0.3493	0.0510	0.0023	-0.0614	0.0093	0.2932	0.0394	-0.7961	0.1319
3	265.08	0.4000	0.0749	0.0022	-0.0901	0.0134	0.4225	0.0545	-0.7150	0.1339
3	265.08	0.4497	0.1035	0.0018	-0.1511	0.0179	0.5603	0.0701	-0.7909	0.1308
3	265.08	0.4997	0.1350	0.0021	-0.2177	0.0217	0.6882	0.0848	-0.8393	0.1321
3	265.08	0.5556	0.1835	0.0017	-0.2919	0.0262	0.8274	0.1021	-0.9130	0.1356
3	265.08	0.5995	0.2200	0.0019	-0.3905	0.0297	0.9398	0.1150	-0.8173	0.1314
3	265.08	0.6498	0.2399	0.0022	-0.4922	0.0337	1.0515	0.1304	-0.9619	0.1313
3	265.08	0.6890	0.2683	0.0022	-0.5850	0.0373	1.1180	0.1417	-0.9751	0.1343
3	265.08	0.7495	0.3158	0.0028	-0.7014	0.0429	1.2094	0.1595	-1.1308	0.1344
3	265.08	0.7998	0.3418	0.0028	-0.8145	0.0474	1.2864	0.1743	-1.1133	0.1347
3	265.08	0.8577	0.4152	0.0025	-0.9317	0.0526	1.4068	0.1909	-0.7298	0.1328
3	265.08	0.9178	0.4259	0.0033	-1.0709	0.0585	1.3540	0.2097	-1.2296	0.1355
3	265.08	0.9729	0.4428	0.0049	-1.1511	0.0641	1.2152	0.2249	-1.6376	0.1396

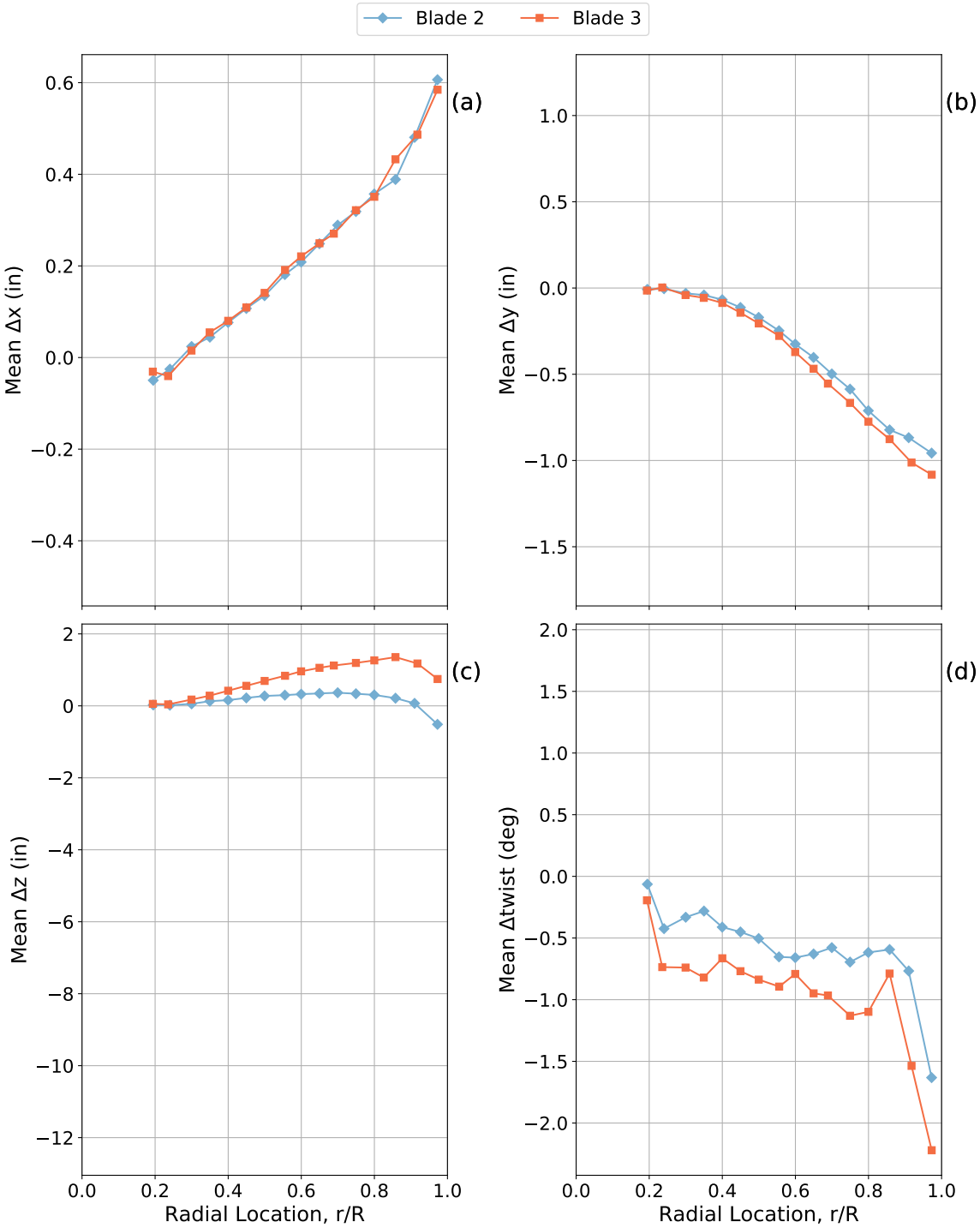


Figure 4.12-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0497	0.0040	-0.0079	0.0015	0.0244	0.0052	-0.0638	0.0483
2	270.35	0.2405	-0.0254	0.0026	-0.0040	0.0017	0.0186	0.0066	-0.4241	0.0988
2	270.35	0.2999	0.0241	0.0028	-0.0310	0.0040	0.0554	0.0149	-0.3313	0.1216
2	270.35	0.3498	0.0444	0.0019	-0.0407	0.0074	0.1304	0.0260	-0.2814	0.1268
2	270.35	0.3998	0.0765	0.0016	-0.0677	0.0103	0.1587	0.0369	-0.4116	0.1247
2	270.35	0.4496	0.1071	0.0019	-0.1128	0.0127	0.2211	0.0486	-0.4507	0.1231
2	270.35	0.4995	0.1350	0.0023	-0.1701	0.0156	0.2749	0.0609	-0.5041	0.1260
2	270.35	0.5551	0.1811	0.0020	-0.2475	0.0188	0.2981	0.0725	-0.6530	0.1277
2	270.35	0.5996	0.2084	0.0019	-0.3252	0.0211	0.3251	0.0836	-0.6590	0.1229
2	270.35	0.6497	0.2485	0.0017	-0.4025	0.0240	0.3452	0.0960	-0.6292	0.1221
2	270.35	0.6996	0.2889	0.0019	-0.4981	0.0269	0.3650	0.1072	-0.5778	0.1223
2	270.35	0.7495	0.3187	0.0016	-0.5863	0.0302	0.3372	0.1169	-0.6949	0.1284
2	270.35	0.7996	0.3570	0.0021	-0.7113	0.0329	0.3041	0.1278	-0.6171	0.1252
2	270.35	0.8578	0.3887	0.0022	-0.8224	0.0356	0.2134	0.1386	-0.5933	0.1281
2	270.35	0.9100	0.4806	0.0021	-0.8677	0.0394	0.0698	0.1517	-0.7670	0.1240
2	270.35	0.9727	0.6065	0.0038	-0.9571	0.0430	-0.5141	0.1699	-1.6319	0.1109
3	270	0.1938	-0.0309	0.0135	-0.0146	0.0027	0.0553	0.0140	-0.1942	0.0505
3	270	0.2357	-0.0405	0.0046	0.0030	0.0013	0.0410	0.0072	-0.7358	0.2009
3	270	0.2995	0.0152	0.0039	-0.0407	0.0078	0.1745	0.0376	-0.7396	0.1918
3	270	0.3493	0.0549	0.0032	-0.0570	0.0133	0.2832	0.0610	-0.8205	0.1952
3	270	0.4000	0.0802	0.0034	-0.0865	0.0191	0.4208	0.0870	-0.6642	0.1913
3	270	0.4497	0.1093	0.0033	-0.1432	0.0246	0.5571	0.1116	-0.7689	0.1832
3	270	0.4997	0.1411	0.0031	-0.2055	0.0302	0.6927	0.1332	-0.8371	0.1895
3	270	0.5556	0.1911	0.0027	-0.2778	0.0363	0.8365	0.1596	-0.8940	0.1876
3	270	0.5995	0.2208	0.0031	-0.3714	0.0416	0.9591	0.1807	-0.7914	0.1833
3	270	0.6498	0.2494	0.0029	-0.4680	0.0475	1.0573	0.2035	-0.9486	0.1918
3	270	0.6890	0.2704	0.0030	-0.5542	0.0527	1.1213	0.2211	-0.9658	0.1862
3	270	0.7495	0.3216	0.0034	-0.6660	0.0605	1.1931	0.2504	-1.1304	0.1834
3	270	0.7998	0.3509	0.0030	-0.7750	0.0672	1.2638	0.2727	-1.0984	0.1927
3	270	0.8577	0.4327	0.0039	-0.8762	0.0749	1.3547	0.2997	-0.7880	0.1977
3	270	0.9178	0.4866	0.0041	-1.0119	0.0838	1.1770	0.3295	-1.5366	0.1799
3	270	0.9729	0.5846	0.0055	-1.0824	0.0924	0.7456	0.3558	-2.2207	0.1928

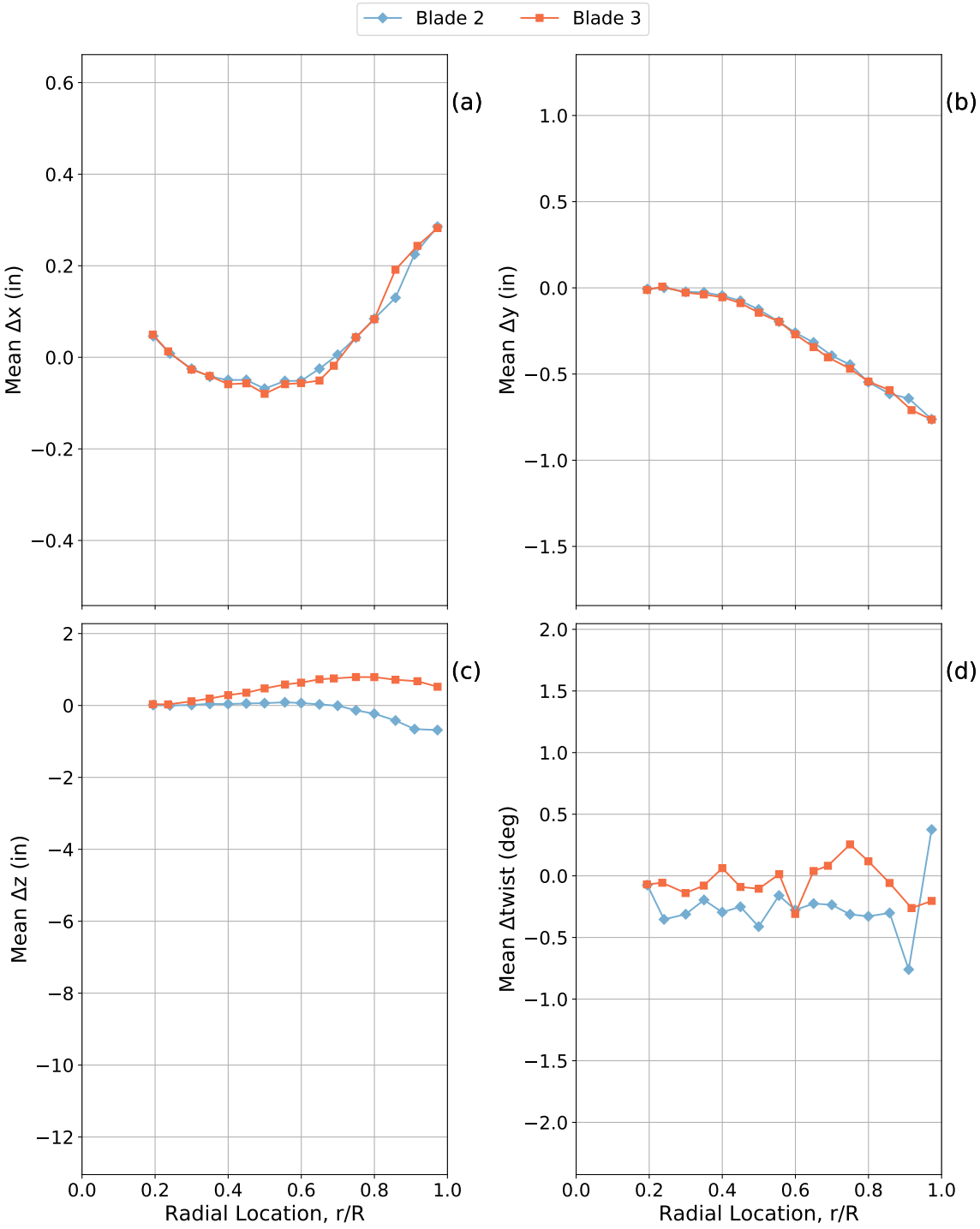


Figure 4.12-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0464	0.0017	-0.0065	0.0007	0.0114	0.0012	-0.0750	0.0136
2	274.92	0.2405	0.0083	0.0009	0.0007	0.0013	0.0001	0.0029	-0.3532	0.0279
2	274.92	0.2999	-0.0249	0.0010	-0.0230	0.0021	0.0136	0.0043	-0.3115	0.0323
2	274.92	0.3498	-0.0422	0.0012	-0.0264	0.0041	0.0428	0.0083	-0.1955	0.0222
2	274.92	0.3998	-0.0494	0.0017	-0.0450	0.0059	0.0386	0.0122	-0.2948	0.0276
2	274.92	0.4496	-0.0494	0.0017	-0.0755	0.0069	0.0542	0.0148	-0.2512	0.0316
2	274.92	0.4995	-0.0685	0.0013	-0.1255	0.0088	0.0634	0.0204	-0.4120	0.0247
2	274.92	0.5551	-0.0517	0.0016	-0.1959	0.0099	0.0876	0.0278	-0.1598	0.0302
2	274.92	0.5996	-0.0513	0.0016	-0.2600	0.0117	0.0668	0.0319	-0.2764	0.0550
2	274.92	0.6497	-0.0249	0.0023	-0.3169	0.0132	0.0294	0.0360	-0.2252	0.0299
2	274.92	0.6996	0.0056	0.0022	-0.3936	0.0146	-0.0074	0.0426	-0.2349	0.0508
2	274.92	0.7495	0.0432	0.0023	-0.4456	0.0167	-0.1347	0.0459	-0.3126	0.0513
2	274.92	0.7996	0.0842	0.0025	-0.5469	0.0184	-0.2299	0.0561	-0.3285	0.0509
2	274.92	0.8578	0.1301	0.0025	-0.6151	0.0202	-0.4195	0.0639	-0.3010	0.0651
2	274.92	0.9100	0.2250	0.0049	-0.6413	0.0229	-0.6584	0.0776	-0.7601	0.1248
2	274.92	0.9727	0.2853	0.0062	-0.7624	0.0287	-0.6832	0.0872	0.3753	0.1022
3	274.92	0.1938	0.0495	0.0012	-0.0120	0.0006	0.0347	0.0022	-0.0695	0.0185
3	274.92	0.2357	0.0130	0.0014	0.0071	0.0016	0.0281	0.0034	-0.0561	0.0390
3	274.92	0.2995	-0.0267	0.0007	-0.0276	0.0030	0.1151	0.0054	-0.1395	0.0484
3	274.92	0.3493	-0.0407	0.0016	-0.0382	0.0047	0.1926	0.0108	-0.0791	0.0242
3	274.92	0.4000	-0.0587	0.0017	-0.0544	0.0080	0.2870	0.0148	0.0627	0.0405
3	274.92	0.4497	-0.0568	0.0014	-0.0886	0.0111	0.3535	0.0169	-0.0902	0.0633
3	274.92	0.4997	-0.0797	0.0019	-0.1442	0.0143	0.4733	0.0215	-0.1044	0.0537
3	274.92	0.5556	-0.0586	0.0025	-0.1968	0.0179	0.5829	0.0272	0.0135	0.0229
3	274.92	0.5995	-0.0564	0.0027	-0.2696	0.0225	0.6338	0.0328	-0.3087	0.0707
3	274.92	0.6498	-0.0507	0.0023	-0.3438	0.0260	0.7278	0.0386	0.0392	0.0852
3	274.92	0.6890	-0.0184	0.0026	-0.4030	0.0296	0.7511	0.0402	0.0815	0.0387
3	274.92	0.7495	0.0437	0.0034	-0.4690	0.0353	0.7893	0.0445	0.2550	0.0480
3	274.92	0.7998	0.0833	0.0027	-0.5436	0.0394	0.7885	0.0473	0.1183	0.0450
3	274.92	0.8577	0.1914	0.0043	-0.5933	0.0451	0.7151	0.0529	-0.0580	0.0910
3	274.92	0.9178	0.2435	0.0140	-0.7093	0.0537	0.6743	0.0567	-0.2615	0.1831
3	274.92	0.9729	0.2823	0.0114	-0.7642	0.0610	0.5194	0.0644	-0.2035	0.2287

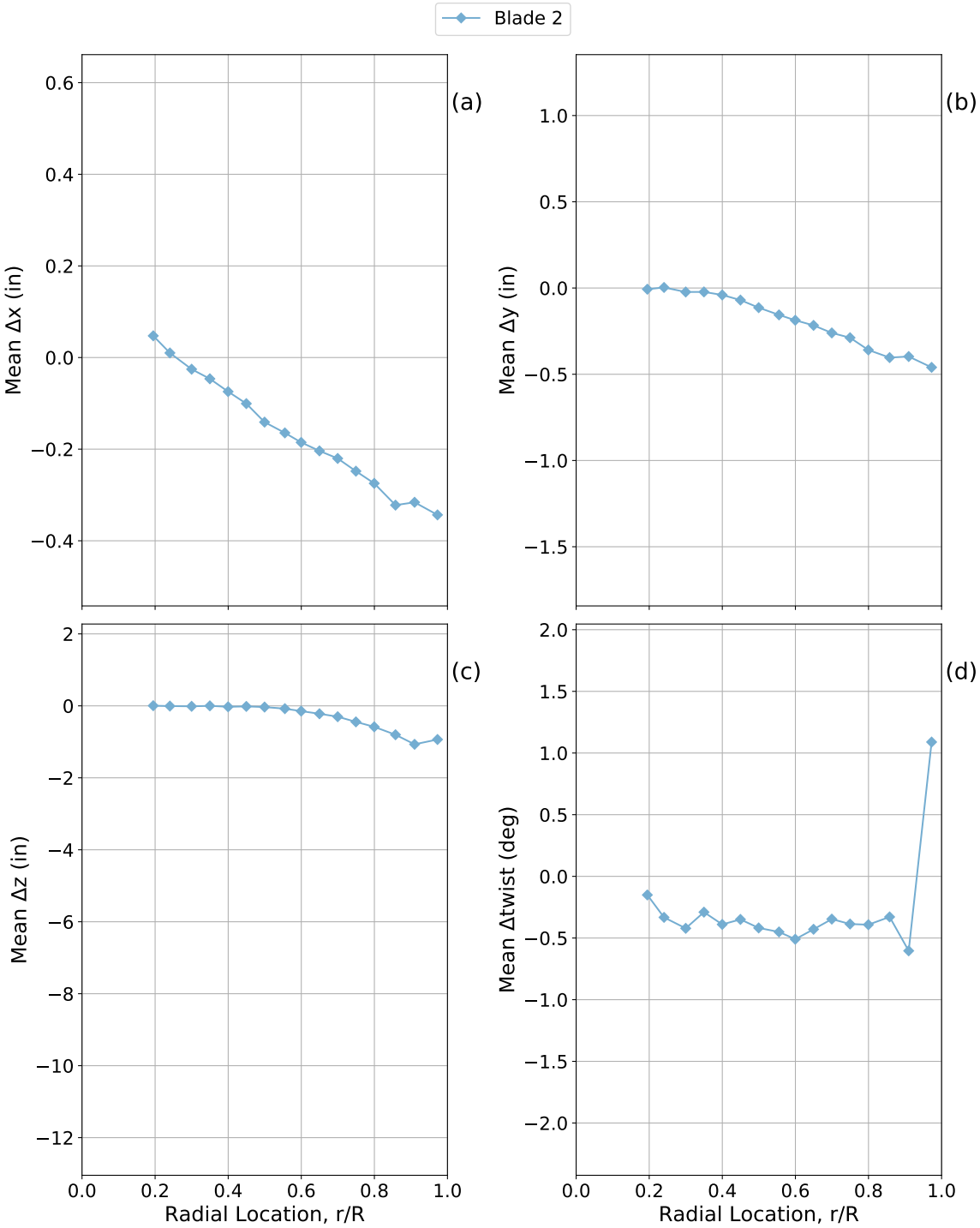


Figure 4.12-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0474	0.0019	-0.0070	0.0009	0.0043	0.0022	-0.1507	0.0153
2	285.12	0.2405	0.0100	0.0009	0.0033	0.0016	-0.0058	0.0038	-0.3326	0.0244
2	285.12	0.2999	-0.0255	0.0015	-0.0230	0.0026	-0.0127	0.0090	-0.4214	0.0325
2	285.12	0.3498	-0.0464	0.0021	-0.0227	0.0056	0.0005	0.0144	-0.2902	0.0178
2	285.12	0.3998	-0.0744	0.0026	-0.0402	0.0076	-0.0260	0.0224	-0.3897	0.0282
2	285.12	0.4496	-0.1006	0.0020	-0.0699	0.0089	-0.0152	0.0256	-0.3492	0.0189
2	285.12	0.4995	-0.1410	0.0020	-0.1138	0.0109	-0.0331	0.0305	-0.4182	0.0303
2	285.12	0.5551	-0.1645	0.0027	-0.1558	0.0134	-0.0783	0.0380	-0.4506	0.0250
2	285.12	0.5996	-0.1852	0.0026	-0.1869	0.0162	-0.1463	0.0441	-0.5098	0.0292
2	285.12	0.6497	-0.2038	0.0029	-0.2166	0.0189	-0.2195	0.0506	-0.4291	0.0270
2	285.12	0.6996	-0.2203	0.0033	-0.2604	0.0212	-0.3014	0.0602	-0.3466	0.0307
2	285.12	0.7495	-0.2481	0.0026	-0.2881	0.0243	-0.4449	0.0642	-0.3865	0.0277
2	285.12	0.7996	-0.2747	0.0030	-0.3591	0.0281	-0.5830	0.0768	-0.3920	0.0308
2	285.12	0.8578	-0.3222	0.0047	-0.4034	0.0319	-0.8026	0.0903	-0.3289	0.0536
2	285.12	0.9100	-0.3160	0.0021	-0.3972	0.0340	-1.0689	0.0986	-0.6038	0.0561
2	285.12	0.9727	-0.3435	0.0093	-0.4601	0.0360	-0.9347	0.1013	1.0890	0.2136

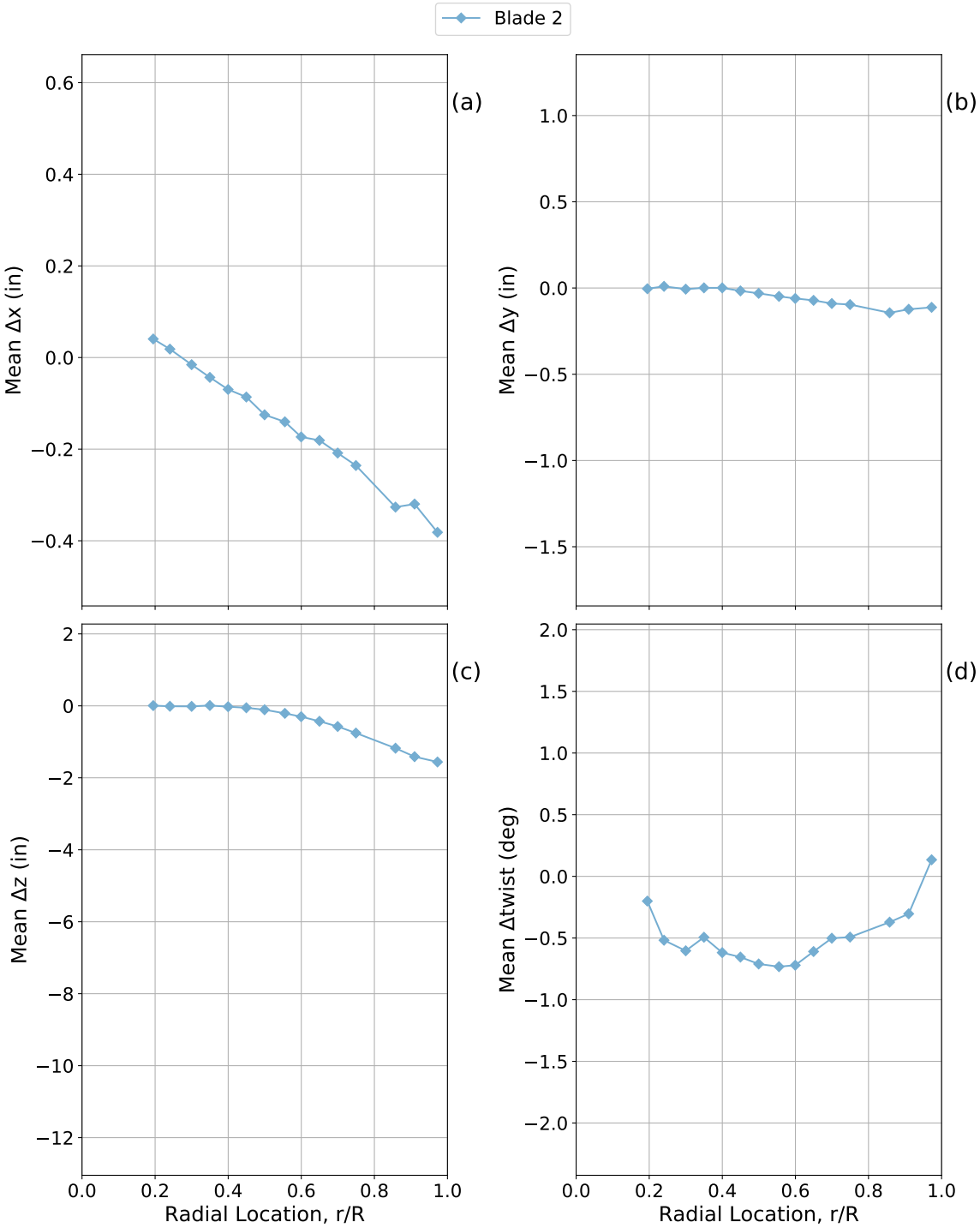


Figure 4.12-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0405	0.0026	-0.0043	0.0011	0.0067	0.0018	-0.2006	0.0378
2	299.88	0.2405	0.0184	0.0011	0.0097	0.0016	-0.0115	0.0062	-0.5180	0.0330
2	299.88	0.2999	-0.0156	0.0019	-0.0066	0.0044	-0.0143	0.0074	-0.6035	0.0779
2	299.88	0.3498	-0.0433	0.0012	0.0010	0.0061	0.0099	0.0136	-0.4937	0.0602
2	299.88	0.3998	-0.0697	0.0043	0.0009	0.0100	-0.0235	0.0213	-0.6184	0.0488
2	299.88	0.4496	-0.0862	0.0021	-0.0167	0.0111	-0.0528	0.0245	-0.6547	0.0621
2	299.88	0.4995	-0.1250	0.0039	-0.0309	0.0137	-0.1077	0.0294	-0.7105	0.0734
2	299.88	0.5551	-0.1403	0.0029	-0.0485	0.0159	-0.2083	0.0398	-0.7324	0.0388
2	299.88	0.5996	-0.1733	0.0033	-0.0605	0.0191	-0.3004	0.0430	-0.7206	0.0595
2	299.88	0.6497	-0.1808	0.0033	-0.0716	0.0214	-0.4286	0.0489	-0.6096	0.0668
2	299.88	0.6996	-0.2085	0.0026	-0.0898	0.0235	-0.5737	0.0561	-0.5016	0.0755
2	299.88	0.7495	-0.2357	0.0031	-0.0959	0.0262	-0.7549	0.0643	-0.4927	0.0597
2	299.88	0.8578	-0.3265	0.0036	-0.1437	0.0330	-1.1765	0.0801	-0.3714	0.0714
2	299.88	0.9100	-0.3198	0.0040	-0.1233	0.0361	-1.4124	0.0895	-0.3036	0.0499
2	299.88	0.9727	-0.3816	0.0047	-0.1121	0.0401	-1.5596	0.0963	0.1345	0.0778

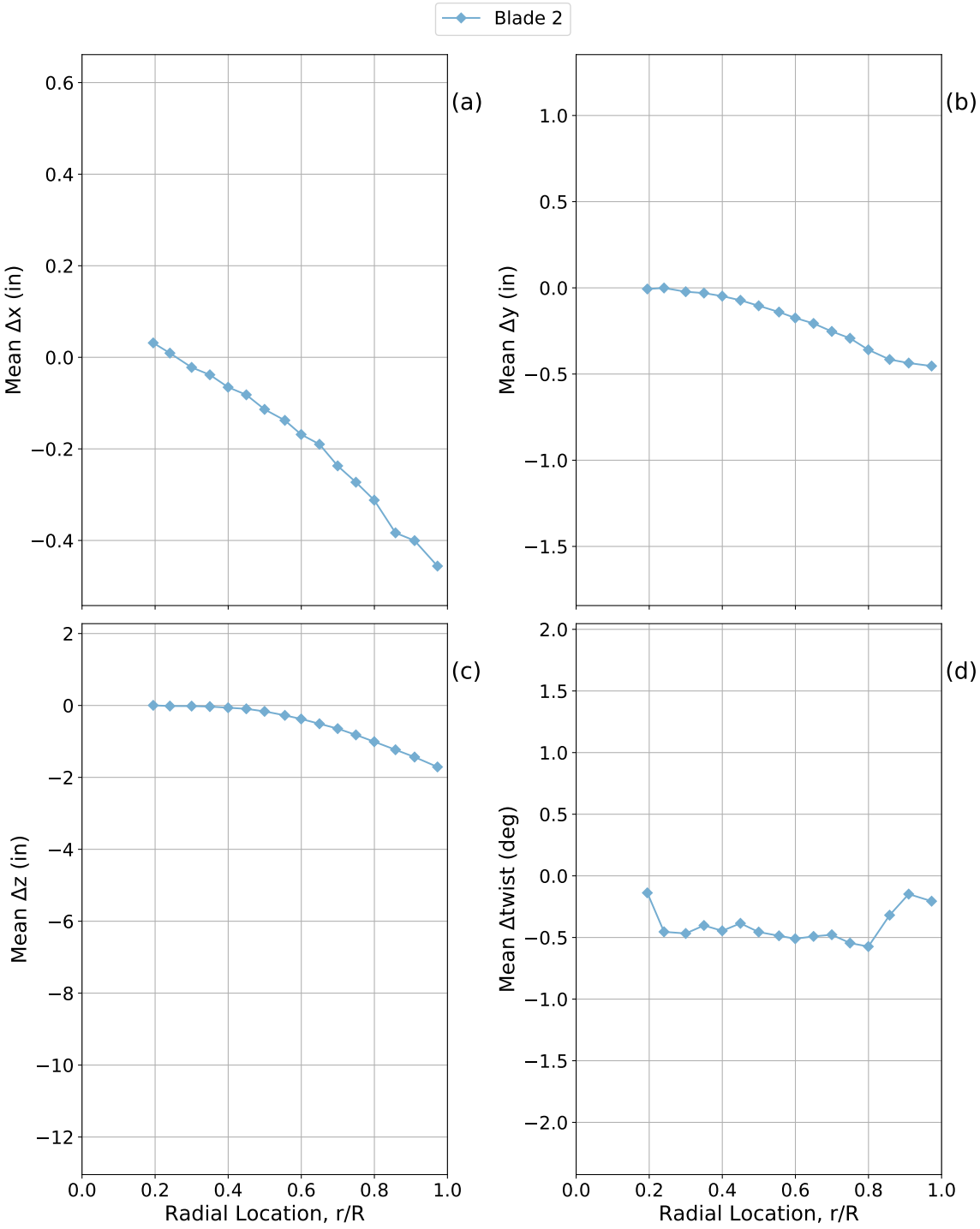


Figure 4.12-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0315	0.0026	-0.0066	0.0005	0.0032	0.0014	-0.1380	0.0168
2	315	0.2405	0.0092	0.0012	-0.0008	0.0009	-0.0165	0.0044	-0.4542	0.0268
2	315	0.2999	-0.0220	0.0019	-0.0225	0.0020	-0.0179	0.0073	-0.4674	0.0385
2	315	0.3498	-0.0382	0.0014	-0.0303	0.0028	-0.0314	0.0109	-0.4024	0.0304
2	315	0.3998	-0.0653	0.0022	-0.0480	0.0048	-0.0634	0.0188	-0.4460	0.0265
2	315	0.4496	-0.0819	0.0021	-0.0721	0.0061	-0.0941	0.0260	-0.3853	0.0329
2	315	0.4995	-0.1137	0.0019	-0.1040	0.0070	-0.1648	0.0290	-0.4558	0.0240
2	315	0.5551	-0.1377	0.0019	-0.1403	0.0090	-0.2752	0.0349	-0.4864	0.0311
2	315	0.5996	-0.1685	0.0030	-0.1747	0.0103	-0.3759	0.0403	-0.5101	0.0324
2	315	0.6497	-0.1899	0.0023	-0.2065	0.0115	-0.5096	0.0481	-0.4912	0.0227
2	315	0.6996	-0.2371	0.0023	-0.2528	0.0134	-0.6446	0.0556	-0.4778	0.0299
2	315	0.7495	-0.2728	0.0023	-0.2925	0.0147	-0.8187	0.0589	-0.5454	0.0300
2	315	0.7996	-0.3120	0.0016	-0.3593	0.0166	-1.0082	0.0656	-0.5737	0.0300
2	315	0.8578	-0.3834	0.0016	-0.4156	0.0187	-1.2320	0.0728	-0.3191	0.0318
2	315	0.9100	-0.4004	0.0017	-0.4362	0.0210	-1.4345	0.0833	-0.1480	0.0332
2	315	0.9727	-0.4560	0.0027	-0.4535	0.0237	-1.7101	0.0949	-0.2056	0.0268

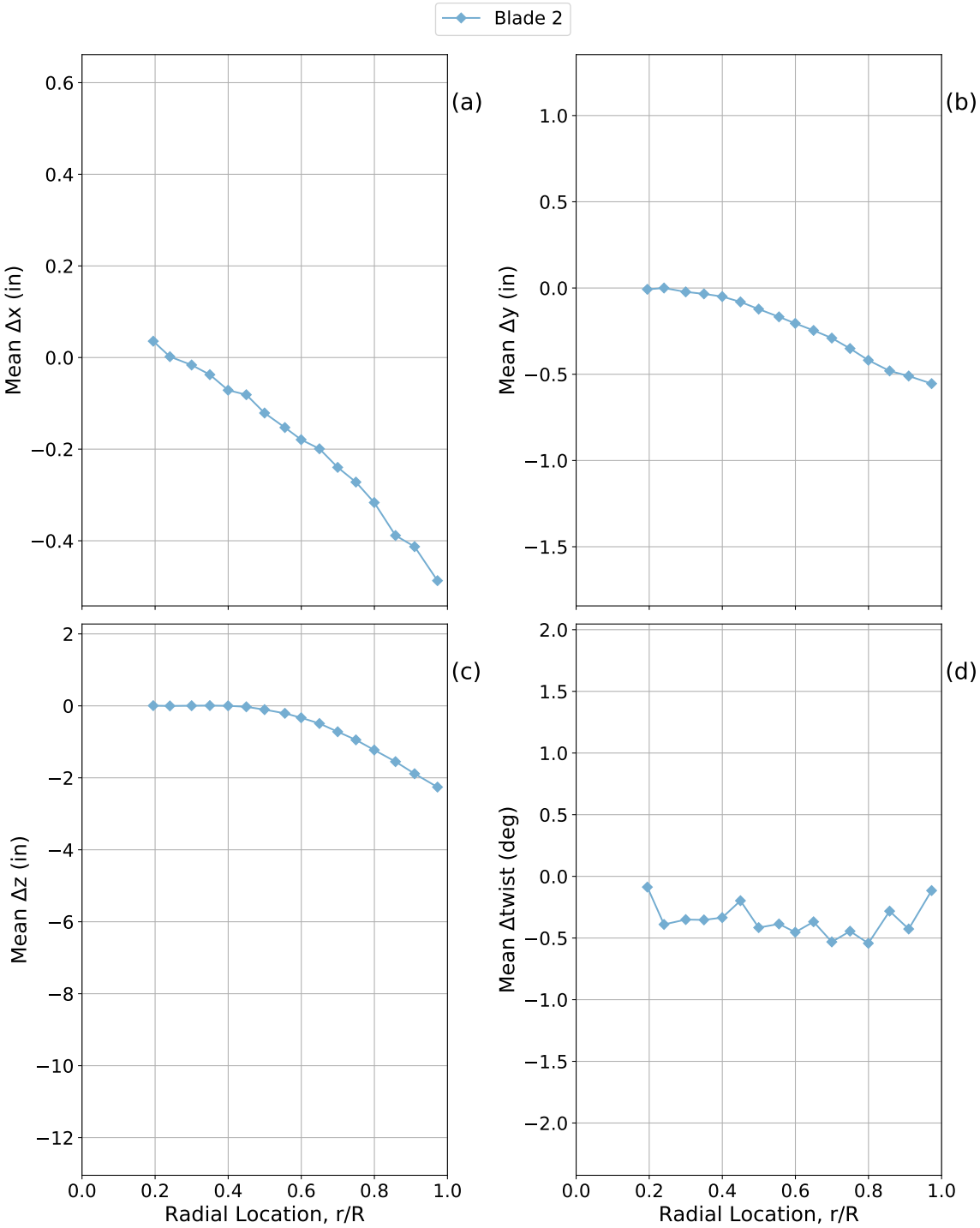


Figure 4.12-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0357	0.0009	-0.0076	0.0005	0.0058	0.0016	-0.0871	0.0114
2	330.12	0.2405	0.0019	0.0007	-0.0000	0.0010	-0.0017	0.0042	-0.3898	0.0209
2	330.12	0.2999	-0.0163	0.0029	-0.0225	0.0021	0.0044	0.0081	-0.3505	0.0260
2	330.12	0.3498	-0.0374	0.0018	-0.0339	0.0040	0.0077	0.0125	-0.3530	0.0304
2	330.12	0.3998	-0.0713	0.0036	-0.0496	0.0057	0.0018	0.0208	-0.3346	0.0235
2	330.12	0.4496	-0.0812	0.0019	-0.0805	0.0074	-0.0261	0.0226	-0.1975	0.0386
2	330.12	0.4995	-0.1211	0.0027	-0.1223	0.0094	-0.1049	0.0278	-0.4156	0.0373
2	330.12	0.5551	-0.1528	0.0151	-0.1672	0.0110	-0.2075	0.0365	-0.3860	0.0305
2	330.12	0.5996	-0.1793	0.0023	-0.2050	0.0130	-0.3301	0.0422	-0.4531	0.0282
2	330.12	0.6497	-0.1992	0.0018	-0.2460	0.0147	-0.4907	0.0444	-0.3683	0.0335
2	330.12	0.6996	-0.2398	0.0026	-0.2902	0.0168	-0.7189	0.0533	-0.5315	0.0525
2	330.12	0.7495	-0.2719	0.0019	-0.3508	0.0184	-0.9457	0.0569	-0.4446	0.0421
2	330.12	0.7996	-0.3166	0.0020	-0.4187	0.0203	-1.2271	0.0609	-0.5429	0.0432
2	330.12	0.8578	-0.3885	0.0023	-0.4806	0.0241	-1.5506	0.0699	-0.2820	0.0318
2	330.12	0.9100	-0.4128	0.0027	-0.5102	0.0265	-1.8858	0.0782	-0.4269	0.0275
2	330.12	0.9727	-0.4871	0.0034	-0.5544	0.0296	-2.2572	0.0849	-0.1152	0.0319

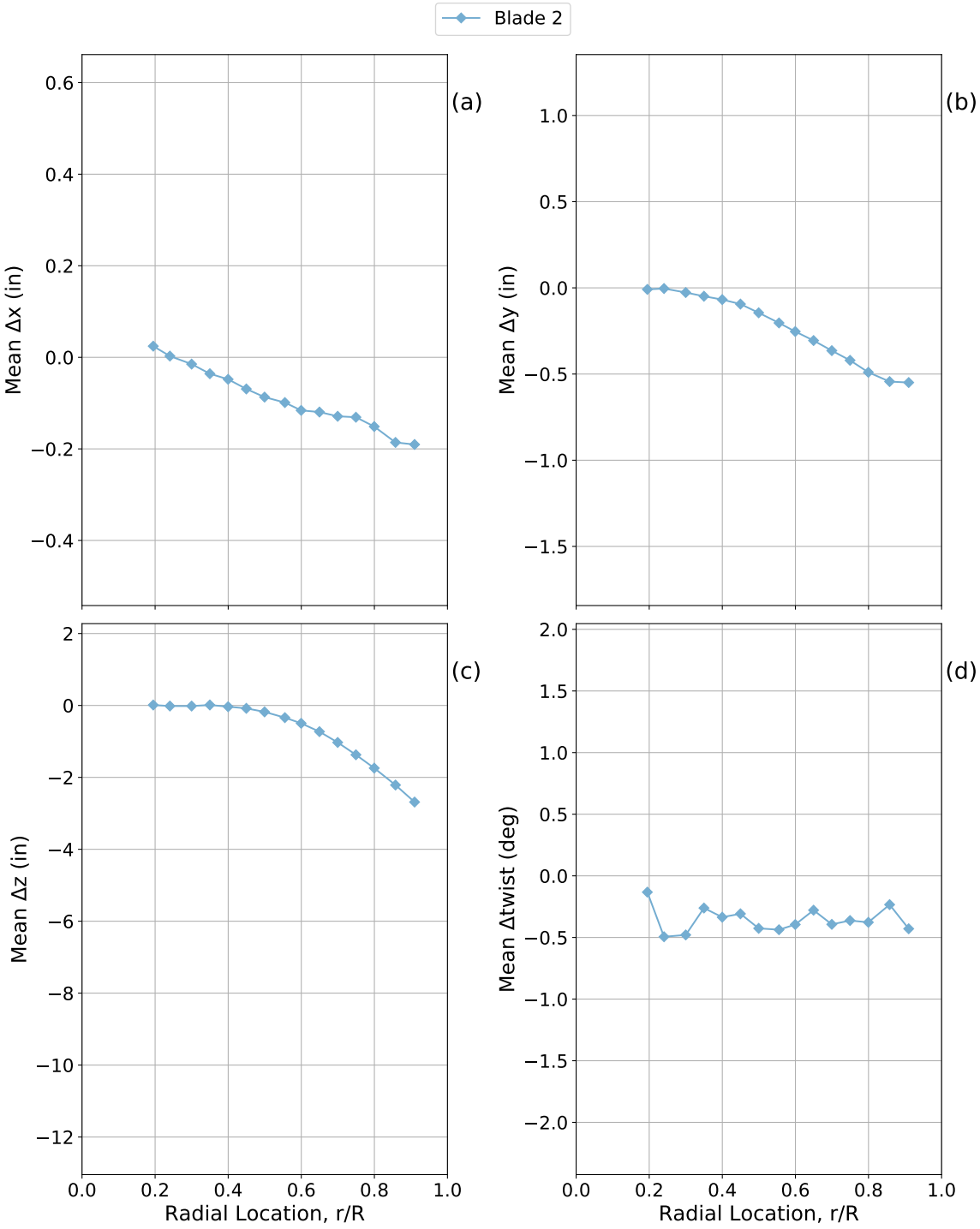


Figure 4.12-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0244	0.0016	-0.0090	0.0012	0.0124	0.0017	-0.1323	0.0161
2	344.88	0.2405	0.0027	0.0014	-0.0039	0.0018	-0.0160	0.0030	-0.4942	0.0303
2	344.88	0.2999	-0.0148	0.0010	-0.0271	0.0044	-0.0165	0.0063	-0.4794	0.0368
2	344.88	0.3498	-0.0358	0.0017	-0.0487	0.0072	0.0134	0.0093	-0.2610	0.0382
2	344.88	0.3998	-0.0480	0.0015	-0.0681	0.0112	-0.0350	0.0157	-0.3355	0.0392
2	344.88	0.4496	-0.0691	0.0018	-0.0941	0.0140	-0.0803	0.0173	-0.3078	0.0462
2	344.88	0.4995	-0.0869	0.0017	-0.1446	0.0161	-0.1787	0.0206	-0.4260	0.0477
2	344.88	0.5551	-0.0988	0.0030	-0.2035	0.0194	-0.3392	0.0282	-0.4371	0.0428
2	344.88	0.5996	-0.1159	0.0060	-0.2534	0.0225	-0.4963	0.0306	-0.3949	0.0378
2	344.88	0.6497	-0.1195	0.0080	-0.3057	0.0254	-0.7285	0.0349	-0.2787	0.0394
2	344.88	0.6996	-0.1288	0.0110	-0.3643	0.0290	-1.0287	0.0425	-0.3935	0.0351
2	344.88	0.7495	-0.1308	0.0139	-0.4205	0.0327	-1.3717	0.0480	-0.3626	0.0368
2	344.88	0.7996	-0.1512	0.0161	-0.4899	0.0333	-1.7423	0.0540	-0.3770	0.0571
2	344.88	0.8578	-0.1859	0.0203	-0.5437	0.0385	-2.2134	0.0546	-0.2335	0.0478
2	344.88	0.9100	-0.1904	0.0247	-0.5493	0.0415	-2.6861	0.0669	-0.4293	0.1111

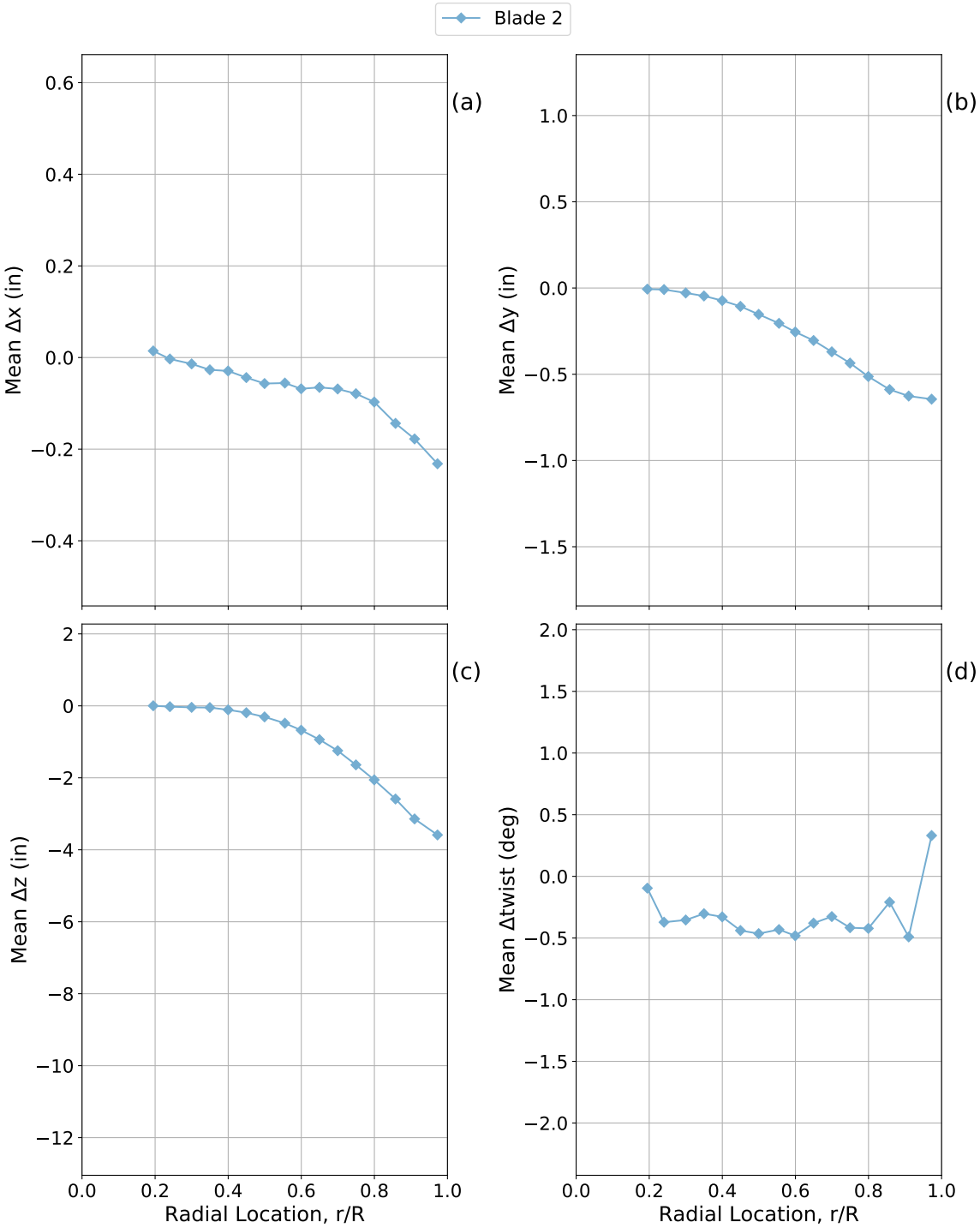


Figure 4.12-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0144	0.0036	-0.0065	0.0007	0.0022	0.0020	-0.0957	0.0118
2	350.16	0.2405	-0.0032	0.0014	-0.0089	0.0015	-0.0227	0.0031	-0.3719	0.0391
2	350.16	0.2999	-0.0139	0.0017	-0.0287	0.0031	-0.0416	0.0094	-0.3539	0.0353
2	350.16	0.3498	-0.0268	0.0031	-0.0461	0.0048	-0.0472	0.0124	-0.3027	0.0429
2	350.16	0.3998	-0.0293	0.0038	-0.0729	0.0079	-0.1100	0.0215	-0.3285	0.0309
2	350.16	0.4496	-0.0438	0.0042	-0.1064	0.0097	-0.1910	0.0230	-0.4391	0.0356
2	350.16	0.4995	-0.0568	0.0060	-0.1527	0.0110	-0.3071	0.0304	-0.4644	0.0322
2	350.16	0.5551	-0.0557	0.0074	-0.2047	0.0143	-0.4826	0.0348	-0.4314	0.0419
2	350.16	0.5996	-0.0682	0.0076	-0.2548	0.0146	-0.6757	0.0414	-0.4816	0.0416
2	350.16	0.6497	-0.0652	0.0088	-0.3042	0.0194	-0.9374	0.0448	-0.3793	0.0386
2	350.16	0.6996	-0.0686	0.0085	-0.3698	0.0207	-1.2462	0.0498	-0.3262	0.0405
2	350.16	0.7495	-0.0789	0.0091	-0.4354	0.0241	-1.6399	0.0560	-0.4165	0.0412
2	350.16	0.7996	-0.0971	0.0119	-0.5132	0.0265	-2.0565	0.0593	-0.4221	0.0441
2	350.16	0.8578	-0.1437	0.0110	-0.5887	0.0285	-2.5886	0.0691	-0.2092	0.0384
2	350.16	0.9100	-0.1777	0.0165	-0.6263	0.0328	-3.1422	0.0735	-0.4909	0.0668
2	350.16	0.9727	-0.2319	0.0206	-0.6445	0.0373	-3.5873	0.0878	0.3310	0.1893

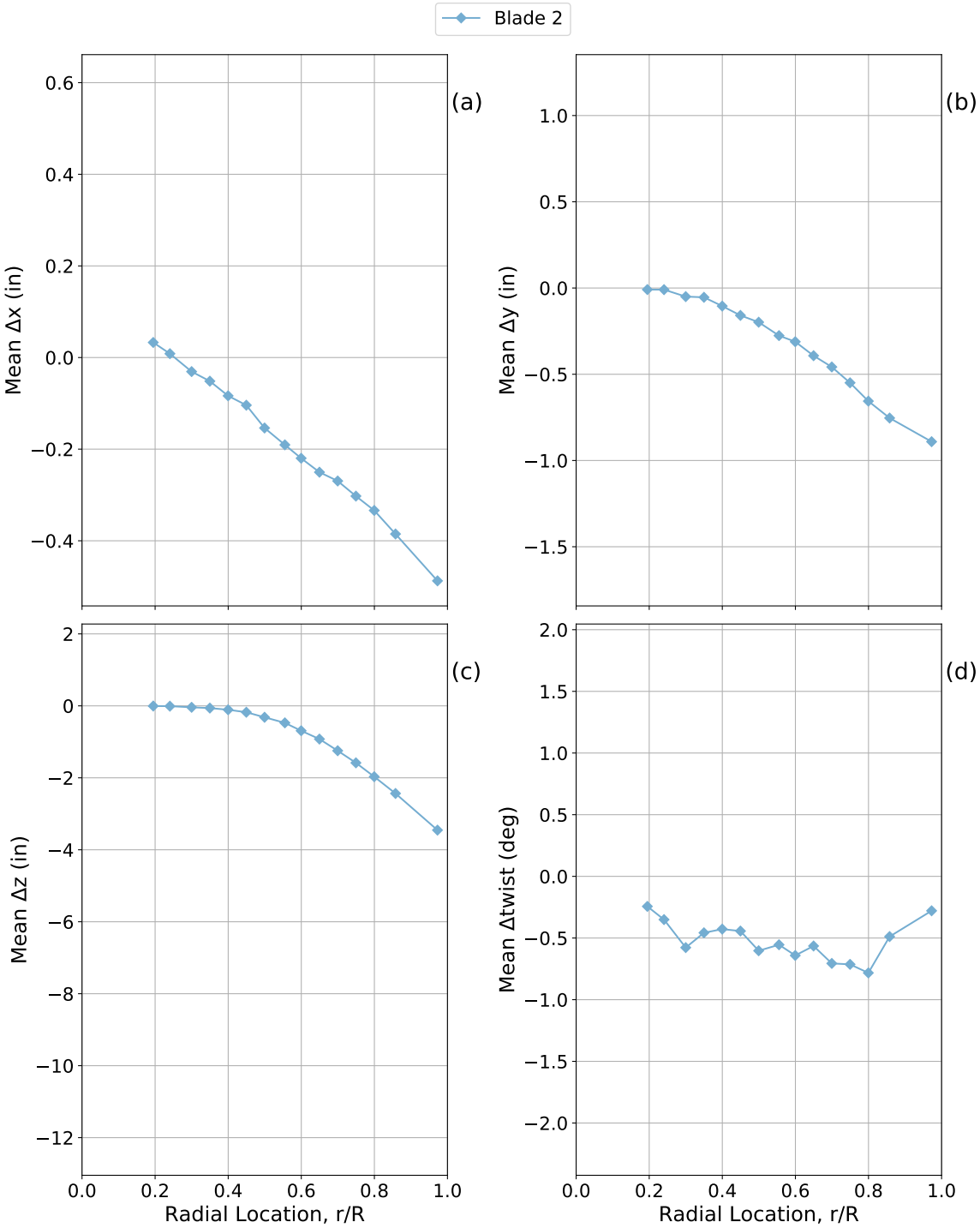


Figure 4.12-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Table 4.12-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 63, point 8. BD run 30, points 4328 to 4338.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0329	0.0033	-0.0090	0.0032	-0.0045	0.0075	-0.2437	0.0422
2	355.08	0.2405	0.0084	0.0030	-0.0094	0.0048	-0.0089	0.0097	-0.3506	0.1016
2	355.08	0.2999	-0.0307	0.0018	-0.0498	0.0100	-0.0398	0.0238	-0.5777	0.1058
2	355.08	0.3498	-0.0516	0.0026	-0.0538	0.0195	-0.0615	0.0397	-0.4576	0.1036
2	355.08	0.3998	-0.0836	0.0027	-0.1048	0.0267	-0.1082	0.0580	-0.4278	0.0813
2	355.08	0.4496	-0.1041	0.0024	-0.1588	0.0318	-0.1771	0.0705	-0.4434	0.0769
2	355.08	0.4995	-0.1538	0.0026	-0.1982	0.0393	-0.3175	0.0853	-0.6031	0.0865
2	355.08	0.5551	-0.1906	0.0023	-0.2760	0.0450	-0.4724	0.0991	-0.5545	0.0840
2	355.08	0.5996	-0.2199	0.0029	-0.3114	0.0513	-0.6916	0.1131	-0.6414	0.0822
2	355.08	0.6497	-0.2503	0.0025	-0.3924	0.0602	-0.9230	0.1252	-0.5646	0.0915
2	355.08	0.6996	-0.2695	0.0023	-0.4578	0.0664	-1.2470	0.1372	-0.7060	0.1166
2	355.08	0.7495	-0.3025	0.0027	-0.5495	0.0738	-1.5832	0.1510	-0.7135	0.0957
2	355.08	0.7996	-0.3338	0.0045	-0.6558	0.0805	-1.9688	0.1632	-0.7828	0.0974
2	355.08	0.8578	-0.3852	0.0046	-0.7538	0.0884	-2.4349	0.1849	-0.4883	0.0908
2	355.08	0.9727	-0.4875	0.0108	-0.8909	0.1014	-3.4536	0.1997	-0.2792	0.1729

4.13 Run 66, Point 38

4.13.1 Pitch, Flap, and Lag

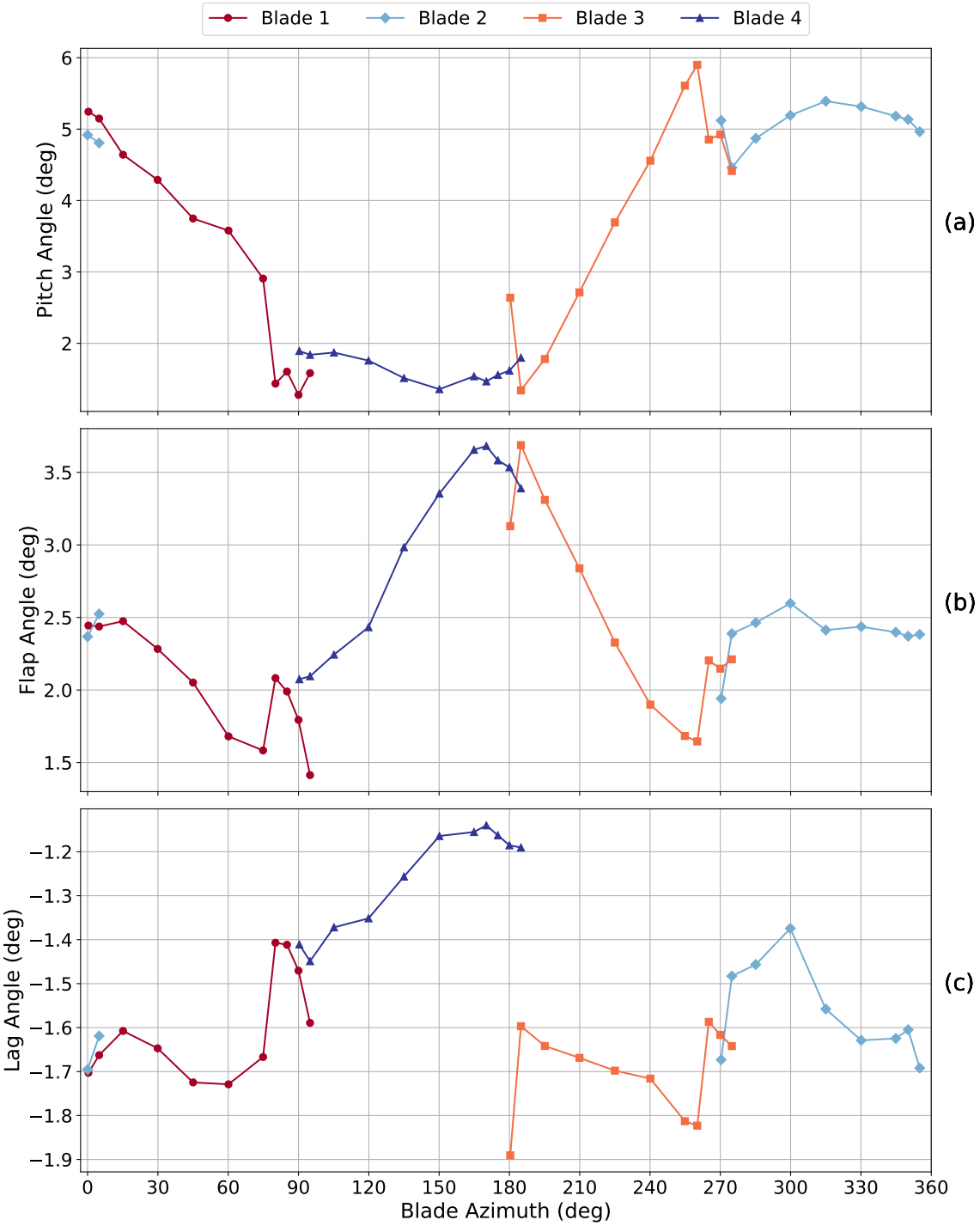


Figure 4.13-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.9185	2.3679	-1.6954	0.0550	0.0172	0.0214
0.35	1	5.2440	2.4441	-1.7028	0.1567	0.0586	0.0268
4.92	1	5.1483	2.4376	-1.6627	0.1082	0.0354	0.0199
4.92	2	4.8062	2.5243	-1.6190	0.0817	0.0327	0.0244
15.12	1	4.6415	2.4745	-1.6076	0.1180	0.0366	0.0205
29.88	1	4.2889	2.2832	-1.6471	0.0694	0.0260	0.0138
45	1	3.7483	2.0513	-1.7247	0.0615	0.0287	0.0170
60.12	1	3.5789	1.6806	-1.7290	0.0808	0.0429	0.0249
74.88	1	2.9070	1.5835	-1.6669	0.0766	0.0346	0.0174
80.16	1	1.4360	2.0820	-1.4070	0.0650	0.0334	0.0124
85.08	1	1.6038	1.9896	-1.4116	0.0370	0.0412	0.0268
90	1	1.2780	1.7938	-1.4705	0.0440	0.0370	0.0196
90.35	4	1.8926	2.0743	-1.4110	0.0228	0.0184	0.0088
94.92	1	1.5830	1.4133	-1.5893	0.0405	0.0245	0.0163
94.92	4	1.8390	2.0948	-1.4490	0.0302	0.0184	0.0076
105.12	4	1.8710	2.2438	-1.3720	0.0173	0.0157	0.0160
119.88	4	1.7583	2.4328	-1.3515	0.0189	0.0146	0.0181
135	4	1.5135	2.9840	-1.2565	0.0270	0.0164	0.0120
150.12	4	1.3576	3.3539	-1.1642	0.0153	0.0115	0.0064
164.88	4	1.5383	3.6555	-1.1551	0.0150	0.0103	0.0179
170.16	4	1.4670	3.6819	-1.1400	0.0249	0.0338	0.0126
175.08	4	1.5582	3.5827	-1.1627	0.0184	0.0139	0.0242
180	4	1.6177	3.5351	-1.1853	0.0323	0.0317	0.0143
180.35	3	2.6384	3.1291	-1.8907	0.0486	0.0278	0.0229
184.92	3	1.3424	3.6879	-1.5969	0.0471	0.0418	0.0143
184.92	4	1.7979	3.3898	-1.1904	0.0388	0.0405	0.0142
195.12	3	1.7799	3.3108	-1.6417	0.0422	0.0161	0.0091
209.88	3	2.7137	2.8381	-1.6688	0.0312	0.0173	0.0137
225	3	3.6941	2.3270	-1.6979	0.0208	0.0139	0.0095
240.12	3	4.5580	1.8995	-1.7160	0.0280	0.0253	0.0194
254.88	3	5.6086	1.6833	-1.8129	0.0981	0.0442	0.0203
260.16	3	5.8999	1.6457	-1.8230	0.1620	0.0579	0.0360
265.08	3	4.8534	2.2040	-1.5871	0.1012	0.0404	0.0164
270	3	4.9259	2.1472	-1.6166	0.1377	0.0424	0.0187
270.35	2	5.1217	1.9411	-1.6731	0.1984	0.0691	0.0265
274.92	2	4.4602	2.3887	-1.4829	0.0563	0.0219	0.0137
274.92	3	4.4138	2.2115	-1.6421	0.0363	0.0208	0.0176
285.12	2	4.8706	2.4642	-1.4565	0.0365	0.0146	0.0232
299.88	2	5.1928	2.5975	-1.3744	0.0270	0.0167	0.0209
315	2	5.3913	2.4132	-1.5578	0.0350	0.0233	0.0124
330.12	2	5.3155	2.4365	-1.6290	0.0368	0.0207	0.0141
344.88	2	5.1821	2.3984	-1.6246	0.0351	0.0171	0.0063
350.16	2	5.1353	2.3706	-1.6049	0.0275	0.0212	0.0142
355.08	2	4.9641	2.3835	-1.6921	0.1212	0.0477	0.0220

4.13.2 Spanwise Elastic Deformations

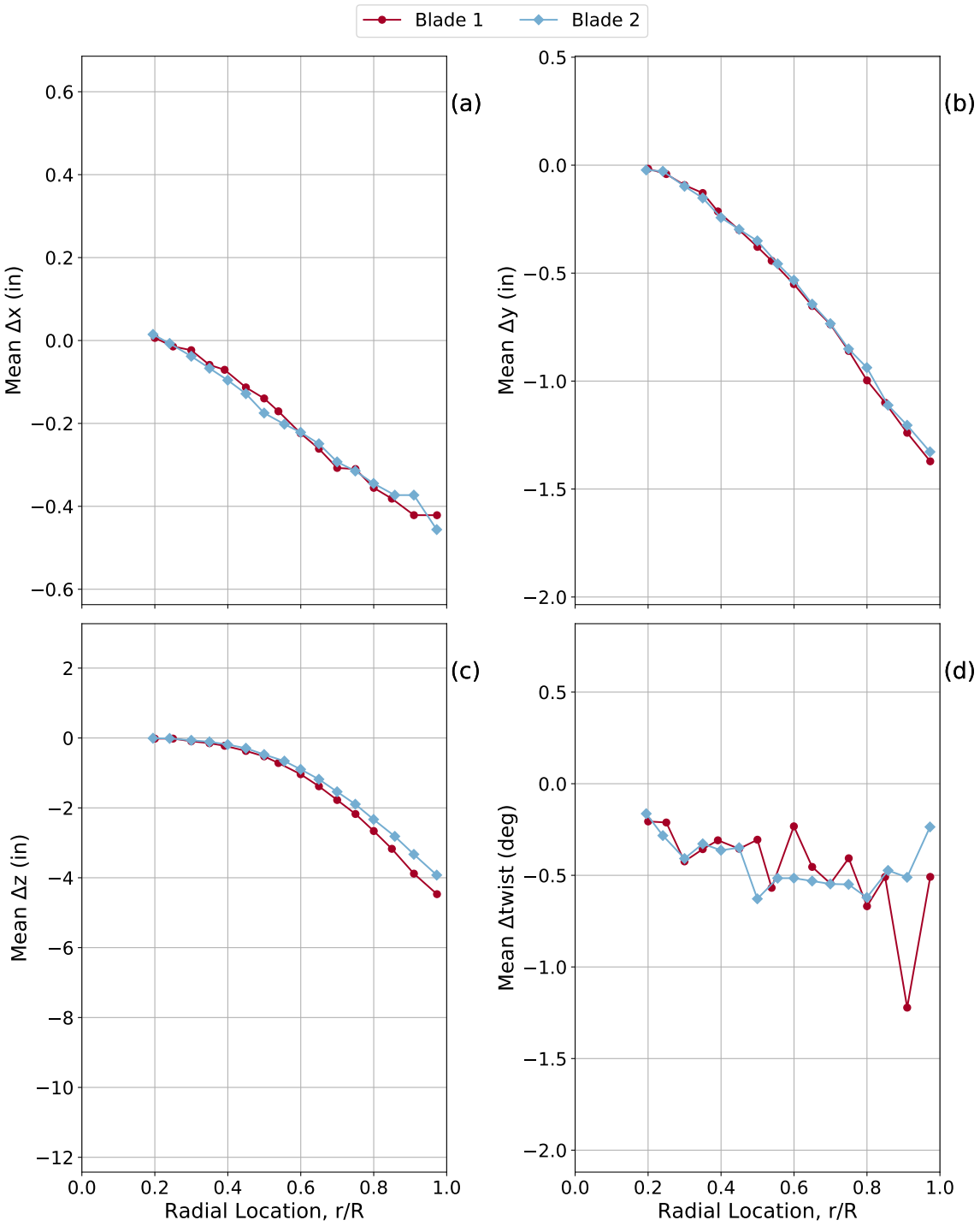


Figure 4.13-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0062	0.0048	-0.0167	0.0039	-0.0190	0.0095	-0.2059	0.0653
1	0.35	0.2499	-0.0145	0.0015	-0.0412	0.0038	-0.0180	0.0112	-0.2117	0.1662
1	0.35	0.2998	-0.0234	0.0019	-0.0924	0.0123	-0.0941	0.0271	-0.4241	0.1620
1	0.35	0.3498	-0.0589	0.0024	-0.1290	0.0209	-0.1501	0.0447	-0.3572	0.1537
1	0.35	0.3913	-0.0707	0.0023	-0.2140	0.0277	-0.2233	0.0587	-0.3088	0.1530
1	0.35	0.4496	-0.1132	0.0021	-0.3001	0.0370	-0.3708	0.0791	-0.3552	0.1496
1	0.35	0.4997	-0.1398	0.0023	-0.3784	0.0454	-0.5262	0.0966	-0.3056	0.1447
1	0.35	0.5387	-0.1708	0.0027	-0.4428	0.0526	-0.7166	0.1103	-0.5682	0.1516
1	0.35	0.5996	-0.2239	0.0030	-0.5510	0.0639	-1.0376	0.1284	-0.2326	0.1625
1	0.35	0.6498	-0.2611	0.0026	-0.6521	0.0746	-1.3827	0.1452	-0.4541	0.1612
1	0.35	0.6998	-0.3074	0.0035	-0.7375	0.0849	-1.7754	0.1582	-0.5446	0.1712
1	0.35	0.7500	-0.3101	0.0033	-0.8605	0.0932	-2.1757	0.1751	-0.4069	0.1548
1	0.35	0.8001	-0.3554	0.0038	-0.9970	0.1031	-2.6634	0.1911	-0.6687	0.1511
1	0.35	0.8497	-0.3815	0.0034	-1.1003	0.1152	-3.1721	0.2085	-0.5090	0.1646
1	0.35	0.9102	-0.4213	0.0170	-1.2395	0.1253	-3.8831	0.2349	-1.2220	0.2108
1	0.35	0.9734	-0.4214	0.0066	-1.3715	0.1392	-4.4695	0.2531	-0.5085	0.1509
2	0	0.1949	0.0147	0.0035	-0.0225	0.0026	-0.0069	0.0036	-0.1635	0.0225
2	0	0.2405	-0.0071	0.0021	-0.0281	0.0034	-0.0130	0.0038	-0.2831	0.0386
2	0	0.2999	-0.0381	0.0011	-0.0978	0.0063	-0.0663	0.0087	-0.4084	0.0488
2	0	0.3498	-0.0670	0.0019	-0.1520	0.0105	-0.1101	0.0123	-0.3280	0.0532
2	0	0.3998	-0.0958	0.0017	-0.2430	0.0148	-0.1890	0.0176	-0.3633	0.0458
2	0	0.4496	-0.1284	0.0021	-0.2972	0.0185	-0.2930	0.0219	-0.3492	0.0438
2	0	0.4995	-0.1750	0.0025	-0.3506	0.0218	-0.4733	0.0230	-0.6283	0.0434
2	0	0.5551	-0.2019	0.0021	-0.4569	0.0256	-0.6614	0.0284	-0.5156	0.0460
2	0	0.5996	-0.2215	0.0026	-0.5329	0.0289	-0.8974	0.0312	-0.5155	0.0486
2	0	0.6497	-0.2491	0.0017	-0.6435	0.0317	-1.1818	0.0354	-0.5311	0.0576
2	0	0.6996	-0.2928	0.0027	-0.7340	0.0352	-1.5388	0.0393	-0.5472	0.0533
2	0	0.7495	-0.3149	0.0027	-0.8510	0.0406	-1.8957	0.0449	-0.5496	0.0495
2	0	0.7996	-0.3449	0.0022	-0.9376	0.0452	-2.3307	0.0481	-0.6211	0.0497
2	0	0.8578	-0.3730	0.0033	-1.1118	0.0489	-2.8155	0.0482	-0.4733	0.0817
2	0	0.9100	-0.3729	0.0150	-1.2046	0.0514	-3.3299	0.0545	-0.5110	0.1605
2	0	0.9727	-0.4561	0.0059	-1.3276	0.0541	-3.9236	0.0659	-0.2360	0.0806

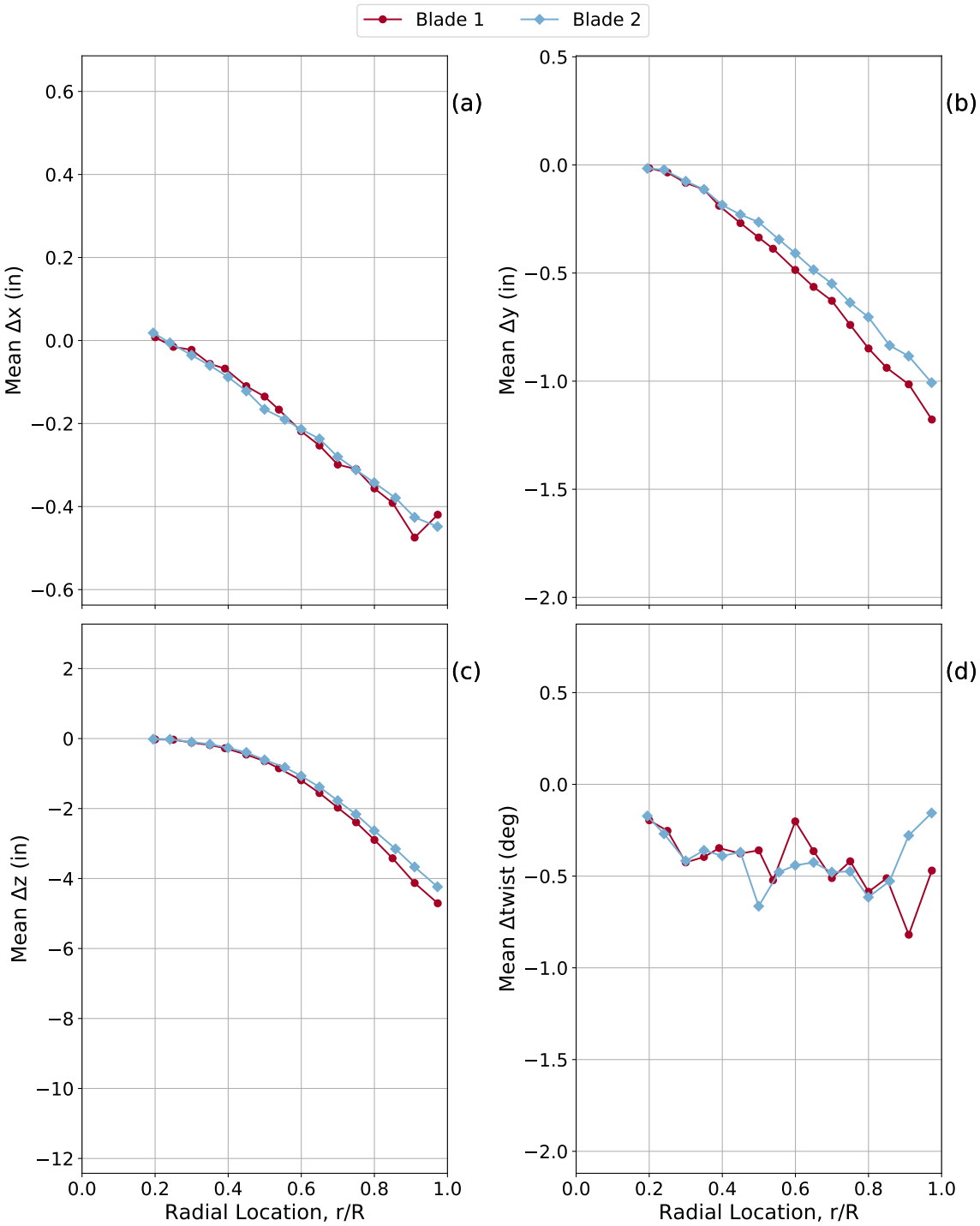


Figure 4.13-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0079	0.0027	-0.0153	0.0021	-0.0242	0.0052	-0.1959	0.0557
1	4.92	0.2499	-0.0153	0.0010	-0.0348	0.0027	-0.0316	0.0088	-0.2535	0.0976
1	4.92	0.2998	-0.0225	0.0016	-0.0828	0.0067	-0.1156	0.0145	-0.4255	0.1242
1	4.92	0.3498	-0.0561	0.0023	-0.1136	0.0124	-0.1857	0.0274	-0.3958	0.1093
1	4.92	0.3913	-0.0677	0.0022	-0.1887	0.0161	-0.2762	0.0355	-0.3474	0.1046
1	4.92	0.4496	-0.1099	0.0030	-0.2689	0.0204	-0.4576	0.0446	-0.3770	0.1096
1	4.92	0.4997	-0.1351	0.0025	-0.3357	0.0255	-0.6472	0.0536	-0.3596	0.1055
1	4.92	0.5387	-0.1665	0.0033	-0.3875	0.0289	-0.8510	0.0625	-0.5227	0.1053
1	4.92	0.5996	-0.2186	0.0033	-0.4857	0.0353	-1.1923	0.0755	-0.2020	0.1031
1	4.92	0.6498	-0.2530	0.0028	-0.5640	0.0417	-1.5582	0.0871	-0.3640	0.1019
1	4.92	0.6998	-0.2988	0.0036	-0.6284	0.0477	-1.9751	0.0973	-0.5108	0.1047
1	4.92	0.7500	-0.3099	0.0036	-0.7399	0.0532	-2.3936	0.1073	-0.4193	0.1073
1	4.92	0.8001	-0.3563	0.0036	-0.8489	0.0598	-2.8964	0.1178	-0.5855	0.1112
1	4.92	0.8497	-0.3910	0.0037	-0.9383	0.0645	-3.4212	0.1266	-0.5118	0.1075
1	4.92	0.9102	-0.4746	0.0046	-1.0147	0.0719	-4.1285	0.1387	-0.8196	0.1187
1	4.92	0.9734	-0.4196	0.0047	-1.1776	0.0797	-4.7079	0.1499	-0.4700	0.1257
2	4.92	0.1949	0.0183	0.0045	-0.0164	0.0024	-0.0173	0.0048	-0.1726	0.0402
2	4.92	0.2405	-0.0056	0.0021	-0.0222	0.0041	-0.0234	0.0067	-0.2697	0.0693
2	4.92	0.2999	-0.0354	0.0019	-0.0755	0.0089	-0.0998	0.0138	-0.4169	0.0906
2	4.92	0.3498	-0.0602	0.0026	-0.1132	0.0156	-0.1606	0.0233	-0.3598	0.0808
2	4.92	0.3998	-0.0880	0.0044	-0.1855	0.0237	-0.2650	0.0335	-0.3895	0.0792
2	4.92	0.4496	-0.1217	0.0062	-0.2298	0.0297	-0.3970	0.0455	-0.3700	0.0747
2	4.92	0.4995	-0.1657	0.0075	-0.2645	0.0375	-0.6099	0.0560	-0.6643	0.0794
2	4.92	0.5551	-0.1901	0.0085	-0.3449	0.0447	-0.8250	0.0708	-0.4783	0.0666
2	4.92	0.5996	-0.2137	0.0096	-0.4086	0.0497	-1.0692	0.0783	-0.4412	0.0724
2	4.92	0.6497	-0.2369	0.0097	-0.4848	0.0580	-1.3851	0.0890	-0.4255	0.0723
2	4.92	0.6996	-0.2802	0.0105	-0.5491	0.0633	-1.7738	0.0978	-0.4785	0.0720
2	4.92	0.7495	-0.3115	0.0099	-0.6366	0.0717	-2.1635	0.1095	-0.4745	0.0685
2	4.92	0.7996	-0.3424	0.0091	-0.7036	0.0789	-2.6340	0.1183	-0.6150	0.0749
2	4.92	0.8578	-0.3792	0.0090	-0.8349	0.0891	-3.1540	0.1359	-0.5276	0.0648
2	4.92	0.9100	-0.4259	0.0075	-0.8841	0.0995	-3.6690	0.1484	-0.2787	0.1307
2	4.92	0.9727	-0.4481	0.0073	-1.0071	0.1081	-4.2370	0.1686	-0.1562	0.0801

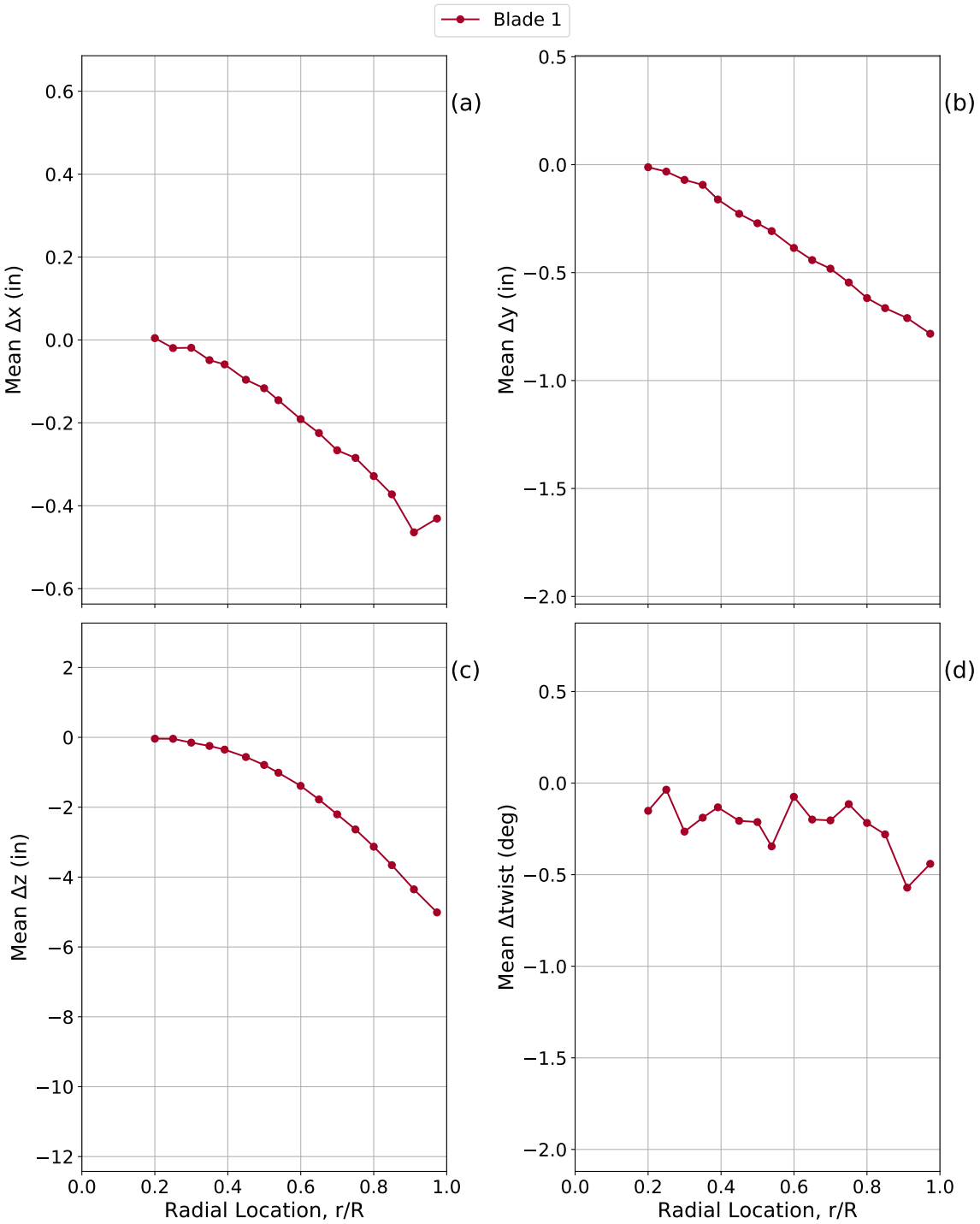


Figure 4.13-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0044	0.0042	-0.0118	0.0023	-0.0380	0.0049	-0.1515	0.0480
1	15.12	0.2499	-0.0195	0.0025	-0.0321	0.0022	-0.0408	0.0067	-0.0362	0.1165
1	15.12	0.2998	-0.0189	0.0014	-0.0705	0.0072	-0.1515	0.0150	-0.2650	0.1232
1	15.12	0.3498	-0.0487	0.0012	-0.0936	0.0112	-0.2459	0.0244	-0.1890	0.1191
1	15.12	0.3913	-0.0590	0.0014	-0.1613	0.0152	-0.3510	0.0333	-0.1325	0.1134
1	15.12	0.4496	-0.0960	0.0021	-0.2276	0.0202	-0.5627	0.0457	-0.2061	0.1118
1	15.12	0.4997	-0.1165	0.0018	-0.2714	0.0248	-0.7903	0.0560	-0.2129	0.1143
1	15.12	0.5387	-0.1454	0.0015	-0.3078	0.0285	-1.0130	0.0651	-0.3456	0.1160
1	15.12	0.5996	-0.1909	0.0015	-0.3858	0.0351	-1.3882	0.0799	-0.0749	0.1165
1	15.12	0.6498	-0.2246	0.0018	-0.4420	0.0405	-1.7783	0.0927	-0.1991	0.1119
1	15.12	0.6998	-0.2663	0.0016	-0.4816	0.0452	-2.2044	0.1044	-0.2036	0.1178
1	15.12	0.7500	-0.2846	0.0020	-0.5457	0.0502	-2.6366	0.1169	-0.1150	0.1159
1	15.12	0.8001	-0.3285	0.0024	-0.6181	0.0554	-3.1301	0.1282	-0.2177	0.1235
1	15.12	0.8497	-0.3725	0.0025	-0.6645	0.0603	-3.6581	0.1389	-0.2801	0.1084
1	15.12	0.9102	-0.4641	0.0024	-0.7106	0.0673	-4.3514	0.1485	-0.5710	0.1330
1	15.12	0.9734	-0.4309	0.0025	-0.7832	0.0741	-5.0110	0.1594	-0.4409	0.1170

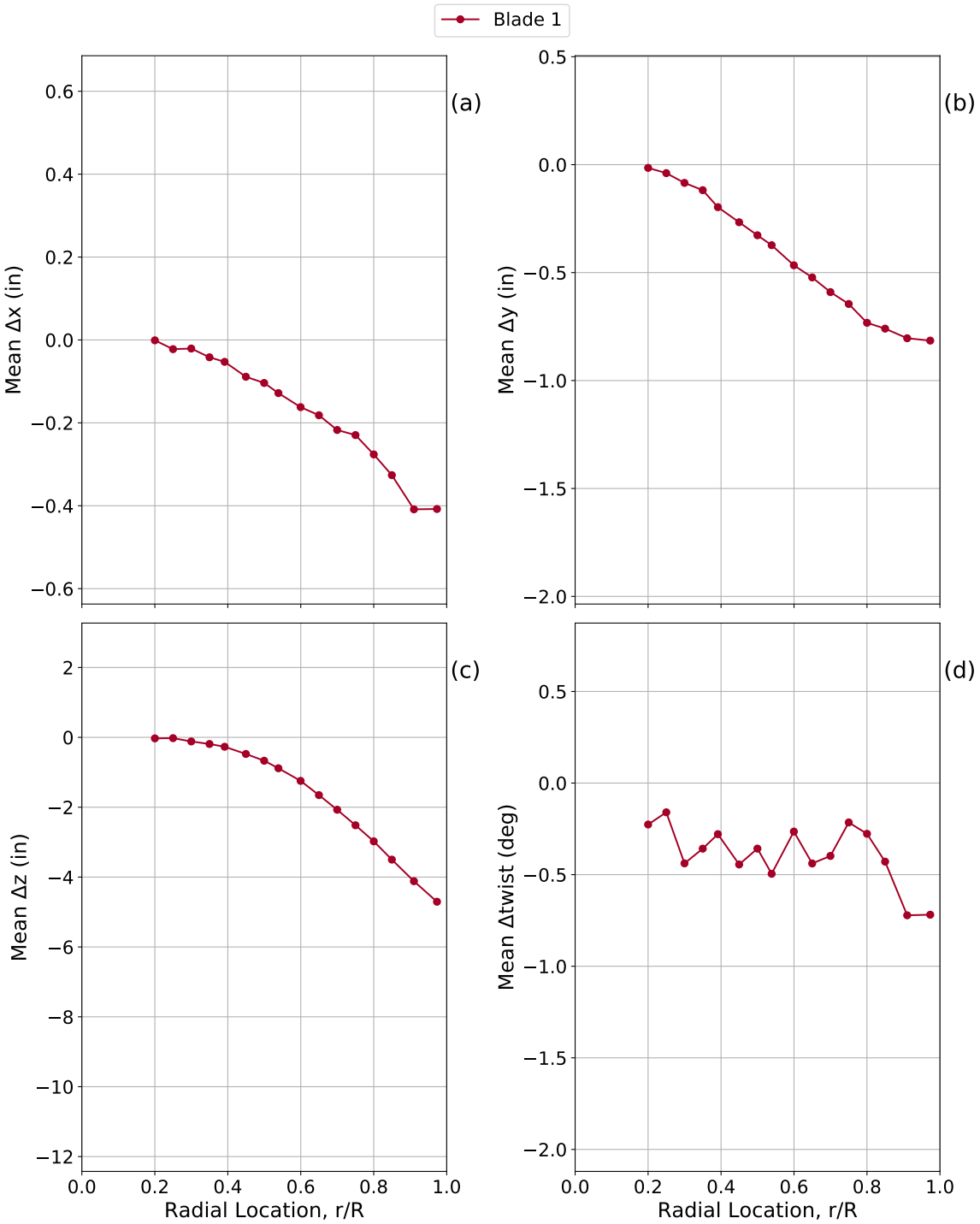


Figure 4.13-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0009	0.0036	-0.0149	0.0011	-0.0296	0.0029	-0.2262	0.0234
1	29.88	0.2499	-0.0222	0.0018	-0.0392	0.0014	-0.0235	0.0037	-0.1596	0.0578
1	29.88	0.2998	-0.0207	0.0012	-0.0844	0.0039	-0.1174	0.0092	-0.4384	0.0603
1	29.88	0.3498	-0.0418	0.0018	-0.1182	0.0059	-0.1904	0.0154	-0.3580	0.0504
1	29.88	0.3913	-0.0528	0.0016	-0.1968	0.0084	-0.2693	0.0207	-0.2789	0.0589
1	29.88	0.4496	-0.0888	0.0013	-0.2668	0.0114	-0.4755	0.0260	-0.4444	0.0598
1	29.88	0.4997	-0.1038	0.0015	-0.3271	0.0140	-0.6692	0.0304	-0.3577	0.0647
1	29.88	0.5387	-0.1282	0.0014	-0.3729	0.0159	-0.8848	0.0339	-0.4953	0.0666
1	29.88	0.5996	-0.1621	0.0021	-0.4661	0.0195	-1.2461	0.0396	-0.2648	0.0573
1	29.88	0.6498	-0.1817	0.0017	-0.5224	0.0235	-1.6531	0.0435	-0.4389	0.0616
1	29.88	0.6998	-0.2172	0.0015	-0.5903	0.0265	-2.0721	0.0496	-0.3977	0.0581
1	29.88	0.7500	-0.2295	0.0016	-0.6453	0.0302	-2.5164	0.0555	-0.2149	0.0637
1	29.88	0.8001	-0.2762	0.0017	-0.7325	0.0343	-2.9764	0.0608	-0.2770	0.0738
1	29.88	0.8497	-0.3262	0.0019	-0.7595	0.0379	-3.4998	0.0669	-0.4290	0.0637
1	29.88	0.9102	-0.4086	0.0021	-0.8041	0.0429	-4.1180	0.0728	-0.7219	0.0618
1	29.88	0.9734	-0.4078	0.0027	-0.8150	0.0480	-4.7054	0.0779	-0.7186	0.0534

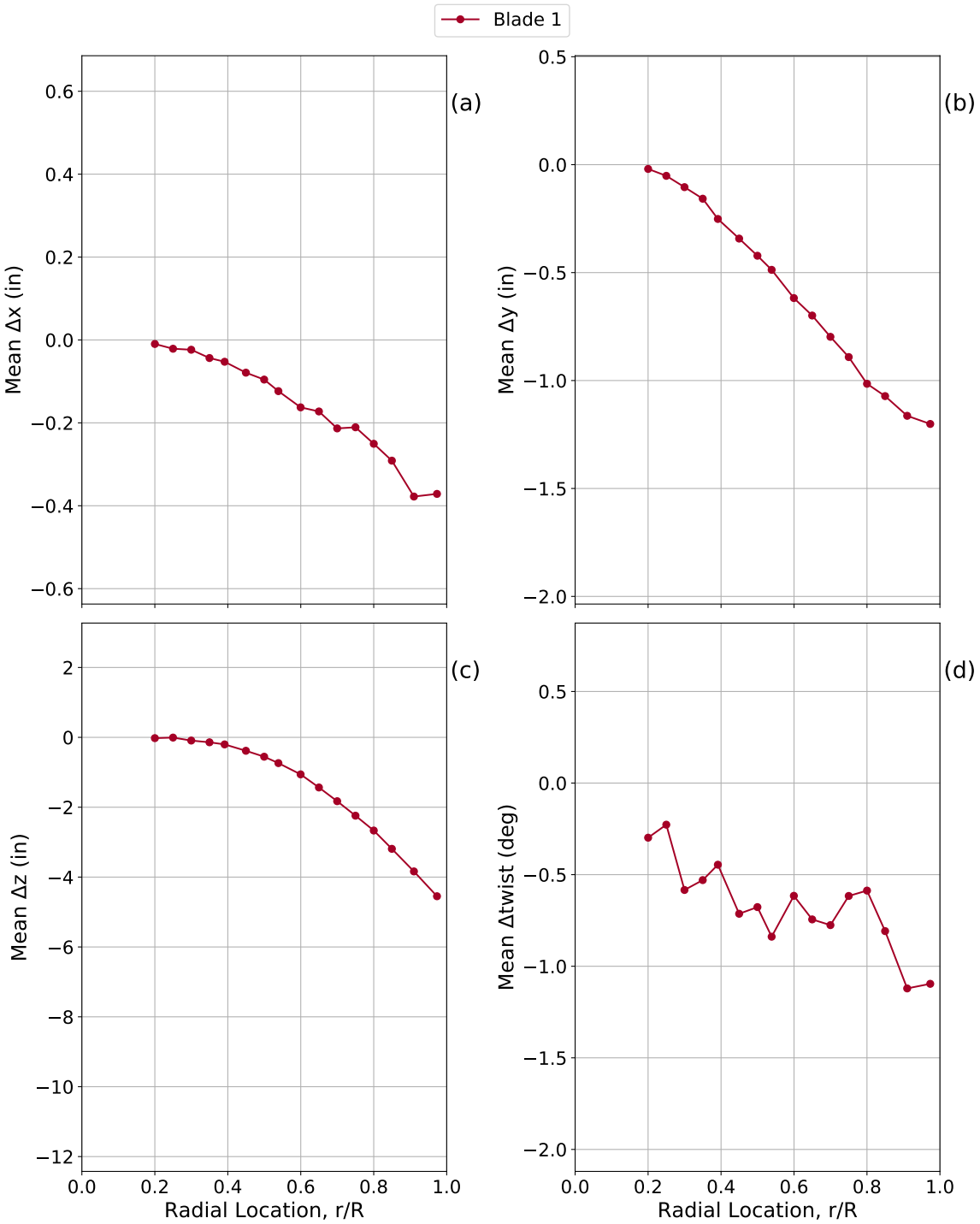


Figure 4.13-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0097	0.0038	-0.0197	0.0009	-0.0226	0.0044	-0.2982	0.0277
1	45	0.2499	-0.0212	0.0020	-0.0517	0.0016	-0.0070	0.0044	-0.2272	0.0673
1	45	0.2998	-0.0236	0.0022	-0.1041	0.0032	-0.0917	0.0125	-0.5836	0.0681
1	45	0.3498	-0.0436	0.0018	-0.1577	0.0054	-0.1417	0.0208	-0.5297	0.0632
1	45	0.3913	-0.0526	0.0020	-0.2515	0.0077	-0.2022	0.0269	-0.4457	0.0650
1	45	0.4496	-0.0789	0.0030	-0.3424	0.0104	-0.3844	0.0363	-0.7135	0.0610
1	45	0.4997	-0.0956	0.0026	-0.4219	0.0131	-0.5540	0.0457	-0.6771	0.0639
1	45	0.5387	-0.1235	0.0025	-0.4872	0.0151	-0.7374	0.0526	-0.8386	0.0632
1	45	0.5996	-0.1626	0.0027	-0.6180	0.0192	-1.0598	0.0639	-0.6155	0.0677
1	45	0.6498	-0.1725	0.0028	-0.6989	0.0223	-1.4348	0.0721	-0.7443	0.0675
1	45	0.6998	-0.2134	0.0029	-0.7975	0.0259	-1.8278	0.0803	-0.7755	0.0614
1	45	0.7500	-0.2107	0.0028	-0.8913	0.0291	-2.2421	0.0872	-0.6163	0.0602
1	45	0.8001	-0.2505	0.0023	-1.0150	0.0328	-2.6676	0.0940	-0.5870	0.0574
1	45	0.8497	-0.2912	0.0025	-1.0721	0.0373	-3.1911	0.1010	-0.8081	0.0545
1	45	0.9102	-0.3778	0.0023	-1.1634	0.0420	-3.8377	0.1103	-1.1210	0.0629
1	45	0.9734	-0.3714	0.0027	-1.2011	0.0473	-4.5481	0.1225	-1.0959	0.0681

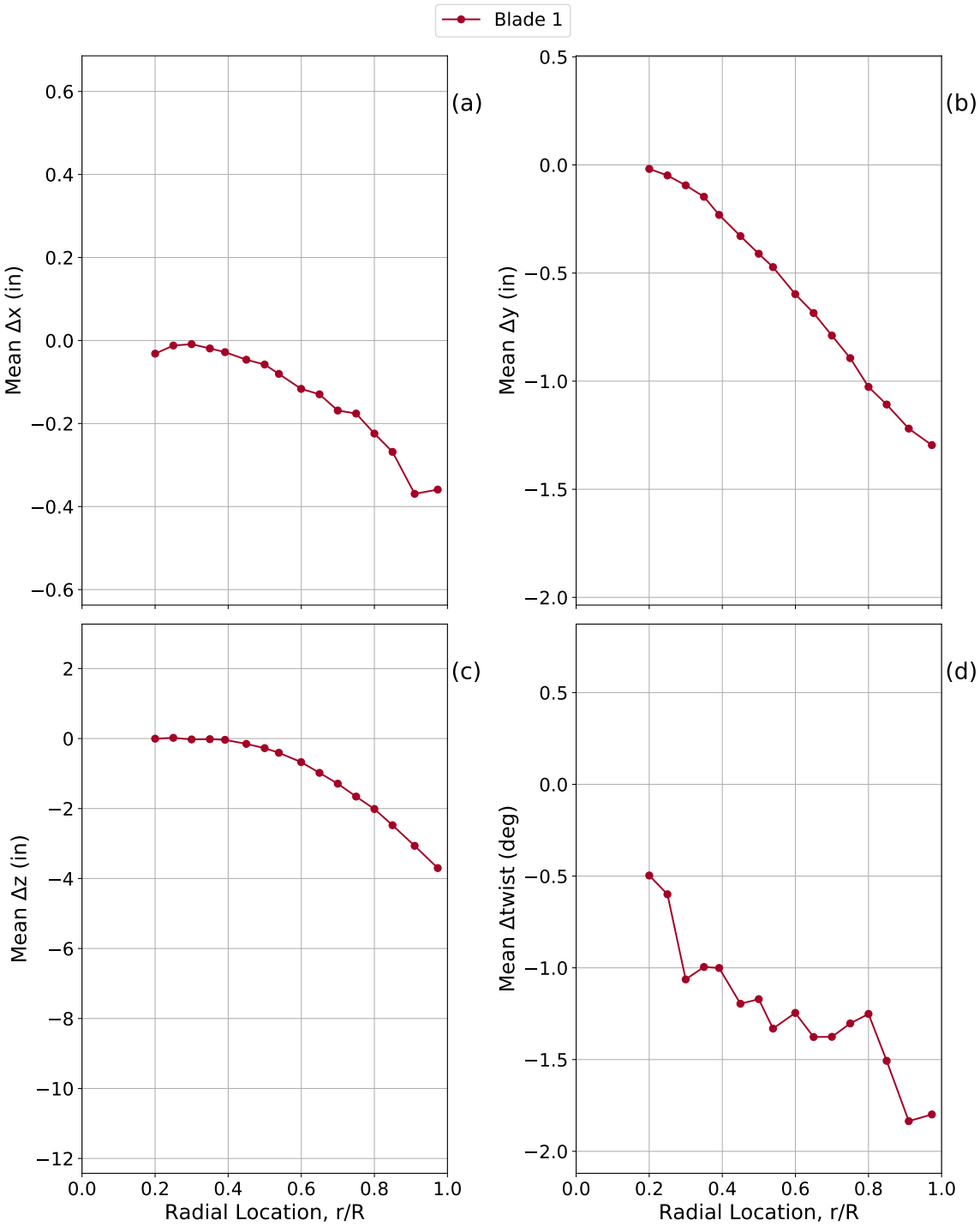


Figure 4.13-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0316	0.0036	-0.0183	0.0021	-0.0038	0.0053	-0.4968	0.0305
1	60.12	0.2499	-0.0121	0.0030	-0.0486	0.0023	0.0203	0.0062	-0.5991	0.0829
1	60.12	0.2998	-0.0088	0.0028	-0.0944	0.0071	-0.0252	0.0162	-1.0630	0.0812
1	60.12	0.3498	-0.0191	0.0021	-0.1472	0.0119	-0.0173	0.0259	-0.9953	0.0820
1	60.12	0.3913	-0.0280	0.0018	-0.2310	0.0162	-0.0359	0.0352	-1.0008	0.0784
1	60.12	0.4496	-0.0463	0.0025	-0.3290	0.0215	-0.1528	0.0487	-1.1958	0.0713
1	60.12	0.4997	-0.0578	0.0027	-0.4107	0.0264	-0.2743	0.0585	-1.1707	0.0746
1	60.12	0.5387	-0.0804	0.0028	-0.4724	0.0307	-0.4062	0.0675	-1.3311	0.0710
1	60.12	0.5996	-0.1165	0.0019	-0.5976	0.0363	-0.6733	0.0785	-1.2457	0.0777
1	60.12	0.6498	-0.1296	0.0021	-0.6848	0.0411	-0.9802	0.0894	-1.3770	0.0811
1	60.12	0.6998	-0.1686	0.0022	-0.7890	0.0456	-1.2894	0.1009	-1.3760	0.0688
1	60.12	0.7500	-0.1759	0.0028	-0.8935	0.0511	-1.6582	0.1109	-1.3030	0.0737
1	60.12	0.8001	-0.2242	0.0028	-1.0266	0.0558	-2.0141	0.1214	-1.2512	0.0852
1	60.12	0.8497	-0.2683	0.0027	-1.1080	0.0608	-2.4778	0.1345	-1.5067	0.0825
1	60.12	0.9102	-0.3693	0.0030	-1.2194	0.0671	-3.0655	0.1505	-1.8356	0.0865
1	60.12	0.9734	-0.3591	0.0042	-1.2957	0.0742	-3.7014	0.1702	-1.7990	0.0855

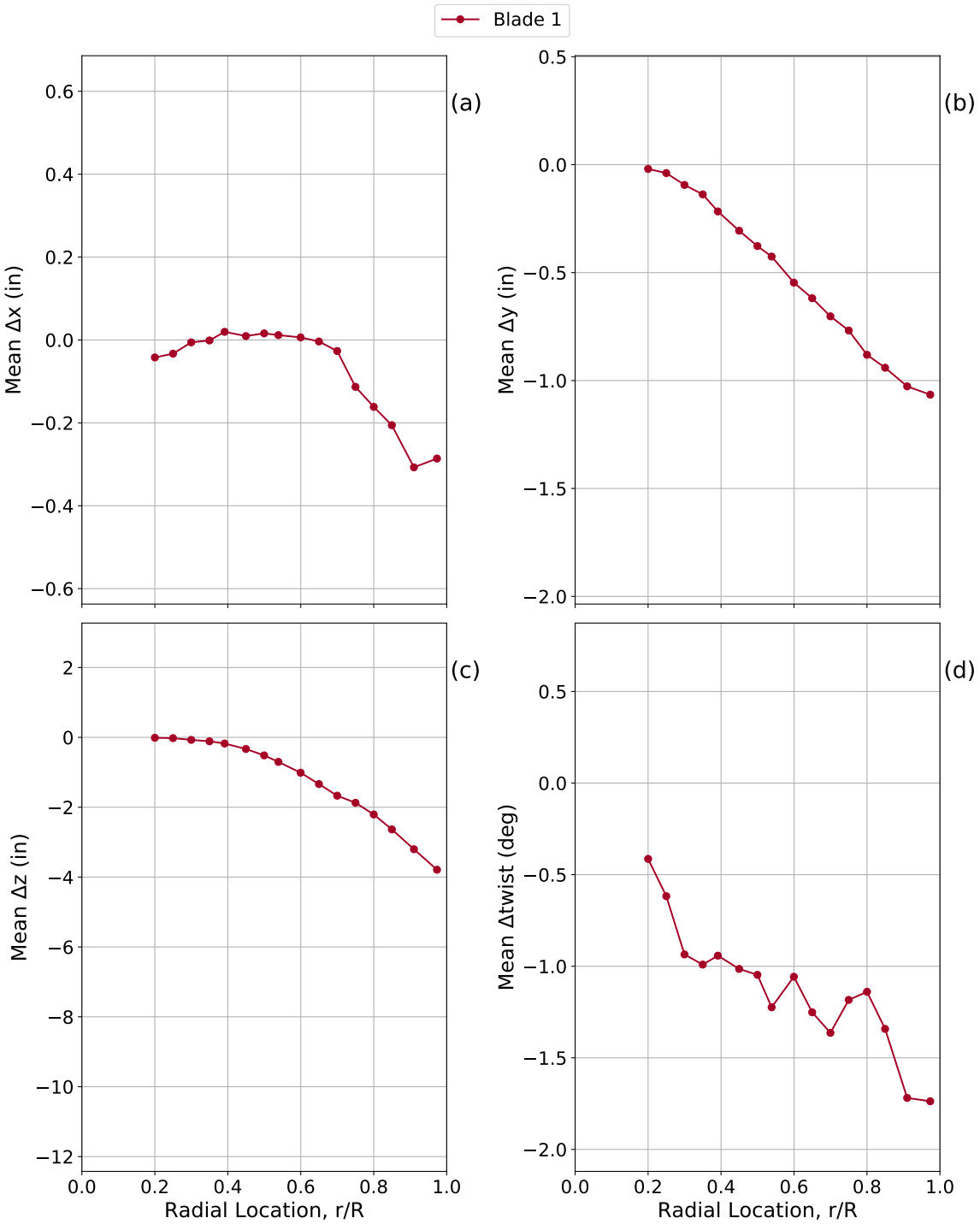


Figure 4.13-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0422	0.0025	-0.0197	0.0023	-0.0126	0.0058	-0.4141	0.0288
1	74.88	0.2499	-0.0331	0.0011	-0.0390	0.0018	-0.0228	0.0061	-0.6173	0.0928
1	74.88	0.2998	-0.0058	0.0018	-0.0939	0.0070	-0.0725	0.0180	-0.9355	0.0817
1	74.88	0.3498	-0.0012	0.0027	-0.1376	0.0110	-0.1129	0.0284	-0.9910	0.0842
1	74.88	0.3913	0.0196	0.0033	-0.2166	0.0147	-0.1763	0.0387	-0.9422	0.0764
1	74.88	0.4496	0.0094	0.0045	-0.3060	0.0204	-0.3328	0.0505	-1.0146	0.0796
1	74.88	0.4997	0.0159	0.0048	-0.3770	0.0252	-0.5171	0.0609	-1.0469	0.0776
1	74.88	0.5387	0.0117	0.0055	-0.4257	0.0293	-0.7023	0.0690	-1.2239	0.0810
1	74.88	0.5996	0.0061	0.0054	-0.5464	0.0343	-1.0127	0.0825	-1.0572	0.0784
1	74.88	0.6498	-0.0037	0.0064	-0.6185	0.0400	-1.3371	0.0922	-1.2513	0.0926
1	74.88	0.6998	-0.0267	0.0079	-0.7025	0.0439	-1.6699	0.1065	-1.3635	0.0882
1	74.88	0.7500	-0.1132	0.0056	-0.7682	0.0641	-1.8725	0.0937	-1.1837	0.0854
1	74.88	0.8001	-0.1614	0.0063	-0.8808	0.0701	-2.2080	0.1019	-1.1394	0.0919
1	74.88	0.8497	-0.2057	0.0061	-0.9407	0.0768	-2.6351	0.1124	-1.3419	0.0884
1	74.88	0.9102	-0.3073	0.0058	-1.0269	0.0836	-3.2019	0.1243	-1.7187	0.0914
1	74.88	0.9734	-0.2861	0.0055	-1.0654	0.0916	-3.7891	0.1368	-1.7371	0.0924

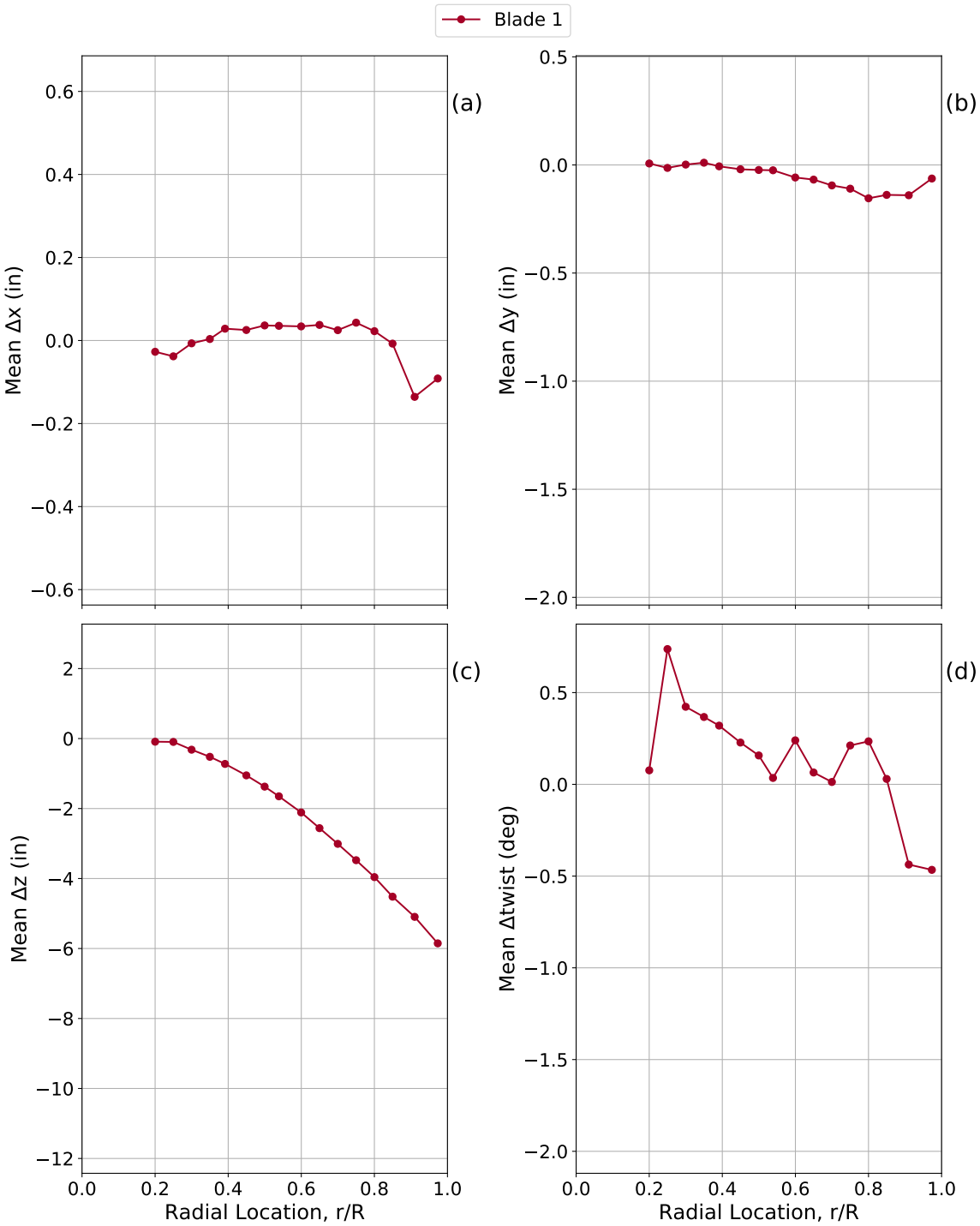


Figure 4.13-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0271	0.0019	0.0067	0.0015	-0.0897	0.0041	0.0763	0.0335
1	80.16	0.2499	-0.0381	0.0013	-0.0137	0.0025	-0.0963	0.0055	0.7373	0.0641
1	80.16	0.2998	-0.0068	0.0014	0.0017	0.0049	-0.3185	0.0132	0.4227	0.0762
1	80.16	0.3498	0.0036	0.0015	0.0103	0.0079	-0.5220	0.0221	0.3671	0.0663
1	80.16	0.3913	0.0285	0.0021	-0.0064	0.0109	-0.7247	0.0298	0.3201	0.0672
1	80.16	0.4496	0.0253	0.0026	-0.0201	0.0141	-1.0522	0.0374	0.2278	0.0662
1	80.16	0.4997	0.0363	0.0029	-0.0233	0.0175	-1.3737	0.0452	0.1575	0.0676
1	80.16	0.5387	0.0354	0.0032	-0.0247	0.0201	-1.6507	0.0515	0.0349	0.0694
1	80.16	0.5996	0.0340	0.0027	-0.0581	0.0245	-2.1119	0.0610	0.2399	0.0681
1	80.16	0.6498	0.0376	0.0035	-0.0678	0.0286	-2.5606	0.0721	0.0646	0.0515
1	80.16	0.6998	0.0249	0.0027	-0.0947	0.0319	-3.0090	0.0800	0.0129	0.0896
1	80.16	0.7500	0.0430	0.0039	-0.1098	0.0358	-3.4764	0.0892	0.2119	0.0808
1	80.16	0.8001	0.0225	0.0038	-0.1543	0.0400	-3.9594	0.1010	0.2344	0.1137
1	80.16	0.8497	-0.0075	0.0045	-0.1385	0.0434	-4.5186	0.1105	0.0295	0.0897
1	80.16	0.9102	-0.1357	0.0041	-0.1402	0.0472	-5.0953	0.1142	-0.4371	0.0761
1	80.16	0.9734	-0.0915	0.0051	-0.0629	0.0512	-5.8528	0.1222	-0.4660	0.0675

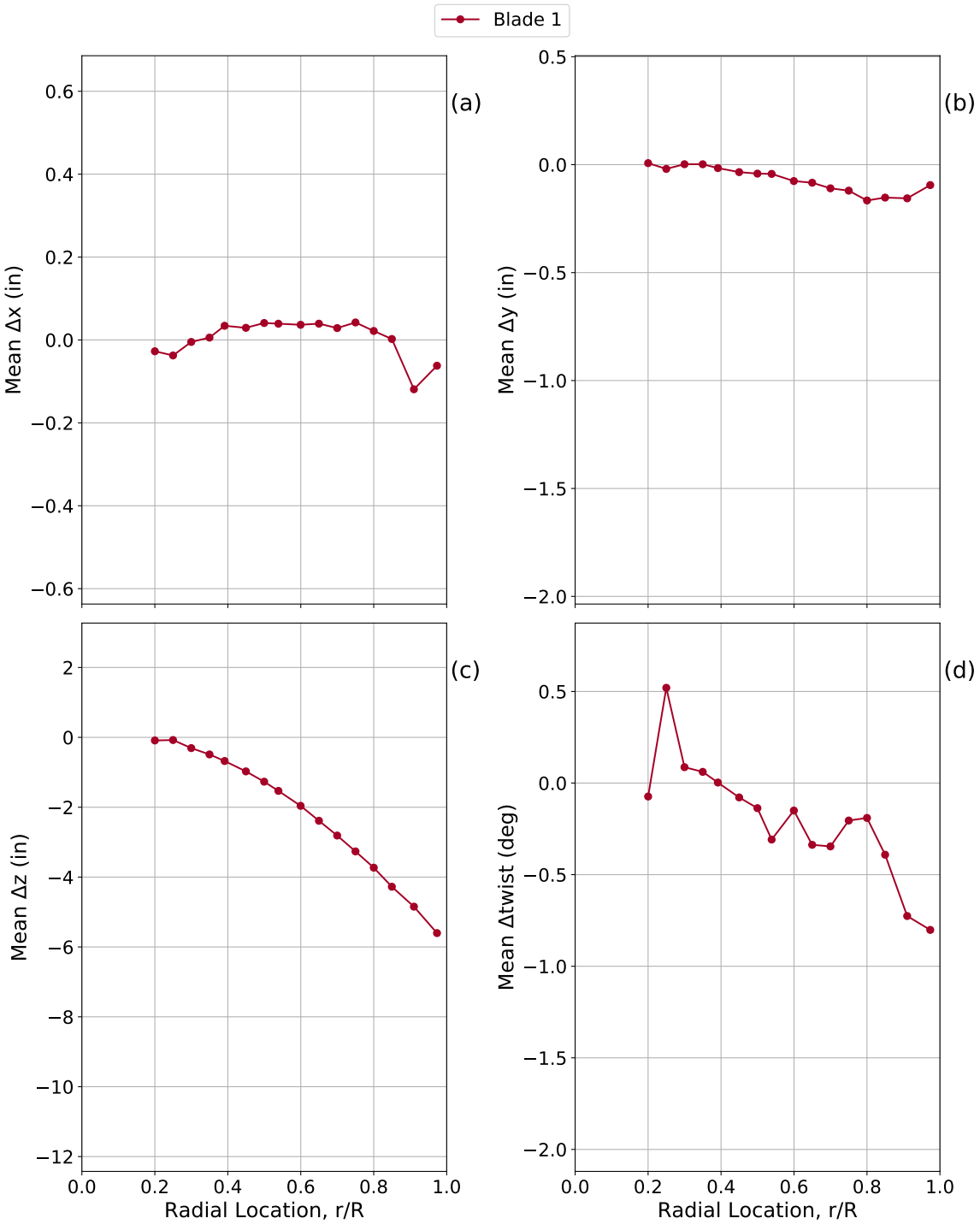


Figure 4.13-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0273	0.0043	0.0071	0.0021	-0.0889	0.0041	-0.0734	0.0196
1	85.08	0.2499	-0.0374	0.0019	-0.0196	0.0028	-0.0768	0.0067	0.5200	0.0379
1	85.08	0.2998	-0.0048	0.0017	0.0021	0.0069	-0.3075	0.0135	0.0868	0.0426
1	85.08	0.3498	0.0057	0.0015	0.0019	0.0129	-0.4889	0.0263	0.0611	0.0338
1	85.08	0.3913	0.0342	0.0017	-0.0158	0.0169	-0.6775	0.0343	0.0029	0.0334
1	85.08	0.4496	0.0293	0.0022	-0.0345	0.0229	-0.9745	0.0465	-0.0784	0.0319
1	85.08	0.4997	0.0409	0.0022	-0.0415	0.0279	-1.2693	0.0567	-0.1369	0.0361
1	85.08	0.5387	0.0392	0.0022	-0.0427	0.0320	-1.5326	0.0664	-0.3084	0.0409
1	85.08	0.5996	0.0366	0.0025	-0.0759	0.0386	-1.9604	0.0795	-0.1500	0.0329
1	85.08	0.6498	0.0393	0.0019	-0.0836	0.0447	-2.3875	0.0915	-0.3371	0.0343
1	85.08	0.6998	0.0287	0.0034	-0.1095	0.0506	-2.8106	0.1016	-0.3458	0.0317
1	85.08	0.7500	0.0422	0.0028	-0.1204	0.0565	-3.2651	0.1133	-0.2046	0.0565
1	85.08	0.8001	0.0217	0.0041	-0.1659	0.0629	-3.7303	0.1239	-0.1904	0.0764
1	85.08	0.8497	0.0023	0.0051	-0.1525	0.0683	-4.2759	0.1369	-0.3912	0.0561
1	85.08	0.9102	-0.1190	0.0048	-0.1559	0.0755	-4.8461	0.1478	-0.7258	0.0481
1	85.08	0.9734	-0.0621	0.0044	-0.0946	0.0822	-5.6028	0.1623	-0.8017	0.0467

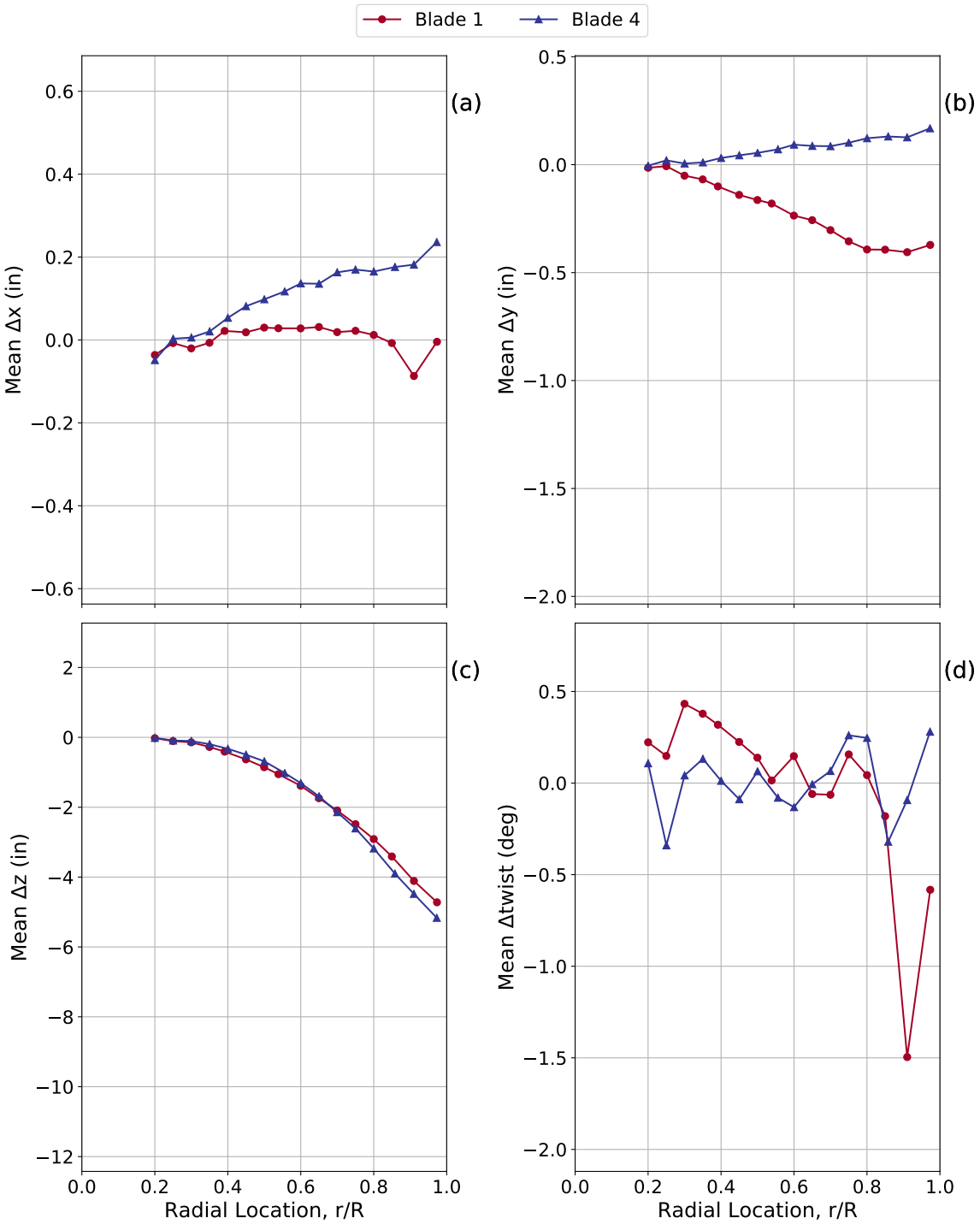


Figure 4.13-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0363	0.0028	-0.0143	0.0009	-0.0253	0.0025	0.2226	0.0303
1	90	0.2499	-0.0074	0.0036	-0.0071	0.0049	-0.1067	0.0112	0.1481	0.0460
1	90	0.2998	-0.0203	0.0034	-0.0510	0.0033	-0.1431	0.0097	0.4325	0.0663
1	90	0.3498	-0.0067	0.0019	-0.0682	0.0089	-0.2755	0.0237	0.3785	0.0368
1	90	0.3913	0.0218	0.0022	-0.1007	0.0123	-0.4096	0.0320	0.3183	0.0311
1	90	0.4496	0.0185	0.0026	-0.1400	0.0166	-0.6301	0.0412	0.2245	0.0407
1	90	0.4997	0.0298	0.0020	-0.1638	0.0209	-0.8556	0.0510	0.1385	0.0336
1	90	0.5387	0.0282	0.0018	-0.1801	0.0246	-1.0537	0.0585	0.0143	0.0433
1	90	0.5996	0.0279	0.0017	-0.2359	0.0300	-1.3855	0.0716	0.1472	0.0395
1	90	0.6498	0.0312	0.0014	-0.2570	0.0348	-1.7424	0.0838	-0.0597	0.0380
1	90	0.6998	0.0189	0.0018	-0.3032	0.0389	-2.0928	0.0937	-0.0639	0.0331
1	90	0.7500	0.0221	0.0035	-0.3550	0.0371	-2.4857	0.1039	0.1564	0.0284
1	90	0.8001	0.0121	0.0024	-0.3930	0.0485	-2.9123	0.1158	0.0435	0.0384
1	90	0.8497	-0.0075	0.0031	-0.3938	0.0531	-3.4100	0.1265	-0.1807	0.0482
1	90	0.9102	-0.0870	0.0049	-0.4054	0.0599	-4.1101	0.1487	-1.4958	0.2889
1	90	0.9734	-0.0044	0.0050	-0.3718	0.0636	-4.7218	0.1667	-0.5826	0.1137
4	90.35	0.2001	-0.0487	0.0006	-0.0047	0.0004	-0.0147	0.0014	0.1077	0.0107
4	90.35	0.2502	0.0029	0.0005	0.0199	0.0010	-0.0905	0.0029	-0.3400	0.0192
4	90.35	0.3001	0.0058	0.0008	0.0053	0.0016	-0.1057	0.0054	0.0417	0.0224
4	90.35	0.3502	0.0205	0.0008	0.0103	0.0027	-0.1964	0.0088	0.1322	0.0242
4	90.35	0.4002	0.0534	0.0010	0.0311	0.0042	-0.3273	0.0138	0.0122	0.0206
4	90.35	0.4500	0.0814	0.0011	0.0433	0.0051	-0.4955	0.0186	-0.0886	0.0163
4	90.35	0.5001	0.0981	0.0017	0.0547	0.0073	-0.6873	0.0239	0.0642	0.0145
4	90.35	0.5560	0.1171	0.0019	0.0710	0.0096	-1.0208	0.0302	-0.0801	0.0207
4	90.35	0.6001	0.1364	0.0023	0.0927	0.0113	-1.3124	0.0351	-0.1316	0.0226
4	90.35	0.6501	0.1356	0.0021	0.0868	0.0137	-1.6876	0.0373	-0.0065	0.0207
4	90.35	0.6999	0.1631	0.0021	0.0855	0.0156	-2.1427	0.0402	0.0657	0.0256
4	90.35	0.7500	0.1698	0.0022	0.1017	0.0180	-2.6072	0.0428	0.2607	0.0469
4	90.35	0.8002	0.1650	0.0027	0.1224	0.0197	-3.1816	0.0431	0.2464	0.0627
4	90.35	0.8582	0.1760	0.0053	0.1305	0.0243	-3.9013	0.0523	-0.3203	0.0960
4	90.35	0.9101	0.1816	0.0088	0.1265	0.0249	-4.4812	0.0639	-0.0931	0.1090
4	90.35	0.9728	0.2361	0.0050	0.1683	0.0285	-5.1673	0.0577	0.2803	0.0815

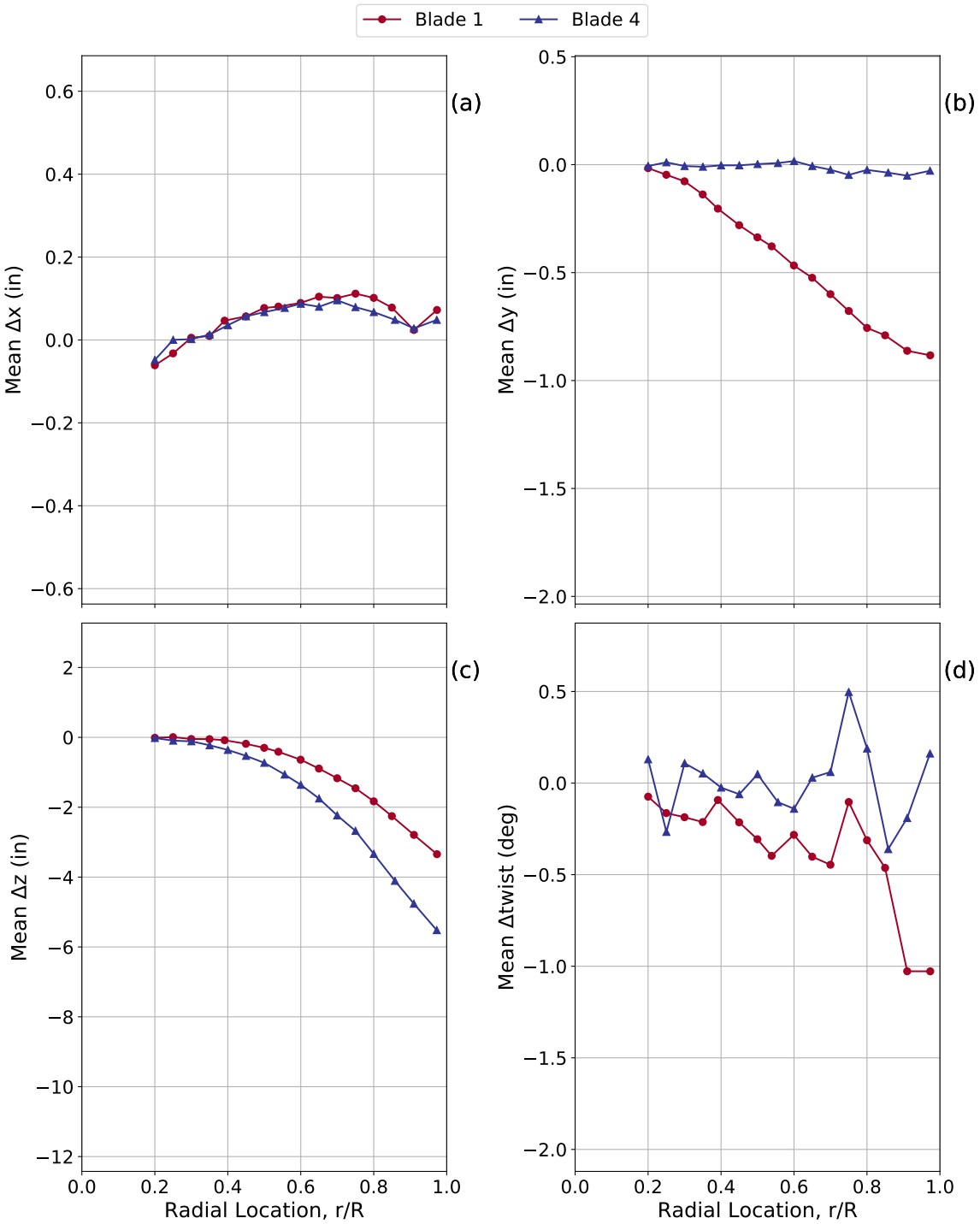


Figure 4.13-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0611	0.0012	-0.0161	0.0008	-0.0120	0.0022	-0.0743	0.0186
1	94.92	0.2499	-0.0324	0.0007	-0.0468	0.0021	0.0055	0.0042	-0.1639	0.0310
1	94.92	0.2998	0.0053	0.0011	-0.0771	0.0037	-0.0471	0.0088	-0.1865	0.0413
1	94.92	0.3498	0.0097	0.0014	-0.1380	0.0063	-0.0513	0.0136	-0.2129	0.0422
1	94.92	0.3913	0.0466	0.0015	-0.2037	0.0094	-0.0821	0.0203	-0.0924	0.0388
1	94.92	0.4496	0.0569	0.0019	-0.2803	0.0119	-0.1851	0.0250	-0.2142	0.0439
1	94.92	0.4997	0.0771	0.0022	-0.3366	0.0149	-0.3000	0.0297	-0.3067	0.0373
1	94.92	0.5387	0.0805	0.0022	-0.3783	0.0171	-0.4132	0.0336	-0.3972	0.0441
1	94.92	0.5996	0.0893	0.0023	-0.4670	0.0206	-0.6397	0.0397	-0.2826	0.0369
1	94.92	0.6498	0.1044	0.0032	-0.5239	0.0235	-0.8935	0.0442	-0.4019	0.0351
1	94.92	0.6998	0.1012	0.0029	-0.5999	0.0266	-1.1706	0.0493	-0.4459	0.0460
1	94.92	0.7500	0.1117	0.0035	-0.6778	0.0335	-1.4583	0.0630	-0.1036	0.1004
1	94.92	0.8001	0.1015	0.0029	-0.7563	0.0320	-1.8314	0.0617	-0.3122	0.0405
1	94.92	0.8497	0.0781	0.0026	-0.7905	0.0350	-2.2546	0.0689	-0.4629	0.0517
1	94.92	0.9102	0.0241	0.0050	-0.8622	0.0386	-2.7920	0.0729	-1.0274	0.1815
1	94.92	0.9734	0.0723	0.0049	-0.8832	0.0422	-3.3443	0.0853	-1.0276	0.0857
4	94.92	0.2001	-0.0481	0.0013	-0.0062	0.0003	-0.0192	0.0016	0.1296	0.0104
4	94.92	0.2502	0.0002	0.0011	0.0109	0.0010	-0.0952	0.0031	-0.2667	0.0198
4	94.92	0.3001	0.0020	0.0008	-0.0064	0.0017	-0.1136	0.0058	0.1082	0.0225
4	94.92	0.3502	0.0129	0.0018	-0.0097	0.0024	-0.2270	0.0098	0.0524	0.0176
4	94.92	0.4002	0.0356	0.0026	-0.0033	0.0043	-0.3604	0.0152	-0.0247	0.0267
4	94.92	0.4500	0.0570	0.0032	-0.0031	0.0051	-0.5304	0.0201	-0.0610	0.0251
4	94.92	0.5001	0.0671	0.0041	0.0027	0.0065	-0.7294	0.0262	0.0484	0.0204
4	94.92	0.5560	0.0773	0.0048	0.0074	0.0082	-1.0651	0.0325	-0.1044	0.0258
4	94.92	0.6001	0.0873	0.0046	0.0167	0.0098	-1.3590	0.0368	-0.1403	0.0261
4	94.92	0.6501	0.0801	0.0045	-0.0063	0.0114	-1.7506	0.0427	0.0293	0.0328
4	94.92	0.6999	0.0957	0.0040	-0.0236	0.0133	-2.2347	0.0466	0.0601	0.0230
4	94.92	0.7500	0.0792	0.0043	-0.0475	0.0208	-2.6780	0.0684	0.4971	0.1471
4	94.92	0.8002	0.0672	0.0027	-0.0242	0.0168	-3.3368	0.0506	0.1885	0.0547
4	94.92	0.8582	0.0485	0.0032	-0.0371	0.0192	-4.1079	0.0530	-0.3607	0.0774
4	94.92	0.9101	0.0278	0.0040	-0.0511	0.0213	-4.7622	0.0629	-0.1911	0.0782
4	94.92	0.9728	0.0484	0.0051	-0.0281	0.0251	-5.5198	0.0654	0.1611	0.0872

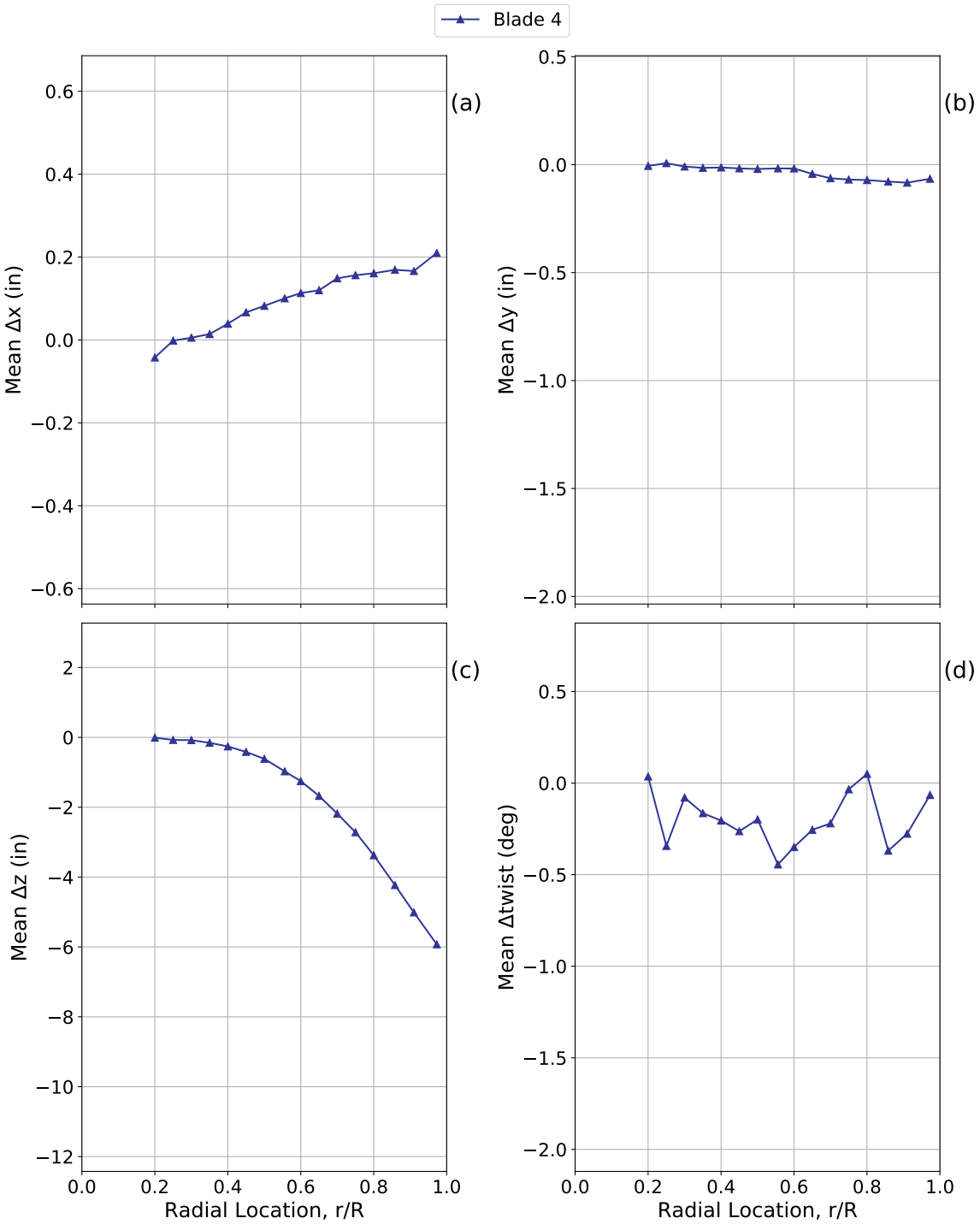


Figure 4.13-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0424	0.0005	-0.0059	0.0002	-0.0099	0.0007	0.0356	0.0089
4	105.12	0.2502	-0.0016	0.0008	0.0069	0.0013	-0.0746	0.0026	-0.3436	0.0200
4	105.12	0.3001	0.0054	0.0004	-0.0089	0.0020	-0.0808	0.0033	-0.0794	0.0209
4	105.12	0.3502	0.0142	0.0006	-0.0148	0.0023	-0.1566	0.0053	-0.1646	0.0169
4	105.12	0.4002	0.0391	0.0007	-0.0131	0.0048	-0.2607	0.0090	-0.2047	0.0239
4	105.12	0.4500	0.0666	0.0010	-0.0174	0.0052	-0.4169	0.0130	-0.2630	0.0161
4	105.12	0.5001	0.0822	0.0013	-0.0199	0.0068	-0.6148	0.0156	-0.1987	0.0264
4	105.12	0.5560	0.1004	0.0015	-0.0173	0.0081	-0.9737	0.0193	-0.4445	0.0244
4	105.12	0.6001	0.1131	0.0017	-0.0177	0.0101	-1.2541	0.0225	-0.3494	0.0291
4	105.12	0.6501	0.1198	0.0016	-0.0428	0.0121	-1.6767	0.0266	-0.2555	0.0209
4	105.12	0.6999	0.1487	0.0018	-0.0630	0.0141	-2.1834	0.0293	-0.2202	0.0256
4	105.12	0.7500	0.1562	0.0022	-0.0690	0.0160	-2.7174	0.0329	-0.0344	0.0207
4	105.12	0.8002	0.1609	0.0026	-0.0715	0.0189	-3.3760	0.0372	0.0500	0.0215
4	105.12	0.8582	0.1692	0.0030	-0.0783	0.0212	-4.2299	0.0424	-0.3694	0.0214
4	105.12	0.9101	0.1663	0.0039	-0.0836	0.0241	-5.0122	0.0486	-0.2765	0.0299
4	105.12	0.9728	0.2100	0.0043	-0.0654	0.0271	-5.9251	0.0573	-0.0652	0.0240

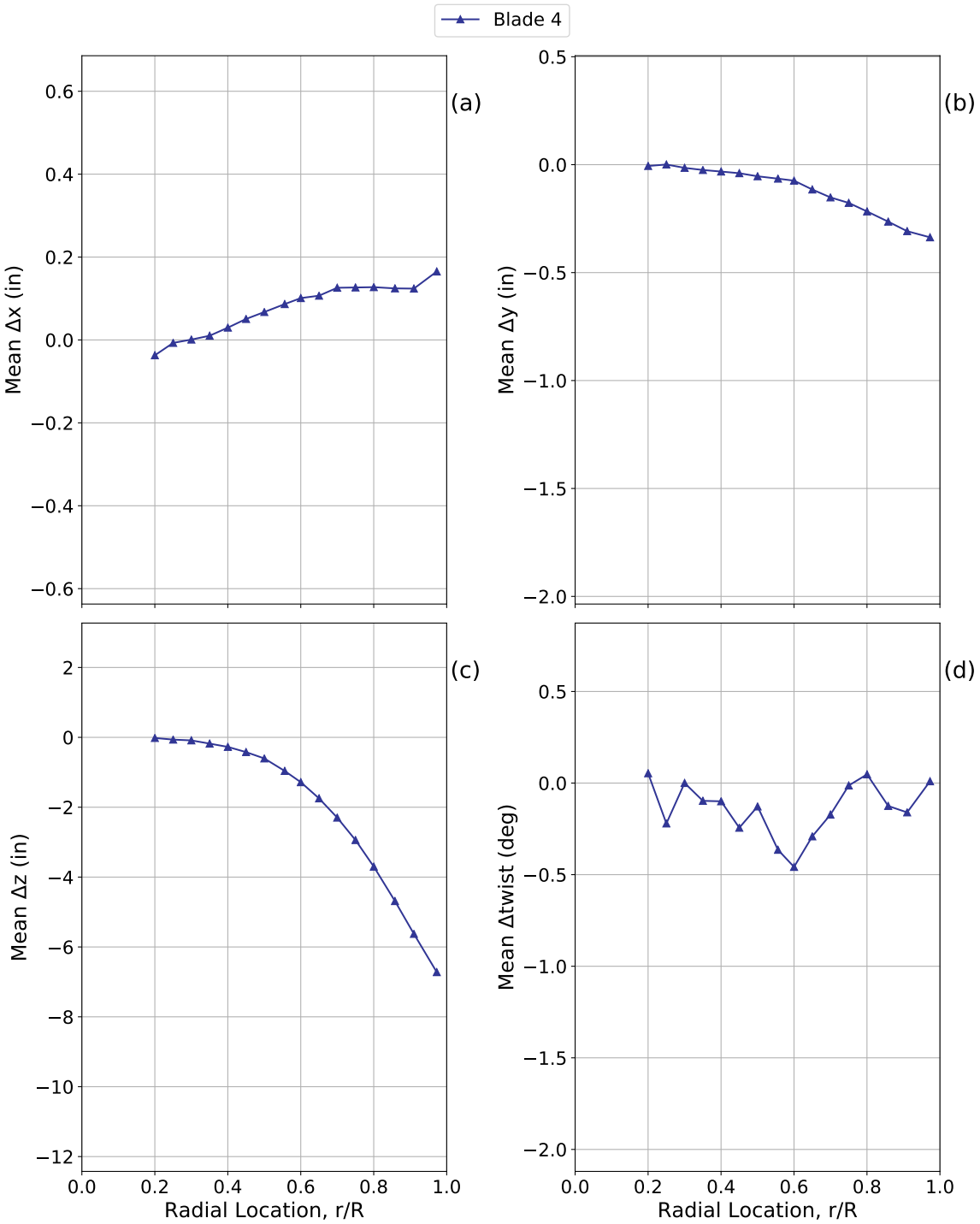


Figure 4.13-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0370	0.0008	-0.0061	0.0004	-0.0181	0.0010	0.0533	0.0147
4	119.88	0.2502	-0.0071	0.0006	0.0007	0.0012	-0.0650	0.0027	-0.2206	0.0198
4	119.88	0.3001	0.0009	0.0007	-0.0148	0.0018	-0.0873	0.0044	0.0003	0.0309
4	119.88	0.3502	0.0102	0.0009	-0.0247	0.0031	-0.1795	0.0070	-0.0970	0.0236
4	119.88	0.4002	0.0297	0.0008	-0.0319	0.0050	-0.2737	0.0114	-0.0996	0.0219
4	119.88	0.4500	0.0506	0.0011	-0.0396	0.0074	-0.4223	0.0118	-0.2440	0.0288
4	119.88	0.5001	0.0674	0.0012	-0.0538	0.0077	-0.6040	0.0165	-0.1278	0.0274
4	119.88	0.5560	0.0865	0.0019	-0.0648	0.0094	-0.9621	0.0222	-0.3644	0.0220
4	119.88	0.6001	0.1010	0.0019	-0.0741	0.0120	-1.2842	0.0253	-0.4578	0.0260
4	119.88	0.6501	0.1068	0.0021	-0.1151	0.0140	-1.7472	0.0275	-0.2910	0.0213
4	119.88	0.6999	0.1259	0.0022	-0.1517	0.0164	-2.2985	0.0303	-0.1723	0.0283
4	119.88	0.7500	0.1266	0.0022	-0.1772	0.0185	-2.9403	0.0323	-0.0133	0.0299
4	119.88	0.8002	0.1274	0.0024	-0.2167	0.0211	-3.7021	0.0364	0.0474	0.0224
4	119.88	0.8582	0.1244	0.0025	-0.2640	0.0240	-4.6870	0.0409	-0.1250	0.0308
4	119.88	0.9101	0.1239	0.0024	-0.3081	0.0269	-5.6257	0.0478	-0.1601	0.0255
4	119.88	0.9728	0.1651	0.0036	-0.3366	0.0301	-6.7214	0.0566	0.0097	0.0316

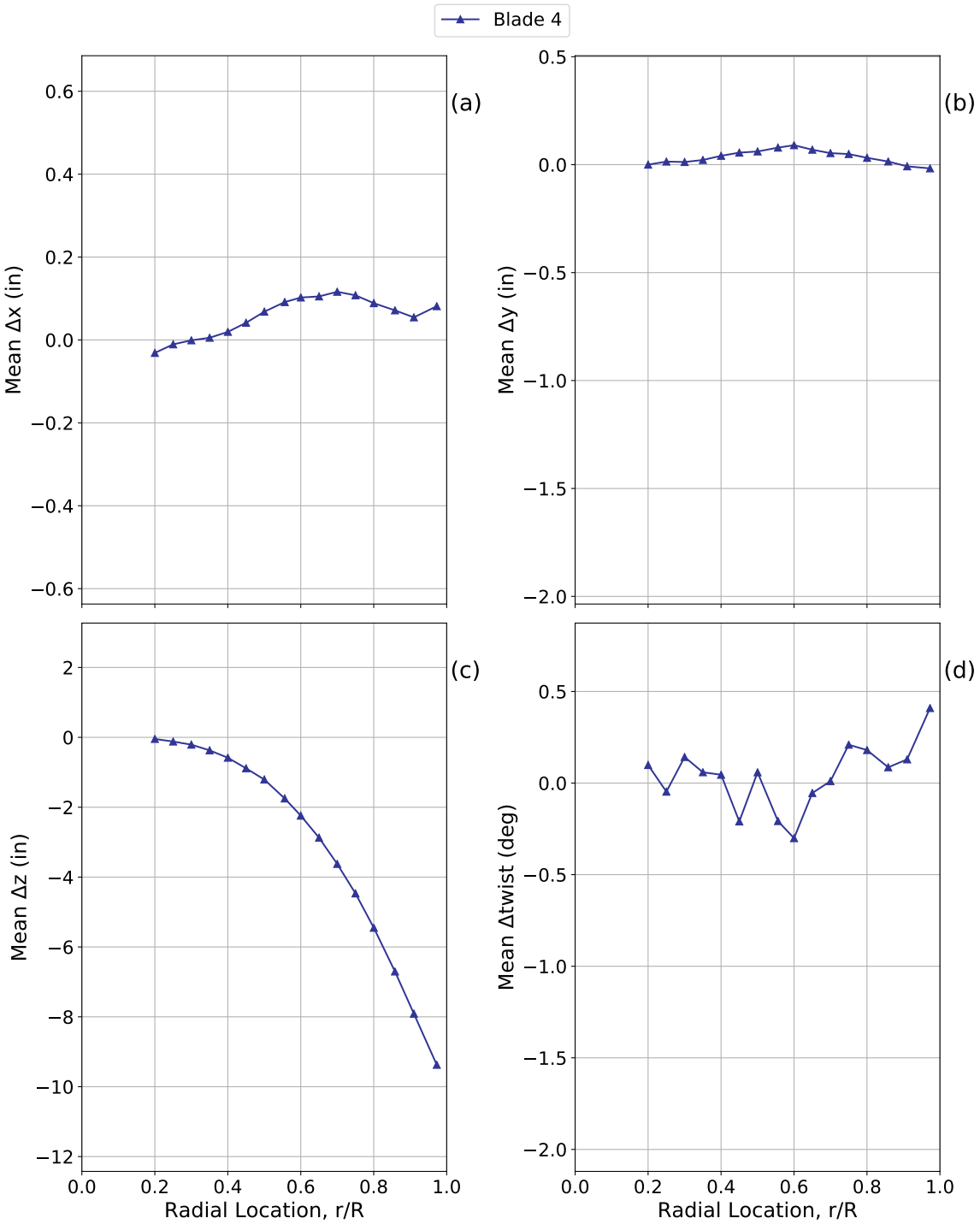


Figure 4.13-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0313	0.0010	0.0001	0.0004	-0.0461	0.0013	0.0984	0.0139
4	135	0.2502	-0.0106	0.0006	0.0141	0.0018	-0.1205	0.0050	-0.0471	0.0265
4	135	0.3001	-0.0009	0.0012	0.0123	0.0021	-0.2096	0.0076	0.1421	0.0333
4	135	0.3502	0.0053	0.0012	0.0217	0.0046	-0.3723	0.0128	0.0590	0.0244
4	135	0.4002	0.0195	0.0013	0.0410	0.0067	-0.5841	0.0213	0.0452	0.0316
4	135	0.4500	0.0414	0.0015	0.0557	0.0076	-0.8866	0.0223	-0.2096	0.0292
4	135	0.5001	0.0682	0.0016	0.0611	0.0099	-1.2078	0.0311	0.0586	0.0304
4	135	0.5560	0.0913	0.0018	0.0789	0.0135	-1.7501	0.0347	-0.2077	0.0309
4	135	0.6001	0.1024	0.0023	0.0901	0.0146	-2.2419	0.0382	-0.3009	0.0306
4	135	0.6501	0.1050	0.0023	0.0692	0.0173	-2.8737	0.0433	-0.0545	0.0354
4	135	0.6999	0.1162	0.0024	0.0534	0.0206	-3.6237	0.0493	0.0104	0.0318
4	135	0.7500	0.1077	0.0034	0.0492	0.0236	-4.4688	0.0542	0.2093	0.0322
4	135	0.8002	0.0887	0.0030	0.0317	0.0271	-5.4511	0.0575	0.1799	0.0346
4	135	0.8582	0.0714	0.0026	0.0146	0.0315	-6.7032	0.0633	0.0860	0.0324
4	135	0.9101	0.0545	0.0031	-0.0078	0.0357	-7.9114	0.0685	0.1292	0.0369
4	135	0.9728	0.0814	0.0045	-0.0172	0.0407	-9.3741	0.0764	0.4094	0.0290

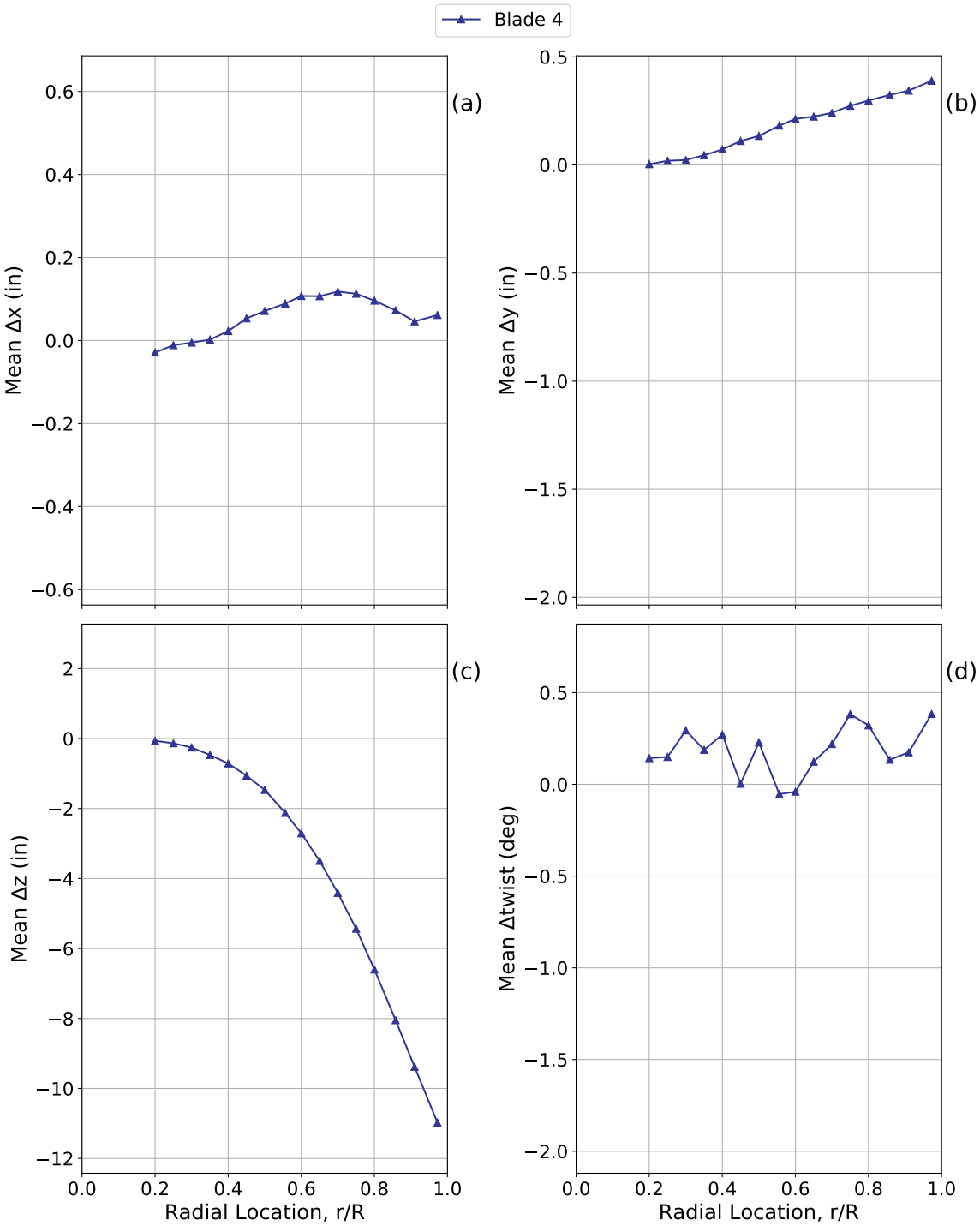


Figure 4.13-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0289	0.0007	0.0035	0.0006	-0.0631	0.0014	0.1428	0.0139
4	150.12	0.2502	-0.0112	0.0008	0.0191	0.0019	-0.1358	0.0032	0.1491	0.0198
4	150.12	0.3001	-0.0051	0.0010	0.0228	0.0034	-0.2565	0.0053	0.2940	0.0289
4	150.12	0.3502	0.0022	0.0012	0.0448	0.0049	-0.4686	0.0093	0.1879	0.0222
4	150.12	0.4002	0.0228	0.0010	0.0722	0.0086	-0.7120	0.0143	0.2715	0.0183
4	150.12	0.4500	0.0533	0.0010	0.1108	0.0103	-1.0638	0.0167	0.0031	0.0235
4	150.12	0.5001	0.0711	0.0011	0.1343	0.0139	-1.4691	0.0211	0.2286	0.0272
4	150.12	0.5560	0.0890	0.0013	0.1821	0.0142	-2.1256	0.0260	-0.0534	0.0241
4	150.12	0.6001	0.1072	0.0019	0.2132	0.0156	-2.7101	0.0278	-0.0401	0.0415
4	150.12	0.6501	0.1067	0.0015	0.2236	0.0183	-3.4965	0.0326	0.1231	0.0294
4	150.12	0.6999	0.1179	0.0022	0.2411	0.0220	-4.4126	0.0371	0.2196	0.0257
4	150.12	0.7500	0.1126	0.0023	0.2736	0.0233	-5.4348	0.0413	0.3822	0.0227
4	150.12	0.8002	0.0960	0.0025	0.2977	0.0262	-6.5997	0.0444	0.3214	0.0232
4	150.12	0.8582	0.0724	0.0035	0.3238	0.0306	-8.0496	0.0494	0.1340	0.0325
4	150.12	0.9101	0.0460	0.0037	0.3437	0.0343	-9.3822	0.0553	0.1746	0.0226
4	150.12	0.9728	0.0614	0.0043	0.3892	0.0385	-10.9793	0.0620	0.3834	0.0307

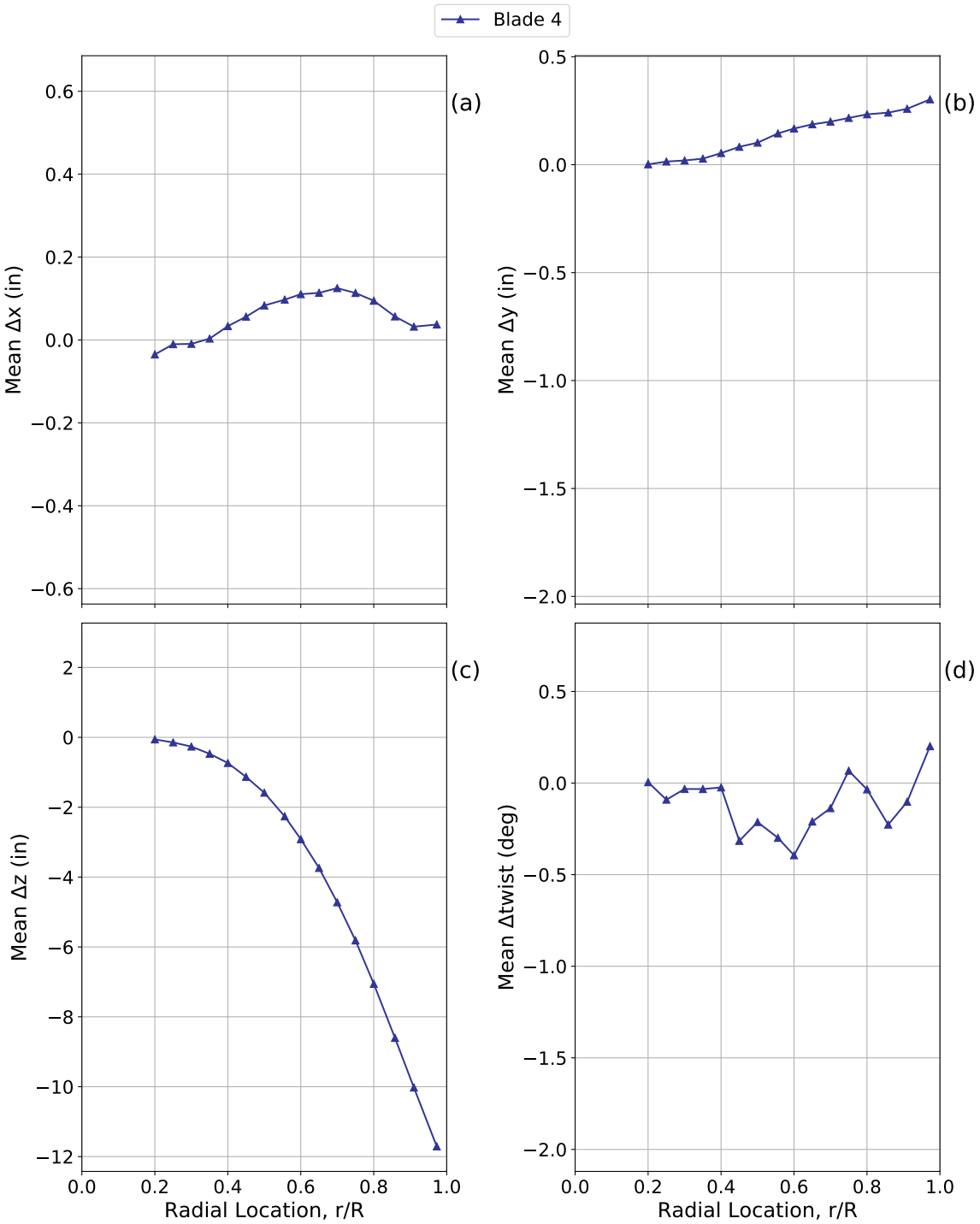


Figure 4.13-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0350	0.0007	0.0016	0.0007	-0.0600	0.0012	0.0046	0.0108
4	164.88	0.2502	-0.0103	0.0010	0.0144	0.0019	-0.1461	0.0023	-0.0909	0.0217
4	164.88	0.3001	-0.0095	0.0011	0.0195	0.0027	-0.2651	0.0038	-0.0323	0.0232
4	164.88	0.3502	0.0032	0.0011	0.0277	0.0047	-0.4713	0.0070	-0.0328	0.0259
4	164.88	0.4002	0.0333	0.0013	0.0536	0.0073	-0.7346	0.0098	-0.0239	0.0275
4	164.88	0.4500	0.0561	0.0015	0.0826	0.0097	-1.1318	0.0130	-0.3158	0.0223
4	164.88	0.5001	0.0831	0.0014	0.1018	0.0125	-1.5849	0.0172	-0.2130	0.0206
4	164.88	0.5560	0.0972	0.0015	0.1447	0.0146	-2.2627	0.0220	-0.2993	0.0195
4	164.88	0.6001	0.1104	0.0016	0.1673	0.0171	-2.9162	0.0234	-0.3944	0.0191
4	164.88	0.6501	0.1136	0.0017	0.1869	0.0203	-3.7397	0.0259	-0.2103	0.0225
4	164.88	0.6999	0.1250	0.0021	0.1992	0.0230	-4.7231	0.0275	-0.1371	0.0283
4	164.88	0.7500	0.1133	0.0021	0.2164	0.0264	-5.8143	0.0298	0.0672	0.0290
4	164.88	0.8002	0.0946	0.0024	0.2332	0.0305	-7.0561	0.0317	-0.0348	0.0294
4	164.88	0.8582	0.0566	0.0030	0.2410	0.0351	-8.6039	0.0369	-0.2270	0.0234
4	164.88	0.9101	0.0320	0.0033	0.2587	0.0398	-10.0241	0.0428	-0.1023	0.0202
4	164.88	0.9728	0.0372	0.0046	0.3024	0.0452	-11.7107	0.0513	0.2010	0.0245

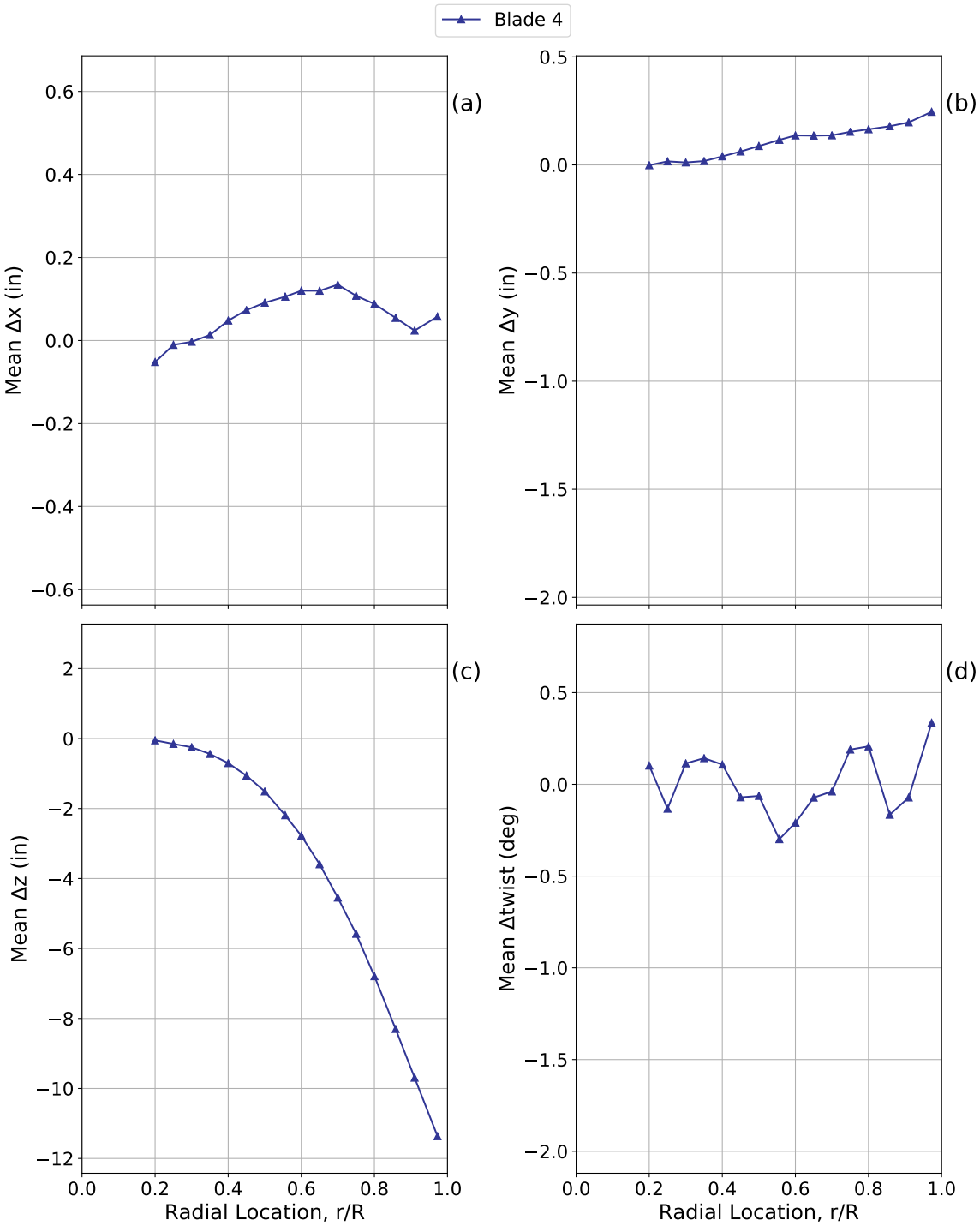


Figure 4.13-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0518	0.0040	-0.0015	0.0006	-0.0507	0.0012	0.1021	0.0134
4	170.16	0.2502	-0.0105	0.0015	0.0163	0.0021	-0.1530	0.0030	-0.1329	0.0254
4	170.16	0.3001	-0.0030	0.0011	0.0113	0.0037	-0.2484	0.0050	0.1141	0.0316
4	170.16	0.3502	0.0135	0.0041	0.0177	0.0056	-0.4411	0.0080	0.1427	0.0248
4	170.16	0.4002	0.0481	0.0056	0.0395	0.0096	-0.7026	0.0129	0.1076	0.0221
4	170.16	0.4500	0.0733	0.0064	0.0620	0.0112	-1.0635	0.0157	-0.0709	0.0226
4	170.16	0.5001	0.0911	0.0085	0.0874	0.0146	-1.5119	0.0201	-0.0634	0.0149
4	170.16	0.5560	0.1056	0.0084	0.1159	0.0181	-2.1926	0.0220	-0.2989	0.0387
4	170.16	0.6001	0.1199	0.0099	0.1365	0.0203	-2.7791	0.0264	-0.2091	0.0366
4	170.16	0.6501	0.1198	0.0105	0.1356	0.0237	-3.5928	0.0288	-0.0725	0.0408
4	170.16	0.6999	0.1345	0.0089	0.1369	0.0251	-4.5458	0.0337	-0.0389	0.0467
4	170.16	0.7500	0.1077	0.0089	0.1533	0.0300	-5.5815	0.0372	0.1896	0.0376
4	170.16	0.8002	0.0881	0.0099	0.1649	0.0332	-6.7921	0.0384	0.2070	0.0465
4	170.16	0.8582	0.0544	0.0102	0.1790	0.0370	-8.2996	0.0442	-0.1658	0.0731
4	170.16	0.9101	0.0239	0.0124	0.1971	0.0397	-9.6929	0.0634	-0.0718	0.0731
4	170.16	0.9728	0.0576	0.0134	0.2456	0.0446	-11.3647	0.0663	0.3355	0.1115

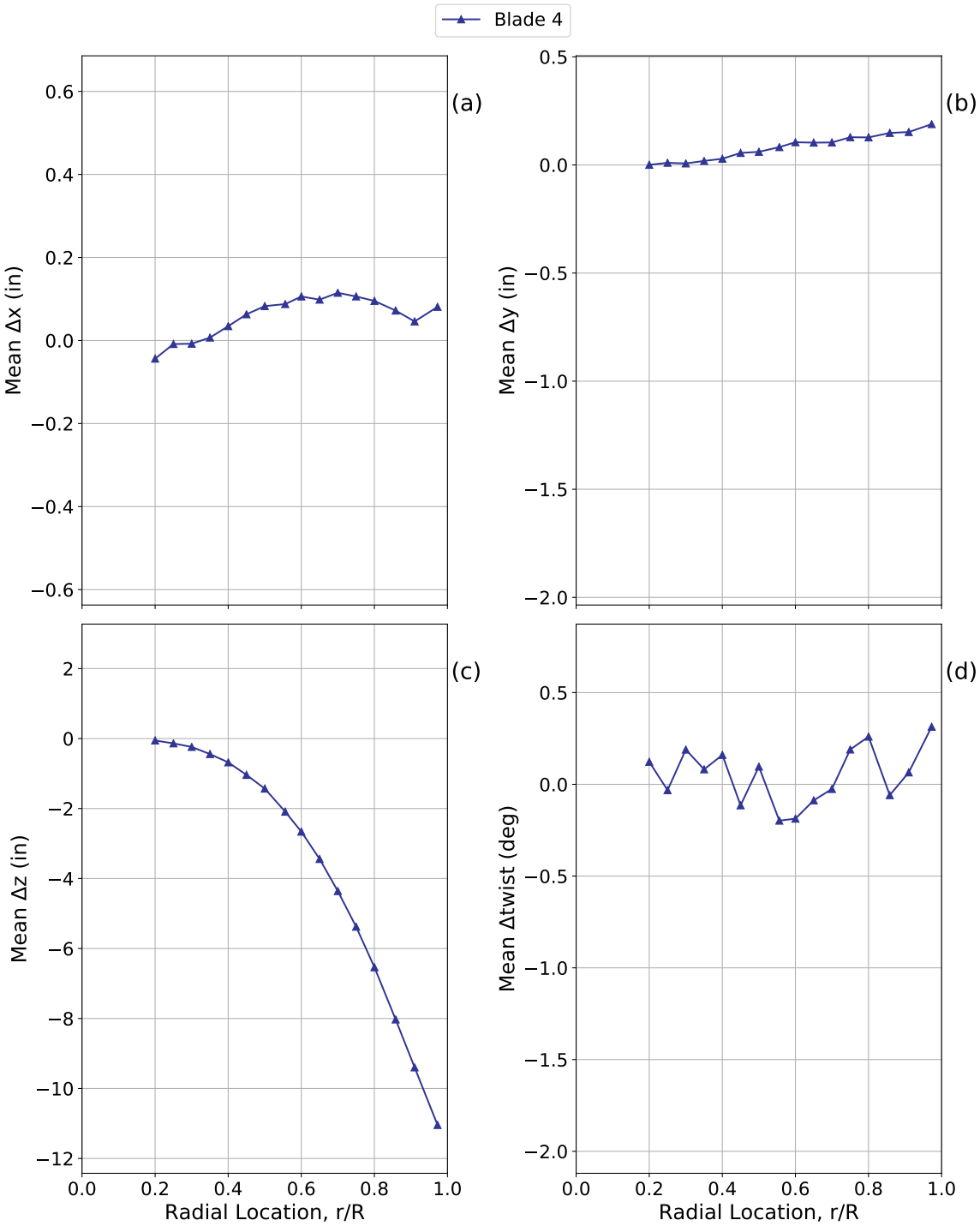


Figure 4.13-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0437	0.0022	0.0006	0.0009	-0.0557	0.0015	0.1227	0.0114
4	175.08	0.2502	-0.0085	0.0014	0.0098	0.0029	-0.1382	0.0025	-0.0320	0.0227
4	175.08	0.3001	-0.0078	0.0012	0.0069	0.0039	-0.2400	0.0036	0.1893	0.0229
4	175.08	0.3502	0.0070	0.0019	0.0185	0.0068	-0.4440	0.0050	0.0816	0.0250
4	175.08	0.4002	0.0346	0.0030	0.0286	0.0111	-0.6808	0.0075	0.1602	0.0227
4	175.08	0.4500	0.0631	0.0047	0.0555	0.0147	-1.0390	0.0095	-0.1145	0.0172
4	175.08	0.5001	0.0828	0.0069	0.0606	0.0185	-1.4313	0.0113	0.0965	0.0216
4	175.08	0.5560	0.0877	0.0088	0.0824	0.0250	-2.0906	0.0143	-0.1980	0.0186
4	175.08	0.6001	0.1060	0.0106	0.1049	0.0294	-2.6616	0.0152	-0.1870	0.0257
4	175.08	0.6501	0.0984	0.0126	0.1031	0.0340	-3.4420	0.0189	-0.0873	0.0189
4	175.08	0.6999	0.1149	0.0150	0.1039	0.0382	-4.3590	0.0203	-0.0255	0.0202
4	175.08	0.7500	0.1061	0.0166	0.1281	0.0431	-5.3771	0.0219	0.1898	0.0252
4	175.08	0.8002	0.0953	0.0195	0.1274	0.0485	-6.5369	0.0237	0.2600	0.0293
4	175.08	0.8582	0.0721	0.0219	0.1480	0.0550	-8.0287	0.0268	-0.0590	0.0264
4	175.08	0.9101	0.0459	0.0226	0.1521	0.0607	-9.3977	0.0265	0.0649	0.0311
4	175.08	0.9728	0.0810	0.0301	0.1887	0.0687	-11.0435	0.0333	0.3137	0.0433

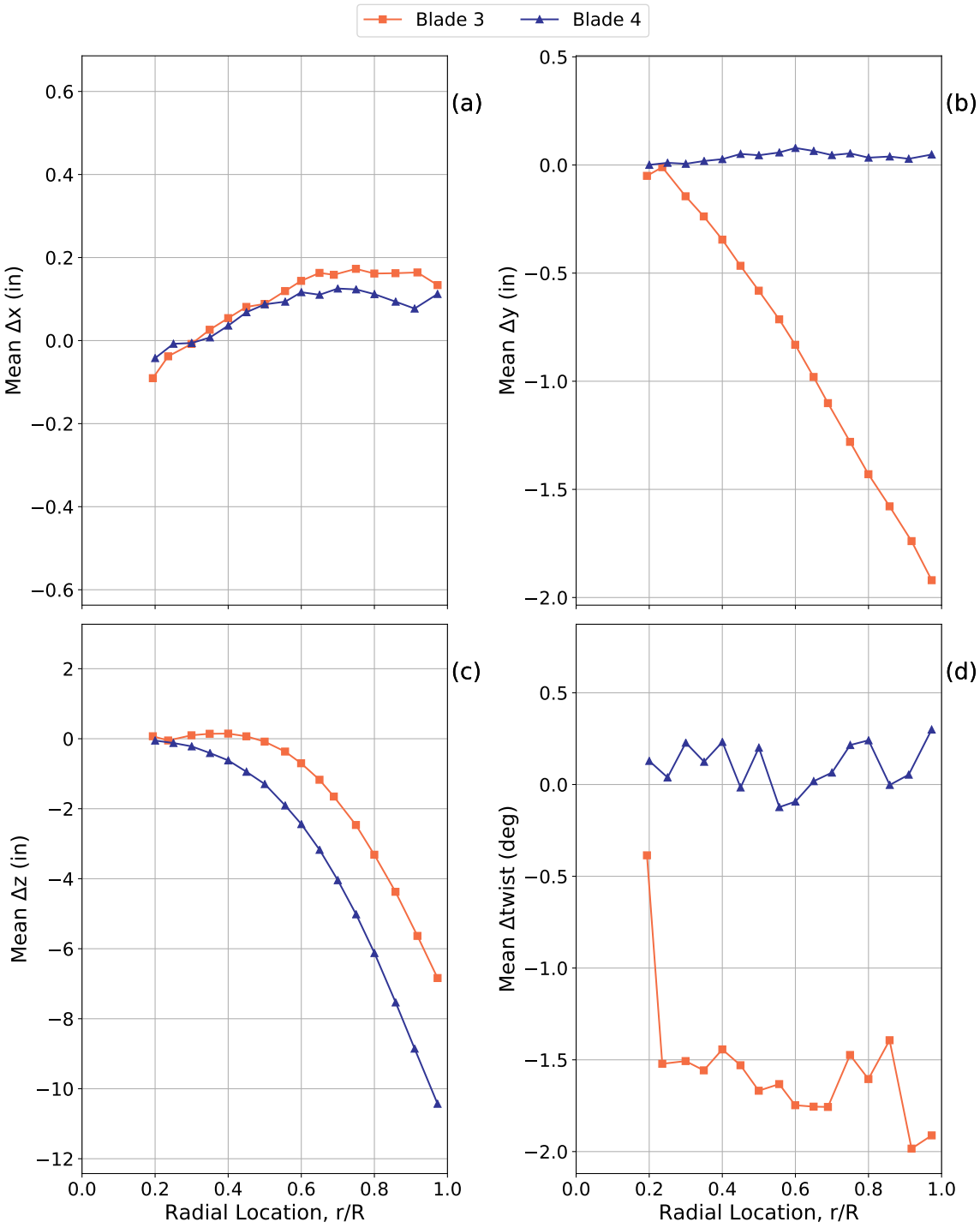


Figure 4.13-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0905	0.0018	-0.0503	0.0010	0.0705	0.0035	-0.3857	0.0144
3	180.35	0.2357	-0.0379	0.0011	-0.0102	0.0011	-0.0500	0.0038	-1.5218	0.0410
3	180.35	0.2995	-0.0081	0.0010	-0.1447	0.0038	0.0982	0.0107	-1.5068	0.0445
3	180.35	0.3493	0.0261	0.0007	-0.2379	0.0060	0.1418	0.0187	-1.5574	0.0358
3	180.35	0.4000	0.0541	0.0010	-0.3452	0.0094	0.1464	0.0271	-1.4433	0.0299
3	180.35	0.4497	0.0811	0.0019	-0.4661	0.0111	0.0686	0.0333	-1.5296	0.0346
3	180.35	0.4997	0.0883	0.0014	-0.5812	0.0149	-0.0831	0.0408	-1.6684	0.0449
3	180.35	0.5556	0.1193	0.0015	-0.7136	0.0187	-0.3665	0.0509	-1.6322	0.0402
3	180.35	0.5995	0.1438	0.0016	-0.8314	0.0204	-0.7010	0.0585	-1.7474	0.0392
3	180.35	0.6498	0.1630	0.0015	-0.9802	0.0235	-1.1727	0.0657	-1.7552	0.0348
3	180.35	0.6890	0.1585	0.0017	-1.1012	0.0261	-1.6515	0.0704	-1.7568	0.0452
3	180.35	0.7495	0.1728	0.0018	-1.2802	0.0312	-2.4646	0.0800	-1.4736	0.0346
3	180.35	0.7998	0.1615	0.0024	-1.4299	0.0343	-3.3145	0.0877	-1.6048	0.0398
3	180.35	0.8577	0.1623	0.0029	-1.5785	0.0396	-4.3732	0.0949	-1.3933	0.0437
3	180.35	0.9178	0.1641	0.0037	-1.7392	0.0446	-5.6337	0.1039	-1.9838	0.0328
3	180.35	0.9729	0.1337	0.0048	-1.9199	0.0501	-6.8376	0.1086	-1.9118	0.0781
4	180	0.2001	-0.0422	0.0010	0.0005	0.0010	-0.0530	0.0019	0.1285	0.0130
4	180	0.2502	-0.0077	0.0007	0.0100	0.0013	-0.1224	0.0023	0.0385	0.0242
4	180	0.3001	-0.0059	0.0012	0.0054	0.0037	-0.2187	0.0073	0.2278	0.0251
4	180	0.3502	0.0076	0.0009	0.0184	0.0050	-0.4096	0.0081	0.1238	0.0304
4	180	0.4002	0.0361	0.0012	0.0269	0.0080	-0.6201	0.0142	0.2320	0.0333
4	180	0.4500	0.0683	0.0014	0.0510	0.0091	-0.9448	0.0184	-0.0161	0.0309
4	180	0.5001	0.0873	0.0017	0.0450	0.0116	-1.2964	0.0231	0.2006	0.0307
4	180	0.5560	0.0937	0.0011	0.0578	0.0131	-1.9078	0.0277	-0.1232	0.0357
4	180	0.6001	0.1165	0.0009	0.0786	0.0160	-2.4403	0.0331	-0.0930	0.0278
4	180	0.6501	0.1103	0.0010	0.0648	0.0182	-3.1747	0.0359	0.0181	0.0373
4	180	0.6999	0.1253	0.0012	0.0455	0.0207	-4.0426	0.0406	0.0649	0.0399
4	180	0.7500	0.1233	0.0015	0.0536	0.0244	-5.0179	0.0449	0.2151	0.0391
4	180	0.8002	0.1118	0.0014	0.0338	0.0268	-6.1236	0.0492	0.2409	0.0442
4	180	0.8582	0.0937	0.0021	0.0391	0.0311	-7.5353	0.0589	-0.0023	0.0344
4	180	0.9101	0.0771	0.0017	0.0286	0.0350	-8.8544	0.0643	0.0536	0.0323
4	180	0.9728	0.1122	0.0024	0.0482	0.0401	-10.4304	0.0724	0.2995	0.0505

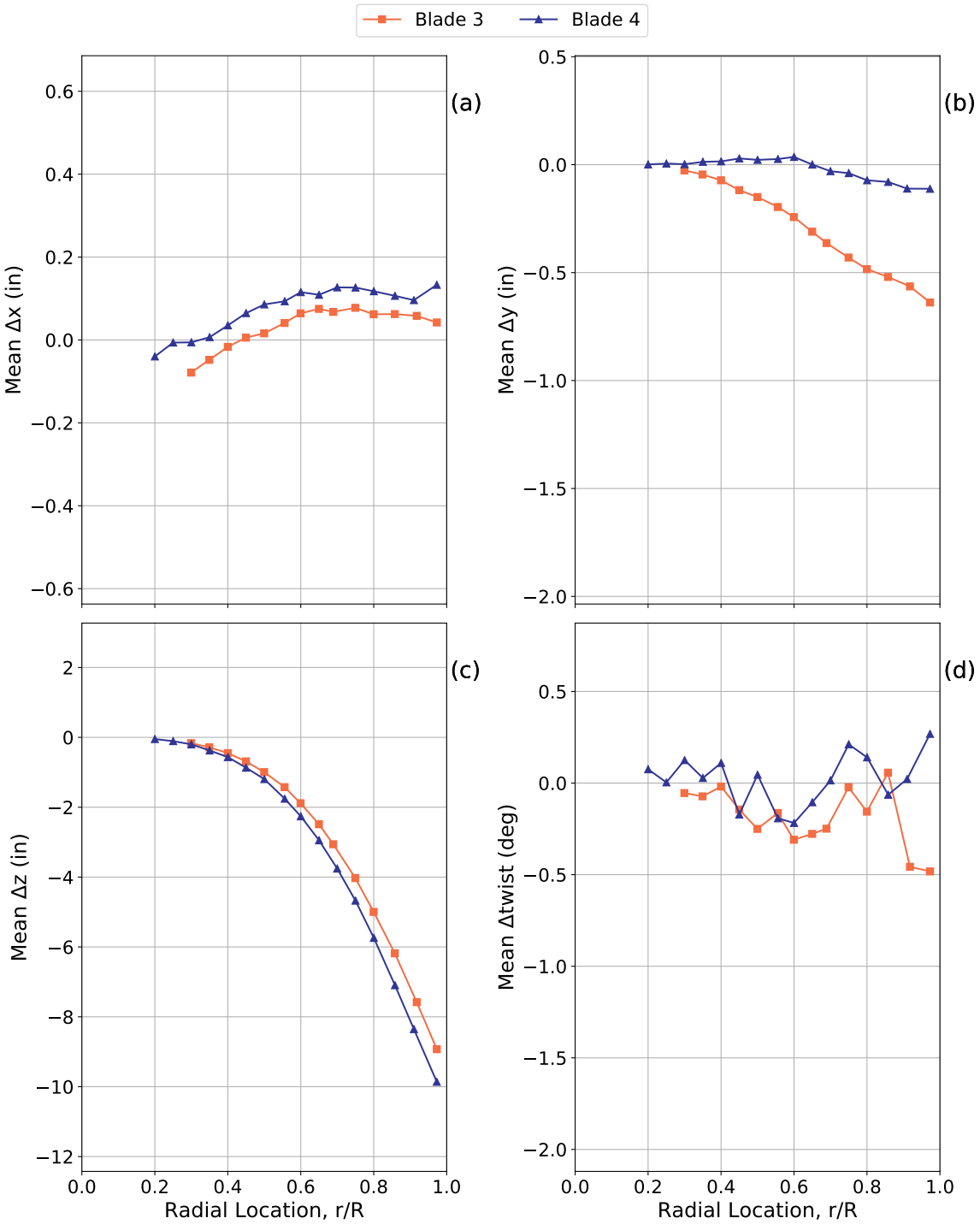


Figure 4.13-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0787	0.0022	-0.0265	0.0028	-0.1665	0.0126	-0.0545	0.0295
3	184.92	0.3493	-0.0480	0.0019	-0.0455	0.0048	-0.2837	0.0214	-0.0725	0.0388
3	184.92	0.4000	-0.0167	0.0019	-0.0724	0.0076	-0.4502	0.0339	-0.0190	0.0348
3	184.92	0.4497	0.0057	0.0021	-0.1180	0.0103	-0.6890	0.0443	-0.1444	0.0357
3	184.92	0.4997	0.0159	0.0027	-0.1500	0.0124	-0.9945	0.0565	-0.2502	0.0328
3	184.92	0.5556	0.0410	0.0030	-0.1961	0.0165	-1.4260	0.0702	-0.1634	0.0384
3	184.92	0.5995	0.0642	0.0031	-0.2428	0.0192	-1.8860	0.0803	-0.3094	0.0404
3	184.92	0.6498	0.0750	0.0029	-0.3104	0.0221	-2.4872	0.0929	-0.2774	0.0397
3	184.92	0.6890	0.0677	0.0030	-0.3631	0.0250	-3.0600	0.1019	-0.2491	0.0428
3	184.92	0.7495	0.0775	0.0032	-0.4302	0.0298	-4.0278	0.1165	-0.0232	0.0377
3	184.92	0.7998	0.0620	0.0044	-0.4839	0.0335	-4.9959	0.1299	-0.1560	0.0390
3	184.92	0.8577	0.0624	0.0065	-0.5202	0.0384	-6.1825	0.1434	0.0568	0.0478
3	184.92	0.9178	0.0581	0.0089	-0.5639	0.0435	-7.5805	0.1606	-0.4572	0.0373
3	184.92	0.9729	0.0422	0.0110	-0.6384	0.0487	-8.9259	0.1732	-0.4823	0.0600
4	184.92	0.2001	-0.0398	0.0029	0.0009	0.0012	-0.0499	0.0018	0.0752	0.0243
4	184.92	0.2502	-0.0063	0.0010	0.0051	0.0025	-0.1086	0.0053	0.0036	0.0273
4	184.92	0.3001	-0.0058	0.0015	0.0021	0.0042	-0.2013	0.0059	0.1252	0.0459
4	184.92	0.3502	0.0067	0.0020	0.0131	0.0072	-0.3758	0.0093	0.0277	0.0413
4	184.92	0.4002	0.0352	0.0029	0.0152	0.0110	-0.5665	0.0155	0.1096	0.0355
4	184.92	0.4500	0.0647	0.0042	0.0288	0.0137	-0.8687	0.0192	-0.1717	0.0353
4	184.92	0.5001	0.0857	0.0045	0.0222	0.0162	-1.1963	0.0214	0.0452	0.0414
4	184.92	0.5560	0.0933	0.0043	0.0261	0.0208	-1.7575	0.0269	-0.1925	0.0416
4	184.92	0.6001	0.1153	0.0043	0.0358	0.0241	-2.2607	0.0303	-0.2178	0.0373
4	184.92	0.6501	0.1089	0.0049	0.0004	0.0277	-2.9480	0.0323	-0.1050	0.0401
4	184.92	0.6999	0.1268	0.0047	-0.0303	0.0318	-3.7570	0.0350	0.0144	0.0348
4	184.92	0.7500	0.1264	0.0051	-0.0393	0.0357	-4.6748	0.0366	0.2115	0.0346
4	184.92	0.8002	0.1175	0.0057	-0.0724	0.0390	-5.7407	0.0370	0.1402	0.0403
4	184.92	0.8582	0.1064	0.0075	-0.0801	0.0439	-7.0961	0.0391	-0.0639	0.0467
4	184.92	0.9101	0.0960	0.0068	-0.1110	0.0475	-8.3529	0.0402	0.0223	0.0410
4	184.92	0.9728	0.1330	0.0085	-0.1118	0.0528	-9.8591	0.0403	0.2684	0.0385

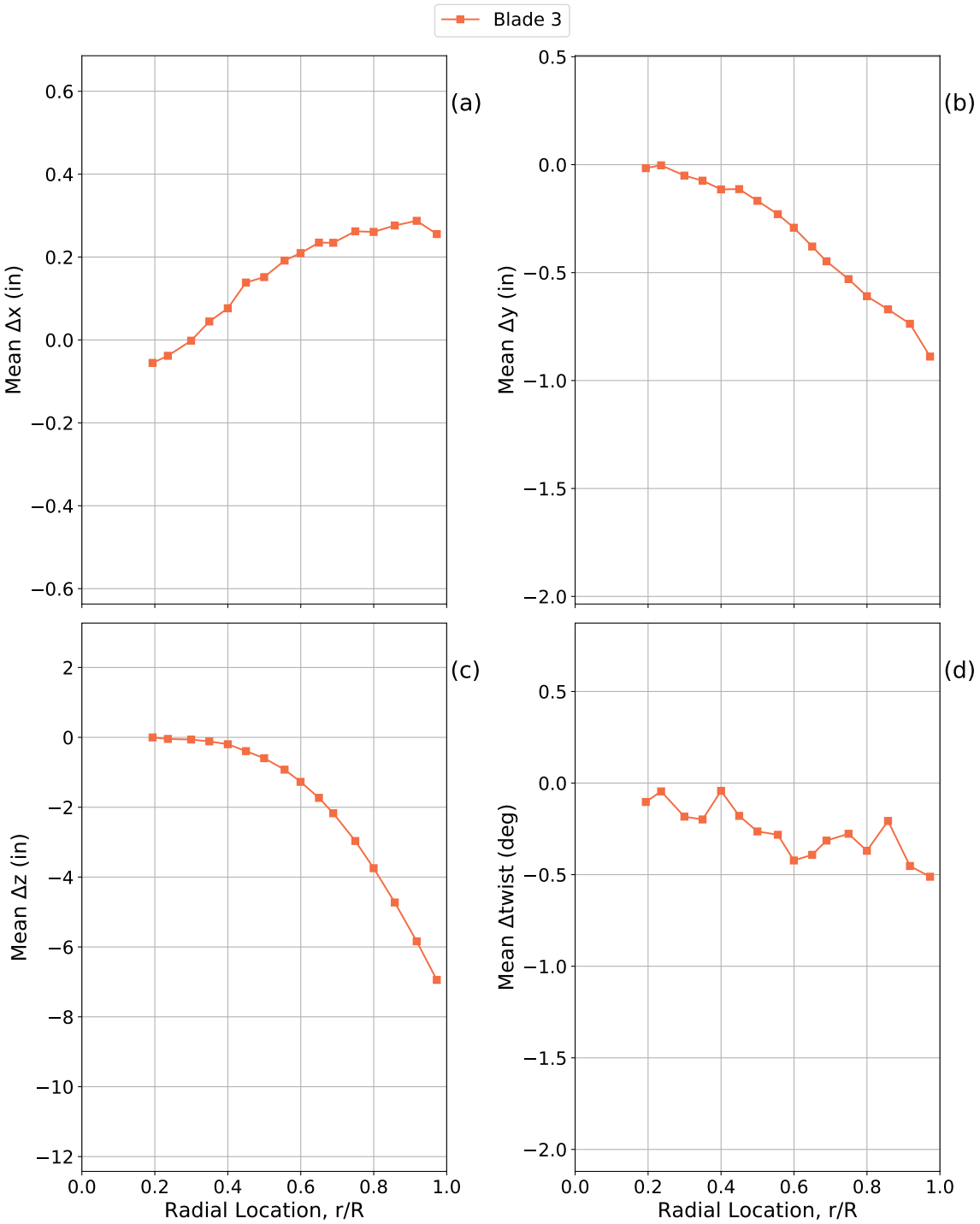


Figure 4.13-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0554	0.0008	-0.0160	0.0008	-0.0028	0.0018	-0.1032	0.0233
3	195.12	0.2357	-0.0382	0.0008	-0.0030	0.0019	-0.0456	0.0029	-0.0454	0.0398
3	195.12	0.2995	-0.0017	0.0011	-0.0506	0.0033	-0.0630	0.0045	-0.1832	0.0544
3	195.12	0.3493	0.0446	0.0011	-0.0741	0.0059	-0.1153	0.0085	-0.1987	0.0438
3	195.12	0.4000	0.0764	0.0015	-0.1146	0.0091	-0.1969	0.0119	-0.0426	0.0517
3	195.12	0.4497	0.1386	0.0055	-0.1132	0.0134	-0.3940	0.0179	-0.1791	0.0457
3	195.12	0.4997	0.1516	0.0053	-0.1677	0.0163	-0.5971	0.0219	-0.2640	0.0467
3	195.12	0.5556	0.1916	0.0054	-0.2295	0.0185	-0.9250	0.0258	-0.2823	0.0465
3	195.12	0.5995	0.2096	0.0052	-0.2921	0.0216	-1.2734	0.0286	-0.4225	0.0420
3	195.12	0.6498	0.2348	0.0051	-0.3791	0.0236	-1.7320	0.0322	-0.3917	0.0397
3	195.12	0.6890	0.2345	0.0052	-0.4477	0.0259	-2.1725	0.0343	-0.3139	0.0418
3	195.12	0.7495	0.2621	0.0044	-0.5301	0.0289	-2.9661	0.0382	-0.2769	0.0497
3	195.12	0.7998	0.2607	0.0046	-0.6094	0.0318	-3.7450	0.0420	-0.3697	0.0404
3	195.12	0.8577	0.2761	0.0036	-0.6703	0.0353	-4.7273	0.0439	-0.2068	0.0743
3	195.12	0.9178	0.2875	0.0058	-0.7371	0.0475	-5.8393	0.0516	-0.4527	0.0707
3	195.12	0.9729	0.2555	0.0060	-0.8889	0.0431	-6.9426	0.0533	-0.5113	0.0648

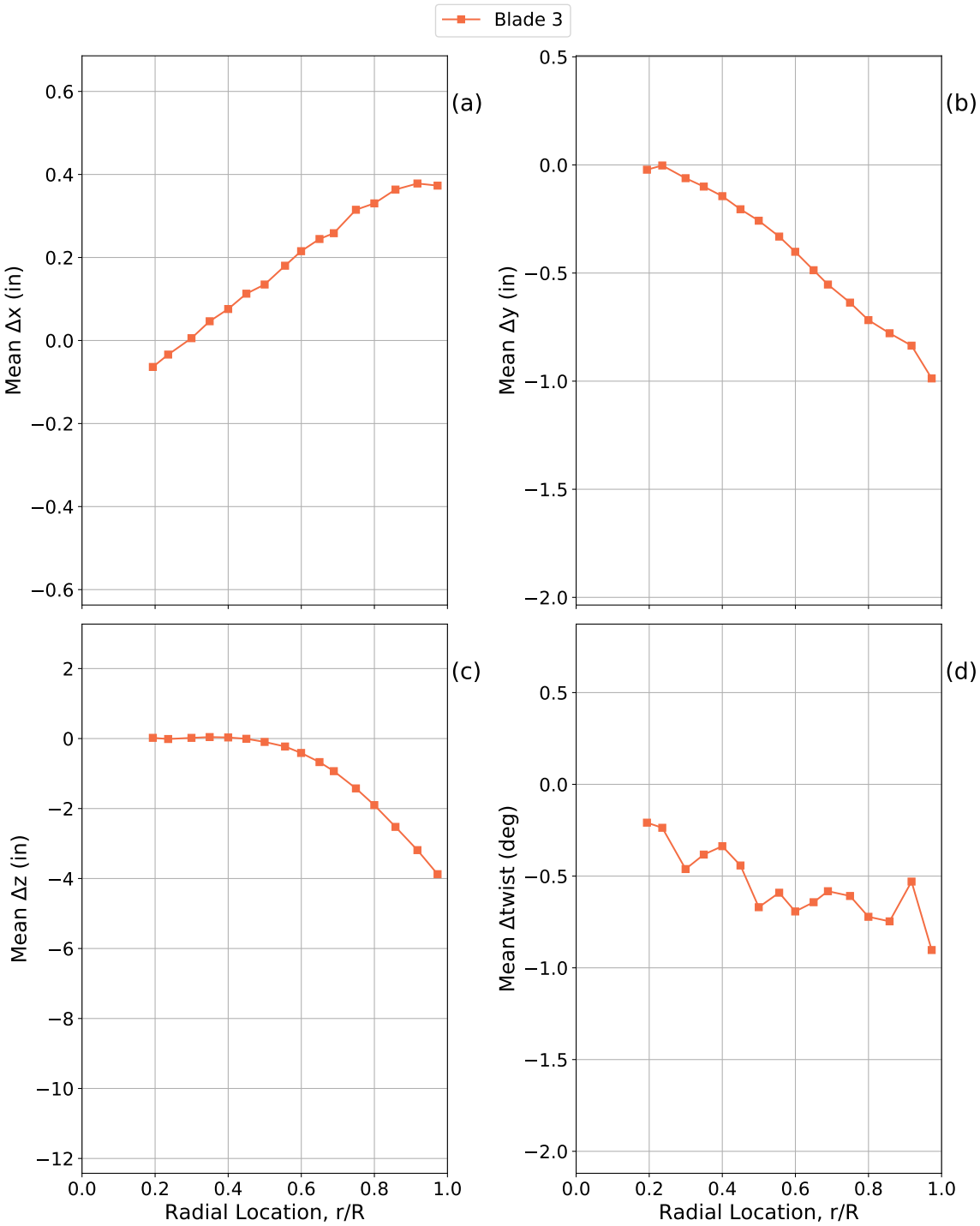


Figure 4.13-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0637	0.0012	-0.0220	0.0010	0.0205	0.0018	-0.2088	0.0174
3	209.88	0.2357	-0.0339	0.0007	-0.0025	0.0015	-0.0134	0.0030	-0.2367	0.0224
3	209.88	0.2995	0.0056	0.0012	-0.0613	0.0032	0.0198	0.0059	-0.4617	0.0361
3	209.88	0.3493	0.0464	0.0011	-0.1001	0.0055	0.0424	0.0102	-0.3828	0.0300
3	209.88	0.4000	0.0759	0.0014	-0.1444	0.0084	0.0314	0.0152	-0.3370	0.0375
3	209.88	0.4497	0.1128	0.0012	-0.2050	0.0110	-0.0068	0.0199	-0.4422	0.0201
3	209.88	0.4997	0.1349	0.0011	-0.2579	0.0132	-0.0970	0.0207	-0.6696	0.0324
3	209.88	0.5556	0.1802	0.0013	-0.3313	0.0151	-0.2278	0.0256	-0.5906	0.0279
3	209.88	0.5995	0.2152	0.0016	-0.4017	0.0175	-0.4117	0.0306	-0.6928	0.0212
3	209.88	0.6498	0.2445	0.0013	-0.4869	0.0187	-0.6728	0.0314	-0.6424	0.0243
3	209.88	0.6890	0.2585	0.0014	-0.5531	0.0202	-0.9317	0.0333	-0.5824	0.0278
3	209.88	0.7495	0.3149	0.0020	-0.6367	0.0233	-1.4248	0.0384	-0.6084	0.0256
3	209.88	0.7998	0.3303	0.0018	-0.7176	0.0255	-1.9019	0.0425	-0.7219	0.0327
3	209.88	0.8577	0.3636	0.0014	-0.7784	0.0294	-2.5244	0.0465	-0.7467	0.0527
3	209.88	0.9178	0.3782	0.0034	-0.8357	0.0337	-3.1884	0.0548	-0.5300	0.0796
3	209.88	0.9729	0.3731	0.0024	-0.9874	0.0359	-3.8758	0.0610	-0.9030	0.0491

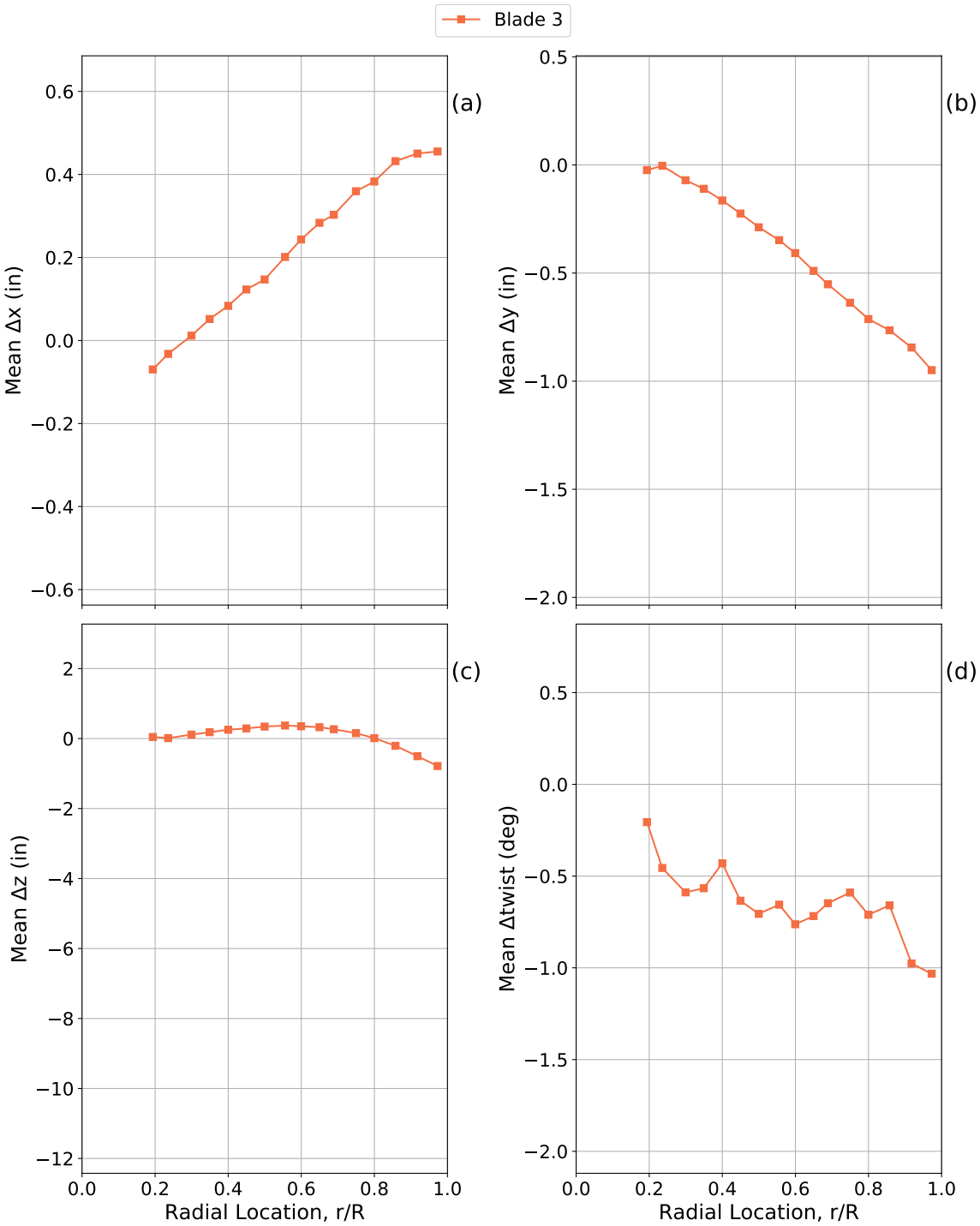


Figure 4.13-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0696	0.0011	-0.0239	0.0008	0.0446	0.0011	-0.2060	0.0173
3	225	0.2357	-0.0322	0.0007	-0.0039	0.0015	0.0125	0.0023	-0.4557	0.0206
3	225	0.2995	0.0117	0.0007	-0.0709	0.0023	0.1116	0.0033	-0.5888	0.0376
3	225	0.3493	0.0518	0.0012	-0.1103	0.0062	0.1812	0.0084	-0.5661	0.0144
3	225	0.4000	0.0835	0.0020	-0.1643	0.0078	0.2521	0.0095	-0.4303	0.0317
3	225	0.4497	0.1229	0.0011	-0.2247	0.0075	0.2900	0.0102	-0.6344	0.0341
3	225	0.4997	0.1470	0.0020	-0.2882	0.0093	0.3421	0.0125	-0.7057	0.0380
3	225	0.5556	0.2013	0.0014	-0.3479	0.0120	0.3708	0.0171	-0.6558	0.0463
3	225	0.5995	0.2433	0.0017	-0.4078	0.0148	0.3510	0.0208	-0.7626	0.0252
3	225	0.6498	0.2835	0.0015	-0.4899	0.0156	0.3236	0.0235	-0.7179	0.0213
3	225	0.6890	0.3028	0.0017	-0.5519	0.0165	0.2660	0.0246	-0.6478	0.0484
3	225	0.7495	0.3596	0.0017	-0.6373	0.0188	0.1548	0.0296	-0.5900	0.0269
3	225	0.7998	0.3829	0.0014	-0.7128	0.0222	0.0113	0.0333	-0.7105	0.0254
3	225	0.8577	0.4320	0.0016	-0.7647	0.0260	-0.2066	0.0392	-0.6595	0.0225
3	225	0.9178	0.4504	0.0019	-0.8443	0.0291	-0.5046	0.0422	-0.9762	0.0264
3	225	0.9729	0.4553	0.0027	-0.9490	0.0320	-0.7845	0.0460	-1.0321	0.0386

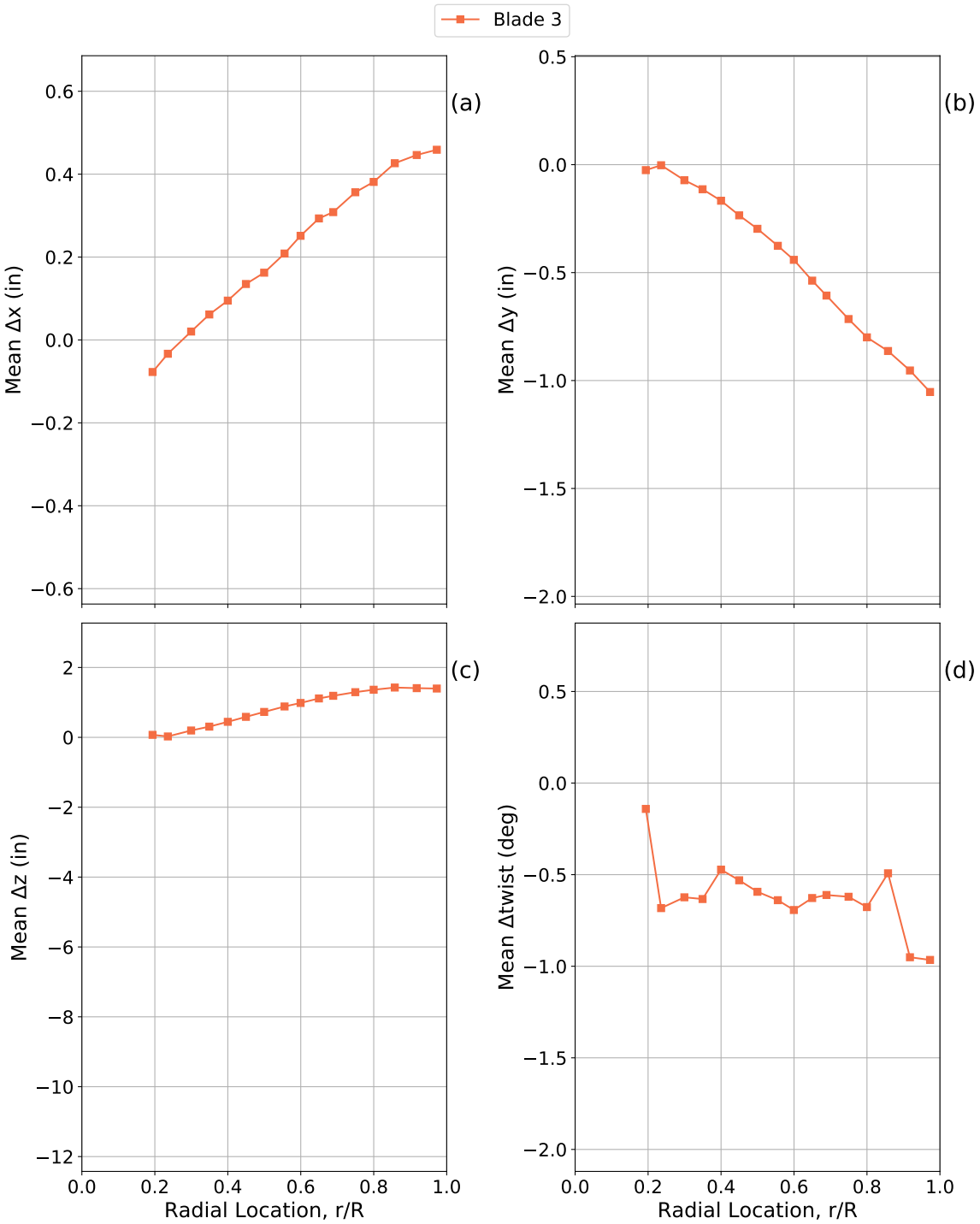


Figure 4.13-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0773	0.0009	-0.0253	0.0010	0.0716	0.0021	-0.1411	0.0122
3	240.12	0.2357	-0.0333	0.0010	-0.0026	0.0006	0.0255	0.0028	-0.6826	0.0244
3	240.12	0.2995	0.0203	0.0012	-0.0720	0.0030	0.1961	0.0069	-0.6236	0.0299
3	240.12	0.3493	0.0615	0.0008	-0.1139	0.0047	0.3069	0.0116	-0.6330	0.0231
3	240.12	0.4000	0.0949	0.0017	-0.1670	0.0070	0.4442	0.0173	-0.4726	0.0316
3	240.12	0.4497	0.1350	0.0016	-0.2348	0.0089	0.5866	0.0224	-0.5307	0.0408
3	240.12	0.4997	0.1623	0.0011	-0.2971	0.0118	0.7273	0.0296	-0.5935	0.0263
3	240.12	0.5556	0.2085	0.0015	-0.3759	0.0130	0.8835	0.0342	-0.6394	0.0453
3	240.12	0.5995	0.2513	0.0017	-0.4409	0.0164	0.9841	0.0453	-0.6930	0.0351
3	240.12	0.6498	0.2932	0.0021	-0.5372	0.0180	1.1137	0.0484	-0.6276	0.0355
3	240.12	0.6890	0.3084	0.0014	-0.6064	0.0201	1.1891	0.0545	-0.6111	0.0290
3	240.12	0.7495	0.3563	0.0025	-0.7151	0.0236	1.2934	0.0615	-0.6207	0.0326
3	240.12	0.7998	0.3813	0.0020	-0.8000	0.0269	1.3626	0.0648	-0.6770	0.0408
3	240.12	0.8577	0.4264	0.0017	-0.8632	0.0303	1.4255	0.0716	-0.4925	0.0372
3	240.12	0.9178	0.4462	0.0018	-0.9534	0.0344	1.4083	0.0784	-0.9508	0.0334
3	240.12	0.9729	0.4589	0.0031	-1.0531	0.0382	1.3970	0.0832	-0.9655	0.0375

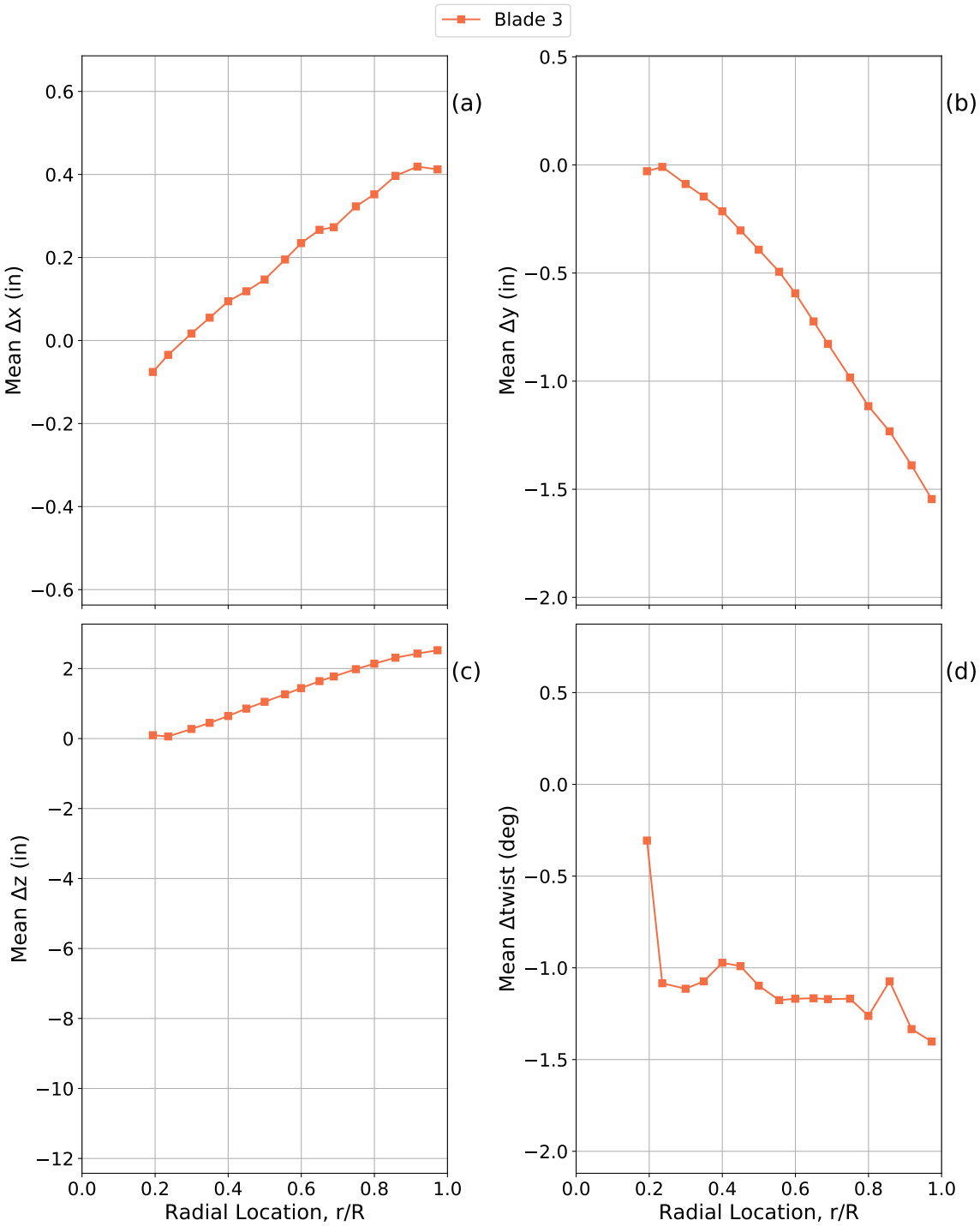


Figure 4.13-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0757	0.0028	-0.0291	0.0015	0.0960	0.0064	-0.3062	0.0295
3	254.88	0.2357	-0.0346	0.0012	-0.0091	0.0007	0.0598	0.0037	-1.0840	0.0897
3	254.88	0.2995	0.0169	0.0011	-0.0881	0.0044	0.2729	0.0167	-1.1140	0.0958
3	254.88	0.3493	0.0549	0.0010	-0.1461	0.0071	0.4483	0.0267	-1.0736	0.0963
3	254.88	0.4000	0.0945	0.0012	-0.2144	0.0103	0.6450	0.0378	-0.9724	0.0982
3	254.88	0.4497	0.1186	0.0019	-0.3027	0.0130	0.8553	0.0478	-0.9909	0.1037
3	254.88	0.4997	0.1469	0.0019	-0.3921	0.0163	1.0496	0.0585	-1.0974	0.1047
3	254.88	0.5556	0.1951	0.0022	-0.4940	0.0196	1.2652	0.0713	-1.1763	0.1019
3	254.88	0.5995	0.2346	0.0024	-0.5937	0.0229	1.4401	0.0819	-1.1685	0.1016
3	254.88	0.6498	0.2666	0.0025	-0.7237	0.0261	1.6412	0.0919	-1.1660	0.1147
3	254.88	0.6890	0.2729	0.0025	-0.8277	0.0293	1.7734	0.1013	-1.1706	0.1085
3	254.88	0.7495	0.3230	0.0030	-0.9832	0.0342	1.9835	0.1152	-1.1683	0.1056
3	254.88	0.7998	0.3521	0.0034	-1.1156	0.0385	2.1398	0.1280	-1.2617	0.0988
3	254.88	0.8577	0.3965	0.0034	-1.2321	0.0427	2.3099	0.1408	-1.0734	0.0998
3	254.88	0.9178	0.4189	0.0035	-1.3892	0.0480	2.4282	0.1551	-1.3339	0.0994
3	254.88	0.9729	0.4122	0.0054	-1.5455	0.0529	2.5234	0.1680	-1.4019	0.1033

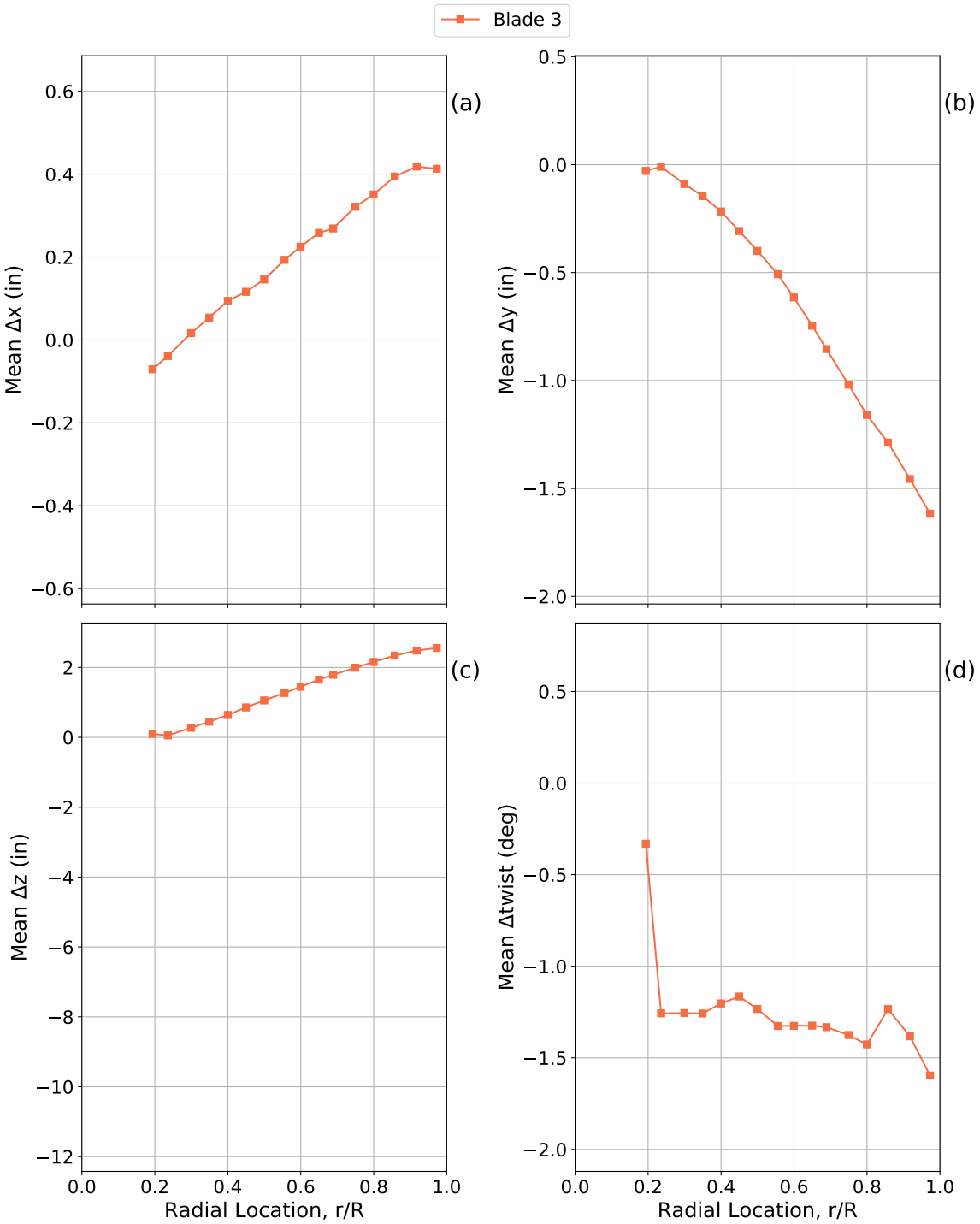


Figure 4.13-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0708	0.0091	-0.0287	0.0034	0.0989	0.0125	-0.3314	0.0369
3	260.16	0.2357	-0.0387	0.0014	-0.0097	0.0009	0.0575	0.0047	-1.2572	0.1584
3	260.16	0.2995	0.0165	0.0012	-0.0897	0.0093	0.2736	0.0298	-1.2555	0.1441
3	260.16	0.3493	0.0539	0.0010	-0.1459	0.0156	0.4484	0.0462	-1.2580	0.1523
3	260.16	0.4000	0.0942	0.0016	-0.2169	0.0223	0.6403	0.0639	-1.2031	0.1551
3	260.16	0.4497	0.1161	0.0013	-0.3074	0.0285	0.8566	0.0811	-1.1652	0.1520
3	260.16	0.4997	0.1458	0.0018	-0.3998	0.0350	1.0564	0.0991	-1.2334	0.1388
3	260.16	0.5556	0.1932	0.0023	-0.5074	0.0419	1.2700	0.1170	-1.3261	0.1438
3	260.16	0.5995	0.2250	0.0027	-0.6151	0.0478	1.4477	0.1331	-1.3256	0.1393
3	260.16	0.6498	0.2584	0.0031	-0.7461	0.0539	1.6518	0.1478	-1.3241	0.1577
3	260.16	0.6890	0.2690	0.0030	-0.8542	0.0595	1.7915	0.1607	-1.3323	0.1522
3	260.16	0.7495	0.3213	0.0030	-1.0192	0.0671	1.9922	0.1811	-1.3754	0.1538
3	260.16	0.7998	0.3509	0.0035	-1.1595	0.0738	2.1578	0.1975	-1.4268	0.1556
3	260.16	0.8577	0.3943	0.0036	-1.2876	0.0815	2.3404	0.2165	-1.2341	0.1539
3	260.16	0.9178	0.4183	0.0036	-1.4559	0.0895	2.4837	0.2366	-1.3824	0.1566
3	260.16	0.9729	0.4129	0.0065	-1.6168	0.0973	2.5573	0.2545	-1.5965	0.1597

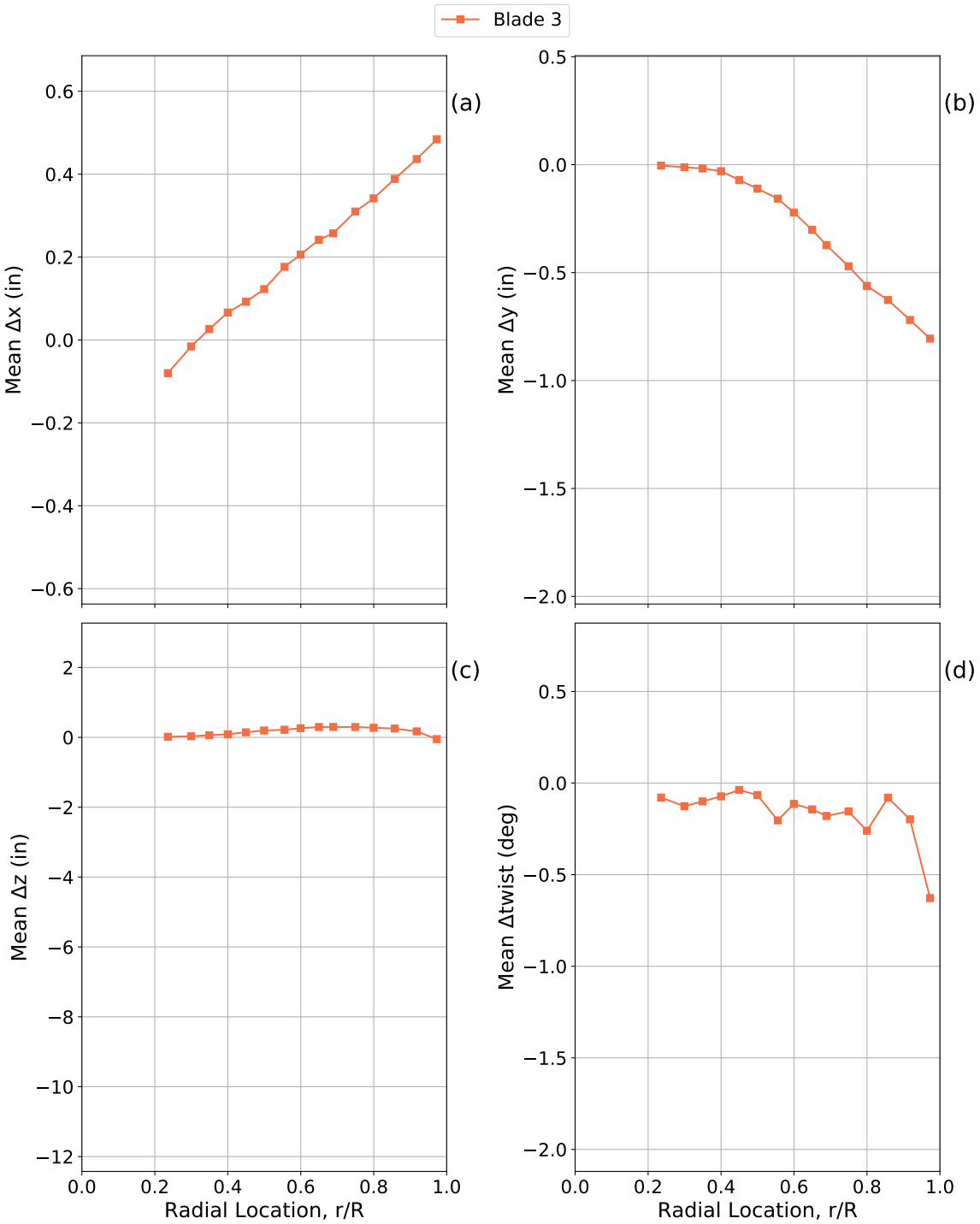


Figure 4.13-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0801	0.0016	-0.0042	0.0014	0.0165	0.0068	-0.0791	0.0675
3	265.08	0.2995	-0.0157	0.0009	-0.0120	0.0030	0.0312	0.0136	-0.1265	0.1085
3	265.08	0.3493	0.0261	0.0011	-0.0175	0.0059	0.0605	0.0253	-0.0999	0.0979
3	265.08	0.4000	0.0662	0.0007	-0.0301	0.0089	0.0881	0.0376	-0.0725	0.1036
3	265.08	0.4497	0.0921	0.0016	-0.0709	0.0115	0.1451	0.0483	-0.0375	0.0988
3	265.08	0.4997	0.1227	0.0018	-0.1111	0.0143	0.1964	0.0602	-0.0655	0.0964
3	265.08	0.5556	0.1764	0.0016	-0.1572	0.0175	0.2170	0.0720	-0.2037	0.1043
3	265.08	0.5995	0.2059	0.0023	-0.2218	0.0201	0.2617	0.0831	-0.1137	0.1036
3	265.08	0.6498	0.2417	0.0021	-0.3019	0.0234	0.2957	0.0945	-0.1434	0.1023
3	265.08	0.6890	0.2573	0.0015	-0.3729	0.0259	0.2985	0.1034	-0.1794	0.0998
3	265.08	0.7495	0.3097	0.0021	-0.4706	0.0304	0.2965	0.1169	-0.1545	0.1020
3	265.08	0.7998	0.3417	0.0020	-0.5615	0.0342	0.2747	0.1276	-0.2602	0.1009
3	265.08	0.8577	0.3886	0.0021	-0.6267	0.0382	0.2515	0.1387	-0.0800	0.1110
3	265.08	0.9178	0.4365	0.0024	-0.7193	0.0427	0.1708	0.1536	-0.1978	0.1020
3	265.08	0.9729	0.4840	0.0034	-0.8058	0.0468	-0.0499	0.1659	-0.6279	0.1064

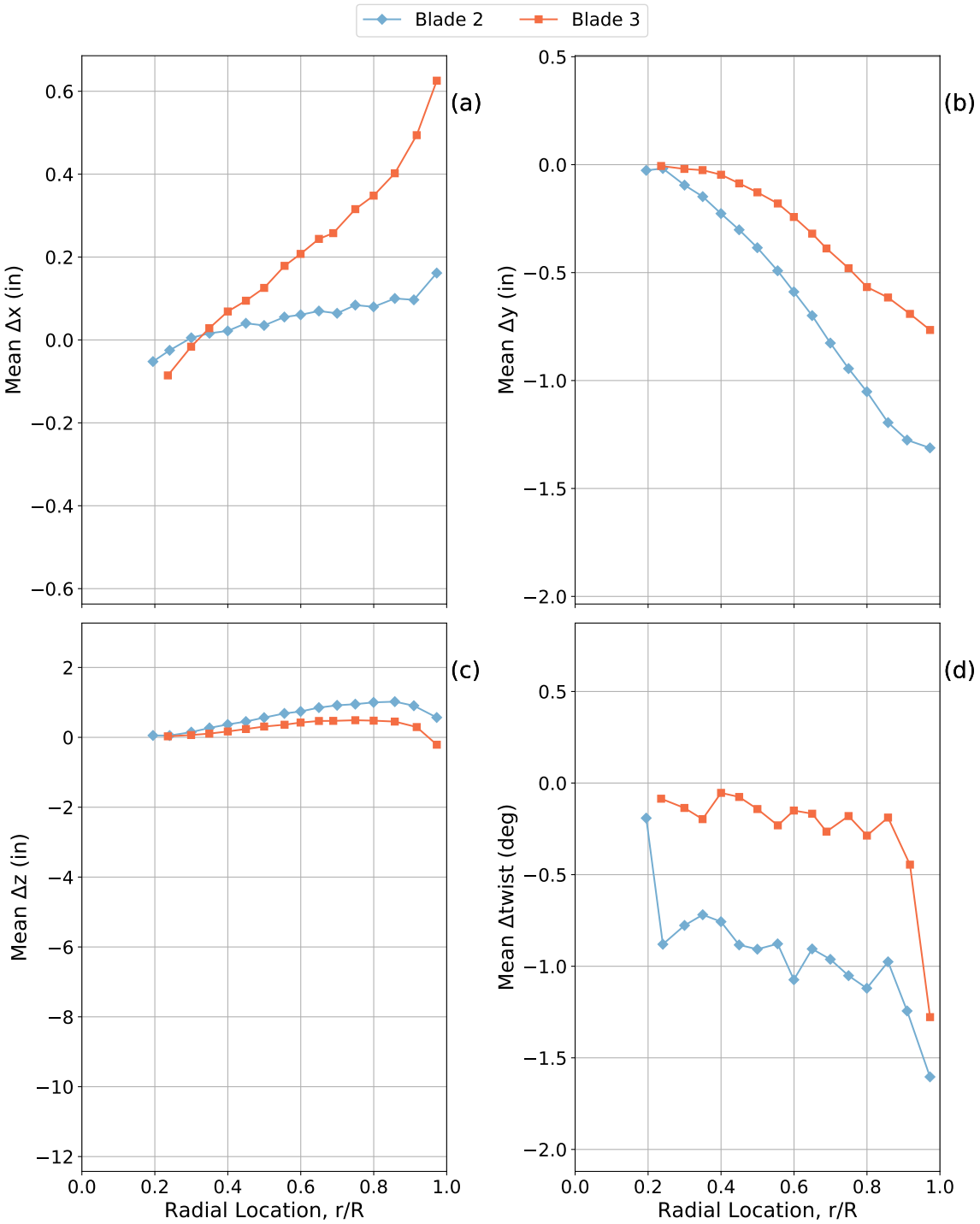


Figure 4.13-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0521	0.0069	-0.0265	0.0021	0.0540	0.0095	-0.1911	0.0698
2	270.35	0.2405	-0.0250	0.0025	-0.0177	0.0021	0.0514	0.0109	-0.8800	0.1732
2	270.35	0.2999	0.0052	0.0024	-0.0948	0.0067	0.1492	0.0276	-0.7771	0.1982
2	270.35	0.3498	0.0161	0.0017	-0.1480	0.0114	0.2702	0.0473	-0.7188	0.1959
2	270.35	0.3998	0.0218	0.0021	-0.2265	0.0167	0.3692	0.0670	-0.7568	0.1983
2	270.35	0.4496	0.0402	0.0017	-0.3017	0.0215	0.4526	0.0883	-0.8836	0.1950
2	270.35	0.4995	0.0350	0.0018	-0.3848	0.0264	0.5651	0.1087	-0.9071	0.1905
2	270.35	0.5551	0.0553	0.0025	-0.4915	0.0319	0.6846	0.1307	-0.8776	0.1926
2	270.35	0.5996	0.0607	0.0020	-0.5891	0.0368	0.7408	0.1495	-1.0738	0.1921
2	270.35	0.6497	0.0698	0.0021	-0.6992	0.0419	0.8511	0.1692	-0.9054	0.1912
2	270.35	0.6996	0.0643	0.0018	-0.8265	0.0467	0.9169	0.1876	-0.9623	0.1981
2	270.35	0.7495	0.0841	0.0020	-0.9446	0.0517	0.9498	0.2076	-1.0515	0.2004
2	270.35	0.7996	0.0799	0.0022	-1.0516	0.0574	1.0007	0.2288	-1.1202	0.1927
2	270.35	0.8578	0.1001	0.0023	-1.1949	0.0637	1.0217	0.2534	-0.9756	0.1899
2	270.35	0.9100	0.0968	0.0027	-1.2757	0.0700	0.9050	0.2761	-1.2440	0.1874
2	270.35	0.9727	0.1615	0.0047	-1.3121	0.0781	0.5683	0.3013	-1.6039	0.2031
3	270	0.2357	-0.0856	0.0028	-0.0061	0.0013	0.0289	0.0068	-0.0854	0.0840
3	270	0.2995	-0.0162	0.0019	-0.0197	0.0028	0.0660	0.0126	-0.1358	0.1351
3	270	0.3493	0.0284	0.0008	-0.0253	0.0052	0.1066	0.0251	-0.1969	0.1239
3	270	0.4000	0.0687	0.0013	-0.0465	0.0080	0.1687	0.0360	-0.0536	0.1320
3	270	0.4497	0.0947	0.0013	-0.0867	0.0105	0.2379	0.0461	-0.0759	0.1351
3	270	0.4997	0.1256	0.0012	-0.1283	0.0136	0.3092	0.0575	-0.1419	0.1264
3	270	0.5556	0.1788	0.0015	-0.1799	0.0168	0.3615	0.0680	-0.2309	0.1341
3	270	0.5995	0.2076	0.0017	-0.2423	0.0198	0.4231	0.0792	-0.1500	0.1201
3	270	0.6498	0.2438	0.0013	-0.3194	0.0228	0.4687	0.0887	-0.1672	0.1273
3	270	0.6890	0.2577	0.0018	-0.3881	0.0258	0.4715	0.0969	-0.2650	0.1282
3	270	0.7495	0.3156	0.0015	-0.4796	0.0293	0.4901	0.1096	-0.1800	0.1302
3	270	0.7998	0.3482	0.0021	-0.5669	0.0328	0.4776	0.1213	-0.2868	0.1280
3	270	0.8577	0.4021	0.0021	-0.6154	0.0364	0.4514	0.1336	-0.1883	0.1299
3	270	0.9178	0.4941	0.0019	-0.6913	0.0406	0.2943	0.1466	-0.4454	0.1377
3	270	0.9729	0.6256	0.0033	-0.7658	0.0452	-0.2105	0.1625	-1.2777	0.1280

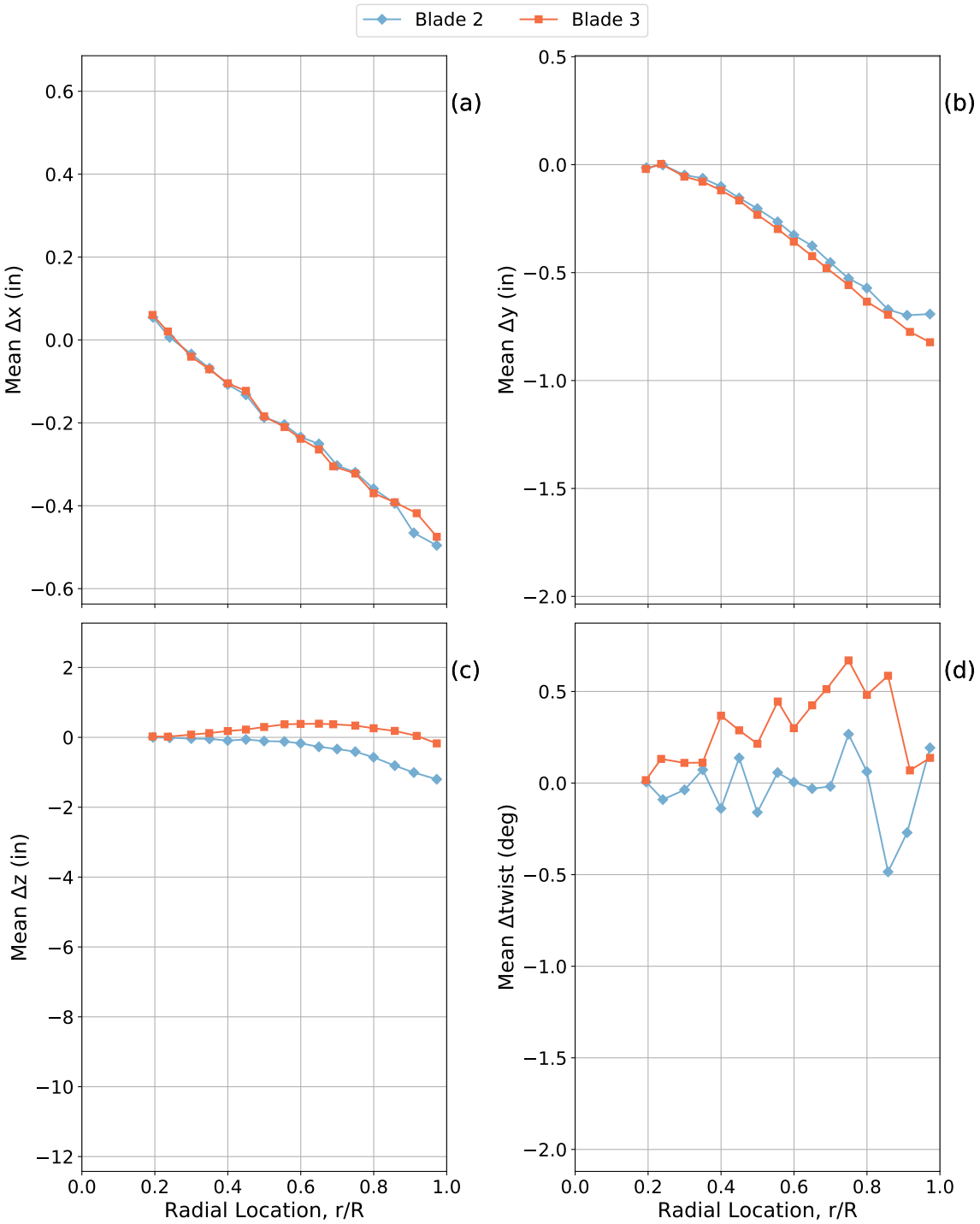


Figure 4.13-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0546	0.0007	-0.0142	0.0008	0.0002	0.0031	0.0057	0.0301
2	274.92	0.2405	0.0063	0.0006	-0.0012	0.0014	-0.0137	0.0054	-0.0900	0.0496
2	274.92	0.2999	-0.0339	0.0014	-0.0481	0.0026	-0.0353	0.0126	-0.0368	0.0686
2	274.92	0.3498	-0.0684	0.0008	-0.0631	0.0044	-0.0430	0.0208	0.0727	0.0602
2	274.92	0.3998	-0.1076	0.0017	-0.1010	0.0065	-0.0928	0.0322	-0.1389	0.0481
2	274.92	0.4496	-0.1324	0.0018	-0.1543	0.0079	-0.0602	0.0366	0.1376	0.0804
2	274.92	0.4995	-0.1870	0.0014	-0.2036	0.0094	-0.1068	0.0479	-0.1599	0.0518
2	274.92	0.5551	-0.2040	0.0017	-0.2647	0.0122	-0.1198	0.0537	0.0573	0.0693
2	274.92	0.5996	-0.2341	0.0018	-0.3260	0.0136	-0.1719	0.0615	0.0053	0.0761
2	274.92	0.6497	-0.2508	0.0022	-0.3762	0.0173	-0.2713	0.0732	-0.0303	0.0658
2	274.92	0.6996	-0.3029	0.0025	-0.4536	0.0194	-0.3354	0.0783	-0.0186	0.0669
2	274.92	0.7495	-0.3194	0.0016	-0.5268	0.0218	-0.4102	0.0857	0.2668	0.0469
2	274.92	0.7996	-0.3590	0.0019	-0.5716	0.0242	-0.5704	0.0904	0.0627	0.0753
2	274.92	0.8578	-0.3945	0.0030	-0.6714	0.0283	-0.8106	0.1011	-0.4848	0.0888
2	274.92	0.9100	-0.4656	0.0044	-0.6976	0.0310	-1.0078	0.1121	-0.2707	0.1571
2	274.92	0.9727	-0.4956	0.0082	-0.6921	0.0391	-1.1996	0.1132	0.1926	0.1374
3	274.92	0.1938	0.0604	0.0015	-0.0197	0.0009	0.0255	0.0025	0.0158	0.0247
3	274.92	0.2357	0.0205	0.0013	0.0034	0.0021	0.0185	0.0044	0.1318	0.0406
3	274.92	0.2995	-0.0404	0.0011	-0.0554	0.0036	0.0778	0.0075	0.1101	0.0609
3	274.92	0.3493	-0.0707	0.0014	-0.0785	0.0059	0.1215	0.0152	0.1118	0.0487
3	274.92	0.4000	-0.1046	0.0017	-0.1191	0.0098	0.1810	0.0214	0.3677	0.0352
3	274.92	0.4497	-0.1228	0.0020	-0.1657	0.0123	0.2221	0.0286	0.2879	0.0378
3	274.92	0.4997	-0.1845	0.0011	-0.2322	0.0137	0.2961	0.0309	0.2145	0.0397
3	274.92	0.5556	-0.2101	0.0018	-0.2982	0.0155	0.3735	0.0347	0.4451	0.0327
3	274.92	0.5995	-0.2384	0.0020	-0.3569	0.0181	0.3831	0.0374	0.2995	0.0612
3	274.92	0.6498	-0.2643	0.0019	-0.4237	0.0215	0.3905	0.0472	0.4244	0.0408
3	274.92	0.6890	-0.3048	0.0022	-0.4788	0.0240	0.3738	0.0535	0.5128	0.0468
3	274.92	0.7495	-0.3223	0.0021	-0.5578	0.0269	0.3373	0.0569	0.6695	0.0387
3	274.92	0.7998	-0.3699	0.0028	-0.6348	0.0300	0.2597	0.0640	0.4814	0.0662
3	274.92	0.8577	-0.3917	0.0054	-0.6952	0.0349	0.1845	0.0710	0.5858	0.0996
3	274.92	0.9178	-0.4180	0.0132	-0.7747	0.0392	0.0423	0.0742	0.0690	0.2136
3	274.92	0.9729	-0.4749	0.0079	-0.8226	0.0371	-0.1725	0.0980	0.1375	0.2656

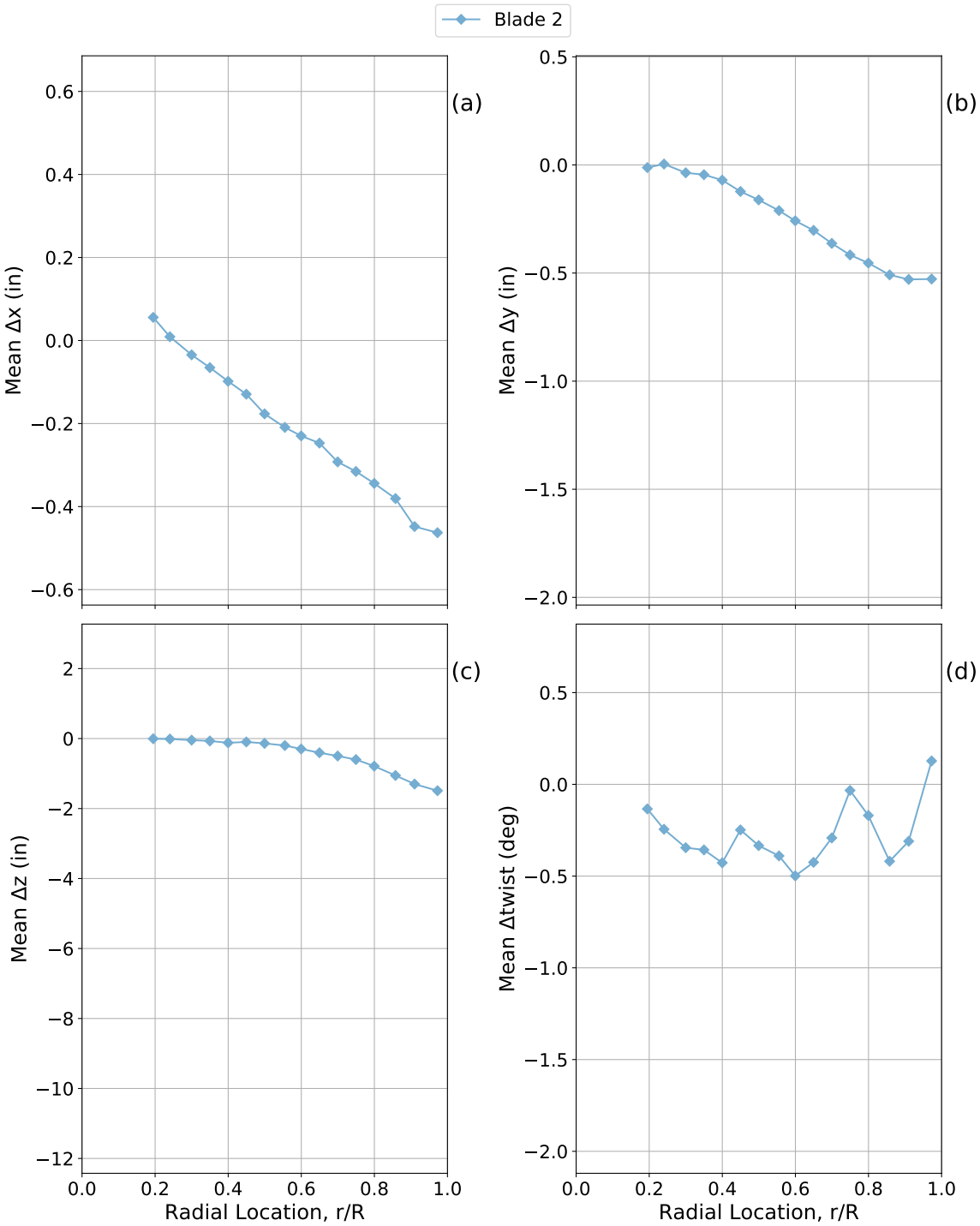


Figure 4.13-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0557	0.0015	-0.0123	0.0006	-0.0058	0.0020	-0.1339	0.0161
2	285.12	0.2405	0.0091	0.0012	0.0041	0.0031	-0.0136	0.0042	-0.2448	0.0358
2	285.12	0.2999	-0.0345	0.0013	-0.0363	0.0056	-0.0455	0.0094	-0.3452	0.0442
2	285.12	0.3498	-0.0653	0.0011	-0.0451	0.0079	-0.0692	0.0129	-0.3572	0.0379
2	285.12	0.3998	-0.0982	0.0033	-0.0703	0.0147	-0.1212	0.0217	-0.4275	0.0399
2	285.12	0.4496	-0.1293	0.0024	-0.1228	0.0168	-0.0969	0.0264	-0.2484	0.0427
2	285.12	0.4995	-0.1767	0.0035	-0.1616	0.0204	-0.1381	0.0340	-0.3338	0.0408
2	285.12	0.5551	-0.2093	0.0038	-0.2112	0.0252	-0.1996	0.0387	-0.3899	0.0525
2	285.12	0.5996	-0.2298	0.0027	-0.2584	0.0278	-0.2981	0.0371	-0.4988	0.0400
2	285.12	0.6497	-0.2471	0.0024	-0.3026	0.0330	-0.4053	0.0487	-0.4250	0.0480
2	285.12	0.6996	-0.2924	0.0027	-0.3628	0.0373	-0.4984	0.0545	-0.2920	0.0451
2	285.12	0.7495	-0.3154	0.0031	-0.4163	0.0405	-0.6003	0.0613	-0.0332	0.0392
2	285.12	0.7996	-0.3442	0.0038	-0.4536	0.0449	-0.7893	0.0714	-0.1697	0.0387
2	285.12	0.8578	-0.3807	0.0027	-0.5085	0.0494	-1.0554	0.0736	-0.4192	0.0424
2	285.12	0.9100	-0.4481	0.0056	-0.5294	0.0555	-1.3004	0.0884	-0.3101	0.0585
2	285.12	0.9727	-0.4629	0.0056	-0.5277	0.0603	-1.4906	0.0994	0.1276	0.0644

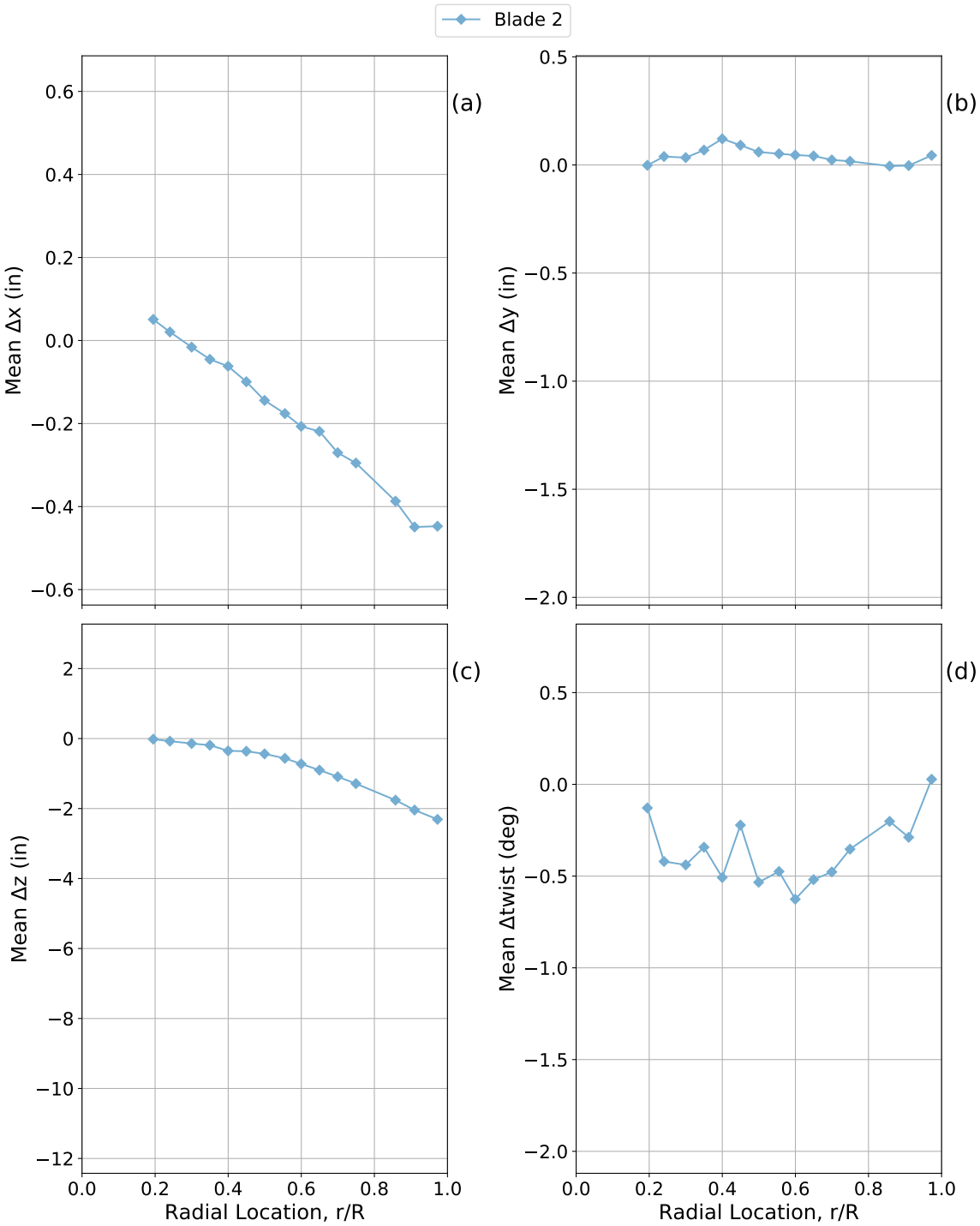


Figure 4.13-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0508	0.0020	-0.0018	0.0010	-0.0182	0.0019	-0.1286	0.0154
2	299.88	0.2405	0.0206	0.0016	0.0389	0.0027	-0.0746	0.0048	-0.4205	0.0208
2	299.88	0.2999	-0.0159	0.0015	0.0338	0.0073	-0.1413	0.0091	-0.4390	0.0323
2	299.88	0.3498	-0.0453	0.0012	0.0687	0.0086	-0.1902	0.0149	-0.3426	0.0573
2	299.88	0.3998	-0.0620	0.0032	0.1207	0.0167	-0.3511	0.0236	-0.5078	0.0246
2	299.88	0.4496	-0.0993	0.0030	0.0912	0.0189	-0.3634	0.0287	-0.2222	0.0392
2	299.88	0.4995	-0.1443	0.0022	0.0597	0.0188	-0.4383	0.0280	-0.5338	0.0264
2	299.88	0.5551	-0.1760	0.0027	0.0518	0.0226	-0.5648	0.0320	-0.4748	0.0282
2	299.88	0.5996	-0.2069	0.0034	0.0457	0.0260	-0.7239	0.0381	-0.6260	0.0284
2	299.88	0.6497	-0.2189	0.0021	0.0417	0.0271	-0.9024	0.0441	-0.5194	0.0295
2	299.88	0.6996	-0.2702	0.0019	0.0233	0.0302	-1.0902	0.0474	-0.4774	0.0284
2	299.88	0.7495	-0.2951	0.0025	0.0170	0.0321	-1.2887	0.0503	-0.3532	0.0483
2	299.88	0.8578	-0.3870	0.0023	-0.0053	0.0368	-1.7602	0.0657	-0.2018	0.0470
2	299.88	0.9100	-0.4492	0.0024	-0.0031	0.0398	-2.0434	0.0730	-0.2887	0.0335
2	299.88	0.9727	-0.4473	0.0025	0.0442	0.0433	-2.3094	0.0820	0.0275	0.0251

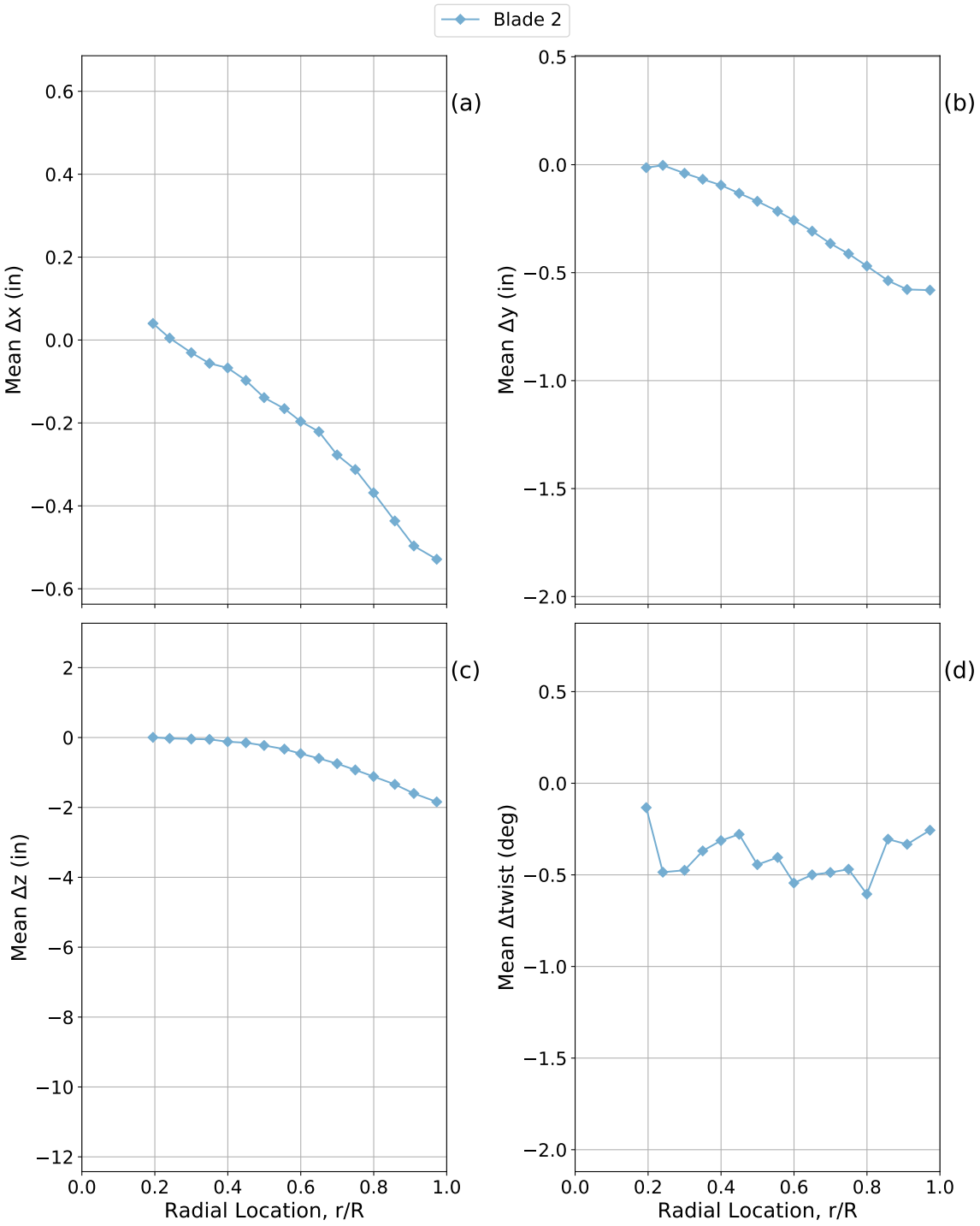


Figure 4.13-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0400	0.0018	-0.0137	0.0006	0.0041	0.0016	-0.1329	0.0191
2	315	0.2405	0.0047	0.0014	-0.0029	0.0018	-0.0248	0.0047	-0.4855	0.0281
2	315	0.2999	-0.0305	0.0019	-0.0396	0.0037	-0.0425	0.0079	-0.4749	0.0437
2	315	0.3498	-0.0563	0.0020	-0.0675	0.0061	-0.0526	0.0130	-0.3693	0.0501
2	315	0.3998	-0.0673	0.0031	-0.0949	0.0101	-0.1206	0.0210	-0.3129	0.0538
2	315	0.4496	-0.0975	0.0024	-0.1323	0.0088	-0.1495	0.0298	-0.2786	0.0288
2	315	0.4995	-0.1389	0.0029	-0.1694	0.0102	-0.2272	0.0325	-0.4442	0.0406
2	315	0.5551	-0.1655	0.0021	-0.2157	0.0105	-0.3320	0.0435	-0.4049	0.0214
2	315	0.5996	-0.1963	0.0030	-0.2575	0.0117	-0.4616	0.0471	-0.5444	0.0286
2	315	0.6497	-0.2210	0.0037	-0.3077	0.0139	-0.5973	0.0506	-0.4996	0.0498
2	315	0.6996	-0.2771	0.0025	-0.3649	0.0147	-0.7477	0.0579	-0.4869	0.0454
2	315	0.7495	-0.3124	0.0023	-0.4127	0.0154	-0.9273	0.0631	-0.4693	0.0421
2	315	0.7996	-0.3685	0.0015	-0.4693	0.0169	-1.1165	0.0681	-0.6049	0.0322
2	315	0.8578	-0.4364	0.0021	-0.5370	0.0193	-1.3410	0.0747	-0.3053	0.0308
2	315	0.9100	-0.4967	0.0019	-0.5779	0.0209	-1.6011	0.0822	-0.3332	0.0297
2	315	0.9727	-0.5288	0.0025	-0.5809	0.0229	-1.8420	0.0907	-0.2563	0.0345

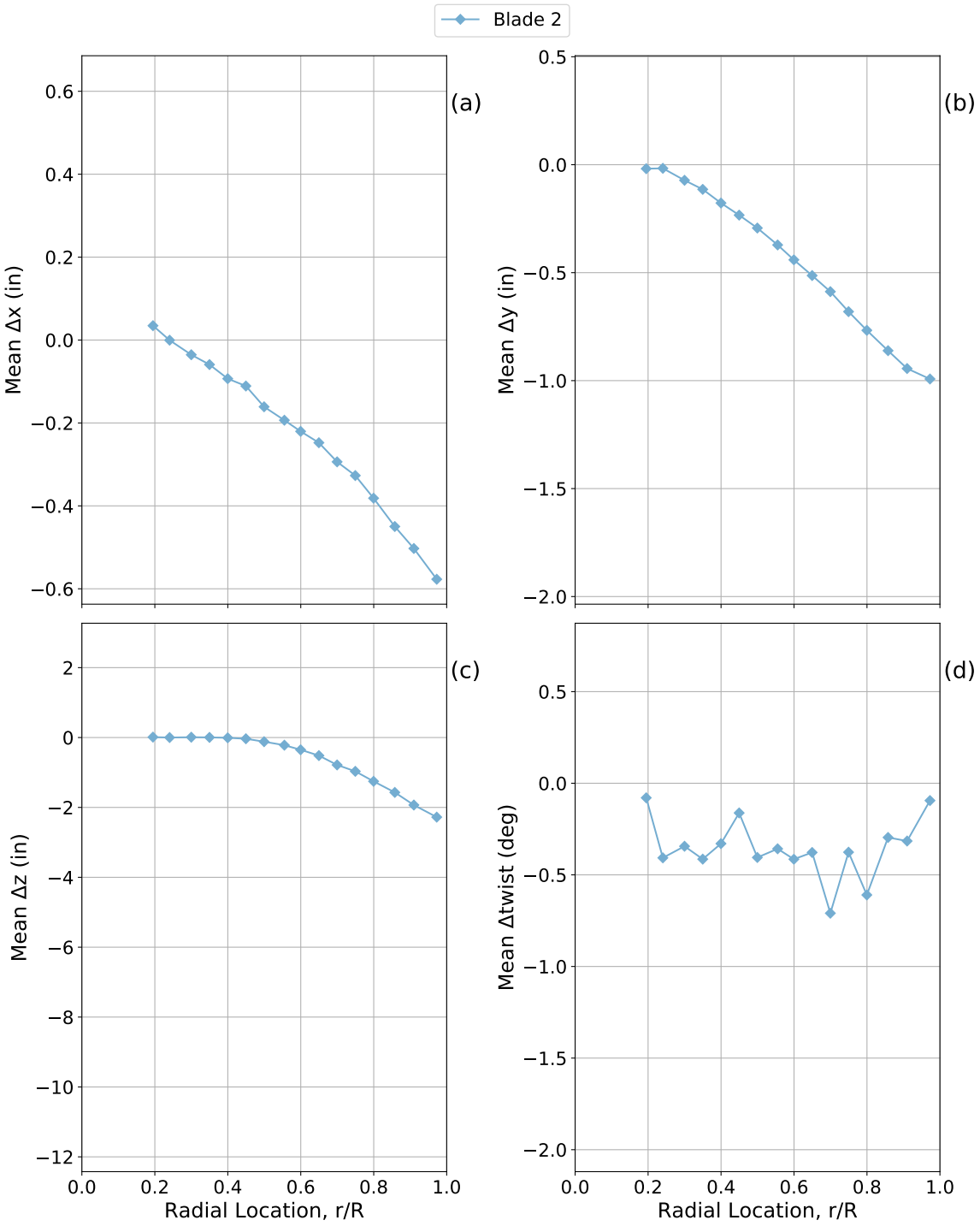


Figure 4.13-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0346	0.0018	-0.0185	0.0008	0.0116	0.0014	-0.0794	0.0260
2	330.12	0.2405	-0.0004	0.0015	-0.0167	0.0014	-0.0004	0.0064	-0.4071	0.0316
2	330.12	0.2999	-0.0355	0.0020	-0.0722	0.0031	0.0089	0.0100	-0.3438	0.0556
2	330.12	0.3498	-0.0592	0.0025	-0.1142	0.0056	0.0034	0.0141	-0.4142	0.0602
2	330.12	0.3998	-0.0932	0.0020	-0.1775	0.0082	-0.0084	0.0259	-0.3295	0.0215
2	330.12	0.4496	-0.1109	0.0040	-0.2335	0.0097	-0.0352	0.0328	-0.1620	0.0340
2	330.12	0.4995	-0.1610	0.0035	-0.2933	0.0122	-0.1193	0.0335	-0.4051	0.0270
2	330.12	0.5551	-0.1934	0.0045	-0.3716	0.0145	-0.2195	0.0430	-0.3577	0.0486
2	330.12	0.5996	-0.2203	0.0043	-0.4406	0.0174	-0.3505	0.0459	-0.4146	0.0291
2	330.12	0.6497	-0.2477	0.0035	-0.5134	0.0196	-0.5169	0.0482	-0.3777	0.0463
2	330.12	0.6996	-0.2938	0.0036	-0.5878	0.0220	-0.7845	0.0520	-0.7094	0.0749
2	330.12	0.7495	-0.3269	0.0036	-0.6805	0.0262	-0.9679	0.0540	-0.3763	0.0360
2	330.12	0.7996	-0.3815	0.0028	-0.7671	0.0297	-1.2540	0.0569	-0.6097	0.0336
2	330.12	0.8578	-0.4498	0.0036	-0.8613	0.0321	-1.5707	0.0617	-0.2959	0.0310
2	330.12	0.9100	-0.5028	0.0028	-0.9440	0.0357	-1.9319	0.0617	-0.3153	0.0334
2	330.12	0.9727	-0.5770	0.0041	-0.9924	0.0386	-2.2782	0.0642	-0.0945	0.0315

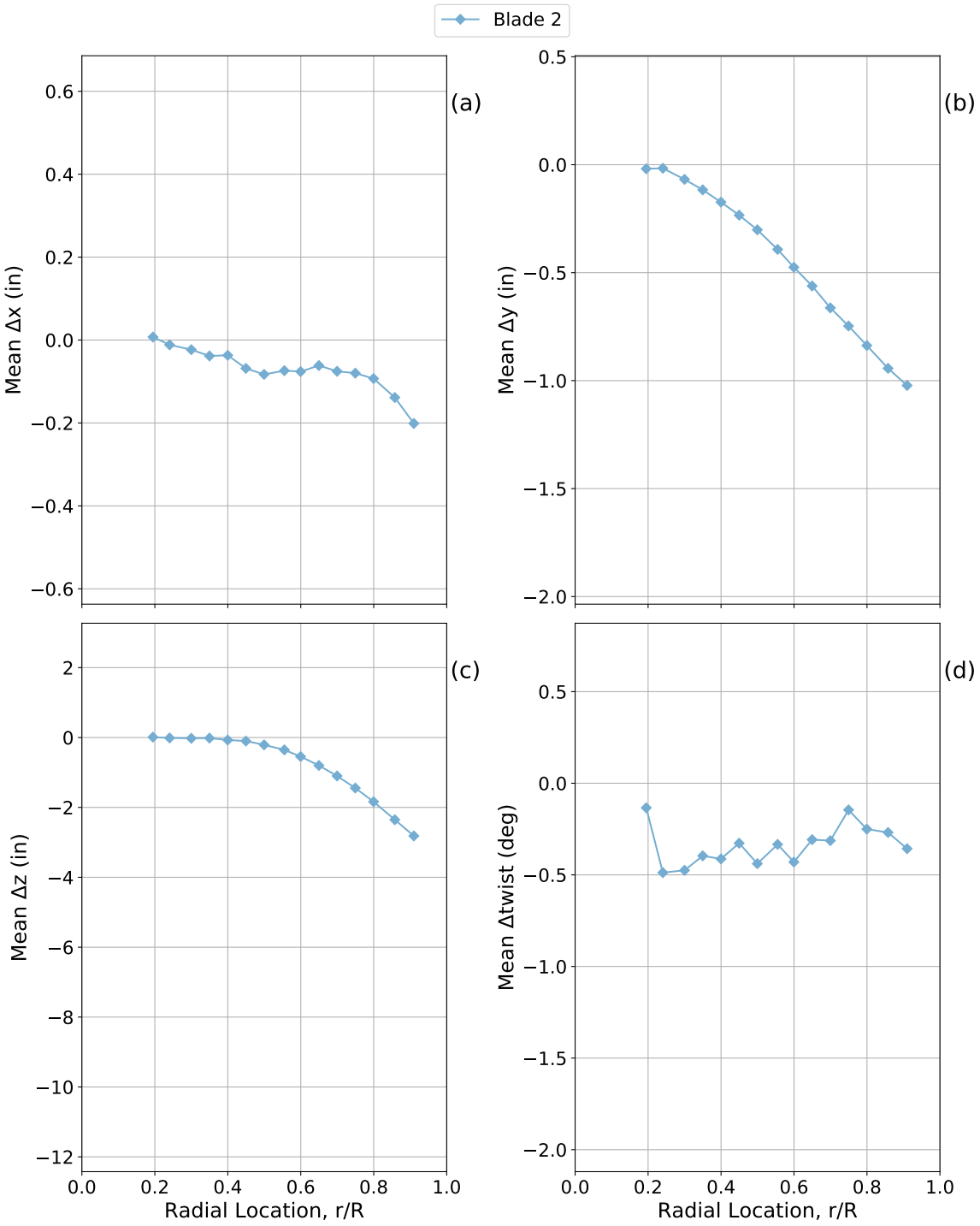


Figure 4.13-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0072	0.0019	-0.0188	0.0005	0.0112	0.0014	-0.1340	0.0159
2	344.88	0.2405	-0.0116	0.0016	-0.0165	0.0014	-0.0129	0.0032	-0.4877	0.0269
2	344.88	0.2999	-0.0233	0.0013	-0.0679	0.0023	-0.0226	0.0059	-0.4752	0.0363
2	344.88	0.3498	-0.0384	0.0024	-0.1166	0.0036	-0.0165	0.0093	-0.3961	0.0444
2	344.88	0.3998	-0.0368	0.0030	-0.1733	0.0060	-0.0712	0.0149	-0.4129	0.0346
2	344.88	0.4496	-0.0684	0.0043	-0.2338	0.0066	-0.1007	0.0182	-0.3272	0.0284
2	344.88	0.4995	-0.0829	0.0044	-0.3016	0.0101	-0.2098	0.0211	-0.4388	0.0452
2	344.88	0.5551	-0.0739	0.0060	-0.3924	0.0123	-0.3531	0.0252	-0.3338	0.0341
2	344.88	0.5996	-0.0761	0.0068	-0.4749	0.0141	-0.5453	0.0298	-0.4300	0.0470
2	344.88	0.6497	-0.0615	0.0063	-0.5617	0.0169	-0.8002	0.0340	-0.3077	0.0530
2	344.88	0.6996	-0.0754	0.0070	-0.6630	0.0183	-1.1008	0.0380	-0.3131	0.0460
2	344.88	0.7495	-0.0799	0.0062	-0.7471	0.0225	-1.4453	0.0409	-0.1455	0.0539
2	344.88	0.7996	-0.0929	0.0057	-0.8374	0.0248	-1.8389	0.0510	-0.2503	0.0517
2	344.88	0.8578	-0.1387	0.0095	-0.9432	0.0285	-2.3524	0.0516	-0.2687	0.1200
2	344.88	0.9100	-0.2012	0.0098	-1.0225	0.0306	-2.8165	0.0537	-0.3573	0.1021

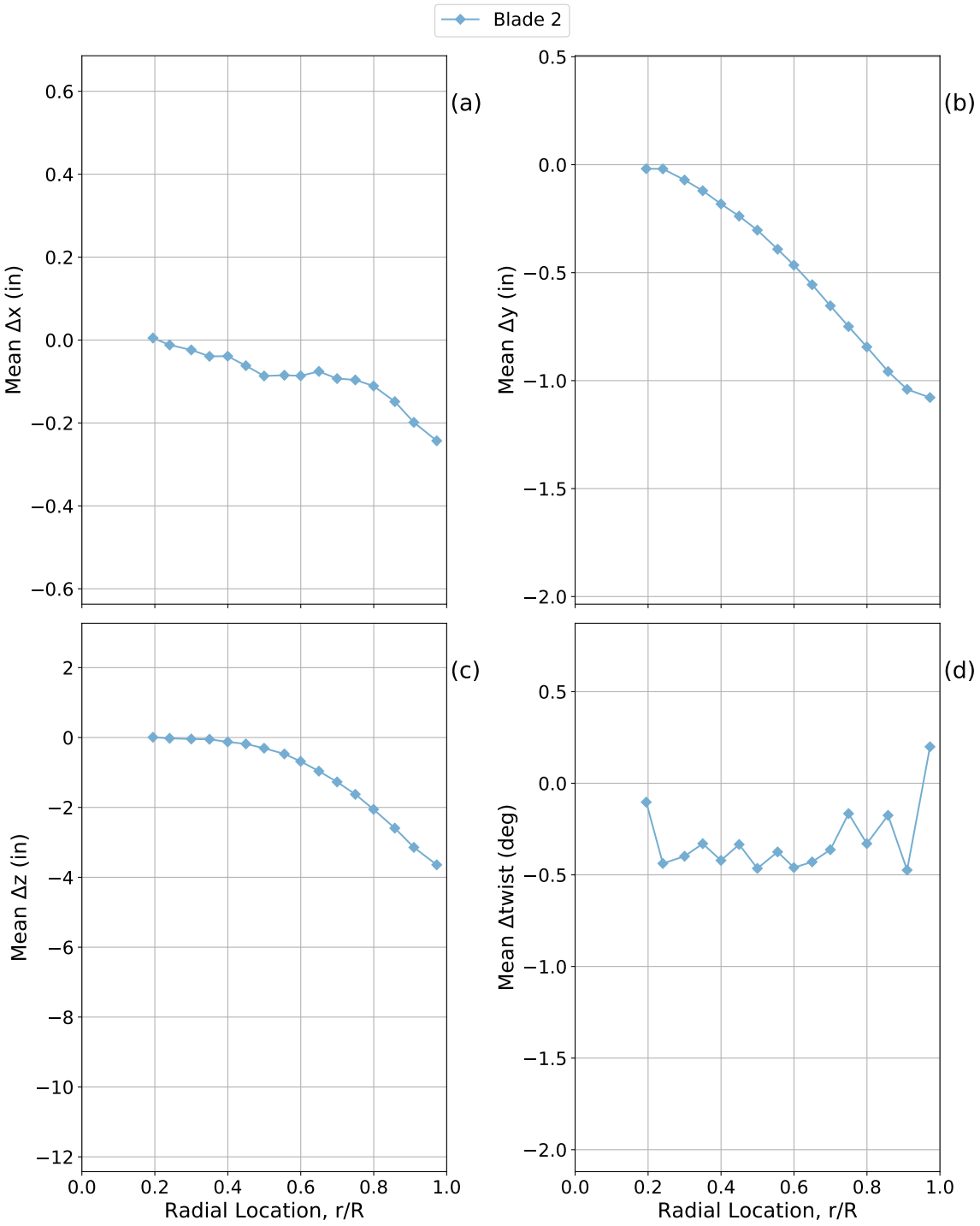


Figure 4.13-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0049	0.0028	-0.0186	0.0008	0.0076	0.0014	-0.1031	0.0149
2	350.16	0.2405	-0.0119	0.0016	-0.0194	0.0013	-0.0229	0.0038	-0.4378	0.0301
2	350.16	0.2999	-0.0239	0.0013	-0.0708	0.0019	-0.0427	0.0073	-0.3985	0.0354
2	350.16	0.3498	-0.0393	0.0029	-0.1205	0.0038	-0.0504	0.0107	-0.3298	0.0411
2	350.16	0.3998	-0.0390	0.0040	-0.1817	0.0054	-0.1260	0.0185	-0.4213	0.0349
2	350.16	0.4496	-0.0619	0.0052	-0.2382	0.0083	-0.1834	0.0214	-0.3341	0.0477
2	350.16	0.4995	-0.0867	0.0075	-0.3031	0.0113	-0.3062	0.0282	-0.4647	0.0442
2	350.16	0.5551	-0.0849	0.0089	-0.3914	0.0132	-0.4695	0.0338	-0.3747	0.0304
2	350.16	0.5996	-0.0863	0.0077	-0.4650	0.0147	-0.6828	0.0371	-0.4603	0.0458
2	350.16	0.6497	-0.0757	0.0110	-0.5558	0.0172	-0.9627	0.0417	-0.4293	0.0378
2	350.16	0.6996	-0.0930	0.0116	-0.6535	0.0199	-1.2710	0.0455	-0.3628	0.0553
2	350.16	0.7495	-0.0962	0.0123	-0.7495	0.0216	-1.6255	0.0517	-0.1656	0.0301
2	350.16	0.7996	-0.1109	0.0118	-0.8441	0.0245	-2.0563	0.0549	-0.3296	0.0460
2	350.16	0.8578	-0.1485	0.0131	-0.9576	0.0274	-2.5938	0.0573	-0.1752	0.0714
2	350.16	0.9100	-0.1986	0.0156	-1.0403	0.0291	-3.1439	0.0573	-0.4740	0.0502
2	350.16	0.9727	-0.2430	0.0237	-1.0784	0.0336	-3.6432	0.0608	0.1991	0.1771

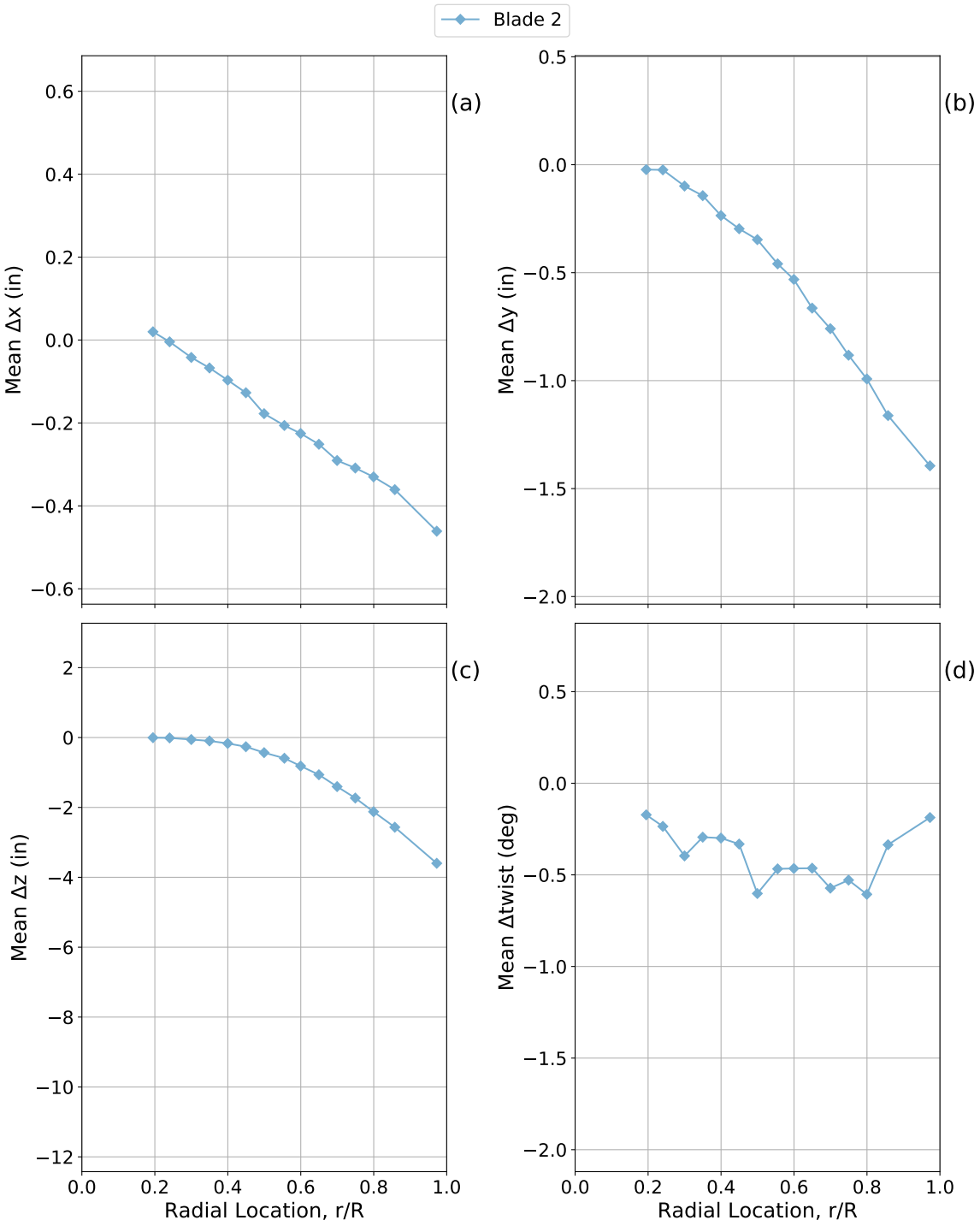


Figure 4.13-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.049, μ = 0.149, α = -0° NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Table 4.13-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.049, μ = 0.149, α = -0°
NFAC run 66, point 38. BD run 31, points 4982 to 4992.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0199	0.0033	-0.0226	0.0021	-0.0047	0.0064	-0.1724	0.0360
2	355.08	0.2405	-0.0043	0.0020	-0.0240	0.0048	-0.0117	0.0054	-0.2354	0.1315
2	355.08	0.2999	-0.0420	0.0017	-0.0989	0.0055	-0.0579	0.0200	-0.3966	0.1230
2	355.08	0.3498	-0.0673	0.0021	-0.1434	0.0112	-0.0972	0.0327	-0.2943	0.1291
2	355.08	0.3998	-0.0968	0.0020	-0.2355	0.0167	-0.1690	0.0475	-0.2993	0.1086
2	355.08	0.4496	-0.1271	0.0021	-0.2966	0.0204	-0.2637	0.0603	-0.3319	0.1301
2	355.08	0.4995	-0.1776	0.0025	-0.3470	0.0257	-0.4330	0.0742	-0.6018	0.1170
2	355.08	0.5551	-0.2061	0.0024	-0.4592	0.0308	-0.5930	0.0902	-0.4673	0.1155
2	355.08	0.5996	-0.2254	0.0026	-0.5314	0.0382	-0.8155	0.1037	-0.4650	0.1322
2	355.08	0.6497	-0.2514	0.0020	-0.6642	0.0427	-1.0651	0.1199	-0.4637	0.1041
2	355.08	0.6996	-0.2906	0.0028	-0.7594	0.0498	-1.4047	0.1320	-0.5725	0.1282
2	355.08	0.7495	-0.3087	0.0025	-0.8823	0.0547	-1.7321	0.1505	-0.5286	0.1132
2	355.08	0.7996	-0.3301	0.0029	-0.9923	0.0606	-2.1240	0.1571	-0.6062	0.1408
2	355.08	0.8578	-0.3608	0.0043	-1.1620	0.0714	-2.5670	0.1844	-0.3355	0.0901
2	355.08	0.9727	-0.4611	0.0122	-1.3946	0.0781	-3.5998	0.2126	-0.1872	0.1280

4.14 Run 67, Point 9

4.14.1 Pitch, Flap, and Lag

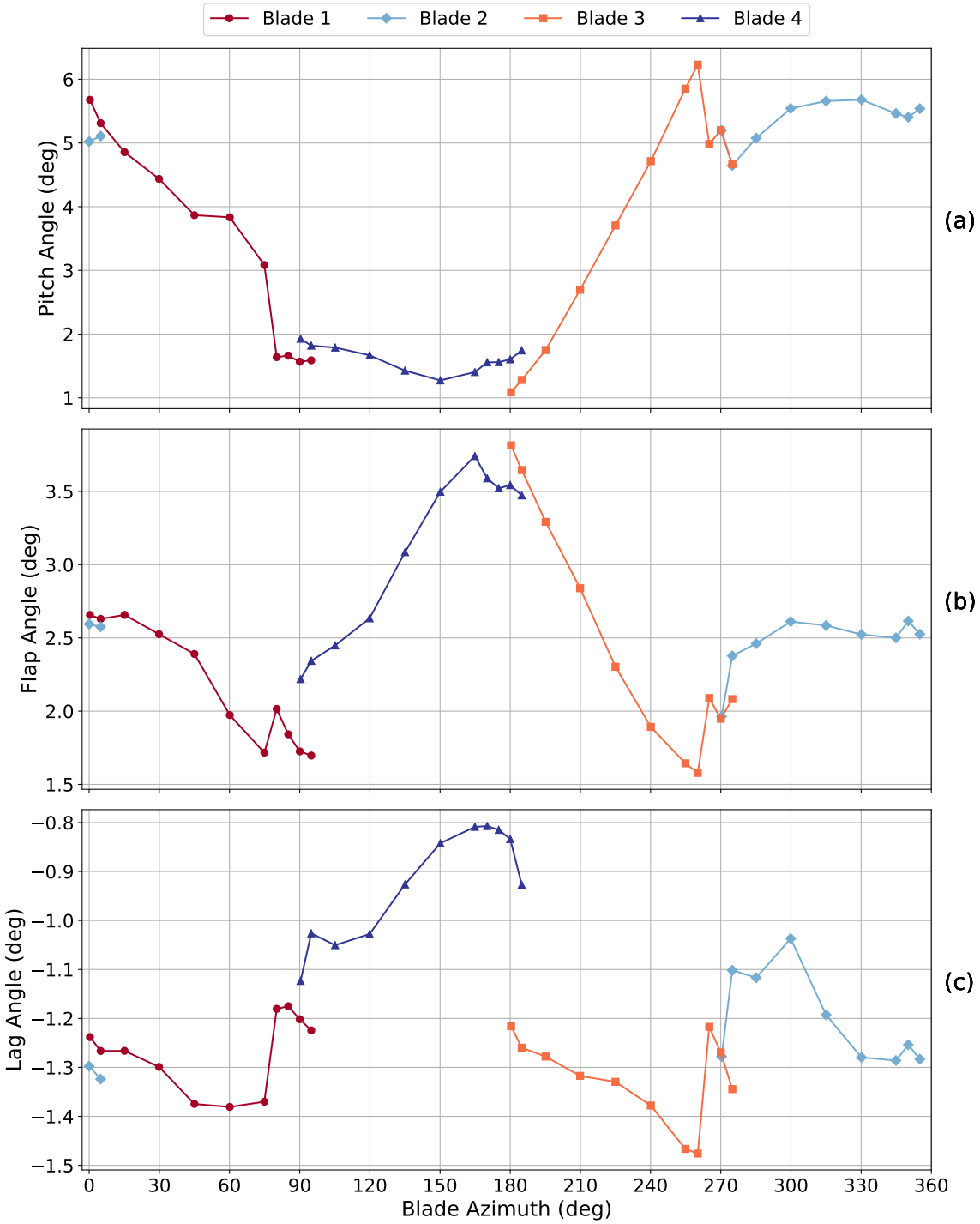


Figure 4.14-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.0227	2.5946	-1.2975	0.0939	0.0298	0.0289
0.35	1	5.6773	2.6569	-1.2381	0.0462	0.0289	0.0193
4.92	1	5.3119	2.6298	-1.2664	0.1279	0.0609	0.0230
4.92	2	5.1087	2.5757	-1.3239	0.1010	0.0426	0.0330
15.12	1	4.8566	2.6572	-1.2662	0.0730	0.0140	0.0212
29.88	1	4.4362	2.5252	-1.2991	0.0654	0.0263	0.0196
45	1	3.8667	2.3905	-1.3747	0.0769	0.0320	0.0158
60.12	1	3.8335	1.9733	-1.3808	0.1330	0.0442	0.0236
74.88	1	3.0846	1.7166	-1.3701	0.0891	0.0351	0.0228
80.16	1	1.6389	2.0150	-1.1805	0.0351	0.0172	0.0188
85.08	1	1.6627	1.8422	-1.1751	0.0477	0.0238	0.0219
90	1	1.5666	1.7253	-1.2017	0.0315	0.0169	0.0158
90.35	4	1.9273	2.2189	-1.1234	0.0296	0.0161	0.0173
94.92	1	1.5889	1.6969	-1.2245	0.0257	0.0235	0.0149
94.92	4	1.8183	2.3431	-1.0263	0.0174	0.0220	0.0142
105.12	4	1.7889	2.4487	-1.0504	0.0194	0.0167	0.0118
119.88	4	1.6674	2.6341	-1.0276	0.0203	0.0188	0.0173
135	4	1.4269	3.0855	-0.9264	0.0189	0.0263	0.0187
150.12	4	1.2733	3.4978	-0.8423	0.0168	0.0262	0.0150
164.88	4	1.4043	3.7417	-0.8089	0.0343	0.0147	0.0135
170.16	4	1.5571	3.5896	-0.8072	0.0251	0.0233	0.0205
175.08	4	1.5600	3.5213	-0.8150	0.0258	0.0168	0.0291
180	4	1.6039	3.5435	-0.8337	0.0237	0.0272	0.0160
180.35	3	1.0876	3.8148	-1.2159	0.0526	0.0314	0.0191
184.92	3	1.2800	3.6462	-1.2598	0.0358	0.0333	0.0240
184.92	4	1.7438	3.4731	-0.9273	0.0286	0.0151	0.0205
195.12	3	1.7496	3.2925	-1.2779	0.0338	0.0154	0.0150
209.88	3	2.6959	2.8392	-1.3174	0.0235	0.0154	0.0265
225	3	3.7051	2.3030	-1.3296	0.0360	0.0121	0.0151
240.12	3	4.7153	1.8923	-1.3779	0.0371	0.0165	0.0114
254.88	3	5.8523	1.6439	-1.4665	0.0785	0.0334	0.0142
260.16	3	6.2294	1.5783	-1.4760	0.1016	0.0519	0.0302
265.08	3	4.9838	2.0893	-1.2171	0.1092	0.0324	0.0260
270	3	5.2001	1.9482	-1.2694	0.1344	0.0527	0.0166
270.35	2	5.1975	1.9637	-1.2778	0.2081	0.0898	0.0328
274.92	2	4.6488	2.3776	-1.1016	0.0384	0.0528	0.0235
274.92	3	4.6668	2.0822	-1.3444	0.0473	0.0513	0.0150
285.12	2	5.0766	2.4611	-1.1168	0.0250	0.0281	0.0110
299.88	2	5.5431	2.6115	-1.0369	0.0515	0.0300	0.0216
315	2	5.6581	2.5849	-1.1928	0.0390	0.0340	0.0148
330.12	2	5.6790	2.5232	-1.2796	0.0302	0.0257	0.0186
344.88	2	5.4629	2.5006	-1.2860	0.0272	0.0210	0.0142
350.16	2	5.4049	2.6152	-1.2539	0.0384	0.0182	0.0180
355.08	2	5.5393	2.5260	-1.2832	0.0433	0.0190	0.0256

4.14.2 Spanwise Elastic Deformations

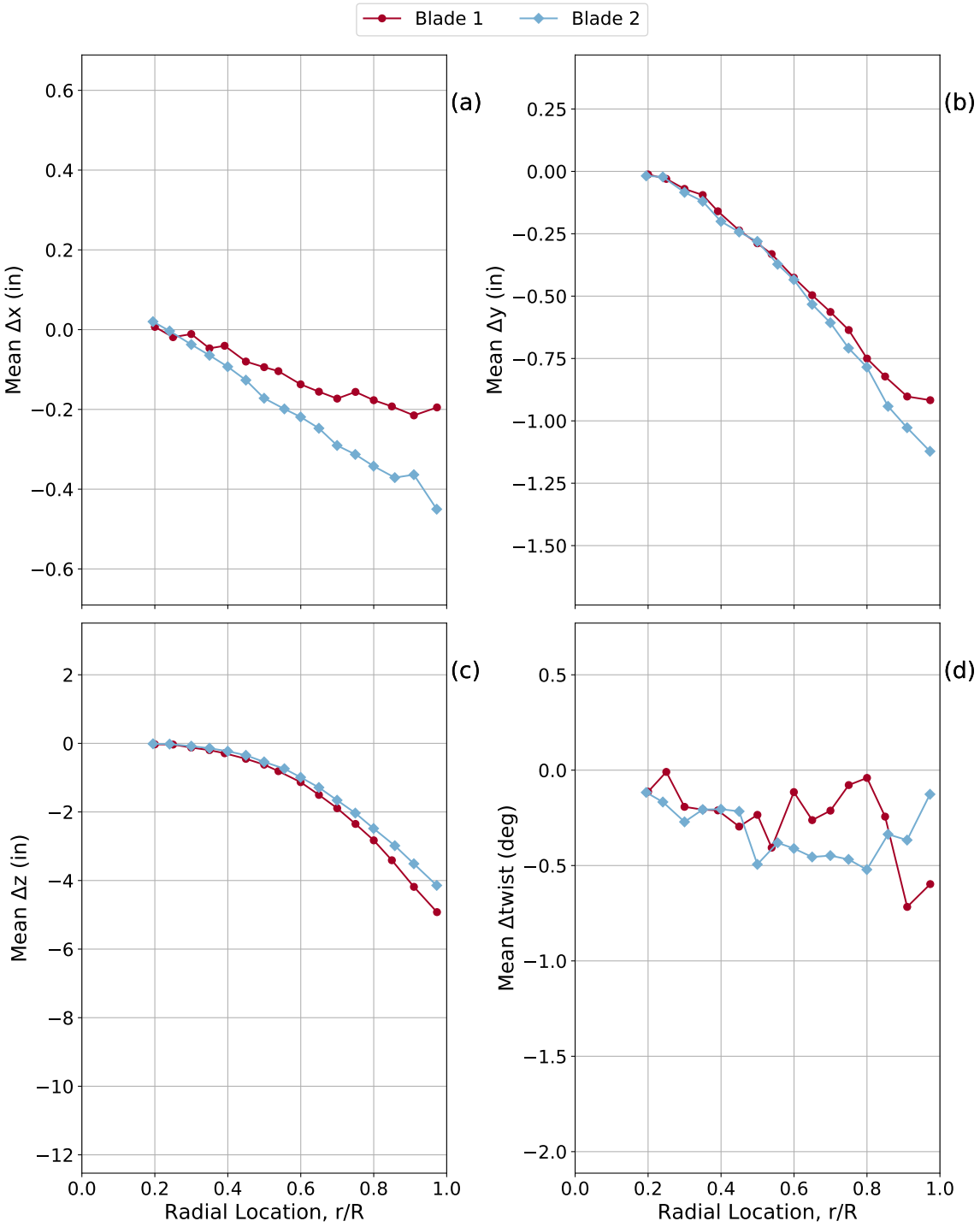


Figure 4.14-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0069	0.0026	-0.0125	0.0019	-0.0282	0.0051	-0.1130	0.0209
1	0.35	0.2499	-0.0189	0.0027	-0.0301	0.0034	-0.0350	0.0041	-0.0091	0.0594
1	0.35	0.2998	-0.0111	0.0018	-0.0702	0.0066	-0.1230	0.0138	-0.1922	0.0452
1	0.35	0.3498	-0.0469	0.0022	-0.0948	0.0103	-0.1974	0.0192	-0.2069	0.0487
1	0.35	0.3913	-0.0405	0.0025	-0.1598	0.0149	-0.2890	0.0252	-0.2109	0.0478
1	0.35	0.4496	-0.0800	0.0031	-0.2365	0.0207	-0.4508	0.0329	-0.2957	0.0655
1	0.35	0.4997	-0.0941	0.0046	-0.2882	0.0259	-0.6206	0.0384	-0.2343	0.0424
1	0.35	0.5387	-0.1041	0.0056	-0.3315	0.0299	-0.8107	0.0425	-0.4063	0.0560
1	0.35	0.5996	-0.1371	0.0075	-0.4259	0.0341	-1.1310	0.0525	-0.1149	0.0679
1	0.35	0.6498	-0.1556	0.0088	-0.4963	0.0382	-1.5023	0.0600	-0.2619	0.0550
1	0.35	0.6998	-0.1729	0.0103	-0.5635	0.0424	-1.8919	0.0697	-0.2122	0.0476
1	0.35	0.7500	-0.1561	0.0123	-0.6359	0.0475	-2.3499	0.0782	-0.0781	0.0607
1	0.35	0.8001	-0.1769	0.0145	-0.7503	0.0520	-2.8287	0.0850	-0.0406	0.0521
1	0.35	0.8497	-0.1925	0.0157	-0.8222	0.0571	-3.4087	0.0898	-0.2436	0.0640
1	0.35	0.9102	-0.2150	0.0233	-0.9024	0.0609	-4.1844	0.0981	-0.7168	0.0654
1	0.35	0.9734	-0.1950	0.0193	-0.9171	0.0663	-4.9218	0.0998	-0.5973	0.0613
2	0	0.1949	0.0201	0.0033	-0.0181	0.0019	-0.0125	0.0031	-0.1168	0.0340
2	0	0.2405	-0.0034	0.0020	-0.0223	0.0033	-0.0212	0.0047	-0.1669	0.0757
2	0	0.2999	-0.0373	0.0012	-0.0841	0.0068	-0.0812	0.0095	-0.2710	0.0897
2	0	0.3498	-0.0644	0.0020	-0.1200	0.0117	-0.1413	0.0169	-0.2064	0.0918
2	0	0.3998	-0.0930	0.0024	-0.2006	0.0178	-0.2297	0.0243	-0.2047	0.0848
2	0	0.4496	-0.1266	0.0027	-0.2430	0.0233	-0.3472	0.0315	-0.2158	0.0895
2	0	0.4995	-0.1720	0.0026	-0.2806	0.0279	-0.5405	0.0394	-0.4940	0.0792
2	0	0.5551	-0.1988	0.0029	-0.3723	0.0336	-0.7393	0.0481	-0.3805	0.0921
2	0	0.5996	-0.2190	0.0028	-0.4343	0.0384	-0.9903	0.0551	-0.4107	0.0847
2	0	0.6497	-0.2473	0.0024	-0.5330	0.0449	-1.2872	0.0628	-0.4552	0.0908
2	0	0.6996	-0.2904	0.0029	-0.6067	0.0494	-1.6583	0.0678	-0.4479	0.0909
2	0	0.7495	-0.3129	0.0033	-0.7085	0.0556	-2.0333	0.0762	-0.4679	0.0975
2	0	0.7996	-0.3423	0.0029	-0.7846	0.0611	-2.4828	0.0806	-0.5212	0.0872
2	0	0.8578	-0.3710	0.0040	-0.9417	0.0692	-2.9847	0.0899	-0.3362	0.0967
2	0	0.9100	-0.3637	0.0170	-1.0275	0.0724	-3.5115	0.0924	-0.3666	0.1225
2	0	0.9727	-0.4502	0.0061	-1.1221	0.0828	-4.1427	0.1049	-0.1264	0.1053

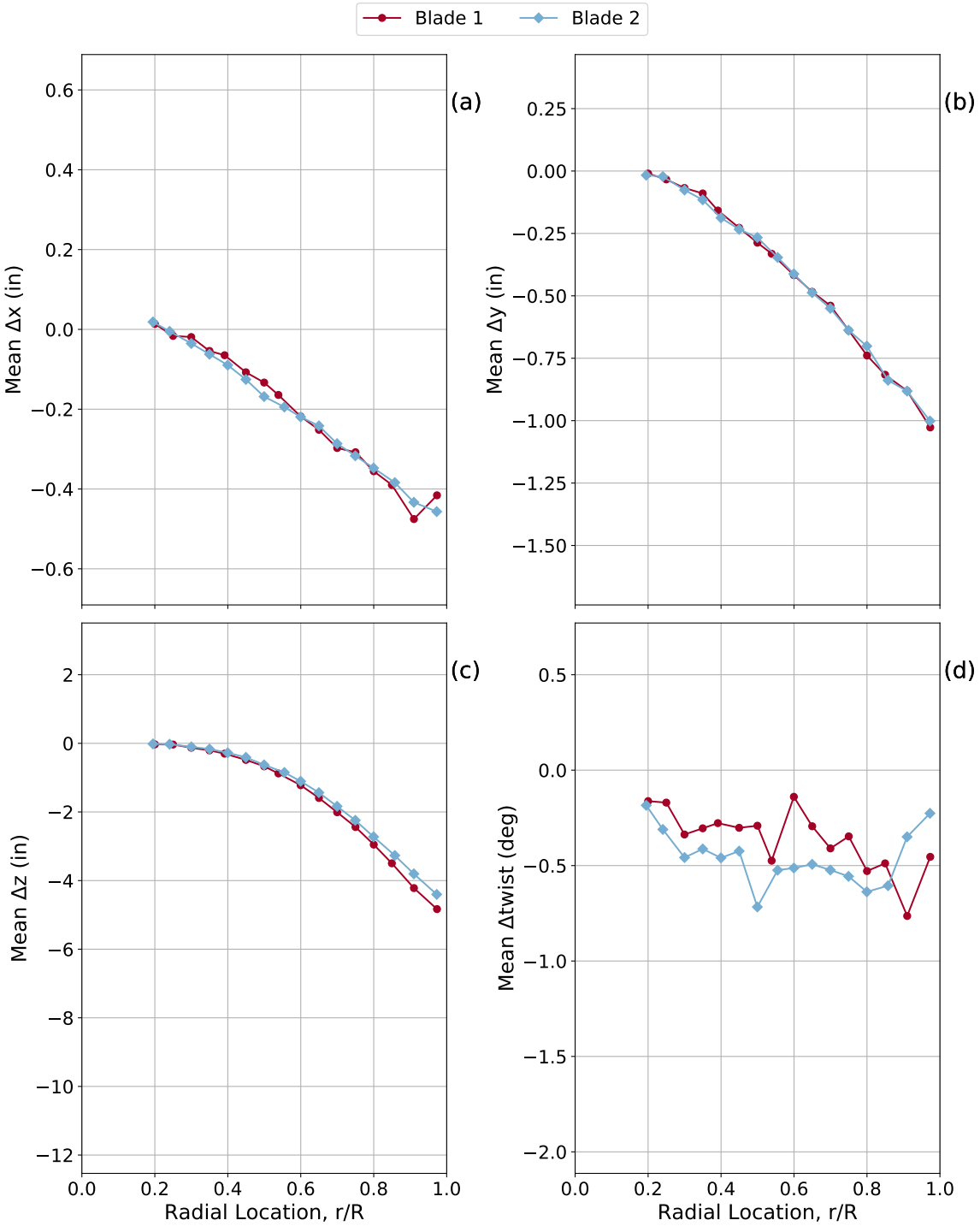


Figure 4.14-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0137	0.0045	-0.0102	0.0030	-0.0295	0.0079	-0.1624	0.0501
1	4.92	0.2499	-0.0163	0.0033	-0.0336	0.0036	-0.0350	0.0074	-0.1700	0.1345
1	4.92	0.2998	-0.0192	0.0021	-0.0680	0.0094	-0.1288	0.0229	-0.3371	0.1285
1	4.92	0.3498	-0.0541	0.0017	-0.0898	0.0157	-0.2050	0.0359	-0.3047	0.1296
1	4.92	0.3913	-0.0648	0.0017	-0.1582	0.0211	-0.3007	0.0475	-0.2775	0.1187
1	4.92	0.4496	-0.1075	0.0014	-0.2275	0.0287	-0.4821	0.0650	-0.3021	0.1151
1	4.92	0.4997	-0.1333	0.0016	-0.2871	0.0354	-0.6703	0.0787	-0.2912	0.1224
1	4.92	0.5387	-0.1643	0.0012	-0.3313	0.0401	-0.8776	0.0913	-0.4745	0.1168
1	4.92	0.5996	-0.2180	0.0014	-0.4170	0.0477	-1.2206	0.1103	-0.1397	0.1184
1	4.92	0.6498	-0.2516	0.0019	-0.4841	0.0547	-1.5916	0.1264	-0.2939	0.1205
1	4.92	0.6998	-0.2973	0.0019	-0.5394	0.0626	-2.0091	0.1419	-0.4099	0.1204
1	4.92	0.7500	-0.3078	0.0023	-0.6386	0.0687	-2.4391	0.1583	-0.3470	0.1162
1	4.92	0.8001	-0.3555	0.0029	-0.7390	0.0744	-2.9516	0.1723	-0.5287	0.1172
1	4.92	0.8497	-0.3897	0.0026	-0.8161	0.0827	-3.4969	0.1888	-0.4884	0.1170
1	4.92	0.9102	-0.4753	0.0031	-0.8809	0.0909	-4.2190	0.2071	-0.7640	0.1172
1	4.92	0.9734	-0.4158	0.0047	-1.0272	0.1003	-4.8313	0.2204	-0.4543	0.1321
2	4.92	0.1949	0.0186	0.0045	-0.0167	0.0029	-0.0169	0.0061	-0.1842	0.0292
2	4.92	0.2405	-0.0050	0.0016	-0.0223	0.0023	-0.0259	0.0063	-0.3106	0.1031
2	4.92	0.2999	-0.0353	0.0016	-0.0761	0.0099	-0.1023	0.0190	-0.4578	0.0987
2	4.92	0.3498	-0.0623	0.0022	-0.1153	0.0174	-0.1666	0.0305	-0.4129	0.0978
2	4.92	0.3998	-0.0896	0.0026	-0.1877	0.0252	-0.2756	0.0450	-0.4596	0.1038
2	4.92	0.4496	-0.1255	0.0030	-0.2335	0.0328	-0.4082	0.0583	-0.4240	0.1009
2	4.92	0.4995	-0.1684	0.0032	-0.2663	0.0395	-0.6282	0.0723	-0.7169	0.0965
2	4.92	0.5551	-0.1946	0.0033	-0.3462	0.0473	-0.8494	0.0887	-0.5241	0.0972
2	4.92	0.5996	-0.2194	0.0029	-0.4122	0.0552	-1.1050	0.1026	-0.5128	0.0938
2	4.92	0.6497	-0.2417	0.0032	-0.4873	0.0611	-1.4365	0.1138	-0.4933	0.1004
2	4.92	0.6996	-0.2864	0.0029	-0.5501	0.0689	-1.8362	0.1295	-0.5232	0.0930
2	4.92	0.7495	-0.3168	0.0026	-0.6378	0.0760	-2.2446	0.1405	-0.5564	0.1045
2	4.92	0.7996	-0.3474	0.0031	-0.7014	0.0823	-2.7248	0.1495	-0.6375	0.1151
2	4.92	0.8578	-0.3839	0.0028	-0.8384	0.0912	-3.2686	0.1648	-0.6054	0.1091
2	4.92	0.9100	-0.4333	0.0041	-0.8816	0.1013	-3.8044	0.1719	-0.3494	0.1592
2	4.92	0.9727	-0.4566	0.0058	-1.0014	0.1079	-4.4035	0.1915	-0.2262	0.1042

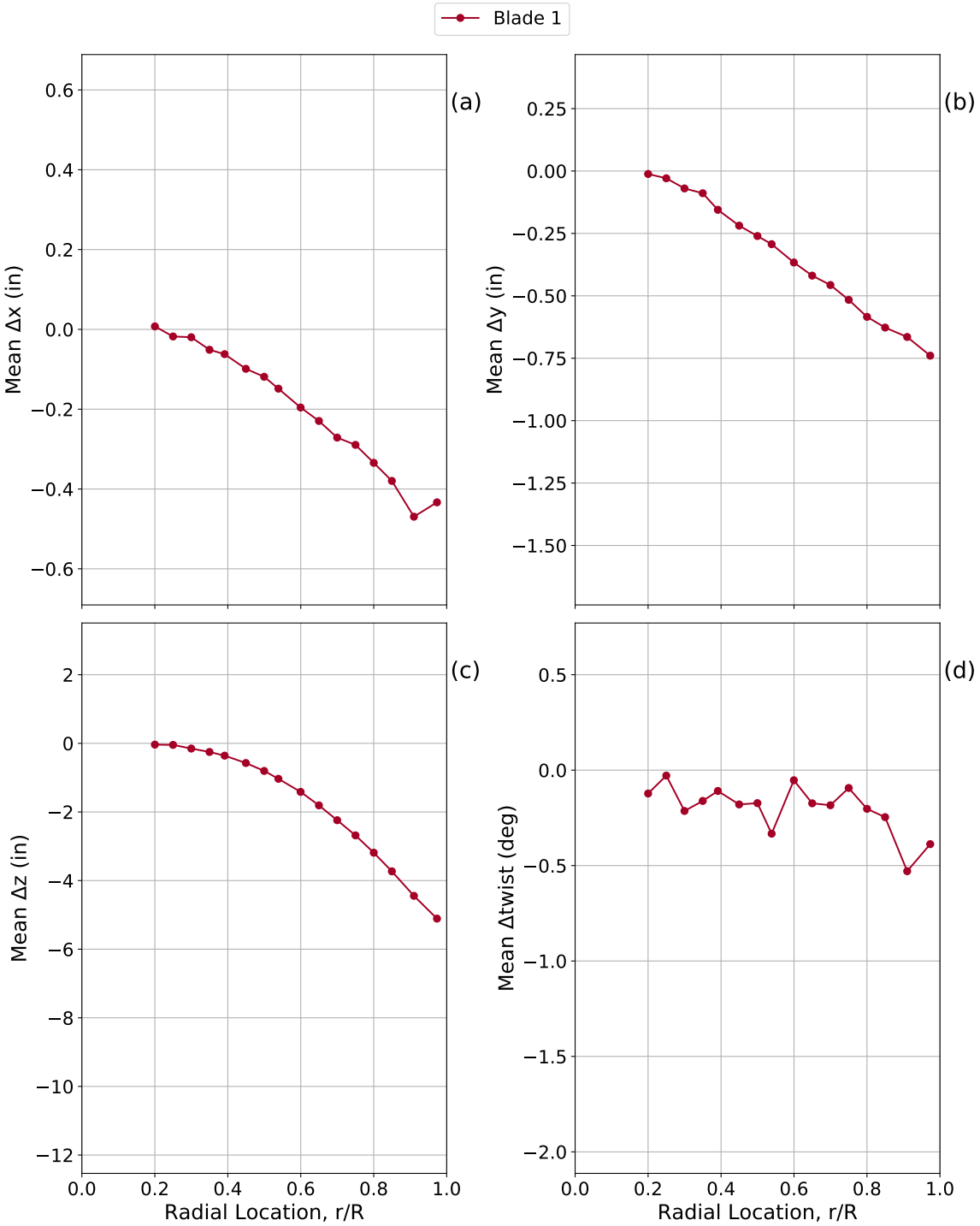


Figure 4.14-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0075	0.0051	-0.0118	0.0022	-0.0378	0.0036	-0.1224	0.0341
1	15.12	0.2499	-0.0178	0.0025	-0.0291	0.0030	-0.0453	0.0047	-0.0285	0.0331
1	15.12	0.2998	-0.0197	0.0012	-0.0697	0.0079	-0.1523	0.0106	-0.2138	0.0660
1	15.12	0.3498	-0.0511	0.0019	-0.0890	0.0132	-0.2517	0.0156	-0.1612	0.0641
1	15.12	0.3913	-0.0621	0.0018	-0.1553	0.0182	-0.3588	0.0212	-0.1091	0.0609
1	15.12	0.4496	-0.0988	0.0018	-0.2188	0.0236	-0.5736	0.0276	-0.1796	0.0669
1	15.12	0.4997	-0.1188	0.0020	-0.2604	0.0288	-0.8041	0.0342	-0.1728	0.0646
1	15.12	0.5387	-0.1485	0.0015	-0.2930	0.0329	-1.0336	0.0406	-0.3328	0.0738
1	15.12	0.5996	-0.1958	0.0016	-0.3664	0.0386	-1.4150	0.0510	-0.0529	0.0662
1	15.12	0.6498	-0.2295	0.0015	-0.4190	0.0435	-1.8082	0.0569	-0.1737	0.0755
1	15.12	0.6998	-0.2712	0.0014	-0.4567	0.0480	-2.2406	0.0644	-0.1839	0.0576
1	15.12	0.7500	-0.2894	0.0017	-0.5160	0.0532	-2.6828	0.0711	-0.0934	0.0753
1	15.12	0.8001	-0.3344	0.0017	-0.5842	0.0578	-3.1876	0.0752	-0.2027	0.0809
1	15.12	0.8497	-0.3797	0.0019	-0.6271	0.0625	-3.7305	0.0834	-0.2462	0.0787
1	15.12	0.9102	-0.4694	0.0021	-0.6648	0.0681	-4.4453	0.0916	-0.5294	0.0685
1	15.12	0.9734	-0.4334	0.0036	-0.7397	0.0751	-5.1084	0.0994	-0.3876	0.0856

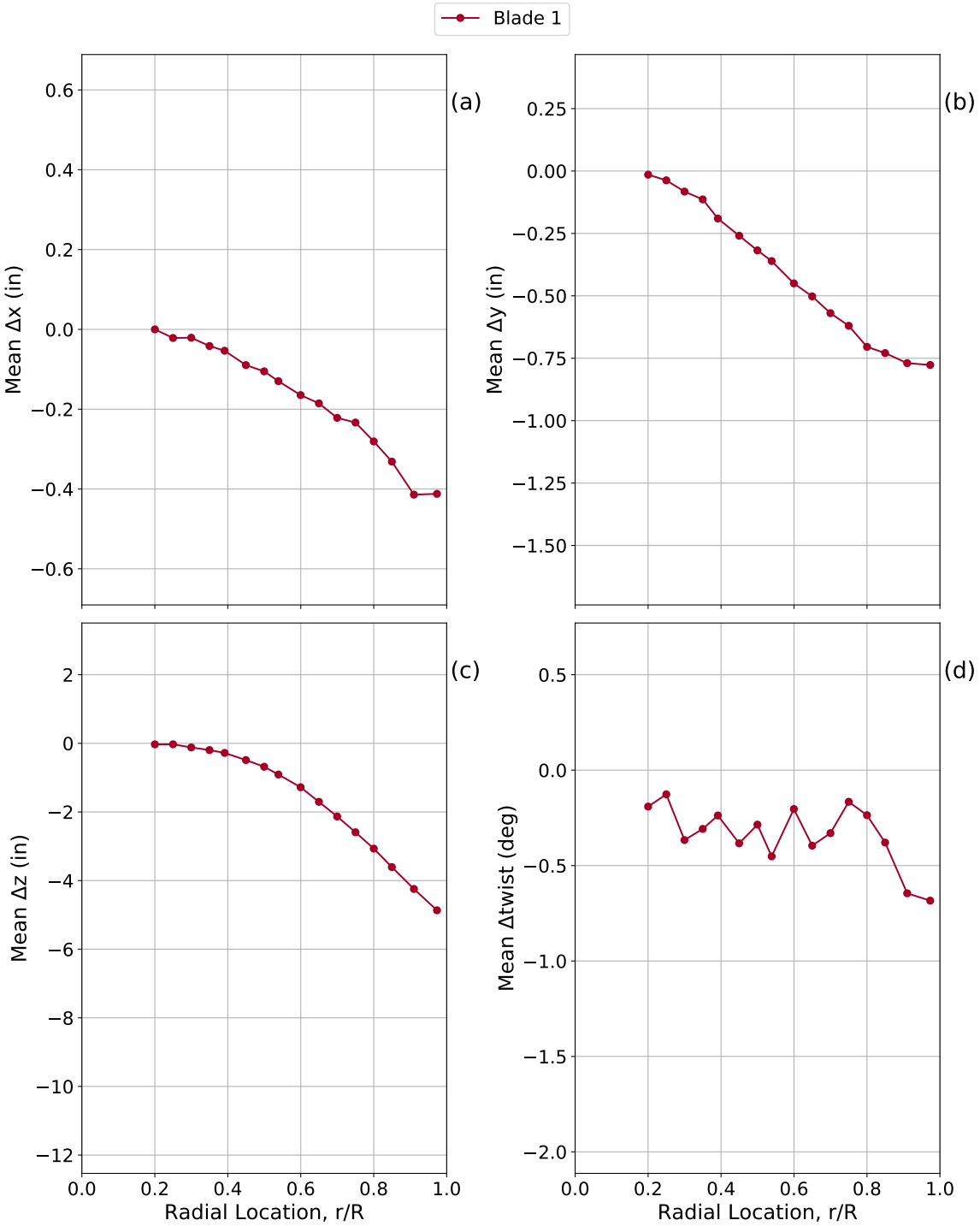


Figure 4.14-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0000	0.0033	-0.0146	0.0013	-0.0295	0.0031	-0.1909	0.0245
1	29.88	0.2499	-0.0215	0.0024	-0.0373	0.0014	-0.0279	0.0041	-0.1267	0.0655
1	29.88	0.2998	-0.0209	0.0019	-0.0823	0.0040	-0.1199	0.0095	-0.3662	0.0612
1	29.88	0.3498	-0.0417	0.0023	-0.1137	0.0066	-0.1961	0.0156	-0.3079	0.0597
1	29.88	0.3913	-0.0535	0.0022	-0.1903	0.0086	-0.2791	0.0211	-0.2374	0.0653
1	29.88	0.4496	-0.0895	0.0023	-0.2591	0.0115	-0.4867	0.0280	-0.3835	0.0582
1	29.88	0.4997	-0.1052	0.0023	-0.3179	0.0141	-0.6826	0.0331	-0.2854	0.0645
1	29.88	0.5387	-0.1298	0.0020	-0.3606	0.0159	-0.9093	0.0370	-0.4517	0.0593
1	29.88	0.5996	-0.1647	0.0028	-0.4501	0.0191	-1.2799	0.0448	-0.2035	0.0530
1	29.88	0.6498	-0.1854	0.0024	-0.5021	0.0228	-1.7055	0.0487	-0.3955	0.0608
1	29.88	0.6998	-0.2216	0.0025	-0.5693	0.0250	-2.1315	0.0544	-0.3300	0.0533
1	29.88	0.7500	-0.2335	0.0028	-0.6200	0.0284	-2.5923	0.0610	-0.1657	0.0575
1	29.88	0.8001	-0.2808	0.0027	-0.7044	0.0311	-3.0688	0.0673	-0.2361	0.0518
1	29.88	0.8497	-0.3314	0.0027	-0.7292	0.0345	-3.6073	0.0740	-0.3794	0.0560
1	29.88	0.9102	-0.4141	0.0033	-0.7696	0.0385	-4.2445	0.0809	-0.6452	0.0594
1	29.88	0.9734	-0.4121	0.0033	-0.7769	0.0425	-4.8663	0.0873	-0.6837	0.0649

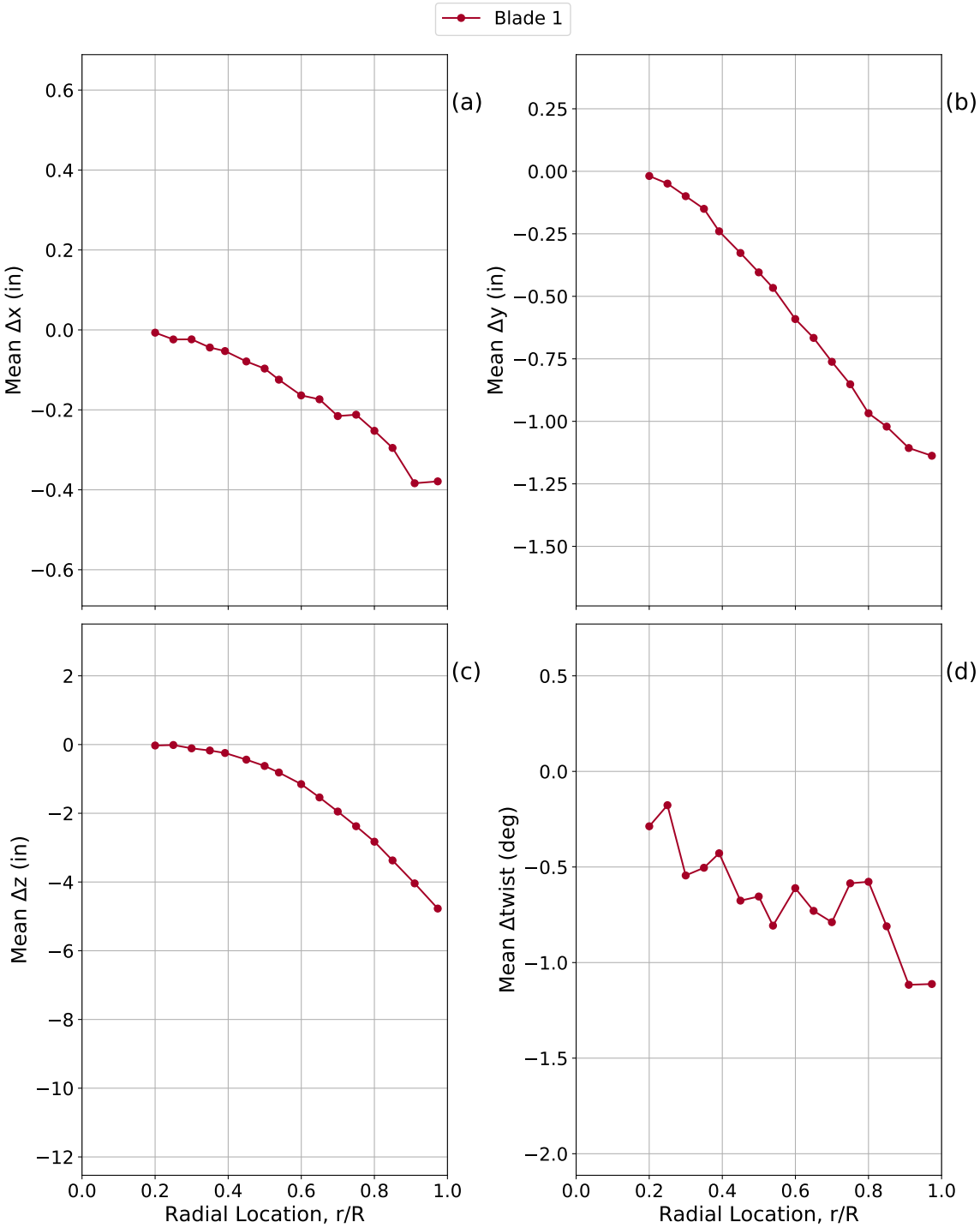


Figure 4.14-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0069	0.0036	-0.0187	0.0015	-0.0280	0.0048	-0.2871	0.0248
1	45	0.2499	-0.0238	0.0033	-0.0491	0.0015	-0.0134	0.0042	-0.1767	0.0629
1	45	0.2998	-0.0236	0.0019	-0.0995	0.0051	-0.1105	0.0146	-0.5443	0.0567
1	45	0.3498	-0.0440	0.0021	-0.1501	0.0078	-0.1735	0.0219	-0.5040	0.0612
1	45	0.3913	-0.0529	0.0022	-0.2399	0.0108	-0.2457	0.0301	-0.4282	0.0642
1	45	0.4496	-0.0789	0.0015	-0.3267	0.0137	-0.4395	0.0419	-0.6760	0.0606
1	45	0.4997	-0.0967	0.0014	-0.4042	0.0171	-0.6229	0.0533	-0.6544	0.0645
1	45	0.5387	-0.1245	0.0014	-0.4663	0.0200	-0.8132	0.0607	-0.8068	0.0610
1	45	0.5996	-0.1638	0.0023	-0.5909	0.0227	-1.1516	0.0725	-0.6107	0.0636
1	45	0.6498	-0.1736	0.0025	-0.6663	0.0264	-1.5390	0.0829	-0.7295	0.0689
1	45	0.6998	-0.2155	0.0019	-0.7618	0.0299	-1.9496	0.0932	-0.7887	0.0713
1	45	0.7500	-0.2121	0.0024	-0.8518	0.0323	-2.3765	0.1029	-0.5854	0.0632
1	45	0.8001	-0.2524	0.0025	-0.9677	0.0355	-2.8271	0.1121	-0.5773	0.0687
1	45	0.8497	-0.2952	0.0026	-1.0211	0.0392	-3.3717	0.1225	-0.8103	0.0671
1	45	0.9102	-0.3836	0.0021	-1.1067	0.0427	-4.0401	0.1357	-1.1162	0.0616
1	45	0.9734	-0.3789	0.0020	-1.1377	0.0467	-4.7725	0.1486	-1.1122	0.0612

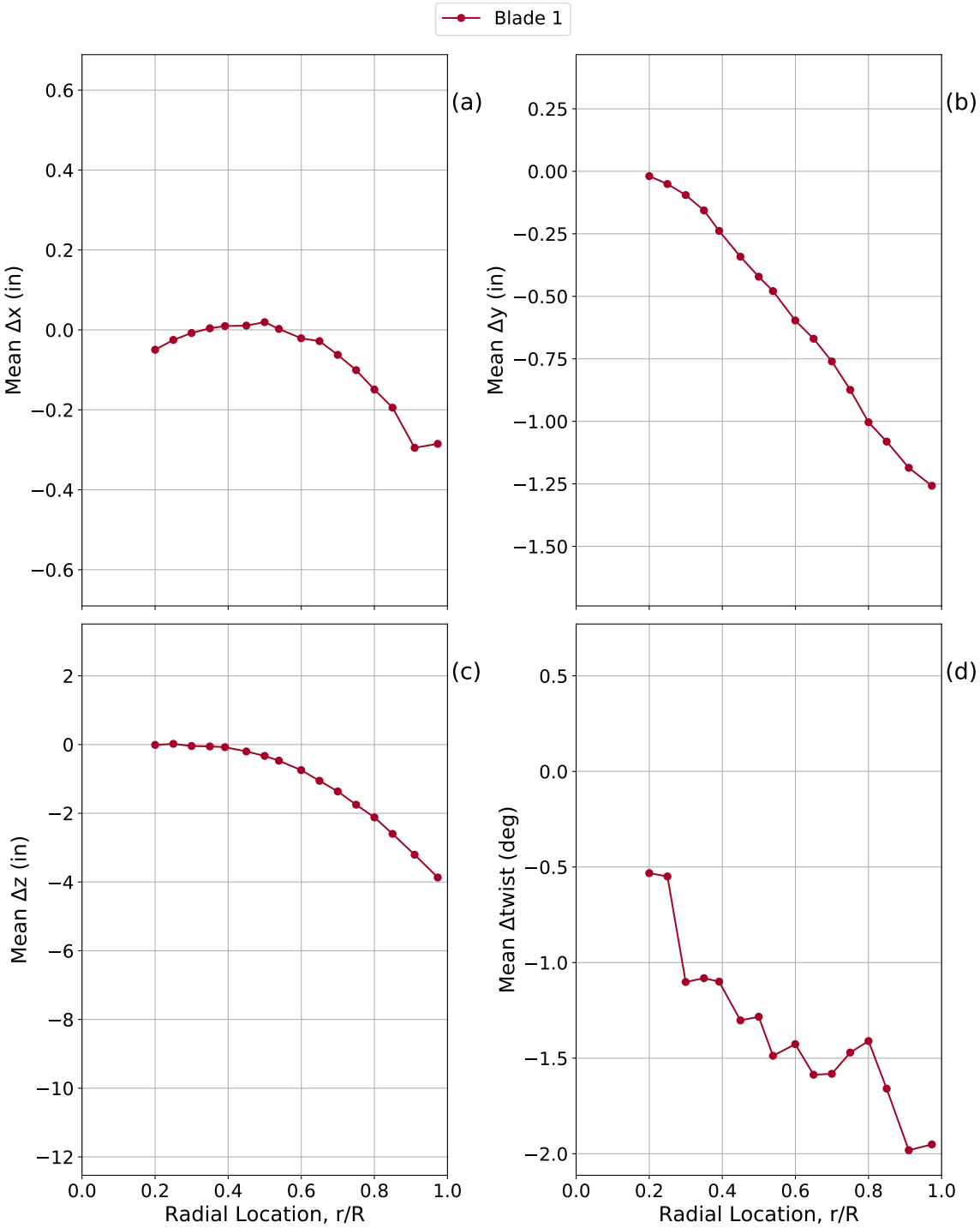


Figure 4.14-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0496	0.0036	-0.0193	0.0024	-0.0116	0.0065	-0.5323	0.0450
1	60.12	0.2499	-0.0251	0.0016	-0.0508	0.0021	0.0207	0.0073	-0.5493	0.1087
1	60.12	0.2998	-0.0077	0.0013	-0.0950	0.0077	-0.0429	0.0199	-1.1016	0.1155
1	60.12	0.3498	0.0041	0.0016	-0.1564	0.0129	-0.0550	0.0315	-1.0817	0.1162
1	60.12	0.3913	0.0097	0.0023	-0.2383	0.0174	-0.0761	0.0428	-1.0997	0.1155
1	60.12	0.4496	0.0108	0.0028	-0.3417	0.0233	-0.2009	0.0576	-1.3024	0.1189
1	60.12	0.4997	0.0194	0.0039	-0.4215	0.0288	-0.3302	0.0692	-1.2835	0.1186
1	60.12	0.5387	0.0025	0.0042	-0.4791	0.0331	-0.4697	0.0787	-1.4877	0.1203
1	60.12	0.5996	-0.0209	0.0042	-0.5966	0.0401	-0.7448	0.0947	-1.4269	0.1150
1	60.12	0.6498	-0.0281	0.0049	-0.6695	0.0465	-1.0541	0.1080	-1.5867	0.1147
1	60.12	0.6998	-0.0624	0.0050	-0.7604	0.0520	-1.3652	0.1226	-1.5818	0.1162
1	60.12	0.7500	-0.1006	0.0056	-0.8740	0.0660	-1.7506	0.1346	-1.4707	0.1216
1	60.12	0.8001	-0.1491	0.0052	-1.0035	0.0725	-2.1191	0.1505	-1.4104	0.1166
1	60.12	0.8497	-0.1945	0.0052	-1.0809	0.0797	-2.5989	0.1661	-1.6594	0.1179
1	60.12	0.9102	-0.2949	0.0054	-1.1856	0.0875	-3.2068	0.1855	-1.9817	0.1092
1	60.12	0.9734	-0.2850	0.0044	-1.2577	0.0955	-3.8679	0.2056	-1.9513	0.1129

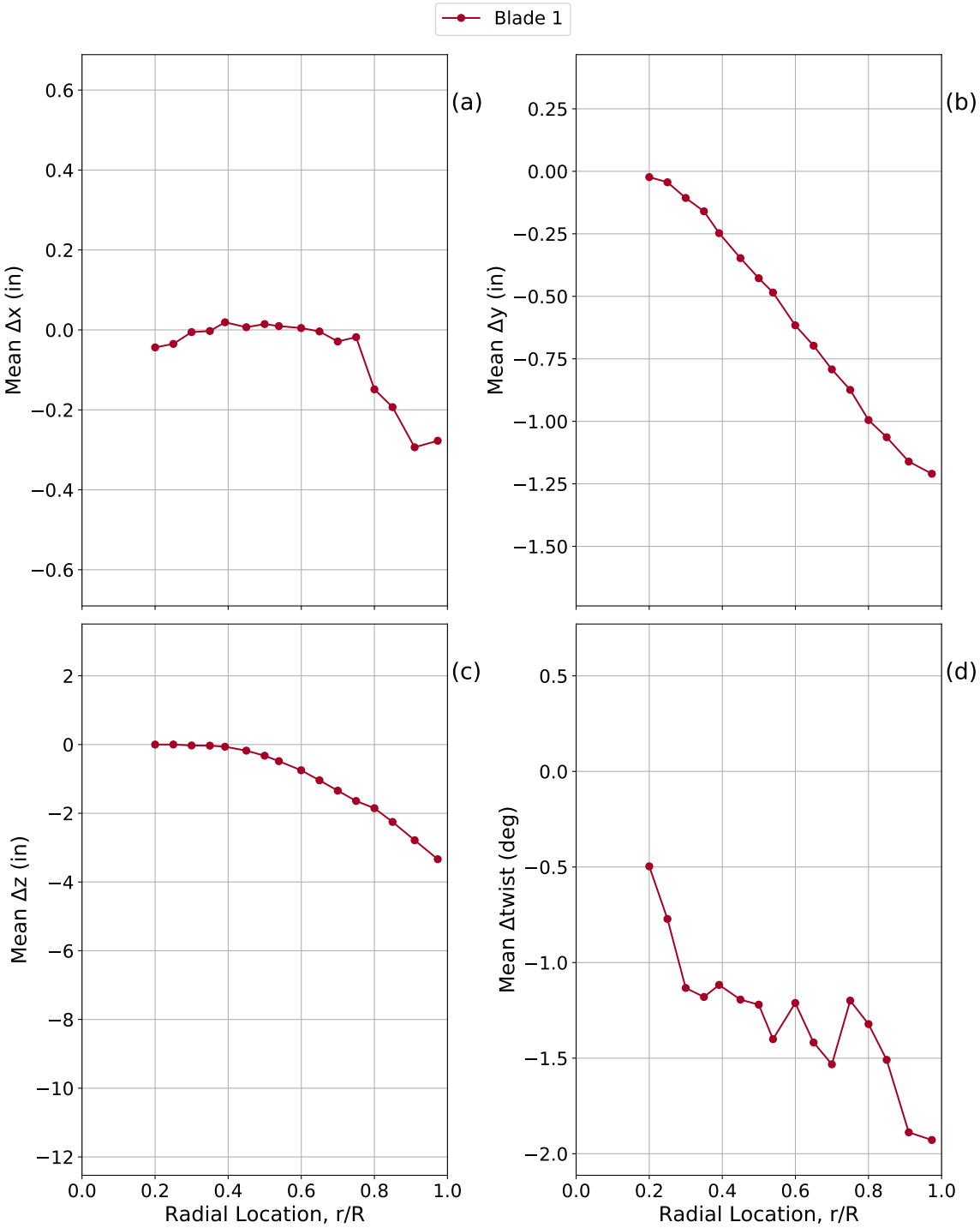


Figure 4.14-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0438	0.0024	-0.0232	0.0018	-0.0002	0.0047	-0.4966	0.0362
1	74.88	0.2499	-0.0350	0.0007	-0.0438	0.0035	0.0014	0.0069	-0.7719	0.0798
1	74.88	0.2998	-0.0055	0.0020	-0.1066	0.0073	-0.0269	0.0152	-1.1329	0.0893
1	74.88	0.3498	-0.0028	0.0025	-0.1600	0.0123	-0.0320	0.0252	-1.1799	0.0860
1	74.88	0.3913	0.0191	0.0032	-0.2473	0.0177	-0.0635	0.0343	-1.1168	0.0819
1	74.88	0.4496	0.0068	0.0038	-0.3472	0.0232	-0.1773	0.0459	-1.1937	0.0851
1	74.88	0.4997	0.0146	0.0042	-0.4277	0.0292	-0.3248	0.0574	-1.2202	0.0833
1	74.88	0.5387	0.0096	0.0054	-0.4848	0.0336	-0.4833	0.0662	-1.4006	0.0828
1	74.88	0.5996	0.0047	0.0070	-0.6161	0.0405	-0.7486	0.0797	-1.2115	0.0780
1	74.88	0.6498	-0.0038	0.0088	-0.6974	0.0473	-1.0406	0.0894	-1.4181	0.0911
1	74.88	0.6998	-0.0289	0.0095	-0.7923	0.0547	-1.3423	0.1006	-1.5323	0.0803
1	74.88	0.7500	-0.0181	0.0117	-0.8742	0.0567	-1.6421	0.1150	-1.1990	0.0976
1	74.88	0.8001	-0.1487	0.0033	-0.9949	0.0826	-1.8523	0.0917	-1.3219	0.0847
1	74.88	0.8497	-0.1932	0.0033	-1.0635	0.0895	-2.2515	0.0983	-1.5089	0.0812
1	74.88	0.9102	-0.2936	0.0037	-1.1609	0.0994	-2.7849	0.1048	-1.8881	0.0894
1	74.88	0.9734	-0.2773	0.0030	-1.2096	0.1089	-3.3366	0.1146	-1.9282	0.0874

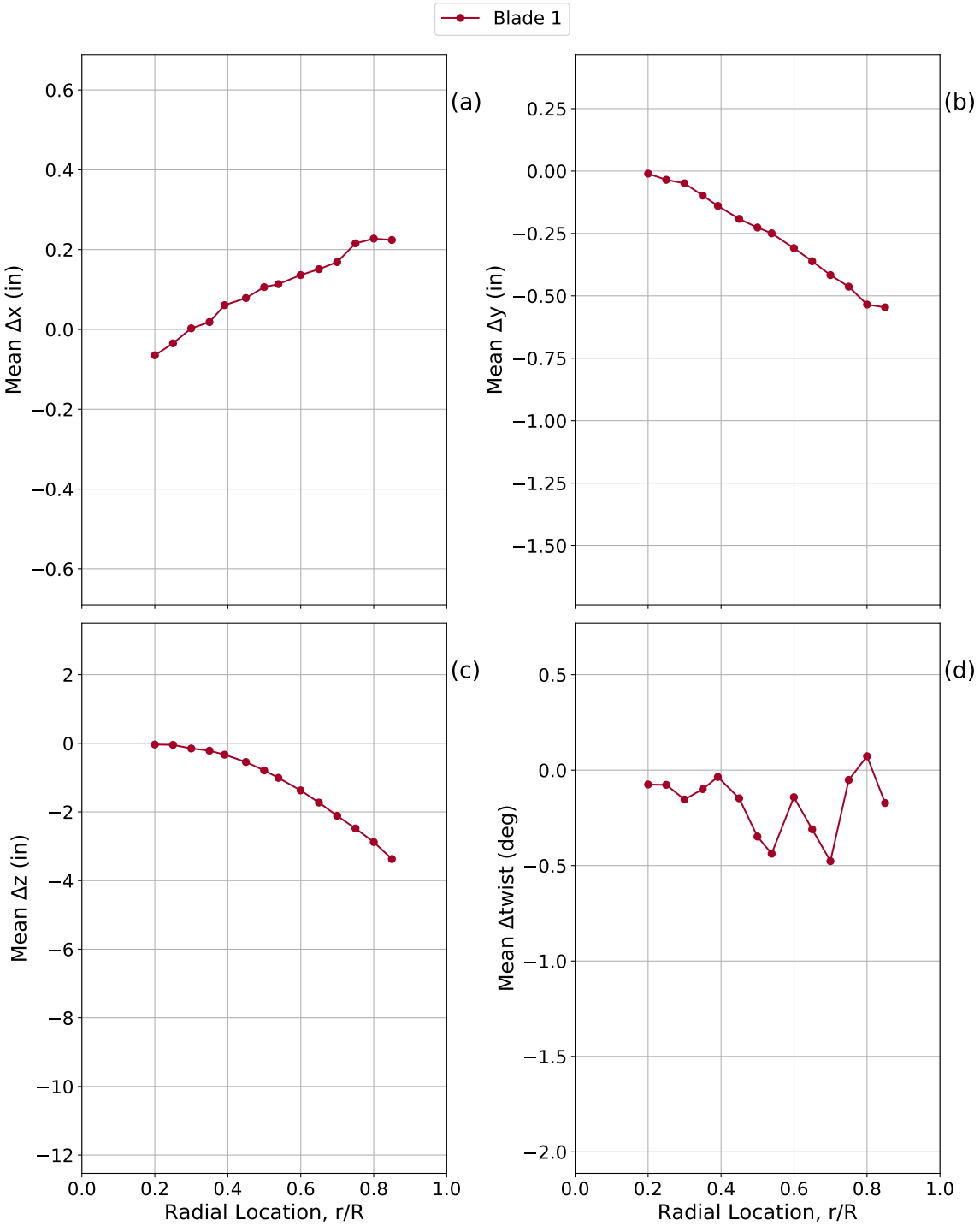


Figure 4.14-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0650	0.0014	-0.0103	0.0004	-0.0348	0.0016	-0.0751	0.0158
1	80.16	0.2499	-0.0349	0.0011	-0.0351	0.0016	-0.0452	0.0045	-0.0769	0.0382
1	80.16	0.2998	0.0027	0.0010	-0.0490	0.0023	-0.1508	0.0063	-0.1537	0.0380
1	80.16	0.3498	0.0184	0.0007	-0.0983	0.0038	-0.2143	0.0111	-0.0993	0.0367
1	80.16	0.3913	0.0608	0.0014	-0.1398	0.0059	-0.3307	0.0165	-0.0356	0.0419
1	80.16	0.4496	0.0785	0.0014	-0.1917	0.0077	-0.5442	0.0190	-0.1474	0.0359
1	80.16	0.4997	0.1060	0.0014	-0.2263	0.0097	-0.7899	0.0234	-0.3480	0.0470
1	80.16	0.5387	0.1134	0.0022	-0.2496	0.0123	-1.0057	0.0280	-0.4376	0.0561
1	80.16	0.5996	0.1361	0.0018	-0.3086	0.0154	-1.3712	0.0322	-0.1415	0.0459
1	80.16	0.6498	0.1509	0.0026	-0.3613	0.0183	-1.7266	0.0362	-0.3099	0.0684
1	80.16	0.6998	0.1687	0.0043	-0.4169	0.0222	-2.1134	0.0359	-0.4767	0.0839
1	80.16	0.7500	0.2156	0.0063	-0.4632	0.0259	-2.4817	0.0417	-0.0514	0.1192
1	80.16	0.8001	0.2275	0.0106	-0.5349	0.0311	-2.8782	0.0423	0.0730	0.2012
1	80.16	0.8497	0.2241	0.0067	-0.5461	0.0374	-3.3717	0.0421	-0.1722	0.1916

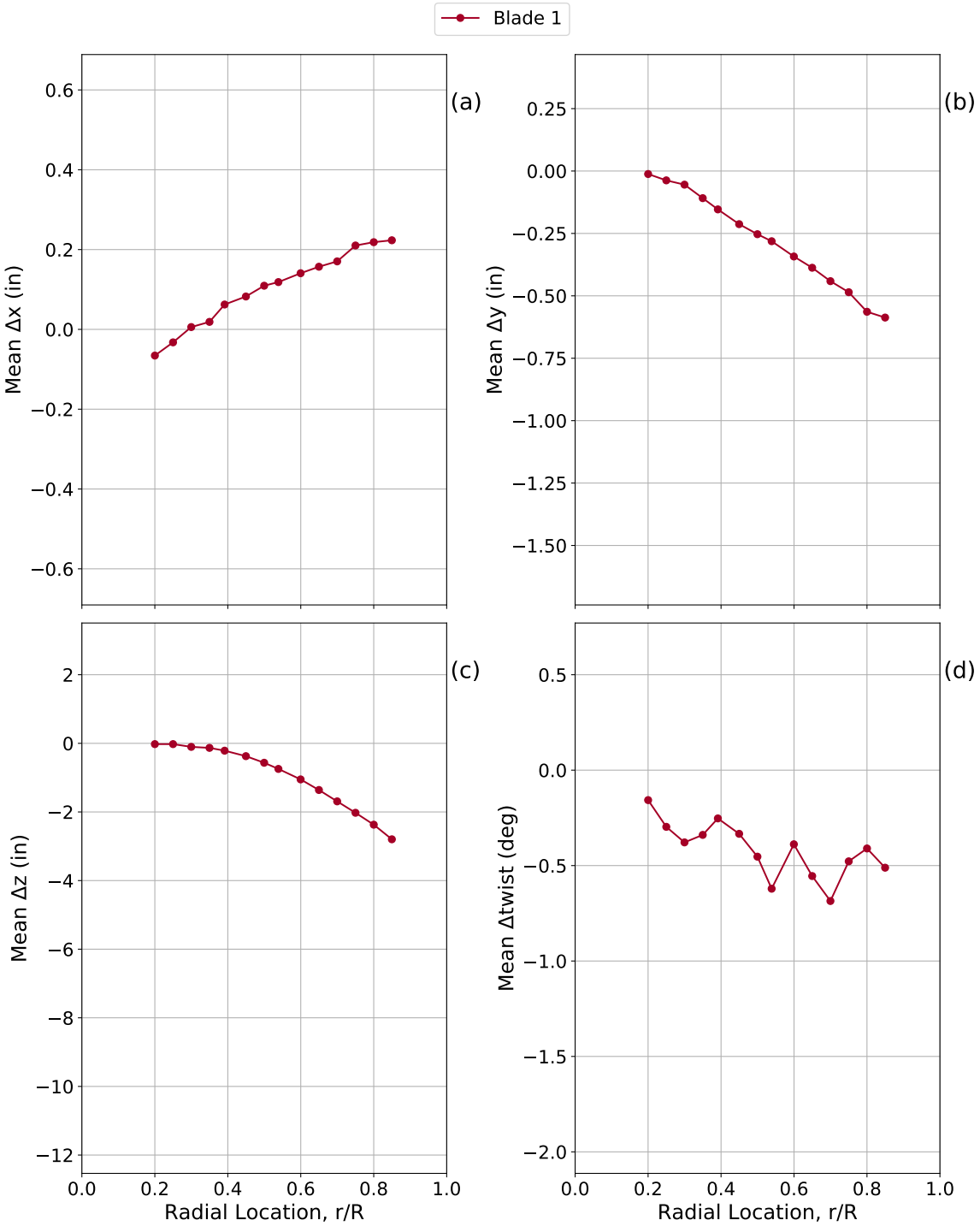


Figure 4.14-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0656	0.0008	-0.0120	0.0007	-0.0227	0.0022	-0.1569	0.0246
1	85.08	0.2499	-0.0325	0.0007	-0.0374	0.0017	-0.0227	0.0047	-0.2970	0.0372
1	85.08	0.2998	0.0058	0.0009	-0.0546	0.0033	-0.1032	0.0085	-0.3785	0.0530
1	85.08	0.3498	0.0188	0.0009	-0.1087	0.0049	-0.1323	0.0145	-0.3392	0.0475
1	85.08	0.3913	0.0623	0.0016	-0.1537	0.0079	-0.2140	0.0210	-0.2528	0.0514
1	85.08	0.4496	0.0824	0.0014	-0.2128	0.0092	-0.3736	0.0278	-0.3335	0.0627
1	85.08	0.4997	0.1094	0.0013	-0.2531	0.0114	-0.5659	0.0348	-0.4533	0.0493
1	85.08	0.5387	0.1185	0.0019	-0.2812	0.0133	-0.7456	0.0406	-0.6212	0.0598
1	85.08	0.5996	0.1407	0.0017	-0.3424	0.0166	-1.0514	0.0496	-0.3883	0.0478
1	85.08	0.6498	0.1570	0.0026	-0.3875	0.0191	-1.3603	0.0560	-0.5548	0.0639
1	85.08	0.6998	0.1704	0.0024	-0.4412	0.0223	-1.6915	0.0635	-0.6856	0.0821
1	85.08	0.7500	0.2102	0.0038	-0.4855	0.0256	-2.0242	0.0617	-0.4778	0.1046
1	85.08	0.8001	0.2185	0.0045	-0.5638	0.0297	-2.3713	0.0757	-0.4103	0.0939
1	85.08	0.8497	0.2233	0.0052	-0.5870	0.0328	-2.7968	0.0831	-0.5111	0.1367

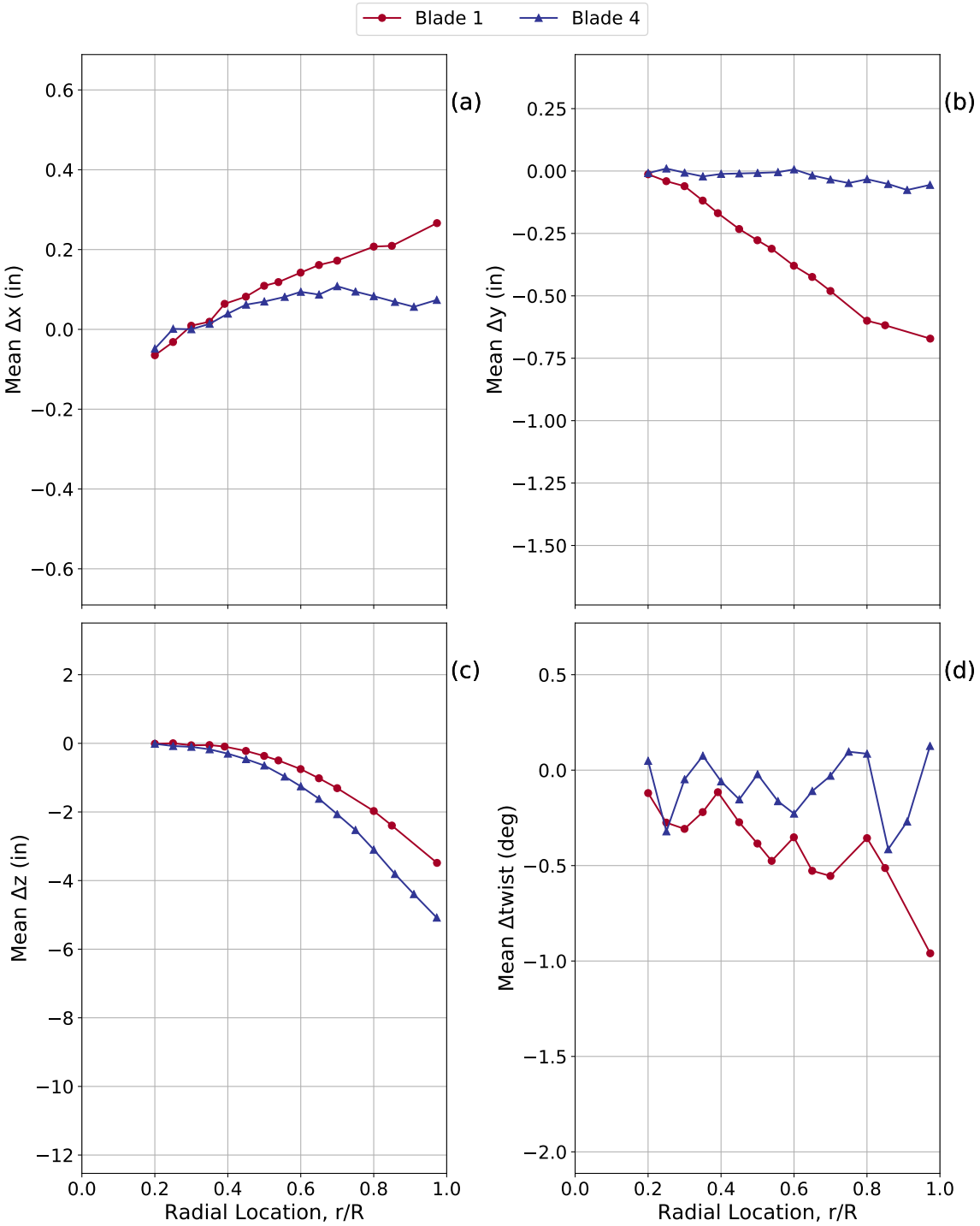


Figure 4.14-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0648	0.0009	-0.0131	0.0005	-0.0120	0.0014	-0.1201	0.0151
1	90	0.2499	-0.0317	0.0009	-0.0407	0.0011	0.0024	0.0032	-0.2749	0.0348
1	90	0.2998	0.0092	0.0013	-0.0607	0.0020	-0.0562	0.0057	-0.3077	0.0379
1	90	0.3498	0.0192	0.0011	-0.1184	0.0035	-0.0503	0.0093	-0.2197	0.0375
1	90	0.3913	0.0640	0.0010	-0.1688	0.0051	-0.0944	0.0139	-0.1154	0.0360
1	90	0.4496	0.0819	0.0017	-0.2323	0.0072	-0.2211	0.0197	-0.2729	0.0367
1	90	0.4997	0.1092	0.0017	-0.2774	0.0090	-0.3671	0.0250	-0.3847	0.0336
1	90	0.5387	0.1185	0.0021	-0.3113	0.0105	-0.4990	0.0293	-0.4754	0.0329
1	90	0.5996	0.1422	0.0020	-0.3794	0.0132	-0.7510	0.0345	-0.3518	0.0355
1	90	0.6498	0.1613	0.0019	-0.4243	0.0153	-1.0185	0.0376	-0.5275	0.0407
1	90	0.6998	0.1722	0.0026	-0.4805	0.0188	-1.3070	0.0419	-0.5544	0.0430
1	90	0.8001	0.2074	0.0027	-0.5997	0.0246	-1.9730	0.0533	-0.3561	0.0696
1	90	0.8497	0.2093	0.0039	-0.6179	0.0285	-2.3959	0.0459	-0.5129	0.0849
1	90	0.9734	0.2663	0.0097	-0.6714	0.0347	-3.4842	0.0762	-0.9597	0.1267
4	90.35	0.2001	-0.0484	0.0016	-0.0083	0.0007	-0.0134	0.0017	0.0487	0.0173
4	90.35	0.2502	0.0013	0.0009	0.0099	0.0021	-0.0789	0.0033	-0.3209	0.0347
4	90.35	0.3001	0.0003	0.0010	-0.0066	0.0033	-0.1025	0.0071	-0.0479	0.0417
4	90.35	0.3502	0.0139	0.0019	-0.0217	0.0058	-0.1750	0.0102	0.0752	0.0424
4	90.35	0.4002	0.0394	0.0025	-0.0117	0.0092	-0.3017	0.0168	-0.0590	0.0449
4	90.35	0.4500	0.0619	0.0028	-0.0098	0.0103	-0.4612	0.0205	-0.1535	0.0432
4	90.35	0.5001	0.0697	0.0034	-0.0079	0.0130	-0.6464	0.0253	-0.0215	0.0426
4	90.35	0.5560	0.0814	0.0039	-0.0047	0.0148	-0.9687	0.0306	-0.1628	0.0393
4	90.35	0.6001	0.0941	0.0041	0.0065	0.0173	-1.2538	0.0350	-0.2279	0.0509
4	90.35	0.6501	0.0871	0.0040	-0.0176	0.0194	-1.6168	0.0398	-0.1095	0.0435
4	90.35	0.6999	0.1081	0.0038	-0.0339	0.0223	-2.0654	0.0472	-0.0296	0.0379
4	90.35	0.7500	0.0947	0.0045	-0.0482	0.0316	-2.5270	0.0611	0.0966	0.2609
4	90.35	0.8002	0.0832	0.0024	-0.0328	0.0284	-3.1002	0.0574	0.0861	0.0444
4	90.35	0.8582	0.0688	0.0031	-0.0521	0.0313	-3.8092	0.0675	-0.4146	0.1208
4	90.35	0.9101	0.0565	0.0077	-0.0760	0.0338	-4.3958	0.0700	-0.2694	0.0755
4	90.35	0.9728	0.0738	0.0069	-0.0556	0.0405	-5.0810	0.0808	0.1267	0.1643

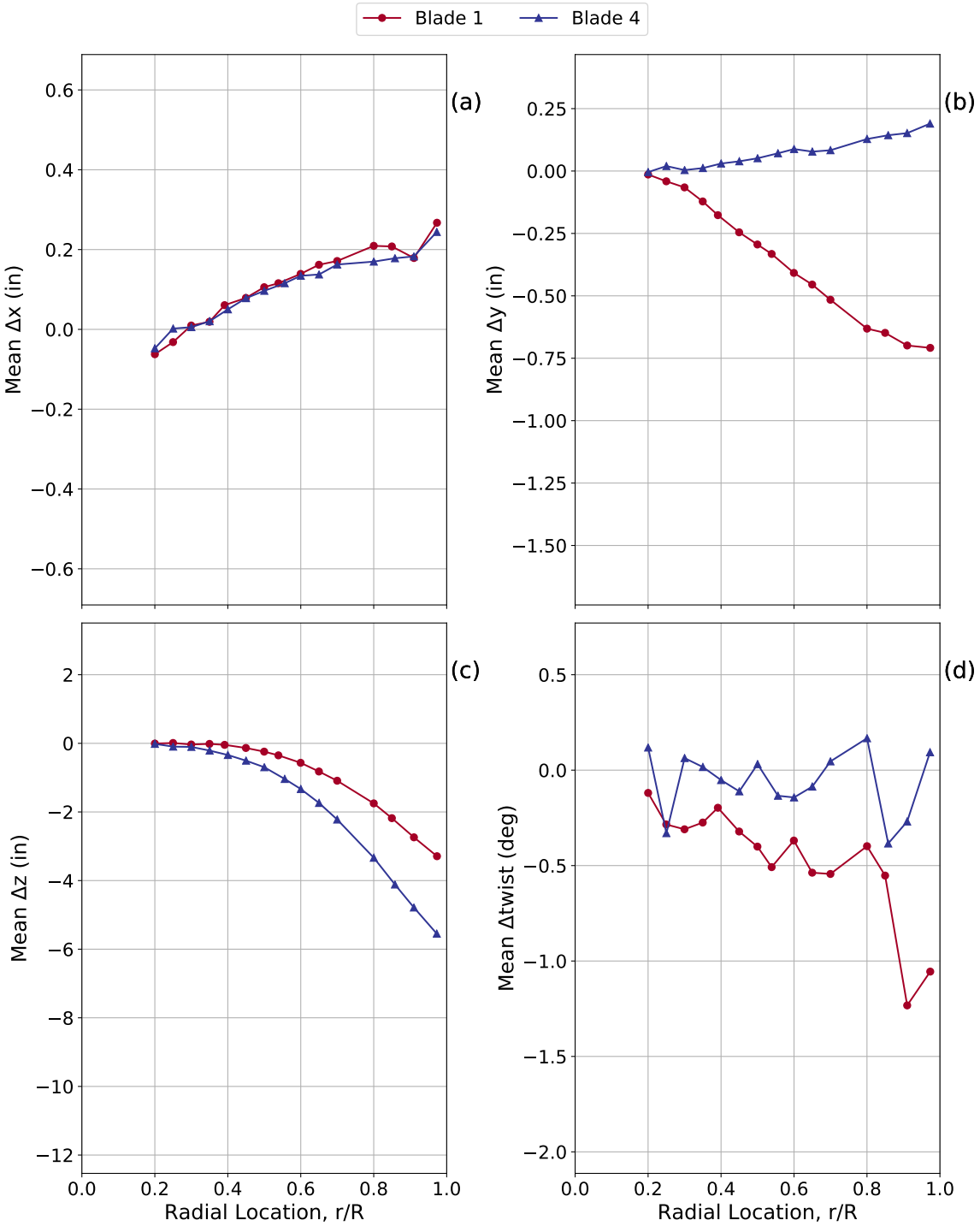


Figure 4.14-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0623	0.0011	-0.0140	0.0005	-0.0063	0.0013	-0.1193	0.0080
1	94.92	0.2499	-0.0319	0.0011	-0.0412	0.0011	0.0103	0.0029	-0.2846	0.0205
1	94.92	0.2998	0.0097	0.0009	-0.0656	0.0015	-0.0335	0.0053	-0.3099	0.0202
1	94.92	0.3498	0.0191	0.0008	-0.1219	0.0033	-0.0164	0.0087	-0.2745	0.0296
1	94.92	0.3913	0.0607	0.0012	-0.1768	0.0044	-0.0440	0.0128	-0.1970	0.0224
1	94.92	0.4496	0.0788	0.0013	-0.2455	0.0054	-0.1350	0.0152	-0.3215	0.0268
1	94.92	0.4997	0.1057	0.0017	-0.2943	0.0068	-0.2418	0.0194	-0.4006	0.0213
1	94.92	0.5387	0.1157	0.0019	-0.3322	0.0073	-0.3500	0.0215	-0.5081	0.0296
1	94.92	0.5996	0.1390	0.0023	-0.4081	0.0096	-0.5672	0.0257	-0.3689	0.0259
1	94.92	0.6498	0.1619	0.0017	-0.4548	0.0113	-0.8208	0.0291	-0.5372	0.0250
1	94.92	0.6998	0.1713	0.0022	-0.5157	0.0135	-1.0899	0.0314	-0.5439	0.0341
1	94.92	0.8001	0.2093	0.0020	-0.6314	0.0179	-1.7504	0.0375	-0.3983	0.0414
1	94.92	0.8497	0.2078	0.0025	-0.6483	0.0197	-2.1807	0.0400	-0.5524	0.0390
1	94.92	0.9102	0.1789	0.0072	-0.6989	0.0224	-2.7393	0.0468	-1.2326	0.1803
1	94.92	0.9734	0.2672	0.0046	-0.7084	0.0256	-3.2900	0.0509	-1.0555	0.0674
4	94.92	0.2001	-0.0475	0.0006	-0.0044	0.0005	-0.0157	0.0015	0.1185	0.0128
4	94.92	0.2502	0.0020	0.0011	0.0198	0.0008	-0.0960	0.0031	-0.3302	0.0171
4	94.92	0.3001	0.0056	0.0007	0.0037	0.0015	-0.1045	0.0056	0.0633	0.0268
4	94.92	0.3502	0.0204	0.0010	0.0118	0.0027	-0.2115	0.0102	0.0163	0.0168
4	94.92	0.4002	0.0502	0.0008	0.0300	0.0038	-0.3400	0.0152	-0.0521	0.0124
4	94.92	0.4500	0.0782	0.0011	0.0389	0.0050	-0.5052	0.0201	-0.1112	0.0166
4	94.92	0.5001	0.0966	0.0011	0.0511	0.0065	-0.6962	0.0249	0.0315	0.0165
4	94.92	0.5560	0.1156	0.0010	0.0710	0.0082	-1.0386	0.0296	-0.1342	0.0179
4	94.92	0.6001	0.1343	0.0011	0.0880	0.0106	-1.3321	0.0349	-0.1430	0.0192
4	94.92	0.6501	0.1376	0.0011	0.0777	0.0131	-1.7378	0.0395	-0.0862	0.0274
4	94.92	0.6999	0.1625	0.0012	0.0833	0.0150	-2.2211	0.0444	0.0459	0.0221
4	94.92	0.8002	0.1698	0.0022	0.1282	0.0202	-3.3353	0.0550	0.1672	0.0302
4	94.92	0.8582	0.1782	0.0033	0.1434	0.0239	-4.1153	0.0599	-0.3844	0.0642
4	94.92	0.9101	0.1829	0.0058	0.1518	0.0258	-4.7849	0.0724	-0.2692	0.0419
4	94.92	0.9728	0.2441	0.0041	0.1898	0.0308	-5.5478	0.0816	0.0937	0.0482

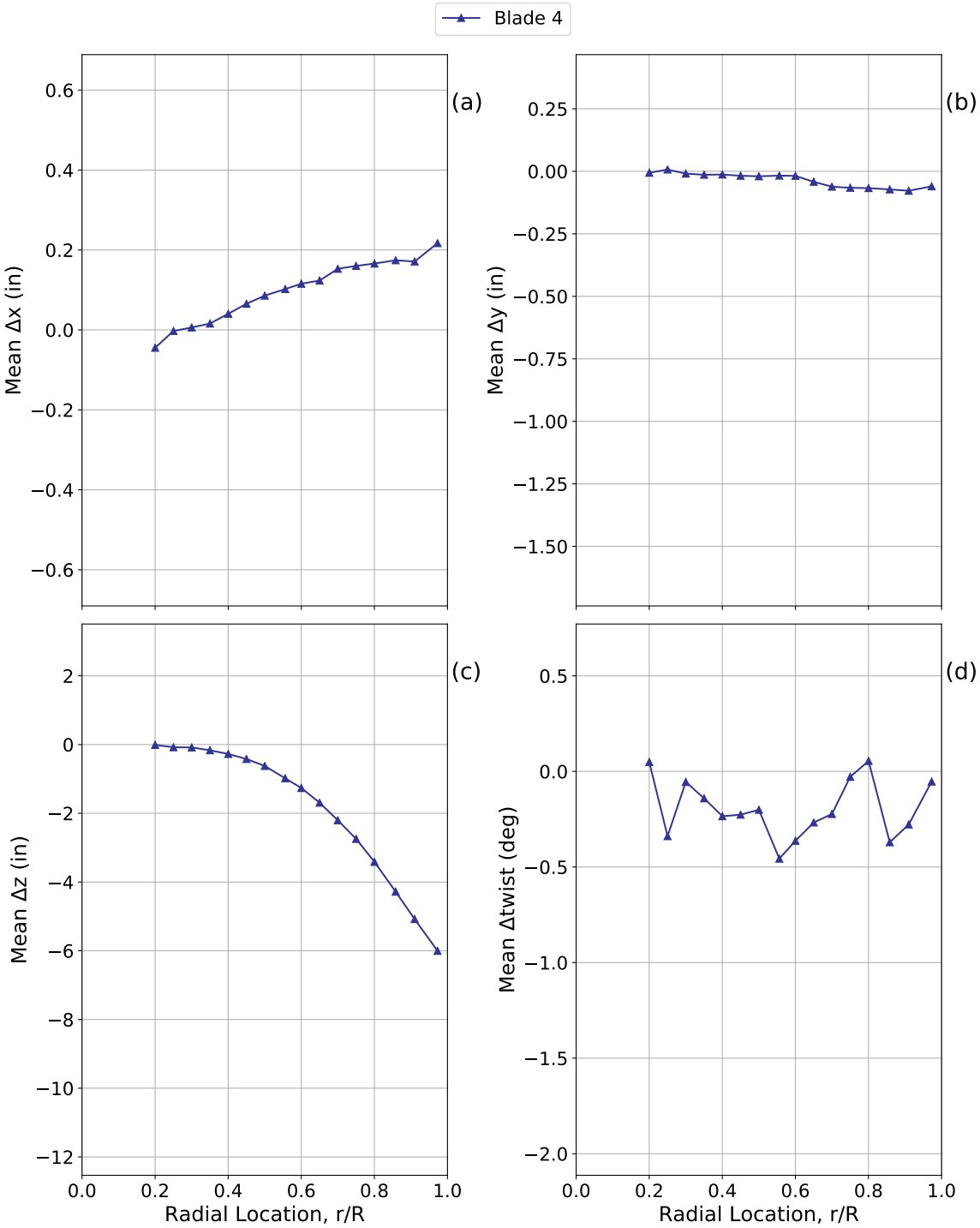


Figure 4.14-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0447	0.0004	-0.0058	0.0004	-0.0105	0.0009	0.0490	0.0111
4	105.12	0.2502	-0.0027	0.0009	0.0070	0.0007	-0.0793	0.0025	-0.3389	0.0199
4	105.12	0.3001	0.0061	0.0007	-0.0093	0.0012	-0.0839	0.0035	-0.0551	0.0254
4	105.12	0.3502	0.0159	0.0006	-0.0138	0.0022	-0.1668	0.0062	-0.1409	0.0185
4	105.12	0.4002	0.0403	0.0008	-0.0129	0.0030	-0.2747	0.0097	-0.2345	0.0207
4	105.12	0.4500	0.0654	0.0011	-0.0178	0.0038	-0.4206	0.0135	-0.2263	0.0220
4	105.12	0.5001	0.0857	0.0011	-0.0199	0.0047	-0.6235	0.0151	-0.2009	0.0247
4	105.12	0.5560	0.1022	0.0009	-0.0174	0.0064	-0.9825	0.0195	-0.4566	0.0259
4	105.12	0.6001	0.1155	0.0010	-0.0183	0.0074	-1.2649	0.0217	-0.3631	0.0301
4	105.12	0.6501	0.1235	0.0011	-0.0420	0.0089	-1.6922	0.0255	-0.2673	0.0288
4	105.12	0.6999	0.1529	0.0016	-0.0615	0.0108	-2.2044	0.0270	-0.2230	0.0291
4	105.12	0.7500	0.1601	0.0020	-0.0659	0.0127	-2.7464	0.0281	-0.0284	0.0297
4	105.12	0.8002	0.1660	0.0020	-0.0673	0.0144	-3.4147	0.0321	0.0546	0.0362
4	105.12	0.8582	0.1742	0.0025	-0.0725	0.0165	-4.2820	0.0391	-0.3708	0.0310
4	105.12	0.9101	0.1711	0.0024	-0.0779	0.0187	-5.0787	0.0455	-0.2776	0.0408
4	105.12	0.9728	0.2171	0.0036	-0.0601	0.0216	-6.0043	0.0562	-0.0532	0.0316

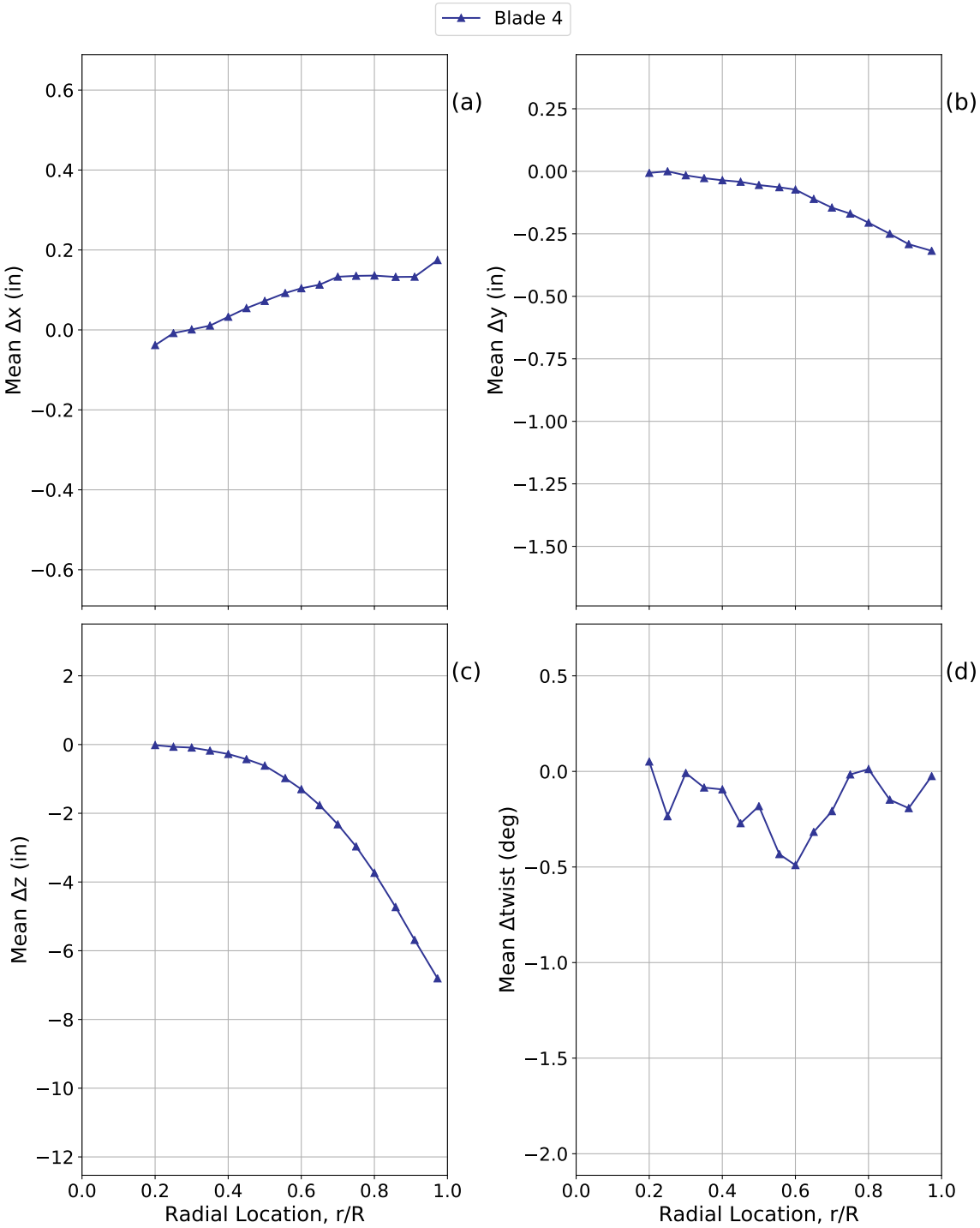


Figure 4.14-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0381	0.0007	-0.0064	0.0003	-0.0175	0.0012	0.0514	0.0190
4	119.88	0.2502	-0.0080	0.0004	-0.0001	0.0010	-0.0662	0.0036	-0.2349	0.0188
4	119.88	0.3001	0.0010	0.0005	-0.0162	0.0014	-0.0893	0.0050	-0.0084	0.0370
4	119.88	0.3502	0.0107	0.0008	-0.0274	0.0024	-0.1781	0.0091	-0.0846	0.0243
4	119.88	0.4002	0.0328	0.0006	-0.0359	0.0038	-0.2763	0.0143	-0.0943	0.0189
4	119.88	0.4500	0.0544	0.0016	-0.0421	0.0038	-0.4270	0.0173	-0.2712	0.0192
4	119.88	0.5001	0.0723	0.0007	-0.0550	0.0055	-0.6162	0.0212	-0.1818	0.0219
4	119.88	0.5560	0.0922	0.0009	-0.0639	0.0062	-0.9784	0.0266	-0.4330	0.0184
4	119.88	0.6001	0.1041	0.0015	-0.0731	0.0068	-1.3012	0.0287	-0.4905	0.0235
4	119.88	0.6501	0.1131	0.0014	-0.1108	0.0075	-1.7650	0.0312	-0.3165	0.0168
4	119.88	0.6999	0.1330	0.0015	-0.1453	0.0094	-2.3234	0.0328	-0.2080	0.0310
4	119.88	0.7500	0.1352	0.0015	-0.1695	0.0113	-2.9670	0.0358	-0.0161	0.0217
4	119.88	0.8002	0.1359	0.0014	-0.2057	0.0119	-3.7358	0.0385	0.0118	0.0156
4	119.88	0.8582	0.1325	0.0020	-0.2500	0.0137	-4.7320	0.0435	-0.1483	0.0207
4	119.88	0.9101	0.1329	0.0021	-0.2916	0.0154	-5.6872	0.0496	-0.1925	0.0147
4	119.88	0.9728	0.1746	0.0030	-0.3181	0.0174	-6.8053	0.0587	-0.0246	0.0151

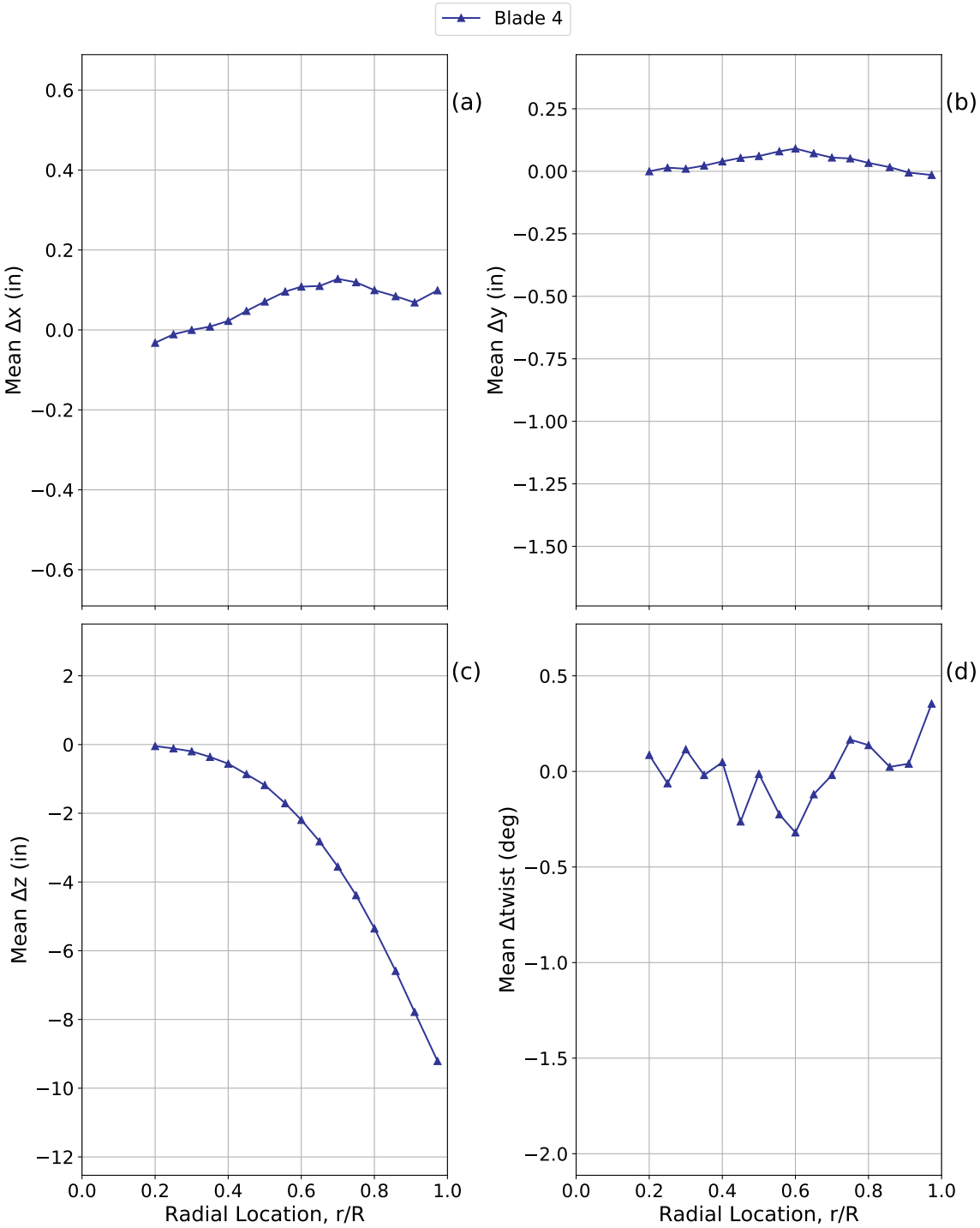


Figure 4.14-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0323	0.0010	0.0000	0.0003	-0.0456	0.0012	0.0859	0.0077
4	135	0.2502	-0.0110	0.0007	0.0145	0.0010	-0.1137	0.0043	-0.0625	0.0131
4	135	0.3001	-0.0001	0.0007	0.0102	0.0012	-0.1986	0.0077	0.1151	0.0177
4	135	0.3502	0.0082	0.0009	0.0226	0.0023	-0.3616	0.0105	-0.0192	0.0202
4	135	0.4002	0.0225	0.0009	0.0394	0.0035	-0.5584	0.0193	0.0483	0.0247
4	135	0.4500	0.0474	0.0016	0.0537	0.0047	-0.8627	0.0201	-0.2622	0.0227
4	135	0.5001	0.0708	0.0008	0.0609	0.0061	-1.1805	0.0266	-0.0134	0.0209
4	135	0.5560	0.0958	0.0016	0.0797	0.0072	-1.7103	0.0353	-0.2249	0.0257
4	135	0.6001	0.1082	0.0014	0.0910	0.0082	-2.1942	0.0327	-0.3196	0.0293
4	135	0.6501	0.1099	0.0013	0.0720	0.0090	-2.8192	0.0387	-0.1199	0.0270
4	135	0.6999	0.1276	0.0014	0.0548	0.0108	-3.5547	0.0424	-0.0190	0.0196
4	135	0.7500	0.1191	0.0017	0.0514	0.0124	-4.3860	0.0464	0.1664	0.0281
4	135	0.8002	0.0994	0.0014	0.0336	0.0131	-5.3540	0.0495	0.1373	0.0207
4	135	0.8582	0.0842	0.0019	0.0165	0.0143	-6.5892	0.0549	0.0237	0.0247
4	135	0.9101	0.0686	0.0020	-0.0052	0.0159	-7.7828	0.0584	0.0401	0.0244
4	135	0.9728	0.0989	0.0028	-0.0147	0.0176	-9.2110	0.0636	0.3543	0.0215

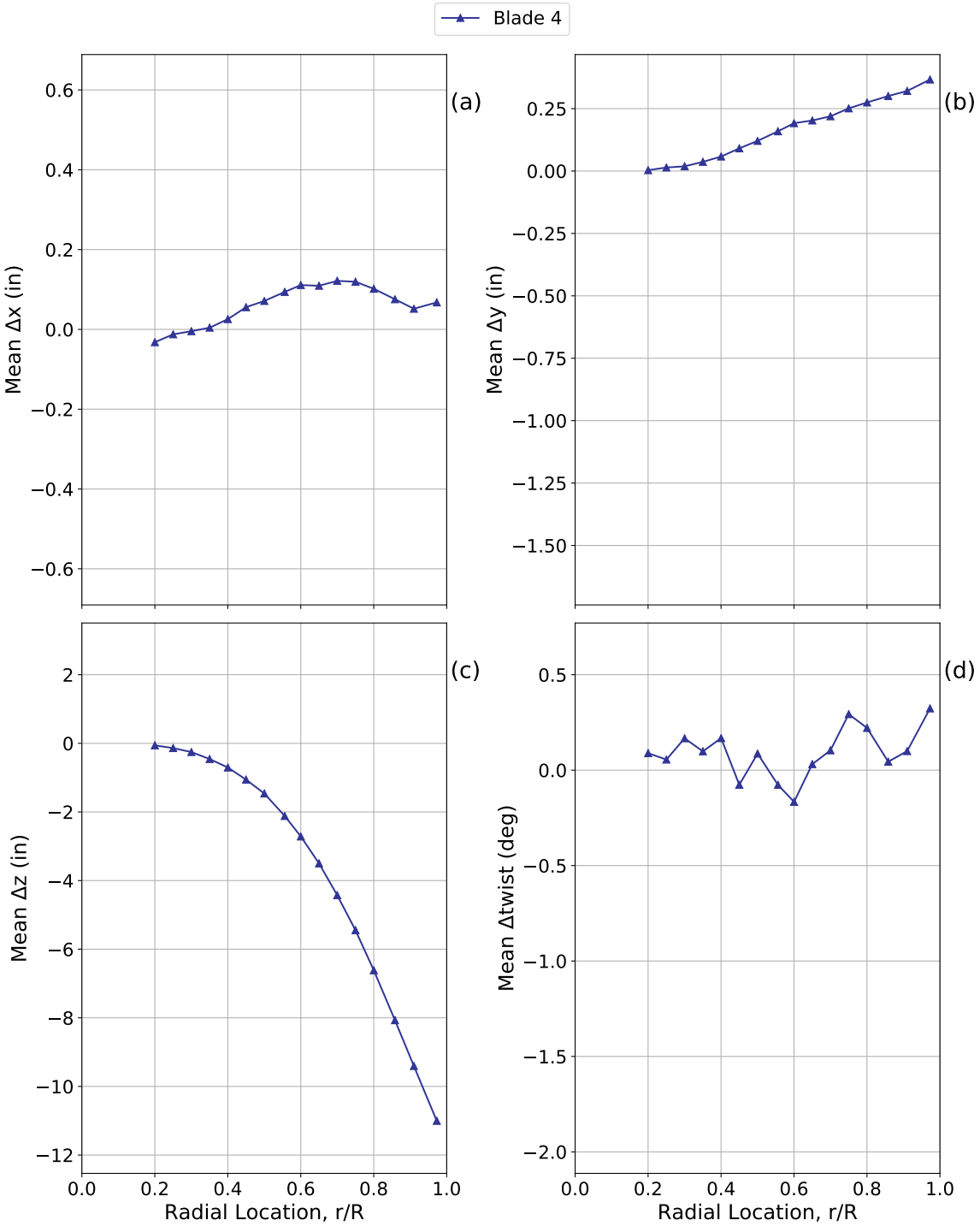


Figure 4.14-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0322	0.0014	0.0034	0.0007	-0.0596	0.0008	0.0889	0.0087
4	150.12	0.2502	-0.0124	0.0013	0.0141	0.0026	-0.1382	0.0036	0.0554	0.0151
4	150.12	0.3001	-0.0046	0.0015	0.0189	0.0036	-0.2543	0.0036	0.1668	0.0193
4	150.12	0.3502	0.0042	0.0009	0.0367	0.0067	-0.4573	0.0067	0.0985	0.0187
4	150.12	0.4002	0.0257	0.0012	0.0580	0.0107	-0.7052	0.0115	0.1678	0.0199
4	150.12	0.4500	0.0555	0.0024	0.0908	0.0104	-1.0576	0.0129	-0.0766	0.0243
4	150.12	0.5001	0.0712	0.0012	0.1207	0.0129	-1.4625	0.0182	0.0868	0.0363
4	150.12	0.5560	0.0938	0.0015	0.1591	0.0152	-2.1168	0.0179	-0.0772	0.0253
4	150.12	0.6001	0.1110	0.0021	0.1916	0.0169	-2.7145	0.0249	-0.1662	0.0405
4	150.12	0.6501	0.1093	0.0027	0.2025	0.0197	-3.5007	0.0269	0.0314	0.0262
4	150.12	0.6999	0.1216	0.0020	0.2192	0.0215	-4.4252	0.0327	0.1038	0.0309
4	150.12	0.7500	0.1193	0.0024	0.2510	0.0246	-5.4476	0.0390	0.2935	0.0322
4	150.12	0.8002	0.1017	0.0019	0.2746	0.0253	-6.6162	0.0426	0.2211	0.0315
4	150.12	0.8582	0.0755	0.0039	0.3004	0.0288	-8.0701	0.0507	0.0442	0.0272
4	150.12	0.9101	0.0517	0.0040	0.3207	0.0313	-9.4058	0.0591	0.0997	0.0223
4	150.12	0.9728	0.0676	0.0047	0.3664	0.0342	-11.0037	0.0695	0.3235	0.0190

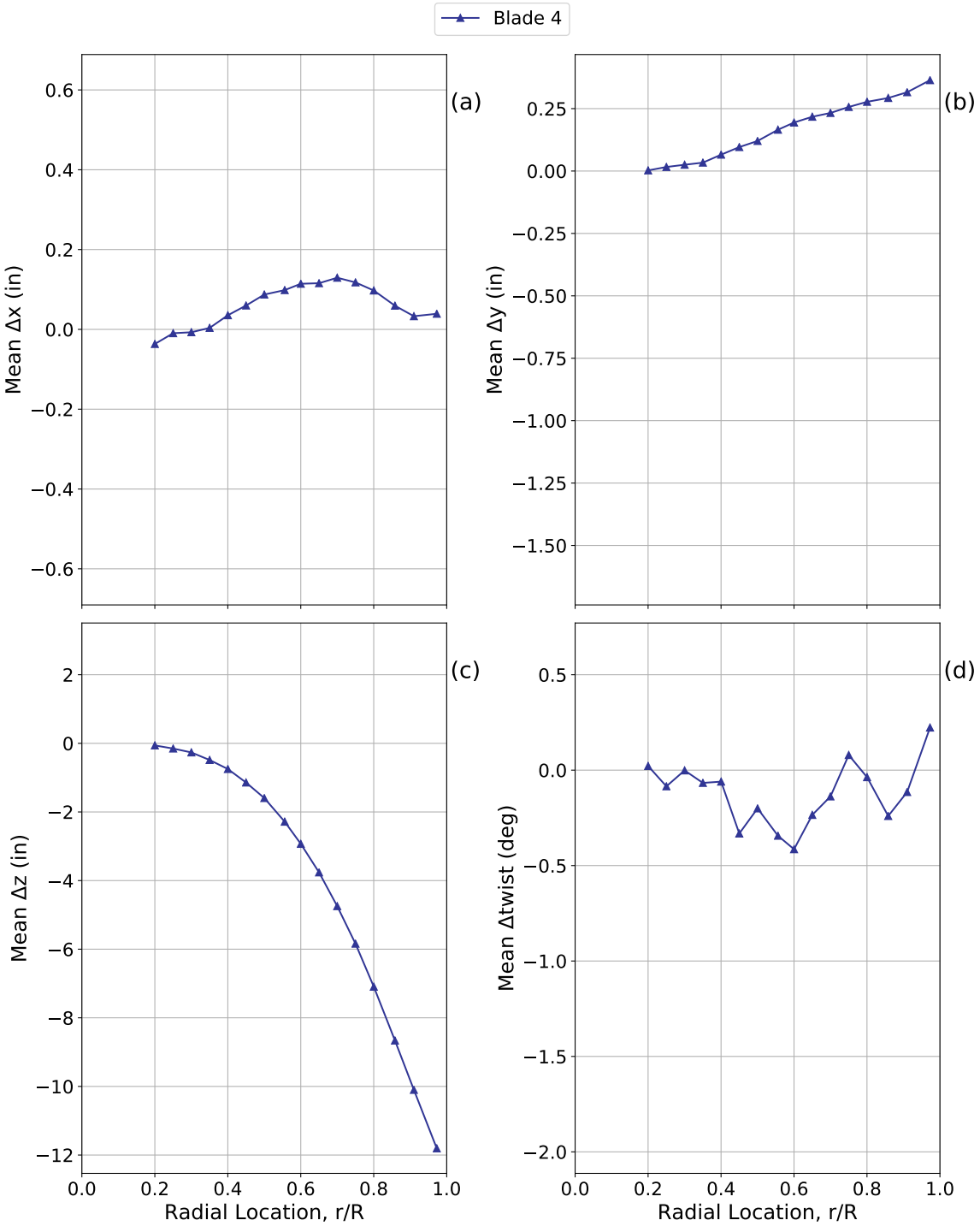


Figure 4.14-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0366	0.0011	0.0025	0.0007	-0.0610	0.0015	0.0217	0.0198
4	164.88	0.2502	-0.0096	0.0017	0.0162	0.0023	-0.1518	0.0022	-0.0847	0.0277
4	164.88	0.3001	-0.0072	0.0008	0.0251	0.0043	-0.2653	0.0039	-0.0014	0.0412
4	164.88	0.3502	0.0037	0.0012	0.0336	0.0061	-0.4861	0.0064	-0.0668	0.0380
4	164.88	0.4002	0.0354	0.0012	0.0655	0.0109	-0.7489	0.0088	-0.0602	0.0327
4	164.88	0.4500	0.0598	0.0015	0.0959	0.0145	-1.1424	0.0116	-0.3320	0.0329
4	164.88	0.5001	0.0873	0.0015	0.1204	0.0150	-1.5952	0.0157	-0.2004	0.0325
4	164.88	0.5560	0.0984	0.0014	0.1654	0.0186	-2.2845	0.0194	-0.3437	0.0352
4	164.88	0.6001	0.1143	0.0010	0.1943	0.0203	-2.9305	0.0220	-0.4144	0.0342
4	164.88	0.6501	0.1157	0.0017	0.2174	0.0234	-3.7616	0.0247	-0.2346	0.0308
4	164.88	0.6999	0.1294	0.0014	0.2326	0.0264	-4.7453	0.0291	-0.1378	0.0400
4	164.88	0.7500	0.1177	0.0016	0.2566	0.0291	-5.8399	0.0302	0.0793	0.0272
4	164.88	0.8002	0.0974	0.0019	0.2772	0.0315	-7.0947	0.0339	-0.0369	0.0444
4	164.88	0.8582	0.0593	0.0025	0.2926	0.0357	-8.6623	0.0383	-0.2403	0.0313
4	164.88	0.9101	0.0330	0.0025	0.3156	0.0386	-10.1006	0.0414	-0.1147	0.0393
4	164.88	0.9728	0.0391	0.0035	0.3639	0.0424	-11.8052	0.0447	0.2231	0.0453

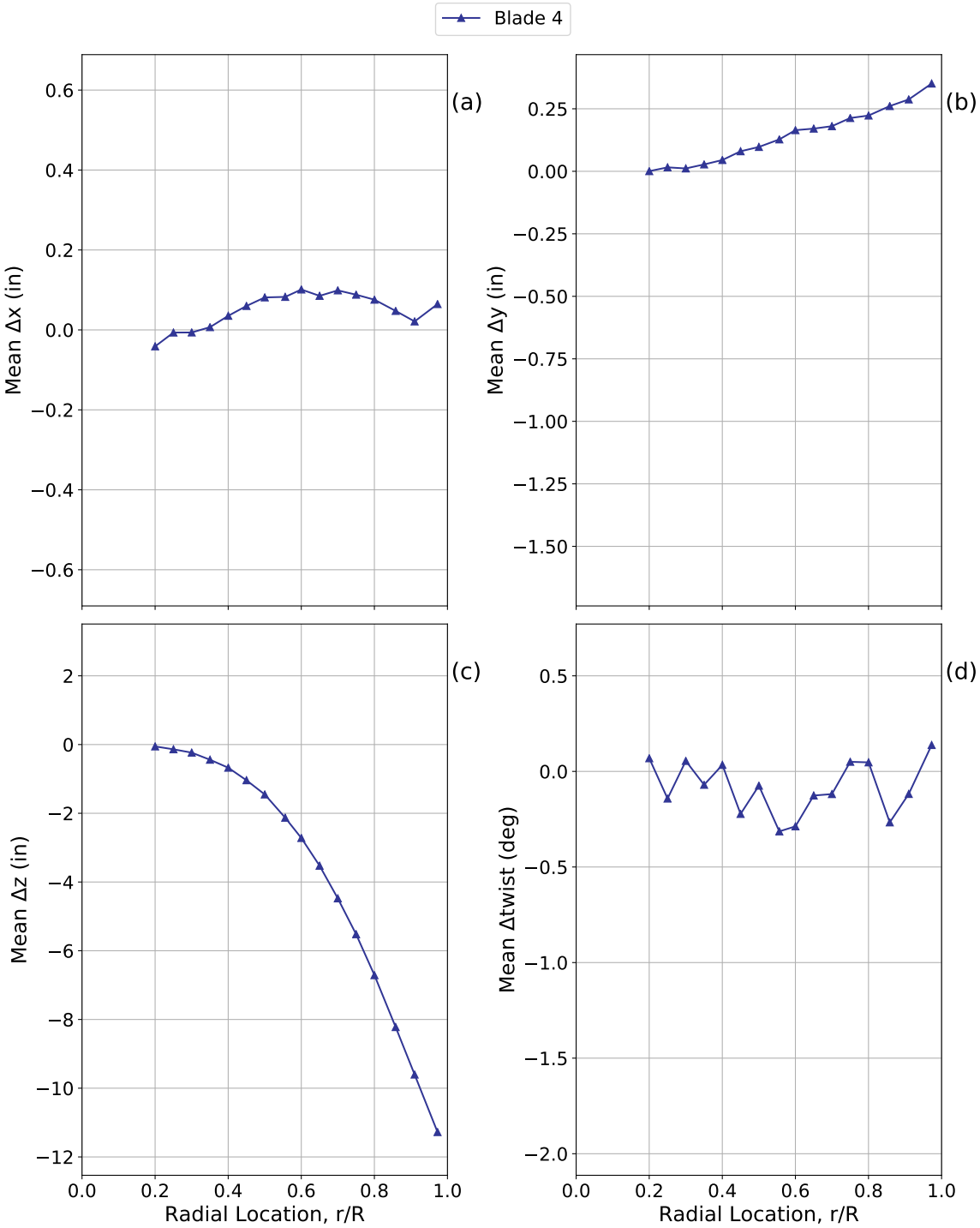


Figure 4.14-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0412	0.0026	0.0006	0.0007	-0.0550	0.0020	0.0688	0.0112
4	170.16	0.2502	-0.0066	0.0017	0.0158	0.0032	-0.1384	0.0028	-0.1422	0.0252
4	170.16	0.3001	-0.0064	0.0007	0.0114	0.0038	-0.2356	0.0078	0.0549	0.0258
4	170.16	0.3502	0.0069	0.0011	0.0275	0.0072	-0.4422	0.0114	-0.0701	0.0279
4	170.16	0.4002	0.0353	0.0019	0.0451	0.0117	-0.6747	0.0181	0.0341	0.0228
4	170.16	0.4500	0.0599	0.0032	0.0801	0.0157	-1.0393	0.0224	-0.2225	0.0251
4	170.16	0.5001	0.0813	0.0048	0.0974	0.0199	-1.4527	0.0280	-0.0746	0.0220
4	170.16	0.5560	0.0826	0.0074	0.1276	0.0263	-2.1298	0.0338	-0.3138	0.0227
4	170.16	0.6001	0.1011	0.0093	0.1645	0.0309	-2.7199	0.0381	-0.2874	0.0214
4	170.16	0.6501	0.0852	0.0113	0.1707	0.0359	-3.5274	0.0436	-0.1262	0.0259
4	170.16	0.6999	0.0989	0.0139	0.1804	0.0413	-4.4766	0.0495	-0.1186	0.0262
4	170.16	0.7500	0.0881	0.0162	0.2131	0.0471	-5.5200	0.0546	0.0502	0.0391
4	170.16	0.8002	0.0756	0.0176	0.2230	0.0545	-6.7119	0.0623	0.0473	0.0426
4	170.16	0.8582	0.0475	0.0235	0.2609	0.0612	-8.2217	0.0682	-0.2667	0.0589
4	170.16	0.9101	0.0212	0.0344	0.2874	0.0702	-9.6034	0.0728	-0.1180	0.0688
4	170.16	0.9728	0.0646	0.0310	0.3509	0.0772	-11.2775	0.0781	0.1380	0.0887

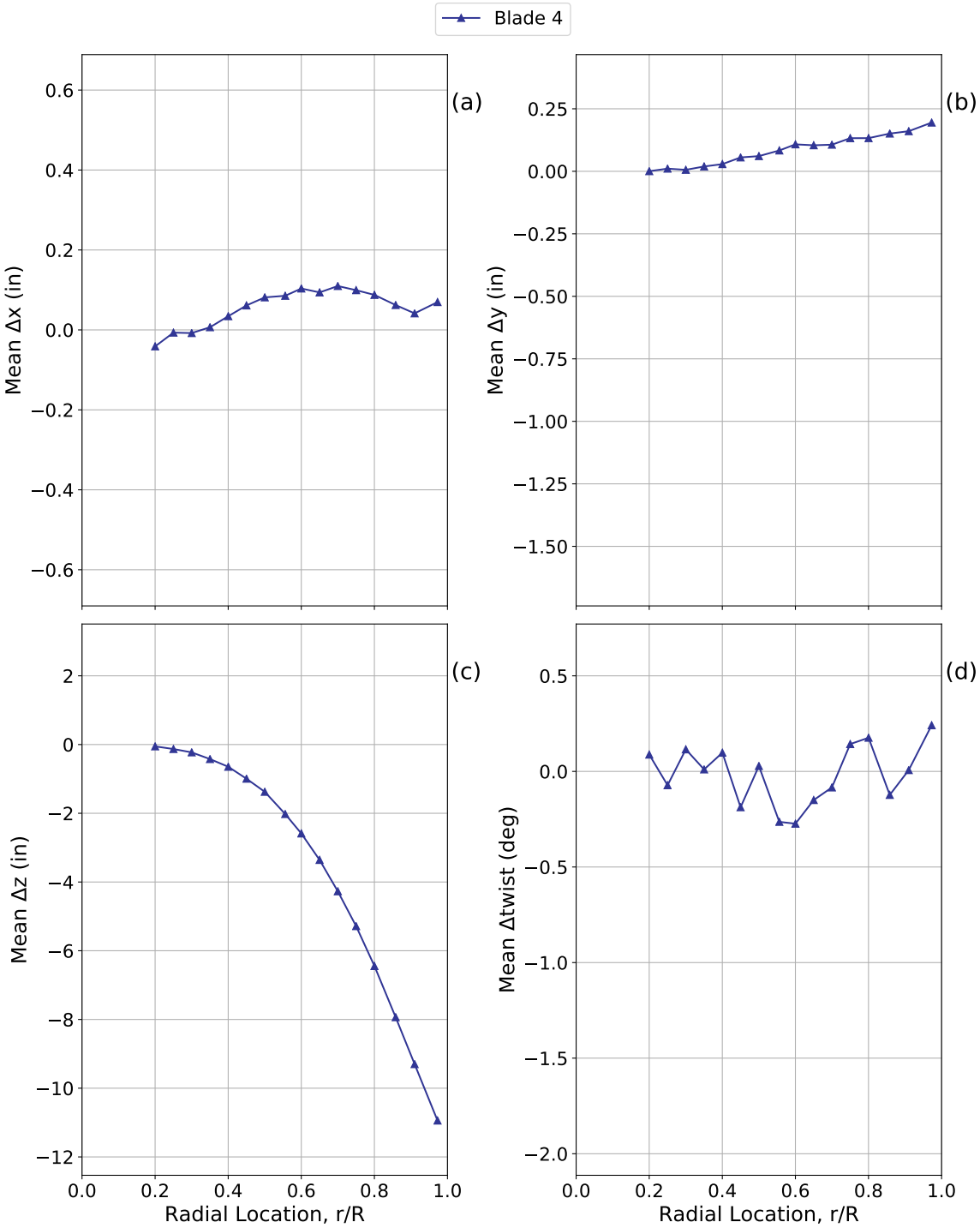


Figure 4.14-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0412	0.0026	0.0005	0.0009	-0.0535	0.0016	0.0879	0.0194
4	175.08	0.2502	-0.0068	0.0014	0.0106	0.0031	-0.1303	0.0033	-0.0723	0.0289
4	175.08	0.3001	-0.0079	0.0012	0.0059	0.0036	-0.2280	0.0054	0.1153	0.0405
4	175.08	0.3502	0.0067	0.0022	0.0193	0.0076	-0.4230	0.0097	0.0103	0.0255
4	175.08	0.4002	0.0343	0.0040	0.0287	0.0114	-0.6468	0.0142	0.0978	0.0232
4	175.08	0.4500	0.0612	0.0062	0.0555	0.0155	-0.9940	0.0165	-0.1874	0.0288
4	175.08	0.5001	0.0814	0.0086	0.0608	0.0197	-1.3755	0.0198	0.0283	0.0291
4	175.08	0.5560	0.0854	0.0118	0.0833	0.0239	-2.0224	0.0239	-0.2639	0.0303
4	175.08	0.6001	0.1036	0.0137	0.1078	0.0281	-2.5878	0.0277	-0.2735	0.0308
4	175.08	0.6501	0.0938	0.0164	0.1041	0.0325	-3.3585	0.0319	-0.1498	0.0342
4	175.08	0.6999	0.1098	0.0194	0.1064	0.0365	-4.2703	0.0361	-0.0839	0.0335
4	175.08	0.7500	0.0994	0.0228	0.1325	0.0400	-5.2845	0.0414	0.1430	0.0385
4	175.08	0.8002	0.0876	0.0261	0.1327	0.0433	-6.4458	0.0481	0.1761	0.0332
4	175.08	0.8582	0.0622	0.0301	0.1509	0.0500	-7.9344	0.0532	-0.1230	0.0395
4	175.08	0.9101	0.0414	0.0342	0.1604	0.0549	-9.2995	0.0599	0.0068	0.0268
4	175.08	0.9728	0.0696	0.0383	0.1948	0.0612	-10.9417	0.0689	0.2414	0.0366

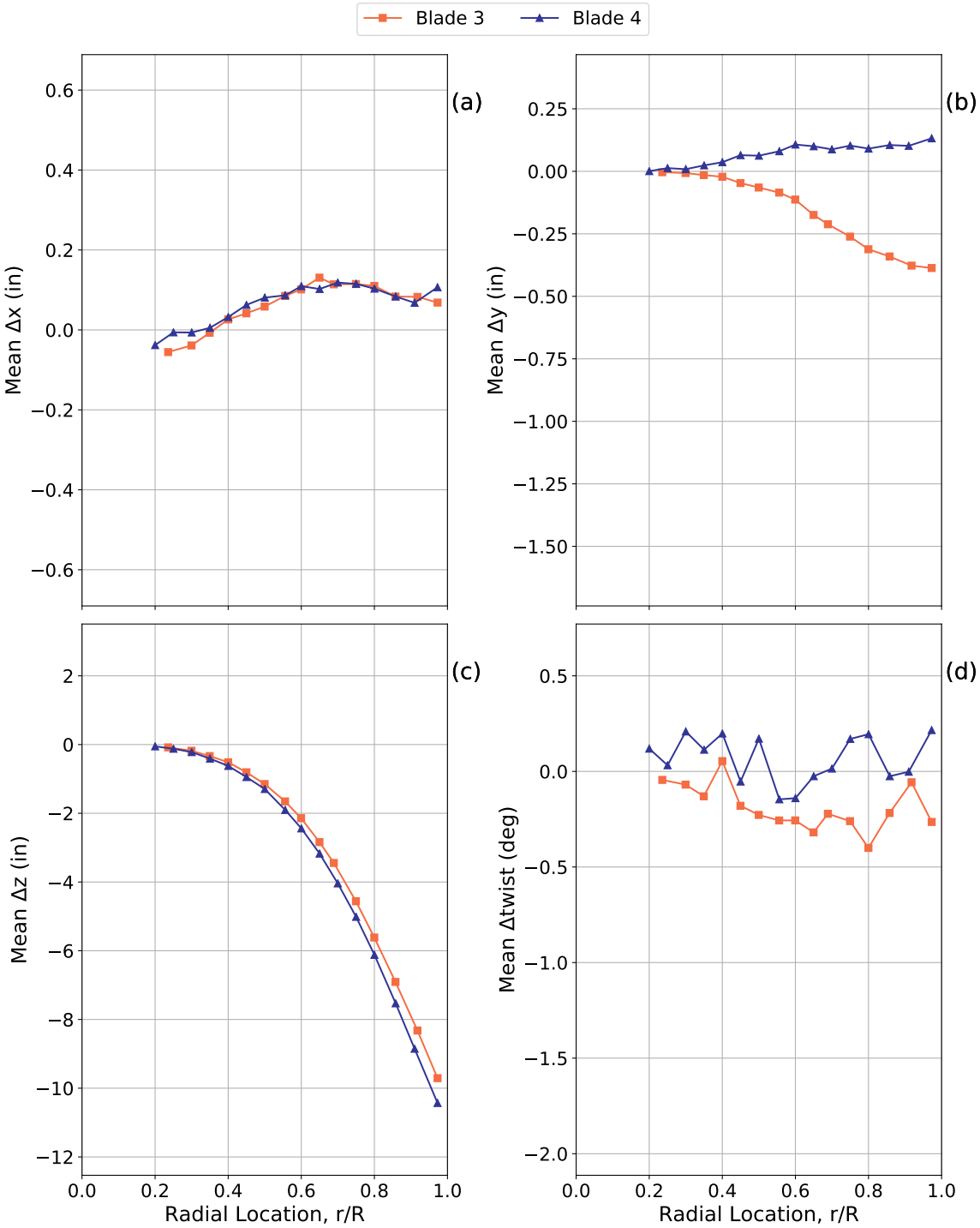


Figure 4.14-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0555	0.0019	-0.0037	0.0020	-0.0817	0.0034	-0.0444	0.0347
3	180.35	0.2995	-0.0388	0.0021	-0.0070	0.0046	-0.1798	0.0084	-0.0691	0.0560
3	180.35	0.3493	-0.0071	0.0015	-0.0151	0.0083	-0.3353	0.0138	-0.1302	0.0539
3	180.35	0.4000	0.0263	0.0021	-0.0218	0.0129	-0.5149	0.0222	0.0540	0.0576
3	180.35	0.4497	0.0415	0.0022	-0.0470	0.0162	-0.8064	0.0273	-0.1798	0.0426
3	180.35	0.4997	0.0584	0.0027	-0.0649	0.0196	-1.1496	0.0324	-0.2276	0.0520
3	180.35	0.5556	0.0850	0.0022	-0.0852	0.0229	-1.6543	0.0397	-0.2565	0.0521
3	180.35	0.5995	0.1014	0.0029	-0.1131	0.0275	-2.1426	0.0440	-0.2563	0.0527
3	180.35	0.6498	0.1308	0.0023	-0.1746	0.0303	-2.8387	0.0484	-0.3189	0.0536
3	180.35	0.6890	0.1140	0.0034	-0.2118	0.0350	-3.4450	0.0531	-0.2216	0.0556
3	180.35	0.7495	0.1148	0.0031	-0.2611	0.0398	-4.5607	0.0608	-0.2599	0.0527
3	180.35	0.7998	0.1101	0.0028	-0.3118	0.0452	-5.6156	0.0647	-0.4004	0.0605
3	180.35	0.8577	0.0836	0.0030	-0.3407	0.0504	-6.9074	0.0736	-0.2176	0.0427
3	180.35	0.9178	0.0827	0.0037	-0.3772	0.0567	-8.3211	0.0782	-0.0569	0.0482
3	180.35	0.9729	0.0684	0.0050	-0.3868	0.0619	-9.7079	0.0878	-0.2644	0.0555
4	180	0.2001	-0.0380	0.0027	0.0007	0.0007	-0.0532	0.0019	0.1191	0.0138
4	180	0.2502	-0.0061	0.0016	0.0127	0.0022	-0.1226	0.0021	0.0320	0.0289
4	180	0.3001	-0.0065	0.0012	0.0086	0.0036	-0.2207	0.0059	0.2088	0.0321
4	180	0.3502	0.0053	0.0022	0.0236	0.0056	-0.4096	0.0104	0.1134	0.0264
4	180	0.4002	0.0323	0.0046	0.0365	0.0093	-0.6225	0.0143	0.1982	0.0270
4	180	0.4500	0.0625	0.0065	0.0645	0.0119	-0.9465	0.0173	-0.0532	0.0330
4	180	0.5001	0.0808	0.0085	0.0624	0.0133	-1.2947	0.0200	0.1712	0.0310
4	180	0.5560	0.0866	0.0113	0.0802	0.0162	-1.9047	0.0250	-0.1461	0.0220
4	180	0.6001	0.1094	0.0133	0.1070	0.0181	-2.4406	0.0278	-0.1400	0.0350
4	180	0.6501	0.1024	0.0146	0.1001	0.0210	-3.1739	0.0302	-0.0251	0.0364
4	180	0.6999	0.1184	0.0167	0.0877	0.0237	-4.0410	0.0359	0.0147	0.0273
4	180	0.7500	0.1152	0.0181	0.1028	0.0263	-5.0141	0.0377	0.1698	0.0327
4	180	0.8002	0.1032	0.0190	0.0907	0.0299	-6.1210	0.0405	0.1947	0.0319
4	180	0.8582	0.0836	0.0220	0.1050	0.0350	-7.5309	0.0457	-0.0253	0.0447
4	180	0.9101	0.0678	0.0244	0.1018	0.0387	-8.8526	0.0515	-0.0017	0.0406
4	180	0.9728	0.1067	0.0289	0.1319	0.0440	-10.4311	0.0553	0.2160	0.0421

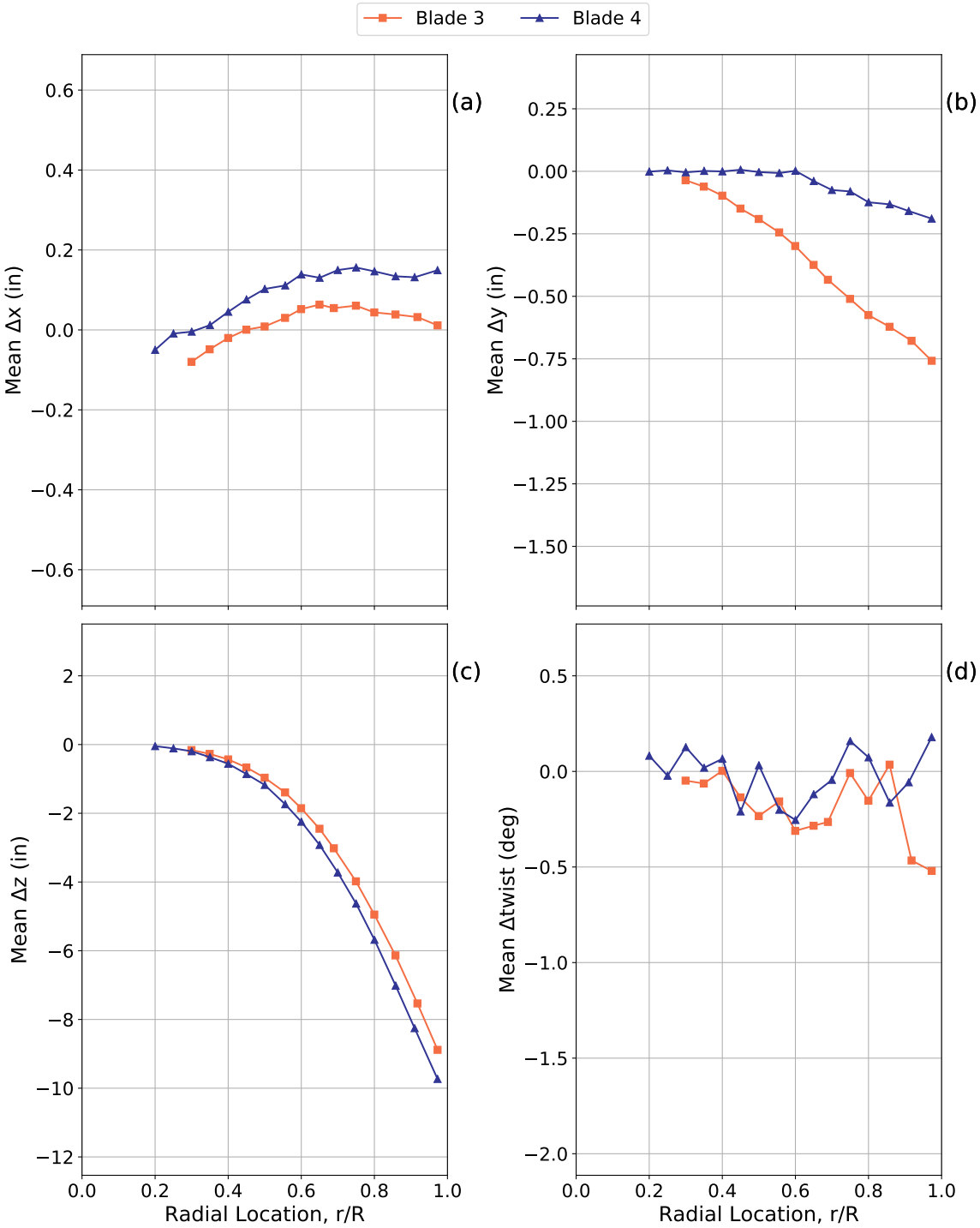


Figure 4.14-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0799	0.0037	-0.0358	0.0072	-0.1595	0.0086	-0.0482	0.0328
3	184.92	0.3493	-0.0485	0.0024	-0.0612	0.0123	-0.2721	0.0145	-0.0633	0.0431
3	184.92	0.4000	-0.0202	0.0027	-0.0974	0.0196	-0.4321	0.0227	0.0030	0.0338
3	184.92	0.4497	0.0006	0.0030	-0.1491	0.0253	-0.6661	0.0295	-0.1358	0.0403
3	184.92	0.4997	0.0086	0.0033	-0.1906	0.0311	-0.9649	0.0372	-0.2335	0.0362
3	184.92	0.5556	0.0301	0.0038	-0.2444	0.0383	-1.3934	0.0447	-0.1571	0.0405
3	184.92	0.5995	0.0520	0.0037	-0.2988	0.0436	-1.8521	0.0522	-0.3109	0.0361
3	184.92	0.6498	0.0633	0.0039	-0.3743	0.0503	-2.4498	0.0604	-0.2842	0.0424
3	184.92	0.6890	0.0546	0.0048	-0.4338	0.0555	-3.0183	0.0668	-0.2643	0.0423
3	184.92	0.7495	0.0607	0.0052	-0.5103	0.0634	-3.9799	0.0767	-0.0085	0.0448
3	184.92	0.7998	0.0438	0.0064	-0.5749	0.0697	-4.9473	0.0843	-0.1533	0.0462
3	184.92	0.8577	0.0386	0.0090	-0.6218	0.0784	-6.1366	0.0952	0.0354	0.0429
3	184.92	0.9178	0.0321	0.0134	-0.6779	0.0867	-7.5339	0.1049	-0.4658	0.0434
3	184.92	0.9729	0.0114	0.0179	-0.7578	0.0950	-8.8839	0.1176	-0.5205	0.0473
4	184.92	0.2001	-0.0500	0.0023	-0.0013	0.0008	-0.0468	0.0016	0.0817	0.0206
4	184.92	0.2502	-0.0091	0.0008	0.0037	0.0018	-0.1114	0.0031	-0.0228	0.0173
4	184.92	0.3001	-0.0044	0.0008	-0.0041	0.0034	-0.1963	0.0067	0.1267	0.0393
4	184.92	0.3502	0.0120	0.0024	0.0015	0.0047	-0.3686	0.0085	0.0191	0.0313
4	184.92	0.4002	0.0453	0.0040	-0.0005	0.0078	-0.5596	0.0148	0.0659	0.0379
4	184.92	0.4500	0.0761	0.0061	0.0062	0.0093	-0.8587	0.0174	-0.2098	0.0416
4	184.92	0.5001	0.1025	0.0078	-0.0030	0.0109	-1.1764	0.0205	0.0320	0.0391
4	184.92	0.5560	0.1112	0.0107	-0.0070	0.0133	-1.7380	0.0258	-0.2008	0.0401
4	184.92	0.6001	0.1388	0.0130	0.0019	0.0153	-2.2465	0.0269	-0.2541	0.0395
4	184.92	0.6501	0.1304	0.0164	-0.0391	0.0179	-2.9223	0.0302	-0.1194	0.0326
4	184.92	0.6999	0.1497	0.0188	-0.0748	0.0217	-3.7253	0.0340	-0.0443	0.0329
4	184.92	0.7500	0.1561	0.0221	-0.0805	0.0253	-4.6293	0.0395	0.1588	0.0519
4	184.92	0.8002	0.1465	0.0267	-0.1239	0.0290	-5.6813	0.0454	0.0734	0.0460
4	184.92	0.8582	0.1341	0.0280	-0.1321	0.0325	-7.0162	0.0484	-0.1635	0.0520
4	184.92	0.9101	0.1317	0.0361	-0.1589	0.0419	-8.2536	0.0552	-0.0570	0.0699
4	184.92	0.9728	0.1493	0.0398	-0.1894	0.0454	-9.7319	0.0685	0.1792	0.0554

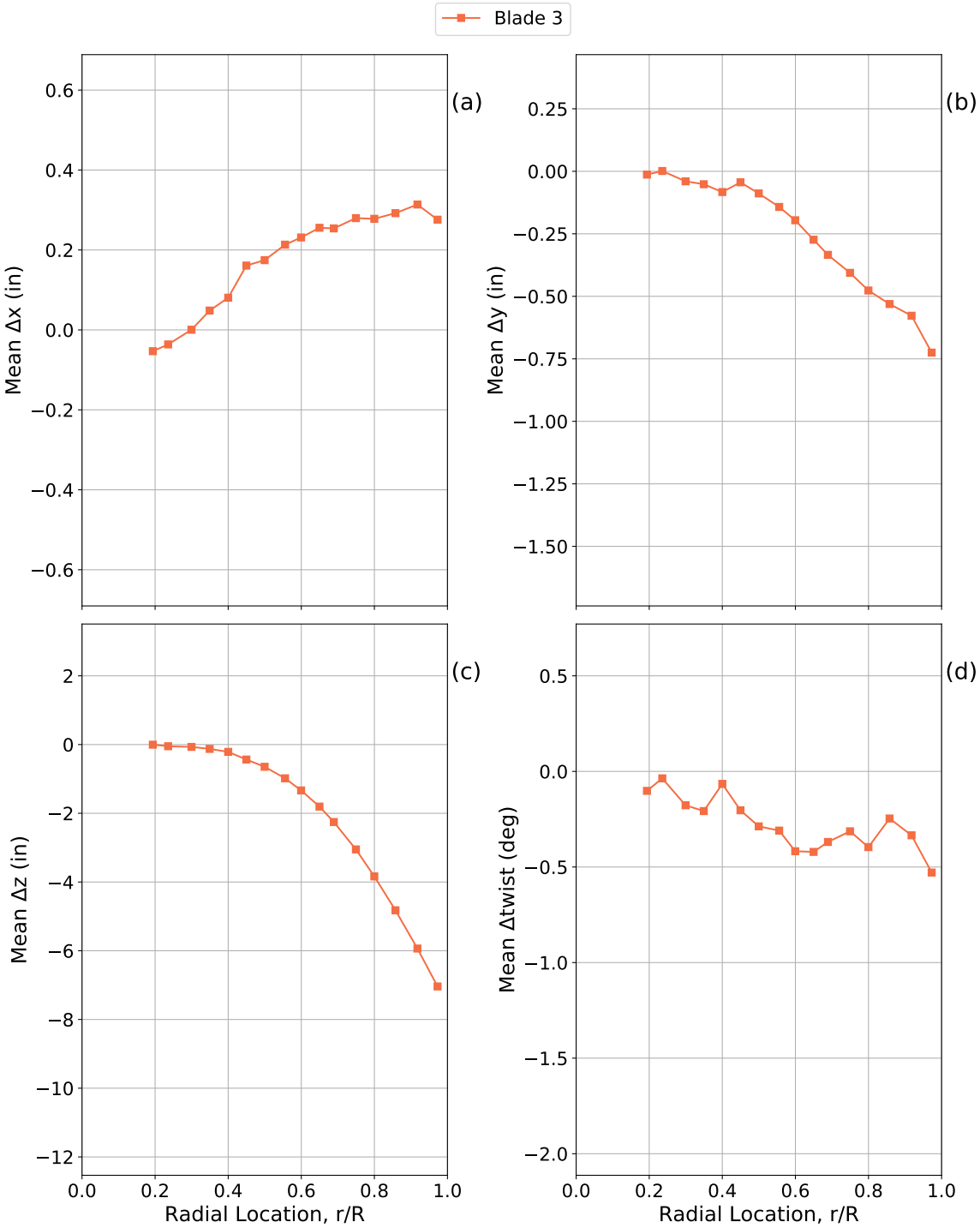


Figure 4.14-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0532	0.0018	-0.0131	0.0012	-0.0042	0.0016	-0.1017	0.0166
3	195.12	0.2357	-0.0363	0.0012	0.0013	0.0018	-0.0495	0.0034	-0.0364	0.0214
3	195.12	0.2995	0.0005	0.0011	-0.0400	0.0043	-0.0687	0.0059	-0.1771	0.0351
3	195.12	0.3493	0.0484	0.0011	-0.0517	0.0079	-0.1265	0.0109	-0.2074	0.0285
3	195.12	0.4000	0.0806	0.0014	-0.0829	0.0118	-0.2132	0.0164	-0.0652	0.0327
3	195.12	0.4497	0.1610	0.0098	-0.0440	0.0193	-0.4359	0.0181	-0.2034	0.0340
3	195.12	0.4997	0.1745	0.0103	-0.0885	0.0218	-0.6475	0.0209	-0.2874	0.0341
3	195.12	0.5556	0.2133	0.0100	-0.1425	0.0245	-0.9822	0.0241	-0.3096	0.0316
3	195.12	0.5995	0.2313	0.0098	-0.1958	0.0270	-1.3354	0.0262	-0.4176	0.0308
3	195.12	0.6498	0.2555	0.0094	-0.2736	0.0287	-1.8053	0.0288	-0.4210	0.0297
3	195.12	0.6890	0.2540	0.0088	-0.3342	0.0302	-2.2542	0.0322	-0.3691	0.0336
3	195.12	0.7495	0.2797	0.0071	-0.4062	0.0337	-3.0515	0.0363	-0.3133	0.0300
3	195.12	0.7998	0.2780	0.0050	-0.4767	0.0364	-3.8364	0.0397	-0.3960	0.0335
3	195.12	0.8577	0.2921	0.0037	-0.5308	0.0417	-4.8228	0.0447	-0.2463	0.0415
3	195.12	0.9178	0.3137	0.0063	-0.5776	0.0401	-5.9366	0.0497	-0.3343	0.0864
3	195.12	0.9729	0.2758	0.0089	-0.7250	0.0512	-7.0391	0.0583	-0.5290	0.0698

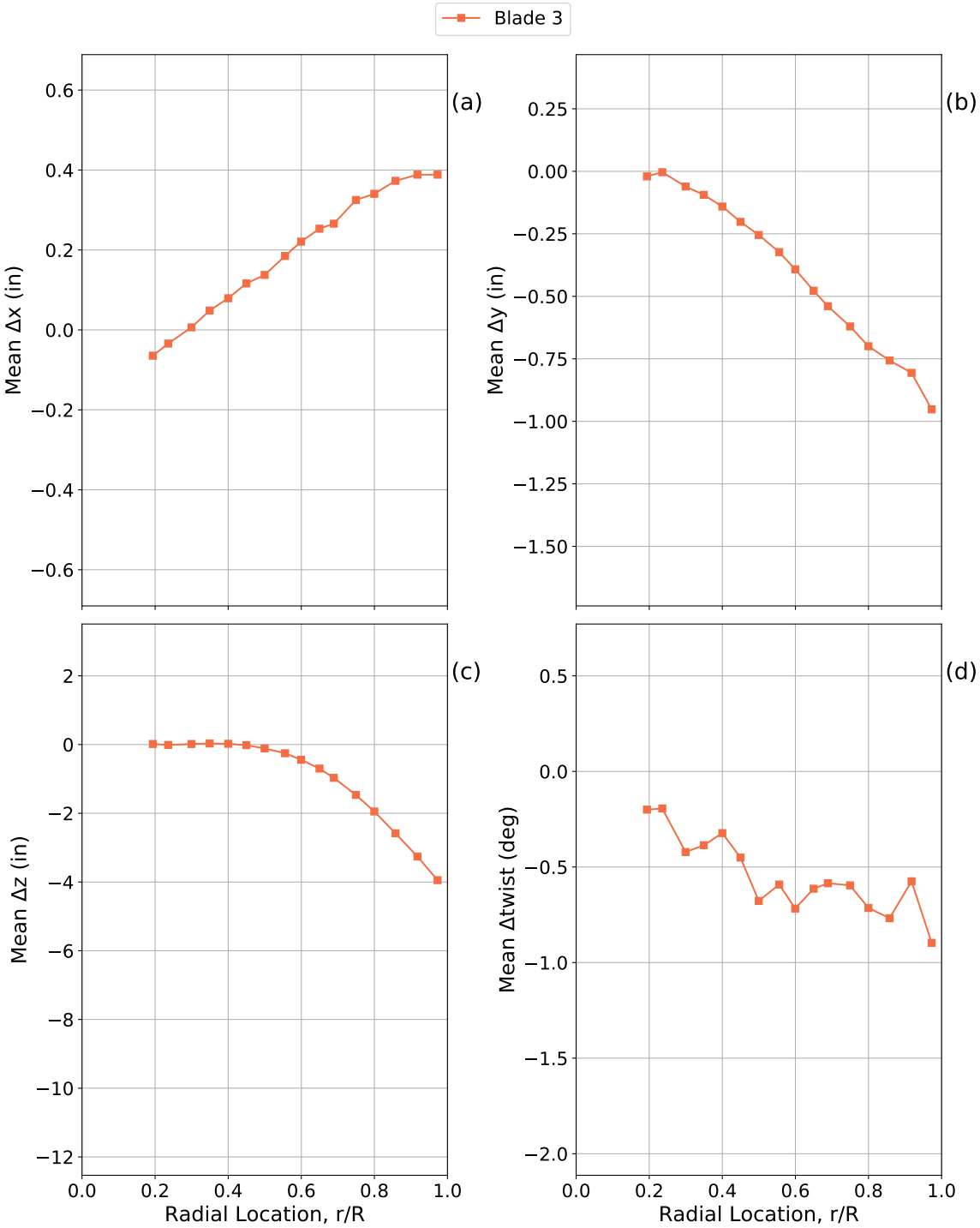


Figure 4.14-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0645	0.0012	-0.0203	0.0005	0.0174	0.0008	-0.2000	0.0169
3	209.88	0.2357	-0.0342	0.0008	-0.0036	0.0016	-0.0121	0.0028	-0.1939	0.0255
3	209.88	0.2995	0.0064	0.0005	-0.0608	0.0024	0.0165	0.0032	-0.4221	0.0377
3	209.88	0.3493	0.0485	0.0009	-0.0942	0.0040	0.0317	0.0064	-0.3861	0.0281
3	209.88	0.4000	0.0792	0.0014	-0.1409	0.0066	0.0219	0.0098	-0.3227	0.0312
3	209.88	0.4497	0.1163	0.0009	-0.2022	0.0072	-0.0182	0.0114	-0.4505	0.0285
3	209.88	0.4997	0.1375	0.0012	-0.2548	0.0088	-0.1127	0.0136	-0.6777	0.0273
3	209.88	0.5556	0.1850	0.0011	-0.3231	0.0118	-0.2527	0.0164	-0.5916	0.0322
3	209.88	0.5995	0.2209	0.0014	-0.3920	0.0126	-0.4435	0.0198	-0.7173	0.0310
3	209.88	0.6498	0.2532	0.0014	-0.4777	0.0148	-0.6991	0.0230	-0.6136	0.0346
3	209.88	0.6890	0.2658	0.0016	-0.5397	0.0175	-0.9691	0.0251	-0.5851	0.0311
3	209.88	0.7495	0.3250	0.0020	-0.6204	0.0201	-1.4656	0.0269	-0.5961	0.0294
3	209.88	0.7998	0.3406	0.0018	-0.6996	0.0229	-1.9485	0.0314	-0.7144	0.0307
3	209.88	0.8577	0.3730	0.0010	-0.7564	0.0248	-2.5828	0.0331	-0.7680	0.0574
3	209.88	0.9178	0.3884	0.0038	-0.8060	0.0279	-3.2584	0.0378	-0.5748	0.1347
3	209.88	0.9729	0.3884	0.0023	-0.9521	0.0324	-3.9460	0.0403	-0.8969	0.0819

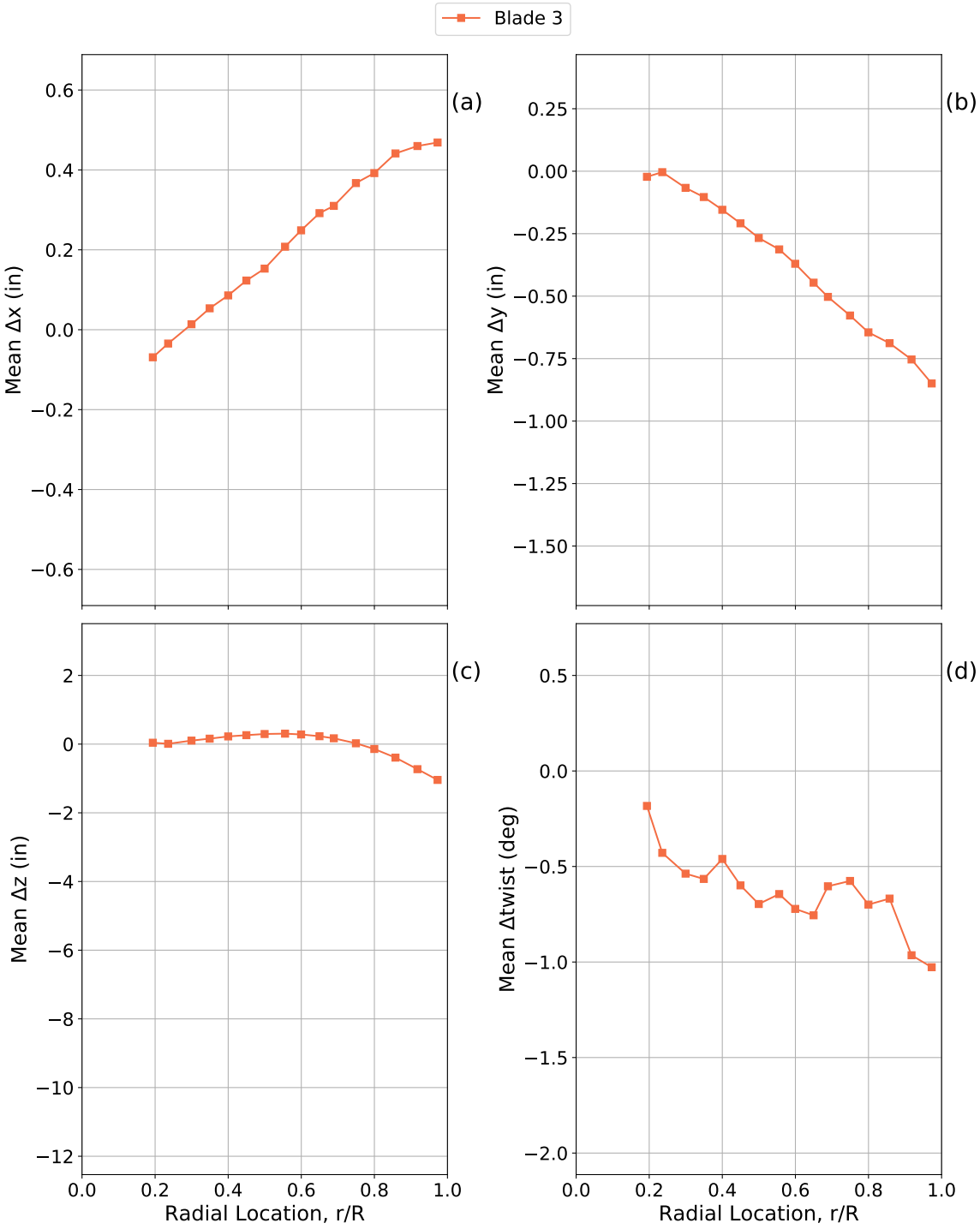


Figure 4.14-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0690	0.0017	-0.0224	0.0007	0.0406	0.0010	-0.1830	0.0182
3	225	0.2357	-0.0346	0.0007	-0.0038	0.0013	0.0092	0.0023	-0.4286	0.0286
3	225	0.2995	0.0137	0.0005	-0.0667	0.0025	0.1022	0.0052	-0.5374	0.0441
3	225	0.3493	0.0536	0.0011	-0.1034	0.0050	0.1586	0.0061	-0.5651	0.0426
3	225	0.4000	0.0859	0.0011	-0.1544	0.0072	0.2237	0.0116	-0.4606	0.0418
3	225	0.4497	0.1231	0.0026	-0.2086	0.0100	0.2604	0.0123	-0.5989	0.0422
3	225	0.4997	0.1530	0.0033	-0.2672	0.0121	0.2946	0.0133	-0.6964	0.0484
3	225	0.5556	0.2078	0.0011	-0.3129	0.0126	0.3049	0.0193	-0.6443	0.0405
3	225	0.5995	0.2488	0.0014	-0.3705	0.0165	0.2813	0.0206	-0.7220	0.0443
3	225	0.6498	0.2918	0.0015	-0.4460	0.0197	0.2300	0.0257	-0.7555	0.0515
3	225	0.6890	0.3100	0.0015	-0.5029	0.0226	0.1692	0.0246	-0.6036	0.0526
3	225	0.7495	0.3671	0.0010	-0.5775	0.0246	0.0239	0.0294	-0.5756	0.0429
3	225	0.7998	0.3921	0.0013	-0.6449	0.0277	-0.1417	0.0308	-0.6994	0.0551
3	225	0.8577	0.4413	0.0017	-0.6882	0.0315	-0.3930	0.0339	-0.6680	0.0547
3	225	0.9178	0.4598	0.0014	-0.7534	0.0351	-0.7293	0.0380	-0.9646	0.0482
3	225	0.9729	0.4687	0.0025	-0.8494	0.0383	-1.0424	0.0388	-1.0273	0.0559

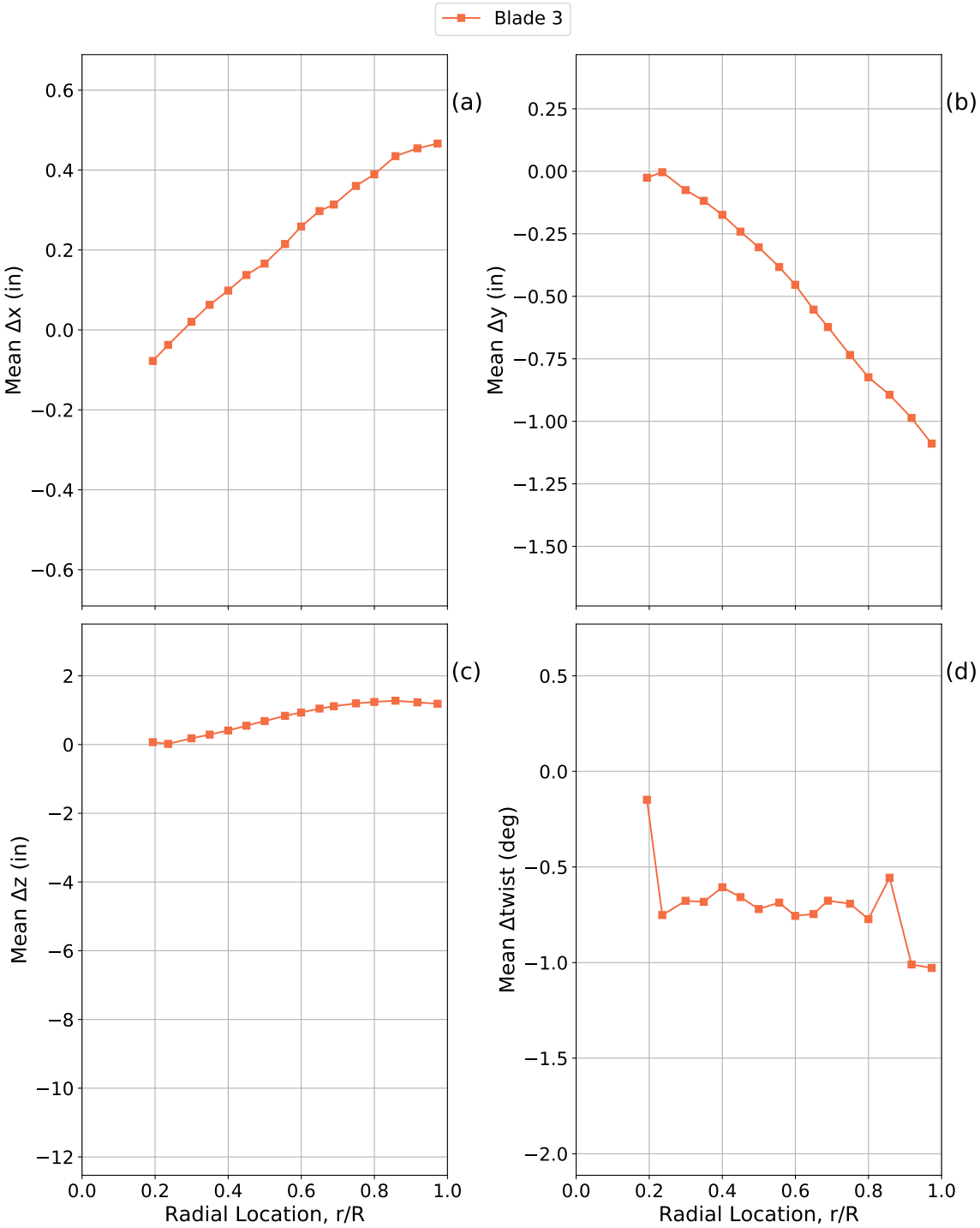


Figure 4.14-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0777	0.0015	-0.0257	0.0005	0.0711	0.0018	-0.1483	0.0186
3	240.12	0.2357	-0.0374	0.0009	-0.0035	0.0012	0.0188	0.0027	-0.7514	0.0396
3	240.12	0.2995	0.0203	0.0007	-0.0751	0.0025	0.1814	0.0061	-0.6769	0.0508
3	240.12	0.3493	0.0628	0.0010	-0.1178	0.0036	0.2904	0.0098	-0.6823	0.0505
3	240.12	0.4000	0.0984	0.0013	-0.1742	0.0062	0.4082	0.0153	-0.6060	0.0512
3	240.12	0.4497	0.1374	0.0009	-0.2413	0.0071	0.5486	0.0177	-0.6577	0.0533
3	240.12	0.4997	0.1658	0.0013	-0.3038	0.0078	0.6830	0.0214	-0.7199	0.0723
3	240.12	0.5556	0.2149	0.0016	-0.3828	0.0096	0.8353	0.0242	-0.6863	0.0404
3	240.12	0.5995	0.2587	0.0013	-0.4538	0.0113	0.9329	0.0271	-0.7558	0.0385
3	240.12	0.6498	0.2974	0.0012	-0.5531	0.0130	1.0462	0.0313	-0.7461	0.0391
3	240.12	0.6890	0.3136	0.0014	-0.6228	0.0159	1.1141	0.0316	-0.6763	0.0565
3	240.12	0.7495	0.3602	0.0017	-0.7348	0.0185	1.1977	0.0374	-0.6921	0.0610
3	240.12	0.7998	0.3893	0.0018	-0.8238	0.0210	1.2397	0.0433	-0.7727	0.0672
3	240.12	0.8577	0.4348	0.0015	-0.8939	0.0238	1.2763	0.0455	-0.5563	0.0449
3	240.12	0.9178	0.4544	0.0013	-0.9866	0.0272	1.2278	0.0483	-1.0102	0.0465
3	240.12	0.9729	0.4662	0.0028	-1.0890	0.0307	1.1876	0.0502	-1.0281	0.0467

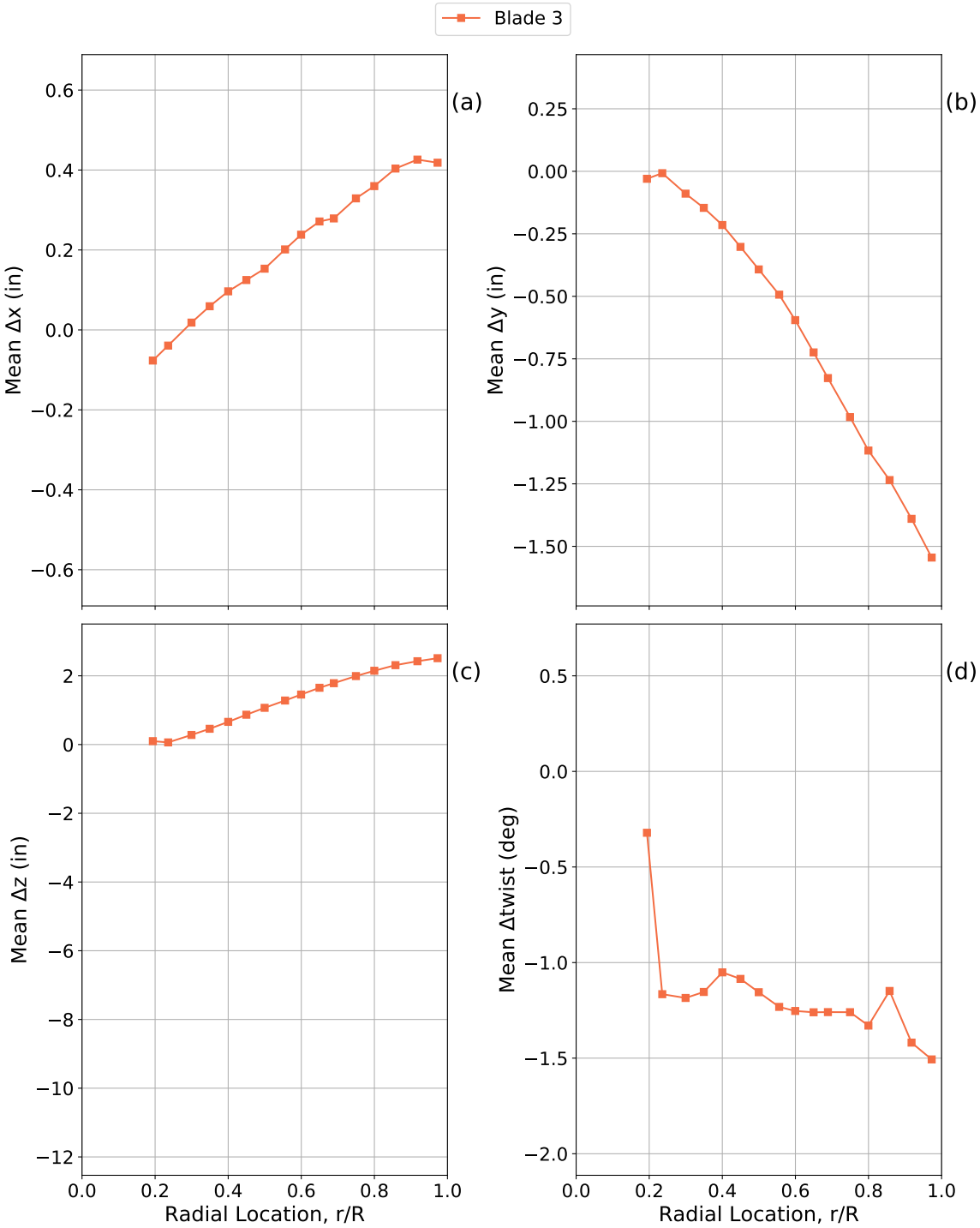


Figure 4.14-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0766	0.0033	-0.0299	0.0017	0.0985	0.0060	-0.3210	0.0233
3	254.88	0.2357	-0.0392	0.0011	-0.0075	0.0012	0.0625	0.0038	-1.1653	0.0780
3	254.88	0.2995	0.0183	0.0013	-0.0894	0.0046	0.2795	0.0150	-1.1851	0.0745
3	254.88	0.3493	0.0592	0.0014	-0.1462	0.0076	0.4591	0.0230	-1.1538	0.0807
3	254.88	0.4000	0.0965	0.0015	-0.2148	0.0111	0.6599	0.0328	-1.0512	0.0724
3	254.88	0.4497	0.1248	0.0012	-0.3023	0.0148	0.8679	0.0427	-1.0854	0.0716
3	254.88	0.4997	0.1532	0.0021	-0.3924	0.0169	1.0687	0.0503	-1.1552	0.0873
3	254.88	0.5556	0.2014	0.0028	-0.4934	0.0219	1.2811	0.0649	-1.2319	0.0750
3	254.88	0.5995	0.2382	0.0022	-0.5952	0.0235	1.4552	0.0728	-1.2532	0.0892
3	254.88	0.6498	0.2713	0.0027	-0.7243	0.0268	1.6524	0.0857	-1.2600	0.0699
3	254.88	0.6890	0.2789	0.0025	-0.8270	0.0290	1.7859	0.0947	-1.2591	0.0682
3	254.88	0.7495	0.3291	0.0031	-0.9830	0.0333	1.9923	0.1083	-1.2595	0.0742
3	254.88	0.7998	0.3598	0.0030	-1.1168	0.0371	2.1471	0.1183	-1.3296	0.0721
3	254.88	0.8577	0.4037	0.0031	-1.2349	0.0407	2.3106	0.1301	-1.1485	0.0744
3	254.88	0.9178	0.4261	0.0034	-1.3899	0.0449	2.4246	0.1413	-1.4188	0.0795
3	254.88	0.9729	0.4183	0.0050	-1.5448	0.0491	2.5132	0.1534	-1.5066	0.0783

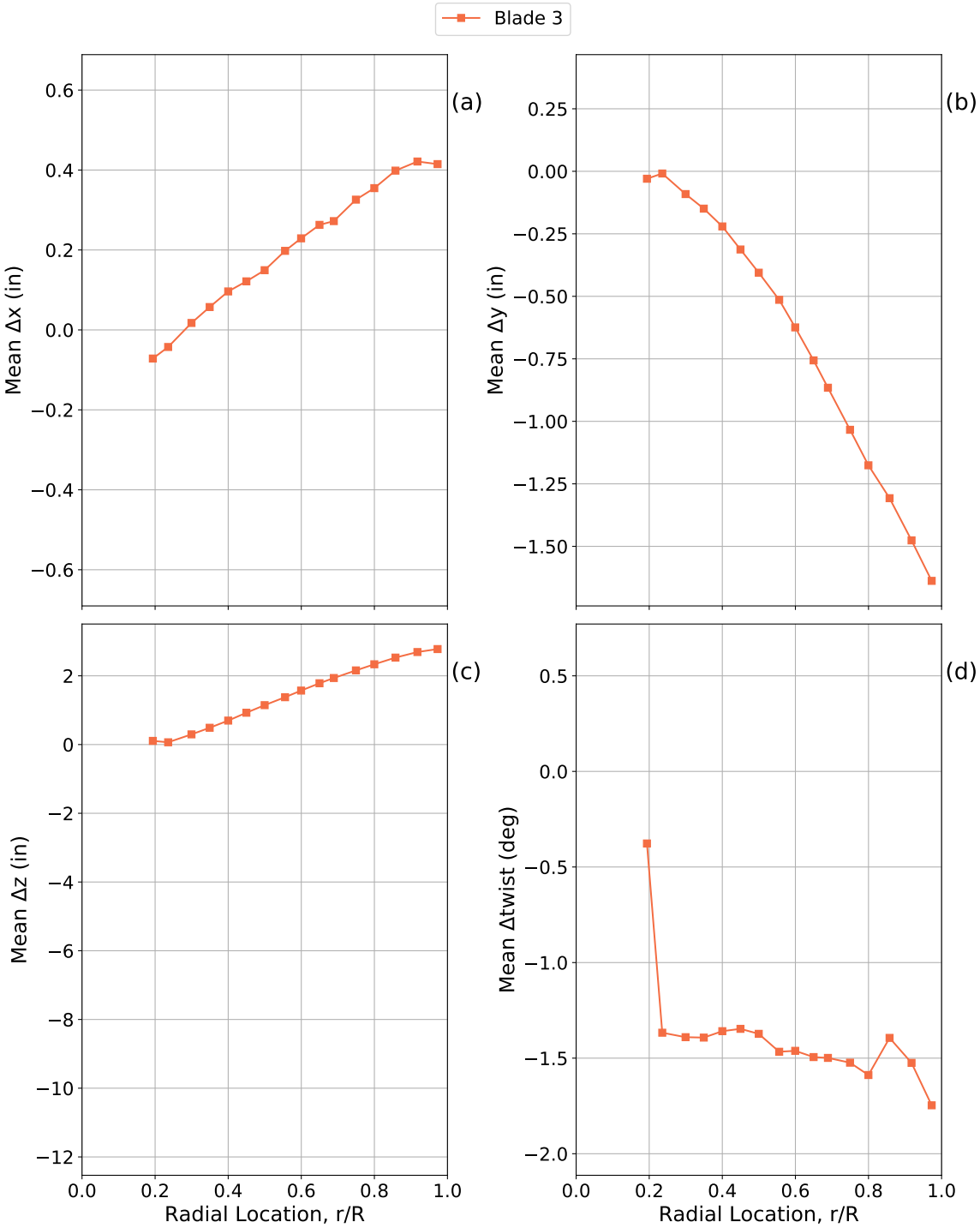


Figure 4.14-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0716	0.0067	-0.0297	0.0022	0.1065	0.0067	-0.3771	0.0305
3	260.16	0.2357	-0.0427	0.0013	-0.0088	0.0011	0.0659	0.0044	-1.3669	0.0976
3	260.16	0.2995	0.0174	0.0011	-0.0911	0.0063	0.2961	0.0165	-1.3903	0.0994
3	260.16	0.3493	0.0572	0.0013	-0.1493	0.0105	0.4884	0.0255	-1.3924	0.1081
3	260.16	0.4000	0.0963	0.0013	-0.2205	0.0153	0.6972	0.0358	-1.3589	0.1133
3	260.16	0.4497	0.1215	0.0015	-0.3127	0.0201	0.9260	0.0464	-1.3467	0.1072
3	260.16	0.4997	0.1494	0.0018	-0.4055	0.0245	1.1462	0.0581	-1.3728	0.1015
3	260.16	0.5556	0.1978	0.0015	-0.5140	0.0300	1.3779	0.0719	-1.4665	0.1039
3	260.16	0.5995	0.2291	0.0017	-0.6243	0.0338	1.5706	0.0815	-1.4617	0.1148
3	260.16	0.6498	0.2628	0.0021	-0.7562	0.0390	1.7836	0.0967	-1.4944	0.1045
3	260.16	0.6890	0.2722	0.0025	-0.8656	0.0427	1.9361	0.1064	-1.4987	0.1076
3	260.16	0.7495	0.3259	0.0028	-1.0338	0.0488	2.1575	0.1231	-1.5237	0.1024
3	260.16	0.7998	0.3547	0.0032	-1.1758	0.0544	2.3356	0.1368	-1.5883	0.1071
3	260.16	0.8577	0.3985	0.0033	-1.3074	0.0602	2.5302	0.1509	-1.3940	0.1040
3	260.16	0.9178	0.4213	0.0039	-1.4761	0.0670	2.6919	0.1648	-1.5247	0.1059
3	260.16	0.9729	0.4148	0.0060	-1.6380	0.0726	2.7783	0.1778	-1.7467	0.1064

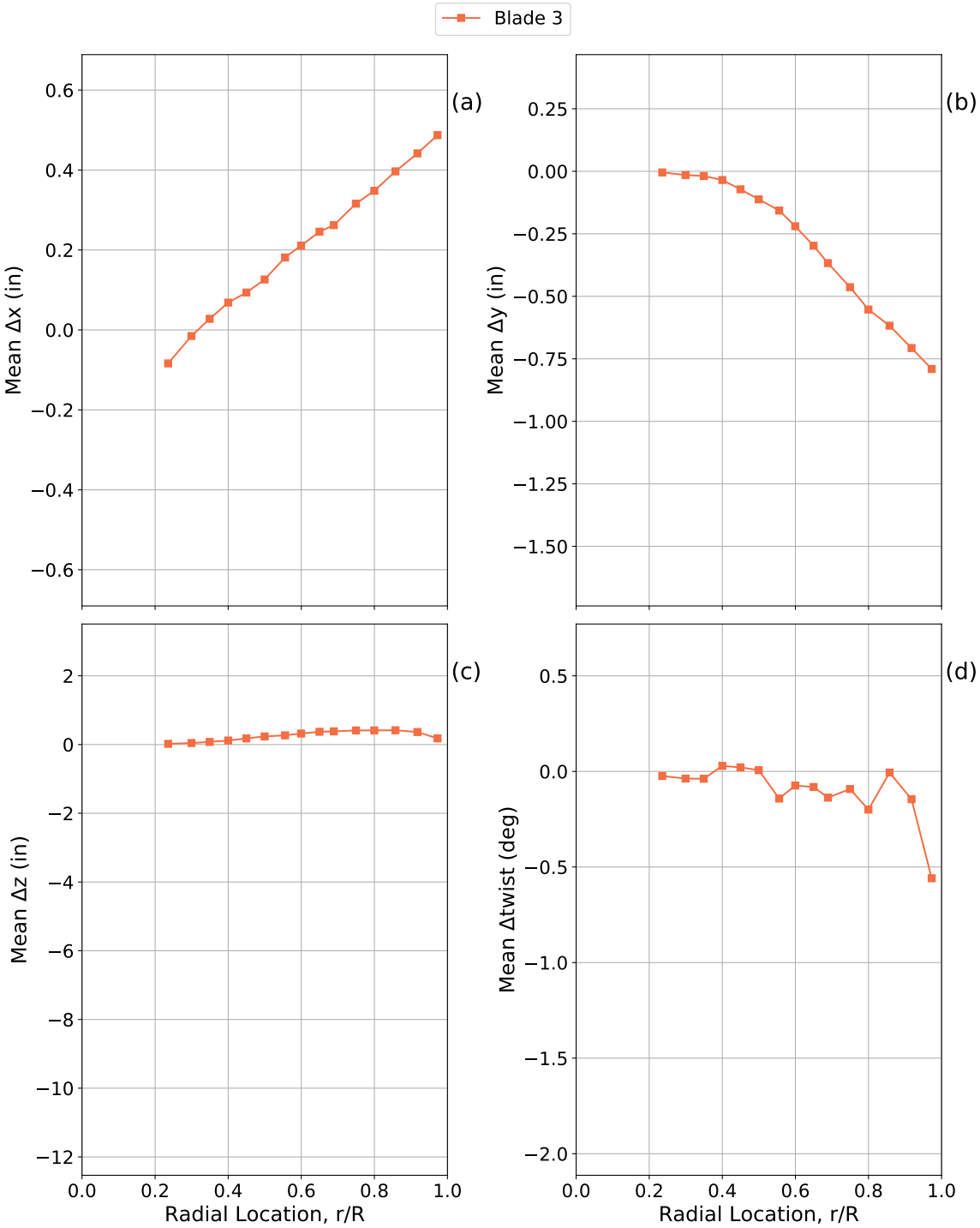


Figure 4.14-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0838	0.0014	-0.0045	0.0013	0.0206	0.0058	-0.0240	0.0647
3	265.08	0.2995	-0.0152	0.0008	-0.0149	0.0029	0.0439	0.0117	-0.0375	0.1039
3	265.08	0.3493	0.0278	0.0009	-0.0188	0.0054	0.0764	0.0213	-0.0383	0.1020
3	265.08	0.4000	0.0684	0.0011	-0.0348	0.0083	0.1170	0.0318	0.0289	0.0980
3	265.08	0.4497	0.0935	0.0009	-0.0721	0.0103	0.1780	0.0412	0.0212	0.0940
3	265.08	0.4997	0.1262	0.0018	-0.1121	0.0135	0.2359	0.0494	0.0064	0.1049
3	265.08	0.5556	0.1813	0.0016	-0.1567	0.0161	0.2678	0.0583	-0.1420	0.1025
3	265.08	0.5995	0.2110	0.0015	-0.2198	0.0184	0.3199	0.0663	-0.0739	0.1011
3	265.08	0.6498	0.2457	0.0018	-0.2977	0.0218	0.3713	0.0739	-0.0816	0.0966
3	265.08	0.6890	0.2621	0.0017	-0.3672	0.0240	0.3835	0.0802	-0.1371	0.0979
3	265.08	0.7495	0.3159	0.0020	-0.4635	0.0277	0.4105	0.0881	-0.0922	0.1031
3	265.08	0.7998	0.3481	0.0019	-0.5528	0.0311	0.4107	0.0945	-0.1997	0.1022
3	265.08	0.8577	0.3966	0.0024	-0.6175	0.0350	0.4160	0.1039	-0.0061	0.1062
3	265.08	0.9178	0.4417	0.0022	-0.7069	0.0395	0.3643	0.1126	-0.1454	0.1007
3	265.08	0.9729	0.4873	0.0037	-0.7905	0.0440	0.1789	0.1212	-0.5590	0.1031

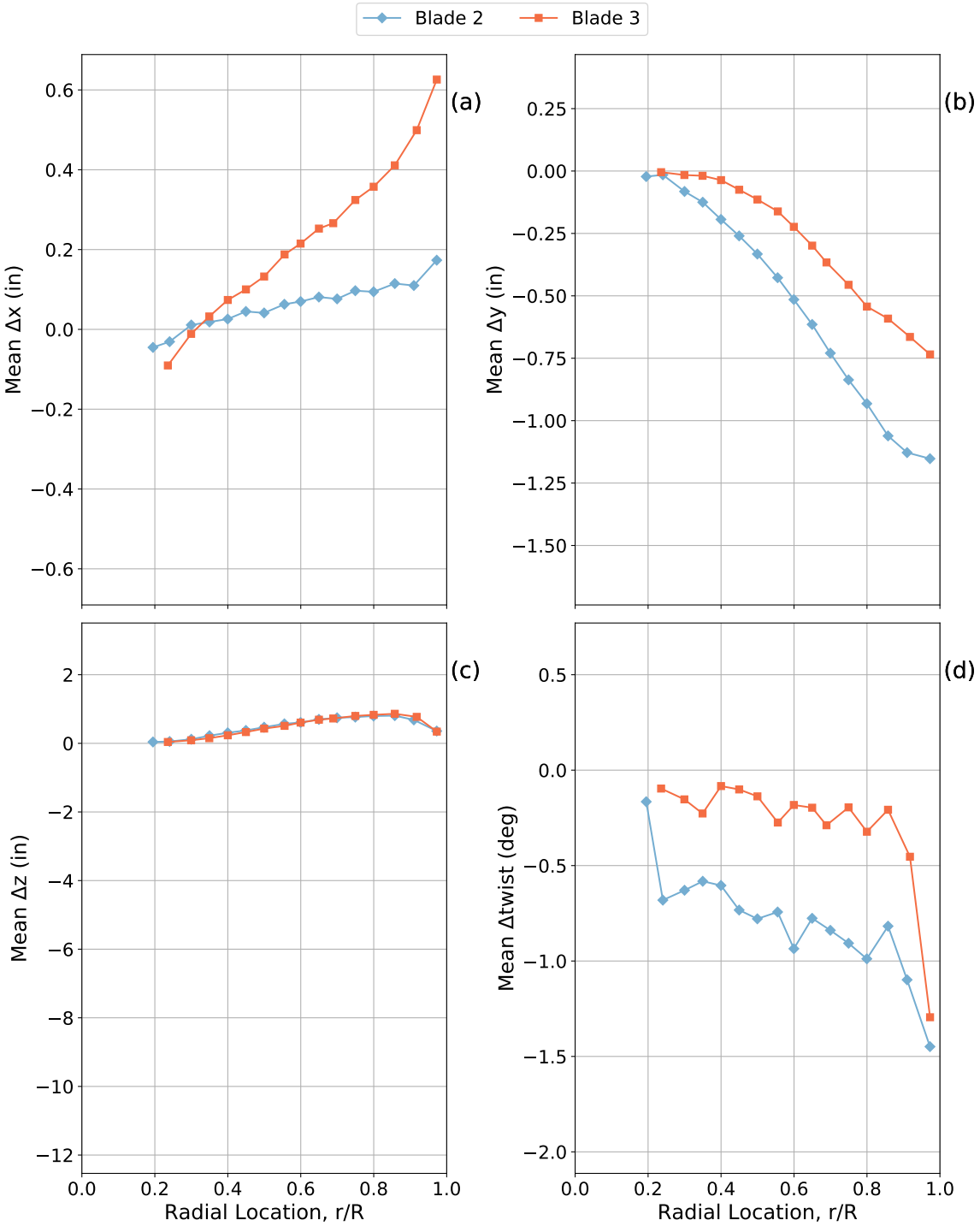


Figure 4.14-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0452	0.0070	-0.0222	0.0026	0.0399	0.0133	-0.1653	0.0597
2	270.35	0.2405	-0.0308	0.0030	-0.0153	0.0017	0.0531	0.0086	-0.6811	0.2160
2	270.35	0.2999	0.0110	0.0024	-0.0819	0.0073	0.1188	0.0356	-0.6293	0.2044
2	270.35	0.3498	0.0185	0.0022	-0.1249	0.0121	0.2233	0.0590	-0.5822	0.1988
2	270.35	0.3998	0.0259	0.0024	-0.1939	0.0170	0.3087	0.0821	-0.6042	0.1929
2	270.35	0.4496	0.0449	0.0025	-0.2599	0.0218	0.3763	0.1037	-0.7330	0.2047
2	270.35	0.4995	0.0412	0.0026	-0.3325	0.0264	0.4694	0.1270	-0.7790	0.2054
2	270.35	0.5551	0.0629	0.0024	-0.4274	0.0316	0.5682	0.1536	-0.7432	0.2042
2	270.35	0.5996	0.0698	0.0024	-0.5149	0.0361	0.6080	0.1747	-0.9356	0.2030
2	270.35	0.6497	0.0810	0.0027	-0.6146	0.0405	0.6980	0.1997	-0.7762	0.1935
2	270.35	0.6996	0.0764	0.0030	-0.7295	0.0453	0.7446	0.2239	-0.8392	0.2005
2	270.35	0.7495	0.0969	0.0033	-0.8366	0.0497	0.7647	0.2487	-0.9069	0.2018
2	270.35	0.7996	0.0942	0.0032	-0.9319	0.0538	0.7961	0.2738	-0.9886	0.2019
2	270.35	0.8578	0.1148	0.0030	-1.0611	0.0591	0.8070	0.3032	-0.8175	0.1996
2	270.35	0.9100	0.1099	0.0031	-1.1280	0.0640	0.6830	0.3302	-1.0985	0.1957
2	270.35	0.9727	0.1734	0.0045	-1.1523	0.0710	0.3583	0.3591	-1.4486	0.2063
3	270	0.2357	-0.0904	0.0024	-0.0046	0.0010	0.0397	0.0086	-0.0964	0.0827
3	270	0.2995	-0.0112	0.0014	-0.0160	0.0021	0.0889	0.0182	-0.1531	0.1327
3	270	0.3493	0.0324	0.0017	-0.0191	0.0039	0.1497	0.0318	-0.2271	0.1335
3	270	0.4000	0.0737	0.0009	-0.0364	0.0058	0.2341	0.0485	-0.0834	0.1292
3	270	0.4497	0.1002	0.0023	-0.0750	0.0079	0.3284	0.0616	-0.1011	0.1360
3	270	0.4997	0.1325	0.0015	-0.1141	0.0102	0.4299	0.0789	-0.1373	0.1225
3	270	0.5556	0.1877	0.0013	-0.1617	0.0122	0.5091	0.0930	-0.2744	0.1381
3	270	0.5995	0.2150	0.0013	-0.2235	0.0145	0.6046	0.1077	-0.1824	0.1319
3	270	0.6498	0.2526	0.0017	-0.2988	0.0168	0.6891	0.1240	-0.1967	0.1312
3	270	0.6890	0.2661	0.0015	-0.3662	0.0190	0.7240	0.1373	-0.2887	0.1310
3	270	0.7495	0.3242	0.0017	-0.4558	0.0224	0.7986	0.1576	-0.1950	0.1282
3	270	0.7998	0.3575	0.0016	-0.5430	0.0253	0.8304	0.1726	-0.3226	0.1367
3	270	0.8577	0.4111	0.0019	-0.5912	0.0291	0.8616	0.1916	-0.2075	0.1322
3	270	0.9178	0.4992	0.0021	-0.6646	0.0330	0.7716	0.2113	-0.4537	0.1379
3	270	0.9729	0.6260	0.0028	-0.7347	0.0375	0.3423	0.2291	-1.2947	0.1406

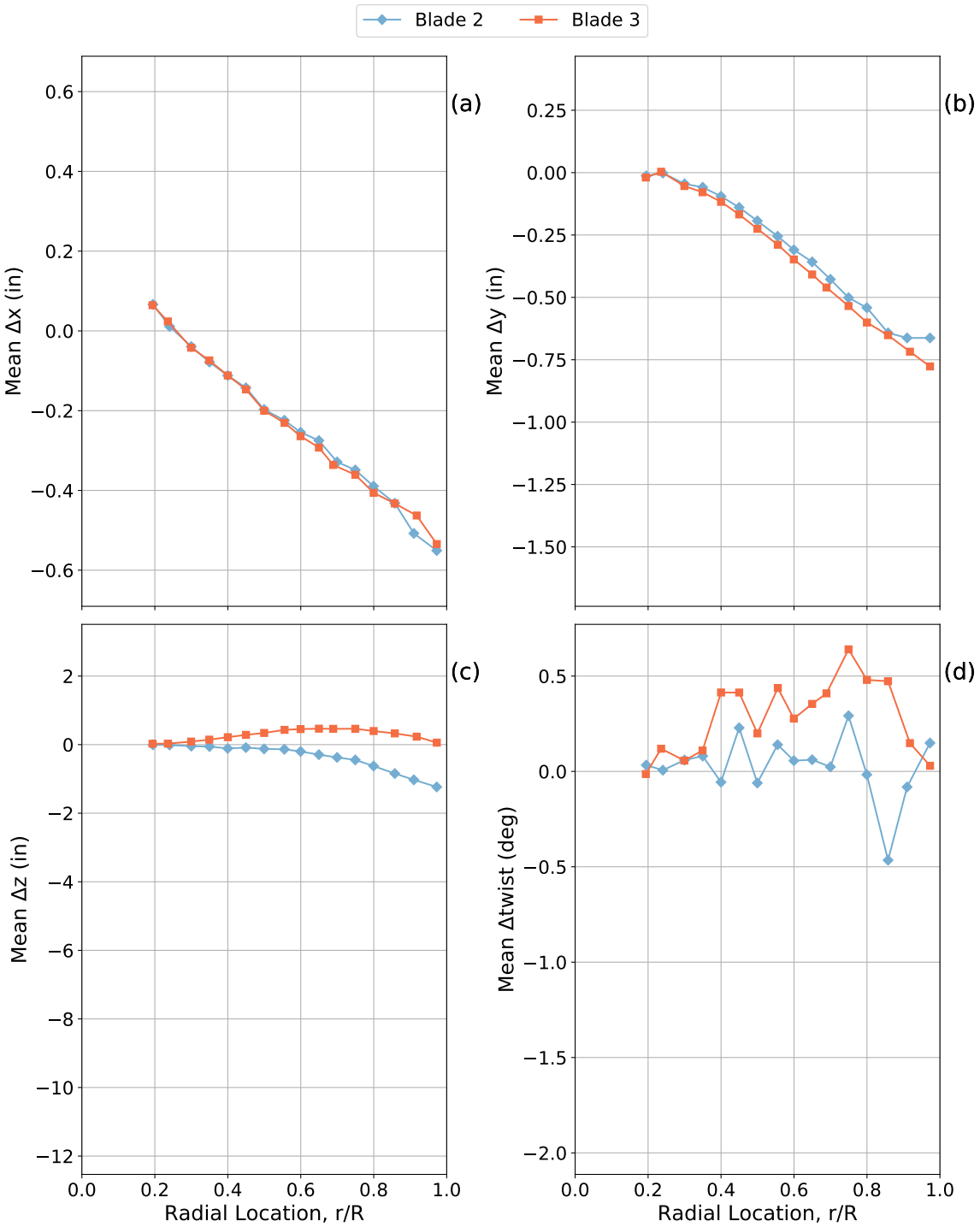


Figure 4.14-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0664	0.0031	-0.0130	0.0009	-0.0039	0.0021	0.0331	0.0264
2	274.92	0.2405	0.0112	0.0032	-0.0017	0.0031	-0.0119	0.0118	0.0064	0.0396
2	274.92	0.2999	-0.0393	0.0034	-0.0450	0.0077	-0.0452	0.0276	0.0596	0.0612
2	274.92	0.3498	-0.0782	0.0091	-0.0587	0.0073	-0.0565	0.0210	0.0804	0.0384
2	274.92	0.3998	-0.1119	0.0034	-0.0948	0.0164	-0.1118	0.0563	-0.0564	0.0431
2	274.92	0.4496	-0.1426	0.0034	-0.1394	0.0204	-0.0856	0.0702	0.2288	0.0359
2	274.92	0.4995	-0.1972	0.0026	-0.1933	0.0239	-0.1246	0.0805	-0.0609	0.0420
2	274.92	0.5551	-0.2241	0.0034	-0.2549	0.0292	-0.1365	0.0992	0.1400	0.0311
2	274.92	0.5996	-0.2542	0.0035	-0.3094	0.0327	-0.2002	0.1119	0.0562	0.0495
2	274.92	0.6497	-0.2749	0.0041	-0.3577	0.0368	-0.2928	0.1237	0.0613	0.0477
2	274.92	0.6996	-0.3286	0.0043	-0.4276	0.0423	-0.3738	0.1368	0.0238	0.0443
2	274.92	0.7495	-0.3487	0.0043	-0.5013	0.0463	-0.4463	0.1483	0.2919	0.0555
2	274.92	0.7996	-0.3894	0.0046	-0.5415	0.0518	-0.6245	0.1593	-0.0170	0.0532
2	274.92	0.8578	-0.4321	0.0042	-0.6423	0.0572	-0.8437	0.1788	-0.4654	0.0494
2	274.92	0.9100	-0.5077	0.0040	-0.6625	0.0610	-1.0268	0.1944	-0.0816	0.0824
2	274.92	0.9727	-0.5507	0.0077	-0.6627	0.0707	-1.2349	0.2236	0.1490	0.1780
3	274.92	0.1938	0.0644	0.0023	-0.0196	0.0014	0.0265	0.0049	-0.0137	0.0243
3	274.92	0.2357	0.0238	0.0011	0.0035	0.0028	0.0281	0.0105	0.1191	0.0496
3	274.92	0.2995	-0.0421	0.0007	-0.0537	0.0064	0.0887	0.0213	0.0569	0.0641
3	274.92	0.3493	-0.0740	0.0010	-0.0786	0.0116	0.1443	0.0379	0.1099	0.0353
3	274.92	0.4000	-0.1118	0.0036	-0.1170	0.0179	0.2169	0.0582	0.4138	0.0398
3	274.92	0.4497	-0.1468	0.0023	-0.1675	0.0181	0.2838	0.0623	0.4135	0.0401
3	274.92	0.4997	-0.2003	0.0024	-0.2253	0.0234	0.3402	0.0746	0.1993	0.0553
3	274.92	0.5556	-0.2306	0.0022	-0.2889	0.0254	0.4304	0.0860	0.4373	0.0687
3	274.92	0.5995	-0.2640	0.0027	-0.3480	0.0312	0.4527	0.0967	0.2771	0.0896
3	274.92	0.6498	-0.2926	0.0023	-0.4082	0.0358	0.4651	0.1132	0.3539	0.0537
3	274.92	0.6890	-0.3361	0.0042	-0.4603	0.0395	0.4600	0.1276	0.4092	0.0578
3	274.92	0.7495	-0.3607	0.0044	-0.5346	0.0442	0.4621	0.1505	0.6400	0.0713
3	274.92	0.7998	-0.4060	0.0043	-0.6007	0.0492	0.3957	0.1565	0.4798	0.0705
3	274.92	0.8577	-0.4327	0.0072	-0.6516	0.0562	0.3272	0.1756	0.4729	0.1423
3	274.92	0.9178	-0.4629	0.0097	-0.7177	0.0627	0.2319	0.1917	0.1484	0.2225
3	274.92	0.9729	-0.5345	0.0085	-0.7768	0.0595	0.0578	0.2357	0.0296	0.3473

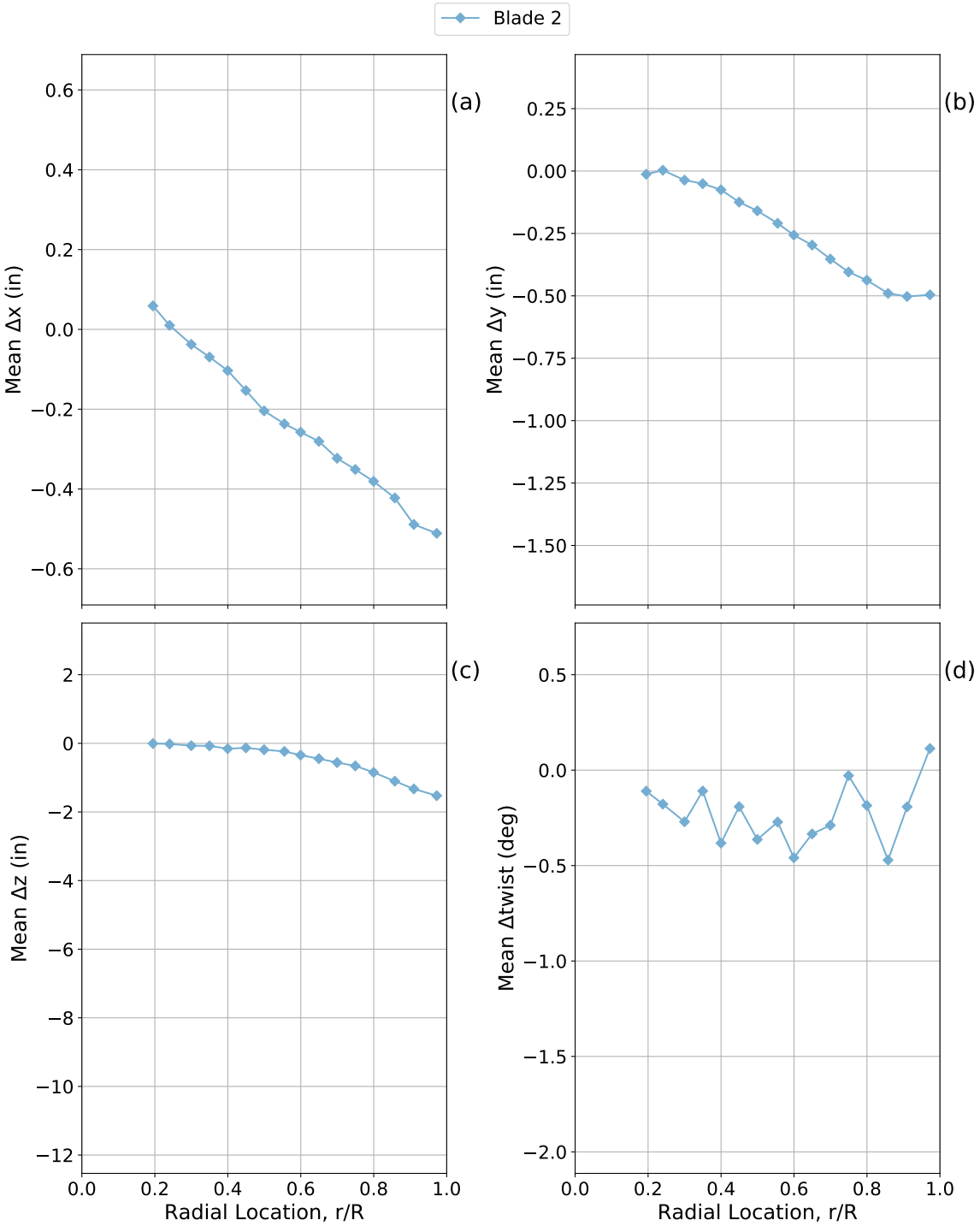


Figure 4.14-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0589	0.0008	-0.0130	0.0004	-0.0061	0.0014	-0.1100	0.0215
2	285.12	0.2405	0.0101	0.0011	0.0031	0.0017	-0.0183	0.0074	-0.1780	0.0191
2	285.12	0.2999	-0.0376	0.0007	-0.0366	0.0025	-0.0690	0.0107	-0.2705	0.0414
2	285.12	0.3498	-0.0693	0.0019	-0.0507	0.0045	-0.0736	0.0146	-0.1093	0.0457
2	285.12	0.3998	-0.1034	0.0013	-0.0751	0.0068	-0.1575	0.0284	-0.3823	0.0224
2	285.12	0.4496	-0.1532	0.0014	-0.1245	0.0069	-0.1315	0.0336	-0.1912	0.0299
2	285.12	0.4995	-0.2042	0.0025	-0.1594	0.0096	-0.1865	0.0412	-0.3631	0.0412
2	285.12	0.5551	-0.2368	0.0025	-0.2095	0.0105	-0.2345	0.0461	-0.2718	0.0334
2	285.12	0.5996	-0.2574	0.0017	-0.2567	0.0135	-0.3452	0.0560	-0.4591	0.0216
2	285.12	0.6497	-0.2806	0.0018	-0.2967	0.0157	-0.4472	0.0627	-0.3340	0.0379
2	285.12	0.6996	-0.3230	0.0015	-0.3526	0.0187	-0.5601	0.0711	-0.2888	0.0331
2	285.12	0.7495	-0.3511	0.0023	-0.4046	0.0206	-0.6575	0.0782	-0.0286	0.0348
2	285.12	0.7996	-0.3808	0.0023	-0.4372	0.0231	-0.8468	0.0873	-0.1851	0.0391
2	285.12	0.8578	-0.4224	0.0034	-0.4902	0.0271	-1.1027	0.0944	-0.4712	0.0395
2	285.12	0.9100	-0.4888	0.0034	-0.5026	0.0298	-1.3299	0.1035	-0.1921	0.0459
2	285.12	0.9727	-0.5111	0.0032	-0.4958	0.0323	-1.5257	0.1106	0.1134	0.0665

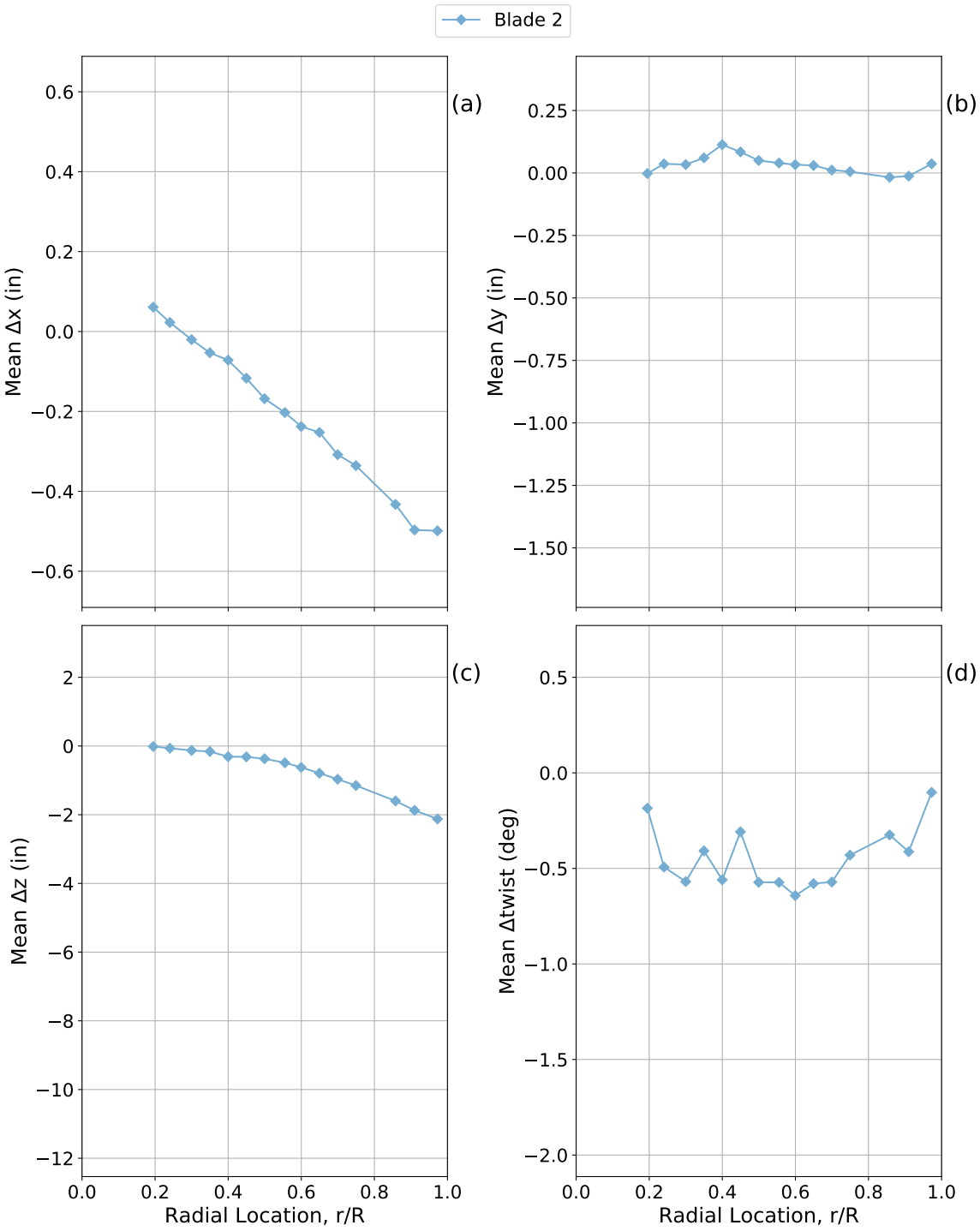


Figure 4.14-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0611	0.0022	-0.0024	0.0012	-0.0152	0.0023	-0.1851	0.0408
2	299.88	0.2405	0.0227	0.0022	0.0365	0.0035	-0.0657	0.0075	-0.4931	0.0333
2	299.88	0.2999	-0.0203	0.0018	0.0336	0.0057	-0.1295	0.0101	-0.5691	0.0803
2	299.88	0.3498	-0.0531	0.0015	0.0605	0.0109	-0.1597	0.0170	-0.4083	0.0831
2	299.88	0.3998	-0.0717	0.0027	0.1132	0.0170	-0.3101	0.0276	-0.5598	0.0639
2	299.88	0.4496	-0.1167	0.0026	0.0841	0.0194	-0.3168	0.0300	-0.3084	0.1064
2	299.88	0.4995	-0.1682	0.0017	0.0499	0.0187	-0.3710	0.0365	-0.5725	0.0605
2	299.88	0.5551	-0.2028	0.0021	0.0398	0.0228	-0.4880	0.0415	-0.5729	0.0444
2	299.88	0.5996	-0.2377	0.0026	0.0333	0.0248	-0.6216	0.0448	-0.6424	0.0659
2	299.88	0.6497	-0.2524	0.0023	0.0299	0.0278	-0.7926	0.0513	-0.5795	0.0546
2	299.88	0.6996	-0.3082	0.0026	0.0116	0.0317	-0.9681	0.0580	-0.5713	0.0540
2	299.88	0.7495	-0.3356	0.0025	0.0053	0.0351	-1.1507	0.0620	-0.4306	0.0606
2	299.88	0.8578	-0.4327	0.0024	-0.0174	0.0429	-1.5983	0.0795	-0.3248	0.0624
2	299.88	0.9100	-0.4966	0.0024	-0.0127	0.0464	-1.8729	0.0887	-0.4128	0.0489
2	299.88	0.9727	-0.4988	0.0040	0.0366	0.0503	-2.1238	0.1000	-0.1022	0.0541

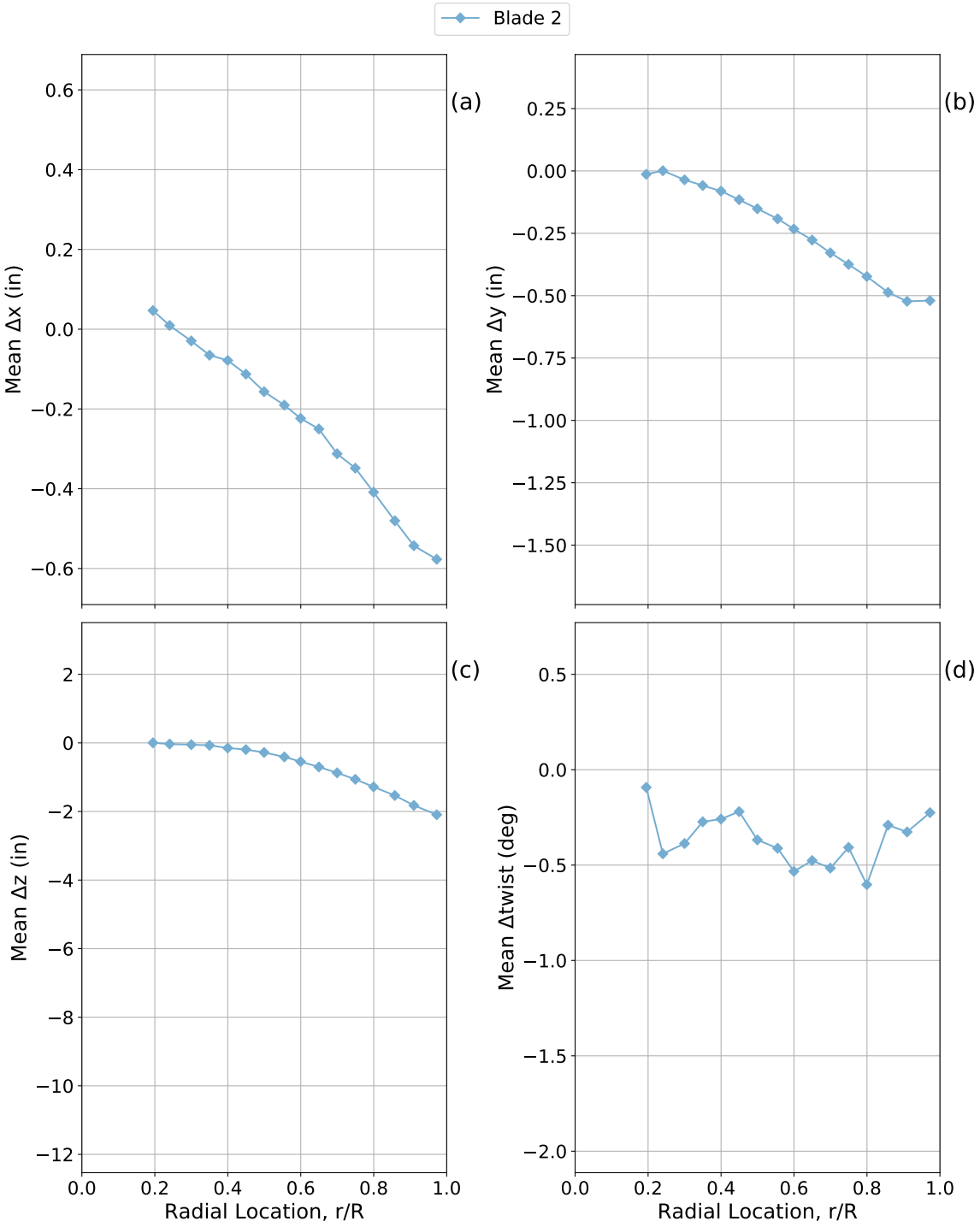


Figure 4.14-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0468	0.0008	-0.0134	0.0004	0.0027	0.0017	-0.0928	0.0246
2	315	0.2405	0.0093	0.0015	0.0008	0.0012	-0.0331	0.0097	-0.4408	0.0279
2	315	0.2999	-0.0295	0.0021	-0.0356	0.0028	-0.0521	0.0163	-0.3869	0.0521
2	315	0.3498	-0.0652	0.0028	-0.0586	0.0034	-0.0708	0.0235	-0.2730	0.0505
2	315	0.3998	-0.0783	0.0047	-0.0809	0.0066	-0.1497	0.0436	-0.2589	0.0513
2	315	0.4496	-0.1127	0.0017	-0.1153	0.0068	-0.1931	0.0417	-0.2195	0.0883
2	315	0.4995	-0.1567	0.0030	-0.1516	0.0079	-0.2791	0.0505	-0.3679	0.0484
2	315	0.5551	-0.1905	0.0020	-0.1920	0.0103	-0.4087	0.0608	-0.4119	0.0475
2	315	0.5996	-0.2236	0.0022	-0.2327	0.0125	-0.5466	0.0705	-0.5330	0.0259
2	315	0.6497	-0.2502	0.0018	-0.2771	0.0136	-0.7014	0.0784	-0.4763	0.0391
2	315	0.6996	-0.3124	0.0019	-0.3284	0.0167	-0.8730	0.0833	-0.5159	0.0539
2	315	0.7495	-0.3484	0.0025	-0.3747	0.0178	-1.0612	0.0947	-0.4075	0.0413
2	315	0.7996	-0.4087	0.0026	-0.4233	0.0207	-1.2824	0.1002	-0.6026	0.0431
2	315	0.8578	-0.4804	0.0023	-0.4869	0.0233	-1.5337	0.1119	-0.2905	0.0398
2	315	0.9100	-0.5430	0.0021	-0.5226	0.0266	-1.8219	0.1224	-0.3264	0.0436
2	315	0.9727	-0.5769	0.0027	-0.5199	0.0295	-2.0945	0.1347	-0.2250	0.0395

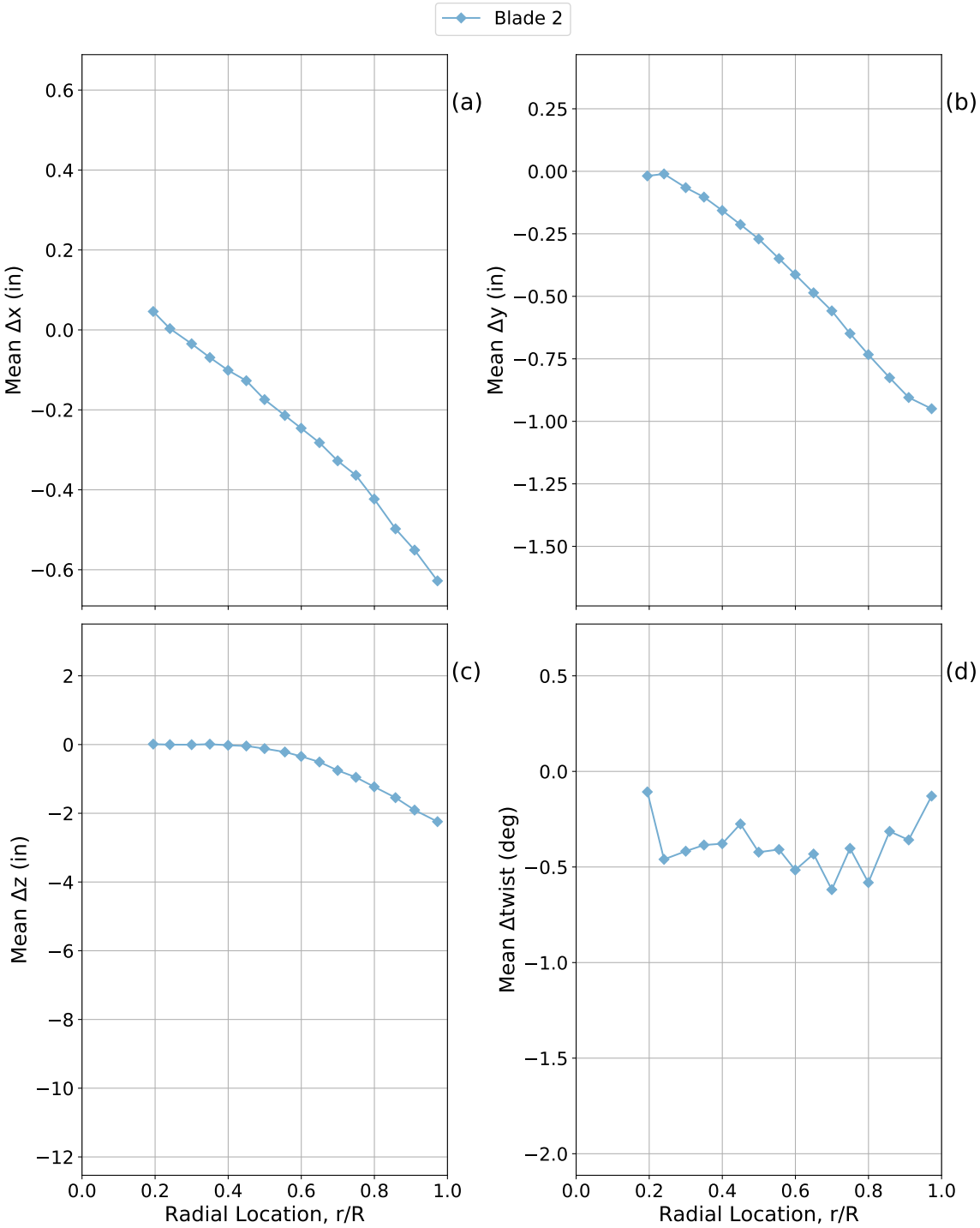


Figure 4.14-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0461	0.0017	-0.0185	0.0005	0.0129	0.0021	-0.1071	0.0142
2	330.12	0.2405	0.0033	0.0015	-0.0105	0.0021	-0.0027	0.0051	-0.4600	0.0295
2	330.12	0.2999	-0.0347	0.0012	-0.0654	0.0045	-0.0043	0.0112	-0.4174	0.0363
2	330.12	0.3498	-0.0691	0.0021	-0.1031	0.0052	0.0113	0.0147	-0.3851	0.0332
2	330.12	0.3998	-0.1011	0.0020	-0.1566	0.0106	-0.0211	0.0265	-0.3782	0.0361
2	330.12	0.4496	-0.1271	0.0022	-0.2130	0.0105	-0.0423	0.0286	-0.2748	0.0435
2	330.12	0.4995	-0.1743	0.0014	-0.2707	0.0137	-0.1186	0.0360	-0.4225	0.0520
2	330.12	0.5551	-0.2141	0.0017	-0.3492	0.0170	-0.2165	0.0487	-0.4084	0.0465
2	330.12	0.5996	-0.2460	0.0014	-0.4130	0.0199	-0.3451	0.0524	-0.5159	0.0502
2	330.12	0.6497	-0.2821	0.0019	-0.4860	0.0219	-0.5071	0.0591	-0.4321	0.0698
2	330.12	0.6996	-0.3275	0.0025	-0.5582	0.0278	-0.7542	0.0688	-0.6185	0.0700
2	330.12	0.7495	-0.3637	0.0020	-0.6489	0.0285	-0.9534	0.0724	-0.4027	0.0535
2	330.12	0.7996	-0.4232	0.0018	-0.7331	0.0315	-1.2301	0.0774	-0.5816	0.0471
2	330.12	0.8578	-0.4977	0.0015	-0.8257	0.0360	-1.5458	0.0889	-0.3138	0.0386
2	330.12	0.9100	-0.5508	0.0014	-0.9047	0.0380	-1.9066	0.1003	-0.3585	0.0421
2	330.12	0.9727	-0.6278	0.0021	-0.9496	0.0428	-2.2435	0.1136	-0.1289	0.0376

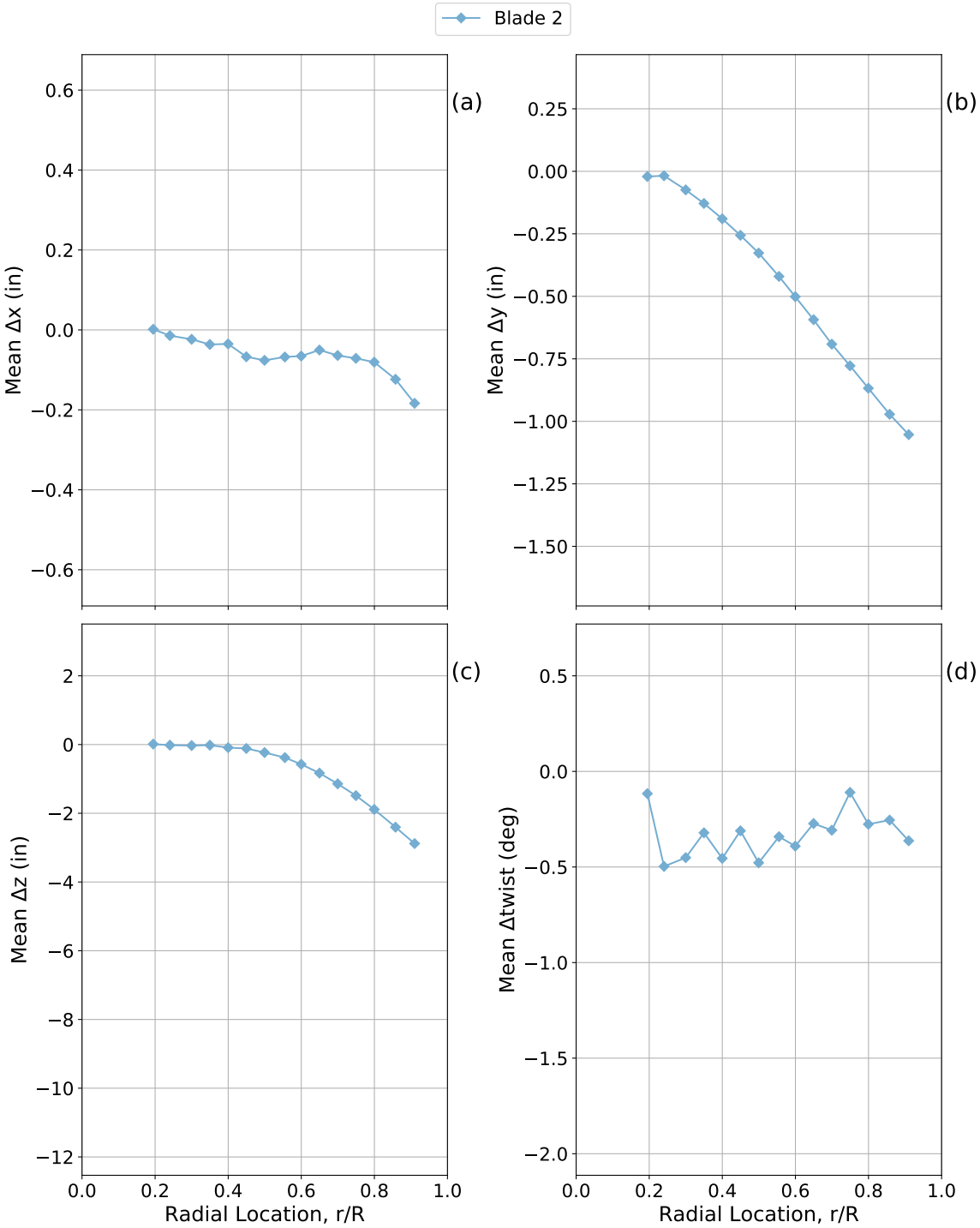


Figure 4.14-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0016	0.0035	-0.0209	0.0009	0.0139	0.0018	-0.1162	0.0130
2	344.88	0.2405	-0.0143	0.0018	-0.0178	0.0018	-0.0182	0.0029	-0.4971	0.0281
2	344.88	0.2999	-0.0235	0.0013	-0.0743	0.0037	-0.0298	0.0048	-0.4511	0.0325
2	344.88	0.3498	-0.0364	0.0029	-0.1285	0.0060	-0.0188	0.0080	-0.3211	0.0396
2	344.88	0.3998	-0.0350	0.0047	-0.1899	0.0097	-0.0892	0.0115	-0.4549	0.0378
2	344.88	0.4496	-0.0672	0.0053	-0.2560	0.0117	-0.1139	0.0146	-0.3108	0.0402
2	344.88	0.4995	-0.0761	0.0072	-0.3270	0.0149	-0.2324	0.0188	-0.4781	0.0400
2	344.88	0.5551	-0.0677	0.0076	-0.4204	0.0177	-0.3801	0.0227	-0.3413	0.0386
2	344.88	0.5996	-0.0654	0.0082	-0.5014	0.0214	-0.5731	0.0286	-0.3908	0.0440
2	344.88	0.6497	-0.0503	0.0069	-0.5934	0.0246	-0.8307	0.0334	-0.2727	0.0354
2	344.88	0.6996	-0.0640	0.0078	-0.6914	0.0280	-1.1430	0.0382	-0.3076	0.0430
2	344.88	0.7495	-0.0711	0.0088	-0.7779	0.0310	-1.4860	0.0441	-0.1098	0.0573
2	344.88	0.7996	-0.0806	0.0103	-0.8676	0.0354	-1.8879	0.0516	-0.2763	0.0331
2	344.88	0.8578	-0.1235	0.0094	-0.9717	0.0392	-2.4043	0.0598	-0.2546	0.0906
2	344.88	0.9100	-0.1836	0.0138	-1.0531	0.0444	-2.8812	0.0612	-0.3629	0.1597

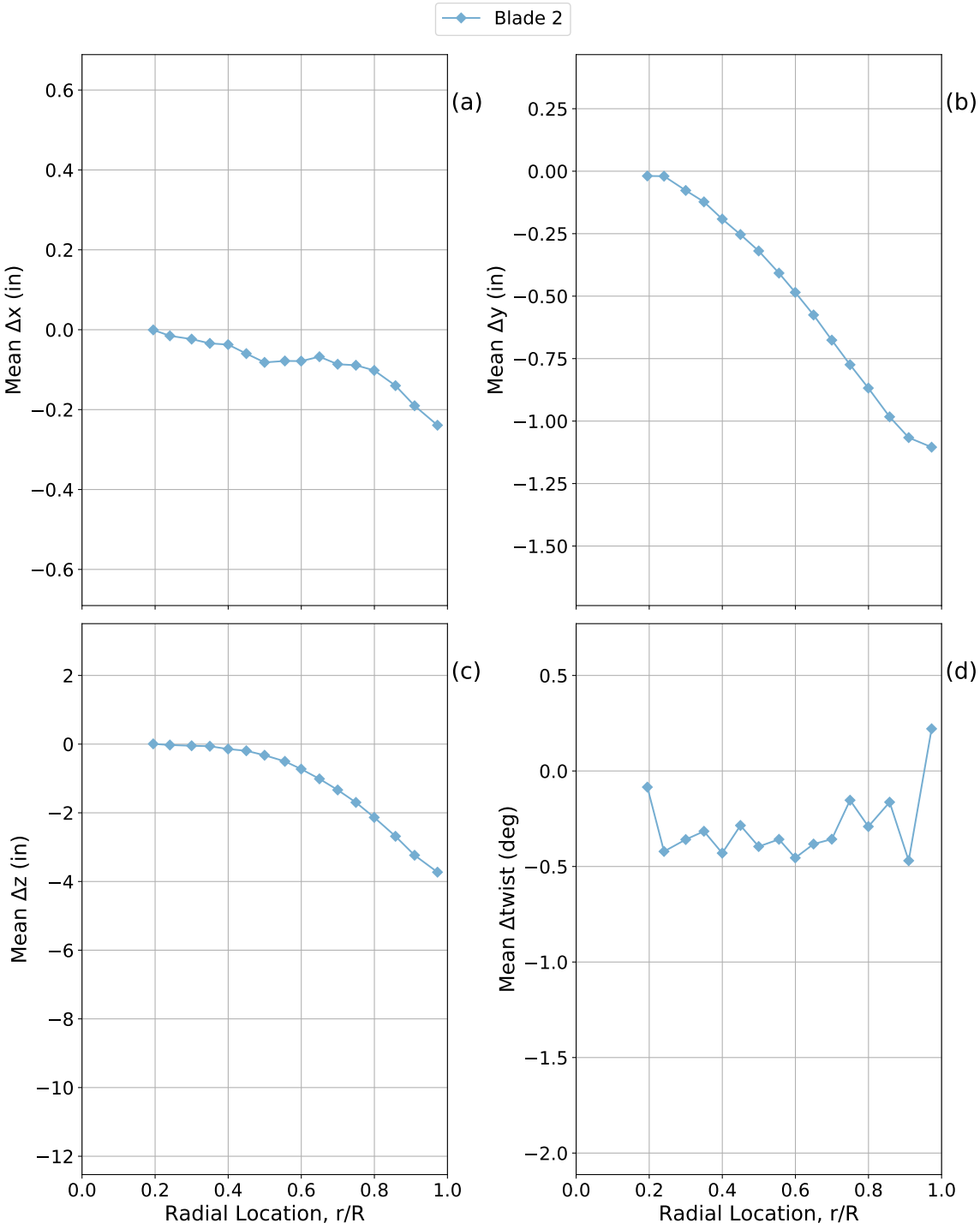


Figure 4.14-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0005	0.0044	-0.0191	0.0010	0.0073	0.0023	-0.0845	0.0144
2	350.16	0.2405	-0.0153	0.0022	-0.0199	0.0028	-0.0261	0.0045	-0.4213	0.0376
2	350.16	0.2999	-0.0235	0.0017	-0.0770	0.0049	-0.0476	0.0076	-0.3589	0.0378
2	350.16	0.3498	-0.0342	0.0020	-0.1227	0.0083	-0.0618	0.0114	-0.3156	0.0375
2	350.16	0.3998	-0.0372	0.0033	-0.1914	0.0135	-0.1437	0.0182	-0.4301	0.0399
2	350.16	0.4496	-0.0598	0.0047	-0.2534	0.0157	-0.1940	0.0195	-0.2852	0.0377
2	350.16	0.4995	-0.0818	0.0059	-0.3191	0.0183	-0.3236	0.0196	-0.3956	0.0439
2	350.16	0.5551	-0.0782	0.0080	-0.4078	0.0211	-0.5025	0.0234	-0.3578	0.0376
2	350.16	0.5996	-0.0785	0.0075	-0.4849	0.0244	-0.7263	0.0255	-0.4549	0.0500
2	350.16	0.6497	-0.0676	0.0074	-0.5753	0.0285	-1.0119	0.0325	-0.3824	0.0427
2	350.16	0.6996	-0.0864	0.0067	-0.6760	0.0310	-1.3345	0.0321	-0.3571	0.0488
2	350.16	0.7495	-0.0889	0.0065	-0.7744	0.0348	-1.6980	0.0371	-0.1530	0.0417
2	350.16	0.7996	-0.1019	0.0081	-0.8679	0.0376	-2.1347	0.0407	-0.2910	0.0534
2	350.16	0.8578	-0.1400	0.0080	-0.9829	0.0424	-2.6841	0.0411	-0.1633	0.0619
2	350.16	0.9100	-0.1903	0.0076	-1.0661	0.0466	-3.2358	0.0435	-0.4696	0.0496
2	350.16	0.9727	-0.2391	0.0130	-1.1044	0.0487	-3.7283	0.0484	0.2208	0.1706

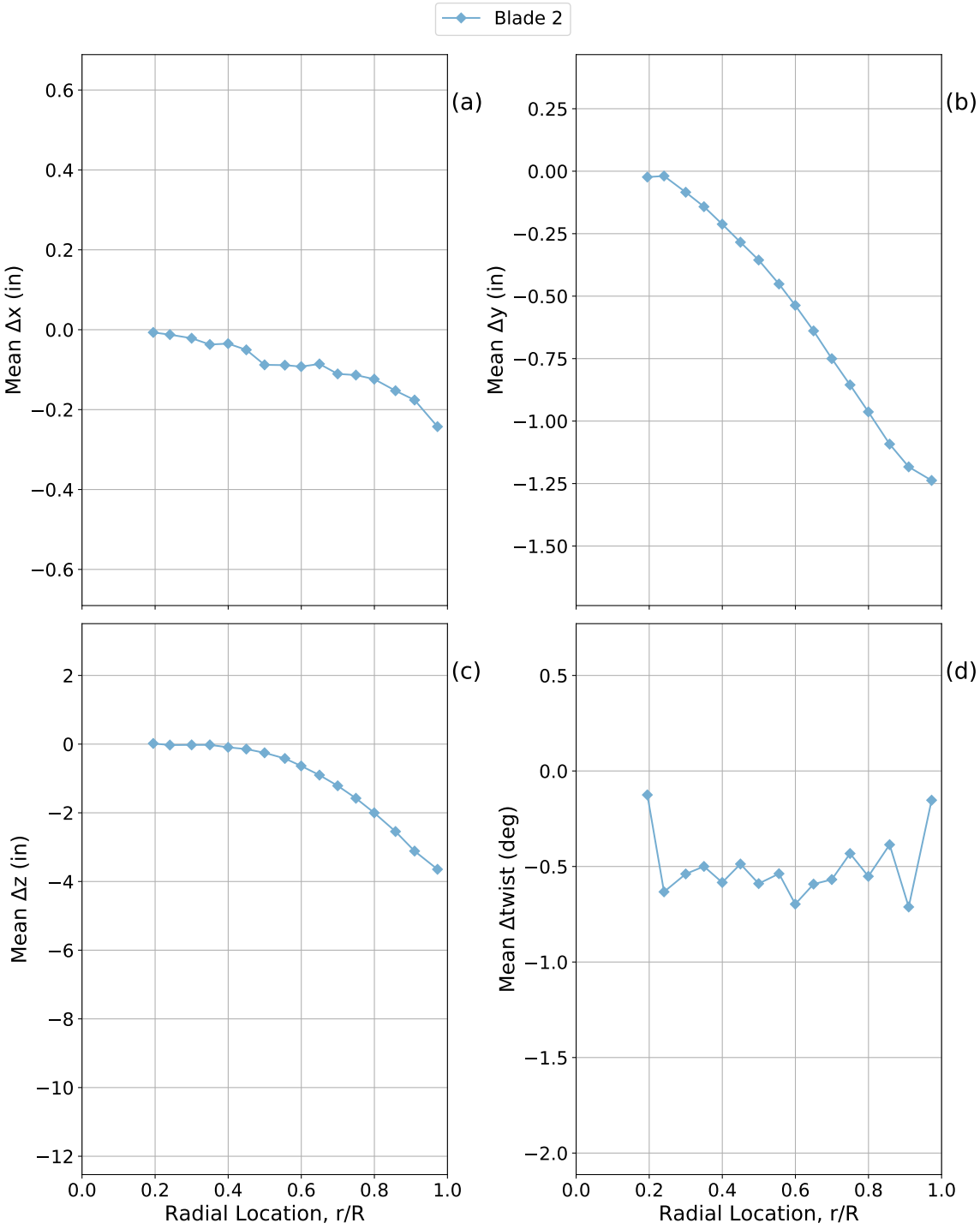


Figure 4.14-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = -0° NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Table 4.14-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = -0°
NFAC run 67, point 9. BD run 32, points 4993 to 5003.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0068	0.0036	-0.0235	0.0013	0.0188	0.0022	-0.1252	0.0205
2	355.08	0.2405	-0.0123	0.0018	-0.0192	0.0015	-0.0272	0.0027	-0.6328	0.0402
2	355.08	0.2999	-0.0213	0.0012	-0.0842	0.0052	-0.0228	0.0057	-0.5390	0.0477
2	355.08	0.3498	-0.0370	0.0022	-0.1420	0.0080	-0.0222	0.0097	-0.4997	0.0379
2	355.08	0.3998	-0.0348	0.0033	-0.2120	0.0127	-0.0932	0.0138	-0.5838	0.0520
2	355.08	0.4496	-0.0504	0.0043	-0.2842	0.0145	-0.1448	0.0146	-0.4870	0.0453
2	355.08	0.4995	-0.0879	0.0054	-0.3555	0.0181	-0.2528	0.0195	-0.5897	0.0411
2	355.08	0.5551	-0.0887	0.0056	-0.4515	0.0230	-0.4185	0.0223	-0.5376	0.0452
2	355.08	0.5996	-0.0923	0.0057	-0.5369	0.0254	-0.6358	0.0268	-0.6970	0.0453
2	355.08	0.6497	-0.0857	0.0050	-0.6390	0.0273	-0.9020	0.0285	-0.5921	0.0459
2	355.08	0.6996	-0.1106	0.0054	-0.7501	0.0317	-1.2136	0.0331	-0.5683	0.0440
2	355.08	0.7495	-0.1135	0.0066	-0.8551	0.0369	-1.5767	0.0394	-0.4320	0.0410
2	355.08	0.7996	-0.1237	0.0078	-0.9631	0.0416	-2.0017	0.0422	-0.5517	0.0587
2	355.08	0.8578	-0.1527	0.0091	-1.0921	0.0465	-2.5446	0.0457	-0.3857	0.0561
2	355.08	0.9100	-0.1760	0.0103	-1.1832	0.0512	-3.1145	0.0530	-0.7119	0.1158
2	355.08	0.9727	-0.2426	0.0123	-1.2375	0.0567	-3.6454	0.0618	-0.1530	0.0898

4.15 Run 67, Point 47

4.15.1 Pitch, Flap, and Lag

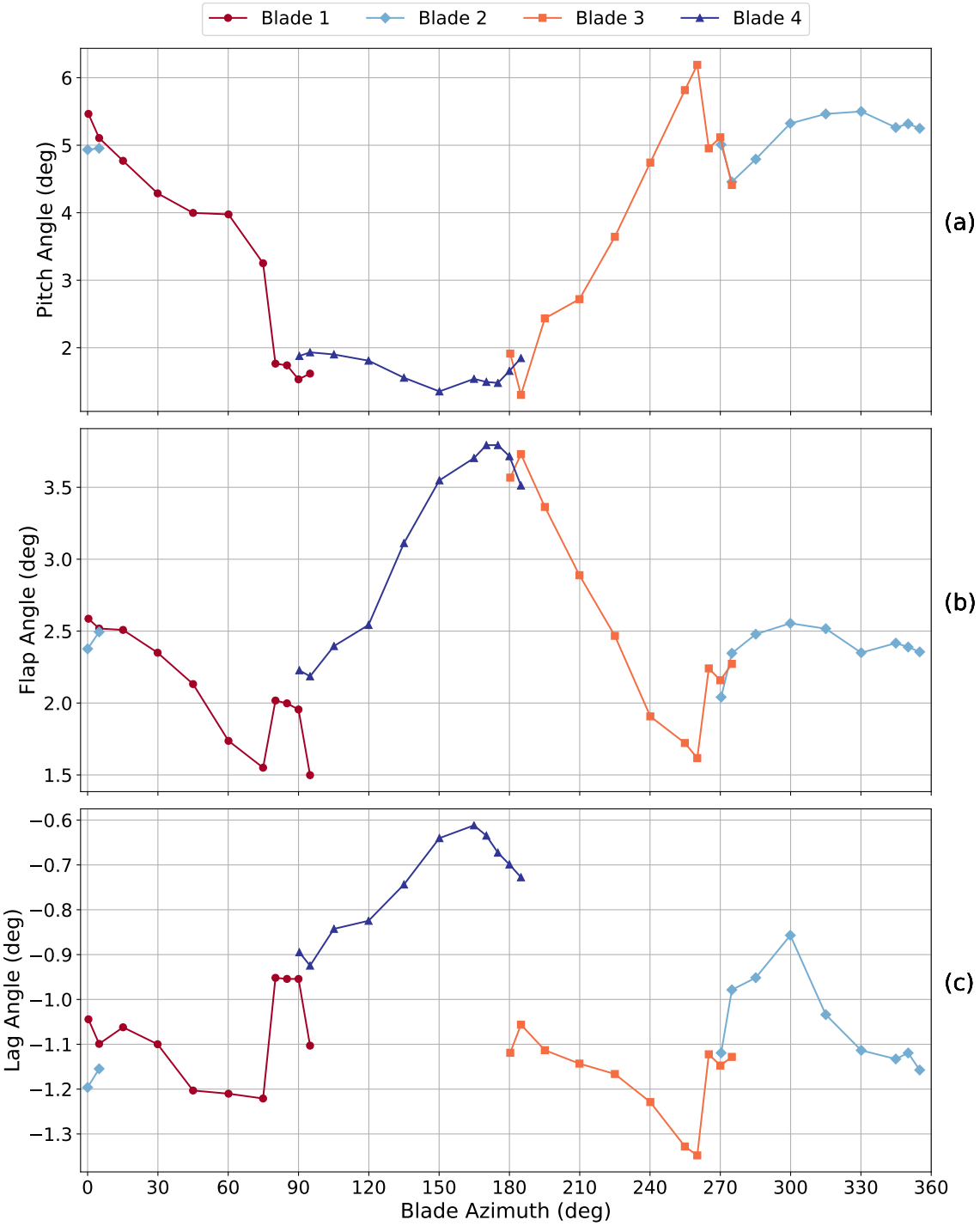


Figure 4.15-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.9342	2.3764	-1.1962	0.0737	0.0326	0.0296
0.35	1	5.4643	2.5862	-1.0443	0.1053	0.0617	0.0303
4.92	1	5.1068	2.5181	-1.0991	0.1320	0.0356	0.0253
4.92	2	4.9548	2.4946	-1.1547	0.0812	0.0265	0.0142
15.12	1	4.7692	2.5084	-1.0621	0.1564	0.0499	0.0266
29.88	1	4.2868	2.3498	-1.0999	0.0731	0.0469	0.0267
45	1	3.9974	2.1318	-1.2031	0.0800	0.0362	0.0148
60.12	1	3.9753	1.7370	-1.2102	0.0713	0.0288	0.0161
74.88	1	3.2516	1.5504	-1.2209	0.0914	0.0498	0.0245
80.16	1	1.7642	2.0175	-0.9518	0.0754	0.0344	0.0197
85.08	1	1.7394	1.9979	-0.9542	0.0394	0.0266	0.0246
90	1	1.5316	1.9549	-0.9543	0.0640	0.0340	0.0160
90.35	4	1.8777	2.2276	-0.8948	0.0615	0.0214	0.0218
94.92	1	1.6169	1.4986	-1.1030	0.0335	0.0101	0.0063
94.92	4	1.9320	2.1856	-0.9246	0.0231	0.0128	0.0082
105.12	4	1.9004	2.3960	-0.8426	0.0206	0.0183	0.0130
119.88	4	1.8082	2.5428	-0.8246	0.0325	0.0184	0.0205
135	4	1.5555	3.1122	-0.7437	0.0182	0.0134	0.0148
150.12	4	1.3527	3.5484	-0.6403	0.0218	0.0141	0.0119
164.88	4	1.5383	3.7032	-0.6118	0.0133	0.0133	0.0081
170.16	4	1.4937	3.7931	-0.6347	0.0320	0.0202	0.0158
175.08	4	1.4782	3.7933	-0.6727	0.0347	0.0257	0.0243
180	4	1.6563	3.7160	-0.6990	0.0302	0.0253	0.0136
180.35	3	1.9129	3.5673	-1.1190	0.0446	0.0206	0.0193
184.92	3	1.3014	3.7306	-1.0562	0.0473	0.0595	0.0396
184.92	4	1.8462	3.5123	-0.7276	0.0286	0.0189	0.0176
195.12	3	2.4351	3.3634	-1.1132	0.0836	0.0280	0.0148
209.88	3	2.7195	2.8888	-1.1431	0.0199	0.0220	0.0169
225	3	3.6439	2.4673	-1.1663	0.0280	0.0092	0.0107
240.12	3	4.7430	1.9072	-1.2289	0.0408	0.0235	0.0163
254.88	3	5.8162	1.7218	-1.3279	0.0549	0.0344	0.0232
260.16	3	6.1905	1.6170	-1.3478	0.1083	0.0322	0.0241
265.08	3	4.9540	2.2408	-1.1223	0.0992	0.0345	0.0191
270	3	5.1169	2.1583	-1.1474	0.1453	0.0557	0.0220
270.35	2	5.0079	2.0411	-1.1192	0.1970	0.0830	0.0344
274.92	2	4.4569	2.3461	-0.9786	0.0332	0.0259	0.0121
274.92	3	4.4106	2.2723	-1.1281	0.0454	0.0260	0.0094
285.12	2	4.7934	2.4785	-0.9516	0.0338	0.0260	0.0186
299.88	2	5.3232	2.5544	-0.8570	0.0289	0.0354	0.0221
315	2	5.4638	2.5167	-1.0339	0.0354	0.0246	0.0140
330.12	2	5.5002	2.3498	-1.1136	0.0291	0.0089	0.0085
344.88	2	5.2627	2.4165	-1.1328	0.0607	0.0204	0.0200
350.16	2	5.3173	2.3893	-1.1194	0.0289	0.0281	0.0139
355.08	2	5.2500	2.3555	-1.1574	0.0460	0.0251	0.0182

4.15.2 Spanwise Elastic Deformations

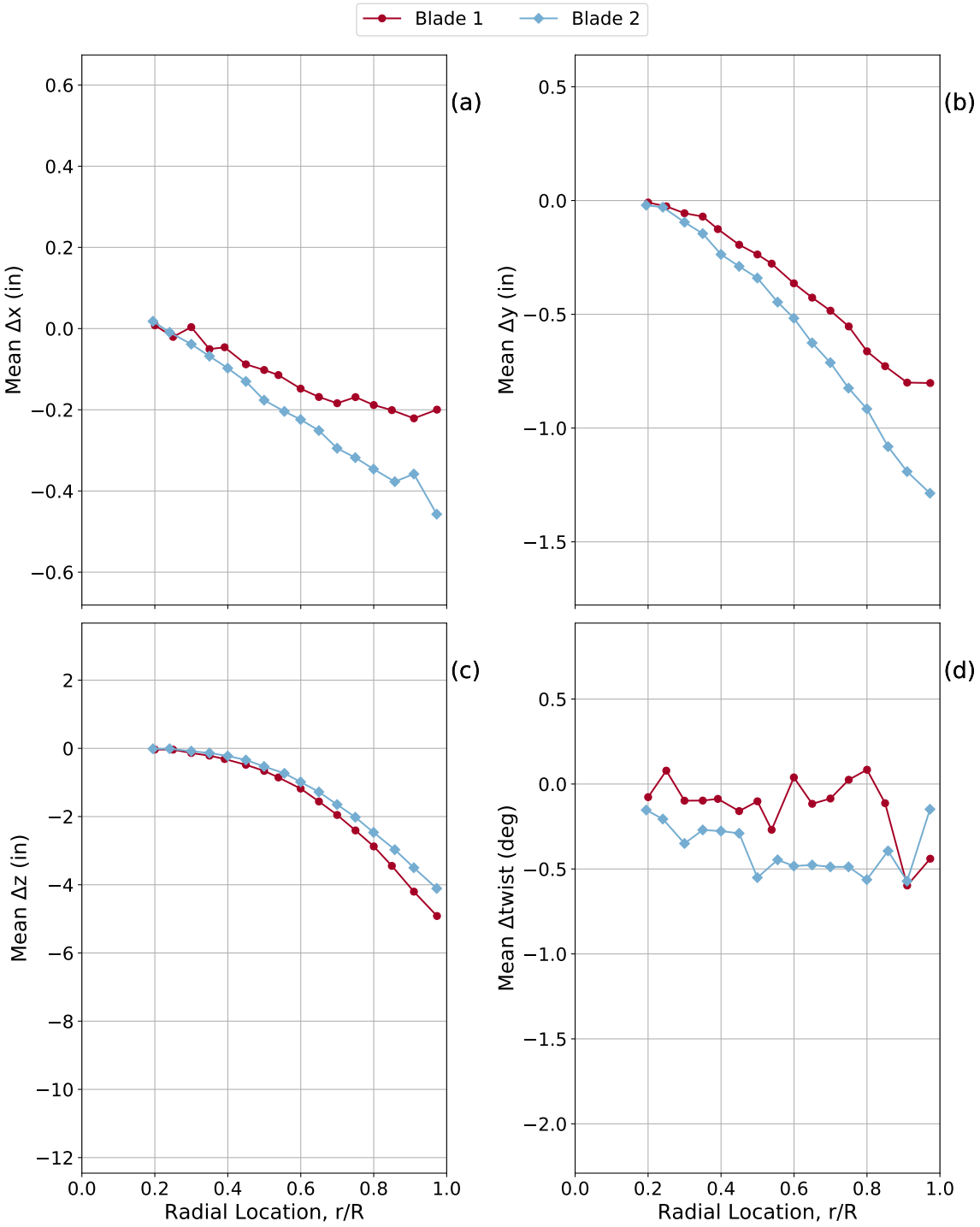


Figure 4.15-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0080	0.0055	-0.0087	0.0024	-0.0339	0.0061	-0.0773	0.0405
1	0.35	0.2499	-0.0205	0.0024	-0.0254	0.0046	-0.0381	0.0085	0.0787	0.0969
1	0.35	0.2998	0.0036	0.0015	-0.0556	0.0084	-0.1377	0.0171	-0.0981	0.1020
1	0.35	0.3498	-0.0506	0.0027	-0.0704	0.0157	-0.2142	0.0298	-0.0976	0.0921
1	0.35	0.3913	-0.0460	0.0043	-0.1255	0.0215	-0.3126	0.0390	-0.0876	0.0978
1	0.35	0.4496	-0.0880	0.0064	-0.1943	0.0276	-0.4821	0.0504	-0.1594	0.0988
1	0.35	0.4997	-0.1020	0.0076	-0.2370	0.0349	-0.6609	0.0630	-0.1018	0.0894
1	0.35	0.5387	-0.1145	0.0091	-0.2772	0.0389	-0.8531	0.0690	-0.2695	0.1001
1	0.35	0.5996	-0.1479	0.0110	-0.3638	0.0453	-1.1796	0.0819	0.0388	0.1039
1	0.35	0.6498	-0.1685	0.0115	-0.4267	0.0522	-1.5578	0.0904	-0.1167	0.1141
1	0.35	0.6998	-0.1839	0.0137	-0.4840	0.0589	-1.9531	0.1017	-0.0855	0.1152
1	0.35	0.7500	-0.1688	0.0134	-0.5533	0.0665	-2.4073	0.1153	0.0249	0.0988
1	0.35	0.8001	-0.1883	0.0130	-0.6626	0.0725	-2.8753	0.1244	0.0839	0.0986
1	0.35	0.8497	-0.2009	0.0135	-0.7280	0.0812	-3.4466	0.1388	-0.1131	0.0969
1	0.35	0.9102	-0.2211	0.0228	-0.8001	0.0919	-4.2020	0.1523	-0.5973	0.1194
1	0.35	0.9734	-0.1997	0.0148	-0.8020	0.1053	-4.9159	0.1710	-0.4397	0.1004
2	0	0.1949	0.0180	0.0040	-0.0205	0.0023	-0.0134	0.0046	-0.1532	0.0277
2	0	0.2405	-0.0093	0.0017	-0.0293	0.0017	-0.0126	0.0036	-0.2062	0.0812
2	0	0.2999	-0.0384	0.0010	-0.0952	0.0061	-0.0824	0.0124	-0.3500	0.0756
2	0	0.3498	-0.0680	0.0012	-0.1452	0.0117	-0.1360	0.0200	-0.2704	0.0776
2	0	0.3998	-0.0976	0.0018	-0.2366	0.0156	-0.2240	0.0282	-0.2771	0.0757
2	0	0.4496	-0.1302	0.0019	-0.2892	0.0195	-0.3411	0.0357	-0.2901	0.0685
2	0	0.4995	-0.1763	0.0017	-0.3404	0.0243	-0.5314	0.0465	-0.5508	0.0725
2	0	0.5551	-0.2040	0.0020	-0.4463	0.0305	-0.7323	0.0559	-0.4463	0.0768
2	0	0.5996	-0.2241	0.0021	-0.5172	0.0349	-0.9861	0.0624	-0.4830	0.0807
2	0	0.6497	-0.2512	0.0030	-0.6257	0.0395	-1.2789	0.0723	-0.4766	0.0665
2	0	0.6996	-0.2948	0.0025	-0.7124	0.0447	-1.6487	0.0809	-0.4878	0.0584
2	0	0.7495	-0.3179	0.0030	-0.8245	0.0500	-2.0198	0.0876	-0.4877	0.0731
2	0	0.7996	-0.3461	0.0032	-0.9156	0.0557	-2.4651	0.0970	-0.5631	0.0535
2	0	0.8578	-0.3771	0.0028	-1.0815	0.0617	-2.9706	0.1080	-0.3938	0.0835
2	0	0.9100	-0.3582	0.0162	-1.1912	0.0690	-3.5007	0.1227	-0.5716	0.1692
2	0	0.9727	-0.4572	0.0068	-1.2866	0.0767	-4.1082	0.1327	-0.1487	0.0806

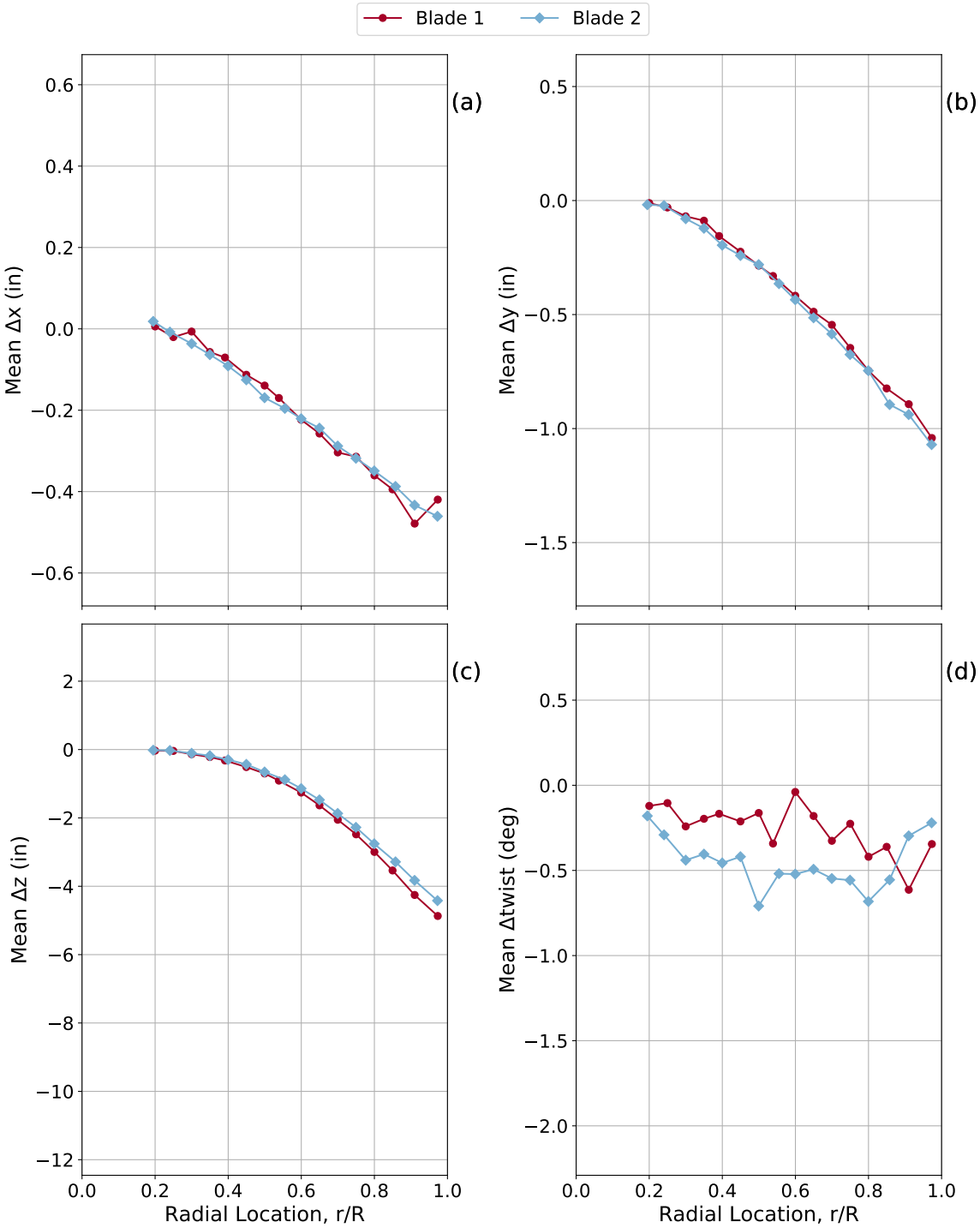


Figure 4.15-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0059	0.0040	-0.0112	0.0027	-0.0316	0.0066	-0.1211	0.0490
1	4.92	0.2499	-0.0203	0.0025	-0.0304	0.0049	-0.0400	0.0071	-0.1045	0.1454
1	4.92	0.2998	-0.0066	0.0019	-0.0692	0.0088	-0.1369	0.0186	-0.2414	0.1338
1	4.92	0.3498	-0.0569	0.0022	-0.0883	0.0153	-0.2189	0.0307	-0.1968	0.1143
1	4.92	0.3913	-0.0705	0.0021	-0.1557	0.0211	-0.3208	0.0397	-0.1674	0.1298
1	4.92	0.4496	-0.1129	0.0023	-0.2244	0.0285	-0.5129	0.0523	-0.2122	0.1304
1	4.92	0.4997	-0.1394	0.0025	-0.2854	0.0347	-0.7006	0.0637	-0.1627	0.1302
1	4.92	0.5387	-0.1699	0.0024	-0.3308	0.0396	-0.9098	0.0720	-0.3421	0.1308
1	4.92	0.5996	-0.2234	0.0030	-0.4175	0.0476	-1.2594	0.0850	-0.0392	0.1341
1	4.92	0.6498	-0.2573	0.0025	-0.4877	0.0543	-1.6328	0.0966	-0.1803	0.1315
1	4.92	0.6998	-0.3038	0.0028	-0.5452	0.0606	-2.0542	0.1086	-0.3261	0.1249
1	4.92	0.7500	-0.3142	0.0035	-0.6463	0.0667	-2.4806	0.1196	-0.2260	0.1257
1	4.92	0.8001	-0.3603	0.0030	-0.7467	0.0729	-2.9955	0.1308	-0.4198	0.1227
1	4.92	0.8497	-0.3945	0.0038	-0.8240	0.0798	-3.5380	0.1429	-0.3614	0.1405
1	4.92	0.9102	-0.4787	0.0046	-0.8931	0.0864	-4.2549	0.1573	-0.6135	0.1336
1	4.92	0.9734	-0.4197	0.0040	-1.0414	0.0963	-4.8695	0.1794	-0.3451	0.1228
2	4.92	0.1949	0.0183	0.0049	-0.0183	0.0019	-0.0188	0.0031	-0.1799	0.0346
2	4.92	0.2405	-0.0079	0.0020	-0.0220	0.0025	-0.0279	0.0055	-0.2911	0.0808
2	4.92	0.2999	-0.0364	0.0014	-0.0797	0.0065	-0.1099	0.0112	-0.4398	0.0925
2	4.92	0.3498	-0.0634	0.0016	-0.1216	0.0120	-0.1803	0.0181	-0.4043	0.0854
2	4.92	0.3998	-0.0912	0.0019	-0.1958	0.0173	-0.2959	0.0279	-0.4562	0.0881
2	4.92	0.4496	-0.1253	0.0023	-0.2411	0.0219	-0.4336	0.0352	-0.4194	0.0798
2	4.92	0.4995	-0.1693	0.0020	-0.2810	0.0267	-0.6564	0.0446	-0.7091	0.0772
2	4.92	0.5551	-0.1955	0.0018	-0.3646	0.0330	-0.8838	0.0532	-0.5190	0.0871
2	4.92	0.5996	-0.2208	0.0015	-0.4350	0.0388	-1.1399	0.0610	-0.5216	0.0867
2	4.92	0.6497	-0.2440	0.0017	-0.5142	0.0442	-1.4714	0.0686	-0.4933	0.0874
2	4.92	0.6996	-0.2880	0.0019	-0.5851	0.0494	-1.8697	0.0765	-0.5475	0.0885
2	4.92	0.7495	-0.3181	0.0022	-0.6754	0.0547	-2.2761	0.0854	-0.5573	0.0740
2	4.92	0.7996	-0.3492	0.0025	-0.7462	0.0609	-2.7567	0.0926	-0.6823	0.0789
2	4.92	0.8578	-0.3874	0.0020	-0.8947	0.0692	-3.2860	0.1043	-0.5553	0.0813
2	4.92	0.9100	-0.4334	0.0034	-0.9386	0.0751	-3.8276	0.1120	-0.2970	0.1003
2	4.92	0.9727	-0.4607	0.0036	-1.0704	0.0806	-4.4205	0.1201	-0.2204	0.0887

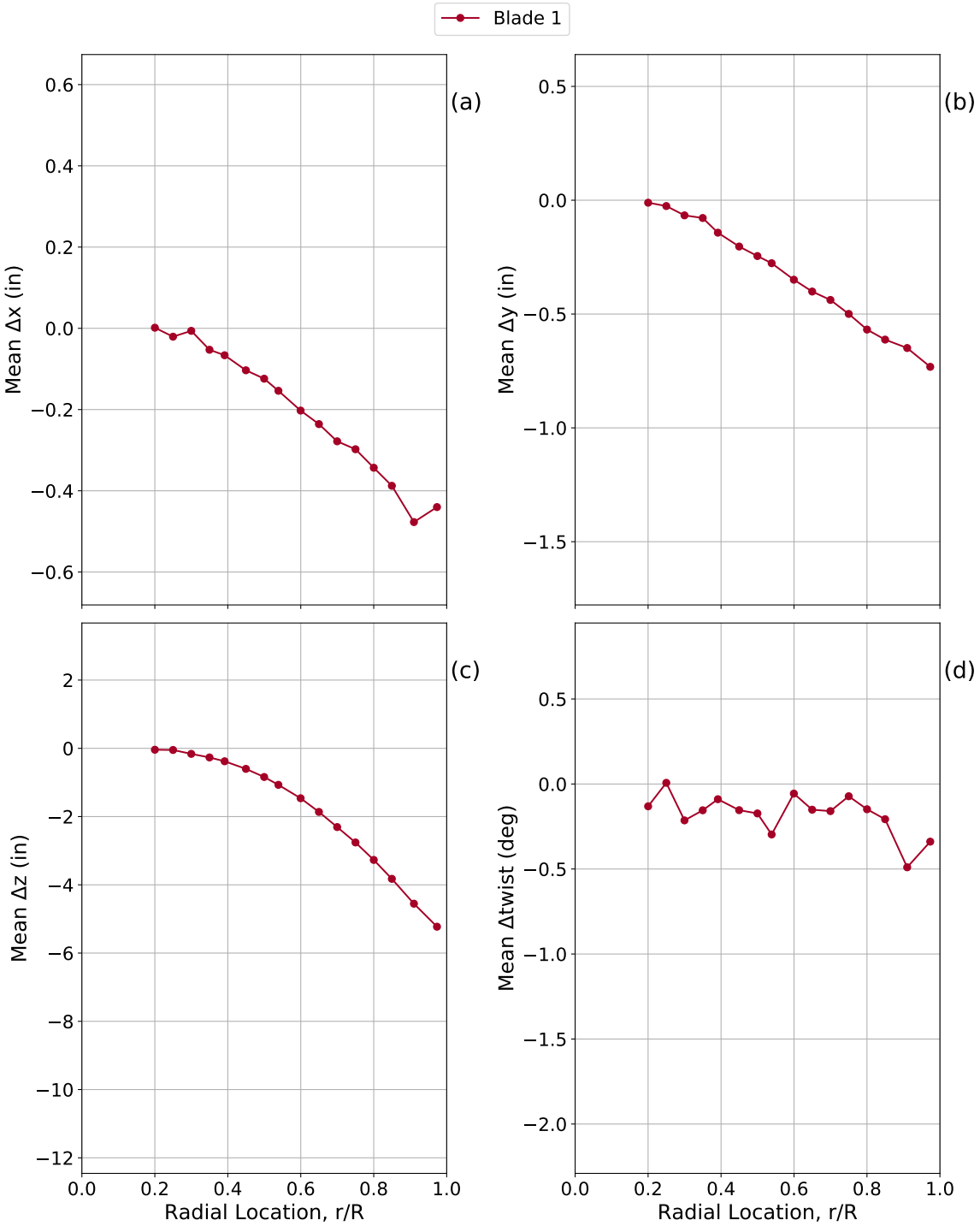


Figure 4.15-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0015	0.0038	-0.0109	0.0022	-0.0412	0.0076	-0.1313	0.0545
1	15.12	0.2499	-0.0206	0.0021	-0.0256	0.0031	-0.0484	0.0083	0.0069	0.1413
1	15.12	0.2998	-0.0062	0.0021	-0.0665	0.0080	-0.1623	0.0237	-0.2140	0.1444
1	15.12	0.3498	-0.0528	0.0023	-0.0781	0.0135	-0.2673	0.0382	-0.1546	0.1449
1	15.12	0.3913	-0.0663	0.0028	-0.1426	0.0188	-0.3796	0.0519	-0.0894	0.1526
1	15.12	0.4496	-0.1033	0.0030	-0.2034	0.0258	-0.6019	0.0713	-0.1539	0.1490
1	15.12	0.4997	-0.1240	0.0028	-0.2452	0.0321	-0.8400	0.0874	-0.1731	0.1470
1	15.12	0.5387	-0.1538	0.0028	-0.2767	0.0364	-1.0703	0.0984	-0.2968	0.1501
1	15.12	0.5996	-0.2025	0.0029	-0.3492	0.0449	-1.4627	0.1179	-0.0563	0.1466
1	15.12	0.6498	-0.2358	0.0031	-0.4011	0.0522	-1.8636	0.1321	-0.1513	0.1500
1	15.12	0.6998	-0.2782	0.0031	-0.4381	0.0584	-2.3074	0.1448	-0.1594	0.1435
1	15.12	0.7500	-0.2977	0.0035	-0.4994	0.0653	-2.7586	0.1575	-0.0720	0.1401
1	15.12	0.8001	-0.3432	0.0036	-0.5682	0.0722	-3.2707	0.1698	-0.1486	0.1406
1	15.12	0.8497	-0.3877	0.0044	-0.6123	0.0794	-3.8247	0.1819	-0.2071	0.1360
1	15.12	0.9102	-0.4770	0.0032	-0.6492	0.0883	-4.5534	0.1976	-0.4899	0.1497
1	15.12	0.9734	-0.4401	0.0040	-0.7319	0.0969	-5.2274	0.2105	-0.3391	0.1693

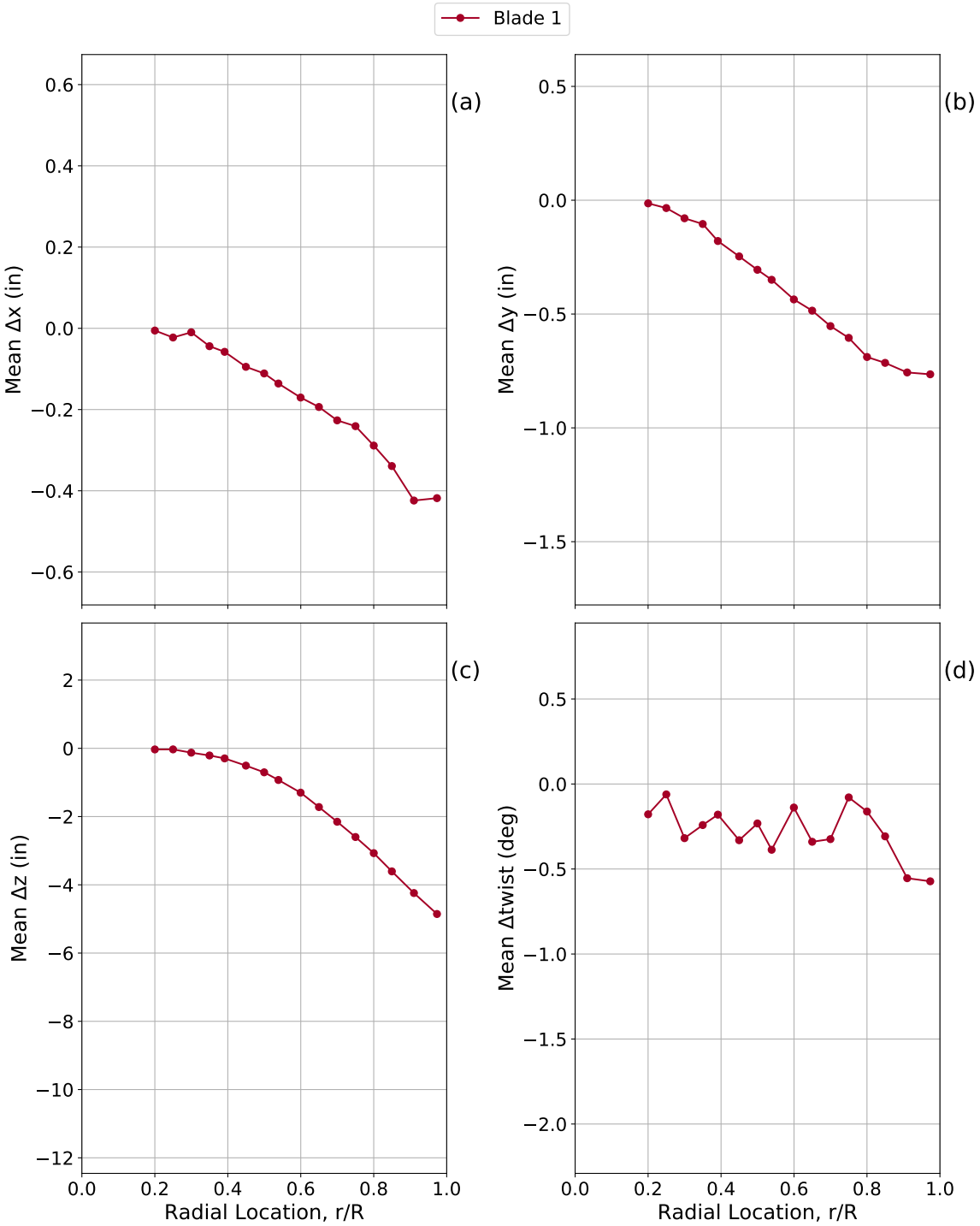


Figure 4.15-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0055	0.0040	-0.0138	0.0018	-0.0323	0.0057	-0.1782	0.0273
1	29.88	0.2499	-0.0226	0.0022	-0.0344	0.0017	-0.0310	0.0052	-0.0612	0.0791
1	29.88	0.2998	-0.0098	0.0016	-0.0793	0.0059	-0.1272	0.0173	-0.3185	0.0719
1	29.88	0.3498	-0.0440	0.0019	-0.1045	0.0094	-0.2093	0.0278	-0.2415	0.0664
1	29.88	0.3913	-0.0579	0.0024	-0.1792	0.0128	-0.2953	0.0372	-0.1802	0.0703
1	29.88	0.4496	-0.0948	0.0022	-0.2468	0.0178	-0.5068	0.0498	-0.3307	0.0780
1	29.88	0.4997	-0.1111	0.0029	-0.3056	0.0221	-0.7031	0.0625	-0.2320	0.0686
1	29.88	0.5387	-0.1359	0.0034	-0.3495	0.0262	-0.9277	0.0722	-0.3868	0.0759
1	29.88	0.5996	-0.1704	0.0031	-0.4358	0.0317	-1.2991	0.0874	-0.1384	0.0716
1	29.88	0.6498	-0.1937	0.0032	-0.4851	0.0375	-1.7213	0.0996	-0.3399	0.0772
1	29.88	0.6998	-0.2266	0.0031	-0.5529	0.0418	-2.1516	0.1115	-0.3242	0.0785
1	29.88	0.7500	-0.2409	0.0029	-0.6046	0.0465	-2.5992	0.1228	-0.0788	0.0780
1	29.88	0.8001	-0.2887	0.0030	-0.6887	0.0516	-3.0718	0.1320	-0.1618	0.0828
1	29.88	0.8497	-0.3391	0.0030	-0.7145	0.0573	-3.6064	0.1426	-0.3079	0.0817
1	29.88	0.9102	-0.4240	0.0029	-0.7566	0.0633	-4.2407	0.1544	-0.5541	0.0788
1	29.88	0.9734	-0.4181	0.0035	-0.7647	0.0703	-4.8550	0.1675	-0.5723	0.0768

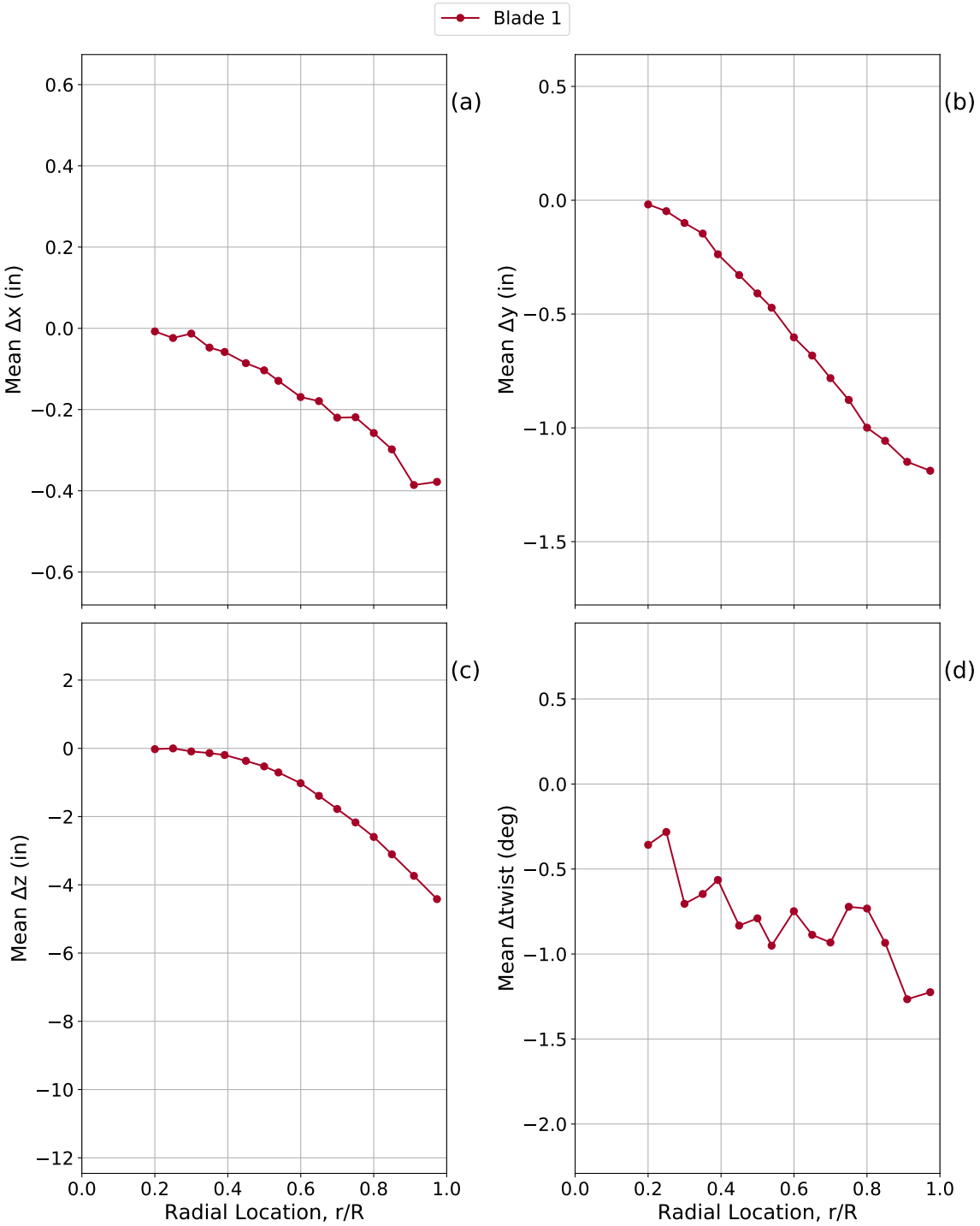


Figure 4.15-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0076	0.0055	-0.0185	0.0010	-0.0232	0.0041	-0.3577	0.0341
1	45	0.2499	-0.0238	0.0019	-0.0481	0.0018	-0.0029	0.0076	-0.2822	0.0745
1	45	0.2998	-0.0130	0.0029	-0.0999	0.0035	-0.0909	0.0148	-0.7046	0.0840
1	45	0.3498	-0.0474	0.0020	-0.1465	0.0061	-0.1386	0.0264	-0.6470	0.0733
1	45	0.3913	-0.0582	0.0026	-0.2375	0.0084	-0.1961	0.0364	-0.5645	0.0714
1	45	0.4496	-0.0858	0.0033	-0.3288	0.0117	-0.3677	0.0493	-0.8326	0.0744
1	45	0.4997	-0.1034	0.0030	-0.4093	0.0155	-0.5298	0.0614	-0.7901	0.0736
1	45	0.5387	-0.1293	0.0028	-0.4723	0.0174	-0.7074	0.0695	-0.9508	0.0745
1	45	0.5996	-0.1692	0.0023	-0.6023	0.0221	-1.0219	0.0825	-0.7481	0.0745
1	45	0.6498	-0.1792	0.0022	-0.6824	0.0253	-1.3924	0.0919	-0.8873	0.0768
1	45	0.6998	-0.2199	0.0027	-0.7815	0.0289	-1.7774	0.1028	-0.9324	0.0706
1	45	0.7500	-0.2190	0.0025	-0.8773	0.0343	-2.1713	0.1145	-0.7223	0.0705
1	45	0.8001	-0.2578	0.0016	-0.9993	0.0382	-2.5969	0.1257	-0.7326	0.0711
1	45	0.8497	-0.2980	0.0019	-1.0569	0.0423	-3.1065	0.1357	-0.9343	0.0730
1	45	0.9102	-0.3857	0.0017	-1.1492	0.0477	-3.7374	0.1465	-1.2661	0.0773
1	45	0.9734	-0.3780	0.0022	-1.1883	0.0525	-4.4187	0.1571	-1.2246	0.0848

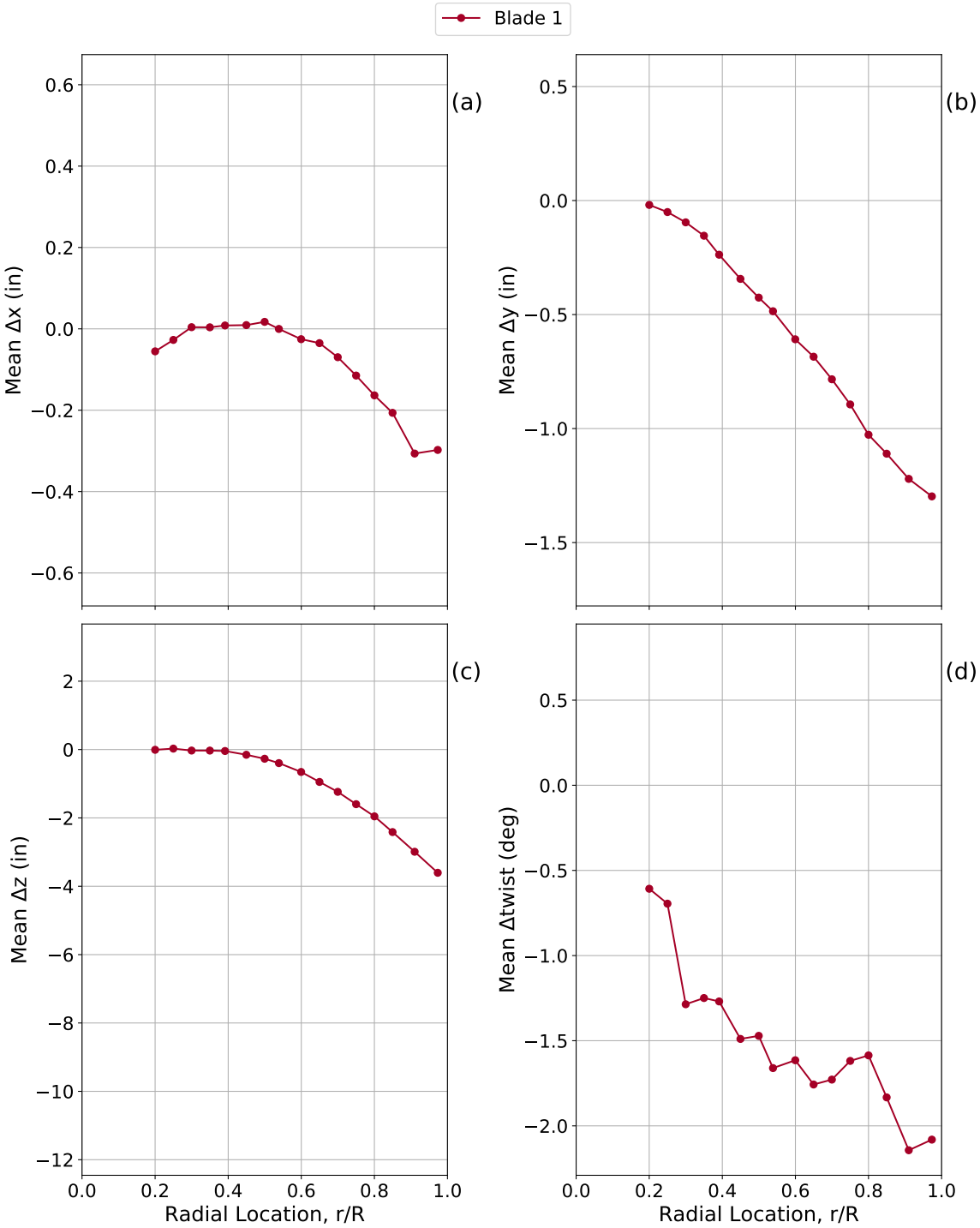


Figure 4.15-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0553	0.0025	-0.0192	0.0014	-0.0075	0.0044	-0.6077	0.0284
1	60.12	0.2499	-0.0272	0.0022	-0.0505	0.0017	0.0274	0.0056	-0.6952	0.0698
1	60.12	0.2998	0.0041	0.0019	-0.0956	0.0044	-0.0292	0.0135	-1.2860	0.0731
1	60.12	0.3498	0.0038	0.0022	-0.1543	0.0081	-0.0302	0.0224	-1.2494	0.0741
1	60.12	0.3913	0.0083	0.0030	-0.2376	0.0105	-0.0427	0.0300	-1.2693	0.0732
1	60.12	0.4496	0.0092	0.0036	-0.3436	0.0141	-0.1530	0.0394	-1.4896	0.0718
1	60.12	0.4997	0.0172	0.0042	-0.4257	0.0170	-0.2690	0.0470	-1.4714	0.0735
1	60.12	0.5387	-0.0002	0.0044	-0.4854	0.0193	-0.3968	0.0531	-1.6608	0.0712
1	60.12	0.5996	-0.0254	0.0040	-0.6085	0.0234	-0.6557	0.0614	-1.6147	0.0772
1	60.12	0.6498	-0.0351	0.0046	-0.6849	0.0262	-0.9475	0.0699	-1.7572	0.0673
1	60.12	0.6998	-0.0697	0.0044	-0.7838	0.0293	-1.2373	0.0766	-1.7284	0.0806
1	60.12	0.7500	-0.1148	0.0067	-0.8942	0.0367	-1.5987	0.0900	-1.6186	0.0721
1	60.12	0.8001	-0.1635	0.0059	-1.0272	0.0398	-1.9549	0.0966	-1.5862	0.0826
1	60.12	0.8497	-0.2064	0.0063	-1.1102	0.0428	-2.4144	0.1056	-1.8329	0.0859
1	60.12	0.9102	-0.3065	0.0064	-1.2206	0.0456	-2.9903	0.1172	-2.1432	0.0776
1	60.12	0.9734	-0.2976	0.0060	-1.2974	0.0497	-3.6056	0.1250	-2.0809	0.0811

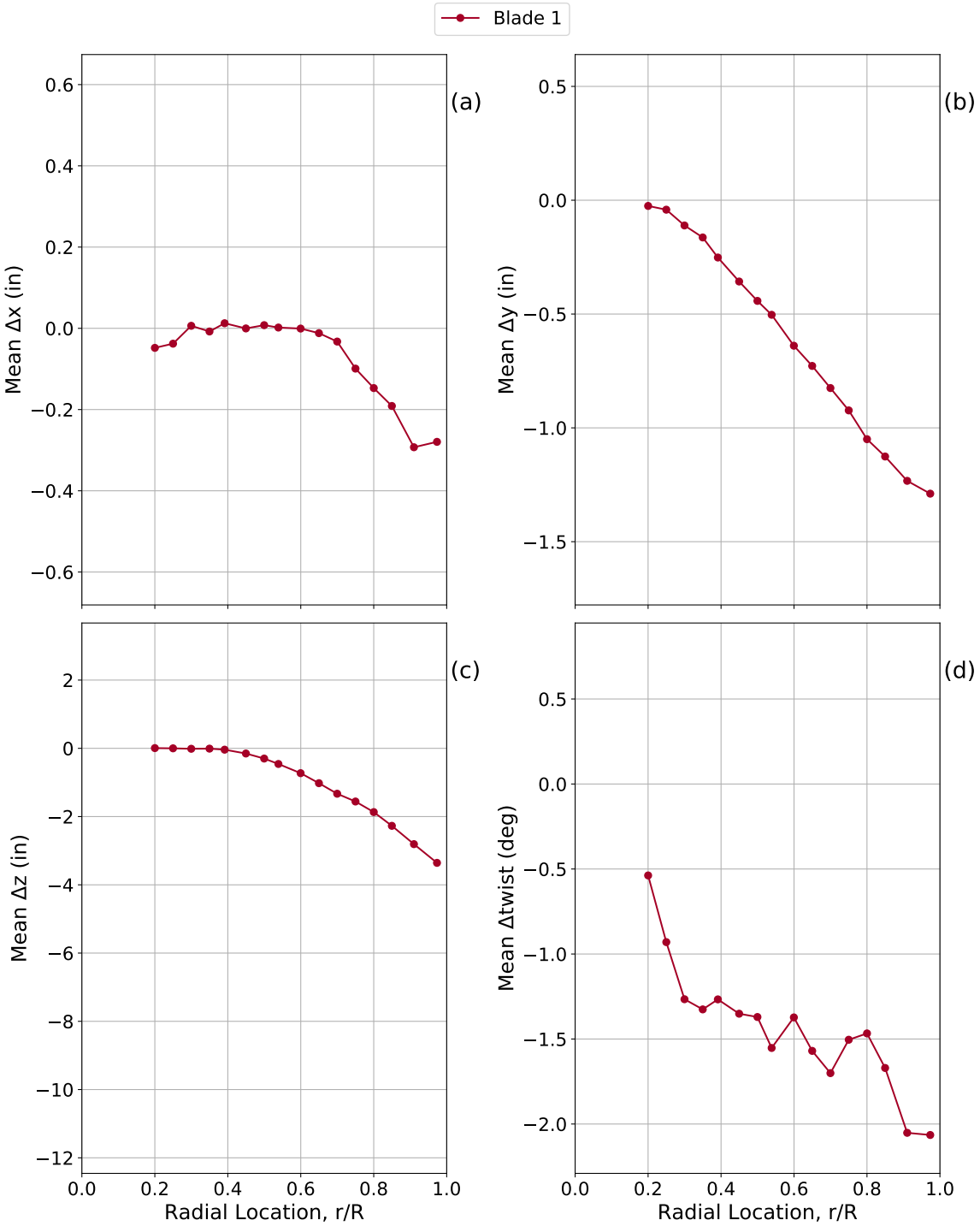


Figure 4.15-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0481	0.0026	-0.0251	0.0023	0.0065	0.0068	-0.5379	0.0322
1	74.88	0.2499	-0.0378	0.0021	-0.0416	0.0034	-0.0001	0.0079	-0.9300	0.0947
1	74.88	0.2998	0.0062	0.0021	-0.1109	0.0075	-0.0131	0.0217	-1.2660	0.0880
1	74.88	0.3498	-0.0078	0.0025	-0.1636	0.0133	-0.0090	0.0350	-1.3258	0.0967
1	74.88	0.3913	0.0125	0.0034	-0.2517	0.0181	-0.0392	0.0478	-1.2668	0.0860
1	74.88	0.4496	-0.0003	0.0051	-0.3571	0.0237	-0.1517	0.0646	-1.3512	0.0915
1	74.88	0.4997	0.0078	0.0062	-0.4422	0.0292	-0.2996	0.0788	-1.3706	0.0918
1	74.88	0.5387	0.0019	0.0071	-0.5033	0.0335	-0.4583	0.0915	-1.5527	0.0848
1	74.88	0.5996	-0.0006	0.0083	-0.6392	0.0400	-0.7281	0.1077	-1.3729	0.0936
1	74.88	0.6498	-0.0119	0.0097	-0.7279	0.0457	-1.0217	0.1212	-1.5698	0.1220
1	74.88	0.6998	-0.0326	0.0106	-0.8251	0.0528	-1.3304	0.1393	-1.7007	0.0896
1	74.88	0.7500	-0.0992	0.0045	-0.9233	0.0693	-1.5586	0.1256	-1.5043	0.1070
1	74.88	0.8001	-0.1471	0.0051	-1.0498	0.0752	-1.8686	0.1426	-1.4671	0.1036
1	74.88	0.8497	-0.1912	0.0050	-1.1258	0.0816	-2.2711	0.1601	-1.6703	0.1077
1	74.88	0.9102	-0.2928	0.0059	-1.2327	0.0896	-2.8079	0.1817	-2.0518	0.1092
1	74.88	0.9734	-0.2795	0.0052	-1.2890	0.0979	-3.3563	0.2075	-2.0645	0.1070

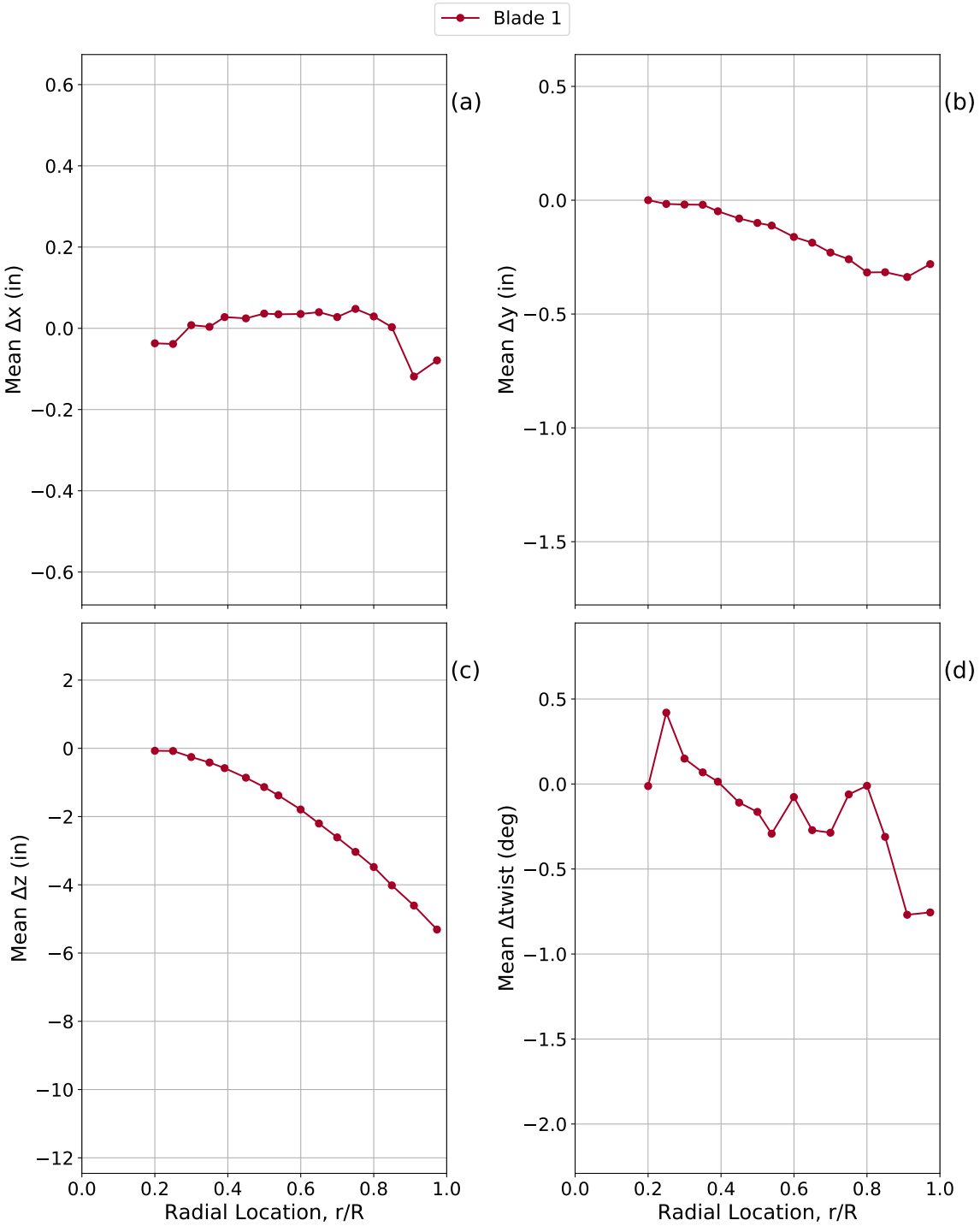


Figure 4.15-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0369	0.0028	0.0003	0.0019	-0.0709	0.0043	-0.0121	0.0311
1	80.16	0.2499	-0.0385	0.0017	-0.0164	0.0027	-0.0775	0.0050	0.4197	0.0684
1	80.16	0.2998	0.0078	0.0015	-0.0190	0.0061	-0.2552	0.0122	0.1494	0.0733
1	80.16	0.3498	0.0037	0.0020	-0.0200	0.0108	-0.4151	0.0200	0.0685	0.0729
1	80.16	0.3913	0.0277	0.0022	-0.0485	0.0143	-0.5802	0.0262	0.0137	0.0694
1	80.16	0.4496	0.0245	0.0023	-0.0803	0.0193	-0.8606	0.0348	-0.1094	0.0697
1	80.16	0.4997	0.0363	0.0026	-0.0998	0.0237	-1.1353	0.0399	-0.1641	0.0763
1	80.16	0.5387	0.0345	0.0026	-0.1114	0.0277	-1.3807	0.0463	-0.2924	0.0699
1	80.16	0.5996	0.0353	0.0032	-0.1613	0.0338	-1.7924	0.0558	-0.0766	0.0706
1	80.16	0.6498	0.0397	0.0046	-0.1866	0.0388	-2.2027	0.0637	-0.2714	0.0693
1	80.16	0.6998	0.0277	0.0043	-0.2298	0.0447	-2.6102	0.0674	-0.2864	0.0896
1	80.16	0.7500	0.0478	0.0042	-0.2593	0.0498	-3.0342	0.0794	-0.0613	0.0805
1	80.16	0.8001	0.0292	0.0033	-0.3173	0.0555	-3.4791	0.0871	-0.0105	0.0760
1	80.16	0.8497	0.0029	0.0061	-0.3162	0.0596	-4.0161	0.0923	-0.3109	0.1311
1	80.16	0.9102	-0.1186	0.0050	-0.3373	0.0648	-4.6072	0.0928	-0.7692	0.0739
1	80.16	0.9734	-0.0789	0.0053	-0.2806	0.0711	-5.3106	0.1030	-0.7552	0.0648

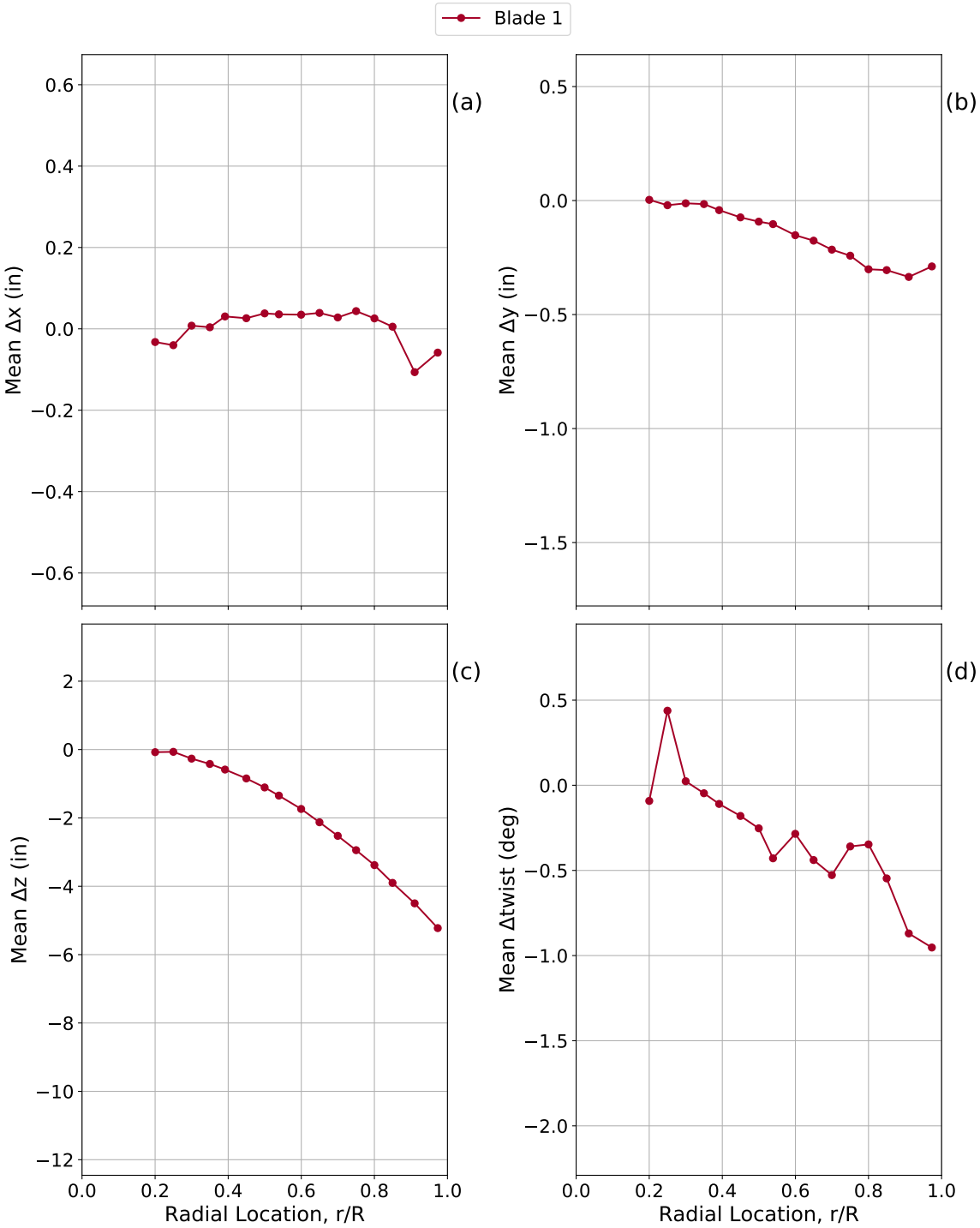


Figure 4.15-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0324	0.0040	0.0031	0.0025	-0.0765	0.0057	-0.0918	0.0198
1	85.08	0.2499	-0.0402	0.0028	-0.0205	0.0021	-0.0669	0.0061	0.4380	0.0542
1	85.08	0.2998	0.0078	0.0013	-0.0121	0.0076	-0.2655	0.0158	0.0237	0.0325
1	85.08	0.3498	0.0039	0.0017	-0.0155	0.0124	-0.4219	0.0259	-0.0468	0.0332
1	85.08	0.3913	0.0305	0.0016	-0.0420	0.0162	-0.5855	0.0336	-0.1095	0.0348
1	85.08	0.4496	0.0261	0.0015	-0.0738	0.0204	-0.8456	0.0411	-0.1801	0.0355
1	85.08	0.4997	0.0380	0.0015	-0.0925	0.0246	-1.1090	0.0501	-0.2527	0.0334
1	85.08	0.5387	0.0357	0.0017	-0.1034	0.0284	-1.3476	0.0552	-0.4289	0.0366
1	85.08	0.5996	0.0348	0.0023	-0.1520	0.0334	-1.7380	0.0633	-0.2851	0.0426
1	85.08	0.6498	0.0392	0.0034	-0.1759	0.0374	-2.1278	0.0707	-0.4391	0.0370
1	85.08	0.6998	0.0280	0.0023	-0.2154	0.0417	-2.5252	0.0780	-0.5273	0.0514
1	85.08	0.7500	0.0436	0.0038	-0.2419	0.0460	-2.9442	0.0874	-0.3591	0.0575
1	85.08	0.8001	0.0257	0.0040	-0.3014	0.0498	-3.3810	0.0945	-0.3472	0.0661
1	85.08	0.8497	0.0053	0.0057	-0.3051	0.0543	-3.9009	0.0996	-0.5468	0.0882
1	85.08	0.9102	-0.1064	0.0026	-0.3350	0.0595	-4.4999	0.1189	-0.8701	0.0430
1	85.08	0.9734	-0.0584	0.0044	-0.2889	0.0652	-5.2241	0.1270	-0.9527	0.0479

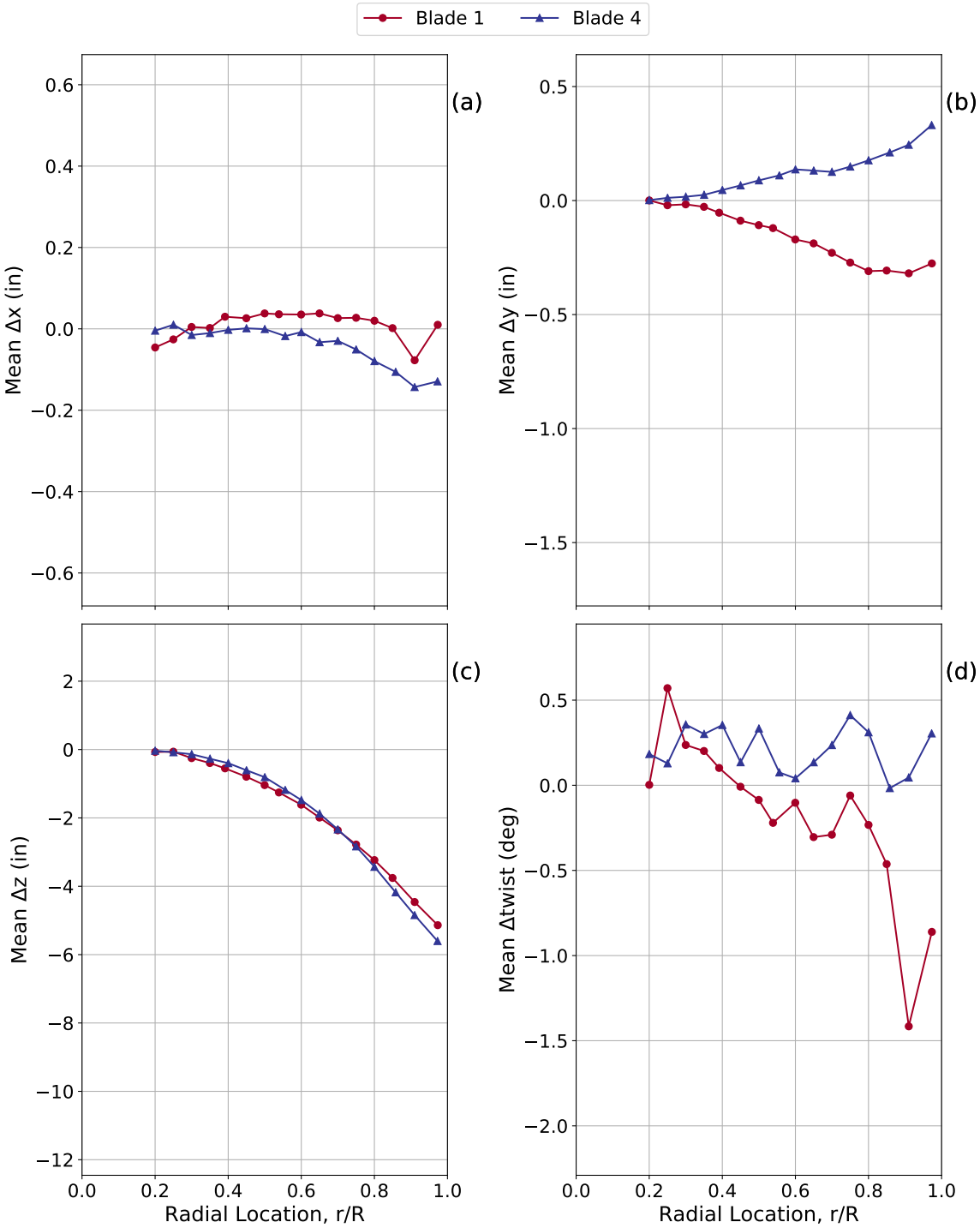


Figure 4.15-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0458	0.0074	0.0005	0.0037	-0.0717	0.0092	0.0026	0.0588
1	90	0.2499	-0.0259	0.0143	-0.0206	0.0038	-0.0623	0.0104	0.5704	0.0802
1	90	0.2998	0.0046	0.0069	-0.0167	0.0092	-0.2508	0.0226	0.2367	0.0882
1	90	0.3498	0.0021	0.0065	-0.0276	0.0125	-0.3945	0.0300	0.2014	0.0687
1	90	0.3913	0.0298	0.0073	-0.0534	0.0156	-0.5506	0.0379	0.1018	0.0620
1	90	0.4496	0.0261	0.0071	-0.0882	0.0191	-0.7951	0.0489	-0.0085	0.0696
1	90	0.4997	0.0379	0.0074	-0.1079	0.0224	-1.0403	0.0581	-0.0860	0.0629
1	90	0.5387	0.0359	0.0071	-0.1209	0.0253	-1.2556	0.0658	-0.2206	0.0668
1	90	0.5996	0.0352	0.0076	-0.1706	0.0297	-1.6133	0.0777	-0.1026	0.0677
1	90	0.6498	0.0380	0.0071	-0.1879	0.0333	-1.9903	0.0865	-0.3044	0.0699
1	90	0.6998	0.0264	0.0070	-0.2293	0.0373	-2.3631	0.0949	-0.2903	0.0564
1	90	0.7500	0.0272	0.0081	-0.2720	0.0339	-2.7793	0.1051	-0.0601	0.0872
1	90	0.8001	0.0199	0.0080	-0.3096	0.0452	-3.2343	0.1133	-0.2328	0.0686
1	90	0.8497	0.0018	0.0088	-0.3070	0.0491	-3.7575	0.1199	-0.4629	0.0788
1	90	0.9102	-0.0772	0.0109	-0.3192	0.0518	-4.4613	0.1303	-1.4156	0.2142
1	90	0.9734	0.0100	0.0115	-0.2758	0.0592	-5.1383	0.1516	-0.8611	0.1318
4	90.35	0.2001	-0.0045	0.0033	0.0018	0.0022	-0.0348	0.0043	0.1832	0.0347
4	90.35	0.2502	0.0101	0.0032	0.0118	0.0028	-0.0800	0.0075	0.1286	0.0459
4	90.35	0.3001	-0.0152	0.0020	0.0166	0.0046	-0.1374	0.0086	0.3565	0.0591
4	90.35	0.3502	-0.0104	0.0023	0.0250	0.0076	-0.2693	0.0151	0.3011	0.0639
4	90.35	0.4002	-0.0025	0.0032	0.0461	0.0094	-0.3993	0.0200	0.3538	0.0528
4	90.35	0.4500	0.0013	0.0030	0.0663	0.0116	-0.6060	0.0247	0.1352	0.0500
4	90.35	0.5001	-0.0006	0.0039	0.0884	0.0142	-0.8090	0.0317	0.3334	0.0555
4	90.35	0.5560	-0.0178	0.0042	0.1103	0.0168	-1.1811	0.0380	0.0753	0.0505
4	90.35	0.6001	-0.0080	0.0046	0.1366	0.0189	-1.4780	0.0439	0.0409	0.0498
4	90.35	0.6501	-0.0329	0.0057	0.1314	0.0213	-1.8769	0.0521	0.1349	0.0556
4	90.35	0.6999	-0.0295	0.0073	0.1256	0.0235	-2.3370	0.0592	0.2360	0.0506
4	90.35	0.7500	-0.0507	0.0081	0.1489	0.0271	-2.8344	0.0679	0.4117	0.0511
4	90.35	0.8002	-0.0794	0.0097	0.1763	0.0298	-3.4324	0.0756	0.3110	0.0554
4	90.35	0.8582	-0.1058	0.0118	0.2109	0.0340	-4.1781	0.0848	-0.0168	0.0631
4	90.35	0.9101	-0.1431	0.0141	0.2444	0.0390	-4.8446	0.0897	0.0453	0.0893
4	90.35	0.9728	-0.1292	0.0157	0.3308	0.0431	-5.6030	0.1004	0.3044	0.1007

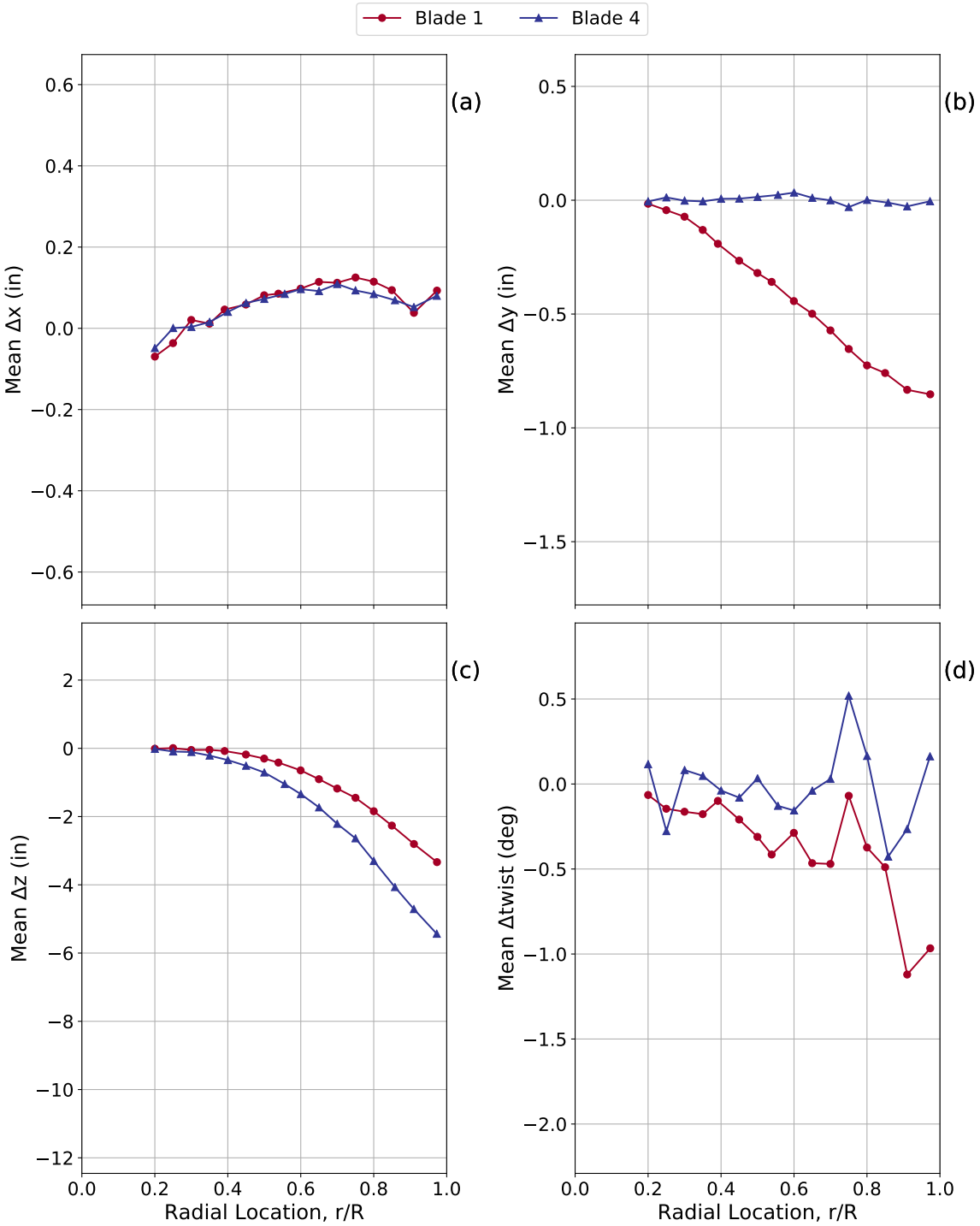


Figure 4.15-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0696	0.0011	-0.0155	0.0004	-0.0111	0.0018	-0.0646	0.0132
1	94.92	0.2499	-0.0365	0.0010	-0.0437	0.0007	0.0064	0.0026	-0.1456	0.0328
1	94.92	0.2998	0.0206	0.0007	-0.0725	0.0016	-0.0480	0.0060	-0.1630	0.0330
1	94.92	0.3498	0.0115	0.0009	-0.1306	0.0025	-0.0442	0.0098	-0.1773	0.0276
1	94.92	0.3913	0.0462	0.0010	-0.1914	0.0036	-0.0787	0.0136	-0.0993	0.0317
1	94.92	0.4496	0.0585	0.0014	-0.2657	0.0050	-0.1821	0.0181	-0.2090	0.0324
1	94.92	0.4997	0.0814	0.0014	-0.3196	0.0065	-0.3004	0.0230	-0.3108	0.0228
1	94.92	0.5387	0.0853	0.0018	-0.3587	0.0076	-0.4174	0.0262	-0.4149	0.0325
1	94.92	0.5996	0.0976	0.0021	-0.4430	0.0096	-0.6453	0.0292	-0.2874	0.0308
1	94.92	0.6498	0.1143	0.0026	-0.4988	0.0112	-0.9042	0.0343	-0.4657	0.0238
1	94.92	0.6998	0.1121	0.0037	-0.5718	0.0130	-1.1788	0.0368	-0.4703	0.0386
1	94.92	0.7500	0.1251	0.0046	-0.6535	0.0225	-1.4502	0.0537	-0.0693	0.2080
1	94.92	0.8001	0.1148	0.0031	-0.7257	0.0175	-1.8430	0.0418	-0.3735	0.0365
1	94.92	0.8497	0.0940	0.0039	-0.7591	0.0194	-2.2638	0.0447	-0.4892	0.0446
1	94.92	0.9102	0.0381	0.0051	-0.8328	0.0229	-2.8037	0.0416	-1.1207	0.1299
1	94.92	0.9734	0.0929	0.0062	-0.8527	0.0259	-3.3347	0.0523	-0.9665	0.0923
4	94.92	0.2001	-0.0486	0.0014	-0.0055	0.0003	-0.0169	0.0016	0.1164	0.0079
4	94.92	0.2502	0.0006	0.0010	0.0123	0.0009	-0.0934	0.0035	-0.2772	0.0185
4	94.92	0.3001	0.0033	0.0005	-0.0020	0.0016	-0.1092	0.0069	0.0819	0.0184
4	94.92	0.3502	0.0156	0.0014	-0.0051	0.0026	-0.2137	0.0108	0.0474	0.0145
4	94.92	0.4002	0.0404	0.0020	0.0062	0.0041	-0.3453	0.0176	-0.0386	0.0159
4	94.92	0.4500	0.0623	0.0023	0.0069	0.0049	-0.5115	0.0231	-0.0804	0.0280
4	94.92	0.5001	0.0723	0.0024	0.0144	0.0061	-0.7090	0.0304	0.0336	0.0249
4	94.92	0.5560	0.0846	0.0034	0.0232	0.0084	-1.0472	0.0396	-0.1287	0.0211
4	94.92	0.6001	0.0964	0.0031	0.0334	0.0097	-1.3412	0.0461	-0.1558	0.0188
4	94.92	0.6501	0.0916	0.0029	0.0103	0.0112	-1.7307	0.0525	-0.0395	0.0278
4	94.92	0.6999	0.1089	0.0036	-0.0005	0.0150	-2.2122	0.0613	0.0301	0.0379
4	94.92	0.7500	0.0933	0.0046	-0.0301	0.0238	-2.6383	0.0856	0.5191	0.2411
4	94.92	0.8002	0.0842	0.0033	0.0012	0.0169	-3.3028	0.0700	0.1649	0.0483
4	94.92	0.8582	0.0691	0.0033	-0.0108	0.0184	-4.0673	0.0781	-0.4272	0.0588
4	94.92	0.9101	0.0523	0.0048	-0.0272	0.0214	-4.7116	0.0835	-0.2652	0.0582
4	94.92	0.9728	0.0800	0.0050	-0.0046	0.0233	-5.4353	0.0966	0.1624	0.0744

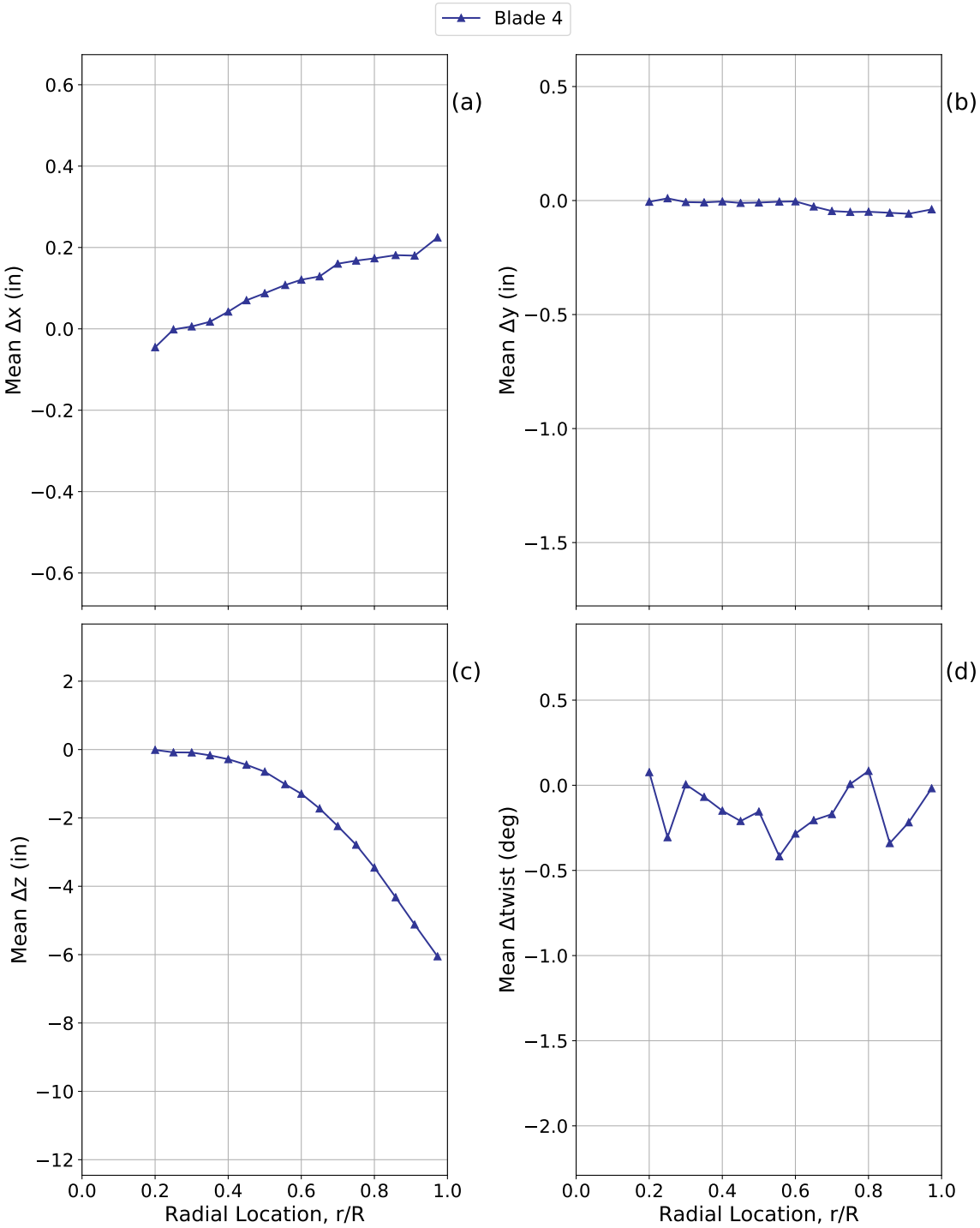


Figure 4.15-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0453	0.0007	-0.0055	0.0004	-0.0102	0.0010	0.0769	0.0134
4	105.12	0.2502	-0.0015	0.0008	0.0097	0.0006	-0.0830	0.0018	-0.3055	0.0244
4	105.12	0.3001	0.0058	0.0006	-0.0069	0.0012	-0.0864	0.0037	0.0047	0.0310
4	105.12	0.3502	0.0175	0.0006	-0.0082	0.0019	-0.1701	0.0065	-0.0684	0.0265
4	105.12	0.4002	0.0423	0.0009	-0.0041	0.0028	-0.2826	0.0094	-0.1496	0.0380
4	105.12	0.4500	0.0702	0.0012	-0.0105	0.0034	-0.4461	0.0116	-0.2102	0.0297
4	105.12	0.5001	0.0875	0.0011	-0.0089	0.0042	-0.6493	0.0148	-0.1544	0.0291
4	105.12	0.5560	0.1077	0.0010	-0.0050	0.0054	-1.0148	0.0180	-0.4174	0.0317
4	105.12	0.6001	0.1207	0.0011	-0.0038	0.0060	-1.2947	0.0209	-0.2839	0.0313
4	105.12	0.6501	0.1289	0.0012	-0.0263	0.0069	-1.7260	0.0245	-0.2052	0.0339
4	105.12	0.6999	0.1601	0.0012	-0.0461	0.0083	-2.2409	0.0269	-0.1697	0.0312
4	105.12	0.7500	0.1676	0.0012	-0.0502	0.0097	-2.7864	0.0306	0.0074	0.0370
4	105.12	0.8002	0.1733	0.0012	-0.0492	0.0108	-3.4558	0.0338	0.0841	0.0295
4	105.12	0.8582	0.1812	0.0018	-0.0537	0.0123	-4.3238	0.0389	-0.3400	0.0297
4	105.12	0.9101	0.1799	0.0022	-0.0581	0.0137	-5.1197	0.0461	-0.2177	0.0335
4	105.12	0.9728	0.2245	0.0019	-0.0388	0.0155	-6.0517	0.0512	-0.0178	0.0408

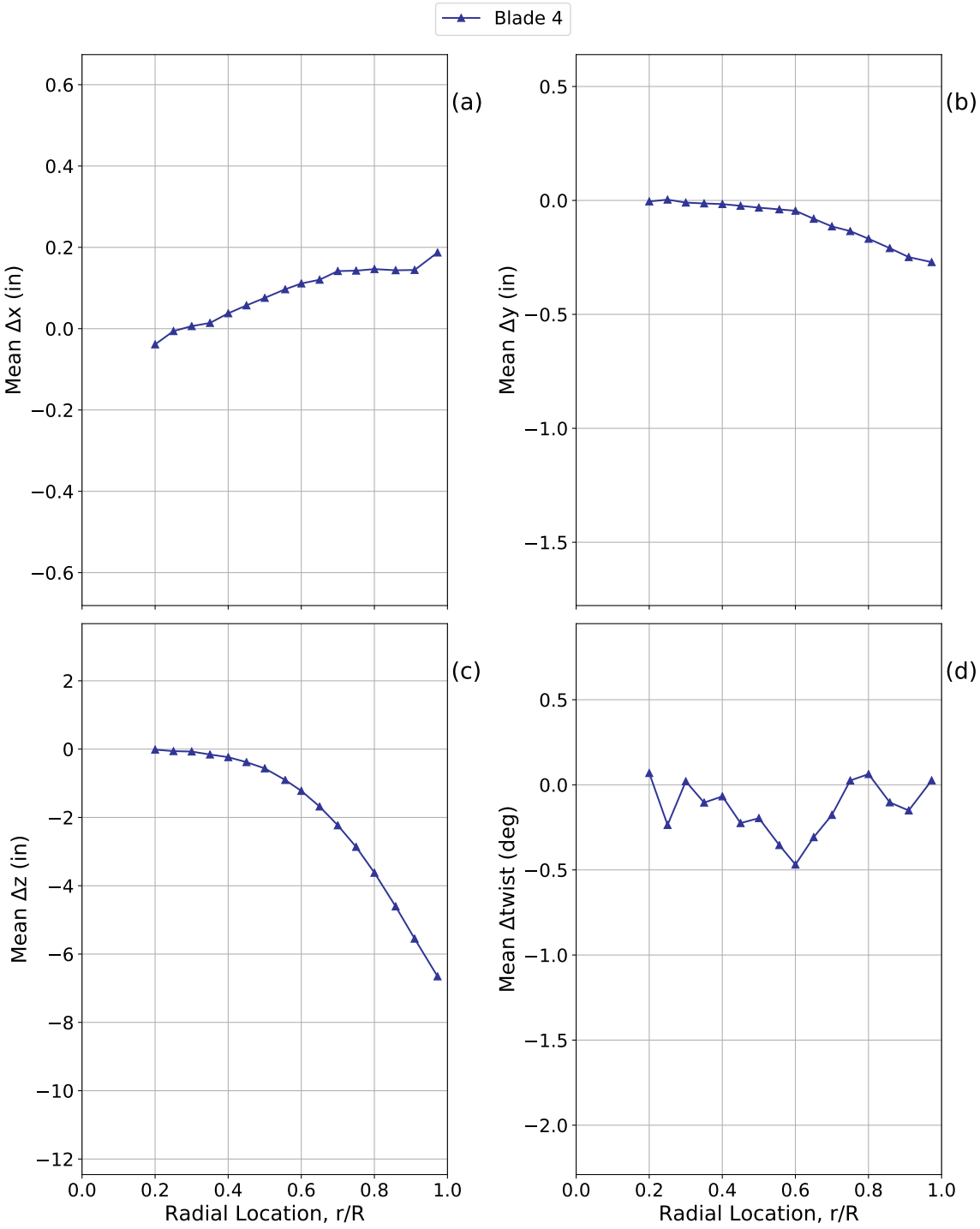


Figure 4.15-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0387	0.0008	-0.0045	0.0004	-0.0150	0.0012	0.0692	0.0185
4	119.88	0.2502	-0.0060	0.0010	0.0034	0.0009	-0.0597	0.0043	-0.2361	0.0295
4	119.88	0.3001	0.0062	0.0012	-0.0095	0.0017	-0.0711	0.0062	0.0204	0.0418
4	119.88	0.3502	0.0140	0.0007	-0.0132	0.0026	-0.1588	0.0109	-0.1045	0.0335
4	119.88	0.4002	0.0378	0.0012	-0.0161	0.0043	-0.2363	0.0176	-0.0678	0.0180
4	119.88	0.4500	0.0572	0.0019	-0.0236	0.0066	-0.3815	0.0204	-0.2250	0.0317
4	119.88	0.5001	0.0757	0.0019	-0.0317	0.0065	-0.5646	0.0262	-0.1958	0.0272
4	119.88	0.5560	0.0968	0.0025	-0.0393	0.0087	-0.9044	0.0288	-0.3543	0.0523
4	119.88	0.6001	0.1111	0.0019	-0.0454	0.0103	-1.2238	0.0354	-0.4687	0.0380
4	119.88	0.6501	0.1203	0.0019	-0.0807	0.0122	-1.6808	0.0437	-0.3079	0.0275
4	119.88	0.6999	0.1416	0.0021	-0.1141	0.0140	-2.2314	0.0470	-0.1770	0.0264
4	119.88	0.7500	0.1426	0.0022	-0.1347	0.0160	-2.8625	0.0508	0.0253	0.0287
4	119.88	0.8002	0.1465	0.0028	-0.1683	0.0178	-3.6212	0.0573	0.0630	0.0209
4	119.88	0.8582	0.1436	0.0028	-0.2094	0.0204	-4.6061	0.0610	-0.1032	0.0269
4	119.88	0.9101	0.1443	0.0030	-0.2487	0.0226	-5.5499	0.0651	-0.1508	0.0265
4	119.88	0.9728	0.1872	0.0037	-0.2708	0.0254	-6.6534	0.0727	0.0260	0.0221

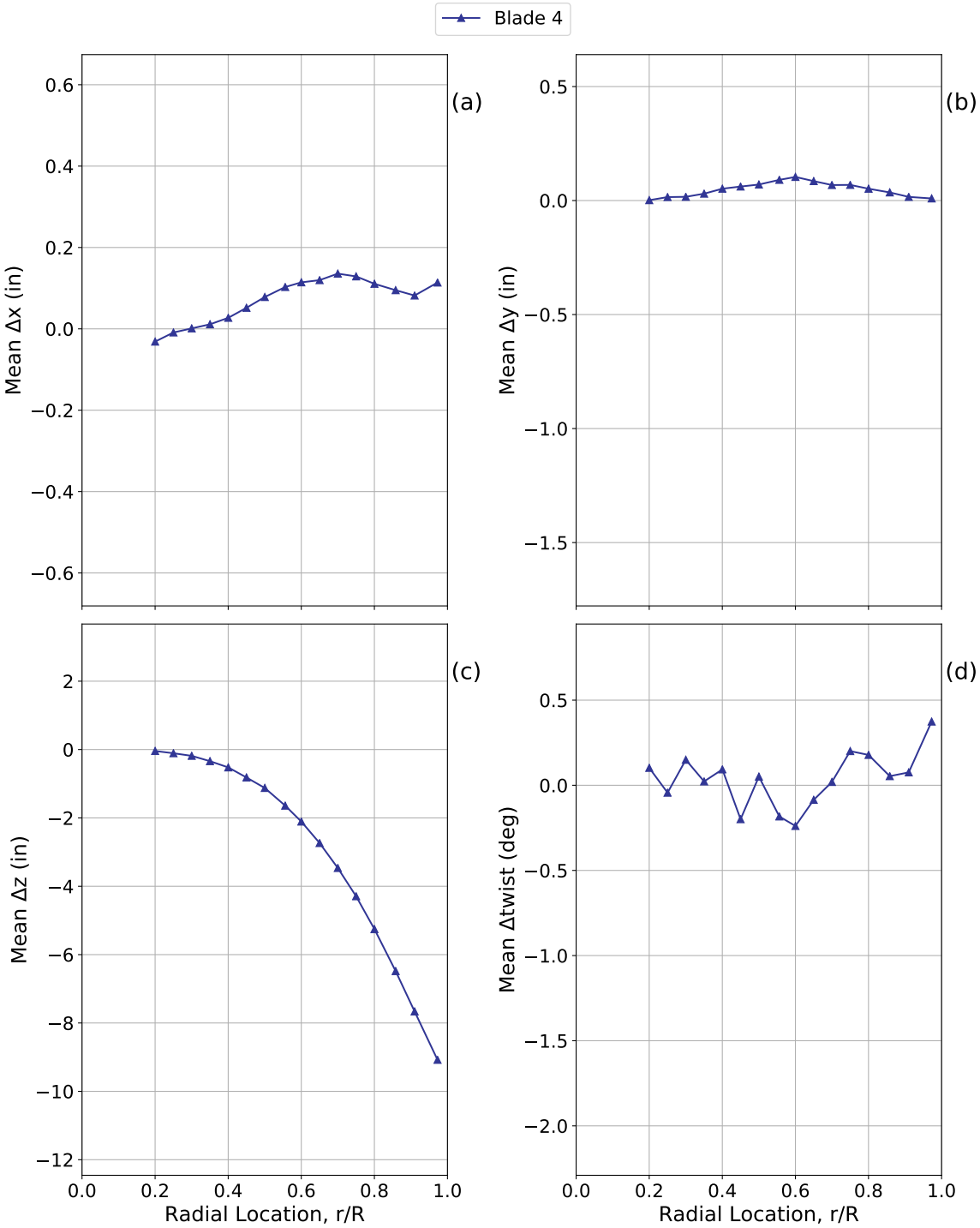


Figure 4.15-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0314	0.0008	0.0016	0.0003	-0.0425	0.0010	0.1022	0.0073
4	135	0.2502	-0.0089	0.0009	0.0152	0.0009	-0.1083	0.0027	-0.0437	0.0123
4	135	0.3001	0.0011	0.0007	0.0163	0.0012	-0.1841	0.0037	0.1497	0.0154
4	135	0.3502	0.0112	0.0007	0.0301	0.0022	-0.3403	0.0071	0.0226	0.0107
4	135	0.4002	0.0271	0.0009	0.0519	0.0034	-0.5229	0.0107	0.0932	0.0146
4	135	0.4500	0.0517	0.0009	0.0614	0.0053	-0.8171	0.0126	-0.1992	0.0164
4	135	0.5001	0.0782	0.0013	0.0702	0.0062	-1.1242	0.0162	0.0509	0.0208
4	135	0.5560	0.1028	0.0011	0.0907	0.0074	-1.6418	0.0192	-0.1831	0.0178
4	135	0.6001	0.1143	0.0017	0.1035	0.0084	-2.1077	0.0230	-0.2390	0.0172
4	135	0.6501	0.1197	0.0011	0.0852	0.0107	-2.7356	0.0253	-0.0857	0.0246
4	135	0.6999	0.1357	0.0013	0.0680	0.0135	-3.4657	0.0280	0.0194	0.0154
4	135	0.7500	0.1289	0.0021	0.0686	0.0149	-4.2928	0.0328	0.2007	0.0199
4	135	0.8002	0.1107	0.0028	0.0518	0.0174	-5.2548	0.0370	0.1782	0.0225
4	135	0.8582	0.0950	0.0022	0.0356	0.0206	-6.4828	0.0419	0.0535	0.0240
4	135	0.9101	0.0819	0.0029	0.0160	0.0233	-7.6637	0.0463	0.0757	0.0243
4	135	0.9728	0.1138	0.0038	0.0092	0.0272	-9.0785	0.0516	0.3740	0.0215

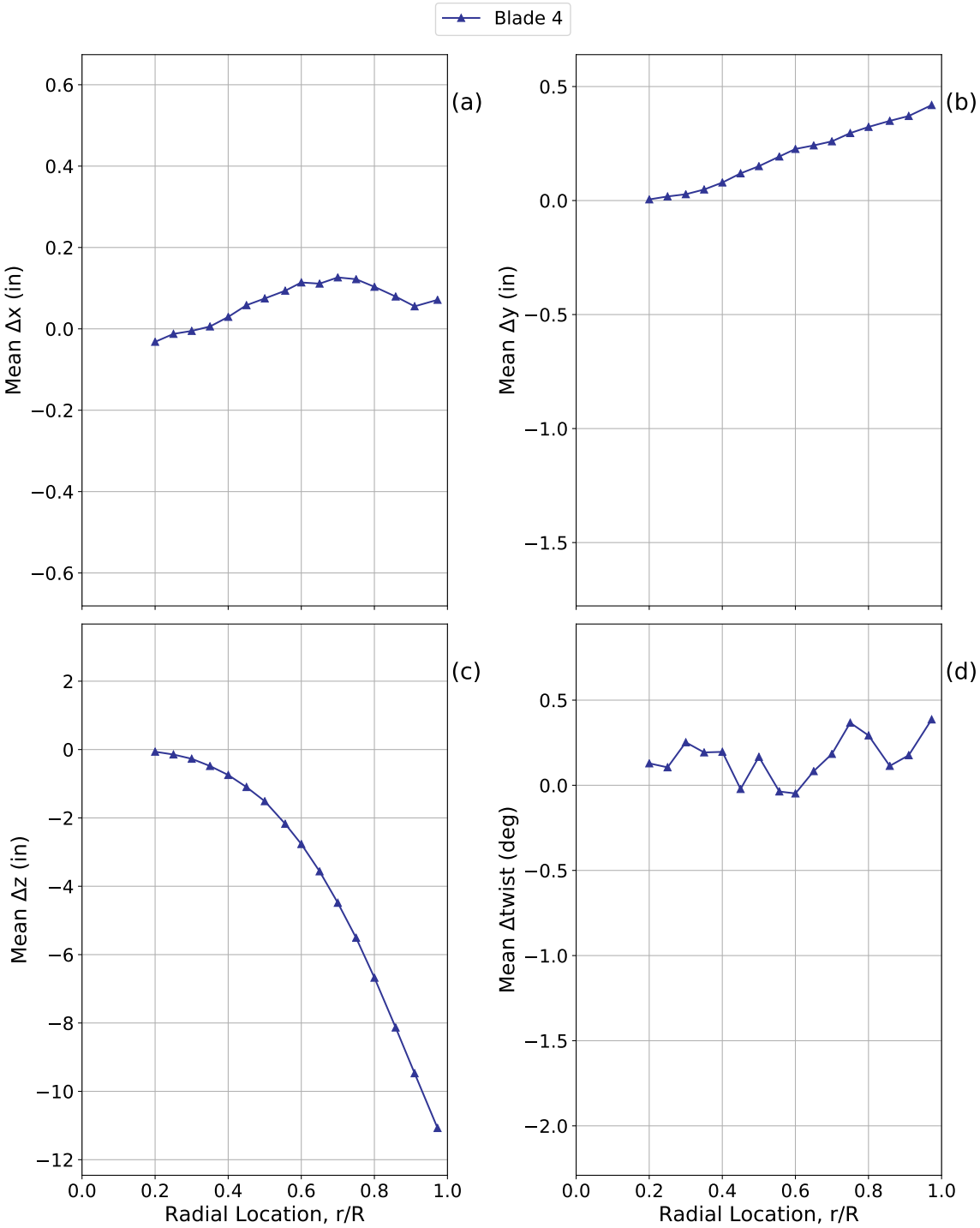


Figure 4.15-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0319	0.0011	0.0050	0.0006	-0.0633	0.0012	0.1287	0.0118
4	150.12	0.2502	-0.0124	0.0008	0.0179	0.0011	-0.1455	0.0035	0.1053	0.0218
4	150.12	0.3001	-0.0051	0.0009	0.0276	0.0018	-0.2702	0.0048	0.2523	0.0269
4	150.12	0.3502	0.0058	0.0009	0.0484	0.0039	-0.4821	0.0093	0.1930	0.0232
4	150.12	0.4002	0.0294	0.0008	0.0790	0.0054	-0.7454	0.0142	0.1962	0.0175
4	150.12	0.4500	0.0581	0.0012	0.1191	0.0068	-1.0977	0.0140	-0.0219	0.0283
4	150.12	0.5001	0.0747	0.0011	0.1507	0.0086	-1.5120	0.0179	0.1668	0.0218
4	150.12	0.5560	0.0937	0.0006	0.1930	0.0103	-2.1746	0.0188	-0.0365	0.0284
4	150.12	0.6001	0.1140	0.0008	0.2262	0.0112	-2.7666	0.0211	-0.0480	0.0275
4	150.12	0.6501	0.1111	0.0012	0.2417	0.0129	-3.5645	0.0235	0.0829	0.0227
4	150.12	0.6999	0.1264	0.0009	0.2596	0.0150	-4.4852	0.0245	0.1841	0.0393
4	150.12	0.7500	0.1220	0.0014	0.2957	0.0165	-5.5092	0.0284	0.3671	0.0273
4	150.12	0.8002	0.1033	0.0022	0.3229	0.0178	-6.6773	0.0317	0.2925	0.0235
4	150.12	0.8582	0.0794	0.0017	0.3494	0.0201	-8.1336	0.0347	0.1137	0.0337
4	150.12	0.9101	0.0553	0.0024	0.3707	0.0218	-9.4716	0.0403	0.1762	0.0246
4	150.12	0.9728	0.0713	0.0030	0.4186	0.0247	-11.0743	0.0470	0.3865	0.0315

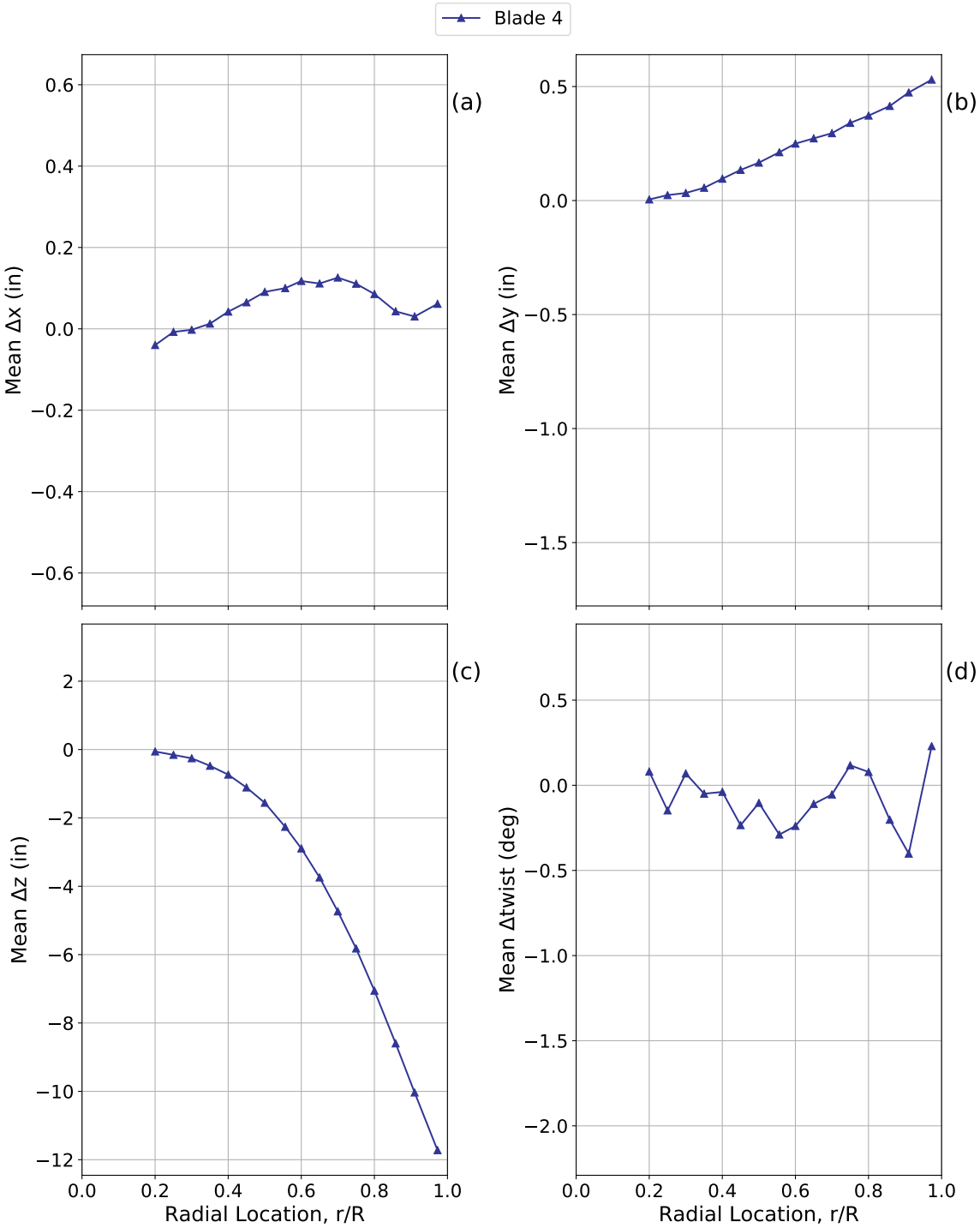


Figure 4.15-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0398	0.0012	0.0047	0.0005	-0.0574	0.0012	0.0801	0.0083
4	164.88	0.2502	-0.0076	0.0010	0.0238	0.0013	-0.1564	0.0022	-0.1480	0.0171
4	164.88	0.3001	-0.0023	0.0005	0.0331	0.0021	-0.2558	0.0037	0.0691	0.0173
4	164.88	0.3502	0.0128	0.0012	0.0559	0.0030	-0.4763	0.0057	-0.0496	0.0175
4	164.88	0.4002	0.0423	0.0013	0.0956	0.0053	-0.7348	0.0089	-0.0390	0.0199
4	164.88	0.4500	0.0651	0.0018	0.1342	0.0062	-1.1108	0.0110	-0.2345	0.0208
4	164.88	0.5001	0.0908	0.0021	0.1661	0.0080	-1.5582	0.0163	-0.1037	0.0208
4	164.88	0.5560	0.1000	0.0029	0.2118	0.0094	-2.2627	0.0211	-0.2896	0.0237
4	164.88	0.6001	0.1175	0.0033	0.2496	0.0103	-2.8947	0.0244	-0.2391	0.0252
4	164.88	0.6501	0.1114	0.0041	0.2726	0.0119	-3.7440	0.0279	-0.1097	0.0208
4	164.88	0.6999	0.1259	0.0055	0.2953	0.0138	-4.7363	0.0331	-0.0544	0.0252
4	164.88	0.7500	0.1108	0.0070	0.3404	0.0157	-5.8218	0.0366	0.1171	0.0330
4	164.88	0.8002	0.0855	0.0090	0.3723	0.0196	-7.0568	0.0405	0.0782	0.0626
4	164.88	0.8582	0.0430	0.0134	0.4147	0.0224	-8.5984	0.0470	-0.2025	0.1058
4	164.88	0.9101	0.0303	0.0056	0.4738	0.0355	-10.0345	0.0550	-0.4016	0.3205
4	164.88	0.9728	0.0614	0.0169	0.5300	0.0279	-11.7231	0.0757	0.2299	0.1782

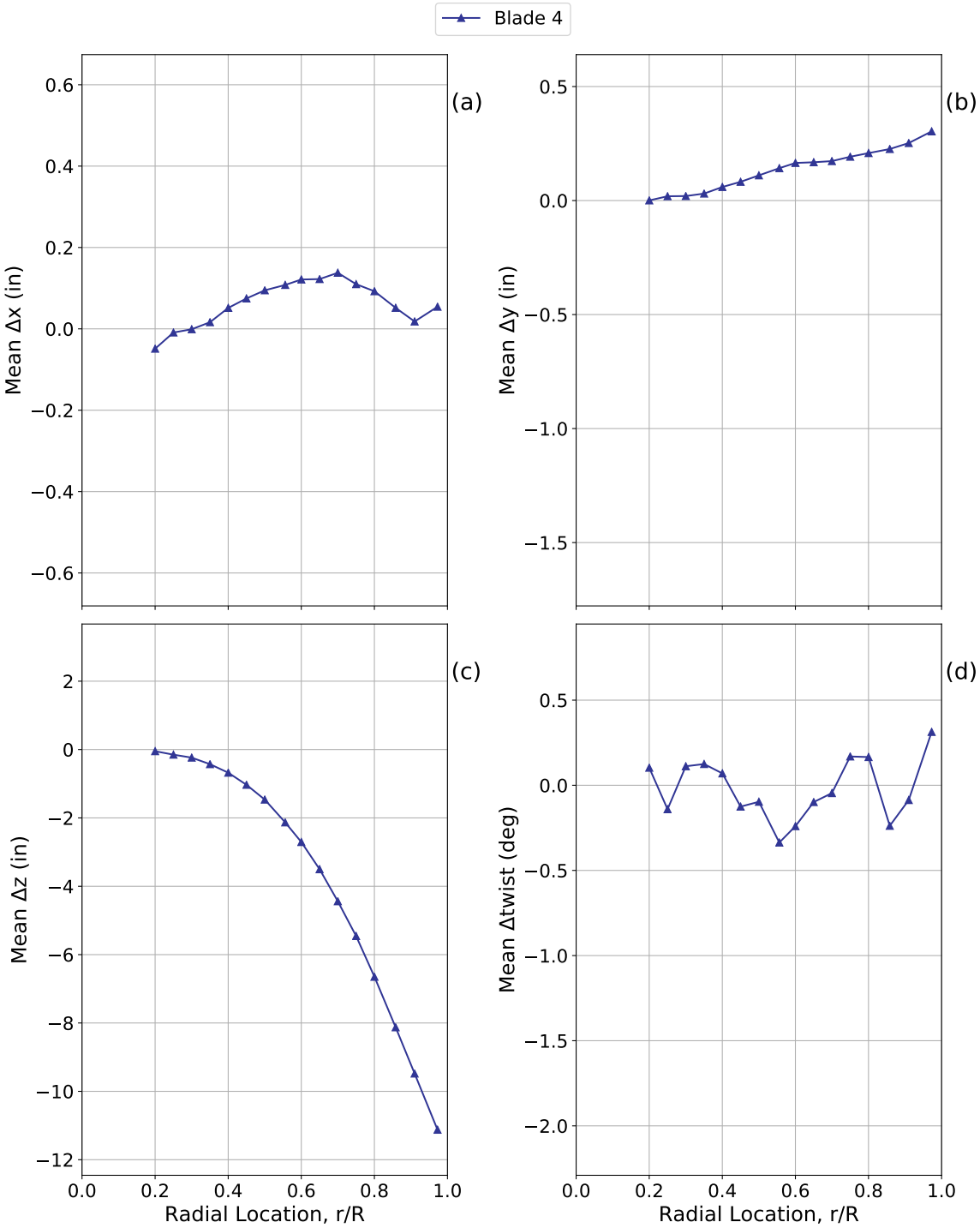


Figure 4.15-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0488	0.0030	0.0006	0.0006	-0.0485	0.0013	0.1030	0.0147
4	170.16	0.2502	-0.0090	0.0015	0.0188	0.0017	-0.1500	0.0029	-0.1407	0.0346
4	170.16	0.3001	-0.0010	0.0010	0.0196	0.0032	-0.2367	0.0060	0.1117	0.0369
4	170.16	0.3502	0.0163	0.0027	0.0305	0.0045	-0.4281	0.0077	0.1247	0.0307
4	170.16	0.4002	0.0515	0.0033	0.0594	0.0079	-0.6777	0.0138	0.0697	0.0366
4	170.16	0.4500	0.0747	0.0040	0.0821	0.0086	-1.0317	0.0161	-0.1253	0.0315
4	170.16	0.5001	0.0947	0.0051	0.1104	0.0095	-1.4649	0.0192	-0.0969	0.0352
4	170.16	0.5560	0.1079	0.0065	0.1419	0.0146	-2.1316	0.0261	-0.3363	0.0320
4	170.16	0.6001	0.1213	0.0064	0.1649	0.0153	-2.7067	0.0263	-0.2401	0.0331
4	170.16	0.6501	0.1223	0.0077	0.1679	0.0186	-3.5025	0.0307	-0.0986	0.0332
4	170.16	0.6999	0.1378	0.0100	0.1729	0.0218	-4.4391	0.0378	-0.0460	0.0500
4	170.16	0.7500	0.1098	0.0107	0.1921	0.0232	-5.4567	0.0418	0.1692	0.0600
4	170.16	0.8002	0.0924	0.0126	0.2081	0.0262	-6.6493	0.0451	0.1657	0.0518
4	170.16	0.8582	0.0516	0.0160	0.2259	0.0290	-8.1269	0.0535	-0.2381	0.0471
4	170.16	0.9101	0.0181	0.0202	0.2521	0.0329	-9.4793	0.0518	-0.0868	0.0501
4	170.16	0.9728	0.0543	0.0206	0.3033	0.0346	-11.1242	0.0576	0.3134	0.1170

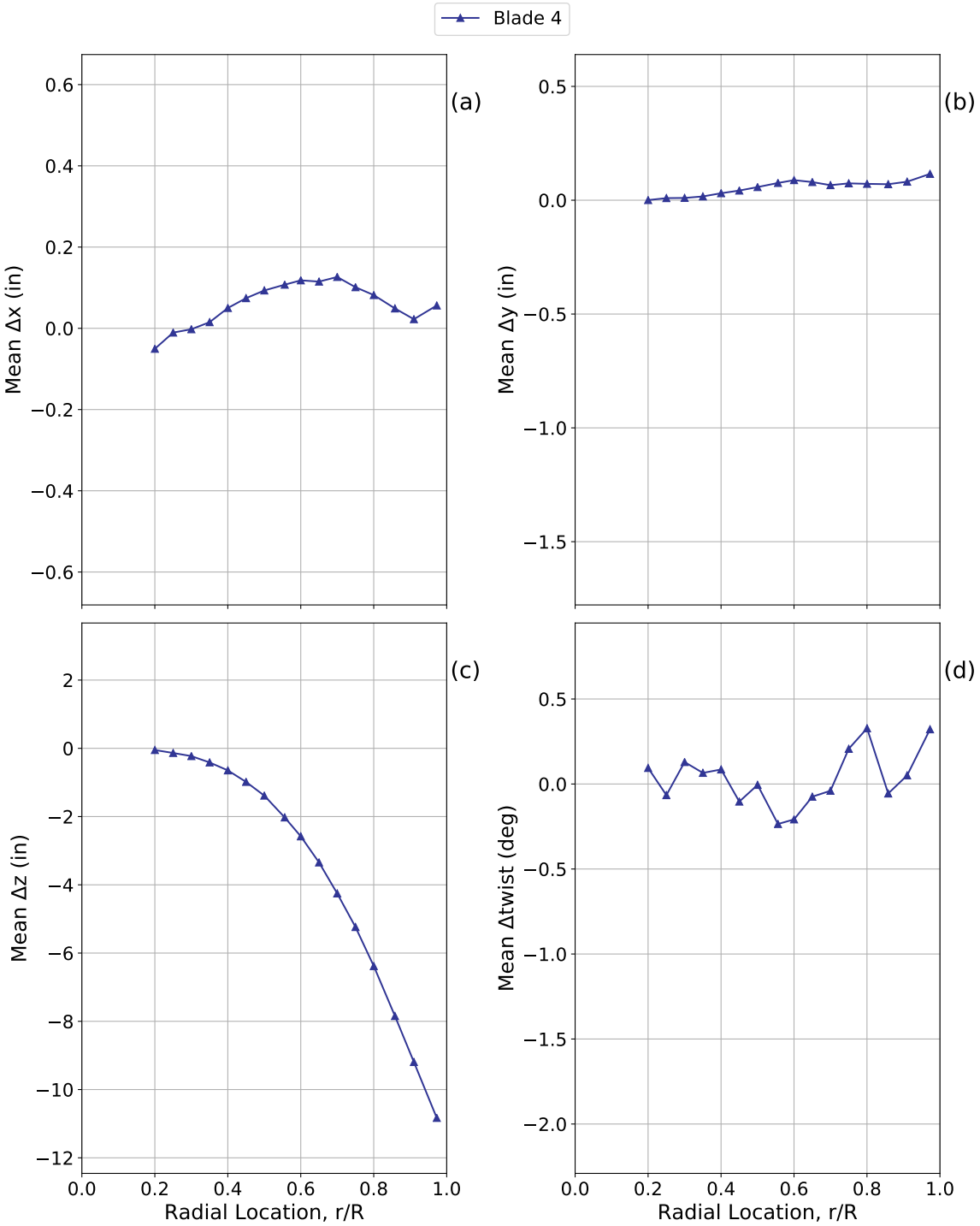


Figure 4.15-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0504	0.0049	0.0006	0.0007	-0.0497	0.0009	0.0944	0.0196
4	175.08	0.2502	-0.0105	0.0021	0.0092	0.0017	-0.1364	0.0022	-0.0657	0.0321
4	175.08	0.3001	-0.0023	0.0018	0.0100	0.0038	-0.2282	0.0031	0.1291	0.0453
4	175.08	0.3502	0.0151	0.0040	0.0166	0.0053	-0.4142	0.0063	0.0654	0.0376
4	175.08	0.4002	0.0500	0.0055	0.0307	0.0091	-0.6471	0.0091	0.0854	0.0366
4	175.08	0.4500	0.0742	0.0073	0.0424	0.0101	-0.9841	0.0119	-0.1036	0.0375
4	175.08	0.5001	0.0932	0.0082	0.0577	0.0147	-1.3865	0.0155	-0.0053	0.0443
4	175.08	0.5560	0.1074	0.0103	0.0758	0.0175	-2.0258	0.0196	-0.2354	0.0483
4	175.08	0.6001	0.1181	0.0094	0.0882	0.0219	-2.5801	0.0229	-0.2082	0.0354
4	175.08	0.6501	0.1150	0.0096	0.0797	0.0254	-3.3448	0.0267	-0.0747	0.0421
4	175.08	0.6999	0.1264	0.0099	0.0661	0.0299	-4.2531	0.0299	-0.0399	0.0405
4	175.08	0.7500	0.1012	0.0083	0.0741	0.0351	-5.2376	0.0336	0.2068	0.0382
4	175.08	0.8002	0.0818	0.0070	0.0719	0.0408	-6.3828	0.0360	0.3276	0.0301
4	175.08	0.8582	0.0489	0.0087	0.0703	0.0465	-7.8460	0.0387	-0.0560	0.0603
4	175.08	0.9101	0.0224	0.0106	0.0813	0.0522	-9.1932	0.0431	0.0507	0.0527
4	175.08	0.9728	0.0562	0.0169	0.1157	0.0594	-10.8309	0.0488	0.3217	0.0705

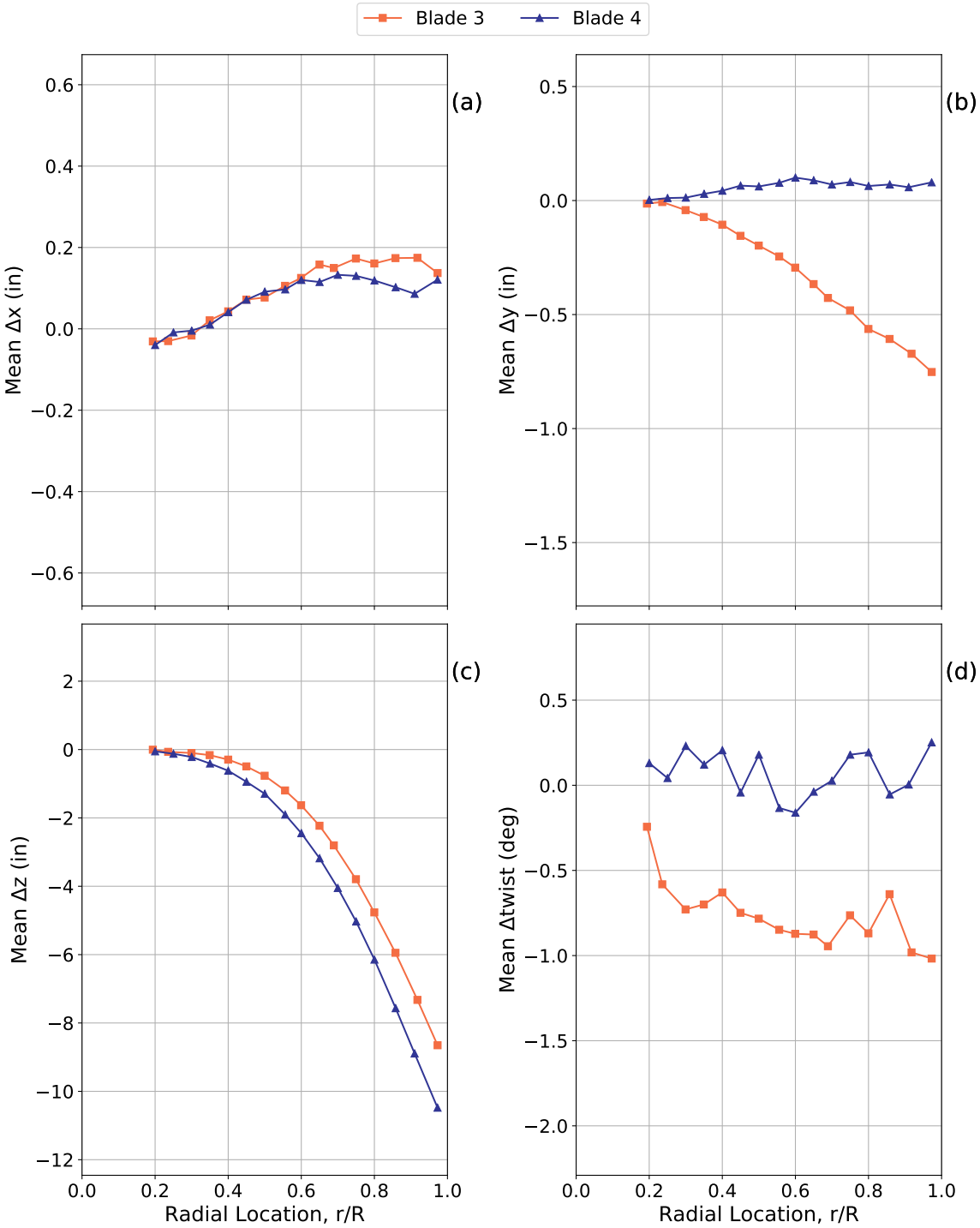


Figure 4.15-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0309	0.0026	-0.0133	0.0014	-0.0038	0.0029	-0.2437	0.0149
3	180.35	0.2357	-0.0301	0.0026	-0.0066	0.0021	-0.0671	0.0029	-0.5815	0.0423
3	180.35	0.2995	-0.0164	0.0012	-0.0420	0.0049	-0.1009	0.0089	-0.7290	0.0412
3	180.35	0.3493	0.0210	0.0019	-0.0723	0.0089	-0.1627	0.0130	-0.7000	0.0500
3	180.35	0.4000	0.0430	0.0035	-0.1059	0.0134	-0.2947	0.0204	-0.6294	0.0421
3	180.35	0.4497	0.0719	0.0045	-0.1547	0.0177	-0.4933	0.0257	-0.7488	0.0412
3	180.35	0.4997	0.0770	0.0060	-0.1975	0.0225	-0.7661	0.0302	-0.7832	0.0437
3	180.35	0.5556	0.1057	0.0073	-0.2452	0.0289	-1.1970	0.0367	-0.8484	0.0447
3	180.35	0.5995	0.1251	0.0086	-0.2943	0.0335	-1.6289	0.0418	-0.8721	0.0356
3	180.35	0.6498	0.1580	0.0096	-0.3664	0.0400	-2.2292	0.0478	-0.8765	0.0405
3	180.35	0.6890	0.1496	0.0109	-0.4271	0.0433	-2.8033	0.0513	-0.9452	0.0423
3	180.35	0.7495	0.1728	0.0116	-0.4817	0.0501	-3.7935	0.0582	-0.7636	0.0436
3	180.35	0.7998	0.1607	0.0126	-0.5632	0.0562	-4.7642	0.0643	-0.8694	0.0411
3	180.35	0.8577	0.1739	0.0135	-0.6070	0.0640	-5.9467	0.0704	-0.6396	0.0424
3	180.35	0.9178	0.1746	0.0144	-0.6719	0.0709	-7.3246	0.0786	-0.9814	0.0597
3	180.35	0.9729	0.1372	0.0181	-0.7519	0.0778	-8.6513	0.0845	-1.0175	0.0628
4	180	0.2001	-0.0398	0.0022	0.0027	0.0010	-0.0528	0.0012	0.1300	0.0155
4	180	0.2502	-0.0088	0.0006	0.0109	0.0024	-0.1233	0.0028	0.0422	0.0273
4	180	0.3001	-0.0044	0.0012	0.0127	0.0049	-0.2186	0.0045	0.2308	0.0337
4	180	0.3502	0.0104	0.0021	0.0292	0.0073	-0.4093	0.0060	0.1211	0.0312
4	180	0.4002	0.0410	0.0044	0.0430	0.0121	-0.6203	0.0101	0.2056	0.0360
4	180	0.4500	0.0715	0.0054	0.0654	0.0151	-0.9436	0.0096	-0.0428	0.0294
4	180	0.5001	0.0913	0.0078	0.0618	0.0199	-1.2936	0.0135	0.1795	0.0368
4	180	0.5560	0.0969	0.0095	0.0777	0.0242	-1.9050	0.0153	-0.1334	0.0262
4	180	0.6001	0.1201	0.0110	0.1005	0.0280	-2.4471	0.0178	-0.1611	0.0321
4	180	0.6501	0.1151	0.0120	0.0887	0.0323	-3.1824	0.0207	-0.0379	0.0324
4	180	0.6999	0.1328	0.0145	0.0702	0.0367	-4.0512	0.0234	0.0270	0.0324
4	180	0.7500	0.1302	0.0168	0.0811	0.0408	-5.0309	0.0262	0.1795	0.0311
4	180	0.8002	0.1188	0.0195	0.0638	0.0442	-6.1472	0.0308	0.1932	0.0354
4	180	0.8582	0.1022	0.0224	0.0704	0.0501	-7.5683	0.0359	-0.0539	0.0411
4	180	0.9101	0.0861	0.0255	0.0583	0.0551	-8.8928	0.0430	0.0041	0.0334
4	180	0.9728	0.1208	0.0290	0.0797	0.0595	-10.4791	0.0556	0.2517	0.0454

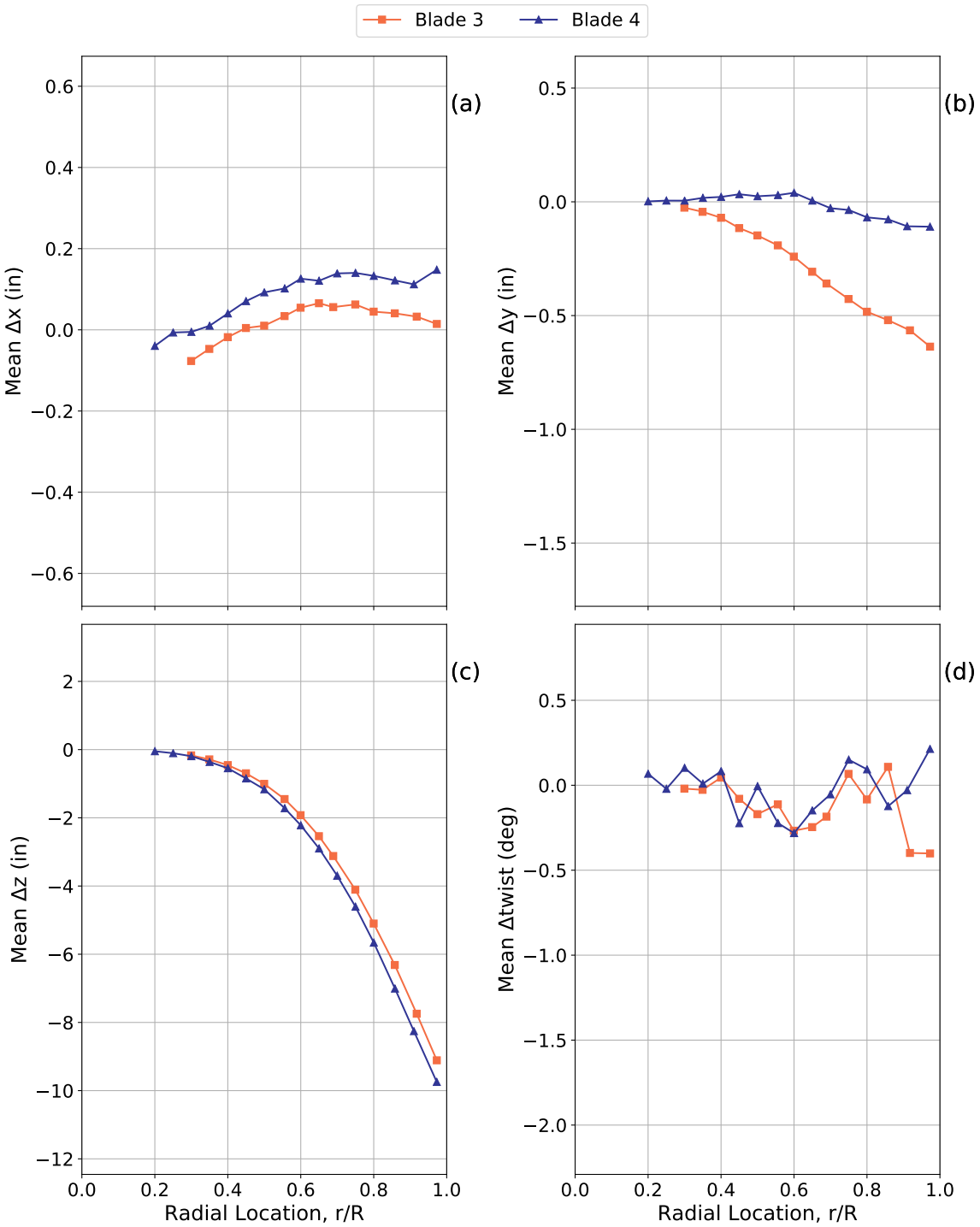


Figure 4.15-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0768	0.0039	-0.0257	0.0097	-0.1685	0.0155	-0.0199	0.0397
3	184.92	0.3493	-0.0470	0.0033	-0.0440	0.0167	-0.2867	0.0261	-0.0270	0.0522
3	184.92	0.4000	-0.0180	0.0034	-0.0701	0.0266	-0.4545	0.0411	0.0452	0.0404
3	184.92	0.4497	0.0045	0.0033	-0.1155	0.0336	-0.6948	0.0520	-0.0797	0.0497
3	184.92	0.4997	0.0102	0.0044	-0.1477	0.0426	-1.0041	0.0653	-0.1701	0.0496
3	184.92	0.5556	0.0339	0.0050	-0.1915	0.0535	-1.4503	0.0794	-0.1125	0.0555
3	184.92	0.5995	0.0545	0.0046	-0.2409	0.0598	-1.9223	0.0915	-0.2675	0.0488
3	184.92	0.6498	0.0656	0.0055	-0.3074	0.0689	-2.5387	0.1033	-0.2464	0.0549
3	184.92	0.6890	0.0560	0.0055	-0.3591	0.0740	-3.1201	0.1129	-0.1847	0.0543
3	184.92	0.7495	0.0625	0.0053	-0.4271	0.0851	-4.1077	0.1284	0.0670	0.0616
3	184.92	0.7998	0.0448	0.0064	-0.4831	0.0937	-5.1001	0.1429	-0.0835	0.0544
3	184.92	0.8577	0.0407	0.0075	-0.5202	0.1055	-6.3155	0.1587	0.1083	0.0520
3	184.92	0.9178	0.0325	0.0097	-0.5649	0.1178	-7.7446	0.1744	-0.3985	0.0574
3	184.92	0.9729	0.0145	0.0140	-0.6366	0.1283	-9.1104	0.1925	-0.4012	0.0545
4	184.92	0.2001	-0.0396	0.0025	0.0019	0.0012	-0.0477	0.0023	0.0676	0.0203
4	184.92	0.2502	-0.0066	0.0013	0.0053	0.0026	-0.1057	0.0053	-0.0212	0.0293
4	184.92	0.3001	-0.0051	0.0012	0.0051	0.0047	-0.1937	0.0081	0.1024	0.0400
4	184.92	0.3502	0.0101	0.0017	0.0173	0.0072	-0.3624	0.0125	0.0092	0.0391
4	184.92	0.4002	0.0404	0.0024	0.0215	0.0118	-0.5468	0.0206	0.0827	0.0245
4	184.92	0.4500	0.0707	0.0037	0.0333	0.0153	-0.8460	0.0248	-0.2235	0.0338
4	184.92	0.5001	0.0923	0.0049	0.0244	0.0195	-1.1650	0.0292	-0.0059	0.0308
4	184.92	0.5560	0.1019	0.0059	0.0294	0.0247	-1.7192	0.0360	-0.2227	0.0332
4	184.92	0.6001	0.1260	0.0069	0.0396	0.0277	-2.2202	0.0407	-0.2818	0.0276
4	184.92	0.6501	0.1209	0.0080	0.0052	0.0319	-2.8996	0.0470	-0.1480	0.0264
4	184.92	0.6999	0.1390	0.0094	-0.0280	0.0359	-3.6995	0.0534	-0.0535	0.0303
4	184.92	0.7500	0.1402	0.0110	-0.0360	0.0388	-4.6071	0.0590	0.1503	0.0332
4	184.92	0.8002	0.1329	0.0123	-0.0684	0.0431	-5.6613	0.0654	0.0935	0.0349
4	184.92	0.8582	0.1217	0.0142	-0.0774	0.0484	-7.0077	0.0724	-0.1231	0.0313
4	184.92	0.9101	0.1121	0.0164	-0.1076	0.0529	-8.2560	0.0791	-0.0290	0.0376
4	184.92	0.9728	0.1479	0.0180	-0.1094	0.0616	-9.7455	0.0852	0.2138	0.0410

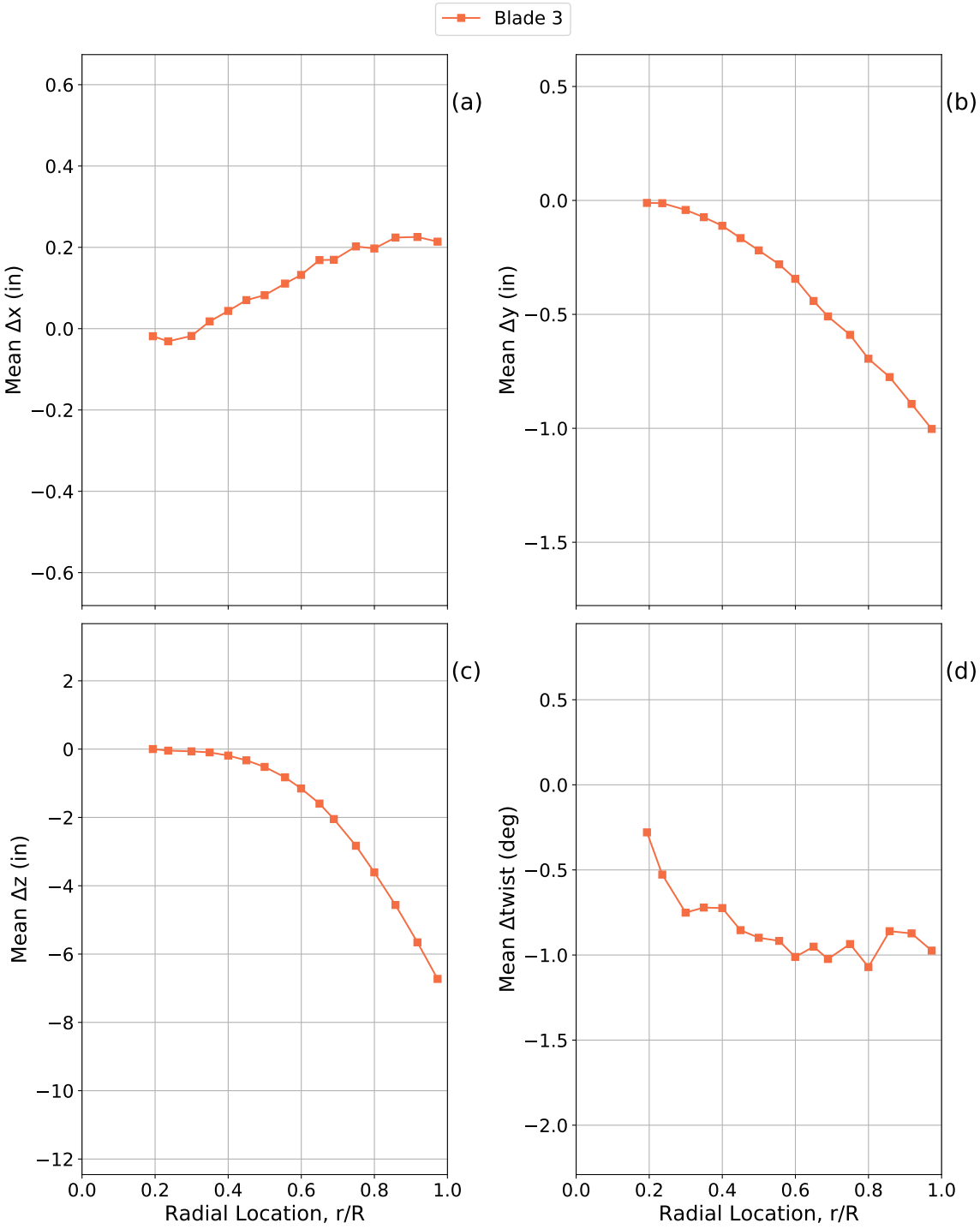


Figure 4.15-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0186	0.0033	-0.0109	0.0018	0.0018	0.0031	-0.2794	0.0304
3	195.12	0.2357	-0.0311	0.0040	-0.0120	0.0030	-0.0445	0.0046	-0.5275	0.0561
3	195.12	0.2995	-0.0179	0.0021	-0.0418	0.0052	-0.0655	0.0094	-0.7509	0.0755
3	195.12	0.3493	0.0179	0.0031	-0.0736	0.0086	-0.0953	0.0149	-0.7211	0.0845
3	195.12	0.4000	0.0436	0.0044	-0.1112	0.0130	-0.1892	0.0230	-0.7243	0.0799
3	195.12	0.4497	0.0702	0.0054	-0.1653	0.0166	-0.3284	0.0292	-0.8539	0.0772
3	195.12	0.4997	0.0823	0.0062	-0.2193	0.0204	-0.5209	0.0346	-0.8986	0.0742
3	195.12	0.5556	0.1109	0.0082	-0.2804	0.0259	-0.8255	0.0418	-0.9170	0.0826
3	195.12	0.5995	0.1322	0.0096	-0.3440	0.0299	-1.1525	0.0478	-1.0115	0.0780
3	195.12	0.6498	0.1687	0.0107	-0.4413	0.0349	-1.5942	0.0517	-0.9510	0.0920
3	195.12	0.6890	0.1693	0.0127	-0.5090	0.0386	-2.0475	0.0580	-1.0232	0.0816
3	195.12	0.7495	0.2022	0.0160	-0.5898	0.0451	-2.8295	0.0641	-0.9357	0.0869
3	195.12	0.7998	0.1972	0.0176	-0.6946	0.0504	-3.6080	0.0704	-1.0707	0.0867
3	195.12	0.8577	0.2241	0.0197	-0.7751	0.0564	-4.5633	0.0759	-0.8600	0.0835
3	195.12	0.9178	0.2255	0.0231	-0.8931	0.0616	-5.6564	0.0822	-0.8730	0.0727
3	195.12	0.9729	0.2140	0.0253	-1.0027	0.0668	-6.7270	0.0868	-0.9742	0.0828

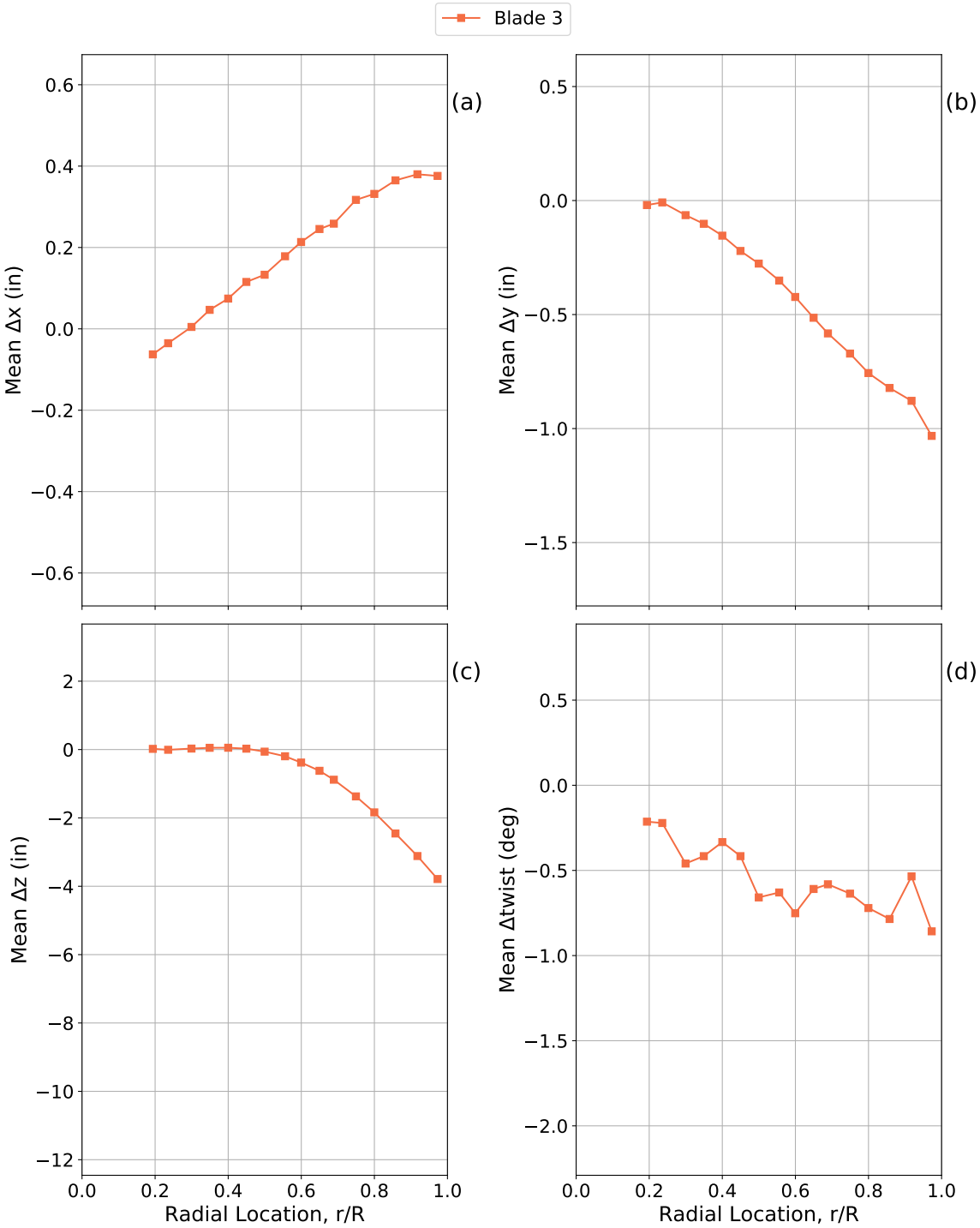


Figure 4.15-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0627	0.0015	-0.0198	0.0010	0.0200	0.0021	-0.2137	0.0106
3	209.88	0.2357	-0.0353	0.0007	-0.0082	0.0017	-0.0069	0.0042	-0.2216	0.0262
3	209.88	0.2995	0.0047	0.0006	-0.0640	0.0035	0.0284	0.0074	-0.4596	0.0251
3	209.88	0.3493	0.0467	0.0009	-0.1020	0.0058	0.0512	0.0121	-0.4162	0.0239
3	209.88	0.4000	0.0744	0.0011	-0.1540	0.0092	0.0529	0.0193	-0.3335	0.0279
3	209.88	0.4497	0.1153	0.0007	-0.2211	0.0100	0.0257	0.0221	-0.4161	0.0332
3	209.88	0.4997	0.1330	0.0012	-0.2765	0.0121	-0.0612	0.0243	-0.6585	0.0186
3	209.88	0.5556	0.1784	0.0011	-0.3510	0.0127	-0.1966	0.0278	-0.6295	0.0193
3	209.88	0.5995	0.2134	0.0013	-0.4229	0.0146	-0.3806	0.0333	-0.7514	0.0217
3	209.88	0.6498	0.2454	0.0011	-0.5141	0.0181	-0.6217	0.0387	-0.6090	0.0219
3	209.88	0.6890	0.2585	0.0018	-0.5827	0.0205	-0.8828	0.0443	-0.5814	0.0241
3	209.88	0.7495	0.3170	0.0013	-0.6711	0.0224	-1.3710	0.0489	-0.6363	0.0326
3	209.88	0.7998	0.3317	0.0012	-0.7566	0.0241	-1.8384	0.0545	-0.7208	0.0160
3	209.88	0.8577	0.3650	0.0029	-0.8219	0.0266	-2.4559	0.0610	-0.7853	0.0428
3	209.88	0.9178	0.3799	0.0027	-0.8784	0.0296	-3.1159	0.0633	-0.5350	0.1180
3	209.88	0.9729	0.3759	0.0030	-1.0321	0.0343	-3.7886	0.0709	-0.8577	0.0544

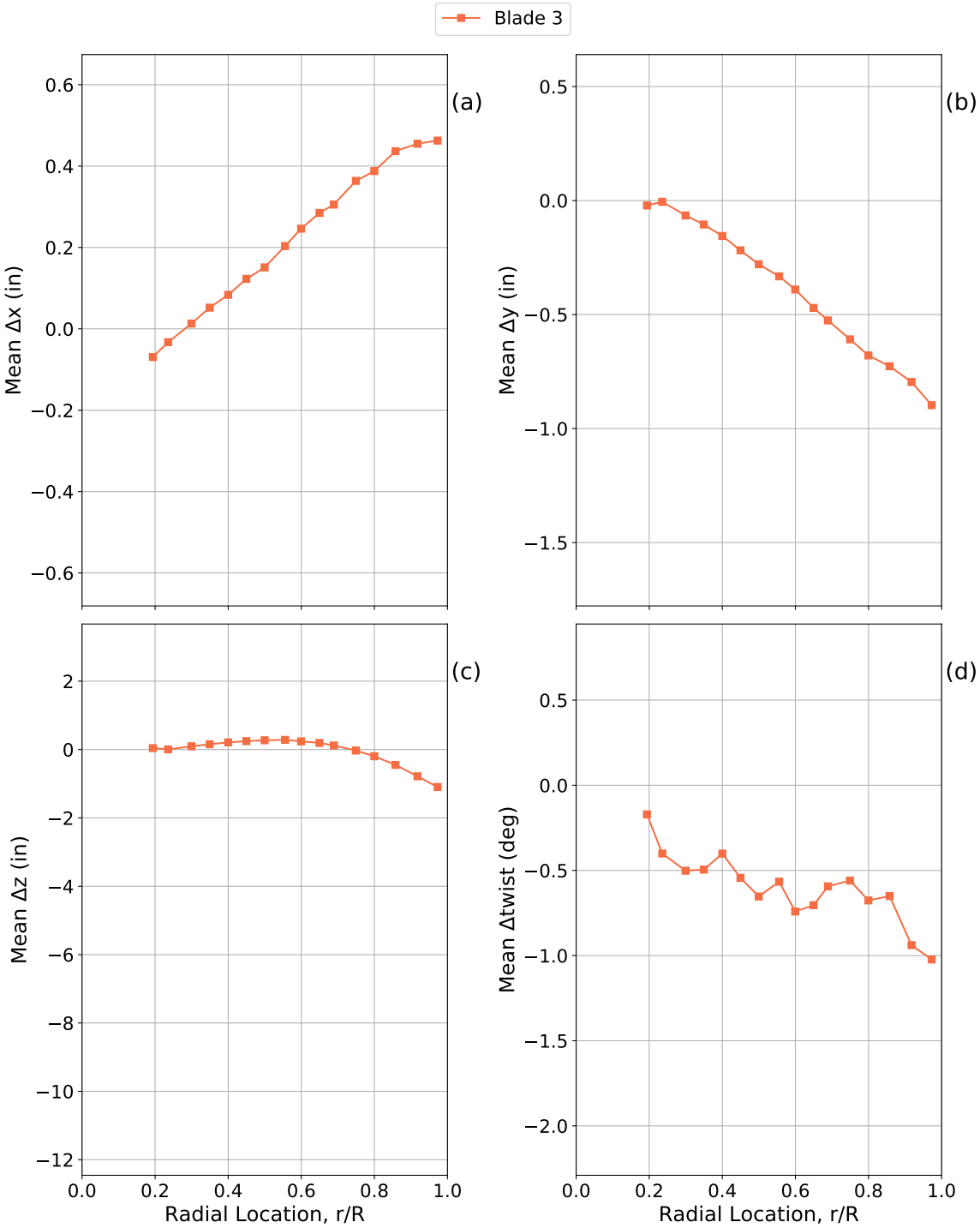


Figure 4.15-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0692	0.0008	-0.0218	0.0005	0.0416	0.0017	-0.1708	0.0157
3	225	0.2357	-0.0328	0.0010	-0.0055	0.0009	0.0037	0.0034	-0.4008	0.0194
3	225	0.2995	0.0130	0.0006	-0.0654	0.0022	0.0958	0.0077	-0.5017	0.0312
3	225	0.3493	0.0520	0.0007	-0.1051	0.0031	0.1540	0.0104	-0.4953	0.0272
3	225	0.4000	0.0837	0.0009	-0.1554	0.0053	0.2087	0.0181	-0.4015	0.0334
3	225	0.4497	0.1228	0.0009	-0.2183	0.0063	0.2465	0.0200	-0.5438	0.0233
3	225	0.4997	0.1510	0.0010	-0.2795	0.0084	0.2709	0.0223	-0.6529	0.0338
3	225	0.5556	0.2035	0.0011	-0.3323	0.0107	0.2834	0.0309	-0.5662	0.0220
3	225	0.5995	0.2461	0.0014	-0.3902	0.0118	0.2393	0.0302	-0.7412	0.0259
3	225	0.6498	0.2849	0.0017	-0.4709	0.0143	0.1936	0.0372	-0.7044	0.0347
3	225	0.6890	0.3055	0.0012	-0.5257	0.0164	0.1187	0.0367	-0.5937	0.0225
3	225	0.7495	0.3638	0.0012	-0.6088	0.0198	-0.0285	0.0411	-0.5596	0.0264
3	225	0.7998	0.3877	0.0014	-0.6795	0.0224	-0.1966	0.0473	-0.6762	0.0208
3	225	0.8577	0.4367	0.0017	-0.7267	0.0255	-0.4494	0.0502	-0.6505	0.0405
3	225	0.9178	0.4551	0.0016	-0.7958	0.0298	-0.7827	0.0562	-0.9387	0.0368
3	225	0.9729	0.4627	0.0026	-0.8973	0.0330	-1.0959	0.0629	-1.0229	0.0301

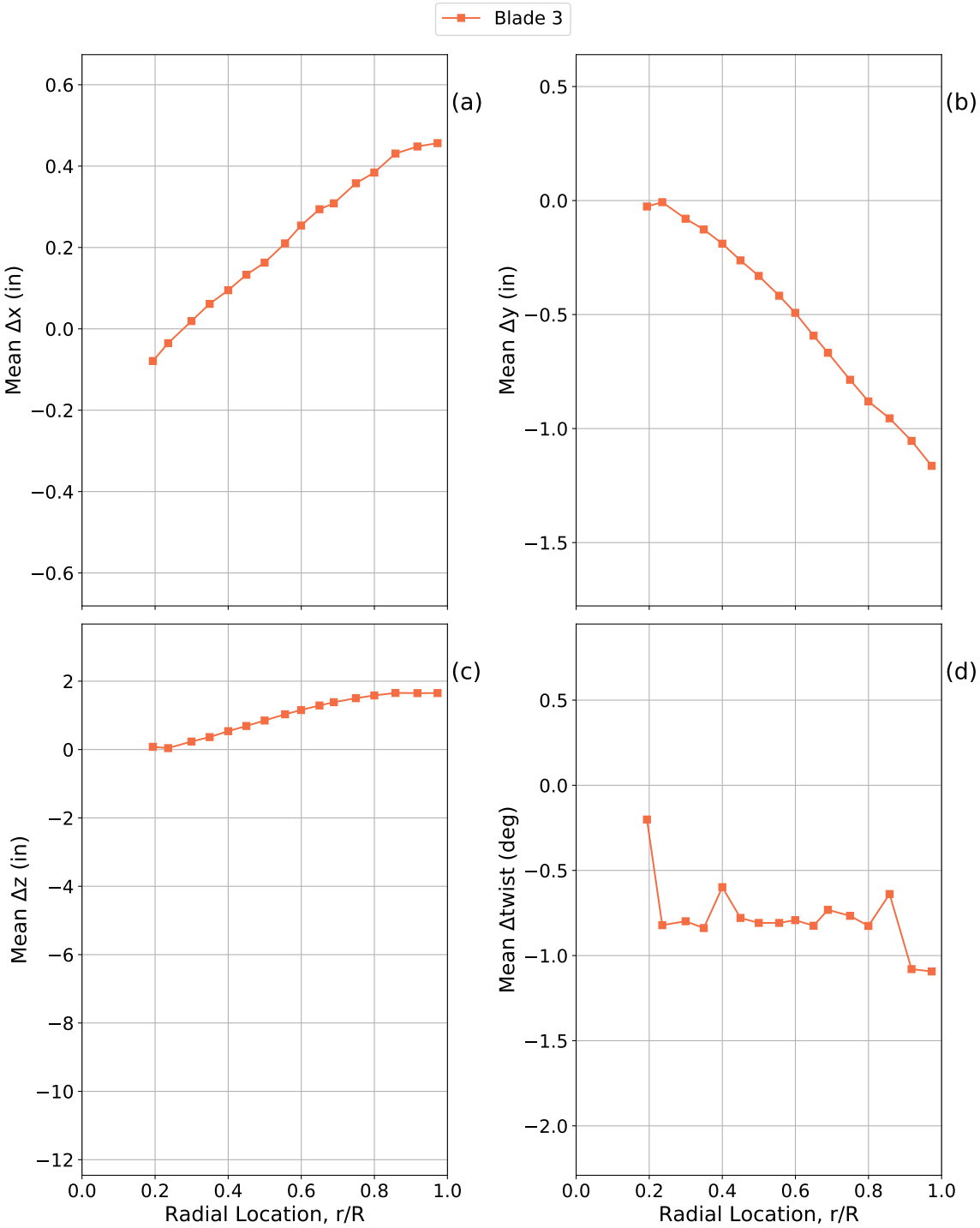


Figure 4.15-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0791	0.0014	-0.0261	0.0008	0.0804	0.0024	-0.2011	0.0197
3	240.12	0.2357	-0.0352	0.0008	-0.0072	0.0011	0.0418	0.0053	-0.8215	0.0380
3	240.12	0.2995	0.0192	0.0009	-0.0796	0.0026	0.2340	0.0091	-0.7984	0.0510
3	240.12	0.3493	0.0614	0.0013	-0.1270	0.0050	0.3649	0.0170	-0.8385	0.0454
3	240.12	0.4000	0.0950	0.0013	-0.1891	0.0073	0.5377	0.0253	-0.5984	0.0389
3	240.12	0.4497	0.1330	0.0016	-0.2625	0.0096	0.6900	0.0291	-0.7791	0.0480
3	240.12	0.4997	0.1628	0.0019	-0.3306	0.0119	0.8491	0.0360	-0.8083	0.0407
3	240.12	0.5556	0.2101	0.0022	-0.4174	0.0147	1.0324	0.0440	-0.8082	0.0494
3	240.12	0.5995	0.2540	0.0020	-0.4924	0.0170	1.1559	0.0484	-0.7920	0.0476
3	240.12	0.6498	0.2940	0.0022	-0.5927	0.0201	1.2901	0.0537	-0.8248	0.0526
3	240.12	0.6890	0.3085	0.0022	-0.6676	0.0224	1.3848	0.0608	-0.7315	0.0522
3	240.12	0.7495	0.3578	0.0024	-0.7860	0.0266	1.5027	0.0683	-0.7666	0.0408
3	240.12	0.7998	0.3842	0.0025	-0.8810	0.0303	1.5832	0.0733	-0.8258	0.0523
3	240.12	0.8577	0.4309	0.0025	-0.9551	0.0349	1.6567	0.0794	-0.6388	0.0404
3	240.12	0.9178	0.4482	0.0025	-1.0539	0.0396	1.6513	0.0865	-1.0797	0.0441
3	240.12	0.9729	0.4565	0.0041	-1.1635	0.0437	1.6526	0.0942	-1.0933	0.0384

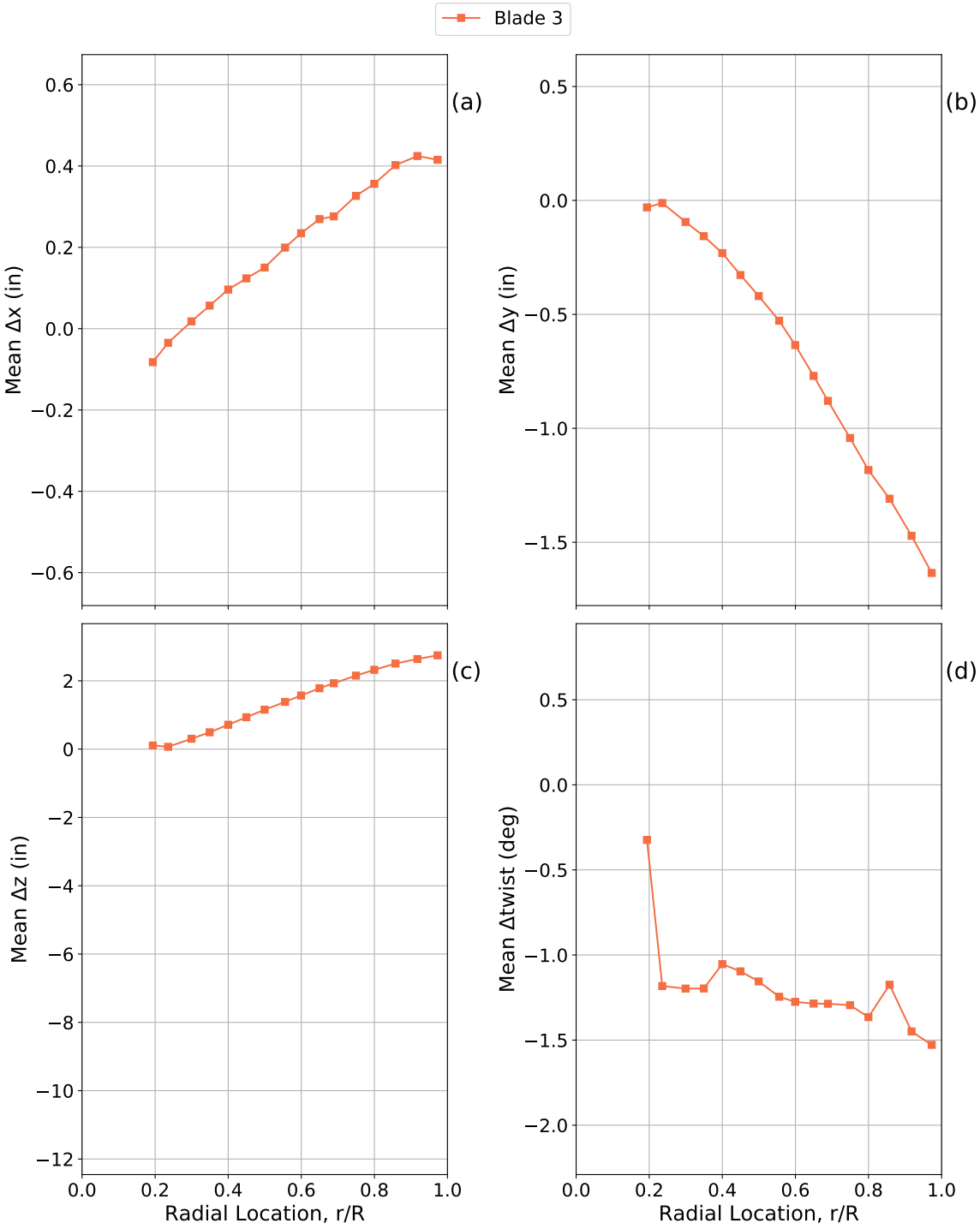


Figure 4.15-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0824	0.0025	-0.0305	0.0011	0.1060	0.0040	-0.3237	0.0169
3	254.88	0.2357	-0.0348	0.0015	-0.0113	0.0010	0.0672	0.0040	-1.1823	0.0567
3	254.88	0.2995	0.0179	0.0008	-0.0944	0.0034	0.3036	0.0107	-1.1973	0.0539
3	254.88	0.3493	0.0567	0.0011	-0.1568	0.0058	0.4924	0.0169	-1.1967	0.0475
3	254.88	0.4000	0.0962	0.0017	-0.2311	0.0085	0.7126	0.0246	-1.0537	0.0554
3	254.88	0.4497	0.1237	0.0020	-0.3273	0.0109	0.9339	0.0317	-1.0961	0.0570
3	254.88	0.4997	0.1502	0.0026	-0.4198	0.0137	1.1531	0.0414	-1.1553	0.0501
3	254.88	0.5556	0.1994	0.0026	-0.5278	0.0179	1.3820	0.0485	-1.2453	0.0560
3	254.88	0.5995	0.2348	0.0030	-0.6348	0.0205	1.5696	0.0560	-1.2753	0.0493
3	254.88	0.6498	0.2694	0.0024	-0.7699	0.0238	1.7822	0.0604	-1.2853	0.0684
3	254.88	0.6890	0.2762	0.0026	-0.8795	0.0274	1.9281	0.0673	-1.2865	0.0557
3	254.88	0.7495	0.3266	0.0034	-1.0424	0.0327	2.1510	0.0750	-1.2945	0.0469
3	254.88	0.7998	0.3562	0.0031	-1.1831	0.0374	2.3215	0.0811	-1.3650	0.0542
3	254.88	0.8577	0.4022	0.0031	-1.3091	0.0429	2.5050	0.0886	-1.1746	0.0589
3	254.88	0.9178	0.4245	0.0030	-1.4717	0.0485	2.6366	0.0994	-1.4490	0.0597
3	254.88	0.9729	0.4153	0.0050	-1.6346	0.0537	2.7457	0.1099	-1.5279	0.0566

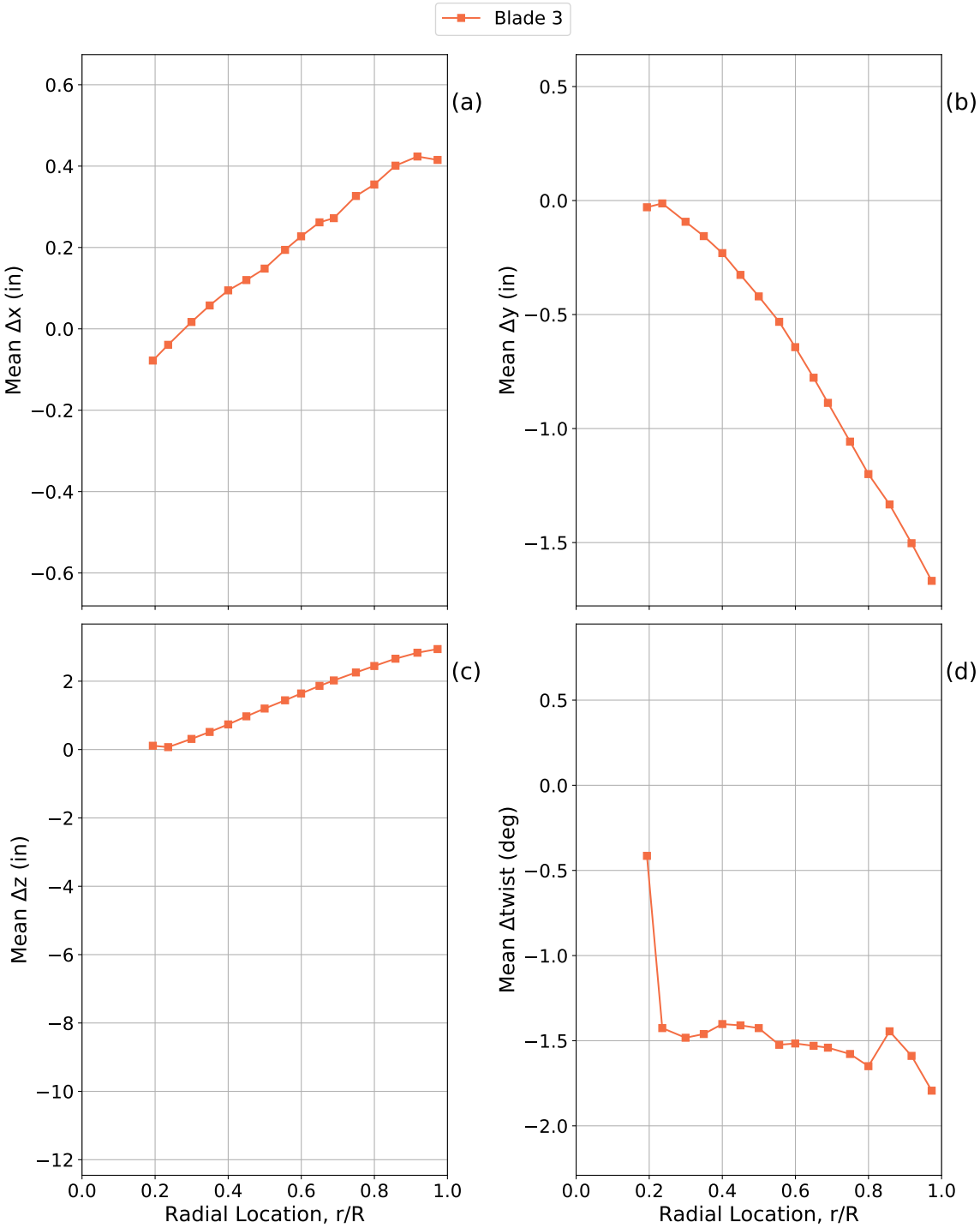


Figure 4.15-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0779	0.0052	-0.0295	0.0019	0.1115	0.0069	-0.4144	0.0330
3	260.16	0.2357	-0.0392	0.0019	-0.0126	0.0009	0.0706	0.0049	-1.4259	0.1022
3	260.16	0.2995	0.0169	0.0010	-0.0931	0.0050	0.3114	0.0166	-1.4826	0.1058
3	260.16	0.3493	0.0575	0.0012	-0.1560	0.0088	0.5150	0.0279	-1.4607	0.1050
3	260.16	0.4000	0.0946	0.0017	-0.2305	0.0123	0.7354	0.0382	-1.4022	0.1087
3	260.16	0.4497	0.1199	0.0018	-0.3261	0.0157	0.9717	0.0498	-1.4098	0.0984
3	260.16	0.4997	0.1481	0.0016	-0.4204	0.0190	1.1997	0.0593	-1.4261	0.0959
3	260.16	0.5556	0.1941	0.0024	-0.5319	0.0223	1.4409	0.0710	-1.5240	0.1108
3	260.16	0.5995	0.2274	0.0024	-0.6429	0.0250	1.6402	0.0814	-1.5163	0.0974
3	260.16	0.6498	0.2618	0.0021	-0.7770	0.0278	1.8631	0.0913	-1.5301	0.1060
3	260.16	0.6890	0.2721	0.0024	-0.8873	0.0301	2.0220	0.0999	-1.5409	0.1066
3	260.16	0.7495	0.3266	0.0022	-1.0572	0.0335	2.2550	0.1145	-1.5781	0.1072
3	260.16	0.7998	0.3548	0.0024	-1.1996	0.0364	2.4446	0.1260	-1.6495	0.1023
3	260.16	0.8577	0.4011	0.0028	-1.3328	0.0395	2.6577	0.1403	-1.4448	0.1026
3	260.16	0.9178	0.4236	0.0033	-1.5028	0.0435	2.8331	0.1551	-1.5890	0.1045
3	260.16	0.9729	0.4152	0.0043	-1.6679	0.0471	2.9397	0.1699	-1.7934	0.1035

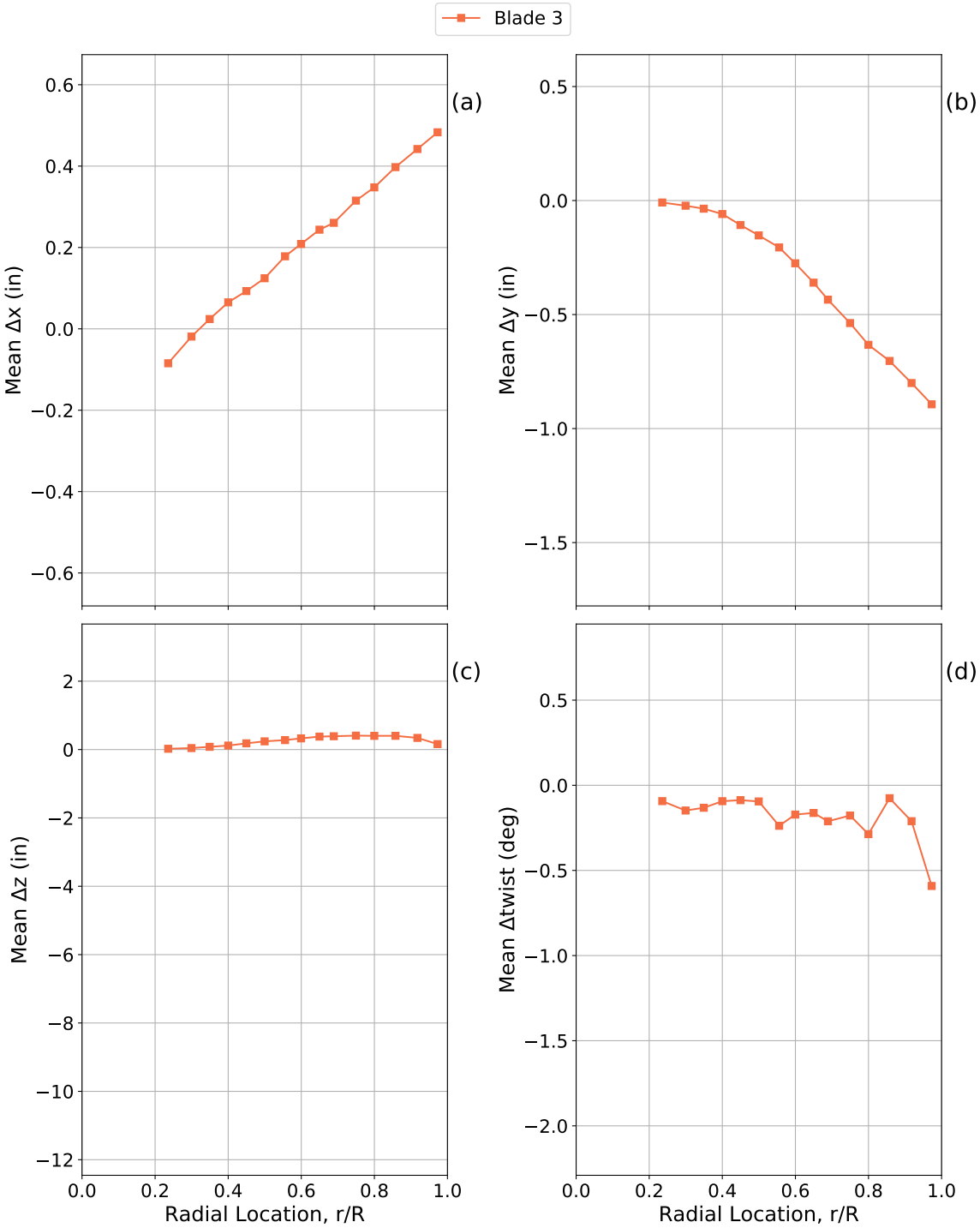


Figure 4.15-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0846	0.0014	-0.0086	0.0010	0.0229	0.0060	-0.0931	0.0598
3	265.08	0.2995	-0.0190	0.0010	-0.0227	0.0022	0.0431	0.0127	-0.1482	0.0961
3	265.08	0.3493	0.0241	0.0011	-0.0357	0.0042	0.0799	0.0225	-0.1320	0.0900
3	265.08	0.4000	0.0651	0.0011	-0.0592	0.0062	0.1165	0.0342	-0.0934	0.0952
3	265.08	0.4497	0.0929	0.0010	-0.1073	0.0076	0.1812	0.0438	-0.0874	0.0962
3	265.08	0.4997	0.1244	0.0018	-0.1529	0.0104	0.2402	0.0559	-0.0949	0.1009
3	265.08	0.5556	0.1783	0.0014	-0.2057	0.0129	0.2766	0.0677	-0.2378	0.0978
3	265.08	0.5995	0.2087	0.0017	-0.2752	0.0148	0.3271	0.0782	-0.1720	0.0912
3	265.08	0.6498	0.2437	0.0021	-0.3601	0.0176	0.3787	0.0874	-0.1625	0.0947
3	265.08	0.6890	0.2606	0.0020	-0.4347	0.0203	0.3893	0.0952	-0.2115	0.0947
3	265.08	0.7495	0.3152	0.0020	-0.5373	0.0248	0.4072	0.1052	-0.1775	0.1013
3	265.08	0.7998	0.3478	0.0021	-0.6328	0.0280	0.4008	0.1129	-0.2870	0.0971
3	265.08	0.8577	0.3975	0.0020	-0.7034	0.0323	0.4018	0.1227	-0.0759	0.0912
3	265.08	0.9178	0.4420	0.0027	-0.8003	0.0369	0.3409	0.1320	-0.2108	0.1035
3	265.08	0.9729	0.4831	0.0034	-0.8936	0.0415	0.1595	0.1423	-0.5914	0.0997

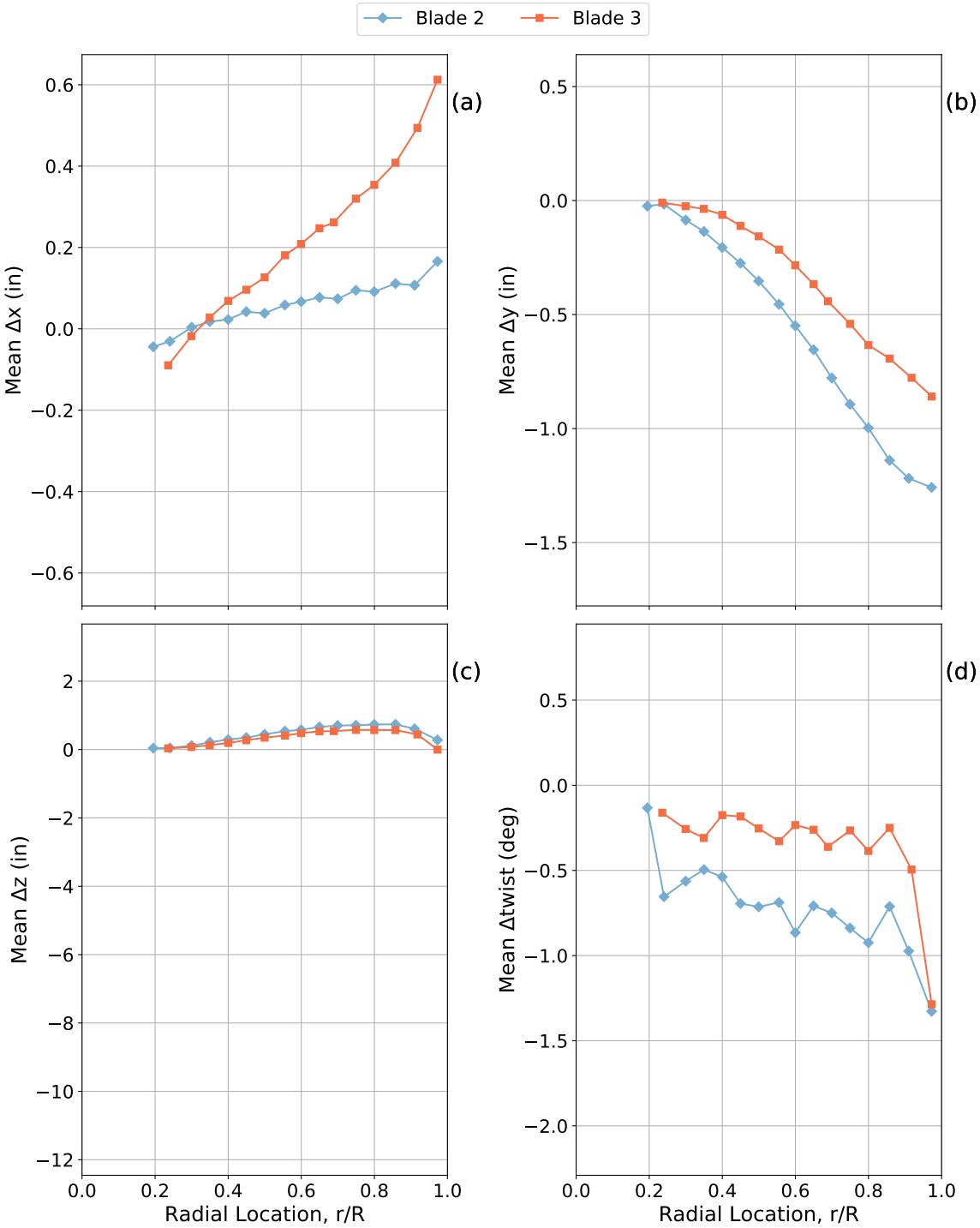


Figure 4.15-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0440	0.0112	-0.0242	0.0028	0.0404	0.0115	-0.1328	0.0595
2	270.35	0.2405	-0.0306	0.0029	-0.0160	0.0018	0.0469	0.0085	-0.6544	0.1829
2	270.35	0.2999	0.0038	0.0037	-0.0855	0.0084	0.1145	0.0313	-0.5630	0.1896
2	270.35	0.3498	0.0179	0.0033	-0.1358	0.0148	0.2131	0.0542	-0.4953	0.1912
2	270.35	0.3998	0.0229	0.0043	-0.2059	0.0208	0.2914	0.0745	-0.5382	0.1897
2	270.35	0.4496	0.0422	0.0045	-0.2746	0.0272	0.3495	0.0947	-0.6944	0.1973
2	270.35	0.4995	0.0383	0.0050	-0.3530	0.0331	0.4445	0.1149	-0.7138	0.2010
2	270.35	0.5551	0.0586	0.0054	-0.4547	0.0401	0.5387	0.1374	-0.6881	0.1974
2	270.35	0.5996	0.0669	0.0044	-0.5490	0.0461	0.5774	0.1558	-0.8652	0.1973
2	270.35	0.6497	0.0772	0.0046	-0.6546	0.0529	0.6615	0.1774	-0.7083	0.1884
2	270.35	0.6996	0.0738	0.0033	-0.7782	0.0589	0.7036	0.1971	-0.7498	0.1980
2	270.35	0.7495	0.0948	0.0034	-0.8936	0.0661	0.7102	0.2185	-0.8384	0.1973
2	270.35	0.7996	0.0913	0.0032	-0.9968	0.0729	0.7331	0.2396	-0.9246	0.1995
2	270.35	0.8578	0.1113	0.0039	-1.1395	0.0815	0.7375	0.2660	-0.7118	0.1961
2	270.35	0.9100	0.1071	0.0054	-1.2183	0.0897	0.6068	0.2901	-0.9735	0.1961
2	270.35	0.9727	0.1658	0.0086	-1.2583	0.1001	0.2806	0.3150	-1.3275	0.2032
3	270	0.2357	-0.0896	0.0021	-0.0089	0.0015	0.0351	0.0100	-0.1609	0.0911
3	270	0.2995	-0.0178	0.0009	-0.0248	0.0031	0.0747	0.0209	-0.2568	0.1461
3	270	0.3493	0.0279	0.0013	-0.0366	0.0061	0.1266	0.0365	-0.3094	0.1398
3	270	0.4000	0.0687	0.0010	-0.0626	0.0091	0.1944	0.0555	-0.1753	0.1349
3	270	0.4497	0.0963	0.0014	-0.1113	0.0118	0.2723	0.0715	-0.1830	0.1438
3	270	0.4997	0.1265	0.0017	-0.1570	0.0150	0.3491	0.0883	-0.2536	0.1333
3	270	0.5556	0.1809	0.0018	-0.2153	0.0183	0.4090	0.1069	-0.3285	0.1408
3	270	0.5995	0.2085	0.0017	-0.2839	0.0216	0.4814	0.1224	-0.2341	0.1351
3	270	0.6498	0.2473	0.0024	-0.3668	0.0254	0.5322	0.1416	-0.2610	0.1316
3	270	0.6890	0.2618	0.0026	-0.4416	0.0278	0.5397	0.1566	-0.3612	0.1305
3	270	0.7495	0.3199	0.0027	-0.5408	0.0329	0.5754	0.1790	-0.2650	0.1317
3	270	0.7998	0.3539	0.0029	-0.6336	0.0368	0.5711	0.1979	-0.3856	0.1307
3	270	0.8577	0.4082	0.0034	-0.6931	0.0411	0.5691	0.2197	-0.2501	0.1332
3	270	0.9178	0.4939	0.0034	-0.7773	0.0461	0.4419	0.2428	-0.4949	0.1335
3	270	0.9729	0.6124	0.0043	-0.8591	0.0523	-0.0010	0.2635	-1.2861	0.1385

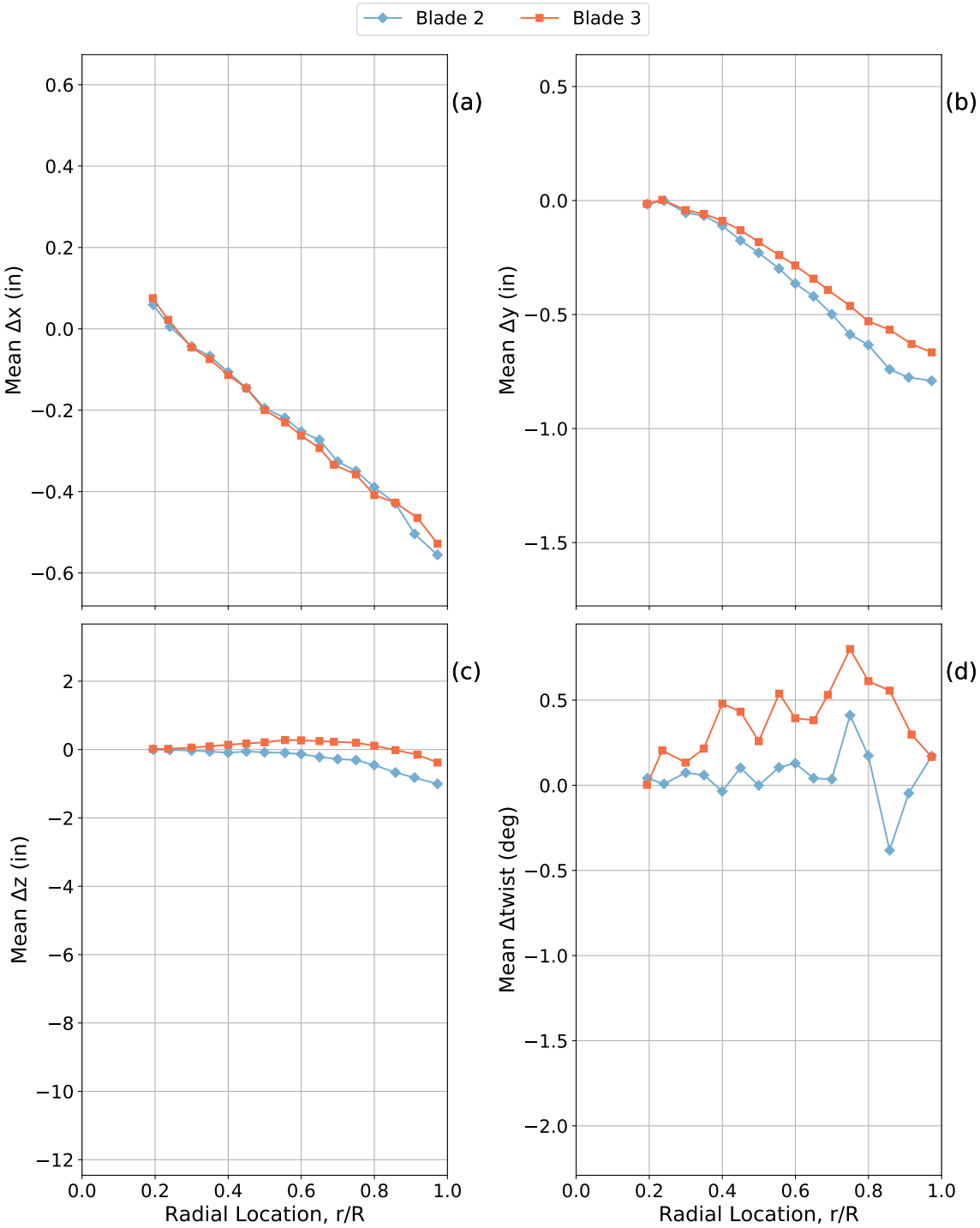


Figure 4.15-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0592	0.0015	-0.0153	0.0008	-0.0037	0.0022	0.0412	0.0296
2	274.92	0.2405	0.0057	0.0011	-0.0010	0.0017	-0.0095	0.0048	0.0082	0.0450
2	274.92	0.2999	-0.0433	0.0019	-0.0538	0.0039	-0.0293	0.0100	0.0740	0.0698
2	274.92	0.3498	-0.0670	0.0013	-0.0665	0.0063	-0.0584	0.0159	0.0597	0.0432
2	274.92	0.3998	-0.1063	0.0022	-0.1100	0.0100	-0.0922	0.0249	-0.0356	0.0339
2	274.92	0.4496	-0.1453	0.0021	-0.1749	0.0117	-0.0578	0.0322	0.1023	0.0548
2	274.92	0.4995	-0.1952	0.0040	-0.2292	0.0167	-0.0809	0.0414	-0.0006	0.0442
2	274.92	0.5551	-0.2188	0.0018	-0.2983	0.0157	-0.0988	0.0467	0.1050	0.0682
2	274.92	0.5996	-0.2524	0.0024	-0.3640	0.0182	-0.1316	0.0515	0.1290	0.0427
2	274.92	0.6497	-0.2731	0.0033	-0.4203	0.0225	-0.2186	0.0580	0.0413	0.0527
2	274.92	0.6996	-0.3263	0.0021	-0.4984	0.0272	-0.2789	0.0646	0.0356	0.0484
2	274.92	0.7495	-0.3495	0.0029	-0.5874	0.0300	-0.3083	0.0781	0.4111	0.0793
2	274.92	0.7996	-0.3892	0.0026	-0.6333	0.0316	-0.4566	0.0773	0.1736	0.0504
2	274.92	0.8578	-0.4293	0.0030	-0.7404	0.0372	-0.6715	0.0845	-0.3820	0.0745
2	274.92	0.9100	-0.5041	0.0056	-0.7757	0.0424	-0.8225	0.0919	-0.0469	0.1181
2	274.92	0.9727	-0.5556	0.0055	-0.7903	0.0439	-1.0058	0.1044	0.1710	0.1346
3	274.92	0.1938	0.0754	0.0013	-0.0150	0.0006	0.0169	0.0026	0.0027	0.0342
3	274.92	0.2357	0.0221	0.0007	0.0031	0.0016	0.0189	0.0066	0.2047	0.0353
3	274.92	0.2995	-0.0455	0.0009	-0.0418	0.0035	0.0573	0.0107	0.1333	0.0705
3	274.92	0.3493	-0.0744	0.0012	-0.0587	0.0048	0.0932	0.0233	0.2150	0.0368
3	274.92	0.4000	-0.1135	0.0015	-0.0891	0.0087	0.1405	0.0331	0.4796	0.0416
3	274.92	0.4497	-0.1459	0.0026	-0.1298	0.0098	0.1761	0.0376	0.4325	0.0604
3	274.92	0.4997	-0.1997	0.0021	-0.1821	0.0112	0.2121	0.0406	0.2590	0.0603
3	274.92	0.5556	-0.2302	0.0020	-0.2395	0.0138	0.2779	0.0451	0.5381	0.0688
3	274.92	0.5995	-0.2625	0.0017	-0.2849	0.0164	0.2686	0.0517	0.3938	0.0497
3	274.92	0.6498	-0.2931	0.0019	-0.3427	0.0178	0.2478	0.0626	0.3822	0.0426
3	274.92	0.6890	-0.3341	0.0031	-0.3922	0.0207	0.2276	0.0676	0.5306	0.0546
3	274.92	0.7495	-0.3578	0.0035	-0.4622	0.0249	0.1987	0.0779	0.7999	0.0613
3	274.92	0.7998	-0.4086	0.0028	-0.5296	0.0271	0.1113	0.0847	0.6113	0.0575
3	274.92	0.8577	-0.4273	0.0065	-0.5666	0.0333	-0.0165	0.0930	0.5558	0.1135
3	274.92	0.9178	-0.4647	0.0120	-0.6291	0.0377	-0.1498	0.1029	0.2979	0.1640
3	274.92	0.9729	-0.5281	0.0106	-0.6658	0.0444	-0.3816	0.1051	0.1665	0.2719

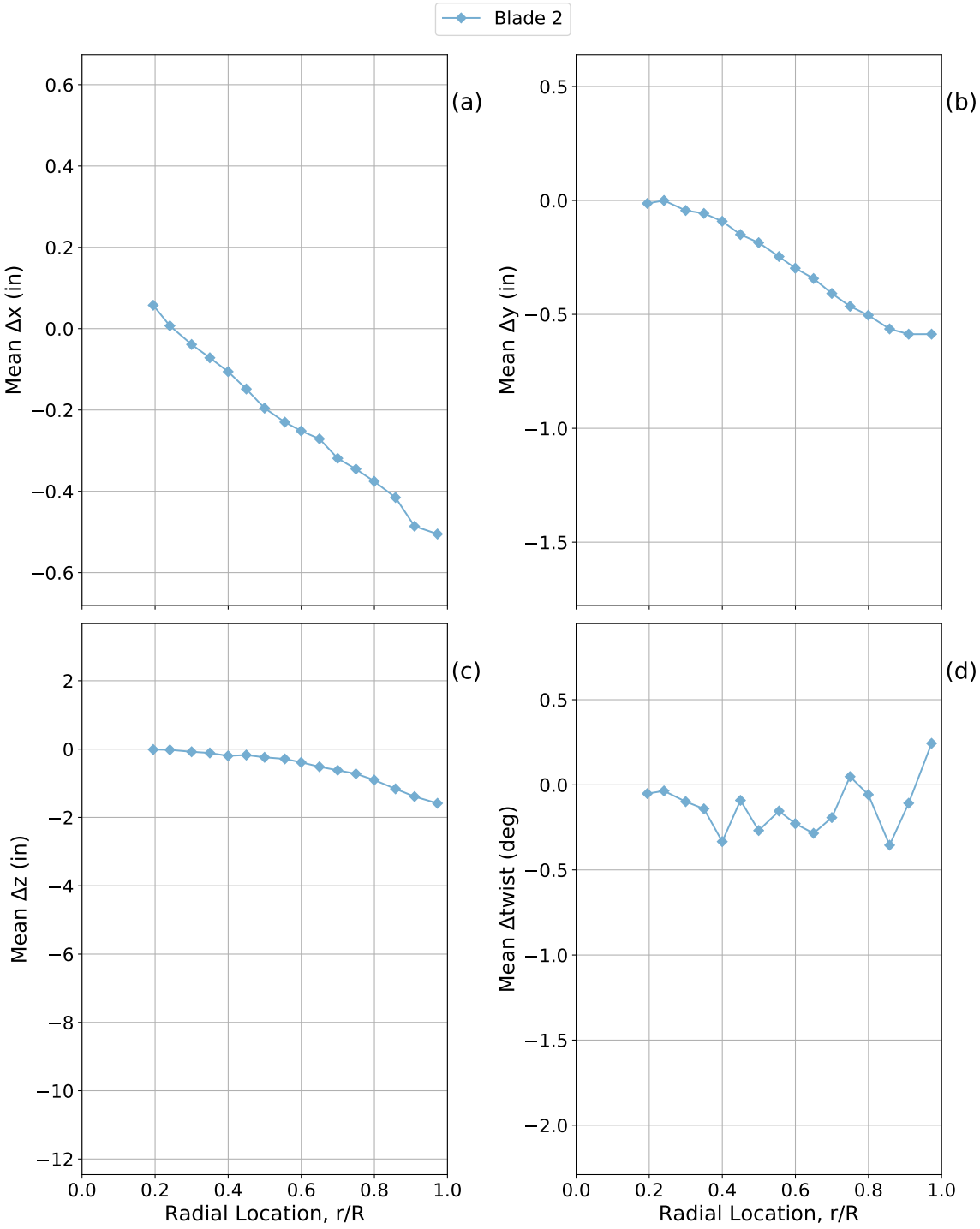


Figure 4.15-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0576	0.0012	-0.0132	0.0009	-0.0123	0.0023	-0.0517	0.0190
2	285.12	0.2405	0.0070	0.0011	-0.0003	0.0021	-0.0211	0.0051	-0.0359	0.0259
2	285.12	0.2999	-0.0389	0.0007	-0.0441	0.0050	-0.0779	0.0108	-0.0989	0.0400
2	285.12	0.3498	-0.0716	0.0015	-0.0570	0.0074	-0.1128	0.0165	-0.1413	0.0413
2	285.12	0.3998	-0.1057	0.0020	-0.0915	0.0125	-0.1967	0.0268	-0.3337	0.0381
2	285.12	0.4496	-0.1484	0.0022	-0.1498	0.0149	-0.1728	0.0324	-0.0914	0.0290
2	285.12	0.4995	-0.1955	0.0031	-0.1855	0.0176	-0.2401	0.0399	-0.2686	0.0386
2	285.12	0.5551	-0.2299	0.0027	-0.2463	0.0214	-0.2870	0.0499	-0.1542	0.0430
2	285.12	0.5996	-0.2516	0.0029	-0.2975	0.0243	-0.3874	0.0559	-0.2283	0.0471
2	285.12	0.6497	-0.2710	0.0034	-0.3428	0.0284	-0.5166	0.0664	-0.2850	0.0406
2	285.12	0.6996	-0.3190	0.0035	-0.4082	0.0314	-0.6191	0.0738	-0.1926	0.0328
2	285.12	0.7495	-0.3453	0.0036	-0.4646	0.0356	-0.7208	0.0823	0.0484	0.0543
2	285.12	0.7996	-0.3756	0.0036	-0.5039	0.0391	-0.9041	0.0894	-0.0578	0.0503
2	285.12	0.8578	-0.4152	0.0035	-0.5639	0.0433	-1.1639	0.1001	-0.3547	0.0496
2	285.12	0.9100	-0.4860	0.0042	-0.5870	0.0476	-1.3905	0.1070	-0.1082	0.0656
2	285.12	0.9727	-0.5050	0.0058	-0.5868	0.0532	-1.5872	0.1162	0.2436	0.0944

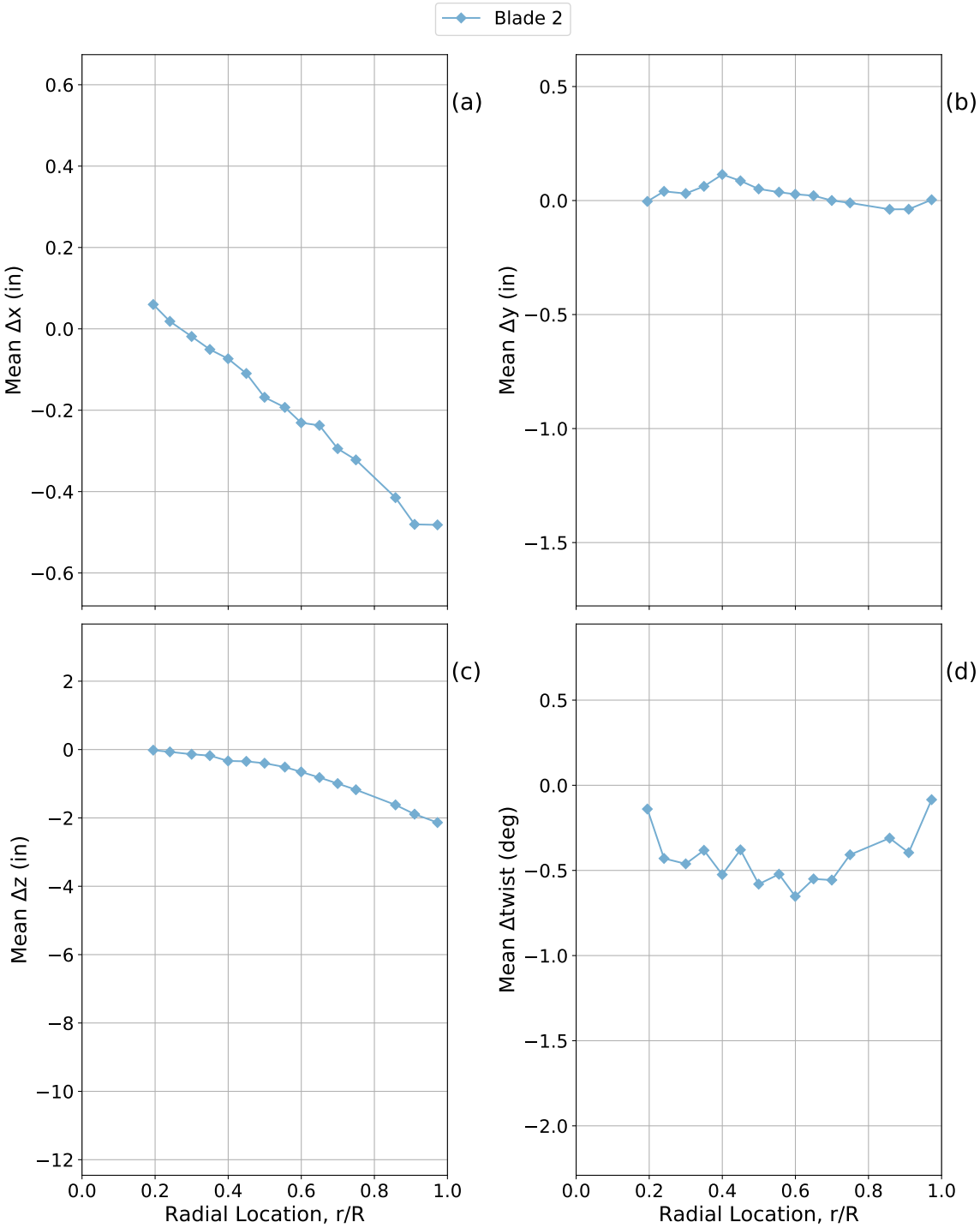


Figure 4.15-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0599	0.0017	-0.0038	0.0013	-0.0181	0.0032	-0.1395	0.0275
2	299.88	0.2405	0.0184	0.0011	0.0403	0.0043	-0.0680	0.0088	-0.4296	0.0386
2	299.88	0.2999	-0.0188	0.0012	0.0308	0.0071	-0.1372	0.0139	-0.4614	0.0604
2	299.88	0.3498	-0.0506	0.0022	0.0623	0.0133	-0.1781	0.0243	-0.3818	0.0475
2	299.88	0.3998	-0.0735	0.0040	0.1142	0.0211	-0.3333	0.0380	-0.5246	0.0481
2	299.88	0.4496	-0.1097	0.0032	0.0864	0.0226	-0.3452	0.0434	-0.3791	0.0451
2	299.88	0.4995	-0.1682	0.0034	0.0509	0.0245	-0.4004	0.0491	-0.5806	0.0524
2	299.88	0.5551	-0.1930	0.0036	0.0368	0.0269	-0.5125	0.0529	-0.5223	0.0730
2	299.88	0.5996	-0.2308	0.0022	0.0276	0.0294	-0.6539	0.0658	-0.6524	0.0246
2	299.88	0.6497	-0.2373	0.0029	0.0213	0.0337	-0.8191	0.0728	-0.5500	0.0373
2	299.88	0.6996	-0.2945	0.0023	0.0002	0.0364	-0.9946	0.0767	-0.5566	0.0551
2	299.88	0.7495	-0.3221	0.0039	-0.0103	0.0380	-1.1761	0.0892	-0.4079	0.0359
2	299.88	0.8578	-0.4149	0.0025	-0.0385	0.0477	-1.6194	0.1068	-0.3104	0.0408
2	299.88	0.9100	-0.4806	0.0029	-0.0381	0.0510	-1.8903	0.1180	-0.3958	0.0348
2	299.88	0.9727	-0.4818	0.0033	0.0034	0.0557	-2.1358	0.1319	-0.0845	0.0555

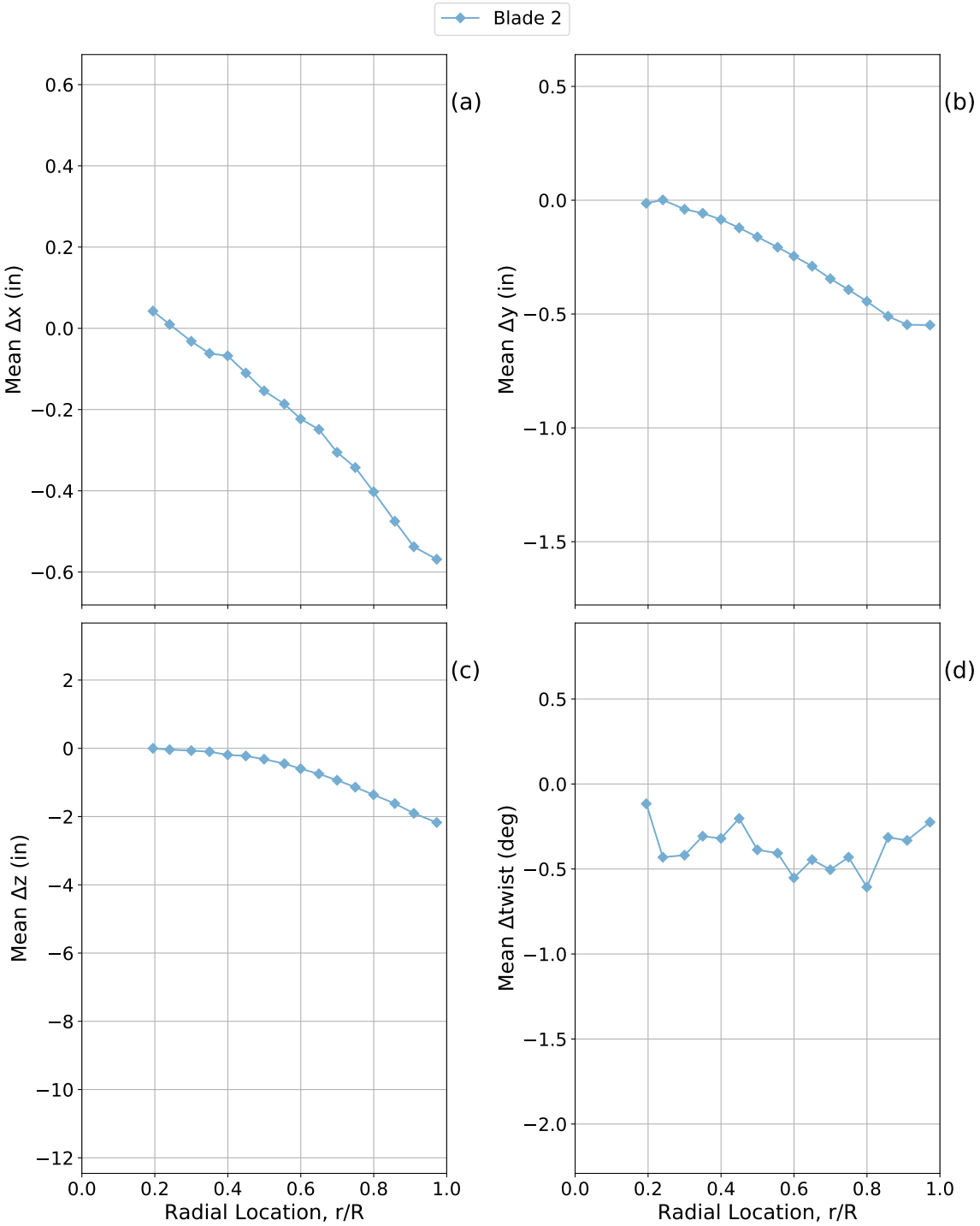


Figure 4.15-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0424	0.0008	-0.0136	0.0006	-0.0013	0.0020	-0.1161	0.0291
2	315	0.2405	0.0096	0.0010	0.0014	0.0014	-0.0387	0.0047	-0.4308	0.0342
2	315	0.2999	-0.0320	0.0011	-0.0397	0.0030	-0.0681	0.0096	-0.4187	0.0641
2	315	0.3498	-0.0619	0.0011	-0.0573	0.0043	-0.0986	0.0161	-0.3071	0.0302
2	315	0.3998	-0.0678	0.0039	-0.0846	0.0073	-0.1919	0.0251	-0.3199	0.0478
2	315	0.4496	-0.1101	0.0029	-0.1213	0.0065	-0.2228	0.0285	-0.2025	0.0586
2	315	0.4995	-0.1540	0.0027	-0.1614	0.0069	-0.3184	0.0312	-0.3871	0.0590
2	315	0.5551	-0.1864	0.0031	-0.2065	0.0085	-0.4489	0.0377	-0.4068	0.0463
2	315	0.5996	-0.2231	0.0016	-0.2456	0.0096	-0.5983	0.0451	-0.5518	0.0239
2	315	0.6497	-0.2489	0.0017	-0.2899	0.0110	-0.7477	0.0478	-0.4453	0.0448
2	315	0.6996	-0.3054	0.0017	-0.3449	0.0116	-0.9352	0.0570	-0.5042	0.0255
2	315	0.7495	-0.3428	0.0020	-0.3932	0.0135	-1.1376	0.0648	-0.4304	0.0386
2	315	0.7996	-0.4025	0.0016	-0.4442	0.0143	-1.3605	0.0726	-0.6063	0.0463
2	315	0.8578	-0.4750	0.0016	-0.5099	0.0161	-1.6182	0.0849	-0.3142	0.0265
2	315	0.9100	-0.5378	0.0021	-0.5468	0.0182	-1.9048	0.0914	-0.3317	0.0393
2	315	0.9727	-0.5686	0.0021	-0.5486	0.0203	-2.1742	0.1050	-0.2244	0.0343

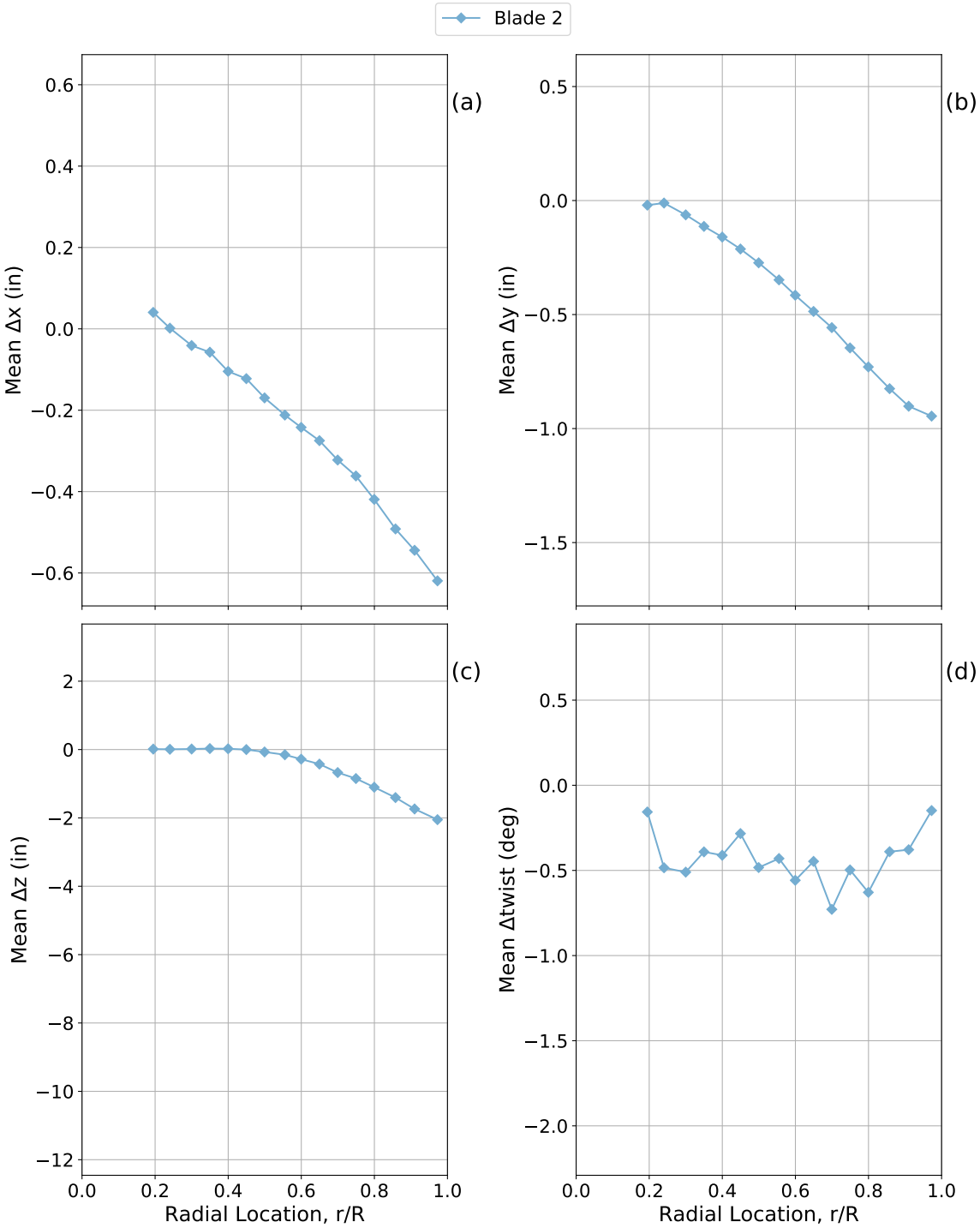


Figure 4.15-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0405	0.0009	-0.0202	0.0004	0.0131	0.0011	-0.1567	0.0182
2	330.12	0.2405	0.0017	0.0008	-0.0109	0.0016	0.0081	0.0036	-0.4844	0.0288
2	330.12	0.2999	-0.0410	0.0011	-0.0628	0.0031	0.0153	0.0070	-0.5100	0.0434
2	330.12	0.3498	-0.0574	0.0014	-0.1134	0.0044	0.0285	0.0075	-0.3911	0.0488
2	330.12	0.3998	-0.1045	0.0015	-0.1601	0.0080	0.0230	0.0155	-0.4111	0.0602
2	330.12	0.4496	-0.1224	0.0028	-0.2126	0.0093	-0.0006	0.0179	-0.2835	0.0375
2	330.12	0.4995	-0.1697	0.0031	-0.2731	0.0108	-0.0705	0.0222	-0.4830	0.0319
2	330.12	0.5551	-0.2119	0.0029	-0.3480	0.0128	-0.1529	0.0279	-0.4301	0.0656
2	330.12	0.5996	-0.2422	0.0039	-0.4153	0.0150	-0.2811	0.0330	-0.5580	0.0237
2	330.12	0.6497	-0.2748	0.0022	-0.4863	0.0163	-0.4261	0.0377	-0.4469	0.0355
2	330.12	0.6996	-0.3224	0.0023	-0.5573	0.0189	-0.6732	0.0578	-0.7287	0.0566
2	330.12	0.7495	-0.3616	0.0019	-0.6463	0.0214	-0.8483	0.0521	-0.4971	0.0411
2	330.12	0.7996	-0.4192	0.0021	-0.7297	0.0246	-1.1021	0.0599	-0.6289	0.0314
2	330.12	0.8578	-0.4918	0.0024	-0.8251	0.0259	-1.4054	0.0647	-0.3900	0.0397
2	330.12	0.9100	-0.5443	0.0026	-0.9020	0.0299	-1.7383	0.0719	-0.3784	0.0272
2	330.12	0.9727	-0.6194	0.0027	-0.9455	0.0322	-2.0515	0.0780	-0.1485	0.0258

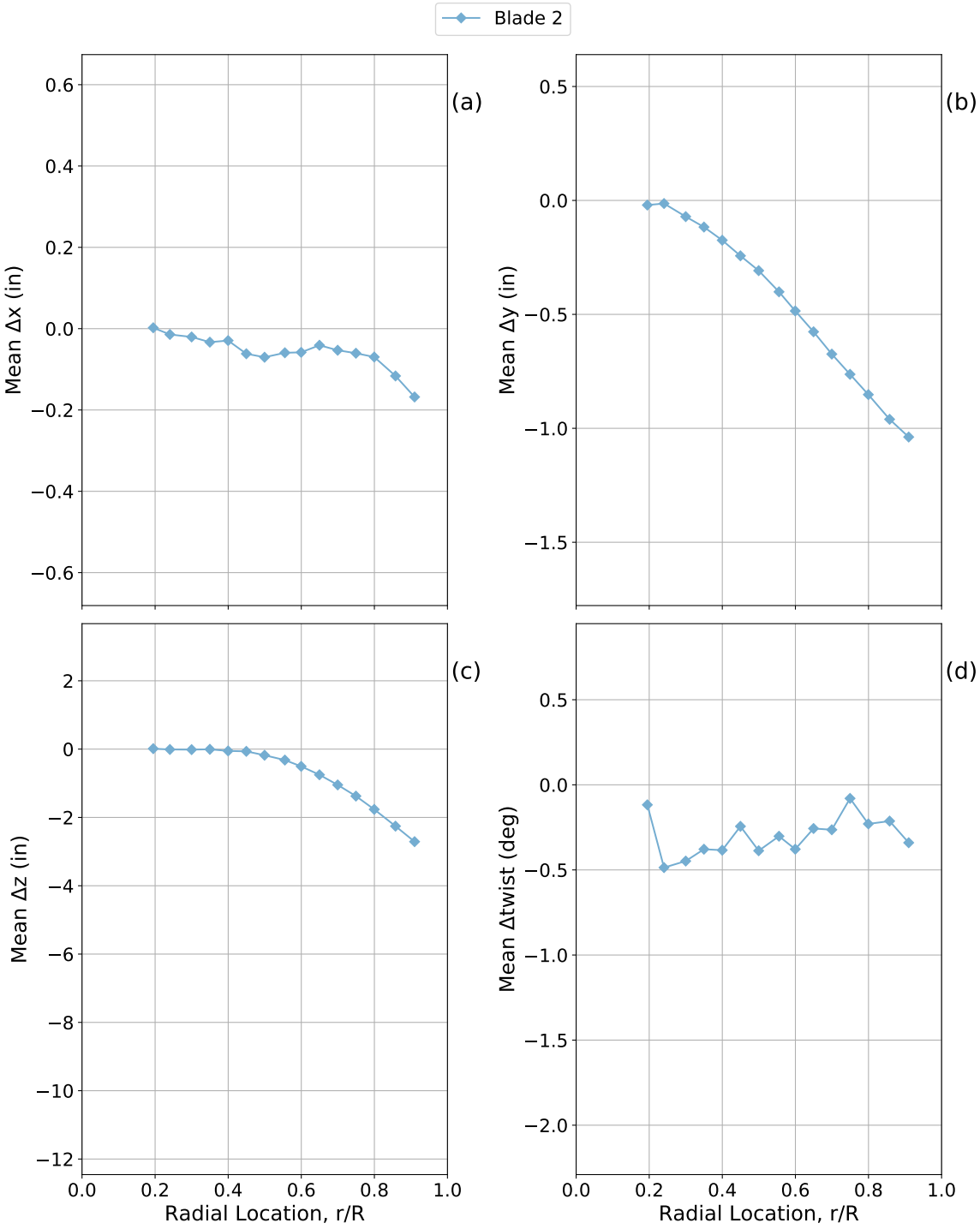


Figure 4.15-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0022	0.0025	-0.0203	0.0010	0.0130	0.0023	-0.1175	0.0278
2	344.88	0.2405	-0.0143	0.0016	-0.0136	0.0017	-0.0106	0.0037	-0.4864	0.0487
2	344.88	0.2999	-0.0204	0.0016	-0.0711	0.0034	-0.0149	0.0063	-0.4479	0.0666
2	344.88	0.3498	-0.0332	0.0026	-0.1168	0.0063	-0.0056	0.0116	-0.3784	0.0587
2	344.88	0.3998	-0.0293	0.0027	-0.1747	0.0093	-0.0533	0.0165	-0.3841	0.0612
2	344.88	0.4496	-0.0617	0.0044	-0.2431	0.0123	-0.0651	0.0218	-0.2440	0.0615
2	344.88	0.4995	-0.0703	0.0055	-0.3081	0.0153	-0.1793	0.0254	-0.3873	0.0778
2	344.88	0.5551	-0.0593	0.0062	-0.4011	0.0186	-0.3206	0.0288	-0.3020	0.0724
2	344.88	0.5996	-0.0582	0.0077	-0.4850	0.0211	-0.5052	0.0345	-0.3783	0.0527
2	344.88	0.6497	-0.0408	0.0089	-0.5764	0.0242	-0.7515	0.0355	-0.2566	0.0785
2	344.88	0.6996	-0.0531	0.0098	-0.6743	0.0269	-1.0478	0.0433	-0.2640	0.0671
2	344.88	0.7495	-0.0604	0.0129	-0.7630	0.0291	-1.3757	0.0457	-0.0798	0.0888
2	344.88	0.7996	-0.0697	0.0145	-0.8521	0.0327	-1.7648	0.0512	-0.2296	0.0913
2	344.88	0.8578	-0.1163	0.0152	-0.9605	0.0359	-2.2557	0.0652	-0.2131	0.0961
2	344.88	0.9100	-0.1680	0.0188	-1.0382	0.0374	-2.7092	0.0568	-0.3402	0.2397

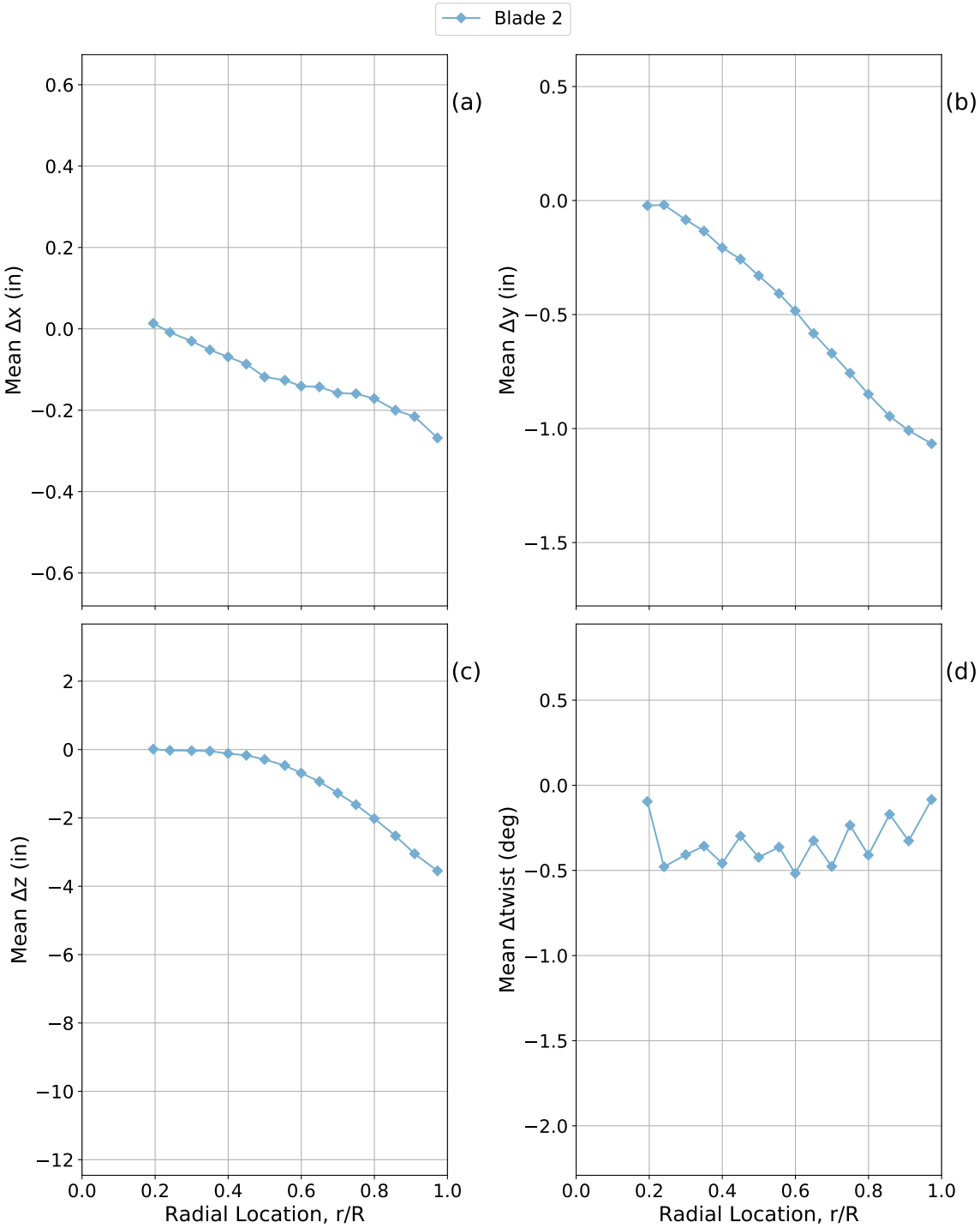


Figure 4.15-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0136	0.0022	-0.0221	0.0011	0.0114	0.0016	-0.0950	0.0172
2	350.16	0.2405	-0.0086	0.0013	-0.0189	0.0021	-0.0247	0.0033	-0.4789	0.0215
2	350.16	0.2999	-0.0303	0.0010	-0.0844	0.0031	-0.0344	0.0040	-0.4074	0.0337
2	350.16	0.3498	-0.0518	0.0015	-0.1341	0.0055	-0.0452	0.0079	-0.3575	0.0339
2	350.16	0.3998	-0.0689	0.0015	-0.2070	0.0081	-0.1173	0.0108	-0.4581	0.0369
2	350.16	0.4496	-0.0867	0.0021	-0.2572	0.0111	-0.1691	0.0157	-0.2976	0.0494
2	350.16	0.4995	-0.1182	0.0031	-0.3294	0.0133	-0.2896	0.0180	-0.4231	0.0371
2	350.16	0.5551	-0.1263	0.0039	-0.4080	0.0159	-0.4670	0.0223	-0.3633	0.0325
2	350.16	0.5996	-0.1409	0.0048	-0.4838	0.0179	-0.6887	0.0263	-0.5174	0.0370
2	350.16	0.6497	-0.1427	0.0070	-0.5828	0.0194	-0.9368	0.0280	-0.3253	0.0452
2	350.16	0.6996	-0.1579	0.0086	-0.6699	0.0205	-1.2733	0.0330	-0.4766	0.0376
2	350.16	0.7495	-0.1593	0.0108	-0.7568	0.0244	-1.6124	0.0357	-0.2350	0.0247
2	350.16	0.7996	-0.1713	0.0141	-0.8494	0.0270	-2.0198	0.0398	-0.4101	0.0377
2	350.16	0.8578	-0.2000	0.0152	-0.9457	0.0302	-2.5257	0.0469	-0.1707	0.0523
2	350.16	0.9100	-0.2157	0.0222	-1.0083	0.0312	-3.0485	0.0505	-0.3265	0.0428
2	350.16	0.9727	-0.2682	0.0224	-1.0664	0.0363	-3.5502	0.0631	-0.0835	0.0922

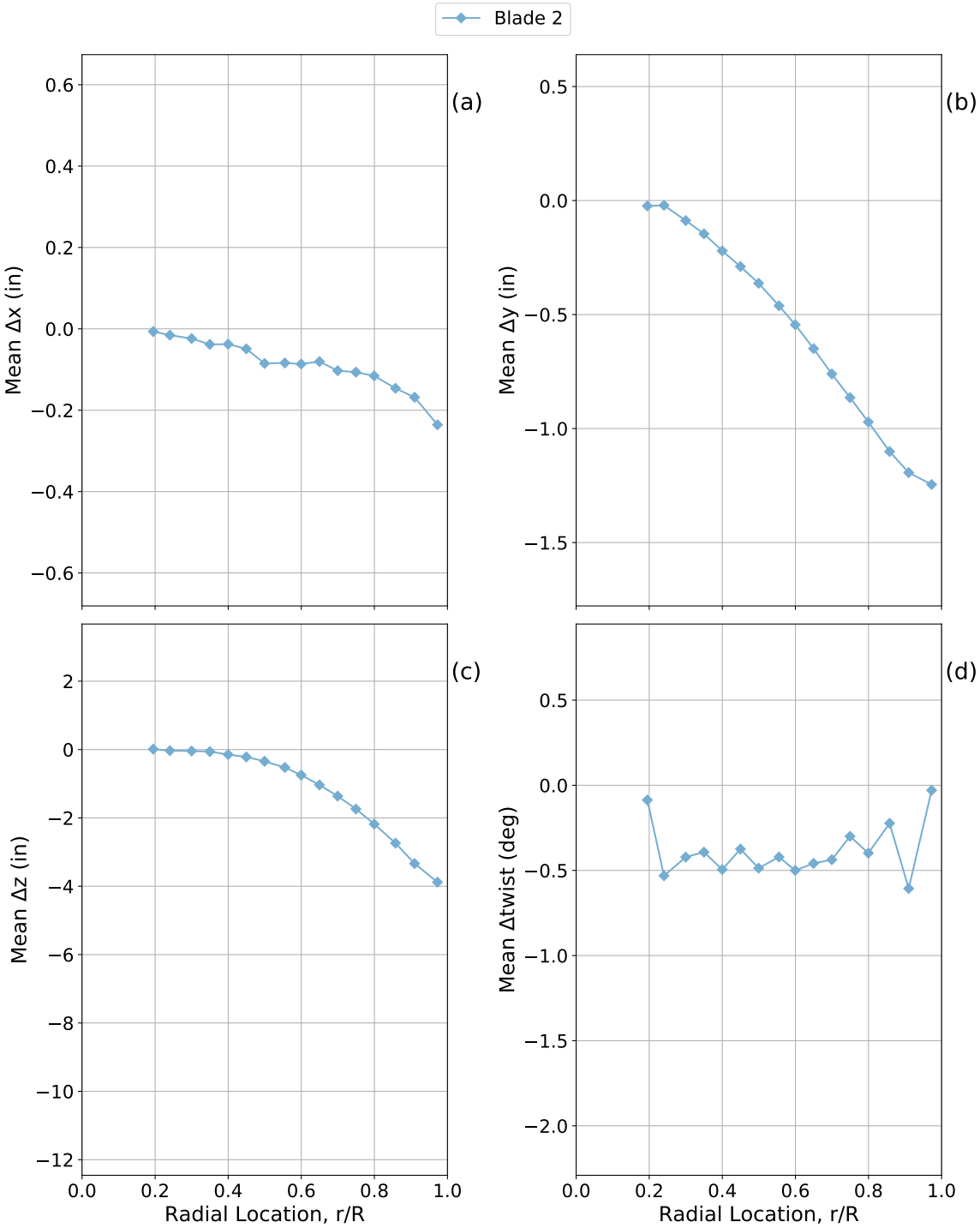


Figure 4.15-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Table 4.15-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 67, point 47. BD run 32, points 5123 to 5133.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0066	0.0041	-0.0237	0.0015	0.0124	0.0034	-0.0865	0.0199
2	355.08	0.2405	-0.0155	0.0014	-0.0212	0.0017	-0.0330	0.0044	-0.5312	0.0461
2	355.08	0.2999	-0.0238	0.0020	-0.0878	0.0047	-0.0433	0.0106	-0.4219	0.0478
2	355.08	0.3498	-0.0382	0.0032	-0.1460	0.0079	-0.0595	0.0168	-0.3924	0.0453
2	355.08	0.3998	-0.0376	0.0047	-0.2206	0.0117	-0.1461	0.0250	-0.4949	0.0409
2	355.08	0.4496	-0.0492	0.0037	-0.2894	0.0156	-0.2167	0.0317	-0.3746	0.0429
2	355.08	0.4995	-0.0850	0.0038	-0.3629	0.0190	-0.3431	0.0375	-0.4866	0.0495
2	355.08	0.5551	-0.0838	0.0045	-0.4615	0.0220	-0.5256	0.0444	-0.4212	0.0468
2	355.08	0.5996	-0.0865	0.0048	-0.5446	0.0254	-0.7469	0.0499	-0.5001	0.0465
2	355.08	0.6497	-0.0804	0.0056	-0.6493	0.0291	-1.0349	0.0555	-0.4587	0.0466
2	355.08	0.6996	-0.1028	0.0048	-0.7604	0.0330	-1.3611	0.0611	-0.4370	0.0530
2	355.08	0.7495	-0.1065	0.0043	-0.8642	0.0363	-1.7403	0.0672	-0.2997	0.0481
2	355.08	0.7996	-0.1156	0.0057	-0.9711	0.0386	-2.1802	0.0725	-0.3982	0.0569
2	355.08	0.8578	-0.1462	0.0087	-1.1007	0.0430	-2.7385	0.0806	-0.2231	0.0518
2	355.08	0.9100	-0.1682	0.0159	-1.1930	0.0452	-3.3361	0.0806	-0.6064	0.1226
2	355.08	0.9727	-0.2358	0.0109	-1.2454	0.0497	-3.8795	0.1064	-0.0295	0.0872

4.16 Run 69, Point 7

4.16.1 Pitch, Flap, and Lag

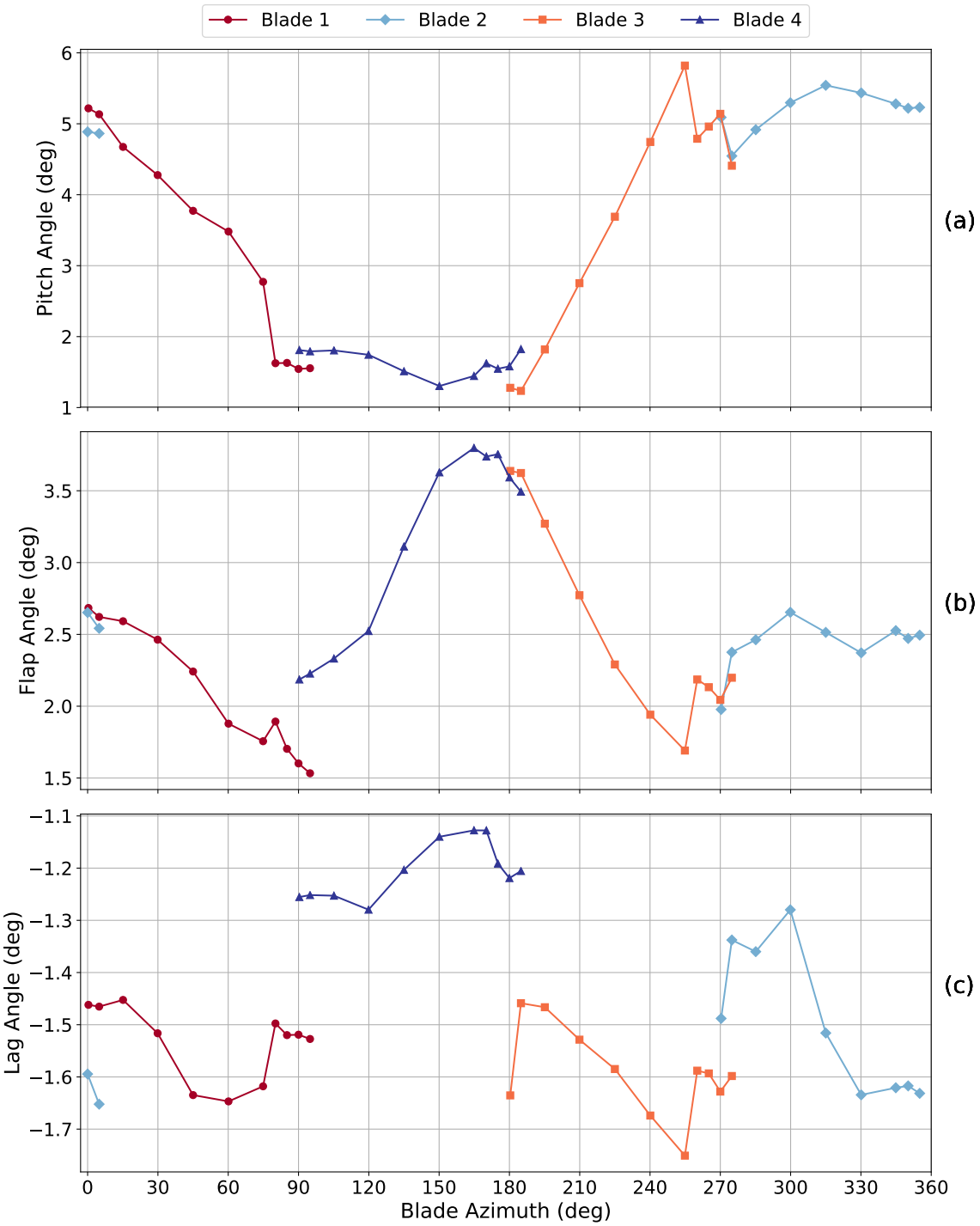


Figure 4.16-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.8862	2.6522	-1.5945	0.0622	0.0215	0.0193
0.35	1	5.2177	2.6839	-1.4619	0.1007	0.0518	0.0377
4.92	1	5.1341	2.6217	-1.4653	0.0928	0.0497	0.0224
4.92	2	4.8632	2.5423	-1.6522	0.1098	0.0322	0.0205
15.12	1	4.6738	2.5917	-1.4525	0.1030	0.0468	0.0297
29.88	1	4.2768	2.4631	-1.5164	0.1131	0.0437	0.0100
45	1	3.7733	2.2415	-1.6348	0.0674	0.0249	0.0114
60.12	1	3.4808	1.8784	-1.6469	0.1016	0.0489	0.0274
74.88	1	2.7718	1.7562	-1.6180	0.0935	0.0237	0.0168
80.16	1	1.6250	1.8930	-1.4976	0.0342	0.0188	0.0105
85.08	1	1.6292	1.7032	-1.5199	0.0340	0.0310	0.0114
90	1	1.5442	1.6015	-1.5191	0.0421	0.0231	0.0131
90.35	4	1.8098	2.1859	-1.2554	0.0209	0.0197	0.0101
94.92	1	1.5545	1.5331	-1.5273	0.0210	0.0123	0.0186
94.92	4	1.7918	2.2271	-1.2516	0.0275	0.0172	0.0098
105.12	4	1.8053	2.3316	-1.2528	0.0217	0.0161	0.0101
119.88	4	1.7439	2.5233	-1.2796	0.0176	0.0191	0.0154
135	4	1.5115	3.1116	-1.2033	0.0165	0.0298	0.0109
150.12	4	1.3033	3.6281	-1.1399	0.0141	0.0207	0.0058
164.88	4	1.4450	3.7979	-1.1276	0.0146	0.0156	0.0184
170.16	4	1.6233	3.7382	-1.1278	0.0231	0.0253	0.0140
175.08	4	1.5466	3.7544	-1.1913	0.0250	0.0252	0.0180
180	4	1.5804	3.5930	-1.2191	0.0206	0.0194	0.0127
180.35	3	1.2781	3.6379	-1.6354	0.0419	0.0250	0.0207
184.92	3	1.2349	3.6235	-1.4588	0.0489	0.0314	0.0226
184.92	4	1.8230	3.4938	-1.2055	0.0366	0.0210	0.0169
195.12	3	1.8187	3.2706	-1.4665	0.0369	0.0174	0.0172
209.88	3	2.7533	2.7726	-1.5286	0.0344	0.0274	0.0189
225	3	3.6902	2.2905	-1.5849	0.0282	0.0210	0.0117
240.12	3	4.7436	1.9409	-1.6740	0.0350	0.0170	0.0174
254.88	3	5.8201	1.6913	-1.7508	0.0836	0.0411	0.0209
260.16	3	4.7890	2.1860	-1.5880	0.0798	0.0202	0.0146
265.08	3	4.9611	2.1324	-1.5933	0.1074	0.0418	0.0229
270	3	5.1400	2.0440	-1.6281	0.1636	0.0447	0.0156
270.35	2	5.0902	1.9772	-1.4880	0.1660	0.0704	0.0331
274.92	2	4.5463	2.3756	-1.3377	0.0392	0.0241	0.0066
274.92	3	4.4089	2.1981	-1.5983	0.0403	0.0230	0.0119
285.12	2	4.9164	2.4627	-1.3600	0.0219	0.0307	0.0212
299.88	2	5.2968	2.6538	-1.2798	0.0302	0.0200	0.0120
315	2	5.5422	2.5140	-1.5159	0.0205	0.0205	0.0163
330.12	2	5.4350	2.3716	-1.6344	0.0267	0.0262	0.0084
344.88	2	5.2807	2.5262	-1.6208	0.0343	0.0303	0.0142
350.16	2	5.2190	2.4716	-1.6172	0.0497	0.0243	0.0161
355.08	2	5.2312	2.4948	-1.6315	0.0373	0.0438	0.0142

4.16.2 Spanwise Elastic Deformations

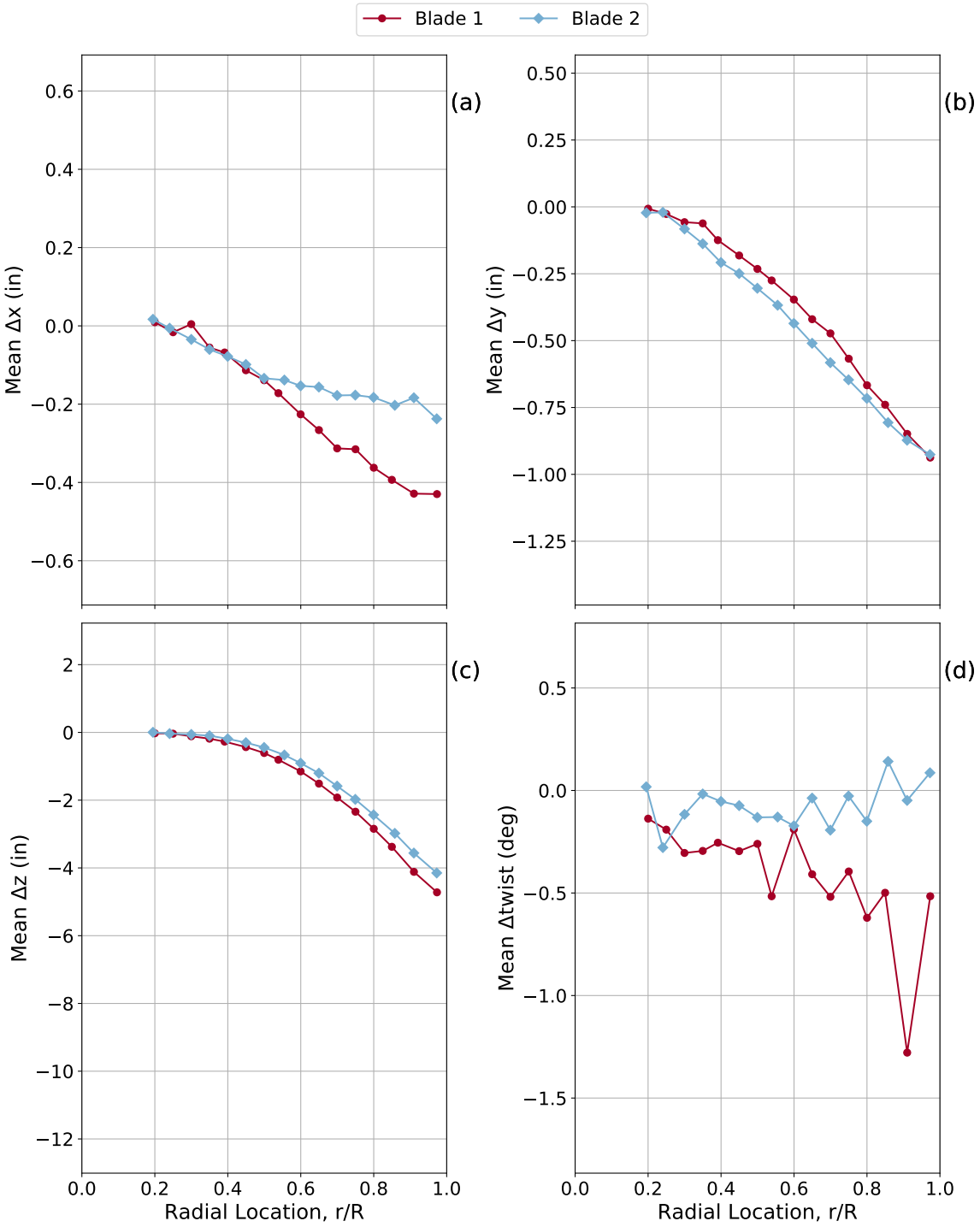


Figure 4.16-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0093	0.0052	-0.0068	0.0033	-0.0259	0.0078	-0.1374	0.0417
1	0.35	0.2499	-0.0163	0.0037	-0.0265	0.0060	-0.0381	0.0101	-0.1909	0.1058
1	0.35	0.2998	0.0044	0.0022	-0.0571	0.0118	-0.1140	0.0241	-0.3047	0.0991
1	0.35	0.3498	-0.0553	0.0020	-0.0617	0.0188	-0.1853	0.0367	-0.2947	0.1095
1	0.35	0.3913	-0.0680	0.0028	-0.1244	0.0273	-0.2718	0.0507	-0.2546	0.1023
1	0.35	0.4496	-0.1134	0.0029	-0.1817	0.0360	-0.4334	0.0696	-0.2958	0.0920
1	0.35	0.4997	-0.1389	0.0032	-0.2320	0.0439	-0.6075	0.0861	-0.2603	0.1036
1	0.35	0.5387	-0.1719	0.0025	-0.2750	0.0506	-0.8071	0.0991	-0.5159	0.1046
1	0.35	0.5996	-0.2260	0.0027	-0.3464	0.0613	-1.1503	0.1191	-0.1894	0.1028
1	0.35	0.6498	-0.2662	0.0027	-0.4200	0.0690	-1.5115	0.1348	-0.4086	0.1089
1	0.35	0.6998	-0.3130	0.0028	-0.4730	0.0771	-1.9223	0.1515	-0.5186	0.1113
1	0.35	0.7500	-0.3152	0.0035	-0.5676	0.0872	-2.3409	0.1703	-0.3950	0.0999
1	0.35	0.8001	-0.3624	0.0034	-0.6669	0.0959	-2.8454	0.1847	-0.6210	0.1001
1	0.35	0.8497	-0.3933	0.0044	-0.7397	0.1048	-3.3763	0.1986	-0.4989	0.1068
1	0.35	0.9102	-0.4286	0.0206	-0.8488	0.1161	-4.1155	0.2144	-1.2785	0.1758
1	0.35	0.9734	-0.4297	0.0048	-0.9373	0.1239	-4.7204	0.2393	-0.5158	0.1305
2	0	0.1949	0.0168	0.0026	-0.0221	0.0020	0.0032	0.0034	0.0179	0.0266
2	0	0.2405	-0.0060	0.0015	-0.0204	0.0026	-0.0355	0.0029	-0.2785	0.0645
2	0	0.2999	-0.0346	0.0019	-0.0825	0.0081	-0.0603	0.0094	-0.1164	0.0714
2	0	0.3498	-0.0602	0.0025	-0.1377	0.0131	-0.0973	0.0150	-0.0170	0.0648
2	0	0.3998	-0.0780	0.0041	-0.2080	0.0205	-0.1890	0.0215	-0.0535	0.0662
2	0	0.4496	-0.0986	0.0056	-0.2492	0.0270	-0.3020	0.0282	-0.0738	0.0627
2	0	0.4995	-0.1340	0.0063	-0.3042	0.0324	-0.4441	0.0343	-0.1313	0.0691
2	0	0.5551	-0.1384	0.0074	-0.3676	0.0358	-0.6673	0.0404	-0.1295	0.0576
2	0	0.5996	-0.1532	0.0083	-0.4357	0.0394	-0.9066	0.0446	-0.1723	0.0664
2	0	0.6497	-0.1563	0.0089	-0.5099	0.0451	-1.2038	0.0509	-0.0370	0.0776
2	0	0.6996	-0.1777	0.0102	-0.5824	0.0498	-1.5849	0.0542	-0.1933	0.0649
2	0	0.7495	-0.1769	0.0106	-0.6465	0.0559	-1.9767	0.0611	-0.0271	0.0695
2	0	0.7996	-0.1827	0.0120	-0.7159	0.0626	-2.4335	0.0656	-0.1500	0.0729
2	0	0.8578	-0.2029	0.0132	-0.8065	0.0692	-2.9795	0.0741	0.1418	0.0621
2	0	0.9100	-0.1837	0.0169	-0.8723	0.0781	-3.5608	0.0809	-0.0485	0.0611
2	0	0.9727	-0.2374	0.0181	-0.9260	0.0854	-4.1488	0.0894	0.0862	0.0903

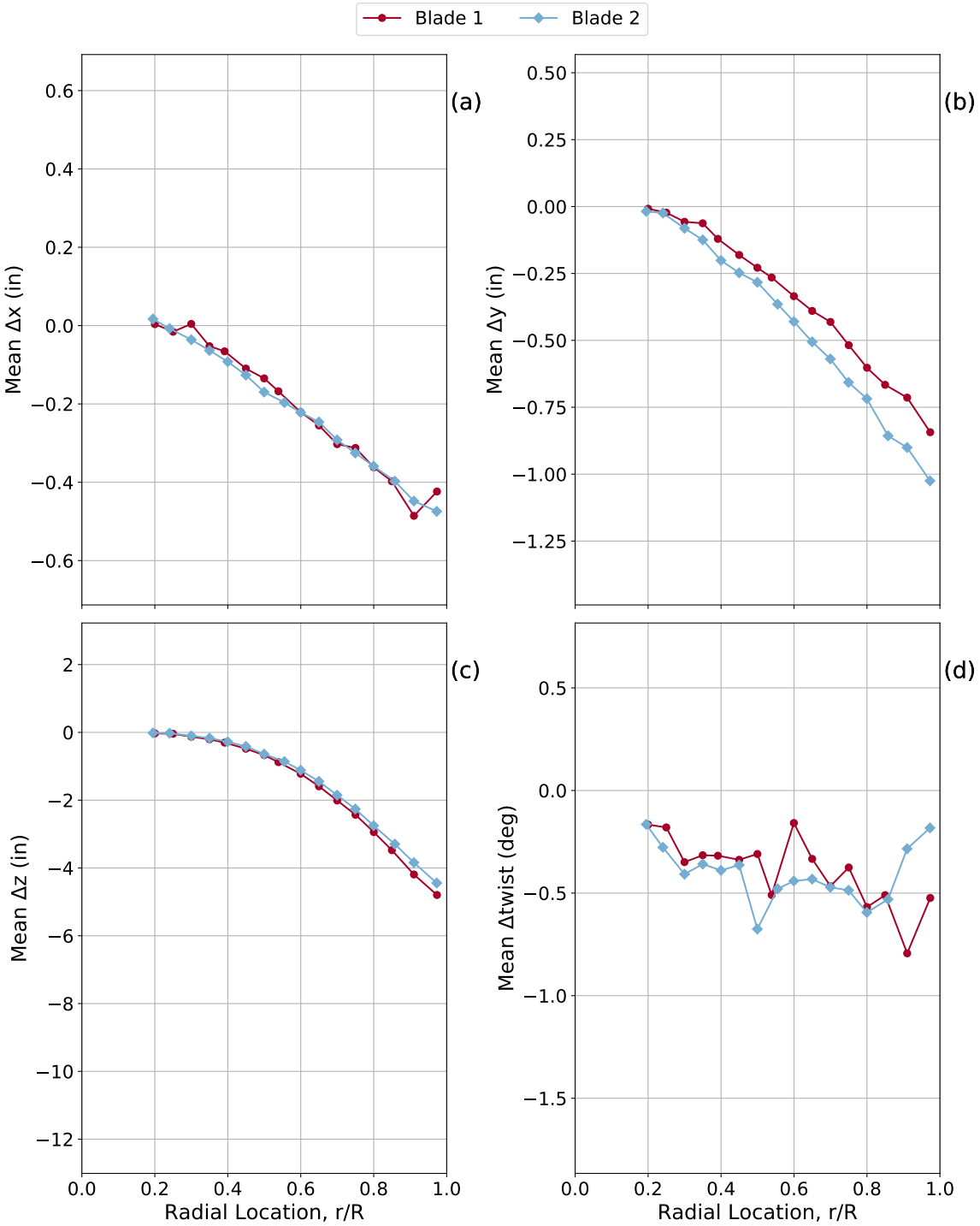


Figure 4.16-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0037	0.0049	-0.0082	0.0029	-0.0300	0.0072	-0.1665	0.0386
1	4.92	0.2499	-0.0157	0.0038	-0.0227	0.0041	-0.0412	0.0078	-0.1800	0.0969
1	4.92	0.2998	0.0043	0.0022	-0.0569	0.0089	-0.1298	0.0208	-0.3492	0.0945
1	4.92	0.3498	-0.0526	0.0021	-0.0626	0.0152	-0.2045	0.0335	-0.3155	0.0891
1	4.92	0.3913	-0.0656	0.0025	-0.1207	0.0200	-0.3025	0.0441	-0.3178	0.0878
1	4.92	0.4496	-0.1097	0.0024	-0.1809	0.0281	-0.4825	0.0610	-0.3377	0.0828
1	4.92	0.4997	-0.1348	0.0027	-0.2287	0.0348	-0.6715	0.0730	-0.3096	0.0916
1	4.92	0.5387	-0.1677	0.0024	-0.2651	0.0394	-0.8781	0.0823	-0.5094	0.0895
1	4.92	0.5996	-0.2207	0.0019	-0.3349	0.0465	-1.2212	0.0967	-0.1585	0.0912
1	4.92	0.6498	-0.2549	0.0025	-0.3899	0.0519	-1.5907	0.1088	-0.3335	0.0897
1	4.92	0.6998	-0.3026	0.0024	-0.4311	0.0584	-2.0087	0.1206	-0.4661	0.0985
1	4.92	0.7500	-0.3124	0.0026	-0.5180	0.0661	-2.4303	0.1344	-0.3752	0.0978
1	4.92	0.8001	-0.3618	0.0023	-0.6024	0.0724	-2.9407	0.1448	-0.5681	0.0970
1	4.92	0.8497	-0.3975	0.0025	-0.6661	0.0795	-3.4753	0.1590	-0.5101	0.0858
1	4.92	0.9102	-0.4857	0.0025	-0.7140	0.0887	-4.1919	0.1765	-0.7937	0.0572
1	4.92	0.9734	-0.4236	0.0042	-0.8433	0.0945	-4.7967	0.1912	-0.5238	0.0784
2	4.92	0.1949	0.0168	0.0026	-0.0180	0.0013	-0.0177	0.0048	-0.1651	0.0402
2	4.92	0.2405	-0.0074	0.0013	-0.0241	0.0022	-0.0246	0.0035	-0.2770	0.0850
2	4.92	0.2999	-0.0361	0.0012	-0.0812	0.0052	-0.1033	0.0136	-0.4080	0.1038
2	4.92	0.3498	-0.0635	0.0015	-0.1245	0.0089	-0.1692	0.0215	-0.3586	0.1000
2	4.92	0.3998	-0.0921	0.0012	-0.2014	0.0136	-0.2779	0.0308	-0.3895	0.0984
2	4.92	0.4496	-0.1264	0.0015	-0.2476	0.0176	-0.4155	0.0389	-0.3633	0.0987
2	4.92	0.4995	-0.1697	0.0014	-0.2830	0.0215	-0.6400	0.0461	-0.6754	0.1123
2	4.92	0.5551	-0.1965	0.0017	-0.3648	0.0261	-0.8603	0.0553	-0.4793	0.1067
2	4.92	0.5996	-0.2217	0.0014	-0.4297	0.0301	-1.1148	0.0613	-0.4410	0.1090
2	4.92	0.6497	-0.2461	0.0020	-0.5056	0.0351	-1.4461	0.0684	-0.4322	0.0991
2	4.92	0.6996	-0.2918	0.0020	-0.5695	0.0381	-1.8509	0.0750	-0.4719	0.1122
2	4.92	0.7495	-0.3252	0.0027	-0.6571	0.0429	-2.2611	0.0857	-0.4865	0.1046
2	4.92	0.7996	-0.3589	0.0025	-0.7180	0.0481	-2.7519	0.0945	-0.5943	0.1073
2	4.92	0.8578	-0.3972	0.0022	-0.8566	0.0530	-3.2966	0.1038	-0.5306	0.1136
2	4.92	0.9100	-0.4479	0.0035	-0.9004	0.0578	-3.8411	0.1140	-0.2840	0.1317
2	4.92	0.9727	-0.4743	0.0020	-1.0249	0.0624	-4.4434	0.1288	-0.1825	0.0957

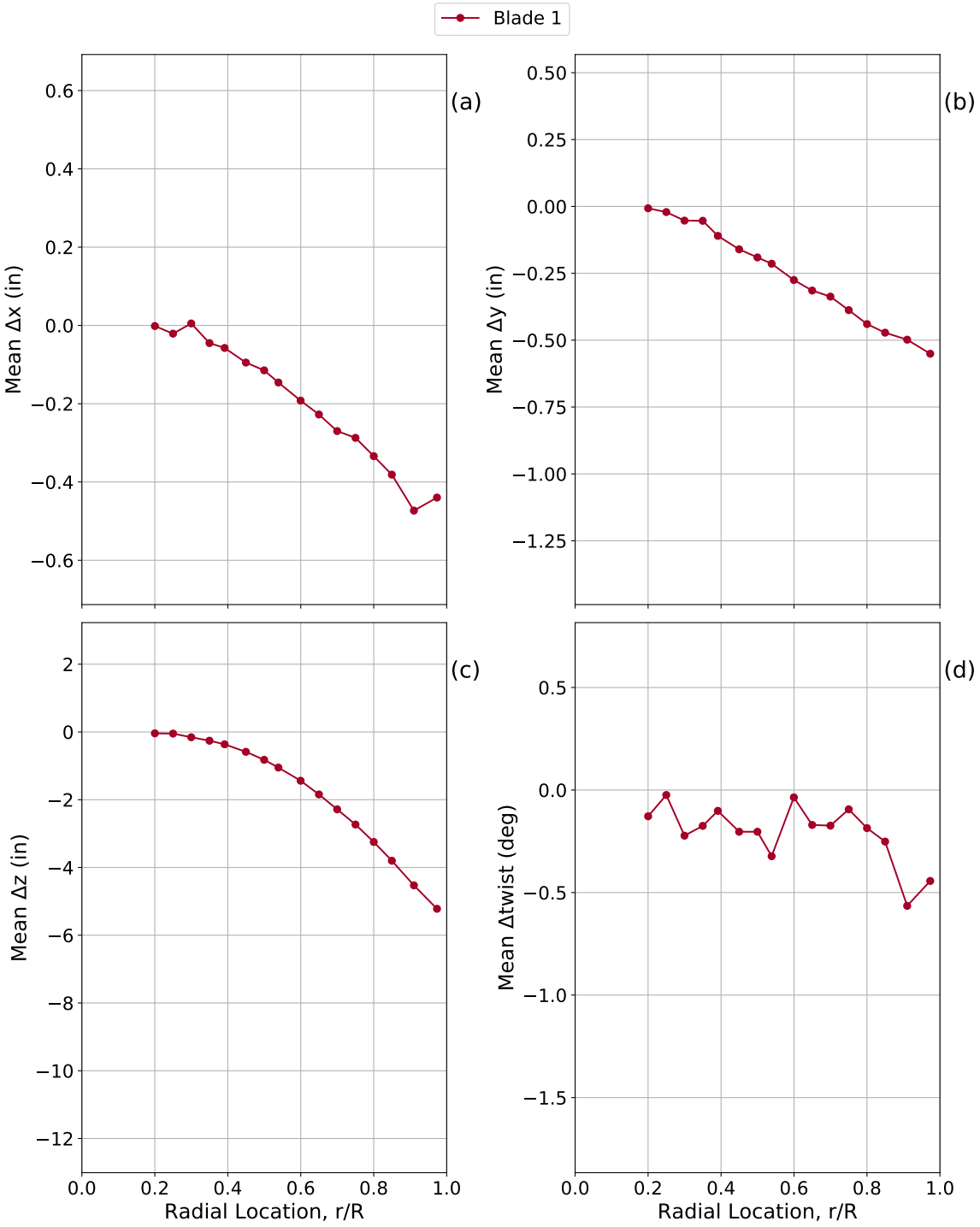


Figure 4.16-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0016	0.0051	-0.0069	0.0027	-0.0411	0.0069	-0.1280	0.0383
1	15.12	0.2499	-0.0210	0.0022	-0.0211	0.0033	-0.0486	0.0088	-0.0242	0.1092
1	15.12	0.2998	0.0050	0.0018	-0.0530	0.0083	-0.1568	0.0212	-0.2226	0.1006
1	15.12	0.3498	-0.0451	0.0022	-0.0537	0.0154	-0.2585	0.0348	-0.1749	0.1096
1	15.12	0.3913	-0.0576	0.0027	-0.1101	0.0198	-0.3648	0.0469	-0.1016	0.0953
1	15.12	0.4496	-0.0949	0.0028	-0.1604	0.0264	-0.5865	0.0616	-0.2034	0.1086
1	15.12	0.4997	-0.1148	0.0027	-0.1906	0.0312	-0.8225	0.0760	-0.2036	0.1040
1	15.12	0.5387	-0.1458	0.0034	-0.2142	0.0363	-1.0516	0.0874	-0.3228	0.1069
1	15.12	0.5996	-0.1921	0.0029	-0.2752	0.0441	-1.4399	0.1054	-0.0358	0.1063
1	15.12	0.6498	-0.2276	0.0033	-0.3145	0.0502	-1.8440	0.1202	-0.1703	0.1093
1	15.12	0.6998	-0.2699	0.0037	-0.3372	0.0559	-2.2841	0.1343	-0.1737	0.1110
1	15.12	0.7500	-0.2872	0.0038	-0.3877	0.0620	-2.7325	0.1506	-0.0941	0.0980
1	15.12	0.8001	-0.3340	0.0043	-0.4397	0.0688	-3.2477	0.1675	-0.1858	0.1033
1	15.12	0.8497	-0.3812	0.0045	-0.4720	0.0746	-3.8008	0.1847	-0.2514	0.0980
1	15.12	0.9102	-0.4731	0.0057	-0.4982	0.0822	-4.5285	0.2079	-0.5649	0.1016
1	15.12	0.9734	-0.4398	0.0049	-0.5507	0.0903	-5.2197	0.2298	-0.4434	0.1231

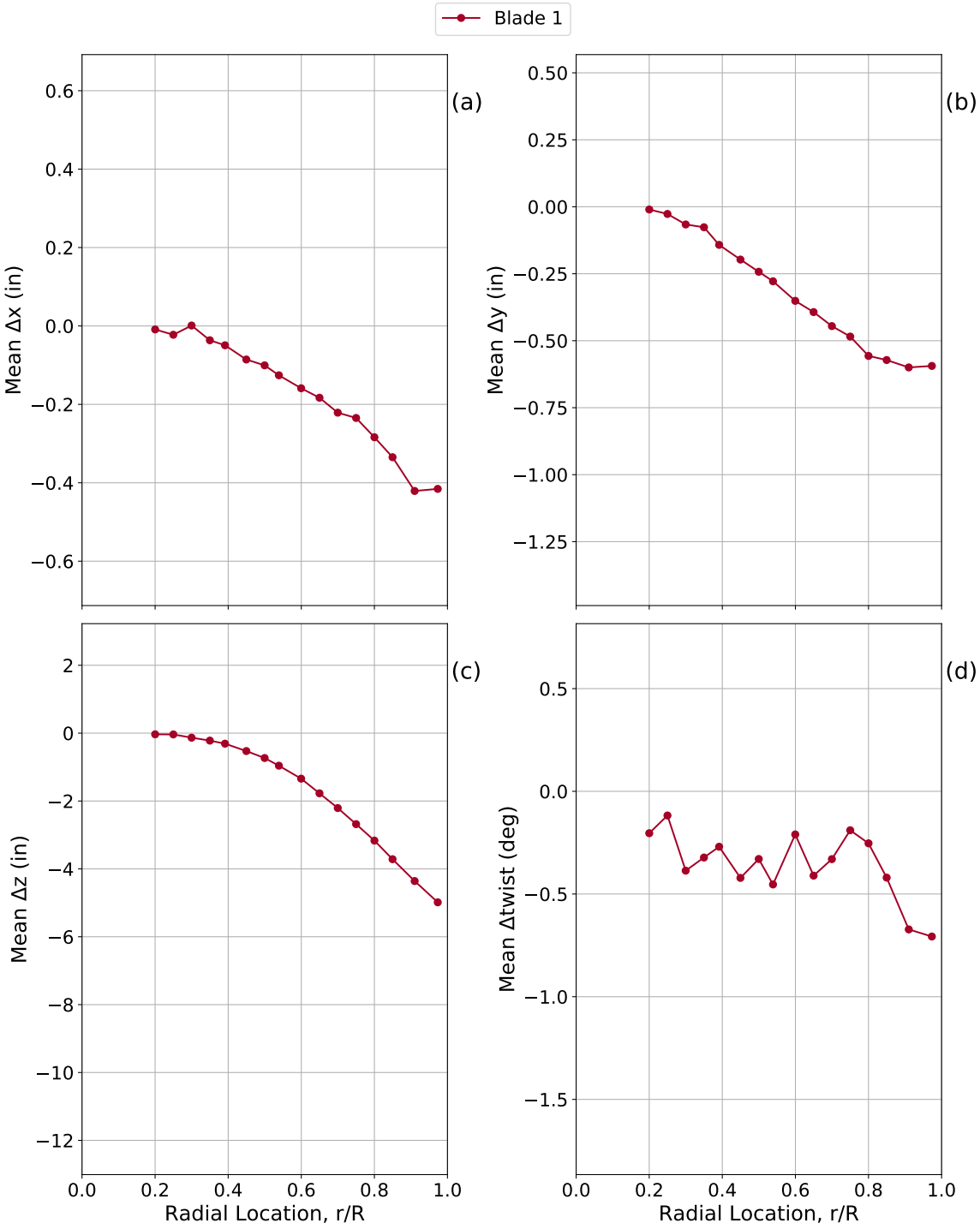


Figure 4.16-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0089	0.0028	-0.0102	0.0011	-0.0345	0.0043	-0.2040	0.0480
1	29.88	0.2499	-0.0225	0.0027	-0.0268	0.0019	-0.0378	0.0072	-0.1177	0.0936
1	29.88	0.2998	0.0011	0.0017	-0.0660	0.0037	-0.1333	0.0138	-0.3863	0.1122
1	29.88	0.3498	-0.0365	0.0016	-0.0765	0.0068	-0.2201	0.0251	-0.3224	0.1015
1	29.88	0.3913	-0.0493	0.0022	-0.1422	0.0092	-0.3102	0.0335	-0.2698	0.1027
1	29.88	0.4496	-0.0856	0.0023	-0.1971	0.0129	-0.5276	0.0457	-0.4216	0.1063
1	29.88	0.4997	-0.1005	0.0023	-0.2426	0.0163	-0.7330	0.0567	-0.3295	0.0993
1	29.88	0.5387	-0.1258	0.0029	-0.2781	0.0188	-0.9592	0.0637	-0.4535	0.1070
1	29.88	0.5996	-0.1589	0.0026	-0.3512	0.0229	-1.3410	0.0743	-0.2100	0.1071
1	29.88	0.6498	-0.1831	0.0029	-0.3931	0.0249	-1.7734	0.0831	-0.4106	0.1023
1	29.88	0.6998	-0.2212	0.0037	-0.4454	0.0286	-2.2069	0.0905	-0.3302	0.1062
1	29.88	0.7500	-0.2347	0.0041	-0.4845	0.0317	-2.6819	0.0996	-0.1896	0.0996
1	29.88	0.8001	-0.2839	0.0044	-0.5567	0.0355	-3.1665	0.1107	-0.2533	0.1066
1	29.88	0.8497	-0.3348	0.0046	-0.5721	0.0387	-3.7147	0.1239	-0.4203	0.0992
1	29.88	0.9102	-0.4209	0.0044	-0.5997	0.0436	-4.3581	0.1381	-0.6724	0.1104
1	29.88	0.9734	-0.4156	0.0038	-0.5941	0.0497	-4.9852	0.1544	-0.7070	0.0969

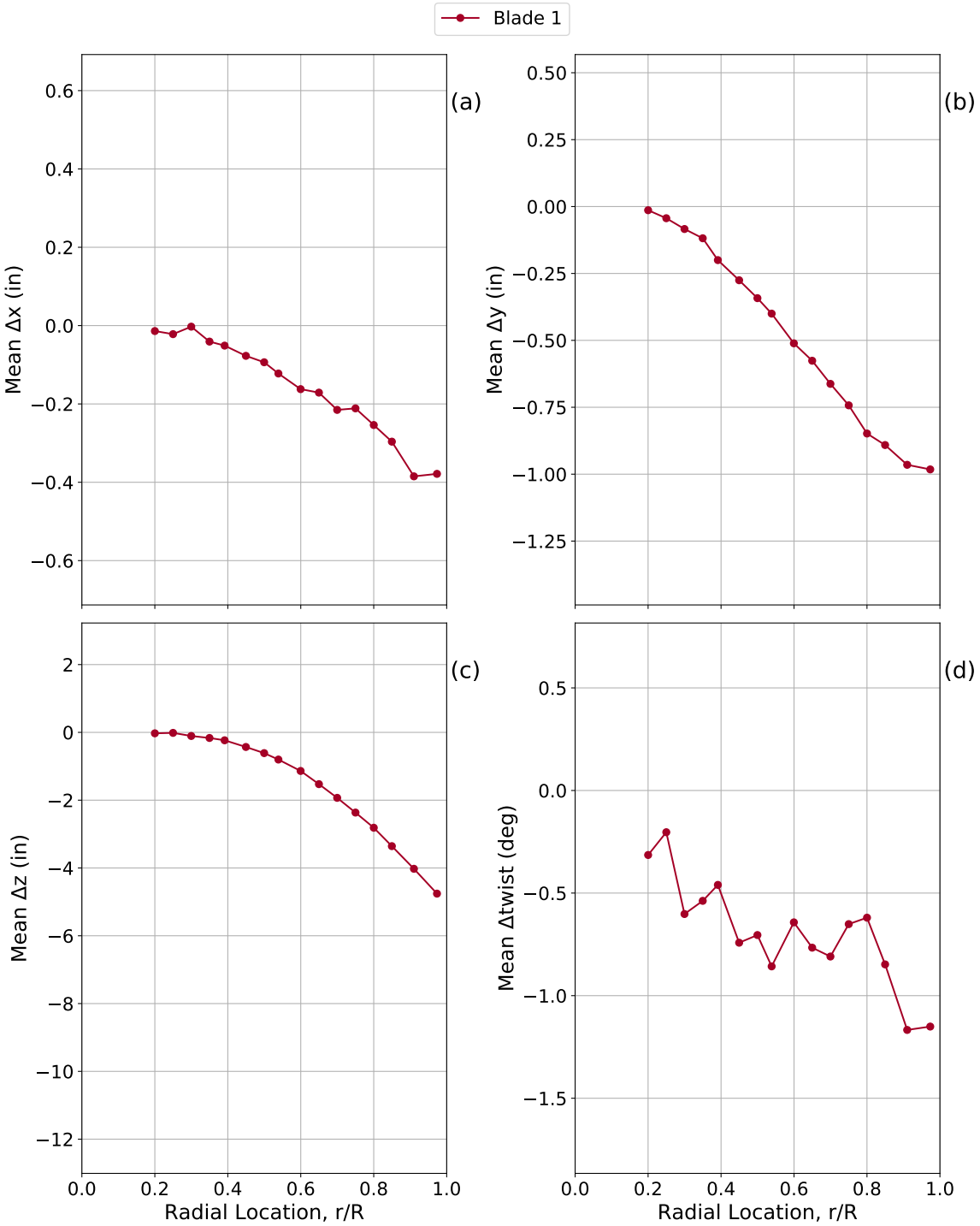


Figure 4.16-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0139	0.0026	-0.0137	0.0009	-0.0278	0.0029	-0.3144	0.0242
1	45	0.2499	-0.0218	0.0025	-0.0436	0.0016	-0.0147	0.0062	-0.2034	0.0586
1	45	0.2998	-0.0027	0.0030	-0.0839	0.0033	-0.1063	0.0099	-0.6021	0.0608
1	45	0.3498	-0.0408	0.0027	-0.1185	0.0056	-0.1650	0.0181	-0.5379	0.0649
1	45	0.3913	-0.0511	0.0031	-0.2001	0.0080	-0.2336	0.0250	-0.4602	0.0687
1	45	0.4496	-0.0772	0.0021	-0.2754	0.0110	-0.4307	0.0336	-0.7420	0.0652
1	45	0.4997	-0.0936	0.0015	-0.3423	0.0137	-0.6118	0.0411	-0.7046	0.0665
1	45	0.5387	-0.1223	0.0027	-0.4001	0.0156	-0.8019	0.0480	-0.8573	0.0656
1	45	0.5996	-0.1622	0.0029	-0.5111	0.0197	-1.1380	0.0564	-0.6427	0.0619
1	45	0.6498	-0.1711	0.0030	-0.5761	0.0222	-1.5270	0.0636	-0.7661	0.0616
1	45	0.6998	-0.2152	0.0029	-0.6625	0.0259	-1.9312	0.0674	-0.8093	0.0701
1	45	0.7500	-0.2113	0.0033	-0.7428	0.0289	-2.3658	0.0716	-0.6513	0.0739
1	45	0.8001	-0.2538	0.0039	-0.8481	0.0328	-2.8128	0.0774	-0.6199	0.0696
1	45	0.8497	-0.2963	0.0031	-0.8911	0.0365	-3.3558	0.0837	-0.8476	0.0644
1	45	0.9102	-0.3849	0.0037	-0.9650	0.0405	-4.0243	0.0932	-1.1671	0.0622
1	45	0.9734	-0.3785	0.0033	-0.9822	0.0457	-4.7568	0.1062	-1.1507	0.0580

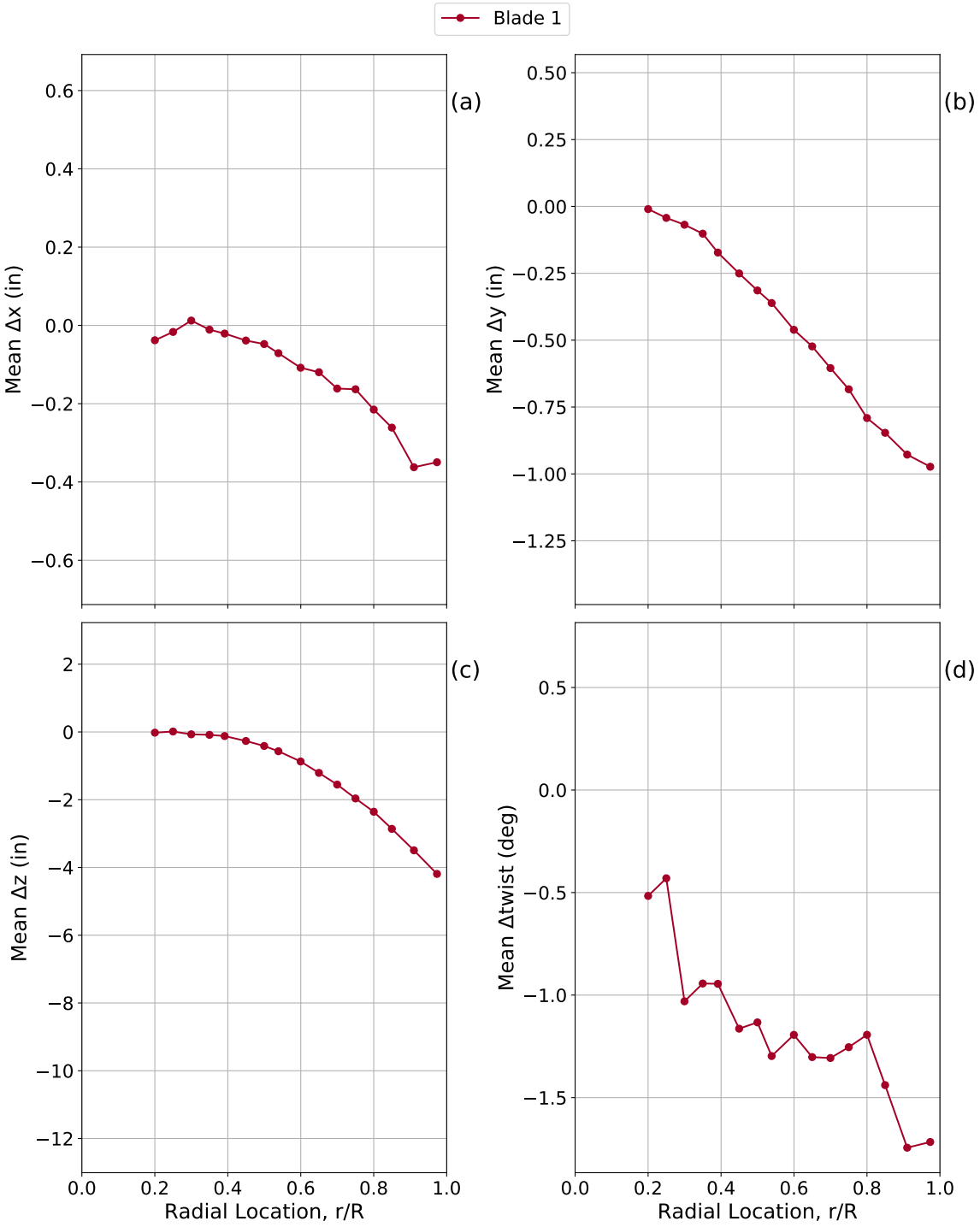


Figure 4.16-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0379	0.0047	-0.0099	0.0026	-0.0207	0.0071	-0.5164	0.0362
1	60.12	0.2499	-0.0167	0.0016	-0.0428	0.0032	0.0131	0.0069	-0.4304	0.1075
1	60.12	0.2998	0.0124	0.0015	-0.0684	0.0090	-0.0694	0.0213	-1.0305	0.0975
1	60.12	0.3498	-0.0108	0.0014	-0.1018	0.0156	-0.0850	0.0331	-0.9436	0.0970
1	60.12	0.3913	-0.0208	0.0017	-0.1724	0.0211	-0.1213	0.0450	-0.9451	0.1053
1	60.12	0.4496	-0.0386	0.0023	-0.2505	0.0286	-0.2665	0.0616	-1.1638	0.0924
1	60.12	0.4997	-0.0476	0.0013	-0.3142	0.0347	-0.4141	0.0755	-1.1332	0.0909
1	60.12	0.5387	-0.0709	0.0018	-0.3611	0.0395	-0.5694	0.0866	-1.2974	0.0956
1	60.12	0.5996	-0.1081	0.0020	-0.4612	0.0476	-0.8716	0.1048	-1.1940	0.0921
1	60.12	0.6498	-0.1196	0.0018	-0.5233	0.0539	-1.2082	0.1190	-1.3024	0.0973
1	60.12	0.6998	-0.1613	0.0019	-0.6043	0.0603	-1.5530	0.1330	-1.3070	0.1027
1	60.12	0.7500	-0.1631	0.0018	-0.6835	0.0671	-1.9628	0.1477	-1.2541	0.1027
1	60.12	0.8001	-0.2150	0.0017	-0.7912	0.0739	-2.3557	0.1627	-1.1937	0.0999
1	60.12	0.8497	-0.2611	0.0022	-0.8463	0.0802	-2.8605	0.1782	-1.4391	0.0981
1	60.12	0.9102	-0.3623	0.0028	-0.9279	0.0893	-3.4938	0.1947	-1.7443	0.0905
1	60.12	0.9734	-0.3495	0.0035	-0.9732	0.0981	-4.1902	0.2127	-1.7165	0.1025

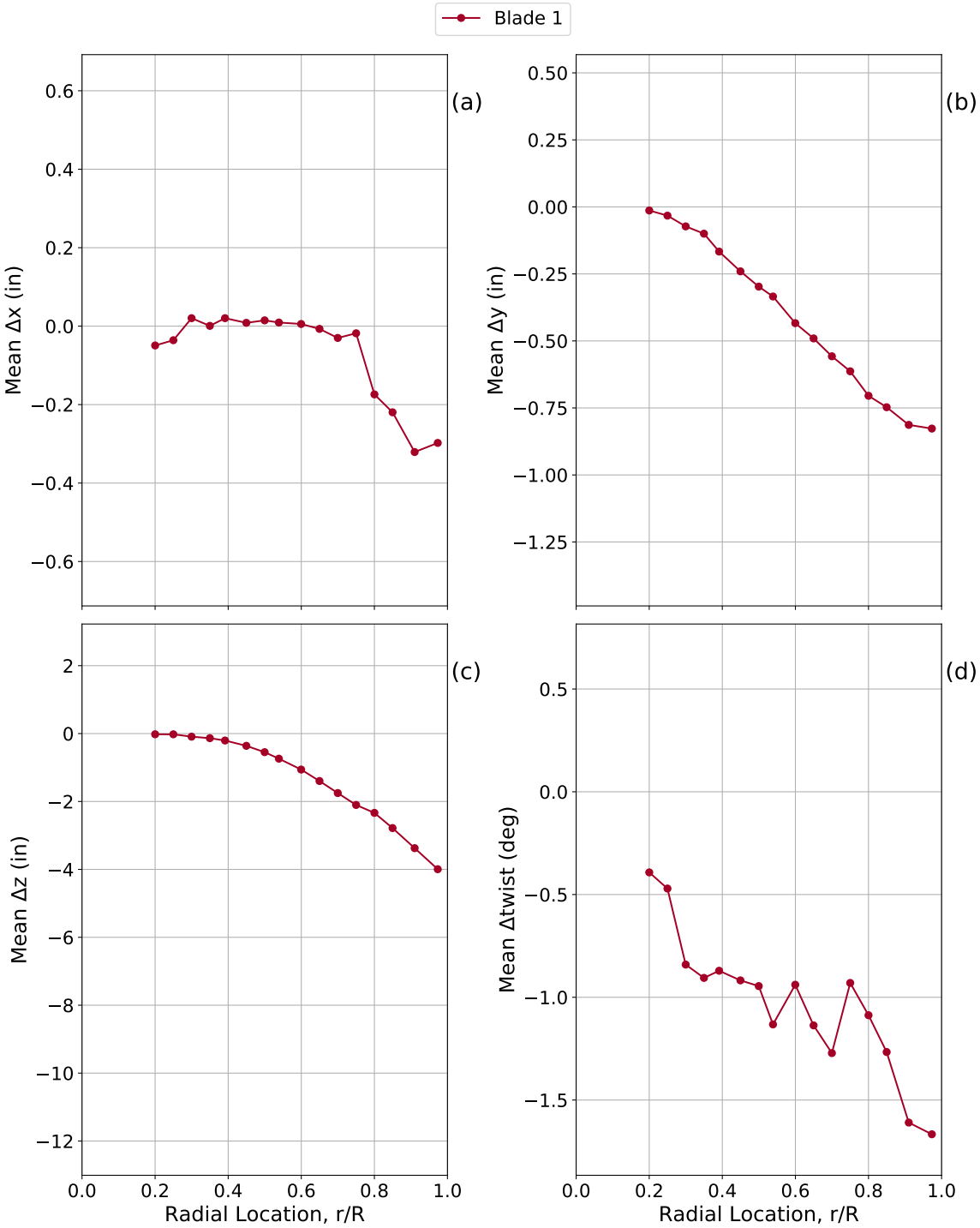


Figure 4.16-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0493	0.0031	-0.0134	0.0012	-0.0208	0.0035	-0.3923	0.0374
1	74.88	0.2499	-0.0359	0.0007	-0.0326	0.0026	-0.0216	0.0052	-0.4709	0.0774
1	74.88	0.2998	0.0203	0.0016	-0.0727	0.0045	-0.0914	0.0098	-0.8409	0.0902
1	74.88	0.3498	0.0007	0.0025	-0.0999	0.0076	-0.1358	0.0172	-0.9057	0.0911
1	74.88	0.3913	0.0203	0.0030	-0.1667	0.0109	-0.2044	0.0225	-0.8710	0.0841
1	74.88	0.4496	0.0084	0.0041	-0.2405	0.0149	-0.3608	0.0300	-0.9178	0.0893
1	74.88	0.4997	0.0147	0.0054	-0.2974	0.0185	-0.5475	0.0372	-0.9456	0.0888
1	74.88	0.5387	0.0092	0.0058	-0.3343	0.0221	-0.7392	0.0428	-1.1321	0.0892
1	74.88	0.5996	0.0055	0.0068	-0.4337	0.0272	-1.0598	0.0511	-0.9390	0.0904
1	74.88	0.6498	-0.0070	0.0063	-0.4907	0.0316	-1.3973	0.0556	-1.1368	0.1165
1	74.88	0.6998	-0.0301	0.0068	-0.5573	0.0372	-1.7519	0.0621	-1.2716	0.1166
1	74.88	0.7500	-0.0182	0.0126	-0.6133	0.0411	-2.1026	0.0673	-0.9302	0.1534
1	74.88	0.8001	-0.1740	0.0072	-0.7047	0.0541	-2.3353	0.0643	-1.0873	0.0875
1	74.88	0.8497	-0.2196	0.0065	-0.7473	0.0592	-2.7831	0.0704	-1.2664	0.0968
1	74.88	0.9102	-0.3209	0.0057	-0.8132	0.0645	-3.3744	0.0770	-1.6097	0.0912
1	74.88	0.9734	-0.2977	0.0065	-0.8270	0.0711	-3.9950	0.0811	-1.6666	0.0998

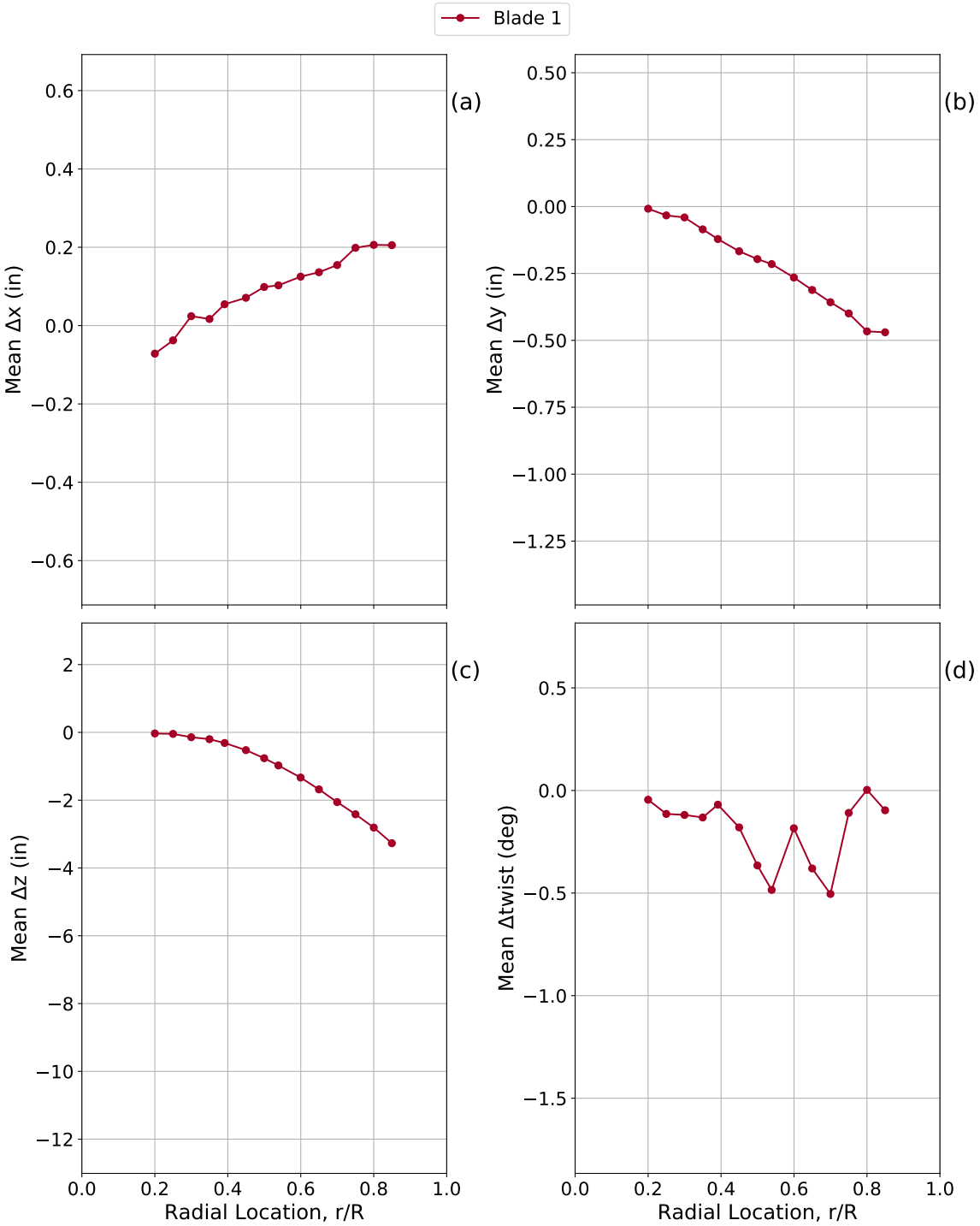


Figure 4.16-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0716	0.0012	-0.0080	0.0007	-0.0324	0.0024	-0.0451	0.0201
1	80.16	0.2499	-0.0377	0.0010	-0.0331	0.0012	-0.0445	0.0030	-0.1142	0.0403
1	80.16	0.2998	0.0241	0.0009	-0.0407	0.0027	-0.1430	0.0081	-0.1192	0.0463
1	80.16	0.3498	0.0169	0.0009	-0.0852	0.0041	-0.2010	0.0134	-0.1316	0.0362
1	80.16	0.3913	0.0545	0.0015	-0.1215	0.0060	-0.3133	0.0183	-0.0692	0.0480
1	80.16	0.4496	0.0710	0.0021	-0.1670	0.0075	-0.5234	0.0225	-0.1800	0.0400
1	80.16	0.4997	0.0986	0.0023	-0.1964	0.0094	-0.7622	0.0270	-0.3654	0.0453
1	80.16	0.5387	0.1028	0.0017	-0.2149	0.0111	-0.9753	0.0319	-0.4845	0.0361
1	80.16	0.5996	0.1250	0.0014	-0.2652	0.0129	-1.3331	0.0373	-0.1841	0.0485
1	80.16	0.6498	0.1362	0.0039	-0.3117	0.0142	-1.6816	0.0376	-0.3800	0.0682
1	80.16	0.6998	0.1546	0.0040	-0.3575	0.0163	-2.0566	0.0461	-0.5044	0.0964
1	80.16	0.7500	0.1987	0.0050	-0.3993	0.0202	-2.4161	0.0573	-0.1092	0.0982
1	80.16	0.8001	0.2061	0.0141	-0.4663	0.0230	-2.8085	0.0554	0.0029	0.1739
1	80.16	0.8497	0.2054	0.0079	-0.4698	0.0213	-3.2694	0.0514	-0.0965	0.1802

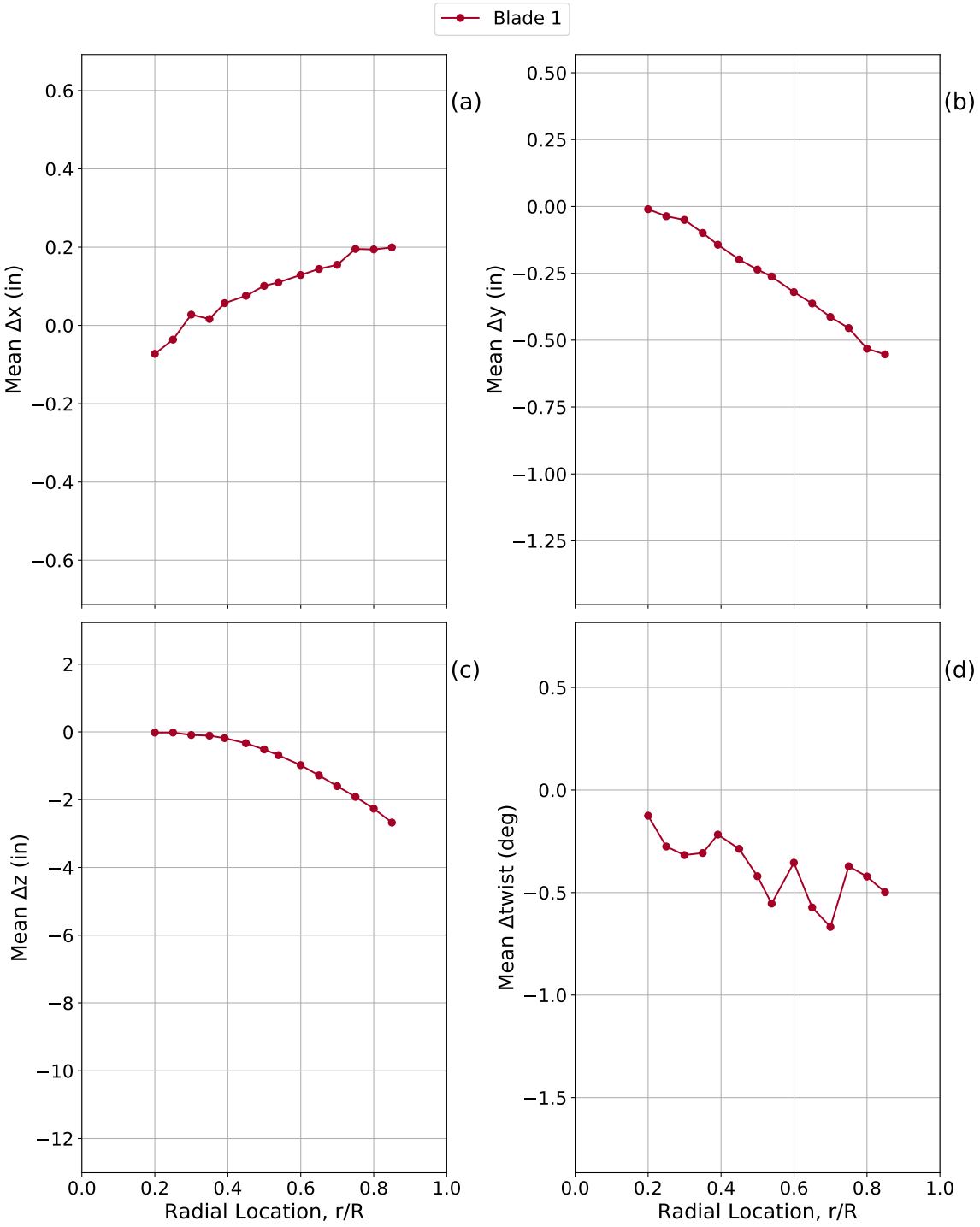


Figure 4.16-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0725	0.0015	-0.0103	0.0005	-0.0193	0.0022	-0.1253	0.0116
1	85.08	0.2499	-0.0363	0.0011	-0.0365	0.0010	-0.0184	0.0037	-0.2754	0.0394
1	85.08	0.2998	0.0276	0.0007	-0.0505	0.0017	-0.0910	0.0080	-0.3173	0.0320
1	85.08	0.3498	0.0164	0.0011	-0.0991	0.0032	-0.1100	0.0132	-0.3071	0.0350
1	85.08	0.3913	0.0570	0.0017	-0.1431	0.0043	-0.1839	0.0187	-0.2173	0.0427
1	85.08	0.4496	0.0757	0.0011	-0.1983	0.0056	-0.3335	0.0247	-0.2870	0.0395
1	85.08	0.4997	0.1009	0.0019	-0.2361	0.0071	-0.5169	0.0321	-0.4206	0.0265
1	85.08	0.5387	0.1100	0.0019	-0.2621	0.0080	-0.6868	0.0362	-0.5537	0.0409
1	85.08	0.5996	0.1287	0.0023	-0.3203	0.0092	-0.9801	0.0429	-0.3545	0.0487
1	85.08	0.6498	0.1442	0.0028	-0.3627	0.0105	-1.2816	0.0490	-0.5727	0.0493
1	85.08	0.6998	0.1548	0.0022	-0.4133	0.0123	-1.5993	0.0543	-0.6677	0.0755
1	85.08	0.7500	0.1954	0.0033	-0.4548	0.0141	-1.9175	0.0608	-0.3722	0.1069
1	85.08	0.8001	0.1942	0.0063	-0.5319	0.0176	-2.2642	0.0633	-0.4218	0.0872
1	85.08	0.8497	0.1993	0.0052	-0.5530	0.0170	-2.6736	0.0667	-0.4983	0.0973

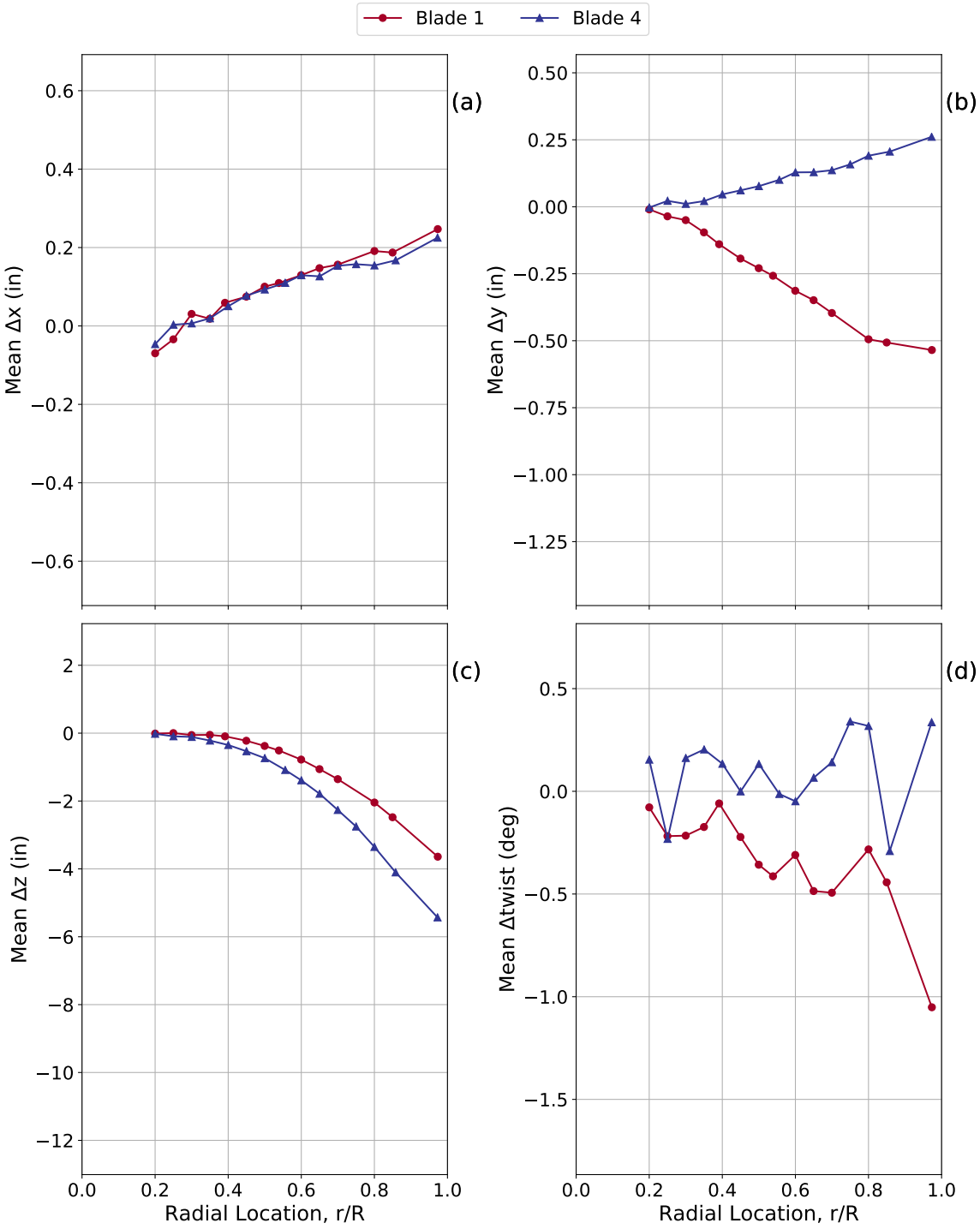


Figure 4.16-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0697	0.0008	-0.0098	0.0007	-0.0124	0.0027	-0.0781	0.0190
1	90	0.2499	-0.0341	0.0012	-0.0357	0.0012	0.0014	0.0023	-0.2182	0.0410
1	90	0.2998	0.0307	0.0006	-0.0499	0.0025	-0.0560	0.0074	-0.2159	0.0439
1	90	0.3498	0.0184	0.0009	-0.0956	0.0041	-0.0510	0.0129	-0.1738	0.0368
1	90	0.3913	0.0591	0.0010	-0.1398	0.0059	-0.0942	0.0160	-0.0590	0.0450
1	90	0.4496	0.0747	0.0017	-0.1933	0.0087	-0.2236	0.0245	-0.2224	0.0387
1	90	0.4997	0.1002	0.0013	-0.2293	0.0108	-0.3773	0.0287	-0.3574	0.0451
1	90	0.5387	0.1095	0.0018	-0.2575	0.0128	-0.5113	0.0333	-0.4137	0.0439
1	90	0.5996	0.1295	0.0023	-0.3135	0.0159	-0.7788	0.0395	-0.3100	0.0464
1	90	0.6498	0.1474	0.0031	-0.3487	0.0184	-1.0605	0.0479	-0.4856	0.0538
1	90	0.6998	0.1563	0.0027	-0.3966	0.0208	-1.3557	0.0521	-0.4937	0.0454
1	90	0.8001	0.1911	0.0040	-0.4946	0.0276	-2.0444	0.0725	-0.2829	0.0356
1	90	0.8497	0.1872	0.0038	-0.5067	0.0294	-2.4781	0.0791	-0.4432	0.0838
1	90	0.9734	0.2470	0.0064	-0.5347	0.0400	-3.6412	0.0986	-1.0515	0.2029
4	90.35	0.2001	-0.0464	0.0011	-0.0029	0.0005	-0.0191	0.0015	0.1541	0.0110
4	90.35	0.2502	0.0031	0.0006	0.0220	0.0012	-0.0930	0.0035	-0.2317	0.0238
4	90.35	0.3001	0.0065	0.0010	0.0107	0.0021	-0.1122	0.0056	0.1622	0.0250
4	90.35	0.3502	0.0195	0.0010	0.0212	0.0035	-0.2192	0.0100	0.2037	0.0222
4	90.35	0.4002	0.0504	0.0010	0.0462	0.0055	-0.3503	0.0152	0.1340	0.0272
4	90.35	0.4500	0.0772	0.0014	0.0613	0.0075	-0.5335	0.0186	-0.0006	0.0220
4	90.35	0.5001	0.0929	0.0014	0.0770	0.0089	-0.7372	0.0211	0.1331	0.0218
4	90.35	0.5560	0.1098	0.0016	0.1006	0.0119	-1.0859	0.0259	-0.0131	0.0278
4	90.35	0.6001	0.1293	0.0016	0.1284	0.0137	-1.3907	0.0299	-0.0485	0.0287
4	90.35	0.6501	0.1265	0.0014	0.1290	0.0157	-1.7861	0.0319	0.0661	0.0313
4	90.35	0.6999	0.1535	0.0020	0.1364	0.0179	-2.2645	0.0361	0.1415	0.0352
4	90.35	0.7500	0.1575	0.0021	0.1582	0.0191	-2.7528	0.0390	0.3397	0.0300
4	90.35	0.8002	0.1543	0.0040	0.1906	0.0226	-3.3541	0.0428	0.3181	0.0380
4	90.35	0.8582	0.1674	0.0032	0.2059	0.0250	-4.1033	0.0508	-0.2909	0.1032
4	90.35	0.9728	0.2251	0.0049	0.2611	0.0295	-5.4304	0.0609	0.3361	0.0804

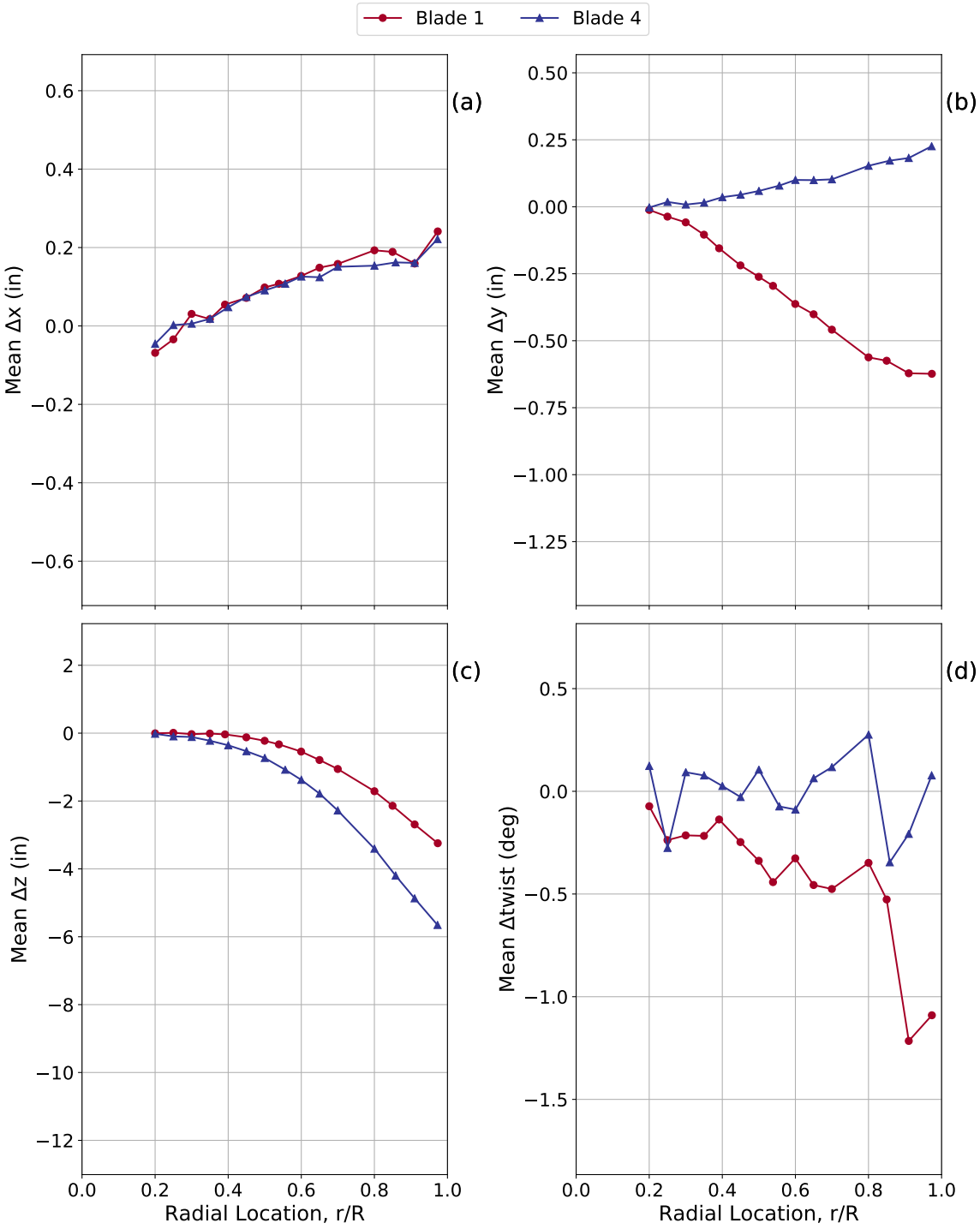


Figure 4.16-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0686	0.0010	-0.0118	0.0007	-0.0054	0.0018	-0.0727	0.0132
1	94.92	0.2499	-0.0342	0.0012	-0.0368	0.0017	0.0097	0.0038	-0.2377	0.0272
1	94.92	0.2998	0.0307	0.0005	-0.0582	0.0029	-0.0293	0.0068	-0.2144	0.0287
1	94.92	0.3498	0.0175	0.0007	-0.1042	0.0049	-0.0121	0.0105	-0.2170	0.0280
1	94.92	0.3913	0.0545	0.0007	-0.1550	0.0073	-0.0364	0.0157	-0.1373	0.0288
1	94.92	0.4496	0.0716	0.0008	-0.2188	0.0092	-0.1231	0.0201	-0.2472	0.0372
1	94.92	0.4997	0.0982	0.0013	-0.2614	0.0110	-0.2250	0.0254	-0.3381	0.0301
1	94.92	0.5387	0.1076	0.0013	-0.2952	0.0129	-0.3304	0.0296	-0.4422	0.0328
1	94.92	0.5996	0.1275	0.0017	-0.3628	0.0152	-0.5430	0.0339	-0.3262	0.0362
1	94.92	0.6498	0.1486	0.0020	-0.4012	0.0179	-0.7917	0.0379	-0.4563	0.0382
1	94.92	0.6998	0.1581	0.0024	-0.4587	0.0206	-1.0567	0.0425	-0.4756	0.0324
1	94.92	0.8001	0.1929	0.0024	-0.5621	0.0258	-1.7115	0.0524	-0.3483	0.0416
1	94.92	0.8497	0.1889	0.0025	-0.5747	0.0286	-2.1403	0.0584	-0.5266	0.0417
1	94.92	0.9102	0.1592	0.0098	-0.6215	0.0308	-2.6902	0.0659	-1.2154	0.1693
1	94.92	0.9734	0.2411	0.0045	-0.6235	0.0352	-3.2440	0.0859	-1.0904	0.0919
4	94.92	0.2001	-0.0456	0.0008	-0.0028	0.0003	-0.0190	0.0014	0.1233	0.0130
4	94.92	0.2502	0.0022	0.0010	0.0180	0.0006	-0.0960	0.0025	-0.2759	0.0195
4	94.92	0.3001	0.0057	0.0007	0.0081	0.0012	-0.1136	0.0054	0.0929	0.0282
4	94.92	0.3502	0.0182	0.0009	0.0155	0.0020	-0.2243	0.0083	0.0771	0.0228
4	94.92	0.4002	0.0478	0.0013	0.0358	0.0031	-0.3583	0.0134	0.0258	0.0258
4	94.92	0.4500	0.0739	0.0011	0.0449	0.0043	-0.5333	0.0185	-0.0280	0.0220
4	94.92	0.5001	0.0906	0.0011	0.0590	0.0053	-0.7323	0.0230	0.1054	0.0234
4	94.92	0.5560	0.1076	0.0008	0.0789	0.0065	-1.0782	0.0298	-0.0737	0.0301
4	94.92	0.6001	0.1259	0.0011	0.1001	0.0084	-1.3773	0.0348	-0.0888	0.0302
4	94.92	0.6501	0.1242	0.0013	0.0994	0.0104	-1.7826	0.0371	0.0637	0.0267
4	94.92	0.6999	0.1509	0.0016	0.1024	0.0122	-2.2802	0.0409	0.1177	0.0319
4	94.92	0.8002	0.1537	0.0021	0.1530	0.0166	-3.4056	0.0477	0.2758	0.0495
4	94.92	0.8582	0.1621	0.0013	0.1722	0.0190	-4.1994	0.0524	-0.3457	0.0595
4	94.92	0.9101	0.1608	0.0053	0.1820	0.0224	-4.8689	0.0558	-0.2074	0.0512
4	94.92	0.9728	0.2215	0.0048	0.2259	0.0246	-5.6538	0.0633	0.0773	0.0808

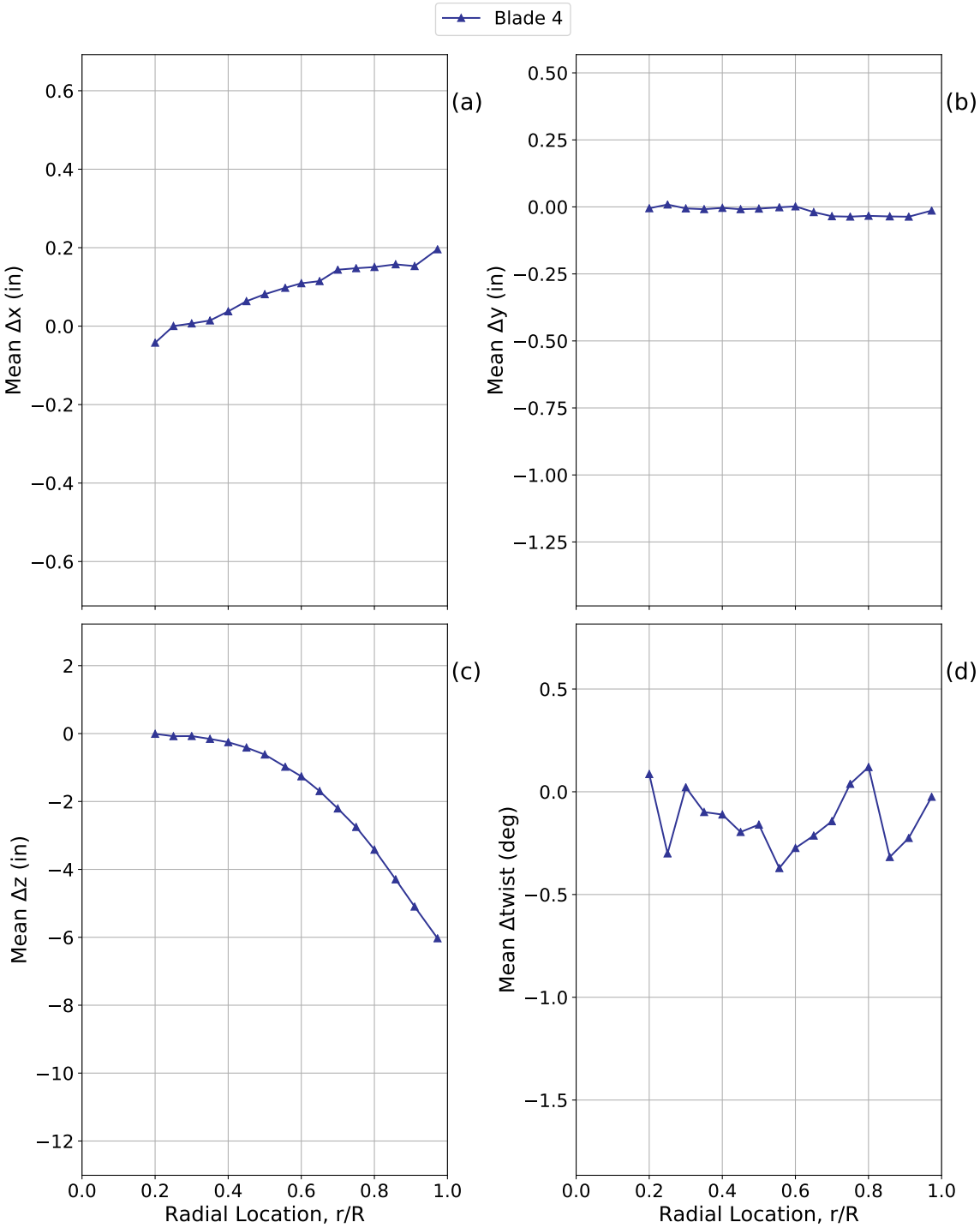


Figure 4.16-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0423	0.0022	-0.0052	0.0005	-0.0087	0.0011	0.0860	0.0089
4	105.12	0.2502	0.0002	0.0007	0.0087	0.0010	-0.0778	0.0021	-0.3003	0.0187
4	105.12	0.3001	0.0068	0.0007	-0.0058	0.0018	-0.0738	0.0035	0.0219	0.0211
4	105.12	0.3502	0.0144	0.0018	-0.0085	0.0029	-0.1571	0.0066	-0.0988	0.0166
4	105.12	0.4002	0.0377	0.0016	-0.0039	0.0046	-0.2550	0.0096	-0.1109	0.0196
4	105.12	0.4500	0.0635	0.0014	-0.0086	0.0056	-0.4136	0.0114	-0.1959	0.0166
4	105.12	0.5001	0.0813	0.0022	-0.0066	0.0070	-0.6187	0.0120	-0.1599	0.0217
4	105.12	0.5560	0.0976	0.0022	-0.0016	0.0090	-0.9781	0.0144	-0.3716	0.0205
4	105.12	0.6001	0.1092	0.0030	0.0018	0.0109	-1.2608	0.0181	-0.2737	0.0183
4	105.12	0.6501	0.1147	0.0052	-0.0196	0.0129	-1.6950	0.0189	-0.2134	0.0202
4	105.12	0.6999	0.1438	0.0071	-0.0350	0.0146	-2.2077	0.0216	-0.1433	0.0174
4	105.12	0.7500	0.1476	0.0100	-0.0364	0.0167	-2.7517	0.0248	0.0383	0.0335
4	105.12	0.8002	0.1506	0.0119	-0.0334	0.0188	-3.4214	0.0314	0.1202	0.0246
4	105.12	0.8582	0.1575	0.0156	-0.0356	0.0220	-4.2951	0.0383	-0.3177	0.0227
4	105.12	0.9101	0.1530	0.0195	-0.0366	0.0249	-5.0964	0.0456	-0.2250	0.0356
4	105.12	0.9728	0.1958	0.0253	-0.0139	0.0282	-6.0305	0.0531	-0.0246	0.0426

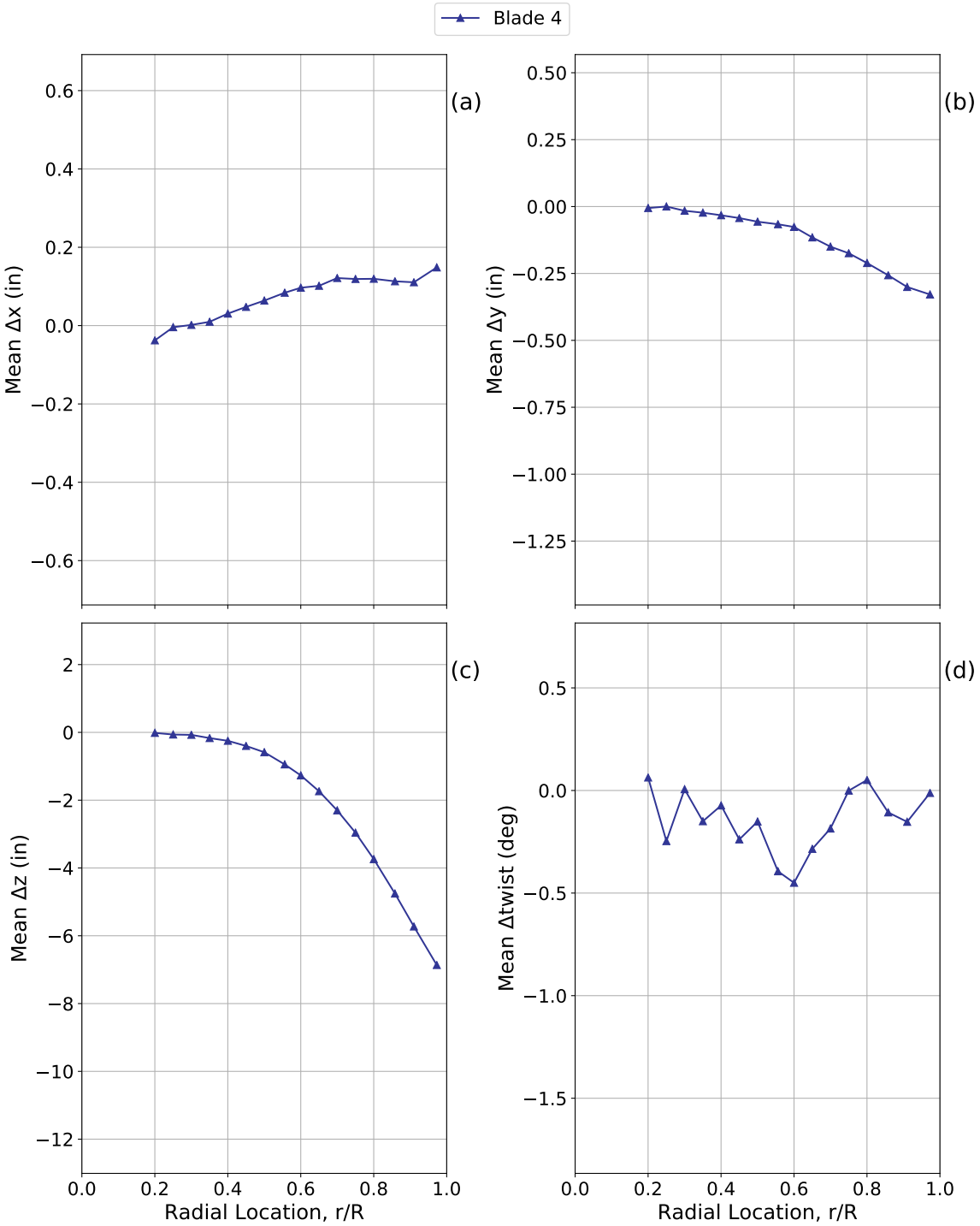


Figure 4.16-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0377	0.0005	-0.0056	0.0004	-0.0153	0.0012	0.0631	0.0113
4	119.88	0.2502	-0.0041	0.0008	0.0001	0.0022	-0.0642	0.0036	-0.2469	0.0147
4	119.88	0.3001	0.0017	0.0008	-0.0158	0.0030	-0.0732	0.0060	0.0060	0.0231
4	119.88	0.3502	0.0097	0.0009	-0.0230	0.0046	-0.1684	0.0084	-0.1500	0.0360
4	119.88	0.4002	0.0306	0.0010	-0.0326	0.0082	-0.2492	0.0147	-0.0732	0.0184
4	119.88	0.4500	0.0477	0.0012	-0.0431	0.0106	-0.4001	0.0182	-0.2386	0.0246
4	119.88	0.5001	0.0639	0.0021	-0.0566	0.0123	-0.5861	0.0225	-0.1515	0.0242
4	119.88	0.5560	0.0839	0.0015	-0.0662	0.0163	-0.9453	0.0294	-0.3939	0.0297
4	119.88	0.6001	0.0967	0.0014	-0.0763	0.0190	-1.2697	0.0359	-0.4500	0.0218
4	119.88	0.6501	0.1016	0.0015	-0.1154	0.0225	-1.7371	0.0385	-0.2848	0.0352
4	119.88	0.6999	0.1214	0.0018	-0.1499	0.0254	-2.3018	0.0460	-0.1856	0.0247
4	119.88	0.7500	0.1190	0.0022	-0.1745	0.0289	-2.9597	0.0514	-0.0008	0.0259
4	119.88	0.8002	0.1195	0.0020	-0.2111	0.0338	-3.7409	0.0582	0.0511	0.0246
4	119.88	0.8582	0.1131	0.0023	-0.2568	0.0386	-4.7553	0.0664	-0.1070	0.0351
4	119.88	0.9101	0.1106	0.0026	-0.3006	0.0434	-5.7271	0.0767	-0.1529	0.0273
4	119.88	0.9728	0.1485	0.0041	-0.3286	0.0487	-6.8633	0.0892	-0.0122	0.0284

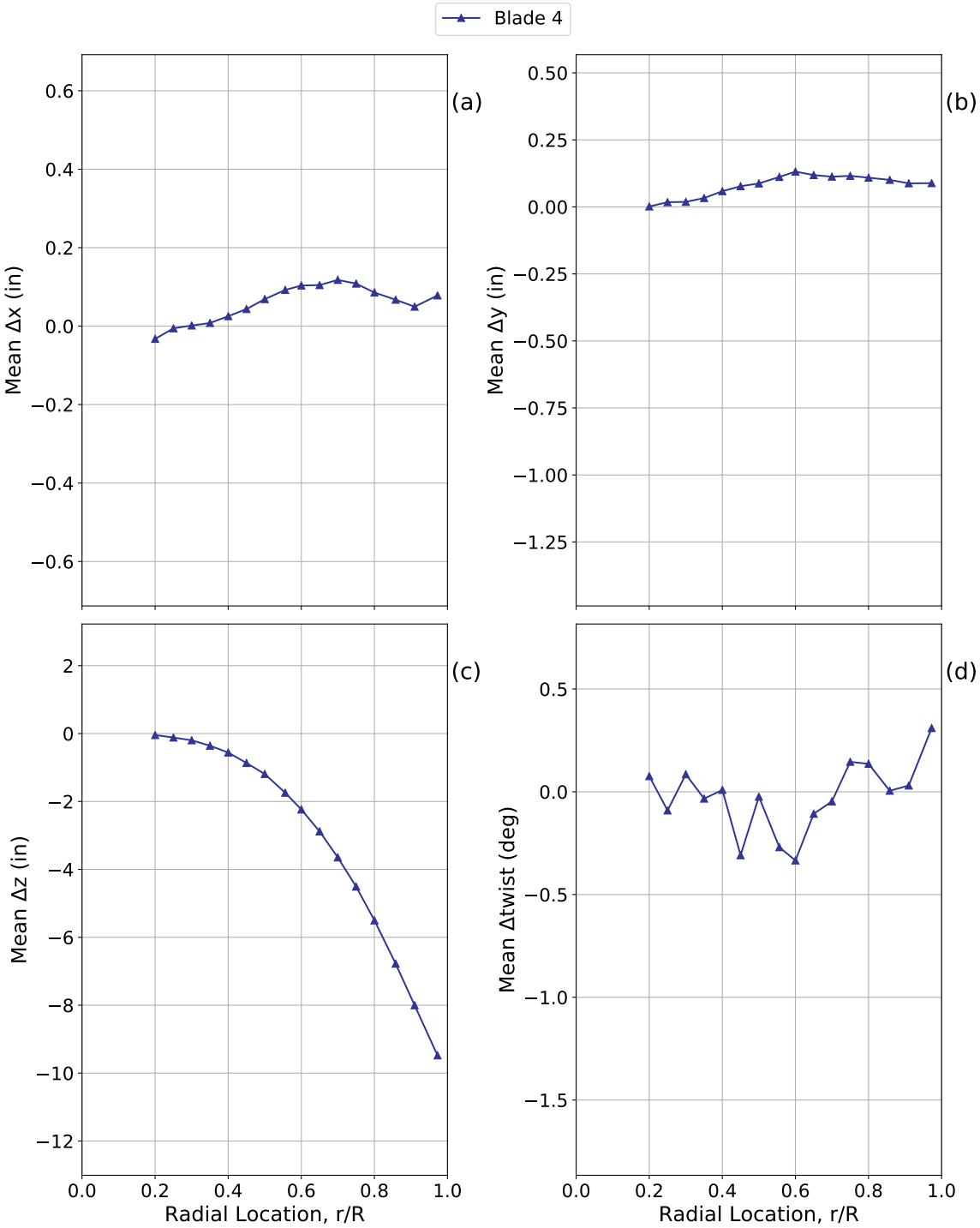


Figure 4.16-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0325	0.0005	0.0015	0.0005	-0.0443	0.0012	0.0759	0.0117
4	135	0.2502	-0.0056	0.0008	0.0175	0.0009	-0.1171	0.0036	-0.0911	0.0157
4	135	0.3001	0.0016	0.0006	0.0187	0.0018	-0.1988	0.0062	0.0850	0.0232
4	135	0.3502	0.0080	0.0008	0.0329	0.0030	-0.3583	0.0094	-0.0335	0.0204
4	135	0.4002	0.0253	0.0012	0.0585	0.0047	-0.5587	0.0158	0.0089	0.0297
4	135	0.4500	0.0436	0.0011	0.0771	0.0060	-0.8667	0.0172	-0.3089	0.0137
4	135	0.5001	0.0688	0.0017	0.0874	0.0077	-1.1914	0.0214	-0.0239	0.0176
4	135	0.5560	0.0922	0.0012	0.1117	0.0095	-1.7433	0.0251	-0.2698	0.0355
4	135	0.6001	0.1035	0.0016	0.1316	0.0105	-2.2364	0.0318	-0.3343	0.0343
4	135	0.6501	0.1046	0.0016	0.1186	0.0113	-2.8820	0.0359	-0.1071	0.0272
4	135	0.6999	0.1179	0.0021	0.1127	0.0134	-3.6477	0.0419	-0.0471	0.0215
4	135	0.7500	0.1083	0.0018	0.1157	0.0141	-4.5078	0.0483	0.1456	0.0168
4	135	0.8002	0.0857	0.0017	0.1089	0.0163	-5.5031	0.0552	0.1359	0.0245
4	135	0.8582	0.0673	0.0024	0.1007	0.0185	-6.7772	0.0633	0.0049	0.0143
4	135	0.9101	0.0495	0.0030	0.0878	0.0200	-8.0025	0.0714	0.0302	0.0194
4	135	0.9728	0.0782	0.0033	0.0885	0.0218	-9.4791	0.0831	0.3100	0.0129

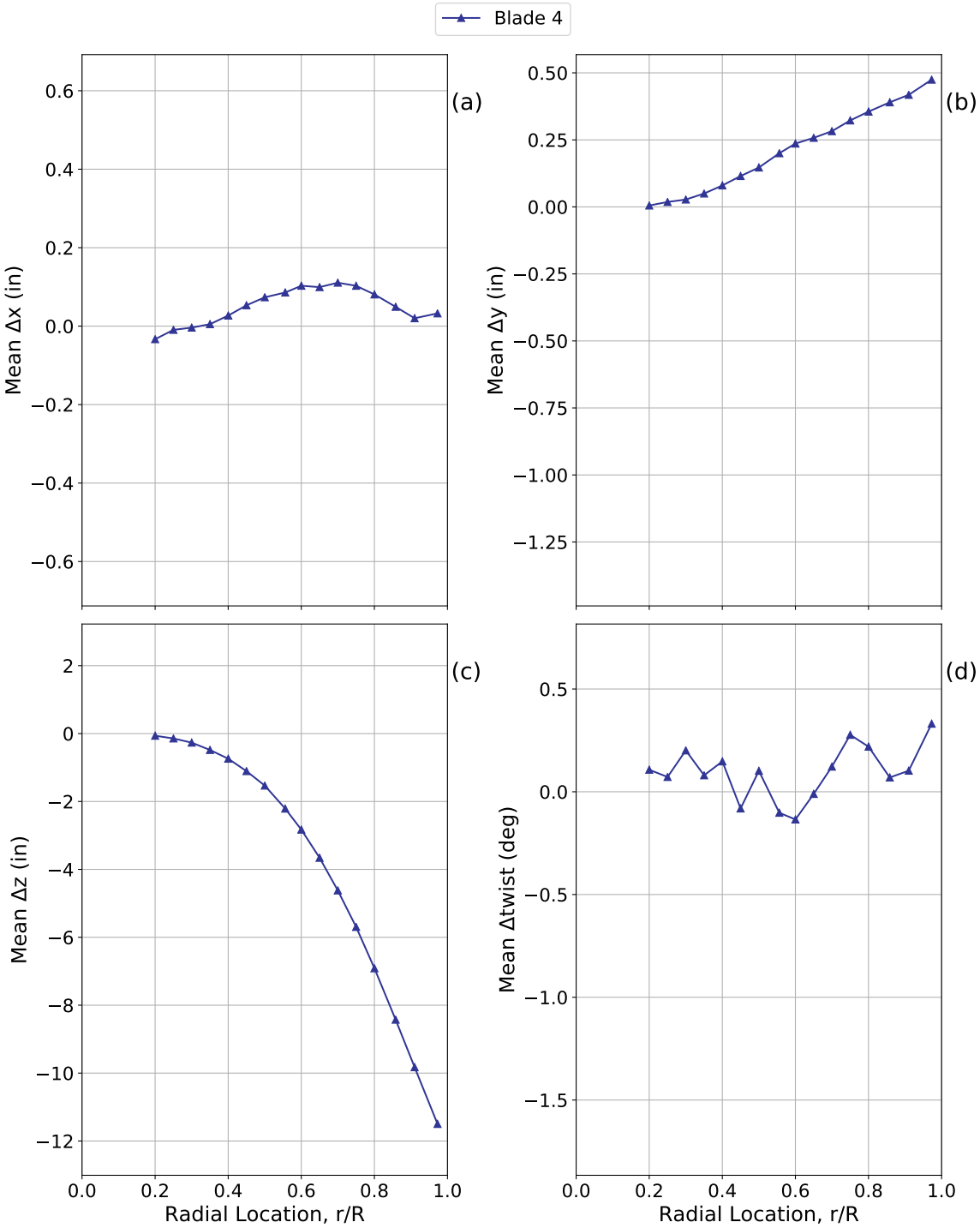


Figure 4.16-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0333	0.0014	0.0051	0.0008	-0.0640	0.0009	0.1072	0.0145
4	150.12	0.2502	-0.0095	0.0018	0.0184	0.0034	-0.1443	0.0020	0.0719	0.0198
4	150.12	0.3001	-0.0038	0.0015	0.0274	0.0048	-0.2673	0.0047	0.2013	0.0295
4	150.12	0.3502	0.0050	0.0013	0.0498	0.0085	-0.4830	0.0049	0.0801	0.0280
4	150.12	0.4002	0.0270	0.0013	0.0800	0.0139	-0.7405	0.0098	0.1478	0.0213
4	150.12	0.4500	0.0531	0.0020	0.1151	0.0151	-1.1064	0.0116	-0.0813	0.0222
4	150.12	0.5001	0.0735	0.0020	0.1469	0.0175	-1.5326	0.0138	0.1018	0.0223
4	150.12	0.5560	0.0857	0.0015	0.2001	0.0207	-2.2105	0.0172	-0.1022	0.0194
4	150.12	0.6001	0.1029	0.0025	0.2362	0.0235	-2.8299	0.0199	-0.1348	0.0280
4	150.12	0.6501	0.0994	0.0013	0.2576	0.0281	-3.6600	0.0217	-0.0106	0.0206
4	150.12	0.6999	0.1107	0.0018	0.2824	0.0302	-4.6206	0.0241	0.1223	0.0320
4	150.12	0.7500	0.1028	0.0019	0.3225	0.0338	-5.6950	0.0287	0.2771	0.0308
4	150.12	0.8002	0.0808	0.0023	0.3554	0.0370	-6.9132	0.0318	0.2193	0.0289
4	150.12	0.8582	0.0492	0.0026	0.3901	0.0421	-8.4276	0.0370	0.0695	0.0181
4	150.12	0.9101	0.0201	0.0030	0.4180	0.0463	-9.8266	0.0430	0.1024	0.0179
4	150.12	0.9728	0.0325	0.0036	0.4745	0.0515	-11.4972	0.0481	0.3311	0.0177

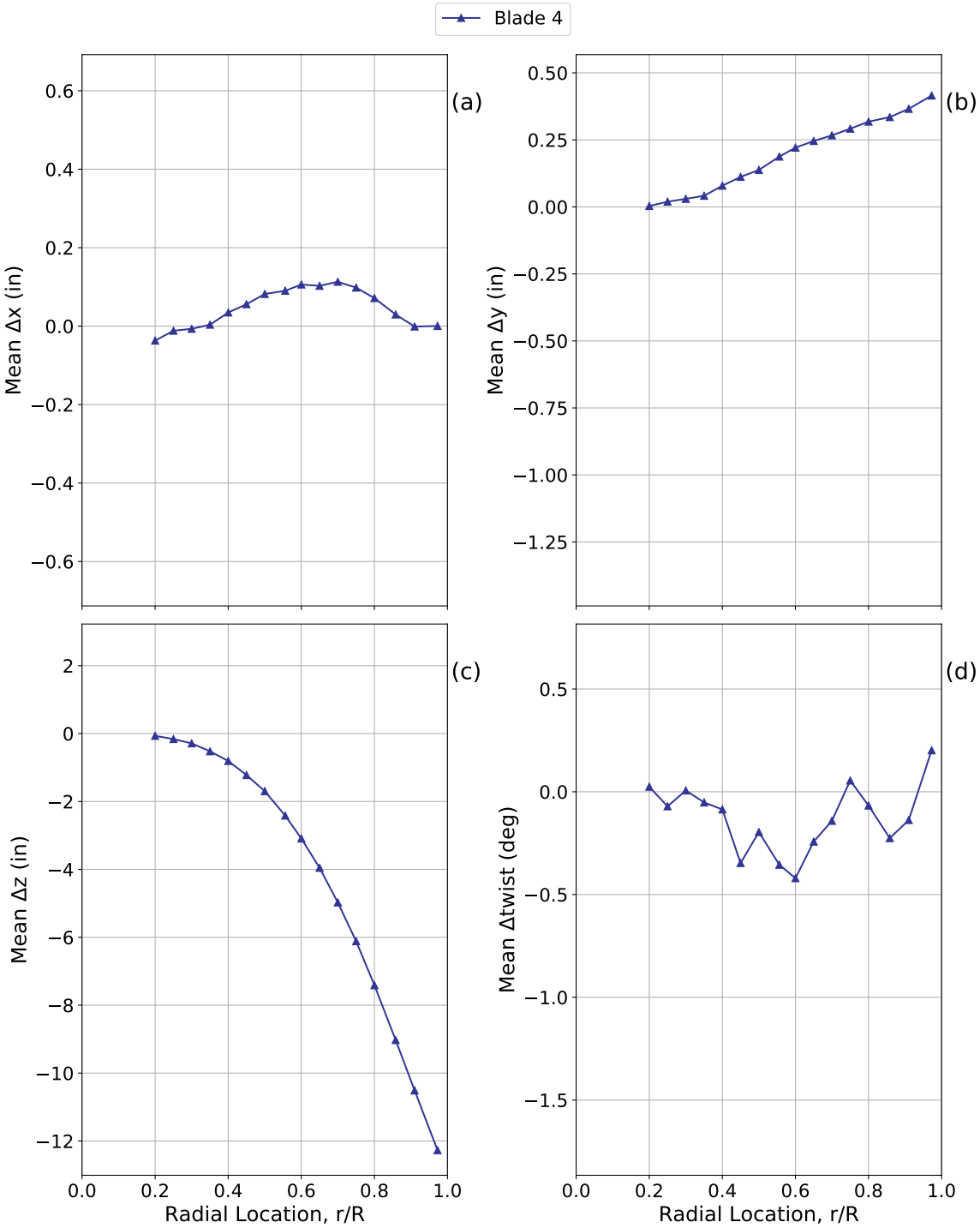


Figure 4.16-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0369	0.0011	0.0032	0.0005	-0.0666	0.0012	0.0244	0.0114
4	164.88	0.2502	-0.0118	0.0015	0.0194	0.0017	-0.1622	0.0027	-0.0709	0.0168
4	164.88	0.3001	-0.0068	0.0010	0.0299	0.0034	-0.2890	0.0051	0.0063	0.0223
4	164.88	0.3502	0.0036	0.0013	0.0414	0.0046	-0.5226	0.0070	-0.0519	0.0217
4	164.88	0.4002	0.0348	0.0011	0.0790	0.0083	-0.8078	0.0117	-0.0861	0.0170
4	164.88	0.4500	0.0558	0.0013	0.1119	0.0090	-1.2216	0.0151	-0.3468	0.0222
4	164.88	0.5001	0.0819	0.0018	0.1377	0.0142	-1.6965	0.0204	-0.1961	0.0241
4	164.88	0.5560	0.0901	0.0013	0.1874	0.0140	-2.4168	0.0243	-0.3552	0.0248
4	164.88	0.6001	0.1060	0.0018	0.2209	0.0150	-3.0907	0.0300	-0.4206	0.0191
4	164.88	0.6501	0.1027	0.0029	0.2457	0.0182	-3.9549	0.0364	-0.2427	0.0228
4	164.88	0.6999	0.1130	0.0025	0.2667	0.0191	-4.9746	0.0395	-0.1415	0.0341
4	164.88	0.7500	0.0982	0.0018	0.2917	0.0218	-6.1160	0.0444	0.0549	0.0247
4	164.88	0.8002	0.0714	0.0024	0.3179	0.0237	-7.4119	0.0478	-0.0674	0.0268
4	164.88	0.8582	0.0296	0.0027	0.3349	0.0266	-9.0262	0.0523	-0.2258	0.0221
4	164.88	0.9101	-0.0011	0.0025	0.3657	0.0287	-10.5109	0.0559	-0.1377	0.0231
4	164.88	0.9728	0.0004	0.0028	0.4153	0.0319	-12.2713	0.0604	0.2017	0.0241

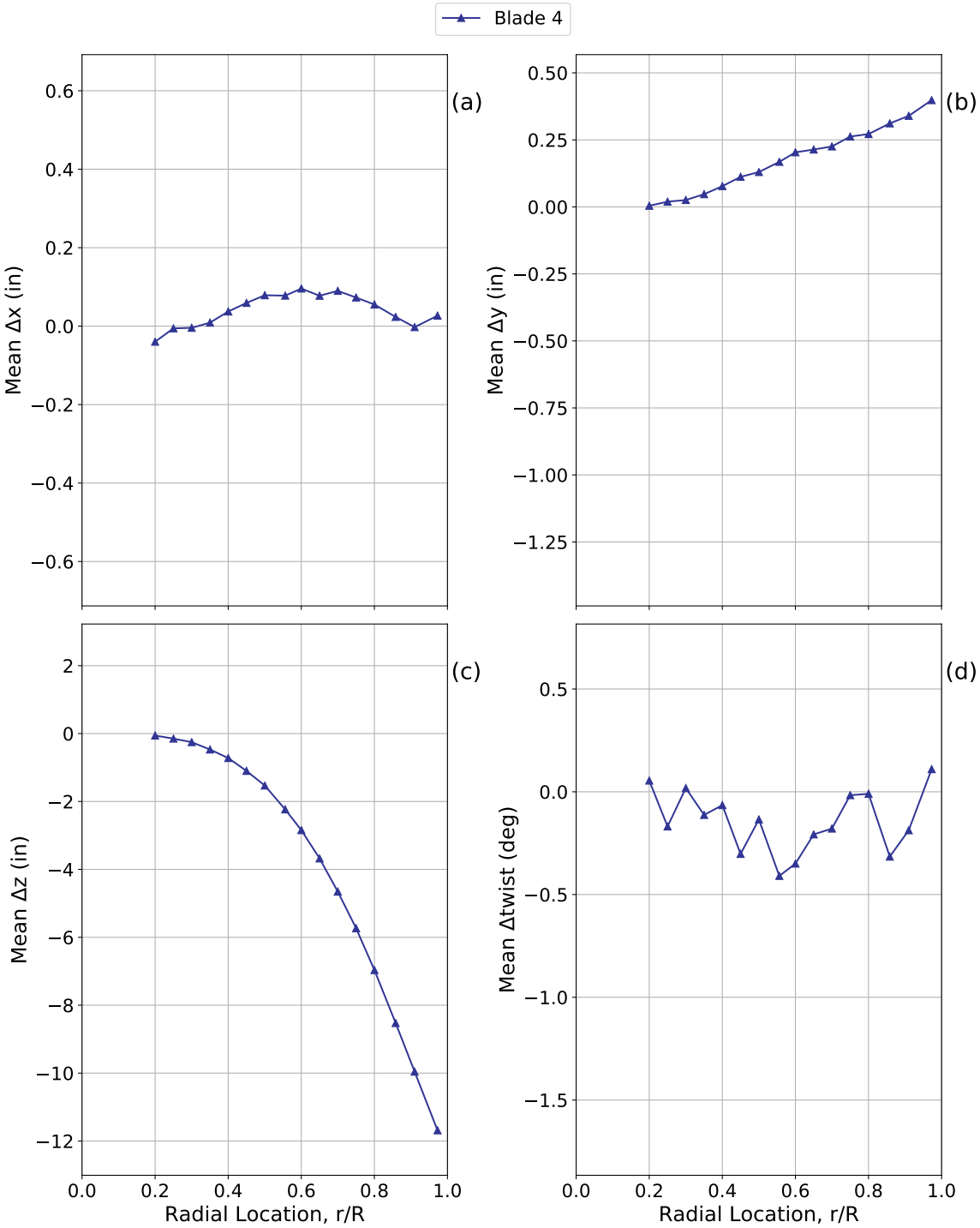


Figure 4.16-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0398	0.0013	0.0041	0.0013	-0.0585	0.0018	0.0545	0.0110
4	170.16	0.2502	-0.0057	0.0011	0.0194	0.0029	-0.1492	0.0034	-0.1689	0.0278
4	170.16	0.3001	-0.0043	0.0015	0.0256	0.0047	-0.2533	0.0068	0.0179	0.0264
4	170.16	0.3502	0.0089	0.0021	0.0474	0.0087	-0.4700	0.0104	-0.1127	0.0287
4	170.16	0.4002	0.0373	0.0039	0.0773	0.0130	-0.7212	0.0165	-0.0651	0.0293
4	170.16	0.4500	0.0592	0.0059	0.1120	0.0161	-1.0997	0.0194	-0.3025	0.0174
4	170.16	0.5001	0.0787	0.0086	0.1300	0.0202	-1.5313	0.0219	-0.1348	0.0242
4	170.16	0.5560	0.0777	0.0109	0.1679	0.0258	-2.2345	0.0253	-0.4095	0.0236
4	170.16	0.6001	0.0958	0.0139	0.2036	0.0294	-2.8443	0.0286	-0.3496	0.0260
4	170.16	0.6501	0.0774	0.0171	0.2139	0.0336	-3.6786	0.0334	-0.2074	0.0201
4	170.16	0.6999	0.0899	0.0191	0.2254	0.0348	-4.6555	0.0383	-0.1793	0.0214
4	170.16	0.7500	0.0729	0.0221	0.2624	0.0380	-5.7339	0.0419	-0.0166	0.0222
4	170.16	0.8002	0.0551	0.0251	0.2717	0.0405	-6.9668	0.0476	-0.0100	0.0165
4	170.16	0.8582	0.0234	0.0305	0.3114	0.0445	-8.5260	0.0533	-0.3156	0.0527
4	170.16	0.9101	-0.0025	0.0374	0.3395	0.0452	-9.9568	0.0610	-0.1874	0.0532
4	170.16	0.9728	0.0266	0.0394	0.3981	0.0527	-11.6862	0.0676	0.1100	0.0670

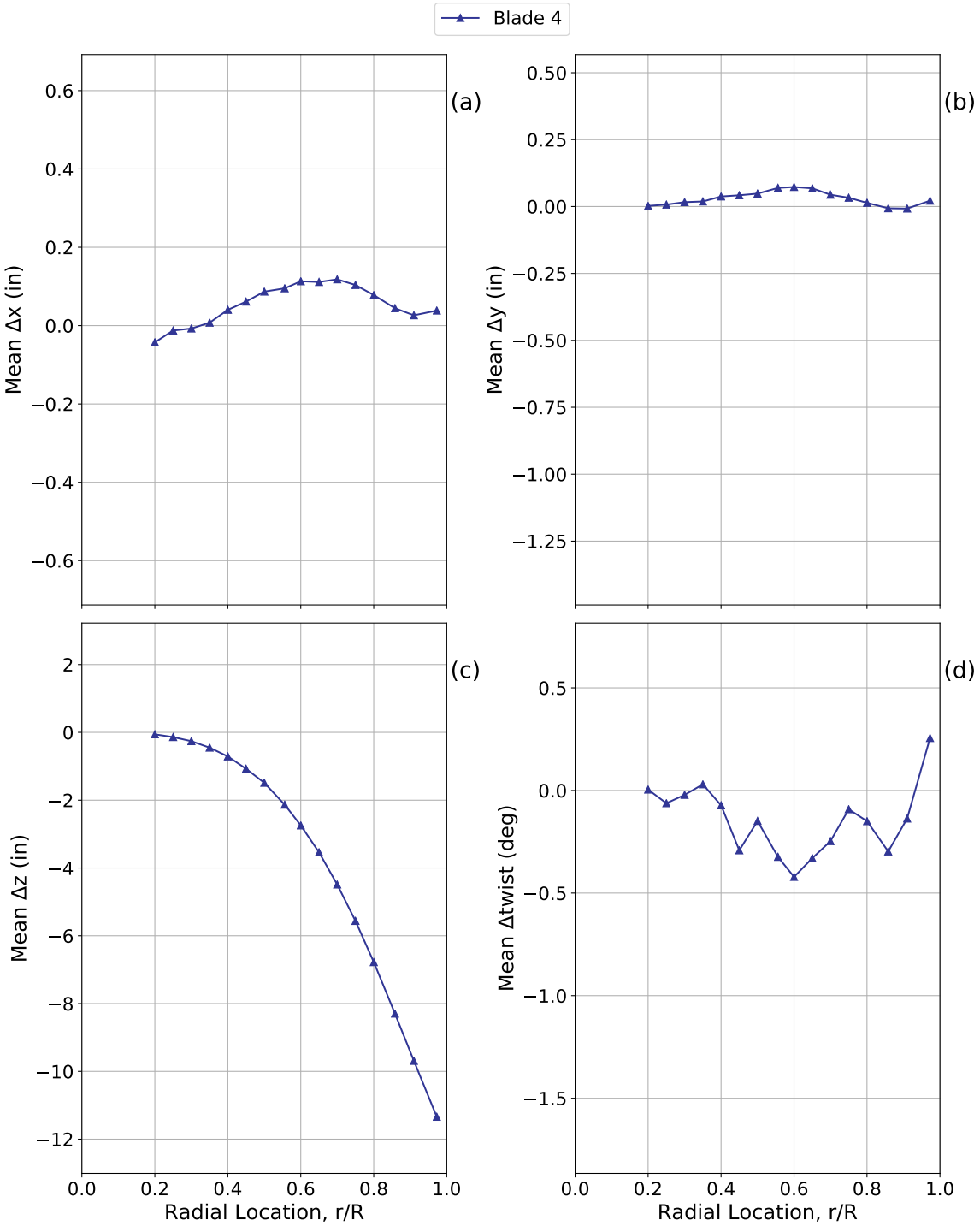


Figure 4.16-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0426	0.0012	0.0022	0.0008	-0.0584	0.0021	0.0044	0.0163
4	175.08	0.2502	-0.0125	0.0016	0.0071	0.0015	-0.1396	0.0048	-0.0621	0.0178
4	175.08	0.3001	-0.0074	0.0013	0.0163	0.0028	-0.2604	0.0073	-0.0214	0.0284
4	175.08	0.3502	0.0075	0.0016	0.0188	0.0055	-0.4517	0.0112	0.0300	0.0311
4	175.08	0.4002	0.0403	0.0015	0.0375	0.0079	-0.7105	0.0184	-0.0725	0.0335
4	175.08	0.4500	0.0612	0.0018	0.0420	0.0094	-1.0737	0.0202	-0.2917	0.0335
4	175.08	0.5001	0.0867	0.0028	0.0482	0.0118	-1.4875	0.0246	-0.1488	0.0389
4	175.08	0.5560	0.0951	0.0022	0.0696	0.0142	-2.1339	0.0290	-0.3237	0.0400
4	175.08	0.6001	0.1131	0.0025	0.0730	0.0160	-2.7454	0.0338	-0.4212	0.0312
4	175.08	0.6501	0.1113	0.0026	0.0680	0.0196	-3.5389	0.0399	-0.3300	0.0371
4	175.08	0.6999	0.1180	0.0032	0.0440	0.0227	-4.4885	0.0442	-0.2469	0.0398
4	175.08	0.7500	0.1036	0.0033	0.0328	0.0259	-5.5623	0.0460	-0.0916	0.0316
4	175.08	0.8002	0.0779	0.0037	0.0137	0.0290	-6.7786	0.0507	-0.1497	0.0491
4	175.08	0.8582	0.0444	0.0040	-0.0067	0.0324	-8.2963	0.0564	-0.2973	0.0345
4	175.08	0.9101	0.0263	0.0041	-0.0077	0.0359	-9.6901	0.0628	-0.1369	0.0338
4	175.08	0.9728	0.0384	0.0054	0.0217	0.0408	-11.3399	0.0720	0.2555	0.0366

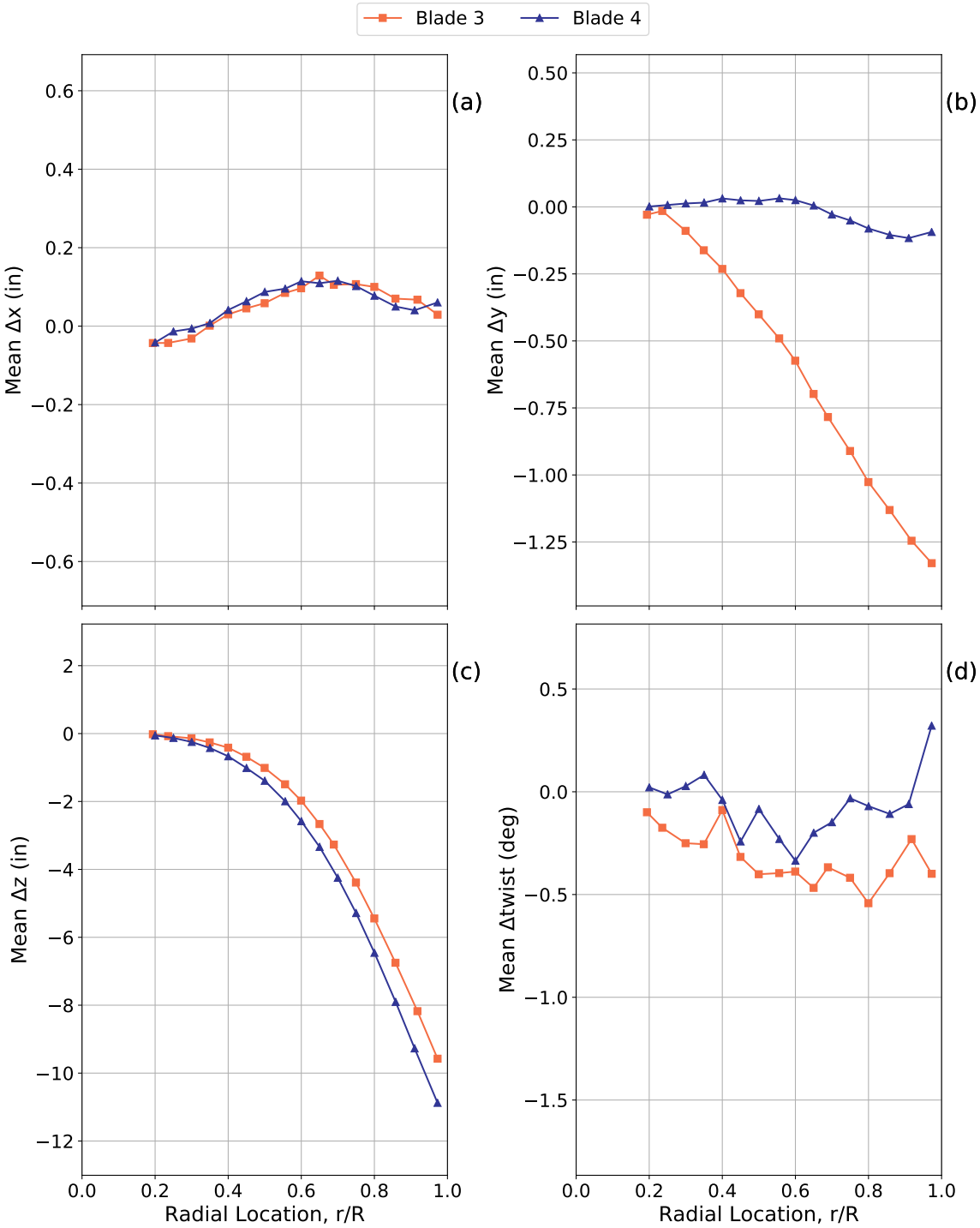


Figure 4.16-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0431	0.0028	-0.0292	0.0017	-0.0201	0.0037	-0.0997	0.0202
3	180.35	0.2357	-0.0428	0.0031	-0.0152	0.0019	-0.0758	0.0022	-0.1750	0.0473
3	180.35	0.2995	-0.0315	0.0026	-0.0894	0.0045	-0.1398	0.0097	-0.2503	0.0488
3	180.35	0.3493	0.0012	0.0028	-0.1618	0.0075	-0.2597	0.0153	-0.2552	0.0464
3	180.35	0.4000	0.0300	0.0023	-0.2315	0.0109	-0.4156	0.0218	-0.0890	0.0557
3	180.35	0.4497	0.0453	0.0027	-0.3218	0.0134	-0.6842	0.0287	-0.3170	0.0447
3	180.35	0.4997	0.0584	0.0029	-0.4009	0.0158	-1.0112	0.0370	-0.4013	0.0375
3	180.35	0.5556	0.0847	0.0033	-0.4906	0.0194	-1.4935	0.0444	-0.3959	0.0589
3	180.35	0.5995	0.0965	0.0029	-0.5738	0.0218	-1.9740	0.0501	-0.3882	0.0543
3	180.35	0.6498	0.1289	0.0029	-0.6979	0.0240	-2.6643	0.0591	-0.4676	0.0522
3	180.35	0.6890	0.1053	0.0033	-0.7839	0.0265	-3.2692	0.0634	-0.3674	0.0533
3	180.35	0.7495	0.1071	0.0027	-0.9106	0.0288	-4.3877	0.0697	-0.4184	0.0595
3	180.35	0.7998	0.1000	0.0038	-1.0266	0.0320	-5.4451	0.0780	-0.5423	0.0519
3	180.35	0.8577	0.0701	0.0038	-1.1308	0.0344	-6.7499	0.0827	-0.3962	0.0516
3	180.35	0.9178	0.0674	0.0041	-1.2454	0.0373	-8.1757	0.0909	-0.2303	0.0479
3	180.35	0.9729	0.0292	0.0047	-1.3291	0.0405	-9.5754	0.0931	-0.3990	0.0573
4	180	0.2001	-0.0417	0.0014	0.0014	0.0009	-0.0559	0.0019	0.0214	0.0156
4	180	0.2502	-0.0135	0.0019	0.0070	0.0021	-0.1292	0.0032	-0.0128	0.0244
4	180	0.3001	-0.0064	0.0015	0.0127	0.0035	-0.2471	0.0041	0.0275	0.0329
4	180	0.3502	0.0079	0.0015	0.0159	0.0060	-0.4262	0.0091	0.0820	0.0243
4	180	0.4002	0.0413	0.0016	0.0314	0.0090	-0.6699	0.0116	-0.0399	0.0292
4	180	0.4500	0.0633	0.0020	0.0244	0.0107	-1.0147	0.0150	-0.2420	0.0216
4	180	0.5001	0.0872	0.0015	0.0220	0.0127	-1.3913	0.0188	-0.0838	0.0293
4	180	0.5560	0.0956	0.0022	0.0319	0.0162	-1.9951	0.0233	-0.2299	0.0211
4	180	0.6001	0.1143	0.0011	0.0251	0.0176	-2.5817	0.0279	-0.3356	0.0132
4	180	0.6501	0.1094	0.0022	0.0050	0.0194	-3.3396	0.0297	-0.1995	0.0266
4	180	0.6999	0.1156	0.0018	-0.0283	0.0220	-4.2489	0.0329	-0.1482	0.0198
4	180	0.7500	0.1020	0.0016	-0.0507	0.0253	-5.2874	0.0363	-0.0318	0.0239
4	180	0.8002	0.0775	0.0018	-0.0808	0.0270	-6.4580	0.0378	-0.0702	0.0252
4	180	0.8582	0.0499	0.0018	-0.1047	0.0306	-7.9046	0.0444	-0.1078	0.0267
4	180	0.9101	0.0404	0.0016	-0.1165	0.0343	-9.2725	0.0482	-0.0601	0.0239
4	180	0.9728	0.0604	0.0027	-0.0936	0.0369	-10.8767	0.0570	0.3216	0.0227

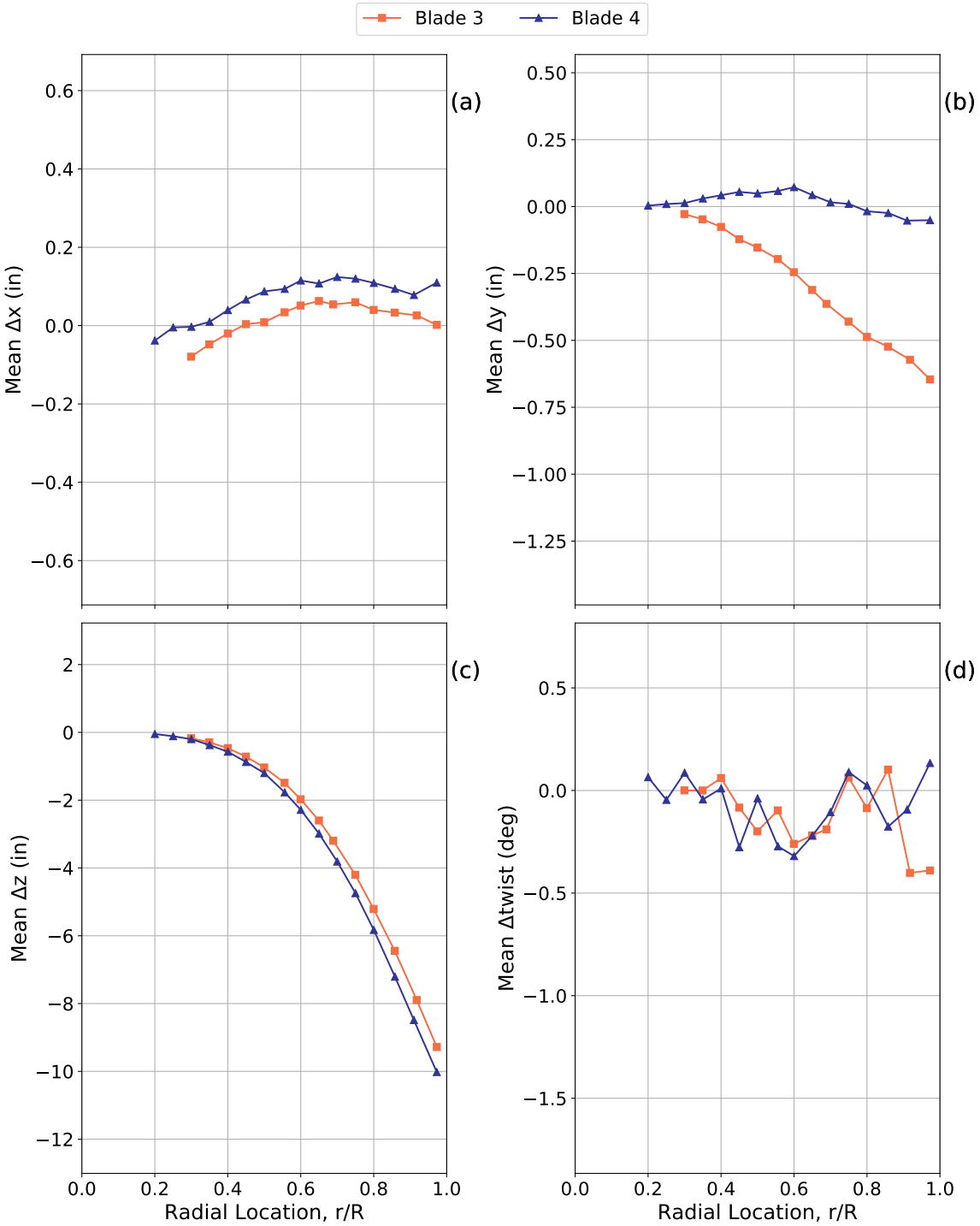


Figure 4.16-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0793	0.0025	-0.0279	0.0076	-0.1724	0.0083	0.0005	0.0376
3	184.92	0.3493	-0.0478	0.0030	-0.0478	0.0130	-0.2929	0.0139	0.0001	0.0496
3	184.92	0.4000	-0.0203	0.0032	-0.0760	0.0206	-0.4641	0.0219	0.0608	0.0418
3	184.92	0.4497	0.0037	0.0029	-0.1221	0.0270	-0.7140	0.0282	-0.0833	0.0432
3	184.92	0.4997	0.0085	0.0035	-0.1531	0.0334	-1.0338	0.0344	-0.1991	0.0501
3	184.92	0.5556	0.0340	0.0032	-0.1962	0.0417	-1.4881	0.0420	-0.0971	0.0417
3	184.92	0.5995	0.0513	0.0040	-0.2452	0.0475	-1.9715	0.0490	-0.2602	0.0441
3	184.92	0.6498	0.0628	0.0031	-0.3116	0.0546	-2.5994	0.0564	-0.2189	0.0425
3	184.92	0.6890	0.0540	0.0032	-0.3634	0.0605	-3.1965	0.0624	-0.1897	0.0457
3	184.92	0.7495	0.0596	0.0039	-0.4301	0.0700	-4.2012	0.0714	0.0634	0.0524
3	184.92	0.7998	0.0401	0.0037	-0.4870	0.0779	-5.2091	0.0787	-0.0860	0.0472
3	184.92	0.8577	0.0332	0.0047	-0.5234	0.0860	-6.4442	0.0900	0.1018	0.0563
3	184.92	0.9178	0.0261	0.0060	-0.5724	0.0962	-7.8958	0.0998	-0.4015	0.0528
3	184.92	0.9729	0.0019	0.0077	-0.6459	0.1044	-9.2813	0.1056	-0.3899	0.0719
4	184.92	0.2001	-0.0382	0.0035	0.0034	0.0011	-0.0490	0.0013	0.0646	0.0189
4	184.92	0.2502	-0.0046	0.0019	0.0093	0.0024	-0.1133	0.0026	-0.0460	0.0281
4	184.92	0.3001	-0.0031	0.0012	0.0129	0.0043	-0.2012	0.0046	0.0863	0.0395
4	184.92	0.3502	0.0096	0.0041	0.0299	0.0071	-0.3775	0.0066	-0.0437	0.0303
4	184.92	0.4002	0.0395	0.0061	0.0422	0.0111	-0.5709	0.0103	0.0099	0.0292
4	184.92	0.4500	0.0666	0.0084	0.0547	0.0138	-0.8748	0.0128	-0.2770	0.0408
4	184.92	0.5001	0.0873	0.0108	0.0489	0.0181	-1.2017	0.0167	-0.0383	0.0321
4	184.92	0.5560	0.0937	0.0139	0.0580	0.0215	-1.7706	0.0190	-0.2723	0.0453
4	184.92	0.6001	0.1150	0.0168	0.0724	0.0256	-2.2869	0.0204	-0.3198	0.0398
4	184.92	0.6501	0.1074	0.0197	0.0429	0.0298	-2.9884	0.0242	-0.2205	0.0340
4	184.92	0.6999	0.1241	0.0225	0.0160	0.0327	-3.8108	0.0256	-0.1053	0.0357
4	184.92	0.7500	0.1199	0.0244	0.0099	0.0352	-4.7455	0.0279	0.0894	0.0328
4	184.92	0.8002	0.1089	0.0281	-0.0176	0.0396	-5.8292	0.0298	0.0244	0.0370
4	184.92	0.8582	0.0939	0.0310	-0.0242	0.0437	-7.2086	0.0344	-0.1761	0.0393
4	184.92	0.9101	0.0781	0.0345	-0.0526	0.0481	-8.4875	0.0381	-0.0933	0.0404
4	184.92	0.9728	0.1097	0.0377	-0.0510	0.0555	-10.0213	0.0451	0.1338	0.0385

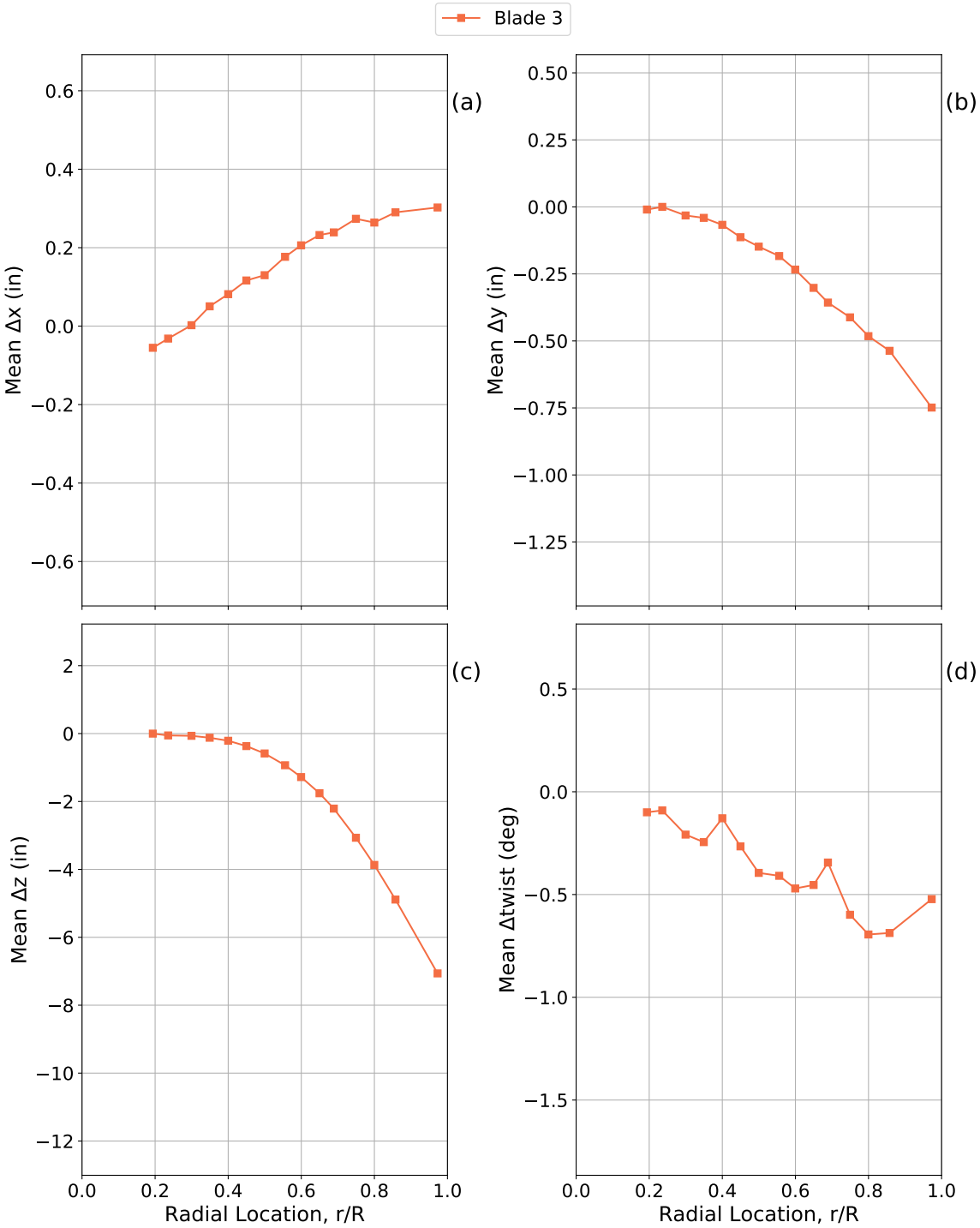


Figure 4.16-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0552	0.0014	-0.0099	0.0011	-0.0011	0.0022	-0.0999	0.0112
3	195.12	0.2357	-0.0317	0.0006	0.0000	0.0013	-0.0549	0.0022	-0.0907	0.0284
3	195.12	0.2995	0.0024	0.0011	-0.0320	0.0023	-0.0659	0.0067	-0.2085	0.0309
3	195.12	0.3493	0.0505	0.0011	-0.0409	0.0049	-0.1228	0.0125	-0.2450	0.0253
3	195.12	0.4000	0.0815	0.0017	-0.0669	0.0063	-0.2113	0.0177	-0.1290	0.0273
3	195.12	0.4497	0.1164	0.0014	-0.1132	0.0077	-0.3681	0.0223	-0.2657	0.0315
3	195.12	0.4997	0.1299	0.0019	-0.1483	0.0111	-0.5860	0.0288	-0.3947	0.0336
3	195.12	0.5556	0.1767	0.0013	-0.1834	0.0142	-0.9326	0.0353	-0.4089	0.0264
3	195.12	0.5995	0.2060	0.0010	-0.2339	0.0162	-1.2812	0.0418	-0.4705	0.0345
3	195.12	0.6498	0.2322	0.0019	-0.3021	0.0185	-1.7573	0.0454	-0.4535	0.0425
3	195.12	0.6890	0.2390	0.0018	-0.3569	0.0209	-2.2098	0.0508	-0.3443	0.0484
3	195.12	0.7495	0.2736	0.0027	-0.4121	0.0256	-3.0680	0.0578	-0.5985	0.0392
3	195.12	0.7998	0.2641	0.0029	-0.4822	0.0293	-3.8690	0.0645	-0.6944	0.0352
3	195.12	0.8577	0.2901	0.0046	-0.5369	0.0316	-4.8885	0.0763	-0.6871	0.2230
3	195.12	0.9729	0.3025	0.0043	-0.7486	0.0413	-7.0641	0.0861	-0.5224	0.1149

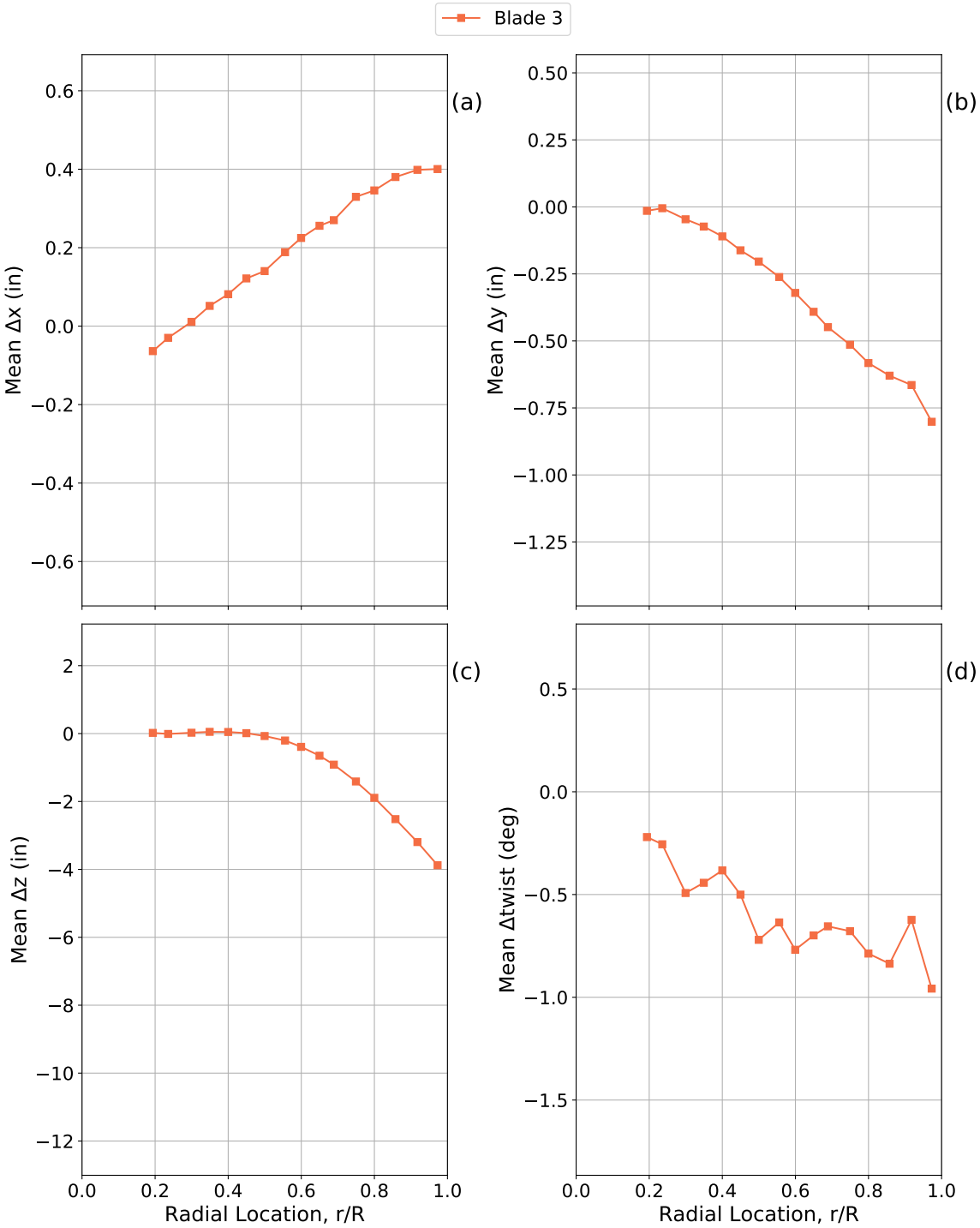


Figure 4.16-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0637	0.0012	-0.0147	0.0006	0.0204	0.0019	-0.2205	0.0167
3	209.88	0.2357	-0.0298	0.0008	-0.0050	0.0010	-0.0110	0.0032	-0.2555	0.0266
3	209.88	0.2995	0.0109	0.0006	-0.0462	0.0024	0.0247	0.0061	-0.4926	0.0374
3	209.88	0.3493	0.0516	0.0010	-0.0734	0.0037	0.0505	0.0105	-0.4428	0.0362
3	209.88	0.4000	0.0814	0.0017	-0.1101	0.0059	0.0467	0.0160	-0.3826	0.0384
3	209.88	0.4497	0.1216	0.0014	-0.1620	0.0082	0.0122	0.0203	-0.5005	0.0375
3	209.88	0.4997	0.1403	0.0014	-0.2040	0.0100	-0.0725	0.0252	-0.7205	0.0359
3	209.88	0.5556	0.1886	0.0016	-0.2616	0.0133	-0.2050	0.0306	-0.6357	0.0415
3	209.88	0.5995	0.2248	0.0019	-0.3209	0.0147	-0.3917	0.0338	-0.7688	0.0421
3	209.88	0.6498	0.2558	0.0017	-0.3914	0.0176	-0.6522	0.0395	-0.6988	0.0282
3	209.88	0.6890	0.2701	0.0017	-0.4486	0.0197	-0.9150	0.0431	-0.6548	0.0434
3	209.88	0.7495	0.3296	0.0019	-0.5142	0.0232	-1.4111	0.0511	-0.6782	0.0348
3	209.88	0.7998	0.3459	0.0022	-0.5825	0.0268	-1.8925	0.0565	-0.7873	0.0318
3	209.88	0.8577	0.3801	0.0026	-0.6297	0.0310	-2.5201	0.0621	-0.8367	0.0428
3	209.88	0.9178	0.3984	0.0038	-0.6646	0.0349	-3.1954	0.0667	-0.6235	0.1114
3	209.88	0.9729	0.4004	0.0038	-0.8016	0.0385	-3.8769	0.0688	-0.9578	0.0754

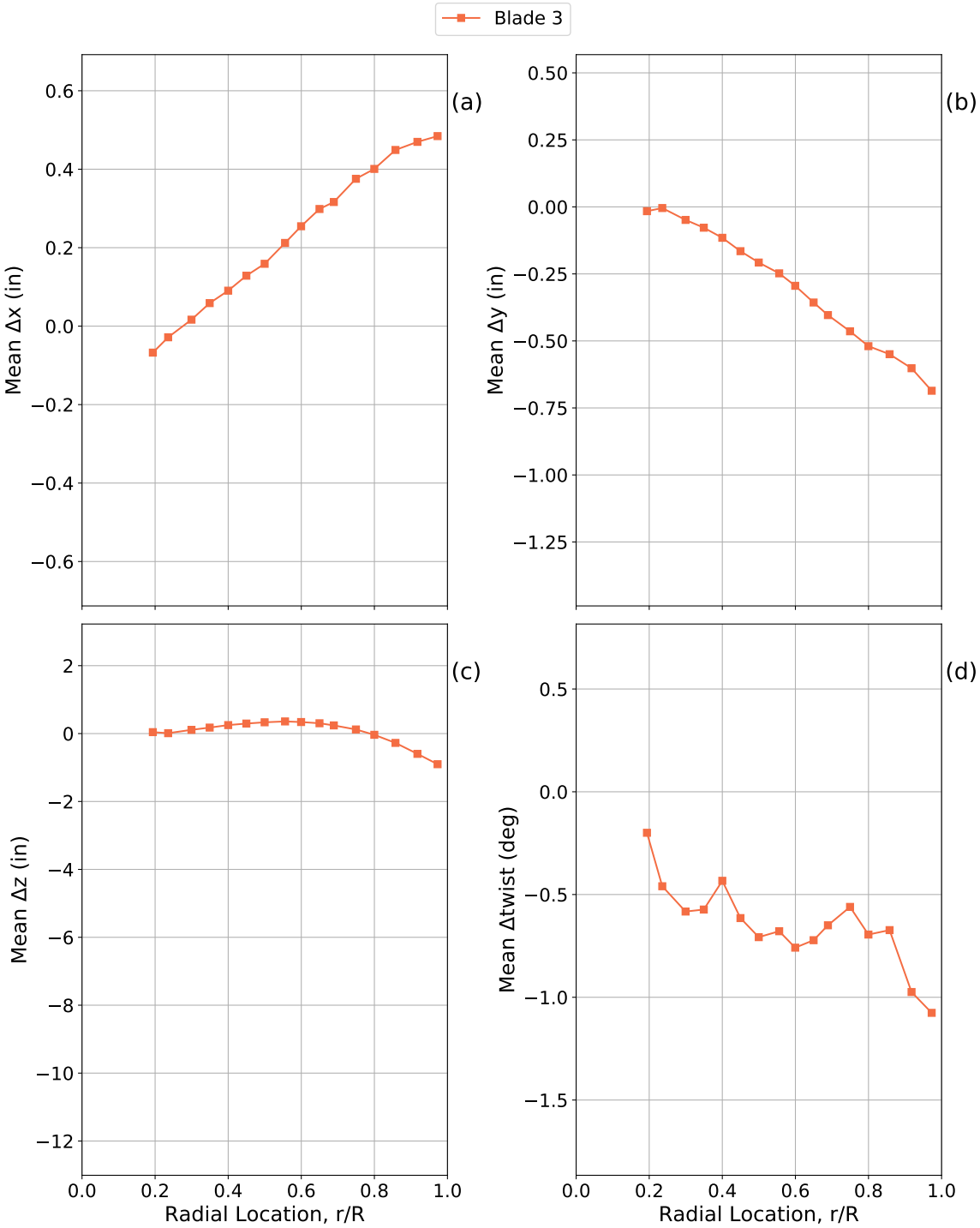


Figure 4.16-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0675	0.0012	-0.0160	0.0006	0.0420	0.0018	-0.1996	0.0175
3	225	0.2357	-0.0284	0.0012	-0.0043	0.0014	0.0116	0.0029	-0.4597	0.0298
3	225	0.2995	0.0165	0.0006	-0.0486	0.0030	0.1099	0.0041	-0.5828	0.0415
3	225	0.3493	0.0587	0.0009	-0.0776	0.0042	0.1763	0.0116	-0.5731	0.0418
3	225	0.4000	0.0904	0.0017	-0.1153	0.0075	0.2497	0.0130	-0.4333	0.0319
3	225	0.4497	0.1286	0.0014	-0.1652	0.0085	0.2946	0.0154	-0.6147	0.0378
3	225	0.4997	0.1589	0.0014	-0.2076	0.0100	0.3321	0.0150	-0.7074	0.0428
3	225	0.5556	0.2121	0.0022	-0.2479	0.0121	0.3573	0.0186	-0.6786	0.0597
3	225	0.5995	0.2546	0.0015	-0.2944	0.0153	0.3397	0.0217	-0.7586	0.0290
3	225	0.6498	0.2986	0.0024	-0.3567	0.0159	0.3037	0.0240	-0.7222	0.0348
3	225	0.6890	0.3164	0.0014	-0.4036	0.0180	0.2407	0.0265	-0.6497	0.0333
3	225	0.7495	0.3756	0.0014	-0.4641	0.0216	0.1209	0.0311	-0.5603	0.0295
3	225	0.7998	0.4008	0.0018	-0.5196	0.0242	-0.0364	0.0358	-0.6948	0.0378
3	225	0.8577	0.4491	0.0018	-0.5496	0.0273	-0.2746	0.0403	-0.6732	0.0347
3	225	0.9178	0.4697	0.0015	-0.6019	0.0305	-0.5976	0.0458	-0.9744	0.0434
3	225	0.9729	0.4844	0.0023	-0.6859	0.0335	-0.9025	0.0531	-1.0758	0.0442

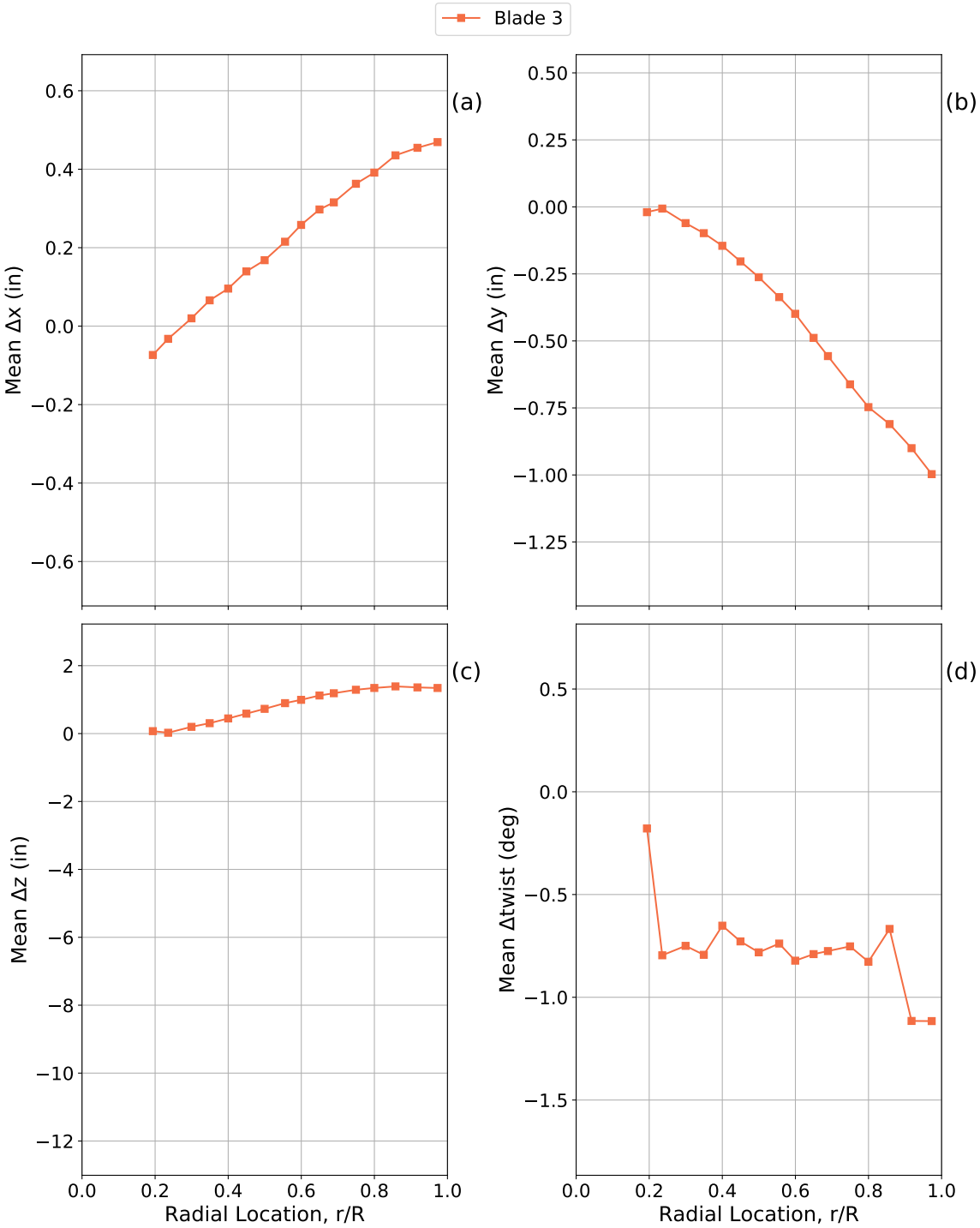


Figure 4.16-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0735	0.0018	-0.0197	0.0008	0.0718	0.0022	-0.1786	0.0163
3	240.12	0.2357	-0.0324	0.0009	-0.0063	0.0011	0.0242	0.0034	-0.7957	0.0301
3	240.12	0.2995	0.0199	0.0008	-0.0605	0.0031	0.1982	0.0078	-0.7498	0.0385
3	240.12	0.3493	0.0658	0.0007	-0.0980	0.0048	0.3059	0.0126	-0.7934	0.0368
3	240.12	0.4000	0.0957	0.0014	-0.1452	0.0078	0.4457	0.0193	-0.6516	0.0348
3	240.12	0.4497	0.1395	0.0010	-0.2034	0.0090	0.5865	0.0245	-0.7281	0.0362
3	240.12	0.4997	0.1681	0.0012	-0.2623	0.0114	0.7286	0.0285	-0.7814	0.0354
3	240.12	0.5556	0.2152	0.0012	-0.3366	0.0137	0.8961	0.0352	-0.7386	0.0346
3	240.12	0.5995	0.2580	0.0008	-0.3988	0.0147	0.9938	0.0414	-0.8219	0.0427
3	240.12	0.6498	0.2974	0.0020	-0.4887	0.0175	1.1216	0.0448	-0.7900	0.0383
3	240.12	0.6890	0.3155	0.0013	-0.5566	0.0184	1.1877	0.0493	-0.7752	0.0341
3	240.12	0.7495	0.3629	0.0015	-0.6620	0.0226	1.2903	0.0544	-0.7523	0.0317
3	240.12	0.7998	0.3914	0.0013	-0.7470	0.0239	1.3430	0.0590	-0.8271	0.0420
3	240.12	0.8577	0.4354	0.0015	-0.8103	0.0265	1.3890	0.0674	-0.6674	0.0372
3	240.12	0.9178	0.4546	0.0017	-0.9001	0.0290	1.3598	0.0758	-1.1152	0.0352
3	240.12	0.9729	0.4691	0.0024	-0.9970	0.0311	1.3425	0.0831	-1.1159	0.0380

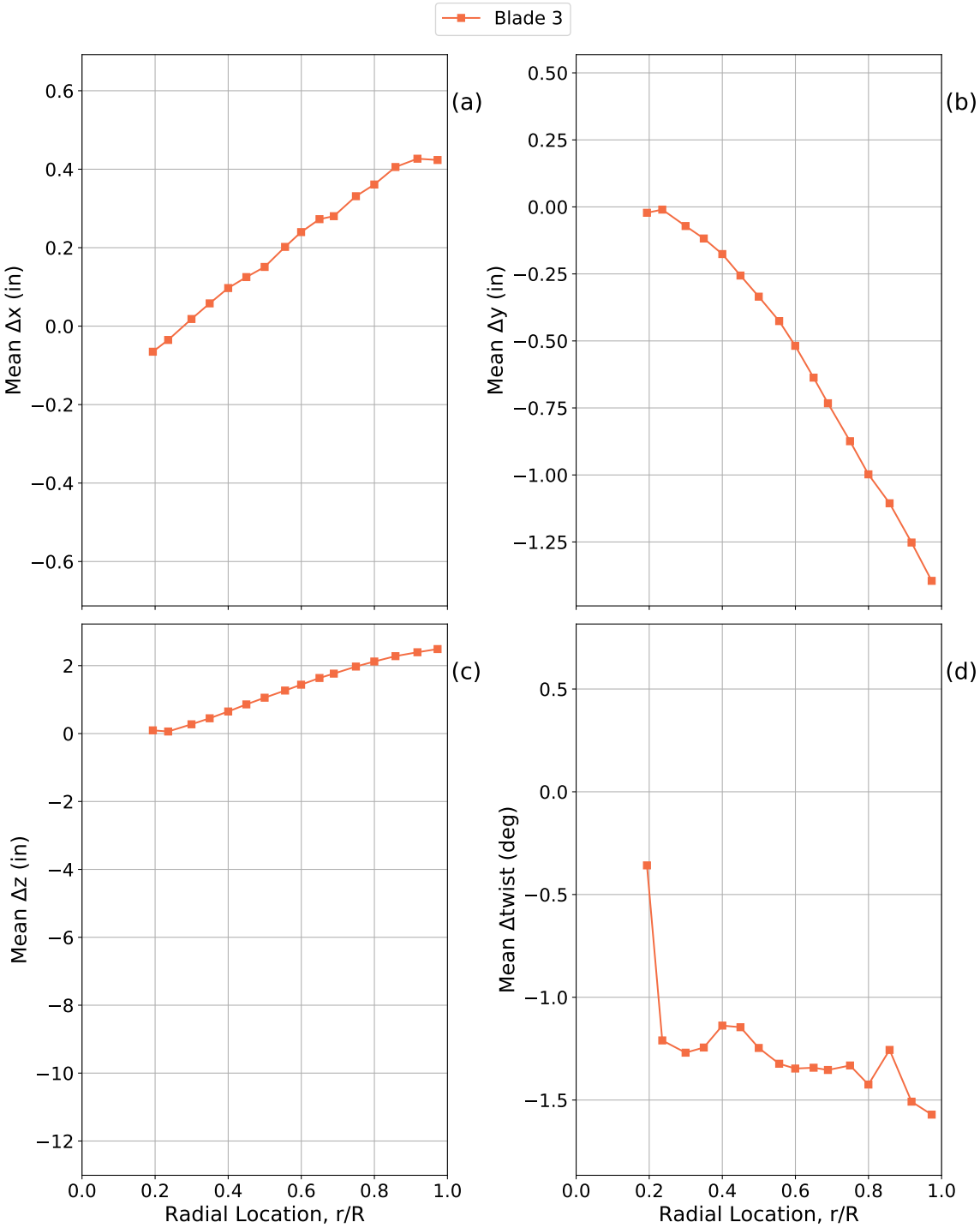


Figure 4.16-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0652	0.0046	-0.0220	0.0017	0.0945	0.0058	-0.3582	0.0270
3	254.88	0.2357	-0.0352	0.0009	-0.0101	0.0013	0.0610	0.0046	-1.2100	0.0757
3	254.88	0.2995	0.0182	0.0009	-0.0714	0.0047	0.2732	0.0145	-1.2696	0.0827
3	254.88	0.3493	0.0580	0.0013	-0.1179	0.0089	0.4504	0.0259	-1.2445	0.0727
3	254.88	0.4000	0.0971	0.0015	-0.1760	0.0124	0.6504	0.0353	-1.1378	0.0816
3	254.88	0.4497	0.1250	0.0017	-0.2561	0.0155	0.8593	0.0462	-1.1457	0.0772
3	254.88	0.4997	0.1509	0.0015	-0.3349	0.0192	1.0565	0.0564	-1.2466	0.0756
3	254.88	0.5556	0.2020	0.0018	-0.4260	0.0232	1.2671	0.0686	-1.3235	0.0779
3	254.88	0.5995	0.2397	0.0025	-0.5183	0.0272	1.4397	0.0784	-1.3468	0.0751
3	254.88	0.6498	0.2727	0.0022	-0.6370	0.0307	1.6370	0.0871	-1.3428	0.0792
3	254.88	0.6890	0.2803	0.0022	-0.7326	0.0335	1.7656	0.0960	-1.3538	0.0712
3	254.88	0.7495	0.3312	0.0027	-0.8742	0.0383	1.9733	0.1067	-1.3319	0.0717
3	254.88	0.7998	0.3610	0.0025	-0.9978	0.0421	2.1219	0.1150	-1.4247	0.0780
3	254.88	0.8577	0.4056	0.0027	-1.1057	0.0467	2.2803	0.1246	-1.2562	0.0718
3	254.88	0.9178	0.4268	0.0030	-1.2521	0.0515	2.3951	0.1331	-1.5079	0.0744
3	254.88	0.9729	0.4235	0.0045	-1.3951	0.0559	2.4886	0.1415	-1.5710	0.0753

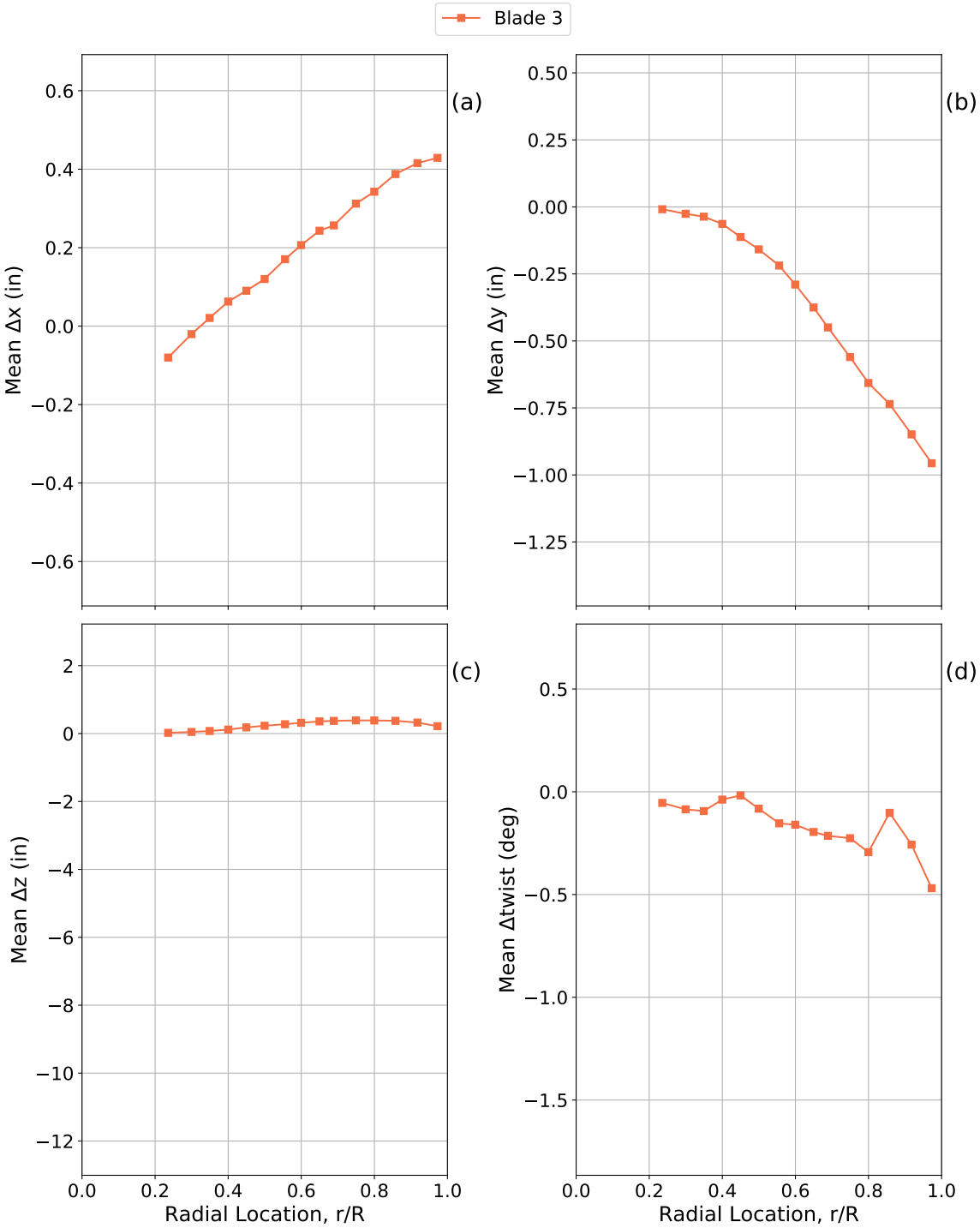


Figure 4.16-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2357	-0.0801	0.0016	-0.0088	0.0013	0.0218	0.0036	-0.0542	0.0449
3	260.16	0.2995	-0.0204	0.0008	-0.0257	0.0029	0.0470	0.0067	-0.0855	0.0723
3	260.16	0.3493	0.0209	0.0010	-0.0365	0.0053	0.0757	0.0130	-0.0938	0.0678
3	260.16	0.4000	0.0627	0.0009	-0.0636	0.0082	0.1175	0.0185	-0.0380	0.0763
3	260.16	0.4497	0.0902	0.0015	-0.1123	0.0108	0.1818	0.0251	-0.0177	0.0847
3	260.16	0.4997	0.1201	0.0016	-0.1585	0.0133	0.2301	0.0312	-0.0823	0.0795
3	260.16	0.5556	0.1705	0.0022	-0.2188	0.0163	0.2756	0.0362	-0.1535	0.0845
3	260.16	0.5995	0.2065	0.0020	-0.2897	0.0189	0.3172	0.0406	-0.1604	0.0784
3	260.16	0.6498	0.2432	0.0021	-0.3753	0.0219	0.3588	0.0437	-0.1956	0.0879
3	260.16	0.6890	0.2568	0.0019	-0.4497	0.0245	0.3740	0.0474	-0.2146	0.0764
3	260.16	0.7495	0.3122	0.0021	-0.5602	0.0280	0.3880	0.0522	-0.2258	0.0884
3	260.16	0.7998	0.3426	0.0023	-0.6570	0.0312	0.3866	0.0584	-0.2937	0.0792
3	260.16	0.8577	0.3877	0.0027	-0.7354	0.0354	0.3760	0.0641	-0.1025	0.0826
3	260.16	0.9178	0.4154	0.0024	-0.8487	0.0398	0.3238	0.0707	-0.2573	0.0761
3	260.16	0.9729	0.4290	0.0039	-0.9563	0.0439	0.2163	0.0781	-0.4692	0.0791

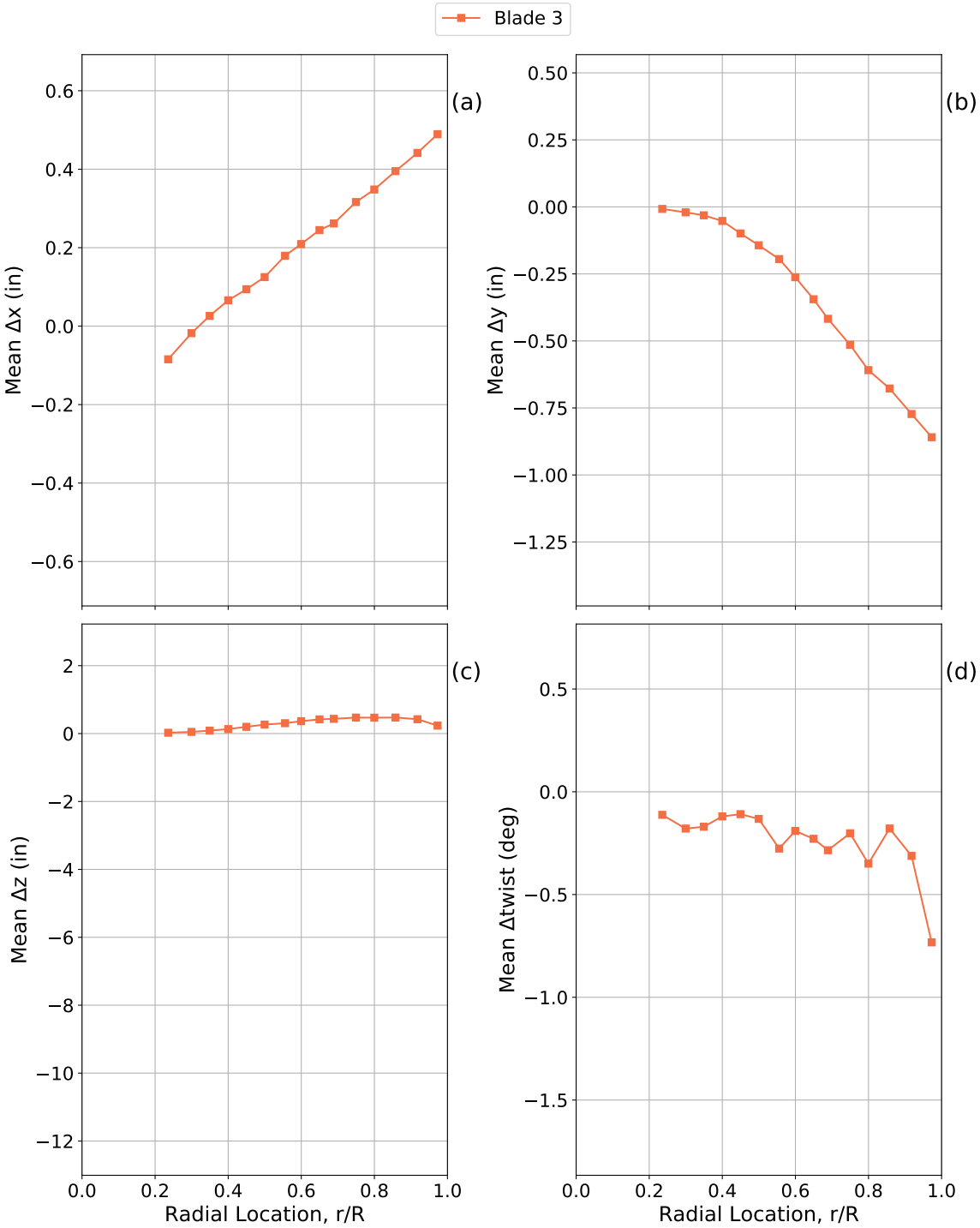


Figure 4.16-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0845	0.0023	-0.0076	0.0017	0.0246	0.0072	-0.1122	0.0725
3	265.08	0.2995	-0.0179	0.0012	-0.0203	0.0035	0.0495	0.0134	-0.1791	0.1164
3	265.08	0.3493	0.0262	0.0010	-0.0314	0.0069	0.0877	0.0257	-0.1701	0.0963
3	265.08	0.4000	0.0658	0.0010	-0.0525	0.0102	0.1315	0.0371	-0.1199	0.1037
3	265.08	0.4497	0.0939	0.0017	-0.0990	0.0131	0.1986	0.0472	-0.1090	0.1079
3	265.08	0.4997	0.1250	0.0013	-0.1432	0.0165	0.2651	0.0574	-0.1320	0.1116
3	265.08	0.5556	0.1795	0.0013	-0.1947	0.0210	0.3052	0.0722	-0.2763	0.1097
3	265.08	0.5995	0.2092	0.0016	-0.2623	0.0244	0.3648	0.0814	-0.1907	0.1170
3	265.08	0.6498	0.2449	0.0020	-0.3445	0.0283	0.4181	0.0938	-0.2289	0.1046
3	265.08	0.6890	0.2617	0.0024	-0.4175	0.0315	0.4330	0.1020	-0.2843	0.1072
3	265.08	0.7495	0.3163	0.0023	-0.5146	0.0367	0.4711	0.1120	-0.2021	0.1080
3	265.08	0.7998	0.3483	0.0027	-0.6090	0.0416	0.4678	0.1208	-0.3496	0.1082
3	265.08	0.8577	0.3950	0.0026	-0.6776	0.0470	0.4722	0.1302	-0.1788	0.1067
3	265.08	0.9178	0.4416	0.0028	-0.7726	0.0527	0.4224	0.1384	-0.3119	0.1085
3	265.08	0.9729	0.4893	0.0042	-0.8592	0.0585	0.2342	0.1470	-0.7329	0.1121

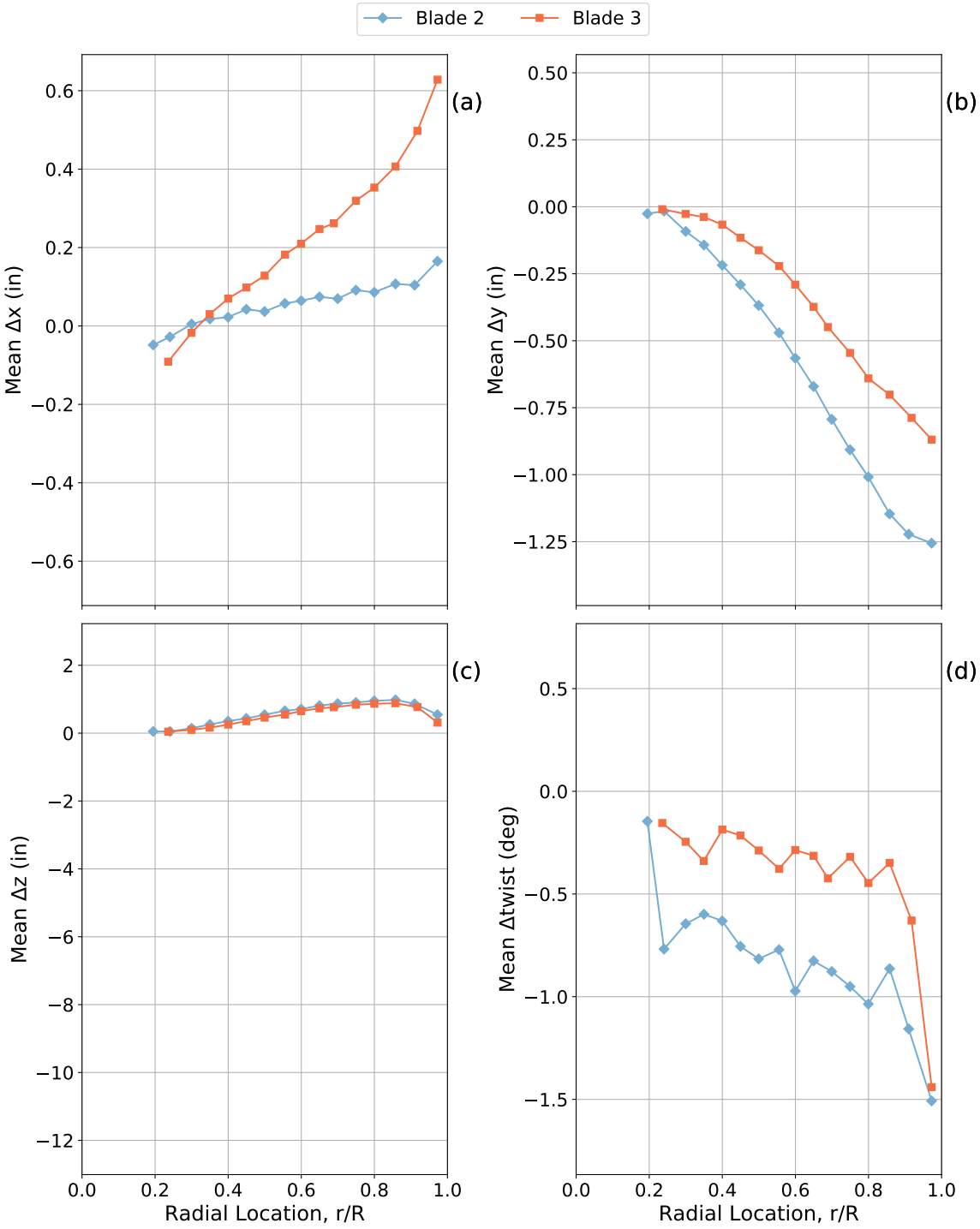


Figure 4.16-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0484	0.0064	-0.0259	0.0027	0.0501	0.0119	-0.1459	0.0581
2	270.35	0.2405	-0.0280	0.0027	-0.0161	0.0017	0.0507	0.0072	-0.7681	0.1736
2	270.35	0.2999	0.0049	0.0016	-0.0919	0.0079	0.1428	0.0301	-0.6449	0.1749
2	270.35	0.3498	0.0178	0.0017	-0.1427	0.0135	0.2555	0.0519	-0.5985	0.1618
2	270.35	0.3998	0.0223	0.0018	-0.2181	0.0190	0.3535	0.0698	-0.6312	0.1660
2	270.35	0.4496	0.0424	0.0018	-0.2908	0.0244	0.4335	0.0896	-0.7550	0.1593
2	270.35	0.4995	0.0368	0.0022	-0.3683	0.0297	0.5417	0.1066	-0.8158	0.1653
2	270.35	0.5551	0.0575	0.0024	-0.4703	0.0352	0.6585	0.1270	-0.7709	0.1661
2	270.35	0.5996	0.0643	0.0029	-0.5651	0.0402	0.7083	0.1459	-0.9727	0.1560
2	270.35	0.6497	0.0742	0.0029	-0.6707	0.0454	0.8108	0.1639	-0.8257	0.1545
2	270.35	0.6996	0.0695	0.0028	-0.7935	0.0506	0.8710	0.1813	-0.8775	0.1622
2	270.35	0.7495	0.0912	0.0033	-0.9070	0.0556	0.9033	0.2020	-0.9503	0.1516
2	270.35	0.7996	0.0859	0.0033	-1.0086	0.0605	0.9516	0.2208	-1.0359	0.1617
2	270.35	0.8578	0.1072	0.0037	-1.1466	0.0664	0.9791	0.2429	-0.8638	0.1573
2	270.35	0.9100	0.1040	0.0031	-1.2224	0.0719	0.8648	0.2622	-1.1570	0.1577
2	270.35	0.9727	0.1650	0.0051	-1.2557	0.0782	0.5453	0.2855	-1.5073	0.1583
3	270	0.2357	-0.0911	0.0028	-0.0092	0.0016	0.0440	0.0086	-0.1544	0.1019
3	270	0.2995	-0.0174	0.0013	-0.0268	0.0033	0.0988	0.0160	-0.2458	0.1635
3	270	0.3493	0.0300	0.0012	-0.0383	0.0064	0.1606	0.0308	-0.3391	0.1536
3	270	0.4000	0.0699	0.0016	-0.0665	0.0095	0.2526	0.0446	-0.1862	0.1583
3	270	0.4497	0.0980	0.0011	-0.1155	0.0126	0.3524	0.0602	-0.2152	0.1481
3	270	0.4997	0.1283	0.0017	-0.1622	0.0161	0.4573	0.0743	-0.2881	0.1507
3	270	0.5556	0.1821	0.0016	-0.2214	0.0199	0.5501	0.0878	-0.3776	0.1578
3	270	0.5995	0.2098	0.0018	-0.2905	0.0232	0.6477	0.1001	-0.2860	0.1587
3	270	0.6498	0.2470	0.0018	-0.3734	0.0276	0.7320	0.1158	-0.3140	0.1514
3	270	0.6890	0.2618	0.0018	-0.4493	0.0313	0.7632	0.1267	-0.4238	0.1506
3	270	0.7495	0.3195	0.0020	-0.5455	0.0365	0.8378	0.1422	-0.3190	0.1544
3	270	0.7998	0.3530	0.0020	-0.6406	0.0412	0.8655	0.1568	-0.4465	0.1522
3	270	0.8577	0.4066	0.0025	-0.7015	0.0465	0.8817	0.1729	-0.3487	0.1496
3	270	0.9178	0.4975	0.0022	-0.7879	0.0522	0.7675	0.1891	-0.6294	0.1509
3	270	0.9729	0.6282	0.0046	-0.8692	0.0586	0.3100	0.2052	-1.4404	0.1548

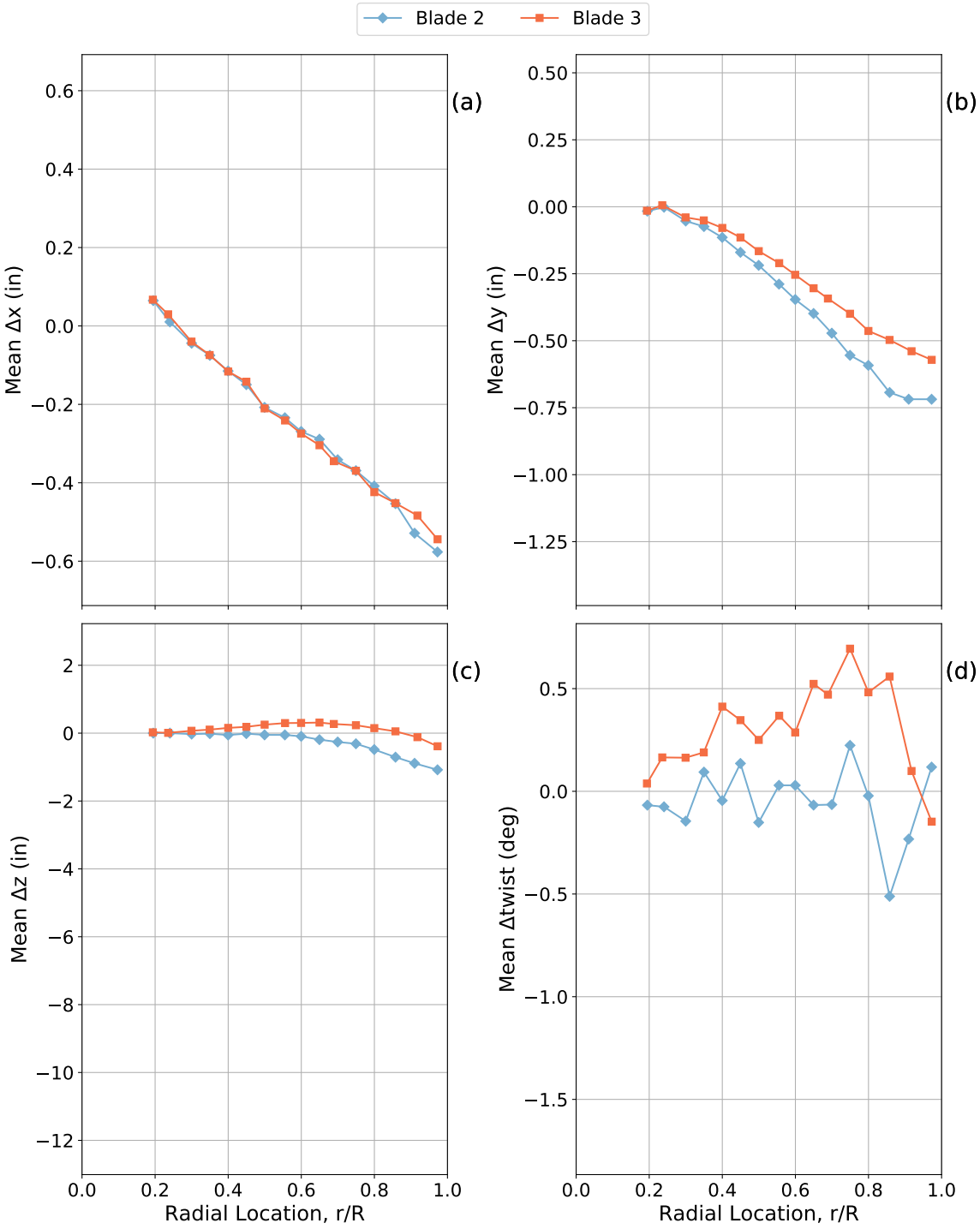


Figure 4.16-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0646	0.0009	-0.0163	0.0005	0.0007	0.0014	-0.0674	0.0236
2	274.92	0.2405	0.0103	0.0011	-0.0016	0.0018	0.0005	0.0050	-0.0754	0.0231
2	274.92	0.2999	-0.0441	0.0008	-0.0531	0.0022	-0.0280	0.0072	-0.1453	0.0455
2	274.92	0.3498	-0.0750	0.0007	-0.0739	0.0046	-0.0151	0.0097	0.0936	0.0611
2	274.92	0.3998	-0.1149	0.0016	-0.1144	0.0066	-0.0553	0.0179	-0.0450	0.0340
2	274.92	0.4496	-0.1497	0.0016	-0.1701	0.0094	-0.0143	0.0260	0.1357	0.0345
2	274.92	0.4995	-0.2077	0.0015	-0.2186	0.0104	-0.0512	0.0286	-0.1518	0.0469
2	274.92	0.5551	-0.2342	0.0014	-0.2888	0.0125	-0.0519	0.0364	0.0292	0.0349
2	274.92	0.5996	-0.2691	0.0018	-0.3462	0.0177	-0.0942	0.0413	0.0291	0.0452
2	274.92	0.6497	-0.2889	0.0014	-0.3984	0.0188	-0.1917	0.0476	-0.0670	0.0544
2	274.92	0.6996	-0.3412	0.0023	-0.4719	0.0226	-0.2600	0.0524	-0.0647	0.0479
2	274.92	0.7495	-0.3691	0.0023	-0.5545	0.0261	-0.3125	0.0602	0.2237	0.0500
2	274.92	0.7996	-0.4084	0.0027	-0.5921	0.0282	-0.4838	0.0565	-0.0219	0.0738
2	274.92	0.8578	-0.4533	0.0034	-0.6932	0.0318	-0.7079	0.0687	-0.5115	0.0927
2	274.92	0.9100	-0.5286	0.0062	-0.7184	0.0369	-0.8892	0.0732	-0.2326	0.1246
2	274.92	0.9727	-0.5765	0.0061	-0.7185	0.0401	-1.0804	0.0831	0.1180	0.1140
3	274.92	0.1938	0.0670	0.0012	-0.0147	0.0007	0.0241	0.0013	0.0380	0.0211
3	274.92	0.2357	0.0297	0.0011	0.0058	0.0016	0.0086	0.0037	0.1650	0.0360
3	274.92	0.2995	-0.0399	0.0007	-0.0397	0.0021	0.0697	0.0065	0.1636	0.0472
3	274.92	0.3493	-0.0742	0.0015	-0.0509	0.0038	0.1035	0.0100	0.1894	0.0572
3	274.92	0.4000	-0.1162	0.0019	-0.0790	0.0061	0.1549	0.0167	0.4124	0.0494
3	274.92	0.4497	-0.1422	0.0026	-0.1146	0.0067	0.1856	0.0200	0.3464	0.0488
3	274.92	0.4997	-0.2103	0.0023	-0.1656	0.0087	0.2503	0.0270	0.2503	0.0324
3	274.92	0.5556	-0.2411	0.0016	-0.2104	0.0084	0.2966	0.0314	0.3679	0.0327
3	274.92	0.5995	-0.2744	0.0022	-0.2540	0.0097	0.3010	0.0363	0.2866	0.0334
3	274.92	0.6498	-0.3043	0.0025	-0.3041	0.0107	0.3120	0.0393	0.5231	0.0532
3	274.92	0.6890	-0.3449	0.0026	-0.3425	0.0129	0.2702	0.0416	0.4709	0.0512
3	274.92	0.7495	-0.3693	0.0022	-0.3993	0.0157	0.2334	0.0515	0.6944	0.0396
3	274.92	0.7998	-0.4239	0.0036	-0.4636	0.0183	0.1483	0.0538	0.4822	0.0297
3	274.92	0.8577	-0.4520	0.0057	-0.4971	0.0206	0.0528	0.0596	0.5587	0.1172
3	274.92	0.9178	-0.4836	0.0133	-0.5392	0.0263	-0.1189	0.0784	0.0989	0.2332
3	274.92	0.9729	-0.5441	0.0087	-0.5714	0.0290	-0.3872	0.0768	-0.1477	0.2239

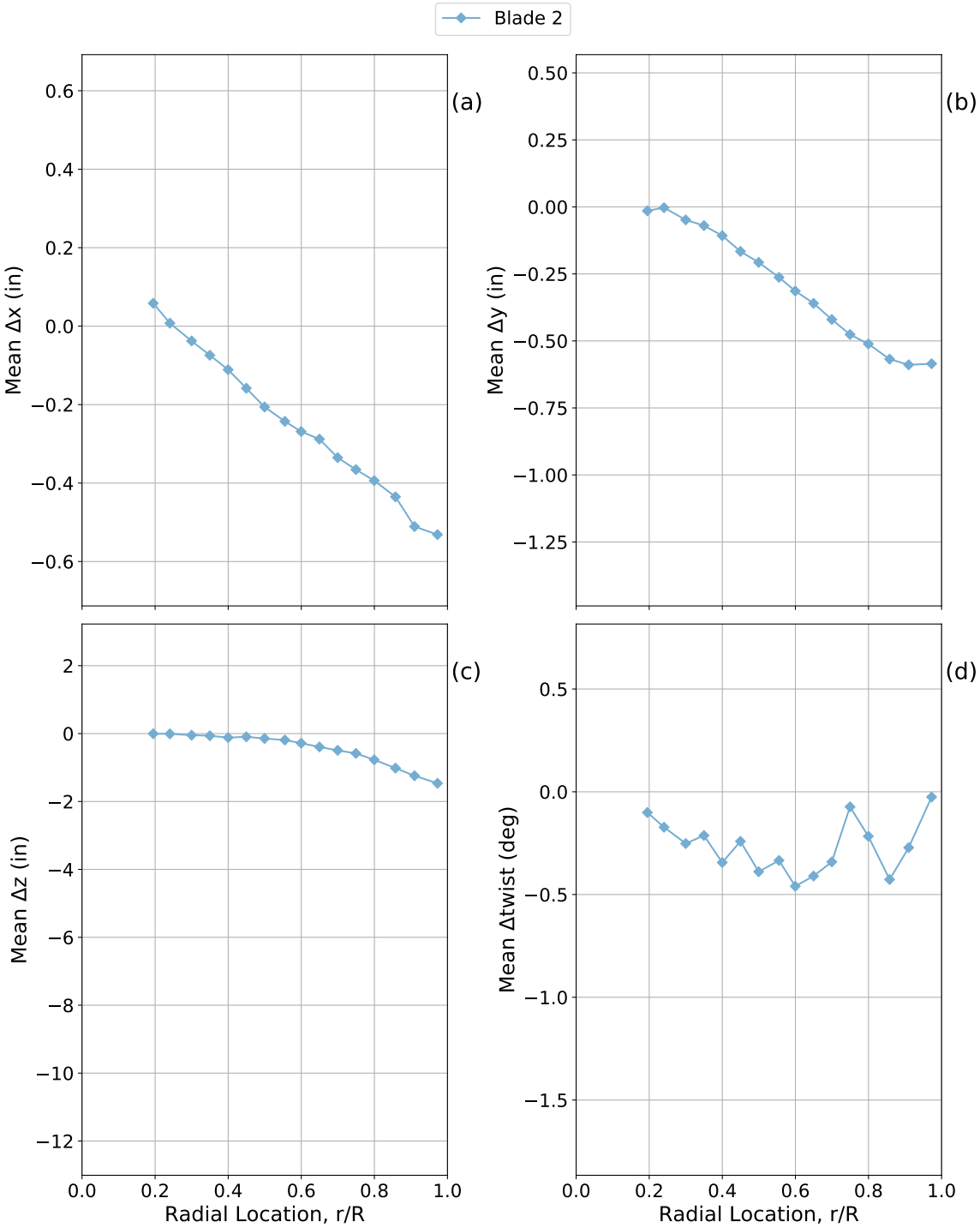


Figure 4.16-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0583	0.0021	-0.0146	0.0006	-0.0054	0.0018	-0.1009	0.0185
2	285.12	0.2405	0.0075	0.0013	-0.0030	0.0027	-0.0087	0.0040	-0.1724	0.0158
2	285.12	0.2999	-0.0378	0.0008	-0.0485	0.0045	-0.0478	0.0111	-0.2518	0.0291
2	285.12	0.3498	-0.0742	0.0010	-0.0698	0.0068	-0.0640	0.0122	-0.2128	0.0466
2	285.12	0.3998	-0.1111	0.0024	-0.1075	0.0120	-0.1197	0.0234	-0.3443	0.0278
2	285.12	0.4496	-0.1583	0.0032	-0.1661	0.0140	-0.0948	0.0266	-0.2413	0.0317
2	285.12	0.4995	-0.2061	0.0016	-0.2071	0.0147	-0.1459	0.0291	-0.3889	0.0250
2	285.12	0.5551	-0.2428	0.0013	-0.2629	0.0183	-0.1903	0.0412	-0.3342	0.0529
2	285.12	0.5996	-0.2687	0.0027	-0.3138	0.0221	-0.2830	0.0408	-0.4596	0.0409
2	285.12	0.6497	-0.2880	0.0020	-0.3598	0.0264	-0.3939	0.0530	-0.4101	0.0545
2	285.12	0.6996	-0.3352	0.0022	-0.4201	0.0302	-0.4949	0.0580	-0.3411	0.0362
2	285.12	0.7495	-0.3657	0.0012	-0.4760	0.0331	-0.5838	0.0651	-0.0733	0.0350
2	285.12	0.7996	-0.3938	0.0013	-0.5114	0.0370	-0.7721	0.0729	-0.2167	0.0397
2	285.12	0.8578	-0.4352	0.0030	-0.5679	0.0415	-1.0172	0.0899	-0.4268	0.0707
2	285.12	0.9100	-0.5109	0.0026	-0.5891	0.0458	-1.2432	0.1014	-0.2717	0.0490
2	285.12	0.9727	-0.5314	0.0034	-0.5851	0.0508	-1.4655	0.1137	-0.0255	0.0438

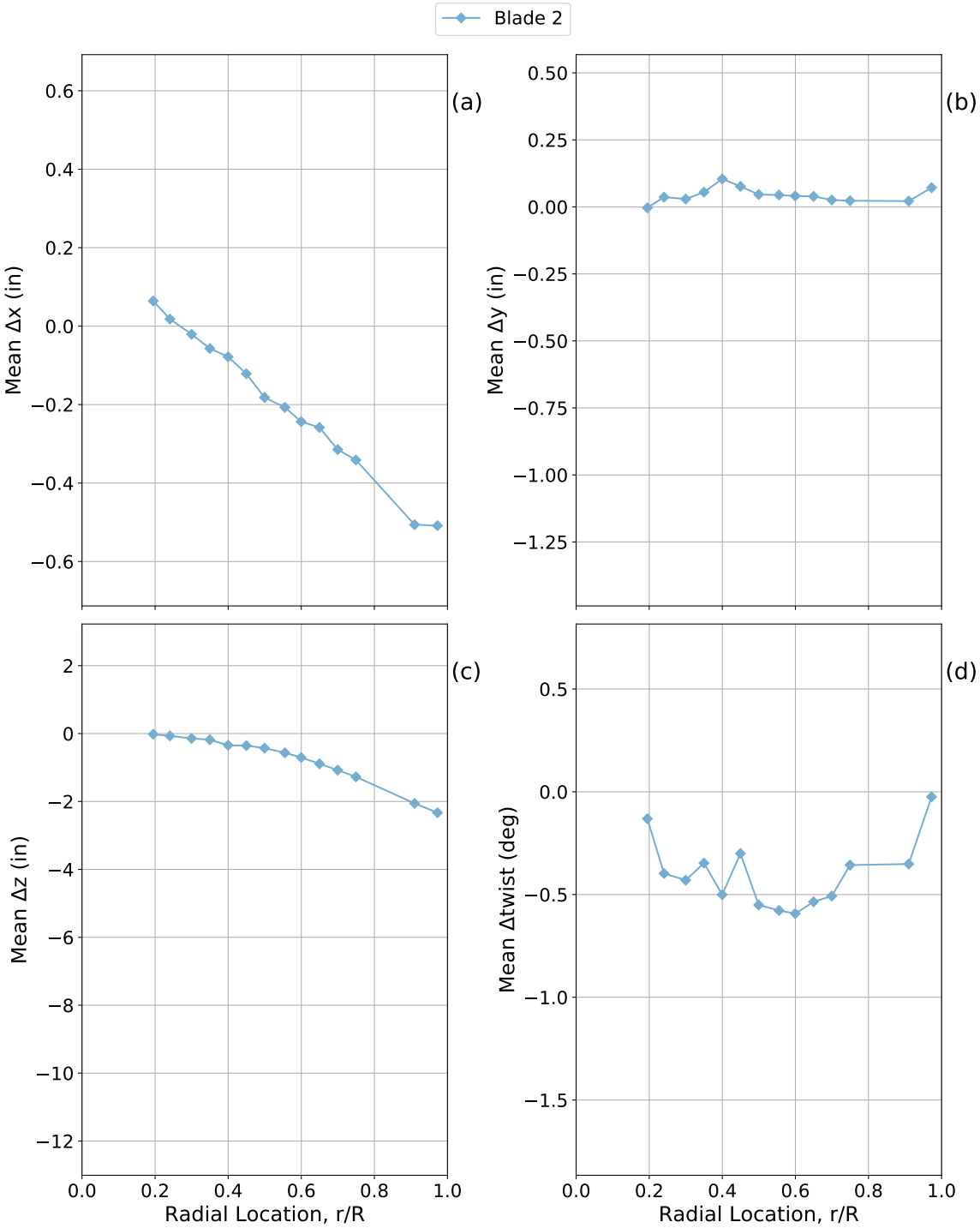


Figure 4.16-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0642	0.0015	-0.0036	0.0008	-0.0185	0.0022	-0.1312	0.0254
2	299.88	0.2405	0.0181	0.0021	0.0364	0.0043	-0.0687	0.0073	-0.3974	0.0207
2	299.88	0.2999	-0.0208	0.0013	0.0293	0.0060	-0.1428	0.0096	-0.4301	0.0488
2	299.88	0.3498	-0.0570	0.0020	0.0550	0.0110	-0.1833	0.0187	-0.3470	0.0400
2	299.88	0.3998	-0.0781	0.0027	0.1043	0.0180	-0.3454	0.0278	-0.5009	0.0361
2	299.88	0.4496	-0.1213	0.0044	0.0764	0.0194	-0.3549	0.0296	-0.3001	0.0473
2	299.88	0.4995	-0.1819	0.0035	0.0463	0.0205	-0.4285	0.0397	-0.5507	0.0395
2	299.88	0.5551	-0.2070	0.0018	0.0443	0.0228	-0.5661	0.0440	-0.5774	0.0668
2	299.88	0.5996	-0.2435	0.0034	0.0406	0.0259	-0.7047	0.0511	-0.5928	0.0349
2	299.88	0.6497	-0.2583	0.0020	0.0392	0.0289	-0.8891	0.0583	-0.5355	0.0369
2	299.88	0.6996	-0.3146	0.0025	0.0257	0.0335	-1.0772	0.0659	-0.5073	0.0535
2	299.88	0.7495	-0.3412	0.0038	0.0229	0.0366	-1.2738	0.0738	-0.3567	0.0378
2	299.88	0.9100	-0.5062	0.0026	0.0216	0.0473	-2.0559	0.1000	-0.3515	0.0344
2	299.88	0.9727	-0.5086	0.0039	0.0717	0.0516	-2.3299	0.1118	-0.0247	0.0457

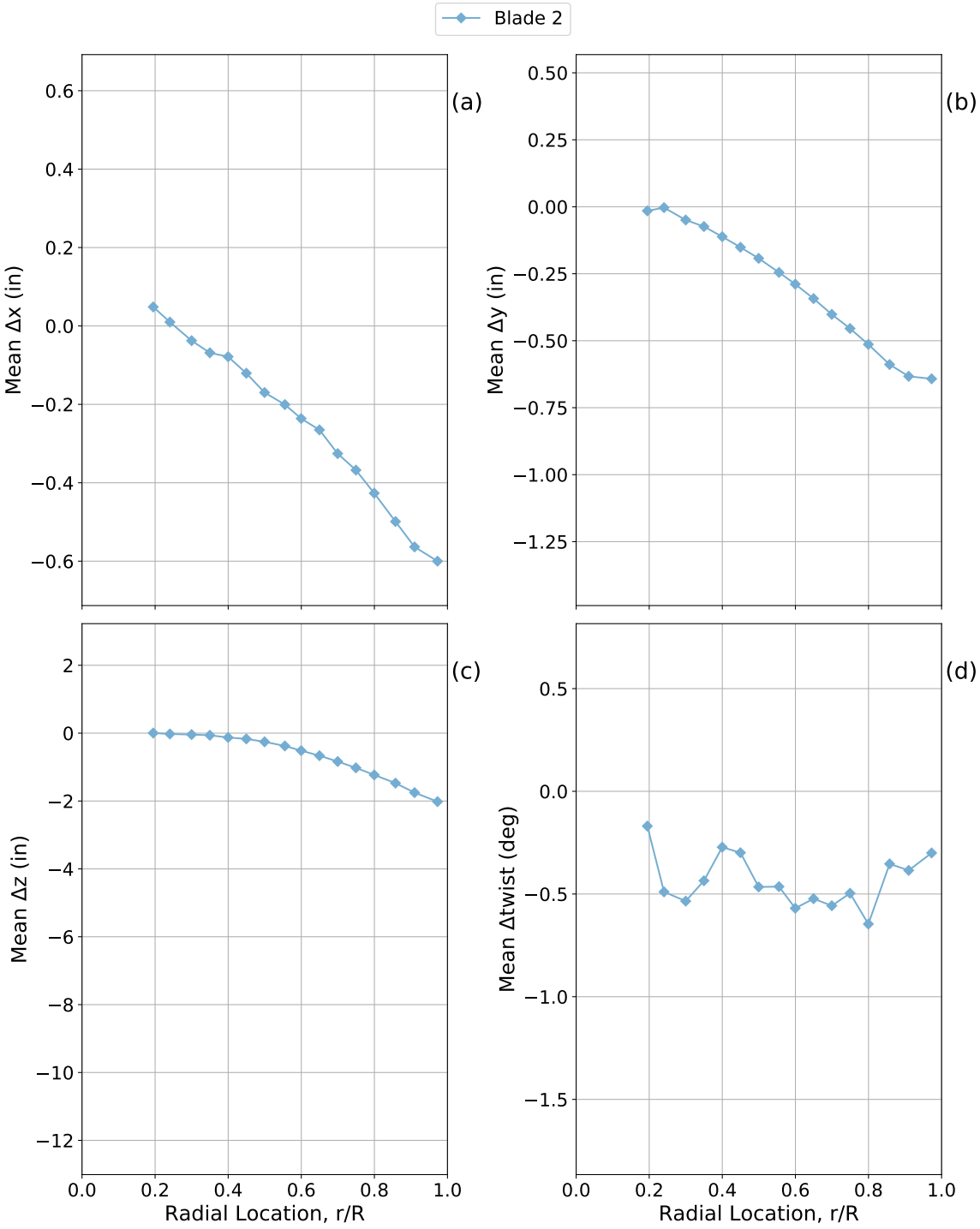


Figure 4.16-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0485	0.0017	-0.0152	0.0005	0.0030	0.0013	-0.1693	0.0130
2	315	0.2405	0.0099	0.0013	-0.0032	0.0017	-0.0243	0.0043	-0.4896	0.0178
2	315	0.2999	-0.0376	0.0017	-0.0494	0.0036	-0.0423	0.0076	-0.5347	0.0282
2	315	0.3498	-0.0685	0.0019	-0.0738	0.0049	-0.0627	0.0113	-0.4354	0.0382
2	315	0.3998	-0.0785	0.0040	-0.1117	0.0090	-0.1284	0.0195	-0.2720	0.0455
2	315	0.4496	-0.1206	0.0032	-0.1512	0.0095	-0.1696	0.0240	-0.2990	0.0374
2	315	0.4995	-0.1698	0.0038	-0.1926	0.0122	-0.2558	0.0295	-0.4657	0.0242
2	315	0.5551	-0.2006	0.0039	-0.2451	0.0154	-0.3777	0.0360	-0.4640	0.0364
2	315	0.5996	-0.2362	0.0041	-0.2889	0.0177	-0.5153	0.0403	-0.5694	0.0262
2	315	0.6497	-0.2651	0.0055	-0.3427	0.0205	-0.6642	0.0456	-0.5229	0.0338
2	315	0.6996	-0.3256	0.0040	-0.4017	0.0250	-0.8361	0.0533	-0.5570	0.0571
2	315	0.7495	-0.3677	0.0041	-0.4544	0.0282	-1.0224	0.0602	-0.4964	0.0604
2	315	0.7996	-0.4266	0.0041	-0.5137	0.0309	-1.2310	0.0668	-0.6462	0.0330
2	315	0.8578	-0.4989	0.0044	-0.5888	0.0346	-1.4726	0.0769	-0.3533	0.0342
2	315	0.9100	-0.5636	0.0044	-0.6328	0.0384	-1.7525	0.0881	-0.3850	0.0390
2	315	0.9727	-0.6000	0.0047	-0.6422	0.0425	-2.0183	0.1009	-0.3001	0.0322

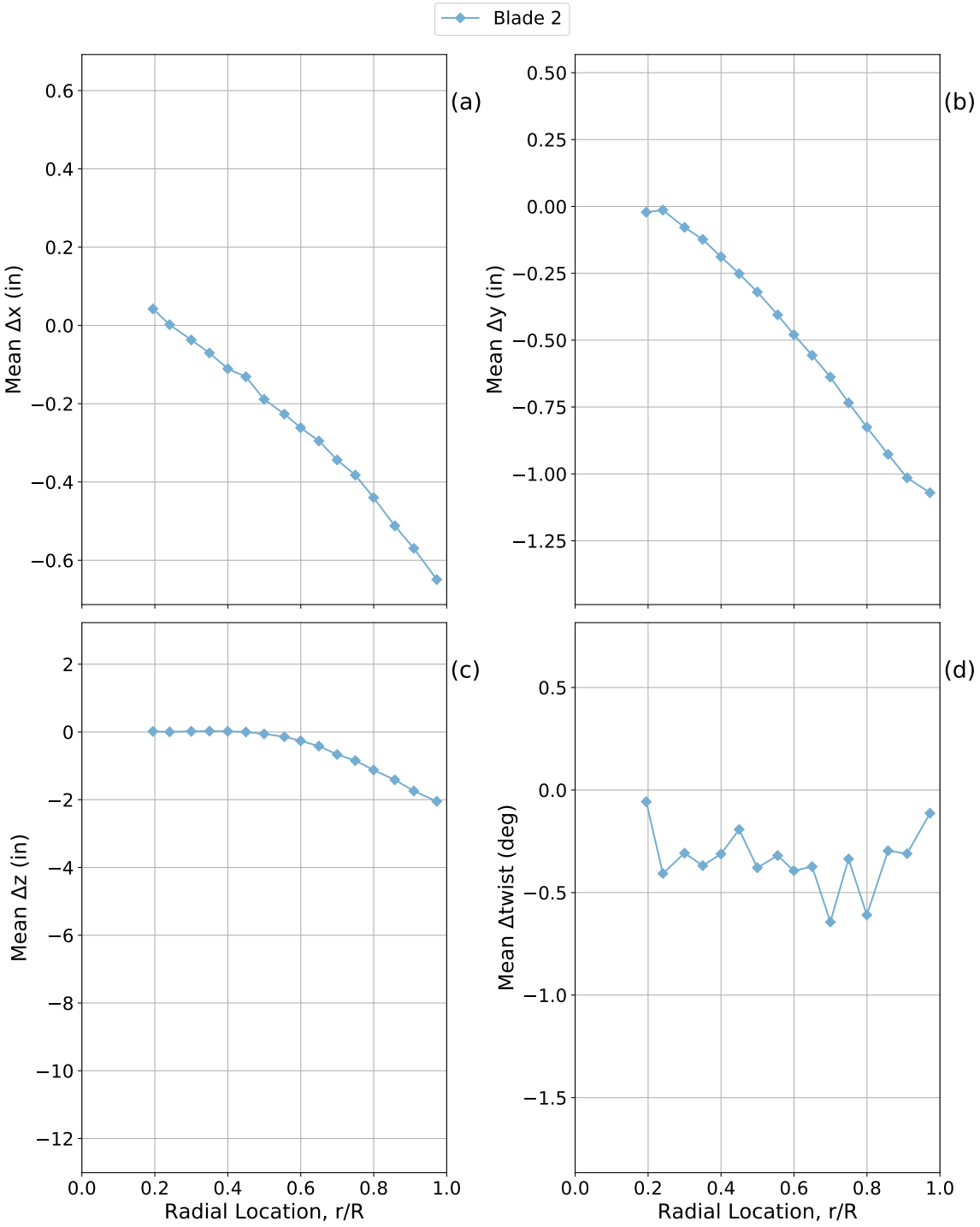


Figure 4.16-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0422	0.0009	-0.0218	0.0005	0.0159	0.0014	-0.0570	0.0145
2	330.12	0.2405	0.0019	0.0011	-0.0137	0.0017	0.0029	0.0029	-0.4072	0.0271
2	330.12	0.2999	-0.0371	0.0018	-0.0782	0.0027	0.0188	0.0082	-0.3077	0.0312
2	330.12	0.3498	-0.0704	0.0025	-0.1233	0.0053	0.0248	0.0099	-0.3686	0.0389
2	330.12	0.3998	-0.1107	0.0029	-0.1881	0.0051	0.0184	0.0182	-0.3119	0.0285
2	330.12	0.4496	-0.1311	0.0038	-0.2514	0.0053	-0.0002	0.0240	-0.1924	0.0286
2	330.12	0.4995	-0.1889	0.0023	-0.3200	0.0080	-0.0587	0.0267	-0.3790	0.0312
2	330.12	0.5551	-0.2265	0.0032	-0.4052	0.0079	-0.1419	0.0339	-0.3199	0.0392
2	330.12	0.5996	-0.2613	0.0030	-0.4793	0.0107	-0.2623	0.0400	-0.3936	0.0389
2	330.12	0.6497	-0.2952	0.0025	-0.5567	0.0122	-0.4181	0.0473	-0.3736	0.0531
2	330.12	0.6996	-0.3435	0.0031	-0.6379	0.0125	-0.6646	0.0592	-0.6434	0.0677
2	330.12	0.7495	-0.3824	0.0031	-0.7342	0.0149	-0.8456	0.0634	-0.3361	0.0340
2	330.12	0.7996	-0.4399	0.0035	-0.8255	0.0176	-1.1229	0.0726	-0.6095	0.0307
2	330.12	0.8578	-0.5121	0.0030	-0.9268	0.0199	-1.4139	0.0775	-0.2962	0.0452
2	330.12	0.9100	-0.5695	0.0034	-1.0147	0.0214	-1.7430	0.0844	-0.3103	0.0314
2	330.12	0.9727	-0.6493	0.0035	-1.0704	0.0244	-2.0482	0.0920	-0.1131	0.0386

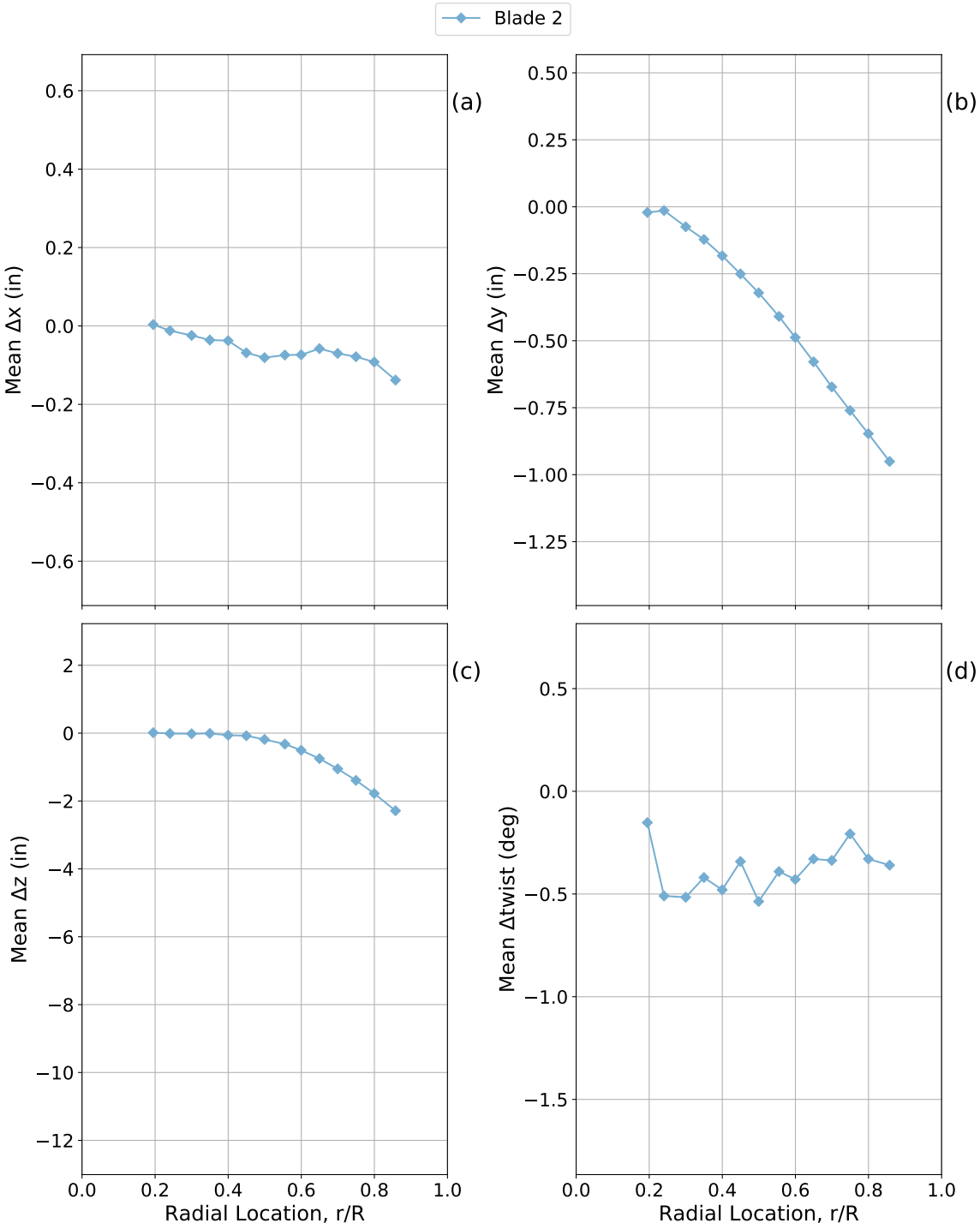


Figure 4.16-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0036	0.0036	-0.0213	0.0012	0.0131	0.0024	-0.1525	0.0112
2	344.88	0.2405	-0.0121	0.0014	-0.0141	0.0011	-0.0114	0.0036	-0.5094	0.0325
2	344.88	0.2999	-0.0242	0.0015	-0.0747	0.0034	-0.0183	0.0077	-0.5159	0.0334
2	344.88	0.3498	-0.0359	0.0034	-0.1220	0.0062	-0.0086	0.0124	-0.4197	0.0347
2	344.88	0.3998	-0.0375	0.0049	-0.1830	0.0084	-0.0611	0.0187	-0.4797	0.0376
2	344.88	0.4496	-0.0685	0.0059	-0.2507	0.0110	-0.0763	0.0231	-0.3418	0.0455
2	344.88	0.4995	-0.0809	0.0068	-0.3213	0.0134	-0.1858	0.0297	-0.5365	0.0401
2	344.88	0.5551	-0.0742	0.0068	-0.4094	0.0167	-0.3220	0.0370	-0.3905	0.0348
2	344.88	0.5996	-0.0736	0.0084	-0.4878	0.0188	-0.5048	0.0425	-0.4289	0.0445
2	344.88	0.6497	-0.0579	0.0084	-0.5786	0.0223	-0.7517	0.0448	-0.3294	0.0440
2	344.88	0.6996	-0.0701	0.0096	-0.6723	0.0246	-1.0523	0.0513	-0.3365	0.0457
2	344.88	0.7495	-0.0785	0.0090	-0.7605	0.0280	-1.3911	0.0578	-0.2073	0.0461
2	344.88	0.7996	-0.0920	0.0109	-0.8470	0.0298	-1.7785	0.0624	-0.3294	0.0847
2	344.88	0.8578	-0.1381	0.0112	-0.9507	0.0326	-2.2875	0.0736	-0.3597	0.1193

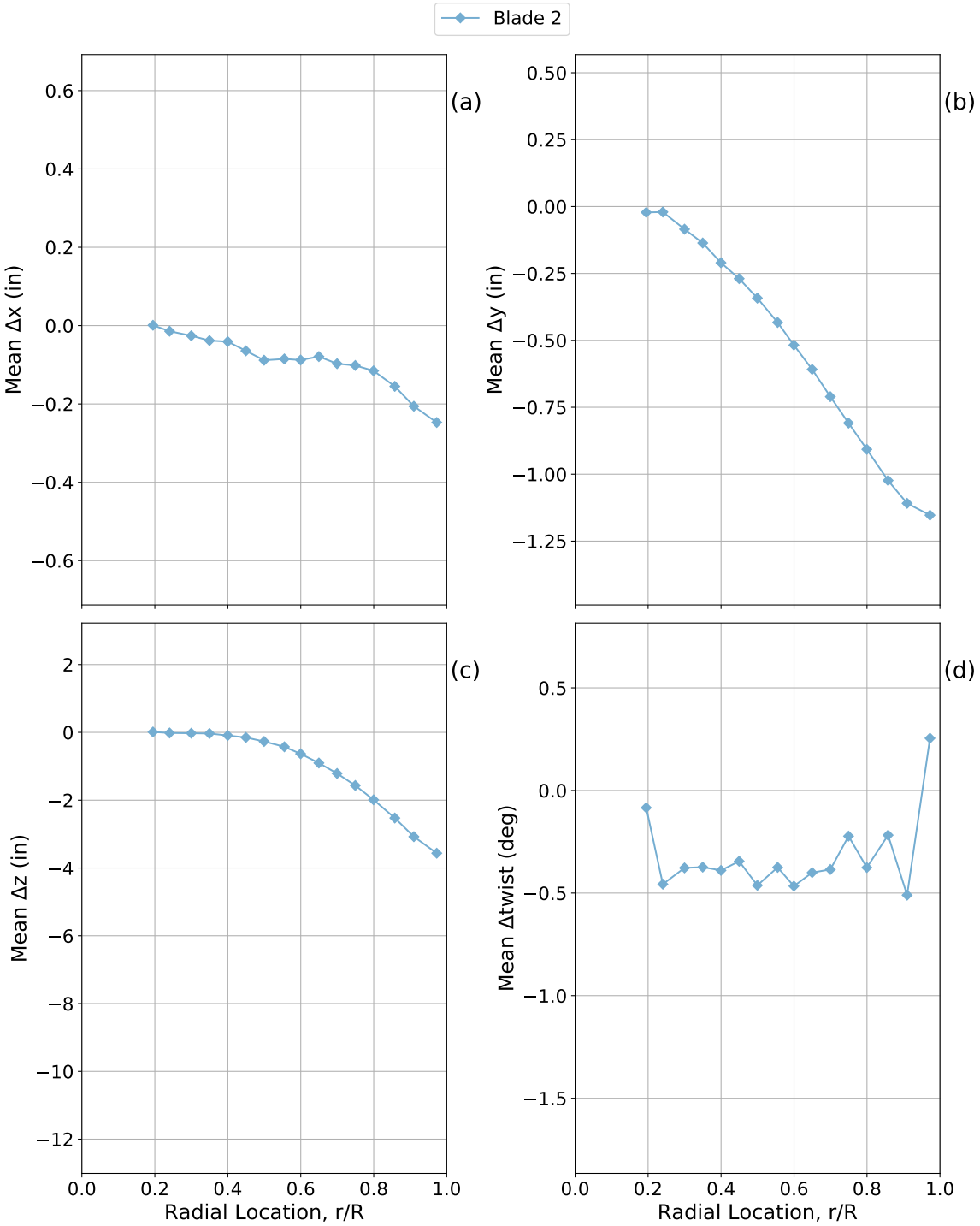


Figure 4.16-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0009	0.0038	-0.0219	0.0011	0.0114	0.0024	-0.0840	0.0204
2	350.16	0.2405	-0.0143	0.0017	-0.0205	0.0012	-0.0178	0.0041	-0.4567	0.0338
2	350.16	0.2999	-0.0259	0.0012	-0.0847	0.0042	-0.0256	0.0086	-0.3772	0.0491
2	350.16	0.3498	-0.0382	0.0036	-0.1362	0.0072	-0.0335	0.0143	-0.3735	0.0522
2	350.16	0.3998	-0.0408	0.0050	-0.2100	0.0108	-0.0932	0.0217	-0.3895	0.0499
2	350.16	0.4496	-0.0645	0.0048	-0.2694	0.0128	-0.1508	0.0261	-0.3448	0.0649
2	350.16	0.4995	-0.0885	0.0065	-0.3422	0.0163	-0.2694	0.0346	-0.4624	0.0678
2	350.16	0.5551	-0.0852	0.0075	-0.4330	0.0196	-0.4265	0.0444	-0.3747	0.0622
2	350.16	0.5996	-0.0879	0.0076	-0.5177	0.0223	-0.6330	0.0512	-0.4661	0.0556
2	350.16	0.6497	-0.0791	0.0102	-0.6085	0.0251	-0.9035	0.0602	-0.4001	0.0616
2	350.16	0.6996	-0.0973	0.0105	-0.7104	0.0282	-1.2125	0.0674	-0.3849	0.0563
2	350.16	0.7495	-0.1018	0.0108	-0.8091	0.0322	-1.5659	0.0729	-0.2225	0.0594
2	350.16	0.7996	-0.1155	0.0103	-0.9073	0.0362	-1.9893	0.0810	-0.3756	0.0557
2	350.16	0.8578	-0.1551	0.0126	-1.0235	0.0399	-2.5267	0.0929	-0.2177	0.0426
2	350.16	0.9100	-0.2058	0.0130	-1.1089	0.0441	-3.0762	0.0997	-0.5101	0.0939
2	350.16	0.9727	-0.2473	0.0158	-1.1533	0.0498	-3.5638	0.1052	0.2546	0.1526

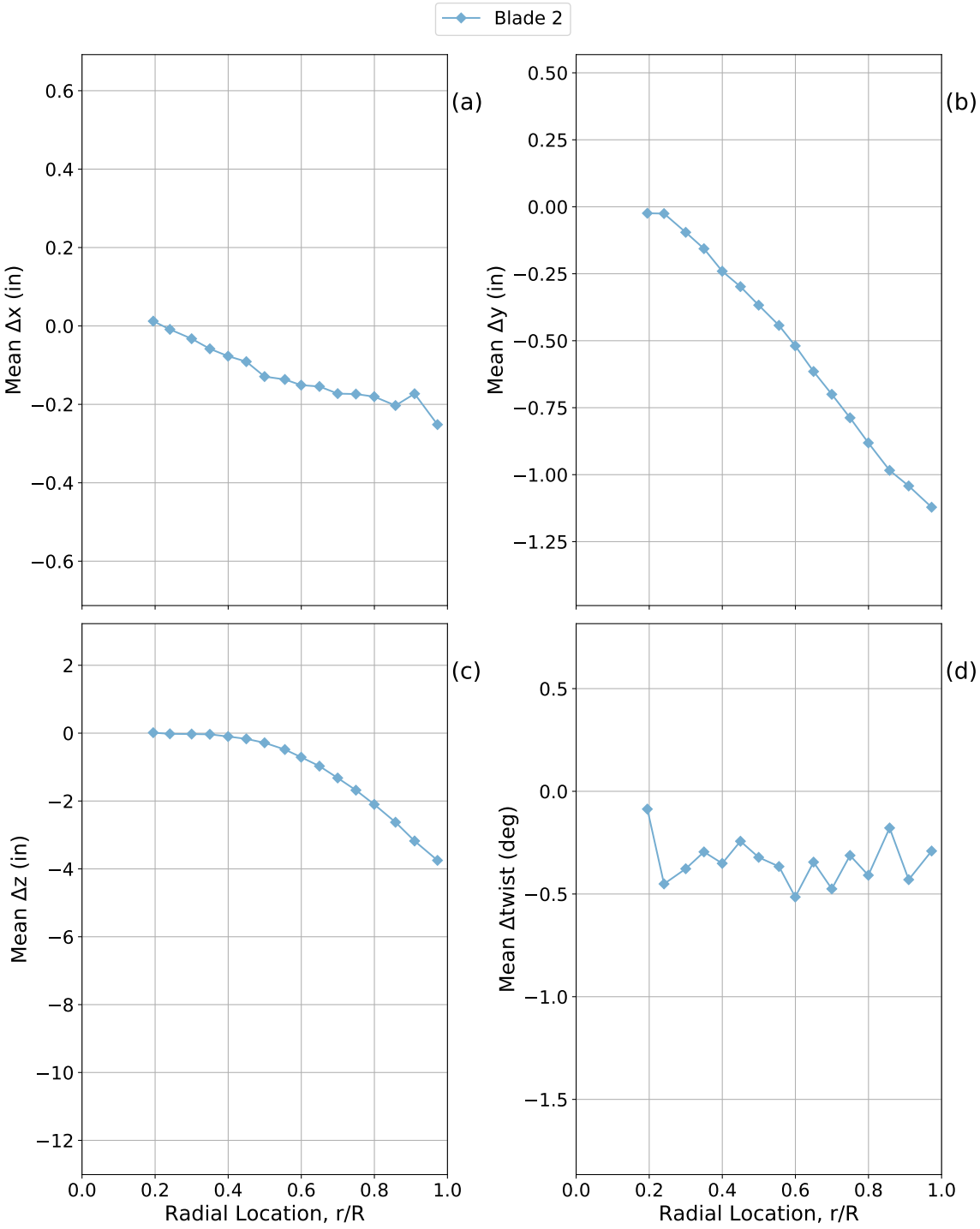


Figure 4.16-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Table 4.16-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 69, point 7. BD run 33, points 5134 to 5144.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0122	0.0027	-0.0242	0.0014	0.0138	0.0027	-0.0865	0.0228
2	355.08	0.2405	-0.0088	0.0012	-0.0254	0.0022	-0.0205	0.0033	-0.4509	0.0245
2	355.08	0.2999	-0.0326	0.0014	-0.0954	0.0056	-0.0267	0.0087	-0.3771	0.0409
2	355.08	0.3498	-0.0583	0.0028	-0.1565	0.0089	-0.0340	0.0119	-0.2950	0.0441
2	355.08	0.3998	-0.0771	0.0044	-0.2406	0.0141	-0.1001	0.0187	-0.3510	0.0564
2	355.08	0.4496	-0.0910	0.0065	-0.2981	0.0185	-0.1685	0.0255	-0.2431	0.0384
2	355.08	0.4995	-0.1291	0.0073	-0.3673	0.0220	-0.2843	0.0320	-0.3215	0.0405
2	355.08	0.5551	-0.1365	0.0091	-0.4429	0.0275	-0.4826	0.0439	-0.3662	0.0450
2	355.08	0.5996	-0.1510	0.0101	-0.5193	0.0321	-0.7093	0.0513	-0.5147	0.0435
2	355.08	0.6497	-0.1544	0.0109	-0.6149	0.0370	-0.9720	0.0590	-0.3447	0.0405
2	355.08	0.6996	-0.1726	0.0133	-0.7000	0.0423	-1.3211	0.0687	-0.4751	0.0557
2	355.08	0.7495	-0.1737	0.0154	-0.7878	0.0443	-1.6812	0.0743	-0.3122	0.0468
2	355.08	0.7996	-0.1803	0.0161	-0.8813	0.0464	-2.1005	0.0810	-0.4088	0.0518
2	355.08	0.8578	-0.2030	0.0164	-0.9840	0.0496	-2.6260	0.0874	-0.1784	0.0386
2	355.08	0.9100	-0.1729	0.0267	-1.0421	0.0524	-3.1780	0.0991	-0.4302	0.0604
2	355.08	0.9727	-0.2516	0.0183	-1.1215	0.0596	-3.7493	0.0982	-0.2907	0.0963

4.17 Run 69, Point 56

4.17.1 Pitch, Flap, and Lag

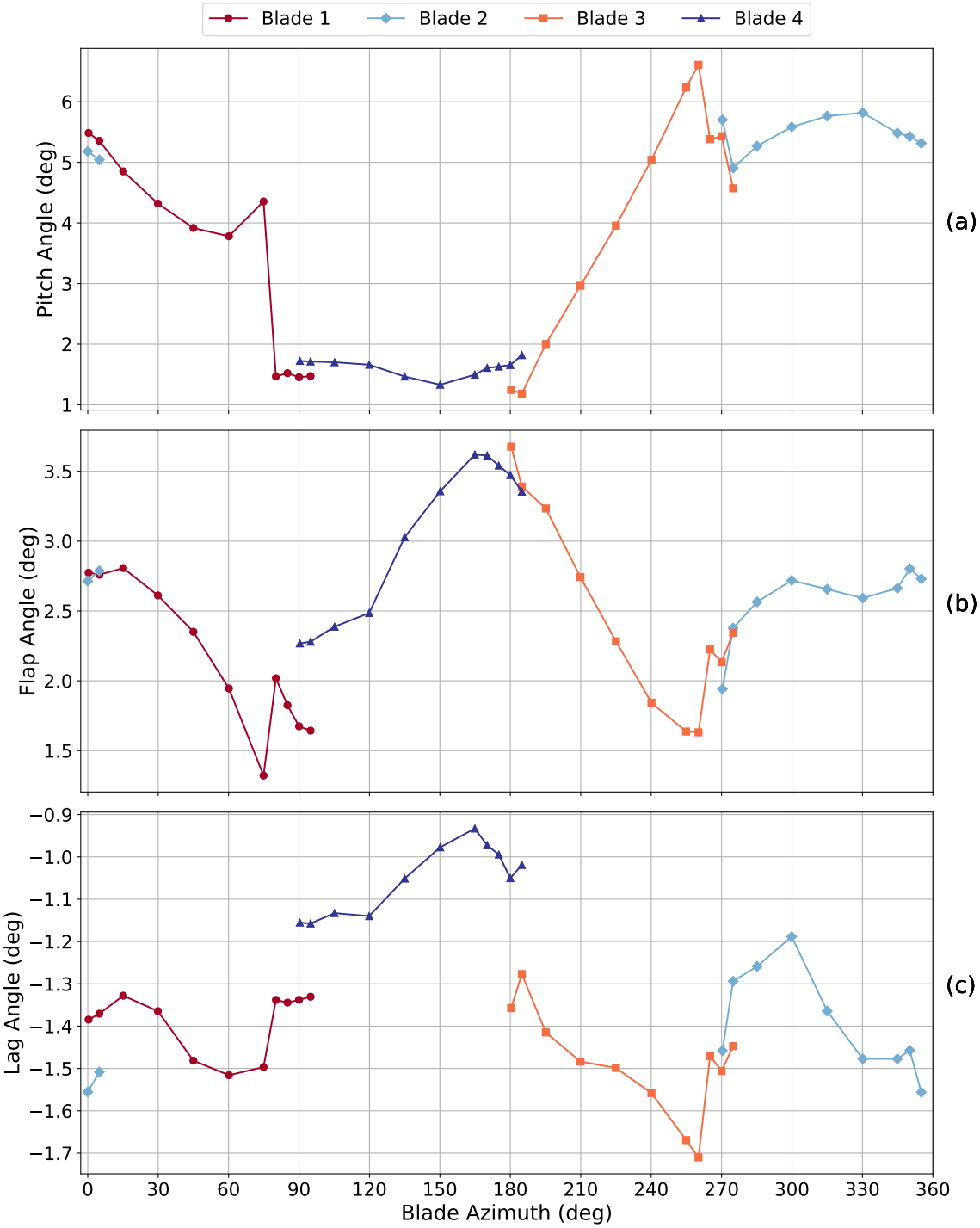


Figure 4.17-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.051, μ = 0.149, α = 0°
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.1805	2.7135	-1.5554	0.1201	0.0480	0.0294
0.35	1	5.4853	2.7741	-1.3845	0.1314	0.0543	0.0375
4.92	1	5.3555	2.7597	-1.3706	0.1047	0.0387	0.0228
4.92	2	5.0423	2.7878	-1.5083	0.0608	0.0309	0.0170
15.12	1	4.8506	2.8070	-1.3280	0.0731	0.0287	0.0166
29.88	1	4.3204	2.6113	-1.3646	0.0995	0.0448	0.0208
45	1	3.9173	2.3509	-1.4816	0.0840	0.0403	0.0204
60.12	1	3.7807	1.9452	-1.5159	0.1353	0.0518	0.0291
74.88	1	4.3546	1.3217	-1.4968	0.1926	0.0738	0.0287
80.16	1	1.4682	2.0183	-1.3379	0.0441	0.0227	0.0134
85.08	1	1.5217	1.8253	-1.3443	0.0493	0.0175	0.0125
90	1	1.4548	1.6743	-1.3378	0.0242	0.0203	0.0141
90.35	4	1.7235	2.2678	-1.1552	0.0334	0.0165	0.0109
94.92	1	1.4737	1.6429	-1.3305	0.0240	0.0185	0.0145
94.92	4	1.7145	2.2804	-1.1574	0.0271	0.0120	0.0177
105.12	4	1.7018	2.3874	-1.1329	0.0352	0.0131	0.0109
119.88	4	1.6609	2.4856	-1.1400	0.0257	0.0118	0.0149
135	4	1.4662	3.0282	-1.0512	0.0133	0.0259	0.0135
150.12	4	1.3315	3.3573	-0.9774	0.0207	0.0229	0.0114
164.88	4	1.4969	3.6198	-0.9331	0.0322	0.0183	0.0159
170.16	4	1.6088	3.6133	-0.9726	0.0309	0.0154	0.0198
175.08	4	1.6299	3.5408	-0.9945	0.0340	0.0207	0.0160
180	4	1.6565	3.4730	-1.0502	0.0229	0.0254	0.0160
180.35	3	1.2467	3.6762	-1.3571	0.0687	0.0347	0.0144
184.92	3	1.1840	3.3913	-1.2770	0.0751	0.0662	0.0448
184.92	4	1.8201	3.3547	-1.0190	0.0216	0.0190	0.0198
195.12	3	2.0024	3.2338	-1.4149	0.0361	0.0138	0.0152
209.88	3	2.9650	2.7418	-1.4838	0.0400	0.0175	0.0152
225	3	3.9560	2.2829	-1.4988	0.0259	0.0085	0.0136
240.12	3	5.0412	1.8428	-1.5582	0.0294	0.0174	0.0121
254.88	3	6.2340	1.6367	-1.6693	0.0769	0.0346	0.0236
260.16	3	6.6080	1.6311	-1.7101	0.1580	0.0606	0.0282
265.08	3	5.3825	2.2240	-1.4707	0.0765	0.0405	0.0129
270	3	5.4312	2.1339	-1.5062	0.0945	0.0334	0.0177
270.35	2	5.7014	1.9409	-1.4580	0.1385	0.0519	0.0266
274.92	2	4.9076	2.3773	-1.2938	0.0657	0.0259	0.0130
274.92	3	4.5711	2.3435	-1.4473	0.1416	0.0598	0.0233
285.12	2	5.2695	2.5650	-1.2587	0.0206	0.0166	0.0156
299.88	2	5.5844	2.7188	-1.1883	0.0254	0.0272	0.0248
315	2	5.7632	2.6555	-1.3644	0.0317	0.0129	0.0043
330.12	2	5.8181	2.5921	-1.4774	0.0282	0.0325	0.0100
344.88	2	5.4832	2.6630	-1.4775	0.0346	0.0583	0.0162
350.16	2	5.4264	2.8030	-1.4574	0.0504	0.0193	0.0120
355.08	2	5.3134	2.7300	-1.5563	0.0796	0.0317	0.0299

4.17.2 Spanwise Elastic Deformations

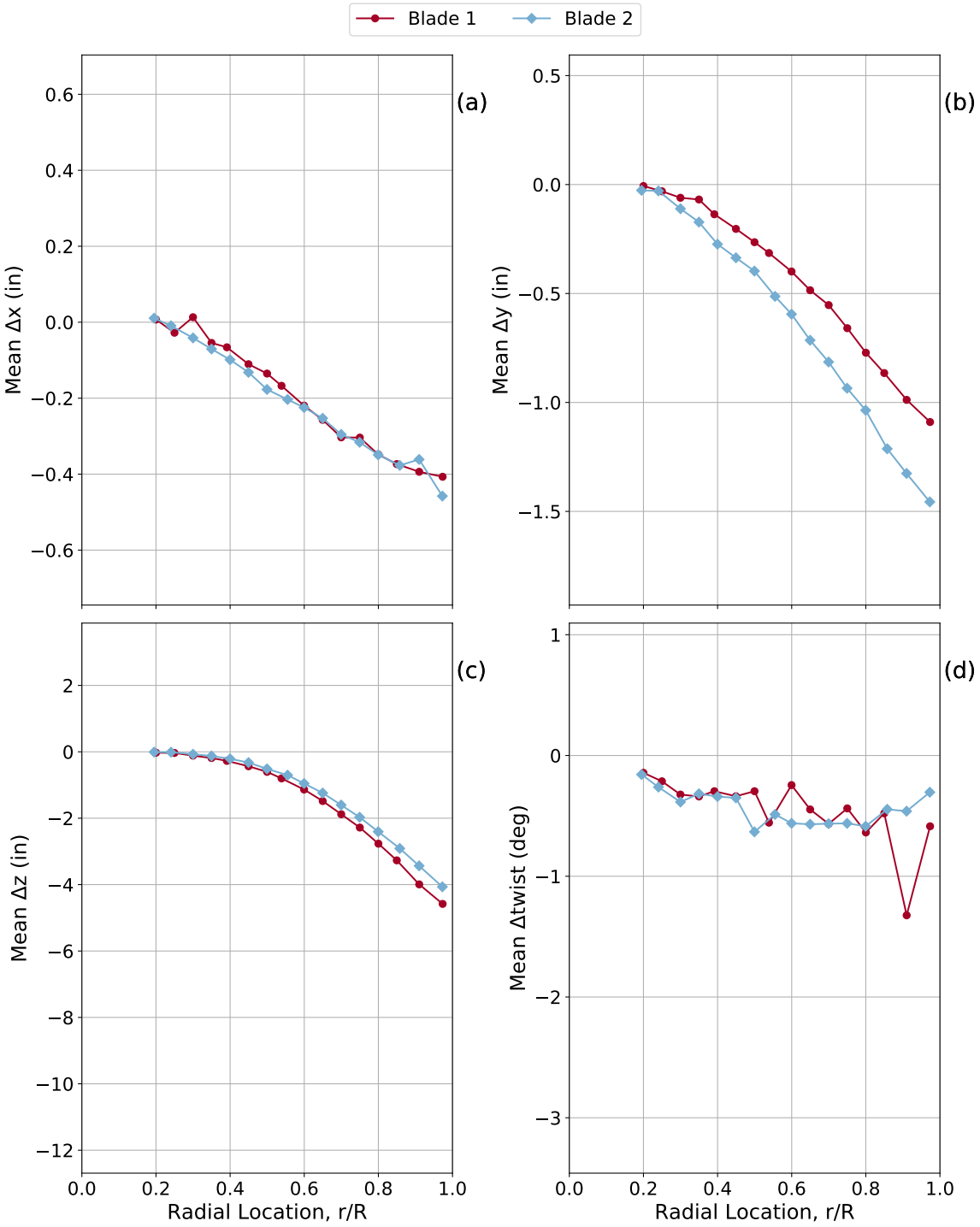


Figure 4.17-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0071	0.0060	-0.0068	0.0046	-0.0268	0.0106	-0.1436	0.0619
1	0.35	0.2499	-0.0277	0.0019	-0.0309	0.0028	-0.0345	0.0067	-0.2137	0.1536
1	0.35	0.2998	0.0132	0.0030	-0.0607	0.0146	-0.1158	0.0283	-0.3236	0.1486
1	0.35	0.3498	-0.0544	0.0025	-0.0687	0.0217	-0.1874	0.0440	-0.3394	0.1120
1	0.35	0.3913	-0.0660	0.0027	-0.1365	0.0296	-0.2733	0.0563	-0.2958	0.1145
1	0.35	0.4496	-0.1105	0.0025	-0.2035	0.0392	-0.4350	0.0728	-0.3376	0.1262
1	0.35	0.4997	-0.1352	0.0031	-0.2646	0.0479	-0.6038	0.0880	-0.2958	0.1263
1	0.35	0.5387	-0.1674	0.0035	-0.3142	0.0533	-0.8011	0.1011	-0.5564	0.1174
1	0.35	0.5996	-0.2197	0.0031	-0.3991	0.0632	-1.1369	0.1184	-0.2451	0.1433
1	0.35	0.6498	-0.2571	0.0031	-0.4851	0.0722	-1.4830	0.1354	-0.4469	0.1151
1	0.35	0.6998	-0.3032	0.0025	-0.5532	0.0786	-1.8803	0.1530	-0.5658	0.1210
1	0.35	0.7500	-0.3038	0.0028	-0.6592	0.0880	-2.2821	0.1691	-0.4380	0.1266
1	0.35	0.8001	-0.3486	0.0037	-0.7718	0.0945	-2.7670	0.1859	-0.6376	0.1201
1	0.35	0.8497	-0.3735	0.0033	-0.8651	0.1047	-3.2696	0.1987	-0.4790	0.1440
1	0.35	0.9102	-0.3938	0.0226	-0.9882	0.1180	-3.9929	0.2231	-1.3235	0.1789
1	0.35	0.9734	-0.4069	0.0065	-1.0899	0.1223	-4.5813	0.2404	-0.5863	0.1853
2	0	0.1949	0.0106	0.0052	-0.0266	0.0030	-0.0085	0.0059	-0.1576	0.0452
2	0	0.2405	-0.0093	0.0021	-0.0292	0.0030	-0.0117	0.0070	-0.2616	0.1066
2	0	0.2999	-0.0413	0.0016	-0.1111	0.0096	-0.0731	0.0179	-0.3851	0.1193
2	0	0.3498	-0.0705	0.0018	-0.1724	0.0177	-0.1252	0.0294	-0.3169	0.1186
2	0	0.3998	-0.0988	0.0019	-0.2737	0.0251	-0.2104	0.0430	-0.3400	0.1178
2	0	0.4496	-0.1320	0.0026	-0.3361	0.0324	-0.3235	0.0559	-0.3510	0.1160
2	0	0.4995	-0.1770	0.0025	-0.3971	0.0404	-0.5142	0.0675	-0.6322	0.1268
2	0	0.5551	-0.2034	0.0031	-0.5132	0.0471	-0.7032	0.0811	-0.4877	0.1170
2	0	0.5996	-0.2247	0.0033	-0.5949	0.0539	-0.9537	0.0903	-0.5616	0.1108
2	0	0.6497	-0.2529	0.0027	-0.7145	0.0615	-1.2411	0.1009	-0.5695	0.1238
2	0	0.6996	-0.2954	0.0021	-0.8143	0.0697	-1.6030	0.1116	-0.5646	0.1252
2	0	0.7495	-0.3162	0.0022	-0.9348	0.0757	-1.9710	0.1240	-0.5621	0.1077
2	0	0.7996	-0.3492	0.0024	-1.0359	0.0846	-2.4059	0.1388	-0.5859	0.1081
2	0	0.8578	-0.3769	0.0034	-1.2127	0.0952	-2.9109	0.1475	-0.4459	0.1306
2	0	0.9100	-0.3613	0.0147	-1.3258	0.1019	-3.4345	0.1573	-0.4612	0.1832
2	0	0.9727	-0.4578	0.0051	-1.4565	0.1104	-4.0665	0.1748	-0.3043	0.1564

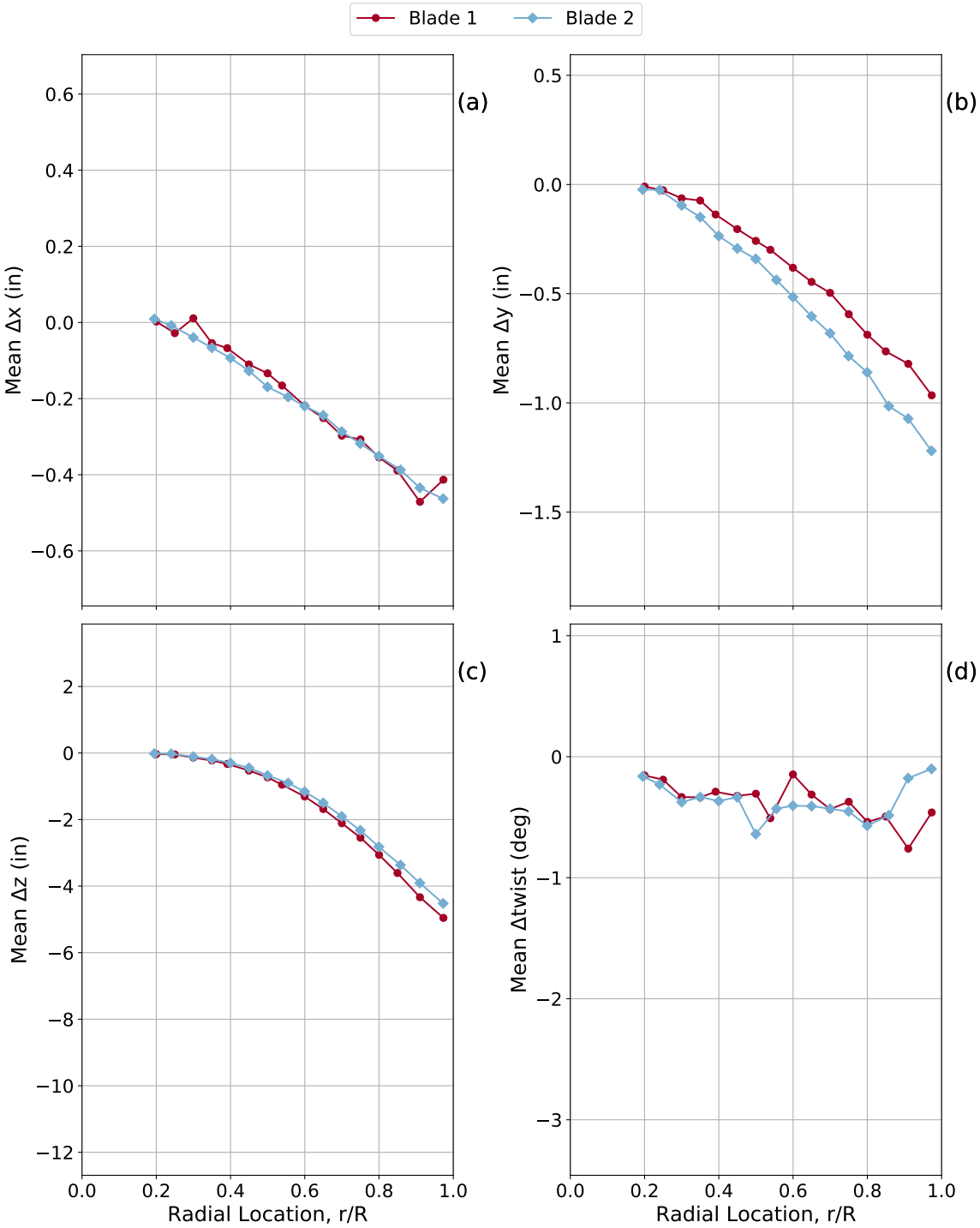


Figure 4.17-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0023	0.0053	-0.0095	0.0028	-0.0330	0.0065	-0.1551	0.0461
1	4.92	0.2499	-0.0281	0.0030	-0.0264	0.0046	-0.0434	0.0070	-0.1901	0.1144
1	4.92	0.2998	0.0110	0.0023	-0.0633	0.0103	-0.1391	0.0190	-0.3335	0.1118
1	4.92	0.3498	-0.0542	0.0036	-0.0735	0.0172	-0.2265	0.0301	-0.3360	0.1020
1	4.92	0.3913	-0.0674	0.0042	-0.1374	0.0242	-0.3284	0.0401	-0.2892	0.0955
1	4.92	0.4496	-0.1101	0.0036	-0.2043	0.0312	-0.5280	0.0528	-0.3236	0.1005
1	4.92	0.4997	-0.1336	0.0041	-0.2582	0.0377	-0.7326	0.0636	-0.3057	0.0903
1	4.92	0.5387	-0.1656	0.0037	-0.2990	0.0429	-0.9526	0.0726	-0.5084	0.1031
1	4.92	0.5996	-0.2183	0.0041	-0.3813	0.0518	-1.3069	0.0861	-0.1462	0.1075
1	4.92	0.6498	-0.2512	0.0037	-0.4459	0.0581	-1.6851	0.0992	-0.3129	0.1065
1	4.92	0.6998	-0.2974	0.0038	-0.4963	0.0648	-2.1113	0.1085	-0.4334	0.1130
1	4.92	0.7500	-0.3072	0.0044	-0.5942	0.0722	-2.5450	0.1227	-0.3722	0.0943
1	4.92	0.8001	-0.3547	0.0050	-0.6880	0.0802	-3.0616	0.1368	-0.5387	0.1118
1	4.92	0.8497	-0.3890	0.0053	-0.7642	0.0880	-3.6069	0.1506	-0.4943	0.0941
1	4.92	0.9102	-0.4712	0.0061	-0.8212	0.0980	-4.3347	0.1683	-0.7597	0.1352
1	4.92	0.9734	-0.4131	0.0082	-0.9654	0.1064	-4.9554	0.1966	-0.4609	0.1146
2	4.92	0.1949	0.0091	0.0036	-0.0232	0.0021	-0.0187	0.0032	-0.1621	0.0303
2	4.92	0.2405	-0.0080	0.0009	-0.0247	0.0021	-0.0252	0.0051	-0.2296	0.0622
2	4.92	0.2999	-0.0395	0.0015	-0.0958	0.0066	-0.1105	0.0107	-0.3755	0.0656
2	4.92	0.3498	-0.0664	0.0017	-0.1492	0.0092	-0.1845	0.0146	-0.3335	0.0593
2	4.92	0.3998	-0.0933	0.0025	-0.2358	0.0143	-0.3014	0.0235	-0.3665	0.0653
2	4.92	0.4496	-0.1271	0.0027	-0.2930	0.0180	-0.4450	0.0320	-0.3346	0.0536
2	4.92	0.4995	-0.1693	0.0021	-0.3409	0.0213	-0.6760	0.0397	-0.6396	0.0631
2	4.92	0.5551	-0.1958	0.0024	-0.4370	0.0265	-0.9010	0.0494	-0.4298	0.0631
2	4.92	0.5996	-0.2196	0.0020	-0.5153	0.0296	-1.1614	0.0553	-0.4046	0.0639
2	4.92	0.6497	-0.2439	0.0021	-0.6038	0.0339	-1.4991	0.0625	-0.4086	0.0814
2	4.92	0.6996	-0.2867	0.0023	-0.6813	0.0375	-1.9075	0.0683	-0.4301	0.0682
2	4.92	0.7495	-0.3181	0.0027	-0.7854	0.0412	-2.3239	0.0741	-0.4528	0.0650
2	4.92	0.7996	-0.3510	0.0032	-0.8601	0.0458	-2.8189	0.0815	-0.5701	0.0681
2	4.92	0.8578	-0.3873	0.0031	-1.0150	0.0492	-3.3676	0.0849	-0.4844	0.0855
2	4.92	0.9100	-0.4345	0.0025	-1.0720	0.0559	-3.9080	0.0892	-0.1774	0.1138
2	4.92	0.9727	-0.4630	0.0048	-1.2196	0.0593	-4.5203	0.0964	-0.1007	0.0749

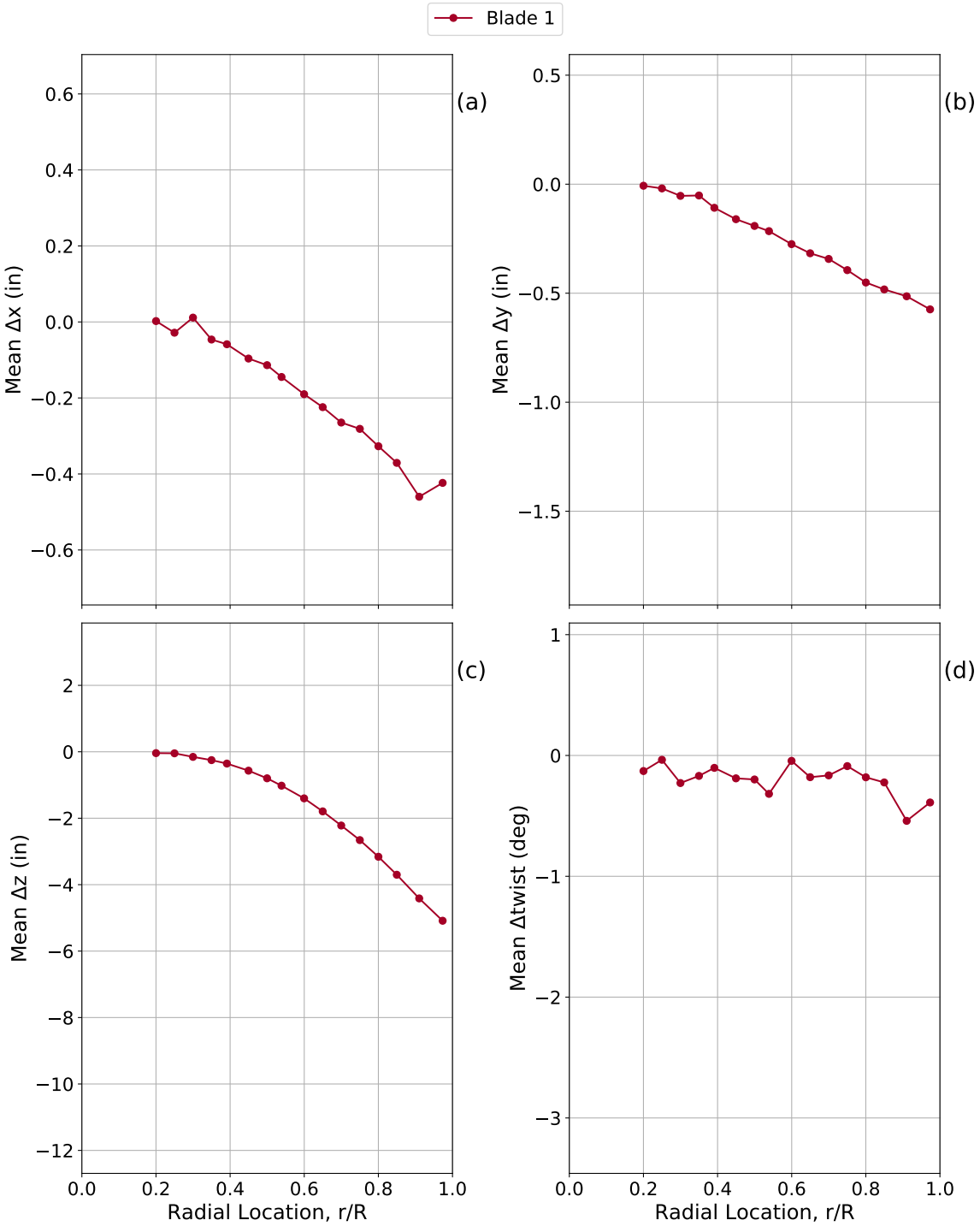


Figure 4.17-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0023	0.0036	-0.0071	0.0019	-0.0402	0.0042	-0.1288	0.0320
1	15.12	0.2499	-0.0283	0.0031	-0.0194	0.0023	-0.0457	0.0050	-0.0359	0.0858
1	15.12	0.2998	0.0114	0.0019	-0.0535	0.0059	-0.1535	0.0121	-0.2282	0.0807
1	15.12	0.3498	-0.0463	0.0021	-0.0518	0.0098	-0.2509	0.0191	-0.1691	0.0843
1	15.12	0.3913	-0.0587	0.0023	-0.1082	0.0128	-0.3547	0.0256	-0.1026	0.0832
1	15.12	0.4496	-0.0963	0.0022	-0.1605	0.0164	-0.5682	0.0330	-0.1893	0.0839
1	15.12	0.4997	-0.1137	0.0028	-0.1914	0.0200	-0.7981	0.0405	-0.1986	0.0814
1	15.12	0.5387	-0.1448	0.0026	-0.2153	0.0228	-1.0202	0.0469	-0.3177	0.0763
1	15.12	0.5996	-0.1901	0.0026	-0.2749	0.0267	-1.4020	0.0540	-0.0445	0.0824
1	15.12	0.6498	-0.2242	0.0026	-0.3168	0.0294	-1.7938	0.0596	-0.1797	0.0790
1	15.12	0.6998	-0.2647	0.0025	-0.3428	0.0331	-2.2196	0.0657	-0.1649	0.0750
1	15.12	0.7500	-0.2813	0.0028	-0.3942	0.0367	-2.6584	0.0735	-0.0881	0.0728
1	15.12	0.8001	-0.3271	0.0024	-0.4509	0.0405	-3.1598	0.0786	-0.1807	0.0697
1	15.12	0.8497	-0.3708	0.0021	-0.4827	0.0428	-3.7014	0.0823	-0.2232	0.0836
1	15.12	0.9102	-0.4600	0.0026	-0.5141	0.0478	-4.4138	0.0910	-0.5411	0.0744
1	15.12	0.9734	-0.4235	0.0035	-0.5741	0.0516	-5.0863	0.0981	-0.3890	0.0787

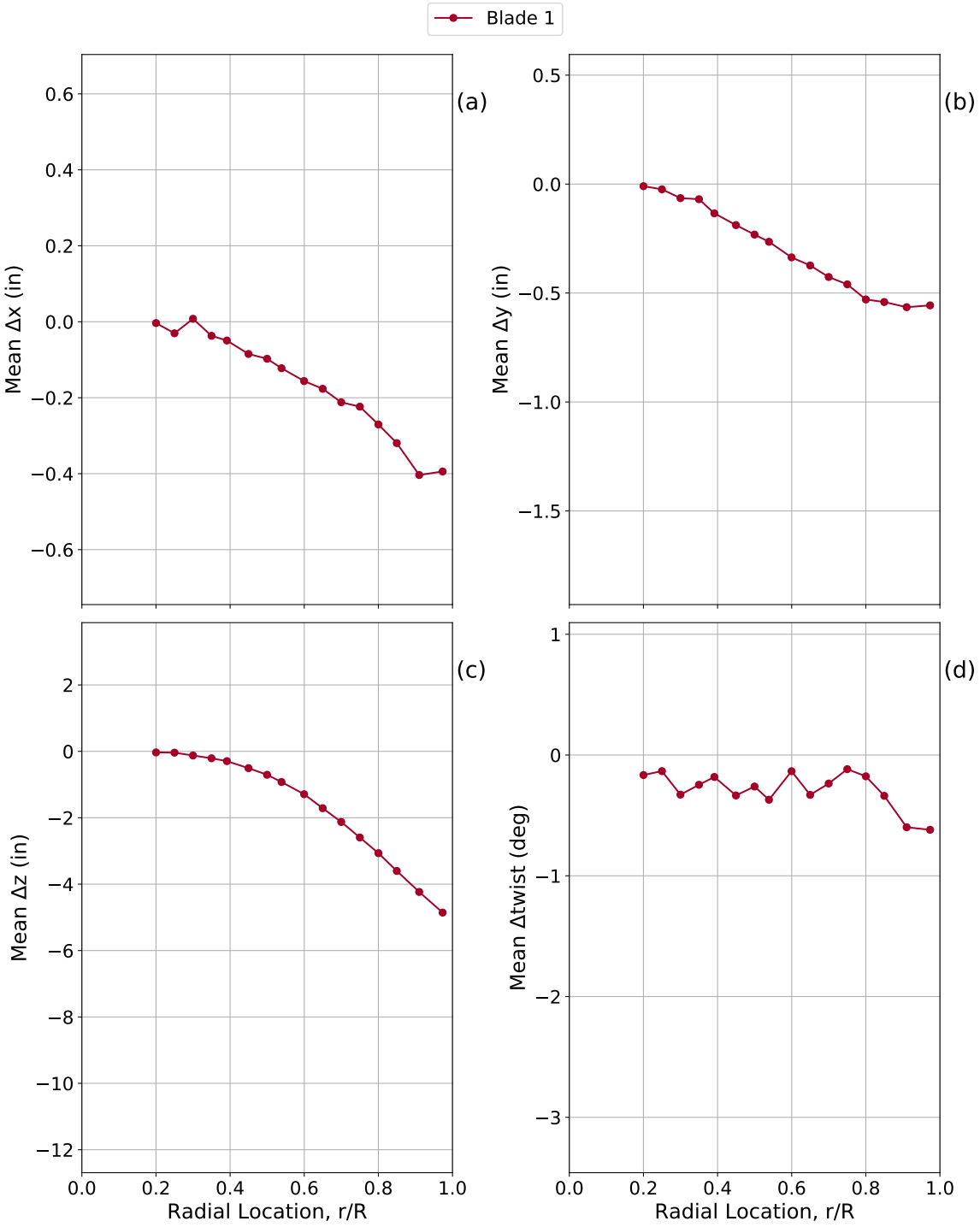


Figure 4.17-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0034	0.0032	-0.0097	0.0017	-0.0315	0.0053	-0.1657	0.0389
1	29.88	0.2499	-0.0304	0.0019	-0.0240	0.0017	-0.0388	0.0078	-0.1332	0.0794
1	29.88	0.2998	0.0078	0.0018	-0.0643	0.0055	-0.1245	0.0181	-0.3281	0.0905
1	29.88	0.3498	-0.0370	0.0028	-0.0694	0.0092	-0.2083	0.0293	-0.2465	0.0990
1	29.88	0.3913	-0.0494	0.0029	-0.1342	0.0124	-0.2947	0.0411	-0.1815	0.0927
1	29.88	0.4496	-0.0848	0.0031	-0.1881	0.0169	-0.5063	0.0570	-0.3348	0.0910
1	29.88	0.4997	-0.0974	0.0030	-0.2317	0.0211	-0.7053	0.0704	-0.2606	0.0874
1	29.88	0.5387	-0.1223	0.0028	-0.2648	0.0240	-0.9229	0.0808	-0.3702	0.0868
1	29.88	0.5996	-0.1561	0.0031	-0.3363	0.0287	-1.2904	0.0957	-0.1339	0.0950
1	29.88	0.6498	-0.1765	0.0034	-0.3735	0.0328	-1.7121	0.1094	-0.3298	0.0877
1	29.88	0.6998	-0.2120	0.0039	-0.4264	0.0362	-2.1273	0.1220	-0.2360	0.0894
1	29.88	0.7500	-0.2235	0.0042	-0.4601	0.0400	-2.5940	0.1353	-0.1171	0.0871
1	29.88	0.8001	-0.2705	0.0045	-0.5295	0.0435	-3.0657	0.1480	-0.1763	0.0870
1	29.88	0.8497	-0.3195	0.0049	-0.5412	0.0465	-3.6017	0.1595	-0.3377	0.0925
1	29.88	0.9102	-0.4035	0.0054	-0.5649	0.0508	-4.2348	0.1791	-0.5981	0.0780
1	29.88	0.9734	-0.3942	0.0060	-0.5566	0.0551	-4.8567	0.2007	-0.6189	0.1058

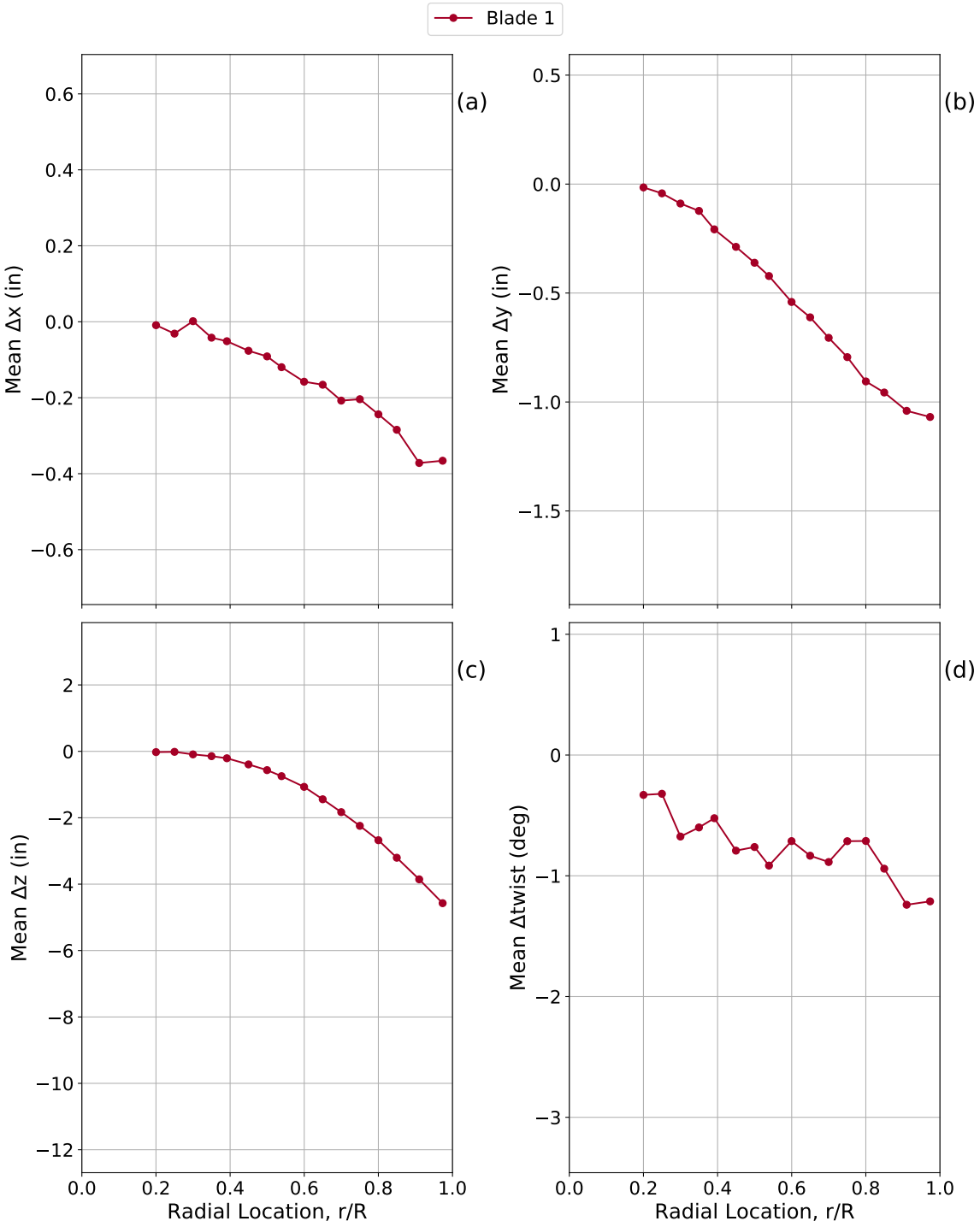


Figure 4.17-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0090	0.0040	-0.0153	0.0012	-0.0221	0.0056	-0.3302	0.0359
1	45	0.2499	-0.0312	0.0039	-0.0425	0.0026	-0.0145	0.0072	-0.3210	0.0781
1	45	0.2998	0.0015	0.0023	-0.0892	0.0049	-0.0912	0.0179	-0.6750	0.0872
1	45	0.3498	-0.0419	0.0025	-0.1230	0.0082	-0.1453	0.0293	-0.5997	0.0887
1	45	0.3913	-0.0512	0.0028	-0.2078	0.0121	-0.2078	0.0397	-0.5231	0.0828
1	45	0.4496	-0.0764	0.0024	-0.2880	0.0163	-0.3934	0.0538	-0.7917	0.0762
1	45	0.4997	-0.0912	0.0023	-0.3610	0.0202	-0.5656	0.0660	-0.7618	0.0725
1	45	0.5387	-0.1196	0.0021	-0.4219	0.0247	-0.7471	0.0739	-0.9155	0.0783
1	45	0.5996	-0.1578	0.0019	-0.5409	0.0302	-1.0695	0.0866	-0.7128	0.0864
1	45	0.6498	-0.1658	0.0015	-0.6115	0.0348	-1.4434	0.0984	-0.8337	0.0785
1	45	0.6998	-0.2076	0.0016	-0.7055	0.0399	-1.8307	0.1102	-0.8859	0.0875
1	45	0.7500	-0.2039	0.0018	-0.7941	0.0438	-2.2437	0.1222	-0.7134	0.0789
1	45	0.8001	-0.2437	0.0019	-0.9056	0.0500	-2.6766	0.1353	-0.7118	0.0867
1	45	0.8497	-0.2844	0.0019	-0.9565	0.0546	-3.2041	0.1474	-0.9412	0.0917
1	45	0.9102	-0.3718	0.0021	-1.0405	0.0615	-3.8552	0.1652	-1.2399	0.0891
1	45	0.9734	-0.3659	0.0023	-1.0688	0.0680	-4.5730	0.1841	-1.2118	0.0929

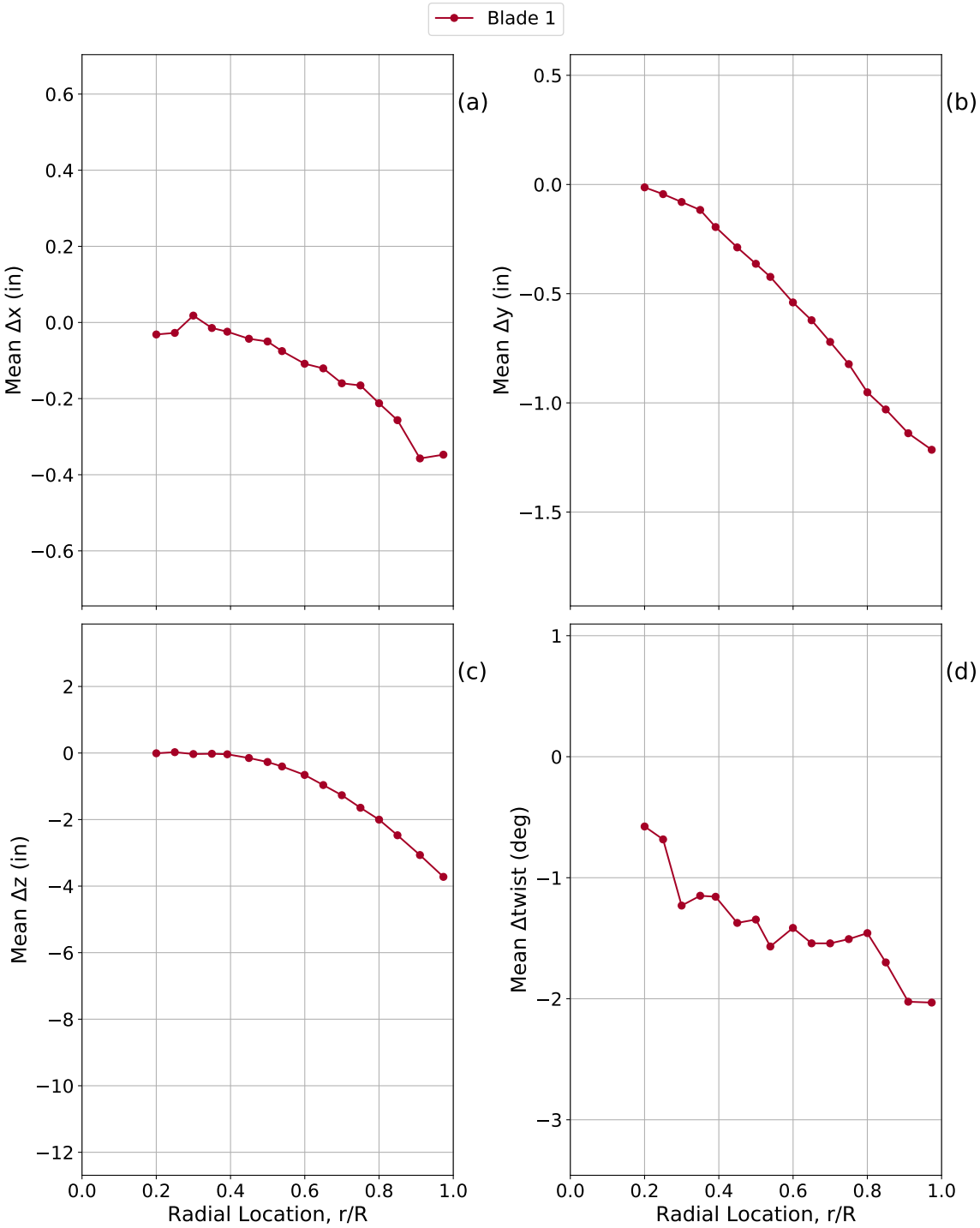


Figure 4.17-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0315	0.0043	-0.0131	0.0030	-0.0079	0.0066	-0.5766	0.0577
1	60.12	0.2499	-0.0274	0.0027	-0.0441	0.0029	0.0252	0.0083	-0.6833	0.1181
1	60.12	0.2998	0.0181	0.0015	-0.0802	0.0102	-0.0307	0.0213	-1.2302	0.1384
1	60.12	0.3498	-0.0145	0.0028	-0.1165	0.0155	-0.0225	0.0324	-1.1488	0.1415
1	60.12	0.3913	-0.0242	0.0025	-0.1948	0.0220	-0.0379	0.0452	-1.1572	0.1451
1	60.12	0.4496	-0.0428	0.0021	-0.2881	0.0304	-0.1501	0.0621	-1.3733	0.1380
1	60.12	0.4997	-0.0500	0.0020	-0.3631	0.0381	-0.2700	0.0766	-1.3455	0.1377
1	60.12	0.5387	-0.0752	0.0020	-0.4231	0.0434	-0.4043	0.0877	-1.5682	0.1416
1	60.12	0.5996	-0.1084	0.0018	-0.5401	0.0529	-0.6589	0.1050	-1.4148	0.1505
1	60.12	0.6498	-0.1206	0.0016	-0.6216	0.0604	-0.9624	0.1207	-1.5421	0.1444
1	60.12	0.6998	-0.1598	0.0022	-0.7209	0.0682	-1.2681	0.1357	-1.5422	0.1342
1	60.12	0.7500	-0.1654	0.0021	-0.8225	0.0759	-1.6448	0.1509	-1.5072	0.1270
1	60.12	0.8001	-0.2123	0.0027	-0.9517	0.0835	-2.0028	0.1645	-1.4576	0.1264
1	60.12	0.8497	-0.2567	0.0024	-1.0302	0.0916	-2.4724	0.1781	-1.6998	0.1369
1	60.12	0.9102	-0.3572	0.0028	-1.1391	0.1016	-3.0662	0.1962	-2.0244	0.1238
1	60.12	0.9734	-0.3473	0.0021	-1.2148	0.1120	-3.7221	0.2140	-2.0316	0.1229

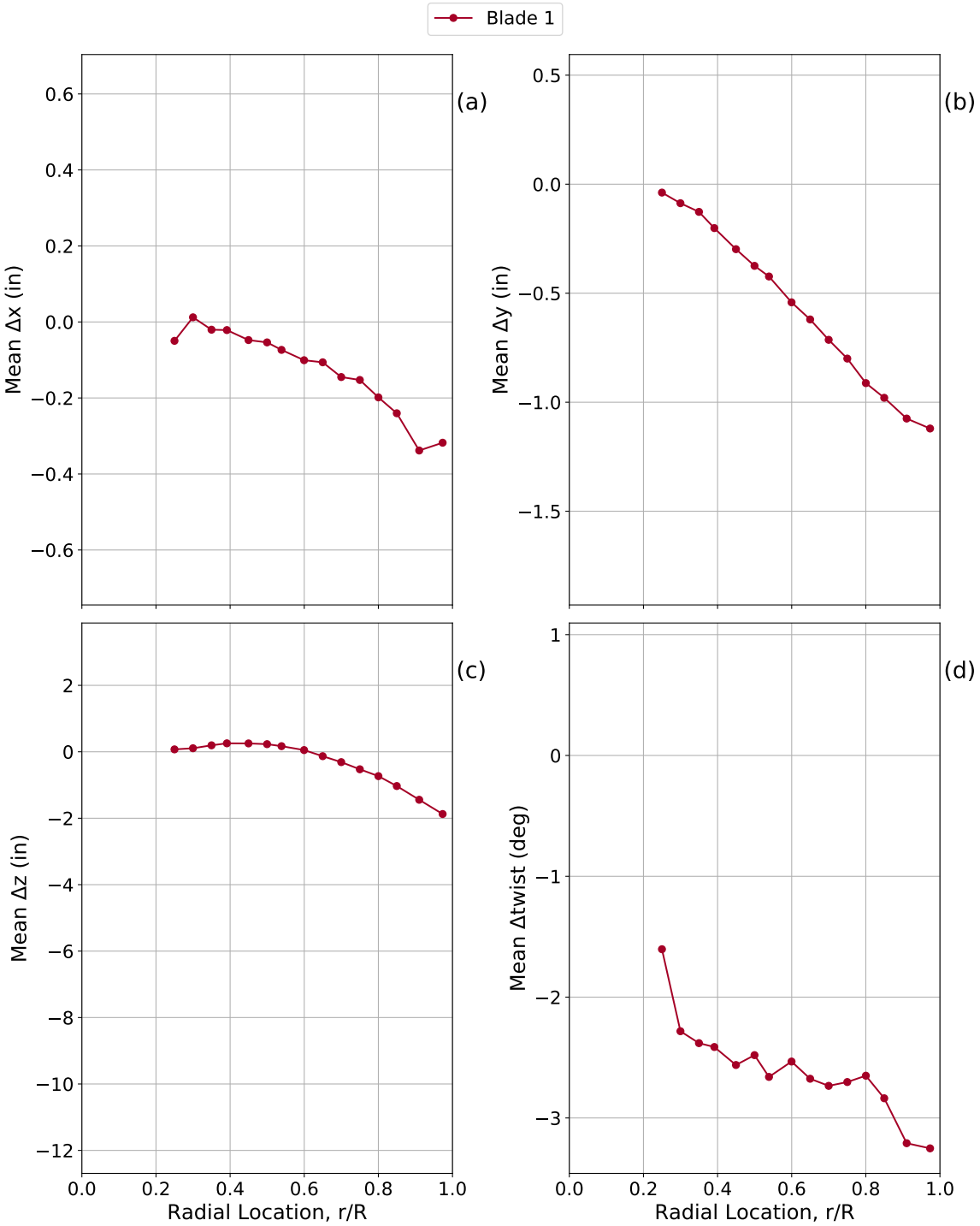


Figure 4.17-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2499	-0.0497	0.0043	-0.0385	0.0041	0.0726	0.0144	-1.6035	0.1414
1	74.88	0.2998	0.0122	0.0030	-0.0872	0.0069	0.1066	0.0225	-2.2822	0.2005
1	74.88	0.3498	-0.0204	0.0026	-0.1269	0.0135	0.1947	0.0421	-2.3808	0.1865
1	74.88	0.3913	-0.0214	0.0022	-0.2014	0.0186	0.2549	0.0566	-2.4128	0.1932
1	74.88	0.4496	-0.0477	0.0029	-0.2980	0.0249	0.2519	0.0786	-2.5617	0.1867
1	74.88	0.4997	-0.0538	0.0032	-0.3745	0.0313	0.2297	0.0954	-2.4800	0.1873
1	74.88	0.5387	-0.0735	0.0027	-0.4233	0.0364	0.1691	0.1091	-2.6604	0.1853
1	74.88	0.5996	-0.1007	0.0032	-0.5419	0.0436	0.0514	0.1300	-2.5331	0.1858
1	74.88	0.6498	-0.1062	0.0029	-0.6204	0.0499	-0.1322	0.1492	-2.6755	0.1827
1	74.88	0.6998	-0.1450	0.0034	-0.7138	0.0562	-0.3114	0.1675	-2.7343	0.1860
1	74.88	0.7500	-0.1527	0.0035	-0.7998	0.0624	-0.5266	0.1886	-2.7027	0.1838
1	74.88	0.8001	-0.1985	0.0038	-0.9123	0.0693	-0.7325	0.2082	-2.6503	0.1841
1	74.88	0.8497	-0.2403	0.0037	-0.9797	0.0760	-1.0310	0.2288	-2.8371	0.1902
1	74.88	0.9102	-0.3383	0.0047	-1.0749	0.0840	-1.4444	0.2558	-3.2090	0.1872
1	74.88	0.9734	-0.3178	0.0061	-1.1206	0.0937	-1.8735	0.2837	-3.2516	0.1862

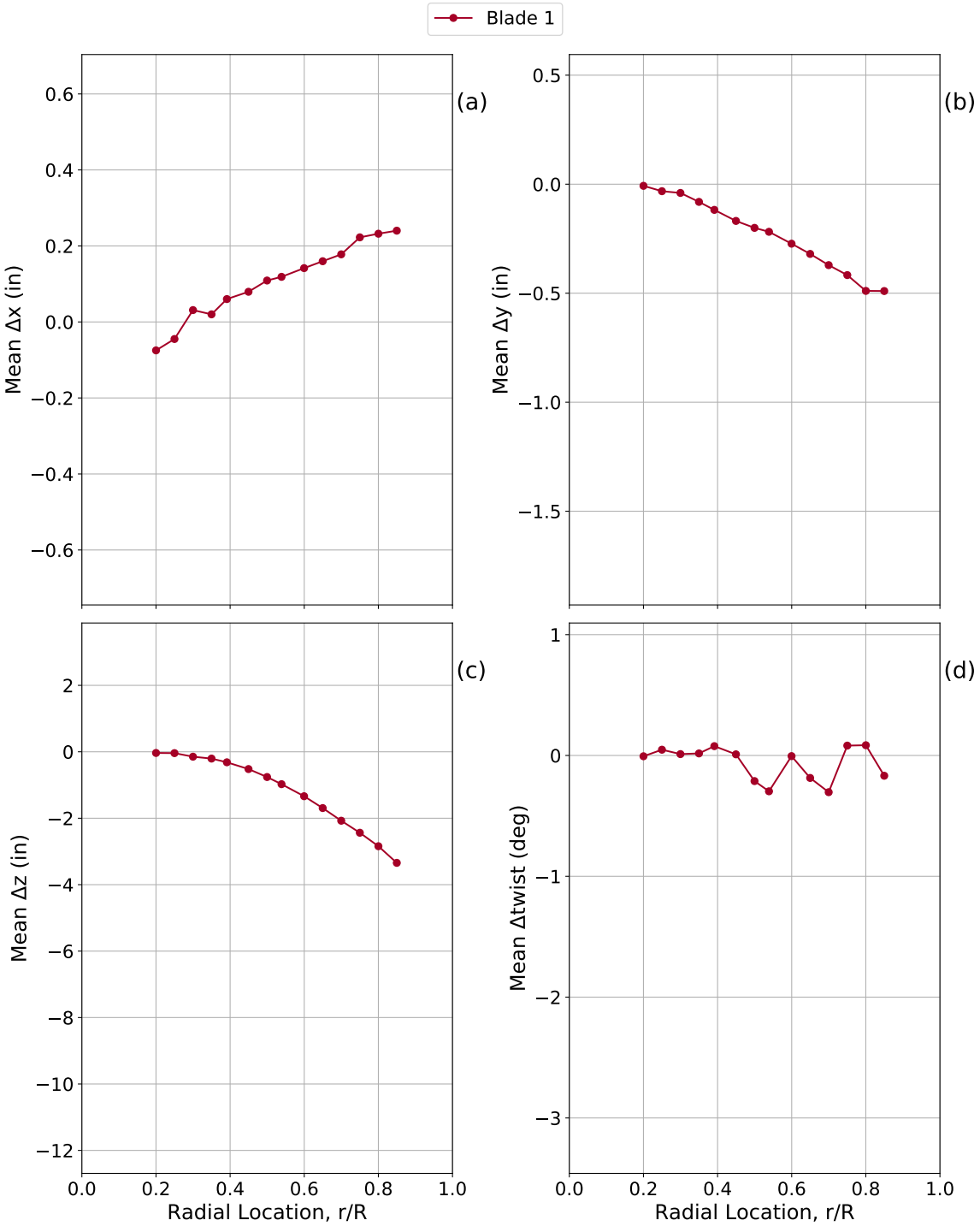


Figure 4.17-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0748	0.0010	-0.0075	0.0006	-0.0351	0.0025	-0.0066	0.0192
1	80.16	0.2499	-0.0449	0.0010	-0.0321	0.0012	-0.0403	0.0038	0.0477	0.0443
1	80.16	0.2998	0.0312	0.0010	-0.0401	0.0022	-0.1477	0.0087	0.0113	0.0479
1	80.16	0.3498	0.0200	0.0010	-0.0811	0.0035	-0.2044	0.0147	0.0170	0.0433
1	80.16	0.3913	0.0602	0.0012	-0.1178	0.0051	-0.3160	0.0204	0.0772	0.0418
1	80.16	0.4496	0.0794	0.0014	-0.1685	0.0070	-0.5199	0.0266	0.0094	0.0451
1	80.16	0.4997	0.1090	0.0019	-0.2003	0.0092	-0.7597	0.0347	-0.2120	0.0567
1	80.16	0.5387	0.1187	0.0012	-0.2183	0.0105	-0.9749	0.0398	-0.2965	0.0567
1	80.16	0.5996	0.1416	0.0022	-0.2729	0.0131	-1.3377	0.0446	-0.0054	0.0867
1	80.16	0.6498	0.1598	0.0035	-0.3198	0.0150	-1.6942	0.0534	-0.1861	0.0628
1	80.16	0.6998	0.1779	0.0041	-0.3712	0.0168	-2.0751	0.0588	-0.3038	0.0816
1	80.16	0.7500	0.2226	0.0053	-0.4169	0.0203	-2.4373	0.0611	0.0816	0.1361
1	80.16	0.8001	0.2322	0.0068	-0.4894	0.0234	-2.8427	0.0744	0.0848	0.1493
1	80.16	0.8497	0.2402	0.0101	-0.4900	0.0267	-3.3436	0.0776	-0.1678	0.1513

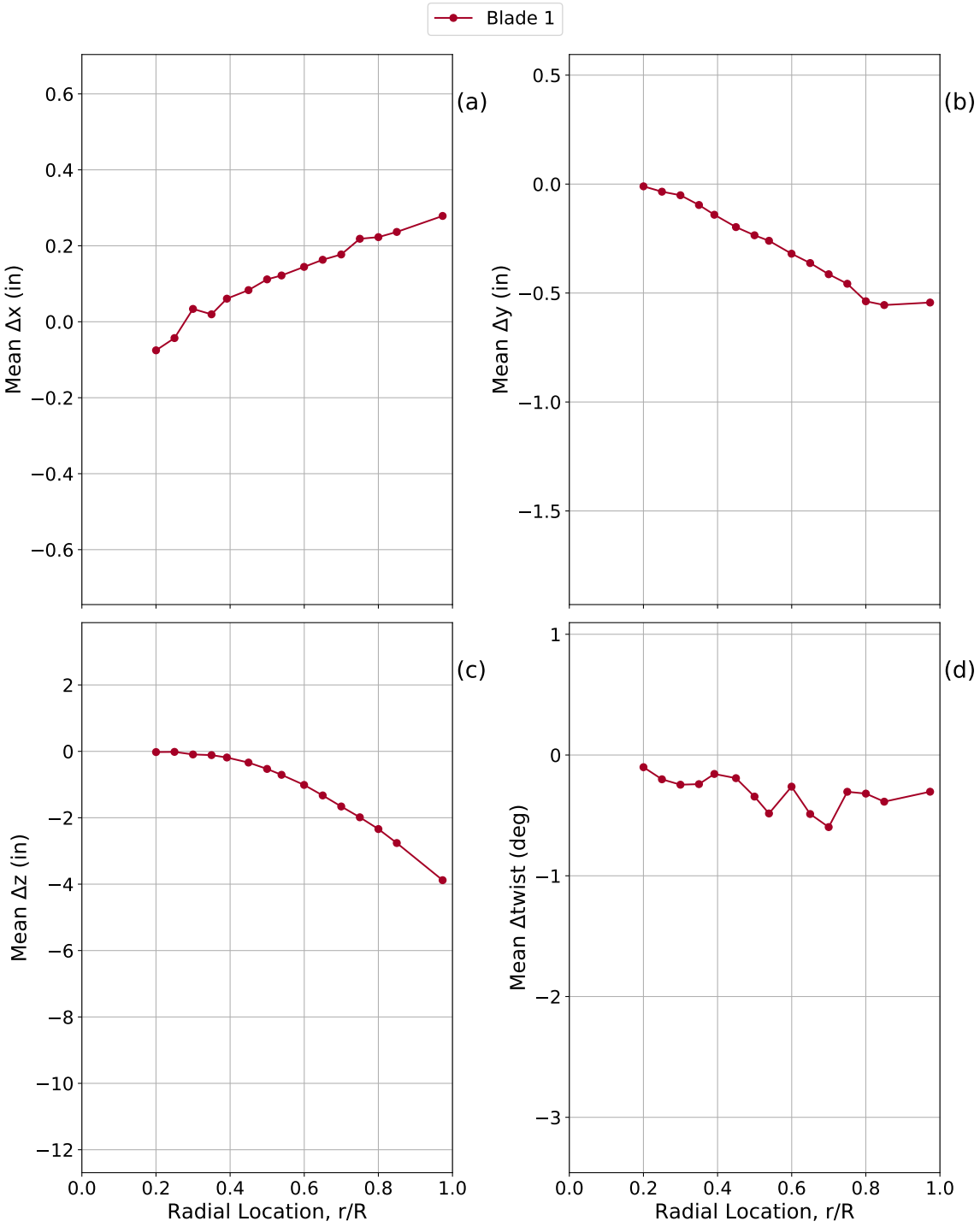


Figure 4.17-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0752	0.0013	-0.0103	0.0008	-0.0212	0.0021	-0.1007	0.0255
1	85.08	0.2499	-0.0430	0.0009	-0.0349	0.0015	-0.0159	0.0048	-0.2009	0.0514
1	85.08	0.2998	0.0338	0.0014	-0.0512	0.0030	-0.0933	0.0090	-0.2457	0.0623
1	85.08	0.3498	0.0196	0.0007	-0.0959	0.0051	-0.1132	0.0139	-0.2410	0.0558
1	85.08	0.3913	0.0608	0.0009	-0.1407	0.0072	-0.1852	0.0214	-0.1567	0.0473
1	85.08	0.4496	0.0833	0.0011	-0.1973	0.0099	-0.3380	0.0262	-0.1915	0.0534
1	85.08	0.4997	0.1116	0.0016	-0.2349	0.0128	-0.5293	0.0330	-0.3441	0.0551
1	85.08	0.5387	0.1219	0.0015	-0.2601	0.0146	-0.7066	0.0380	-0.4840	0.0601
1	85.08	0.5996	0.1445	0.0019	-0.3195	0.0186	-1.0112	0.0441	-0.2618	0.0562
1	85.08	0.6498	0.1632	0.0025	-0.3624	0.0219	-1.3275	0.0504	-0.4885	0.0621
1	85.08	0.6998	0.1772	0.0024	-0.4137	0.0257	-1.6603	0.0567	-0.5968	0.0670
1	85.08	0.7500	0.2185	0.0029	-0.4574	0.0291	-1.9864	0.0619	-0.3043	0.0634
1	85.08	0.8001	0.2228	0.0051	-0.5378	0.0342	-2.3404	0.0626	-0.3194	0.1235
1	85.08	0.8497	0.2365	0.0062	-0.5551	0.0395	-2.7612	0.0746	-0.3862	0.0927
1	85.08	0.9734	0.2786	0.0442	-0.5436	0.0732	-3.8808	0.2076	-0.3038	0.6790

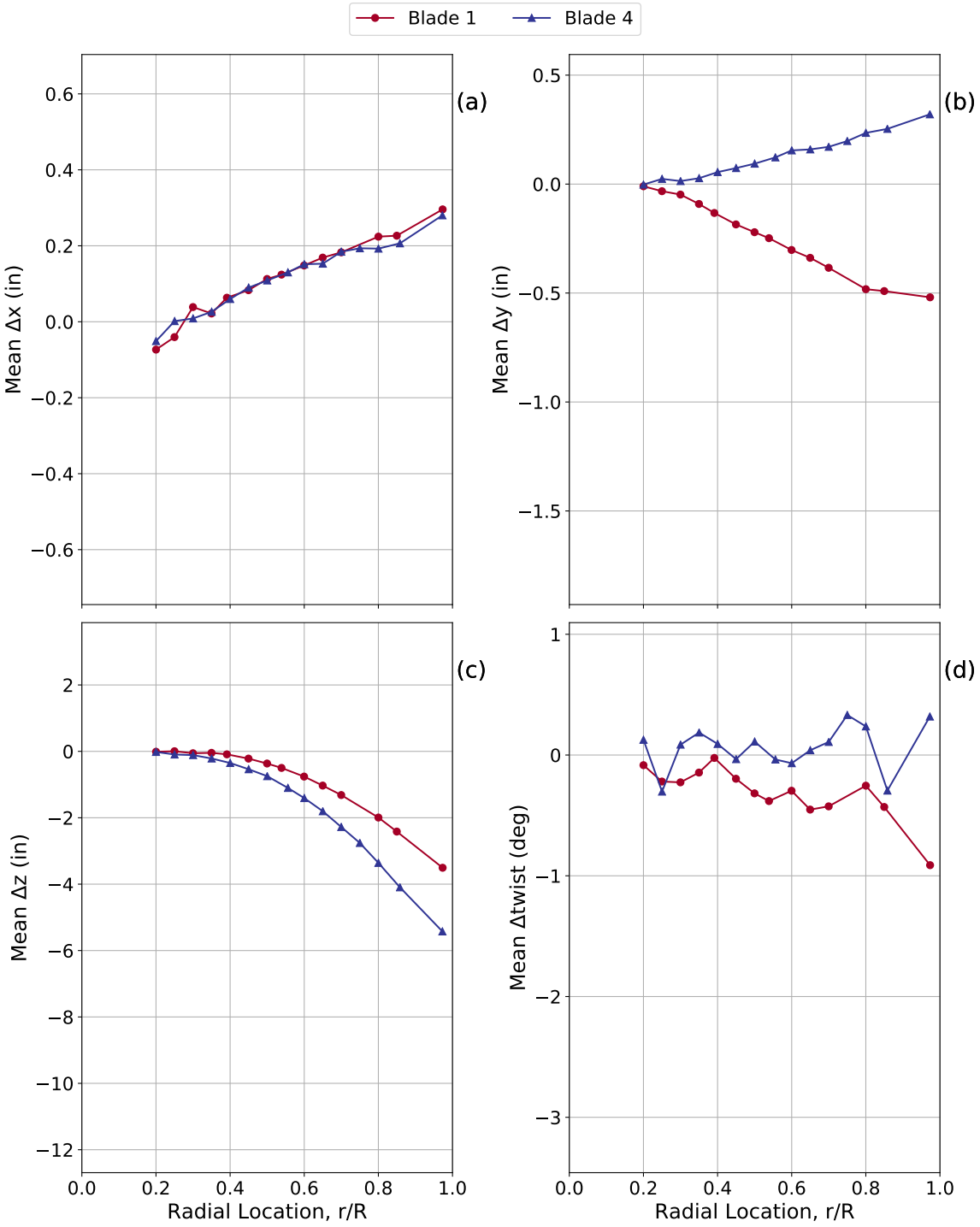


Figure 4.17-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0733	0.0008	-0.0100	0.0007	-0.0123	0.0017	-0.0840	0.0152
1	90	0.2499	-0.0404	0.0012	-0.0326	0.0012	0.0036	0.0035	-0.2195	0.0267
1	90	0.2998	0.0387	0.0011	-0.0481	0.0028	-0.0566	0.0055	-0.2261	0.0322
1	90	0.3498	0.0218	0.0014	-0.0912	0.0046	-0.0450	0.0105	-0.1453	0.0277
1	90	0.3913	0.0633	0.0011	-0.1325	0.0066	-0.0896	0.0139	-0.0240	0.0275
1	90	0.4496	0.0831	0.0013	-0.1851	0.0092	-0.2182	0.0187	-0.1964	0.0217
1	90	0.4997	0.1126	0.0010	-0.2208	0.0116	-0.3662	0.0231	-0.3174	0.0226
1	90	0.5387	0.1241	0.0014	-0.2482	0.0142	-0.4988	0.0273	-0.3812	0.0280
1	90	0.5996	0.1482	0.0012	-0.3024	0.0174	-0.7597	0.0331	-0.2957	0.0298
1	90	0.6498	0.1689	0.0021	-0.3384	0.0208	-1.0308	0.0389	-0.4519	0.0425
1	90	0.6998	0.1828	0.0021	-0.3841	0.0247	-1.3159	0.0442	-0.4250	0.0243
1	90	0.8001	0.2241	0.0042	-0.4823	0.0330	-1.9933	0.0494	-0.2539	0.0758
1	90	0.8497	0.2266	0.0034	-0.4910	0.0379	-2.4162	0.0505	-0.4302	0.0619
1	90	0.9734	0.2959	0.0070	-0.5196	0.0478	-3.5065	0.0699	-0.9120	0.1435
4	90.35	0.2001	-0.0509	0.0008	-0.0022	0.0005	-0.0177	0.0008	0.1261	0.0189
4	90.35	0.2502	0.0017	0.0009	0.0238	0.0012	-0.0955	0.0038	-0.3028	0.0275
4	90.35	0.3001	0.0087	0.0008	0.0138	0.0012	-0.1130	0.0034	0.0862	0.0417
4	90.35	0.3502	0.0263	0.0010	0.0270	0.0038	-0.2154	0.0069	0.1862	0.0331
4	90.35	0.4002	0.0599	0.0005	0.0549	0.0047	-0.3509	0.0112	0.0917	0.0382
4	90.35	0.4500	0.0899	0.0016	0.0735	0.0065	-0.5389	0.0139	-0.0341	0.0363
4	90.35	0.5001	0.1087	0.0015	0.0937	0.0074	-0.7473	0.0191	0.1110	0.0420
4	90.35	0.5560	0.1300	0.0013	0.1225	0.0087	-1.1022	0.0260	-0.0370	0.0309
4	90.35	0.6001	0.1515	0.0012	0.1546	0.0101	-1.4078	0.0315	-0.0676	0.0408
4	90.35	0.6501	0.1529	0.0010	0.1592	0.0119	-1.8038	0.0343	0.0396	0.0359
4	90.35	0.6999	0.1844	0.0014	0.1710	0.0137	-2.2788	0.0387	0.1083	0.0507
4	90.35	0.7500	0.1935	0.0016	0.1975	0.0153	-2.7597	0.0415	0.3315	0.0425
4	90.35	0.8002	0.1926	0.0022	0.2350	0.0171	-3.3601	0.0447	0.2369	0.0842
4	90.35	0.8582	0.2065	0.0042	0.2534	0.0196	-4.0956	0.0490	-0.2946	0.0841
4	90.35	0.9728	0.2802	0.0042	0.3202	0.0238	-5.4242	0.0704	0.3186	0.1089

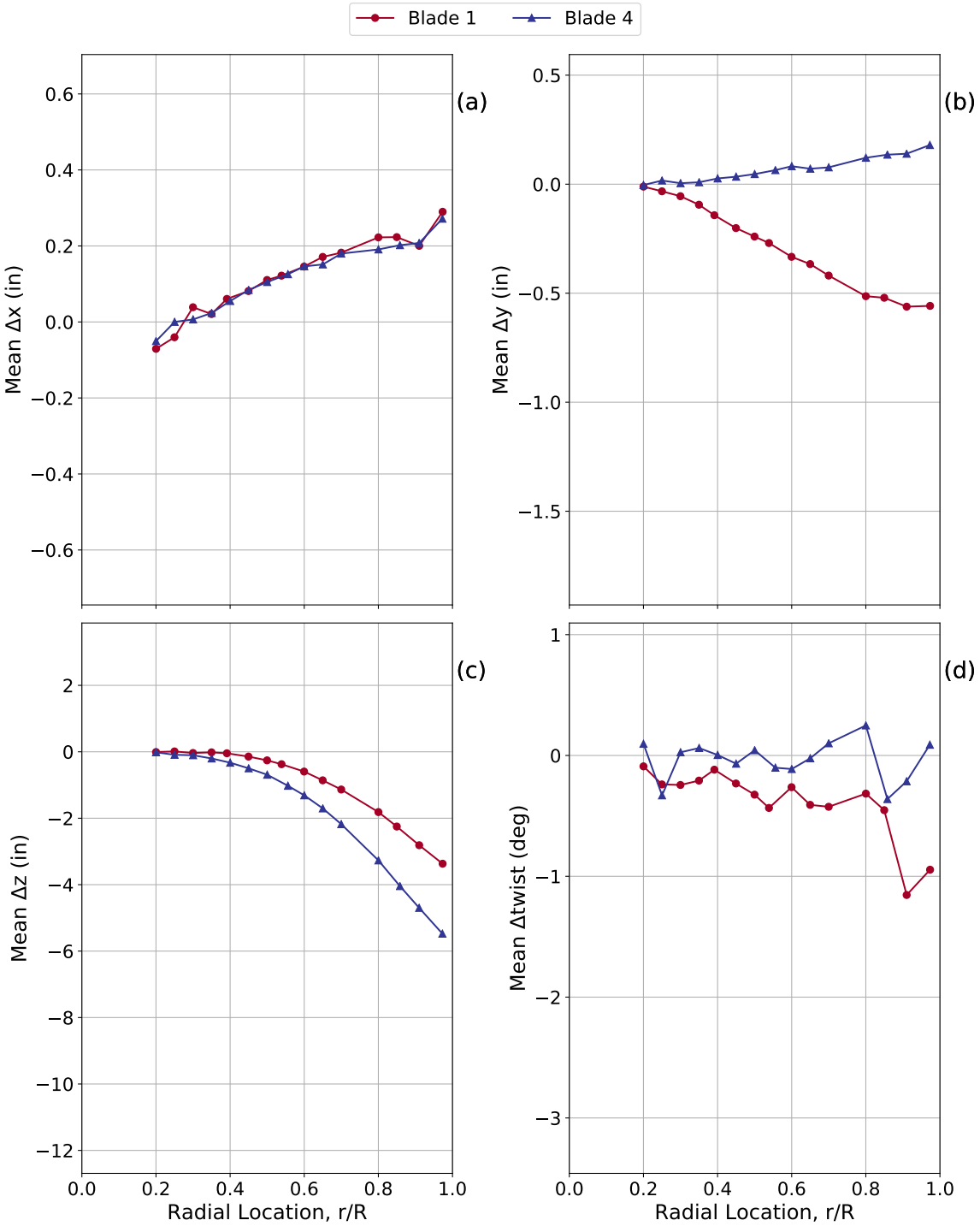


Figure 4.17-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = 0° NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0707	0.0007	-0.0111	0.0003	-0.0076	0.0016	-0.0901	0.0168
1	94.92	0.2499	-0.0403	0.0011	-0.0326	0.0007	0.0108	0.0037	-0.2395	0.0323
1	94.92	0.2998	0.0387	0.0013	-0.0551	0.0015	-0.0359	0.0061	-0.2441	0.0382
1	94.92	0.3498	0.0208	0.0009	-0.0942	0.0019	-0.0169	0.0106	-0.2081	0.0346
1	94.92	0.3913	0.0606	0.0011	-0.1423	0.0031	-0.0450	0.0151	-0.1176	0.0350
1	94.92	0.4496	0.0813	0.0010	-0.2013	0.0043	-0.1444	0.0188	-0.2320	0.0375
1	94.92	0.4997	0.1104	0.0013	-0.2402	0.0059	-0.2578	0.0219	-0.3242	0.0319
1	94.92	0.5387	0.1218	0.0009	-0.2699	0.0070	-0.3740	0.0251	-0.4343	0.0491
1	94.92	0.5996	0.1457	0.0016	-0.3331	0.0093	-0.5951	0.0333	-0.2626	0.0355
1	94.92	0.6498	0.1711	0.0017	-0.3664	0.0112	-0.8592	0.0370	-0.4088	0.0357
1	94.92	0.6998	0.1823	0.0020	-0.4191	0.0132	-1.1358	0.0417	-0.4247	0.0398
1	94.92	0.8001	0.2225	0.0019	-0.5137	0.0178	-1.8148	0.0506	-0.3158	0.0542
1	94.92	0.8497	0.2232	0.0027	-0.5209	0.0207	-2.2500	0.0529	-0.4526	0.0495
1	94.92	0.9102	0.2003	0.0060	-0.5617	0.0226	-2.8126	0.0579	-1.1546	0.1083
1	94.92	0.9734	0.2899	0.0043	-0.5582	0.0263	-3.3694	0.0577	-0.9454	0.0561
4	94.92	0.2001	-0.0504	0.0007	-0.0039	0.0003	-0.0154	0.0013	0.0963	0.0126
4	94.92	0.2502	0.0001	0.0011	0.0168	0.0010	-0.0909	0.0023	-0.3300	0.0234
4	94.92	0.3001	0.0066	0.0006	0.0045	0.0010	-0.1040	0.0038	0.0262	0.0284
4	94.92	0.3502	0.0236	0.0006	0.0088	0.0025	-0.2012	0.0071	0.0616	0.0192
4	94.92	0.4002	0.0551	0.0006	0.0264	0.0034	-0.3284	0.0102	0.0038	0.0268
4	94.92	0.4500	0.0842	0.0009	0.0343	0.0037	-0.4980	0.0129	-0.0681	0.0302
4	94.92	0.5001	0.1050	0.0011	0.0463	0.0050	-0.6907	0.0154	0.0434	0.0255
4	94.92	0.5560	0.1256	0.0015	0.0645	0.0060	-1.0235	0.0204	-0.1015	0.0243
4	94.92	0.6001	0.1463	0.0010	0.0824	0.0071	-1.3111	0.0232	-0.1123	0.0297
4	94.92	0.6501	0.1513	0.0012	0.0710	0.0084	-1.7044	0.0300	-0.0233	0.0249
4	94.92	0.6999	0.1799	0.0013	0.0772	0.0098	-2.1793	0.0366	0.1007	0.0284
4	94.92	0.8002	0.1908	0.0020	0.1212	0.0125	-3.2700	0.0507	0.2485	0.0443
4	94.92	0.8582	0.2020	0.0028	0.1354	0.0142	-4.0435	0.0634	-0.3612	0.0564
4	94.92	0.9101	0.2077	0.0034	0.1397	0.0158	-4.6988	0.0706	-0.2141	0.0479
4	94.92	0.9728	0.2717	0.0022	0.1796	0.0191	-5.4753	0.0847	0.0886	0.0821

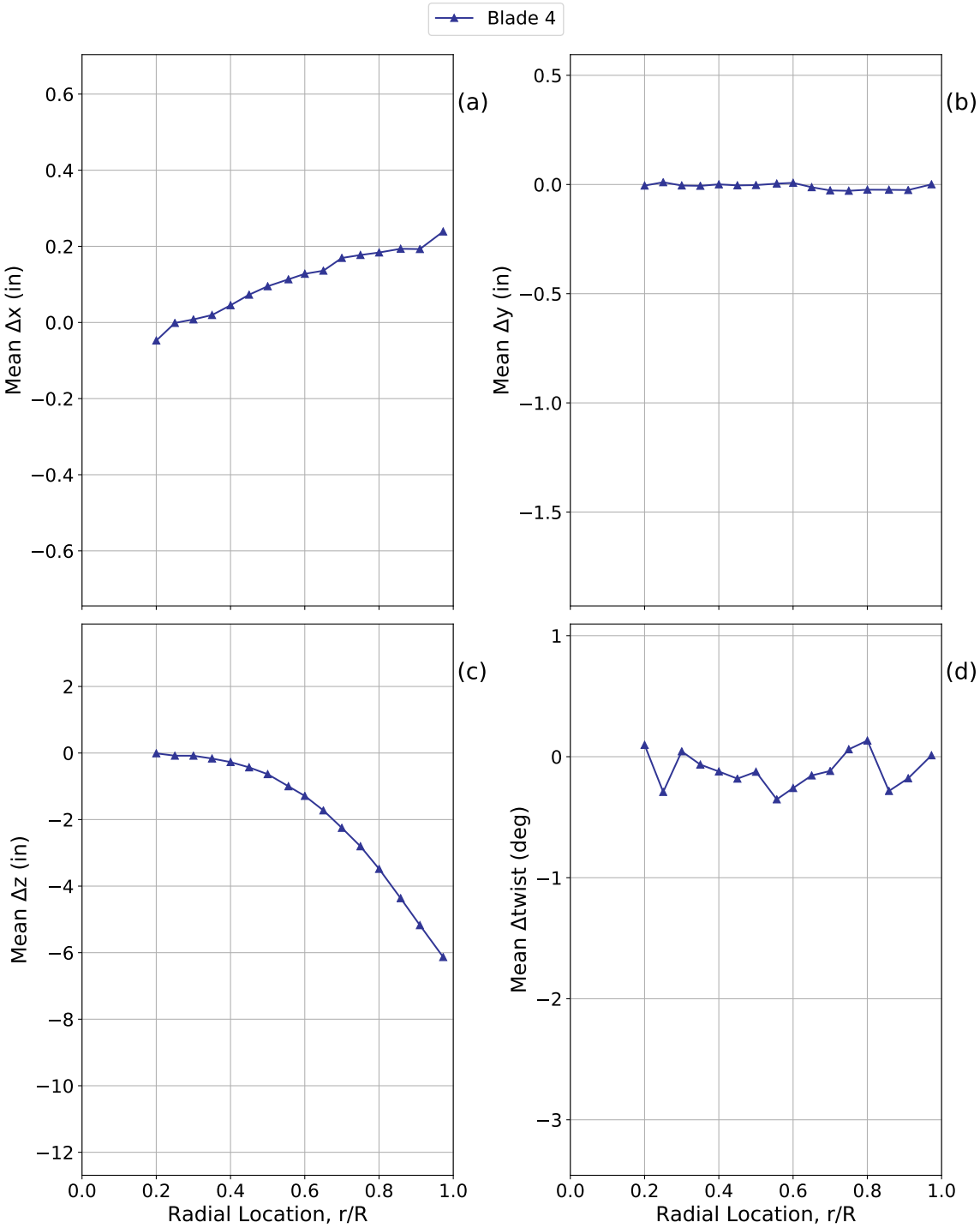


Figure 4.17-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = 0°
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0476	0.0011	-0.0051	0.0003	-0.0099	0.0012	0.0972	0.0176
4	105.12	0.2502	-0.0013	0.0010	0.0103	0.0012	-0.0812	0.0024	-0.2913	0.0255
4	105.12	0.3001	0.0080	0.0007	-0.0047	0.0015	-0.0818	0.0055	0.0440	0.0383
4	105.12	0.3502	0.0195	0.0004	-0.0061	0.0028	-0.1660	0.0069	-0.0654	0.0306
4	105.12	0.4002	0.0452	0.0011	0.0005	0.0044	-0.2727	0.0122	-0.1224	0.0347
4	105.12	0.4500	0.0729	0.0012	-0.0041	0.0056	-0.4322	0.0159	-0.1816	0.0275
4	105.12	0.5001	0.0951	0.0014	-0.0028	0.0060	-0.6364	0.0202	-0.1248	0.0391
4	105.12	0.5560	0.1133	0.0010	0.0040	0.0081	-1.0004	0.0253	-0.3527	0.0412
4	105.12	0.6001	0.1278	0.0013	0.0074	0.0104	-1.2894	0.0296	-0.2592	0.0322
4	105.12	0.6501	0.1360	0.0015	-0.0125	0.0119	-1.7248	0.0346	-0.1552	0.0282
4	105.12	0.6999	0.1695	0.0017	-0.0272	0.0140	-2.2510	0.0382	-0.1179	0.0272
4	105.12	0.7500	0.1772	0.0015	-0.0289	0.0169	-2.8042	0.0442	0.0608	0.0264
4	105.12	0.8002	0.1838	0.0021	-0.0239	0.0200	-3.4833	0.0514	0.1333	0.0374
4	105.12	0.8582	0.1936	0.0028	-0.0243	0.0238	-4.3653	0.0631	-0.2835	0.0374
4	105.12	0.9101	0.1928	0.0029	-0.0254	0.0274	-5.1752	0.0763	-0.1785	0.0363
4	105.12	0.9728	0.2389	0.0052	0.0006	0.0318	-6.1333	0.0990	0.0112	0.0390

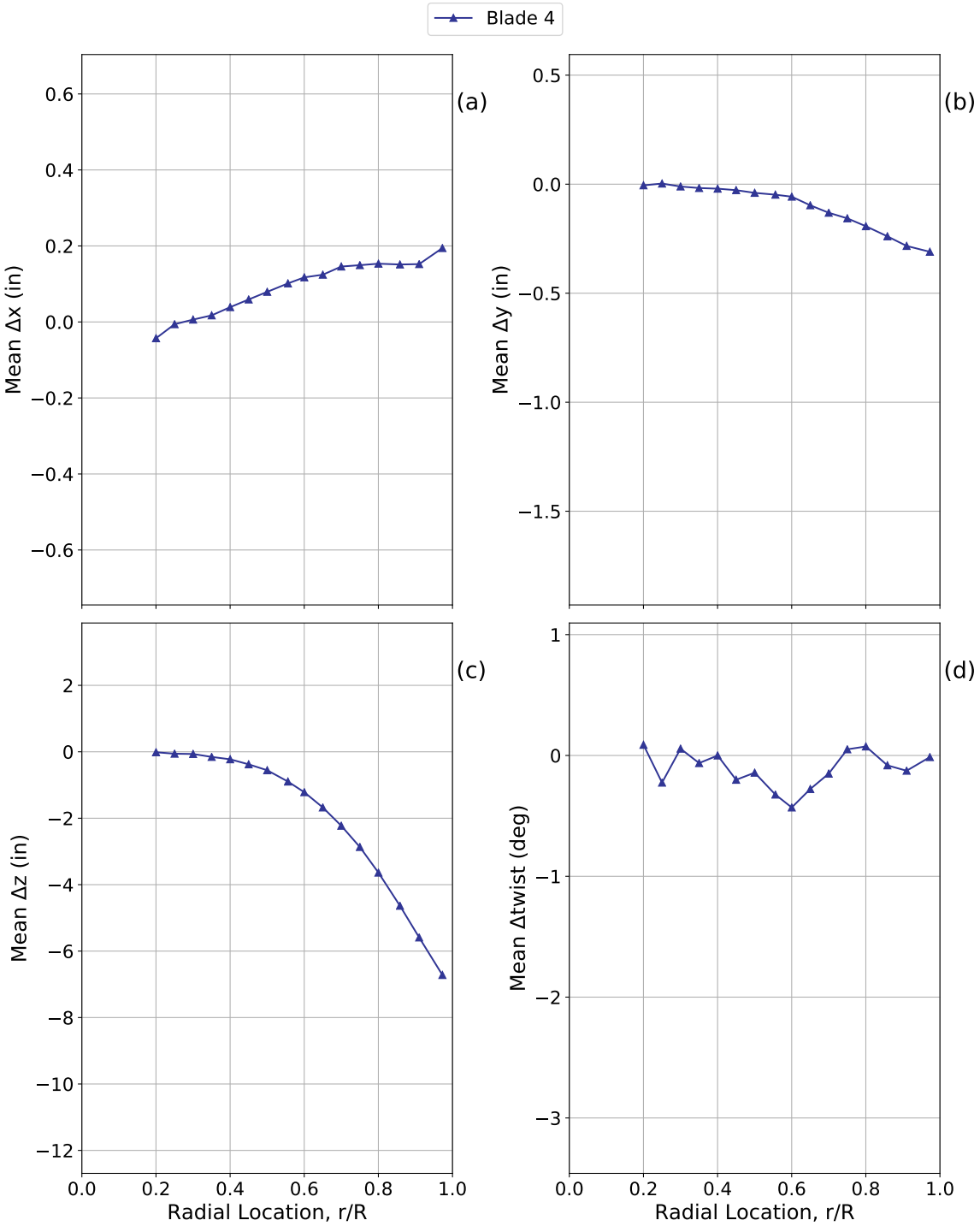


Figure 4.17-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0429	0.0004	-0.0052	0.0005	-0.0144	0.0011	0.0880	0.0186
4	119.88	0.2502	-0.0060	0.0006	0.0028	0.0008	-0.0582	0.0025	-0.2250	0.0218
4	119.88	0.3001	0.0062	0.0005	-0.0106	0.0018	-0.0660	0.0045	0.0560	0.0380
4	119.88	0.3502	0.0173	0.0008	-0.0176	0.0024	-0.1543	0.0075	-0.0632	0.0305
4	119.88	0.4002	0.0389	0.0005	-0.0206	0.0039	-0.2260	0.0114	-0.0003	0.0247
4	119.88	0.4500	0.0591	0.0014	-0.0274	0.0052	-0.3779	0.0142	-0.2014	0.0392
4	119.88	0.5001	0.0792	0.0011	-0.0397	0.0066	-0.5558	0.0201	-0.1427	0.0282
4	119.88	0.5560	0.1014	0.0009	-0.0482	0.0081	-0.8964	0.0268	-0.3238	0.0238
4	119.88	0.6001	0.1173	0.0009	-0.0573	0.0094	-1.2169	0.0307	-0.4305	0.0333
4	119.88	0.6501	0.1243	0.0014	-0.0968	0.0108	-1.6760	0.0334	-0.2779	0.0267
4	119.88	0.6999	0.1458	0.0015	-0.1310	0.0130	-2.2268	0.0398	-0.1504	0.0255
4	119.88	0.7500	0.1494	0.0014	-0.1567	0.0144	-2.8663	0.0444	0.0508	0.0236
4	119.88	0.8002	0.1533	0.0021	-0.1928	0.0166	-3.6382	0.0492	0.0744	0.0267
4	119.88	0.8582	0.1512	0.0017	-0.2392	0.0184	-4.6354	0.0567	-0.0818	0.0288
4	119.88	0.9101	0.1522	0.0022	-0.2832	0.0202	-5.5895	0.0642	-0.1265	0.0255
4	119.88	0.9728	0.1944	0.0027	-0.3101	0.0218	-6.7194	0.0731	-0.0136	0.0332

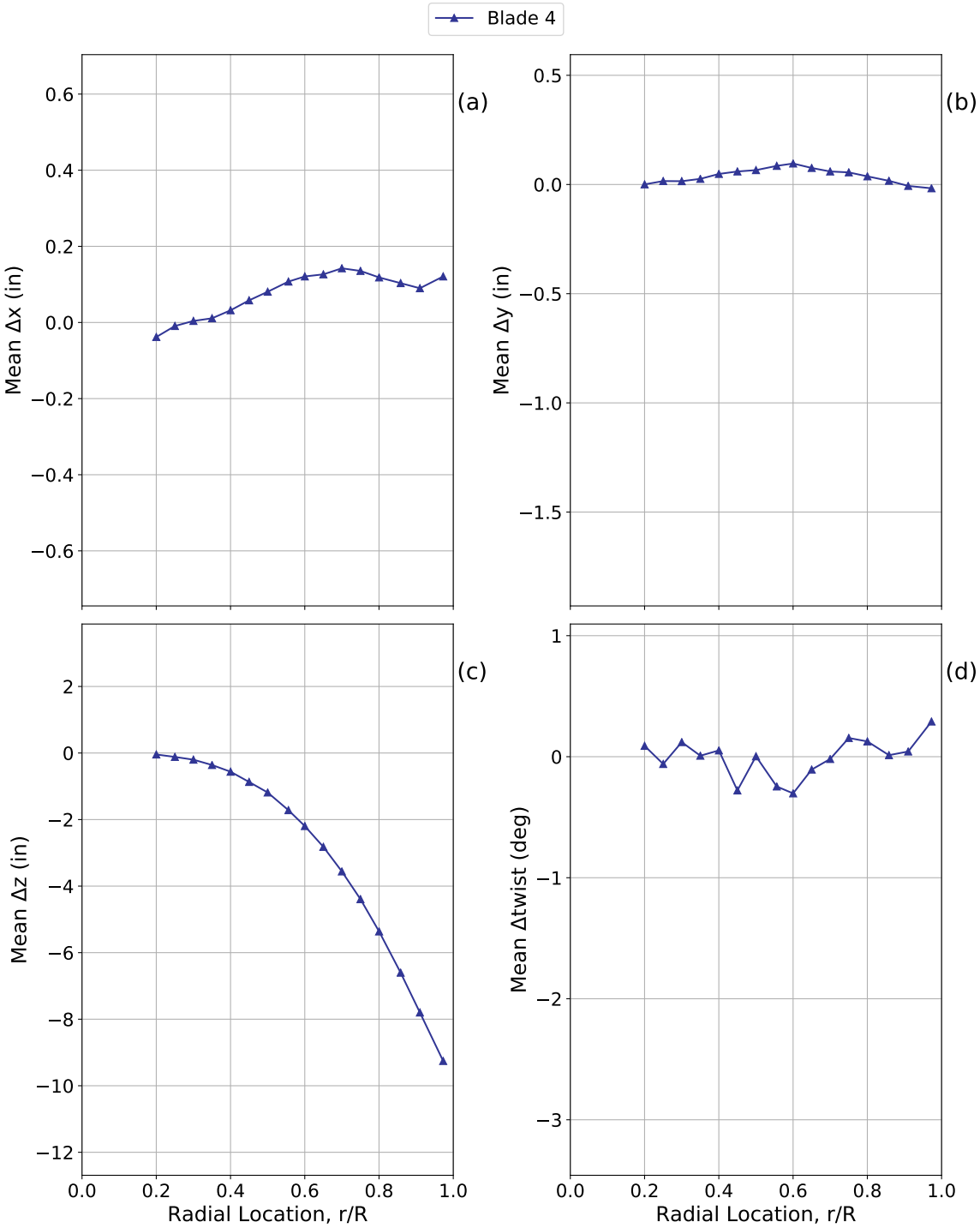


Figure 4.17-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0382	0.0005	0.0005	0.0004	-0.0446	0.0009	0.0894	0.0089
4	135	0.2502	-0.0093	0.0009	0.0157	0.0006	-0.1176	0.0035	-0.0604	0.0105
4	135	0.3001	0.0040	0.0006	0.0151	0.0012	-0.2004	0.0060	0.1202	0.0181
4	135	0.3502	0.0110	0.0003	0.0258	0.0022	-0.3604	0.0084	0.0081	0.0147
4	135	0.4002	0.0320	0.0012	0.0483	0.0031	-0.5625	0.0152	0.0518	0.0239
4	135	0.4500	0.0581	0.0014	0.0596	0.0047	-0.8700	0.0150	-0.2790	0.0172
4	135	0.5001	0.0807	0.0010	0.0658	0.0055	-1.1867	0.0218	0.0030	0.0196
4	135	0.5560	0.1074	0.0013	0.0852	0.0072	-1.7186	0.0288	-0.2461	0.0230
4	135	0.6001	0.1209	0.0012	0.0961	0.0087	-2.1959	0.0267	-0.3032	0.0228
4	135	0.6501	0.1264	0.0007	0.0757	0.0108	-2.8216	0.0322	-0.1065	0.0168
4	135	0.6999	0.1423	0.0024	0.0596	0.0129	-3.5596	0.0372	-0.0190	0.0170
4	135	0.7500	0.1354	0.0025	0.0555	0.0152	-4.3933	0.0422	0.1546	0.0213
4	135	0.8002	0.1183	0.0019	0.0373	0.0175	-5.3635	0.0470	0.1261	0.0220
4	135	0.8582	0.1033	0.0030	0.0168	0.0202	-6.6026	0.0548	0.0126	0.0228
4	135	0.9101	0.0899	0.0035	-0.0066	0.0228	-7.7996	0.0628	0.0429	0.0176
4	135	0.9728	0.1209	0.0040	-0.0174	0.0263	-9.2561	0.0752	0.2904	0.0182

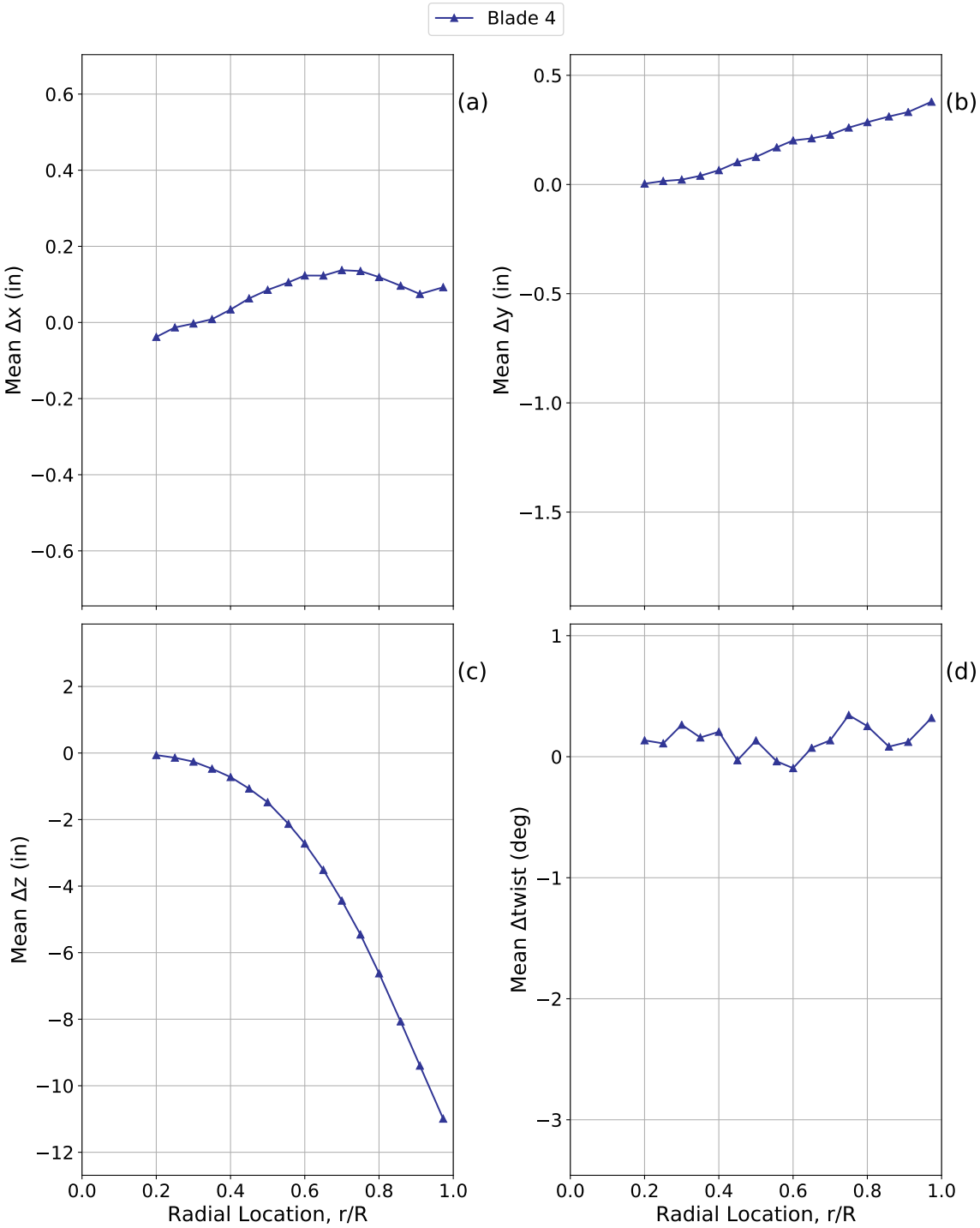


Figure 4.17-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0380	0.0006	0.0037	0.0006	-0.0626	0.0014	0.1349	0.0096
4	150.12	0.2502	-0.0131	0.0007	0.0158	0.0011	-0.1415	0.0023	0.1097	0.0201
4	150.12	0.3001	-0.0029	0.0008	0.0222	0.0021	-0.2603	0.0036	0.2636	0.0226
4	150.12	0.3502	0.0086	0.0007	0.0398	0.0029	-0.4733	0.0072	0.1585	0.0193
4	150.12	0.4002	0.0340	0.0008	0.0653	0.0047	-0.7238	0.0099	0.2056	0.0166
4	150.12	0.4500	0.0631	0.0010	0.1019	0.0067	-1.0706	0.0121	-0.0300	0.0177
4	150.12	0.5001	0.0855	0.0021	0.1262	0.0077	-1.4811	0.0152	0.1337	0.0193
4	150.12	0.5560	0.1054	0.0016	0.1699	0.0107	-2.1307	0.0201	-0.0383	0.0247
4	150.12	0.6001	0.1233	0.0019	0.2017	0.0118	-2.7229	0.0232	-0.0948	0.0335
4	150.12	0.6501	0.1231	0.0020	0.2112	0.0134	-3.5148	0.0277	0.0733	0.0207
4	150.12	0.6999	0.1374	0.0023	0.2277	0.0157	-4.4386	0.0310	0.1349	0.0283
4	150.12	0.7500	0.1350	0.0026	0.2604	0.0185	-5.4571	0.0355	0.3435	0.0294
4	150.12	0.8002	0.1191	0.0033	0.2853	0.0209	-6.6235	0.0432	0.2525	0.0253
4	150.12	0.8582	0.0964	0.0035	0.3113	0.0244	-8.0689	0.0516	0.0830	0.0219
4	150.12	0.9101	0.0747	0.0042	0.3319	0.0272	-9.3978	0.0595	0.1221	0.0249
4	150.12	0.9728	0.0925	0.0057	0.3788	0.0309	-10.9908	0.0692	0.3203	0.0248

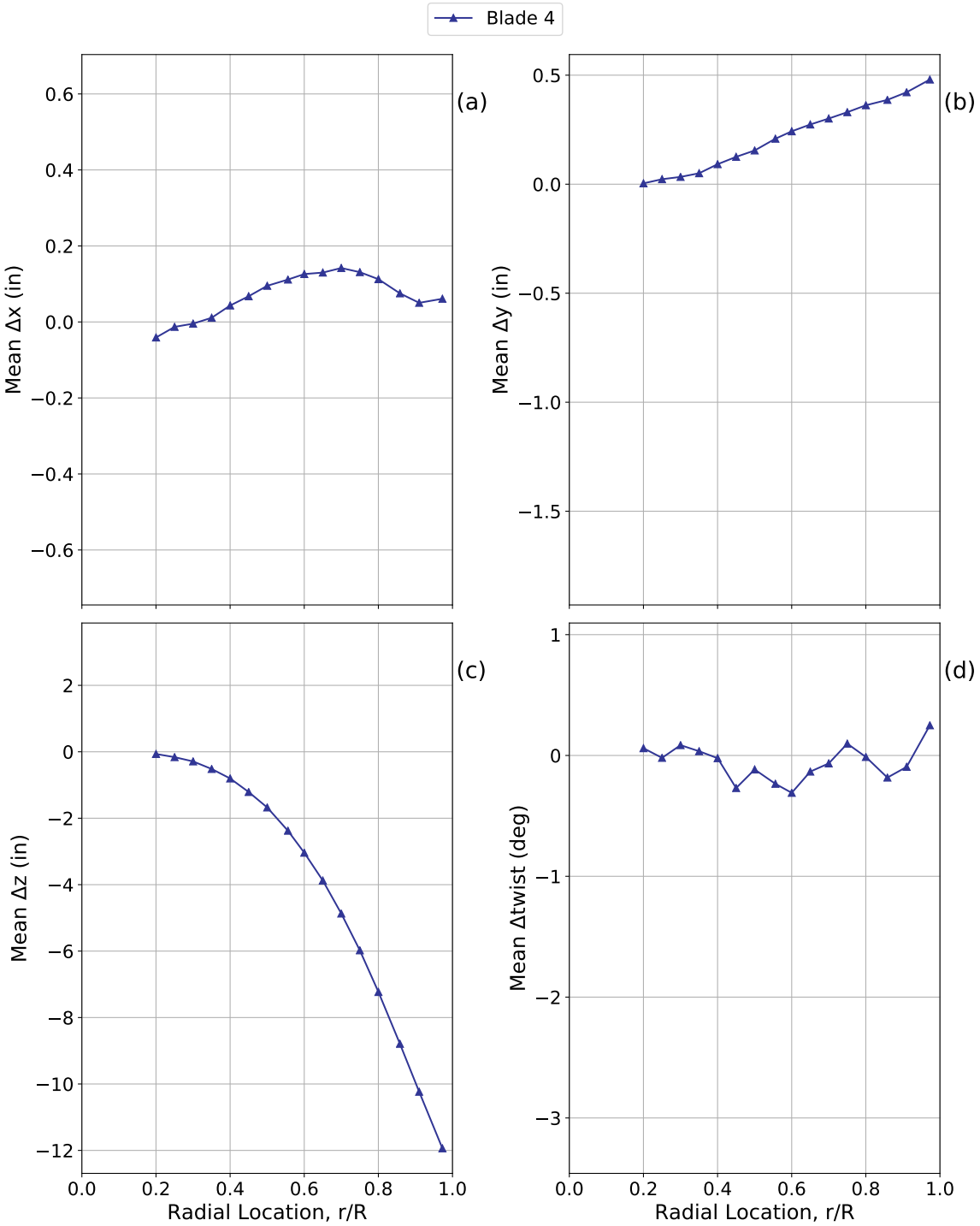


Figure 4.17-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0409	0.0011	0.0039	0.0010	-0.0664	0.0013	0.0600	0.0181
4	164.88	0.2502	-0.0130	0.0012	0.0229	0.0023	-0.1614	0.0025	-0.0197	0.0281
4	164.88	0.3001	-0.0045	0.0007	0.0334	0.0041	-0.2898	0.0046	0.0854	0.0393
4	164.88	0.3502	0.0110	0.0012	0.0502	0.0069	-0.5174	0.0076	0.0350	0.0393
4	164.88	0.4002	0.0433	0.0021	0.0917	0.0109	-0.8038	0.0114	-0.0226	0.0330
4	164.88	0.4500	0.0676	0.0018	0.1253	0.0129	-1.2104	0.0142	-0.2697	0.0255
4	164.88	0.5001	0.0951	0.0017	0.1547	0.0156	-1.6762	0.0176	-0.1160	0.0284
4	164.88	0.5560	0.1115	0.0010	0.2086	0.0193	-2.3769	0.0213	-0.2346	0.0334
4	164.88	0.6001	0.1260	0.0024	0.2426	0.0232	-3.0384	0.0254	-0.3093	0.0307
4	164.88	0.6501	0.1299	0.0019	0.2738	0.0262	-3.8764	0.0295	-0.1336	0.0350
4	164.88	0.6999	0.1419	0.0022	0.3011	0.0315	-4.8698	0.0331	-0.0659	0.0338
4	164.88	0.7500	0.1310	0.0026	0.3302	0.0351	-5.9771	0.0379	0.0978	0.0356
4	164.88	0.8002	0.1125	0.0020	0.3620	0.0399	-7.2313	0.0421	-0.0125	0.0336
4	164.88	0.8582	0.0752	0.0023	0.3867	0.0448	-8.7918	0.0477	-0.1832	0.0370
4	164.88	0.9101	0.0503	0.0027	0.4217	0.0496	-10.2346	0.0506	-0.0945	0.0313
4	164.88	0.9728	0.0610	0.0031	0.4799	0.0557	-11.9382	0.0564	0.2496	0.0366

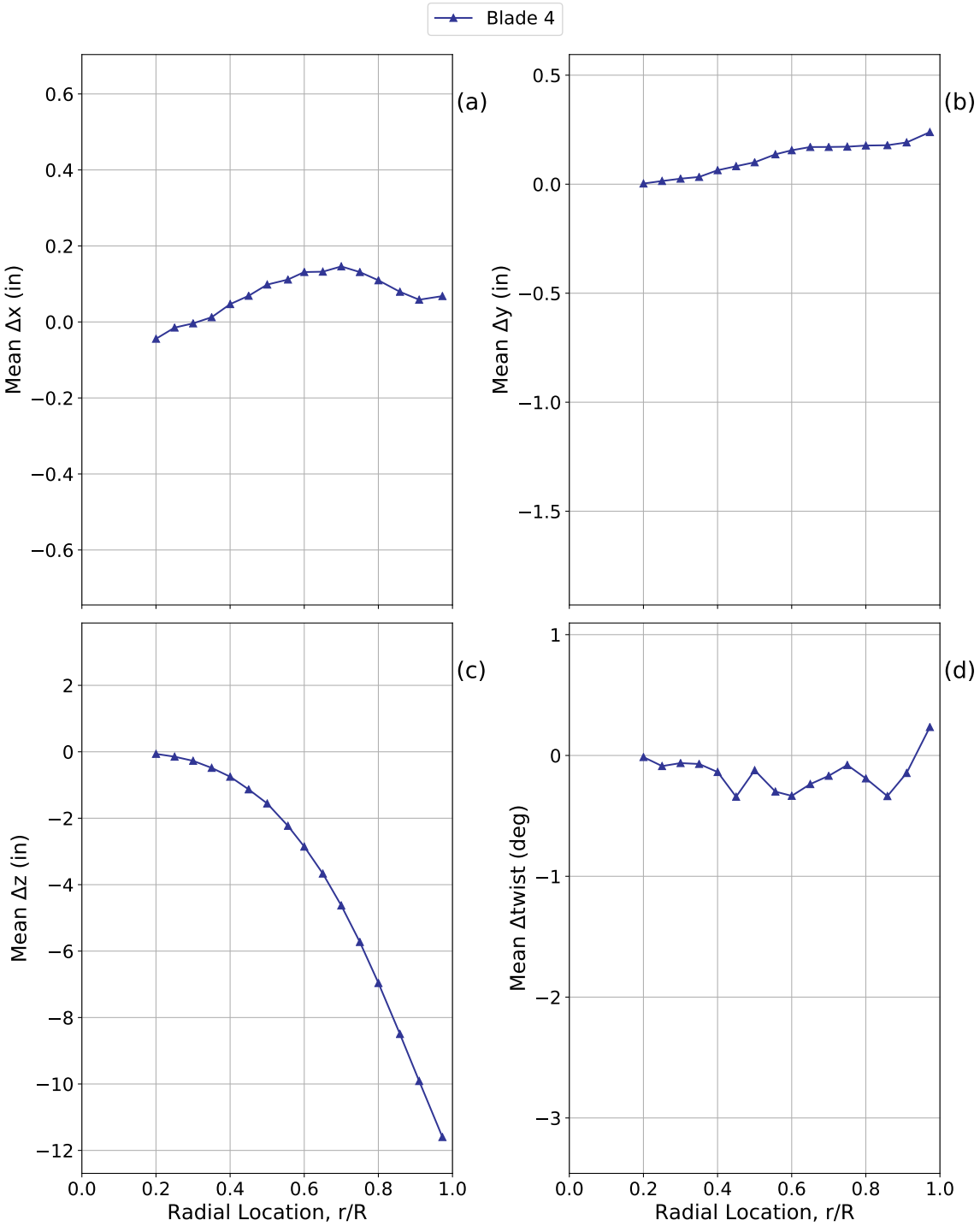


Figure 4.17-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0443	0.0011	0.0030	0.0007	-0.0634	0.0018	-0.0133	0.0165
4	170.16	0.2502	-0.0149	0.0014	0.0146	0.0010	-0.1477	0.0028	-0.0879	0.0247
4	170.16	0.3001	-0.0038	0.0012	0.0253	0.0018	-0.2724	0.0068	-0.0631	0.0355
4	170.16	0.3502	0.0124	0.0010	0.0332	0.0038	-0.4848	0.0109	-0.0704	0.0265
4	170.16	0.4002	0.0469	0.0008	0.0640	0.0051	-0.7512	0.0164	-0.1372	0.0334
4	170.16	0.4500	0.0688	0.0009	0.0824	0.0061	-1.1318	0.0204	-0.3419	0.0334
4	170.16	0.5001	0.0983	0.0010	0.1004	0.0066	-1.5571	0.0250	-0.1226	0.0397
4	170.16	0.5560	0.1115	0.0013	0.1369	0.0082	-2.2307	0.0317	-0.2991	0.0315
4	170.16	0.6001	0.1313	0.0013	0.1556	0.0114	-2.8556	0.0386	-0.3343	0.0337
4	170.16	0.6501	0.1322	0.0016	0.1705	0.0123	-3.6669	0.0462	-0.2371	0.0324
4	170.16	0.6999	0.1461	0.0024	0.1707	0.0135	-4.6277	0.0545	-0.1685	0.0319
4	170.16	0.7500	0.1312	0.0029	0.1719	0.0153	-5.7267	0.0626	-0.0792	0.0350
4	170.16	0.8002	0.1095	0.0027	0.1773	0.0194	-6.9619	0.0692	-0.1900	0.0339
4	170.16	0.8582	0.0793	0.0036	0.1787	0.0220	-8.4965	0.0791	-0.3367	0.0314
4	170.16	0.9101	0.0585	0.0039	0.1915	0.0243	-9.9125	0.0864	-0.1453	0.0371
4	170.16	0.9728	0.0680	0.0046	0.2388	0.0274	-11.5984	0.0975	0.2352	0.0273

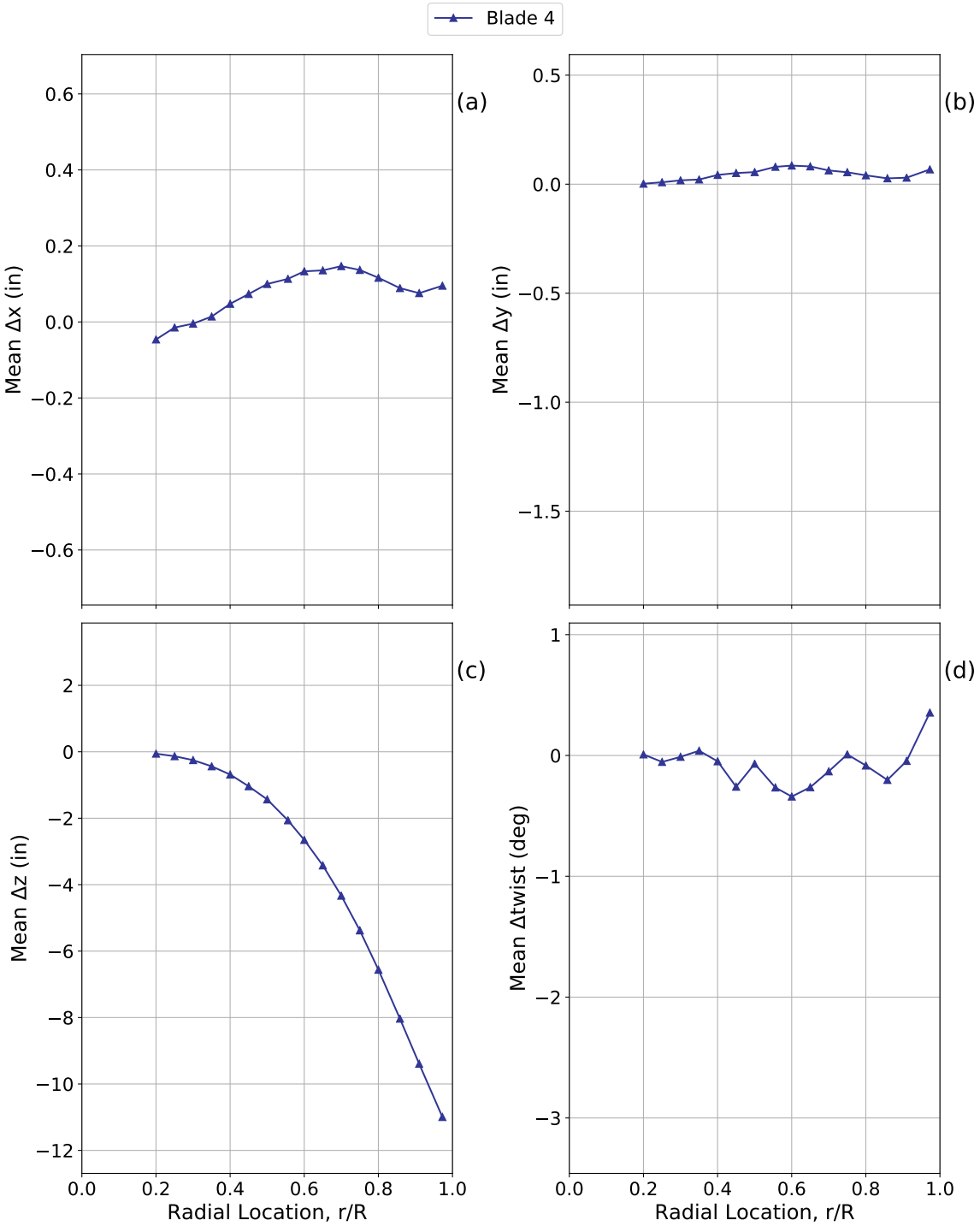


Figure 4.17-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0461	0.0012	0.0022	0.0009	-0.0573	0.0016	0.0085	0.0155
4	175.08	0.2502	-0.0147	0.0013	0.0088	0.0017	-0.1337	0.0038	-0.0536	0.0239
4	175.08	0.3001	-0.0045	0.0017	0.0177	0.0032	-0.2516	0.0062	-0.0115	0.0304
4	175.08	0.3502	0.0142	0.0014	0.0215	0.0056	-0.4375	0.0081	0.0390	0.0257
4	175.08	0.4002	0.0477	0.0008	0.0424	0.0086	-0.6855	0.0141	-0.0486	0.0307
4	175.08	0.4500	0.0735	0.0013	0.0511	0.0106	-1.0383	0.0164	-0.2590	0.0188
4	175.08	0.5001	0.0998	0.0011	0.0554	0.0133	-1.4345	0.0200	-0.0687	0.0272
4	175.08	0.5560	0.1134	0.0018	0.0796	0.0158	-2.0639	0.0247	-0.2652	0.0244
4	175.08	0.6001	0.1332	0.0014	0.0853	0.0183	-2.6537	0.0304	-0.3403	0.0208
4	175.08	0.6501	0.1357	0.0018	0.0815	0.0205	-3.4215	0.0341	-0.2631	0.0251
4	175.08	0.6999	0.1468	0.0018	0.0630	0.0230	-4.3330	0.0394	-0.1317	0.0262
4	175.08	0.7500	0.1367	0.0021	0.0547	0.0256	-5.3777	0.0450	0.0089	0.0250
4	175.08	0.8002	0.1162	0.0028	0.0406	0.0283	-6.5623	0.0501	-0.0836	0.0214
4	175.08	0.8582	0.0890	0.0029	0.0268	0.0317	-8.0345	0.0526	-0.2028	0.0274
4	175.08	0.9101	0.0758	0.0030	0.0298	0.0340	-9.3935	0.0578	-0.0456	0.0286
4	175.08	0.9728	0.0953	0.0041	0.0677	0.0384	-10.9948	0.0628	0.3546	0.0242

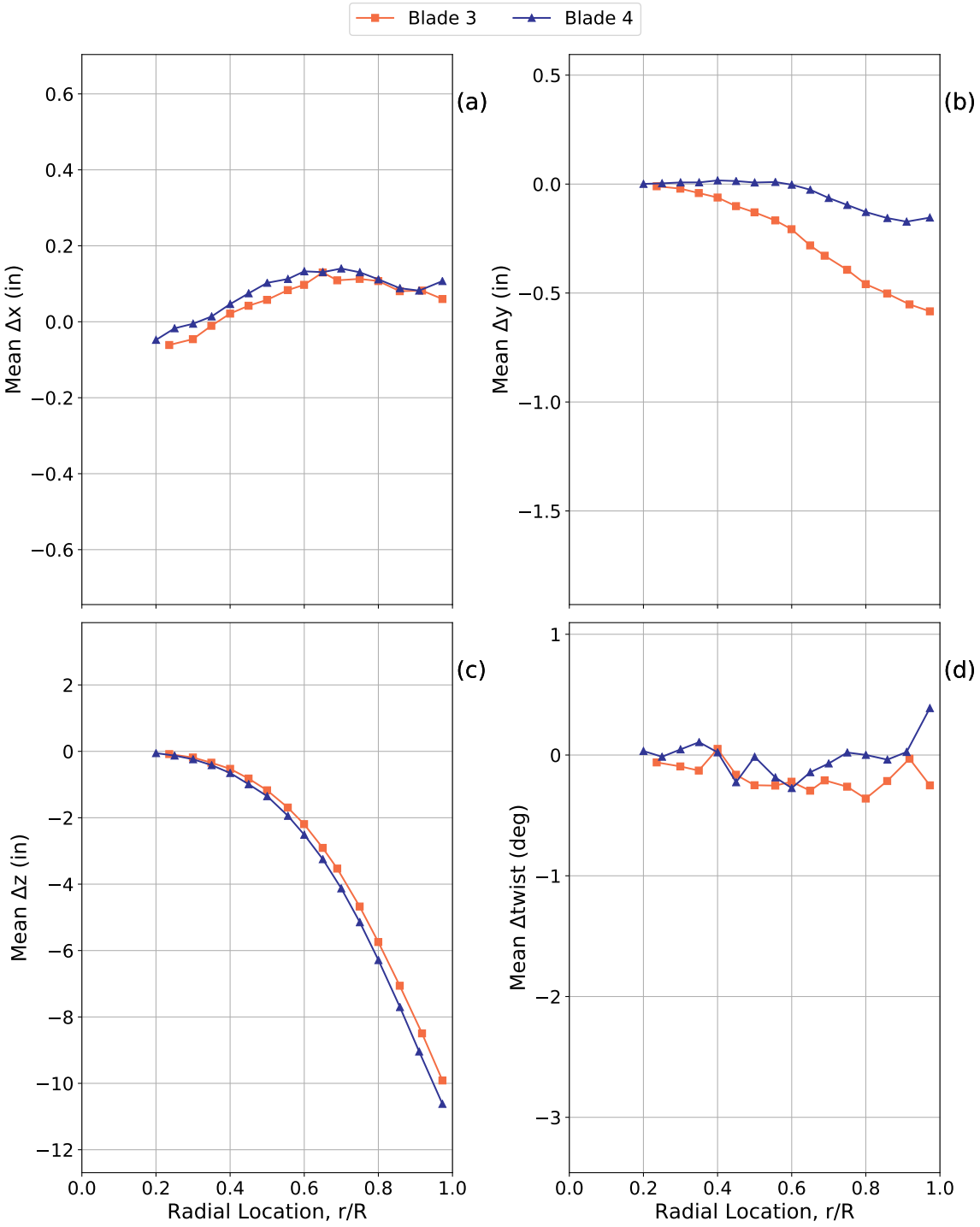


Figure 4.17-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0612	0.0013	-0.0100	0.0019	-0.0826	0.0038	-0.0611	0.0435
3	180.35	0.2995	-0.0458	0.0022	-0.0209	0.0045	-0.1845	0.0096	-0.0944	0.0704
3	180.35	0.3493	-0.0106	0.0025	-0.0411	0.0079	-0.3415	0.0157	-0.1286	0.0705
3	180.35	0.4000	0.0215	0.0020	-0.0617	0.0124	-0.5271	0.0252	0.0508	0.0676
3	180.35	0.4497	0.0422	0.0029	-0.1012	0.0152	-0.8188	0.0322	-0.1631	0.0732
3	180.35	0.4997	0.0577	0.0024	-0.1296	0.0178	-1.1734	0.0402	-0.2501	0.0717
3	180.35	0.5556	0.0833	0.0028	-0.1667	0.0210	-1.6927	0.0505	-0.2532	0.0585
3	180.35	0.5995	0.0972	0.0030	-0.2071	0.0238	-2.1921	0.0568	-0.2210	0.0660
3	180.35	0.6498	0.1298	0.0026	-0.2815	0.0255	-2.9077	0.0652	-0.2953	0.0747
3	180.35	0.6890	0.1091	0.0044	-0.3287	0.0299	-3.5309	0.0712	-0.2097	0.0749
3	180.35	0.7495	0.1129	0.0037	-0.3932	0.0327	-4.6740	0.0815	-0.2622	0.0714
3	180.35	0.7998	0.1072	0.0040	-0.4593	0.0367	-5.7428	0.0904	-0.3606	0.0693
3	180.35	0.8577	0.0805	0.0045	-0.5021	0.0416	-7.0598	0.0994	-0.2153	0.0732
3	180.35	0.9178	0.0821	0.0054	-0.5521	0.0468	-8.4943	0.1111	-0.0305	0.0708
3	180.35	0.9729	0.0599	0.0063	-0.5840	0.0513	-9.9132	0.1217	-0.2511	0.0722
4	180	0.2001	-0.0477	0.0013	0.0008	0.0010	-0.0539	0.0024	0.0331	0.0160
4	180	0.2502	-0.0172	0.0015	0.0034	0.0018	-0.1280	0.0030	-0.0144	0.0339
4	180	0.3001	-0.0052	0.0020	0.0075	0.0031	-0.2388	0.0072	0.0466	0.0347
4	180	0.3502	0.0140	0.0012	0.0077	0.0060	-0.4166	0.0115	0.1066	0.0295
4	180	0.4002	0.0466	0.0014	0.0168	0.0085	-0.6532	0.0170	0.0219	0.0243
4	180	0.4500	0.0749	0.0011	0.0139	0.0110	-0.9910	0.0188	-0.2255	0.0306
4	180	0.5001	0.1025	0.0010	0.0071	0.0132	-1.3515	0.0228	-0.0149	0.0265
4	180	0.5560	0.1126	0.0015	0.0095	0.0167	-1.9428	0.0241	-0.1857	0.0408
4	180	0.6001	0.1328	0.0016	-0.0029	0.0191	-2.5131	0.0303	-0.2737	0.0243
4	180	0.6501	0.1306	0.0010	-0.0260	0.0232	-3.2491	0.0322	-0.1425	0.0213
4	180	0.6999	0.1401	0.0017	-0.0639	0.0264	-4.1283	0.0357	-0.0698	0.0258
4	180	0.7500	0.1302	0.0016	-0.0959	0.0307	-5.1478	0.0362	0.0208	0.0334
4	180	0.8002	0.1116	0.0016	-0.1283	0.0341	-6.2884	0.0404	0.0009	0.0290
4	180	0.8582	0.0883	0.0024	-0.1561	0.0386	-7.7040	0.0453	-0.0383	0.0197
4	180	0.9101	0.0820	0.0023	-0.1725	0.0430	-9.0434	0.0515	0.0251	0.0183
4	180	0.9728	0.1071	0.0035	-0.1538	0.0478	-10.6190	0.0572	0.3884	0.0251

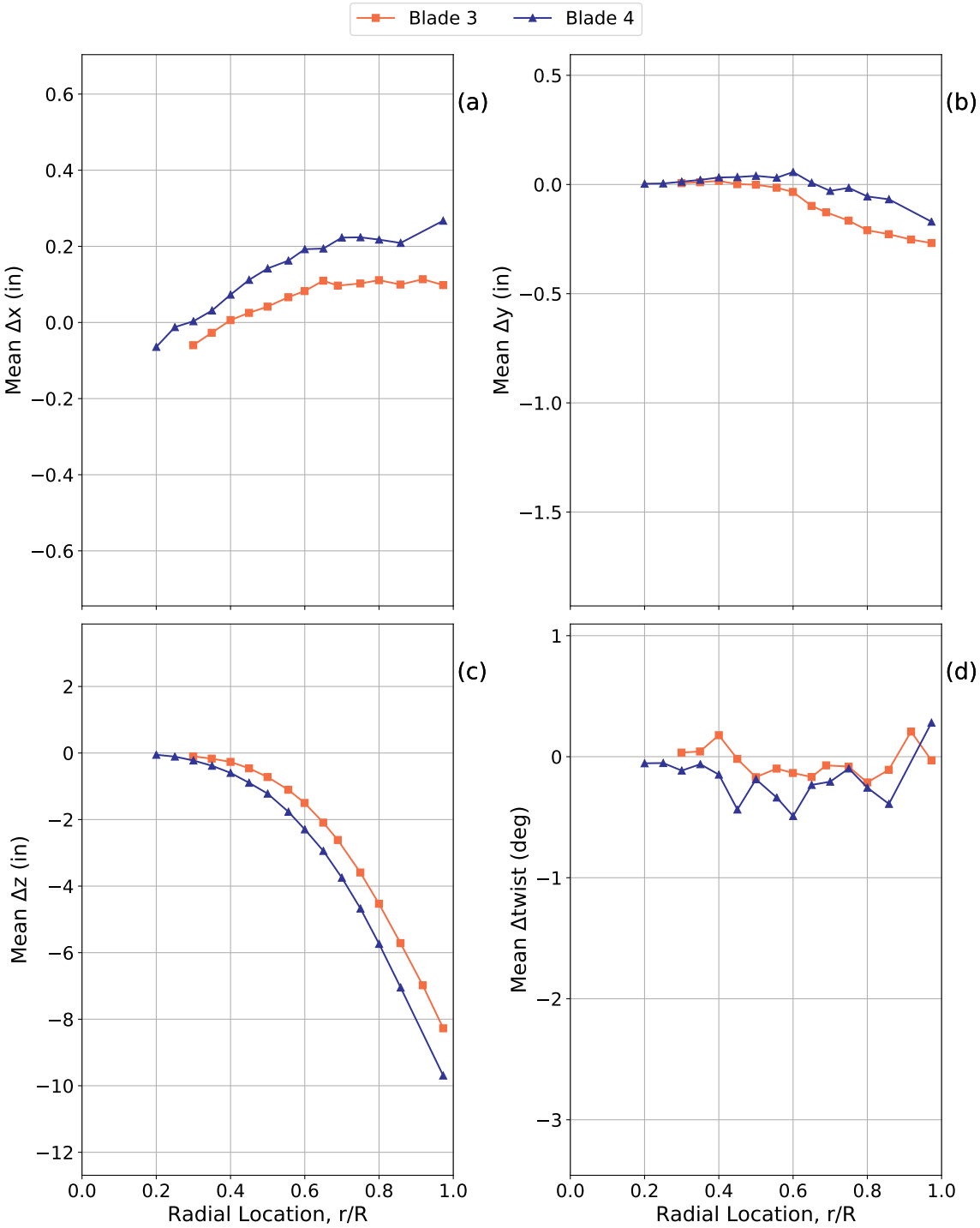


Figure 4.17-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0597	0.0048	0.0061	0.0130	-0.1005	0.0229	0.0341	0.0672
3	184.92	0.3493	-0.0271	0.0059	0.0104	0.0223	-0.1693	0.0389	0.0432	0.0885
3	184.92	0.4000	0.0062	0.0053	0.0166	0.0355	-0.2667	0.0614	0.1776	0.0776
3	184.92	0.4497	0.0253	0.0057	0.0014	0.0458	-0.4588	0.0794	-0.0182	0.0841
3	184.92	0.4997	0.0416	0.0057	-0.0009	0.0569	-0.7216	0.0997	-0.1691	0.0786
3	184.92	0.5556	0.0663	0.0054	-0.0147	0.0709	-1.1044	0.1204	-0.0984	0.0788
3	184.92	0.5995	0.0825	0.0064	-0.0340	0.0804	-1.5010	0.1397	-0.1345	0.0735
3	184.92	0.6498	0.1097	0.0065	-0.0980	0.0925	-2.0918	0.1567	-0.1676	0.0827
3	184.92	0.6890	0.0968	0.0073	-0.1273	0.1016	-2.6139	0.1727	-0.0715	0.0826
3	184.92	0.7495	0.1024	0.0076	-0.1654	0.1162	-3.5908	0.1956	-0.0818	0.0782
3	184.92	0.7998	0.1111	0.0084	-0.2094	0.1277	-4.5298	0.2156	-0.2126	0.0782
3	184.92	0.8577	0.0996	0.0095	-0.2276	0.1422	-5.7130	0.2334	-0.1085	0.0844
3	184.92	0.9178	0.1136	0.0103	-0.2521	0.1566	-6.9804	0.2594	0.2074	0.0787
3	184.92	0.9729	0.0983	0.0133	-0.2681	0.1696	-8.2729	0.2808	-0.0307	0.0787
4	184.92	0.2001	-0.0642	0.0012	0.0034	0.0010	-0.0536	0.0013	-0.0544	0.0144
4	184.92	0.2502	-0.0122	0.0007	0.0046	0.0013	-0.1083	0.0030	-0.0525	0.0230
4	184.92	0.3001	0.0032	0.0006	0.0128	0.0036	-0.2253	0.0046	-0.1149	0.0253
4	184.92	0.3502	0.0314	0.0007	0.0211	0.0044	-0.3831	0.0070	-0.0620	0.0214
4	184.92	0.4002	0.0731	0.0011	0.0322	0.0074	-0.5979	0.0111	-0.1483	0.0281
4	184.92	0.4500	0.1119	0.0009	0.0340	0.0099	-0.8952	0.0176	-0.4368	0.0397
4	184.92	0.5001	0.1419	0.0009	0.0396	0.0099	-1.2221	0.0206	-0.1867	0.0214
4	184.92	0.5560	0.1625	0.0009	0.0309	0.0117	-1.7674	0.0257	-0.3376	0.0336
4	184.92	0.6001	0.1925	0.0009	0.0570	0.0141	-2.2960	0.0323	-0.4906	0.0422
4	184.92	0.6501	0.1942	0.0011	0.0080	0.0149	-2.9429	0.0385	-0.2332	0.0422
4	184.92	0.6999	0.2230	0.0013	-0.0293	0.0195	-3.7488	0.0391	-0.2064	0.0725
4	184.92	0.7500	0.2237	0.0015	-0.0154	0.0210	-4.6750	0.0465	-0.0976	0.0659
4	184.92	0.8002	0.2176	0.0018	-0.0548	0.0228	-5.7377	0.0501	-0.2560	0.0689
4	184.92	0.8582	0.2089	0.0023	-0.0679	0.0264	-7.0481	0.0627	-0.3901	0.1251
4	184.92	0.9728	0.2673	0.0062	-0.1702	0.0372	-9.6942	0.0984	0.2811	0.1650

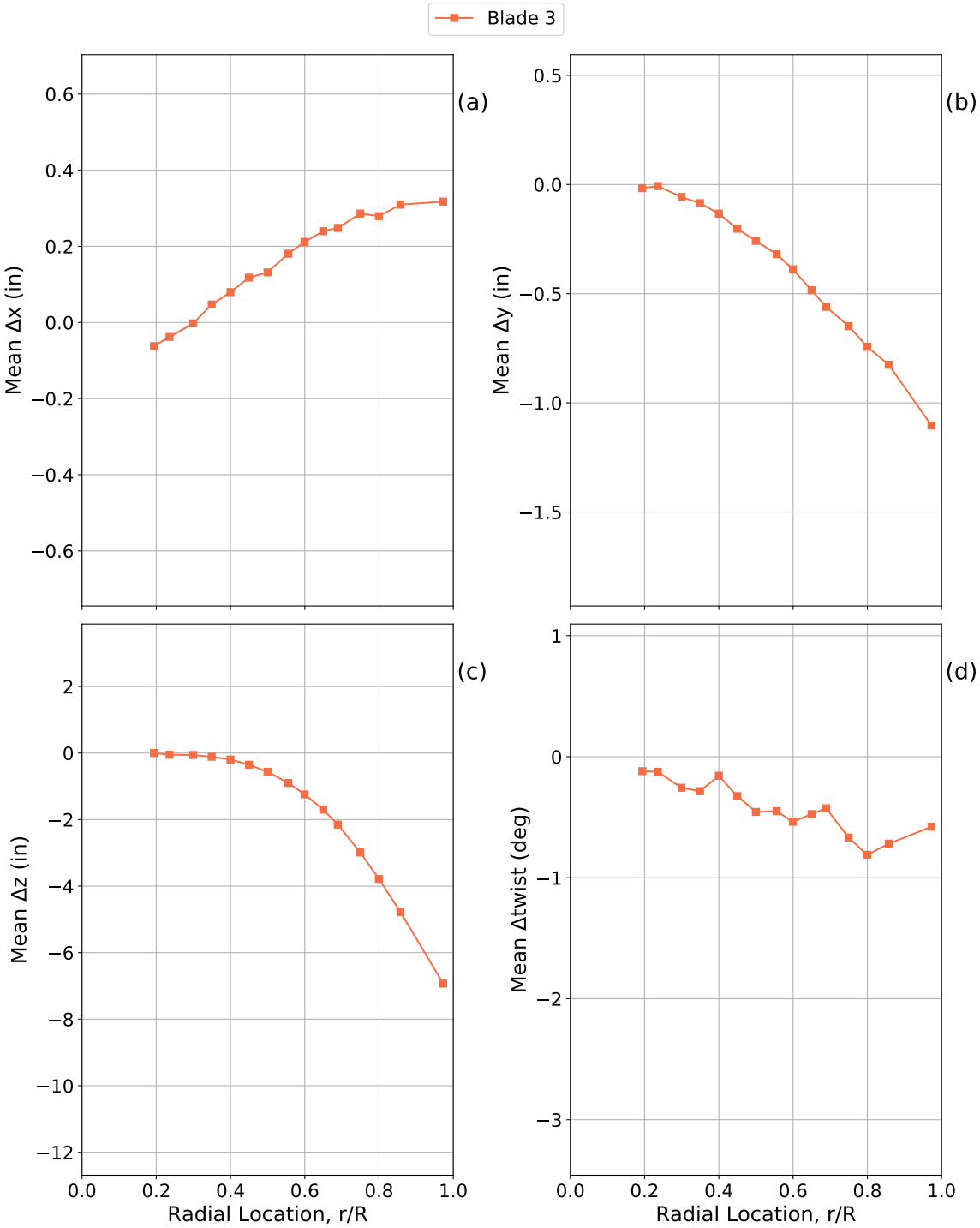


Figure 4.17-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0622	0.0010	-0.0167	0.0008	0.0014	0.0019	-0.1193	0.0147
3	195.12	0.2357	-0.0379	0.0007	-0.0070	0.0018	-0.0510	0.0027	-0.1244	0.0287
3	195.12	0.2995	-0.0026	0.0006	-0.0571	0.0029	-0.0590	0.0063	-0.2561	0.0343
3	195.12	0.3493	0.0473	0.0010	-0.0853	0.0053	-0.1112	0.0105	-0.2846	0.0286
3	195.12	0.4000	0.0797	0.0010	-0.1333	0.0082	-0.1951	0.0158	-0.1568	0.0304
3	195.12	0.4497	0.1179	0.0010	-0.2023	0.0102	-0.3497	0.0193	-0.3251	0.0368
3	195.12	0.4997	0.1318	0.0012	-0.2581	0.0124	-0.5622	0.0266	-0.4561	0.0291
3	195.12	0.5556	0.1808	0.0009	-0.3189	0.0161	-0.8991	0.0339	-0.4492	0.0370
3	195.12	0.5995	0.2117	0.0011	-0.3885	0.0179	-1.2431	0.0398	-0.5374	0.0445
3	195.12	0.6498	0.2398	0.0012	-0.4839	0.0228	-1.7020	0.0480	-0.4738	0.0347
3	195.12	0.6890	0.2485	0.0016	-0.5603	0.0255	-2.1499	0.0519	-0.4257	0.0608
3	195.12	0.7495	0.2861	0.0019	-0.6484	0.0303	-2.9880	0.0640	-0.6677	0.0548
3	195.12	0.7998	0.2794	0.0023	-0.7430	0.0333	-3.7831	0.0739	-0.8102	0.0418
3	195.12	0.8577	0.3096	0.0019	-0.8256	0.0347	-4.7783	0.0892	-0.7186	0.1173
3	195.12	0.9729	0.3176	0.0040	-1.1039	0.0539	-6.9308	0.1176	-0.5783	0.1316

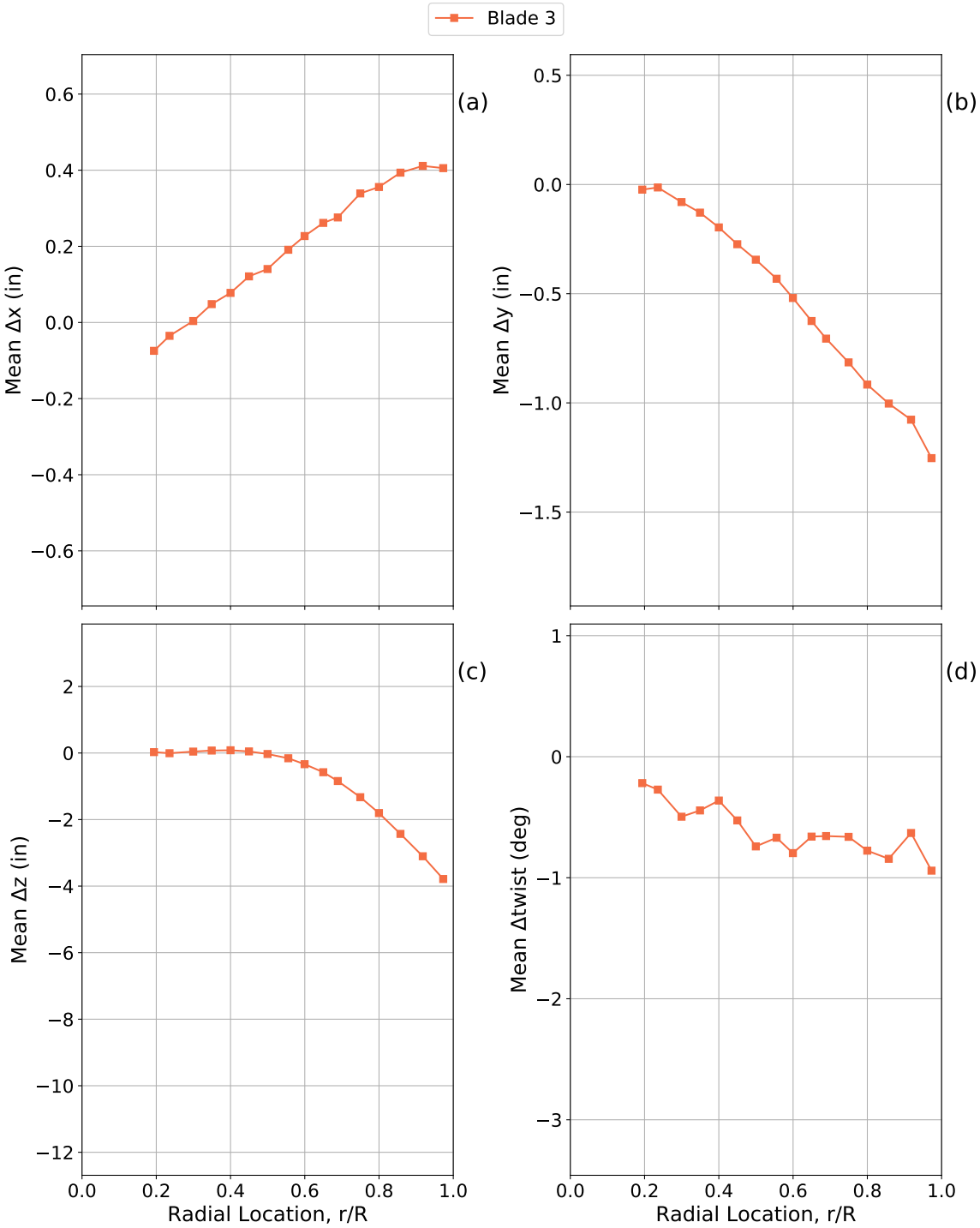


Figure 4.17-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.149, α = 0°
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0745	0.0016	-0.0235	0.0008	0.0269	0.0022	-0.2183	0.0148
3	209.88	0.2357	-0.0351	0.0008	-0.0136	0.0014	-0.0061	0.0033	-0.2720	0.0280
3	209.88	0.2995	0.0038	0.0009	-0.0804	0.0028	0.0429	0.0078	-0.4958	0.0339
3	209.88	0.3493	0.0482	0.0006	-0.1288	0.0048	0.0740	0.0119	-0.4440	0.0398
3	209.88	0.4000	0.0777	0.0006	-0.1965	0.0073	0.0828	0.0191	-0.3624	0.0377
3	209.88	0.4497	0.1211	0.0008	-0.2735	0.0084	0.0476	0.0247	-0.5266	0.0358
3	209.88	0.4997	0.1404	0.0009	-0.3443	0.0108	-0.0299	0.0314	-0.7413	0.0304
3	209.88	0.5556	0.1910	0.0011	-0.4317	0.0125	-0.1581	0.0383	-0.6693	0.0344
3	209.88	0.5995	0.2270	0.0008	-0.5197	0.0158	-0.3361	0.0424	-0.7965	0.0435
3	209.88	0.6498	0.2616	0.0014	-0.6251	0.0180	-0.5773	0.0492	-0.6602	0.0331
3	209.88	0.6890	0.2759	0.0015	-0.7058	0.0204	-0.8424	0.0548	-0.6557	0.0309
3	209.88	0.7495	0.3390	0.0016	-0.8146	0.0237	-1.3278	0.0590	-0.6622	0.0355
3	209.88	0.7998	0.3559	0.0018	-0.9162	0.0278	-1.8047	0.0639	-0.7763	0.0380
3	209.88	0.8577	0.3936	0.0019	-1.0031	0.0314	-2.4308	0.0725	-0.8437	0.0440
3	209.88	0.9178	0.4113	0.0030	-1.0770	0.0348	-3.1027	0.0785	-0.6303	0.1194
3	209.88	0.9729	0.4055	0.0030	-1.2530	0.0391	-3.7857	0.0904	-0.9415	0.0685

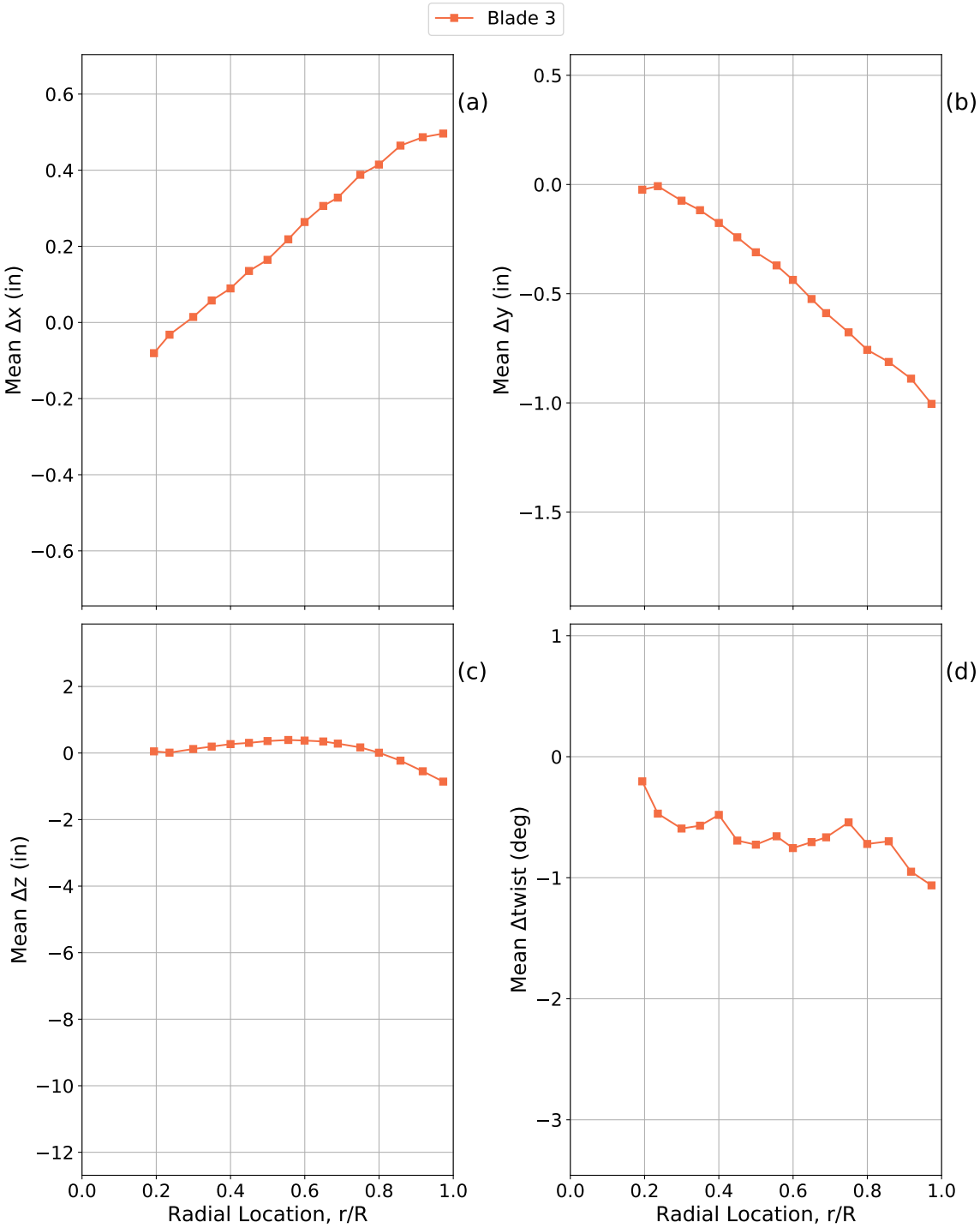


Figure 4.17-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0806	0.0013	-0.0238	0.0005	0.0495	0.0014	-0.2039	0.0133
3	225	0.2357	-0.0321	0.0006	-0.0076	0.0011	0.0111	0.0023	-0.4704	0.0304
3	225	0.2995	0.0144	0.0008	-0.0741	0.0023	0.1207	0.0050	-0.5935	0.0340
3	225	0.3493	0.0578	0.0009	-0.1177	0.0033	0.1934	0.0058	-0.5699	0.0224
3	225	0.4000	0.0895	0.0009	-0.1762	0.0056	0.2675	0.0101	-0.4809	0.0318
3	225	0.4497	0.1353	0.0010	-0.2417	0.0061	0.3049	0.0089	-0.6932	0.0297
3	225	0.4997	0.1646	0.0013	-0.3104	0.0092	0.3596	0.0105	-0.7268	0.0273
3	225	0.5556	0.2185	0.0011	-0.3706	0.0100	0.3917	0.0128	-0.6577	0.0288
3	225	0.5995	0.2639	0.0014	-0.4368	0.0122	0.3745	0.0167	-0.7549	0.0282
3	225	0.6498	0.3061	0.0019	-0.5244	0.0150	0.3468	0.0186	-0.7057	0.0263
3	225	0.6890	0.3280	0.0018	-0.5891	0.0169	0.2823	0.0233	-0.6661	0.0492
3	225	0.7495	0.3880	0.0017	-0.6769	0.0202	0.1688	0.0273	-0.5425	0.0355
3	225	0.7998	0.4148	0.0017	-0.7572	0.0224	0.0091	0.0316	-0.7211	0.0338
3	225	0.8577	0.4646	0.0020	-0.8125	0.0258	-0.2291	0.0355	-0.6989	0.0364
3	225	0.9178	0.4867	0.0024	-0.8891	0.0288	-0.5488	0.0392	-0.9501	0.0326
3	225	0.9729	0.4963	0.0031	-1.0046	0.0314	-0.8591	0.0426	-1.0631	0.0455

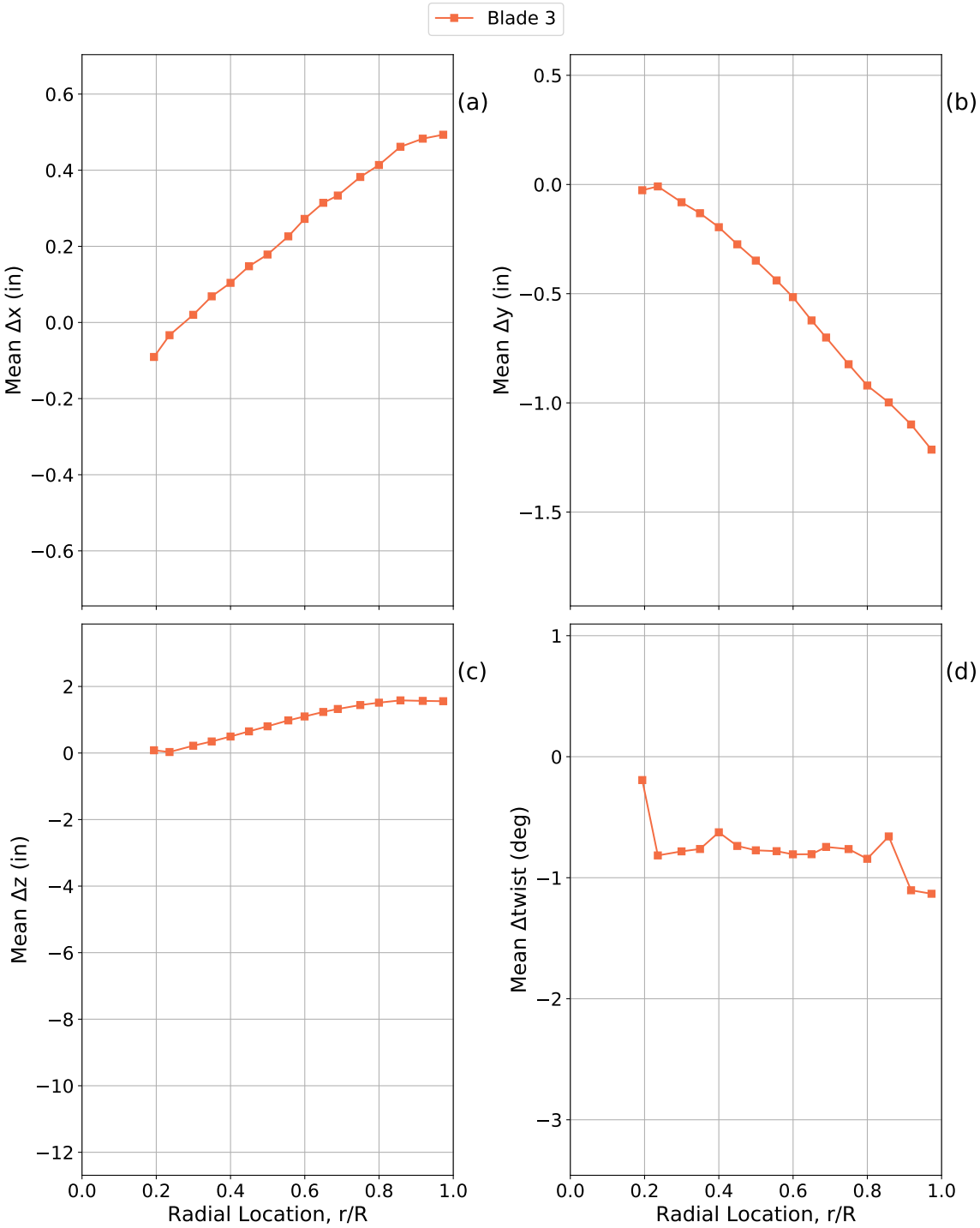


Figure 4.17-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0906	0.0021	-0.0263	0.0008	0.0824	0.0022	-0.1932	0.0137
3	240.12	0.2357	-0.0334	0.0011	-0.0088	0.0019	0.0299	0.0022	-0.8157	0.0264
3	240.12	0.2995	0.0201	0.0009	-0.0814	0.0047	0.2192	0.0066	-0.7822	0.0347
3	240.12	0.3493	0.0686	0.0014	-0.1315	0.0067	0.3472	0.0106	-0.7627	0.0333
3	240.12	0.4000	0.1041	0.0021	-0.1955	0.0118	0.4959	0.0158	-0.6247	0.0378
3	240.12	0.4497	0.1477	0.0019	-0.2739	0.0138	0.6510	0.0191	-0.7374	0.0373
3	240.12	0.4997	0.1785	0.0025	-0.3484	0.0161	0.8025	0.0226	-0.7735	0.0412
3	240.12	0.5556	0.2262	0.0036	-0.4392	0.0194	0.9799	0.0257	-0.7805	0.0444
3	240.12	0.5995	0.2721	0.0020	-0.5158	0.0231	1.0987	0.0301	-0.8066	0.0379
3	240.12	0.6498	0.3144	0.0030	-0.6225	0.0262	1.2338	0.0337	-0.8058	0.0543
3	240.12	0.6890	0.3335	0.0024	-0.7008	0.0295	1.3230	0.0350	-0.7456	0.0443
3	240.12	0.7495	0.3822	0.0027	-0.8231	0.0337	1.4415	0.0383	-0.7633	0.0375
3	240.12	0.7998	0.4137	0.0029	-0.9206	0.0384	1.5132	0.0399	-0.8436	0.0275
3	240.12	0.8577	0.4616	0.0031	-0.9979	0.0442	1.5819	0.0434	-0.6587	0.0353
3	240.12	0.9178	0.4829	0.0036	-1.0989	0.0504	1.5664	0.0467	-1.1036	0.0323
3	240.12	0.9729	0.4933	0.0048	-1.2141	0.0559	1.5573	0.0494	-1.1325	0.0330

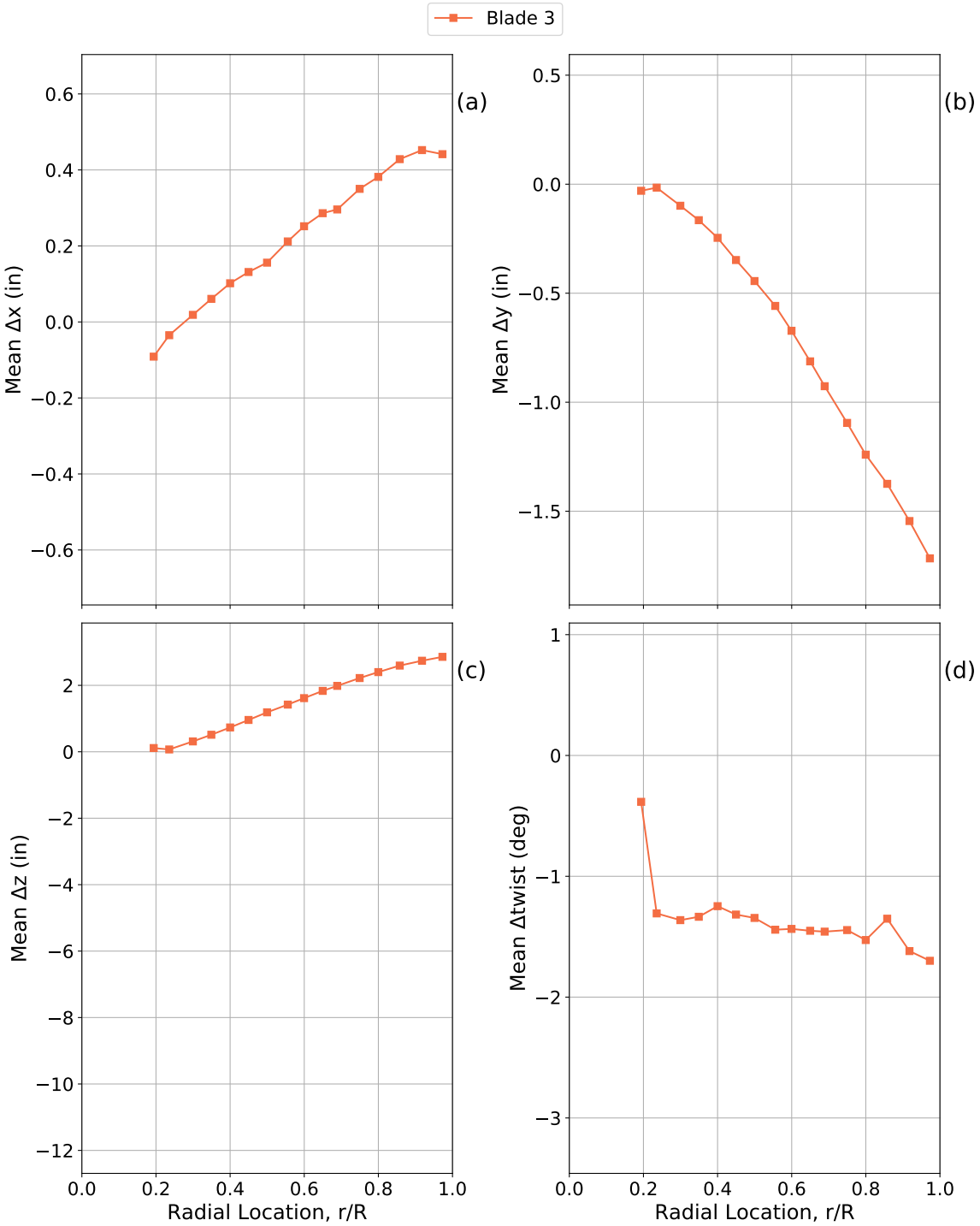


Figure 4.17-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0913	0.0035	-0.0302	0.0015	0.1126	0.0068	-0.3837	0.0254
3	254.88	0.2357	-0.0349	0.0014	-0.0157	0.0007	0.0703	0.0032	-1.3071	0.0895
3	254.88	0.2995	0.0187	0.0009	-0.0988	0.0046	0.3123	0.0177	-1.3628	0.0840
3	254.88	0.3493	0.0607	0.0010	-0.1651	0.0070	0.5131	0.0263	-1.3350	0.0859
3	254.88	0.4000	0.1018	0.0012	-0.2460	0.0106	0.7326	0.0381	-1.2472	0.0872
3	254.88	0.4497	0.1314	0.0015	-0.3478	0.0135	0.9584	0.0487	-1.3166	0.0806
3	254.88	0.4997	0.1560	0.0015	-0.4442	0.0176	1.1880	0.0568	-1.3446	0.0871
3	254.88	0.5556	0.2119	0.0016	-0.5583	0.0218	1.4207	0.0709	-1.4420	0.0821
3	254.88	0.5995	0.2518	0.0021	-0.6723	0.0251	1.6152	0.0816	-1.4354	0.0843
3	254.88	0.6498	0.2862	0.0028	-0.8126	0.0288	1.8334	0.0951	-1.4508	0.0873
3	254.88	0.6890	0.2960	0.0025	-0.9266	0.0321	1.9844	0.1037	-1.4580	0.0824
3	254.88	0.7495	0.3502	0.0029	-1.0949	0.0376	2.2199	0.1186	-1.4450	0.0797
3	254.88	0.7998	0.3817	0.0032	-1.2406	0.0421	2.3990	0.1304	-1.5275	0.0780
3	254.88	0.8577	0.4284	0.0032	-1.3743	0.0472	2.5949	0.1429	-1.3509	0.0778
3	254.88	0.9178	0.4522	0.0032	-1.5449	0.0528	2.7410	0.1529	-1.6188	0.0804
3	254.88	0.9729	0.4415	0.0052	-1.7162	0.0580	2.8579	0.1606	-1.6992	0.0848

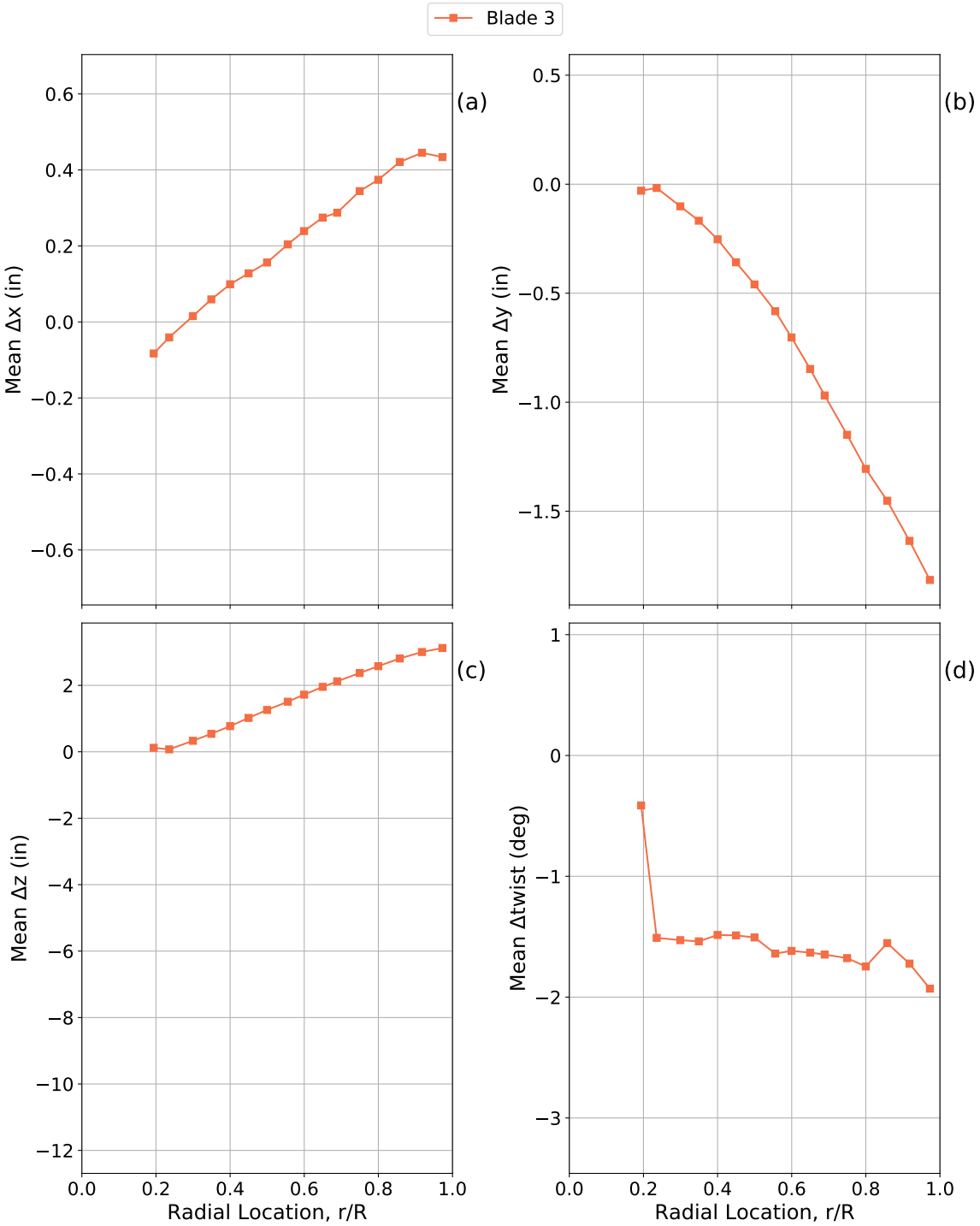


Figure 4.17-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0829	0.0056	-0.0298	0.0019	0.1208	0.0088	-0.4136	0.0513
3	260.16	0.2357	-0.0407	0.0015	-0.0172	0.0011	0.0728	0.0071	-1.5094	0.1331
3	260.16	0.2995	0.0154	0.0012	-0.1015	0.0053	0.3322	0.0228	-1.5286	0.1548
3	260.16	0.3493	0.0594	0.0010	-0.1675	0.0103	0.5409	0.0399	-1.5386	0.1468
3	260.16	0.4000	0.0992	0.0012	-0.2528	0.0142	0.7724	0.0546	-1.4856	0.1561
3	260.16	0.4497	0.1279	0.0019	-0.3583	0.0187	1.0202	0.0719	-1.4890	0.1531
3	260.16	0.4997	0.1564	0.0019	-0.4597	0.0239	1.2588	0.0902	-1.5060	0.1383
3	260.16	0.5556	0.2041	0.0028	-0.5826	0.0288	1.5086	0.1081	-1.6394	0.1579
3	260.16	0.5995	0.2391	0.0025	-0.7029	0.0329	1.7200	0.1242	-1.6175	0.1589
3	260.16	0.6498	0.2746	0.0031	-0.8476	0.0374	1.9542	0.1441	-1.6318	0.1511
3	260.16	0.6890	0.2874	0.0032	-0.9690	0.0411	2.1210	0.1586	-1.6477	0.1493
3	260.16	0.7495	0.3443	0.0040	-1.1494	0.0473	2.3718	0.1828	-1.6772	0.1489
3	260.16	0.7998	0.3741	0.0042	-1.3057	0.0523	2.5771	0.2014	-1.7462	0.1547
3	260.16	0.8577	0.4209	0.0045	-1.4517	0.0580	2.8091	0.2244	-1.5531	0.1520
3	260.16	0.9178	0.4452	0.0052	-1.6358	0.0638	3.0039	0.2464	-1.7225	0.1518
3	260.16	0.9729	0.4337	0.0075	-1.8150	0.0693	3.1240	0.2668	-1.9296	0.1557

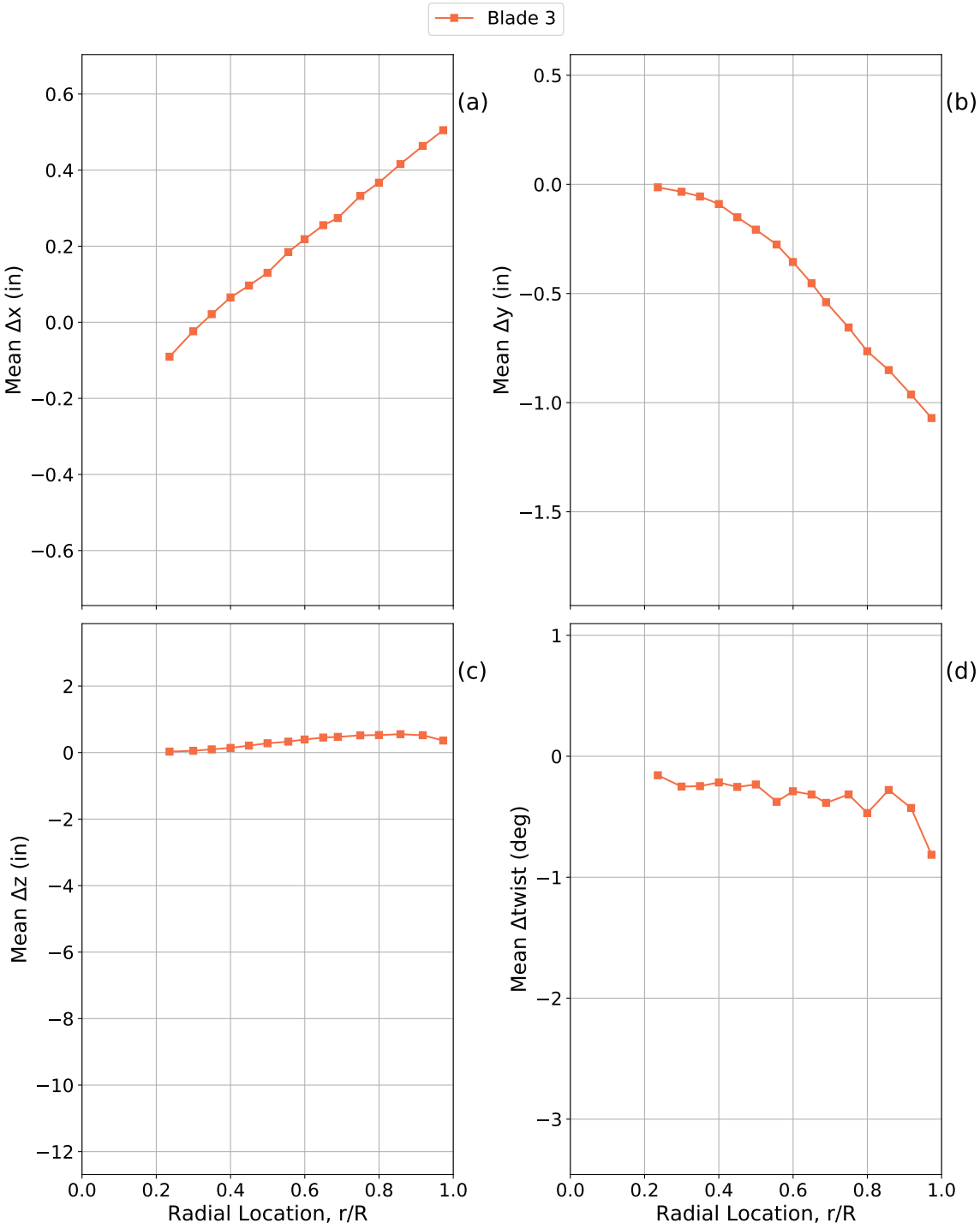


Figure 4.17-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0905	0.0019	-0.0134	0.0013	0.0292	0.0056	-0.1570	0.0473
3	265.08	0.2995	-0.0237	0.0016	-0.0338	0.0033	0.0540	0.0121	-0.2505	0.0759
3	265.08	0.3493	0.0213	0.0010	-0.0553	0.0055	0.0966	0.0203	-0.2471	0.0762
3	265.08	0.4000	0.0653	0.0010	-0.0901	0.0088	0.1401	0.0313	-0.2165	0.0783
3	265.08	0.4497	0.0965	0.0011	-0.1504	0.0112	0.2103	0.0391	-0.2537	0.0824
3	265.08	0.4997	0.1300	0.0014	-0.2074	0.0143	0.2801	0.0498	-0.2333	0.0777
3	265.08	0.5556	0.1846	0.0017	-0.2754	0.0171	0.3291	0.0614	-0.3765	0.0766
3	265.08	0.5995	0.2183	0.0016	-0.3556	0.0202	0.3929	0.0707	-0.2895	0.0795
3	265.08	0.6498	0.2551	0.0018	-0.4529	0.0234	0.4528	0.0818	-0.3167	0.0750
3	265.08	0.6890	0.2740	0.0021	-0.5399	0.0262	0.4719	0.0895	-0.3856	0.0764
3	265.08	0.7495	0.3322	0.0022	-0.6558	0.0301	0.5185	0.1023	-0.3157	0.0686
3	265.08	0.7998	0.3669	0.0024	-0.7645	0.0335	0.5274	0.1099	-0.4692	0.0746
3	265.08	0.8577	0.4160	0.0022	-0.8508	0.0379	0.5523	0.1210	-0.2790	0.0755
3	265.08	0.9178	0.4635	0.0027	-0.9629	0.0423	0.5218	0.1300	-0.4276	0.0785
3	265.08	0.9729	0.5049	0.0033	-1.0705	0.0462	0.3628	0.1395	-0.8142	0.0750

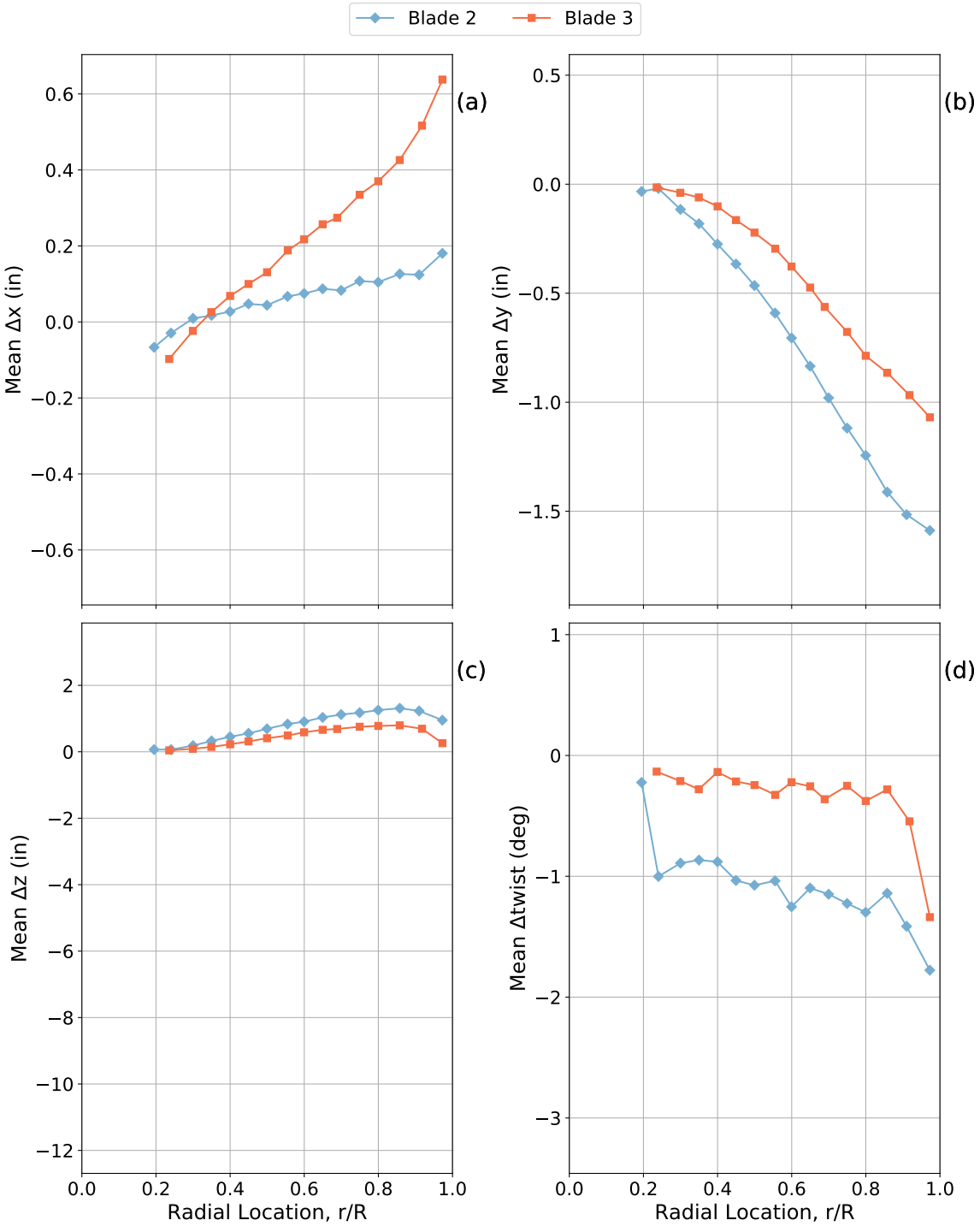


Figure 4.17-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0667	0.0073	-0.0333	0.0022	0.0664	0.0106	-0.2232	0.0412
2	270.35	0.2405	-0.0293	0.0026	-0.0195	0.0011	0.0664	0.0056	-1.0014	0.1624
2	270.35	0.2999	0.0094	0.0020	-0.1157	0.0063	0.1860	0.0266	-0.8910	0.1456
2	270.35	0.3498	0.0172	0.0027	-0.1811	0.0112	0.3265	0.0433	-0.8657	0.1332
2	270.35	0.3998	0.0272	0.0027	-0.2749	0.0154	0.4516	0.0587	-0.8800	0.1360
2	270.35	0.4496	0.0475	0.0027	-0.3661	0.0201	0.5554	0.0753	-1.0345	0.1313
2	270.35	0.4995	0.0440	0.0023	-0.4650	0.0245	0.6912	0.0877	-1.0739	0.1435
2	270.35	0.5551	0.0672	0.0028	-0.5911	0.0298	0.8348	0.1066	-1.0378	0.1322
2	270.35	0.5996	0.0748	0.0027	-0.7054	0.0341	0.9073	0.1203	-1.2522	0.1314
2	270.35	0.6497	0.0872	0.0029	-0.8347	0.0385	1.0343	0.1342	-1.0972	0.1329
2	270.35	0.6996	0.0831	0.0030	-0.9801	0.0435	1.1216	0.1480	-1.1483	0.1339
2	270.35	0.7495	0.1076	0.0035	-1.1187	0.0483	1.1767	0.1621	-1.2248	0.1329
2	270.35	0.7996	0.1047	0.0032	-1.2442	0.0530	1.2536	0.1763	-1.2977	0.1304
2	270.35	0.8578	0.1263	0.0037	-1.4120	0.0589	1.3099	0.1910	-1.1407	0.1414
2	270.35	0.9100	0.1241	0.0033	-1.5156	0.0640	1.2307	0.2055	-1.4140	0.1325
2	270.35	0.9727	0.1805	0.0053	-1.5883	0.0719	0.9516	0.2257	-1.7770	0.1285
3	270	0.2357	-0.0974	0.0025	-0.0147	0.0016	0.0425	0.0067	-0.1336	0.0574
3	270	0.2995	-0.0236	0.0014	-0.0393	0.0036	0.0900	0.0136	-0.2119	0.0920
3	270	0.3493	0.0258	0.0014	-0.0609	0.0066	0.1462	0.0236	-0.2797	0.0843
3	270	0.4000	0.0684	0.0013	-0.1017	0.0101	0.2255	0.0354	-0.1370	0.0832
3	270	0.4497	0.0999	0.0017	-0.1645	0.0124	0.3119	0.0441	-0.2151	0.0840
3	270	0.4997	0.1308	0.0013	-0.2221	0.0156	0.4084	0.0541	-0.2450	0.0940
3	270	0.5556	0.1881	0.0010	-0.2957	0.0197	0.4912	0.0672	-0.3259	0.0853
3	270	0.5995	0.2173	0.0014	-0.3776	0.0225	0.5862	0.0753	-0.2215	0.0859
3	270	0.6498	0.2570	0.0011	-0.4740	0.0257	0.6616	0.0837	-0.2553	0.0958
3	270	0.6890	0.2741	0.0016	-0.5630	0.0287	0.6863	0.0917	-0.3619	0.0913
3	270	0.7495	0.3346	0.0016	-0.6776	0.0329	0.7539	0.1028	-0.2515	0.0884
3	270	0.7998	0.3701	0.0016	-0.7870	0.0364	0.7790	0.1104	-0.3768	0.0922
3	270	0.8577	0.4260	0.0019	-0.8649	0.0410	0.7960	0.1203	-0.2813	0.0968
3	270	0.9178	0.5166	0.0018	-0.9676	0.0465	0.6938	0.1300	-0.5450	0.0899
3	270	0.9729	0.6378	0.0035	-1.0693	0.0520	0.2591	0.1429	-1.3378	0.0860

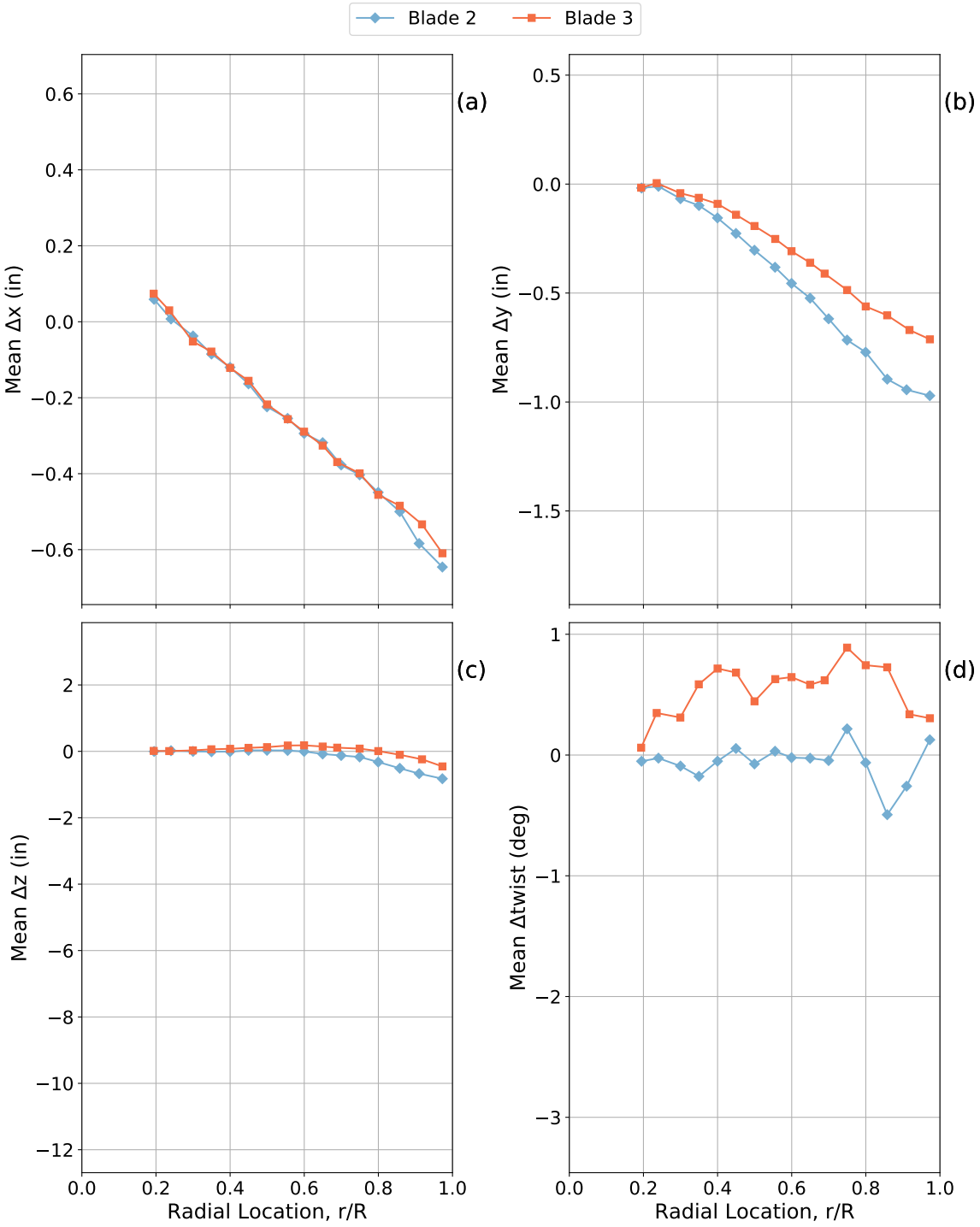


Figure 4.17-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.149, α = 0° NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0590	0.0016	-0.0180	0.0007	-0.0023	0.0025	-0.0515	0.0336
2	274.92	0.2405	0.0074	0.0010	-0.0102	0.0017	0.0199	0.0054	-0.0258	0.0494
2	274.92	0.2999	-0.0375	0.0021	-0.0671	0.0031	-0.0020	0.0114	-0.0913	0.0784
2	274.92	0.3498	-0.0850	0.0030	-0.0984	0.0057	-0.0107	0.0175	-0.1765	0.0626
2	274.92	0.3998	-0.1200	0.0019	-0.1553	0.0076	-0.0086	0.0247	-0.0510	0.0972
2	274.92	0.4496	-0.1635	0.0015	-0.2265	0.0101	0.0290	0.0294	0.0542	0.0586
2	274.92	0.4995	-0.2240	0.0012	-0.3036	0.0117	0.0302	0.0352	-0.0737	0.0896
2	274.92	0.5551	-0.2544	0.0026	-0.3817	0.0136	0.0259	0.0436	0.0314	0.0736
2	274.92	0.5996	-0.2941	0.0018	-0.4558	0.0162	-0.0032	0.0536	-0.0216	0.0817
2	274.92	0.6497	-0.3183	0.0028	-0.5235	0.0178	-0.0794	0.0599	-0.0264	0.0381
2	274.92	0.6996	-0.3770	0.0019	-0.6182	0.0209	-0.1250	0.0650	-0.0457	0.1135
2	274.92	0.7495	-0.4031	0.0029	-0.7158	0.0243	-0.1689	0.0766	0.2170	0.0651
2	274.92	0.7996	-0.4492	0.0027	-0.7715	0.0272	-0.3209	0.0830	-0.0634	0.0851
2	274.92	0.8578	-0.4999	0.0022	-0.8953	0.0305	-0.5103	0.0959	-0.4940	0.0666
2	274.92	0.9100	-0.5838	0.0052	-0.9439	0.0333	-0.6705	0.0972	-0.2580	0.1757
2	274.92	0.9727	-0.6458	0.0062	-0.9711	0.0391	-0.8245	0.1111	0.1264	0.1158
3	274.92	0.1938	0.0739	0.0022	-0.0165	0.0018	0.0138	0.0085	0.0608	0.0455
3	274.92	0.2357	0.0300	0.0020	0.0044	0.0024	0.0082	0.0050	0.3480	0.1404
3	274.92	0.2995	-0.0520	0.0027	-0.0418	0.0062	0.0290	0.0223	0.3106	0.1496
3	274.92	0.3493	-0.0785	0.0027	-0.0631	0.0110	0.0623	0.0405	0.5854	0.1391
3	274.92	0.4000	-0.1214	0.0023	-0.0907	0.0164	0.0762	0.0547	0.7162	0.1459
3	274.92	0.4497	-0.1555	0.0019	-0.1406	0.0196	0.1054	0.0695	0.6826	0.1523
3	274.92	0.4997	-0.2177	0.0018	-0.1925	0.0233	0.1266	0.0857	0.4448	0.1329
3	274.92	0.5556	-0.2565	0.0019	-0.2518	0.0272	0.1757	0.1006	0.6285	0.1701
3	274.92	0.5995	-0.2894	0.0020	-0.3080	0.0318	0.1817	0.1172	0.6451	0.1439
3	274.92	0.6498	-0.3260	0.0021	-0.3608	0.0362	0.1449	0.1327	0.5820	0.1373
3	274.92	0.6890	-0.3694	0.0022	-0.4109	0.0401	0.1111	0.1448	0.6191	0.1515
3	274.92	0.7495	-0.3991	0.0023	-0.4863	0.0450	0.0820	0.1627	0.8893	0.1487
3	274.92	0.7998	-0.4557	0.0023	-0.5616	0.0487	0.0082	0.1783	0.7437	0.1370
3	274.92	0.8577	-0.4844	0.0040	-0.6023	0.0551	-0.1027	0.1951	0.7264	0.1429
3	274.92	0.9178	-0.5334	0.0086	-0.6697	0.0597	-0.2400	0.2193	0.3375	0.2972
3	274.92	0.9729	-0.6096	0.0065	-0.7125	0.0653	-0.4539	0.2238	0.3047	0.2333

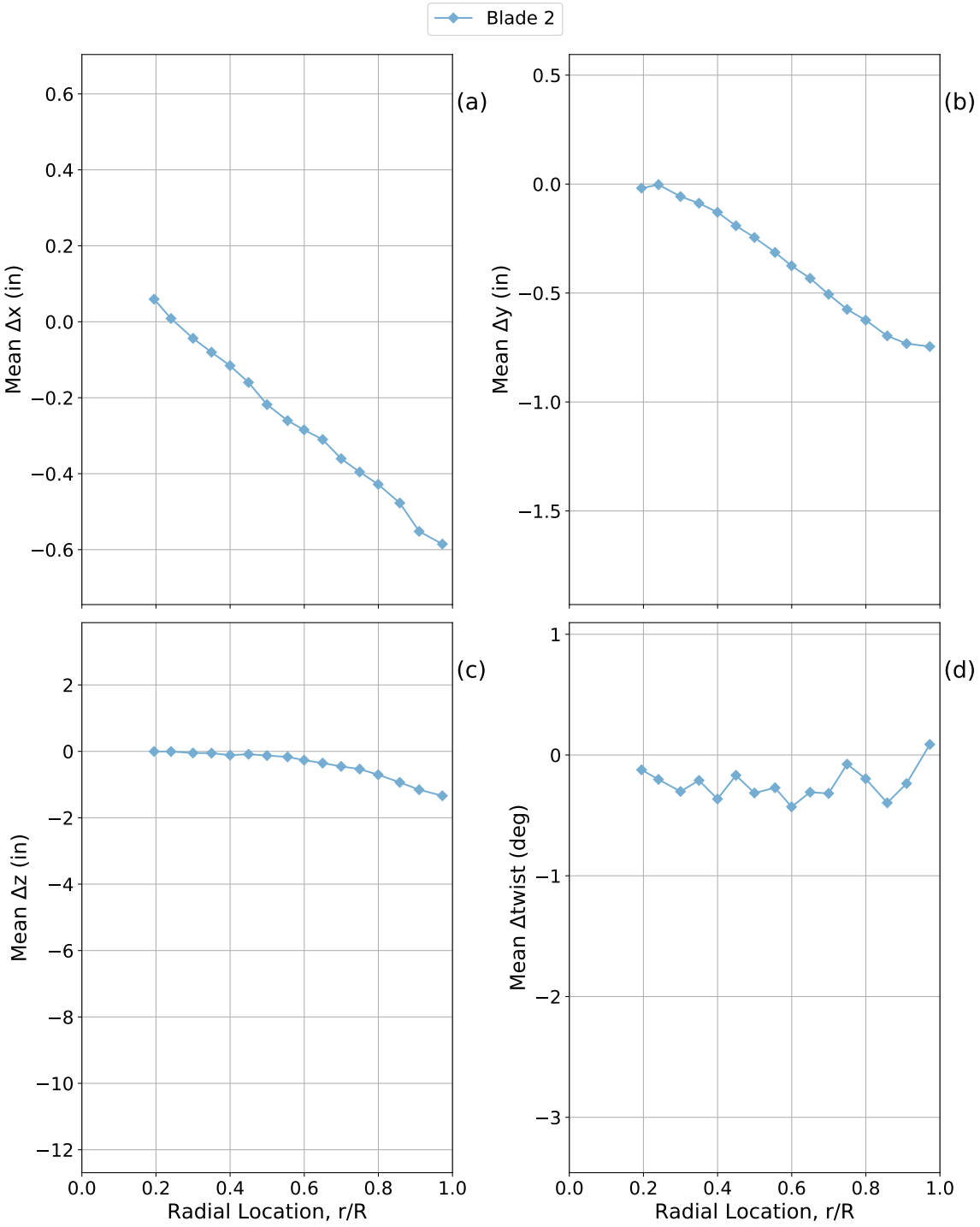


Figure 4.17-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0595	0.0013	-0.0186	0.0004	-0.0034	0.0015	-0.1227	0.0132
2	285.12	0.2405	0.0086	0.0013	-0.0027	0.0021	-0.0049	0.0036	-0.2019	0.0263
2	285.12	0.2999	-0.0436	0.0017	-0.0570	0.0029	-0.0494	0.0067	-0.3017	0.0321
2	285.12	0.3498	-0.0802	0.0012	-0.0878	0.0055	-0.0543	0.0099	-0.2102	0.0281
2	285.12	0.3998	-0.1155	0.0019	-0.1294	0.0086	-0.1162	0.0165	-0.3642	0.0361
2	285.12	0.4496	-0.1598	0.0023	-0.1914	0.0099	-0.0868	0.0185	-0.1679	0.0430
2	285.12	0.4995	-0.2180	0.0034	-0.2449	0.0121	-0.1276	0.0234	-0.3145	0.0383
2	285.12	0.5551	-0.2603	0.0025	-0.3136	0.0139	-0.1674	0.0270	-0.2710	0.0230
2	285.12	0.5996	-0.2846	0.0027	-0.3749	0.0158	-0.2649	0.0328	-0.4291	0.0542
2	285.12	0.6497	-0.3100	0.0015	-0.4325	0.0186	-0.3538	0.0361	-0.3079	0.0429
2	285.12	0.6996	-0.3605	0.0015	-0.5059	0.0211	-0.4536	0.0430	-0.3181	0.0404
2	285.12	0.7495	-0.3956	0.0020	-0.5751	0.0234	-0.5339	0.0460	-0.0753	0.0392
2	285.12	0.7996	-0.4281	0.0024	-0.6246	0.0264	-0.7045	0.0492	-0.1965	0.0606
2	285.12	0.8578	-0.4772	0.0034	-0.6966	0.0302	-0.9338	0.0542	-0.3957	0.0568
2	285.12	0.9100	-0.5519	0.0031	-0.7322	0.0334	-1.1562	0.0609	-0.2358	0.0542
2	285.12	0.9727	-0.5853	0.0037	-0.7455	0.0372	-1.3382	0.0762	0.0877	0.0674

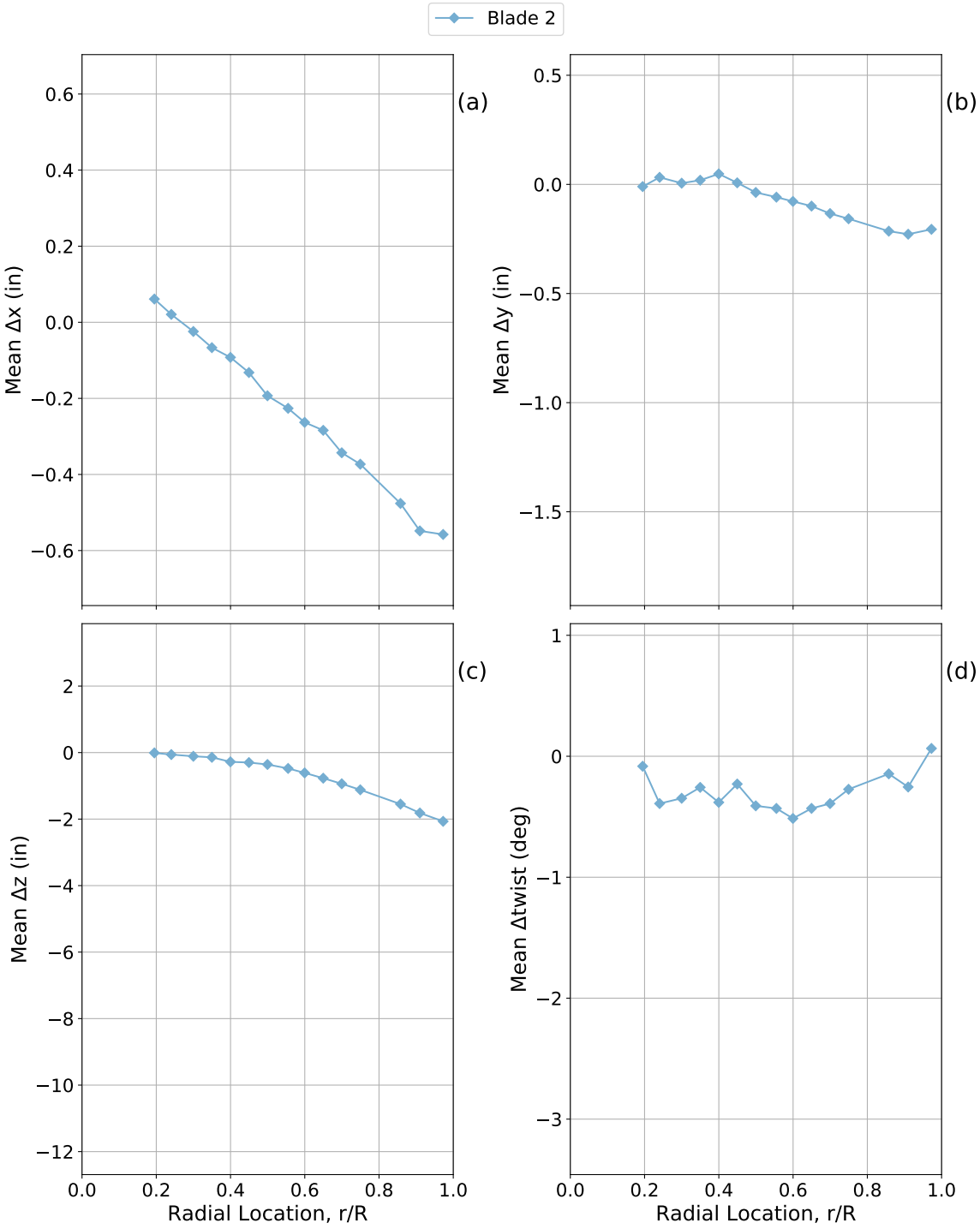


Figure 4.17-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0611	0.0025	-0.0100	0.0012	-0.0098	0.0028	-0.0826	0.0128
2	299.88	0.2405	0.0207	0.0023	0.0323	0.0043	-0.0598	0.0066	-0.3911	0.0179
2	299.88	0.2999	-0.0242	0.0010	0.0055	0.0071	-0.1112	0.0126	-0.3473	0.0278
2	299.88	0.3498	-0.0667	0.0015	0.0191	0.0123	-0.1424	0.0200	-0.2571	0.0334
2	299.88	0.3998	-0.0923	0.0038	0.0481	0.0200	-0.2782	0.0320	-0.3812	0.0380
2	299.88	0.4496	-0.1321	0.0033	0.0072	0.0224	-0.2993	0.0338	-0.2294	0.0506
2	299.88	0.4995	-0.1932	0.0021	-0.0369	0.0229	-0.3578	0.0379	-0.4098	0.0139
2	299.88	0.5551	-0.2262	0.0027	-0.0585	0.0276	-0.4766	0.0448	-0.4312	0.0524
2	299.88	0.5996	-0.2630	0.0023	-0.0780	0.0297	-0.6107	0.0499	-0.5142	0.0325
2	299.88	0.6497	-0.2840	0.0019	-0.0995	0.0334	-0.7704	0.0555	-0.4309	0.0344
2	299.88	0.6996	-0.3430	0.0025	-0.1336	0.0381	-0.9386	0.0649	-0.3913	0.0257
2	299.88	0.7495	-0.3730	0.0024	-0.1575	0.0417	-1.1194	0.0728	-0.2731	0.0351
2	299.88	0.8578	-0.4762	0.0022	-0.2144	0.0507	-1.5496	0.0902	-0.1453	0.0251
2	299.88	0.9100	-0.5484	0.0022	-0.2283	0.0551	-1.8167	0.0989	-0.2541	0.0295
2	299.88	0.9727	-0.5577	0.0036	-0.2059	0.0597	-2.0681	0.1078	0.0648	0.0270

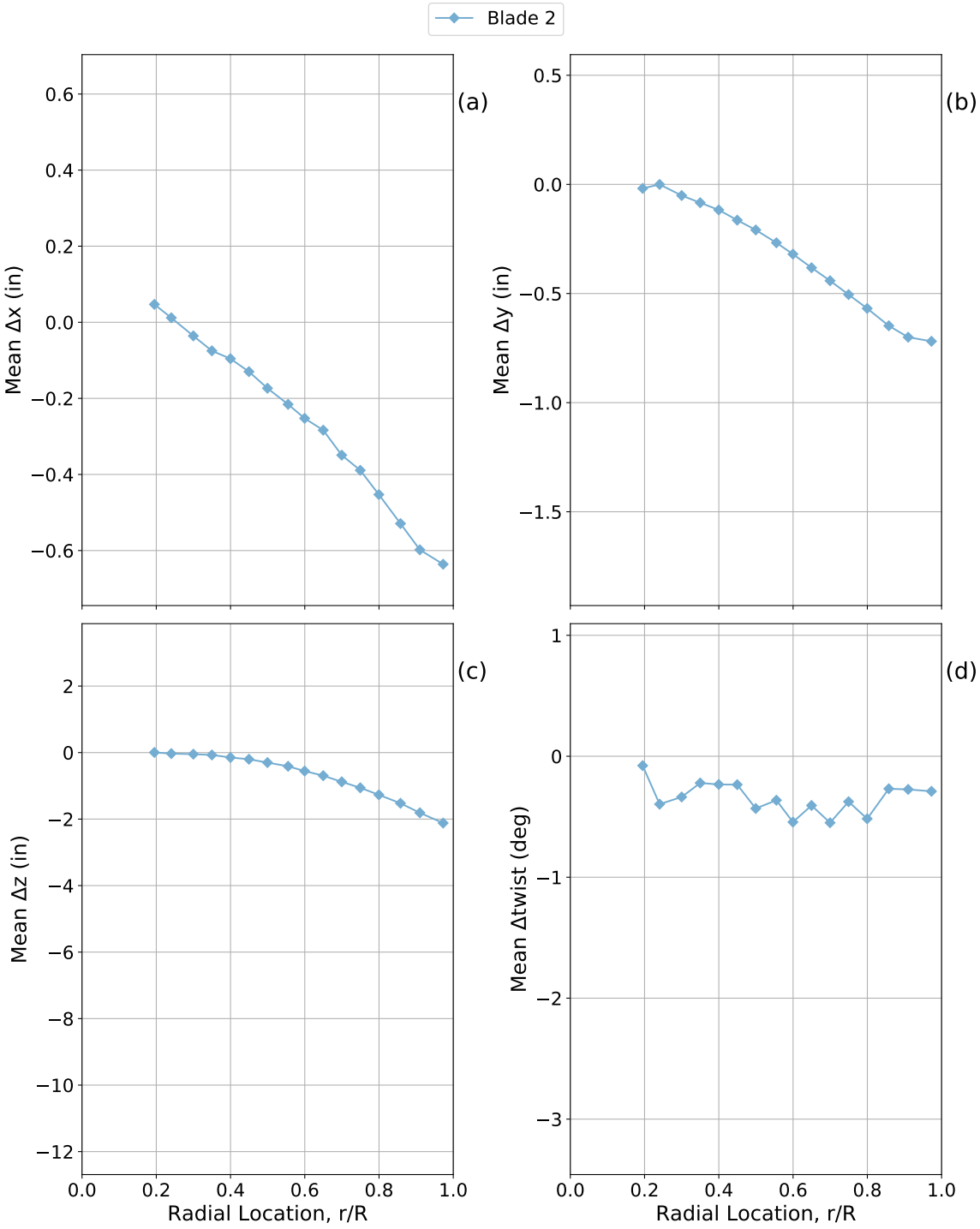


Figure 4.17-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0471	0.0012	-0.0185	0.0004	0.0041	0.0015	-0.0775	0.0231
2	315	0.2405	0.0118	0.0014	-0.0002	0.0021	-0.0307	0.0035	-0.3961	0.0335
2	315	0.2999	-0.0358	0.0010	-0.0510	0.0034	-0.0482	0.0051	-0.3366	0.0507
2	315	0.3498	-0.0750	0.0014	-0.0839	0.0044	-0.0714	0.0088	-0.2210	0.0396
2	315	0.3998	-0.0957	0.0023	-0.1171	0.0087	-0.1477	0.0134	-0.2330	0.0428
2	315	0.4496	-0.1298	0.0015	-0.1639	0.0081	-0.2004	0.0141	-0.2348	0.0533
2	315	0.4995	-0.1734	0.0021	-0.2089	0.0105	-0.3007	0.0156	-0.4320	0.0346
2	315	0.5551	-0.2157	0.0023	-0.2675	0.0110	-0.4124	0.0183	-0.3634	0.0380
2	315	0.5996	-0.2525	0.0017	-0.3195	0.0119	-0.5554	0.0208	-0.5441	0.0517
2	315	0.6497	-0.2836	0.0015	-0.3819	0.0129	-0.6947	0.0270	-0.4068	0.0250
2	315	0.6996	-0.3493	0.0015	-0.4414	0.0145	-0.8797	0.0313	-0.5496	0.0432
2	315	0.7495	-0.3891	0.0020	-0.5049	0.0165	-1.0589	0.0364	-0.3756	0.0379
2	315	0.7996	-0.4529	0.0015	-0.5684	0.0179	-1.2706	0.0407	-0.5169	0.0383
2	315	0.8578	-0.5291	0.0020	-0.6478	0.0186	-1.5247	0.0469	-0.2688	0.0362
2	315	0.9100	-0.5981	0.0020	-0.7002	0.0203	-1.8109	0.0513	-0.2741	0.0426
2	315	0.9727	-0.6360	0.0022	-0.7189	0.0225	-2.1194	0.0580	-0.2897	0.0348

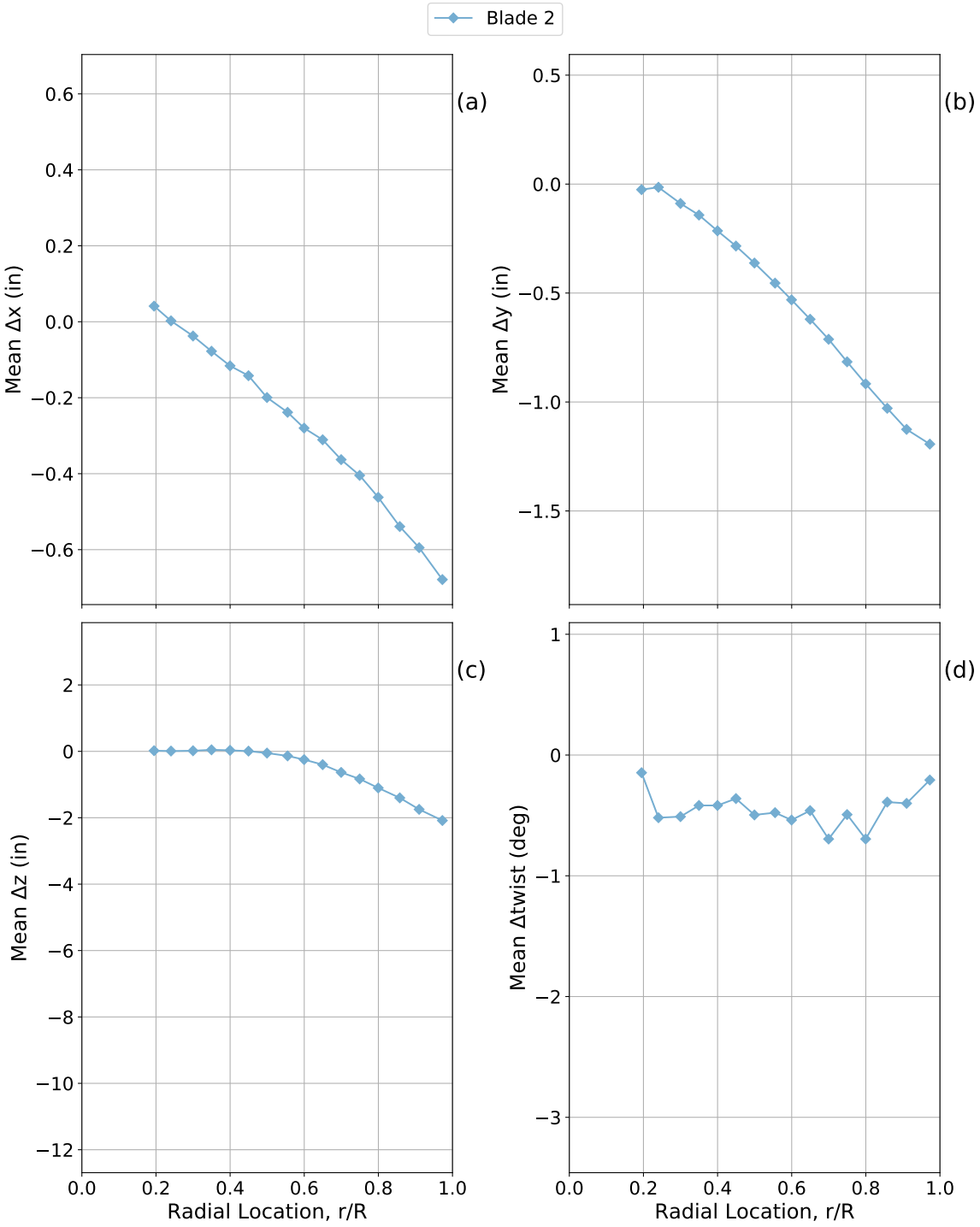


Figure 4.17-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0412	0.0013	-0.0254	0.0004	0.0196	0.0013	-0.1464	0.0213
2	330.12	0.2405	0.0024	0.0014	-0.0146	0.0018	0.0095	0.0049	-0.5192	0.0309
2	330.12	0.2999	-0.0375	0.0026	-0.0890	0.0038	0.0175	0.0087	-0.5101	0.0473
2	330.12	0.3498	-0.0776	0.0012	-0.1422	0.0048	0.0465	0.0089	-0.4176	0.0527
2	330.12	0.3998	-0.1160	0.0048	-0.2146	0.0091	0.0311	0.0189	-0.4176	0.0478
2	330.12	0.4496	-0.1420	0.0030	-0.2843	0.0094	0.0075	0.0168	-0.3606	0.0586
2	330.12	0.4995	-0.1995	0.0033	-0.3623	0.0134	-0.0517	0.0250	-0.4960	0.0310
2	330.12	0.5551	-0.2384	0.0025	-0.4545	0.0152	-0.1371	0.0292	-0.4772	0.0410
2	330.12	0.5996	-0.2800	0.0049	-0.5312	0.0191	-0.2485	0.0368	-0.5382	0.1421
2	330.12	0.6497	-0.3107	0.0024	-0.6202	0.0202	-0.4006	0.0345	-0.4603	0.0675
2	330.12	0.6996	-0.3630	0.0035	-0.7122	0.0233	-0.6340	0.0461	-0.6956	0.0662
2	330.12	0.7495	-0.4045	0.0021	-0.8156	0.0244	-0.8312	0.0462	-0.4931	0.0483
2	330.12	0.7996	-0.4622	0.0017	-0.9166	0.0270	-1.1018	0.0501	-0.6954	0.0417
2	330.12	0.8578	-0.5392	0.0015	-1.0289	0.0289	-1.4012	0.0569	-0.3895	0.0372
2	330.12	0.9100	-0.5948	0.0021	-1.1257	0.0312	-1.7477	0.0612	-0.4003	0.0375
2	330.12	0.9727	-0.6788	0.0025	-1.1933	0.0341	-2.0835	0.0647	-0.2067	0.0402

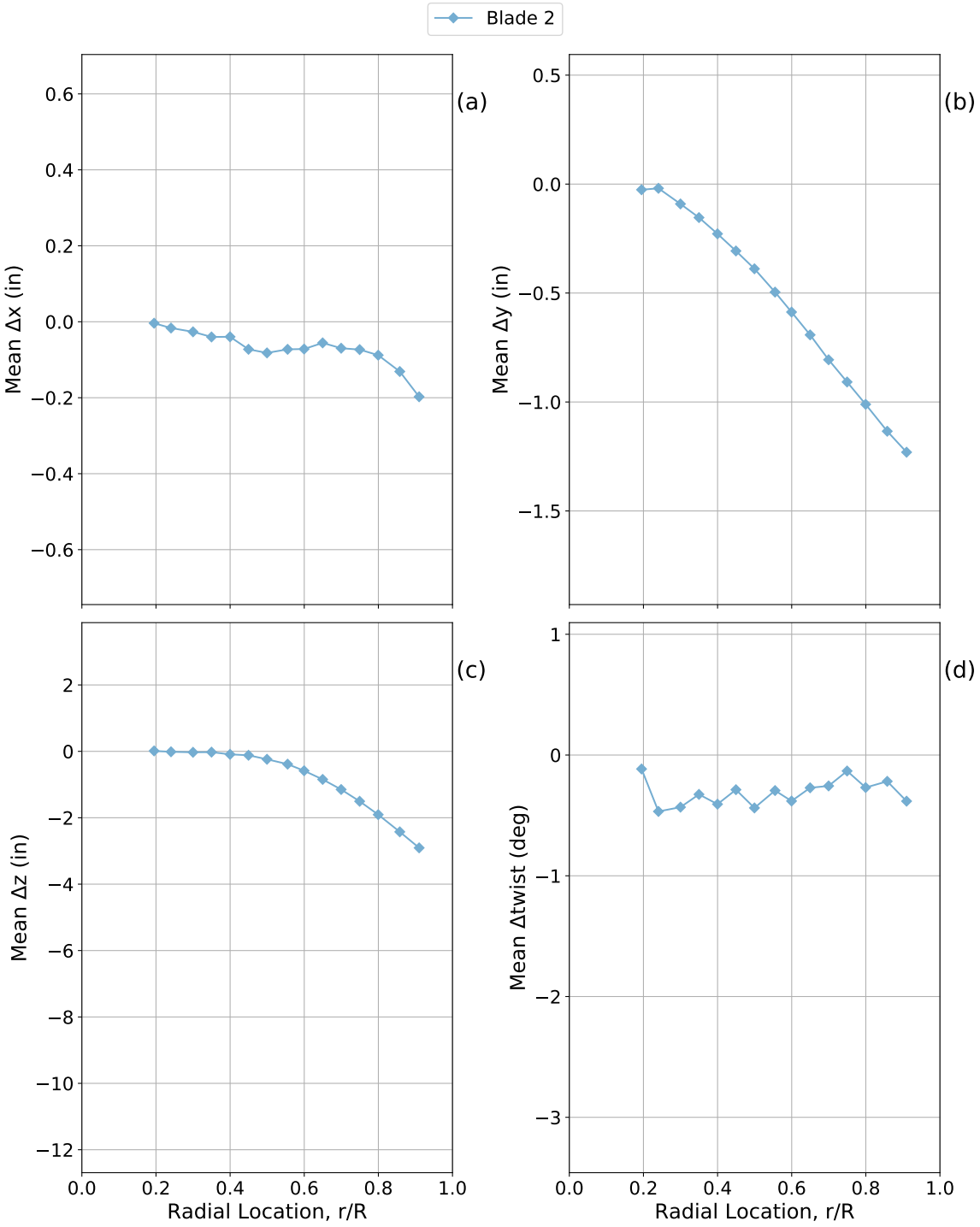


Figure 4.17-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0038	0.0032	-0.0259	0.0009	0.0133	0.0032	-0.1154	0.0137
2	344.88	0.2405	-0.0165	0.0015	-0.0194	0.0011	-0.0132	0.0063	-0.4672	0.0309
2	344.88	0.2999	-0.0265	0.0019	-0.0911	0.0032	-0.0284	0.0143	-0.4317	0.0359
2	344.88	0.3498	-0.0400	0.0033	-0.1537	0.0055	-0.0235	0.0216	-0.3258	0.0384
2	344.88	0.3998	-0.0396	0.0040	-0.2283	0.0082	-0.0905	0.0355	-0.4070	0.0306
2	344.88	0.4496	-0.0725	0.0082	-0.3069	0.0103	-0.1175	0.0373	-0.2871	0.0469
2	344.88	0.4995	-0.0820	0.0072	-0.3887	0.0117	-0.2386	0.0496	-0.4380	0.0293
2	344.88	0.5551	-0.0726	0.0083	-0.4958	0.0149	-0.3856	0.0564	-0.2942	0.0337
2	344.88	0.5996	-0.0718	0.0093	-0.5873	0.0165	-0.5842	0.0653	-0.3810	0.0392
2	344.88	0.6497	-0.0556	0.0110	-0.6921	0.0187	-0.8452	0.0716	-0.2713	0.0515
2	344.88	0.6996	-0.0697	0.0120	-0.8062	0.0210	-1.1492	0.0837	-0.2559	0.0527
2	344.88	0.7495	-0.0733	0.0132	-0.9082	0.0265	-1.5041	0.0935	-0.1323	0.0547
2	344.88	0.7996	-0.0880	0.0141	-1.0108	0.0288	-1.9067	0.1027	-0.2692	0.0573
2	344.88	0.8578	-0.1310	0.0197	-1.1342	0.0333	-2.4244	0.1167	-0.2179	0.0819
2	344.88	0.9100	-0.1975	0.0226	-1.2305	0.0362	-2.9069	0.1318	-0.3821	0.1857

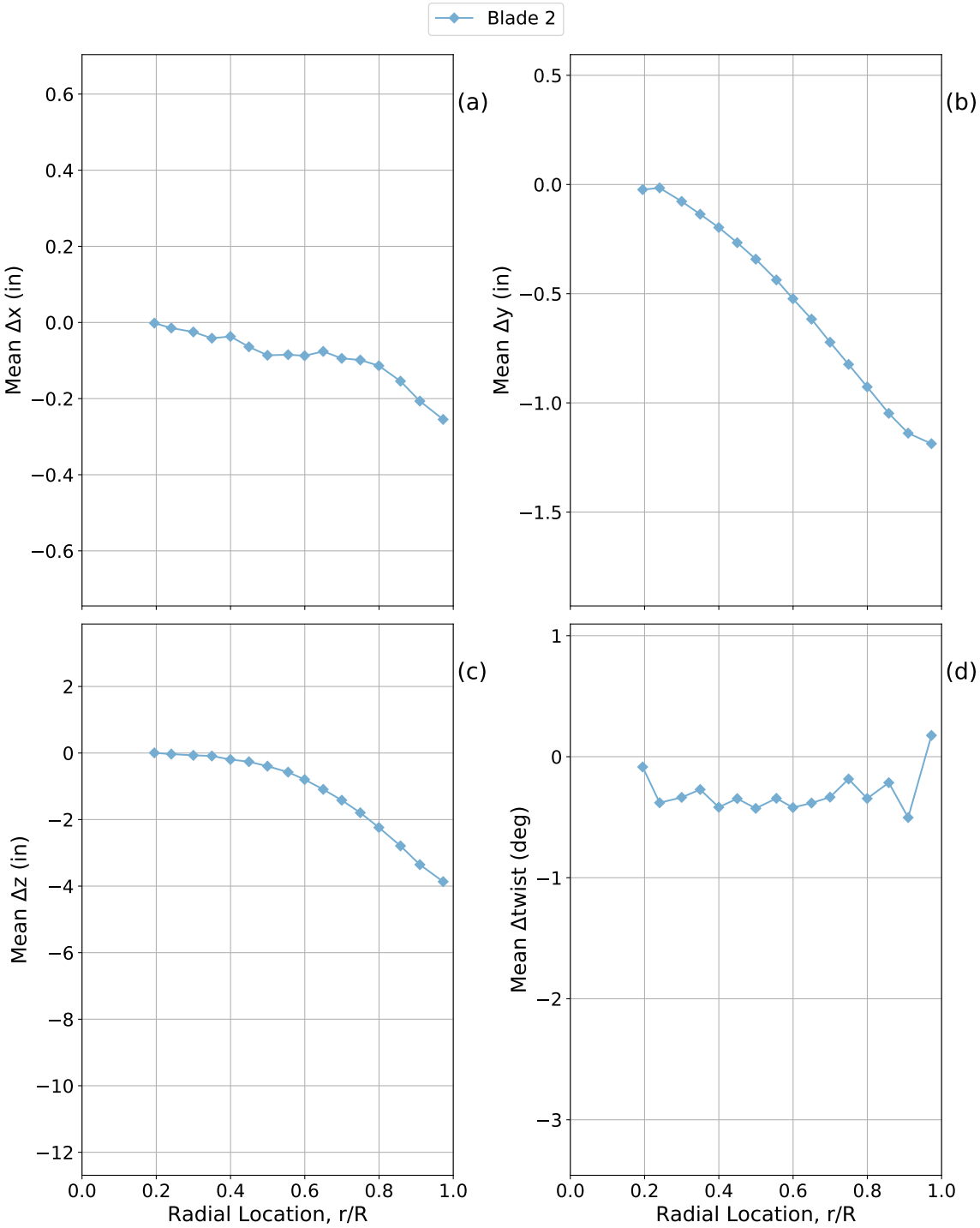


Figure 4.17-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0017	0.0017	-0.0234	0.0007	0.0041	0.0022	-0.0848	0.0219
2	350.16	0.2405	-0.0146	0.0013	-0.0157	0.0015	-0.0323	0.0043	-0.3806	0.0406
2	350.16	0.2999	-0.0249	0.0008	-0.0774	0.0023	-0.0697	0.0066	-0.3362	0.0512
2	350.16	0.3498	-0.0414	0.0010	-0.1362	0.0046	-0.0893	0.0110	-0.2710	0.0506
2	350.16	0.3998	-0.0368	0.0022	-0.1968	0.0066	-0.1955	0.0168	-0.4176	0.0451
2	350.16	0.4496	-0.0640	0.0024	-0.2665	0.0075	-0.2613	0.0209	-0.3462	0.0460
2	350.16	0.4995	-0.0862	0.0022	-0.3420	0.0090	-0.3959	0.0251	-0.4271	0.0467
2	350.16	0.5551	-0.0847	0.0029	-0.4371	0.0108	-0.5748	0.0304	-0.3439	0.0419
2	350.16	0.5996	-0.0874	0.0037	-0.5232	0.0122	-0.7977	0.0335	-0.4204	0.0489
2	350.16	0.6497	-0.0760	0.0050	-0.6165	0.0147	-1.0931	0.0412	-0.3826	0.0435
2	350.16	0.6996	-0.0943	0.0049	-0.7223	0.0164	-1.4187	0.0466	-0.3341	0.0429
2	350.16	0.7495	-0.0986	0.0057	-0.8237	0.0188	-1.7947	0.0515	-0.1843	0.0542
2	350.16	0.7996	-0.1137	0.0080	-0.9268	0.0211	-2.2389	0.0583	-0.3455	0.0459
2	350.16	0.8578	-0.1542	0.0101	-1.0479	0.0247	-2.7910	0.0642	-0.2146	0.0577
2	350.16	0.9100	-0.2065	0.0128	-1.1388	0.0284	-3.3550	0.0686	-0.5030	0.0831
2	350.16	0.9727	-0.2547	0.0135	-1.1869	0.0330	-3.8655	0.0799	0.1759	0.0981

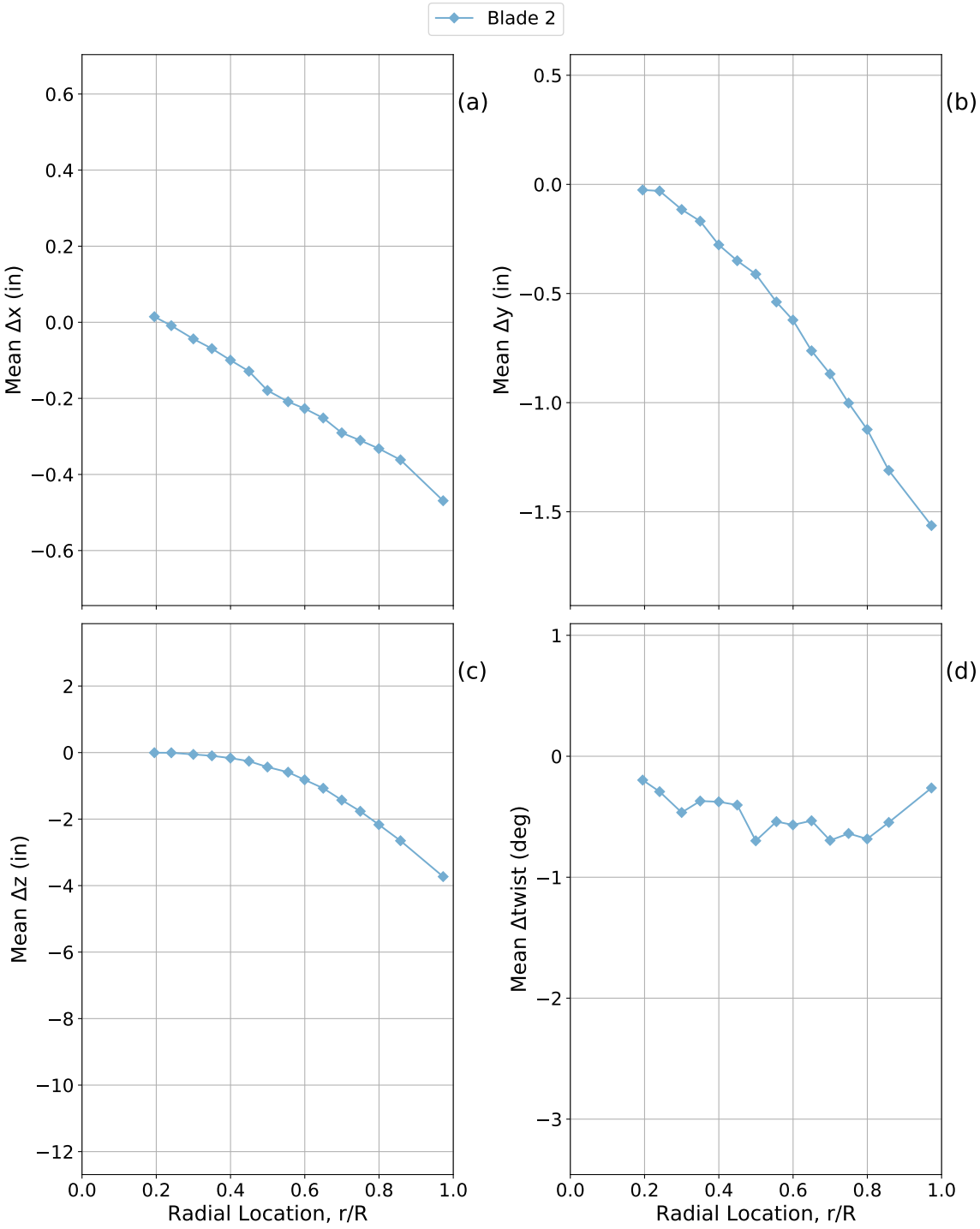


Figure 4.17-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Table 4.17-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 69, point 56. BD run 33, points 5667 to 5677.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0147	0.0034	-0.0256	0.0024	-0.0041	0.0063	-0.1970	0.0326
2	355.08	0.2405	-0.0089	0.0025	-0.0300	0.0043	-0.0058	0.0059	-0.2926	0.0899
2	355.08	0.2999	-0.0437	0.0018	-0.1151	0.0085	-0.0547	0.0180	-0.4650	0.0876
2	355.08	0.3498	-0.0692	0.0017	-0.1685	0.0127	-0.0973	0.0288	-0.3701	0.0768
2	355.08	0.3998	-0.0996	0.0030	-0.2771	0.0205	-0.1658	0.0414	-0.3763	0.0801
2	355.08	0.4496	-0.1288	0.0024	-0.3498	0.0257	-0.2587	0.0511	-0.4033	0.0940
2	355.08	0.4995	-0.1792	0.0027	-0.4113	0.0306	-0.4349	0.0616	-0.6990	0.0905
2	355.08	0.5551	-0.2088	0.0027	-0.5387	0.0363	-0.5902	0.0757	-0.5402	0.0997
2	355.08	0.5996	-0.2268	0.0031	-0.6216	0.0416	-0.8183	0.0830	-0.5674	0.1037
2	355.08	0.6497	-0.2516	0.0027	-0.7624	0.0475	-1.0724	0.0960	-0.5331	0.1041
2	355.08	0.6996	-0.2906	0.0027	-0.8685	0.0539	-1.4286	0.1064	-0.6959	0.0952
2	355.08	0.7495	-0.3105	0.0031	-1.0019	0.0572	-1.7651	0.1196	-0.6384	0.0983
2	355.08	0.7996	-0.3321	0.0030	-1.1230	0.0633	-2.1687	0.1246	-0.6838	0.1014
2	355.08	0.8578	-0.3616	0.0032	-1.3105	0.0698	-2.6512	0.1364	-0.5468	0.1238
2	355.08	0.9727	-0.4691	0.0042	-1.5633	0.0875	-3.7303	0.1585	-0.2621	0.0886

4.18 Run 73, Point 59

4.18.1 Pitch, Flap, and Lag

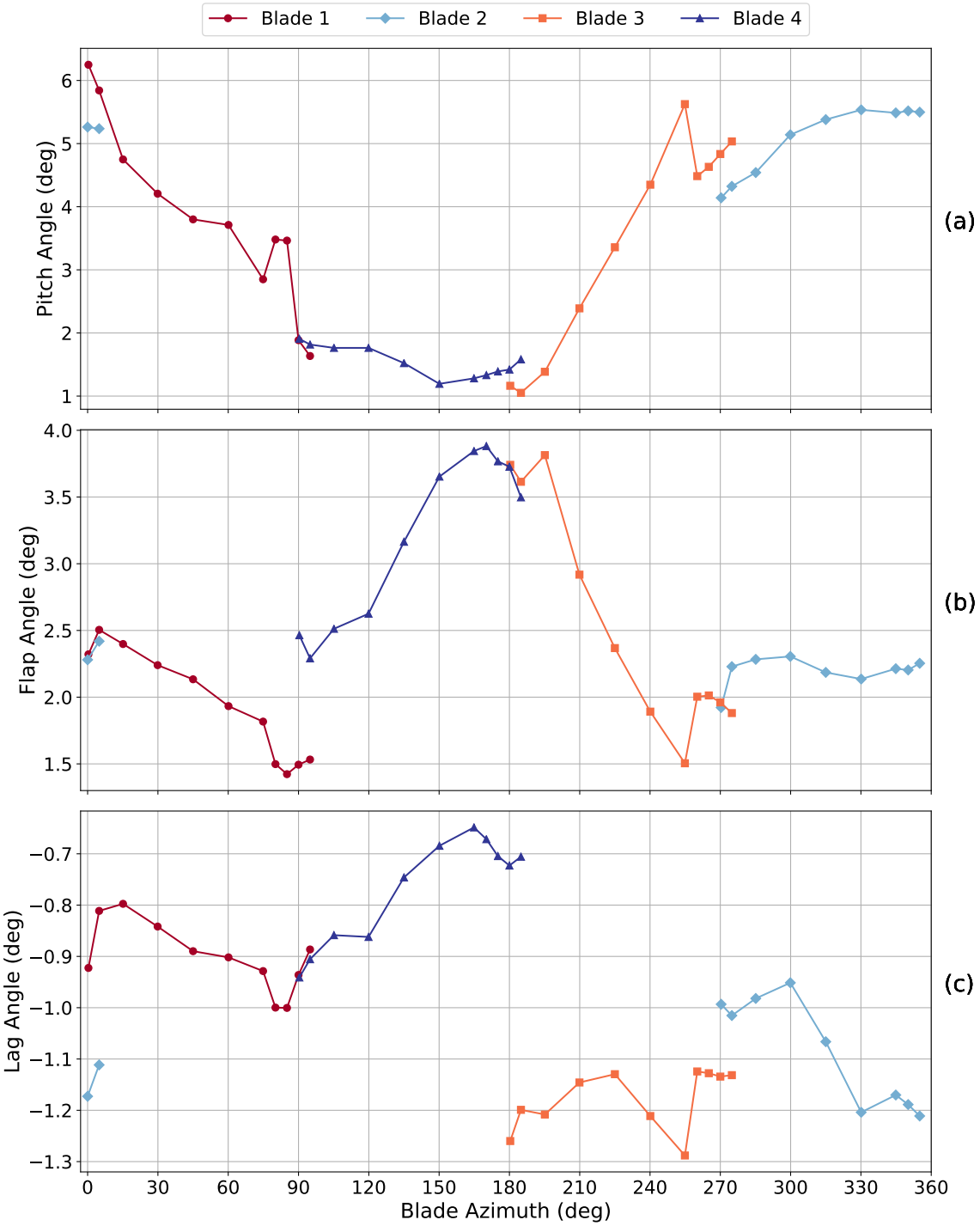


Figure 4.18-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.2619	2.2802	-1.1728	0.0782	0.0377	0.0206
0.35	1	6.2487	2.3210	-0.9225	0.0813	0.0383	0.0436
4.92	1	5.8422	2.5046	-0.8113	0.0928	0.0478	0.0224
4.92	2	5.2361	2.4193	-1.1115	0.0868	0.0297	0.0199
15.12	1	4.7491	2.3983	-0.7975	0.0681	0.0302	0.0254
29.88	1	4.2063	2.2400	-0.8418	0.0462	0.0353	0.0292
45	1	3.7995	2.1340	-0.8898	0.0392	0.0192	0.0302
60.12	1	3.7112	1.9330	-0.9019	0.0891	0.0267	0.0226
74.88	1	2.8501	1.8169	-0.9286	0.1167	0.0447	0.0294
80.16	1	3.4803	1.4982	-0.9998	0.0541	0.0188	0.0161
85.08	1	3.4635	1.4230	-1.0004	0.0357	0.0314	0.0205
90	1	1.8860	1.4941	-0.9362	0.0192	0.0221	0.0163
90.35	4	1.9070	2.4642	-0.9411	0.2294	0.0844	0.0187
94.92	1	1.6352	1.5325	-0.8865	0.0290	0.0240	0.0210
94.92	4	1.8163	2.2908	-0.9055	0.0268	0.0171	0.0168
105.12	4	1.7634	2.5124	-0.8586	0.0267	0.0152	0.0142
119.88	4	1.7634	2.6253	-0.8621	0.0175	0.0106	0.0207
135	4	1.5220	3.1647	-0.7461	0.0202	0.0136	0.0153
150.12	4	1.1941	3.6529	-0.6844	0.0234	0.0164	0.0098
164.88	4	1.2810	3.8446	-0.6486	0.0296	0.0111	0.0264
170.16	4	1.3318	3.8816	-0.6715	0.0346	0.0122	0.0145
175.08	4	1.3900	3.7674	-0.7045	0.0405	0.0206	0.0201
180	4	1.4202	3.7269	-0.7229	0.0322	0.0228	0.0197
180.35	3	1.1633	3.7412	-1.2599	0.0486	0.0237	0.0149
184.92	3	1.0517	3.6142	-1.1991	0.0411	0.0358	0.0308
184.92	4	1.5814	3.4976	-0.7057	0.0377	0.0191	0.0139
195.12	3	1.3851	3.8140	-1.2082	0.0809	0.0894	0.0541
209.88	3	2.3897	2.9182	-1.1458	0.0377	0.0140	0.0355
225	3	3.3575	2.3678	-1.1296	0.0361	0.0162	0.0153
240.12	3	4.3486	1.8916	-1.2112	0.0353	0.0154	0.0162
254.88	3	5.6253	1.5045	-1.2881	0.0766	0.0373	0.0291
260.16	3	4.4844	2.0034	-1.1243	0.0602	0.0298	0.0244
265.08	3	4.6315	2.0129	-1.1277	0.0974	0.0274	0.0161
270	3	4.8347	1.9610	-1.1343	0.1651	0.0543	0.0308
270.35	2	4.1407	1.9223	-0.9933	0.1003	0.0504	0.0206
274.92	2	4.3228	2.2289	-1.0153	0.0449	0.0128	0.0241
274.92	3	5.0342	1.8809	-1.1315	0.2147	0.0729	0.0241
285.12	2	4.5411	2.2834	-0.9820	0.0436	0.0253	0.0159
299.88	2	5.1397	2.3052	-0.9514	0.0313	0.0264	0.0262
315	2	5.3804	2.1856	-1.0663	0.0308	0.0165	0.0254
330.12	2	5.5348	2.1359	-1.2039	0.0405	0.0258	0.0192
344.88	2	5.4867	2.2134	-1.1702	0.0251	0.0376	0.0209
350.16	2	5.5178	2.2037	-1.1888	0.0405	0.0278	0.0157
355.08	2	5.4981	2.2537	-1.2111	0.0571	0.0287	0.0102

4.18.2 Spanwise Elastic Deformations

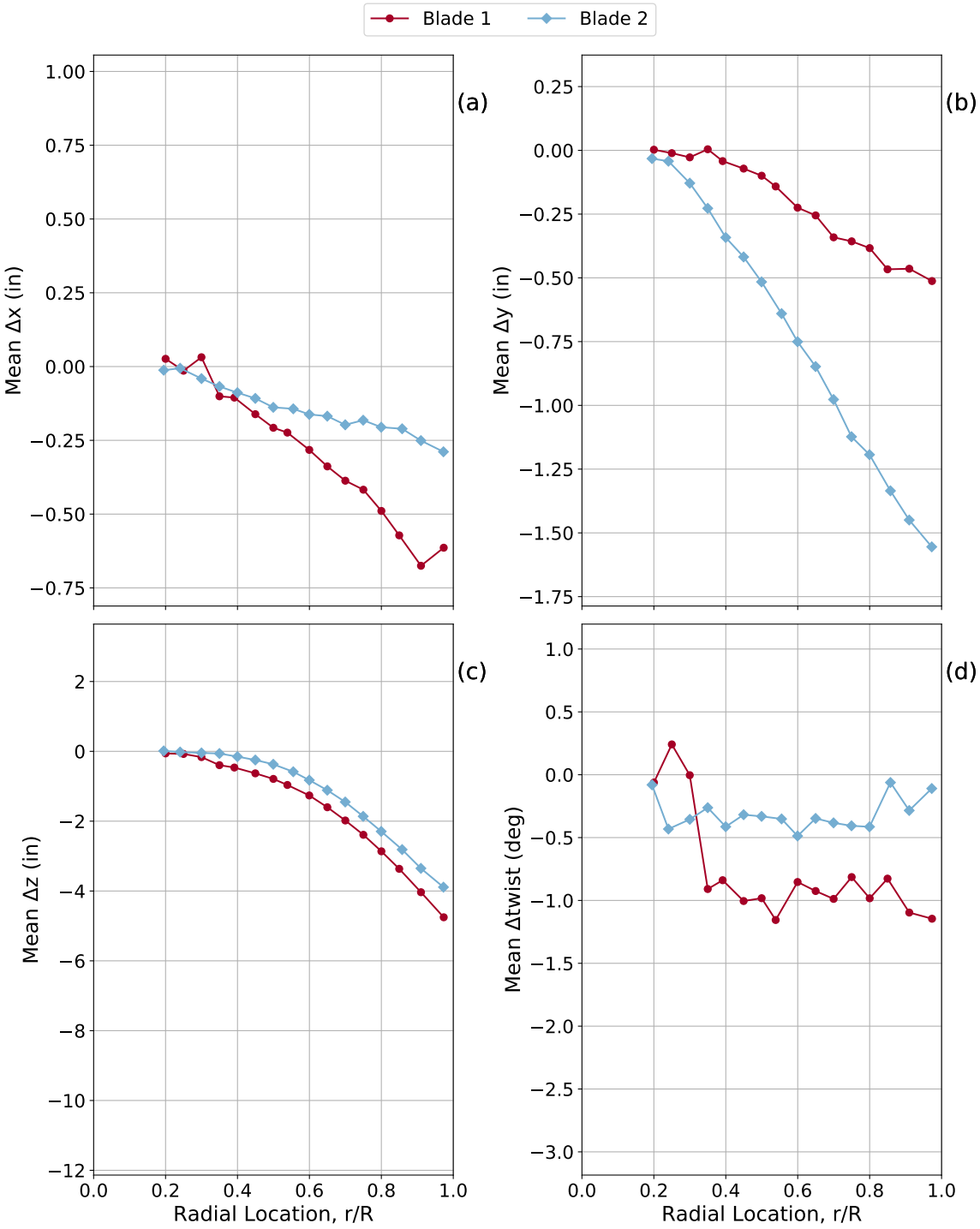


Figure 4.18-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0262	0.0037	0.0025	0.0041	-0.0589	0.0067	-0.0619	0.0318
1	0.35	0.2499	-0.0141	0.0044	-0.0110	0.0059	-0.0748	0.0086	0.2413	0.0919
1	0.35	0.2998	0.0316	0.0030	-0.0275	0.0148	-0.1649	0.0183	-0.0037	0.0829
1	0.35	0.3498	-0.1008	0.0033	0.0042	0.0252	-0.3956	0.0301	-0.9092	0.0763
1	0.35	0.3913	-0.1052	0.0036	-0.0422	0.0349	-0.4640	0.0390	-0.8391	0.0742
1	0.35	0.4496	-0.1614	0.0054	-0.0716	0.0464	-0.6300	0.0515	-1.0046	0.0757
1	0.35	0.4997	-0.2074	0.0058	-0.0995	0.0561	-0.7897	0.0597	-0.9822	0.0912
1	0.35	0.5387	-0.2238	0.0075	-0.1416	0.0648	-0.9631	0.0695	-1.1555	0.0765
1	0.35	0.5996	-0.2824	0.0087	-0.2248	0.0769	-1.2632	0.0824	-0.8534	0.0733
1	0.35	0.6498	-0.3383	0.0097	-0.2551	0.0870	-1.6013	0.0924	-0.9251	0.0835
1	0.35	0.6998	-0.3868	0.0113	-0.3411	0.0980	-1.9803	0.1038	-0.9878	0.0878
1	0.35	0.7500	-0.4173	0.0131	-0.3568	0.1067	-2.3903	0.1141	-0.8141	0.0973
1	0.35	0.8001	-0.4893	0.0151	-0.3834	0.1178	-2.8632	0.1298	-0.9830	0.0871
1	0.35	0.8497	-0.5720	0.0149	-0.4665	0.1288	-3.3650	0.1439	-0.8264	0.0809
1	0.35	0.9102	-0.6751	0.0174	-0.4643	0.1390	-4.0351	0.1525	-1.0964	0.1158
1	0.35	0.9734	-0.6139	0.0204	-0.5125	0.1522	-4.7525	0.1646	-1.1454	0.1291
2	0	0.1949	-0.0123	0.0040	-0.0324	0.0021	0.0122	0.0051	-0.0804	0.0236
2	0	0.2405	-0.0057	0.0017	-0.0426	0.0019	-0.0197	0.0058	-0.4319	0.0847
2	0	0.2999	-0.0408	0.0020	-0.1287	0.0064	-0.0458	0.0162	-0.3550	0.0810
2	0	0.3498	-0.0676	0.0034	-0.2274	0.0104	-0.0620	0.0256	-0.2622	0.0809
2	0	0.3998	-0.0885	0.0052	-0.3418	0.0153	-0.1515	0.0390	-0.4136	0.0966
2	0	0.4496	-0.1079	0.0066	-0.4180	0.0184	-0.2476	0.0458	-0.3180	0.0878
2	0	0.4995	-0.1382	0.0084	-0.5159	0.0234	-0.3705	0.0575	-0.3312	0.0697
2	0	0.5551	-0.1432	0.0104	-0.6402	0.0301	-0.5845	0.0671	-0.3515	0.0757
2	0	0.5996	-0.1622	0.0122	-0.7504	0.0363	-0.8246	0.0737	-0.4874	0.0847
2	0	0.6497	-0.1681	0.0140	-0.8478	0.0432	-1.1130	0.0839	-0.3474	0.0798
2	0	0.6996	-0.1974	0.0148	-0.9770	0.0491	-1.4505	0.0930	-0.3828	0.0733
2	0	0.7495	-0.1818	0.0165	-1.1230	0.0568	-1.8620	0.1016	-0.4062	0.0790
2	0	0.7996	-0.2055	0.0163	-1.1933	0.0607	-2.2932	0.1094	-0.4143	0.0710
2	0	0.8578	-0.2109	0.0171	-1.3351	0.0661	-2.8135	0.1163	-0.0619	0.0901
2	0	0.9100	-0.2509	0.0181	-1.4496	0.0699	-3.3519	0.1270	-0.2844	0.0712
2	0	0.9727	-0.2888	0.0215	-1.5548	0.0749	-3.8902	0.1309	-0.1096	0.1022

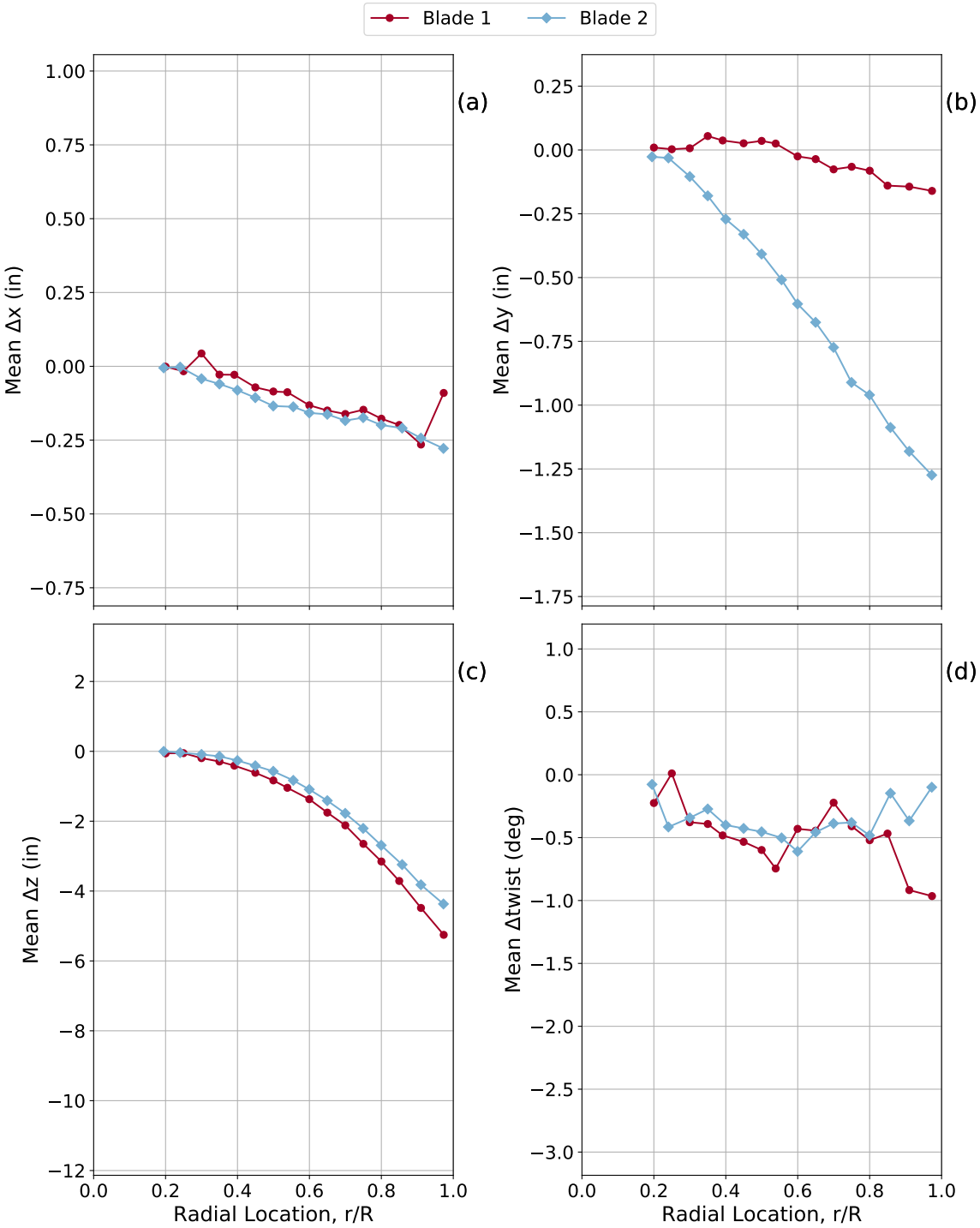


Figure 4.18-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0013	0.0038	0.0095	0.0022	-0.0586	0.0058	-0.2250	0.0441
1	4.92	0.2499	-0.0167	0.0022	0.0029	0.0035	-0.0519	0.0080	0.0106	0.0794
1	4.92	0.2998	0.0435	0.0025	0.0067	0.0086	-0.1951	0.0179	-0.3777	0.0991
1	4.92	0.3498	-0.0282	0.0024	0.0545	0.0144	-0.2917	0.0292	-0.3916	0.0912
1	4.92	0.3913	-0.0286	0.0051	0.0372	0.0204	-0.4103	0.0400	-0.4823	0.0858
1	4.92	0.4496	-0.0712	0.0038	0.0261	0.0246	-0.6138	0.0513	-0.5337	0.0885
1	4.92	0.4997	-0.0853	0.0060	0.0356	0.0293	-0.8329	0.0629	-0.5985	0.0886
1	4.92	0.5387	-0.0877	0.0070	0.0251	0.0337	-1.0440	0.0721	-0.7456	0.0817
1	4.92	0.5996	-0.1320	0.0094	-0.0252	0.0422	-1.3705	0.0862	-0.4302	0.0820
1	4.92	0.6498	-0.1496	0.0095	-0.0358	0.0501	-1.7542	0.0951	-0.4447	0.1168
1	4.92	0.6998	-0.1615	0.0119	-0.0760	0.0575	-2.1201	0.1091	-0.2223	0.0762
1	4.92	0.7500	-0.1472	0.0120	-0.0658	0.0669	-2.6486	0.1203	-0.4097	0.0895
1	4.92	0.8001	-0.1774	0.0141	-0.0813	0.0743	-3.1536	0.1309	-0.5206	0.0916
1	4.92	0.8497	-0.1987	0.0159	-0.1397	0.0806	-3.7111	0.1433	-0.4678	0.0799
1	4.92	0.9102	-0.2649	0.0176	-0.1437	0.0894	-4.4831	0.1574	-0.9174	0.0731
1	4.92	0.9734	-0.0902	0.0213	-0.1604	0.1011	-5.2532	0.1726	-0.9648	0.0909
2	4.92	0.1949	-0.0053	0.0030	-0.0268	0.0013	-0.0020	0.0036	-0.0769	0.0451
2	4.92	0.2405	-0.0025	0.0035	-0.0312	0.0037	-0.0385	0.0078	-0.4153	0.0650
2	4.92	0.2999	-0.0421	0.0019	-0.1042	0.0053	-0.0886	0.0130	-0.3425	0.1017
2	4.92	0.3498	-0.0598	0.0020	-0.1797	0.0102	-0.1430	0.0221	-0.2726	0.0818
2	4.92	0.3998	-0.0810	0.0037	-0.2710	0.0154	-0.2636	0.0336	-0.4002	0.0953
2	4.92	0.4496	-0.1062	0.0052	-0.3305	0.0207	-0.4131	0.0385	-0.4268	0.0773
2	4.92	0.4995	-0.1344	0.0061	-0.4078	0.0259	-0.5724	0.0460	-0.4536	0.0842
2	4.92	0.5551	-0.1371	0.0075	-0.5087	0.0328	-0.8316	0.0566	-0.5021	0.0964
2	4.92	0.5996	-0.1578	0.0083	-0.6034	0.0396	-1.0908	0.0642	-0.6100	0.0818
2	4.92	0.6497	-0.1626	0.0092	-0.6755	0.0459	-1.4123	0.0739	-0.4573	0.0841
2	4.92	0.6996	-0.1838	0.0099	-0.7737	0.0517	-1.7761	0.0824	-0.3875	0.0848
2	4.92	0.7495	-0.1739	0.0121	-0.9111	0.0575	-2.2057	0.0899	-0.3800	0.0983
2	4.92	0.7996	-0.1988	0.0135	-0.9600	0.0624	-2.6903	0.0993	-0.4821	0.0873
2	4.92	0.8578	-0.2093	0.0162	-1.0875	0.0689	-3.2429	0.1123	-0.1471	0.0700
2	4.92	0.9100	-0.2430	0.0184	-1.1811	0.0731	-3.8201	0.1214	-0.3667	0.0799
2	4.92	0.9727	-0.2781	0.0211	-1.2740	0.0784	-4.3696	0.1316	-0.0994	0.0759

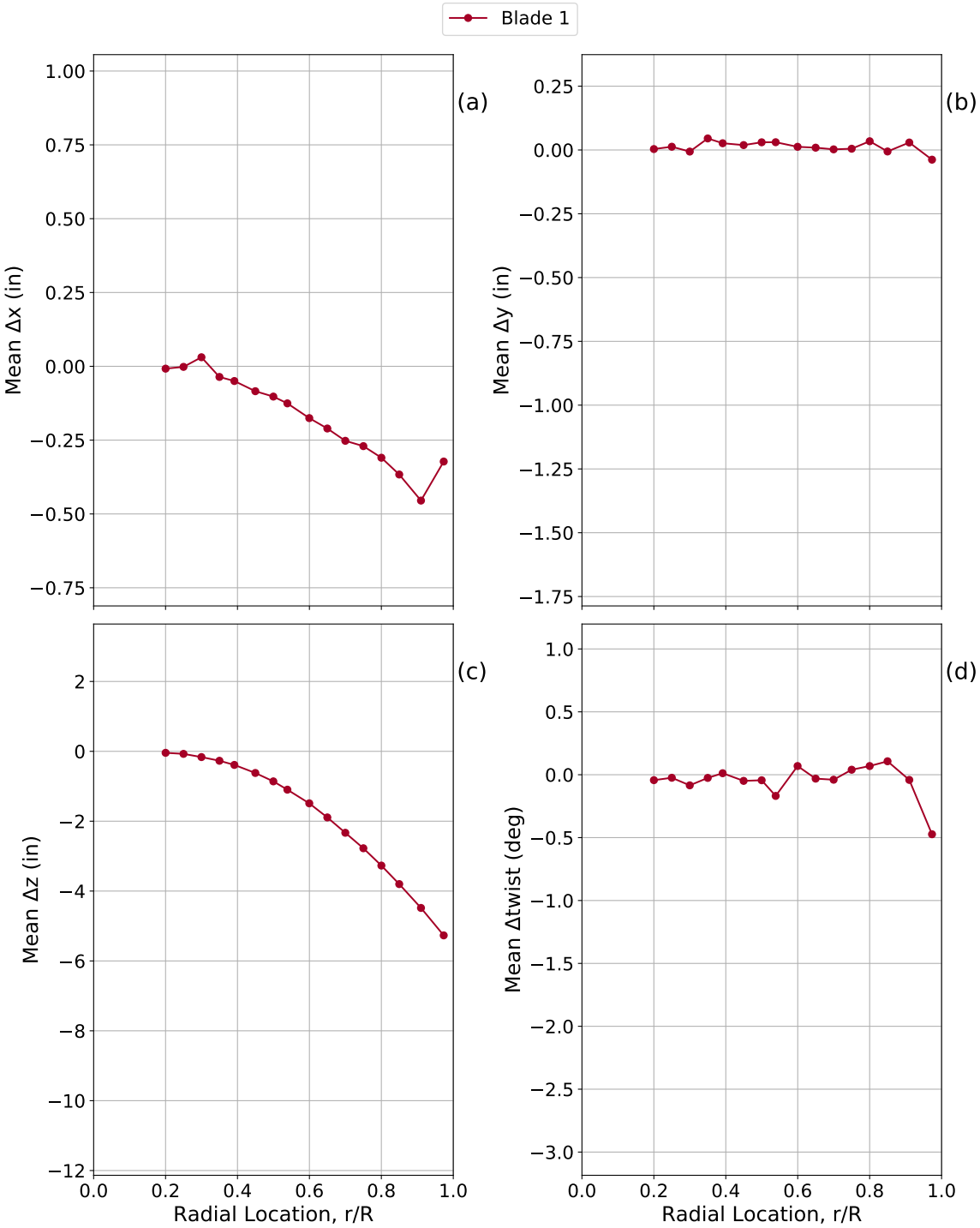


Figure 4.18-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0079	0.0024	0.0036	0.0015	-0.0427	0.0036	-0.0432	0.0313
1	15.12	0.2499	-0.0019	0.0018	0.0127	0.0022	-0.0727	0.0043	-0.0241	0.0650
1	15.12	0.2998	0.0307	0.0013	-0.0063	0.0052	-0.1648	0.0095	-0.0844	0.0729
1	15.12	0.3498	-0.0360	0.0016	0.0452	0.0091	-0.2701	0.0167	-0.0253	0.0704
1	15.12	0.3913	-0.0498	0.0022	0.0264	0.0123	-0.3890	0.0207	0.0120	0.0704
1	15.12	0.4496	-0.0843	0.0022	0.0191	0.0156	-0.6195	0.0290	-0.0488	0.0658
1	15.12	0.4997	-0.1025	0.0018	0.0301	0.0180	-0.8601	0.0331	-0.0439	0.0623
1	15.12	0.5387	-0.1255	0.0021	0.0304	0.0216	-1.0977	0.0380	-0.1684	0.0662
1	15.12	0.5996	-0.1754	0.0028	0.0124	0.0248	-1.4890	0.0460	0.0691	0.0713
1	15.12	0.6498	-0.2106	0.0025	0.0090	0.0284	-1.8922	0.0537	-0.0310	0.0691
1	15.12	0.6998	-0.2523	0.0026	0.0024	0.0324	-2.3316	0.0625	-0.0397	0.0662
1	15.12	0.7500	-0.2703	0.0020	0.0049	0.0372	-2.7750	0.0749	0.0398	0.0609
1	15.12	0.8001	-0.3096	0.0023	0.0342	0.0410	-3.2704	0.0850	0.0691	0.0760
1	15.12	0.8497	-0.3664	0.0020	-0.0059	0.0463	-3.8005	0.0970	0.1069	0.0553
1	15.12	0.9102	-0.4547	0.0035	0.0292	0.0535	-4.4830	0.1149	-0.0412	0.0640
1	15.12	0.9734	-0.3225	0.0035	-0.0380	0.0593	-5.2686	0.1282	-0.4733	0.1247

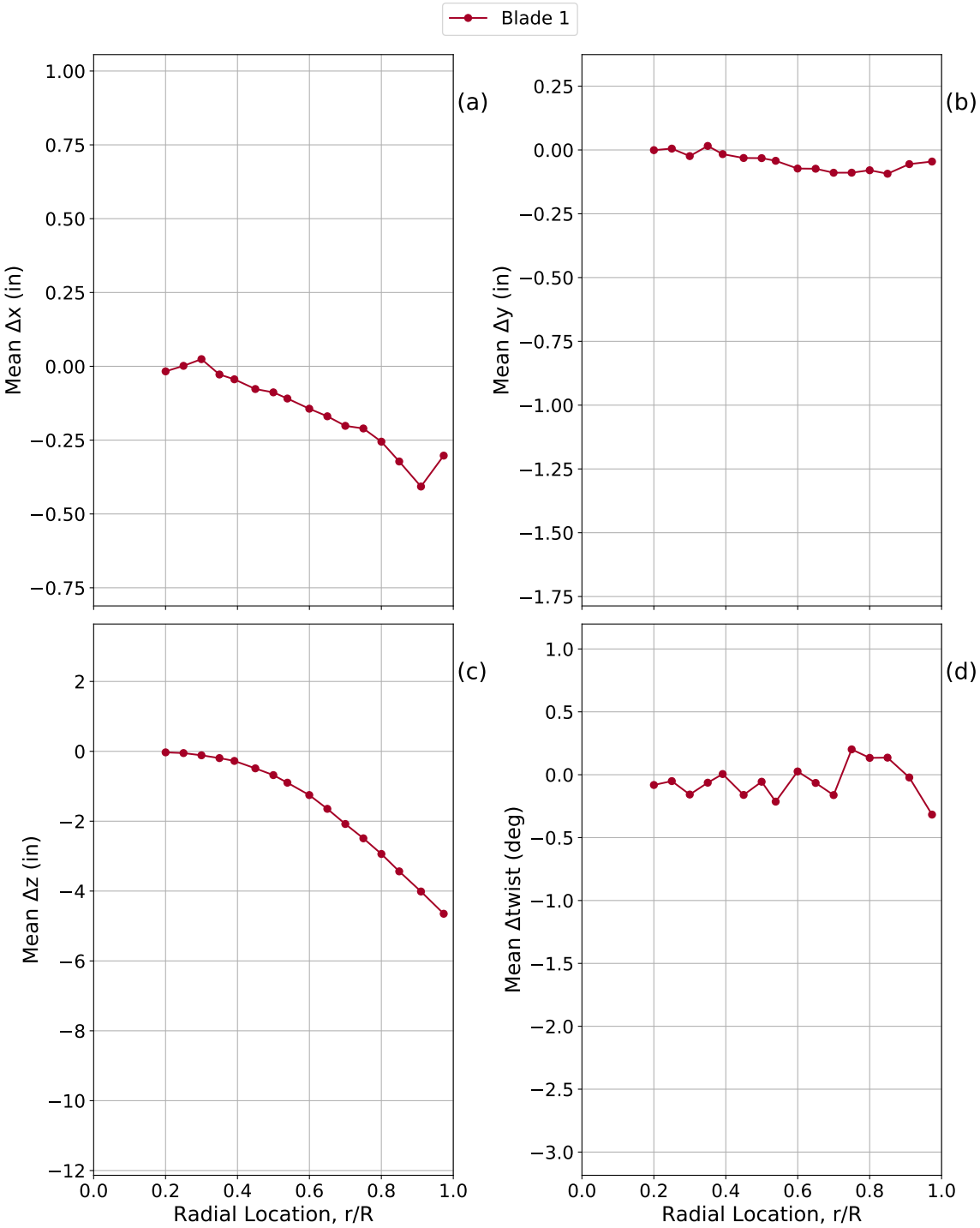


Figure 4.18-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0171	0.0040	-0.0007	0.0020	-0.0296	0.0044	-0.0816	0.0244
1	29.88	0.2499	0.0016	0.0017	0.0053	0.0025	-0.0500	0.0064	-0.0507	0.0581
1	29.88	0.2998	0.0243	0.0018	-0.0240	0.0071	-0.1137	0.0142	-0.1574	0.0555
1	29.88	0.3498	-0.0277	0.0028	0.0158	0.0117	-0.1938	0.0232	-0.0634	0.0559
1	29.88	0.3913	-0.0440	0.0031	-0.0163	0.0162	-0.2746	0.0321	0.0055	0.0532
1	29.88	0.4496	-0.0769	0.0029	-0.0315	0.0221	-0.4873	0.0447	-0.1605	0.0473
1	29.88	0.4997	-0.0882	0.0035	-0.0320	0.0267	-0.6805	0.0546	-0.0557	0.0503
1	29.88	0.5387	-0.1091	0.0040	-0.0424	0.0312	-0.8982	0.0648	-0.2139	0.0486
1	29.88	0.5996	-0.1436	0.0040	-0.0728	0.0379	-1.2517	0.0752	0.0260	0.0578
1	29.88	0.6498	-0.1693	0.0037	-0.0735	0.0435	-1.6463	0.0851	-0.0652	0.0521
1	29.88	0.6998	-0.2016	0.0032	-0.0892	0.0494	-2.0800	0.0954	-0.1619	0.0539
1	29.88	0.7500	-0.2105	0.0035	-0.0890	0.0555	-2.4903	0.1057	0.2017	0.0567
1	29.88	0.8001	-0.2552	0.0027	-0.0795	0.0619	-2.9382	0.1168	0.1339	0.0554
1	29.88	0.8497	-0.3223	0.0030	-0.0931	0.0672	-3.4362	0.1266	0.1358	0.0568
1	29.88	0.9102	-0.4072	0.0041	-0.0554	0.0742	-4.0131	0.1409	-0.0218	0.0649
1	29.88	0.9734	-0.3024	0.0039	-0.0454	0.0825	-4.6496	0.1600	-0.3170	0.0669

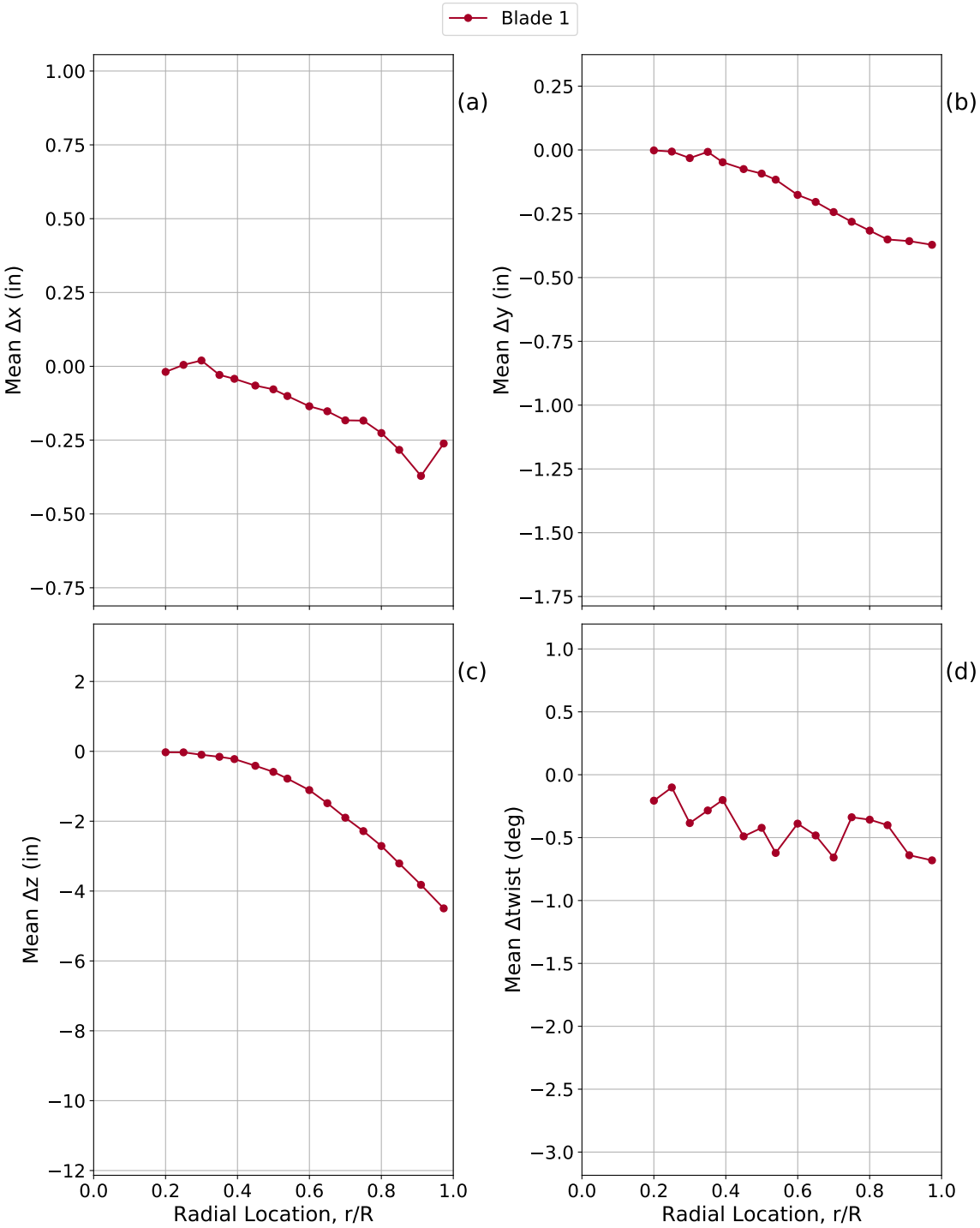


Figure 4.18-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0188	0.0028	-0.0017	0.0012	-0.0269	0.0032	-0.2063	0.0241
1	45	0.2499	0.0049	0.0018	-0.0063	0.0010	-0.0291	0.0054	-0.1012	0.0547
1	45	0.2998	0.0197	0.0018	-0.0318	0.0036	-0.0985	0.0099	-0.3844	0.0549
1	45	0.3498	-0.0291	0.0017	-0.0074	0.0067	-0.1571	0.0179	-0.2841	0.0404
1	45	0.3913	-0.0423	0.0020	-0.0480	0.0082	-0.2220	0.0239	-0.2013	0.0430
1	45	0.4496	-0.0652	0.0027	-0.0749	0.0112	-0.4136	0.0313	-0.4900	0.0464
1	45	0.4997	-0.0780	0.0034	-0.0926	0.0141	-0.5880	0.0382	-0.4221	0.0410
1	45	0.5387	-0.1006	0.0033	-0.1164	0.0161	-0.7810	0.0428	-0.6218	0.0460
1	45	0.5996	-0.1353	0.0029	-0.1761	0.0198	-1.1097	0.0486	-0.3888	0.0460
1	45	0.6498	-0.1522	0.0026	-0.2036	0.0213	-1.4847	0.0541	-0.4828	0.0497
1	45	0.6998	-0.1830	0.0028	-0.2433	0.0254	-1.8994	0.0593	-0.6582	0.0487
1	45	0.7500	-0.1839	0.0031	-0.2813	0.0299	-2.2839	0.0653	-0.3381	0.0434
1	45	0.8001	-0.2260	0.0026	-0.3161	0.0312	-2.7104	0.0700	-0.3574	0.0412
1	45	0.8497	-0.2830	0.0025	-0.3507	0.0348	-3.2098	0.0753	-0.4009	0.0349
1	45	0.9102	-0.3712	0.0031	-0.3572	0.0387	-3.8219	0.0793	-0.6400	0.0429
1	45	0.9734	-0.2615	0.0036	-0.3716	0.0437	-4.4956	0.0826	-0.6806	0.0388

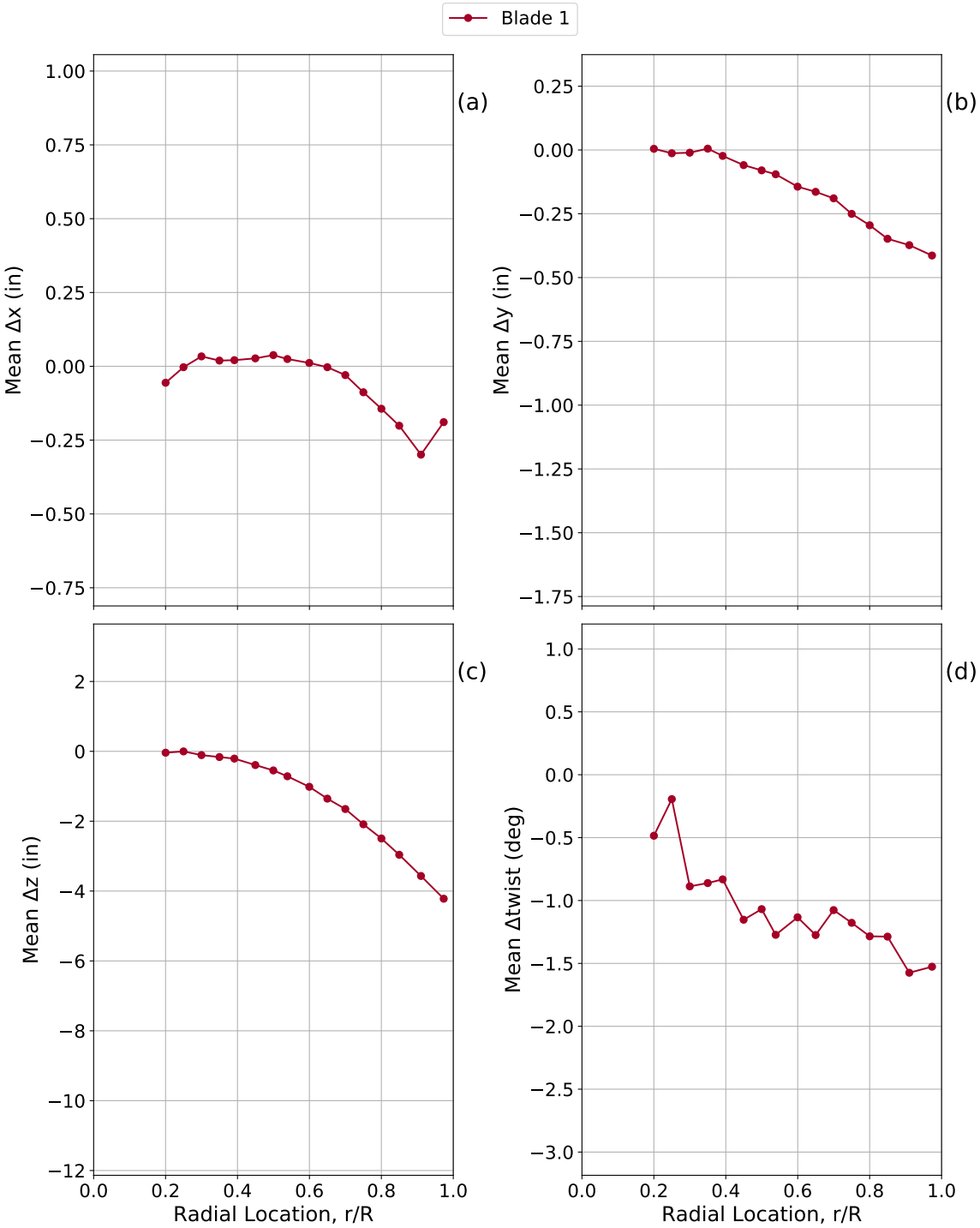


Figure 4.18-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0556	0.0030	0.0046	0.0013	-0.0391	0.0040	-0.4851	0.0415
1	60.12	0.2499	-0.0030	0.0014	-0.0129	0.0027	-0.0025	0.0057	-0.1937	0.0785
1	60.12	0.2998	0.0336	0.0014	-0.0107	0.0048	-0.1083	0.0115	-0.8877	0.0957
1	60.12	0.3498	0.0194	0.0017	0.0052	0.0083	-0.1639	0.0202	-0.8613	0.0936
1	60.12	0.3913	0.0208	0.0027	-0.0232	0.0117	-0.2083	0.0263	-0.8318	0.0968
1	60.12	0.4496	0.0269	0.0032	-0.0593	0.0158	-0.3927	0.0363	-1.1529	0.0909
1	60.12	0.4997	0.0380	0.0045	-0.0799	0.0199	-0.5469	0.0457	-1.0686	0.0898
1	60.12	0.5387	0.0247	0.0043	-0.0952	0.0232	-0.7146	0.0523	-1.2729	0.0899
1	60.12	0.5996	0.0115	0.0048	-0.1438	0.0279	-1.0152	0.0639	-1.1337	0.0842
1	60.12	0.6498	-0.0030	0.0056	-0.1640	0.0324	-1.3544	0.0728	-1.2746	0.0886
1	60.12	0.6998	-0.0297	0.0056	-0.1895	0.0371	-1.6514	0.0835	-1.0762	0.0820
1	60.12	0.7500	-0.0879	0.0099	-0.2504	0.0483	-2.0891	0.0984	-1.1773	0.0968
1	60.12	0.8001	-0.1437	0.0104	-0.2950	0.0532	-2.4945	0.1100	-1.2845	0.0871
1	60.12	0.8497	-0.2011	0.0095	-0.3480	0.0585	-2.9614	0.1192	-1.2872	0.0947
1	60.12	0.9102	-0.2991	0.0099	-0.3730	0.0649	-3.5678	0.1317	-1.5743	0.0839
1	60.12	0.9734	-0.1890	0.0090	-0.4136	0.0715	-4.2187	0.1445	-1.5264	0.0847

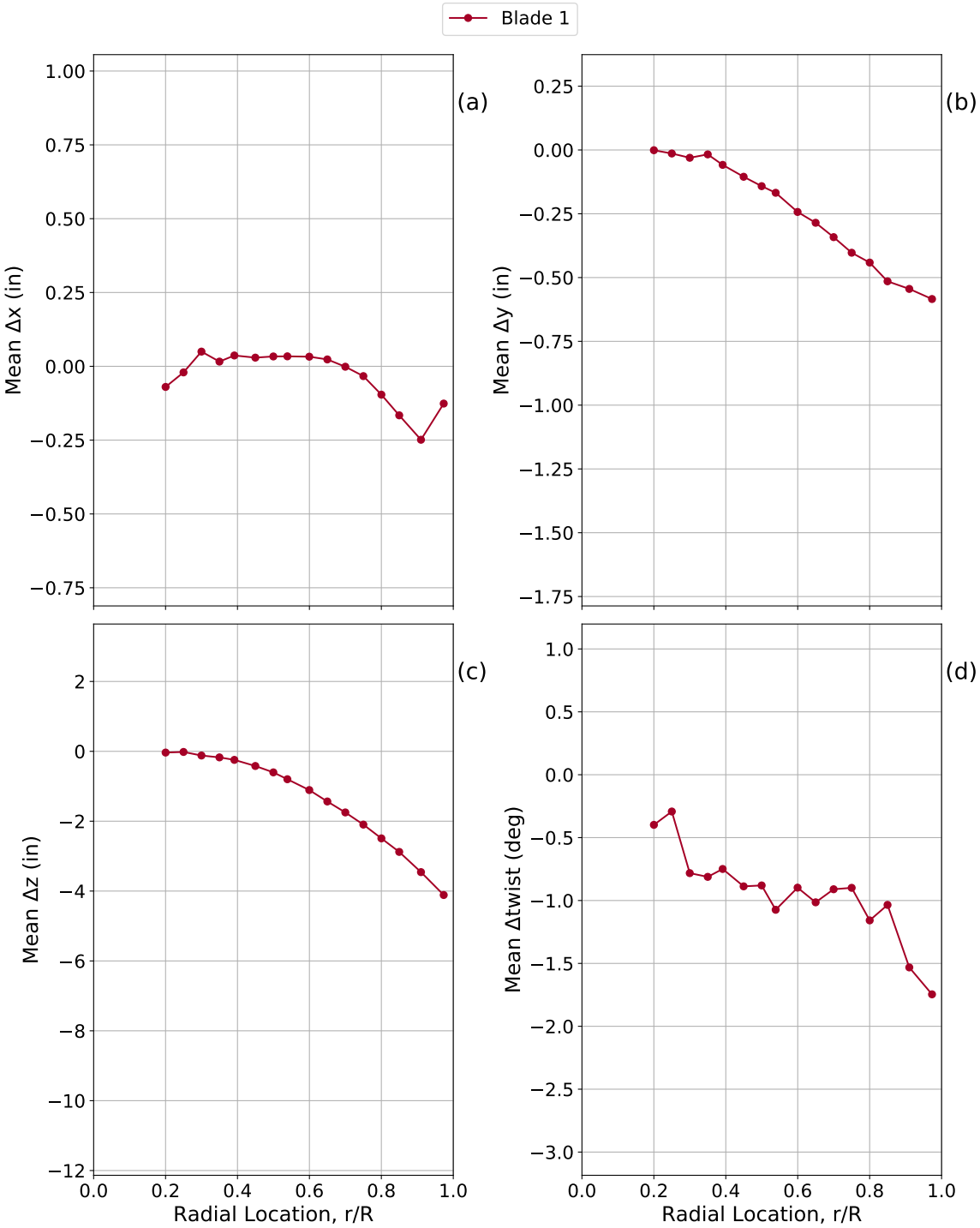


Figure 4.18-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0698	0.0063	-0.0010	0.0032	-0.0352	0.0062	-0.3984	0.0473
1	74.88	0.2499	-0.0206	0.0016	-0.0138	0.0042	-0.0180	0.0079	-0.2925	0.1150
1	74.88	0.2998	0.0498	0.0020	-0.0306	0.0106	-0.1199	0.0197	-0.7823	0.1208
1	74.88	0.3498	0.0160	0.0018	-0.0173	0.0195	-0.1734	0.0334	-0.8120	0.1161
1	74.88	0.3913	0.0367	0.0023	-0.0584	0.0257	-0.2448	0.0447	-0.7493	0.1144
1	74.88	0.4496	0.0294	0.0036	-0.1050	0.0344	-0.4197	0.0594	-0.8875	0.1150
1	74.88	0.4997	0.0334	0.0029	-0.1418	0.0427	-0.6024	0.0722	-0.8802	0.1113
1	74.88	0.5387	0.0338	0.0044	-0.1678	0.0486	-0.7987	0.0825	-1.0737	0.1107
1	74.88	0.5996	0.0326	0.0044	-0.2429	0.0592	-1.1087	0.0959	-0.8978	0.1102
1	74.88	0.6498	0.0233	0.0059	-0.2853	0.0661	-1.4357	0.1057	-1.0144	0.1419
1	74.88	0.6998	-0.0014	0.0075	-0.3416	0.0766	-1.7492	0.1232	-0.9105	0.1767
1	74.88	0.7500	-0.0332	0.0040	-0.4027	0.0897	-2.0973	0.1274	-0.8992	0.1224
1	74.88	0.8001	-0.0960	0.0039	-0.4413	0.0993	-2.4919	0.1416	-1.1580	0.1203
1	74.88	0.8497	-0.1660	0.0042	-0.5147	0.1082	-2.8791	0.1548	-1.0349	0.1194
1	74.88	0.9102	-0.2487	0.0042	-0.5445	0.1193	-3.4578	0.1716	-1.5319	0.1255
1	74.88	0.9734	-0.1262	0.0052	-0.5841	0.1324	-4.1129	0.1923	-1.7460	0.1125

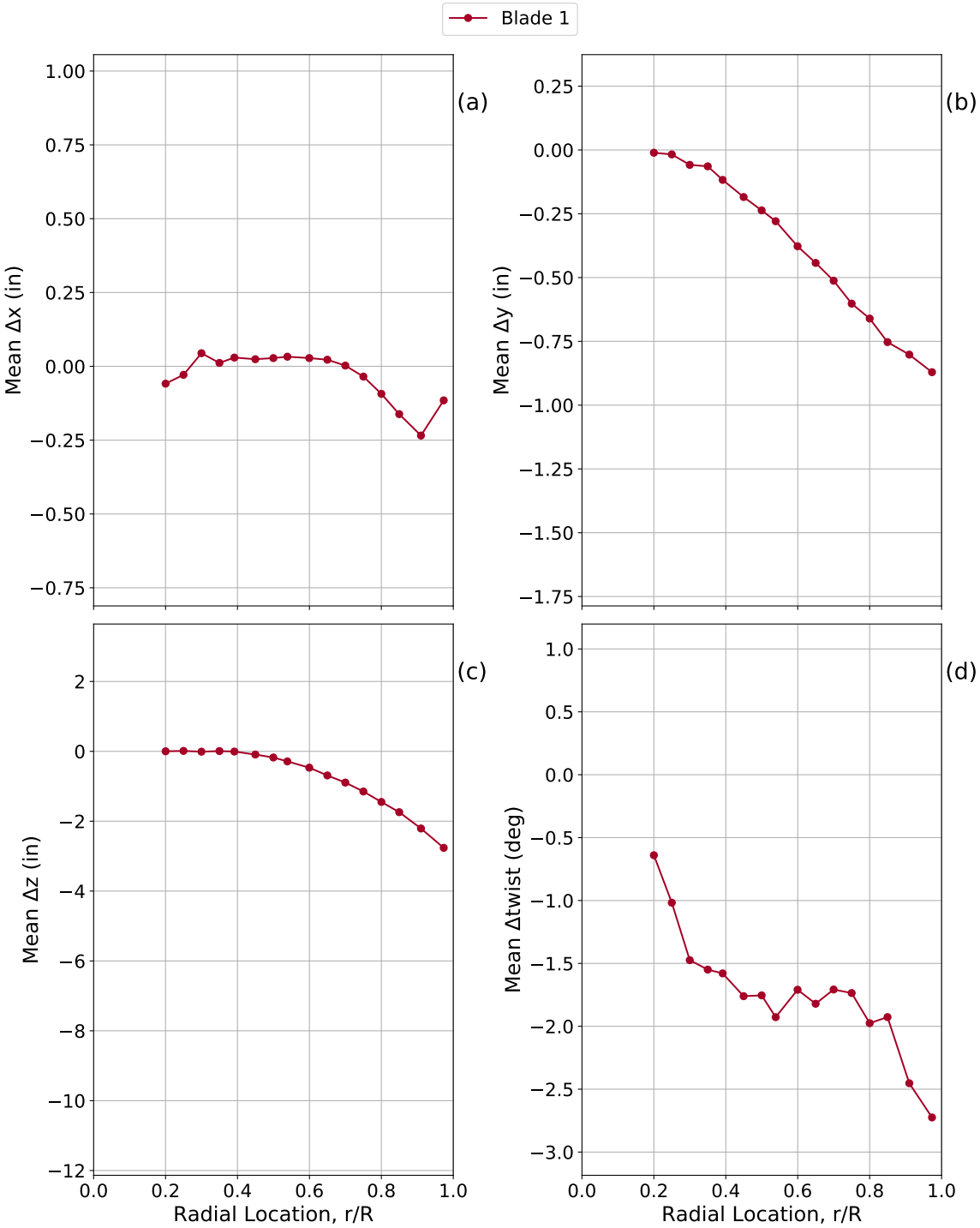


Figure 4.18-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0587	0.0035	-0.0108	0.0022	0.0013	0.0044	-0.6400	0.0264
1	80.16	0.2499	-0.0288	0.0015	-0.0174	0.0030	0.0125	0.0049	-1.0174	0.0538
1	80.16	0.2998	0.0444	0.0022	-0.0584	0.0078	-0.0099	0.0124	-1.4744	0.0573
1	80.16	0.3498	0.0115	0.0022	-0.0641	0.0129	0.0071	0.0198	-1.5493	0.0551
1	80.16	0.3913	0.0296	0.0023	-0.1173	0.0180	-0.0068	0.0257	-1.5795	0.0441
1	80.16	0.4496	0.0241	0.0033	-0.1844	0.0233	-0.0916	0.0344	-1.7607	0.0565
1	80.16	0.4997	0.0279	0.0044	-0.2367	0.0271	-0.1768	0.0385	-1.7541	0.0638
1	80.16	0.5387	0.0326	0.0048	-0.2792	0.0306	-0.2882	0.0444	-1.9275	0.0564
1	80.16	0.5996	0.0279	0.0054	-0.3775	0.0344	-0.4679	0.0509	-1.7095	0.0598
1	80.16	0.6498	0.0223	0.0063	-0.4426	0.0389	-0.6901	0.0548	-1.8206	0.0575
1	80.16	0.6998	0.0025	0.0068	-0.5122	0.0428	-0.8939	0.0614	-1.7076	0.0744
1	80.16	0.7500	-0.0348	0.0039	-0.6022	0.0498	-1.1497	0.0707	-1.7358	0.0742
1	80.16	0.8001	-0.0933	0.0031	-0.6607	0.0547	-1.4493	0.0784	-1.9753	0.0665
1	80.16	0.8497	-0.1620	0.0033	-0.7529	0.0599	-1.7419	0.0864	-1.9269	0.0716
1	80.16	0.9102	-0.2344	0.0035	-0.8020	0.0651	-2.2087	0.0979	-2.4528	0.0687
1	80.16	0.9734	-0.1153	0.0043	-0.8709	0.0719	-2.7631	0.1097	-2.7247	0.0718

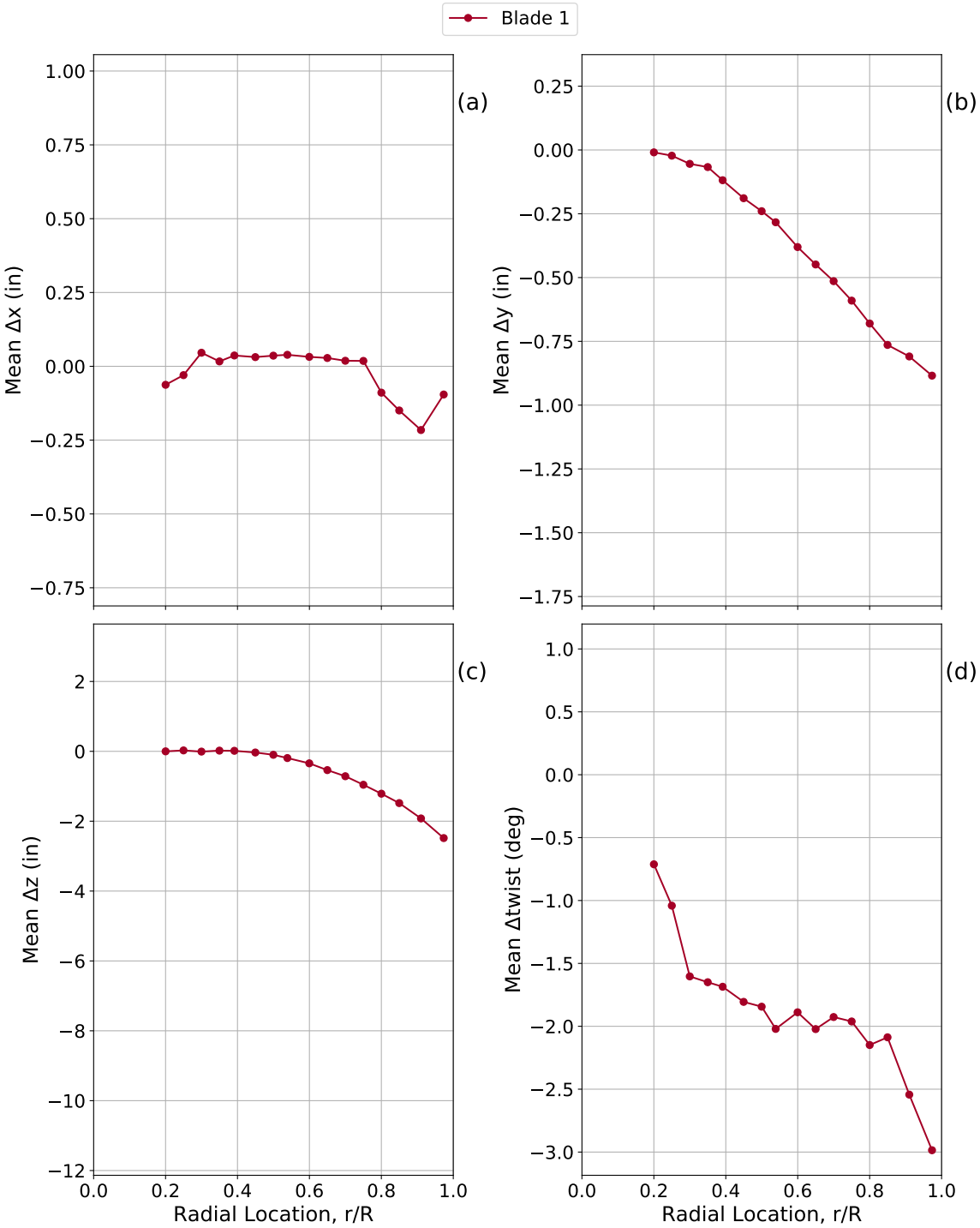


Figure 4.18-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0626	0.0029	-0.0094	0.0021	-0.0006	0.0044	-0.7121	0.0336
1	85.08	0.2499	-0.0299	0.0025	-0.0223	0.0034	0.0262	0.0075	-1.0411	0.0499
1	85.08	0.2998	0.0460	0.0023	-0.0544	0.0072	-0.0078	0.0136	-1.6034	0.0688
1	85.08	0.3498	0.0166	0.0026	-0.0670	0.0103	0.0202	0.0224	-1.6497	0.0434
1	85.08	0.3913	0.0367	0.0032	-0.1186	0.0154	0.0152	0.0306	-1.6857	0.0427
1	85.08	0.4496	0.0312	0.0038	-0.1891	0.0201	-0.0337	0.0387	-1.8059	0.0471
1	85.08	0.4997	0.0361	0.0046	-0.2399	0.0249	-0.0993	0.0464	-1.8441	0.0439
1	85.08	0.5387	0.0390	0.0051	-0.2833	0.0285	-0.1923	0.0534	-2.0207	0.0507
1	85.08	0.5996	0.0320	0.0062	-0.3805	0.0347	-0.3436	0.0641	-1.8888	0.0542
1	85.08	0.6498	0.0282	0.0075	-0.4487	0.0401	-0.5376	0.0730	-2.0222	0.0534
1	85.08	0.6998	0.0188	0.0075	-0.5141	0.0459	-0.7130	0.0819	-1.9264	0.0494
1	85.08	0.7500	0.0183	0.0065	-0.5904	0.0540	-0.9567	0.0926	-1.9616	0.1723
1	85.08	0.8001	-0.0892	0.0031	-0.6801	0.0622	-1.2129	0.0931	-2.1489	0.0385
1	85.08	0.8497	-0.1495	0.0033	-0.7640	0.0672	-1.4817	0.0977	-2.0876	0.0457
1	85.08	0.9102	-0.2158	0.0029	-0.8092	0.0732	-1.9209	0.1050	-2.5433	0.0323
1	85.08	0.9734	-0.0955	0.0034	-0.8844	0.0798	-2.4830	0.1093	-2.9854	0.0424

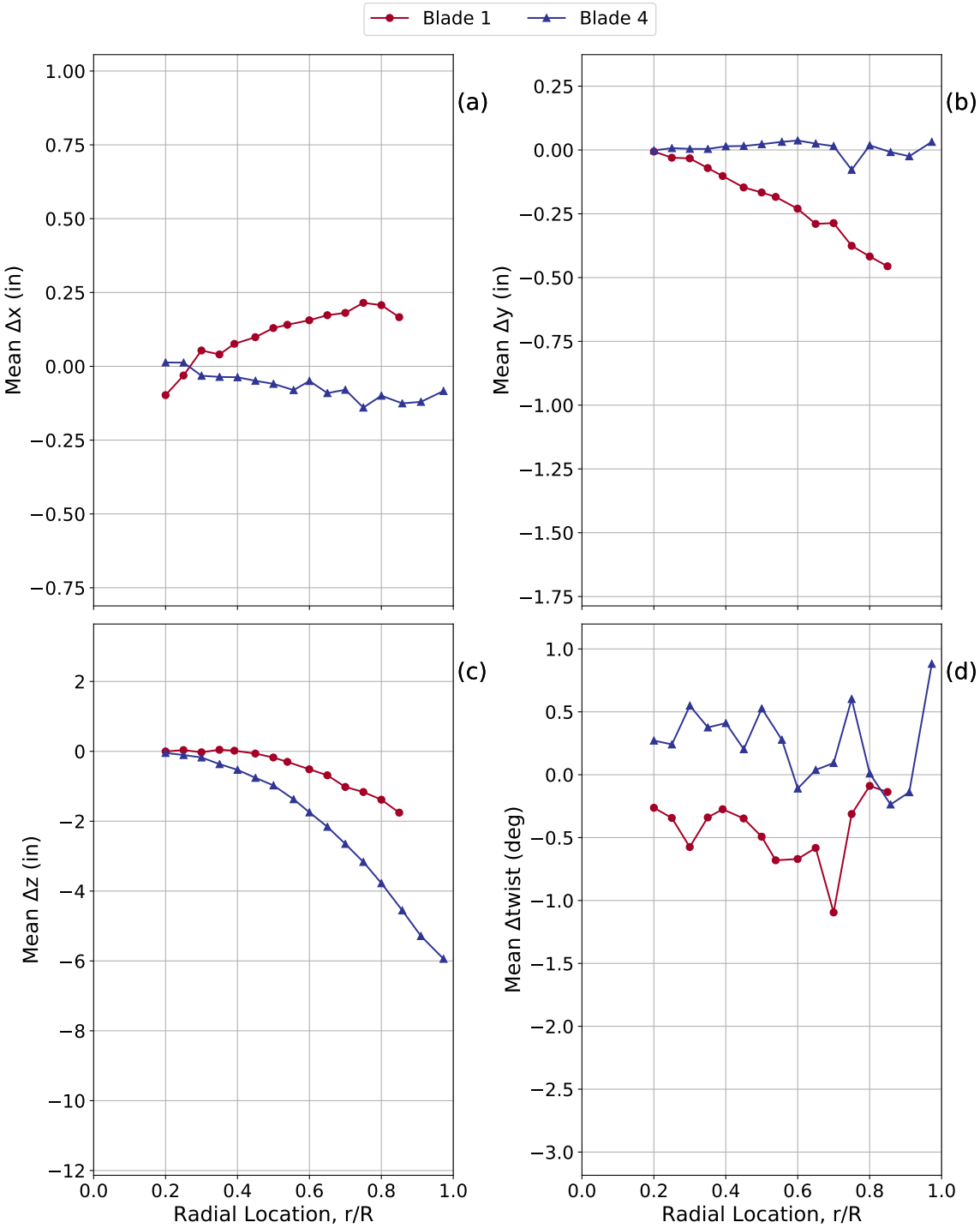


Figure 4.18-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0975	0.0019	-0.0059	0.0009	-0.0033	0.0018	-0.2628	0.0152
1	90	0.2499	-0.0311	0.0014	-0.0303	0.0023	0.0355	0.0034	-0.3435	0.0260
1	90	0.2998	0.0536	0.0010	-0.0329	0.0038	-0.0270	0.0064	-0.5747	0.0342
1	90	0.3498	0.0403	0.0021	-0.0709	0.0066	0.0449	0.0102	-0.3398	0.0337
1	90	0.3913	0.0761	0.0024	-0.1021	0.0097	0.0185	0.0147	-0.2743	0.0353
1	90	0.4496	0.0986	0.0039	-0.1468	0.0120	-0.0640	0.0176	-0.3478	0.0381
1	90	0.4997	0.1296	0.0044	-0.1665	0.0147	-0.1767	0.0205	-0.4926	0.0411
1	90	0.5387	0.1407	0.0052	-0.1839	0.0172	-0.3016	0.0235	-0.6802	0.0294
1	90	0.5996	0.1560	0.0070	-0.2301	0.0211	-0.5138	0.0284	-0.6701	0.0337
1	90	0.6498	0.1731	0.0076	-0.2897	0.0241	-0.6855	0.0278	-0.5822	0.0430
1	90	0.6998	0.1810	0.0111	-0.2866	0.0292	-1.0199	0.0389	-1.0948	0.0579
1	90	0.7500	0.2150	0.0136	-0.3755	0.0350	-1.1641	0.0506	-0.3125	0.1029
1	90	0.8001	0.2071	0.0219	-0.4174	0.0362	-1.3848	0.0517	-0.0887	0.1199
1	90	0.8497	0.1664	0.0219	-0.4557	0.0377	-1.7551	0.0574	-0.1372	0.1414
4	90.35	0.2001	0.0130	0.0052	-0.0016	0.0024	-0.0467	0.0123	0.2714	0.0908
4	90.35	0.2502	0.0125	0.0061	0.0072	0.0032	-0.1060	0.0120	0.2409	0.2315
4	90.35	0.3001	-0.0320	0.0031	0.0043	0.0073	-0.1765	0.0337	0.5488	0.2344
4	90.35	0.3502	-0.0359	0.0034	0.0040	0.0129	-0.3665	0.0583	0.3759	0.2302
4	90.35	0.4002	-0.0371	0.0040	0.0145	0.0183	-0.5304	0.0806	0.4105	0.2329
4	90.35	0.4500	-0.0491	0.0056	0.0156	0.0235	-0.7590	0.1025	0.2028	0.2299
4	90.35	0.5001	-0.0594	0.0053	0.0227	0.0283	-0.9761	0.1254	0.5268	0.2300
4	90.35	0.5560	-0.0805	0.0059	0.0318	0.0349	-1.3716	0.1543	0.2778	0.2220
4	90.35	0.6001	-0.0497	0.0062	0.0371	0.0398	-1.7477	0.1728	-0.1098	0.2292
4	90.35	0.6501	-0.0907	0.0065	0.0249	0.0455	-2.1612	0.1986	0.0383	0.2179
4	90.35	0.6999	-0.0795	0.0072	0.0151	0.0512	-2.6511	0.2197	0.0930	0.2291
4	90.35	0.7500	-0.1398	0.0074	-0.0778	0.0594	-3.1671	0.2424	0.6024	0.2303
4	90.35	0.8002	-0.0995	0.0084	0.0180	0.0625	-3.7761	0.2676	0.0098	0.2158
4	90.35	0.8582	-0.1255	0.0094	-0.0083	0.0698	-4.5548	0.2918	-0.2366	0.2215
4	90.35	0.9101	-0.1203	0.0104	-0.0247	0.0762	-5.2876	0.3128	-0.1391	0.2313
4	90.35	0.9728	-0.0836	0.0113	0.0317	0.0832	-5.9397	0.3400	0.8817	0.2252

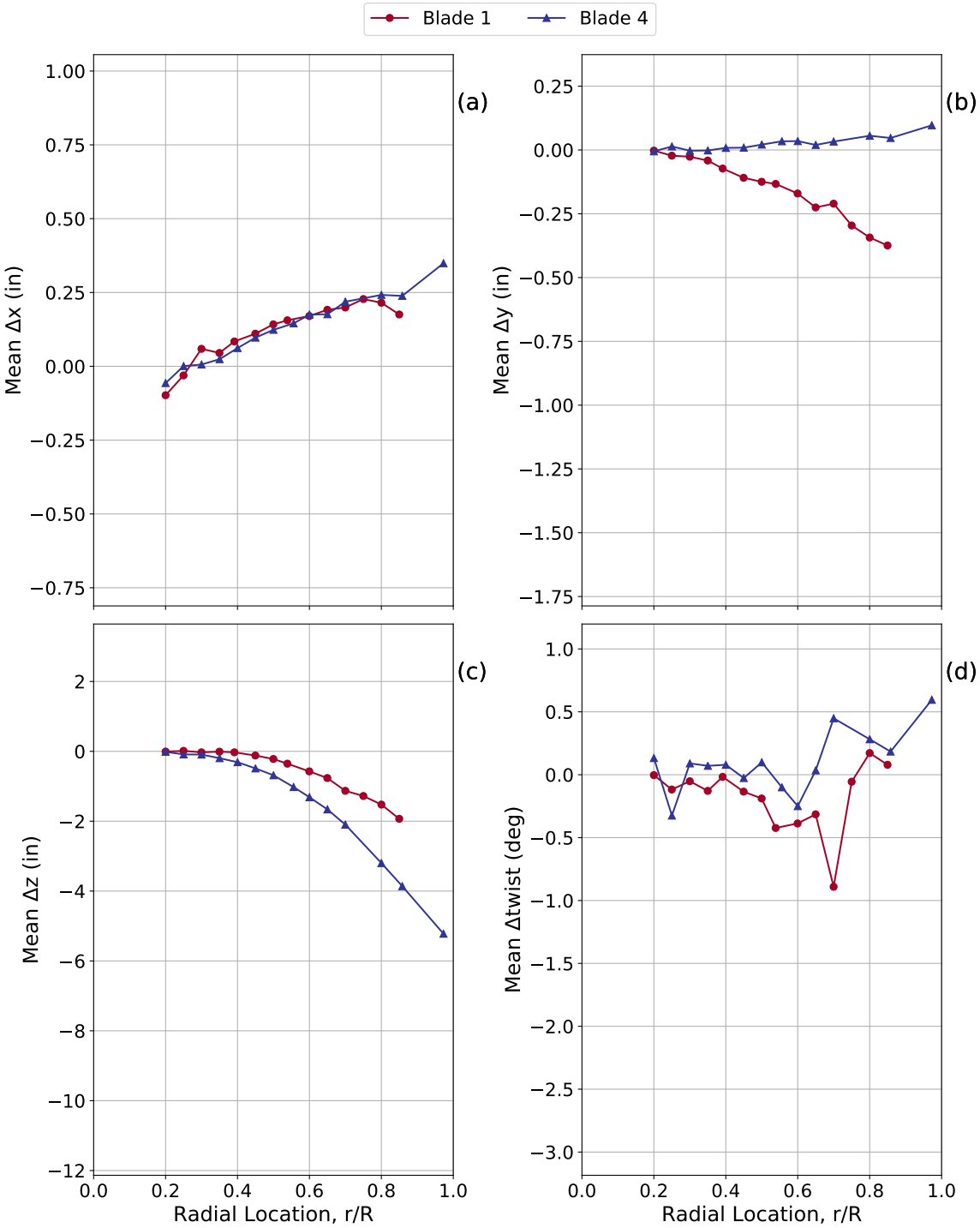


Figure 4.18-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0979	0.0032	-0.0025	0.0012	-0.0074	0.0021	-0.0031	0.0124
1	94.92	0.2499	-0.0308	0.0014	-0.0223	0.0026	0.0132	0.0035	-0.1177	0.0332
1	94.92	0.2998	0.0592	0.0015	-0.0265	0.0052	-0.0287	0.0081	-0.0516	0.0307
1	94.92	0.3498	0.0453	0.0022	-0.0414	0.0085	-0.0096	0.0114	-0.1283	0.0380
1	94.92	0.3913	0.0842	0.0032	-0.0728	0.0126	-0.0284	0.0174	-0.0169	0.0314
1	94.92	0.4496	0.1105	0.0039	-0.1090	0.0155	-0.1194	0.0217	-0.1344	0.0250
1	94.92	0.4997	0.1420	0.0049	-0.1246	0.0196	-0.2192	0.0258	-0.1889	0.0365
1	94.92	0.5387	0.1559	0.0059	-0.1330	0.0226	-0.3533	0.0287	-0.4234	0.0376
1	94.92	0.5996	0.1703	0.0052	-0.1705	0.0266	-0.5737	0.0371	-0.3874	0.0396
1	94.92	0.6498	0.1914	0.0079	-0.2252	0.0305	-0.7644	0.0406	-0.3149	0.0545
1	94.92	0.6998	0.1992	0.0089	-0.2104	0.0348	-1.1302	0.0447	-0.8909	0.0371
1	94.92	0.7500	0.2278	0.0118	-0.2959	0.0389	-1.2786	0.0511	-0.0557	0.0679
1	94.92	0.8001	0.2153	0.0137	-0.3431	0.0438	-1.5244	0.0556	0.1722	0.0994
1	94.92	0.8497	0.1756	0.0176	-0.3743	0.0493	-1.9313	0.0521	0.0792	0.1380
4	94.92	0.2001	-0.0568	0.0006	-0.0054	0.0005	-0.0142	0.0018	0.1326	0.0146
4	94.92	0.2502	0.0006	0.0007	0.0137	0.0011	-0.0886	0.0038	-0.3248	0.0195
4	94.92	0.3001	0.0061	0.0006	-0.0030	0.0021	-0.0929	0.0080	0.0900	0.0289
4	94.92	0.3502	0.0241	0.0009	-0.0019	0.0034	-0.1965	0.0121	0.0707	0.0261
4	94.92	0.4002	0.0618	0.0012	0.0082	0.0055	-0.3109	0.0198	0.0789	0.0217
4	94.92	0.4500	0.0971	0.0015	0.0090	0.0062	-0.4889	0.0249	-0.0265	0.0253
4	94.92	0.5001	0.1236	0.0017	0.0211	0.0075	-0.6853	0.0301	0.0984	0.0228
4	94.92	0.5560	0.1454	0.0012	0.0340	0.0091	-1.0225	0.0348	-0.1002	0.0305
4	94.92	0.6001	0.1750	0.0017	0.0347	0.0108	-1.3142	0.0408	-0.2499	0.0235
4	94.92	0.6501	0.1764	0.0017	0.0197	0.0123	-1.6629	0.0450	0.0346	0.0258
4	94.92	0.6999	0.2188	0.0029	0.0329	0.0145	-2.0984	0.0492	0.4485	0.0273
4	94.92	0.8002	0.2418	0.0030	0.0557	0.0194	-3.2000	0.0575	0.2820	0.0741
4	94.92	0.8582	0.2385	0.0049	0.0469	0.0206	-3.8612	0.0625	0.1840	0.0553
4	94.92	0.9728	0.3490	0.0063	0.0966	0.0281	-5.2217	0.0781	0.5955	0.1475

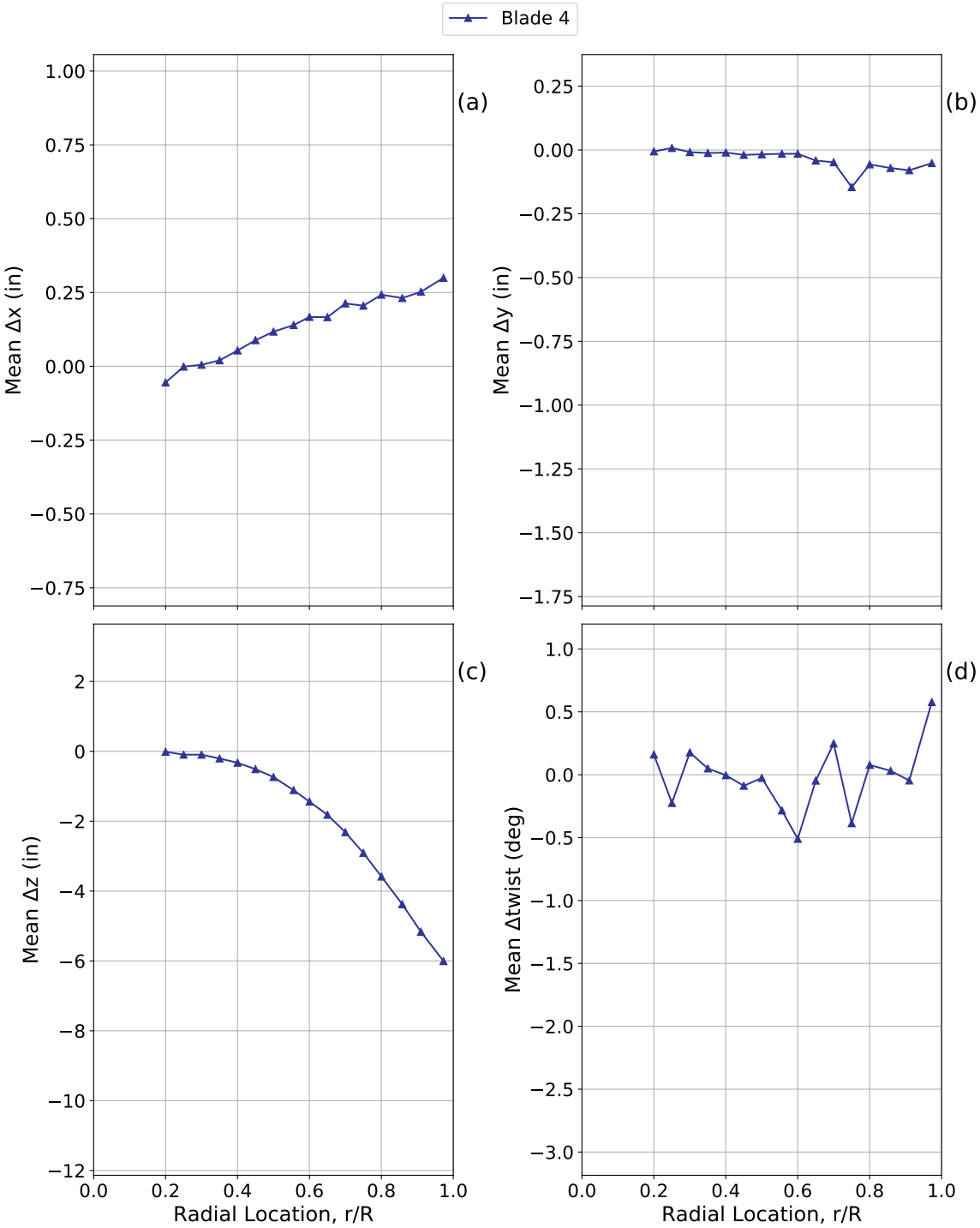


Figure 4.18-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0547	0.0008	-0.0057	0.0005	-0.0133	0.0014	0.1606	0.0152
4	105.12	0.2502	-0.0012	0.0009	0.0077	0.0012	-0.0962	0.0032	-0.2249	0.0258
4	105.12	0.3001	0.0051	0.0006	-0.0085	0.0021	-0.0964	0.0053	0.1769	0.0337
4	105.12	0.3502	0.0202	0.0008	-0.0120	0.0037	-0.2051	0.0097	0.0495	0.0282
4	105.12	0.4002	0.0536	0.0010	-0.0102	0.0057	-0.3277	0.0144	-0.0043	0.0293
4	105.12	0.4500	0.0883	0.0013	-0.0192	0.0073	-0.5111	0.0180	-0.0881	0.0247
4	105.12	0.5001	0.1173	0.0009	-0.0172	0.0092	-0.7370	0.0229	-0.0256	0.0272
4	105.12	0.5560	0.1396	0.0010	-0.0150	0.0114	-1.1113	0.0270	-0.2842	0.0268
4	105.12	0.6001	0.1671	0.0013	-0.0150	0.0127	-1.4409	0.0294	-0.5100	0.0320
4	105.12	0.6501	0.1663	0.0011	-0.0416	0.0155	-1.8175	0.0338	-0.0473	0.0299
4	105.12	0.6999	0.2128	0.0014	-0.0482	0.0176	-2.3158	0.0373	0.2484	0.0319
4	105.12	0.7500	0.2052	0.0013	-0.1458	0.0199	-2.9102	0.0415	-0.3858	0.0268
4	105.12	0.8002	0.2424	0.0015	-0.0567	0.0227	-3.5863	0.0436	0.0780	0.0342
4	105.12	0.8582	0.2311	0.0020	-0.0709	0.0253	-4.3784	0.0498	0.0308	0.0225
4	105.12	0.9101	0.2524	0.0025	-0.0796	0.0287	-5.1671	0.0528	-0.0458	0.0293
4	105.12	0.9728	0.2995	0.0044	-0.0517	0.0321	-6.0060	0.0507	0.5773	0.0651

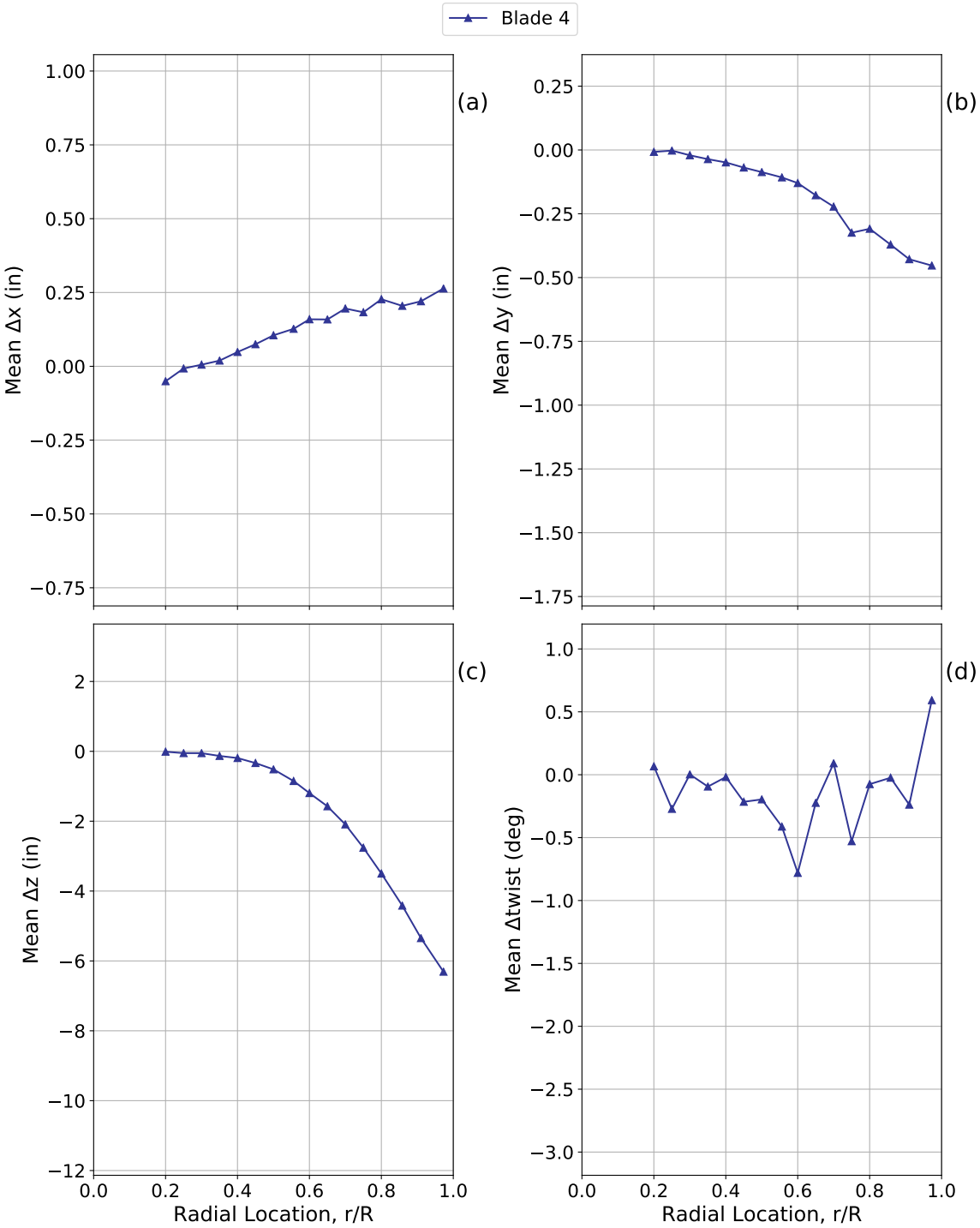


Figure 4.18-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0506	0.0011	-0.0076	0.0004	-0.0108	0.0013	0.0665	0.0111
4	119.88	0.2502	-0.0073	0.0008	-0.0025	0.0013	-0.0521	0.0031	-0.2717	0.0244
4	119.88	0.3001	0.0055	0.0010	-0.0209	0.0019	-0.0527	0.0051	0.0025	0.0268
4	119.88	0.3502	0.0193	0.0008	-0.0360	0.0037	-0.1323	0.0084	-0.0944	0.0203
4	119.88	0.4002	0.0484	0.0015	-0.0489	0.0056	-0.1924	0.0133	-0.0184	0.0202
4	119.88	0.4500	0.0747	0.0012	-0.0690	0.0064	-0.3357	0.0139	-0.2153	0.0273
4	119.88	0.5001	0.1050	0.0014	-0.0868	0.0073	-0.5167	0.0166	-0.1962	0.0239
4	119.88	0.5560	0.1269	0.0013	-0.1076	0.0090	-0.8507	0.0206	-0.4127	0.0240
4	119.88	0.6001	0.1592	0.0019	-0.1298	0.0107	-1.1962	0.0239	-0.7807	0.0207
4	119.88	0.6501	0.1587	0.0016	-0.1776	0.0126	-1.5744	0.0284	-0.2240	0.0171
4	119.88	0.6999	0.1957	0.0015	-0.2221	0.0146	-2.0933	0.0331	0.0908	0.0254
4	119.88	0.7500	0.1830	0.0016	-0.3243	0.0172	-2.7596	0.0386	-0.5289	0.0262
4	119.88	0.8002	0.2271	0.0018	-0.3089	0.0195	-3.5001	0.0450	-0.0750	0.0225
4	119.88	0.8582	0.2047	0.0023	-0.3710	0.0228	-4.4175	0.0523	-0.0240	0.0256
4	119.88	0.9101	0.2202	0.0028	-0.4282	0.0256	-5.3475	0.0590	-0.2383	0.0304
4	119.88	0.9728	0.2634	0.0032	-0.4530	0.0298	-6.3095	0.0669	0.5924	0.0318

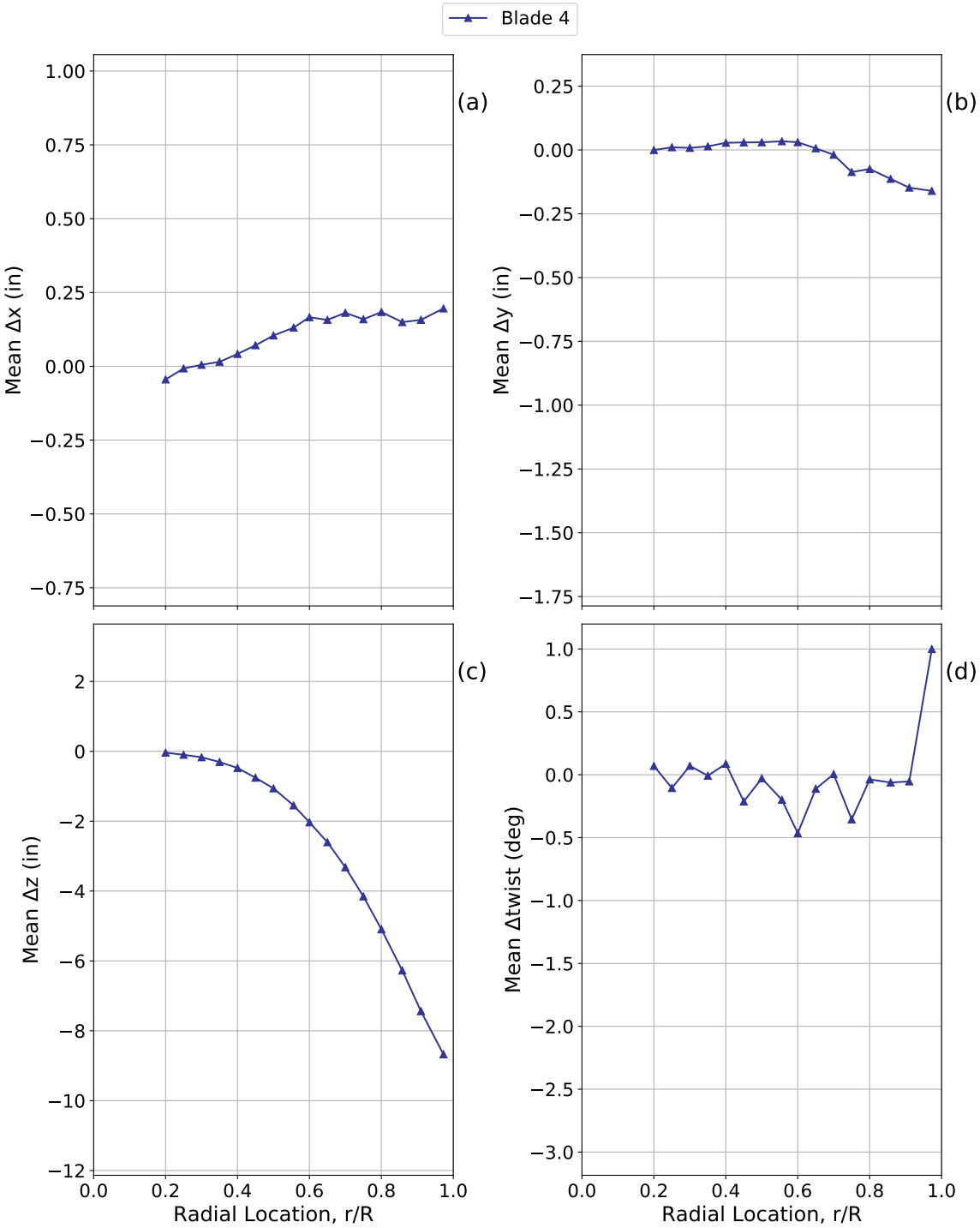


Figure 4.18-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0446	0.0009	-0.0004	0.0004	-0.0382	0.0016	0.0696	0.0151
4	135	0.2502	-0.0072	0.0015	0.0105	0.0012	-0.0991	0.0043	-0.1058	0.0254
4	135	0.3001	0.0050	0.0008	0.0082	0.0020	-0.1704	0.0068	0.0703	0.0344
4	135	0.3502	0.0153	0.0007	0.0141	0.0031	-0.3065	0.0123	-0.0079	0.0212
4	135	0.4002	0.0418	0.0009	0.0281	0.0051	-0.4776	0.0193	0.0865	0.0161
4	135	0.4500	0.0712	0.0013	0.0295	0.0067	-0.7556	0.0198	-0.2128	0.0247
4	135	0.5001	0.1044	0.0015	0.0300	0.0087	-1.0610	0.0237	-0.0289	0.0293
4	135	0.5560	0.1309	0.0017	0.0341	0.0097	-1.5485	0.0281	-0.1996	0.0209
4	135	0.6001	0.1662	0.0013	0.0303	0.0120	-2.0330	0.0321	-0.4652	0.0188
4	135	0.6501	0.1572	0.0023	0.0065	0.0142	-2.6033	0.0351	-0.1119	0.0283
4	135	0.6999	0.1811	0.0017	-0.0188	0.0157	-3.3203	0.0391	0.0044	0.0215
4	135	0.7500	0.1593	0.0018	-0.0864	0.0186	-4.1542	0.0432	-0.3555	0.0226
4	135	0.8002	0.1838	0.0016	-0.0747	0.0215	-5.0963	0.0454	-0.0371	0.0234
4	135	0.8582	0.1496	0.0018	-0.1132	0.0245	-6.2745	0.0491	-0.0619	0.0238
4	135	0.9101	0.1572	0.0019	-0.1477	0.0273	-7.4398	0.0527	-0.0535	0.0220
4	135	0.9728	0.1959	0.0031	-0.1605	0.0306	-8.6740	0.0566	0.9990	0.0293

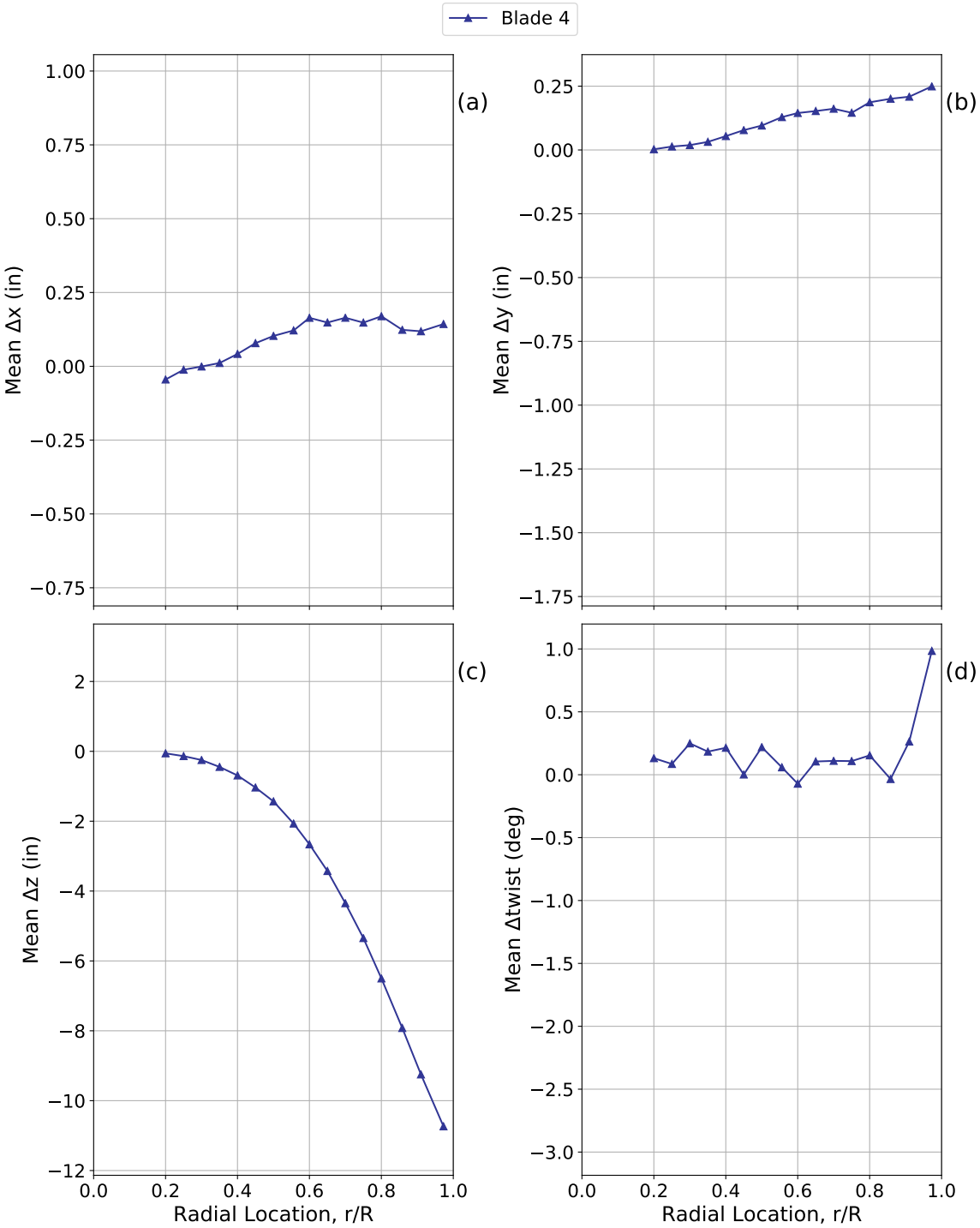


Figure 4.18-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0447	0.0011	0.0027	0.0005	-0.0579	0.0014	0.1315	0.0172
4	150.12	0.2502	-0.0116	0.0013	0.0134	0.0017	-0.1374	0.0025	0.0854	0.0159
4	150.12	0.3001	-0.0007	0.0011	0.0190	0.0022	-0.2492	0.0066	0.2489	0.0343
4	150.12	0.3502	0.0112	0.0014	0.0317	0.0045	-0.4470	0.0083	0.1837	0.0285
4	150.12	0.4002	0.0419	0.0019	0.0543	0.0068	-0.6914	0.0147	0.2141	0.0290
4	150.12	0.4500	0.0783	0.0013	0.0777	0.0068	-1.0361	0.0170	0.0014	0.0267
4	150.12	0.5001	0.1029	0.0014	0.0956	0.0079	-1.4334	0.0209	0.2191	0.0261
4	150.12	0.5560	0.1215	0.0010	0.1287	0.0101	-2.0685	0.0252	0.0586	0.0311
4	150.12	0.6001	0.1642	0.0013	0.1448	0.0125	-2.6636	0.0304	-0.0716	0.0246
4	150.12	0.6501	0.1482	0.0017	0.1525	0.0140	-3.4271	0.0341	0.1052	0.0243
4	150.12	0.6999	0.1644	0.0016	0.1615	0.0161	-4.3488	0.0379	0.1101	0.0223
4	150.12	0.7500	0.1479	0.0022	0.1457	0.0187	-5.3461	0.0441	0.1084	0.0268
4	150.12	0.8002	0.1695	0.0027	0.1868	0.0214	-6.5018	0.0517	0.1538	0.0276
4	150.12	0.8582	0.1235	0.0029	0.2007	0.0245	-7.9206	0.0596	-0.0344	0.0261
4	150.12	0.9101	0.1186	0.0036	0.2087	0.0274	-9.2488	0.0698	0.2635	0.0200
4	150.12	0.9728	0.1431	0.0049	0.2491	0.0312	-10.7358	0.0825	0.9840	0.0182

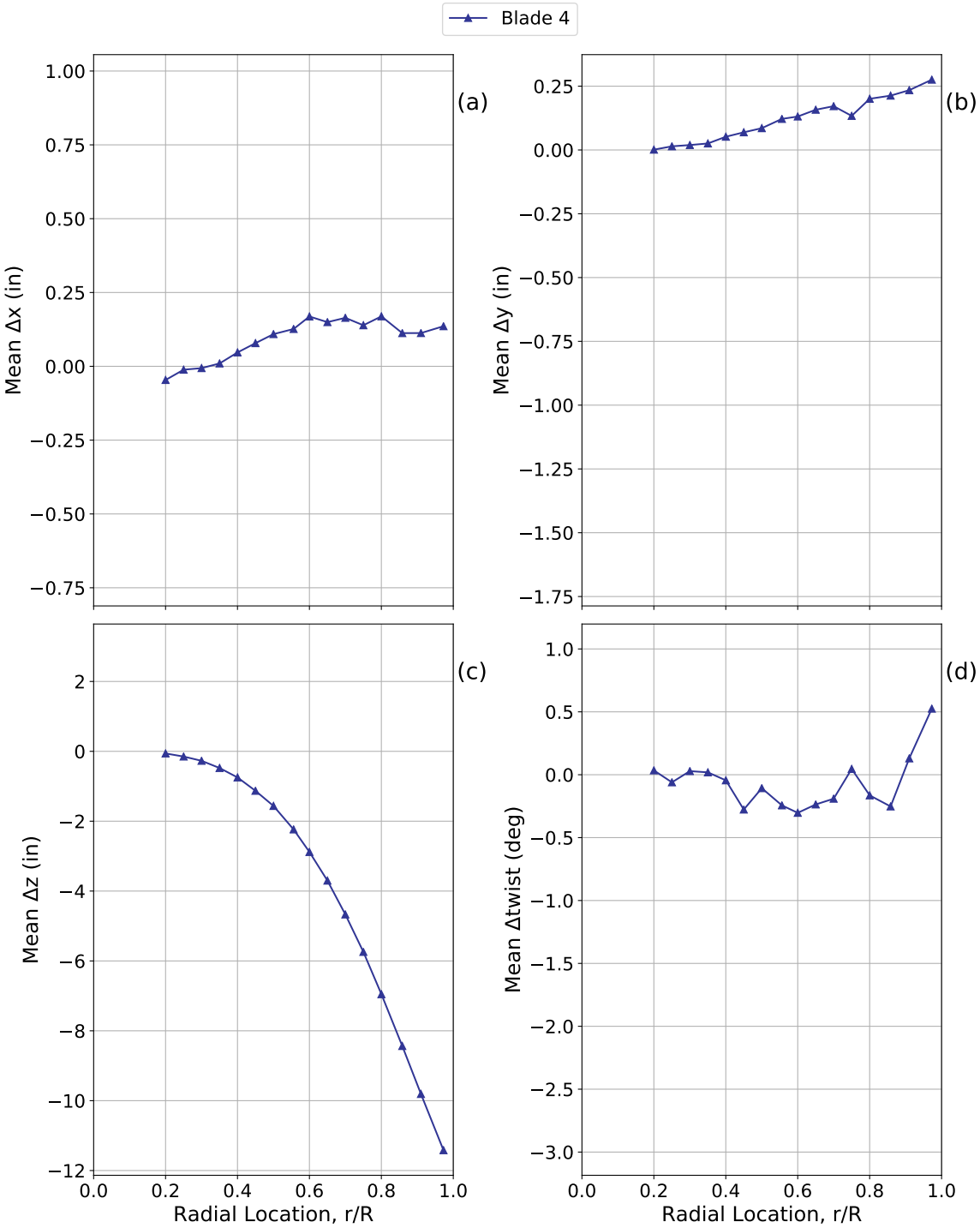


Figure 4.18-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0463	0.0011	0.0012	0.0006	-0.0609	0.0014	0.0345	0.0153
4	164.88	0.2502	-0.0115	0.0008	0.0143	0.0022	-0.1493	0.0017	-0.0604	0.0316
4	164.88	0.3001	-0.0061	0.0011	0.0193	0.0028	-0.2714	0.0035	0.0287	0.0377
4	164.88	0.3502	0.0097	0.0010	0.0255	0.0045	-0.4775	0.0073	0.0188	0.0293
4	164.88	0.4002	0.0470	0.0013	0.0519	0.0078	-0.7480	0.0093	-0.0447	0.0354
4	164.88	0.4500	0.0784	0.0012	0.0692	0.0082	-1.1301	0.0116	-0.2769	0.0274
4	164.88	0.5001	0.1090	0.0015	0.0854	0.0132	-1.5636	0.0155	-0.1069	0.0351
4	164.88	0.5560	0.1264	0.0020	0.1217	0.0121	-2.2362	0.0188	-0.2436	0.0238
4	164.88	0.6001	0.1687	0.0014	0.1311	0.0148	-2.8825	0.0223	-0.3030	0.0355
4	164.88	0.6501	0.1496	0.0016	0.1576	0.0164	-3.7016	0.0257	-0.2363	0.0342
4	164.88	0.6999	0.1642	0.0018	0.1716	0.0186	-4.6700	0.0290	-0.1907	0.0267
4	164.88	0.7500	0.1390	0.0016	0.1336	0.0206	-5.7418	0.0329	0.0458	0.0273
4	164.88	0.8002	0.1692	0.0023	0.2006	0.0227	-6.9532	0.0386	-0.1643	0.0324
4	164.88	0.8582	0.1124	0.0027	0.2129	0.0253	-8.4354	0.0429	-0.2522	0.0290
4	164.88	0.9101	0.1126	0.0026	0.2343	0.0281	-9.8087	0.0496	0.1298	0.0297
4	164.88	0.9728	0.1358	0.0037	0.2754	0.0316	-11.4189	0.0548	0.5251	0.0421

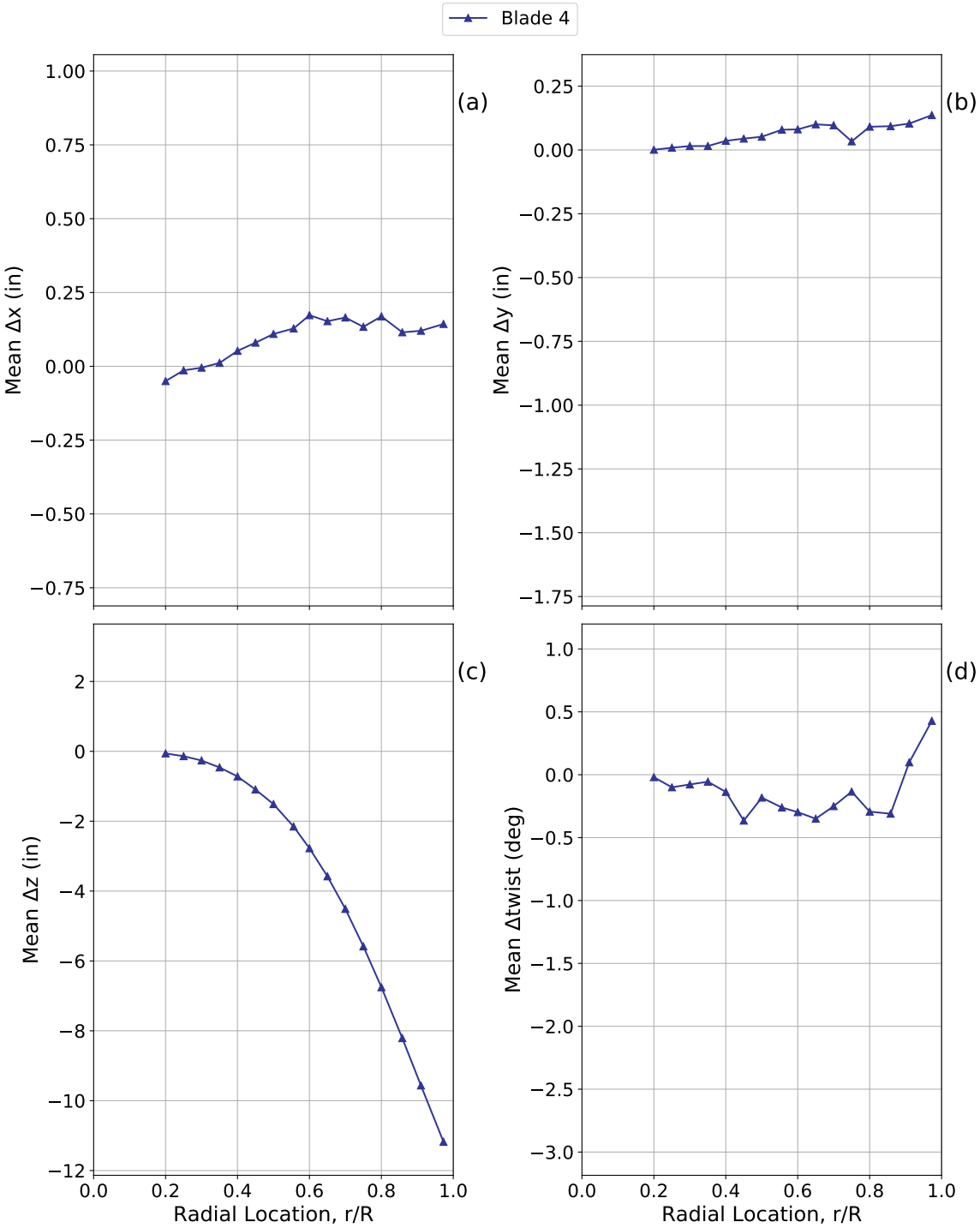


Figure 4.18-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0501	0.0007	0.0009	0.0007	-0.0605	0.0018	-0.0199	0.0181
4	170.16	0.2502	-0.0137	0.0016	0.0087	0.0020	-0.1398	0.0024	-0.1000	0.0310
4	170.16	0.3001	-0.0047	0.0014	0.0153	0.0027	-0.2632	0.0050	-0.0773	0.0406
4	170.16	0.3502	0.0115	0.0014	0.0154	0.0055	-0.4618	0.0085	-0.0556	0.0315
4	170.16	0.4002	0.0523	0.0017	0.0357	0.0082	-0.7201	0.0119	-0.1369	0.0320
4	170.16	0.4500	0.0800	0.0015	0.0445	0.0092	-1.0937	0.0158	-0.3648	0.0378
4	170.16	0.5001	0.1095	0.0015	0.0518	0.0112	-1.5119	0.0195	-0.1824	0.0354
4	170.16	0.5560	0.1281	0.0014	0.0793	0.0143	-2.1537	0.0248	-0.2607	0.0360
4	170.16	0.6001	0.1730	0.0017	0.0806	0.0161	-2.7762	0.0281	-0.2978	0.0383
4	170.16	0.6501	0.1527	0.0019	0.1003	0.0180	-3.5790	0.0305	-0.3498	0.0336
4	170.16	0.6999	0.1652	0.0024	0.0966	0.0198	-4.5114	0.0338	-0.2500	0.0283
4	170.16	0.7500	0.1336	0.0024	0.0336	0.0229	-5.5847	0.0377	-0.1347	0.0293
4	170.16	0.8002	0.1690	0.0027	0.0911	0.0253	-6.7544	0.0397	-0.2936	0.0389
4	170.16	0.8582	0.1151	0.0033	0.0931	0.0291	-8.2109	0.0461	-0.3100	0.0293
4	170.16	0.9101	0.1203	0.0034	0.1035	0.0325	-9.5654	0.0496	0.0984	0.0448
4	170.16	0.9728	0.1433	0.0040	0.1364	0.0362	-11.1794	0.0534	0.4278	0.0431

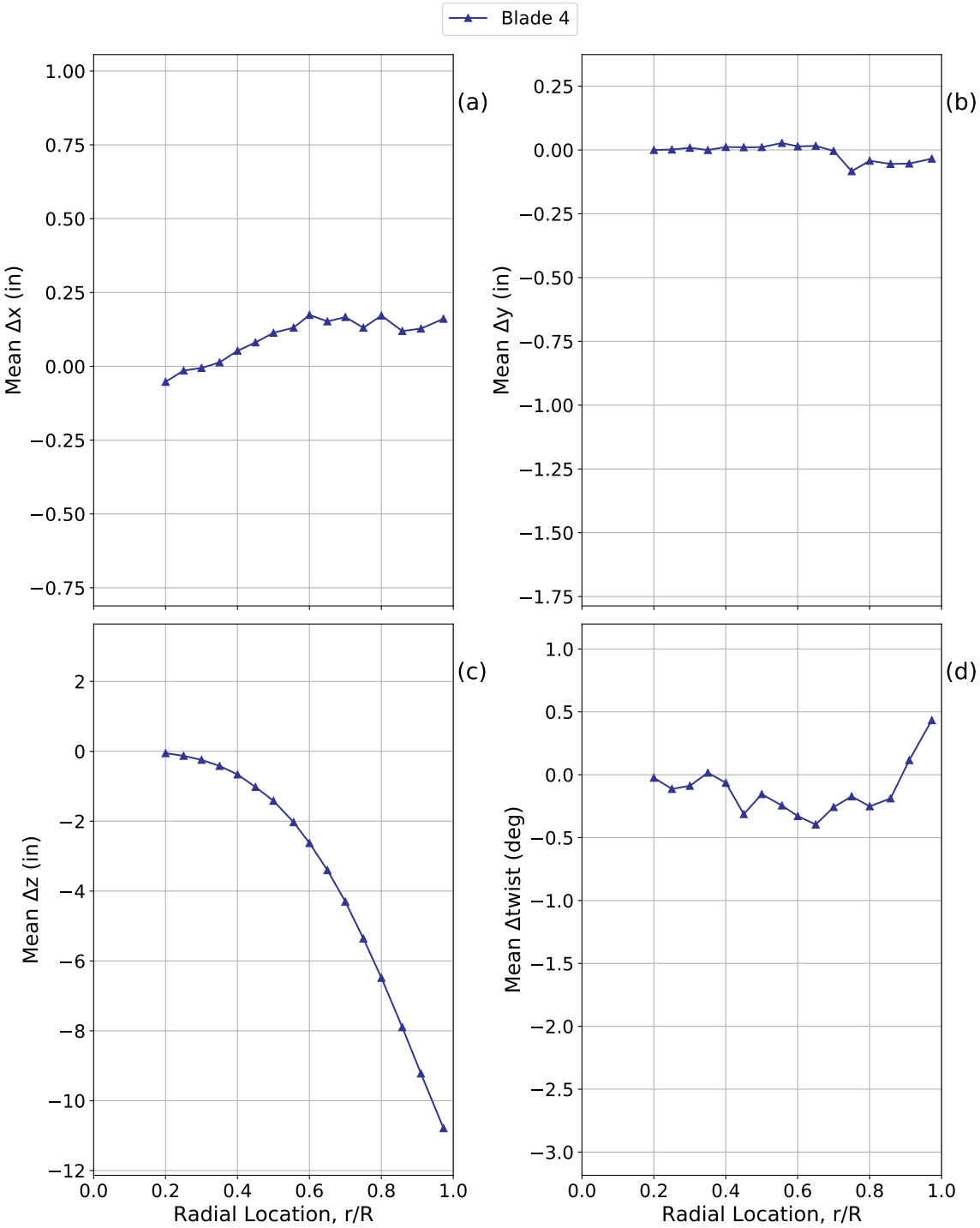


Figure 4.18-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0527	0.0011	-0.0001	0.0010	-0.0541	0.0018	-0.0243	0.0263
4	175.08	0.2502	-0.0144	0.0014	0.0016	0.0019	-0.1297	0.0040	-0.1130	0.0329
4	175.08	0.3001	-0.0056	0.0014	0.0085	0.0033	-0.2440	0.0052	-0.0883	0.0545
4	175.08	0.3502	0.0133	0.0015	-0.0002	0.0068	-0.4194	0.0109	0.0157	0.0452
4	175.08	0.4002	0.0526	0.0015	0.0115	0.0097	-0.6629	0.0151	-0.0647	0.0497
4	175.08	0.4500	0.0809	0.0018	0.0105	0.0109	-1.0209	0.0195	-0.3132	0.0488
4	175.08	0.5001	0.1134	0.0015	0.0110	0.0134	-1.4170	0.0244	-0.1547	0.0435
4	175.08	0.5560	0.1308	0.0015	0.0273	0.0170	-2.0289	0.0283	-0.2448	0.0475
4	175.08	0.6001	0.1740	0.0018	0.0140	0.0196	-2.6265	0.0341	-0.3291	0.0373
4	175.08	0.6501	0.1521	0.0018	0.0161	0.0236	-3.4034	0.0391	-0.3958	0.0358
4	175.08	0.6999	0.1668	0.0023	-0.0037	0.0264	-4.3035	0.0442	-0.2576	0.0430
4	175.08	0.7500	0.1306	0.0021	-0.0833	0.0298	-5.3588	0.0489	-0.1721	0.0507
4	175.08	0.8002	0.1718	0.0022	-0.0423	0.0328	-6.4839	0.0533	-0.2514	0.0493
4	175.08	0.8582	0.1194	0.0022	-0.0547	0.0369	-7.8977	0.0595	-0.1885	0.0413
4	175.08	0.9101	0.1276	0.0030	-0.0533	0.0410	-9.2232	0.0626	0.1157	0.0453
4	175.08	0.9728	0.1609	0.0034	-0.0342	0.0451	-10.7884	0.0664	0.4331	0.0454

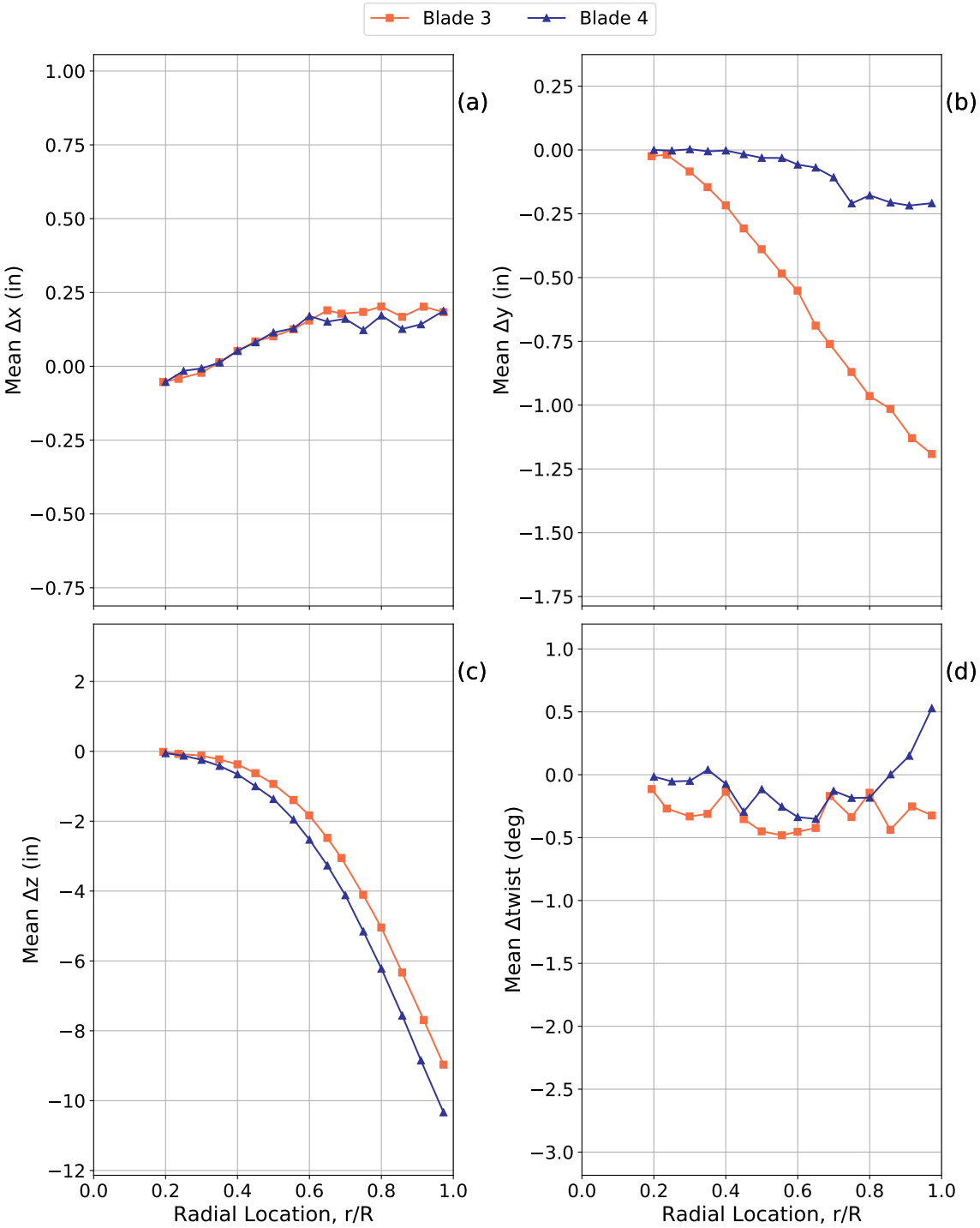


Figure 4.18-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0531	0.0011	-0.0243	0.0015	-0.0151	0.0040	-0.1144	0.0240
3	180.35	0.2357	-0.0422	0.0027	-0.0186	0.0011	-0.0739	0.0042	-0.2684	0.0491
3	180.35	0.2995	-0.0219	0.0016	-0.0842	0.0031	-0.1236	0.0104	-0.3318	0.0488
3	180.35	0.3493	0.0137	0.0020	-0.1457	0.0051	-0.2300	0.0157	-0.3117	0.0432
3	180.35	0.4000	0.0517	0.0019	-0.2172	0.0068	-0.3726	0.0234	-0.1355	0.0454
3	180.35	0.4497	0.0844	0.0016	-0.3075	0.0083	-0.6246	0.0281	-0.3528	0.0412
3	180.35	0.4997	0.1014	0.0019	-0.3891	0.0105	-0.9342	0.0349	-0.4501	0.0450
3	180.35	0.5556	0.1255	0.0026	-0.4840	0.0134	-1.3954	0.0402	-0.4815	0.0490
3	180.35	0.5995	0.1551	0.0024	-0.5512	0.0155	-1.8340	0.0465	-0.4535	0.0452
3	180.35	0.6498	0.1896	0.0026	-0.6883	0.0179	-2.4787	0.0534	-0.4229	0.0501
3	180.35	0.6890	0.1782	0.0026	-0.7604	0.0205	-3.0536	0.0567	-0.1691	0.0550
3	180.35	0.7495	0.1842	0.0028	-0.8700	0.0241	-4.1051	0.0636	-0.3366	0.0606
3	180.35	0.7998	0.2025	0.0032	-0.9644	0.0258	-5.0430	0.0705	-0.1432	0.0492
3	180.35	0.8577	0.1675	0.0043	-1.0147	0.0308	-6.3316	0.0733	-0.4376	0.0610
3	180.35	0.9178	0.2019	0.0044	-1.1294	0.0334	-7.6915	0.0824	-0.2522	0.0581
3	180.35	0.9729	0.1835	0.0054	-1.1915	0.0363	-8.9677	0.0882	-0.3240	0.0580
4	180	0.2001	-0.0527	0.0012	0.0000	0.0011	-0.0551	0.0017	-0.0154	0.0190
4	180	0.2502	-0.0156	0.0016	-0.0026	0.0020	-0.1252	0.0041	-0.0535	0.0393
4	180	0.3001	-0.0070	0.0016	0.0029	0.0033	-0.2440	0.0059	-0.0489	0.0414
4	180	0.3502	0.0126	0.0016	-0.0053	0.0060	-0.4177	0.0090	0.0398	0.0291
4	180	0.4002	0.0524	0.0012	-0.0022	0.0086	-0.6582	0.0148	-0.0733	0.0372
4	180	0.4500	0.0813	0.0019	-0.0166	0.0117	-0.9991	0.0168	-0.2940	0.0335
4	180	0.5001	0.1145	0.0017	-0.0309	0.0132	-1.3654	0.0200	-0.1156	0.0342
4	180	0.5560	0.1287	0.0022	-0.0314	0.0156	-1.9547	0.0243	-0.2543	0.0356
4	180	0.6001	0.1701	0.0015	-0.0573	0.0177	-2.5296	0.0275	-0.3367	0.0333
4	180	0.6501	0.1513	0.0025	-0.0690	0.0202	-3.2684	0.0319	-0.3514	0.0355
4	180	0.6999	0.1608	0.0026	-0.1075	0.0238	-4.1197	0.0375	-0.1284	0.0351
4	180	0.7500	0.1226	0.0023	-0.2093	0.0271	-5.1574	0.0431	-0.1845	0.0378
4	180	0.8002	0.1721	0.0029	-0.1779	0.0302	-6.2218	0.0474	-0.1829	0.0376
4	180	0.8582	0.1265	0.0037	-0.2059	0.0331	-7.5651	0.0508	0.0027	0.0443
4	180	0.9101	0.1421	0.0044	-0.2176	0.0369	-8.8513	0.0581	0.1504	0.0312
4	180	0.9728	0.1877	0.0054	-0.2087	0.0423	-10.3337	0.0599	0.5283	0.0372

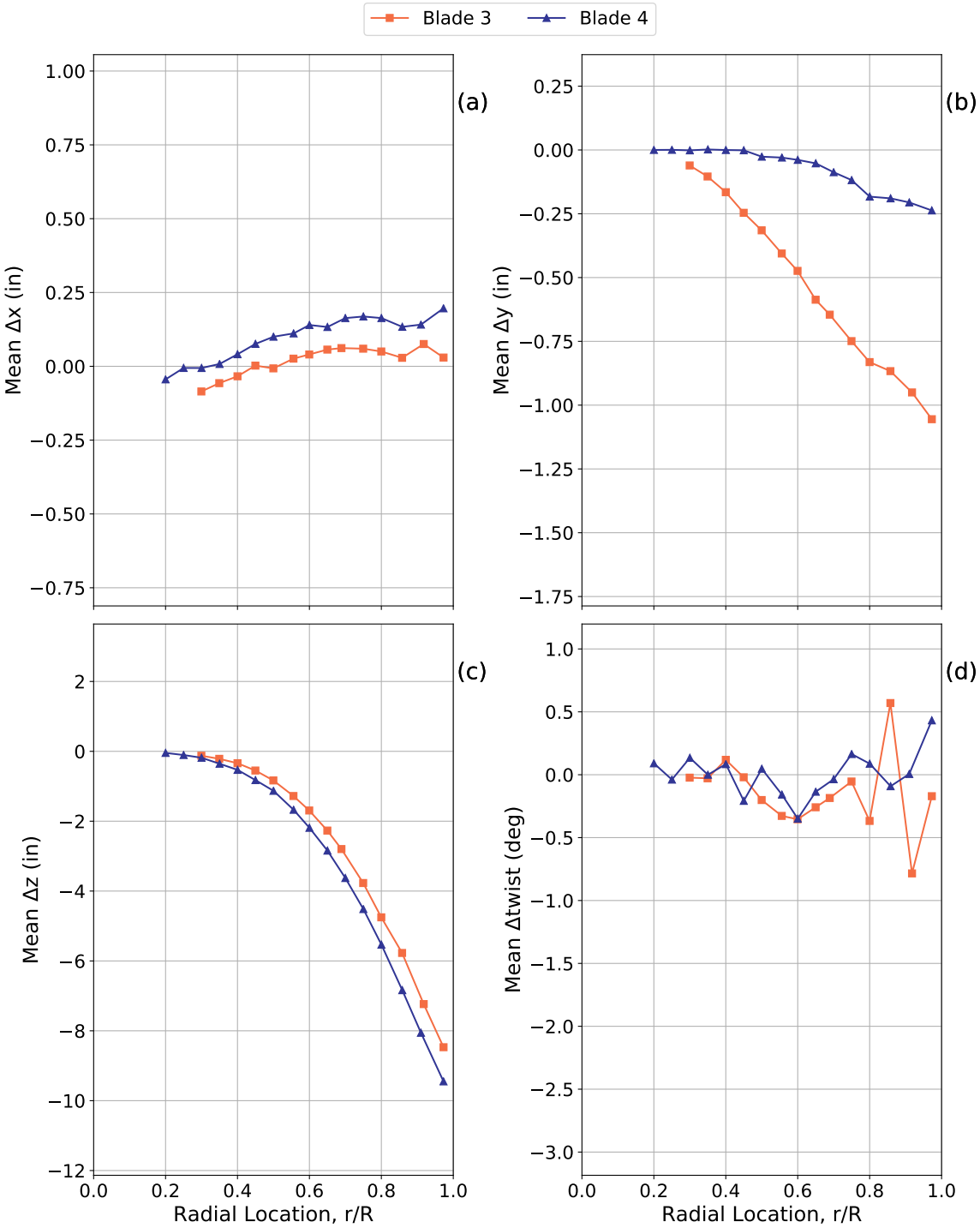


Figure 4.18-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0852	0.0047	-0.0607	0.0047	-0.1259	0.0105	-0.0232	0.0313
3	184.92	0.3493	-0.0570	0.0031	-0.1040	0.0080	-0.2144	0.0179	-0.0284	0.0416
3	184.92	0.4000	-0.0338	0.0027	-0.1654	0.0127	-0.3401	0.0284	0.1185	0.0362
3	184.92	0.4497	0.0024	0.0028	-0.2462	0.0162	-0.5495	0.0353	-0.0202	0.0518
3	184.92	0.4997	-0.0070	0.0037	-0.3149	0.0207	-0.8334	0.0437	-0.2011	0.0446
3	184.92	0.5556	0.0260	0.0050	-0.4057	0.0261	-1.2790	0.0531	-0.3273	0.0375
3	184.92	0.5995	0.0401	0.0051	-0.4738	0.0300	-1.6937	0.0605	-0.3543	0.0383
3	184.92	0.6498	0.0566	0.0060	-0.5869	0.0350	-2.2685	0.0673	-0.2588	0.0380
3	184.92	0.6890	0.0617	0.0069	-0.6454	0.0387	-2.7977	0.0734	-0.1850	0.0466
3	184.92	0.7495	0.0597	0.0090	-0.7490	0.0448	-3.7698	0.0816	-0.0539	0.0583
3	184.92	0.7998	0.0502	0.0113	-0.8313	0.0483	-4.7519	0.0897	-0.3673	0.0417
3	184.92	0.8577	0.0288	0.0145	-0.8667	0.0551	-5.7717	0.0943	0.5698	0.0741
3	184.92	0.9178	0.0755	0.0177	-0.9502	0.0605	-7.2355	0.1043	-0.7845	0.0768
3	184.92	0.9729	0.0297	0.0236	-1.0551	0.0660	-8.4698	0.1174	-0.1706	0.0552
4	184.92	0.2001	-0.0442	0.0016	0.0001	0.0012	-0.0455	0.0021	0.0906	0.0198
4	184.92	0.2502	-0.0056	0.0015	0.0005	0.0018	-0.1056	0.0044	-0.0389	0.0330
4	184.92	0.3001	-0.0057	0.0015	-0.0015	0.0039	-0.1844	0.0060	0.1344	0.0417
4	184.92	0.3502	0.0079	0.0012	0.0019	0.0064	-0.3551	0.0115	-0.0002	0.0291
4	184.92	0.4002	0.0409	0.0020	-0.0002	0.0094	-0.5316	0.0164	0.0841	0.0381
4	184.92	0.4500	0.0759	0.0022	-0.0013	0.0110	-0.8242	0.0190	-0.2078	0.0324
4	184.92	0.5001	0.1002	0.0022	-0.0263	0.0131	-1.1306	0.0237	0.0473	0.0382
4	184.92	0.5560	0.1114	0.0016	-0.0298	0.0169	-1.6738	0.0309	-0.1579	0.0275
4	184.92	0.6001	0.1399	0.0016	-0.0389	0.0183	-2.1902	0.0321	-0.3495	0.0363
4	184.92	0.6501	0.1331	0.0028	-0.0524	0.0220	-2.8425	0.0367	-0.1352	0.0351
4	184.92	0.6999	0.1633	0.0024	-0.0872	0.0231	-3.6272	0.0392	-0.0358	0.0331
4	184.92	0.7500	0.1687	0.0019	-0.1182	0.0245	-4.5160	0.0418	0.1643	0.0407
4	184.92	0.8002	0.1634	0.0032	-0.1829	0.0292	-5.5349	0.0443	0.0876	0.0420
4	184.92	0.8582	0.1337	0.0033	-0.1896	0.0319	-6.8377	0.0475	-0.0914	0.0386
4	184.92	0.9101	0.1412	0.0037	-0.2056	0.0374	-8.0566	0.0510	0.0058	0.0441
4	184.92	0.9728	0.1964	0.0046	-0.2370	0.0406	-9.4483	0.0546	0.4322	0.0436

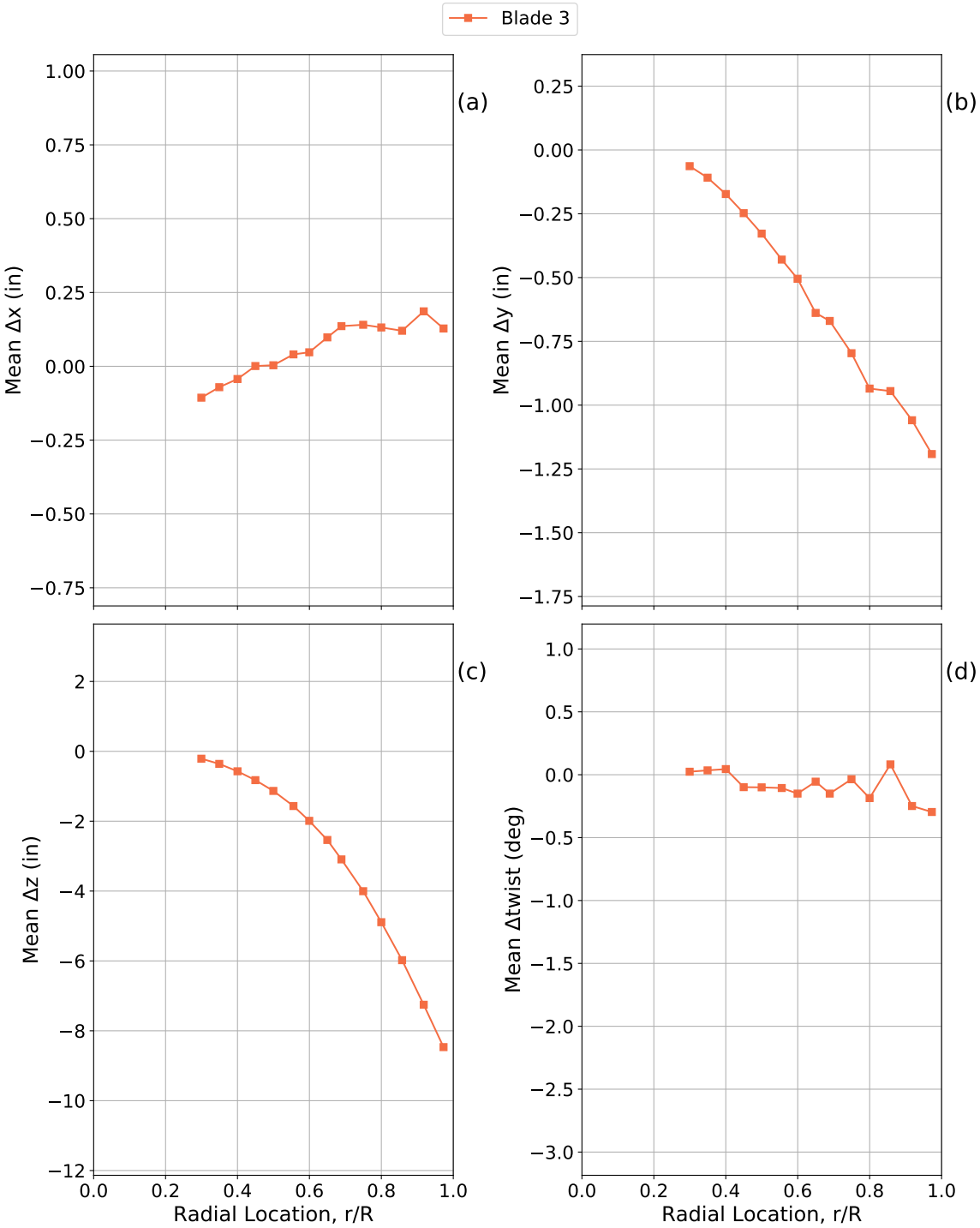


Figure 4.18-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.2995	-0.1062	0.0080	-0.0635	0.0165	-0.2108	0.0310	0.0239	0.0636
3	195.12	0.3493	-0.0707	0.0073	-0.1086	0.0282	-0.3597	0.0521	0.0347	0.0837
3	195.12	0.4000	-0.0430	0.0078	-0.1727	0.0448	-0.5713	0.0821	0.0448	0.0794
3	195.12	0.4497	0.0010	0.0063	-0.2477	0.0574	-0.8249	0.1047	-0.0988	0.0862
3	195.12	0.4997	0.0036	0.0075	-0.3278	0.0744	-1.1333	0.1301	-0.1004	0.0876
3	195.12	0.5556	0.0404	0.0089	-0.4296	0.0910	-1.5660	0.1577	-0.1057	0.0768
3	195.12	0.5995	0.0475	0.0102	-0.5047	0.1048	-1.9899	0.1785	-0.1500	0.0736
3	195.12	0.6498	0.0980	0.0085	-0.6386	0.1206	-2.5374	0.2024	-0.0550	0.0962
3	195.12	0.6890	0.1361	0.0094	-0.6700	0.1337	-3.0941	0.2227	-0.1500	0.0903
3	195.12	0.7495	0.1407	0.0111	-0.7964	0.1502	-4.0037	0.2513	-0.0358	0.0899
3	195.12	0.7998	0.1316	0.0126	-0.9351	0.1637	-4.8910	0.2766	-0.1856	0.0975
3	195.12	0.8577	0.1204	0.0155	-0.9449	0.1816	-5.9782	0.3049	0.0822	0.0955
3	195.12	0.9178	0.1862	0.0194	-1.0592	0.1994	-7.2541	0.3351	-0.2488	0.0816
3	195.12	0.9729	0.1281	0.0213	-1.1917	0.2152	-8.4670	0.3489	-0.2963	0.1124

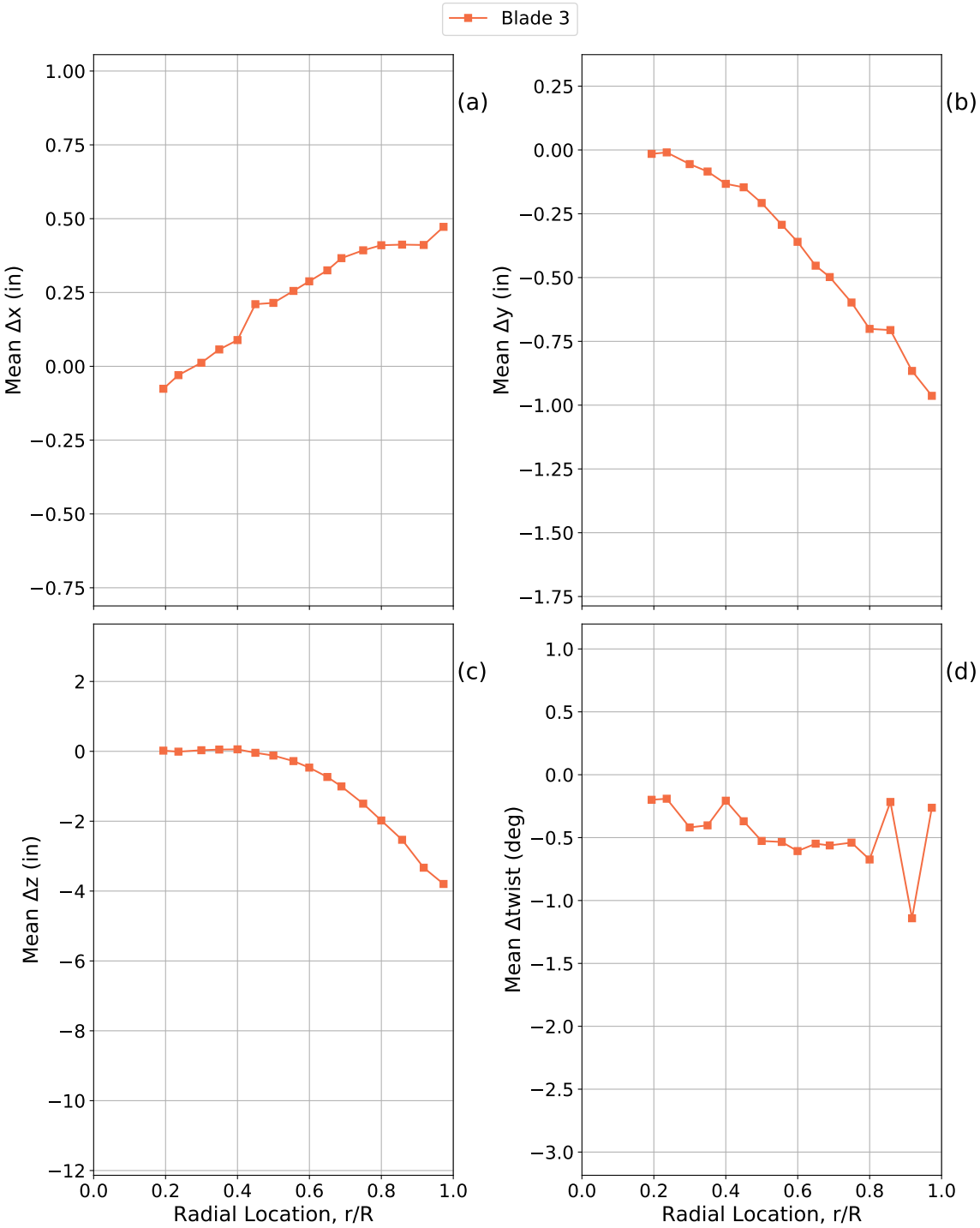


Figure 4.18-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0760	0.0017	-0.0153	0.0013	0.0199	0.0025	-0.1992	0.0185
3	209.88	0.2357	-0.0299	0.0006	-0.0096	0.0014	-0.0088	0.0022	-0.1908	0.0225
3	209.88	0.2995	0.0120	0.0016	-0.0554	0.0052	0.0314	0.0075	-0.4188	0.0367
3	209.88	0.3493	0.0571	0.0013	-0.0844	0.0081	0.0506	0.0106	-0.4026	0.0254
3	209.88	0.4000	0.0889	0.0011	-0.1327	0.0128	0.0568	0.0164	-0.2064	0.0274
3	209.88	0.4497	0.2104	0.0021	-0.1463	0.0161	-0.0421	0.0186	-0.3700	0.0260
3	209.88	0.4997	0.2148	0.0023	-0.2078	0.0194	-0.1209	0.0238	-0.5266	0.0327
3	209.88	0.5556	0.2553	0.0015	-0.2932	0.0231	-0.2792	0.0265	-0.5345	0.0328
3	209.88	0.5995	0.2879	0.0019	-0.3599	0.0267	-0.4658	0.0306	-0.6069	0.0363
3	209.88	0.6498	0.3250	0.0017	-0.4535	0.0322	-0.7344	0.0368	-0.5482	0.0275
3	209.88	0.6890	0.3663	0.0019	-0.4981	0.0352	-1.0049	0.0399	-0.5622	0.0301
3	209.88	0.7495	0.3929	0.0028	-0.5978	0.0412	-1.4989	0.0460	-0.5398	0.0288
3	209.88	0.7998	0.4101	0.0026	-0.7012	0.0467	-1.9799	0.0490	-0.6740	0.0298
3	209.88	0.8577	0.4121	0.0047	-0.7058	0.0522	-2.5322	0.0531	-0.2166	0.0596
3	209.88	0.9178	0.4109	0.0031	-0.8659	0.0595	-3.3312	0.0580	-1.1411	0.0279
3	209.88	0.9729	0.4723	0.0067	-0.9635	0.0673	-3.7971	0.0771	-0.2625	0.1590

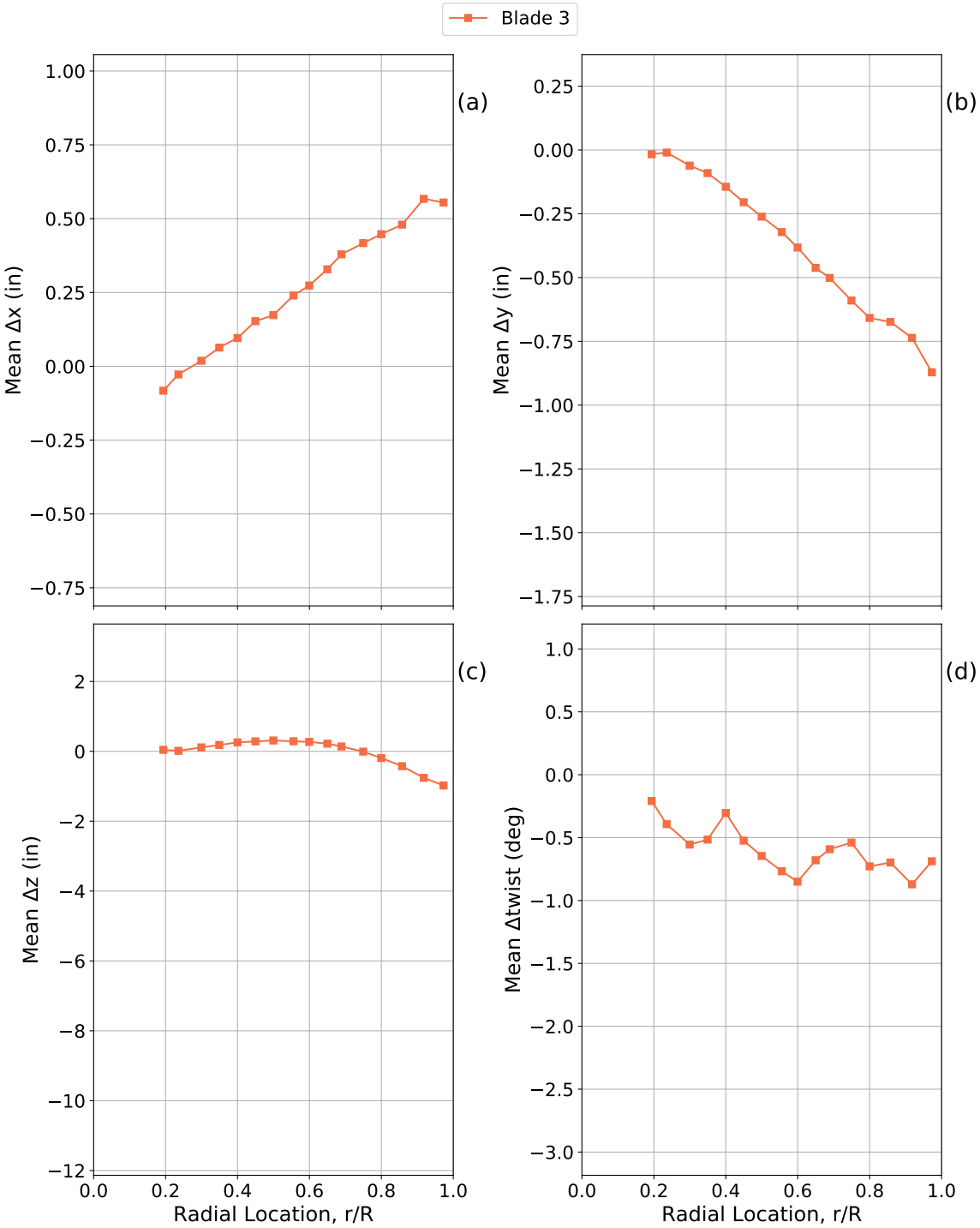


Figure 4.18-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0825	0.0012	-0.0167	0.0007	0.0423	0.0018	-0.2088	0.0123
3	225	0.2357	-0.0276	0.0008	-0.0101	0.0015	0.0145	0.0028	-0.3934	0.0266
3	225	0.2995	0.0188	0.0010	-0.0613	0.0028	0.1121	0.0071	-0.5551	0.0301
3	225	0.3493	0.0635	0.0010	-0.0906	0.0042	0.1804	0.0083	-0.5160	0.0350
3	225	0.4000	0.0958	0.0013	-0.1444	0.0071	0.2564	0.0151	-0.3042	0.0284
3	225	0.4497	0.1528	0.0012	-0.2048	0.0079	0.2847	0.0172	-0.5241	0.0299
3	225	0.4997	0.1733	0.0013	-0.2613	0.0116	0.3104	0.0226	-0.6460	0.0257
3	225	0.5556	0.2399	0.0013	-0.3217	0.0124	0.2873	0.0232	-0.7671	0.0373
3	225	0.5995	0.2736	0.0019	-0.3823	0.0150	0.2694	0.0279	-0.8504	0.0366
3	225	0.6498	0.3286	0.0017	-0.4621	0.0168	0.2187	0.0290	-0.6802	0.0311
3	225	0.6890	0.3791	0.0016	-0.5017	0.0182	0.1396	0.0309	-0.5920	0.0305
3	225	0.7495	0.4172	0.0019	-0.5900	0.0229	-0.0080	0.0345	-0.5392	0.0387
3	225	0.7998	0.4476	0.0018	-0.6582	0.0255	-0.1930	0.0381	-0.7286	0.0412
3	225	0.8577	0.4799	0.0020	-0.6737	0.0294	-0.4251	0.0390	-0.6981	0.0565
3	225	0.9178	0.5672	0.0026	-0.7363	0.0330	-0.7582	0.0458	-0.8712	0.0547
3	225	0.9729	0.5549	0.0035	-0.8713	0.0372	-0.9780	0.0504	-0.6882	0.0457

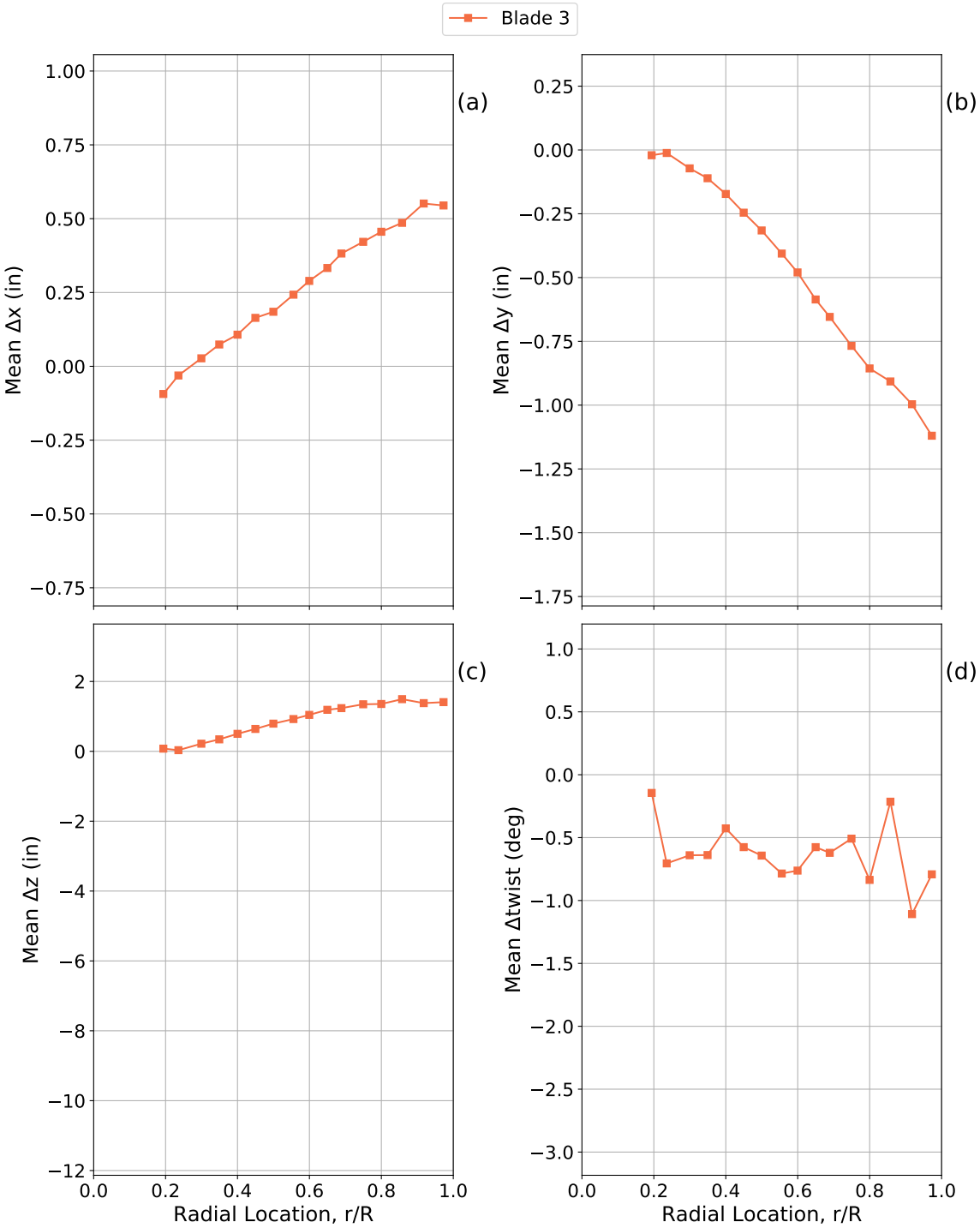


Figure 4.18-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0937	0.0015	-0.0206	0.0005	0.0769	0.0023	-0.1449	0.0153
3	240.12	0.2357	-0.0310	0.0012	-0.0118	0.0009	0.0329	0.0036	-0.7050	0.0390
3	240.12	0.2995	0.0271	0.0015	-0.0721	0.0029	0.2183	0.0064	-0.6402	0.0390
3	240.12	0.3493	0.0739	0.0013	-0.1108	0.0038	0.3427	0.0116	-0.6389	0.0272
3	240.12	0.4000	0.1072	0.0015	-0.1725	0.0065	0.5006	0.0166	-0.4265	0.0335
3	240.12	0.4497	0.1641	0.0017	-0.2457	0.0073	0.6407	0.0203	-0.5757	0.0419
3	240.12	0.4997	0.1847	0.0018	-0.3154	0.0081	0.7927	0.0246	-0.6429	0.0310
3	240.12	0.5556	0.2426	0.0020	-0.4060	0.0115	0.9239	0.0295	-0.7855	0.0352
3	240.12	0.5995	0.2892	0.0026	-0.4799	0.0131	1.0432	0.0338	-0.7623	0.0333
3	240.12	0.6498	0.3330	0.0014	-0.5859	0.0147	1.1882	0.0388	-0.5758	0.0324
3	240.12	0.6890	0.3820	0.0015	-0.6542	0.0163	1.2363	0.0430	-0.6209	0.0324
3	240.12	0.7495	0.4216	0.0014	-0.7676	0.0189	1.3467	0.0464	-0.5081	0.0386
3	240.12	0.7998	0.4557	0.0017	-0.8561	0.0217	1.3552	0.0508	-0.8361	0.0383
3	240.12	0.8577	0.4859	0.0025	-0.9071	0.0249	1.4934	0.0582	-0.2144	0.0232
3	240.12	0.9178	0.5513	0.0026	-0.9965	0.0285	1.3797	0.0616	-1.1082	0.0383
3	240.12	0.9729	0.5447	0.0028	-1.1198	0.0313	1.4080	0.0685	-0.7918	0.0309

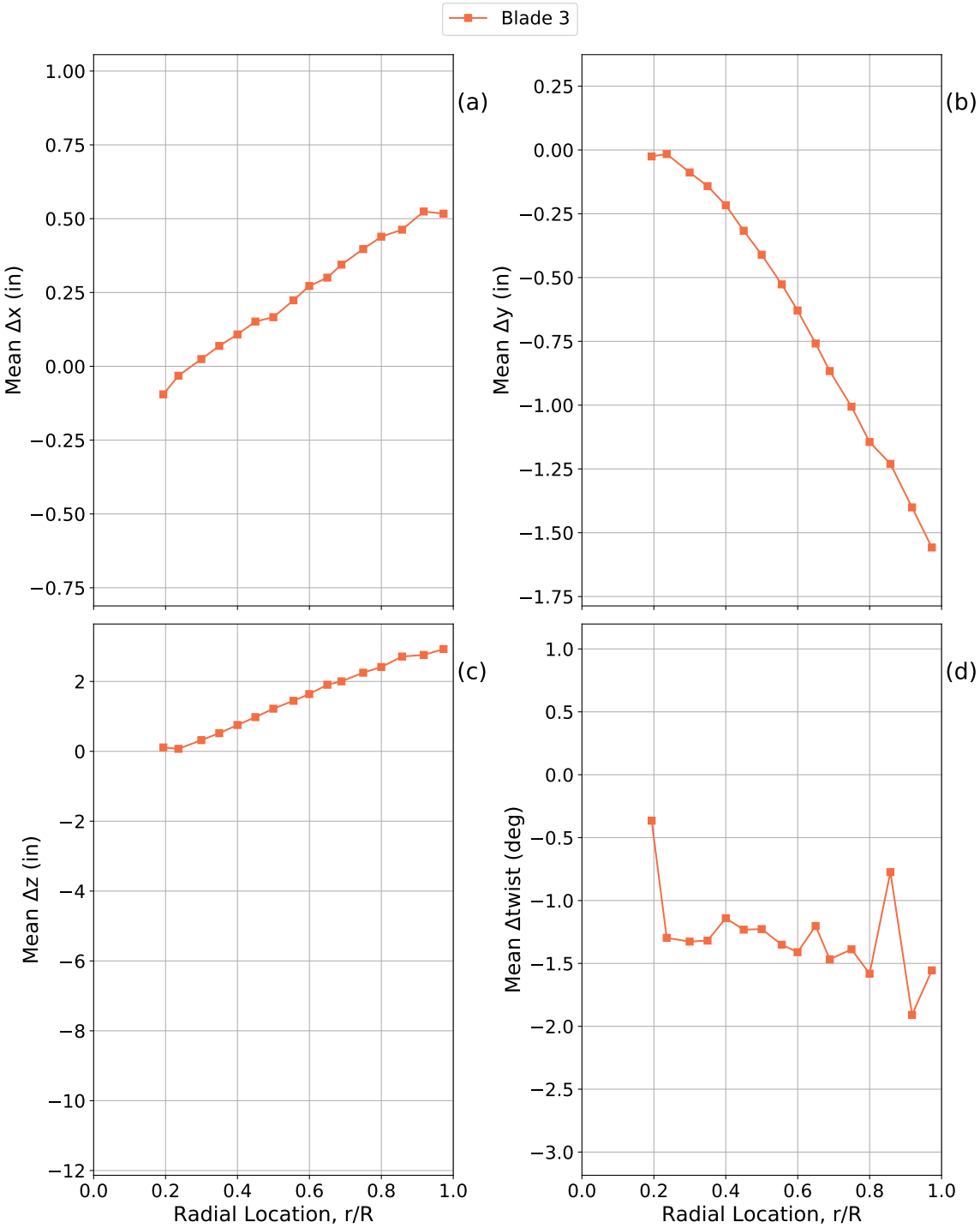


Figure 4.18-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0949	0.0041	-0.0253	0.0018	0.1106	0.0059	-0.3653	0.0253
3	254.88	0.2357	-0.0319	0.0016	-0.0160	0.0015	0.0717	0.0041	-1.2969	0.0702
3	254.88	0.2995	0.0245	0.0009	-0.0881	0.0049	0.3197	0.0139	-1.3267	0.0740
3	254.88	0.3493	0.0690	0.0014	-0.1416	0.0093	0.5203	0.0233	-1.3187	0.0688
3	254.88	0.4000	0.1080	0.0013	-0.2167	0.0129	0.7541	0.0317	-1.1407	0.0740
3	254.88	0.4497	0.1516	0.0014	-0.3164	0.0167	0.9780	0.0416	-1.2317	0.0670
3	254.88	0.4997	0.1664	0.0017	-0.4106	0.0203	1.2209	0.0496	-1.2273	0.0691
3	254.88	0.5556	0.2237	0.0018	-0.5267	0.0243	1.4463	0.0587	-1.3513	0.0714
3	254.88	0.5995	0.2720	0.0025	-0.6291	0.0280	1.6394	0.0663	-1.4108	0.0715
3	254.88	0.6498	0.3003	0.0022	-0.7585	0.0321	1.9060	0.0735	-1.2024	0.0754
3	254.88	0.6890	0.3443	0.0026	-0.8663	0.0354	2.0036	0.0807	-1.4672	0.0711
3	254.88	0.7495	0.3972	0.0033	-1.0060	0.0402	2.2512	0.0909	-1.3883	0.0676
3	254.88	0.7998	0.4391	0.0037	-1.1444	0.0447	2.4134	0.0987	-1.5817	0.0723
3	254.88	0.8577	0.4628	0.0035	-1.2300	0.0493	2.7136	0.1098	-0.7744	0.0750
3	254.88	0.9178	0.5243	0.0039	-1.4007	0.0543	2.7586	0.1224	-1.9090	0.0619
3	254.88	0.9729	0.5169	0.0048	-1.5578	0.0582	2.9271	0.1342	-1.5556	0.0682

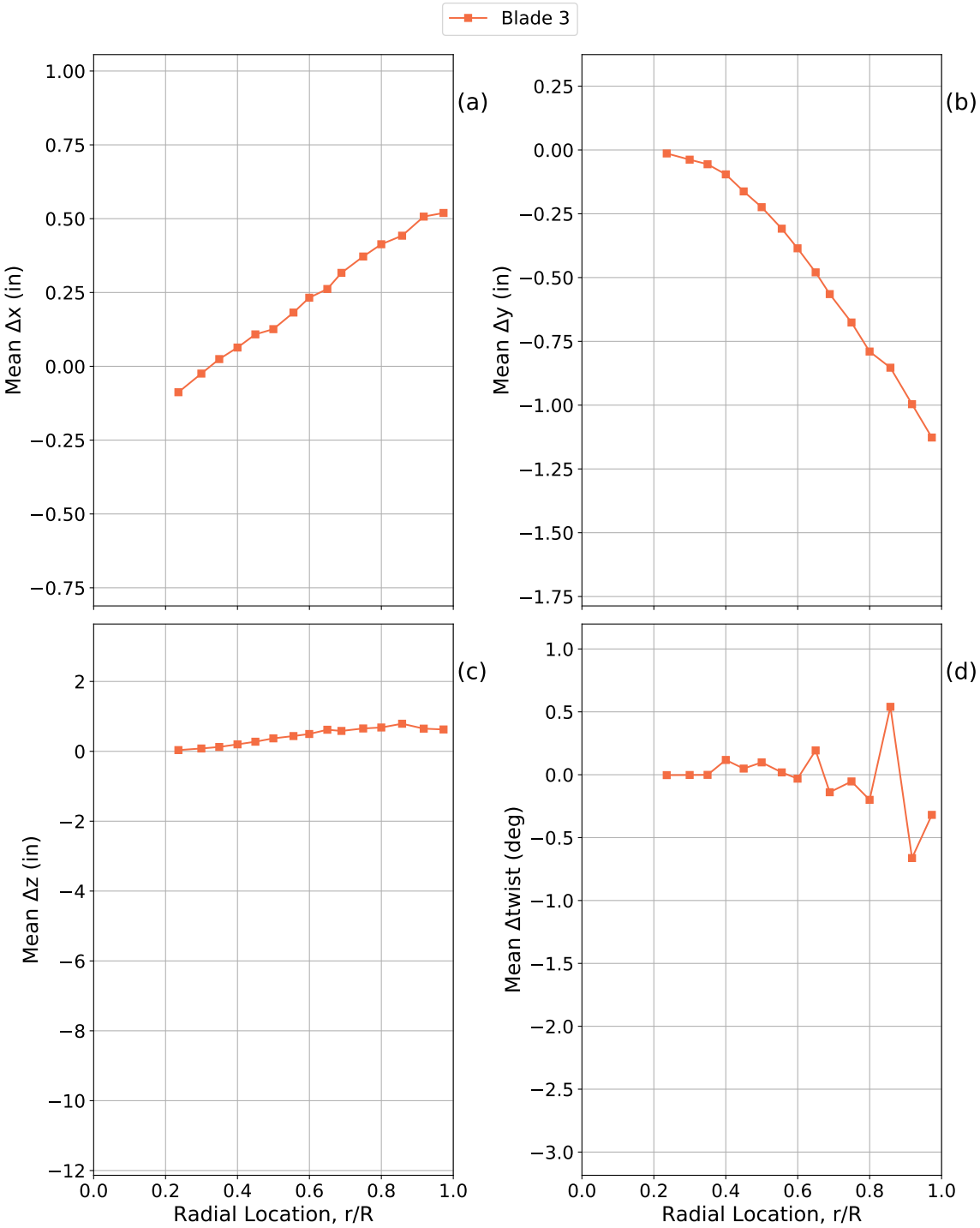


Figure 4.18-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.2357	-0.0878	0.0019	-0.0136	0.0015	0.0352	0.0046	-0.0032	0.0469
3	260.16	0.2995	-0.0246	0.0013	-0.0379	0.0036	0.0813	0.0088	-0.0022	0.0754
3	260.16	0.3493	0.0245	0.0013	-0.0560	0.0063	0.1249	0.0171	-0.0011	0.0652
3	260.16	0.4000	0.0636	0.0017	-0.0957	0.0099	0.1998	0.0247	0.1174	0.0680
3	260.16	0.4497	0.1082	0.0017	-0.1624	0.0127	0.2753	0.0324	0.0488	0.0614
3	260.16	0.4997	0.1259	0.0016	-0.2242	0.0153	0.3712	0.0391	0.0981	0.0642
3	260.16	0.5556	0.1821	0.0018	-0.3085	0.0187	0.4368	0.0470	0.0186	0.0617
3	260.16	0.5995	0.2323	0.0022	-0.3854	0.0213	0.4962	0.0513	-0.0312	0.0653
3	260.16	0.6498	0.2619	0.0022	-0.4797	0.0245	0.6180	0.0575	0.1932	0.0561
3	260.16	0.6890	0.3165	0.0022	-0.5648	0.0269	0.5837	0.0625	-0.1392	0.0594
3	260.16	0.7495	0.3719	0.0027	-0.6761	0.0312	0.6544	0.0692	-0.0535	0.0568
3	260.16	0.7998	0.4134	0.0029	-0.7899	0.0348	0.6821	0.0763	-0.1996	0.0623
3	260.16	0.8577	0.4424	0.0029	-0.8532	0.0390	0.7900	0.0826	0.5398	0.0595
3	260.16	0.9178	0.5070	0.0033	-0.9963	0.0434	0.6495	0.0923	-0.6625	0.0633
3	260.16	0.9729	0.5194	0.0046	-1.1269	0.0476	0.6258	0.1012	-0.3192	0.0575

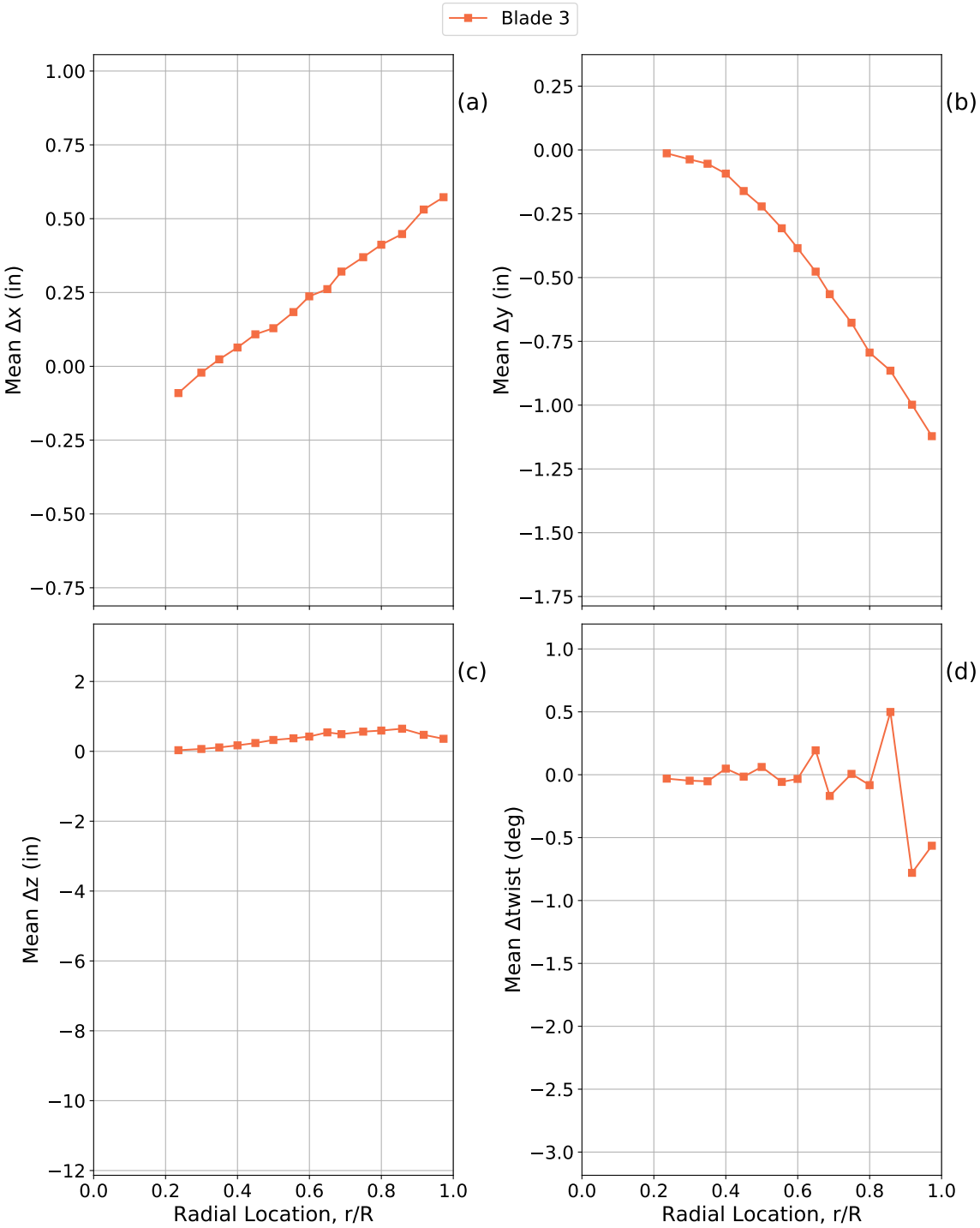


Figure 4.18-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0906	0.0029	-0.0131	0.0011	0.0320	0.0048	-0.0311	0.0612
3	265.08	0.2995	-0.0215	0.0008	-0.0369	0.0029	0.0672	0.0092	-0.0474	0.0985
3	265.08	0.3493	0.0236	0.0018	-0.0540	0.0045	0.1114	0.0178	-0.0520	0.0889
3	265.08	0.4000	0.0637	0.0015	-0.0926	0.0074	0.1707	0.0260	0.0484	0.1021
3	265.08	0.4497	0.1084	0.0014	-0.1609	0.0102	0.2378	0.0340	-0.0150	0.1039
3	265.08	0.4997	0.1290	0.0015	-0.2213	0.0130	0.3250	0.0444	0.0617	0.1000
3	265.08	0.5556	0.1837	0.0014	-0.3069	0.0162	0.3729	0.0536	-0.0571	0.1002
3	265.08	0.5995	0.2369	0.0011	-0.3847	0.0190	0.4230	0.0616	-0.0332	0.1006
3	265.08	0.6498	0.2614	0.0016	-0.4768	0.0218	0.5421	0.0702	0.1940	0.0963
3	265.08	0.6890	0.3208	0.0017	-0.5651	0.0243	0.4912	0.0757	-0.1685	0.0999
3	265.08	0.7495	0.3696	0.0015	-0.6771	0.0285	0.5633	0.0856	0.0066	0.1013
3	265.08	0.7998	0.4118	0.0016	-0.7940	0.0321	0.5945	0.0912	-0.0826	0.1062
3	265.08	0.8577	0.4480	0.0018	-0.8649	0.0361	0.6475	0.1026	0.4988	0.0914
3	265.08	0.9178	0.5310	0.0022	-0.9982	0.0399	0.4723	0.1088	-0.7799	0.1030
3	265.08	0.9729	0.5728	0.0028	-1.1216	0.0440	0.3590	0.1198	-0.5646	0.0850

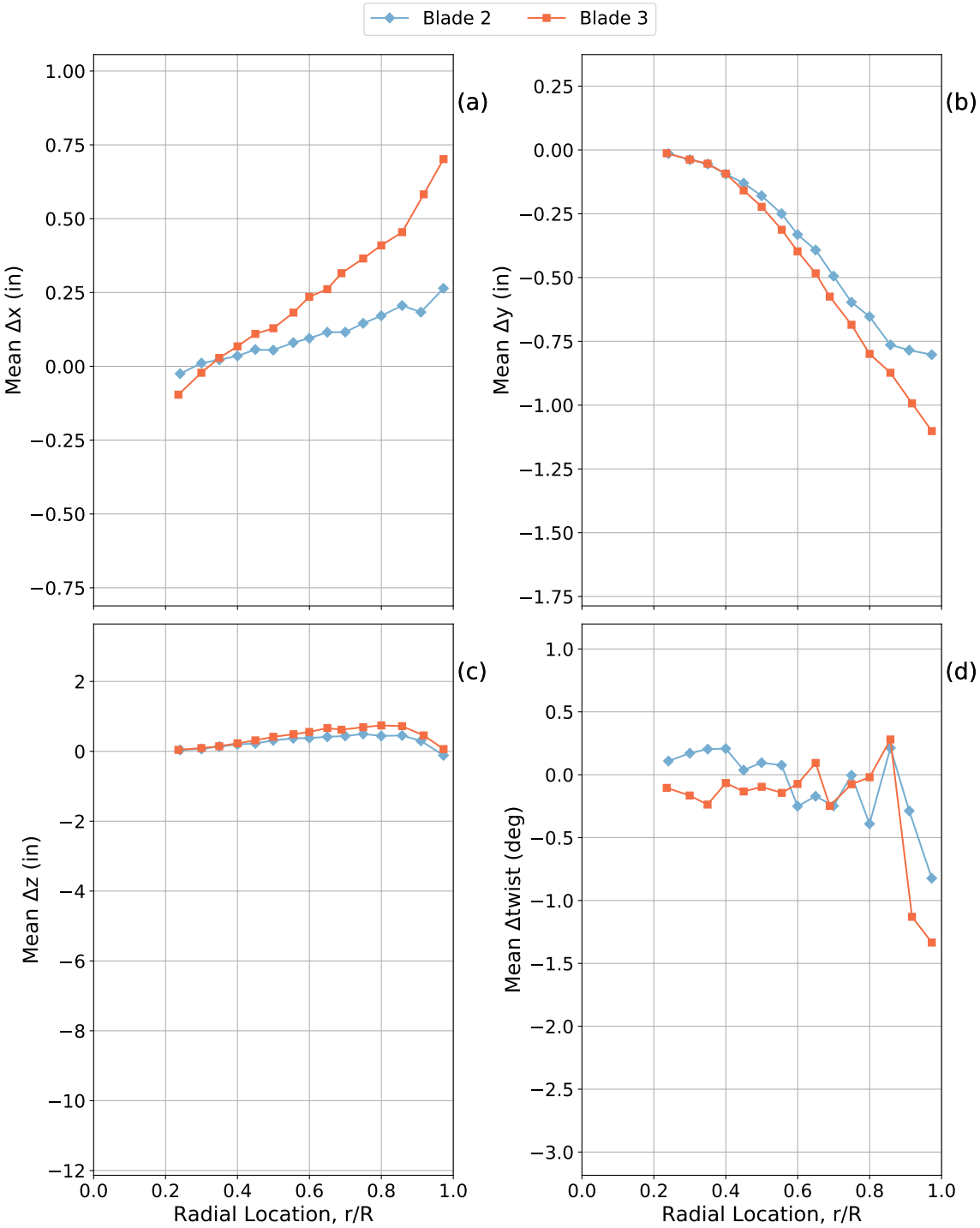


Figure 4.18-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2405	-0.0250	0.0031	-0.0142	0.0028	0.0403	0.0100	0.1090	0.0854
2	270.35	0.2999	0.0109	0.0020	-0.0381	0.0051	0.0678	0.0176	0.1710	0.1318
2	270.35	0.3498	0.0221	0.0020	-0.0550	0.0105	0.1391	0.0349	0.2036	0.0970
2	270.35	0.3998	0.0350	0.0027	-0.0943	0.0153	0.1968	0.0500	0.2074	0.0949
2	270.35	0.4496	0.0568	0.0038	-0.1300	0.0190	0.2248	0.0619	0.0372	0.1028
2	270.35	0.4995	0.0549	0.0032	-0.1795	0.0236	0.3136	0.0750	0.0953	0.1032
2	270.35	0.5551	0.0802	0.0029	-0.2497	0.0285	0.3725	0.0896	0.0758	0.1057
2	270.35	0.5996	0.0949	0.0028	-0.3316	0.0324	0.3794	0.1020	-0.2502	0.1002
2	270.35	0.6497	0.1154	0.0031	-0.3919	0.0362	0.4144	0.1149	-0.1713	0.1025
2	270.35	0.6996	0.1158	0.0036	-0.4943	0.0402	0.4398	0.1293	-0.2478	0.0995
2	270.35	0.7495	0.1456	0.0041	-0.5967	0.0436	0.4958	0.1423	-0.0042	0.0968
2	270.35	0.7996	0.1711	0.0050	-0.6529	0.0479	0.4409	0.1562	-0.3904	0.1000
2	270.35	0.8578	0.2058	0.0067	-0.7639	0.0518	0.4537	0.1725	0.2131	0.0952
2	270.35	0.9100	0.1835	0.0093	-0.7845	0.0566	0.3000	0.1879	-0.2871	0.0997
2	270.35	0.9727	0.2641	0.0131	-0.8023	0.0622	-0.1153	0.2030	-0.8231	0.1025
3	270	0.2357	-0.0960	0.0035	-0.0130	0.0020	0.0413	0.0106	-0.1046	0.1000
3	270	0.2995	-0.0218	0.0021	-0.0375	0.0044	0.0924	0.0206	-0.1652	0.1603
3	270	0.3493	0.0285	0.0016	-0.0538	0.0082	0.1458	0.0378	-0.2373	0.1570
3	270	0.4000	0.0676	0.0020	-0.0932	0.0124	0.2299	0.0557	-0.0662	0.1541
3	270	0.4497	0.1098	0.0020	-0.1587	0.0162	0.3133	0.0701	-0.1333	0.1638
3	270	0.4997	0.1289	0.0019	-0.2227	0.0206	0.4148	0.0873	-0.0962	0.1582
3	270	0.5556	0.1819	0.0018	-0.3126	0.0255	0.4891	0.1062	-0.1442	0.1586
3	270	0.5995	0.2354	0.0020	-0.3973	0.0292	0.5553	0.1219	-0.0734	0.1499
3	270	0.6498	0.2613	0.0020	-0.4835	0.0339	0.6659	0.1371	0.0937	0.1490
3	270	0.6890	0.3153	0.0021	-0.5747	0.0378	0.6179	0.1495	-0.2480	0.1524
3	270	0.7495	0.3651	0.0022	-0.6851	0.0439	0.6910	0.1673	-0.0758	0.1573
3	270	0.7998	0.4095	0.0024	-0.7992	0.0490	0.7414	0.1842	-0.0199	0.1490
3	270	0.8577	0.4542	0.0030	-0.8730	0.0556	0.7209	0.2010	0.2802	0.1500
3	270	0.9178	0.5824	0.0031	-0.9930	0.0627	0.4557	0.2200	-1.1296	0.1559
3	270	0.9729	0.7017	0.0041	-1.1017	0.0707	0.0646	0.2408	-1.3342	0.1524

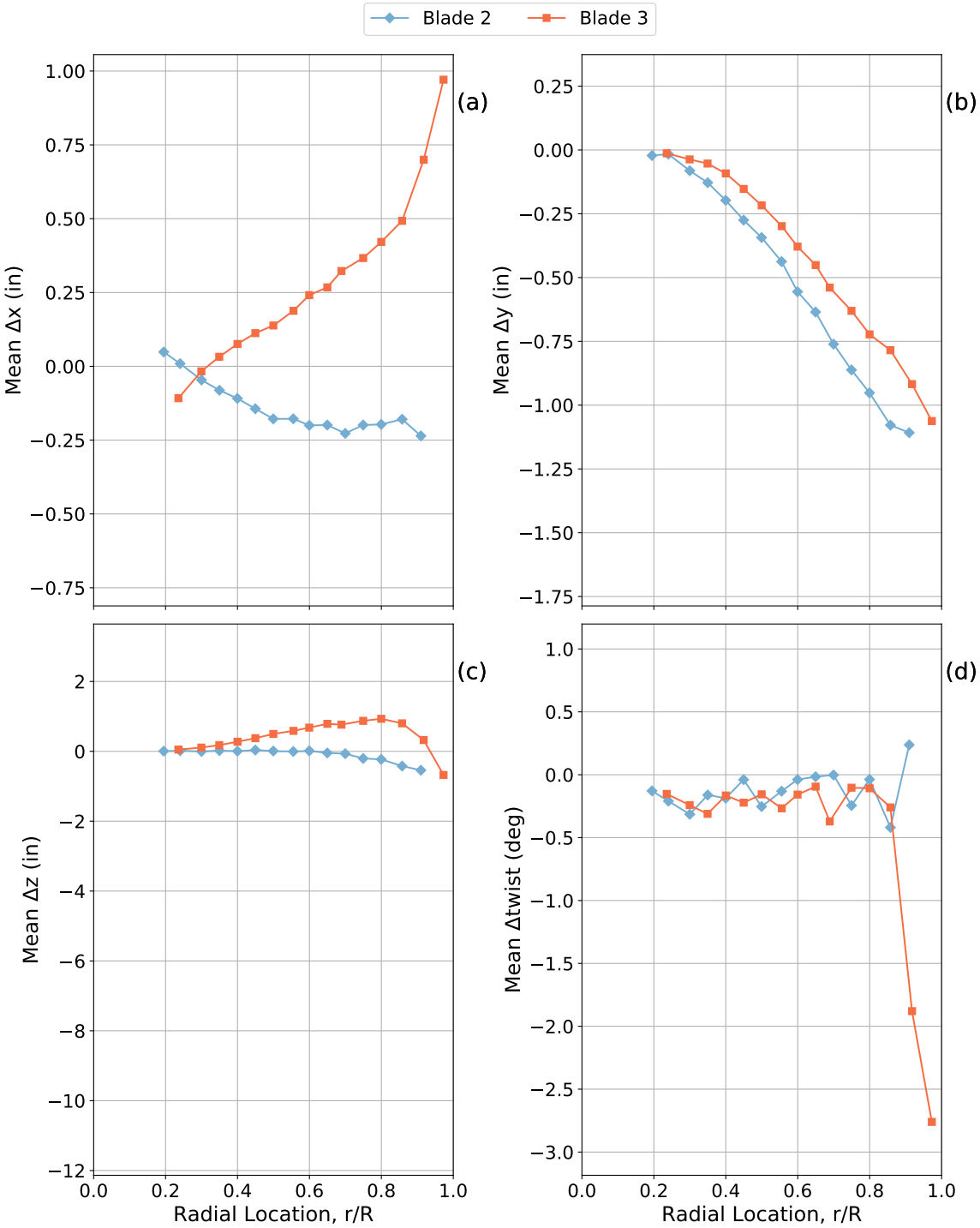


Figure 4.18-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0486	0.0014	-0.0218	0.0007	0.0055	0.0019	-0.1286	0.0339
2	274.92	0.2405	0.0090	0.0010	-0.0164	0.0011	0.0176	0.0052	-0.2100	0.0413
2	274.92	0.2999	-0.0463	0.0007	-0.0814	0.0026	-0.0031	0.0076	-0.3144	0.0752
2	274.92	0.3498	-0.0811	0.0012	-0.1283	0.0040	0.0203	0.0164	-0.1613	0.0355
2	274.92	0.3998	-0.1088	0.0014	-0.1974	0.0065	0.0053	0.0231	-0.1865	0.0363
2	274.92	0.4496	-0.1437	0.0014	-0.2748	0.0068	0.0368	0.0244	-0.0392	0.0517
2	274.92	0.4995	-0.1780	0.0020	-0.3431	0.0077	0.0085	0.0225	-0.2533	0.0751
2	274.92	0.5551	-0.1777	0.0023	-0.4374	0.0095	-0.0052	0.0291	-0.1309	0.0476
2	274.92	0.5996	-0.1999	0.0025	-0.5556	0.0113	0.0140	0.0363	-0.0385	0.0595
2	274.92	0.6497	-0.1989	0.0033	-0.6352	0.0120	-0.0468	0.0364	-0.0161	0.0813
2	274.92	0.6996	-0.2271	0.0020	-0.7610	0.0146	-0.0674	0.0378	-0.0022	0.0776
2	274.92	0.7495	-0.1988	0.0027	-0.8620	0.0179	-0.2042	0.0507	-0.2447	0.0796
2	274.92	0.7996	-0.1968	0.0025	-0.9519	0.0189	-0.2299	0.0547	-0.0373	0.0659
2	274.92	0.8578	-0.1793	0.0055	-1.0784	0.0240	-0.4227	0.0518	-0.4193	0.1358
2	274.92	0.9100	-0.2356	0.0112	-1.1079	0.0307	-0.5410	0.0663	0.2375	0.2593
3	274.92	0.2357	-0.1080	0.0032	-0.0130	0.0019	0.0499	0.0123	-0.1526	0.1319
3	274.92	0.2995	-0.0171	0.0021	-0.0369	0.0040	0.1070	0.0252	-0.2415	0.2113
3	274.92	0.3493	0.0322	0.0014	-0.0533	0.0078	0.1779	0.0439	-0.3111	0.2152
3	274.92	0.4000	0.0756	0.0009	-0.0918	0.0117	0.2746	0.0661	-0.1653	0.2102
3	274.92	0.4497	0.1123	0.0018	-0.1527	0.0145	0.3759	0.0837	-0.2220	0.2139
3	274.92	0.4997	0.1382	0.0029	-0.2172	0.0183	0.4977	0.1040	-0.1559	0.2132
3	274.92	0.5556	0.1880	0.0022	-0.2987	0.0220	0.5856	0.1271	-0.2668	0.2077
3	274.92	0.5995	0.2411	0.0019	-0.3787	0.0254	0.6792	0.1462	-0.1577	0.1997
3	274.92	0.6498	0.2673	0.0022	-0.4511	0.0287	0.7873	0.1647	-0.0947	0.2075
3	274.92	0.6890	0.3228	0.0025	-0.5393	0.0322	0.7636	0.1809	-0.3714	0.2132
3	274.92	0.7495	0.3667	0.0028	-0.6304	0.0371	0.8729	0.2054	-0.1032	0.2051
3	274.92	0.7998	0.4213	0.0033	-0.7227	0.0414	0.9309	0.2255	-0.1076	0.2100
3	274.92	0.8577	0.4928	0.0050	-0.7846	0.0473	0.8010	0.2512	-0.2598	0.1991
3	274.92	0.9178	0.6996	0.0037	-0.9176	0.0550	0.3226	0.2748	-1.8798	0.2125
3	274.92	0.9729	0.9707	0.0047	-1.0625	0.0641	-0.6772	0.2936	-2.7599	0.2210

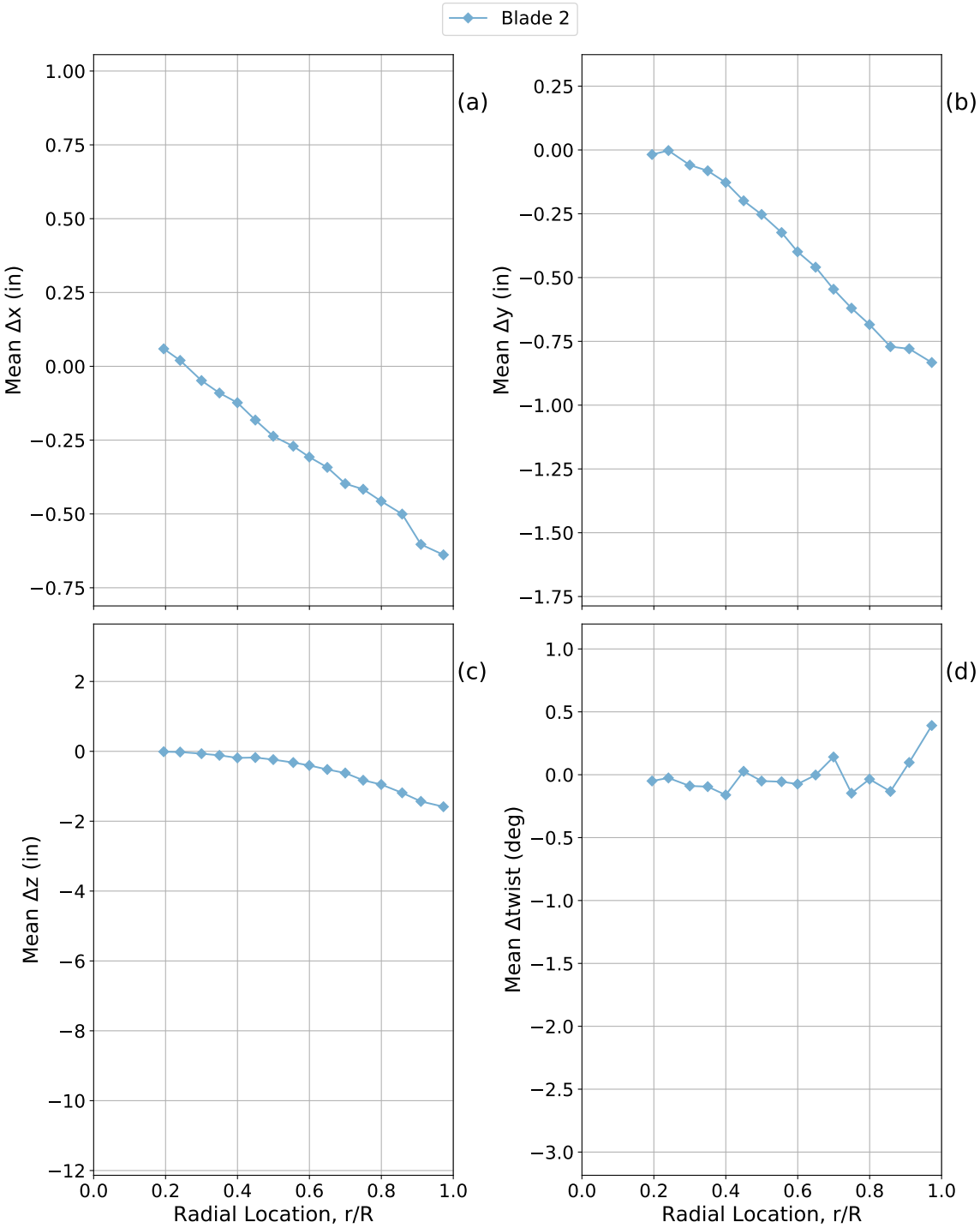


Figure 4.18-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0592	0.0015	-0.0178	0.0006	-0.0106	0.0017	-0.0497	0.0216
2	285.12	0.2405	0.0200	0.0013	-0.0023	0.0014	-0.0208	0.0041	-0.0256	0.0319
2	285.12	0.2999	-0.0483	0.0009	-0.0592	0.0019	-0.0673	0.0070	-0.0893	0.0503
2	285.12	0.3498	-0.0904	0.0012	-0.0816	0.0040	-0.1146	0.0126	-0.0947	0.0320
2	285.12	0.3998	-0.1232	0.0015	-0.1275	0.0056	-0.1875	0.0187	-0.1611	0.0559
2	285.12	0.4496	-0.1820	0.0017	-0.1992	0.0072	-0.1781	0.0228	0.0272	0.0456
2	285.12	0.4995	-0.2368	0.0011	-0.2528	0.0088	-0.2370	0.0277	-0.0501	0.0464
2	285.12	0.5551	-0.2706	0.0011	-0.3236	0.0110	-0.3210	0.0355	-0.0556	0.0355
2	285.12	0.5996	-0.3072	0.0016	-0.3989	0.0118	-0.4038	0.0415	-0.0743	0.0430
2	285.12	0.6497	-0.3423	0.0013	-0.4594	0.0137	-0.5194	0.0457	-0.0022	0.0596
2	285.12	0.6996	-0.3975	0.0019	-0.5458	0.0158	-0.6207	0.0541	0.1411	0.0518
2	285.12	0.7495	-0.4164	0.0019	-0.6200	0.0190	-0.8276	0.0624	-0.1470	0.0489
2	285.12	0.7996	-0.4569	0.0033	-0.6843	0.0217	-0.9496	0.0655	-0.0354	0.0507
2	285.12	0.8578	-0.5004	0.0031	-0.7709	0.0233	-1.1880	0.0740	-0.1329	0.0521
2	285.12	0.9100	-0.6031	0.0030	-0.7791	0.0260	-1.4333	0.0832	0.0972	0.0891
2	285.12	0.9727	-0.6384	0.0041	-0.8330	0.0297	-1.5857	0.0977	0.3911	0.1420

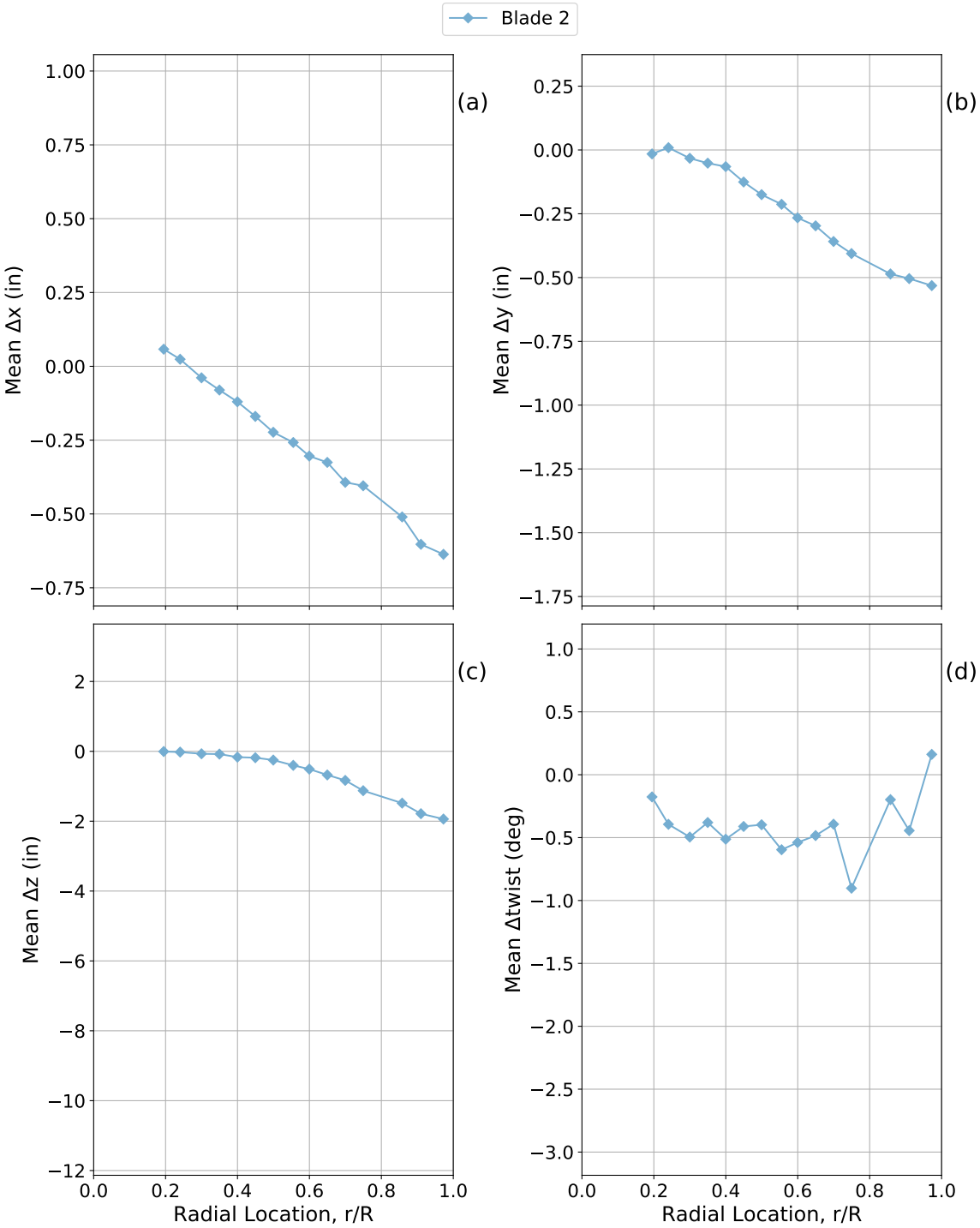


Figure 4.18-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0580	0.0017	-0.0155	0.0012	-0.0055	0.0027	-0.1764	0.0218
2	299.88	0.2405	0.0239	0.0015	0.0091	0.0032	-0.0220	0.0055	-0.3942	0.0374
2	299.88	0.2999	-0.0389	0.0028	-0.0326	0.0066	-0.0701	0.0098	-0.4955	0.0481
2	299.88	0.3498	-0.0804	0.0020	-0.0517	0.0105	-0.0792	0.0175	-0.3799	0.0514
2	299.88	0.3998	-0.1201	0.0036	-0.0653	0.0176	-0.1660	0.0265	-0.5126	0.0569
2	299.88	0.4496	-0.1696	0.0032	-0.1255	0.0178	-0.1828	0.0285	-0.4113	0.0491
2	299.88	0.4995	-0.2233	0.0020	-0.1751	0.0200	-0.2499	0.0348	-0.3977	0.0520
2	299.88	0.5551	-0.2579	0.0018	-0.2129	0.0237	-0.4015	0.0440	-0.5962	0.0428
2	299.88	0.5996	-0.3040	0.0021	-0.2659	0.0263	-0.5092	0.0486	-0.5391	0.0478
2	299.88	0.6497	-0.3254	0.0018	-0.2973	0.0310	-0.6762	0.0562	-0.4838	0.0419
2	299.88	0.6996	-0.3929	0.0018	-0.3586	0.0345	-0.8321	0.0637	-0.3932	0.0377
2	299.88	0.7495	-0.4046	0.0017	-0.4059	0.0381	-1.1268	0.0699	-0.9022	0.0396
2	299.88	0.8578	-0.5101	0.0024	-0.4859	0.0471	-1.4830	0.0856	-0.1980	0.0338
2	299.88	0.9100	-0.6028	0.0031	-0.5041	0.0516	-1.7855	0.0913	-0.4442	0.0441
2	299.88	0.9727	-0.6367	0.0040	-0.5316	0.0572	-1.9389	0.1042	0.1618	0.0501

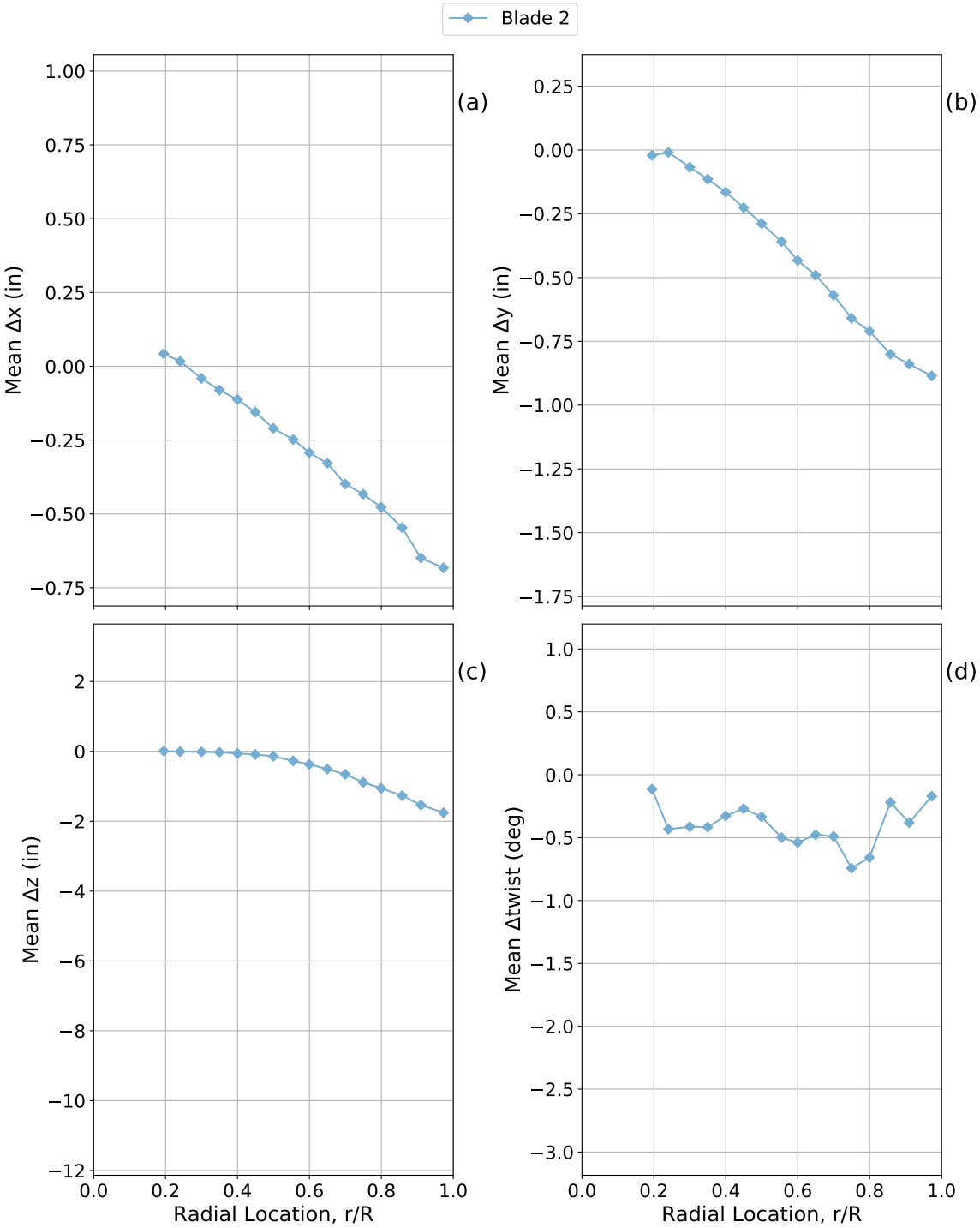


Figure 4.18-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0425	0.0011	-0.0213	0.0003	0.0081	0.0017	-0.1138	0.0195
2	315	0.2405	0.0169	0.0019	-0.0094	0.0031	-0.0089	0.0040	-0.4321	0.0256
2	315	0.2999	-0.0412	0.0013	-0.0675	0.0046	-0.0134	0.0073	-0.4131	0.0436
2	315	0.3498	-0.0806	0.0012	-0.1141	0.0064	-0.0259	0.0140	-0.4158	0.0308
2	315	0.3998	-0.1128	0.0010	-0.1651	0.0125	-0.0616	0.0206	-0.3273	0.0357
2	315	0.4496	-0.1552	0.0012	-0.2258	0.0129	-0.0886	0.0225	-0.2697	0.0460
2	315	0.4995	-0.2105	0.0029	-0.2882	0.0157	-0.1408	0.0285	-0.3345	0.0276
2	315	0.5551	-0.2481	0.0022	-0.3591	0.0202	-0.2727	0.0334	-0.4998	0.0398
2	315	0.5996	-0.2928	0.0025	-0.4325	0.0225	-0.3730	0.0358	-0.5390	0.0483
2	315	0.6497	-0.3282	0.0024	-0.4906	0.0265	-0.5073	0.0438	-0.4765	0.0357
2	315	0.6996	-0.3985	0.0025	-0.5688	0.0303	-0.6579	0.0465	-0.4898	0.0412
2	315	0.7495	-0.4334	0.0022	-0.6598	0.0329	-0.8850	0.0499	-0.7426	0.0278
2	315	0.7996	-0.4774	0.0019	-0.7102	0.0364	-1.0563	0.0537	-0.6577	0.0311
2	315	0.8578	-0.5466	0.0029	-0.8005	0.0394	-1.2669	0.0583	-0.2196	0.0324
2	315	0.9100	-0.6489	0.0024	-0.8392	0.0426	-1.5371	0.0634	-0.3811	0.0355
2	315	0.9727	-0.6825	0.0034	-0.8856	0.0473	-1.7554	0.0727	-0.1703	0.0305

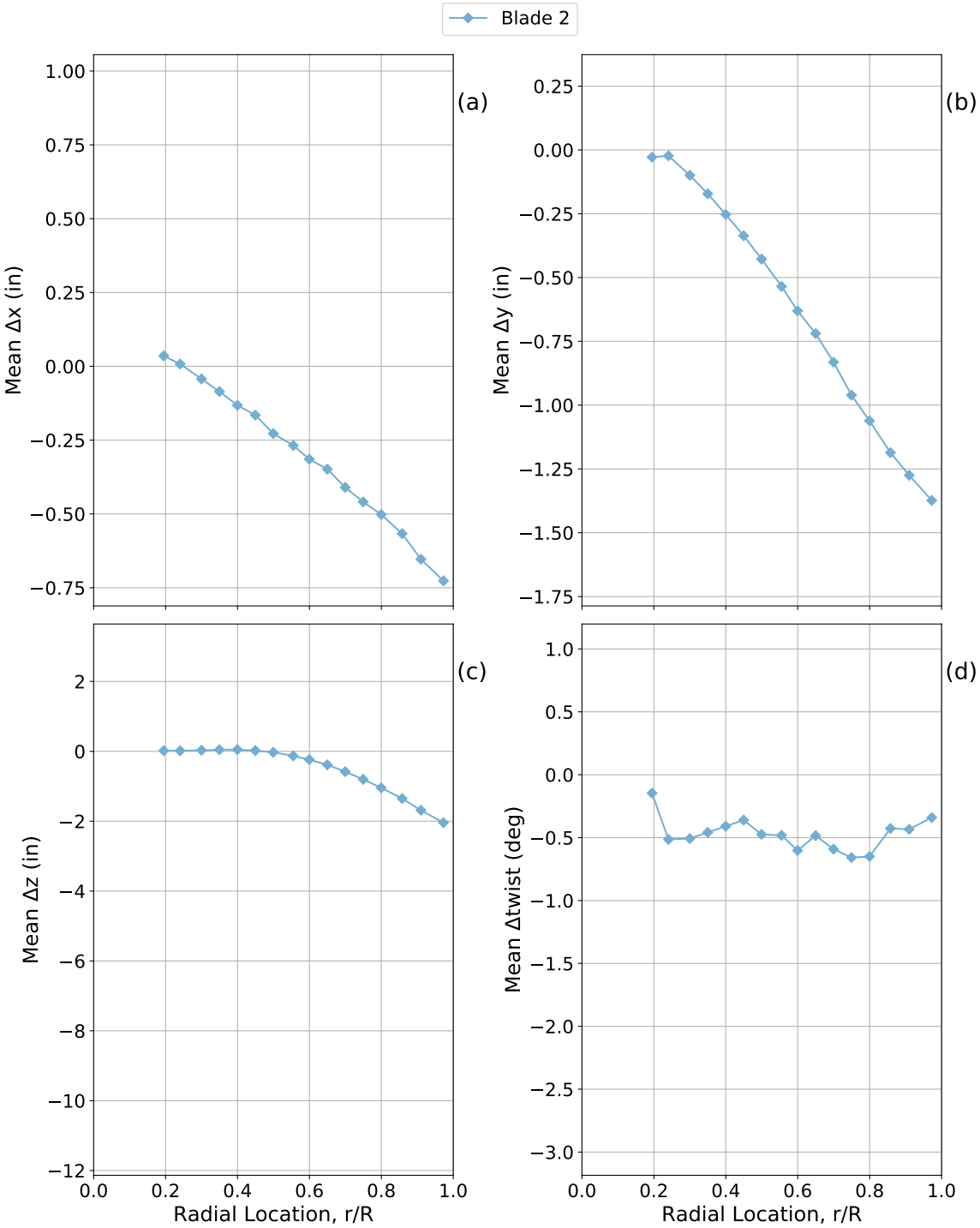


Figure 4.18-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0355	0.0014	-0.0282	0.0005	0.0195	0.0018	-0.1464	0.0174
2	330.12	0.2405	0.0076	0.0011	-0.0228	0.0015	0.0156	0.0049	-0.5143	0.0310
2	330.12	0.2999	-0.0428	0.0013	-0.0990	0.0031	0.0305	0.0109	-0.5074	0.0414
2	330.12	0.3498	-0.0853	0.0026	-0.1717	0.0045	0.0462	0.0114	-0.4583	0.0489
2	330.12	0.3998	-0.1322	0.0038	-0.2527	0.0080	0.0489	0.0238	-0.4093	0.0515
2	330.12	0.4496	-0.1652	0.0022	-0.3360	0.0087	0.0204	0.0257	-0.3604	0.0521
2	330.12	0.4995	-0.2278	0.0057	-0.4275	0.0116	-0.0276	0.0313	-0.4743	0.0474
2	330.12	0.5551	-0.2681	0.0020	-0.5348	0.0121	-0.1307	0.0398	-0.4821	0.0554
2	330.12	0.5996	-0.3146	0.0027	-0.6306	0.0146	-0.2382	0.0483	-0.6025	0.0571
2	330.12	0.6497	-0.3483	0.0028	-0.7193	0.0154	-0.3856	0.0530	-0.4841	0.0498
2	330.12	0.6996	-0.4101	0.0030	-0.8316	0.0172	-0.5823	0.0612	-0.5914	0.0626
2	330.12	0.7495	-0.4591	0.0027	-0.9610	0.0191	-0.8021	0.0667	-0.6586	0.0371
2	330.12	0.7996	-0.5019	0.0030	-1.0615	0.0213	-1.0452	0.0716	-0.6502	0.0423
2	330.12	0.8578	-0.5668	0.0030	-1.1861	0.0238	-1.3513	0.0778	-0.4274	0.0364
2	330.12	0.9100	-0.6532	0.0034	-1.2748	0.0259	-1.6873	0.0829	-0.4336	0.0363
2	330.12	0.9727	-0.7266	0.0032	-1.3735	0.0285	-2.0423	0.0887	-0.3408	0.0457

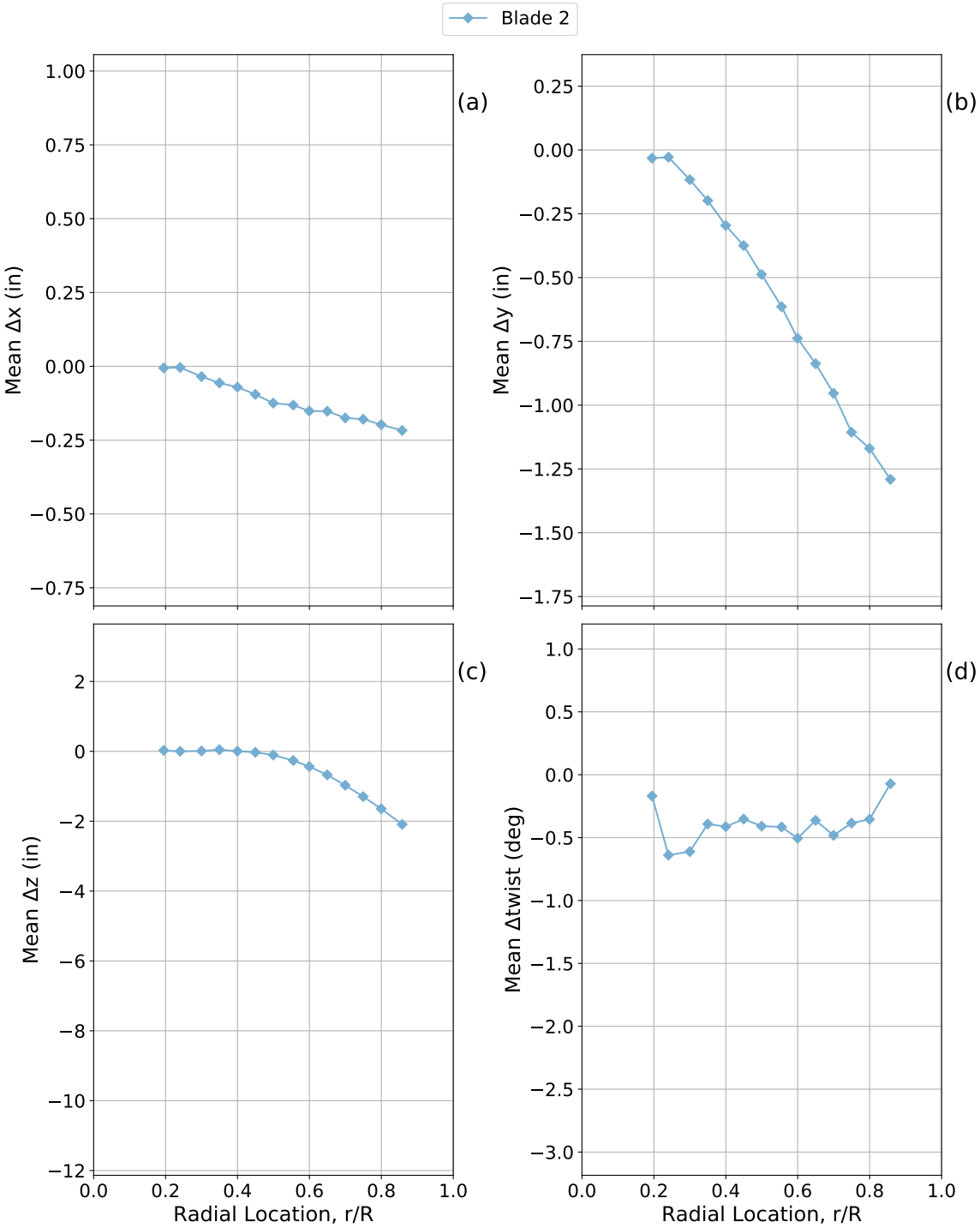


Figure 4.18-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0057	0.0019	-0.0321	0.0012	0.0272	0.0022	-0.1693	0.0150
2	344.88	0.2405	-0.0039	0.0016	-0.0283	0.0024	-0.0000	0.0059	-0.6391	0.0300
2	344.88	0.2999	-0.0348	0.0015	-0.1164	0.0049	0.0092	0.0102	-0.6111	0.0358
2	344.88	0.3498	-0.0564	0.0018	-0.1982	0.0090	0.0475	0.0163	-0.3918	0.0354
2	344.88	0.3998	-0.0705	0.0012	-0.2957	0.0136	0.0049	0.0265	-0.4129	0.0255
2	344.88	0.4496	-0.0952	0.0026	-0.3747	0.0187	-0.0280	0.0305	-0.3526	0.0308
2	344.88	0.4995	-0.1247	0.0027	-0.4876	0.0233	-0.1049	0.0374	-0.4086	0.0340
2	344.88	0.5551	-0.1314	0.0042	-0.6142	0.0264	-0.2638	0.0423	-0.4154	0.0441
2	344.88	0.5996	-0.1514	0.0059	-0.7383	0.0287	-0.4364	0.0478	-0.5051	0.0442
2	344.88	0.6497	-0.1523	0.0067	-0.8376	0.0361	-0.6744	0.0556	-0.3632	0.0397
2	344.88	0.6996	-0.1748	0.0088	-0.9537	0.0402	-0.9720	0.0665	-0.4818	0.0259
2	344.88	0.7495	-0.1792	0.0116	-1.1060	0.0445	-1.2970	0.0692	-0.3850	0.0476
2	344.88	0.7996	-0.1977	0.0151	-1.1697	0.0548	-1.6442	0.0748	-0.3547	0.0433
2	344.88	0.8578	-0.2172	0.0203	-1.2907	0.0559	-2.0906	0.0789	-0.0717	0.1428

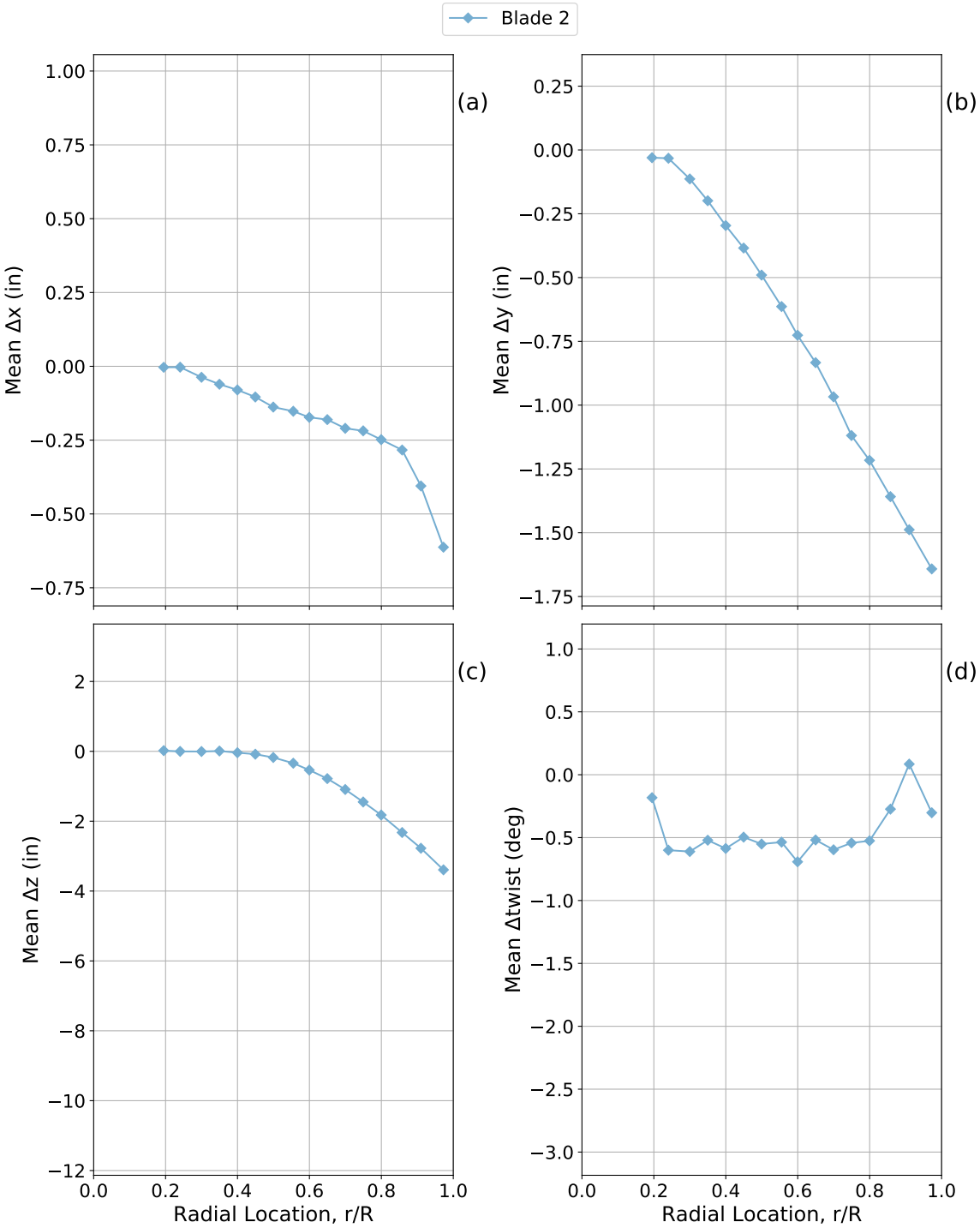


Figure 4.18-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0033	0.0025	-0.0303	0.0008	0.0202	0.0026	-0.1824	0.0125
2	350.16	0.2405	-0.0029	0.0012	-0.0325	0.0017	-0.0023	0.0019	-0.6001	0.0467
2	350.16	0.2999	-0.0371	0.0011	-0.1135	0.0037	-0.0048	0.0068	-0.6108	0.0443
2	350.16	0.3498	-0.0607	0.0015	-0.1989	0.0048	0.0093	0.0110	-0.5207	0.0468
2	350.16	0.3998	-0.0800	0.0021	-0.2963	0.0087	-0.0389	0.0155	-0.5864	0.0497
2	350.16	0.4496	-0.1039	0.0038	-0.3843	0.0070	-0.0822	0.0189	-0.4961	0.0433
2	350.16	0.4995	-0.1380	0.0028	-0.4903	0.0100	-0.1759	0.0235	-0.5509	0.0518
2	350.16	0.5551	-0.1522	0.0032	-0.6136	0.0124	-0.3405	0.0292	-0.5359	0.0393
2	350.16	0.5996	-0.1728	0.0028	-0.7261	0.0144	-0.5364	0.0308	-0.6923	0.0474
2	350.16	0.6497	-0.1805	0.0036	-0.8334	0.0171	-0.7812	0.0362	-0.5188	0.0538
2	350.16	0.6996	-0.2100	0.0046	-0.9673	0.0197	-1.0923	0.0396	-0.5966	0.0546
2	350.16	0.7495	-0.2185	0.0062	-1.1191	0.0218	-1.4496	0.0429	-0.5422	0.0455
2	350.16	0.7996	-0.2483	0.0098	-1.2162	0.0246	-1.8237	0.0464	-0.5255	0.0462
2	350.16	0.8578	-0.2834	0.0134	-1.3586	0.0270	-2.3243	0.0514	-0.2735	0.0648
2	350.16	0.9100	-0.4052	0.0126	-1.4882	0.0310	-2.7744	0.0534	0.0845	0.3022
2	350.16	0.9727	-0.6126	0.0108	-1.6418	0.0518	-3.3921	0.0964	-0.3023	0.0560

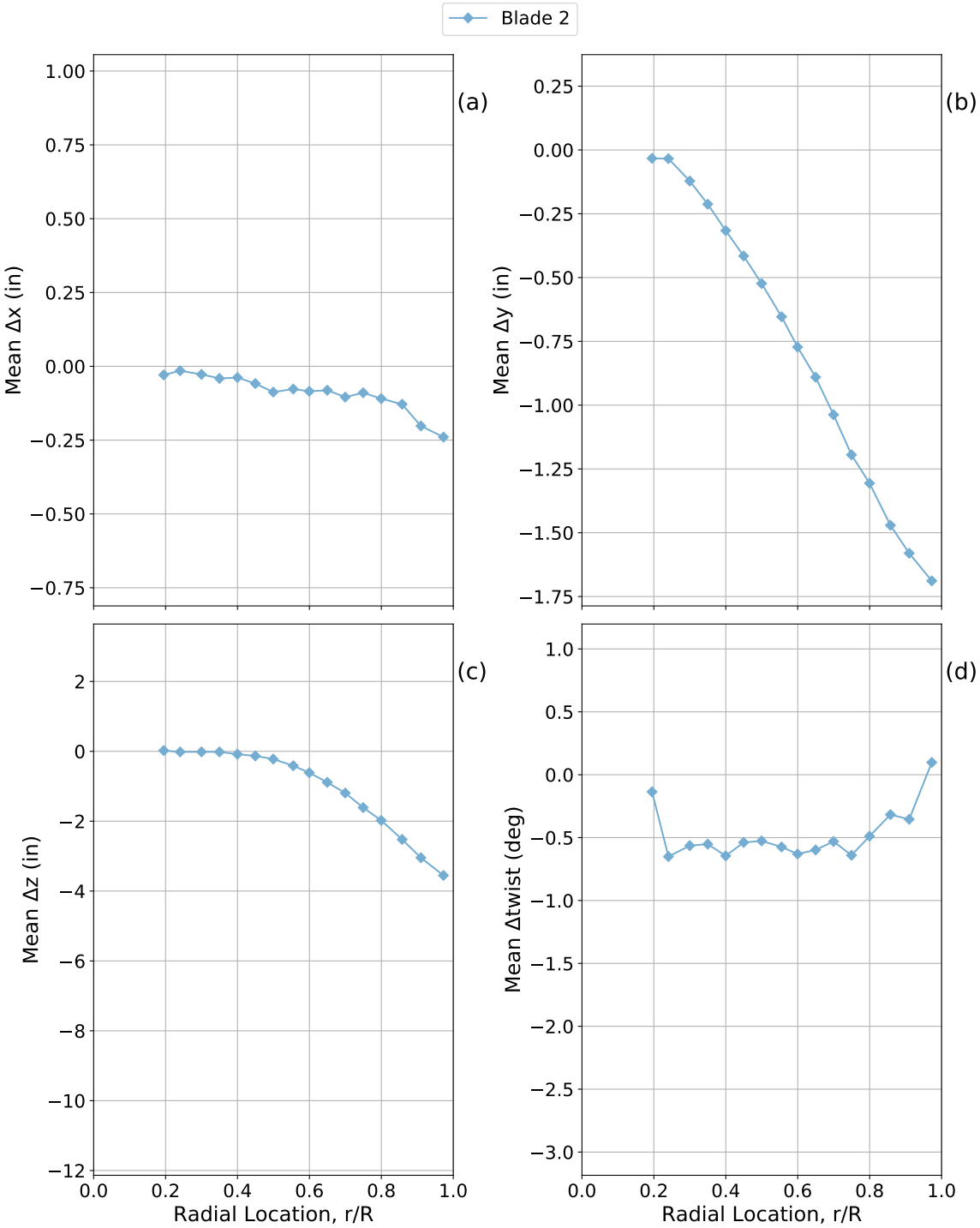


Figure 4.18-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Table 4.18-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 73, point 59. BD run 34, points 5722 to 5732.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0292	0.0037	-0.0328	0.0012	0.0220	0.0028	-0.1363	0.0205
2	355.08	0.2405	-0.0150	0.0021	-0.0340	0.0010	-0.0174	0.0040	-0.6505	0.0517
2	355.08	0.2999	-0.0274	0.0012	-0.1217	0.0036	-0.0144	0.0094	-0.5639	0.0579
2	355.08	0.3498	-0.0411	0.0030	-0.2124	0.0061	-0.0166	0.0148	-0.5519	0.0540
2	355.08	0.3998	-0.0380	0.0033	-0.3159	0.0087	-0.0824	0.0232	-0.6451	0.0634
2	355.08	0.4496	-0.0584	0.0046	-0.4155	0.0110	-0.1315	0.0295	-0.5383	0.0523
2	355.08	0.4995	-0.0873	0.0050	-0.5233	0.0140	-0.2220	0.0379	-0.5263	0.0604
2	355.08	0.5551	-0.0769	0.0060	-0.6535	0.0165	-0.4134	0.0456	-0.5743	0.0594
2	355.08	0.5996	-0.0846	0.0069	-0.7724	0.0187	-0.6124	0.0512	-0.6306	0.0592
2	355.08	0.6497	-0.0810	0.0059	-0.8904	0.0204	-0.8876	0.0595	-0.5980	0.0439
2	355.08	0.6996	-0.1042	0.0053	-1.0376	0.0218	-1.1942	0.0666	-0.5305	0.0498
2	355.08	0.7495	-0.0896	0.0057	-1.1947	0.0244	-1.6098	0.0725	-0.6406	0.0575
2	355.08	0.7996	-0.1095	0.0058	-1.3060	0.0256	-1.9779	0.0780	-0.4890	0.0679
2	355.08	0.8578	-0.1284	0.0083	-1.4709	0.0284	-2.5229	0.0822	-0.3169	0.0832
2	355.08	0.9100	-0.2021	0.0085	-1.5805	0.0309	-3.0457	0.0948	-0.3545	0.0880
2	355.08	0.9727	-0.2397	0.0198	-1.6886	0.0386	-3.5525	0.1023	0.0978	0.2144

4.19 Run 75, Point 7

4.19.1 Pitch, Flap, and Lag

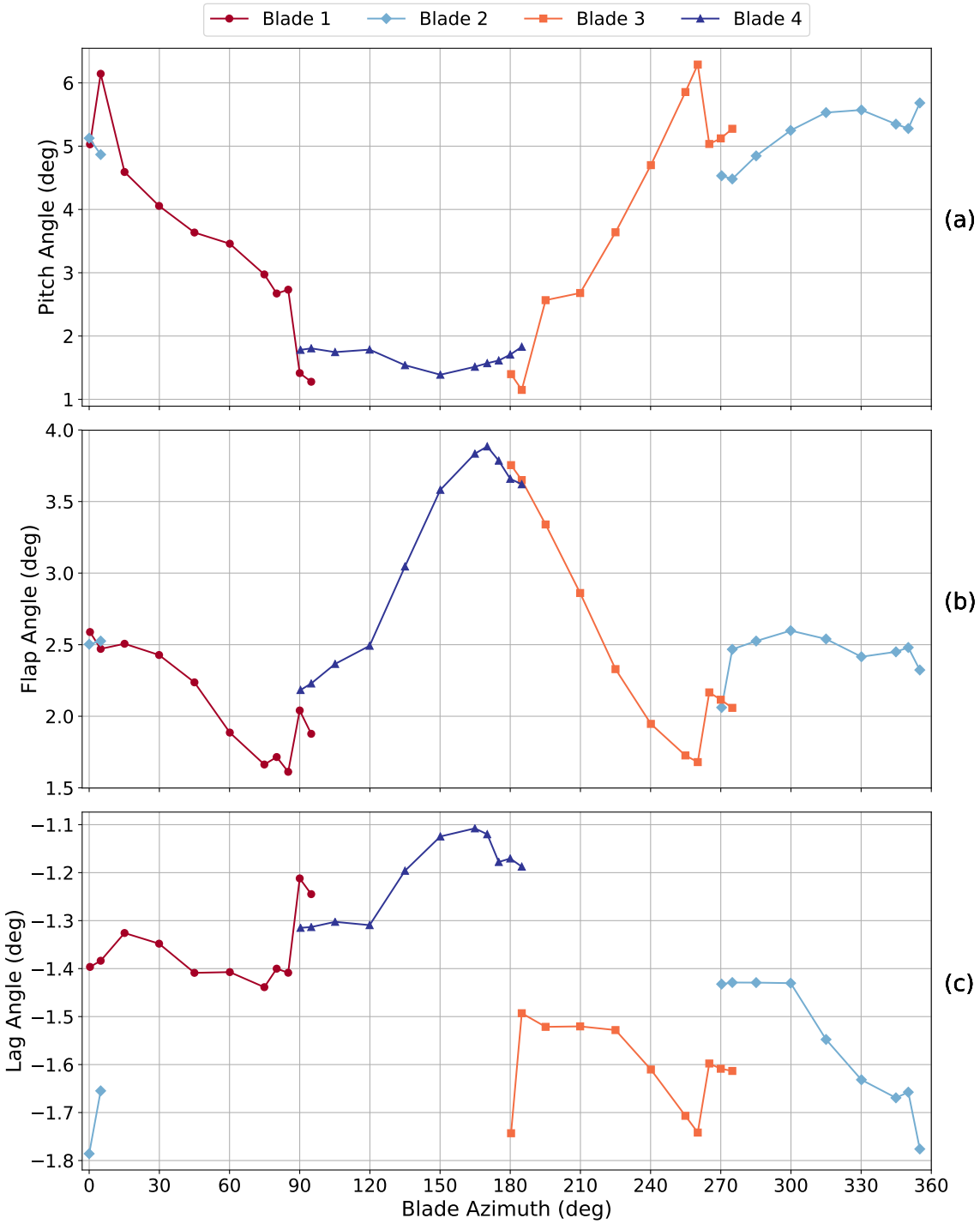


Figure 4.19-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.1262	2.5029	-1.7858	0.1531	0.0611	0.0504
0.35	1	5.0292	2.5884	-1.3965	0.0970	0.0503	0.0286
4.92	1	6.1437	2.4707	-1.3836	0.3818	0.1690	0.0941
4.92	2	4.8677	2.5255	-1.6548	0.0913	0.0497	0.0265
15.12	1	4.5920	2.5065	-1.3258	0.0509	0.0261	0.0123
29.88	1	4.0562	2.4280	-1.3480	0.0574	0.0188	0.0144
45	1	3.6356	2.2369	-1.4088	0.0682	0.0335	0.0196
60.12	1	3.4585	1.8860	-1.4073	0.0970	0.0476	0.0174
74.88	1	2.9733	1.6630	-1.4387	0.0626	0.0294	0.0162
80.16	1	2.6720	1.7152	-1.4001	0.0810	0.0188	0.0145
85.08	1	2.7322	1.6120	-1.4086	0.0821	0.0380	0.0227
90	1	1.4146	2.0405	-1.2120	0.0995	0.0414	0.0228
90.35	4	1.7812	2.1833	-1.3150	0.0251	0.0172	0.0131
94.92	1	1.2774	1.8775	-1.2448	0.0672	0.0261	0.0107
94.92	4	1.8052	2.2290	-1.3134	0.0295	0.0185	0.0160
105.12	4	1.7457	2.3655	-1.3025	0.0205	0.0175	0.0147
119.88	4	1.7851	2.4923	-1.3094	0.0155	0.0166	0.0139
135	4	1.5392	3.0461	-1.1961	0.0221	0.0188	0.0191
150.12	4	1.3884	3.5816	-1.1246	0.0261	0.0173	0.0132
164.88	4	1.5139	3.8341	-1.1077	0.0205	0.0234	0.0169
170.16	4	1.5704	3.8847	-1.1200	0.0161	0.0134	0.0152
175.08	4	1.6133	3.7853	-1.1778	0.0359	0.0244	0.0179
180	4	1.7060	3.6586	-1.1705	0.0430	0.0256	0.0196
180.35	3	1.3978	3.7542	-1.7431	0.0564	0.0276	0.0197
184.92	3	1.1487	3.6499	-1.4930	0.0690	0.0580	0.0489
184.92	4	1.8293	3.6204	-1.1875	0.0490	0.0238	0.0198
195.12	3	2.5665	3.3397	-1.5214	0.0693	0.0294	0.0298
209.88	3	2.6797	2.8609	-1.5204	0.0457	0.0113	0.0189
225	3	3.6393	2.3294	-1.5281	0.0395	0.0230	0.0205
240.12	3	4.7001	1.9467	-1.6103	0.0483	0.0294	0.0237
254.88	3	5.8549	1.7264	-1.7068	0.0834	0.0404	0.0316
260.16	3	6.2896	1.6798	-1.7417	0.1310	0.0626	0.0361
265.08	3	5.0347	2.1667	-1.5978	0.1279	0.0433	0.0191
270	3	5.1229	2.1156	-1.6087	0.1384	0.0508	0.0297
270.35	2	4.5324	2.0613	-1.4323	0.2453	0.0885	0.0284
274.92	2	4.4817	2.4676	-1.4290	0.0326	0.0190	0.0181
274.92	3	5.2746	2.0588	-1.6133	0.3347	0.1028	0.0375
285.12	2	4.8466	2.5255	-1.4292	0.0361	0.0193	0.0162
299.88	2	5.2489	2.5981	-1.4303	0.0298	0.0170	0.0111
315	2	5.5309	2.5397	-1.5477	0.0376	0.0188	0.0137
330.12	2	5.5721	2.4156	-1.6317	0.0394	0.0362	0.0182
344.88	2	5.3482	2.4501	-1.6693	0.0602	0.0251	0.0132
350.16	2	5.2787	2.4804	-1.6575	0.0418	0.0197	0.0115
355.08	2	5.6828	2.3232	-1.7760	0.0823	0.0378	0.0235

4.19.2 Spanwise Elastic Deformations

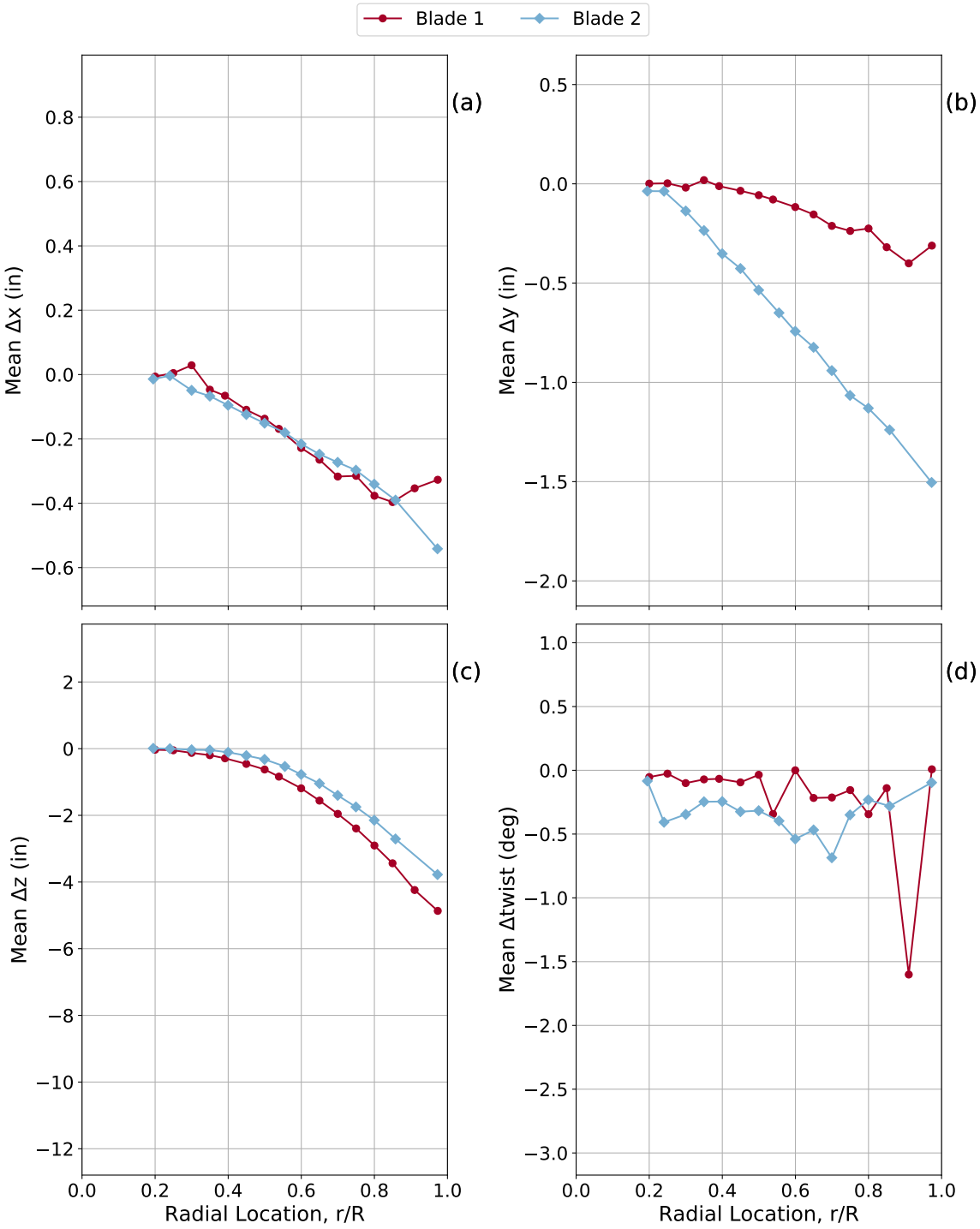


Figure 4.19-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	-0.0062	0.0031	0.0011	0.0028	-0.0314	0.0083	-0.0530	0.0471
1	0.35	0.2499	0.0047	0.0023	0.0026	0.0048	-0.0493	0.0098	-0.0263	0.1274
1	0.35	0.2998	0.0289	0.0020	-0.0190	0.0095	-0.1270	0.0266	-0.1004	0.1214
1	0.35	0.3498	-0.0470	0.0020	0.0185	0.0168	-0.1953	0.0419	-0.0712	0.1036
1	0.35	0.3913	-0.0657	0.0028	-0.0116	0.0229	-0.2899	0.0573	-0.0668	0.0940
1	0.35	0.4496	-0.1095	0.0027	-0.0351	0.0288	-0.4570	0.0757	-0.0945	0.0912
1	0.35	0.4997	-0.1372	0.0024	-0.0572	0.0353	-0.6247	0.0920	-0.0353	0.0919
1	0.35	0.5387	-0.1688	0.0025	-0.0791	0.0402	-0.8388	0.1031	-0.3428	0.0934
1	0.35	0.5996	-0.2282	0.0023	-0.1170	0.0481	-1.1890	0.1229	-0.0001	0.0854
1	0.35	0.6498	-0.2646	0.0023	-0.1544	0.0548	-1.5584	0.1366	-0.2167	0.1004
1	0.35	0.6998	-0.3170	0.0033	-0.2118	0.0617	-1.9559	0.1493	-0.2133	0.0819
1	0.35	0.7500	-0.3148	0.0031	-0.2372	0.0688	-2.3935	0.1613	-0.1553	0.1210
1	0.35	0.8001	-0.3767	0.0024	-0.2251	0.0793	-2.9054	0.1785	-0.3444	0.1282
1	0.35	0.8497	-0.3964	0.0028	-0.3193	0.0863	-3.4378	0.1939	-0.1399	0.1299
1	0.35	0.9102	-0.3536	0.0637	-0.4005	0.0997	-4.2401	0.2484	-1.6011	0.6571
1	0.35	0.9734	-0.3270	0.0123	-0.3113	0.0998	-4.8651	0.2271	0.0078	0.1787
2	0	0.1949	-0.0139	0.0027	-0.0367	0.0036	0.0099	0.0083	-0.0840	0.0561
2	0	0.2405	-0.0037	0.0030	-0.0372	0.0058	-0.0010	0.0121	-0.4073	0.1348
2	0	0.2999	-0.0490	0.0037	-0.1368	0.0127	-0.0330	0.0249	-0.3454	0.1547
2	0	0.3498	-0.0670	0.0045	-0.2354	0.0259	-0.0419	0.0428	-0.2467	0.1474
2	0	0.3998	-0.0954	0.0051	-0.3522	0.0365	-0.1084	0.0609	-0.2448	0.1431
2	0	0.4496	-0.1241	0.0071	-0.4267	0.0450	-0.2083	0.0752	-0.3243	0.1546
2	0	0.4995	-0.1511	0.0094	-0.5354	0.0555	-0.3214	0.0928	-0.3166	0.1644
2	0	0.5551	-0.1806	0.0118	-0.6499	0.0682	-0.5344	0.1132	-0.3969	0.1523
2	0	0.5996	-0.2156	0.0130	-0.7430	0.0794	-0.7729	0.1310	-0.5388	0.1438
2	0	0.6497	-0.2475	0.0156	-0.8235	0.0886	-1.0455	0.1506	-0.4676	0.1449
2	0	0.6996	-0.2728	0.0187	-0.9407	0.1023	-1.4017	0.1681	-0.6857	0.1462
2	0	0.7495	-0.2972	0.0217	-1.0659	0.1155	-1.7477	0.1885	-0.3497	0.1417
2	0	0.7996	-0.3407	0.0224	-1.1302	0.1325	-2.1469	0.2056	-0.2312	0.1371
2	0	0.8578	-0.3903	0.0318	-1.2393	0.1440	-2.7083	0.2322	-0.2809	0.1329
2	0	0.9727	-0.5416	0.0418	-1.5042	0.1749	-3.7765	0.2705	-0.0963	0.1382

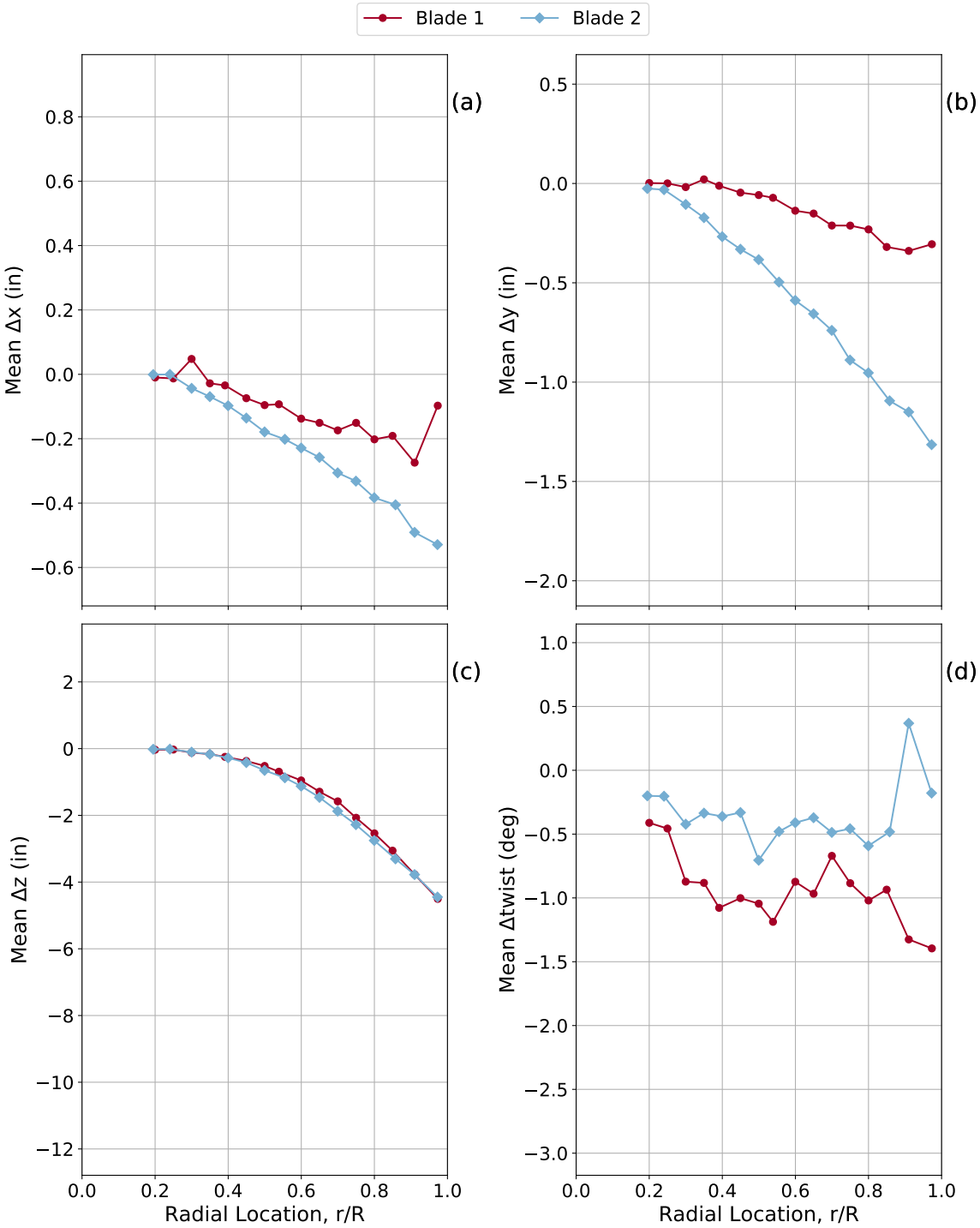


Figure 4.19-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0099	0.0169	0.0022	0.0083	-0.0327	0.0256	-0.4117	0.1393
1	4.92	0.2499	-0.0128	0.0053	0.0004	0.0098	-0.0275	0.0313	-0.4565	0.3795
1	4.92	0.2998	0.0478	0.0036	-0.0182	0.0292	-0.1206	0.0777	-0.8726	0.3734
1	4.92	0.3498	-0.0280	0.0045	0.0207	0.0489	-0.1656	0.1239	-0.8822	0.3887
1	4.92	0.3913	-0.0344	0.0039	-0.0115	0.0674	-0.2470	0.1683	-1.0779	0.3690
1	4.92	0.4496	-0.0742	0.0053	-0.0460	0.0891	-0.3696	0.2189	-1.0018	0.3837
1	4.92	0.4997	-0.0956	0.0063	-0.0583	0.1096	-0.5192	0.2694	-1.0452	0.3755
1	4.92	0.5387	-0.0930	0.0070	-0.0721	0.1250	-0.6919	0.3067	-1.1874	0.3711
1	4.92	0.5996	-0.1377	0.0087	-0.1371	0.1494	-0.9541	0.3664	-0.8736	0.3692
1	4.92	0.6498	-0.1508	0.0111	-0.1514	0.1705	-1.2913	0.4150	-0.9671	0.3747
1	4.92	0.6998	-0.1741	0.0147	-0.2117	0.1894	-1.5805	0.4620	-0.6705	0.3916
1	4.92	0.7500	-0.1508	0.0167	-0.2120	0.2110	-2.0731	0.5140	-0.8848	0.3657
1	4.92	0.8001	-0.2020	0.0171	-0.2314	0.2322	-2.5403	0.5645	-1.0201	0.3564
1	4.92	0.8497	-0.1912	0.0209	-0.3196	0.2522	-3.0583	0.6068	-0.9353	0.3799
1	4.92	0.9102	-0.2744	0.0243	-0.3394	0.2800	-3.7716	0.6592	-1.3255	0.3924
1	4.92	0.9734	-0.0973	0.0235	-0.3057	0.3095	-4.5042	0.7213	-1.3956	0.3612
2	4.92	0.1949	-0.0008	0.0044	-0.0255	0.0016	-0.0187	0.0037	-0.2002	0.0373
2	4.92	0.2405	-0.0003	0.0019	-0.0313	0.0027	-0.0147	0.0072	-0.2032	0.0602
2	4.92	0.2999	-0.0435	0.0016	-0.1055	0.0060	-0.1054	0.0145	-0.4225	0.0878
2	4.92	0.3498	-0.0693	0.0014	-0.1721	0.0110	-0.1680	0.0229	-0.3358	0.0914
2	4.92	0.3998	-0.0976	0.0022	-0.2679	0.0162	-0.2772	0.0359	-0.3614	0.0832
2	4.92	0.4496	-0.1359	0.0022	-0.3311	0.0224	-0.4176	0.0486	-0.3309	0.0851
2	4.92	0.4995	-0.1789	0.0026	-0.3835	0.0259	-0.6527	0.0617	-0.7047	0.0914
2	4.92	0.5551	-0.2018	0.0026	-0.4964	0.0322	-0.8741	0.0800	-0.4800	0.0923
2	4.92	0.5996	-0.2288	0.0027	-0.5888	0.0366	-1.1244	0.0934	-0.4105	0.1010
2	4.92	0.6497	-0.2580	0.0031	-0.6562	0.0429	-1.4617	0.1091	-0.3716	0.1083
2	4.92	0.6996	-0.3060	0.0029	-0.7396	0.0481	-1.8749	0.1257	-0.4869	0.0999
2	4.92	0.7495	-0.3318	0.0038	-0.8889	0.0542	-2.2781	0.1413	-0.4580	0.0926
2	4.92	0.7996	-0.3833	0.0026	-0.9533	0.0601	-2.7534	0.1531	-0.5919	0.1118
2	4.92	0.8578	-0.4054	0.0033	-1.0942	0.0653	-3.3049	0.1670	-0.4827	0.1229
2	4.92	0.9100	-0.4910	0.0061	-1.1503	0.0801	-3.7755	0.2008	0.3683	0.3334
2	4.92	0.9727	-0.5290	0.0062	-1.3148	0.0826	-4.4494	0.2035	-0.1786	0.1003

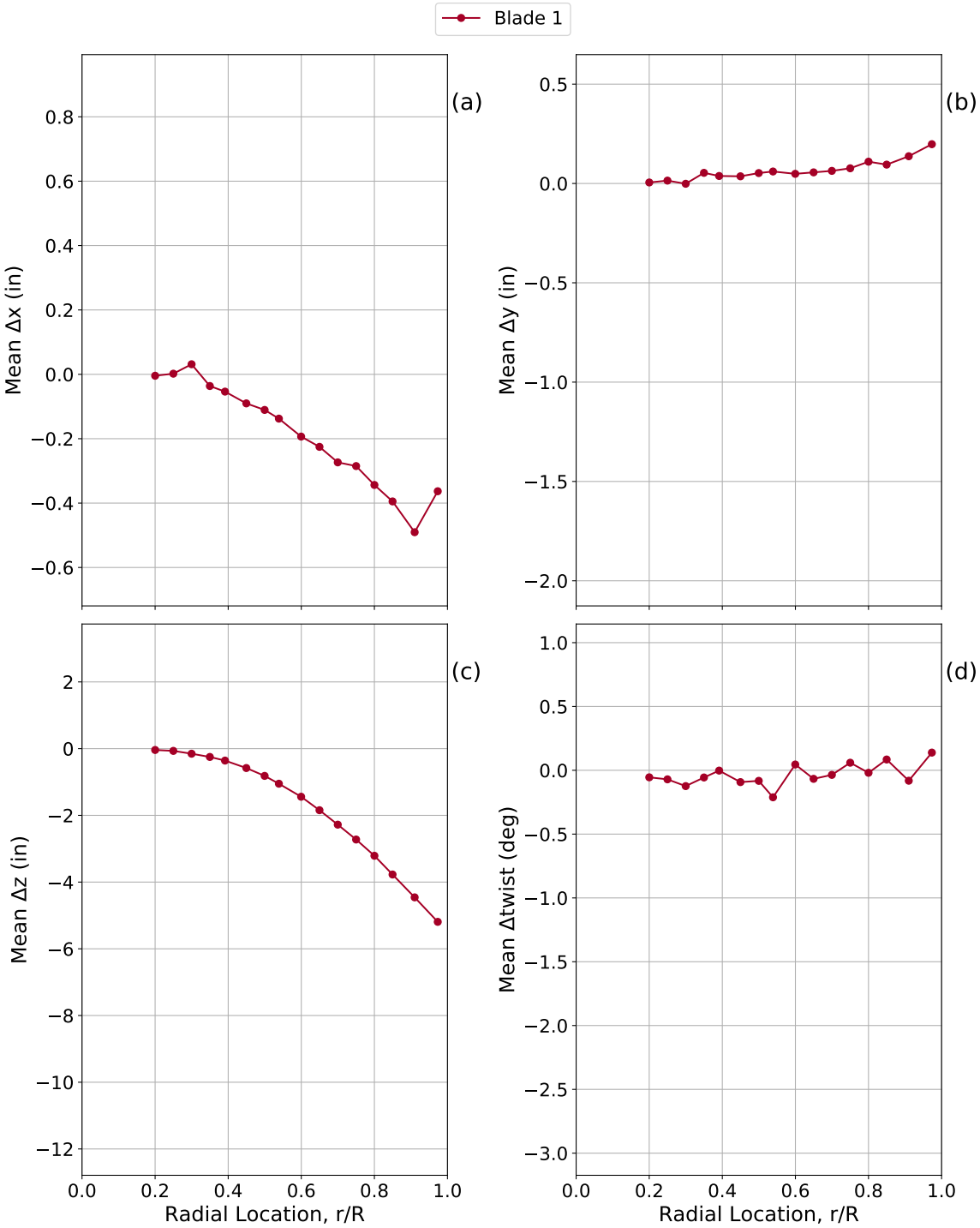


Figure 4.19-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0044	0.0024	0.0050	0.0013	-0.0400	0.0033	-0.0551	0.0179
1	15.12	0.2499	0.0020	0.0035	0.0144	0.0031	-0.0673	0.0066	-0.0709	0.0590
1	15.12	0.2998	0.0313	0.0026	-0.0015	0.0045	-0.1521	0.0110	-0.1239	0.0476
1	15.12	0.3498	-0.0363	0.0021	0.0535	0.0078	-0.2492	0.0197	-0.0563	0.0489
1	15.12	0.3913	-0.0537	0.0020	0.0377	0.0113	-0.3578	0.0269	-0.0024	0.0446
1	15.12	0.4496	-0.0903	0.0025	0.0361	0.0139	-0.5814	0.0371	-0.0926	0.0443
1	15.12	0.4997	-0.1106	0.0023	0.0524	0.0167	-0.8168	0.0455	-0.0827	0.0432
1	15.12	0.5387	-0.1376	0.0028	0.0603	0.0186	-1.0513	0.0514	-0.2116	0.0422
1	15.12	0.5996	-0.1934	0.0026	0.0485	0.0205	-1.4417	0.0586	0.0454	0.0490
1	15.12	0.6498	-0.2253	0.0025	0.0559	0.0234	-1.8458	0.0631	-0.0670	0.0385
1	15.12	0.6998	-0.2735	0.0021	0.0634	0.0258	-2.2783	0.0703	-0.0359	0.0491
1	15.12	0.7500	-0.2850	0.0025	0.0764	0.0297	-2.7241	0.0759	0.0594	0.0456
1	15.12	0.8001	-0.3437	0.0031	0.1097	0.0307	-3.2110	0.0822	-0.0196	0.0558
1	15.12	0.8497	-0.3948	0.0028	0.0949	0.0336	-3.7732	0.0873	0.0845	0.0554
1	15.12	0.9102	-0.4905	0.0038	0.1371	0.0373	-4.4579	0.0972	-0.0817	0.0840
1	15.12	0.9734	-0.3632	0.0036	0.1977	0.0394	-5.1921	0.1059	0.1386	0.0876

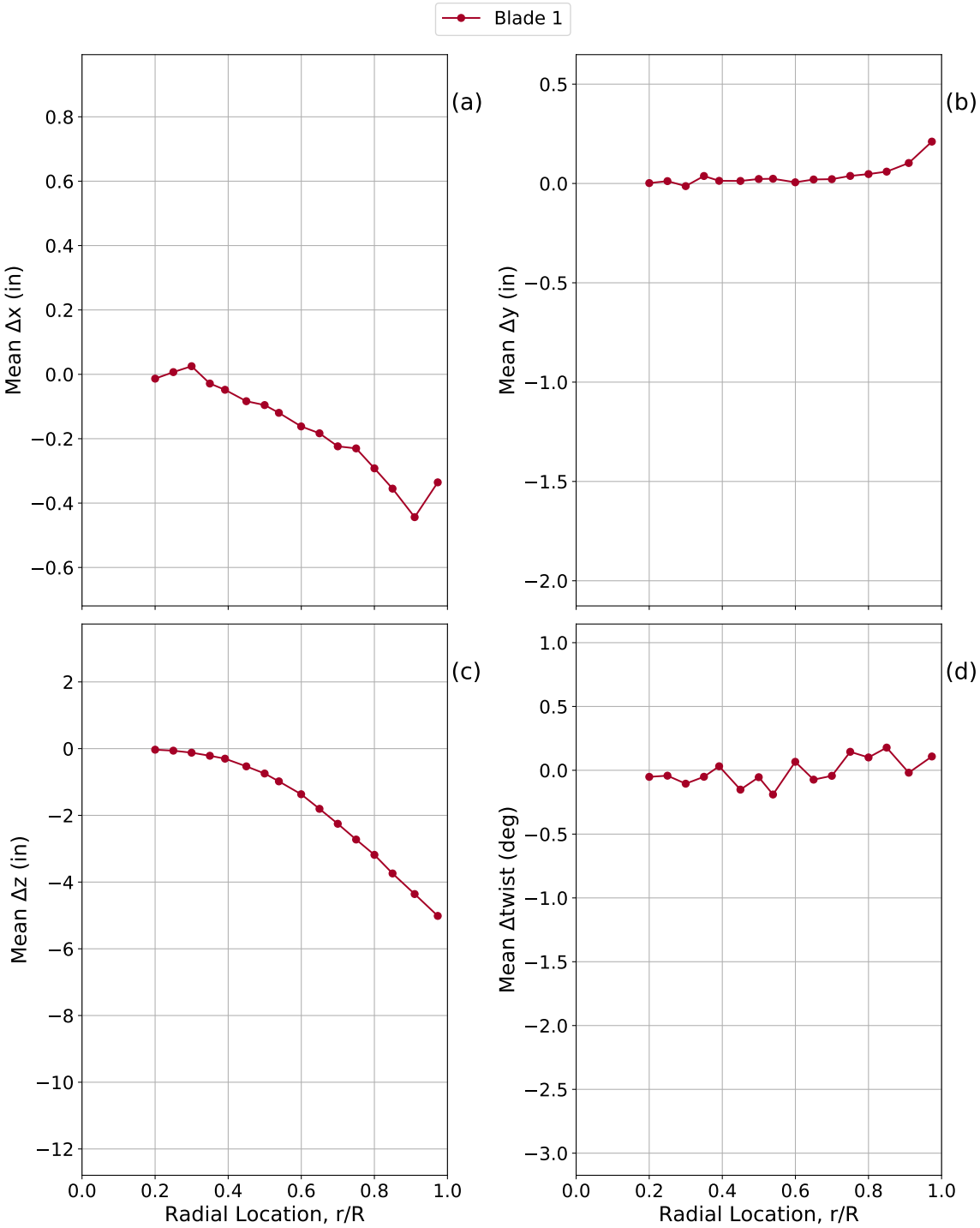


Figure 4.19-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0134	0.0030	0.0020	0.0011	-0.0316	0.0025	-0.0514	0.0225
1	29.88	0.2499	0.0069	0.0020	0.0118	0.0016	-0.0610	0.0030	-0.0423	0.0485
1	29.88	0.2998	0.0252	0.0016	-0.0133	0.0040	-0.1212	0.0087	-0.1050	0.0495
1	29.88	0.3498	-0.0286	0.0014	0.0376	0.0058	-0.2137	0.0122	-0.0507	0.0519
1	29.88	0.3913	-0.0480	0.0020	0.0133	0.0087	-0.3008	0.0176	0.0316	0.0584
1	29.88	0.4496	-0.0835	0.0022	0.0127	0.0116	-0.5314	0.0253	-0.1515	0.0563
1	29.88	0.4997	-0.0955	0.0019	0.0225	0.0140	-0.7454	0.0325	-0.0541	0.0497
1	29.88	0.5387	-0.1196	0.0018	0.0238	0.0162	-0.9810	0.0372	-0.1898	0.0540
1	29.88	0.5996	-0.1618	0.0022	0.0059	0.0195	-1.3669	0.0455	0.0664	0.0557
1	29.88	0.6498	-0.1832	0.0025	0.0201	0.0220	-1.8045	0.0519	-0.0733	0.0549
1	29.88	0.6998	-0.2237	0.0022	0.0217	0.0254	-2.2524	0.0588	-0.0434	0.0523
1	29.88	0.7500	-0.2301	0.0026	0.0380	0.0281	-2.7241	0.0665	0.1449	0.0580
1	29.88	0.8001	-0.2921	0.0029	0.0473	0.0307	-3.1835	0.0781	0.1006	0.0526
1	29.88	0.8497	-0.3551	0.0028	0.0596	0.0345	-3.7416	0.0867	0.1779	0.0626
1	29.88	0.9102	-0.4437	0.0036	0.1030	0.0387	-4.3593	0.0972	-0.0188	0.0814
1	29.88	0.9734	-0.3356	0.0033	0.2107	0.0423	-5.0141	0.1137	0.1082	0.0699

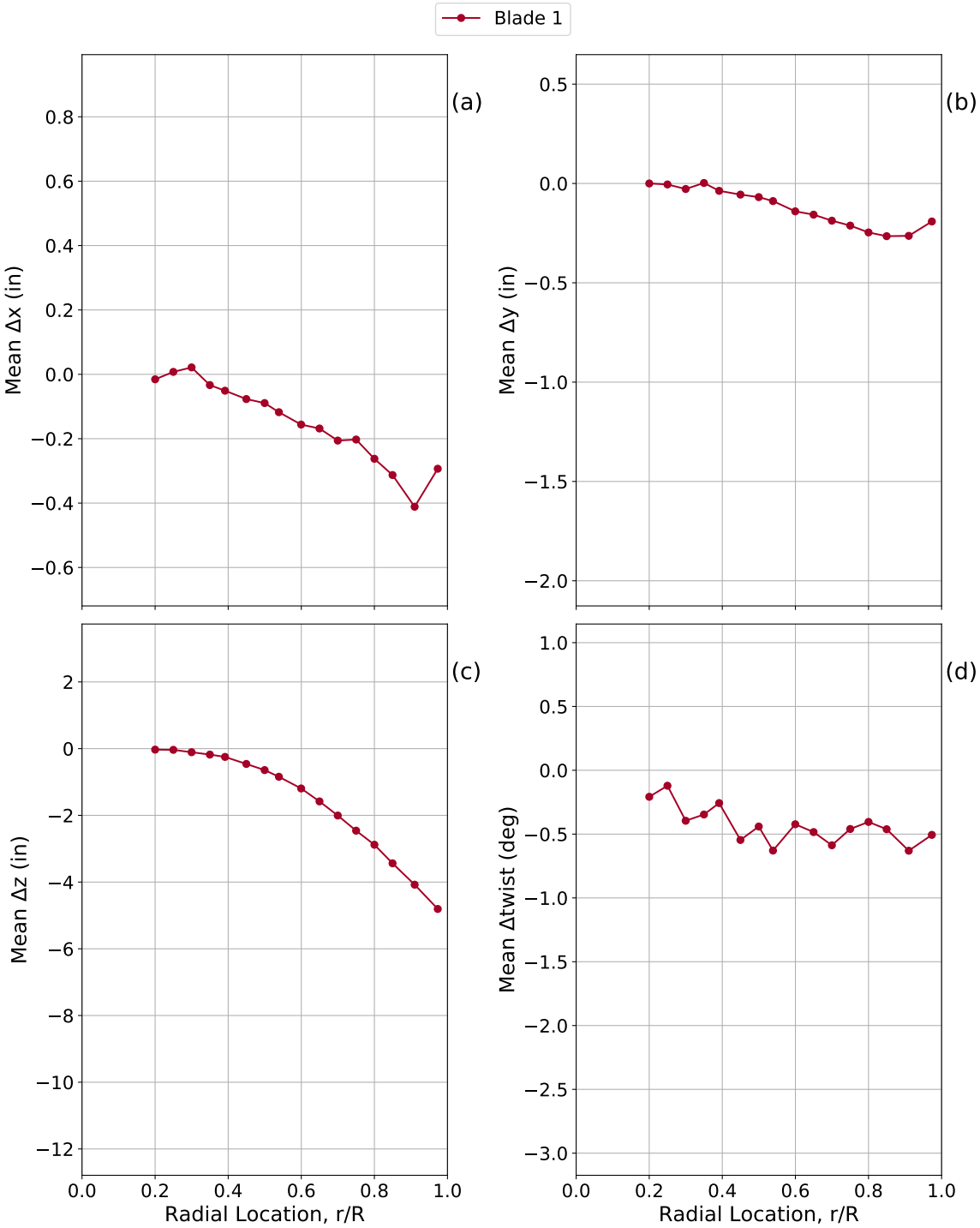


Figure 4.19-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0155	0.0027	-0.0000	0.0013	-0.0297	0.0047	-0.2077	0.0262
1	45	0.2499	0.0076	0.0023	-0.0049	0.0015	-0.0363	0.0052	-0.1209	0.0829
1	45	0.2998	0.0215	0.0018	-0.0278	0.0043	-0.1074	0.0136	-0.3954	0.0715
1	45	0.3498	-0.0334	0.0023	0.0025	0.0070	-0.1780	0.0244	-0.3464	0.0693
1	45	0.3913	-0.0509	0.0025	-0.0370	0.0095	-0.2483	0.0312	-0.2569	0.0714
1	45	0.4496	-0.0768	0.0042	-0.0560	0.0128	-0.4590	0.0391	-0.5460	0.0726
1	45	0.4997	-0.0893	0.0043	-0.0687	0.0163	-0.6429	0.0487	-0.4407	0.0667
1	45	0.5387	-0.1176	0.0038	-0.0886	0.0192	-0.8433	0.0548	-0.6290	0.0636
1	45	0.5996	-0.1561	0.0037	-0.1403	0.0225	-1.1936	0.0632	-0.4229	0.0655
1	45	0.6498	-0.1683	0.0037	-0.1570	0.0254	-1.5818	0.0709	-0.4842	0.0638
1	45	0.6998	-0.2058	0.0039	-0.1873	0.0289	-2.0048	0.0764	-0.5875	0.0660
1	45	0.7500	-0.2026	0.0033	-0.2120	0.0326	-2.4591	0.0835	-0.4600	0.0631
1	45	0.8001	-0.2624	0.0030	-0.2465	0.0363	-2.8808	0.0910	-0.4046	0.0577
1	45	0.8497	-0.3129	0.0029	-0.2653	0.0402	-3.4377	0.0992	-0.4618	0.0523
1	45	0.9102	-0.4114	0.0027	-0.2637	0.0452	-4.0780	0.1070	-0.6302	0.0702
1	45	0.9734	-0.2933	0.0032	-0.1914	0.0506	-4.8055	0.1172	-0.5061	0.0607

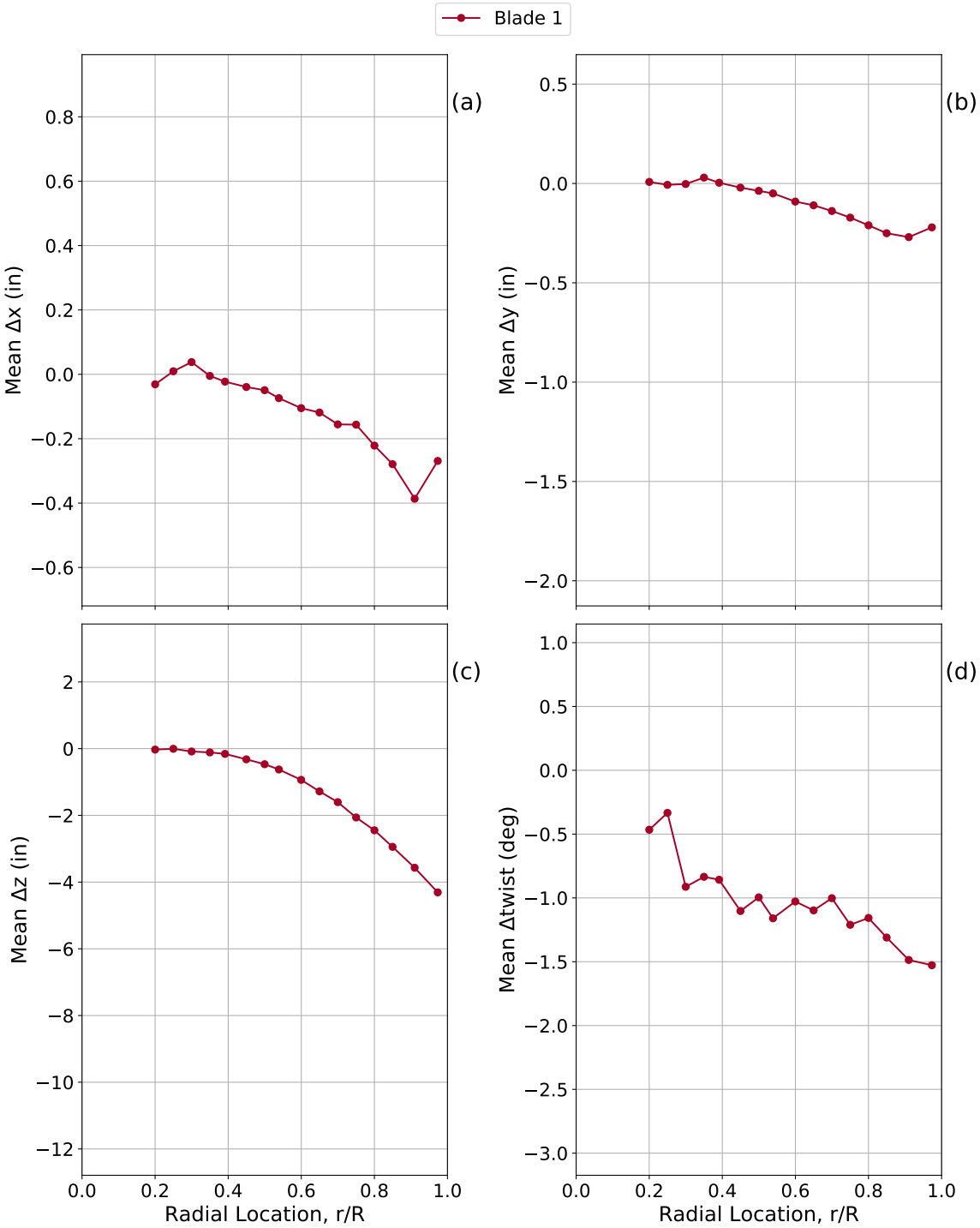


Figure 4.19-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0311	0.0028	0.0077	0.0016	-0.0280	0.0050	-0.4660	0.0440
1	60.12	0.2499	0.0095	0.0027	-0.0069	0.0024	-0.0048	0.0060	-0.3337	0.0843
1	60.12	0.2998	0.0380	0.0022	-0.0027	0.0058	-0.0854	0.0158	-0.9130	0.1040
1	60.12	0.3498	-0.0048	0.0013	0.0295	0.0102	-0.1132	0.0270	-0.8347	0.0934
1	60.12	0.3913	-0.0227	0.0012	0.0037	0.0139	-0.1572	0.0359	-0.8575	0.0951
1	60.12	0.4496	-0.0394	0.0015	-0.0209	0.0188	-0.3206	0.0480	-1.1024	0.0975
1	60.12	0.4997	-0.0493	0.0015	-0.0371	0.0232	-0.4671	0.0592	-0.9956	0.0880
1	60.12	0.5387	-0.0740	0.0014	-0.0500	0.0263	-0.6253	0.0676	-1.1598	0.0946
1	60.12	0.5996	-0.1051	0.0015	-0.0911	0.0318	-0.9365	0.0814	-1.0280	0.0941
1	60.12	0.6498	-0.1187	0.0015	-0.1099	0.0366	-1.2815	0.0934	-1.0975	0.0938
1	60.12	0.6998	-0.1555	0.0014	-0.1386	0.0412	-1.6033	0.1041	-1.0021	0.0942
1	60.12	0.7500	-0.1563	0.0014	-0.1719	0.0453	-2.0635	0.1171	-1.2106	0.0901
1	60.12	0.8001	-0.2214	0.0022	-0.2106	0.0499	-2.4479	0.1287	-1.1571	0.0925
1	60.12	0.8497	-0.2791	0.0030	-0.2505	0.0546	-2.9442	0.1422	-1.3105	0.0841
1	60.12	0.9102	-0.3865	0.0029	-0.2700	0.0596	-3.5695	0.1615	-1.4862	0.0803
1	60.12	0.9734	-0.2690	0.0026	-0.2210	0.0660	-4.3088	0.1800	-1.5273	0.0850

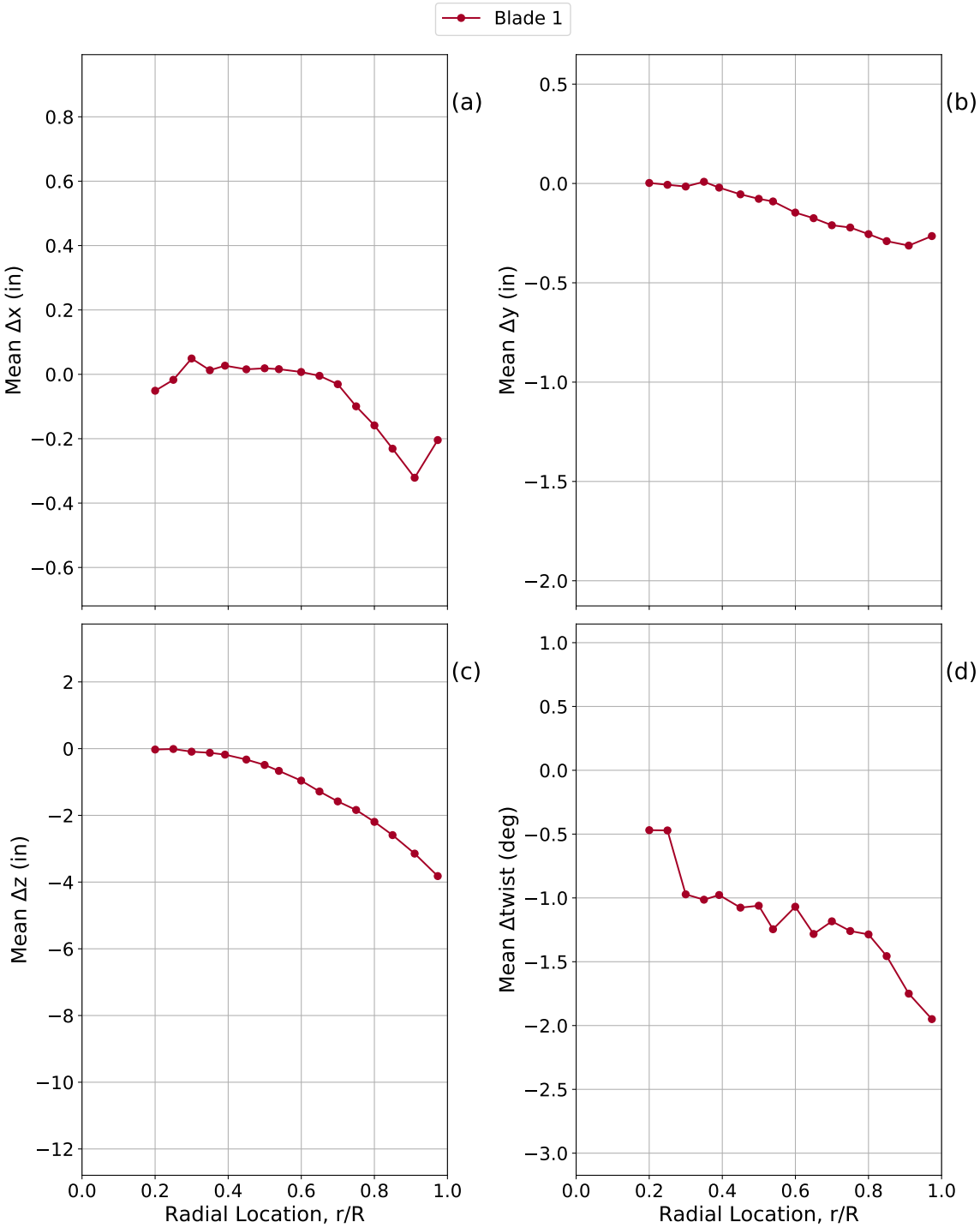


Figure 4.19-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0510	0.0019	0.0026	0.0012	-0.0265	0.0035	-0.4691	0.0321
1	74.88	0.2499	-0.0171	0.0009	-0.0066	0.0037	-0.0110	0.0058	-0.4711	0.0553
1	74.88	0.2998	0.0492	0.0013	-0.0154	0.0047	-0.0910	0.0097	-0.9720	0.0680
1	74.88	0.3498	0.0128	0.0027	0.0086	0.0075	-0.1245	0.0166	-1.0140	0.0551
1	74.88	0.3913	0.0269	0.0041	-0.0209	0.0118	-0.1794	0.0218	-0.9772	0.0603
1	74.88	0.4496	0.0156	0.0056	-0.0547	0.0156	-0.3274	0.0308	-1.0761	0.0533
1	74.88	0.4997	0.0187	0.0068	-0.0773	0.0202	-0.4886	0.0364	-1.0611	0.0589
1	74.88	0.5387	0.0161	0.0079	-0.0904	0.0230	-0.6669	0.0421	-1.2454	0.0731
1	74.88	0.5996	0.0073	0.0073	-0.1465	0.0285	-0.9591	0.0542	-1.0690	0.0534
1	74.88	0.6498	-0.0046	0.0098	-0.1748	0.0336	-1.2844	0.0631	-1.2827	0.0770
1	74.88	0.6998	-0.0307	0.0125	-0.2103	0.0386	-1.5820	0.0713	-1.1833	0.0462
1	74.88	0.7500	-0.0994	0.0053	-0.2217	0.0473	-1.8387	0.0667	-1.2594	0.0688
1	74.88	0.8001	-0.1587	0.0056	-0.2550	0.0525	-2.1951	0.0761	-1.2860	0.0725
1	74.88	0.8497	-0.2310	0.0065	-0.2903	0.0571	-2.5920	0.0834	-1.4561	0.0775
1	74.88	0.9102	-0.3212	0.0064	-0.3126	0.0628	-3.1466	0.0933	-1.7501	0.0681
1	74.88	0.9734	-0.2042	0.0056	-0.2648	0.0689	-3.8207	0.1033	-1.9496	0.0860

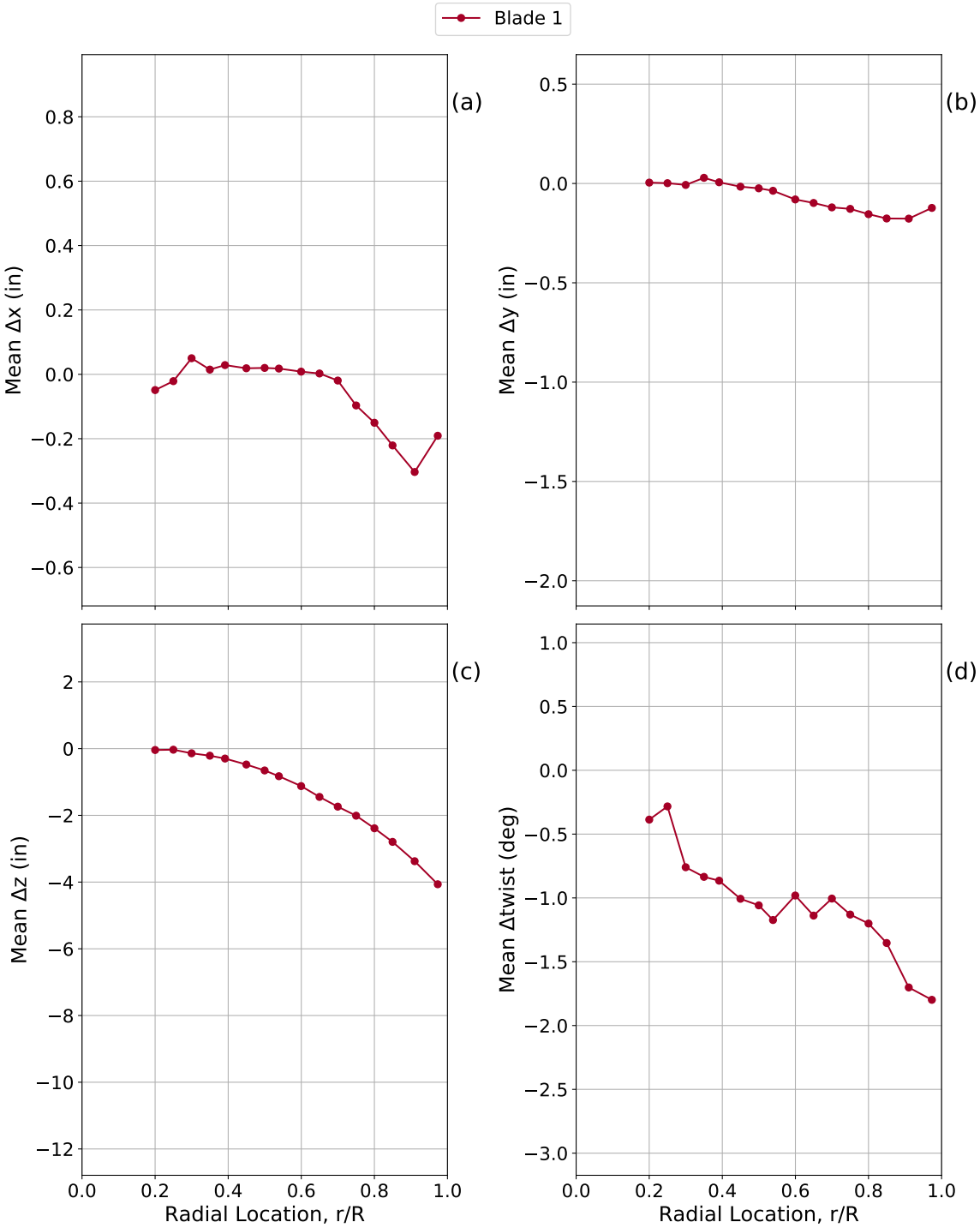


Figure 4.19-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0489	0.0020	0.0043	0.0016	-0.0408	0.0034	-0.3865	0.0324
1	80.16	0.2499	-0.0212	0.0018	0.0015	0.0030	-0.0319	0.0042	-0.2830	0.0730
1	80.16	0.2998	0.0500	0.0013	-0.0073	0.0044	-0.1399	0.0091	-0.7597	0.0781
1	80.16	0.3498	0.0147	0.0021	0.0285	0.0083	-0.2116	0.0155	-0.8349	0.0727
1	80.16	0.3913	0.0287	0.0030	0.0060	0.0108	-0.2972	0.0197	-0.8650	0.0742
1	80.16	0.4496	0.0188	0.0036	-0.0161	0.0145	-0.4766	0.0263	-1.0068	0.0770
1	80.16	0.4997	0.0199	0.0041	-0.0244	0.0171	-0.6540	0.0328	-1.0582	0.0678
1	80.16	0.5387	0.0179	0.0045	-0.0367	0.0186	-0.8266	0.0369	-1.1732	0.0740
1	80.16	0.5996	0.0084	0.0065	-0.0804	0.0224	-1.1227	0.0449	-0.9812	0.0709
1	80.16	0.6498	0.0026	0.0075	-0.0981	0.0237	-1.4474	0.0477	-1.1386	0.0992
1	80.16	0.6998	-0.0193	0.0088	-0.1204	0.0273	-1.7385	0.0558	-1.0051	0.1133
1	80.16	0.7500	-0.0967	0.0039	-0.1279	0.0409	-2.0101	0.0631	-1.1304	0.0735
1	80.16	0.8001	-0.1505	0.0040	-0.1546	0.0444	-2.3877	0.0681	-1.2006	0.0684
1	80.16	0.8497	-0.2209	0.0035	-0.1763	0.0477	-2.7952	0.0727	-1.3533	0.0713
1	80.16	0.9102	-0.3034	0.0038	-0.1770	0.0514	-3.3745	0.0757	-1.7016	0.0830
1	80.16	0.9734	-0.1908	0.0040	-0.1230	0.0569	-4.0654	0.0813	-1.7985	0.0684

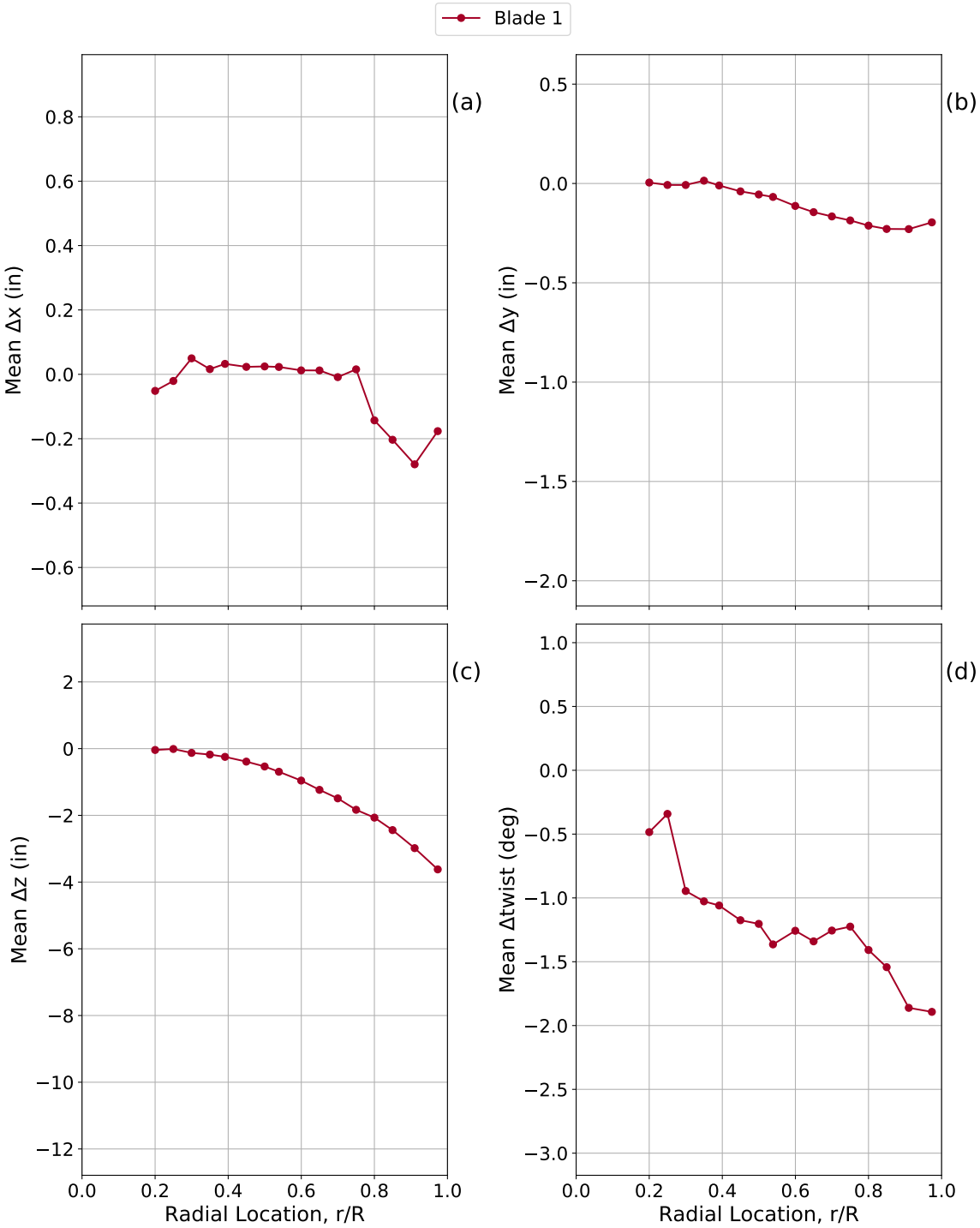


Figure 4.19-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0514	0.0036	0.0046	0.0029	-0.0401	0.0056	-0.4843	0.0404
1	85.08	0.2499	-0.0206	0.0036	-0.0075	0.0041	-0.0105	0.0083	-0.3416	0.0803
1	85.08	0.2998	0.0497	0.0024	-0.0076	0.0087	-0.1275	0.0175	-0.9457	0.0911
1	85.08	0.3498	0.0162	0.0018	0.0140	0.0140	-0.1775	0.0293	-1.0268	0.0787
1	85.08	0.3913	0.0325	0.0020	-0.0101	0.0191	-0.2465	0.0394	-1.0593	0.0709
1	85.08	0.4496	0.0232	0.0031	-0.0397	0.0242	-0.3889	0.0505	-1.1746	0.0666
1	85.08	0.4997	0.0245	0.0031	-0.0555	0.0294	-0.5350	0.0588	-1.2033	0.0728
1	85.08	0.5387	0.0229	0.0029	-0.0678	0.0335	-0.6928	0.0663	-1.3643	0.0783
1	85.08	0.5996	0.0123	0.0033	-0.1131	0.0388	-0.9575	0.0784	-1.2573	0.0761
1	85.08	0.6498	0.0121	0.0053	-0.1443	0.0435	-1.2356	0.0877	-1.3403	0.0823
1	85.08	0.6998	-0.0087	0.0099	-0.1659	0.0475	-1.4907	0.0956	-1.2557	0.1056
1	85.08	0.7500	0.0155	0.0109	-0.1860	0.0556	-1.8330	0.1038	-1.2249	0.1085
1	85.08	0.8001	-0.1430	0.0030	-0.2121	0.0618	-2.0682	0.1161	-1.4081	0.0886
1	85.08	0.8497	-0.2033	0.0036	-0.2290	0.0662	-2.4420	0.1280	-1.5427	0.0876
1	85.08	0.9102	-0.2796	0.0027	-0.2297	0.0726	-2.9827	0.1445	-1.8614	0.0917
1	85.08	0.9734	-0.1765	0.0023	-0.1957	0.0791	-3.6197	0.1605	-1.8928	0.0944

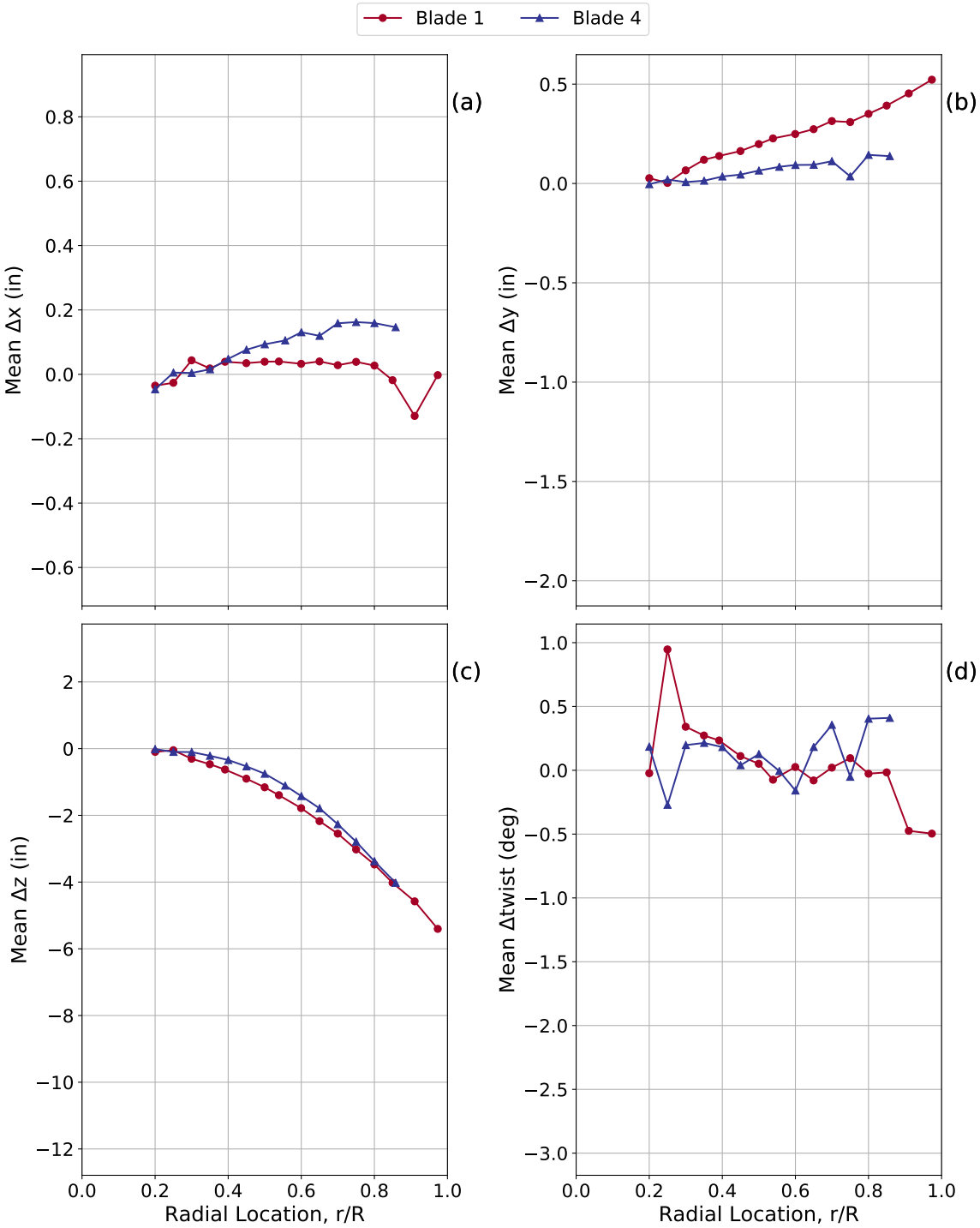


Figure 4.19-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0353	0.0051	0.0267	0.0023	-0.0978	0.0050	-0.0230	0.0625
1	90	0.2499	-0.0263	0.0029	0.0029	0.0038	-0.0466	0.0101	0.9470	0.0739
1	90	0.2998	0.0435	0.0022	0.0661	0.0075	-0.3040	0.0145	0.3410	0.1258
1	90	0.3498	0.0184	0.0021	0.1195	0.0141	-0.4674	0.0298	0.2725	0.0952
1	90	0.3913	0.0390	0.0022	0.1384	0.0183	-0.6272	0.0375	0.2339	0.1030
1	90	0.4496	0.0347	0.0021	0.1631	0.0253	-0.9000	0.0508	0.1114	0.0932
1	90	0.4997	0.0392	0.0021	0.1984	0.0301	-1.1589	0.0594	0.0512	0.1045
1	90	0.5387	0.0399	0.0024	0.2269	0.0350	-1.3948	0.0691	-0.0737	0.1031
1	90	0.5996	0.0327	0.0028	0.2490	0.0413	-1.7828	0.0816	0.0257	0.0991
1	90	0.6498	0.0400	0.0028	0.2733	0.0470	-2.1730	0.0922	-0.0794	0.0876
1	90	0.6998	0.0284	0.0039	0.3141	0.0525	-2.5472	0.1005	0.0208	0.1150
1	90	0.7500	0.0388	0.0062	0.3091	0.0554	-3.0221	0.1131	0.0950	0.0920
1	90	0.8001	0.0272	0.0055	0.3506	0.0640	-3.4735	0.1192	-0.0266	0.1306
1	90	0.8497	-0.0181	0.0046	0.3920	0.0700	-4.0225	0.1312	-0.0163	0.1611
1	90	0.9102	-0.1293	0.0039	0.4532	0.0767	-4.5775	0.1475	-0.4744	0.0973
1	90	0.9734	-0.0025	0.0044	0.5224	0.0837	-5.4027	0.1664	-0.4961	0.0955
4	90.35	0.2001	-0.0465	0.0014	-0.0037	0.0005	-0.0158	0.0013	0.1842	0.0136
4	90.35	0.2502	0.0054	0.0007	0.0196	0.0010	-0.0976	0.0034	-0.2707	0.0250
4	90.35	0.3001	0.0043	0.0009	0.0070	0.0015	-0.1033	0.0049	0.1973	0.0313
4	90.35	0.3502	0.0156	0.0008	0.0139	0.0034	-0.2150	0.0093	0.2144	0.0229
4	90.35	0.4002	0.0481	0.0015	0.0351	0.0047	-0.3419	0.0142	0.1817	0.0296
4	90.35	0.4500	0.0764	0.0017	0.0447	0.0057	-0.5325	0.0167	0.0396	0.0242
4	90.35	0.5001	0.0933	0.0021	0.0649	0.0069	-0.7532	0.0186	0.1265	0.0230
4	90.35	0.5560	0.1053	0.0020	0.0838	0.0083	-1.1082	0.0206	-0.0060	0.0247
4	90.35	0.6001	0.1307	0.0025	0.0931	0.0095	-1.4232	0.0254	-0.1585	0.0300
4	90.35	0.6501	0.1195	0.0022	0.0939	0.0113	-1.7897	0.0296	0.1827	0.0368
4	90.35	0.6999	0.1586	0.0033	0.1120	0.0125	-2.2669	0.0317	0.3561	0.0391
4	90.35	0.7500	0.1623	0.0034	0.0357	0.0155	-2.7901	0.0369	-0.0512	0.0565
4	90.35	0.8002	0.1591	0.0053	0.1438	0.0158	-3.3762	0.0433	0.4042	0.1285
4	90.35	0.8582	0.1464	0.0131	0.1376	0.0165	-4.0237	0.0617	0.4105	0.2114

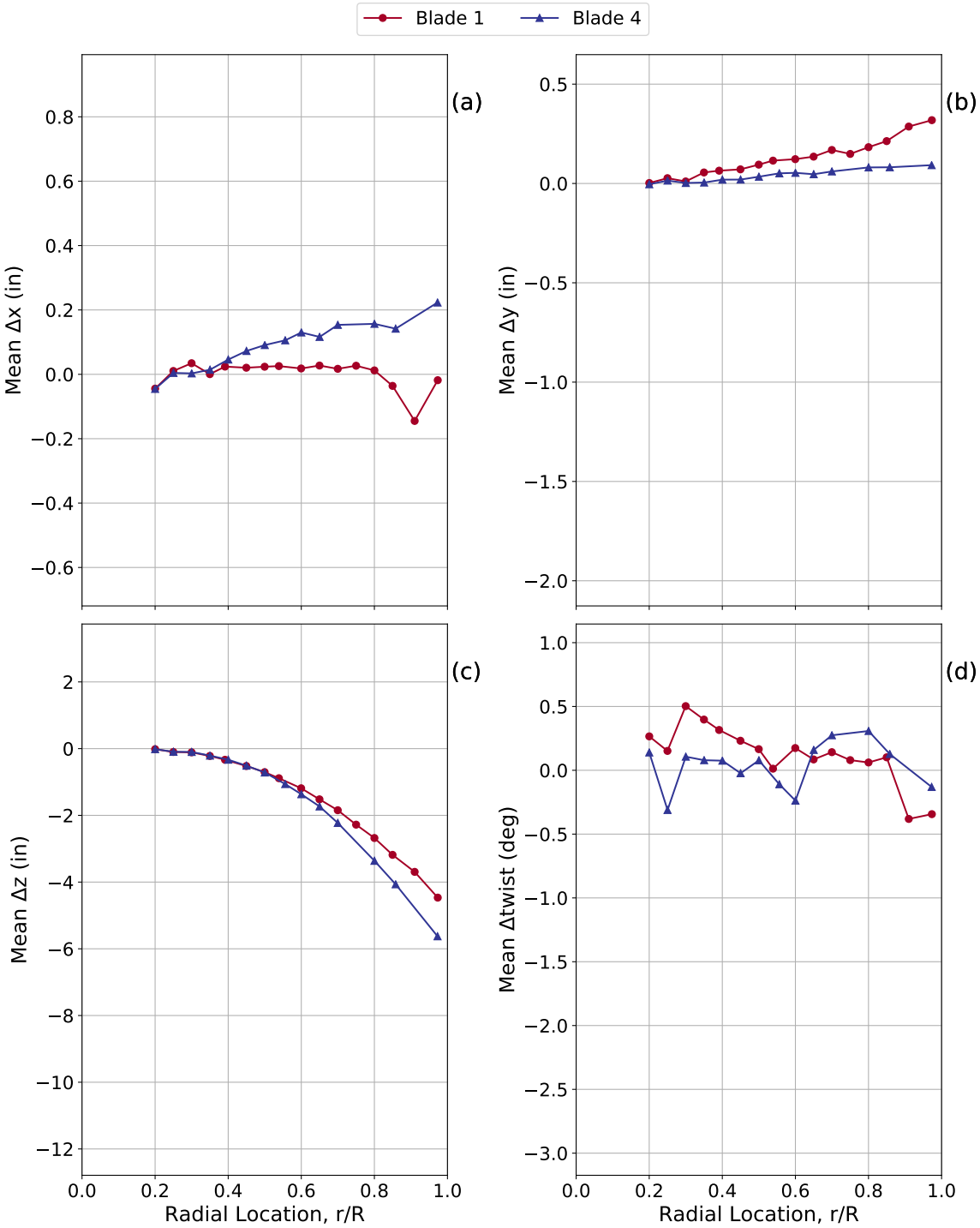


Figure 4.19-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0444	0.0026	0.0023	0.0009	-0.0172	0.0029	0.2657	0.0523
1	94.92	0.2499	0.0104	0.0030	0.0267	0.0030	-0.1004	0.0081	0.1518	0.0622
1	94.92	0.2998	0.0345	0.0038	0.0102	0.0033	-0.1114	0.0102	0.5028	0.1118
1	94.92	0.3498	0.0006	0.0039	0.0554	0.0081	-0.2197	0.0239	0.3975	0.0710
1	94.92	0.3913	0.0240	0.0035	0.0644	0.0102	-0.3333	0.0296	0.3158	0.0597
1	94.92	0.4496	0.0205	0.0030	0.0710	0.0136	-0.5211	0.0379	0.2316	0.0676
1	94.92	0.4997	0.0236	0.0023	0.0948	0.0159	-0.7044	0.0458	0.1657	0.0591
1	94.92	0.5387	0.0256	0.0028	0.1150	0.0183	-0.8867	0.0519	0.0125	0.0666
1	94.92	0.5996	0.0182	0.0024	0.1224	0.0218	-1.1881	0.0610	0.1743	0.0626
1	94.92	0.6498	0.0273	0.0023	0.1351	0.0242	-1.5199	0.0666	0.0850	0.0813
1	94.92	0.6998	0.0171	0.0025	0.1686	0.0275	-1.8464	0.0751	0.1420	0.0595
1	94.92	0.7500	0.0267	0.0043	0.1488	0.0304	-2.2788	0.0799	0.0797	0.0737
1	94.92	0.8001	0.0122	0.0041	0.1827	0.0353	-2.6790	0.0871	0.0612	0.0865
1	94.92	0.8497	-0.0359	0.0050	0.2132	0.0382	-3.1837	0.0953	0.1016	0.0765
1	94.92	0.9102	-0.1448	0.0040	0.2865	0.0447	-3.6940	0.1020	-0.3811	0.0605
1	94.92	0.9734	-0.0182	0.0043	0.3187	0.0494	-4.4662	0.1104	-0.3437	0.0640
4	94.92	0.2001	-0.0453	0.0009	-0.0040	0.0007	-0.0152	0.0010	0.1396	0.0119
4	94.92	0.2502	0.0043	0.0010	0.0144	0.0012	-0.0947	0.0019	-0.3111	0.0177
4	94.92	0.3001	0.0029	0.0005	0.0025	0.0025	-0.0999	0.0041	0.1066	0.0256
4	94.92	0.3502	0.0143	0.0010	0.0046	0.0045	-0.2090	0.0052	0.0790	0.0303
4	94.92	0.4002	0.0459	0.0013	0.0192	0.0066	-0.3322	0.0093	0.0753	0.0280
4	94.92	0.4500	0.0725	0.0018	0.0196	0.0086	-0.5112	0.0152	-0.0230	0.0266
4	94.92	0.5001	0.0909	0.0017	0.0340	0.0115	-0.7155	0.0216	0.0780	0.0217
4	94.92	0.5560	0.1056	0.0021	0.0510	0.0146	-1.0624	0.0260	-0.1096	0.0230
4	94.92	0.6001	0.1300	0.0020	0.0535	0.0170	-1.3674	0.0295	-0.2376	0.0327
4	94.92	0.6501	0.1162	0.0023	0.0465	0.0201	-1.7335	0.0341	0.1595	0.0328
4	94.92	0.6999	0.1536	0.0021	0.0605	0.0236	-2.2283	0.0415	0.2743	0.0303
4	94.92	0.8002	0.1568	0.0032	0.0808	0.0317	-3.3632	0.0527	0.3079	0.0726
4	94.92	0.8582	0.1418	0.0072	0.0815	0.0357	-4.0669	0.0593	0.1275	0.1182
4	94.92	0.9728	0.2230	0.0083	0.0922	0.0459	-5.6256	0.1073	-0.1308	0.2069

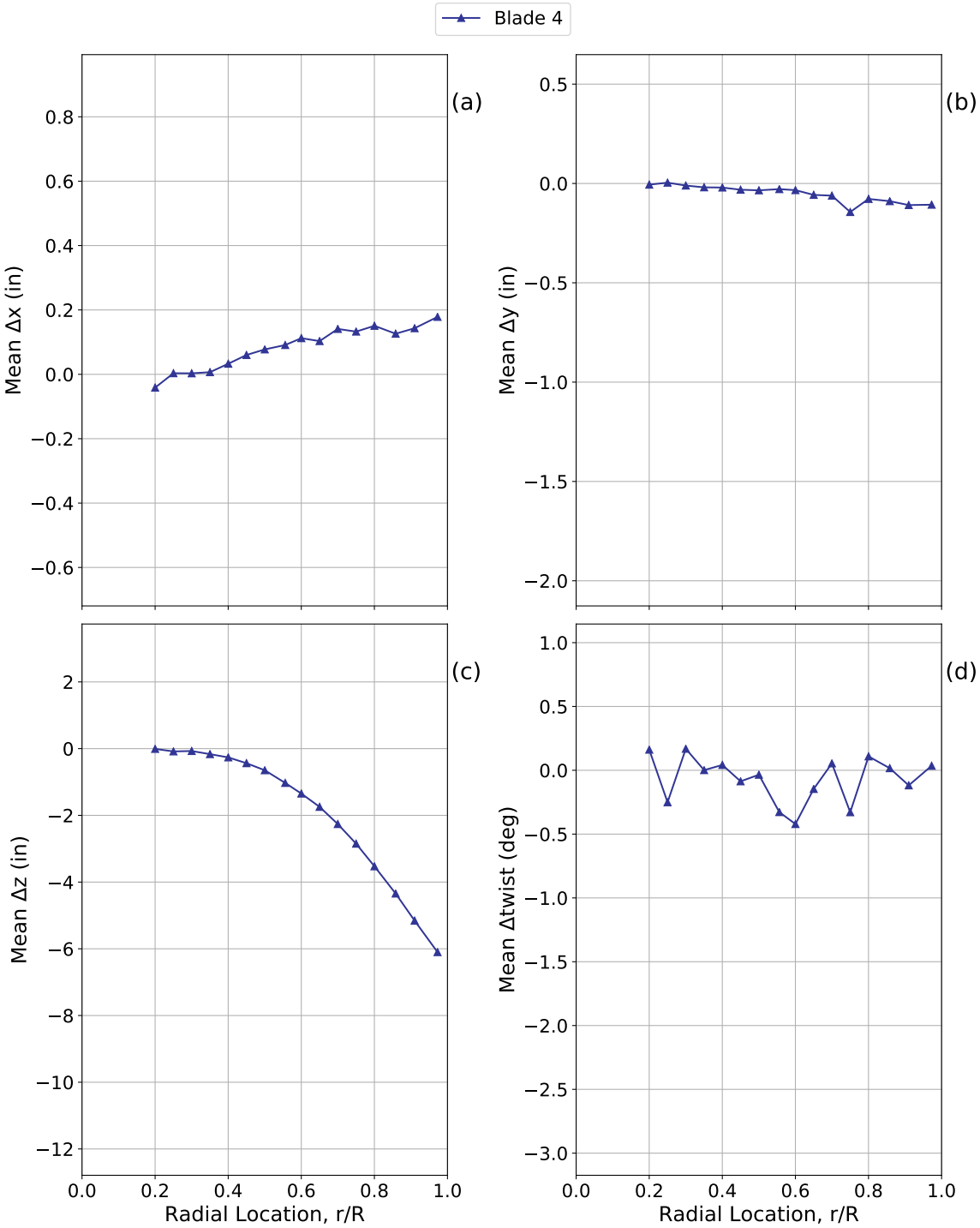


Figure 4.19-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0413	0.0012	-0.0060	0.0005	-0.0080	0.0011	0.1615	0.0115
4	105.12	0.2502	0.0034	0.0010	0.0040	0.0008	-0.0834	0.0028	-0.2506	0.0197
4	105.12	0.3001	0.0031	0.0008	-0.0106	0.0018	-0.0714	0.0047	0.1686	0.0260
4	105.12	0.3502	0.0067	0.0011	-0.0194	0.0023	-0.1653	0.0080	0.0012	0.0157
4	105.12	0.4002	0.0329	0.0011	-0.0205	0.0040	-0.2627	0.0124	0.0418	0.0234
4	105.12	0.4500	0.0600	0.0016	-0.0315	0.0049	-0.4365	0.0168	-0.0866	0.0182
4	105.12	0.5001	0.0774	0.0018	-0.0345	0.0065	-0.6484	0.0194	-0.0349	0.0217
4	105.12	0.5560	0.0910	0.0011	-0.0285	0.0084	-1.0279	0.0241	-0.3277	0.0185
4	105.12	0.6001	0.1123	0.0012	-0.0336	0.0097	-1.3472	0.0267	-0.4212	0.0292
4	105.12	0.6501	0.1032	0.0017	-0.0575	0.0115	-1.7456	0.0284	-0.1463	0.0222
4	105.12	0.6999	0.1410	0.0023	-0.0613	0.0136	-2.2611	0.0326	0.0540	0.0259
4	105.12	0.7500	0.1327	0.0024	-0.1438	0.0153	-2.8490	0.0350	-0.3287	0.0287
4	105.12	0.8002	0.1507	0.0022	-0.0778	0.0172	-3.5282	0.0405	0.1089	0.0285
4	105.12	0.8582	0.1261	0.0026	-0.0891	0.0205	-4.3442	0.0449	0.0163	0.0510
4	105.12	0.9101	0.1432	0.0030	-0.1088	0.0218	-5.1574	0.0465	-0.1182	0.0607
4	105.12	0.9728	0.1784	0.0038	-0.1069	0.0255	-6.1004	0.0512	0.0353	0.0474

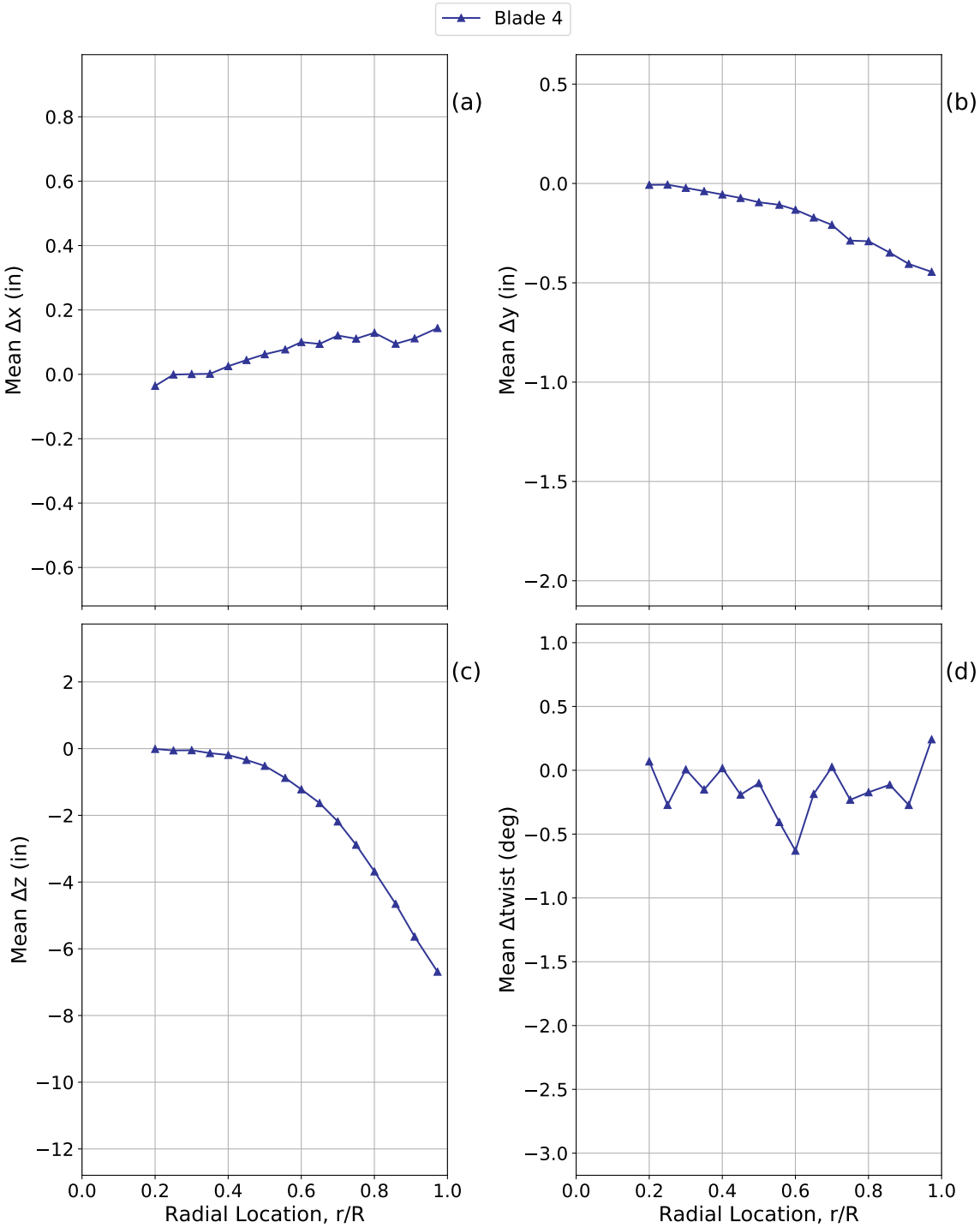


Figure 4.19-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0360	0.0007	-0.0070	0.0003	-0.0104	0.0008	0.0690	0.0077
4	119.88	0.2502	-0.0008	0.0006	-0.0062	0.0010	-0.0536	0.0015	-0.2720	0.0141
4	119.88	0.3001	0.0007	0.0008	-0.0222	0.0015	-0.0484	0.0026	0.0066	0.0171
4	119.88	0.3502	0.0016	0.0009	-0.0388	0.0026	-0.1355	0.0049	-0.1514	0.0191
4	119.88	0.4002	0.0253	0.0011	-0.0557	0.0041	-0.1912	0.0070	0.0161	0.0207
4	119.88	0.4500	0.0443	0.0015	-0.0732	0.0054	-0.3396	0.0086	-0.1913	0.0159
4	119.88	0.5001	0.0623	0.0018	-0.0945	0.0070	-0.5180	0.0109	-0.1010	0.0223
4	119.88	0.5560	0.0773	0.0011	-0.1075	0.0088	-0.8776	0.0136	-0.4062	0.0214
4	119.88	0.6001	0.1001	0.0012	-0.1323	0.0109	-1.2215	0.0154	-0.6303	0.0172
4	119.88	0.6501	0.0944	0.0012	-0.1717	0.0129	-1.6326	0.0185	-0.1859	0.0242
4	119.88	0.6999	0.1205	0.0019	-0.2086	0.0153	-2.1848	0.0212	0.0254	0.0242
4	119.88	0.7500	0.1107	0.0019	-0.2876	0.0177	-2.8834	0.0243	-0.2313	0.0242
4	119.88	0.8002	0.1289	0.0021	-0.2909	0.0200	-3.6831	0.0280	-0.1724	0.0179
4	119.88	0.8582	0.0949	0.0022	-0.3482	0.0229	-4.6537	0.0340	-0.1133	0.0205
4	119.88	0.9101	0.1116	0.0023	-0.4050	0.0259	-5.6372	0.0396	-0.2723	0.0248
4	119.88	0.9728	0.1436	0.0032	-0.4451	0.0292	-6.6890	0.0483	0.2425	0.0130

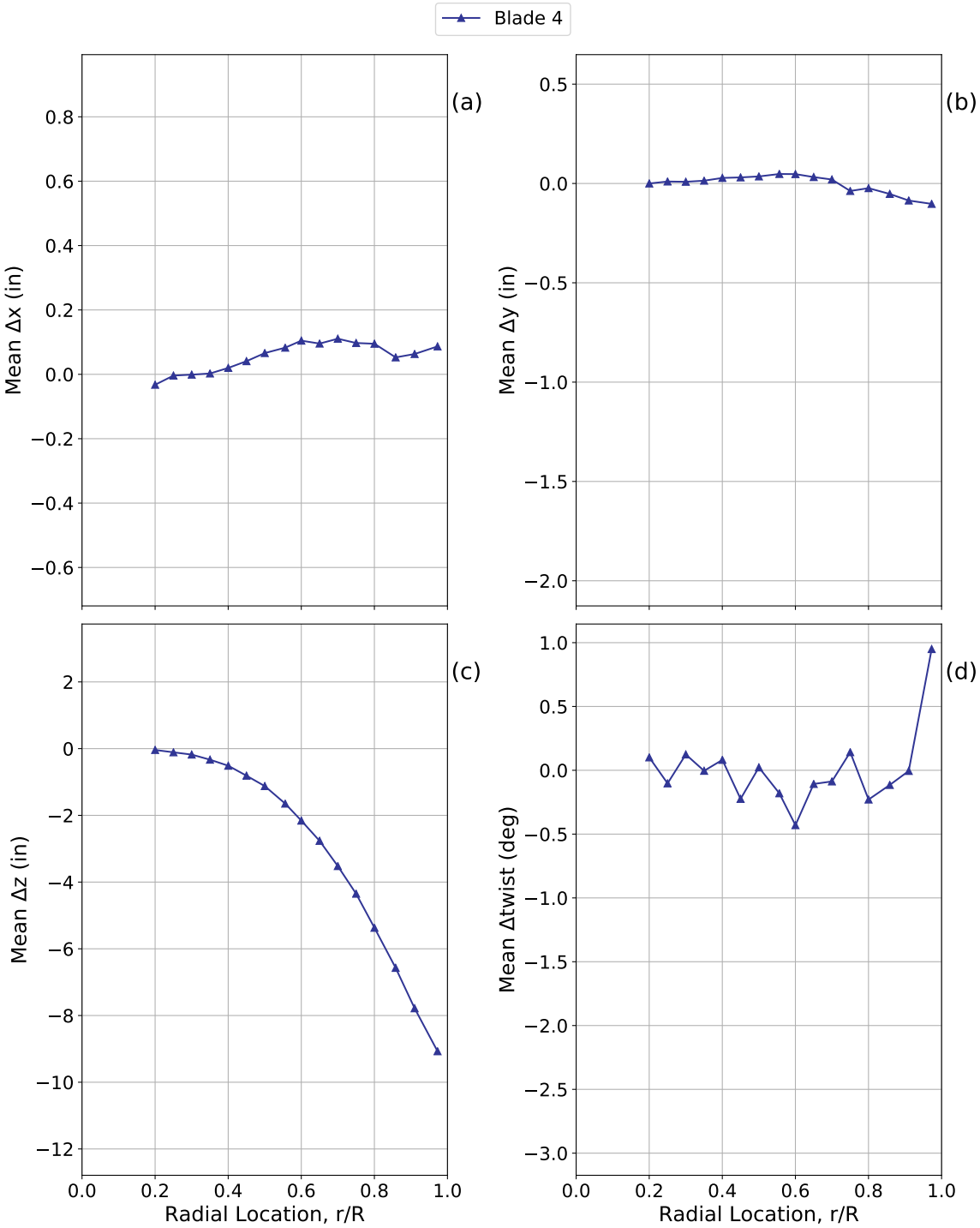


Figure 4.19-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0324	0.0013	-0.0001	0.0006	-0.0396	0.0013	0.1011	0.0091
4	135	0.2502	-0.0039	0.0010	0.0098	0.0016	-0.1102	0.0025	-0.1027	0.0225
4	135	0.3001	-0.0010	0.0011	0.0085	0.0019	-0.1785	0.0059	0.1240	0.0217
4	135	0.3502	0.0026	0.0013	0.0140	0.0036	-0.3313	0.0077	-0.0042	0.0284
4	135	0.4002	0.0199	0.0011	0.0279	0.0057	-0.5128	0.0134	0.0816	0.0245
4	135	0.4500	0.0408	0.0011	0.0305	0.0069	-0.8108	0.0168	-0.2242	0.0230
4	135	0.5001	0.0660	0.0010	0.0354	0.0083	-1.1230	0.0217	0.0225	0.0239
4	135	0.5560	0.0828	0.0014	0.0477	0.0100	-1.6484	0.0261	-0.1802	0.0297
4	135	0.6001	0.1046	0.0012	0.0471	0.0116	-2.1584	0.0295	-0.4301	0.0245
4	135	0.6501	0.0955	0.0010	0.0322	0.0137	-2.7647	0.0352	-0.1071	0.0275
4	135	0.6999	0.1106	0.0018	0.0199	0.0148	-3.5206	0.0380	-0.0874	0.0272
4	135	0.7500	0.0973	0.0013	-0.0378	0.0170	-4.3491	0.0403	0.1420	0.0271
4	135	0.8002	0.0950	0.0016	-0.0236	0.0187	-5.3705	0.0433	-0.2292	0.0256
4	135	0.8582	0.0526	0.0021	-0.0528	0.0205	-6.5724	0.0475	-0.1149	0.0249
4	135	0.9101	0.0631	0.0023	-0.0859	0.0221	-7.7835	0.0533	-0.0052	0.0206
4	135	0.9728	0.0867	0.0023	-0.1028	0.0245	-9.0715	0.0603	0.9498	0.0216

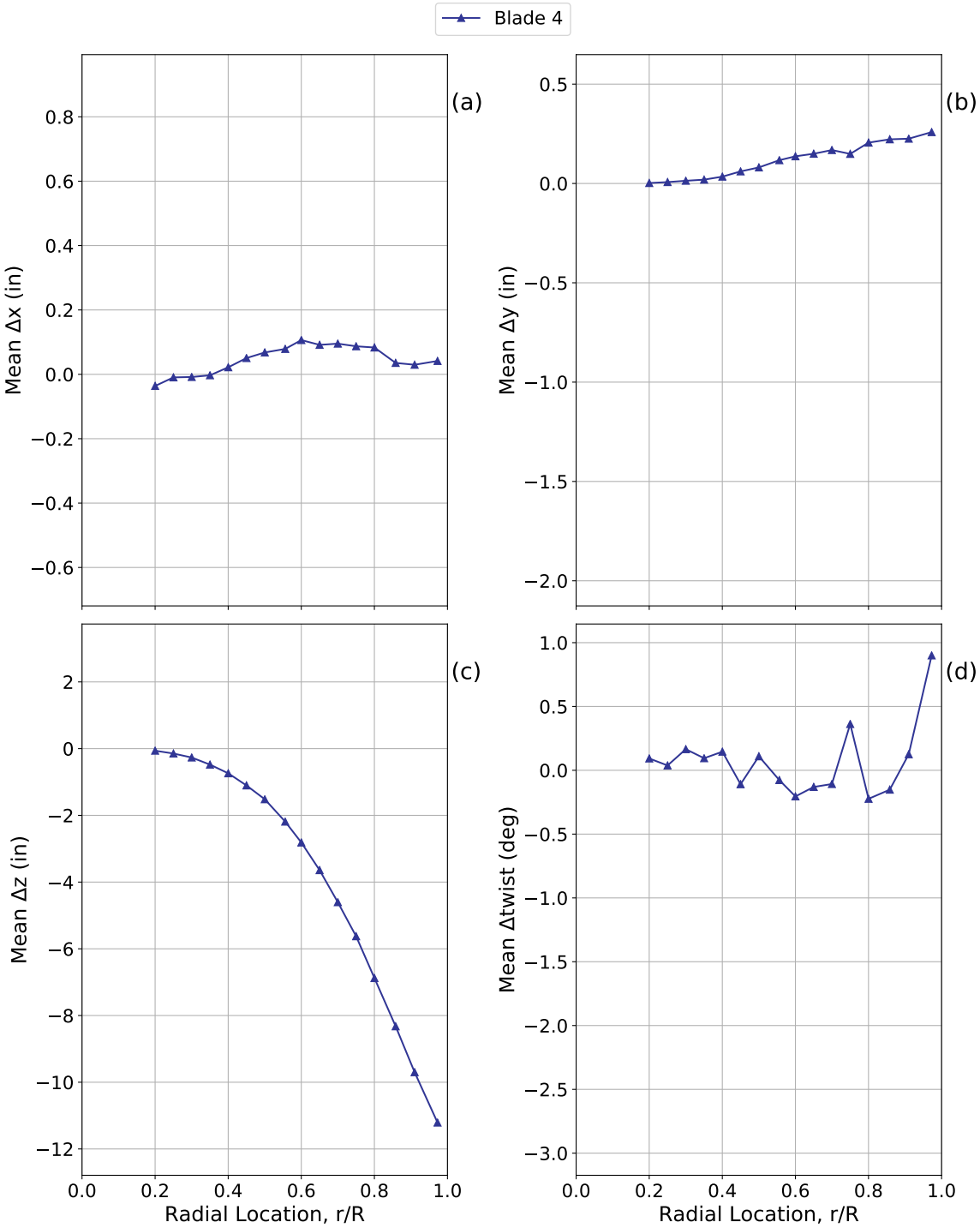


Figure 4.19-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0361	0.0012	0.0022	0.0008	-0.0620	0.0010	0.0926	0.0109
4	150.12	0.2502	-0.0095	0.0014	0.0069	0.0012	-0.1464	0.0032	0.0377	0.0105
4	150.12	0.3001	-0.0083	0.0013	0.0136	0.0028	-0.2662	0.0044	0.1653	0.0194
4	150.12	0.3502	-0.0030	0.0011	0.0192	0.0048	-0.4790	0.0066	0.0945	0.0170
4	150.12	0.4002	0.0219	0.0012	0.0344	0.0072	-0.7398	0.0114	0.1457	0.0147
4	150.12	0.4500	0.0505	0.0011	0.0607	0.0073	-1.1030	0.0131	-0.1093	0.0129
4	150.12	0.5001	0.0679	0.0011	0.0808	0.0083	-1.5174	0.0165	0.1095	0.0171
4	150.12	0.5560	0.0789	0.0017	0.1171	0.0108	-2.1881	0.0211	-0.0768	0.0204
4	150.12	0.6001	0.1064	0.0014	0.1367	0.0123	-2.8141	0.0249	-0.2047	0.0274
4	150.12	0.6501	0.0915	0.0018	0.1496	0.0139	-3.6433	0.0296	-0.1306	0.0172
4	150.12	0.6999	0.0953	0.0019	0.1682	0.0162	-4.6032	0.0347	-0.1077	0.0263
4	150.12	0.7500	0.0871	0.0020	0.1488	0.0179	-5.6246	0.0405	0.3627	0.0261
4	150.12	0.8002	0.0833	0.0027	0.2056	0.0216	-6.8783	0.0465	-0.2235	0.0219
4	150.12	0.8582	0.0354	0.0032	0.2222	0.0248	-8.3236	0.0542	-0.1519	0.0276
4	150.12	0.9101	0.0297	0.0037	0.2254	0.0276	-9.6998	0.0623	0.1254	0.0200
4	150.12	0.9728	0.0415	0.0046	0.2585	0.0308	-11.2098	0.0731	0.9000	0.0298

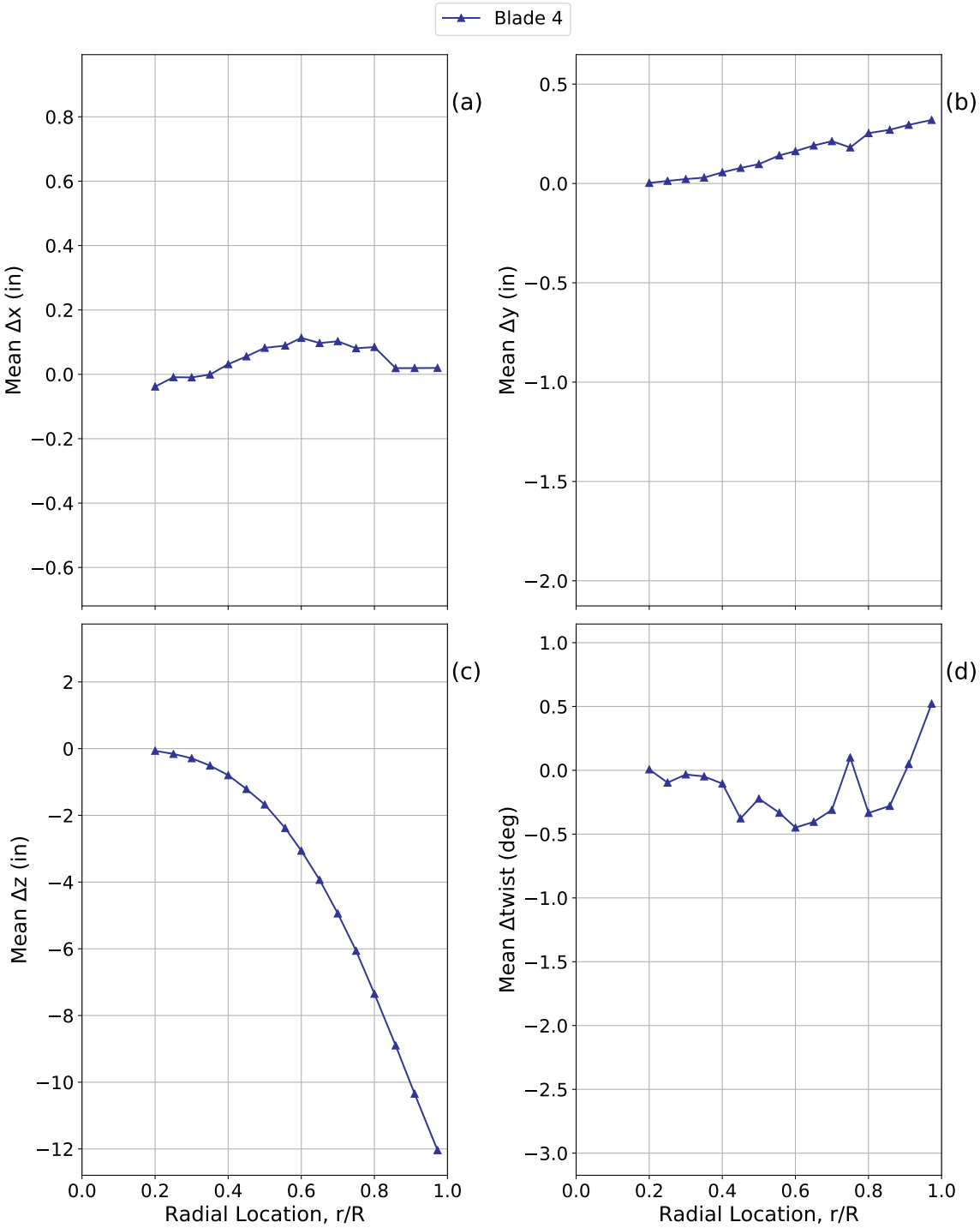


Figure 4.19-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0381	0.0013	0.0026	0.0008	-0.0649	0.0016	0.0067	0.0130
4	164.88	0.2502	-0.0090	0.0012	0.0129	0.0016	-0.1593	0.0040	-0.0971	0.0225
4	164.88	0.3001	-0.0096	0.0009	0.0220	0.0035	-0.2887	0.0067	-0.0329	0.0292
4	164.88	0.3502	-0.0007	0.0010	0.0294	0.0053	-0.5094	0.0108	-0.0480	0.0258
4	164.88	0.4002	0.0315	0.0013	0.0561	0.0087	-0.7971	0.0175	-0.1048	0.0170
4	164.88	0.4500	0.0557	0.0012	0.0783	0.0107	-1.2123	0.0200	-0.3773	0.0230
4	164.88	0.5001	0.0822	0.0018	0.0973	0.0124	-1.6767	0.0251	-0.2222	0.0256
4	164.88	0.5560	0.0891	0.0020	0.1412	0.0153	-2.3830	0.0319	-0.3328	0.0257
4	164.88	0.6001	0.1133	0.0019	0.1626	0.0172	-3.0612	0.0362	-0.4491	0.0240
4	164.88	0.6501	0.0970	0.0019	0.1909	0.0190	-3.9338	0.0402	-0.4043	0.0320
4	164.88	0.6999	0.1028	0.0021	0.2129	0.0223	-4.9415	0.0447	-0.3101	0.0190
4	164.88	0.7500	0.0809	0.0019	0.1812	0.0254	-6.0615	0.0477	0.1001	0.0293
4	164.88	0.8002	0.0847	0.0027	0.2532	0.0277	-7.3493	0.0496	-0.3341	0.0310
4	164.88	0.8582	0.0192	0.0027	0.2701	0.0311	-8.8984	0.0538	-0.2792	0.0372
4	164.88	0.9101	0.0194	0.0032	0.2951	0.0340	-10.3455	0.0553	0.0486	0.0288
4	164.88	0.9728	0.0198	0.0041	0.3196	0.0376	-12.0383	0.0595	0.5219	0.0185

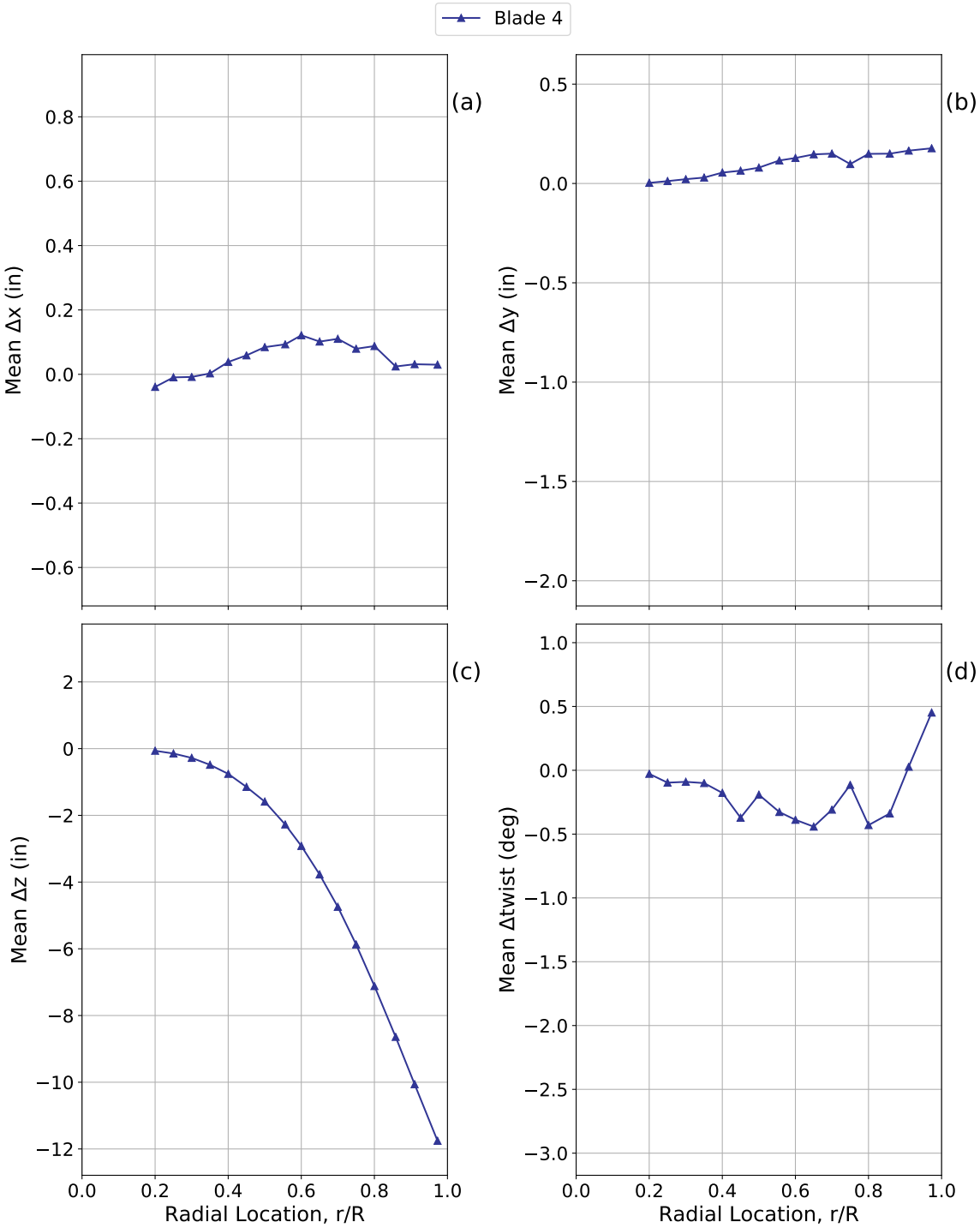


Figure 4.19-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0391	0.0012	0.0030	0.0006	-0.0639	0.0024	-0.0280	0.0113
4	170.16	0.2502	-0.0094	0.0018	0.0119	0.0017	-0.1462	0.0024	-0.0969	0.0269
4	170.16	0.3001	-0.0082	0.0013	0.0215	0.0031	-0.2777	0.0072	-0.0905	0.0239
4	170.16	0.3502	0.0029	0.0019	0.0297	0.0044	-0.4850	0.0116	-0.1003	0.0227
4	170.16	0.4002	0.0384	0.0017	0.0548	0.0074	-0.7571	0.0167	-0.1775	0.0213
4	170.16	0.4500	0.0589	0.0018	0.0644	0.0088	-1.1486	0.0204	-0.3720	0.0232
4	170.16	0.5001	0.0844	0.0024	0.0797	0.0119	-1.5892	0.0259	-0.1914	0.0230
4	170.16	0.5560	0.0932	0.0027	0.1157	0.0146	-2.2738	0.0314	-0.3269	0.0287
4	170.16	0.6001	0.1213	0.0023	0.1283	0.0165	-2.9179	0.0364	-0.3881	0.0279
4	170.16	0.6501	0.1017	0.0034	0.1465	0.0200	-3.7722	0.0414	-0.4416	0.0276
4	170.16	0.6999	0.1102	0.0028	0.1502	0.0228	-4.7431	0.0457	-0.3086	0.0225
4	170.16	0.7500	0.0794	0.0034	0.0977	0.0257	-5.8705	0.0504	-0.1146	0.0273
4	170.16	0.8002	0.0877	0.0038	0.1491	0.0291	-7.1183	0.0544	-0.4296	0.0309
4	170.16	0.8582	0.0244	0.0045	0.1500	0.0332	-8.6418	0.0604	-0.3385	0.0239
4	170.16	0.9101	0.0314	0.0051	0.1653	0.0372	-10.0606	0.0682	0.0274	0.0355
4	170.16	0.9728	0.0299	0.0072	0.1771	0.0420	-11.7567	0.0772	0.4519	0.0353

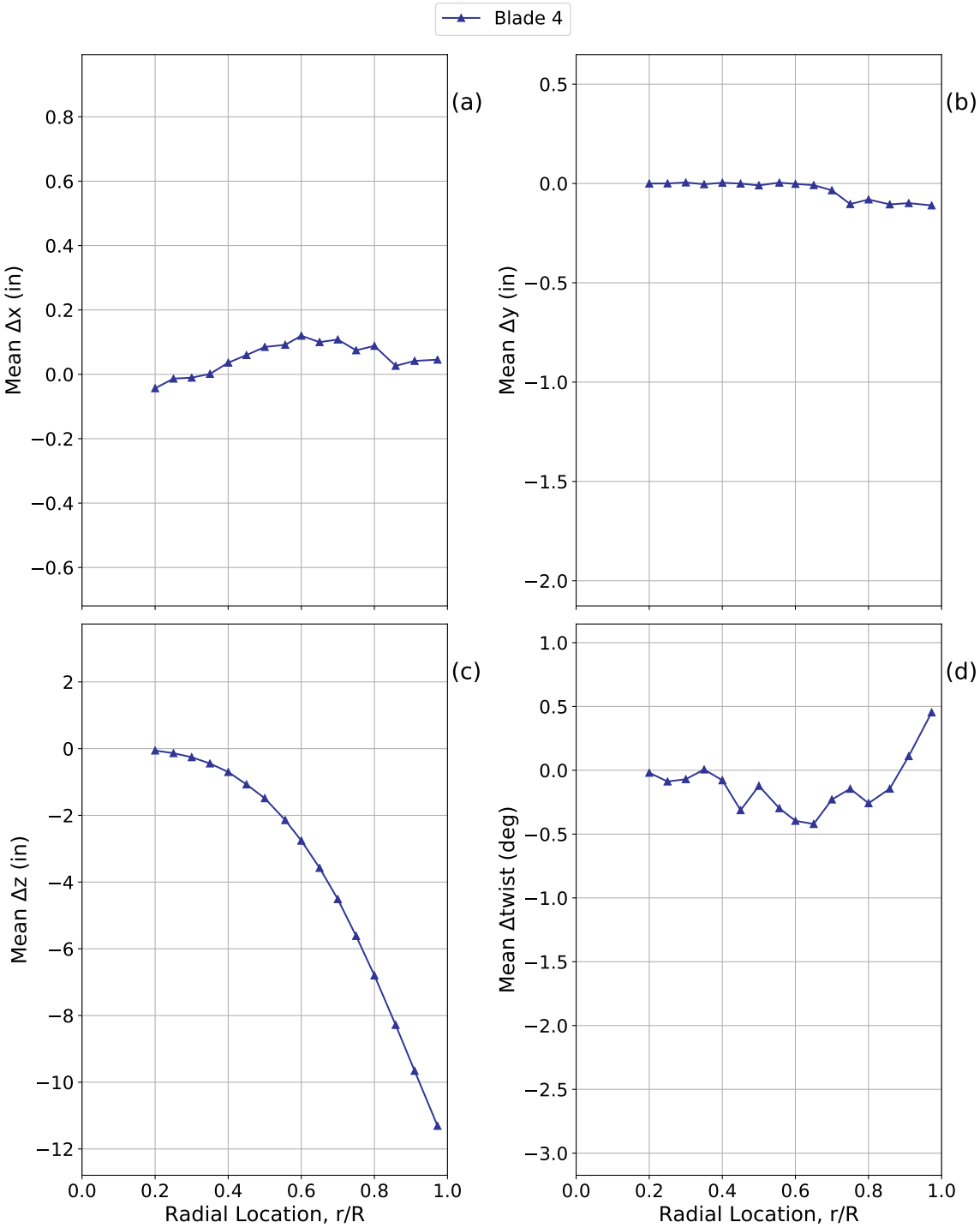


Figure 4.19-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0433	0.0006	-0.0005	0.0012	-0.0576	0.0027	-0.0195	0.0203
4	175.08	0.2502	-0.0134	0.0019	0.0001	0.0022	-0.1358	0.0039	-0.0879	0.0415
4	175.08	0.3001	-0.0104	0.0016	0.0050	0.0041	-0.2580	0.0099	-0.0698	0.0456
4	175.08	0.3502	0.0013	0.0008	-0.0040	0.0071	-0.4453	0.0150	0.0064	0.0352
4	175.08	0.4002	0.0363	0.0007	0.0036	0.0106	-0.7016	0.0235	-0.0786	0.0469
4	175.08	0.4500	0.0597	0.0012	-0.0007	0.0147	-1.0726	0.0276	-0.3128	0.0444
4	175.08	0.5001	0.0850	0.0016	-0.0098	0.0165	-1.4877	0.0322	-0.1223	0.0506
4	175.08	0.5560	0.0916	0.0013	0.0040	0.0211	-2.1423	0.0405	-0.2974	0.0546
4	175.08	0.6001	0.1198	0.0010	-0.0023	0.0226	-2.7600	0.0474	-0.3961	0.0419
4	175.08	0.6501	0.1000	0.0014	-0.0085	0.0270	-3.5758	0.0524	-0.4208	0.0455
4	175.08	0.6999	0.1080	0.0021	-0.0346	0.0295	-4.5127	0.0573	-0.2289	0.0593
4	175.08	0.7500	0.0746	0.0023	-0.1038	0.0349	-5.6161	0.0633	-0.1450	0.0480
4	175.08	0.8002	0.0883	0.0026	-0.0807	0.0389	-6.8014	0.0679	-0.2582	0.0352
4	175.08	0.8582	0.0263	0.0027	-0.1054	0.0431	-8.2823	0.0729	-0.1442	0.0430
4	175.08	0.9101	0.0417	0.0044	-0.0990	0.0482	-9.6589	0.0781	0.1106	0.0474
4	175.08	0.9728	0.0455	0.0033	-0.1106	0.0535	-11.3093	0.0890	0.4534	0.0385

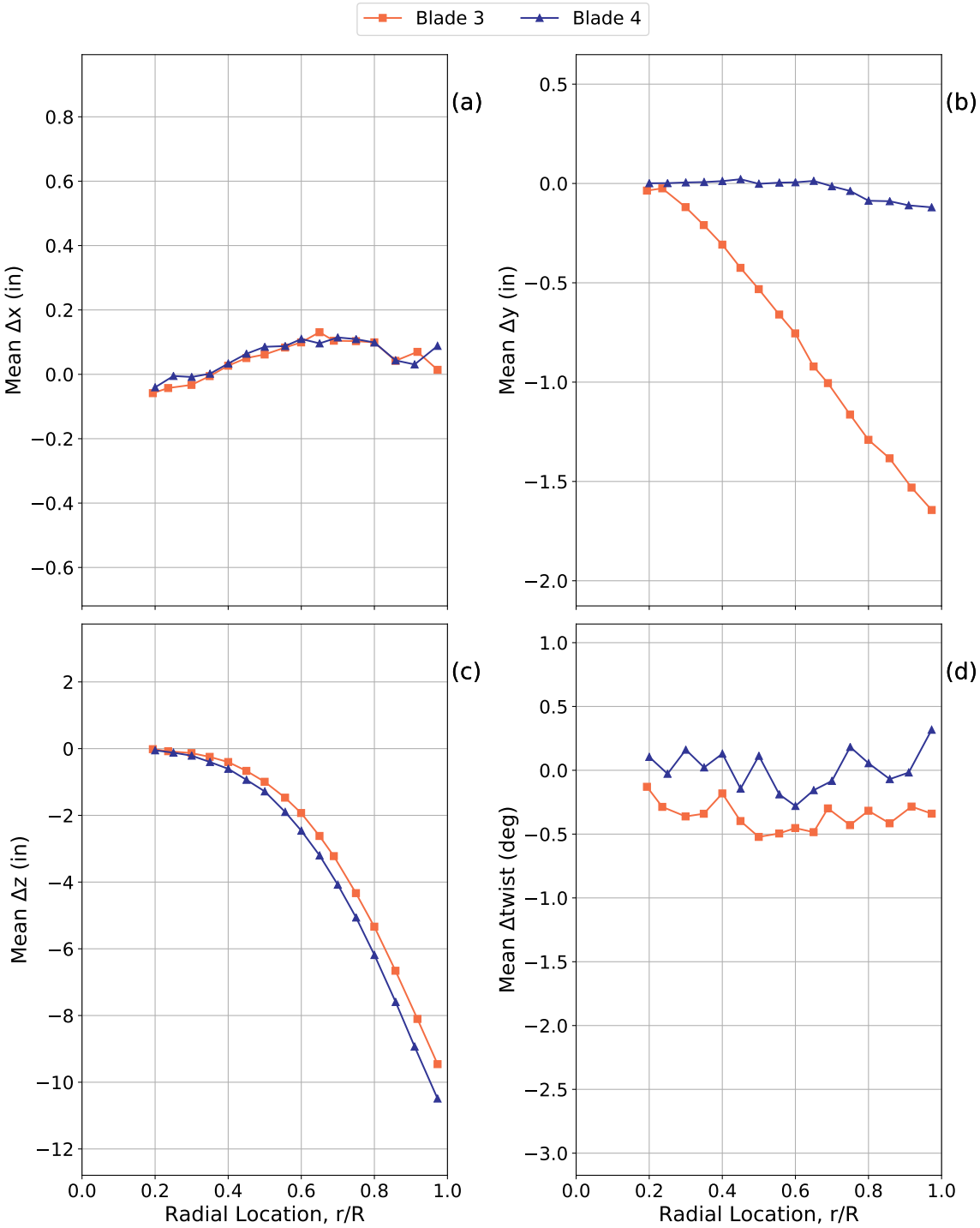


Figure 4.19-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0585	0.0030	-0.0359	0.0014	-0.0157	0.0040	-0.1294	0.0208
3	180.35	0.2357	-0.0426	0.0021	-0.0246	0.0018	-0.0766	0.0040	-0.2867	0.0520
3	180.35	0.2995	-0.0328	0.0025	-0.1191	0.0054	-0.1331	0.0109	-0.3616	0.0545
3	180.35	0.3493	-0.0055	0.0028	-0.2095	0.0093	-0.2467	0.0161	-0.3405	0.0582
3	180.35	0.4000	0.0268	0.0026	-0.3079	0.0142	-0.4015	0.0247	-0.1813	0.0539
3	180.35	0.4497	0.0505	0.0033	-0.4247	0.0183	-0.6664	0.0298	-0.3976	0.0526
3	180.35	0.4997	0.0616	0.0034	-0.5320	0.0223	-0.9935	0.0388	-0.5219	0.0504
3	180.35	0.5556	0.0832	0.0035	-0.6597	0.0263	-1.4695	0.0435	-0.4951	0.0638
3	180.35	0.5995	0.0992	0.0034	-0.7547	0.0308	-1.9296	0.0491	-0.4527	0.0540
3	180.35	0.6498	0.1308	0.0029	-0.9214	0.0348	-2.6176	0.0580	-0.4847	0.0503
3	180.35	0.6890	0.1044	0.0032	-1.0050	0.0377	-3.2220	0.0621	-0.2986	0.0520
3	180.35	0.7495	0.1031	0.0036	-1.1634	0.0439	-4.3314	0.0706	-0.4295	0.0589
3	180.35	0.7998	0.0994	0.0038	-1.2904	0.0481	-5.3368	0.0753	-0.3170	0.0620
3	180.35	0.8577	0.0420	0.0040	-1.3835	0.0537	-6.6578	0.0837	-0.4153	0.0476
3	180.35	0.9178	0.0698	0.0047	-1.5308	0.0588	-8.1027	0.0878	-0.2843	0.0713
3	180.35	0.9729	0.0140	0.0060	-1.6437	0.0642	-9.4578	0.0975	-0.3398	0.0476
4	180	0.2001	-0.0404	0.0013	0.0011	0.0012	-0.0513	0.0018	0.1045	0.0199
4	180	0.2502	-0.0051	0.0012	0.0016	0.0029	-0.1211	0.0041	-0.0278	0.0300
4	180	0.3001	-0.0083	0.0014	0.0051	0.0046	-0.2112	0.0066	0.1610	0.0429
4	180	0.3502	0.0019	0.0015	0.0070	0.0084	-0.4018	0.0112	0.0222	0.0389
4	180	0.4002	0.0336	0.0017	0.0119	0.0127	-0.6057	0.0170	0.1299	0.0434
4	180	0.4500	0.0639	0.0011	0.0214	0.0154	-0.9358	0.0210	-0.1441	0.0426
4	180	0.5001	0.0855	0.0019	-0.0017	0.0187	-1.2827	0.0274	0.1129	0.0388
4	180	0.5560	0.0878	0.0019	0.0041	0.0223	-1.8994	0.0305	-0.1890	0.0416
4	180	0.6001	0.1098	0.0017	0.0059	0.0257	-2.4615	0.0351	-0.2797	0.0362
4	180	0.6501	0.0961	0.0014	0.0128	0.0293	-3.2030	0.0379	-0.1560	0.0420
4	180	0.6999	0.1146	0.0018	-0.0142	0.0342	-4.0797	0.0428	-0.0834	0.0436
4	180	0.7500	0.1093	0.0026	-0.0378	0.0388	-5.0629	0.0465	0.1826	0.0412
4	180	0.8002	0.0988	0.0024	-0.0870	0.0438	-6.1874	0.0505	0.0552	0.0416
4	180	0.8582	0.0432	0.0042	-0.0894	0.0501	-7.5957	0.0588	-0.0692	0.0630
4	180	0.9101	0.0307	0.0053	-0.1102	0.0560	-8.9324	0.0613	-0.0176	0.0476
4	180	0.9728	0.0883	0.0105	-0.1201	0.0638	-10.4895	0.0688	0.3175	0.0825

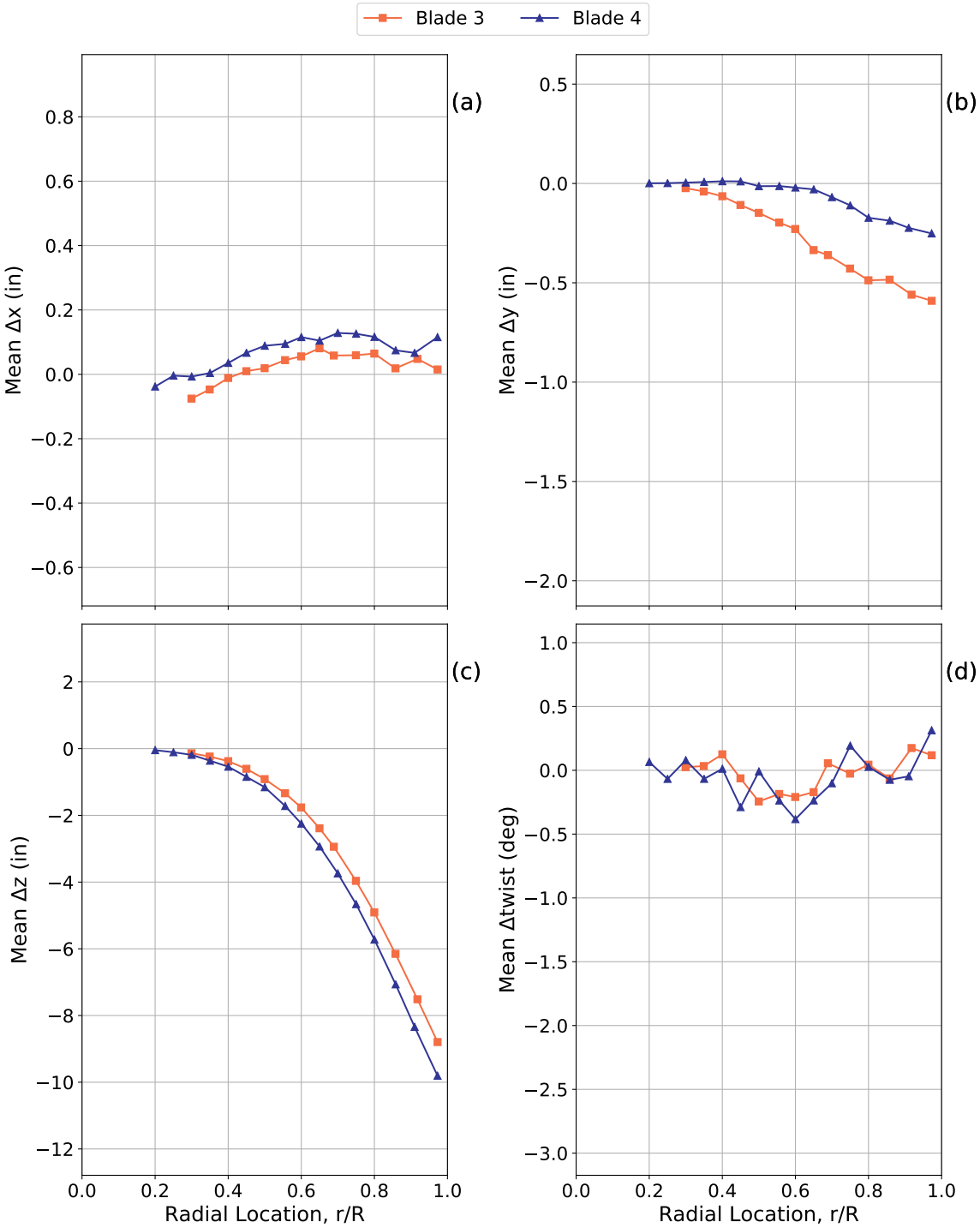


Figure 4.19-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0754	0.0040	-0.0235	0.0130	-0.1388	0.0190	0.0246	0.0585
3	184.92	0.3493	-0.0471	0.0043	-0.0404	0.0223	-0.2364	0.0320	0.0331	0.0769
3	184.92	0.4000	-0.0113	0.0036	-0.0644	0.0355	-0.3750	0.0503	0.1252	0.0655
3	184.92	0.4497	0.0098	0.0044	-0.1083	0.0453	-0.6044	0.0654	-0.0631	0.0682
3	184.92	0.4997	0.0190	0.0045	-0.1481	0.0572	-0.9131	0.0795	-0.2444	0.0668
3	184.92	0.5556	0.0441	0.0041	-0.1966	0.0685	-1.3368	0.0991	-0.1853	0.0570
3	184.92	0.5995	0.0557	0.0040	-0.2291	0.0791	-1.7621	0.1101	-0.2092	0.0807
3	184.92	0.6498	0.0809	0.0047	-0.3355	0.0876	-2.3882	0.1282	-0.1714	0.0741
3	184.92	0.6890	0.0584	0.0041	-0.3607	0.0958	-2.9403	0.1399	0.0553	0.0810
3	184.92	0.7495	0.0594	0.0059	-0.4284	0.1089	-3.9633	0.1589	-0.0261	0.0810
3	184.92	0.7998	0.0644	0.0061	-0.4874	0.1199	-4.9091	0.1759	0.0440	0.0702
3	184.92	0.8577	0.0185	0.0066	-0.4844	0.1334	-6.1507	0.1907	-0.0635	0.0875
3	184.92	0.9178	0.0479	0.0085	-0.5598	0.1443	-7.5129	0.2155	0.1742	0.0804
3	184.92	0.9729	0.0151	0.0088	-0.5907	0.1566	-8.7954	0.2338	0.1180	0.0732
4	184.92	0.2001	-0.0380	0.0025	0.0011	0.0014	-0.0462	0.0030	0.0650	0.0287
4	184.92	0.2502	-0.0041	0.0025	0.0017	0.0041	-0.1079	0.0059	-0.0677	0.0538
4	184.92	0.3001	-0.0070	0.0011	0.0042	0.0052	-0.1877	0.0096	0.0795	0.0643
4	184.92	0.3502	0.0041	0.0018	0.0074	0.0104	-0.3618	0.0176	-0.0673	0.0499
4	184.92	0.4002	0.0354	0.0029	0.0111	0.0155	-0.5417	0.0255	0.0117	0.0490
4	184.92	0.4500	0.0668	0.0037	0.0104	0.0189	-0.8457	0.0321	-0.2888	0.0531
4	184.92	0.5001	0.0887	0.0062	-0.0136	0.0253	-1.1567	0.0381	-0.0094	0.0550
4	184.92	0.5560	0.0946	0.0070	-0.0132	0.0293	-1.7205	0.0456	-0.2371	0.0459
4	184.92	0.6001	0.1155	0.0088	-0.0207	0.0324	-2.2482	0.0498	-0.3828	0.0527
4	184.92	0.6501	0.1046	0.0097	-0.0297	0.0367	-2.9339	0.0577	-0.2365	0.0479
4	184.92	0.6999	0.1285	0.0126	-0.0690	0.0401	-3.7404	0.0636	-0.1020	0.0470
4	184.92	0.7500	0.1260	0.0146	-0.1103	0.0451	-4.6624	0.0712	0.1930	0.0508
4	184.92	0.8002	0.1162	0.0159	-0.1728	0.0498	-5.7245	0.0752	0.0265	0.0587
4	184.92	0.8582	0.0746	0.0201	-0.1875	0.0551	-7.0668	0.0817	-0.0747	0.0574
4	184.92	0.9101	0.0666	0.0231	-0.2236	0.0611	-8.3412	0.0867	-0.0470	0.0562
4	184.92	0.9728	0.1154	0.0298	-0.2516	0.0662	-9.8062	0.0914	0.3132	0.0634

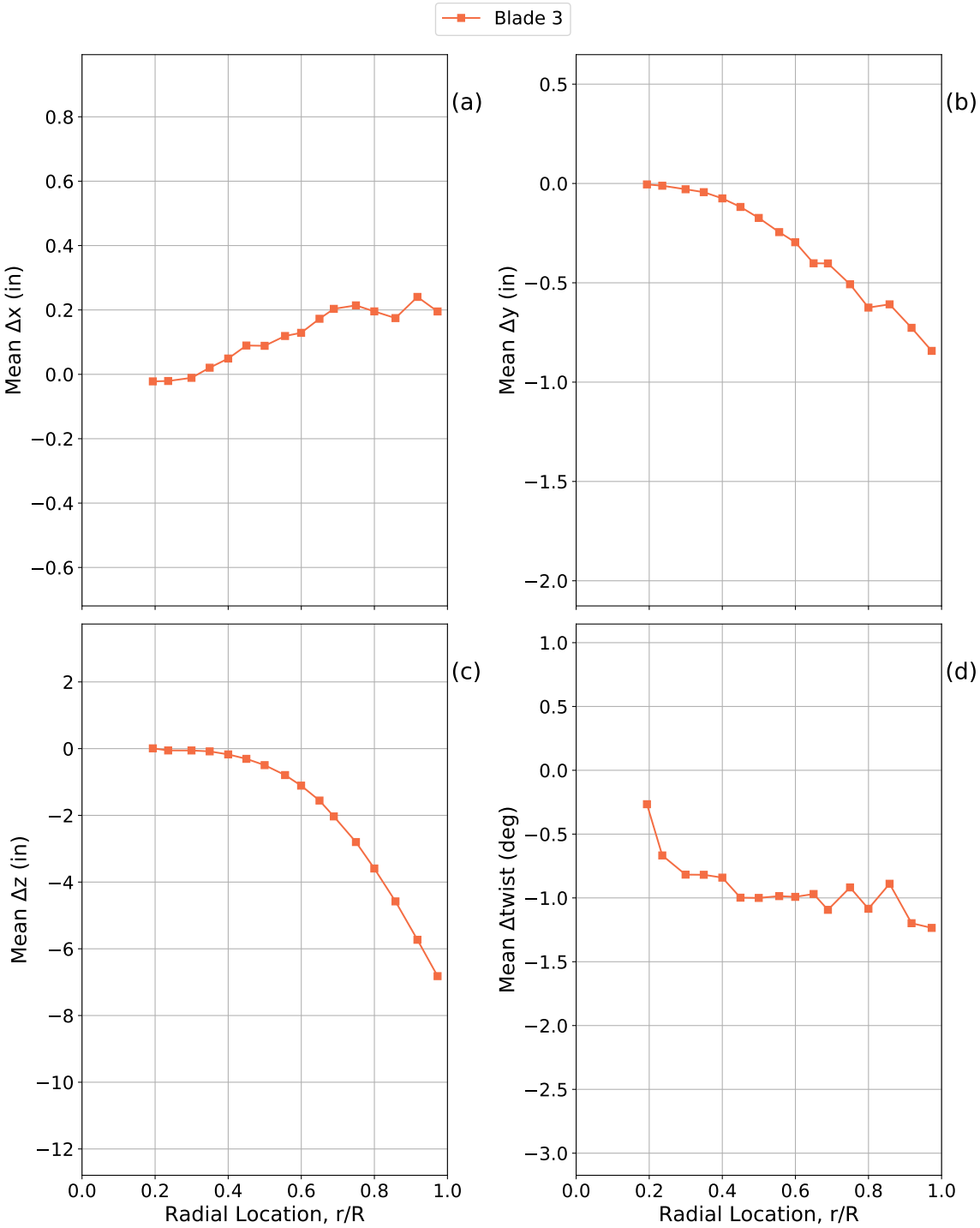


Figure 4.19-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0219	0.0048	-0.0048	0.0026	0.0086	0.0057	-0.2658	0.0286
3	195.12	0.2357	-0.0207	0.0030	-0.0113	0.0021	-0.0540	0.0045	-0.6672	0.0748
3	195.12	0.2995	-0.0109	0.0021	-0.0291	0.0072	-0.0547	0.0135	-0.8175	0.0775
3	195.12	0.3493	0.0206	0.0026	-0.0438	0.0113	-0.0821	0.0253	-0.8187	0.0642
3	195.12	0.4000	0.0491	0.0020	-0.0751	0.0168	-0.1731	0.0336	-0.8410	0.0658
3	195.12	0.4497	0.0895	0.0017	-0.1182	0.0225	-0.3059	0.0434	-0.9981	0.0706
3	195.12	0.4997	0.0886	0.0017	-0.1735	0.0272	-0.4946	0.0514	-1.0000	0.0772
3	195.12	0.5556	0.1191	0.0029	-0.2449	0.0334	-0.7925	0.0630	-0.9859	0.0742
3	195.12	0.5995	0.1289	0.0021	-0.2958	0.0362	-1.1085	0.0707	-0.9917	0.0822
3	195.12	0.6498	0.1726	0.0025	-0.4017	0.0424	-1.5559	0.0782	-0.9694	0.0862
3	195.12	0.6890	0.2034	0.0031	-0.4025	0.0469	-2.0316	0.0872	-1.0933	0.0827
3	195.12	0.7495	0.2142	0.0024	-0.5074	0.0574	-2.7999	0.1040	-0.9178	0.0847
3	195.12	0.7998	0.1955	0.0032	-0.6248	0.0608	-3.5930	0.1137	-1.0850	0.1039
3	195.12	0.8577	0.1747	0.0027	-0.6084	0.0704	-4.5791	0.1238	-0.8890	0.0920
3	195.12	0.9178	0.2405	0.0054	-0.7266	0.0781	-5.7295	0.1388	-1.1982	0.0930
3	195.12	0.9729	0.1953	0.0037	-0.8427	0.0848	-6.8194	0.1538	-1.2349	0.0805

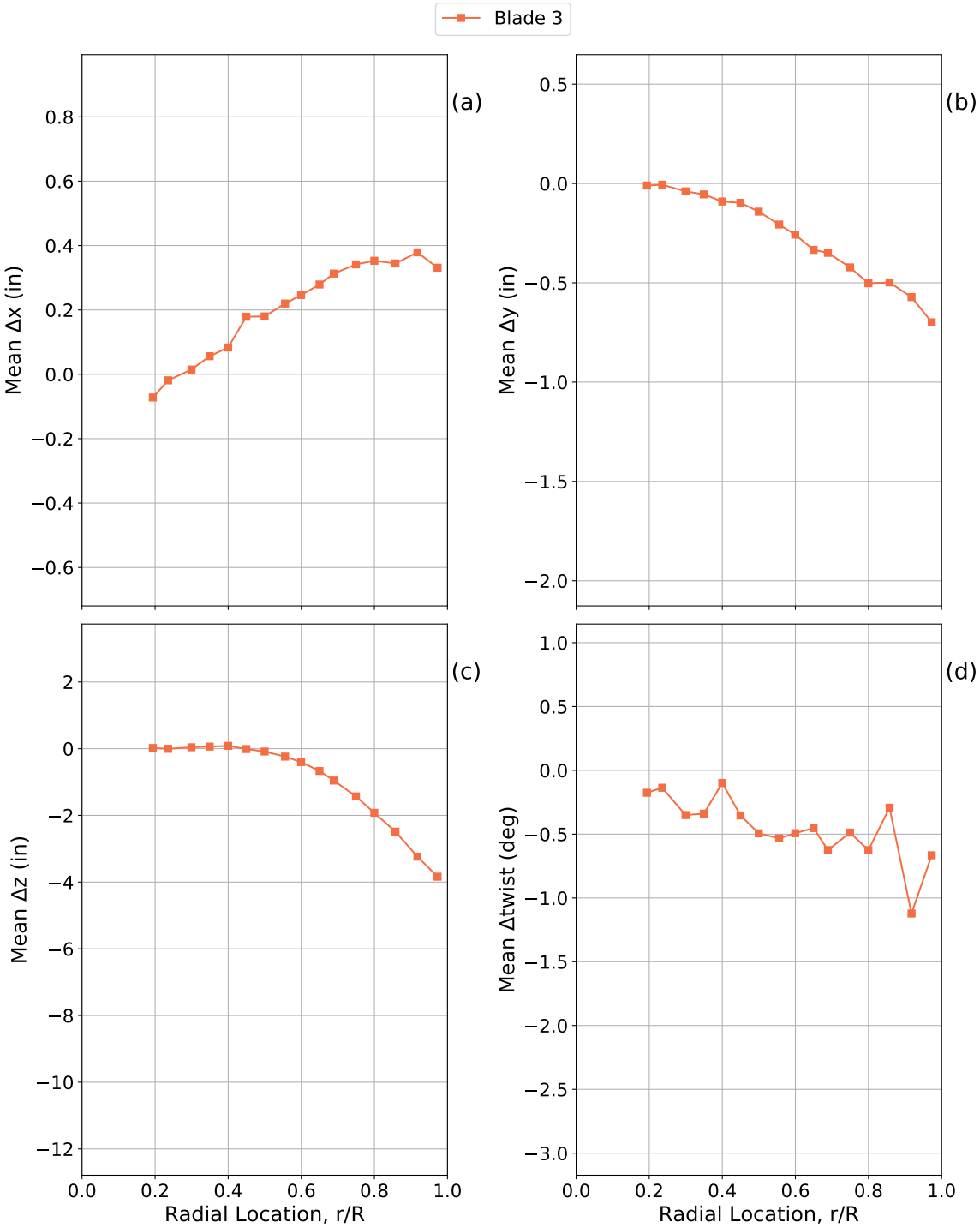


Figure 4.19-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0720	0.0021	-0.0103	0.0006	0.0201	0.0014	-0.1757	0.0155
3	209.88	0.2357	-0.0188	0.0014	-0.0061	0.0025	-0.0044	0.0051	-0.1365	0.0239
3	209.88	0.2995	0.0148	0.0007	-0.0395	0.0034	0.0421	0.0071	-0.3506	0.0313
3	209.88	0.3493	0.0563	0.0006	-0.0551	0.0067	0.0627	0.0112	-0.3397	0.0325
3	209.88	0.4000	0.0834	0.0014	-0.0906	0.0105	0.0836	0.0191	-0.0990	0.0288
3	209.88	0.4497	0.1789	0.0014	-0.0973	0.0124	-0.0108	0.0202	-0.3536	0.0401
3	209.88	0.4997	0.1799	0.0016	-0.1418	0.0150	-0.0860	0.0242	-0.4933	0.0422
3	209.88	0.5556	0.2199	0.0024	-0.2066	0.0178	-0.2386	0.0320	-0.5332	0.0366
3	209.88	0.5995	0.2464	0.0022	-0.2577	0.0198	-0.4030	0.0344	-0.4926	0.0376
3	209.88	0.6498	0.2791	0.0023	-0.3342	0.0225	-0.6675	0.0396	-0.4524	0.0310
3	209.88	0.6890	0.3131	0.0019	-0.3492	0.0252	-0.9557	0.0445	-0.6250	0.0378
3	209.88	0.7495	0.3416	0.0017	-0.4223	0.0281	-1.4312	0.0487	-0.4883	0.0352
3	209.88	0.7998	0.3528	0.0016	-0.5022	0.0319	-1.9223	0.0528	-0.6254	0.0399
3	209.88	0.8577	0.3445	0.0037	-0.4982	0.0357	-2.4863	0.0586	-0.2929	0.0600
3	209.88	0.9178	0.3789	0.0045	-0.5720	0.0429	-3.2365	0.0622	-1.1219	0.0429
3	209.88	0.9729	0.3312	0.0040	-0.6988	0.0450	-3.8381	0.0552	-0.6655	0.1063

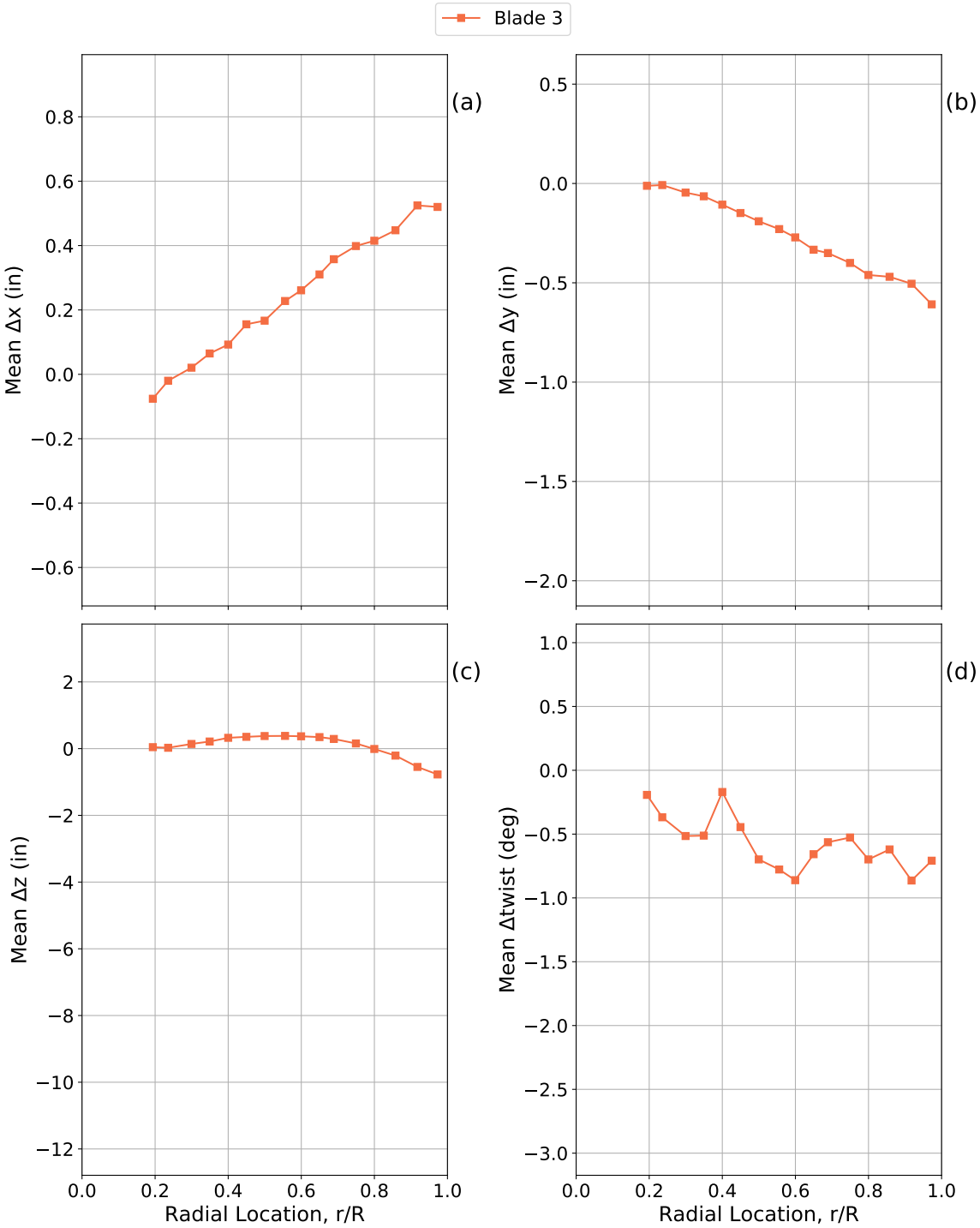


Figure 4.19-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0758	0.0022	-0.0117	0.0012	0.0443	0.0025	-0.1928	0.0275
3	225	0.2357	-0.0199	0.0018	-0.0080	0.0019	0.0261	0.0041	-0.3683	0.0451
3	225	0.2995	0.0206	0.0010	-0.0459	0.0045	0.1402	0.0087	-0.5151	0.0596
3	225	0.3493	0.0648	0.0020	-0.0646	0.0081	0.2134	0.0149	-0.5119	0.0507
3	225	0.4000	0.0925	0.0024	-0.1065	0.0121	0.3243	0.0220	-0.1701	0.0565
3	225	0.4497	0.1554	0.0024	-0.1488	0.0149	0.3534	0.0279	-0.4451	0.0570
3	225	0.4997	0.1667	0.0024	-0.1903	0.0180	0.3776	0.0324	-0.6984	0.0438
3	225	0.5556	0.2278	0.0025	-0.2297	0.0231	0.3814	0.0405	-0.7773	0.0446
3	225	0.5995	0.2610	0.0027	-0.2715	0.0262	0.3699	0.0472	-0.8611	0.0472
3	225	0.6498	0.3103	0.0030	-0.3335	0.0309	0.3460	0.0516	-0.6575	0.0466
3	225	0.6890	0.3576	0.0037	-0.3504	0.0309	0.2900	0.0536	-0.5637	0.0532
3	225	0.7495	0.3985	0.0042	-0.4001	0.0388	0.1557	0.0636	-0.5267	0.0470
3	225	0.7998	0.4150	0.0039	-0.4607	0.0416	-0.0100	0.0698	-0.6985	0.0453
3	225	0.8577	0.4475	0.0046	-0.4698	0.0455	-0.2086	0.0750	-0.6201	0.0569
3	225	0.9178	0.5247	0.0054	-0.5047	0.0499	-0.5485	0.0798	-0.8636	0.0463
3	225	0.9729	0.5200	0.0044	-0.6084	0.0542	-0.7737	0.0847	-0.7084	0.0787

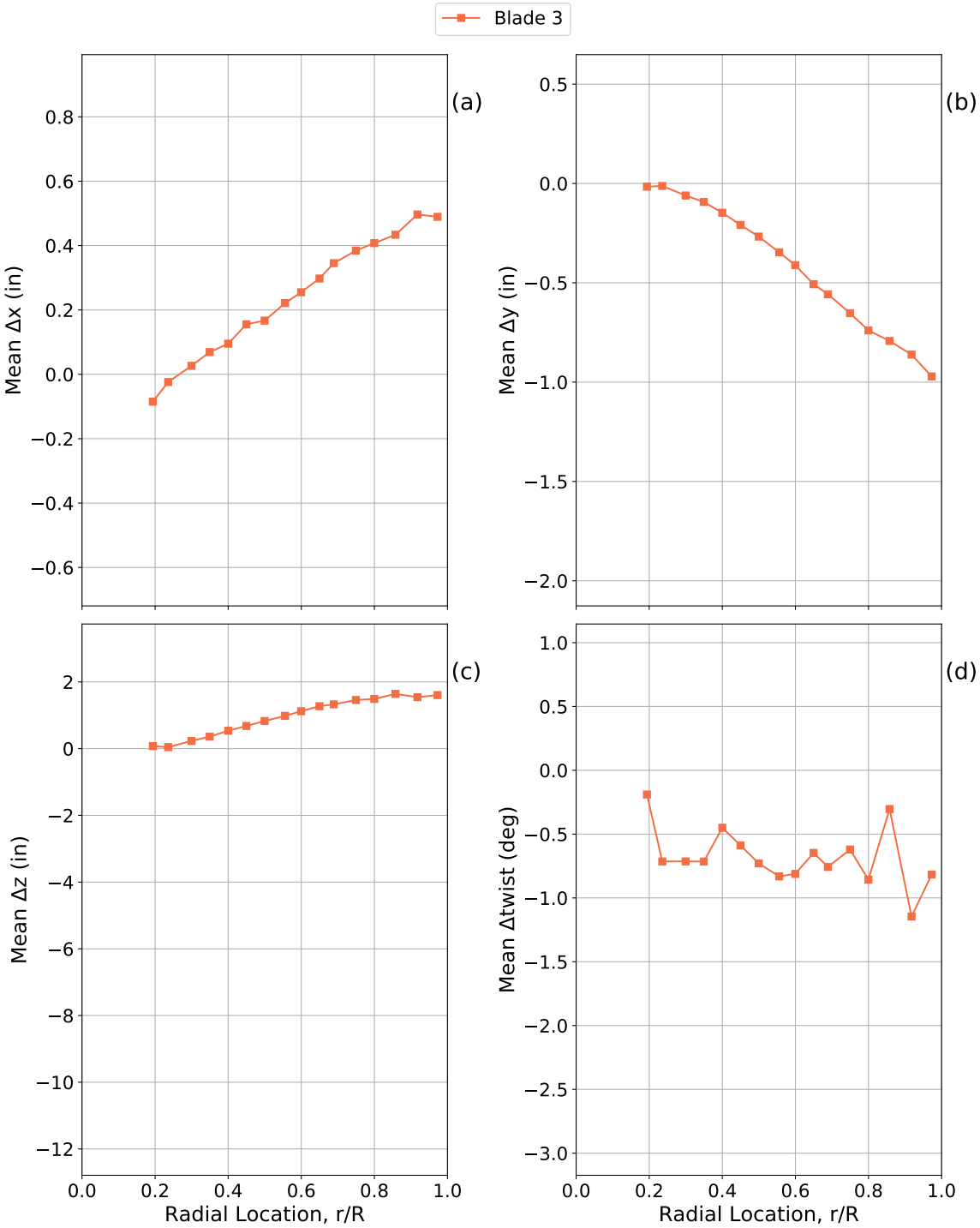


Figure 4.19-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0849	0.0021	-0.0160	0.0010	0.0755	0.0031	-0.1896	0.0188
3	240.12	0.2357	-0.0240	0.0008	-0.0125	0.0012	0.0450	0.0039	-0.7141	0.0379
3	240.12	0.2995	0.0264	0.0008	-0.0605	0.0036	0.2291	0.0100	-0.7137	0.0435
3	240.12	0.3493	0.0691	0.0012	-0.0932	0.0064	0.3606	0.0151	-0.7147	0.0493
3	240.12	0.4000	0.0952	0.0014	-0.1472	0.0095	0.5360	0.0232	-0.4504	0.0400
3	240.12	0.4497	0.1555	0.0014	-0.2087	0.0112	0.6798	0.0274	-0.5883	0.0437
3	240.12	0.4997	0.1669	0.0019	-0.2674	0.0130	0.8286	0.0324	-0.7294	0.0610
3	240.12	0.5556	0.2214	0.0018	-0.3467	0.0161	0.9824	0.0409	-0.8313	0.0435
3	240.12	0.5995	0.2550	0.0023	-0.4111	0.0201	1.1221	0.0474	-0.8120	0.0383
3	240.12	0.6498	0.2977	0.0023	-0.5070	0.0216	1.2723	0.0520	-0.6473	0.0540
3	240.12	0.6890	0.3454	0.0020	-0.5578	0.0236	1.3277	0.0573	-0.7570	0.0424
3	240.12	0.7495	0.3844	0.0035	-0.6528	0.0266	1.4574	0.0642	-0.6212	0.0402
3	240.12	0.7998	0.4075	0.0019	-0.7395	0.0297	1.4899	0.0712	-0.8569	0.0413
3	240.12	0.8577	0.4337	0.0025	-0.7928	0.0325	1.6405	0.0791	-0.3038	0.0455
3	240.12	0.9178	0.4966	0.0033	-0.8615	0.0362	1.5427	0.0859	-1.1459	0.0402
3	240.12	0.9729	0.4893	0.0033	-0.9714	0.0383	1.6049	0.0953	-0.8169	0.0362

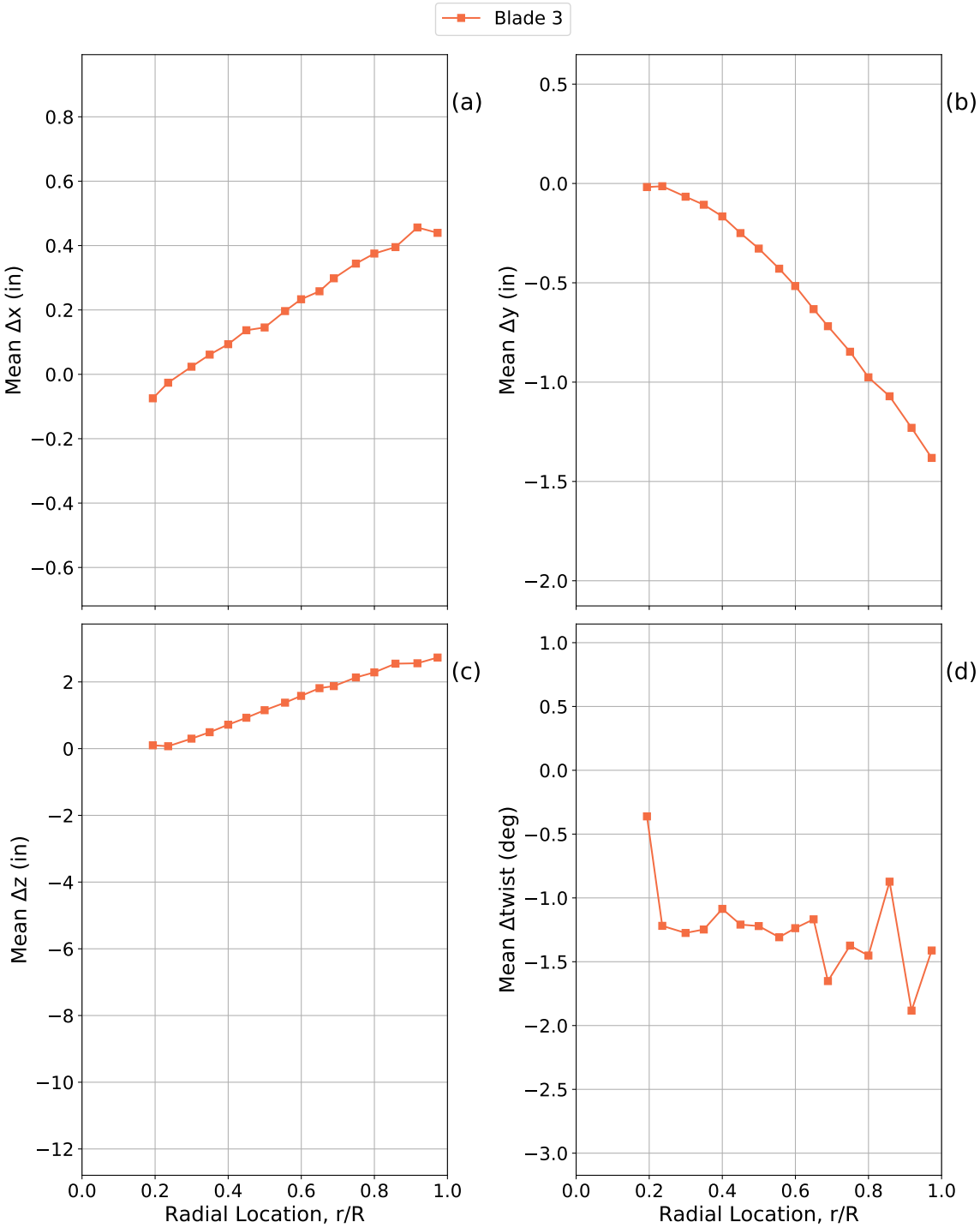


Figure 4.19-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0745	0.0068	-0.0181	0.0027	0.0999	0.0064	-0.3611	0.0253
3	254.88	0.2357	-0.0260	0.0013	-0.0139	0.0015	0.0723	0.0037	-1.2189	0.0835
3	254.88	0.2995	0.0236	0.0010	-0.0666	0.0076	0.2993	0.0148	-1.2745	0.0825
3	254.88	0.3493	0.0612	0.0012	-0.1072	0.0130	0.4922	0.0246	-1.2474	0.0799
3	254.88	0.4000	0.0936	0.0014	-0.1658	0.0186	0.7180	0.0334	-1.0858	0.0796
3	254.88	0.4497	0.1369	0.0016	-0.2498	0.0232	0.9264	0.0428	-1.2091	0.0845
3	254.88	0.4997	0.1456	0.0019	-0.3277	0.0287	1.1520	0.0521	-1.2205	0.0864
3	254.88	0.5556	0.1965	0.0019	-0.4290	0.0345	1.3780	0.0653	-1.3081	0.0784
3	254.88	0.5995	0.2332	0.0026	-0.5162	0.0389	1.5818	0.0733	-1.2370	0.0822
3	254.88	0.6498	0.2580	0.0024	-0.6326	0.0449	1.8127	0.0830	-1.1678	0.0847
3	254.88	0.6890	0.2983	0.0024	-0.7185	0.0489	1.8746	0.0915	-1.6516	0.0805
3	254.88	0.7495	0.3440	0.0027	-0.8470	0.0556	2.1342	0.1033	-1.3736	0.0817
3	254.88	0.7998	0.3752	0.0031	-0.9758	0.0610	2.2862	0.1132	-1.4515	0.0823
3	254.88	0.8577	0.3952	0.0037	-1.0712	0.0665	2.5470	0.1247	-0.8727	0.0861
3	254.88	0.9178	0.4562	0.0037	-1.2301	0.0742	2.5592	0.1352	-1.8830	0.0914
3	254.88	0.9729	0.4395	0.0059	-1.3816	0.0804	2.7306	0.1479	-1.4119	0.0754

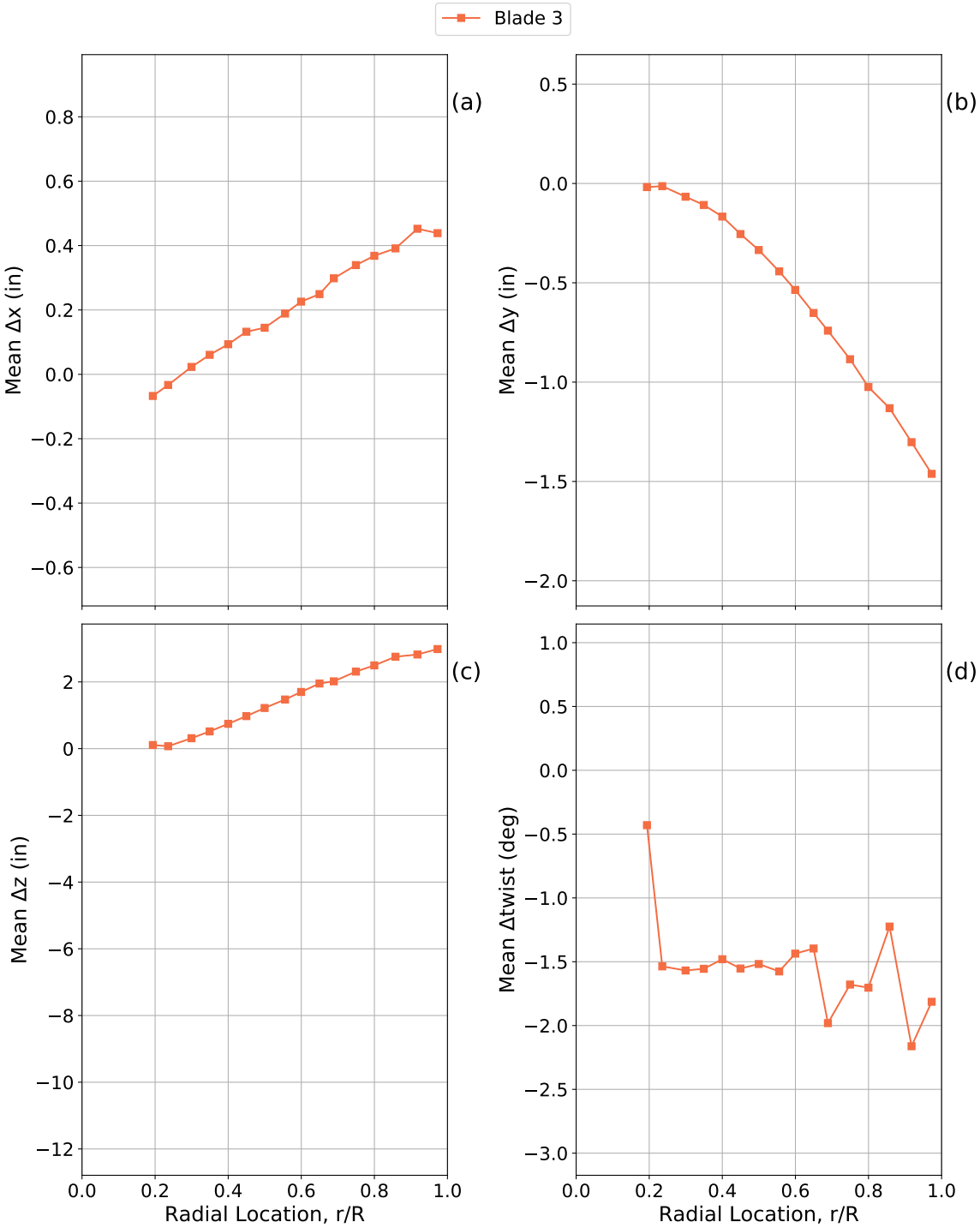


Figure 4.19-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0672	0.0094	-0.0183	0.0028	0.1082	0.0103	-0.4299	0.0391
3	260.16	0.2357	-0.0331	0.0016	-0.0135	0.0015	0.0725	0.0080	-1.5364	0.1202
3	260.16	0.2995	0.0230	0.0015	-0.0667	0.0087	0.3121	0.0295	-1.5686	0.1242
3	260.16	0.3493	0.0606	0.0019	-0.1083	0.0142	0.5163	0.0446	-1.5554	0.1352
3	260.16	0.4000	0.0935	0.0024	-0.1668	0.0212	0.7441	0.0657	-1.4803	0.1227
3	260.16	0.4497	0.1323	0.0025	-0.2546	0.0273	0.9750	0.0813	-1.5532	0.1299
3	260.16	0.4997	0.1447	0.0023	-0.3351	0.0322	1.2188	0.0997	-1.5179	0.1256
3	260.16	0.5556	0.1888	0.0028	-0.4425	0.0387	1.4725	0.1189	-1.5761	0.1271
3	260.16	0.5995	0.2258	0.0032	-0.5359	0.0439	1.6991	0.1349	-1.4366	0.1243
3	260.16	0.6498	0.2492	0.0033	-0.6519	0.0500	1.9526	0.1533	-1.3966	0.1224
3	260.16	0.6890	0.2983	0.0039	-0.7410	0.0551	2.0175	0.1661	-1.9811	0.1280
3	260.16	0.7495	0.3393	0.0042	-0.8847	0.0626	2.3095	0.1879	-1.6789	0.1235
3	260.16	0.7998	0.3682	0.0043	-1.0246	0.0689	2.4955	0.2054	-1.7033	0.1289
3	260.16	0.8577	0.3912	0.0047	-1.1313	0.0764	2.7544	0.2242	-1.2245	0.1366
3	260.16	0.9178	0.4522	0.0050	-1.3023	0.0848	2.8215	0.2439	-2.1622	0.1314
3	260.16	0.9729	0.4386	0.0080	-1.4617	0.0920	2.9846	0.2617	-1.8137	0.1278

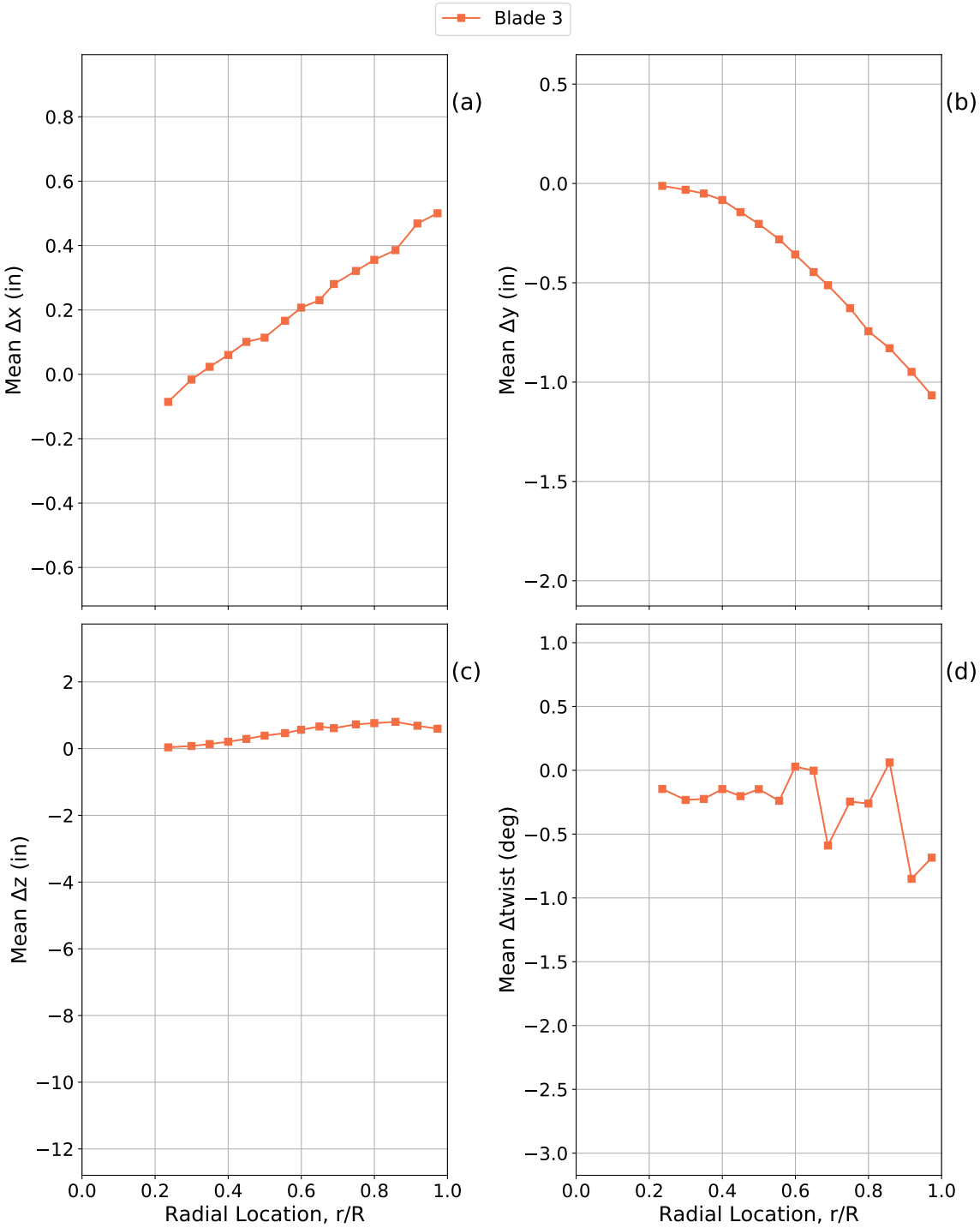


Figure 4.19-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0856	0.0037	-0.0123	0.0020	0.0389	0.0078	-0.1461	0.0856
3	265.08	0.2995	-0.0162	0.0015	-0.0317	0.0042	0.0789	0.0150	-0.2322	0.1373
3	265.08	0.3493	0.0234	0.0017	-0.0505	0.0080	0.1373	0.0274	-0.2245	0.1305
3	265.08	0.4000	0.0602	0.0017	-0.0832	0.0121	0.2069	0.0401	-0.1474	0.1248
3	265.08	0.4497	0.1008	0.0022	-0.1443	0.0153	0.2923	0.0473	-0.2028	0.1292
3	265.08	0.4997	0.1140	0.0024	-0.2035	0.0192	0.3892	0.0573	-0.1480	0.1316
3	265.08	0.5556	0.1664	0.0023	-0.2813	0.0224	0.4647	0.0696	-0.2389	0.1283
3	265.08	0.5995	0.2072	0.0021	-0.3574	0.0256	0.5658	0.0798	0.0288	0.1213
3	265.08	0.6498	0.2303	0.0032	-0.4462	0.0291	0.6636	0.0914	-0.0026	0.1177
3	265.08	0.6890	0.2804	0.0026	-0.5121	0.0323	0.6135	0.0997	-0.5895	0.1281
3	265.08	0.7495	0.3212	0.0024	-0.6277	0.0368	0.7283	0.1156	-0.2455	0.1240
3	265.08	0.7998	0.3557	0.0023	-0.7438	0.0409	0.7634	0.1290	-0.2604	0.1266
3	265.08	0.8577	0.3858	0.0022	-0.8295	0.0454	0.8037	0.1417	0.0616	0.1264
3	265.08	0.9178	0.4687	0.0018	-0.9483	0.0502	0.6864	0.1547	-0.8503	0.1259
3	265.08	0.9729	0.5003	0.0045	-1.0665	0.0552	0.5965	0.1684	-0.6847	0.1287

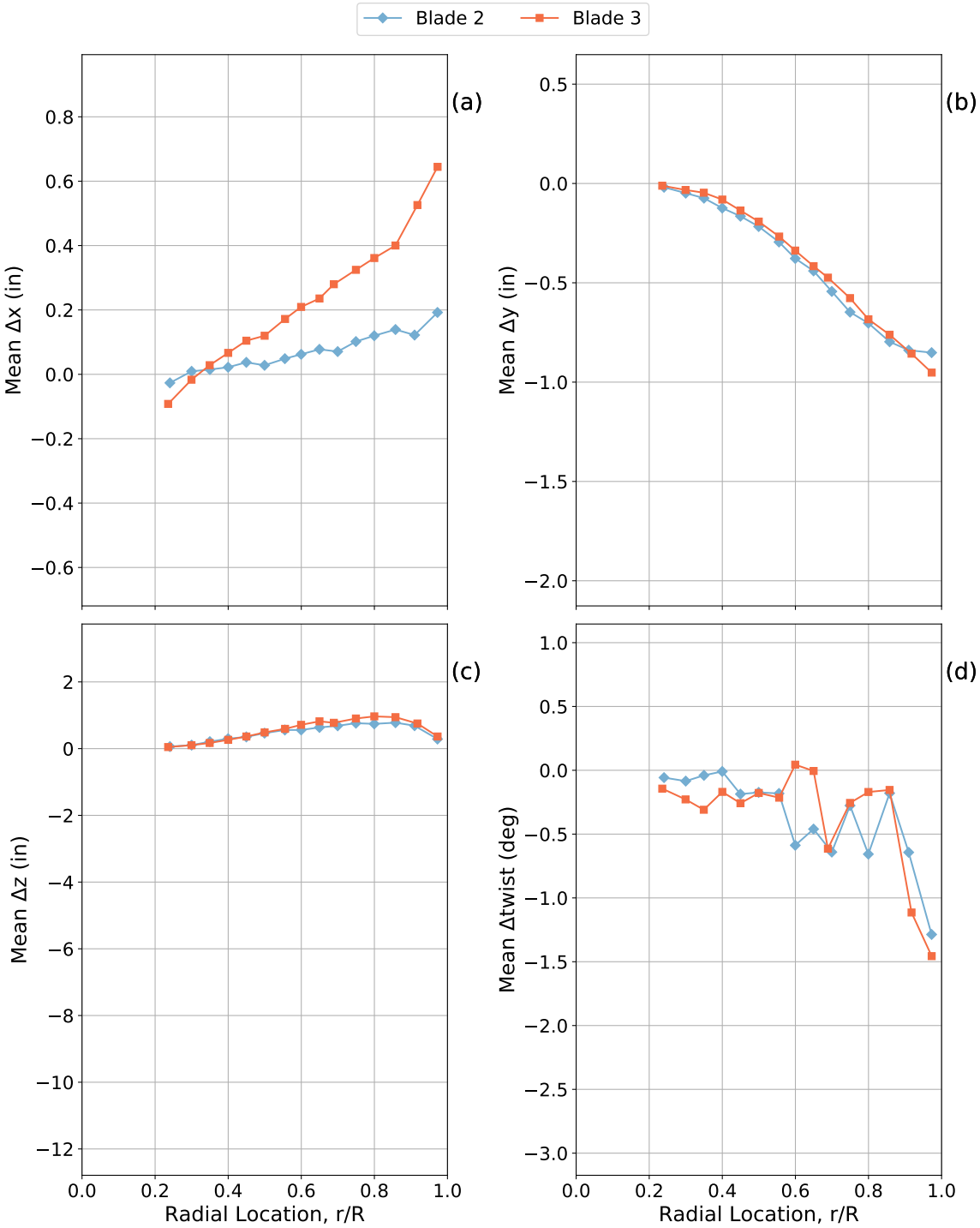


Figure 4.19-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2405	-0.0266	0.0038	-0.0191	0.0038	0.0612	0.0157	-0.0574	0.1591
2	270.35	0.2999	0.0094	0.0028	-0.0486	0.0075	0.1049	0.0296	-0.0847	0.2453
2	270.35	0.3498	0.0149	0.0037	-0.0739	0.0144	0.2089	0.0542	-0.0397	0.2340
2	270.35	0.3998	0.0220	0.0038	-0.1237	0.0217	0.2980	0.0801	-0.0092	0.2344
2	270.35	0.4496	0.0372	0.0039	-0.1648	0.0285	0.3514	0.1007	-0.1865	0.2421
2	270.35	0.4995	0.0280	0.0033	-0.2167	0.0343	0.4647	0.1260	-0.1734	0.2401
2	270.35	0.5551	0.0486	0.0033	-0.2947	0.0417	0.5589	0.1515	-0.1815	0.2389
2	270.35	0.5996	0.0622	0.0029	-0.3776	0.0491	0.5596	0.1741	-0.5878	0.2391
2	270.35	0.6497	0.0777	0.0037	-0.4401	0.0558	0.6355	0.1996	-0.4606	0.2332
2	270.35	0.6996	0.0707	0.0039	-0.5435	0.0627	0.6845	0.2231	-0.6409	0.2403
2	270.35	0.7495	0.1018	0.0045	-0.6476	0.0691	0.7634	0.2504	-0.2762	0.2272
2	270.35	0.7996	0.1199	0.0053	-0.7031	0.0773	0.7424	0.2744	-0.6570	0.2371
2	270.35	0.8578	0.1392	0.0063	-0.7968	0.0848	0.7782	0.3028	-0.1794	0.2388
2	270.35	0.9100	0.1220	0.0077	-0.8393	0.0929	0.6875	0.3285	-0.6431	0.2512
2	270.35	0.9727	0.1922	0.0111	-0.8516	0.1062	0.2871	0.3561	-1.2864	0.2884
3	270	0.2357	-0.0919	0.0044	-0.0112	0.0021	0.0471	0.0085	-0.1438	0.0907
3	270	0.2995	-0.0167	0.0019	-0.0327	0.0047	0.1028	0.0184	-0.2282	0.1454
3	270	0.3493	0.0284	0.0017	-0.0465	0.0086	0.1694	0.0301	-0.3092	0.1406
3	270	0.4000	0.0666	0.0011	-0.0810	0.0132	0.2634	0.0466	-0.1692	0.1428
3	270	0.4497	0.1045	0.0017	-0.1360	0.0174	0.3638	0.0590	-0.2580	0.1431
3	270	0.4997	0.1199	0.0020	-0.1919	0.0221	0.4870	0.0724	-0.1778	0.1424
3	270	0.5556	0.1720	0.0028	-0.2672	0.0268	0.5933	0.0870	-0.2146	0.1455
3	270	0.5995	0.2094	0.0025	-0.3378	0.0312	0.7131	0.0998	0.0439	0.1358
3	270	0.6498	0.2356	0.0028	-0.4162	0.0363	0.8184	0.1133	-0.0053	0.1361
3	270	0.6890	0.2799	0.0028	-0.4740	0.0404	0.7748	0.1250	-0.6142	0.1411
3	270	0.7495	0.3246	0.0029	-0.5771	0.0466	0.9033	0.1409	-0.2557	0.1488
3	270	0.7998	0.3613	0.0031	-0.6836	0.0522	0.9664	0.1516	-0.1700	0.1444
3	270	0.8577	0.4002	0.0032	-0.7614	0.0592	0.9434	0.1667	-0.1541	0.1407
3	270	0.9178	0.5259	0.0025	-0.8568	0.0663	0.7534	0.1867	-1.1143	0.1325
3	270	0.9729	0.6446	0.0040	-0.9520	0.0728	0.3641	0.2011	-1.4562	0.1311

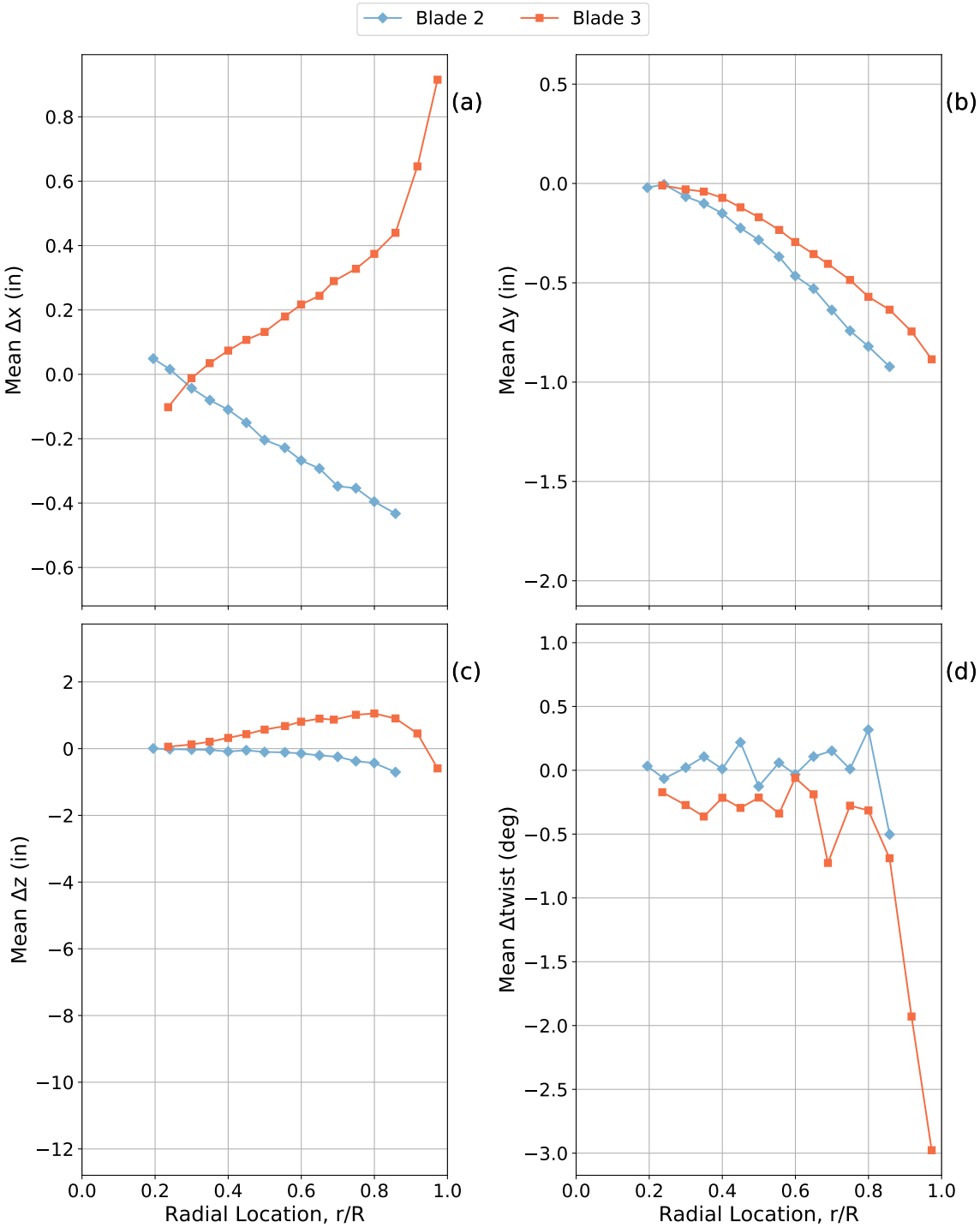


Figure 4.19-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0488	0.0013	-0.0209	0.0010	0.0047	0.0022	0.0327	0.0261
2	274.92	0.2405	0.0156	0.0019	-0.0046	0.0022	-0.0153	0.0041	-0.0653	0.0421
2	274.92	0.2999	-0.0432	0.0017	-0.0662	0.0038	-0.0276	0.0082	0.0215	0.0542
2	274.92	0.3498	-0.0804	0.0006	-0.1007	0.0072	-0.0377	0.0129	0.1066	0.0338
2	274.92	0.3998	-0.1097	0.0019	-0.1504	0.0107	-0.0863	0.0196	0.0101	0.0442
2	274.92	0.4496	-0.1503	0.0024	-0.2242	0.0104	-0.0492	0.0244	0.2190	0.0413
2	274.92	0.4995	-0.2041	0.0021	-0.2843	0.0127	-0.1015	0.0272	-0.1264	0.0339
2	274.92	0.5551	-0.2282	0.0029	-0.3686	0.0158	-0.1105	0.0319	0.0592	0.0540
2	274.92	0.5996	-0.2675	0.0022	-0.4655	0.0197	-0.1457	0.0384	-0.0328	0.0537
2	274.92	0.6497	-0.2927	0.0033	-0.5295	0.0218	-0.2017	0.0396	0.1076	0.0638
2	274.92	0.6996	-0.3477	0.0038	-0.6370	0.0257	-0.2445	0.0471	0.1525	0.0633
2	274.92	0.7495	-0.3537	0.0027	-0.7417	0.0266	-0.3764	0.0410	0.0101	0.0759
2	274.92	0.7996	-0.3955	0.0054	-0.8202	0.0307	-0.4301	0.0559	0.3177	0.1397
2	274.92	0.8578	-0.4327	0.0070	-0.9223	0.0377	-0.7040	0.0711	-0.5025	0.1488
3	274.92	0.2357	-0.1021	0.0047	-0.0099	0.0033	0.0568	0.0181	-0.1720	0.1977
3	274.92	0.2995	-0.0121	0.0018	-0.0297	0.0076	0.1249	0.0344	-0.2723	0.3166
3	274.92	0.3493	0.0346	0.0028	-0.0410	0.0136	0.2070	0.0638	-0.3624	0.3092
3	274.92	0.4000	0.0738	0.0019	-0.0723	0.0211	0.3224	0.0930	-0.2152	0.3094
3	274.92	0.4497	0.1071	0.0019	-0.1201	0.0269	0.4336	0.1164	-0.2949	0.3306
3	274.92	0.4997	0.1317	0.0023	-0.1699	0.0330	0.5711	0.1466	-0.2141	0.3153
3	274.92	0.5556	0.1797	0.0034	-0.2339	0.0405	0.6769	0.1791	-0.3384	0.3101
3	274.92	0.5995	0.2170	0.0032	-0.2948	0.0462	0.8082	0.2020	-0.0591	0.3169
3	274.92	0.6498	0.2441	0.0025	-0.3554	0.0526	0.8987	0.2303	-0.1885	0.3193
3	274.92	0.6890	0.2897	0.0040	-0.4045	0.0577	0.8689	0.2538	-0.7260	0.3162
3	274.92	0.7495	0.3278	0.0034	-0.4858	0.0659	1.0153	0.2872	-0.2771	0.3190
3	274.92	0.7998	0.3743	0.0037	-0.5706	0.0729	1.0532	0.3179	-0.3147	0.3168
3	274.92	0.8577	0.4397	0.0041	-0.6354	0.0804	0.9050	0.3490	-0.6892	0.3237
3	274.92	0.9178	0.6461	0.0044	-0.7451	0.0899	0.4547	0.3805	-1.9294	0.3294
3	274.92	0.9729	0.9153	0.0058	-0.8851	0.1040	-0.5922	0.4023	-2.9770	0.3316

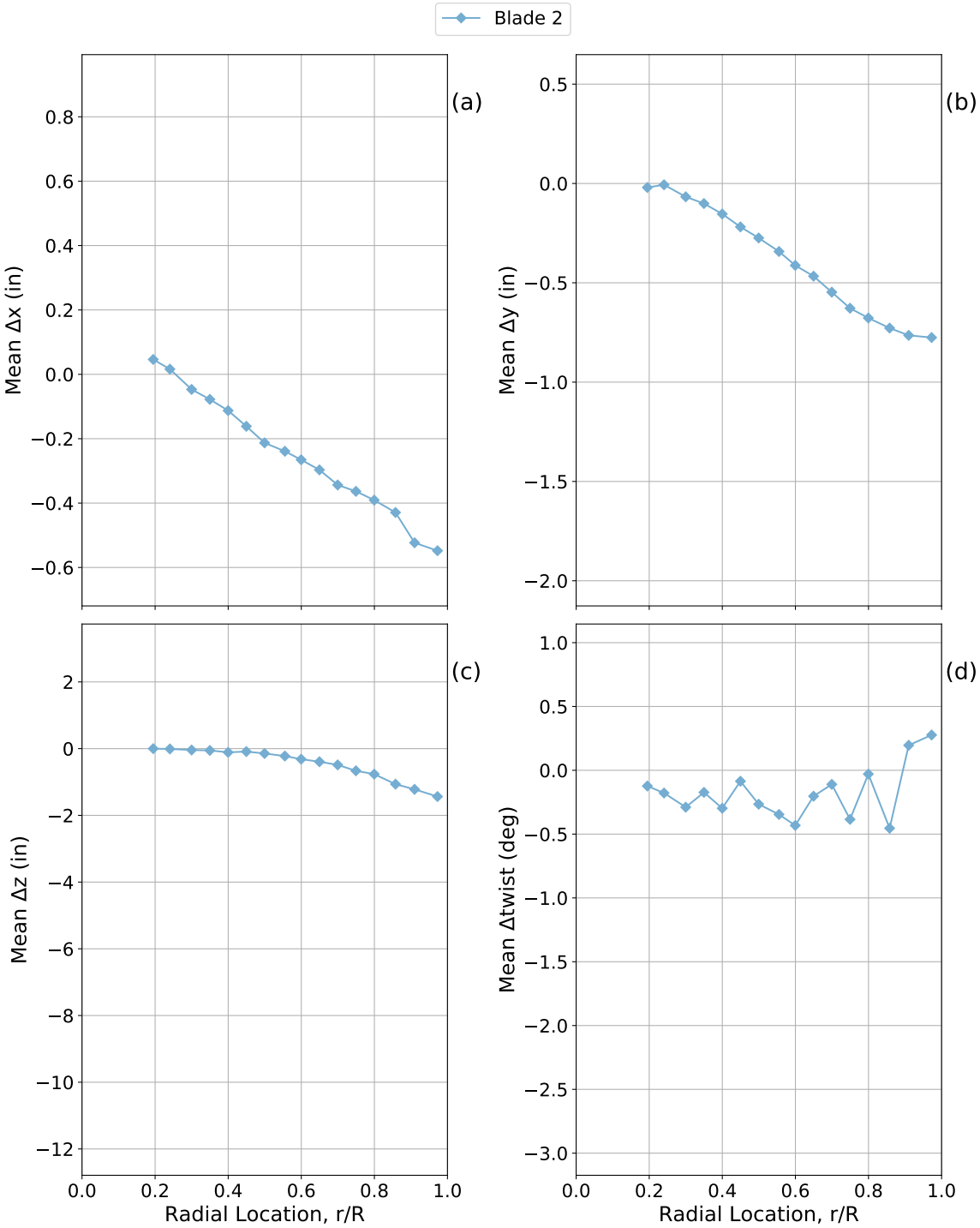


Figure 4.19-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0462	0.0019	-0.0201	0.0006	-0.0006	0.0019	-0.1232	0.0246
2	285.12	0.2405	0.0161	0.0022	-0.0065	0.0024	-0.0095	0.0035	-0.1782	0.0364
2	285.12	0.2999	-0.0469	0.0015	-0.0672	0.0036	-0.0412	0.0070	-0.2893	0.0557
2	285.12	0.3498	-0.0778	0.0014	-0.1009	0.0055	-0.0540	0.0120	-0.1731	0.0266
2	285.12	0.3998	-0.1127	0.0021	-0.1535	0.0096	-0.1105	0.0168	-0.2977	0.0499
2	285.12	0.4496	-0.1614	0.0029	-0.2186	0.0121	-0.0878	0.0197	-0.0857	0.0381
2	285.12	0.4995	-0.2129	0.0024	-0.2744	0.0135	-0.1454	0.0244	-0.2656	0.0354
2	285.12	0.5551	-0.2390	0.0022	-0.3425	0.0160	-0.2221	0.0278	-0.3461	0.0453
2	285.12	0.5996	-0.2654	0.0024	-0.4124	0.0183	-0.3160	0.0277	-0.4320	0.0378
2	285.12	0.6497	-0.2969	0.0020	-0.4667	0.0216	-0.3922	0.0325	-0.2029	0.0491
2	285.12	0.6996	-0.3437	0.0026	-0.5473	0.0246	-0.4874	0.0369	-0.1102	0.0264
2	285.12	0.7495	-0.3635	0.0030	-0.6280	0.0271	-0.6640	0.0372	-0.3846	0.0372
2	285.12	0.7996	-0.3908	0.0036	-0.6772	0.0300	-0.7647	0.0418	-0.0295	0.0580
2	285.12	0.8578	-0.4292	0.0033	-0.7279	0.0333	-1.0649	0.0444	-0.4542	0.0563
2	285.12	0.9100	-0.5233	0.0060	-0.7646	0.0364	-1.2203	0.0488	0.1959	0.1084
2	285.12	0.9727	-0.5480	0.0047	-0.7755	0.0404	-1.4369	0.0655	0.2767	0.1139

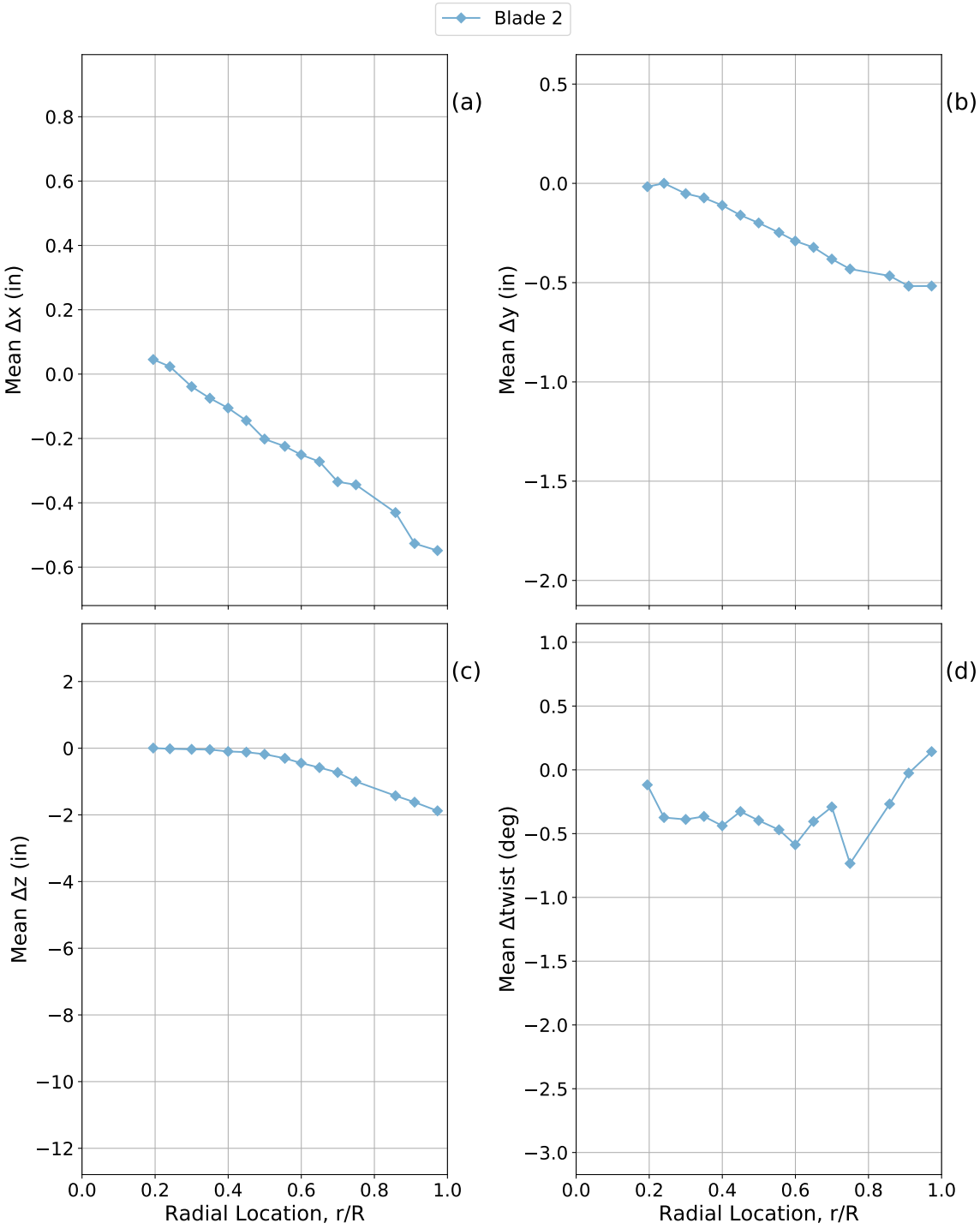


Figure 4.19-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0454	0.0018	-0.0168	0.0006	0.0042	0.0021	-0.1178	0.0230
2	299.88	0.2405	0.0233	0.0018	0.0002	0.0027	-0.0175	0.0070	-0.3739	0.0254
2	299.88	0.2999	-0.0389	0.0013	-0.0517	0.0050	-0.0339	0.0108	-0.3888	0.0450
2	299.88	0.3498	-0.0750	0.0016	-0.0731	0.0070	-0.0415	0.0160	-0.3653	0.0405
2	299.88	0.3998	-0.1055	0.0026	-0.1108	0.0130	-0.0977	0.0276	-0.4385	0.0395
2	299.88	0.4496	-0.1445	0.0019	-0.1603	0.0142	-0.1181	0.0285	-0.3269	0.0356
2	299.88	0.4995	-0.2019	0.0038	-0.1994	0.0171	-0.1807	0.0343	-0.3971	0.0421
2	299.88	0.5551	-0.2245	0.0036	-0.2476	0.0209	-0.3035	0.0381	-0.4700	0.0372
2	299.88	0.5996	-0.2506	0.0039	-0.2905	0.0218	-0.4455	0.0400	-0.5873	0.0398
2	299.88	0.6497	-0.2721	0.0033	-0.3225	0.0245	-0.5825	0.0412	-0.4050	0.0315
2	299.88	0.6996	-0.3347	0.0035	-0.3814	0.0266	-0.7279	0.0440	-0.2907	0.0378
2	299.88	0.7495	-0.3440	0.0032	-0.4314	0.0291	-0.9988	0.0445	-0.7341	0.0355
2	299.88	0.8578	-0.4305	0.0030	-0.4659	0.0348	-1.4268	0.0475	-0.2680	0.0401
2	299.88	0.9100	-0.5266	0.0032	-0.5176	0.0369	-1.6193	0.0534	-0.0256	0.0305
2	299.88	0.9727	-0.5485	0.0041	-0.5171	0.0403	-1.8796	0.0589	0.1428	0.0453

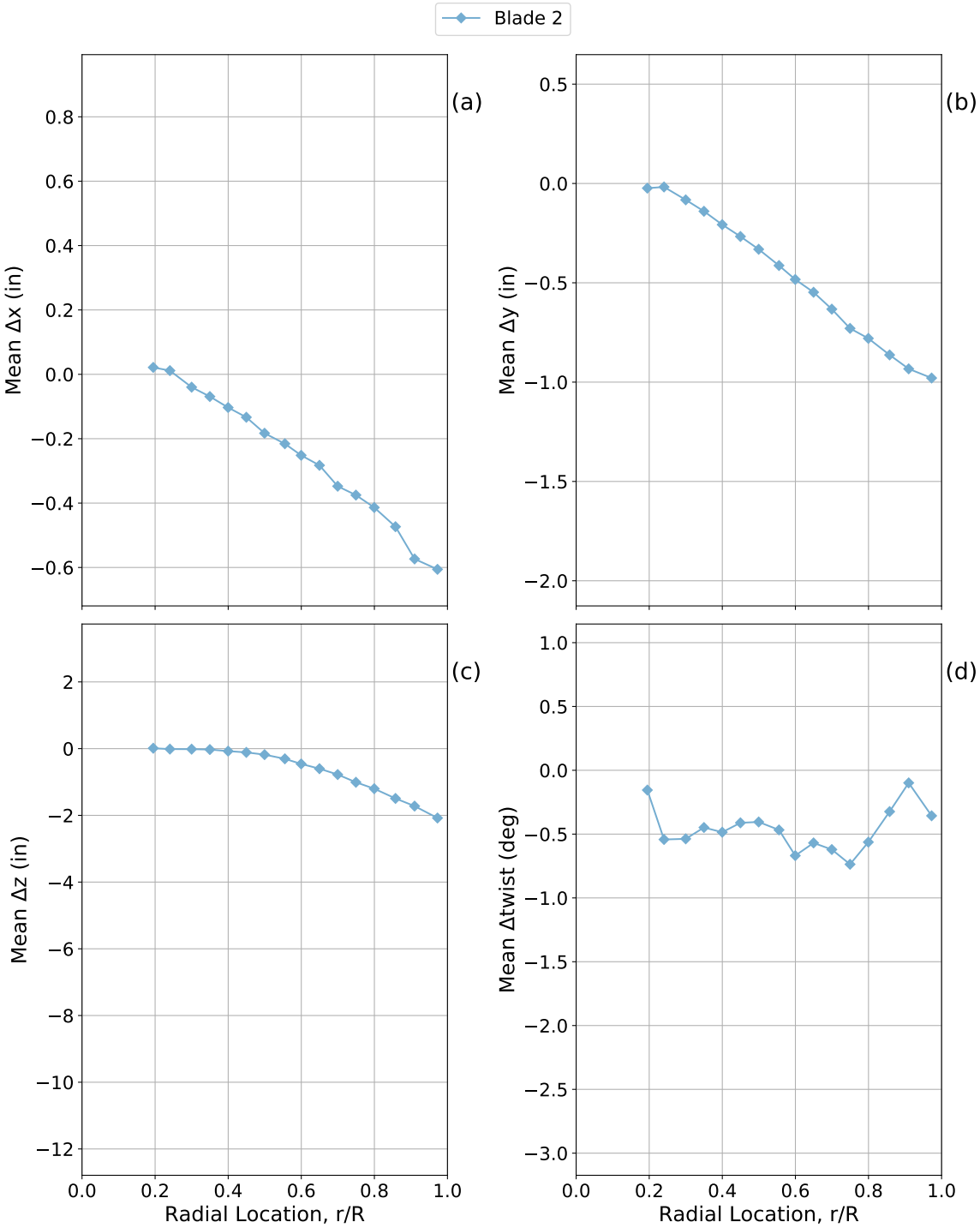


Figure 4.19-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0215	0.0018	-0.0236	0.0010	0.0122	0.0028	-0.1550	0.0251
2	315	0.2405	0.0115	0.0020	-0.0176	0.0016	-0.0138	0.0039	-0.5422	0.0335
2	315	0.2999	-0.0399	0.0013	-0.0825	0.0041	-0.0156	0.0097	-0.5372	0.0483
2	315	0.3498	-0.0690	0.0018	-0.1400	0.0061	-0.0271	0.0119	-0.4483	0.0423
2	315	0.3998	-0.1031	0.0019	-0.2073	0.0102	-0.0745	0.0198	-0.4852	0.0396
2	315	0.4496	-0.1334	0.0027	-0.2669	0.0115	-0.1125	0.0230	-0.4116	0.0472
2	315	0.4995	-0.1830	0.0029	-0.3313	0.0134	-0.1799	0.0233	-0.4048	0.0408
2	315	0.5551	-0.2157	0.0029	-0.4131	0.0163	-0.3055	0.0283	-0.4673	0.0441
2	315	0.5996	-0.2516	0.0029	-0.4832	0.0186	-0.4577	0.0310	-0.6687	0.0332
2	315	0.6497	-0.2827	0.0030	-0.5476	0.0206	-0.6014	0.0328	-0.5691	0.0420
2	315	0.6996	-0.3476	0.0032	-0.6326	0.0235	-0.7764	0.0371	-0.6209	0.0290
2	315	0.7495	-0.3752	0.0021	-0.7295	0.0266	-1.0084	0.0405	-0.7366	0.0540
2	315	0.7996	-0.4137	0.0025	-0.7799	0.0299	-1.2009	0.0461	-0.5628	0.0440
2	315	0.8578	-0.4734	0.0018	-0.8631	0.0336	-1.4930	0.0492	-0.3236	0.0375
2	315	0.9100	-0.5736	0.0020	-0.9332	0.0377	-1.7225	0.0526	-0.0987	0.0441
2	315	0.9727	-0.6058	0.0034	-0.9793	0.0420	-2.0795	0.0568	-0.3565	0.0401

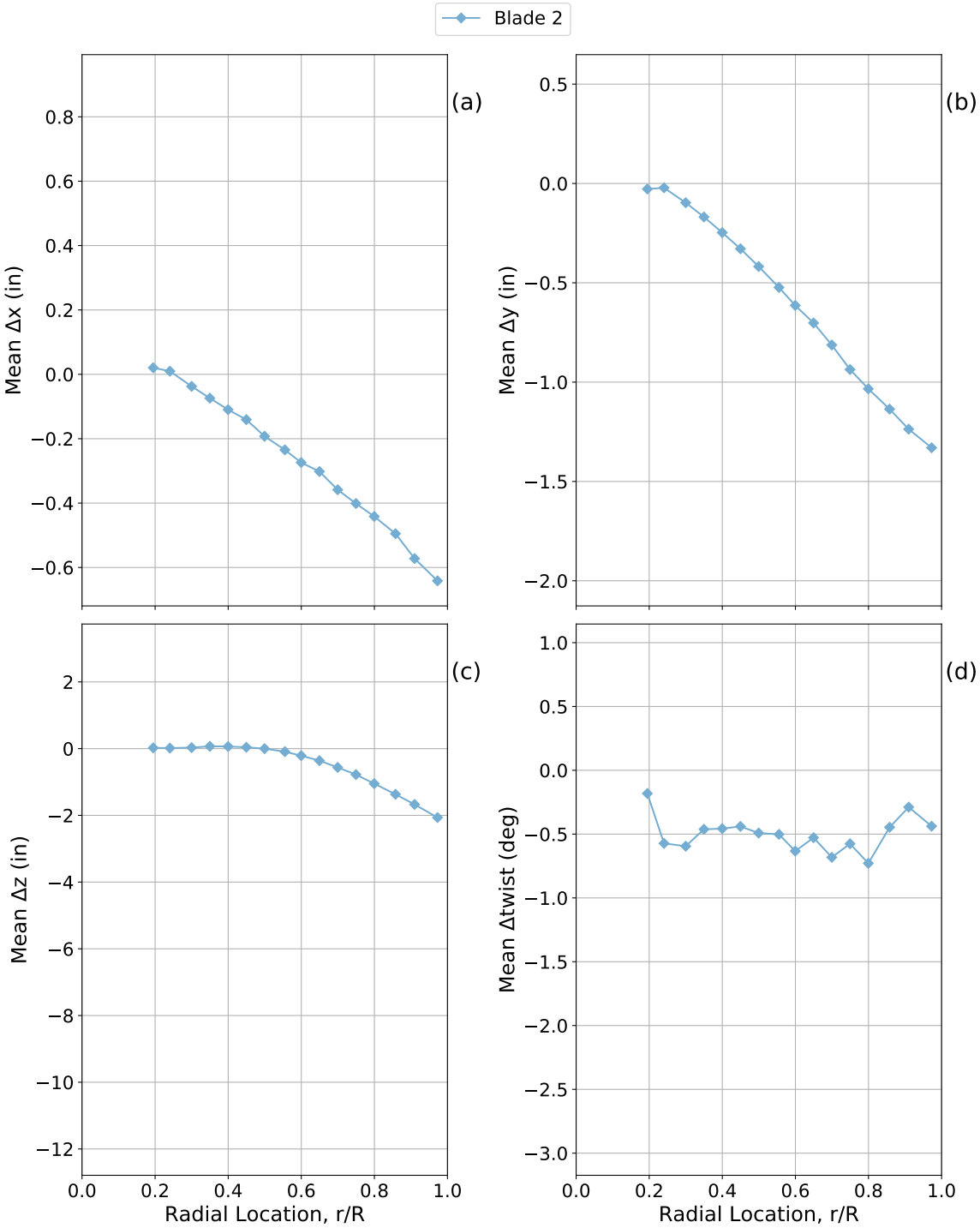


Figure 4.19-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0203	0.0010	-0.0280	0.0008	0.0236	0.0027	-0.1820	0.0148
2	330.12	0.2405	0.0097	0.0023	-0.0218	0.0023	0.0161	0.0076	-0.5726	0.0422
2	330.12	0.2999	-0.0374	0.0014	-0.0969	0.0051	0.0308	0.0145	-0.5949	0.0450
2	330.12	0.3498	-0.0740	0.0019	-0.1687	0.0072	0.0692	0.0206	-0.4623	0.0406
2	330.12	0.3998	-0.1098	0.0029	-0.2472	0.0128	0.0642	0.0363	-0.4570	0.0644
2	330.12	0.4496	-0.1408	0.0041	-0.3287	0.0147	0.0409	0.0367	-0.4398	0.0434
2	330.12	0.4995	-0.1924	0.0023	-0.4181	0.0185	-0.0001	0.0429	-0.4919	0.0495
2	330.12	0.5551	-0.2347	0.0017	-0.5235	0.0212	-0.0911	0.0522	-0.5019	0.0384
2	330.12	0.5996	-0.2740	0.0020	-0.6140	0.0241	-0.2110	0.0587	-0.6332	0.0373
2	330.12	0.6497	-0.3020	0.0023	-0.7022	0.0274	-0.3601	0.0649	-0.5280	0.0454
2	330.12	0.6996	-0.3586	0.0026	-0.8130	0.0310	-0.5628	0.0743	-0.6819	0.0374
2	330.12	0.7495	-0.4013	0.0024	-0.9365	0.0345	-0.7777	0.0821	-0.5757	0.0406
2	330.12	0.7996	-0.4415	0.0025	-1.0338	0.0375	-1.0490	0.0870	-0.7289	0.0436
2	330.12	0.8578	-0.4951	0.0024	-1.1360	0.0415	-1.3686	0.0979	-0.4462	0.0522
2	330.12	0.9100	-0.5723	0.0024	-1.2369	0.0457	-1.6722	0.1031	-0.2886	0.0431
2	330.12	0.9727	-0.6416	0.0032	-1.3303	0.0500	-2.0653	0.1134	-0.4382	0.0463

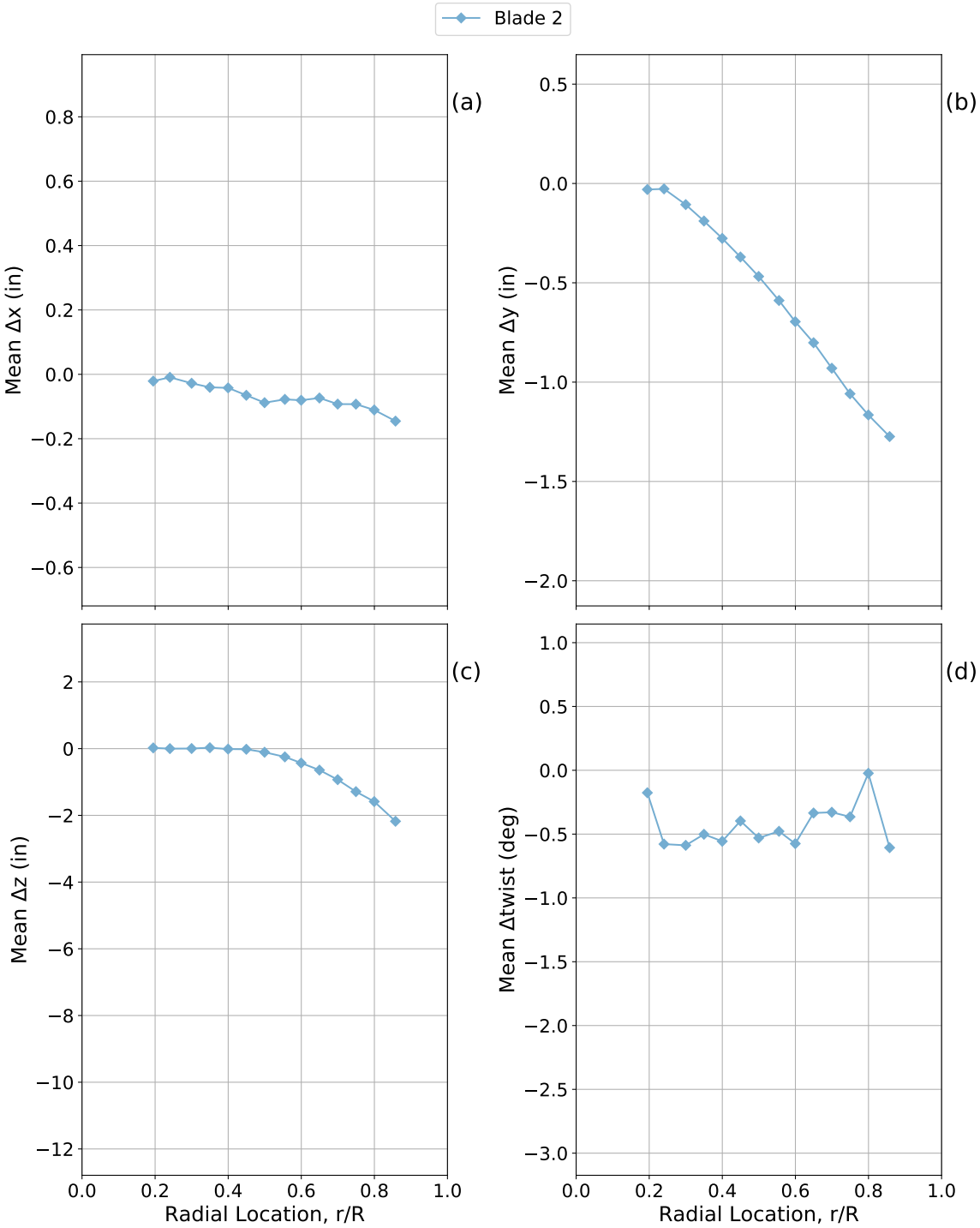


Figure 4.19-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0210	0.0018	-0.0303	0.0013	0.0222	0.0032	-0.1761	0.0222
2	344.88	0.2405	-0.0092	0.0018	-0.0274	0.0016	0.0001	0.0035	-0.5784	0.0539
2	344.88	0.2999	-0.0278	0.0016	-0.1064	0.0043	0.0035	0.0095	-0.5879	0.0591
2	344.88	0.3498	-0.0404	0.0025	-0.1890	0.0069	0.0278	0.0156	-0.5014	0.0581
2	344.88	0.3998	-0.0421	0.0039	-0.2764	0.0103	-0.0127	0.0225	-0.5562	0.0480
2	344.88	0.4496	-0.0651	0.0036	-0.3701	0.0133	-0.0188	0.0270	-0.3969	0.0721
2	344.88	0.4995	-0.0881	0.0037	-0.4681	0.0151	-0.1080	0.0357	-0.5303	0.0537
2	344.88	0.5551	-0.0778	0.0043	-0.5892	0.0195	-0.2472	0.0414	-0.4780	0.0526
2	344.88	0.5996	-0.0805	0.0063	-0.6956	0.0210	-0.4300	0.0501	-0.5747	0.0480
2	344.88	0.6497	-0.0735	0.0075	-0.8017	0.0242	-0.6433	0.0549	-0.3347	0.0607
2	344.88	0.6996	-0.0925	0.0091	-0.9300	0.0254	-0.9299	0.0606	-0.3289	0.0721
2	344.88	0.7495	-0.0927	0.0107	-1.0587	0.0270	-1.2894	0.0680	-0.3645	0.0809
2	344.88	0.7996	-0.1107	0.0150	-1.1652	0.0288	-1.5871	0.0725	-0.0233	0.1378
2	344.88	0.8578	-0.1453	0.0180	-1.2741	0.0323	-2.1776	0.0832	-0.6063	0.1709

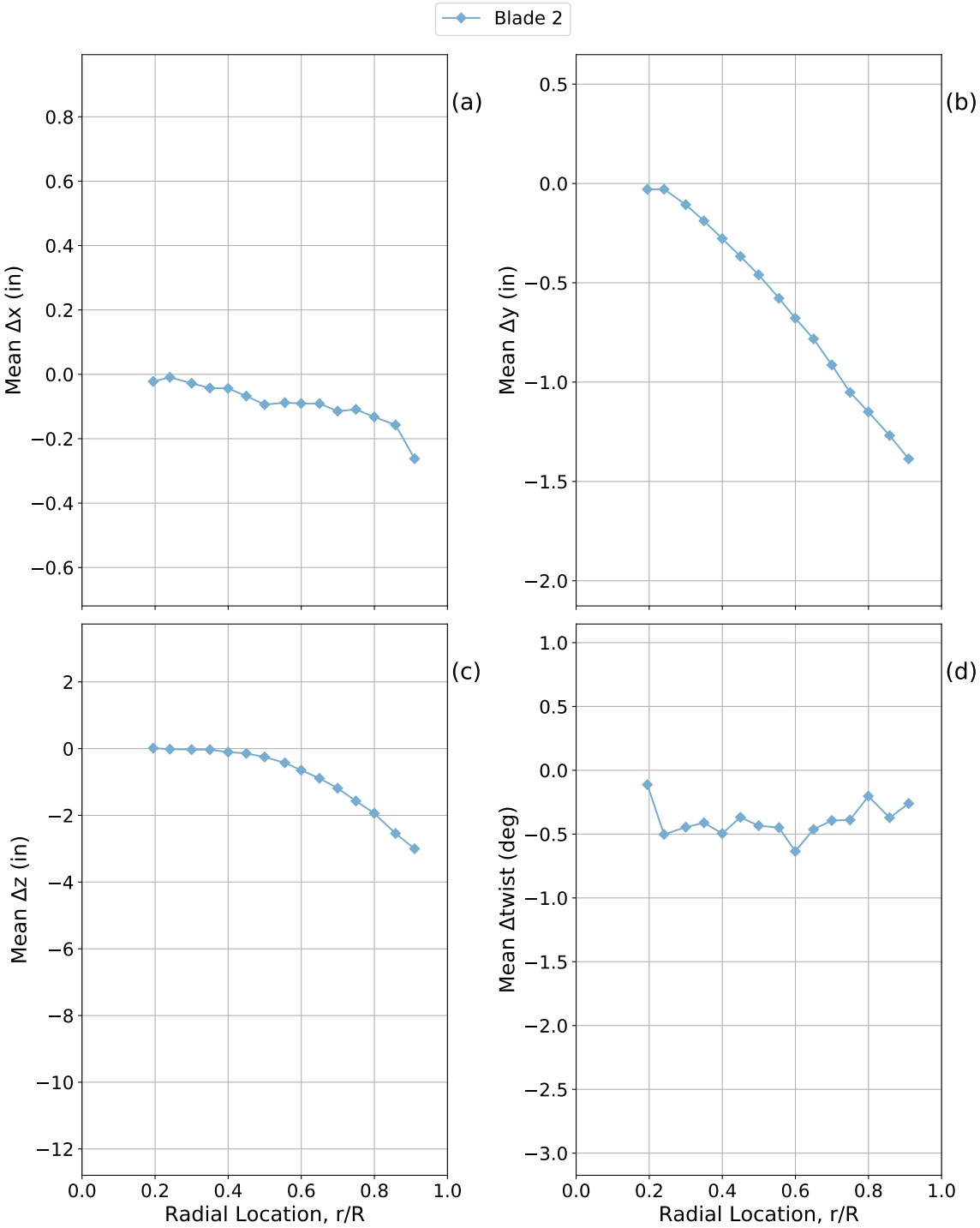


Figure 4.19-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0223	0.0027	-0.0295	0.0014	0.0155	0.0029	-0.1126	0.0157
2	350.16	0.2405	-0.0091	0.0024	-0.0290	0.0014	-0.0170	0.0021	-0.5024	0.0380
2	350.16	0.2999	-0.0279	0.0019	-0.1067	0.0037	-0.0286	0.0078	-0.4456	0.0376
2	350.16	0.3498	-0.0427	0.0026	-0.1883	0.0061	-0.0302	0.0130	-0.4113	0.0378
2	350.16	0.3998	-0.0438	0.0036	-0.2775	0.0087	-0.1021	0.0181	-0.4956	0.0460
2	350.16	0.4496	-0.0676	0.0055	-0.3672	0.0120	-0.1434	0.0244	-0.3685	0.0499
2	350.16	0.4995	-0.0940	0.0041	-0.4599	0.0125	-0.2506	0.0307	-0.4343	0.0361
2	350.16	0.5551	-0.0880	0.0039	-0.5780	0.0161	-0.4247	0.0369	-0.4489	0.0395
2	350.16	0.5996	-0.0906	0.0047	-0.6780	0.0179	-0.6463	0.0417	-0.6348	0.0492
2	350.16	0.6497	-0.0908	0.0060	-0.7823	0.0212	-0.8893	0.0477	-0.4633	0.0584
2	350.16	0.6996	-0.1144	0.0059	-0.9132	0.0223	-1.1867	0.0512	-0.3934	0.0633
2	350.16	0.7495	-0.1091	0.0070	-1.0516	0.0247	-1.5701	0.0591	-0.3890	0.0513
2	350.16	0.7996	-0.1325	0.0110	-1.1496	0.0263	-1.9385	0.0605	-0.2028	0.0708
2	350.16	0.8578	-0.1573	0.0132	-1.2685	0.0283	-2.5420	0.0698	-0.3717	0.1009
2	350.16	0.9100	-0.2622	0.0182	-1.3864	0.0310	-3.0015	0.0730	-0.2605	0.2148

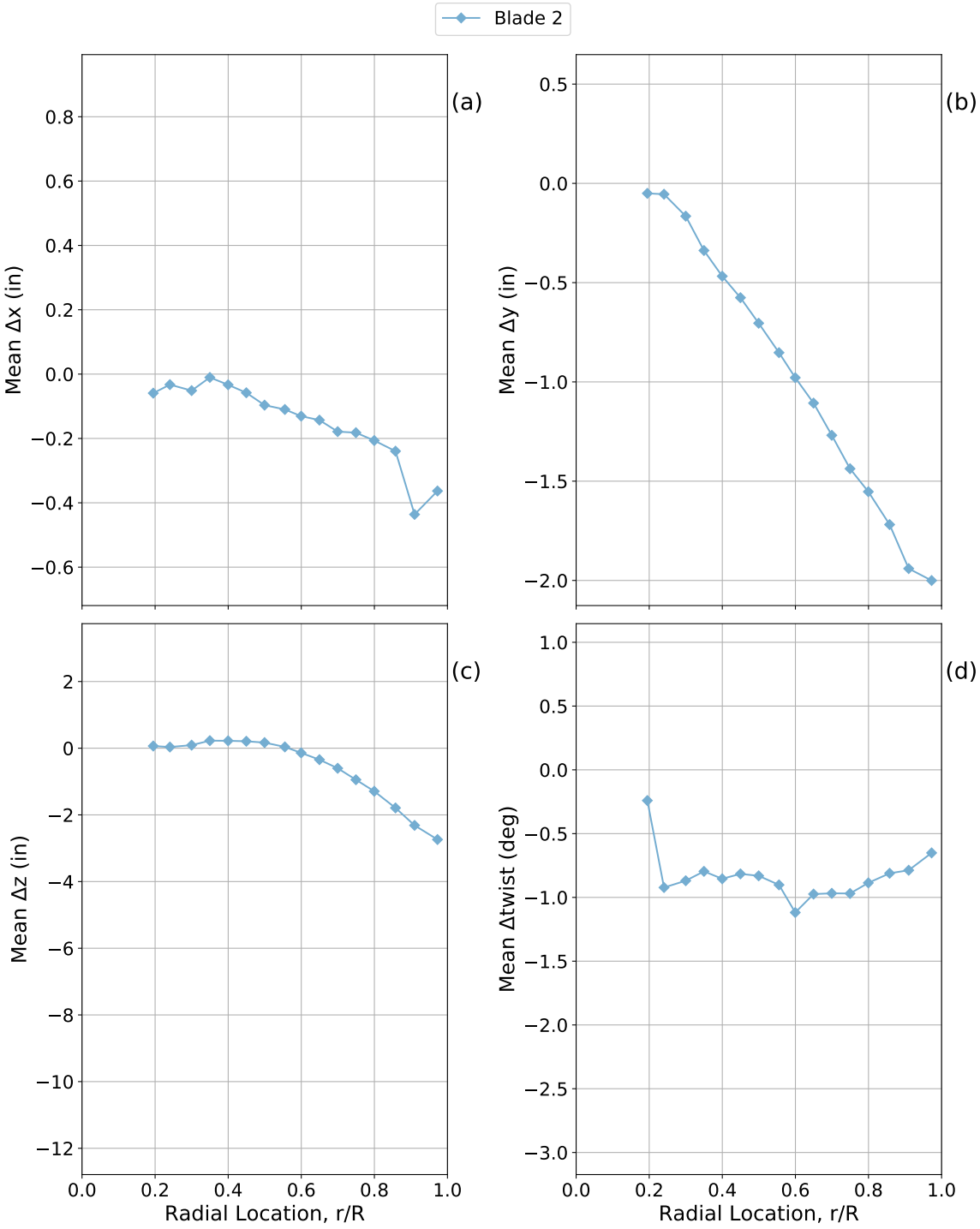


Figure 4.19-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Table 4.19-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 75, point 7. BD run 35, points 5733 to 5743.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0592	0.0025	-0.0504	0.0017	0.0652	0.0047	-0.2407	0.0285
2	355.08	0.2405	-0.0327	0.0019	-0.0547	0.0023	0.0353	0.0065	-0.9226	0.0783
2	355.08	0.2999	-0.0513	0.0024	-0.1652	0.0058	0.0916	0.0151	-0.8692	0.0841
2	355.08	0.3498	-0.0103	0.0042	-0.3382	0.0101	0.2264	0.0244	-0.7958	0.0768
2	355.08	0.3998	-0.0332	0.0043	-0.4677	0.0145	0.2220	0.0358	-0.8542	0.0802
2	355.08	0.4496	-0.0580	0.0039	-0.5758	0.0186	0.2076	0.0449	-0.8156	0.0759
2	355.08	0.4995	-0.0965	0.0043	-0.7044	0.0237	0.1678	0.0575	-0.8309	0.0735
2	355.08	0.5551	-0.1099	0.0040	-0.8527	0.0295	0.0387	0.0694	-0.9019	0.0744
2	355.08	0.5996	-0.1307	0.0050	-0.9788	0.0335	-0.1405	0.0792	-1.1185	0.0779
2	355.08	0.6497	-0.1430	0.0063	-1.1068	0.0388	-0.3439	0.0894	-0.9740	0.0763
2	355.08	0.6996	-0.1788	0.0066	-1.2690	0.0453	-0.6020	0.0992	-0.9681	0.0804
2	355.08	0.7495	-0.1820	0.0081	-1.4372	0.0504	-0.9456	0.1130	-0.9693	0.0820
2	355.08	0.7996	-0.2065	0.0091	-1.5531	0.0574	-1.2917	0.1261	-0.8861	0.0751
2	355.08	0.8578	-0.2395	0.0093	-1.7186	0.0642	-1.7914	0.1433	-0.8110	0.0687
2	355.08	0.9100	-0.4362	0.0105	-1.9403	0.0806	-2.3146	0.1520	-0.7872	0.0644
2	355.08	0.9727	-0.3633	0.0096	-2.0004	0.0809	-2.7391	0.1841	-0.6511	0.1773

4.20 Run 75, Point 53

4.20.1 Pitch, Flap, and Lag

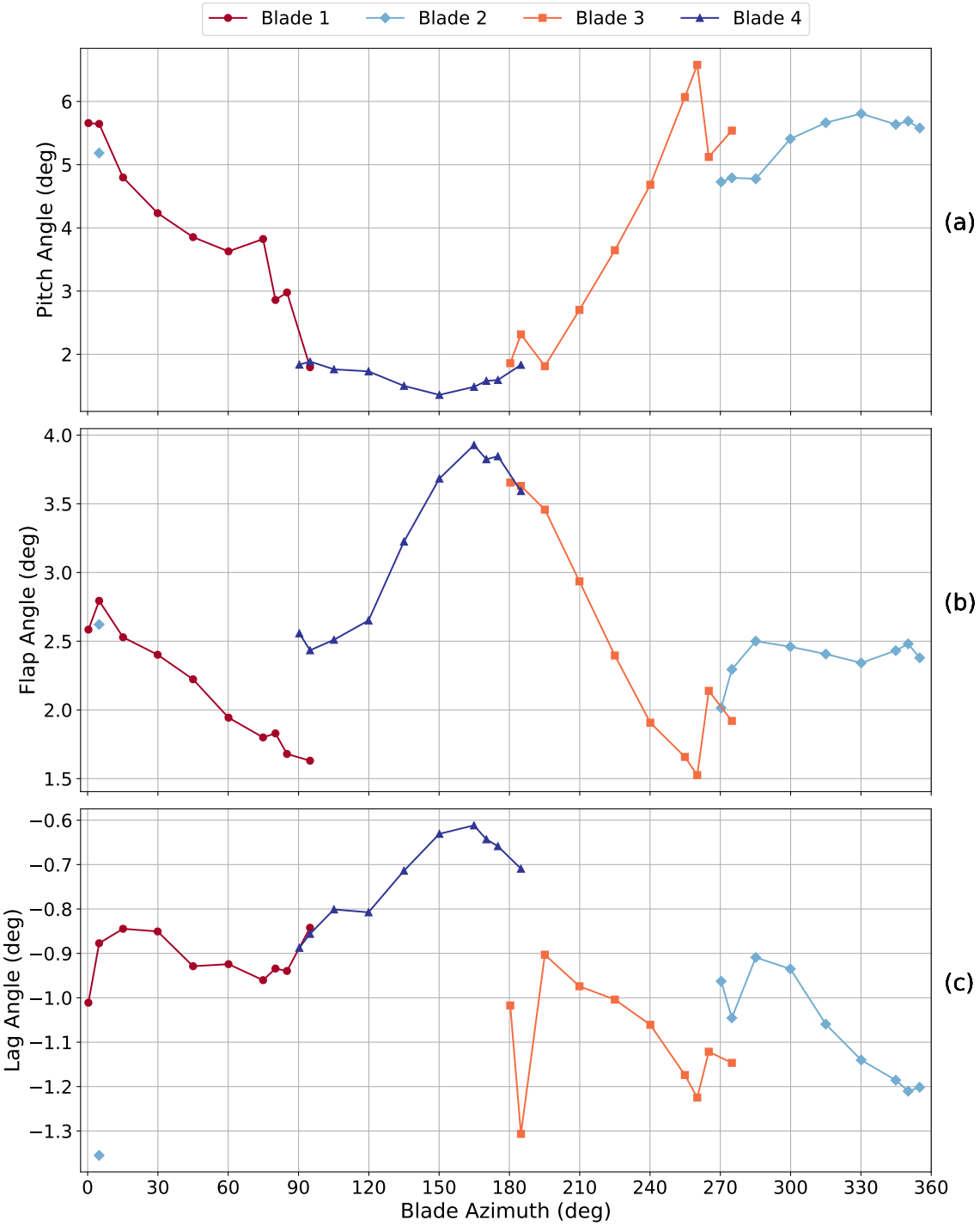


Figure 4.20-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.052, μ = 0.152, α = 0°
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0.35	1	5.6581	2.5842	-1.0111	0.0796	0.0700	0.0263
4.92	1	5.6456	2.7939	-0.8772	0.0979	0.0553	0.0293
4.92	2	5.1842	2.6215	-1.3550	0.0968	0.0273	0.0261
15.12	1	4.7975	2.5287	-0.8446	0.0793	0.0201	0.0298
29.88	1	4.2336	2.4015	-0.8506	0.0924	0.0364	0.0213
45	1	3.8536	2.2227	-0.9289	0.0707	0.0356	0.0182
60.12	1	3.6281	1.9438	-0.9243	0.0786	0.0382	0.0275
74.88	1	3.8238	1.8000	-0.9603	0.4264	0.1882	0.0789
80.16	1	2.8596	1.8292	-0.9342	0.0675	0.0208	0.0236
85.08	1	2.9786	1.6797	-0.9396	0.0634	0.0258	0.0210
90.35	4	1.8362	2.5574	-0.8875	0.2144	0.0569	0.0202
94.92	1	1.7951	1.6305	-0.8422	0.0284	0.0159	0.0176
94.92	4	1.8855	2.4338	-0.8561	0.1323	0.0496	0.0193
105.12	4	1.7627	2.5103	-0.8010	0.0229	0.0224	0.0204
119.88	4	1.7295	2.6509	-0.8075	0.0148	0.0111	0.0168
135	4	1.5004	3.2248	-0.7139	0.0322	0.0184	0.0106
150.12	4	1.3579	3.6834	-0.6308	0.0148	0.0188	0.0113
164.88	4	1.4848	3.9268	-0.6117	0.0251	0.0166	0.0132
170.16	4	1.5794	3.8238	-0.6431	0.0285	0.0135	0.0103
175.08	4	1.5936	3.8456	-0.6586	0.0415	0.0271	0.0131
180.35	3	1.8588	3.6537	-1.0173	0.0414	0.0261	0.0237
184.92	3	2.3157	3.6295	-1.3066	0.0861	0.0383	0.0253
184.92	4	1.8325	3.5925	-0.7093	0.0316	0.0181	0.0168
195.12	3	1.8125	3.4578	-0.9030	0.0332	0.0218	0.0162
209.88	3	2.7023	2.9351	-0.9741	0.0242	0.0207	0.0192
225	3	3.6466	2.3958	-1.0041	0.0433	0.0207	0.0128
240.12	3	4.6826	1.9071	-1.0608	0.0509	0.0153	0.0206
254.88	3	6.0699	1.6580	-1.1739	0.0887	0.0298	0.0206
260.16	3	6.5790	1.5254	-1.2248	0.3019	0.1061	0.0501
265.08	3	5.1220	2.1389	-1.1215	0.1545	0.0504	0.0216
270.35	2	4.7270	2.0143	-0.9628	0.2082	0.0640	0.0289
274.92	2	4.7916	2.2945	-1.0454	0.0726	0.0342	0.0186
274.92	3	5.5392	1.9200	-1.1466	0.2853	0.0896	0.0287
285.12	2	4.7765	2.5003	-0.9091	0.0274	0.0294	0.0109
299.88	2	5.4081	2.4600	-0.9350	0.0316	0.0204	0.0139
315	2	5.6636	2.4065	-1.0594	0.0405	0.0338	0.0103
330.12	2	5.8072	2.3422	-1.1402	0.0461	0.0830	0.0278
344.88	2	5.6363	2.4315	-1.1856	0.0386	0.0240	0.0083
350.16	2	5.6884	2.4806	-1.2104	0.0350	0.0192	0.0142
355.08	2	5.5801	2.3791	-1.2016	0.0772	0.0431	0.0171

4.20.2 Spanwise Elastic Deformations

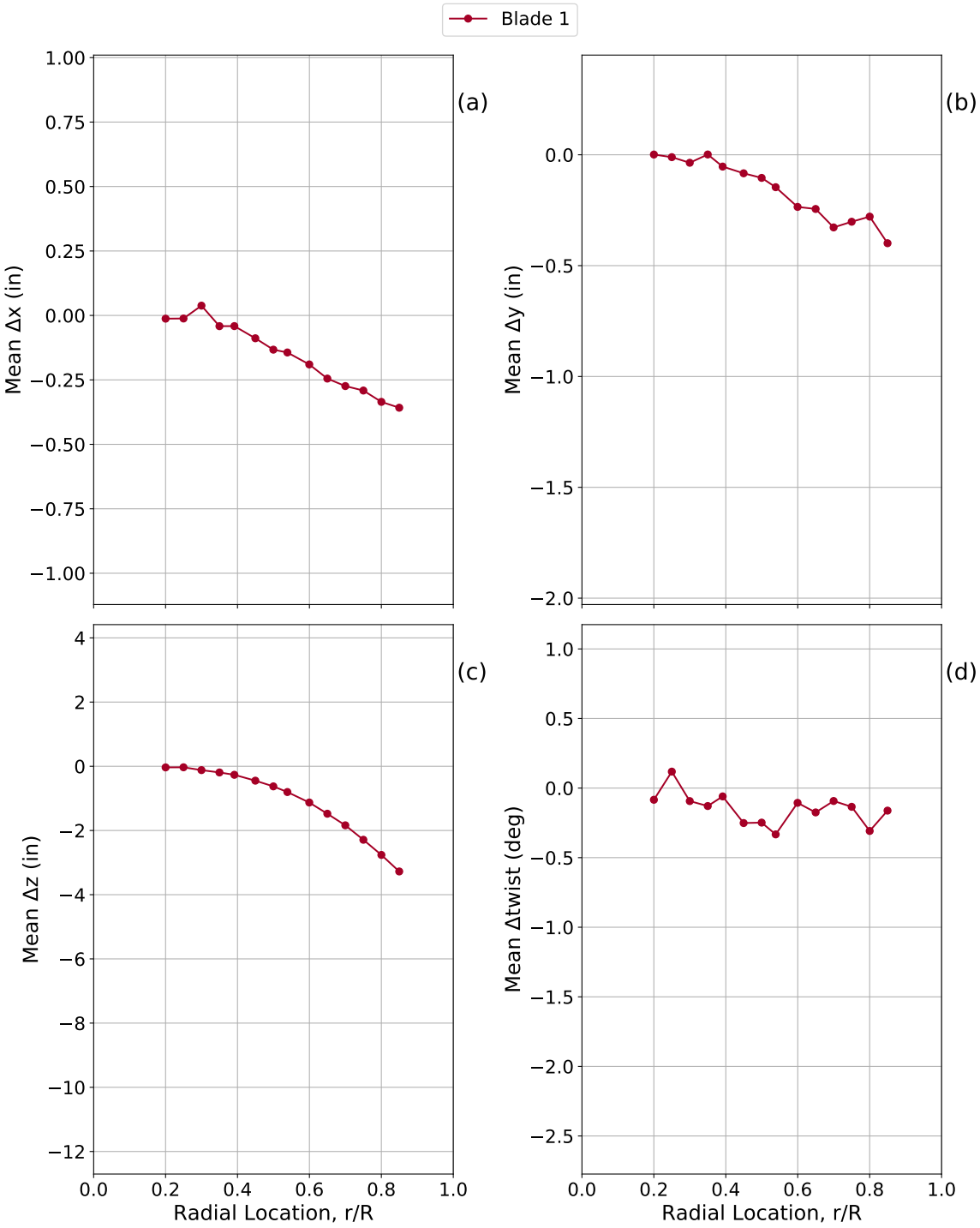


Figure 4.20-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	-0.0125	0.0051	0.0011	0.0021	-0.0349	0.0063	-0.0840	0.0407
1	0.35	0.2499	-0.0119	0.0033	-0.0107	0.0041	-0.0316	0.0111	0.1182	0.0741
1	0.35	0.2998	0.0380	0.0035	-0.0360	0.0086	-0.1196	0.0218	-0.0935	0.0879
1	0.35	0.3498	-0.0416	0.0039	0.0014	0.0148	-0.1927	0.0342	-0.1290	0.0872
1	0.35	0.3913	-0.0414	0.0066	-0.0532	0.0211	-0.2655	0.0488	-0.0599	0.0750
1	0.35	0.4496	-0.0886	0.0098	-0.0835	0.0292	-0.4484	0.0644	-0.2513	0.0840
1	0.35	0.4997	-0.1328	0.0111	-0.1042	0.0354	-0.6260	0.0797	-0.2482	0.0783
1	0.35	0.5387	-0.1437	0.0143	-0.1462	0.0414	-0.8022	0.0888	-0.3328	0.0742
1	0.35	0.5996	-0.1901	0.0180	-0.2351	0.0504	-1.1290	0.1055	-0.1061	0.0846
1	0.35	0.6498	-0.2449	0.0213	-0.2444	0.0589	-1.4777	0.1209	-0.1749	0.0687
1	0.35	0.6998	-0.2740	0.0246	-0.3276	0.0655	-1.8388	0.1384	-0.0928	0.0761
1	0.35	0.7500	-0.2913	0.0311	-0.3020	0.0745	-2.2894	0.1528	-0.1346	0.0904
1	0.35	0.8001	-0.3353	0.0359	-0.2789	0.0809	-2.7614	0.1687	-0.3082	0.1200
1	0.35	0.8497	-0.3580	0.0414	-0.3989	0.0914	-3.2762	0.1870	-0.1620	0.0827

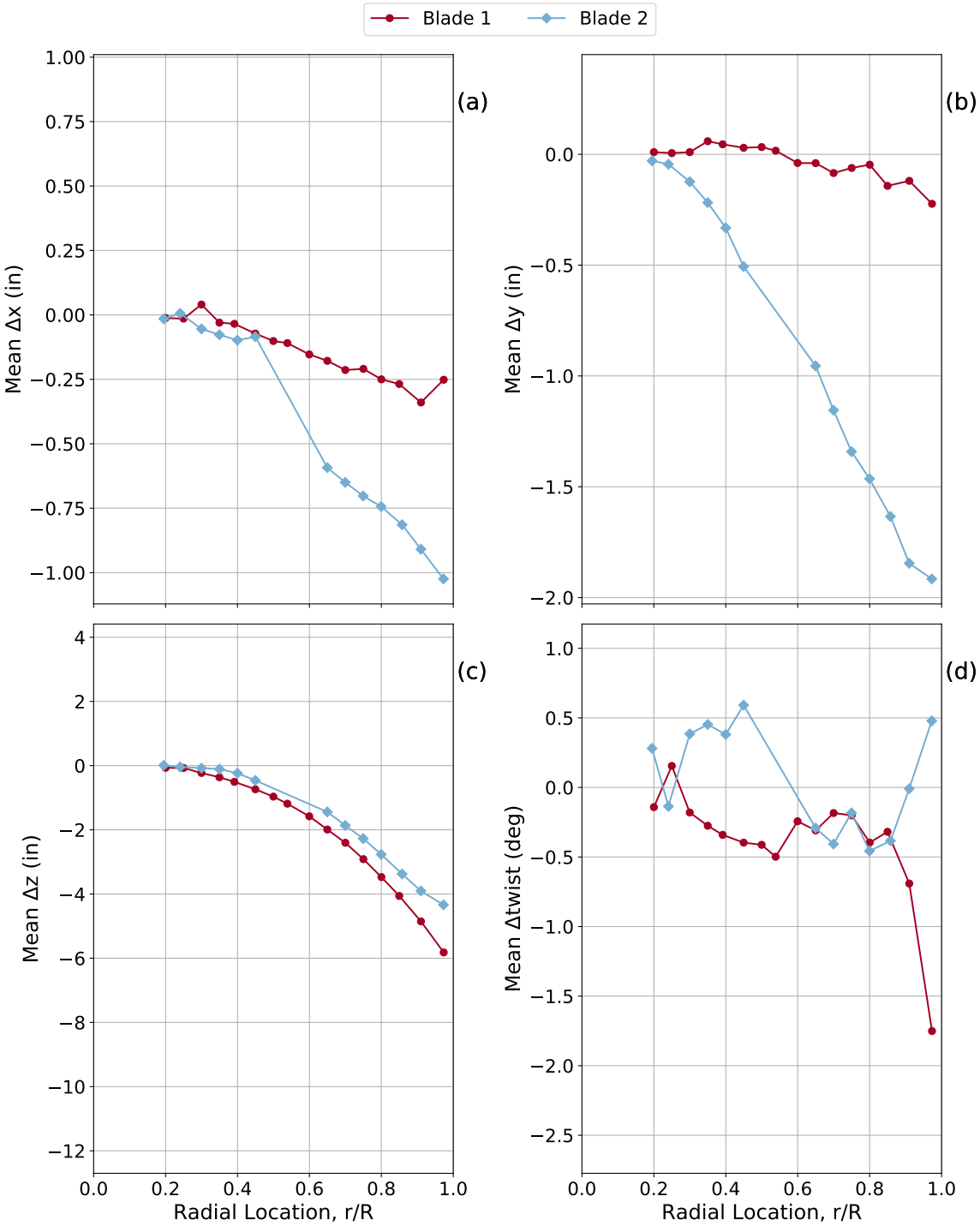


Figure 4.20-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0124	0.0019	0.0098	0.0036	-0.0671	0.0102	-0.1416	0.0435
1	4.92	0.2499	-0.0145	0.0027	0.0053	0.0029	-0.0739	0.0091	0.1548	0.1220
1	4.92	0.2998	0.0403	0.0026	0.0097	0.0093	-0.2281	0.0295	-0.1802	0.1043
1	4.92	0.3498	-0.0301	0.0028	0.0589	0.0163	-0.3631	0.0466	-0.2754	0.1015
1	4.92	0.3913	-0.0346	0.0024	0.0451	0.0197	-0.5052	0.0615	-0.3409	0.0909
1	4.92	0.4496	-0.0724	0.0029	0.0294	0.0246	-0.7366	0.0800	-0.3967	0.1006
1	4.92	0.4997	-0.1013	0.0038	0.0326	0.0292	-0.9656	0.0962	-0.4125	0.0957
1	4.92	0.5387	-0.1093	0.0039	0.0162	0.0333	-1.1859	0.1094	-0.4982	0.0988
1	4.92	0.5996	-0.1533	0.0046	-0.0393	0.0388	-1.5788	0.1311	-0.2431	0.0966
1	4.92	0.6498	-0.1782	0.0052	-0.0399	0.0443	-1.9903	0.1459	-0.3091	0.1016
1	4.92	0.6998	-0.2137	0.0057	-0.0845	0.0510	-2.4026	0.1640	-0.1840	0.1045
1	4.92	0.7500	-0.2095	0.0062	-0.0617	0.0568	-2.9130	0.1785	-0.2006	0.0921
1	4.92	0.8001	-0.2500	0.0070	-0.0470	0.0618	-3.4716	0.1924	-0.3962	0.1165
1	4.92	0.8497	-0.2682	0.0077	-0.1425	0.0687	-4.0595	0.2136	-0.3189	0.0904
1	4.92	0.9102	-0.3397	0.0117	-0.1198	0.0767	-4.8540	0.2353	-0.6906	0.1501
1	4.92	0.9734	-0.2516	0.0176	-0.2234	0.0846	-5.8193	0.2533	-1.7510	0.1594
2	4.92	0.1949	-0.0151	0.0025	-0.0293	0.0026	0.0103	0.0065	0.2808	0.0411
2	4.92	0.2405	0.0058	0.0018	-0.0449	0.0031	-0.0418	0.0052	-0.1359	0.0879
2	4.92	0.2999	-0.0543	0.0019	-0.1238	0.0080	-0.0763	0.0164	0.3851	0.0990
2	4.92	0.3498	-0.0771	0.0021	-0.2181	0.0131	-0.1073	0.0252	0.4525	0.0938
2	4.92	0.3998	-0.0982	0.0031	-0.3320	0.0193	-0.2358	0.0351	0.3806	0.0998
2	4.92	0.4496	-0.0845	0.0052	-0.5065	0.0237	-0.4613	0.0451	0.5916	0.1062
2	4.92	0.6497	-0.5925	0.0034	-0.9545	0.0644	-1.4420	0.0769	-0.2915	0.0816
2	4.92	0.6996	-0.6497	0.0029	-1.1548	0.0711	-1.8614	0.0863	-0.4066	0.0863
2	4.92	0.7495	-0.7026	0.0039	-1.3415	0.0767	-2.2731	0.0993	-0.1834	0.0776
2	4.92	0.7996	-0.7439	0.0038	-1.4641	0.0851	-2.7653	0.0985	-0.4567	0.1201
2	4.92	0.8578	-0.8141	0.0033	-1.6344	0.0940	-3.3750	0.1110	-0.3838	0.1056
2	4.92	0.9100	-0.9092	0.0032	-1.8452	0.1006	-3.9050	0.1196	-0.0092	0.1008
2	4.92	0.9727	-1.0244	0.0040	-1.9159	0.1094	-4.3381	0.1294	0.4783	0.1026

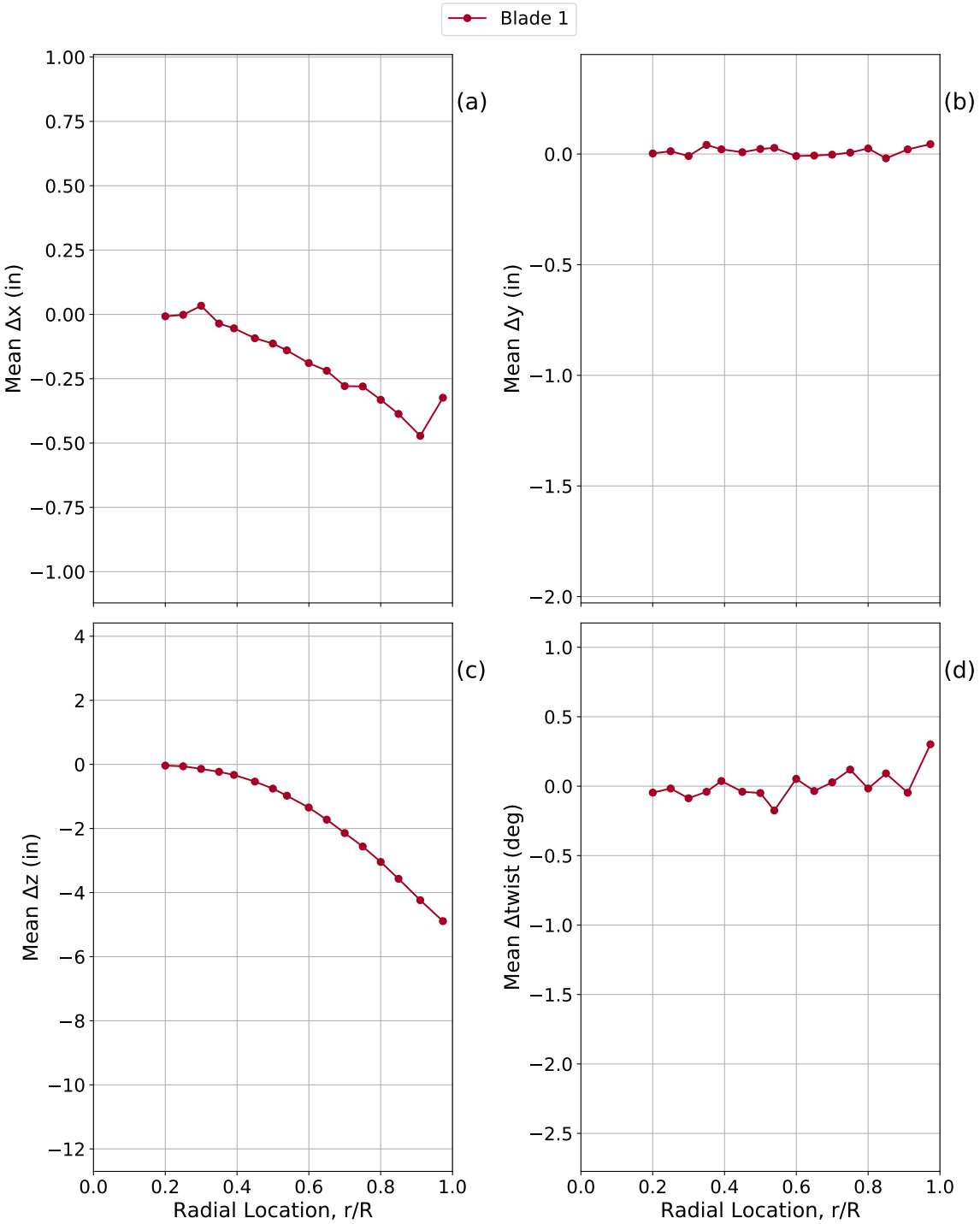


Figure 4.20-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0075	0.0026	0.0027	0.0014	-0.0378	0.0034	-0.0466	0.0406
1	15.12	0.2499	-0.0017	0.0020	0.0127	0.0040	-0.0588	0.0079	-0.0170	0.0690
1	15.12	0.2998	0.0336	0.0017	-0.0090	0.0060	-0.1402	0.0116	-0.0872	0.0893
1	15.12	0.3498	-0.0355	0.0019	0.0413	0.0111	-0.2310	0.0209	-0.0403	0.0730
1	15.12	0.3913	-0.0541	0.0026	0.0212	0.0159	-0.3281	0.0287	0.0368	0.0750
1	15.12	0.4496	-0.0927	0.0024	0.0084	0.0202	-0.5366	0.0348	-0.0404	0.0839
1	15.12	0.4997	-0.1134	0.0024	0.0229	0.0243	-0.7557	0.0414	-0.0494	0.0817
1	15.12	0.5387	-0.1399	0.0020	0.0277	0.0275	-0.9766	0.0477	-0.1750	0.0755
1	15.12	0.5996	-0.1892	0.0008	-0.0090	0.0337	-1.3463	0.0572	0.0526	0.0815
1	15.12	0.6498	-0.2190	0.0013	-0.0069	0.0374	-1.7240	0.0637	-0.0350	0.0816
1	15.12	0.6998	-0.2786	0.0019	-0.0028	0.0429	-2.1435	0.0728	0.0276	0.0767
1	15.12	0.7500	-0.2801	0.0018	0.0066	0.0488	-2.5633	0.0823	0.1193	0.0675
1	15.12	0.8001	-0.3319	0.0025	0.0253	0.0534	-3.0436	0.0872	-0.0167	0.0811
1	15.12	0.8497	-0.3869	0.0024	-0.0192	0.0578	-3.5702	0.0933	0.0915	0.0845
1	15.12	0.9102	-0.4720	0.0022	0.0209	0.0633	-4.2386	0.0950	-0.0469	0.1544
1	15.12	0.9734	-0.3239	0.0038	0.0447	0.0700	-4.8917	0.1282	0.3013	0.1361

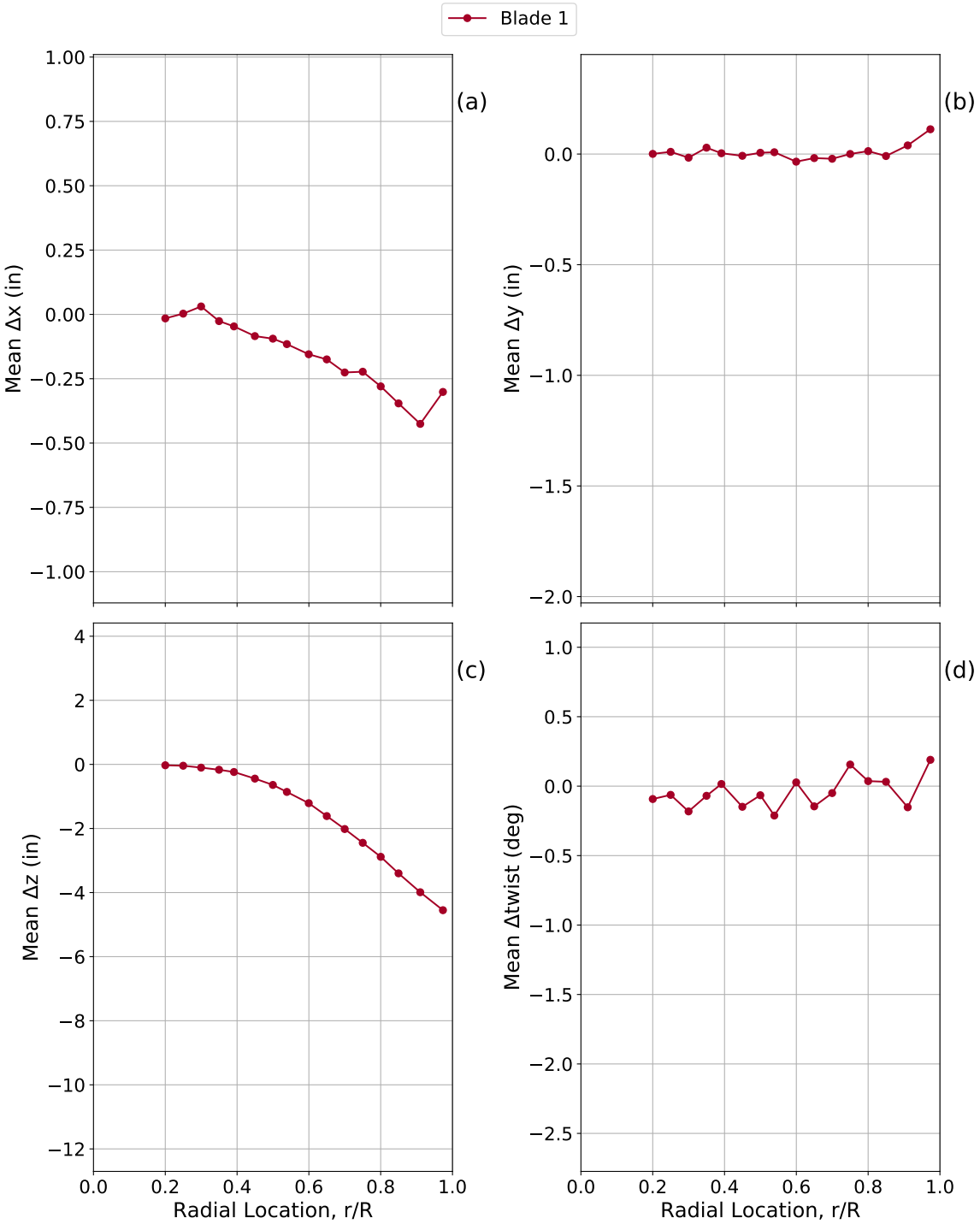


Figure 4.20-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0156	0.0022	0.0007	0.0013	-0.0273	0.0037	-0.0927	0.0446
1	29.88	0.2499	0.0029	0.0025	0.0100	0.0015	-0.0419	0.0071	-0.0628	0.0771
1	29.88	0.2998	0.0308	0.0015	-0.0165	0.0046	-0.1011	0.0135	-0.1818	0.1034
1	29.88	0.3498	-0.0261	0.0023	0.0288	0.0070	-0.1675	0.0238	-0.0695	0.0870
1	29.88	0.3913	-0.0467	0.0022	0.0036	0.0100	-0.2372	0.0331	0.0155	0.0824
1	29.88	0.4496	-0.0844	0.0022	-0.0080	0.0132	-0.4438	0.0431	-0.1486	0.0830
1	29.88	0.4997	-0.0944	0.0019	0.0058	0.0160	-0.6407	0.0510	-0.0654	0.0884
1	29.88	0.5387	-0.1155	0.0019	0.0082	0.0181	-0.8594	0.0575	-0.2117	0.0820
1	29.88	0.5996	-0.1550	0.0022	-0.0344	0.0221	-1.2097	0.0648	0.0270	0.0883
1	29.88	0.6498	-0.1749	0.0023	-0.0183	0.0254	-1.6126	0.0721	-0.1455	0.0869
1	29.88	0.6998	-0.2257	0.0019	-0.0213	0.0287	-2.0173	0.0805	-0.0498	0.0900
1	29.88	0.7500	-0.2228	0.0023	0.0003	0.0312	-2.4474	0.0901	0.1555	0.0888
1	29.88	0.8001	-0.2798	0.0018	0.0132	0.0347	-2.8839	0.0982	0.0363	0.0937
1	29.88	0.8497	-0.3459	0.0025	-0.0090	0.0383	-3.4002	0.1081	0.0313	0.0872
1	29.88	0.9102	-0.4255	0.0033	0.0391	0.0431	-3.9898	0.1161	-0.1521	0.0999
1	29.88	0.9734	-0.3014	0.0036	0.1120	0.0474	-4.5502	0.1293	0.1896	0.0897

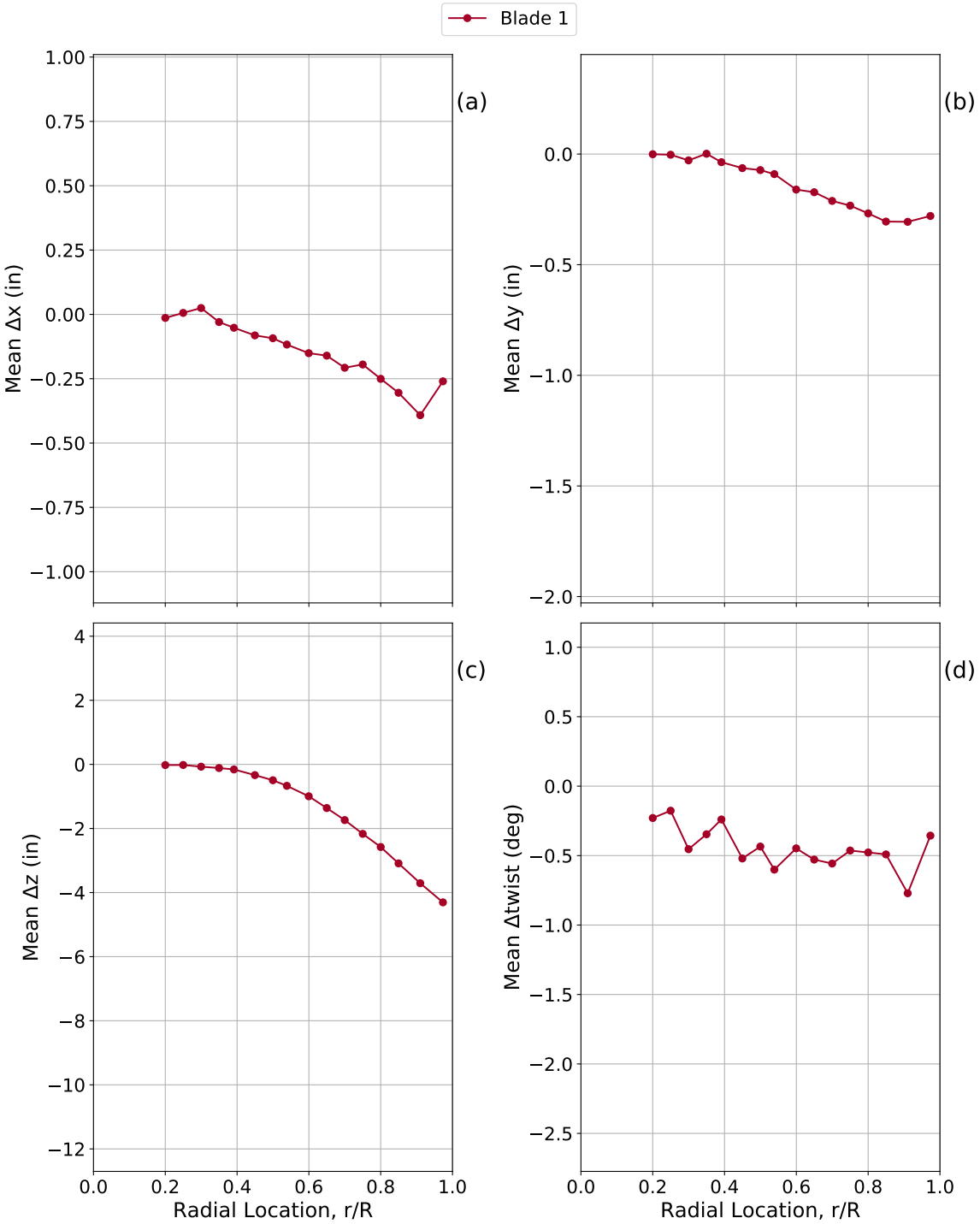


Figure 4.20-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0137	0.0032	-0.0009	0.0009	-0.0208	0.0044	-0.2294	0.0337
1	45	0.2499	0.0058	0.0017	-0.0031	0.0017	-0.0181	0.0069	-0.1768	0.0691
1	45	0.2998	0.0247	0.0023	-0.0286	0.0024	-0.0715	0.0143	-0.4538	0.0780
1	45	0.3498	-0.0297	0.0017	0.0014	0.0049	-0.1140	0.0254	-0.3462	0.0681
1	45	0.3913	-0.0520	0.0019	-0.0368	0.0061	-0.1576	0.0342	-0.2398	0.0732
1	45	0.4496	-0.0816	0.0026	-0.0636	0.0090	-0.3346	0.0480	-0.5205	0.0706
1	45	0.4997	-0.0927	0.0025	-0.0725	0.0117	-0.4947	0.0577	-0.4349	0.0724
1	45	0.5387	-0.1173	0.0024	-0.0906	0.0140	-0.6688	0.0675	-0.6010	0.0691
1	45	0.5996	-0.1507	0.0022	-0.1605	0.0172	-0.9949	0.0798	-0.4479	0.0754
1	45	0.6498	-0.1603	0.0026	-0.1726	0.0200	-1.3624	0.0917	-0.5287	0.0705
1	45	0.6998	-0.2073	0.0025	-0.2118	0.0235	-1.7381	0.1013	-0.5572	0.0780
1	45	0.7500	-0.1947	0.0027	-0.2331	0.0264	-2.1670	0.1131	-0.4636	0.0796
1	45	0.8001	-0.2504	0.0032	-0.2682	0.0308	-2.5786	0.1258	-0.4773	0.0774
1	45	0.8497	-0.3046	0.0028	-0.3052	0.0339	-3.0891	0.1393	-0.4913	0.0772
1	45	0.9102	-0.3917	0.0042	-0.3063	0.0390	-3.7084	0.1546	-0.7711	0.0929
1	45	0.9734	-0.2601	0.0045	-0.2799	0.0430	-4.3062	0.1773	-0.3562	0.0834

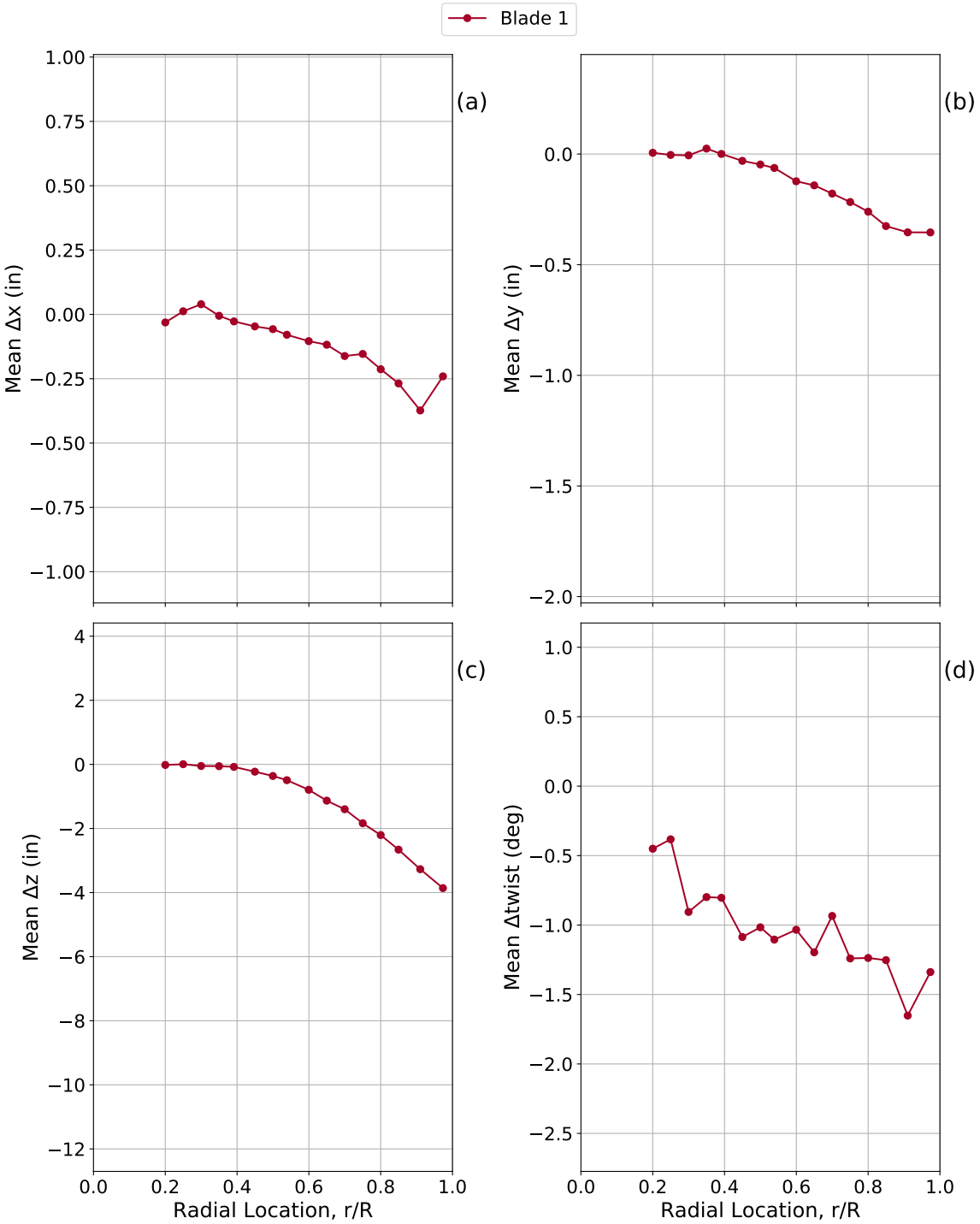


Figure 4.20-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0313	0.0038	0.0056	0.0027	-0.0177	0.0050	-0.4504	0.0344
1	60.12	0.2499	0.0121	0.0022	-0.0041	0.0033	0.0062	0.0058	-0.3826	0.0854
1	60.12	0.2998	0.0395	0.0019	-0.0059	0.0092	-0.0497	0.0127	-0.9056	0.0874
1	60.12	0.3498	-0.0054	0.0020	0.0247	0.0153	-0.0558	0.0231	-0.7987	0.0796
1	60.12	0.3913	-0.0273	0.0023	0.0004	0.0210	-0.0775	0.0283	-0.8037	0.0755
1	60.12	0.4496	-0.0467	0.0027	-0.0308	0.0275	-0.2271	0.0365	-1.0862	0.0696
1	60.12	0.4997	-0.0574	0.0017	-0.0471	0.0337	-0.3618	0.0422	-1.0162	0.0813
1	60.12	0.5387	-0.0792	0.0022	-0.0629	0.0387	-0.4926	0.0484	-1.1048	0.0762
1	60.12	0.5996	-0.1040	0.0020	-0.1231	0.0466	-0.7926	0.0572	-1.0338	0.0825
1	60.12	0.6498	-0.1179	0.0029	-0.1415	0.0529	-1.1318	0.0650	-1.1964	0.0695
1	60.12	0.6998	-0.1618	0.0032	-0.1787	0.0600	-1.3997	0.0722	-0.9343	0.0723
1	60.12	0.7500	-0.1538	0.0021	-0.2168	0.0662	-1.8368	0.0796	-1.2403	0.0656
1	60.12	0.8001	-0.2131	0.0028	-0.2605	0.0737	-2.2063	0.0844	-1.2370	0.0738
1	60.12	0.8497	-0.2682	0.0024	-0.3255	0.0805	-2.6601	0.0923	-1.2526	0.0696
1	60.12	0.9102	-0.3733	0.0030	-0.3538	0.0888	-3.2709	0.1013	-1.6517	0.0765
1	60.12	0.9734	-0.2408	0.0038	-0.3542	0.0986	-3.8611	0.1058	-1.3384	0.1000

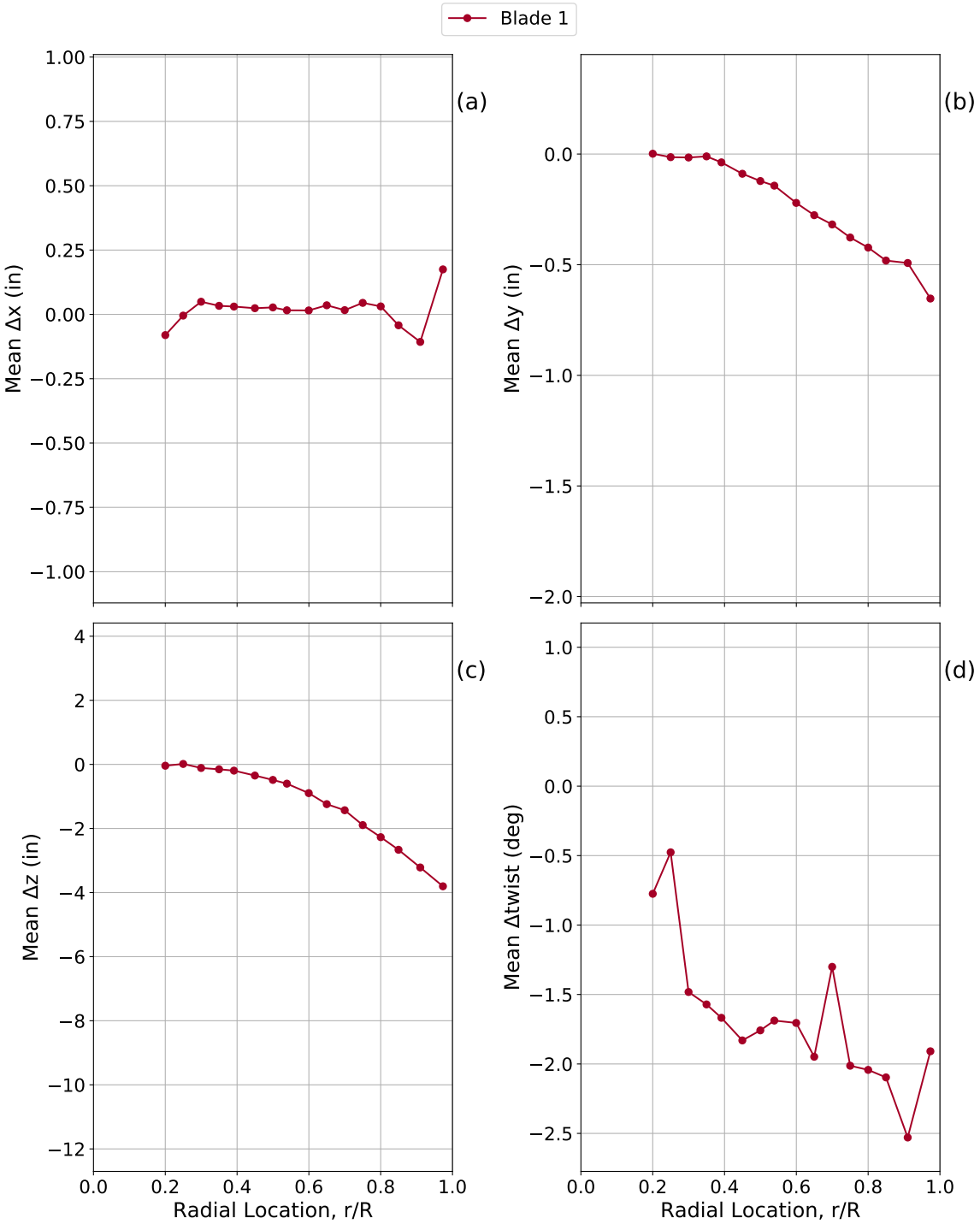


Figure 4.20-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0805	0.0187	0.0015	0.0078	-0.0414	0.0279	-0.7750	0.1578
1	74.88	0.2499	-0.0047	0.0037	-0.0141	0.0075	0.0142	0.0308	-0.4764	0.4256
1	74.88	0.2998	0.0492	0.0031	-0.0156	0.0251	-0.1120	0.0838	-1.4819	0.4232
1	74.88	0.3498	0.0333	0.0034	-0.0106	0.0425	-0.1531	0.1368	-1.5715	0.4161
1	74.88	0.3913	0.0304	0.0021	-0.0376	0.0568	-0.1948	0.1829	-1.6678	0.4087
1	74.88	0.4496	0.0240	0.0031	-0.0891	0.0769	-0.3477	0.2458	-1.8307	0.4152
1	74.88	0.4997	0.0271	0.0034	-0.1219	0.0948	-0.4847	0.3005	-1.7583	0.4163
1	74.88	0.5387	0.0159	0.0037	-0.1429	0.1087	-0.6012	0.3418	-1.6877	0.4180
1	74.88	0.5996	0.0154	0.0029	-0.2208	0.1313	-0.8965	0.4071	-1.7048	0.4209
1	74.88	0.6498	0.0354	0.0042	-0.2763	0.1505	-1.2404	0.4618	-1.9482	0.4171
1	74.88	0.6998	0.0165	0.0039	-0.3182	0.1686	-1.4312	0.5140	-1.3011	0.4241
1	74.88	0.7500	0.0448	0.0044	-0.3772	0.1893	-1.8937	0.5656	-2.0128	0.4216
1	74.88	0.8001	0.0310	0.0050	-0.4227	0.2086	-2.2711	0.6194	-2.0428	0.4114
1	74.88	0.8497	-0.0424	0.0055	-0.4813	0.2277	-2.6648	0.6694	-2.0969	0.4298
1	74.88	0.9102	-0.1070	0.0063	-0.4924	0.2512	-3.2171	0.7338	-2.5296	0.4215
1	74.88	0.9734	0.1749	0.0067	-0.6530	0.2793	-3.8044	0.8028	-1.9088	0.4089

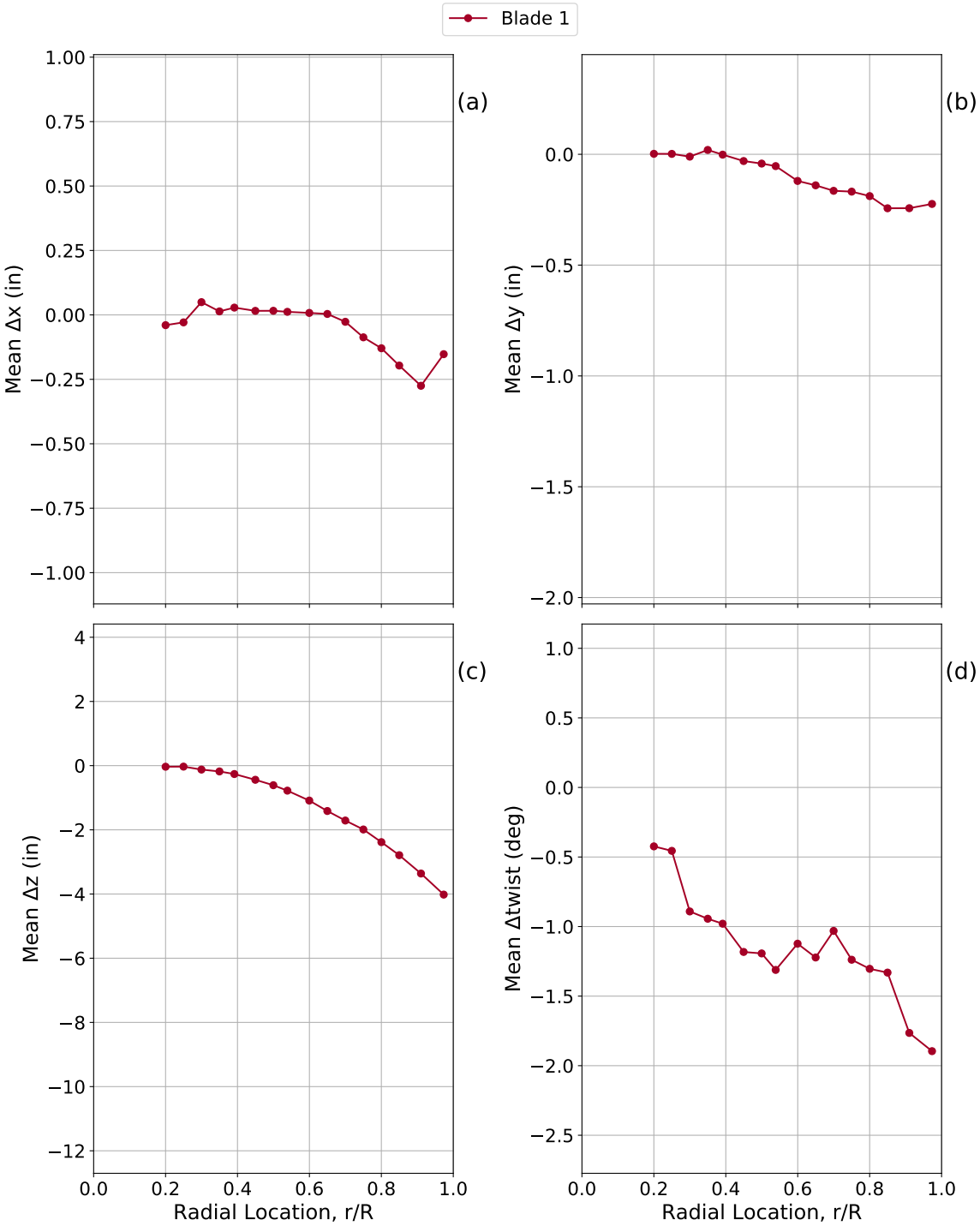


Figure 4.20-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0398	0.0029	0.0022	0.0020	-0.0337	0.0049	-0.4236	0.0282
1	80.16	0.2499	-0.0290	0.0020	0.0019	0.0031	-0.0304	0.0039	-0.4559	0.0690
1	80.16	0.2998	0.0495	0.0020	-0.0106	0.0067	-0.1227	0.0126	-0.8913	0.0707
1	80.16	0.3498	0.0136	0.0022	0.0196	0.0111	-0.1806	0.0226	-0.9438	0.0557
1	80.16	0.3913	0.0283	0.0022	-0.0016	0.0151	-0.2614	0.0272	-0.9795	0.0628
1	80.16	0.4496	0.0157	0.0021	-0.0304	0.0208	-0.4405	0.0364	-1.1825	0.0582
1	80.16	0.4997	0.0160	0.0023	-0.0419	0.0250	-0.6094	0.0429	-1.1931	0.0745
1	80.16	0.5387	0.0119	0.0035	-0.0533	0.0281	-0.7791	0.0499	-1.3116	0.0644
1	80.16	0.5996	0.0077	0.0036	-0.1202	0.0349	-1.0884	0.0592	-1.1231	0.0754
1	80.16	0.6498	0.0037	0.0055	-0.1400	0.0418	-1.4134	0.0650	-1.2222	0.0799
1	80.16	0.6998	-0.0267	0.0084	-0.1647	0.0469	-1.7100	0.0726	-1.0311	0.0976
1	80.16	0.7500	-0.0870	0.0047	-0.1684	0.0665	-1.9891	0.0617	-1.2385	0.0704
1	80.16	0.8001	-0.1294	0.0047	-0.1886	0.0738	-2.3832	0.0667	-1.3037	0.0630
1	80.16	0.8497	-0.1964	0.0047	-0.2435	0.0803	-2.7896	0.0724	-1.3309	0.0707
1	80.16	0.9102	-0.2750	0.0048	-0.2432	0.0880	-3.3610	0.0812	-1.7645	0.0665
1	80.16	0.9734	-0.1524	0.0044	-0.2240	0.0965	-4.0178	0.0891	-1.8955	0.0635

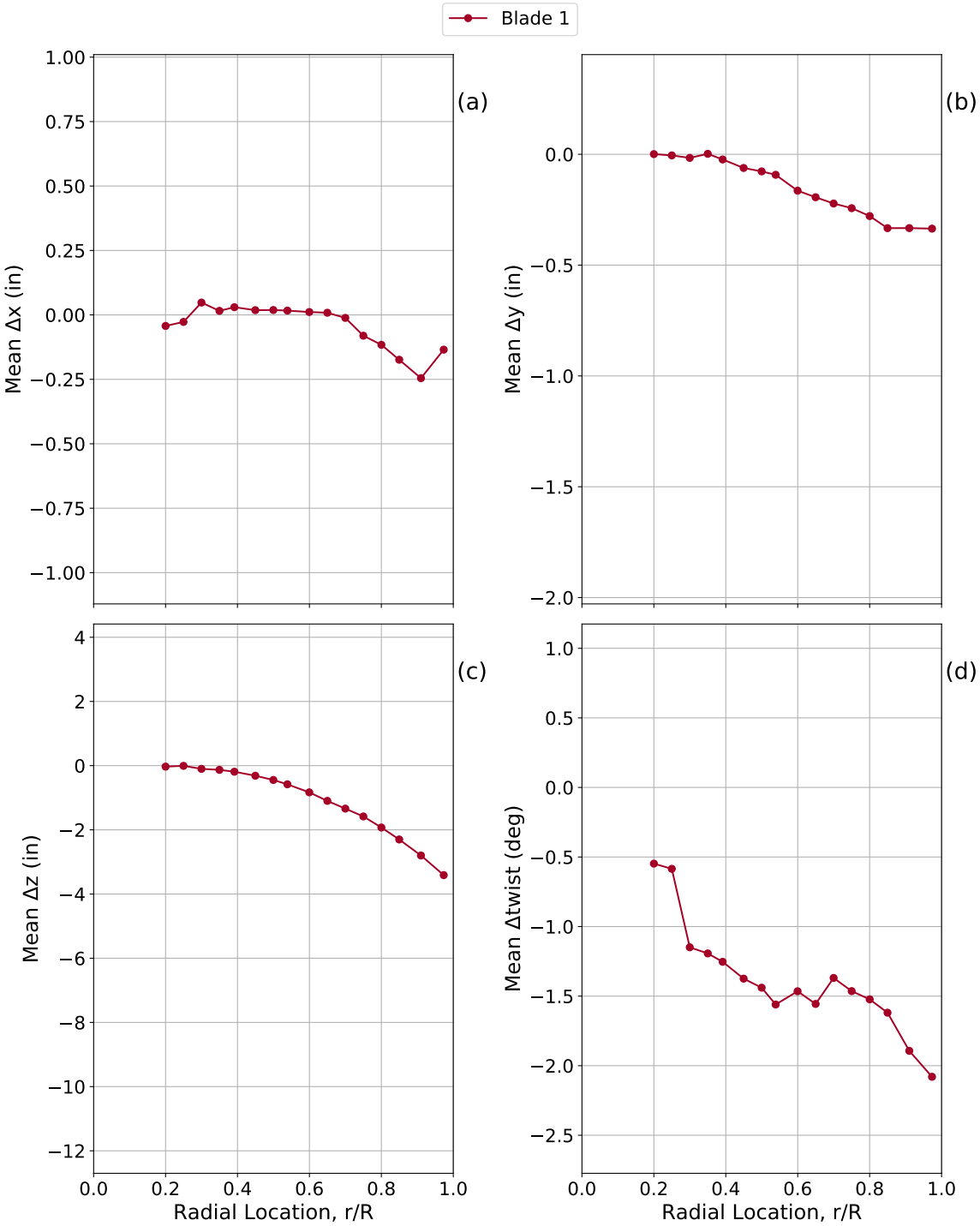


Figure 4.20-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0428	0.0058	0.0008	0.0015	-0.0299	0.0042	-0.5477	0.0365
1	85.08	0.2499	-0.0272	0.0027	-0.0050	0.0048	-0.0065	0.0093	-0.5851	0.0426
1	85.08	0.2998	0.0479	0.0020	-0.0162	0.0065	-0.1002	0.0120	-1.1491	0.0633
1	85.08	0.3498	0.0157	0.0021	0.0022	0.0115	-0.1311	0.0187	-1.1931	0.0680
1	85.08	0.3913	0.0299	0.0031	-0.0234	0.0169	-0.1894	0.0269	-1.2533	0.0592
1	85.08	0.4496	0.0184	0.0038	-0.0617	0.0220	-0.3143	0.0350	-1.3745	0.0544
1	85.08	0.4997	0.0189	0.0039	-0.0772	0.0266	-0.4463	0.0413	-1.4395	0.0626
1	85.08	0.5387	0.0167	0.0057	-0.0925	0.0303	-0.5813	0.0482	-1.5604	0.0628
1	85.08	0.5996	0.0112	0.0065	-0.1642	0.0367	-0.8322	0.0576	-1.4650	0.0741
1	85.08	0.6498	0.0084	0.0085	-0.1939	0.0413	-1.0976	0.0665	-1.5562	0.0565
1	85.08	0.6998	-0.0116	0.0091	-0.2220	0.0465	-1.3387	0.0682	-1.3694	0.0698
1	85.08	0.7500	-0.0807	0.0046	-0.2431	0.0544	-1.5829	0.0789	-1.4640	0.0758
1	85.08	0.8001	-0.1160	0.0056	-0.2787	0.0595	-1.9276	0.0886	-1.5232	0.0686
1	85.08	0.8497	-0.1740	0.0049	-0.3332	0.0644	-2.3006	0.0956	-1.6191	0.0691
1	85.08	0.9102	-0.2454	0.0054	-0.3330	0.0699	-2.7994	0.1043	-1.8934	0.0780
1	85.08	0.9734	-0.1348	0.0058	-0.3354	0.0761	-3.4110	0.1155	-2.0798	0.0926

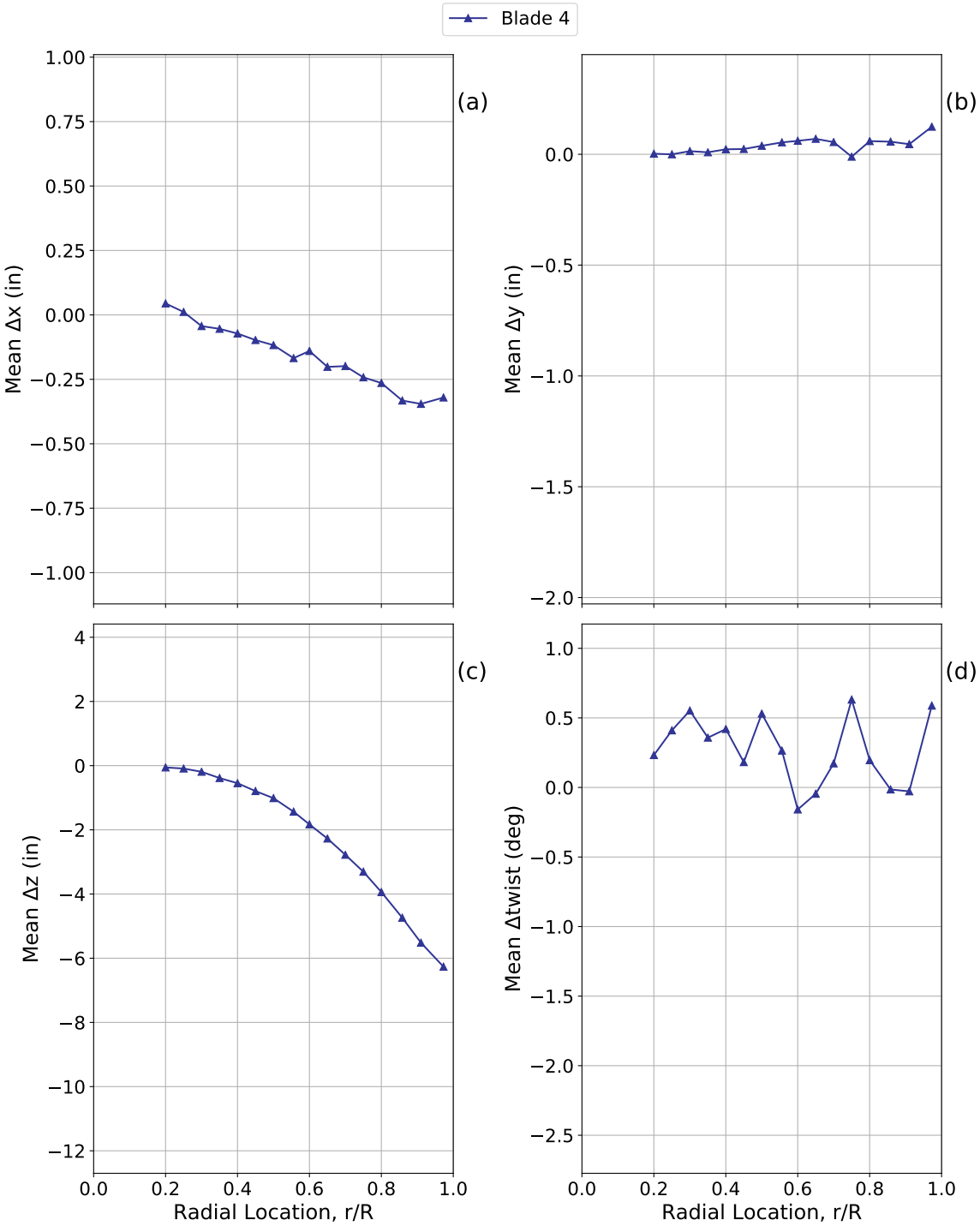


Figure 4.20-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	90.35	0.2001	0.0444	0.0058	0.0026	0.0019	-0.0564	0.0084	0.2324	0.0954
4	90.35	0.2502	0.0114	0.0050	-0.0002	0.0036	-0.0907	0.0094	0.4101	0.1807
4	90.35	0.3001	-0.0435	0.0041	0.0142	0.0059	-0.1916	0.0212	0.5522	0.2201
4	90.35	0.3502	-0.0541	0.0041	0.0090	0.0099	-0.3871	0.0370	0.3575	0.2143
4	90.35	0.4002	-0.0724	0.0047	0.0225	0.0150	-0.5482	0.0499	0.4198	0.2349
4	90.35	0.4500	-0.0977	0.0031	0.0237	0.0188	-0.7931	0.0668	0.1819	0.2214
4	90.35	0.5001	-0.1174	0.0037	0.0383	0.0238	-1.0133	0.0817	0.5302	0.2094
4	90.35	0.5560	-0.1678	0.0038	0.0537	0.0284	-1.4350	0.0994	0.2646	0.2035
4	90.35	0.6001	-0.1400	0.0034	0.0607	0.0328	-1.8309	0.1141	-0.1587	0.2111
4	90.35	0.6501	-0.2017	0.0035	0.0697	0.0375	-2.2721	0.1308	-0.0457	0.2018
4	90.35	0.6999	-0.1987	0.0038	0.0551	0.0428	-2.7777	0.1464	0.1725	0.2141
4	90.35	0.7500	-0.2423	0.0040	-0.0110	0.0480	-3.3060	0.1670	0.6312	0.2096
4	90.35	0.8002	-0.2643	0.0044	0.0595	0.0541	-3.9415	0.1872	0.1957	0.2085
4	90.35	0.8582	-0.3324	0.0050	0.0568	0.0603	-4.7394	0.2071	-0.0148	0.2106
4	90.35	0.9101	-0.3453	0.0053	0.0456	0.0661	-5.5177	0.2259	-0.0280	0.2127
4	90.35	0.9728	-0.3206	0.0051	0.1242	0.0737	-6.2659	0.2518	0.5879	0.2019

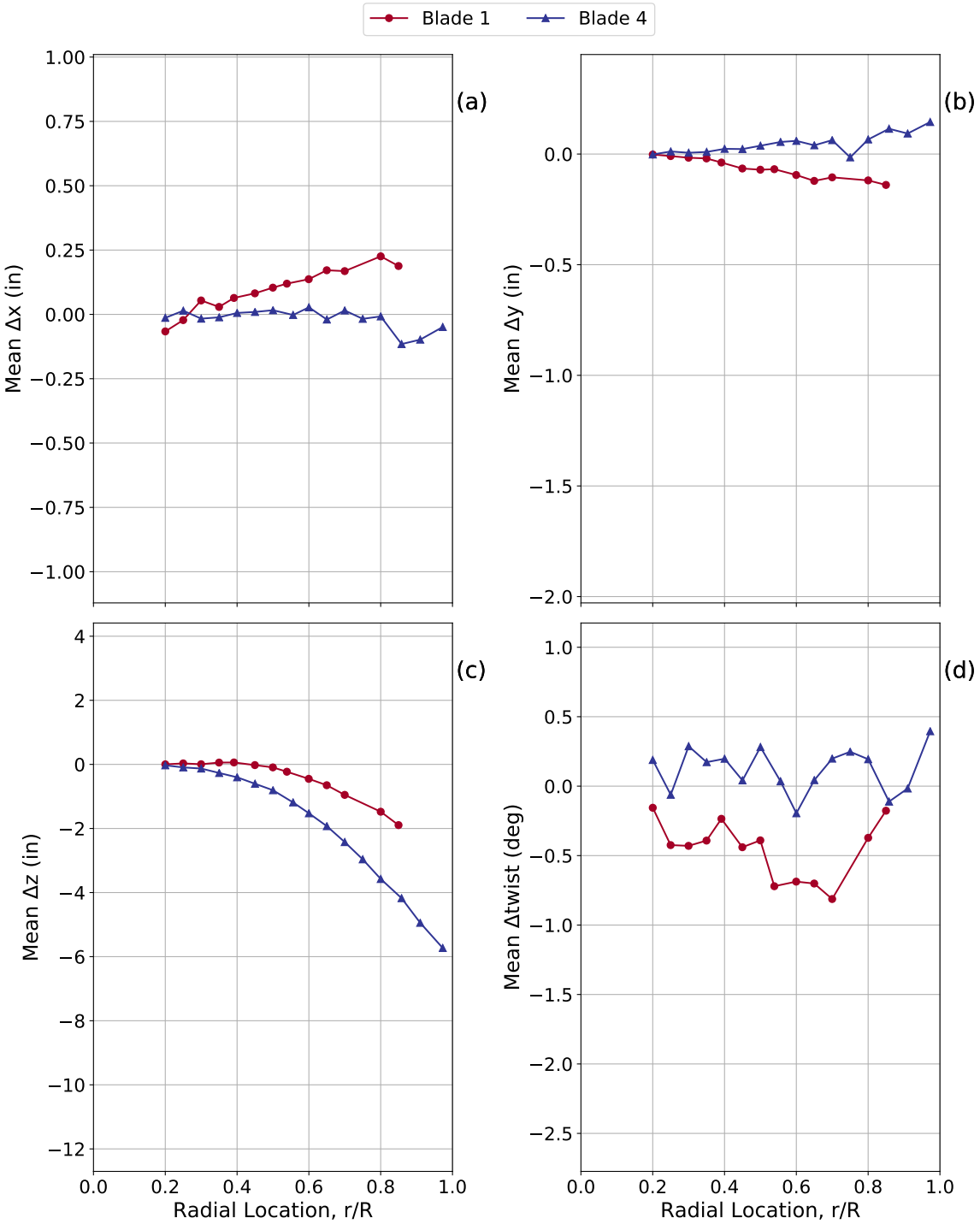


Figure 4.20-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0662	0.0021	-0.0020	0.0006	0.0017	0.0010	-0.1555	0.0169
1	94.92	0.2499	-0.0222	0.0011	-0.0092	0.0015	0.0307	0.0037	-0.4244	0.0271
1	94.92	0.2998	0.0541	0.0006	-0.0166	0.0028	0.0049	0.0059	-0.4298	0.0359
1	94.92	0.3498	0.0290	0.0013	-0.0199	0.0040	0.0566	0.0081	-0.3919	0.0292
1	94.92	0.3913	0.0639	0.0011	-0.0383	0.0065	0.0604	0.0140	-0.2352	0.0389
1	94.92	0.4496	0.0818	0.0010	-0.0654	0.0077	-0.0219	0.0171	-0.4397	0.0300
1	94.92	0.4997	0.1039	0.0020	-0.0708	0.0100	-0.0932	0.0217	-0.3903	0.0299
1	94.92	0.5387	0.1194	0.0019	-0.0685	0.0115	-0.2290	0.0276	-0.7205	0.0307
1	94.92	0.5996	0.1367	0.0014	-0.0947	0.0144	-0.4505	0.0320	-0.6873	0.0272
1	94.92	0.6498	0.1715	0.0027	-0.1213	0.0167	-0.6500	0.0360	-0.7011	0.0362
1	94.92	0.6998	0.1682	0.0022	-0.1053	0.0192	-0.9513	0.0452	-0.8126	0.0373
1	94.92	0.8001	0.2256	0.0050	-0.1191	0.0246	-1.4771	0.0537	-0.3720	0.0769
1	94.92	0.8497	0.1880	0.0050	-0.1396	0.0280	-1.8948	0.0549	-0.1768	0.1055
4	94.92	0.2001	-0.0134	0.0046	-0.0019	0.0055	-0.0290	0.0189	0.1884	0.1012
4	94.92	0.2502	0.0143	0.0093	0.0116	0.0066	-0.0943	0.0187	-0.0620	0.1930
4	94.92	0.3001	-0.0166	0.0040	0.0057	0.0113	-0.1297	0.0394	0.2873	0.1402
4	94.92	0.3502	-0.0114	0.0043	0.0095	0.0145	-0.2681	0.0515	0.1727	0.1263
4	94.92	0.4002	0.0056	0.0030	0.0235	0.0177	-0.4027	0.0627	0.1973	0.1233
4	94.92	0.4500	0.0095	0.0029	0.0225	0.0206	-0.6044	0.0732	0.0414	0.1293
4	94.92	0.5001	0.0162	0.0030	0.0376	0.0245	-0.8067	0.0873	0.2813	0.1305
4	94.92	0.5560	-0.0023	0.0023	0.0546	0.0296	-1.1870	0.1045	0.0346	0.1283
4	94.92	0.6001	0.0274	0.0027	0.0595	0.0331	-1.5257	0.1170	-0.1952	0.1332
4	94.92	0.6501	-0.0200	0.0024	0.0395	0.0399	-1.9279	0.1299	0.0432	0.1219
4	94.92	0.6999	0.0152	0.0024	0.0628	0.0427	-2.4250	0.1472	0.1982	0.1270
4	94.92	0.7500	-0.0173	0.0024	-0.0151	0.0503	-2.9627	0.1625	0.2477	0.1435
4	94.92	0.8002	-0.0079	0.0034	0.0659	0.0524	-3.5765	0.1743	0.1937	0.1459
4	94.92	0.8582	-0.1154	0.0046	0.1142	0.0609	-4.1754	0.2113	-0.1113	0.1520
4	94.92	0.9101	-0.0981	0.0026	0.0927	0.0668	-4.9446	0.2203	-0.0168	0.1327
4	94.92	0.9728	-0.0491	0.0032	0.1447	0.0739	-5.7299	0.2335	0.3953	0.1238

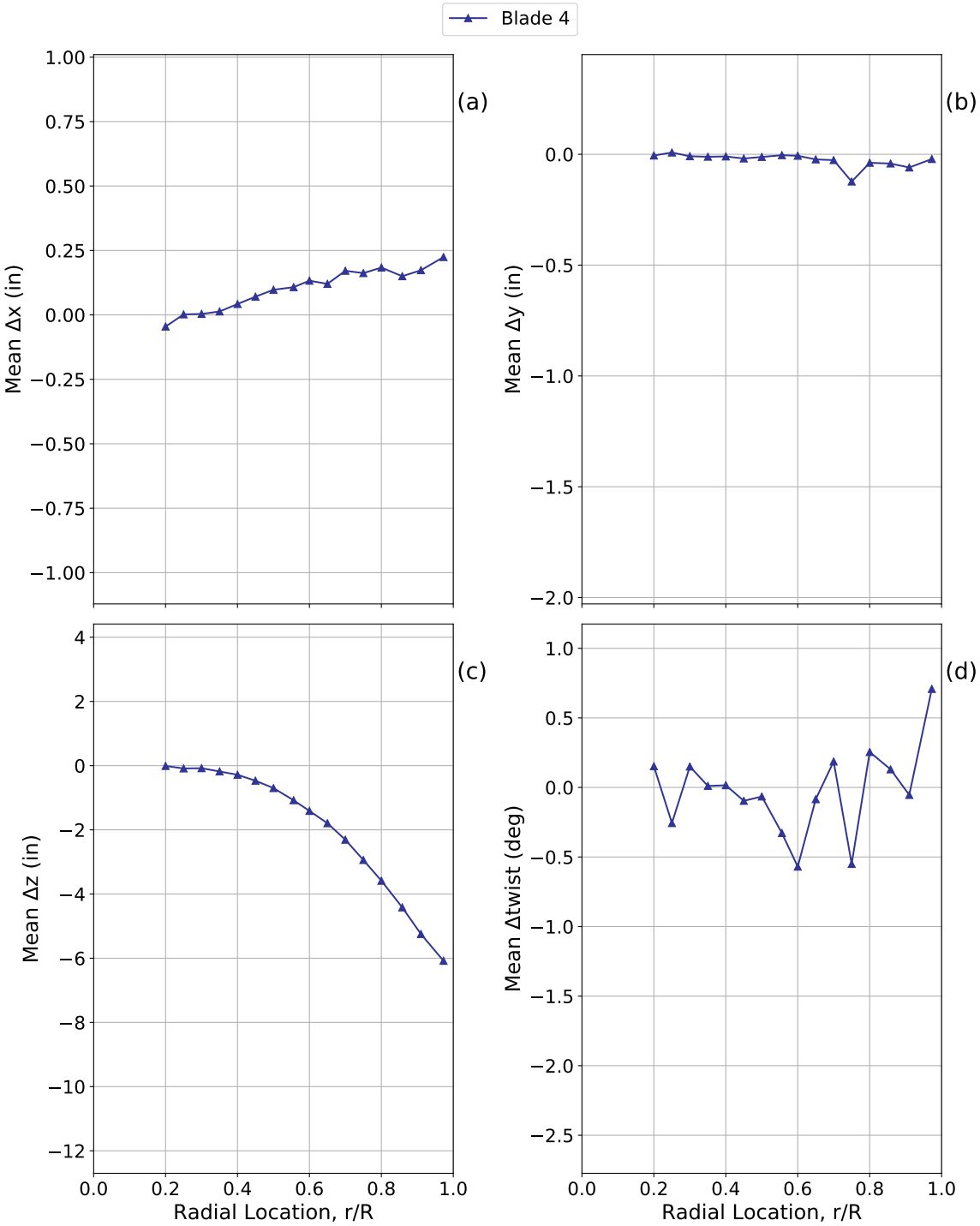


Figure 4.20-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0453	0.0011	-0.0056	0.0004	-0.0104	0.0013	0.1520	0.0142
4	105.12	0.2502	0.0019	0.0006	0.0079	0.0017	-0.0876	0.0049	-0.2562	0.0145
4	105.12	0.3001	0.0037	0.0007	-0.0088	0.0018	-0.0799	0.0057	0.1501	0.0274
4	105.12	0.3502	0.0132	0.0012	-0.0111	0.0041	-0.1811	0.0118	0.0105	0.0229
4	105.12	0.4002	0.0422	0.0006	-0.0098	0.0056	-0.2859	0.0176	0.0158	0.0200
4	105.12	0.4500	0.0707	0.0008	-0.0190	0.0066	-0.4695	0.0203	-0.0964	0.0283
4	105.12	0.5001	0.0975	0.0013	-0.0120	0.0088	-0.6999	0.0283	-0.0654	0.0174
4	105.12	0.5560	0.1075	0.0009	-0.0041	0.0116	-1.0787	0.0342	-0.3282	0.0221
4	105.12	0.6001	0.1327	0.0012	-0.0067	0.0134	-1.4113	0.0388	-0.5694	0.0231
4	105.12	0.6501	0.1203	0.0013	-0.0231	0.0158	-1.7940	0.0440	-0.0848	0.0312
4	105.12	0.6999	0.1711	0.0014	-0.0263	0.0189	-2.3089	0.0491	0.1867	0.0269
4	105.12	0.7500	0.1621	0.0011	-0.1232	0.0214	-2.9408	0.0557	-0.5500	0.0359
4	105.12	0.8002	0.1836	0.0020	-0.0384	0.0248	-3.5881	0.0627	0.2544	0.0432
4	105.12	0.8582	0.1500	0.0024	-0.0417	0.0284	-4.4181	0.0699	0.1298	0.0614
4	105.12	0.9101	0.1733	0.0023	-0.0596	0.0321	-5.2476	0.0761	-0.0540	0.0559
4	105.12	0.9728	0.2243	0.0035	-0.0213	0.0352	-6.0807	0.0945	0.7081	0.0618

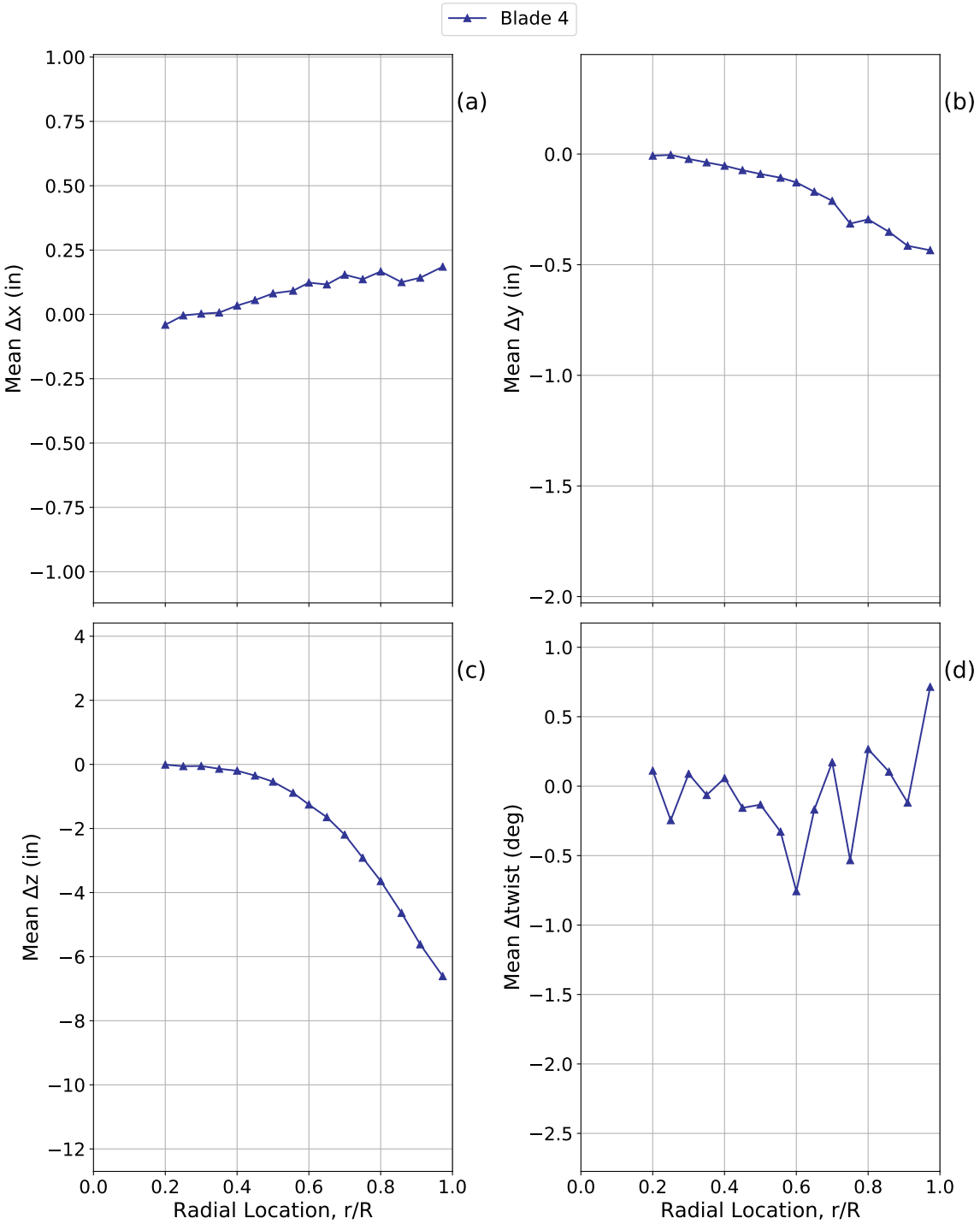


Figure 4.20-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0405	0.0007	-0.0076	0.0005	-0.0100	0.0010	0.1116	0.0076
4	119.88	0.2502	-0.0040	0.0010	-0.0039	0.0008	-0.0568	0.0019	-0.2454	0.0140
4	119.88	0.3001	0.0026	0.0005	-0.0223	0.0016	-0.0510	0.0031	0.0888	0.0162
4	119.88	0.3502	0.0069	0.0006	-0.0379	0.0031	-0.1378	0.0059	-0.0642	0.0131
4	119.88	0.4002	0.0342	0.0009	-0.0531	0.0042	-0.1983	0.0084	0.0577	0.0178
4	119.88	0.4500	0.0555	0.0011	-0.0729	0.0046	-0.3500	0.0099	-0.1563	0.0182
4	119.88	0.5001	0.0816	0.0008	-0.0901	0.0067	-0.5405	0.0124	-0.1335	0.0213
4	119.88	0.5560	0.0919	0.0011	-0.1071	0.0077	-0.8867	0.0156	-0.3281	0.0190
4	119.88	0.6001	0.1234	0.0012	-0.1282	0.0088	-1.2546	0.0184	-0.7568	0.0132
4	119.88	0.6501	0.1162	0.0012	-0.1703	0.0108	-1.6490	0.0213	-0.1690	0.0132
4	119.88	0.6999	0.1541	0.0013	-0.2115	0.0121	-2.1949	0.0245	0.1718	0.0147
4	119.88	0.7500	0.1364	0.0016	-0.3143	0.0131	-2.9152	0.0270	-0.5335	0.0270
4	119.88	0.8002	0.1666	0.0017	-0.2955	0.0152	-3.6427	0.0289	0.2662	0.0244
4	119.88	0.8582	0.1251	0.0013	-0.3516	0.0169	-4.6380	0.0325	0.1038	0.0225
4	119.88	0.9101	0.1424	0.0017	-0.4147	0.0186	-5.6171	0.0339	-0.1191	0.0268
4	119.88	0.9728	0.1852	0.0023	-0.4348	0.0202	-6.6106	0.0369	0.7145	0.0340

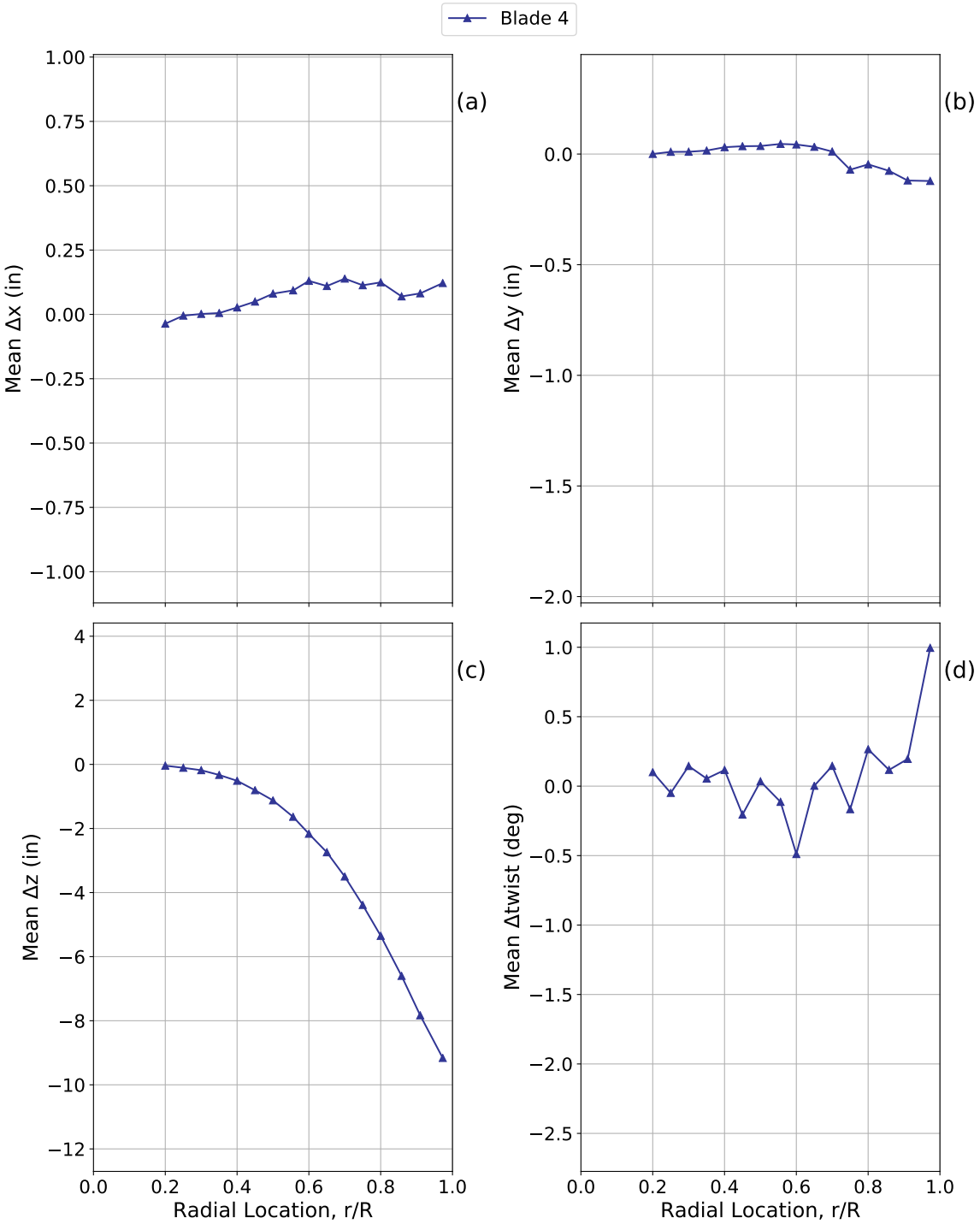


Figure 4.20-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0362	0.0008	0.0003	0.0006	-0.0409	0.0010	0.1005	0.0205
4	135	0.2502	-0.0050	0.0005	0.0098	0.0016	-0.1065	0.0034	-0.0491	0.0236
4	135	0.3001	0.0017	0.0010	0.0102	0.0024	-0.1819	0.0044	0.1445	0.0430
4	135	0.3502	0.0052	0.0007	0.0157	0.0045	-0.3299	0.0085	0.0544	0.0297
4	135	0.4002	0.0268	0.0010	0.0308	0.0069	-0.5123	0.0132	0.1159	0.0262
4	135	0.4500	0.0496	0.0011	0.0353	0.0084	-0.8063	0.0164	-0.2052	0.0291
4	135	0.5001	0.0805	0.0014	0.0362	0.0098	-1.1234	0.0206	0.0340	0.0320
4	135	0.5560	0.0932	0.0031	0.0456	0.0111	-1.6368	0.0252	-0.1135	0.0424
4	135	0.6001	0.1301	0.0016	0.0430	0.0123	-2.1662	0.0294	-0.4892	0.0406
4	135	0.6501	0.1101	0.0013	0.0325	0.0141	-2.7439	0.0340	0.0026	0.0310
4	135	0.6999	0.1389	0.0016	0.0111	0.0155	-3.5008	0.0376	0.1453	0.0374
4	135	0.7500	0.1131	0.0019	-0.0708	0.0174	-4.3885	0.0402	-0.1664	0.0415
4	135	0.8002	0.1244	0.0017	-0.0467	0.0195	-5.3522	0.0424	0.2654	0.0425
4	135	0.8582	0.0698	0.0020	-0.0759	0.0220	-6.6021	0.0448	0.1168	0.0443
4	135	0.9101	0.0816	0.0022	-0.1197	0.0245	-7.8324	0.0473	0.1956	0.0421
4	135	0.9728	0.1216	0.0026	-0.1219	0.0273	-9.1628	0.0501	0.9952	0.0390

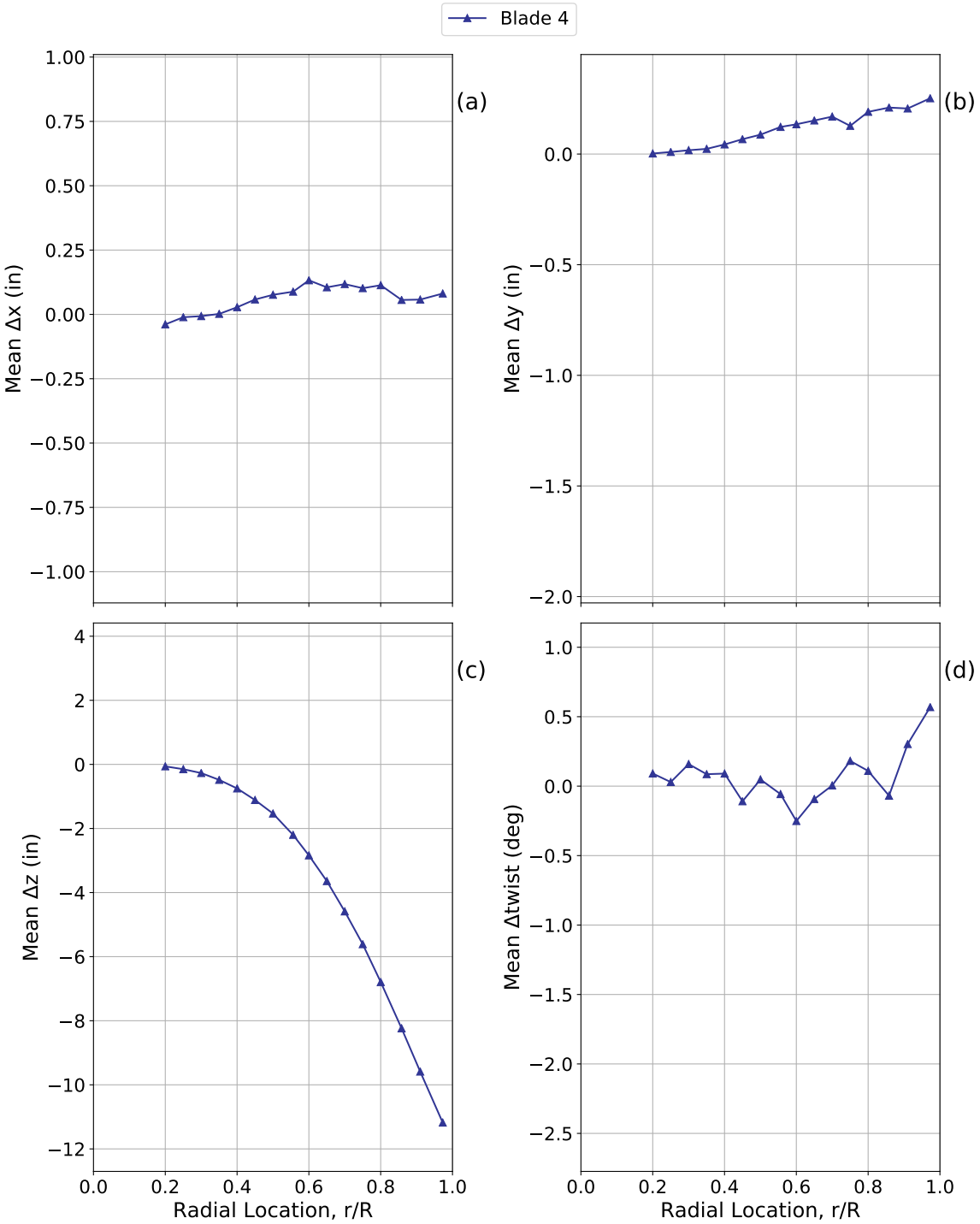


Figure 4.20-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0389	0.0009	0.0024	0.0003	-0.0620	0.0008	0.0910	0.0104
4	150.12	0.2502	-0.0110	0.0009	0.0093	0.0011	-0.1499	0.0023	0.0294	0.0118
4	150.12	0.3001	-0.0068	0.0008	0.0172	0.0015	-0.2707	0.0028	0.1587	0.0202
4	150.12	0.3502	0.0019	0.0006	0.0233	0.0027	-0.4837	0.0047	0.0861	0.0171
4	150.12	0.4002	0.0278	0.0008	0.0433	0.0039	-0.7512	0.0075	0.0904	0.0184
4	150.12	0.4500	0.0578	0.0013	0.0671	0.0049	-1.1124	0.0092	-0.1090	0.0162
4	150.12	0.5001	0.0761	0.0012	0.0875	0.0059	-1.5346	0.0113	0.0480	0.0186
4	150.12	0.5560	0.0882	0.0014	0.1224	0.0072	-2.2004	0.0143	-0.0575	0.0179
4	150.12	0.6001	0.1324	0.0017	0.1344	0.0089	-2.8413	0.0171	-0.2513	0.0193
4	150.12	0.6501	0.1051	0.0018	0.1516	0.0105	-3.6434	0.0193	-0.0930	0.0131
4	150.12	0.6999	0.1177	0.0017	0.1691	0.0124	-4.5889	0.0217	0.0050	0.0192
4	150.12	0.7500	0.1018	0.0018	0.1273	0.0140	-5.6126	0.0248	0.1816	0.0165
4	150.12	0.8002	0.1133	0.0024	0.1907	0.0161	-6.7946	0.0281	0.1094	0.0168
4	150.12	0.8582	0.0561	0.0026	0.2100	0.0189	-8.2374	0.0323	-0.0688	0.0162
4	150.12	0.9101	0.0575	0.0034	0.2058	0.0214	-9.5880	0.0364	0.3029	0.0186
4	150.12	0.9728	0.0810	0.0041	0.2519	0.0250	-11.1794	0.0409	0.5688	0.0223

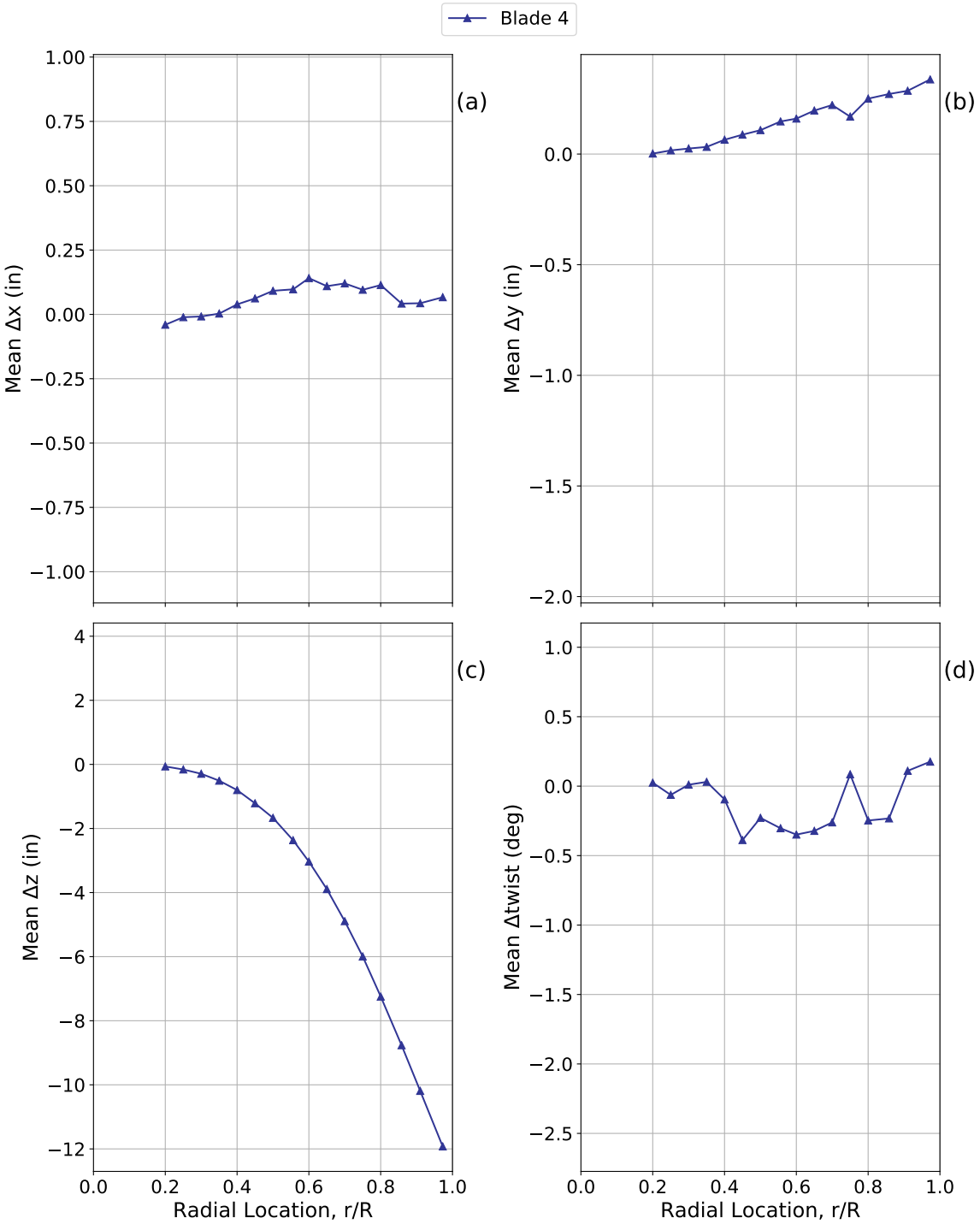


Figure 4.20-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0403	0.0011	0.0021	0.0005	-0.0651	0.0014	0.0247	0.0110
4	164.88	0.2502	-0.0110	0.0014	0.0164	0.0008	-0.1595	0.0025	-0.0631	0.0220
4	164.88	0.3001	-0.0081	0.0011	0.0249	0.0018	-0.2931	0.0057	0.0104	0.0236
4	164.88	0.3502	0.0031	0.0011	0.0322	0.0026	-0.5095	0.0076	0.0307	0.0227
4	164.88	0.4002	0.0389	0.0010	0.0646	0.0040	-0.8024	0.0128	-0.0957	0.0205
4	164.88	0.4500	0.0620	0.0014	0.0875	0.0059	-1.2148	0.0158	-0.3883	0.0253
4	164.88	0.5001	0.0917	0.0016	0.1079	0.0069	-1.6692	0.0193	-0.2285	0.0223
4	164.88	0.5560	0.0973	0.0021	0.1472	0.0085	-2.3668	0.0230	-0.3033	0.0241
4	164.88	0.6001	0.1408	0.0019	0.1601	0.0113	-3.0347	0.0259	-0.3489	0.0186
4	164.88	0.6501	0.1096	0.0019	0.1965	0.0127	-3.8938	0.0289	-0.3223	0.0247
4	164.88	0.6999	0.1203	0.0023	0.2215	0.0160	-4.8936	0.0326	-0.2611	0.0247
4	164.88	0.7500	0.0956	0.0022	0.1690	0.0191	-5.9952	0.0363	0.0850	0.0209
4	164.88	0.8002	0.1139	0.0034	0.2504	0.0223	-7.2478	0.0419	-0.2473	0.0212
4	164.88	0.8582	0.0419	0.0035	0.2713	0.0261	-8.7660	0.0493	-0.2325	0.0156
4	164.88	0.9101	0.0433	0.0045	0.2859	0.0302	-10.1910	0.0573	0.1102	0.0256
4	164.88	0.9728	0.0666	0.0052	0.3371	0.0342	-11.9237	0.0680	0.1760	0.0353

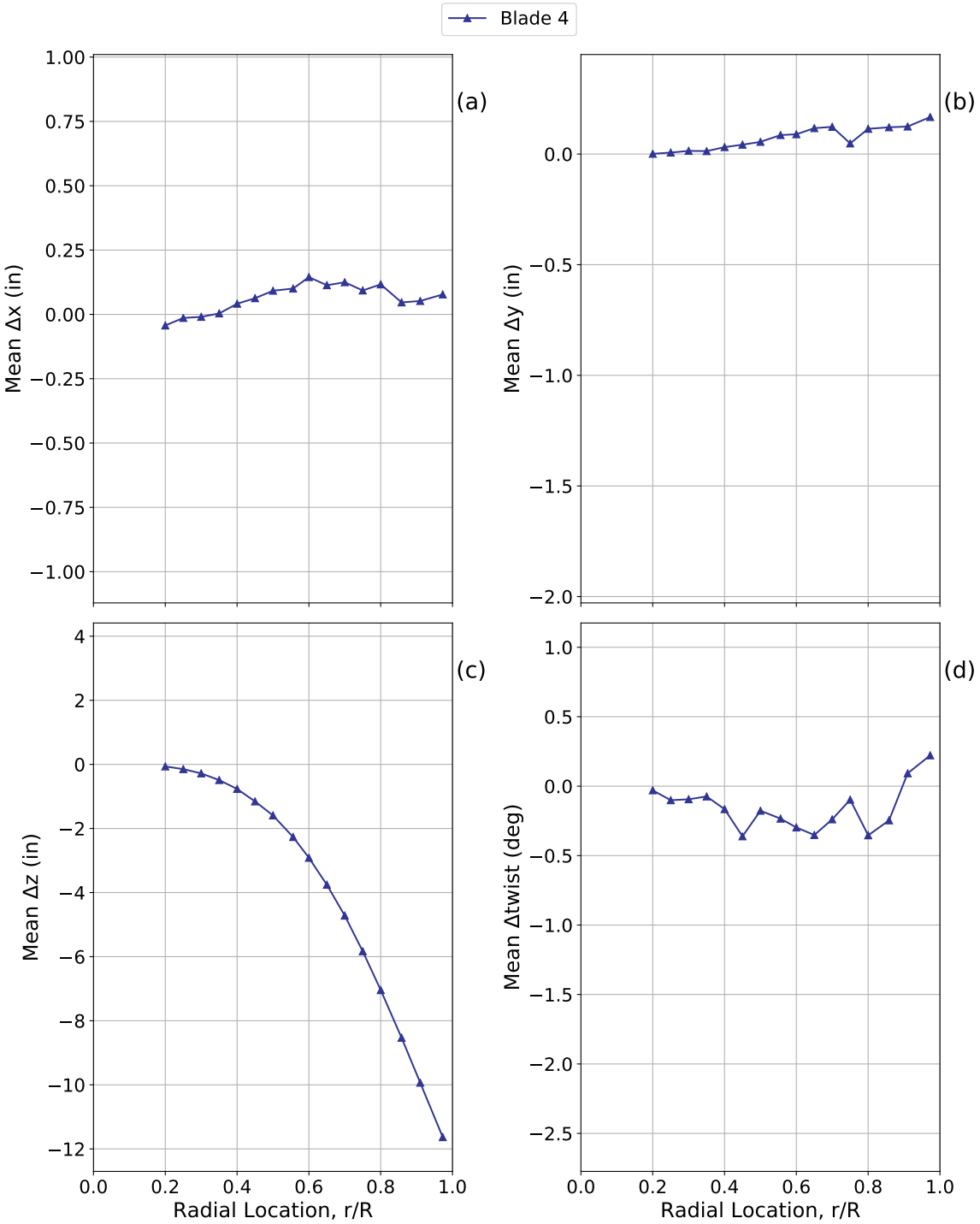


Figure 4.20-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0431	0.0009	0.0011	0.0005	-0.0641	0.0016	-0.0300	0.0156
4	170.16	0.2502	-0.0138	0.0012	0.0066	0.0025	-0.1482	0.0034	-0.1013	0.0316
4	170.16	0.3001	-0.0097	0.0011	0.0143	0.0025	-0.2812	0.0057	-0.0944	0.0343
4	170.16	0.3502	0.0038	0.0013	0.0132	0.0049	-0.4903	0.0087	-0.0745	0.0270
4	170.16	0.4002	0.0414	0.0016	0.0312	0.0080	-0.7670	0.0141	-0.1658	0.0250
4	170.16	0.4500	0.0628	0.0018	0.0422	0.0101	-1.1558	0.0168	-0.3613	0.0253
4	170.16	0.5001	0.0920	0.0015	0.0551	0.0107	-1.5933	0.0216	-0.1769	0.0224
4	170.16	0.5560	0.1003	0.0013	0.0857	0.0126	-2.2668	0.0286	-0.2340	0.0288
4	170.16	0.6001	0.1448	0.0016	0.0894	0.0151	-2.9156	0.0307	-0.2974	0.0261
4	170.16	0.6501	0.1133	0.0019	0.1170	0.0178	-3.7569	0.0354	-0.3519	0.0212
4	170.16	0.6999	0.1249	0.0019	0.1229	0.0202	-4.7198	0.0383	-0.2390	0.0324
4	170.16	0.7500	0.0929	0.0022	0.0480	0.0229	-5.8336	0.0430	-0.0975	0.0324
4	170.16	0.8002	0.1166	0.0024	0.1140	0.0251	-7.0452	0.0471	-0.3541	0.0275
4	170.16	0.8582	0.0466	0.0030	0.1209	0.0286	-8.5324	0.0497	-0.2463	0.0352
4	170.16	0.9101	0.0521	0.0031	0.1243	0.0314	-9.9336	0.0504	0.0923	0.0336
4	170.16	0.9728	0.0775	0.0030	0.1672	0.0349	-11.6334	0.0545	0.2216	0.0429

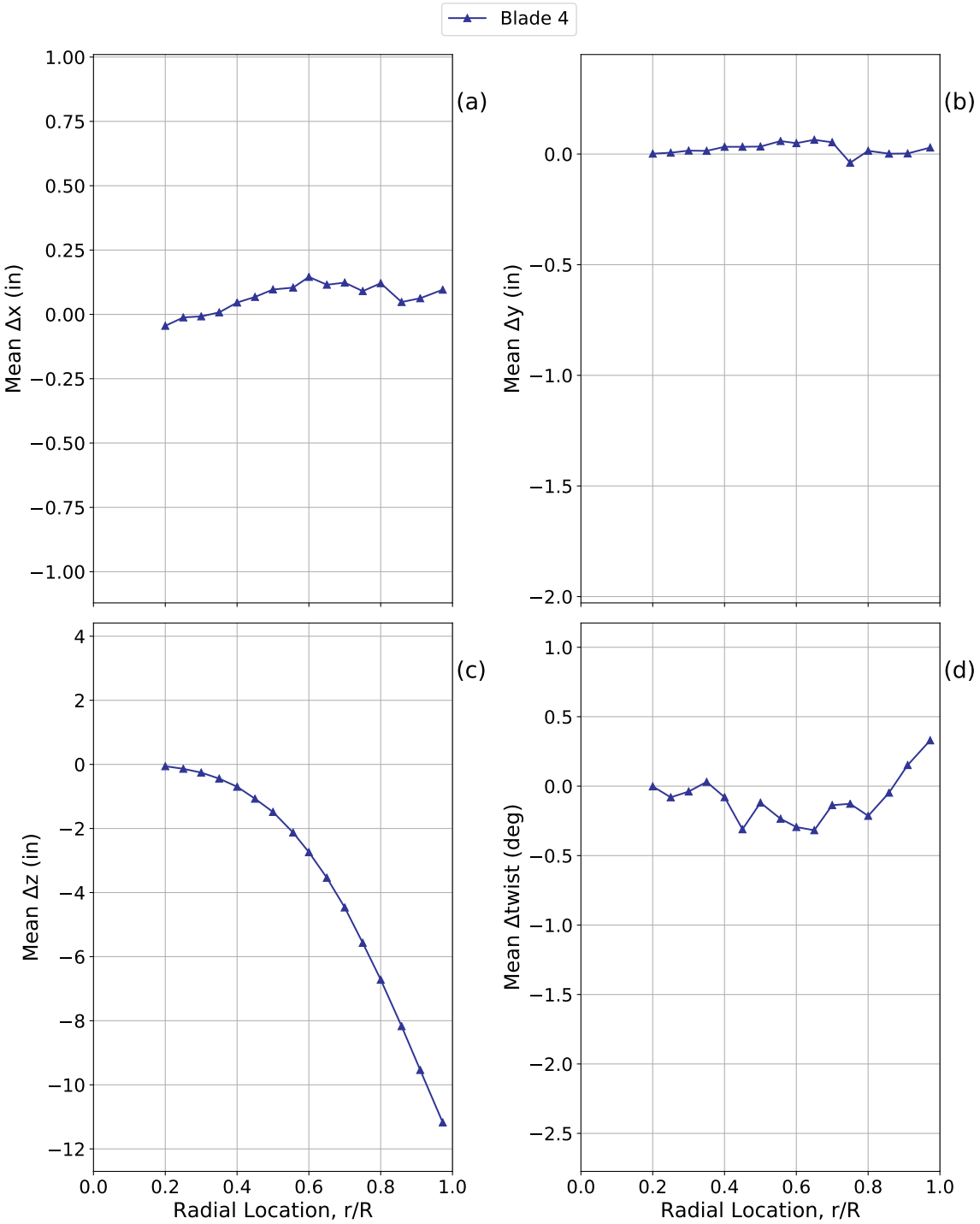


Figure 4.20-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0445	0.0012	0.0017	0.0007	-0.0573	0.0018	-0.0017	0.0222
4	175.08	0.2502	-0.0118	0.0015	0.0060	0.0014	-0.1374	0.0047	-0.0806	0.0296
4	175.08	0.3001	-0.0078	0.0015	0.0154	0.0024	-0.2561	0.0064	-0.0388	0.0449
4	175.08	0.3502	0.0078	0.0012	0.0143	0.0036	-0.4438	0.0103	0.0306	0.0467
4	175.08	0.4002	0.0461	0.0014	0.0327	0.0059	-0.6986	0.0169	-0.0797	0.0321
4	175.08	0.4500	0.0678	0.0020	0.0327	0.0068	-1.0715	0.0210	-0.3107	0.0329
4	175.08	0.5001	0.0967	0.0016	0.0338	0.0087	-1.4854	0.0239	-0.1192	0.0473
4	175.08	0.5560	0.1040	0.0014	0.0586	0.0109	-2.1276	0.0302	-0.2349	0.0480
4	175.08	0.6001	0.1456	0.0015	0.0491	0.0118	-2.7413	0.0343	-0.2945	0.0402
4	175.08	0.6501	0.1152	0.0025	0.0643	0.0139	-3.5398	0.0380	-0.3175	0.0405
4	175.08	0.6999	0.1234	0.0024	0.0530	0.0164	-4.4661	0.0421	-0.1370	0.0385
4	175.08	0.7500	0.0903	0.0027	-0.0393	0.0192	-5.5709	0.0479	-0.1270	0.0412
4	175.08	0.8002	0.1210	0.0034	0.0146	0.0212	-6.7204	0.0528	-0.2141	0.0479
4	175.08	0.8582	0.0480	0.0037	0.0016	0.0240	-8.1704	0.0620	-0.0473	0.0465
4	175.08	0.9101	0.0627	0.0043	0.0025	0.0272	-9.5371	0.0707	0.1517	0.0526
4	175.08	0.9728	0.0959	0.0053	0.0292	0.0304	-11.1755	0.0781	0.3296	0.0502

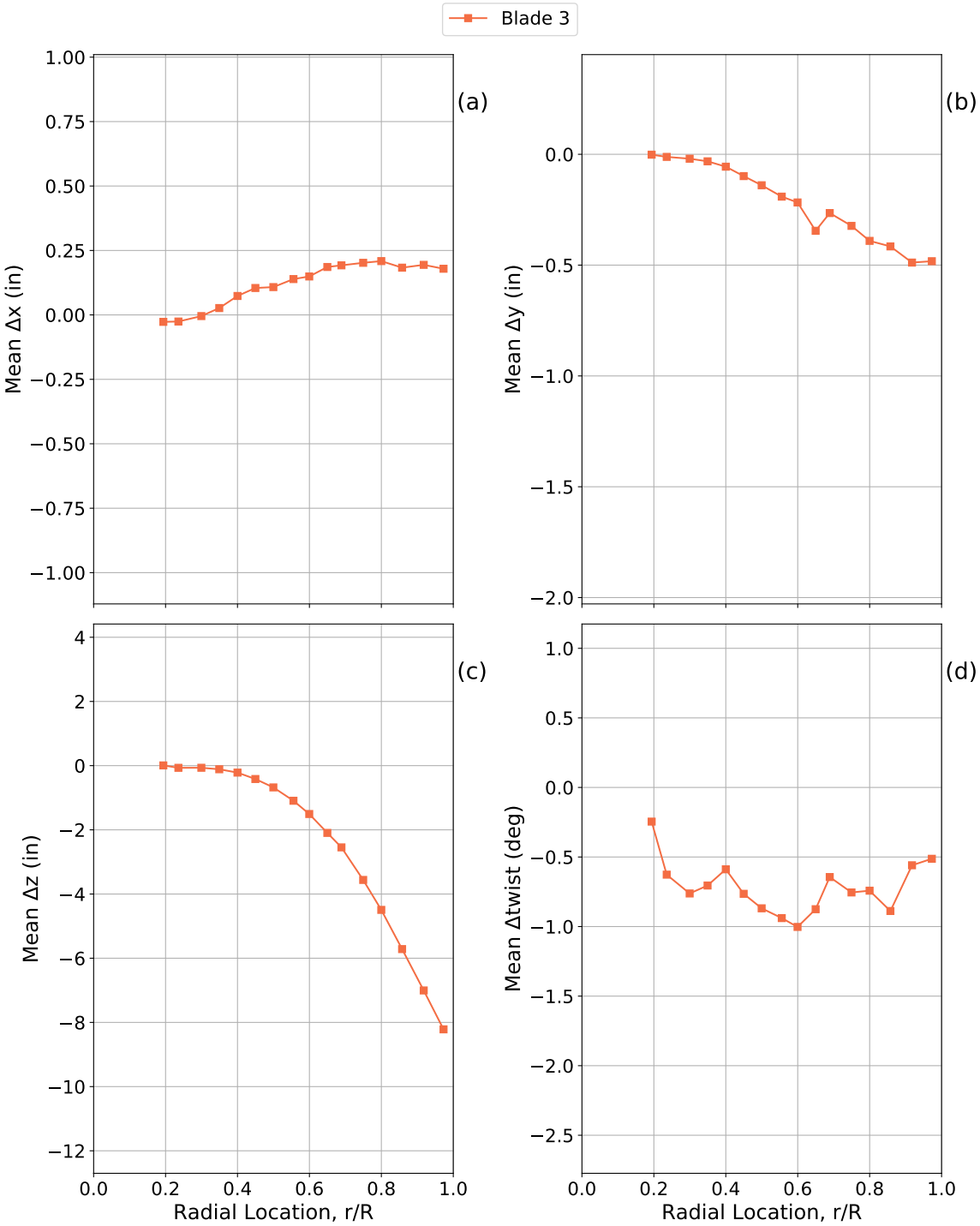


Figure 4.20-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0270	0.0020	-0.0017	0.0021	0.0072	0.0027	-0.2456	0.0219
3	180.35	0.2357	-0.0257	0.0019	-0.0117	0.0018	-0.0676	0.0036	-0.6269	0.0325
3	180.35	0.2995	-0.0046	0.0023	-0.0199	0.0061	-0.0660	0.0086	-0.7622	0.0471
3	180.35	0.3493	0.0266	0.0023	-0.0317	0.0105	-0.1129	0.0148	-0.7049	0.0385
3	180.35	0.4000	0.0734	0.0026	-0.0559	0.0154	-0.2166	0.0219	-0.5884	0.0380
3	180.35	0.4497	0.1044	0.0029	-0.0984	0.0209	-0.4164	0.0290	-0.7646	0.0444
3	180.35	0.4997	0.1079	0.0039	-0.1397	0.0247	-0.6780	0.0368	-0.8688	0.0384
3	180.35	0.5556	0.1390	0.0036	-0.1910	0.0319	-1.0938	0.0458	-0.9391	0.0483
3	180.35	0.5995	0.1491	0.0042	-0.2173	0.0362	-1.5067	0.0533	-1.0027	0.0477
3	180.35	0.6498	0.1859	0.0058	-0.3451	0.0378	-2.0954	0.0627	-0.8753	0.0576
3	180.35	0.6890	0.1923	0.0031	-0.2651	0.0466	-2.5464	0.0573	-0.6441	0.0518
3	180.35	0.7495	0.2021	0.0031	-0.3229	0.0525	-3.5610	0.0681	-0.7548	0.0508
3	180.35	0.7998	0.2087	0.0037	-0.3906	0.0589	-4.4941	0.0765	-0.7421	0.0458
3	180.35	0.8577	0.1833	0.0037	-0.4156	0.0650	-5.7162	0.0867	-0.8882	0.0748
3	180.35	0.9178	0.1942	0.0044	-0.4885	0.0718	-7.0044	0.0958	-0.5595	0.0542
3	180.35	0.9729	0.1791	0.0043	-0.4824	0.0780	-8.2163	0.1039	-0.5128	0.0599

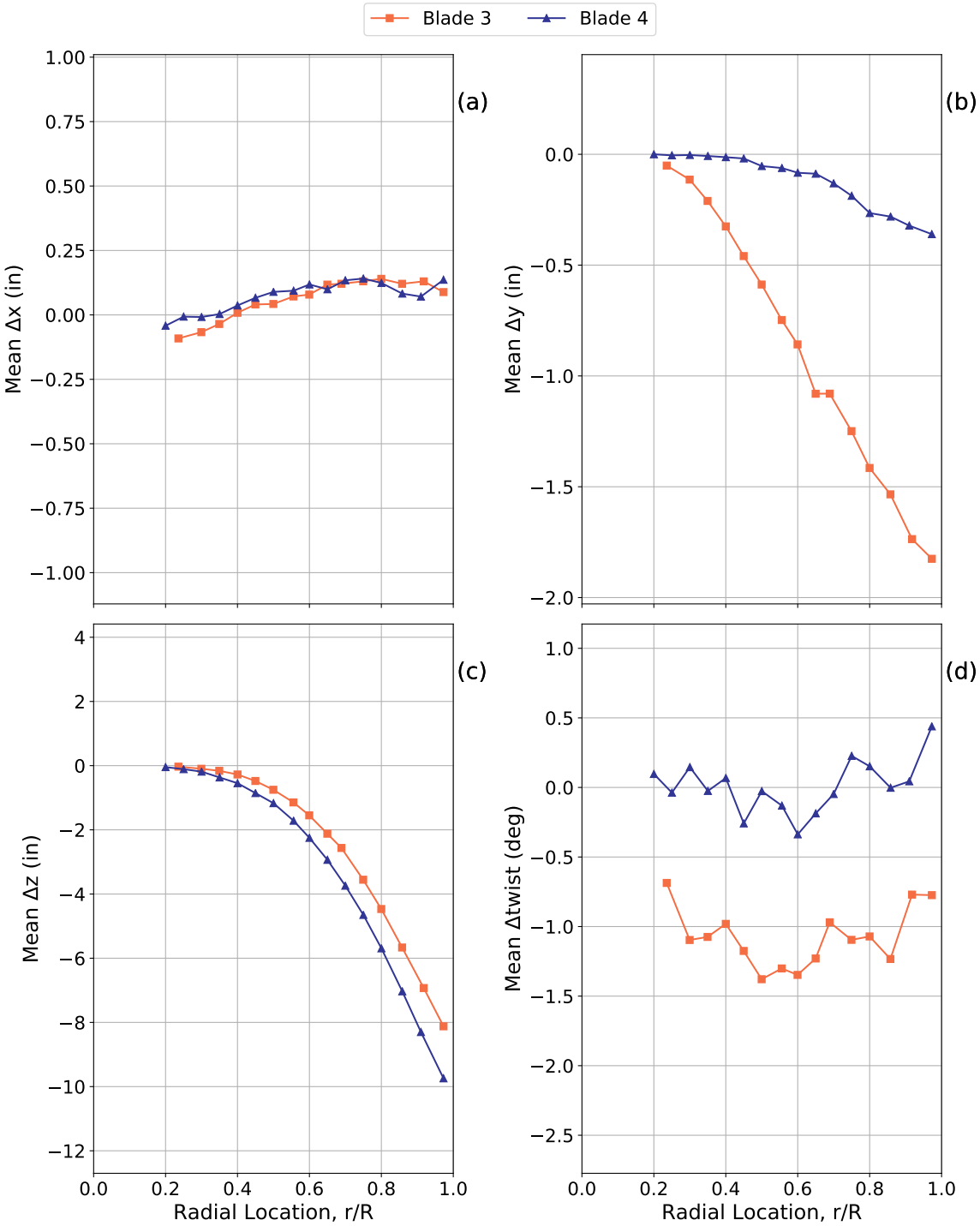


Figure 4.20-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2357	-0.0913	0.0022	-0.0509	0.0034	-0.0317	0.0060	-0.6865	0.0489
3	184.92	0.2995	-0.0670	0.0027	-0.1142	0.0079	-0.0969	0.0120	-1.0965	0.0781
3	184.92	0.3493	-0.0352	0.0026	-0.2104	0.0141	-0.1617	0.0210	-1.0745	0.0797
3	184.92	0.4000	0.0082	0.0031	-0.3254	0.0221	-0.2751	0.0314	-0.9808	0.0789
3	184.92	0.4497	0.0405	0.0036	-0.4592	0.0293	-0.4776	0.0413	-1.1751	0.0814
3	184.92	0.4997	0.0424	0.0045	-0.5876	0.0354	-0.7521	0.0506	-1.3785	0.0830
3	184.92	0.5556	0.0715	0.0044	-0.7478	0.0444	-1.1456	0.0636	-1.3011	0.0796
3	184.92	0.5995	0.0788	0.0056	-0.8578	0.0510	-1.5483	0.0691	-1.3475	0.0921
3	184.92	0.6498	0.1176	0.0071	-1.0803	0.0558	-2.1202	0.0819	-1.2295	0.0857
3	184.92	0.6890	0.1208	0.0039	-1.0799	0.0622	-2.5648	0.0901	-0.9693	0.0851
3	184.92	0.7495	0.1303	0.0043	-1.2490	0.0709	-3.5543	0.1006	-1.0955	0.0772
3	184.92	0.7998	0.1399	0.0037	-1.4152	0.0773	-4.4672	0.1127	-1.0711	0.0747
3	184.92	0.8577	0.1207	0.0043	-1.5343	0.0879	-5.6664	0.1241	-1.2331	0.0806
3	184.92	0.9178	0.1301	0.0053	-1.7362	0.0958	-6.9292	0.1422	-0.7703	0.0725
3	184.92	0.9729	0.0885	0.0055	-1.8250	0.1040	-8.1221	0.1542	-0.7742	0.1021
4	184.92	0.2001	-0.0420	0.0019	-0.0001	0.0009	-0.0464	0.0020	0.0966	0.0193
4	184.92	0.2502	-0.0068	0.0012	-0.0048	0.0024	-0.1100	0.0048	-0.0376	0.0265
4	184.92	0.3001	-0.0082	0.0014	-0.0033	0.0041	-0.1872	0.0068	0.1456	0.0381
4	184.92	0.3502	0.0032	0.0020	-0.0078	0.0063	-0.3682	0.0119	-0.0254	0.0264
4	184.92	0.4002	0.0365	0.0036	-0.0131	0.0104	-0.5478	0.0178	0.0678	0.0266
4	184.92	0.4500	0.0663	0.0040	-0.0189	0.0128	-0.8553	0.0231	-0.2588	0.0307
4	184.92	0.5001	0.0893	0.0048	-0.0532	0.0155	-1.1703	0.0276	-0.0267	0.0353
4	184.92	0.5560	0.0938	0.0072	-0.0620	0.0190	-1.7170	0.0297	-0.1310	0.0443
4	184.92	0.6001	0.1180	0.0078	-0.0833	0.0230	-2.2511	0.0354	-0.3375	0.0337
4	184.92	0.6501	0.0993	0.0094	-0.0877	0.0264	-2.9355	0.0392	-0.1867	0.0406
4	184.92	0.6999	0.1342	0.0100	-0.1312	0.0297	-3.7415	0.0445	-0.0475	0.0345
4	184.92	0.7500	0.1410	0.0107	-0.1874	0.0332	-4.6519	0.0488	0.2267	0.0412
4	184.92	0.8002	0.1239	0.0134	-0.2652	0.0367	-5.6937	0.0524	0.1515	0.0380
4	184.92	0.8582	0.0826	0.0112	-0.2812	0.0413	-7.0327	0.0577	-0.0025	0.0490
4	184.92	0.9101	0.0710	0.0146	-0.3218	0.0466	-8.3010	0.0642	0.0438	0.0541
4	184.92	0.9728	0.1363	0.0163	-0.3604	0.0527	-9.7430	0.0785	0.4389	0.0828

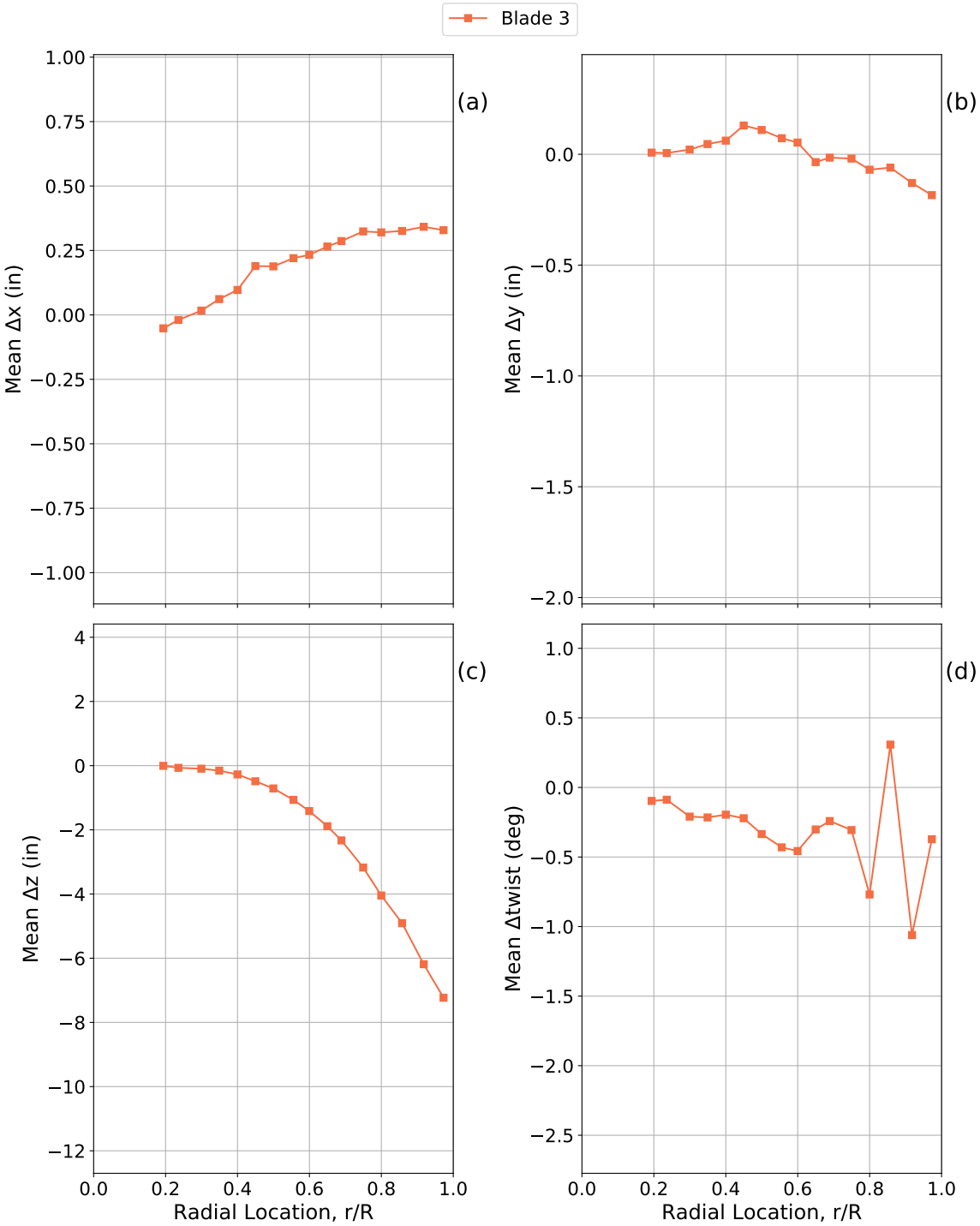


Figure 4.20-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0521	0.0010	0.0076	0.0013	-0.0061	0.0026	-0.0969	0.0106
3	195.12	0.2357	-0.0196	0.0009	0.0056	0.0014	-0.0681	0.0021	-0.0884	0.0412
3	195.12	0.2995	0.0167	0.0010	0.0213	0.0038	-0.0948	0.0066	-0.2095	0.0347
3	195.12	0.3493	0.0613	0.0013	0.0462	0.0048	-0.1556	0.0096	-0.2156	0.0308
3	195.12	0.4000	0.0967	0.0008	0.0616	0.0078	-0.2741	0.0141	-0.1958	0.0365
3	195.12	0.4497	0.1895	0.0081	0.1298	0.0313	-0.4871	0.0343	-0.2214	0.0322
3	195.12	0.4997	0.1882	0.0076	0.1096	0.0355	-0.7097	0.0394	-0.3351	0.0358
3	195.12	0.5556	0.2201	0.0075	0.0724	0.0396	-1.0666	0.0455	-0.4305	0.0309
3	195.12	0.5995	0.2330	0.0069	0.0530	0.0429	-1.4144	0.0501	-0.4572	0.0399
3	195.12	0.6498	0.2653	0.0071	-0.0352	0.0470	-1.8877	0.0558	-0.3020	0.0396
3	195.12	0.6890	0.2864	0.0060	-0.0151	0.0519	-2.3298	0.0606	-0.2414	0.0463
3	195.12	0.7495	0.3240	0.0151	-0.0193	0.0601	-3.1741	0.0775	-0.3064	0.0371
3	195.12	0.7998	0.3202	0.0125	-0.0695	0.0646	-4.0467	0.0833	-0.7693	0.0378
3	195.12	0.8577	0.3257	0.0089	-0.0601	0.0709	-4.9076	0.0877	0.3081	0.0471
3	195.12	0.9178	0.3418	0.0054	-0.1295	0.0747	-6.1884	0.0946	-1.0609	0.0495
3	195.12	0.9729	0.3288	0.0033	-0.1843	0.0828	-7.2316	0.0994	-0.3722	0.0551

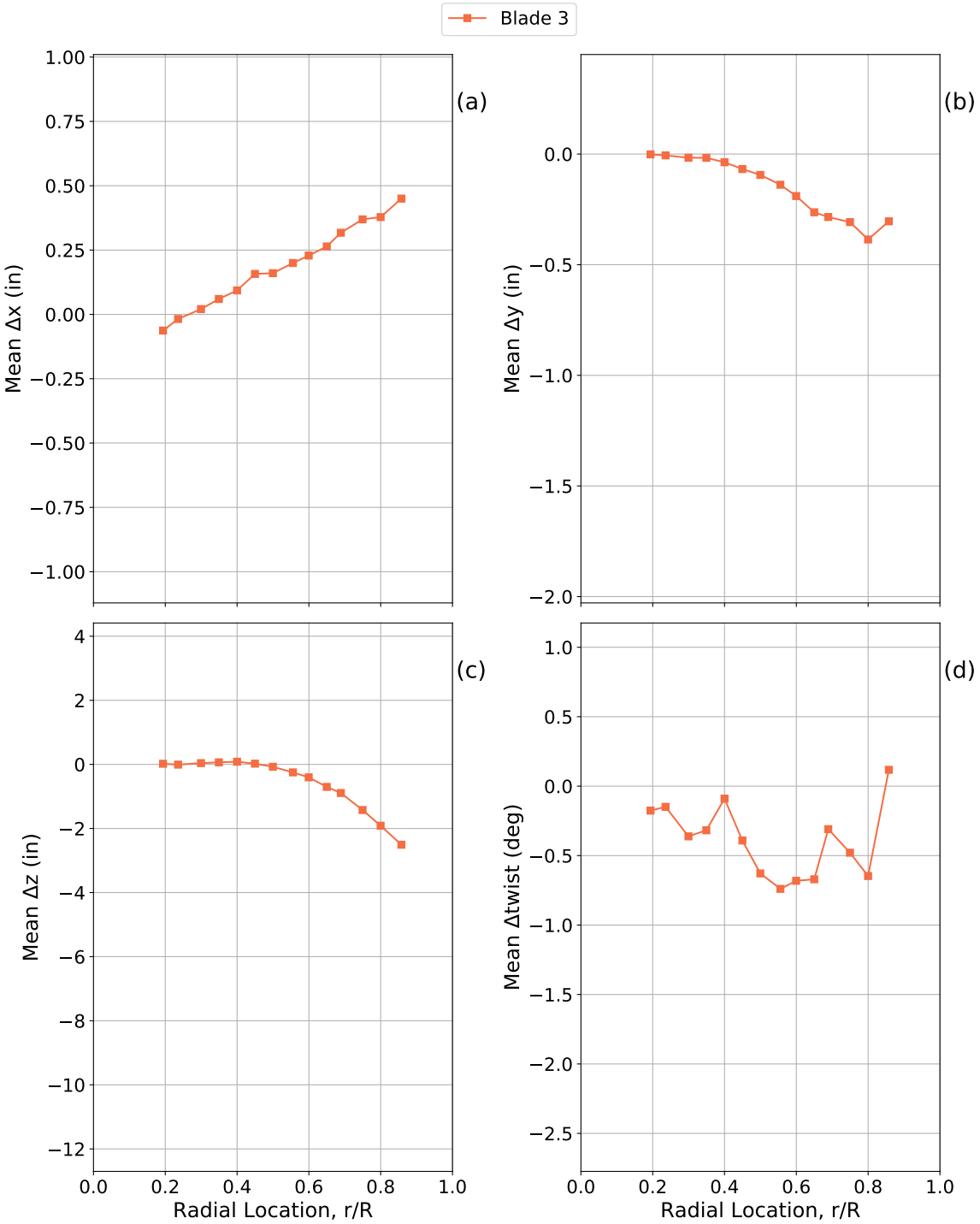


Figure 4.20-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.152, α = 0°
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0630	0.0021	-0.0015	0.0012	0.0197	0.0018	-0.1761	0.0120
3	209.88	0.2357	-0.0179	0.0009	-0.0061	0.0012	-0.0069	0.0019	-0.1489	0.0195
3	209.88	0.2995	0.0206	0.0009	-0.0166	0.0036	0.0399	0.0042	-0.3615	0.0274
3	209.88	0.3493	0.0598	0.0009	-0.0171	0.0059	0.0645	0.0075	-0.3176	0.0158
3	209.88	0.4000	0.0931	0.0012	-0.0372	0.0089	0.0832	0.0103	-0.0900	0.0235
3	209.88	0.4497	0.1572	0.0013	-0.0677	0.0100	0.0223	0.0104	-0.3915	0.0269
3	209.88	0.4997	0.1602	0.0010	-0.0944	0.0119	-0.0745	0.0135	-0.6283	0.0248
3	209.88	0.5556	0.1996	0.0015	-0.1387	0.0146	-0.2494	0.0180	-0.7395	0.0224
3	209.88	0.5995	0.2286	0.0012	-0.1898	0.0157	-0.4046	0.0195	-0.6815	0.0181
3	209.88	0.6498	0.2640	0.0013	-0.2631	0.0181	-0.7026	0.0233	-0.6705	0.0297
3	209.88	0.6890	0.3173	0.0017	-0.2845	0.0202	-0.8927	0.0267	-0.3096	0.0312
3	209.88	0.7495	0.3692	0.0018	-0.3076	0.0236	-1.4238	0.0301	-0.4793	0.0318
3	209.88	0.7998	0.3780	0.0028	-0.3861	0.0256	-1.9136	0.0351	-0.6469	0.0552
3	209.88	0.8577	0.4500	0.0162	-0.3040	0.0330	-2.5069	0.0361	0.1176	0.4090

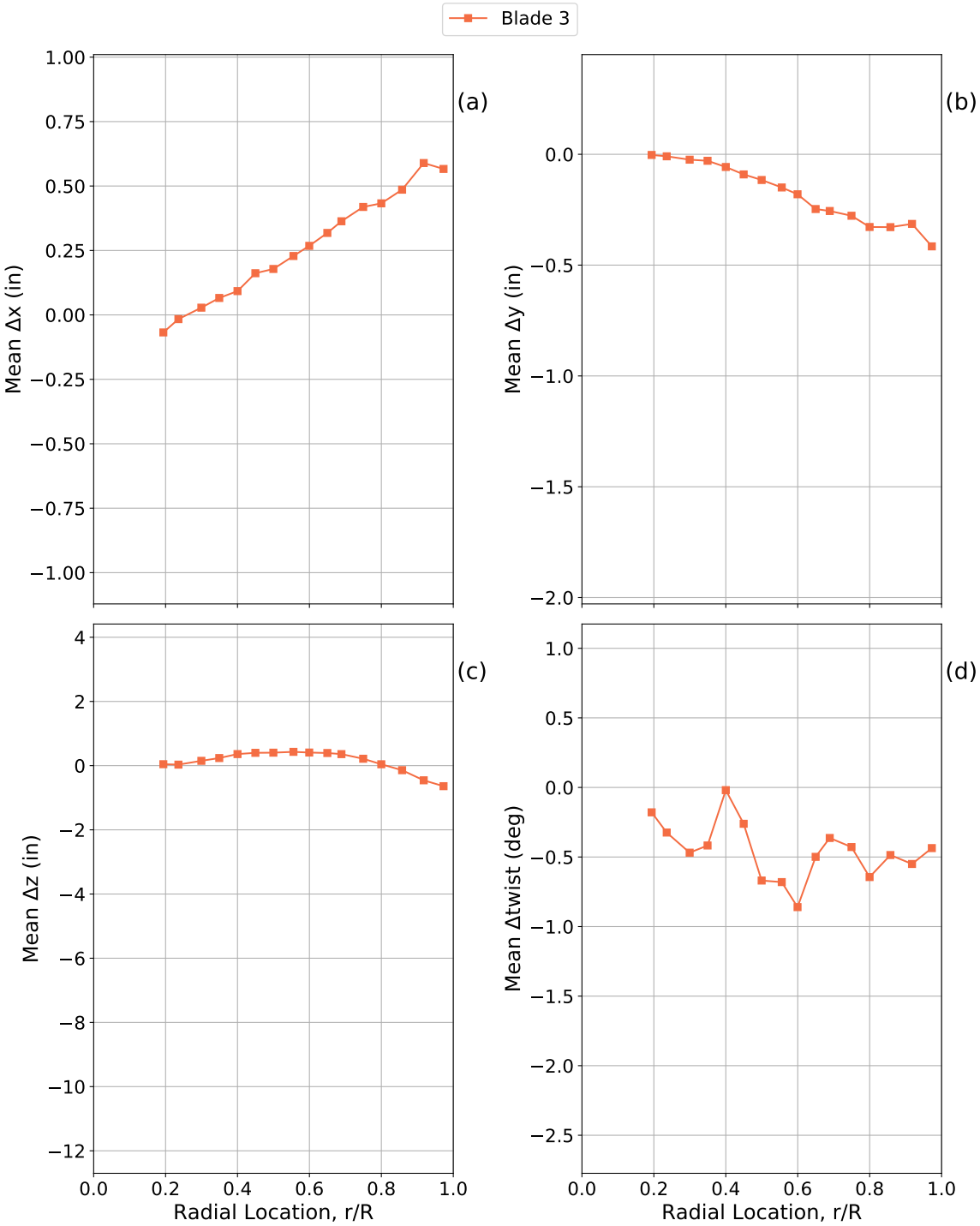


Figure 4.20-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.152, α = 0°
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0680	0.0014	-0.0030	0.0007	0.0448	0.0021	-0.1790	0.0201
3	225	0.2357	-0.0164	0.0009	-0.0091	0.0010	0.0315	0.0041	-0.3243	0.0394
3	225	0.2995	0.0281	0.0011	-0.0243	0.0023	0.1501	0.0082	-0.4688	0.0526
3	225	0.3493	0.0657	0.0008	-0.0293	0.0041	0.2364	0.0139	-0.4173	0.0490
3	225	0.4000	0.0923	0.0010	-0.0573	0.0061	0.3604	0.0214	-0.0194	0.0452
3	225	0.4497	0.1617	0.0010	-0.0908	0.0070	0.3992	0.0265	-0.2613	0.0538
3	225	0.4997	0.1782	0.0008	-0.1159	0.0086	0.4042	0.0338	-0.6692	0.0371
3	225	0.5556	0.2285	0.0014	-0.1497	0.0105	0.4296	0.0387	-0.6804	0.0417
3	225	0.5995	0.2679	0.0018	-0.1804	0.0117	0.4080	0.0435	-0.8603	0.0485
3	225	0.6498	0.3180	0.0013	-0.2470	0.0133	0.3935	0.0486	-0.4989	0.0438
3	225	0.6890	0.3633	0.0015	-0.2558	0.0147	0.3592	0.0532	-0.3632	0.0401
3	225	0.7495	0.4188	0.0015	-0.2773	0.0176	0.2151	0.0579	-0.4286	0.0496
3	225	0.7998	0.4328	0.0016	-0.3280	0.0195	0.0429	0.0640	-0.6442	0.0431
3	225	0.8577	0.4858	0.0024	-0.3286	0.0225	-0.1420	0.0677	-0.4859	0.0748
3	225	0.9178	0.5892	0.0104	-0.3141	0.0305	-0.4572	0.0763	-0.5502	0.1238
3	225	0.9729	0.5663	0.0033	-0.4154	0.0283	-0.6400	0.0922	-0.4361	0.0836

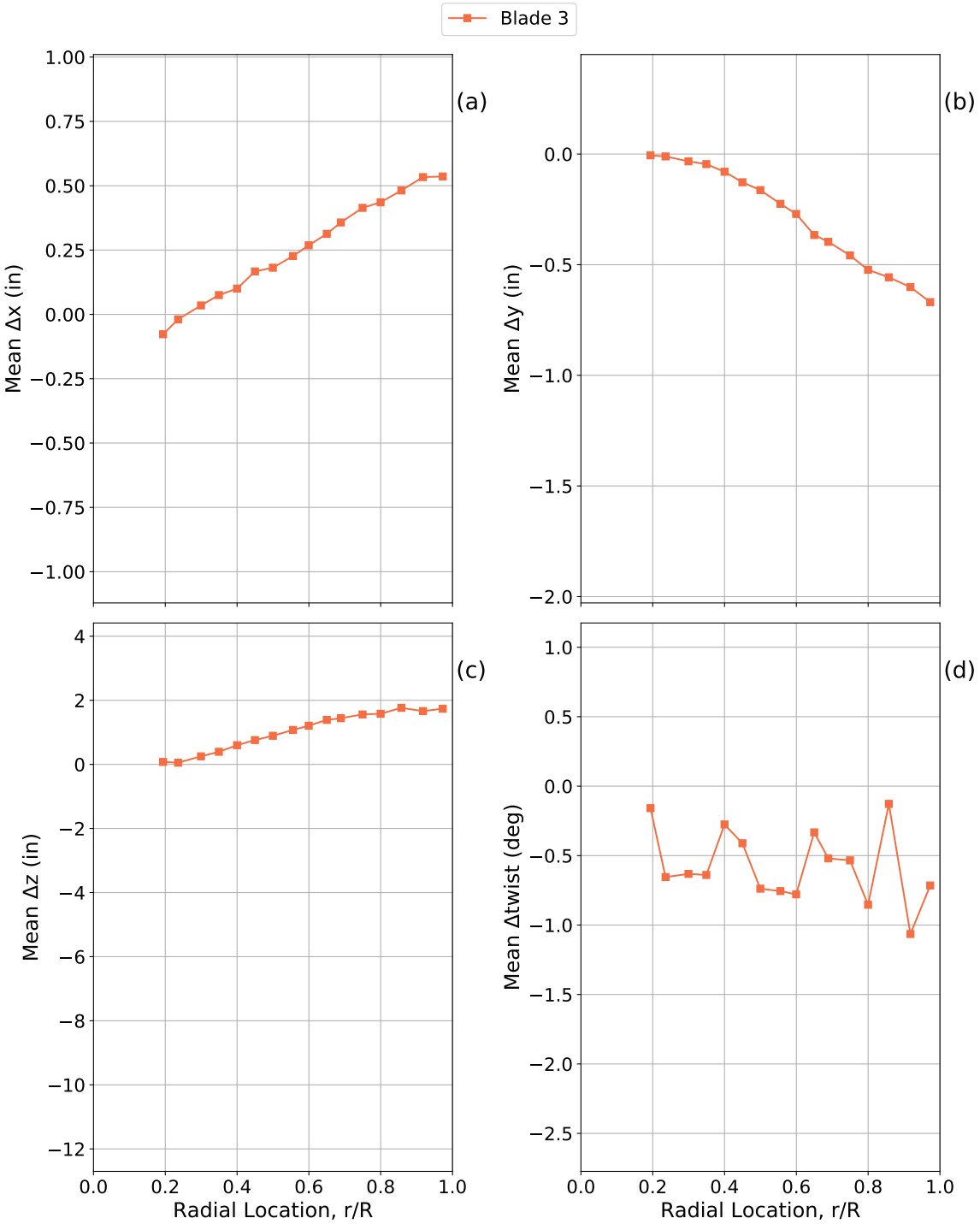


Figure 4.20-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0771	0.0017	-0.0058	0.0009	0.0764	0.0023	-0.1584	0.0164
3	240.12	0.2357	-0.0195	0.0010	-0.0108	0.0012	0.0522	0.0024	-0.6547	0.0386
3	240.12	0.2995	0.0349	0.0012	-0.0329	0.0031	0.2517	0.0073	-0.6317	0.0460
3	240.12	0.3493	0.0750	0.0006	-0.0455	0.0047	0.3933	0.0118	-0.6393	0.0396
3	240.12	0.4000	0.1003	0.0014	-0.0800	0.0076	0.5985	0.0176	-0.2758	0.0400
3	240.12	0.4497	0.1668	0.0009	-0.1275	0.0088	0.7596	0.0224	-0.4112	0.0527
3	240.12	0.4997	0.1814	0.0013	-0.1630	0.0113	0.8927	0.0298	-0.7382	0.0392
3	240.12	0.5556	0.2267	0.0016	-0.2250	0.0135	1.0747	0.0339	-0.7556	0.0357
3	240.12	0.5995	0.2685	0.0022	-0.2707	0.0164	1.2075	0.0387	-0.7791	0.0393
3	240.12	0.6498	0.3130	0.0017	-0.3659	0.0191	1.3880	0.0437	-0.3326	0.0407
3	240.12	0.6890	0.3573	0.0020	-0.3966	0.0207	1.4426	0.0447	-0.5202	0.0454
3	240.12	0.7495	0.4140	0.0023	-0.4580	0.0247	1.5587	0.0502	-0.5343	0.0490
3	240.12	0.7998	0.4356	0.0025	-0.5232	0.0273	1.5807	0.0548	-0.8539	0.0425
3	240.12	0.8577	0.4817	0.0024	-0.5571	0.0310	1.7648	0.0587	-0.1276	0.0546
3	240.12	0.9178	0.5335	0.0026	-0.6012	0.0347	1.6619	0.0657	-1.0644	0.0484
3	240.12	0.9729	0.5360	0.0030	-0.6692	0.0386	1.7386	0.0688	-0.7151	0.0609

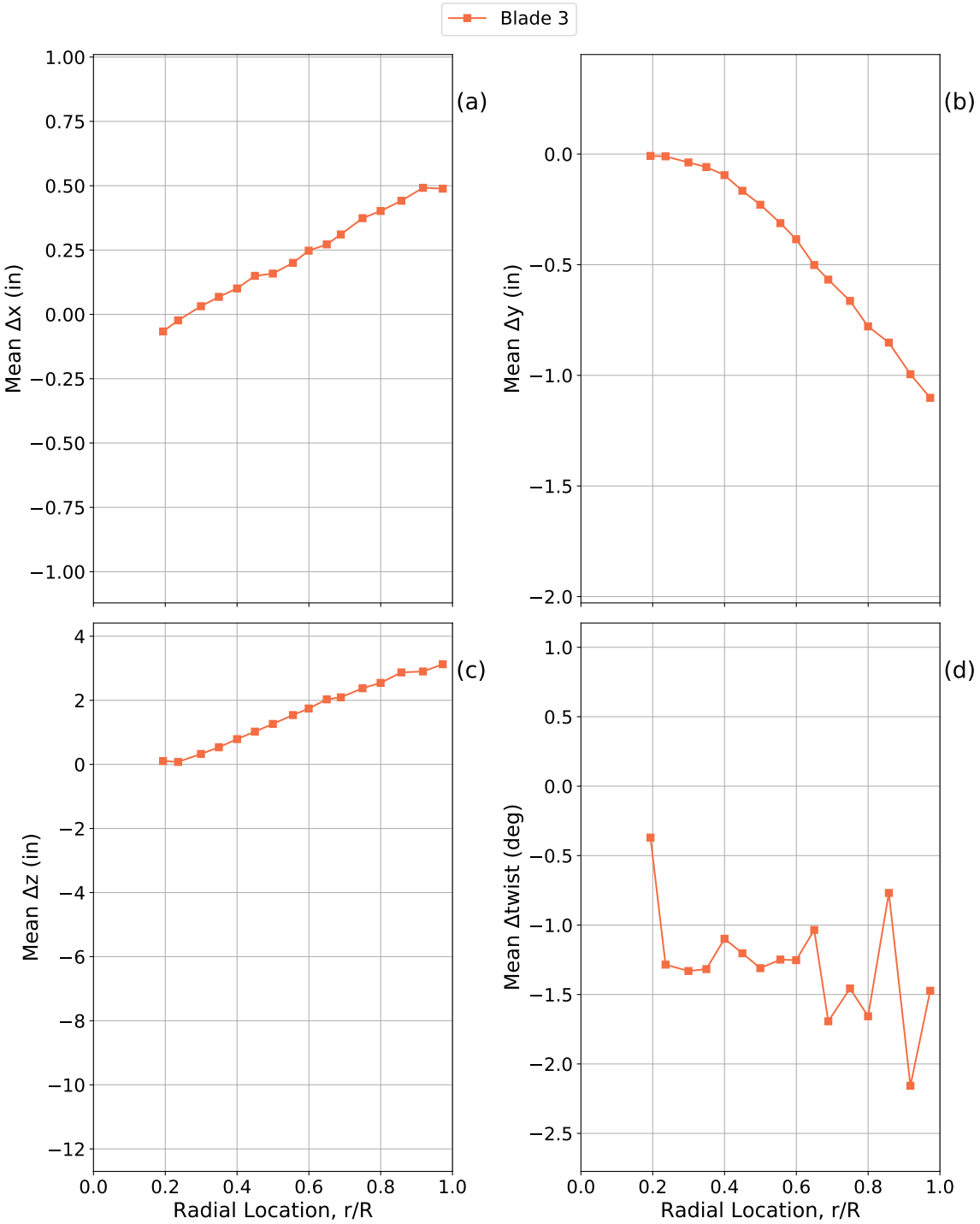


Figure 4.20-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0663	0.0055	-0.0086	0.0018	0.1042	0.0059	-0.3705	0.0248
3	254.88	0.2357	-0.0233	0.0015	-0.0104	0.0011	0.0769	0.0041	-1.2851	0.0866
3	254.88	0.2995	0.0318	0.0010	-0.0380	0.0052	0.3259	0.0142	-1.3308	0.0828
3	254.88	0.3493	0.0681	0.0014	-0.0588	0.0088	0.5342	0.0235	-1.3172	0.0810
3	254.88	0.4000	0.1009	0.0015	-0.0954	0.0126	0.7893	0.0324	-1.0988	0.0866
3	254.88	0.4497	0.1498	0.0013	-0.1660	0.0156	1.0231	0.0426	-1.2031	0.0826
3	254.88	0.4997	0.1585	0.0016	-0.2291	0.0186	1.2626	0.0521	-1.3105	0.0817
3	254.88	0.5556	0.2003	0.0017	-0.3123	0.0224	1.5397	0.0632	-1.2486	0.0863
3	254.88	0.5995	0.2475	0.0021	-0.3849	0.0252	1.7440	0.0719	-1.2529	0.0852
3	254.88	0.6498	0.2719	0.0020	-0.5016	0.0285	2.0294	0.0823	-1.0353	0.0846
3	254.88	0.6890	0.3106	0.0026	-0.5676	0.0312	2.0931	0.0910	-1.6930	0.0849
3	254.88	0.7495	0.3740	0.0027	-0.6637	0.0346	2.3758	0.1031	-1.4567	0.0843
3	254.88	0.7998	0.4018	0.0029	-0.7790	0.0377	2.5442	0.1126	-1.6567	0.0905
3	254.88	0.8577	0.4416	0.0030	-0.8520	0.0414	2.8713	0.1261	-0.7690	0.0775
3	254.88	0.9178	0.4919	0.0033	-0.9951	0.0460	2.8999	0.1394	-2.1571	0.0775
3	254.88	0.9729	0.4886	0.0041	-1.1019	0.0492	3.1256	0.1495	-1.4732	0.0852

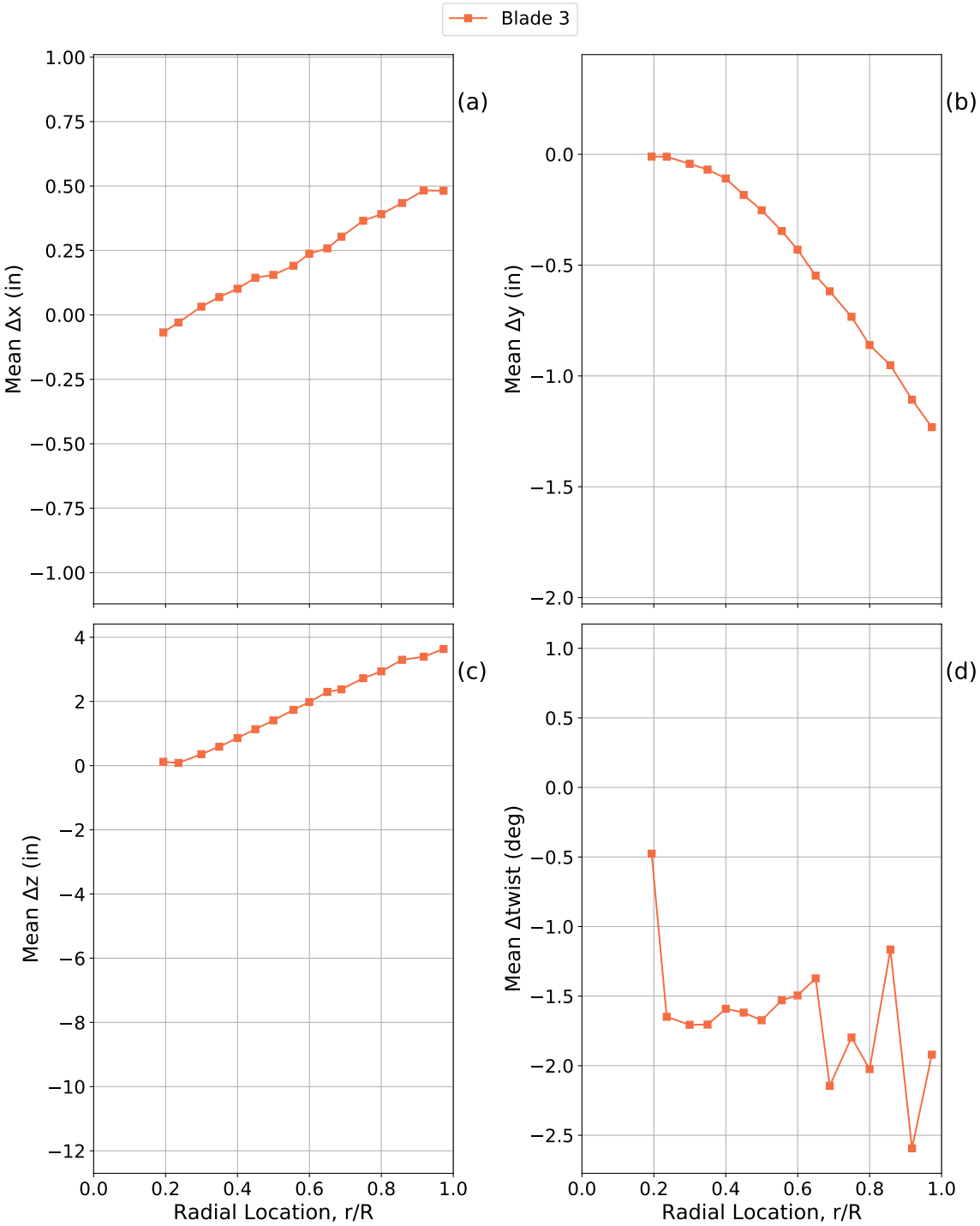


Figure 4.20-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0680	0.0106	-0.0105	0.0039	0.1185	0.0191	-0.4759	0.0825
3	260.16	0.2357	-0.0294	0.0021	-0.0109	0.0013	0.0847	0.0119	-1.6487	0.2811
3	260.16	0.2995	0.0319	0.0015	-0.0429	0.0108	0.3566	0.0492	-1.7062	0.2876
3	260.16	0.3493	0.0692	0.0015	-0.0689	0.0187	0.5903	0.0792	-1.7046	0.2902
3	260.16	0.4000	0.1016	0.0022	-0.1088	0.0265	0.8607	0.1111	-1.5909	0.2816
3	260.16	0.4497	0.1440	0.0030	-0.1836	0.0337	1.1350	0.1402	-1.6186	0.2901
3	260.16	0.4997	0.1551	0.0040	-0.2527	0.0416	1.4096	0.1717	-1.6737	0.2866
3	260.16	0.5556	0.1908	0.0045	-0.3461	0.0503	1.7386	0.2075	-1.5298	0.2784
3	260.16	0.5995	0.2373	0.0047	-0.4300	0.0566	1.9792	0.2328	-1.4954	0.2862
3	260.16	0.6498	0.2580	0.0055	-0.5471	0.0645	2.2979	0.2642	-1.3724	0.2836
3	260.16	0.6890	0.3034	0.0064	-0.6180	0.0712	2.3769	0.2883	-2.1452	0.2874
3	260.16	0.7495	0.3654	0.0071	-0.7331	0.0806	2.7238	0.3263	-1.7972	0.2770
3	260.16	0.7998	0.3910	0.0072	-0.8606	0.0889	2.9366	0.3578	-2.0245	0.2739
3	260.16	0.8577	0.4341	0.0076	-0.9516	0.0980	3.2973	0.3923	-1.1651	0.2776
3	260.16	0.9178	0.4828	0.0096	-1.1071	0.1083	3.3929	0.4303	-2.5941	0.2749
3	260.16	0.9729	0.4815	0.0130	-1.2312	0.1178	3.6348	0.4616	-1.9208	0.2768

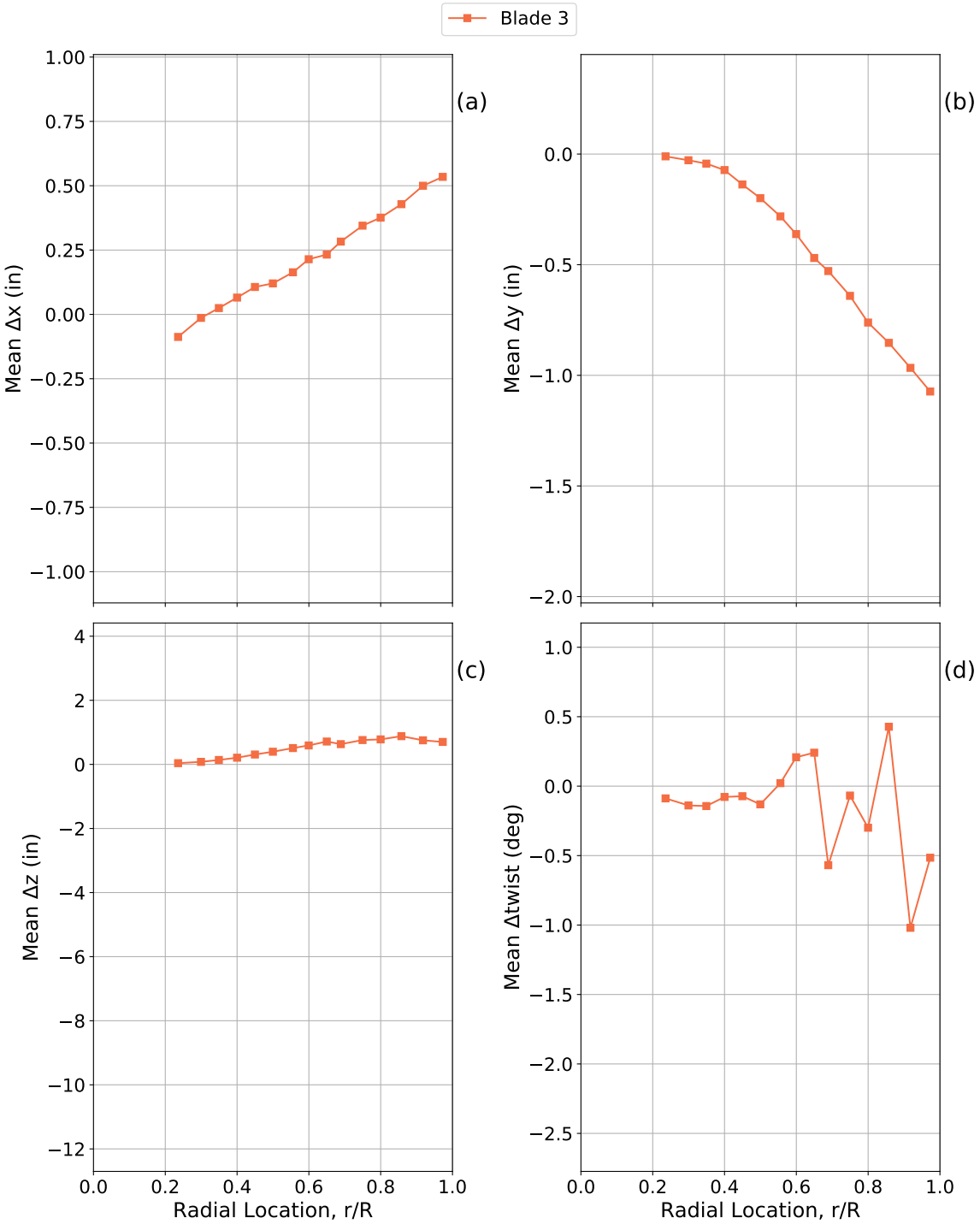


Figure 4.20-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0876	0.0030	-0.0105	0.0021	0.0385	0.0103	-0.0881	0.0963
3	265.08	0.2995	-0.0136	0.0015	-0.0281	0.0041	0.0793	0.0196	-0.1388	0.1544
3	265.08	0.3493	0.0246	0.0007	-0.0433	0.0087	0.1379	0.0366	-0.1433	0.1448
3	265.08	0.4000	0.0653	0.0013	-0.0724	0.0126	0.2088	0.0533	-0.0777	0.1434
3	265.08	0.4497	0.1065	0.0013	-0.1375	0.0161	0.3085	0.0679	-0.0725	0.1470
3	265.08	0.4997	0.1204	0.0013	-0.1994	0.0202	0.3949	0.0839	-0.1310	0.1500
3	265.08	0.5556	0.1636	0.0018	-0.2818	0.0242	0.5095	0.1032	0.0215	0.1442
3	265.08	0.5995	0.2143	0.0022	-0.3616	0.0279	0.5917	0.1165	0.2081	0.1451
3	265.08	0.6498	0.2324	0.0026	-0.4697	0.0317	0.7133	0.1328	0.2409	0.1413
3	265.08	0.6890	0.2829	0.0023	-0.5288	0.0350	0.6319	0.1429	-0.5689	0.1516
3	265.08	0.7495	0.3448	0.0025	-0.6409	0.0392	0.7598	0.1621	-0.0677	0.1464
3	265.08	0.7998	0.3760	0.0028	-0.7615	0.0432	0.7801	0.1779	-0.2992	0.1465
3	265.08	0.8577	0.4282	0.0036	-0.8533	0.0484	0.8809	0.1966	0.4278	0.1416
3	265.08	0.9178	0.4999	0.0036	-0.9662	0.0535	0.7516	0.2141	-1.0197	0.1521
3	265.08	0.9729	0.5344	0.0052	-1.0732	0.0580	0.7007	0.2306	-0.5151	0.1540

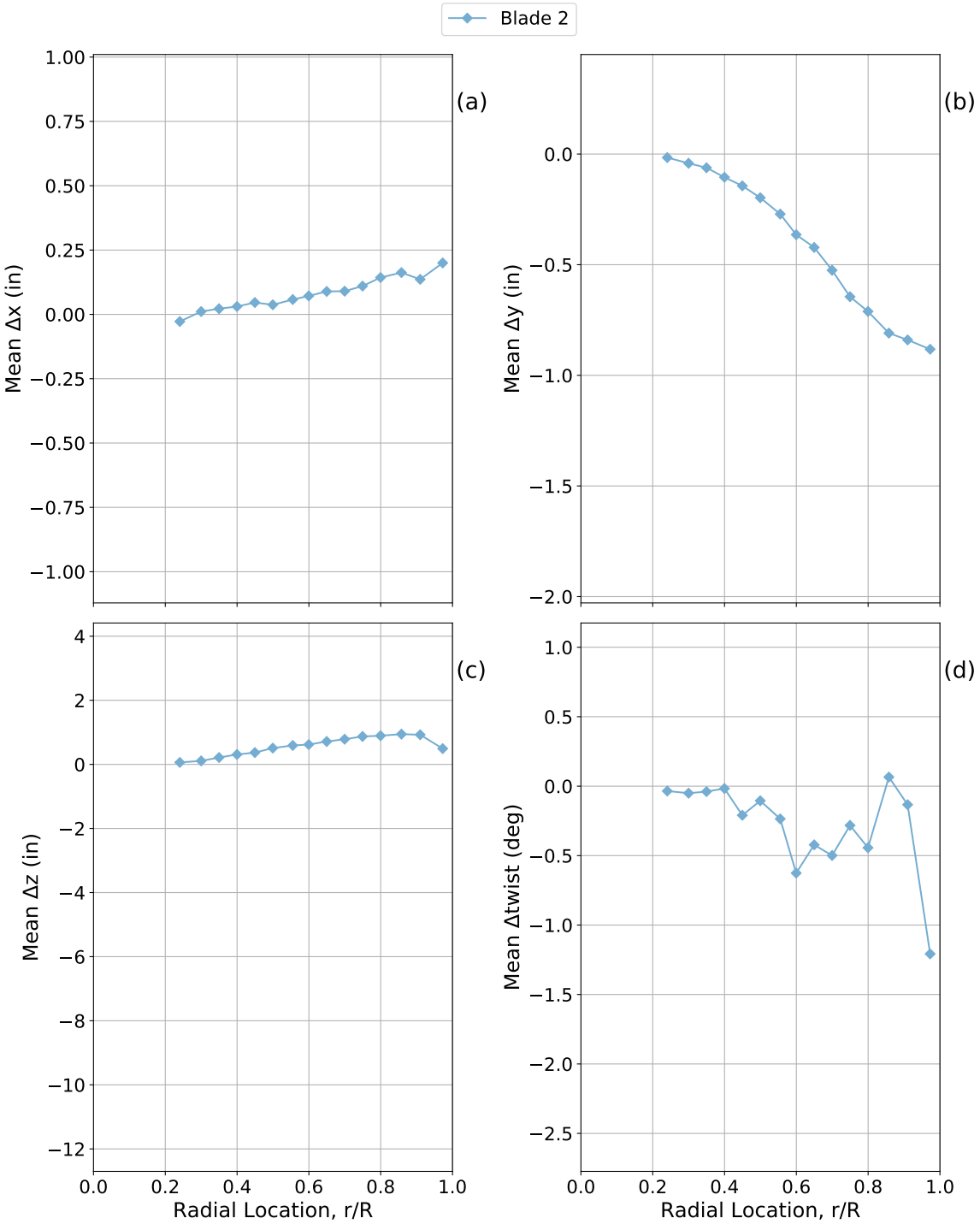


Figure 4.20-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.152, α = 0°
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2405	-0.0277	0.0035	-0.0160	0.0028	0.0621	0.0124	-0.0351	0.1346
2	270.35	0.2999	0.0111	0.0014	-0.0417	0.0055	0.1086	0.0223	-0.0505	0.2073
2	270.35	0.3498	0.0220	0.0018	-0.0620	0.0106	0.2148	0.0418	-0.0392	0.1968
2	270.35	0.3998	0.0306	0.0025	-0.1049	0.0159	0.3088	0.0607	-0.0171	0.2004
2	270.35	0.4496	0.0461	0.0027	-0.1438	0.0202	0.3686	0.0769	-0.2096	0.2113
2	270.35	0.4995	0.0373	0.0031	-0.1973	0.0258	0.5088	0.0954	-0.1052	0.2054
2	270.35	0.5551	0.0577	0.0036	-0.2712	0.0312	0.5912	0.1170	-0.2356	0.2020
2	270.35	0.5996	0.0718	0.0032	-0.3645	0.0361	0.6186	0.1335	-0.6258	0.2036
2	270.35	0.6497	0.0892	0.0031	-0.4220	0.0415	0.7143	0.1529	-0.4224	0.2012
2	270.35	0.6996	0.0902	0.0038	-0.5252	0.0470	0.7852	0.1719	-0.4992	0.2035
2	270.35	0.7495	0.1100	0.0039	-0.6448	0.0527	0.8714	0.1943	-0.2826	0.1942
2	270.35	0.7996	0.1432	0.0037	-0.7113	0.0583	0.8944	0.2101	-0.4435	0.2162
2	270.35	0.8578	0.1625	0.0037	-0.8092	0.0653	0.9444	0.2361	0.0654	0.1985
2	270.35	0.9100	0.1361	0.0041	-0.8400	0.0716	0.9247	0.2601	-0.1334	0.2037
2	270.35	0.9727	0.2000	0.0062	-0.8822	0.0797	0.4928	0.2947	-1.2077	0.1998

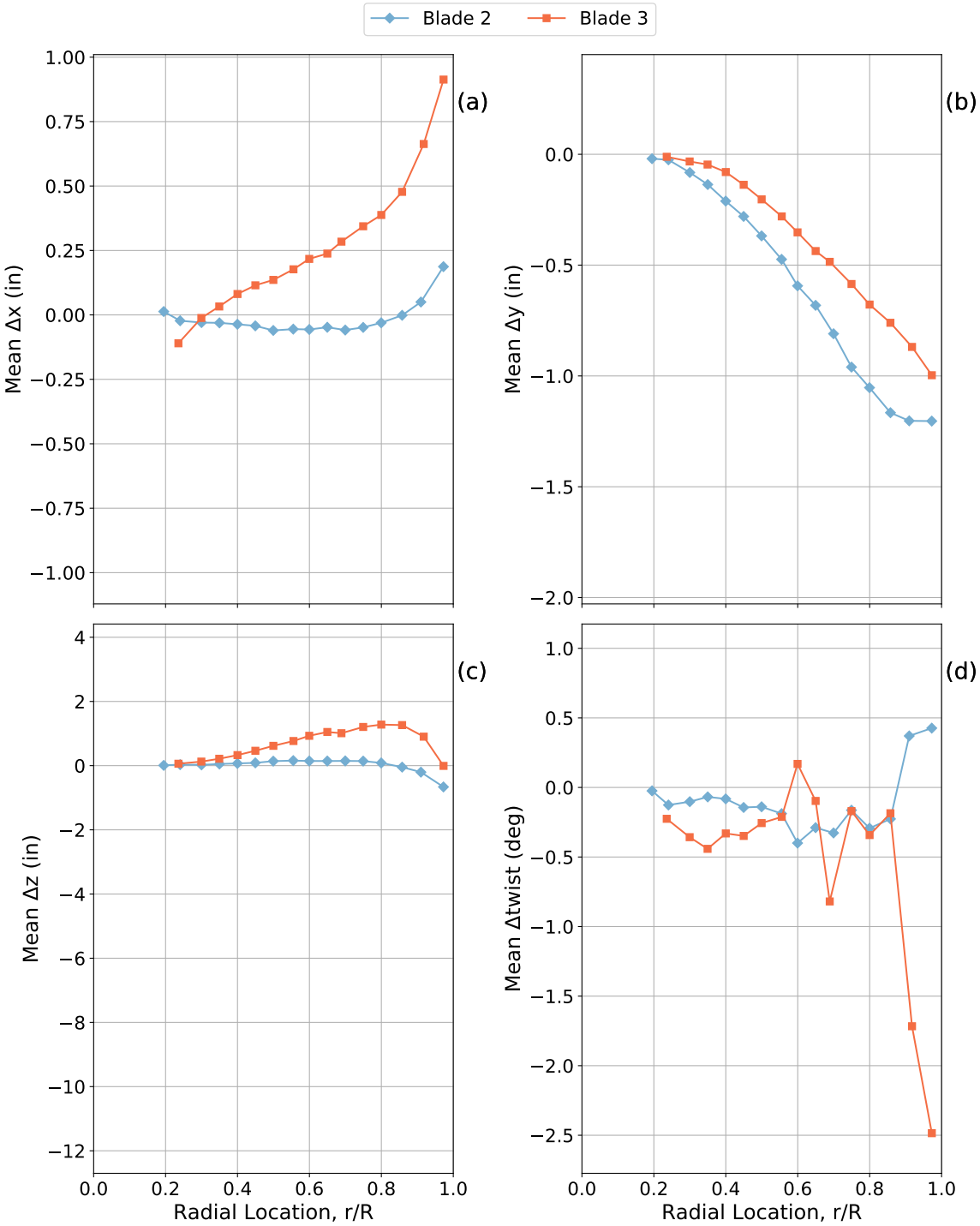


Figure 4.20-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0131	0.0044	-0.0198	0.0022	0.0084	0.0072	-0.0246	0.0358
2	274.92	0.2405	-0.0227	0.0028	-0.0249	0.0021	0.0318	0.0050	-0.1263	0.0976
2	274.92	0.2999	-0.0297	0.0020	-0.0822	0.0053	0.0247	0.0174	-0.1024	0.0761
2	274.92	0.3498	-0.0309	0.0017	-0.1364	0.0079	0.0511	0.0250	-0.0681	0.0689
2	274.92	0.3998	-0.0364	0.0018	-0.2111	0.0111	0.0690	0.0349	-0.0823	0.0739
2	274.92	0.4496	-0.0425	0.0018	-0.2803	0.0138	0.0867	0.0422	-0.1439	0.0707
2	274.92	0.4995	-0.0603	0.0019	-0.3682	0.0181	0.1403	0.0524	-0.1390	0.0755
2	274.92	0.5551	-0.0552	0.0022	-0.4740	0.0216	0.1568	0.0604	-0.1883	0.0813
2	274.92	0.5996	-0.0565	0.0024	-0.5936	0.0255	0.1449	0.0703	-0.4000	0.0756
2	274.92	0.6497	-0.0480	0.0029	-0.6815	0.0295	0.1438	0.0782	-0.2891	0.0702
2	274.92	0.6996	-0.0587	0.0029	-0.8096	0.0337	0.1472	0.0861	-0.3272	0.0651
2	274.92	0.7495	-0.0485	0.0030	-0.9601	0.0386	0.1422	0.0955	-0.1635	0.0600
2	274.92	0.7996	-0.0306	0.0034	-1.0529	0.0431	0.0846	0.1046	-0.2931	0.0740
2	274.92	0.8578	-0.0015	0.0033	-1.1659	0.0489	-0.0460	0.1209	-0.2265	0.1069
2	274.92	0.9100	0.0500	0.0046	-1.2026	0.0547	-0.2026	0.1201	0.3702	0.0895
2	274.92	0.9727	0.1872	0.0102	-1.2037	0.0607	-0.6635	0.1320	0.4263	0.1584
3	274.92	0.2357	-0.1102	0.0074	-0.0112	0.0022	0.0599	0.0162	-0.2255	0.1704
3	274.92	0.2995	-0.0119	0.0032	-0.0324	0.0045	0.1261	0.0309	-0.3574	0.2723
3	274.92	0.3493	0.0327	0.0025	-0.0462	0.0086	0.2147	0.0564	-0.4414	0.2735
3	274.92	0.4000	0.0811	0.0022	-0.0801	0.0129	0.3284	0.0825	-0.3307	0.2858
3	274.92	0.4497	0.1148	0.0029	-0.1376	0.0173	0.4638	0.1082	-0.3486	0.2775
3	274.92	0.4997	0.1357	0.0027	-0.2034	0.0224	0.6173	0.1352	-0.2562	0.2675
3	274.92	0.5556	0.1769	0.0025	-0.2802	0.0271	0.7671	0.1618	-0.2116	0.2707
3	274.92	0.5995	0.2173	0.0024	-0.3522	0.0301	0.9297	0.1824	0.1691	0.2810
3	274.92	0.6498	0.2380	0.0021	-0.4365	0.0351	1.0485	0.2075	-0.0970	0.2800
3	274.92	0.6890	0.2842	0.0018	-0.4852	0.0392	1.0103	0.2250	-0.8194	0.2862
3	274.92	0.7495	0.3439	0.0025	-0.5852	0.0450	1.2054	0.2571	-0.1702	0.2789
3	274.92	0.7998	0.3877	0.0033	-0.6780	0.0506	1.2786	0.2850	-0.3423	0.2622
3	274.92	0.8577	0.4774	0.0031	-0.7602	0.0576	1.2637	0.3149	-0.1855	0.2885
3	274.92	0.9178	0.6631	0.0040	-0.8691	0.0650	0.9031	0.3402	-1.7166	0.2888
3	274.92	0.9729	0.9130	0.0063	-0.9968	0.0756	-0.0080	0.3732	-2.4853	0.3478

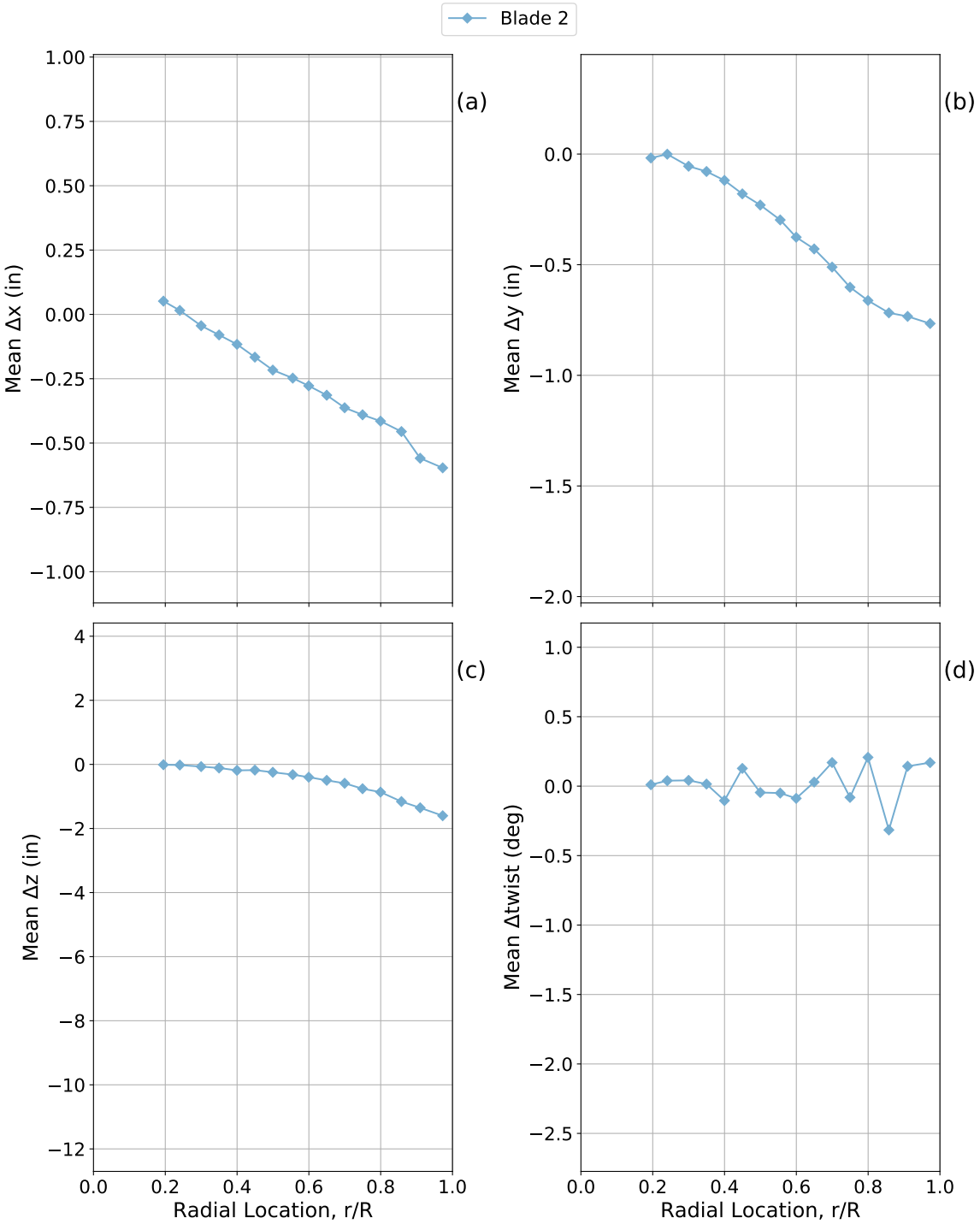


Figure 4.20-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0515	0.0015	-0.0178	0.0007	-0.0107	0.0024	0.0102	0.0140
2	285.12	0.2405	0.0154	0.0008	-0.0007	0.0023	-0.0202	0.0059	0.0394	0.0310
2	285.12	0.2999	-0.0441	0.0007	-0.0551	0.0040	-0.0693	0.0122	0.0417	0.0368
2	285.12	0.3498	-0.0799	0.0008	-0.0788	0.0073	-0.1118	0.0187	0.0150	0.0360
2	285.12	0.3998	-0.1164	0.0022	-0.1191	0.0116	-0.1871	0.0309	-0.1040	0.0277
2	285.12	0.4496	-0.1662	0.0028	-0.1799	0.0148	-0.1782	0.0343	0.1277	0.0285
2	285.12	0.4995	-0.2164	0.0022	-0.2305	0.0170	-0.2457	0.0400	-0.0458	0.0401
2	285.12	0.5551	-0.2477	0.0017	-0.2977	0.0189	-0.3196	0.0472	-0.0498	0.0347
2	285.12	0.5996	-0.2777	0.0034	-0.3758	0.0213	-0.3996	0.0573	-0.0881	0.0341
2	285.12	0.6497	-0.3141	0.0021	-0.4289	0.0227	-0.4980	0.0630	0.0293	0.0239
2	285.12	0.6996	-0.3628	0.0025	-0.5109	0.0245	-0.5897	0.0699	0.1698	0.0364
2	285.12	0.7495	-0.3902	0.0041	-0.6019	0.0281	-0.7597	0.0825	-0.0812	0.0481
2	285.12	0.7996	-0.4149	0.0023	-0.6620	0.0289	-0.8652	0.0868	0.2074	0.0598
2	285.12	0.8578	-0.4553	0.0029	-0.7177	0.0324	-1.1600	0.0965	-0.3155	0.0506
2	285.12	0.9100	-0.5591	0.0058	-0.7337	0.0341	-1.3545	0.1018	0.1433	0.0942
2	285.12	0.9727	-0.5964	0.0082	-0.7660	0.0378	-1.6027	0.1174	0.1694	0.1770

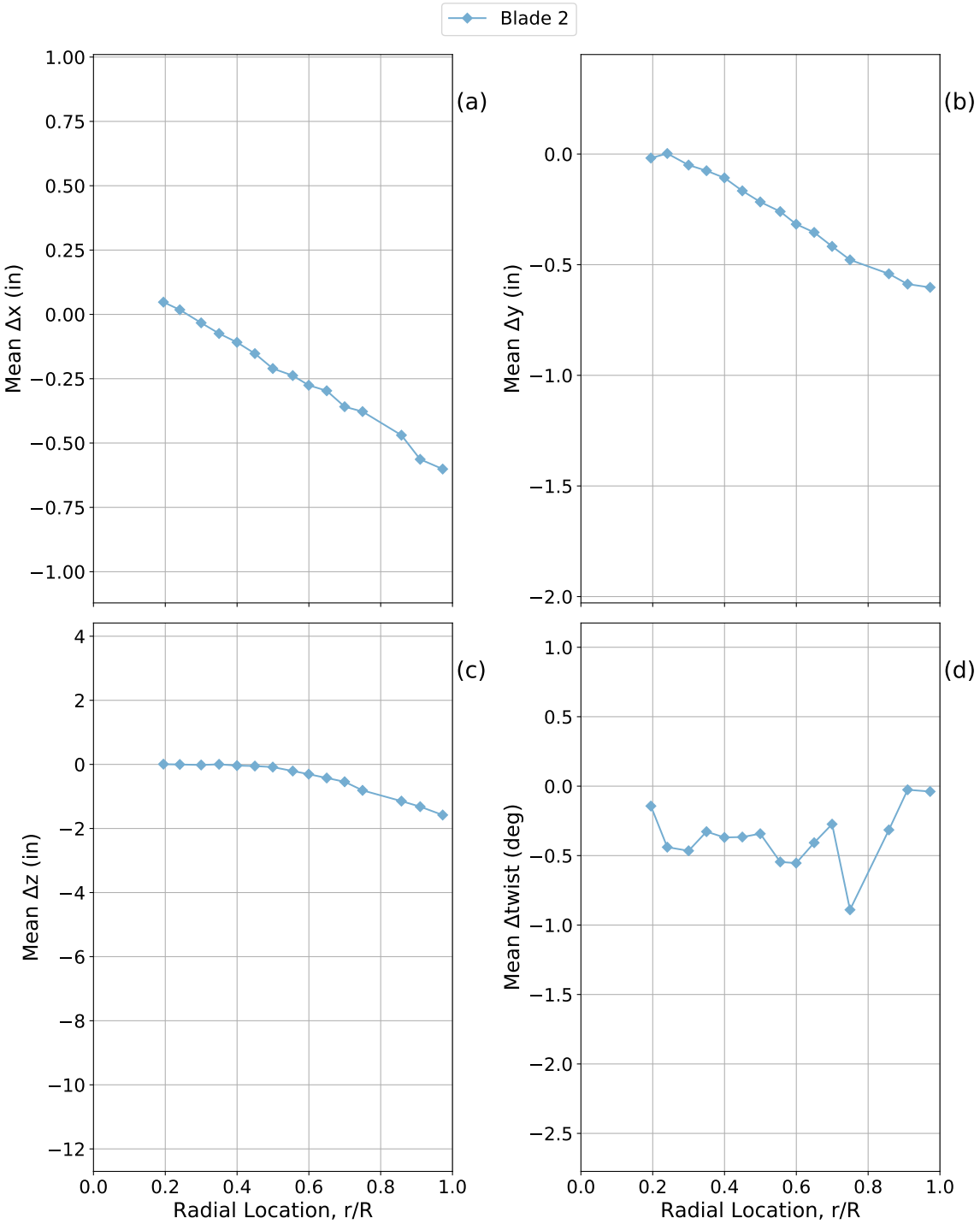


Figure 4.20-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0476	0.0016	-0.0181	0.0009	0.0076	0.0020	-0.1432	0.0200
2	299.88	0.2405	0.0179	0.0014	0.0025	0.0032	-0.0027	0.0058	-0.4394	0.0238
2	299.88	0.2999	-0.0329	0.0010	-0.0498	0.0057	-0.0182	0.0095	-0.4653	0.0409
2	299.88	0.3498	-0.0743	0.0026	-0.0754	0.0102	0.0029	0.0150	-0.3275	0.0428
2	299.88	0.3998	-0.1086	0.0028	-0.1077	0.0162	-0.0378	0.0239	-0.3693	0.0564
2	299.88	0.4496	-0.1523	0.0019	-0.1663	0.0144	-0.0514	0.0223	-0.3663	0.0334
2	299.88	0.4995	-0.2104	0.0023	-0.2164	0.0178	-0.0840	0.0267	-0.3423	0.0428
2	299.88	0.5551	-0.2378	0.0025	-0.2599	0.0211	-0.2072	0.0330	-0.5457	0.0295
2	299.88	0.5996	-0.2755	0.0025	-0.3171	0.0229	-0.3054	0.0381	-0.5540	0.0348
2	299.88	0.6497	-0.2968	0.0028	-0.3541	0.0265	-0.4244	0.0427	-0.4074	0.0338
2	299.88	0.6996	-0.3588	0.0029	-0.4174	0.0292	-0.5424	0.0494	-0.2735	0.0407
2	299.88	0.7495	-0.3777	0.0024	-0.4781	0.0317	-0.8109	0.0551	-0.8902	0.0491
2	299.88	0.8578	-0.4695	0.0029	-0.5413	0.0376	-1.1461	0.0693	-0.3150	0.0348
2	299.88	0.9100	-0.5633	0.0033	-0.5878	0.0407	-1.3192	0.0780	-0.0260	0.0411
2	299.88	0.9727	-0.6010	0.0037	-0.6026	0.0436	-1.5797	0.0909	-0.0386	0.0485

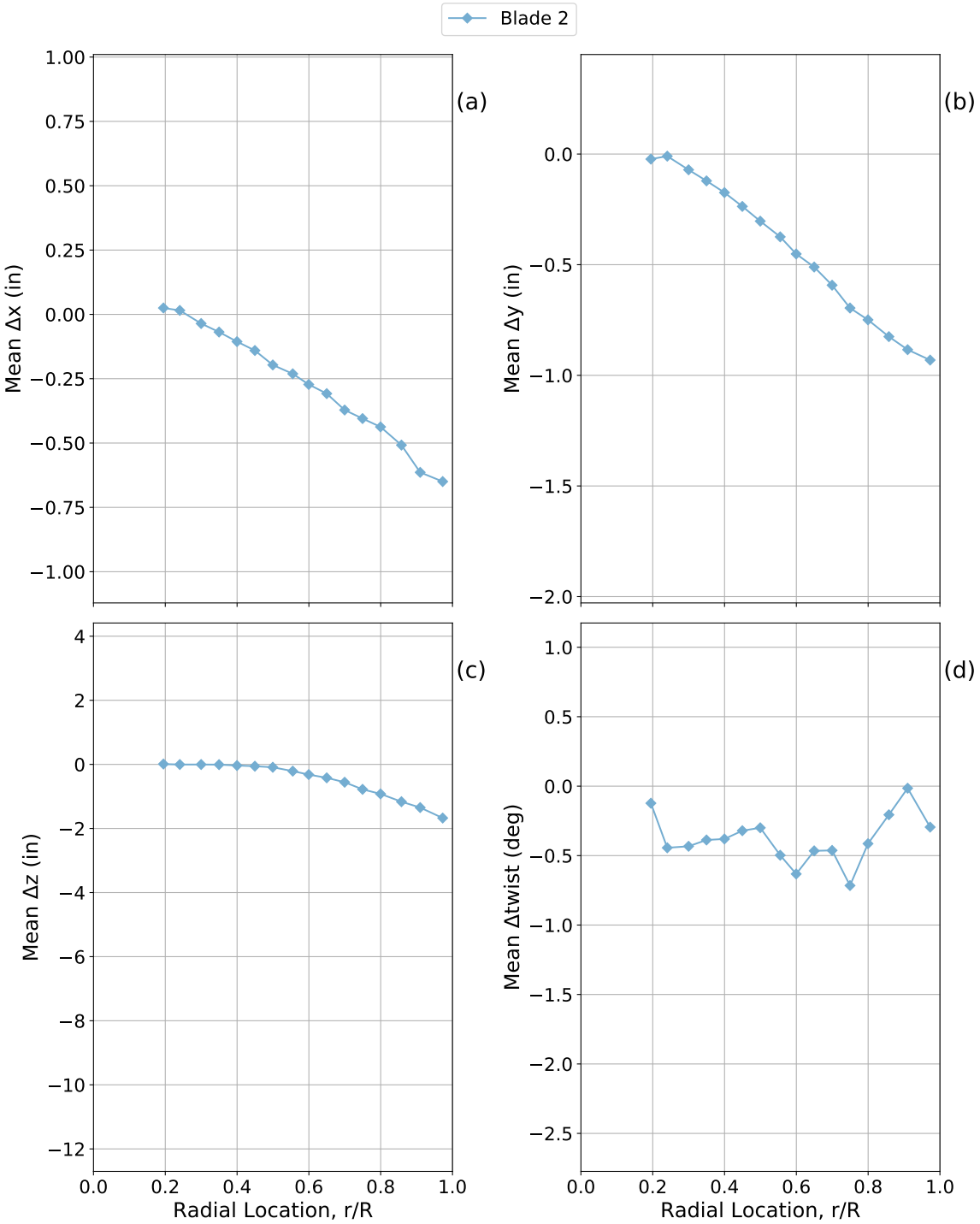


Figure 4.20-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.052, μ = 0.152, α = 0°
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0249	0.0020	-0.0228	0.0006	0.0114	0.0018	-0.1228	0.0198
2	315	0.2405	0.0154	0.0014	-0.0096	0.0015	-0.0041	0.0032	-0.4438	0.0247
2	315	0.2999	-0.0355	0.0024	-0.0712	0.0027	-0.0035	0.0079	-0.4329	0.0403
2	315	0.3498	-0.0686	0.0030	-0.1213	0.0049	-0.0070	0.0104	-0.3875	0.0399
2	315	0.3998	-0.1058	0.0026	-0.1742	0.0076	-0.0354	0.0169	-0.3803	0.0346
2	315	0.4496	-0.1403	0.0030	-0.2367	0.0081	-0.0567	0.0240	-0.3208	0.0448
2	315	0.4995	-0.1965	0.0021	-0.3033	0.0098	-0.0896	0.0254	-0.2997	0.0300
2	315	0.5551	-0.2309	0.0024	-0.3742	0.0119	-0.2104	0.0314	-0.4974	0.0348
2	315	0.5996	-0.2723	0.0023	-0.4515	0.0130	-0.3180	0.0364	-0.6323	0.0301
2	315	0.6497	-0.3079	0.0023	-0.5106	0.0160	-0.4194	0.0406	-0.4658	0.0325
2	315	0.6996	-0.3716	0.0021	-0.5927	0.0178	-0.5570	0.0468	-0.4626	0.0369
2	315	0.7495	-0.4048	0.0019	-0.6958	0.0207	-0.7787	0.0505	-0.7157	0.0385
2	315	0.7996	-0.4373	0.0022	-0.7493	0.0232	-0.9211	0.0542	-0.4141	0.0421
2	315	0.8578	-0.5079	0.0020	-0.8252	0.0256	-1.1641	0.0585	-0.2060	0.0411
2	315	0.9100	-0.6139	0.0022	-0.8841	0.0284	-1.3471	0.0616	-0.0149	0.0370
2	315	0.9727	-0.6496	0.0028	-0.9311	0.0317	-1.6739	0.0661	-0.2950	0.0378

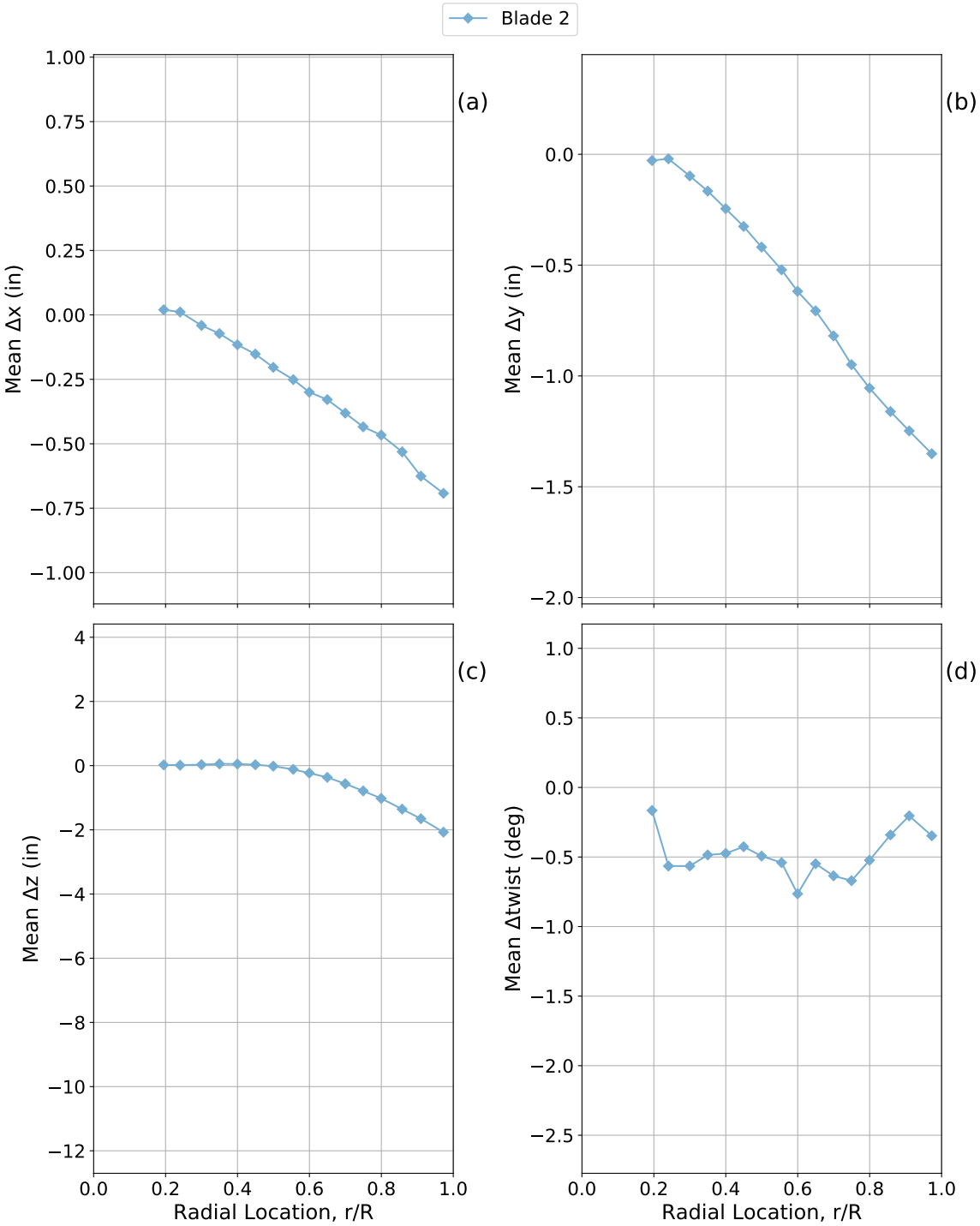


Figure 4.20-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0200	0.0016	-0.0281	0.0009	0.0224	0.0039	-0.1657	0.0382
2	330.12	0.2405	0.0113	0.0022	-0.0204	0.0037	0.0138	0.0115	-0.5650	0.0443
2	330.12	0.2999	-0.0410	0.0030	-0.0978	0.0065	0.0309	0.0226	-0.5649	0.0830
2	330.12	0.3498	-0.0724	0.0024	-0.1660	0.0103	0.0542	0.0321	-0.4853	0.0643
2	330.12	0.3998	-0.1159	0.0029	-0.2454	0.0177	0.0514	0.0556	-0.4743	0.0402
2	330.12	0.4496	-0.1519	0.0025	-0.3255	0.0216	0.0295	0.0606	-0.4262	0.0841
2	330.12	0.4995	-0.2035	0.0036	-0.4188	0.0289	-0.0172	0.0804	-0.4934	0.0411
2	330.12	0.5551	-0.2511	0.0030	-0.5212	0.0315	-0.1162	0.0978	-0.5405	0.0449
2	330.12	0.5996	-0.2998	0.0028	-0.6182	0.0369	-0.2321	0.1110	-0.7650	0.0471
2	330.12	0.6497	-0.3286	0.0031	-0.7063	0.0415	-0.3653	0.1284	-0.5482	0.0404
2	330.12	0.6996	-0.3811	0.0029	-0.8193	0.0463	-0.5649	0.1472	-0.6355	0.0354
2	330.12	0.7495	-0.4344	0.0023	-0.9490	0.0528	-0.7872	0.1618	-0.6704	0.0511
2	330.12	0.7996	-0.4663	0.0021	-1.0549	0.0586	-1.0220	0.1805	-0.5235	0.0412
2	330.12	0.8578	-0.5313	0.0024	-1.1607	0.0652	-1.3554	0.2004	-0.3413	0.0456
2	330.12	0.9100	-0.6257	0.0033	-1.2480	0.0704	-1.6544	0.2189	-0.2041	0.0493
2	330.12	0.9727	-0.6924	0.0051	-1.3511	0.0779	-2.0716	0.2413	-0.3476	0.0503

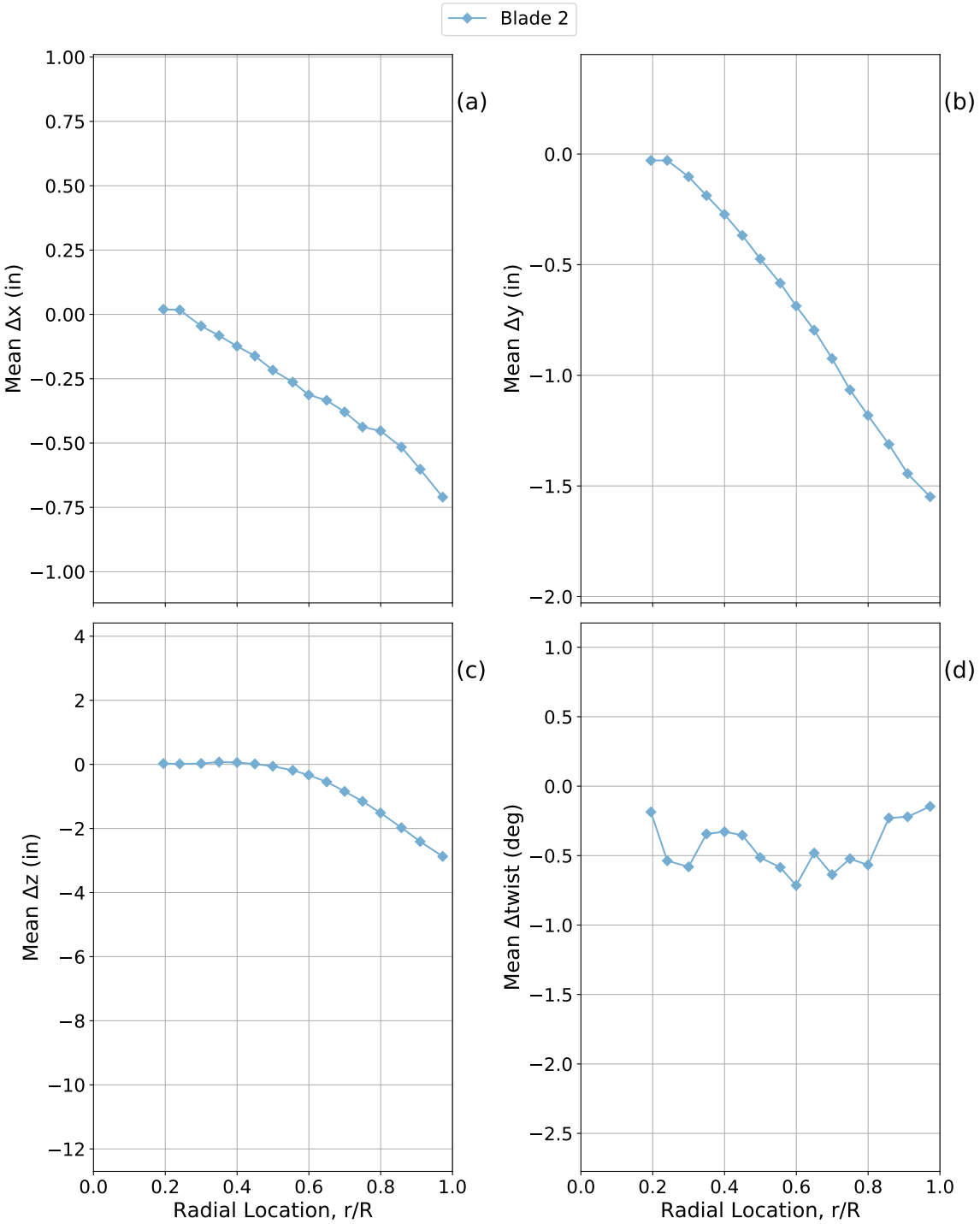


Figure 4.20-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0197	0.0021	-0.0289	0.0005	0.0257	0.0031	-0.1859	0.0163
2	344.88	0.2405	0.0172	0.0018	-0.0289	0.0018	0.0157	0.0030	-0.5371	0.0456
2	344.88	0.2999	-0.0452	0.0017	-0.1025	0.0035	0.0270	0.0111	-0.5809	0.0474
2	344.88	0.3498	-0.0825	0.0022	-0.1878	0.0040	0.0724	0.0176	-0.3438	0.0408
2	344.88	0.3998	-0.1236	0.0019	-0.2727	0.0083	0.0579	0.0268	-0.3283	0.0360
2	344.88	0.4496	-0.1614	0.0022	-0.3677	0.0078	0.0135	0.0313	-0.3529	0.0379
2	344.88	0.4995	-0.2167	0.0017	-0.4740	0.0108	-0.0583	0.0386	-0.5139	0.0443
2	344.88	0.5551	-0.2632	0.0023	-0.5834	0.0122	-0.1857	0.0452	-0.5849	0.0519
2	344.88	0.5996	-0.3128	0.0022	-0.6866	0.0132	-0.3338	0.0510	-0.7148	0.0515
2	344.88	0.6497	-0.3339	0.0025	-0.7960	0.0144	-0.5457	0.0596	-0.4816	0.0398
2	344.88	0.6996	-0.3792	0.0024	-0.9243	0.0165	-0.8429	0.0659	-0.6365	0.0479
2	344.88	0.7495	-0.4376	0.0024	-1.0658	0.0182	-1.1524	0.0724	-0.5226	0.0480
2	344.88	0.7996	-0.4526	0.0031	-1.1811	0.0192	-1.5144	0.0799	-0.5677	0.0463
2	344.88	0.8578	-0.5160	0.0026	-1.3119	0.0210	-1.9761	0.0874	-0.2294	0.0450
2	344.88	0.9100	-0.6019	0.0026	-1.4445	0.0225	-2.4090	0.0947	-0.2205	0.0470
2	344.88	0.9727	-0.7102	0.0035	-1.5489	0.0246	-2.8710	0.1035	-0.1457	0.0491

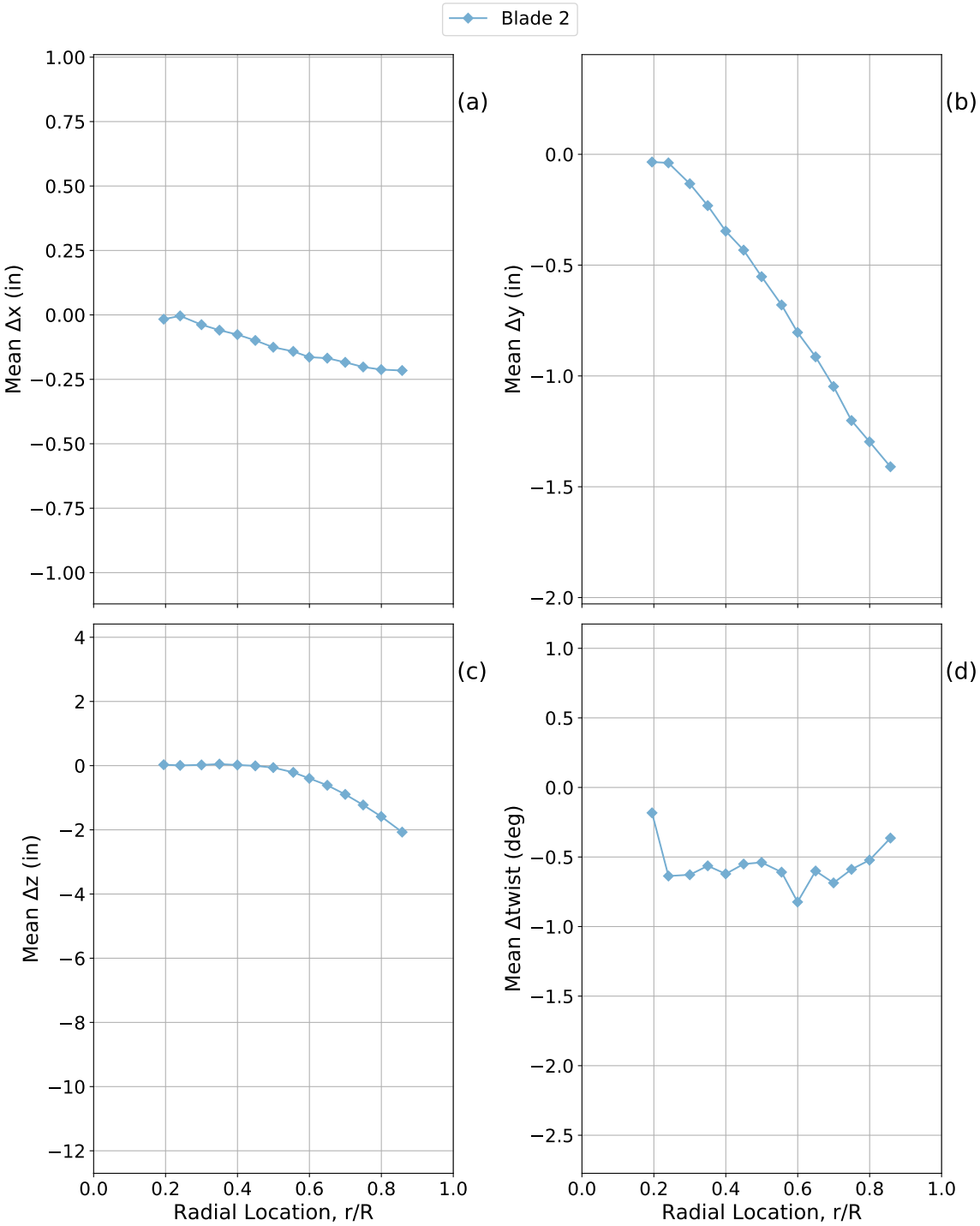


Figure 4.20-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0166	0.0017	-0.0349	0.0014	0.0290	0.0025	-0.1827	0.0125
2	350.16	0.2405	-0.0039	0.0014	-0.0387	0.0021	0.0077	0.0024	-0.6367	0.0339
2	350.16	0.2999	-0.0380	0.0015	-0.1329	0.0046	0.0228	0.0067	-0.6277	0.0342
2	350.16	0.3498	-0.0593	0.0015	-0.2317	0.0081	0.0485	0.0103	-0.5636	0.0278
2	350.16	0.3998	-0.0764	0.0020	-0.3467	0.0119	0.0210	0.0146	-0.6213	0.0299
2	350.16	0.4496	-0.0991	0.0024	-0.4324	0.0161	-0.0059	0.0189	-0.5505	0.0306
2	350.16	0.4995	-0.1255	0.0030	-0.5521	0.0193	-0.0607	0.0237	-0.5390	0.0322
2	350.16	0.5551	-0.1416	0.0042	-0.6797	0.0241	-0.2095	0.0305	-0.6090	0.0235
2	350.16	0.5996	-0.1639	0.0050	-0.8037	0.0267	-0.3968	0.0337	-0.8234	0.0359
2	350.16	0.6497	-0.1679	0.0062	-0.9139	0.0311	-0.6117	0.0387	-0.6005	0.0364
2	350.16	0.6996	-0.1840	0.0073	-1.0477	0.0344	-0.8960	0.0459	-0.6862	0.0446
2	350.16	0.7495	-0.2021	0.0085	-1.2012	0.0381	-1.2259	0.0531	-0.5887	0.0550
2	350.16	0.7996	-0.2122	0.0105	-1.2970	0.0403	-1.5862	0.0515	-0.5223	0.0775
2	350.16	0.8578	-0.2157	0.0158	-1.4098	0.0477	-2.0702	0.0680	-0.3639	0.0995

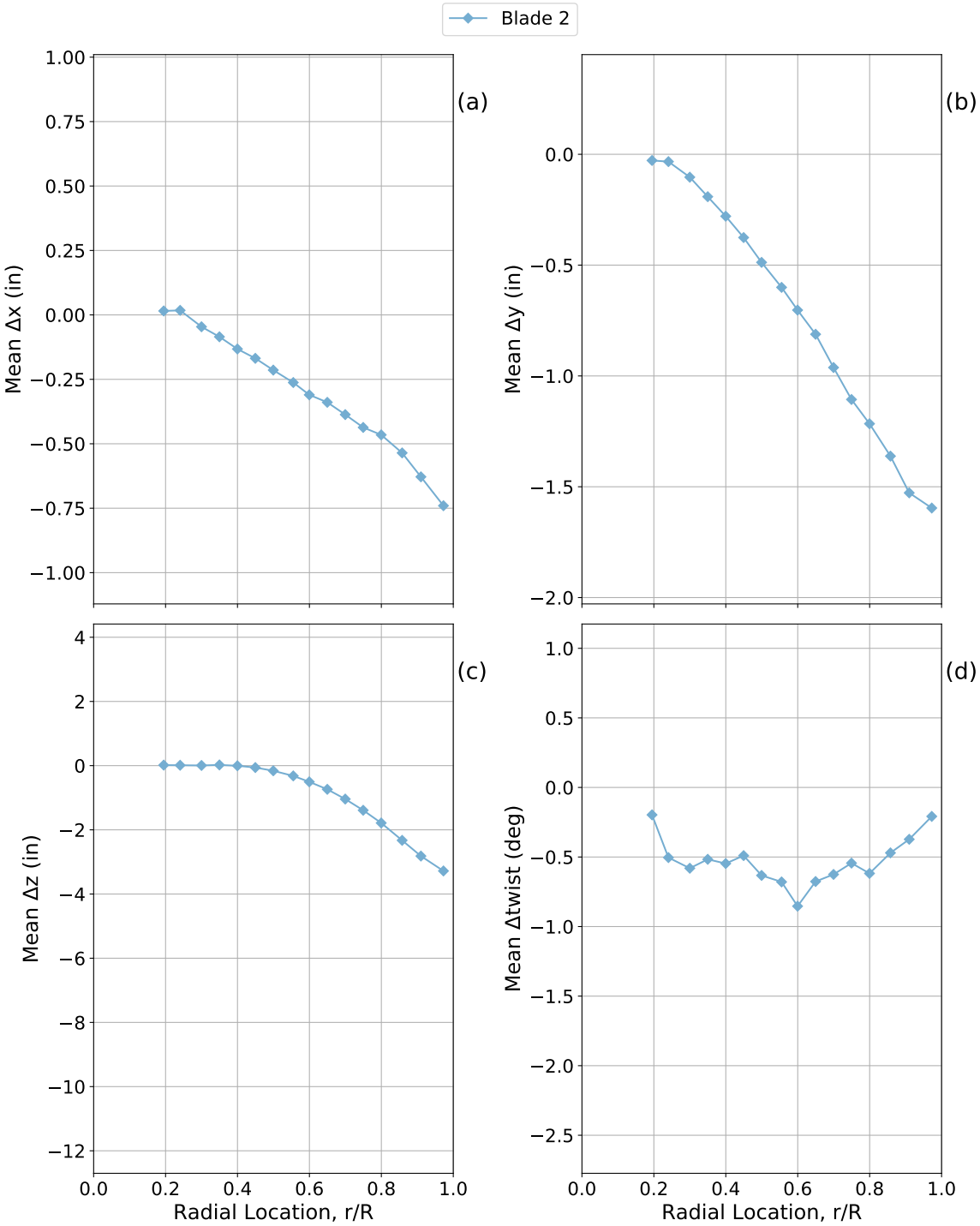


Figure 4.20-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$ NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Table 4.20-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.052$, $\mu = 0.152$, $\alpha = 0°$
NFAC run 75, point 53. BD run 35, points 5777 to 5787.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0153	0.0019	-0.0279	0.0023	0.0167	0.0063	-0.1970	0.0282
2	355.08	0.2405	0.0176	0.0029	-0.0331	0.0023	0.0122	0.0068	-0.5042	0.0803
2	355.08	0.2999	-0.0460	0.0031	-0.1033	0.0078	0.0059	0.0201	-0.5808	0.0815
2	355.08	0.3498	-0.0850	0.0023	-0.1913	0.0131	0.0220	0.0348	-0.5166	0.0692
2	355.08	0.3998	-0.1323	0.0032	-0.2795	0.0194	-0.0040	0.0501	-0.5470	0.0552
2	355.08	0.4496	-0.1685	0.0027	-0.3757	0.0232	-0.0591	0.0595	-0.4900	0.0779
2	355.08	0.4995	-0.2142	0.0034	-0.4877	0.0285	-0.1604	0.0715	-0.6325	0.0730
2	355.08	0.5551	-0.2624	0.0040	-0.6004	0.0350	-0.3201	0.0845	-0.6791	0.0671
2	355.08	0.5996	-0.3101	0.0034	-0.7030	0.0395	-0.5043	0.0918	-0.8536	0.0797
2	355.08	0.6497	-0.3392	0.0036	-0.8120	0.0453	-0.7380	0.1045	-0.6762	0.0666
2	355.08	0.6996	-0.3868	0.0027	-0.9621	0.0502	-1.0411	0.1161	-0.6252	0.0715
2	355.08	0.7495	-0.4366	0.0043	-1.1063	0.0548	-1.3905	0.1264	-0.5439	0.0861
2	355.08	0.7996	-0.4654	0.0037	-1.2157	0.0597	-1.7864	0.1401	-0.6180	0.0750
2	355.08	0.8578	-0.5355	0.0039	-1.3618	0.0659	-2.3280	0.1531	-0.4703	0.0776
2	355.08	0.9100	-0.6283	0.0039	-1.5275	0.0709	-2.8169	0.1640	-0.3729	0.0765
2	355.08	0.9727	-0.7403	0.0053	-1.5960	0.0772	-3.2814	0.1819	-0.2082	0.0881

4.21 Run 77, Point 8

4.21.1 Pitch, Flap, and Lag

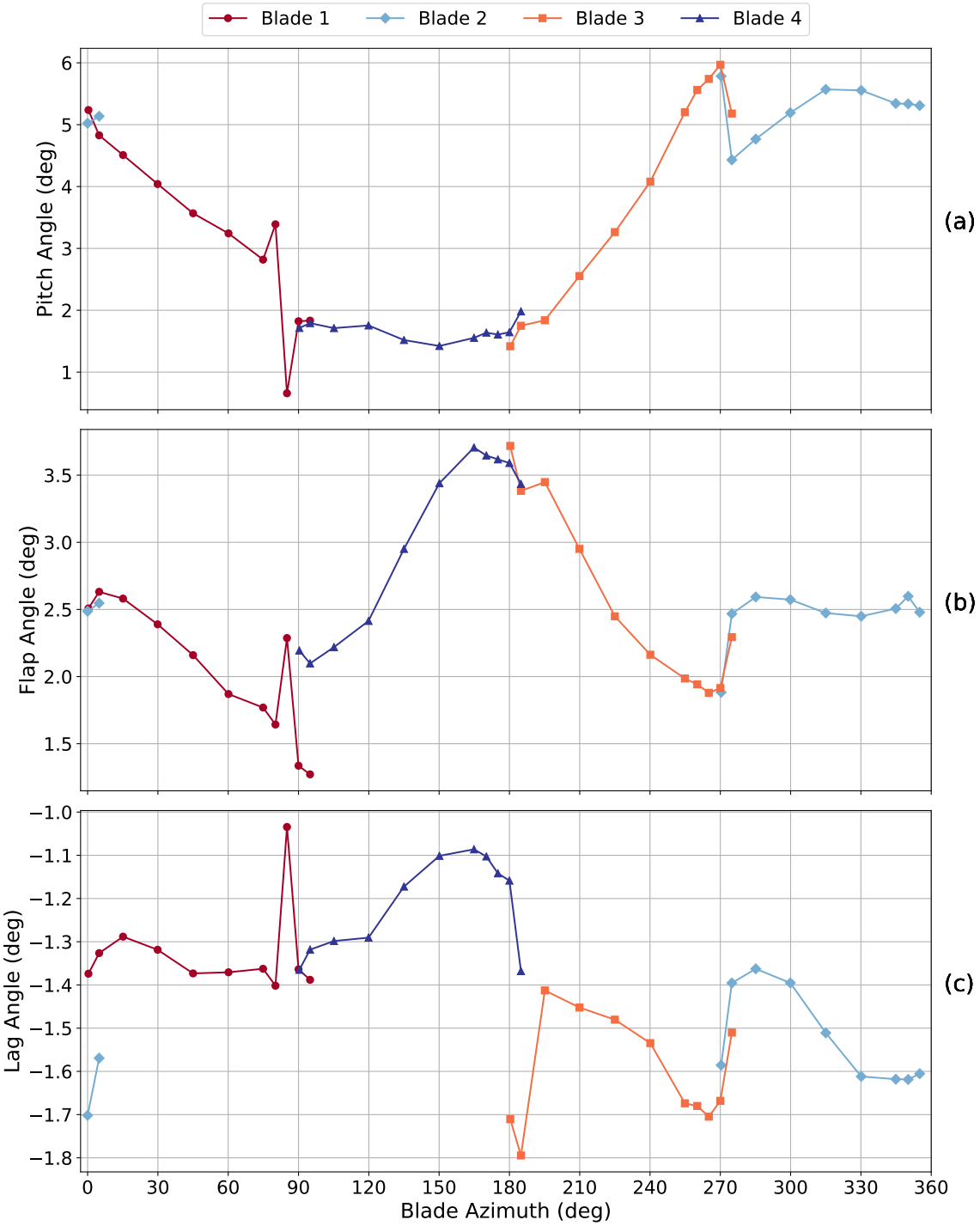


Figure 4.21-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.0226	2.4865	-1.7018	0.0603	0.0351	0.0203
0.35	1	5.2367	2.5077	-1.3740	0.1112	0.0644	0.0284
4.92	1	4.8279	2.6313	-1.3264	0.0677	0.0418	0.0148
4.92	2	5.1363	2.5472	-1.5693	0.0693	0.0282	0.0225
15.12	1	4.5089	2.5808	-1.2882	0.0680	0.0244	0.0177
29.88	1	4.0406	2.3891	-1.3186	0.0747	0.0192	0.0159
45	1	3.5678	2.1597	-1.3733	0.0511	0.0270	0.0157
60.12	1	3.2426	1.8699	-1.3707	0.0941	0.0316	0.0170
74.88	1	2.8186	1.7693	-1.3626	0.0964	0.0458	0.0204
80.16	1	3.3898	1.6427	-1.4018	0.1976	0.0706	0.0217
85.08	1	0.6582	2.2868	-1.0345	0.0980	0.0451	0.0193
90	1	1.8229	1.3362	-1.3639	0.0137	0.0132	0.0104
90.35	4	1.7142	2.1938	-1.3651	0.1573	0.0532	0.0278
94.92	1	1.8324	1.2716	-1.3881	0.0174	0.0167	0.0115
94.92	4	1.7918	2.0978	-1.3184	0.1091	0.0532	0.0259
105.12	4	1.7113	2.2190	-1.2984	0.0180	0.0097	0.0138
119.88	4	1.7544	2.4143	-1.2906	0.0230	0.0156	0.0153
135	4	1.5188	2.9505	-1.1725	0.0252	0.0307	0.0152
150.12	4	1.4225	3.4399	-1.1013	0.0225	0.0149	0.0196
164.88	4	1.5537	3.7057	-1.0862	0.0316	0.0181	0.0106
170.16	4	1.6382	3.6465	-1.1027	0.0219	0.0116	0.0162
175.08	4	1.6067	3.6175	-1.1418	0.0175	0.0134	0.0194
180	4	1.6448	3.5906	-1.1586	0.0261	0.0087	0.0220
180.35	3	1.4178	3.7181	-1.7106	0.0387	0.0153	0.0249
184.92	3	1.7496	3.3831	-1.7946	0.0604	0.0353	0.0388
184.92	4	1.9811	3.4347	-1.3680	0.0334	0.0160	0.0184
195.12	3	1.8379	3.4484	-1.4127	0.0309	0.0112	0.0101
209.88	3	2.5532	2.9508	-1.4522	0.0206	0.0088	0.0126
225	3	3.2634	2.4486	-1.4804	0.0265	0.0192	0.0122
240.12	3	4.0786	2.1627	-1.5346	0.0251	0.0142	0.0107
254.88	3	5.2007	1.9854	-1.6739	0.0453	0.0276	0.0119
260.16	3	5.5610	1.9423	-1.6801	0.0736	0.0350	0.0174
265.08	3	5.7391	1.8790	-1.7048	0.0809	0.0314	0.0295
270	3	5.9680	1.9143	-1.6682	0.1923	0.0927	0.0361
270.35	2	5.7829	1.8828	-1.5856	0.1440	0.0457	0.0239
274.92	2	4.4305	2.4677	-1.3955	0.0420	0.0118	0.0133
274.92	3	5.1800	2.2938	-1.5102	0.1463	0.0533	0.0178
285.12	2	4.7677	2.5929	-1.3627	0.0185	0.0159	0.0229
299.88	2	5.1929	2.5729	-1.3953	0.0390	0.0128	0.0149
315	2	5.5697	2.4733	-1.5110	0.0201	0.0229	0.0032
330.12	2	5.5546	2.4490	-1.6118	0.0308	0.0259	0.0072
344.88	2	5.3427	2.5064	-1.6181	0.0287	0.0295	0.0122
350.16	2	5.3362	2.5979	-1.6187	0.0278	0.0112	0.0167
355.08	2	5.3090	2.4790	-1.6054	0.0239	0.0238	0.0212

4.21.2 Spanwise Elastic Deformations

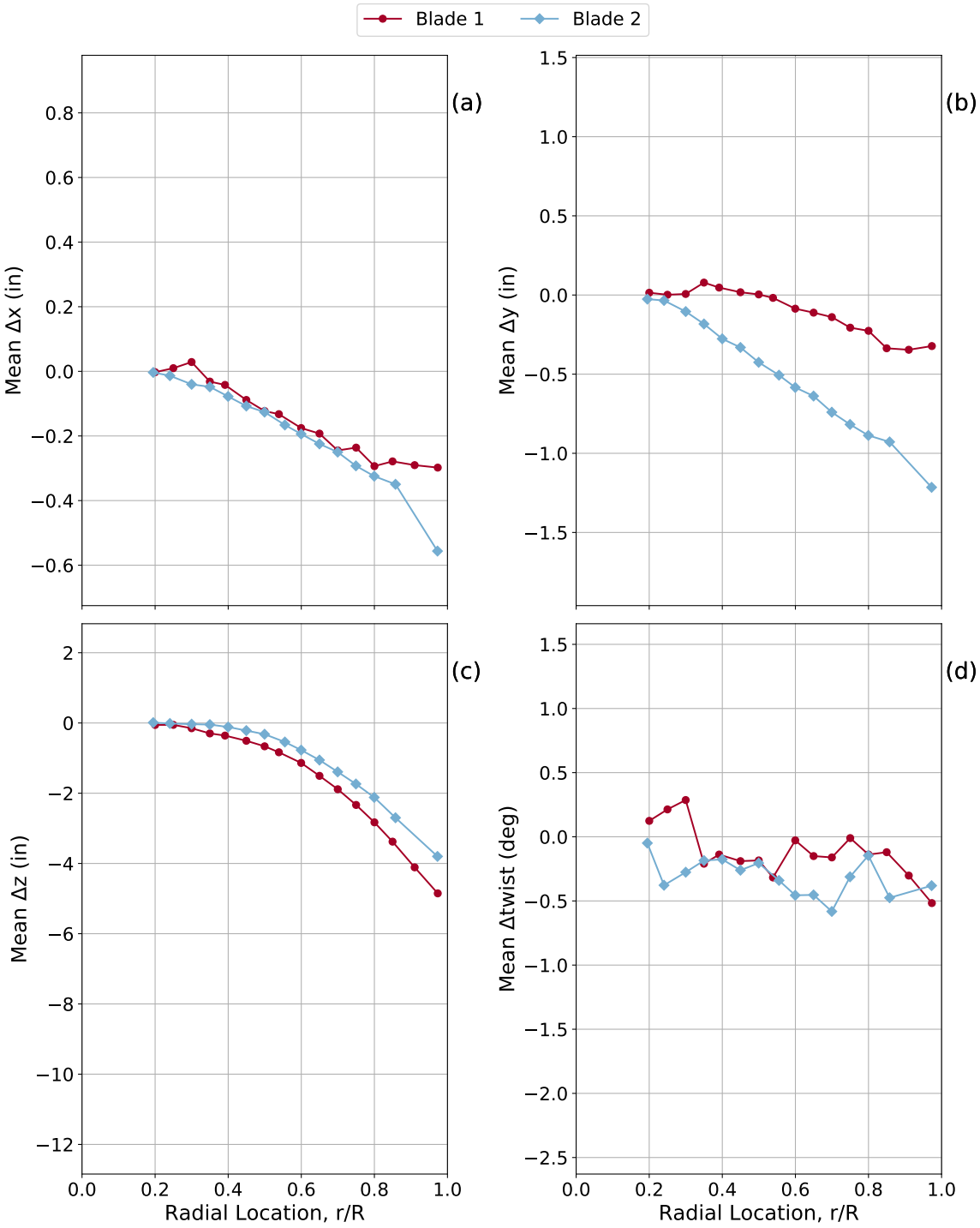


Figure 4.21-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	-0.0026	0.0036	0.0144	0.0033	-0.0559	0.0065	0.1241	0.0617
1	0.35	0.2499	0.0098	0.0023	0.0016	0.0053	-0.0533	0.0125	0.2135	0.1008
1	0.35	0.2998	0.0288	0.0027	0.0066	0.0094	-0.1497	0.0217	0.2865	0.1390
1	0.35	0.3498	-0.0317	0.0054	0.0784	0.0172	-0.2972	0.0388	-0.2098	0.1165
1	0.35	0.3913	-0.0420	0.0067	0.0470	0.0224	-0.3589	0.0532	-0.1384	0.0981
1	0.35	0.4496	-0.0886	0.0075	0.0175	0.0288	-0.5070	0.0692	-0.1897	0.1089
1	0.35	0.4997	-0.1229	0.0070	0.0037	0.0354	-0.6644	0.0870	-0.1842	0.1043
1	0.35	0.5387	-0.1325	0.0064	-0.0181	0.0395	-0.8343	0.0987	-0.3172	0.1055
1	0.35	0.5996	-0.1755	0.0062	-0.0864	0.0477	-1.1375	0.1183	-0.0278	0.1061
1	0.35	0.6498	-0.1927	0.0057	-0.1114	0.0552	-1.5052	0.1351	-0.1503	0.0932
1	0.35	0.6998	-0.2448	0.0038	-0.1396	0.0622	-1.8864	0.1494	-0.1608	0.1208
1	0.35	0.7500	-0.2361	0.0031	-0.2063	0.0687	-2.3341	0.1675	-0.0101	0.1046
1	0.35	0.8001	-0.2934	0.0028	-0.2263	0.0760	-2.8293	0.1861	-0.1386	0.1069
1	0.35	0.8497	-0.2787	0.0035	-0.3365	0.0837	-3.3789	0.2035	-0.1201	0.1092
1	0.35	0.9102	-0.2903	0.0229	-0.3459	0.0939	-4.1106	0.2310	-0.3022	0.1197
1	0.35	0.9734	-0.2979	0.0090	-0.3225	0.1036	-4.8516	0.2560	-0.5167	0.0994
2	0	0.1949	-0.0034	0.0035	-0.0260	0.0021	0.0101	0.0036	-0.0492	0.0225
2	0	0.2405	-0.0136	0.0032	-0.0346	0.0057	-0.0143	0.0062	-0.3777	0.0598
2	0	0.2999	-0.0402	0.0035	-0.1046	0.0082	-0.0339	0.0099	-0.2761	0.0612
2	0	0.3498	-0.0480	0.0028	-0.1829	0.0163	-0.0457	0.0167	-0.1851	0.0641
2	0	0.3998	-0.0777	0.0039	-0.2767	0.0246	-0.1140	0.0241	-0.1760	0.0613
2	0	0.4496	-0.1074	0.0055	-0.3313	0.0295	-0.2167	0.0300	-0.2606	0.0631
2	0	0.4995	-0.1261	0.0064	-0.4251	0.0343	-0.3199	0.0367	-0.2049	0.0531
2	0	0.5551	-0.1660	0.0077	-0.5064	0.0391	-0.5418	0.0465	-0.3401	0.0622
2	0	0.5996	-0.1940	0.0083	-0.5840	0.0421	-0.7716	0.0538	-0.4559	0.0553
2	0	0.6497	-0.2246	0.0116	-0.6383	0.0477	-1.0554	0.0603	-0.4530	0.0574
2	0	0.6996	-0.2500	0.0120	-0.7404	0.0511	-1.3924	0.0727	-0.5820	0.0698
2	0	0.7495	-0.2926	0.0193	-0.8176	0.0553	-1.7371	0.0796	-0.3120	0.0595
2	0	0.7996	-0.3245	0.0172	-0.8870	0.0618	-2.1187	0.0876	-0.1459	0.0904
2	0	0.8578	-0.3496	0.0175	-0.9281	0.0690	-2.6989	0.0979	-0.4754	0.0715
2	0	0.9727	-0.5563	0.0302	-1.2150	0.0807	-3.7994	0.1035	-0.3809	0.1554

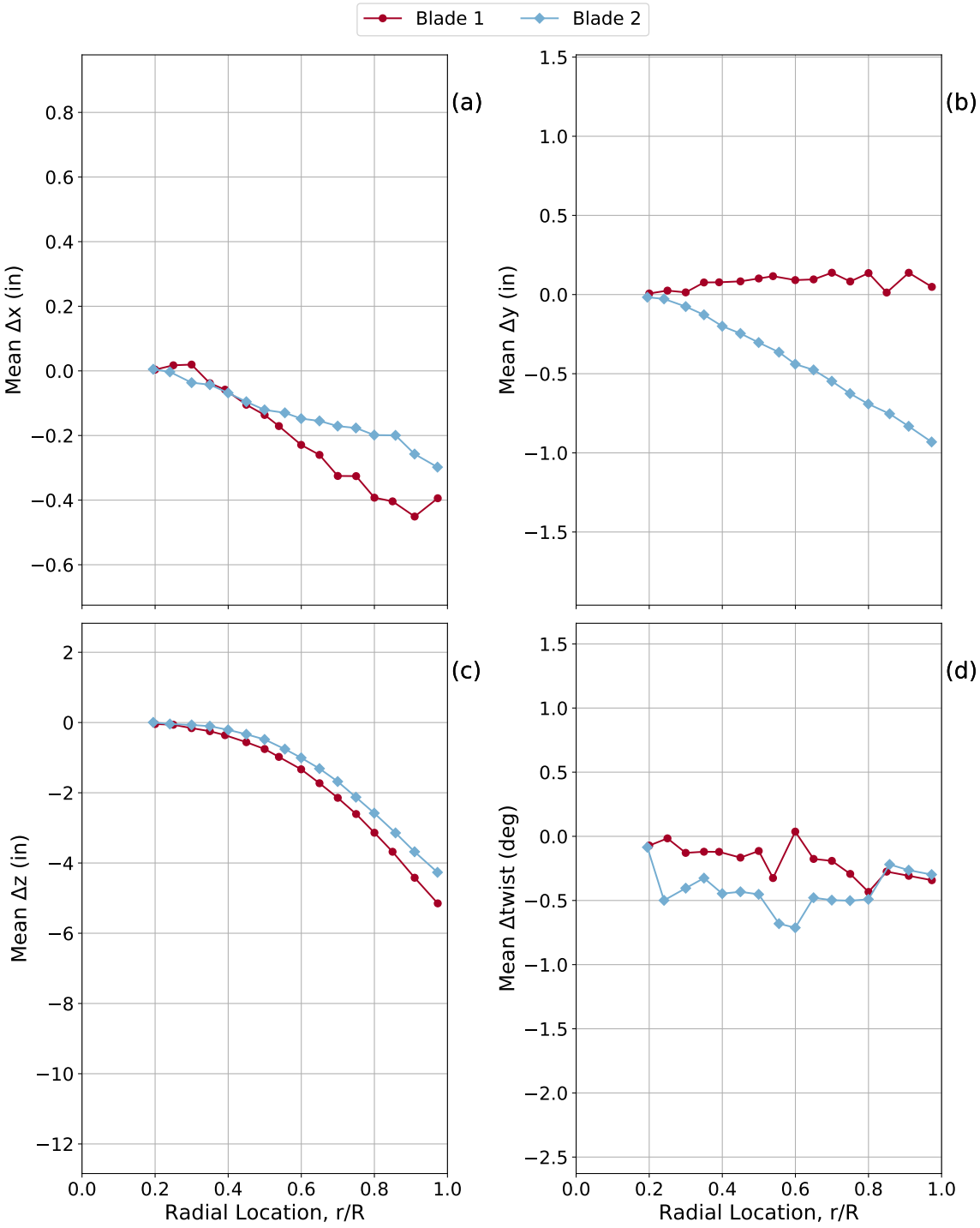


Figure 4.21-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0039	0.0019	0.0067	0.0012	-0.0426	0.0037	-0.0717	0.0422
1	4.92	0.2499	0.0173	0.0026	0.0250	0.0045	-0.0630	0.0077	-0.0158	0.0624
1	4.92	0.2998	0.0195	0.0010	0.0138	0.0050	-0.1601	0.0138	-0.1289	0.0859
1	4.92	0.3498	-0.0381	0.0019	0.0764	0.0107	-0.2468	0.0222	-0.1200	0.0714
1	4.92	0.3913	-0.0581	0.0024	0.0775	0.0148	-0.3599	0.0320	-0.1209	0.0648
1	4.92	0.4496	-0.1048	0.0026	0.0834	0.0180	-0.5600	0.0427	-0.1660	0.0744
1	4.92	0.4997	-0.1364	0.0019	0.1015	0.0222	-0.7547	0.0523	-0.1141	0.0687
1	4.92	0.5387	-0.1708	0.0024	0.1161	0.0253	-0.9786	0.0597	-0.3251	0.0717
1	4.92	0.5996	-0.2290	0.0022	0.0914	0.0299	-1.3322	0.0762	0.0368	0.0654
1	4.92	0.6498	-0.2600	0.0016	0.0957	0.0318	-1.7281	0.0866	-0.1762	0.0677
1	4.92	0.6998	-0.3252	0.0029	0.1379	0.0358	-2.1445	0.0971	-0.1912	0.0672
1	4.92	0.7500	-0.3257	0.0024	0.0825	0.0401	-2.6056	0.1100	-0.2929	0.0624
1	4.92	0.8001	-0.3924	0.0031	0.1356	0.0416	-3.1381	0.1213	-0.4335	0.0880
1	4.92	0.8497	-0.4038	0.0039	0.0127	0.0465	-3.6799	0.1363	-0.2751	0.0813
1	4.92	0.9102	-0.4508	0.0038	0.1376	0.0537	-4.4196	0.1493	-0.3076	0.1874
1	4.92	0.9734	-0.3942	0.0051	0.0485	0.0541	-5.1495	0.1694	-0.3420	0.0824
2	4.92	0.1949	0.0050	0.0036	-0.0169	0.0022	0.0038	0.0046	-0.0853	0.0223
2	4.92	0.2405	-0.0031	0.0018	-0.0275	0.0037	-0.0422	0.0068	-0.4991	0.0538
2	4.92	0.2999	-0.0365	0.0013	-0.0760	0.0096	-0.0683	0.0162	-0.4041	0.0594
2	4.92	0.3498	-0.0427	0.0033	-0.1279	0.0161	-0.1046	0.0243	-0.3257	0.0581
2	4.92	0.3998	-0.0682	0.0053	-0.1999	0.0252	-0.2087	0.0380	-0.4465	0.0819
2	4.92	0.4496	-0.0955	0.0061	-0.2459	0.0304	-0.3343	0.0447	-0.4322	0.0640
2	4.92	0.4995	-0.1207	0.0061	-0.3032	0.0386	-0.4815	0.0595	-0.4521	0.0643
2	4.92	0.5551	-0.1298	0.0081	-0.3642	0.0472	-0.7568	0.0678	-0.6808	0.0673
2	4.92	0.5996	-0.1477	0.0089	-0.4396	0.0528	-1.0049	0.0770	-0.7123	0.0712
2	4.92	0.6497	-0.1549	0.0103	-0.4761	0.0598	-1.3117	0.0859	-0.4786	0.0672
2	4.92	0.6996	-0.1709	0.0122	-0.5474	0.0683	-1.6801	0.0997	-0.4974	0.0639
2	4.92	0.7495	-0.1767	0.0128	-0.6254	0.0737	-2.1260	0.1036	-0.5014	0.0672
2	4.92	0.7996	-0.1986	0.0133	-0.6913	0.0792	-2.5808	0.1093	-0.4911	0.0625
2	4.92	0.8578	-0.1995	0.0150	-0.7534	0.0879	-3.1433	0.1195	-0.2193	0.0722
2	4.92	0.9100	-0.2574	0.0149	-0.8322	0.0949	-3.6800	0.1285	-0.2639	0.0531
2	4.92	0.9727	-0.2979	0.0169	-0.9312	0.1061	-4.2664	0.1346	-0.2980	0.0879

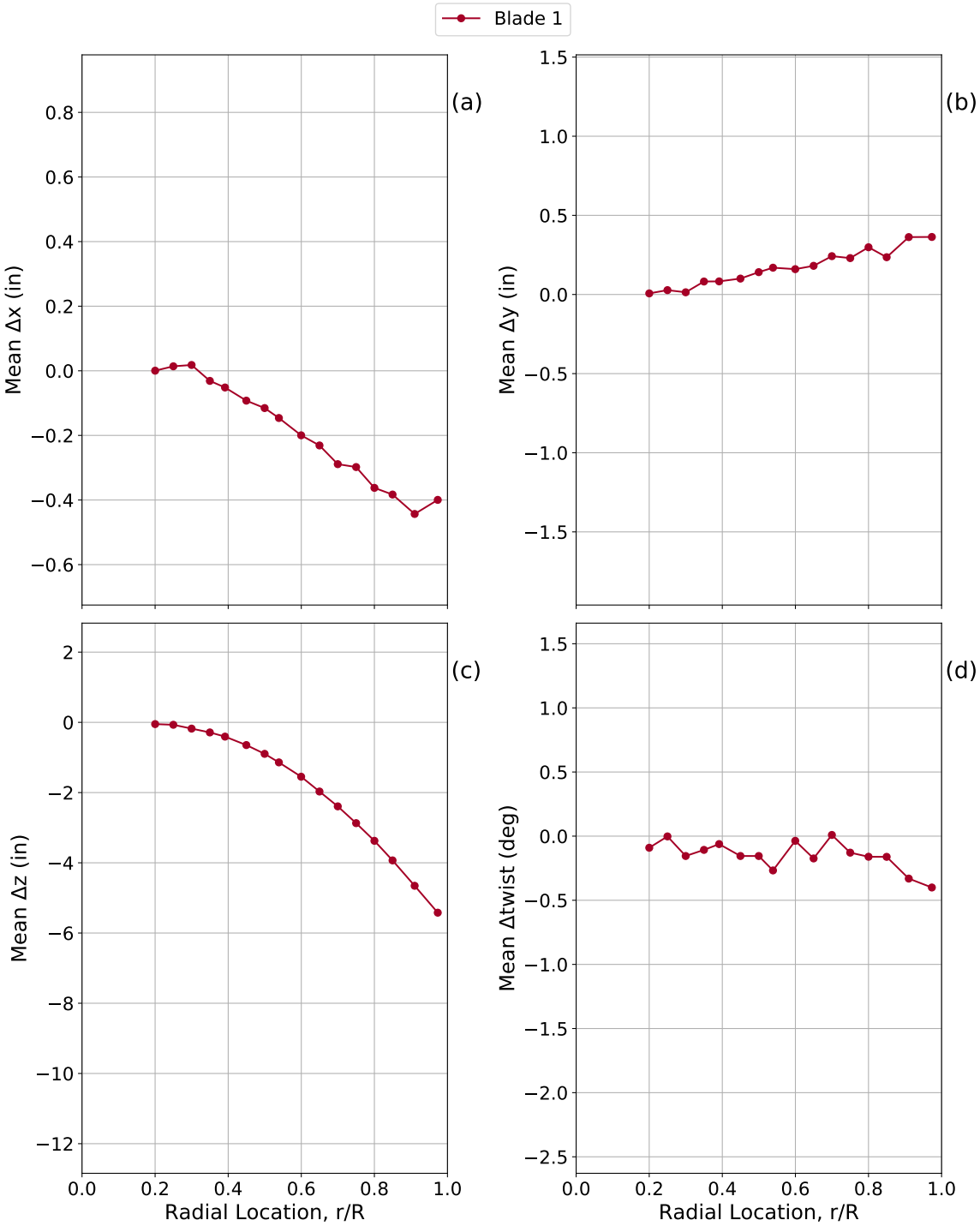


Figure 4.21-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0004	0.0027	0.0069	0.0017	-0.0497	0.0035	-0.0905	0.0264
1	15.12	0.2499	0.0139	0.0025	0.0275	0.0022	-0.0691	0.0051	-0.0021	0.0575
1	15.12	0.2998	0.0180	0.0013	0.0139	0.0056	-0.1781	0.0116	-0.1548	0.0640
1	15.12	0.3498	-0.0312	0.0018	0.0820	0.0078	-0.2869	0.0173	-0.1072	0.0601
1	15.12	0.3913	-0.0517	0.0014	0.0828	0.0114	-0.4061	0.0249	-0.0619	0.0582
1	15.12	0.4496	-0.0924	0.0015	0.1005	0.0149	-0.6465	0.0326	-0.1548	0.0642
1	15.12	0.4997	-0.1154	0.0017	0.1411	0.0189	-0.8967	0.0390	-0.1549	0.0594
1	15.12	0.5387	-0.1461	0.0020	0.1693	0.0221	-1.1402	0.0470	-0.2674	0.0573
1	15.12	0.5996	-0.1997	0.0017	0.1601	0.0258	-1.5477	0.0546	-0.0365	0.0589
1	15.12	0.6498	-0.2311	0.0022	0.1811	0.0293	-1.9699	0.0601	-0.1739	0.0565
1	15.12	0.6998	-0.2890	0.0028	0.2422	0.0338	-2.3924	0.0681	0.0093	0.0571
1	15.12	0.7500	-0.2980	0.0027	0.2299	0.0375	-2.8706	0.0722	-0.1287	0.0591
1	15.12	0.8001	-0.3624	0.0024	0.2984	0.0412	-3.3738	0.0820	-0.1607	0.0700
1	15.12	0.8497	-0.3831	0.0033	0.2355	0.0453	-3.9317	0.0873	-0.1614	0.0667
1	15.12	0.9102	-0.4432	0.0027	0.3626	0.0504	-4.6545	0.0943	-0.3309	0.1008
1	15.12	0.9734	-0.3996	0.0030	0.3635	0.0556	-5.4208	0.1125	-0.4004	0.0763

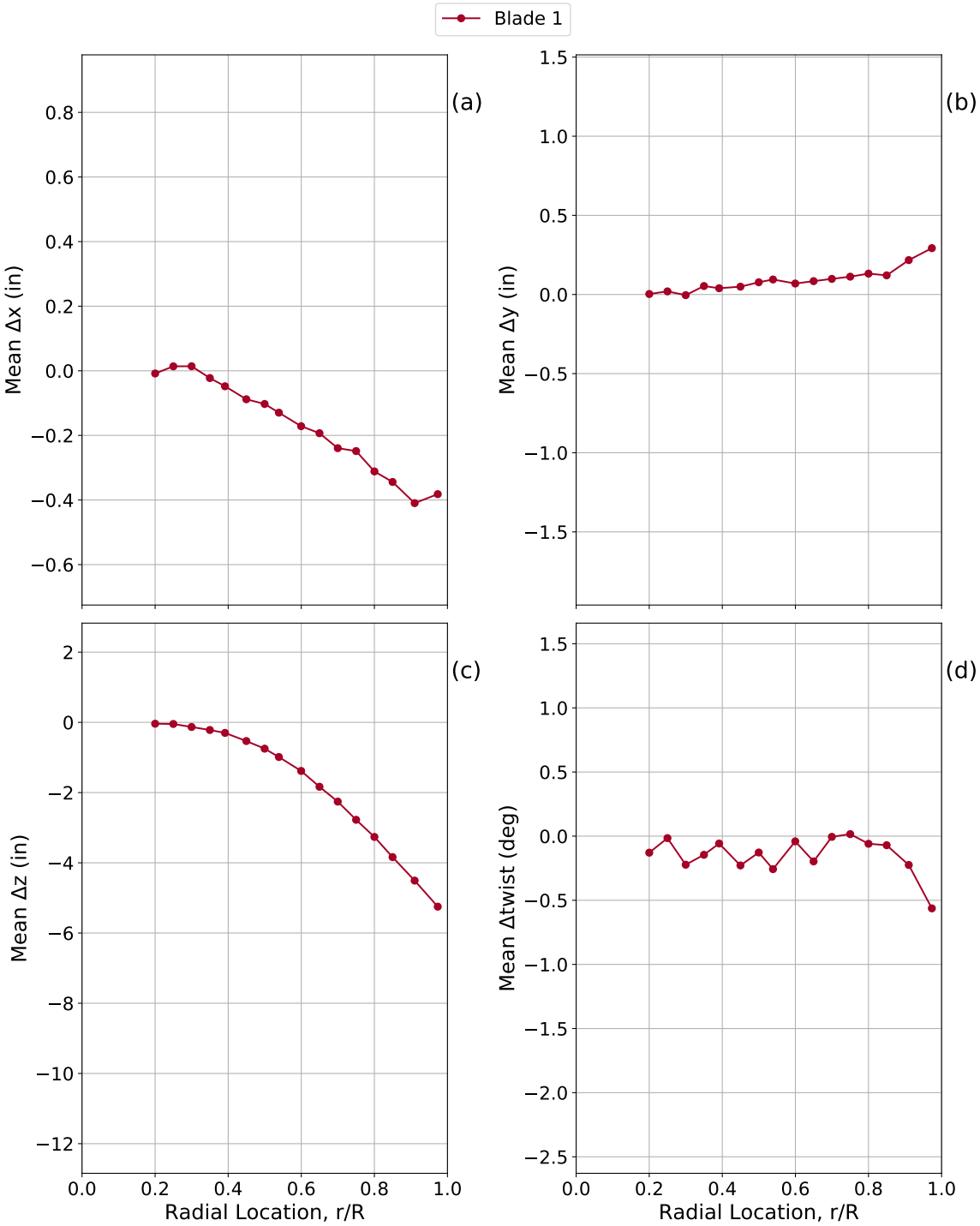


Figure 4.21-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0083	0.0016	0.0030	0.0010	-0.0387	0.0036	-0.1289	0.0300
1	29.88	0.2499	0.0138	0.0021	0.0196	0.0022	-0.0459	0.0041	-0.0155	0.0674
1	29.88	0.2998	0.0141	0.0014	-0.0042	0.0034	-0.1322	0.0104	-0.2227	0.0740
1	29.88	0.3498	-0.0225	0.0015	0.0534	0.0068	-0.2177	0.0186	-0.1454	0.0627
1	29.88	0.3913	-0.0479	0.0018	0.0395	0.0090	-0.3004	0.0236	-0.0574	0.0678
1	29.88	0.4496	-0.0881	0.0024	0.0493	0.0119	-0.5323	0.0304	-0.2285	0.0690
1	29.88	0.4997	-0.1027	0.0027	0.0771	0.0142	-0.7492	0.0368	-0.1275	0.0716
1	29.88	0.5387	-0.1296	0.0031	0.0948	0.0161	-0.9867	0.0415	-0.2572	0.0657
1	29.88	0.5996	-0.1715	0.0021	0.0692	0.0200	-1.3841	0.0486	-0.0406	0.0683
1	29.88	0.6498	-0.1932	0.0021	0.0843	0.0229	-1.8342	0.0515	-0.1970	0.0722
1	29.88	0.6998	-0.2395	0.0022	0.0986	0.0269	-2.2573	0.0563	-0.0055	0.0689
1	29.88	0.7500	-0.2485	0.0018	0.1125	0.0290	-2.7751	0.0593	0.0157	0.0630
1	29.88	0.8001	-0.3115	0.0020	0.1318	0.0323	-3.2634	0.0652	-0.0595	0.0601
1	29.88	0.8497	-0.3441	0.0020	0.1209	0.0346	-3.8379	0.0703	-0.0706	0.0650
1	29.88	0.9102	-0.4097	0.0024	0.2172	0.0381	-4.5070	0.0815	-0.2248	0.0597
1	29.88	0.9734	-0.3818	0.0021	0.2928	0.0426	-5.2489	0.0927	-0.5630	0.0586

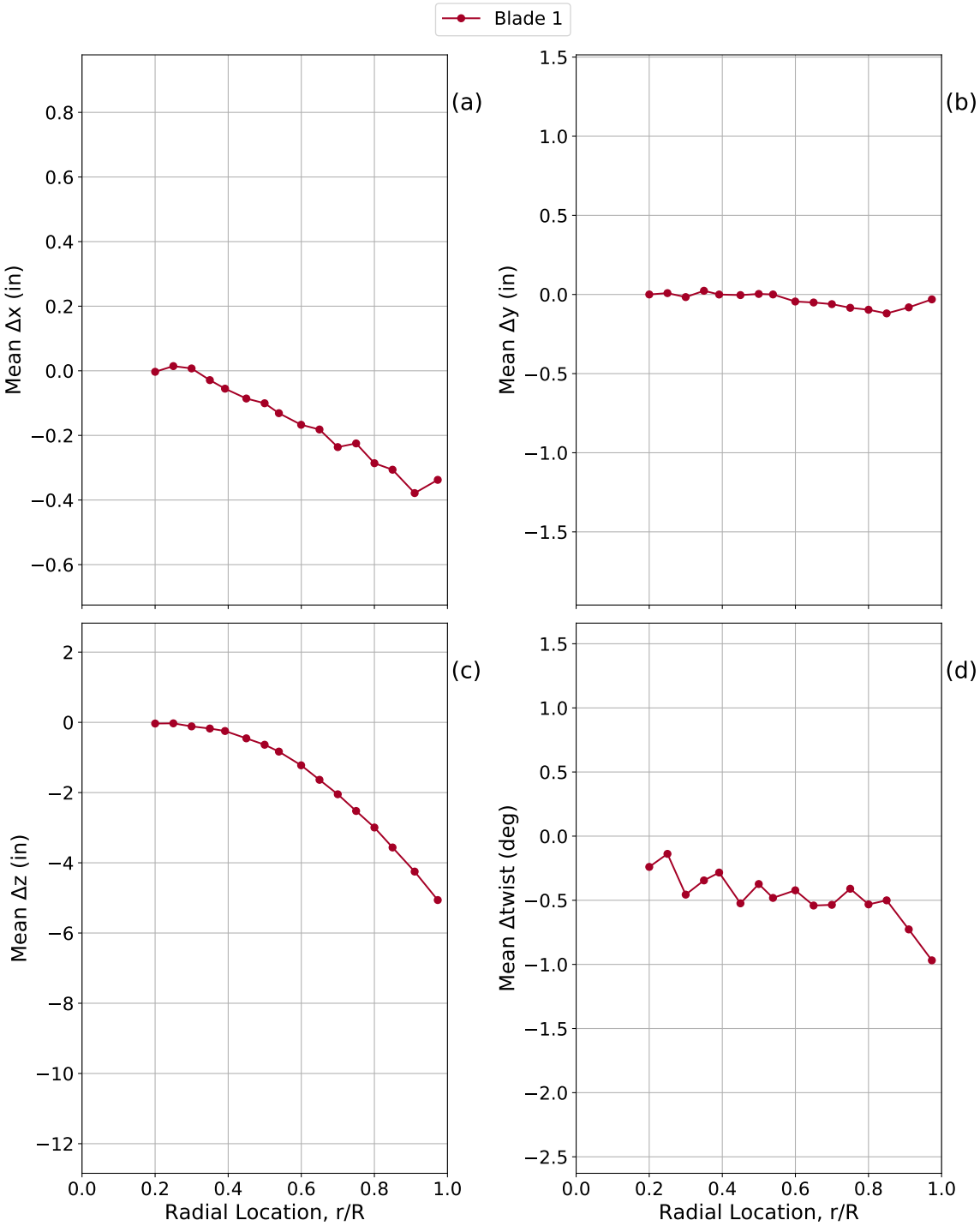


Figure 4.21-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0031	0.0020	0.0002	0.0011	-0.0334	0.0034	-0.2399	0.0240
1	45	0.2499	0.0145	0.0017	0.0086	0.0016	-0.0279	0.0050	-0.1382	0.0547
1	45	0.2998	0.0073	0.0011	-0.0164	0.0034	-0.1148	0.0111	-0.4560	0.0568
1	45	0.3498	-0.0289	0.0016	0.0234	0.0065	-0.1757	0.0195	-0.3452	0.0480
1	45	0.3913	-0.0553	0.0010	-0.0002	0.0082	-0.2463	0.0260	-0.2838	0.0539
1	45	0.4496	-0.0858	0.0015	-0.0038	0.0120	-0.4555	0.0370	-0.5238	0.0492
1	45	0.4997	-0.1005	0.0017	0.0034	0.0148	-0.6372	0.0432	-0.3734	0.0527
1	45	0.5387	-0.1312	0.0019	0.0002	0.0171	-0.8326	0.0495	-0.4816	0.0499
1	45	0.5996	-0.1671	0.0019	-0.0444	0.0211	-1.2231	0.0581	-0.4224	0.0544
1	45	0.6498	-0.1817	0.0017	-0.0506	0.0239	-1.6365	0.0649	-0.5410	0.0554
1	45	0.6998	-0.2362	0.0022	-0.0610	0.0274	-2.0483	0.0716	-0.5355	0.0529
1	45	0.7500	-0.2248	0.0021	-0.0841	0.0307	-2.5240	0.0779	-0.4102	0.0530
1	45	0.8001	-0.2861	0.0018	-0.0963	0.0332	-2.9950	0.0830	-0.5321	0.0509
1	45	0.8497	-0.3062	0.0019	-0.1196	0.0371	-3.5635	0.0879	-0.5006	0.0576
1	45	0.9102	-0.3786	0.0025	-0.0814	0.0403	-4.2502	0.0968	-0.7271	0.0541
1	45	0.9734	-0.3376	0.0026	-0.0309	0.0444	-5.0610	0.1059	-0.9684	0.0597

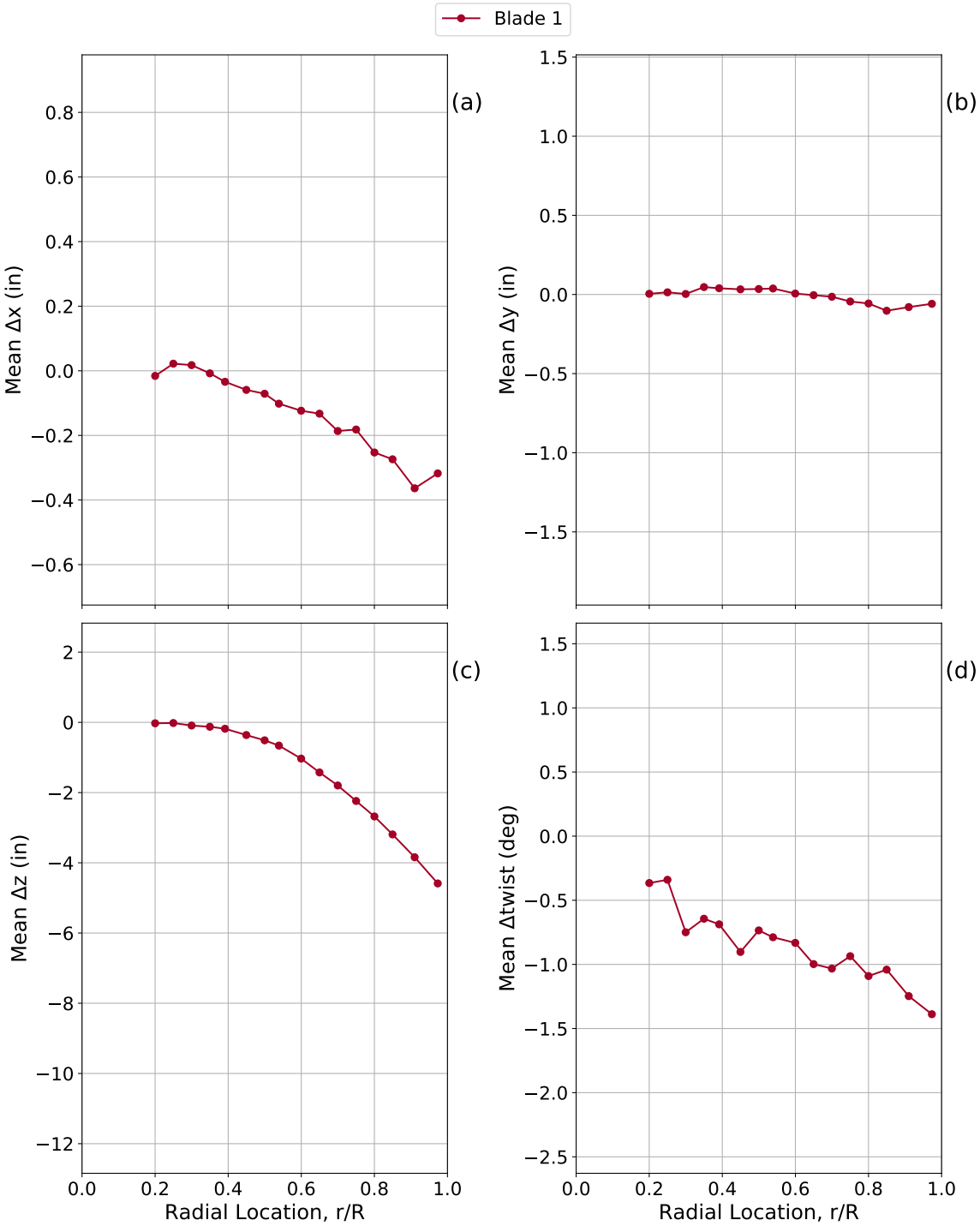


Figure 4.21-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0158	0.0026	0.0044	0.0014	-0.0267	0.0043	-0.3657	0.0378
1	60.12	0.2499	0.0221	0.0009	0.0137	0.0021	-0.0188	0.0059	-0.3402	0.0809
1	60.12	0.2998	0.0176	0.0018	0.0033	0.0047	-0.0906	0.0133	-0.7494	0.0918
1	60.12	0.3498	-0.0079	0.0014	0.0468	0.0080	-0.1255	0.0237	-0.6439	0.0845
1	60.12	0.3913	-0.0340	0.0021	0.0394	0.0108	-0.1815	0.0312	-0.6876	0.0870
1	60.12	0.4496	-0.0591	0.0022	0.0326	0.0146	-0.3612	0.0426	-0.9028	0.0880
1	60.12	0.4997	-0.0710	0.0021	0.0347	0.0177	-0.5120	0.0518	-0.7349	0.0815
1	60.12	0.5387	-0.1018	0.0014	0.0377	0.0201	-0.6614	0.0566	-0.7883	0.0865
1	60.12	0.5996	-0.1236	0.0022	0.0059	0.0239	-1.0320	0.0656	-0.8321	0.0942
1	60.12	0.6498	-0.1327	0.0023	-0.0043	0.0268	-1.4264	0.0742	-0.9976	0.0871
1	60.12	0.6998	-0.1864	0.0017	-0.0142	0.0303	-1.7978	0.0820	-1.0324	0.0910
1	60.12	0.7500	-0.1818	0.0021	-0.0444	0.0329	-2.2393	0.0913	-0.9358	0.0876
1	60.12	0.8001	-0.2529	0.0023	-0.0569	0.0360	-2.6804	0.0997	-1.0908	0.0907
1	60.12	0.8497	-0.2739	0.0028	-0.1027	0.0387	-3.1921	0.1112	-1.0408	0.0934
1	60.12	0.9102	-0.3637	0.0034	-0.0796	0.0423	-3.8415	0.1251	-1.2472	0.0893
1	60.12	0.9734	-0.3176	0.0042	-0.0589	0.0463	-4.5880	0.1397	-1.3883	0.0986

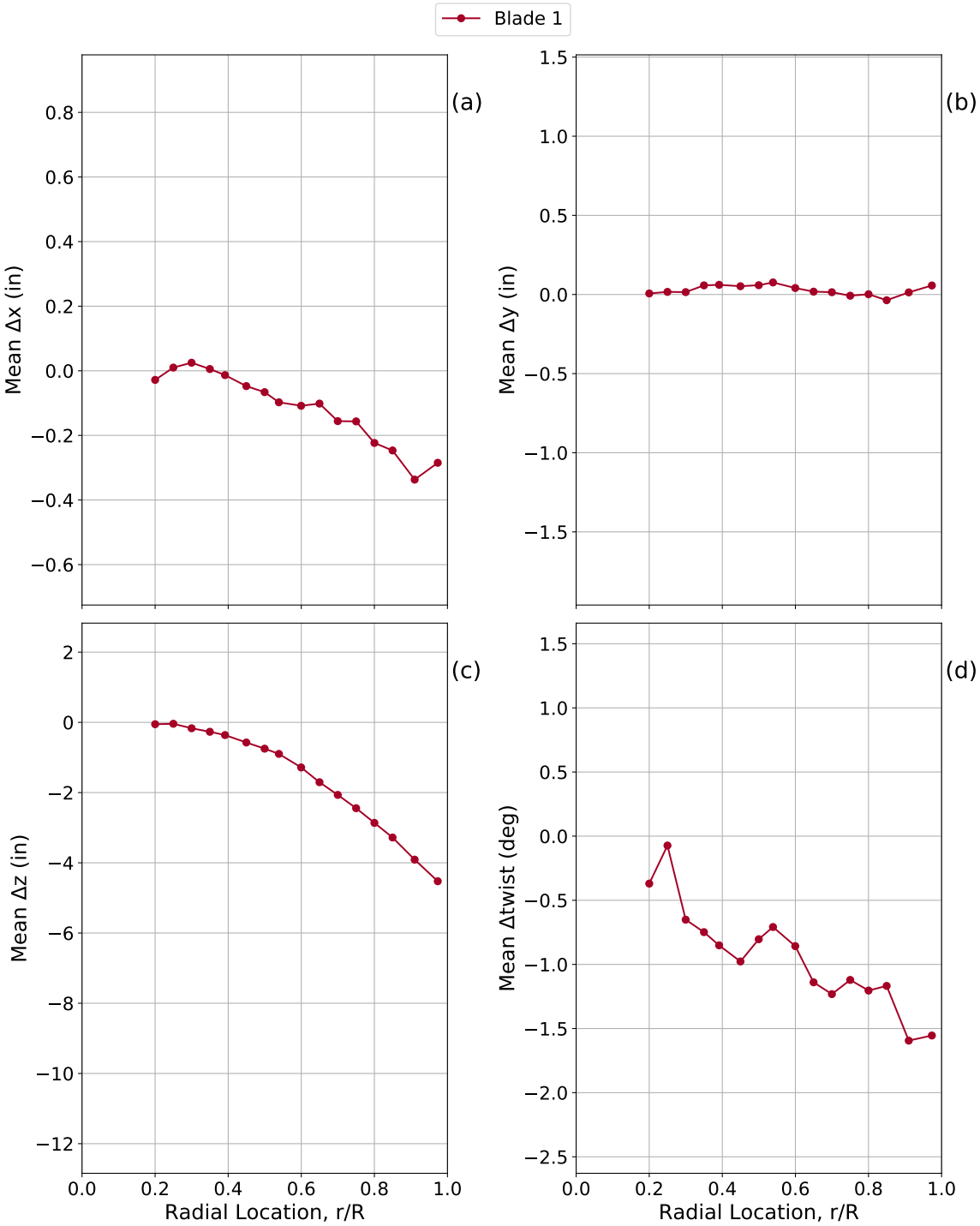


Figure 4.21-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0282	0.0050	0.0065	0.0022	-0.0530	0.0063	-0.3700	0.0410
1	74.88	0.2499	0.0100	0.0022	0.0164	0.0030	-0.0405	0.0084	-0.0732	0.0982
1	74.88	0.2998	0.0250	0.0023	0.0150	0.0073	-0.1681	0.0191	-0.6513	0.0962
1	74.88	0.3498	0.0055	0.0023	0.0576	0.0121	-0.2685	0.0309	-0.7484	0.0894
1	74.88	0.3913	-0.0133	0.0022	0.0611	0.0164	-0.3618	0.0412	-0.8515	0.0975
1	74.88	0.4496	-0.0474	0.0032	0.0522	0.0208	-0.5734	0.0563	-0.9771	0.0994
1	74.88	0.4997	-0.0661	0.0028	0.0587	0.0258	-0.7494	0.0705	-0.8036	0.0908
1	74.88	0.5387	-0.0975	0.0027	0.0761	0.0297	-0.8980	0.0813	-0.7085	0.0967
1	74.88	0.5996	-0.1083	0.0021	0.0408	0.0347	-1.2842	0.0987	-0.8575	0.0947
1	74.88	0.6498	-0.1015	0.0023	0.0180	0.0399	-1.7047	0.1112	-1.1396	0.0914
1	74.88	0.6998	-0.1558	0.0022	0.0144	0.0442	-2.0663	0.1230	-1.2317	0.0991
1	74.88	0.7500	-0.1566	0.0026	-0.0077	0.0493	-2.4448	0.1350	-1.1212	0.0937
1	74.88	0.8001	-0.2234	0.0027	0.0015	0.0543	-2.8630	0.1470	-1.2038	0.0910
1	74.88	0.8497	-0.2466	0.0027	-0.0364	0.0592	-3.2795	0.1593	-1.1676	0.0949
1	74.88	0.9102	-0.3369	0.0029	0.0133	0.0652	-3.9095	0.1754	-1.5943	0.1017
1	74.88	0.9734	-0.2848	0.0033	0.0570	0.0711	-4.5250	0.1929	-1.5543	0.0939

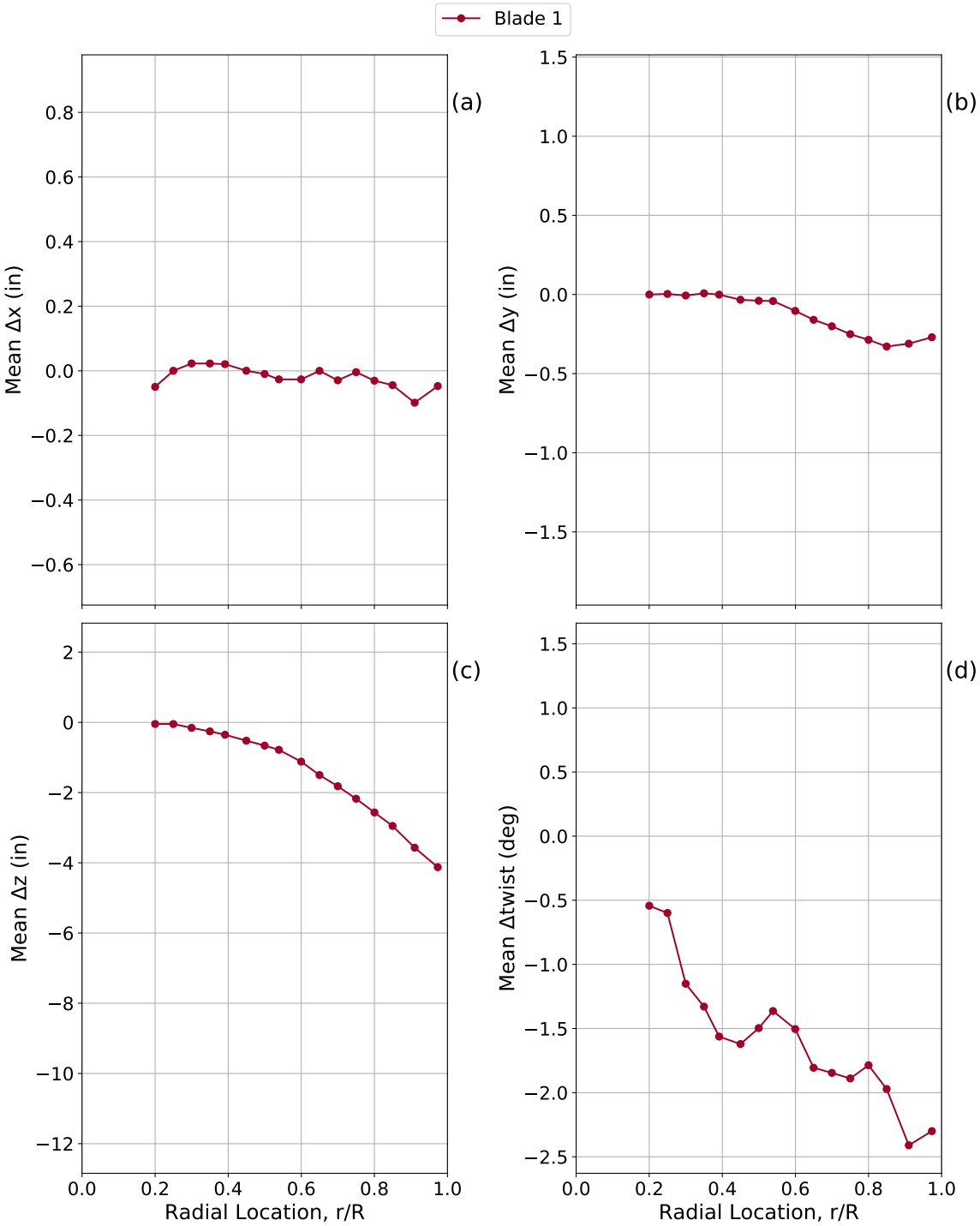


Figure 4.21-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0497	0.0073	-0.0002	0.0026	-0.0458	0.0097	-0.5428	0.0715
1	80.16	0.2499	0.0001	0.0041	0.0035	0.0025	-0.0472	0.0096	-0.5990	0.1782
1	80.16	0.2998	0.0227	0.0035	-0.0064	0.0080	-0.1563	0.0288	-1.1508	0.1800
1	80.16	0.3498	0.0226	0.0026	0.0075	0.0135	-0.2568	0.0465	-1.3291	0.1839
1	80.16	0.3913	0.0206	0.0033	-0.0008	0.0177	-0.3525	0.0614	-1.5627	0.1948
1	80.16	0.4496	0.0002	0.0038	-0.0334	0.0240	-0.5214	0.0864	-1.6209	0.1871
1	80.16	0.4997	-0.0098	0.0044	-0.0395	0.0292	-0.6621	0.1054	-1.4966	0.1917
1	80.16	0.5387	-0.0266	0.0045	-0.0414	0.0332	-0.7819	0.1211	-1.3634	0.1931
1	80.16	0.5996	-0.0265	0.0049	-0.1036	0.0405	-1.1188	0.1443	-1.5041	0.1897
1	80.16	0.6498	-0.0001	0.0044	-0.1600	0.0460	-1.5006	0.1641	-1.8058	0.1896
1	80.16	0.6998	-0.0295	0.0045	-0.2009	0.0518	-1.8193	0.1816	-1.8457	0.1922
1	80.16	0.7500	-0.0042	0.0047	-0.2507	0.0577	-2.1756	0.2007	-1.8890	0.1874
1	80.16	0.8001	-0.0306	0.0048	-0.2866	0.0639	-2.5658	0.2192	-1.7863	0.1885
1	80.16	0.8497	-0.0444	0.0057	-0.3287	0.0692	-2.9499	0.2372	-1.9716	0.1869
1	80.16	0.9102	-0.0988	0.0062	-0.3107	0.0766	-3.5694	0.2599	-2.4101	0.1890
1	80.16	0.9734	-0.0473	0.0059	-0.2702	0.0843	-4.1249	0.2830	-2.3000	0.1916

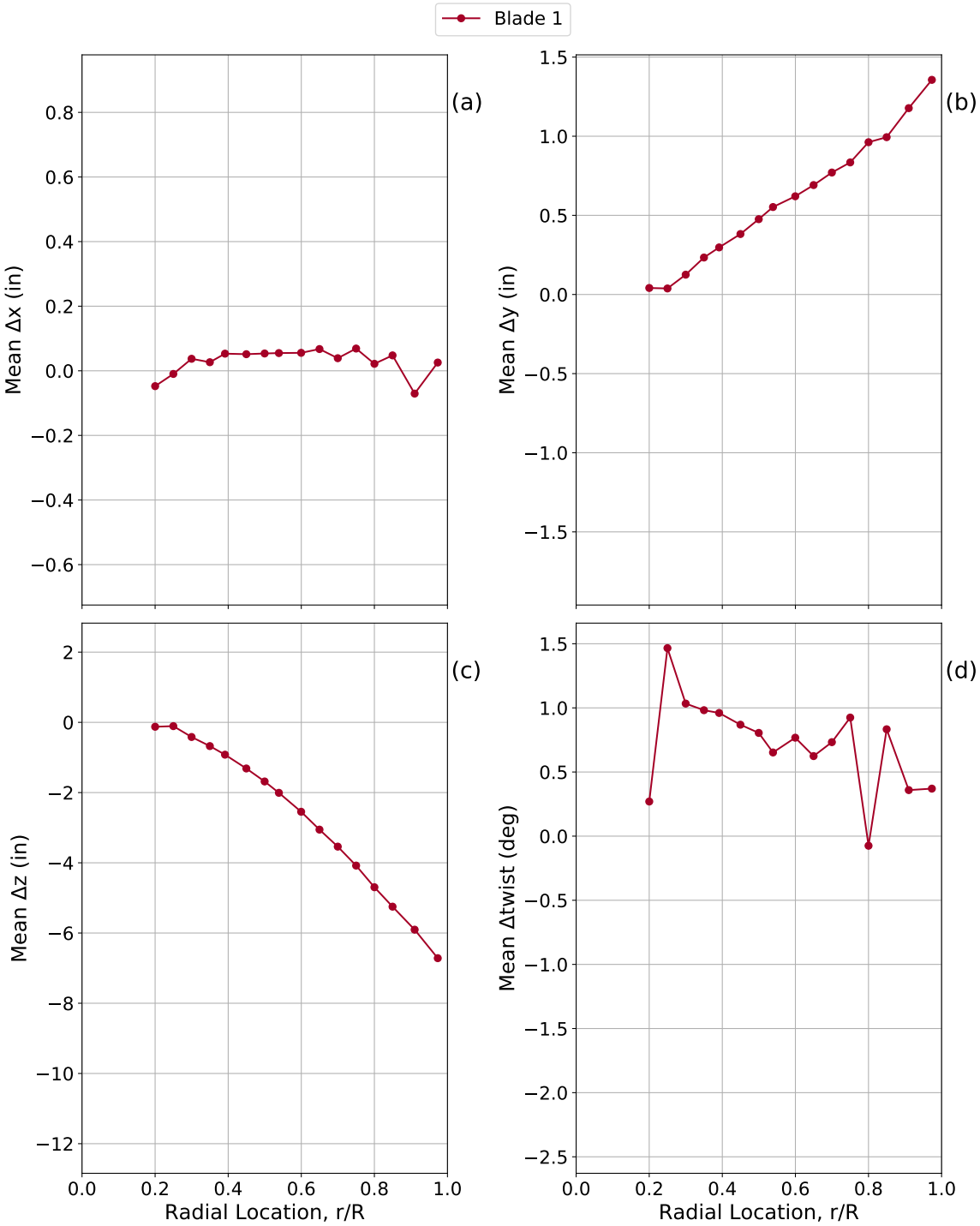


Figure 4.21-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0475	0.0018	0.0411	0.0020	-0.1253	0.0044	0.2699	0.0482
1	85.08	0.2499	-0.0097	0.0024	0.0381	0.0037	-0.1073	0.0085	1.4658	0.0928
1	85.08	0.2998	0.0372	0.0016	0.1252	0.0071	-0.4169	0.0167	1.0335	0.1124
1	85.08	0.3498	0.0266	0.0023	0.2336	0.0120	-0.6758	0.0291	0.9819	0.1008
1	85.08	0.3913	0.0531	0.0023	0.2974	0.0169	-0.9206	0.0411	0.9604	0.0917
1	85.08	0.4496	0.0514	0.0022	0.3820	0.0226	-1.3136	0.0550	0.8688	0.0922
1	85.08	0.4997	0.0536	0.0028	0.4759	0.0272	-1.6837	0.0648	0.8048	0.0996
1	85.08	0.5387	0.0549	0.0034	0.5526	0.0316	-2.0069	0.0737	0.6523	0.1021
1	85.08	0.5996	0.0556	0.0026	0.6205	0.0383	-2.5461	0.0881	0.7675	0.1006
1	85.08	0.6498	0.0673	0.0029	0.6914	0.0438	-3.0551	0.1002	0.6241	0.1050
1	85.08	0.6998	0.0390	0.0023	0.7706	0.0486	-3.5393	0.1130	0.7327	0.1098
1	85.08	0.7500	0.0689	0.0058	0.8346	0.0556	-4.0793	0.1254	0.9245	0.1021
1	85.08	0.8001	0.0217	0.0053	0.9622	0.0655	-4.6958	0.1491	-0.0748	0.2092
1	85.08	0.8497	0.0477	0.0072	0.9940	0.0697	-5.2490	0.1507	0.8332	0.1437
1	85.08	0.9102	-0.0706	0.0032	1.1775	0.0863	-5.9047	0.1401	0.3590	0.1048
1	85.08	0.9734	0.0256	0.0061	1.3562	0.0926	-6.7166	0.1553	0.3704	0.1028

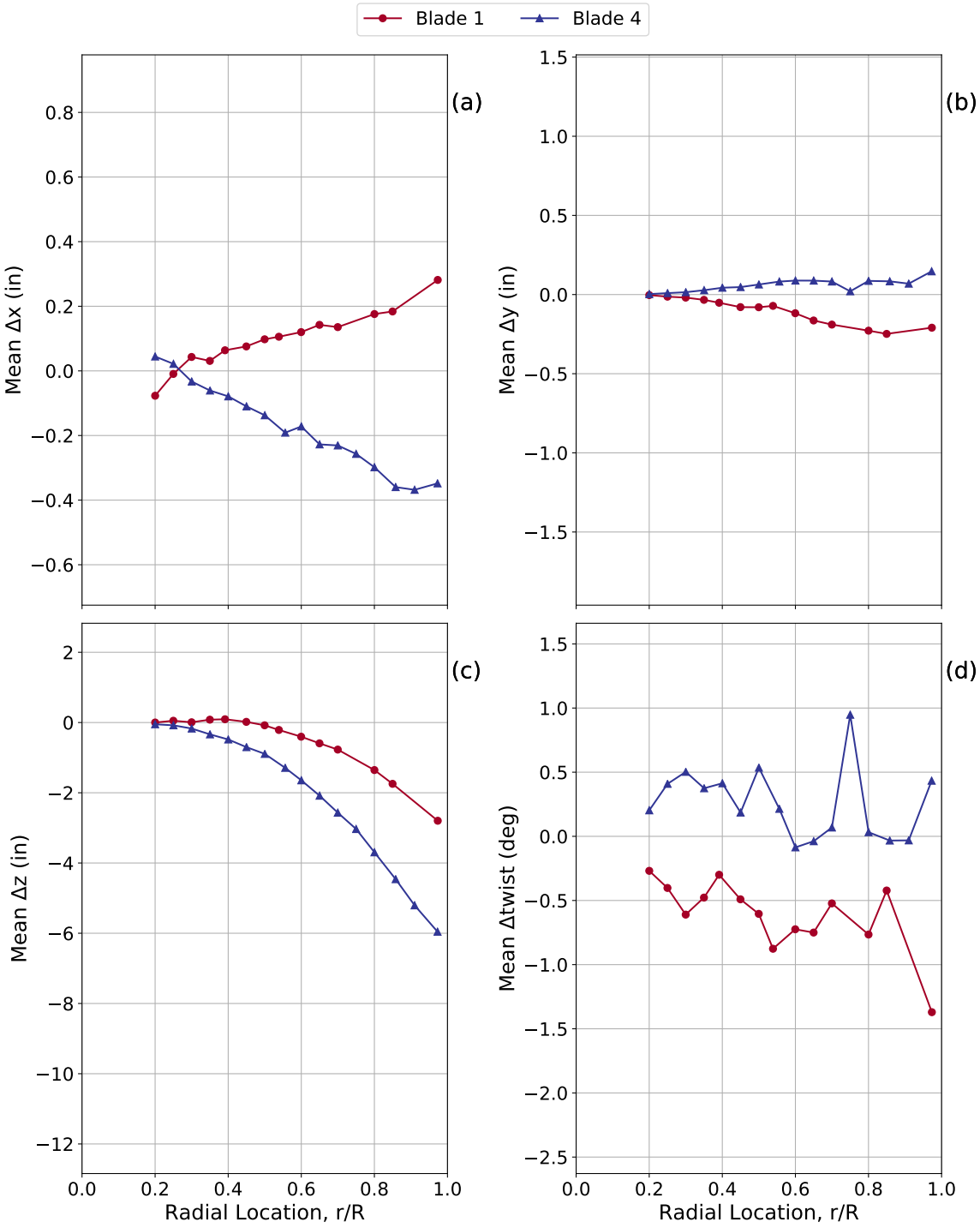


Figure 4.21-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0769	0.0008	-0.0034	0.0004	0.0004	0.0008	-0.2690	0.0121
1	90	0.2499	-0.0094	0.0009	-0.0133	0.0011	0.0504	0.0029	-0.4023	0.0160
1	90	0.2998	0.0431	0.0008	-0.0193	0.0014	0.0074	0.0036	-0.6101	0.0252
1	90	0.3498	0.0309	0.0009	-0.0335	0.0034	0.0812	0.0065	-0.4775	0.0211
1	90	0.3913	0.0638	0.0011	-0.0518	0.0041	0.0932	0.0095	-0.2995	0.0204
1	90	0.4496	0.0757	0.0015	-0.0794	0.0058	0.0189	0.0113	-0.4909	0.0153
1	90	0.4997	0.0978	0.0018	-0.0802	0.0077	-0.0793	0.0149	-0.6042	0.0247
1	90	0.5387	0.1057	0.0016	-0.0715	0.0091	-0.2119	0.0177	-0.8763	0.0249
1	90	0.5996	0.1200	0.0023	-0.1180	0.0119	-0.4033	0.0211	-0.7245	0.0277
1	90	0.6498	0.1425	0.0030	-0.1638	0.0138	-0.5924	0.0235	-0.7500	0.0428
1	90	0.6998	0.1355	0.0028	-0.1897	0.0167	-0.7703	0.0253	-0.5226	0.0646
1	90	0.8001	0.1759	0.0046	-0.2281	0.0217	-1.3533	0.0344	-0.7654	0.1280
1	90	0.8497	0.1839	0.0058	-0.2484	0.0242	-1.7453	0.0427	-0.4223	0.1044
1	90	0.9734	0.2815	0.0068	-0.2094	0.0317	-2.7967	0.0596	-1.3706	0.0699
4	90.35	0.2001	0.0445	0.0059	0.0030	0.0026	-0.0495	0.0094	0.2027	0.0408
4	90.35	0.2502	0.0217	0.0066	0.0090	0.0020	-0.0796	0.0073	0.4092	0.1808
4	90.35	0.3001	-0.0330	0.0038	0.0149	0.0075	-0.1711	0.0241	0.5027	0.1306
4	90.35	0.3502	-0.0608	0.0040	0.0275	0.0116	-0.3374	0.0381	0.3747	0.1456
4	90.35	0.4002	-0.0789	0.0028	0.0432	0.0167	-0.4826	0.0516	0.4135	0.1531
4	90.35	0.4500	-0.1099	0.0038	0.0471	0.0212	-0.7012	0.0684	0.1855	0.1483
4	90.35	0.5001	-0.1374	0.0039	0.0636	0.0248	-0.8931	0.0800	0.5352	0.1495
4	90.35	0.5560	-0.1912	0.0044	0.0819	0.0305	-1.2911	0.0970	0.2143	0.1560
4	90.35	0.6001	-0.1720	0.0047	0.0883	0.0355	-1.6460	0.1101	-0.0860	0.1510
4	90.35	0.6501	-0.2275	0.0049	0.0880	0.0416	-2.0837	0.1220	-0.0380	0.1469
4	90.35	0.6999	-0.2308	0.0038	0.0822	0.0472	-2.5675	0.1379	0.0688	0.1513
4	90.35	0.7500	-0.2569	0.0037	0.0205	0.0526	-3.0326	0.1536	0.9477	0.1495
4	90.35	0.8002	-0.2983	0.0037	0.0863	0.0592	-3.6957	0.1702	0.0322	0.1619
4	90.35	0.8582	-0.3597	0.0047	0.0836	0.0664	-4.4609	0.1890	-0.0329	0.1513
4	90.35	0.9101	-0.3681	0.0052	0.0688	0.0738	-5.2060	0.2089	-0.0315	0.1603
4	90.35	0.9728	-0.3482	0.0037	0.1467	0.0814	-5.9568	0.2274	0.4335	0.1769

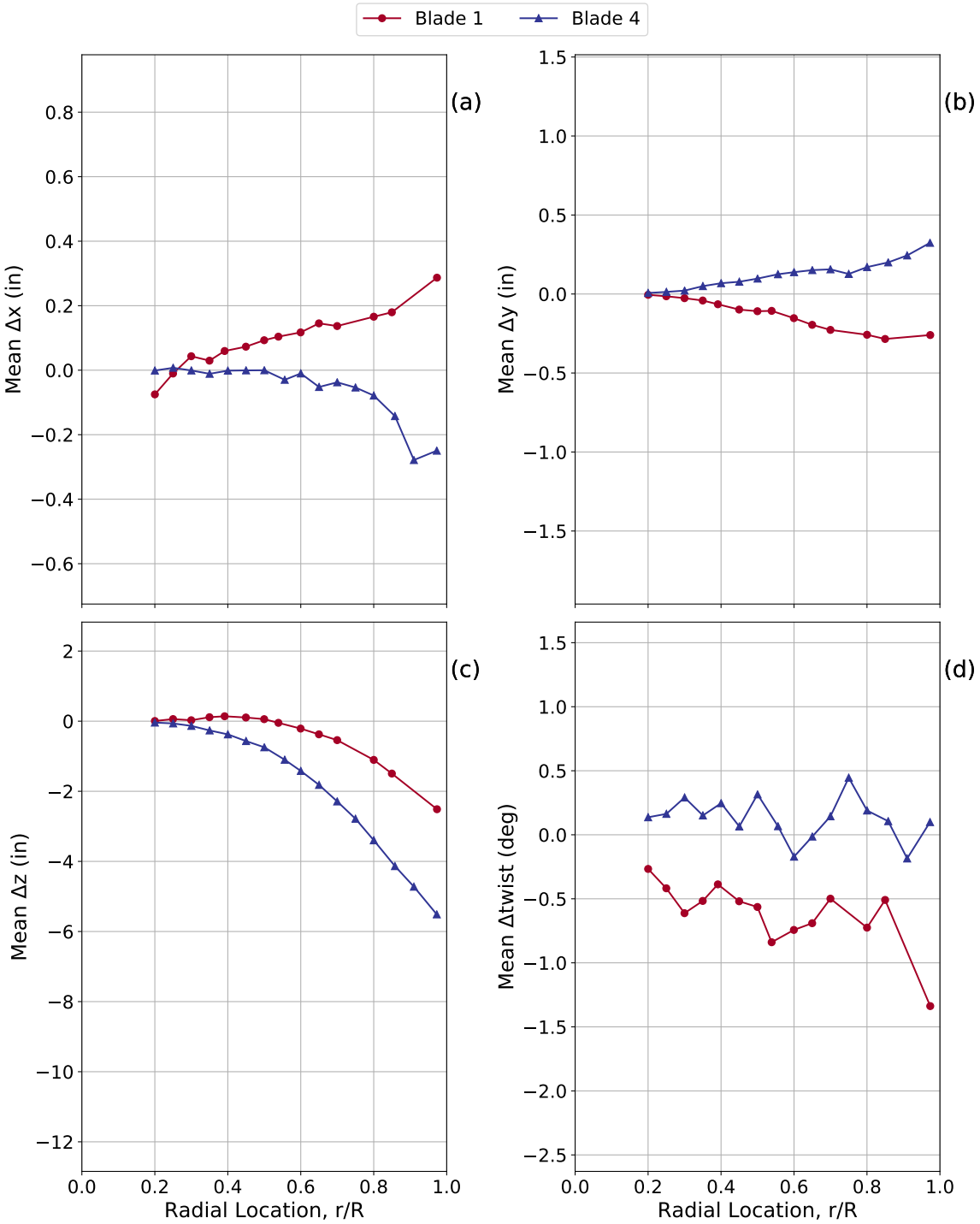


Figure 4.21-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0750	0.0007	-0.0051	0.0006	0.0051	0.0012	-0.2667	0.0133
1	94.92	0.2499	-0.0103	0.0011	-0.0143	0.0019	0.0598	0.0034	-0.4179	0.0143
1	94.92	0.2998	0.0433	0.0006	-0.0264	0.0024	0.0268	0.0054	-0.6123	0.0264
1	94.92	0.3498	0.0296	0.0009	-0.0412	0.0047	0.1133	0.0088	-0.5166	0.0230
1	94.92	0.3913	0.0595	0.0016	-0.0649	0.0066	0.1401	0.0133	-0.3872	0.0234
1	94.92	0.4496	0.0729	0.0012	-0.0985	0.0081	0.1048	0.0167	-0.5193	0.0142
1	94.92	0.4997	0.0929	0.0016	-0.1089	0.0105	0.0577	0.0204	-0.5640	0.0207
1	94.92	0.5387	0.1040	0.0017	-0.1067	0.0123	-0.0472	0.0251	-0.8392	0.0195
1	94.92	0.5996	0.1172	0.0018	-0.1529	0.0154	-0.2112	0.0308	-0.7432	0.0238
1	94.92	0.6498	0.1452	0.0027	-0.1951	0.0181	-0.3749	0.0344	-0.6906	0.0272
1	94.92	0.6998	0.1369	0.0021	-0.2272	0.0209	-0.5408	0.0408	-0.4989	0.0271
1	94.92	0.8001	0.1658	0.0030	-0.2580	0.0266	-1.1048	0.0511	-0.7251	0.0479
1	94.92	0.8497	0.1796	0.0029	-0.2846	0.0294	-1.4946	0.0540	-0.5088	0.0319
1	94.92	0.9734	0.2869	0.0027	-0.2597	0.0365	-2.5117	0.0729	-1.3378	0.0701
4	94.92	0.2001	-0.0011	0.0029	0.0065	0.0032	-0.0399	0.0095	0.1367	0.0501
4	94.92	0.2502	0.0074	0.0042	0.0133	0.0046	-0.0641	0.0097	0.1632	0.1423
4	94.92	0.3001	-0.0009	0.0032	0.0215	0.0087	-0.1345	0.0244	0.2910	0.1107
4	94.92	0.3502	-0.0112	0.0023	0.0499	0.0122	-0.2643	0.0352	0.1508	0.1031
4	94.92	0.4002	-0.0014	0.0035	0.0683	0.0182	-0.3765	0.0498	0.2464	0.1018
4	94.92	0.4500	-0.0006	0.0038	0.0775	0.0229	-0.5675	0.0609	0.0649	0.1016
4	94.92	0.5001	-0.0002	0.0045	0.0976	0.0289	-0.7448	0.0737	0.3155	0.0984
4	94.92	0.5560	-0.0298	0.0046	0.1250	0.0354	-1.1007	0.0870	0.0667	0.1020
4	94.92	0.6001	-0.0101	0.0043	0.1382	0.0414	-1.4202	0.0993	-0.1711	0.1050
4	94.92	0.6501	-0.0521	0.0066	0.1512	0.0482	-1.8181	0.1115	-0.0141	0.1070
4	94.92	0.6999	-0.0376	0.0071	0.1561	0.0543	-2.2896	0.1248	0.1443	0.1066
4	94.92	0.7500	-0.0537	0.0091	0.1268	0.0607	-2.7838	0.1367	0.4456	0.1109
4	94.92	0.8002	-0.0787	0.0105	0.1702	0.0688	-3.3985	0.1490	0.1895	0.1150
4	94.92	0.8582	-0.1424	0.0132	0.2002	0.0799	-4.1348	0.1656	0.1060	0.1206
4	94.92	0.9101	-0.2786	0.0083	0.2441	0.0888	-4.7219	0.1923	-0.1851	0.0960
4	94.92	0.9728	-0.2496	0.0088	0.3239	0.0973	-5.5117	0.1950	0.0989	0.1133

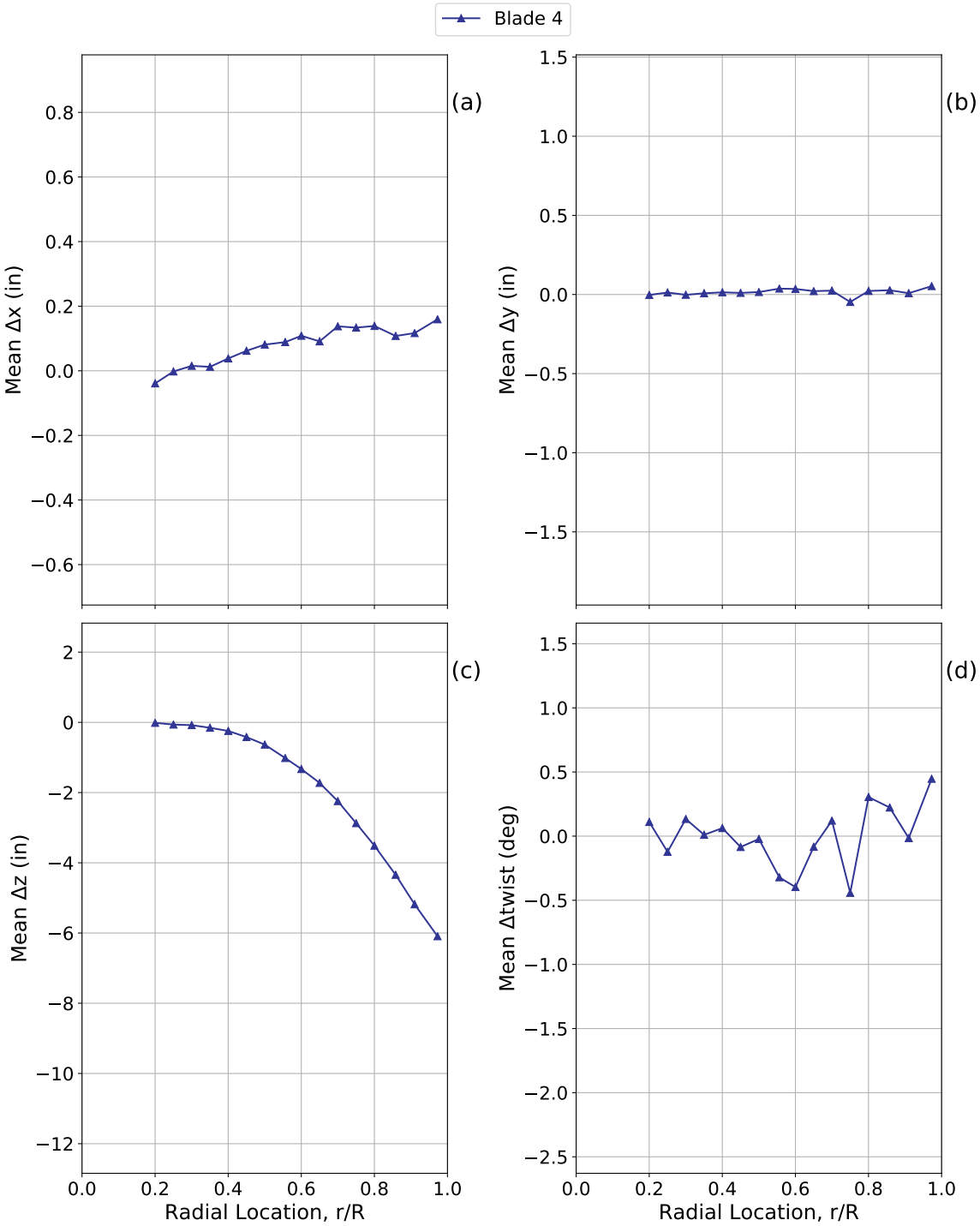


Figure 4.21-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0390	0.0010	-0.0030	0.0004	-0.0140	0.0015	0.1102	0.0113
4	105.12	0.2502	-0.0021	0.0010	0.0124	0.0006	-0.0633	0.0019	-0.1227	0.0219
4	105.12	0.3001	0.0153	0.0005	-0.0020	0.0015	-0.0793	0.0047	0.1337	0.0255
4	105.12	0.3502	0.0122	0.0007	0.0075	0.0020	-0.1544	0.0074	0.0102	0.0183
4	105.12	0.4002	0.0382	0.0011	0.0137	0.0031	-0.2455	0.0111	0.0627	0.0186
4	105.12	0.4500	0.0618	0.0010	0.0100	0.0043	-0.4194	0.0138	-0.0848	0.0205
4	105.12	0.5001	0.0811	0.0014	0.0153	0.0053	-0.6345	0.0158	-0.0222	0.0237
4	105.12	0.5560	0.0888	0.0012	0.0370	0.0066	-1.0163	0.0186	-0.3212	0.0224
4	105.12	0.6001	0.1084	0.0013	0.0350	0.0081	-1.3299	0.0218	-0.3970	0.0179
4	105.12	0.6501	0.0911	0.0013	0.0212	0.0090	-1.7246	0.0232	-0.0835	0.0264
4	105.12	0.6999	0.1377	0.0014	0.0243	0.0102	-2.2435	0.0249	0.1207	0.0275
4	105.12	0.7500	0.1336	0.0018	-0.0475	0.0113	-2.8718	0.0274	-0.4425	0.0372
4	105.12	0.8002	0.1388	0.0014	0.0222	0.0132	-3.5129	0.0313	0.3046	0.0360
4	105.12	0.8582	0.1078	0.0027	0.0270	0.0146	-4.3427	0.0383	0.2227	0.0675
4	105.12	0.9101	0.1167	0.0051	0.0081	0.0159	-5.1824	0.0435	-0.0155	0.0498
4	105.12	0.9728	0.1594	0.0048	0.0527	0.0185	-6.0927	0.0467	0.4470	0.0703

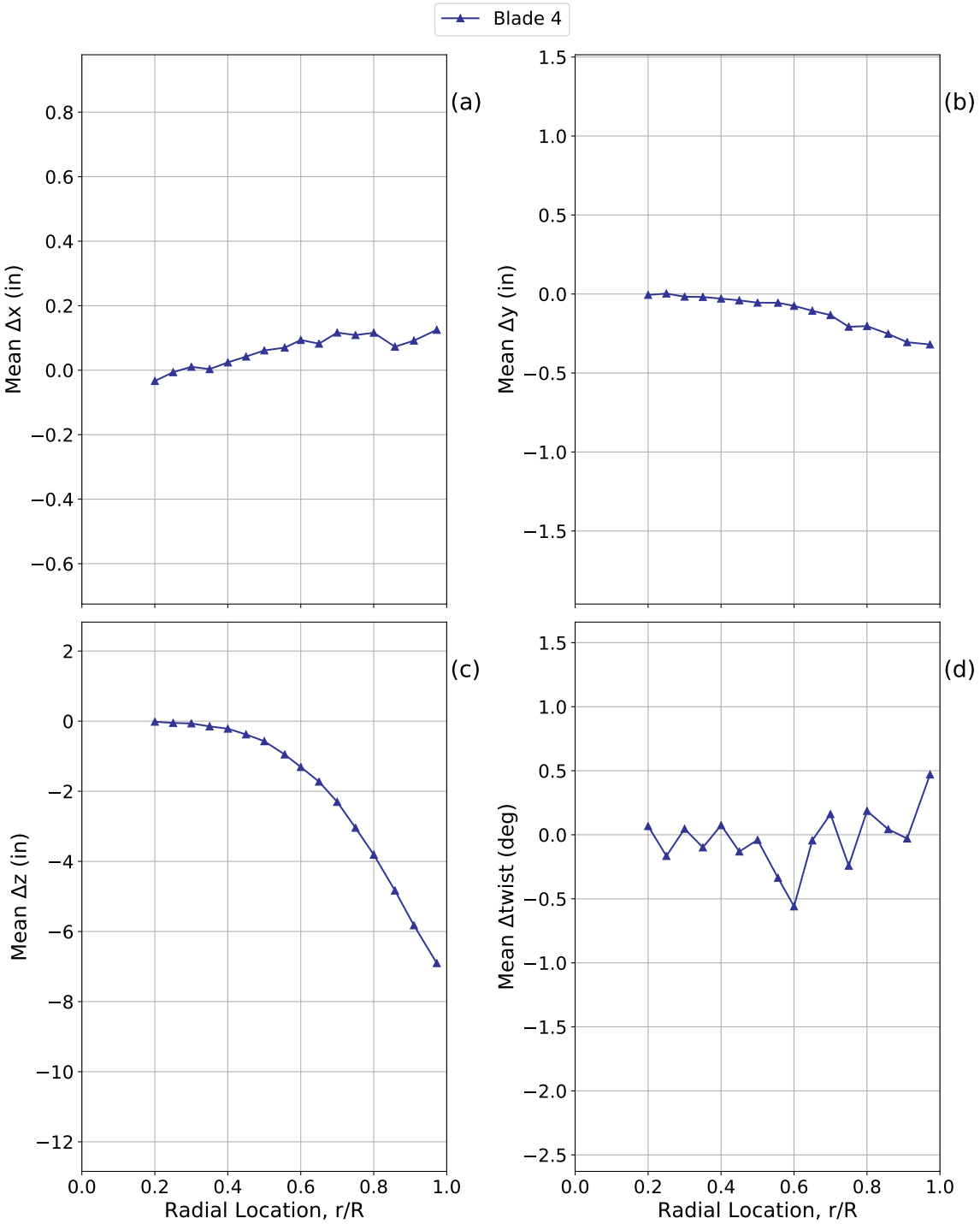


Figure 4.21-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0335	0.0006	-0.0058	0.0004	-0.0156	0.0012	0.0676	0.0149
4	119.88	0.2502	-0.0063	0.0007	0.0028	0.0013	-0.0507	0.0032	-0.1656	0.0228
4	119.88	0.3001	0.0105	0.0009	-0.0172	0.0021	-0.0642	0.0052	0.0464	0.0330
4	119.88	0.3502	0.0032	0.0007	-0.0189	0.0034	-0.1489	0.0086	-0.0987	0.0342
4	119.88	0.4002	0.0242	0.0011	-0.0292	0.0056	-0.2143	0.0139	0.0743	0.0287
4	119.88	0.4500	0.0422	0.0011	-0.0402	0.0068	-0.3782	0.0170	-0.1308	0.0266
4	119.88	0.5001	0.0613	0.0011	-0.0549	0.0081	-0.5720	0.0221	-0.0400	0.0215
4	119.88	0.5560	0.0699	0.0014	-0.0556	0.0103	-0.9505	0.0268	-0.3363	0.0218
4	119.88	0.6001	0.0936	0.0011	-0.0751	0.0123	-1.3083	0.0295	-0.5593	0.0229
4	119.88	0.6501	0.0822	0.0010	-0.1062	0.0140	-1.7253	0.0319	-0.0442	0.0286
4	119.88	0.6999	0.1165	0.0013	-0.1336	0.0167	-2.3033	0.0359	0.1614	0.0222
4	119.88	0.7500	0.1088	0.0012	-0.2074	0.0184	-3.0417	0.0385	-0.2420	0.0247
4	119.88	0.8002	0.1161	0.0013	-0.2032	0.0211	-3.8110	0.0414	0.1863	0.0281
4	119.88	0.8582	0.0727	0.0020	-0.2525	0.0240	-4.8324	0.0478	0.0430	0.0233
4	119.88	0.9101	0.0917	0.0021	-0.3051	0.0266	-5.8229	0.0516	-0.0293	0.0298
4	119.88	0.9728	0.1251	0.0024	-0.3196	0.0298	-6.9032	0.0596	0.4705	0.0306

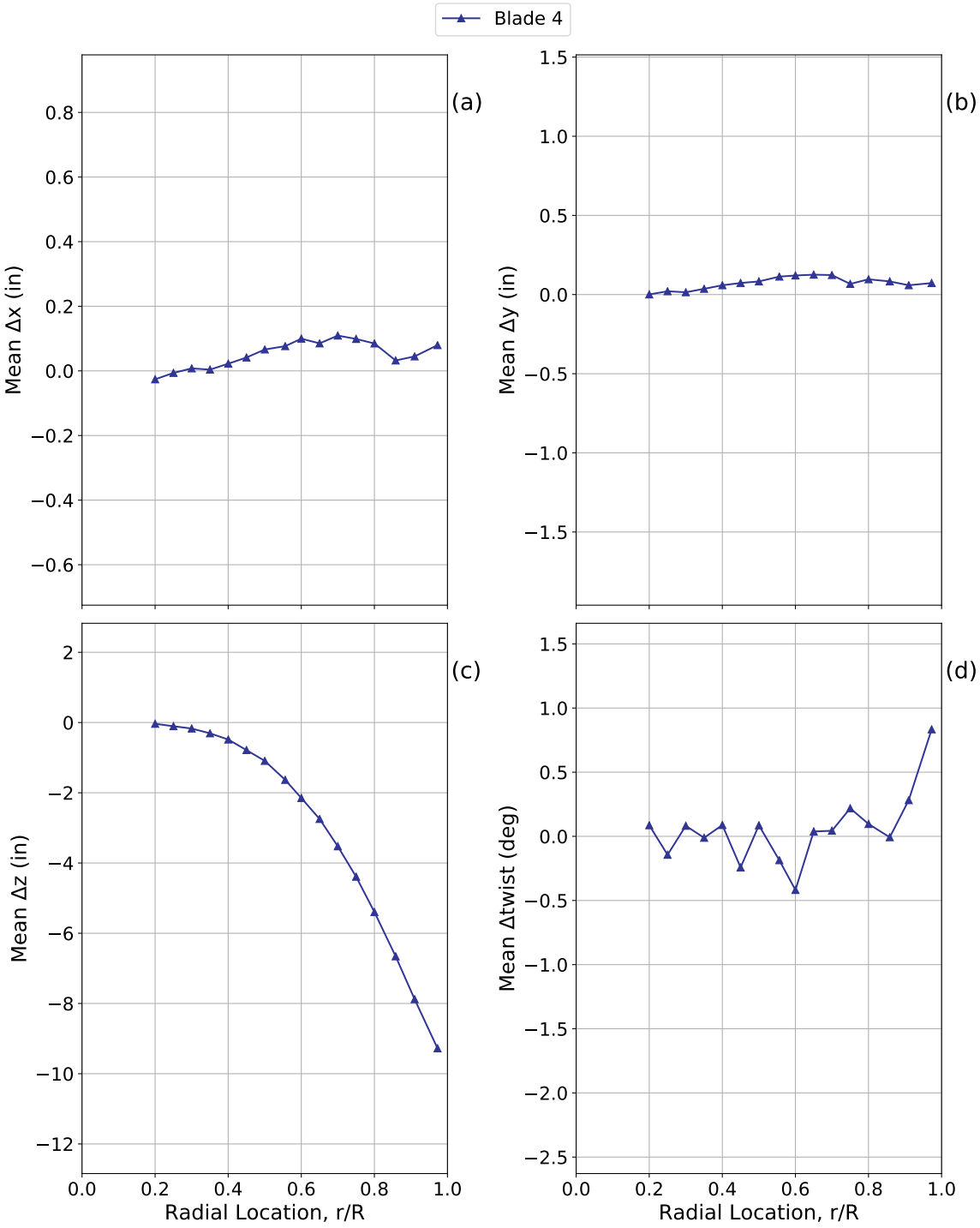


Figure 4.21-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0261	0.0009	0.0008	0.0005	-0.0362	0.0011	0.0862	0.0187
4	135	0.2502	-0.0063	0.0006	0.0208	0.0012	-0.1056	0.0045	-0.1440	0.0200
4	135	0.3001	0.0077	0.0008	0.0145	0.0024	-0.1710	0.0053	0.0822	0.0384
4	135	0.3502	0.0039	0.0009	0.0362	0.0037	-0.3076	0.0111	-0.0114	0.0274
4	135	0.4002	0.0223	0.0012	0.0587	0.0062	-0.4850	0.0170	0.0880	0.0227
4	135	0.4500	0.0414	0.0010	0.0730	0.0080	-0.7850	0.0209	-0.2426	0.0273
4	135	0.5001	0.0662	0.0010	0.0829	0.0097	-1.0919	0.0259	0.0858	0.0326
4	135	0.5560	0.0765	0.0016	0.1133	0.0135	-1.6337	0.0329	-0.1862	0.0182
4	135	0.6001	0.0997	0.0016	0.1204	0.0162	-2.1500	0.0376	-0.4181	0.0201
4	135	0.6501	0.0851	0.0017	0.1255	0.0197	-2.7467	0.0417	0.0377	0.0236
4	135	0.6999	0.1093	0.0023	0.1232	0.0232	-3.5250	0.0470	0.0435	0.0225
4	135	0.7500	0.0988	0.0023	0.0671	0.0271	-4.3911	0.0535	0.2185	0.0197
4	135	0.8002	0.0848	0.0027	0.0964	0.0317	-5.3984	0.0597	0.0962	0.0205
4	135	0.8582	0.0322	0.0031	0.0830	0.0367	-6.6583	0.0677	-0.0072	0.0205
4	135	0.9101	0.0448	0.0037	0.0588	0.0413	-7.8790	0.0741	0.2818	0.0247
4	135	0.9728	0.0797	0.0033	0.0726	0.0478	-9.2784	0.0814	0.8338	0.0246

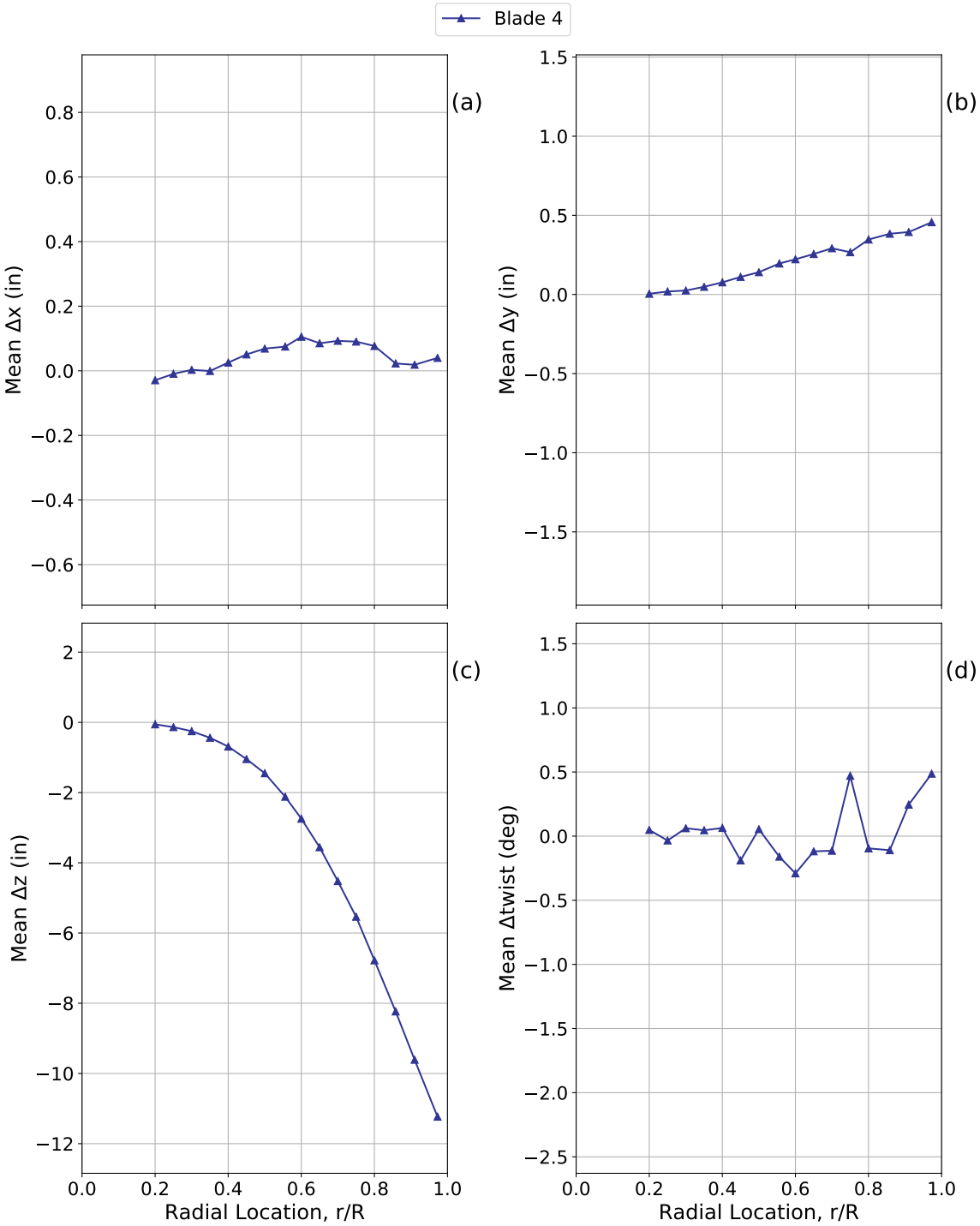


Figure 4.21-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0293	0.0010	0.0045	0.0007	-0.0570	0.0010	0.0483	0.0151
4	150.12	0.2502	-0.0095	0.0010	0.0188	0.0026	-0.1361	0.0023	-0.0341	0.0169
4	150.12	0.3001	0.0030	0.0009	0.0250	0.0041	-0.2526	0.0040	0.0616	0.0302
4	150.12	0.3502	-0.0007	0.0010	0.0484	0.0066	-0.4393	0.0053	0.0456	0.0216
4	150.12	0.4002	0.0254	0.0011	0.0767	0.0113	-0.6896	0.0091	0.0637	0.0178
4	150.12	0.4500	0.0506	0.0015	0.1109	0.0123	-1.0465	0.0110	-0.1894	0.0191
4	150.12	0.5001	0.0687	0.0019	0.1408	0.0143	-1.4500	0.0138	0.0542	0.0247
4	150.12	0.5560	0.0749	0.0014	0.1957	0.0177	-2.1200	0.0160	-0.1605	0.0301
4	150.12	0.6001	0.1052	0.0015	0.2225	0.0208	-2.7447	0.0192	-0.2903	0.0211
4	150.12	0.6501	0.0852	0.0012	0.2557	0.0239	-3.5582	0.0238	-0.1184	0.0254
4	150.12	0.6999	0.0927	0.0017	0.2921	0.0267	-4.5223	0.0278	-0.1141	0.0276
4	150.12	0.7500	0.0903	0.0019	0.2670	0.0301	-5.5377	0.0315	0.4703	0.0276
4	150.12	0.8002	0.0768	0.0020	0.3472	0.0338	-6.7794	0.0350	-0.0955	0.0264
4	150.12	0.8582	0.0226	0.0026	0.3837	0.0382	-8.2346	0.0380	-0.1096	0.0233
4	150.12	0.9101	0.0187	0.0029	0.3946	0.0420	-9.6104	0.0434	0.2454	0.0264
4	150.12	0.9728	0.0399	0.0040	0.4565	0.0469	-11.2325	0.0485	0.4865	0.0287

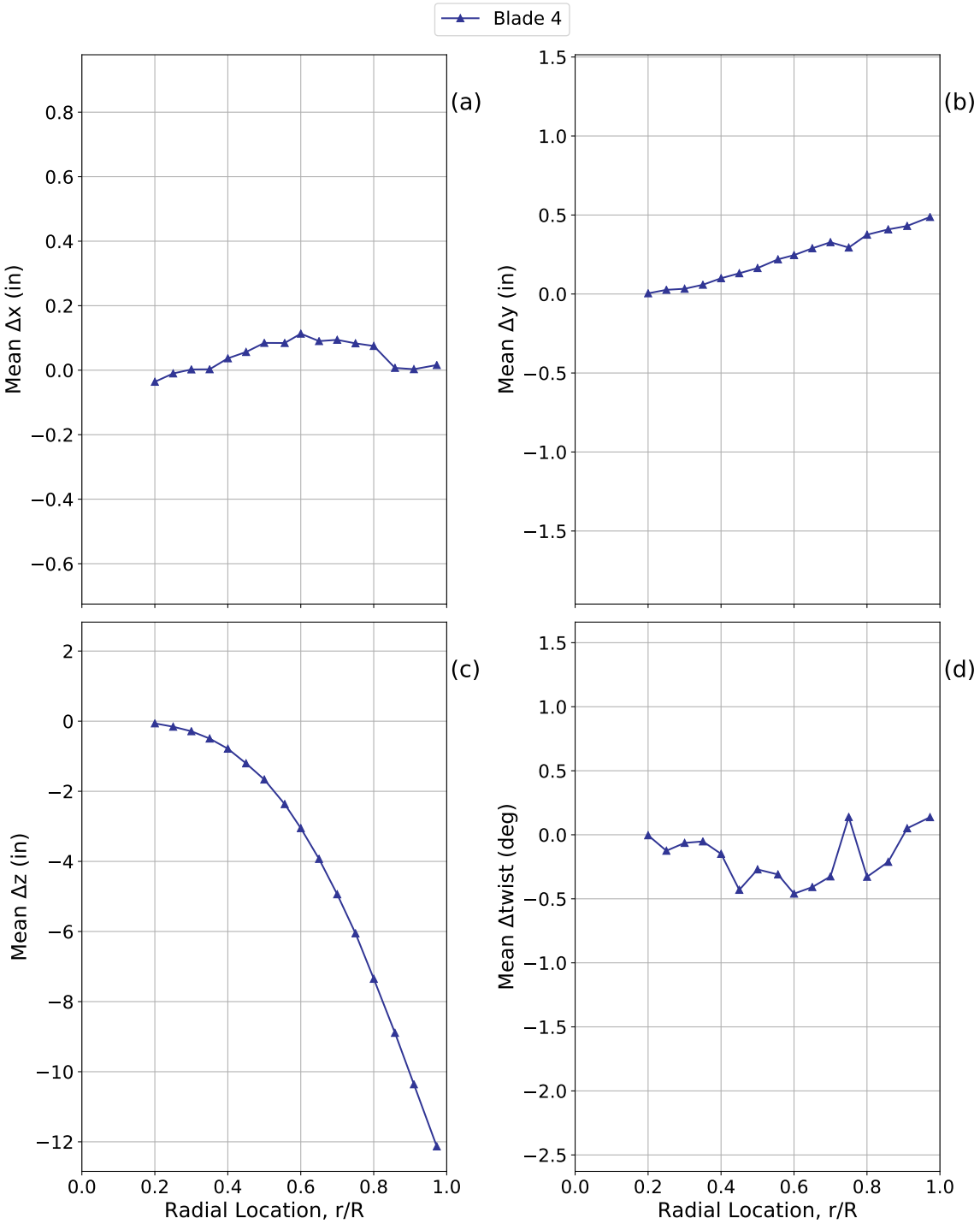


Figure 4.21-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0360	0.0010	0.0043	0.0005	-0.0629	0.0013	-0.0041	0.0176
4	164.88	0.2502	-0.0101	0.0014	0.0264	0.0016	-0.1584	0.0038	-0.1250	0.0224
4	164.88	0.3001	0.0023	0.0015	0.0331	0.0026	-0.2875	0.0055	-0.0636	0.0363
4	164.88	0.3502	0.0028	0.0011	0.0585	0.0041	-0.4962	0.0098	-0.0520	0.0314
4	164.88	0.4002	0.0368	0.0015	0.0997	0.0069	-0.7858	0.0155	-0.1495	0.0190
4	164.88	0.4500	0.0564	0.0016	0.1311	0.0082	-1.2037	0.0199	-0.4304	0.0290
4	164.88	0.5001	0.0846	0.0015	0.1640	0.0100	-1.6651	0.0249	-0.2707	0.0281
4	164.88	0.5560	0.0843	0.0020	0.2193	0.0121	-2.3670	0.0294	-0.3100	0.0273
4	164.88	0.6001	0.1132	0.0019	0.2461	0.0133	-3.0527	0.0352	-0.4600	0.0220
4	164.88	0.6501	0.0902	0.0027	0.2891	0.0153	-3.9296	0.0399	-0.4087	0.0332
4	164.88	0.6999	0.0941	0.0023	0.3276	0.0181	-4.9387	0.0438	-0.3255	0.0282
4	164.88	0.7500	0.0832	0.0027	0.2938	0.0208	-6.0531	0.0491	0.1387	0.0249
4	164.88	0.8002	0.0751	0.0028	0.3752	0.0231	-7.3506	0.0542	-0.3284	0.0338
4	164.88	0.8582	0.0071	0.0035	0.4088	0.0266	-8.8921	0.0601	-0.2117	0.0295
4	164.88	0.9101	0.0031	0.0040	0.4306	0.0292	-10.3589	0.0650	0.0503	0.0329
4	164.88	0.9728	0.0160	0.0049	0.4874	0.0334	-12.1313	0.0738	0.1372	0.0309

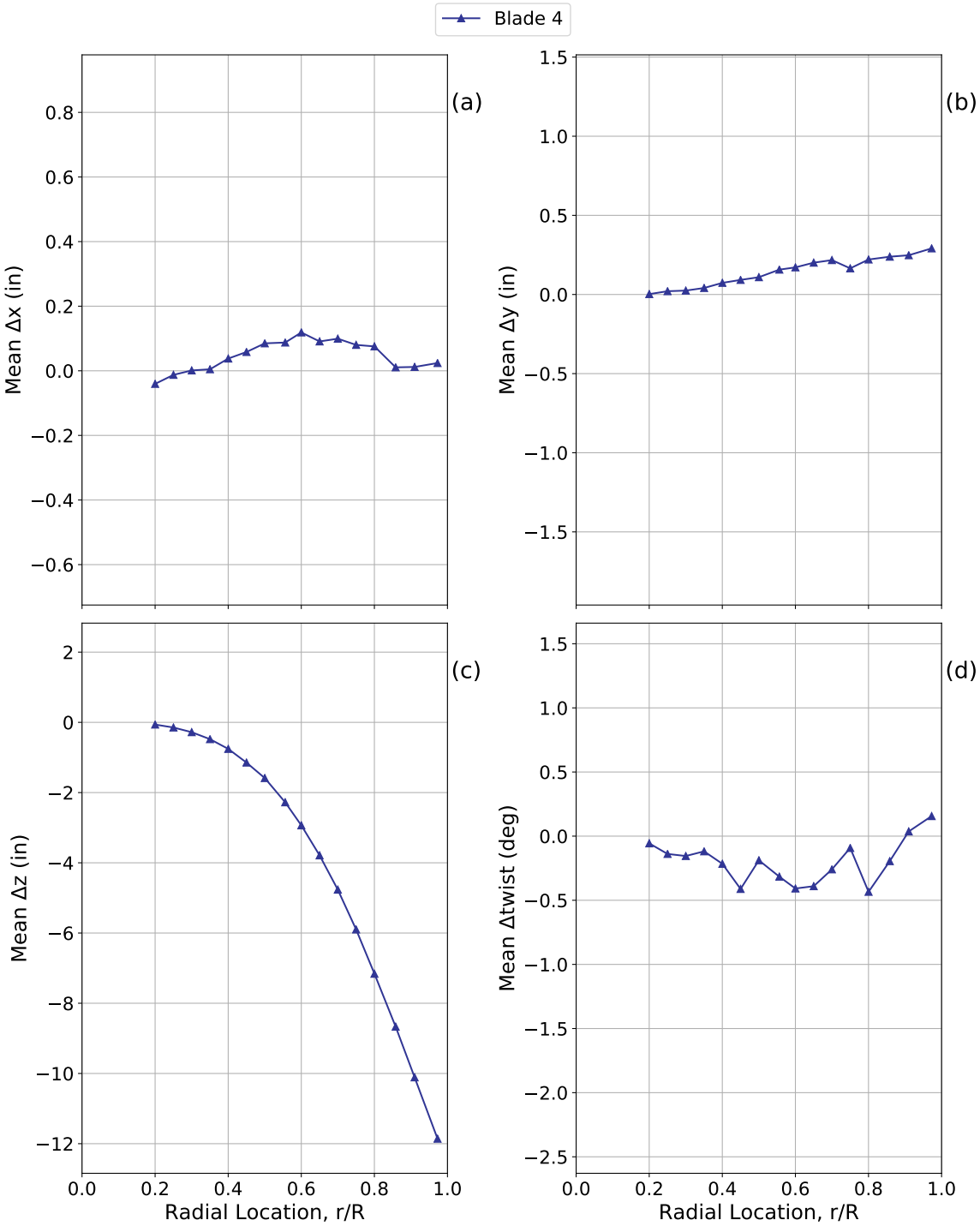


Figure 4.21-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0405	0.0008	0.0024	0.0004	-0.0629	0.0012	-0.0564	0.0100
4	170.16	0.2502	-0.0126	0.0011	0.0207	0.0013	-0.1466	0.0021	-0.1388	0.0238
4	170.16	0.3001	0.0011	0.0009	0.0246	0.0017	-0.2800	0.0046	-0.1550	0.0258
4	170.16	0.3502	0.0047	0.0009	0.0411	0.0030	-0.4789	0.0071	-0.1185	0.0227
4	170.16	0.4002	0.0379	0.0010	0.0735	0.0048	-0.7561	0.0111	-0.2159	0.0230
4	170.16	0.4500	0.0582	0.0012	0.0921	0.0052	-1.1457	0.0146	-0.4118	0.0306
4	170.16	0.5001	0.0850	0.0017	0.1092	0.0062	-1.5868	0.0199	-0.1884	0.0295
4	170.16	0.5560	0.0875	0.0020	0.1570	0.0084	-2.2774	0.0229	-0.3159	0.0241
4	170.16	0.6001	0.1187	0.0021	0.1713	0.0098	-2.9339	0.0252	-0.4083	0.0271
4	170.16	0.6501	0.0909	0.0020	0.2010	0.0106	-3.7889	0.0305	-0.3903	0.0275
4	170.16	0.6999	0.0994	0.0020	0.2172	0.0123	-4.7648	0.0340	-0.2590	0.0279
4	170.16	0.7500	0.0802	0.0028	0.1652	0.0140	-5.8987	0.0363	-0.0922	0.0262
4	170.16	0.8002	0.0755	0.0022	0.2210	0.0159	-7.1608	0.0437	-0.4342	0.0338
4	170.16	0.8582	0.0107	0.0029	0.2387	0.0181	-8.6676	0.0491	-0.1951	0.0316
4	170.16	0.9101	0.0119	0.0030	0.2479	0.0202	-10.1107	0.0546	0.0365	0.0308
4	170.16	0.9728	0.0240	0.0034	0.2913	0.0237	-11.8581	0.0607	0.1562	0.0347

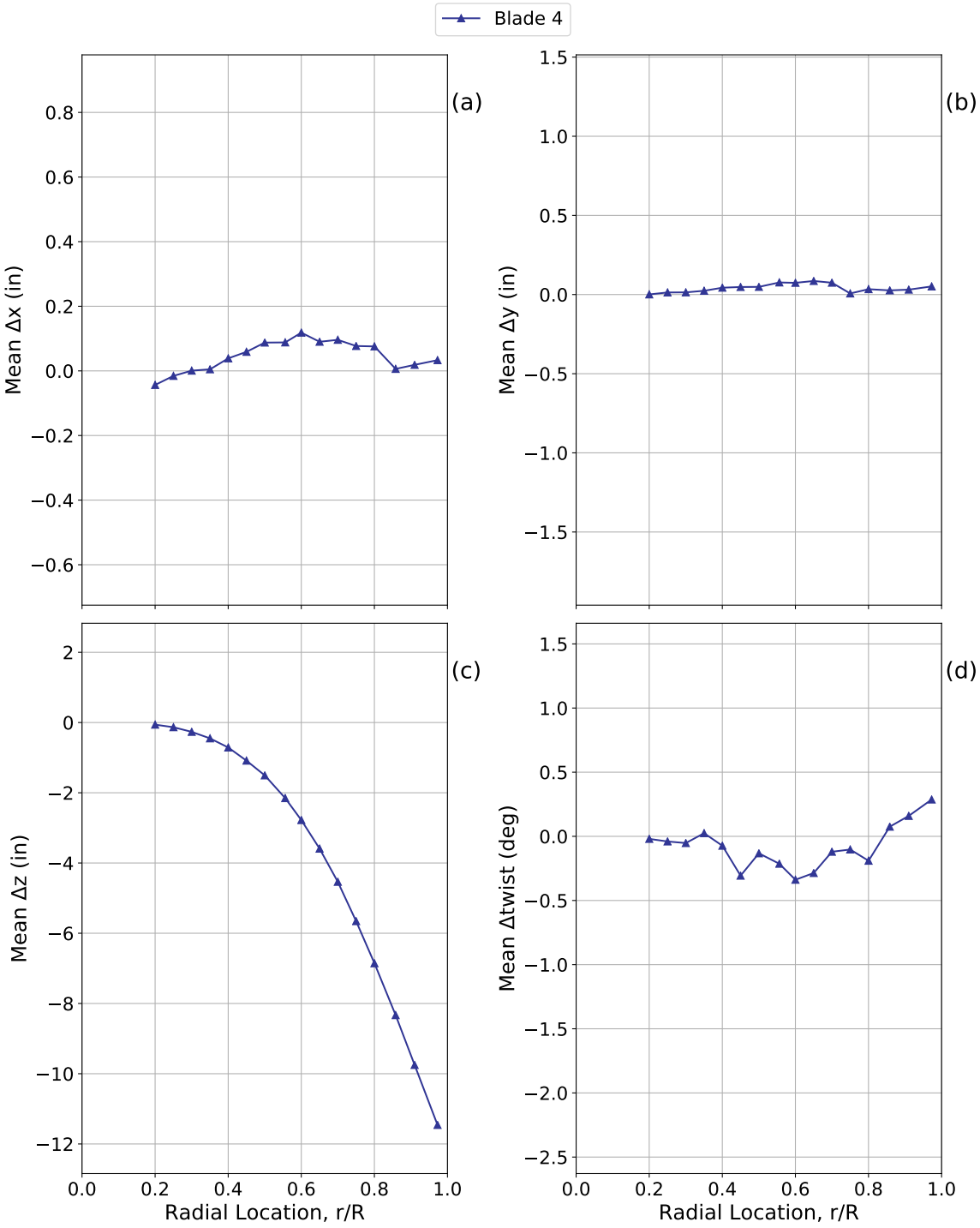


Figure 4.21-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0435	0.0009	0.0009	0.0006	-0.0607	0.0011	-0.0199	0.0160
4	175.08	0.2502	-0.0155	0.0015	0.0132	0.0016	-0.1336	0.0035	-0.0400	0.0171
4	175.08	0.3001	0.0007	0.0013	0.0138	0.0027	-0.2661	0.0037	-0.0525	0.0306
4	175.08	0.3502	0.0048	0.0015	0.0239	0.0044	-0.4512	0.0075	0.0244	0.0172
4	175.08	0.4002	0.0388	0.0019	0.0433	0.0069	-0.7114	0.0109	-0.0734	0.0308
4	175.08	0.4500	0.0589	0.0014	0.0477	0.0080	-1.0856	0.0131	-0.3067	0.0214
4	175.08	0.5001	0.0876	0.0013	0.0485	0.0107	-1.5053	0.0181	-0.1323	0.0315
4	175.08	0.5560	0.0881	0.0016	0.0764	0.0118	-2.1532	0.0225	-0.2138	0.0360
4	175.08	0.6001	0.1183	0.0020	0.0741	0.0148	-2.7786	0.0256	-0.3385	0.0290
4	175.08	0.6501	0.0901	0.0025	0.0857	0.0182	-3.5921	0.0295	-0.2860	0.0297
4	175.08	0.6999	0.0961	0.0024	0.0748	0.0199	-4.5362	0.0339	-0.1203	0.0318
4	175.08	0.7500	0.0770	0.0022	0.0069	0.0228	-5.6563	0.0365	-0.1027	0.0391
4	175.08	0.8002	0.0757	0.0023	0.0339	0.0257	-6.8557	0.0390	-0.1904	0.0296
4	175.08	0.8582	0.0061	0.0025	0.0264	0.0296	-8.3322	0.0423	0.0751	0.0251
4	175.08	0.9101	0.0187	0.0027	0.0310	0.0328	-9.7507	0.0469	0.1592	0.0417
4	175.08	0.9728	0.0332	0.0039	0.0514	0.0372	-11.4591	0.0554	0.2868	0.0213

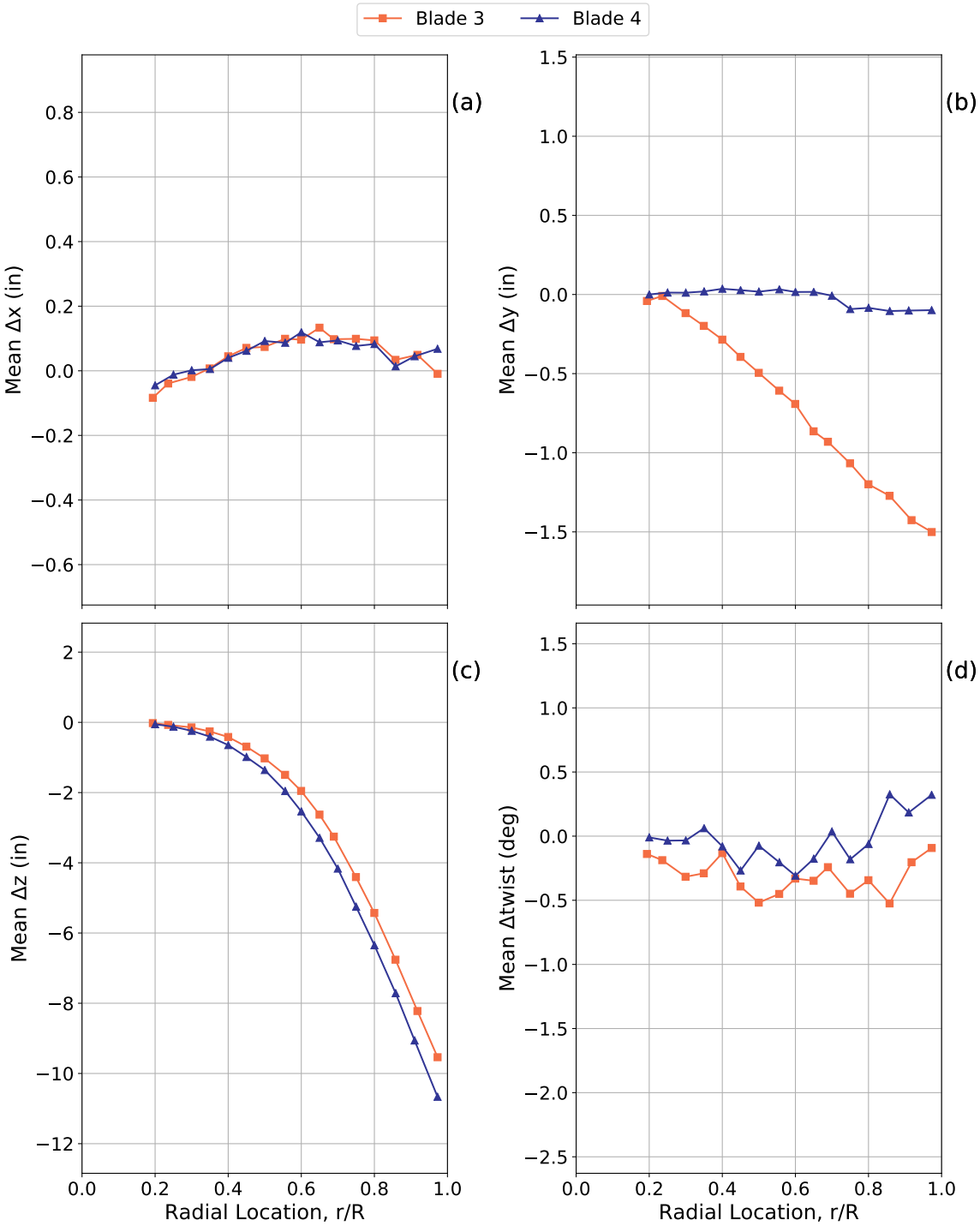


Figure 4.21-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0836	0.0015	-0.0412	0.0013	-0.0211	0.0022	-0.1390	0.0149
3	180.35	0.2357	-0.0393	0.0019	-0.0093	0.0023	-0.0726	0.0031	-0.1874	0.0338
3	180.35	0.2995	-0.0190	0.0015	-0.1178	0.0052	-0.1434	0.0064	-0.3168	0.0403
3	180.35	0.3493	0.0074	0.0017	-0.1984	0.0095	-0.2578	0.0111	-0.2897	0.0387
3	180.35	0.4000	0.0449	0.0020	-0.2853	0.0144	-0.4169	0.0163	-0.1322	0.0406
3	180.35	0.4497	0.0710	0.0022	-0.3943	0.0165	-0.6912	0.0212	-0.3925	0.0345
3	180.35	0.4997	0.0738	0.0019	-0.4951	0.0191	-1.0257	0.0263	-0.5184	0.0368
3	180.35	0.5556	0.0991	0.0017	-0.6077	0.0233	-1.4949	0.0314	-0.4507	0.0401
3	180.35	0.5995	0.0965	0.0024	-0.6917	0.0270	-1.9527	0.0366	-0.3308	0.0410
3	180.35	0.6498	0.1334	0.0024	-0.8646	0.0323	-2.6279	0.0412	-0.3479	0.0406
3	180.35	0.6890	0.0978	0.0020	-0.9306	0.0350	-3.2544	0.0428	-0.2419	0.0415
3	180.35	0.7495	0.0990	0.0024	-1.0668	0.0383	-4.4060	0.0460	-0.4486	0.0468
3	180.35	0.7998	0.0941	0.0022	-1.1993	0.0431	-5.4283	0.0498	-0.3437	0.0507
3	180.35	0.8577	0.0339	0.0020	-1.2720	0.0477	-6.7596	0.0540	-0.5247	0.0498
3	180.35	0.9178	0.0494	0.0018	-1.4260	0.0526	-8.2214	0.0602	-0.2035	0.0433
3	180.35	0.9729	-0.0093	0.0027	-1.5010	0.0566	-9.5373	0.0659	-0.0923	0.0475
4	180	0.2001	-0.0450	0.0013	0.0002	0.0007	-0.0539	0.0017	-0.0100	0.0162
4	180	0.2502	-0.0120	0.0018	0.0119	0.0020	-0.1242	0.0021	-0.0350	0.0260
4	180	0.3001	0.0016	0.0011	0.0112	0.0023	-0.2417	0.0053	-0.0336	0.0349
4	180	0.3502	0.0055	0.0010	0.0191	0.0050	-0.4087	0.0078	0.0620	0.0271
4	180	0.4002	0.0402	0.0019	0.0360	0.0073	-0.6483	0.0112	-0.0801	0.0319
4	180	0.4500	0.0618	0.0011	0.0274	0.0090	-0.9876	0.0150	-0.2683	0.0292
4	180	0.5001	0.0922	0.0017	0.0177	0.0113	-1.3582	0.0144	-0.0746	0.0405
4	180	0.5560	0.0867	0.0018	0.0324	0.0134	-1.9577	0.0157	-0.2041	0.0287
4	180	0.6001	0.1193	0.0015	0.0158	0.0145	-2.5375	0.0173	-0.3085	0.0365
4	180	0.6501	0.0883	0.0020	0.0163	0.0169	-3.2895	0.0196	-0.1764	0.0321
4	180	0.6999	0.0939	0.0012	-0.0079	0.0194	-4.1666	0.0227	0.0358	0.0390
4	180	0.7500	0.0769	0.0019	-0.0922	0.0207	-5.2515	0.0267	-0.1806	0.0366
4	180	0.8002	0.0828	0.0022	-0.0846	0.0229	-6.3495	0.0290	-0.0614	0.0383
4	180	0.8582	0.0138	0.0024	-0.1046	0.0256	-7.7144	0.0352	0.3256	0.0455
4	180	0.9101	0.0449	0.0029	-0.1016	0.0280	-9.0611	0.0378	0.1842	0.0582
4	180	0.9728	0.0681	0.0037	-0.0990	0.0301	-10.6651	0.0481	0.3221	0.0435

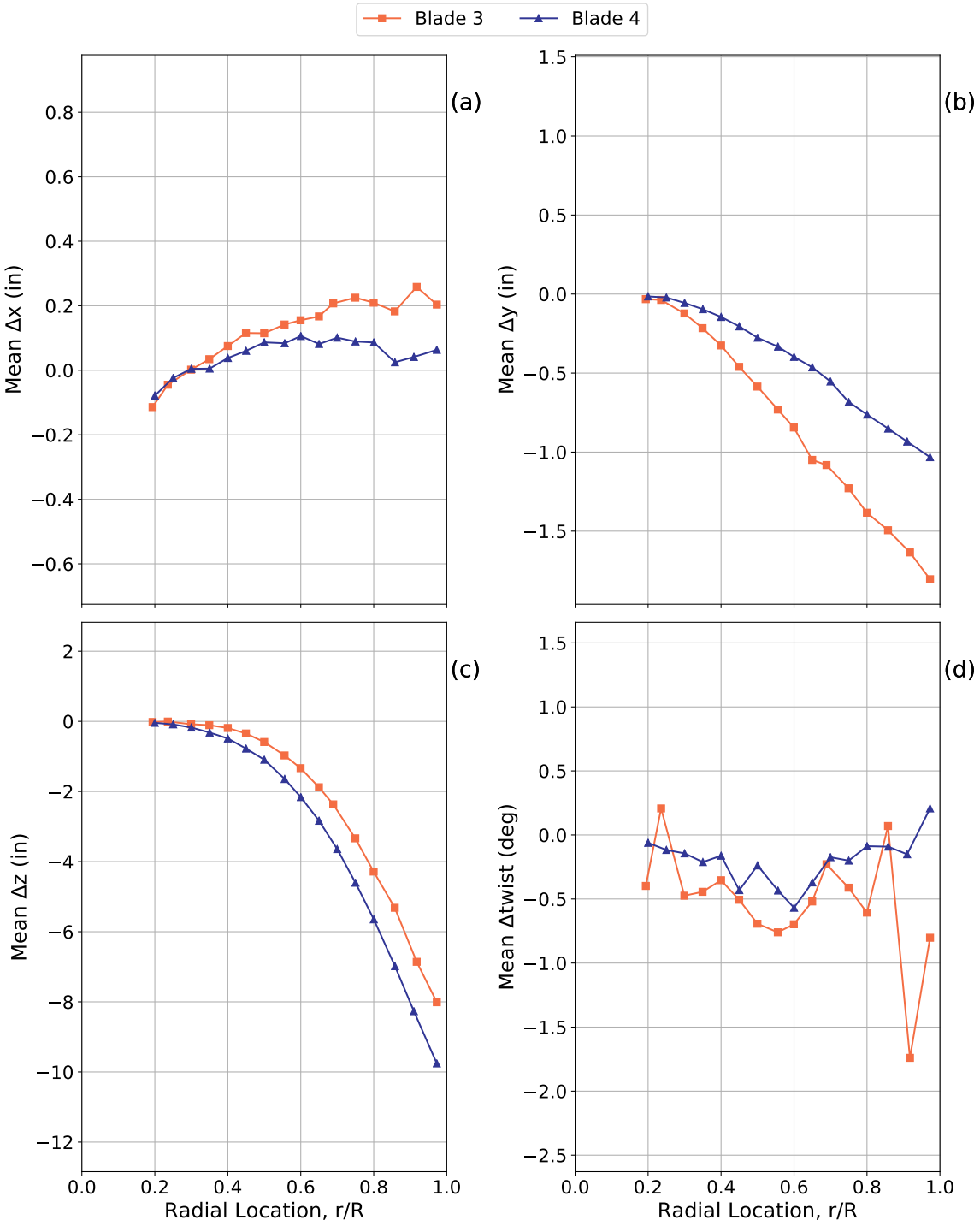


Figure 4.21-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.1141	0.0051	-0.0323	0.0022	-0.0178	0.0013	-0.3980	0.0456
3	184.92	0.2357	-0.0447	0.0020	-0.0371	0.0045	-0.0056	0.0092	0.2069	0.0288
3	184.92	0.2995	0.0019	0.0025	-0.1226	0.0096	-0.0814	0.0066	-0.4744	0.0629
3	184.92	0.3493	0.0343	0.0043	-0.2157	0.0180	-0.1091	0.0140	-0.4439	0.0656
3	184.92	0.4000	0.0751	0.0058	-0.3253	0.0274	-0.1897	0.0232	-0.3534	0.0631
3	184.92	0.4497	0.1156	0.0070	-0.4606	0.0368	-0.3460	0.0315	-0.5061	0.0628
3	184.92	0.4997	0.1149	0.0084	-0.5853	0.0463	-0.5896	0.0406	-0.6929	0.0649
3	184.92	0.5556	0.1419	0.0094	-0.7305	0.0577	-0.9728	0.0513	-0.7600	0.0623
3	184.92	0.5995	0.1551	0.0102	-0.8444	0.0674	-1.3358	0.0597	-0.6972	0.0703
3	184.92	0.6498	0.1669	0.0113	-1.0493	0.0794	-1.8793	0.0708	-0.5192	0.0643
3	184.92	0.6890	0.2073	0.0125	-1.0819	0.0850	-2.3677	0.0828	-0.2281	0.1228
3	184.92	0.7495	0.2250	0.0065	-1.2289	0.0933	-3.3374	0.0746	-0.4119	0.0899
3	184.92	0.7998	0.2095	0.0074	-1.3836	0.1048	-4.2847	0.0868	-0.6062	0.0757
3	184.92	0.8577	0.1826	0.0083	-1.4945	0.1190	-5.3175	0.0962	0.0698	0.1415
3	184.92	0.9178	0.2584	0.0104	-1.6348	0.1322	-6.8582	0.1140	-1.7400	0.0986
3	184.92	0.9729	0.2036	0.0121	-1.8042	0.1479	-8.0106	0.1358	-0.8024	0.3091
4	184.92	0.2001	-0.0784	0.0032	-0.0150	0.0011	-0.0421	0.0012	-0.0613	0.0202
4	184.92	0.2502	-0.0239	0.0021	-0.0217	0.0033	-0.0863	0.0032	-0.1169	0.0247
4	184.92	0.3001	0.0045	0.0011	-0.0562	0.0042	-0.1767	0.0041	-0.1437	0.0409
4	184.92	0.3502	0.0051	0.0012	-0.0959	0.0088	-0.3200	0.0071	-0.2115	0.0361
4	184.92	0.4002	0.0380	0.0010	-0.1449	0.0131	-0.4893	0.0105	-0.1619	0.0349
4	184.92	0.4500	0.0602	0.0017	-0.2047	0.0169	-0.7779	0.0139	-0.4308	0.0332
4	184.92	0.5001	0.0866	0.0013	-0.2761	0.0218	-1.0951	0.0172	-0.2377	0.0350
4	184.92	0.5560	0.0838	0.0018	-0.3329	0.0271	-1.6449	0.0213	-0.4339	0.0377
4	184.92	0.6001	0.1062	0.0021	-0.3976	0.0316	-2.1609	0.0251	-0.5684	0.0380
4	184.92	0.6501	0.0815	0.0031	-0.4637	0.0359	-2.8363	0.0286	-0.3707	0.0392
4	184.92	0.6999	0.1012	0.0038	-0.5531	0.0409	-3.6429	0.0333	-0.1735	0.0397
4	184.92	0.7500	0.0892	0.0046	-0.6829	0.0457	-4.6033	0.0353	-0.2002	0.0469
4	184.92	0.8002	0.0862	0.0057	-0.7624	0.0506	-5.6473	0.0390	-0.0874	0.0342
4	184.92	0.8582	0.0247	0.0078	-0.8514	0.0552	-6.9829	0.0432	-0.0910	0.0520
4	184.92	0.9101	0.0412	0.0094	-0.9335	0.0606	-8.2664	0.0475	-0.1507	0.0358
4	184.92	0.9728	0.0632	0.0141	-1.0322	0.0671	-9.7557	0.0571	0.2071	0.0698

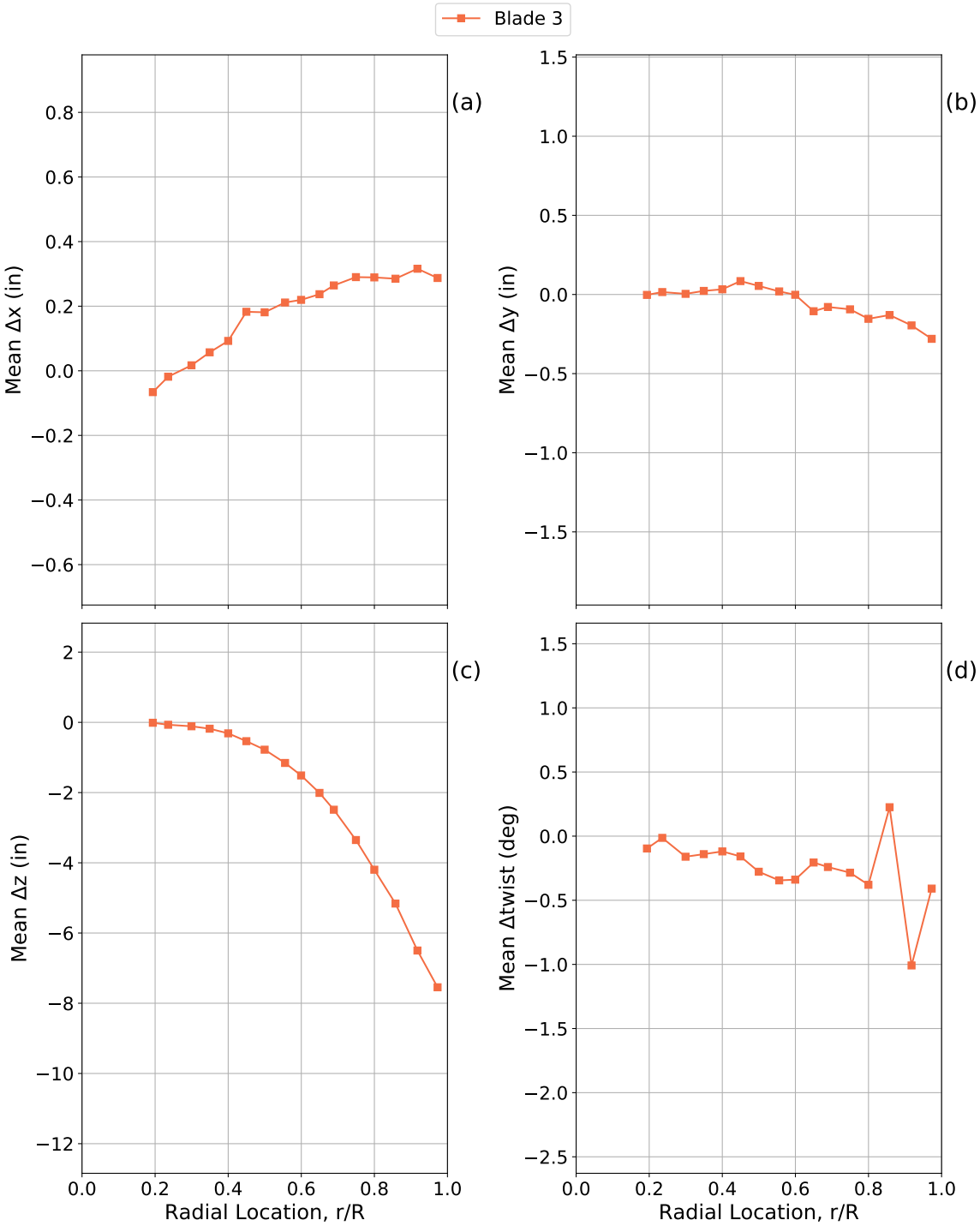


Figure 4.21-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0660	0.0012	-0.0026	0.0008	-0.0113	0.0010	-0.0963	0.0153
3	195.12	0.2357	-0.0183	0.0009	0.0153	0.0018	-0.0685	0.0018	-0.0135	0.0159
3	195.12	0.2995	0.0170	0.0005	0.0040	0.0036	-0.1117	0.0043	-0.1605	0.0304
3	195.12	0.3493	0.0572	0.0012	0.0226	0.0048	-0.1807	0.0063	-0.1404	0.0272
3	195.12	0.4000	0.0925	0.0012	0.0327	0.0087	-0.3131	0.0102	-0.1192	0.0200
3	195.12	0.4497	0.1827	0.0039	0.0846	0.0241	-0.5356	0.0237	-0.1581	0.0272
3	195.12	0.4997	0.1811	0.0042	0.0542	0.0271	-0.7785	0.0276	-0.2775	0.0249
3	195.12	0.5556	0.2114	0.0035	0.0194	0.0309	-1.1563	0.0303	-0.3449	0.0210
3	195.12	0.5995	0.2196	0.0030	-0.0019	0.0340	-1.5122	0.0330	-0.3392	0.0297
3	195.12	0.6498	0.2371	0.0036	-0.1057	0.0375	-2.0095	0.0370	-0.2056	0.0228
3	195.12	0.6890	0.2643	0.0036	-0.0790	0.0401	-2.4880	0.0402	-0.2408	0.0413
3	195.12	0.7495	0.2900	0.0049	-0.0938	0.0428	-3.3514	0.0451	-0.2849	0.0474
3	195.12	0.7998	0.2891	0.0037	-0.1537	0.0481	-4.1972	0.0521	-0.3794	0.0506
3	195.12	0.8577	0.2851	0.0065	-0.1298	0.0545	-5.1608	0.0725	0.2255	0.0569
3	195.12	0.9178	0.3160	0.0045	-0.1954	0.0585	-6.4984	0.0759	-1.0082	0.0467
3	195.12	0.9729	0.2873	0.0041	-0.2802	0.0635	-7.5456	0.0814	-0.4089	0.0327

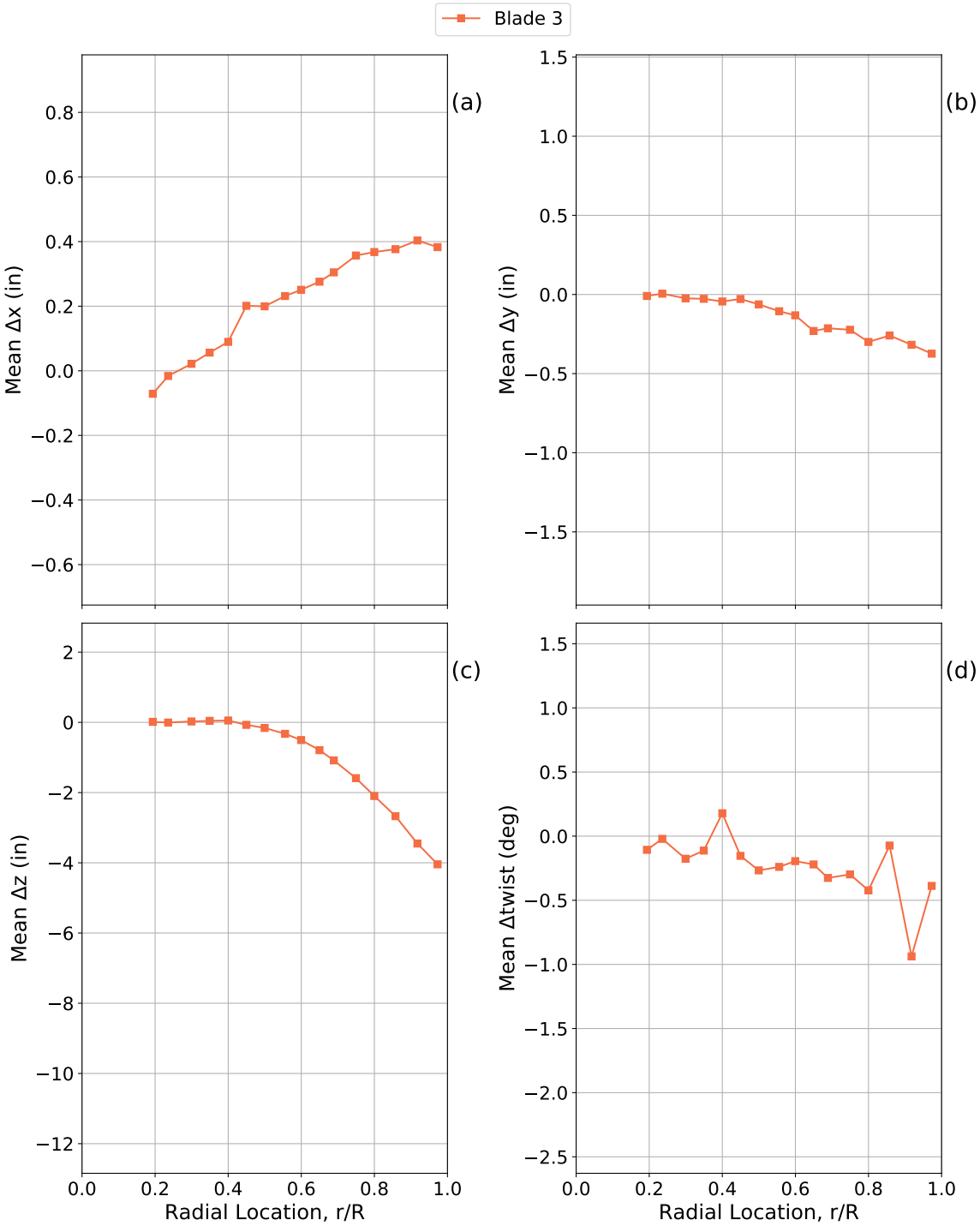


Figure 4.21-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0711	0.0010	-0.0093	0.0006	0.0141	0.0011	-0.1068	0.0103
3	209.88	0.2357	-0.0160	0.0008	0.0052	0.0009	-0.0058	0.0013	-0.0213	0.0150
3	209.88	0.2995	0.0216	0.0007	-0.0245	0.0022	0.0261	0.0031	-0.1762	0.0205
3	209.88	0.3493	0.0563	0.0008	-0.0274	0.0031	0.0427	0.0046	-0.1126	0.0159
3	209.88	0.4000	0.0896	0.0013	-0.0443	0.0052	0.0527	0.0068	0.1783	0.0234
3	209.88	0.4497	0.2011	0.0048	-0.0286	0.0149	-0.0707	0.0206	-0.1538	0.0307
3	209.88	0.4997	0.1996	0.0045	-0.0625	0.0168	-0.1593	0.0238	-0.2670	0.0298
3	209.88	0.5556	0.2314	0.0038	-0.1057	0.0186	-0.3263	0.0258	-0.2397	0.0201
3	209.88	0.5995	0.2507	0.0040	-0.1316	0.0197	-0.5040	0.0272	-0.1947	0.0256
3	209.88	0.6498	0.2758	0.0034	-0.2305	0.0220	-0.7915	0.0307	-0.2207	0.0175
3	209.88	0.6890	0.3047	0.0032	-0.2136	0.0238	-1.0829	0.0326	-0.3259	0.0290
3	209.88	0.7495	0.3569	0.0020	-0.2230	0.0262	-1.5890	0.0357	-0.2983	0.0270
3	209.88	0.7998	0.3676	0.0019	-0.2998	0.0283	-2.0965	0.0401	-0.4227	0.0285
3	209.88	0.8577	0.3765	0.0037	-0.2593	0.0299	-2.6721	0.0389	-0.0735	0.0795
3	209.88	0.9178	0.4036	0.0041	-0.3178	0.0304	-3.4510	0.0399	-0.9374	0.0930
3	209.88	0.9729	0.3829	0.0088	-0.3739	0.0375	-4.0430	0.0487	-0.3880	0.1912

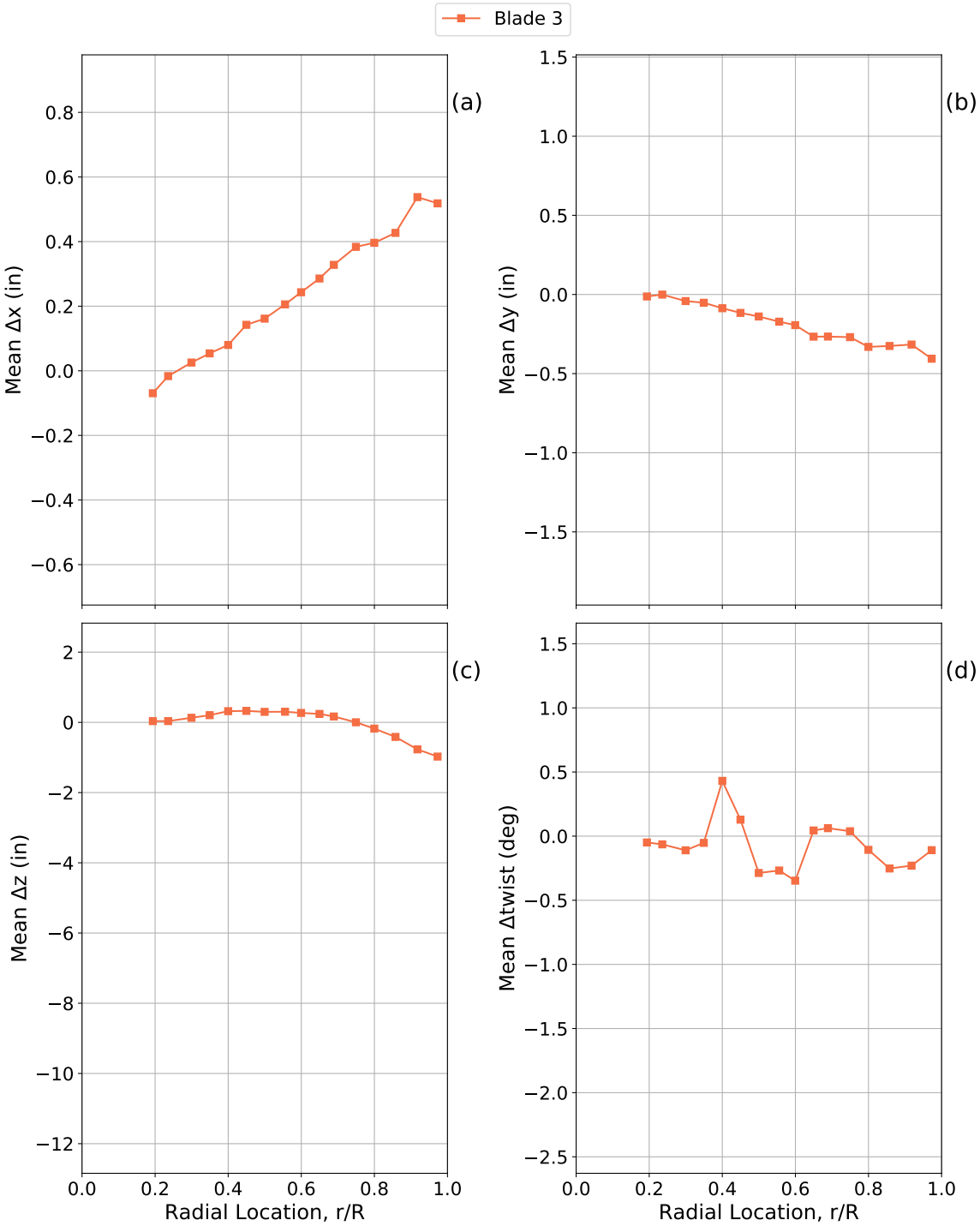


Figure 4.21-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0694	0.0012	-0.0125	0.0006	0.0352	0.0014	-0.0494	0.0079
3	225	0.2357	-0.0164	0.0008	-0.0007	0.0009	0.0361	0.0024	-0.0640	0.0217
3	225	0.2995	0.0256	0.0012	-0.0416	0.0019	0.1305	0.0052	-0.1104	0.0224
3	225	0.3493	0.0540	0.0008	-0.0522	0.0029	0.2045	0.0076	-0.0526	0.0279
3	225	0.4000	0.0800	0.0011	-0.0868	0.0047	0.3189	0.0125	0.4308	0.0290
3	225	0.4497	0.1424	0.0010	-0.1163	0.0060	0.3270	0.0171	0.1284	0.0225
3	225	0.4997	0.1614	0.0010	-0.1391	0.0073	0.2986	0.0204	-0.2872	0.0273
3	225	0.5556	0.2057	0.0010	-0.1717	0.0080	0.3024	0.0242	-0.2679	0.0286
3	225	0.5995	0.2432	0.0009	-0.1936	0.0082	0.2691	0.0275	-0.3473	0.0260
3	225	0.6498	0.2857	0.0014	-0.2665	0.0094	0.2401	0.0314	0.0441	0.0335
3	225	0.6890	0.3280	0.0011	-0.2659	0.0101	0.1670	0.0343	0.0623	0.0201
3	225	0.7495	0.3837	0.0015	-0.2696	0.0117	0.0024	0.0376	0.0383	0.0375
3	225	0.7998	0.3963	0.0010	-0.3311	0.0127	-0.1775	0.0410	-0.1069	0.0316
3	225	0.8577	0.4269	0.0026	-0.3254	0.0141	-0.4147	0.0464	-0.2522	0.0649
3	225	0.9178	0.5377	0.0171	-0.3162	0.0215	-0.7692	0.0553	-0.2301	0.1290
3	225	0.9729	0.5184	0.0035	-0.4058	0.0188	-0.9746	0.0622	-0.1094	0.0614

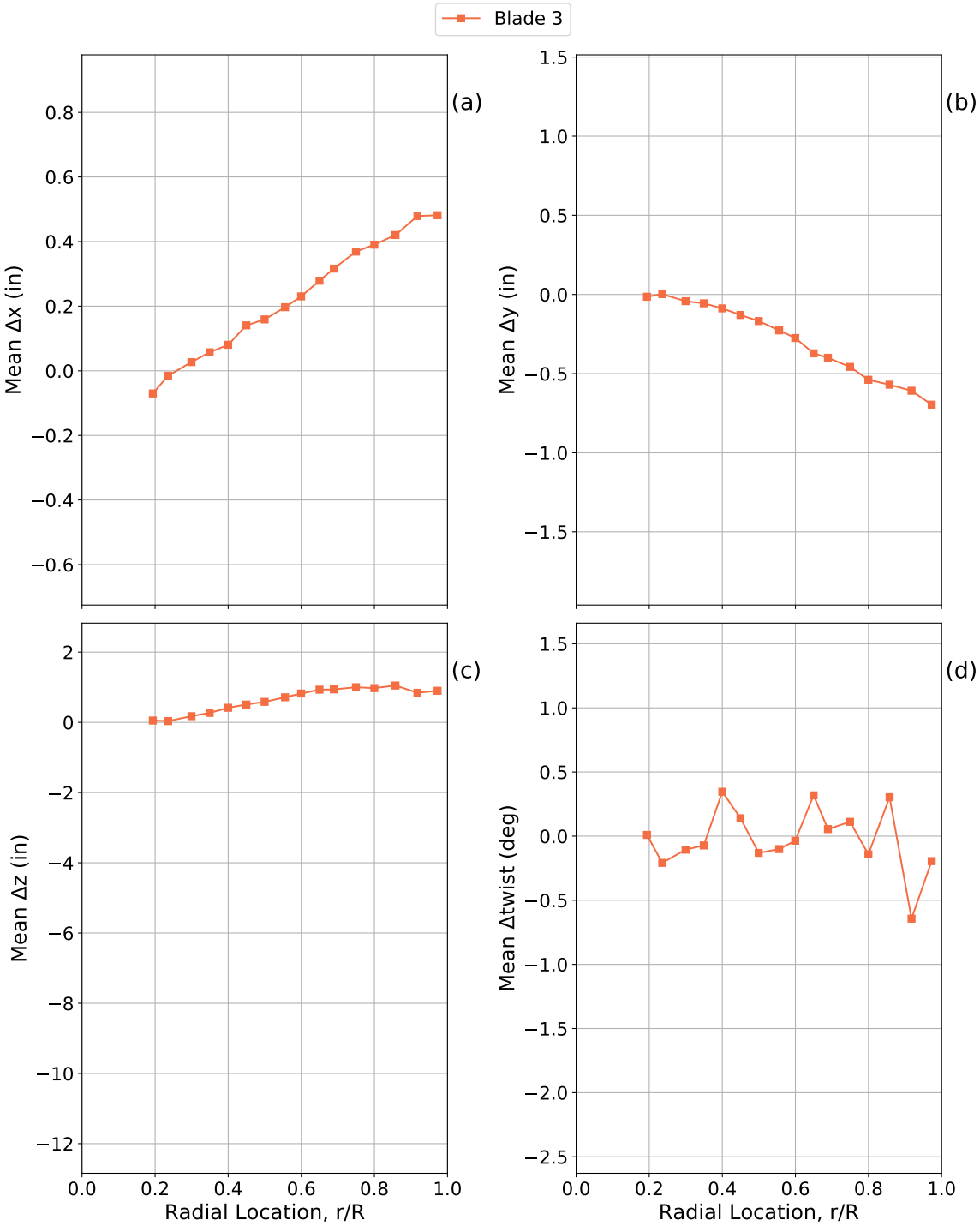


Figure 4.21-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = 0° NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0700	0.0012	-0.0144	0.0004	0.0523	0.0014	0.0097	0.0096
3	240.12	0.2357	-0.0151	0.0007	0.0020	0.0010	0.0364	0.0016	-0.2086	0.0193
3	240.12	0.2995	0.0270	0.0006	-0.0425	0.0018	0.1759	0.0048	-0.1057	0.0238
3	240.12	0.3493	0.0573	0.0007	-0.0557	0.0029	0.2700	0.0070	-0.0727	0.0180
3	240.12	0.4000	0.0806	0.0010	-0.0879	0.0048	0.4155	0.0111	0.3458	0.0229
3	240.12	0.4497	0.1406	0.0014	-0.1295	0.0062	0.5078	0.0159	0.1395	0.0272
3	240.12	0.4997	0.1590	0.0012	-0.1681	0.0075	0.5844	0.0204	-0.1309	0.0239
3	240.12	0.5556	0.1968	0.0008	-0.2269	0.0093	0.7147	0.0235	-0.1011	0.0252
3	240.12	0.5995	0.2303	0.0011	-0.2749	0.0107	0.8221	0.0275	-0.0359	0.0185
3	240.12	0.6498	0.2788	0.0013	-0.3717	0.0128	0.9317	0.0321	0.3179	0.0237
3	240.12	0.6890	0.3162	0.0015	-0.3998	0.0145	0.9391	0.0335	0.0547	0.0289
3	240.12	0.7495	0.3689	0.0014	-0.4573	0.0171	1.0013	0.0387	0.1116	0.0216
3	240.12	0.7998	0.3903	0.0017	-0.5389	0.0201	0.9754	0.0439	-0.1419	0.0189
3	240.12	0.8577	0.4202	0.0019	-0.5699	0.0232	1.0496	0.0481	0.3032	0.0250
3	240.12	0.9178	0.4789	0.0020	-0.6081	0.0267	0.8435	0.0558	-0.6433	0.0181
3	240.12	0.9729	0.4814	0.0033	-0.6958	0.0300	0.8999	0.0620	-0.1950	0.0356

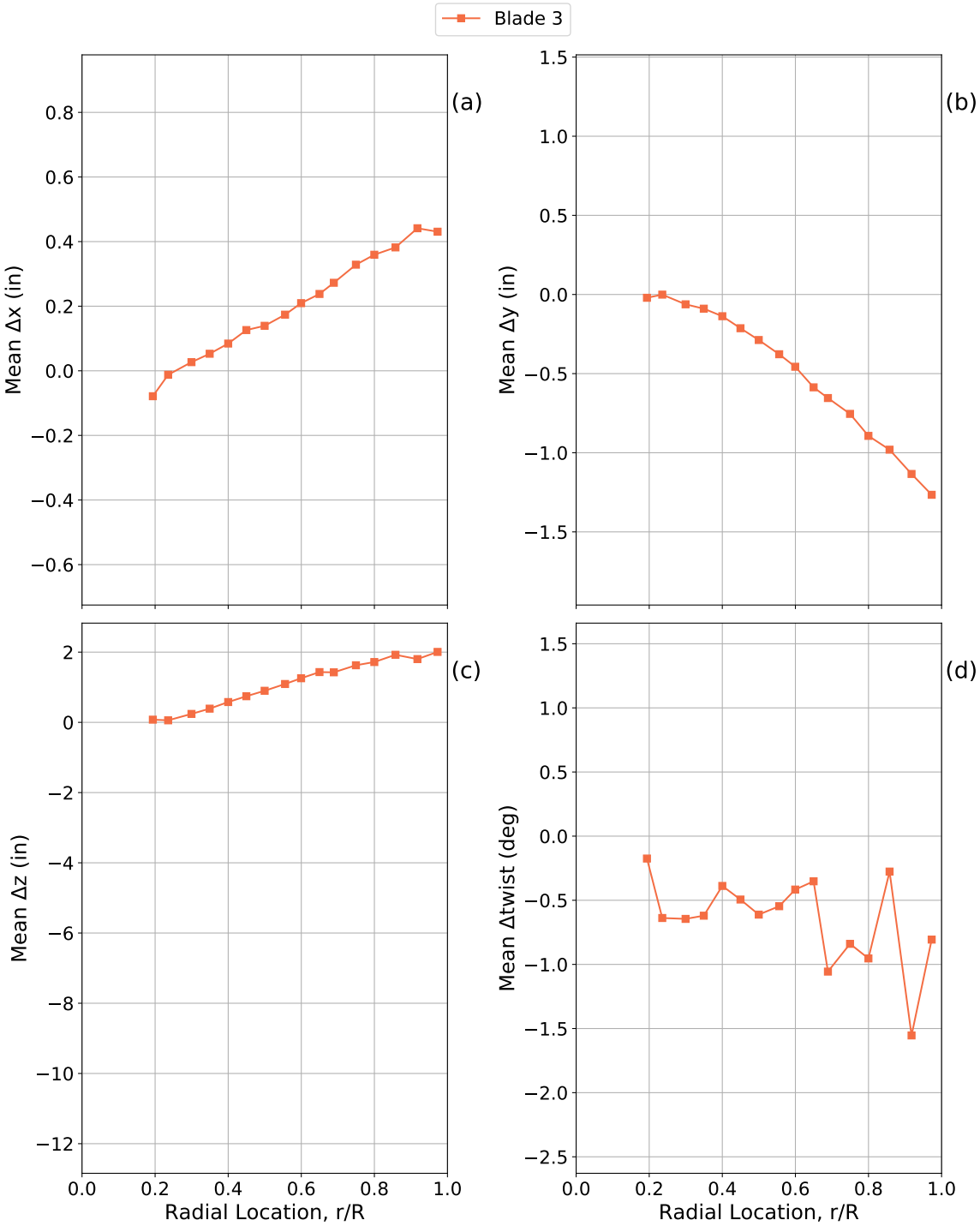


Figure 4.21-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = 0° NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0787	0.0017	-0.0208	0.0008	0.0768	0.0030	-0.1747	0.0172
3	254.88	0.2357	-0.0123	0.0009	-0.0009	0.0005	0.0579	0.0032	-0.6382	0.0415
3	254.88	0.2995	0.0268	0.0010	-0.0621	0.0018	0.2404	0.0087	-0.6452	0.0482
3	254.88	0.3493	0.0528	0.0011	-0.0897	0.0030	0.3904	0.0152	-0.6202	0.0420
3	254.88	0.4000	0.0843	0.0014	-0.1373	0.0041	0.5786	0.0217	-0.3882	0.0387
3	254.88	0.4497	0.1261	0.0013	-0.2132	0.0051	0.7440	0.0268	-0.4943	0.0473
3	254.88	0.4997	0.1393	0.0014	-0.2877	0.0066	0.8996	0.0342	-0.6118	0.0416
3	254.88	0.5556	0.1738	0.0017	-0.3776	0.0083	1.0924	0.0389	-0.5463	0.0476
3	254.88	0.5995	0.2094	0.0018	-0.4566	0.0099	1.2563	0.0429	-0.4166	0.0505
3	254.88	0.6498	0.2379	0.0023	-0.5867	0.0119	1.4317	0.0486	-0.3520	0.0431
3	254.88	0.6890	0.2725	0.0018	-0.6543	0.0132	1.4249	0.0536	-1.0560	0.0405
3	254.88	0.7495	0.3285	0.0013	-0.7544	0.0162	1.6261	0.0597	-0.8396	0.0420
3	254.88	0.7998	0.3593	0.0015	-0.8934	0.0181	1.7179	0.0644	-0.9534	0.0458
3	254.88	0.8577	0.3820	0.0016	-0.9807	0.0208	1.9247	0.0731	-0.2763	0.0511
3	254.88	0.9178	0.4413	0.0028	-1.1340	0.0243	1.8020	0.0786	-1.5538	0.0514
3	254.88	0.9729	0.4306	0.0031	-1.2656	0.0269	2.0063	0.0867	-0.8065	0.0461

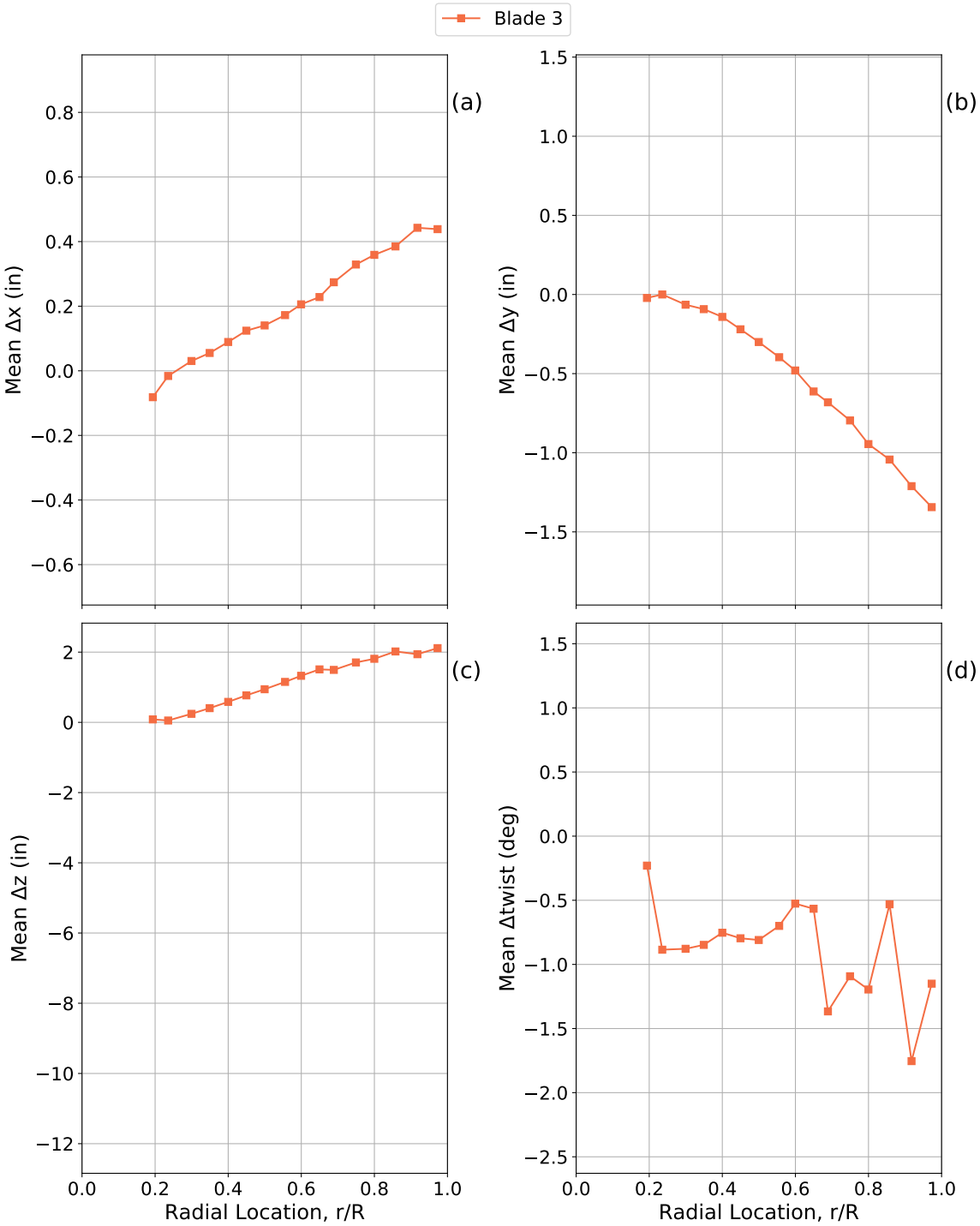


Figure 4.21-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0817	0.0032	-0.0219	0.0010	0.0842	0.0047	-0.2299	0.0189
3	260.16	0.2357	-0.0160	0.0010	0.0001	0.0010	0.0528	0.0021	-0.8854	0.0758
3	260.16	0.2995	0.0303	0.0012	-0.0646	0.0029	0.2432	0.0092	-0.8783	0.0710
3	260.16	0.3493	0.0552	0.0014	-0.0927	0.0049	0.4051	0.0173	-0.8478	0.0604
3	260.16	0.4000	0.0892	0.0015	-0.1417	0.0072	0.5832	0.0213	-0.7529	0.0774
3	260.16	0.4497	0.1242	0.0015	-0.2200	0.0091	0.7690	0.0293	-0.7963	0.0725
3	260.16	0.4997	0.1404	0.0015	-0.3004	0.0113	0.9432	0.0369	-0.8097	0.0666
3	260.16	0.5556	0.1724	0.0016	-0.3963	0.0134	1.1522	0.0457	-0.6998	0.0754
3	260.16	0.5995	0.2057	0.0017	-0.4803	0.0155	1.3263	0.0518	-0.5261	0.0737
3	260.16	0.6498	0.2283	0.0016	-0.6128	0.0175	1.5086	0.0579	-0.5661	0.0676
3	260.16	0.6890	0.2741	0.0016	-0.6812	0.0195	1.4943	0.0630	-1.3663	0.0686
3	260.16	0.7495	0.3290	0.0014	-0.7959	0.0228	1.7062	0.0722	-1.0925	0.0689
3	260.16	0.7998	0.3589	0.0012	-0.9453	0.0250	1.8104	0.0802	-1.1957	0.0744
3	260.16	0.8577	0.3850	0.0011	-1.0430	0.0278	2.0191	0.0896	-0.5312	0.0752
3	260.16	0.9178	0.4427	0.0014	-1.2111	0.0317	1.9407	0.0987	-1.7540	0.0739
3	260.16	0.9729	0.4385	0.0025	-1.3437	0.0337	2.1141	0.1111	-1.1502	0.0664

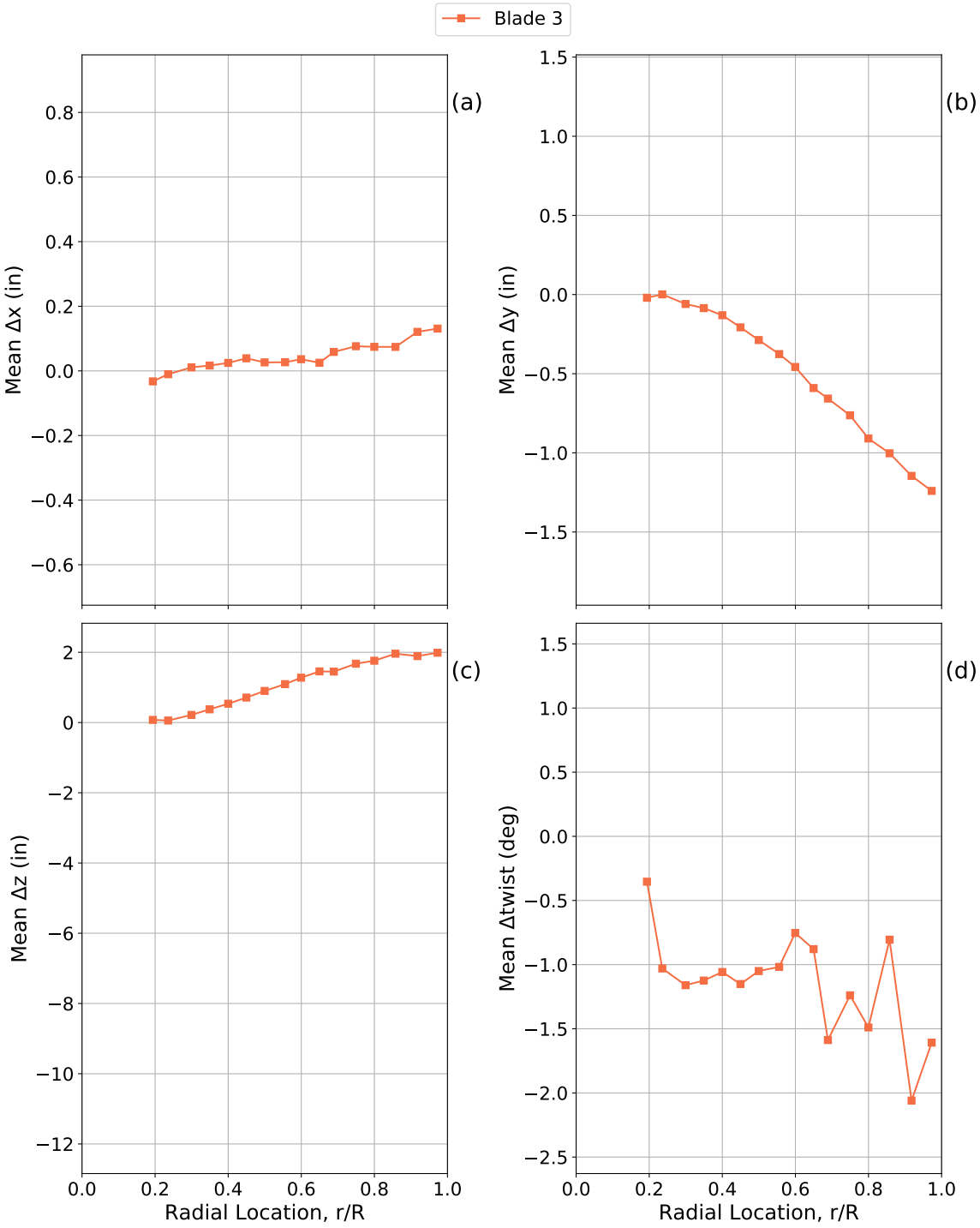


Figure 4.21-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0325	0.0049	-0.0203	0.0015	0.0745	0.0061	-0.3536	0.0286
3	265.08	0.2357	-0.0104	0.0019	0.0011	0.0017	0.0567	0.0056	-1.0298	0.0735
3	265.08	0.2995	0.0109	0.0007	-0.0596	0.0041	0.2166	0.0154	-1.1603	0.0804
3	265.08	0.3493	0.0166	0.0014	-0.0857	0.0079	0.3761	0.0267	-1.1240	0.0726
3	265.08	0.4000	0.0247	0.0014	-0.1307	0.0111	0.5354	0.0370	-1.0575	0.0709
3	265.08	0.4497	0.0390	0.0011	-0.2071	0.0141	0.7107	0.0469	-1.1515	0.0800
3	265.08	0.4997	0.0263	0.0017	-0.2875	0.0173	0.8996	0.0566	-1.0500	0.0765
3	265.08	0.5556	0.0268	0.0019	-0.3761	0.0214	1.0930	0.0696	-1.0178	0.0711
3	265.08	0.5995	0.0361	0.0020	-0.4574	0.0244	1.2772	0.0791	-0.7532	0.0719
3	265.08	0.6498	0.0252	0.0024	-0.5907	0.0277	1.4558	0.0887	-0.8793	0.0731
3	265.08	0.6890	0.0587	0.0028	-0.6570	0.0308	1.4501	0.0959	-1.5878	0.0759
3	265.08	0.7495	0.0763	0.0029	-0.7627	0.0357	1.6752	0.1088	-1.2394	0.0705
3	265.08	0.7998	0.0744	0.0032	-0.9092	0.0393	1.7600	0.1182	-1.4895	0.0810
3	265.08	0.8577	0.0742	0.0031	-1.0027	0.0447	1.9599	0.1325	-0.8053	0.0670
3	265.08	0.9178	0.1208	0.0042	-1.1454	0.0492	1.8915	0.1436	-2.0597	0.0886
3	265.08	0.9729	0.1309	0.0071	-1.2405	0.0555	1.9875	0.1483	-1.6082	0.2003

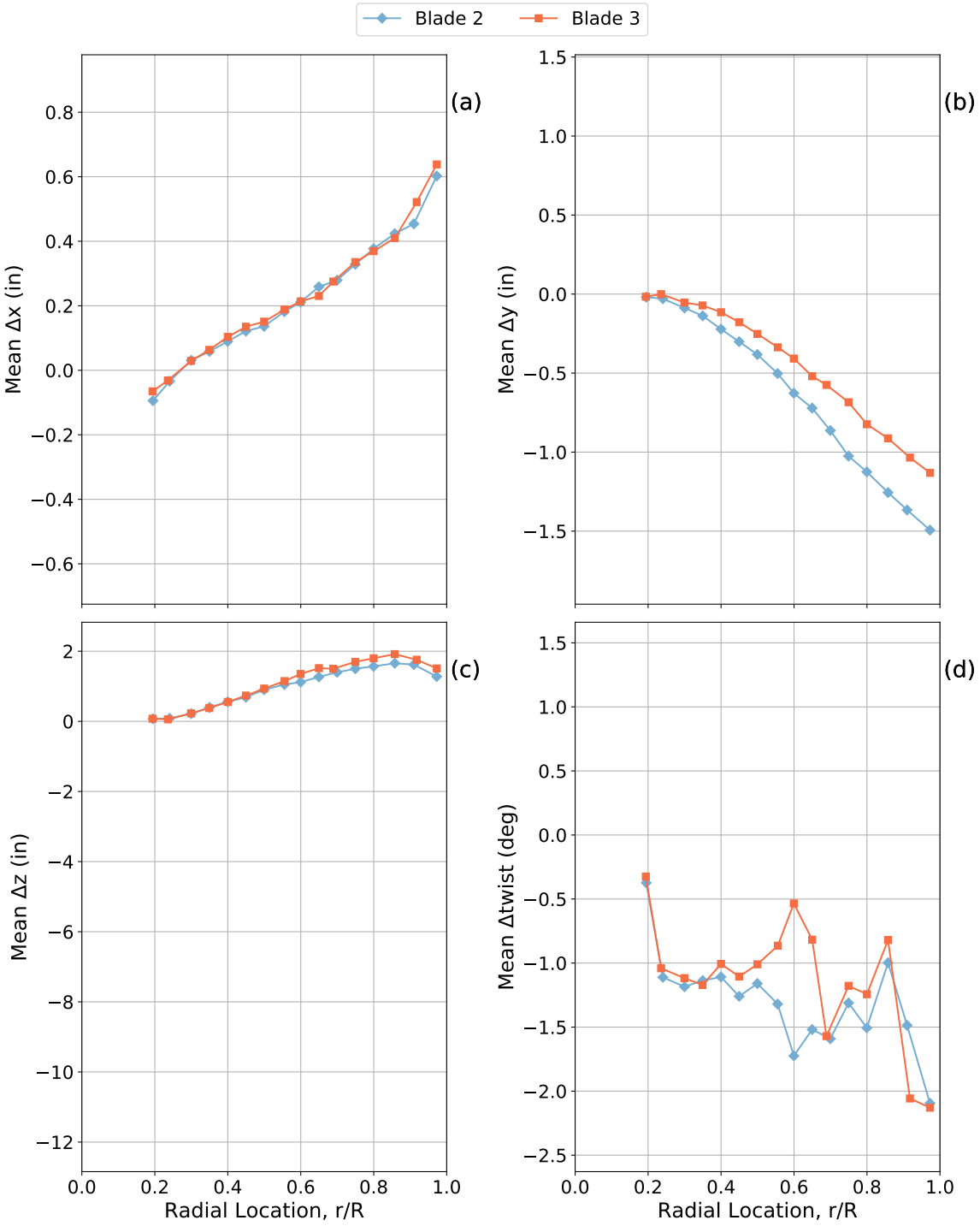


Figure 4.21-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0945	0.0037	-0.0193	0.0012	0.0721	0.0066	-0.3735	0.0538
2	270.35	0.2405	-0.0340	0.0013	-0.0295	0.0016	0.0867	0.0071	-1.1109	0.1220
2	270.35	0.2999	0.0309	0.0018	-0.0880	0.0039	0.2181	0.0182	-1.1847	0.1456
2	270.35	0.3498	0.0585	0.0006	-0.1377	0.0071	0.3985	0.0306	-1.1367	0.1471
2	270.35	0.3998	0.0894	0.0012	-0.2217	0.0103	0.5574	0.0429	-1.1083	0.1477
2	270.35	0.4496	0.1214	0.0014	-0.3012	0.0139	0.6871	0.0550	-1.2597	0.1445
2	270.35	0.4995	0.1362	0.0014	-0.3824	0.0170	0.9019	0.0678	-1.1600	0.1467
2	270.35	0.5551	0.1817	0.0012	-0.5027	0.0206	1.0500	0.0812	-1.3198	0.1348
2	270.35	0.5996	0.2113	0.0017	-0.6274	0.0240	1.1190	0.0922	-1.7245	0.1422
2	270.35	0.6497	0.2589	0.0017	-0.7213	0.0274	1.2677	0.1051	-1.5190	0.1447
2	270.35	0.6996	0.2793	0.0016	-0.8634	0.0304	1.3989	0.1186	-1.5913	0.1448
2	270.35	0.7495	0.3285	0.0022	-1.0251	0.0339	1.5006	0.1316	-1.3116	0.1506
2	270.35	0.7996	0.3769	0.0026	-1.1250	0.0374	1.5678	0.1445	-1.5060	0.1596
2	270.35	0.8578	0.4236	0.0028	-1.2558	0.0425	1.6574	0.1632	-0.9977	0.1399
2	270.35	0.9100	0.4540	0.0023	-1.3662	0.0462	1.6192	0.1772	-1.4864	0.1399
2	270.35	0.9727	0.6023	0.0039	-1.4935	0.0519	1.2778	0.1947	-2.0952	0.1468
3	270	0.1938	-0.0653	0.0100	-0.0167	0.0025	0.0754	0.0134	-0.3242	0.0492
3	270	0.2357	-0.0315	0.0033	-0.0005	0.0010	0.0572	0.0093	-1.0405	0.1847
3	270	0.2995	0.0293	0.0029	-0.0534	0.0072	0.2284	0.0376	-1.1178	0.1808
3	270	0.3493	0.0632	0.0025	-0.0718	0.0120	0.3790	0.0615	-1.1710	0.1842
3	270	0.4000	0.1035	0.0022	-0.1149	0.0174	0.5531	0.0884	-1.0068	0.1764
3	270	0.4497	0.1350	0.0025	-0.1781	0.0221	0.7355	0.1117	-1.1055	0.1799
3	270	0.4997	0.1508	0.0021	-0.2521	0.0270	0.9344	0.1365	-1.0096	0.1785
3	270	0.5556	0.1884	0.0029	-0.3368	0.0327	1.1481	0.1648	-0.8646	0.1744
3	270	0.5995	0.2136	0.0028	-0.4081	0.0371	1.3510	0.1863	-0.5350	0.1774
3	270	0.6498	0.2304	0.0032	-0.5198	0.0425	1.5172	0.2110	-0.8177	0.1806
3	270	0.6890	0.2750	0.0030	-0.5749	0.0472	1.4988	0.2292	-1.5705	0.1798
3	270	0.7495	0.3354	0.0036	-0.6844	0.0545	1.6974	0.2591	-1.1777	0.1749
3	270	0.7998	0.3693	0.0037	-0.8236	0.0604	1.7990	0.2833	-1.2433	0.1855
3	270	0.8577	0.4098	0.0043	-0.9130	0.0669	1.9172	0.3114	-0.8202	0.1793
3	270	0.9178	0.5216	0.0042	-1.0346	0.0753	1.7564	0.3363	-2.0572	0.1942
3	270	0.9729	0.6383	0.0067	-1.1314	0.0834	1.5081	0.3657	-2.1295	0.1782

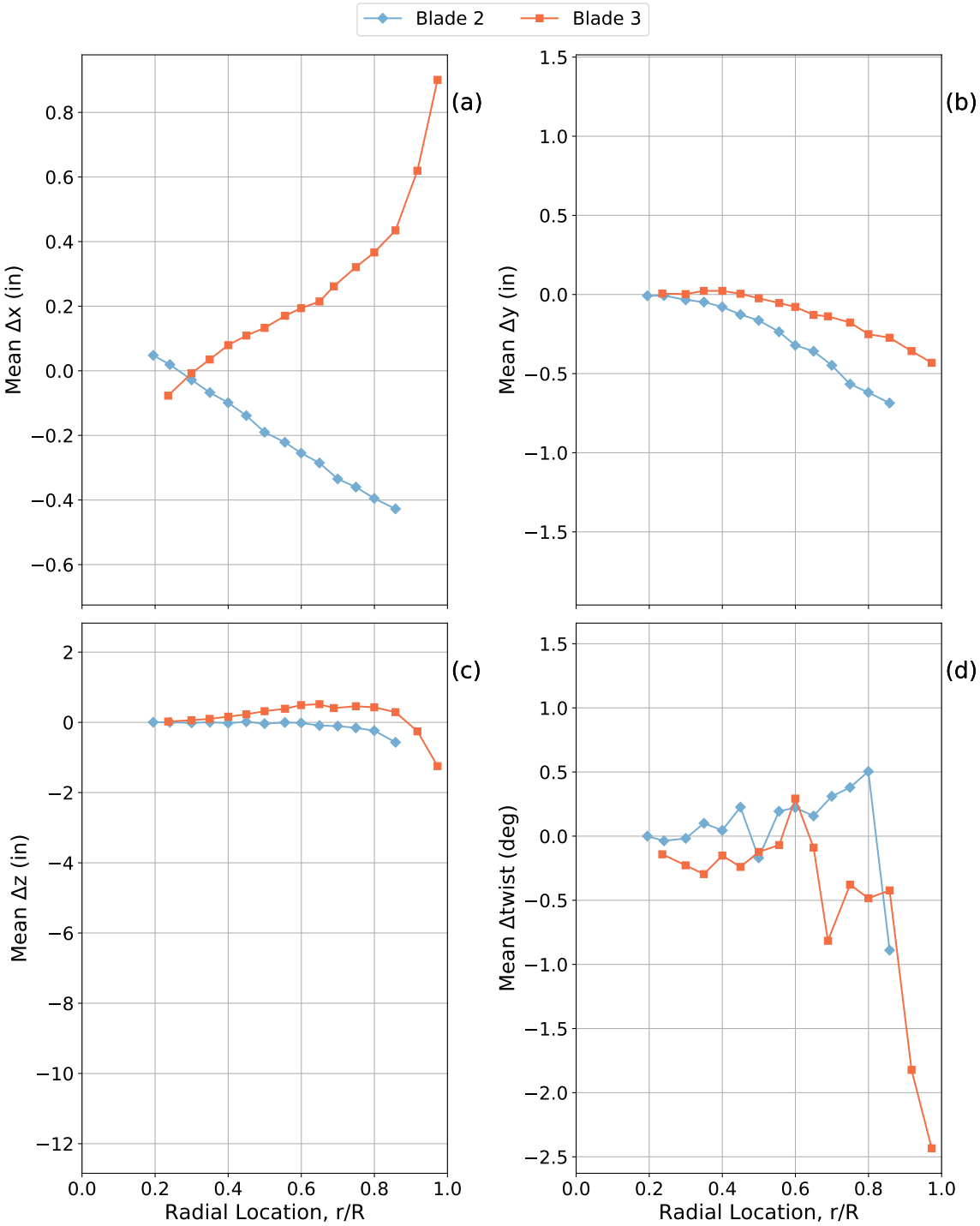


Figure 4.21-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0479	0.0018	-0.0081	0.0006	0.0028	0.0015	0.0000	0.0256
2	274.92	0.2405	0.0193	0.0012	-0.0068	0.0017	0.0011	0.0043	-0.0370	0.0262
2	274.92	0.2999	-0.0281	0.0009	-0.0341	0.0023	-0.0152	0.0064	-0.0178	0.0525
2	274.92	0.3498	-0.0674	0.0011	-0.0478	0.0039	0.0037	0.0097	0.1004	0.0467
2	274.92	0.3998	-0.0988	0.0015	-0.0788	0.0061	-0.0229	0.0162	0.0448	0.0601
2	274.92	0.4496	-0.1387	0.0017	-0.1270	0.0065	0.0147	0.0163	0.2263	0.0516
2	274.92	0.4995	-0.1900	0.0020	-0.1638	0.0087	-0.0372	0.0258	-0.1696	0.0460
2	274.92	0.5551	-0.2213	0.0025	-0.2355	0.0097	-0.0034	0.0277	0.1940	0.0786
2	274.92	0.5996	-0.2548	0.0028	-0.3211	0.0120	-0.0163	0.0302	0.2218	0.0430
2	274.92	0.6497	-0.2853	0.0027	-0.3584	0.0136	-0.0916	0.0347	0.1574	0.0569
2	274.92	0.6996	-0.3347	0.0025	-0.4476	0.0151	-0.1062	0.0395	0.3107	0.0852
2	274.92	0.7495	-0.3600	0.0040	-0.5661	0.0178	-0.1570	0.0437	0.3798	0.0734
2	274.92	0.7996	-0.3950	0.0047	-0.6193	0.0202	-0.2365	0.0451	0.5043	0.0840
2	274.92	0.8578	-0.4274	0.0069	-0.6860	0.0262	-0.5682	0.0588	-0.8892	0.2640
3	274.92	0.2357	-0.0769	0.0031	0.0058	0.0013	0.0235	0.0081	-0.1415	0.0992
3	274.92	0.2995	-0.0077	0.0011	0.0023	0.0027	0.0602	0.0167	-0.2274	0.1592
3	274.92	0.3493	0.0350	0.0020	0.0229	0.0054	0.0989	0.0299	-0.2961	0.1344
3	274.92	0.4000	0.0794	0.0018	0.0227	0.0080	0.1618	0.0447	-0.1517	0.1322
3	274.92	0.4497	0.1092	0.0020	0.0045	0.0097	0.2287	0.0546	-0.2400	0.1478
3	274.92	0.4997	0.1328	0.0021	-0.0241	0.0122	0.3188	0.0705	-0.1231	0.1310
3	274.92	0.5556	0.1704	0.0021	-0.0539	0.0146	0.3879	0.0832	-0.0694	0.1389
3	274.92	0.5995	0.1938	0.0026	-0.0785	0.0167	0.4918	0.0972	0.2929	0.1322
3	274.92	0.6498	0.2147	0.0020	-0.1291	0.0192	0.5177	0.1079	-0.0899	0.1483
3	274.92	0.6890	0.2614	0.0026	-0.1379	0.0215	0.4067	0.1236	-0.8159	0.1244
3	274.92	0.7495	0.3210	0.0024	-0.1772	0.0240	0.4597	0.1370	-0.3783	0.1435
3	274.92	0.7998	0.3665	0.0029	-0.2509	0.0270	0.4287	0.1582	-0.4842	0.1156
3	274.92	0.8577	0.4347	0.0031	-0.2732	0.0300	0.2917	0.1731	-0.4233	0.1726
3	274.92	0.9178	0.6195	0.0025	-0.3576	0.0328	-0.2558	0.1886	-1.8227	0.1595
3	274.92	0.9729	0.9007	0.0042	-0.4317	0.0387	-1.2464	0.2260	-2.4337	0.1630

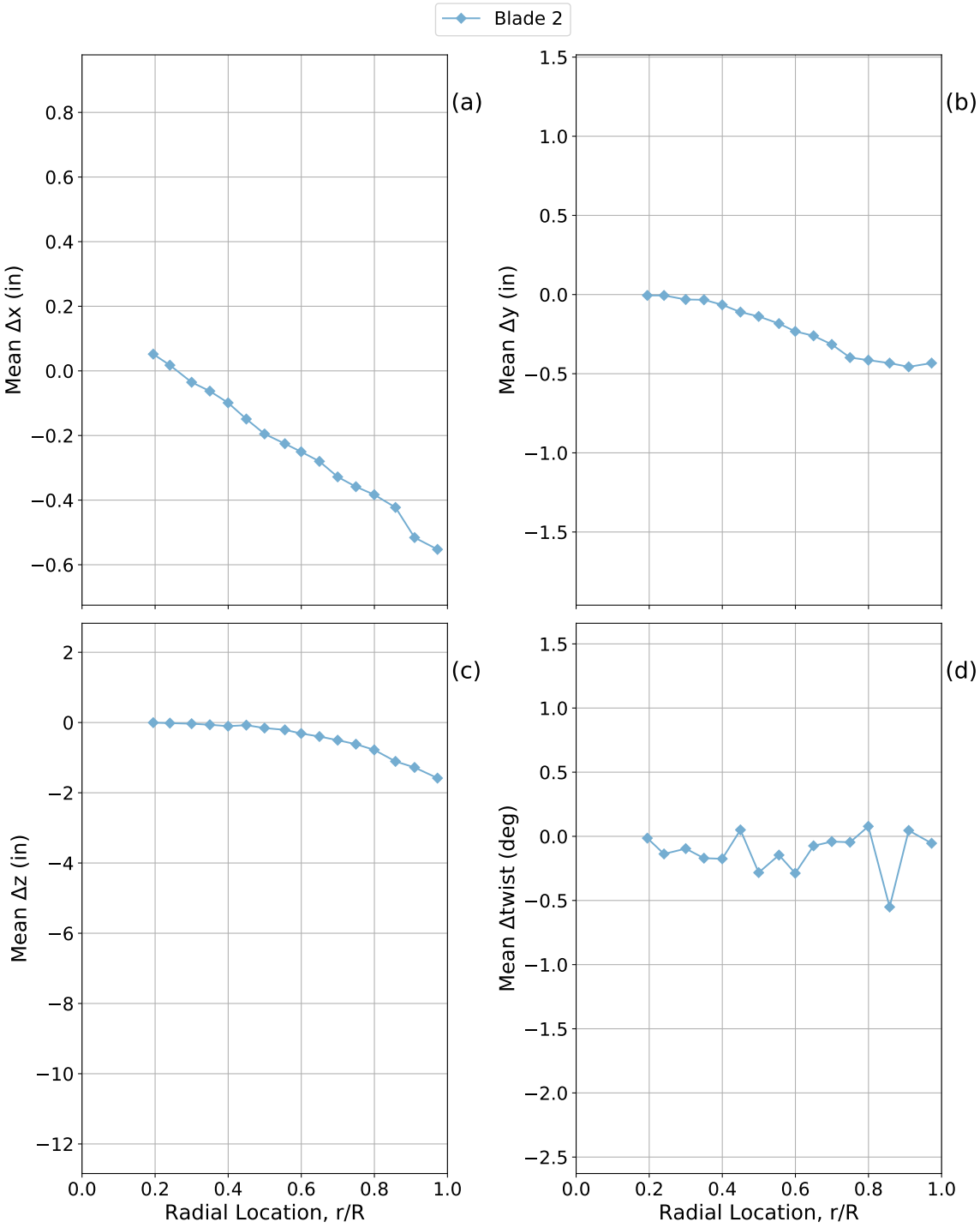


Figure 4.21-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0519	0.0013	-0.0056	0.0011	-0.0037	0.0019	-0.0142	0.0142
2	285.12	0.2405	0.0176	0.0008	-0.0056	0.0023	-0.0172	0.0061	-0.1374	0.0190
2	285.12	0.2999	-0.0352	0.0009	-0.0313	0.0055	-0.0338	0.0096	-0.0958	0.0279
2	285.12	0.3498	-0.0626	0.0011	-0.0330	0.0087	-0.0636	0.0160	-0.1704	0.0296
2	285.12	0.3998	-0.0989	0.0029	-0.0649	0.0143	-0.1038	0.0255	-0.1751	0.0247
2	285.12	0.4496	-0.1490	0.0014	-0.1107	0.0141	-0.0749	0.0238	0.0503	0.0328
2	285.12	0.4995	-0.1952	0.0019	-0.1382	0.0186	-0.1572	0.0292	-0.2827	0.0267
2	285.12	0.5551	-0.2254	0.0022	-0.1834	0.0222	-0.2085	0.0352	-0.1460	0.0342
2	285.12	0.5996	-0.2503	0.0034	-0.2327	0.0248	-0.3123	0.0421	-0.2876	0.0323
2	285.12	0.6497	-0.2801	0.0023	-0.2606	0.0266	-0.3988	0.0459	-0.0741	0.0379
2	285.12	0.6996	-0.3281	0.0025	-0.3153	0.0302	-0.5029	0.0551	-0.0410	0.0377
2	285.12	0.7495	-0.3585	0.0023	-0.3981	0.0331	-0.6168	0.0605	-0.0460	0.0262
2	285.12	0.7996	-0.3832	0.0035	-0.4143	0.0363	-0.7789	0.0620	0.0777	0.0390
2	285.12	0.8578	-0.4227	0.0033	-0.4332	0.0401	-1.1072	0.0740	-0.5510	0.0735
2	285.12	0.9100	-0.5159	0.0034	-0.4566	0.0429	-1.2787	0.0781	0.0459	0.0479
2	285.12	0.9727	-0.5525	0.0047	-0.4330	0.0488	-1.5831	0.0939	-0.0541	0.1339

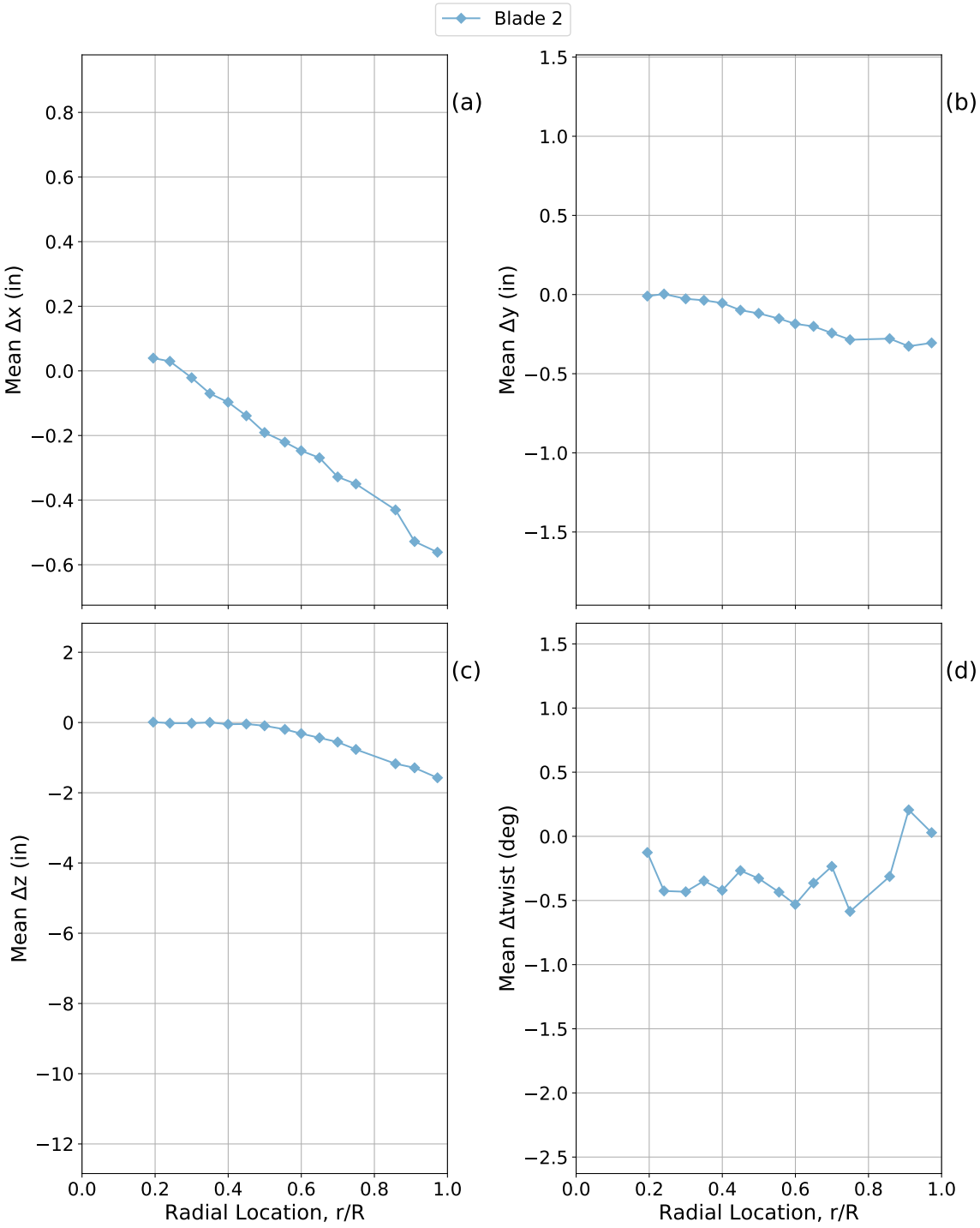


Figure 4.21-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0395	0.0008	-0.0098	0.0006	0.0111	0.0018	-0.1261	0.0317
2	299.88	0.2405	0.0296	0.0014	0.0033	0.0025	-0.0190	0.0038	-0.4258	0.0331
2	299.88	0.2999	-0.0212	0.0010	-0.0271	0.0038	-0.0208	0.0047	-0.4321	0.0591
2	299.88	0.3498	-0.0701	0.0017	-0.0362	0.0067	0.0026	0.0070	-0.3471	0.0328
2	299.88	0.3998	-0.0969	0.0022	-0.0538	0.0107	-0.0491	0.0098	-0.4207	0.0612
2	299.88	0.4496	-0.1390	0.0020	-0.0988	0.0103	-0.0422	0.0117	-0.2672	0.0430
2	299.88	0.4995	-0.1908	0.0028	-0.1189	0.0128	-0.0923	0.0167	-0.3285	0.0530
2	299.88	0.5551	-0.2205	0.0021	-0.1519	0.0151	-0.1947	0.0190	-0.4350	0.0429
2	299.88	0.5996	-0.2471	0.0019	-0.1851	0.0175	-0.3147	0.0216	-0.5310	0.0533
2	299.88	0.6497	-0.2690	0.0021	-0.2010	0.0199	-0.4360	0.0243	-0.3643	0.0546
2	299.88	0.6996	-0.3282	0.0019	-0.2433	0.0226	-0.5560	0.0274	-0.2343	0.0401
2	299.88	0.7495	-0.3500	0.0022	-0.2855	0.0247	-0.7665	0.0306	-0.5855	0.0497
2	299.88	0.8578	-0.4303	0.0022	-0.2786	0.0312	-1.1737	0.0389	-0.3133	0.0423
2	299.88	0.9100	-0.5281	0.0029	-0.3264	0.0344	-1.2894	0.0412	0.2059	0.0430
2	299.88	0.9727	-0.5613	0.0037	-0.3055	0.0387	-1.5737	0.0471	0.0287	0.0458

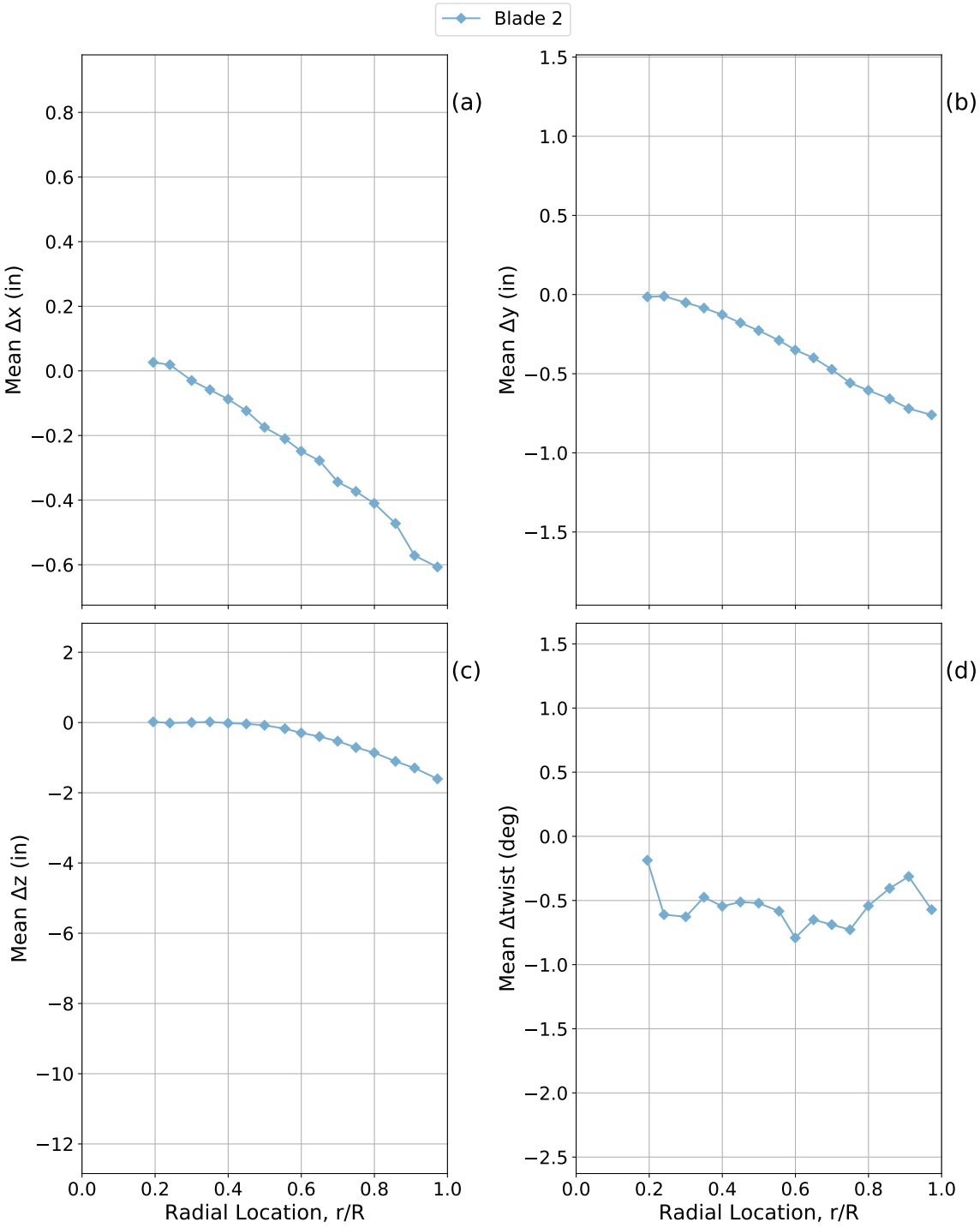


Figure 4.21-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0264	0.0014	-0.0145	0.0006	0.0182	0.0017	-0.1864	0.0156
2	315	0.2405	0.0189	0.0013	-0.0106	0.0020	-0.0156	0.0048	-0.6104	0.0230
2	315	0.2999	-0.0300	0.0014	-0.0510	0.0046	0.0014	0.0084	-0.6269	0.0330
2	315	0.3498	-0.0584	0.0008	-0.0854	0.0061	0.0174	0.0115	-0.4747	0.0495
2	315	0.3998	-0.0875	0.0019	-0.1272	0.0113	-0.0182	0.0199	-0.5451	0.0429
2	315	0.4496	-0.1236	0.0018	-0.1786	0.0113	-0.0393	0.0252	-0.5119	0.0357
2	315	0.4995	-0.1746	0.0024	-0.2274	0.0152	-0.0786	0.0322	-0.5208	0.0235
2	315	0.5551	-0.2102	0.0027	-0.2895	0.0182	-0.1745	0.0385	-0.5832	0.0235
2	315	0.5996	-0.2485	0.0018	-0.3502	0.0202	-0.2961	0.0423	-0.7915	0.0249
2	315	0.6497	-0.2779	0.0019	-0.4000	0.0222	-0.3991	0.0462	-0.6501	0.0329
2	315	0.6996	-0.3436	0.0024	-0.4725	0.0242	-0.5316	0.0513	-0.6884	0.0328
2	315	0.7495	-0.3732	0.0023	-0.5583	0.0281	-0.7105	0.0594	-0.7280	0.0302
2	315	0.7996	-0.4102	0.0021	-0.6052	0.0307	-0.8593	0.0660	-0.5420	0.0353
2	315	0.8578	-0.4724	0.0027	-0.6589	0.0340	-1.1067	0.0770	-0.4055	0.0283
2	315	0.9100	-0.5717	0.0025	-0.7206	0.0373	-1.2955	0.0852	-0.3133	0.0294
2	315	0.9727	-0.6070	0.0030	-0.7599	0.0408	-1.6052	0.0969	-0.5715	0.0338

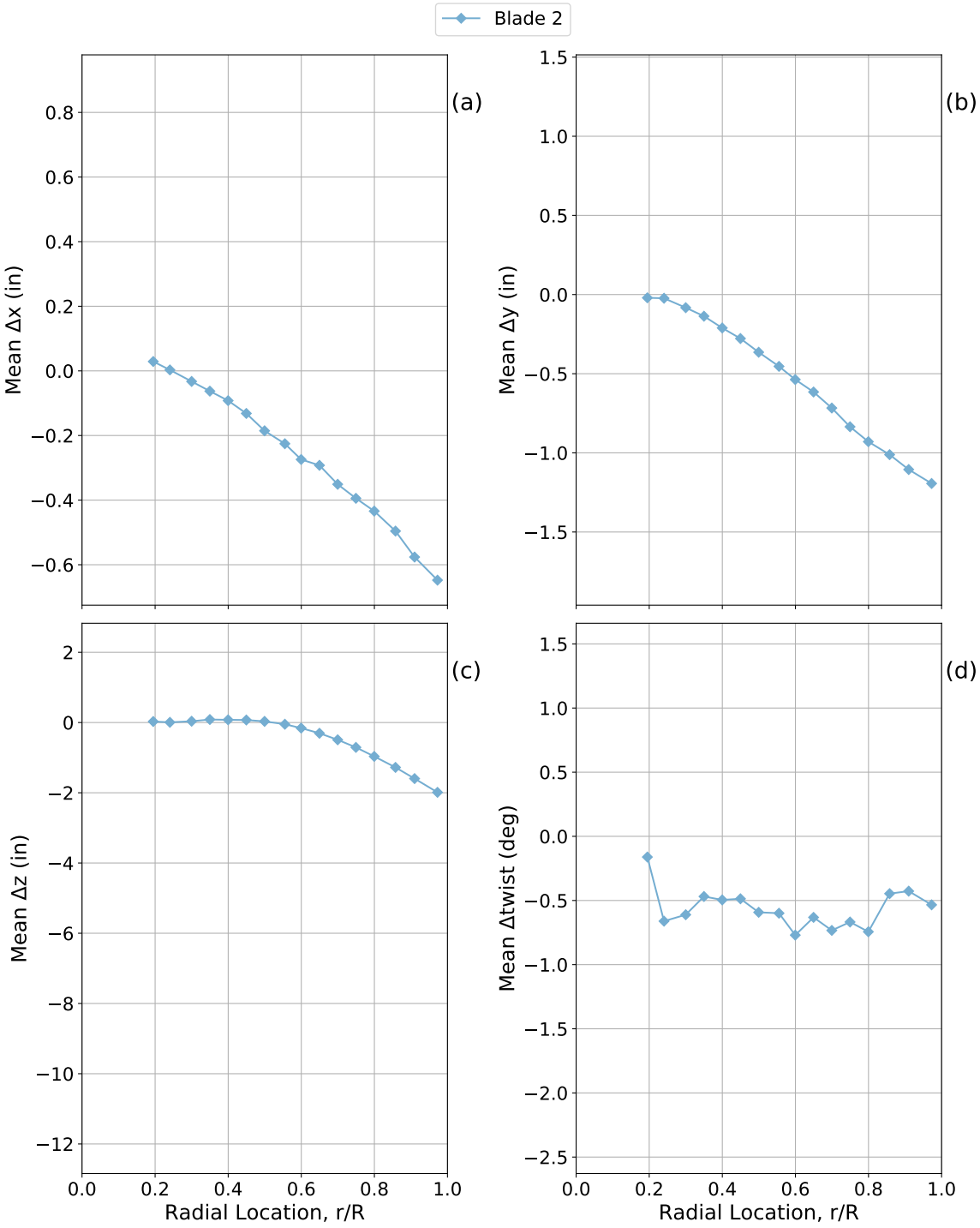


Figure 4.21-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0290	0.0013	-0.0205	0.0003	0.0289	0.0021	-0.1613	0.0138
2	330.12	0.2405	0.0030	0.0012	-0.0233	0.0016	0.0057	0.0033	-0.6612	0.0323
2	330.12	0.2999	-0.0327	0.0014	-0.0829	0.0039	0.0365	0.0081	-0.6109	0.0392
2	330.12	0.3498	-0.0627	0.0019	-0.1368	0.0036	0.0853	0.0133	-0.4689	0.0336
2	330.12	0.3998	-0.0921	0.0034	-0.2110	0.0083	0.0772	0.0205	-0.4956	0.0669
2	330.12	0.4496	-0.1317	0.0019	-0.2778	0.0083	0.0719	0.0243	-0.4867	0.0370
2	330.12	0.4995	-0.1854	0.0025	-0.3644	0.0108	0.0324	0.0306	-0.5923	0.0342
2	330.12	0.5551	-0.2255	0.0016	-0.4537	0.0123	-0.0486	0.0368	-0.5993	0.0260
2	330.12	0.5996	-0.2742	0.0011	-0.5370	0.0138	-0.1586	0.0410	-0.7700	0.0321
2	330.12	0.6497	-0.2923	0.0017	-0.6155	0.0162	-0.3059	0.0456	-0.6317	0.0368
2	330.12	0.6996	-0.3510	0.0036	-0.7168	0.0160	-0.4917	0.0520	-0.7333	0.0367
2	330.12	0.7495	-0.3944	0.0017	-0.8352	0.0184	-0.7078	0.0581	-0.6678	0.0290
2	330.12	0.7996	-0.4340	0.0021	-0.9294	0.0201	-0.9649	0.0639	-0.7438	0.0315
2	330.12	0.8578	-0.4958	0.0016	-1.0114	0.0216	-1.2779	0.0713	-0.4466	0.0284
2	330.12	0.9100	-0.5762	0.0016	-1.1053	0.0234	-1.5964	0.0775	-0.4272	0.0330
2	330.12	0.9727	-0.6477	0.0026	-1.1935	0.0258	-1.9883	0.0865	-0.5339	0.0309

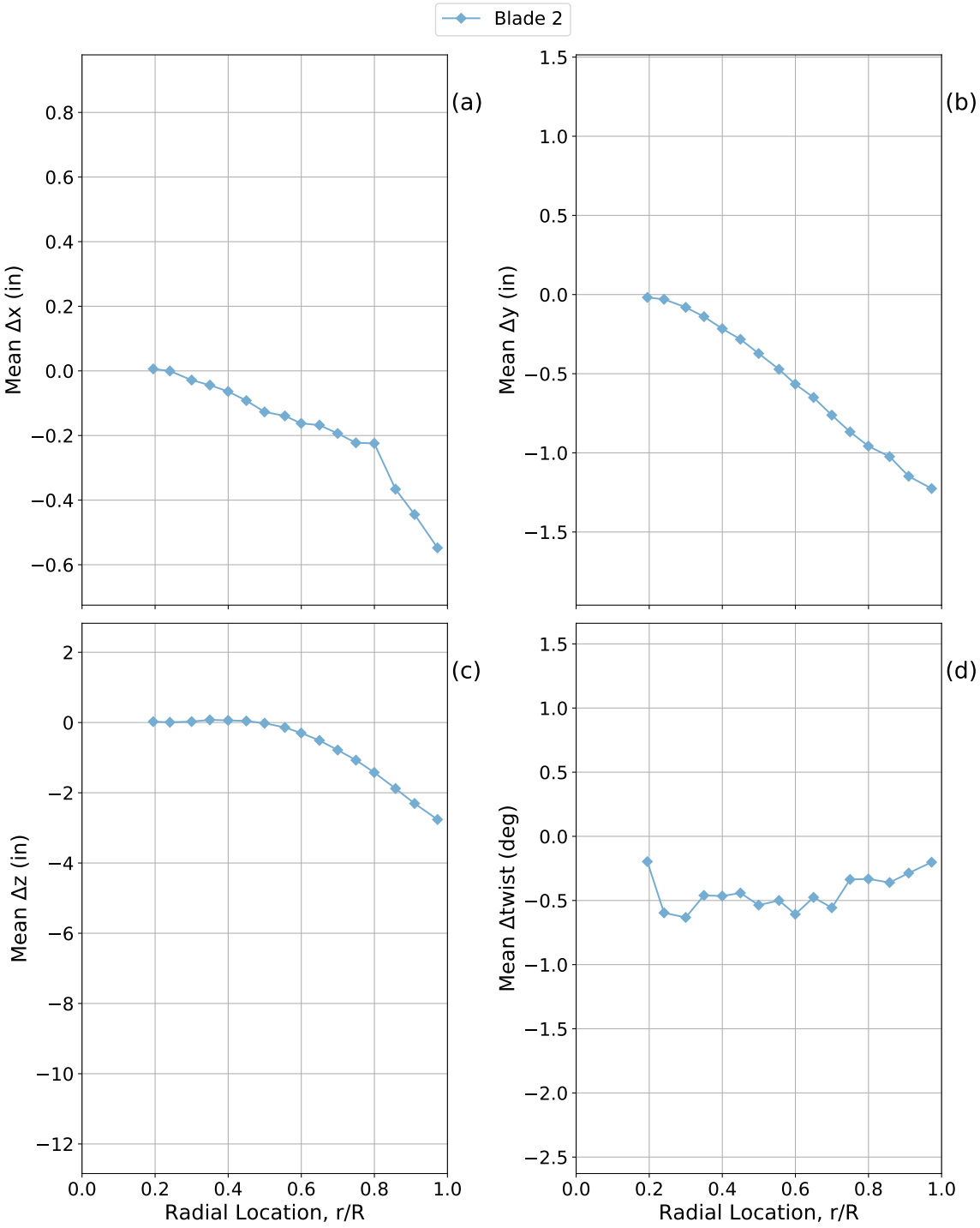


Figure 4.21-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0061	0.0017	-0.0183	0.0007	0.0252	0.0015	-0.1968	0.0160
2	344.88	0.2405	-0.0003	0.0007	-0.0298	0.0015	0.0077	0.0032	-0.5962	0.0236
2	344.88	0.2999	-0.0285	0.0012	-0.0807	0.0025	0.0271	0.0061	-0.6324	0.0348
2	344.88	0.3498	-0.0441	0.0011	-0.1396	0.0049	0.0747	0.0092	-0.4605	0.0287
2	344.88	0.3998	-0.0637	0.0026	-0.2156	0.0071	0.0612	0.0150	-0.4652	0.0309
2	344.88	0.4496	-0.0920	0.0025	-0.2827	0.0091	0.0445	0.0177	-0.4418	0.0329
2	344.88	0.4995	-0.1269	0.0024	-0.3725	0.0109	-0.0208	0.0221	-0.5359	0.0229
2	344.88	0.5551	-0.1394	0.0029	-0.4719	0.0146	-0.1398	0.0285	-0.5000	0.0340
2	344.88	0.5996	-0.1624	0.0040	-0.5659	0.0164	-0.2988	0.0300	-0.6075	0.0303
2	344.88	0.6497	-0.1678	0.0041	-0.6504	0.0194	-0.5099	0.0326	-0.4758	0.0397
2	344.88	0.6996	-0.1937	0.0052	-0.7617	0.0211	-0.7825	0.0378	-0.5570	0.0454
2	344.88	0.7495	-0.2227	0.0075	-0.8673	0.0225	-1.0715	0.0419	-0.3362	0.0632
2	344.88	0.7996	-0.2242	0.0147	-0.9575	0.0246	-1.4225	0.0401	-0.3322	0.0825
2	344.88	0.8578	-0.3661	0.0064	-1.0239	0.0386	-1.8799	0.0586	-0.3601	0.0389
2	344.88	0.9100	-0.4445	0.0068	-1.1479	0.0419	-2.3048	0.0635	-0.2862	0.0374
2	344.88	0.9727	-0.5477	0.0070	-1.2255	0.0453	-2.7615	0.0693	-0.2017	0.0365

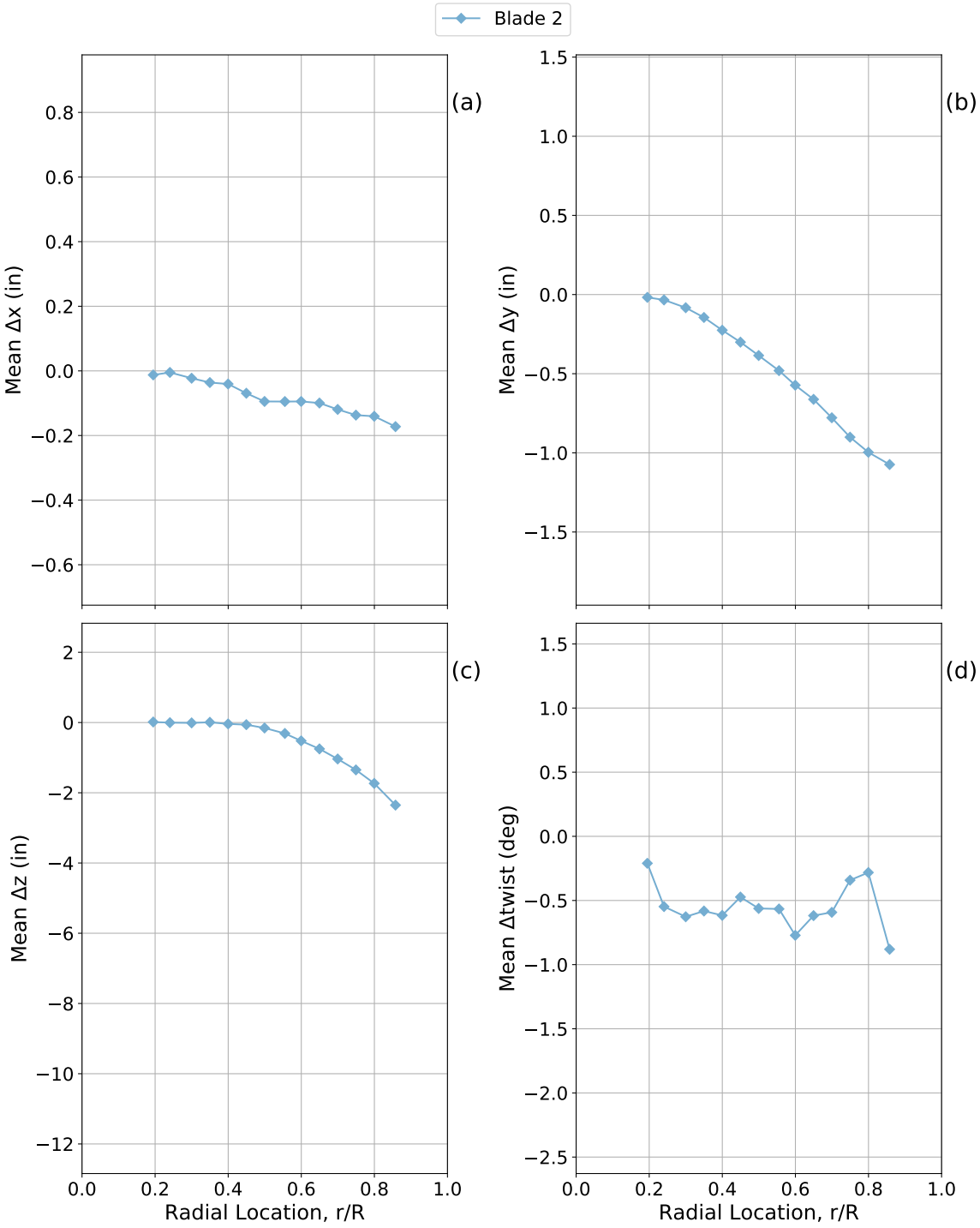


Figure 4.21-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0125	0.0022	-0.0177	0.0008	0.0153	0.0018	-0.2102	0.0153
2	350.16	0.2405	-0.0048	0.0012	-0.0339	0.0016	-0.0039	0.0023	-0.5476	0.0161
2	350.16	0.2999	-0.0227	0.0009	-0.0831	0.0034	-0.0105	0.0062	-0.6270	0.0294
2	350.16	0.3498	-0.0361	0.0020	-0.1447	0.0059	0.0067	0.0090	-0.5822	0.0256
2	350.16	0.3998	-0.0406	0.0026	-0.2252	0.0091	-0.0393	0.0141	-0.6162	0.0292
2	350.16	0.4496	-0.0692	0.0032	-0.3006	0.0115	-0.0615	0.0173	-0.4733	0.0293
2	350.16	0.4995	-0.0946	0.0040	-0.3851	0.0137	-0.1552	0.0219	-0.5622	0.0340
2	350.16	0.5551	-0.0949	0.0030	-0.4806	0.0165	-0.3113	0.0263	-0.5661	0.0277
2	350.16	0.5996	-0.0946	0.0045	-0.5728	0.0192	-0.5220	0.0291	-0.7717	0.0469
2	350.16	0.6497	-0.0995	0.0040	-0.6620	0.0211	-0.7510	0.0337	-0.6181	0.0320
2	350.16	0.6996	-0.1193	0.0034	-0.7783	0.0236	-1.0380	0.0375	-0.5923	0.0386
2	350.16	0.7495	-0.1369	0.0067	-0.9009	0.0258	-1.3489	0.0410	-0.3419	0.0460
2	350.16	0.7996	-0.1405	0.0093	-0.9963	0.0282	-1.7339	0.0456	-0.2820	0.0890
2	350.16	0.8578	-0.1725	0.0114	-1.0737	0.0311	-2.3520	0.0582	-0.8805	0.1542

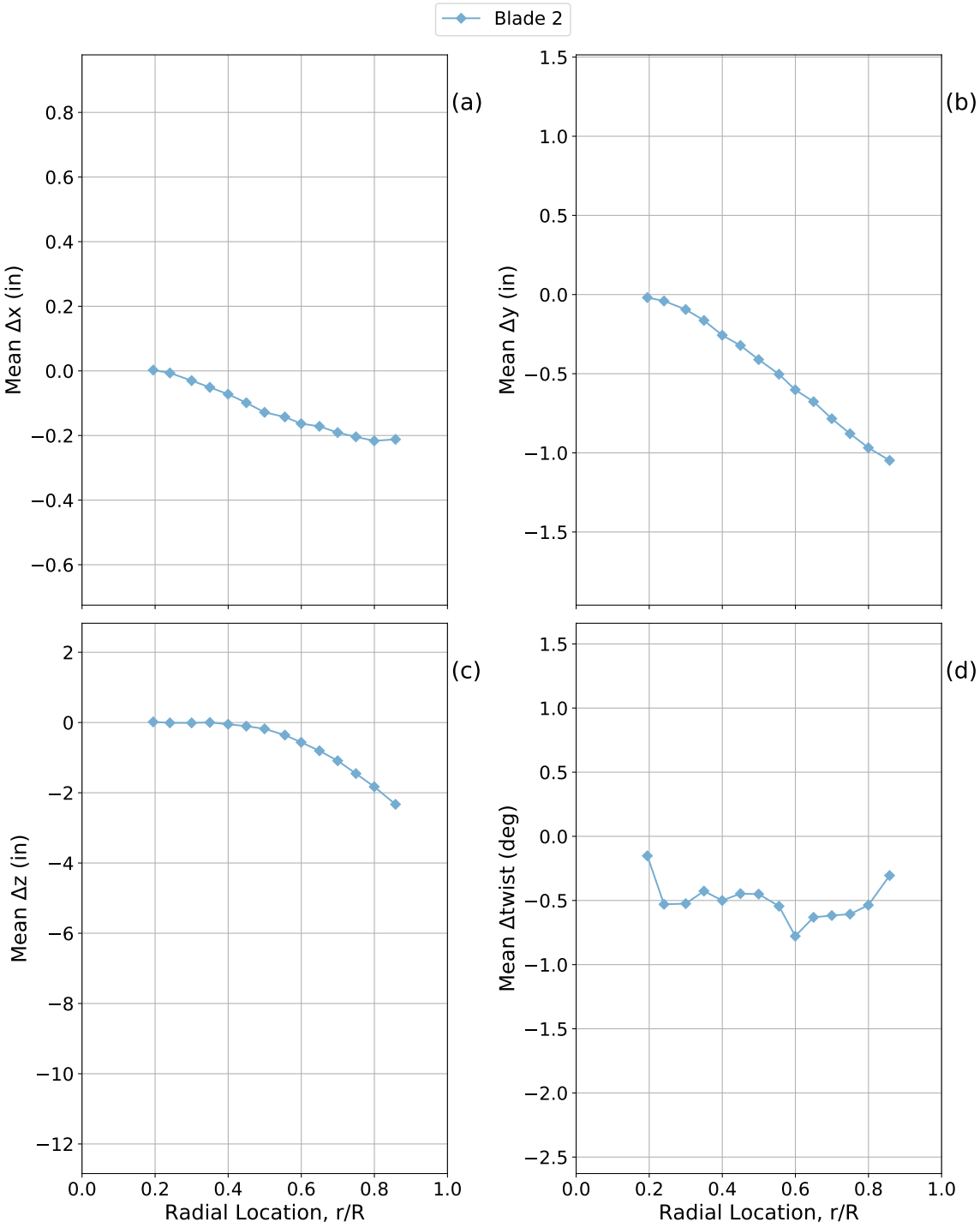


Figure 4.21-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = 0°$ NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Table 4.21-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = 0°
NFAC run 77, point 8. BD run 36, points 5788 to 5798.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0025	0.0022	-0.0191	0.0012	0.0176	0.0013	-0.1521	0.0115
2	355.08	0.2405	-0.0065	0.0015	-0.0406	0.0024	-0.0092	0.0028	-0.5298	0.0202
2	355.08	0.2999	-0.0301	0.0014	-0.0944	0.0057	-0.0108	0.0064	-0.5245	0.0251
2	355.08	0.3498	-0.0510	0.0015	-0.1634	0.0076	0.0020	0.0078	-0.4268	0.0316
2	355.08	0.3998	-0.0721	0.0026	-0.2571	0.0137	-0.0492	0.0145	-0.5002	0.0278
2	355.08	0.4496	-0.0987	0.0035	-0.3216	0.0178	-0.1034	0.0171	-0.4468	0.0287
2	355.08	0.4995	-0.1283	0.0049	-0.4109	0.0235	-0.1794	0.0237	-0.4502	0.0301
2	355.08	0.5551	-0.1426	0.0057	-0.5034	0.0300	-0.3573	0.0267	-0.5445	0.0258
2	355.08	0.5996	-0.1634	0.0084	-0.6018	0.0323	-0.5630	0.0318	-0.7781	0.0294
2	355.08	0.6497	-0.1716	0.0088	-0.6767	0.0370	-0.8051	0.0341	-0.6310	0.0241
2	355.08	0.6996	-0.1909	0.0109	-0.7842	0.0415	-1.0888	0.0388	-0.6173	0.0433
2	355.08	0.7495	-0.2041	0.0128	-0.8789	0.0437	-1.4538	0.0410	-0.6066	0.0462
2	355.08	0.7996	-0.2165	0.0154	-0.9677	0.0486	-1.8293	0.0455	-0.5364	0.0279
2	355.08	0.8578	-0.2119	0.0167	-1.0478	0.0548	-2.3300	0.0506	-0.3056	0.0747

4.22 Run 77, Point 16

4.22.1 Pitch, Flap, and Lag

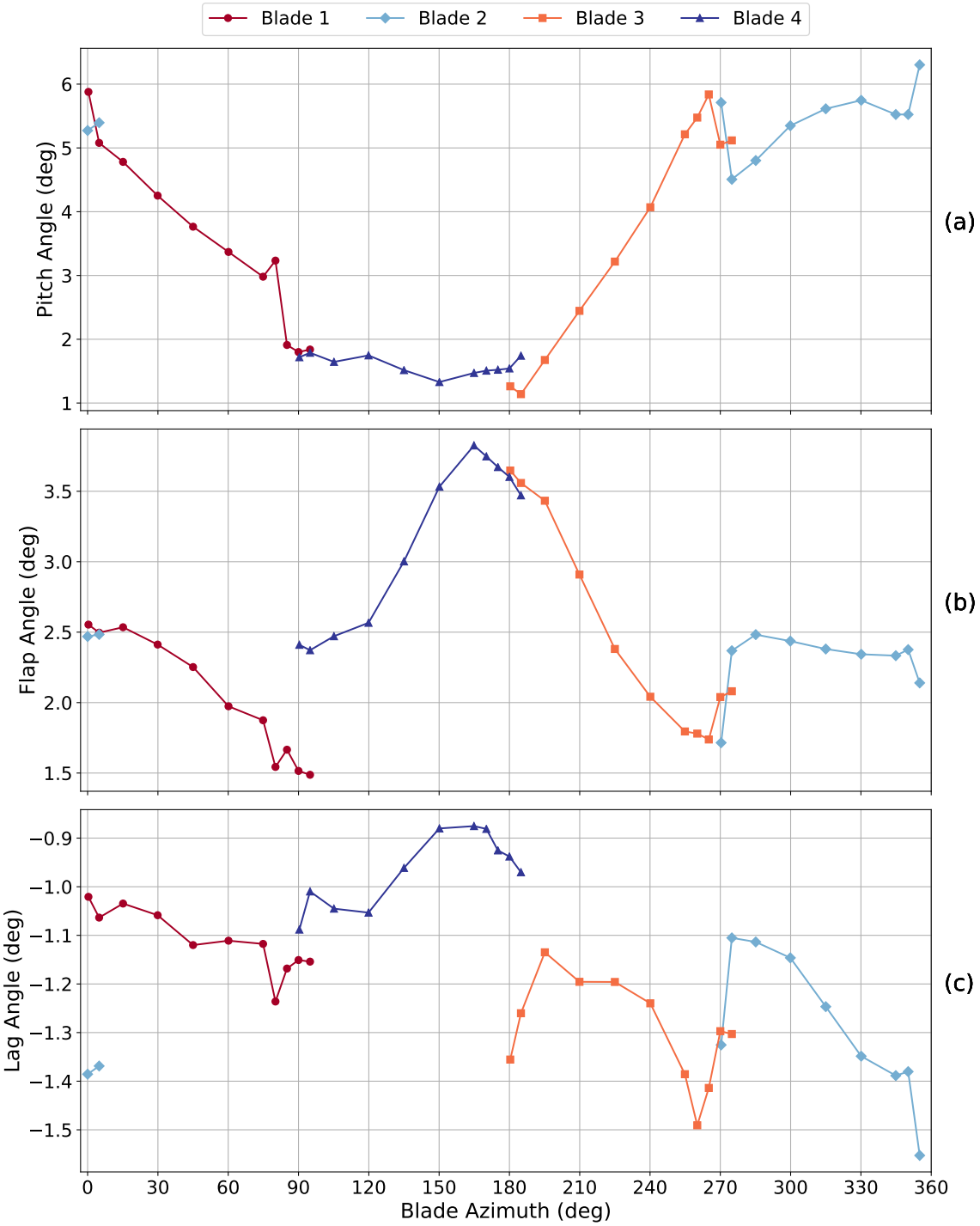


Figure 4.22-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.2729	2.4691	-1.3856	0.0597	0.0252	0.0178
0.35	1	5.8786	2.5536	-1.0208	0.0675	0.0477	0.0294
4.92	1	5.0790	2.4963	-1.0635	0.0436	0.0413	0.0314
4.92	2	5.3955	2.4837	-1.3688	0.0563	0.0298	0.0196
15.12	1	4.7809	2.5349	-1.0346	0.0887	0.0408	0.0256
29.88	1	4.2519	2.4119	-1.0586	0.0529	0.0266	0.0174
45	1	3.7649	2.2522	-1.1200	0.0409	0.0181	0.0168
60.12	1	3.3690	1.9739	-1.1110	0.0586	0.0222	0.0124
74.88	1	2.9810	1.8746	-1.1176	0.1347	0.0541	0.0225
80.16	1	3.2333	1.5434	-1.2361	0.0886	0.0272	0.0153
85.08	1	1.9104	1.6657	-1.1683	0.0347	0.0163	0.0170
90	1	1.7995	1.5151	-1.1508	0.0217	0.0209	0.0241
90.35	4	1.7180	2.4102	-1.0882	0.1083	0.0431	0.0146
94.92	1	1.8391	1.4876	-1.1541	0.0432	0.0178	0.0105
94.92	4	1.7882	2.3717	-1.0097	0.0465	0.0330	0.0192
105.12	4	1.6451	2.4711	-1.0451	0.0232	0.0269	0.0129
119.88	4	1.7471	2.5664	-1.0533	0.0243	0.0073	0.0105
135	4	1.5159	3.0021	-0.9614	0.0163	0.0197	0.0173
150.12	4	1.3291	3.5321	-0.8801	0.0315	0.0313	0.0204
164.88	4	1.4715	3.8251	-0.8753	0.0252	0.0171	0.0092
170.16	4	1.5077	3.7474	-0.8811	0.0161	0.0236	0.0174
175.08	4	1.5218	3.6716	-0.9253	0.0288	0.0121	0.0128
180	4	1.5421	3.6018	-0.9379	0.0333	0.0151	0.0192
180.35	3	1.2624	3.6473	-1.3555	0.0440	0.0257	0.0208
184.92	3	1.1393	3.5589	-1.2602	0.0976	0.0945	0.0382
184.92	4	1.7420	3.4709	-0.9702	0.0328	0.0204	0.0112
195.12	3	1.6748	3.4328	-1.1349	0.0359	0.0315	0.0187
209.88	3	2.4454	2.9090	-1.1956	0.0249	0.0198	0.0177
225	3	3.2177	2.3806	-1.1959	0.0211	0.0181	0.0173
240.12	3	4.0694	2.0416	-1.2398	0.0349	0.0251	0.0133
254.88	3	5.2136	1.7952	-1.3856	0.0386	0.0211	0.0135
260.16	3	5.4755	1.7800	-1.4907	0.0743	0.0283	0.0148
265.08	3	5.8383	1.7383	-1.4139	0.1318	0.0637	0.0286
270	3	5.0509	2.0392	-1.2971	0.1287	0.0566	0.0193
270.35	2	5.7117	1.7152	-1.3254	0.1418	0.0539	0.0130
274.92	2	4.5073	2.3684	-1.1052	0.0277	0.0120	0.0123
274.92	3	5.1178	2.0805	-1.3030	0.1389	0.0615	0.0193
285.12	2	4.8025	2.4825	-1.1136	0.0272	0.0161	0.0114
299.88	2	5.3484	2.4365	-1.1463	0.0344	0.0238	0.0118
315	2	5.6134	2.3803	-1.2467	0.0249	0.0156	0.0066
330.12	2	5.7469	2.3431	-1.3486	0.0451	0.0083	0.0082
344.88	2	5.5241	2.3331	-1.3885	0.0311	0.0141	0.0140
350.16	2	5.5244	2.3761	-1.3803	0.0402	0.0191	0.0164
355.08	2	6.3028	2.1397	-1.5527	0.0433	0.0236	0.0149

4.22.2 Spanwise Elastic Deformations

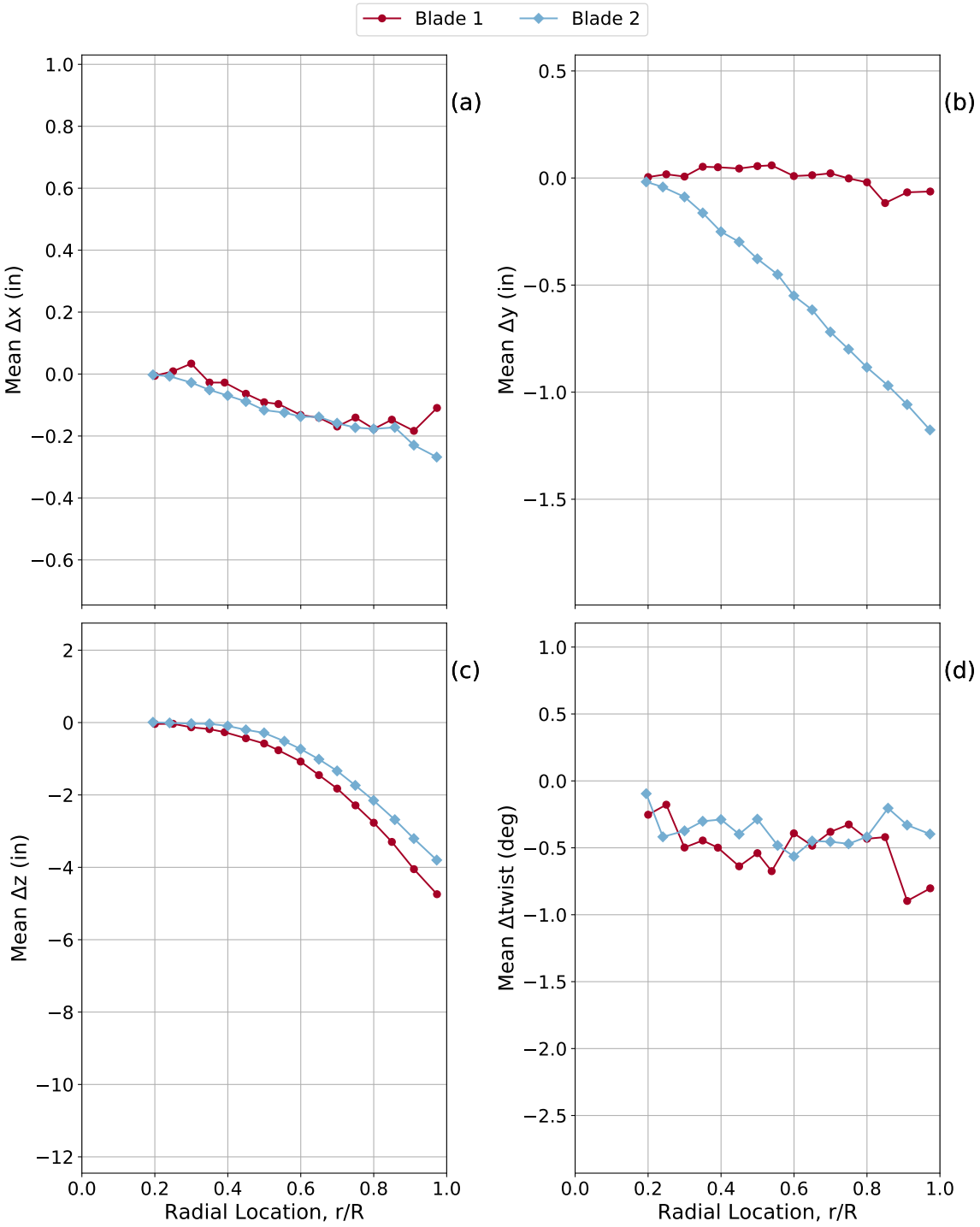


Figure 4.22-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	-0.0055	0.0039	0.0043	0.0015	-0.0375	0.0041	-0.2528	0.0404
1	0.35	0.2499	0.0089	0.0024	0.0173	0.0046	-0.0350	0.0122	-0.1778	0.0674
1	0.35	0.2998	0.0338	0.0019	0.0067	0.0067	-0.1308	0.0161	-0.4978	0.0879
1	0.35	0.3498	-0.0274	0.0031	0.0525	0.0116	-0.1806	0.0275	-0.4453	0.0771
1	0.35	0.3913	-0.0275	0.0025	0.0503	0.0176	-0.2659	0.0412	-0.4990	0.0664
1	0.35	0.4496	-0.0636	0.0032	0.0442	0.0240	-0.4342	0.0522	-0.6381	0.0690
1	0.35	0.4997	-0.0910	0.0078	0.0555	0.0250	-0.5795	0.0581	-0.5399	0.0789
1	0.35	0.5387	-0.0967	0.0074	0.0591	0.0314	-0.7651	0.0715	-0.6744	0.0612
1	0.35	0.5996	-0.1323	0.0091	0.0090	0.0370	-1.0778	0.0840	-0.3917	0.0540
1	0.35	0.6498	-0.1407	0.0113	0.0131	0.0422	-1.4517	0.0894	-0.4844	0.0700
1	0.35	0.6998	-0.1694	0.0119	0.0218	0.0506	-1.8244	0.1024	-0.3810	0.0774
1	0.35	0.7500	-0.1405	0.0120	-0.0021	0.0561	-2.2884	0.1105	-0.3257	0.0624
1	0.35	0.8001	-0.1770	0.0148	-0.0202	0.0648	-2.7682	0.1224	-0.4324	0.0697
1	0.35	0.8497	-0.1473	0.0152	-0.1170	0.0719	-3.2977	0.1305	-0.4200	0.0652
1	0.35	0.9102	-0.1834	0.0169	-0.0669	0.0813	-4.0506	0.1413	-0.8968	0.0795
1	0.35	0.9734	-0.1094	0.0194	-0.0631	0.0901	-4.7429	0.1534	-0.8026	0.0746
2	0	0.1949	-0.0024	0.0031	-0.0181	0.0008	0.0091	0.0016	-0.0954	0.0243
2	0	0.2405	-0.0071	0.0017	-0.0421	0.0025	-0.0096	0.0031	-0.4180	0.0464
2	0	0.2999	-0.0276	0.0015	-0.0884	0.0039	-0.0289	0.0055	-0.3733	0.0620
2	0	0.3498	-0.0511	0.0022	-0.1632	0.0071	-0.0346	0.0073	-0.3014	0.0584
2	0	0.3998	-0.0695	0.0038	-0.2508	0.0111	-0.0938	0.0118	-0.2886	0.0597
2	0	0.4496	-0.0887	0.0043	-0.2983	0.0151	-0.2004	0.0162	-0.3982	0.0580
2	0	0.4995	-0.1164	0.0057	-0.3774	0.0201	-0.2854	0.0201	-0.2861	0.0701
2	0	0.5551	-0.1245	0.0055	-0.4507	0.0264	-0.5156	0.0255	-0.4821	0.0448
2	0	0.5996	-0.1376	0.0056	-0.5498	0.0303	-0.7320	0.0314	-0.5644	0.0472
2	0	0.6497	-0.1384	0.0062	-0.6155	0.0341	-1.0139	0.0366	-0.4491	0.0516
2	0	0.6996	-0.1587	0.0077	-0.7189	0.0395	-1.3357	0.0425	-0.4543	0.0454
2	0	0.7495	-0.1727	0.0074	-0.7993	0.0423	-1.7360	0.0483	-0.4702	0.0632
2	0	0.7996	-0.1771	0.0091	-0.8840	0.0471	-2.1534	0.0511	-0.4180	0.0543
2	0	0.8578	-0.1722	0.0116	-0.9695	0.0503	-2.6835	0.0557	-0.2038	0.0604
2	0	0.9100	-0.2295	0.0128	-1.0579	0.0557	-3.2060	0.0623	-0.3300	0.0533
2	0	0.9727	-0.2680	0.0123	-1.1764	0.0600	-3.7996	0.0772	-0.3971	0.1096

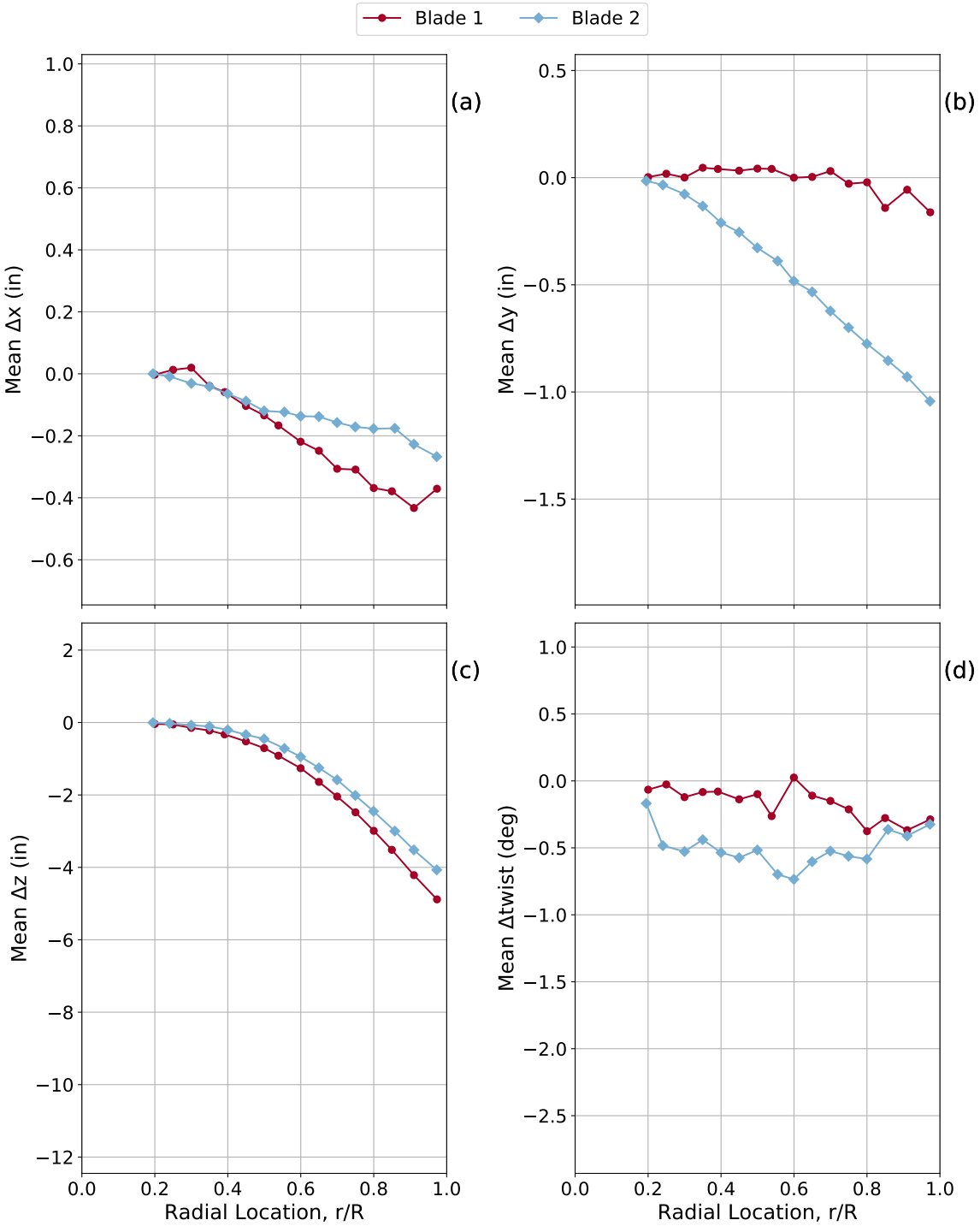


Figure 4.22-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0026	0.0033	0.0024	0.0028	-0.0379	0.0049	-0.0656	0.0258
1	4.92	0.2499	0.0129	0.0014	0.0182	0.0031	-0.0543	0.0064	-0.0266	0.0567
1	4.92	0.2998	0.0197	0.0018	0.0005	0.0081	-0.1474	0.0149	-0.1214	0.0571
1	4.92	0.3498	-0.0392	0.0027	0.0462	0.0157	-0.2209	0.0255	-0.0833	0.0407
1	4.92	0.3913	-0.0589	0.0020	0.0404	0.0196	-0.3278	0.0339	-0.0796	0.0490
1	4.92	0.4496	-0.1037	0.0027	0.0326	0.0264	-0.5209	0.0437	-0.1376	0.0331
1	4.92	0.4997	-0.1342	0.0025	0.0422	0.0316	-0.7072	0.0514	-0.0987	0.0458
1	4.92	0.5387	-0.1665	0.0016	0.0408	0.0351	-0.9154	0.0578	-0.2631	0.0449
1	4.92	0.5996	-0.2190	0.0025	-0.0001	0.0406	-1.2619	0.0675	0.0250	0.0506
1	4.92	0.6498	-0.2484	0.0028	0.0034	0.0471	-1.6397	0.0755	-0.1100	0.0463
1	4.92	0.6998	-0.3064	0.0023	0.0307	0.0519	-2.0439	0.0849	-0.1496	0.0446
1	4.92	0.7500	-0.3090	0.0031	-0.0284	0.0591	-2.4794	0.0908	-0.2127	0.0407
1	4.92	0.8001	-0.3686	0.0033	-0.0217	0.0643	-2.9901	0.1044	-0.3755	0.0417
1	4.92	0.8497	-0.3789	0.0038	-0.1412	0.0696	-3.5158	0.1145	-0.2775	0.0457
1	4.92	0.9102	-0.4329	0.0050	-0.0564	0.0770	-4.2144	0.1339	-0.3681	0.1021
1	4.92	0.9734	-0.3708	0.0057	-0.1616	0.0845	-4.8838	0.1414	-0.2873	0.0617
2	4.92	0.1949	0.0002	0.0039	-0.0151	0.0014	-0.0034	0.0029	-0.1680	0.0364
2	4.92	0.2405	-0.0087	0.0024	-0.0340	0.0023	-0.0251	0.0065	-0.4837	0.0573
2	4.92	0.2999	-0.0308	0.0013	-0.0771	0.0052	-0.0737	0.0099	-0.5276	0.0858
2	4.92	0.3498	-0.0411	0.0026	-0.1328	0.0081	-0.1078	0.0177	-0.4392	0.0695
2	4.92	0.3998	-0.0646	0.0036	-0.2104	0.0128	-0.2044	0.0266	-0.5352	0.0683
2	4.92	0.4496	-0.0880	0.0071	-0.2548	0.0162	-0.3361	0.0310	-0.5737	0.0580
2	4.92	0.4995	-0.1197	0.0082	-0.3276	0.0216	-0.4535	0.0399	-0.5166	0.0759
2	4.92	0.5551	-0.1233	0.0087	-0.3891	0.0274	-0.7168	0.0475	-0.6982	0.0633
2	4.92	0.5996	-0.1367	0.0140	-0.4825	0.0304	-0.9446	0.0537	-0.7348	0.0570
2	4.92	0.6497	-0.1379	0.0146	-0.5332	0.0353	-1.2515	0.0623	-0.6031	0.0504
2	4.92	0.6996	-0.1573	0.0165	-0.6225	0.0416	-1.5835	0.0686	-0.5239	0.0644
2	4.92	0.7495	-0.1712	0.0194	-0.6995	0.0479	-2.0137	0.0743	-0.5622	0.0639
2	4.92	0.7996	-0.1770	0.0196	-0.7750	0.0538	-2.4518	0.0786	-0.5839	0.0729
2	4.92	0.8578	-0.1758	0.0230	-0.8540	0.0591	-2.9984	0.0898	-0.3624	0.0661
2	4.92	0.9100	-0.2272	0.0210	-0.9297	0.0660	-3.5190	0.0998	-0.4107	0.0556
2	4.92	0.9727	-0.2673	0.0235	-1.0434	0.0750	-4.0695	0.1112	-0.3242	0.0879

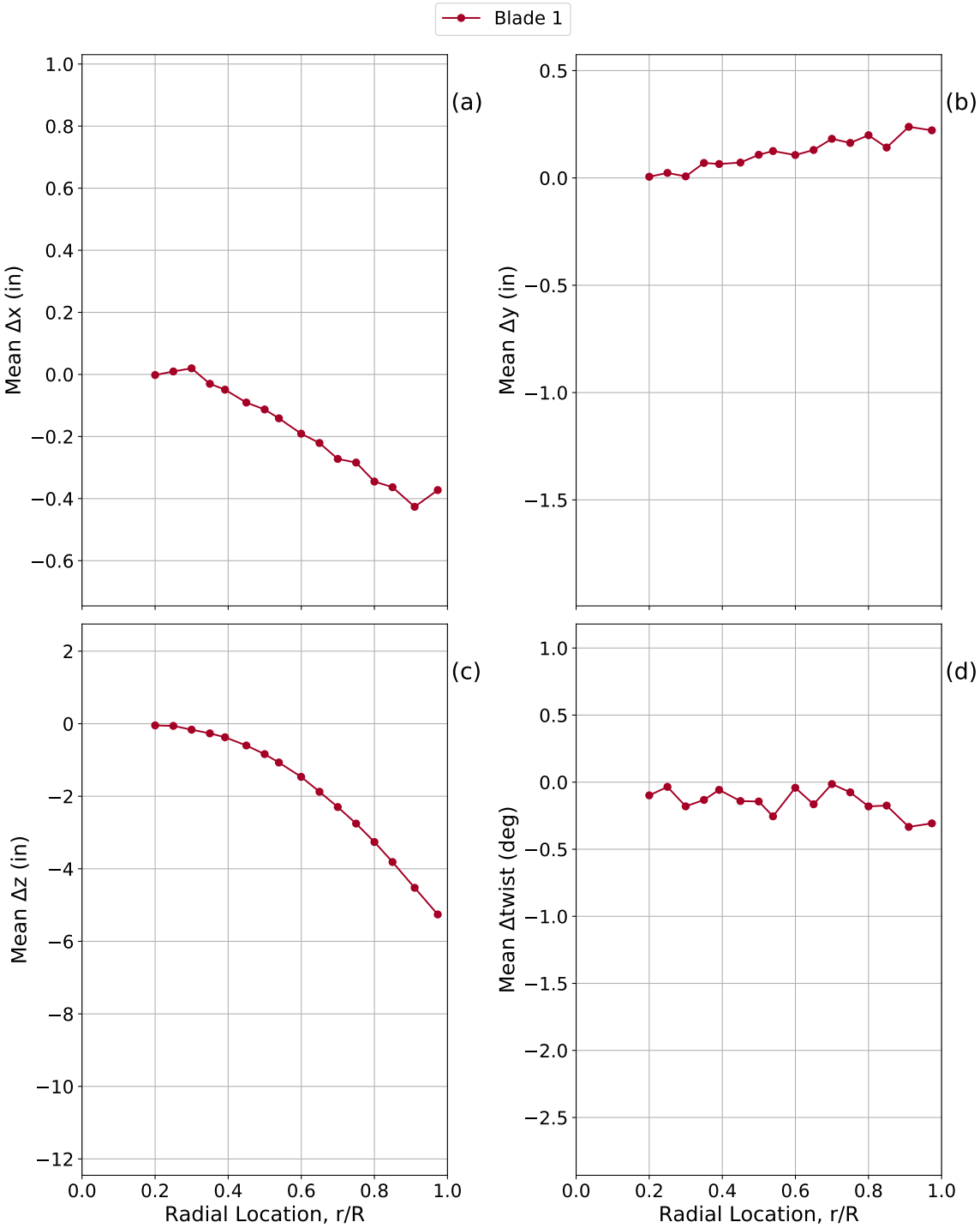


Figure 4.22-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0019	0.0023	0.0056	0.0017	-0.0470	0.0037	-0.0984	0.0432
1	15.12	0.2499	0.0096	0.0018	0.0234	0.0036	-0.0608	0.0080	-0.0350	0.0836
1	15.12	0.2998	0.0197	0.0017	0.0072	0.0066	-0.1652	0.0114	-0.1803	0.1038
1	15.12	0.3498	-0.0301	0.0013	0.0699	0.0123	-0.2663	0.0238	-0.1323	0.0792
1	15.12	0.3913	-0.0491	0.0014	0.0649	0.0171	-0.3741	0.0308	-0.0574	0.0896
1	15.12	0.4496	-0.0906	0.0016	0.0716	0.0232	-0.6004	0.0437	-0.1409	0.0896
1	15.12	0.4997	-0.1128	0.0022	0.1079	0.0292	-0.8388	0.0539	-0.1440	0.0843
1	15.12	0.5387	-0.1414	0.0026	0.1253	0.0331	-1.0697	0.0609	-0.2547	0.0914
1	15.12	0.5996	-0.1908	0.0023	0.1067	0.0406	-1.4656	0.0717	-0.0417	0.0951
1	15.12	0.6498	-0.2209	0.0025	0.1302	0.0468	-1.8763	0.0827	-0.1647	0.0834
1	15.12	0.6998	-0.2722	0.0028	0.1823	0.0534	-2.2979	0.0922	-0.0142	0.0864
1	15.12	0.7500	-0.2839	0.0027	0.1632	0.0600	-2.7532	0.1003	-0.0757	0.0898
1	15.12	0.8001	-0.3451	0.0030	0.1990	0.0667	-3.2622	0.1069	-0.1806	0.0907
1	15.12	0.8497	-0.3633	0.0029	0.1417	0.0734	-3.8138	0.1143	-0.1745	0.0909
1	15.12	0.9102	-0.4264	0.0029	0.2381	0.0802	-4.5237	0.1238	-0.3335	0.0876
1	15.12	0.9734	-0.3726	0.0044	0.2218	0.0886	-5.2593	0.1295	-0.3071	0.1012

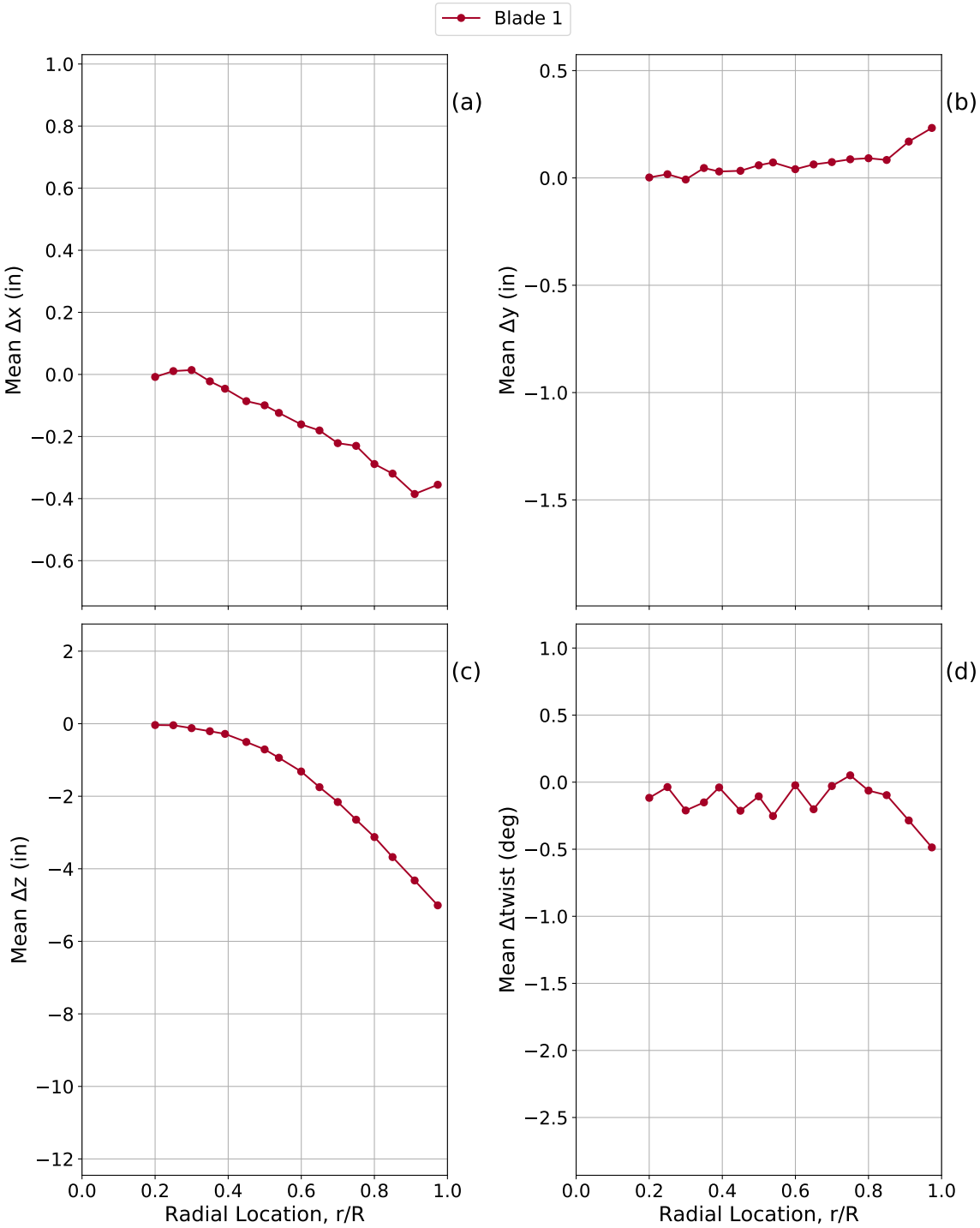


Figure 4.22-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0081	0.0024	0.0022	0.0008	-0.0369	0.0037	-0.1169	0.0196
1	29.88	0.2499	0.0108	0.0019	0.0173	0.0023	-0.0422	0.0046	-0.0367	0.0564
1	29.88	0.2998	0.0141	0.0008	-0.0074	0.0030	-0.1228	0.0120	-0.2110	0.0515
1	29.88	0.3498	-0.0222	0.0016	0.0462	0.0055	-0.2072	0.0198	-0.1508	0.0439
1	29.88	0.3913	-0.0460	0.0016	0.0300	0.0079	-0.2812	0.0269	-0.0394	0.0430
1	29.88	0.4496	-0.0861	0.0021	0.0332	0.0105	-0.5041	0.0359	-0.2130	0.0479
1	29.88	0.4997	-0.0995	0.0024	0.0591	0.0133	-0.7091	0.0447	-0.1057	0.0423
1	29.88	0.5387	-0.1239	0.0030	0.0721	0.0154	-0.9392	0.0490	-0.2525	0.0457
1	29.88	0.5996	-0.1609	0.0031	0.0407	0.0194	-1.3171	0.0566	-0.0233	0.0426
1	29.88	0.6498	-0.1805	0.0028	0.0629	0.0225	-1.7501	0.0614	-0.2019	0.0400
1	29.88	0.6998	-0.2214	0.0025	0.0738	0.0260	-2.1595	0.0679	-0.0289	0.0376
1	29.88	0.7500	-0.2301	0.0021	0.0868	0.0288	-2.6465	0.0738	0.0509	0.0414
1	29.88	0.8001	-0.2887	0.0021	0.0918	0.0329	-3.1251	0.0813	-0.0628	0.0383
1	29.88	0.8497	-0.3195	0.0020	0.0837	0.0370	-3.6771	0.0902	-0.0967	0.0348
1	29.88	0.9102	-0.3852	0.0022	0.1695	0.0417	-4.3223	0.1007	-0.2854	0.0445
1	29.88	0.9734	-0.3553	0.0018	0.2329	0.0467	-5.0080	0.1157	-0.4865	0.0369

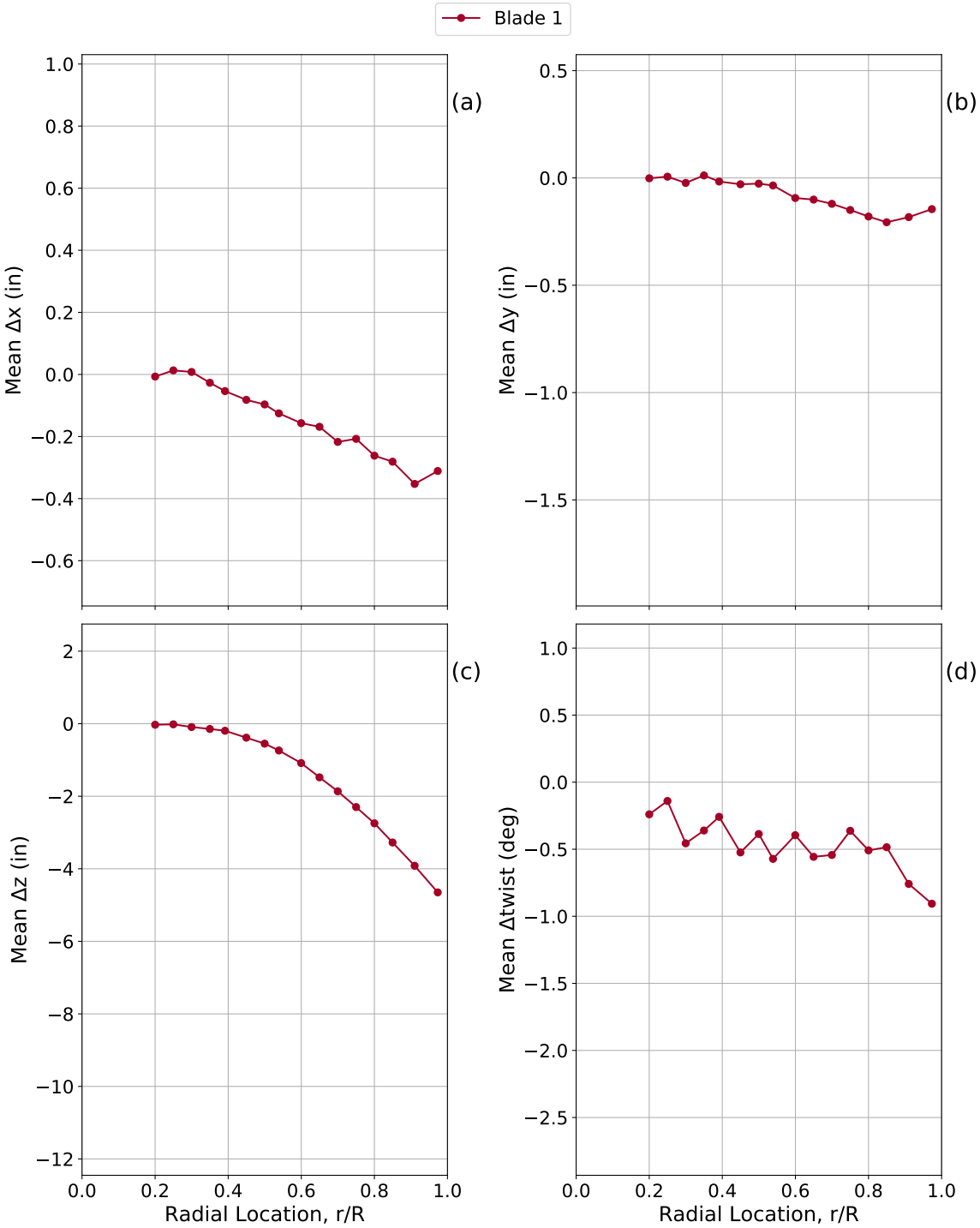


Figure 4.22-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0069	0.0019	-0.0016	0.0011	-0.0287	0.0031	-0.2398	0.0268
1	45	0.2499	0.0130	0.0023	0.0059	0.0013	-0.0172	0.0048	-0.1402	0.0395
1	45	0.2998	0.0080	0.0015	-0.0232	0.0030	-0.0912	0.0110	-0.4560	0.0585
1	45	0.3498	-0.0268	0.0011	0.0117	0.0059	-0.1447	0.0182	-0.3603	0.0494
1	45	0.3913	-0.0537	0.0019	-0.0167	0.0073	-0.1943	0.0255	-0.2584	0.0454
1	45	0.4496	-0.0819	0.0024	-0.0295	0.0098	-0.3854	0.0347	-0.5238	0.0451
1	45	0.4997	-0.0967	0.0013	-0.0266	0.0123	-0.5496	0.0417	-0.3863	0.0482
1	45	0.5387	-0.1254	0.0016	-0.0351	0.0138	-0.7387	0.0476	-0.5717	0.0432
1	45	0.5996	-0.1569	0.0015	-0.0936	0.0168	-1.0852	0.0570	-0.3953	0.0462
1	45	0.6498	-0.1687	0.0013	-0.1009	0.0194	-1.4784	0.0641	-0.5566	0.0434
1	45	0.6998	-0.2173	0.0016	-0.1206	0.0224	-1.8639	0.0727	-0.5428	0.0426
1	45	0.7500	-0.2075	0.0022	-0.1493	0.0261	-2.2985	0.0788	-0.3629	0.0435
1	45	0.8001	-0.2617	0.0017	-0.1798	0.0287	-2.7462	0.0869	-0.5084	0.0383
1	45	0.8497	-0.2811	0.0017	-0.2066	0.0324	-3.2750	0.0937	-0.4849	0.0452
1	45	0.9102	-0.3527	0.0022	-0.1826	0.0362	-3.9170	0.1089	-0.7587	0.0340
1	45	0.9734	-0.3111	0.0024	-0.1453	0.0403	-4.6507	0.1259	-0.9062	0.0412

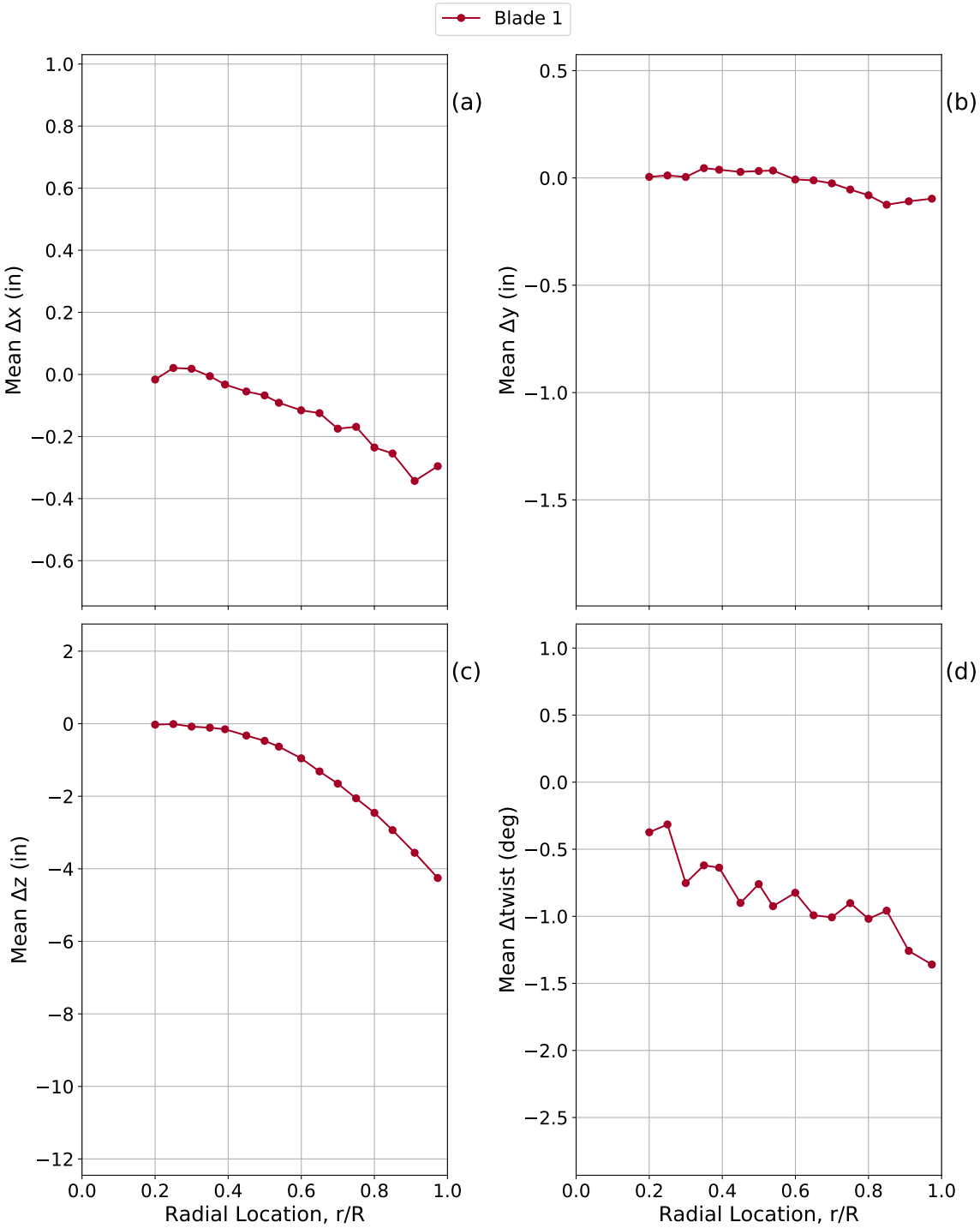


Figure 4.22-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0164	0.0017	0.0050	0.0016	-0.0258	0.0026	-0.3737	0.0281
1	60.12	0.2499	0.0208	0.0015	0.0116	0.0021	-0.0104	0.0036	-0.3150	0.0554
1	60.12	0.2998	0.0183	0.0026	0.0045	0.0049	-0.0801	0.0083	-0.7523	0.0662
1	60.12	0.3498	-0.0056	0.0021	0.0456	0.0090	-0.1098	0.0135	-0.6201	0.0614
1	60.12	0.3913	-0.0325	0.0022	0.0383	0.0116	-0.1532	0.0184	-0.6373	0.0569
1	60.12	0.4496	-0.0549	0.0029	0.0281	0.0153	-0.3263	0.0214	-0.9005	0.0664
1	60.12	0.4997	-0.0676	0.0024	0.0323	0.0192	-0.4722	0.0273	-0.7599	0.0611
1	60.12	0.5387	-0.0913	0.0025	0.0344	0.0219	-0.6323	0.0319	-0.9247	0.0603
1	60.12	0.5996	-0.1156	0.0021	-0.0074	0.0265	-0.9546	0.0400	-0.8245	0.0603
1	60.12	0.6498	-0.1246	0.0015	-0.0111	0.0304	-1.3151	0.0455	-0.9925	0.0655
1	60.12	0.6998	-0.1747	0.0021	-0.0252	0.0343	-1.6517	0.0521	-1.0077	0.0682
1	60.12	0.7500	-0.1688	0.0017	-0.0540	0.0381	-2.0573	0.0584	-0.9020	0.0723
1	60.12	0.8001	-0.2354	0.0021	-0.0808	0.0424	-2.4566	0.0660	-1.0187	0.0681
1	60.12	0.8497	-0.2546	0.0023	-0.1248	0.0462	-2.9344	0.0722	-0.9582	0.0683
1	60.12	0.9102	-0.3431	0.0019	-0.1088	0.0513	-3.5583	0.0785	-1.2578	0.0673
1	60.12	0.9734	-0.2956	0.0020	-0.0967	0.0569	-4.2532	0.0858	-1.3596	0.0761

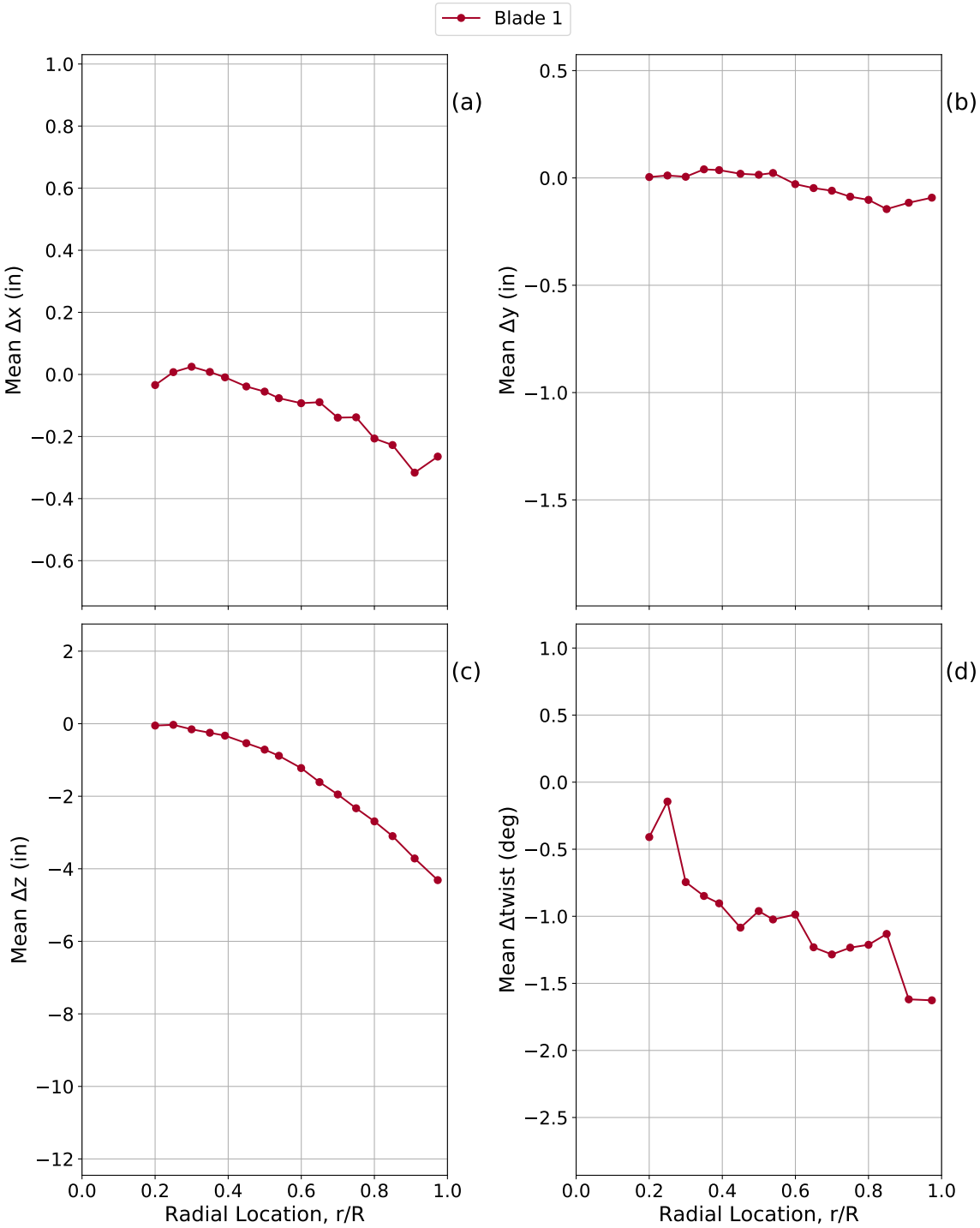


Figure 4.22-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0342	0.0051	0.0042	0.0014	-0.0511	0.0047	-0.4094	0.0588
1	74.88	0.2499	0.0074	0.0026	0.0113	0.0031	-0.0309	0.0107	-0.1445	0.1003
1	74.88	0.2998	0.0248	0.0027	0.0055	0.0039	-0.1549	0.0190	-0.7450	0.1336
1	74.88	0.3498	0.0080	0.0021	0.0401	0.0070	-0.2500	0.0324	-0.8484	0.1423
1	74.88	0.3913	-0.0094	0.0022	0.0365	0.0098	-0.3291	0.0470	-0.9034	0.1326
1	74.88	0.4496	-0.0388	0.0021	0.0194	0.0144	-0.5369	0.0648	-1.0845	0.1280
1	74.88	0.4997	-0.0553	0.0021	0.0148	0.0180	-0.7144	0.0786	-0.9610	0.1363
1	74.88	0.5387	-0.0765	0.0026	0.0230	0.0200	-0.8844	0.0913	-1.0236	0.1296
1	74.88	0.5996	-0.0927	0.0027	-0.0289	0.0262	-1.2232	0.1092	-0.9867	0.1353
1	74.88	0.6498	-0.0894	0.0027	-0.0473	0.0307	-1.6103	0.1273	-1.2311	0.1275
1	74.88	0.6998	-0.1392	0.0030	-0.0595	0.0351	-1.9510	0.1433	-1.2844	0.1275
1	74.88	0.7500	-0.1381	0.0026	-0.0873	0.0406	-2.3312	0.1583	-1.2336	0.1324
1	74.88	0.8001	-0.2065	0.0026	-0.1022	0.0459	-2.6929	0.1746	-1.2123	0.1282
1	74.88	0.8497	-0.2275	0.0026	-0.1451	0.0513	-3.0994	0.1887	-1.1315	0.1334
1	74.88	0.9102	-0.3164	0.0029	-0.1155	0.0584	-3.7155	0.2056	-1.6191	0.1312
1	74.88	0.9734	-0.2647	0.0035	-0.0919	0.0660	-4.3125	0.2239	-1.6263	0.1292

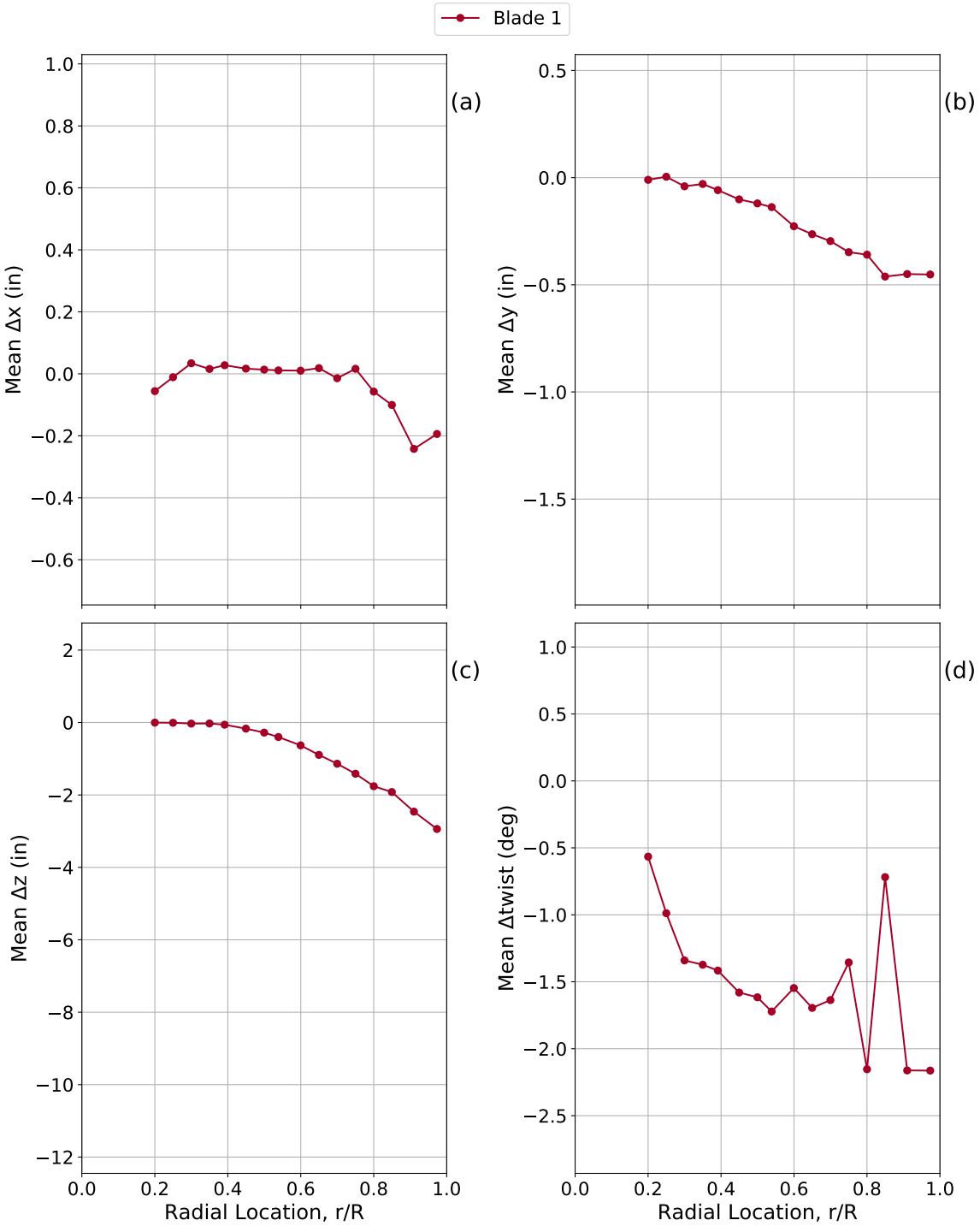


Figure 4.22-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0558	0.0023	-0.0102	0.0021	-0.0022	0.0045	-0.5658	0.0349
1	80.16	0.2499	-0.0110	0.0012	0.0042	0.0023	-0.0064	0.0058	-0.9884	0.0880
1	80.16	0.2998	0.0341	0.0018	-0.0404	0.0056	-0.0296	0.0128	-1.3406	0.0886
1	80.16	0.3498	0.0157	0.0018	-0.0296	0.0099	-0.0259	0.0202	-1.3728	0.0885
1	80.16	0.3913	0.0278	0.0022	-0.0583	0.0125	-0.0599	0.0271	-1.4165	0.0878
1	80.16	0.4496	0.0167	0.0020	-0.1014	0.0179	-0.1683	0.0377	-1.5804	0.0735
1	80.16	0.4997	0.0135	0.0034	-0.1202	0.0219	-0.2782	0.0449	-1.6160	0.0798
1	80.16	0.5387	0.0111	0.0043	-0.1375	0.0247	-0.4004	0.0507	-1.7222	0.0834
1	80.16	0.5996	0.0102	0.0057	-0.2267	0.0295	-0.6308	0.0577	-1.5470	0.0888
1	80.16	0.6498	0.0183	0.0048	-0.2640	0.0337	-0.8939	0.0653	-1.6952	0.0959
1	80.16	0.6998	-0.0142	0.0073	-0.2960	0.0369	-1.1380	0.0744	-1.6368	0.0823
1	80.16	0.7500	0.0162	0.0085	-0.3478	0.0472	-1.4139	0.0823	-1.3559	0.0952
1	80.16	0.8001	-0.0573	0.0071	-0.3594	0.0523	-1.7592	0.0992	-2.1533	0.1444
1	80.16	0.8497	-0.1004	0.0096	-0.4616	0.0573	-1.9195	0.0900	-0.7186	0.2757
1	80.16	0.9102	-0.2422	0.0027	-0.4500	0.0727	-2.4605	0.1005	-2.1622	0.0839
1	80.16	0.9734	-0.1941	0.0026	-0.4519	0.0802	-2.9399	0.1113	-2.1634	0.0872

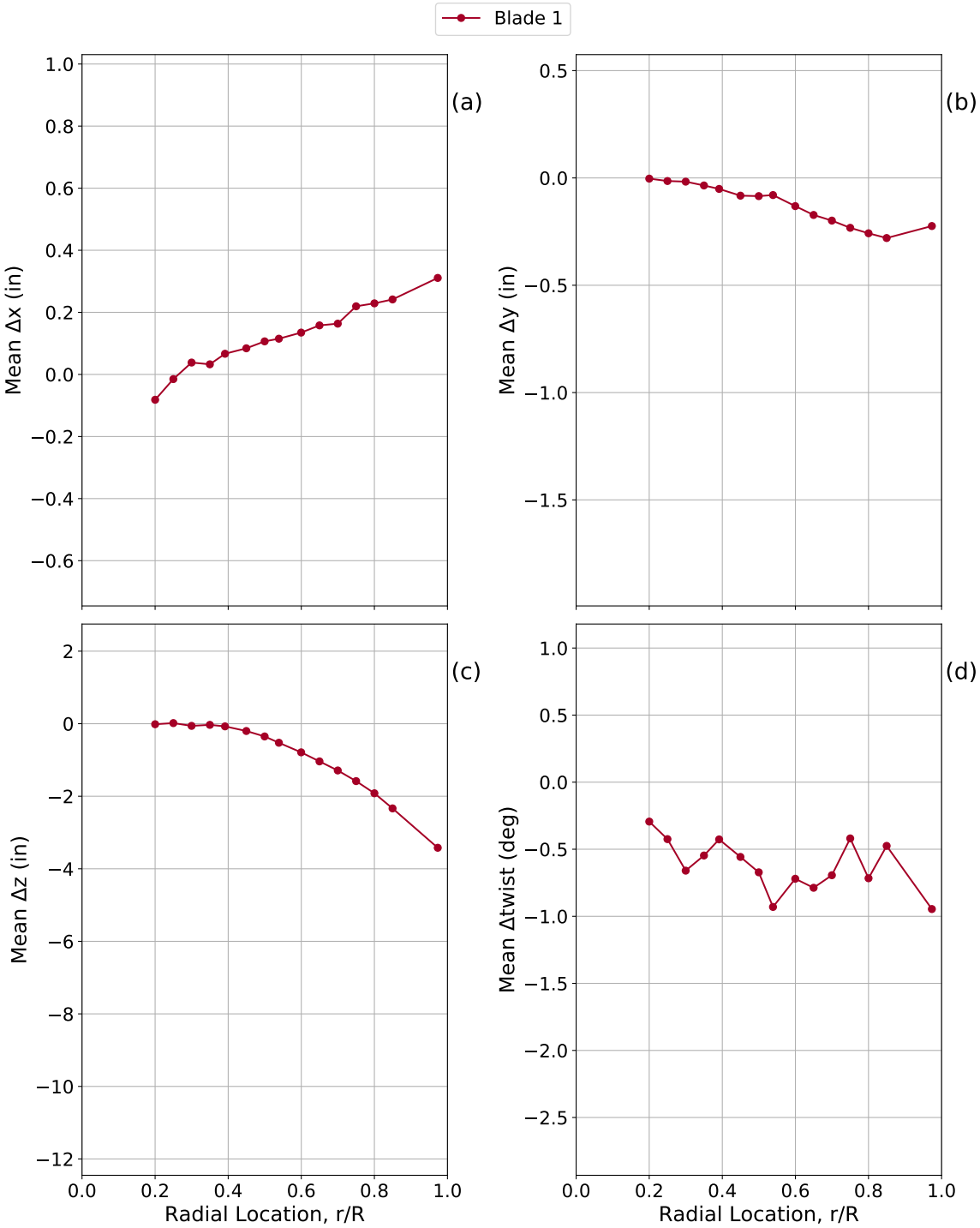


Figure 4.22-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0816	0.0008	-0.0032	0.0007	-0.0149	0.0021	-0.2938	0.0163
1	85.08	0.2499	-0.0150	0.0010	-0.0143	0.0014	0.0168	0.0029	-0.4246	0.0337
1	85.08	0.2998	0.0383	0.0011	-0.0173	0.0026	-0.0597	0.0069	-0.6597	0.0386
1	85.08	0.3498	0.0326	0.0007	-0.0351	0.0047	-0.0319	0.0109	-0.5468	0.0395
1	85.08	0.3913	0.0666	0.0010	-0.0512	0.0066	-0.0733	0.0153	-0.4266	0.0350
1	85.08	0.4496	0.0842	0.0016	-0.0826	0.0094	-0.2011	0.0218	-0.5574	0.0347
1	85.08	0.4997	0.1065	0.0020	-0.0847	0.0123	-0.3514	0.0273	-0.6721	0.0559
1	85.08	0.5387	0.1151	0.0016	-0.0798	0.0144	-0.5251	0.0326	-0.9303	0.0456
1	85.08	0.5996	0.1348	0.0018	-0.1313	0.0184	-0.7895	0.0414	-0.7201	0.0397
1	85.08	0.6498	0.1580	0.0033	-0.1725	0.0227	-1.0392	0.0472	-0.7874	0.0458
1	85.08	0.6998	0.1636	0.0043	-0.1988	0.0252	-1.2891	0.0515	-0.6938	0.0756
1	85.08	0.7500	0.2195	0.0054	-0.2324	0.0293	-1.5829	0.0624	-0.4194	0.1404
1	85.08	0.8001	0.2290	0.0093	-0.2579	0.0336	-1.9183	0.0704	-0.7164	0.1652
1	85.08	0.8497	0.2416	0.0068	-0.2800	0.0392	-2.3351	0.0790	-0.4751	0.1351
1	85.08	0.9734	0.3109	0.0083	-0.2241	0.0503	-3.4206	0.0818	-0.9460	0.1973

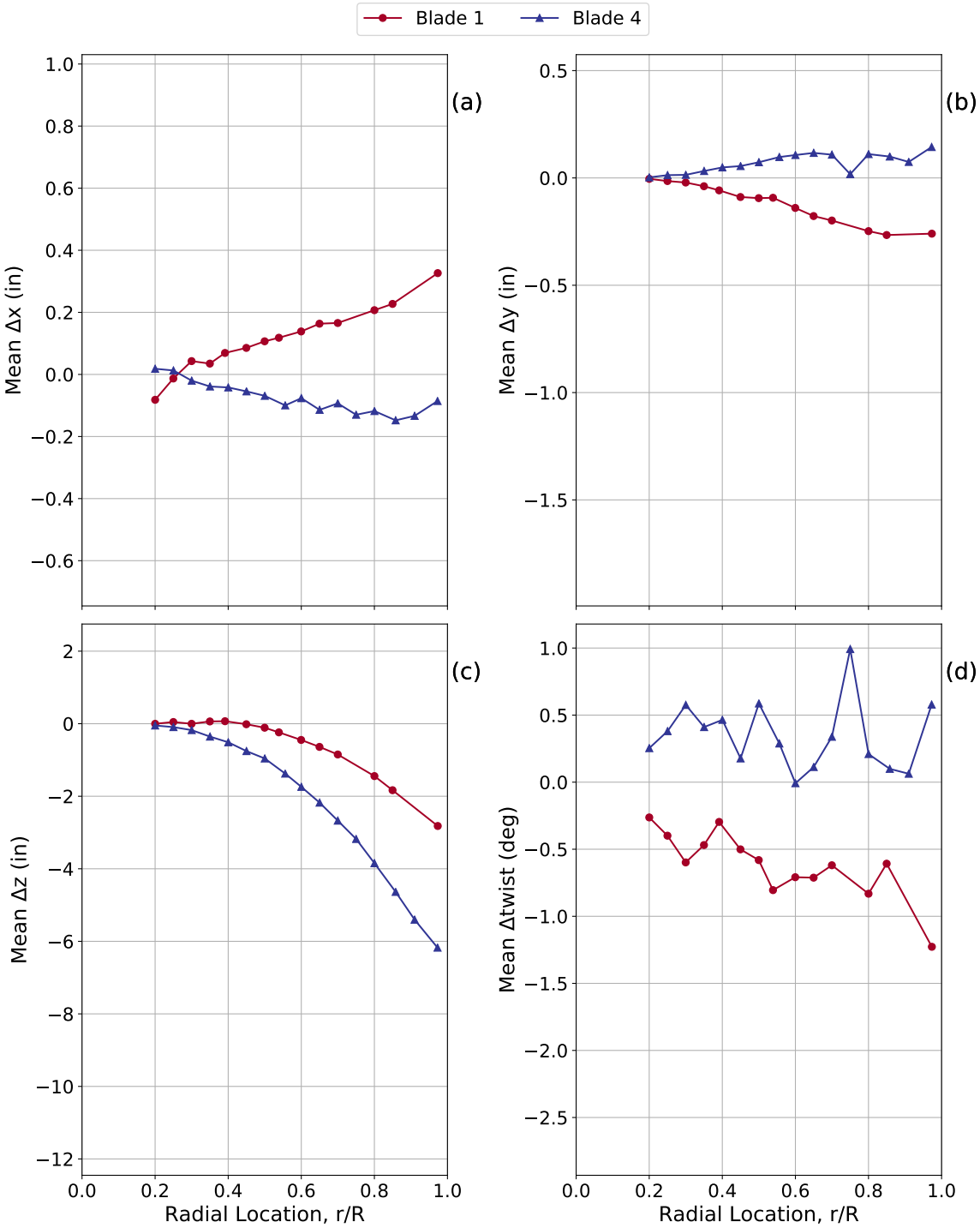


Figure 4.22-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0817	0.0011	-0.0042	0.0007	-0.0025	0.0017	-0.2629	0.0149
1	90	0.2499	-0.0131	0.0006	-0.0145	0.0017	0.0465	0.0040	-0.3990	0.0289
1	90	0.2998	0.0429	0.0012	-0.0214	0.0027	-0.0023	0.0062	-0.5983	0.0355
1	90	0.3498	0.0349	0.0011	-0.0387	0.0054	0.0625	0.0123	-0.4689	0.0277
1	90	0.3913	0.0692	0.0018	-0.0579	0.0074	0.0687	0.0165	-0.2963	0.0222
1	90	0.4496	0.0855	0.0015	-0.0889	0.0096	-0.0146	0.0230	-0.5009	0.0325
1	90	0.4997	0.1067	0.0017	-0.0941	0.0116	-0.1104	0.0272	-0.5810	0.0337
1	90	0.5387	0.1182	0.0027	-0.0924	0.0136	-0.2386	0.0326	-0.8049	0.0253
1	90	0.5996	0.1385	0.0023	-0.1397	0.0160	-0.4480	0.0383	-0.7086	0.0388
1	90	0.6498	0.1635	0.0023	-0.1776	0.0187	-0.6393	0.0414	-0.7120	0.0339
1	90	0.6998	0.1657	0.0020	-0.1984	0.0222	-0.8487	0.0475	-0.6194	0.0464
1	90	0.8001	0.2070	0.0038	-0.2478	0.0281	-1.4441	0.0536	-0.8316	0.0962
1	90	0.8497	0.2272	0.0060	-0.2660	0.0330	-1.8335	0.0617	-0.6077	0.0846
1	90	0.9734	0.3264	0.0062	-0.2596	0.0416	-2.8199	0.0714	-1.2274	0.0539
4	90.35	0.2001	0.0182	0.0044	0.0026	0.0012	-0.0492	0.0058	0.2535	0.0591
4	90.35	0.2502	0.0128	0.0054	0.0130	0.0024	-0.0936	0.0121	0.3803	0.1120
4	90.35	0.3001	-0.0201	0.0025	0.0143	0.0040	-0.1768	0.0199	0.5758	0.1230
4	90.35	0.3502	-0.0389	0.0038	0.0323	0.0056	-0.3559	0.0231	0.4106	0.1179
4	90.35	0.4002	-0.0419	0.0037	0.0490	0.0090	-0.5124	0.0416	0.4645	0.1076
4	90.35	0.4500	-0.0546	0.0044	0.0553	0.0111	-0.7555	0.0501	0.1769	0.1102
4	90.35	0.5001	-0.0690	0.0033	0.0731	0.0141	-0.9591	0.0605	0.5867	0.1018
4	90.35	0.5560	-0.0997	0.0043	0.0973	0.0173	-1.3758	0.0705	0.2883	0.1142
4	90.35	0.6001	-0.0765	0.0044	0.1067	0.0200	-1.7415	0.0812	-0.0079	0.1083
4	90.35	0.6501	-0.1141	0.0048	0.1166	0.0234	-2.1765	0.0918	0.1129	0.1042
4	90.35	0.6999	-0.0932	0.0050	0.1084	0.0272	-2.6728	0.1038	0.3384	0.1069
4	90.35	0.7500	-0.1299	0.0058	0.0175	0.0295	-3.1782	0.1130	0.9923	0.1064
4	90.35	0.8002	-0.1180	0.0035	0.1110	0.0352	-3.8470	0.1270	0.2096	0.1034
4	90.35	0.8582	-0.1479	0.0039	0.0996	0.0392	-4.6371	0.1347	0.0993	0.1055
4	90.35	0.9101	-0.1335	0.0036	0.0745	0.0430	-5.4035	0.1432	0.0627	0.1075
4	90.35	0.9728	-0.0857	0.0038	0.1440	0.0477	-6.1748	0.1580	0.5786	0.0924

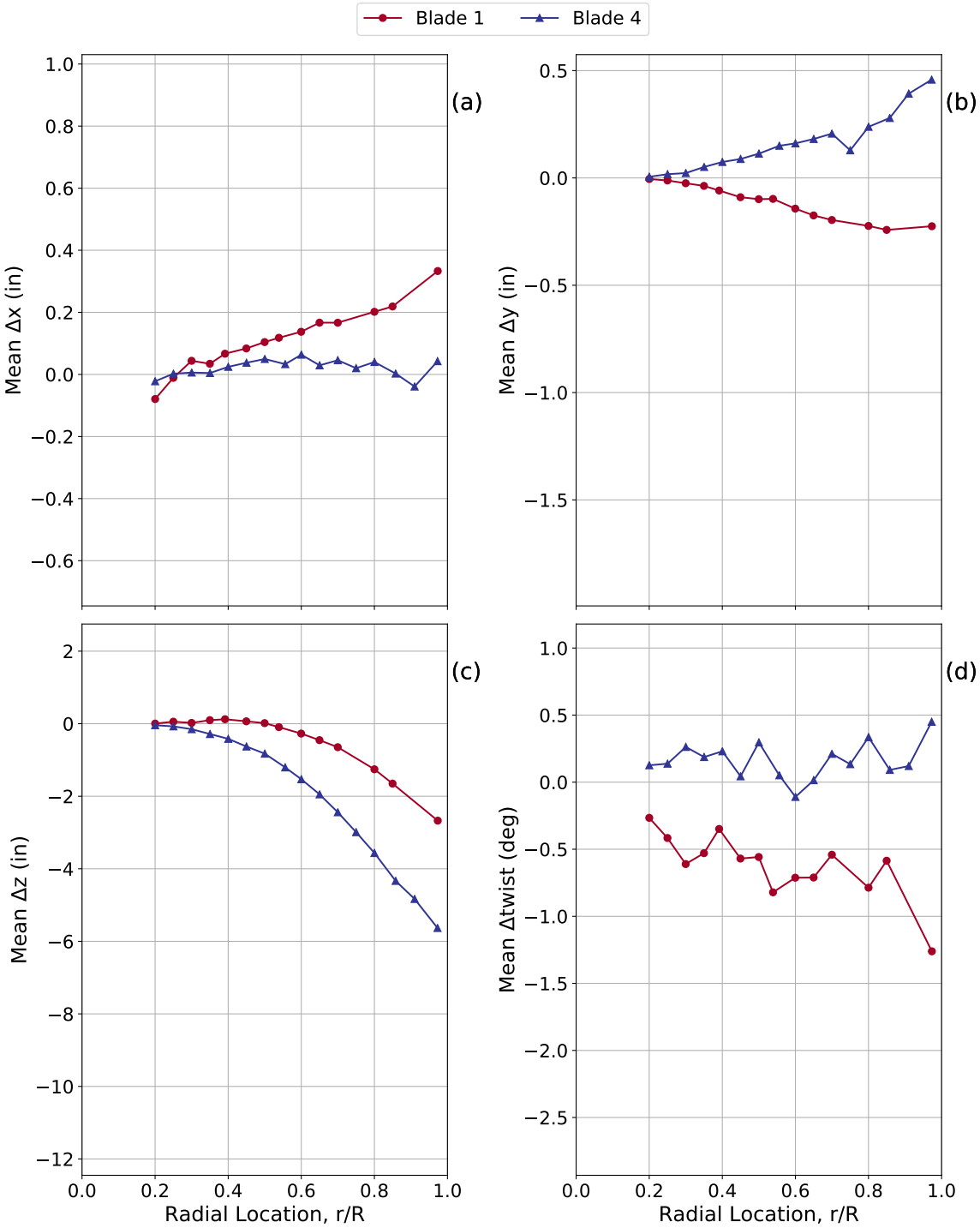


Figure 4.22-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0792	0.0008	-0.0050	0.0006	0.0030	0.0015	-0.2660	0.0239
1	94.92	0.2499	-0.0110	0.0010	-0.0118	0.0012	0.0558	0.0046	-0.4162	0.0351
1	94.92	0.2998	0.0439	0.0007	-0.0248	0.0024	0.0220	0.0062	-0.6104	0.0519
1	94.92	0.3498	0.0343	0.0006	-0.0371	0.0040	0.0978	0.0123	-0.5294	0.0402
1	94.92	0.3913	0.0668	0.0014	-0.0586	0.0057	0.1234	0.0171	-0.3489	0.0377
1	94.92	0.4496	0.0837	0.0017	-0.0898	0.0075	0.0660	0.0235	-0.5695	0.0349
1	94.92	0.4997	0.1042	0.0020	-0.0989	0.0100	0.0156	0.0288	-0.5580	0.0357
1	94.92	0.5387	0.1181	0.0023	-0.0976	0.0121	-0.0939	0.0333	-0.8213	0.0447
1	94.92	0.5996	0.1374	0.0020	-0.1430	0.0152	-0.2717	0.0406	-0.7123	0.0430
1	94.92	0.6498	0.1668	0.0024	-0.1746	0.0186	-0.4533	0.0452	-0.7109	0.0411
1	94.92	0.6998	0.1666	0.0026	-0.1960	0.0215	-0.6476	0.0521	-0.5410	0.0491
1	94.92	0.8001	0.2018	0.0027	-0.2236	0.0292	-1.2569	0.0632	-0.7866	0.0570
1	94.92	0.8497	0.2189	0.0033	-0.2421	0.0330	-1.6513	0.0680	-0.5857	0.0636
1	94.92	0.9734	0.3331	0.0055	-0.2250	0.0440	-2.6729	0.0858	-1.2611	0.0573
4	94.92	0.2001	-0.0220	0.0027	0.0054	0.0018	-0.0419	0.0049	0.1259	0.0180
4	94.92	0.2502	0.0024	0.0026	0.0174	0.0017	-0.0738	0.0044	0.1378	0.0674
4	94.92	0.3001	0.0060	0.0015	0.0227	0.0055	-0.1516	0.0147	0.2627	0.0482
4	94.92	0.3502	0.0045	0.0016	0.0511	0.0081	-0.2851	0.0226	0.1872	0.0397
4	94.92	0.4002	0.0245	0.0021	0.0743	0.0122	-0.4180	0.0332	0.2302	0.0431
4	94.92	0.4500	0.0376	0.0023	0.0883	0.0143	-0.6292	0.0377	0.0434	0.0544
4	94.92	0.5001	0.0497	0.0020	0.1133	0.0176	-0.8264	0.0471	0.2962	0.0465
4	94.92	0.5560	0.0331	0.0022	0.1498	0.0213	-1.2049	0.0549	0.0511	0.0456
4	94.92	0.6001	0.0636	0.0025	0.1611	0.0239	-1.5315	0.0630	-0.1100	0.0518
4	94.92	0.6501	0.0292	0.0025	0.1815	0.0269	-1.9485	0.0733	0.0145	0.0423
4	94.92	0.6999	0.0457	0.0031	0.2064	0.0296	-2.4417	0.0802	0.2113	0.0430
4	94.92	0.7500	0.0201	0.0065	0.1286	0.0371	-2.9912	0.0885	0.1341	0.0497
4	94.92	0.8002	0.0400	0.0052	0.2381	0.0368	-3.5655	0.0965	0.3353	0.0561
4	94.92	0.8582	0.0027	0.0127	0.2793	0.0389	-4.3340	0.1051	0.0913	0.1020
4	94.92	0.9101	-0.0390	0.0079	0.3927	0.0454	-4.8324	0.1451	0.1202	0.0497
4	94.92	0.9728	0.0426	0.0131	0.4577	0.0494	-5.6328	0.1521	0.4501	0.0777

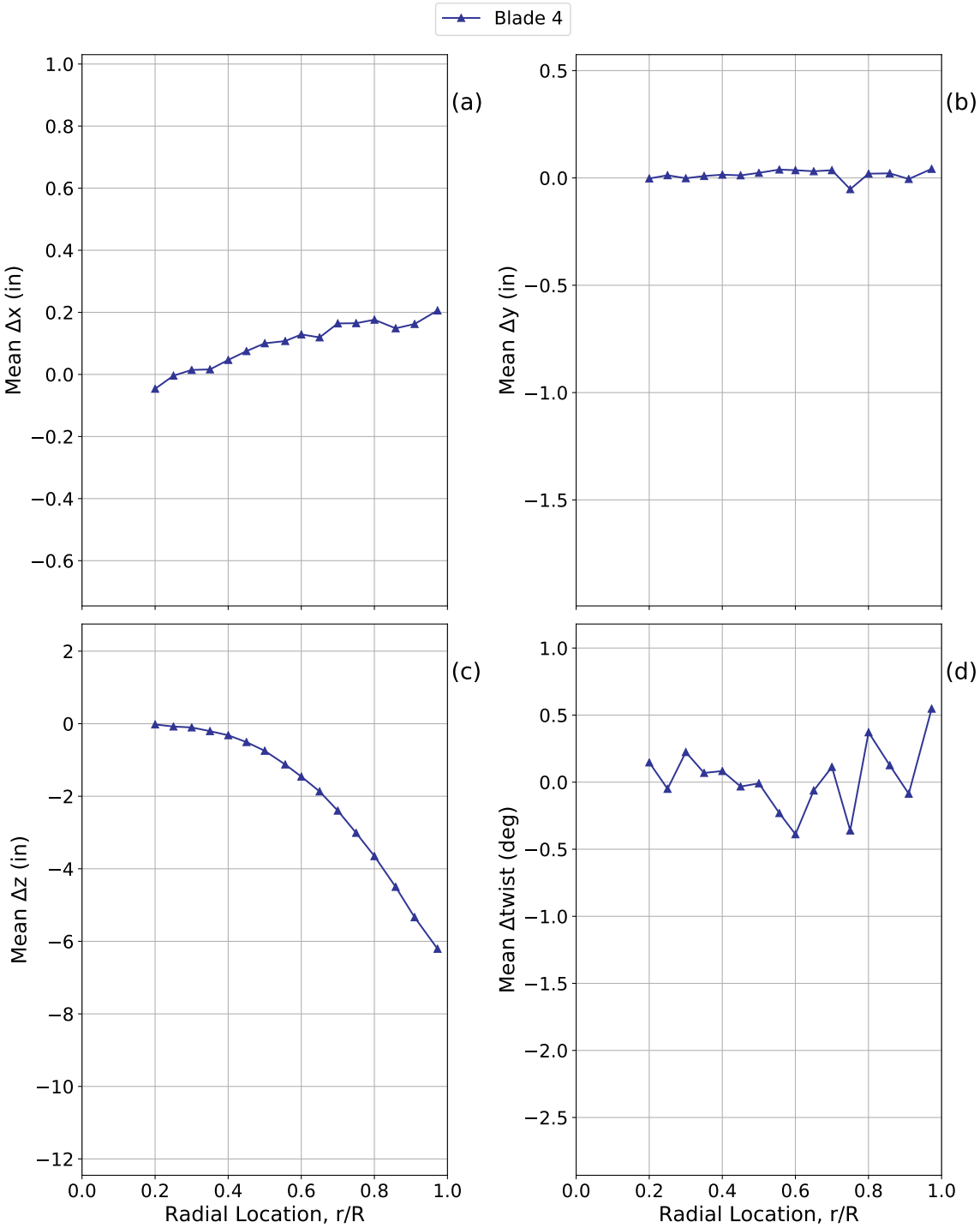


Figure 4.22-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0462	0.0008	-0.0027	0.0004	-0.0205	0.0011	0.1470	0.0130
4	105.12	0.2502	-0.0041	0.0008	0.0124	0.0008	-0.0782	0.0034	-0.0501	0.0236
4	105.12	0.3001	0.0145	0.0010	-0.0015	0.0017	-0.1034	0.0055	0.2242	0.0286
4	105.12	0.3502	0.0162	0.0008	0.0089	0.0025	-0.2054	0.0090	0.0689	0.0289
4	105.12	0.4002	0.0466	0.0011	0.0151	0.0040	-0.3187	0.0147	0.0828	0.0193
4	105.12	0.4500	0.0751	0.0012	0.0120	0.0047	-0.5076	0.0178	-0.0324	0.0264
4	105.12	0.5001	0.1003	0.0013	0.0237	0.0062	-0.7481	0.0227	-0.0091	0.0264
4	105.12	0.5560	0.1075	0.0012	0.0389	0.0083	-1.1248	0.0279	-0.2307	0.0286
4	105.12	0.6001	0.1288	0.0014	0.0360	0.0102	-1.4586	0.0326	-0.3886	0.0258
4	105.12	0.6501	0.1193	0.0011	0.0311	0.0122	-1.8680	0.0377	-0.0625	0.0232
4	105.12	0.6999	0.1643	0.0017	0.0359	0.0145	-2.3986	0.0415	0.1131	0.0315
4	105.12	0.7500	0.1650	0.0014	-0.0526	0.0165	-3.0104	0.0474	-0.3605	0.0302
4	105.12	0.8002	0.1762	0.0022	0.0198	0.0195	-3.6530	0.0564	0.3717	0.0218
4	105.12	0.8582	0.1485	0.0027	0.0214	0.0222	-4.4996	0.0652	0.1259	0.0454
4	105.12	0.9101	0.1624	0.0036	-0.0050	0.0256	-5.3379	0.0742	-0.0866	0.0345
4	105.12	0.9728	0.2060	0.0050	0.0421	0.0276	-6.2067	0.0854	0.5477	0.0479

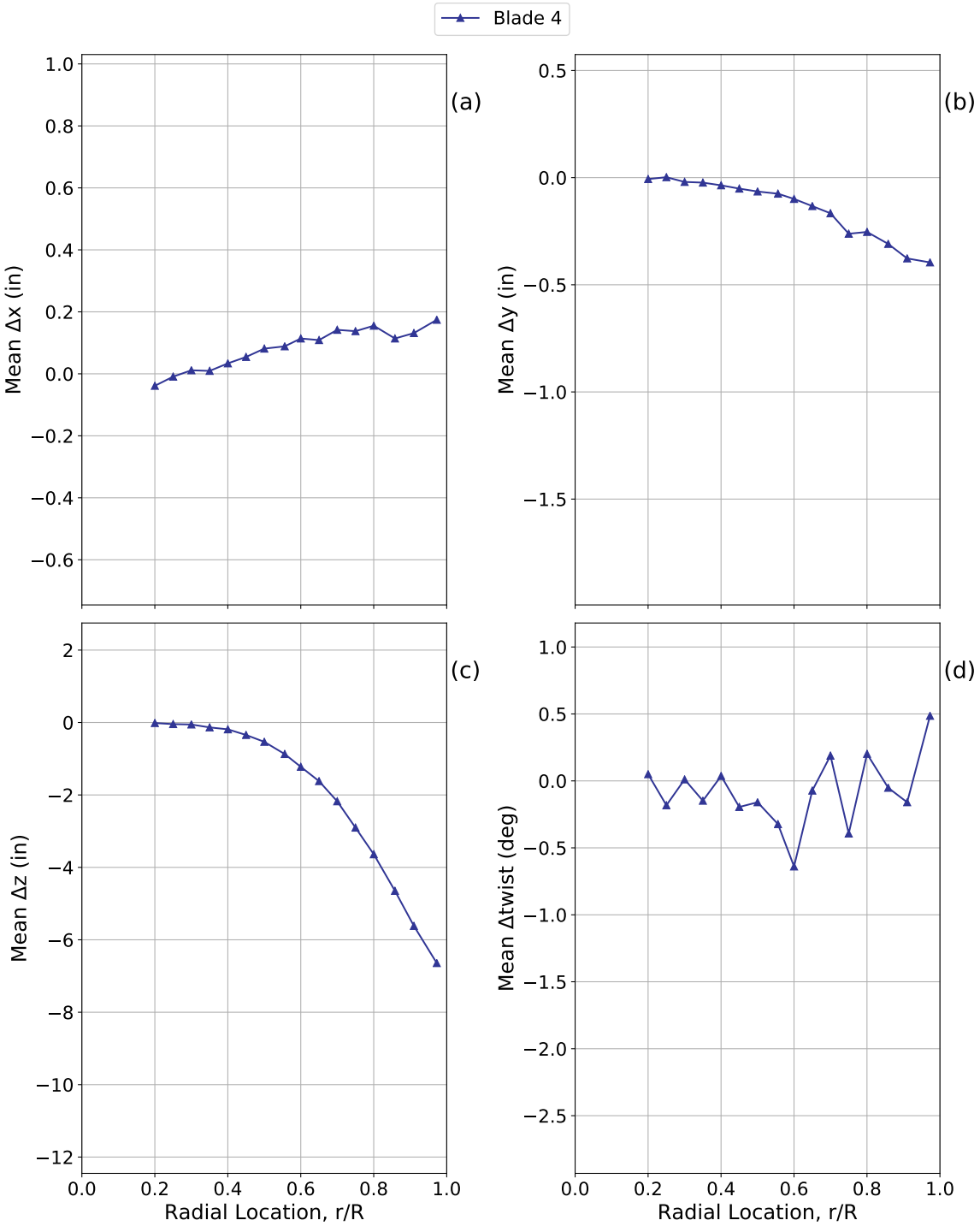


Figure 4.22-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0387	0.0005	-0.0066	0.0002	-0.0144	0.0010	0.0500	0.0136
4	119.88	0.2502	-0.0091	0.0006	0.0020	0.0006	-0.0439	0.0026	-0.1822	0.0193
4	119.88	0.3001	0.0114	0.0005	-0.0200	0.0007	-0.0546	0.0041	0.0108	0.0302
4	119.88	0.3502	0.0094	0.0004	-0.0232	0.0014	-0.1346	0.0078	-0.1483	0.0277
4	119.88	0.4002	0.0337	0.0010	-0.0359	0.0019	-0.1882	0.0118	0.0365	0.0239
4	119.88	0.4500	0.0544	0.0013	-0.0512	0.0025	-0.3436	0.0158	-0.1950	0.0268
4	119.88	0.5001	0.0813	0.0013	-0.0647	0.0031	-0.5338	0.0186	-0.1595	0.0264
4	119.88	0.5560	0.0887	0.0013	-0.0749	0.0037	-0.8707	0.0210	-0.3228	0.0268
4	119.88	0.6001	0.1140	0.0012	-0.0994	0.0043	-1.2239	0.0237	-0.6391	0.0209
4	119.88	0.6501	0.1088	0.0011	-0.1328	0.0049	-1.6189	0.0252	-0.0725	0.0210
4	119.88	0.6999	0.1419	0.0014	-0.1663	0.0063	-2.1759	0.0292	0.1885	0.0216
4	119.88	0.7500	0.1376	0.0016	-0.2618	0.0078	-2.9030	0.0336	-0.3928	0.0211
4	119.88	0.8002	0.1552	0.0019	-0.2534	0.0089	-3.6394	0.0384	0.2017	0.0196
4	119.88	0.8582	0.1140	0.0023	-0.3093	0.0115	-4.6493	0.0456	-0.0516	0.0348
4	119.88	0.9101	0.1314	0.0029	-0.3770	0.0130	-5.6175	0.0500	-0.1595	0.0207
4	119.88	0.9728	0.1743	0.0041	-0.3956	0.0158	-6.6431	0.0597	0.4860	0.0261

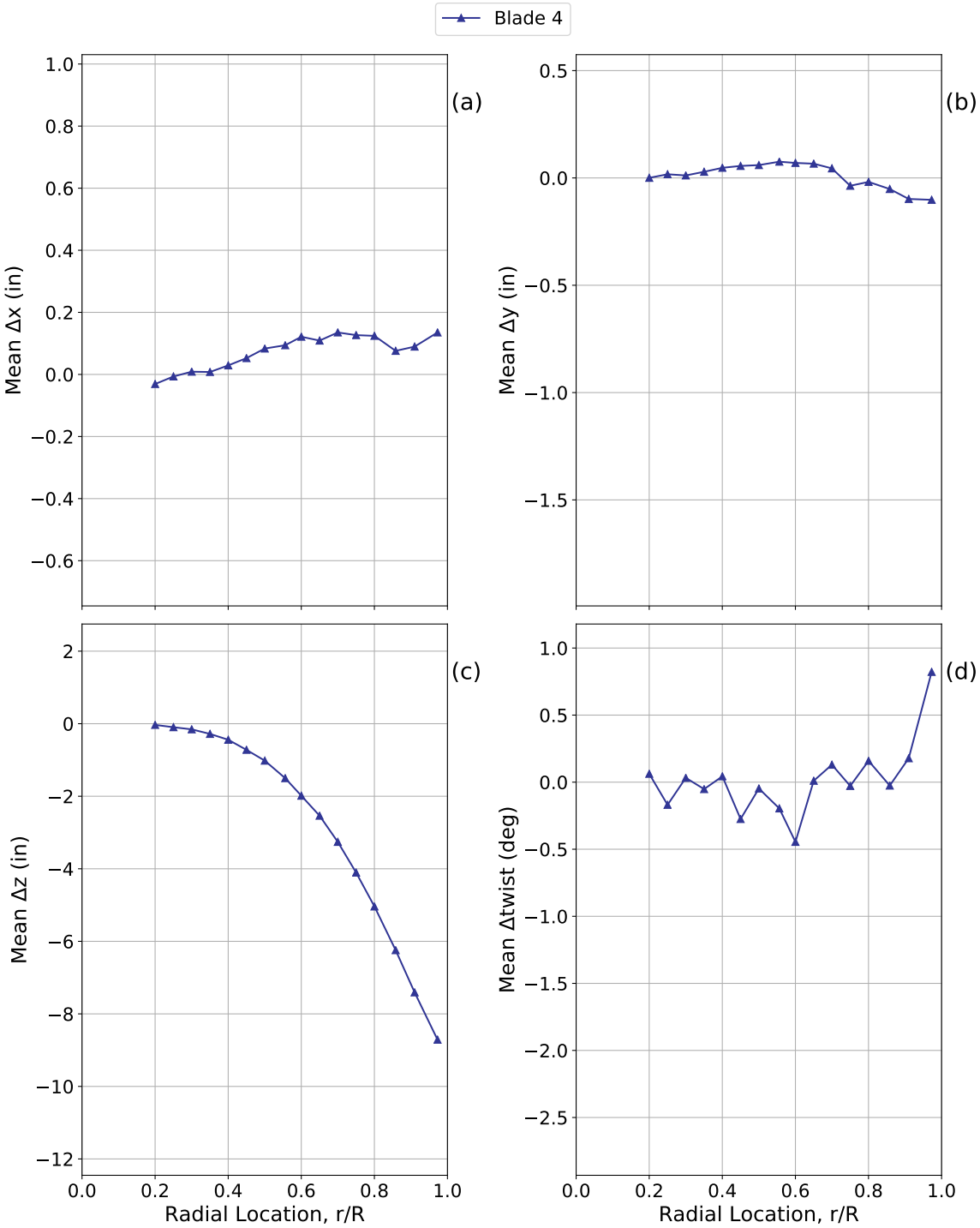


Figure 4.22-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0309	0.0007	0.0004	0.0004	-0.0330	0.0009	0.0621	0.0180
4	135	0.2502	-0.0066	0.0007	0.0171	0.0010	-0.0966	0.0036	-0.1690	0.0152
4	135	0.3001	0.0088	0.0008	0.0116	0.0016	-0.1556	0.0028	0.0323	0.0337
4	135	0.3502	0.0079	0.0005	0.0286	0.0021	-0.2815	0.0070	-0.0518	0.0233
4	135	0.4002	0.0291	0.0010	0.0472	0.0038	-0.4428	0.0103	0.0434	0.0211
4	135	0.4500	0.0525	0.0010	0.0559	0.0047	-0.7209	0.0124	-0.2747	0.0219
4	135	0.5001	0.0834	0.0012	0.0598	0.0057	-1.0190	0.0155	-0.0474	0.0214
4	135	0.5560	0.0940	0.0013	0.0757	0.0076	-1.5020	0.0184	-0.1958	0.0248
4	135	0.6001	0.1214	0.0014	0.0699	0.0094	-1.9860	0.0217	-0.4454	0.0225
4	135	0.6501	0.1090	0.0012	0.0664	0.0112	-2.5377	0.0240	0.0104	0.0179
4	135	0.6999	0.1352	0.0012	0.0445	0.0133	-3.2592	0.0260	0.1301	0.0207
4	135	0.7500	0.1266	0.0016	-0.0366	0.0159	-4.1045	0.0275	-0.0283	0.0197
4	135	0.8002	0.1243	0.0015	-0.0185	0.0180	-5.0397	0.0283	0.1589	0.0221
4	135	0.8582	0.0759	0.0015	-0.0517	0.0210	-6.2441	0.0293	-0.0256	0.0231
4	135	0.9101	0.0896	0.0014	-0.0980	0.0237	-7.4079	0.0293	0.1783	0.0239
4	135	0.9728	0.1352	0.0025	-0.1020	0.0266	-8.7121	0.0320	0.8220	0.0235

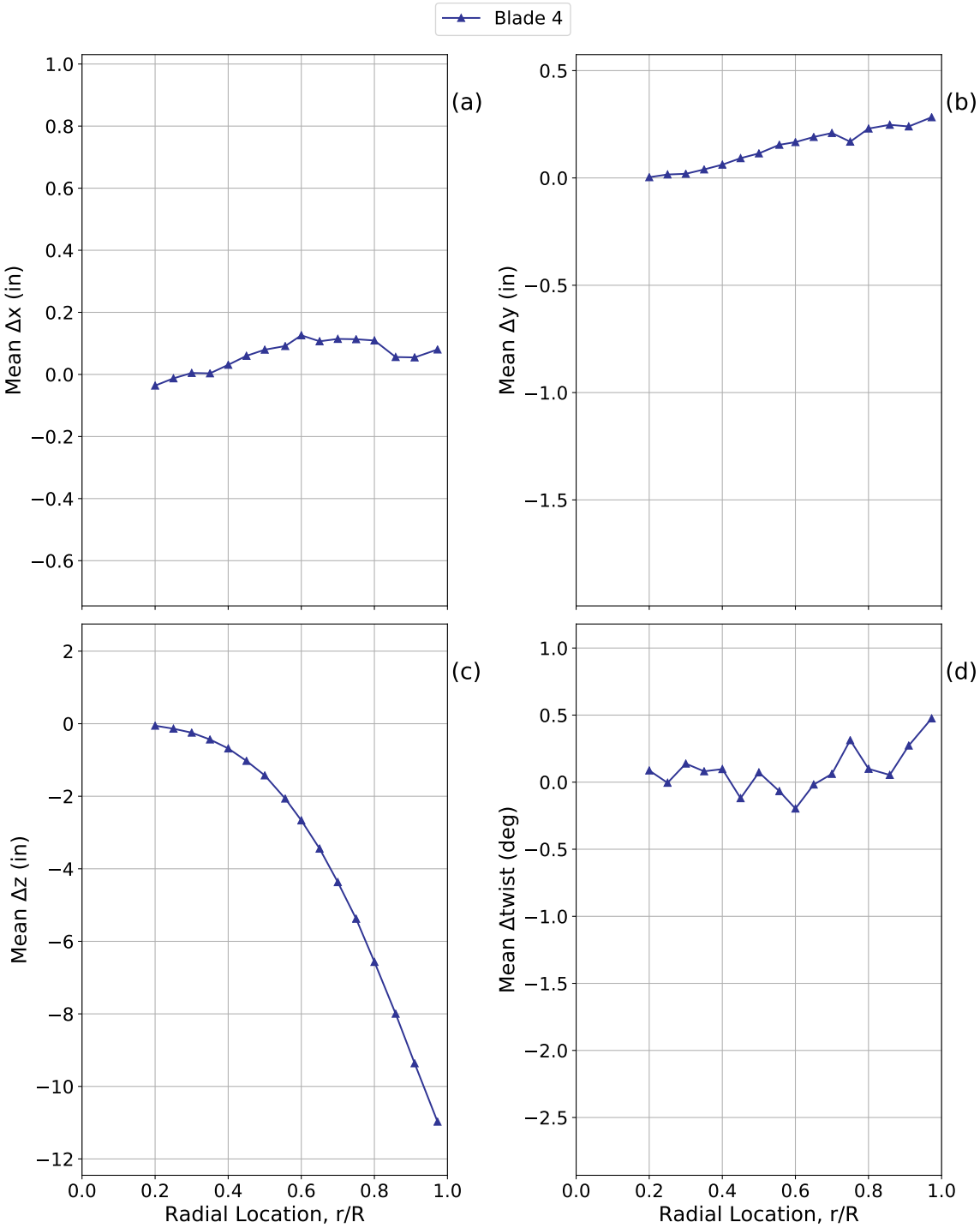


Figure 4.22-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0360	0.0012	0.0034	0.0008	-0.0554	0.0011	0.0870	0.0174
4	150.12	0.2502	-0.0126	0.0014	0.0160	0.0025	-0.1375	0.0026	-0.0048	0.0174
4	150.12	0.3001	0.0047	0.0015	0.0192	0.0029	-0.2476	0.0052	0.1383	0.0339
4	150.12	0.3502	0.0035	0.0010	0.0396	0.0071	-0.4357	0.0080	0.0809	0.0178
4	150.12	0.4002	0.0310	0.0017	0.0618	0.0098	-0.6830	0.0133	0.0973	0.0212
4	150.12	0.4500	0.0599	0.0011	0.0920	0.0117	-1.0260	0.0167	-0.1197	0.0211
4	150.12	0.5001	0.0797	0.0012	0.1143	0.0138	-1.4255	0.0213	0.0726	0.0255
4	150.12	0.5560	0.0914	0.0012	0.1543	0.0165	-2.0647	0.0259	-0.0672	0.0302
4	150.12	0.6001	0.1260	0.0013	0.1669	0.0191	-2.6670	0.0300	-0.1969	0.0202
4	150.12	0.6501	0.1067	0.0013	0.1907	0.0203	-3.4456	0.0341	-0.0179	0.0269
4	150.12	0.6999	0.1144	0.0011	0.2092	0.0228	-4.3690	0.0371	0.0615	0.0256
4	150.12	0.7500	0.1134	0.0015	0.1688	0.0248	-5.3780	0.0411	0.3129	0.0271
4	150.12	0.8002	0.1093	0.0019	0.2300	0.0268	-6.5689	0.0444	0.0992	0.0260
4	150.12	0.8582	0.0560	0.0024	0.2475	0.0289	-7.9971	0.0502	0.0537	0.0237
4	150.12	0.9101	0.0548	0.0026	0.2398	0.0310	-9.3630	0.0563	0.2727	0.0260
4	150.12	0.9728	0.0803	0.0039	0.2827	0.0337	-10.9737	0.0628	0.4752	0.0238

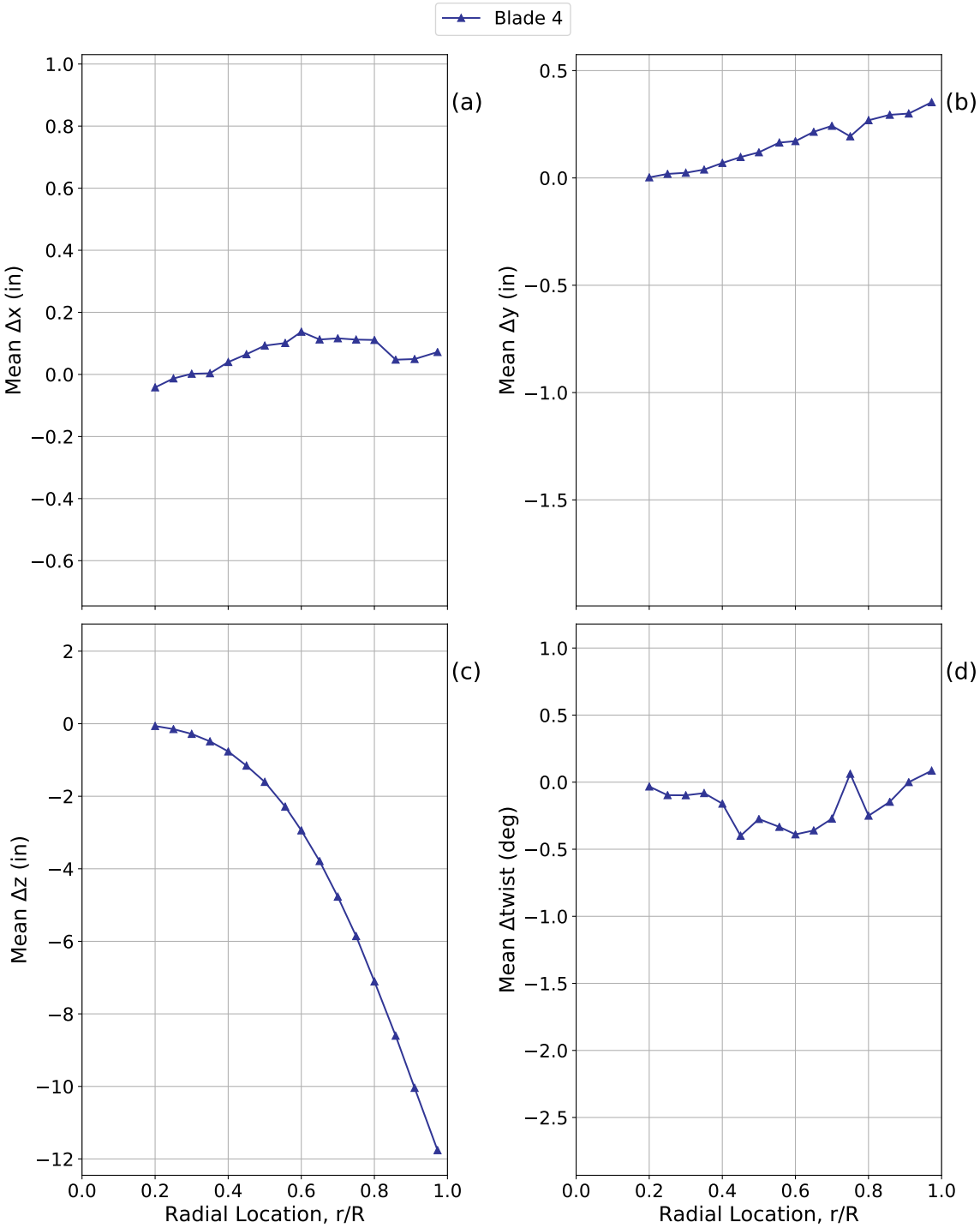


Figure 4.22-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0418	0.0009	0.0026	0.0005	-0.0637	0.0011	-0.0325	0.0157
4	164.88	0.2502	-0.0129	0.0008	0.0187	0.0010	-0.1489	0.0034	-0.0970	0.0250
4	164.88	0.3001	0.0021	0.0011	0.0239	0.0020	-0.2821	0.0053	-0.0978	0.0352
4	164.88	0.3502	0.0037	0.0009	0.0389	0.0031	-0.4875	0.0089	-0.0817	0.0334
4	164.88	0.4002	0.0399	0.0008	0.0696	0.0050	-0.7664	0.0145	-0.1604	0.0268
4	164.88	0.4500	0.0650	0.0011	0.0972	0.0062	-1.1575	0.0194	-0.3998	0.0275
4	164.88	0.5001	0.0928	0.0011	0.1194	0.0077	-1.6060	0.0218	-0.2747	0.0274
4	164.88	0.5560	0.1011	0.0014	0.1646	0.0096	-2.2872	0.0278	-0.3337	0.0302
4	164.88	0.6001	0.1374	0.0015	0.1714	0.0108	-2.9429	0.0307	-0.3894	0.0311
4	164.88	0.6501	0.1125	0.0018	0.2148	0.0126	-3.7884	0.0355	-0.3600	0.0309
4	164.88	0.6999	0.1163	0.0020	0.2427	0.0142	-4.7703	0.0393	-0.2724	0.0280
4	164.88	0.7500	0.1122	0.0025	0.1936	0.0166	-5.8576	0.0423	0.0623	0.0336
4	164.88	0.8002	0.1110	0.0026	0.2687	0.0188	-7.1081	0.0454	-0.2502	0.0346
4	164.88	0.8582	0.0475	0.0030	0.2940	0.0212	-8.6030	0.0503	-0.1466	0.0255
4	164.88	0.9101	0.0495	0.0035	0.2999	0.0239	-10.0417	0.0547	0.0002	0.0286
4	164.88	0.9728	0.0721	0.0047	0.3526	0.0270	-11.7597	0.0623	0.0854	0.0270

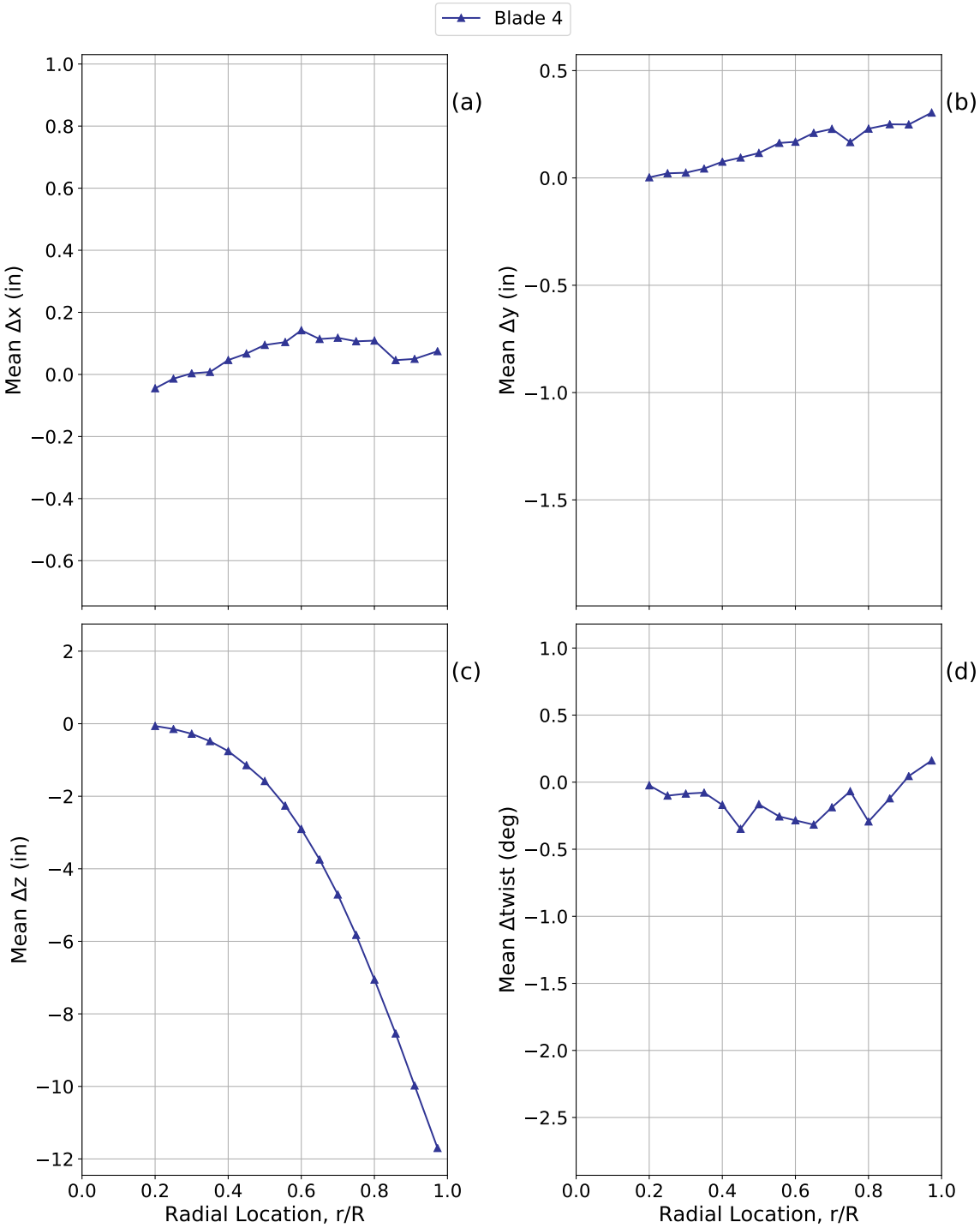


Figure 4.22-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0448	0.0008	0.0026	0.0005	-0.0637	0.0011	-0.0242	0.0151
4	170.16	0.2502	-0.0137	0.0010	0.0215	0.0015	-0.1466	0.0027	-0.1006	0.0183
4	170.16	0.3001	0.0035	0.0009	0.0242	0.0024	-0.2791	0.0040	-0.0859	0.0309
4	170.16	0.3502	0.0078	0.0008	0.0436	0.0041	-0.4831	0.0077	-0.0782	0.0188
4	170.16	0.4002	0.0463	0.0009	0.0753	0.0065	-0.7574	0.0111	-0.1699	0.0242
4	170.16	0.4500	0.0671	0.0010	0.0947	0.0071	-1.1457	0.0145	-0.3485	0.0251
4	170.16	0.5001	0.0949	0.0014	0.1161	0.0085	-1.5840	0.0180	-0.1654	0.0285
4	170.16	0.5560	0.1041	0.0014	0.1629	0.0102	-2.2614	0.0206	-0.2561	0.0325
4	170.16	0.6001	0.1421	0.0012	0.1682	0.0116	-2.9043	0.0244	-0.2850	0.0199
4	170.16	0.6501	0.1140	0.0017	0.2096	0.0130	-3.7467	0.0289	-0.3171	0.0224
4	170.16	0.6999	0.1180	0.0012	0.2282	0.0144	-4.7114	0.0332	-0.1876	0.0289
4	170.16	0.7500	0.1067	0.0019	0.1665	0.0155	-5.8249	0.0392	-0.0682	0.0238
4	170.16	0.8002	0.1088	0.0021	0.2294	0.0171	-7.0566	0.0435	-0.2935	0.0223
4	170.16	0.8582	0.0459	0.0023	0.2498	0.0187	-8.5432	0.0464	-0.1210	0.0205
4	170.16	0.9101	0.0500	0.0030	0.2489	0.0207	-9.9776	0.0485	0.0452	0.0231
4	170.16	0.9728	0.0747	0.0032	0.3040	0.0229	-11.6999	0.0510	0.1610	0.0369

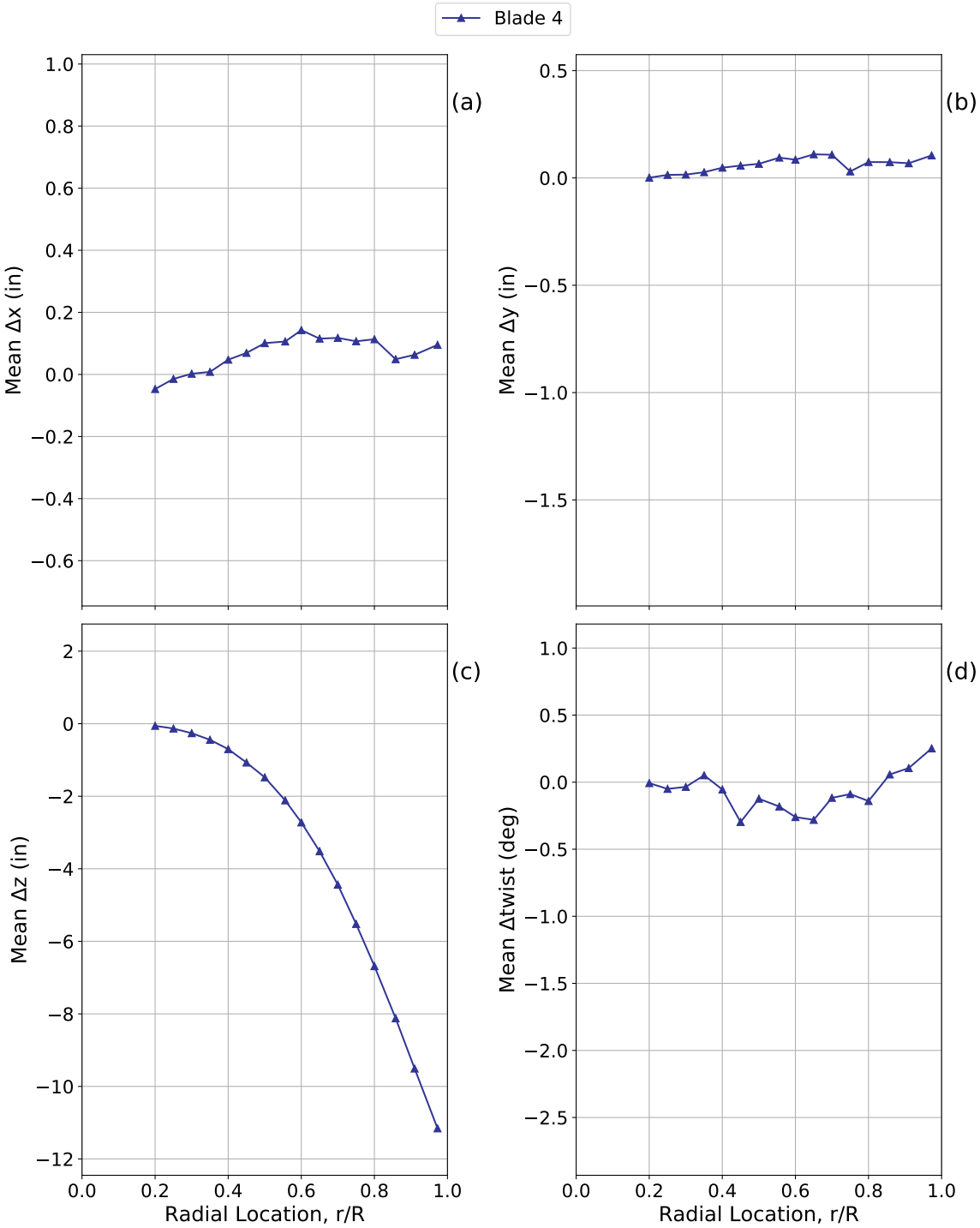


Figure 4.22-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0471	0.0008	0.0013	0.0009	-0.0592	0.0015	-0.0072	0.0196
4	175.08	0.2502	-0.0144	0.0015	0.0140	0.0014	-0.1333	0.0029	-0.0501	0.0197
4	175.08	0.3001	0.0022	0.0015	0.0155	0.0035	-0.2618	0.0063	-0.0353	0.0392
4	175.08	0.3502	0.0082	0.0011	0.0266	0.0055	-0.4443	0.0092	0.0513	0.0350
4	175.08	0.4002	0.0475	0.0012	0.0478	0.0086	-0.7018	0.0153	-0.0549	0.0339
4	175.08	0.4500	0.0693	0.0016	0.0574	0.0088	-1.0717	0.0171	-0.2970	0.0274
4	175.08	0.5001	0.1008	0.0013	0.0657	0.0115	-1.4794	0.0218	-0.1235	0.0377
4	175.08	0.5560	0.1061	0.0019	0.0945	0.0139	-2.1152	0.0260	-0.1818	0.0413
4	175.08	0.6001	0.1426	0.0014	0.0850	0.0158	-2.7223	0.0284	-0.2603	0.0515
4	175.08	0.6501	0.1154	0.0014	0.1100	0.0173	-3.5172	0.0319	-0.2812	0.0381
4	175.08	0.6999	0.1177	0.0018	0.1080	0.0186	-4.4381	0.0356	-0.1170	0.0400
4	175.08	0.7500	0.1068	0.0018	0.0302	0.0212	-5.5216	0.0401	-0.0890	0.0373
4	175.08	0.8002	0.1133	0.0024	0.0740	0.0233	-6.6850	0.0456	-0.1406	0.0341
4	175.08	0.8582	0.0490	0.0029	0.0736	0.0257	-8.1231	0.0533	0.0573	0.0453
4	175.08	0.9101	0.0632	0.0033	0.0684	0.0282	-9.5080	0.0584	0.1048	0.0415
4	175.08	0.9728	0.0952	0.0040	0.1049	0.0316	-11.1572	0.0621	0.2516	0.0435

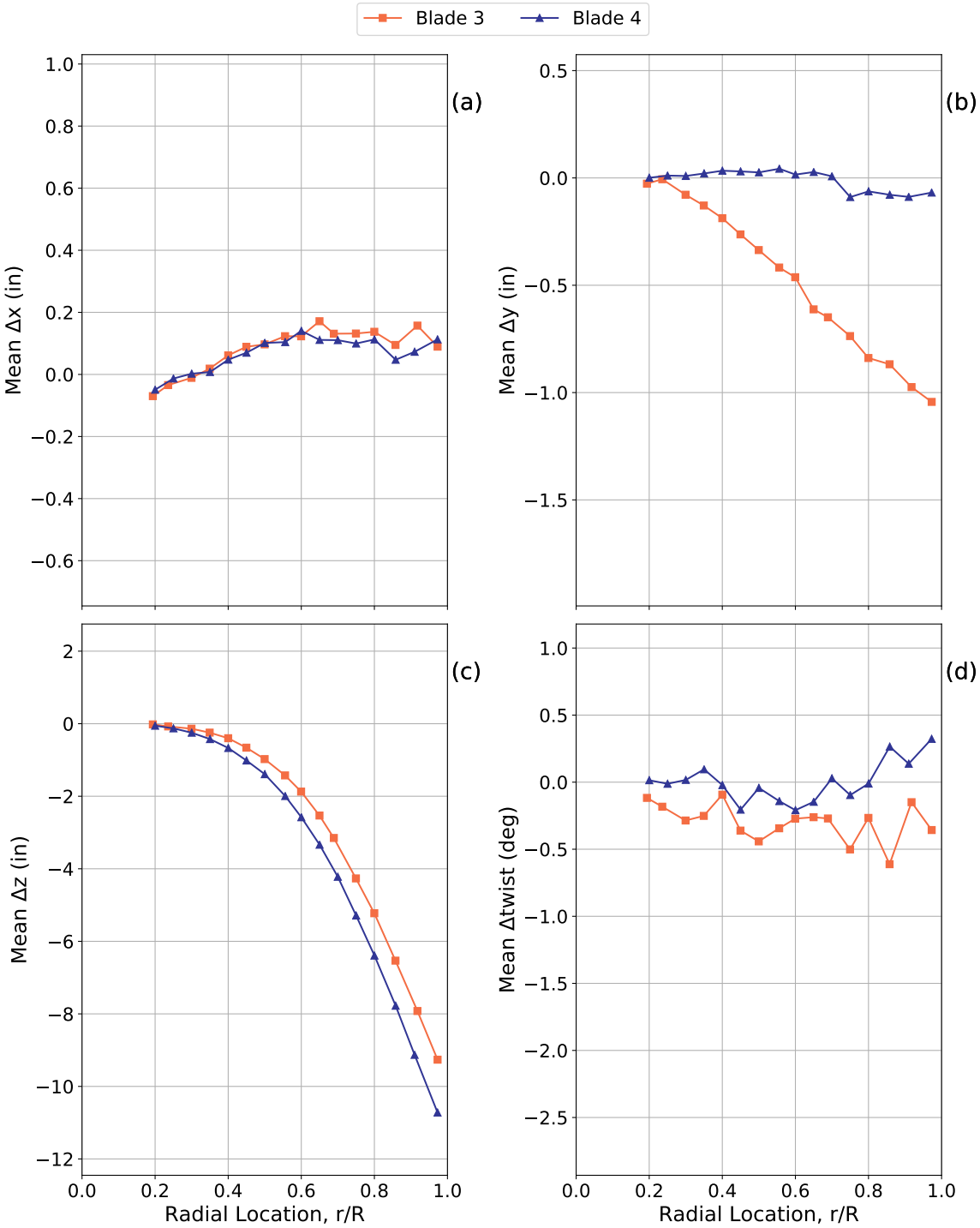


Figure 4.22-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0699	0.0013	-0.0267	0.0009	-0.0191	0.0029	-0.1172	0.0135
3	180.35	0.2357	-0.0343	0.0015	-0.0061	0.0011	-0.0750	0.0026	-0.1830	0.0364
3	180.35	0.2995	-0.0111	0.0011	-0.0783	0.0024	-0.1376	0.0087	-0.2858	0.0372
3	180.35	0.3493	0.0187	0.0013	-0.1285	0.0041	-0.2459	0.0132	-0.2513	0.0348
3	180.35	0.4000	0.0614	0.0016	-0.1875	0.0058	-0.4003	0.0202	-0.0930	0.0414
3	180.35	0.4497	0.0891	0.0023	-0.2630	0.0081	-0.6606	0.0247	-0.3610	0.0434
3	180.35	0.4997	0.0968	0.0018	-0.3361	0.0095	-0.9757	0.0315	-0.4416	0.0407
3	180.35	0.5556	0.1232	0.0021	-0.4174	0.0105	-1.4256	0.0405	-0.3437	0.0378
3	180.35	0.5995	0.1228	0.0021	-0.4626	0.0125	-1.8716	0.0447	-0.2720	0.0559
3	180.35	0.6498	0.1714	0.0023	-0.6123	0.0154	-2.5315	0.0521	-0.2612	0.0543
3	180.35	0.6890	0.1312	0.0025	-0.6492	0.0169	-3.1504	0.0589	-0.2706	0.0446
3	180.35	0.7495	0.1318	0.0029	-0.7367	0.0210	-4.2654	0.0686	-0.5015	0.0410
3	180.35	0.7998	0.1374	0.0033	-0.8389	0.0233	-5.2257	0.0762	-0.2664	0.0373
3	180.35	0.8577	0.0950	0.0038	-0.8681	0.0268	-6.5325	0.0832	-0.6116	0.0514
3	180.35	0.9178	0.1573	0.0039	-0.9744	0.0316	-7.9211	0.0926	-0.1492	0.0475
3	180.35	0.9729	0.0895	0.0049	-1.0434	0.0351	-9.2629	0.1059	-0.3569	0.0407
4	180	0.2001	-0.0492	0.0012	0.0008	0.0009	-0.0559	0.0022	0.0144	0.0208
4	180	0.2502	-0.0131	0.0016	0.0109	0.0023	-0.1286	0.0025	-0.0121	0.0392
4	180	0.3001	0.0024	0.0014	0.0091	0.0036	-0.2486	0.0068	0.0167	0.0462
4	180	0.3502	0.0077	0.0014	0.0208	0.0066	-0.4244	0.0096	0.0958	0.0364
4	180	0.4002	0.0476	0.0017	0.0336	0.0100	-0.6700	0.0144	-0.0220	0.0386
4	180	0.4500	0.0699	0.0014	0.0304	0.0117	-1.0148	0.0178	-0.2050	0.0407
4	180	0.5001	0.1014	0.0013	0.0258	0.0142	-1.3924	0.0223	-0.0430	0.0295
4	180	0.5560	0.1041	0.0018	0.0428	0.0172	-1.9946	0.0237	-0.1415	0.0508
4	180	0.6001	0.1403	0.0014	0.0156	0.0204	-2.5791	0.0278	-0.2088	0.0466
4	180	0.6501	0.1112	0.0019	0.0275	0.0233	-3.3368	0.0314	-0.1465	0.0399
4	180	0.6999	0.1104	0.0025	0.0076	0.0267	-4.2207	0.0366	0.0285	0.0334
4	180	0.7500	0.0995	0.0022	-0.0892	0.0312	-5.2888	0.0392	-0.0962	0.0521
4	180	0.8002	0.1127	0.0027	-0.0627	0.0343	-6.3930	0.0461	-0.0106	0.0457
4	180	0.8582	0.0472	0.0035	-0.0785	0.0396	-7.7758	0.0522	0.2648	0.0395
4	180	0.9101	0.0729	0.0033	-0.0884	0.0442	-9.1303	0.0542	0.1374	0.0521
4	180	0.9728	0.1129	0.0048	-0.0683	0.0499	-10.7202	0.0613	0.3227	0.0596

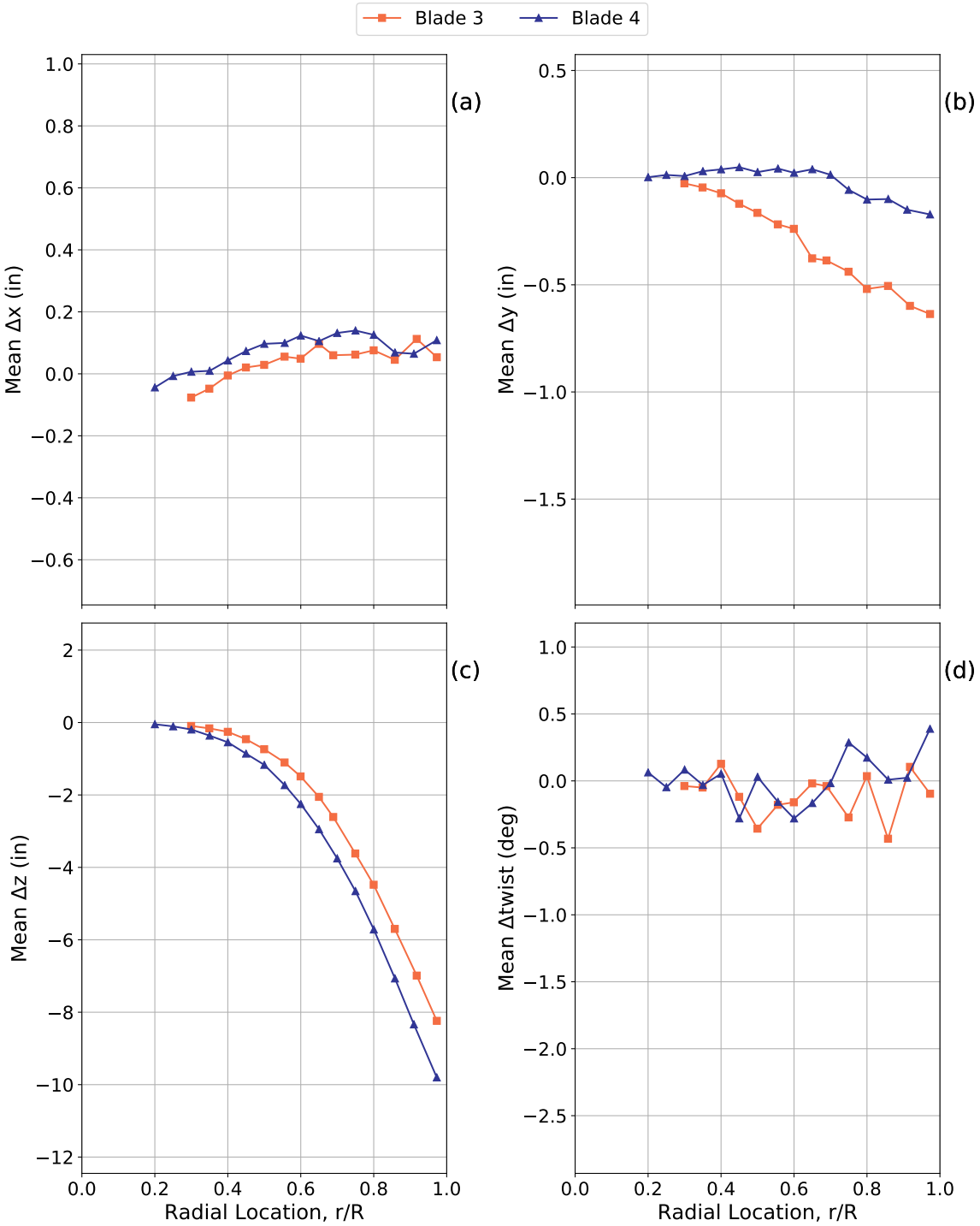


Figure 4.22-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0766	0.0054	-0.0266	0.0102	-0.0945	0.0317	-0.0384	0.0838
3	184.92	0.3493	-0.0479	0.0065	-0.0458	0.0176	-0.1614	0.0540	-0.0496	0.1108
3	184.92	0.4000	-0.0054	0.0053	-0.0730	0.0281	-0.2565	0.0856	0.1274	0.0946
3	184.92	0.4497	0.0205	0.0059	-0.1218	0.0371	-0.4602	0.1108	-0.1191	0.0973
3	184.92	0.4997	0.0289	0.0062	-0.1643	0.0473	-0.7375	0.1385	-0.3566	0.0955
3	184.92	0.5556	0.0554	0.0068	-0.2180	0.0576	-1.1023	0.1675	-0.1787	0.1045
3	184.92	0.5995	0.0489	0.0066	-0.2389	0.0660	-1.4881	0.1901	-0.1600	0.1085
3	184.92	0.6498	0.0966	0.0075	-0.3766	0.0761	-2.0535	0.2186	-0.0188	0.0993
3	184.92	0.6890	0.0600	0.0085	-0.3864	0.0840	-2.6083	0.2392	-0.0387	0.1150
3	184.92	0.7495	0.0620	0.0096	-0.4390	0.0954	-3.6166	0.2714	-0.2728	0.1144
3	184.92	0.7998	0.0758	0.0106	-0.5194	0.1068	-4.4795	0.3021	0.0356	0.1034
3	184.92	0.8577	0.0453	0.0125	-0.5054	0.1194	-5.6989	0.3294	-0.4317	0.1096
3	184.92	0.9178	0.1126	0.0140	-0.5983	0.1334	-6.9883	0.3622	0.1048	0.1103
3	184.92	0.9729	0.0536	0.0168	-0.6364	0.1449	-8.2383	0.3931	-0.0959	0.1105
4	184.92	0.2001	-0.0439	0.0011	0.0020	0.0010	-0.0478	0.0020	0.0631	0.0167
4	184.92	0.2502	-0.0072	0.0009	0.0126	0.0022	-0.1062	0.0041	-0.0473	0.0369
4	184.92	0.3001	0.0066	0.0008	0.0073	0.0031	-0.1934	0.0052	0.0839	0.0370
4	184.92	0.3502	0.0096	0.0016	0.0301	0.0059	-0.3621	0.0087	-0.0311	0.0369
4	184.92	0.4002	0.0430	0.0015	0.0386	0.0084	-0.5460	0.0129	0.0533	0.0340
4	184.92	0.4500	0.0734	0.0013	0.0487	0.0086	-0.8598	0.0154	-0.2802	0.0464
4	184.92	0.5001	0.0967	0.0015	0.0258	0.0117	-1.1693	0.0199	0.0298	0.0393
4	184.92	0.5560	0.0997	0.0018	0.0423	0.0142	-1.7296	0.0246	-0.1567	0.0349
4	184.92	0.6001	0.1234	0.0013	0.0226	0.0172	-2.2517	0.0279	-0.2805	0.0410
4	184.92	0.6501	0.1056	0.0016	0.0391	0.0198	-2.9471	0.0337	-0.1656	0.0355
4	184.92	0.6999	0.1318	0.0017	0.0134	0.0225	-3.7538	0.0375	-0.0170	0.0440
4	184.92	0.7500	0.1396	0.0019	-0.0570	0.0258	-4.6571	0.0419	0.2868	0.0460
4	184.92	0.8002	0.1258	0.0021	-0.1022	0.0295	-5.7154	0.0476	0.1735	0.0509
4	184.92	0.8582	0.0688	0.0037	-0.0999	0.0353	-7.0675	0.0538	0.0088	0.0477
4	184.92	0.9101	0.0647	0.0054	-0.1496	0.0400	-8.3367	0.0607	0.0235	0.0433
4	184.92	0.9728	0.1085	0.0076	-0.1717	0.0426	-9.8013	0.0743	0.3890	0.0590

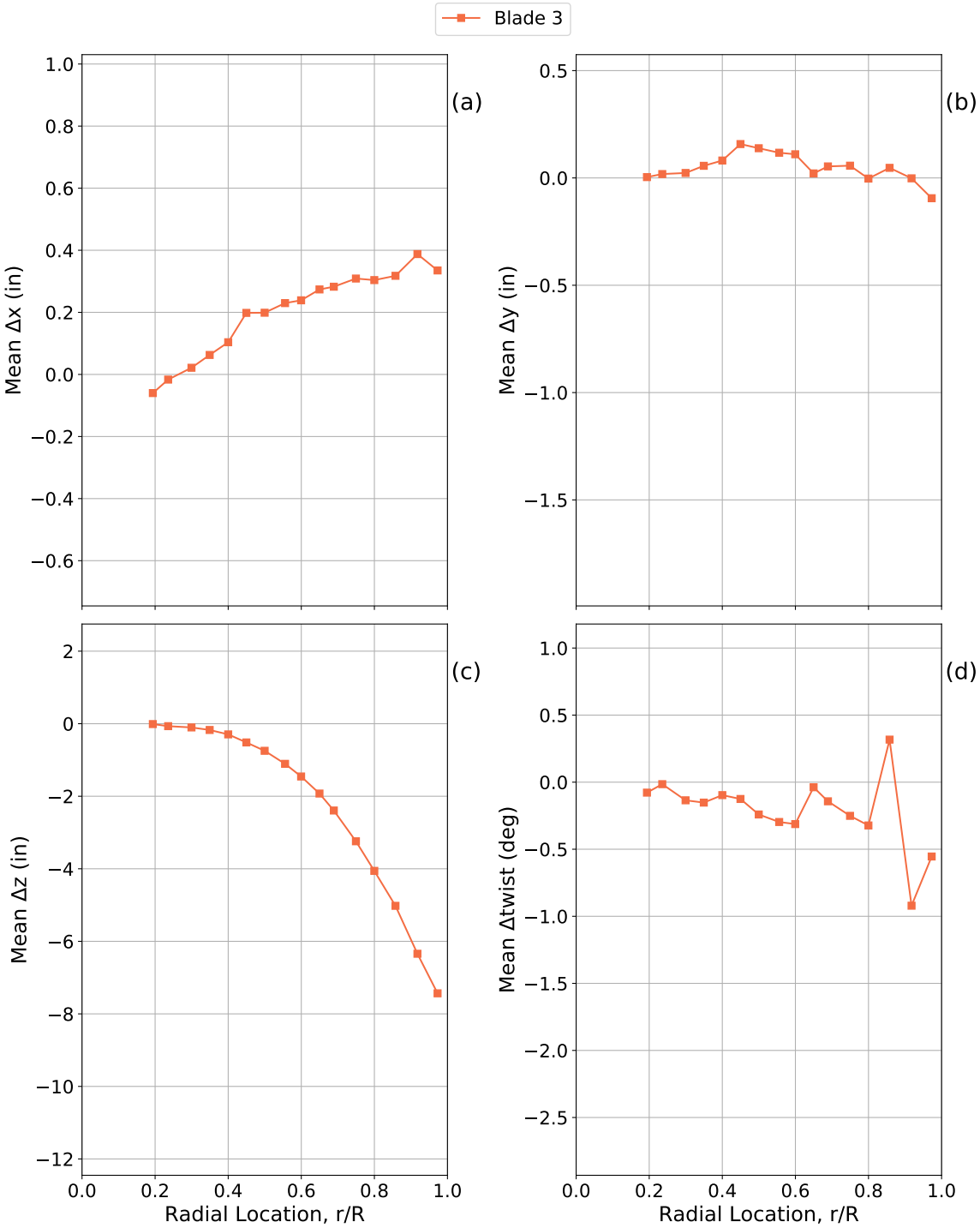


Figure 4.22-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0600	0.0008	0.0039	0.0008	-0.0104	0.0014	-0.0780	0.0153
3	195.12	0.2357	-0.0166	0.0007	0.0181	0.0018	-0.0676	0.0028	-0.0149	0.0308
3	195.12	0.2995	0.0215	0.0010	0.0231	0.0031	-0.1028	0.0055	-0.1352	0.0389
3	195.12	0.3493	0.0628	0.0007	0.0565	0.0048	-0.1730	0.0091	-0.1523	0.0346
3	195.12	0.4000	0.1037	0.0013	0.0811	0.0080	-0.2946	0.0143	-0.0966	0.0356
3	195.12	0.4497	0.1983	0.0097	0.1578	0.0271	-0.5165	0.0268	-0.1253	0.0319
3	195.12	0.4997	0.1988	0.0100	0.1384	0.0303	-0.7468	0.0314	-0.2409	0.0368
3	195.12	0.5556	0.2298	0.0100	0.1174	0.0333	-1.1066	0.0362	-0.2969	0.0346
3	195.12	0.5995	0.2388	0.0091	0.1103	0.0363	-1.4554	0.0404	-0.3124	0.0311
3	195.12	0.6498	0.2738	0.0088	0.0211	0.0397	-1.9256	0.0454	-0.0379	0.0268
3	195.12	0.6890	0.2826	0.0073	0.0537	0.0422	-2.3934	0.0486	-0.1426	0.0600
3	195.12	0.7495	0.3089	0.0076	0.0571	0.0477	-3.2416	0.0556	-0.2510	0.0524
3	195.12	0.7998	0.3039	0.0060	-0.0030	0.0490	-4.0576	0.0599	-0.3227	0.0719
3	195.12	0.8577	0.3177	0.0089	0.0470	0.0615	-5.0210	0.0834	0.3172	0.0325
3	195.12	0.9178	0.3877	0.0043	-0.0018	0.0671	-6.3427	0.0914	-0.9210	0.0375
3	195.12	0.9729	0.3350	0.0035	-0.0945	0.0720	-7.4335	0.1023	-0.5542	0.0339

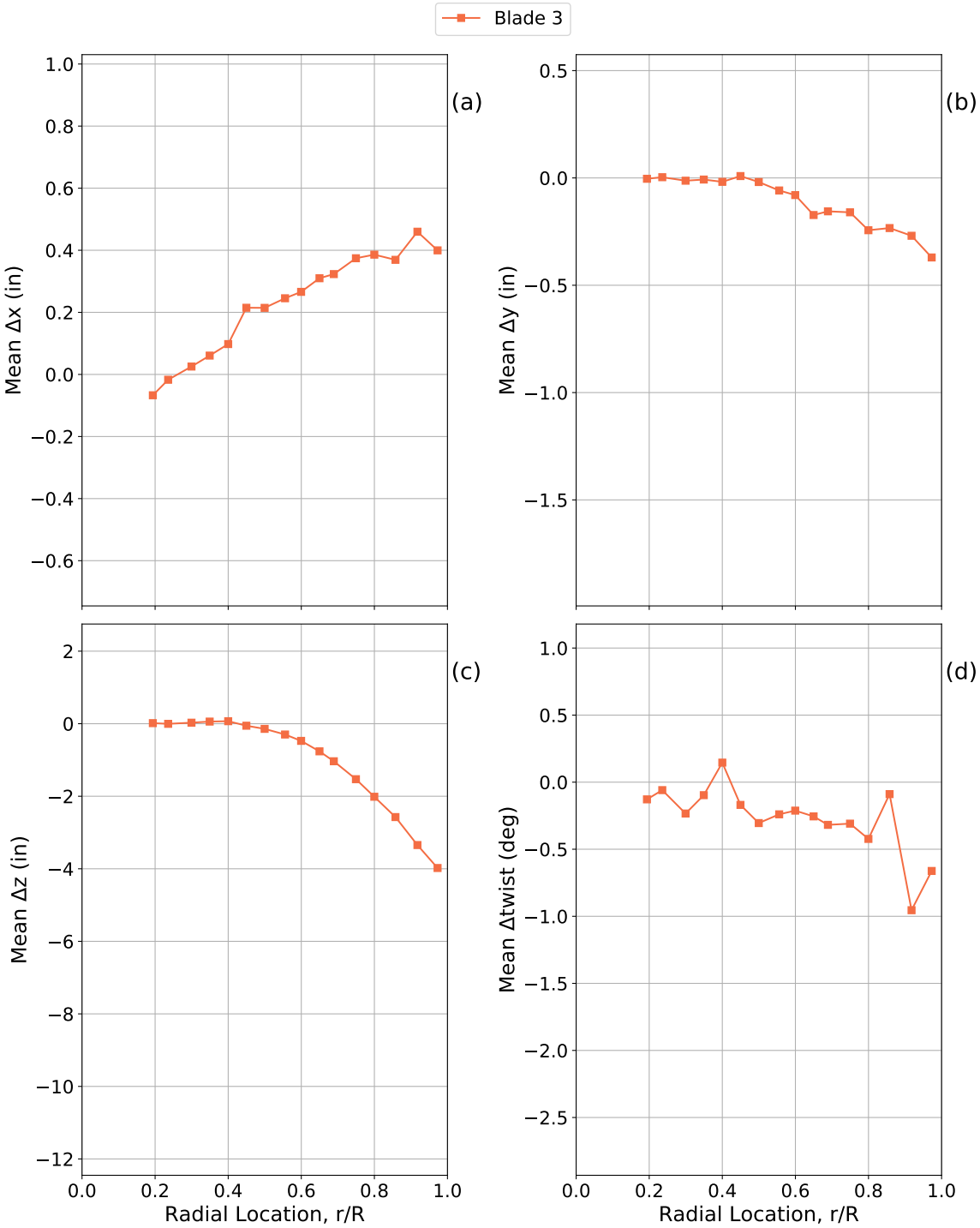


Figure 4.22-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0671	0.0008	-0.0039	0.0005	0.0155	0.0007	-0.1283	0.0140
3	209.88	0.2357	-0.0171	0.0009	0.0034	0.0014	-0.0035	0.0031	-0.0592	0.0178
3	209.88	0.2995	0.0254	0.0008	-0.0129	0.0025	0.0281	0.0045	-0.2338	0.0295
3	209.88	0.3493	0.0607	0.0004	-0.0075	0.0034	0.0586	0.0073	-0.0969	0.0278
3	209.88	0.4000	0.0978	0.0009	-0.0182	0.0062	0.0689	0.0122	0.1457	0.0279
3	209.88	0.4497	0.2148	0.0099	0.0087	0.0203	-0.0554	0.0261	-0.1695	0.0344
3	209.88	0.4997	0.2145	0.0097	-0.0191	0.0227	-0.1424	0.0318	-0.3050	0.0148
3	209.88	0.5556	0.2454	0.0082	-0.0584	0.0245	-0.2976	0.0342	-0.2397	0.0321
3	209.88	0.5995	0.2660	0.0070	-0.0798	0.0263	-0.4734	0.0360	-0.2122	0.0368
3	209.88	0.6498	0.3099	0.0057	-0.1728	0.0302	-0.7623	0.0406	-0.2552	0.0285
3	209.88	0.6890	0.3232	0.0044	-0.1556	0.0324	-1.0355	0.0429	-0.3183	0.0352
3	209.88	0.7495	0.3743	0.0019	-0.1602	0.0356	-1.5296	0.0468	-0.3092	0.0364
3	209.88	0.7998	0.3859	0.0030	-0.2436	0.0388	-2.0141	0.0493	-0.4231	0.0334
3	209.88	0.8577	0.3692	0.0063	-0.2335	0.0452	-2.5743	0.0570	-0.0889	0.0993
3	209.88	0.9178	0.4598	0.0074	-0.2694	0.0478	-3.3452	0.0545	-0.9545	0.0902
3	209.88	0.9729	0.3997	0.0133	-0.3705	0.0511	-3.9787	0.0581	-0.6620	0.1474

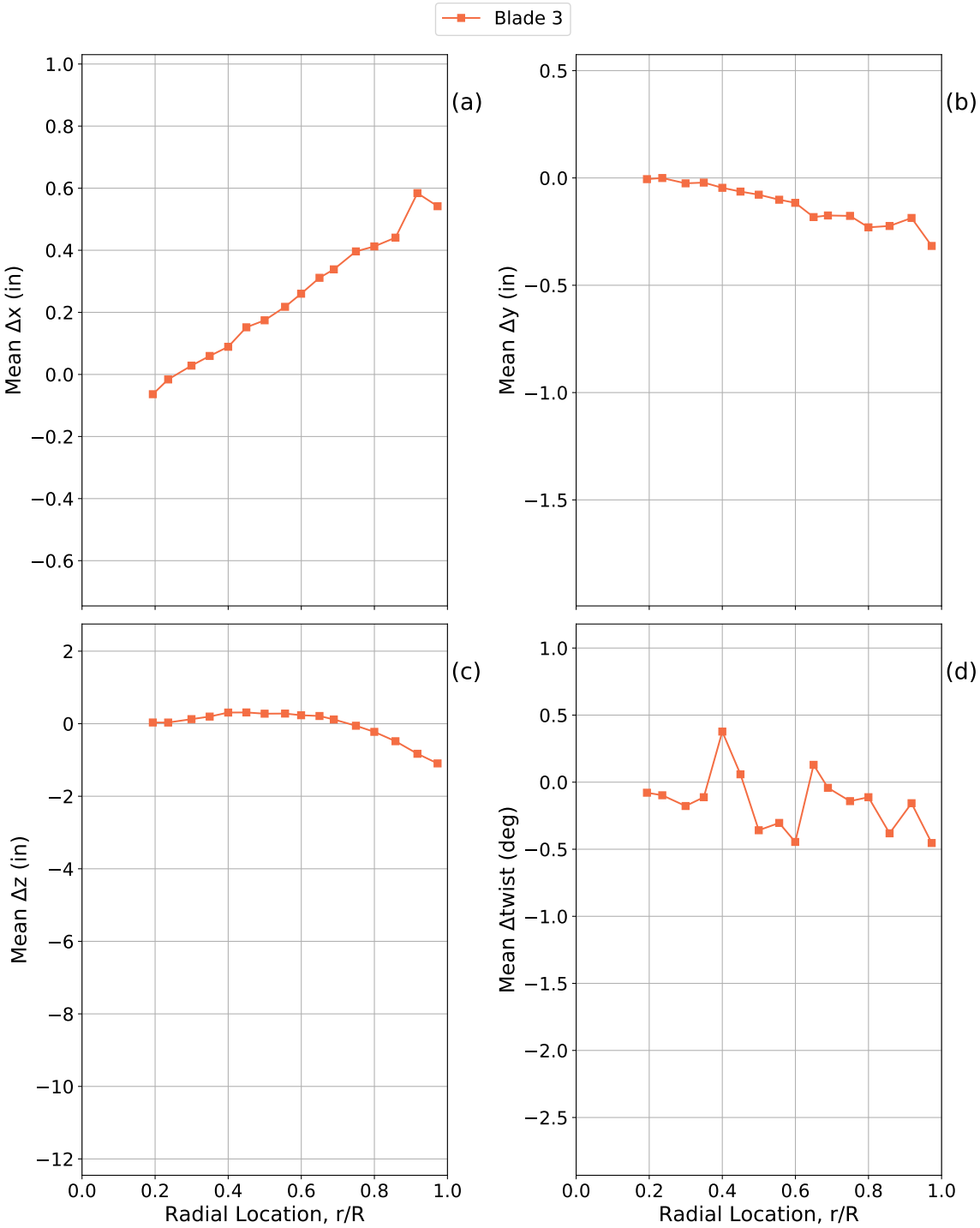


Figure 4.22-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0637	0.0009	-0.0056	0.0006	0.0335	0.0015	-0.0786	0.0088
3	225	0.2357	-0.0161	0.0009	-0.0004	0.0013	0.0323	0.0033	-0.0976	0.0203
3	225	0.2995	0.0284	0.0009	-0.0251	0.0024	0.1258	0.0063	-0.1778	0.0210
3	225	0.3493	0.0595	0.0008	-0.0217	0.0044	0.1964	0.0097	-0.1122	0.0219
3	225	0.4000	0.0891	0.0008	-0.0460	0.0068	0.3077	0.0159	0.3771	0.0262
3	225	0.4497	0.1518	0.0013	-0.0636	0.0084	0.3104	0.0183	0.0586	0.0260
3	225	0.4997	0.1744	0.0015	-0.0780	0.0093	0.2762	0.0225	-0.3585	0.0285
3	225	0.5556	0.2178	0.0019	-0.1015	0.0117	0.2796	0.0282	-0.3039	0.0197
3	225	0.5995	0.2601	0.0013	-0.1159	0.0131	0.2337	0.0317	-0.4456	0.0213
3	225	0.6498	0.3113	0.0017	-0.1824	0.0147	0.2126	0.0353	0.1292	0.0208
3	225	0.6890	0.3385	0.0012	-0.1749	0.0161	0.1169	0.0396	-0.0422	0.0252
3	225	0.7495	0.3963	0.0013	-0.1768	0.0179	-0.0561	0.0445	-0.1414	0.0202
3	225	0.7998	0.4124	0.0015	-0.2302	0.0201	-0.2247	0.0473	-0.1121	0.0313
3	225	0.8577	0.4407	0.0027	-0.2238	0.0234	-0.4830	0.0548	-0.3814	0.0445
3	225	0.9178	0.5841	0.0134	-0.1865	0.0260	-0.8289	0.0610	-0.1569	0.1153
3	225	0.9729	0.5419	0.0036	-0.3168	0.0290	-1.0951	0.0639	-0.4536	0.0656

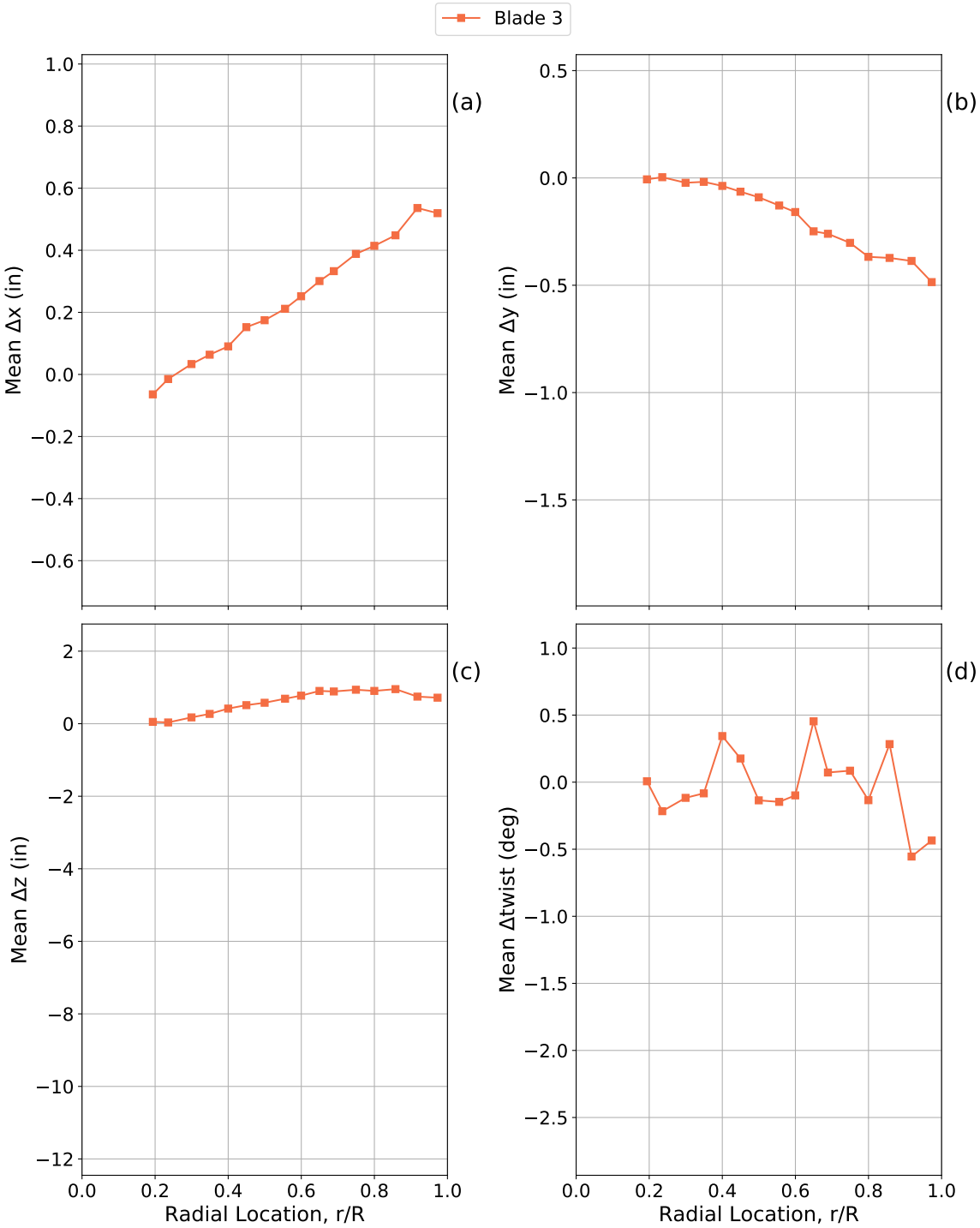


Figure 4.22-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0642	0.0009	-0.0066	0.0006	0.0505	0.0025	0.0067	0.0150
3	240.12	0.2357	-0.0148	0.0006	0.0034	0.0008	0.0348	0.0025	-0.2163	0.0341
3	240.12	0.2995	0.0334	0.0006	-0.0225	0.0020	0.1740	0.0078	-0.1169	0.0406
3	240.12	0.3493	0.0636	0.0008	-0.0182	0.0028	0.2704	0.0133	-0.0834	0.0396
3	240.12	0.4000	0.0904	0.0011	-0.0372	0.0046	0.4170	0.0195	0.3437	0.0346
3	240.12	0.4497	0.1523	0.0016	-0.0640	0.0060	0.5114	0.0247	0.1766	0.0393
3	240.12	0.4997	0.1746	0.0020	-0.0902	0.0078	0.5776	0.0317	-0.1355	0.0429
3	240.12	0.5556	0.2115	0.0020	-0.1285	0.0109	0.6891	0.0397	-0.1470	0.0330
3	240.12	0.5995	0.2518	0.0022	-0.1589	0.0125	0.7737	0.0440	-0.0986	0.0387
3	240.12	0.6498	0.3008	0.0017	-0.2487	0.0151	0.9036	0.0512	0.4537	0.0367
3	240.12	0.6890	0.3327	0.0017	-0.2602	0.0170	0.8887	0.0548	0.0721	0.0407
3	240.12	0.7495	0.3883	0.0016	-0.3025	0.0202	0.9364	0.0620	0.0856	0.0344
3	240.12	0.7998	0.4143	0.0019	-0.3676	0.0232	0.9041	0.0661	-0.1343	0.0345
3	240.12	0.8577	0.4482	0.0019	-0.3727	0.0262	0.9535	0.0698	0.2838	0.0365
3	240.12	0.9178	0.5361	0.0021	-0.3867	0.0297	0.7466	0.0760	-0.5545	0.0420
3	240.12	0.9729	0.5195	0.0032	-0.4853	0.0327	0.7177	0.0836	-0.4350	0.0468

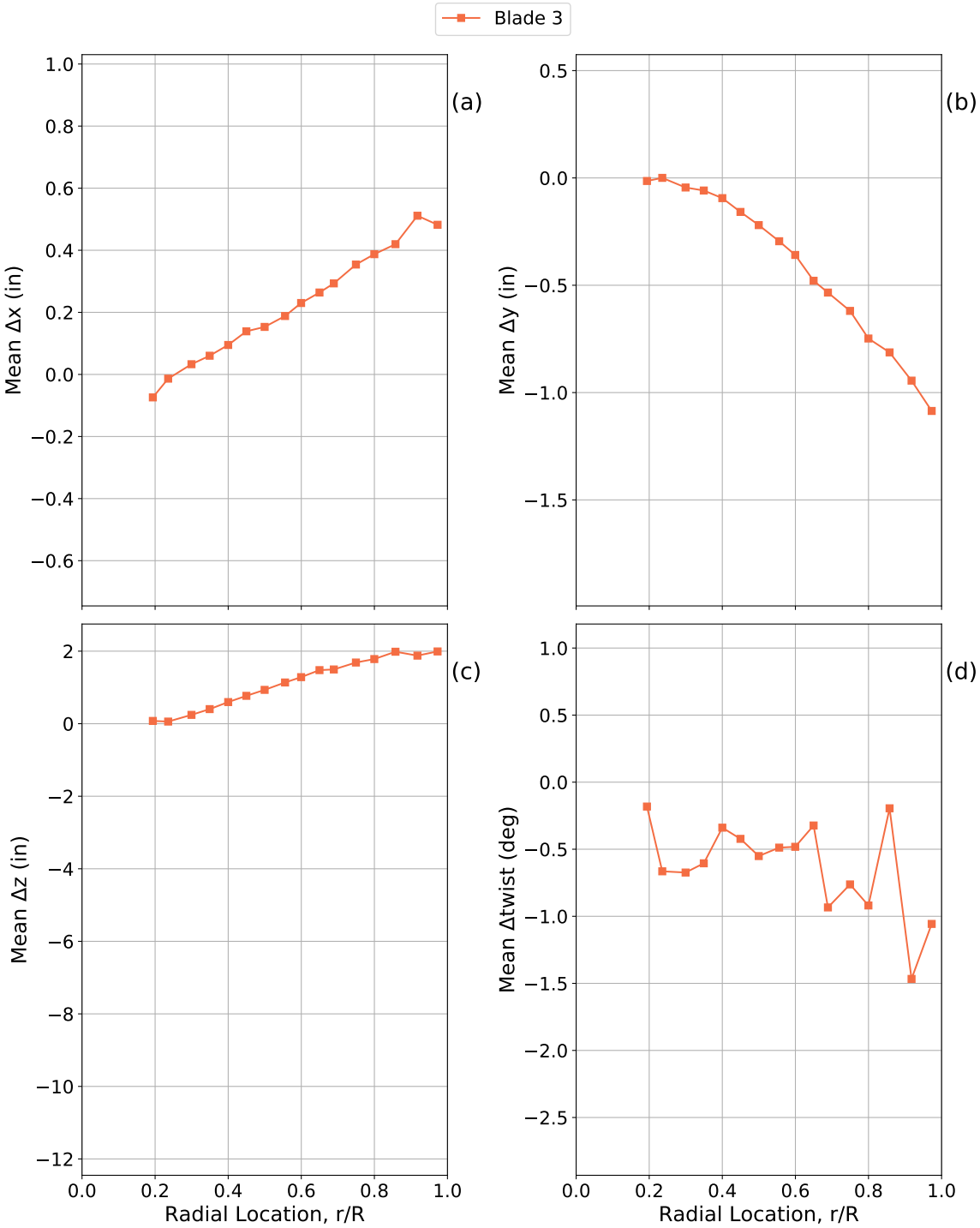


Figure 4.22-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0740	0.0019	-0.0142	0.0011	0.0763	0.0027	-0.1818	0.0178
3	254.88	0.2357	-0.0136	0.0012	0.0003	0.0010	0.0589	0.0034	-0.6647	0.0377
3	254.88	0.2995	0.0329	0.0009	-0.0446	0.0026	0.2438	0.0075	-0.6737	0.0435
3	254.88	0.3493	0.0603	0.0012	-0.0586	0.0042	0.4023	0.0119	-0.6049	0.0416
3	254.88	0.4000	0.0949	0.0017	-0.0941	0.0061	0.5965	0.0180	-0.3392	0.0412
3	254.88	0.4497	0.1389	0.0023	-0.1584	0.0077	0.7685	0.0234	-0.4227	0.0434
3	254.88	0.4997	0.1531	0.0028	-0.2198	0.0096	0.9330	0.0298	-0.5510	0.0397
3	254.88	0.5556	0.1882	0.0027	-0.2949	0.0112	1.1366	0.0372	-0.4879	0.0368
3	254.88	0.5995	0.2301	0.0026	-0.3588	0.0125	1.2838	0.0431	-0.4819	0.0354
3	254.88	0.6498	0.2639	0.0028	-0.4790	0.0143	1.4773	0.0529	-0.3230	0.0348
3	254.88	0.6890	0.2933	0.0023	-0.5340	0.0151	1.4955	0.0594	-0.9339	0.0411
3	254.88	0.7495	0.3540	0.0027	-0.6195	0.0176	1.6869	0.0678	-0.7623	0.0525
3	254.88	0.7998	0.3874	0.0027	-0.7481	0.0192	1.7824	0.0767	-0.9193	0.0432
3	254.88	0.8577	0.4196	0.0031	-0.8128	0.0211	1.9845	0.0861	-0.1948	0.0580
3	254.88	0.9178	0.5113	0.0026	-0.9443	0.0238	1.8771	0.0971	-1.4668	0.0449
3	254.88	0.9729	0.4821	0.0036	-1.0856	0.0259	1.9922	0.1051	-1.0568	0.0436

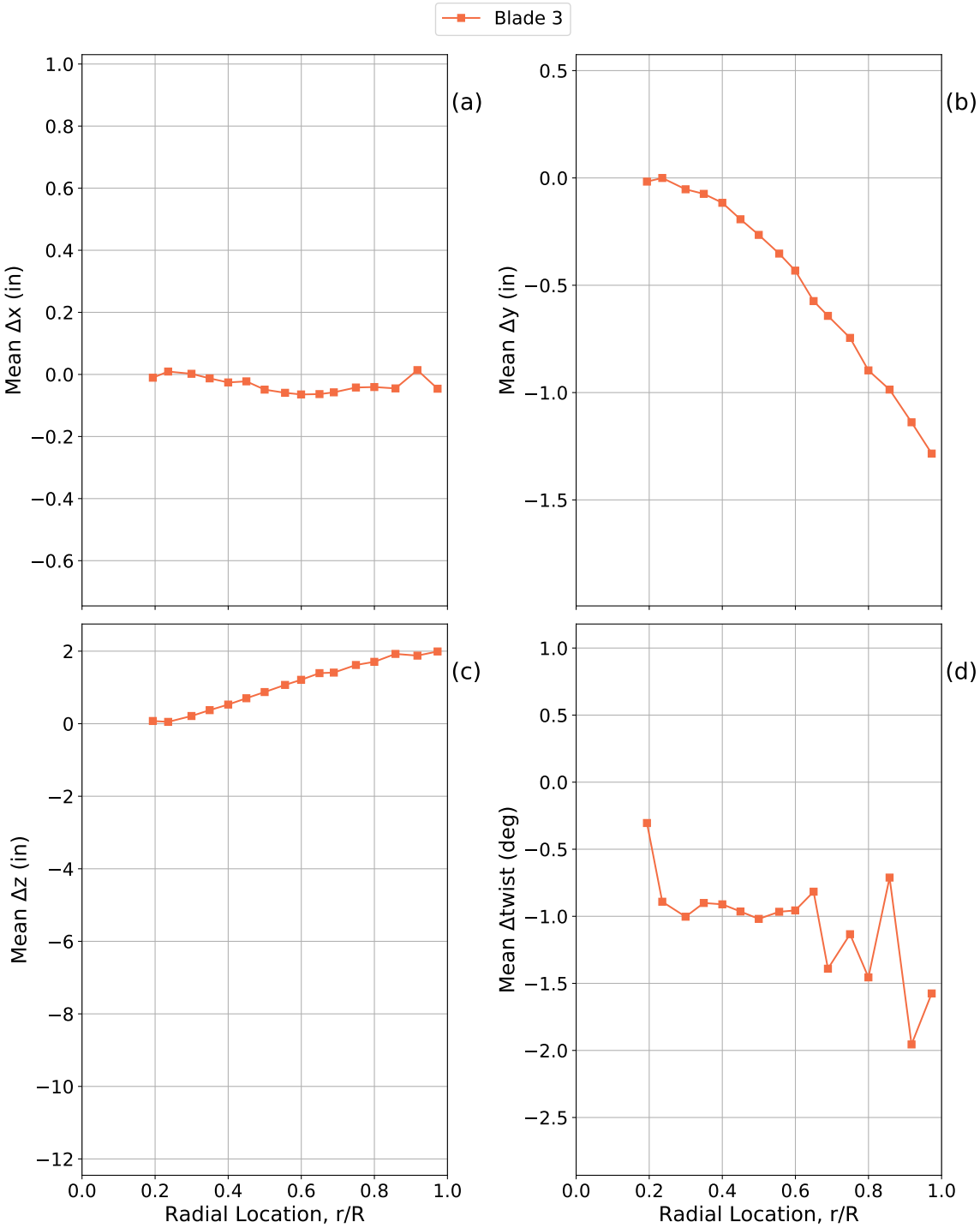


Figure 4.22-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0105	0.0037	-0.0171	0.0015	0.0746	0.0050	-0.3046	0.0244
3	260.16	0.2357	0.0093	0.0014	-0.0002	0.0011	0.0503	0.0049	-0.8914	0.0648
3	260.16	0.2995	0.0021	0.0013	-0.0529	0.0043	0.2125	0.0137	-1.0030	0.0706
3	260.16	0.3493	-0.0127	0.0011	-0.0742	0.0076	0.3739	0.0234	-0.9006	0.0731
3	260.16	0.4000	-0.0258	0.0016	-0.1158	0.0109	0.5278	0.0332	-0.9108	0.0756
3	260.16	0.4497	-0.0223	0.0018	-0.1926	0.0140	0.7020	0.0418	-0.9642	0.0763
3	260.16	0.4997	-0.0489	0.0023	-0.2653	0.0175	0.8728	0.0519	-1.0193	0.0697
3	260.16	0.5556	-0.0592	0.0017	-0.3525	0.0207	1.0693	0.0601	-0.9663	0.0701
3	260.16	0.5995	-0.0645	0.0018	-0.4318	0.0236	1.2102	0.0683	-0.9563	0.0724
3	260.16	0.6498	-0.0634	0.0024	-0.5738	0.0266	1.3944	0.0772	-0.8164	0.0749
3	260.16	0.6890	-0.0577	0.0021	-0.6426	0.0304	1.4088	0.0829	-1.3907	0.0746
3	260.16	0.7495	-0.0421	0.0024	-0.7452	0.0345	1.6188	0.0937	-1.1336	0.0691
3	260.16	0.7998	-0.0406	0.0020	-0.8967	0.0385	1.7058	0.0984	-1.4553	0.0875
3	260.16	0.8577	-0.0450	0.0029	-0.9860	0.0430	1.9244	0.1102	-0.7113	0.0788
3	260.16	0.9178	0.0139	0.0035	-1.1385	0.0470	1.8771	0.1209	-1.9554	0.0805
3	260.16	0.9729	-0.0460	0.0197	-1.2842	0.0642	1.9914	0.1313	-1.5752	0.2718

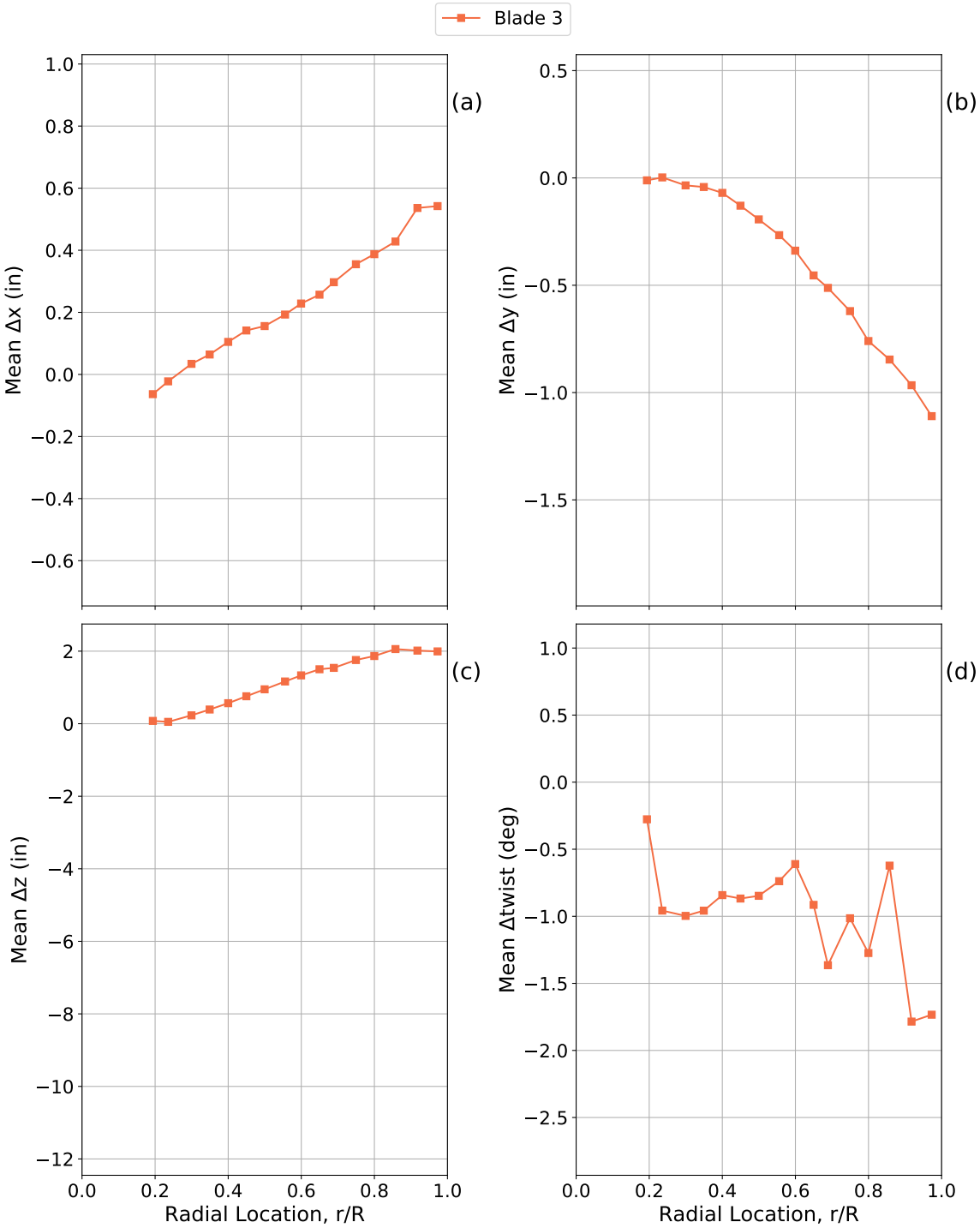


Figure 4.22-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0635	0.0065	-0.0113	0.0022	0.0771	0.0099	-0.2769	0.0319
3	265.08	0.2357	-0.0223	0.0023	0.0024	0.0011	0.0510	0.0065	-0.9575	0.1117
3	265.08	0.2995	0.0341	0.0011	-0.0347	0.0064	0.2304	0.0261	-0.9970	0.1093
3	265.08	0.3493	0.0642	0.0015	-0.0423	0.0108	0.3912	0.0434	-0.9580	0.1119
3	265.08	0.4000	0.1048	0.0015	-0.0696	0.0158	0.5654	0.0612	-0.8420	0.1101
3	265.08	0.4497	0.1416	0.0016	-0.1293	0.0206	0.7565	0.0795	-0.8676	0.1063
3	265.08	0.4997	0.1558	0.0022	-0.1932	0.0254	0.9480	0.0975	-0.8473	0.1043
3	265.08	0.5556	0.1929	0.0026	-0.2667	0.0314	1.1642	0.1170	-0.7382	0.1096
3	265.08	0.5995	0.2284	0.0031	-0.3388	0.0362	1.3323	0.1349	-0.6108	0.0990
3	265.08	0.6498	0.2569	0.0039	-0.4542	0.0418	1.5012	0.1509	-0.9147	0.1086
3	265.08	0.6890	0.2971	0.0034	-0.5123	0.0466	1.5389	0.1637	-1.3645	0.1107
3	265.08	0.7495	0.3550	0.0041	-0.6204	0.0543	1.7561	0.1829	-1.0146	0.1136
3	265.08	0.7998	0.3874	0.0045	-0.7599	0.0610	1.8660	0.1995	-1.2737	0.1146
3	265.08	0.8577	0.4281	0.0046	-0.8461	0.0693	2.0577	0.2206	-0.6222	0.1020
3	265.08	0.9178	0.5363	0.0047	-0.9658	0.0778	2.0156	0.2403	-1.7849	0.1113
3	265.08	0.9729	0.5423	0.0073	-1.1098	0.0851	1.9934	0.2618	-1.7336	0.1025

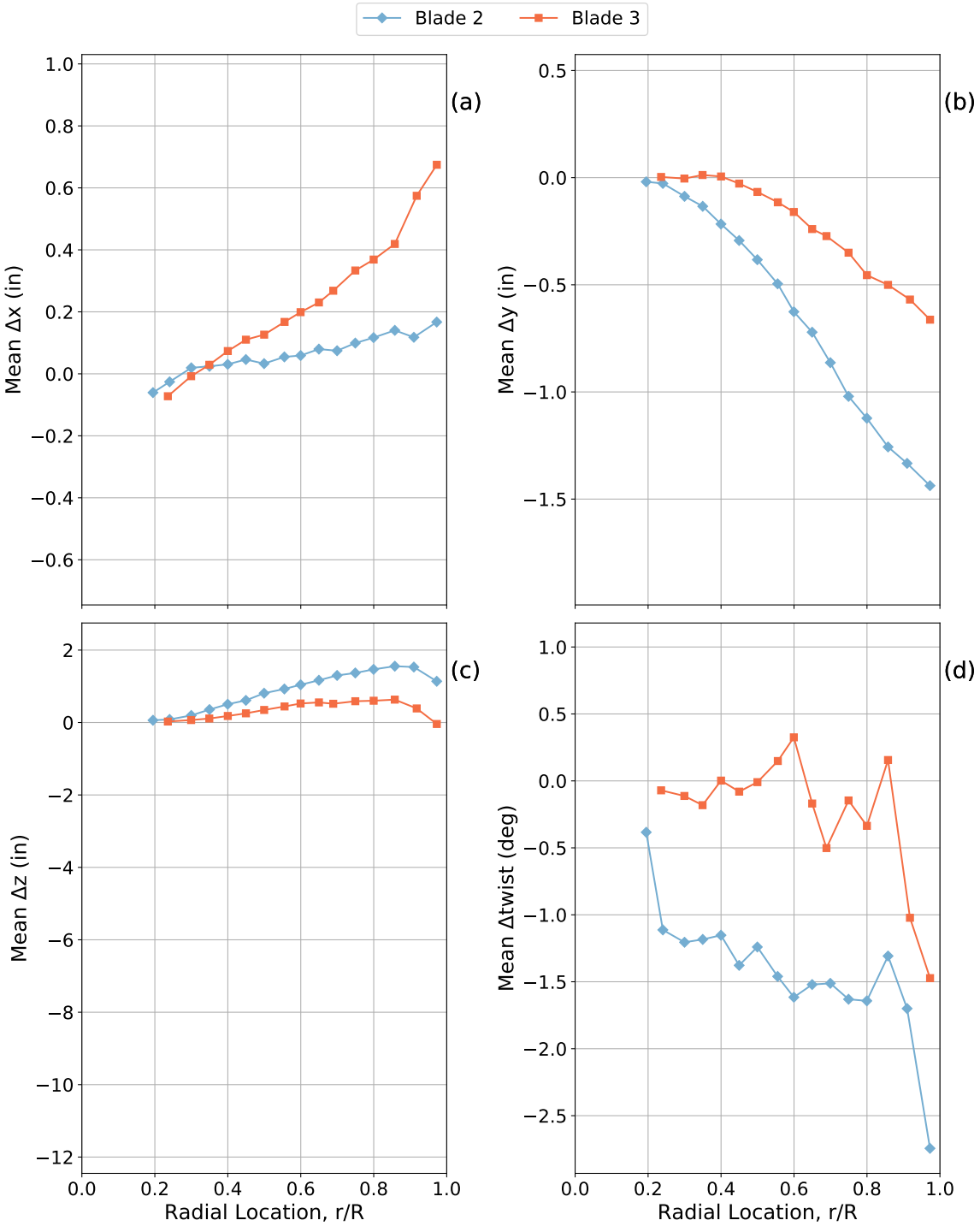


Figure 4.22-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0606	0.0038	-0.0194	0.0015	0.0627	0.0085	-0.3836	0.0456
2	270.35	0.2405	-0.0258	0.0020	-0.0270	0.0008	0.0853	0.0066	-1.1128	0.1404
2	270.35	0.2999	0.0194	0.0021	-0.0873	0.0040	0.1959	0.0223	-1.2050	0.1433
2	270.35	0.3498	0.0243	0.0024	-0.1338	0.0064	0.3583	0.0396	-1.1839	0.1407
2	270.35	0.3998	0.0306	0.0024	-0.2165	0.0088	0.5056	0.0535	-1.1526	0.1440
2	270.35	0.4496	0.0462	0.0016	-0.2933	0.0113	0.6117	0.0667	-1.3775	0.1372
2	270.35	0.4995	0.0329	0.0017	-0.3829	0.0134	0.8095	0.0802	-1.2403	0.1347
2	270.35	0.5551	0.0546	0.0016	-0.4954	0.0159	0.9263	0.0947	-1.4602	0.1457
2	270.35	0.5996	0.0590	0.0026	-0.6259	0.0186	1.0432	0.1083	-1.6156	0.1474
2	270.35	0.6497	0.0798	0.0021	-0.7212	0.0209	1.1670	0.1229	-1.5208	0.1491
2	270.35	0.6996	0.0745	0.0024	-0.8634	0.0233	1.3002	0.1380	-1.5118	0.1459
2	270.35	0.7495	0.0992	0.0027	-1.0208	0.0261	1.3688	0.1550	-1.6306	0.1428
2	270.35	0.7996	0.1168	0.0025	-1.1227	0.0280	1.4678	0.1705	-1.6426	0.1405
2	270.35	0.8578	0.1403	0.0029	-1.2567	0.0308	1.5555	0.1879	-1.3077	0.1514
2	270.35	0.9100	0.1179	0.0027	-1.3333	0.0329	1.5323	0.2034	-1.7001	0.1440
2	270.35	0.9727	0.1671	0.0060	-1.4375	0.0344	1.1391	0.2199	-2.7441	0.2194
3	270	0.2357	-0.0723	0.0027	0.0032	0.0022	0.0272	0.0096	-0.0705	0.0882
3	270	0.2995	-0.0077	0.0013	-0.0042	0.0049	0.0684	0.0191	-0.1126	0.1415
3	270	0.3493	0.0291	0.0016	0.0123	0.0090	0.1106	0.0349	-0.1813	0.1330
3	270	0.4000	0.0735	0.0007	0.0054	0.0139	0.1804	0.0517	0.0022	0.1205
3	270	0.4497	0.1102	0.0020	-0.0277	0.0170	0.2535	0.0643	-0.0802	0.1355
3	270	0.4997	0.1264	0.0016	-0.0667	0.0210	0.3470	0.0808	-0.0092	0.1306
3	270	0.5556	0.1675	0.0022	-0.1151	0.0258	0.4435	0.0984	0.1484	0.1284
3	270	0.5995	0.1989	0.0024	-0.1602	0.0296	0.5258	0.1124	0.3252	0.1309
3	270	0.6498	0.2303	0.0020	-0.2399	0.0333	0.5554	0.1286	-0.1690	0.1303
3	270	0.6890	0.2681	0.0020	-0.2728	0.0370	0.5185	0.1421	-0.5016	0.1201
3	270	0.7495	0.3334	0.0024	-0.3502	0.0413	0.5883	0.1613	-0.1460	0.1214
3	270	0.7998	0.3687	0.0028	-0.4550	0.0462	0.6020	0.1761	-0.3357	0.1228
3	270	0.8577	0.4191	0.0021	-0.5004	0.0505	0.6324	0.1943	0.1558	0.1232
3	270	0.9178	0.5744	0.0023	-0.5688	0.0579	0.3889	0.2091	-1.0222	0.1253
3	270	0.9729	0.6746	0.0052	-0.6628	0.0620	-0.0402	0.2260	-1.4728	0.1180

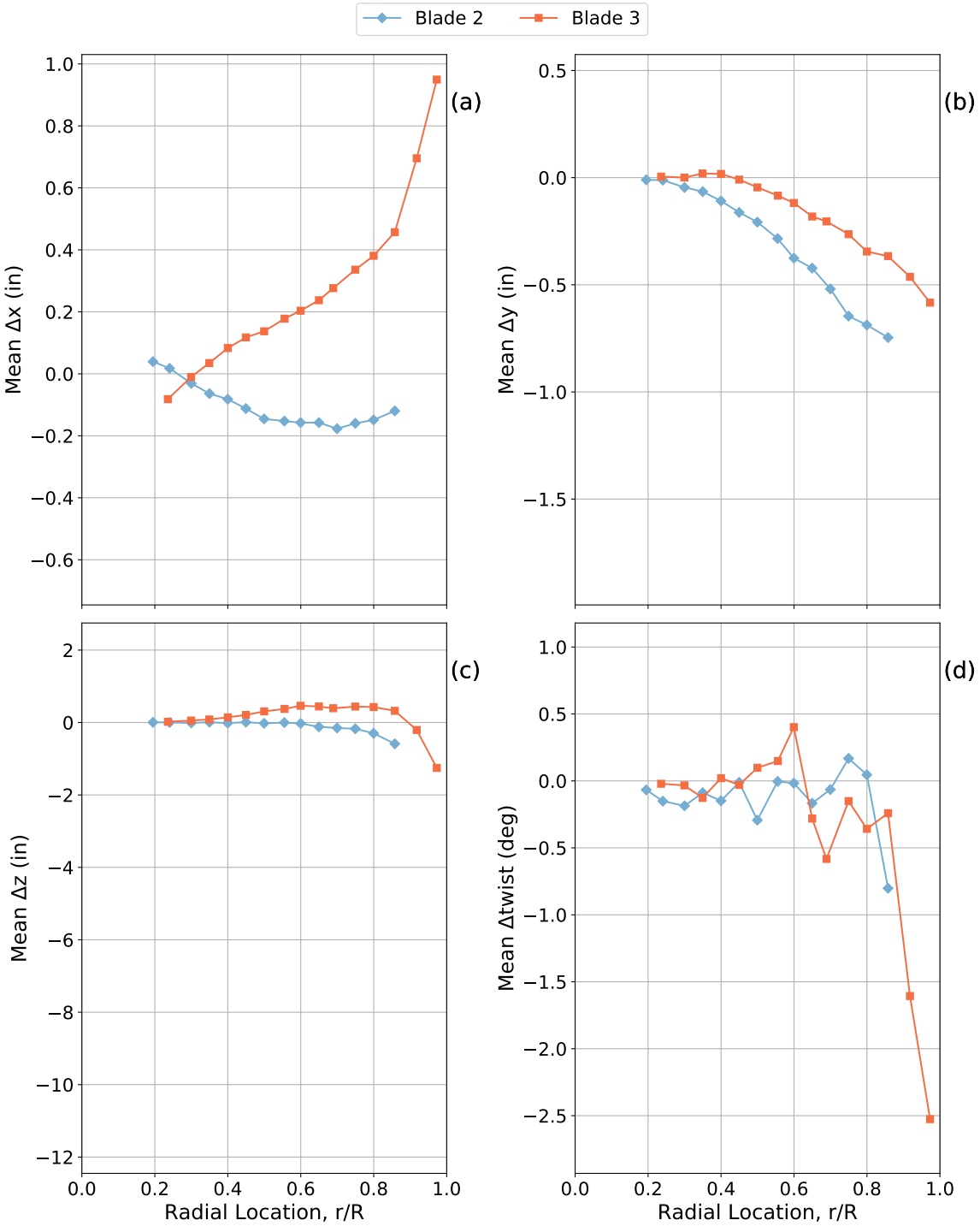


Figure 4.22-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0394	0.0018	-0.0100	0.0006	0.0049	0.0016	-0.0670	0.0201
2	274.92	0.2405	0.0176	0.0013	-0.0117	0.0018	0.0029	0.0073	-0.1512	0.0228
2	274.92	0.2999	-0.0308	0.0019	-0.0457	0.0030	-0.0104	0.0083	-0.1863	0.0341
2	274.92	0.3498	-0.0639	0.0024	-0.0651	0.0047	0.0081	0.0169	-0.0882	0.0369
2	274.92	0.3998	-0.0818	0.0021	-0.1086	0.0081	-0.0160	0.0262	-0.1485	0.0282
2	274.92	0.4496	-0.1121	0.0021	-0.1622	0.0098	0.0089	0.0293	-0.0107	0.0190
2	274.92	0.4995	-0.1456	0.0023	-0.2074	0.0117	-0.0214	0.0325	-0.2931	0.0315
2	274.92	0.5551	-0.1525	0.0024	-0.2844	0.0144	-0.0012	0.0348	-0.0039	0.0284
2	274.92	0.5996	-0.1573	0.0020	-0.3757	0.0166	-0.0259	0.0426	-0.0174	0.0361
2	274.92	0.6497	-0.1575	0.0030	-0.4222	0.0188	-0.1188	0.0431	-0.1671	0.0373
2	274.92	0.6996	-0.1770	0.0037	-0.5193	0.0203	-0.1502	0.0496	-0.0646	0.0660
2	274.92	0.7495	-0.1597	0.0052	-0.6460	0.0242	-0.1726	0.0509	0.1677	0.0752
2	274.92	0.7996	-0.1488	0.0059	-0.6876	0.0255	-0.2979	0.0523	0.0457	0.0915
2	274.92	0.8578	-0.1197	0.0069	-0.7463	0.0313	-0.5876	0.0666	-0.8017	0.1640
3	274.92	0.2357	-0.0818	0.0032	0.0050	0.0016	0.0201	0.0118	-0.0213	0.0982
3	274.92	0.2995	-0.0102	0.0019	0.0003	0.0033	0.0554	0.0238	-0.0338	0.1575
3	274.92	0.3493	0.0348	0.0019	0.0195	0.0066	0.0852	0.0437	-0.1267	0.1463
3	274.92	0.4000	0.0832	0.0016	0.0172	0.0097	0.1439	0.0650	0.0202	0.1301
3	274.92	0.4497	0.1175	0.0014	-0.0092	0.0123	0.2096	0.0805	-0.0301	0.1434
3	274.92	0.4997	0.1373	0.0017	-0.0455	0.0153	0.3071	0.1002	0.0980	0.1456
3	274.92	0.5556	0.1780	0.0020	-0.0839	0.0189	0.3766	0.1211	0.1483	0.1396
3	274.92	0.5995	0.2036	0.0019	-0.1180	0.0215	0.4626	0.1366	0.4014	0.1366
3	274.92	0.6498	0.2374	0.0020	-0.1813	0.0248	0.4431	0.1526	-0.2810	0.1476
3	274.92	0.6890	0.2765	0.0032	-0.2042	0.0278	0.3940	0.1684	-0.5828	0.1209
3	274.92	0.7495	0.3361	0.0030	-0.2639	0.0332	0.4408	0.1870	-0.1509	0.1425
3	274.92	0.7998	0.3809	0.0038	-0.3447	0.0364	0.4276	0.2073	-0.3582	0.1343
3	274.92	0.8577	0.4571	0.0038	-0.3664	0.0421	0.3228	0.2240	-0.2410	0.1565
3	274.92	0.9178	0.6955	0.0040	-0.4631	0.0483	-0.2059	0.2423	-1.6064	0.1826
3	274.92	0.9729	0.9495	0.0046	-0.5834	0.0544	-1.2538	0.2683	-2.5259	0.1644

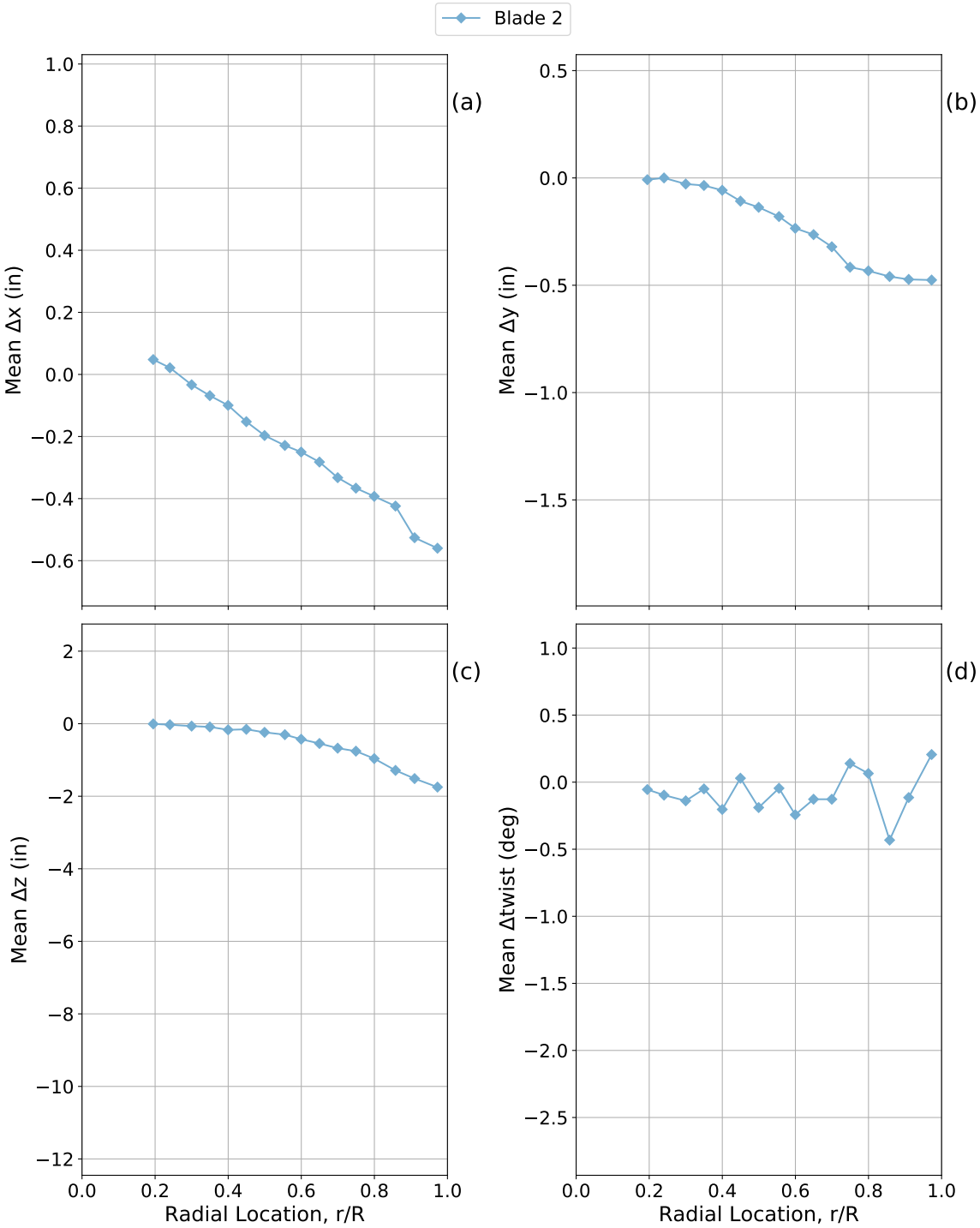


Figure 4.22-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0479	0.0013	-0.0083	0.0010	-0.0060	0.0013	-0.0548	0.0173
2	285.12	0.2405	0.0214	0.0008	0.0000	0.0015	-0.0283	0.0034	-0.0966	0.0254
2	285.12	0.2999	-0.0334	0.0008	-0.0283	0.0034	-0.0661	0.0065	-0.1390	0.0378
2	285.12	0.3498	-0.0684	0.0009	-0.0352	0.0039	-0.0889	0.0080	-0.0502	0.0363
2	285.12	0.3998	-0.0996	0.0017	-0.0575	0.0069	-0.1692	0.0151	-0.2033	0.0372
2	285.12	0.4496	-0.1522	0.0025	-0.1081	0.0089	-0.1543	0.0160	0.0294	0.0272
2	285.12	0.4995	-0.1968	0.0011	-0.1368	0.0093	-0.2380	0.0212	-0.1893	0.0325
2	285.12	0.5551	-0.2288	0.0015	-0.1800	0.0116	-0.3021	0.0240	-0.0454	0.0372
2	285.12	0.5996	-0.2500	0.0016	-0.2345	0.0127	-0.4279	0.0271	-0.2431	0.0221
2	285.12	0.6497	-0.2822	0.0024	-0.2641	0.0151	-0.5452	0.0289	-0.1274	0.0419
2	285.12	0.6996	-0.3326	0.0024	-0.3208	0.0169	-0.6752	0.0329	-0.1273	0.0412
2	285.12	0.7495	-0.3664	0.0030	-0.4159	0.0188	-0.7570	0.0337	0.1396	0.0673
2	285.12	0.7996	-0.3929	0.0021	-0.4329	0.0216	-0.9622	0.0377	0.0648	0.0470
2	285.12	0.8578	-0.4241	0.0022	-0.4594	0.0248	-1.2872	0.0492	-0.4321	0.0436
2	285.12	0.9100	-0.5260	0.0030	-0.4728	0.0268	-1.5134	0.0532	-0.1147	0.0535
2	285.12	0.9727	-0.5599	0.0066	-0.4757	0.0328	-1.7477	0.0657	0.2060	0.1271

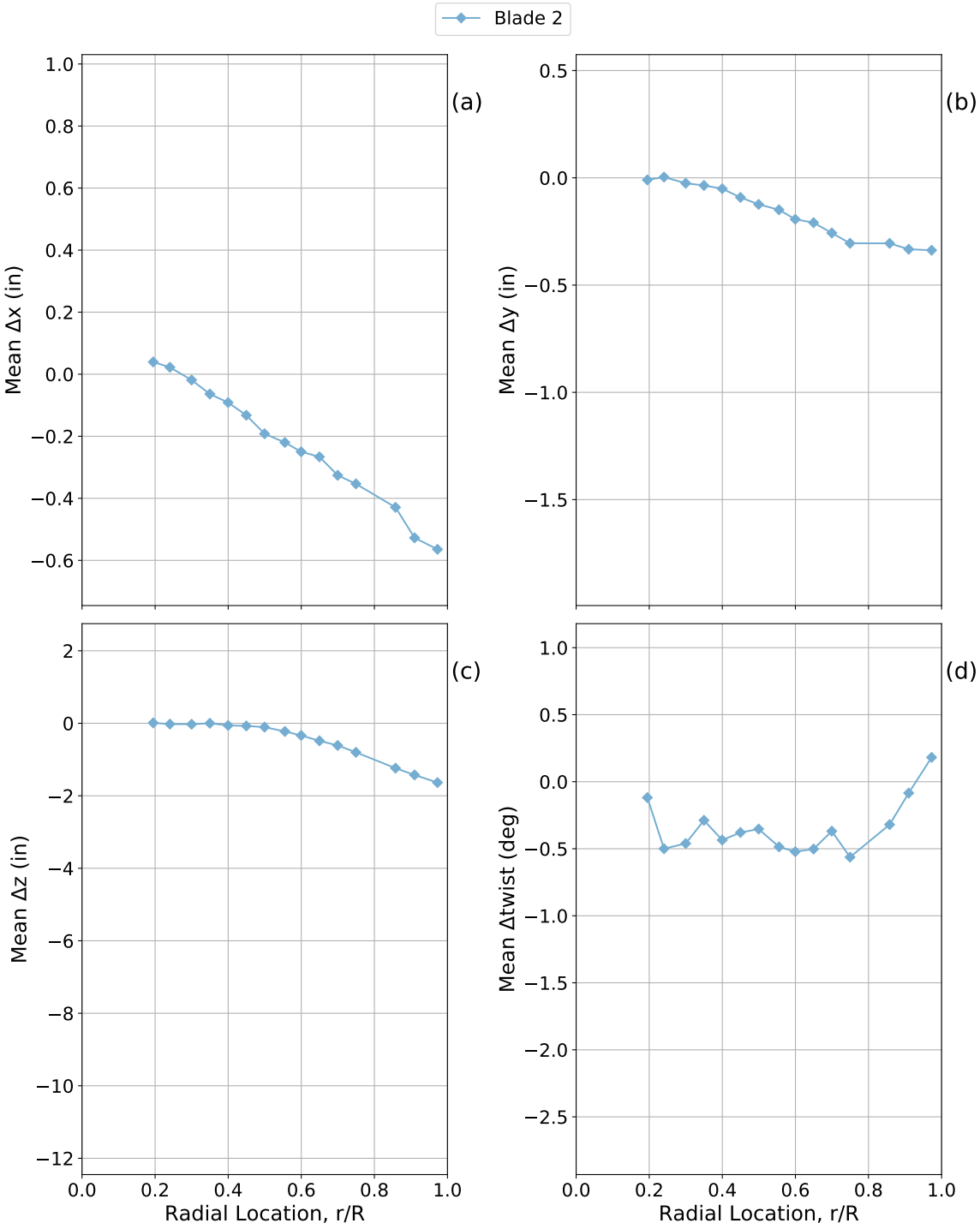


Figure 4.22-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0395	0.0020	-0.0097	0.0011	0.0111	0.0017	-0.1184	0.0217
2	299.88	0.2405	0.0223	0.0013	0.0036	0.0019	-0.0216	0.0039	-0.4998	0.0298
2	299.88	0.2999	-0.0187	0.0011	-0.0253	0.0045	-0.0265	0.0062	-0.4608	0.0473
2	299.88	0.3498	-0.0638	0.0012	-0.0356	0.0066	0.0005	0.0110	-0.2881	0.0494
2	299.88	0.3998	-0.0914	0.0030	-0.0508	0.0111	-0.0591	0.0172	-0.4351	0.0530
2	299.88	0.4496	-0.1323	0.0016	-0.0913	0.0111	-0.0734	0.0207	-0.3789	0.0401
2	299.88	0.4995	-0.1919	0.0022	-0.1239	0.0131	-0.1057	0.0270	-0.3531	0.0541
2	299.88	0.5551	-0.2199	0.0022	-0.1490	0.0152	-0.2248	0.0322	-0.4859	0.0334
2	299.88	0.5996	-0.2500	0.0028	-0.1933	0.0174	-0.3358	0.0348	-0.5221	0.0375
2	299.88	0.6497	-0.2663	0.0035	-0.2090	0.0204	-0.4842	0.0387	-0.5023	0.0361
2	299.88	0.6996	-0.3259	0.0028	-0.2570	0.0231	-0.6117	0.0444	-0.3689	0.0334
2	299.88	0.7495	-0.3534	0.0025	-0.3051	0.0255	-0.8007	0.0506	-0.5627	0.0312
2	299.88	0.8578	-0.4291	0.0026	-0.3054	0.0314	-1.2378	0.0643	-0.3198	0.0345
2	299.88	0.9100	-0.5274	0.0024	-0.3330	0.0340	-1.4251	0.0703	-0.0846	0.0456
2	299.88	0.9727	-0.5644	0.0033	-0.3376	0.0385	-1.6361	0.0829	0.1815	0.0349

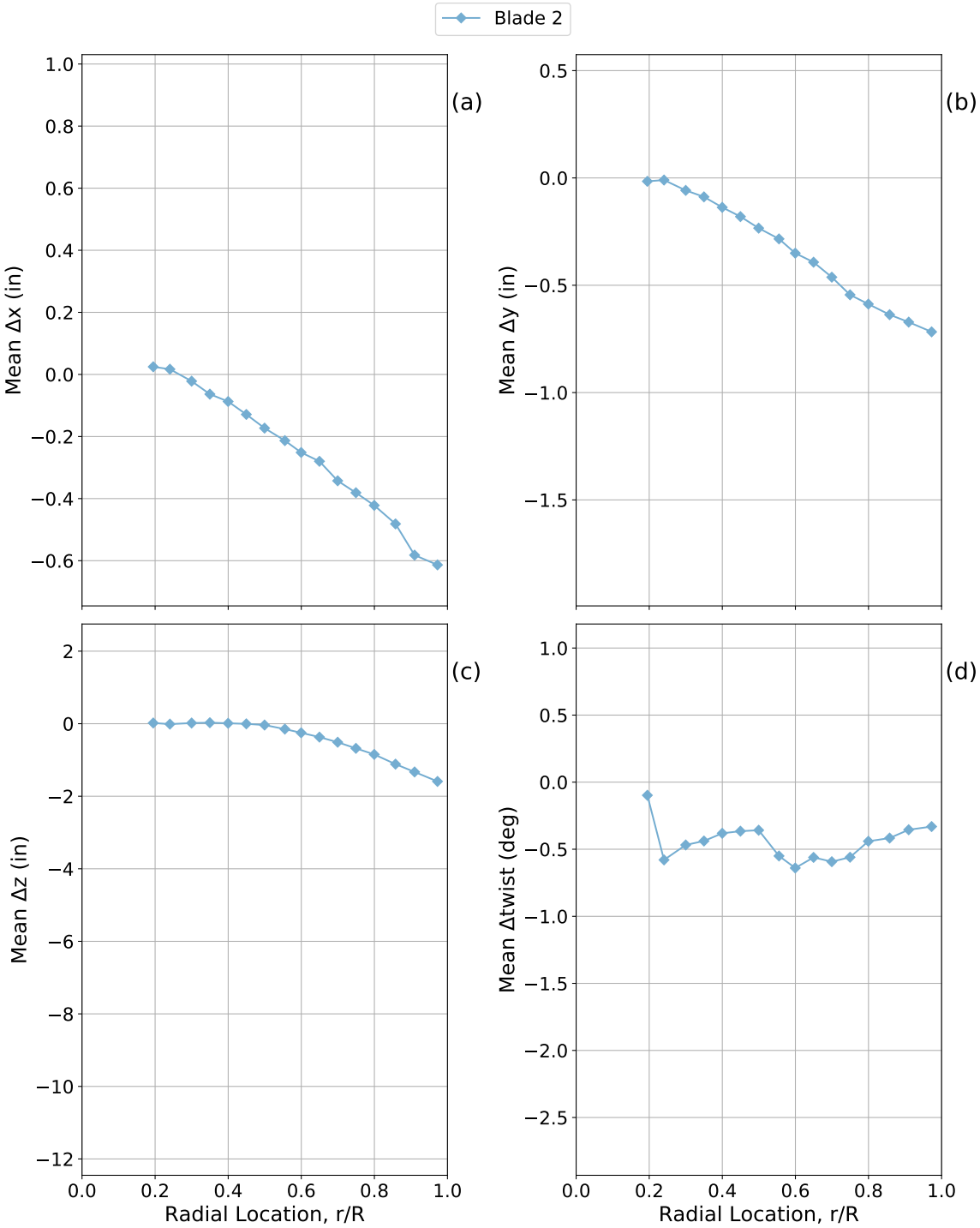


Figure 4.22-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0246	0.0015	-0.0158	0.0004	0.0199	0.0020	-0.0978	0.0168
2	315	0.2405	0.0168	0.0014	-0.0098	0.0010	-0.0114	0.0036	-0.5796	0.0274
2	315	0.2999	-0.0217	0.0013	-0.0580	0.0022	0.0184	0.0070	-0.4682	0.0322
2	315	0.3498	-0.0635	0.0014	-0.0882	0.0033	0.0275	0.0123	-0.4386	0.0259
2	315	0.3998	-0.0872	0.0021	-0.1370	0.0056	0.0120	0.0184	-0.3812	0.0325
2	315	0.4496	-0.1289	0.0021	-0.1801	0.0069	-0.0042	0.0229	-0.3654	0.0338
2	315	0.4995	-0.1730	0.0033	-0.2339	0.0082	-0.0364	0.0275	-0.3582	0.0226
2	315	0.5551	-0.2132	0.0033	-0.2840	0.0103	-0.1488	0.0312	-0.5502	0.0323
2	315	0.5996	-0.2514	0.0037	-0.3505	0.0115	-0.2506	0.0370	-0.6399	0.0216
2	315	0.6497	-0.2799	0.0043	-0.3926	0.0133	-0.3695	0.0410	-0.5609	0.0284
2	315	0.6996	-0.3427	0.0037	-0.4624	0.0158	-0.5106	0.0492	-0.5929	0.0324
2	315	0.7495	-0.3811	0.0036	-0.5445	0.0179	-0.6792	0.0502	-0.5597	0.0350
2	315	0.7996	-0.4219	0.0035	-0.5877	0.0201	-0.8468	0.0555	-0.4406	0.0293
2	315	0.8578	-0.4815	0.0035	-0.6371	0.0230	-1.1149	0.0628	-0.4168	0.0387
2	315	0.9100	-0.5821	0.0042	-0.6717	0.0264	-1.3300	0.0713	-0.3547	0.0320
2	315	0.9727	-0.6136	0.0046	-0.7171	0.0303	-1.5916	0.0807	-0.3310	0.0302

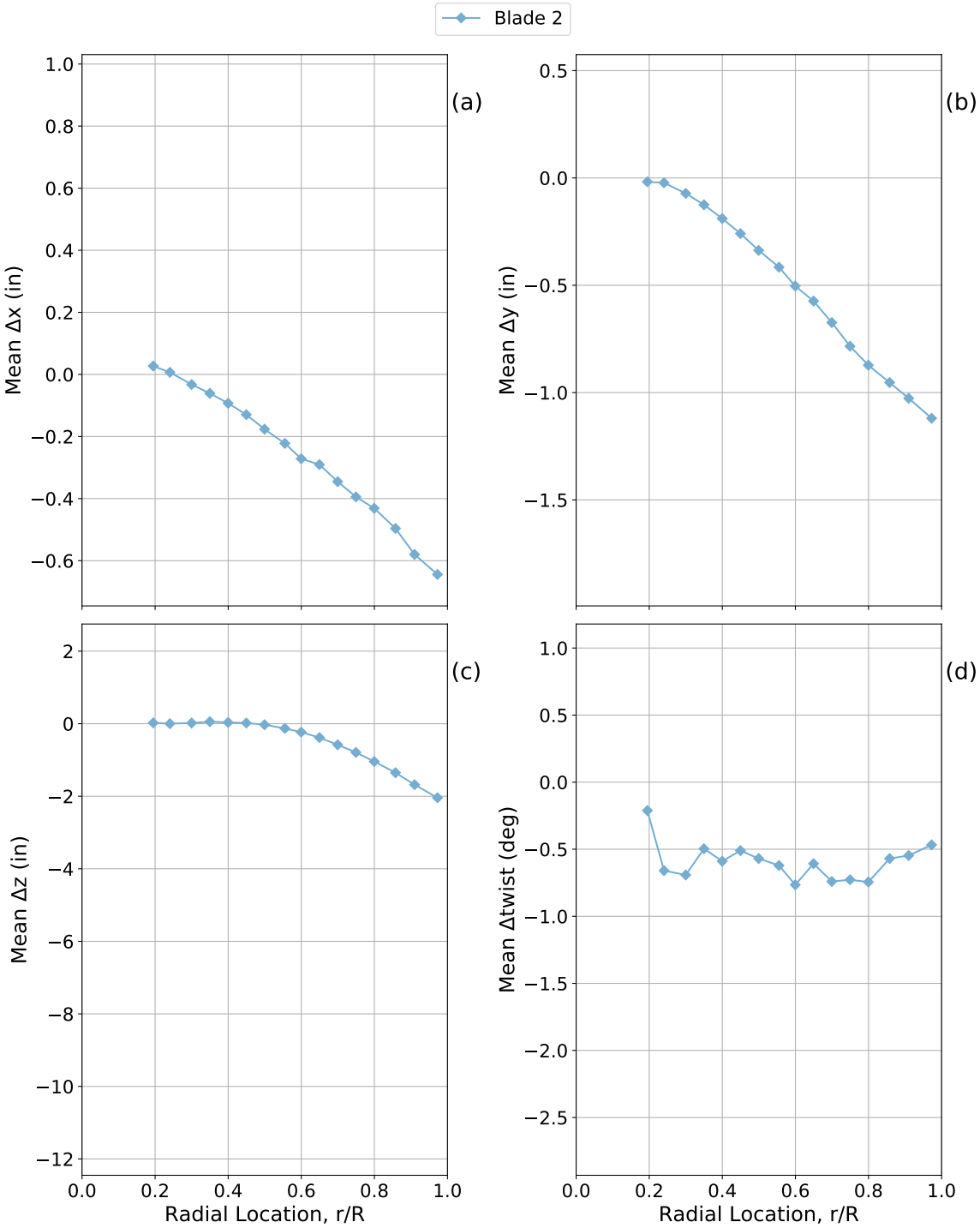


Figure 4.22-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0271	0.0007	-0.0180	0.0007	0.0232	0.0014	-0.2116	0.0204
2	330.12	0.2405	0.0068	0.0015	-0.0225	0.0009	0.0012	0.0033	-0.6594	0.0184
2	330.12	0.2999	-0.0324	0.0015	-0.0721	0.0024	0.0197	0.0074	-0.6918	0.0384
2	330.12	0.3498	-0.0610	0.0020	-0.1249	0.0038	0.0555	0.0098	-0.4963	0.0221
2	330.12	0.3998	-0.0929	0.0016	-0.1893	0.0057	0.0355	0.0174	-0.5893	0.0412
2	330.12	0.4496	-0.1295	0.0014	-0.2592	0.0068	0.0190	0.0210	-0.5104	0.0378
2	330.12	0.4995	-0.1765	0.0017	-0.3376	0.0089	-0.0274	0.0236	-0.5693	0.0484
2	330.12	0.5551	-0.2222	0.0017	-0.4158	0.0107	-0.1304	0.0245	-0.6214	0.0253
2	330.12	0.5996	-0.2715	0.0015	-0.5037	0.0124	-0.2323	0.0257	-0.7653	0.0373
2	330.12	0.6497	-0.2905	0.0020	-0.5736	0.0143	-0.3826	0.0283	-0.6077	0.0374
2	330.12	0.6996	-0.3454	0.0017	-0.6738	0.0167	-0.5813	0.0296	-0.7407	0.0373
2	330.12	0.7495	-0.3945	0.0023	-0.7839	0.0193	-0.7916	0.0293	-0.7275	0.0362
2	330.12	0.7996	-0.4313	0.0024	-0.8724	0.0216	-1.0433	0.0316	-0.7447	0.0355
2	330.12	0.8578	-0.4962	0.0020	-0.9532	0.0247	-1.3518	0.0370	-0.5694	0.0333
2	330.12	0.9100	-0.5801	0.0024	-1.0265	0.0275	-1.6814	0.0403	-0.5468	0.0336
2	330.12	0.9727	-0.6444	0.0028	-1.1197	0.0307	-2.0419	0.0488	-0.4674	0.0312

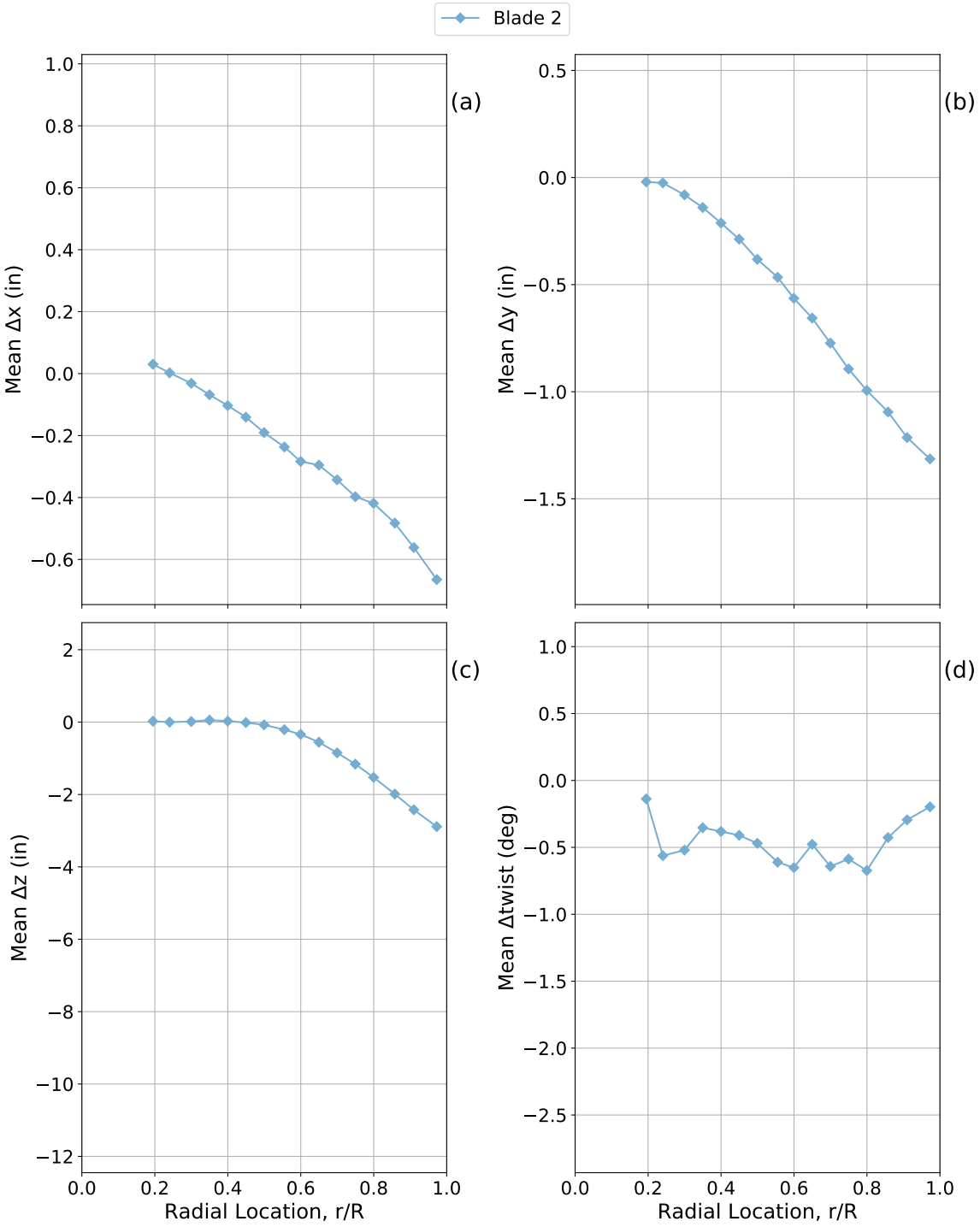


Figure 4.22-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0303	0.0013	-0.0203	0.0007	0.0234	0.0022	-0.1378	0.0168
2	344.88	0.2405	0.0024	0.0015	-0.0252	0.0013	0.0005	0.0030	-0.5623	0.0279
2	344.88	0.2999	-0.0313	0.0016	-0.0810	0.0019	0.0151	0.0073	-0.5206	0.0328
2	344.88	0.3498	-0.0682	0.0011	-0.1400	0.0033	0.0544	0.0123	-0.3532	0.0233
2	344.88	0.3998	-0.1034	0.0015	-0.2122	0.0046	0.0277	0.0181	-0.3814	0.0271
2	344.88	0.4496	-0.1407	0.0020	-0.2876	0.0061	-0.0133	0.0219	-0.4098	0.0275
2	344.88	0.4995	-0.1906	0.0016	-0.3820	0.0074	-0.0761	0.0268	-0.4698	0.0282
2	344.88	0.5551	-0.2369	0.0018	-0.4656	0.0096	-0.2089	0.0326	-0.6110	0.0371
2	344.88	0.5996	-0.2836	0.0015	-0.5639	0.0110	-0.3395	0.0374	-0.6516	0.0312
2	344.88	0.6497	-0.2954	0.0016	-0.6562	0.0130	-0.5549	0.0392	-0.4775	0.0482
2	344.88	0.6996	-0.3428	0.0018	-0.7731	0.0149	-0.8487	0.0440	-0.6420	0.0379
2	344.88	0.7495	-0.3975	0.0013	-0.8939	0.0167	-1.1606	0.0492	-0.5871	0.0366
2	344.88	0.7996	-0.4188	0.0010	-0.9944	0.0190	-1.5269	0.0534	-0.6731	0.0399
2	344.88	0.8578	-0.4827	0.0016	-1.0948	0.0222	-1.9871	0.0571	-0.4270	0.0361
2	344.88	0.9100	-0.5616	0.0016	-1.2142	0.0246	-2.4235	0.0589	-0.2944	0.0384
2	344.88	0.9727	-0.6650	0.0019	-1.3139	0.0276	-2.8884	0.0647	-0.1973	0.0290

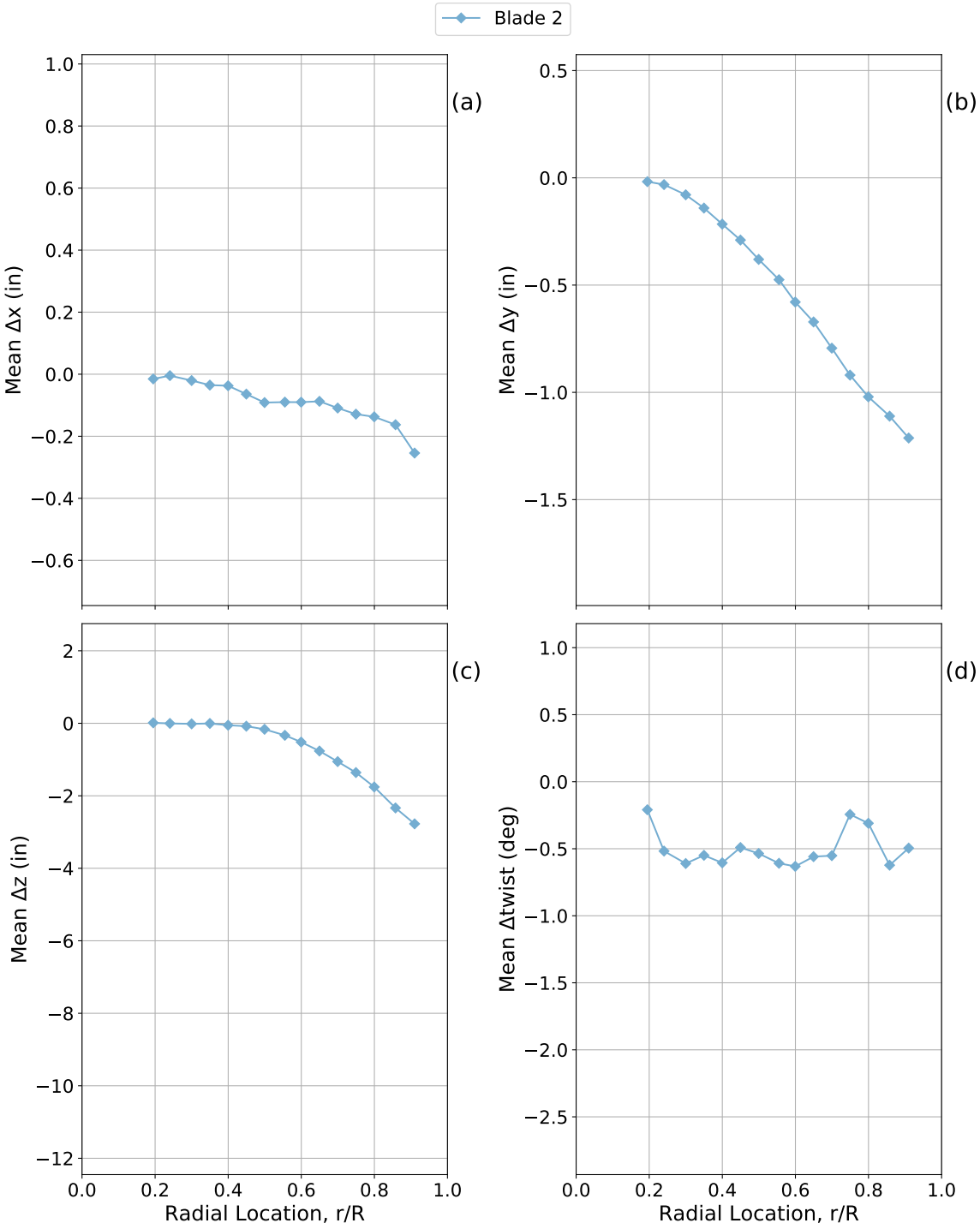


Figure 4.22-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0152	0.0033	-0.0178	0.0007	0.0128	0.0026	-0.2092	0.0172
2	350.16	0.2405	-0.0046	0.0019	-0.0316	0.0019	-0.0039	0.0048	-0.5174	0.0369
2	350.16	0.2999	-0.0204	0.0017	-0.0791	0.0038	-0.0162	0.0090	-0.6102	0.0440
2	350.16	0.3498	-0.0351	0.0030	-0.1409	0.0058	-0.0046	0.0147	-0.5491	0.0374
2	350.16	0.3998	-0.0372	0.0048	-0.2158	0.0098	-0.0535	0.0224	-0.6052	0.0519
2	350.16	0.4496	-0.0641	0.0056	-0.2900	0.0118	-0.0804	0.0285	-0.4909	0.0443
2	350.16	0.4995	-0.0914	0.0056	-0.3803	0.0160	-0.1657	0.0333	-0.5356	0.0434
2	350.16	0.5551	-0.0899	0.0078	-0.4748	0.0193	-0.3322	0.0404	-0.6086	0.0432
2	350.16	0.5996	-0.0901	0.0071	-0.5791	0.0217	-0.5178	0.0434	-0.6316	0.0516
2	350.16	0.6497	-0.0874	0.0096	-0.6718	0.0256	-0.7651	0.0489	-0.5590	0.0367
2	350.16	0.6996	-0.1090	0.0077	-0.7939	0.0295	-1.0569	0.0529	-0.5516	0.0560
2	350.16	0.7495	-0.1287	0.0098	-0.9197	0.0349	-1.3591	0.0575	-0.2437	0.0620
2	350.16	0.7996	-0.1373	0.0119	-1.0210	0.0373	-1.7567	0.0715	-0.3100	0.0861
2	350.16	0.8578	-0.1628	0.0123	-1.1111	0.0426	-2.3354	0.0710	-0.6227	0.1187
2	350.16	0.9100	-0.2541	0.0206	-1.2128	0.0486	-2.7743	0.0825	-0.4953	0.2144

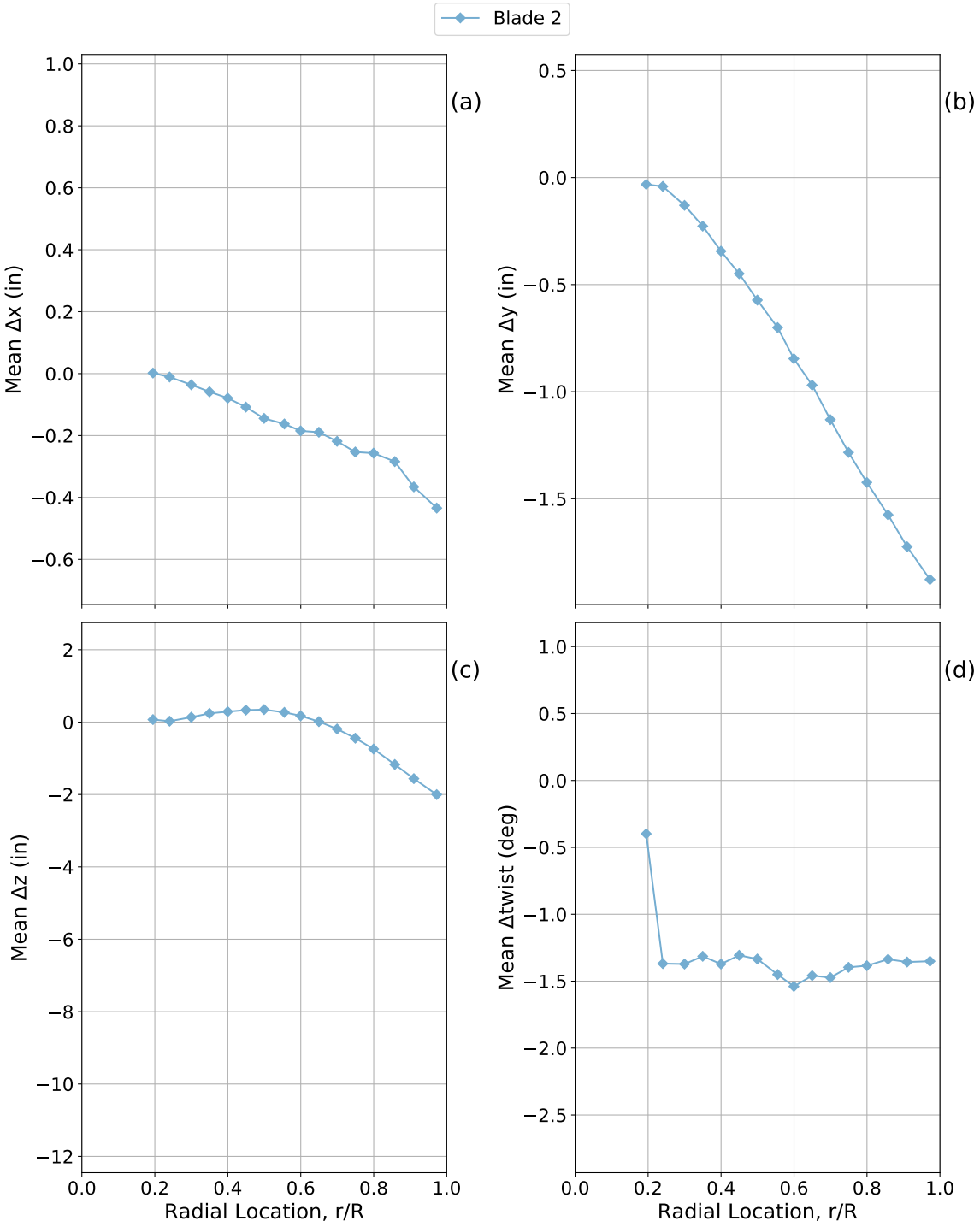


Figure 4.22-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Table 4.22-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 77, point 16. BD run 36, points 5821 to 5831.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	0.0018	0.0024	-0.0320	0.0012	0.0699	0.0026	-0.3985	0.0186
2	355.08	0.2405	-0.0110	0.0014	-0.0414	0.0012	0.0254	0.0045	-1.3688	0.0344
2	355.08	0.2999	-0.0362	0.0011	-0.1299	0.0042	0.1365	0.0095	-1.3720	0.0466
2	355.08	0.3498	-0.0587	0.0016	-0.2269	0.0071	0.2411	0.0165	-1.3139	0.0386
2	355.08	0.3998	-0.0793	0.0019	-0.3437	0.0105	0.2888	0.0244	-1.3719	0.0307
2	355.08	0.4496	-0.1081	0.0023	-0.4491	0.0144	0.3325	0.0273	-1.3064	0.0504
2	355.08	0.4995	-0.1446	0.0022	-0.5723	0.0181	0.3457	0.0351	-1.3344	0.0409
2	355.08	0.5551	-0.1625	0.0024	-0.7008	0.0220	0.2688	0.0403	-1.4505	0.0395
2	355.08	0.5996	-0.1849	0.0021	-0.8459	0.0237	0.1743	0.0414	-1.5394	0.0549
2	355.08	0.6497	-0.1893	0.0019	-0.9695	0.0272	0.0141	0.0479	-1.4587	0.0453
2	355.08	0.6996	-0.2187	0.0021	-1.1306	0.0297	-0.1905	0.0527	-1.4731	0.0415
2	355.08	0.7495	-0.2532	0.0028	-1.2837	0.0324	-0.4447	0.0609	-1.3965	0.0388
2	355.08	0.7996	-0.2569	0.0039	-1.4236	0.0345	-0.7443	0.0646	-1.3844	0.0469
2	355.08	0.8578	-0.2841	0.0054	-1.5752	0.0379	-1.1712	0.0749	-1.3363	0.0479
2	355.08	0.9100	-0.3657	0.0080	-1.7238	0.0403	-1.5613	0.0794	-1.3569	0.0581
2	355.08	0.9727	-0.4342	0.0135	-1.8772	0.0455	-2.0022	0.0932	-1.3509	0.2425

4.23 Run 78, Point 7

4.23.1 Pitch, Flap, and Lag

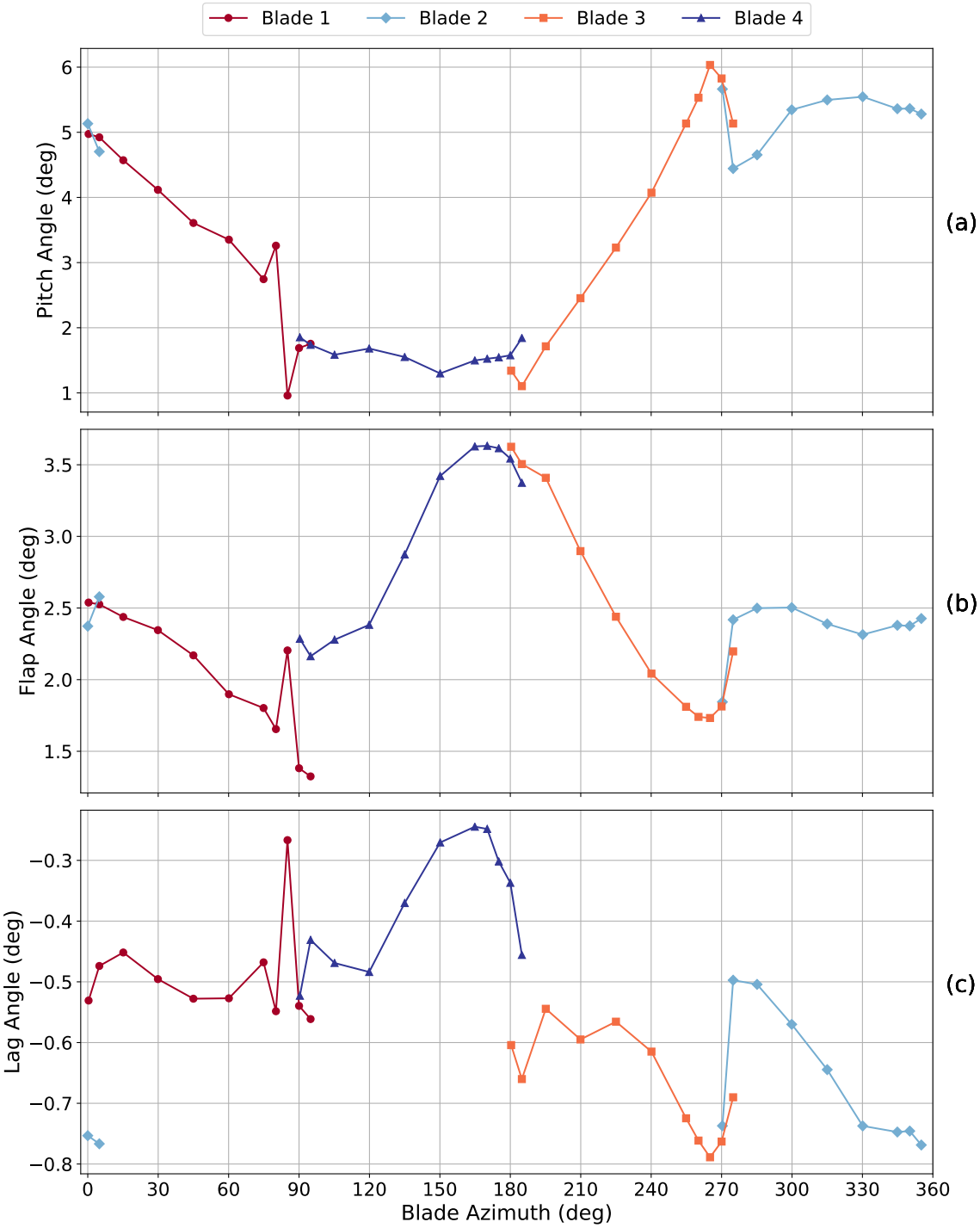


Figure 4.23-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.1326	2.3732	-0.7533	0.0636	0.0279	0.0289
0.35	1	4.9738	2.5383	-0.5308	0.0903	0.0242	0.0235
4.92	1	4.9232	2.5257	-0.4739	0.0641	0.0213	0.0240
4.92	2	4.7031	2.5787	-0.7667	0.0609	0.0281	0.0295
15.12	1	4.5713	2.4376	-0.4517	0.0680	0.0272	0.0154
29.88	1	4.1167	2.3456	-0.4955	0.0663	0.0263	0.0240
45	1	3.6082	2.1696	-0.5278	0.0559	0.0309	0.0183
60.12	1	3.3518	1.8981	-0.5271	0.0647	0.0224	0.0111
74.88	1	2.7454	1.8020	-0.4679	0.1282	0.0629	0.0348
80.16	1	3.2599	1.6547	-0.5484	0.2313	0.1061	0.0317
85.08	1	0.9597	2.2040	-0.2667	0.1051	0.0469	0.0191
90	1	1.6886	1.3818	-0.5396	0.0300	0.0177	0.0152
90.35	4	1.8537	2.2851	-0.5229	0.0923	0.0313	0.0133
94.92	1	1.7542	1.3246	-0.5613	0.0330	0.0209	0.0251
94.92	4	1.7375	2.1635	-0.4310	0.0654	0.0309	0.0222
105.12	4	1.5853	2.2788	-0.4690	0.0255	0.0165	0.0140
119.88	4	1.6810	2.3825	-0.4838	0.0208	0.0120	0.0098
135	4	1.5507	2.8737	-0.3703	0.0181	0.0174	0.0098
150.12	4	1.2990	3.4218	-0.2706	0.0163	0.0142	0.0162
164.88	4	1.4982	3.6279	-0.2446	0.0236	0.0183	0.0105
170.16	4	1.5244	3.6321	-0.2483	0.0323	0.0173	0.0128
175.08	4	1.5459	3.6152	-0.3019	0.0279	0.0134	0.0202
180	4	1.5771	3.5431	-0.3370	0.0451	0.0181	0.0219
180.35	3	1.3409	3.6257	-0.6042	0.0306	0.0198	0.0199
184.92	3	1.1033	3.5049	-0.6601	0.0760	0.0600	0.0318
184.92	4	1.8427	3.3737	-0.4557	0.0310	0.0188	0.0189
195.12	3	1.7151	3.4090	-0.5444	0.0281	0.0138	0.0232
209.88	3	2.4536	2.8973	-0.5949	0.0178	0.0097	0.0191
225	3	3.2301	2.4392	-0.5656	0.0234	0.0155	0.0156
240.12	3	4.0723	2.0421	-0.6149	0.0308	0.0134	0.0136
254.88	3	5.1346	1.8106	-0.7247	0.0662	0.0232	0.0157
260.16	3	5.5301	1.7402	-0.7614	0.0666	0.0313	0.0191
265.08	3	6.0331	1.7323	-0.7889	0.2349	0.0883	0.0448
270	3	5.8262	1.8127	-0.7630	0.1596	0.0822	0.0303
270.35	2	5.6633	1.8442	-0.7371	0.0853	0.0394	0.0161
274.92	2	4.4434	2.4181	-0.4973	0.0267	0.0220	0.0176
274.92	3	5.1341	2.1971	-0.6901	0.1382	0.0404	0.0220
285.12	2	4.6538	2.4992	-0.5042	0.0302	0.0117	0.0174
299.88	2	5.3453	2.5032	-0.5700	0.0304	0.0240	0.0108
315	2	5.4965	2.3891	-0.6446	0.0406	0.0284	0.0184
330.12	2	5.5450	2.3144	-0.7373	0.0353	0.0423	0.0115
344.88	2	5.3610	2.3794	-0.7473	0.0232	0.0139	0.0119
350.16	2	5.3637	2.3754	-0.7457	0.0183	0.0167	0.0151
355.08	2	5.2800	2.4268	-0.7687	0.0337	0.0232	0.0200

4.23.2 Spanwise Elastic Deformations

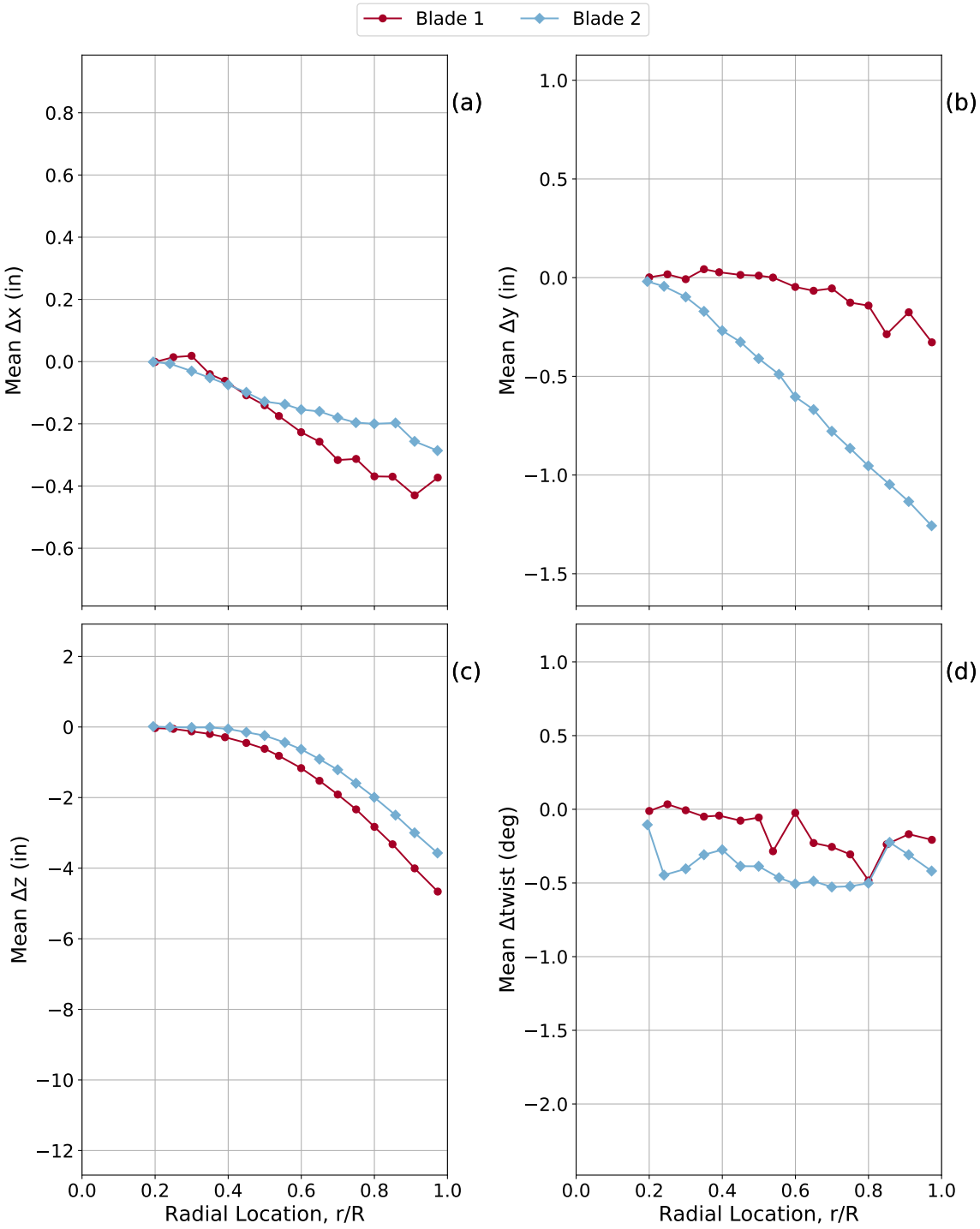


Figure 4.23-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	-0.0010	0.0025	0.0016	0.0021	-0.0316	0.0043	-0.0115	0.0421
1	0.35	0.2499	0.0142	0.0020	0.0168	0.0043	-0.0536	0.0074	0.0339	0.0990
1	0.35	0.2998	0.0186	0.0015	-0.0078	0.0059	-0.1245	0.0112	-0.0066	0.0992
1	0.35	0.3498	-0.0403	0.0019	0.0427	0.0121	-0.1985	0.0228	-0.0497	0.0780
1	0.35	0.3913	-0.0617	0.0023	0.0275	0.0158	-0.2902	0.0281	-0.0428	0.0814
1	0.35	0.4496	-0.1084	0.0026	0.0137	0.0199	-0.4519	0.0329	-0.0770	0.0933
1	0.35	0.4997	-0.1405	0.0021	0.0102	0.0243	-0.6185	0.0409	-0.0559	0.0804
1	0.35	0.5387	-0.1749	0.0028	0.0006	0.0289	-0.8176	0.0462	-0.2848	0.0989
1	0.35	0.5996	-0.2270	0.0027	-0.0471	0.0340	-1.1660	0.0521	-0.0241	0.0985
1	0.35	0.6498	-0.2576	0.0024	-0.0664	0.0377	-1.5240	0.0585	-0.2289	0.0738
1	0.35	0.6998	-0.3164	0.0029	-0.0546	0.0421	-1.9142	0.0621	-0.2552	0.0896
1	0.35	0.7500	-0.3129	0.0018	-0.1265	0.0453	-2.3353	0.0699	-0.3061	0.0895
1	0.35	0.8001	-0.3690	0.0030	-0.1416	0.0473	-2.8296	0.0755	-0.4831	0.1049
1	0.35	0.8497	-0.3699	0.0029	-0.2865	0.0568	-3.3231	0.0800	-0.2375	0.0959
1	0.35	0.9102	-0.4299	0.0053	-0.1754	0.0683	-4.0059	0.0872	-0.1688	0.1598
1	0.35	0.9734	-0.3729	0.0049	-0.3278	0.0661	-4.6630	0.0967	-0.2071	0.1138
2	0	0.1949	-0.0012	0.0031	-0.0193	0.0022	0.0129	0.0049	-0.1049	0.0327
2	0	0.2405	-0.0067	0.0021	-0.0440	0.0055	-0.0048	0.0095	-0.4467	0.0486
2	0	0.2999	-0.0305	0.0017	-0.0977	0.0088	-0.0133	0.0153	-0.4040	0.0703
2	0	0.3498	-0.0519	0.0032	-0.1707	0.0175	-0.0110	0.0267	-0.3084	0.0628
2	0	0.3998	-0.0747	0.0047	-0.2687	0.0260	-0.0563	0.0396	-0.2746	0.0675
2	0	0.4496	-0.0988	0.0057	-0.3260	0.0320	-0.1496	0.0461	-0.3860	0.0573
2	0	0.4995	-0.1284	0.0074	-0.4100	0.0405	-0.2435	0.0569	-0.3867	0.0632
2	0	0.5551	-0.1372	0.0077	-0.4898	0.0462	-0.4403	0.0700	-0.4643	0.0548
2	0	0.5996	-0.1543	0.0079	-0.6037	0.0513	-0.6330	0.0735	-0.5061	0.0705
2	0	0.6497	-0.1601	0.0071	-0.6685	0.0559	-0.9115	0.0787	-0.4878	0.0704
2	0	0.6996	-0.1801	0.0088	-0.7781	0.0642	-1.2129	0.0915	-0.5275	0.0569
2	0	0.7495	-0.1963	0.0091	-0.8645	0.0708	-1.5947	0.0995	-0.5227	0.0708
2	0	0.7996	-0.1999	0.0086	-0.9538	0.0807	-1.9925	0.1075	-0.5015	0.0562
2	0	0.8578	-0.1973	0.0118	-1.0478	0.0883	-2.4977	0.1202	-0.2245	0.0764
2	0	0.9100	-0.2565	0.0120	-1.1342	0.0953	-2.9985	0.1285	-0.3087	0.0702
2	0	0.9727	-0.2861	0.0175	-1.2571	0.1070	-3.5702	0.1468	-0.4188	0.1699

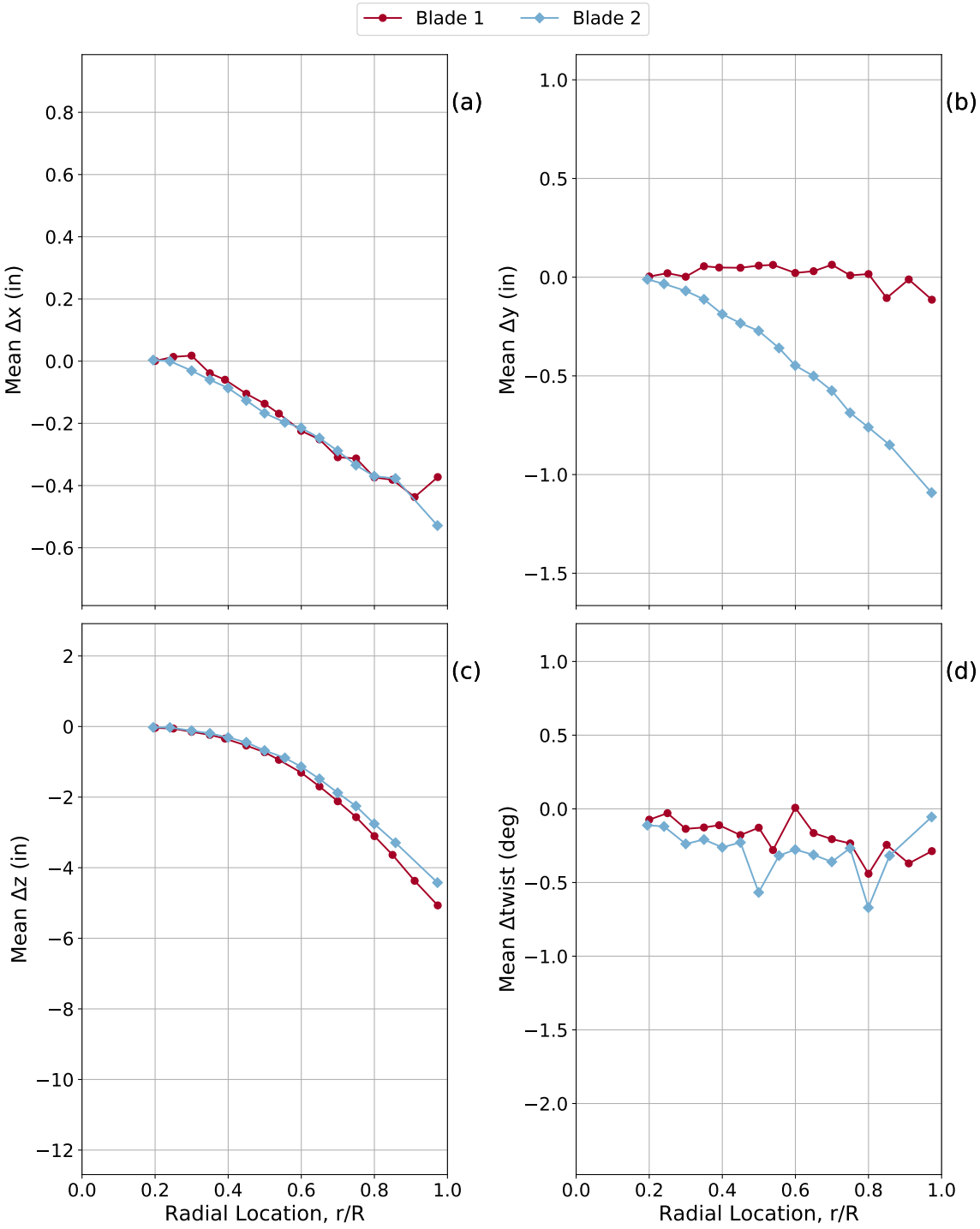


Figure 4.23-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0008	0.0035	0.0036	0.0018	-0.0402	0.0027	-0.0734	0.0298
1	4.92	0.2499	0.0137	0.0018	0.0201	0.0039	-0.0583	0.0050	-0.0296	0.0734
1	4.92	0.2998	0.0178	0.0018	0.0022	0.0072	-0.1508	0.0072	-0.1359	0.0709
1	4.92	0.3498	-0.0389	0.0020	0.0555	0.0122	-0.2371	0.0125	-0.1265	0.0672
1	4.92	0.3913	-0.0597	0.0024	0.0489	0.0173	-0.3427	0.0158	-0.1111	0.0671
1	4.92	0.4496	-0.1049	0.0022	0.0476	0.0226	-0.5393	0.0202	-0.1782	0.0689
1	4.92	0.4997	-0.1368	0.0021	0.0587	0.0270	-0.7299	0.0249	-0.1280	0.0647
1	4.92	0.5387	-0.1688	0.0021	0.0623	0.0322	-0.9432	0.0294	-0.2797	0.0680
1	4.92	0.5996	-0.2241	0.0022	0.0215	0.0376	-1.3067	0.0320	0.0073	0.0767
1	4.92	0.6498	-0.2515	0.0021	0.0304	0.0433	-1.6985	0.0361	-0.1644	0.0637
1	4.92	0.6998	-0.3090	0.0024	0.0630	0.0470	-2.1183	0.0396	-0.2055	0.0454
1	4.92	0.7500	-0.3127	0.0029	0.0092	0.0543	-2.5676	0.0423	-0.2347	0.0792
1	4.92	0.8001	-0.3740	0.0020	0.0159	0.0599	-3.1058	0.0485	-0.4407	0.0729
1	4.92	0.8497	-0.3814	0.0020	-0.1055	0.0630	-3.6369	0.0539	-0.2444	0.0855
1	4.92	0.9102	-0.4370	0.0017	-0.0114	0.0717	-4.3715	0.0654	-0.3703	0.1087
1	4.92	0.9734	-0.3727	0.0030	-0.1142	0.0782	-5.0678	0.0713	-0.2870	0.0596
2	4.92	0.1949	0.0036	0.0030	-0.0111	0.0019	-0.0245	0.0033	-0.1113	0.0335
2	4.92	0.2405	-0.0001	0.0019	-0.0337	0.0036	-0.0268	0.0066	-0.1196	0.0392
2	4.92	0.2999	-0.0307	0.0014	-0.0694	0.0060	-0.1187	0.0112	-0.2381	0.0701
2	4.92	0.3498	-0.0599	0.0022	-0.1122	0.0116	-0.1944	0.0222	-0.2083	0.0556
2	4.92	0.3998	-0.0864	0.0027	-0.1872	0.0166	-0.3105	0.0315	-0.2614	0.0575
2	4.92	0.4496	-0.1265	0.0027	-0.2332	0.0203	-0.4479	0.0412	-0.2281	0.0485
2	4.92	0.4995	-0.1673	0.0024	-0.2720	0.0262	-0.6797	0.0535	-0.5675	0.0574
2	4.92	0.5551	-0.1967	0.0025	-0.3589	0.0325	-0.8894	0.0628	-0.3174	0.0486
2	4.92	0.5996	-0.2144	0.0024	-0.4478	0.0367	-1.1390	0.0716	-0.2766	0.0504
2	4.92	0.6497	-0.2473	0.0030	-0.5010	0.0420	-1.4831	0.0830	-0.3123	0.0445
2	4.92	0.6996	-0.2883	0.0032	-0.5751	0.0474	-1.8783	0.0937	-0.3596	0.0610
2	4.92	0.7495	-0.3343	0.0039	-0.6869	0.0537	-2.2540	0.1011	-0.2671	0.0512
2	4.92	0.7996	-0.3699	0.0029	-0.7603	0.0611	-2.7569	0.1099	-0.6705	0.0870
2	4.92	0.8578	-0.3773	0.0054	-0.8498	0.0630	-3.2929	0.1227	-0.3178	0.0661
2	4.92	0.9727	-0.5287	0.0061	-1.0914	0.0795	-4.4231	0.1503	-0.0554	0.0852

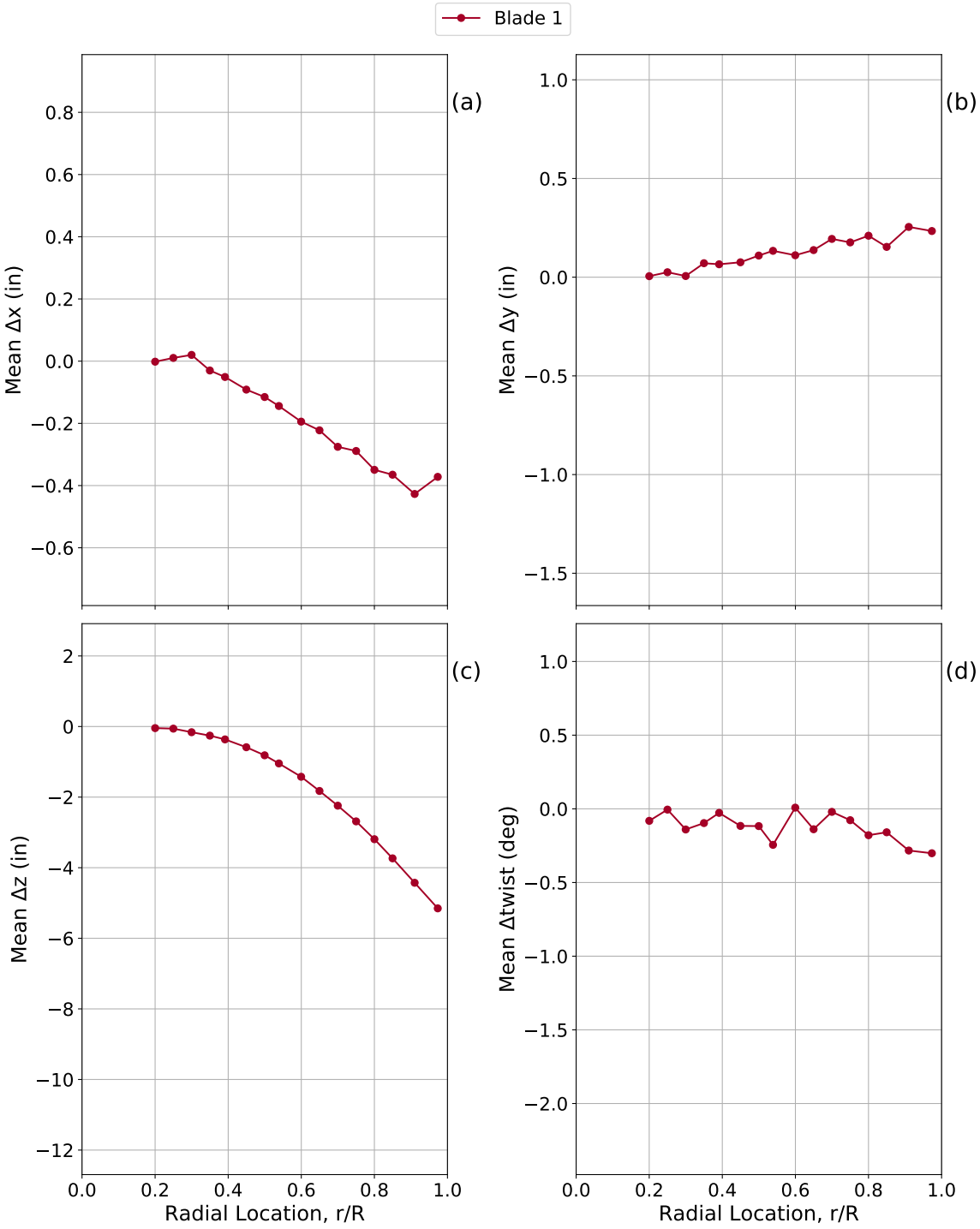


Figure 4.23-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0017	0.0029	0.0051	0.0012	-0.0453	0.0027	-0.0815	0.0333
1	15.12	0.2499	0.0104	0.0018	0.0251	0.0023	-0.0601	0.0059	-0.0052	0.0596
1	15.12	0.2998	0.0201	0.0014	0.0059	0.0040	-0.1614	0.0085	-0.1401	0.0786
1	15.12	0.3498	-0.0300	0.0015	0.0708	0.0077	-0.2581	0.0186	-0.0966	0.0663
1	15.12	0.3913	-0.0509	0.0013	0.0654	0.0100	-0.3652	0.0239	-0.0274	0.0645
1	15.12	0.4496	-0.0915	0.0022	0.0755	0.0151	-0.5868	0.0340	-0.1159	0.0535
1	15.12	0.4997	-0.1153	0.0021	0.1096	0.0182	-0.8154	0.0401	-0.1171	0.0624
1	15.12	0.5387	-0.1442	0.0016	0.1335	0.0212	-1.0461	0.0469	-0.2444	0.0568
1	15.12	0.5996	-0.1944	0.0018	0.1111	0.0257	-1.4235	0.0565	0.0081	0.0598
1	15.12	0.6498	-0.2224	0.0022	0.1373	0.0299	-1.8257	0.0646	-0.1385	0.0586
1	15.12	0.6998	-0.2754	0.0018	0.1939	0.0339	-2.2424	0.0688	-0.0206	0.0630
1	15.12	0.7500	-0.2888	0.0028	0.1762	0.0394	-2.6874	0.0756	-0.0771	0.0623
1	15.12	0.8001	-0.3494	0.0029	0.2101	0.0429	-3.1925	0.0805	-0.1790	0.0716
1	15.12	0.8497	-0.3651	0.0031	0.1535	0.0480	-3.7348	0.0883	-0.1591	0.0713
1	15.12	0.9102	-0.4270	0.0034	0.2546	0.0529	-4.4266	0.0967	-0.2829	0.0795
1	15.12	0.9734	-0.3720	0.0042	0.2339	0.0601	-5.1517	0.1148	-0.3014	0.0635

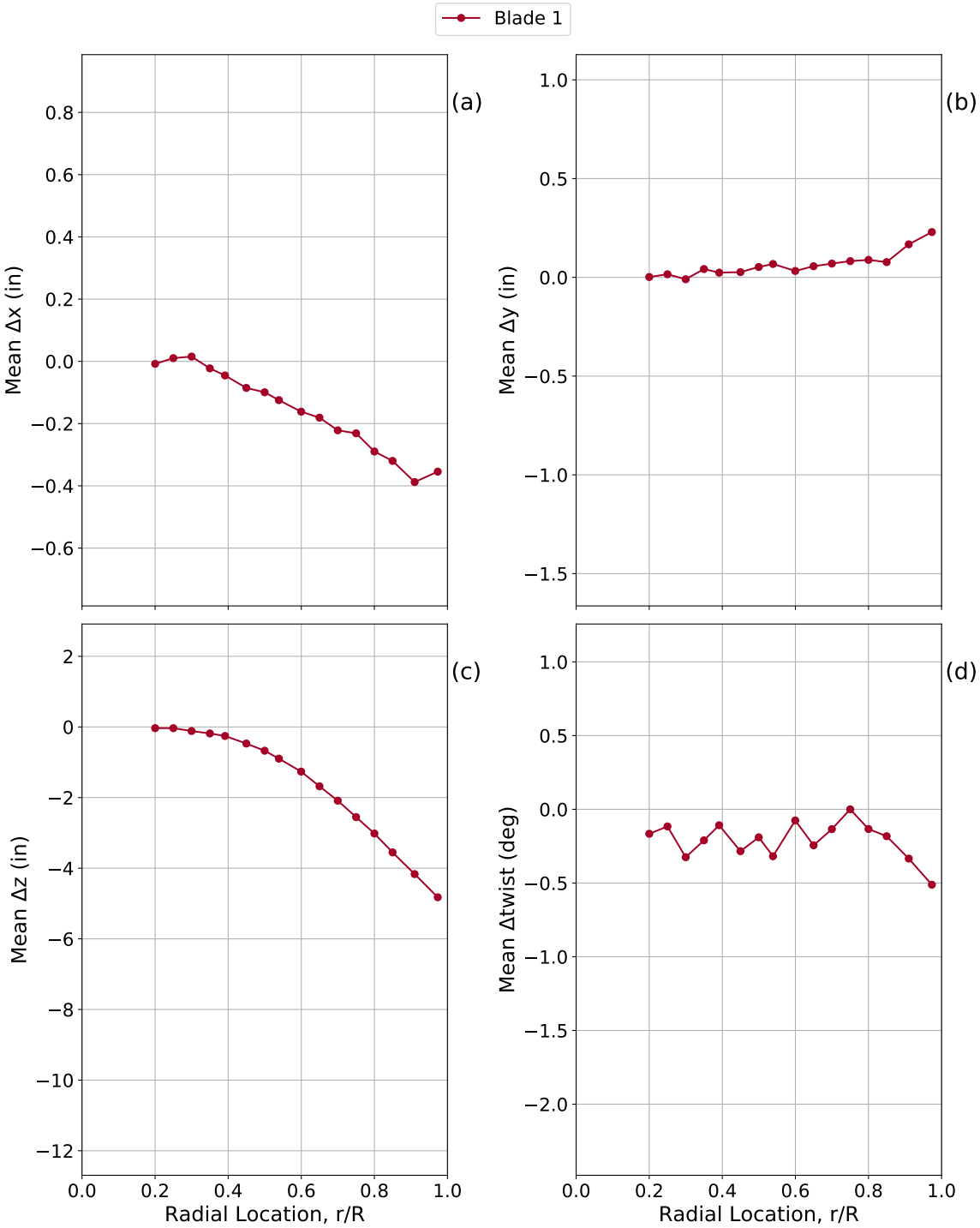


Figure 4.23-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0079	0.0024	0.0017	0.0010	-0.0341	0.0029	-0.1661	0.0275
1	29.88	0.2499	0.0104	0.0017	0.0157	0.0018	-0.0350	0.0047	-0.1161	0.0539
1	29.88	0.2998	0.0154	0.0015	-0.0096	0.0037	-0.1155	0.0098	-0.3251	0.0657
1	29.88	0.3498	-0.0224	0.0012	0.0421	0.0066	-0.1845	0.0167	-0.2105	0.0641
1	29.88	0.3913	-0.0453	0.0022	0.0238	0.0092	-0.2554	0.0231	-0.1080	0.0688
1	29.88	0.4496	-0.0853	0.0013	0.0265	0.0116	-0.4700	0.0311	-0.2841	0.0624
1	29.88	0.4997	-0.0993	0.0018	0.0525	0.0139	-0.6730	0.0391	-0.1899	0.0648
1	29.88	0.5387	-0.1246	0.0020	0.0677	0.0169	-0.8978	0.0442	-0.3184	0.0642
1	29.88	0.5996	-0.1616	0.0022	0.0324	0.0200	-1.2645	0.0532	-0.0758	0.0637
1	29.88	0.6498	-0.1809	0.0021	0.0563	0.0233	-1.6809	0.0599	-0.2442	0.0673
1	29.88	0.6998	-0.2216	0.0025	0.0697	0.0264	-2.0880	0.0666	-0.1345	0.0594
1	29.88	0.7500	-0.2312	0.0024	0.0822	0.0293	-2.5531	0.0720	-0.0002	0.0694
1	29.88	0.8001	-0.2896	0.0025	0.0883	0.0331	-3.0172	0.0793	-0.1337	0.0629
1	29.88	0.8497	-0.3198	0.0023	0.0772	0.0364	-3.5519	0.0840	-0.1824	0.0695
1	29.88	0.9102	-0.3878	0.0026	0.1672	0.0404	-4.1669	0.0920	-0.3344	0.0761
1	29.88	0.9734	-0.3543	0.0028	0.2292	0.0447	-4.8236	0.1063	-0.5115	0.0588

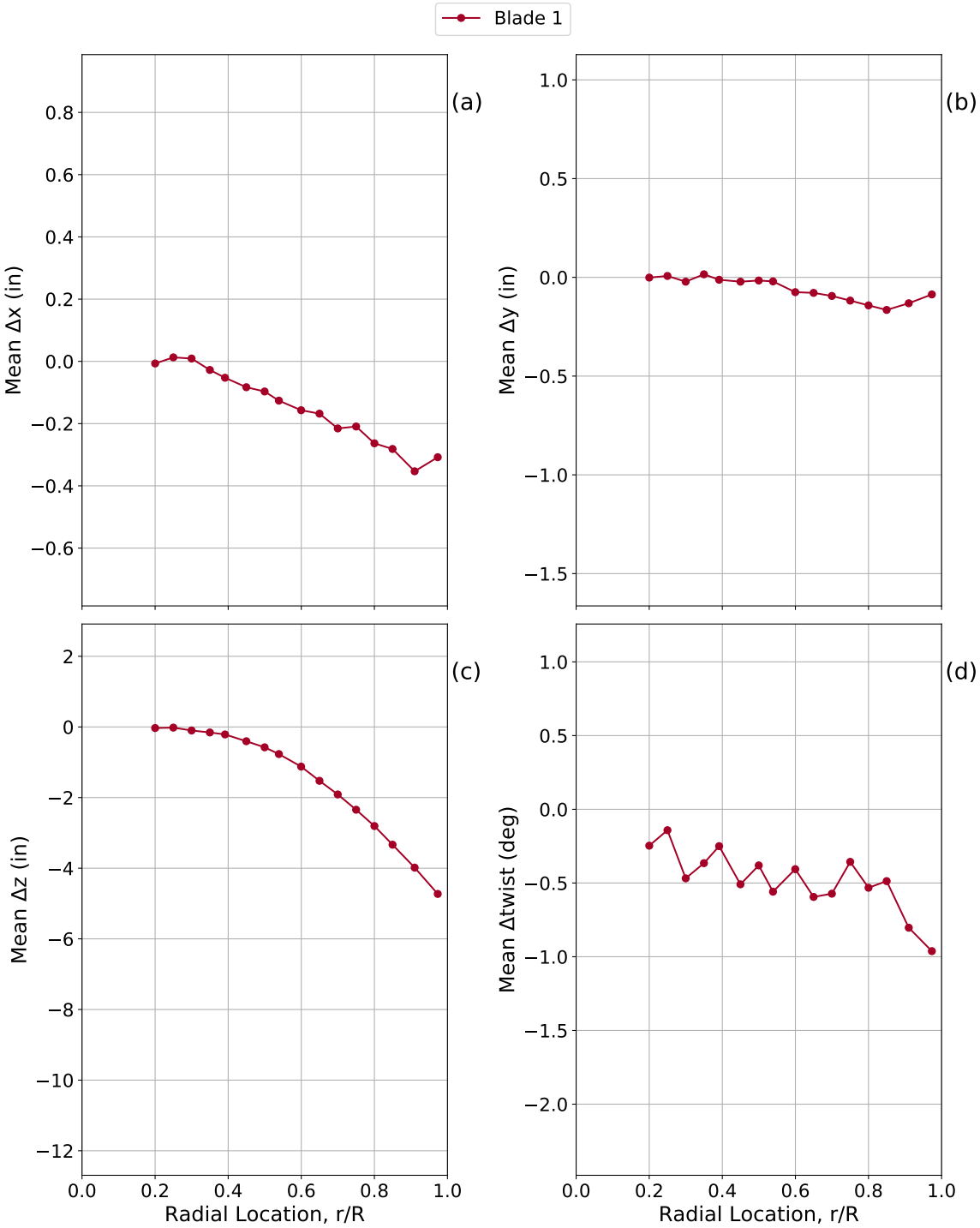


Figure 4.23-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0068	0.0021	-0.0012	0.0008	-0.0310	0.0024	-0.2467	0.0283
1	45	0.2499	0.0128	0.0019	0.0070	0.0018	-0.0195	0.0050	-0.1417	0.0638
1	45	0.2998	0.0091	0.0017	-0.0219	0.0032	-0.1004	0.0080	-0.4683	0.0719
1	45	0.3498	-0.0276	0.0014	0.0155	0.0057	-0.1561	0.0149	-0.3653	0.0664
1	45	0.3913	-0.0526	0.0023	-0.0122	0.0082	-0.2125	0.0204	-0.2500	0.0684
1	45	0.4496	-0.0831	0.0019	-0.0219	0.0105	-0.4050	0.0263	-0.5088	0.0778
1	45	0.4997	-0.0968	0.0023	-0.0160	0.0123	-0.5769	0.0346	-0.3805	0.0631
1	45	0.5387	-0.1262	0.0025	-0.0205	0.0141	-0.7678	0.0391	-0.5588	0.0644
1	45	0.5996	-0.1570	0.0023	-0.0750	0.0172	-1.1232	0.0470	-0.4060	0.0606
1	45	0.6498	-0.1680	0.0024	-0.0786	0.0202	-1.5254	0.0541	-0.5943	0.0629
1	45	0.6998	-0.2155	0.0025	-0.0942	0.0226	-1.9112	0.0568	-0.5724	0.0695
1	45	0.7500	-0.2093	0.0021	-0.1177	0.0254	-2.3441	0.0609	-0.3564	0.0721
1	45	0.8001	-0.2634	0.0024	-0.1420	0.0273	-2.8058	0.0650	-0.5320	0.0691
1	45	0.8497	-0.2815	0.0023	-0.1650	0.0302	-3.3342	0.0687	-0.4871	0.0645
1	45	0.9102	-0.3532	0.0020	-0.1312	0.0337	-3.9831	0.0734	-0.8031	0.0691
1	45	0.9734	-0.3080	0.0026	-0.0865	0.0370	-4.7281	0.0804	-0.9620	0.0672

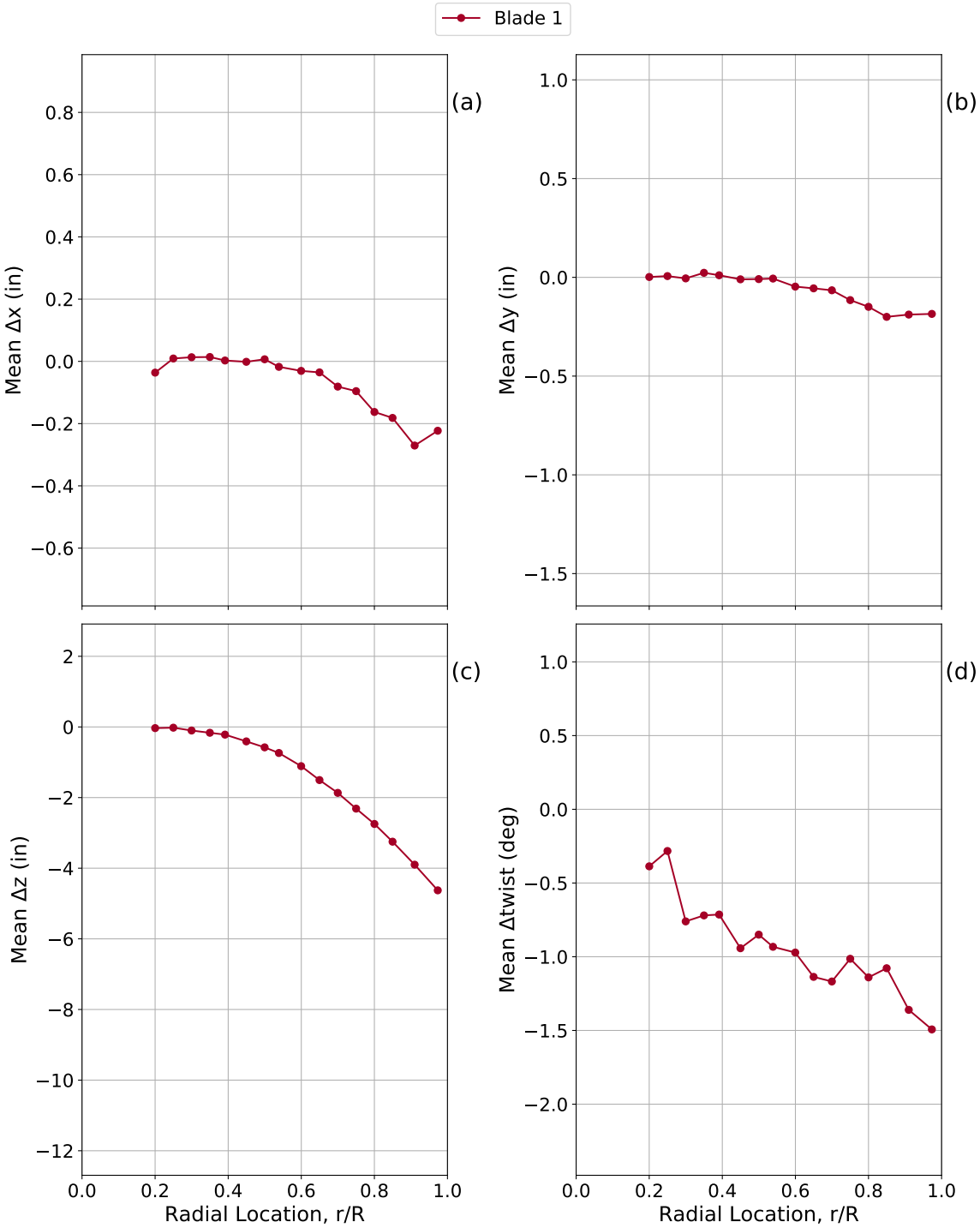


Figure 4.23-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0362	0.0023	0.0018	0.0013	-0.0331	0.0033	-0.3867	0.0244
1	60.12	0.2499	0.0092	0.0011	0.0064	0.0012	-0.0212	0.0048	-0.2828	0.0610
1	60.12	0.2998	0.0133	0.0008	-0.0053	0.0037	-0.1013	0.0105	-0.7603	0.0608
1	60.12	0.3498	0.0140	0.0015	0.0230	0.0064	-0.1652	0.0172	-0.7196	0.0579
1	60.12	0.3913	0.0028	0.0027	0.0106	0.0082	-0.2176	0.0236	-0.7138	0.0566
1	60.12	0.4496	-0.0014	0.0026	-0.0100	0.0108	-0.4092	0.0307	-0.9424	0.0563
1	60.12	0.4997	0.0067	0.0028	-0.0088	0.0124	-0.5782	0.0343	-0.8502	0.0626
1	60.12	0.5387	-0.0176	0.0030	-0.0062	0.0143	-0.7375	0.0393	-0.9326	0.0542
1	60.12	0.5996	-0.0306	0.0037	-0.0469	0.0172	-1.1099	0.0464	-0.9716	0.0620
1	60.12	0.6498	-0.0354	0.0036	-0.0557	0.0191	-1.5044	0.0513	-1.1366	0.0649
1	60.12	0.6998	-0.0811	0.0041	-0.0655	0.0212	-1.8670	0.0569	-1.1679	0.0555
1	60.12	0.7500	-0.0957	0.0038	-0.1152	0.0281	-2.3126	0.0685	-1.0139	0.0664
1	60.12	0.8001	-0.1626	0.0041	-0.1493	0.0307	-2.7470	0.0763	-1.1400	0.0716
1	60.12	0.8497	-0.1817	0.0044	-0.2000	0.0340	-3.2489	0.0857	-1.0779	0.0685
1	60.12	0.9102	-0.2705	0.0043	-0.1885	0.0377	-3.9001	0.0962	-1.3604	0.0731
1	60.12	0.9734	-0.2229	0.0032	-0.1851	0.0413	-4.6264	0.1117	-1.4930	0.0811

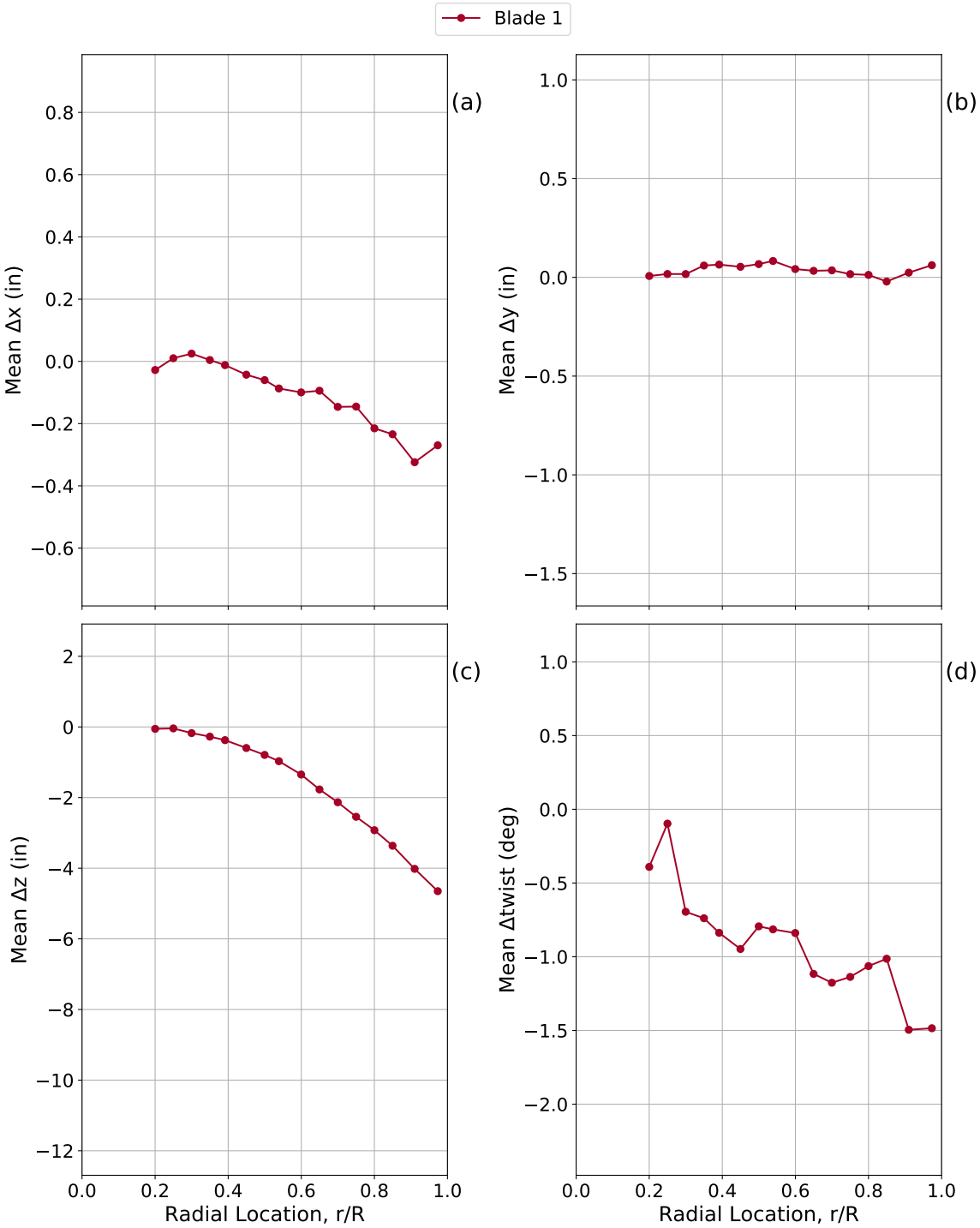


Figure 4.23-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0278	0.0085	0.0069	0.0039	-0.0540	0.0077	-0.3905	0.0470
1	74.88	0.2499	0.0101	0.0031	0.0169	0.0040	-0.0417	0.0087	-0.0973	0.1233
1	74.88	0.2998	0.0249	0.0018	0.0166	0.0121	-0.1745	0.0251	-0.6950	0.1226
1	74.88	0.3498	0.0043	0.0026	0.0598	0.0210	-0.2738	0.0407	-0.7389	0.1326
1	74.88	0.3913	-0.0121	0.0025	0.0645	0.0276	-0.3735	0.0558	-0.8377	0.1255
1	74.88	0.4496	-0.0428	0.0026	0.0535	0.0374	-0.5966	0.0733	-0.9474	0.1466
1	74.88	0.4997	-0.0602	0.0024	0.0672	0.0471	-0.7920	0.0926	-0.7939	0.1270
1	74.88	0.5387	-0.0871	0.0026	0.0829	0.0538	-0.9693	0.1072	-0.8143	0.1247
1	74.88	0.5996	-0.0997	0.0028	0.0420	0.0641	-1.3479	0.1295	-0.8392	0.1241
1	74.88	0.6498	-0.0944	0.0025	0.0331	0.0746	-1.7699	0.1470	-1.1164	0.1139
1	74.88	0.6998	-0.1462	0.0027	0.0355	0.0836	-2.1327	0.1642	-1.1764	0.1205
1	74.88	0.7500	-0.1453	0.0028	0.0163	0.0933	-2.5435	0.1804	-1.1368	0.1225
1	74.88	0.8001	-0.2152	0.0035	0.0124	0.1028	-2.9242	0.1979	-1.0635	0.1236
1	74.88	0.8497	-0.2343	0.0033	-0.0212	0.1117	-3.3641	0.2145	-1.0135	0.1283
1	74.88	0.9102	-0.3241	0.0036	0.0239	0.1240	-4.0180	0.2362	-1.4953	0.1141
1	74.88	0.9734	-0.2697	0.0032	0.0615	0.1366	-4.6498	0.2561	-1.4850	0.1226

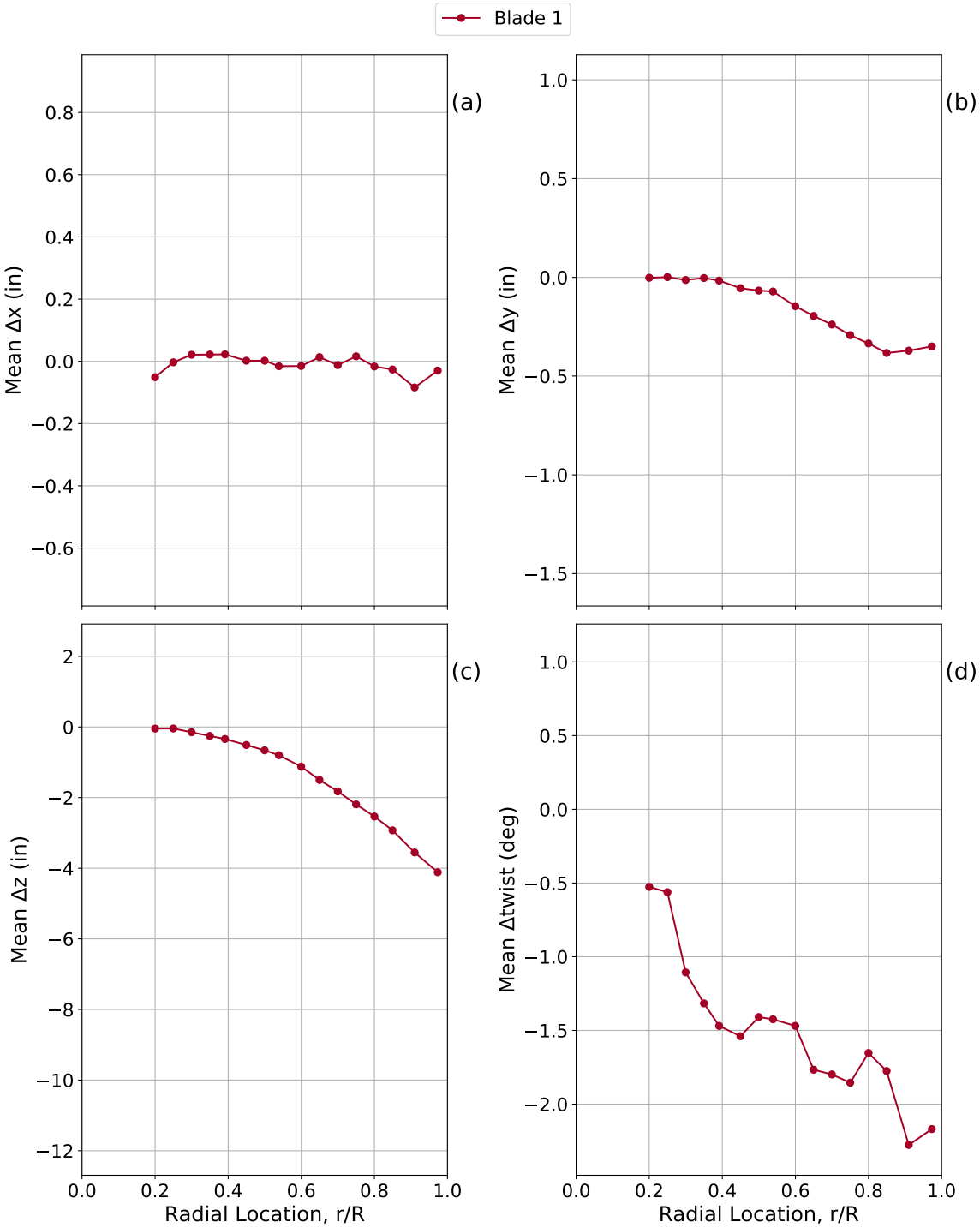


Figure 4.23-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0511	0.0100	-0.0021	0.0037	-0.0454	0.0149	-0.5260	0.0848
1	80.16	0.2499	-0.0032	0.0042	0.0013	0.0049	-0.0427	0.0164	-0.5620	0.2385
1	80.16	0.2998	0.0212	0.0031	-0.0132	0.0120	-0.1497	0.0468	-1.1065	0.2265
1	80.16	0.3498	0.0218	0.0035	-0.0034	0.0215	-0.2540	0.0784	-1.3165	0.2204
1	80.16	0.3913	0.0224	0.0028	-0.0162	0.0286	-0.3407	0.1044	-1.4694	0.2143
1	80.16	0.4496	0.0020	0.0028	-0.0549	0.0389	-0.5109	0.1390	-1.5396	0.2206
1	80.16	0.4997	0.0020	0.0038	-0.0670	0.0464	-0.6624	0.1675	-1.4094	0.2266
1	80.16	0.5387	-0.0158	0.0031	-0.0716	0.0532	-0.7998	0.1905	-1.4245	0.2274
1	80.16	0.5996	-0.0151	0.0040	-0.1463	0.0645	-1.1213	0.2273	-1.4692	0.2202
1	80.16	0.6498	0.0135	0.0038	-0.1960	0.0734	-1.5012	0.2571	-1.7663	0.2226
1	80.16	0.6998	-0.0123	0.0039	-0.2393	0.0825	-1.8234	0.2872	-1.7986	0.2246
1	80.16	0.7500	0.0161	0.0047	-0.2930	0.0918	-2.1923	0.3179	-1.8544	0.2230
1	80.16	0.8001	-0.0166	0.0057	-0.3348	0.1014	-2.5346	0.3480	-1.6530	0.2289
1	80.16	0.8497	-0.0263	0.0072	-0.3831	0.1108	-2.9271	0.3790	-1.7751	0.2183
1	80.16	0.9102	-0.0840	0.0083	-0.3712	0.1234	-3.5534	0.4145	-2.2767	0.2228
1	80.16	0.9734	-0.0298	0.0084	-0.3499	0.1365	-4.1129	0.4543	-2.1691	0.2169

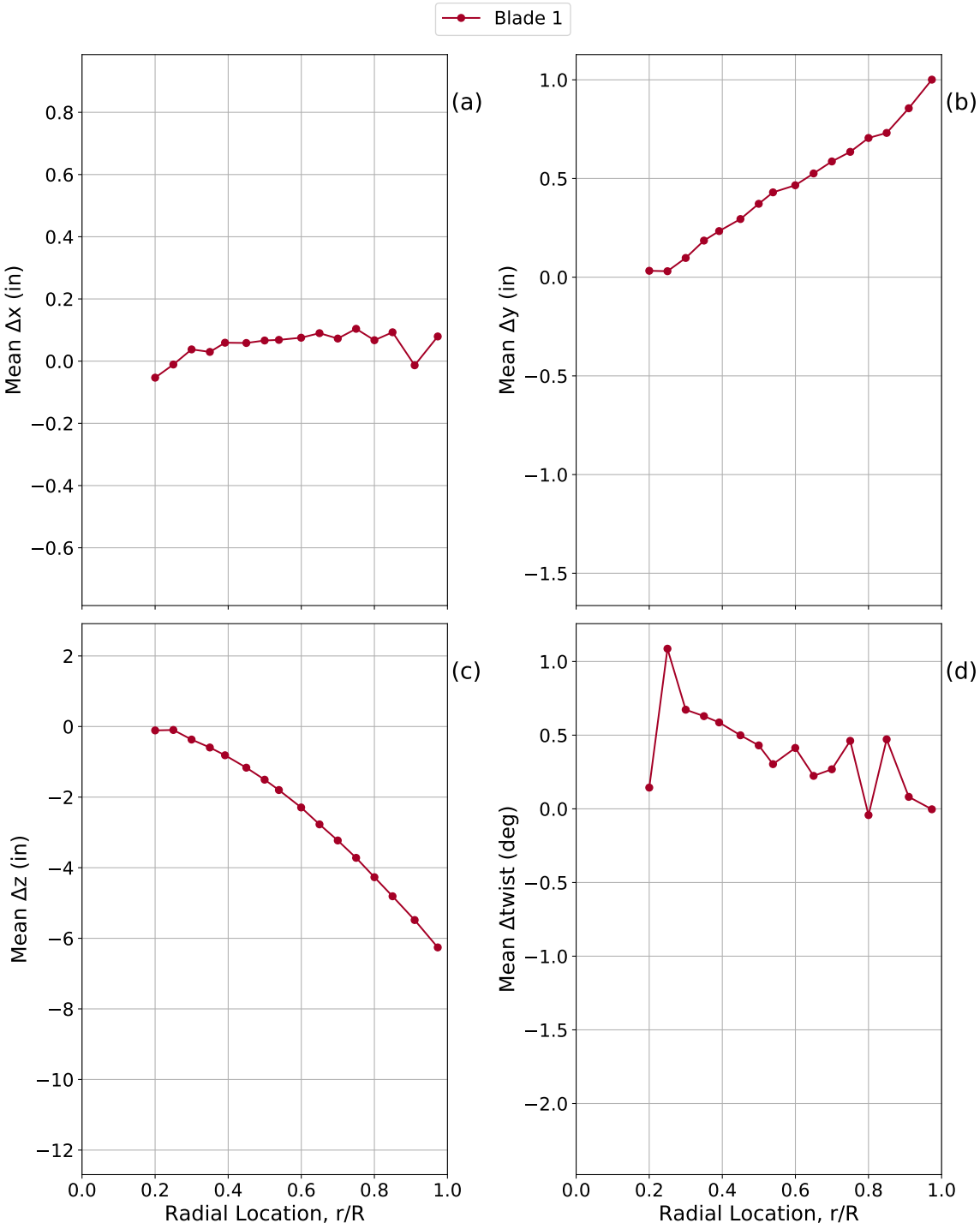


Figure 4.23-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0531	0.0027	0.0324	0.0021	-0.1101	0.0046	0.1441	0.0504
1	85.08	0.2499	-0.0108	0.0021	0.0303	0.0029	-0.0979	0.0075	1.0868	0.0882
1	85.08	0.2998	0.0378	0.0019	0.0974	0.0065	-0.3692	0.0145	0.6728	0.1161
1	85.08	0.3498	0.0297	0.0016	0.1854	0.0128	-0.5945	0.0306	0.6290	0.0881
1	85.08	0.3913	0.0593	0.0026	0.2336	0.0162	-0.8145	0.0385	0.5864	0.0986
1	85.08	0.4496	0.0584	0.0025	0.2946	0.0215	-1.1660	0.0495	0.4991	0.1010
1	85.08	0.4997	0.0664	0.0025	0.3718	0.0258	-1.5061	0.0607	0.4306	0.1006
1	85.08	0.5387	0.0684	0.0033	0.4298	0.0301	-1.7995	0.0688	0.3033	0.0972
1	85.08	0.5996	0.0754	0.0027	0.4657	0.0362	-2.2934	0.0803	0.4132	0.1061
1	85.08	0.6498	0.0900	0.0019	0.5256	0.0415	-2.7725	0.0902	0.2237	0.1083
1	85.08	0.6998	0.0727	0.0025	0.5864	0.0467	-3.2285	0.1014	0.2685	0.1145
1	85.08	0.7500	0.1040	0.0060	0.6350	0.0536	-3.7200	0.1099	0.4616	0.1343
1	85.08	0.8001	0.0673	0.0052	0.7053	0.0618	-4.2691	0.1353	-0.0425	0.2290
1	85.08	0.8497	0.0929	0.0085	0.7309	0.0631	-4.8092	0.1367	0.4717	0.1831
1	85.08	0.9102	-0.0133	0.0043	0.8558	0.0801	-5.4829	0.1315	0.0813	0.1003
1	85.08	0.9734	0.0794	0.0068	1.0008	0.0849	-6.2583	0.1450	-0.0031	0.0928

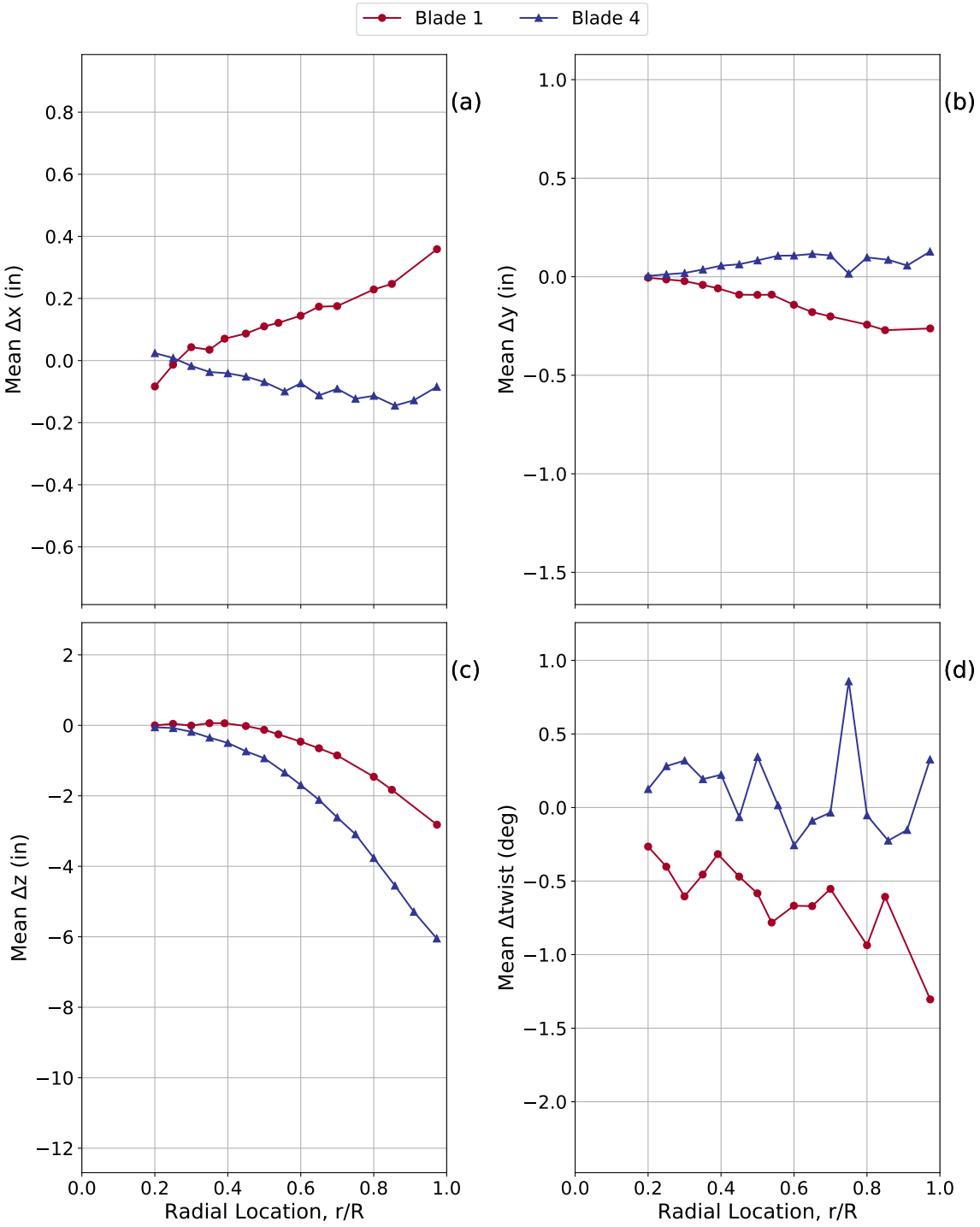


Figure 4.23-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0834	0.0005	-0.0050	0.0003	-0.0018	0.0011	-0.2655	0.0169
1	90	0.2499	-0.0134	0.0007	-0.0136	0.0010	0.0426	0.0025	-0.4023	0.0274
1	90	0.2998	0.0431	0.0007	-0.0220	0.0007	-0.0062	0.0051	-0.6040	0.0384
1	90	0.3498	0.0349	0.0012	-0.0414	0.0022	0.0610	0.0071	-0.4558	0.0312
1	90	0.3913	0.0705	0.0008	-0.0590	0.0027	0.0596	0.0114	-0.3170	0.0335
1	90	0.4496	0.0869	0.0012	-0.0910	0.0031	-0.0197	0.0140	-0.4694	0.0325
1	90	0.4997	0.1100	0.0011	-0.0920	0.0036	-0.1271	0.0204	-0.5835	0.0271
1	90	0.5387	0.1214	0.0019	-0.0910	0.0037	-0.2566	0.0225	-0.7820	0.0495
1	90	0.5996	0.1445	0.0020	-0.1423	0.0052	-0.4623	0.0274	-0.6677	0.0350
1	90	0.6498	0.1736	0.0024	-0.1795	0.0065	-0.6510	0.0323	-0.6702	0.0471
1	90	0.6998	0.1753	0.0020	-0.2013	0.0078	-0.8536	0.0354	-0.5532	0.0428
1	90	0.8001	0.2290	0.0047	-0.2431	0.0114	-1.4597	0.0417	-0.9362	0.1169
1	90	0.8497	0.2469	0.0045	-0.2712	0.0136	-1.8283	0.0533	-0.6070	0.1178
1	90	0.9734	0.3587	0.0052	-0.2624	0.0206	-2.8197	0.0738	-1.3044	0.0823
4	90.35	0.2001	0.0240	0.0036	0.0041	0.0016	-0.0543	0.0059	0.1251	0.0344
4	90.35	0.2502	0.0084	0.0041	0.0120	0.0013	-0.0775	0.0091	0.2810	0.1255
4	90.35	0.3001	-0.0173	0.0037	0.0189	0.0043	-0.1831	0.0134	0.3191	0.0903
4	90.35	0.3502	-0.0368	0.0031	0.0366	0.0066	-0.3486	0.0198	0.1929	0.0937
4	90.35	0.4002	-0.0409	0.0046	0.0561	0.0093	-0.4994	0.0277	0.2225	0.1083
4	90.35	0.4500	-0.0517	0.0046	0.0631	0.0116	-0.7377	0.0326	-0.0655	0.1037
4	90.35	0.5001	-0.0691	0.0059	0.0830	0.0151	-0.9336	0.0428	0.3437	0.1029
4	90.35	0.5560	-0.0993	0.0056	0.1065	0.0182	-1.3408	0.0501	0.0153	0.0855
4	90.35	0.6001	-0.0731	0.0058	0.1075	0.0205	-1.6948	0.0562	-0.2566	0.0895
4	90.35	0.6501	-0.1122	0.0052	0.1155	0.0240	-2.1155	0.0636	-0.0898	0.0892
4	90.35	0.6999	-0.0908	0.0050	0.1080	0.0272	-2.6134	0.0715	-0.0344	0.0870
4	90.35	0.7500	-0.1229	0.0046	0.0156	0.0432	-3.0913	0.0770	0.8579	0.1527
4	90.35	0.8002	-0.1134	0.0047	0.0981	0.0334	-3.7649	0.0854	-0.0532	0.0986
4	90.35	0.8582	-0.1451	0.0060	0.0859	0.0373	-4.5491	0.0955	-0.2249	0.1072
4	90.35	0.9101	-0.1278	0.0075	0.0569	0.0410	-5.2926	0.1087	-0.1526	0.0923
4	90.35	0.9728	-0.0846	0.0106	0.1276	0.0440	-6.0485	0.1236	0.3267	0.0990

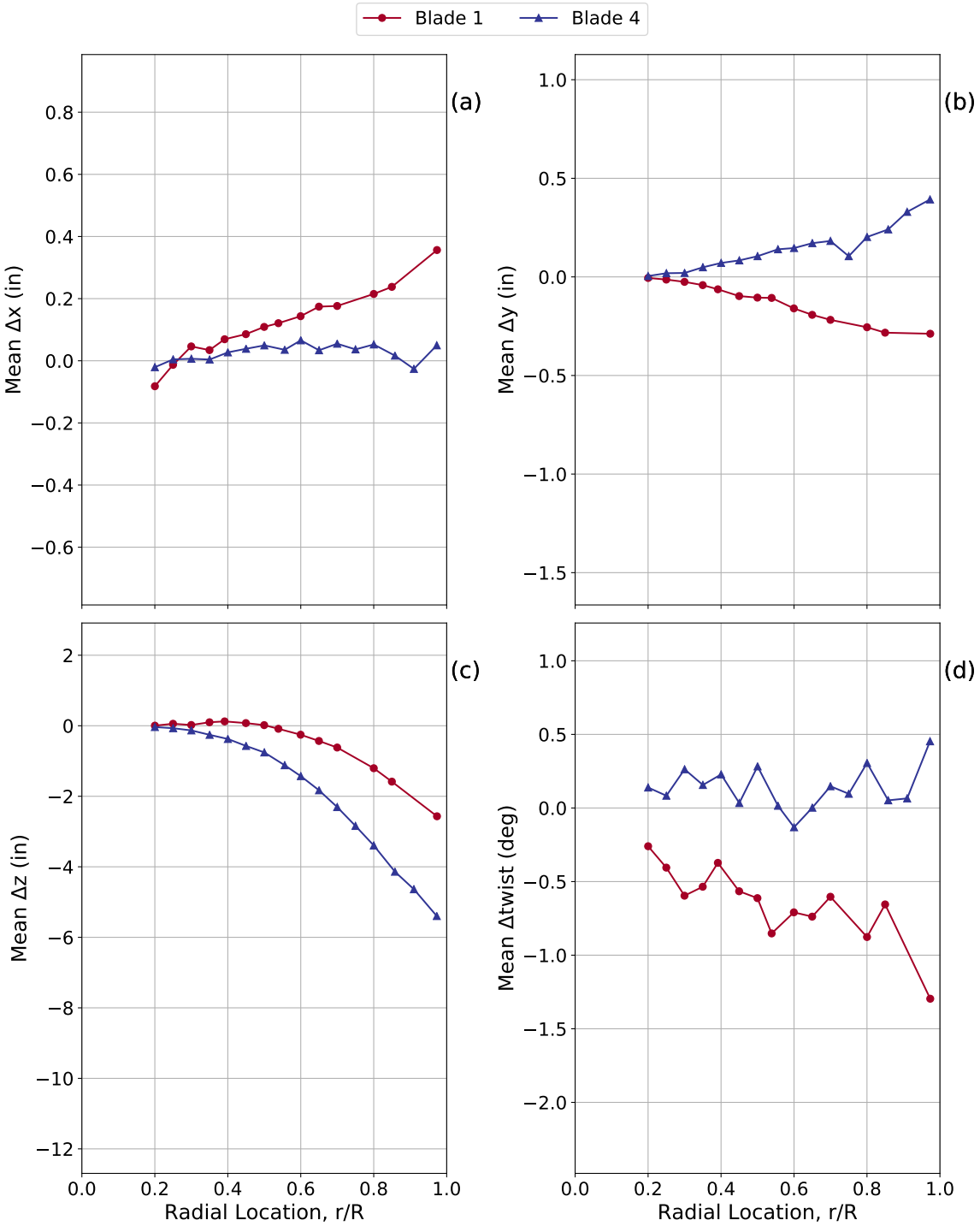


Figure 4.23-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0820	0.0010	-0.0054	0.0008	0.0031	0.0020	-0.2599	0.0175
1	94.92	0.2499	-0.0130	0.0009	-0.0136	0.0017	0.0564	0.0049	-0.4051	0.0279
1	94.92	0.2998	0.0462	0.0008	-0.0252	0.0031	0.0214	0.0086	-0.5959	0.0385
1	94.92	0.3498	0.0343	0.0011	-0.0417	0.0057	0.0989	0.0138	-0.5350	0.0397
1	94.92	0.3913	0.0693	0.0014	-0.0629	0.0079	0.1235	0.0208	-0.3728	0.0213
1	94.92	0.4496	0.0857	0.0019	-0.0973	0.0103	0.0754	0.0263	-0.5657	0.0280
1	94.92	0.4997	0.1090	0.0017	-0.1051	0.0130	0.0178	0.0339	-0.6124	0.0215
1	94.92	0.5387	0.1210	0.0021	-0.1066	0.0148	-0.0859	0.0368	-0.8523	0.0301
1	94.92	0.5996	0.1435	0.0017	-0.1598	0.0181	-0.2539	0.0444	-0.7090	0.0330
1	94.92	0.6498	0.1742	0.0017	-0.1924	0.0210	-0.4312	0.0509	-0.7382	0.0284
1	94.92	0.6998	0.1764	0.0025	-0.2179	0.0242	-0.6172	0.0578	-0.6031	0.0320
1	94.92	0.8001	0.2151	0.0019	-0.2554	0.0312	-1.2044	0.0682	-0.8766	0.0687
1	94.92	0.8497	0.2379	0.0037	-0.2829	0.0353	-1.5846	0.0782	-0.6551	0.0367
1	94.92	0.9734	0.3564	0.0039	-0.2883	0.0433	-2.5673	0.0815	-1.2958	0.0396
4	94.92	0.2001	-0.0207	0.0033	0.0044	0.0023	-0.0366	0.0062	0.1390	0.0309
4	94.92	0.2502	0.0045	0.0025	0.0186	0.0028	-0.0699	0.0062	0.0833	0.0807
4	94.92	0.3001	0.0064	0.0017	0.0200	0.0068	-0.1320	0.0164	0.2628	0.0606
4	94.92	0.3502	0.0040	0.0024	0.0487	0.0100	-0.2578	0.0244	0.1564	0.0608
4	94.92	0.4002	0.0270	0.0033	0.0707	0.0148	-0.3748	0.0346	0.2279	0.0657
4	94.92	0.4500	0.0386	0.0038	0.0836	0.0170	-0.5724	0.0390	0.0337	0.0614
4	94.92	0.5001	0.0495	0.0026	0.1050	0.0209	-0.7566	0.0456	0.2826	0.0688
4	94.92	0.5560	0.0353	0.0032	0.1400	0.0255	-1.1199	0.0543	0.0150	0.0673
4	94.92	0.6001	0.0658	0.0026	0.1462	0.0283	-1.4291	0.0609	-0.1310	0.0628
4	94.92	0.6501	0.0338	0.0039	0.1710	0.0328	-1.8306	0.0683	0.0019	0.0677
4	94.92	0.6999	0.0549	0.0046	0.1822	0.0375	-2.3070	0.0744	0.1475	0.0635
4	94.92	0.7500	0.0366	0.0074	0.1049	0.0375	-2.8412	0.0813	0.0964	0.0877
4	94.92	0.8002	0.0525	0.0065	0.2023	0.0458	-3.3961	0.0944	0.3057	0.0745
4	94.92	0.8582	0.0165	0.0181	0.2408	0.0540	-4.1398	0.0957	0.0520	0.1296
4	94.92	0.9101	-0.0262	0.0114	0.3297	0.0760	-4.6371	0.1007	0.0651	0.0620
4	94.92	0.9728	0.0497	0.0199	0.3926	0.0828	-5.3965	0.1129	0.4531	0.0847

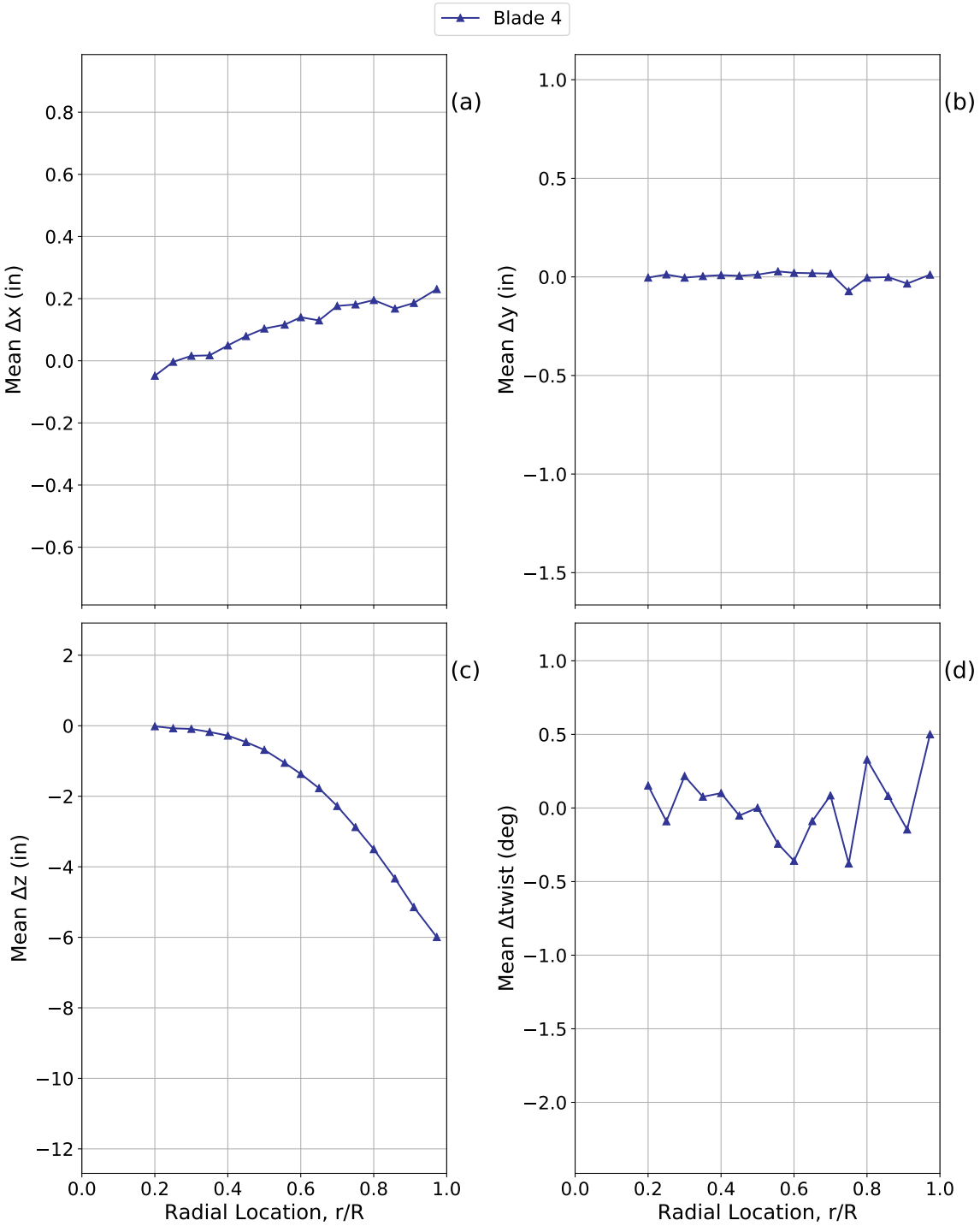


Figure 4.23-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0483	0.0006	-0.0037	0.0003	-0.0155	0.0008	0.1521	0.0137
4	105.12	0.2502	-0.0035	0.0007	0.0121	0.0014	-0.0735	0.0025	-0.0908	0.0197
4	105.12	0.3001	0.0159	0.0009	-0.0040	0.0020	-0.0896	0.0042	0.2167	0.0282
4	105.12	0.3502	0.0174	0.0010	0.0039	0.0030	-0.1769	0.0055	0.0763	0.0219
4	105.12	0.4002	0.0493	0.0011	0.0089	0.0054	-0.2811	0.0099	0.1010	0.0226
4	105.12	0.4500	0.0793	0.0010	0.0054	0.0064	-0.4631	0.0122	-0.0516	0.0200
4	105.12	0.5001	0.1036	0.0012	0.0115	0.0081	-0.6844	0.0150	0.0013	0.0268
4	105.12	0.5560	0.1162	0.0013	0.0278	0.0104	-1.0522	0.0192	-0.2435	0.0221
4	105.12	0.6001	0.1401	0.0013	0.0206	0.0121	-1.3673	0.0230	-0.3593	0.0242
4	105.12	0.6501	0.1298	0.0016	0.0186	0.0141	-1.7723	0.0258	-0.0894	0.0234
4	105.12	0.6999	0.1765	0.0015	0.0166	0.0158	-2.2783	0.0285	0.0853	0.0290
4	105.12	0.7500	0.1812	0.0018	-0.0728	0.0185	-2.8746	0.0333	-0.3776	0.0263
4	105.12	0.8002	0.1954	0.0015	-0.0041	0.0205	-3.5012	0.0384	0.3284	0.0287
4	105.12	0.8582	0.1679	0.0024	-0.0012	0.0236	-4.3317	0.0426	0.0817	0.0428
4	105.12	0.9101	0.1860	0.0015	-0.0340	0.0260	-5.1459	0.0465	-0.1466	0.0508
4	105.12	0.9728	0.2305	0.0050	0.0111	0.0295	-5.9936	0.0567	0.5001	0.0576

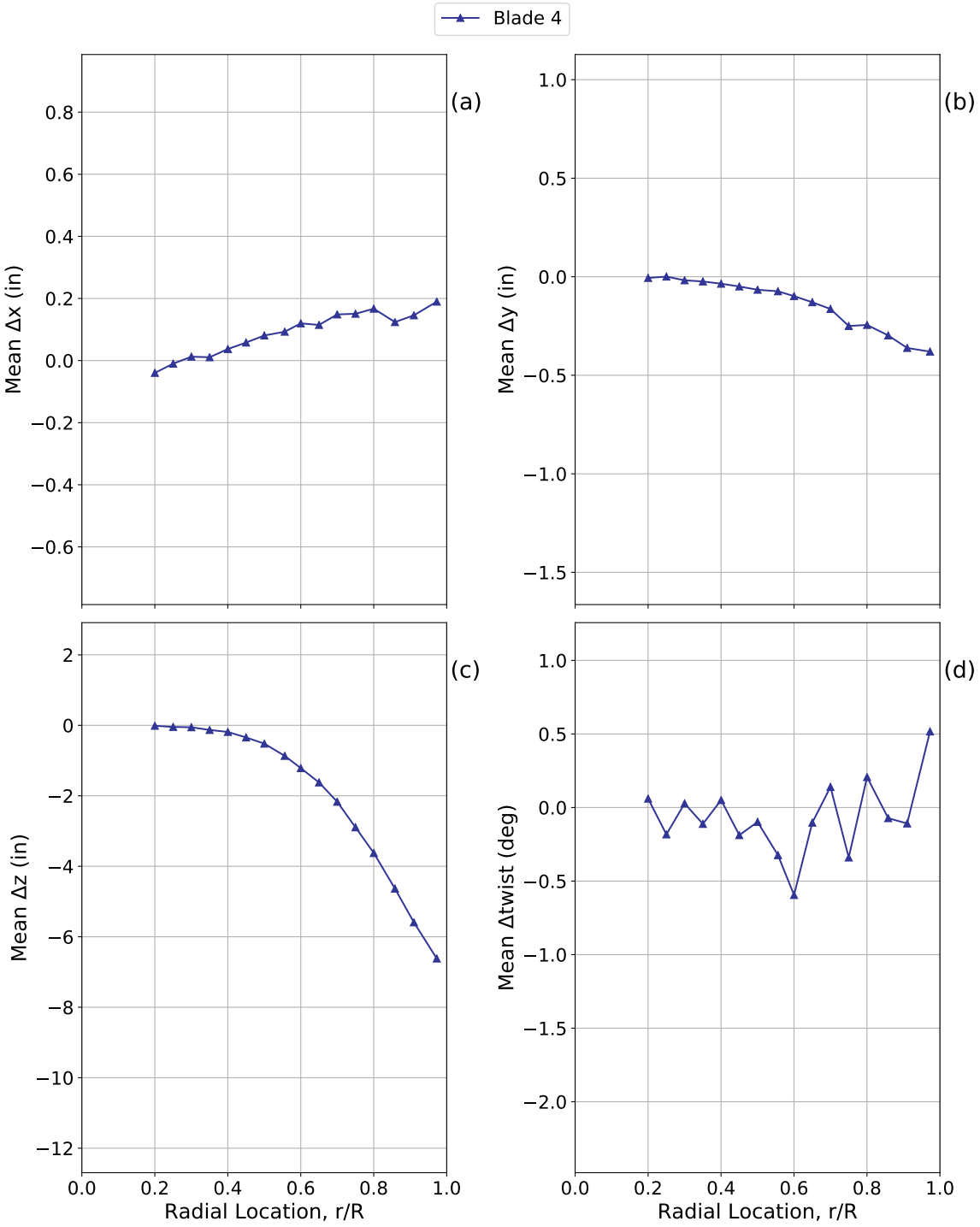


Figure 4.23-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0397	0.0009	-0.0062	0.0006	-0.0131	0.0010	0.0604	0.0159
4	119.88	0.2502	-0.0100	0.0008	0.0007	0.0019	-0.0456	0.0027	-0.1829	0.0207
4	119.88	0.3001	0.0125	0.0009	-0.0181	0.0027	-0.0552	0.0038	0.0276	0.0342
4	119.88	0.3502	0.0107	0.0005	-0.0240	0.0051	-0.1308	0.0079	-0.1115	0.0230
4	119.88	0.4002	0.0371	0.0015	-0.0354	0.0081	-0.1880	0.0114	0.0506	0.0305
4	119.88	0.4500	0.0580	0.0011	-0.0494	0.0087	-0.3437	0.0149	-0.1876	0.0254
4	119.88	0.5001	0.0808	0.0014	-0.0661	0.0111	-0.5190	0.0176	-0.0981	0.0271
4	119.88	0.5560	0.0929	0.0013	-0.0738	0.0126	-0.8668	0.0206	-0.3239	0.0277
4	119.88	0.6001	0.1197	0.0020	-0.0985	0.0148	-1.2151	0.0232	-0.5948	0.0247
4	119.88	0.6501	0.1148	0.0016	-0.1295	0.0165	-1.6209	0.0255	-0.1030	0.0253
4	119.88	0.6999	0.1486	0.0018	-0.1636	0.0190	-2.1689	0.0293	0.1400	0.0227
4	119.88	0.7500	0.1507	0.0023	-0.2500	0.0210	-2.8940	0.0333	-0.3399	0.0289
4	119.88	0.8002	0.1670	0.0024	-0.2446	0.0234	-3.6238	0.0391	0.2068	0.0219
4	119.88	0.8582	0.1239	0.0029	-0.2978	0.0266	-4.6342	0.0458	-0.0724	0.0275
4	119.88	0.9101	0.1458	0.0028	-0.3614	0.0291	-5.5905	0.0512	-0.1086	0.0306
4	119.88	0.9728	0.1897	0.0040	-0.3800	0.0322	-6.6179	0.0583	0.5167	0.0383

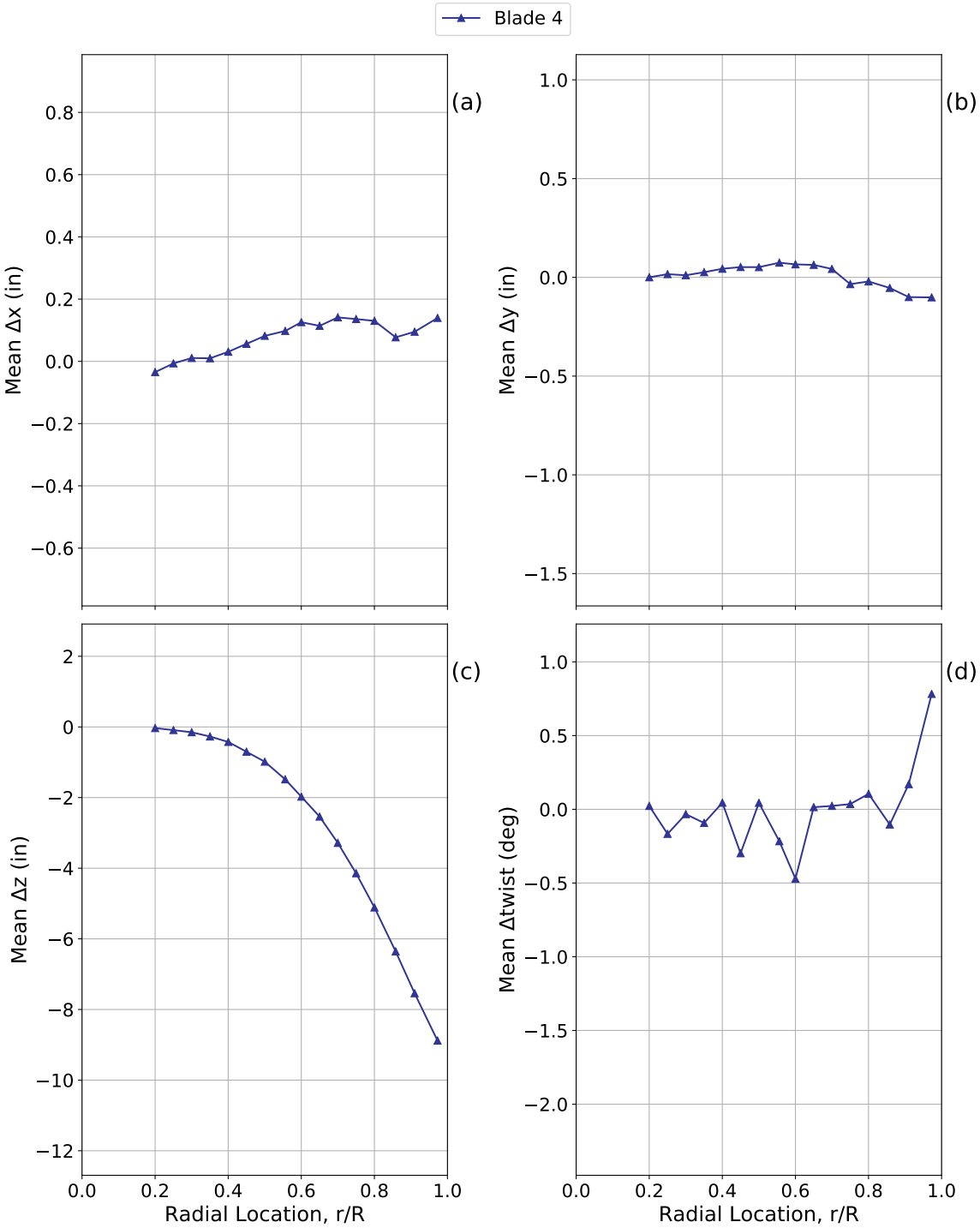


Figure 4.23-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0346	0.0007	0.0002	0.0004	-0.0330	0.0009	0.0224	0.0161
4	135	0.2502	-0.0066	0.0006	0.0161	0.0008	-0.0901	0.0019	-0.1668	0.0192
4	135	0.3001	0.0108	0.0006	0.0105	0.0014	-0.1512	0.0032	-0.0331	0.0325
4	135	0.3502	0.0098	0.0009	0.0261	0.0028	-0.2711	0.0059	-0.0926	0.0184
4	135	0.4002	0.0308	0.0011	0.0434	0.0037	-0.4251	0.0082	0.0446	0.0194
4	135	0.4500	0.0562	0.0013	0.0520	0.0043	-0.7027	0.0097	-0.2982	0.0268
4	135	0.5001	0.0819	0.0016	0.0516	0.0051	-0.9845	0.0121	0.0439	0.0294
4	135	0.5560	0.0977	0.0016	0.0742	0.0067	-1.4853	0.0146	-0.2166	0.0191
4	135	0.6001	0.1258	0.0018	0.0658	0.0072	-1.9749	0.0185	-0.4711	0.0246
4	135	0.6501	0.1140	0.0021	0.0630	0.0086	-2.5398	0.0239	0.0143	0.0244
4	135	0.6999	0.1413	0.0022	0.0426	0.0101	-3.2840	0.0308	0.0229	0.0249
4	135	0.7500	0.1359	0.0027	-0.0345	0.0119	-4.1445	0.0374	0.0355	0.0292
4	135	0.8002	0.1301	0.0030	-0.0208	0.0139	-5.1133	0.0458	0.1047	0.0262
4	135	0.8582	0.0772	0.0040	-0.0538	0.0166	-6.3566	0.0562	-0.1034	0.0312
4	135	0.9101	0.0951	0.0042	-0.1000	0.0192	-7.5416	0.0648	0.1701	0.0278
4	135	0.9728	0.1394	0.0047	-0.1016	0.0221	-8.8824	0.0750	0.7824	0.0362

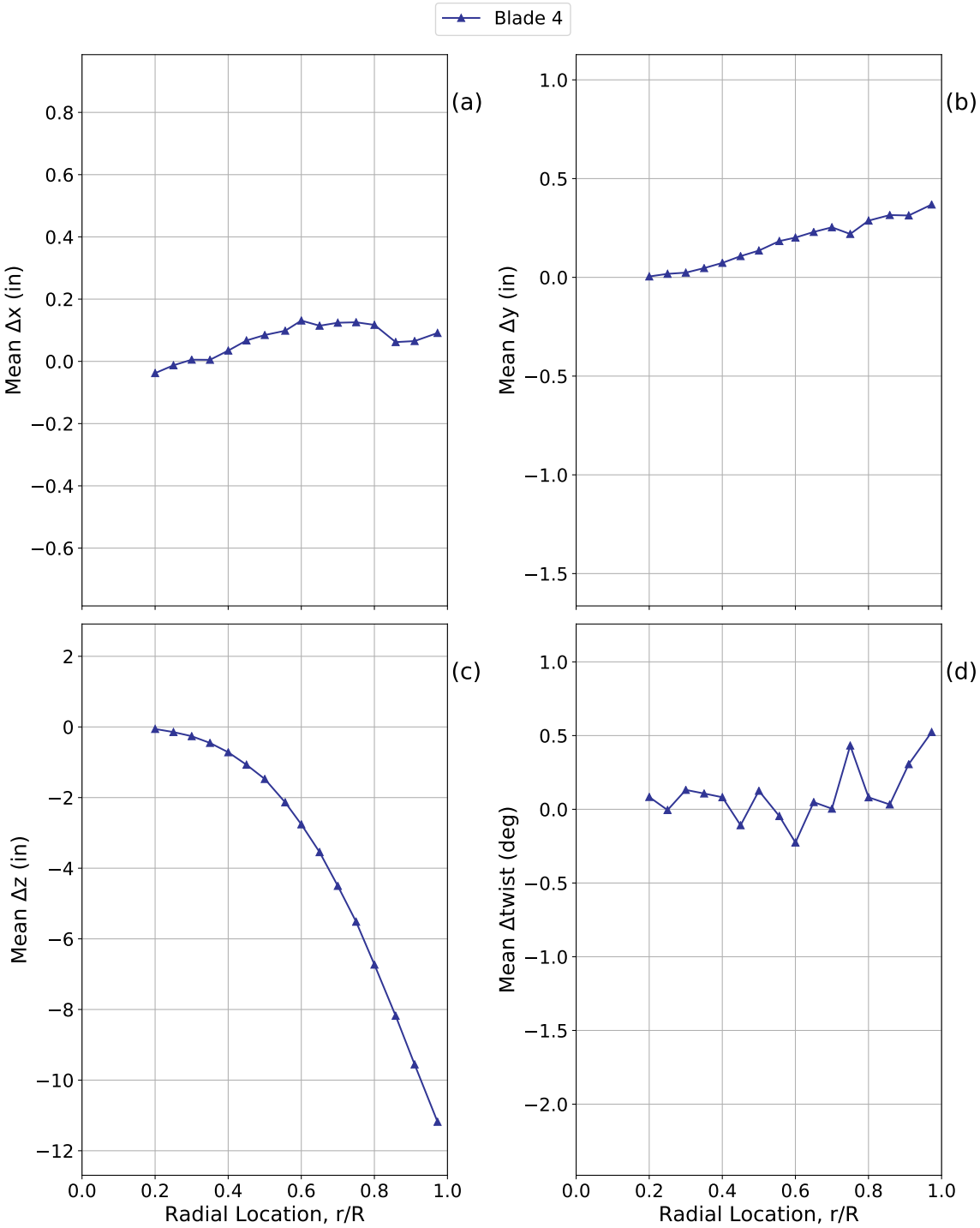


Figure 4.23-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0378	0.0006	0.0045	0.0005	-0.0572	0.0013	0.0834	0.0084
4	150.12	0.2502	-0.0127	0.0012	0.0177	0.0014	-0.1454	0.0017	-0.0052	0.0213
4	150.12	0.3001	0.0054	0.0007	0.0238	0.0024	-0.2623	0.0041	0.1317	0.0203
4	150.12	0.3502	0.0050	0.0009	0.0468	0.0041	-0.4532	0.0072	0.1071	0.0225
4	150.12	0.4002	0.0346	0.0009	0.0732	0.0066	-0.7180	0.0105	0.0817	0.0224
4	150.12	0.4500	0.0671	0.0007	0.1074	0.0080	-1.0705	0.0125	-0.1082	0.0224
4	150.12	0.5001	0.0846	0.0017	0.1355	0.0095	-1.4742	0.0160	0.1255	0.0221
4	150.12	0.5560	0.0984	0.0017	0.1835	0.0119	-2.1369	0.0202	-0.0462	0.0280
4	150.12	0.6001	0.1311	0.0020	0.2014	0.0143	-2.7597	0.0225	-0.2255	0.0267
4	150.12	0.6501	0.1145	0.0018	0.2298	0.0175	-3.5462	0.0271	0.0486	0.0219
4	150.12	0.6999	0.1241	0.0017	0.2534	0.0201	-4.5014	0.0311	0.0041	0.0240
4	150.12	0.7500	0.1256	0.0025	0.2195	0.0225	-5.5164	0.0352	0.4322	0.0222
4	150.12	0.8002	0.1172	0.0028	0.2871	0.0255	-6.7310	0.0412	0.0812	0.0215
4	150.12	0.8582	0.0619	0.0031	0.3154	0.0291	-8.1790	0.0491	0.0327	0.0228
4	150.12	0.9101	0.0652	0.0038	0.3132	0.0325	-9.5562	0.0577	0.3059	0.0273
4	150.12	0.9728	0.0912	0.0048	0.3686	0.0364	-11.1813	0.0697	0.5236	0.0283

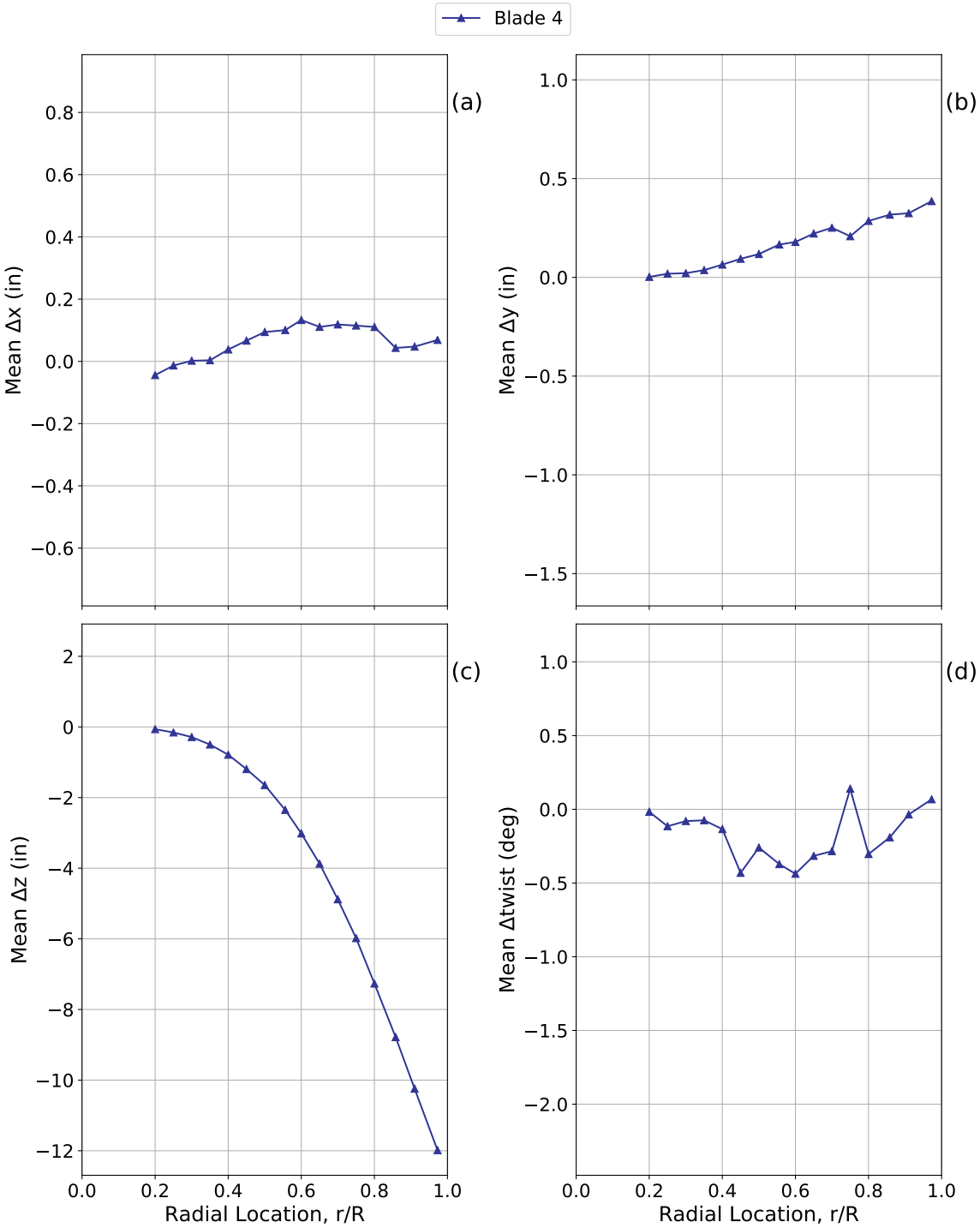


Figure 4.23-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0442	0.0006	0.0022	0.0006	-0.0639	0.0012	-0.0174	0.0085
4	164.88	0.2502	-0.0134	0.0011	0.0182	0.0010	-0.1566	0.0028	-0.1151	0.0155
4	164.88	0.3001	0.0020	0.0006	0.0211	0.0019	-0.2877	0.0042	-0.0799	0.0163
4	164.88	0.3502	0.0035	0.0013	0.0367	0.0029	-0.4998	0.0069	-0.0747	0.0207
4	164.88	0.4002	0.0380	0.0008	0.0644	0.0046	-0.7874	0.0110	-0.1346	0.0242
4	164.88	0.4500	0.0665	0.0014	0.0938	0.0051	-1.1943	0.0132	-0.4313	0.0245
4	164.88	0.5001	0.0942	0.0017	0.1179	0.0066	-1.6475	0.0159	-0.2596	0.0154
4	164.88	0.5560	0.1005	0.0019	0.1662	0.0077	-2.3498	0.0216	-0.3720	0.0196
4	164.88	0.6001	0.1328	0.0013	0.1791	0.0082	-3.0162	0.0237	-0.4373	0.0167
4	164.88	0.6501	0.1107	0.0016	0.2217	0.0091	-3.8742	0.0272	-0.3158	0.0188
4	164.88	0.6999	0.1185	0.0019	0.2512	0.0110	-4.8812	0.0315	-0.2842	0.0178
4	164.88	0.7500	0.1149	0.0018	0.2080	0.0122	-5.9810	0.0345	0.1396	0.0213
4	164.88	0.8002	0.1104	0.0023	0.2856	0.0141	-7.2668	0.0381	-0.3037	0.0231
4	164.88	0.8582	0.0432	0.0026	0.3173	0.0170	-8.7843	0.0435	-0.1906	0.0201
4	164.88	0.9101	0.0474	0.0029	0.3248	0.0191	-10.2433	0.0478	-0.0352	0.0208
4	164.88	0.9728	0.0688	0.0038	0.3858	0.0223	-11.9854	0.0543	0.0677	0.0144

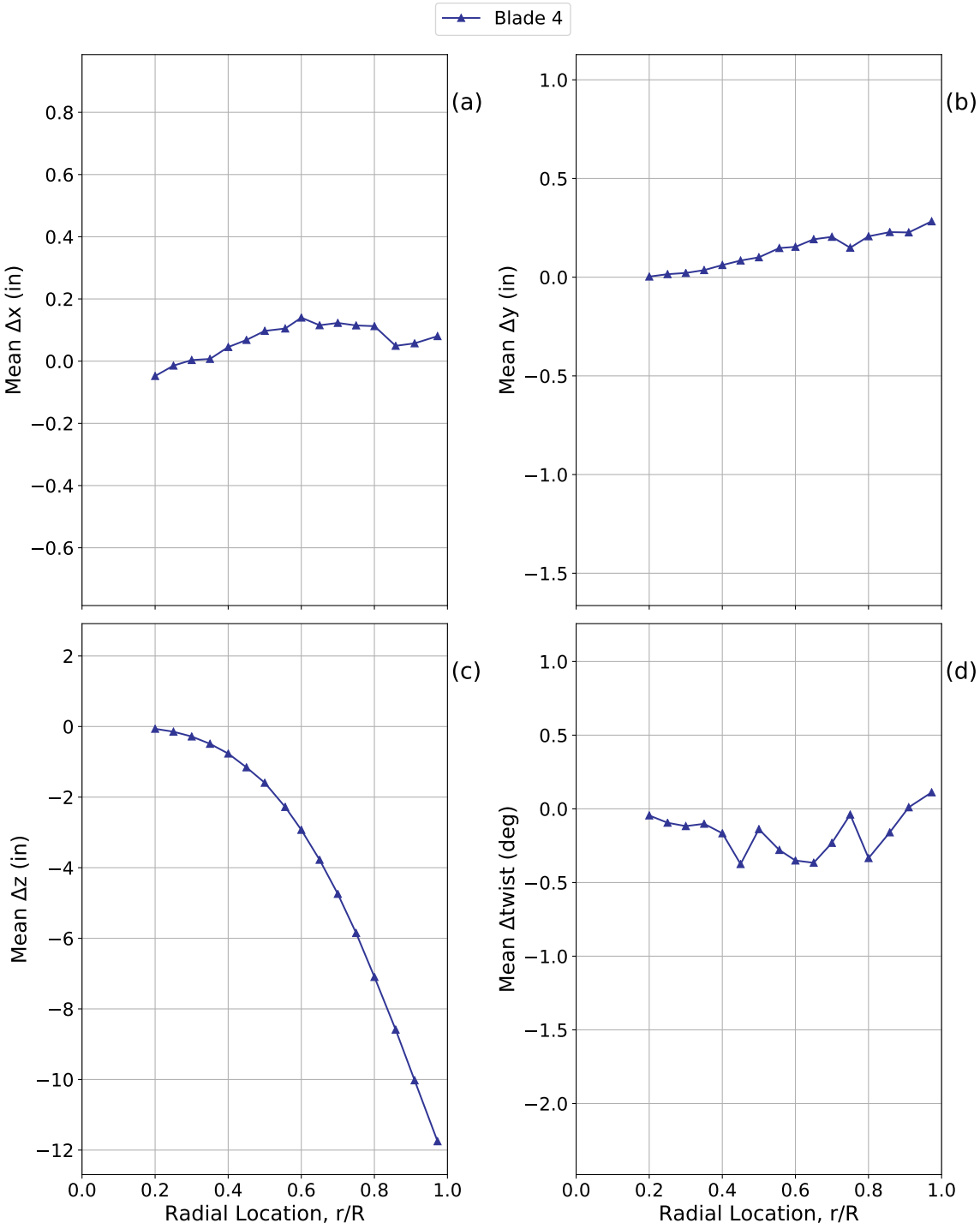


Figure 4.23-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0478	0.0007	0.0030	0.0005	-0.0651	0.0012	-0.0450	0.0126
4	170.16	0.2502	-0.0144	0.0009	0.0152	0.0013	-0.1470	0.0028	-0.0945	0.0161
4	170.16	0.3001	0.0035	0.0010	0.0214	0.0022	-0.2827	0.0045	-0.1174	0.0252
4	170.16	0.3502	0.0071	0.0009	0.0357	0.0037	-0.4905	0.0076	-0.1016	0.0215
4	170.16	0.4002	0.0454	0.0015	0.0614	0.0059	-0.7670	0.0119	-0.1662	0.0225
4	170.16	0.4500	0.0681	0.0010	0.0843	0.0066	-1.1575	0.0149	-0.3750	0.0247
4	170.16	0.5001	0.0973	0.0012	0.1006	0.0093	-1.5946	0.0206	-0.1382	0.0260
4	170.16	0.5560	0.1049	0.0021	0.1475	0.0120	-2.2796	0.0229	-0.2794	0.0177
4	170.16	0.6001	0.1399	0.0021	0.1538	0.0148	-2.9289	0.0272	-0.3509	0.0162
4	170.16	0.6501	0.1154	0.0016	0.1920	0.0168	-3.7771	0.0306	-0.3662	0.0198
4	170.16	0.6999	0.1229	0.0023	0.2043	0.0199	-4.7424	0.0357	-0.2312	0.0095
4	170.16	0.7500	0.1148	0.0025	0.1492	0.0233	-5.8512	0.0396	-0.0391	0.0235
4	170.16	0.8002	0.1125	0.0029	0.2071	0.0269	-7.0962	0.0432	-0.3345	0.0210
4	170.16	0.8582	0.0492	0.0035	0.2283	0.0310	-8.5879	0.0486	-0.1598	0.0242
4	170.16	0.9101	0.0573	0.0040	0.2267	0.0350	-10.0246	0.0530	0.0103	0.0281
4	170.16	0.9728	0.0804	0.0053	0.2828	0.0399	-11.7508	0.0618	0.1118	0.0198

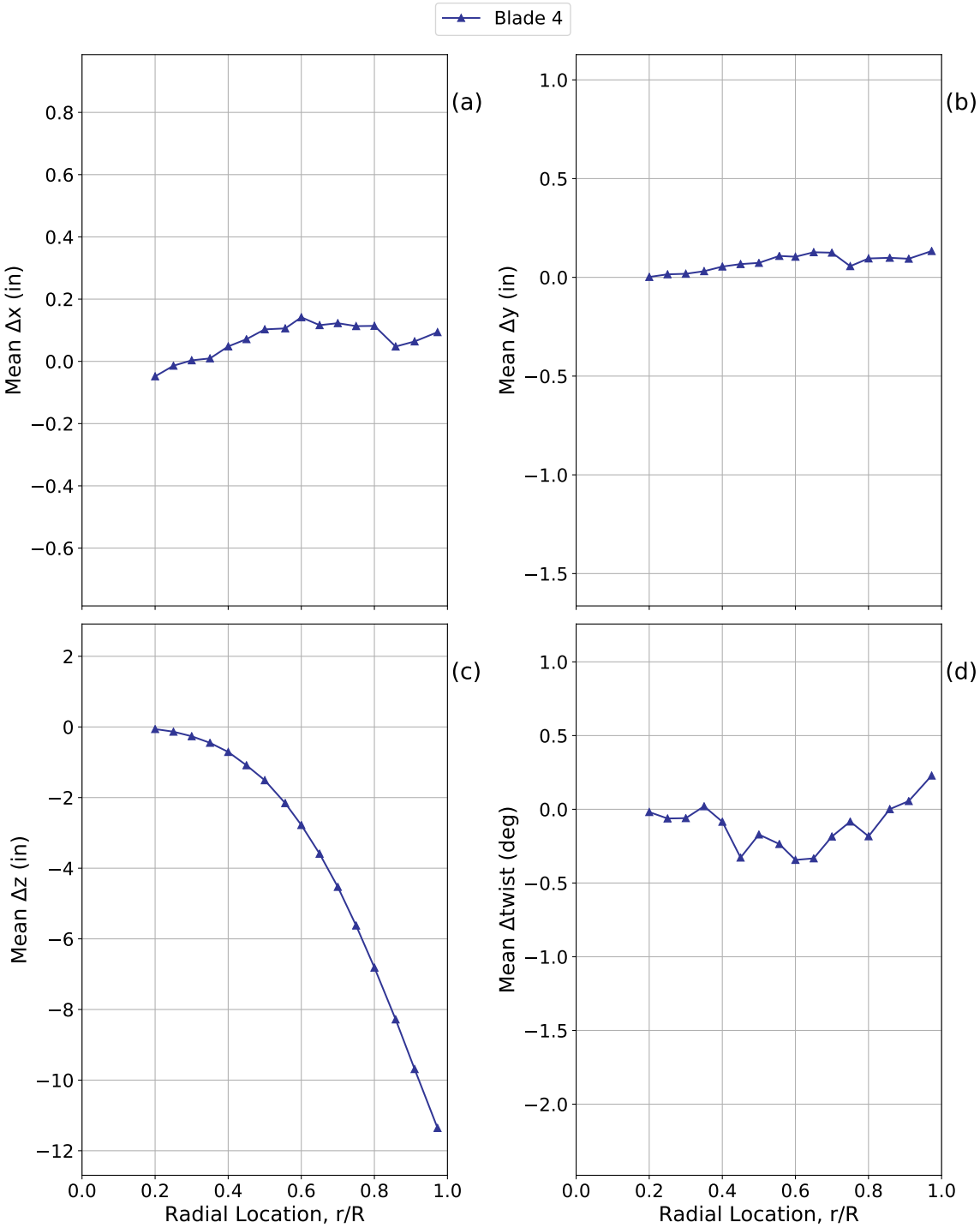


Figure 4.23-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0482	0.0009	0.0019	0.0007	-0.0600	0.0017	-0.0187	0.0148
4	175.08	0.2502	-0.0140	0.0015	0.0153	0.0013	-0.1351	0.0034	-0.0623	0.0277
4	175.08	0.3001	0.0033	0.0014	0.0180	0.0032	-0.2640	0.0063	-0.0600	0.0320
4	175.08	0.3502	0.0095	0.0007	0.0311	0.0043	-0.4500	0.0099	0.0204	0.0381
4	175.08	0.4002	0.0481	0.0019	0.0546	0.0075	-0.7093	0.0155	-0.0847	0.0238
4	175.08	0.4500	0.0713	0.0012	0.0671	0.0083	-1.0860	0.0179	-0.3277	0.0400
4	175.08	0.5001	0.1028	0.0015	0.0732	0.0115	-1.5100	0.0229	-0.1710	0.0340
4	175.08	0.5560	0.1059	0.0016	0.1084	0.0132	-2.1587	0.0291	-0.2357	0.0357
4	175.08	0.6001	0.1416	0.0017	0.1043	0.0171	-2.7781	0.0331	-0.3434	0.0314
4	175.08	0.6501	0.1163	0.0019	0.1271	0.0196	-3.5919	0.0345	-0.3328	0.0477
4	175.08	0.6999	0.1227	0.0015	0.1249	0.0231	-4.5295	0.0394	-0.1848	0.0356
4	175.08	0.7500	0.1132	0.0020	0.0566	0.0260	-5.6242	0.0425	-0.0833	0.0433
4	175.08	0.8002	0.1140	0.0024	0.0956	0.0301	-6.8156	0.0453	-0.1832	0.0460
4	175.08	0.8582	0.0476	0.0033	0.0989	0.0348	-8.2818	0.0494	0.0010	0.0516
4	175.08	0.9101	0.0640	0.0033	0.0942	0.0388	-9.6883	0.0552	0.0558	0.0432
4	175.08	0.9728	0.0938	0.0043	0.1331	0.0439	-11.3563	0.0637	0.2286	0.0403

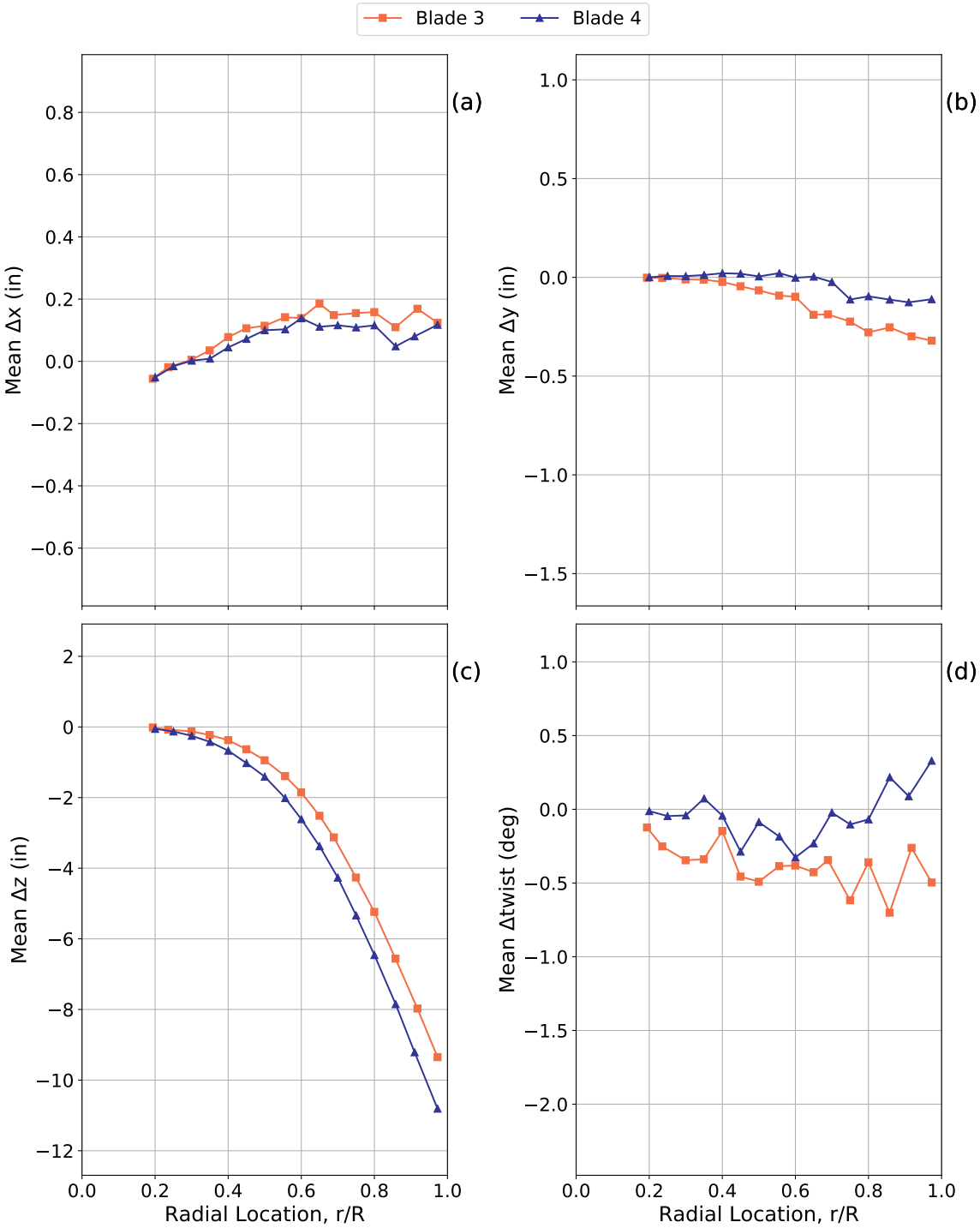


Figure 4.23-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0556	0.0015	-0.0017	0.0013	-0.0156	0.0026	-0.1231	0.0133
3	180.35	0.2357	-0.0187	0.0017	-0.0026	0.0014	-0.0786	0.0019	-0.2516	0.0406
3	180.35	0.2995	0.0052	0.0018	-0.0106	0.0044	-0.1254	0.0072	-0.3457	0.0374
3	180.35	0.3493	0.0352	0.0016	-0.0116	0.0075	-0.2295	0.0108	-0.3393	0.0301
3	180.35	0.4000	0.0780	0.0011	-0.0232	0.0112	-0.3730	0.0161	-0.1470	0.0404
3	180.35	0.4497	0.1063	0.0016	-0.0452	0.0130	-0.6331	0.0206	-0.4563	0.0352
3	180.35	0.4997	0.1144	0.0018	-0.0661	0.0150	-0.9428	0.0264	-0.4915	0.0415
3	180.35	0.5556	0.1419	0.0014	-0.0925	0.0193	-1.3912	0.0330	-0.3855	0.0370
3	180.35	0.5995	0.1388	0.0014	-0.0981	0.0220	-1.8520	0.0357	-0.3815	0.0501
3	180.35	0.6498	0.1858	0.0015	-0.1895	0.0249	-2.5150	0.0418	-0.4267	0.0312
3	180.35	0.6890	0.1487	0.0015	-0.1876	0.0279	-3.1264	0.0438	-0.3442	0.0346
3	180.35	0.7495	0.1551	0.0013	-0.2239	0.0326	-4.2627	0.0498	-0.6169	0.0373
3	180.35	0.7998	0.1583	0.0016	-0.2788	0.0359	-5.2363	0.0534	-0.3595	0.0363
3	180.35	0.8577	0.1098	0.0022	-0.2533	0.0398	-6.5602	0.0595	-0.7012	0.0309
3	180.35	0.9178	0.1691	0.0024	-0.2986	0.0451	-7.9742	0.0629	-0.2614	0.0387
3	180.35	0.9729	0.1240	0.0034	-0.3205	0.0496	-9.3494	0.0710	-0.4967	0.0535
4	180	0.2001	-0.0515	0.0011	0.0003	0.0007	-0.0555	0.0016	-0.0125	0.0224
4	180	0.2502	-0.0156	0.0010	0.0068	0.0022	-0.1288	0.0036	-0.0460	0.0258
4	180	0.3001	0.0022	0.0013	0.0061	0.0027	-0.2515	0.0065	-0.0414	0.0457
4	180	0.3502	0.0087	0.0011	0.0118	0.0058	-0.4228	0.0086	0.0735	0.0395
4	180	0.4002	0.0449	0.0015	0.0208	0.0084	-0.6731	0.0150	-0.0435	0.0387
4	180	0.4500	0.0722	0.0014	0.0185	0.0107	-1.0245	0.0185	-0.2870	0.0392
4	180	0.5001	0.1000	0.0016	0.0046	0.0124	-1.4085	0.0239	-0.0870	0.0510
4	180	0.5560	0.1030	0.0019	0.0214	0.0146	-2.0152	0.0277	-0.1847	0.0412
4	180	0.6001	0.1384	0.0018	-0.0019	0.0182	-2.6125	0.0309	-0.3261	0.0400
4	180	0.6501	0.1112	0.0018	0.0036	0.0207	-3.3788	0.0355	-0.2310	0.0335
4	180	0.6999	0.1160	0.0017	-0.0237	0.0237	-4.2668	0.0399	-0.0225	0.0396
4	180	0.7500	0.1091	0.0016	-0.1122	0.0268	-5.3368	0.0447	-0.1026	0.0371
4	180	0.8002	0.1158	0.0021	-0.0961	0.0308	-6.4598	0.0461	-0.0687	0.0513
4	180	0.8582	0.0484	0.0029	-0.1128	0.0352	-7.8504	0.0536	0.2170	0.0494
4	180	0.9101	0.0804	0.0030	-0.1264	0.0389	-9.2126	0.0642	0.0885	0.0509
4	180	0.9728	0.1174	0.0044	-0.1108	0.0438	-10.8087	0.0720	0.3293	0.0582

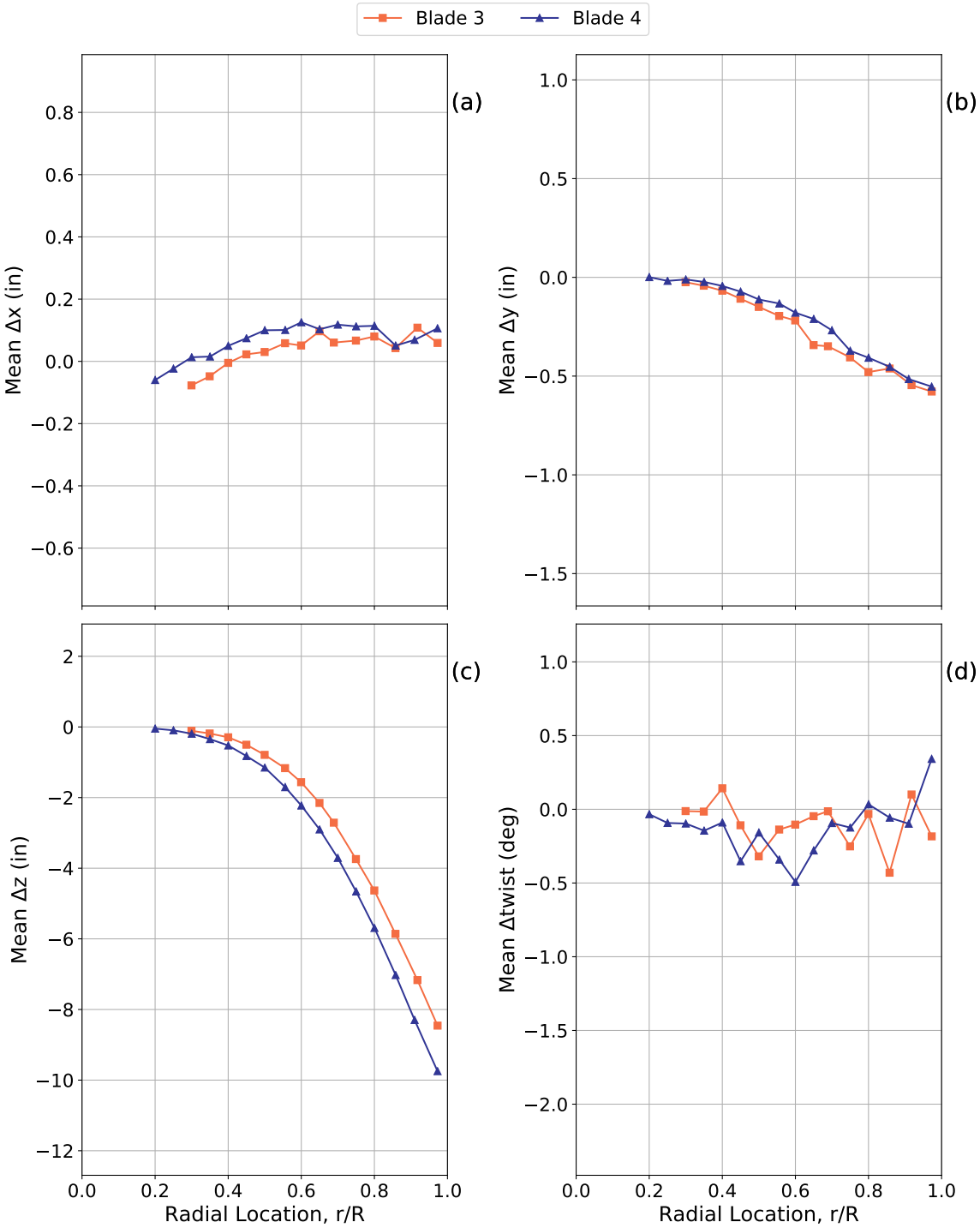


Figure 4.23-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0772	0.0049	-0.0246	0.0122	-0.1088	0.0182	-0.0122	0.0642
3	184.92	0.3493	-0.0480	0.0061	-0.0423	0.0209	-0.1851	0.0308	-0.0155	0.0845
3	184.92	0.4000	-0.0049	0.0058	-0.0676	0.0334	-0.2933	0.0488	0.1425	0.0813
3	184.92	0.4497	0.0225	0.0061	-0.1083	0.0440	-0.5033	0.0646	-0.1083	0.0764
3	184.92	0.4997	0.0301	0.0061	-0.1498	0.0554	-0.7910	0.0823	-0.3192	0.0810
3	184.92	0.5556	0.0583	0.0065	-0.1953	0.0672	-1.1669	0.1012	-0.1373	0.0917
3	184.92	0.5995	0.0510	0.0068	-0.2182	0.0768	-1.5646	0.1179	-0.1038	0.0804
3	184.92	0.6498	0.0968	0.0067	-0.3431	0.0872	-2.1520	0.1353	-0.0467	0.0748
3	184.92	0.6890	0.0604	0.0070	-0.3488	0.0981	-2.7106	0.1457	-0.0133	0.0779
3	184.92	0.7495	0.0668	0.0076	-0.4053	0.1110	-3.7409	0.1644	-0.2514	0.0889
3	184.92	0.7998	0.0799	0.0082	-0.4796	0.1231	-4.6307	0.1849	-0.0319	0.0718
3	184.92	0.8577	0.0426	0.0092	-0.4615	0.1372	-5.8587	0.2042	-0.4301	0.0782
3	184.92	0.9178	0.1083	0.0101	-0.5458	0.1510	-7.1681	0.2228	0.1006	0.0897
3	184.92	0.9729	0.0592	0.0134	-0.5782	0.1638	-8.4572	0.2387	-0.1836	0.0992
4	184.92	0.2001	-0.0600	0.0014	0.0010	0.0005	-0.0481	0.0012	-0.0335	0.0144
4	184.92	0.2502	-0.0234	0.0018	-0.0179	0.0024	-0.0949	0.0028	-0.0927	0.0187
4	184.92	0.3001	0.0133	0.0014	-0.0107	0.0021	-0.1928	0.0041	-0.0968	0.0294
4	184.92	0.3502	0.0154	0.0014	-0.0233	0.0038	-0.3456	0.0075	-0.1450	0.0264
4	184.92	0.4002	0.0500	0.0011	-0.0436	0.0064	-0.5255	0.0112	-0.0898	0.0310
4	184.92	0.4500	0.0744	0.0015	-0.0725	0.0083	-0.8244	0.0125	-0.3523	0.0329
4	184.92	0.5001	0.0999	0.0011	-0.1121	0.0111	-1.1509	0.0168	-0.1579	0.0314
4	184.92	0.5560	0.1008	0.0016	-0.1327	0.0138	-1.7053	0.0182	-0.3414	0.0408
4	184.92	0.6001	0.1255	0.0023	-0.1791	0.0164	-2.2266	0.0214	-0.4925	0.0358
4	184.92	0.6501	0.1032	0.0035	-0.2108	0.0199	-2.9034	0.0232	-0.2793	0.0311
4	184.92	0.6999	0.1179	0.0049	-0.2682	0.0233	-3.7093	0.0250	-0.0933	0.0391
4	184.92	0.7500	0.1124	0.0070	-0.3719	0.0276	-4.6603	0.0284	-0.1240	0.0433
4	184.92	0.8002	0.1142	0.0087	-0.4073	0.0311	-5.6922	0.0334	0.0335	0.0383
4	184.92	0.8582	0.0506	0.0106	-0.4532	0.0360	-7.0256	0.0387	-0.0570	0.0245
4	184.92	0.9101	0.0690	0.0152	-0.5151	0.0388	-8.2984	0.0430	-0.0980	0.0422
4	184.92	0.9728	0.1062	0.0176	-0.5533	0.0444	-9.7475	0.0535	0.3418	0.0446

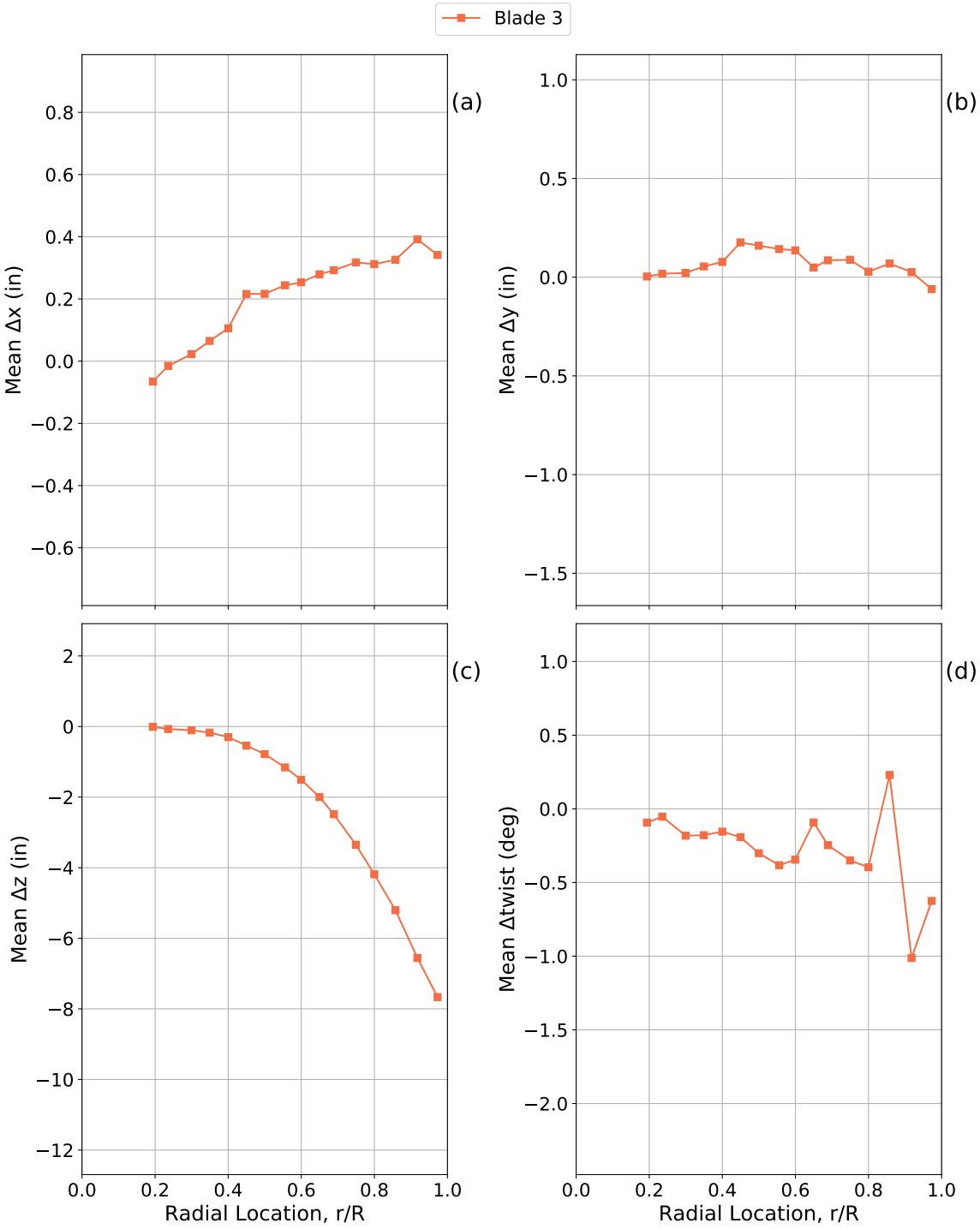


Figure 4.23-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0655	0.0011	0.0036	0.0008	-0.0091	0.0017	-0.0934	0.0171
3	195.12	0.2357	-0.0154	0.0006	0.0175	0.0019	-0.0707	0.0035	-0.0531	0.0185
3	195.12	0.2995	0.0225	0.0010	0.0215	0.0039	-0.1058	0.0070	-0.1824	0.0309
3	195.12	0.3493	0.0650	0.0007	0.0544	0.0066	-0.1728	0.0107	-0.1789	0.0249
3	195.12	0.4000	0.1055	0.0013	0.0771	0.0106	-0.3009	0.0177	-0.1549	0.0231
3	195.12	0.4497	0.2160	0.0060	0.1761	0.0207	-0.5402	0.0233	-0.1923	0.0222
3	195.12	0.4997	0.2165	0.0063	0.1597	0.0237	-0.7818	0.0274	-0.3010	0.0255
3	195.12	0.5556	0.2439	0.0064	0.1423	0.0278	-1.1578	0.0335	-0.3827	0.0226
3	195.12	0.5995	0.2534	0.0057	0.1360	0.0314	-1.5079	0.0369	-0.3452	0.0227
3	195.12	0.6498	0.2793	0.0062	0.0491	0.0351	-1.9977	0.0415	-0.0922	0.0210
3	195.12	0.6890	0.2922	0.0110	0.0854	0.0378	-2.4855	0.0459	-0.2465	0.0849
3	195.12	0.7495	0.3175	0.0068	0.0881	0.0441	-3.3507	0.0499	-0.3499	0.0641
3	195.12	0.7998	0.3120	0.0076	0.0277	0.0470	-4.1875	0.0534	-0.3964	0.0506
3	195.12	0.8577	0.3260	0.0069	0.0693	0.0557	-5.2048	0.0661	0.2298	0.0232
3	195.12	0.9178	0.3917	0.0039	0.0256	0.0614	-6.5575	0.0730	-1.0125	0.0342
3	195.12	0.9729	0.3414	0.0043	-0.0603	0.0681	-7.6671	0.0768	-0.6252	0.0250

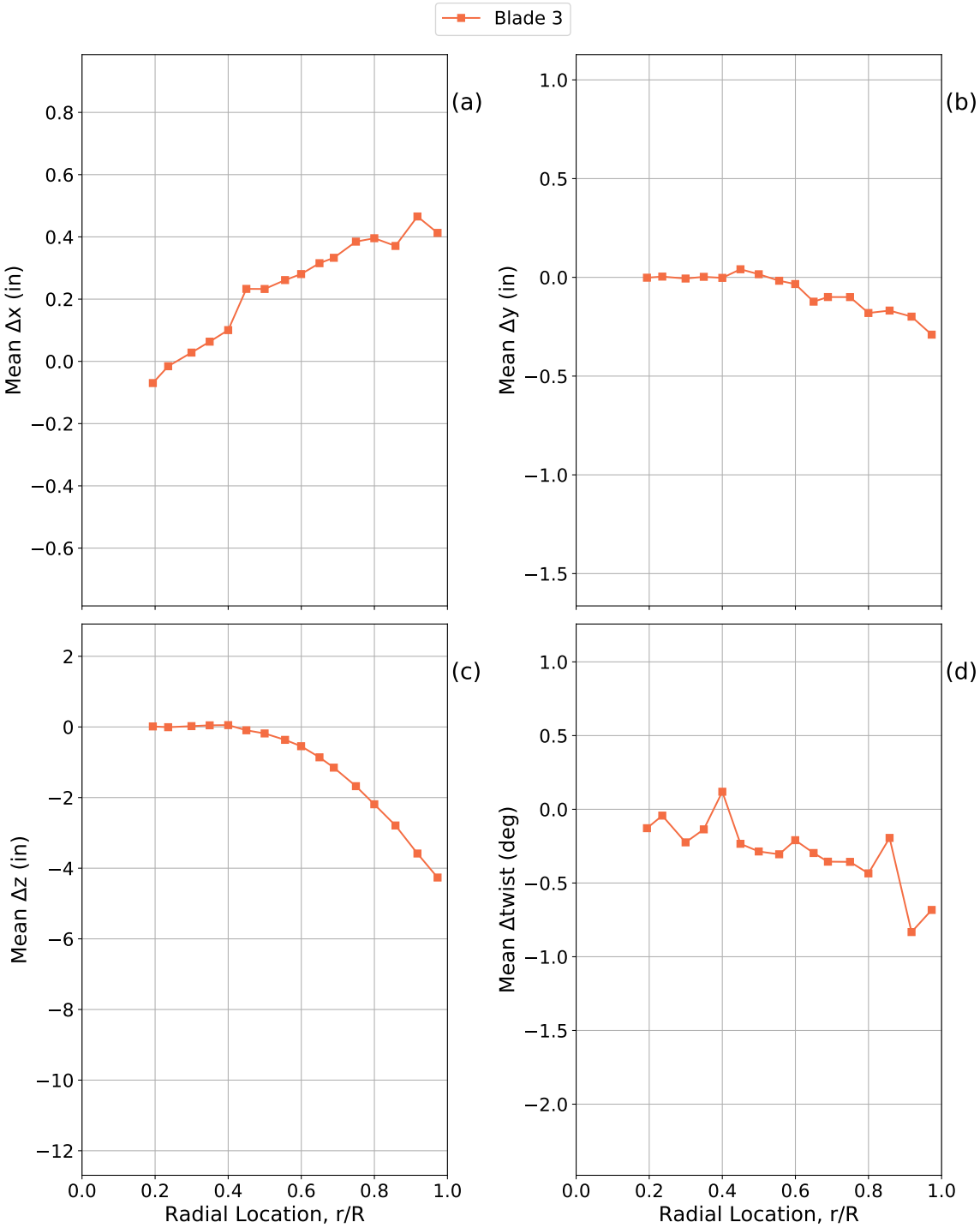


Figure 4.23-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0697	0.0009	-0.0017	0.0004	0.0141	0.0009	-0.1282	0.0139
3	209.88	0.2357	-0.0157	0.0004	0.0038	0.0008	-0.0073	0.0019	-0.0428	0.0200
3	209.88	0.2995	0.0282	0.0008	-0.0060	0.0013	0.0226	0.0032	-0.2243	0.0300
3	209.88	0.3493	0.0633	0.0008	0.0027	0.0031	0.0460	0.0060	-0.1361	0.0255
3	209.88	0.4000	0.1005	0.0011	-0.0026	0.0041	0.0514	0.0087	0.1191	0.0289
3	209.88	0.4497	0.2329	0.0063	0.0410	0.0118	-0.0945	0.0193	-0.2340	0.0234
3	209.88	0.4997	0.2326	0.0062	0.0158	0.0138	-0.1844	0.0230	-0.2860	0.0150
3	209.88	0.5556	0.2612	0.0058	-0.0172	0.0150	-0.3658	0.0252	-0.3051	0.0337
3	209.88	0.5995	0.2805	0.0045	-0.0339	0.0164	-0.5460	0.0275	-0.2095	0.0241
3	209.88	0.6498	0.3155	0.0037	-0.1231	0.0181	-0.8604	0.0292	-0.2965	0.0234
3	209.88	0.6890	0.3328	0.0032	-0.0997	0.0203	-1.1524	0.0316	-0.3552	0.0226
3	209.88	0.7495	0.3847	0.0017	-0.1000	0.0235	-1.6773	0.0348	-0.3565	0.0208
3	209.88	0.7998	0.3957	0.0017	-0.1805	0.0256	-2.1903	0.0374	-0.4346	0.0209
3	209.88	0.8577	0.3709	0.0038	-0.1682	0.0280	-2.7902	0.0391	-0.1941	0.0793
3	209.88	0.9178	0.4656	0.0072	-0.1989	0.0295	-3.5841	0.0429	-0.8326	0.0539
3	209.88	0.9729	0.4128	0.0122	-0.2901	0.0341	-4.2638	0.0520	-0.6826	0.0815

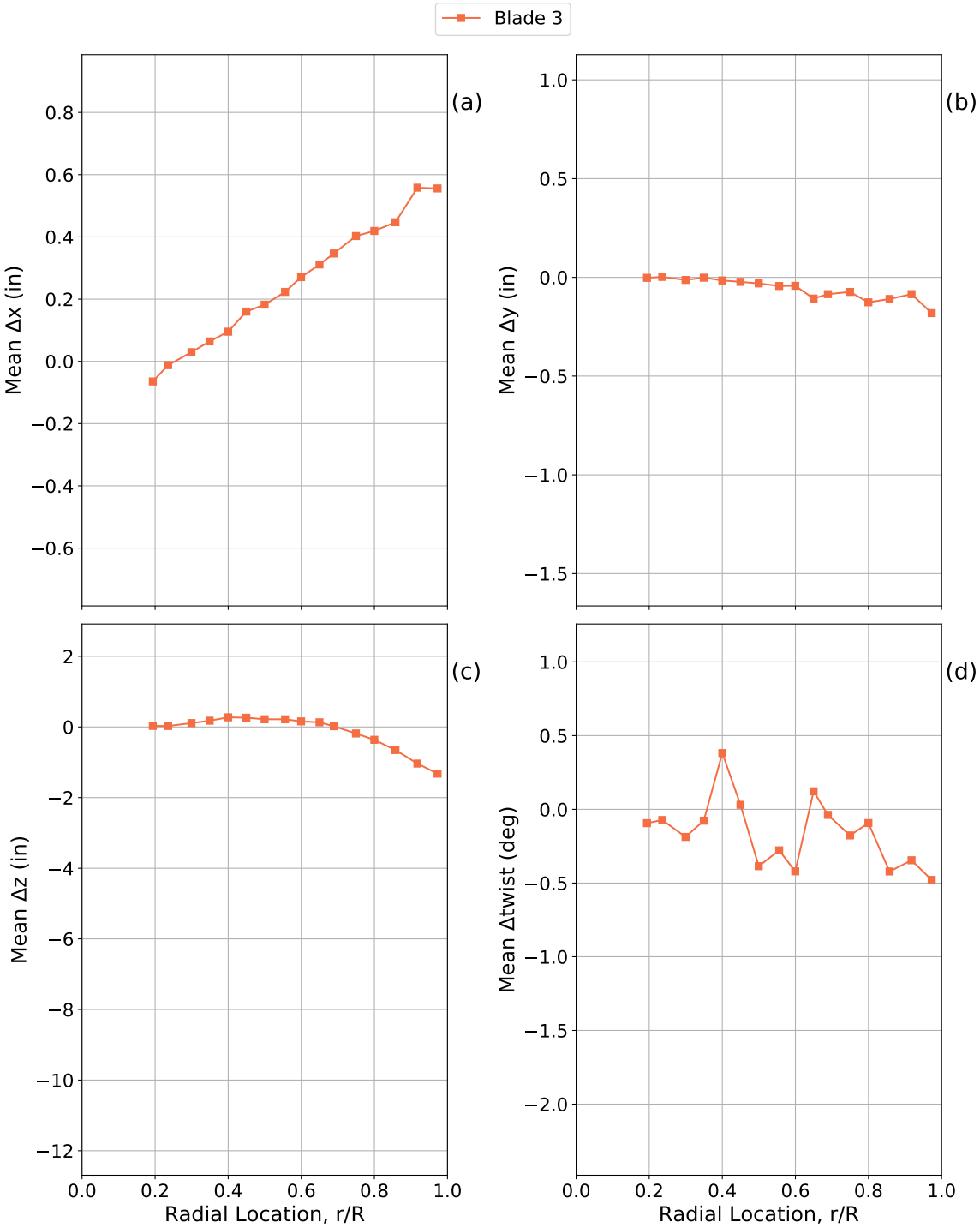


Figure 4.23-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0645	0.0006	-0.0023	0.0004	0.0299	0.0012	-0.0938	0.0085
3	225	0.2357	-0.0122	0.0004	0.0024	0.0014	0.0270	0.0019	-0.0724	0.0236
3	225	0.2995	0.0296	0.0008	-0.0131	0.0020	0.1099	0.0044	-0.1872	0.0254
3	225	0.3493	0.0641	0.0010	-0.0016	0.0026	0.1766	0.0067	-0.0768	0.0298
3	225	0.4000	0.0954	0.0008	-0.0155	0.0050	0.2729	0.0106	0.3816	0.0356
3	225	0.4497	0.1600	0.0007	-0.0228	0.0053	0.2610	0.0129	0.0307	0.0284
3	225	0.4997	0.1823	0.0008	-0.0306	0.0067	0.2183	0.0166	-0.3855	0.0275
3	225	0.5556	0.2233	0.0016	-0.0437	0.0086	0.2169	0.0199	-0.2780	0.0220
3	225	0.5995	0.2706	0.0012	-0.0428	0.0099	0.1571	0.0248	-0.4206	0.0274
3	225	0.6498	0.3114	0.0011	-0.1072	0.0117	0.1313	0.0276	0.1222	0.0216
3	225	0.6890	0.3467	0.0016	-0.0849	0.0137	0.0202	0.0312	-0.0377	0.0255
3	225	0.7495	0.4028	0.0013	-0.0737	0.0158	-0.1843	0.0369	-0.1771	0.0291
3	225	0.7998	0.4192	0.0012	-0.1265	0.0181	-0.3635	0.0417	-0.0930	0.0372
3	225	0.8577	0.4471	0.0019	-0.1095	0.0212	-0.6541	0.0435	-0.4214	0.0436
3	225	0.9178	0.5581	0.0044	-0.0849	0.0259	-1.0364	0.0543	-0.3454	0.0415
3	225	0.9729	0.5557	0.0044	-0.1813	0.0290	-1.3221	0.0586	-0.4787	0.0675

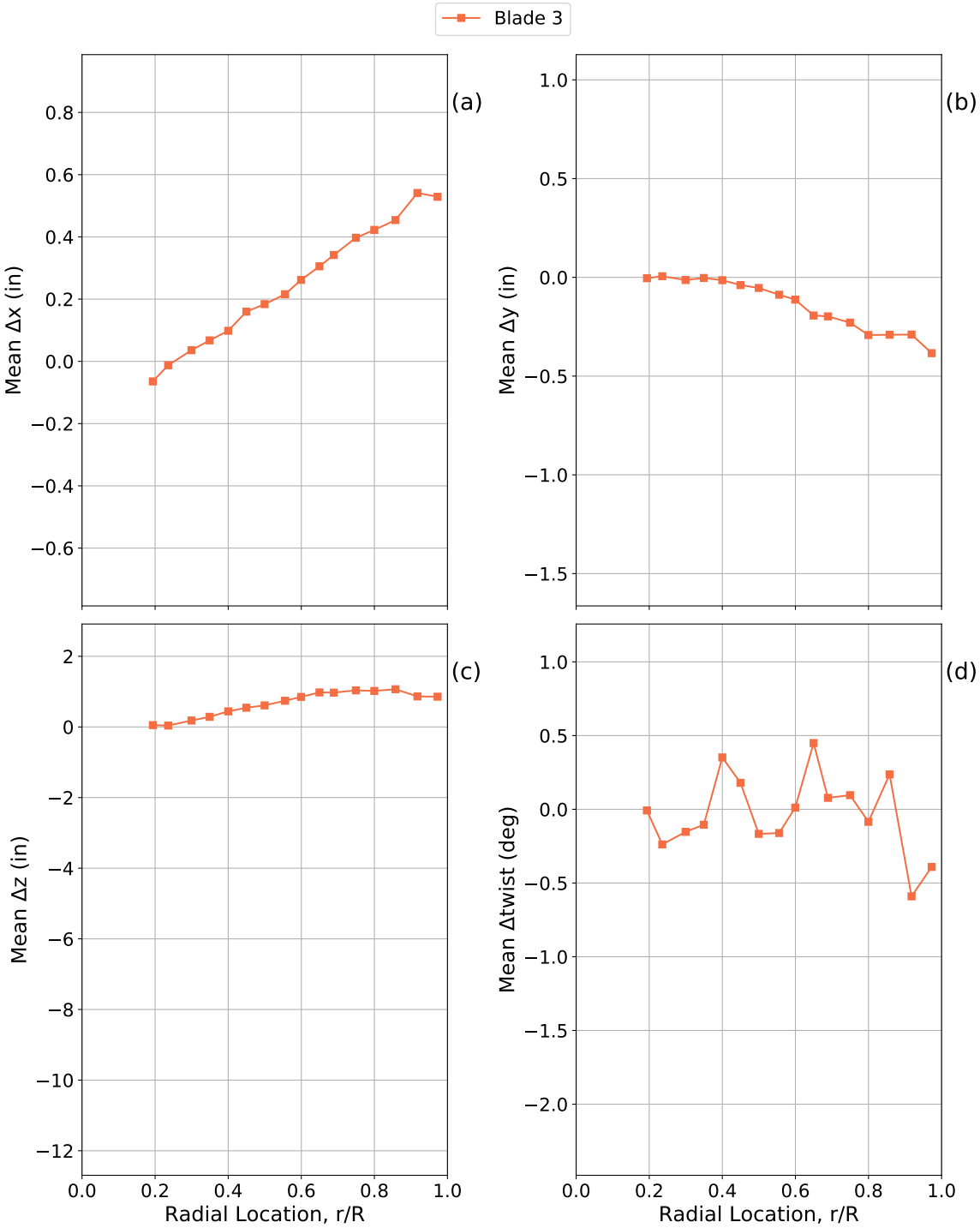


Figure 4.23-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0644	0.0011	-0.0042	0.0007	0.0515	0.0013	-0.0078	0.0098
3	240.12	0.2357	-0.0126	0.0010	0.0056	0.0010	0.0388	0.0022	-0.2382	0.0252
3	240.12	0.2995	0.0360	0.0010	-0.0136	0.0029	0.1812	0.0040	-0.1530	0.0273
3	240.12	0.3493	0.0675	0.0008	-0.0033	0.0049	0.2867	0.0068	-0.1046	0.0275
3	240.12	0.4000	0.0983	0.0016	-0.0144	0.0077	0.4415	0.0100	0.3517	0.0302
3	240.12	0.4497	0.1597	0.0014	-0.0391	0.0097	0.5440	0.0133	0.1797	0.0331
3	240.12	0.4997	0.1839	0.0014	-0.0537	0.0119	0.6107	0.0168	-0.1667	0.0298
3	240.12	0.5556	0.2157	0.0012	-0.0881	0.0139	0.7413	0.0227	-0.1608	0.0241
3	240.12	0.5995	0.2617	0.0008	-0.1127	0.0157	0.8504	0.0252	0.0114	0.0302
3	240.12	0.6498	0.3055	0.0016	-0.1932	0.0187	0.9772	0.0288	0.4496	0.0340
3	240.12	0.6890	0.3419	0.0015	-0.1975	0.0205	0.9718	0.0304	0.0776	0.0285
3	240.12	0.7495	0.3972	0.0013	-0.2292	0.0227	1.0358	0.0337	0.0959	0.0299
3	240.12	0.7998	0.4224	0.0017	-0.2921	0.0259	1.0186	0.0350	-0.0849	0.0348
3	240.12	0.8577	0.4540	0.0020	-0.2906	0.0292	1.0672	0.0382	0.2368	0.0386
3	240.12	0.9178	0.5412	0.0012	-0.2897	0.0319	0.8648	0.0418	-0.5903	0.0396
3	240.12	0.9729	0.5289	0.0028	-0.3838	0.0352	0.8564	0.0468	-0.3909	0.0295

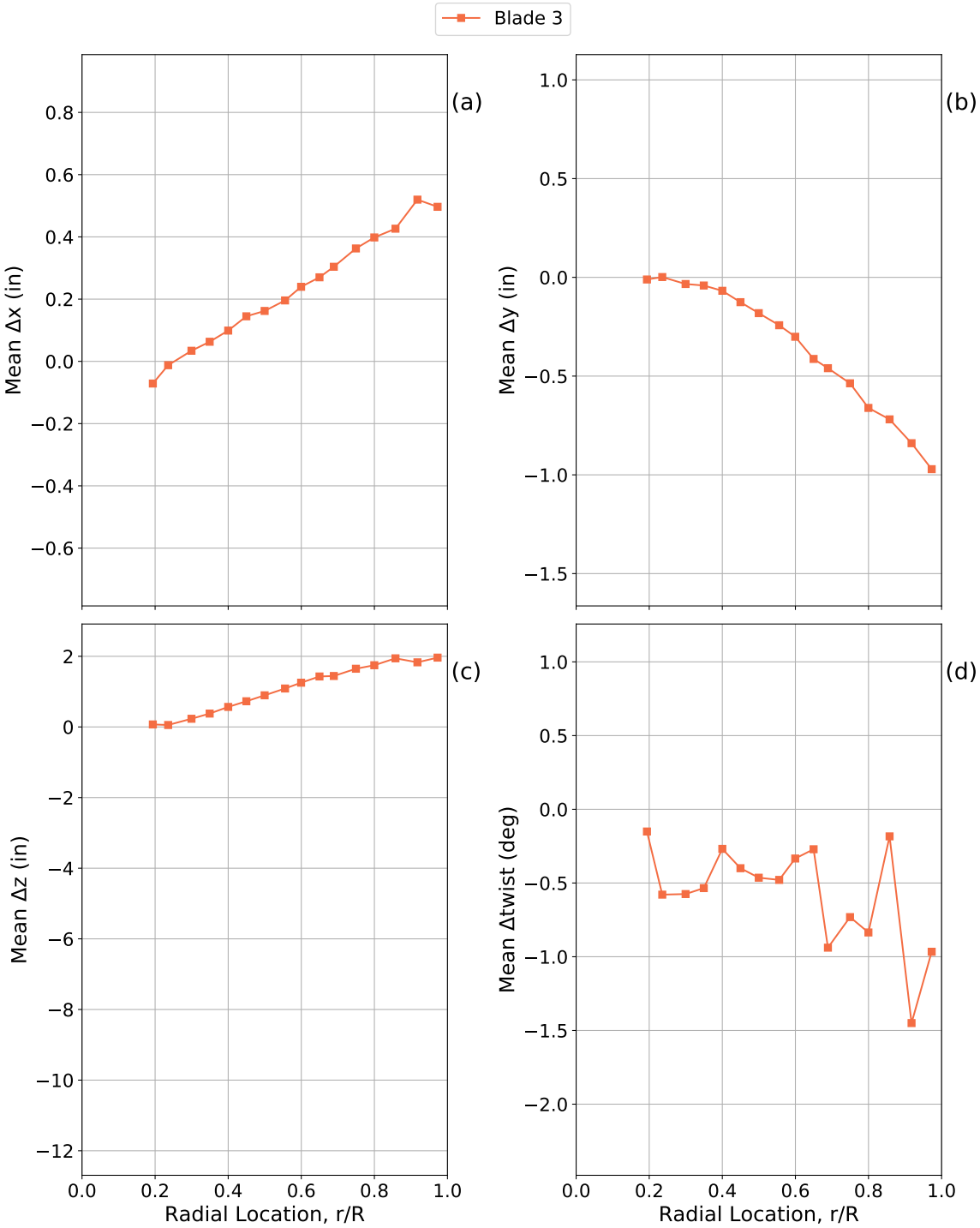


Figure 4.23-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0712	0.0020	-0.0108	0.0007	0.0706	0.0034	-0.1506	0.0253
3	254.88	0.2357	-0.0123	0.0006	0.0015	0.0008	0.0551	0.0040	-0.5788	0.0647
3	254.88	0.2995	0.0341	0.0006	-0.0337	0.0021	0.2314	0.0102	-0.5748	0.0736
3	254.88	0.3493	0.0630	0.0010	-0.0413	0.0034	0.3786	0.0164	-0.5345	0.0760
3	254.88	0.4000	0.0989	0.0012	-0.0681	0.0052	0.5666	0.0245	-0.2683	0.0675
3	254.88	0.4497	0.1448	0.0009	-0.1257	0.0063	0.7271	0.0301	-0.3995	0.0690
3	254.88	0.4997	0.1620	0.0013	-0.1813	0.0078	0.8954	0.0363	-0.4639	0.0723
3	254.88	0.5556	0.1958	0.0013	-0.2426	0.0092	1.0884	0.0444	-0.4789	0.0678
3	254.88	0.5995	0.2396	0.0013	-0.3009	0.0106	1.2530	0.0521	-0.3338	0.0595
3	254.88	0.6498	0.2701	0.0011	-0.4132	0.0120	1.4290	0.0597	-0.2709	0.0638
3	254.88	0.6890	0.3040	0.0011	-0.4599	0.0131	1.4424	0.0662	-0.9385	0.0635
3	254.88	0.7495	0.3628	0.0016	-0.5365	0.0152	1.6481	0.0761	-0.7311	0.0568
3	254.88	0.7998	0.3982	0.0016	-0.6611	0.0172	1.7473	0.0846	-0.8353	0.0553
3	254.88	0.8577	0.4263	0.0020	-0.7191	0.0202	1.9429	0.0938	-0.1836	0.0630
3	254.88	0.9178	0.5197	0.0023	-0.8397	0.0220	1.8294	0.1053	-1.4499	0.0526
3	254.88	0.9729	0.4966	0.0028	-0.9713	0.0249	1.9629	0.1097	-0.9662	0.0678

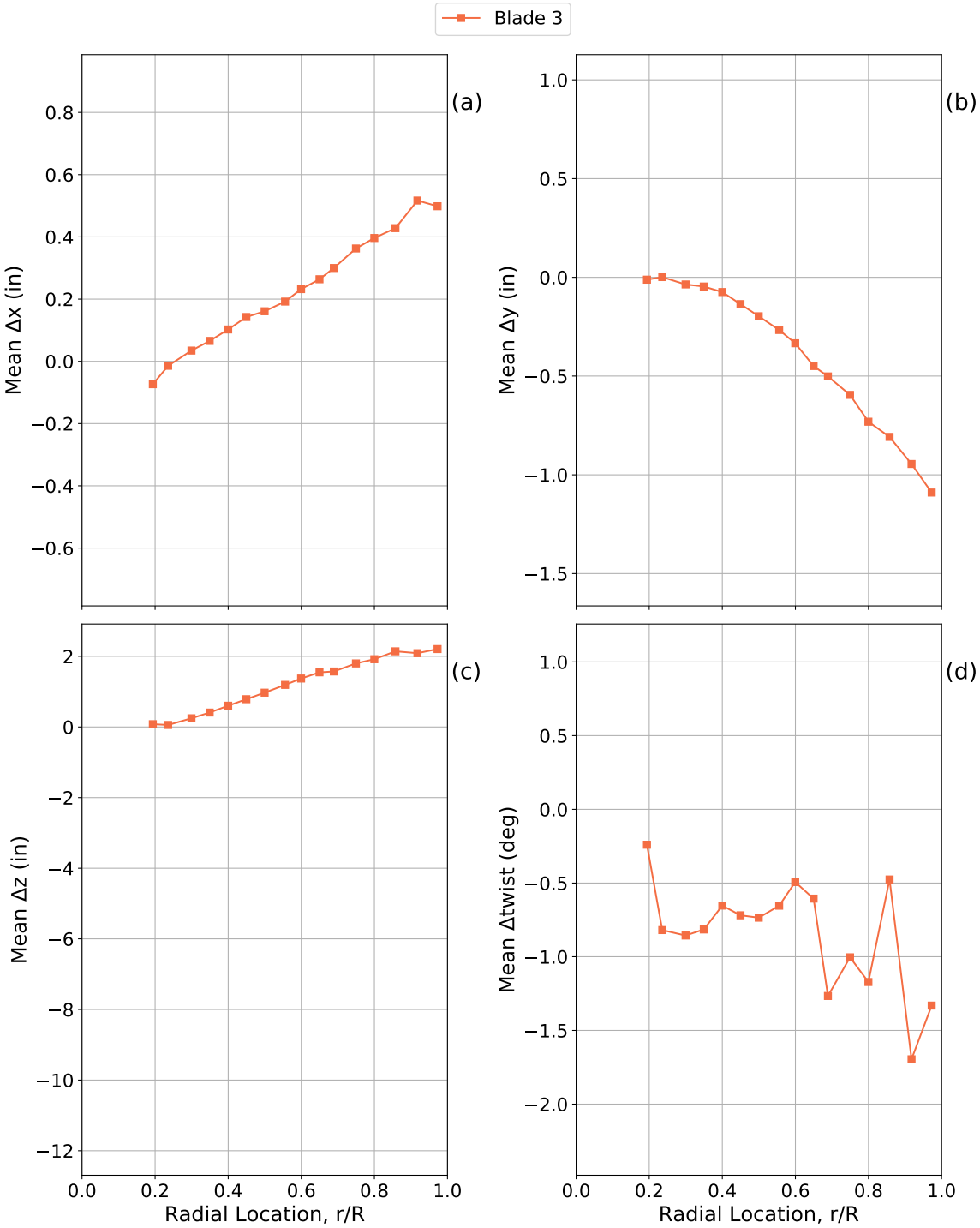


Figure 4.23-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0736	0.0037	-0.0117	0.0014	0.0785	0.0056	-0.2399	0.0195
3	260.16	0.2357	-0.0144	0.0012	0.0013	0.0008	0.0570	0.0036	-0.8192	0.0672
3	260.16	0.2995	0.0346	0.0007	-0.0360	0.0043	0.2458	0.0145	-0.8561	0.0680
3	260.16	0.3493	0.0656	0.0011	-0.0463	0.0072	0.4081	0.0238	-0.8152	0.0689
3	260.16	0.4000	0.1024	0.0011	-0.0745	0.0106	0.6011	0.0335	-0.6530	0.0638
3	260.16	0.4497	0.1424	0.0015	-0.1356	0.0132	0.7851	0.0417	-0.7188	0.0666
3	260.16	0.4997	0.1609	0.0017	-0.1971	0.0160	0.9711	0.0509	-0.7352	0.0668
3	260.16	0.5556	0.1920	0.0015	-0.2667	0.0194	1.1911	0.0597	-0.6537	0.0689
3	260.16	0.5995	0.2321	0.0019	-0.3339	0.0221	1.3709	0.0668	-0.4934	0.0735
3	260.16	0.6498	0.2638	0.0020	-0.4493	0.0256	1.5459	0.0768	-0.6057	0.0674
3	260.16	0.6890	0.3000	0.0024	-0.5019	0.0285	1.5703	0.0830	-1.2664	0.0707
3	260.16	0.7495	0.3627	0.0025	-0.5954	0.0331	1.7992	0.0944	-1.0040	0.0672
3	260.16	0.7998	0.3964	0.0025	-0.7312	0.0372	1.9175	0.1025	-1.1717	0.0690
3	260.16	0.8577	0.4281	0.0031	-0.8082	0.0413	2.1413	0.1129	-0.4758	0.0683
3	260.16	0.9178	0.5168	0.0027	-0.9453	0.0475	2.0882	0.1210	-1.6957	0.0802
3	260.16	0.9729	0.4985	0.0048	-1.0898	0.0528	2.2048	0.1298	-1.3313	0.0690

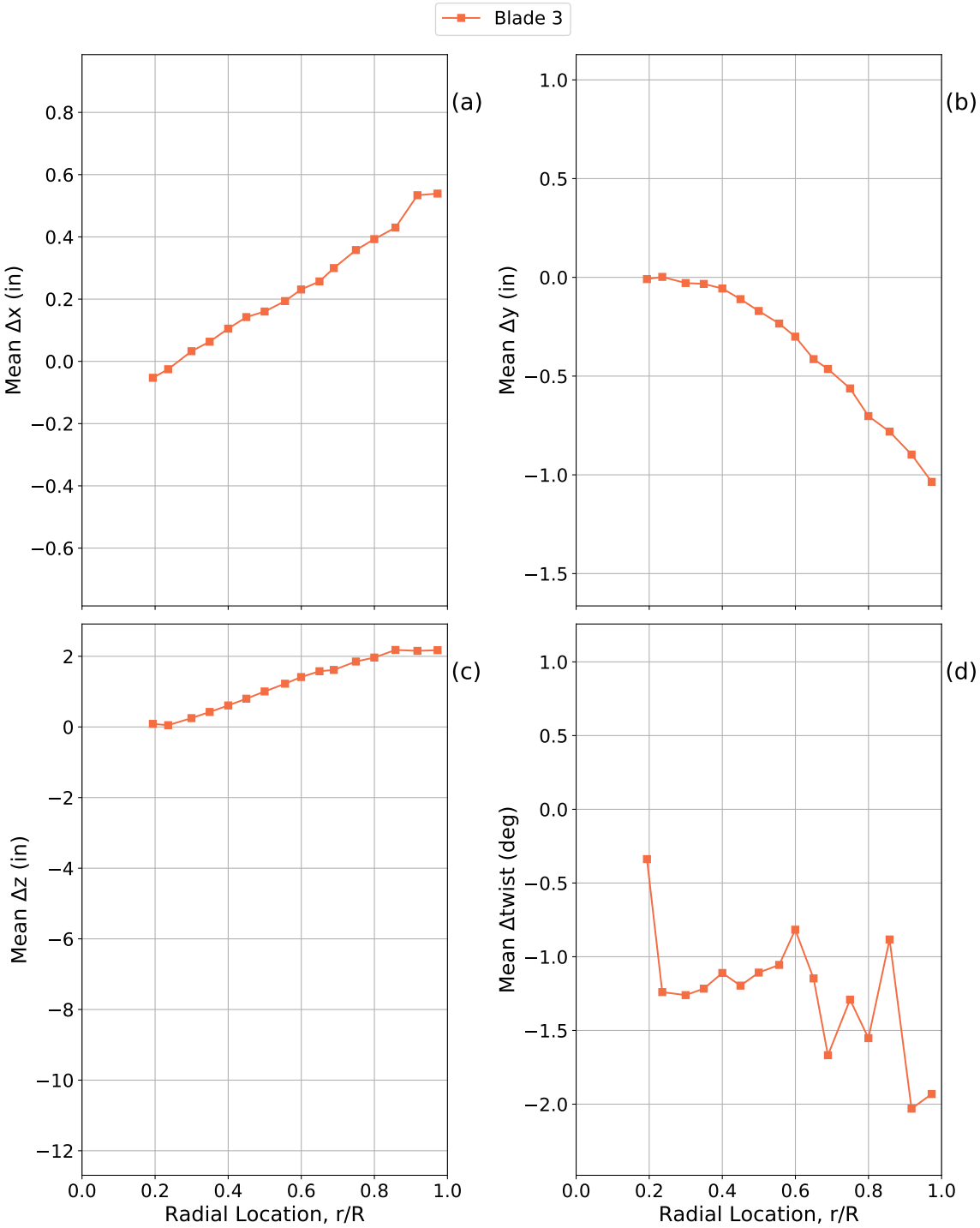


Figure 4.23-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0528	0.0145	-0.0090	0.0038	0.0861	0.0168	-0.3378	0.0630
3	265.08	0.2357	-0.0253	0.0036	0.0023	0.0010	0.0492	0.0071	-1.2398	0.2346
3	265.08	0.2995	0.0326	0.0027	-0.0287	0.0106	0.2498	0.0408	-1.2603	0.2341
3	265.08	0.3493	0.0632	0.0018	-0.0332	0.0181	0.4238	0.0681	-1.2165	0.2196
3	265.08	0.4000	0.1052	0.0022	-0.0564	0.0257	0.6083	0.0929	-1.1101	0.2229
3	265.08	0.4497	0.1423	0.0024	-0.1104	0.0323	0.7997	0.1163	-1.1959	0.2303
3	265.08	0.4997	0.1601	0.0020	-0.1704	0.0396	1.0047	0.1425	-1.1075	0.2218
3	265.08	0.5556	0.1937	0.0020	-0.2339	0.0470	1.2239	0.1706	-1.0555	0.2196
3	265.08	0.5995	0.2310	0.0021	-0.3003	0.0533	1.4128	0.1925	-0.8167	0.2205
3	265.08	0.6498	0.2569	0.0027	-0.4140	0.0600	1.5767	0.2178	-1.1472	0.2242
3	265.08	0.6890	0.2997	0.0031	-0.4641	0.0662	1.6140	0.2372	-1.6681	0.2254
3	265.08	0.7495	0.3577	0.0034	-0.5624	0.0747	1.8519	0.2677	-1.2910	0.2225
3	265.08	0.7998	0.3928	0.0039	-0.7025	0.0825	1.9646	0.2925	-1.5522	0.2278
3	265.08	0.8577	0.4299	0.0043	-0.7813	0.0912	2.1803	0.3223	-0.8830	0.2280
3	265.08	0.9178	0.5338	0.0052	-0.8972	0.1006	2.1542	0.3546	-2.0304	0.2187
3	265.08	0.9729	0.5391	0.0077	-1.0356	0.1102	2.1735	0.3818	-1.9310	0.2219

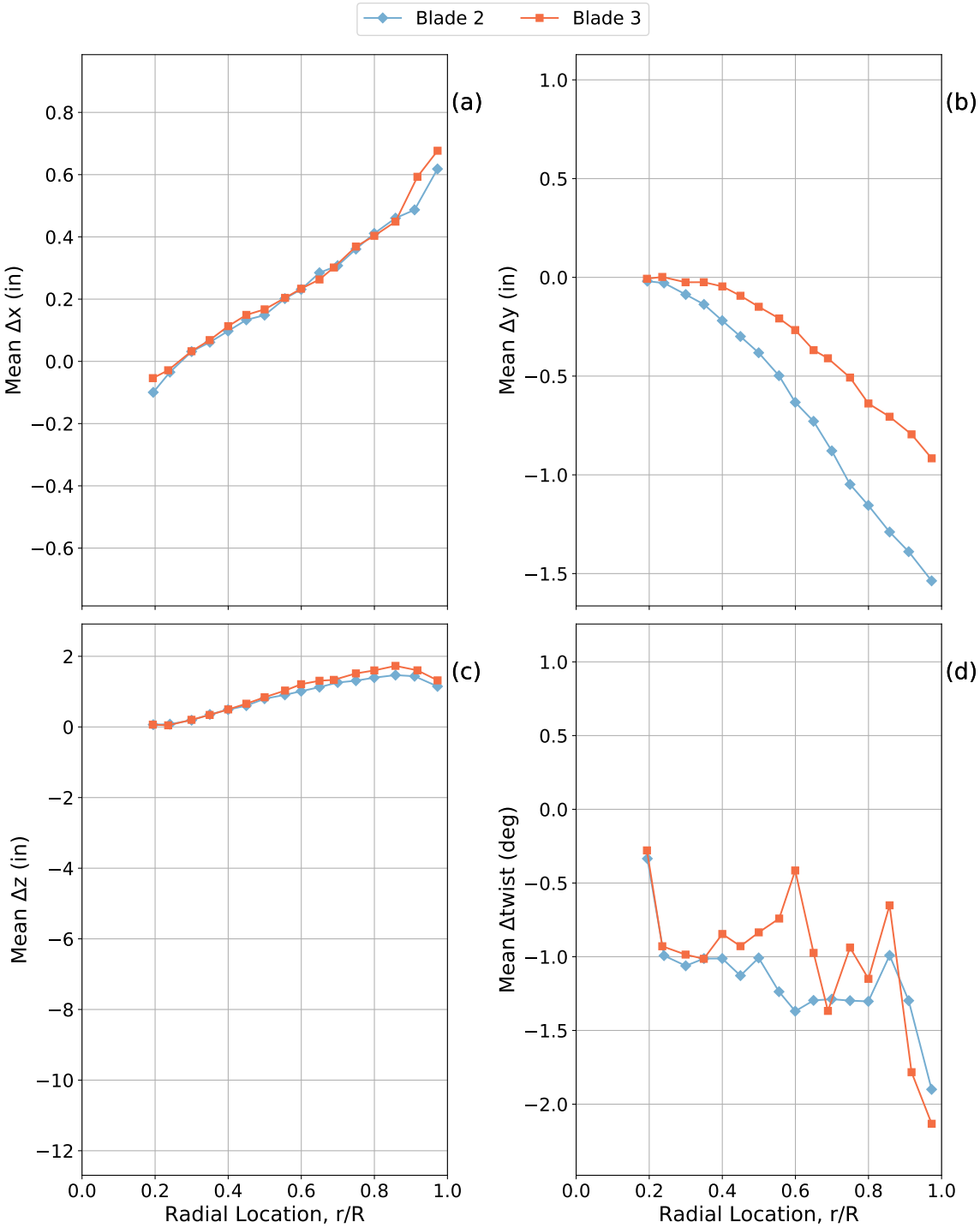


Figure 4.23-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0995	0.0035	-0.0194	0.0010	0.0641	0.0049	-0.3345	0.0319
2	270.35	0.2405	-0.0346	0.0012	-0.0288	0.0011	0.0773	0.0053	-0.9925	0.0749
2	270.35	0.2999	0.0315	0.0020	-0.0869	0.0031	0.1904	0.0135	-1.0615	0.0878
2	270.35	0.3498	0.0615	0.0011	-0.1370	0.0053	0.3524	0.0245	-1.0124	0.0825
2	270.35	0.3998	0.0975	0.0013	-0.2191	0.0078	0.4890	0.0336	-1.0120	0.0813
2	270.35	0.4496	0.1333	0.0014	-0.2993	0.0096	0.6020	0.0422	-1.1282	0.0828
2	270.35	0.4995	0.1484	0.0015	-0.3819	0.0117	0.7986	0.0519	-1.0079	0.0785
2	270.35	0.5551	0.2017	0.0012	-0.4979	0.0138	0.9076	0.0622	-1.2370	0.0826
2	270.35	0.5996	0.2312	0.0016	-0.6328	0.0158	1.0113	0.0726	-1.3694	0.0701
2	270.35	0.6497	0.2848	0.0018	-0.7289	0.0180	1.1264	0.0814	-1.2961	0.0862
2	270.35	0.6996	0.3077	0.0018	-0.8786	0.0203	1.2575	0.0934	-1.2877	0.0796
2	270.35	0.7495	0.3607	0.0017	-1.0484	0.0229	1.3089	0.1038	-1.2978	0.0871
2	270.35	0.7996	0.4111	0.0022	-1.1547	0.0256	1.3954	0.1166	-1.3028	0.0834
2	270.35	0.8578	0.4603	0.0022	-1.2894	0.0287	1.4675	0.1277	-0.9909	0.0818
2	270.35	0.9100	0.4869	0.0030	-1.3890	0.0324	1.4356	0.1407	-1.2978	0.0774
2	270.35	0.9727	0.6183	0.0030	-1.5368	0.0358	1.1480	0.1513	-1.8997	0.0996
3	270	0.1938	-0.0539	0.0090	-0.0071	0.0021	0.0653	0.0116	-0.2789	0.0403
3	270	0.2357	-0.0286	0.0036	0.0021	0.0010	0.0456	0.0048	-0.9289	0.1540
3	270	0.2995	0.0325	0.0019	-0.0249	0.0059	0.2019	0.0297	-0.9854	0.1487
3	270	0.3493	0.0683	0.0026	-0.0246	0.0096	0.3397	0.0474	-1.0141	0.1512
3	270	0.4000	0.1131	0.0030	-0.0460	0.0139	0.4968	0.0668	-0.8457	0.1571
3	270	0.4497	0.1493	0.0026	-0.0932	0.0182	0.6583	0.0865	-0.9283	0.1504
3	270	0.4997	0.1671	0.0026	-0.1490	0.0224	0.8411	0.1062	-0.8347	0.1571
3	270	0.5556	0.2041	0.0028	-0.2081	0.0273	1.0299	0.1288	-0.7410	0.1607
3	270	0.5995	0.2335	0.0034	-0.2670	0.0314	1.2092	0.1481	-0.4150	0.1601
3	270	0.6498	0.2632	0.0031	-0.3686	0.0361	1.3080	0.1694	-0.9739	0.1559
3	270	0.6890	0.3016	0.0033	-0.4098	0.0400	1.3326	0.1858	-1.3673	0.1545
3	270	0.7495	0.3689	0.0037	-0.5074	0.0463	1.5154	0.2099	-0.9379	0.1587
3	270	0.7998	0.4035	0.0042	-0.6388	0.0519	1.5999	0.2322	-1.1499	0.1404
3	270	0.8577	0.4490	0.0041	-0.7056	0.0572	1.7291	0.2535	-0.6513	0.1562
3	270	0.9178	0.5931	0.0040	-0.7950	0.0652	1.6026	0.2800	-1.7831	0.1506
3	270	0.9729	0.6768	0.0061	-0.9164	0.0710	1.3184	0.3022	-2.1328	0.1607

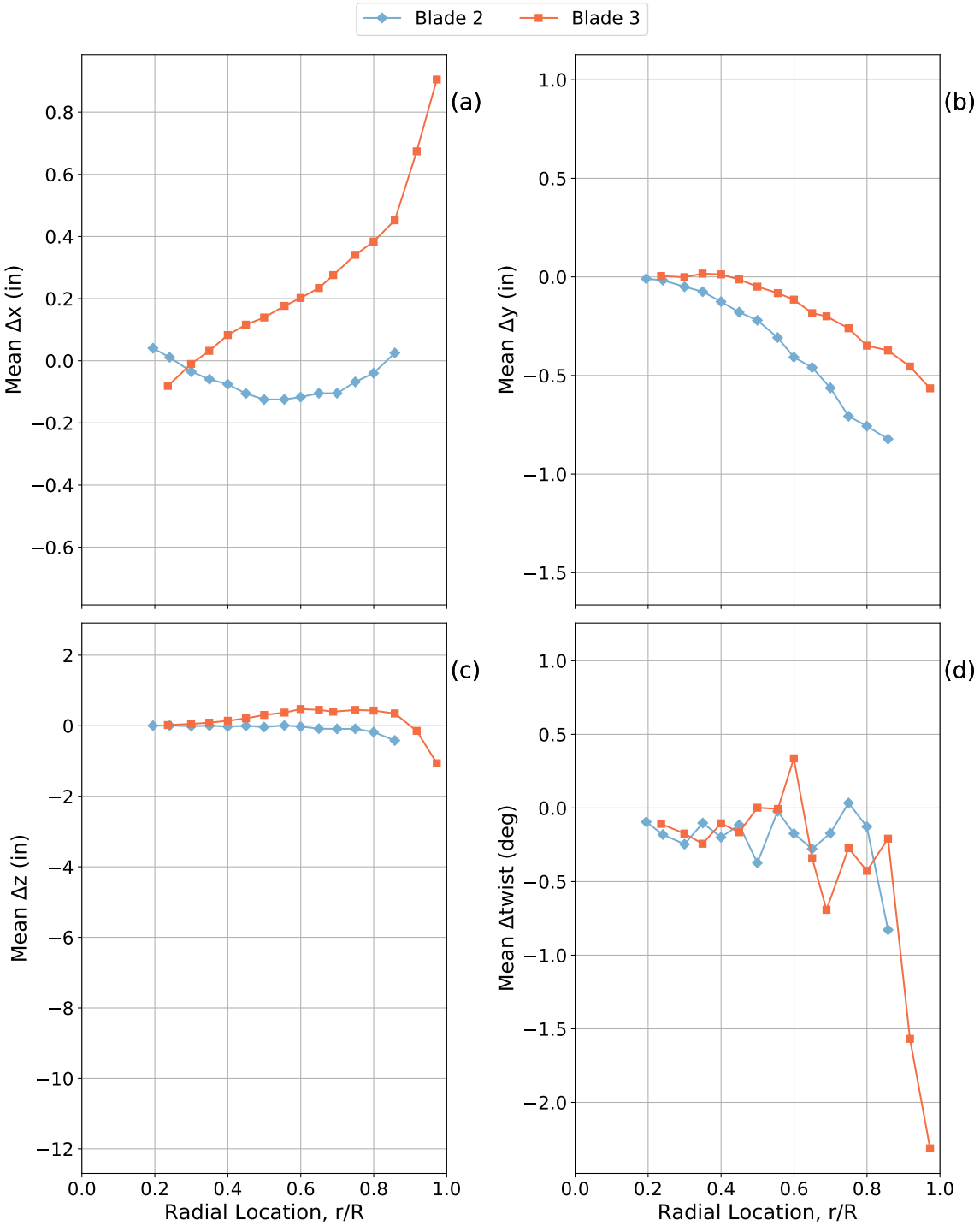


Figure 4.23-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0404	0.0024	-0.0099	0.0006	0.0027	0.0015	-0.0948	0.0212
2	274.92	0.2405	0.0111	0.0011	-0.0170	0.0011	0.0049	0.0031	-0.1804	0.0326
2	274.92	0.2999	-0.0351	0.0016	-0.0502	0.0015	-0.0120	0.0044	-0.2463	0.0499
2	274.92	0.3498	-0.0595	0.0016	-0.0753	0.0031	-0.0010	0.0109	-0.1023	0.0244
2	274.92	0.3998	-0.0754	0.0022	-0.1255	0.0040	-0.0229	0.0133	-0.1990	0.0366
2	274.92	0.4496	-0.1052	0.0030	-0.1790	0.0047	-0.0035	0.0148	-0.1147	0.0336
2	274.92	0.4995	-0.1247	0.0039	-0.2202	0.0056	-0.0364	0.0161	-0.3728	0.0622
2	274.92	0.5551	-0.1243	0.0053	-0.3079	0.0069	0.0072	0.0219	-0.0226	0.0440
2	274.92	0.5996	-0.1169	0.0076	-0.4071	0.0085	-0.0237	0.0260	-0.1738	0.0425
2	274.92	0.6497	-0.1045	0.0099	-0.4598	0.0097	-0.0829	0.0286	-0.2781	0.0411
2	274.92	0.6996	-0.1044	0.0107	-0.5630	0.0116	-0.0900	0.0325	-0.1720	0.0402
2	274.92	0.7495	-0.0680	0.0144	-0.7066	0.0131	-0.0867	0.0293	0.0337	0.0985
2	274.92	0.7996	-0.0399	0.0164	-0.7569	0.0155	-0.1805	0.0358	-0.1270	0.0844
2	274.92	0.8578	0.0251	0.0225	-0.8226	0.0175	-0.4185	0.0488	-0.8281	0.1190
3	274.92	0.2357	-0.0808	0.0033	0.0043	0.0015	0.0210	0.0074	-0.1082	0.0890
3	274.92	0.2995	-0.0103	0.0023	-0.0015	0.0026	0.0525	0.0135	-0.1736	0.1429
3	274.92	0.3493	0.0319	0.0015	0.0166	0.0061	0.0876	0.0268	-0.2428	0.1357
3	274.92	0.4000	0.0828	0.0016	0.0125	0.0085	0.1417	0.0383	-0.1045	0.1485
3	274.92	0.4497	0.1163	0.0027	-0.0133	0.0120	0.2090	0.0517	-0.1650	0.1445
3	274.92	0.4997	0.1393	0.0023	-0.0497	0.0148	0.3068	0.0623	0.0018	0.1408
3	274.92	0.5556	0.1766	0.0020	-0.0824	0.0184	0.3727	0.0788	-0.0065	0.1366
3	274.92	0.5995	0.2021	0.0025	-0.1154	0.0216	0.4729	0.0870	0.3370	0.1392
3	274.92	0.6498	0.2341	0.0024	-0.1840	0.0253	0.4503	0.0997	-0.3412	0.1288
3	274.92	0.6890	0.2756	0.0024	-0.1999	0.0280	0.3985	0.1081	-0.6919	0.1292
3	274.92	0.7495	0.3409	0.0032	-0.2606	0.0333	0.4473	0.1222	-0.2730	0.1349
3	274.92	0.7998	0.3839	0.0032	-0.3489	0.0365	0.4300	0.1315	-0.4270	0.1442
3	274.92	0.8577	0.4521	0.0039	-0.3734	0.0409	0.3487	0.1494	-0.2087	0.1473
3	274.92	0.9178	0.6741	0.0031	-0.4547	0.0467	-0.1459	0.1635	-1.5682	0.1215
3	274.92	0.9729	0.9051	0.0054	-0.5651	0.0539	-1.0646	0.1777	-2.3124	0.1517

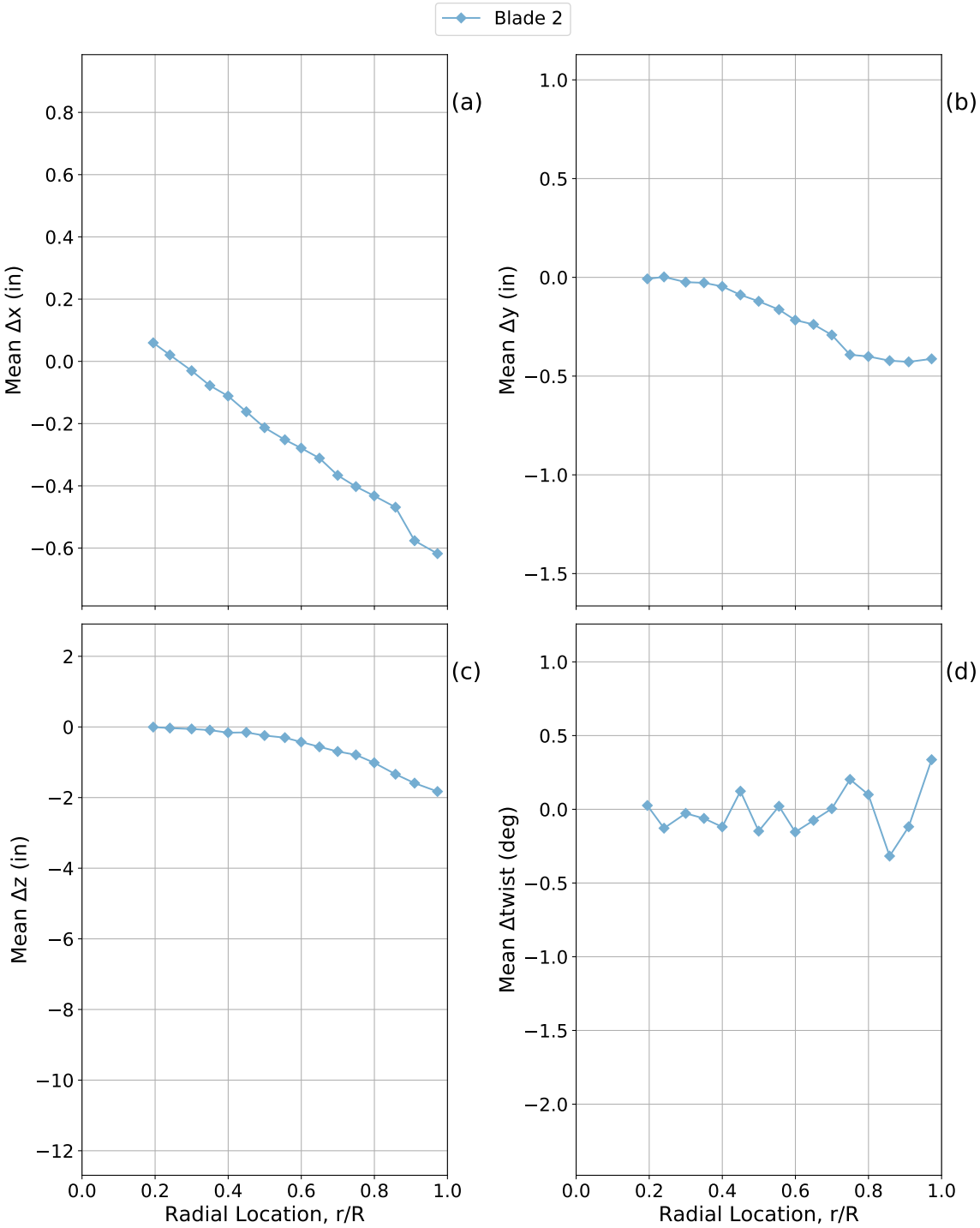


Figure 4.23-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0596	0.0015	-0.0076	0.0012	-0.0041	0.0022	0.0258	0.0267
2	285.12	0.2405	0.0205	0.0010	0.0021	0.0032	-0.0332	0.0090	-0.1282	0.0261
2	285.12	0.2999	-0.0301	0.0008	-0.0244	0.0068	-0.0575	0.0167	-0.0276	0.0475
2	285.12	0.3498	-0.0778	0.0014	-0.0277	0.0099	-0.0900	0.0177	-0.0618	0.0720
2	285.12	0.3998	-0.1115	0.0035	-0.0461	0.0174	-0.1625	0.0377	-0.1194	0.0408
2	285.12	0.4496	-0.1619	0.0033	-0.0888	0.0209	-0.1551	0.0401	0.1228	0.0333
2	285.12	0.4995	-0.2131	0.0038	-0.1213	0.0219	-0.2438	0.0438	-0.1483	0.0332
2	285.12	0.5551	-0.2519	0.0024	-0.1634	0.0272	-0.3037	0.0473	0.0206	0.0449
2	285.12	0.5996	-0.2787	0.0041	-0.2166	0.0320	-0.4264	0.0543	-0.1541	0.0410
2	285.12	0.6497	-0.3111	0.0032	-0.2384	0.0362	-0.5643	0.0590	-0.0752	0.0347
2	285.12	0.6996	-0.3663	0.0041	-0.2918	0.0403	-0.6950	0.0601	0.0042	0.0492
2	285.12	0.7495	-0.4025	0.0042	-0.3918	0.0447	-0.7905	0.0594	0.2028	0.0789
2	285.12	0.7996	-0.4323	0.0044	-0.4007	0.0496	-1.0152	0.0566	0.0998	0.0640
2	285.12	0.8578	-0.4687	0.0059	-0.4219	0.0555	-1.3386	0.0559	-0.3174	0.0640
2	285.12	0.9100	-0.5763	0.0054	-0.4279	0.0590	-1.5913	0.0578	-0.1183	0.0783
2	285.12	0.9727	-0.6178	0.0075	-0.4128	0.0667	-1.8286	0.0576	0.3366	0.1068

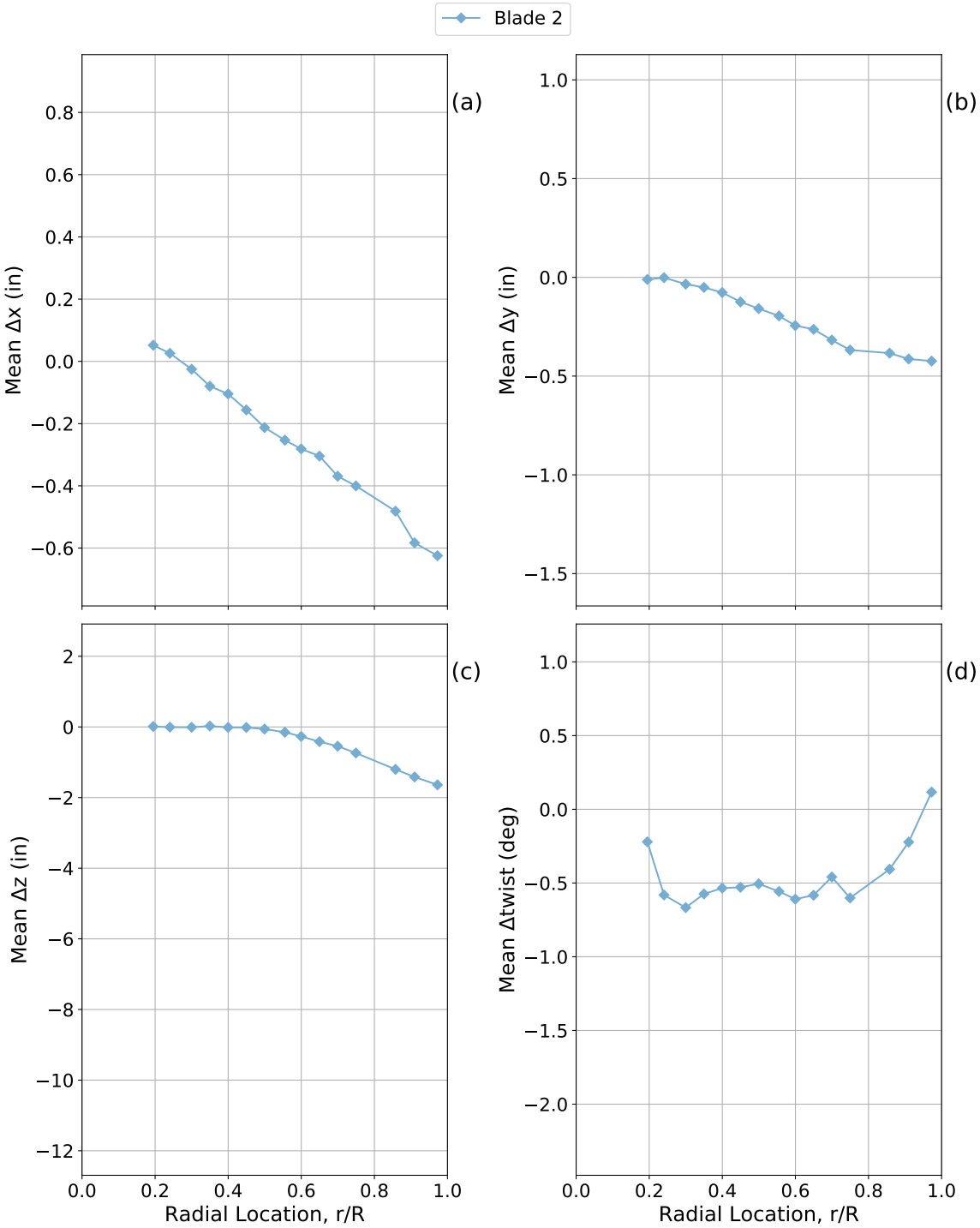


Figure 4.23-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0519	0.0019	-0.0108	0.0007	0.0125	0.0019	-0.2207	0.0199
2	299.88	0.2405	0.0260	0.0016	-0.0016	0.0038	-0.0065	0.0059	-0.5810	0.0283
2	299.88	0.2999	-0.0252	0.0012	-0.0343	0.0066	-0.0093	0.0098	-0.6669	0.0458
2	299.88	0.3498	-0.0798	0.0014	-0.0510	0.0099	0.0251	0.0151	-0.5739	0.0419
2	299.88	0.3998	-0.1047	0.0031	-0.0768	0.0179	-0.0131	0.0250	-0.5346	0.0536
2	299.88	0.4496	-0.1561	0.0033	-0.1243	0.0204	-0.0153	0.0289	-0.5289	0.0393
2	299.88	0.4995	-0.2126	0.0017	-0.1583	0.0237	-0.0599	0.0310	-0.5056	0.0454
2	299.88	0.5551	-0.2532	0.0020	-0.1953	0.0295	-0.1505	0.0401	-0.5570	0.0325
2	299.88	0.5996	-0.2812	0.0024	-0.2443	0.0325	-0.2694	0.0459	-0.6094	0.0291
2	299.88	0.6497	-0.3043	0.0024	-0.2630	0.0356	-0.4164	0.0484	-0.5830	0.0385
2	299.88	0.6996	-0.3691	0.0017	-0.3174	0.0390	-0.5460	0.0542	-0.4590	0.0411
2	299.88	0.7495	-0.4002	0.0023	-0.3679	0.0432	-0.7375	0.0593	-0.6013	0.0372
2	299.88	0.8578	-0.4814	0.0021	-0.3837	0.0511	-1.2016	0.0759	-0.4067	0.0333
2	299.88	0.9100	-0.5832	0.0024	-0.4133	0.0554	-1.4165	0.0826	-0.2225	0.0403
2	299.88	0.9727	-0.6245	0.0026	-0.4240	0.0600	-1.6397	0.0965	0.1170	0.0356

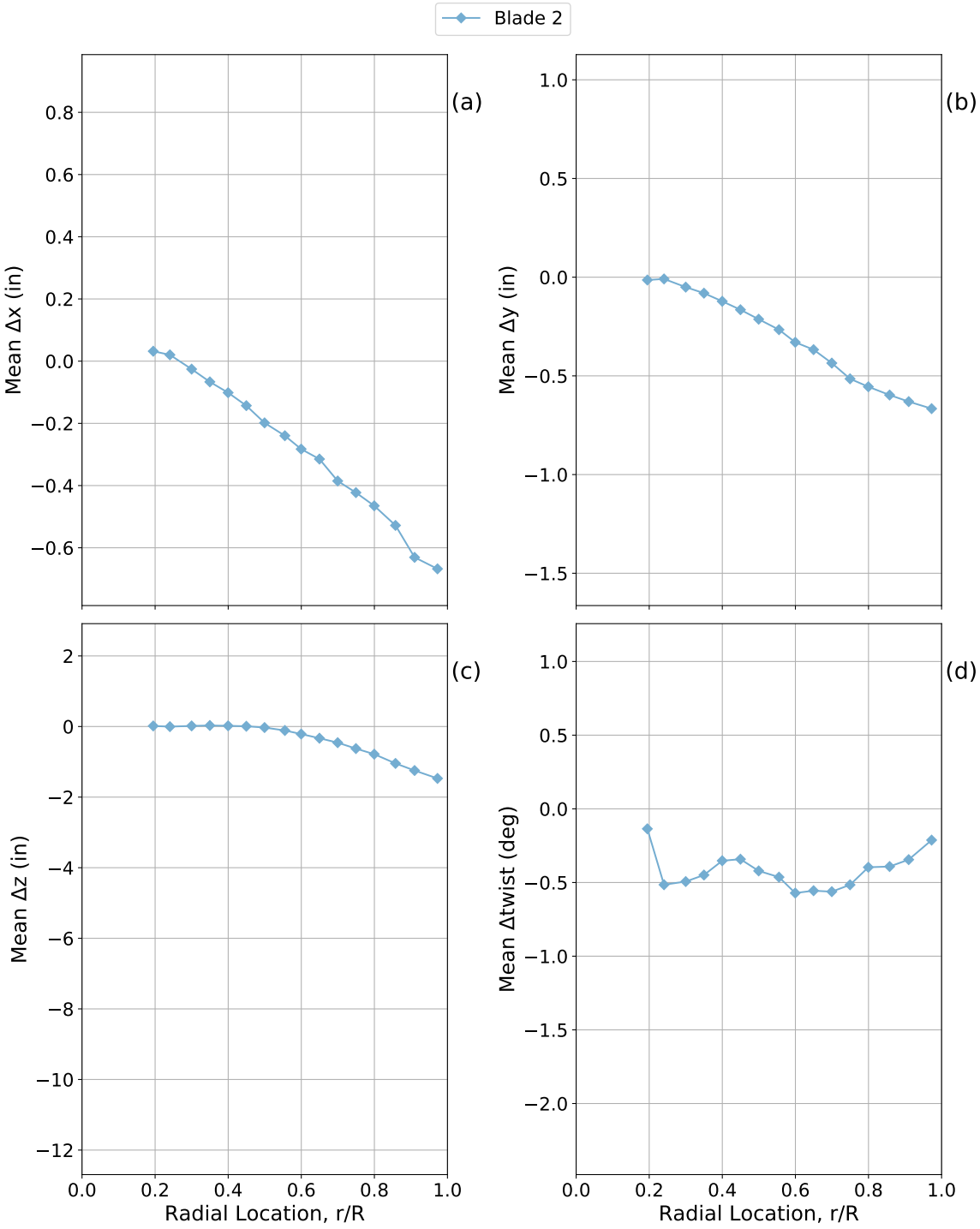


Figure 4.23-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0319	0.0014	-0.0143	0.0005	0.0161	0.0030	-0.1356	0.0446
2	315	0.2405	0.0203	0.0018	-0.0089	0.0018	-0.0036	0.0066	-0.5151	0.0528
2	315	0.2999	-0.0256	0.0013	-0.0503	0.0016	0.0172	0.0090	-0.4935	0.0963
2	315	0.3498	-0.0666	0.0016	-0.0810	0.0043	0.0292	0.0210	-0.4491	0.0310
2	315	0.3998	-0.1014	0.0027	-0.1221	0.0056	0.0201	0.0281	-0.3523	0.0440
2	315	0.4496	-0.1431	0.0011	-0.1649	0.0080	0.0072	0.0318	-0.3418	0.0340
2	315	0.4995	-0.1984	0.0029	-0.2130	0.0076	-0.0290	0.0374	-0.4212	0.0362
2	315	0.5551	-0.2398	0.0020	-0.2660	0.0092	-0.1123	0.0408	-0.4635	0.0545
2	315	0.5996	-0.2827	0.0019	-0.3298	0.0102	-0.2129	0.0475	-0.5715	0.0634
2	315	0.6497	-0.3148	0.0016	-0.3671	0.0123	-0.3315	0.0523	-0.5556	0.0411
2	315	0.6996	-0.3853	0.0016	-0.4353	0.0133	-0.4577	0.0592	-0.5622	0.0427
2	315	0.7495	-0.4226	0.0017	-0.5148	0.0155	-0.6251	0.0646	-0.5156	0.0382
2	315	0.7996	-0.4651	0.0018	-0.5551	0.0172	-0.7837	0.0716	-0.3966	0.0386
2	315	0.8578	-0.5281	0.0013	-0.5970	0.0201	-1.0453	0.0812	-0.3916	0.0368
2	315	0.9100	-0.6308	0.0017	-0.6304	0.0224	-1.2465	0.0932	-0.3447	0.0306
2	315	0.9727	-0.6678	0.0030	-0.6660	0.0255	-1.4706	0.1047	-0.2123	0.0402

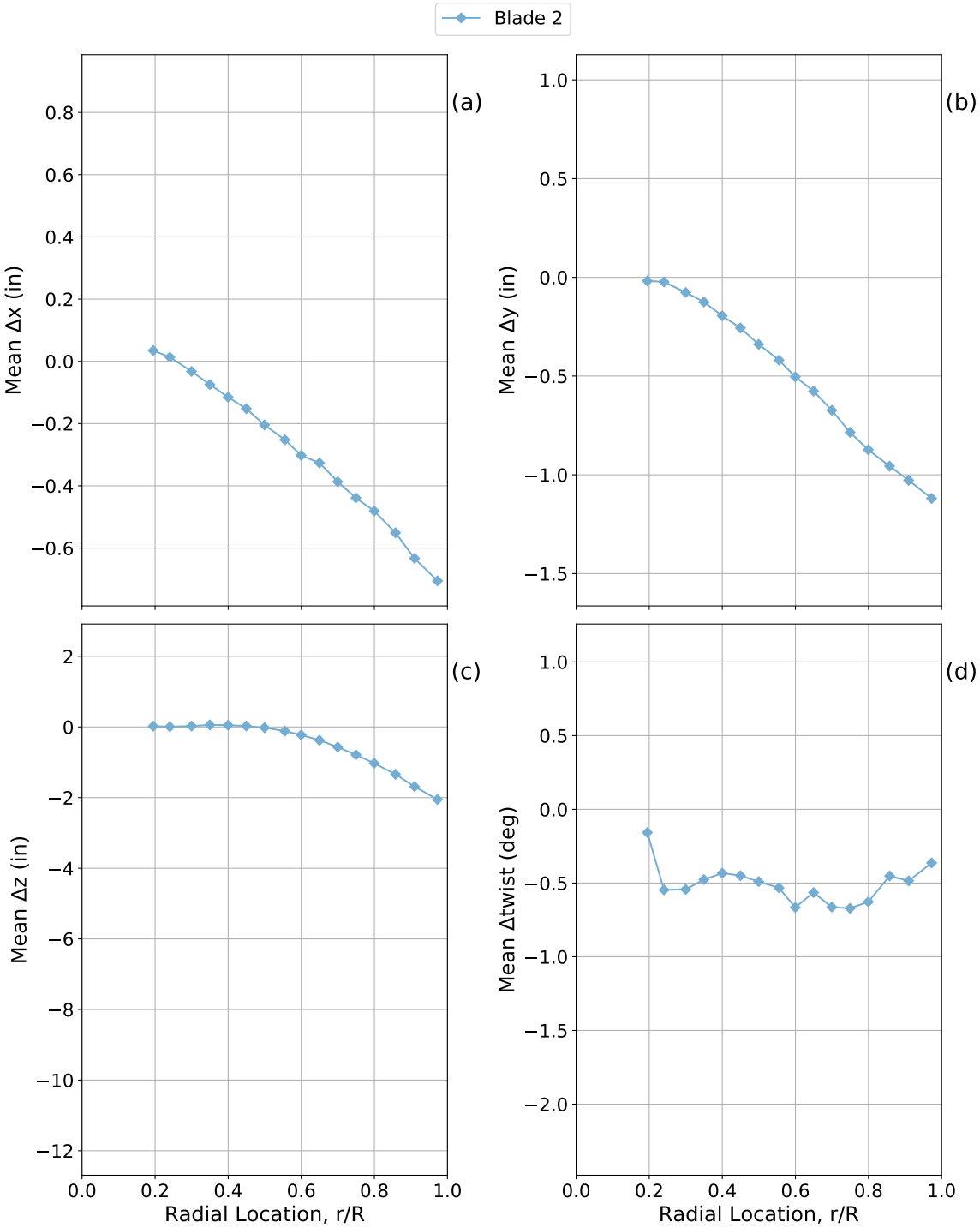


Figure 4.23-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0346	0.0029	-0.0181	0.0007	0.0216	0.0026	-0.1572	0.0163
2	330.12	0.2405	0.0134	0.0025	-0.0229	0.0014	0.0066	0.0043	-0.5462	0.0330
2	330.12	0.2999	-0.0326	0.0018	-0.0767	0.0045	0.0260	0.0115	-0.5430	0.0395
2	330.12	0.3498	-0.0746	0.0033	-0.1249	0.0047	0.0585	0.0162	-0.4762	0.0389
2	330.12	0.3998	-0.1151	0.0024	-0.1953	0.0094	0.0508	0.0269	-0.4326	0.0345
2	330.12	0.4496	-0.1522	0.0036	-0.2567	0.0089	0.0259	0.0345	-0.4496	0.0321
2	330.12	0.4995	-0.2046	0.0018	-0.3394	0.0131	-0.0208	0.0456	-0.4901	0.0383
2	330.12	0.5551	-0.2522	0.0021	-0.4195	0.0165	-0.1173	0.0540	-0.5327	0.0420
2	330.12	0.5996	-0.3023	0.0024	-0.5040	0.0191	-0.2256	0.0651	-0.6652	0.0441
2	330.12	0.6497	-0.3264	0.0022	-0.5761	0.0219	-0.3759	0.0712	-0.5645	0.0490
2	330.12	0.6996	-0.3868	0.0024	-0.6733	0.0252	-0.5686	0.0811	-0.6628	0.0379
2	330.12	0.7495	-0.4390	0.0017	-0.7847	0.0286	-0.7870	0.0930	-0.6715	0.0321
2	330.12	0.7996	-0.4807	0.0019	-0.8736	0.0325	-1.0269	0.1009	-0.6272	0.0363
2	330.12	0.8578	-0.5510	0.0023	-0.9561	0.0357	-1.3417	0.1110	-0.4516	0.0353
2	330.12	0.9100	-0.6331	0.0020	-1.0275	0.0399	-1.6882	0.1203	-0.4851	0.0339
2	330.12	0.9727	-0.7053	0.0034	-1.1196	0.0444	-2.0524	0.1298	-0.3635	0.0293

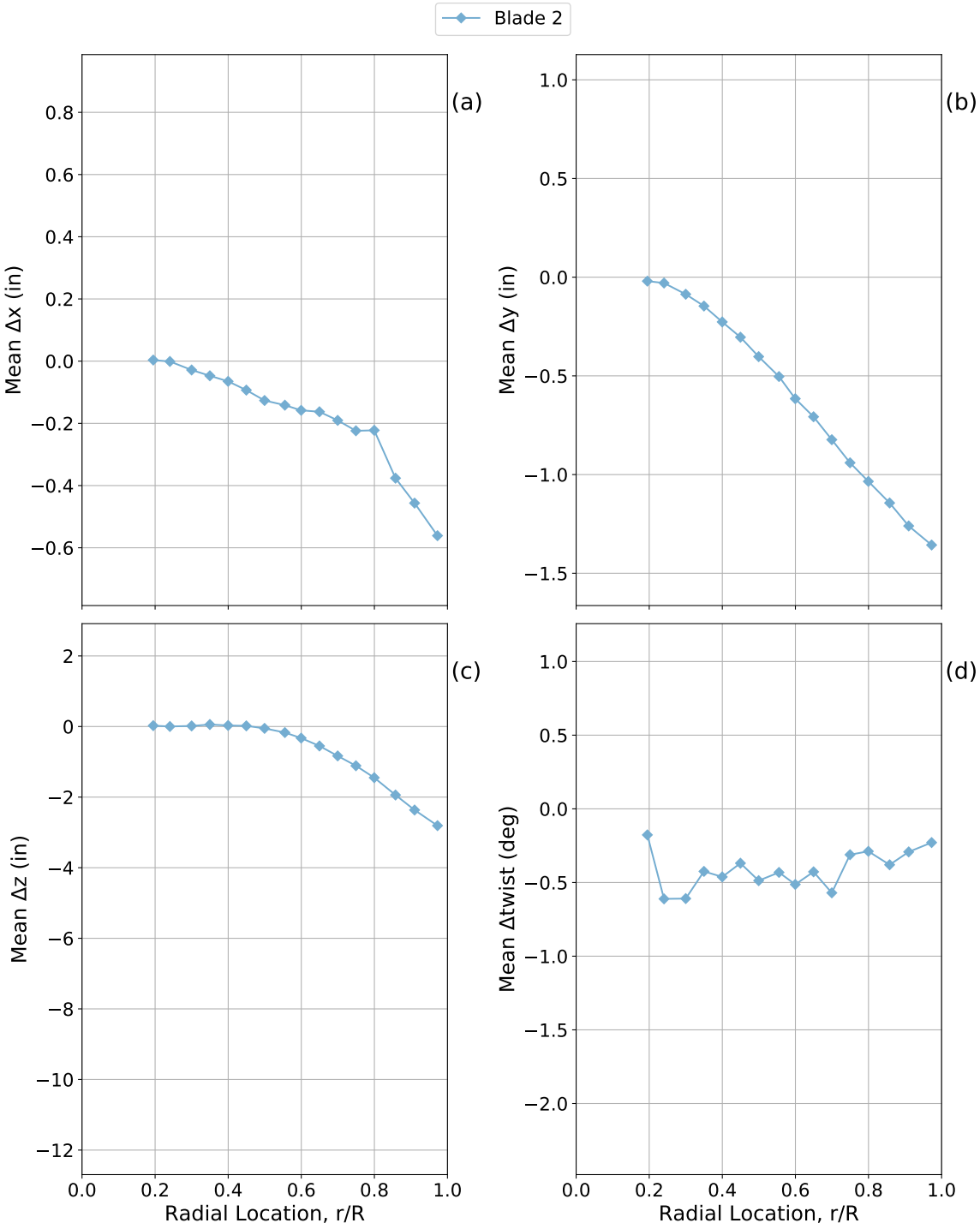


Figure 4.23-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0036	0.0016	-0.0200	0.0009	0.0245	0.0019	-0.1769	0.0102
2	344.88	0.2405	-0.0010	0.0013	-0.0296	0.0011	0.0011	0.0029	-0.6111	0.0270
2	344.88	0.2999	-0.0284	0.0008	-0.0864	0.0033	0.0164	0.0070	-0.6091	0.0288
2	344.88	0.3498	-0.0470	0.0010	-0.1462	0.0056	0.0567	0.0109	-0.4245	0.0295
2	344.88	0.3998	-0.0649	0.0011	-0.2267	0.0085	0.0297	0.0171	-0.4619	0.0221
2	344.88	0.4496	-0.0931	0.0018	-0.3041	0.0097	0.0184	0.0169	-0.3691	0.0358
2	344.88	0.4995	-0.1265	0.0017	-0.4026	0.0110	-0.0524	0.0207	-0.4873	0.0376
2	344.88	0.5551	-0.1415	0.0018	-0.5034	0.0136	-0.1707	0.0248	-0.4315	0.0288
2	344.88	0.5996	-0.1581	0.0024	-0.6156	0.0140	-0.3278	0.0283	-0.5130	0.0392
2	344.88	0.6497	-0.1627	0.0033	-0.7072	0.0156	-0.5510	0.0287	-0.4274	0.0273
2	344.88	0.6996	-0.1904	0.0037	-0.8233	0.0163	-0.8331	0.0329	-0.5702	0.0257
2	344.88	0.7495	-0.2239	0.0051	-0.9403	0.0173	-1.1118	0.0303	-0.3113	0.0645
2	344.88	0.7996	-0.2224	0.0104	-1.0347	0.0216	-1.4497	0.0329	-0.2883	0.1213
2	344.88	0.8578	-0.3762	0.0042	-1.1438	0.0281	-1.9405	0.0364	-0.3797	0.0293
2	344.88	0.9100	-0.4564	0.0044	-1.2603	0.0304	-2.3652	0.0402	-0.2922	0.0279
2	344.88	0.9727	-0.5612	0.0042	-1.3568	0.0335	-2.8086	0.0445	-0.2289	0.0397

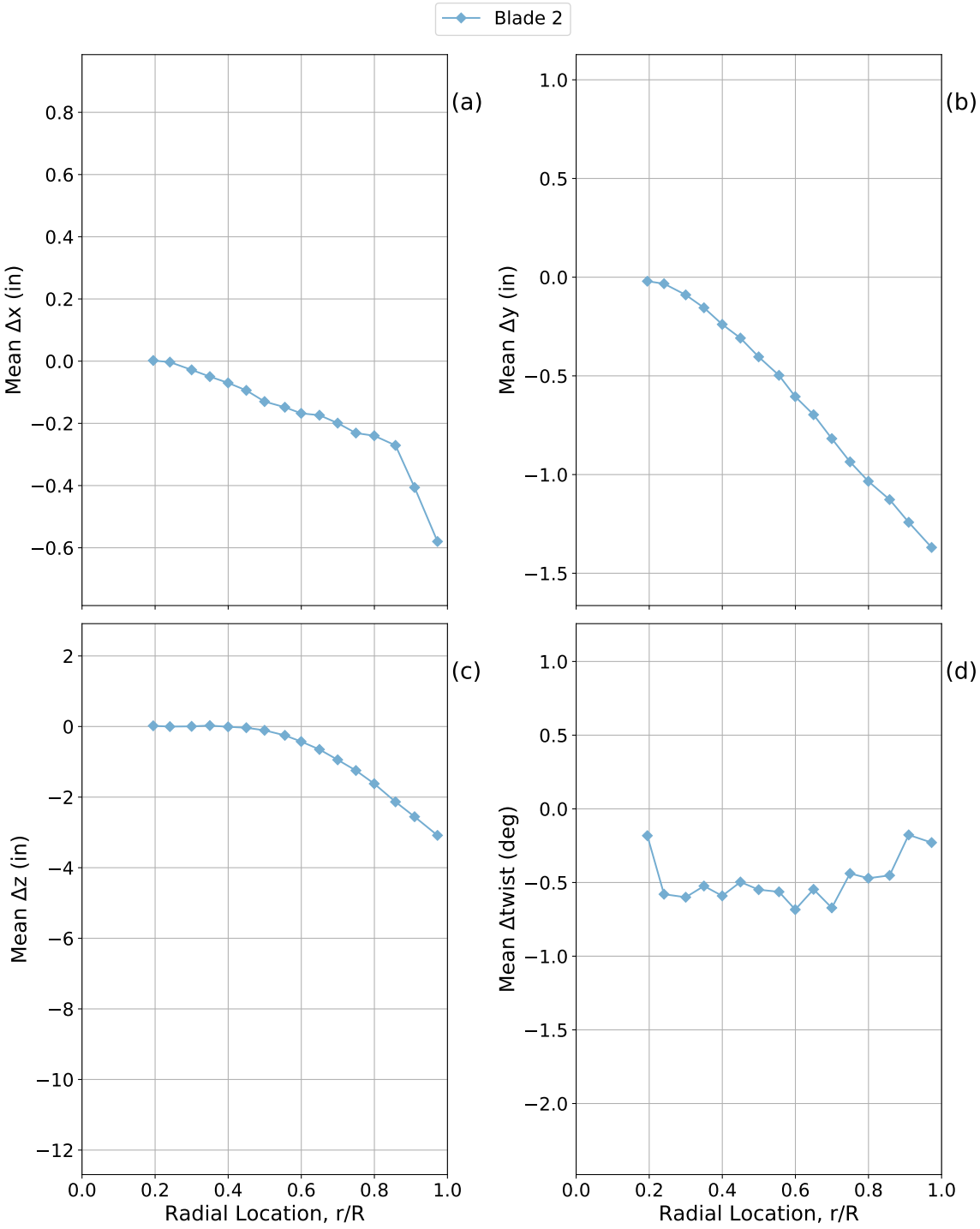


Figure 4.23-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	0.0021	0.0019	-0.0204	0.0008	0.0201	0.0017	-0.1822	0.0098
2	350.16	0.2405	-0.0031	0.0009	-0.0330	0.0012	-0.0023	0.0028	-0.5795	0.0153
2	350.16	0.2999	-0.0280	0.0012	-0.0897	0.0023	0.0041	0.0057	-0.6000	0.0170
2	350.16	0.3498	-0.0497	0.0011	-0.1549	0.0036	0.0266	0.0093	-0.5238	0.0160
2	350.16	0.3998	-0.0699	0.0013	-0.2392	0.0056	-0.0088	0.0144	-0.5907	0.0170
2	350.16	0.4496	-0.0940	0.0019	-0.3086	0.0071	-0.0343	0.0197	-0.4966	0.0205
2	350.16	0.4995	-0.1299	0.0018	-0.4037	0.0098	-0.1081	0.0255	-0.5487	0.0186
2	350.16	0.5551	-0.1482	0.0018	-0.4973	0.0123	-0.2502	0.0315	-0.5631	0.0225
2	350.16	0.5996	-0.1678	0.0020	-0.6052	0.0144	-0.4260	0.0359	-0.6839	0.0280
2	350.16	0.6497	-0.1738	0.0033	-0.6967	0.0163	-0.6502	0.0393	-0.5464	0.0241
2	350.16	0.6996	-0.1993	0.0043	-0.8179	0.0182	-0.9437	0.0435	-0.6720	0.0286
2	350.16	0.7495	-0.2312	0.0050	-0.9356	0.0204	-1.2468	0.0481	-0.4387	0.0295
2	350.16	0.7996	-0.2398	0.0065	-1.0341	0.0230	-1.6208	0.0519	-0.4708	0.0455
2	350.16	0.8578	-0.2708	0.0099	-1.1268	0.0267	-2.1344	0.0561	-0.4519	0.0611
2	350.16	0.9100	-0.4061	0.0111	-1.2418	0.0262	-2.5559	0.0586	-0.1769	0.2382
2	350.16	0.9727	-0.5799	0.0080	-1.3693	0.0355	-3.0841	0.0905	-0.2291	0.0361

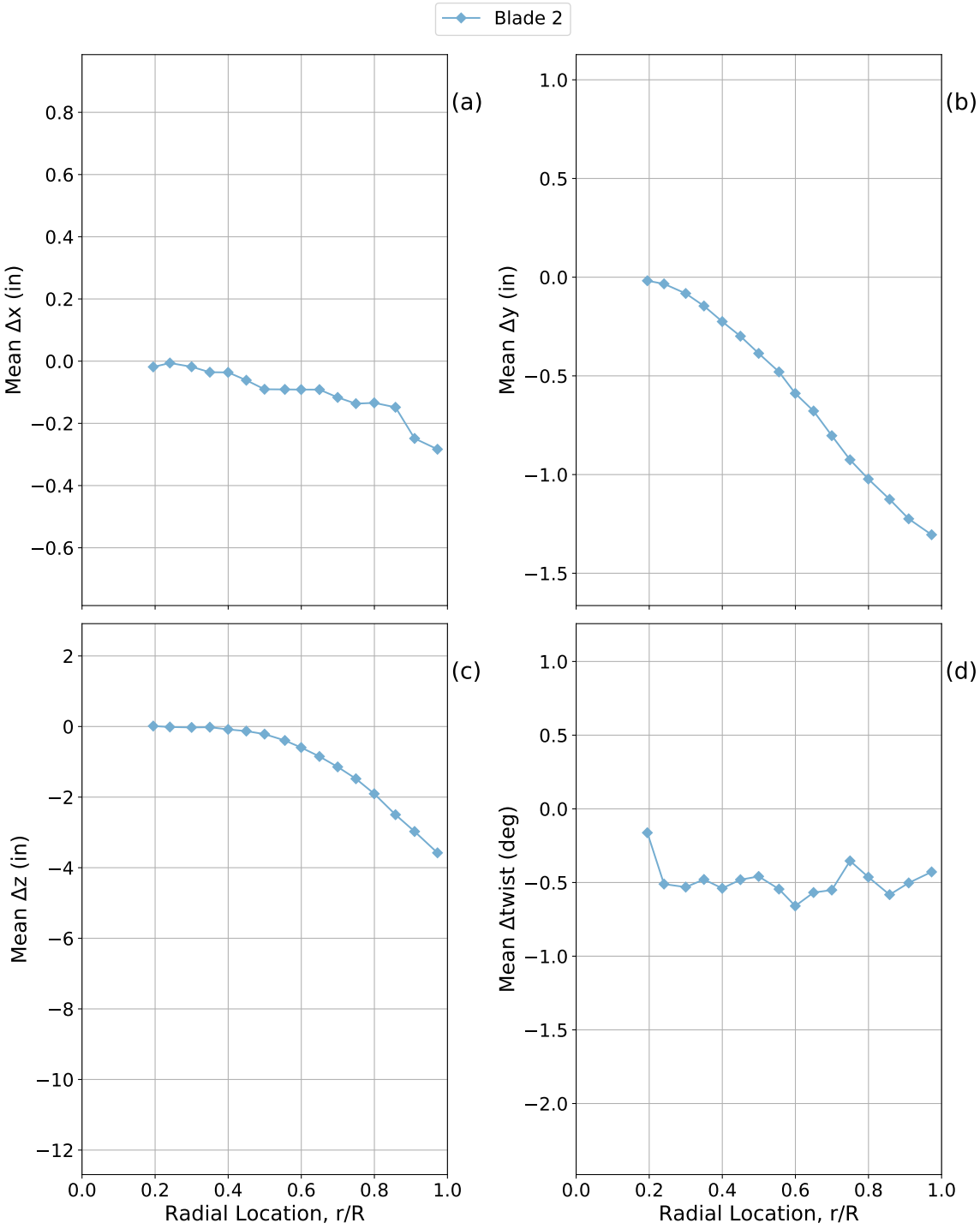


Figure 4.23-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Table 4.23-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 7. BD run 37, points 5832 to 5842.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0186	0.0038	-0.0181	0.0009	0.0130	0.0022	-0.1622	0.0157
2	355.08	0.2405	-0.0060	0.0013	-0.0338	0.0018	-0.0137	0.0034	-0.5106	0.0332
2	355.08	0.2999	-0.0181	0.0015	-0.0825	0.0036	-0.0256	0.0062	-0.5313	0.0400
2	355.08	0.3498	-0.0356	0.0034	-0.1459	0.0063	-0.0193	0.0120	-0.4793	0.0312
2	355.08	0.3998	-0.0361	0.0052	-0.2249	0.0097	-0.0820	0.0165	-0.5396	0.0368
2	355.08	0.4496	-0.0614	0.0051	-0.2990	0.0105	-0.1297	0.0198	-0.4809	0.0347
2	355.08	0.4995	-0.0904	0.0052	-0.3861	0.0133	-0.2154	0.0240	-0.4587	0.0376
2	355.08	0.5551	-0.0909	0.0075	-0.4798	0.0157	-0.3954	0.0289	-0.5447	0.0320
2	355.08	0.5996	-0.0914	0.0085	-0.5888	0.0171	-0.5956	0.0340	-0.6593	0.0314
2	355.08	0.6497	-0.0914	0.0086	-0.6780	0.0209	-0.8489	0.0384	-0.5681	0.0289
2	355.08	0.6996	-0.1167	0.0095	-0.8030	0.0247	-1.1443	0.0422	-0.5512	0.0401
2	355.08	0.7495	-0.1366	0.0105	-0.9252	0.0278	-1.4800	0.0487	-0.3534	0.0338
2	355.08	0.7996	-0.1341	0.0123	-1.0227	0.0316	-1.9056	0.0530	-0.4633	0.0411
2	355.08	0.8578	-0.1483	0.0148	-1.1254	0.0342	-2.4983	0.0635	-0.5826	0.0632
2	355.08	0.9100	-0.2485	0.0134	-1.2243	0.0387	-2.9742	0.0673	-0.5027	0.1258
2	355.08	0.9727	-0.2833	0.0277	-1.3048	0.0453	-3.5789	0.1135	-0.4280	0.5105

4.24 Run 78, Point 34

4.24.1 Pitch, Flap, and Lag

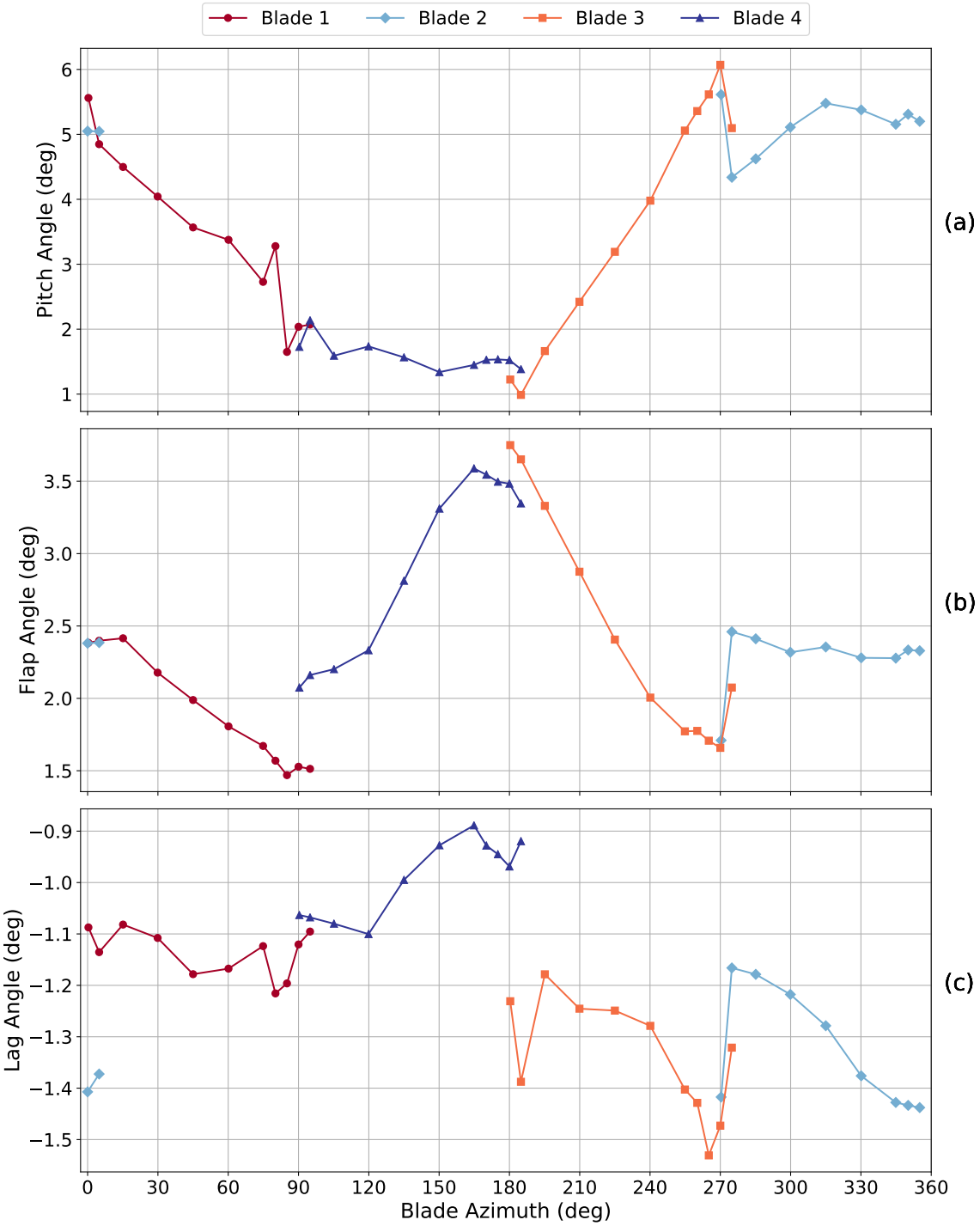


Figure 4.24-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.0499	2.3807	-1.4072	0.0609	0.0293	0.0238
0.35	1	5.5610	2.3835	-1.0873	0.1101	0.0403	0.0415
4.92	1	4.8486	2.3983	-1.1354	0.0742	0.0347	0.0199
4.92	2	5.0462	2.3850	-1.3725	0.0802	0.0369	0.0205
15.12	1	4.4980	2.4151	-1.0818	0.0714	0.0252	0.0180
29.88	1	4.0421	2.1776	-1.1078	0.0438	0.0245	0.0181
45	1	3.5669	1.9883	-1.1783	0.0558	0.0270	0.0134
60.12	1	3.3759	1.8064	-1.1675	0.0776	0.0300	0.0201
74.88	1	2.7286	1.6711	-1.1237	0.1399	0.0717	0.0344
80.16	1	3.2786	1.5691	-1.2157	0.3359	0.1529	0.0448
85.08	1	1.6497	1.4694	-1.1962	0.0305	0.0261	0.0127
90	1	2.0367	1.5274	-1.1205	0.0784	0.0402	0.0215
90.35	4	1.7272	2.0739	-1.0633	0.0859	0.0219	0.0214
94.92	1	2.0719	1.5129	-1.0954	0.0985	0.0396	0.0186
94.92	4	2.1366	2.1608	-1.0678	0.1198	0.0614	0.0199
105.12	4	1.5907	2.2015	-1.0801	0.0291	0.0229	0.0099
119.88	4	1.7348	2.3319	-1.1003	0.0187	0.0222	0.0102
135	4	1.5658	2.8122	-0.9950	0.0201	0.0154	0.0132
150.12	4	1.3385	3.3107	-0.9276	0.0280	0.0317	0.0143
164.88	4	1.4494	3.5882	-0.8888	0.0282	0.0196	0.0150
170.16	4	1.5277	3.5451	-0.9281	0.0199	0.0148	0.0098
175.08	4	1.5339	3.4964	-0.9450	0.0256	0.0228	0.0172
180	4	1.5240	3.4829	-0.9688	0.0322	0.0237	0.0173
180.35	3	1.2247	3.7496	-1.2309	0.0572	0.0187	0.0181
184.92	3	0.9881	3.6513	-1.3876	0.0506	0.0541	0.0220
184.92	4	1.3841	3.3467	-0.9196	0.1036	0.1450	0.0479
195.12	3	1.6627	3.3298	-1.1785	0.0217	0.0154	0.0115
209.88	3	2.4211	2.8750	-1.2454	0.0167	0.0151	0.0169
225	3	3.1909	2.4059	-1.2491	0.0270	0.0177	0.0140
240.12	3	3.9796	2.0052	-1.2788	0.0407	0.0225	0.0168
254.88	3	5.0585	1.7722	-1.4027	0.0698	0.0350	0.0198
260.16	3	5.3586	1.7751	-1.4286	0.1150	0.0430	0.0201
265.08	3	5.6155	1.7074	-1.5308	0.1306	0.0406	0.0197
270	3	6.0703	1.6579	-1.4730	0.1667	0.0751	0.0239
270.35	2	5.6133	1.7097	-1.4173	0.1138	0.0367	0.0233
274.92	2	4.3383	2.4600	-1.1661	0.0274	0.0239	0.0176
274.92	3	5.0963	2.0745	-1.3212	0.1290	0.0551	0.0214
285.12	2	4.6232	2.4114	-1.1786	0.0433	0.0234	0.0130
299.88	2	5.1103	2.3183	-1.2177	0.0303	0.0165	0.0272
315	2	5.4788	2.3549	-1.2786	0.0478	0.0453	0.0146
330.12	2	5.3770	2.2800	-1.3761	0.0326	0.0278	0.0194
344.88	2	5.1555	2.2777	-1.4278	0.0307	0.0122	0.0171
350.16	2	5.3100	2.3341	-1.4335	0.0378	0.0213	0.0177
355.08	2	5.2004	2.3289	-1.4378	0.0439	0.0256	0.0250

4.24.2 Spanwise Elastic Deformations

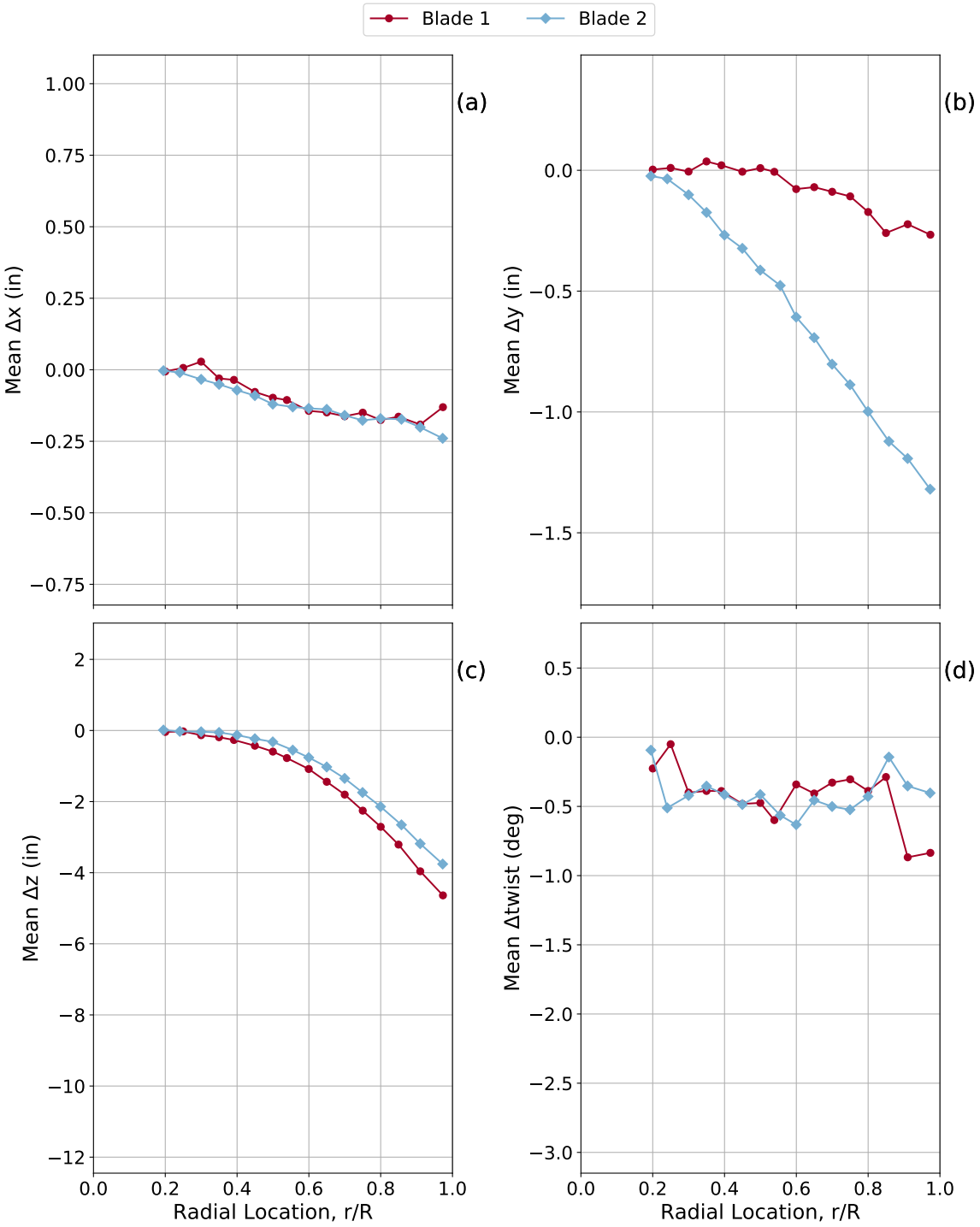


Figure 4.24-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	-0.0058	0.0020	0.0029	0.0024	-0.0408	0.0059	-0.2261	0.0560
1	0.35	0.2499	0.0065	0.0019	0.0098	0.0054	-0.0254	0.0116	-0.0505	0.0711
1	0.35	0.2998	0.0284	0.0019	-0.0054	0.0089	-0.1327	0.0186	-0.4002	0.1181
1	0.35	0.3498	-0.0303	0.0019	0.0365	0.0165	-0.1901	0.0328	-0.3882	0.0993
1	0.35	0.3913	-0.0354	0.0022	0.0207	0.0228	-0.2671	0.0444	-0.3888	0.0978
1	0.35	0.4496	-0.0775	0.0030	-0.0060	0.0300	-0.4286	0.0579	-0.4821	0.1009
1	0.35	0.4997	-0.0978	0.0024	0.0091	0.0373	-0.5942	0.0692	-0.4745	0.1019
1	0.35	0.5387	-0.1058	0.0021	-0.0063	0.0412	-0.7752	0.0755	-0.5988	0.1187
1	0.35	0.5996	-0.1436	0.0015	-0.0777	0.0499	-1.0834	0.0901	-0.3414	0.1269
1	0.35	0.6498	-0.1492	0.0030	-0.0698	0.0599	-1.4429	0.1061	-0.4066	0.0988
1	0.35	0.6998	-0.1625	0.0024	-0.0889	0.0669	-1.8030	0.1174	-0.3279	0.1155
1	0.35	0.7500	-0.1499	0.0029	-0.1080	0.0767	-2.2549	0.1333	-0.3044	0.0996
1	0.35	0.8001	-0.1757	0.0021	-0.1726	0.0827	-2.7093	0.1427	-0.3883	0.1217
1	0.35	0.8497	-0.1641	0.0026	-0.2595	0.0936	-3.2089	0.1576	-0.2874	0.1058
1	0.35	0.9102	-0.1914	0.0034	-0.2232	0.1046	-3.9605	0.1735	-0.8677	0.0949
1	0.35	0.9734	-0.1307	0.0028	-0.2667	0.1153	-4.6376	0.1843	-0.8355	0.1086
2	0	0.1949	-0.0032	0.0026	-0.0238	0.0015	0.0121	0.0034	-0.0936	0.0238
2	0	0.2405	-0.0099	0.0019	-0.0355	0.0031	-0.0257	0.0043	-0.5107	0.0502
2	0	0.2999	-0.0335	0.0018	-0.1013	0.0066	-0.0360	0.0133	-0.4211	0.0583
2	0	0.3498	-0.0510	0.0025	-0.1745	0.0091	-0.0551	0.0151	-0.3532	0.0511
2	0	0.3998	-0.0713	0.0056	-0.2680	0.0156	-0.1308	0.0270	-0.4149	0.0662
2	0	0.4496	-0.0904	0.0057	-0.3231	0.0205	-0.2325	0.0303	-0.4861	0.0572
2	0	0.4995	-0.1201	0.0068	-0.4131	0.0265	-0.3203	0.0374	-0.4143	0.0572
2	0	0.5551	-0.1300	0.0081	-0.4767	0.0324	-0.5519	0.0431	-0.5644	0.0590
2	0	0.5996	-0.1349	0.0089	-0.6074	0.0343	-0.7604	0.0430	-0.6319	0.0635
2	0	0.6497	-0.1383	0.0098	-0.6925	0.0400	-1.0258	0.0470	-0.4551	0.0644
2	0	0.6996	-0.1594	0.0104	-0.8024	0.0428	-1.3475	0.0547	-0.5008	0.0665
2	0	0.7495	-0.1768	0.0120	-0.8872	0.0459	-1.7443	0.0603	-0.5236	0.0667
2	0	0.7996	-0.1705	0.0121	-0.9981	0.0476	-2.1419	0.0623	-0.4283	0.0635
2	0	0.8578	-0.1730	0.0123	-1.1217	0.0533	-2.6542	0.0716	-0.1434	0.0667
2	0	0.9100	-0.2009	0.0136	-1.1926	0.0555	-3.1840	0.0723	-0.3523	0.0770
2	0	0.9727	-0.2397	0.0167	-1.3196	0.0636	-3.7567	0.0829	-0.4031	0.0891

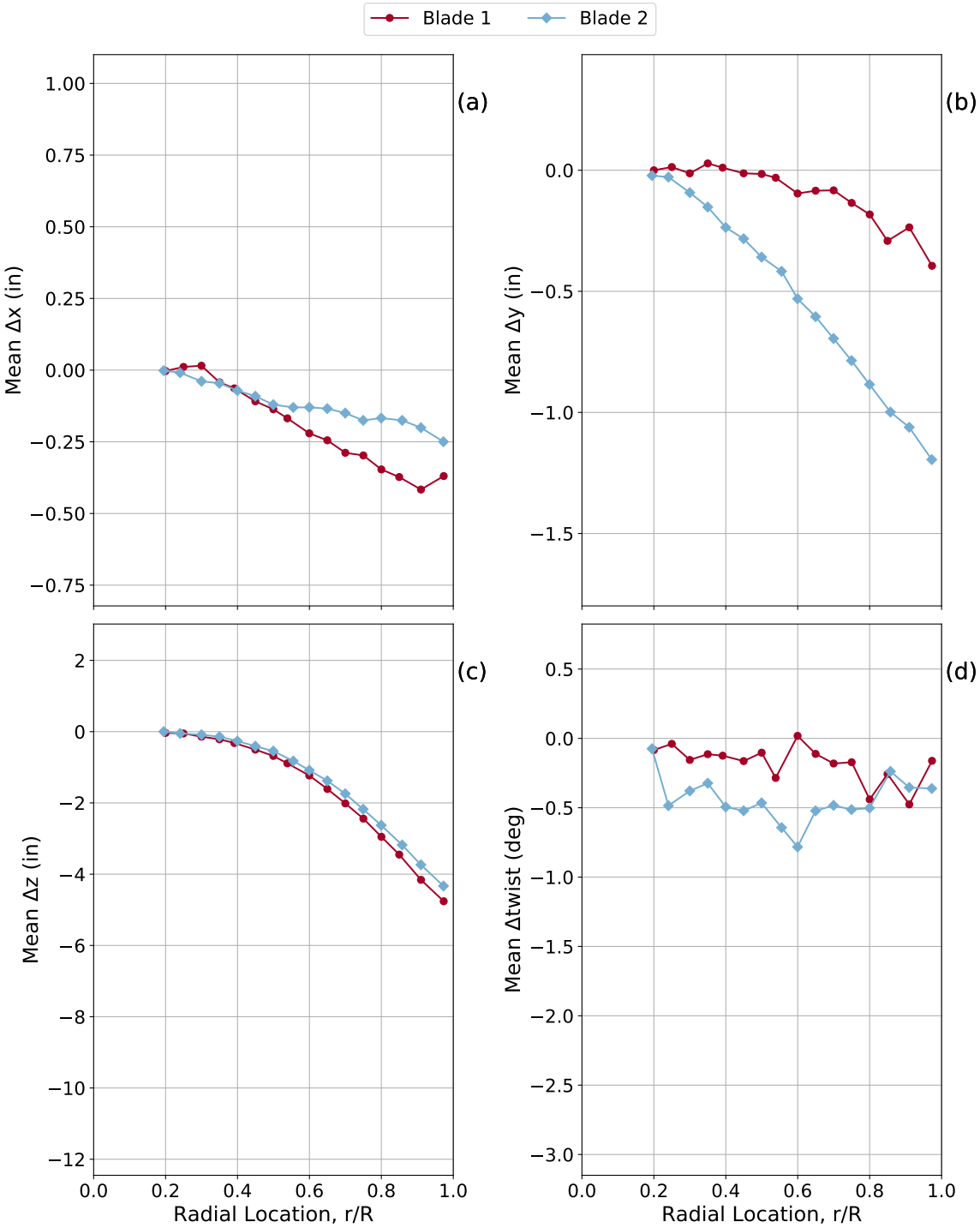


Figure 4.24-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0030	0.0040	-0.0003	0.0025	-0.0353	0.0047	-0.0838	0.0408
1	4.92	0.2499	0.0112	0.0032	0.0131	0.0050	-0.0517	0.0068	-0.0393	0.0633
1	4.92	0.2998	0.0154	0.0014	-0.0130	0.0090	-0.1415	0.0136	-0.1552	0.0908
1	4.92	0.3498	-0.0424	0.0018	0.0280	0.0172	-0.2150	0.0247	-0.1139	0.0762
1	4.92	0.3913	-0.0636	0.0029	0.0105	0.0233	-0.3193	0.0318	-0.1247	0.0811
1	4.92	0.4496	-0.1088	0.0021	-0.0128	0.0304	-0.5044	0.0428	-0.1635	0.0725
1	4.92	0.4997	-0.1366	0.0020	-0.0156	0.0361	-0.6814	0.0509	-0.1031	0.0862
1	4.92	0.5387	-0.1681	0.0033	-0.0312	0.0401	-0.8901	0.0563	-0.2850	0.0880
1	4.92	0.5996	-0.2204	0.0023	-0.0961	0.0476	-1.2310	0.0650	0.0184	0.0780
1	4.92	0.6498	-0.2448	0.0029	-0.0846	0.0517	-1.6082	0.0733	-0.1117	0.0756
1	4.92	0.6998	-0.2883	0.0025	-0.0831	0.0580	-2.0145	0.0796	-0.1810	0.0811
1	4.92	0.7500	-0.2976	0.0020	-0.1350	0.0640	-2.4410	0.0871	-0.1720	0.0786
1	4.92	0.8001	-0.3464	0.0035	-0.1826	0.0725	-2.9508	0.0953	-0.4402	0.0916
1	4.92	0.8497	-0.3729	0.0033	-0.2918	0.0777	-3.4506	0.1026	-0.2569	0.0694
1	4.92	0.9102	-0.4165	0.0034	-0.2360	0.0875	-4.1586	0.1044	-0.4758	0.1341
1	4.92	0.9734	-0.3695	0.0033	-0.3948	0.0922	-4.7599	0.1111	-0.1617	0.1011
2	4.92	0.1949	-0.0016	0.0017	-0.0222	0.0016	0.0011	0.0051	-0.0746	0.0262
2	4.92	0.2405	-0.0091	0.0023	-0.0284	0.0033	-0.0509	0.0070	-0.4851	0.0811
2	4.92	0.2999	-0.0390	0.0016	-0.0925	0.0051	-0.0862	0.0165	-0.3786	0.0823
2	4.92	0.3498	-0.0456	0.0023	-0.1520	0.0093	-0.1411	0.0280	-0.3231	0.0754
2	4.92	0.3998	-0.0713	0.0030	-0.2364	0.0141	-0.2651	0.0413	-0.4944	0.0721
2	4.92	0.4496	-0.0909	0.0052	-0.2829	0.0184	-0.4078	0.0478	-0.5218	0.0802
2	4.92	0.4995	-0.1203	0.0063	-0.3588	0.0216	-0.5451	0.0600	-0.4651	0.0715
2	4.92	0.5551	-0.1302	0.0084	-0.4174	0.0261	-0.8247	0.0687	-0.6433	0.0775
2	4.92	0.5996	-0.1297	0.0097	-0.5307	0.0300	-1.0828	0.0781	-0.7826	0.0801
2	4.92	0.6497	-0.1343	0.0106	-0.6048	0.0356	-1.3803	0.0889	-0.5221	0.0737
2	4.92	0.6996	-0.1498	0.0117	-0.6950	0.0421	-1.7422	0.0976	-0.4831	0.0822
2	4.92	0.7495	-0.1752	0.0145	-0.7860	0.0480	-2.1773	0.1087	-0.5133	0.0912
2	4.92	0.7996	-0.1673	0.0163	-0.8846	0.0524	-2.6274	0.1186	-0.5020	0.0873
2	4.92	0.8578	-0.1753	0.0172	-0.9985	0.0589	-3.1806	0.1363	-0.2379	0.0675
2	4.92	0.9100	-0.2008	0.0205	-1.0613	0.0637	-3.7356	0.1476	-0.3539	0.0740
2	4.92	0.9727	-0.2497	0.0224	-1.1948	0.0699	-4.3313	0.1643	-0.3613	0.0752

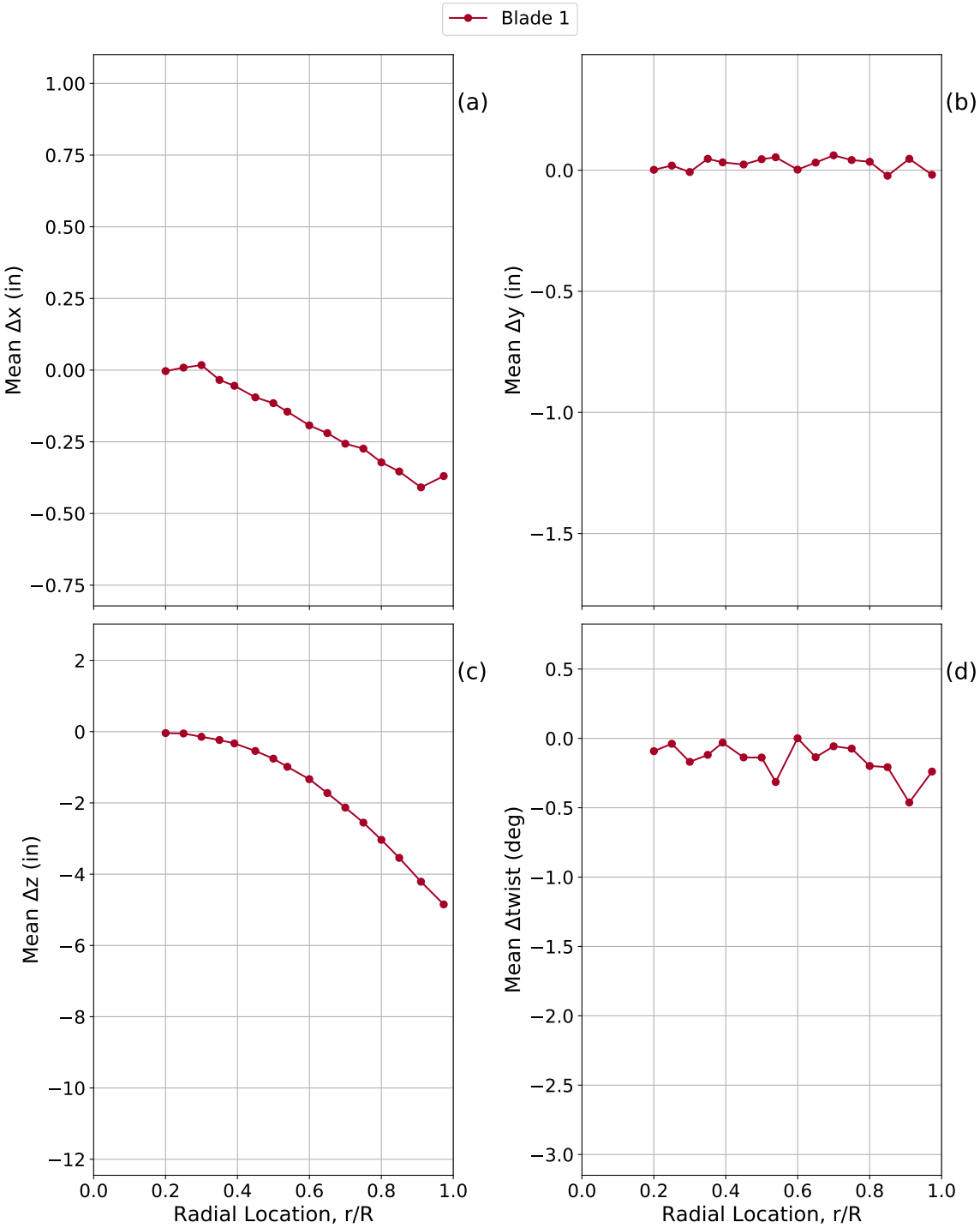


Figure 4.24-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0034	0.0029	0.0017	0.0018	-0.0403	0.0021	-0.0920	0.0313
1	15.12	0.2499	0.0087	0.0016	0.0192	0.0029	-0.0517	0.0056	-0.0386	0.0456
1	15.12	0.2998	0.0176	0.0010	-0.0075	0.0056	-0.1445	0.0080	-0.1691	0.0623
1	15.12	0.3498	-0.0342	0.0022	0.0472	0.0098	-0.2346	0.0129	-0.1187	0.0638
1	15.12	0.3913	-0.0546	0.0023	0.0323	0.0133	-0.3299	0.0194	-0.0306	0.0628
1	15.12	0.4496	-0.0949	0.0029	0.0235	0.0174	-0.5414	0.0264	-0.1370	0.0656
1	15.12	0.4997	-0.1152	0.0030	0.0455	0.0213	-0.7579	0.0331	-0.1380	0.0699
1	15.12	0.5387	-0.1449	0.0036	0.0534	0.0246	-0.9864	0.0365	-0.3143	0.0650
1	15.12	0.5996	-0.1927	0.0030	0.0024	0.0299	-1.3342	0.0464	0.0011	0.0614
1	15.12	0.6498	-0.2198	0.0033	0.0314	0.0342	-1.7228	0.0501	-0.1358	0.0533
1	15.12	0.6998	-0.2567	0.0034	0.0613	0.0384	-2.1321	0.0587	-0.0568	0.0606
1	15.12	0.7500	-0.2738	0.0035	0.0419	0.0424	-2.5528	0.0660	-0.0736	0.0727
1	15.12	0.8001	-0.3216	0.0039	0.0349	0.0468	-3.0363	0.0688	-0.1989	0.0535
1	15.12	0.8497	-0.3535	0.0039	-0.0229	0.0506	-3.5418	0.0755	-0.2074	0.0670
1	15.12	0.9102	-0.4090	0.0060	0.0470	0.0585	-4.2108	0.0859	-0.4620	0.0928
1	15.12	0.9734	-0.3695	0.0052	-0.0189	0.0615	-4.8490	0.0948	-0.2392	0.0676

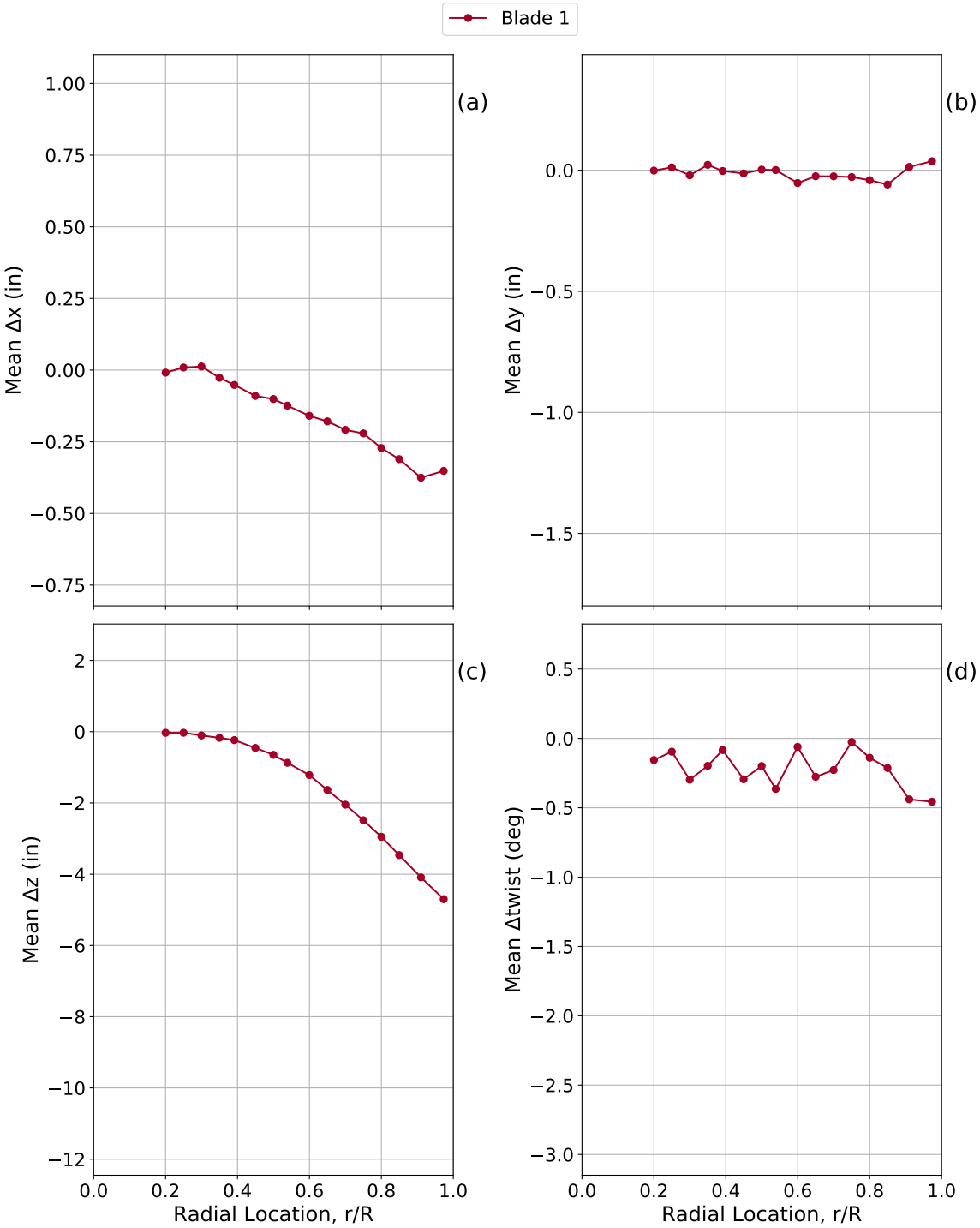


Figure 4.24-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0088	0.0034	-0.0015	0.0011	-0.0312	0.0039	-0.1558	0.0236
1	29.88	0.2499	0.0090	0.0018	0.0118	0.0022	-0.0303	0.0049	-0.0953	0.0529
1	29.88	0.2998	0.0125	0.0018	-0.0210	0.0043	-0.1059	0.0122	-0.2978	0.0572
1	29.88	0.3498	-0.0269	0.0020	0.0223	0.0061	-0.1728	0.0209	-0.1978	0.0453
1	29.88	0.3913	-0.0518	0.0018	-0.0032	0.0095	-0.2368	0.0278	-0.0838	0.0546
1	29.88	0.4496	-0.0901	0.0023	-0.0132	0.0121	-0.4559	0.0370	-0.2942	0.0525
1	29.88	0.4997	-0.1009	0.0023	0.0025	0.0154	-0.6494	0.0467	-0.1992	0.0526
1	29.88	0.5387	-0.1240	0.0014	0.0008	0.0170	-0.8737	0.0517	-0.3641	0.0535
1	29.88	0.5996	-0.1596	0.0021	-0.0528	0.0211	-1.2184	0.0599	-0.0610	0.0486
1	29.88	0.6498	-0.1789	0.0021	-0.0248	0.0233	-1.6353	0.0679	-0.2766	0.0520
1	29.88	0.6998	-0.2084	0.0020	-0.0252	0.0278	-2.0481	0.0766	-0.2278	0.0527
1	29.88	0.7500	-0.2209	0.0020	-0.0281	0.0313	-2.4852	0.0845	-0.0257	0.0510
1	29.88	0.8001	-0.2719	0.0025	-0.0412	0.0351	-2.9518	0.0921	-0.1393	0.0592
1	29.88	0.8497	-0.3107	0.0032	-0.0590	0.0389	-3.4636	0.1023	-0.2135	0.0562
1	29.88	0.9102	-0.3753	0.0037	0.0137	0.0445	-4.0882	0.1135	-0.4395	0.0558
1	29.88	0.9734	-0.3517	0.0036	0.0372	0.0481	-4.7004	0.1225	-0.4564	0.0607

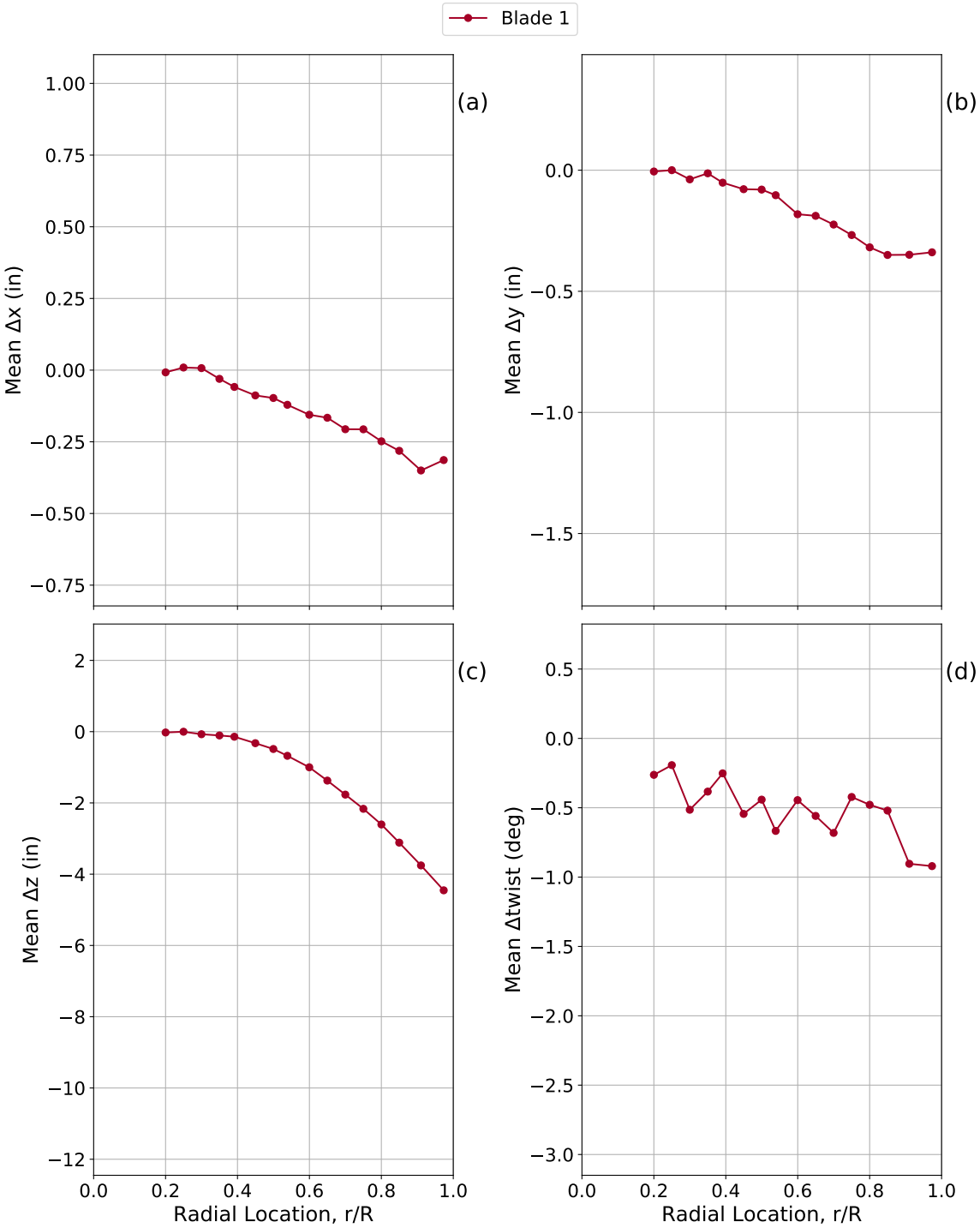


Figure 4.24-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0078	0.0018	-0.0053	0.0008	-0.0236	0.0026	-0.2628	0.0253
1	45	0.2499	0.0091	0.0017	0.0001	0.0023	-0.0024	0.0056	-0.1928	0.0573
1	45	0.2998	0.0070	0.0013	-0.0378	0.0031	-0.0725	0.0102	-0.5145	0.0632
1	45	0.3498	-0.0304	0.0010	-0.0128	0.0062	-0.1069	0.0172	-0.3835	0.0566
1	45	0.3913	-0.0586	0.0016	-0.0515	0.0086	-0.1426	0.0246	-0.2520	0.0521
1	45	0.4496	-0.0882	0.0019	-0.0784	0.0117	-0.3239	0.0320	-0.5444	0.0544
1	45	0.4997	-0.0972	0.0023	-0.0800	0.0144	-0.4869	0.0387	-0.4416	0.0507
1	45	0.5387	-0.1209	0.0018	-0.1032	0.0166	-0.6781	0.0431	-0.6670	0.0522
1	45	0.5996	-0.1557	0.0014	-0.1818	0.0201	-1.0008	0.0495	-0.4451	0.0489
1	45	0.6498	-0.1661	0.0022	-0.1884	0.0231	-1.3737	0.0536	-0.5589	0.0559
1	45	0.6998	-0.2061	0.0021	-0.2244	0.0264	-1.7669	0.0613	-0.6814	0.0509
1	45	0.7500	-0.2064	0.0017	-0.2677	0.0296	-2.1656	0.0692	-0.4223	0.0437
1	45	0.8001	-0.2482	0.0015	-0.3184	0.0321	-2.6049	0.0783	-0.4787	0.0529
1	45	0.8497	-0.2814	0.0018	-0.3499	0.0352	-3.1147	0.0883	-0.5206	0.0549
1	45	0.9102	-0.3500	0.0018	-0.3491	0.0389	-3.7541	0.1002	-0.9041	0.0545
1	45	0.9734	-0.3137	0.0020	-0.3390	0.0428	-4.4530	0.1092	-0.9208	0.0613

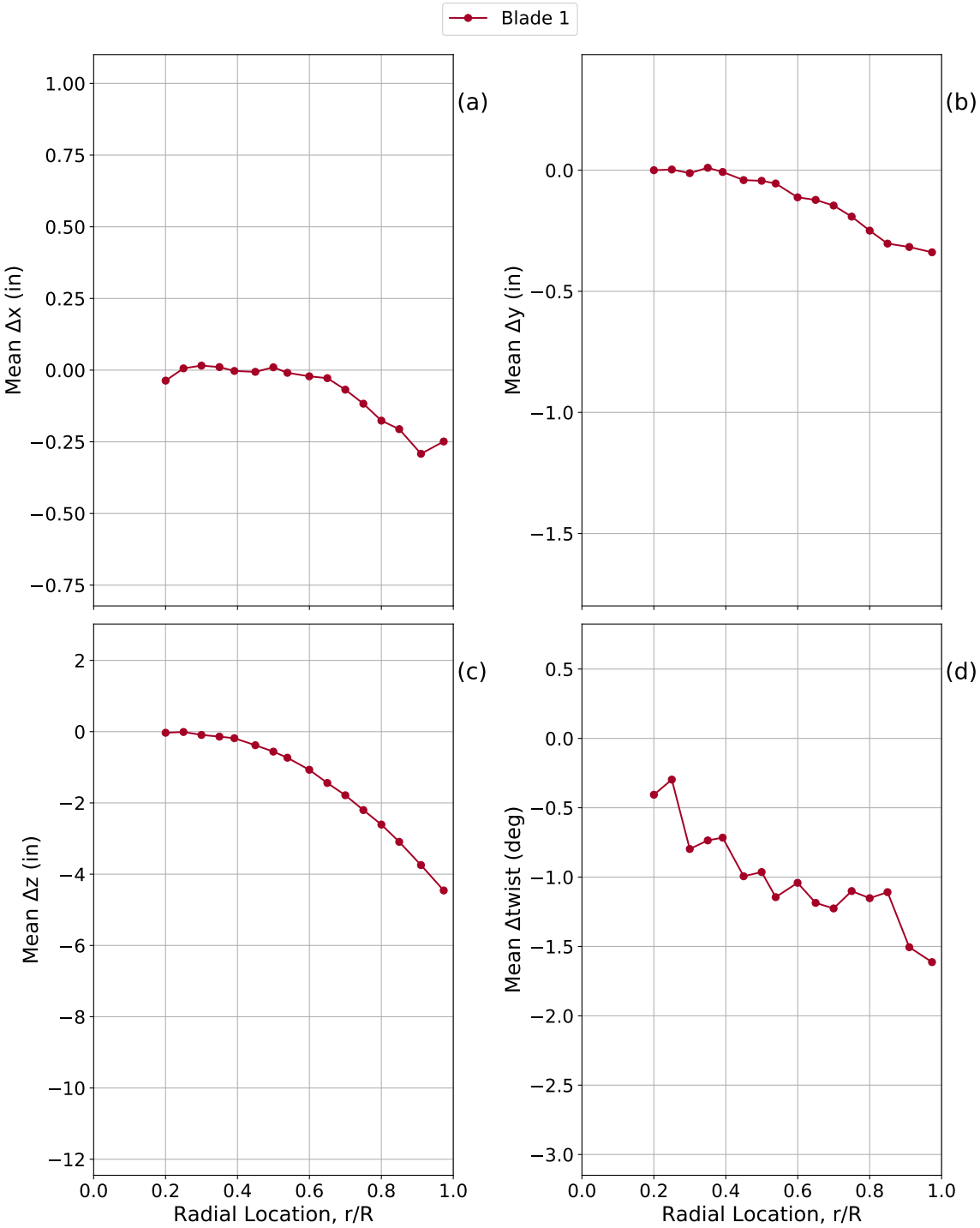


Figure 4.24-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0366	0.0026	-0.0000	0.0016	-0.0308	0.0041	-0.4062	0.0275
1	60.12	0.2499	0.0062	0.0007	0.0028	0.0016	-0.0095	0.0044	-0.2970	0.0682
1	60.12	0.2998	0.0158	0.0015	-0.0122	0.0049	-0.0919	0.0111	-0.7975	0.0660
1	60.12	0.3498	0.0106	0.0014	0.0100	0.0082	-0.1399	0.0187	-0.7355	0.0564
1	60.12	0.3913	-0.0029	0.0026	-0.0073	0.0108	-0.1846	0.0237	-0.7156	0.0631
1	60.12	0.4496	-0.0060	0.0031	-0.0409	0.0145	-0.3807	0.0325	-0.9941	0.0644
1	60.12	0.4997	0.0099	0.0034	-0.0438	0.0180	-0.5608	0.0411	-0.9637	0.0597
1	60.12	0.5387	-0.0093	0.0033	-0.0548	0.0205	-0.7323	0.0456	-1.1447	0.0695
1	60.12	0.5996	-0.0216	0.0044	-0.1120	0.0244	-1.0706	0.0530	-1.0412	0.0719
1	60.12	0.6498	-0.0280	0.0051	-0.1226	0.0277	-1.4401	0.0605	-1.1859	0.0699
1	60.12	0.6998	-0.0681	0.0059	-0.1460	0.0319	-1.7848	0.0668	-1.2260	0.0716
1	60.12	0.7500	-0.1171	0.0079	-0.1916	0.0453	-2.2009	0.0727	-1.1008	0.0664
1	60.12	0.8001	-0.1762	0.0080	-0.2494	0.0486	-2.6078	0.0785	-1.1520	0.0747
1	60.12	0.8497	-0.2058	0.0086	-0.3030	0.0536	-3.0927	0.0871	-1.1086	0.0705
1	60.12	0.9102	-0.2918	0.0083	-0.3170	0.0581	-3.7443	0.0977	-1.5054	0.0741
1	60.12	0.9734	-0.2489	0.0086	-0.3389	0.0648	-4.4571	0.1129	-1.6131	0.0789

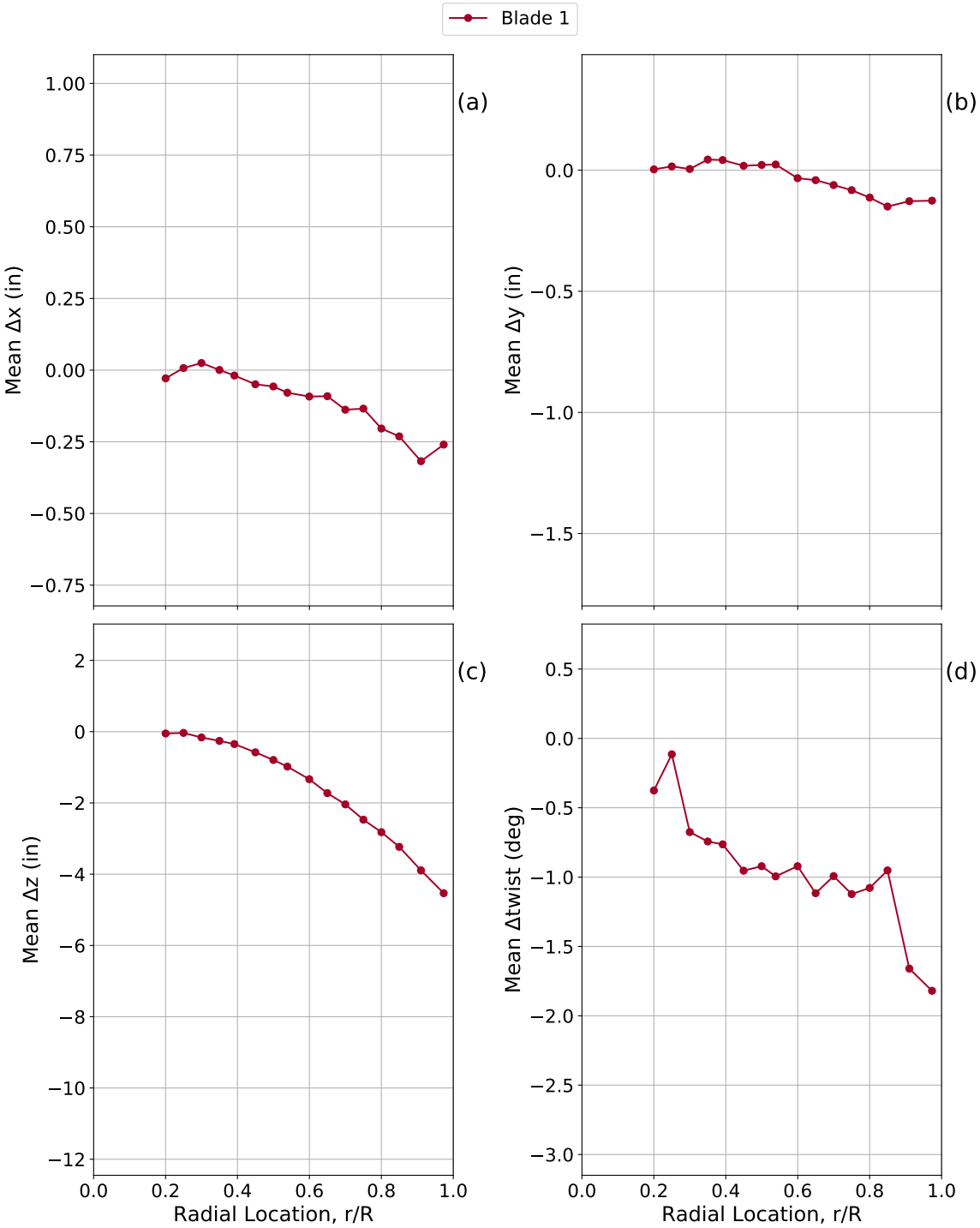


Figure 4.24-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0287	0.0056	0.0035	0.0024	-0.0515	0.0080	-0.3756	0.0544
1	74.88	0.2499	0.0073	0.0031	0.0156	0.0039	-0.0355	0.0107	-0.1147	0.1438
1	74.88	0.2998	0.0248	0.0025	0.0051	0.0078	-0.1627	0.0295	-0.6755	0.1442
1	74.88	0.3498	0.0006	0.0029	0.0440	0.0128	-0.2592	0.0447	-0.7432	0.1577
1	74.88	0.3913	-0.0188	0.0028	0.0419	0.0180	-0.3482	0.0651	-0.7638	0.1389
1	74.88	0.4496	-0.0494	0.0042	0.0182	0.0242	-0.5802	0.0870	-0.9538	0.1493
1	74.88	0.4997	-0.0570	0.0037	0.0217	0.0320	-0.7948	0.1060	-0.9214	0.1516
1	74.88	0.5387	-0.0787	0.0039	0.0235	0.0363	-0.9810	0.1242	-0.9947	0.1428
1	74.88	0.5996	-0.0921	0.0037	-0.0329	0.0456	-1.3353	0.1497	-0.9214	0.1376
1	74.88	0.6498	-0.0910	0.0034	-0.0411	0.0529	-1.7253	0.1678	-1.1163	0.1479
1	74.88	0.6998	-0.1381	0.0039	-0.0613	0.0601	-2.0413	0.1883	-0.9930	0.1418
1	74.88	0.7500	-0.1343	0.0044	-0.0824	0.0669	-2.4699	0.2084	-1.1227	0.1445
1	74.88	0.8001	-0.2037	0.0046	-0.1131	0.0749	-2.8213	0.2285	-1.0779	0.1400
1	74.88	0.8497	-0.2311	0.0050	-0.1500	0.0824	-3.2333	0.2486	-0.9517	0.1436
1	74.88	0.9102	-0.3176	0.0057	-0.1279	0.0922	-3.8927	0.2746	-1.6598	0.1356
1	74.88	0.9734	-0.2597	0.0052	-0.1257	0.1028	-4.5346	0.3013	-1.8198	0.1454

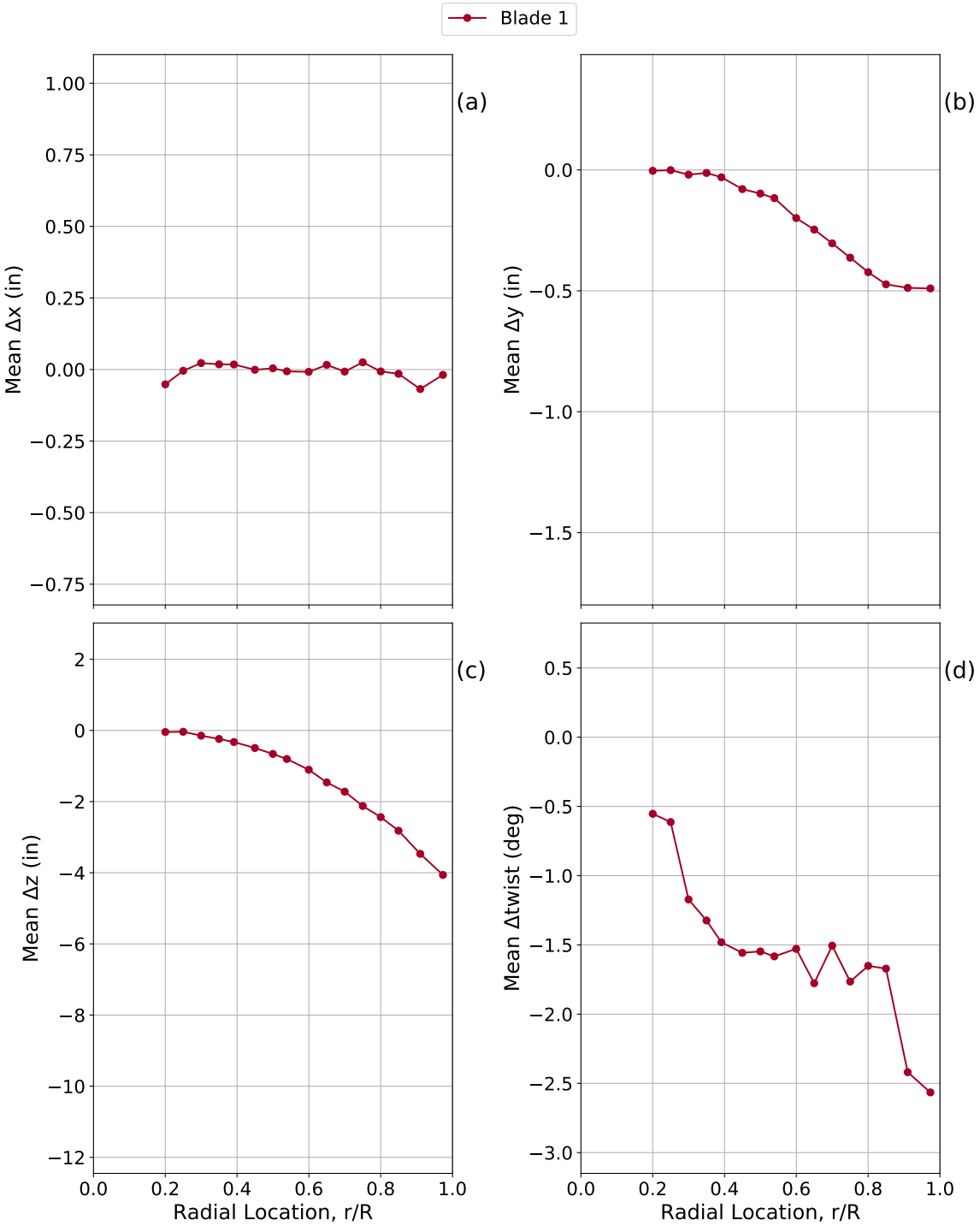


Figure 4.24-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0518	0.0122	-0.0036	0.0049	-0.0434	0.0212	-0.5533	0.1185
1	80.16	0.2499	-0.0043	0.0054	-0.0009	0.0047	-0.0373	0.0196	-0.6128	0.3564
1	80.16	0.2998	0.0226	0.0058	-0.0195	0.0157	-0.1462	0.0651	-1.1719	0.3282
1	80.16	0.3498	0.0182	0.0040	-0.0125	0.0260	-0.2386	0.1065	-1.3236	0.3287
1	80.16	0.3913	0.0177	0.0048	-0.0303	0.0347	-0.3252	0.1415	-1.4810	0.3253
1	80.16	0.4496	-0.0009	0.0066	-0.0793	0.0474	-0.4931	0.1882	-1.5573	0.3285
1	80.16	0.4997	0.0042	0.0070	-0.0977	0.0586	-0.6602	0.2287	-1.5470	0.3297
1	80.16	0.5387	-0.0063	0.0075	-0.1167	0.0669	-0.8034	0.2606	-1.5829	0.3279
1	80.16	0.5996	-0.0081	0.0076	-0.1990	0.0804	-1.1036	0.3130	-1.5285	0.3182
1	80.16	0.6498	0.0163	0.0085	-0.2467	0.0922	-1.4605	0.3528	-1.7771	0.3232
1	80.16	0.6998	-0.0072	0.0082	-0.3036	0.1036	-1.7204	0.3946	-1.5058	0.3261
1	80.16	0.7500	0.0252	0.0084	-0.3629	0.1161	-2.1230	0.4376	-1.7647	0.3265
1	80.16	0.8001	-0.0066	0.0083	-0.4228	0.1277	-2.4361	0.4809	-1.6514	0.3242
1	80.16	0.8497	-0.0150	0.0078	-0.4731	0.1399	-2.8187	0.5247	-1.6714	0.3204
1	80.16	0.9102	-0.0682	0.0085	-0.4877	0.1560	-3.4688	0.5761	-2.4192	0.3239
1	80.16	0.9734	-0.0186	0.0091	-0.4901	0.1723	-4.0611	0.6320	-2.5652	0.3212

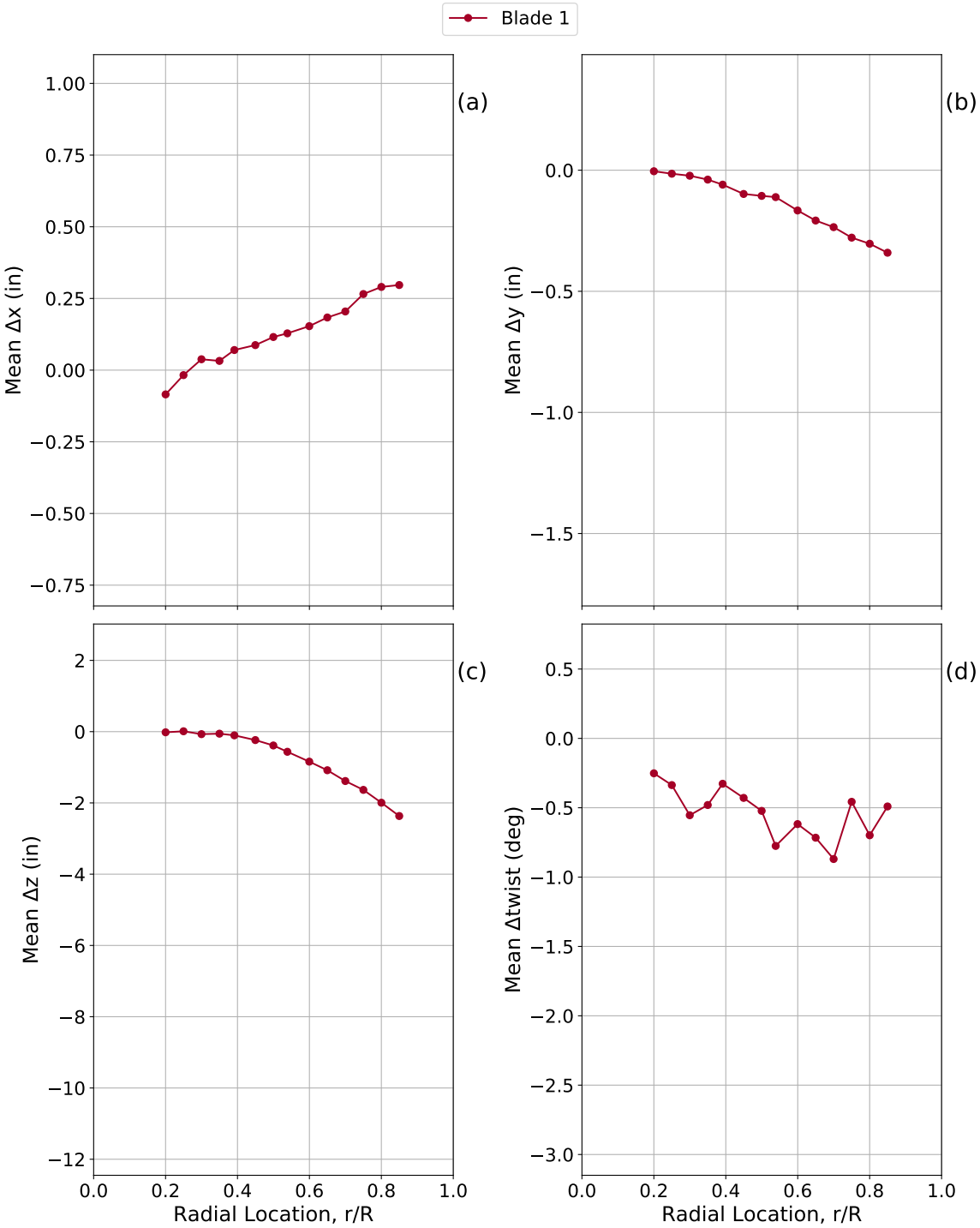


Figure 4.24-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0846	0.0009	-0.0043	0.0005	-0.0184	0.0022	-0.2518	0.0202
1	85.08	0.2499	-0.0174	0.0007	-0.0145	0.0009	0.0103	0.0038	-0.3366	0.0313
1	85.08	0.2998	0.0379	0.0007	-0.0228	0.0016	-0.0702	0.0085	-0.5540	0.0436
1	85.08	0.3498	0.0322	0.0009	-0.0388	0.0029	-0.0571	0.0144	-0.4803	0.0389
1	85.08	0.3913	0.0701	0.0009	-0.0596	0.0039	-0.1040	0.0203	-0.3271	0.0333
1	85.08	0.4496	0.0873	0.0021	-0.0981	0.0055	-0.2362	0.0229	-0.4290	0.0411
1	85.08	0.4997	0.1155	0.0016	-0.1060	0.0070	-0.3879	0.0278	-0.5226	0.0466
1	85.08	0.5387	0.1283	0.0021	-0.1111	0.0081	-0.5651	0.0340	-0.7753	0.0357
1	85.08	0.5996	0.1534	0.0018	-0.1663	0.0102	-0.8417	0.0390	-0.6178	0.0517
1	85.08	0.6498	0.1836	0.0034	-0.2078	0.0119	-1.0832	0.0404	-0.7159	0.0600
1	85.08	0.6998	0.2046	0.0033	-0.2351	0.0143	-1.3859	0.0462	-0.8697	0.0545
1	85.08	0.7500	0.2654	0.0073	-0.2784	0.0150	-1.6343	0.0573	-0.4572	0.1257
1	85.08	0.8001	0.2902	0.0189	-0.3036	0.0221	-1.9943	0.0492	-0.6986	0.2400
1	85.08	0.8497	0.2968	0.0138	-0.3407	0.0232	-2.3676	0.0911	-0.4907	0.3047

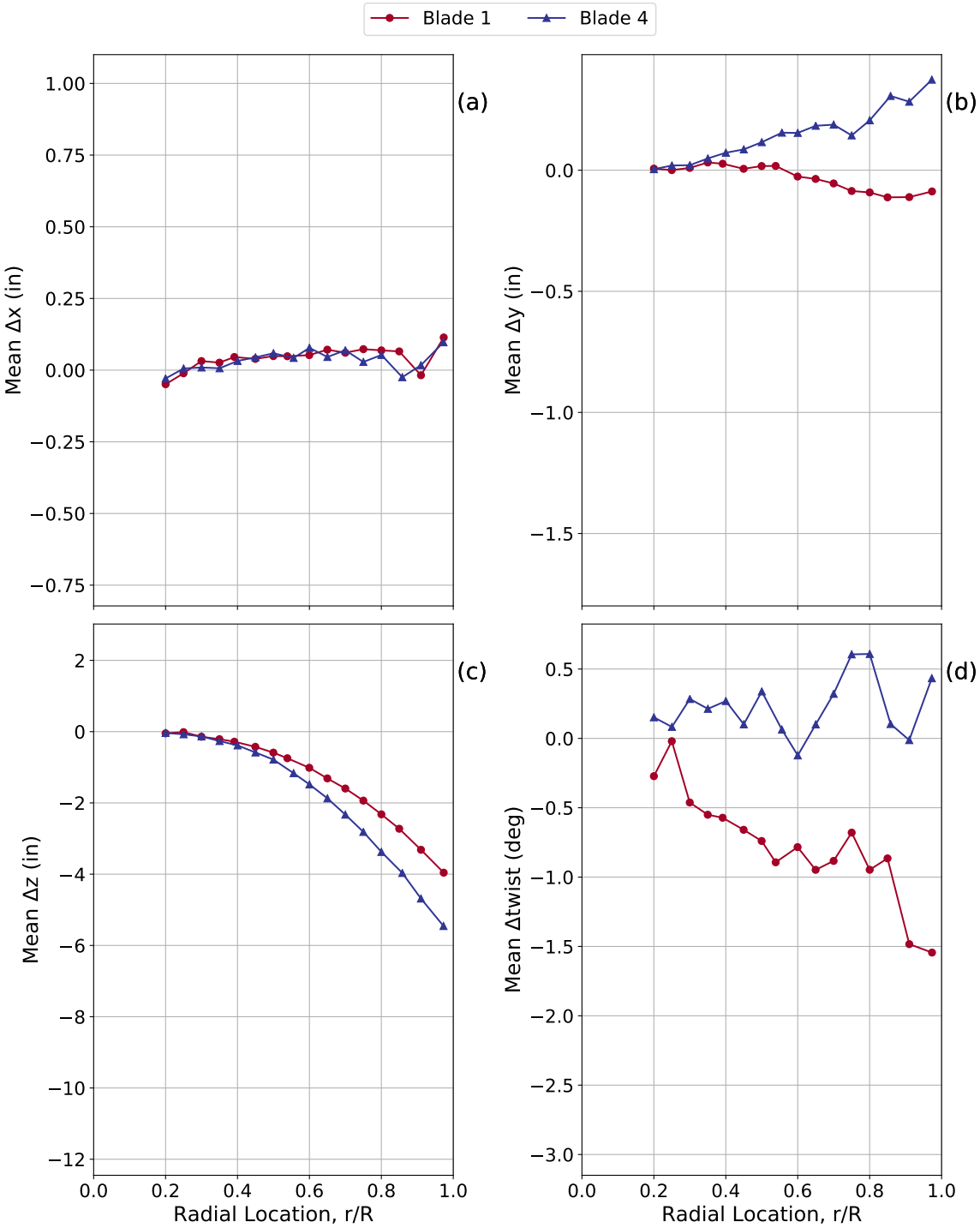


Figure 4.24-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0493	0.0034	0.0066	0.0024	-0.0470	0.0066	-0.2723	0.0502
1	90	0.2499	-0.0111	0.0038	0.0005	0.0035	-0.0133	0.0099	-0.0201	0.0969
1	90	0.2998	0.0316	0.0022	0.0094	0.0070	-0.1421	0.0179	-0.4622	0.1046
1	90	0.3498	0.0261	0.0022	0.0319	0.0117	-0.2107	0.0316	-0.5504	0.0746
1	90	0.3913	0.0458	0.0024	0.0267	0.0155	-0.2816	0.0402	-0.5722	0.0809
1	90	0.4496	0.0392	0.0030	0.0057	0.0201	-0.4258	0.0515	-0.6591	0.0820
1	90	0.4997	0.0489	0.0031	0.0172	0.0251	-0.5887	0.0639	-0.7397	0.0762
1	90	0.5387	0.0484	0.0028	0.0177	0.0289	-0.7461	0.0723	-0.8934	0.0794
1	90	0.5996	0.0523	0.0028	-0.0262	0.0360	-1.0139	0.0881	-0.7839	0.0747
1	90	0.6498	0.0713	0.0028	-0.0360	0.0419	-1.3119	0.0995	-0.9478	0.0769
1	90	0.6998	0.0607	0.0029	-0.0546	0.0474	-1.5962	0.1090	-0.8832	0.0826
1	90	0.7500	0.0731	0.0048	-0.0859	0.0537	-1.9356	0.1220	-0.6793	0.0807
1	90	0.8001	0.0689	0.0048	-0.0917	0.0589	-2.3211	0.1378	-0.9473	0.0890
1	90	0.8497	0.0653	0.0038	-0.1121	0.0650	-2.7251	0.1474	-0.8651	0.1111
1	90	0.9102	-0.0178	0.0024	-0.1111	0.0768	-3.3153	0.1502	-1.4833	0.0902
1	90	0.9734	0.1139	0.0075	-0.0877	0.0785	-3.9581	0.1775	-1.5442	0.1132
4	90.35	0.2001	-0.0292	0.0037	0.0042	0.0019	-0.0366	0.0044	0.1518	0.0360
4	90.35	0.2502	0.0058	0.0027	0.0194	0.0022	-0.0746	0.0047	0.0829	0.0794
4	90.35	0.3001	0.0092	0.0024	0.0208	0.0051	-0.1348	0.0099	0.2841	0.0794
4	90.35	0.3502	0.0065	0.0013	0.0487	0.0085	-0.2646	0.0166	0.2131	0.0860
4	90.35	0.4002	0.0320	0.0024	0.0722	0.0117	-0.3862	0.0212	0.2693	0.0849
4	90.35	0.4500	0.0445	0.0023	0.0859	0.0136	-0.5847	0.0248	0.1012	0.0872
4	90.35	0.5001	0.0589	0.0021	0.1157	0.0171	-0.7854	0.0326	0.3383	0.0795
4	90.35	0.5560	0.0426	0.0018	0.1549	0.0202	-1.1661	0.0375	0.0632	0.0924
4	90.35	0.6001	0.0776	0.0022	0.1540	0.0228	-1.4811	0.0408	-0.1227	0.0949
4	90.35	0.6501	0.0459	0.0033	0.1834	0.0263	-1.8720	0.0455	0.1007	0.0943
4	90.35	0.6999	0.0692	0.0050	0.1880	0.0284	-2.3290	0.0471	0.3212	0.0930
4	90.35	0.7500	0.0285	0.0091	0.1436	0.0300	-2.8138	0.0528	0.6058	0.0741
4	90.35	0.8002	0.0529	0.0099	0.2060	0.0351	-3.3759	0.0615	0.6087	0.1000
4	90.35	0.8582	-0.0247	0.0048	0.3065	0.0543	-3.9660	0.0990	0.1035	0.0874
4	90.35	0.9101	0.0172	0.0096	0.2828	0.0585	-4.6841	0.1085	-0.0123	0.0873
4	90.35	0.9728	0.0972	0.0179	0.3737	0.0608	-5.4550	0.1146	0.4337	0.1253

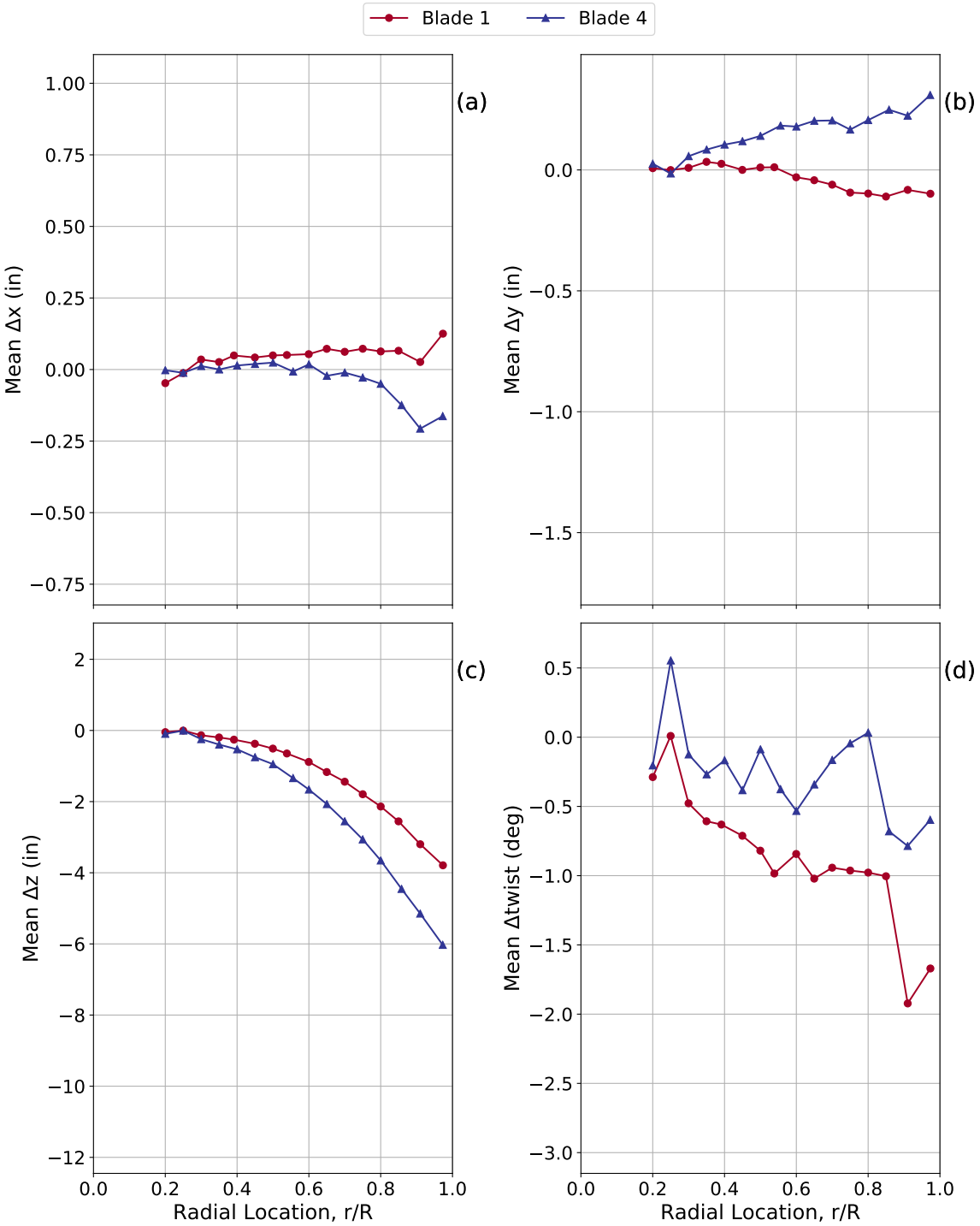


Figure 4.24-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0476	0.0042	0.0072	0.0018	-0.0473	0.0053	-0.2882	0.0525
1	94.92	0.2499	-0.0124	0.0044	-0.0006	0.0038	-0.0038	0.0103	0.0091	0.0839
1	94.92	0.2998	0.0349	0.0025	0.0087	0.0060	-0.1359	0.0160	-0.4775	0.1105
1	94.92	0.3498	0.0261	0.0028	0.0334	0.0095	-0.1970	0.0265	-0.6071	0.1002
1	94.92	0.3913	0.0491	0.0035	0.0254	0.0138	-0.2580	0.0365	-0.6310	0.0916
1	94.92	0.4496	0.0420	0.0027	0.0002	0.0178	-0.3740	0.0468	-0.7119	0.1020
1	94.92	0.4997	0.0493	0.0031	0.0101	0.0219	-0.5097	0.0555	-0.8194	0.0912
1	94.92	0.5387	0.0507	0.0031	0.0111	0.0258	-0.6472	0.0629	-0.9844	0.0960
1	94.92	0.5996	0.0537	0.0032	-0.0304	0.0314	-0.8842	0.0750	-0.8434	0.0949
1	94.92	0.6498	0.0723	0.0045	-0.0426	0.0361	-1.1689	0.0846	-1.0215	0.1044
1	94.92	0.6998	0.0619	0.0044	-0.0610	0.0410	-1.4405	0.0952	-0.9424	0.0978
1	94.92	0.7500	0.0726	0.0062	-0.0937	0.0401	-1.7930	0.1009	-0.9631	0.1177
1	94.92	0.8001	0.0632	0.0053	-0.0976	0.0506	-2.1379	0.1163	-0.9778	0.0881
1	94.92	0.8497	0.0656	0.0066	-0.1102	0.0551	-2.5550	0.1266	-1.0041	0.1028
1	94.92	0.9102	0.0264	0.0066	-0.0825	0.0635	-3.1985	0.1522	-1.9226	0.2607
1	94.92	0.9734	0.1252	0.0090	-0.0984	0.0686	-3.7906	0.1582	-1.6702	0.0956
4	94.92	0.2001	-0.0025	0.0056	0.0255	0.0023	-0.0956	0.0064	-0.2041	0.0579
4	94.92	0.2502	-0.0116	0.0015	-0.0148	0.0032	-0.0053	0.0088	0.5540	0.1271
4	94.92	0.3001	0.0120	0.0021	0.0568	0.0071	-0.2455	0.0191	-0.1247	0.1413
4	94.92	0.3502	0.0001	0.0017	0.0841	0.0120	-0.3975	0.0327	-0.2686	0.1158
4	94.92	0.4002	0.0140	0.0022	0.1047	0.0175	-0.5311	0.0476	-0.1668	0.1060
4	94.92	0.4500	0.0194	0.0039	0.1187	0.0220	-0.7530	0.0600	-0.3829	0.1126
4	94.92	0.5001	0.0241	0.0038	0.1408	0.0262	-0.9486	0.0726	-0.0877	0.1086
4	94.92	0.5560	-0.0071	0.0041	0.1832	0.0322	-1.3402	0.0862	-0.3761	0.1103
4	94.92	0.6001	0.0180	0.0051	0.1793	0.0357	-1.6618	0.0973	-0.5327	0.1054
4	94.92	0.6501	-0.0220	0.0060	0.2031	0.0400	-2.0709	0.1076	-0.3418	0.1177
4	94.92	0.6999	-0.0109	0.0064	0.2046	0.0447	-2.5538	0.1210	-0.1649	0.1111
4	94.92	0.7500	-0.0282	0.0103	0.1667	0.0489	-3.0636	0.1321	-0.0444	0.1103
4	94.92	0.8002	-0.0499	0.0111	0.2061	0.0539	-3.6554	0.1431	0.0327	0.1348
4	94.92	0.8582	-0.1245	0.0091	0.2488	0.0589	-4.4550	0.1539	-0.6799	0.3029
4	94.92	0.9101	-0.2066	0.0061	0.2242	0.0658	-5.1484	0.1966	-0.7857	0.1144
4	94.92	0.9728	-0.1630	0.0074	0.3098	0.0729	-6.0279	0.2118	-0.5972	0.1350

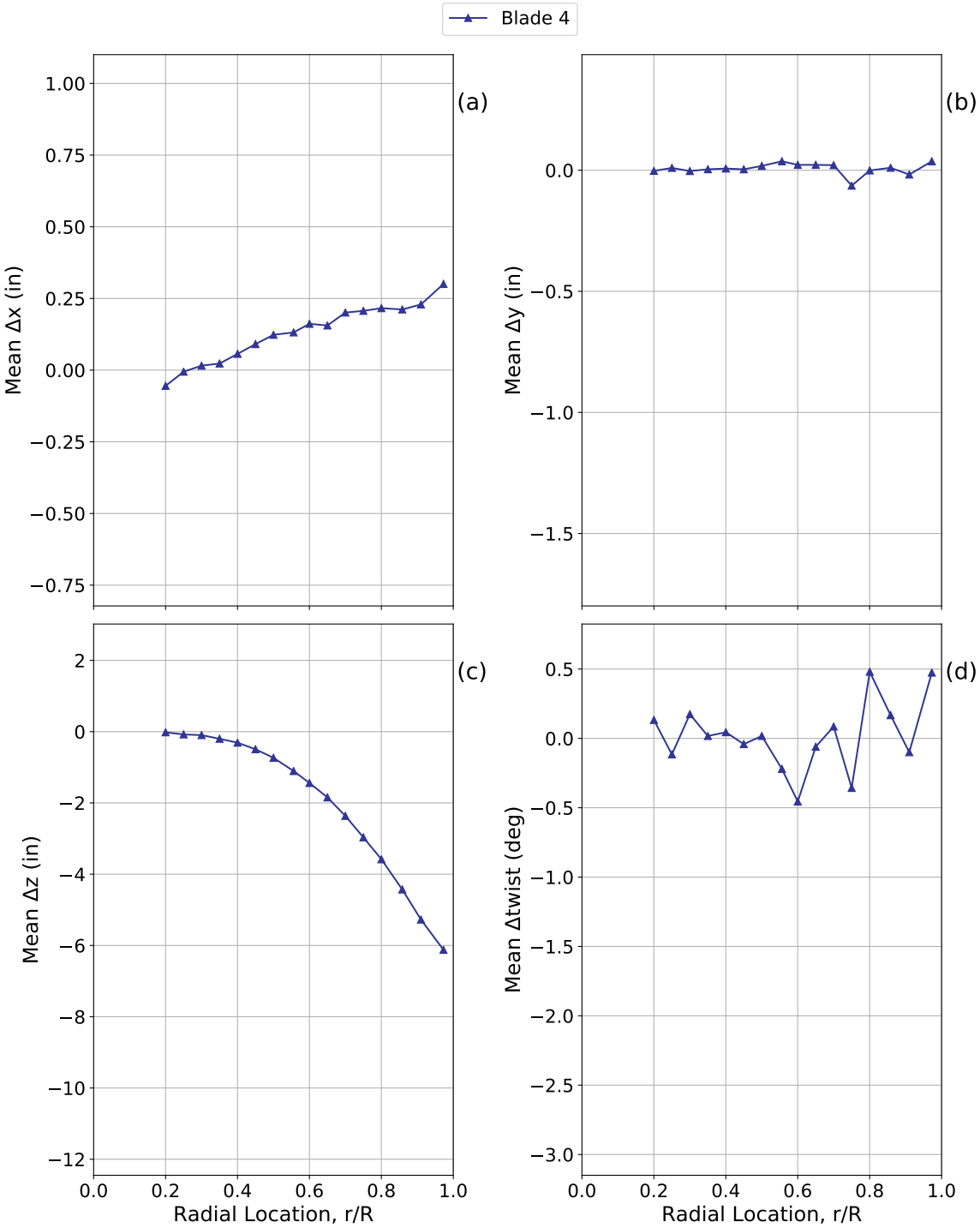


Figure 4.24-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0550	0.0006	-0.0028	0.0003	-0.0189	0.0016	0.1328	0.0157
4	105.12	0.2502	-0.0055	0.0008	0.0094	0.0014	-0.0788	0.0024	-0.1156	0.0285
4	105.12	0.3001	0.0155	0.0006	-0.0035	0.0019	-0.0979	0.0051	0.1743	0.0364
4	105.12	0.3502	0.0230	0.0010	0.0038	0.0029	-0.2002	0.0092	0.0170	0.0268
4	105.12	0.4002	0.0567	0.0015	0.0069	0.0051	-0.3098	0.0133	0.0445	0.0291
4	105.12	0.4500	0.0907	0.0011	0.0036	0.0055	-0.4945	0.0178	-0.0415	0.0268
4	105.12	0.5001	0.1232	0.0013	0.0177	0.0080	-0.7348	0.0244	0.0173	0.0279
4	105.12	0.5560	0.1315	0.0013	0.0368	0.0096	-1.1059	0.0305	-0.2203	0.0294
4	105.12	0.6001	0.1615	0.0015	0.0220	0.0115	-1.4411	0.0344	-0.4554	0.0298
4	105.12	0.6501	0.1557	0.0015	0.0220	0.0132	-1.8454	0.0395	-0.0603	0.0291
4	105.12	0.6999	0.2008	0.0015	0.0209	0.0154	-2.3655	0.0435	0.0852	0.0244
4	105.12	0.7500	0.2067	0.0020	-0.0639	0.0183	-2.9675	0.0461	-0.3572	0.0316
4	105.12	0.8002	0.2161	0.0017	-0.0010	0.0206	-3.5831	0.0514	0.4802	0.0412
4	105.12	0.8582	0.2115	0.0027	0.0100	0.0238	-4.4306	0.0575	0.1672	0.0297
4	105.12	0.9101	0.2291	0.0046	-0.0180	0.0266	-5.2744	0.0621	-0.0997	0.0584
4	105.12	0.9728	0.3005	0.0051	0.0366	0.0318	-6.1242	0.0653	0.4740	0.0715

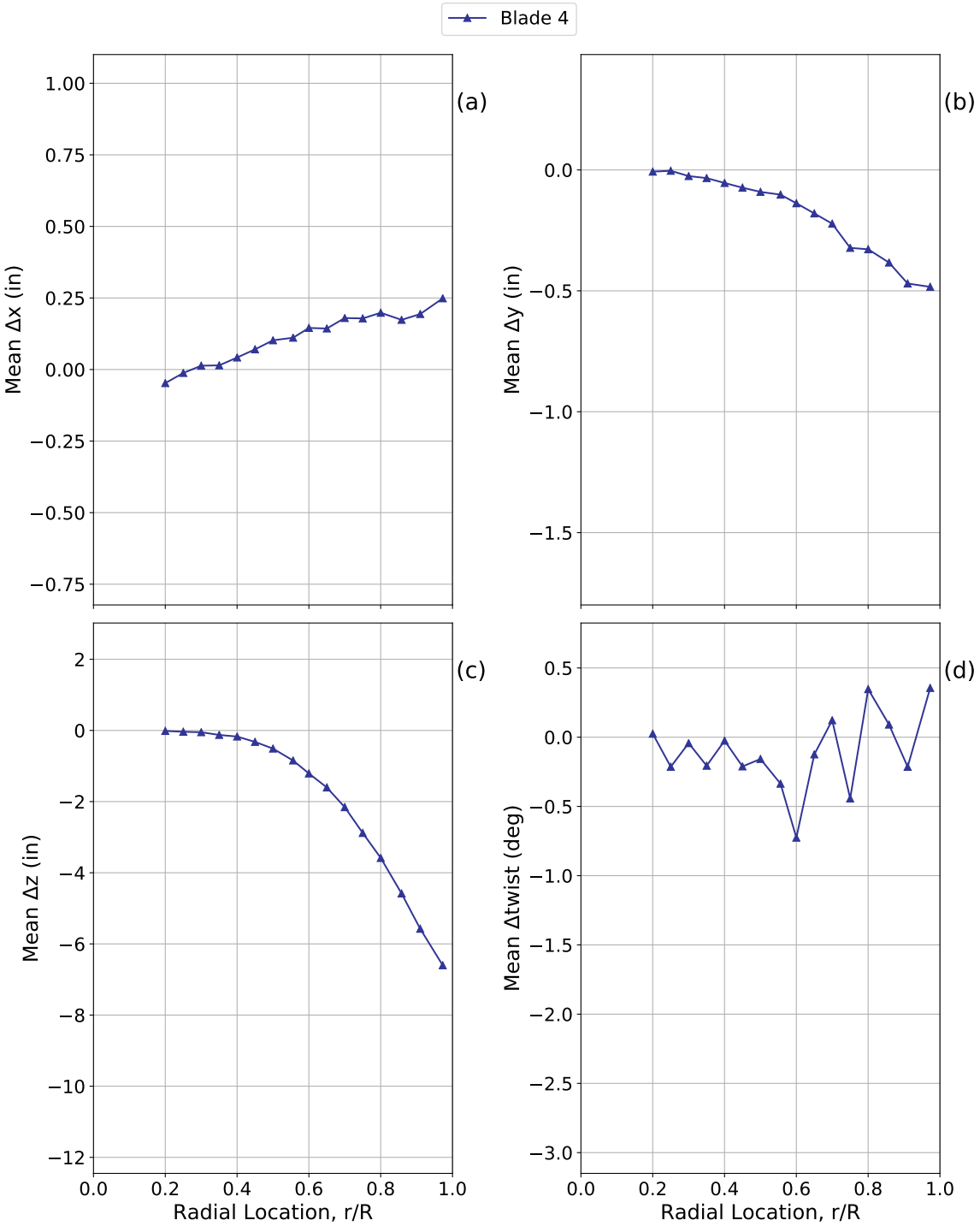


Figure 4.24-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0475	0.0007	-0.0071	0.0004	-0.0145	0.0013	0.0250	0.0150
4	119.88	0.2502	-0.0121	0.0010	-0.0036	0.0011	-0.0372	0.0025	-0.2139	0.0147
4	119.88	0.3001	0.0133	0.0007	-0.0255	0.0015	-0.0501	0.0047	-0.0433	0.0300
4	119.88	0.3502	0.0145	0.0009	-0.0338	0.0026	-0.1262	0.0082	-0.2064	0.0197
4	119.88	0.4002	0.0419	0.0005	-0.0540	0.0042	-0.1720	0.0122	-0.0252	0.0218
4	119.88	0.4500	0.0705	0.0013	-0.0735	0.0055	-0.3219	0.0140	-0.2113	0.0246
4	119.88	0.5001	0.1021	0.0013	-0.0908	0.0061	-0.5105	0.0185	-0.1575	0.0220
4	119.88	0.5560	0.1111	0.0014	-0.1023	0.0077	-0.8452	0.0215	-0.3361	0.0274
4	119.88	0.6001	0.1452	0.0016	-0.1379	0.0091	-1.2098	0.0251	-0.7258	0.0261
4	119.88	0.6501	0.1433	0.0013	-0.1799	0.0113	-1.6034	0.0276	-0.1244	0.0207
4	119.88	0.6999	0.1799	0.0020	-0.2224	0.0130	-2.1573	0.0292	0.1223	0.0294
4	119.88	0.7500	0.1785	0.0020	-0.3224	0.0149	-2.8823	0.0311	-0.4426	0.0258
4	119.88	0.8002	0.1983	0.0019	-0.3282	0.0176	-3.5848	0.0328	0.3468	0.0284
4	119.88	0.8582	0.1735	0.0022	-0.3833	0.0202	-4.5835	0.0350	0.0907	0.0251
4	119.88	0.9101	0.1938	0.0029	-0.4698	0.0224	-5.5751	0.0375	-0.2143	0.0263
4	119.88	0.9728	0.2487	0.0036	-0.4835	0.0256	-6.6011	0.0423	0.3555	0.0286

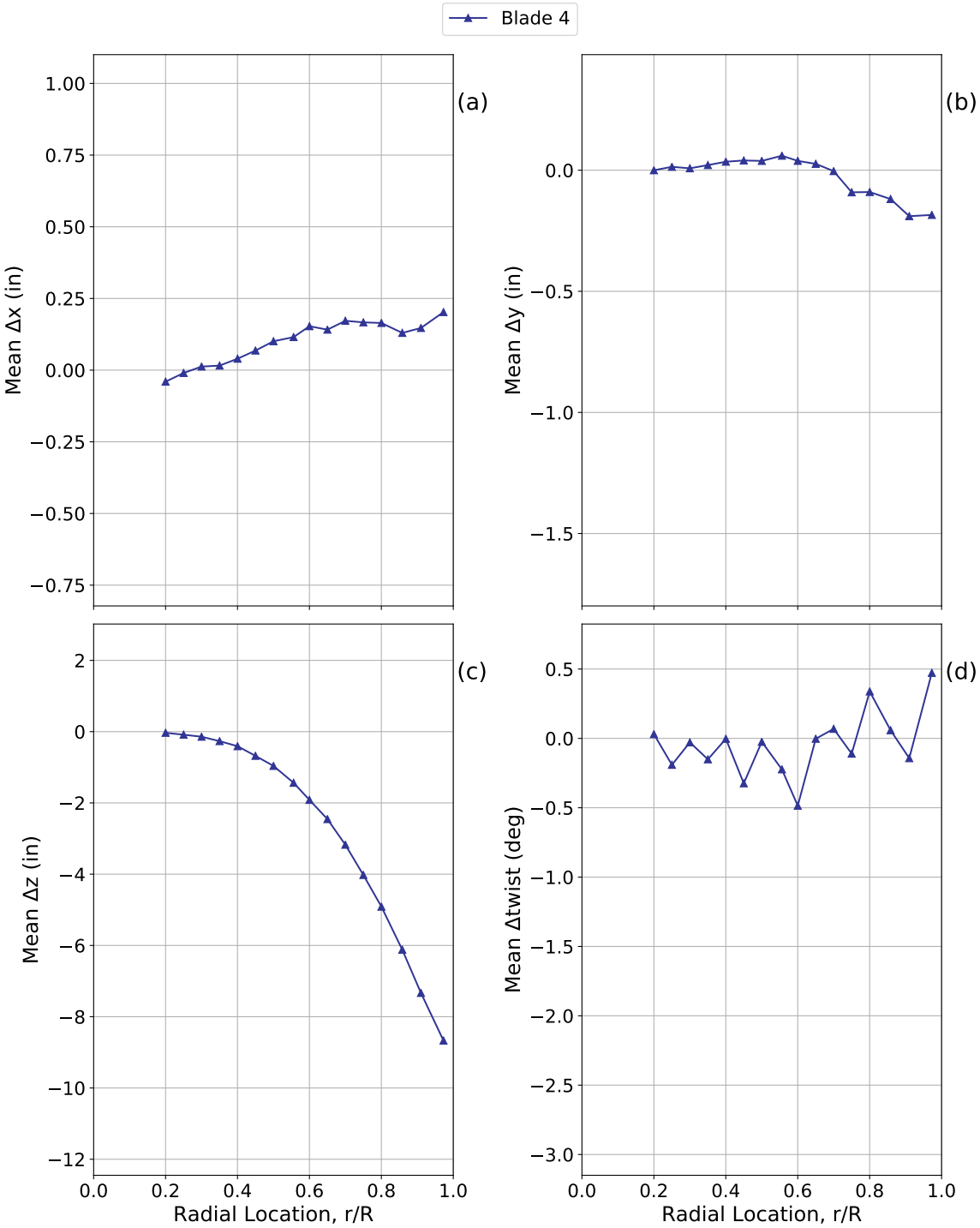


Figure 4.24-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0402	0.0008	-0.0002	0.0006	-0.0331	0.0013	0.0306	0.0082
4	135	0.2502	-0.0100	0.0008	0.0139	0.0008	-0.0858	0.0027	-0.1907	0.0233
4	135	0.3001	0.0124	0.0009	0.0078	0.0019	-0.1429	0.0048	-0.0287	0.0217
4	135	0.3502	0.0158	0.0009	0.0211	0.0033	-0.2671	0.0083	-0.1511	0.0201
4	135	0.4002	0.0398	0.0012	0.0350	0.0049	-0.4090	0.0129	-0.0031	0.0204
4	135	0.4500	0.0682	0.0012	0.0402	0.0061	-0.6796	0.0173	-0.3241	0.0164
4	135	0.5001	0.1007	0.0012	0.0383	0.0072	-0.9623	0.0215	-0.0248	0.0283
4	135	0.5560	0.1152	0.0015	0.0598	0.0092	-1.4367	0.0262	-0.2234	0.0215
4	135	0.6001	0.1532	0.0017	0.0385	0.0110	-1.9161	0.0295	-0.4856	0.0256
4	135	0.6501	0.1411	0.0018	0.0261	0.0128	-2.4553	0.0326	-0.0028	0.0241
4	135	0.6999	0.1720	0.0018	-0.0037	0.0147	-3.1745	0.0353	0.0687	0.0245
4	135	0.7500	0.1666	0.0023	-0.0913	0.0166	-4.0231	0.0385	-0.1102	0.0306
4	135	0.8002	0.1644	0.0022	-0.0902	0.0191	-4.9135	0.0410	0.3381	0.0203
4	135	0.8582	0.1298	0.0028	-0.1191	0.0220	-6.1207	0.0456	0.0585	0.0203
4	135	0.9101	0.1470	0.0028	-0.1899	0.0251	-7.3327	0.0502	-0.1429	0.0220
4	135	0.9728	0.2024	0.0036	-0.1847	0.0287	-8.6705	0.0540	0.4722	0.0238

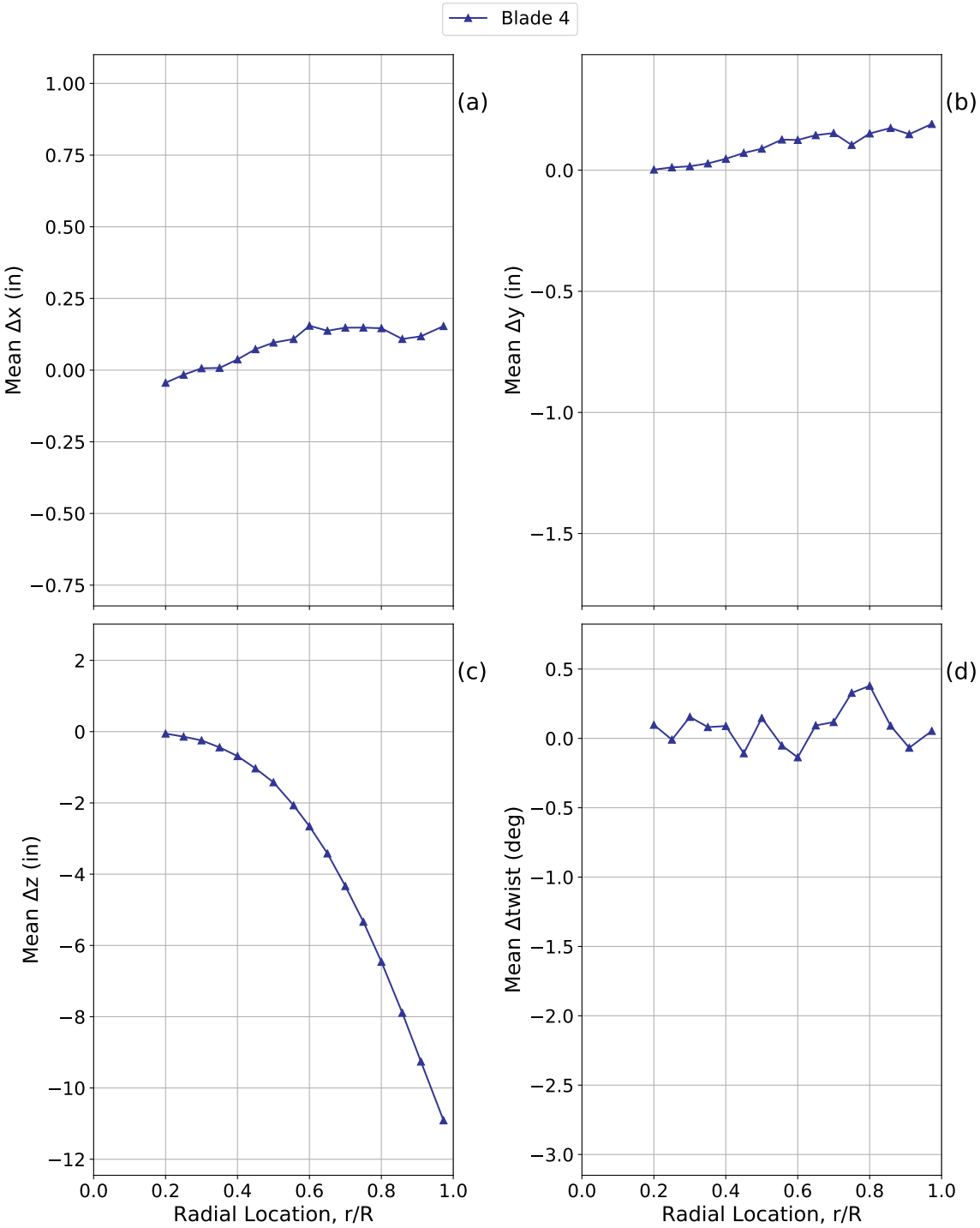


Figure 4.24-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0441	0.0007	0.0024	0.0006	-0.0552	0.0017	0.0977	0.0133
4	150.12	0.2502	-0.0162	0.0010	0.0117	0.0011	-0.1410	0.0023	-0.0093	0.0267
4	150.12	0.3001	0.0065	0.0012	0.0162	0.0018	-0.2458	0.0053	0.1547	0.0319
4	150.12	0.3502	0.0076	0.0012	0.0279	0.0043	-0.4417	0.0099	0.0812	0.0191
4	150.12	0.4002	0.0374	0.0012	0.0471	0.0052	-0.6877	0.0138	0.0891	0.0244
4	150.12	0.4500	0.0730	0.0011	0.0713	0.0083	-1.0329	0.0160	-0.1076	0.0288
4	150.12	0.5001	0.0959	0.0012	0.0887	0.0104	-1.4223	0.0197	0.1470	0.0231
4	150.12	0.5560	0.1084	0.0016	0.1264	0.0135	-2.0688	0.0257	-0.0518	0.0193
4	150.12	0.6001	0.1548	0.0015	0.1248	0.0146	-2.6580	0.0289	-0.1366	0.0233
4	150.12	0.6501	0.1373	0.0018	0.1446	0.0176	-3.4187	0.0328	0.0932	0.0209
4	150.12	0.6999	0.1480	0.0020	0.1533	0.0208	-4.3356	0.0385	0.1175	0.0221
4	150.12	0.7500	0.1483	0.0024	0.1043	0.0243	-5.3365	0.0453	0.3282	0.0217
4	150.12	0.8002	0.1461	0.0027	0.1517	0.0272	-6.4603	0.0519	0.3792	0.0211
4	150.12	0.8582	0.1086	0.0033	0.1742	0.0316	-7.8912	0.0608	0.0912	0.0253
4	150.12	0.9101	0.1179	0.0039	0.1485	0.0358	-9.2600	0.0690	-0.0676	0.0256
4	150.12	0.9728	0.1535	0.0052	0.1909	0.0401	-10.9085	0.0802	0.0538	0.0288

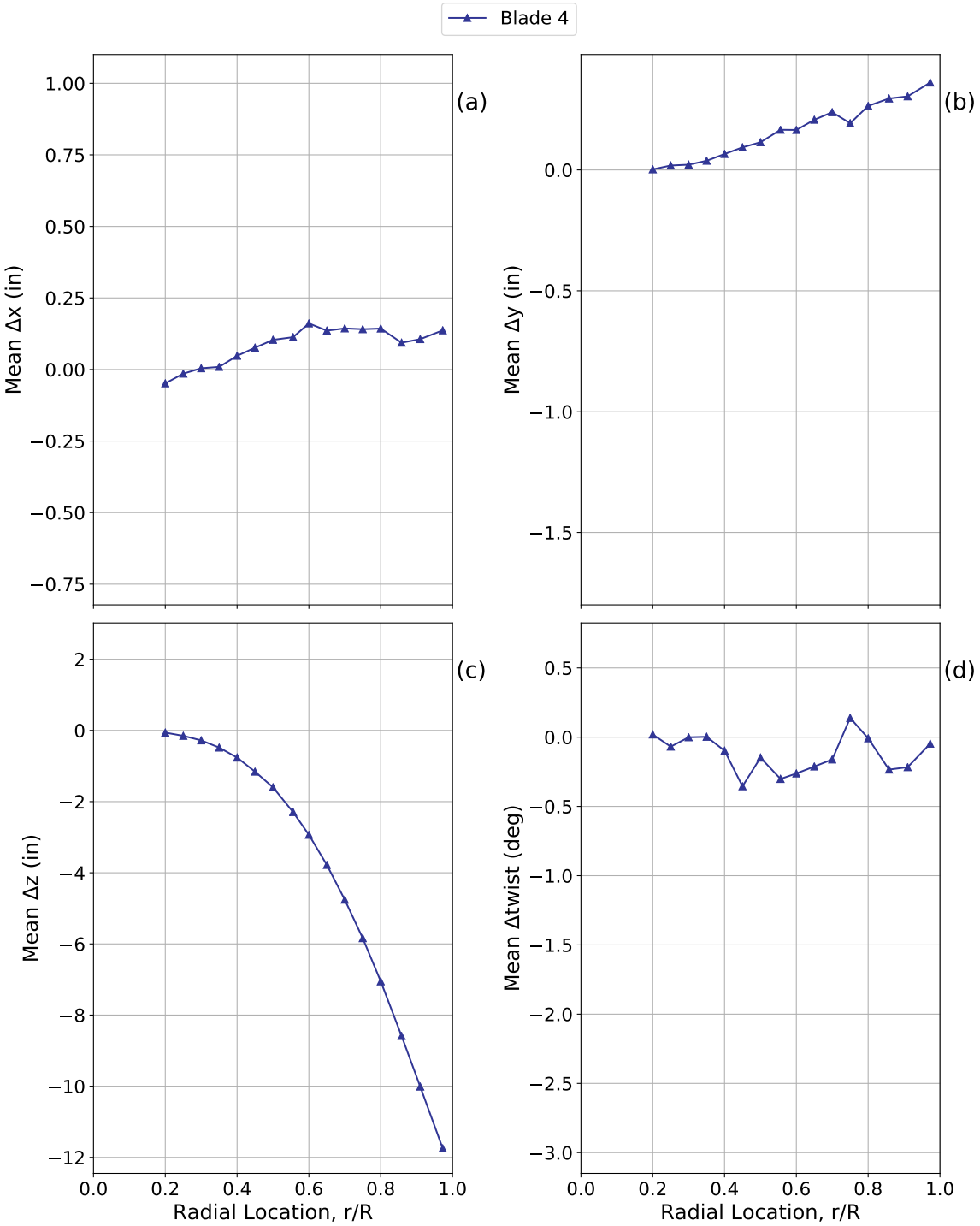


Figure 4.24-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0483	0.0010	0.0024	0.0007	-0.0615	0.0014	0.0192	0.0153
4	164.88	0.2502	-0.0145	0.0015	0.0183	0.0024	-0.1527	0.0042	-0.0685	0.0185
4	164.88	0.3001	0.0043	0.0009	0.0217	0.0034	-0.2798	0.0058	-0.0008	0.0313
4	164.88	0.3502	0.0091	0.0011	0.0379	0.0057	-0.4825	0.0111	0.0026	0.0314
4	164.88	0.4002	0.0479	0.0011	0.0659	0.0095	-0.7636	0.0169	-0.0981	0.0275
4	164.88	0.4500	0.0762	0.0010	0.0933	0.0124	-1.1591	0.0214	-0.3546	0.0367
4	164.88	0.5001	0.1038	0.0012	0.1144	0.0147	-1.5991	0.0276	-0.1478	0.0334
4	164.88	0.5560	0.1131	0.0018	0.1659	0.0178	-2.2947	0.0337	-0.3015	0.0311
4	164.88	0.6001	0.1611	0.0017	0.1651	0.0205	-2.9339	0.0389	-0.2620	0.0315
4	164.88	0.6501	0.1358	0.0018	0.2074	0.0236	-3.7804	0.0454	-0.2118	0.0237
4	164.88	0.6999	0.1437	0.0020	0.2385	0.0265	-4.7574	0.0500	-0.1611	0.0294
4	164.88	0.7500	0.1409	0.0025	0.1930	0.0295	-5.8388	0.0554	0.1388	0.0299
4	164.88	0.8002	0.1432	0.0032	0.2647	0.0328	-7.0540	0.0625	-0.0085	0.0268
4	164.88	0.8582	0.0937	0.0039	0.2954	0.0367	-8.5874	0.0686	-0.2340	0.0364
4	164.88	0.9101	0.1062	0.0043	0.3043	0.0399	-10.0113	0.0764	-0.2166	0.0393
4	164.88	0.9728	0.1369	0.0051	0.3614	0.0439	-11.7471	0.0882	-0.0471	0.0353

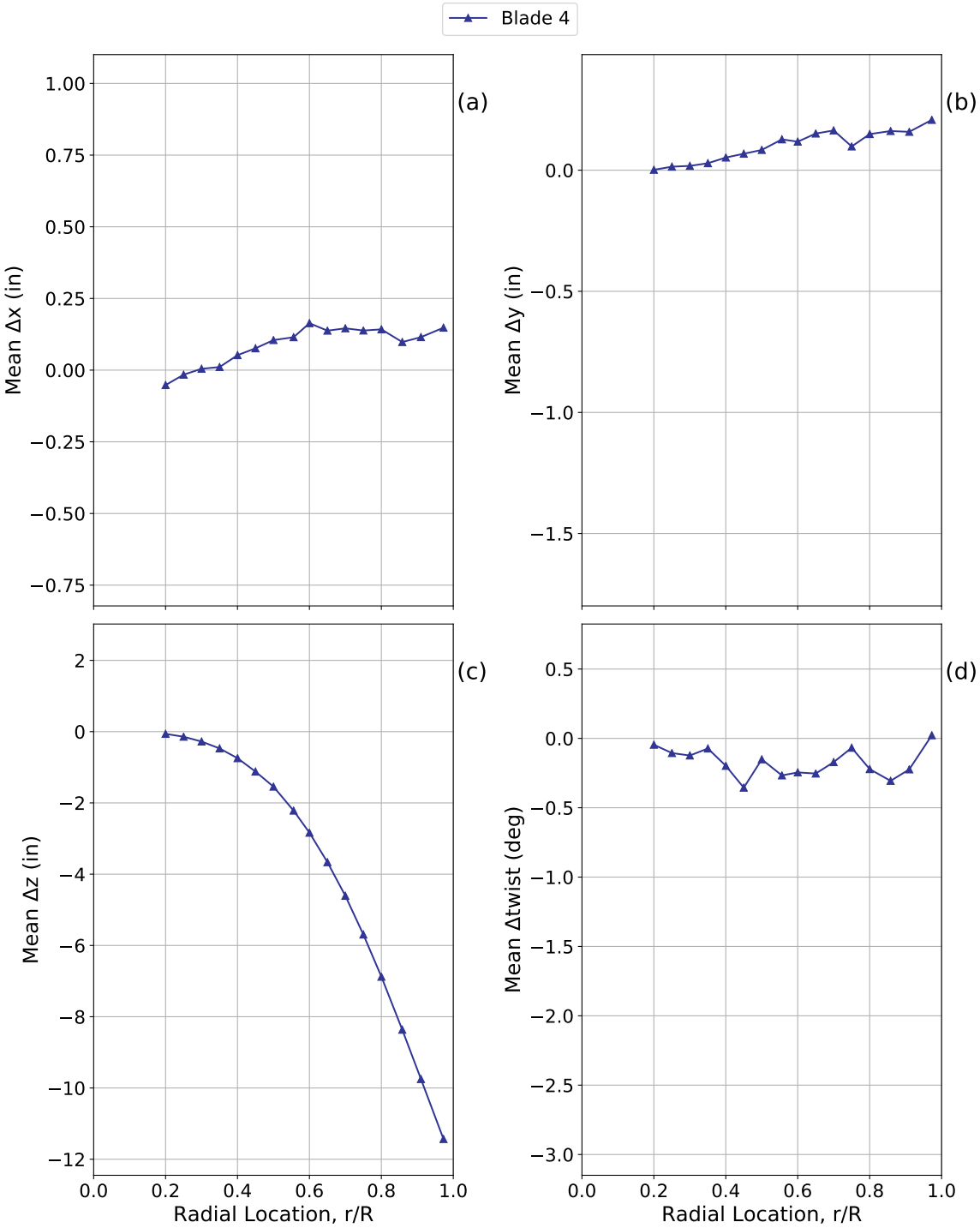


Figure 4.24-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0521	0.0009	0.0017	0.0005	-0.0626	0.0014	-0.0458	0.0095
4	170.16	0.2502	-0.0159	0.0010	0.0145	0.0009	-0.1426	0.0043	-0.1058	0.0265
4	170.16	0.3001	0.0047	0.0012	0.0178	0.0015	-0.2778	0.0055	-0.1234	0.0201
4	170.16	0.3502	0.0107	0.0013	0.0288	0.0028	-0.4716	0.0080	-0.0730	0.0204
4	170.16	0.4002	0.0522	0.0013	0.0523	0.0038	-0.7454	0.0142	-0.1980	0.0272
4	170.16	0.4500	0.0760	0.0015	0.0680	0.0071	-1.1208	0.0157	-0.3555	0.0235
4	170.16	0.5001	0.1048	0.0010	0.0836	0.0078	-1.5441	0.0212	-0.1512	0.0334
4	170.16	0.5560	0.1147	0.0011	0.1273	0.0106	-2.2171	0.0285	-0.2670	0.0354
4	170.16	0.6001	0.1636	0.0019	0.1178	0.0106	-2.8366	0.0313	-0.2454	0.0325
4	170.16	0.6501	0.1376	0.0020	0.1513	0.0133	-3.6648	0.0356	-0.2536	0.0266
4	170.16	0.6999	0.1458	0.0023	0.1642	0.0162	-4.6079	0.0414	-0.1713	0.0254
4	170.16	0.7500	0.1381	0.0027	0.0980	0.0191	-5.6943	0.0472	-0.0677	0.0325
4	170.16	0.8002	0.1422	0.0033	0.1491	0.0221	-6.8793	0.0524	-0.2216	0.0281
4	170.16	0.8582	0.0979	0.0033	0.1617	0.0265	-8.3657	0.0604	-0.3063	0.0251
4	170.16	0.9101	0.1150	0.0040	0.1584	0.0301	-9.7498	0.0670	-0.2235	0.0312
4	170.16	0.9728	0.1480	0.0051	0.2077	0.0349	-11.4328	0.0761	0.0223	0.0358

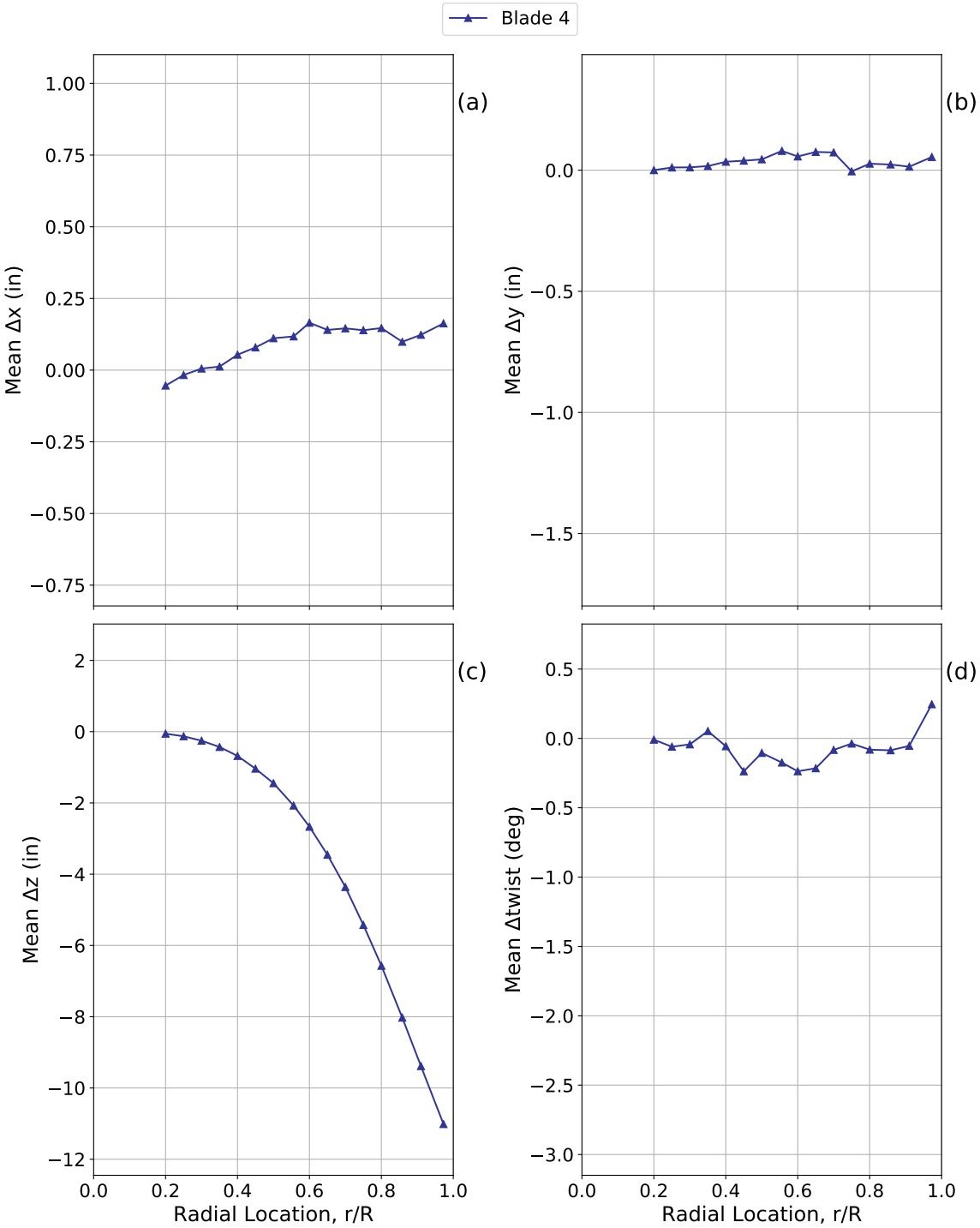


Figure 4.24-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0540	0.0008	0.0002	0.0005	-0.0573	0.0010	-0.0093	0.0162
4	175.08	0.2502	-0.0171	0.0006	0.0112	0.0022	-0.1301	0.0036	-0.0603	0.0219
4	175.08	0.3001	0.0054	0.0020	0.0118	0.0031	-0.2549	0.0045	-0.0430	0.0340
4	175.08	0.3502	0.0124	0.0015	0.0170	0.0038	-0.4307	0.0083	0.0528	0.0344
4	175.08	0.4002	0.0537	0.0017	0.0349	0.0077	-0.6823	0.0132	-0.0569	0.0406
4	175.08	0.4500	0.0791	0.0021	0.0392	0.0070	-1.0393	0.0183	-0.2377	0.0317
4	175.08	0.5001	0.1112	0.0019	0.0447	0.0094	-1.4473	0.0243	-0.1050	0.0219
4	175.08	0.5560	0.1175	0.0026	0.0796	0.0121	-2.0748	0.0292	-0.1744	0.0270
4	175.08	0.6001	0.1653	0.0020	0.0567	0.0121	-2.6686	0.0339	-0.2373	0.0239
4	175.08	0.6501	0.1403	0.0026	0.0753	0.0135	-3.4556	0.0380	-0.2154	0.0223
4	175.08	0.6999	0.1456	0.0031	0.0734	0.0155	-4.3611	0.0437	-0.0831	0.0347
4	175.08	0.7500	0.1392	0.0036	-0.0049	0.0178	-5.4256	0.0502	-0.0375	0.0409
4	175.08	0.8002	0.1467	0.0041	0.0268	0.0196	-6.5713	0.0572	-0.0814	0.0311
4	175.08	0.8582	0.0988	0.0041	0.0235	0.0228	-8.0268	0.0647	-0.0858	0.0377
4	175.08	0.9101	0.1232	0.0054	0.0145	0.0250	-9.3865	0.0719	-0.0539	0.0276
4	175.08	0.9728	0.1630	0.0067	0.0544	0.0295	-11.0133	0.0838	0.2459	0.0343

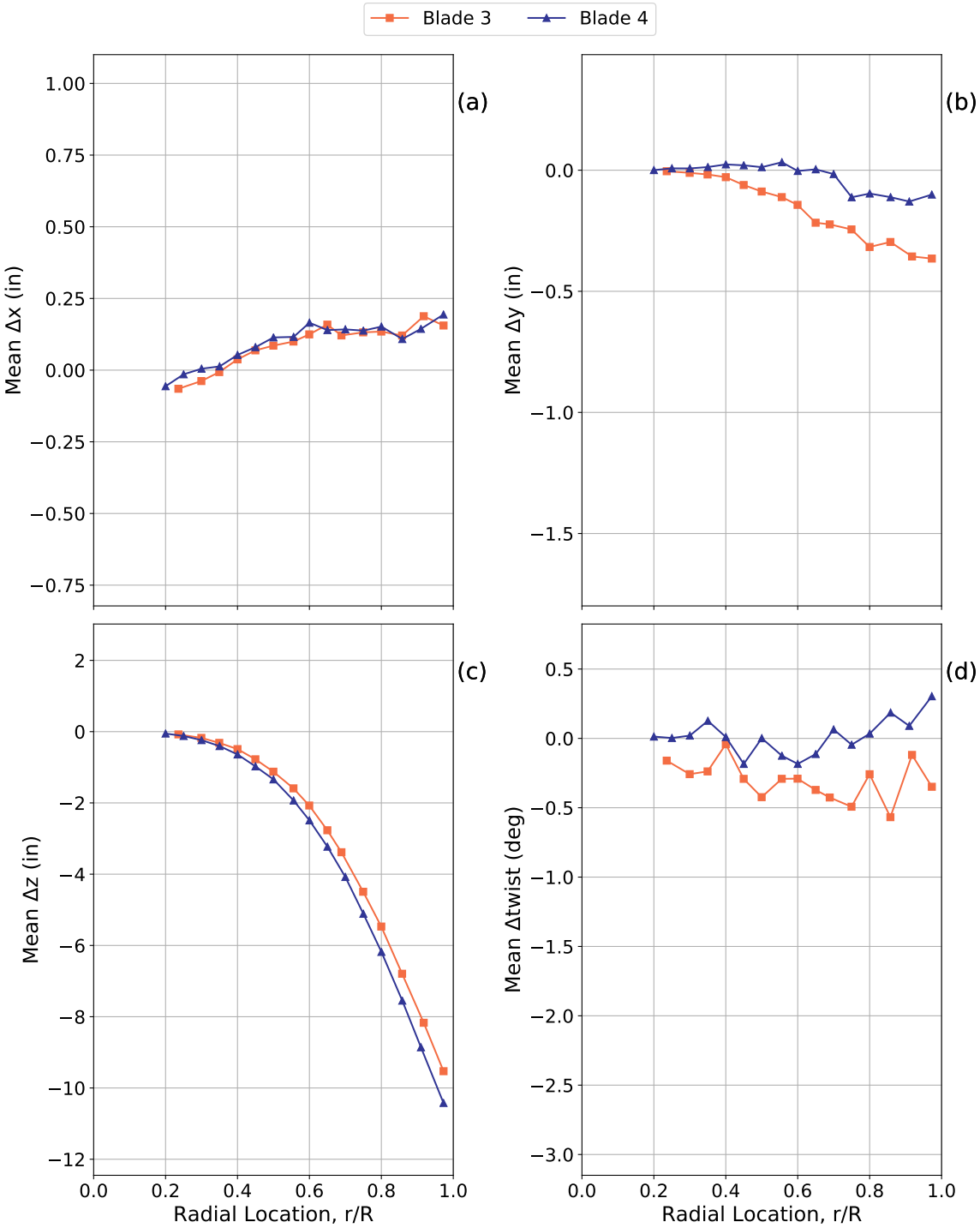


Figure 4.24-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0650	0.0007	-0.0042	0.0013	-0.0773	0.0031	-0.1603	0.0331
3	180.35	0.2995	-0.0381	0.0022	-0.0109	0.0032	-0.1750	0.0090	-0.2579	0.0536
3	180.35	0.3493	-0.0068	0.0020	-0.0176	0.0054	-0.3150	0.0131	-0.2381	0.0541
3	180.35	0.4000	0.0375	0.0016	-0.0288	0.0086	-0.4899	0.0222	-0.0423	0.0590
3	180.35	0.4497	0.0689	0.0021	-0.0611	0.0098	-0.7754	0.0271	-0.2917	0.0555
3	180.35	0.4997	0.0854	0.0025	-0.0880	0.0112	-1.1237	0.0326	-0.4237	0.0528
3	180.35	0.5556	0.0997	0.0021	-0.1111	0.0145	-1.5916	0.0388	-0.2914	0.0529
3	180.35	0.5995	0.1246	0.0023	-0.1431	0.0163	-2.0731	0.0437	-0.2904	0.0519
3	180.35	0.6498	0.1587	0.0022	-0.2168	0.0177	-2.7673	0.0489	-0.3716	0.0594
3	180.35	0.6890	0.1210	0.0022	-0.2237	0.0201	-3.3842	0.0531	-0.4260	0.0601
3	180.35	0.7495	0.1317	0.0032	-0.2445	0.0224	-4.4936	0.0636	-0.4926	0.0468
3	180.35	0.7998	0.1345	0.0033	-0.3170	0.0242	-5.4699	0.0687	-0.2584	0.0614
3	180.35	0.8577	0.1208	0.0042	-0.2964	0.0275	-6.7940	0.0763	-0.5680	0.0591
3	180.35	0.9178	0.1880	0.0038	-0.3562	0.0301	-8.1698	0.0826	-0.1191	0.0748
3	180.35	0.9729	0.1556	0.0053	-0.3648	0.0330	-9.5289	0.0910	-0.3488	0.0752
4	180	0.2001	-0.0562	0.0009	0.0004	0.0008	-0.0539	0.0019	0.0130	0.0193
4	180	0.2502	-0.0146	0.0016	0.0076	0.0024	-0.1221	0.0044	0.0027	0.0316
4	180	0.3001	0.0049	0.0020	0.0074	0.0034	-0.2388	0.0061	0.0202	0.0392
4	180	0.3502	0.0129	0.0019	0.0130	0.0057	-0.4054	0.0098	0.1267	0.0342
4	180	0.4002	0.0530	0.0017	0.0238	0.0093	-0.6406	0.0155	0.0096	0.0320
4	180	0.4500	0.0800	0.0014	0.0202	0.0104	-0.9755	0.0200	-0.1842	0.0327
4	180	0.5001	0.1140	0.0023	0.0124	0.0133	-1.3402	0.0247	0.0011	0.0305
4	180	0.5560	0.1158	0.0016	0.0328	0.0157	-1.9330	0.0323	-0.1251	0.0347
4	180	0.6001	0.1653	0.0020	-0.0032	0.0177	-2.4910	0.0324	-0.1840	0.0376
4	180	0.6501	0.1396	0.0024	0.0036	0.0205	-3.2297	0.0361	-0.1129	0.0354
4	180	0.6999	0.1421	0.0024	-0.0161	0.0224	-4.0794	0.0401	0.0642	0.0271
4	180	0.7500	0.1378	0.0023	-0.1118	0.0258	-5.1119	0.0422	-0.0458	0.0246
4	180	0.8002	0.1518	0.0026	-0.0964	0.0283	-6.1820	0.0454	0.0344	0.0418
4	180	0.8582	0.1084	0.0029	-0.1114	0.0320	-7.5495	0.0510	0.1857	0.0353
4	180	0.9101	0.1439	0.0026	-0.1294	0.0354	-8.8588	0.0534	0.0900	0.0352
4	180	0.9728	0.1939	0.0036	-0.1007	0.0392	-10.4212	0.0636	0.3037	0.0335

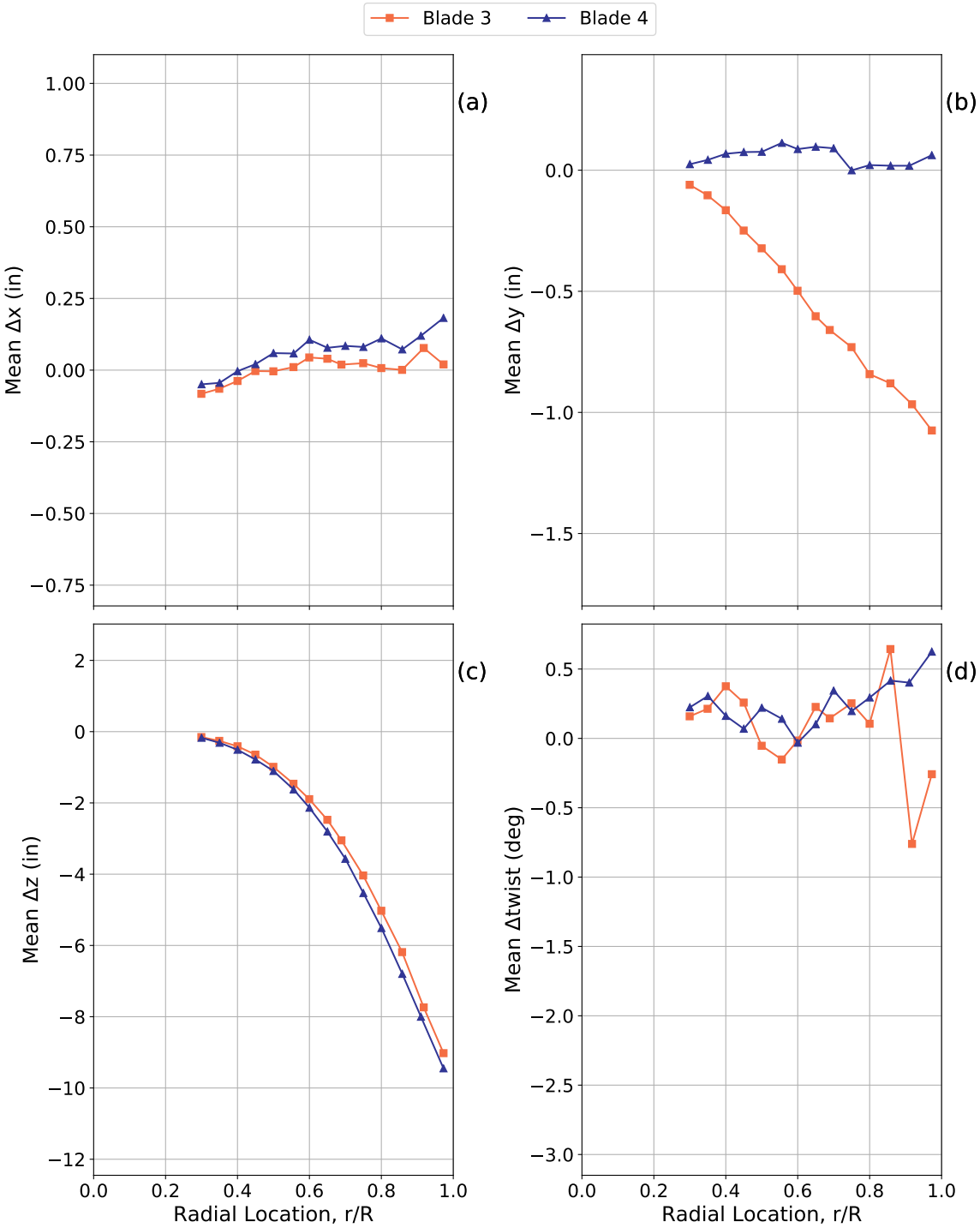


Figure 4.24-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0826	0.0047	-0.0603	0.0060	-0.1519	0.0110	0.1590	0.0416
3	184.92	0.3493	-0.0650	0.0024	-0.1036	0.0103	-0.2588	0.0186	0.2135	0.0550
3	184.92	0.4000	-0.0378	0.0023	-0.1652	0.0164	-0.4106	0.0293	0.3757	0.0546
3	184.92	0.4497	-0.0033	0.0034	-0.2491	0.0211	-0.6450	0.0384	0.2581	0.0540
3	184.92	0.4997	-0.0041	0.0044	-0.3226	0.0267	-0.9881	0.0462	-0.0530	0.0540
3	184.92	0.5556	0.0105	0.0043	-0.4088	0.0325	-1.4624	0.0558	-0.1523	0.0519
3	184.92	0.5995	0.0442	0.0048	-0.4976	0.0368	-1.8947	0.0656	-0.0154	0.0499
3	184.92	0.6498	0.0397	0.0050	-0.6030	0.0430	-2.4745	0.0749	0.2269	0.0676
3	184.92	0.6890	0.0192	0.0056	-0.6597	0.0465	-3.0502	0.0800	0.1448	0.0591
3	184.92	0.7495	0.0242	0.0068	-0.7305	0.0539	-4.0360	0.0906	0.2530	0.0685
3	184.92	0.7998	0.0071	0.0095	-0.8421	0.0586	-5.0268	0.1014	0.1057	0.0503
3	184.92	0.8577	0.0009	0.0132	-0.8800	0.0645	-6.1870	0.1078	0.6440	0.0949
3	184.92	0.9178	0.0772	0.0200	-0.9666	0.0726	-7.7373	0.1185	-0.7608	0.1312
3	184.92	0.9729	0.0199	0.0257	-1.0746	0.0794	-9.0228	0.1227	-0.2582	0.1359
4	184.92	0.3001	-0.0495	0.0094	0.0247	0.0111	-0.1733	0.0373	0.2241	0.0920
4	184.92	0.3502	-0.0444	0.0112	0.0427	0.0192	-0.3128	0.0685	0.3053	0.1242
4	184.92	0.4002	-0.0037	0.0089	0.0678	0.0305	-0.5088	0.1126	0.1620	0.1096
4	184.92	0.4500	0.0208	0.0104	0.0748	0.0382	-0.7824	0.1473	0.0693	0.0986
4	184.92	0.5001	0.0594	0.0106	0.0759	0.0481	-1.1044	0.1832	0.2209	0.1209
4	184.92	0.5560	0.0580	0.0116	0.1128	0.0580	-1.6237	0.2220	0.1412	0.1275
4	184.92	0.6001	0.1059	0.0121	0.0871	0.0647	-2.1361	0.2555	-0.0313	0.1048
4	184.92	0.6501	0.0779	0.0134	0.0967	0.0738	-2.8051	0.2904	0.1018	0.1137
4	184.92	0.6999	0.0845	0.0144	0.0905	0.0832	-3.5698	0.3263	0.3448	0.1204
4	184.92	0.7500	0.0807	0.0162	-0.0006	0.0908	-4.5306	0.3641	0.1967	0.1157
4	184.92	0.8002	0.1106	0.0189	0.0211	0.0987	-5.5129	0.3969	0.2946	0.1240
4	184.92	0.8582	0.0722	0.0210	0.0185	0.1078	-6.7990	0.4432	0.4163	0.1050
4	184.92	0.9101	0.1199	0.0224	0.0184	0.1178	-8.0014	0.4831	0.4020	0.1014
4	184.92	0.9728	0.1820	0.0274	0.0620	0.1261	-9.4499	0.5226	0.6250	0.1320

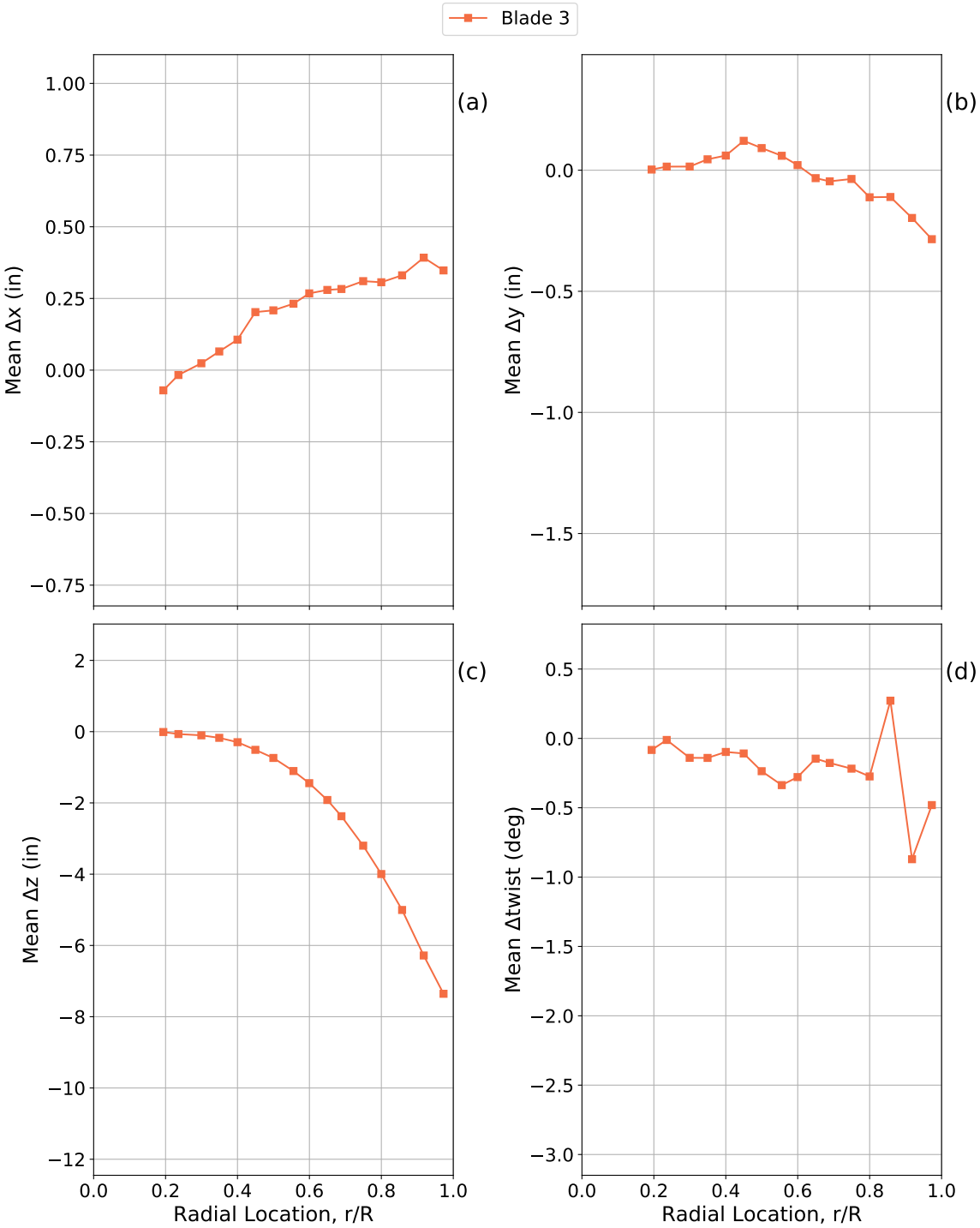


Figure 4.24-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0705	0.0014	0.0027	0.0007	-0.0103	0.0015	-0.0832	0.0193
3	195.12	0.2357	-0.0170	0.0014	0.0148	0.0014	-0.0677	0.0026	-0.0113	0.0325
3	195.12	0.2995	0.0239	0.0012	0.0150	0.0033	-0.1031	0.0044	-0.1402	0.0443
3	195.12	0.3493	0.0652	0.0008	0.0450	0.0051	-0.1736	0.0067	-0.1408	0.0328
3	195.12	0.4000	0.1063	0.0014	0.0605	0.0084	-0.2960	0.0104	-0.0977	0.0444
3	195.12	0.4497	0.2024	0.0028	0.1214	0.0206	-0.5105	0.0193	-0.1087	0.0298
3	195.12	0.4997	0.2085	0.0032	0.0913	0.0238	-0.7382	0.0232	-0.2365	0.0227
3	195.12	0.5556	0.2316	0.0032	0.0596	0.0277	-1.1055	0.0271	-0.3368	0.0204
3	195.12	0.5995	0.2677	0.0046	0.0210	0.0311	-1.4459	0.0319	-0.2790	0.0226
3	195.12	0.6498	0.2797	0.0048	-0.0328	0.0343	-1.9185	0.0350	-0.1460	0.0329
3	195.12	0.6890	0.2830	0.0048	-0.0459	0.0373	-2.3735	0.0380	-0.1771	0.0471
3	195.12	0.7495	0.3104	0.0058	-0.0362	0.0422	-3.2001	0.0444	-0.2182	0.0374
3	195.12	0.7998	0.3065	0.0061	-0.1117	0.0471	-3.9962	0.0447	-0.2743	0.0391
3	195.12	0.8577	0.3307	0.0040	-0.1106	0.0547	-5.0046	0.0626	0.2720	0.0243
3	195.12	0.9178	0.3923	0.0036	-0.1972	0.0612	-6.2822	0.0672	-0.8710	0.0459
3	195.12	0.9729	0.3478	0.0028	-0.2848	0.0682	-7.3567	0.0717	-0.4808	0.0364

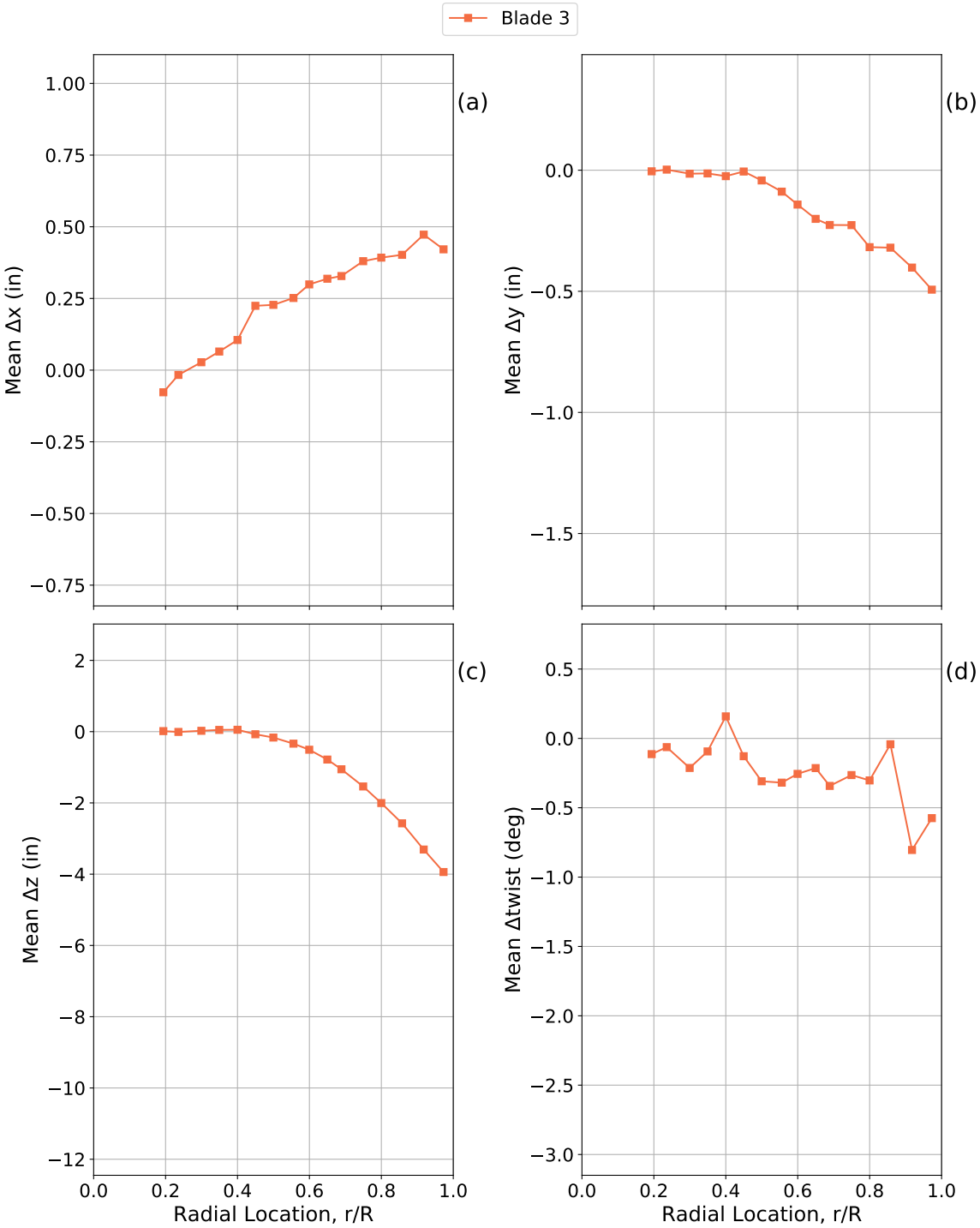


Figure 4.24-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0773	0.0008	-0.0046	0.0007	0.0154	0.0013	-0.1135	0.0135
3	209.88	0.2357	-0.0167	0.0008	0.0024	0.0014	-0.0078	0.0021	-0.0630	0.0190
3	209.88	0.2995	0.0275	0.0007	-0.0144	0.0024	0.0236	0.0041	-0.2131	0.0249
3	209.88	0.3493	0.0649	0.0010	-0.0133	0.0044	0.0487	0.0069	-0.0940	0.0202
3	209.88	0.4000	0.1051	0.0016	-0.0246	0.0066	0.0529	0.0102	0.1588	0.0236
3	209.88	0.4497	0.2243	0.0038	-0.0054	0.0170	-0.0734	0.0188	-0.1285	0.0246
3	209.88	0.4997	0.2276	0.0040	-0.0423	0.0190	-0.1655	0.0210	-0.3092	0.0237
3	209.88	0.5556	0.2516	0.0036	-0.0885	0.0222	-0.3370	0.0230	-0.3190	0.0155
3	209.88	0.5995	0.2990	0.0033	-0.1419	0.0244	-0.5077	0.0242	-0.2558	0.0249
3	209.88	0.6498	0.3188	0.0028	-0.2009	0.0275	-0.7833	0.0274	-0.2141	0.0138
3	209.88	0.6890	0.3282	0.0023	-0.2262	0.0295	-1.0562	0.0293	-0.3426	0.0330
3	209.88	0.7495	0.3800	0.0021	-0.2267	0.0325	-1.5388	0.0336	-0.2644	0.0252
3	209.88	0.7998	0.3924	0.0031	-0.3177	0.0358	-2.0037	0.0374	-0.3031	0.0314
3	209.88	0.8577	0.4022	0.0045	-0.3198	0.0398	-2.5732	0.0391	-0.0423	0.0524
3	209.88	0.9178	0.4726	0.0053	-0.4020	0.0453	-3.3088	0.0402	-0.8046	0.0790
3	209.88	0.9729	0.4213	0.0045	-0.4932	0.0499	-3.9396	0.0480	-0.5749	0.0804

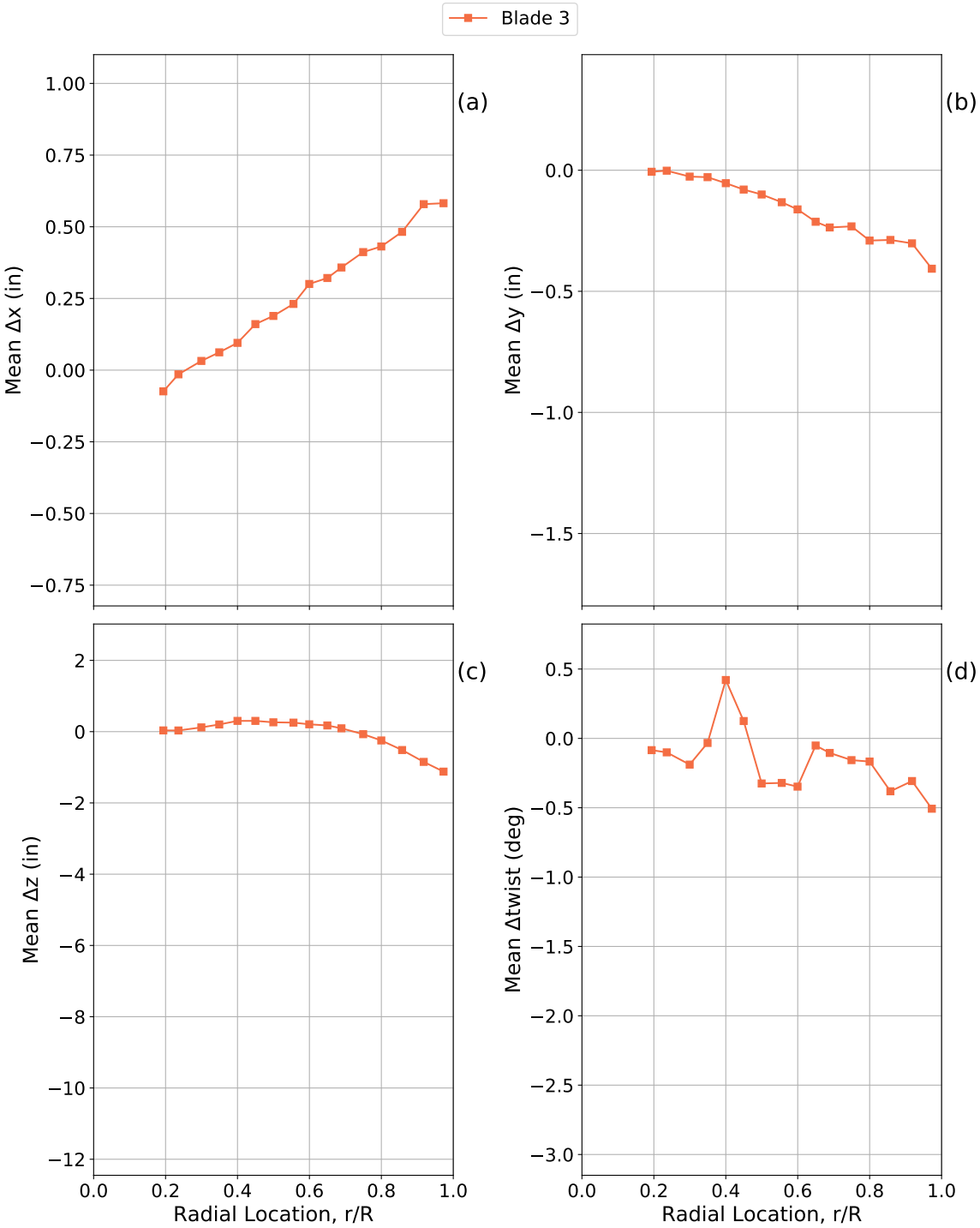


Figure 4.24-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0740	0.0008	-0.0064	0.0005	0.0343	0.0017	-0.0848	0.0148
3	225	0.2357	-0.0147	0.0005	-0.0020	0.0009	0.0325	0.0023	-0.1007	0.0257
3	225	0.2995	0.0321	0.0006	-0.0264	0.0014	0.1191	0.0043	-0.1889	0.0347
3	225	0.3493	0.0621	0.0010	-0.0288	0.0027	0.2014	0.0080	-0.0328	0.0343
3	225	0.4000	0.0951	0.0008	-0.0536	0.0039	0.3021	0.0111	0.4209	0.0394
3	225	0.4497	0.1605	0.0011	-0.0799	0.0051	0.3019	0.0150	0.1252	0.0258
3	225	0.4997	0.1890	0.0013	-0.1003	0.0054	0.2619	0.0169	-0.3250	0.0287
3	225	0.5556	0.2309	0.0013	-0.1323	0.0066	0.2534	0.0203	-0.3210	0.0365
3	225	0.5995	0.3005	0.0017	-0.1618	0.0083	0.2060	0.0220	-0.3478	0.0335
3	225	0.6498	0.3213	0.0017	-0.2129	0.0100	0.1736	0.0255	-0.0514	0.0362
3	225	0.6890	0.3580	0.0014	-0.2364	0.0113	0.0933	0.0277	-0.1048	0.0372
3	225	0.7495	0.4117	0.0018	-0.2319	0.0143	-0.0714	0.0330	-0.1567	0.0390
3	225	0.7998	0.4313	0.0023	-0.2905	0.0170	-0.2473	0.0388	-0.1670	0.0276
3	225	0.8577	0.4823	0.0028	-0.2879	0.0201	-0.5160	0.0410	-0.3814	0.0513
3	225	0.9178	0.5789	0.0031	-0.3020	0.0233	-0.8485	0.0448	-0.3075	0.0430
3	225	0.9729	0.5822	0.0031	-0.4067	0.0269	-1.1219	0.0442	-0.5070	0.0633

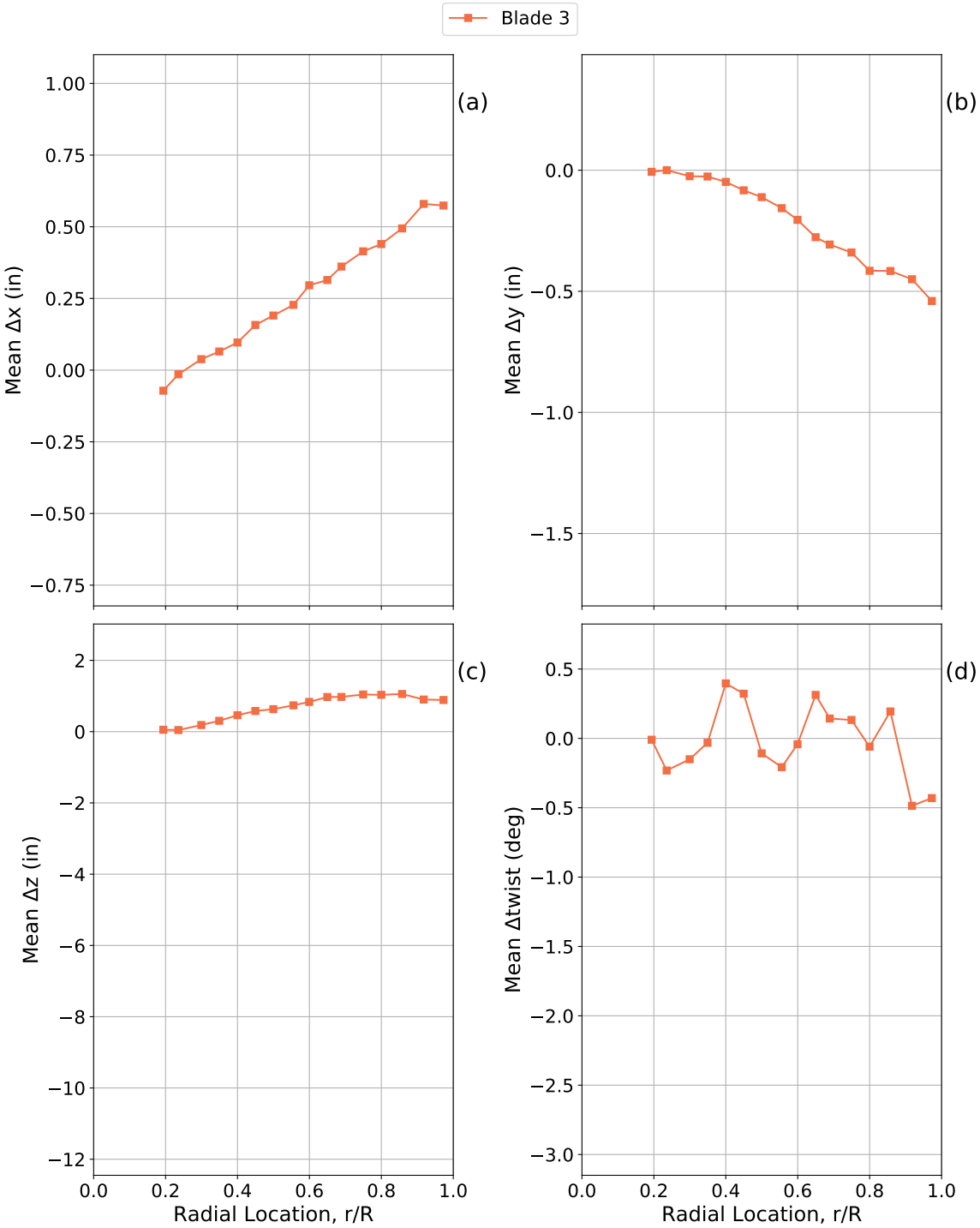


Figure 4.24-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0718	0.0013	-0.0067	0.0007	0.0539	0.0019	-0.0096	0.0173
3	240.12	0.2357	-0.0145	0.0011	0.0001	0.0013	0.0450	0.0023	-0.2315	0.0304
3	240.12	0.2995	0.0382	0.0006	-0.0249	0.0022	0.1859	0.0045	-0.1505	0.0413
3	240.12	0.3493	0.0650	0.0009	-0.0261	0.0036	0.3045	0.0095	-0.0318	0.0337
3	240.12	0.4000	0.0962	0.0018	-0.0483	0.0057	0.4612	0.0125	0.3964	0.0410
3	240.12	0.4497	0.1576	0.0014	-0.0830	0.0073	0.5789	0.0167	0.3221	0.0394
3	240.12	0.4997	0.1904	0.0019	-0.1112	0.0084	0.6311	0.0208	-0.1079	0.0457
3	240.12	0.5556	0.2275	0.0012	-0.1567	0.0101	0.7382	0.0253	-0.2075	0.0406
3	240.12	0.5995	0.2959	0.0022	-0.2050	0.0114	0.8337	0.0274	-0.0420	0.0409
3	240.12	0.6498	0.3142	0.0017	-0.2768	0.0134	0.9720	0.0325	0.3134	0.0440
3	240.12	0.6890	0.3612	0.0018	-0.3069	0.0152	0.9747	0.0357	0.1432	0.0396
3	240.12	0.7495	0.4144	0.0020	-0.3398	0.0178	1.0424	0.0386	0.1329	0.0450
3	240.12	0.7998	0.4396	0.0021	-0.4152	0.0206	1.0335	0.0445	-0.0595	0.0364
3	240.12	0.8577	0.4942	0.0023	-0.4159	0.0232	1.0562	0.0507	0.1943	0.0334
3	240.12	0.9178	0.5797	0.0021	-0.4503	0.0271	0.9006	0.0532	-0.4858	0.0557
3	240.12	0.9729	0.5740	0.0032	-0.5400	0.0294	0.8880	0.0594	-0.4304	0.0311

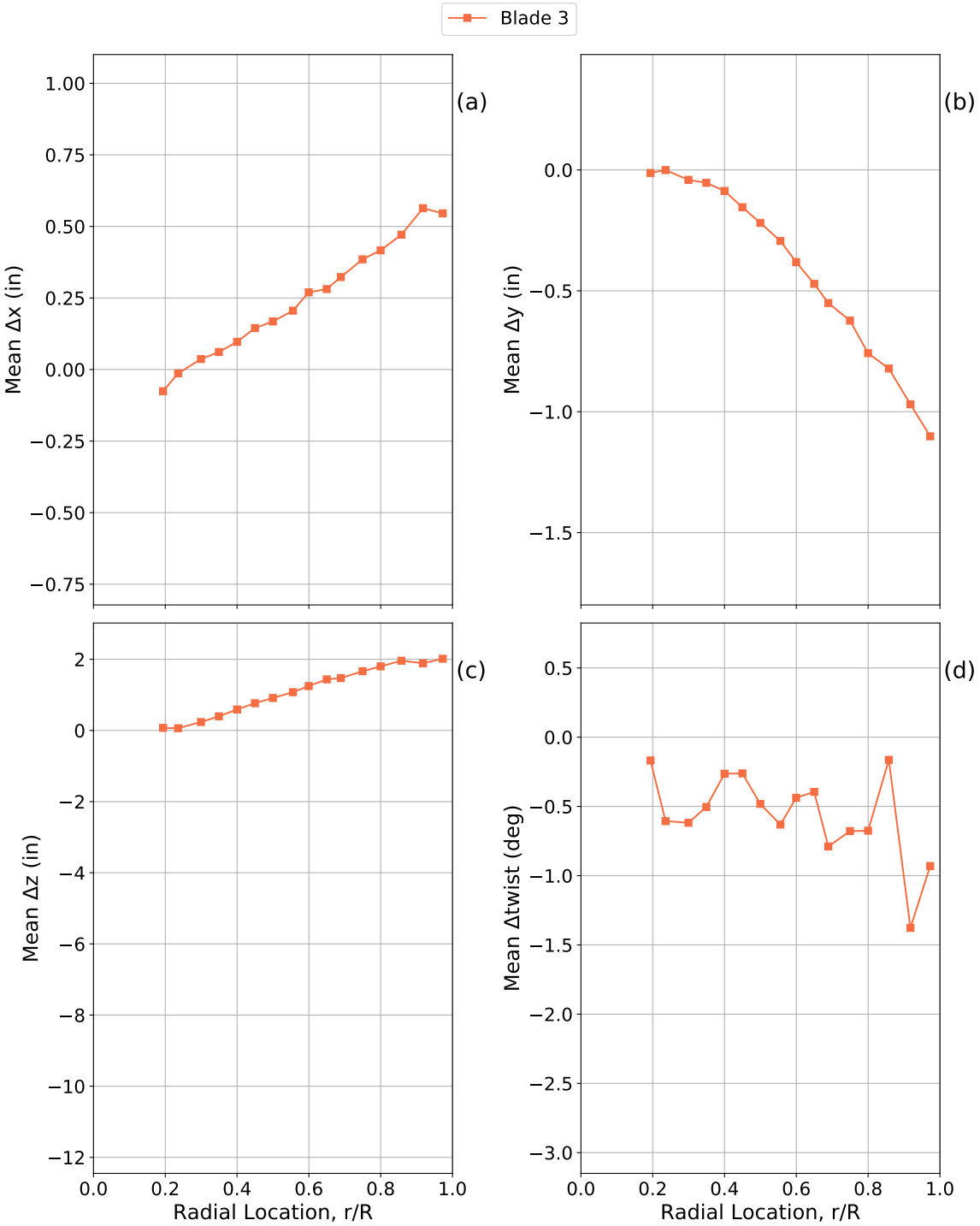


Figure 4.24-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0757	0.0018	-0.0126	0.0007	0.0722	0.0042	-0.1683	0.0246
3	254.88	0.2357	-0.0135	0.0010	-0.0006	0.0012	0.0627	0.0032	-0.6061	0.0762
3	254.88	0.2995	0.0366	0.0006	-0.0412	0.0021	0.2360	0.0111	-0.6181	0.0788
3	254.88	0.3493	0.0612	0.0011	-0.0532	0.0046	0.3981	0.0195	-0.5038	0.0756
3	254.88	0.4000	0.0968	0.0016	-0.0870	0.0065	0.5892	0.0270	-0.2636	0.0817
3	254.88	0.4497	0.1447	0.0013	-0.1543	0.0080	0.7661	0.0354	-0.2614	0.0692
3	254.88	0.4997	0.1679	0.0015	-0.2190	0.0103	0.9118	0.0418	-0.4820	0.0805
3	254.88	0.5556	0.2057	0.0023	-0.2936	0.0122	1.0760	0.0514	-0.6311	0.0728
3	254.88	0.5995	0.2697	0.0021	-0.3810	0.0144	1.2476	0.0560	-0.4377	0.0816
3	254.88	0.6498	0.2810	0.0021	-0.4711	0.0166	1.4357	0.0643	-0.3947	0.0758
3	254.88	0.6890	0.3230	0.0022	-0.5503	0.0182	1.4728	0.0701	-0.7893	0.0736
3	254.88	0.7495	0.3850	0.0025	-0.6231	0.0209	1.6650	0.0790	-0.6784	0.0768
3	254.88	0.7998	0.4164	0.0025	-0.7579	0.0231	1.8007	0.0855	-0.6754	0.0803
3	254.88	0.8577	0.4710	0.0021	-0.8214	0.0271	1.9603	0.0937	-0.1639	0.0793
3	254.88	0.9178	0.5636	0.0025	-0.9692	0.0311	1.8880	0.1043	-1.3770	0.0702
3	254.88	0.9729	0.5456	0.0033	-1.1017	0.0333	2.0154	0.1095	-0.9305	0.0903

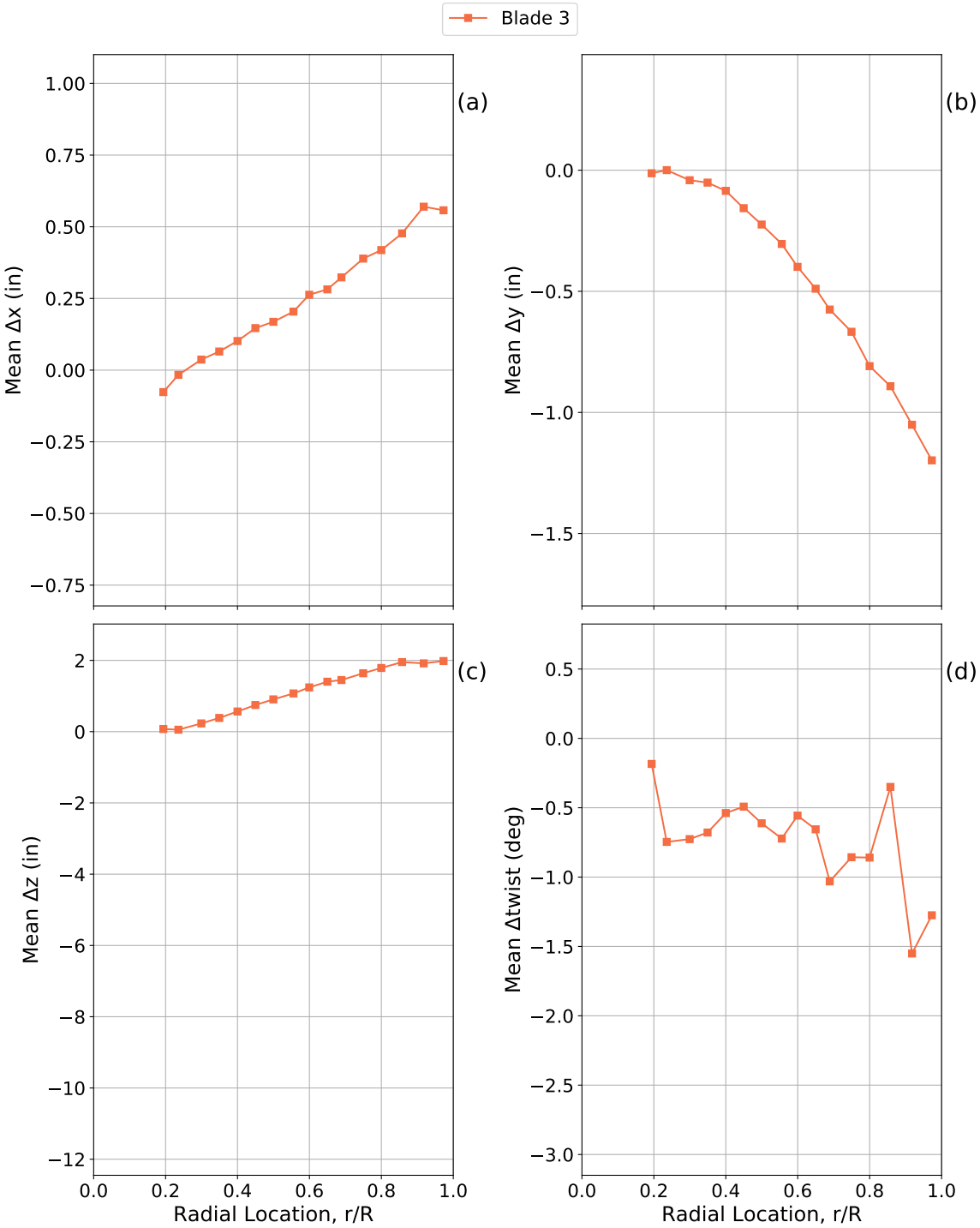


Figure 4.24-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0766	0.0047	-0.0126	0.0012	0.0739	0.0051	-0.1842	0.0440
3	260.16	0.2357	-0.0164	0.0010	0.0003	0.0010	0.0542	0.0053	-0.7464	0.0986
3	260.16	0.2995	0.0368	0.0013	-0.0413	0.0037	0.2311	0.0160	-0.7262	0.1242
3	260.16	0.3493	0.0650	0.0015	-0.0512	0.0065	0.3840	0.0257	-0.6786	0.1259
3	260.16	0.4000	0.1015	0.0015	-0.0852	0.0093	0.5650	0.0382	-0.5385	0.1190
3	260.16	0.4497	0.1465	0.0017	-0.1568	0.0120	0.7473	0.0494	-0.4919	0.1134
3	260.16	0.4997	0.1685	0.0014	-0.2243	0.0148	0.9053	0.0592	-0.6120	0.1173
3	260.16	0.5556	0.2041	0.0016	-0.3044	0.0180	1.0725	0.0721	-0.7221	0.1156
3	260.16	0.5995	0.2629	0.0019	-0.3991	0.0208	1.2414	0.0828	-0.5569	0.1130
3	260.16	0.6498	0.2816	0.0018	-0.4893	0.0234	1.4016	0.0942	-0.6556	0.1155
3	260.16	0.6890	0.3235	0.0020	-0.5753	0.0257	1.4481	0.1032	-1.0308	0.1204
3	260.16	0.7495	0.3890	0.0024	-0.6671	0.0291	1.6385	0.1193	-0.8568	0.1199
3	260.16	0.7998	0.4186	0.0024	-0.8089	0.0328	1.7872	0.1337	-0.8592	0.1091
3	260.16	0.8577	0.4770	0.0030	-0.8918	0.0363	1.9522	0.1488	-0.3499	0.1197
3	260.16	0.9178	0.5701	0.0026	-1.0510	0.0399	1.9167	0.1654	-1.5508	0.1234
3	260.16	0.9729	0.5575	0.0040	-1.1979	0.0443	1.9817	0.1824	-1.2753	0.1192

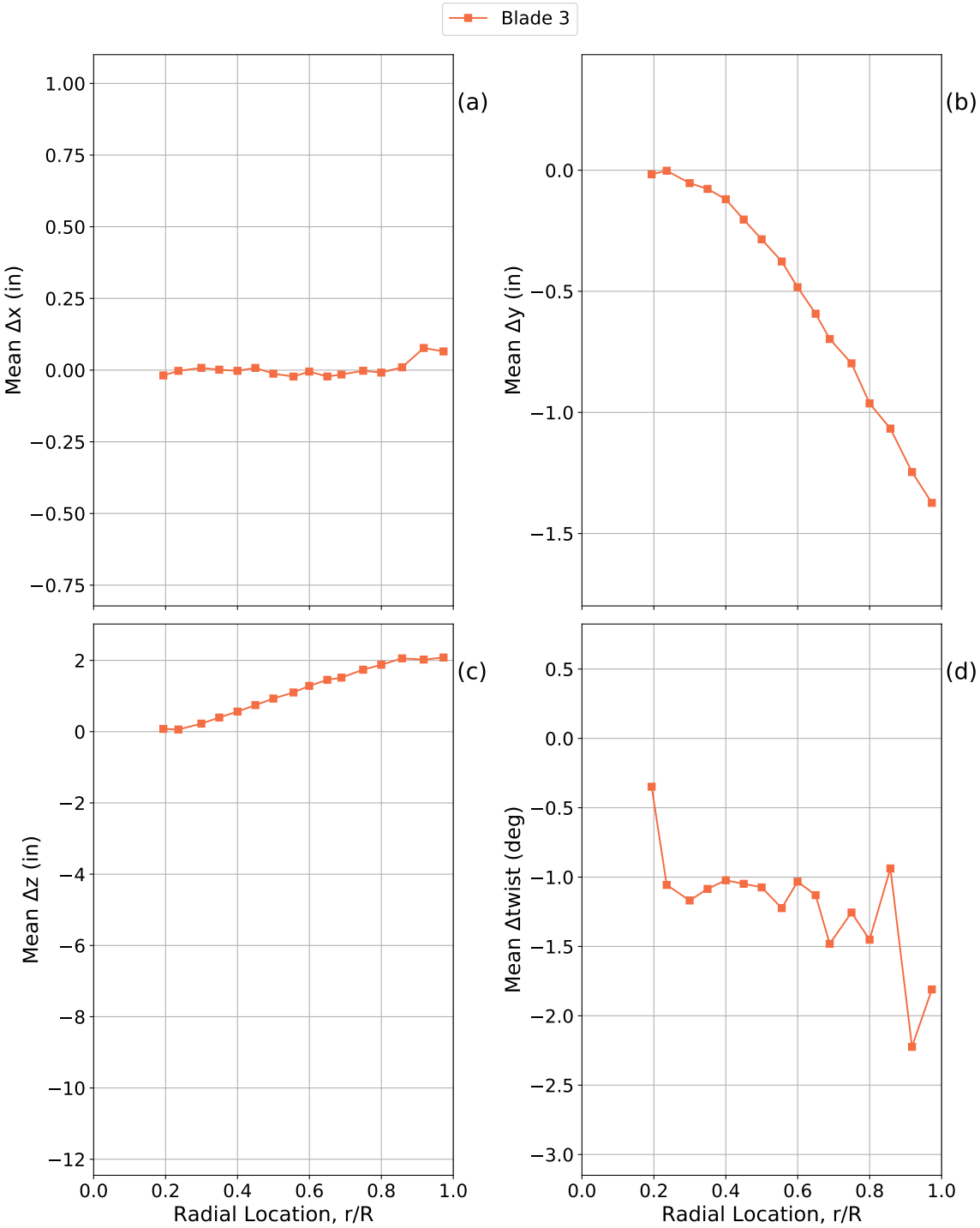


Figure 4.24-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0185	0.0071	-0.0168	0.0020	0.0769	0.0069	-0.3484	0.0371
3	265.08	0.2357	-0.0026	0.0020	-0.0021	0.0018	0.0598	0.0058	-1.0566	0.1186
3	265.08	0.2995	0.0079	0.0021	-0.0534	0.0066	0.2251	0.0196	-1.1685	0.1264
3	265.08	0.3493	0.0015	0.0035	-0.0771	0.0114	0.3965	0.0313	-1.0852	0.1322
3	265.08	0.4000	-0.0025	0.0040	-0.1200	0.0169	0.5632	0.0454	-1.0228	0.1254
3	265.08	0.4497	0.0078	0.0054	-0.2037	0.0224	0.7441	0.0576	-1.0484	0.1281
3	265.08	0.4997	-0.0124	0.0054	-0.2854	0.0272	0.9286	0.0704	-1.0741	0.1241
3	265.08	0.5556	-0.0224	0.0049	-0.3769	0.0328	1.0998	0.0832	-1.2237	0.1366
3	265.08	0.5995	-0.0051	0.0055	-0.4831	0.0373	1.2843	0.0950	-1.0324	0.1353
3	265.08	0.6498	-0.0222	0.0055	-0.5926	0.0423	1.4543	0.1092	-1.1304	0.1285
3	265.08	0.6890	-0.0152	0.0054	-0.6968	0.0465	1.5162	0.1194	-1.4811	0.1302
3	265.08	0.7495	-0.0022	0.0062	-0.7974	0.0526	1.7391	0.1349	-1.2554	0.1394
3	265.08	0.7998	-0.0085	0.0069	-0.9627	0.0566	1.8768	0.1491	-1.4512	0.1324
3	265.08	0.8577	0.0099	0.0082	-1.0670	0.0623	2.0572	0.1643	-0.9378	0.1436
3	265.08	0.9178	0.0772	0.0112	-1.2464	0.0685	2.0227	0.1776	-2.2240	0.1627
3	265.08	0.9729	0.0652	0.0240	-1.3734	0.0817	2.0798	0.1889	-1.8099	0.3477

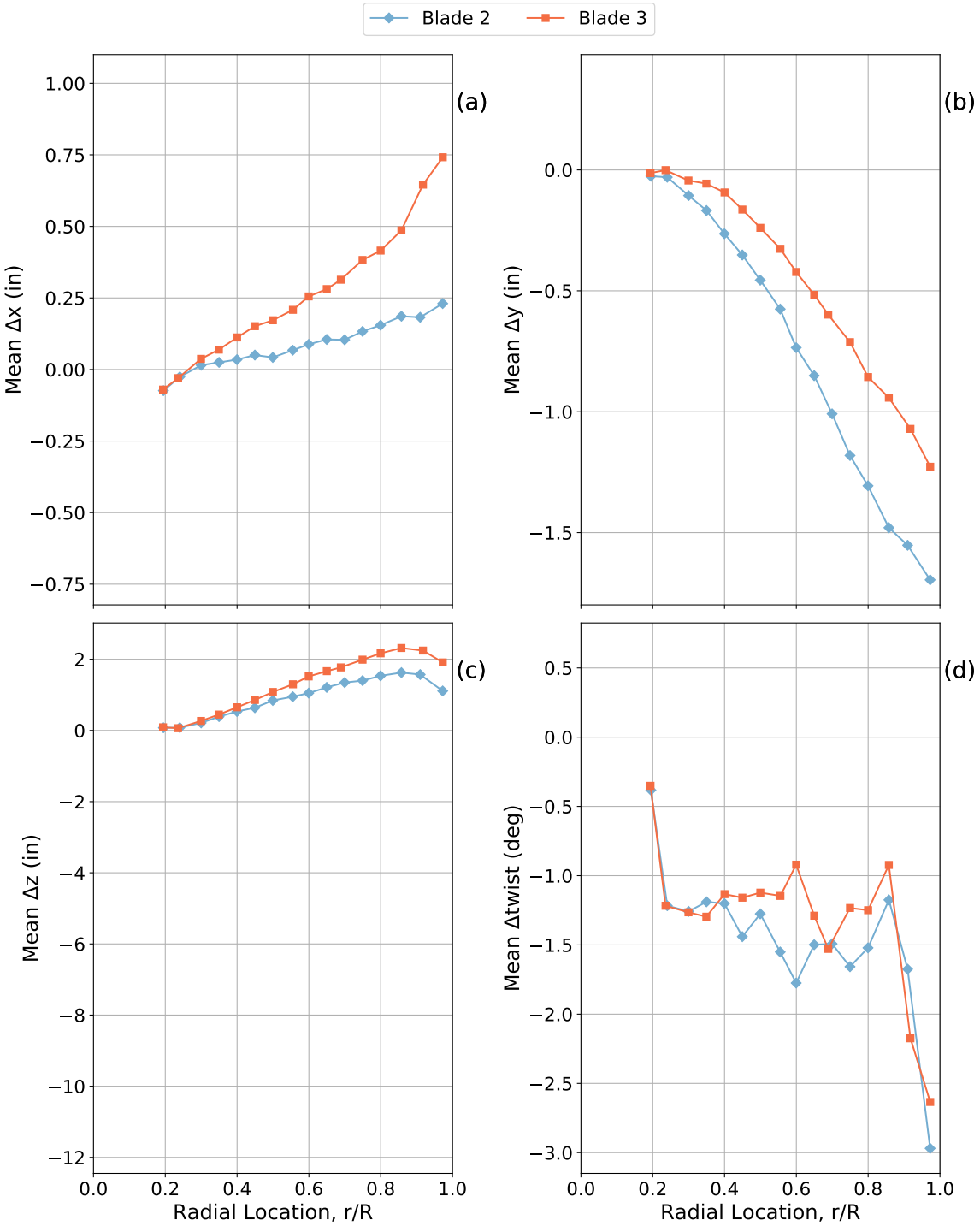


Figure 4.24-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0738	0.0046	-0.0259	0.0016	0.0755	0.0078	-0.3823	0.0412
2	270.35	0.2405	-0.0257	0.0030	-0.0301	0.0018	0.0790	0.0062	-1.2171	0.1243
2	270.35	0.2999	0.0150	0.0022	-0.1062	0.0040	0.2128	0.0173	-1.2582	0.1233
2	270.35	0.3498	0.0249	0.0016	-0.1681	0.0080	0.3892	0.0303	-1.1890	0.1078
2	270.35	0.3998	0.0345	0.0021	-0.2640	0.0106	0.5335	0.0392	-1.2015	0.1232
2	270.35	0.4496	0.0505	0.0023	-0.3517	0.0137	0.6388	0.0488	-1.4403	0.1115
2	270.35	0.4995	0.0422	0.0024	-0.4559	0.0167	0.8436	0.0587	-1.2758	0.1136
2	270.35	0.5551	0.0675	0.0028	-0.5756	0.0201	0.9488	0.0711	-1.5510	0.1163
2	270.35	0.5996	0.0880	0.0029	-0.7351	0.0236	1.0498	0.0796	-1.7754	0.1188
2	270.35	0.6497	0.1051	0.0031	-0.8508	0.0275	1.2107	0.0928	-1.4984	0.1220
2	270.35	0.6996	0.1038	0.0030	-1.0086	0.0309	1.3460	0.1027	-1.4921	0.1144
2	270.35	0.7495	0.1332	0.0031	-1.1811	0.0349	1.4003	0.1142	-1.6575	0.1186
2	270.35	0.7996	0.1548	0.0030	-1.3063	0.0399	1.5349	0.1258	-1.5213	0.1191
2	270.35	0.8578	0.1861	0.0030	-1.4798	0.0443	1.6254	0.1405	-1.1751	0.1120
2	270.35	0.9100	0.1825	0.0036	-1.5522	0.0489	1.5703	0.1506	-1.6752	0.1156
2	270.35	0.9727	0.2305	0.0065	-1.6955	0.0554	1.1102	0.1734	-2.9693	0.1451
3	270	0.1938	-0.0701	0.0122	-0.0130	0.0024	0.0884	0.0116	-0.3512	0.0476
3	270	0.2357	-0.0301	0.0036	-0.0009	0.0013	0.0636	0.0060	-1.2173	0.1591
3	270	0.2995	0.0372	0.0034	-0.0438	0.0070	0.2679	0.0292	-1.2648	0.1629
3	270	0.3493	0.0695	0.0035	-0.0566	0.0119	0.4471	0.0476	-1.2964	0.1574
3	270	0.4000	0.1121	0.0032	-0.0932	0.0173	0.6517	0.0662	-1.1334	0.1646
3	270	0.4497	0.1514	0.0039	-0.1640	0.0220	0.8582	0.0844	-1.1590	0.1612
3	270	0.4997	0.1721	0.0031	-0.2396	0.0274	1.0811	0.1016	-1.1226	0.1673
3	270	0.5556	0.2086	0.0035	-0.3263	0.0330	1.2971	0.1239	-1.1462	0.1570
3	270	0.5995	0.2553	0.0037	-0.4222	0.0372	1.5177	0.1378	-0.9204	0.1707
3	270	0.6498	0.2809	0.0036	-0.5166	0.0425	1.6656	0.1577	-1.2893	0.1597
3	270	0.6890	0.3136	0.0038	-0.5984	0.0469	1.7715	0.1710	-1.5286	0.1677
3	270	0.7495	0.3827	0.0044	-0.7122	0.0540	1.9887	0.1939	-1.2335	0.1692
3	270	0.7998	0.4155	0.0049	-0.8566	0.0602	2.1670	0.2124	-1.2495	0.1660
3	270	0.8577	0.4862	0.0048	-0.9419	0.0661	2.3173	0.2376	-0.9224	0.1652
3	270	0.9178	0.6459	0.0044	-1.0710	0.0747	2.2451	0.2593	-2.1745	0.1754
3	270	0.9729	0.7417	0.0074	-1.2275	0.0802	1.9110	0.2875	-2.6343	0.1436

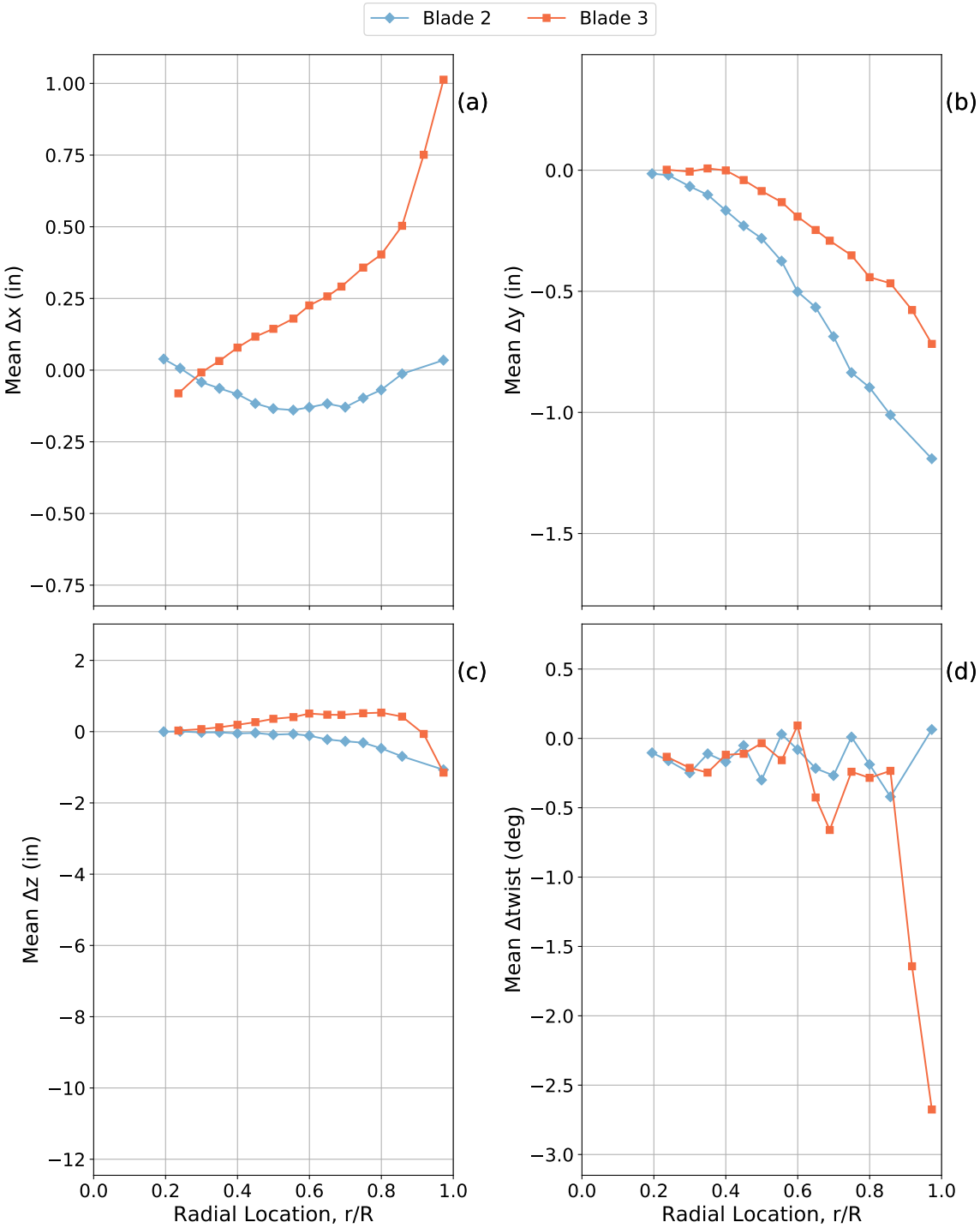


Figure 4.24-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0388	0.0015	-0.0144	0.0009	-0.0009	0.0018	-0.1039	0.0165
2	274.92	0.2405	0.0065	0.0007	-0.0204	0.0011	0.0075	0.0033	-0.1606	0.0308
2	274.92	0.2999	-0.0422	0.0006	-0.0670	0.0023	-0.0224	0.0056	-0.2487	0.0325
2	274.92	0.3498	-0.0636	0.0009	-0.1018	0.0044	-0.0204	0.0079	-0.1107	0.0319
2	274.92	0.3998	-0.0839	0.0014	-0.1662	0.0061	-0.0494	0.0129	-0.1693	0.0397
2	274.92	0.4496	-0.1163	0.0015	-0.2294	0.0075	-0.0360	0.0143	-0.0512	0.0358
2	274.92	0.4995	-0.1343	0.0012	-0.2814	0.0105	-0.0844	0.0225	-0.3002	0.0571
2	274.92	0.5551	-0.1394	0.0027	-0.3752	0.0115	-0.0655	0.0236	0.0301	0.0524
2	274.92	0.5996	-0.1297	0.0025	-0.5017	0.0130	-0.1135	0.0306	-0.0810	0.0670
2	274.92	0.6497	-0.1172	0.0025	-0.5660	0.0154	-0.2205	0.0365	-0.2159	0.0411
2	274.92	0.6996	-0.1292	0.0015	-0.6867	0.0173	-0.2698	0.0422	-0.2677	0.0377
2	274.92	0.7495	-0.0973	0.0031	-0.8358	0.0196	-0.3110	0.0445	0.0098	0.0614
2	274.92	0.7996	-0.0689	0.0051	-0.8968	0.0216	-0.4695	0.0562	-0.1877	0.0856
2	274.92	0.8578	-0.0129	0.0051	-1.0105	0.0248	-0.6941	0.0570	-0.4210	0.1486
2	274.92	0.9727	0.0347	0.0230	-1.1911	0.0315	-1.0690	0.1033	0.0640	0.3918
3	274.92	0.2357	-0.0810	0.0033	0.0020	0.0019	0.0305	0.0089	-0.1327	0.0951
3	274.92	0.2995	-0.0080	0.0019	-0.0058	0.0042	0.0703	0.0178	-0.2124	0.1528
3	274.92	0.3493	0.0318	0.0016	0.0073	0.0078	0.1219	0.0323	-0.2465	0.1157
3	274.92	0.4000	0.0786	0.0016	-0.0009	0.0119	0.1915	0.0477	-0.1181	0.1269
3	274.92	0.4497	0.1168	0.0023	-0.0407	0.0151	0.2660	0.0584	-0.1112	0.1302
3	274.92	0.4997	0.1440	0.0023	-0.0861	0.0181	0.3597	0.0714	-0.0343	0.1242
3	274.92	0.5556	0.1797	0.0024	-0.1321	0.0218	0.4077	0.0838	-0.1571	0.1332
3	274.92	0.5995	0.2257	0.0021	-0.1915	0.0257	0.5084	0.0941	0.0930	0.1321
3	274.92	0.6498	0.2572	0.0028	-0.2469	0.0297	0.4752	0.1065	-0.4259	0.1495
3	274.92	0.6890	0.2914	0.0022	-0.2910	0.0330	0.4703	0.1182	-0.6603	0.1280
3	274.92	0.7495	0.3577	0.0034	-0.3515	0.0376	0.5164	0.1351	-0.2405	0.1365
3	274.92	0.7998	0.4033	0.0034	-0.4418	0.0426	0.5336	0.1504	-0.2843	0.1344
3	274.92	0.8577	0.5034	0.0046	-0.4669	0.0481	0.4219	0.1679	-0.2340	0.1519
3	274.92	0.9178	0.7512	0.0043	-0.5773	0.0572	-0.0648	0.1769	-1.6430	0.1320
3	274.92	0.9729	1.0130	0.0043	-0.7172	0.0601	-1.1499	0.1871	-2.6757	0.1723

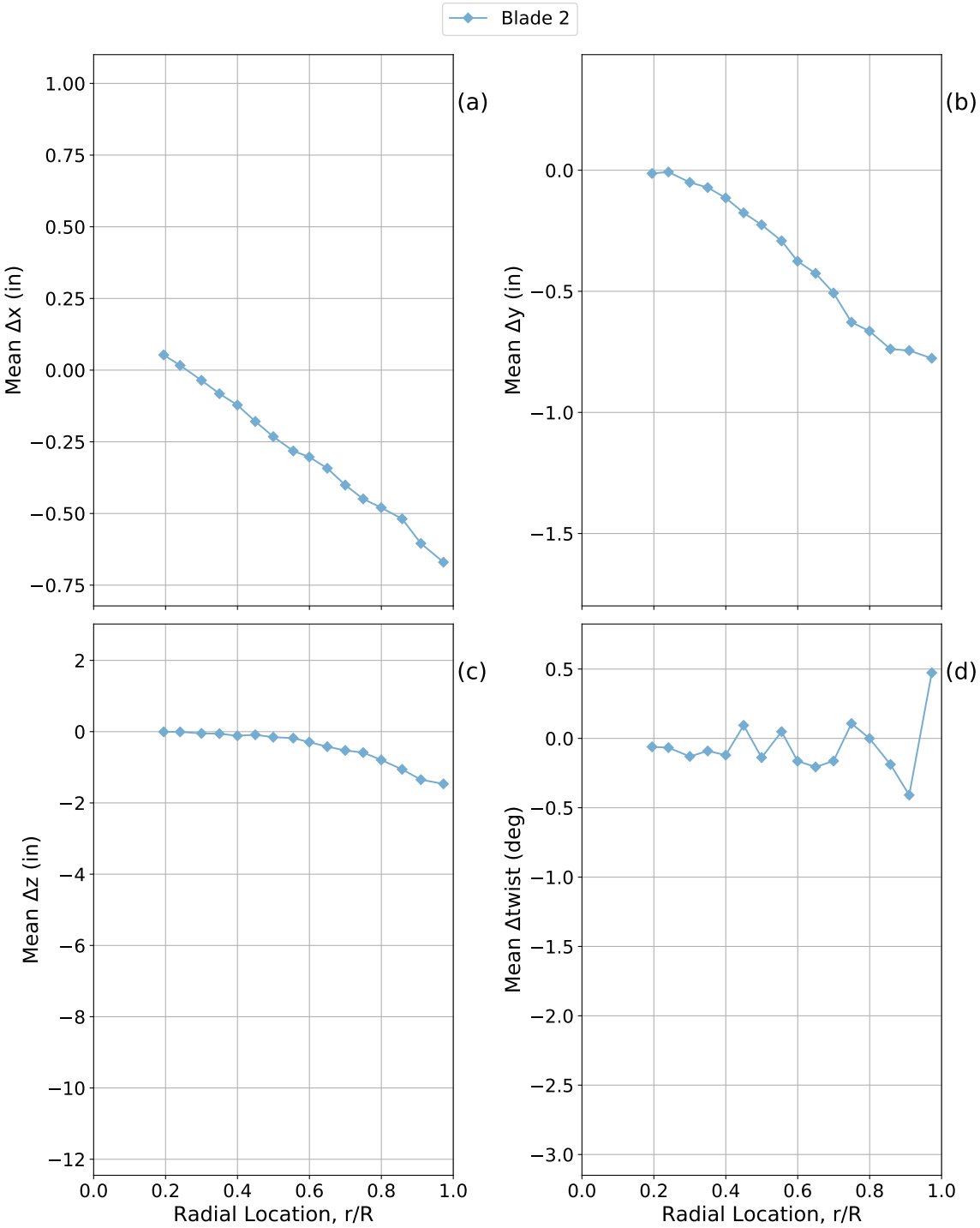


Figure 4.24-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0530	0.0012	-0.0133	0.0010	-0.0053	0.0012	-0.0609	0.0330
2	285.12	0.2405	0.0165	0.0010	-0.0073	0.0015	-0.0069	0.0038	-0.0668	0.0315
2	285.12	0.2999	-0.0356	0.0010	-0.0503	0.0037	-0.0495	0.0045	-0.1302	0.0638
2	285.12	0.3498	-0.0822	0.0018	-0.0716	0.0062	-0.0572	0.0081	-0.0907	0.0361
2	285.12	0.3998	-0.1218	0.0019	-0.1145	0.0093	-0.1154	0.0099	-0.1206	0.0384
2	285.12	0.4496	-0.1791	0.0022	-0.1759	0.0102	-0.0880	0.0108	0.0942	0.0512
2	285.12	0.4995	-0.2320	0.0015	-0.2255	0.0128	-0.1562	0.0154	-0.1381	0.0418
2	285.12	0.5551	-0.2819	0.0021	-0.2917	0.0144	-0.1817	0.0186	0.0485	0.0421
2	285.12	0.5996	-0.3030	0.0019	-0.3757	0.0166	-0.2933	0.0213	-0.1639	0.0419
2	285.12	0.6497	-0.3424	0.0020	-0.4260	0.0201	-0.4221	0.0279	-0.2060	0.0717
2	285.12	0.6996	-0.4008	0.0021	-0.5071	0.0223	-0.5276	0.0321	-0.1632	0.0851
2	285.12	0.7495	-0.4491	0.0030	-0.6277	0.0262	-0.5875	0.0403	0.1076	0.0485
2	285.12	0.7996	-0.4797	0.0039	-0.6644	0.0299	-0.7947	0.0464	-0.0002	0.0418
2	285.12	0.8578	-0.5188	0.0045	-0.7384	0.0326	-1.0594	0.0540	-0.1878	0.0502
2	285.12	0.9100	-0.6045	0.0048	-0.7446	0.0357	-1.3479	0.0651	-0.4087	0.0888
2	285.12	0.9727	-0.6699	0.0058	-0.7766	0.0425	-1.4656	0.0717	0.4733	0.1242

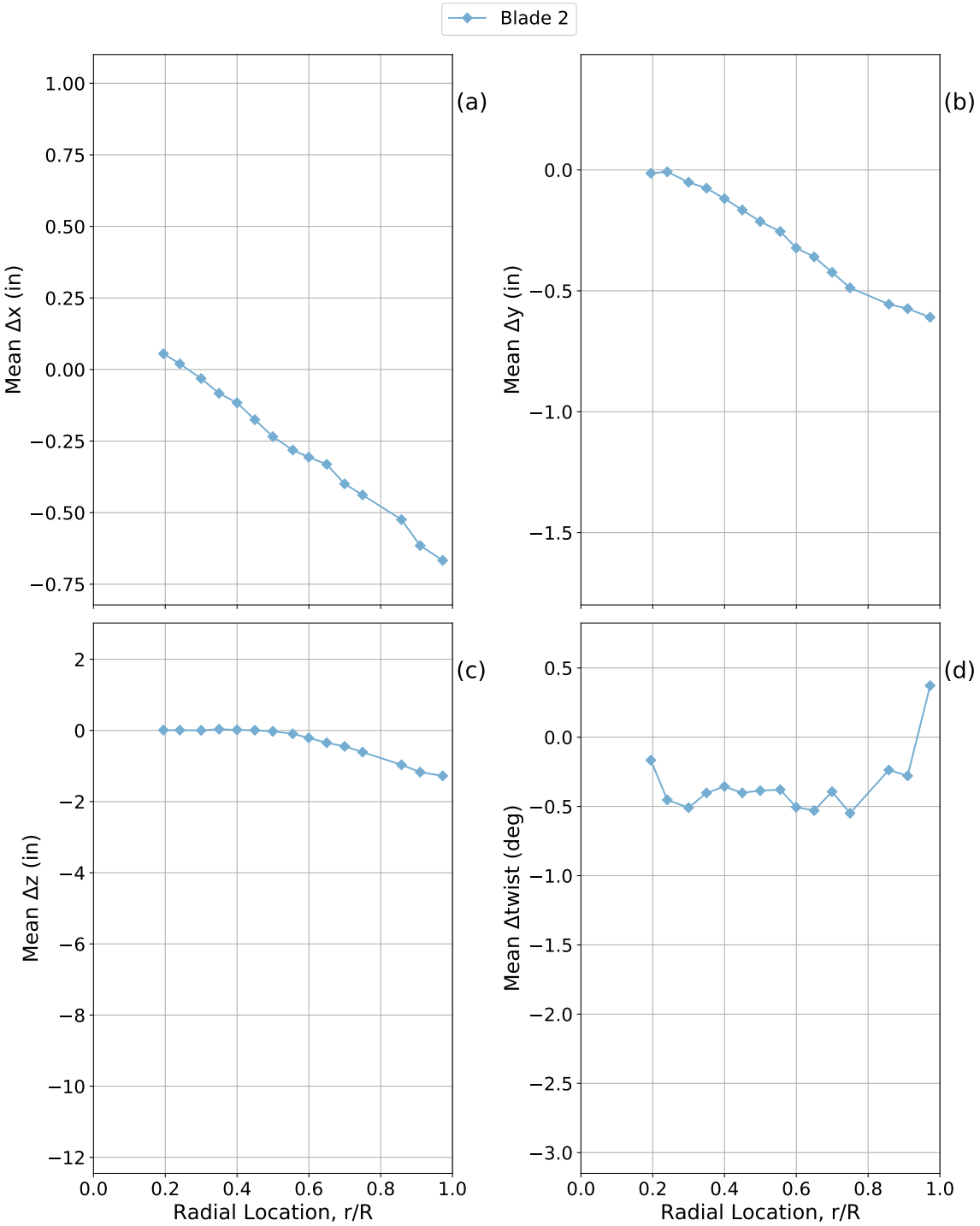


Figure 4.24-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0552	0.0017	-0.0138	0.0006	0.0100	0.0020	-0.1663	0.0300
2	299.88	0.2405	0.0198	0.0010	-0.0078	0.0036	0.0088	0.0056	-0.4529	0.0455
2	299.88	0.2999	-0.0315	0.0024	-0.0509	0.0054	0.0017	0.0058	-0.5092	0.0521
2	299.88	0.3498	-0.0832	0.0011	-0.0756	0.0064	0.0346	0.0083	-0.4026	0.0673
2	299.88	0.3998	-0.1162	0.0027	-0.1186	0.0139	0.0170	0.0142	-0.3563	0.0521
2	299.88	0.4496	-0.1753	0.0023	-0.1659	0.0163	0.0064	0.0146	-0.4019	0.0646
2	299.88	0.4995	-0.2344	0.0030	-0.2133	0.0199	-0.0246	0.0176	-0.3860	0.0268
2	299.88	0.5551	-0.2813	0.0018	-0.2547	0.0231	-0.0935	0.0187	-0.3791	0.0437
2	299.88	0.5996	-0.3065	0.0020	-0.3226	0.0272	-0.2101	0.0207	-0.5058	0.0433
2	299.88	0.6497	-0.3312	0.0014	-0.3595	0.0303	-0.3459	0.0222	-0.5298	0.0440
2	299.88	0.6996	-0.3997	0.0020	-0.4235	0.0341	-0.4485	0.0249	-0.3935	0.0440
2	299.88	0.7495	-0.4382	0.0019	-0.4875	0.0392	-0.6074	0.0279	-0.5492	0.0445
2	299.88	0.8578	-0.5242	0.0026	-0.5554	0.0477	-0.9657	0.0322	-0.2370	0.0475
2	299.88	0.9100	-0.6152	0.0026	-0.5737	0.0518	-1.1712	0.0342	-0.2790	0.0409
2	299.88	0.9727	-0.6668	0.0046	-0.6093	0.0574	-1.2765	0.0395	0.3722	0.0486

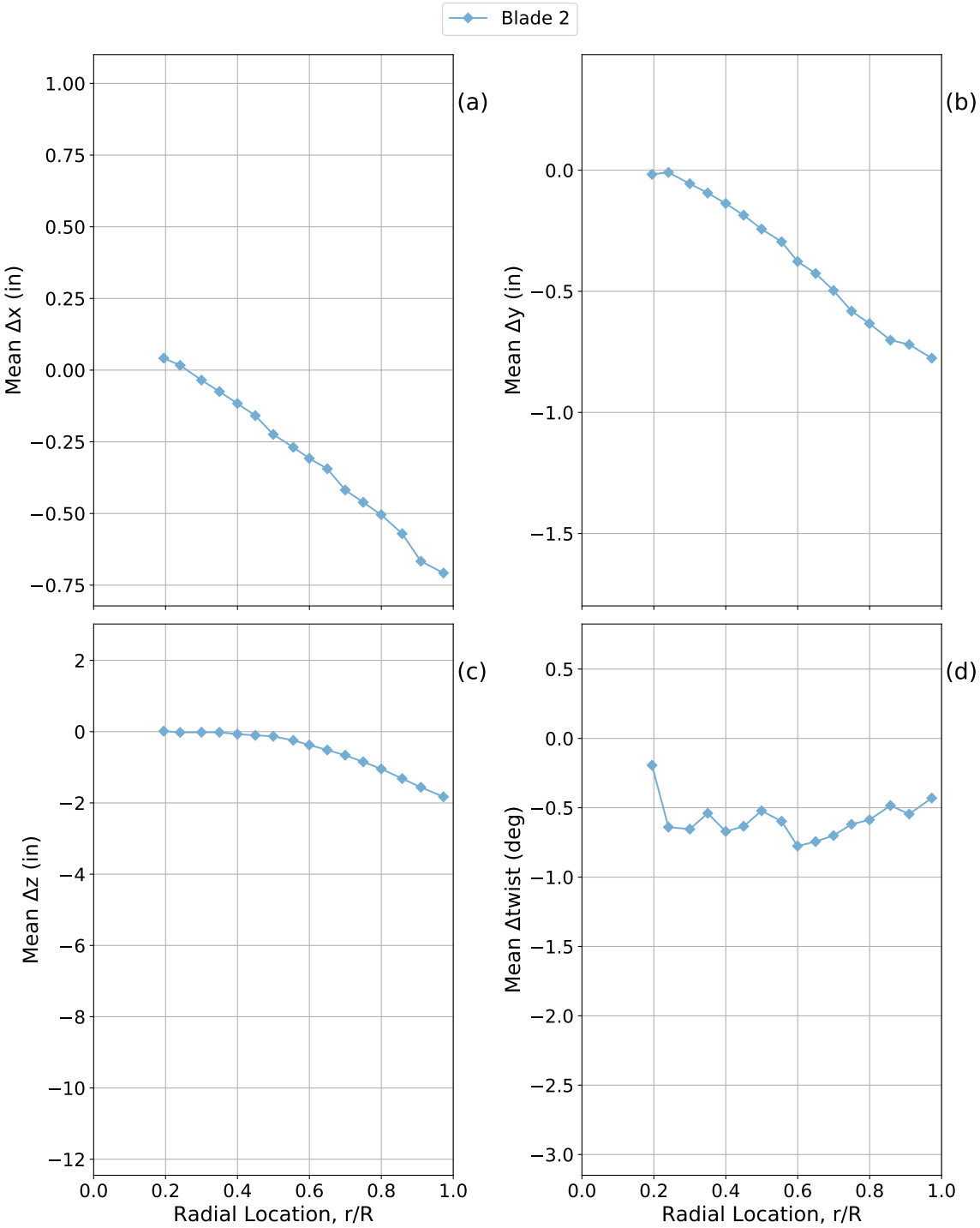


Figure 4.24-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0418	0.0025	-0.0170	0.0006	0.0132	0.0033	-0.1935	0.0272
2	315	0.2405	0.0168	0.0017	-0.0091	0.0026	-0.0216	0.0071	-0.6397	0.0399
2	315	0.2999	-0.0348	0.0015	-0.0557	0.0039	-0.0176	0.0156	-0.6544	0.0631
2	315	0.3498	-0.0748	0.0016	-0.0942	0.0061	-0.0184	0.0239	-0.5396	0.0663
2	315	0.3998	-0.1164	0.0030	-0.1373	0.0109	-0.0706	0.0389	-0.6711	0.0527
2	315	0.4496	-0.1588	0.0028	-0.1858	0.0128	-0.1029	0.0496	-0.6341	0.0526
2	315	0.4995	-0.2243	0.0020	-0.2430	0.0162	-0.1310	0.0606	-0.5222	0.0436
2	315	0.5551	-0.2692	0.0020	-0.2954	0.0174	-0.2443	0.0747	-0.5975	0.0439
2	315	0.5996	-0.3079	0.0023	-0.3767	0.0220	-0.3746	0.0866	-0.7764	0.0415
2	315	0.6497	-0.3441	0.0026	-0.4262	0.0242	-0.5152	0.0963	-0.7439	0.0469
2	315	0.6996	-0.4182	0.0026	-0.4967	0.0269	-0.6616	0.1075	-0.7005	0.0511
2	315	0.7495	-0.4610	0.0023	-0.5818	0.0296	-0.8479	0.1168	-0.6191	0.0523
2	315	0.7996	-0.5043	0.0019	-0.6331	0.0327	-1.0449	0.1307	-0.5873	0.0432
2	315	0.8578	-0.5705	0.0017	-0.7018	0.0367	-1.3162	0.1454	-0.4842	0.0494
2	315	0.9100	-0.6666	0.0022	-0.7197	0.0396	-1.5619	0.1610	-0.5456	0.0429
2	315	0.9727	-0.7076	0.0032	-0.7760	0.0445	-1.8278	0.1780	-0.4300	0.0522

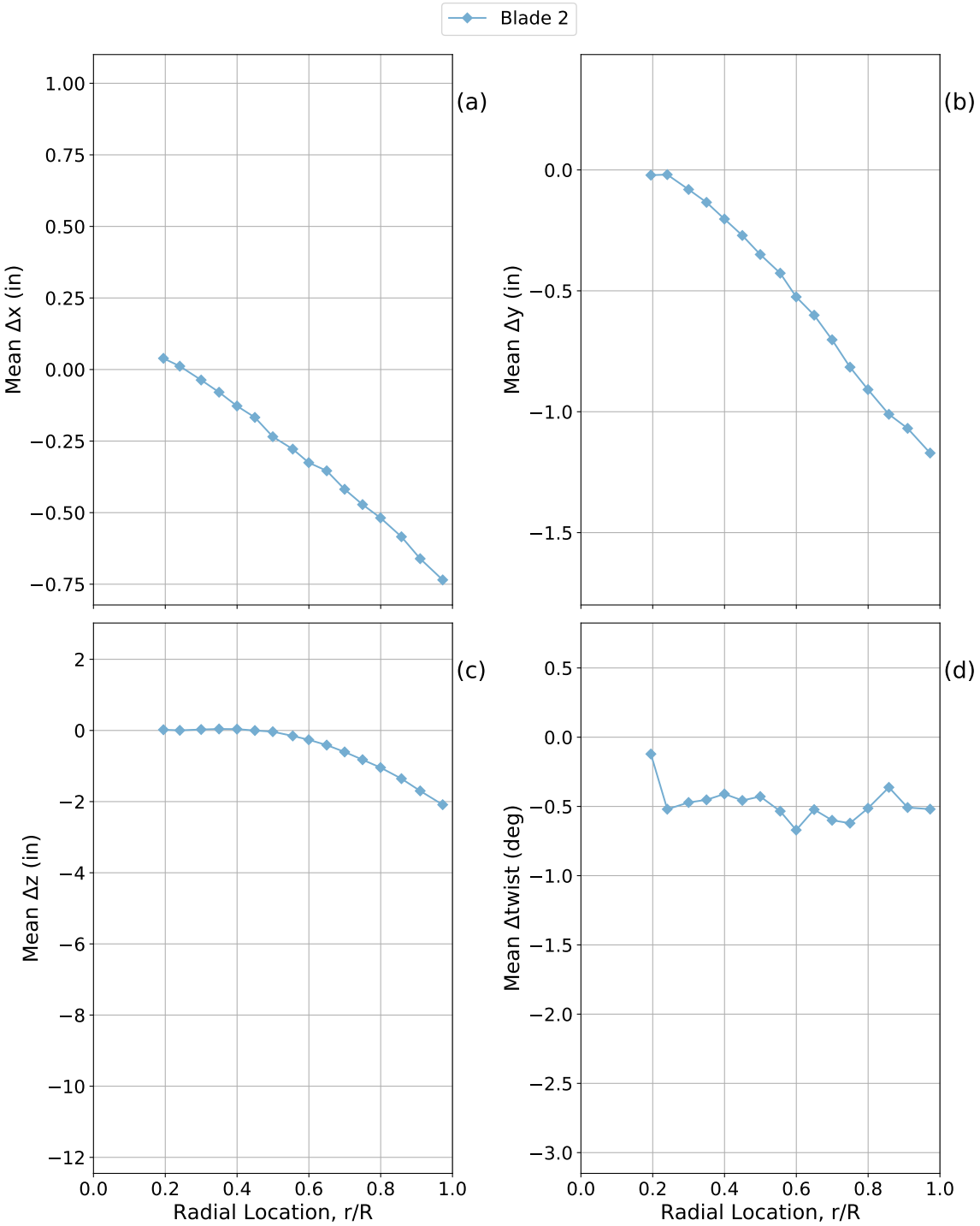


Figure 4.24-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0391	0.0019	-0.0216	0.0008	0.0202	0.0016	-0.1214	0.0264
2	330.12	0.2405	0.0116	0.0019	-0.0194	0.0039	0.0032	0.0040	-0.5201	0.0414
2	330.12	0.2999	-0.0367	0.0020	-0.0809	0.0063	0.0265	0.0089	-0.4715	0.0624
2	330.12	0.3498	-0.0793	0.0021	-0.1341	0.0099	0.0415	0.0101	-0.4523	0.0450
2	330.12	0.3998	-0.1275	0.0032	-0.2031	0.0175	0.0371	0.0197	-0.4100	0.0557
2	330.12	0.4496	-0.1673	0.0020	-0.2711	0.0216	-0.0015	0.0214	-0.4568	0.0647
2	330.12	0.4995	-0.2347	0.0017	-0.3498	0.0257	-0.0349	0.0301	-0.4286	0.0571
2	330.12	0.5551	-0.2780	0.0012	-0.4270	0.0286	-0.1545	0.0339	-0.5343	0.0499
2	330.12	0.5996	-0.3253	0.0024	-0.5252	0.0324	-0.2613	0.0401	-0.6708	0.0360
2	330.12	0.6497	-0.3539	0.0020	-0.6007	0.0366	-0.4115	0.0438	-0.5228	0.0404
2	330.12	0.6996	-0.4184	0.0028	-0.7024	0.0404	-0.6040	0.0485	-0.6000	0.0635
2	330.12	0.7495	-0.4718	0.0019	-0.8157	0.0460	-0.8220	0.0580	-0.6211	0.0471
2	330.12	0.7996	-0.5184	0.0017	-0.9085	0.0510	-1.0443	0.0629	-0.5132	0.0443
2	330.12	0.8578	-0.5842	0.0025	-1.0106	0.0566	-1.3553	0.0720	-0.3623	0.0472
2	330.12	0.9100	-0.6609	0.0025	-1.0688	0.0617	-1.6991	0.0791	-0.5080	0.0382
2	330.12	0.9727	-0.7350	0.0036	-1.1709	0.0682	-2.0870	0.0890	-0.5197	0.0513

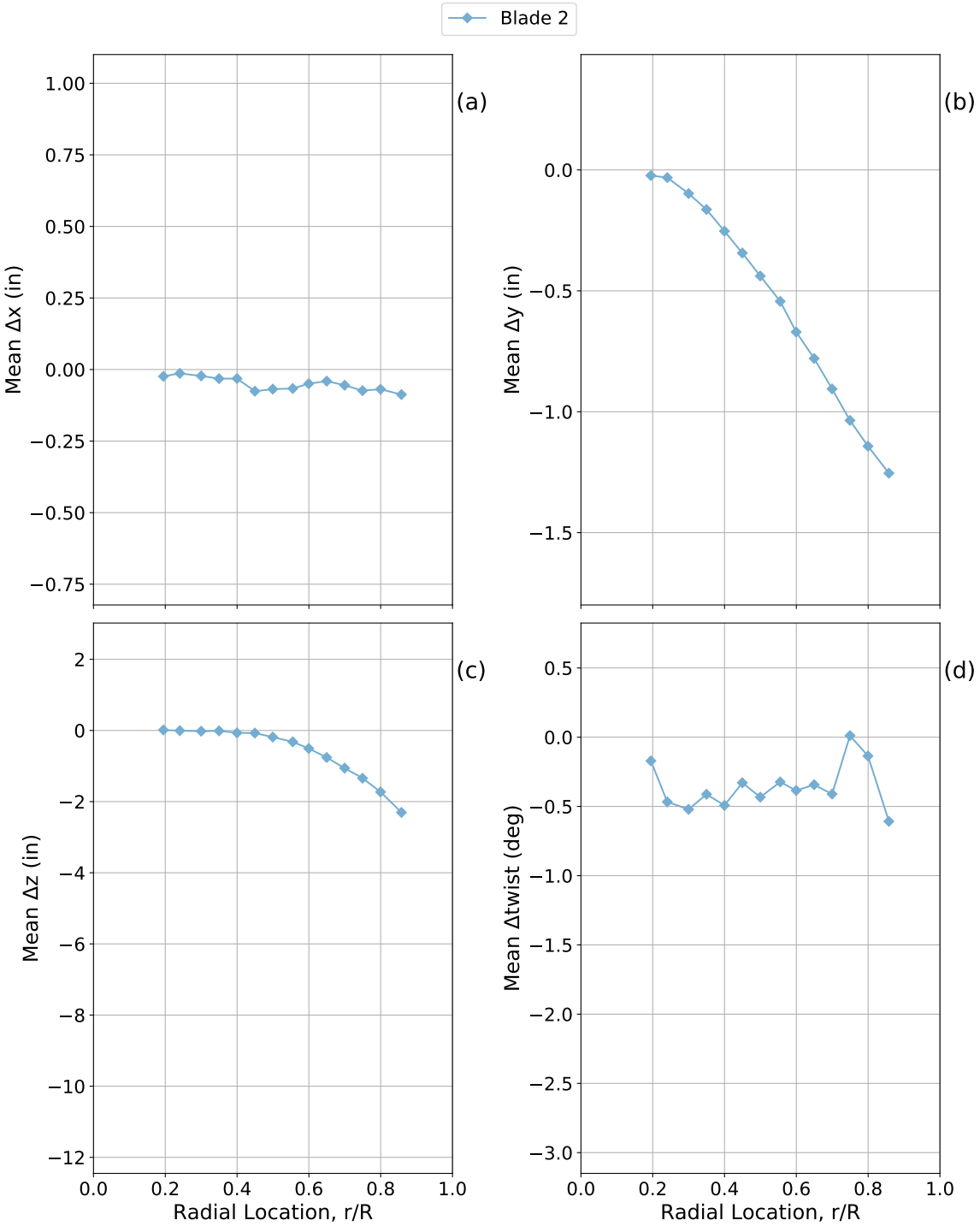


Figure 4.24-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0239	0.0030	-0.0233	0.0006	0.0133	0.0016	-0.1711	0.0165
2	344.88	0.2405	-0.0134	0.0010	-0.0317	0.0015	-0.0060	0.0044	-0.4672	0.0249
2	344.88	0.2999	-0.0224	0.0017	-0.0977	0.0023	-0.0207	0.0067	-0.5211	0.0327
2	344.88	0.3498	-0.0319	0.0032	-0.1637	0.0039	-0.0114	0.0098	-0.4123	0.0432
2	344.88	0.3998	-0.0316	0.0046	-0.2532	0.0063	-0.0675	0.0168	-0.4923	0.0408
2	344.88	0.4496	-0.0758	0.0072	-0.3437	0.0078	-0.0734	0.0174	-0.3291	0.0382
2	344.88	0.4995	-0.0685	0.0076	-0.4387	0.0096	-0.1867	0.0205	-0.4330	0.0404
2	344.88	0.5551	-0.0664	0.0109	-0.5435	0.0123	-0.3208	0.0270	-0.3232	0.0427
2	344.88	0.5996	-0.0494	0.0136	-0.6701	0.0150	-0.5071	0.0321	-0.3848	0.0401
2	344.88	0.6497	-0.0406	0.0138	-0.7798	0.0178	-0.7602	0.0369	-0.3433	0.0439
2	344.88	0.6996	-0.0549	0.0181	-0.9057	0.0198	-1.0586	0.0406	-0.4108	0.0643
2	344.88	0.7495	-0.0738	0.0173	-1.0361	0.0230	-1.3428	0.0463	0.0113	0.0837
2	344.88	0.7996	-0.0689	0.0190	-1.1425	0.0285	-1.7279	0.0425	-0.1356	0.1014
2	344.88	0.8578	-0.0874	0.0320	-1.2541	0.0302	-2.3046	0.0600	-0.6078	0.2947

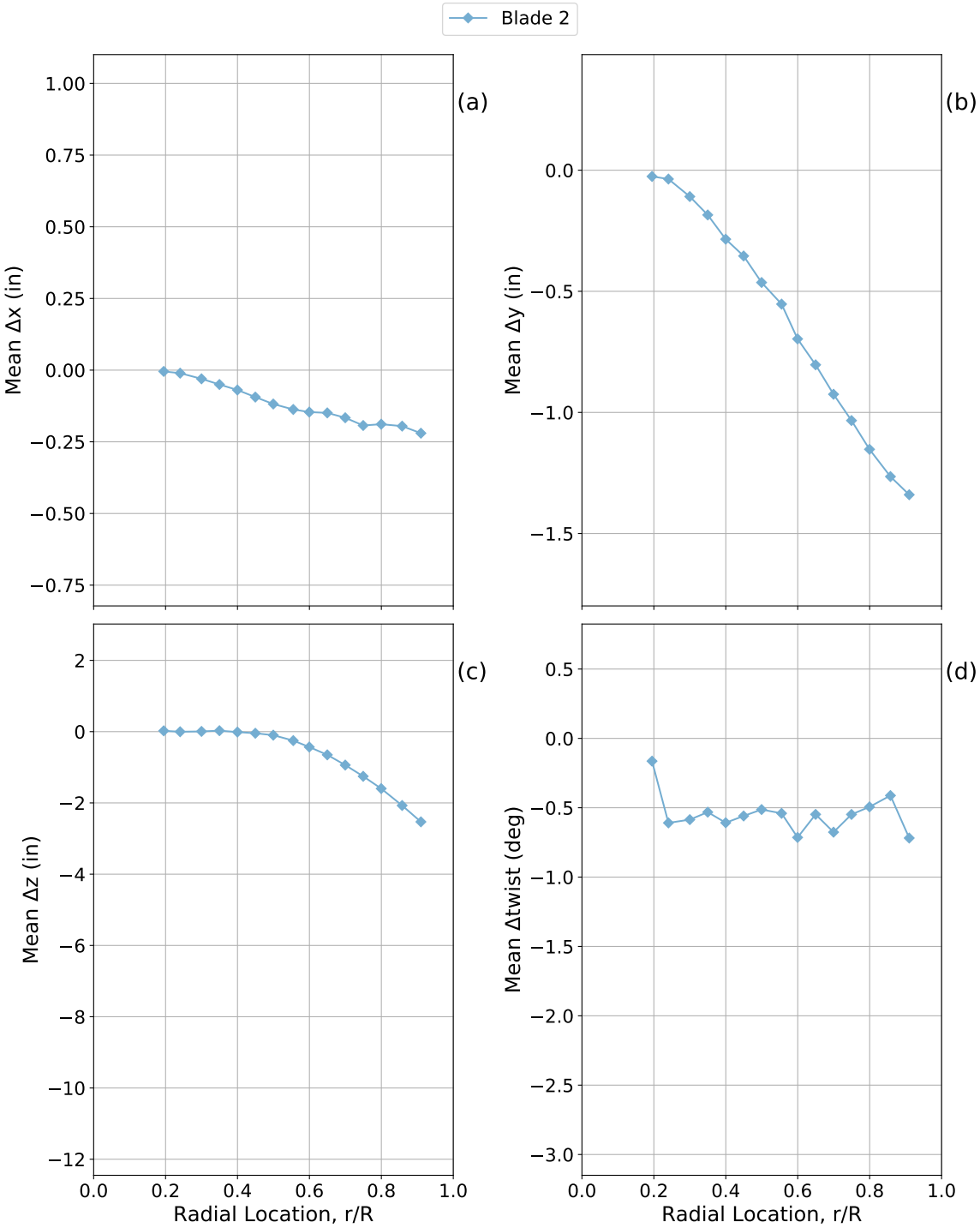


Figure 4.24-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0045	0.0015	-0.0257	0.0015	0.0229	0.0027	-0.1639	0.0134
2	350.16	0.2405	-0.0106	0.0011	-0.0365	0.0019	-0.0027	0.0023	-0.6092	0.0406
2	350.16	0.2999	-0.0303	0.0020	-0.1088	0.0049	0.0065	0.0087	-0.5857	0.0397
2	350.16	0.3498	-0.0501	0.0015	-0.1847	0.0084	0.0268	0.0113	-0.5317	0.0420
2	350.16	0.3998	-0.0693	0.0020	-0.2849	0.0123	-0.0113	0.0180	-0.6082	0.0394
2	350.16	0.4496	-0.0940	0.0030	-0.3541	0.0164	-0.0451	0.0226	-0.5594	0.0421
2	350.16	0.4995	-0.1182	0.0024	-0.4636	0.0229	-0.0985	0.0272	-0.5129	0.0401
2	350.16	0.5551	-0.1372	0.0042	-0.5529	0.0276	-0.2511	0.0337	-0.5403	0.0361
2	350.16	0.5996	-0.1463	0.0041	-0.6966	0.0314	-0.4313	0.0407	-0.7143	0.0359
2	350.16	0.6497	-0.1491	0.0067	-0.8035	0.0356	-0.6511	0.0434	-0.5479	0.0340
2	350.16	0.6996	-0.1661	0.0079	-0.9251	0.0385	-0.9379	0.0500	-0.6762	0.0483
2	350.16	0.7495	-0.1931	0.0082	-1.0336	0.0451	-1.2535	0.0571	-0.5482	0.0411
2	350.16	0.7996	-0.1886	0.0084	-1.1525	0.0499	-1.5981	0.0626	-0.4937	0.0544
2	350.16	0.8578	-0.1953	0.0171	-1.2650	0.0537	-2.0727	0.0717	-0.4120	0.1229
2	350.16	0.9100	-0.2200	0.0183	-1.3399	0.0621	-2.5312	0.0828	-0.7185	0.1893

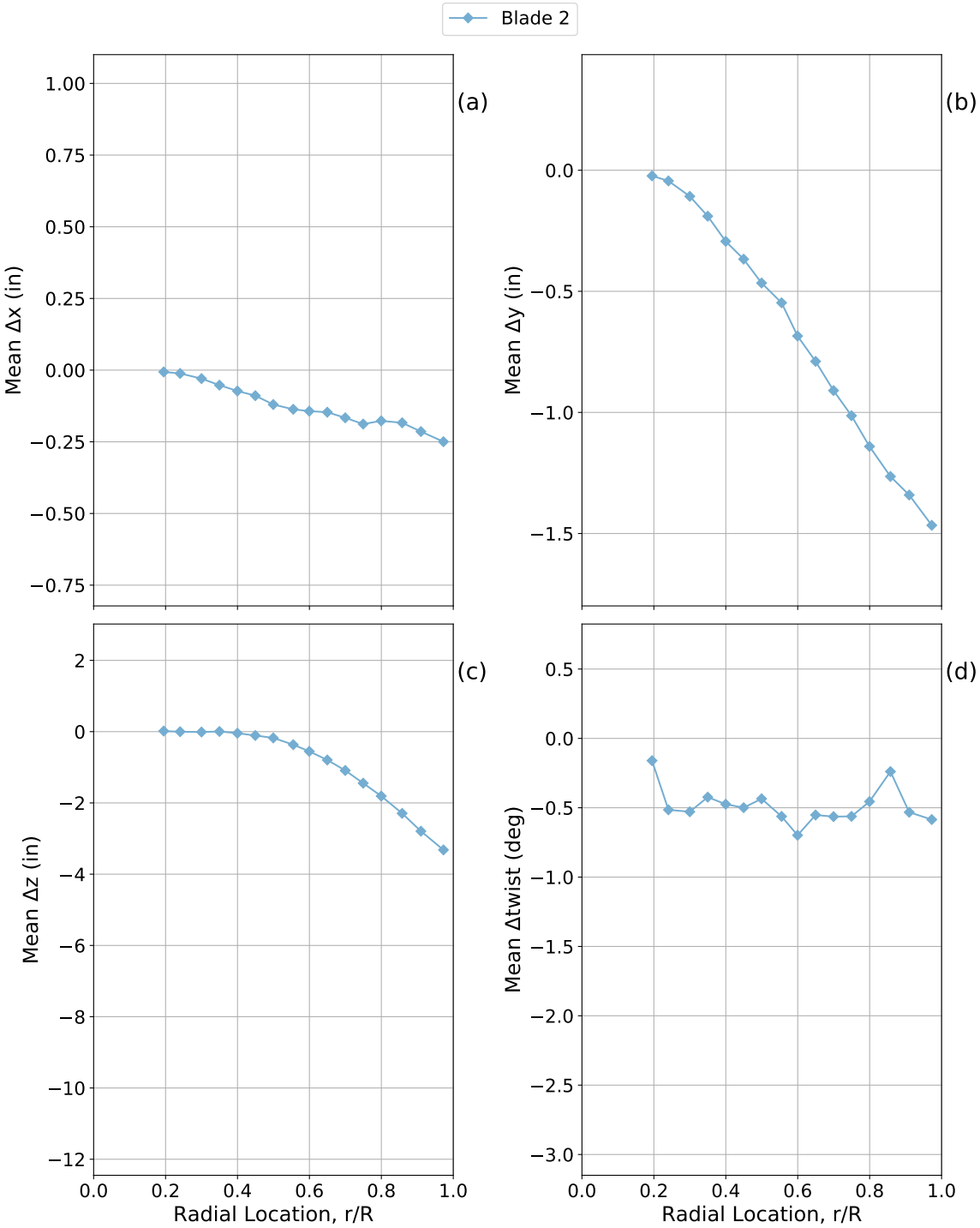


Figure 4.24-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Table 4.24-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 78, point 34. BD run 37, points 5866 to 5876.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0063	0.0022	-0.0235	0.0022	0.0170	0.0042	-0.1605	0.0233
2	355.08	0.2405	-0.0116	0.0017	-0.0442	0.0037	-0.0019	0.0075	-0.5149	0.0398
2	355.08	0.2999	-0.0296	0.0015	-0.1079	0.0084	-0.0102	0.0135	-0.5290	0.0507
2	355.08	0.3498	-0.0524	0.0025	-0.1899	0.0149	0.0049	0.0224	-0.4236	0.0503
2	355.08	0.3998	-0.0728	0.0044	-0.2937	0.0226	-0.0442	0.0337	-0.4746	0.0352
2	355.08	0.4496	-0.0891	0.0038	-0.3672	0.0268	-0.1079	0.0384	-0.4995	0.0507
2	355.08	0.4995	-0.1200	0.0041	-0.4658	0.0316	-0.1759	0.0492	-0.4352	0.0266
2	355.08	0.5551	-0.1367	0.0053	-0.5474	0.0371	-0.3659	0.0536	-0.5626	0.0457
2	355.08	0.5996	-0.1431	0.0057	-0.6846	0.0427	-0.5528	0.0629	-0.6984	0.0438
2	355.08	0.6497	-0.1468	0.0068	-0.7893	0.0460	-0.7956	0.0691	-0.5522	0.0525
2	355.08	0.6996	-0.1663	0.0083	-0.9098	0.0495	-1.0895	0.0789	-0.5640	0.0466
2	355.08	0.7495	-0.1881	0.0091	-1.0137	0.0548	-1.4468	0.0859	-0.5621	0.0580
2	355.08	0.7996	-0.1770	0.0099	-1.1406	0.0607	-1.8081	0.0986	-0.4556	0.0406
2	355.08	0.8578	-0.1836	0.0102	-1.2645	0.0624	-2.2930	0.1039	-0.2390	0.0715
2	355.08	0.9100	-0.2143	0.0130	-1.3411	0.0681	-2.7936	0.1118	-0.5326	0.0665
2	355.08	0.9727	-0.2496	0.0201	-1.4661	0.0802	-3.3191	0.1457	-0.5851	0.1719

4.25 Run 81, Point 7

4.25.1 Pitch, Flap, and Lag

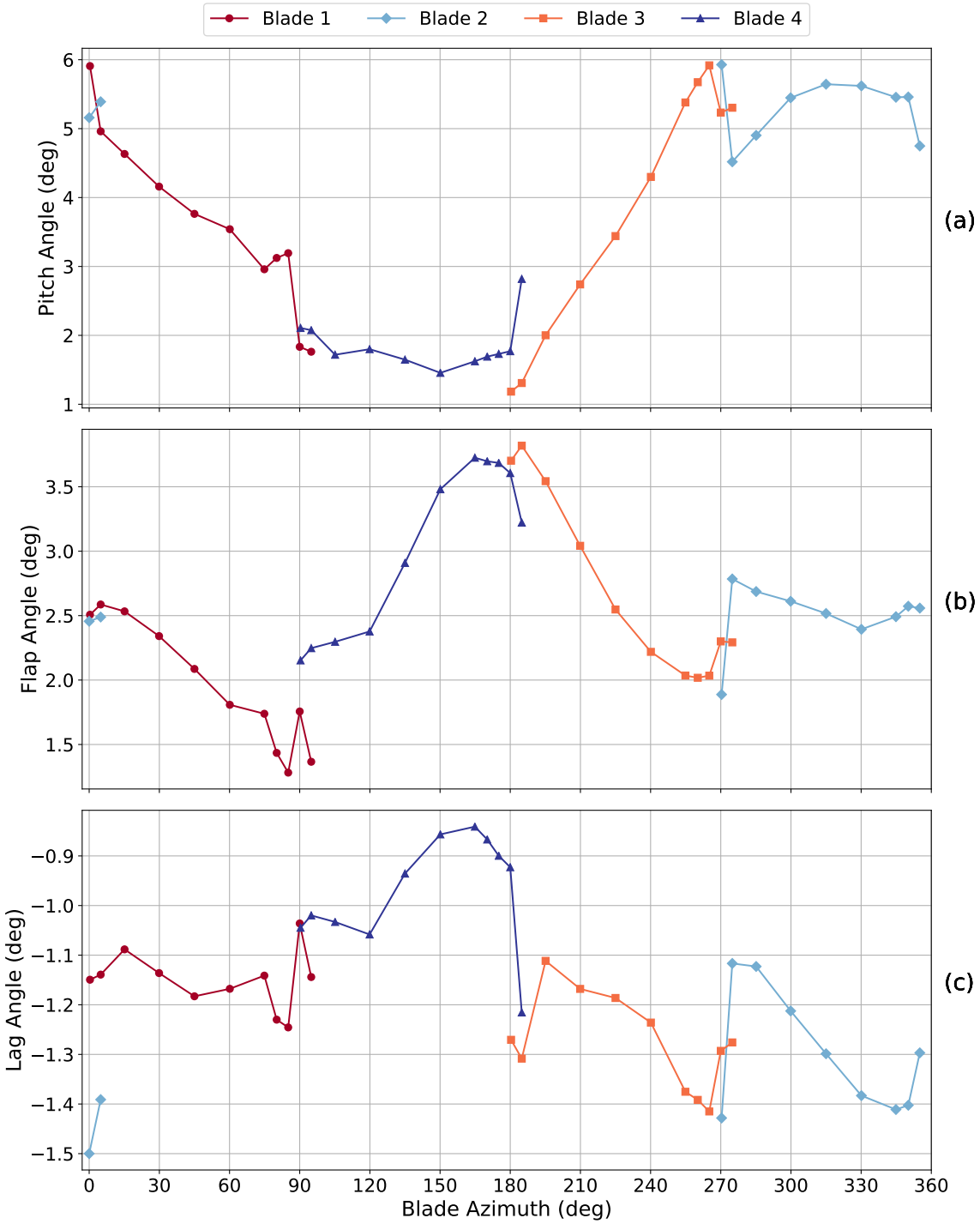


Figure 4.25-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.1590	2.4562	-1.5000	0.0686	0.0559	0.0310
0.35	1	5.9082	2.5070	-1.1495	0.0666	0.0292	0.0266
4.92	1	4.9609	2.5864	-1.1392	0.1019	0.0599	0.0276
4.92	2	5.3901	2.4891	-1.3911	0.0990	0.0370	0.0300
15.12	1	4.6326	2.5331	-1.0883	0.0747	0.0302	0.0193
29.88	1	4.1590	2.3411	-1.1361	0.0455	0.0215	0.0176
45	1	3.7634	2.0864	-1.1829	0.0504	0.0277	0.0169
60.12	1	3.5404	1.8080	-1.1678	0.0773	0.0354	0.0172
74.88	1	2.9591	1.7384	-1.1412	0.2309	0.0828	0.0395
80.16	1	3.1236	1.4346	-1.2300	0.0687	0.0262	0.0157
85.08	1	3.1929	1.2816	-1.2456	0.0900	0.0404	0.0168
90	1	1.8336	1.7561	-1.0361	0.0574	0.0338	0.0158
90.35	4	2.1069	2.1524	-1.0448	0.0738	0.0149	0.0182
94.92	1	1.7623	1.3658	-1.1441	0.0238	0.0164	0.0190
94.92	4	2.0753	2.2475	-1.0199	0.0969	0.0347	0.0222
105.12	4	1.7186	2.2967	-1.0331	0.0279	0.0148	0.0113
119.88	4	1.7993	2.3769	-1.0583	0.0196	0.0116	0.0139
135	4	1.6474	2.9085	-0.9356	0.0226	0.0159	0.0146
150.12	4	1.4558	3.4806	-0.8566	0.0242	0.0163	0.0179
164.88	4	1.6233	3.7253	-0.8410	0.0278	0.0153	0.0160
170.16	4	1.6911	3.6977	-0.8669	0.0332	0.0169	0.0144
175.08	4	1.7306	3.6850	-0.8997	0.0324	0.0094	0.0144
180	4	1.7701	3.6060	-0.9228	0.0418	0.0227	0.0193
180.35	3	1.1837	3.7021	-1.2706	0.0744	0.0667	0.0343
184.92	3	1.3082	3.8191	-1.3085	0.0477	0.0385	0.0243
184.92	4	2.8188	3.2221	-1.2155	0.1030	0.0365	0.0327
195.12	3	2.0015	3.5433	-1.1115	0.0257	0.0134	0.0189
209.88	3	2.7396	3.0417	-1.1680	0.0263	0.0075	0.0136
225	3	3.4410	2.5476	-1.1863	0.0189	0.0246	0.0091
240.12	3	4.2990	2.2188	-1.2359	0.0279	0.0224	0.0111
254.88	3	5.3799	2.0350	-1.3753	0.0568	0.0227	0.0153
260.16	3	5.6740	2.0177	-1.3917	0.1049	0.0494	0.0258
265.08	3	5.9182	2.0344	-1.4150	0.1018	0.0383	0.0242
270	3	5.2331	2.2998	-1.2929	0.1013	0.0366	0.0315
270.35	2	5.9288	1.8878	-1.4282	0.0769	0.0340	0.0226
274.92	2	4.5188	2.7844	-1.1167	0.0329	0.0151	0.0204
274.92	3	5.3034	2.2924	-1.2759	0.1157	0.0525	0.0227
285.12	2	4.9025	2.6869	-1.1228	0.0451	0.0339	0.0073
299.88	2	5.4475	2.6113	-1.2125	0.0493	0.0172	0.0113
315	2	5.6448	2.5167	-1.2987	0.0292	0.0104	0.0161
330.12	2	5.6203	2.3937	-1.3831	0.0229	0.0212	0.0126
344.88	2	5.4552	2.4917	-1.4111	0.0211	0.0211	0.0098
350.16	2	5.4593	2.5728	-1.4025	0.0446	0.0264	0.0158
355.08	2	4.7482	2.5583	-1.2969	0.0954	0.0394	0.0115

4.25.2 Spanwise Elastic Deformations

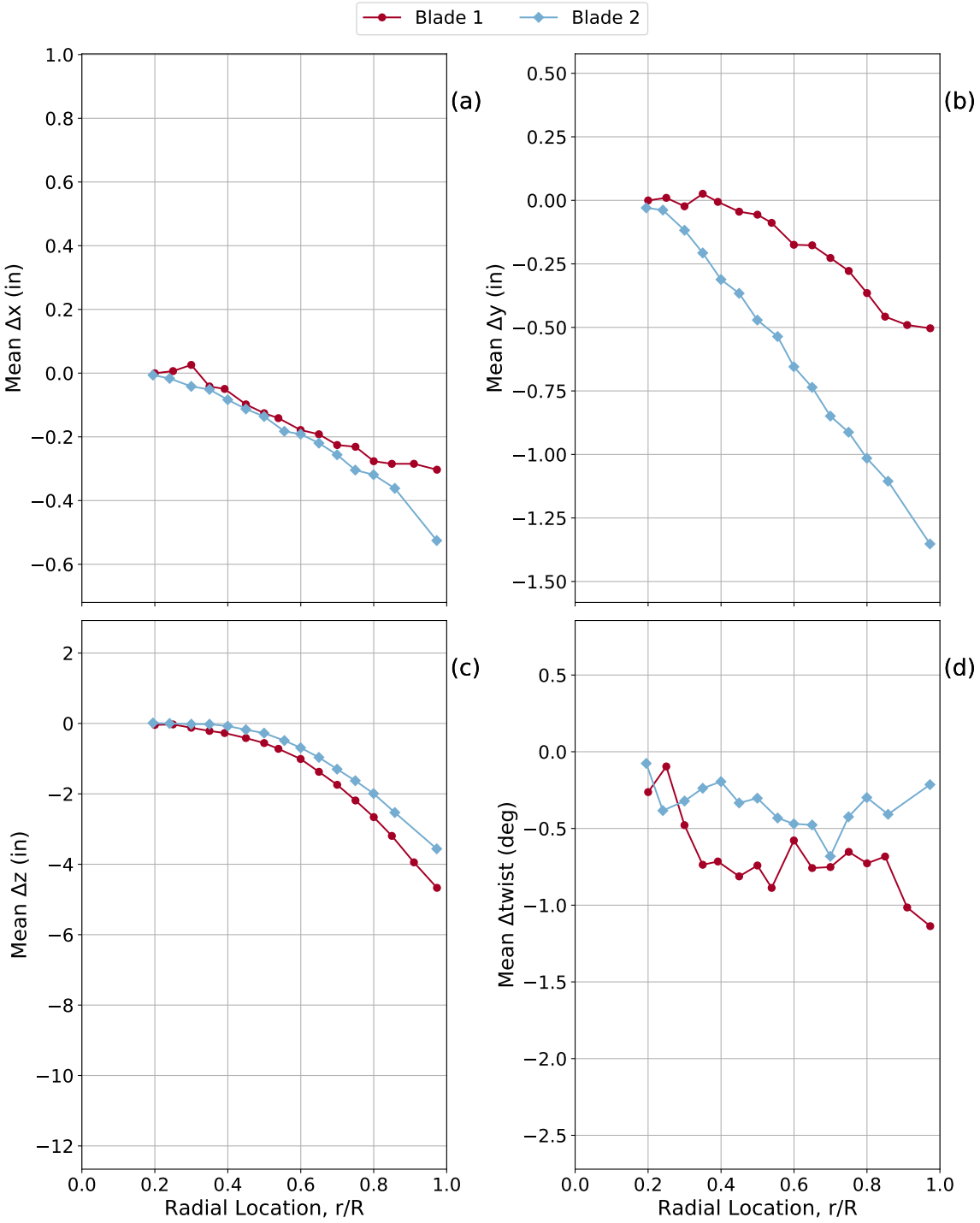


Figure 4.25-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	-0.0005	0.0021	-0.0004	0.0020	-0.0413	0.0054	-0.2630	0.0273
1	0.35	0.2499	0.0064	0.0012	0.0099	0.0039	-0.0285	0.0064	-0.0960	0.0672
1	0.35	0.2998	0.0258	0.0016	-0.0234	0.0074	-0.1223	0.0141	-0.4786	0.0665
1	0.35	0.3498	-0.0418	0.0026	0.0259	0.0136	-0.2128	0.0248	-0.7366	0.0592
1	0.35	0.3913	-0.0496	0.0024	-0.0060	0.0186	-0.2724	0.0310	-0.7153	0.0625
1	0.35	0.4496	-0.0981	0.0025	-0.0445	0.0249	-0.4147	0.0413	-0.8124	0.0627
1	0.35	0.4997	-0.1258	0.0032	-0.0564	0.0301	-0.5573	0.0492	-0.7414	0.0646
1	0.35	0.5387	-0.1413	0.0025	-0.0885	0.0359	-0.7209	0.0565	-0.8873	0.0684
1	0.35	0.5996	-0.1786	0.0025	-0.1749	0.0428	-1.0093	0.0659	-0.5784	0.0756
1	0.35	0.6498	-0.1919	0.0025	-0.1769	0.0493	-1.3743	0.0776	-0.7580	0.0569
1	0.35	0.6998	-0.2257	0.0020	-0.2267	0.0556	-1.7425	0.0844	-0.7516	0.0686
1	0.35	0.7500	-0.2312	0.0031	-0.2778	0.0619	-2.1883	0.0947	-0.6527	0.0701
1	0.35	0.8001	-0.2765	0.0019	-0.3650	0.0672	-2.6611	0.1004	-0.7273	0.0693
1	0.35	0.8497	-0.2847	0.0033	-0.4577	0.0740	-3.1944	0.1118	-0.6831	0.0543
1	0.35	0.9102	-0.2846	0.0166	-0.4907	0.0801	-3.9459	0.1159	-1.0150	0.1103
1	0.35	0.9734	-0.3032	0.0059	-0.5035	0.0894	-4.6693	0.1237	-1.1368	0.0754
2	0	0.1949	-0.0062	0.0036	-0.0297	0.0023	0.0123	0.0042	-0.0761	0.0259
2	0	0.2405	-0.0167	0.0018	-0.0382	0.0028	-0.0007	0.0064	-0.3836	0.0685
2	0	0.2999	-0.0417	0.0035	-0.1178	0.0073	-0.0203	0.0109	-0.3212	0.0736
2	0	0.3498	-0.0513	0.0037	-0.2070	0.0146	-0.0215	0.0246	-0.2380	0.0666
2	0	0.3998	-0.0835	0.0044	-0.3116	0.0188	-0.0752	0.0314	-0.1946	0.0777
2	0	0.4496	-0.1126	0.0048	-0.3660	0.0271	-0.1776	0.0451	-0.3338	0.0573
2	0	0.4995	-0.1361	0.0061	-0.4712	0.0356	-0.2750	0.0555	-0.3028	0.0562
2	0	0.5551	-0.1826	0.0086	-0.5360	0.0438	-0.4870	0.0647	-0.4319	0.0736
2	0	0.5996	-0.1915	0.0106	-0.6549	0.0532	-0.6909	0.0728	-0.4699	0.0681
2	0	0.6497	-0.2197	0.0130	-0.7359	0.0623	-0.9641	0.0863	-0.4771	0.0577
2	0	0.6996	-0.2563	0.0151	-0.8491	0.0728	-1.2992	0.0962	-0.6817	0.0842
2	0	0.7495	-0.3044	0.0186	-0.9125	0.0808	-1.6272	0.1119	-0.4239	0.0556
2	0	0.7996	-0.3189	0.0251	-1.0150	0.0848	-1.9920	0.1258	-0.2986	0.0741
2	0	0.8578	-0.3617	0.0249	-1.1054	0.0941	-2.5308	0.1373	-0.4079	0.1000
2	0	0.9727	-0.5255	0.0345	-1.3523	0.1083	-3.5614	0.1660	-0.2143	0.1042

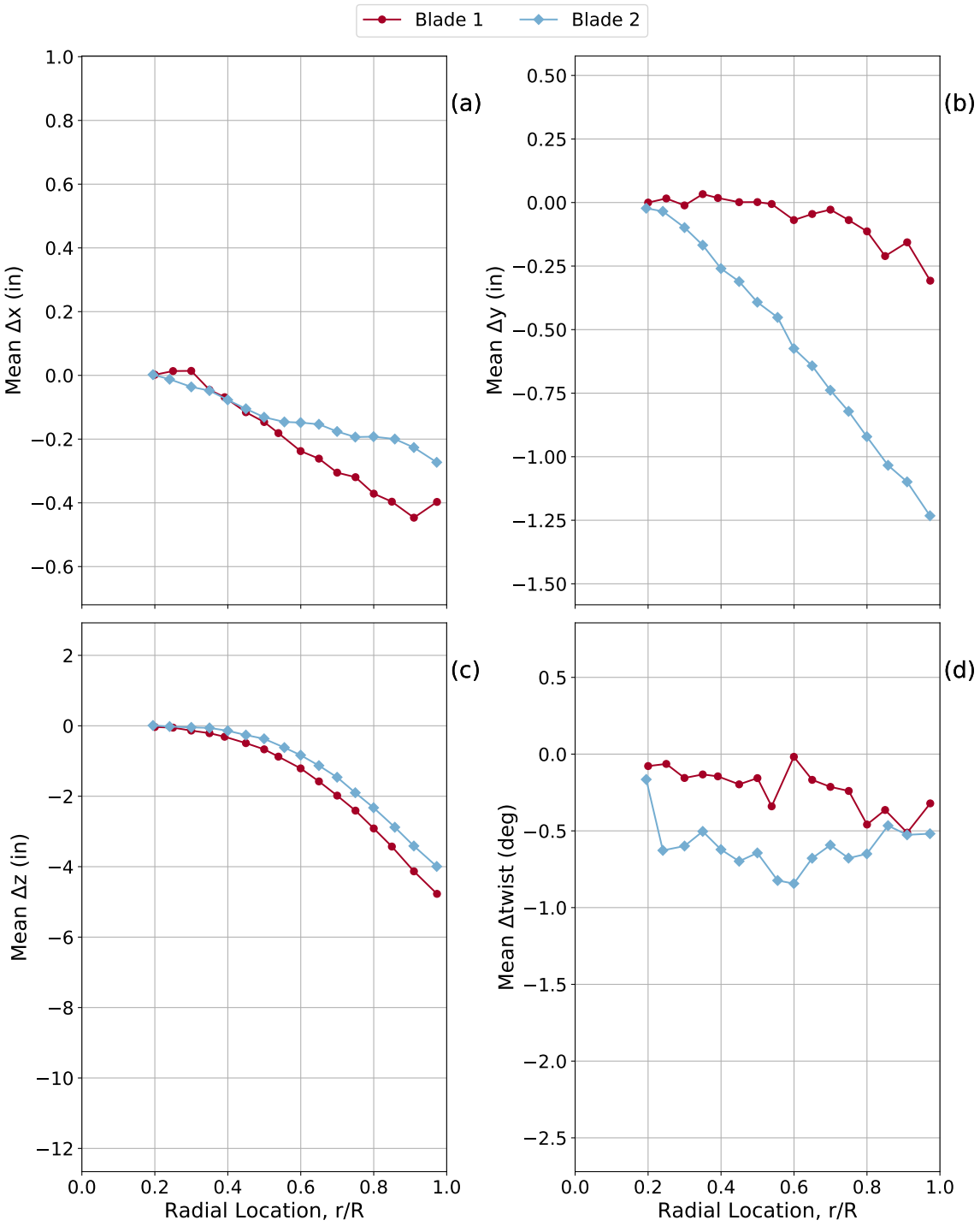


Figure 4.25-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0020	0.0037	-0.0002	0.0014	-0.0338	0.0072	-0.0779	0.0452
1	4.92	0.2499	0.0135	0.0019	0.0160	0.0048	-0.0525	0.0108	-0.0639	0.1105
1	4.92	0.2998	0.0141	0.0014	-0.0113	0.0059	-0.1360	0.0249	-0.1554	0.1126
1	4.92	0.3498	-0.0454	0.0014	0.0331	0.0128	-0.2098	0.0413	-0.1325	0.1094
1	4.92	0.3913	-0.0685	0.0016	0.0179	0.0176	-0.3106	0.0574	-0.1449	0.0887
1	4.92	0.4496	-0.1157	0.0010	0.0014	0.0225	-0.4917	0.0760	-0.1970	0.1096
1	4.92	0.4997	-0.1464	0.0014	0.0017	0.0274	-0.6682	0.0916	-0.1564	0.0914
1	4.92	0.5387	-0.1812	0.0022	-0.0058	0.0316	-0.8752	0.1045	-0.3402	0.0985
1	4.92	0.5996	-0.2376	0.0018	-0.0690	0.0382	-1.2088	0.1229	-0.0175	0.0953
1	4.92	0.6498	-0.2613	0.0017	-0.0451	0.0432	-1.5786	0.1379	-0.1677	0.0977
1	4.92	0.6998	-0.3052	0.0024	-0.0280	0.0482	-1.9821	0.1513	-0.2134	0.1020
1	4.92	0.7500	-0.3195	0.0025	-0.0691	0.0552	-2.4084	0.1670	-0.2400	0.0953
1	4.92	0.8001	-0.3712	0.0024	-0.1134	0.0586	-2.9151	0.1796	-0.4588	0.1110
1	4.92	0.8497	-0.3964	0.0026	-0.2106	0.0658	-3.4284	0.1982	-0.3640	0.1131
1	4.92	0.9102	-0.4466	0.0036	-0.1565	0.0739	-4.1324	0.2134	-0.5118	0.1629
1	4.92	0.9734	-0.3971	0.0024	-0.3075	0.0804	-4.7714	0.2398	-0.3210	0.1003
2	4.92	0.1949	0.0022	0.0037	-0.0226	0.0020	0.0092	0.0065	-0.1650	0.0396
2	4.92	0.2405	-0.0122	0.0024	-0.0347	0.0033	-0.0210	0.0083	-0.6273	0.0950
2	4.92	0.2999	-0.0362	0.0018	-0.0986	0.0083	-0.0443	0.0216	-0.5989	0.1076
2	4.92	0.3498	-0.0479	0.0037	-0.1677	0.0134	-0.0596	0.0344	-0.5035	0.1022
2	4.92	0.3998	-0.0770	0.0045	-0.2598	0.0212	-0.1408	0.0516	-0.6218	0.0938
2	4.92	0.4496	-0.1049	0.0061	-0.3108	0.0255	-0.2625	0.0587	-0.6981	0.0964
2	4.92	0.4995	-0.1313	0.0069	-0.3921	0.0321	-0.3688	0.0708	-0.6437	0.0901
2	4.92	0.5551	-0.1461	0.0074	-0.4520	0.0376	-0.6178	0.0809	-0.8234	0.0933
2	4.92	0.5996	-0.1482	0.0063	-0.5745	0.0404	-0.8344	0.0908	-0.8435	0.0859
2	4.92	0.6497	-0.1535	0.0063	-0.6425	0.0439	-1.1301	0.0994	-0.6784	0.1022
2	4.92	0.6996	-0.1761	0.0066	-0.7386	0.0490	-1.4608	0.1104	-0.5927	0.0913
2	4.92	0.7495	-0.1936	0.0067	-0.8215	0.0540	-1.9003	0.1218	-0.6777	0.0954
2	4.92	0.7996	-0.1924	0.0056	-0.9211	0.0596	-2.3264	0.1368	-0.6498	0.0858
2	4.92	0.8578	-0.1998	0.0072	-1.0339	0.0653	-2.8802	0.1455	-0.4660	0.1051
2	4.92	0.9100	-0.2264	0.0089	-1.0989	0.0707	-3.4121	0.1628	-0.5259	0.0932
2	4.92	0.9727	-0.2728	0.0134	-1.2324	0.0808	-3.9934	0.1760	-0.5186	0.1027

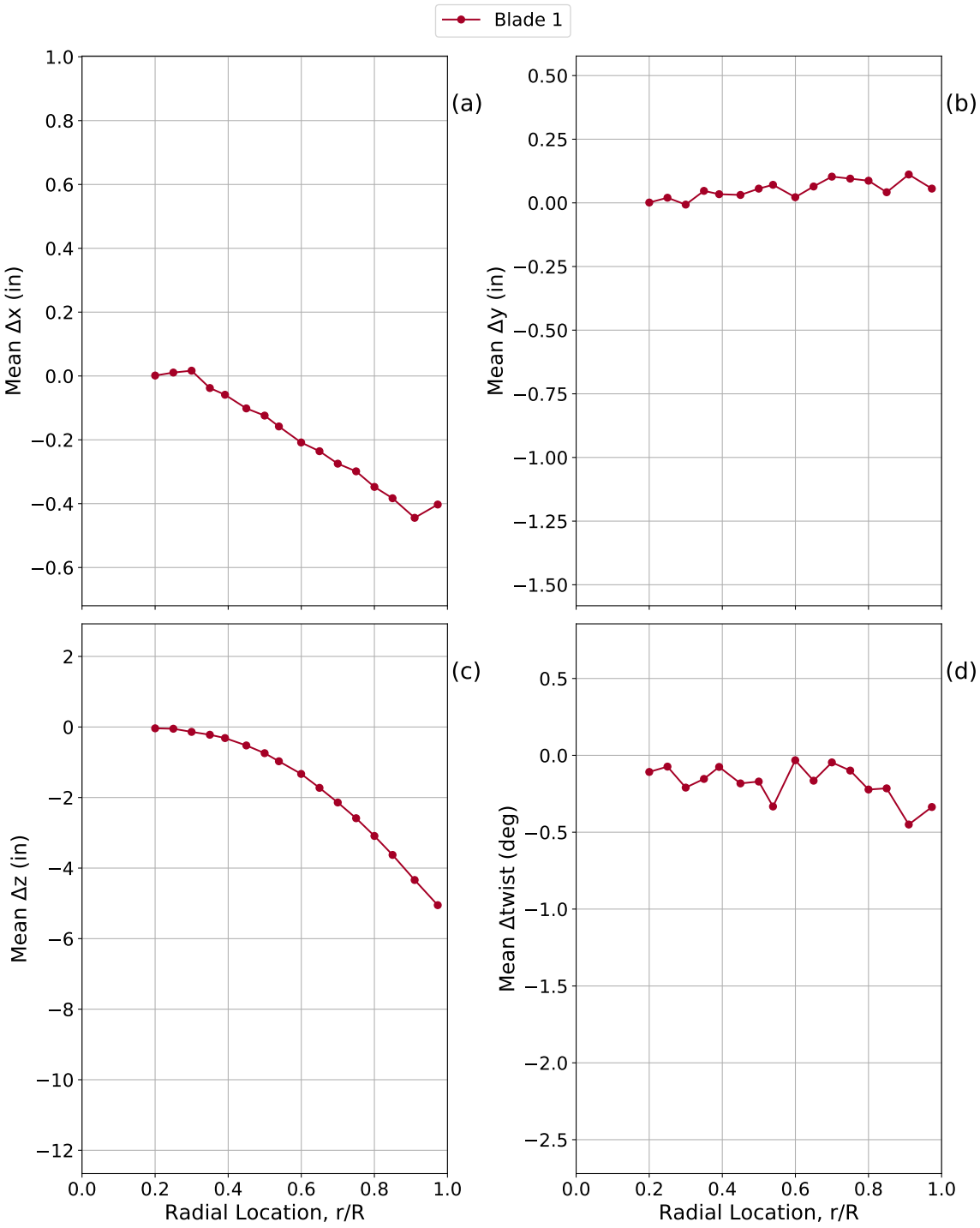


Figure 4.25-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0014	0.0026	0.0013	0.0012	-0.0378	0.0032	-0.1080	0.0349
1	15.12	0.2499	0.0107	0.0016	0.0202	0.0022	-0.0497	0.0048	-0.0733	0.0642
1	15.12	0.2998	0.0166	0.0007	-0.0068	0.0044	-0.1389	0.0097	-0.2098	0.0808
1	15.12	0.3498	-0.0377	0.0018	0.0471	0.0067	-0.2200	0.0177	-0.1534	0.0770
1	15.12	0.3913	-0.0588	0.0019	0.0341	0.0096	-0.3142	0.0231	-0.0753	0.0689
1	15.12	0.4496	-0.1016	0.0022	0.0311	0.0124	-0.5236	0.0327	-0.1825	0.0797
1	15.12	0.4997	-0.1241	0.0019	0.0559	0.0156	-0.7425	0.0423	-0.1705	0.0694
1	15.12	0.5387	-0.1581	0.0025	0.0709	0.0189	-0.9718	0.0483	-0.3327	0.0825
1	15.12	0.5996	-0.2083	0.0025	0.0221	0.0232	-1.3305	0.0595	-0.0320	0.0825
1	15.12	0.6498	-0.2357	0.0031	0.0643	0.0275	-1.7253	0.0687	-0.1649	0.0823
1	15.12	0.6998	-0.2747	0.0035	0.1030	0.0309	-2.1406	0.0780	-0.0459	0.0736
1	15.12	0.7500	-0.2987	0.0038	0.0952	0.0355	-2.5864	0.0882	-0.0990	0.0643
1	15.12	0.8001	-0.3475	0.0041	0.0870	0.0409	-3.0894	0.0975	-0.2223	0.0794
1	15.12	0.8497	-0.3831	0.0042	0.0417	0.0444	-3.6264	0.1068	-0.2147	0.0871
1	15.12	0.9102	-0.4443	0.0050	0.1114	0.0514	-4.3378	0.1182	-0.4499	0.0924
1	15.12	0.9734	-0.4027	0.0060	0.0560	0.0561	-5.0507	0.1287	-0.3360	0.0904

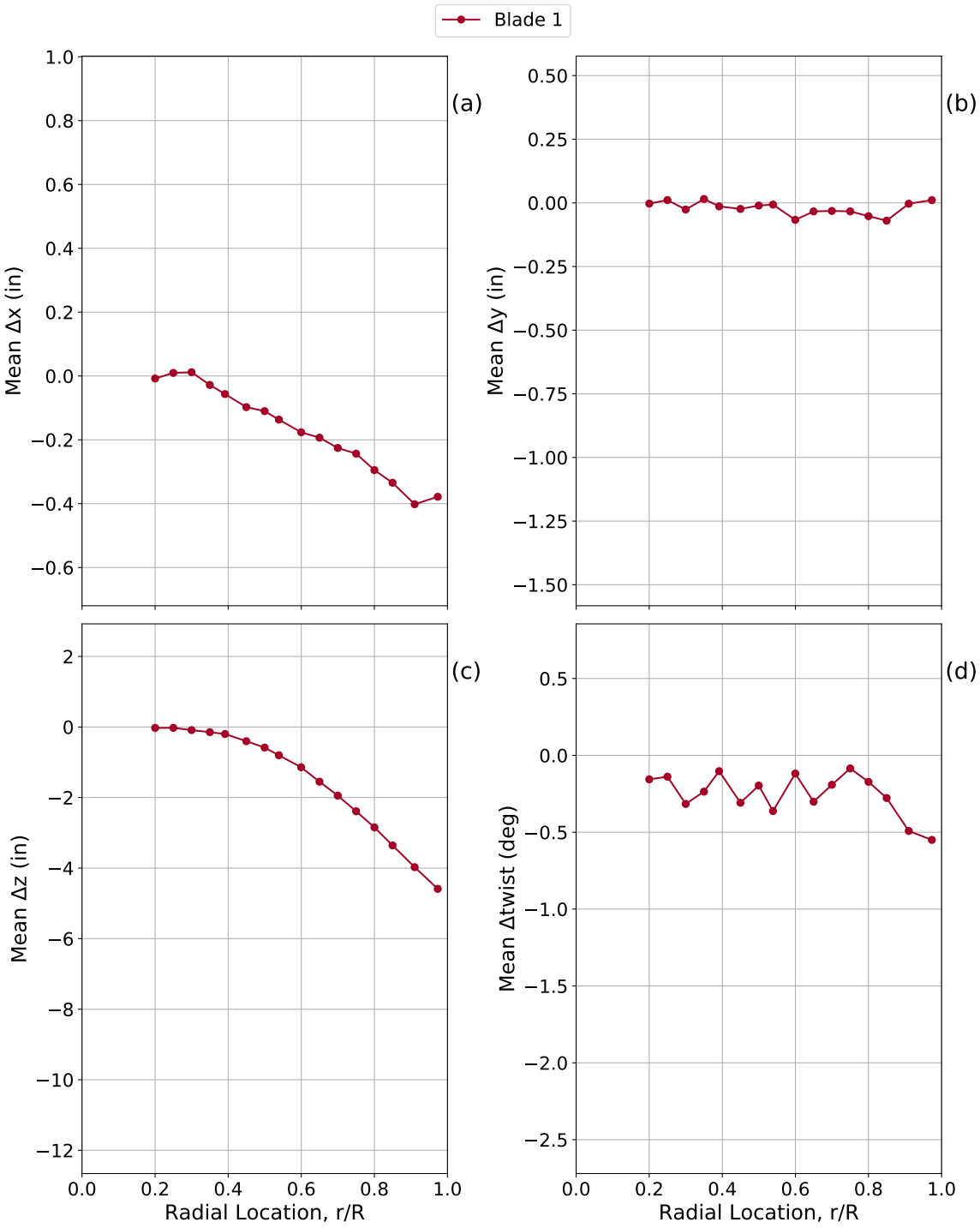


Figure 4.25-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0079	0.0027	-0.0029	0.0011	-0.0263	0.0027	-0.1562	0.0267
1	29.88	0.2499	0.0097	0.0016	0.0109	0.0022	-0.0245	0.0029	-0.1389	0.0443
1	29.88	0.2998	0.0118	0.0014	-0.0263	0.0046	-0.0887	0.0092	-0.3159	0.0565
1	29.88	0.3498	-0.0282	0.0024	0.0152	0.0078	-0.1462	0.0145	-0.2361	0.0442
1	29.88	0.3913	-0.0566	0.0025	-0.0138	0.0110	-0.1991	0.0196	-0.1028	0.0499
1	29.88	0.4496	-0.0976	0.0030	-0.0239	0.0145	-0.4021	0.0267	-0.3084	0.0436
1	29.88	0.4997	-0.1101	0.0033	-0.0105	0.0174	-0.5835	0.0316	-0.1966	0.0433
1	29.88	0.5387	-0.1367	0.0026	-0.0069	0.0195	-0.8019	0.0368	-0.3620	0.0408
1	29.88	0.5996	-0.1764	0.0031	-0.0668	0.0234	-1.1419	0.0429	-0.1185	0.0371
1	29.88	0.6498	-0.1933	0.0027	-0.0336	0.0269	-1.5505	0.0490	-0.3016	0.0384
1	29.88	0.6998	-0.2255	0.0028	-0.0317	0.0304	-1.9456	0.0547	-0.1916	0.0396
1	29.88	0.7500	-0.2433	0.0033	-0.0334	0.0344	-2.3897	0.0598	-0.0851	0.0414
1	29.88	0.8001	-0.2949	0.0034	-0.0523	0.0381	-2.8462	0.0641	-0.1725	0.0347
1	29.88	0.8497	-0.3345	0.0033	-0.0699	0.0420	-3.3566	0.0712	-0.2774	0.0385
1	29.88	0.9102	-0.4018	0.0034	-0.0033	0.0469	-3.9738	0.0782	-0.4918	0.0350
1	29.88	0.9734	-0.3784	0.0043	0.0108	0.0516	-4.5886	0.0866	-0.5501	0.0348

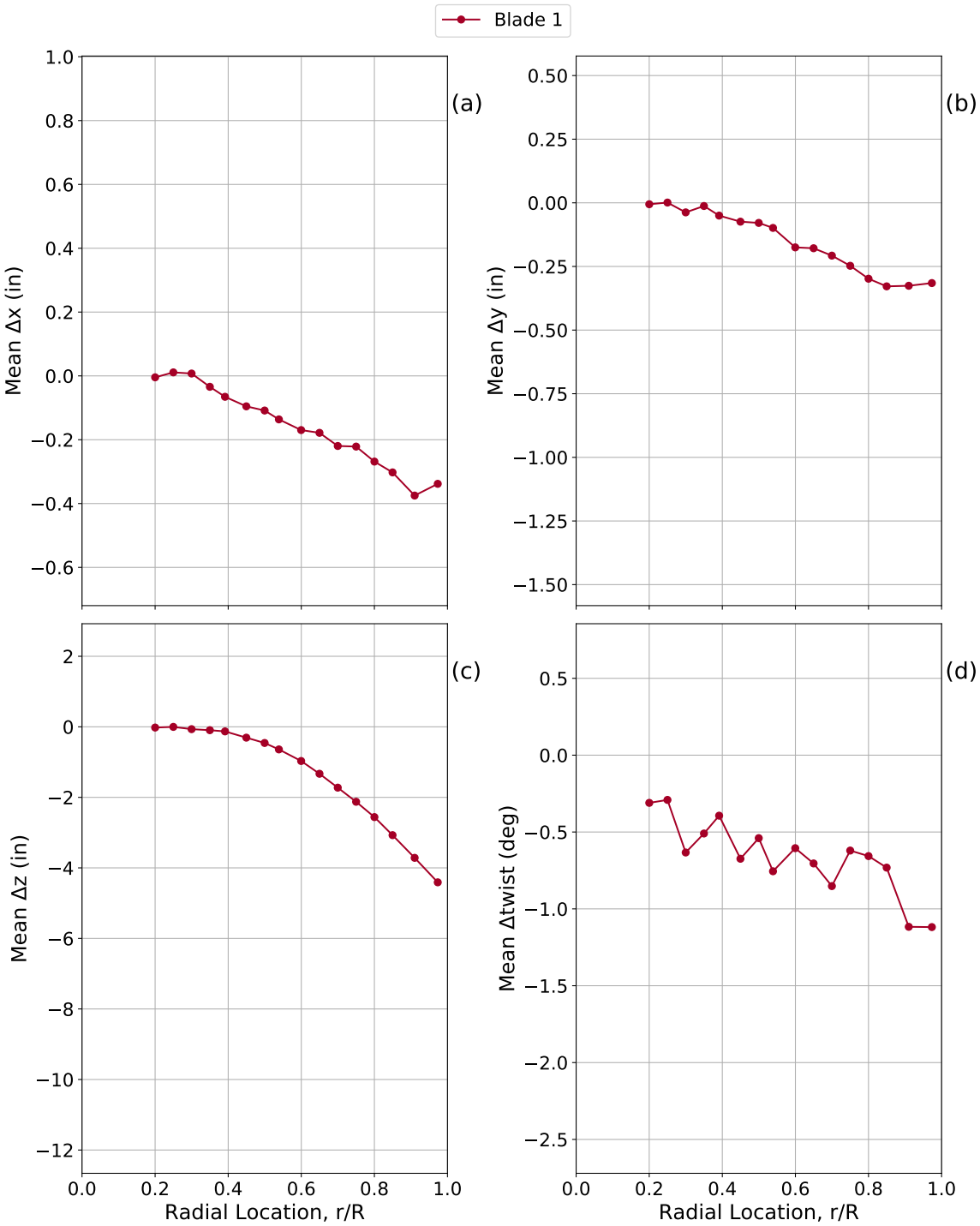


Figure 4.25-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0045	0.0018	-0.0056	0.0010	-0.0209	0.0029	-0.3103	0.0238
1	45	0.2499	0.0110	0.0019	0.0010	0.0015	-0.0022	0.0062	-0.2910	0.0492
1	45	0.2998	0.0074	0.0016	-0.0376	0.0035	-0.0664	0.0110	-0.6333	0.0574
1	45	0.3498	-0.0342	0.0016	-0.0125	0.0060	-0.0955	0.0192	-0.5097	0.0441
1	45	0.3913	-0.0655	0.0024	-0.0502	0.0082	-0.1300	0.0272	-0.3936	0.0420
1	45	0.4496	-0.0954	0.0023	-0.0741	0.0104	-0.3074	0.0380	-0.6739	0.0460
1	45	0.4997	-0.1085	0.0022	-0.0789	0.0132	-0.4581	0.0467	-0.5398	0.0474
1	45	0.5387	-0.1363	0.0024	-0.0986	0.0154	-0.6411	0.0541	-0.7554	0.0503
1	45	0.5996	-0.1698	0.0026	-0.1751	0.0185	-0.9692	0.0651	-0.6051	0.0506
1	45	0.6498	-0.1784	0.0028	-0.1785	0.0213	-1.3311	0.0720	-0.7045	0.0537
1	45	0.6998	-0.2196	0.0027	-0.2075	0.0236	-1.7248	0.0779	-0.8518	0.0534
1	45	0.7500	-0.2215	0.0031	-0.2474	0.0259	-2.1254	0.0843	-0.6206	0.0479
1	45	0.8001	-0.2685	0.0032	-0.2982	0.0280	-2.5597	0.0901	-0.6566	0.0513
1	45	0.8497	-0.3024	0.0028	-0.3282	0.0311	-3.0720	0.0978	-0.7316	0.0508
1	45	0.9102	-0.3750	0.0038	-0.3259	0.0339	-3.7149	0.1073	-1.1168	0.0433
1	45	0.9734	-0.3382	0.0035	-0.3153	0.0368	-4.4094	0.1120	-1.1185	0.0388

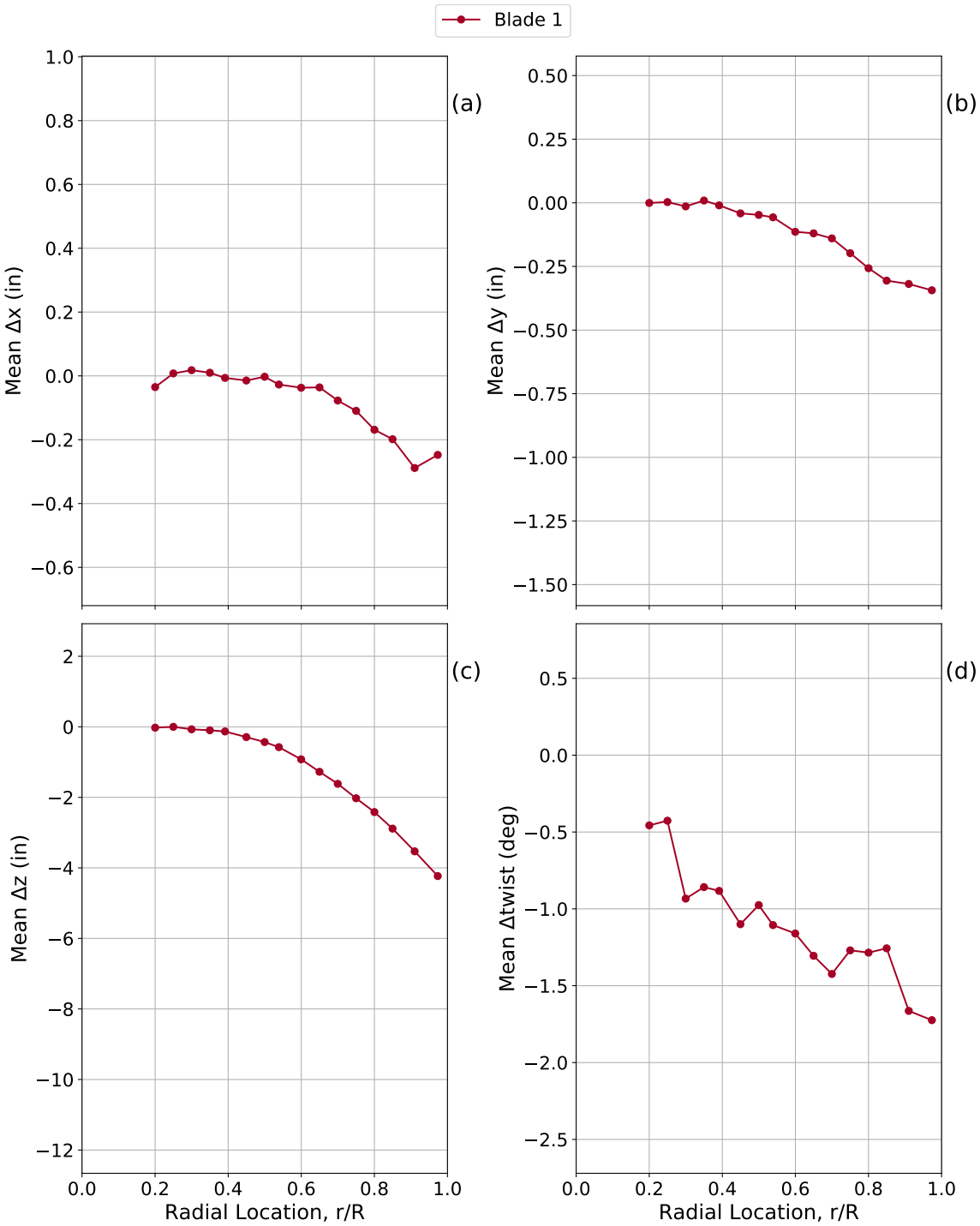


Figure 4.25-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0351	0.0020	-0.0004	0.0017	-0.0241	0.0054	-0.4567	0.0319
1	60.12	0.2499	0.0078	0.0015	0.0029	0.0014	-0.0008	0.0059	-0.4263	0.0775
1	60.12	0.2998	0.0179	0.0013	-0.0141	0.0052	-0.0710	0.0161	-0.9334	0.0797
1	60.12	0.3498	0.0099	0.0017	0.0090	0.0086	-0.0984	0.0281	-0.8584	0.0706
1	60.12	0.3913	-0.0063	0.0023	-0.0099	0.0112	-0.1320	0.0364	-0.8830	0.0769
1	60.12	0.4496	-0.0145	0.0026	-0.0414	0.0156	-0.2915	0.0486	-1.0997	0.0772
1	60.12	0.4997	-0.0027	0.0037	-0.0475	0.0192	-0.4320	0.0590	-0.9755	0.0760
1	60.12	0.5387	-0.0271	0.0041	-0.0569	0.0217	-0.5769	0.0668	-1.1054	0.0725
1	60.12	0.5996	-0.0371	0.0042	-0.1138	0.0261	-0.9215	0.0790	-1.1603	0.0809
1	60.12	0.6498	-0.0360	0.0040	-0.1200	0.0298	-1.2753	0.0898	-1.3054	0.0778
1	60.12	0.6998	-0.0772	0.0052	-0.1397	0.0346	-1.6161	0.1004	-1.4235	0.0842
1	60.12	0.7500	-0.1095	0.0049	-0.1979	0.0531	-2.0262	0.1045	-1.2699	0.0834
1	60.12	0.8001	-0.1688	0.0051	-0.2570	0.0574	-2.4175	0.1146	-1.2846	0.0880
1	60.12	0.8497	-0.1984	0.0055	-0.3057	0.0624	-2.8868	0.1276	-1.2567	0.0761
1	60.12	0.9102	-0.2886	0.0059	-0.3188	0.0687	-3.5301	0.1397	-1.6638	0.0819
1	60.12	0.9734	-0.2476	0.0054	-0.3437	0.0748	-4.2317	0.1553	-1.7240	0.0810

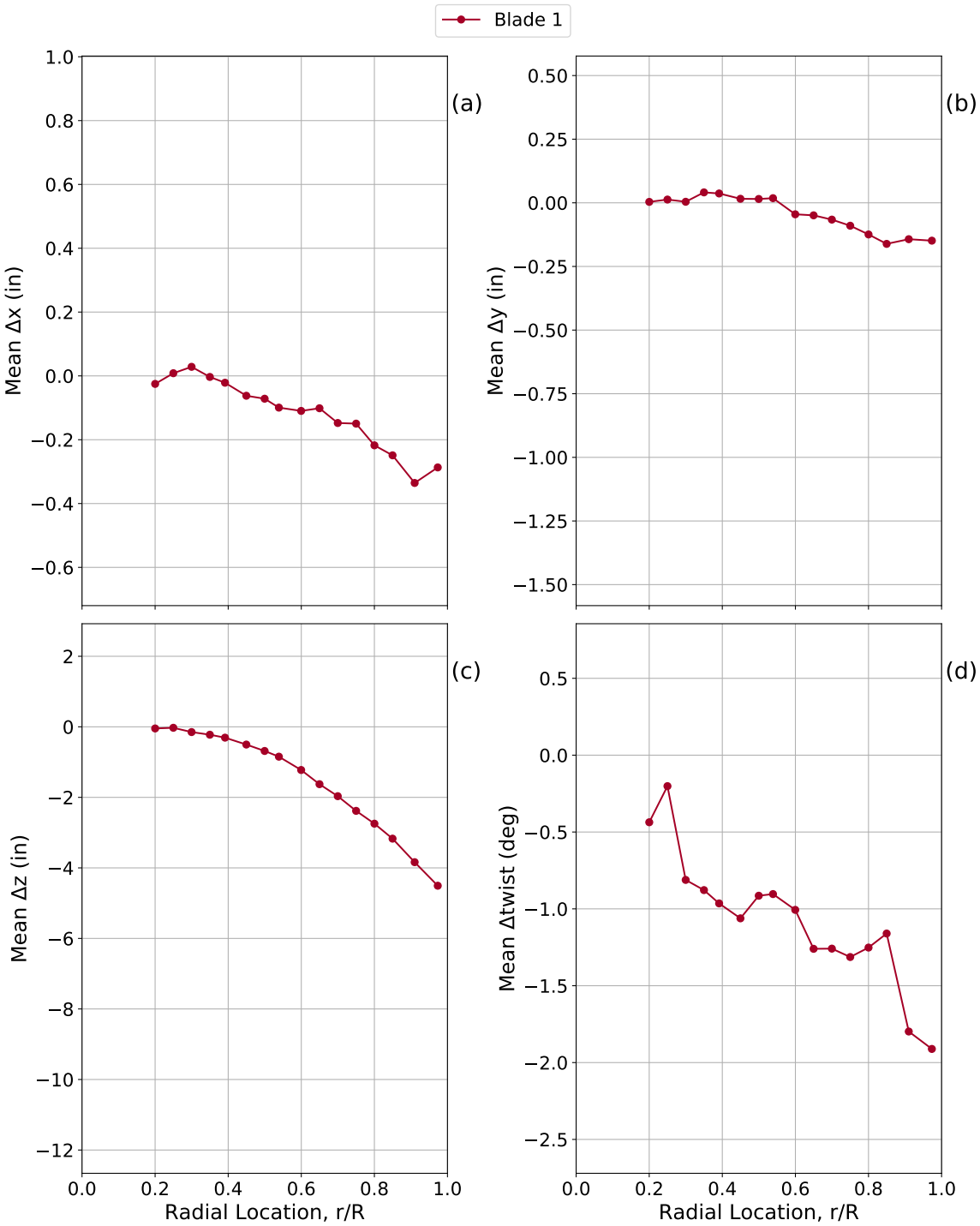


Figure 4.25-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0251	0.0102	0.0037	0.0051	-0.0465	0.0114	-0.4365	0.1031
1	74.88	0.2499	0.0084	0.0030	0.0128	0.0059	-0.0273	0.0135	-0.2015	0.2256
1	74.88	0.2998	0.0284	0.0029	0.0041	0.0161	-0.1491	0.0324	-0.8116	0.2560
1	74.88	0.3498	-0.0033	0.0025	0.0410	0.0302	-0.2239	0.0633	-0.8779	0.1983
1	74.88	0.3913	-0.0214	0.0018	0.0367	0.0392	-0.3074	0.0785	-0.9645	0.2253
1	74.88	0.4496	-0.0622	0.0043	0.0158	0.0535	-0.5029	0.1054	-1.0616	0.2349
1	74.88	0.4997	-0.0715	0.0029	0.0151	0.0641	-0.6847	0.1291	-0.9145	0.2263
1	74.88	0.5387	-0.0994	0.0031	0.0182	0.0745	-0.8464	0.1462	-0.9037	0.2247
1	74.88	0.5996	-0.1097	0.0033	-0.0451	0.0886	-1.2244	0.1738	-1.0065	0.2181
1	74.88	0.6498	-0.1014	0.0027	-0.0492	0.1017	-1.6270	0.1959	-1.2599	0.2278
1	74.88	0.6998	-0.1476	0.0033	-0.0660	0.1140	-1.9667	0.2181	-1.2587	0.2305
1	74.88	0.7500	-0.1496	0.0037	-0.0900	0.1276	-2.3831	0.2403	-1.3133	0.2315
1	74.88	0.8001	-0.2176	0.0038	-0.1243	0.1407	-2.7462	0.2647	-1.2518	0.2298
1	74.88	0.8497	-0.2489	0.0042	-0.1613	0.1540	-3.1709	0.2865	-1.1604	0.2291
1	74.88	0.9102	-0.3355	0.0051	-0.1429	0.1707	-3.8384	0.3144	-1.7979	0.2233
1	74.88	0.9734	-0.2868	0.0051	-0.1487	0.1879	-4.5058	0.3435	-1.9113	0.2281

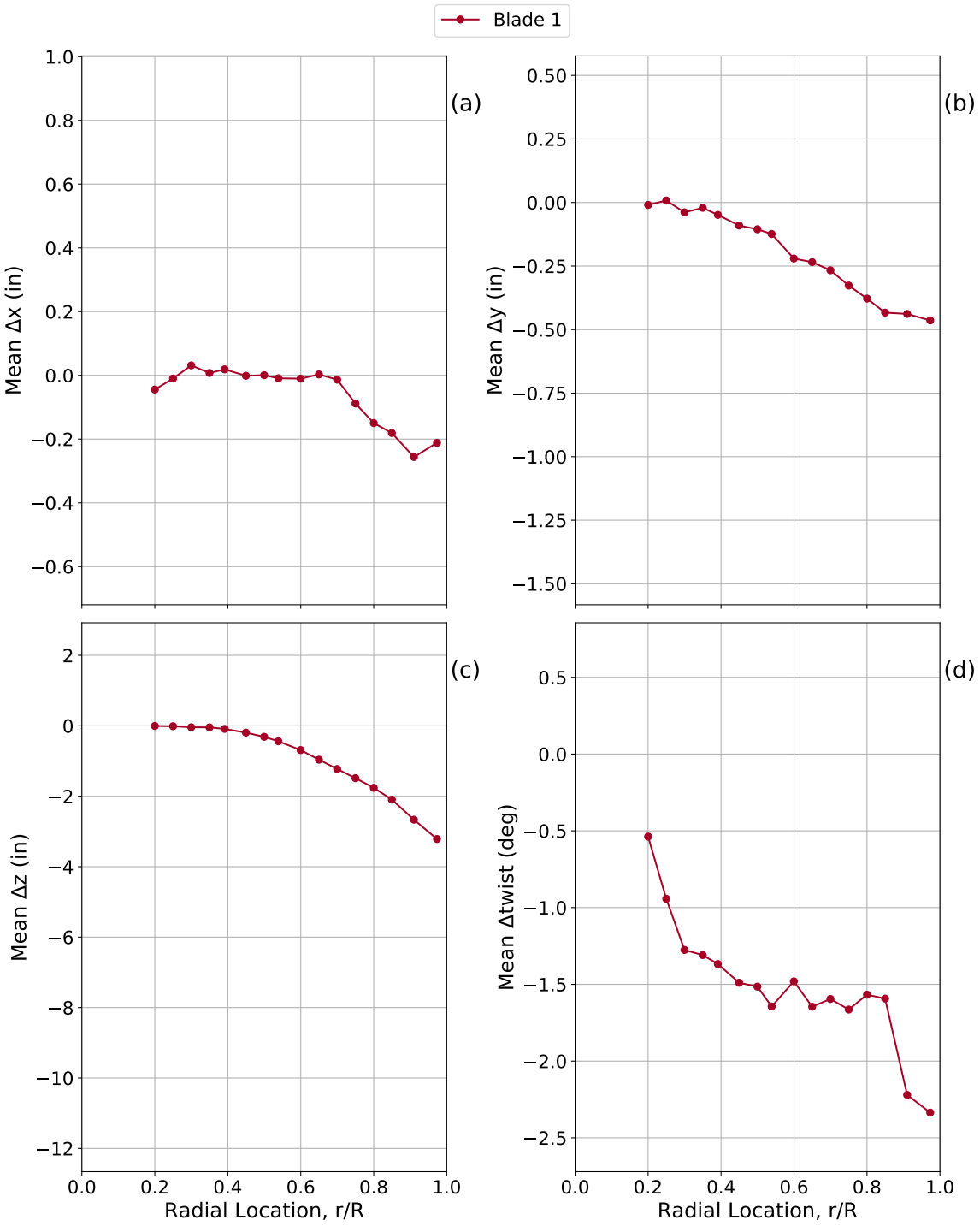


Figure 4.25-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0445	0.0022	-0.0096	0.0023	-0.0050	0.0047	-0.5375	0.0284
1	80.16	0.2499	-0.0098	0.0021	0.0077	0.0024	-0.0131	0.0050	-0.9427	0.0675
1	80.16	0.2998	0.0312	0.0016	-0.0387	0.0063	-0.0415	0.0112	-1.2759	0.0710
1	80.16	0.3498	0.0074	0.0030	-0.0209	0.0119	-0.0449	0.0226	-1.3093	0.0541
1	80.16	0.3913	0.0188	0.0028	-0.0488	0.0146	-0.0885	0.0263	-1.3677	0.0620
1	80.16	0.4496	-0.0013	0.0029	-0.0907	0.0179	-0.1937	0.0335	-1.4895	0.0660
1	80.16	0.4997	0.0006	0.0038	-0.1053	0.0221	-0.3135	0.0394	-1.5150	0.0647
1	80.16	0.5387	-0.0092	0.0032	-0.1239	0.0244	-0.4409	0.0467	-1.6444	0.0554
1	80.16	0.5996	-0.0103	0.0034	-0.2203	0.0282	-0.6896	0.0538	-1.4807	0.0739
1	80.16	0.6498	0.0029	0.0058	-0.2346	0.0315	-0.9626	0.0599	-1.6458	0.0935
1	80.16	0.6998	-0.0135	0.0071	-0.2667	0.0343	-1.2278	0.0708	-1.5952	0.0914
1	80.16	0.7500	-0.0883	0.0032	-0.3267	0.0432	-1.4871	0.0779	-1.6641	0.0783
1	80.16	0.8001	-0.1498	0.0035	-0.3780	0.0468	-1.7597	0.0862	-1.5671	0.0719
1	80.16	0.8497	-0.1810	0.0038	-0.4332	0.0504	-2.0948	0.0926	-1.5929	0.0747
1	80.16	0.9102	-0.2563	0.0037	-0.4382	0.0546	-2.6660	0.1009	-2.2203	0.0732
1	80.16	0.9734	-0.2117	0.0039	-0.4638	0.0595	-3.2144	0.1114	-2.3357	0.0683

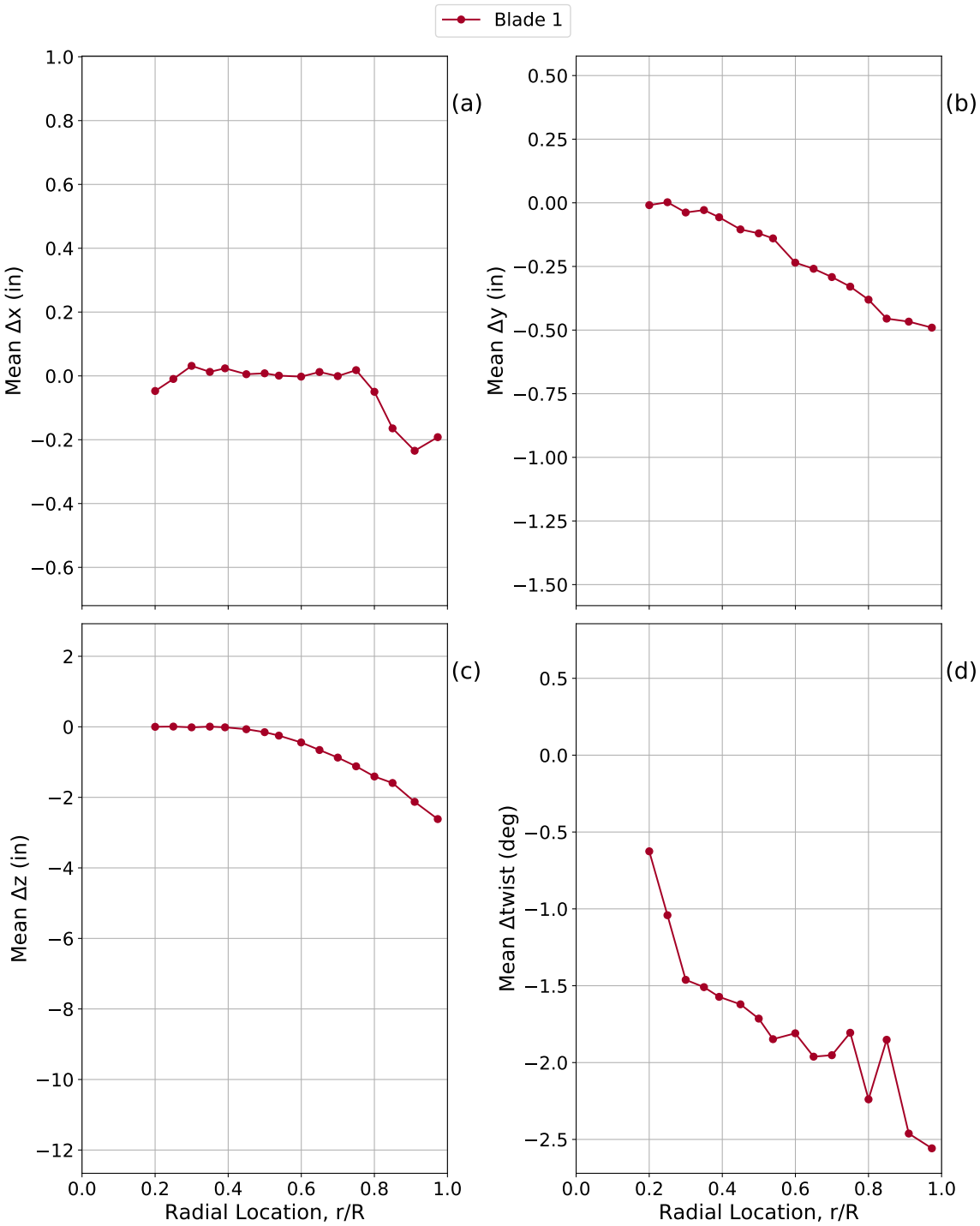


Figure 4.25-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0473	0.0016	-0.0091	0.0026	0.0002	0.0080	-0.6255	0.0268
1	85.08	0.2499	-0.0096	0.0021	0.0023	0.0030	0.0068	0.0042	-1.0413	0.1088
1	85.08	0.2998	0.0314	0.0016	-0.0380	0.0067	-0.0149	0.0220	-1.4616	0.0812
1	85.08	0.3498	0.0126	0.0021	-0.0285	0.0110	0.0050	0.0348	-1.5092	0.0796
1	85.08	0.3913	0.0237	0.0019	-0.0568	0.0138	-0.0145	0.0443	-1.5724	0.0850
1	85.08	0.4496	0.0053	0.0023	-0.1045	0.0184	-0.0682	0.0591	-1.6210	0.0863
1	85.08	0.4997	0.0081	0.0036	-0.1200	0.0237	-0.1517	0.0701	-1.7140	0.0876
1	85.08	0.5387	0.0008	0.0036	-0.1397	0.0270	-0.2491	0.0815	-1.8478	0.0835
1	85.08	0.5996	-0.0023	0.0047	-0.2351	0.0328	-0.4432	0.0935	-1.8094	0.0847
1	85.08	0.6498	0.0122	0.0058	-0.2591	0.0364	-0.6578	0.1048	-1.9615	0.0881
1	85.08	0.6998	-0.0007	0.0071	-0.2917	0.0422	-0.8720	0.1171	-1.9520	0.0999
1	85.08	0.7500	0.0180	0.0081	-0.3293	0.0472	-1.1202	0.1305	-1.8060	0.1029
1	85.08	0.8001	-0.0498	0.0084	-0.3805	0.0560	-1.4086	0.1443	-2.2392	0.1260
1	85.08	0.8497	-0.1644	0.0035	-0.4550	0.0684	-1.5926	0.1320	-1.8516	0.0854
1	85.08	0.9102	-0.2346	0.0037	-0.4668	0.0756	-2.1273	0.1469	-2.4617	0.0888
1	85.08	0.9734	-0.1920	0.0034	-0.4904	0.0830	-2.6158	0.1627	-2.5579	0.0920

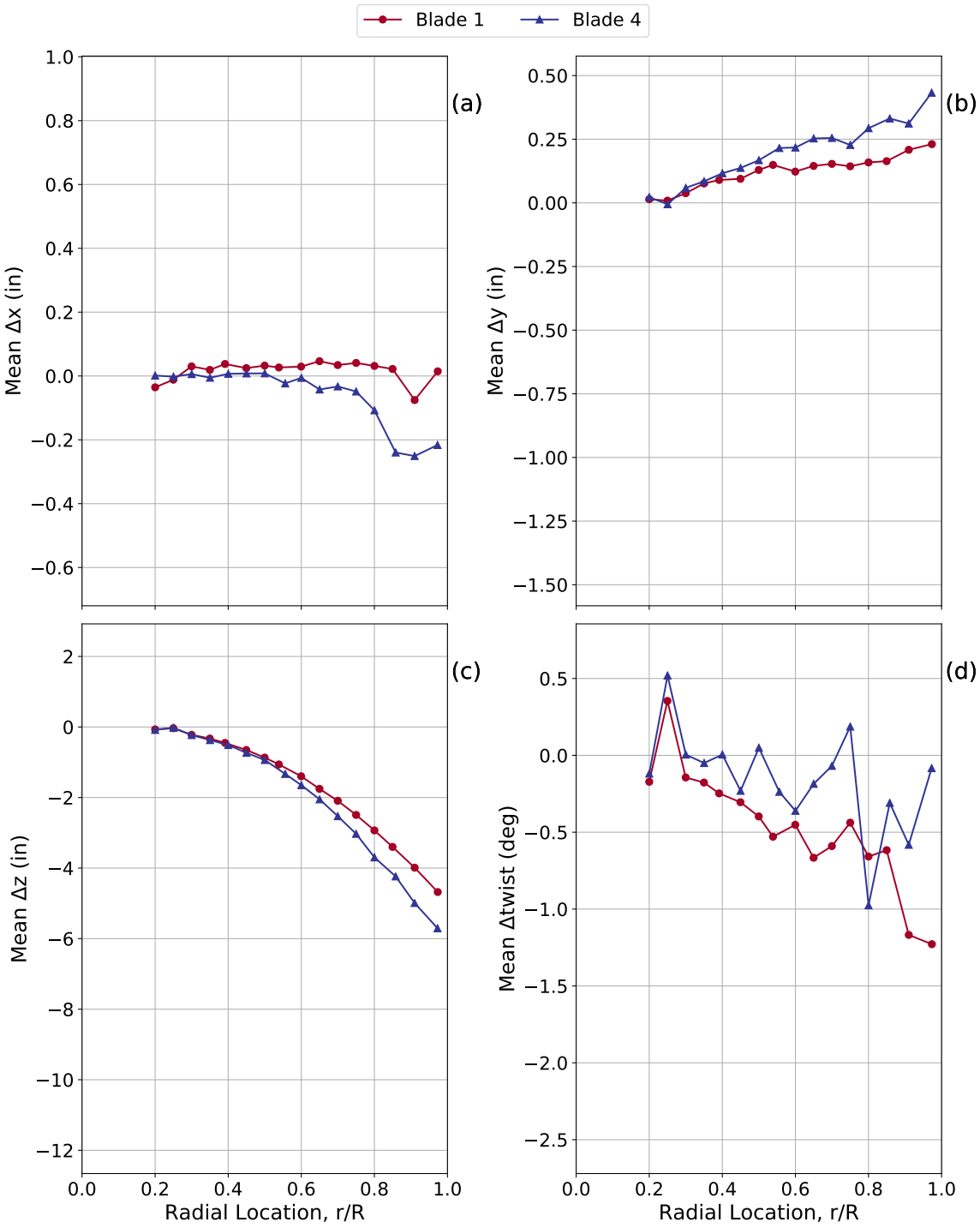


Figure 4.25-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0355	0.0030	0.0143	0.0015	-0.0686	0.0033	-0.1719	0.0499
1	90	0.2499	-0.0117	0.0019	0.0087	0.0031	-0.0348	0.0091	0.3540	0.0502
1	90	0.2998	0.0301	0.0024	0.0378	0.0051	-0.2210	0.0114	-0.1439	0.0982
1	90	0.3498	0.0191	0.0020	0.0762	0.0107	-0.3278	0.0254	-0.1770	0.0486
1	90	0.3913	0.0376	0.0017	0.0899	0.0136	-0.4512	0.0318	-0.2474	0.0553
1	90	0.4496	0.0247	0.0020	0.0944	0.0173	-0.6517	0.0386	-0.3049	0.0647
1	90	0.4997	0.0325	0.0019	0.1293	0.0213	-0.8673	0.0484	-0.3974	0.0515
1	90	0.5387	0.0266	0.0024	0.1491	0.0245	-1.0612	0.0543	-0.5293	0.0563
1	90	0.5996	0.0294	0.0027	0.1228	0.0293	-1.3972	0.0628	-0.4517	0.0613
1	90	0.6498	0.0464	0.0031	0.1451	0.0331	-1.7536	0.0726	-0.6661	0.0647
1	90	0.6998	0.0342	0.0038	0.1531	0.0377	-2.0929	0.0805	-0.5902	0.0651
1	90	0.7500	0.0408	0.0070	0.1436	0.0343	-2.4928	0.0900	-0.4378	0.0557
1	90	0.8001	0.0315	0.0045	0.1589	0.0462	-2.9315	0.0989	-0.6583	0.0813
1	90	0.8497	0.0220	0.0080	0.1638	0.0519	-3.3994	0.1018	-0.6168	0.0839
1	90	0.9102	-0.0754	0.0033	0.2084	0.0510	-3.9874	0.1356	-1.1680	0.0554
1	90	0.9734	0.0146	0.0040	0.2307	0.0563	-4.6786	0.1480	-1.2283	0.0522
4	90.35	0.2001	0.0014	0.0028	0.0224	0.0017	-0.0832	0.0035	-0.1190	0.0437
4	90.35	0.2502	-0.0021	0.0014	-0.0055	0.0044	-0.0224	0.0092	0.5194	0.0613
4	90.35	0.3001	0.0059	0.0014	0.0588	0.0035	-0.2291	0.0073	0.0047	0.0822
4	90.35	0.3502	-0.0055	0.0014	0.0847	0.0061	-0.3713	0.0116	-0.0500	0.0682
4	90.35	0.4002	0.0068	0.0023	0.1163	0.0094	-0.5120	0.0184	0.0052	0.0764
4	90.35	0.4500	0.0079	0.0035	0.1372	0.0115	-0.7326	0.0231	-0.2308	0.0763
4	90.35	0.5001	0.0082	0.0032	0.1675	0.0156	-0.9364	0.0266	0.0493	0.0624
4	90.35	0.5560	-0.0232	0.0041	0.2154	0.0190	-1.3307	0.0306	-0.2374	0.0710
4	90.35	0.6001	-0.0059	0.0054	0.2174	0.0223	-1.6491	0.0357	-0.3609	0.0649
4	90.35	0.6501	-0.0424	0.0064	0.2530	0.0263	-2.0516	0.0405	-0.1851	0.0689
4	90.35	0.6999	-0.0328	0.0073	0.2549	0.0298	-2.5290	0.0454	-0.0686	0.0777
4	90.35	0.7500	-0.0486	0.0090	0.2274	0.0335	-3.0288	0.0524	0.1873	0.0743
4	90.35	0.8002	-0.1076	0.0087	0.2933	0.0390	-3.6966	0.0594	-0.9757	0.1399
4	90.35	0.8582	-0.2398	0.0045	0.3314	0.0517	-4.2362	0.0681	-0.3091	0.0846
4	90.35	0.9101	-0.2508	0.0046	0.3115	0.0562	-4.9894	0.0727	-0.5819	0.0747
4	90.35	0.9728	-0.2163	0.0046	0.4326	0.0608	-5.7068	0.0876	-0.0834	0.0801

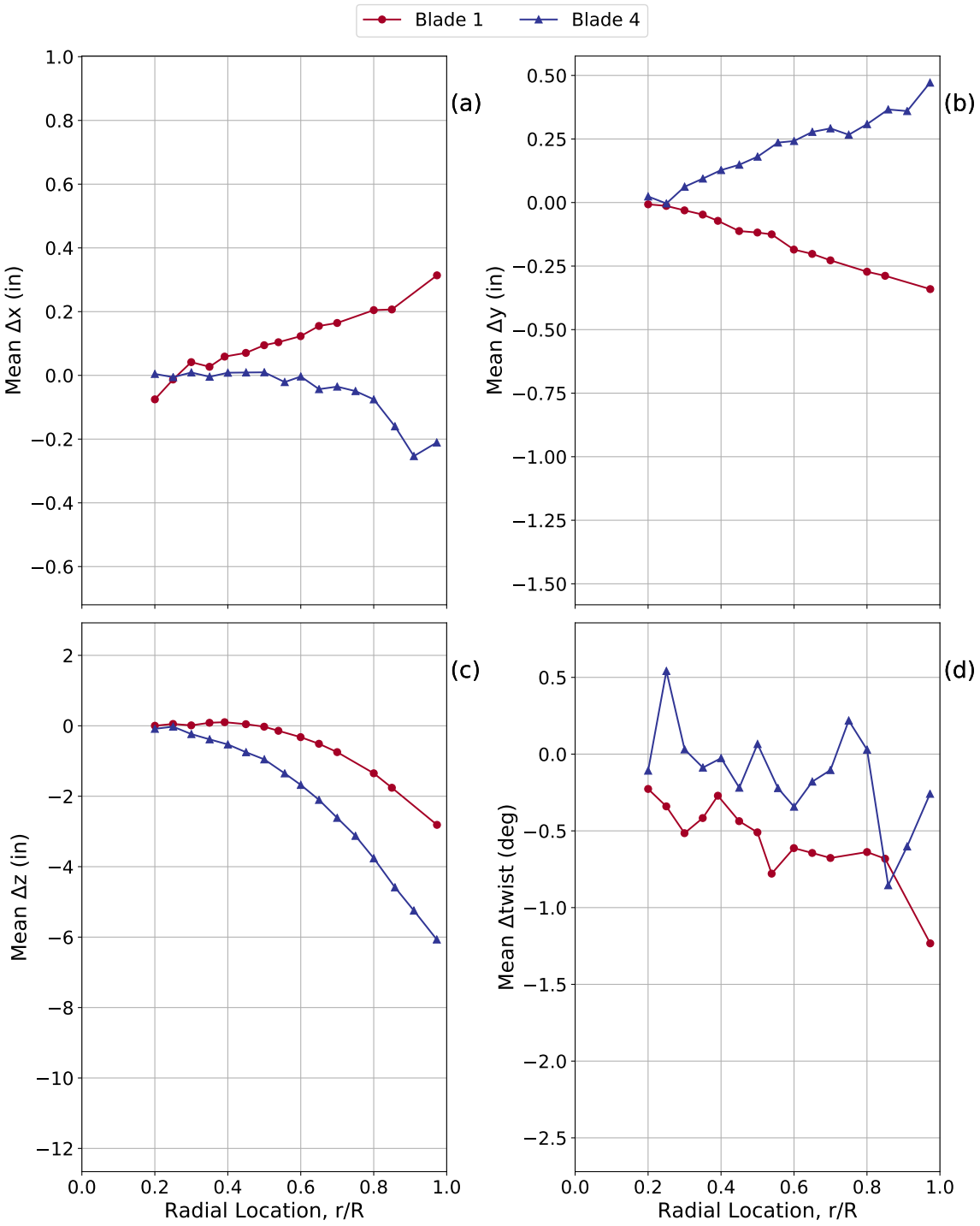


Figure 4.25-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0753	0.0007	-0.0070	0.0005	0.0013	0.0016	-0.2270	0.0139
1	94.92	0.2499	-0.0130	0.0006	-0.0133	0.0008	0.0522	0.0040	-0.3404	0.0235
1	94.92	0.2998	0.0415	0.0006	-0.0308	0.0015	0.0122	0.0075	-0.5151	0.0315
1	94.92	0.3498	0.0269	0.0010	-0.0475	0.0026	0.0862	0.0116	-0.4166	0.0324
1	94.92	0.3913	0.0589	0.0009	-0.0720	0.0036	0.1027	0.0180	-0.2710	0.0237
1	94.92	0.4496	0.0705	0.0019	-0.1122	0.0053	0.0462	0.0241	-0.4367	0.0226
1	94.92	0.4997	0.0946	0.0007	-0.1180	0.0070	-0.0253	0.0277	-0.5098	0.0313
1	94.92	0.5387	0.1040	0.0017	-0.1252	0.0083	-0.1417	0.0328	-0.7788	0.0338
1	94.92	0.5996	0.1230	0.0014	-0.1851	0.0107	-0.3220	0.0385	-0.6125	0.0333
1	94.92	0.6498	0.1550	0.0018	-0.2021	0.0129	-0.5102	0.0430	-0.6440	0.0390
1	94.92	0.6998	0.1644	0.0021	-0.2274	0.0152	-0.7473	0.0476	-0.6767	0.0237
1	94.92	0.8001	0.2047	0.0036	-0.2722	0.0204	-1.3484	0.0546	-0.6380	0.0446
1	94.92	0.8497	0.2068	0.0038	-0.2883	0.0230	-1.7587	0.0643	-0.6815	0.0770
1	94.92	0.9734	0.3139	0.0040	-0.3406	0.0298	-2.8125	0.0800	-1.2330	0.0514
4	94.92	0.2001	0.0045	0.0051	0.0238	0.0025	-0.0858	0.0055	-0.1079	0.0451
4	94.92	0.2502	-0.0056	0.0022	-0.0037	0.0031	-0.0248	0.0069	0.5413	0.0842
4	94.92	0.3001	0.0090	0.0009	0.0621	0.0084	-0.2356	0.0175	0.0306	0.0979
4	94.92	0.3502	-0.0044	0.0012	0.0942	0.0135	-0.3852	0.0265	-0.0879	0.0921
4	94.92	0.4002	0.0083	0.0024	0.1276	0.0203	-0.5297	0.0400	-0.0264	0.0960
4	94.92	0.4500	0.0090	0.0029	0.1486	0.0240	-0.7503	0.0483	-0.2190	0.1040
4	94.92	0.5001	0.0096	0.0020	0.1804	0.0285	-0.9536	0.0553	0.0657	0.0930
4	94.92	0.5560	-0.0211	0.0021	0.2358	0.0337	-1.3508	0.0650	-0.2216	0.1019
4	94.92	0.6001	-0.0036	0.0026	0.2420	0.0381	-1.6788	0.0729	-0.3428	0.0941
4	94.92	0.6501	-0.0433	0.0032	0.2778	0.0431	-2.1039	0.0826	-0.1793	0.0935
4	94.92	0.6999	-0.0354	0.0037	0.2916	0.0479	-2.6142	0.0901	-0.1040	0.0820
4	94.92	0.7500	-0.0494	0.0060	0.2666	0.0524	-3.1259	0.1002	0.2187	0.0729
4	94.92	0.8002	-0.0754	0.0083	0.3083	0.0560	-3.7626	0.1118	0.0290	0.0944
4	94.92	0.8582	-0.1600	0.0077	0.3661	0.0571	-4.5877	0.1193	-0.8544	0.2288
4	94.92	0.9101	-0.2534	0.0046	0.3598	0.0581	-5.2475	0.1465	-0.6017	0.0942
4	94.92	0.9728	-0.2107	0.0065	0.4716	0.0639	-6.0684	0.1583	-0.2586	0.1069

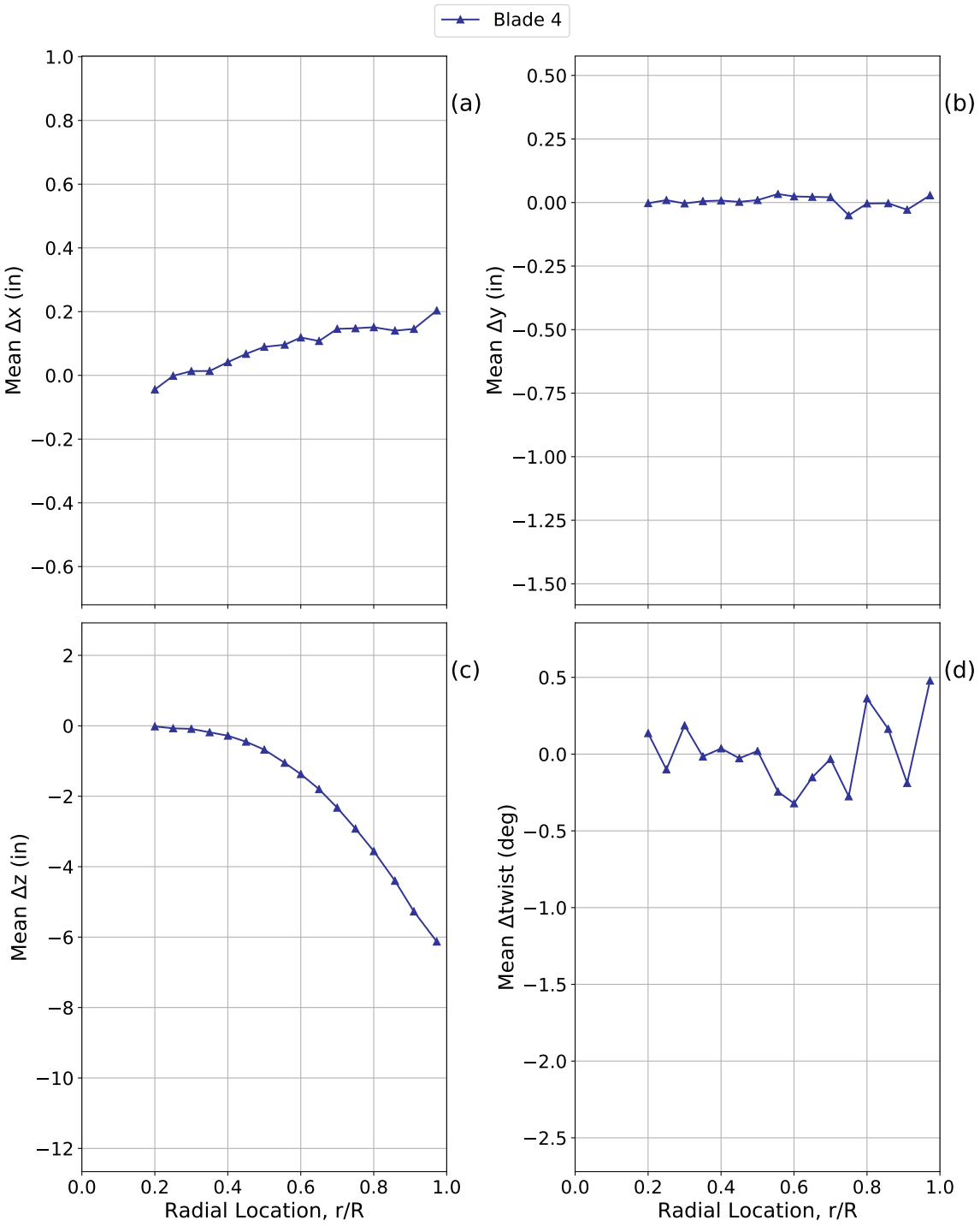


Figure 4.25-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0443	0.0009	-0.0025	0.0003	-0.0174	0.0012	0.1365	0.0103
4	105.12	0.2502	-0.0014	0.0007	0.0095	0.0009	-0.0720	0.0019	-0.0999	0.0181
4	105.12	0.3001	0.0134	0.0004	-0.0036	0.0013	-0.0871	0.0036	0.1869	0.0235
4	105.12	0.3502	0.0137	0.0012	0.0054	0.0020	-0.1847	0.0070	-0.0159	0.0206
4	105.12	0.4002	0.0416	0.0015	0.0078	0.0034	-0.2813	0.0099	0.0372	0.0226
4	105.12	0.4500	0.0674	0.0017	0.0027	0.0050	-0.4519	0.0127	-0.0272	0.0315
4	105.12	0.5001	0.0895	0.0022	0.0096	0.0063	-0.6776	0.0155	0.0202	0.0303
4	105.12	0.5560	0.0961	0.0022	0.0335	0.0083	-1.0517	0.0192	-0.2451	0.0253
4	105.12	0.6001	0.1189	0.0020	0.0240	0.0095	-1.3724	0.0232	-0.3209	0.0288
4	105.12	0.6501	0.1078	0.0019	0.0223	0.0110	-1.8000	0.0246	-0.1512	0.0268
4	105.12	0.6999	0.1459	0.0026	0.0209	0.0129	-2.3261	0.0290	-0.0320	0.0295
4	105.12	0.7500	0.1477	0.0028	-0.0503	0.0145	-2.9210	0.0344	-0.2755	0.0417
4	105.12	0.8002	0.1510	0.0028	-0.0037	0.0173	-3.5610	0.0351	0.3625	0.0348
4	105.12	0.8582	0.1403	0.0038	-0.0030	0.0208	-4.4015	0.0408	0.1643	0.0374
4	105.12	0.9101	0.1457	0.0029	-0.0284	0.0210	-5.2729	0.0458	-0.1884	0.0604
4	105.12	0.9728	0.2036	0.0051	0.0283	0.0244	-6.1276	0.0500	0.4787	0.0549

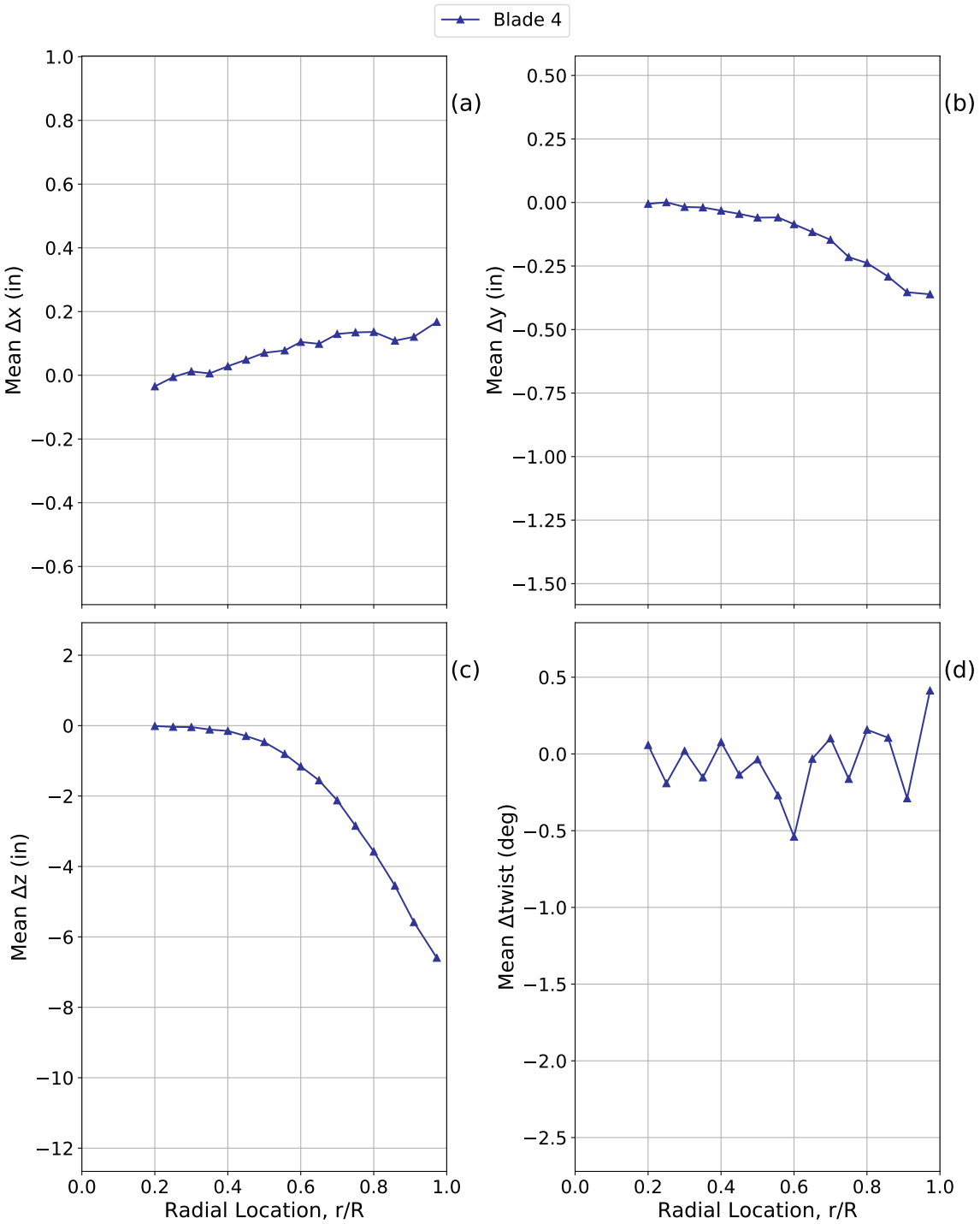


Figure 4.25-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0348	0.0010	-0.0053	0.0005	-0.0120	0.0013	0.0579	0.0143
4	119.88	0.2502	-0.0056	0.0007	0.0007	0.0009	-0.0353	0.0024	-0.1910	0.0211
4	119.88	0.3001	0.0120	0.0008	-0.0176	0.0016	-0.0414	0.0038	0.0203	0.0299
4	119.88	0.3502	0.0058	0.0011	-0.0195	0.0031	-0.1120	0.0077	-0.1531	0.0185
4	119.88	0.4002	0.0283	0.0020	-0.0321	0.0045	-0.1507	0.0107	0.0769	0.0253
4	119.88	0.4500	0.0488	0.0017	-0.0449	0.0057	-0.2953	0.0149	-0.1350	0.0247
4	119.88	0.5001	0.0705	0.0016	-0.0597	0.0074	-0.4674	0.0205	-0.0357	0.0170
4	119.88	0.5560	0.0779	0.0022	-0.0587	0.0092	-0.8056	0.0256	-0.2695	0.0247
4	119.88	0.6001	0.1046	0.0023	-0.0855	0.0112	-1.1588	0.0290	-0.5393	0.0325
4	119.88	0.6501	0.0986	0.0024	-0.1163	0.0133	-1.5550	0.0370	-0.0318	0.0317
4	119.88	0.6999	0.1297	0.0027	-0.1469	0.0159	-2.1238	0.0440	0.1011	0.0332
4	119.88	0.7500	0.1346	0.0033	-0.2149	0.0186	-2.8455	0.0515	-0.1629	0.0355
4	119.88	0.8002	0.1360	0.0036	-0.2383	0.0211	-3.5779	0.0628	0.1578	0.0304
4	119.88	0.8582	0.1086	0.0050	-0.2919	0.0244	-4.5469	0.0759	0.1053	0.0338
4	119.88	0.9101	0.1207	0.0053	-0.3532	0.0276	-5.5814	0.0910	-0.2892	0.0420
4	119.88	0.9728	0.1674	0.0065	-0.3613	0.0315	-6.5941	0.1103	0.4130	0.0306

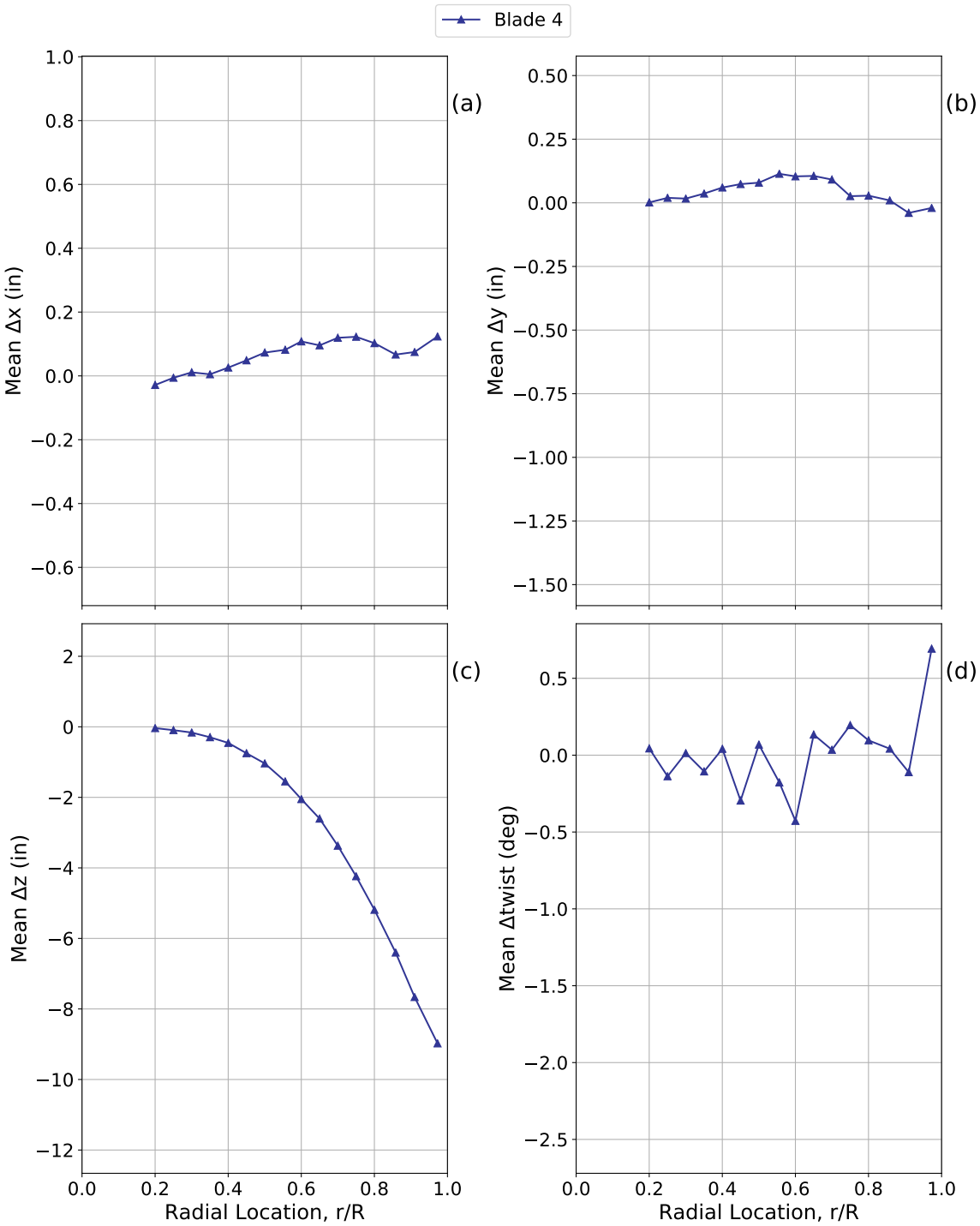


Figure 4.25-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0285	0.0006	0.0014	0.0005	-0.0376	0.0017	0.0437	0.0109
4	135	0.2502	-0.0059	0.0007	0.0195	0.0010	-0.0941	0.0034	-0.1376	0.0278
4	135	0.3001	0.0111	0.0008	0.0166	0.0022	-0.1628	0.0066	0.0134	0.0280
4	135	0.3502	0.0050	0.0009	0.0363	0.0037	-0.2959	0.0113	-0.1059	0.0283
4	135	0.4002	0.0260	0.0014	0.0600	0.0058	-0.4569	0.0174	0.0409	0.0175
4	135	0.4500	0.0487	0.0011	0.0735	0.0075	-0.7492	0.0222	-0.2957	0.0225
4	135	0.5001	0.0730	0.0014	0.0791	0.0093	-1.0378	0.0264	0.0686	0.0200
4	135	0.5560	0.0818	0.0016	0.1139	0.0119	-1.5494	0.0311	-0.1775	0.0268
4	135	0.6001	0.1080	0.0019	0.1039	0.0138	-2.0505	0.0344	-0.4277	0.0278
4	135	0.6501	0.0956	0.0023	0.1056	0.0161	-2.6043	0.0370	0.1339	0.0299
4	135	0.6999	0.1194	0.0020	0.0913	0.0185	-3.3720	0.0399	0.0347	0.0336
4	135	0.7500	0.1225	0.0023	0.0262	0.0212	-4.2378	0.0432	0.1952	0.0272
4	135	0.8002	0.1025	0.0023	0.0280	0.0239	-5.1897	0.0474	0.0962	0.0262
4	135	0.8582	0.0668	0.0020	0.0095	0.0272	-6.4019	0.0526	0.0420	0.0250
4	135	0.9101	0.0748	0.0025	-0.0397	0.0300	-7.6625	0.0588	-0.1107	0.0238
4	135	0.9728	0.1235	0.0033	-0.0202	0.0335	-8.9767	0.0654	0.6927	0.0317

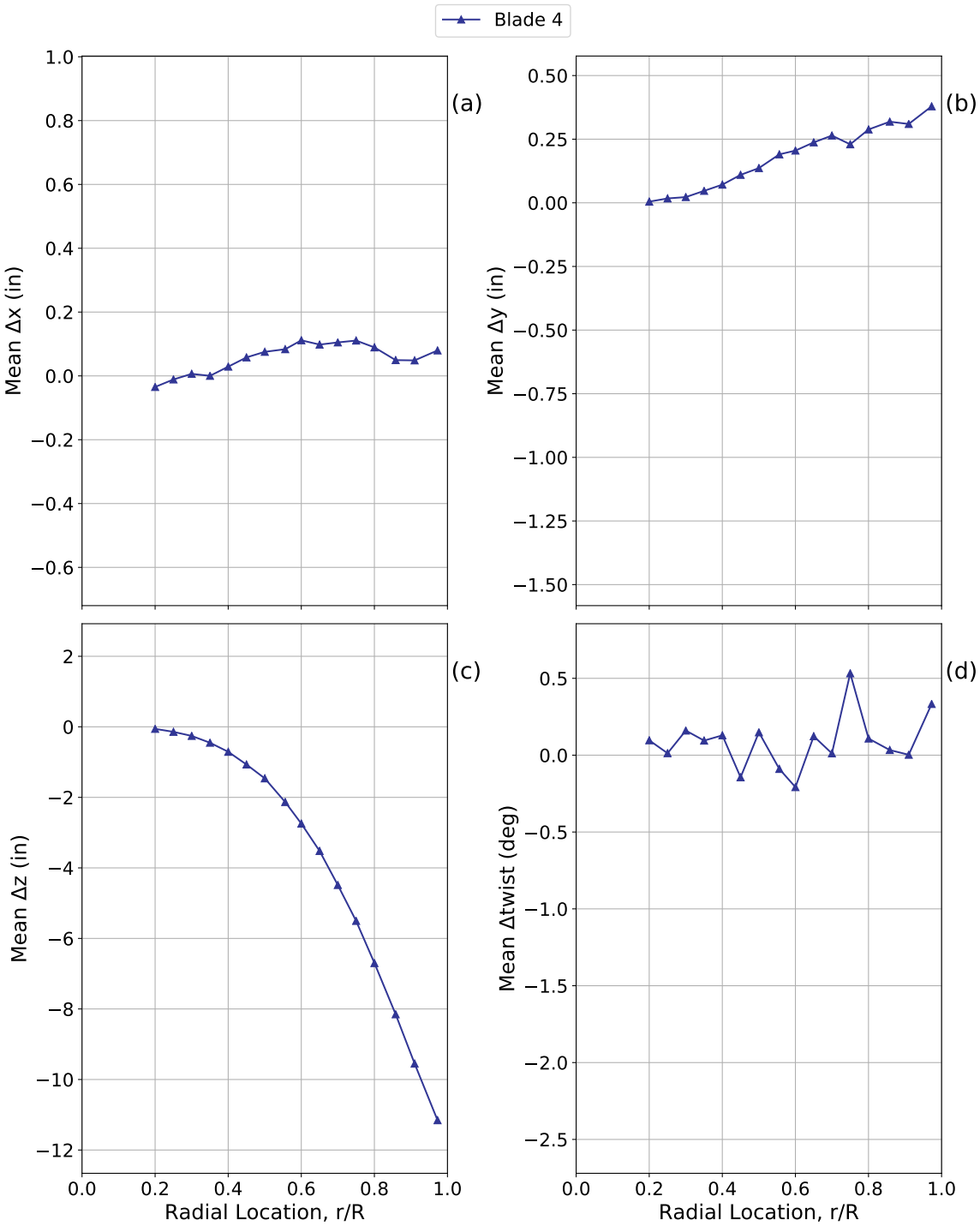


Figure 4.25-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0347	0.0009	0.0046	0.0005	-0.0578	0.0011	0.0966	0.0142
4	150.12	0.2502	-0.0112	0.0008	0.0172	0.0014	-0.1427	0.0020	0.0126	0.0132
4	150.12	0.3001	0.0064	0.0011	0.0225	0.0020	-0.2581	0.0041	0.1601	0.0279
4	150.12	0.3502	0.0002	0.0014	0.0470	0.0037	-0.4515	0.0061	0.0948	0.0228
4	150.12	0.4002	0.0290	0.0013	0.0714	0.0056	-0.7091	0.0097	0.1290	0.0228
4	150.12	0.4500	0.0579	0.0013	0.1098	0.0065	-1.0687	0.0126	-0.1440	0.0220
4	150.12	0.5001	0.0754	0.0017	0.1364	0.0079	-1.4619	0.0149	0.1486	0.0209
4	150.12	0.5560	0.0836	0.0019	0.1903	0.0099	-2.1333	0.0176	-0.0896	0.0228
4	150.12	0.6001	0.1115	0.0018	0.2052	0.0114	-2.7449	0.0201	-0.2080	0.0273
4	150.12	0.6501	0.0981	0.0017	0.2374	0.0131	-3.5212	0.0222	0.1231	0.0232
4	150.12	0.6999	0.1049	0.0021	0.2642	0.0152	-4.4859	0.0249	0.0116	0.0271
4	150.12	0.7500	0.1107	0.0022	0.2298	0.0171	-5.5038	0.0262	0.5325	0.0268
4	150.12	0.8002	0.0893	0.0025	0.2881	0.0192	-6.7000	0.0289	0.1081	0.0250
4	150.12	0.8582	0.0494	0.0032	0.3187	0.0226	-8.1519	0.0320	0.0334	0.0250
4	150.12	0.9101	0.0486	0.0033	0.3097	0.0253	-9.5499	0.0347	0.0026	0.0224
4	150.12	0.9728	0.0797	0.0040	0.3790	0.0288	-11.1552	0.0384	0.3331	0.0236

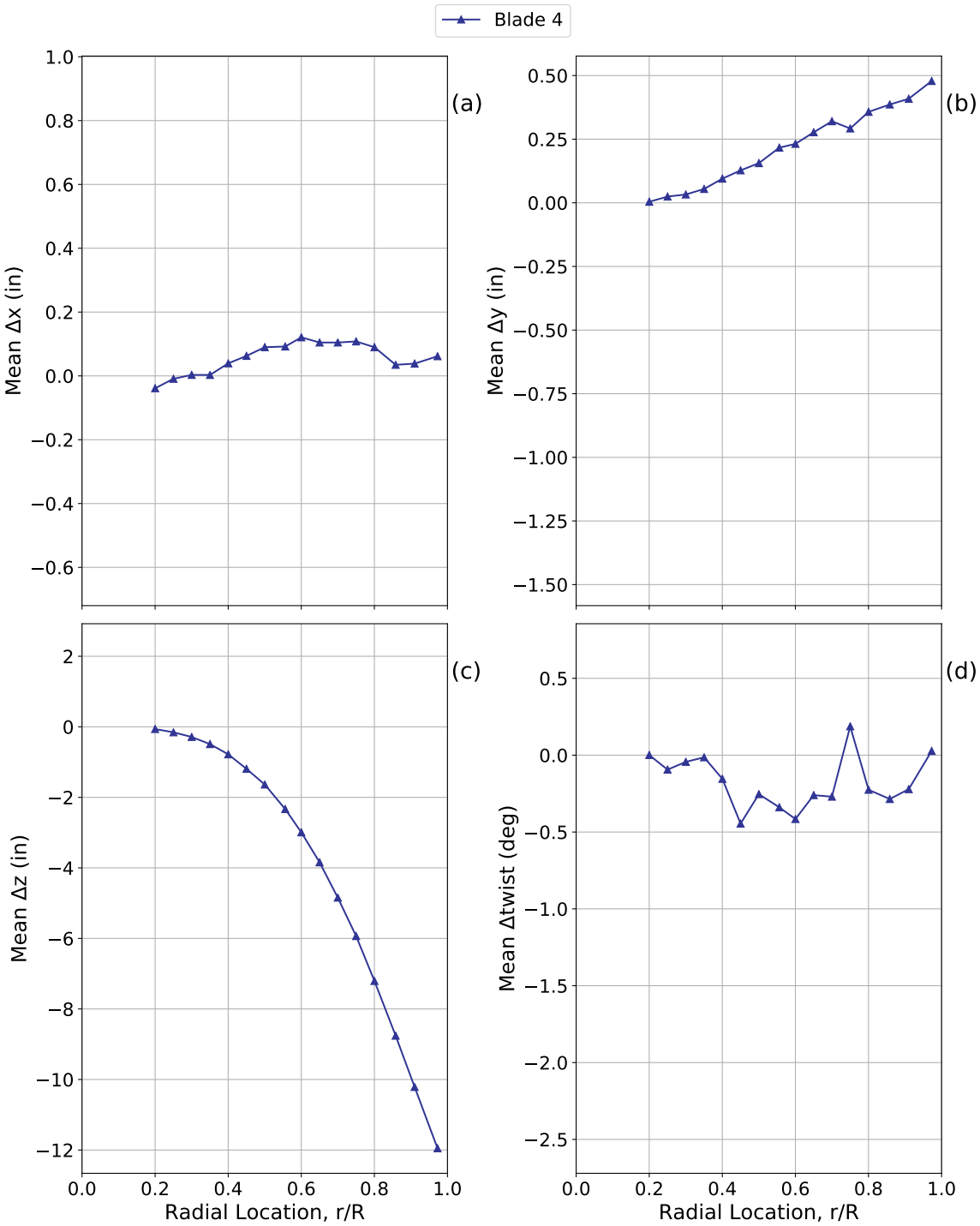


Figure 4.25-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0388	0.0008	0.0041	0.0004	-0.0628	0.0021	0.0007	0.0145
4	164.88	0.2502	-0.0091	0.0008	0.0245	0.0015	-0.1560	0.0034	-0.0942	0.0258
4	164.88	0.3001	0.0031	0.0010	0.0327	0.0020	-0.2881	0.0070	-0.0437	0.0298
4	164.88	0.3502	0.0029	0.0011	0.0544	0.0037	-0.4904	0.0113	-0.0140	0.0220
4	164.88	0.4002	0.0393	0.0010	0.0949	0.0058	-0.7804	0.0171	-0.1542	0.0240
4	164.88	0.4500	0.0626	0.0014	0.1275	0.0074	-1.1916	0.0226	-0.4455	0.0217
4	164.88	0.5001	0.0899	0.0015	0.1558	0.0093	-1.6367	0.0284	-0.2536	0.0228
4	164.88	0.5560	0.0920	0.0018	0.2167	0.0122	-2.3333	0.0340	-0.3395	0.0272
4	164.88	0.6001	0.1208	0.0016	0.2316	0.0137	-2.9925	0.0410	-0.4156	0.0211
4	164.88	0.6501	0.1046	0.0016	0.2771	0.0157	-3.8432	0.0461	-0.2601	0.0216
4	164.88	0.6999	0.1046	0.0015	0.3204	0.0176	-4.8440	0.0506	-0.2702	0.0247
4	164.88	0.7500	0.1080	0.0017	0.2920	0.0201	-5.9336	0.0554	0.1875	0.0271
4	164.88	0.8002	0.0898	0.0017	0.3573	0.0226	-7.2067	0.0577	-0.2252	0.0282
4	164.88	0.8582	0.0347	0.0024	0.3862	0.0259	-8.7584	0.0621	-0.2853	0.0255
4	164.88	0.9101	0.0384	0.0025	0.4088	0.0289	-10.2121	0.0669	-0.2214	0.0313
4	164.88	0.9728	0.0616	0.0032	0.4785	0.0311	-11.9517	0.0708	0.0273	0.0281

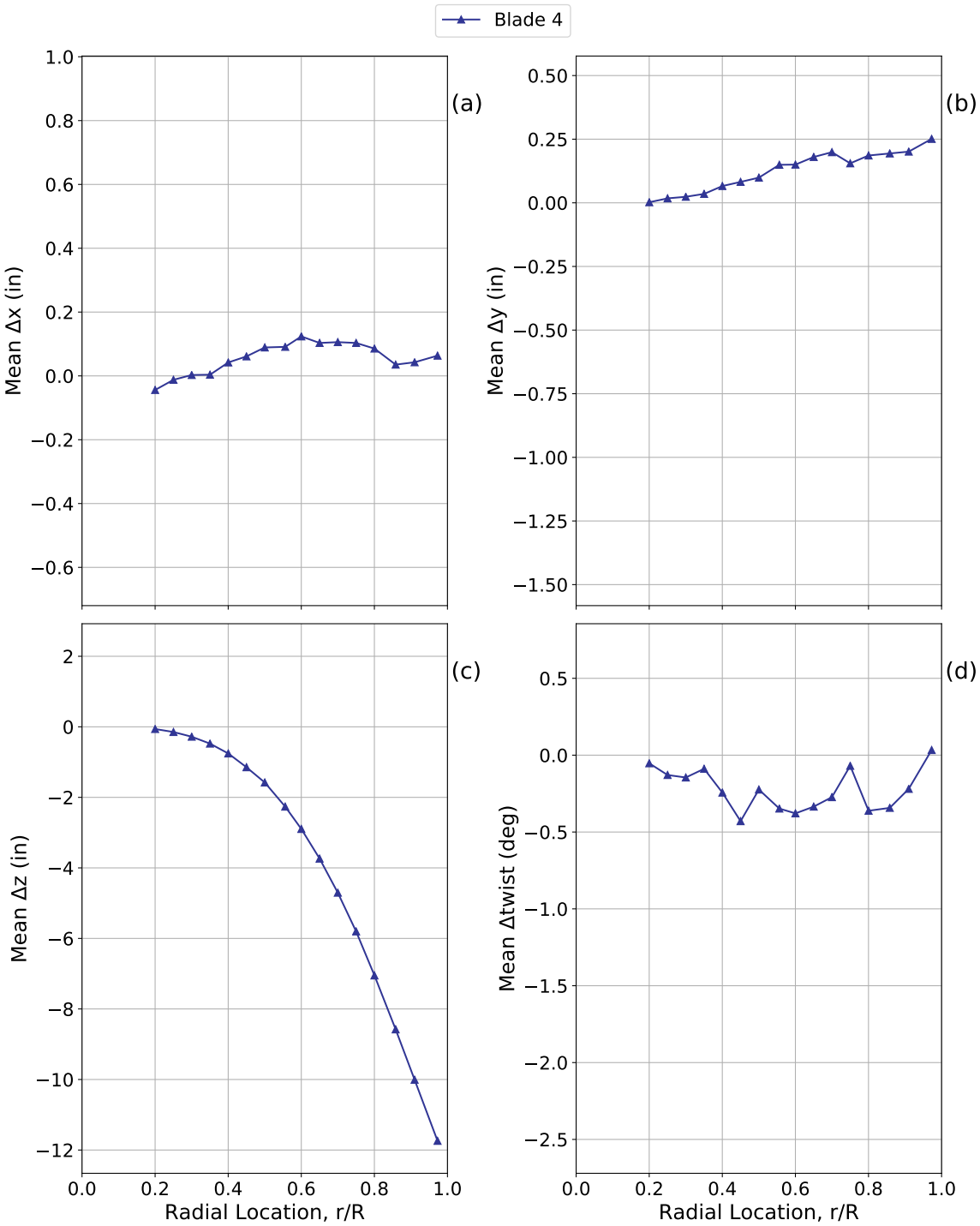


Figure 4.25-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0441	0.0011	0.0022	0.0005	-0.0622	0.0018	-0.0529	0.0191
4	170.16	0.2502	-0.0123	0.0013	0.0175	0.0015	-0.1472	0.0020	-0.1290	0.0268
4	170.16	0.3001	0.0028	0.0012	0.0237	0.0023	-0.2805	0.0055	-0.1453	0.0366
4	170.16	0.3502	0.0037	0.0010	0.0350	0.0031	-0.4763	0.0080	-0.0887	0.0235
4	170.16	0.4002	0.0421	0.0010	0.0659	0.0056	-0.7556	0.0114	-0.2436	0.0352
4	170.16	0.4500	0.0611	0.0010	0.0821	0.0061	-1.1462	0.0135	-0.4295	0.0288
4	170.16	0.5001	0.0891	0.0009	0.0989	0.0082	-1.5789	0.0185	-0.2238	0.0304
4	170.16	0.5560	0.0910	0.0017	0.1493	0.0100	-2.2632	0.0241	-0.3474	0.0268
4	170.16	0.6001	0.1237	0.0013	0.1501	0.0103	-2.8965	0.0252	-0.3788	0.0268
4	170.16	0.6501	0.1032	0.0014	0.1800	0.0124	-3.7373	0.0302	-0.3349	0.0333
4	170.16	0.6999	0.1058	0.0015	0.1989	0.0136	-4.7038	0.0338	-0.2732	0.0277
4	170.16	0.7500	0.1032	0.0014	0.1551	0.0154	-5.8015	0.0381	-0.0693	0.0320
4	170.16	0.8002	0.0856	0.0020	0.1859	0.0171	-7.0501	0.0398	-0.3617	0.0292
4	170.16	0.8582	0.0353	0.0020	0.1939	0.0195	-8.5790	0.0437	-0.3429	0.0374
4	170.16	0.9101	0.0427	0.0020	0.2011	0.0214	-10.0089	0.0486	-0.2193	0.0313
4	170.16	0.9728	0.0634	0.0030	0.2511	0.0233	-11.7403	0.0529	0.0333	0.0317

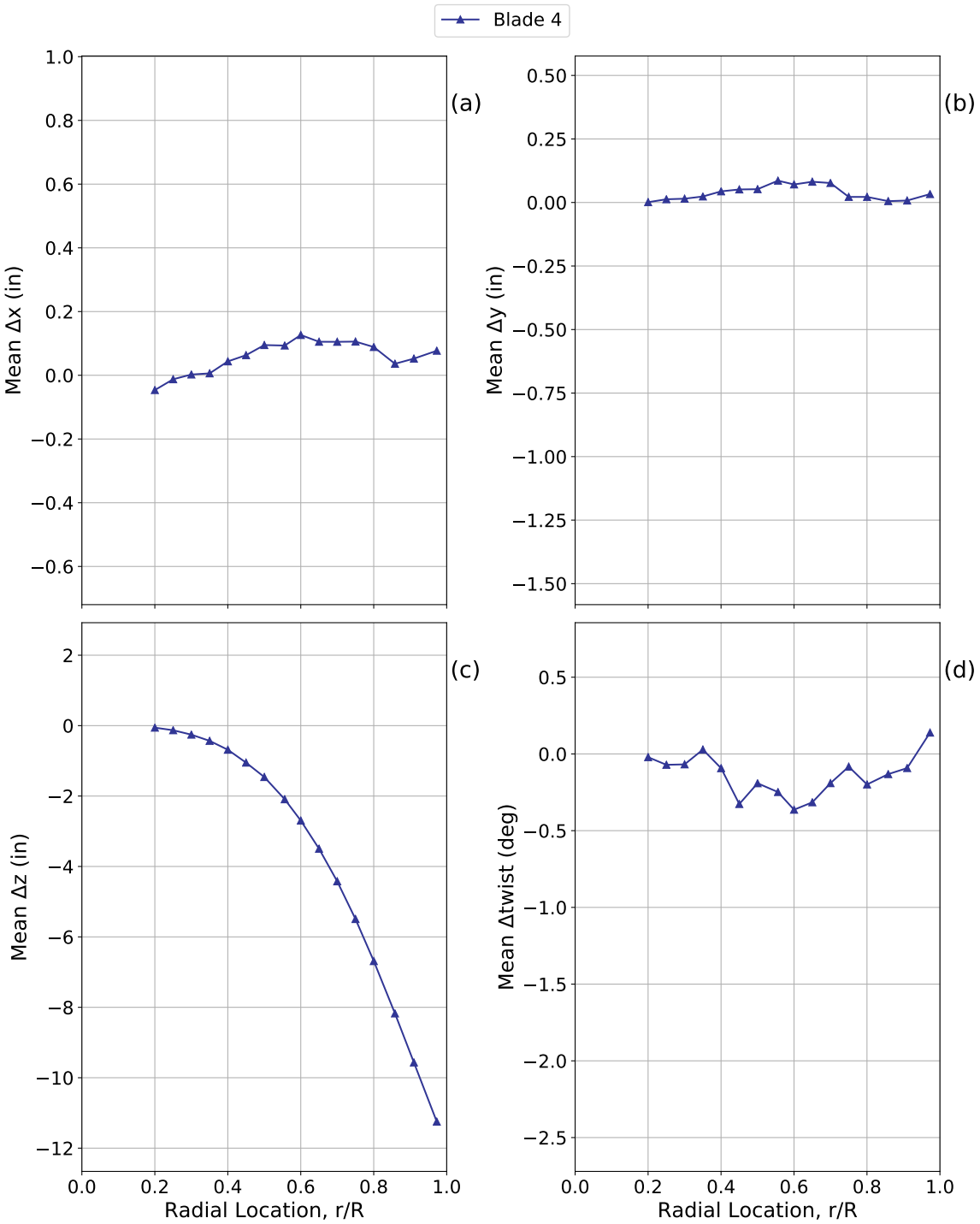


Figure 4.25-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0464	0.0014	0.0012	0.0006	-0.0576	0.0017	-0.0212	0.0216
4	175.08	0.2502	-0.0125	0.0014	0.0126	0.0014	-0.1307	0.0036	-0.0709	0.0276
4	175.08	0.3001	0.0024	0.0009	0.0149	0.0029	-0.2563	0.0073	-0.0680	0.0440
4	175.08	0.3502	0.0060	0.0014	0.0236	0.0042	-0.4326	0.0106	0.0284	0.0326
4	175.08	0.4002	0.0436	0.0016	0.0438	0.0071	-0.6854	0.0176	-0.0931	0.0294
4	175.08	0.4500	0.0631	0.0025	0.0513	0.0094	-1.0510	0.0198	-0.3265	0.0385
4	175.08	0.5001	0.0948	0.0020	0.0523	0.0124	-1.4602	0.0232	-0.1911	0.0303
4	175.08	0.5560	0.0933	0.0031	0.0858	0.0142	-2.0918	0.0247	-0.2485	0.0408
4	175.08	0.6001	0.1264	0.0027	0.0710	0.0176	-2.6972	0.0290	-0.3635	0.0382
4	175.08	0.6501	0.1052	0.0024	0.0816	0.0198	-3.4970	0.0339	-0.3153	0.0391
4	175.08	0.6999	0.1050	0.0029	0.0766	0.0236	-4.4224	0.0383	-0.1905	0.0258
4	175.08	0.7500	0.1057	0.0027	0.0219	0.0270	-5.4932	0.0404	-0.0830	0.0437
4	175.08	0.8002	0.0887	0.0026	0.0219	0.0315	-6.6880	0.0457	-0.1990	0.0382
4	175.08	0.8582	0.0361	0.0030	0.0053	0.0359	-8.1746	0.0524	-0.1317	0.0276
4	175.08	0.9101	0.0523	0.0035	0.0076	0.0405	-9.5669	0.0518	-0.0923	0.0473
4	175.08	0.9728	0.0770	0.0050	0.0330	0.0469	-11.2475	0.0547	0.1389	0.0385

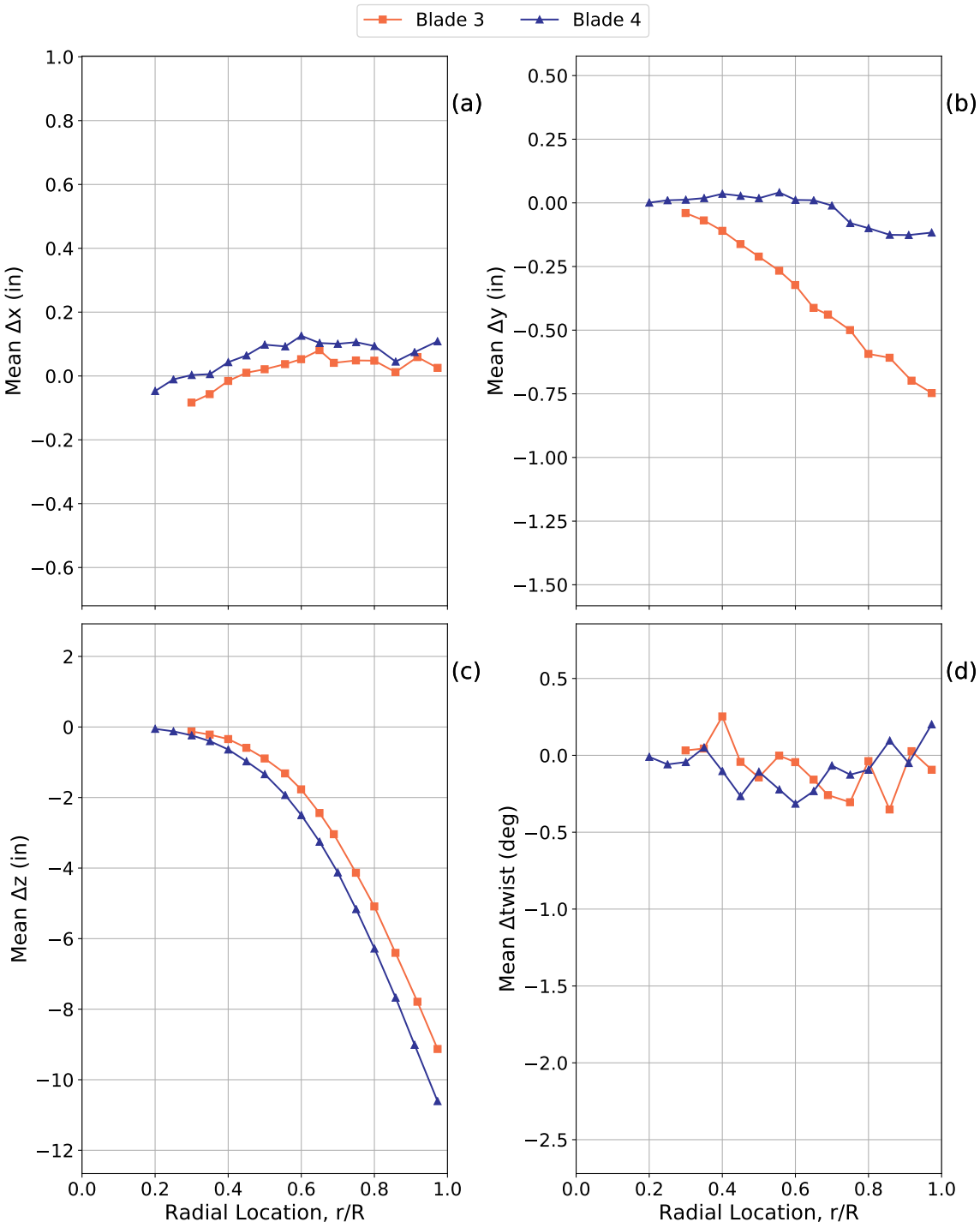


Figure 4.25-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2995	-0.0833	0.0040	-0.0400	0.0079	-0.1263	0.0203	0.0320	0.0638
3	180.35	0.3493	-0.0569	0.0048	-0.0689	0.0136	-0.2159	0.0347	0.0442	0.0844
3	180.35	0.4000	-0.0155	0.0041	-0.1099	0.0216	-0.3432	0.0551	0.2530	0.0823
3	180.35	0.4497	0.0101	0.0044	-0.1618	0.0263	-0.5903	0.0726	-0.0425	0.0864
3	180.35	0.4997	0.0211	0.0047	-0.2110	0.0335	-0.8927	0.0915	-0.1435	0.0775
3	180.35	0.5556	0.0371	0.0050	-0.2665	0.0408	-1.3160	0.1109	-0.0018	0.0892
3	180.35	0.5995	0.0526	0.0056	-0.3227	0.0467	-1.7682	0.1275	-0.0443	0.0883
3	180.35	0.6498	0.0810	0.0064	-0.4125	0.0537	-2.4384	0.1478	-0.1580	0.0932
3	180.35	0.6890	0.0411	0.0061	-0.4389	0.0585	-3.0398	0.1628	-0.2585	0.0898
3	180.35	0.7495	0.0487	0.0070	-0.4997	0.0665	-4.1325	0.1833	-0.3050	0.0918
3	180.35	0.7998	0.0480	0.0075	-0.5933	0.0731	-5.0871	0.2056	-0.0375	0.0781
3	180.35	0.8577	0.0121	0.0089	-0.6083	0.0811	-6.4030	0.2256	-0.3521	0.0806
3	180.35	0.9178	0.0592	0.0099	-0.6984	0.0890	-7.7892	0.2483	0.0270	0.0910
3	180.35	0.9729	0.0254	0.0117	-0.7471	0.0967	-9.1280	0.2686	-0.0938	0.0907
4	180	0.2001	-0.0472	0.0015	0.0009	0.0009	-0.0527	0.0028	-0.0102	0.0170
4	180	0.2502	-0.0106	0.0019	0.0102	0.0015	-0.1235	0.0048	-0.0588	0.0287
4	180	0.3001	0.0030	0.0017	0.0123	0.0036	-0.2384	0.0099	-0.0439	0.0351
4	180	0.3502	0.0058	0.0018	0.0186	0.0046	-0.4020	0.0179	0.0507	0.0230
4	180	0.4002	0.0433	0.0016	0.0355	0.0076	-0.6393	0.0264	-0.1026	0.0317
4	180	0.4500	0.0644	0.0020	0.0275	0.0084	-0.9745	0.0301	-0.2654	0.0283
4	180	0.5001	0.0980	0.0013	0.0182	0.0107	-1.3394	0.0355	-0.1070	0.0312
4	180	0.5560	0.0926	0.0021	0.0409	0.0143	-1.9290	0.0408	-0.2225	0.0419
4	180	0.6001	0.1259	0.0020	0.0115	0.0160	-2.4993	0.0447	-0.3147	0.0401
4	180	0.6501	0.1032	0.0023	0.0103	0.0178	-3.2542	0.0517	-0.2328	0.0319
4	180	0.6999	0.1007	0.0024	-0.0106	0.0210	-4.1247	0.0561	-0.0668	0.0340
4	180	0.7500	0.1059	0.0025	-0.0795	0.0238	-5.1641	0.0591	-0.1257	0.0425
4	180	0.8002	0.0938	0.0028	-0.0995	0.0268	-6.2811	0.0651	-0.0941	0.0368
4	180	0.8582	0.0450	0.0031	-0.1256	0.0312	-7.6730	0.0707	0.0959	0.0496
4	180	0.9101	0.0747	0.0042	-0.1265	0.0340	-9.0119	0.0731	-0.0501	0.0588
4	180	0.9728	0.1086	0.0053	-0.1168	0.0384	-10.6070	0.0821	0.2015	0.0505

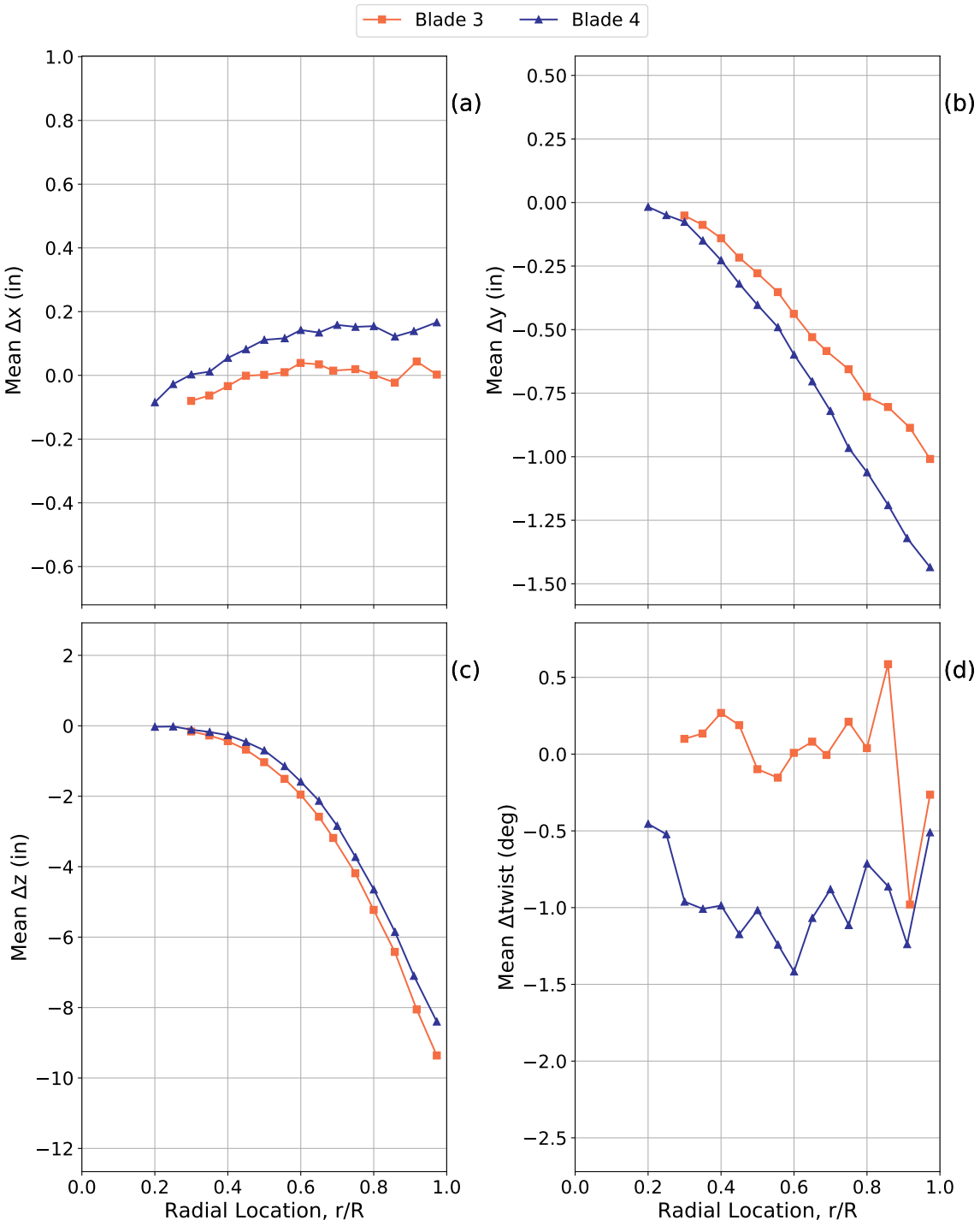


Figure 4.25-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0801	0.0032	-0.0512	0.0045	-0.1610	0.0115	0.0996	0.0399
3	184.92	0.3493	-0.0631	0.0023	-0.0880	0.0076	-0.2747	0.0195	0.1341	0.0528
3	184.92	0.4000	-0.0337	0.0023	-0.1405	0.0122	-0.4362	0.0307	0.2683	0.0553
3	184.92	0.4497	-0.0011	0.0019	-0.2165	0.0162	-0.6756	0.0399	0.1889	0.0465
3	184.92	0.4997	0.0017	0.0026	-0.2782	0.0198	-1.0337	0.0503	-0.0981	0.0539
3	184.92	0.5556	0.0100	0.0031	-0.3524	0.0246	-1.5069	0.0617	-0.1535	0.0517
3	184.92	0.5995	0.0390	0.0036	-0.4381	0.0289	-1.9548	0.0707	0.0083	0.0531
3	184.92	0.6498	0.0344	0.0043	-0.5296	0.0315	-2.5816	0.0824	0.0811	0.0568
3	184.92	0.6890	0.0149	0.0053	-0.5842	0.0358	-3.1843	0.0887	-0.0057	0.0531
3	184.92	0.7495	0.0194	0.0065	-0.6557	0.0402	-4.1873	0.1021	0.2109	0.0531
3	184.92	0.7998	0.0013	0.0090	-0.7638	0.0440	-5.2275	0.1132	0.0390	0.0692
3	184.92	0.8577	-0.0227	0.0117	-0.8043	0.0505	-6.4189	0.1242	0.5858	0.0781
3	184.92	0.9178	0.0436	0.0135	-0.8864	0.0554	-8.0537	0.1373	-0.9797	0.0754
3	184.92	0.9729	0.0024	0.0186	-1.0089	0.0611	-9.3624	0.1504	-0.2643	0.1405
4	184.92	0.2001	-0.0844	0.0027	-0.0171	0.0016	-0.0282	0.0019	-0.4543	0.0512
4	184.92	0.2502	-0.0274	0.0019	-0.0496	0.0047	-0.0198	0.0089	-0.5223	0.0499
4	184.92	0.3001	0.0029	0.0019	-0.0761	0.0065	-0.1092	0.0075	-0.9611	0.1028
4	184.92	0.3502	0.0117	0.0019	-0.1497	0.0131	-0.1754	0.0158	-1.0085	0.1005
4	184.92	0.4002	0.0550	0.0025	-0.2273	0.0197	-0.2687	0.0242	-0.9864	0.1063
4	184.92	0.4500	0.0821	0.0026	-0.3195	0.0259	-0.4574	0.0327	-1.1733	0.1031
4	184.92	0.5001	0.1115	0.0032	-0.4032	0.0322	-0.6984	0.0417	-1.0166	0.1036
4	184.92	0.5560	0.1164	0.0047	-0.4907	0.0382	-1.1456	0.0513	-1.2415	0.1057
4	184.92	0.6001	0.1423	0.0045	-0.5985	0.0452	-1.5864	0.0606	-1.4164	0.0983
4	184.92	0.6501	0.1343	0.0056	-0.7037	0.0503	-2.1300	0.0686	-1.0677	0.1100
4	184.92	0.6999	0.1583	0.0061	-0.8202	0.0572	-2.8424	0.0791	-0.8809	0.1199
4	184.92	0.7500	0.1522	0.0063	-0.9658	0.0642	-3.7255	0.0879	-1.1140	0.1020
4	184.92	0.8002	0.1545	0.0068	-1.0614	0.0703	-4.6476	0.1007	-0.7137	0.1276
4	184.92	0.8582	0.1218	0.0058	-1.1907	0.0794	-5.8521	0.0991	-0.8623	0.1217
4	184.92	0.9101	0.1390	0.0059	-1.3205	0.0904	-7.1002	0.1086	-1.2384	0.1183
4	184.92	0.9728	0.1664	0.0061	-1.4347	0.0980	-8.3987	0.1283	-0.5098	0.1181

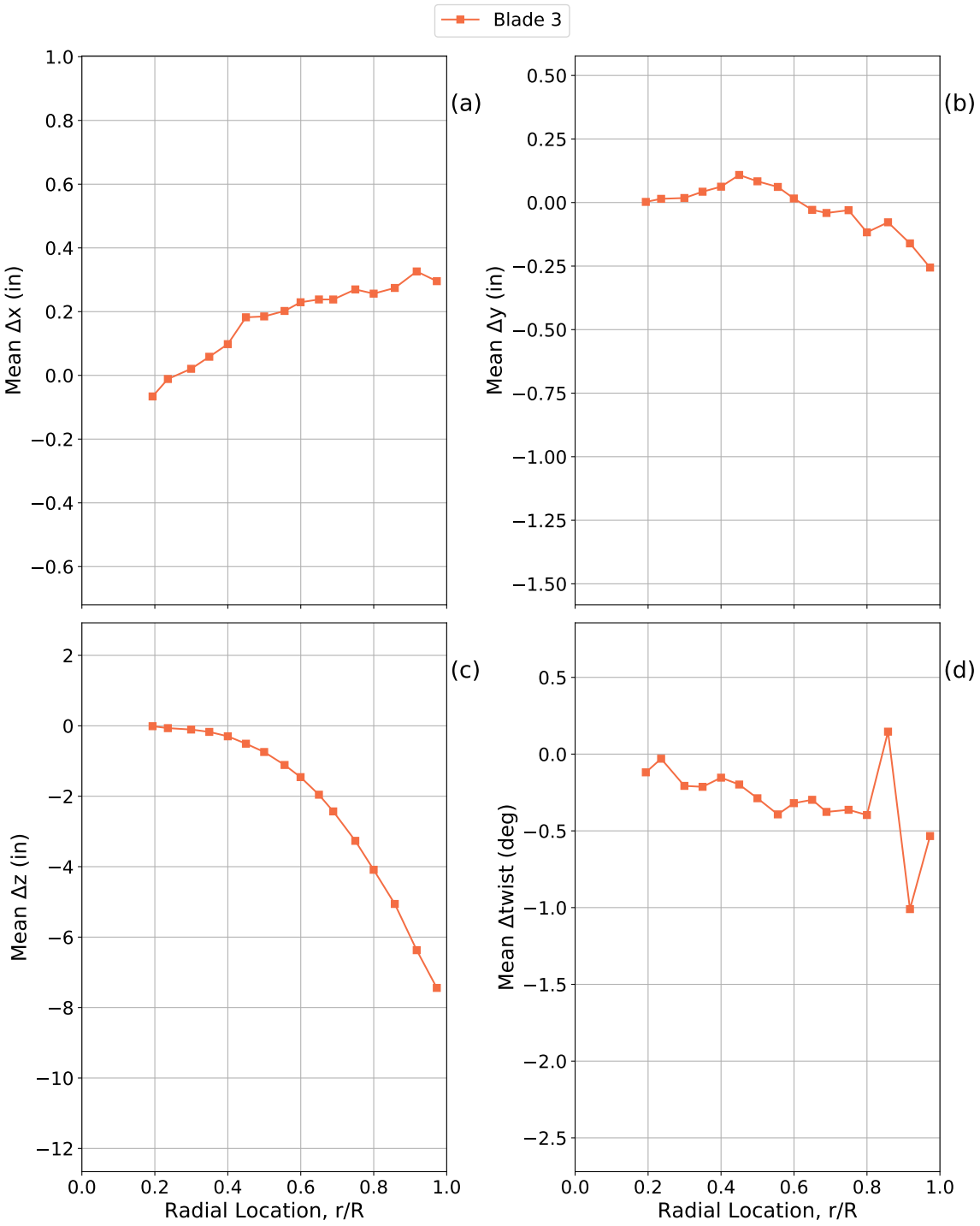


Figure 4.25-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0661	0.0014	0.0025	0.0009	-0.0112	0.0016	-0.1188	0.0134
3	195.12	0.2357	-0.0114	0.0010	0.0146	0.0021	-0.0663	0.0035	-0.0300	0.0240
3	195.12	0.2995	0.0206	0.0009	0.0178	0.0039	-0.1058	0.0062	-0.2069	0.0299
3	195.12	0.3493	0.0584	0.0008	0.0426	0.0068	-0.1732	0.0098	-0.2131	0.0254
3	195.12	0.4000	0.0980	0.0014	0.0624	0.0106	-0.2978	0.0160	-0.1535	0.0260
3	195.12	0.4497	0.1822	0.0028	0.1085	0.0188	-0.5078	0.0204	-0.1981	0.0224
3	195.12	0.4997	0.1849	0.0032	0.0835	0.0213	-0.7438	0.0250	-0.2875	0.0241
3	195.12	0.5556	0.2021	0.0031	0.0614	0.0240	-1.1121	0.0300	-0.3927	0.0279
3	195.12	0.5995	0.2294	0.0029	0.0159	0.0264	-1.4574	0.0341	-0.3195	0.0262
3	195.12	0.6498	0.2382	0.0031	-0.0288	0.0290	-1.9566	0.0394	-0.2977	0.0293
3	195.12	0.6890	0.2381	0.0040	-0.0411	0.0313	-2.4308	0.0411	-0.3765	0.0204
3	195.12	0.7495	0.2697	0.0040	-0.0302	0.0368	-3.2664	0.0469	-0.3628	0.0227
3	195.12	0.7998	0.2565	0.0045	-0.1172	0.0408	-4.0877	0.0496	-0.3967	0.0575
3	195.12	0.8577	0.2743	0.0056	-0.0778	0.0455	-5.0585	0.0578	0.1464	0.0373
3	195.12	0.9178	0.3261	0.0035	-0.1607	0.0480	-6.3708	0.0633	-1.0098	0.0226
3	195.12	0.9729	0.2956	0.0027	-0.2558	0.0519	-7.4421	0.0710	-0.5336	0.0384

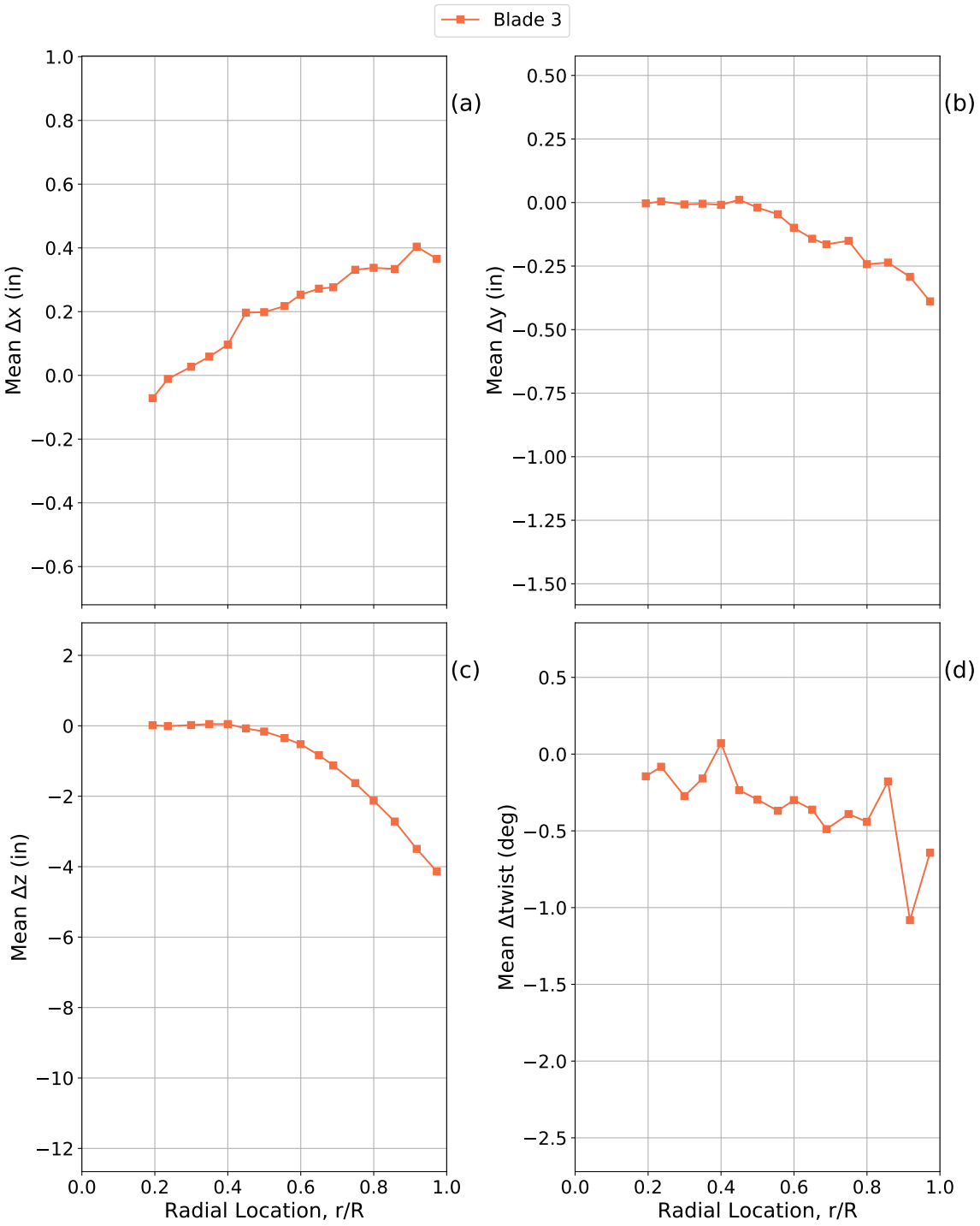


Figure 4.25-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0716	0.0010	-0.0034	0.0007	0.0152	0.0007	-0.1447	0.0127
3	209.88	0.2357	-0.0114	0.0006	0.0043	0.0005	-0.0083	0.0011	-0.0823	0.0199
3	209.88	0.2995	0.0271	0.0007	-0.0076	0.0015	0.0201	0.0032	-0.2736	0.0301
3	209.88	0.3493	0.0589	0.0008	-0.0047	0.0029	0.0488	0.0046	-0.1589	0.0248
3	209.88	0.4000	0.0963	0.0014	-0.0091	0.0037	0.0486	0.0075	0.0709	0.0239
3	209.88	0.4497	0.1969	0.0067	0.0109	0.0158	-0.0744	0.0231	-0.2347	0.0289
3	209.88	0.4997	0.1983	0.0060	-0.0199	0.0176	-0.1623	0.0262	-0.2960	0.0318
3	209.88	0.5556	0.2174	0.0055	-0.0461	0.0191	-0.3477	0.0288	-0.3692	0.0286
3	209.88	0.5995	0.2534	0.0052	-0.0993	0.0214	-0.5220	0.0338	-0.2996	0.0247
3	209.88	0.6498	0.2721	0.0040	-0.1425	0.0237	-0.8332	0.0366	-0.3618	0.0263
3	209.88	0.6890	0.2763	0.0033	-0.1643	0.0256	-1.1261	0.0393	-0.4890	0.0336
3	209.88	0.7495	0.3314	0.0024	-0.1506	0.0284	-1.6280	0.0444	-0.3905	0.0275
3	209.88	0.7998	0.3375	0.0021	-0.2426	0.0319	-2.1250	0.0469	-0.4408	0.0324
3	209.88	0.8577	0.3337	0.0049	-0.2364	0.0344	-2.7182	0.0538	-0.1782	0.0477
3	209.88	0.9178	0.4039	0.0046	-0.2924	0.0387	-3.4945	0.0559	-1.0816	0.1161
3	209.88	0.9729	0.3655	0.0090	-0.3887	0.0422	-4.1363	0.0600	-0.6420	0.0756

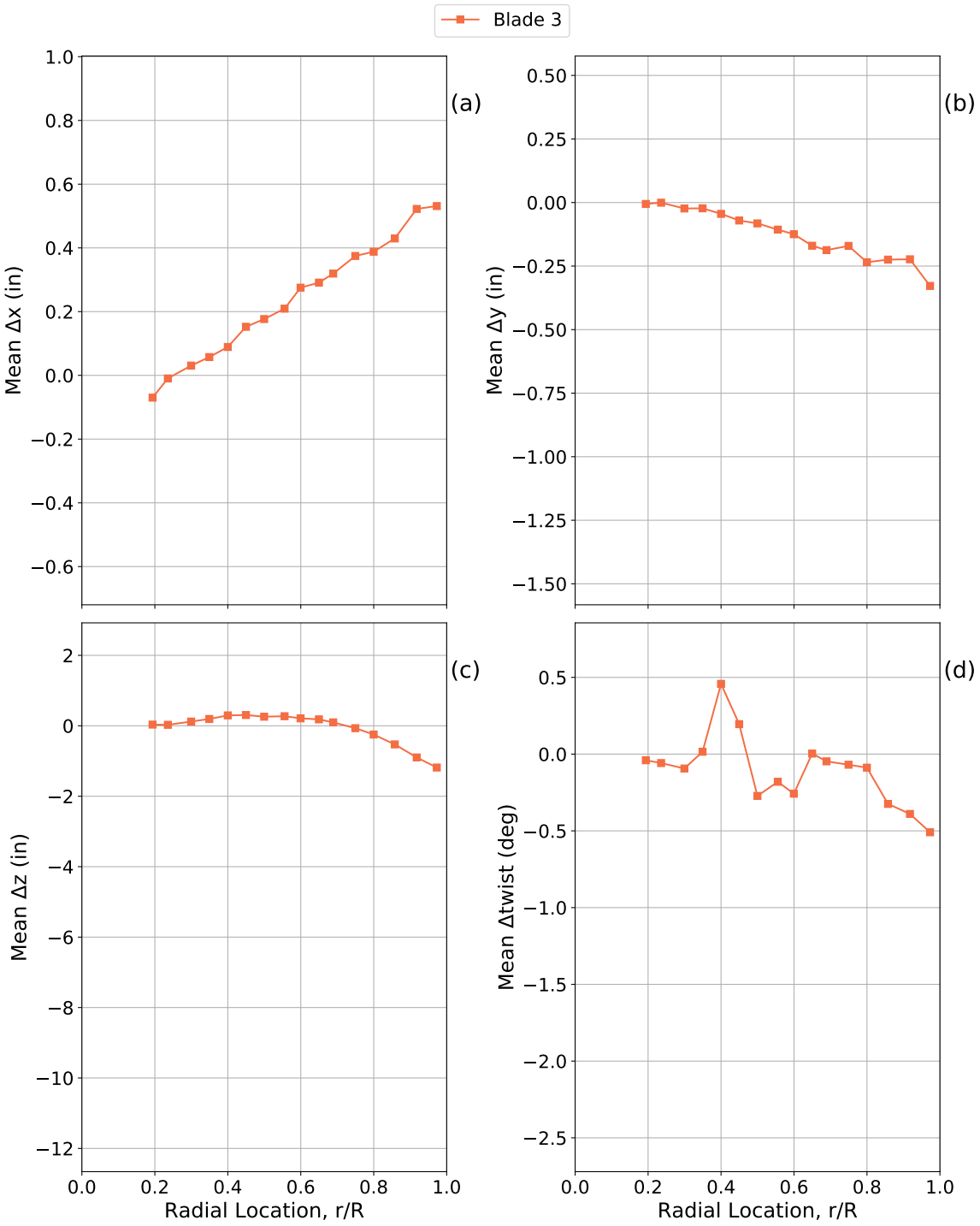


Figure 4.25-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0699	0.0010	-0.0056	0.0006	0.0346	0.0012	-0.0399	0.0114
3	225	0.2357	-0.0096	0.0011	-0.0006	0.0013	0.0281	0.0032	-0.0583	0.0170
3	225	0.2995	0.0307	0.0007	-0.0234	0.0034	0.1203	0.0051	-0.0938	0.0254
3	225	0.3493	0.0574	0.0011	-0.0227	0.0050	0.1939	0.0089	0.0156	0.0182
3	225	0.4000	0.0891	0.0014	-0.0446	0.0086	0.2957	0.0138	0.4575	0.0209
3	225	0.4497	0.1524	0.0015	-0.0706	0.0103	0.3063	0.0180	0.1952	0.0240
3	225	0.4997	0.1767	0.0011	-0.0821	0.0124	0.2586	0.0212	-0.2725	0.0323
3	225	0.5556	0.2093	0.0016	-0.1066	0.0149	0.2720	0.0283	-0.1802	0.0250
3	225	0.5995	0.2752	0.0012	-0.1247	0.0158	0.2122	0.0327	-0.2579	0.0244
3	225	0.6498	0.2910	0.0016	-0.1699	0.0184	0.1827	0.0378	0.0037	0.0296
3	225	0.6890	0.3194	0.0013	-0.1872	0.0206	0.0970	0.0432	-0.0470	0.0214
3	225	0.7495	0.3747	0.0017	-0.1707	0.0238	-0.0672	0.0501	-0.0692	0.0265
3	225	0.7998	0.3881	0.0017	-0.2348	0.0261	-0.2475	0.0541	-0.0882	0.0264
3	225	0.8577	0.4296	0.0008	-0.2246	0.0291	-0.5276	0.0626	-0.3243	0.0505
3	225	0.9178	0.5223	0.0027	-0.2233	0.0326	-0.8985	0.0678	-0.3897	0.0394
3	225	0.9729	0.5313	0.0030	-0.3281	0.0358	-1.1845	0.0741	-0.5092	0.0646

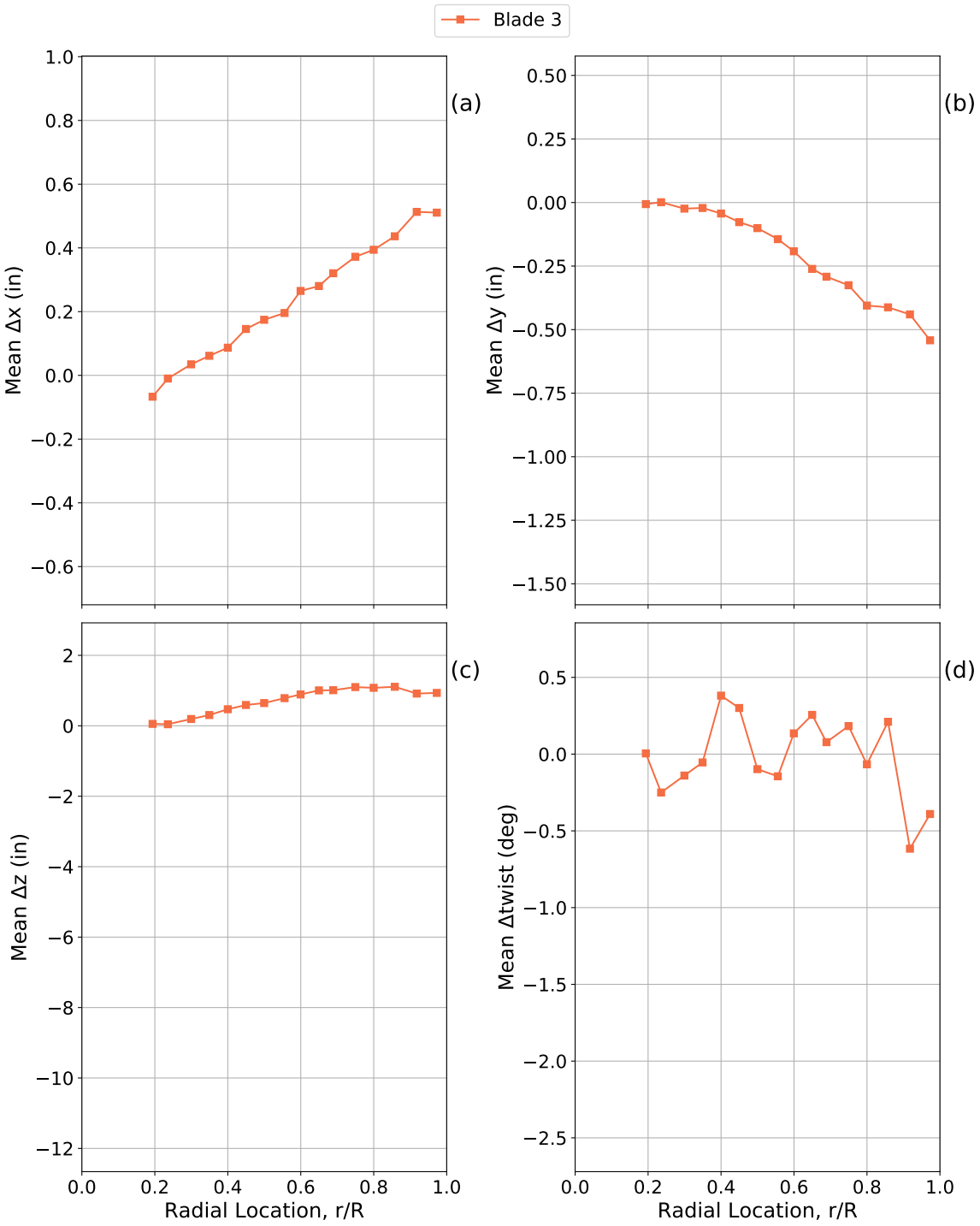


Figure 4.25-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0669	0.0012	-0.0062	0.0006	0.0547	0.0020	0.0046	0.0099
3	240.12	0.2357	-0.0099	0.0009	0.0011	0.0013	0.0444	0.0038	-0.2501	0.0281
3	240.12	0.2995	0.0346	0.0008	-0.0240	0.0026	0.1932	0.0080	-0.1397	0.0252
3	240.12	0.3493	0.0614	0.0011	-0.0214	0.0044	0.3052	0.0132	-0.0542	0.0310
3	240.12	0.4000	0.0868	0.0013	-0.0432	0.0069	0.4703	0.0207	0.3810	0.0295
3	240.12	0.4497	0.1455	0.0015	-0.0772	0.0085	0.5913	0.0267	0.3005	0.0251
3	240.12	0.4997	0.1744	0.0016	-0.1007	0.0109	0.6458	0.0319	-0.0980	0.0251
3	240.12	0.5556	0.1957	0.0013	-0.1440	0.0130	0.7853	0.0374	-0.1446	0.0328
3	240.12	0.5995	0.2650	0.0020	-0.1919	0.0156	0.8901	0.0437	0.1352	0.0249
3	240.12	0.6498	0.2803	0.0016	-0.2611	0.0175	1.0057	0.0473	0.2558	0.0297
3	240.12	0.6890	0.3204	0.0020	-0.2919	0.0205	1.0111	0.0508	0.0778	0.0306
3	240.12	0.7495	0.3721	0.0019	-0.3254	0.0248	1.0995	0.0560	0.1827	0.0346
3	240.12	0.7998	0.3941	0.0021	-0.4053	0.0277	1.0783	0.0594	-0.0665	0.0326
3	240.12	0.8577	0.4365	0.0027	-0.4123	0.0322	1.1075	0.0666	0.2106	0.0391
3	240.12	0.9178	0.5130	0.0027	-0.4401	0.0368	0.9154	0.0743	-0.6162	0.0363
3	240.12	0.9729	0.5107	0.0036	-0.5421	0.0408	0.9339	0.0855	-0.3904	0.0352

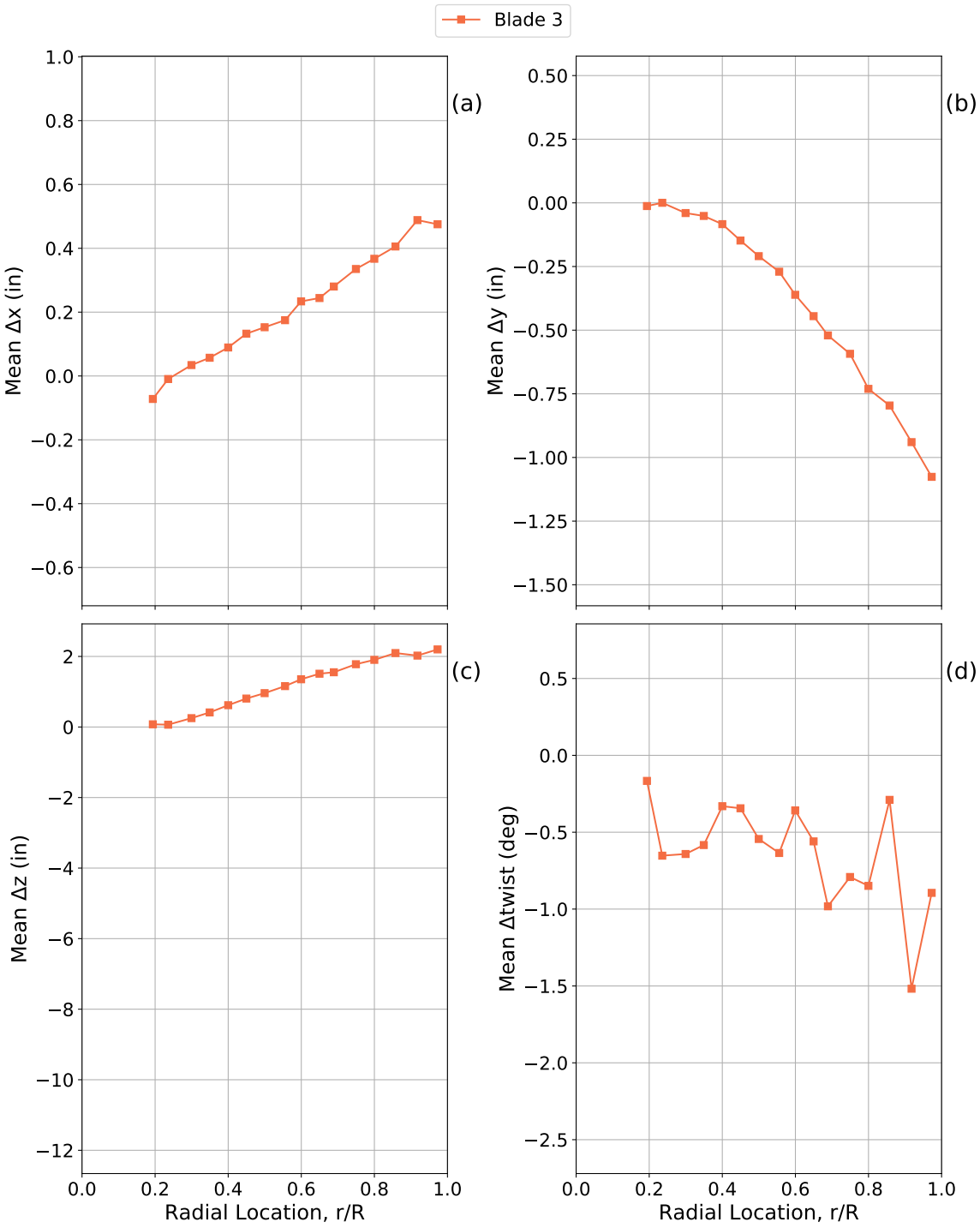


Figure 4.25-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0720	0.0020	-0.0125	0.0009	0.0757	0.0029	-0.1662	0.0224
3	254.88	0.2357	-0.0095	0.0011	0.0003	0.0010	0.0651	0.0035	-0.6526	0.0485
3	254.88	0.2995	0.0342	0.0012	-0.0400	0.0026	0.2509	0.0076	-0.6417	0.0597
3	254.88	0.3493	0.0571	0.0010	-0.0514	0.0050	0.4125	0.0135	-0.5834	0.0512
3	254.88	0.4000	0.0893	0.0018	-0.0836	0.0071	0.6176	0.0189	-0.3308	0.0542
3	254.88	0.4497	0.1325	0.0021	-0.1480	0.0088	0.8061	0.0237	-0.3443	0.0547
3	254.88	0.4997	0.1527	0.0019	-0.2093	0.0110	0.9595	0.0286	-0.5440	0.0573
3	254.88	0.5556	0.1748	0.0021	-0.2704	0.0129	1.1588	0.0372	-0.6352	0.0562
3	254.88	0.5995	0.2337	0.0019	-0.3611	0.0153	1.3529	0.0441	-0.3582	0.0557
3	254.88	0.6498	0.2442	0.0024	-0.4450	0.0179	1.5103	0.0527	-0.5597	0.0523
3	254.88	0.6890	0.2803	0.0022	-0.5206	0.0205	1.5514	0.0588	-0.9820	0.0571
3	254.88	0.7495	0.3352	0.0027	-0.5929	0.0244	1.7794	0.0696	-0.7913	0.0544
3	254.88	0.7998	0.3672	0.0031	-0.7306	0.0277	1.9028	0.0783	-0.8490	0.0566
3	254.88	0.8577	0.4057	0.0028	-0.7959	0.0326	2.0962	0.0869	-0.2896	0.0583
3	254.88	0.9178	0.4883	0.0029	-0.9398	0.0376	2.0234	0.0947	-1.5180	0.0614
3	254.88	0.9729	0.4753	0.0039	-1.0762	0.0428	2.1990	0.0995	-0.8946	0.0590

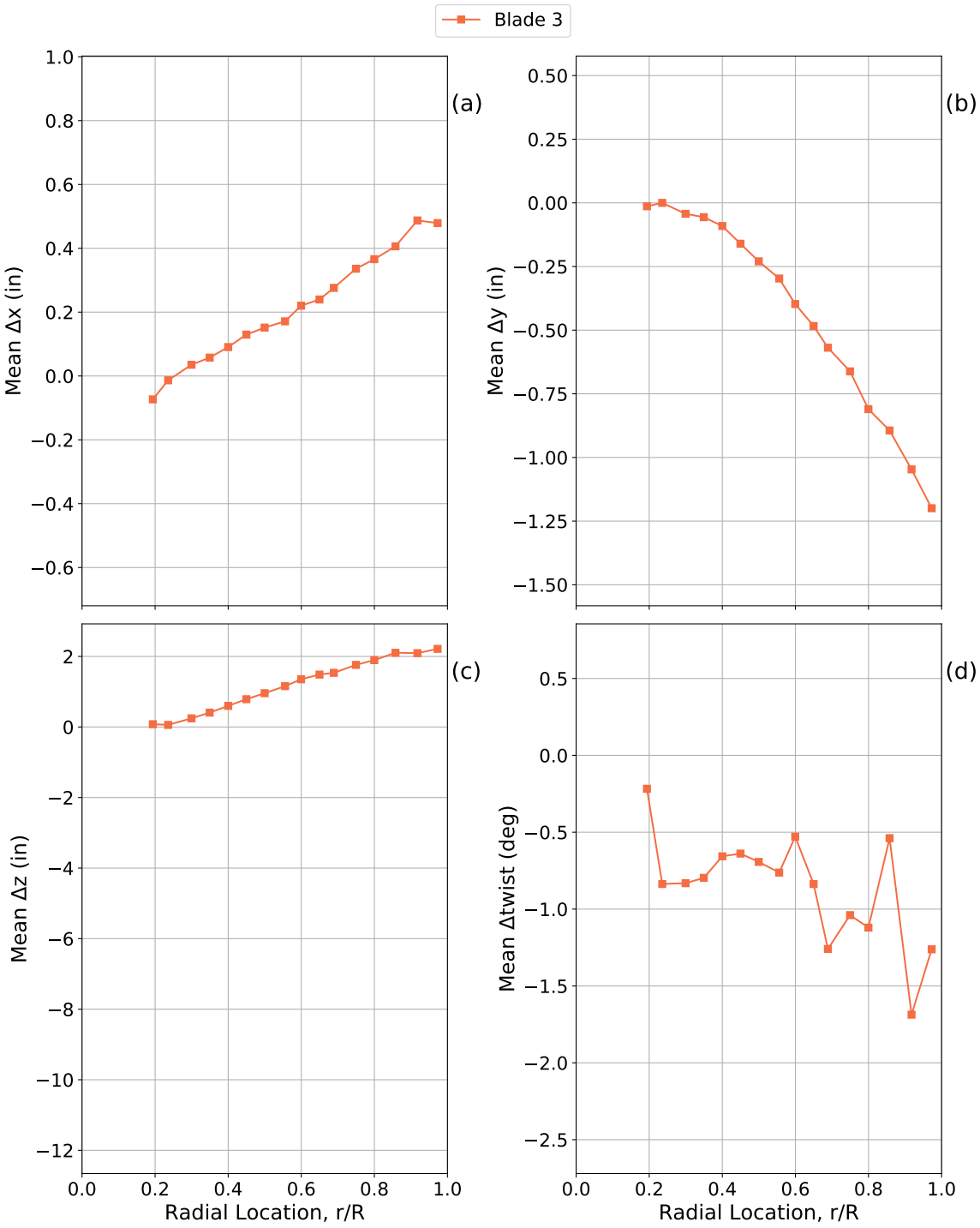


Figure 4.25-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0732	0.0044	-0.0134	0.0017	0.0787	0.0073	-0.2175	0.0324
3	260.16	0.2357	-0.0135	0.0010	-0.0001	0.0012	0.0592	0.0061	-0.8369	0.1041
3	260.16	0.2995	0.0352	0.0017	-0.0430	0.0055	0.2447	0.0219	-0.8315	0.1094
3	260.16	0.3493	0.0576	0.0018	-0.0562	0.0096	0.4076	0.0347	-0.7970	0.1121
3	260.16	0.4000	0.0906	0.0020	-0.0910	0.0141	0.5984	0.0511	-0.6568	0.1018
3	260.16	0.4497	0.1296	0.0017	-0.1605	0.0178	0.7877	0.0638	-0.6390	0.1079
3	260.16	0.4997	0.1516	0.0020	-0.2297	0.0216	0.9579	0.0786	-0.6933	0.1024
3	260.16	0.5556	0.1712	0.0020	-0.2972	0.0258	1.1577	0.0944	-0.7625	0.1062
3	260.16	0.5995	0.2202	0.0020	-0.3973	0.0291	1.3531	0.1078	-0.5291	0.0981
3	260.16	0.6498	0.2397	0.0024	-0.4837	0.0334	1.4861	0.1227	-0.8369	0.1008
3	260.16	0.6890	0.2760	0.0027	-0.5690	0.0364	1.5355	0.1334	-1.2593	0.1018
3	260.16	0.7495	0.3361	0.0033	-0.6619	0.0415	1.7605	0.1523	-1.0394	0.0989
3	260.16	0.7998	0.3659	0.0035	-0.8102	0.0461	1.8957	0.1660	-1.1205	0.1056
3	260.16	0.8577	0.4062	0.0030	-0.8940	0.0509	2.1040	0.1829	-0.5388	0.1031
3	260.16	0.9178	0.4872	0.0031	-1.0468	0.0565	2.0928	0.2020	-1.6867	0.0938
3	260.16	0.9729	0.4790	0.0059	-1.1994	0.0615	2.2150	0.2202	-1.2616	0.0861

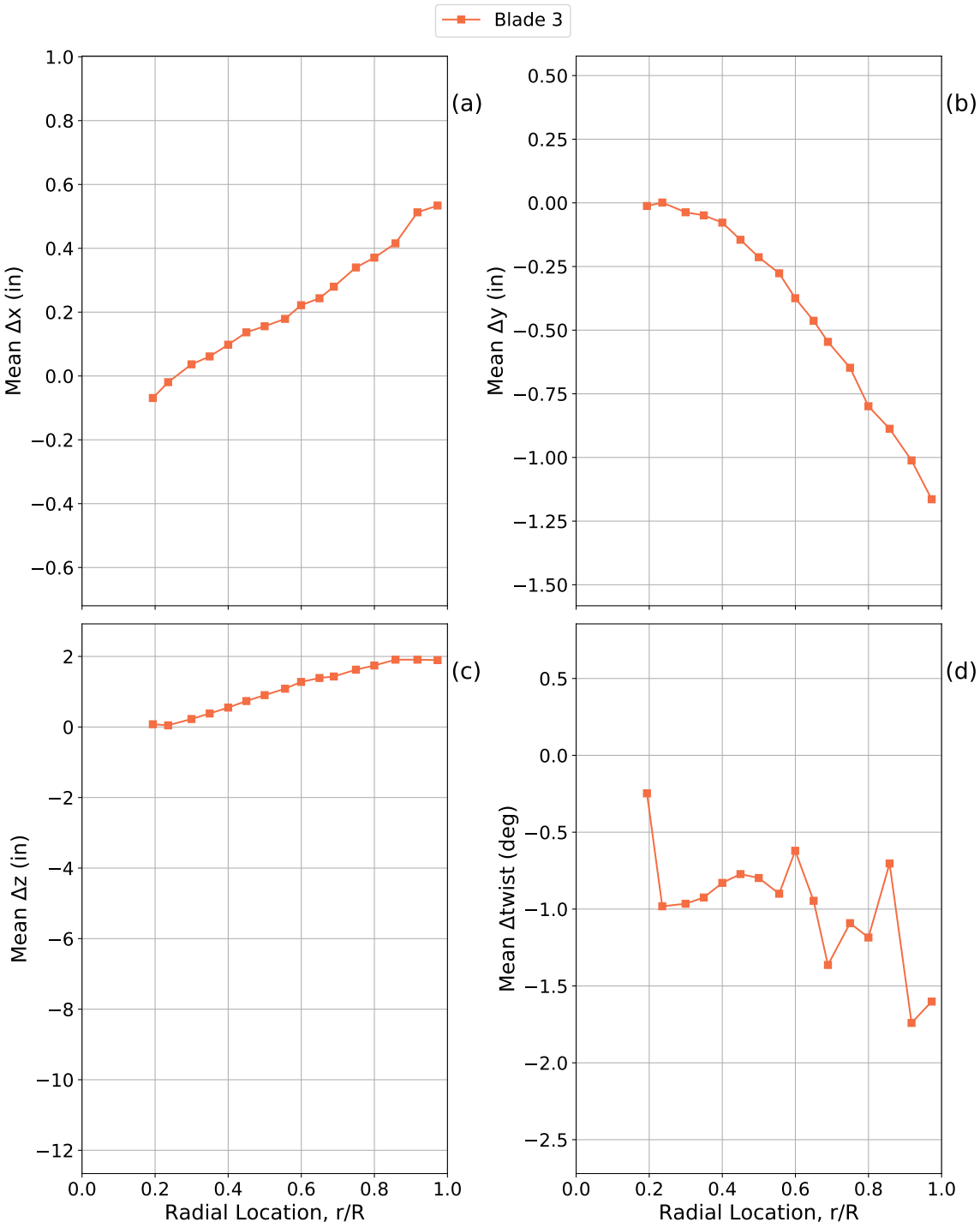


Figure 4.25-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0690	0.0060	-0.0123	0.0016	0.0775	0.0075	-0.2470	0.0313
3	265.08	0.2357	-0.0194	0.0015	0.0013	0.0009	0.0476	0.0048	-0.9818	0.1009
3	265.08	0.2995	0.0365	0.0019	-0.0370	0.0044	0.2260	0.0185	-0.9652	0.1007
3	265.08	0.3493	0.0612	0.0015	-0.0491	0.0074	0.3825	0.0318	-0.9246	0.0862
3	265.08	0.4000	0.0980	0.0018	-0.0777	0.0106	0.5498	0.0436	-0.8295	0.0871
3	265.08	0.4497	0.1367	0.0017	-0.1450	0.0134	0.7360	0.0555	-0.7724	0.0920
3	265.08	0.4997	0.1558	0.0012	-0.2135	0.0172	0.9030	0.0662	-0.7978	0.0950
3	265.08	0.5556	0.1789	0.0014	-0.2766	0.0217	1.0846	0.0792	-0.9000	0.1010
3	265.08	0.5995	0.2218	0.0018	-0.3745	0.0250	1.2775	0.0886	-0.6207	0.1017
3	265.08	0.6498	0.2435	0.0020	-0.4630	0.0296	1.3890	0.1009	-0.9461	0.0964
3	265.08	0.6890	0.2798	0.0020	-0.5459	0.0334	1.4315	0.1090	-1.3635	0.0984
3	265.08	0.7495	0.3400	0.0026	-0.6476	0.0393	1.6245	0.1223	-1.0915	0.0942
3	265.08	0.7998	0.3708	0.0023	-0.7988	0.0446	1.7430	0.1336	-1.1848	0.0915
3	265.08	0.8577	0.4155	0.0026	-0.8872	0.0505	1.9084	0.1462	-0.7034	0.0918
3	265.08	0.9178	0.5127	0.0034	-1.0117	0.0583	1.9078	0.1573	-1.7406	0.0997
3	265.08	0.9729	0.5339	0.0057	-1.1643	0.0643	1.8954	0.1662	-1.6017	0.1204

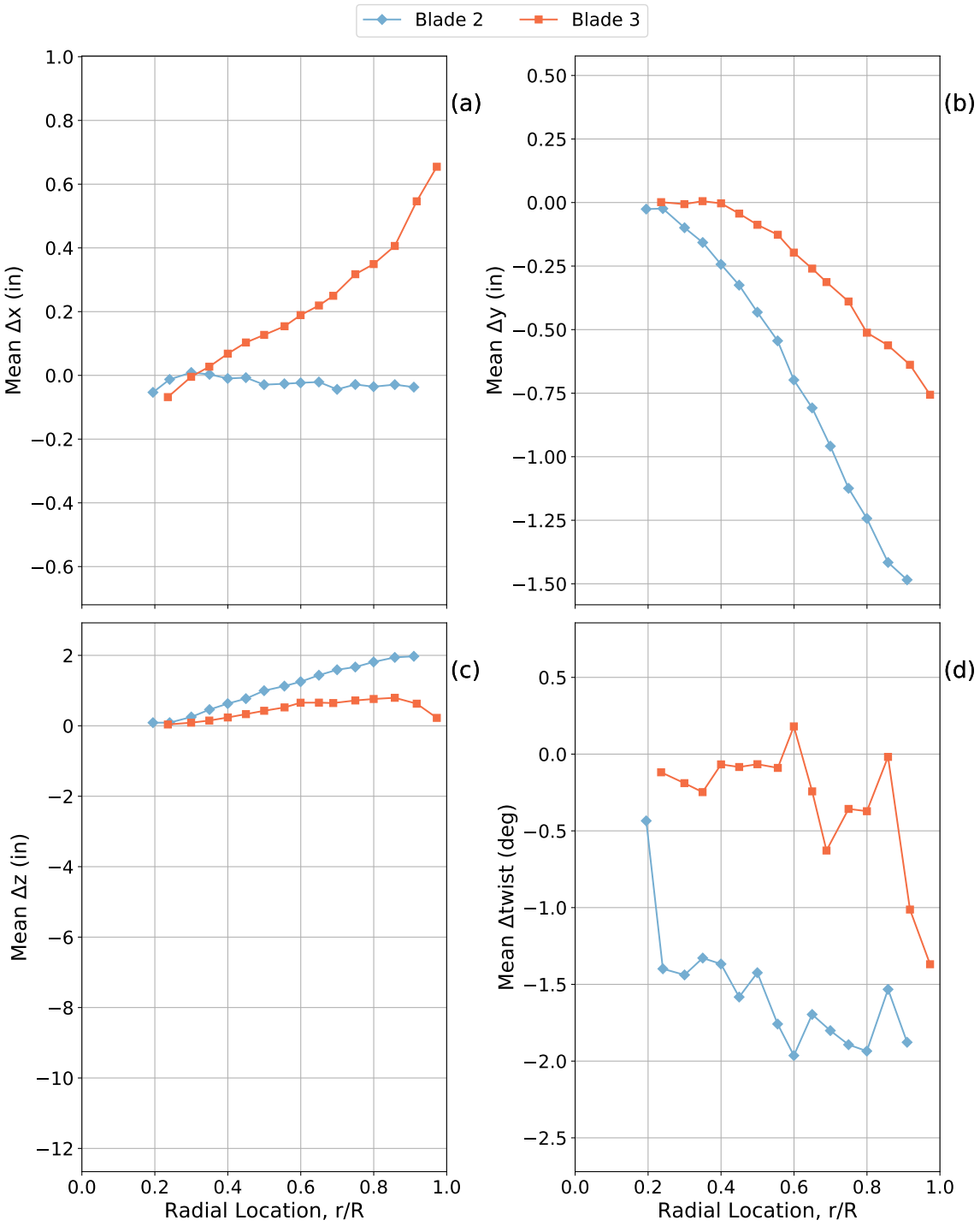


Figure 4.25-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0533	0.0045	-0.0258	0.0017	0.0889	0.0064	-0.4347	0.0303
2	270.35	0.2405	-0.0127	0.0015	-0.0238	0.0012	0.0891	0.0056	-1.3988	0.0902
2	270.35	0.2999	0.0090	0.0018	-0.0991	0.0037	0.2507	0.0172	-1.4385	0.0841
2	270.35	0.3498	0.0031	0.0019	-0.1572	0.0082	0.4604	0.0282	-1.3286	0.0774
2	270.35	0.3998	-0.0098	0.0017	-0.2432	0.0099	0.6305	0.0393	-1.3674	0.0784
2	270.35	0.4496	-0.0071	0.0019	-0.3250	0.0118	0.7708	0.0476	-1.5827	0.0849
2	270.35	0.4995	-0.0292	0.0024	-0.4315	0.0144	0.9969	0.0592	-1.4242	0.0815
2	270.35	0.5551	-0.0264	0.0020	-0.5441	0.0176	1.1270	0.0706	-1.7585	0.0806
2	270.35	0.5996	-0.0234	0.0022	-0.6982	0.0194	1.2522	0.0779	-1.9639	0.0788
2	270.35	0.6497	-0.0208	0.0027	-0.8080	0.0223	1.4364	0.0885	-1.6961	0.0788
2	270.35	0.6996	-0.0440	0.0029	-0.9586	0.0249	1.5913	0.0992	-1.8014	0.0795
2	270.35	0.7495	-0.0286	0.0017	-1.1243	0.0278	1.6687	0.1097	-1.8931	0.0784
2	270.35	0.7996	-0.0355	0.0027	-1.2430	0.0306	1.8134	0.1202	-1.9348	0.0789
2	270.35	0.8578	-0.0291	0.0023	-1.4160	0.0344	1.9425	0.1356	-1.5325	0.0736
2	270.35	0.9100	-0.0369	0.0037	-1.4844	0.0372	1.9736	0.1433	-1.8775	0.0922
3	270	0.2357	-0.0682	0.0017	0.0015	0.0014	0.0376	0.0056	-0.1185	0.0560
3	270	0.2995	-0.0045	0.0013	-0.0063	0.0036	0.0885	0.0128	-0.1892	0.0897
3	270	0.3493	0.0273	0.0011	0.0054	0.0058	0.1490	0.0202	-0.2477	0.1006
3	270	0.4000	0.0681	0.0023	-0.0032	0.0094	0.2368	0.0320	-0.0670	0.0909
3	270	0.4497	0.1032	0.0017	-0.0435	0.0117	0.3313	0.0404	-0.0840	0.0970
3	270	0.4997	0.1270	0.0020	-0.0876	0.0144	0.4268	0.0484	-0.0658	0.0920
3	270	0.5556	0.1541	0.0019	-0.1267	0.0178	0.5223	0.0584	-0.0898	0.0966
3	270	0.5995	0.1890	0.0022	-0.1969	0.0206	0.6561	0.0660	0.1805	0.0938
3	270	0.6498	0.2193	0.0022	-0.2599	0.0242	0.6580	0.0768	-0.2428	0.0883
3	270	0.6890	0.2497	0.0025	-0.3130	0.0269	0.6460	0.0833	-0.6281	0.0964
3	270	0.7495	0.3174	0.0027	-0.3894	0.0313	0.7195	0.0941	-0.3571	0.0927
3	270	0.7998	0.3492	0.0025	-0.5121	0.0357	0.7613	0.1061	-0.3719	0.0970
3	270	0.8577	0.4061	0.0035	-0.5618	0.0402	0.7956	0.1165	-0.0181	0.0973
3	270	0.9178	0.5462	0.0040	-0.6383	0.0445	0.6281	0.1284	-1.0126	0.1012
3	270	0.9729	0.6546	0.0033	-0.7562	0.0508	0.2250	0.1378	-1.3690	0.0960

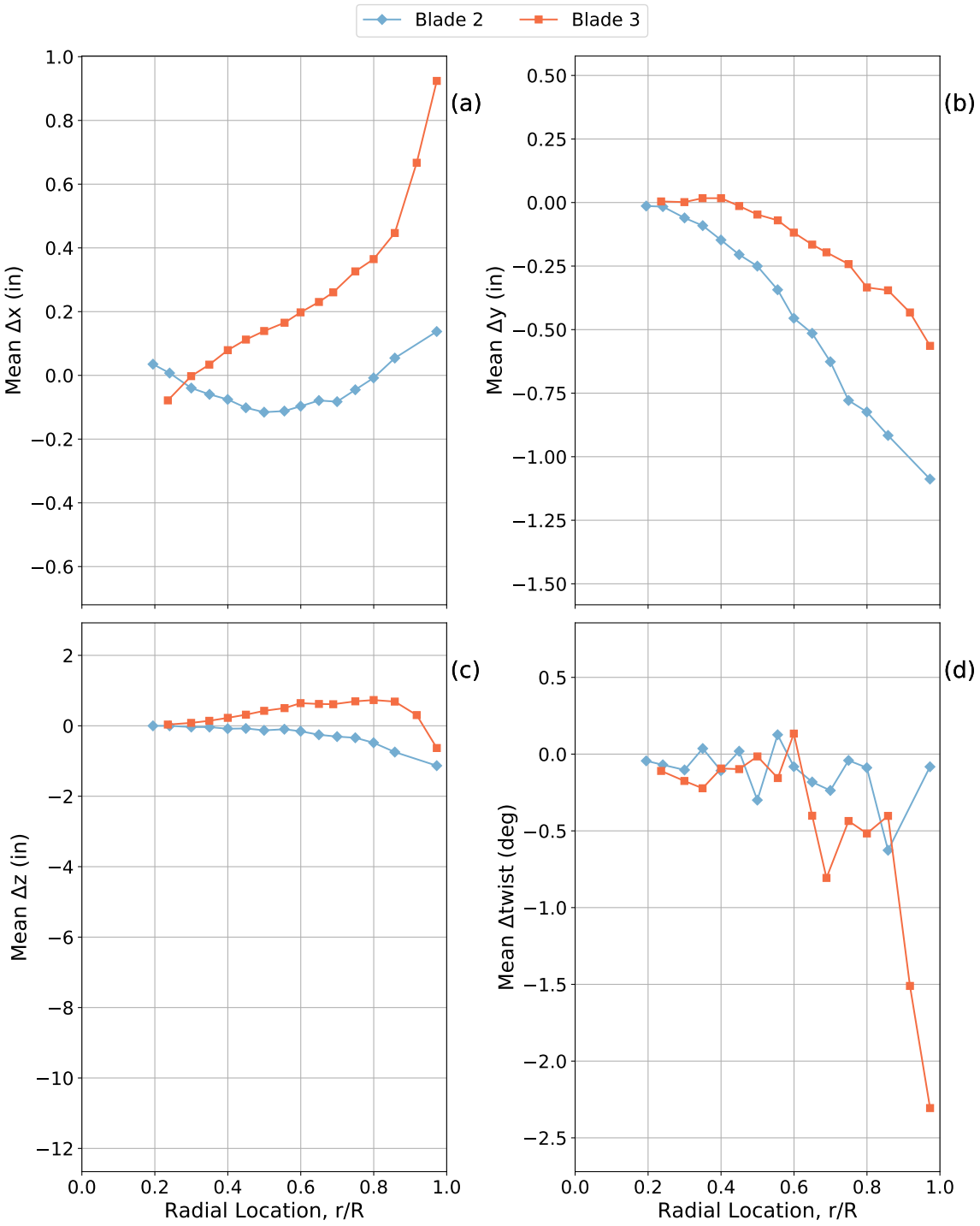


Figure 4.25-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0351	0.0010	-0.0137	0.0008	-0.0013	0.0022	-0.0439	0.0149
2	274.92	0.2405	0.0072	0.0007	-0.0161	0.0006	-0.0022	0.0028	-0.0698	0.0342
2	274.92	0.2999	-0.0398	0.0011	-0.0605	0.0019	-0.0354	0.0081	-0.1031	0.0390
2	274.92	0.3498	-0.0596	0.0008	-0.0909	0.0039	-0.0365	0.0116	0.0365	0.0503
2	274.92	0.3998	-0.0755	0.0012	-0.1474	0.0049	-0.0830	0.0182	-0.1079	0.0288
2	274.92	0.4496	-0.1017	0.0012	-0.2050	0.0062	-0.0751	0.0231	0.0189	0.0283
2	274.92	0.4995	-0.1155	0.0016	-0.2502	0.0081	-0.1294	0.0307	-0.2996	0.0269
2	274.92	0.5551	-0.1120	0.0016	-0.3432	0.0096	-0.0972	0.0386	0.1262	0.0316
2	274.92	0.5996	-0.0968	0.0019	-0.4553	0.0109	-0.1551	0.0444	-0.0818	0.0342
2	274.92	0.6497	-0.0789	0.0023	-0.5145	0.0127	-0.2544	0.0493	-0.1817	0.0485
2	274.92	0.6996	-0.0825	0.0023	-0.6263	0.0146	-0.3064	0.0561	-0.2368	0.0593
2	274.92	0.7495	-0.0452	0.0027	-0.7787	0.0158	-0.3397	0.0673	-0.0411	0.0420
2	274.92	0.7996	-0.0080	0.0056	-0.8238	0.0193	-0.4813	0.0720	-0.0885	0.0594
2	274.92	0.8578	0.0543	0.0051	-0.9164	0.0202	-0.7454	0.0803	-0.6265	0.1010
2	274.92	0.9727	0.1376	0.0142	-1.0880	0.0281	-1.1325	0.1235	-0.0823	0.2569
3	274.92	0.2357	-0.0785	0.0029	0.0043	0.0017	0.0348	0.0089	-0.1095	0.0691
3	274.92	0.2995	-0.0024	0.0016	0.0017	0.0037	0.0829	0.0195	-0.1749	0.1106
3	274.92	0.3493	0.0337	0.0014	0.0171	0.0070	0.1421	0.0321	-0.2226	0.1111
3	274.92	0.4000	0.0791	0.0025	0.0170	0.0106	0.2259	0.0498	-0.0938	0.0929
3	274.92	0.4497	0.1123	0.0023	-0.0138	0.0121	0.3160	0.0599	-0.0978	0.1033
3	274.92	0.4997	0.1392	0.0031	-0.0473	0.0151	0.4250	0.0754	-0.0151	0.1062
3	274.92	0.5556	0.1652	0.0028	-0.0701	0.0184	0.5025	0.0908	-0.1560	0.0946
3	274.92	0.5995	0.1977	0.0027	-0.1184	0.0201	0.6432	0.1013	0.1337	0.1051
3	274.92	0.6498	0.2303	0.0020	-0.1655	0.0235	0.6199	0.1174	-0.4015	0.1024
3	274.92	0.6890	0.2605	0.0023	-0.1960	0.0271	0.6128	0.1282	-0.8067	0.1105
3	274.92	0.7495	0.3263	0.0024	-0.2422	0.0302	0.6944	0.1415	-0.4357	0.1080
3	274.92	0.7998	0.3648	0.0021	-0.3341	0.0340	0.7313	0.1584	-0.5169	0.1124
3	274.92	0.8577	0.4467	0.0040	-0.3454	0.0382	0.6876	0.1727	-0.4024	0.1154
3	274.92	0.9178	0.6672	0.0044	-0.4325	0.0433	0.3042	0.1879	-1.5103	0.1276
3	274.92	0.9729	0.9240	0.0040	-0.5639	0.0484	-0.6312	0.2129	-2.3060	0.1406

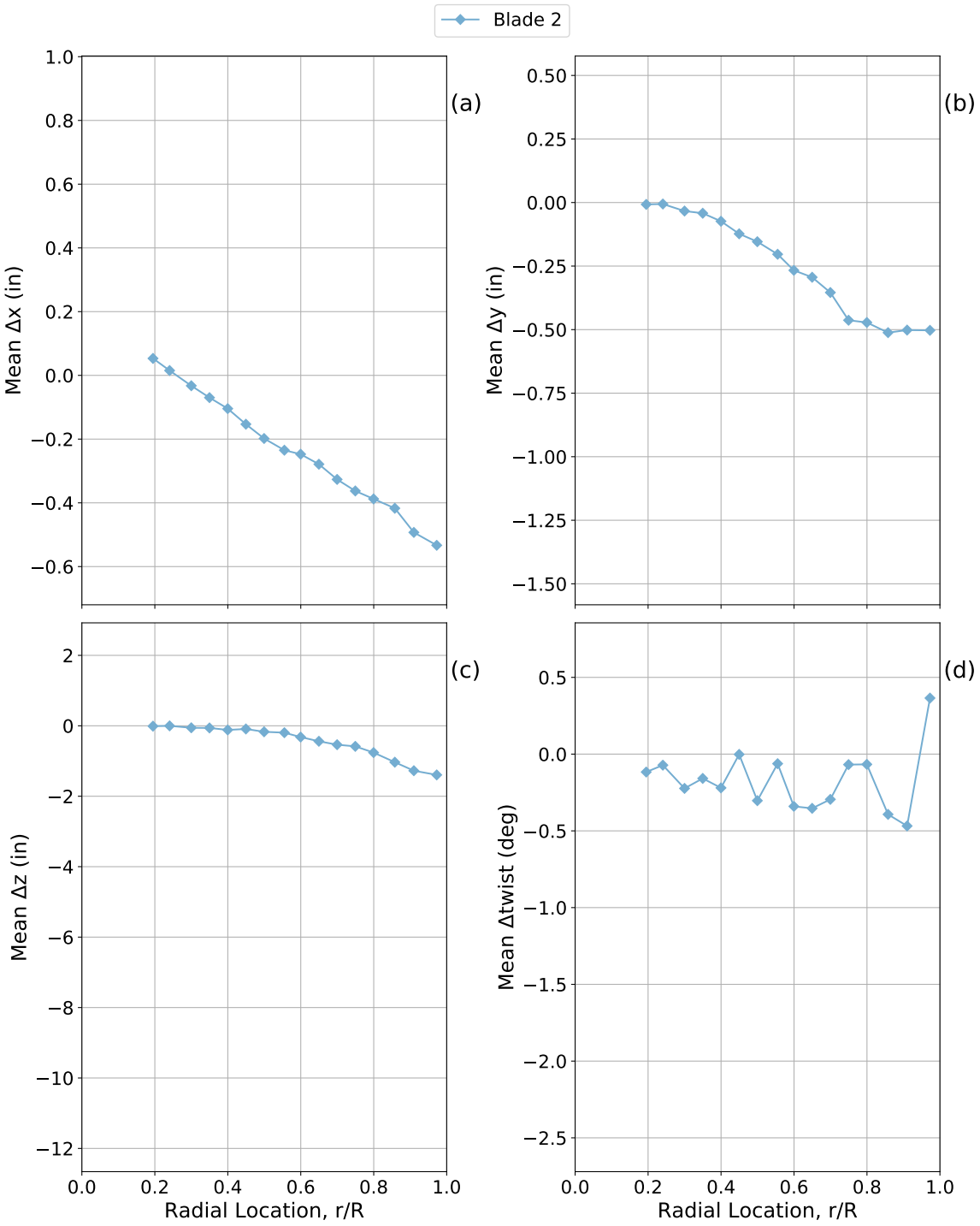


Figure 4.25-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0532	0.0012	-0.0074	0.0006	-0.0104	0.0030	-0.1167	0.0204
2	285.12	0.2405	0.0152	0.0008	-0.0058	0.0029	-0.0016	0.0067	-0.0720	0.0306
2	285.12	0.2999	-0.0326	0.0014	-0.0335	0.0041	-0.0563	0.0142	-0.2234	0.0463
2	285.12	0.3498	-0.0698	0.0013	-0.0421	0.0076	-0.0604	0.0220	-0.1583	0.0542
2	285.12	0.3998	-0.1044	0.0016	-0.0737	0.0122	-0.1174	0.0358	-0.2199	0.0307
2	285.12	0.4496	-0.1533	0.0017	-0.1230	0.0126	-0.0898	0.0425	-0.0018	0.0380
2	285.12	0.4995	-0.1981	0.0030	-0.1541	0.0178	-0.1700	0.0546	-0.3033	0.0408
2	285.12	0.5551	-0.2348	0.0020	-0.2035	0.0187	-0.1952	0.0678	-0.0623	0.0445
2	285.12	0.5996	-0.2474	0.0028	-0.2668	0.0212	-0.3200	0.0728	-0.3404	0.0538
2	285.12	0.6497	-0.2788	0.0029	-0.2940	0.0236	-0.4393	0.0878	-0.3533	0.0357
2	285.12	0.6996	-0.3265	0.0030	-0.3540	0.0265	-0.5364	0.0947	-0.2949	0.0677
2	285.12	0.7495	-0.3627	0.0029	-0.4631	0.0295	-0.5835	0.1088	-0.0683	0.0478
2	285.12	0.7996	-0.3877	0.0040	-0.4719	0.0322	-0.7604	0.1226	-0.0667	0.0681
2	285.12	0.8578	-0.4170	0.0042	-0.5119	0.0355	-1.0334	0.1345	-0.3927	0.1022
2	285.12	0.9100	-0.4928	0.0034	-0.5018	0.0393	-1.2750	0.1563	-0.4682	0.0697
2	285.12	0.9727	-0.5332	0.0050	-0.5028	0.0444	-1.3944	0.1744	0.3651	0.1032

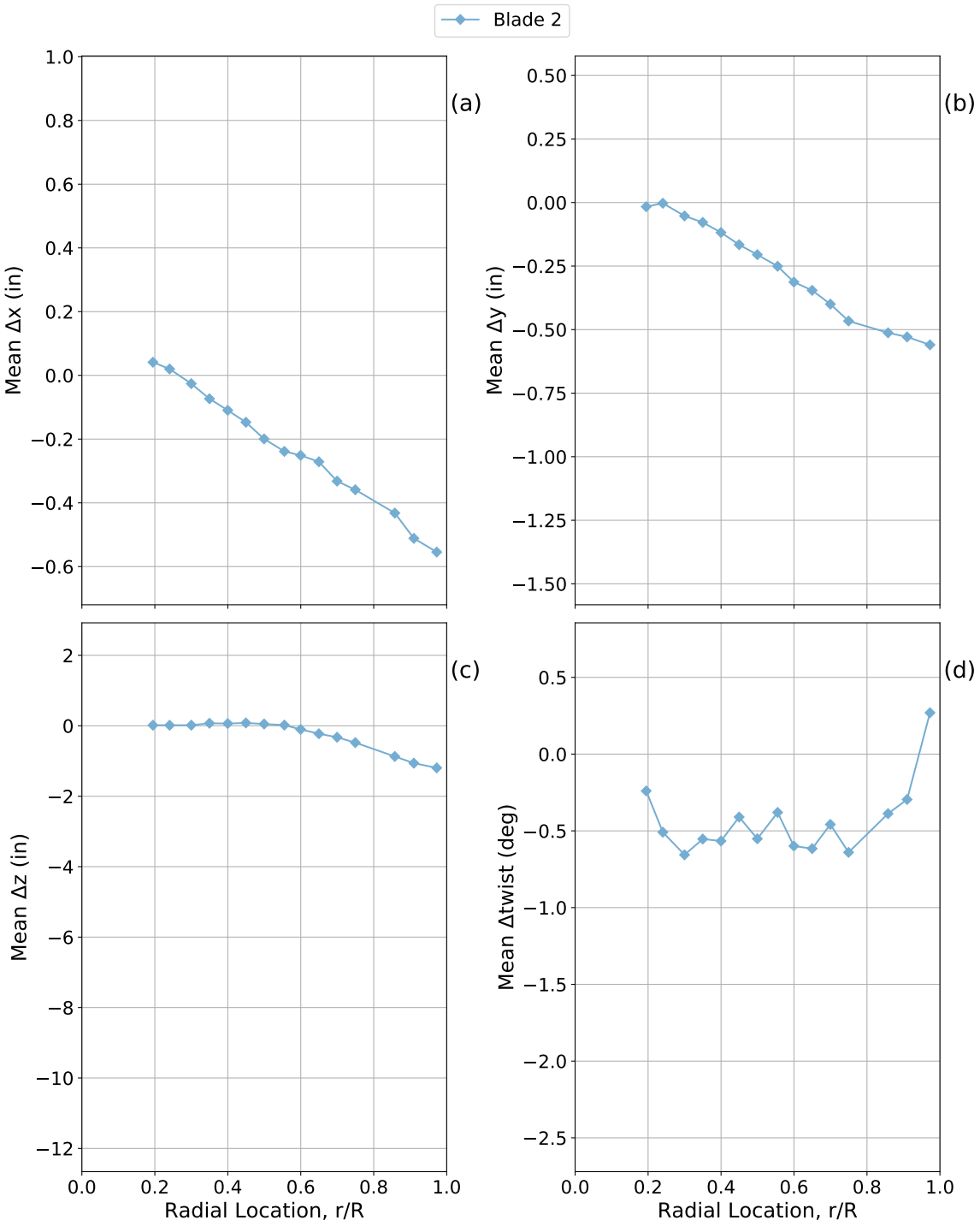


Figure 4.25-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0412	0.0021	-0.0164	0.0010	0.0167	0.0028	-0.2399	0.0331
2	299.88	0.2405	0.0200	0.0015	-0.0028	0.0013	0.0156	0.0031	-0.5088	0.0151
2	299.88	0.2999	-0.0260	0.0012	-0.0527	0.0034	0.0174	0.0099	-0.6560	0.0562
2	299.88	0.3498	-0.0734	0.0018	-0.0781	0.0046	0.0728	0.0110	-0.5533	0.0532
2	299.88	0.3998	-0.1096	0.0019	-0.1179	0.0074	0.0638	0.0189	-0.5660	0.0814
2	299.88	0.4496	-0.1471	0.0016	-0.1660	0.0096	0.0820	0.0196	-0.4099	0.0302
2	299.88	0.4995	-0.1994	0.0021	-0.2051	0.0104	0.0514	0.0243	-0.5516	0.0290
2	299.88	0.5551	-0.2386	0.0016	-0.2507	0.0137	0.0204	0.0293	-0.3800	0.0346
2	299.88	0.5996	-0.2511	0.0021	-0.3129	0.0168	-0.1023	0.0356	-0.5989	0.0376
2	299.88	0.6497	-0.2711	0.0018	-0.3455	0.0186	-0.2256	0.0392	-0.6157	0.0442
2	299.88	0.6996	-0.3319	0.0015	-0.3997	0.0213	-0.3249	0.0463	-0.4581	0.0458
2	299.88	0.7495	-0.3590	0.0021	-0.4661	0.0235	-0.4778	0.0512	-0.6401	0.0486
2	299.88	0.8578	-0.4321	0.0024	-0.5125	0.0297	-0.8706	0.0675	-0.3878	0.0521
2	299.88	0.9100	-0.5114	0.0025	-0.5287	0.0327	-1.0607	0.0795	-0.2956	0.0429
2	299.88	0.9727	-0.5544	0.0039	-0.5599	0.0364	-1.1949	0.0937	0.2695	0.0301

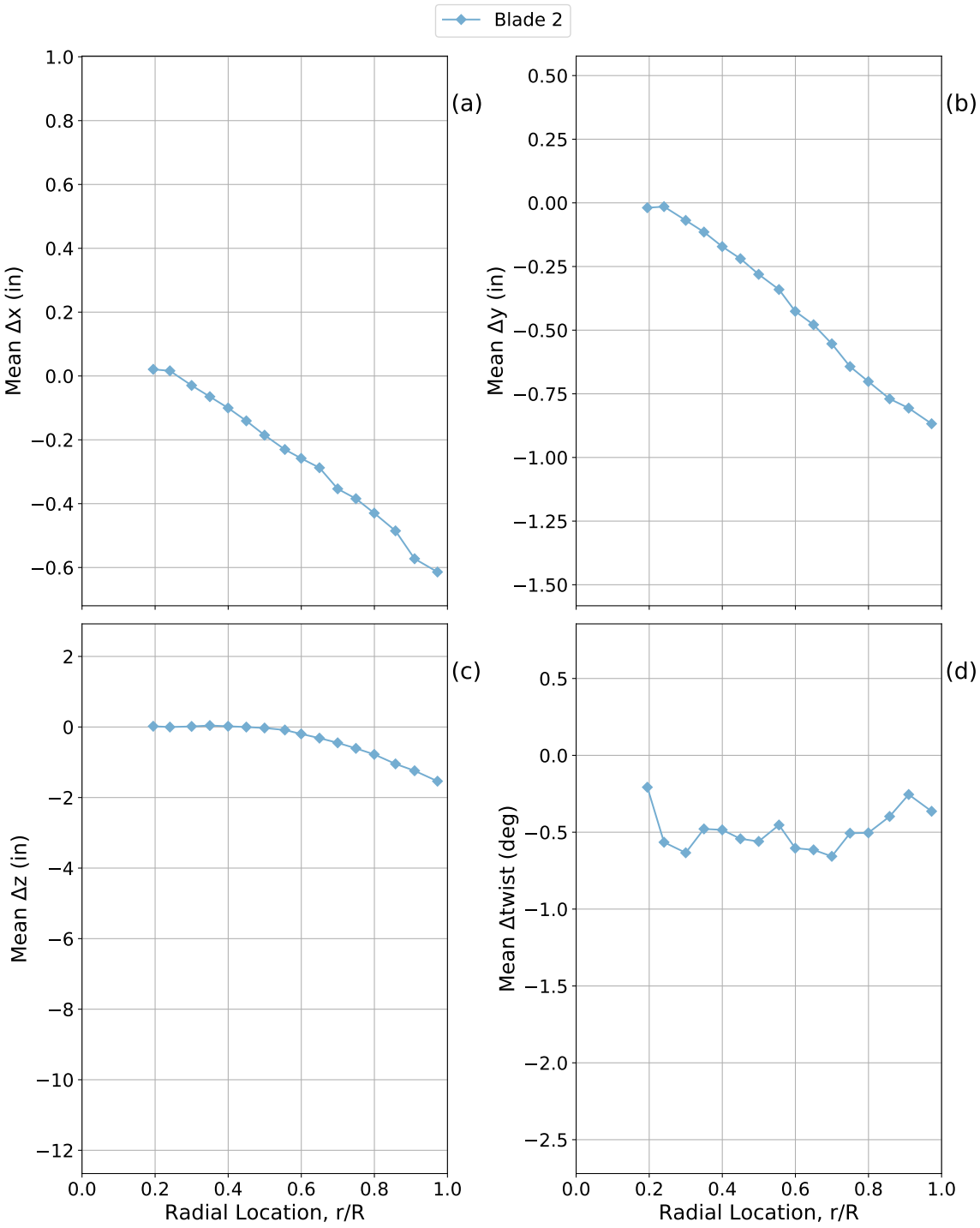


Figure 4.25-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0208	0.0014	-0.0192	0.0004	0.0207	0.0012	-0.2074	0.0164
2	315	0.2405	0.0161	0.0018	-0.0148	0.0012	-0.0016	0.0029	-0.5653	0.0234
2	315	0.2999	-0.0297	0.0014	-0.0688	0.0020	0.0157	0.0041	-0.6338	0.0378
2	315	0.3498	-0.0648	0.0011	-0.1146	0.0034	0.0412	0.0082	-0.4787	0.0245
2	315	0.3998	-0.1003	0.0015	-0.1717	0.0056	0.0207	0.0120	-0.4848	0.0469
2	315	0.4496	-0.1406	0.0018	-0.2193	0.0080	-0.0020	0.0153	-0.5428	0.0358
2	315	0.4995	-0.1855	0.0030	-0.2808	0.0098	-0.0286	0.0173	-0.5600	0.0332
2	315	0.5551	-0.2303	0.0020	-0.3404	0.0110	-0.0852	0.0205	-0.4532	0.0270
2	315	0.5996	-0.2581	0.0027	-0.4260	0.0135	-0.1968	0.0251	-0.6041	0.0406
2	315	0.6497	-0.2875	0.0029	-0.4786	0.0156	-0.3157	0.0268	-0.6148	0.0362
2	315	0.6996	-0.3536	0.0028	-0.5536	0.0173	-0.4489	0.0296	-0.6570	0.0335
2	315	0.7495	-0.3844	0.0024	-0.6430	0.0194	-0.6062	0.0318	-0.5064	0.0369
2	315	0.7996	-0.4297	0.0026	-0.7018	0.0221	-0.7772	0.0357	-0.5042	0.0318
2	315	0.8578	-0.4852	0.0030	-0.7698	0.0252	-1.0465	0.0379	-0.3976	0.0361
2	315	0.9100	-0.5726	0.0028	-0.8062	0.0283	-1.2410	0.0430	-0.2547	0.0382
2	315	0.9727	-0.6141	0.0040	-0.8676	0.0321	-1.5370	0.0459	-0.3639	0.0361

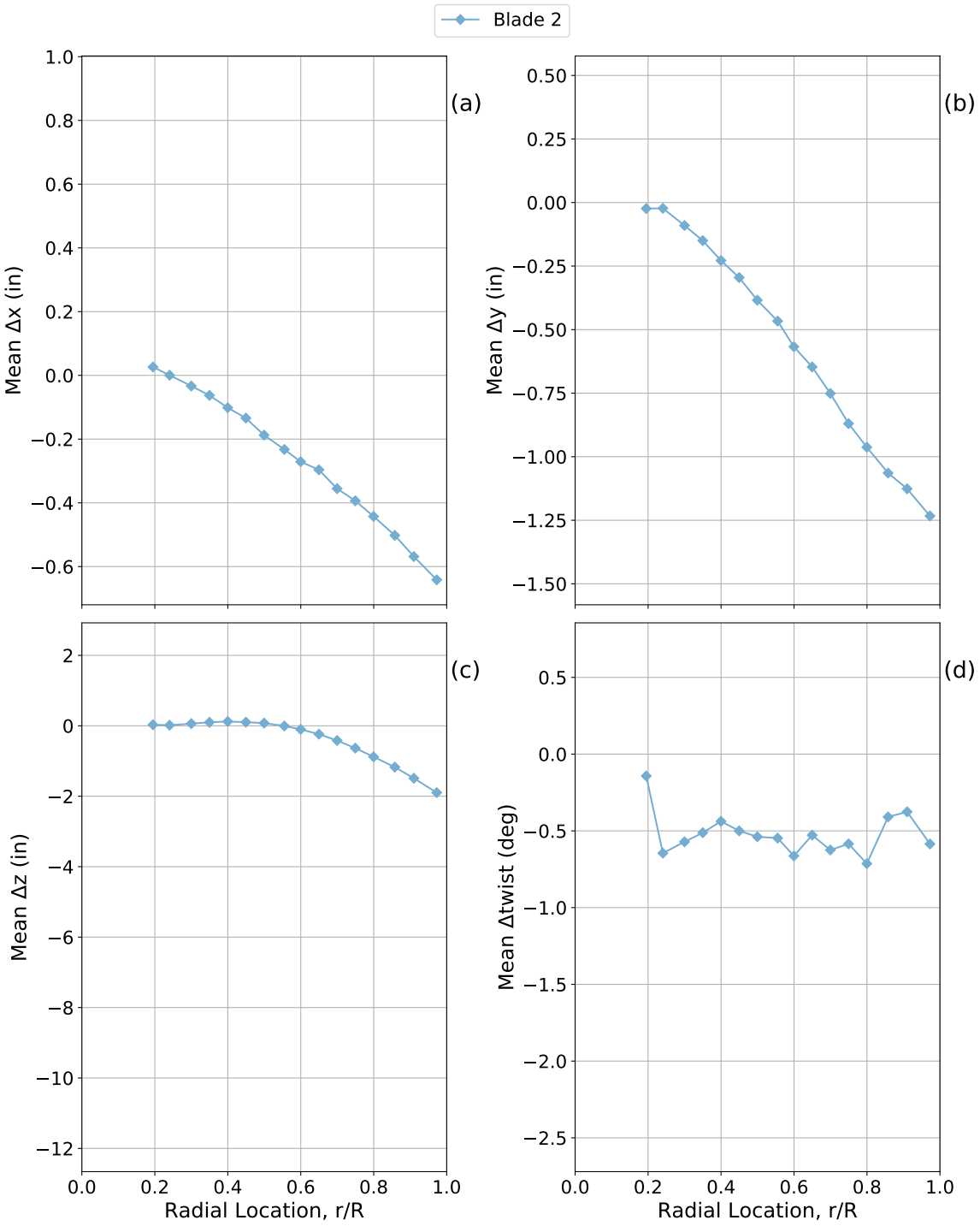


Figure 4.25-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0261	0.0011	-0.0237	0.0006	0.0304	0.0021	-0.1424	0.0111
2	330.12	0.2405	0.0005	0.0011	-0.0227	0.0023	0.0158	0.0037	-0.6452	0.0181
2	330.12	0.2999	-0.0334	0.0013	-0.0904	0.0036	0.0618	0.0082	-0.5713	0.0247
2	330.12	0.3498	-0.0628	0.0025	-0.1498	0.0061	0.0985	0.0128	-0.5120	0.0264
2	330.12	0.3998	-0.1015	0.0030	-0.2281	0.0102	0.1225	0.0206	-0.4379	0.0197
2	330.12	0.4496	-0.1341	0.0017	-0.2952	0.0130	0.1025	0.0258	-0.4999	0.0180
2	330.12	0.4995	-0.1876	0.0021	-0.3843	0.0170	0.0777	0.0293	-0.5384	0.0374
2	330.12	0.5551	-0.2326	0.0016	-0.4663	0.0186	-0.0051	0.0338	-0.5472	0.0214
2	330.12	0.5996	-0.2708	0.0018	-0.5672	0.0208	-0.1003	0.0383	-0.6633	0.0263
2	330.12	0.6497	-0.2963	0.0017	-0.6469	0.0232	-0.2370	0.0432	-0.5279	0.0216
2	330.12	0.6996	-0.3554	0.0024	-0.7511	0.0265	-0.4177	0.0459	-0.6246	0.0291
2	330.12	0.7495	-0.3936	0.0020	-0.8698	0.0291	-0.6345	0.0531	-0.5846	0.0258
2	330.12	0.7996	-0.4427	0.0025	-0.9626	0.0326	-0.8808	0.0576	-0.7135	0.0233
2	330.12	0.8578	-0.5021	0.0024	-1.0642	0.0357	-1.1731	0.0645	-0.4092	0.0244
2	330.12	0.9100	-0.5685	0.0026	-1.1262	0.0391	-1.4884	0.0713	-0.3758	0.0258
2	330.12	0.9727	-0.6416	0.0036	-1.2331	0.0426	-1.8969	0.0824	-0.5855	0.0254

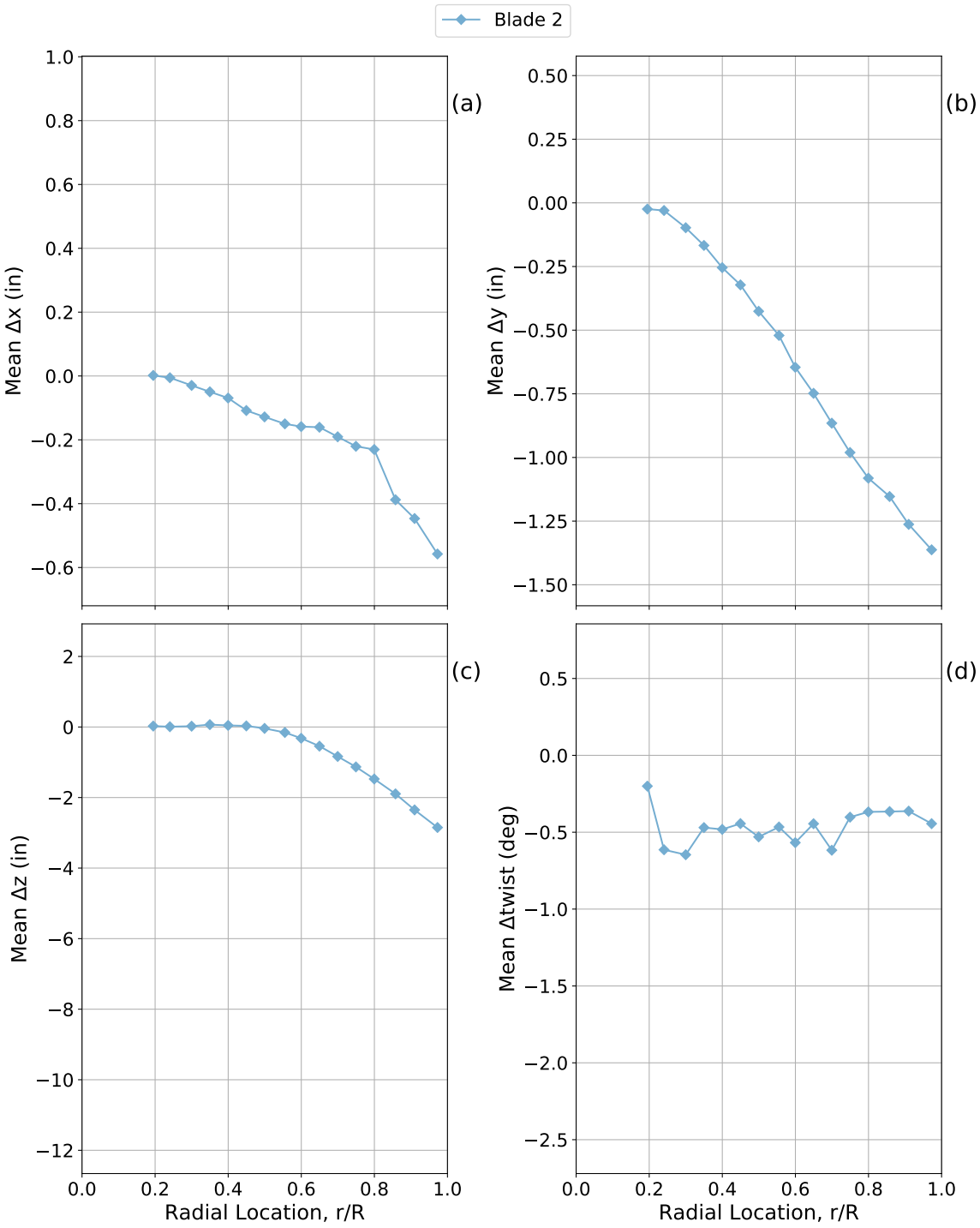


Figure 4.25-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0017	0.0009	-0.0244	0.0004	0.0260	0.0010	-0.2002	0.0091
2	344.88	0.2405	-0.0055	0.0010	-0.0300	0.0013	0.0079	0.0028	-0.6141	0.0138
2	344.88	0.2999	-0.0296	0.0014	-0.0977	0.0025	0.0226	0.0052	-0.6464	0.0208
2	344.88	0.3498	-0.0496	0.0008	-0.1672	0.0036	0.0665	0.0071	-0.4698	0.0268
2	344.88	0.3998	-0.0691	0.0012	-0.2544	0.0063	0.0449	0.0128	-0.4816	0.0184
2	344.88	0.4496	-0.1082	0.0044	-0.3222	0.0092	0.0306	0.0154	-0.4440	0.0278
2	344.88	0.4995	-0.1282	0.0015	-0.4259	0.0107	-0.0401	0.0219	-0.5304	0.0233
2	344.88	0.5551	-0.1500	0.0023	-0.5208	0.0138	-0.1556	0.0277	-0.4661	0.0294
2	344.88	0.5996	-0.1586	0.0033	-0.6458	0.0162	-0.3193	0.0316	-0.5678	0.0312
2	344.88	0.6497	-0.1606	0.0021	-0.7481	0.0201	-0.5428	0.0394	-0.4448	0.0301
2	344.88	0.6996	-0.1905	0.0040	-0.8654	0.0229	-0.8356	0.0425	-0.6172	0.0444
2	344.88	0.7495	-0.2203	0.0045	-0.9806	0.0264	-1.1319	0.0471	-0.4021	0.0614
2	344.88	0.7996	-0.2303	0.0091	-1.0814	0.0322	-1.4741	0.0578	-0.3679	0.1082
2	344.88	0.8578	-0.3878	0.0031	-1.1534	0.0355	-1.8956	0.0592	-0.3656	0.0223
2	344.88	0.9100	-0.4466	0.0031	-1.2628	0.0398	-2.3508	0.0641	-0.3628	0.0227
2	344.88	0.9727	-0.5577	0.0041	-1.3627	0.0442	-2.8497	0.0693	-0.4443	0.0250

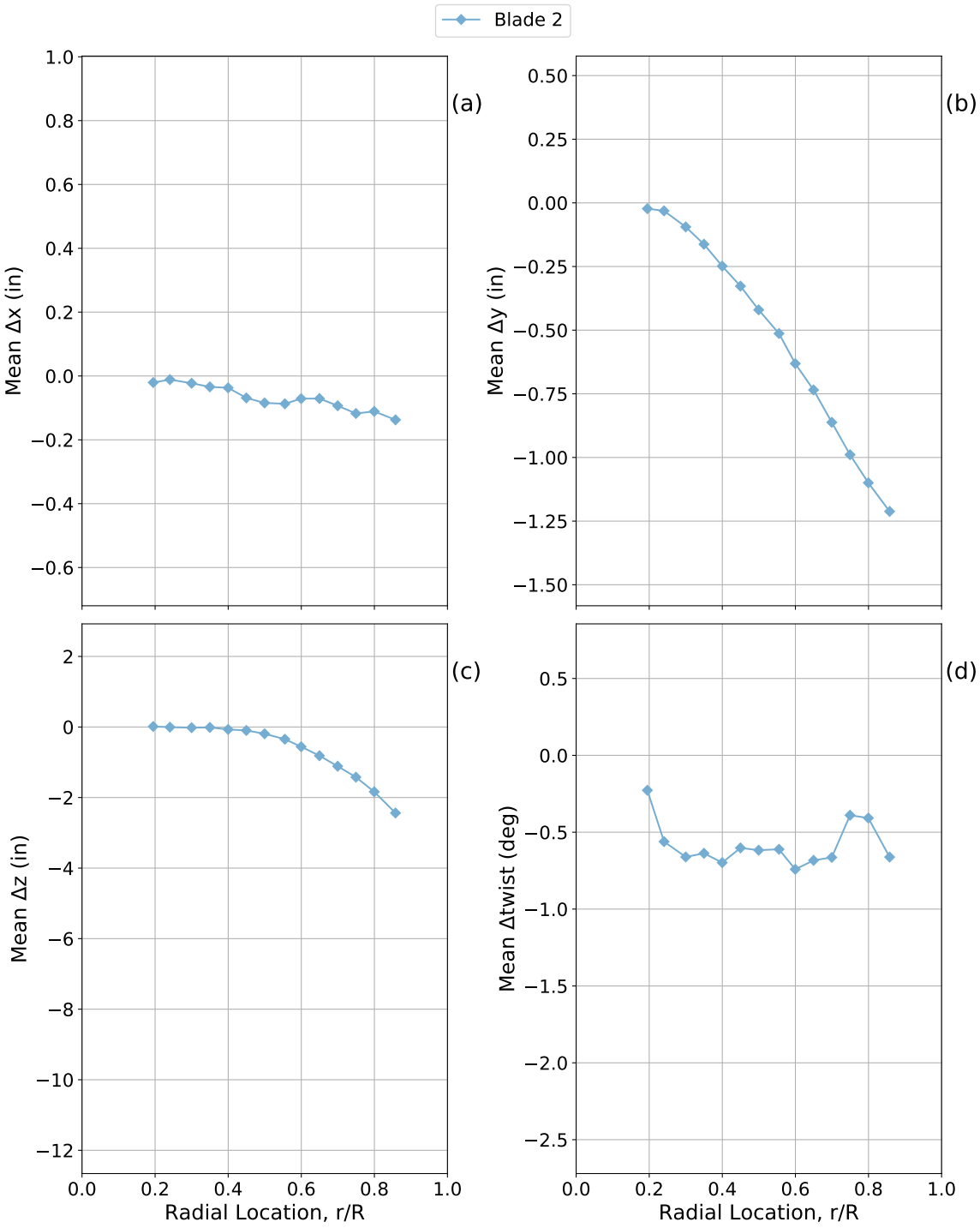


Figure 4.25-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0205	0.0025	-0.0228	0.0010	0.0139	0.0028	-0.2272	0.0201
2	350.16	0.2405	-0.0113	0.0014	-0.0315	0.0017	-0.0056	0.0036	-0.5611	0.0347
2	350.16	0.2999	-0.0228	0.0018	-0.0945	0.0043	-0.0200	0.0097	-0.6609	0.0463
2	350.16	0.3498	-0.0341	0.0020	-0.1625	0.0065	-0.0122	0.0139	-0.6371	0.0522
2	350.16	0.3998	-0.0371	0.0025	-0.2485	0.0107	-0.0686	0.0219	-0.6978	0.0391
2	350.16	0.4496	-0.0687	0.0030	-0.3270	0.0128	-0.0981	0.0288	-0.6022	0.0376
2	350.16	0.4995	-0.0844	0.0040	-0.4203	0.0152	-0.1917	0.0312	-0.6169	0.0403
2	350.16	0.5551	-0.0871	0.0057	-0.5132	0.0180	-0.3466	0.0367	-0.6111	0.0461
2	350.16	0.5996	-0.0710	0.0056	-0.6313	0.0209	-0.5594	0.0442	-0.7415	0.0416
2	350.16	0.6497	-0.0707	0.0058	-0.7349	0.0227	-0.8146	0.0491	-0.6831	0.0526
2	350.16	0.6996	-0.0932	0.0079	-0.8621	0.0252	-1.1130	0.0527	-0.6639	0.0547
2	350.16	0.7495	-0.1175	0.0095	-0.9892	0.0284	-1.4231	0.0566	-0.3895	0.0701
2	350.16	0.7996	-0.1110	0.0101	-1.0997	0.0316	-1.8368	0.0612	-0.4078	0.1047
2	350.16	0.8578	-0.1374	0.0097	-1.2120	0.0362	-2.4380	0.0755	-0.6617	0.1322

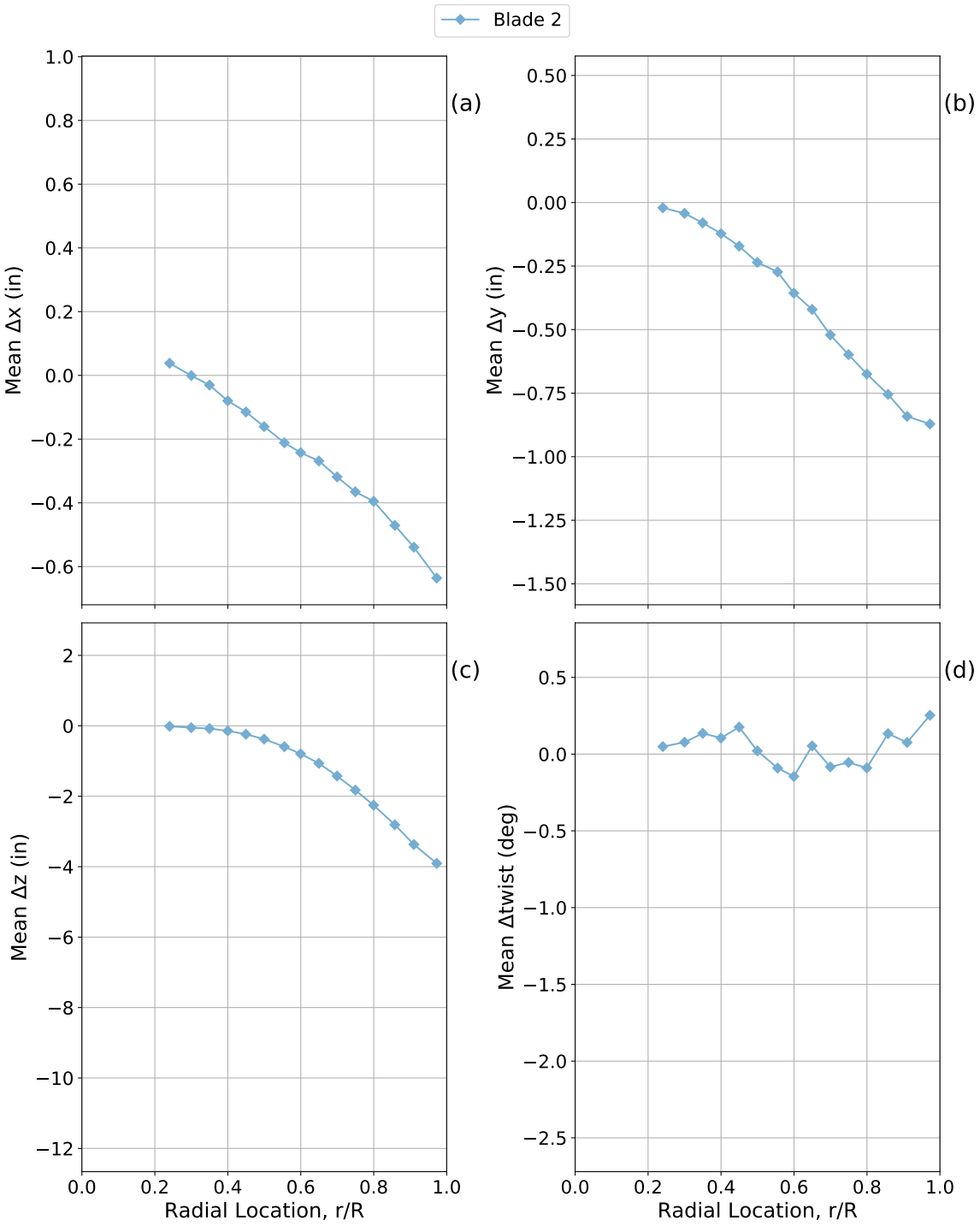


Figure 4.25-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Table 4.25-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 81, point 7. BD run 38, points 5878 to 5888.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2405	0.0381	0.0013	-0.0207	0.0019	-0.0143	0.0053	0.0489	0.0616
2	355.08	0.2999	-0.0007	0.0026	-0.0426	0.0046	-0.0534	0.0102	0.0775	0.0954
2	355.08	0.3498	-0.0305	0.0026	-0.0800	0.0076	-0.0780	0.0197	0.1356	0.0925
2	355.08	0.3998	-0.0799	0.0022	-0.1222	0.0121	-0.1439	0.0291	0.1046	0.1041
2	355.08	0.4496	-0.1147	0.0036	-0.1718	0.0141	-0.2389	0.0424	0.1763	0.0853
2	355.08	0.4995	-0.1609	0.0022	-0.2356	0.0192	-0.3774	0.0507	0.0208	0.1015
2	355.08	0.5551	-0.2114	0.0028	-0.2729	0.0234	-0.5937	0.0645	-0.0911	0.0942
2	355.08	0.5996	-0.2424	0.0033	-0.3566	0.0265	-0.7967	0.0758	-0.1459	0.1031
2	355.08	0.6497	-0.2686	0.0031	-0.4207	0.0310	-1.0652	0.0911	0.0534	0.0938
2	355.08	0.6996	-0.3187	0.0027	-0.5211	0.0353	-1.4256	0.1057	-0.0835	0.0949
2	355.08	0.7495	-0.3653	0.0032	-0.5985	0.0389	-1.8257	0.1156	-0.0543	0.1111
2	355.08	0.7996	-0.3951	0.0033	-0.6746	0.0428	-2.2547	0.1323	-0.0900	0.0977
2	355.08	0.8578	-0.4706	0.0041	-0.7548	0.0476	-2.8095	0.1491	0.1333	0.0914
2	355.08	0.9100	-0.5391	0.0050	-0.8413	0.0515	-3.3702	0.1627	0.0762	0.0958
2	355.08	0.9727	-0.6360	0.0052	-0.8713	0.0575	-3.9072	0.1838	0.2529	0.0896

4.26 Run 81, Point 53

4.26.1 Pitch, Flap, and Lag

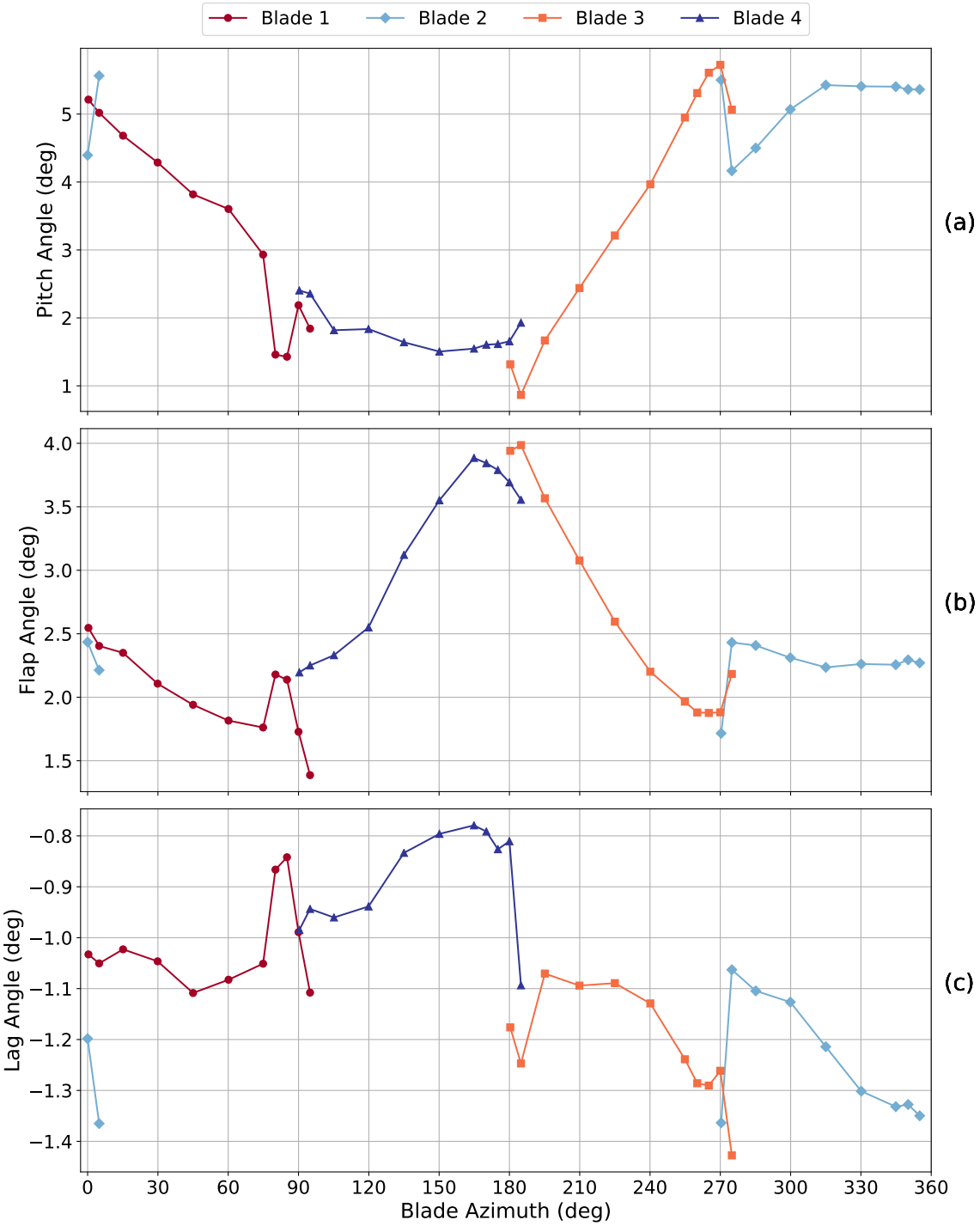


Figure 4.26-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-1. Pitch, flap, and lag vs azimuth.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.3944	2.4347	-1.1983	0.0889	0.0363	0.0323
0.35	1	5.2130	2.5464	-1.0328	0.1323	0.0528	0.0382
4.92	1	5.0194	2.4041	-1.0505	0.1039	0.0530	0.0260
4.92	2	5.5647	2.2134	-1.3651	0.0954	0.0353	0.0256
15.12	1	4.6820	2.3498	-1.0229	0.0387	0.0223	0.0213
29.88	1	4.2872	2.1071	-1.0464	0.0473	0.0345	0.0154
45	1	3.8185	1.9405	-1.1086	0.0484	0.0276	0.0187
60.12	1	3.6033	1.8162	-1.0826	0.0660	0.0364	0.0171
74.88	1	2.9316	1.7618	-1.0511	0.1326	0.0632	0.0319
80.16	1	1.4598	2.1791	-0.8663	0.0769	0.0324	0.0128
85.08	1	1.4285	2.1385	-0.8420	0.1122	0.0534	0.0139
90	1	2.1869	1.7282	-0.9891	0.0811	0.0492	0.0220
90.35	4	2.4036	2.1956	-0.9849	0.1279	0.0415	0.0203
94.92	1	1.8420	1.3866	-1.1079	0.0281	0.0129	0.0216
94.92	4	2.3573	2.2503	-0.9436	0.1520	0.0591	0.0409
105.12	4	1.8188	2.3312	-0.9603	0.0273	0.0231	0.0114
119.88	4	1.8360	2.5499	-0.9387	0.0223	0.0181	0.0188
135	4	1.6413	3.1213	-0.8334	0.0211	0.0269	0.0132
150.12	4	1.5049	3.5512	-0.7961	0.0347	0.0182	0.0169
164.88	4	1.5478	3.8848	-0.7794	0.0364	0.0200	0.0200
170.16	4	1.6058	3.8434	-0.7915	0.0273	0.0255	0.0190
175.08	4	1.6153	3.7895	-0.8263	0.0209	0.0113	0.0185
180	4	1.6554	3.6923	-0.8106	0.0351	0.0211	0.0172
180.35	3	1.3172	3.9410	-1.1762	0.0507	0.0377	0.0194
184.92	3	0.8670	3.9857	-1.2470	0.0592	0.0360	0.0263
184.92	4	1.9290	3.5551	-1.0936	0.0495	0.0147	0.0148
195.12	3	1.6679	3.5667	-1.0705	0.0362	0.0284	0.0175
209.88	3	2.4387	3.0774	-1.0941	0.0304	0.0207	0.0163
225	3	3.2134	2.5954	-1.0893	0.0398	0.0231	0.0086
240.12	3	3.9668	2.2012	-1.1291	0.0242	0.0144	0.0121
254.88	3	4.9488	1.9655	-1.2388	0.0562	0.0244	0.0150
260.16	3	5.3086	1.8804	-1.2859	0.0921	0.0420	0.0231
265.08	3	5.6088	1.8764	-1.2905	0.1882	0.0741	0.0277
270	3	5.7243	1.8812	-1.2614	0.2108	0.0755	0.0310
270.35	2	5.5014	1.7161	-1.3636	0.1610	0.0492	0.0201
274.92	2	4.1659	2.4312	-1.0630	0.0207	0.0194	0.0122
274.92	3	5.0650	2.1832	-1.4276	0.1281	0.1263	0.0438
285.12	2	4.5002	2.4077	-1.1045	0.0328	0.0179	0.0184
299.88	2	5.0687	2.3111	-1.1265	0.0312	0.0223	0.0066
315	2	5.4265	2.2355	-1.2142	0.0271	0.0097	0.0101
330.12	2	5.4082	2.2617	-1.3015	0.0245	0.0252	0.0126
344.88	2	5.4036	2.2563	-1.3319	0.0355	0.0202	0.0094
350.16	2	5.3632	2.2947	-1.3277	0.0534	0.0185	0.0159
355.08	2	5.3624	2.2703	-1.3498	0.0624	0.0377	0.0214

4.26.2 Spanwise Elastic Deformations

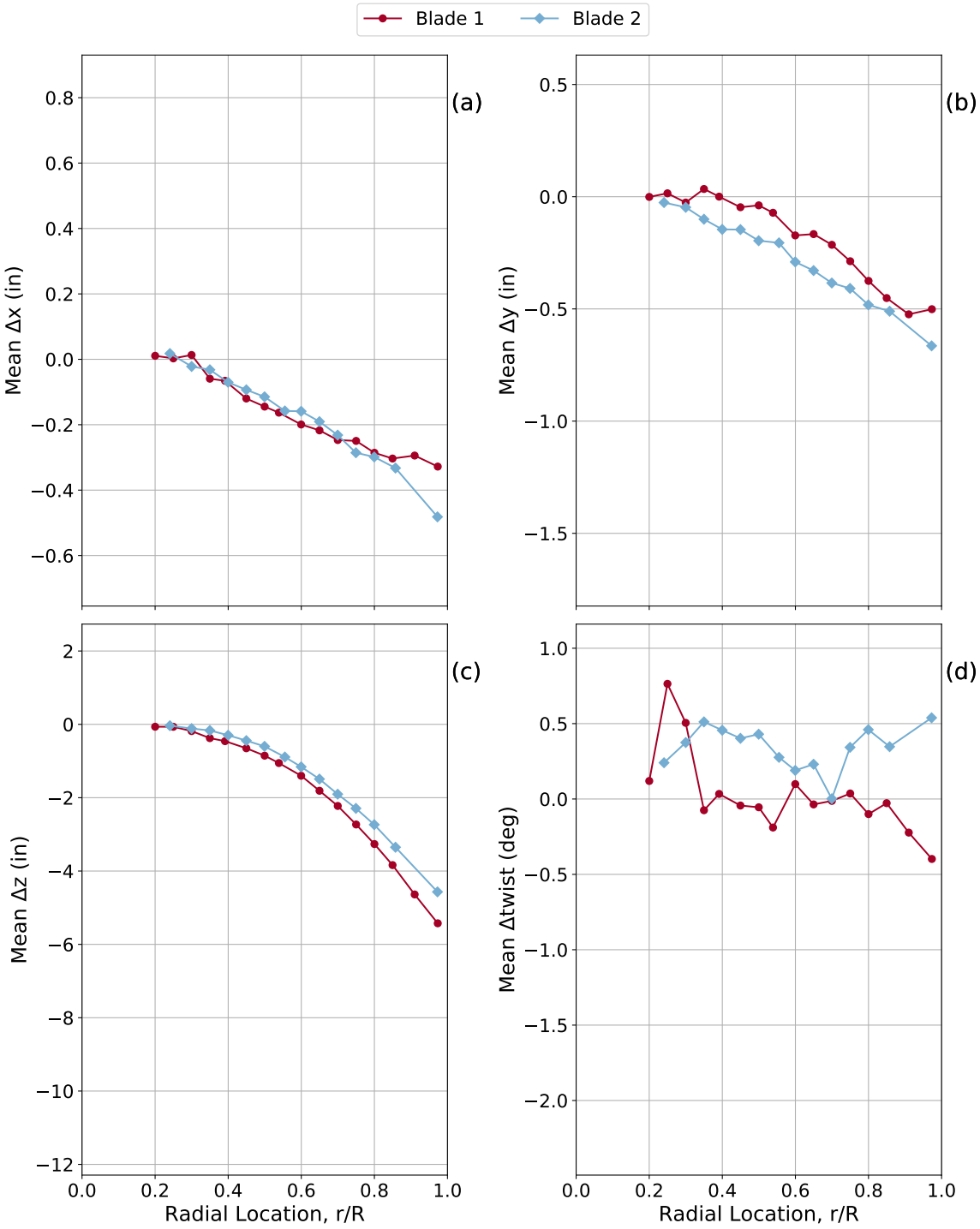


Figure 4.26-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0107	0.0044	-0.0009	0.0027	-0.0649	0.0068	0.1195	0.0736
1	0.35	0.2499	0.0028	0.0013	0.0152	0.0056	-0.0663	0.0156	0.7639	0.1149
1	0.35	0.2998	0.0132	0.0017	-0.0260	0.0098	-0.1838	0.0223	0.5051	0.1649
1	0.35	0.3498	-0.0593	0.0023	0.0345	0.0196	-0.3758	0.0459	-0.0746	0.1284
1	0.35	0.3913	-0.0657	0.0031	0.0003	0.0260	-0.4581	0.0596	0.0337	0.1332
1	0.35	0.4496	-0.1199	0.0035	-0.0469	0.0341	-0.6522	0.0782	-0.0433	0.1288
1	0.35	0.4997	-0.1446	0.0044	-0.0385	0.0421	-0.8536	0.0920	-0.0550	0.1164
1	0.35	0.5387	-0.1631	0.0045	-0.0715	0.0479	-1.0555	0.1031	-0.1893	0.1230
1	0.35	0.5996	-0.1993	0.0039	-0.1725	0.0563	-1.4016	0.1190	0.0989	0.1359
1	0.35	0.6498	-0.2173	0.0032	-0.1666	0.0638	-1.8110	0.1319	-0.0360	0.1333
1	0.35	0.6998	-0.2469	0.0034	-0.2143	0.0713	-2.2251	0.1468	-0.0125	0.1245
1	0.35	0.7500	-0.2495	0.0033	-0.2875	0.0784	-2.7304	0.1600	0.0365	0.1260
1	0.35	0.8001	-0.2858	0.0025	-0.3751	0.0850	-3.2643	0.1731	-0.1002	0.1327
1	0.35	0.8497	-0.3034	0.0040	-0.4515	0.0918	-3.8380	0.1868	-0.0277	0.1313
1	0.35	0.9102	-0.2943	0.0238	-0.5240	0.1055	-4.6386	0.2003	-0.2229	0.1435
1	0.35	0.9734	-0.3280	0.0073	-0.5012	0.1095	-5.4255	0.2171	-0.3978	0.1325
2	0	0.2405	0.0176	0.0033	-0.0261	0.0030	-0.0368	0.0074	0.2405	0.0643
2	0	0.2999	-0.0219	0.0031	-0.0473	0.0064	-0.1146	0.0145	0.3746	0.0993
2	0	0.3498	-0.0320	0.0026	-0.1003	0.0115	-0.1667	0.0259	0.5116	0.0931
2	0	0.3998	-0.0703	0.0047	-0.1457	0.0175	-0.2967	0.0390	0.4561	0.0838
2	0	0.4496	-0.0933	0.0059	-0.1465	0.0195	-0.4436	0.0485	0.4023	0.0922
2	0	0.4995	-0.1147	0.0075	-0.1960	0.0254	-0.6000	0.0596	0.4298	0.0895
2	0	0.5551	-0.1579	0.0093	-0.2055	0.0342	-0.8911	0.0727	0.2763	0.0906
2	0	0.5996	-0.1589	0.0111	-0.2906	0.0421	-1.1586	0.0898	0.1895	0.0773
2	0	0.6497	-0.1906	0.0140	-0.3291	0.0488	-1.4919	0.0981	0.2306	0.0947
2	0	0.6996	-0.2318	0.0185	-0.3845	0.0600	-1.9045	0.1122	0.0018	0.0895
2	0	0.7495	-0.2857	0.0213	-0.4087	0.0673	-2.2917	0.1320	0.3425	0.0804
2	0	0.7996	-0.2986	0.0239	-0.4819	0.0751	-2.7357	0.1388	0.4599	0.1016
2	0	0.8578	-0.3325	0.0306	-0.5104	0.0834	-3.3514	0.1556	0.3470	0.1364
2	0	0.9727	-0.4818	0.0414	-0.6646	0.1060	-4.5686	0.1839	0.5387	0.0955

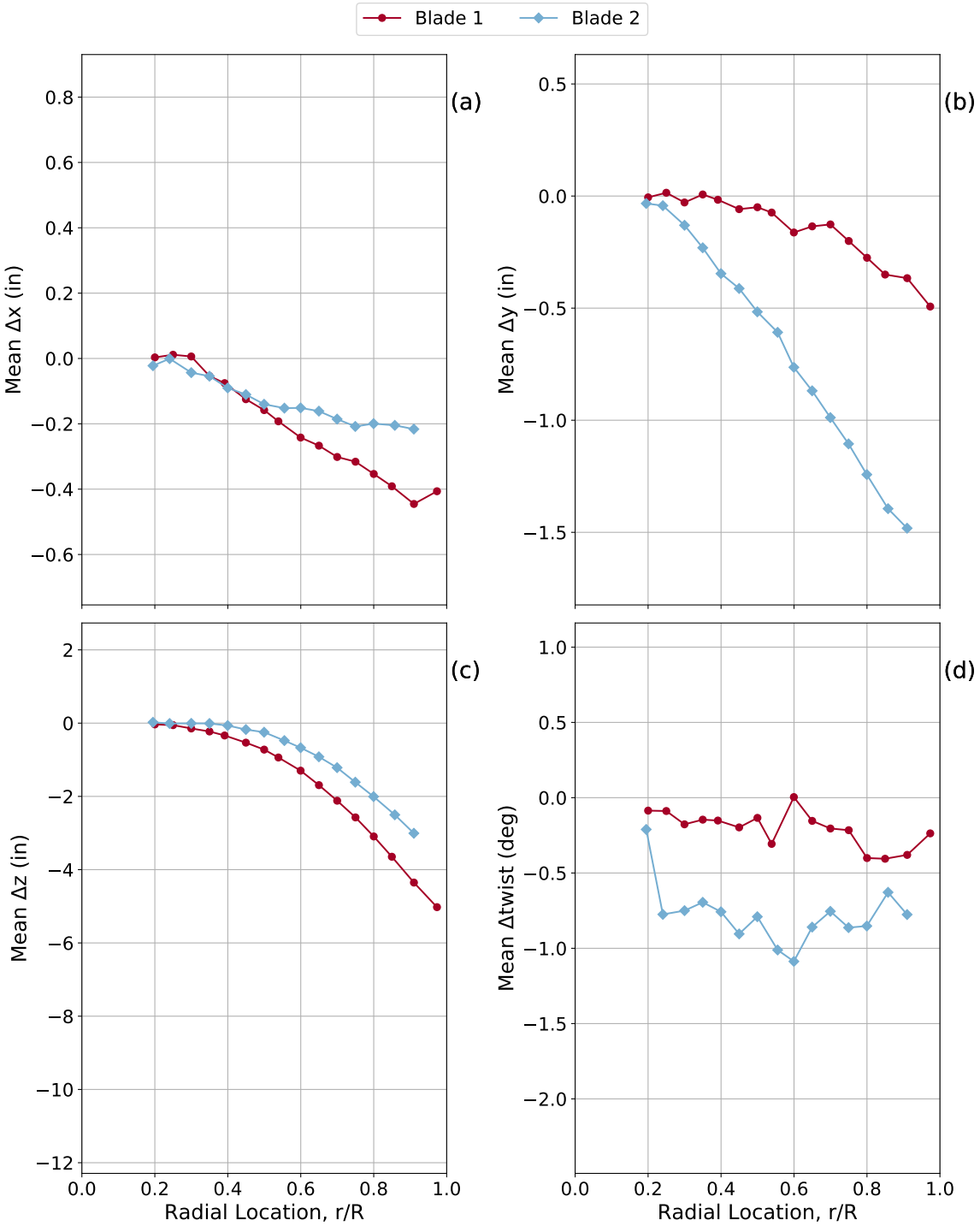


Figure 4.26-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$ NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0033	0.0055	-0.0059	0.0034	-0.0350	0.0068	-0.0858	0.0549
1	4.92	0.2499	0.0114	0.0022	0.0147	0.0045	-0.0547	0.0115	-0.0884	0.0867
1	4.92	0.2998	0.0061	0.0020	-0.0286	0.0124	-0.1455	0.0207	-0.1768	0.1239
1	4.92	0.3498	-0.0538	0.0013	0.0070	0.0207	-0.2277	0.0382	-0.1458	0.0973
1	4.92	0.3913	-0.0755	0.0015	-0.0166	0.0286	-0.3371	0.0501	-0.1517	0.1057
1	4.92	0.4496	-0.1247	0.0013	-0.0584	0.0376	-0.5328	0.0668	-0.1972	0.1086
1	4.92	0.4997	-0.1581	0.0024	-0.0499	0.0448	-0.7227	0.0825	-0.1340	0.1113
1	4.92	0.5387	-0.1924	0.0021	-0.0736	0.0514	-0.9381	0.0955	-0.3067	0.1124
1	4.92	0.5996	-0.2420	0.0023	-0.1626	0.0620	-1.2977	0.1157	0.0041	0.1117
1	4.92	0.6498	-0.2669	0.0022	-0.1352	0.0689	-1.6926	0.1311	-0.1540	0.1104
1	4.92	0.6998	-0.3015	0.0018	-0.1266	0.0770	-2.1179	0.1462	-0.2046	0.1132
1	4.92	0.7500	-0.3160	0.0022	-0.2004	0.0855	-2.5736	0.1628	-0.2158	0.1173
1	4.92	0.8001	-0.3535	0.0033	-0.2754	0.0900	-3.0937	0.1747	-0.4008	0.1314
1	4.92	0.8497	-0.3912	0.0036	-0.3502	0.0987	-3.6472	0.1928	-0.4054	0.1255
1	4.92	0.9102	-0.4453	0.0040	-0.3663	0.1134	-4.3525	0.2112	-0.3798	0.1711
1	4.92	0.9734	-0.4064	0.0030	-0.4929	0.1172	-5.0238	0.2369	-0.2369	0.0807
2	4.92	0.1949	-0.0222	0.0042	-0.0331	0.0019	0.0228	0.0049	-0.2107	0.0471
2	4.92	0.2405	-0.0006	0.0020	-0.0429	0.0037	-0.0102	0.0103	-0.7749	0.0765
2	4.92	0.2999	-0.0434	0.0023	-0.1303	0.0065	-0.0065	0.0174	-0.7500	0.1149
2	4.92	0.3498	-0.0542	0.0022	-0.2308	0.0112	-0.0093	0.0306	-0.6946	0.1064
2	4.92	0.3998	-0.0902	0.0045	-0.3460	0.0175	-0.0656	0.0465	-0.7576	0.0880
2	4.92	0.4496	-0.1104	0.0049	-0.4123	0.0230	-0.1748	0.0534	-0.9047	0.1091
2	4.92	0.4995	-0.1401	0.0052	-0.5165	0.0290	-0.2477	0.0650	-0.7903	0.1052
2	4.92	0.5551	-0.1520	0.0083	-0.6079	0.0368	-0.4765	0.0745	-1.0112	0.1000
2	4.92	0.5996	-0.1513	0.0098	-0.7639	0.0450	-0.6715	0.0817	-1.0872	0.1042
2	4.92	0.6497	-0.1612	0.0103	-0.8688	0.0513	-0.9192	0.0895	-0.8594	0.1014
2	4.92	0.6996	-0.1856	0.0111	-0.9883	0.0574	-1.2155	0.0939	-0.7547	0.1031
2	4.92	0.7495	-0.2081	0.0114	-1.1055	0.0643	-1.6119	0.1028	-0.8628	0.1085
2	4.92	0.7996	-0.1995	0.0138	-1.2424	0.0699	-2.0059	0.1102	-0.8521	0.0982
2	4.92	0.8578	-0.2047	0.0172	-1.3946	0.0790	-2.5030	0.1202	-0.6283	0.0978
2	4.92	0.9100	-0.2162	0.0164	-1.4817	0.0776	-3.0066	0.1291	-0.7760	0.1083

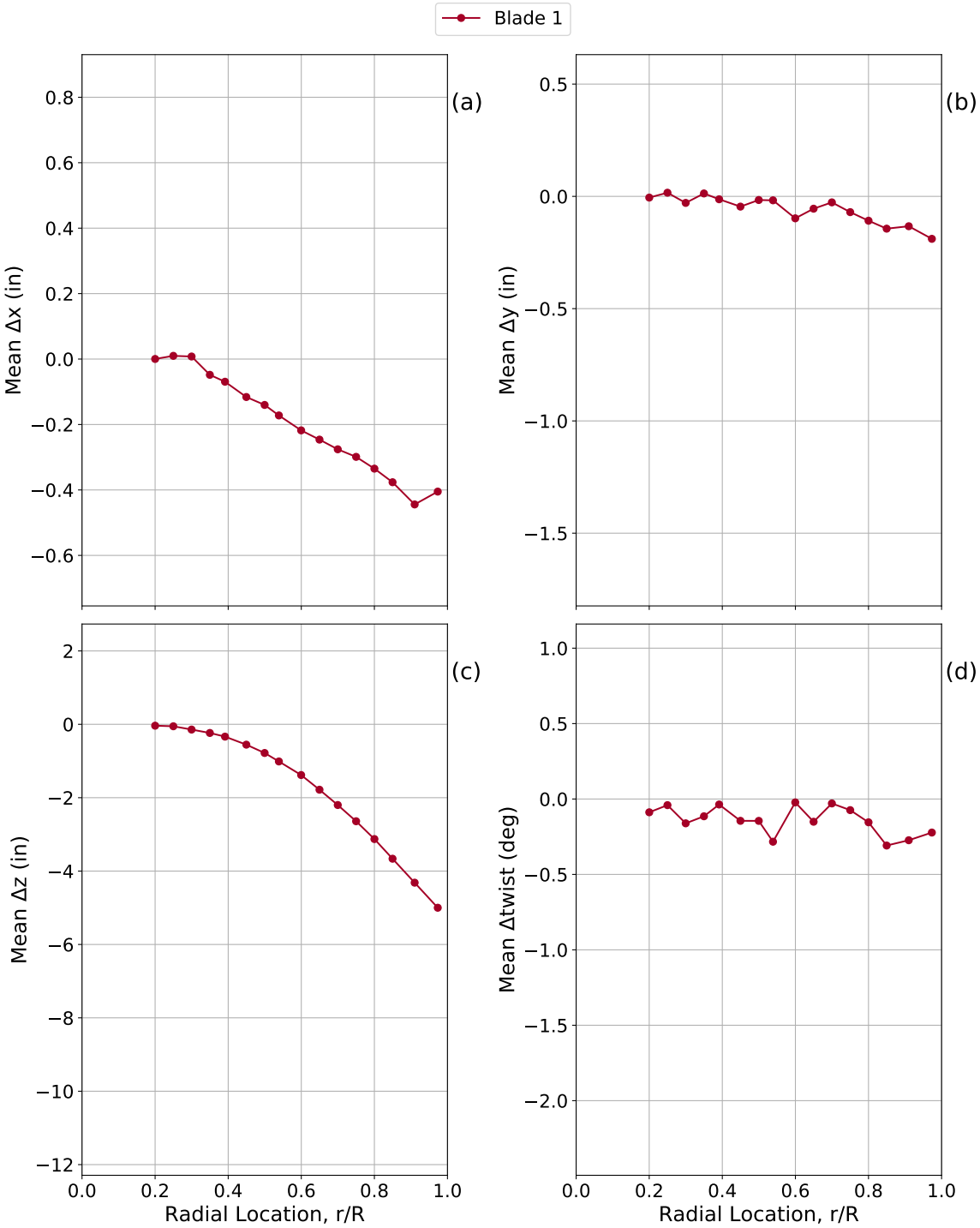


Figure 4.26-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0003	0.0019	-0.0054	0.0009	-0.0374	0.0014	-0.0881	0.0337
1	15.12	0.2499	0.0098	0.0020	0.0163	0.0020	-0.0533	0.0063	-0.0407	0.0314
1	15.12	0.2998	0.0078	0.0017	-0.0291	0.0027	-0.1432	0.0051	-0.1613	0.0647
1	15.12	0.3498	-0.0482	0.0021	0.0130	0.0047	-0.2358	0.0139	-0.1145	0.0543
1	15.12	0.3913	-0.0693	0.0016	-0.0129	0.0056	-0.3356	0.0176	-0.0365	0.0482
1	15.12	0.4496	-0.1160	0.0015	-0.0456	0.0086	-0.5545	0.0261	-0.1447	0.0420
1	15.12	0.4997	-0.1402	0.0015	-0.0162	0.0108	-0.7814	0.0333	-0.1450	0.0531
1	15.12	0.5387	-0.1723	0.0011	-0.0176	0.0120	-1.0122	0.0395	-0.2832	0.0519
1	15.12	0.5996	-0.2179	0.0016	-0.0978	0.0134	-1.3822	0.0436	-0.0225	0.0506
1	15.12	0.6498	-0.2462	0.0012	-0.0549	0.0170	-1.7825	0.0509	-0.1508	0.0507
1	15.12	0.6998	-0.2758	0.0018	-0.0267	0.0185	-2.1997	0.0567	-0.0294	0.0417
1	15.12	0.7500	-0.2989	0.0027	-0.0702	0.0207	-2.6418	0.0619	-0.0738	0.0510
1	15.12	0.8001	-0.3349	0.0022	-0.1084	0.0235	-3.1273	0.0696	-0.1545	0.0567
1	15.12	0.8497	-0.3764	0.0032	-0.1438	0.0260	-3.6631	0.0784	-0.3085	0.0515
1	15.12	0.9102	-0.4443	0.0041	-0.1330	0.0307	-4.3161	0.0855	-0.2734	0.0648
1	15.12	0.9734	-0.4050	0.0035	-0.1891	0.0323	-4.9993	0.0995	-0.2224	0.0662

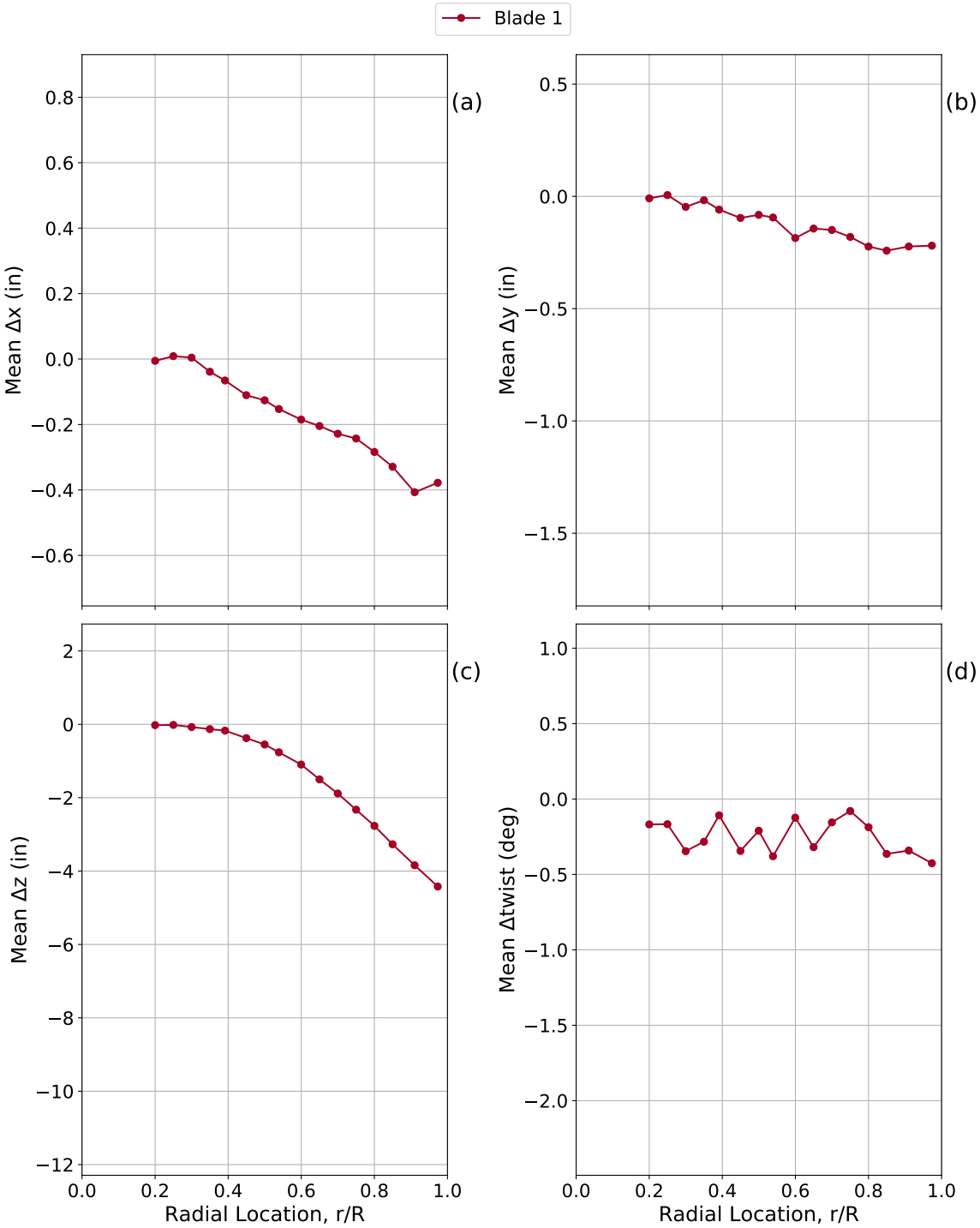


Figure 4.26-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0055	0.0028	-0.0088	0.0010	-0.0226	0.0026	-0.1683	0.0271
1	29.88	0.2499	0.0089	0.0022	0.0058	0.0027	-0.0168	0.0071	-0.1670	0.0298
1	29.88	0.2998	0.0044	0.0014	-0.0468	0.0041	-0.0745	0.0120	-0.3459	0.0557
1	29.88	0.3498	-0.0387	0.0015	-0.0173	0.0071	-0.1306	0.0187	-0.2832	0.0556
1	29.88	0.3913	-0.0655	0.0016	-0.0589	0.0106	-0.1720	0.0290	-0.1085	0.0434
1	29.88	0.4496	-0.1103	0.0023	-0.0961	0.0137	-0.3763	0.0381	-0.3443	0.0539
1	29.88	0.4997	-0.1261	0.0027	-0.0822	0.0176	-0.5491	0.0489	-0.2104	0.0506
1	29.88	0.5387	-0.1527	0.0031	-0.0941	0.0212	-0.7622	0.0561	-0.3797	0.0473
1	29.88	0.5996	-0.1849	0.0029	-0.1855	0.0260	-1.0960	0.0655	-0.1236	0.0526
1	29.88	0.6498	-0.2047	0.0032	-0.1433	0.0306	-1.5006	0.0724	-0.3195	0.0495
1	29.88	0.6998	-0.2282	0.0028	-0.1497	0.0353	-1.8857	0.0799	-0.1549	0.0514
1	29.88	0.7500	-0.2428	0.0028	-0.1807	0.0407	-2.3265	0.0866	-0.0797	0.0517
1	29.88	0.8001	-0.2840	0.0026	-0.2235	0.0465	-2.7678	0.0943	-0.1871	0.0635
1	29.88	0.8497	-0.3290	0.0026	-0.2417	0.0522	-3.2693	0.1043	-0.3640	0.0479
1	29.88	0.9102	-0.4070	0.0026	-0.2232	0.0579	-3.8413	0.1156	-0.3417	0.0557
1	29.88	0.9734	-0.3781	0.0039	-0.2194	0.0660	-4.4216	0.1330	-0.4258	0.0678

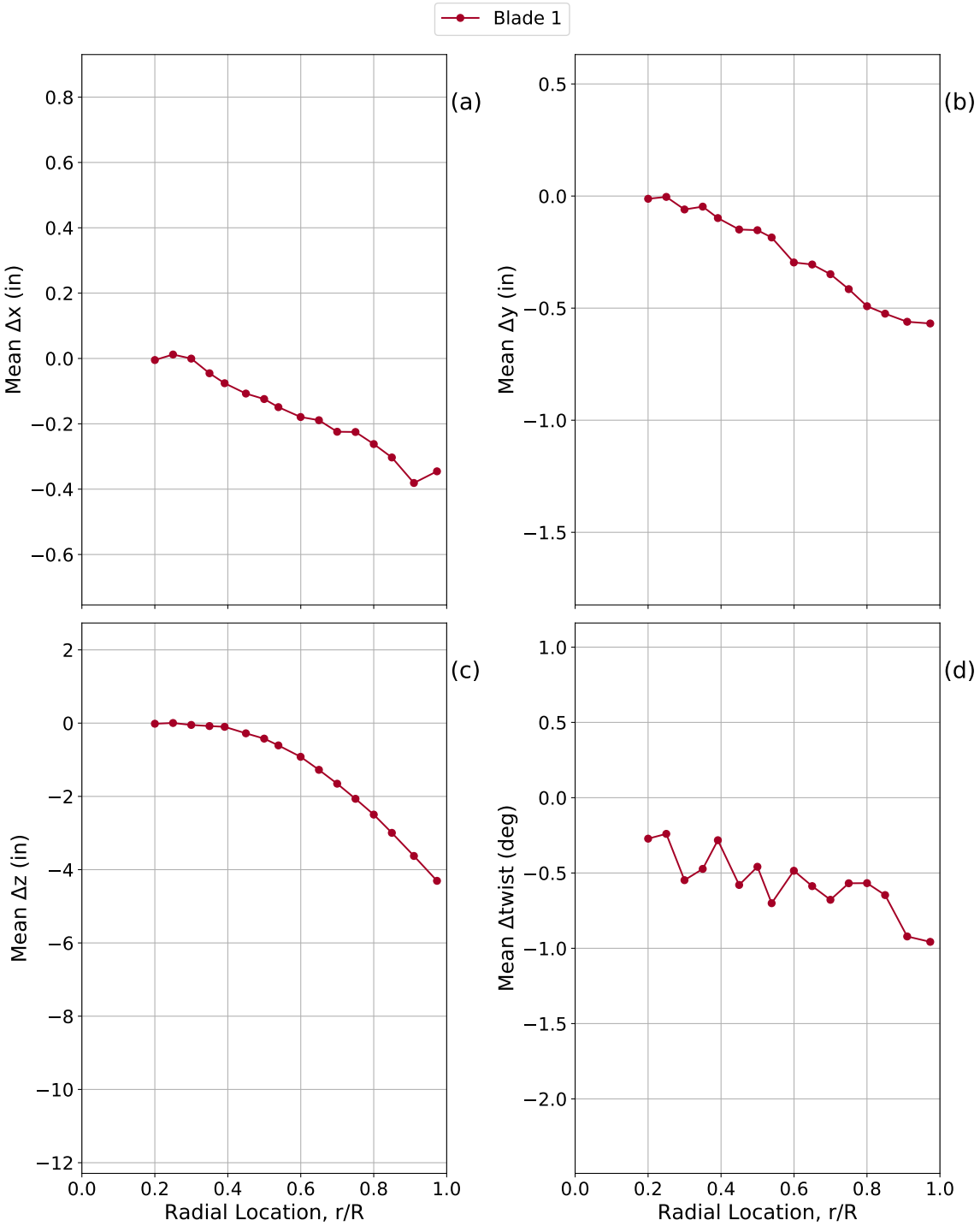


Figure 4.26-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0048	0.0025	-0.0122	0.0011	-0.0165	0.0026	-0.2720	0.0270
1	45	0.2499	0.0121	0.0018	-0.0038	0.0021	0.0040	0.0073	-0.2401	0.0442
1	45	0.2998	-0.0004	0.0018	-0.0599	0.0045	-0.0493	0.0120	-0.5476	0.0605
1	45	0.3498	-0.0453	0.0019	-0.0472	0.0072	-0.0797	0.0193	-0.4728	0.0575
1	45	0.3913	-0.0758	0.0039	-0.0982	0.0106	-0.1005	0.0297	-0.2823	0.0576
1	45	0.4496	-0.1074	0.0044	-0.1492	0.0134	-0.2780	0.0375	-0.5794	0.0549
1	45	0.4997	-0.1242	0.0037	-0.1523	0.0160	-0.4227	0.0433	-0.4587	0.0576
1	45	0.5387	-0.1490	0.0034	-0.1848	0.0183	-0.6079	0.0503	-0.7006	0.0539
1	45	0.5996	-0.1792	0.0034	-0.2963	0.0214	-0.9191	0.0581	-0.4851	0.0447
1	45	0.6498	-0.1890	0.0033	-0.3053	0.0244	-1.2750	0.0645	-0.5872	0.0472
1	45	0.6998	-0.2243	0.0038	-0.3486	0.0266	-1.6534	0.0682	-0.6779	0.0519
1	45	0.7500	-0.2250	0.0036	-0.4152	0.0302	-2.0653	0.0752	-0.5682	0.0582
1	45	0.8001	-0.2620	0.0037	-0.4914	0.0318	-2.4971	0.0815	-0.5674	0.0503
1	45	0.8497	-0.3030	0.0040	-0.5246	0.0352	-2.9951	0.0917	-0.6466	0.0532
1	45	0.9102	-0.3811	0.0043	-0.5608	0.0392	-3.6262	0.1023	-0.9214	0.0575
1	45	0.9734	-0.3454	0.0047	-0.5684	0.0423	-4.3048	0.1162	-0.9573	0.0594

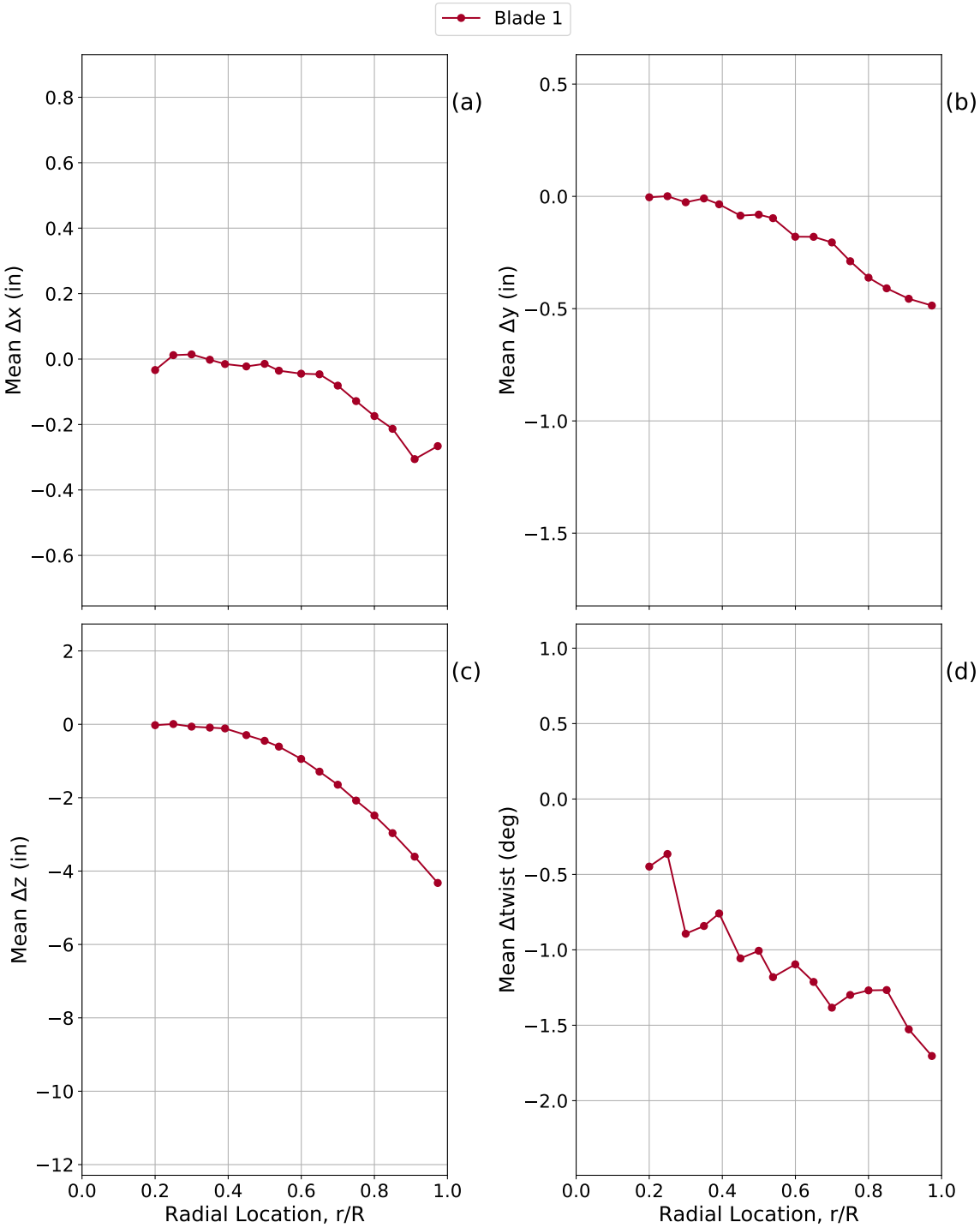


Figure 4.26-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0336	0.0039	-0.0040	0.0017	-0.0235	0.0042	-0.4481	0.0254
1	60.12	0.2499	0.0119	0.0015	0.0007	0.0024	0.0077	0.0065	-0.3647	0.0701
1	60.12	0.2998	0.0142	0.0020	-0.0263	0.0061	-0.0634	0.0148	-0.8933	0.0668
1	60.12	0.3498	-0.0021	0.0024	-0.0092	0.0103	-0.0897	0.0232	-0.8419	0.0736
1	60.12	0.3913	-0.0152	0.0035	-0.0353	0.0143	-0.1127	0.0331	-0.7589	0.0658
1	60.12	0.4496	-0.0225	0.0051	-0.0858	0.0188	-0.2940	0.0452	-1.0565	0.0720
1	60.12	0.4997	-0.0146	0.0065	-0.0812	0.0223	-0.4491	0.0545	-1.0062	0.0760
1	60.12	0.5387	-0.0355	0.0065	-0.0972	0.0261	-0.6079	0.0627	-1.1810	0.0761
1	60.12	0.5996	-0.0447	0.0070	-0.1797	0.0308	-0.9430	0.0738	-1.0961	0.0709
1	60.12	0.6498	-0.0465	0.0060	-0.1801	0.0343	-1.2897	0.0827	-1.2128	0.0770
1	60.12	0.6998	-0.0812	0.0059	-0.2051	0.0373	-1.6460	0.0915	-1.3834	0.0734
1	60.12	0.7500	-0.1285	0.0086	-0.2889	0.0574	-2.0781	0.1050	-1.2991	0.0717
1	60.12	0.8001	-0.1742	0.0083	-0.3621	0.0622	-2.4852	0.1138	-1.2688	0.0726
1	60.12	0.8497	-0.2132	0.0078	-0.4095	0.0664	-2.9656	0.1247	-1.2666	0.0690
1	60.12	0.9102	-0.3058	0.0082	-0.4560	0.0732	-3.6068	0.1387	-1.5272	0.0704
1	60.12	0.9734	-0.2660	0.0080	-0.4863	0.0790	-4.3229	0.1536	-1.7038	0.0651

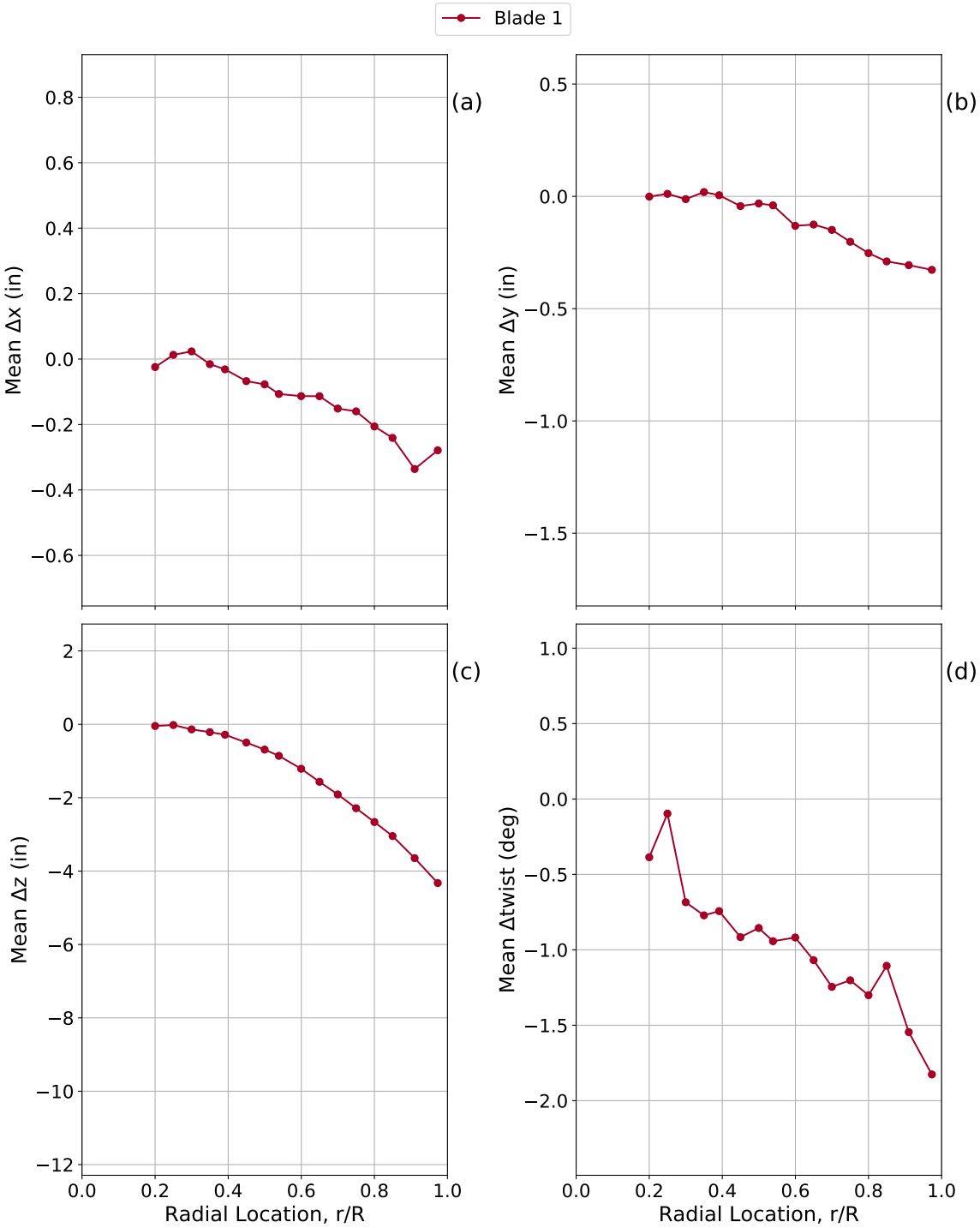


Figure 4.26-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0245	0.0091	-0.0011	0.0030	-0.0453	0.0076	-0.3860	0.0697
1	74.88	0.2499	0.0128	0.0031	0.0112	0.0048	-0.0197	0.0124	-0.0970	0.1372
1	74.88	0.2998	0.0235	0.0033	-0.0123	0.0102	-0.1383	0.0247	-0.6845	0.1660
1	74.88	0.3498	-0.0155	0.0035	0.0192	0.0186	-0.2133	0.0447	-0.7715	0.1363
1	74.88	0.3913	-0.0314	0.0030	0.0052	0.0249	-0.2837	0.0599	-0.7434	0.1385
1	74.88	0.4496	-0.0675	0.0044	-0.0433	0.0339	-0.4976	0.0781	-0.9158	0.1395
1	74.88	0.4997	-0.0773	0.0025	-0.0316	0.0418	-0.6880	0.0953	-0.8552	0.1351
1	74.88	0.5387	-0.1067	0.0033	-0.0400	0.0471	-0.8595	0.1115	-0.9427	0.1214
1	74.88	0.5996	-0.1133	0.0037	-0.1313	0.0560	-1.2113	0.1329	-0.9183	0.1179
1	74.88	0.6498	-0.1135	0.0039	-0.1256	0.0647	-1.5668	0.1499	-1.0686	0.1301
1	74.88	0.6998	-0.1513	0.0030	-0.1494	0.0727	-1.9109	0.1691	-1.2452	0.1213
1	74.88	0.7500	-0.1598	0.0028	-0.2023	0.0807	-2.2868	0.1874	-1.2019	0.1291
1	74.88	0.8001	-0.2059	0.0032	-0.2529	0.0883	-2.6629	0.2081	-1.3008	0.1256
1	74.88	0.8497	-0.2409	0.0030	-0.2896	0.0961	-3.0451	0.2263	-1.1060	0.1312
1	74.88	0.9102	-0.3360	0.0042	-0.3064	0.1074	-3.6477	0.2471	-1.5455	0.1330
1	74.88	0.9734	-0.2788	0.0027	-0.3272	0.1183	-4.3267	0.2690	-1.8261	0.1311

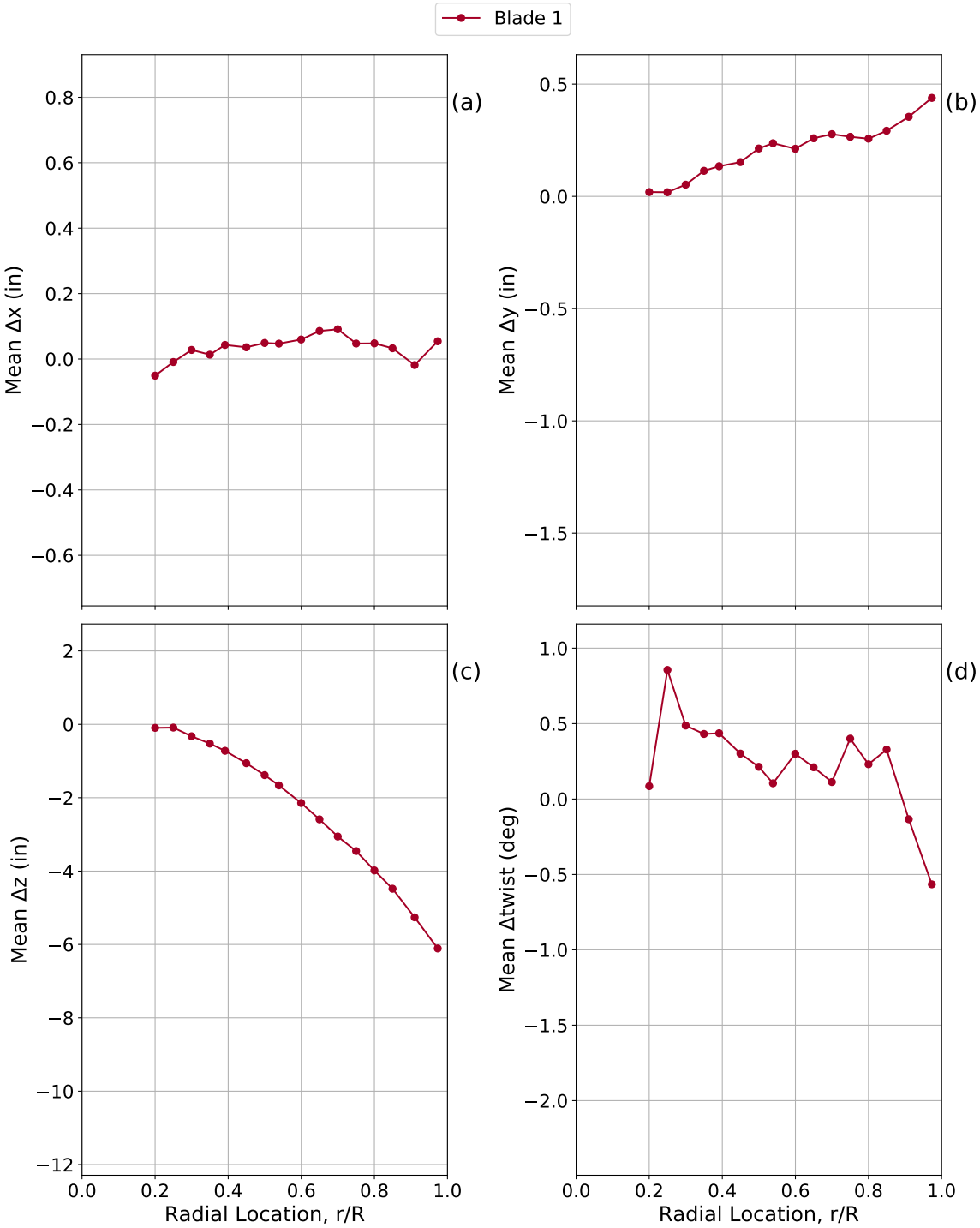


Figure 4.26-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0508	0.0016	0.0193	0.0018	-0.0957	0.0045	0.0854	0.0283
1	80.16	0.2499	-0.0092	0.0016	0.0185	0.0020	-0.0887	0.0047	0.8556	0.0773
1	80.16	0.2998	0.0277	0.0021	0.0523	0.0052	-0.3252	0.0138	0.4871	0.0710
1	80.16	0.3498	0.0132	0.0012	0.1139	0.0091	-0.5245	0.0229	0.4313	0.0755
1	80.16	0.3913	0.0430	0.0017	0.1344	0.0114	-0.7214	0.0300	0.4360	0.0808
1	80.16	0.4496	0.0358	0.0032	0.1527	0.0157	-1.0590	0.0394	0.3011	0.0862
1	80.16	0.4997	0.0490	0.0031	0.2133	0.0192	-1.3842	0.0470	0.2135	0.0903
1	80.16	0.5387	0.0470	0.0029	0.2369	0.0219	-1.6642	0.0531	0.1042	0.1038
1	80.16	0.5996	0.0596	0.0030	0.2122	0.0273	-2.1443	0.0655	0.3000	0.0952
1	80.16	0.6498	0.0857	0.0039	0.2588	0.0316	-2.5898	0.0745	0.2105	0.0943
1	80.16	0.6998	0.0909	0.0051	0.2771	0.0361	-3.0572	0.0826	0.1127	0.1095
1	80.16	0.7500	0.0473	0.0097	0.2653	0.0474	-3.4528	0.0722	0.4003	0.0833
1	80.16	0.8001	0.0478	0.0078	0.2569	0.0523	-3.9814	0.0808	0.2305	0.0784
1	80.16	0.8497	0.0328	0.0057	0.2923	0.0572	-4.4805	0.0889	0.3280	0.0781
1	80.16	0.9102	-0.0185	0.0033	0.3544	0.0629	-5.2601	0.0986	-0.1340	0.0809
1	80.16	0.9734	0.0542	0.0045	0.4386	0.0689	-6.1093	0.1085	-0.5657	0.0858

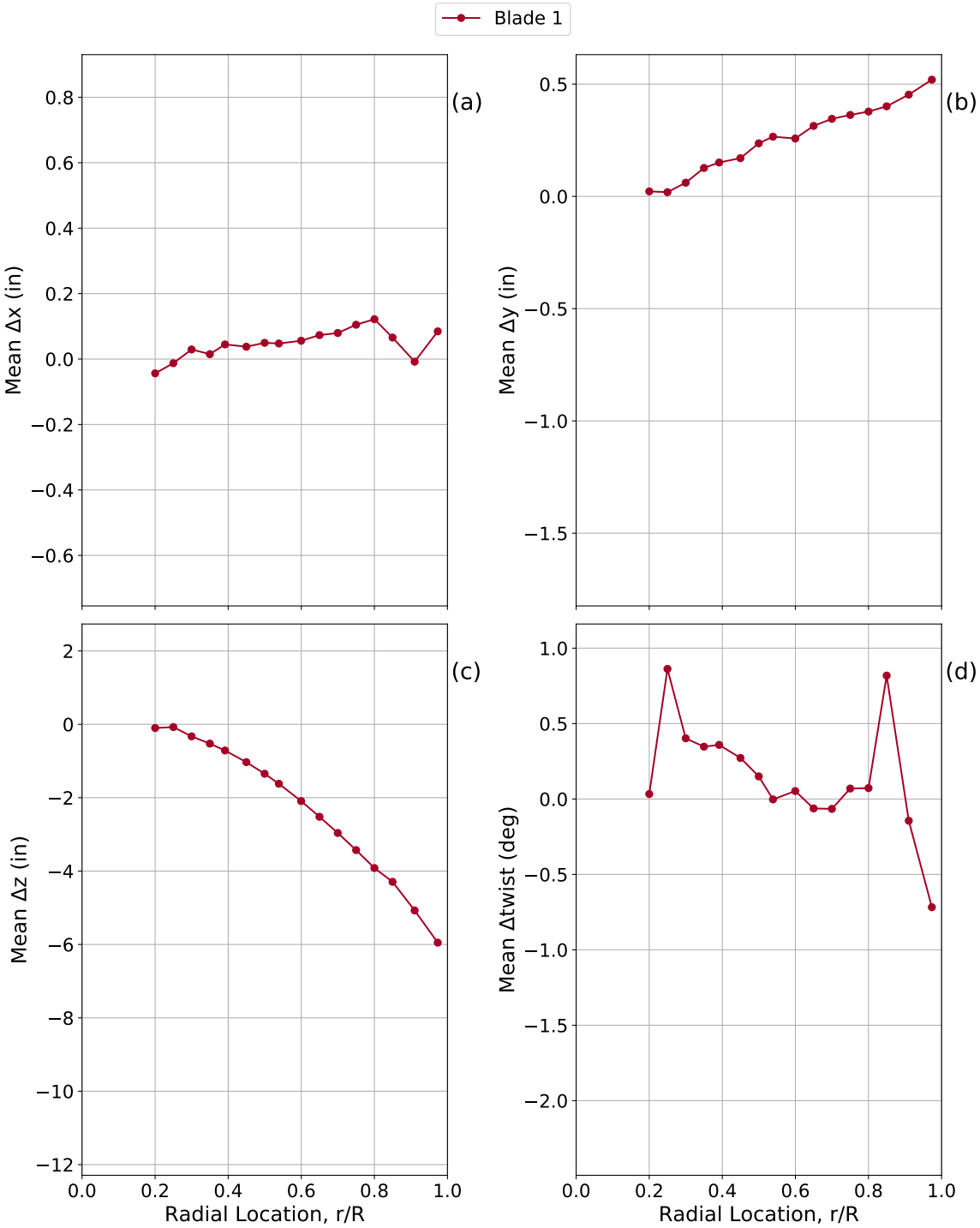


Figure 4.26-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0437	0.0045	0.0222	0.0032	-0.1007	0.0066	0.0331	0.0483
1	85.08	0.2499	-0.0126	0.0032	0.0187	0.0033	-0.0754	0.0085	0.8626	0.1081
1	85.08	0.2998	0.0293	0.0022	0.0608	0.0095	-0.3288	0.0202	0.4023	0.1123
1	85.08	0.3498	0.0150	0.0025	0.1264	0.0147	-0.5260	0.0323	0.3469	0.1134
1	85.08	0.3913	0.0447	0.0019	0.1508	0.0197	-0.7136	0.0441	0.3589	0.1123
1	85.08	0.4496	0.0377	0.0029	0.1703	0.0257	-1.0306	0.0588	0.2722	0.1078
1	85.08	0.4997	0.0496	0.0031	0.2362	0.0305	-1.3469	0.0729	0.1499	0.1176
1	85.08	0.5387	0.0475	0.0028	0.2658	0.0348	-1.6199	0.0838	-0.0028	0.1195
1	85.08	0.5996	0.0560	0.0029	0.2577	0.0406	-2.0922	0.1003	0.0528	0.1204
1	85.08	0.6498	0.0732	0.0029	0.3138	0.0468	-2.5203	0.1180	-0.0627	0.1097
1	85.08	0.6998	0.0796	0.0020	0.3453	0.0516	-2.9613	0.1289	-0.0656	0.1271
1	85.08	0.7500	0.1049	0.0049	0.3626	0.0563	-3.4278	0.1455	0.0694	0.1376
1	85.08	0.8001	0.1217	0.0154	0.3777	0.0594	-3.9176	0.1637	0.0723	0.2919
1	85.08	0.8497	0.0657	0.0089	0.4010	0.0660	-4.2928	0.1612	0.8182	0.2097
1	85.08	0.9102	-0.0080	0.0026	0.4531	0.0767	-5.0731	0.1770	-0.1440	0.1168
1	85.08	0.9734	0.0846	0.0065	0.5196	0.0828	-5.9501	0.1941	-0.7176	0.1093

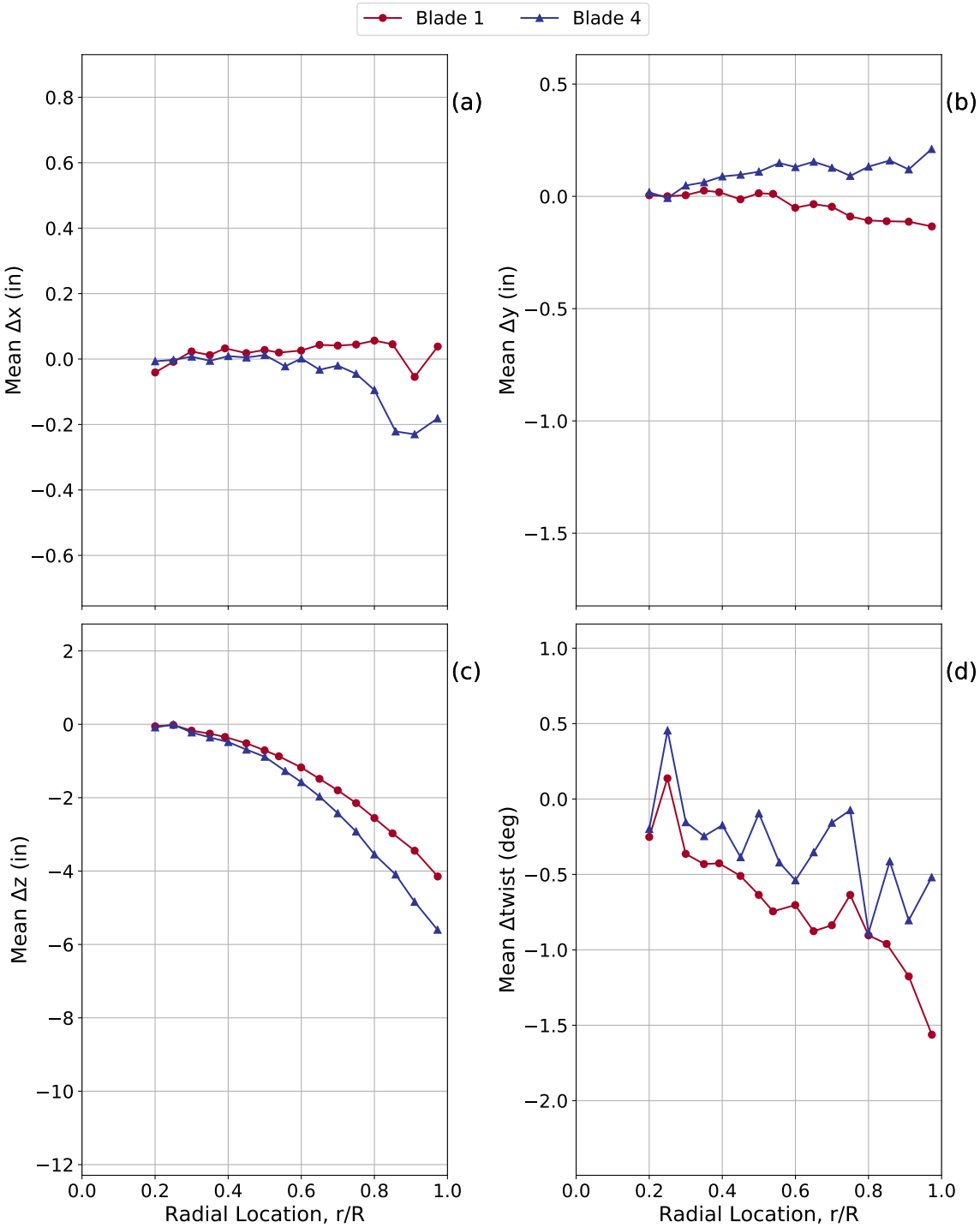


Figure 4.26-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0409	0.0047	0.0050	0.0019	-0.0555	0.0062	-0.2519	0.0394
1	90	0.2499	-0.0084	0.0033	0.0006	0.0030	-0.0183	0.0063	0.1370	0.0993
1	90	0.2998	0.0233	0.0038	0.0051	0.0061	-0.1725	0.0170	-0.3637	0.0945
1	90	0.3498	0.0121	0.0034	0.0257	0.0112	-0.2547	0.0315	-0.4311	0.0774
1	90	0.3913	0.0327	0.0034	0.0188	0.0149	-0.3446	0.0388	-0.4265	0.0834
1	90	0.4496	0.0182	0.0041	-0.0131	0.0201	-0.5164	0.0520	-0.5100	0.0782
1	90	0.4997	0.0278	0.0037	0.0138	0.0251	-0.7082	0.0627	-0.6355	0.0779
1	90	0.5387	0.0198	0.0032	0.0111	0.0288	-0.8721	0.0716	-0.7450	0.0875
1	90	0.5996	0.0259	0.0027	-0.0507	0.0353	-1.1756	0.0850	-0.7032	0.0806
1	90	0.6498	0.0435	0.0025	-0.0347	0.0401	-1.4857	0.0966	-0.8764	0.0834
1	90	0.6998	0.0412	0.0028	-0.0462	0.0458	-1.7985	0.1075	-0.8370	0.0735
1	90	0.7500	0.0444	0.0041	-0.0896	0.0443	-2.1470	0.1212	-0.6357	0.0659
1	90	0.8001	0.0564	0.0059	-0.1074	0.0576	-2.5544	0.1296	-0.9041	0.1134
1	90	0.8497	0.0452	0.0078	-0.1106	0.0632	-2.9721	0.1449	-0.9605	0.0984
1	90	0.9102	-0.0545	0.0053	-0.1128	0.0712	-3.4448	0.1649	-1.1762	0.0719
1	90	0.9734	0.0383	0.0049	-0.1339	0.0785	-4.1470	0.1801	-1.5626	0.0774
4	90.35	0.2001	-0.0068	0.0038	0.0180	0.0020	-0.0846	0.0050	-0.1983	0.0469
4	90.35	0.2502	-0.0026	0.0020	-0.0072	0.0030	-0.0095	0.0075	0.4544	0.1196
4	90.35	0.3001	0.0074	0.0017	0.0484	0.0070	-0.2219	0.0173	-0.1541	0.1212
4	90.35	0.3502	-0.0054	0.0021	0.0626	0.0113	-0.3582	0.0259	-0.2466	0.1344
4	90.35	0.4002	0.0091	0.0022	0.0888	0.0172	-0.4837	0.0409	-0.1736	0.1219
4	90.35	0.4500	0.0047	0.0029	0.0964	0.0222	-0.6897	0.0530	-0.3861	0.1210
4	90.35	0.5001	0.0124	0.0031	0.1098	0.0270	-0.8841	0.0626	-0.0955	0.1291
4	90.35	0.5560	-0.0222	0.0035	0.1486	0.0327	-1.2722	0.0749	-0.4207	0.1352
4	90.35	0.6001	0.0018	0.0037	0.1303	0.0380	-1.5765	0.0873	-0.5389	0.1278
4	90.35	0.6501	-0.0326	0.0053	0.1542	0.0440	-1.9701	0.1008	-0.3534	0.1226
4	90.35	0.6999	-0.0201	0.0068	0.1276	0.0505	-2.4254	0.1128	-0.1575	0.1221
4	90.35	0.7500	-0.0451	0.0083	0.0912	0.0569	-2.9228	0.1265	-0.0739	0.1292
4	90.35	0.8002	-0.0948	0.0061	0.1324	0.0644	-3.5459	0.1434	-0.8861	0.1769
4	90.35	0.8582	-0.2213	0.0038	0.1598	0.0729	-4.0940	0.1566	-0.4134	0.1419
4	90.35	0.9101	-0.2299	0.0039	0.1199	0.0804	-4.8385	0.1722	-0.8045	0.1235
4	90.35	0.9728	-0.1814	0.0023	0.2108	0.0895	-5.5998	0.1868	-0.5193	0.1252

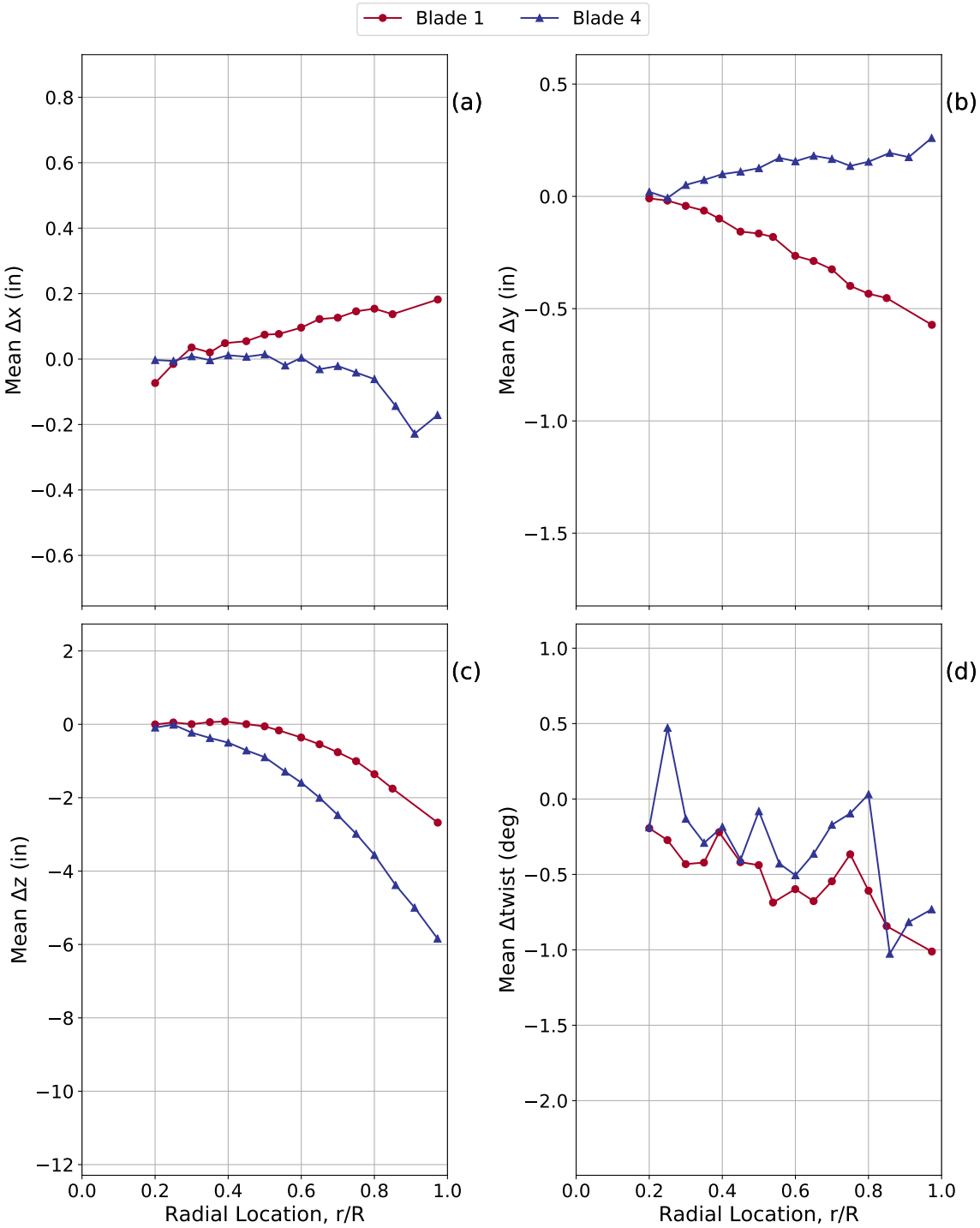


Figure 4.26-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0732	0.0011	-0.0090	0.0006	-0.0031	0.0015	-0.1938	0.0110
1	94.92	0.2499	-0.0150	0.0006	-0.0189	0.0010	0.0498	0.0023	-0.2726	0.0252
1	94.92	0.2998	0.0354	0.0008	-0.0424	0.0024	0.0045	0.0062	-0.4317	0.0229
1	94.92	0.3498	0.0202	0.0009	-0.0636	0.0038	0.0585	0.0078	-0.4215	0.0225
1	94.92	0.3913	0.0486	0.0014	-0.0991	0.0055	0.0769	0.0126	-0.2200	0.0255
1	94.92	0.4496	0.0546	0.0025	-0.1568	0.0064	0.0048	0.0172	-0.4189	0.0332
1	94.92	0.4997	0.0745	0.0025	-0.1654	0.0075	-0.0553	0.0213	-0.4383	0.0142
1	94.92	0.5387	0.0766	0.0029	-0.1808	0.0080	-0.1665	0.0239	-0.6863	0.0194
1	94.92	0.5996	0.0960	0.0025	-0.2648	0.0092	-0.3592	0.0286	-0.5975	0.0307
1	94.92	0.6498	0.1223	0.0033	-0.2877	0.0101	-0.5447	0.0292	-0.6769	0.0426
1	94.92	0.6998	0.1264	0.0040	-0.3249	0.0117	-0.7602	0.0354	-0.5456	0.0486
1	94.92	0.7500	0.1459	0.0065	-0.3987	0.0175	-1.0041	0.0650	-0.3666	0.2451
1	94.92	0.8001	0.1539	0.0036	-0.4336	0.0140	-1.3589	0.0467	-0.6080	0.0777
1	94.92	0.8497	0.1371	0.0039	-0.4529	0.0153	-1.7530	0.0510	-0.8428	0.0641
1	94.92	0.9734	0.1819	0.0068	-0.5721	0.0209	-2.6794	0.0680	-1.0112	0.0953
4	94.92	0.2001	-0.0029	0.0067	0.0201	0.0038	-0.0882	0.0086	-0.1876	0.0560
4	94.92	0.2502	-0.0057	0.0015	-0.0066	0.0040	-0.0099	0.0082	0.4721	0.1609
4	94.92	0.3001	0.0086	0.0018	0.0509	0.0125	-0.2274	0.0256	-0.1308	0.1550
4	94.92	0.3502	-0.0035	0.0028	0.0734	0.0214	-0.3736	0.0440	-0.2907	0.1444
4	94.92	0.4002	0.0116	0.0040	0.0990	0.0313	-0.4993	0.0626	-0.1845	0.1576
4	94.92	0.4500	0.0071	0.0038	0.1104	0.0384	-0.7113	0.0752	-0.4027	0.1602
4	94.92	0.5001	0.0144	0.0041	0.1256	0.0464	-0.8963	0.0905	-0.0811	0.1600
4	94.92	0.5560	-0.0196	0.0042	0.1714	0.0556	-1.2902	0.1094	-0.4280	0.1458
4	94.92	0.6001	0.0041	0.0053	0.1564	0.0643	-1.5908	0.1256	-0.5054	0.1445
4	94.92	0.6501	-0.0310	0.0051	0.1809	0.0728	-2.0020	0.1393	-0.3629	0.1458
4	94.92	0.6999	-0.0213	0.0064	0.1666	0.0817	-2.4730	0.1545	-0.1709	0.1520
4	94.92	0.7500	-0.0412	0.0058	0.1355	0.0890	-2.9834	0.1709	-0.0955	0.1446
4	94.92	0.8002	-0.0613	0.0052	0.1543	0.0981	-3.5618	0.1855	0.0313	0.1758
4	94.92	0.8582	-0.1434	0.0047	0.1935	0.1050	-4.3819	0.2006	-1.0261	0.3049
4	94.92	0.9101	-0.2281	0.0037	0.1747	0.1063	-4.9974	0.2368	-0.8161	0.1725
4	94.92	0.9728	-0.1712	0.0044	0.2600	0.1161	-5.8397	0.2628	-0.7316	0.1538

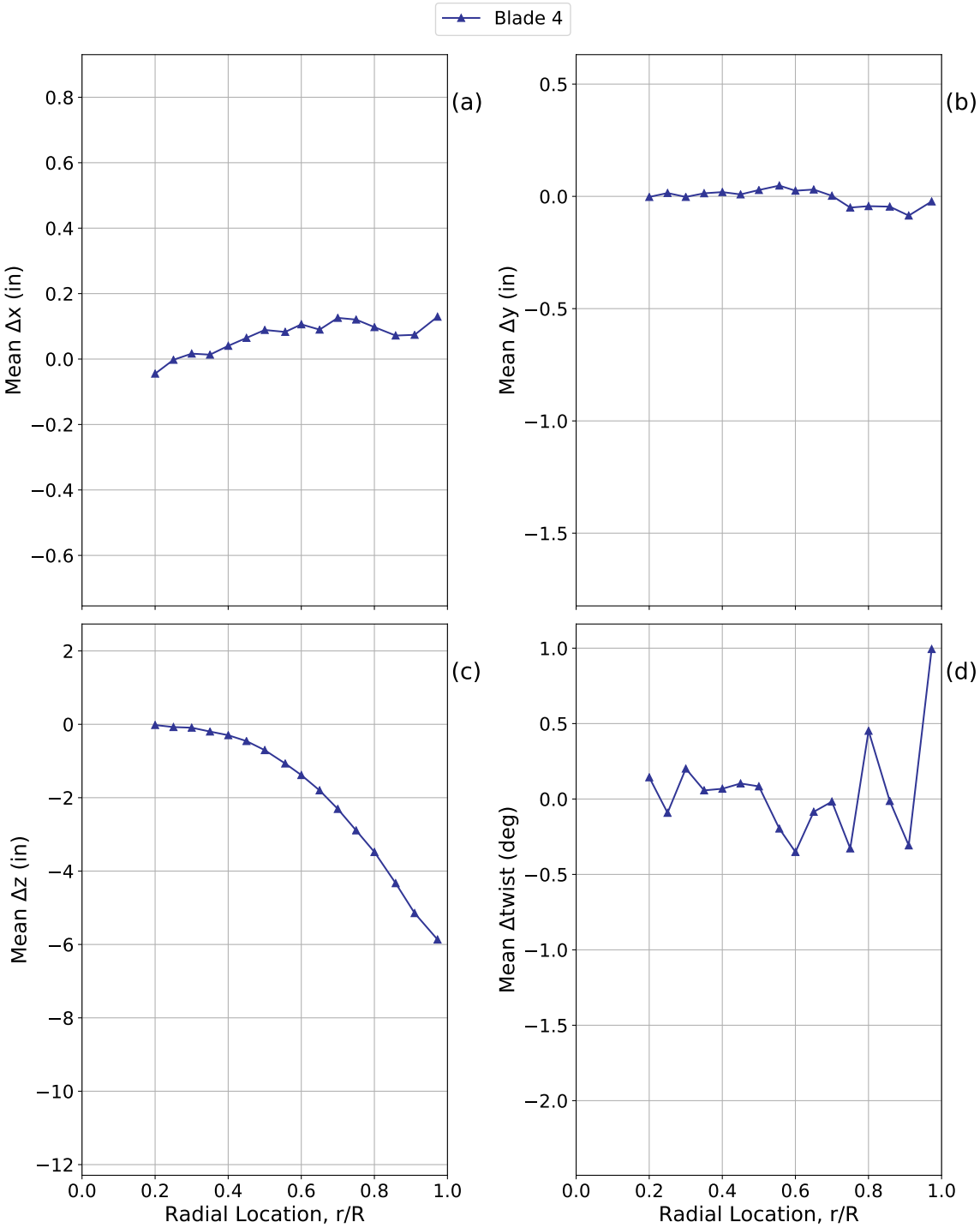


Figure 4.26-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0446	0.0012	-0.0027	0.0004	-0.0194	0.0012	0.1437	0.0122
4	105.12	0.2502	-0.0023	0.0007	0.0149	0.0010	-0.0753	0.0024	-0.0919	0.0263
4	105.12	0.3001	0.0166	0.0006	-0.0026	0.0015	-0.0924	0.0041	0.2014	0.0287
4	105.12	0.3502	0.0134	0.0009	0.0137	0.0024	-0.1973	0.0064	0.0571	0.0269
4	105.12	0.4002	0.0404	0.0012	0.0191	0.0038	-0.2975	0.0101	0.0679	0.0249
4	105.12	0.4500	0.0646	0.0019	0.0087	0.0044	-0.4568	0.0111	0.1030	0.0318
4	105.12	0.5001	0.0889	0.0022	0.0283	0.0054	-0.7046	0.0141	0.0837	0.0252
4	105.12	0.5560	0.0829	0.0022	0.0480	0.0064	-1.0687	0.0158	-0.1963	0.0379
4	105.12	0.6001	0.1060	0.0023	0.0252	0.0073	-1.3838	0.0174	-0.3514	0.0346
4	105.12	0.6501	0.0899	0.0024	0.0304	0.0080	-1.8013	0.0215	-0.0851	0.0269
4	105.12	0.6999	0.1258	0.0022	0.0026	0.0087	-2.3071	0.0254	-0.0175	0.0350
4	105.12	0.7500	0.1206	0.0031	-0.0499	0.0169	-2.8918	0.0303	-0.3278	0.0697
4	105.12	0.8002	0.0975	0.0028	-0.0436	0.0115	-3.4825	0.0338	0.4522	0.0494
4	105.12	0.8582	0.0718	0.0040	-0.0458	0.0132	-4.3306	0.0414	-0.0132	0.0551
4	105.12	0.9101	0.0740	0.0042	-0.0856	0.0145	-5.1465	0.0468	-0.3078	0.0489
4	105.12	0.9728	0.1293	0.0055	-0.0227	0.0162	-5.8662	0.0602	0.9940	0.0986

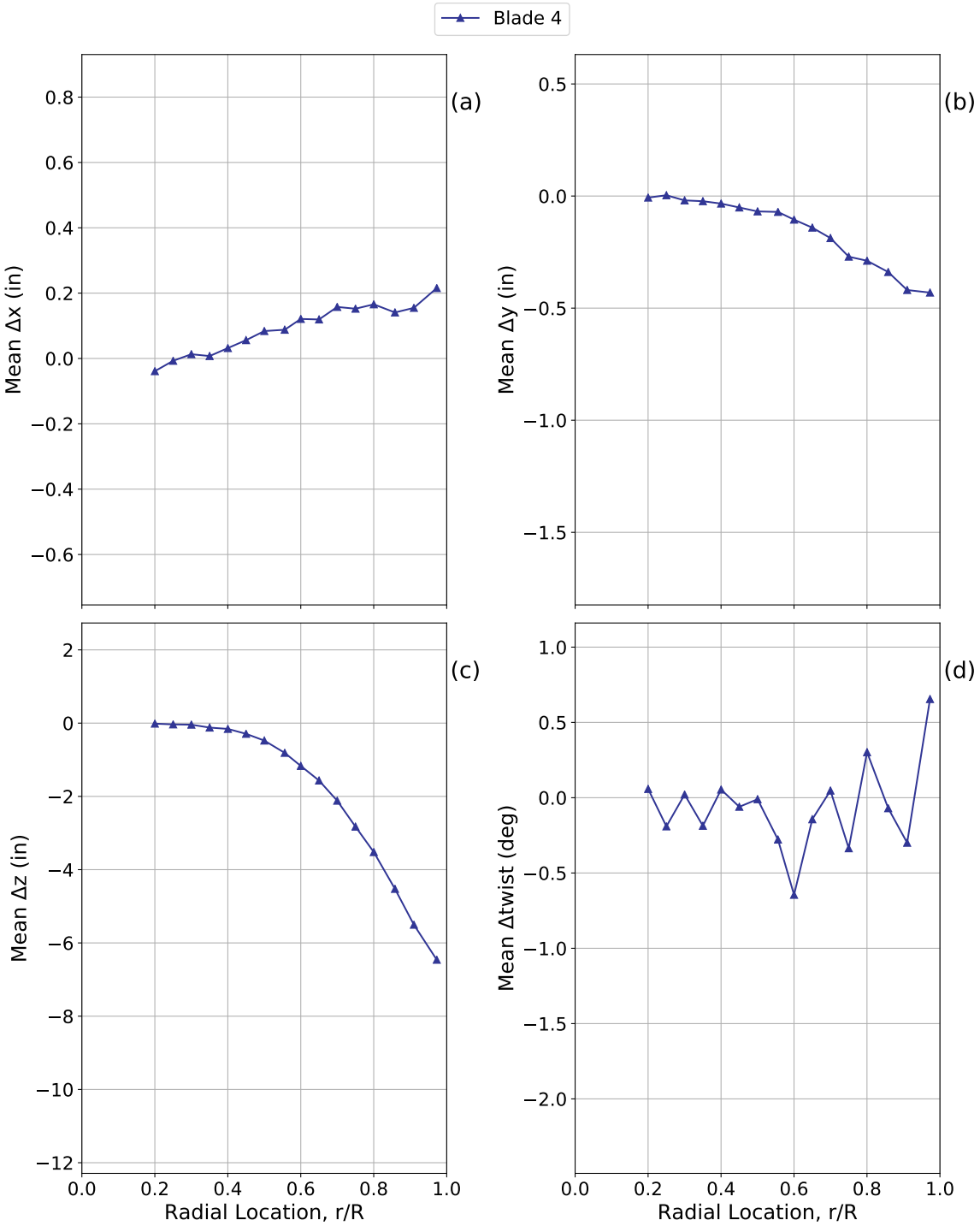


Figure 4.26-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0389	0.0005	-0.0070	0.0005	-0.0140	0.0012	0.0580	0.0088
4	119.88	0.2502	-0.0071	0.0006	0.0035	0.0009	-0.0350	0.0029	-0.1907	0.0207
4	119.88	0.3001	0.0130	0.0007	-0.0194	0.0017	-0.0424	0.0050	0.0210	0.0219
4	119.88	0.3502	0.0074	0.0012	-0.0230	0.0031	-0.1216	0.0090	-0.1868	0.0220
4	119.88	0.4002	0.0318	0.0011	-0.0337	0.0046	-0.1577	0.0139	0.0539	0.0214
4	119.88	0.4500	0.0560	0.0011	-0.0511	0.0056	-0.2916	0.0182	-0.0605	0.0254
4	119.88	0.5001	0.0839	0.0013	-0.0686	0.0071	-0.4763	0.0224	-0.0103	0.0305
4	119.88	0.5560	0.0879	0.0010	-0.0708	0.0092	-0.8116	0.0290	-0.2782	0.0255
4	119.88	0.6001	0.1210	0.0013	-0.1053	0.0107	-1.1687	0.0340	-0.6450	0.0315
4	119.88	0.6501	0.1194	0.0016	-0.1410	0.0124	-1.5673	0.0390	-0.1434	0.0313
4	119.88	0.6999	0.1577	0.0020	-0.1876	0.0144	-2.1182	0.0443	0.0471	0.0266
4	119.88	0.7500	0.1523	0.0013	-0.2705	0.0168	-2.8260	0.0486	-0.3359	0.0388
4	119.88	0.8002	0.1657	0.0019	-0.2886	0.0188	-3.5209	0.0539	0.3019	0.0377
4	119.88	0.8582	0.1408	0.0025	-0.3390	0.0213	-4.5249	0.0578	-0.0701	0.0379
4	119.88	0.9101	0.1549	0.0026	-0.4192	0.0239	-5.5037	0.0647	-0.2993	0.0295
4	119.88	0.9728	0.2155	0.0029	-0.4307	0.0269	-6.4600	0.0683	0.6550	0.0380

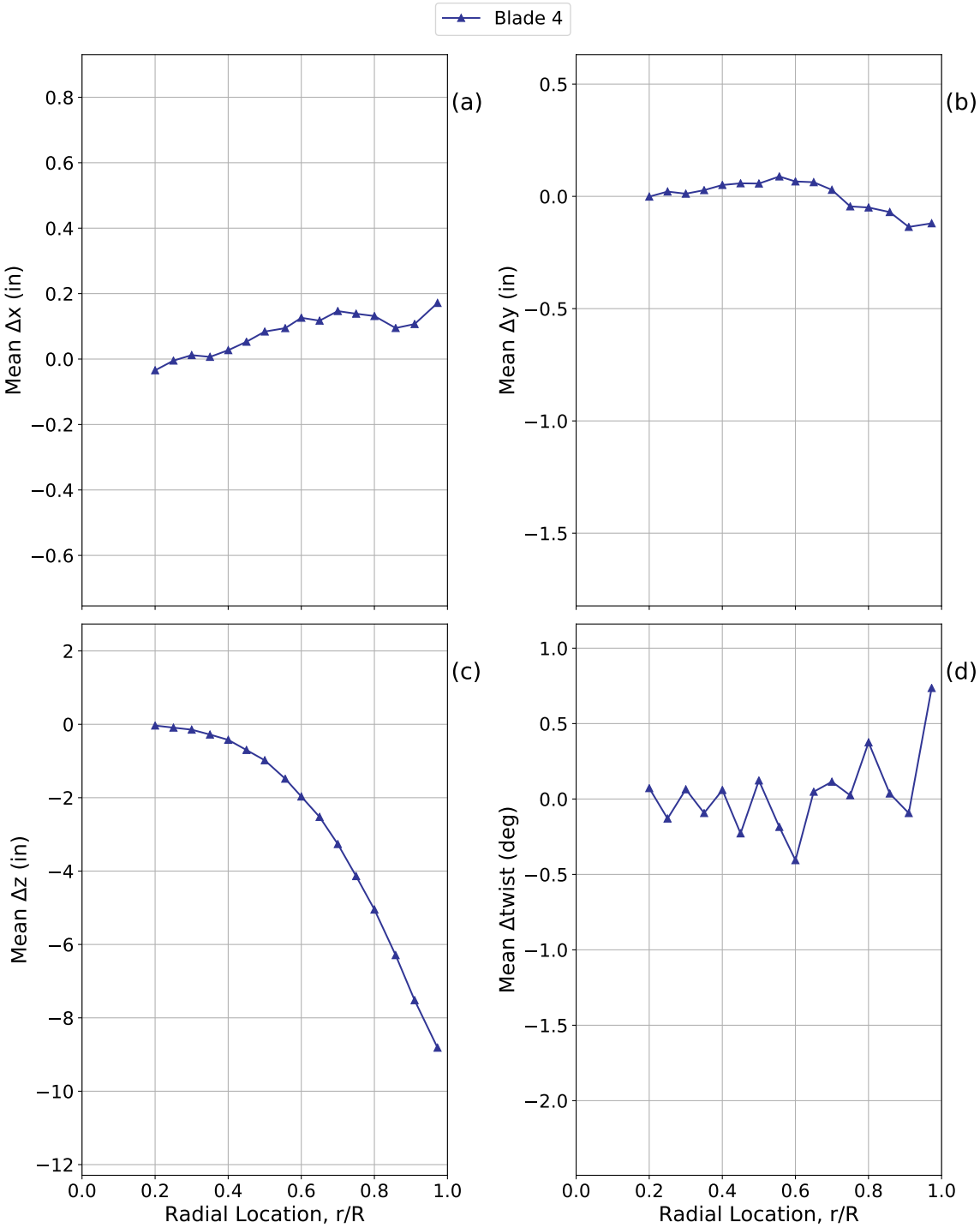


Figure 4.26-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0344	0.0006	-0.0013	0.0006	-0.0342	0.0011	0.0719	0.0099
4	135	0.2502	-0.0048	0.0007	0.0213	0.0011	-0.0909	0.0031	-0.1299	0.0194
4	135	0.3001	0.0120	0.0009	0.0118	0.0022	-0.1461	0.0046	0.0641	0.0233
4	135	0.3502	0.0066	0.0004	0.0276	0.0035	-0.2796	0.0080	-0.0932	0.0215
4	135	0.4002	0.0271	0.0006	0.0506	0.0055	-0.4246	0.0128	0.0593	0.0207
4	135	0.4500	0.0528	0.0008	0.0581	0.0069	-0.7005	0.0158	-0.2282	0.0251
4	135	0.5001	0.0840	0.0006	0.0571	0.0094	-0.9810	0.0191	0.1230	0.0261
4	135	0.5560	0.0944	0.0007	0.0885	0.0117	-1.4828	0.0237	-0.1854	0.0317
4	135	0.6001	0.1261	0.0011	0.0664	0.0139	-1.9690	0.0280	-0.4058	0.0251
4	135	0.6501	0.1173	0.0009	0.0630	0.0166	-2.5260	0.0317	0.0480	0.0259
4	135	0.6999	0.1466	0.0016	0.0289	0.0195	-3.2645	0.0370	0.1144	0.0261
4	135	0.7500	0.1385	0.0016	-0.0447	0.0228	-4.1383	0.0417	0.0242	0.0273
4	135	0.8002	0.1314	0.0016	-0.0496	0.0264	-5.0501	0.0471	0.3751	0.0249
4	135	0.8582	0.0948	0.0018	-0.0700	0.0309	-6.2922	0.0540	0.0361	0.0250
4	135	0.9101	0.1069	0.0016	-0.1362	0.0348	-7.5202	0.0585	-0.0934	0.0283
4	135	0.9728	0.1714	0.0026	-0.1201	0.0393	-8.8147	0.0636	0.7358	0.0389

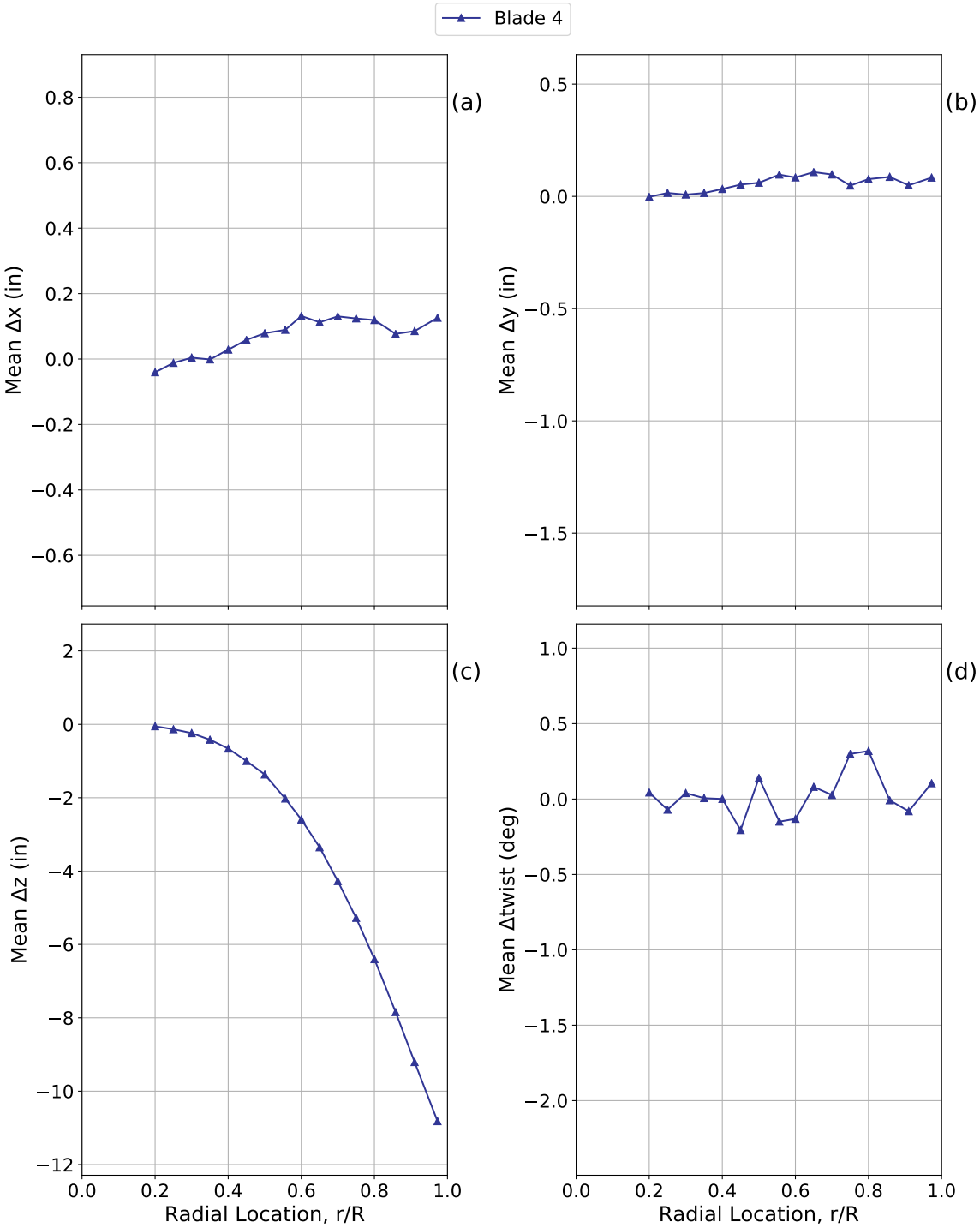


Figure 4.26-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0406	0.0009	-0.0020	0.0006	-0.0528	0.0011	0.0433	0.0218
4	150.12	0.2502	-0.0119	0.0013	0.0153	0.0017	-0.1336	0.0024	-0.0709	0.0249
4	150.12	0.3001	0.0042	0.0009	0.0080	0.0019	-0.2393	0.0027	0.0395	0.0452
4	150.12	0.3502	-0.0014	0.0007	0.0149	0.0052	-0.4197	0.0057	0.0058	0.0312
4	150.12	0.4002	0.0286	0.0009	0.0329	0.0067	-0.6603	0.0073	0.0006	0.0394
4	150.12	0.4500	0.0583	0.0006	0.0526	0.0088	-1.0001	0.0117	-0.2059	0.0352
4	150.12	0.5001	0.0787	0.0011	0.0607	0.0115	-1.3676	0.0152	0.1397	0.0350
4	150.12	0.5560	0.0890	0.0008	0.0970	0.0136	-2.0231	0.0191	-0.1498	0.0399
4	150.12	0.6001	0.1313	0.0009	0.0843	0.0161	-2.5929	0.0223	-0.1314	0.0356
4	150.12	0.6501	0.1122	0.0009	0.1082	0.0180	-3.3513	0.0258	0.0806	0.0374
4	150.12	0.6999	0.1302	0.0012	0.0974	0.0209	-4.2725	0.0285	0.0269	0.0394
4	150.12	0.7500	0.1239	0.0016	0.0481	0.0232	-5.2756	0.0300	0.2987	0.0444
4	150.12	0.8002	0.1189	0.0014	0.0770	0.0259	-6.4025	0.0326	0.3183	0.0383
4	150.12	0.8582	0.0768	0.0020	0.0868	0.0294	-7.8454	0.0365	-0.0084	0.0367
4	150.12	0.9101	0.0852	0.0020	0.0494	0.0320	-9.2069	0.0402	-0.0810	0.0400
4	150.12	0.9728	0.1258	0.0026	0.0836	0.0350	-10.8182	0.0447	0.1044	0.0440

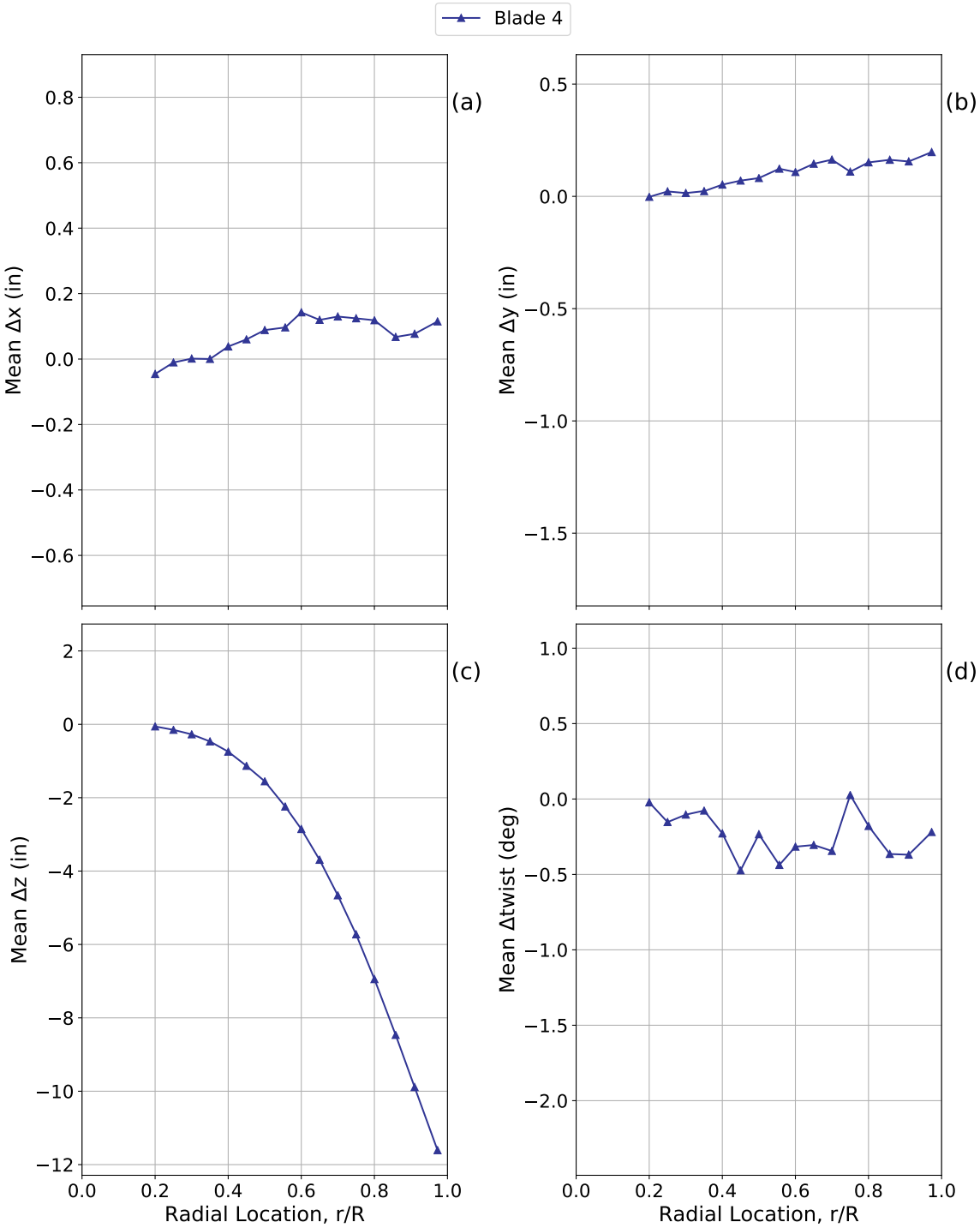


Figure 4.26-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0457	0.0010	-0.0023	0.0010	-0.0583	0.0014	-0.0228	0.0151
4	164.88	0.2502	-0.0104	0.0015	0.0219	0.0016	-0.1508	0.0030	-0.1532	0.0319
4	164.88	0.3001	0.0013	0.0014	0.0148	0.0033	-0.2738	0.0039	-0.1038	0.0357
4	164.88	0.3502	0.0002	0.0015	0.0231	0.0060	-0.4675	0.0070	-0.0770	0.0328
4	164.88	0.4002	0.0383	0.0013	0.0522	0.0086	-0.7466	0.0103	-0.2287	0.0337
4	164.88	0.4500	0.0601	0.0011	0.0701	0.0105	-1.1326	0.0127	-0.4732	0.0335
4	164.88	0.5001	0.0885	0.0010	0.0815	0.0124	-1.5536	0.0163	-0.2340	0.0406
4	164.88	0.5560	0.0966	0.0013	0.1230	0.0160	-2.2421	0.0211	-0.4375	0.0348
4	164.88	0.6001	0.1426	0.0019	0.1083	0.0190	-2.8554	0.0229	-0.3162	0.0343
4	164.88	0.6501	0.1196	0.0018	0.1451	0.0221	-3.6942	0.0267	-0.3050	0.0418
4	164.88	0.6999	0.1299	0.0017	0.1635	0.0253	-4.6618	0.0306	-0.3446	0.0366
4	164.88	0.7500	0.1244	0.0019	0.1099	0.0292	-5.7265	0.0341	0.0265	0.0437
4	164.88	0.8002	0.1185	0.0022	0.1513	0.0330	-6.9459	0.0382	-0.1793	0.0449
4	164.88	0.8582	0.0674	0.0023	0.1627	0.0383	-8.4659	0.0429	-0.3646	0.0362
4	164.88	0.9101	0.0771	0.0027	0.1554	0.0426	-9.8883	0.0481	-0.3695	0.0425
4	164.88	0.9728	0.1149	0.0044	0.1970	0.0485	-11.6082	0.0517	-0.2192	0.0442

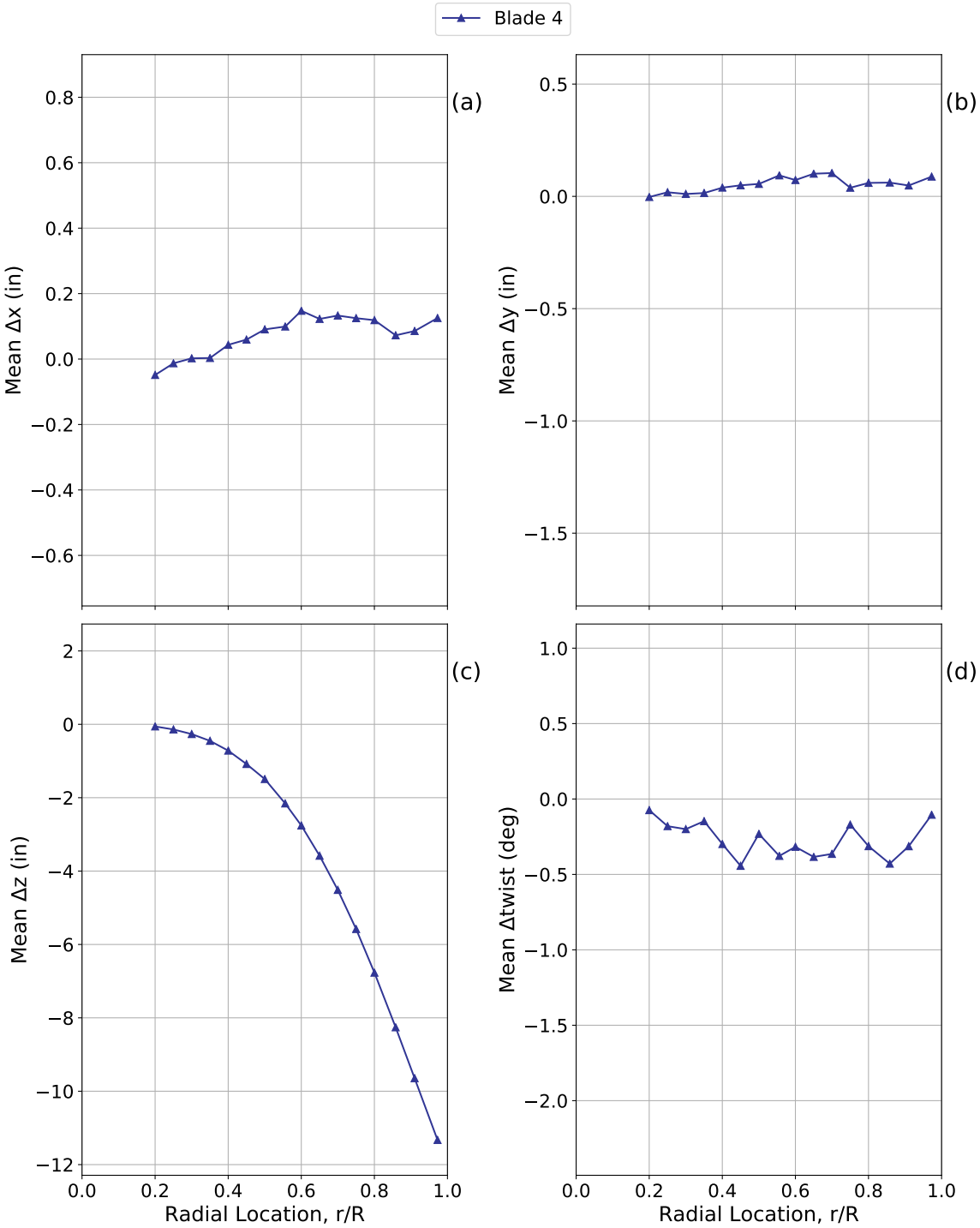


Figure 4.26-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0486	0.0009	-0.0029	0.0008	-0.0582	0.0013	-0.0742	0.0165
4	170.16	0.2502	-0.0130	0.0012	0.0183	0.0018	-0.1405	0.0029	-0.1802	0.0301
4	170.16	0.3001	0.0022	0.0014	0.0106	0.0031	-0.2661	0.0035	-0.1999	0.0379
4	170.16	0.3502	0.0032	0.0017	0.0148	0.0058	-0.4513	0.0072	-0.1471	0.0282
4	170.16	0.4002	0.0435	0.0015	0.0388	0.0086	-0.7182	0.0104	-0.2989	0.0241
4	170.16	0.4500	0.0594	0.0015	0.0492	0.0113	-1.0822	0.0108	-0.4435	0.0307
4	170.16	0.5001	0.0906	0.0014	0.0554	0.0122	-1.4923	0.0161	-0.2316	0.0279
4	170.16	0.5560	0.0993	0.0012	0.0934	0.0151	-2.1572	0.0195	-0.3774	0.0250
4	170.16	0.6001	0.1474	0.0018	0.0726	0.0168	-2.7586	0.0211	-0.3172	0.0318
4	170.16	0.6501	0.1226	0.0017	0.1009	0.0190	-3.5827	0.0245	-0.3841	0.0294
4	170.16	0.6999	0.1329	0.0018	0.1038	0.0210	-4.5141	0.0290	-0.3641	0.0232
4	170.16	0.7500	0.1249	0.0026	0.0383	0.0235	-5.5798	0.0312	-0.1701	0.0399
4	170.16	0.8002	0.1188	0.0029	0.0600	0.0254	-6.7698	0.0365	-0.3129	0.0320
4	170.16	0.8582	0.0725	0.0034	0.0613	0.0286	-8.2584	0.0406	-0.4289	0.0284
4	170.16	0.9101	0.0856	0.0029	0.0483	0.0306	-9.6461	0.0451	-0.3134	0.0364
4	170.16	0.9728	0.1253	0.0042	0.0879	0.0334	-11.3287	0.0470	-0.1045	0.0414

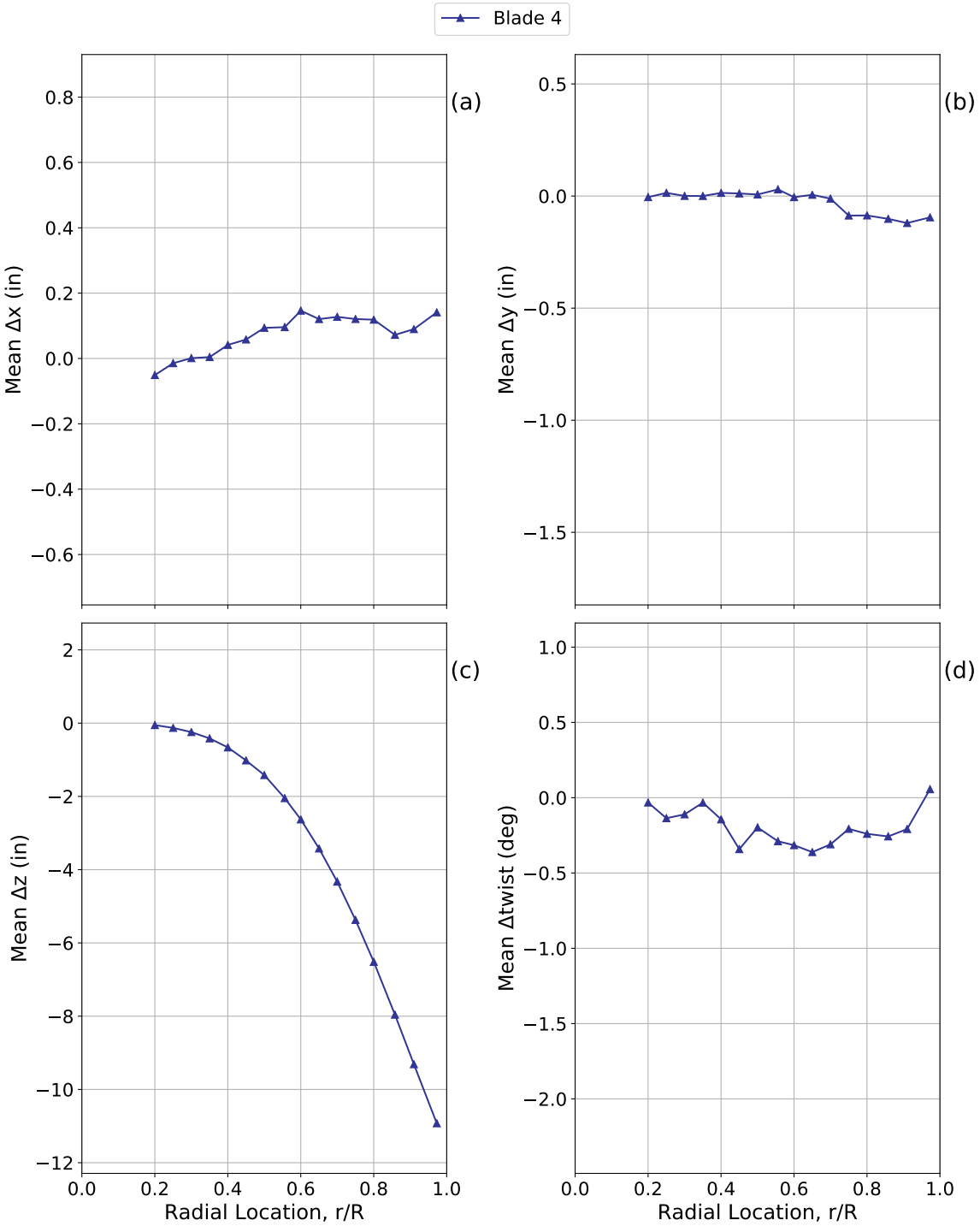


Figure 4.26-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0508	0.0015	-0.0049	0.0008	-0.0533	0.0014	-0.0323	0.0131
4	175.08	0.2502	-0.0145	0.0013	0.0141	0.0021	-0.1303	0.0037	-0.1363	0.0206
4	175.08	0.3001	0.0010	0.0018	0.0005	0.0035	-0.2446	0.0050	-0.1107	0.0259
4	175.08	0.3502	0.0042	0.0021	0.0002	0.0057	-0.4173	0.0076	-0.0328	0.0245
4	175.08	0.4002	0.0415	0.0025	0.0140	0.0092	-0.6632	0.0127	-0.1441	0.0334
4	175.08	0.4500	0.0580	0.0017	0.0115	0.0125	-1.0187	0.0160	-0.3418	0.0352
4	175.08	0.5001	0.0937	0.0026	0.0068	0.0139	-1.4183	0.0204	-0.1975	0.0211
4	175.08	0.5560	0.0958	0.0018	0.0295	0.0178	-2.0480	0.0246	-0.2893	0.0206
4	175.08	0.6001	0.1463	0.0027	-0.0050	0.0201	-2.6293	0.0279	-0.3154	0.0215
4	175.08	0.6501	0.1205	0.0026	0.0056	0.0232	-3.4227	0.0310	-0.3614	0.0251
4	175.08	0.6999	0.1274	0.0029	-0.0116	0.0270	-4.3281	0.0335	-0.3100	0.0269
4	175.08	0.7500	0.1207	0.0029	-0.0871	0.0313	-5.3732	0.0362	-0.2070	0.0293
4	175.08	0.8002	0.1187	0.0033	-0.0866	0.0351	-6.5178	0.0411	-0.2400	0.0300
4	175.08	0.8582	0.0722	0.0041	-0.1018	0.0401	-7.9601	0.0438	-0.2572	0.0421
4	175.08	0.9101	0.0898	0.0039	-0.1204	0.0452	-9.3122	0.0519	-0.2083	0.0352
4	175.08	0.9728	0.1411	0.0056	-0.0951	0.0502	-10.9250	0.0602	0.0563	0.0242

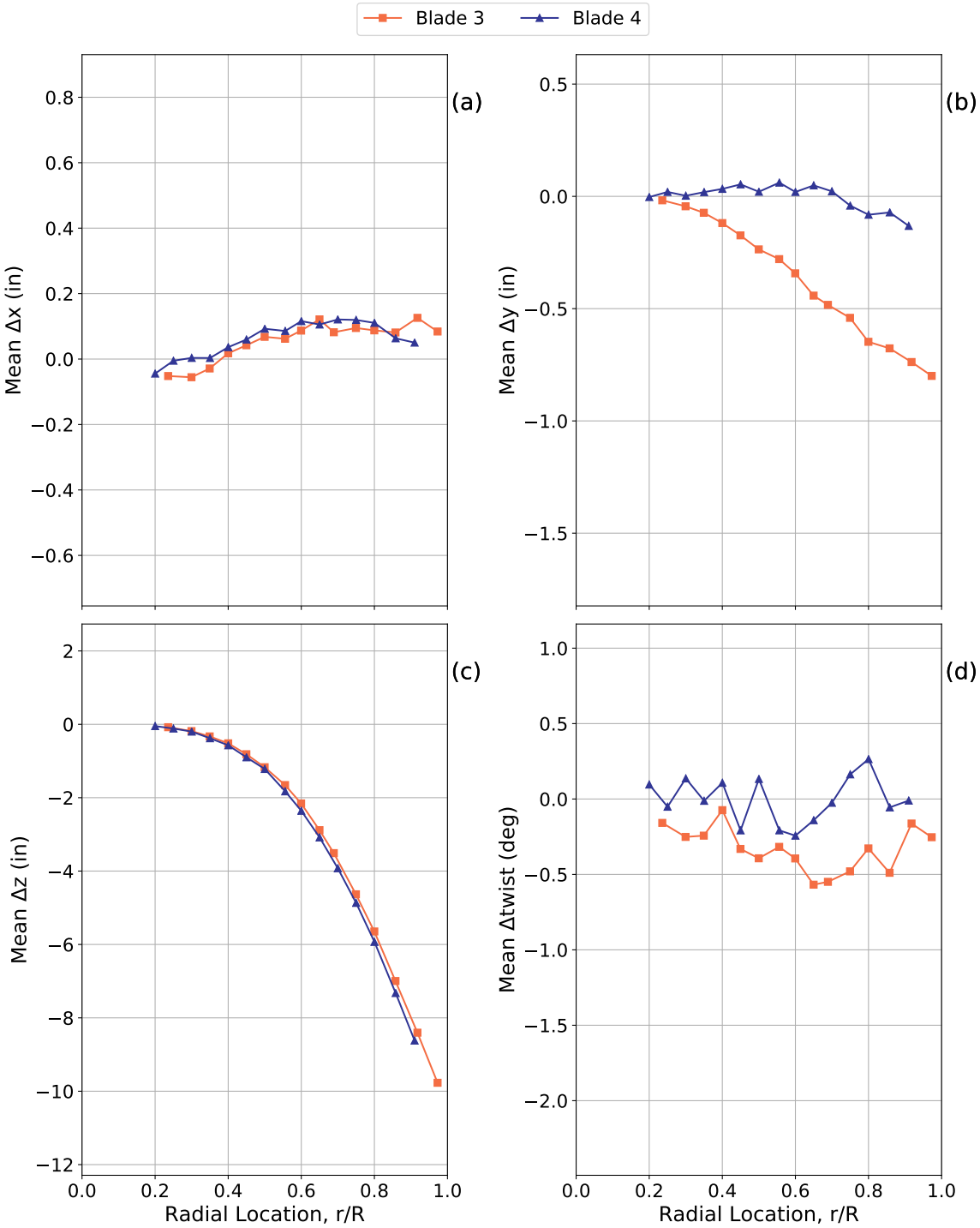


Figure 4.26-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0519	0.0015	-0.0175	0.0014	-0.0788	0.0033	-0.1584	0.0291
3	180.35	0.2995	-0.0555	0.0022	-0.0442	0.0031	-0.1847	0.0076	-0.2514	0.0470
3	180.35	0.3493	-0.0288	0.0017	-0.0731	0.0060	-0.3294	0.0134	-0.2429	0.0496
3	180.35	0.4000	0.0176	0.0017	-0.1189	0.0089	-0.5182	0.0208	-0.0739	0.0484
3	180.35	0.4497	0.0421	0.0023	-0.1737	0.0114	-0.8150	0.0288	-0.3310	0.0530
3	180.35	0.4997	0.0679	0.0023	-0.2361	0.0131	-1.1693	0.0360	-0.3931	0.0503
3	180.35	0.5556	0.0620	0.0033	-0.2795	0.0168	-1.6556	0.0400	-0.3173	0.0522
3	180.35	0.5995	0.0870	0.0031	-0.3428	0.0193	-2.1565	0.0471	-0.3941	0.0548
3	180.35	0.6498	0.1212	0.0027	-0.4420	0.0228	-2.8847	0.0545	-0.5680	0.0456
3	180.35	0.6890	0.0819	0.0029	-0.4833	0.0255	-3.5109	0.0582	-0.5491	0.0504
3	180.35	0.7495	0.0949	0.0031	-0.5410	0.0303	-4.6327	0.0675	-0.4797	0.0416
3	180.35	0.7998	0.0877	0.0032	-0.6477	0.0340	-5.6459	0.0734	-0.3275	0.0558
3	180.35	0.8577	0.0812	0.0038	-0.6769	0.0386	-6.9960	0.0817	-0.4892	0.0558
3	180.35	0.9178	0.1259	0.0039	-0.7378	0.0445	-8.4043	0.0917	-0.1626	0.0518
3	180.35	0.9729	0.0842	0.0061	-0.7995	0.0493	-9.7699	0.1012	-0.2533	0.0494
4	180	0.2001	-0.0444	0.0024	-0.0031	0.0012	-0.0486	0.0017	0.0958	0.0173
4	180	0.2502	-0.0051	0.0016	0.0197	0.0020	-0.1148	0.0045	-0.0514	0.0312
4	180	0.3001	0.0035	0.0013	0.0028	0.0040	-0.1993	0.0072	0.1364	0.0380
4	180	0.3502	0.0032	0.0017	0.0189	0.0063	-0.3802	0.0114	-0.0121	0.0346
4	180	0.4002	0.0363	0.0020	0.0333	0.0097	-0.5722	0.0188	0.1073	0.0327
4	180	0.4500	0.0597	0.0035	0.0534	0.0117	-0.8998	0.0219	-0.2082	0.0336
4	180	0.5001	0.0925	0.0049	0.0205	0.0150	-1.2181	0.0264	0.1328	0.0368
4	180	0.5560	0.0858	0.0064	0.0611	0.0192	-1.8272	0.0287	-0.2081	0.0424
4	180	0.6001	0.1158	0.0079	0.0196	0.0216	-2.3579	0.0342	-0.2432	0.0358
4	180	0.6501	0.1055	0.0096	0.0488	0.0249	-3.0833	0.0417	-0.1406	0.0269
4	180	0.6999	0.1210	0.0116	0.0224	0.0293	-3.9235	0.0441	-0.0252	0.0388
4	180	0.7500	0.1195	0.0141	-0.0413	0.0336	-4.8672	0.0507	0.1632	0.0345
4	180	0.8002	0.1105	0.0157	-0.0818	0.0387	-5.9302	0.0601	0.2646	0.0240
4	180	0.8582	0.0634	0.0210	-0.0715	0.0462	-7.3244	0.0630	-0.0557	0.0680
4	180	0.9101	0.0502	0.0221	-0.1316	0.0517	-8.6195	0.0736	-0.0104	0.0752

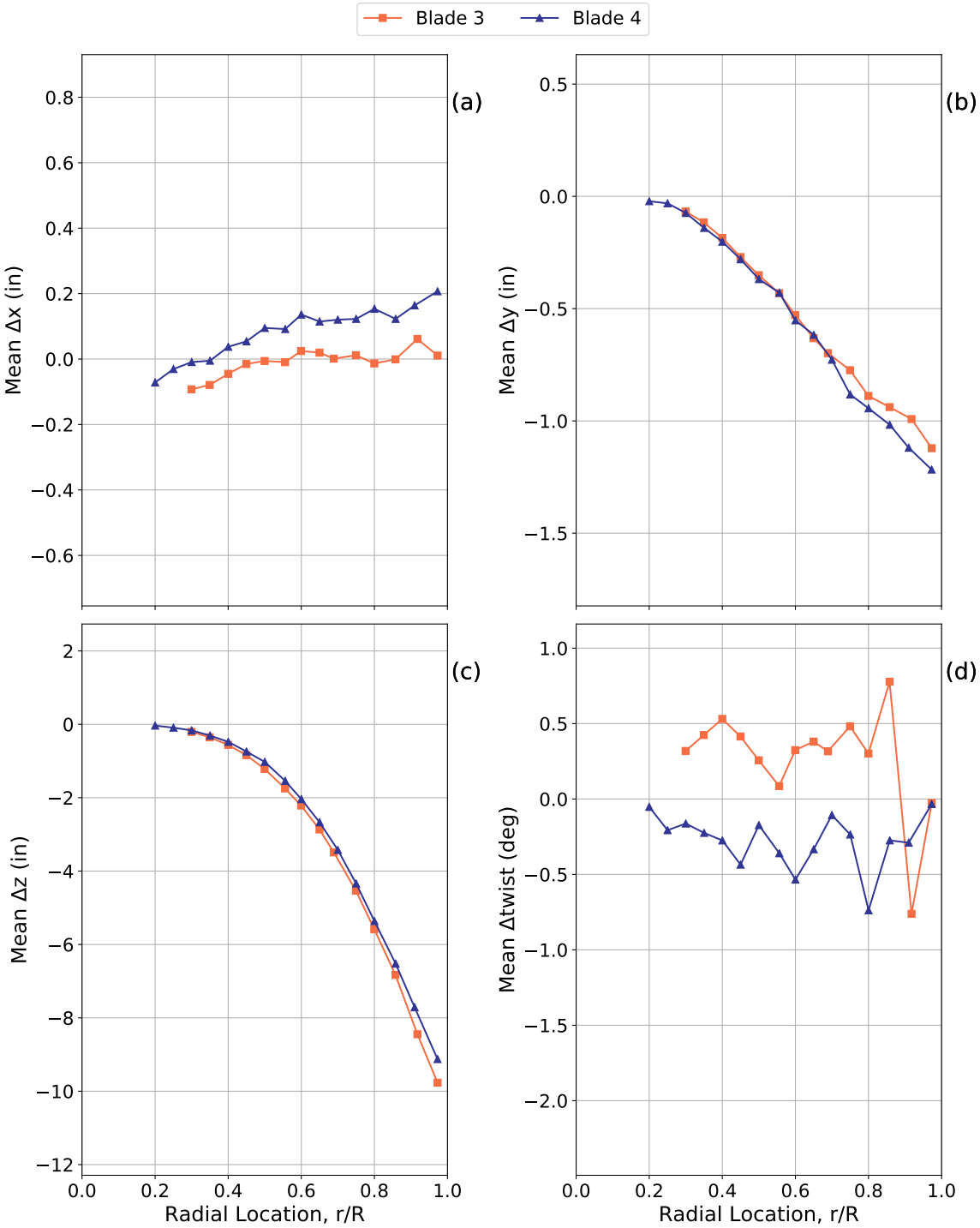


Figure 4.26-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.149$, $\alpha = -0°$
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0925	0.0042	-0.0672	0.0055	-0.2070	0.0119	0.3182	0.0500
3	184.92	0.3493	-0.0791	0.0033	-0.1158	0.0095	-0.3534	0.0202	0.4242	0.0661
3	184.92	0.4000	-0.0451	0.0030	-0.1850	0.0152	-0.5616	0.0321	0.5308	0.0551
3	184.92	0.4497	-0.0151	0.0030	-0.2703	0.0202	-0.8410	0.0407	0.4143	0.0525
3	184.92	0.4997	-0.0059	0.0030	-0.3511	0.0251	-1.2156	0.0491	0.2567	0.0625
3	184.92	0.5556	-0.0095	0.0035	-0.4311	0.0319	-1.7484	0.0607	0.0855	0.0591
3	184.92	0.5995	0.0246	0.0039	-0.5283	0.0369	-2.2139	0.0687	0.3238	0.0637
3	184.92	0.6498	0.0196	0.0045	-0.6315	0.0437	-2.8665	0.0785	0.3803	0.0668
3	184.92	0.6890	0.0012	0.0045	-0.6982	0.0494	-3.4904	0.0864	0.3165	0.0612
3	184.92	0.7495	0.0116	0.0041	-0.7742	0.0579	-4.5348	0.1010	0.4819	0.0532
3	184.92	0.7998	-0.0133	0.0067	-0.8888	0.0649	-5.5861	0.1111	0.3010	0.0460
3	184.92	0.8577	-0.0010	0.0098	-0.9385	0.0718	-6.8304	0.1196	0.7775	0.1029
3	184.92	0.9178	0.0613	0.0142	-0.9917	0.0808	-8.4469	0.1342	-0.7613	0.1186
3	184.92	0.9729	0.0107	0.0183	-1.1215	0.0879	-9.7677	0.1366	-0.0268	0.2231
4	184.92	0.2001	-0.0716	0.0018	-0.0216	0.0013	-0.0355	0.0023	-0.0525	0.0236
4	184.92	0.2502	-0.0305	0.0022	-0.0310	0.0021	-0.0918	0.0036	-0.2070	0.0344
4	184.92	0.3001	-0.0093	0.0012	-0.0740	0.0046	-0.1666	0.0075	-0.1628	0.0465
4	184.92	0.3502	-0.0051	0.0019	-0.1405	0.0066	-0.3068	0.0097	-0.2248	0.0438
4	184.92	0.4002	0.0375	0.0027	-0.2021	0.0105	-0.4774	0.0150	-0.2748	0.0448
4	184.92	0.4500	0.0542	0.0053	-0.2803	0.0131	-0.7425	0.0202	-0.4353	0.0475
4	184.92	0.5001	0.0950	0.0075	-0.3686	0.0153	-1.0251	0.0252	-0.1732	0.0546
4	184.92	0.5560	0.0916	0.0106	-0.4293	0.0194	-1.5421	0.0325	-0.3597	0.0524
4	184.92	0.6001	0.1359	0.0125	-0.5522	0.0225	-2.0394	0.0389	-0.5345	0.0504
4	184.92	0.6501	0.1146	0.0153	-0.6166	0.0259	-2.6706	0.0430	-0.3334	0.0698
4	184.92	0.6999	0.1203	0.0189	-0.7276	0.0293	-3.4242	0.0522	-0.1067	0.0672
4	184.92	0.7500	0.1227	0.0208	-0.8825	0.0291	-4.3390	0.0584	-0.2356	0.0679
4	184.92	0.8002	0.1535	0.0132	-0.9438	0.0329	-5.3642	0.0755	-0.7380	0.1935
4	184.92	0.8582	0.1227	0.0073	-1.0172	0.0531	-6.5237	0.0446	-0.2744	0.0632
4	184.92	0.9101	0.1639	0.0073	-1.1196	0.0562	-7.7127	0.0566	-0.2898	0.0817
4	184.92	0.9728	0.2070	0.0082	-1.2168	0.0630	-9.1248	0.0560	-0.0334	0.0706

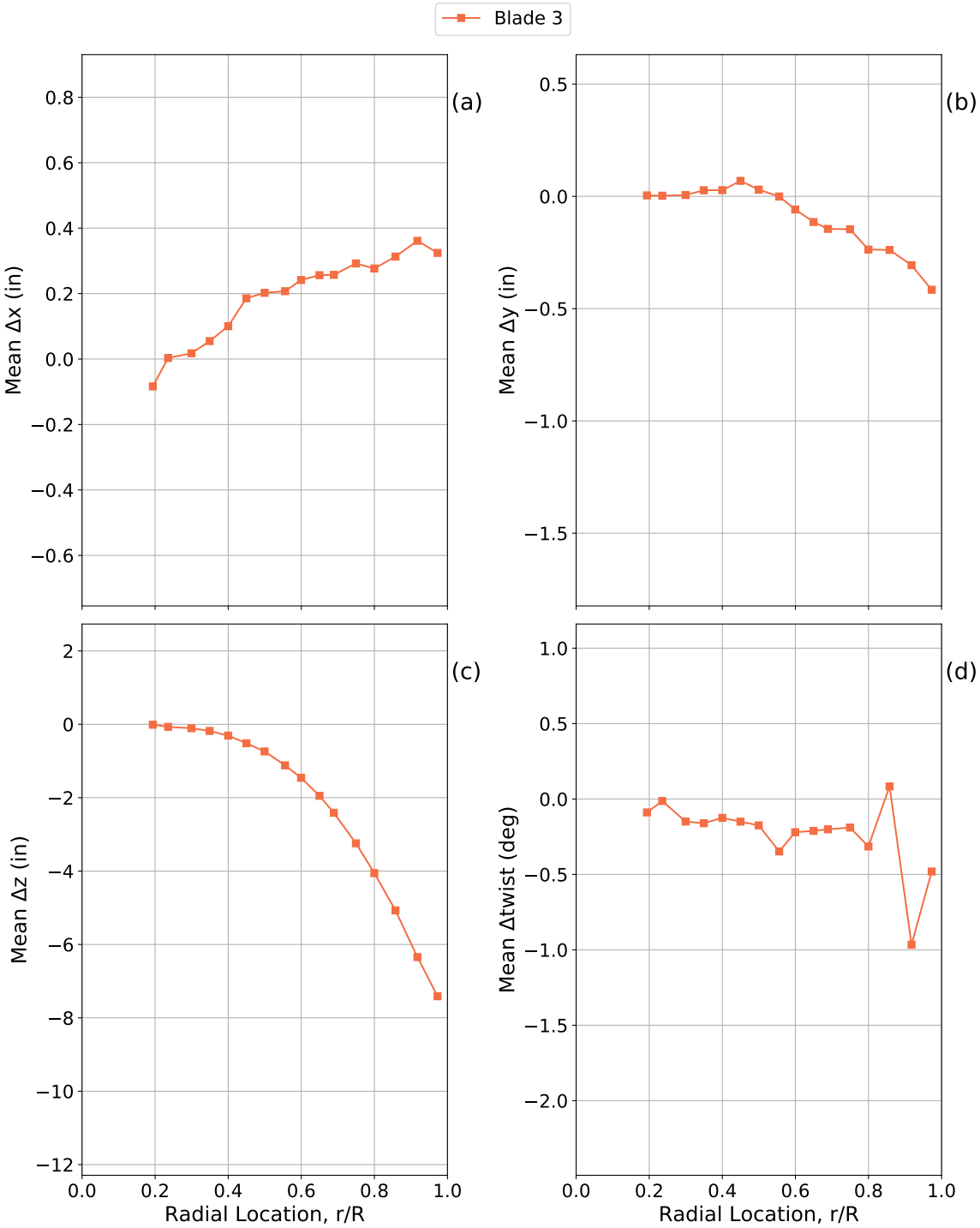


Figure 4.26-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0836	0.0031	0.0042	0.0016	-0.0105	0.0019	-0.0890	0.0171
3	195.12	0.2357	0.0034	0.0007	0.0029	0.0019	-0.0700	0.0027	-0.0134	0.0294
3	195.12	0.2995	0.0177	0.0008	0.0060	0.0051	-0.1068	0.0063	-0.1496	0.0414
3	195.12	0.3493	0.0549	0.0009	0.0271	0.0079	-0.1812	0.0101	-0.1606	0.0402
3	195.12	0.4000	0.1004	0.0011	0.0275	0.0123	-0.3082	0.0157	-0.1249	0.0311
3	195.12	0.4497	0.1857	0.0087	0.0691	0.0259	-0.5160	0.0241	-0.1503	0.0345
3	195.12	0.4997	0.2024	0.0083	0.0301	0.0295	-0.7400	0.0279	-0.1747	0.0378
3	195.12	0.5556	0.2073	0.0085	-0.0005	0.0335	-1.1181	0.0324	-0.3474	0.0385
3	195.12	0.5995	0.2416	0.0073	-0.0584	0.0361	-1.4571	0.0349	-0.2200	0.0431
3	195.12	0.6498	0.2563	0.0068	-0.1141	0.0391	-1.9488	0.0409	-0.2114	0.0277
3	195.12	0.6890	0.2574	0.0057	-0.1448	0.0432	-2.4114	0.0419	-0.2009	0.0624
3	195.12	0.7495	0.2922	0.0045	-0.1466	0.0463	-3.2435	0.0487	-0.1894	0.0486
3	195.12	0.7998	0.2768	0.0064	-0.2369	0.0500	-4.0557	0.0524	-0.3151	0.0543
3	195.12	0.8577	0.3132	0.0104	-0.2386	0.0600	-5.0715	0.0737	0.0839	0.0423
3	195.12	0.9178	0.3614	0.0046	-0.3065	0.0658	-6.3443	0.0797	-0.9656	0.0504
3	195.12	0.9729	0.3244	0.0046	-0.4159	0.0715	-7.4115	0.0895	-0.4809	0.0697

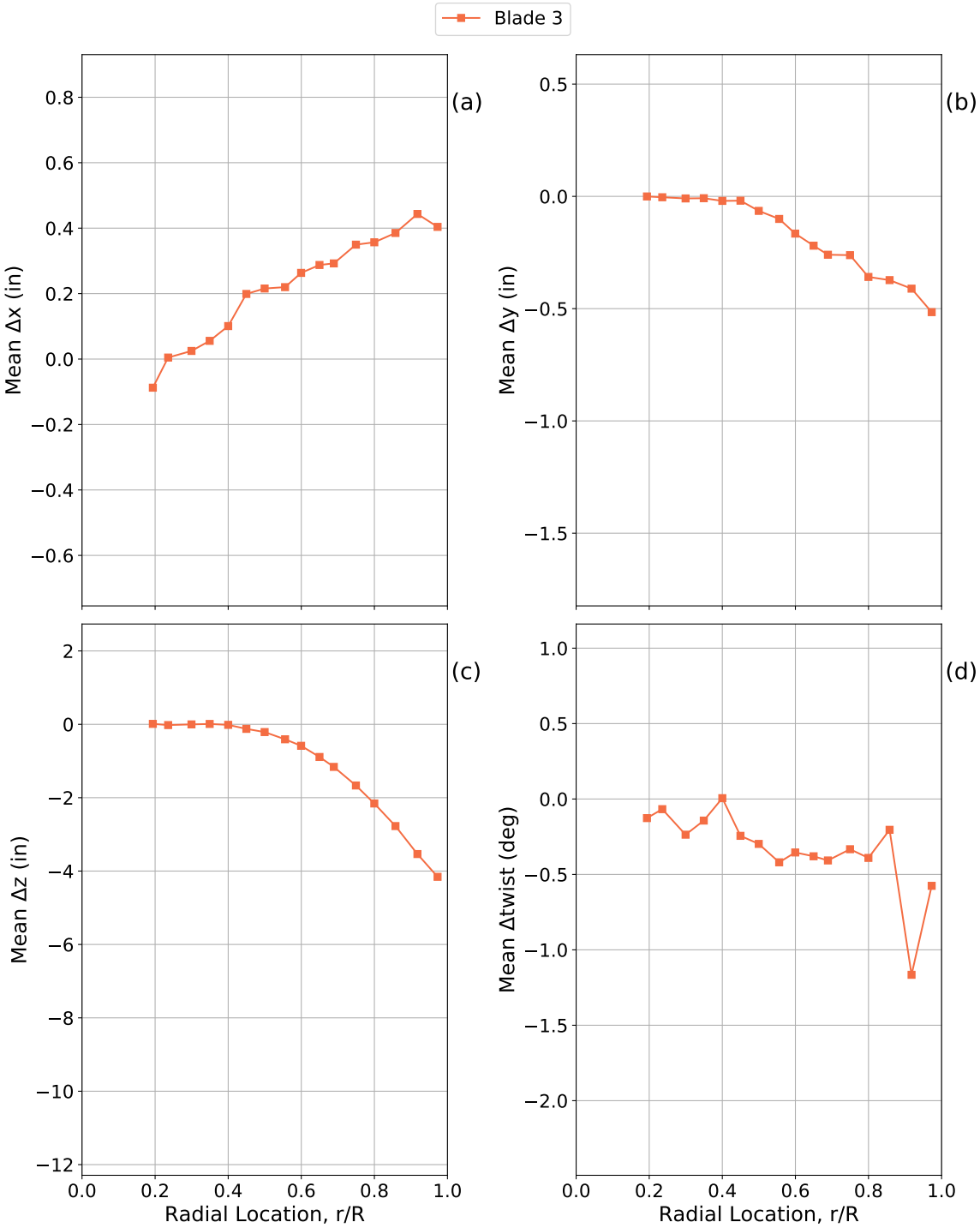


Figure 4.26-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0875	0.0010	-0.0004	0.0006	0.0118	0.0010	-0.1266	0.0122
3	209.88	0.2357	0.0046	0.0007	-0.0039	0.0013	-0.0205	0.0024	-0.0673	0.0160
3	209.88	0.2995	0.0248	0.0006	-0.0092	0.0021	-0.0023	0.0036	-0.2366	0.0267
3	209.88	0.3493	0.0556	0.0008	-0.0082	0.0039	0.0096	0.0058	-0.1431	0.0213
3	209.88	0.4000	0.1008	0.0009	-0.0202	0.0057	-0.0151	0.0094	0.0055	0.0231
3	209.88	0.4497	0.1990	0.0061	-0.0192	0.0178	-0.1240	0.0233	-0.2442	0.0253
3	209.88	0.4997	0.2156	0.0057	-0.0646	0.0203	-0.2114	0.0283	-0.2978	0.0344
3	209.88	0.5556	0.2198	0.0054	-0.1005	0.0238	-0.4082	0.0314	-0.4197	0.0260
3	209.88	0.5995	0.2633	0.0050	-0.1658	0.0266	-0.5857	0.0352	-0.3544	0.0192
3	209.88	0.6498	0.2875	0.0035	-0.2196	0.0302	-0.8902	0.0396	-0.3798	0.0258
3	209.88	0.6890	0.2923	0.0031	-0.2599	0.0318	-1.1607	0.0447	-0.4074	0.0297
3	209.88	0.7495	0.3496	0.0022	-0.2618	0.0353	-1.6671	0.0502	-0.3330	0.0206
3	209.88	0.7998	0.3568	0.0018	-0.3588	0.0382	-2.1579	0.0535	-0.3905	0.0260
3	209.88	0.8577	0.3853	0.0036	-0.3730	0.0427	-2.7733	0.0571	-0.2043	0.0606
3	209.88	0.9178	0.4434	0.0055	-0.4110	0.0456	-3.5357	0.0618	-1.1655	0.0964
3	209.88	0.9729	0.4039	0.0083	-0.5155	0.0542	-4.1559	0.0766	-0.5757	0.0805

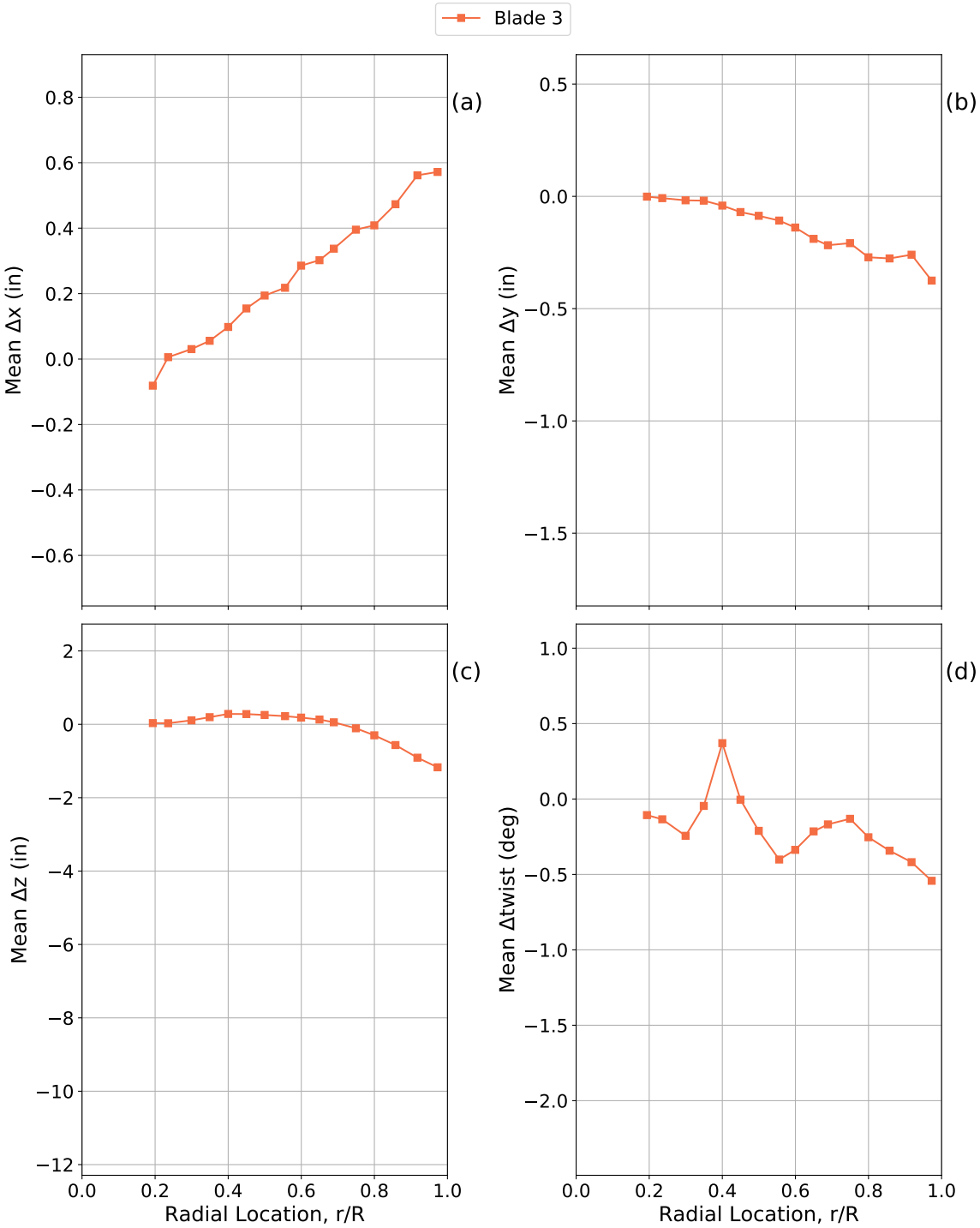


Figure 4.26-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0813	0.0009	-0.0012	0.0005	0.0333	0.0018	-0.1067	0.0169
3	225	0.2357	0.0058	0.0008	-0.0078	0.0013	0.0291	0.0028	-0.1346	0.0308
3	225	0.2995	0.0304	0.0009	-0.0176	0.0018	0.1087	0.0056	-0.2440	0.0421
3	225	0.3493	0.0558	0.0011	-0.0191	0.0033	0.1947	0.0102	-0.0459	0.0396
3	225	0.4000	0.0981	0.0011	-0.0411	0.0051	0.2831	0.0149	0.3704	0.0414
3	225	0.4497	0.1546	0.0007	-0.0699	0.0057	0.2791	0.0205	-0.0047	0.0405
3	225	0.4997	0.1941	0.0014	-0.0866	0.0076	0.2548	0.0234	-0.2111	0.0437
3	225	0.5556	0.2178	0.0014	-0.1078	0.0092	0.2225	0.0298	-0.4013	0.0445
3	225	0.5995	0.2855	0.0013	-0.1388	0.0112	0.1828	0.0330	-0.3372	0.0473
3	225	0.6498	0.3021	0.0016	-0.1892	0.0132	0.1304	0.0385	-0.2147	0.0455
3	225	0.6890	0.3373	0.0015	-0.2175	0.0148	0.0549	0.0438	-0.1682	0.0394
3	225	0.7495	0.3954	0.0019	-0.2084	0.0180	-0.1081	0.0495	-0.1313	0.0406
3	225	0.7998	0.4086	0.0022	-0.2713	0.0203	-0.2996	0.0547	-0.2536	0.0534
3	225	0.8577	0.4731	0.0018	-0.2764	0.0234	-0.5655	0.0611	-0.3428	0.0553
3	225	0.9178	0.5616	0.0031	-0.2598	0.0257	-0.9094	0.0710	-0.4187	0.0682
3	225	0.9729	0.5718	0.0029	-0.3751	0.0292	-1.1715	0.0762	-0.5423	0.0787

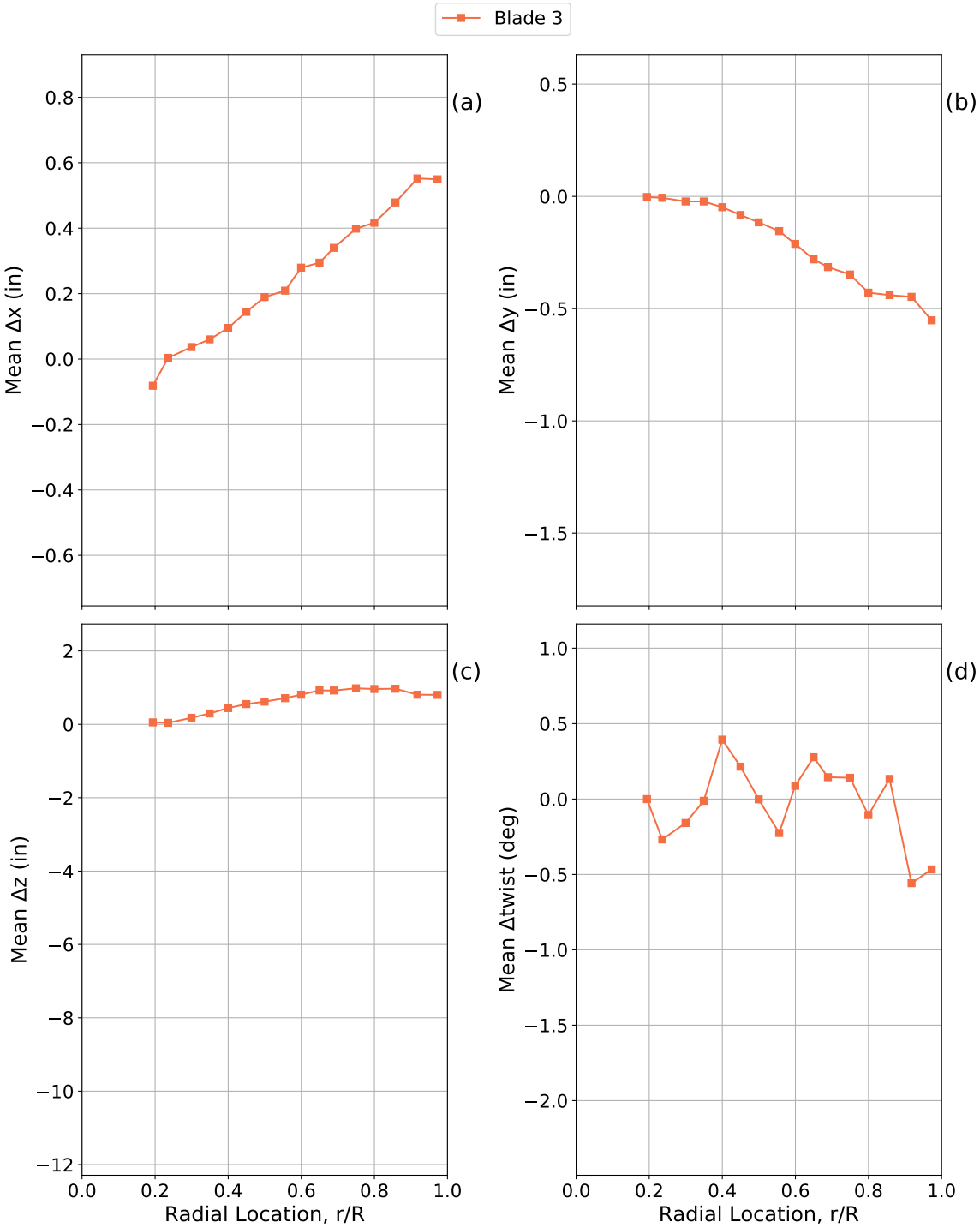


Figure 4.26-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0816	0.0010	-0.0029	0.0006	0.0533	0.0012	-0.0005	0.0133
3	240.12	0.2357	0.0037	0.0007	-0.0062	0.0011	0.0412	0.0024	-0.2679	0.0171
3	240.12	0.2995	0.0366	0.0009	-0.0225	0.0020	0.1780	0.0038	-0.1588	0.0275
3	240.12	0.3493	0.0602	0.0006	-0.0225	0.0033	0.2969	0.0075	-0.0119	0.0213
3	240.12	0.4000	0.0951	0.0012	-0.0481	0.0053	0.4437	0.0108	0.3936	0.0200
3	240.12	0.4497	0.1442	0.0012	-0.0829	0.0067	0.5526	0.0131	0.2147	0.0193
3	240.12	0.4997	0.1895	0.0017	-0.1156	0.0080	0.6192	0.0176	-0.0023	0.0290
3	240.12	0.5556	0.2091	0.0012	-0.1545	0.0098	0.7129	0.0221	-0.2251	0.0245
3	240.12	0.5995	0.2794	0.0017	-0.2117	0.0114	0.8090	0.0291	0.0875	0.0339
3	240.12	0.6498	0.2945	0.0018	-0.2805	0.0131	0.9248	0.0338	0.2771	0.0258
3	240.12	0.6890	0.3399	0.0014	-0.3149	0.0146	0.9218	0.0380	0.1447	0.0269
3	240.12	0.7495	0.3986	0.0017	-0.3479	0.0171	0.9818	0.0423	0.1409	0.0261
3	240.12	0.7998	0.4166	0.0018	-0.4287	0.0198	0.9633	0.0465	-0.1060	0.0193
3	240.12	0.8577	0.4787	0.0012	-0.4396	0.0232	0.9707	0.0541	0.1334	0.0376
3	240.12	0.9178	0.5520	0.0020	-0.4474	0.0267	0.8075	0.0579	-0.5579	0.0294
3	240.12	0.9729	0.5494	0.0026	-0.5519	0.0288	0.8029	0.0658	-0.4665	0.0464

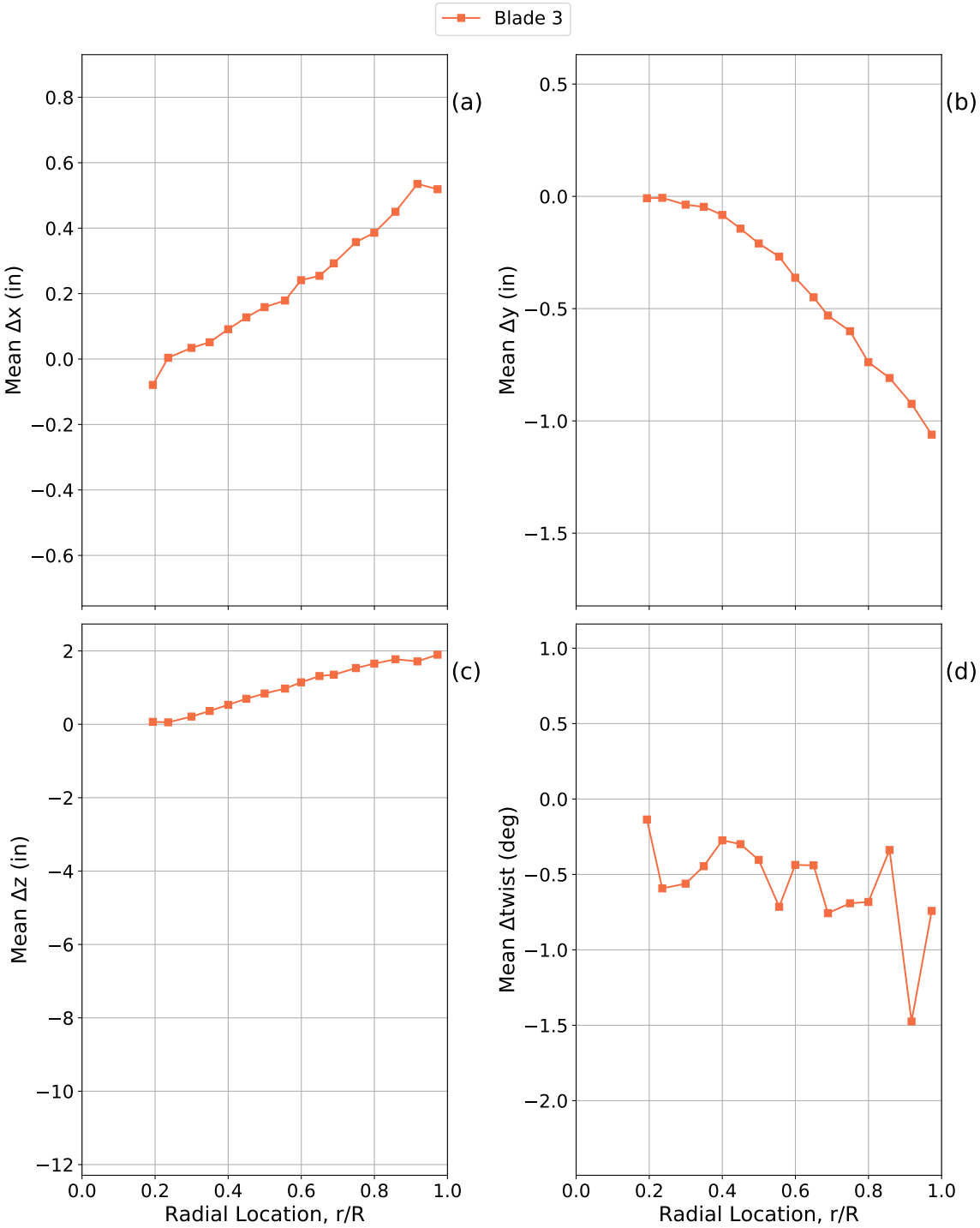


Figure 4.26-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0790	0.0032	-0.0082	0.0014	0.0669	0.0043	-0.1361	0.0160
3	254.88	0.2357	0.0039	0.0010	-0.0067	0.0010	0.0535	0.0027	-0.5927	0.0541
3	254.88	0.2995	0.0341	0.0009	-0.0370	0.0039	0.2116	0.0100	-0.5613	0.0500
3	254.88	0.3493	0.0513	0.0012	-0.0467	0.0068	0.3634	0.0166	-0.4456	0.0498
3	254.88	0.4000	0.0912	0.0016	-0.0827	0.0097	0.5309	0.0224	-0.2739	0.0554
3	254.88	0.4497	0.1275	0.0018	-0.1438	0.0125	0.6962	0.0305	-0.2994	0.0493
3	254.88	0.4997	0.1586	0.0020	-0.2097	0.0152	0.8406	0.0369	-0.4039	0.0528
3	254.88	0.5556	0.1789	0.0022	-0.2683	0.0184	0.9737	0.0451	-0.7146	0.0496
3	254.88	0.5995	0.2410	0.0024	-0.3622	0.0210	1.1444	0.0528	-0.4370	0.0499
3	254.88	0.6498	0.2543	0.0029	-0.4494	0.0238	1.3154	0.0596	-0.4398	0.0490
3	254.88	0.6890	0.2926	0.0023	-0.5303	0.0256	1.3526	0.0641	-0.7570	0.0606
3	254.88	0.7495	0.3574	0.0030	-0.6005	0.0294	1.5325	0.0732	-0.6914	0.0512
3	254.88	0.7998	0.3860	0.0027	-0.7386	0.0326	1.6536	0.0799	-0.6825	0.0535
3	254.88	0.8577	0.4502	0.0034	-0.8088	0.0360	1.7733	0.0862	-0.3380	0.0617
3	254.88	0.9178	0.5352	0.0035	-0.9239	0.0406	1.7146	0.0963	-1.4752	0.0467
3	254.88	0.9729	0.5190	0.0044	-1.0611	0.0444	1.8981	0.0986	-0.7418	0.0563

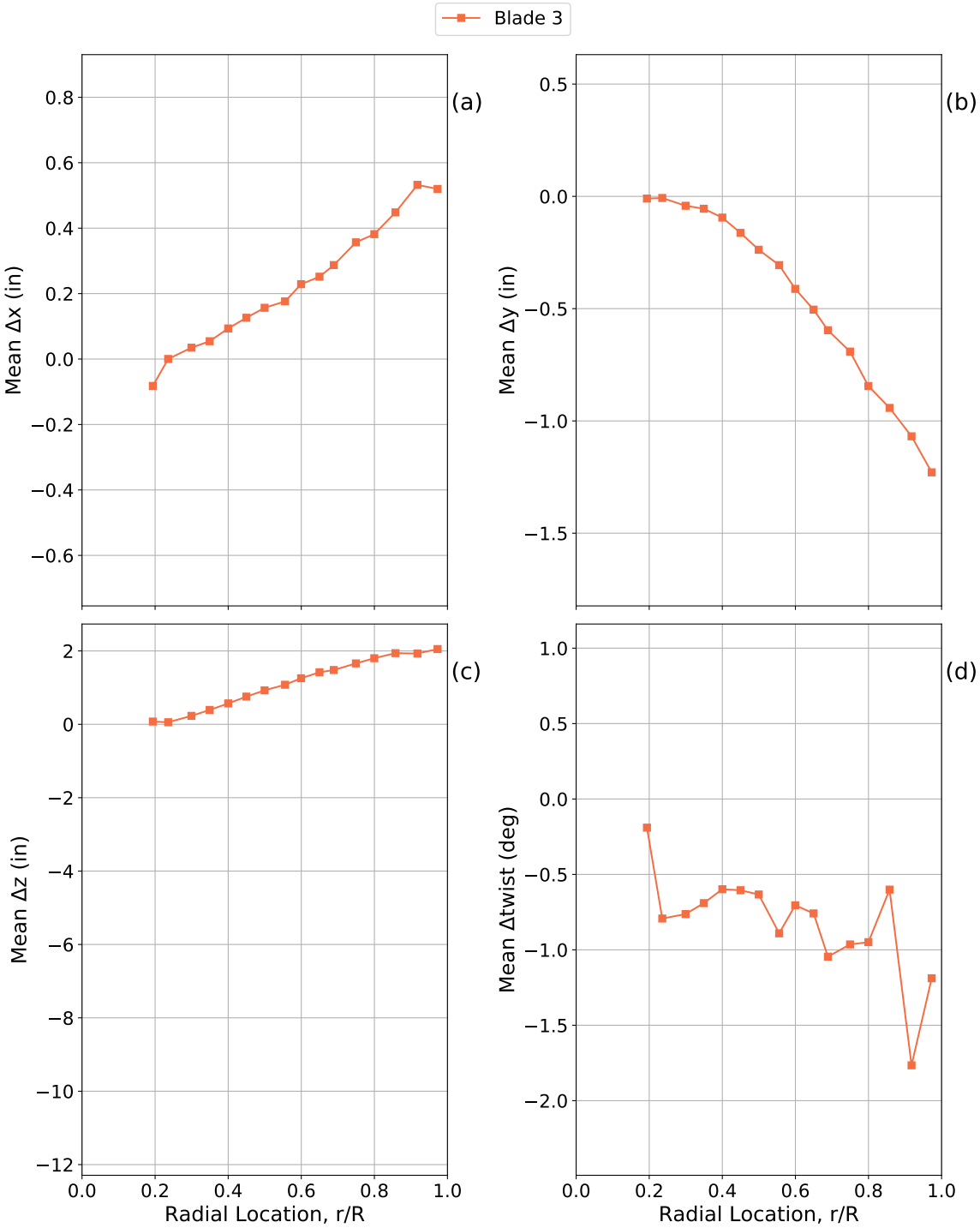


Figure 4.26-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0821	0.0046	-0.0098	0.0018	0.0745	0.0068	-0.1900	0.0327
3	260.16	0.2357	0.0002	0.0012	-0.0072	0.0013	0.0562	0.0053	-0.7925	0.0899
3	260.16	0.2995	0.0348	0.0010	-0.0418	0.0057	0.2300	0.0187	-0.7630	0.0988
3	260.16	0.3493	0.0545	0.0007	-0.0550	0.0096	0.3909	0.0302	-0.6904	0.0958
3	260.16	0.4000	0.0935	0.0012	-0.0946	0.0141	0.5693	0.0433	-0.5981	0.0872
3	260.16	0.4497	0.1262	0.0017	-0.1626	0.0179	0.7543	0.0547	-0.6049	0.0890
3	260.16	0.4997	0.1567	0.0017	-0.2377	0.0220	0.9256	0.0660	-0.6332	0.0946
3	260.16	0.5556	0.1762	0.0014	-0.3062	0.0264	1.0785	0.0786	-0.8905	0.0946
3	260.16	0.5995	0.2288	0.0018	-0.4120	0.0303	1.2554	0.0889	-0.7046	0.0941
3	260.16	0.6498	0.2516	0.0023	-0.5045	0.0343	1.4177	0.1018	-0.7586	0.0929
3	260.16	0.6890	0.2872	0.0020	-0.5961	0.0372	1.4794	0.1115	-1.0453	0.0828
3	260.16	0.7495	0.3567	0.0021	-0.6913	0.0433	1.6602	0.1239	-0.9641	0.0904
3	260.16	0.7998	0.3817	0.0026	-0.8447	0.0474	1.8016	0.1368	-0.9492	0.0800
3	260.16	0.8577	0.4482	0.0036	-0.9421	0.0526	1.9396	0.1498	-0.6008	0.0855
3	260.16	0.9178	0.5323	0.0036	-1.0685	0.0585	1.9293	0.1628	-1.7655	0.0857
3	260.16	0.9729	0.5198	0.0051	-1.2290	0.0628	2.0507	0.1753	-1.1885	0.1048

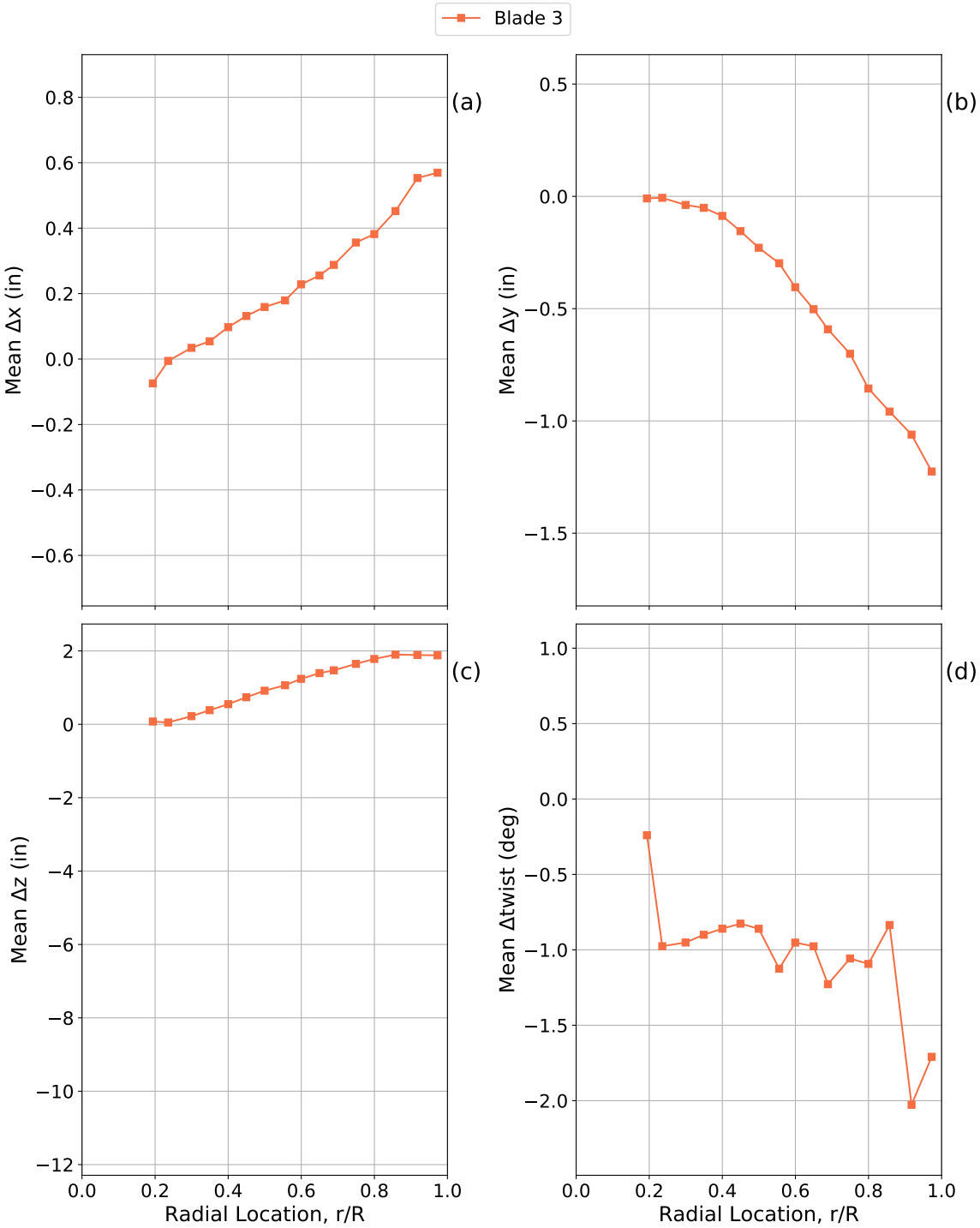


Figure 4.26-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0743	0.0079	-0.0091	0.0024	0.0760	0.0121	-0.2400	0.0509
3	265.08	0.2357	-0.0056	0.0018	-0.0065	0.0010	0.0501	0.0068	-0.9760	0.1928
3	265.08	0.2995	0.0342	0.0021	-0.0382	0.0069	0.2219	0.0313	-0.9514	0.1897
3	265.08	0.3493	0.0543	0.0016	-0.0510	0.0119	0.3846	0.0523	-0.9001	0.1802
3	265.08	0.4000	0.0975	0.0018	-0.0870	0.0171	0.5493	0.0728	-0.8598	0.1793
3	265.08	0.4497	0.1316	0.0019	-0.1550	0.0211	0.7383	0.0914	-0.8264	0.1875
3	265.08	0.4997	0.1590	0.0023	-0.2289	0.0253	0.9158	0.1122	-0.8603	0.1827
3	265.08	0.5556	0.1793	0.0022	-0.2978	0.0304	1.0651	0.1351	-1.1252	0.1850
3	265.08	0.5995	0.2283	0.0029	-0.4046	0.0339	1.2403	0.1531	-0.9519	0.1810
3	265.08	0.6498	0.2555	0.0029	-0.5026	0.0387	1.3955	0.1721	-0.9766	0.1854
3	265.08	0.6890	0.2878	0.0032	-0.5919	0.0415	1.4713	0.1893	-1.2278	0.1850
3	265.08	0.7495	0.3561	0.0043	-0.7010	0.0467	1.6466	0.2137	-1.0573	0.1825
3	265.08	0.7998	0.3820	0.0039	-0.8557	0.0513	1.7812	0.2314	-1.0932	0.1912
3	265.08	0.8577	0.4521	0.0045	-0.9583	0.0565	1.8997	0.2552	-0.8354	0.1779
3	265.08	0.9178	0.5532	0.0049	-1.0610	0.0616	1.8894	0.2769	-2.0274	0.1759
3	265.08	0.9729	0.5695	0.0071	-1.2252	0.0675	1.8799	0.2945	-1.7091	0.1890

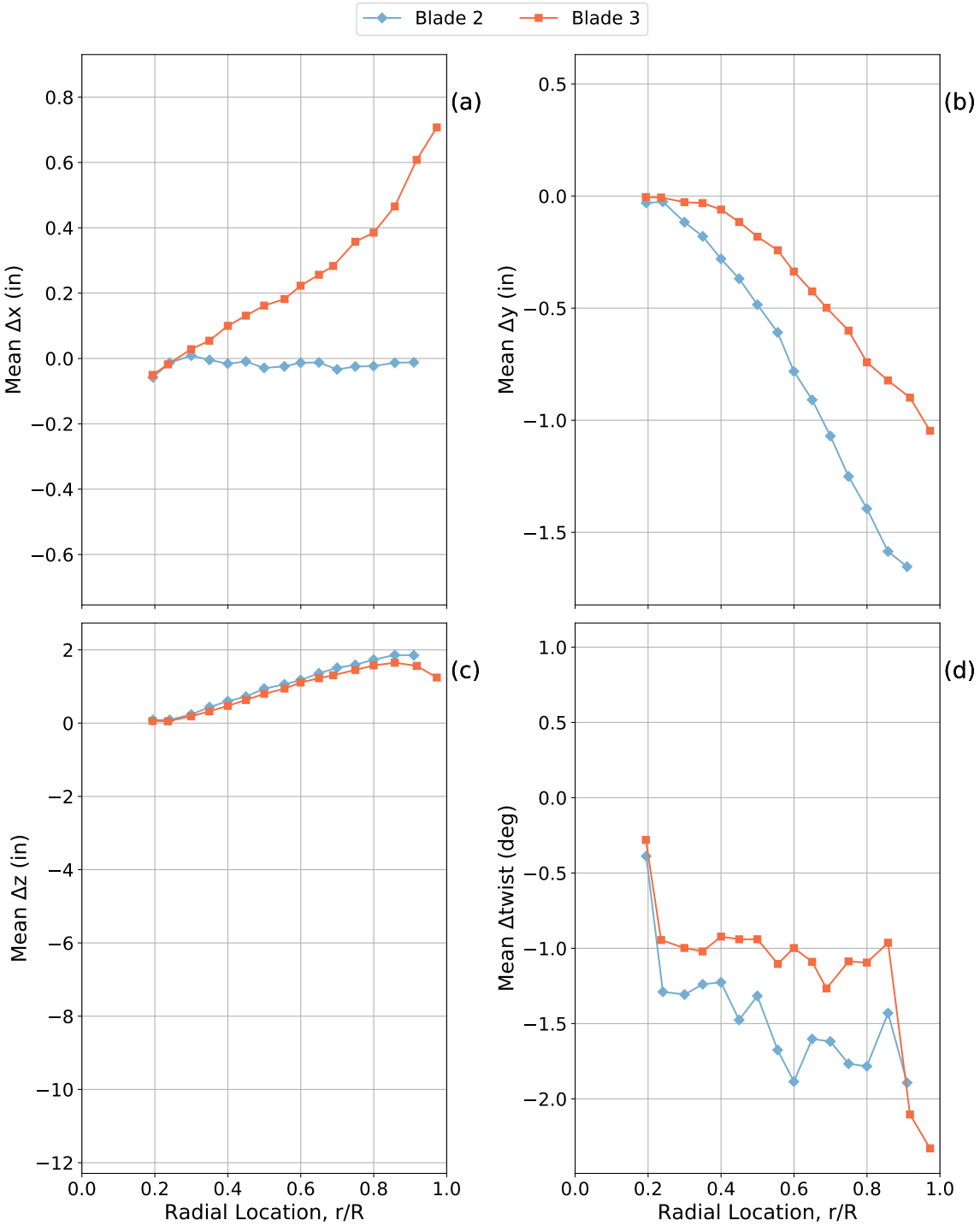


Figure 4.26-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0578	0.0086	-0.0308	0.0018	0.0838	0.0074	-0.3881	0.0584
2	270.35	0.2405	-0.0134	0.0030	-0.0254	0.0024	0.0889	0.0092	-1.2893	0.1333
2	270.35	0.2999	0.0087	0.0023	-0.1167	0.0049	0.2366	0.0202	-1.3068	0.1555
2	270.35	0.3498	-0.0045	0.0036	-0.1799	0.0099	0.4377	0.0336	-1.2391	0.1456
2	270.35	0.3998	-0.0160	0.0026	-0.2802	0.0133	0.5988	0.0472	-1.2258	0.1554
2	270.35	0.4496	-0.0093	0.0036	-0.3687	0.0179	0.7228	0.0621	-1.4762	0.1491
2	270.35	0.4995	-0.0290	0.0031	-0.4845	0.0220	0.9414	0.0748	-1.3163	0.1526
2	270.35	0.5551	-0.0242	0.0035	-0.6082	0.0270	1.0577	0.0886	-1.6755	0.1594
2	270.35	0.5996	-0.0131	0.0038	-0.7820	0.0316	1.1770	0.1015	-1.8852	0.1558
2	270.35	0.6497	-0.0122	0.0039	-0.9091	0.0369	1.3597	0.1135	-1.6021	0.1532
2	270.35	0.6996	-0.0335	0.0047	-1.0704	0.0421	1.5116	0.1257	-1.6184	0.1562
2	270.35	0.7495	-0.0247	0.0039	-1.2509	0.0481	1.5920	0.1385	-1.7667	0.1568
2	270.35	0.7996	-0.0235	0.0057	-1.3942	0.0543	1.7330	0.1528	-1.7837	0.1503
2	270.35	0.8578	-0.0130	0.0052	-1.5855	0.0616	1.8587	0.1664	-1.4300	0.1603
2	270.35	0.9100	-0.0119	0.0060	-1.6533	0.0698	1.8512	0.1776	-1.8929	0.1680
3	270	0.1938	-0.0503	0.0134	-0.0045	0.0029	0.0587	0.0131	-0.2803	0.0550
3	270	0.2357	-0.0181	0.0039	-0.0066	0.0012	0.0503	0.0068	-0.9454	0.1932
3	270	0.2995	0.0284	0.0040	-0.0271	0.0078	0.1872	0.0323	-0.9978	0.1936
3	270	0.3493	0.0544	0.0031	-0.0313	0.0138	0.3217	0.0525	-1.0209	0.1934
3	270	0.4000	0.0998	0.0033	-0.0604	0.0192	0.4705	0.0728	-0.9223	0.2018
3	270	0.4497	0.1310	0.0026	-0.1157	0.0245	0.6314	0.0960	-0.9403	0.1930
3	270	0.4997	0.1618	0.0028	-0.1813	0.0305	0.8004	0.1183	-0.9400	0.1944
3	270	0.5556	0.1818	0.0028	-0.2418	0.0368	0.9426	0.1415	-1.1035	0.1966
3	270	0.5995	0.2228	0.0032	-0.3369	0.0417	1.1088	0.1627	-0.9983	0.1891
3	270	0.6498	0.2563	0.0032	-0.4255	0.0479	1.2261	0.1854	-1.0898	0.1970
3	270	0.6890	0.2832	0.0037	-0.4982	0.0519	1.3083	0.2027	-1.2669	0.1996
3	270	0.7495	0.3573	0.0037	-0.6004	0.0583	1.4522	0.2290	-1.0872	0.2039
3	270	0.7998	0.3852	0.0042	-0.7415	0.0645	1.5760	0.2532	-1.0949	0.2007
3	270	0.8577	0.4655	0.0046	-0.8227	0.0702	1.6490	0.2808	-0.9632	0.1895
3	270	0.9178	0.6079	0.0048	-0.8991	0.0780	1.5637	0.3065	-2.1035	0.1887
3	270	0.9729	0.7072	0.0062	-1.0469	0.0852	1.2448	0.3320	-2.3286	0.1740

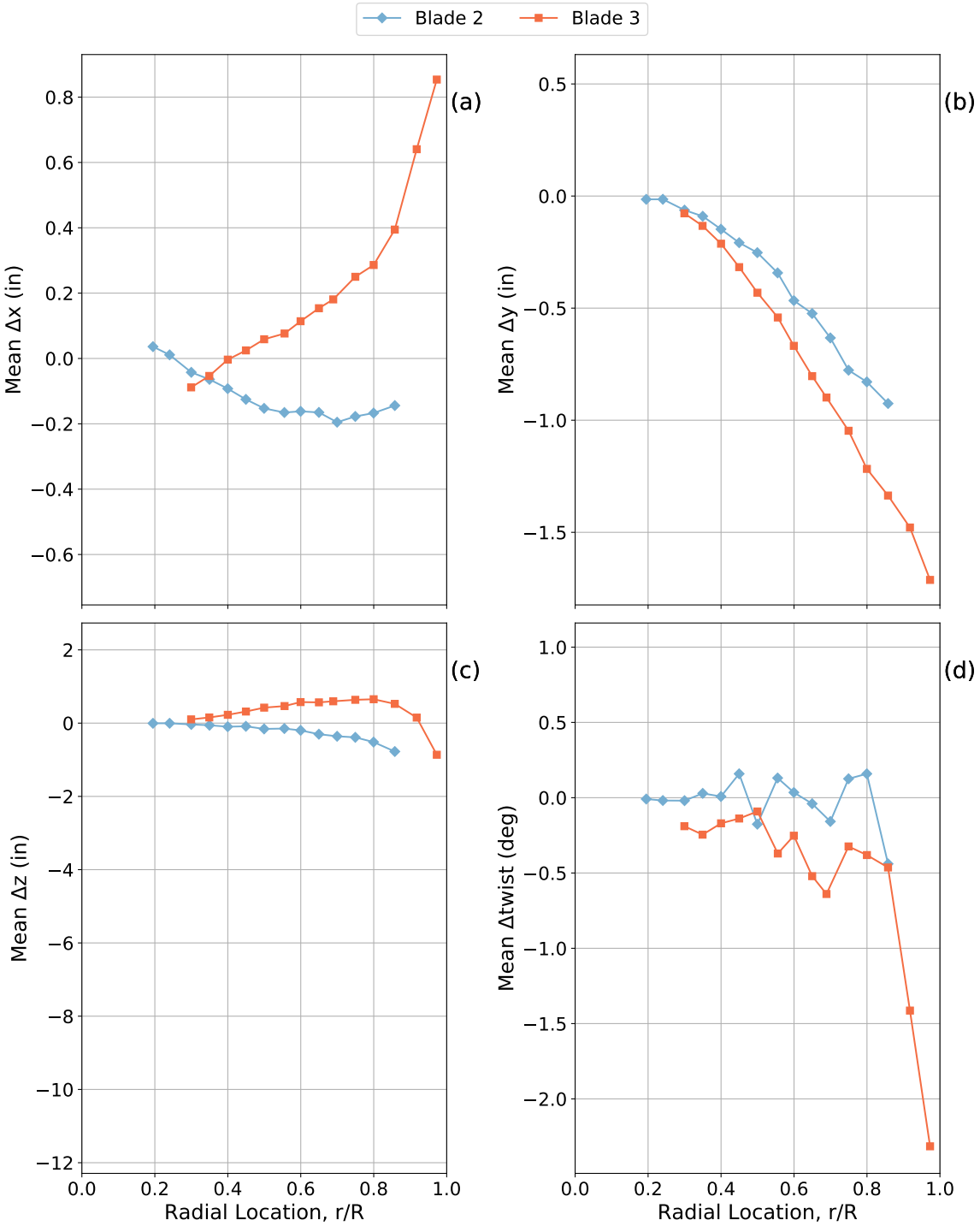


Figure 4.26-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0362	0.0007	-0.0146	0.0005	-0.0051	0.0012	-0.0088	0.0125
2	274.92	0.2405	0.0111	0.0009	-0.0144	0.0011	-0.0039	0.0029	-0.0187	0.0250
2	274.92	0.2999	-0.0424	0.0008	-0.0627	0.0023	-0.0358	0.0066	-0.0196	0.0307
2	274.92	0.3498	-0.0640	0.0015	-0.0902	0.0031	-0.0576	0.0080	0.0288	0.0303
2	274.92	0.3998	-0.0924	0.0015	-0.1479	0.0052	-0.0972	0.0150	0.0080	0.0425
2	274.92	0.4496	-0.1252	0.0020	-0.2081	0.0055	-0.0866	0.0150	0.1588	0.0358
2	274.92	0.4995	-0.1527	0.0016	-0.2524	0.0074	-0.1581	0.0243	-0.1759	0.0551
2	274.92	0.5551	-0.1654	0.0021	-0.3427	0.0084	-0.1480	0.0246	0.1309	0.0335
2	274.92	0.5996	-0.1618	0.0015	-0.4663	0.0095	-0.1983	0.0246	0.0349	0.0833
2	274.92	0.6497	-0.1651	0.0016	-0.5239	0.0110	-0.3021	0.0327	-0.0398	0.0231
2	274.92	0.6996	-0.1951	0.0036	-0.6328	0.0125	-0.3588	0.0374	-0.1580	0.0553
2	274.92	0.7495	-0.1775	0.0028	-0.7769	0.0148	-0.3878	0.0380	0.1257	0.0959
2	274.92	0.7996	-0.1671	0.0059	-0.8289	0.0183	-0.5173	0.0459	0.1588	0.0987
2	274.92	0.8578	-0.1441	0.0065	-0.9255	0.0205	-0.7747	0.0604	-0.4393	0.1564
3	274.92	0.2995	-0.0885	0.0031	-0.0771	0.0098	0.1022	0.0419	-0.1892	0.1108
3	274.92	0.3493	-0.0535	0.0027	-0.1330	0.0168	0.1550	0.0684	-0.2454	0.1457
3	274.92	0.4000	-0.0035	0.0028	-0.2126	0.0267	0.2272	0.1056	-0.1702	0.1236
3	274.92	0.4497	0.0247	0.0039	-0.3171	0.0348	0.3169	0.1411	-0.1382	0.1236
3	274.92	0.4997	0.0588	0.0036	-0.4312	0.0433	0.4233	0.1721	-0.0915	0.1199
3	274.92	0.5556	0.0764	0.0041	-0.5417	0.0530	0.4659	0.2087	-0.3706	0.1114
3	274.92	0.5995	0.1140	0.0043	-0.6682	0.0602	0.5746	0.2340	-0.2524	0.1440
3	274.92	0.6498	0.1538	0.0048	-0.8033	0.0688	0.5672	0.2706	-0.5210	0.1183
3	274.92	0.6890	0.1808	0.0048	-0.8987	0.0755	0.5960	0.2952	-0.6395	0.1241
3	274.92	0.7495	0.2500	0.0056	-1.0470	0.0848	0.6367	0.3374	-0.3237	0.1193
3	274.92	0.7998	0.2861	0.0056	-1.2171	0.0942	0.6523	0.3698	-0.3809	0.1337
3	274.92	0.8577	0.3945	0.0066	-1.3359	0.1035	0.5262	0.4065	-0.4633	0.1305
3	274.92	0.9178	0.6405	0.0177	-1.4786	0.1187	0.1516	0.4342	-1.4136	0.3364
3	274.92	0.9729	0.8537	0.0101	-1.7123	0.1253	-0.8629	0.4785	-2.3151	0.1890

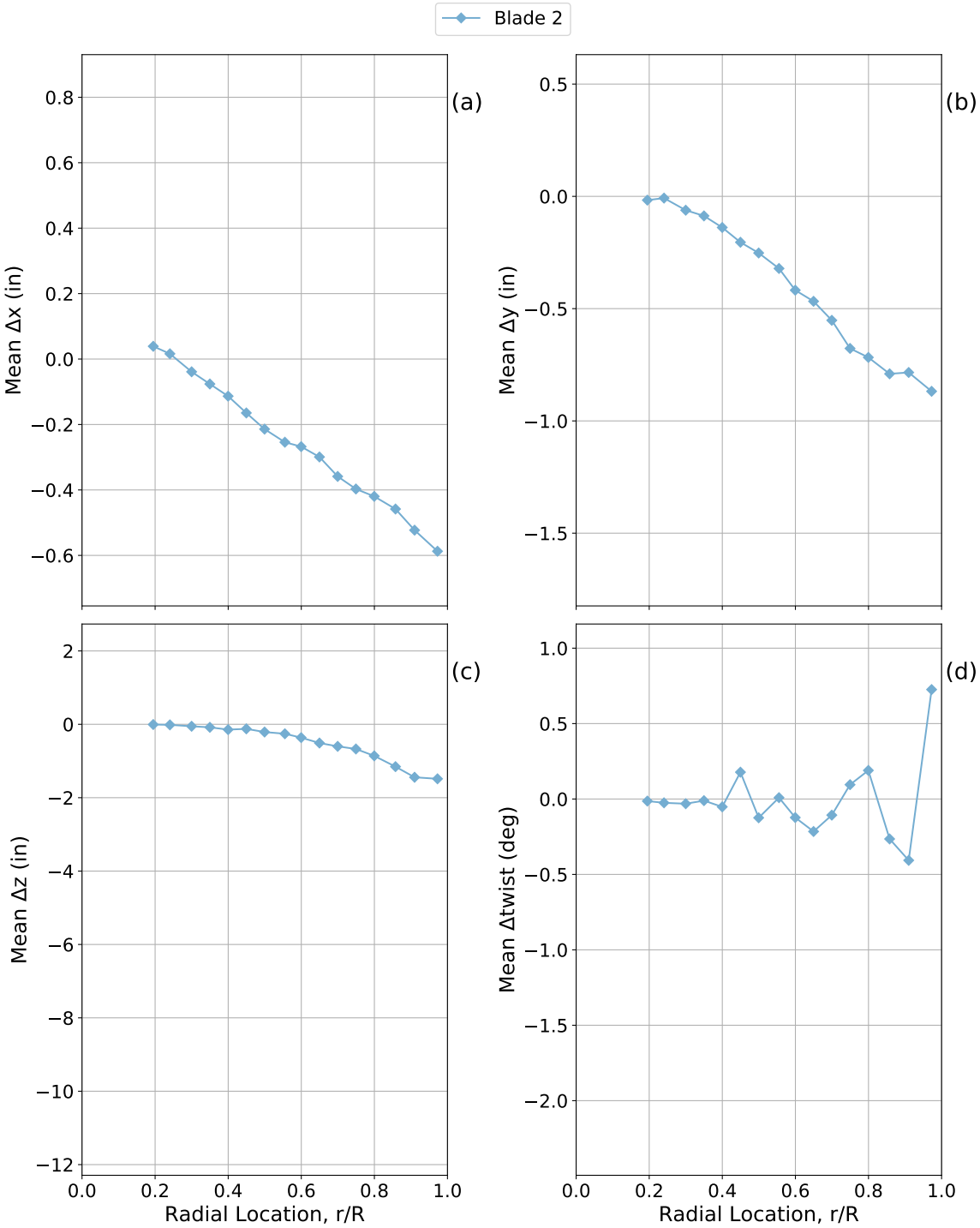


Figure 4.26-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0390	0.0012	-0.0168	0.0006	-0.0058	0.0028	-0.0137	0.0191
2	285.12	0.2405	0.0161	0.0010	-0.0077	0.0016	-0.0151	0.0035	-0.0253	0.0345
2	285.12	0.2999	-0.0389	0.0006	-0.0616	0.0029	-0.0533	0.0085	-0.0313	0.0433
2	285.12	0.3498	-0.0762	0.0010	-0.0870	0.0051	-0.0818	0.0159	-0.0109	0.0333
2	285.12	0.3998	-0.1134	0.0020	-0.1386	0.0081	-0.1447	0.0222	-0.0521	0.0302
2	285.12	0.4496	-0.1647	0.0018	-0.2044	0.0107	-0.1237	0.0271	0.1779	0.0445
2	285.12	0.4995	-0.2141	0.0016	-0.2521	0.0121	-0.2101	0.0312	-0.1245	0.0389
2	285.12	0.5551	-0.2541	0.0019	-0.3211	0.0133	-0.2576	0.0377	0.0089	0.0467
2	285.12	0.5996	-0.2676	0.0022	-0.4179	0.0152	-0.3631	0.0421	-0.1230	0.0603
2	285.12	0.6497	-0.2992	0.0017	-0.4674	0.0177	-0.5100	0.0537	-0.2154	0.0266
2	285.12	0.6996	-0.3587	0.0019	-0.5520	0.0197	-0.6007	0.0576	-0.1070	0.0331
2	285.12	0.7495	-0.3971	0.0023	-0.6772	0.0223	-0.6722	0.0639	0.0950	0.0412
2	285.12	0.7996	-0.4197	0.0032	-0.7172	0.0255	-0.8599	0.0772	0.1895	0.0352
2	285.12	0.8578	-0.4583	0.0043	-0.7903	0.0281	-1.1540	0.0790	-0.2649	0.0921
2	285.12	0.9100	-0.5229	0.0055	-0.7843	0.0328	-1.4435	0.0973	-0.4067	0.0807
2	285.12	0.9727	-0.5873	0.0105	-0.8682	0.0332	-1.4853	0.1052	0.7256	0.1439

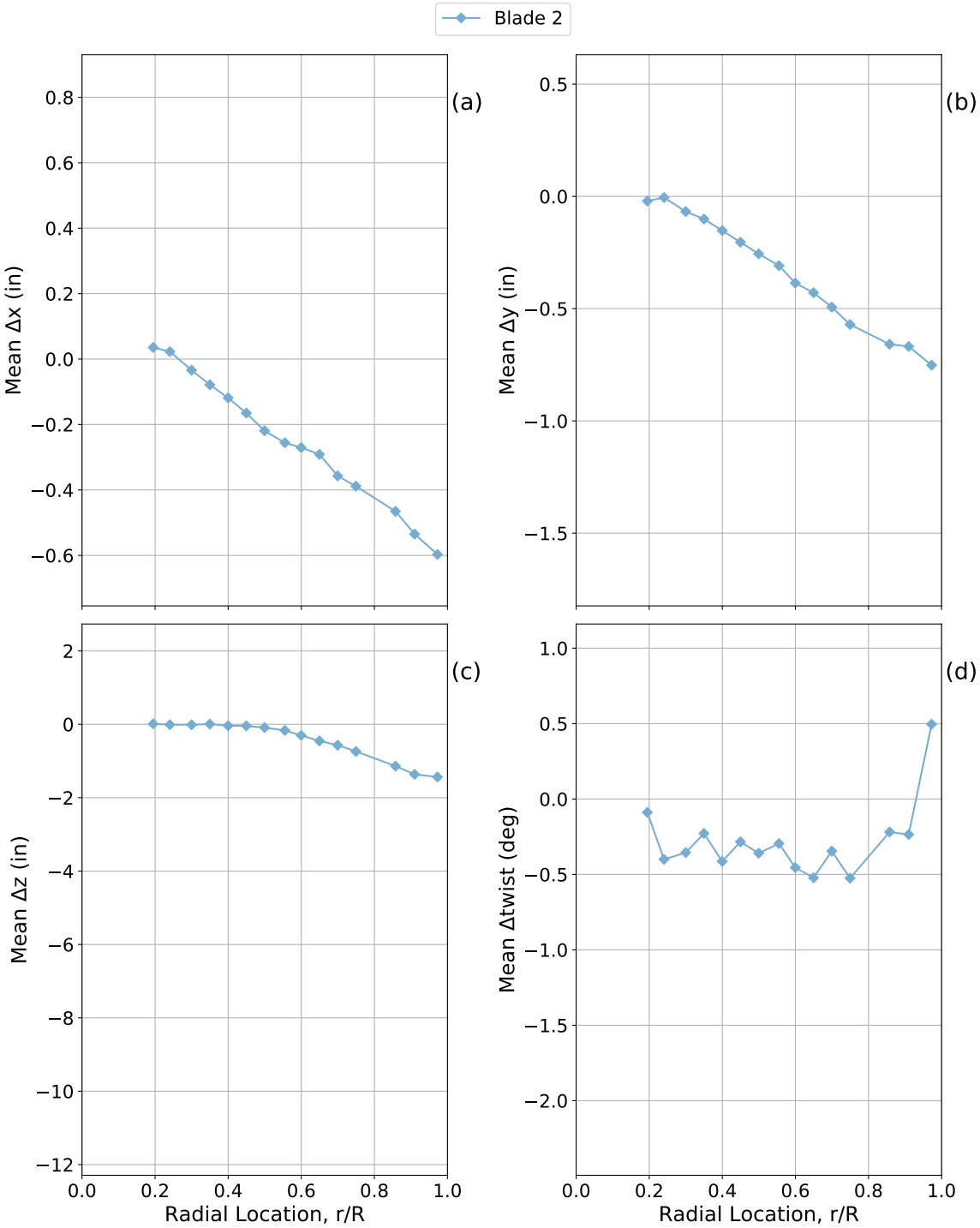


Figure 4.26-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0354	0.0014	-0.0209	0.0006	0.0130	0.0019	-0.0886	0.0163
2	299.88	0.2405	0.0226	0.0017	-0.0049	0.0017	-0.0098	0.0040	-0.4000	0.0286
2	299.88	0.2999	-0.0340	0.0014	-0.0676	0.0018	-0.0121	0.0045	-0.3556	0.0357
2	299.88	0.3498	-0.0786	0.0014	-0.1010	0.0027	0.0059	0.0087	-0.2284	0.0354
2	299.88	0.3998	-0.1187	0.0011	-0.1524	0.0051	-0.0376	0.0127	-0.4137	0.0385
2	299.88	0.4496	-0.1651	0.0015	-0.2043	0.0064	-0.0428	0.0194	-0.2840	0.0468
2	299.88	0.4995	-0.2191	0.0016	-0.2561	0.0087	-0.0910	0.0252	-0.3594	0.0412
2	299.88	0.5551	-0.2559	0.0018	-0.3086	0.0103	-0.1666	0.0320	-0.2950	0.0436
2	299.88	0.5996	-0.2704	0.0019	-0.3860	0.0115	-0.3007	0.0379	-0.4544	0.0360
2	299.88	0.6497	-0.2914	0.0022	-0.4291	0.0122	-0.4525	0.0451	-0.5223	0.0220
2	299.88	0.6996	-0.3571	0.0018	-0.4933	0.0146	-0.5694	0.0520	-0.3453	0.0350
2	299.88	0.7495	-0.3885	0.0022	-0.5708	0.0167	-0.7380	0.0597	-0.5252	0.0519
2	299.88	0.8578	-0.4654	0.0021	-0.6584	0.0217	-1.1389	0.0748	-0.2187	0.0431
2	299.88	0.9100	-0.5347	0.0020	-0.6685	0.0248	-1.3632	0.0858	-0.2354	0.0554
2	299.88	0.9727	-0.5971	0.0035	-0.7517	0.0283	-1.4365	0.1011	0.4959	0.0461

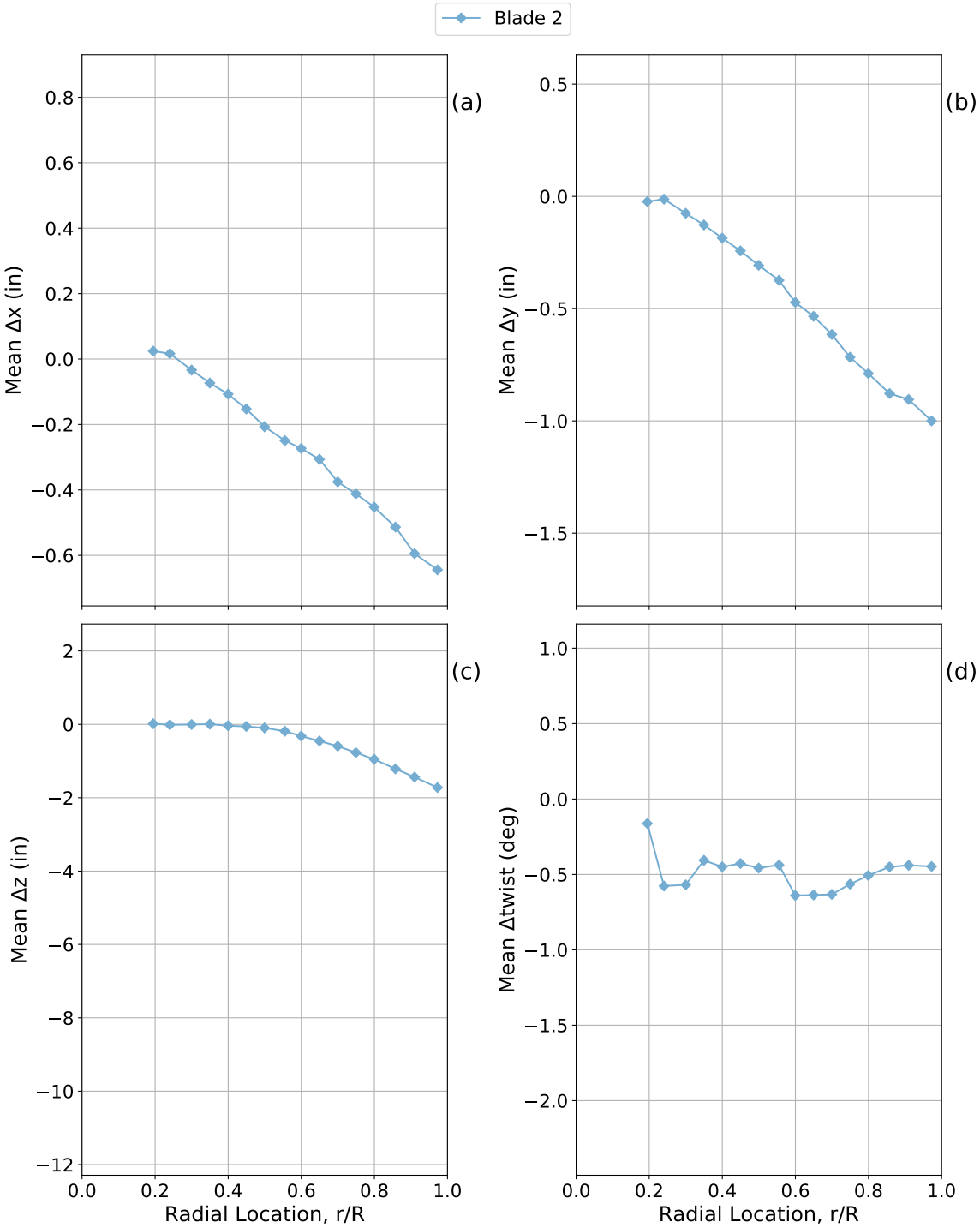


Figure 4.26-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0242	0.0012	-0.0231	0.0005	0.0171	0.0010	-0.1622	0.0163
2	315	0.2405	0.0164	0.0016	-0.0124	0.0016	-0.0121	0.0044	-0.5767	0.0159
2	315	0.2999	-0.0336	0.0011	-0.0753	0.0031	-0.0044	0.0090	-0.5687	0.0337
2	315	0.3498	-0.0734	0.0012	-0.1273	0.0037	0.0050	0.0076	-0.4064	0.0245
2	315	0.3998	-0.1073	0.0022	-0.1856	0.0075	-0.0364	0.0186	-0.4494	0.0467
2	315	0.4496	-0.1527	0.0014	-0.2428	0.0085	-0.0576	0.0191	-0.4273	0.0210
2	315	0.4995	-0.2068	0.0020	-0.3068	0.0103	-0.0972	0.0257	-0.4571	0.0301
2	315	0.5551	-0.2492	0.0012	-0.3736	0.0131	-0.1876	0.0307	-0.4371	0.0295
2	315	0.5996	-0.2733	0.0019	-0.4721	0.0153	-0.3194	0.0352	-0.6396	0.0283
2	315	0.6497	-0.3064	0.0021	-0.5344	0.0171	-0.4538	0.0392	-0.6363	0.0302
2	315	0.6996	-0.3755	0.0024	-0.6151	0.0185	-0.5941	0.0419	-0.6323	0.0326
2	315	0.7495	-0.4120	0.0031	-0.7166	0.0221	-0.7696	0.0475	-0.5641	0.0357
2	315	0.7996	-0.4525	0.0025	-0.7890	0.0239	-0.9520	0.0512	-0.5065	0.0316
2	315	0.8578	-0.5135	0.0023	-0.8783	0.0277	-1.2137	0.0560	-0.4497	0.0267
2	315	0.9100	-0.5947	0.0025	-0.9045	0.0301	-1.4362	0.0594	-0.4393	0.0224
2	315	0.9727	-0.6441	0.0034	-1.0002	0.0340	-1.7216	0.0666	-0.4470	0.0313

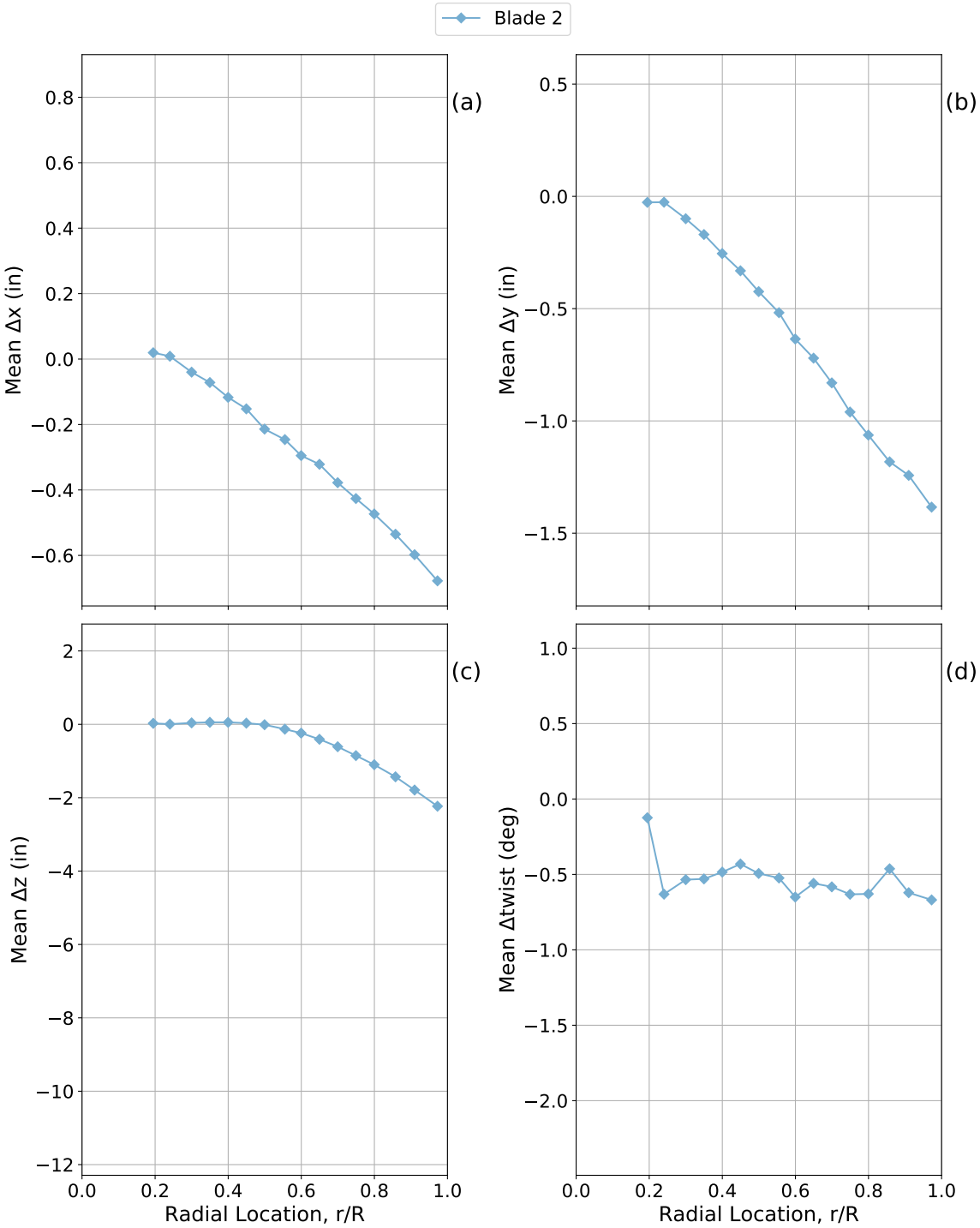


Figure 4.26-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0194	0.0015	-0.0267	0.0004	0.0263	0.0018	-0.1241	0.0131
2	330.12	0.2405	0.0086	0.0015	-0.0260	0.0017	0.0045	0.0044	-0.6311	0.0197
2	330.12	0.2999	-0.0400	0.0020	-0.0995	0.0028	0.0388	0.0093	-0.5348	0.0271
2	330.12	0.3498	-0.0717	0.0017	-0.1699	0.0034	0.0544	0.0130	-0.5299	0.0472
2	330.12	0.3998	-0.1171	0.0032	-0.2548	0.0070	0.0544	0.0224	-0.4845	0.0395
2	330.12	0.4496	-0.1522	0.0027	-0.3314	0.0076	0.0312	0.0265	-0.4310	0.0340
2	330.12	0.4995	-0.2140	0.0025	-0.4241	0.0106	-0.0109	0.0316	-0.4937	0.0279
2	330.12	0.5551	-0.2461	0.0026	-0.5180	0.0114	-0.1329	0.0369	-0.5238	0.0226
2	330.12	0.5996	-0.2951	0.0031	-0.6353	0.0128	-0.2394	0.0419	-0.6501	0.0384
2	330.12	0.6497	-0.3216	0.0025	-0.7205	0.0155	-0.4081	0.0483	-0.5592	0.0305
2	330.12	0.6996	-0.3778	0.0023	-0.8306	0.0177	-0.6108	0.0506	-0.5824	0.0407
2	330.12	0.7495	-0.4263	0.0028	-0.9604	0.0194	-0.8535	0.0560	-0.6320	0.0404
2	330.12	0.7996	-0.4734	0.0030	-1.0632	0.0223	-1.1007	0.0624	-0.6293	0.0306
2	330.12	0.8578	-0.5353	0.0026	-1.1822	0.0246	-1.4307	0.0683	-0.4627	0.0322
2	330.12	0.9100	-0.5978	0.0030	-1.2426	0.0275	-1.7908	0.0730	-0.6212	0.0323
2	330.12	0.9727	-0.6778	0.0035	-1.3840	0.0311	-2.2329	0.0786	-0.6690	0.0307

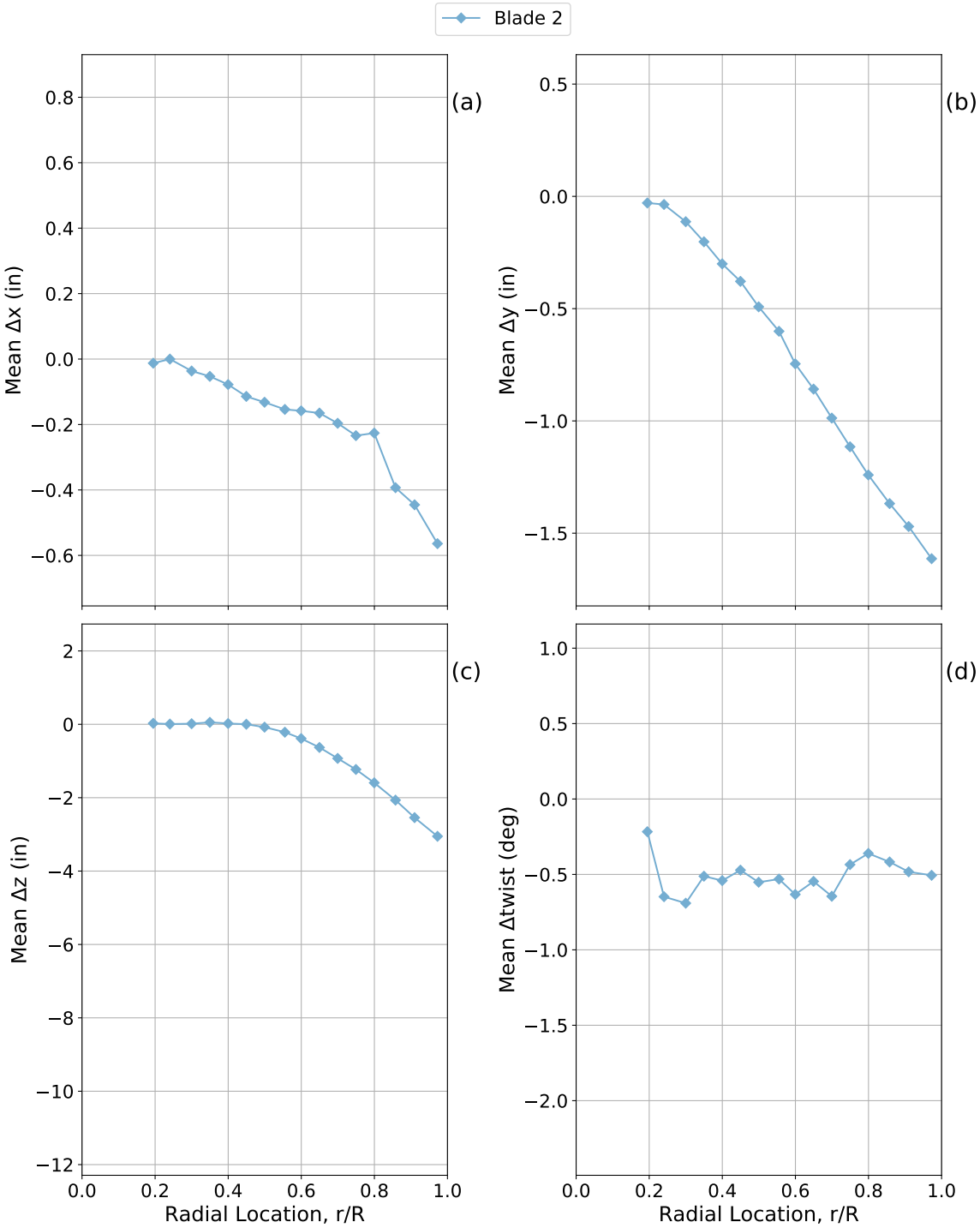


Figure 4.26-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0126	0.0020	-0.0294	0.0011	0.0264	0.0022	-0.2168	0.0123
2	344.88	0.2405	-0.0001	0.0013	-0.0362	0.0010	0.0066	0.0027	-0.6477	0.0337
2	344.88	0.2999	-0.0365	0.0012	-0.1128	0.0035	0.0161	0.0063	-0.6908	0.0358
2	344.88	0.3498	-0.0529	0.0017	-0.2023	0.0061	0.0537	0.0115	-0.5119	0.0254
2	344.88	0.3998	-0.0779	0.0019	-0.3005	0.0088	0.0223	0.0159	-0.5410	0.0265
2	344.88	0.4496	-0.1142	0.0049	-0.3785	0.0118	0.0018	0.0210	-0.4717	0.0263
2	344.88	0.4995	-0.1320	0.0020	-0.4919	0.0141	-0.0778	0.0243	-0.5518	0.0319
2	344.88	0.5551	-0.1539	0.0017	-0.6009	0.0169	-0.2152	0.0269	-0.5309	0.0358
2	344.88	0.5996	-0.1582	0.0031	-0.7458	0.0180	-0.3873	0.0321	-0.6328	0.0400
2	344.88	0.6497	-0.1651	0.0019	-0.8583	0.0201	-0.6307	0.0366	-0.5463	0.0359
2	344.88	0.6996	-0.1963	0.0034	-0.9873	0.0234	-0.9287	0.0417	-0.6448	0.0436
2	344.88	0.7495	-0.2340	0.0063	-1.1151	0.0265	-1.2306	0.0424	-0.4349	0.0539
2	344.88	0.7996	-0.2262	0.0084	-1.2408	0.0303	-1.5940	0.0511	-0.3607	0.0962
2	344.88	0.8578	-0.3931	0.0043	-1.3682	0.0310	-2.0664	0.0617	-0.4174	0.0262
2	344.88	0.9100	-0.4454	0.0043	-1.4703	0.0335	-2.5435	0.0687	-0.4828	0.0365
2	344.88	0.9727	-0.5641	0.0043	-1.6136	0.0366	-3.0524	0.0786	-0.5060	0.0272

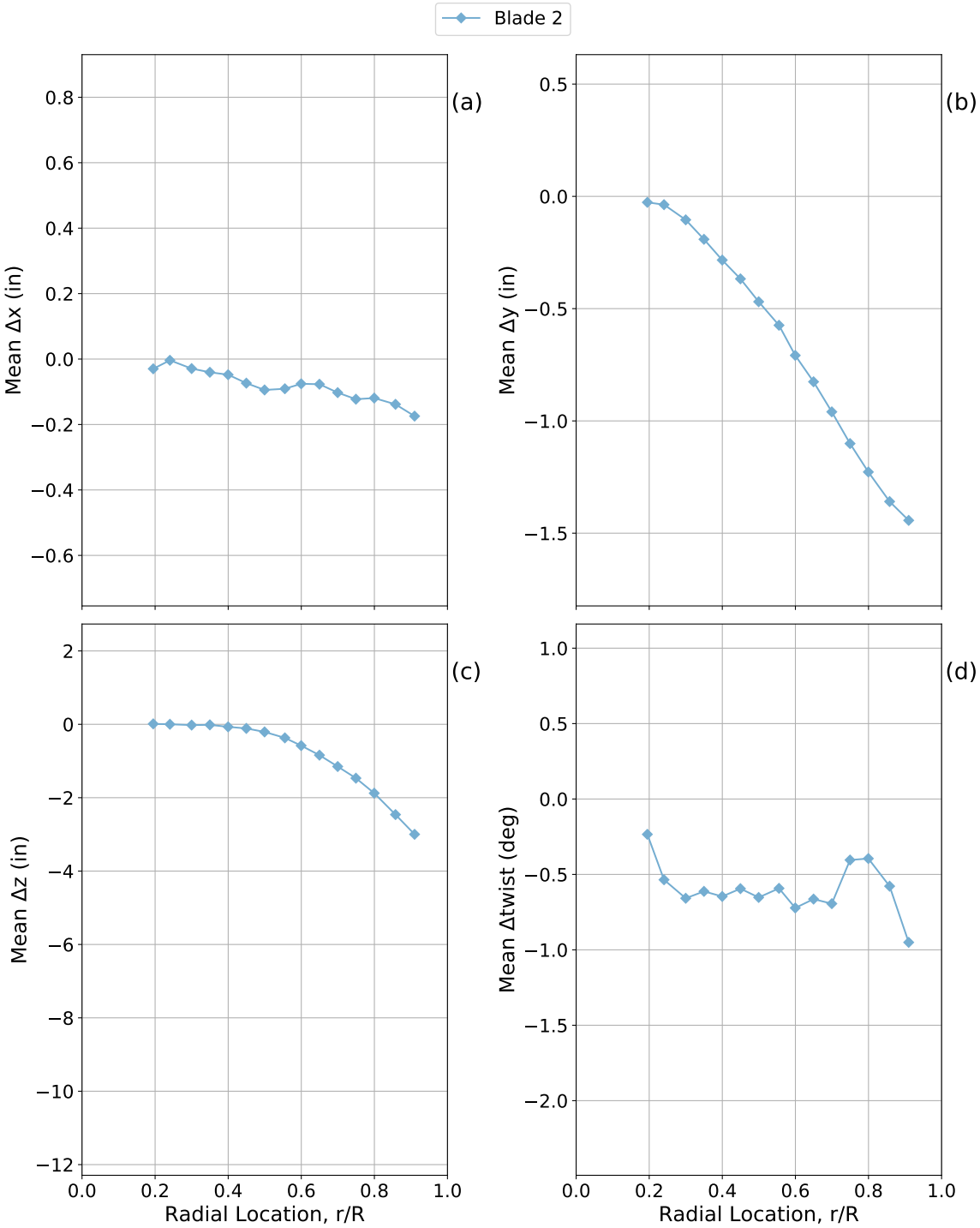


Figure 4.26-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0298	0.0039	-0.0266	0.0011	0.0123	0.0027	-0.2343	0.0219
2	350.16	0.2405	-0.0038	0.0017	-0.0370	0.0022	0.0012	0.0046	-0.5355	0.0495
2	350.16	0.2999	-0.0291	0.0025	-0.1045	0.0045	-0.0209	0.0096	-0.6581	0.0544
2	350.16	0.3498	-0.0404	0.0041	-0.1912	0.0081	-0.0146	0.0142	-0.6124	0.0526
2	350.16	0.3998	-0.0478	0.0061	-0.2837	0.0124	-0.0691	0.0225	-0.6462	0.0449
2	350.16	0.4496	-0.0736	0.0075	-0.3673	0.0148	-0.1118	0.0281	-0.5943	0.0553
2	350.16	0.4995	-0.0944	0.0085	-0.4692	0.0178	-0.2073	0.0322	-0.6526	0.0527
2	350.16	0.5551	-0.0908	0.0080	-0.5741	0.0210	-0.3696	0.0384	-0.5923	0.0492
2	350.16	0.5996	-0.0756	0.0101	-0.7083	0.0238	-0.5810	0.0478	-0.7223	0.0376
2	350.16	0.6497	-0.0769	0.0084	-0.8257	0.0280	-0.8405	0.0508	-0.6636	0.0602
2	350.16	0.6996	-0.1026	0.0081	-0.9596	0.0305	-1.1506	0.0533	-0.6940	0.0776
2	350.16	0.7495	-0.1227	0.0102	-1.1009	0.0344	-1.4679	0.0662	-0.4045	0.0617
2	350.16	0.7996	-0.1192	0.0135	-1.2275	0.0378	-1.8773	0.0741	-0.3948	0.1026
2	350.16	0.8578	-0.1383	0.0118	-1.3591	0.0414	-2.4608	0.0953	-0.5780	0.1870
2	350.16	0.9100	-0.1744	0.0219	-1.4430	0.0464	-2.9983	0.1120	-0.9505	0.2405

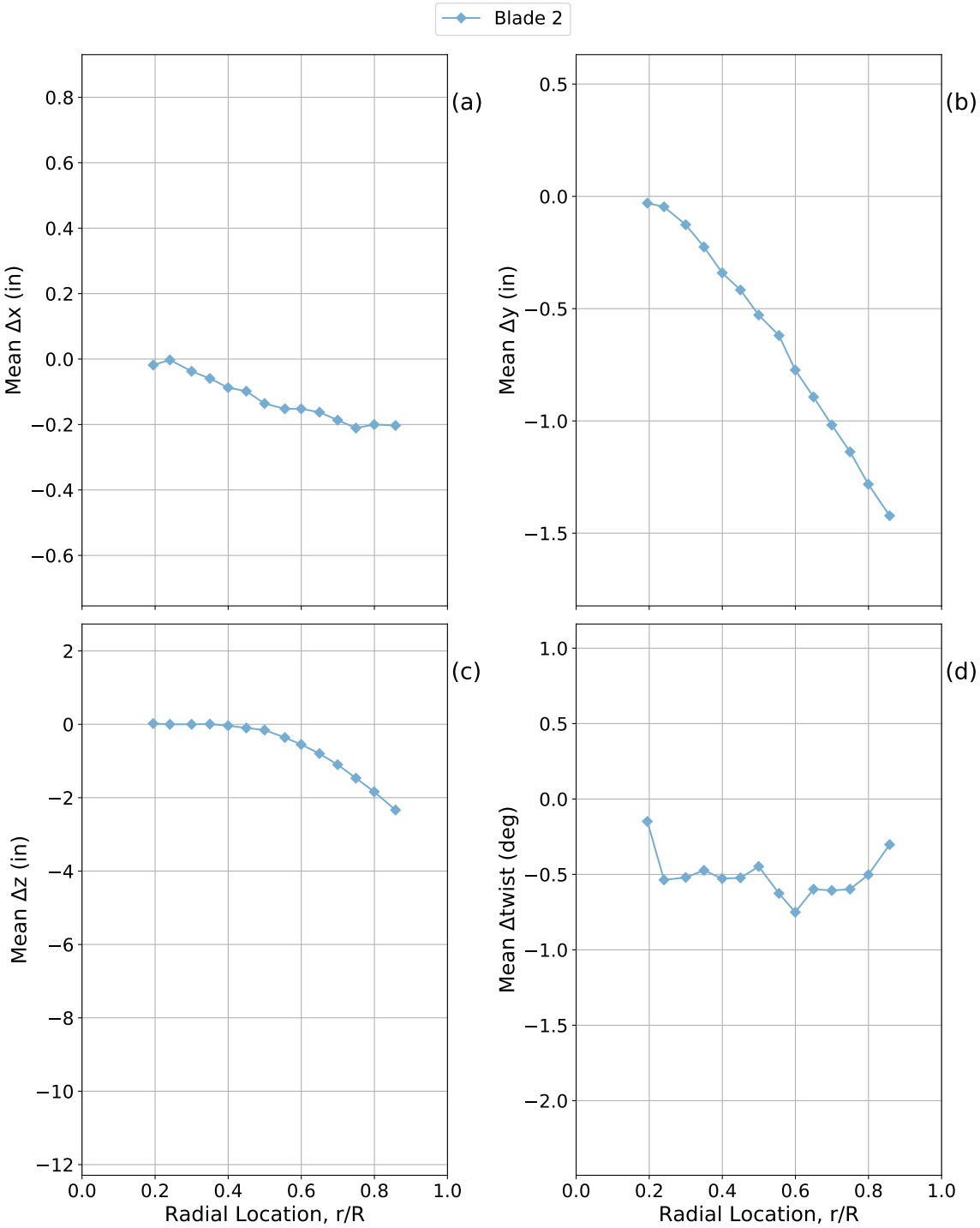


Figure 4.26-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.149, α = -0° NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Table 4.26-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.149, α = -0°
NFAC run 81, point 53. BD run 38, points 5940 to 5950.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0182	0.0025	-0.0303	0.0011	0.0207	0.0033	-0.1487	0.0235
2	355.08	0.2405	-0.0028	0.0013	-0.0465	0.0030	-0.0001	0.0066	-0.5362	0.0506
2	355.08	0.2999	-0.0374	0.0014	-0.1263	0.0054	-0.0004	0.0108	-0.5203	0.0595
2	355.08	0.3498	-0.0592	0.0015	-0.2252	0.0094	0.0064	0.0204	-0.4730	0.0501
2	355.08	0.3998	-0.0874	0.0028	-0.3408	0.0149	-0.0366	0.0295	-0.5275	0.0500
2	355.08	0.4496	-0.0982	0.0038	-0.4170	0.0190	-0.0996	0.0353	-0.5230	0.0599
2	355.08	0.4995	-0.1360	0.0044	-0.5284	0.0213	-0.1563	0.0423	-0.4475	0.0601
2	355.08	0.5551	-0.1520	0.0040	-0.6198	0.0254	-0.3604	0.0511	-0.6260	0.0590
2	355.08	0.5996	-0.1522	0.0042	-0.7735	0.0299	-0.5501	0.0580	-0.7503	0.0591
2	355.08	0.6497	-0.1624	0.0057	-0.8933	0.0340	-0.7979	0.0664	-0.5981	0.0492
2	355.08	0.6996	-0.1867	0.0063	-1.0182	0.0396	-1.0997	0.0726	-0.6064	0.0600
2	355.08	0.7495	-0.2108	0.0060	-1.1376	0.0449	-1.4671	0.0838	-0.5980	0.0491
2	355.08	0.7996	-0.2002	0.0074	-1.2821	0.0508	-1.8385	0.0912	-0.5020	0.0718
2	355.08	0.8578	-0.2029	0.0077	-1.4224	0.0560	-2.3362	0.1035	-0.3022	0.0749

4.27 Run 83, Point 7

4.27.1 Pitch, Flap, and Lag

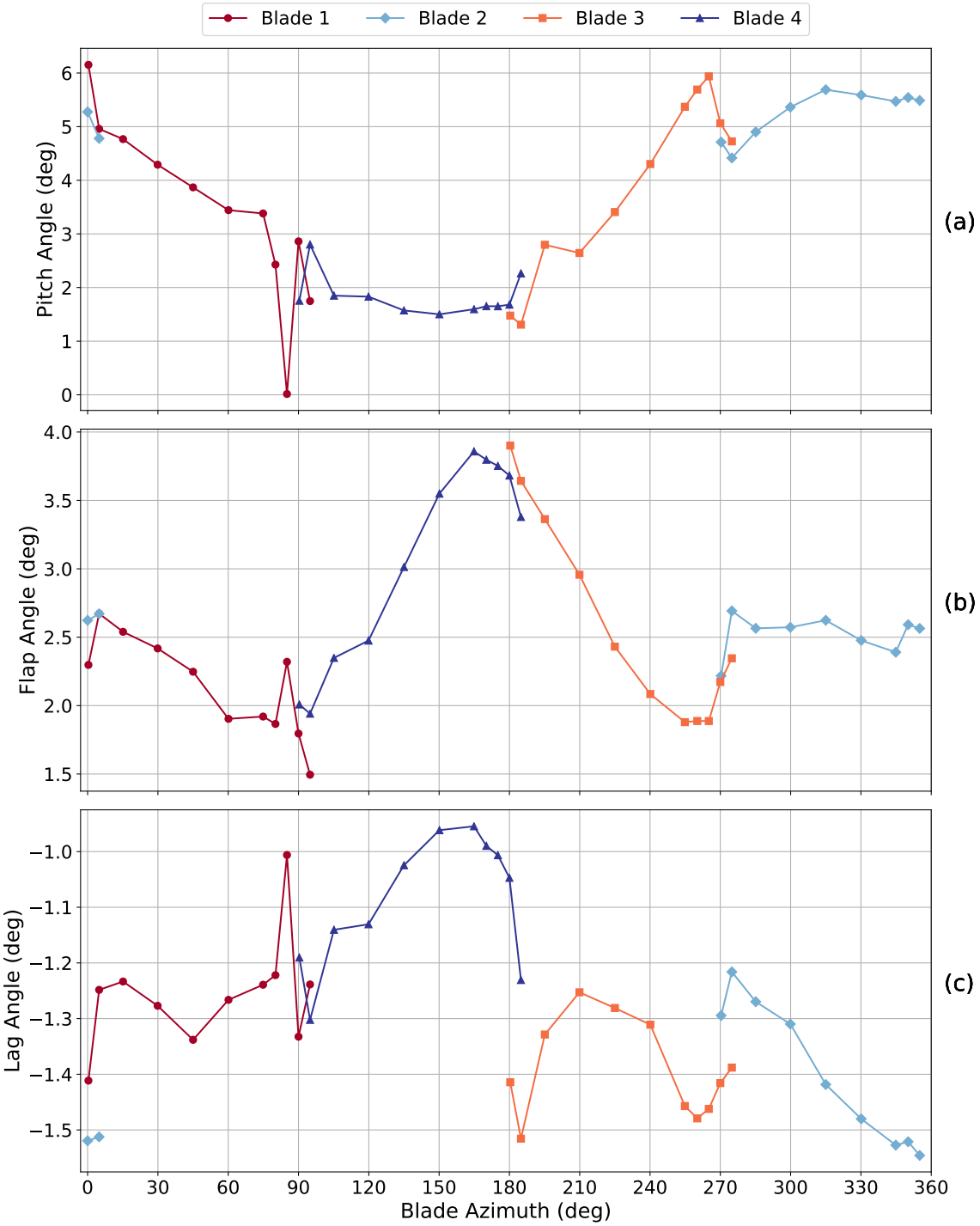


Figure 4.27-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	5.2751	2.6232	-1.5195	0.0778	0.0412	0.0178
0.35	1	6.1529	2.2975	-1.4114	0.1609	0.0746	0.0545
4.92	1	4.9579	2.6722	-1.2484	0.0882	0.0384	0.0240
4.92	2	4.7804	2.6713	-1.5125	0.0789	0.0417	0.0145
15.12	1	4.7677	2.5395	-1.2334	0.0536	0.0488	0.0197
29.88	1	4.2903	2.4179	-1.2770	0.0736	0.0368	0.0119
45	1	3.8680	2.2475	-1.3381	0.0533	0.0383	0.0189
60.12	1	3.4428	1.9033	-1.2663	0.0630	0.0365	0.0221
74.88	1	3.3814	1.9200	-1.2392	0.3142	0.1318	0.0395
80.16	1	2.4278	1.8659	-1.2220	0.0461	0.0250	0.0129
85.08	1	0.0155	2.3200	-1.0061	0.1620	0.0429	0.0204
90	1	2.8607	1.7957	-1.3325	0.3225	0.3519	0.0765
90.35	4	1.7539	2.0081	-1.1903	0.0950	0.0292	0.0279
94.92	1	1.7473	1.4948	-1.2387	0.0345	0.0141	0.0123
94.92	4	2.8020	1.9409	-1.3023	0.1288	0.0324	0.0204
105.12	4	1.8485	2.3487	-1.1405	0.0270	0.0147	0.0205
119.88	4	1.8300	2.4752	-1.1306	0.0233	0.0188	0.0092
135	4	1.5728	3.0130	-1.0246	0.0117	0.0156	0.0207
150.12	4	1.5007	3.5493	-0.9616	0.0212	0.0122	0.0215
164.88	4	1.5951	3.8581	-0.9546	0.0294	0.0234	0.0131
170.16	4	1.6520	3.7973	-0.9898	0.0161	0.0187	0.0132
175.08	4	1.6505	3.7520	-1.0066	0.0377	0.0194	0.0194
180	4	1.6807	3.6818	-1.0472	0.0570	0.0209	0.0240
180.35	3	1.4766	3.9011	-1.4143	0.0718	0.0287	0.0139
184.92	3	1.3080	3.6429	-1.5157	0.0918	0.0744	0.0518
184.92	4	2.2638	3.3789	-1.2307	0.0639	0.0178	0.0166
195.12	3	2.7975	3.3635	-1.3286	0.0896	0.0526	0.0355
209.88	3	2.6445	2.9569	-1.2528	0.0390	0.0213	0.0148
225	3	3.4076	2.4310	-1.2810	0.0237	0.0167	0.0124
240.12	3	4.3026	2.0844	-1.3109	0.0337	0.0178	0.0143
254.88	3	5.3703	1.8790	-1.4571	0.0832	0.0366	0.0210
260.16	3	5.6919	1.8876	-1.4793	0.0915	0.0434	0.0319
265.08	3	5.9380	1.8872	-1.4622	0.1782	0.0740	0.0306
270	3	5.0630	2.1725	-1.4158	0.1131	0.0279	0.0177
270.35	2	4.7117	2.2176	-1.2945	0.2081	0.0755	0.0288
274.92	2	4.4165	2.6922	-1.2161	0.0272	0.0409	0.0193
274.92	3	4.7257	2.3459	-1.3880	0.0770	0.0187	0.0136
285.12	2	4.9012	2.5650	-1.2697	0.0284	0.0212	0.0155
299.88	2	5.3635	2.5725	-1.3098	0.0500	0.0462	0.0117
315	2	5.6894	2.6237	-1.4184	0.0418	0.0253	0.0227
330.12	2	5.5890	2.4764	-1.4801	0.0337	0.0225	0.0140
344.88	2	5.4709	2.3902	-1.5273	0.0491	0.0290	0.0112
350.16	2	5.5432	2.5917	-1.5212	0.0577	0.0170	0.0123
355.08	2	5.4881	2.5641	-1.5458	0.0601	0.0316	0.0160

4.27.2 Spanwise Elastic Deformations

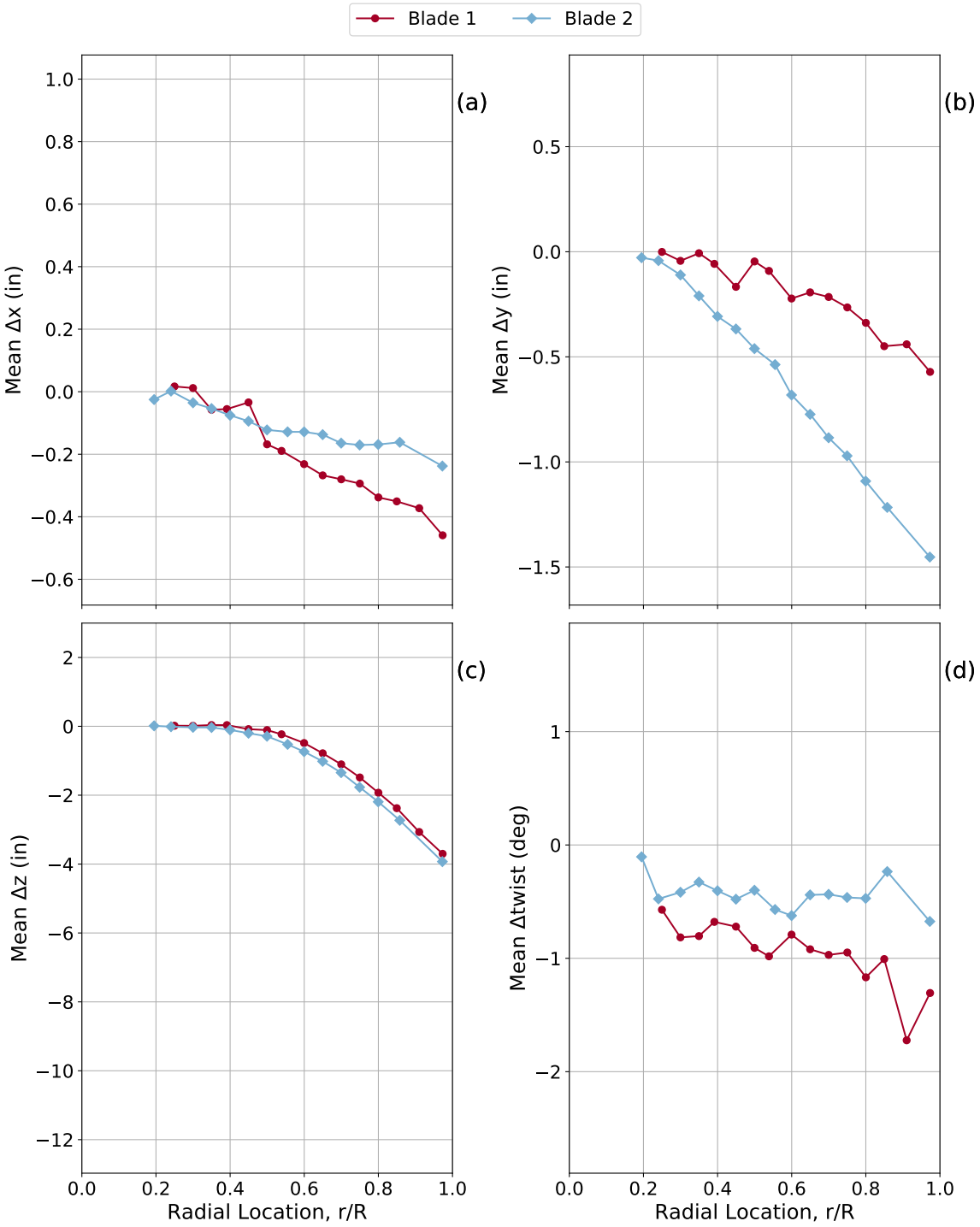


Figure 4.27-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2499	0.0168	0.0036	-0.0009	0.0078	0.0169	0.0199	-0.5716	0.1350
1	0.35	0.2998	0.0117	0.0045	-0.0433	0.0153	0.0138	0.0332	-0.8153	0.1920
1	0.35	0.3498	-0.0577	0.0051	-0.0070	0.0267	0.0366	0.0570	-0.8040	0.1741
1	0.35	0.3913	-0.0556	0.0048	-0.0576	0.0393	0.0352	0.0791	-0.6785	0.1555
1	0.35	0.4496	-0.0342	0.0062	-0.1670	0.0543	-0.0825	0.1042	-0.7205	0.1665
1	0.35	0.4997	-0.1683	0.0090	-0.0463	0.0676	-0.1103	0.1232	-0.9078	0.1571
1	0.35	0.5387	-0.1893	0.0088	-0.0912	0.0781	-0.2317	0.1427	-0.9824	0.1515
1	0.35	0.5996	-0.2316	0.0109	-0.2226	0.0930	-0.4853	0.1634	-0.7909	0.1866
1	0.35	0.6498	-0.2676	0.0122	-0.1933	0.1077	-0.7830	0.1858	-0.9203	0.1629
1	0.35	0.6998	-0.2802	0.0132	-0.2153	0.1223	-1.1046	0.2061	-0.9698	0.1728
1	0.35	0.7500	-0.2939	0.0151	-0.2649	0.1356	-1.4855	0.2267	-0.9488	0.1730
1	0.35	0.8001	-0.3382	0.0180	-0.3383	0.1522	-1.9284	0.2464	-1.1678	0.1937
1	0.35	0.8497	-0.3508	0.0204	-0.4495	0.1632	-2.3769	0.2684	-1.0066	0.1636
1	0.35	0.9102	-0.3726	0.0224	-0.4404	0.1831	-3.0678	0.2960	-1.7233	0.1615
1	0.35	0.9734	-0.4593	0.0260	-0.5717	0.1991	-3.7021	0.3103	-1.3060	0.1850
2	0	0.1949	-0.0251	0.0032	-0.0283	0.0017	0.0132	0.0036	-0.1046	0.0289
2	0	0.2405	0.0020	0.0024	-0.0423	0.0026	-0.0110	0.0046	-0.4759	0.0654
2	0	0.2999	-0.0354	0.0022	-0.1105	0.0060	-0.0302	0.0100	-0.4171	0.0743
2	0	0.3498	-0.0539	0.0023	-0.2101	0.0088	-0.0348	0.0155	-0.3276	0.0631
2	0	0.3998	-0.0754	0.0035	-0.3078	0.0137	-0.1043	0.0225	-0.4041	0.0728
2	0	0.4496	-0.0943	0.0033	-0.3675	0.0146	-0.2009	0.0295	-0.4785	0.0671
2	0	0.4995	-0.1222	0.0038	-0.4611	0.0176	-0.2884	0.0402	-0.3996	0.0459
2	0	0.5551	-0.1284	0.0064	-0.5370	0.0184	-0.5247	0.0427	-0.5696	0.0787
2	0	0.5996	-0.1285	0.0059	-0.6817	0.0206	-0.7369	0.0507	-0.6235	0.0795
2	0	0.6497	-0.1373	0.0079	-0.7735	0.0234	-1.0173	0.0612	-0.4405	0.0678
2	0	0.6996	-0.1645	0.0095	-0.8850	0.0257	-1.3461	0.0682	-0.4359	0.0699
2	0	0.7495	-0.1704	0.0120	-0.9712	0.0276	-1.7690	0.0742	-0.4633	0.0965
2	0	0.7996	-0.1688	0.0142	-1.0915	0.0343	-2.1928	0.0846	-0.4713	0.0803
2	0	0.8578	-0.1617	0.0172	-1.2165	0.0366	-2.7300	0.0933	-0.2347	0.0772
2	0	0.9727	-0.2378	0.0266	-1.4528	0.0508	-3.9284	0.1075	-0.6747	0.2148

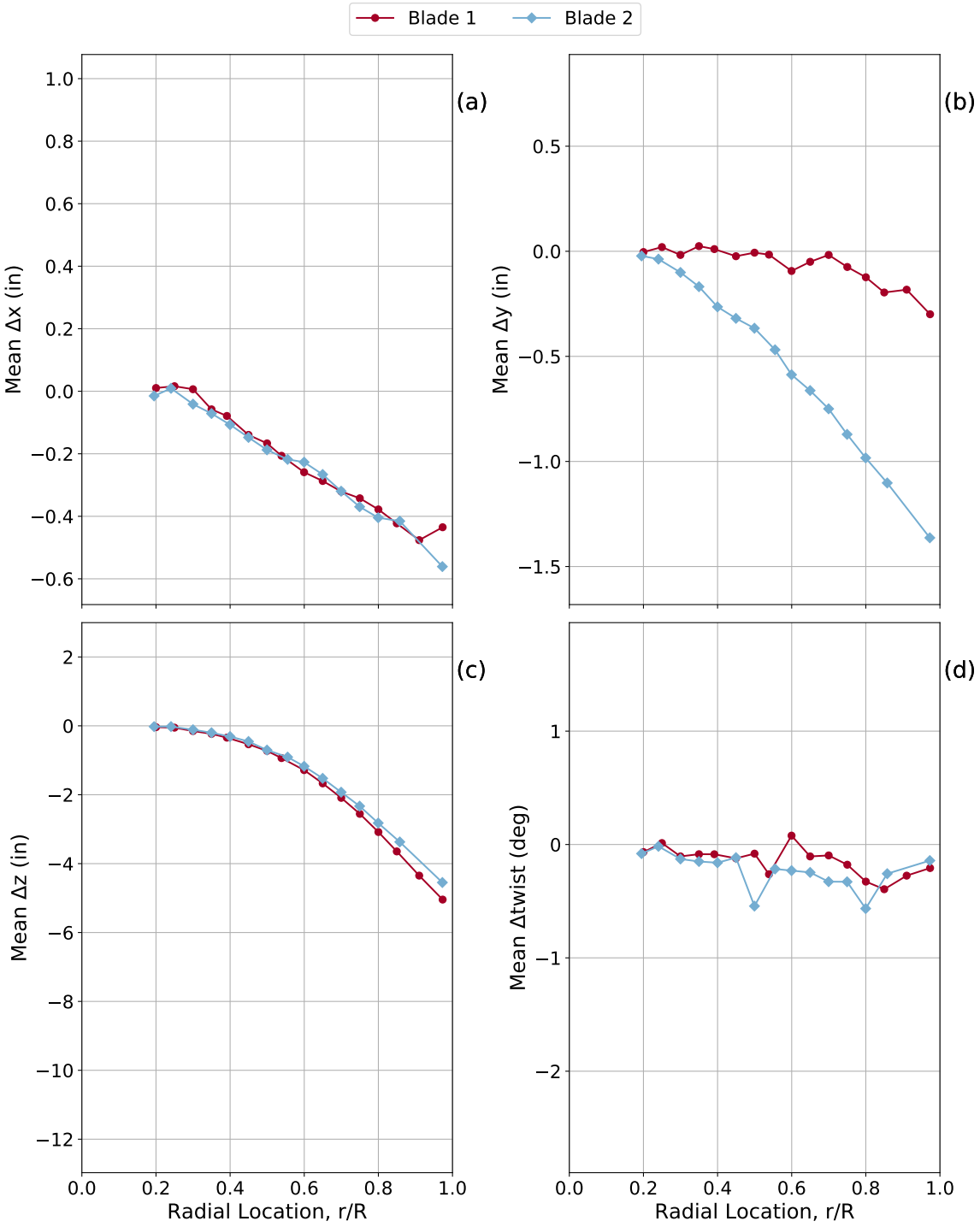


Figure 4.27-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0104	0.0038	-0.0036	0.0027	-0.0382	0.0054	-0.0670	0.0401
1	4.92	0.2499	0.0161	0.0019	0.0200	0.0040	-0.0529	0.0069	0.0128	0.0868
1	4.92	0.2998	0.0065	0.0023	-0.0174	0.0102	-0.1512	0.0159	-0.1048	0.0935
1	4.92	0.3498	-0.0579	0.0027	0.0245	0.0159	-0.2329	0.0254	-0.0855	0.0760
1	4.92	0.3913	-0.0790	0.0034	0.0104	0.0230	-0.3422	0.0339	-0.0860	0.0871
1	4.92	0.4496	-0.1396	0.0034	-0.0235	0.0296	-0.5351	0.0467	-0.1221	0.0735
1	4.92	0.4997	-0.1667	0.0026	-0.0066	0.0341	-0.7268	0.0523	-0.0807	0.0873
1	4.92	0.5387	-0.2064	0.0024	-0.0160	0.0383	-0.9358	0.0598	-0.2624	0.0788
1	4.92	0.5996	-0.2590	0.0025	-0.0937	0.0461	-1.2848	0.0702	0.0783	0.0915
1	4.92	0.6498	-0.2870	0.0032	-0.0500	0.0526	-1.6703	0.0817	-0.1052	0.0833
1	4.92	0.6998	-0.3207	0.0026	-0.0174	0.0591	-2.0905	0.0879	-0.0964	0.0842
1	4.92	0.7500	-0.3424	0.0037	-0.0747	0.0661	-2.5548	0.1002	-0.1783	0.0683
1	4.92	0.8001	-0.3781	0.0033	-0.1236	0.0750	-3.0824	0.1089	-0.3273	0.1055
1	4.92	0.8497	-0.4226	0.0046	-0.1960	0.0819	-3.6456	0.1195	-0.3946	0.0955
1	4.92	0.9102	-0.4762	0.0040	-0.1827	0.0848	-4.3478	0.1291	-0.2748	0.1261
1	4.92	0.9734	-0.4350	0.0039	-0.2996	0.0948	-5.0436	0.1435	-0.2077	0.1134
2	4.92	0.1949	-0.0150	0.0040	-0.0221	0.0020	-0.0232	0.0033	-0.0803	0.0294
2	4.92	0.2405	0.0093	0.0016	-0.0373	0.0038	-0.0216	0.0064	-0.0160	0.0679
2	4.92	0.2999	-0.0412	0.0015	-0.1007	0.0069	-0.1130	0.0121	-0.1279	0.0737
2	4.92	0.3498	-0.0713	0.0034	-0.1684	0.0126	-0.1998	0.0174	-0.1500	0.0841
2	4.92	0.3998	-0.1069	0.0032	-0.2645	0.0187	-0.3107	0.0279	-0.1607	0.0661
2	4.92	0.4496	-0.1477	0.0031	-0.3191	0.0231	-0.4542	0.0319	-0.1159	0.0612
2	4.92	0.4995	-0.1874	0.0032	-0.3661	0.0278	-0.7032	0.0375	-0.5434	0.0909
2	4.92	0.5551	-0.2179	0.0024	-0.4687	0.0329	-0.9067	0.0459	-0.2157	0.0775
2	4.92	0.5996	-0.2268	0.0025	-0.5873	0.0379	-1.1734	0.0469	-0.2303	0.0792
2	4.92	0.6497	-0.2662	0.0029	-0.6627	0.0407	-1.5241	0.0531	-0.2463	0.0653
2	4.92	0.6996	-0.3197	0.0037	-0.7496	0.0462	-1.9263	0.0603	-0.3278	0.0956
2	4.92	0.7495	-0.3695	0.0035	-0.8711	0.0490	-2.3310	0.0628	-0.3288	0.0891
2	4.92	0.7996	-0.4045	0.0041	-0.9832	0.0591	-2.8217	0.0750	-0.5654	0.1130
2	4.92	0.8578	-0.4154	0.0039	-1.1024	0.0643	-3.3705	0.0877	-0.2575	0.1201
2	4.92	0.9727	-0.5609	0.0130	-1.3634	0.0710	-4.5481	0.1095	-0.1418	0.1868

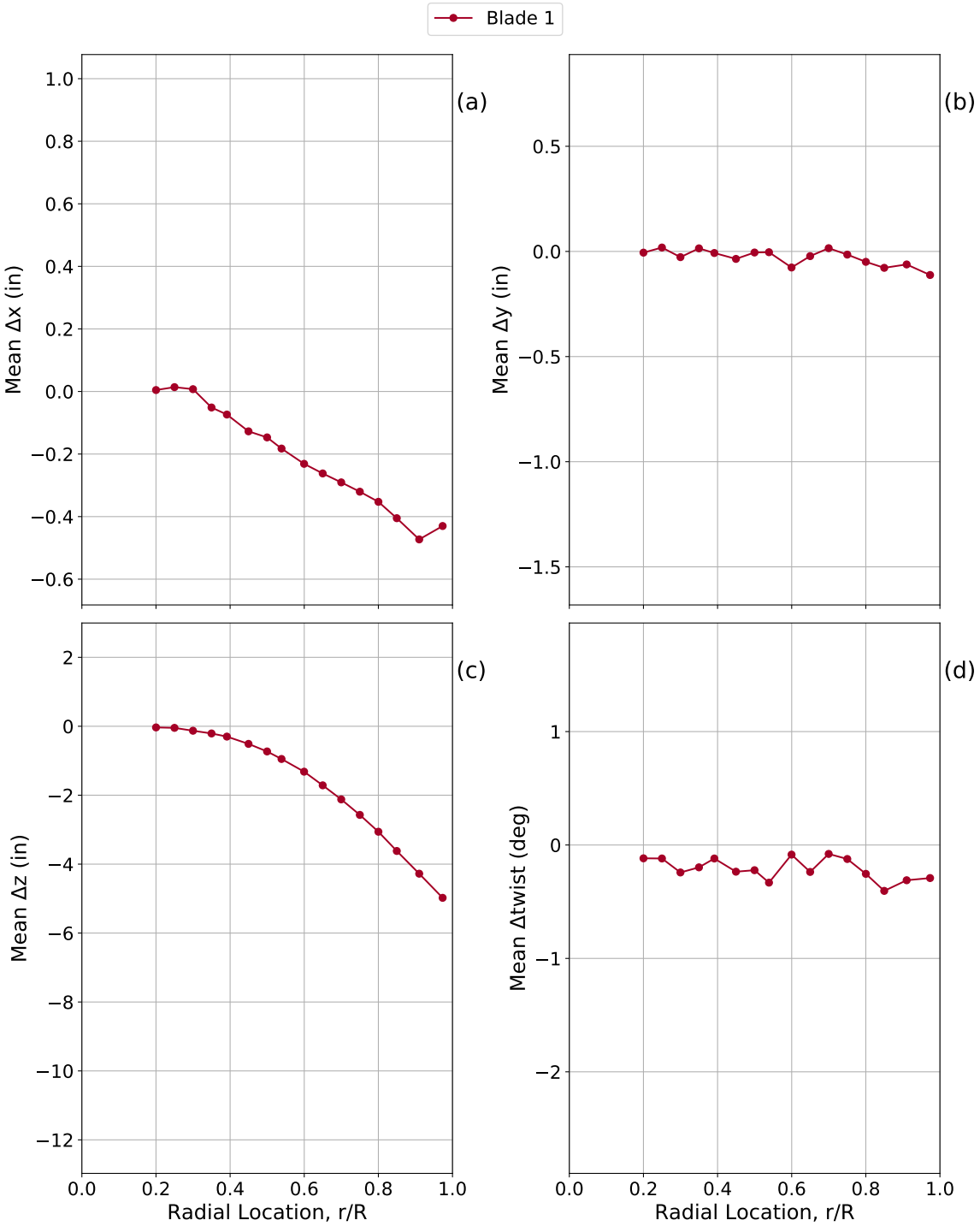


Figure 4.27-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0046	0.0030	-0.0057	0.0018	-0.0336	0.0038	-0.1175	0.0301
1	15.12	0.2499	0.0139	0.0020	0.0185	0.0033	-0.0462	0.0057	-0.1189	0.0379
1	15.12	0.2998	0.0074	0.0022	-0.0272	0.0070	-0.1296	0.0140	-0.2422	0.0602
1	15.12	0.3498	-0.0512	0.0018	0.0146	0.0107	-0.2087	0.0199	-0.1971	0.0609
1	15.12	0.3913	-0.0737	0.0032	-0.0075	0.0158	-0.2997	0.0296	-0.1191	0.0585
1	15.12	0.4496	-0.1274	0.0033	-0.0355	0.0192	-0.5110	0.0396	-0.2354	0.0619
1	15.12	0.4997	-0.1468	0.0034	-0.0051	0.0240	-0.7308	0.0490	-0.2222	0.0604
1	15.12	0.5387	-0.1825	0.0031	-0.0037	0.0274	-0.9491	0.0563	-0.3318	0.0491
1	15.12	0.5996	-0.2313	0.0033	-0.0764	0.0312	-1.3178	0.0654	-0.0848	0.0510
1	15.12	0.6498	-0.2620	0.0029	-0.0223	0.0352	-1.7137	0.0690	-0.2375	0.0555
1	15.12	0.6998	-0.2906	0.0028	0.0154	0.0391	-2.1218	0.0723	-0.0787	0.0593
1	15.12	0.7500	-0.3204	0.0038	-0.0151	0.0438	-2.5717	0.0746	-0.1235	0.0658
1	15.12	0.8001	-0.3527	0.0029	-0.0495	0.0475	-3.0602	0.0784	-0.2544	0.0614
1	15.12	0.8497	-0.4051	0.0024	-0.0780	0.0507	-3.6183	0.0870	-0.4046	0.0613
1	15.12	0.9102	-0.4729	0.0026	-0.0619	0.0527	-4.2773	0.0950	-0.3108	0.0697
1	15.12	0.9734	-0.4301	0.0041	-0.1121	0.0616	-4.9779	0.1103	-0.2915	0.0587

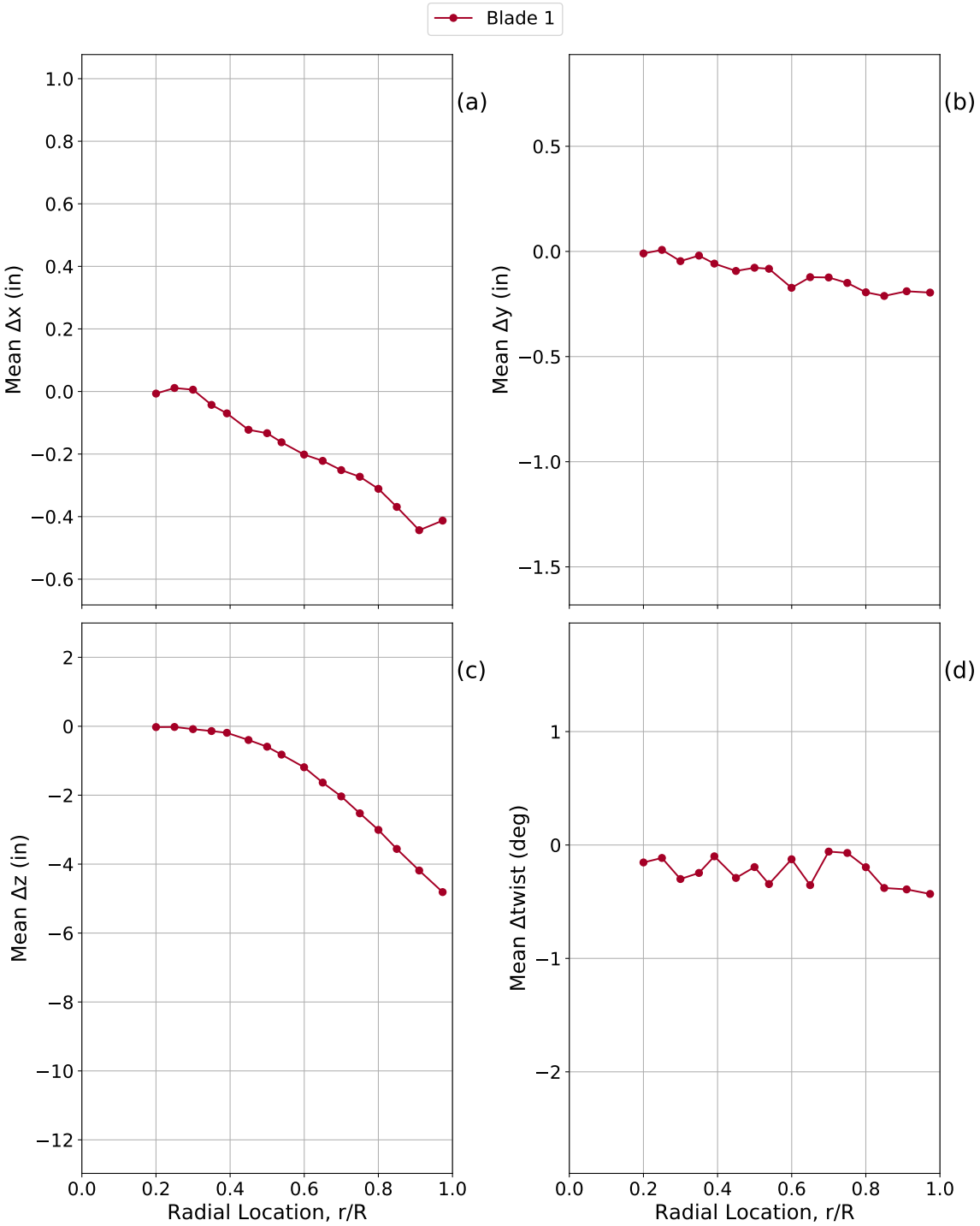


Figure 4.27-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0067	0.0024	-0.0097	0.0010	-0.0235	0.0041	-0.1539	0.0327
1	29.88	0.2499	0.0112	0.0030	0.0073	0.0020	-0.0205	0.0067	-0.1143	0.0639
1	29.88	0.2998	0.0057	0.0014	-0.0461	0.0028	-0.0830	0.0144	-0.3001	0.0743
1	29.88	0.3498	-0.0428	0.0019	-0.0199	0.0047	-0.1388	0.0234	-0.2465	0.0701
1	29.88	0.3913	-0.0700	0.0019	-0.0579	0.0066	-0.1897	0.0333	-0.0999	0.0695
1	29.88	0.4496	-0.1224	0.0027	-0.0929	0.0100	-0.3988	0.0459	-0.2903	0.0718
1	29.88	0.4997	-0.1333	0.0030	-0.0776	0.0113	-0.5931	0.0566	-0.1948	0.0709
1	29.88	0.5387	-0.1624	0.0035	-0.0825	0.0129	-0.8224	0.0658	-0.3445	0.0766
1	29.88	0.5996	-0.2017	0.0027	-0.1729	0.0163	-1.1895	0.0798	-0.1258	0.0760
1	29.88	0.6498	-0.2218	0.0029	-0.1224	0.0179	-1.6339	0.0896	-0.3539	0.0674
1	29.88	0.6998	-0.2514	0.0034	-0.1238	0.0209	-2.0354	0.1006	-0.0582	0.0698
1	29.88	0.7500	-0.2726	0.0038	-0.1499	0.0241	-2.5259	0.1131	-0.0702	0.0717
1	29.88	0.8001	-0.3112	0.0043	-0.1943	0.0268	-3.0068	0.1259	-0.1958	0.0707
1	29.88	0.8497	-0.3690	0.0037	-0.2117	0.0300	-3.5589	0.1404	-0.3791	0.0646
1	29.88	0.9102	-0.4435	0.0043	-0.1894	0.0338	-4.1851	0.1579	-0.3914	0.0679
1	29.88	0.9734	-0.4128	0.0055	-0.1957	0.0388	-4.8115	0.1803	-0.4317	0.0560

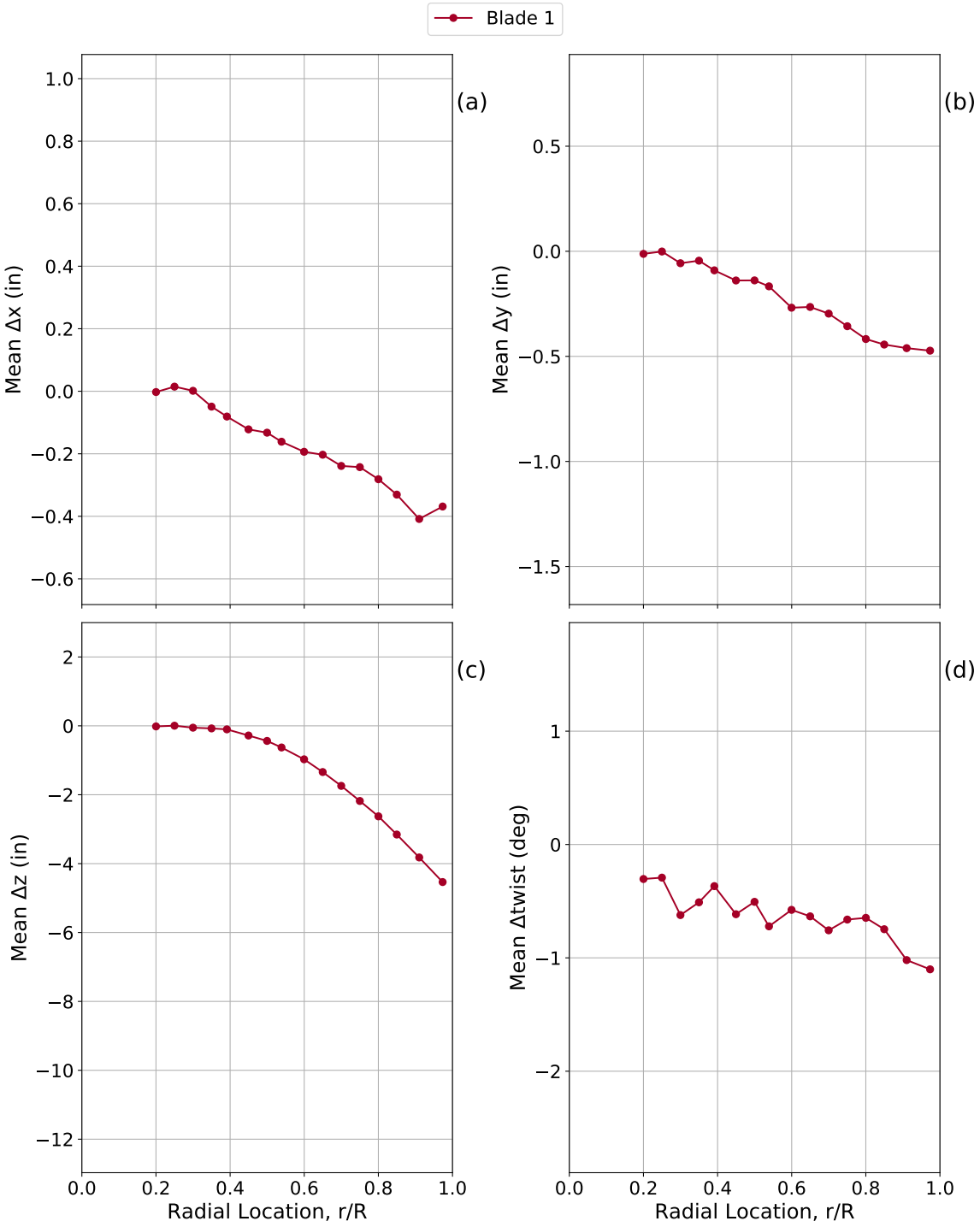


Figure 4.27-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0025	0.0025	-0.0123	0.0013	-0.0162	0.0033	-0.3044	0.0260
1	45	0.2499	0.0148	0.0020	-0.0011	0.0015	0.0044	0.0072	-0.2923	0.0463
1	45	0.2998	0.0015	0.0013	-0.0568	0.0042	-0.0533	0.0131	-0.6225	0.0593
1	45	0.3498	-0.0491	0.0019	-0.0447	0.0072	-0.0747	0.0225	-0.5099	0.0528
1	45	0.3913	-0.0809	0.0029	-0.0907	0.0096	-0.1021	0.0326	-0.3672	0.0441
1	45	0.4496	-0.1219	0.0026	-0.1389	0.0122	-0.2805	0.0420	-0.6150	0.0551
1	45	0.4997	-0.1325	0.0023	-0.1385	0.0154	-0.4375	0.0518	-0.5058	0.0516
1	45	0.5387	-0.1614	0.0030	-0.1668	0.0173	-0.6280	0.0613	-0.7220	0.0387
1	45	0.5996	-0.1936	0.0024	-0.2684	0.0202	-0.9716	0.0708	-0.5766	0.0465
1	45	0.6498	-0.2030	0.0028	-0.2650	0.0231	-1.3411	0.0790	-0.6338	0.0479
1	45	0.6998	-0.2389	0.0025	-0.2966	0.0263	-1.7423	0.0852	-0.7571	0.0475
1	45	0.7500	-0.2427	0.0015	-0.3566	0.0285	-2.1810	0.0926	-0.6622	0.0483
1	45	0.8001	-0.2814	0.0017	-0.4175	0.0319	-2.6271	0.1025	-0.6470	0.0423
1	45	0.8497	-0.3306	0.0018	-0.4438	0.0345	-3.1551	0.1150	-0.7474	0.0403
1	45	0.9102	-0.4085	0.0014	-0.4609	0.0378	-3.8211	0.1286	-1.0198	0.0603
1	45	0.9734	-0.3687	0.0026	-0.4729	0.0416	-4.5349	0.1456	-1.1012	0.0517

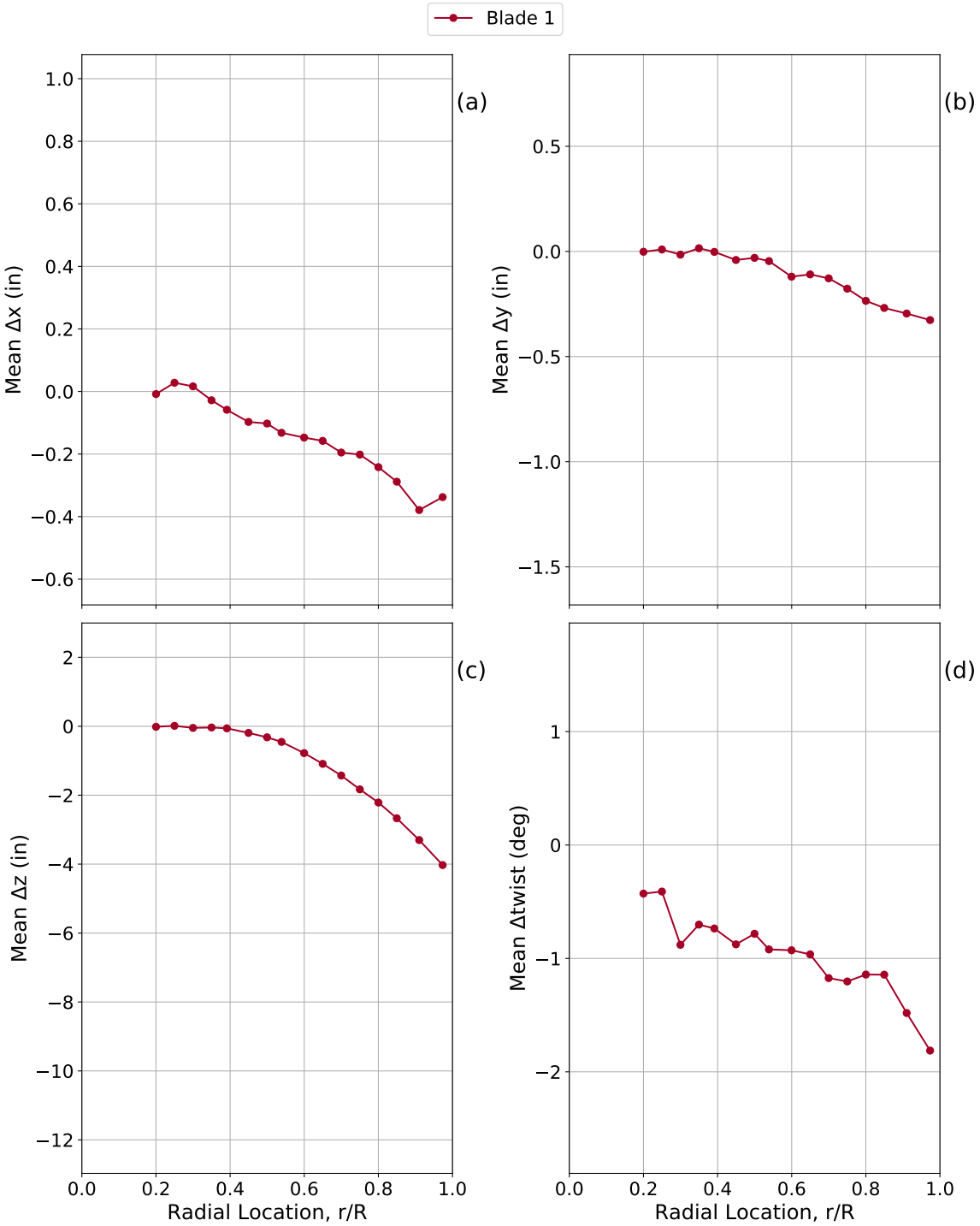


Figure 4.27-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0082	0.0031	-0.0015	0.0019	-0.0151	0.0045	-0.4285	0.0335
1	60.12	0.2499	0.0279	0.0017	0.0093	0.0026	0.0126	0.0063	-0.4106	0.0548
1	60.12	0.2998	0.0164	0.0014	-0.0154	0.0064	-0.0473	0.0139	-0.8801	0.0713
1	60.12	0.3498	-0.0281	0.0020	0.0153	0.0102	-0.0354	0.0233	-0.7018	0.0634
1	60.12	0.3913	-0.0586	0.0017	-0.0022	0.0143	-0.0602	0.0312	-0.7360	0.0548
1	60.12	0.4496	-0.0973	0.0020	-0.0407	0.0188	-0.1923	0.0425	-0.8762	0.0647
1	60.12	0.4997	-0.1025	0.0020	-0.0306	0.0224	-0.3203	0.0539	-0.7827	0.0594
1	60.12	0.5387	-0.1321	0.0024	-0.0459	0.0263	-0.4542	0.0608	-0.9207	0.0548
1	60.12	0.5996	-0.1473	0.0029	-0.1200	0.0306	-0.7785	0.0702	-0.9281	0.0573
1	60.12	0.6498	-0.1579	0.0024	-0.1093	0.0351	-1.0905	0.0790	-0.9642	0.0516
1	60.12	0.6998	-0.1952	0.0026	-0.1280	0.0397	-1.4290	0.0857	-1.1735	0.0441
1	60.12	0.7500	-0.2017	0.0025	-0.1771	0.0448	-1.8310	0.0923	-1.2032	0.0503
1	60.12	0.8001	-0.2419	0.0026	-0.2349	0.0490	-2.2132	0.0990	-1.1424	0.0515
1	60.12	0.8497	-0.2884	0.0034	-0.2687	0.0525	-2.6690	0.1093	-1.1434	0.0451
1	60.12	0.9102	-0.3790	0.0030	-0.2954	0.0584	-3.3017	0.1199	-1.4814	0.0533
1	60.12	0.9734	-0.3377	0.0031	-0.3264	0.0633	-4.0269	0.1375	-1.8127	0.0462

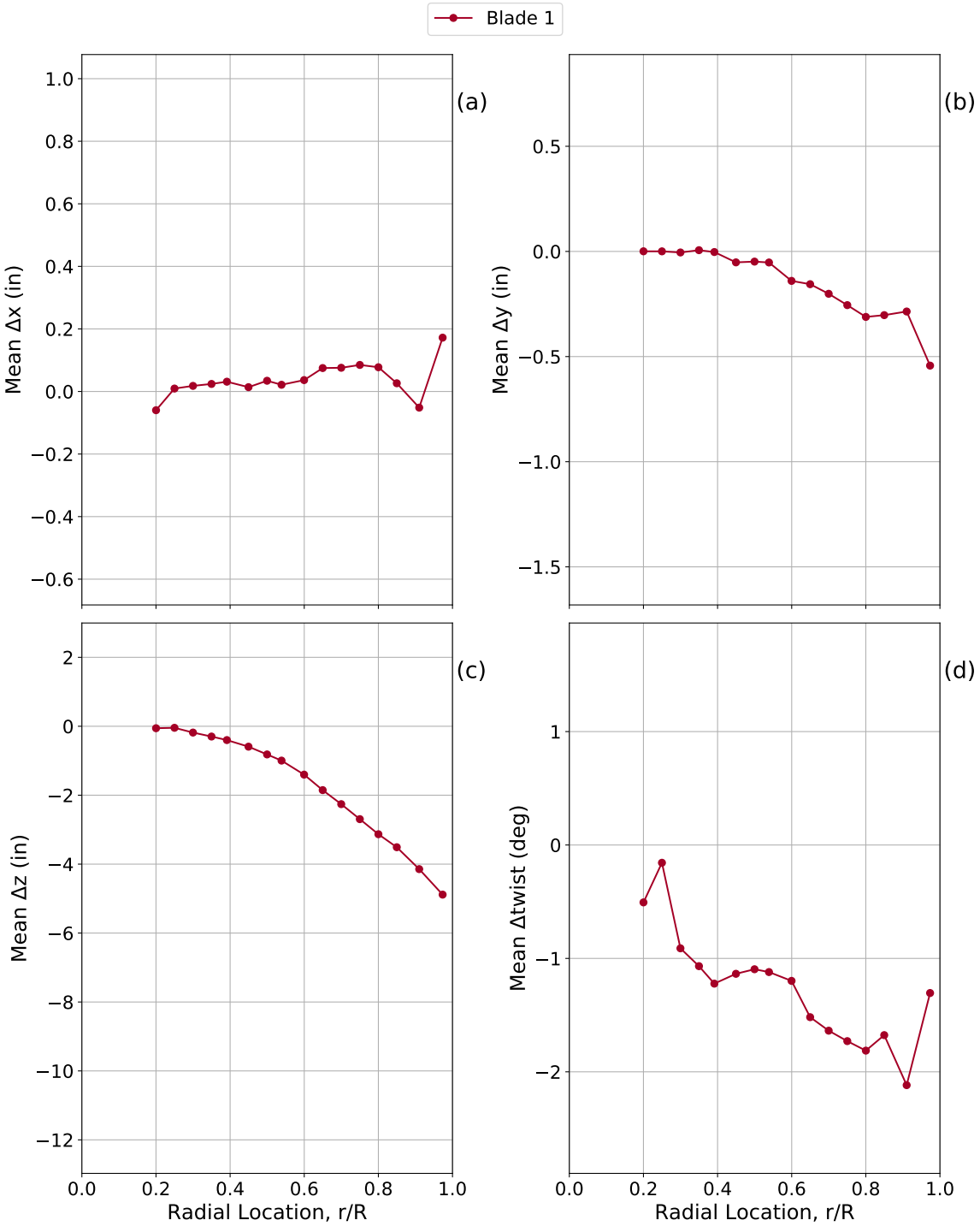


Figure 4.27-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0599	0.0120	0.0006	0.0040	-0.0566	0.0149	-0.5061	0.1105
1	74.88	0.2499	0.0094	0.0041	0.0004	0.0045	-0.0444	0.0174	-0.1567	0.2819
1	74.88	0.2998	0.0179	0.0051	-0.0049	0.0136	-0.1826	0.0492	-0.9110	0.2926
1	74.88	0.3498	0.0241	0.0052	0.0059	0.0230	-0.2982	0.0820	-1.0683	0.2973
1	74.88	0.3913	0.0313	0.0062	-0.0029	0.0313	-0.4007	0.1116	-1.2224	0.2946
1	74.88	0.4496	0.0138	0.0078	-0.0520	0.0421	-0.5920	0.1500	-1.1357	0.3060
1	74.88	0.4997	0.0343	0.0073	-0.0484	0.0523	-0.8174	0.1862	-1.0955	0.3037
1	74.88	0.5387	0.0215	0.0076	-0.0526	0.0602	-0.9962	0.2126	-1.1203	0.3019
1	74.88	0.5996	0.0364	0.0077	-0.1401	0.0734	-1.4031	0.2552	-1.1980	0.3069
1	74.88	0.6498	0.0749	0.0080	-0.1558	0.0844	-1.8529	0.2910	-1.5181	0.3097
1	74.88	0.6998	0.0758	0.0097	-0.2014	0.0959	-2.2597	0.3276	-1.6371	0.3034
1	74.88	0.7500	0.0849	0.0110	-0.2554	0.1074	-2.6948	0.3632	-1.7293	0.3021
1	74.88	0.8001	0.0775	0.0137	-0.3114	0.1185	-3.1322	0.3990	-1.8131	0.3068
1	74.88	0.8497	0.0263	0.0164	-0.3030	0.1293	-3.5097	0.4337	-1.6763	0.3113
1	74.88	0.9102	-0.0516	0.0205	-0.2857	0.1422	-4.1448	0.4771	-2.1175	0.3092
1	74.88	0.9734	0.1721	0.0242	-0.5430	0.1557	-4.8847	0.5245	-1.3051	0.3106

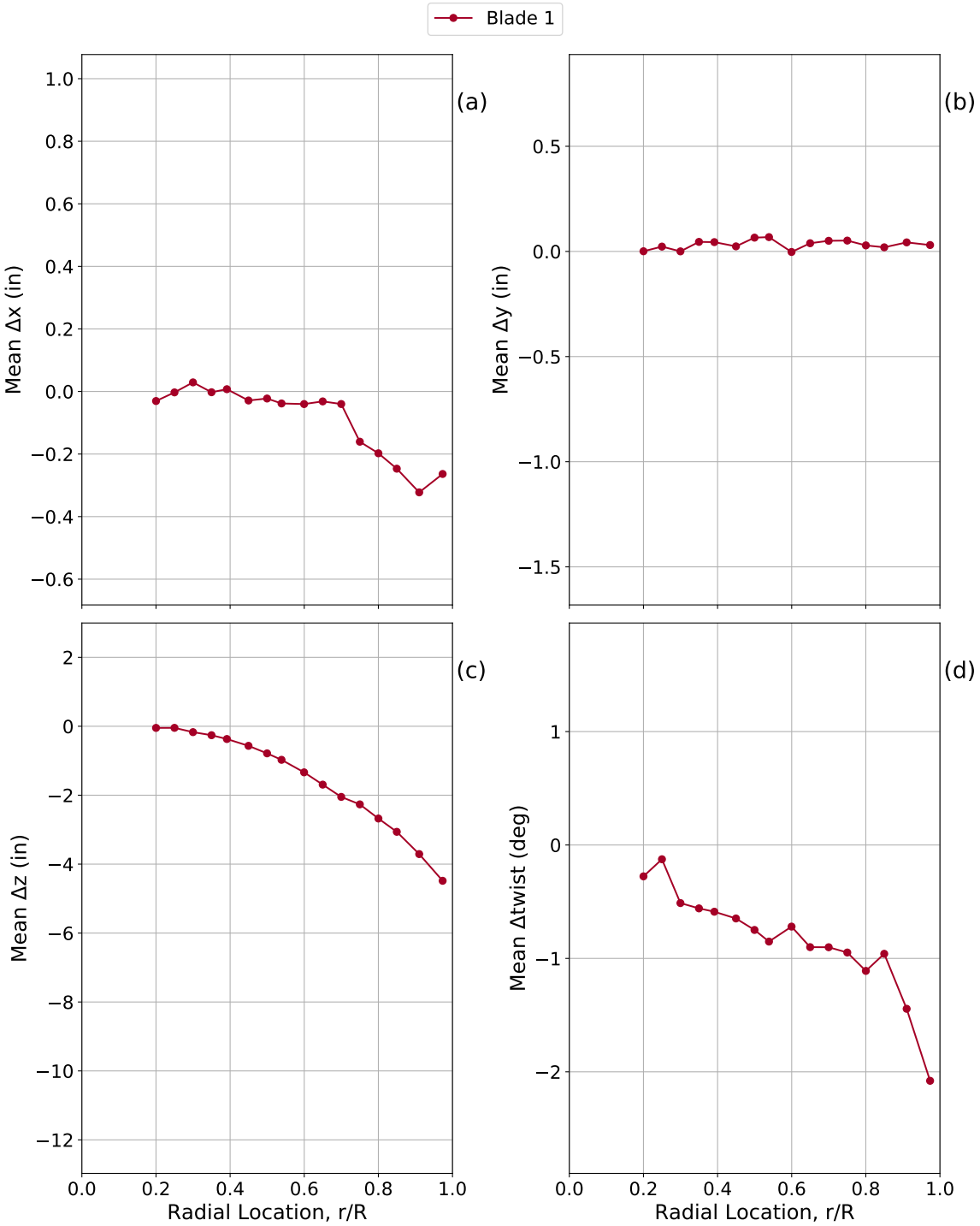


Figure 4.27-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0305	0.0023	0.0008	0.0021	-0.0475	0.0044	-0.2765	0.0269
1	80.16	0.2499	-0.0029	0.0025	0.0230	0.0018	-0.0459	0.0066	-0.1257	0.0649
1	80.16	0.2998	0.0291	0.0013	0.0003	0.0065	-0.1704	0.0128	-0.5121	0.0547
1	80.16	0.3498	-0.0024	0.0017	0.0454	0.0101	-0.2594	0.0190	-0.5589	0.0554
1	80.16	0.3913	0.0073	0.0023	0.0443	0.0135	-0.3700	0.0270	-0.5883	0.0491
1	80.16	0.4496	-0.0288	0.0048	0.0241	0.0177	-0.5676	0.0373	-0.6477	0.0580
1	80.16	0.4997	-0.0225	0.0061	0.0656	0.0206	-0.7859	0.0430	-0.7491	0.0498
1	80.16	0.5387	-0.0383	0.0060	0.0681	0.0227	-0.9735	0.0491	-0.8515	0.0579
1	80.16	0.5996	-0.0402	0.0074	-0.0026	0.0258	-1.3371	0.0596	-0.7195	0.0470
1	80.16	0.6498	-0.0317	0.0097	0.0390	0.0292	-1.6932	0.0716	-0.9007	0.0751
1	80.16	0.6998	-0.0401	0.0097	0.0506	0.0314	-2.0495	0.0756	-0.9015	0.1167
1	80.16	0.7500	-0.1606	0.0046	0.0516	0.0403	-2.2662	0.0813	-0.9481	0.0648
1	80.16	0.8001	-0.1976	0.0041	0.0287	0.0433	-2.6767	0.0926	-1.1101	0.0545
1	80.16	0.8497	-0.2468	0.0041	0.0196	0.0470	-3.0625	0.0999	-0.9593	0.0614
1	80.16	0.9102	-0.3225	0.0039	0.0430	0.0511	-3.7087	0.1102	-1.4442	0.0640
1	80.16	0.9734	-0.2637	0.0039	0.0304	0.0555	-4.4836	0.1204	-2.0791	0.0706

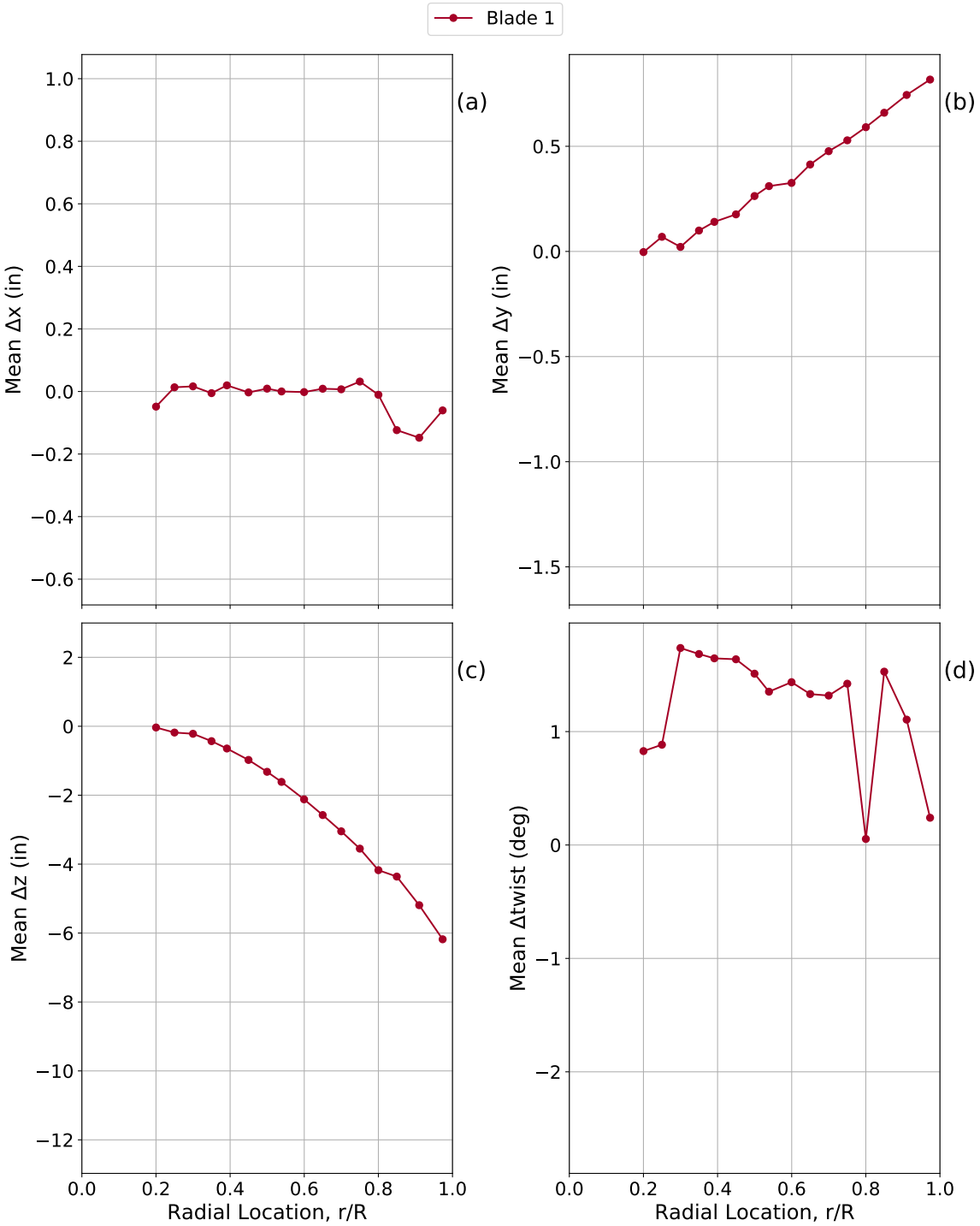


Figure 4.27-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0484	0.0036	-0.0031	0.0014	-0.0357	0.0029	0.8279	0.0883
1	85.08	0.2499	0.0134	0.0016	0.0696	0.0060	-0.1822	0.0133	0.8841	0.0764
1	85.08	0.2998	0.0164	0.0022	0.0215	0.0065	-0.2177	0.0122	1.7368	0.1769
1	85.08	0.3498	-0.0053	0.0022	0.0993	0.0121	-0.4318	0.0248	1.6839	0.1618
1	85.08	0.3913	0.0196	0.0017	0.1406	0.0182	-0.6454	0.0374	1.6458	0.1595
1	85.08	0.4496	-0.0030	0.0025	0.1763	0.0239	-0.9771	0.0498	1.6375	0.1616
1	85.08	0.4997	0.0091	0.0019	0.2634	0.0298	-1.3212	0.0596	1.5105	0.1665
1	85.08	0.5387	0.0001	0.0026	0.3106	0.0355	-1.6142	0.0695	1.3518	0.1675
1	85.08	0.5996	-0.0019	0.0031	0.3259	0.0427	-2.1204	0.0831	1.4358	0.1692
1	85.08	0.6498	0.0088	0.0036	0.4134	0.0495	-2.5758	0.0930	1.3307	0.1934
1	85.08	0.6998	0.0070	0.0024	0.4767	0.0568	-3.0481	0.1078	1.3175	0.1584
1	85.08	0.7500	0.0317	0.0066	0.5284	0.0625	-3.5505	0.1208	1.4221	0.2409
1	85.08	0.8001	-0.0105	0.0059	0.5908	0.0752	-4.1757	0.1451	0.0534	0.1608
1	85.08	0.8497	-0.1236	0.0067	0.6596	0.0905	-4.3612	0.1071	1.5284	0.1666
1	85.08	0.9102	-0.1479	0.0030	0.7441	0.1002	-5.1912	0.1172	1.1054	0.1687
1	85.08	0.9734	-0.0605	0.0065	0.8173	0.1082	-6.1808	0.1272	0.2402	0.1830

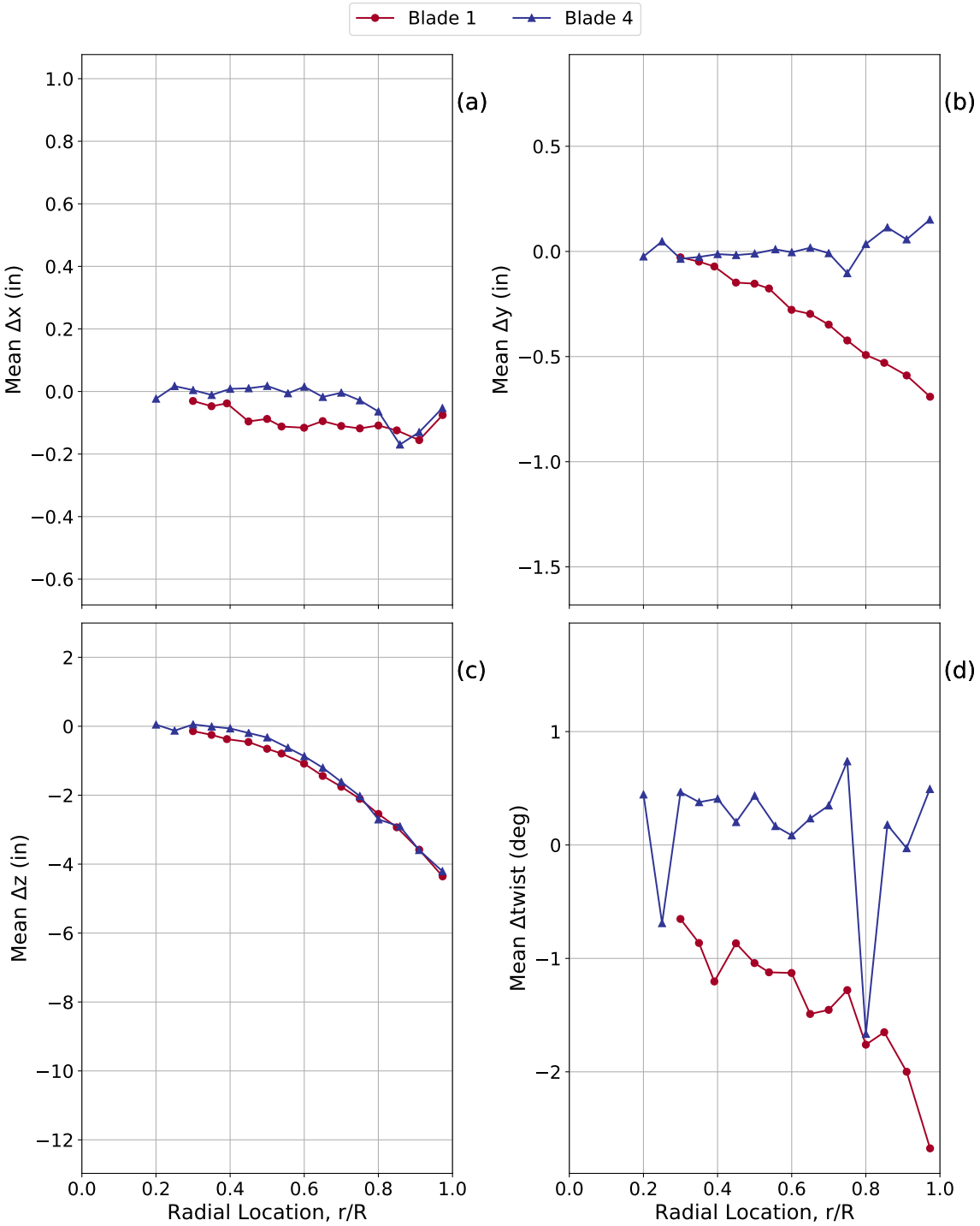


Figure 4.27-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2998	-0.0303	0.0064	-0.0280	0.0201	-0.1415	0.1124	-0.6523	0.2574
1	90	0.3498	-0.0471	0.0080	-0.0485	0.0348	-0.2499	0.1934	-0.8638	0.3384
1	90	0.3913	-0.0380	0.0057	-0.0717	0.0513	-0.3728	0.2848	-1.2034	0.2964
1	90	0.4496	-0.0957	0.0079	-0.1481	0.0712	-0.4573	0.3935	-0.8668	0.3163
1	90	0.4997	-0.0878	0.0068	-0.1534	0.0883	-0.6529	0.4931	-1.0412	0.2999
1	90	0.5387	-0.1120	0.0075	-0.1762	0.1020	-0.7919	0.5659	-1.1225	0.3250
1	90	0.5996	-0.1159	0.0079	-0.2777	0.1237	-1.0852	0.6866	-1.1284	0.3102
1	90	0.6498	-0.0947	0.0085	-0.2972	0.1425	-1.4406	0.7840	-1.4900	0.3082
1	90	0.6998	-0.1103	0.0096	-0.3480	0.1606	-1.7542	0.8827	-1.4537	0.2980
1	90	0.7500	-0.1180	0.0117	-0.4235	0.1726	-2.1061	0.9784	-1.2796	0.3726
1	90	0.8001	-0.1087	0.0127	-0.4924	0.1980	-2.5445	1.0775	-1.7607	0.3121
1	90	0.8497	-0.1243	0.0153	-0.5298	0.2167	-2.9317	1.1737	-1.6509	0.3122
1	90	0.9102	-0.1555	0.0182	-0.5898	0.2402	-3.5830	1.2896	-1.9995	0.3147
1	90	0.9734	-0.0753	0.0181	-0.6911	0.2665	-4.3557	1.4147	-2.6748	0.3053
4	90.35	0.2001	-0.0231	0.0039	-0.0243	0.0016	0.0471	0.0034	0.4451	0.0408
4	90.35	0.2502	0.0171	0.0020	0.0476	0.0028	-0.1280	0.0060	-0.6893	0.0749
4	90.35	0.3001	0.0044	0.0025	-0.0351	0.0057	0.0529	0.0100	0.4665	0.0945
4	90.35	0.3502	-0.0112	0.0022	-0.0262	0.0105	-0.0095	0.0173	0.3775	0.0951
4	90.35	0.4002	0.0085	0.0032	-0.0129	0.0154	-0.0635	0.0254	0.4076	0.0926
4	90.35	0.4500	0.0102	0.0036	-0.0174	0.0195	-0.1956	0.0337	0.2018	0.0897
4	90.35	0.5001	0.0177	0.0032	-0.0103	0.0236	-0.3249	0.0394	0.4340	0.1000
4	90.35	0.5560	-0.0058	0.0037	0.0100	0.0289	-0.6251	0.0491	0.1665	0.0963
4	90.35	0.6001	0.0151	0.0028	-0.0040	0.0325	-0.8701	0.0544	0.0846	0.0930
4	90.35	0.6501	-0.0176	0.0035	0.0174	0.0365	-1.2040	0.0631	0.2344	0.1006
4	90.35	0.6999	-0.0039	0.0033	-0.0085	0.0407	-1.6127	0.0707	0.3481	0.1038
4	90.35	0.7500	-0.0284	0.0053	-0.1036	0.0449	-2.0271	0.0775	0.7383	0.1000
4	90.35	0.8002	-0.0641	0.0050	0.0352	0.0508	-2.7042	0.0935	-1.6655	0.2257
4	90.35	0.8582	-0.1697	0.0043	0.1141	0.0642	-2.9049	0.0917	0.1779	0.1160
4	90.35	0.9101	-0.1301	0.0036	0.0570	0.0695	-3.5925	0.1012	-0.0284	0.1065
4	90.35	0.9728	-0.0531	0.0068	0.1511	0.0746	-4.2071	0.1184	0.4931	0.0901

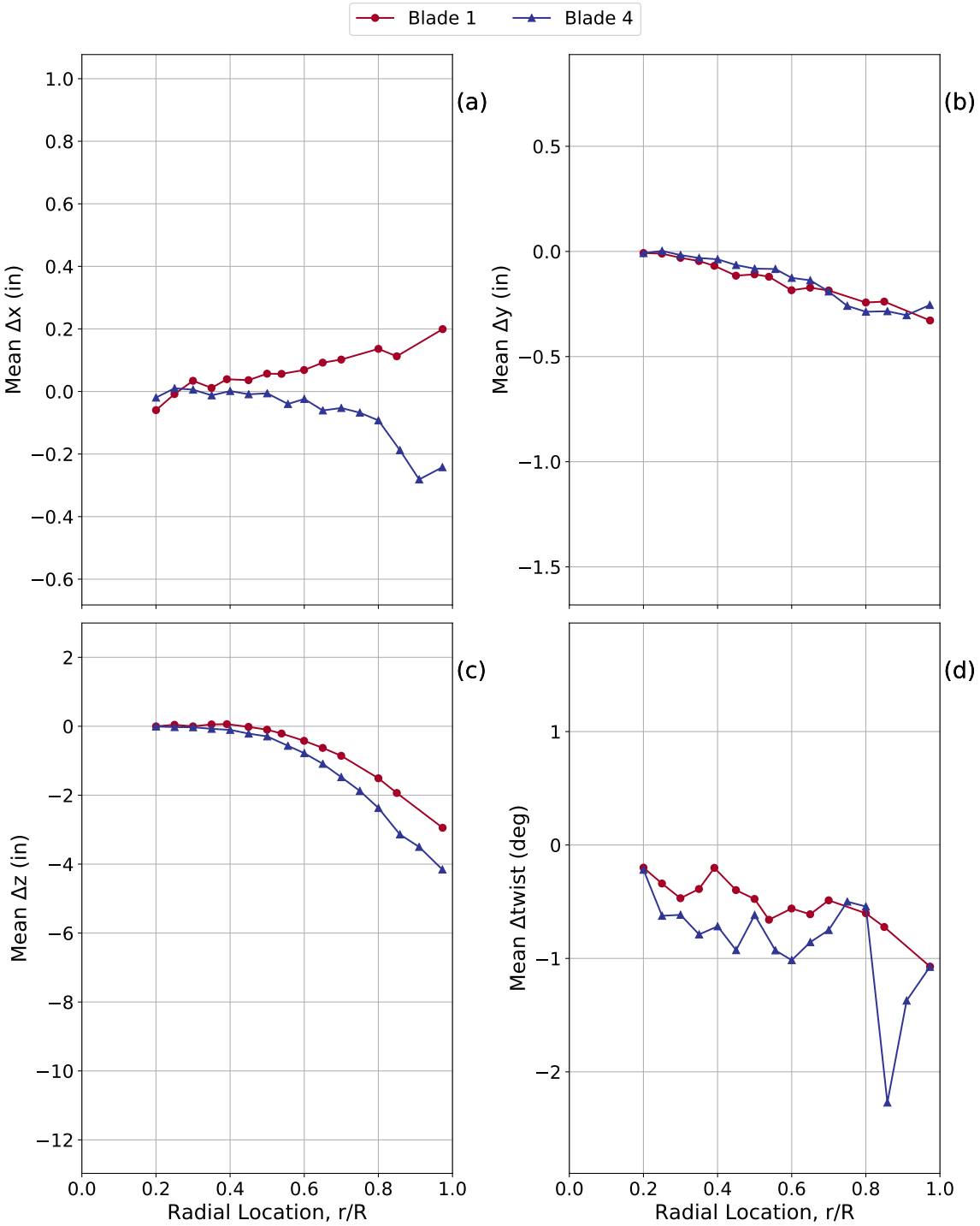


Figure 4.27-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0596	0.0018	-0.0075	0.0008	-0.0031	0.0015	-0.1997	0.0210
1	94.92	0.2499	-0.0083	0.0006	-0.0105	0.0016	0.0430	0.0023	-0.3396	0.0304
1	94.92	0.2998	0.0342	0.0009	-0.0304	0.0029	-0.0024	0.0045	-0.4692	0.0465
1	94.92	0.3498	0.0114	0.0016	-0.0458	0.0057	0.0534	0.0083	-0.3880	0.0349
1	94.92	0.3913	0.0392	0.0008	-0.0683	0.0076	0.0611	0.0108	-0.2018	0.0398
1	94.92	0.4496	0.0362	0.0013	-0.1153	0.0107	-0.0176	0.0154	-0.3976	0.0371
1	94.92	0.4997	0.0569	0.0018	-0.1090	0.0135	-0.0991	0.0196	-0.4757	0.0376
1	94.92	0.5387	0.0563	0.0021	-0.1204	0.0155	-0.2108	0.0240	-0.6592	0.0330
1	94.92	0.5996	0.0686	0.0012	-0.1845	0.0198	-0.4221	0.0278	-0.5600	0.0420
1	94.92	0.6498	0.0922	0.0030	-0.1723	0.0237	-0.6274	0.0349	-0.6108	0.0378
1	94.92	0.6998	0.1020	0.0027	-0.1857	0.0275	-0.8570	0.0398	-0.4877	0.0443
1	94.92	0.8001	0.1363	0.0042	-0.2428	0.0358	-1.5095	0.0529	-0.6023	0.0799
1	94.92	0.8497	0.1125	0.0044	-0.2386	0.0405	-1.9358	0.0554	-0.7229	0.0745
1	94.92	0.9734	0.1993	0.0071	-0.3283	0.0510	-2.9454	0.0898	-1.0723	0.0940
4	94.92	0.2001	-0.0195	0.0054	-0.0081	0.0019	-0.0066	0.0036	-0.2186	0.0528
4	94.92	0.2502	0.0102	0.0021	0.0023	0.0042	-0.0246	0.0097	-0.6242	0.0862
4	94.92	0.3001	0.0058	0.0016	-0.0174	0.0070	-0.0289	0.0143	-0.6160	0.1195
4	94.92	0.3502	-0.0124	0.0021	-0.0312	0.0124	-0.0745	0.0236	-0.7886	0.1315
4	94.92	0.4002	0.0014	0.0031	-0.0374	0.0191	-0.1053	0.0376	-0.7170	0.1401
4	94.92	0.4500	-0.0089	0.0045	-0.0648	0.0219	-0.2132	0.0417	-0.9274	0.1447
4	94.92	0.5001	-0.0059	0.0033	-0.0818	0.0259	-0.2948	0.0511	-0.6178	0.1341
4	94.92	0.5560	-0.0400	0.0040	-0.0837	0.0309	-0.5670	0.0648	-0.9292	0.1253
4	94.92	0.6001	-0.0240	0.0039	-0.1258	0.0358	-0.7811	0.0741	-1.0155	0.1295
4	94.92	0.6501	-0.0606	0.0061	-0.1373	0.0411	-1.0902	0.0869	-0.8569	0.1339
4	94.92	0.6999	-0.0528	0.0061	-0.1906	0.0473	-1.4765	0.1007	-0.7500	0.1324
4	94.92	0.7500	-0.0678	0.0095	-0.2590	0.0527	-1.8761	0.1149	-0.4995	0.1278
4	94.92	0.8002	-0.0925	0.0089	-0.2869	0.0584	-2.3717	0.1290	-0.5424	0.1501
4	94.92	0.8582	-0.1878	0.0114	-0.2844	0.0714	-3.1387	0.1637	-2.2712	0.1566
4	94.92	0.9101	-0.2813	0.0053	-0.3035	0.0919	-3.5013	0.1385	-1.3725	0.1210
4	94.92	0.9728	-0.2421	0.0042	-0.2545	0.1006	-4.1572	0.1541	-1.0746	0.1446

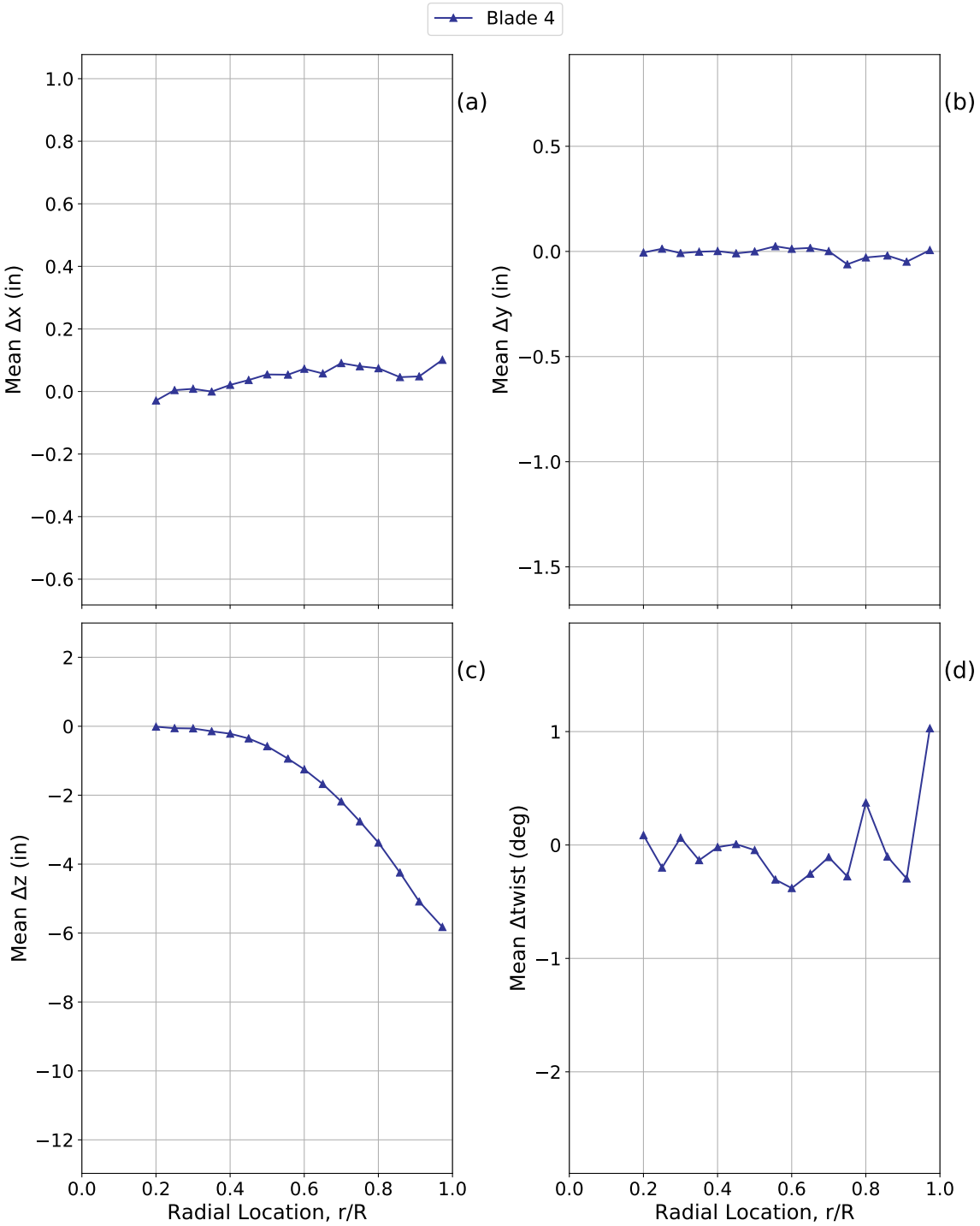


Figure 4.27-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0290	0.0007	-0.0053	0.0003	-0.0130	0.0010	0.0864	0.0159
4	105.12	0.2502	0.0042	0.0007	0.0127	0.0009	-0.0567	0.0021	-0.1999	0.0174
4	105.12	0.3001	0.0085	0.0010	-0.0080	0.0013	-0.0633	0.0041	0.0632	0.0326
4	105.12	0.3502	-0.0003	0.0007	-0.0016	0.0021	-0.1451	0.0066	-0.1343	0.0292
4	105.12	0.4002	0.0210	0.0012	0.0014	0.0035	-0.2157	0.0103	-0.0189	0.0278
4	105.12	0.4500	0.0366	0.0013	-0.0092	0.0044	-0.3547	0.0111	0.0075	0.0297
4	105.12	0.5001	0.0544	0.0015	-0.0001	0.0056	-0.5804	0.0127	-0.0452	0.0386
4	105.12	0.5560	0.0536	0.0017	0.0246	0.0073	-0.9401	0.0143	-0.3052	0.0340
4	105.12	0.6001	0.0724	0.0019	0.0121	0.0091	-1.2505	0.0163	-0.3804	0.0302
4	105.12	0.6501	0.0575	0.0025	0.0167	0.0103	-1.6761	0.0175	-0.2539	0.0358
4	105.12	0.6999	0.0905	0.0019	0.0011	0.0117	-2.1821	0.0215	-0.1073	0.0344
4	105.12	0.7500	0.0804	0.0016	-0.0615	0.0143	-2.7604	0.0269	-0.2774	0.0488
4	105.12	0.8002	0.0741	0.0024	-0.0289	0.0162	-3.3765	0.0279	0.3739	0.0465
4	105.12	0.8582	0.0458	0.0046	-0.0197	0.0191	-4.2464	0.0347	-0.1027	0.0761
4	105.12	0.9101	0.0482	0.0041	-0.0491	0.0207	-5.0855	0.0377	-0.2960	0.0681
4	105.12	0.9728	0.1010	0.0048	0.0061	0.0239	-5.8259	0.0466	1.0280	0.0688

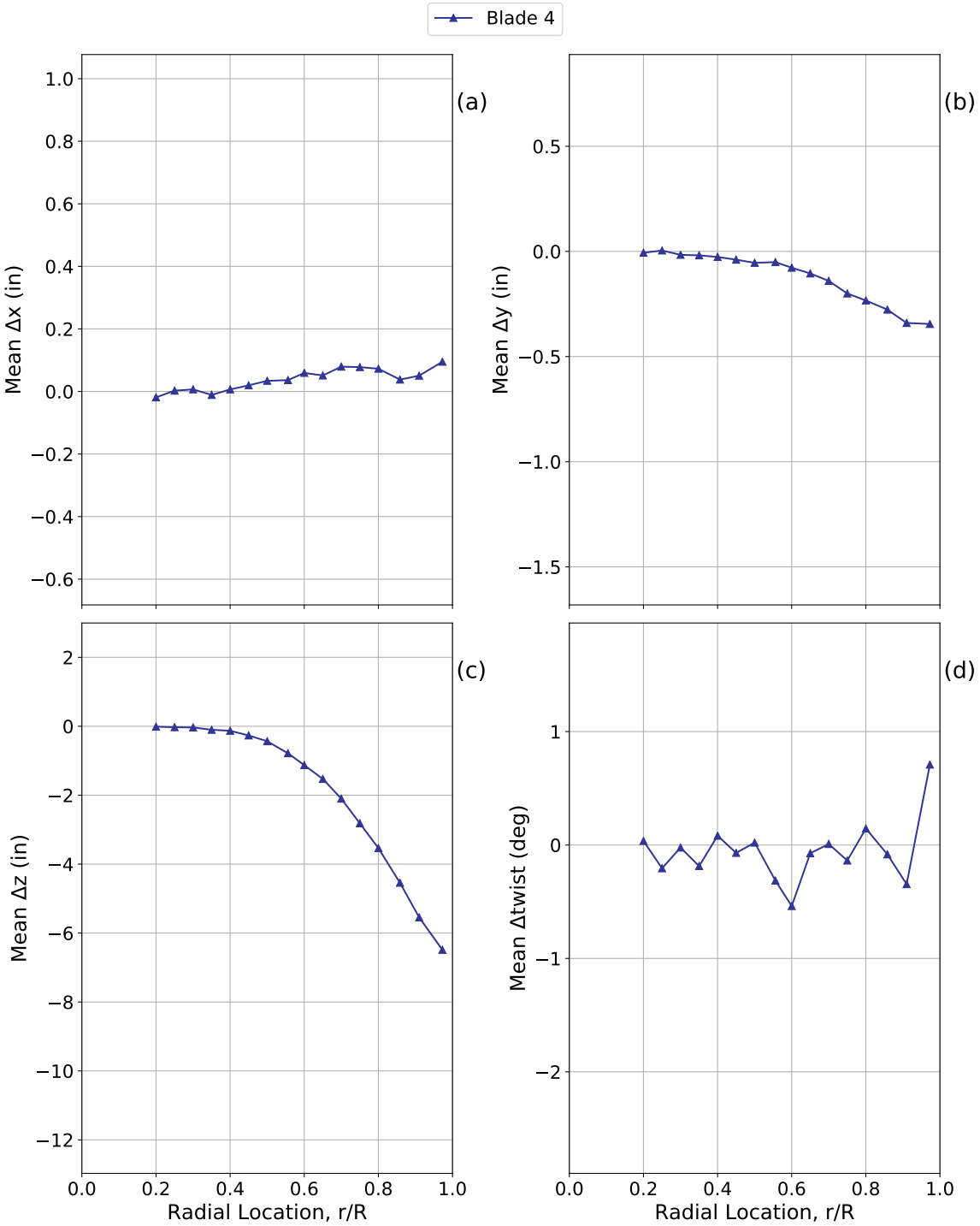


Figure 4.27-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0189	0.0006	-0.0063	0.0005	-0.0123	0.0014	0.0357	0.0116
4	119.88	0.2502	0.0027	0.0006	0.0044	0.0011	-0.0282	0.0019	-0.2056	0.0266
4	119.88	0.3001	0.0067	0.0007	-0.0162	0.0019	-0.0346	0.0049	-0.0227	0.0289
4	119.88	0.3502	-0.0110	0.0013	-0.0186	0.0034	-0.1028	0.0077	-0.1858	0.0231
4	119.88	0.4002	0.0066	0.0010	-0.0264	0.0052	-0.1306	0.0116	0.0816	0.0324
4	119.88	0.4500	0.0196	0.0014	-0.0392	0.0067	-0.2664	0.0137	-0.0696	0.0324
4	119.88	0.5001	0.0341	0.0014	-0.0543	0.0088	-0.4352	0.0171	0.0209	0.0314
4	119.88	0.5560	0.0362	0.0013	-0.0508	0.0108	-0.7825	0.0230	-0.3139	0.0242
4	119.88	0.6001	0.0594	0.0015	-0.0776	0.0129	-1.1281	0.0270	-0.5385	0.0326
4	119.88	0.6501	0.0511	0.0017	-0.1047	0.0150	-1.5280	0.0320	-0.0728	0.0246
4	119.88	0.6999	0.0794	0.0025	-0.1403	0.0175	-2.1002	0.0369	0.0086	0.0322
4	119.88	0.7500	0.0778	0.0025	-0.2000	0.0202	-2.8159	0.0417	-0.1372	0.0337
4	119.88	0.8002	0.0728	0.0025	-0.2333	0.0235	-3.5377	0.0486	0.1448	0.0357
4	119.88	0.8582	0.0380	0.0034	-0.2768	0.0267	-4.5414	0.0557	-0.0826	0.0482
4	119.88	0.9101	0.0505	0.0035	-0.3402	0.0300	-5.5452	0.0654	-0.3454	0.0305
4	119.88	0.9728	0.0951	0.0043	-0.3451	0.0340	-6.4880	0.0762	0.7089	0.0406

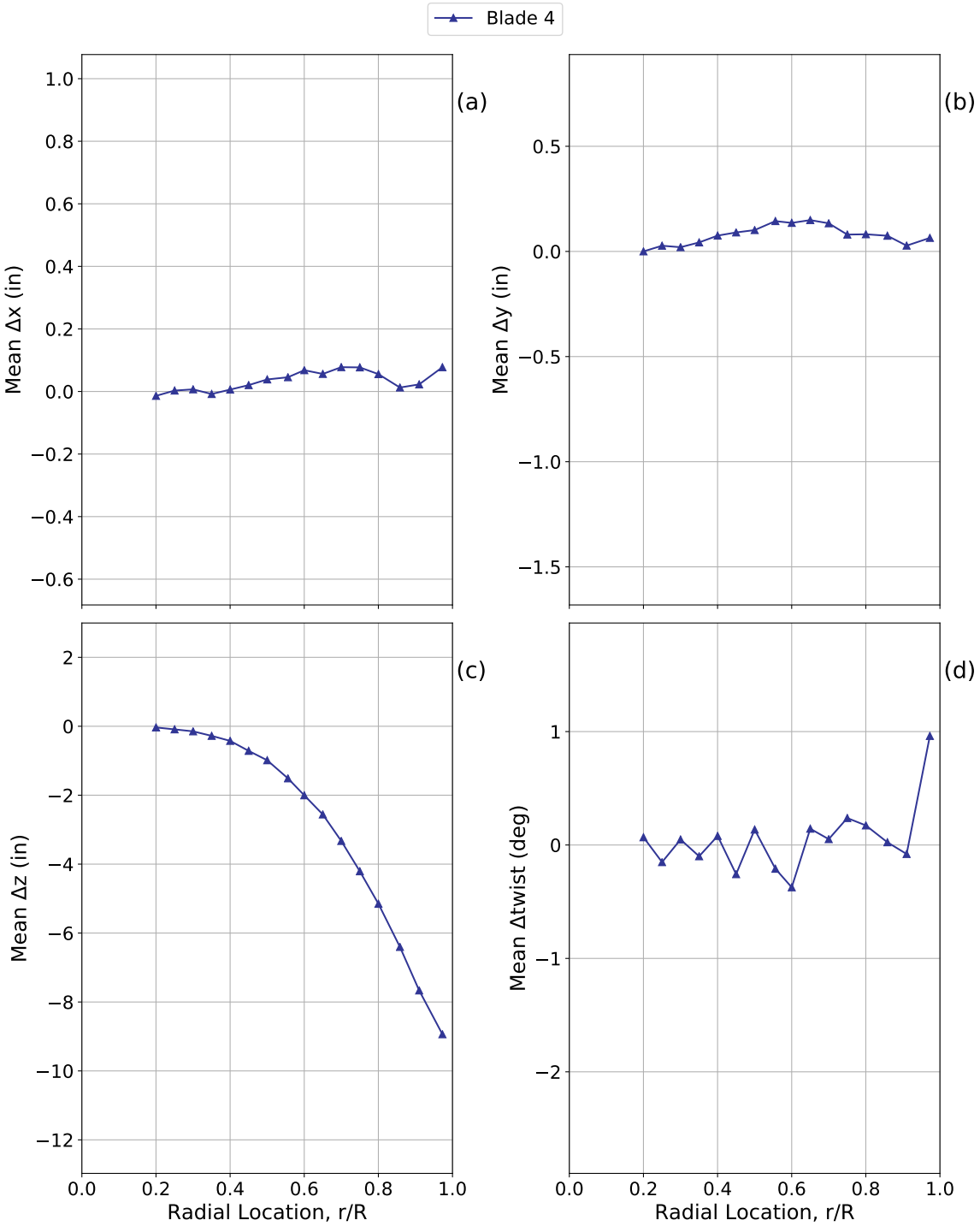


Figure 4.27-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0140	0.0009	0.0002	0.0005	-0.0345	0.0011	0.0680	0.0100
4	135	0.2502	0.0029	0.0011	0.0271	0.0013	-0.0899	0.0023	-0.1512	0.0162
4	135	0.3001	0.0068	0.0010	0.0200	0.0018	-0.1477	0.0043	0.0482	0.0218
4	135	0.3502	-0.0081	0.0008	0.0428	0.0037	-0.2783	0.0073	-0.0996	0.0187
4	135	0.4002	0.0061	0.0012	0.0752	0.0053	-0.4246	0.0113	0.0796	0.0209
4	135	0.4500	0.0203	0.0014	0.0903	0.0067	-0.7143	0.0138	-0.2575	0.0206
4	135	0.5001	0.0385	0.0018	0.1015	0.0083	-0.9867	0.0180	0.1359	0.0172
4	135	0.5560	0.0455	0.0018	0.1442	0.0099	-1.5116	0.0210	-0.2097	0.0225
4	135	0.6001	0.0680	0.0018	0.1357	0.0114	-2.0034	0.0259	-0.3733	0.0172
4	135	0.6501	0.0561	0.0021	0.1490	0.0136	-2.5596	0.0300	0.1436	0.0197
4	135	0.6999	0.0777	0.0020	0.1337	0.0151	-3.3287	0.0355	0.0514	0.0176
4	135	0.7500	0.0770	0.0024	0.0801	0.0177	-4.2079	0.0399	0.2375	0.0238
4	135	0.8002	0.0554	0.0022	0.0816	0.0201	-5.1520	0.0456	0.1724	0.0230
4	135	0.8582	0.0126	0.0024	0.0745	0.0227	-6.4030	0.0522	0.0240	0.0174
4	135	0.9101	0.0227	0.0029	0.0275	0.0249	-7.6648	0.0565	-0.0794	0.0144
4	135	0.9728	0.0775	0.0034	0.0643	0.0283	-8.9367	0.0644	0.9615	0.0242

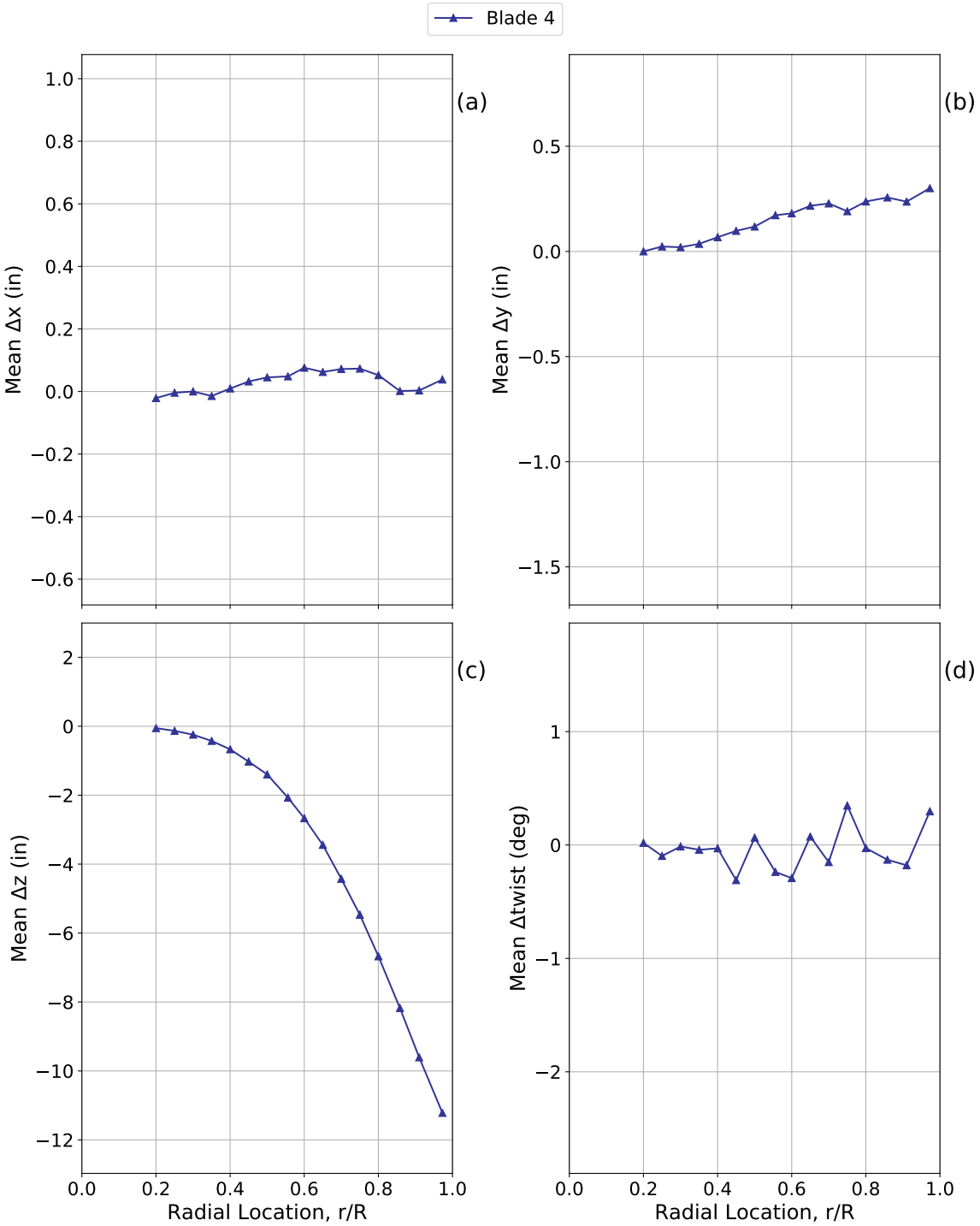


Figure 4.27-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0212	0.0008	0.0001	0.0007	-0.0548	0.0012	0.0186	0.0127
4	150.12	0.2502	-0.0041	0.0009	0.0234	0.0012	-0.1329	0.0025	-0.0967	0.0217
4	150.12	0.3001	0.0000	0.0012	0.0199	0.0025	-0.2447	0.0045	-0.0135	0.0284
4	150.12	0.3502	-0.0145	0.0012	0.0360	0.0044	-0.4261	0.0074	-0.0421	0.0256
4	150.12	0.4002	0.0095	0.0014	0.0675	0.0065	-0.6696	0.0116	-0.0294	0.0238
4	150.12	0.4500	0.0319	0.0019	0.0976	0.0077	-1.0267	0.0126	-0.3102	0.0319
4	150.12	0.5001	0.0451	0.0018	0.1180	0.0090	-1.3981	0.0155	0.0647	0.0295
4	150.12	0.5560	0.0482	0.0013	0.1720	0.0116	-2.0725	0.0185	-0.2376	0.0328
4	150.12	0.6001	0.0759	0.0016	0.1810	0.0132	-2.6690	0.0215	-0.2920	0.0395
4	150.12	0.6501	0.0623	0.0021	0.2170	0.0152	-3.4421	0.0267	0.0737	0.0350
4	150.12	0.6999	0.0718	0.0022	0.2280	0.0176	-4.4273	0.0324	-0.1508	0.0406
4	150.12	0.7500	0.0730	0.0028	0.1909	0.0201	-5.4691	0.0383	0.3474	0.0373
4	150.12	0.8002	0.0521	0.0031	0.2374	0.0225	-6.6759	0.0435	-0.0274	0.0388
4	150.12	0.8582	0.0014	0.0036	0.2564	0.0257	-8.1760	0.0508	-0.1302	0.0331
4	150.12	0.9101	0.0032	0.0042	0.2368	0.0282	-9.6069	0.0578	-0.1790	0.0406
4	150.12	0.9728	0.0382	0.0057	0.3006	0.0324	-11.2178	0.0674	0.2965	0.0426

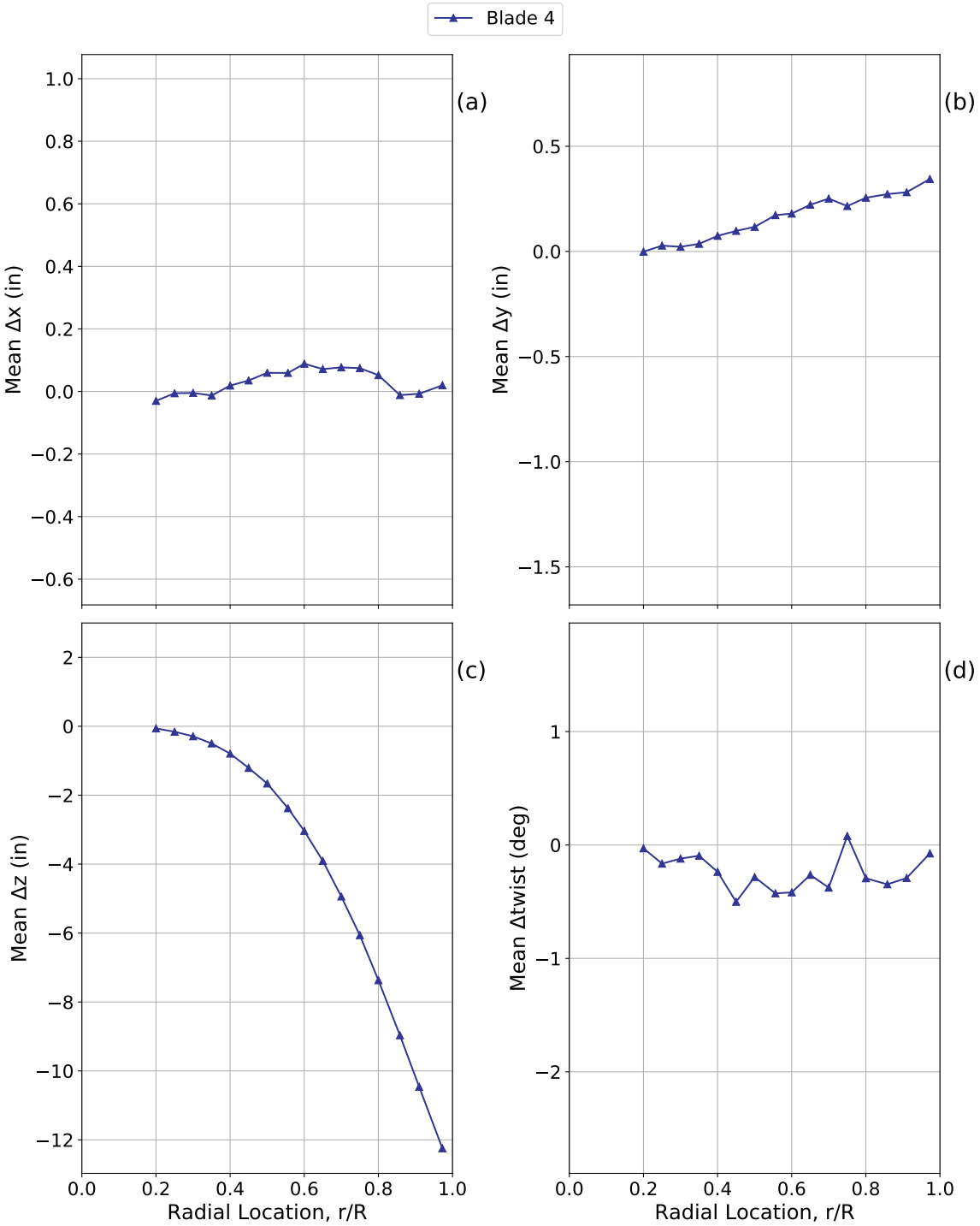


Figure 4.27-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0300	0.0006	-0.0013	0.0008	-0.0628	0.0023	-0.0294	0.0122
4	164.88	0.2502	-0.0057	0.0015	0.0276	0.0011	-0.1593	0.0024	-0.1642	0.0334
4	164.88	0.3001	-0.0046	0.0012	0.0220	0.0026	-0.2915	0.0076	-0.1204	0.0299
4	164.88	0.3502	-0.0128	0.0010	0.0360	0.0046	-0.4990	0.0114	-0.0946	0.0300
4	164.88	0.4002	0.0189	0.0015	0.0740	0.0068	-0.7946	0.0175	-0.2375	0.0389
4	164.88	0.4500	0.0352	0.0016	0.0976	0.0085	-1.2090	0.0196	-0.5013	0.0355
4	164.88	0.5001	0.0596	0.0015	0.1166	0.0105	-1.6608	0.0240	-0.2827	0.0379
4	164.88	0.5560	0.0593	0.0015	0.1724	0.0126	-2.3783	0.0286	-0.4265	0.0305
4	164.88	0.6001	0.0886	0.0014	0.1799	0.0143	-3.0372	0.0322	-0.4180	0.0306
4	164.88	0.6501	0.0716	0.0013	0.2219	0.0165	-3.9063	0.0368	-0.2633	0.0265
4	164.88	0.6999	0.0771	0.0015	0.2512	0.0184	-4.9394	0.0412	-0.3759	0.0281
4	164.88	0.7500	0.0745	0.0021	0.2156	0.0208	-6.0633	0.0448	0.0790	0.0337
4	164.88	0.8002	0.0522	0.0020	0.2552	0.0221	-7.3693	0.0516	-0.2936	0.0261
4	164.88	0.8582	-0.0116	0.0028	0.2725	0.0259	-8.9672	0.0570	-0.3468	0.0346
4	164.88	0.9101	-0.0073	0.0023	0.2816	0.0280	-10.4610	0.0591	-0.2913	0.0254
4	164.88	0.9728	0.0198	0.0032	0.3442	0.0309	-12.2468	0.0645	-0.0747	0.0489

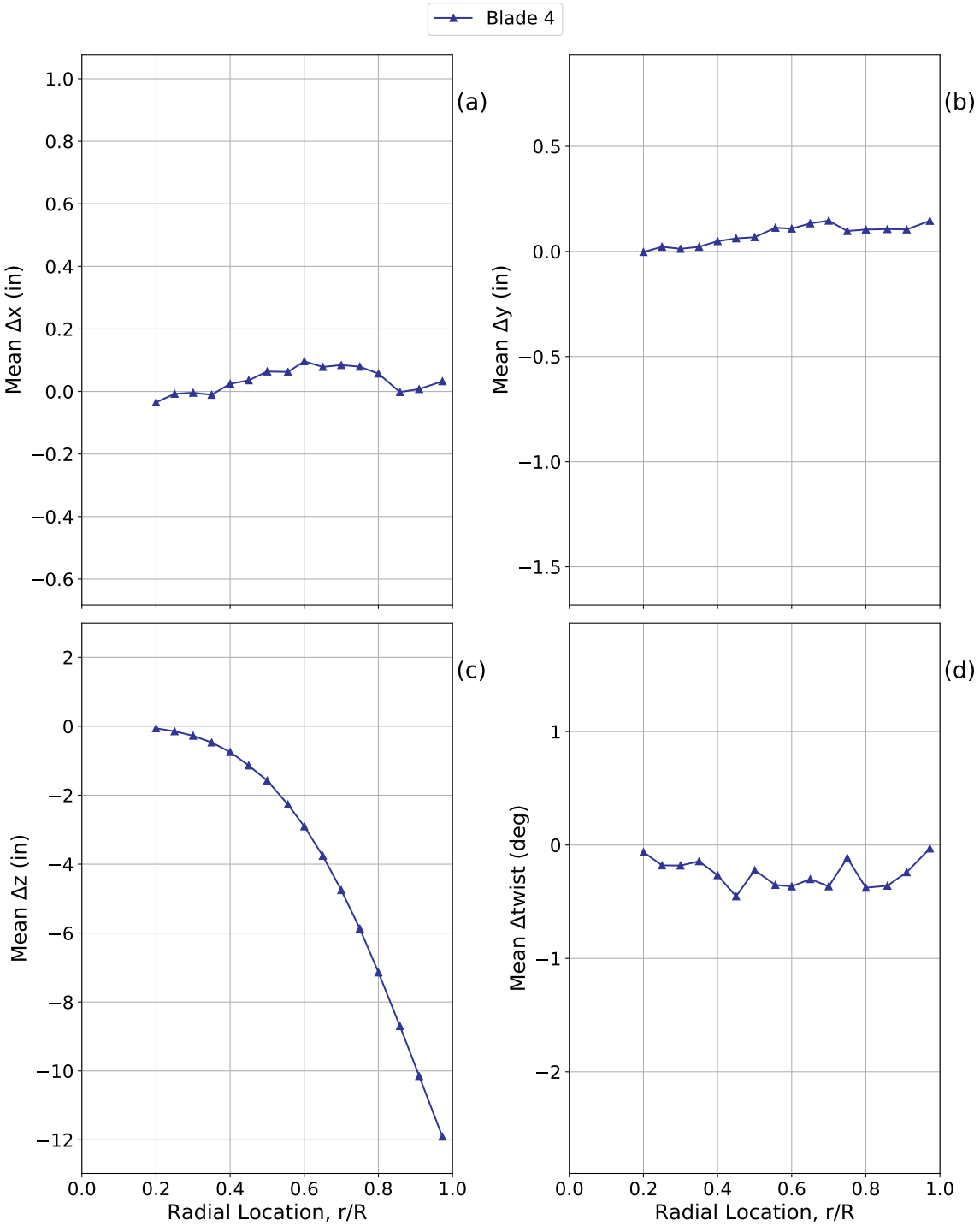


Figure 4.27-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0349	0.0010	-0.0027	0.0007	-0.0605	0.0021	-0.0628	0.0197
4	170.16	0.2502	-0.0074	0.0017	0.0221	0.0013	-0.1471	0.0037	-0.1795	0.0266
4	170.16	0.3001	-0.0041	0.0009	0.0125	0.0022	-0.2766	0.0059	-0.1810	0.0373
4	170.16	0.3502	-0.0106	0.0010	0.0219	0.0031	-0.4716	0.0098	-0.1434	0.0307
4	170.16	0.4002	0.0247	0.0014	0.0489	0.0052	-0.7494	0.0143	-0.2663	0.0275
4	170.16	0.4500	0.0356	0.0017	0.0619	0.0067	-1.1389	0.0174	-0.4532	0.0265
4	170.16	0.5001	0.0639	0.0020	0.0676	0.0085	-1.5746	0.0228	-0.2220	0.0256
4	170.16	0.5560	0.0625	0.0011	0.1124	0.0098	-2.2703	0.0290	-0.3526	0.0293
4	170.16	0.6001	0.0963	0.0013	0.1084	0.0116	-2.9060	0.0343	-0.3652	0.0337
4	170.16	0.6501	0.0784	0.0017	0.1335	0.0139	-3.7611	0.0386	-0.3011	0.0262
4	170.16	0.6999	0.0844	0.0017	0.1459	0.0163	-4.7560	0.0431	-0.3647	0.0328
4	170.16	0.7500	0.0791	0.0019	0.0970	0.0189	-5.8706	0.0482	-0.1141	0.0314
4	170.16	0.8002	0.0571	0.0023	0.1040	0.0222	-7.1431	0.0525	-0.3766	0.0308
4	170.16	0.8582	-0.0019	0.0032	0.1061	0.0253	-8.6984	0.0589	-0.3596	0.0279
4	170.16	0.9101	0.0078	0.0038	0.1046	0.0279	-10.1490	0.0623	-0.2401	0.0397
4	170.16	0.9728	0.0326	0.0043	0.1452	0.0312	-11.9083	0.0676	-0.0309	0.0365

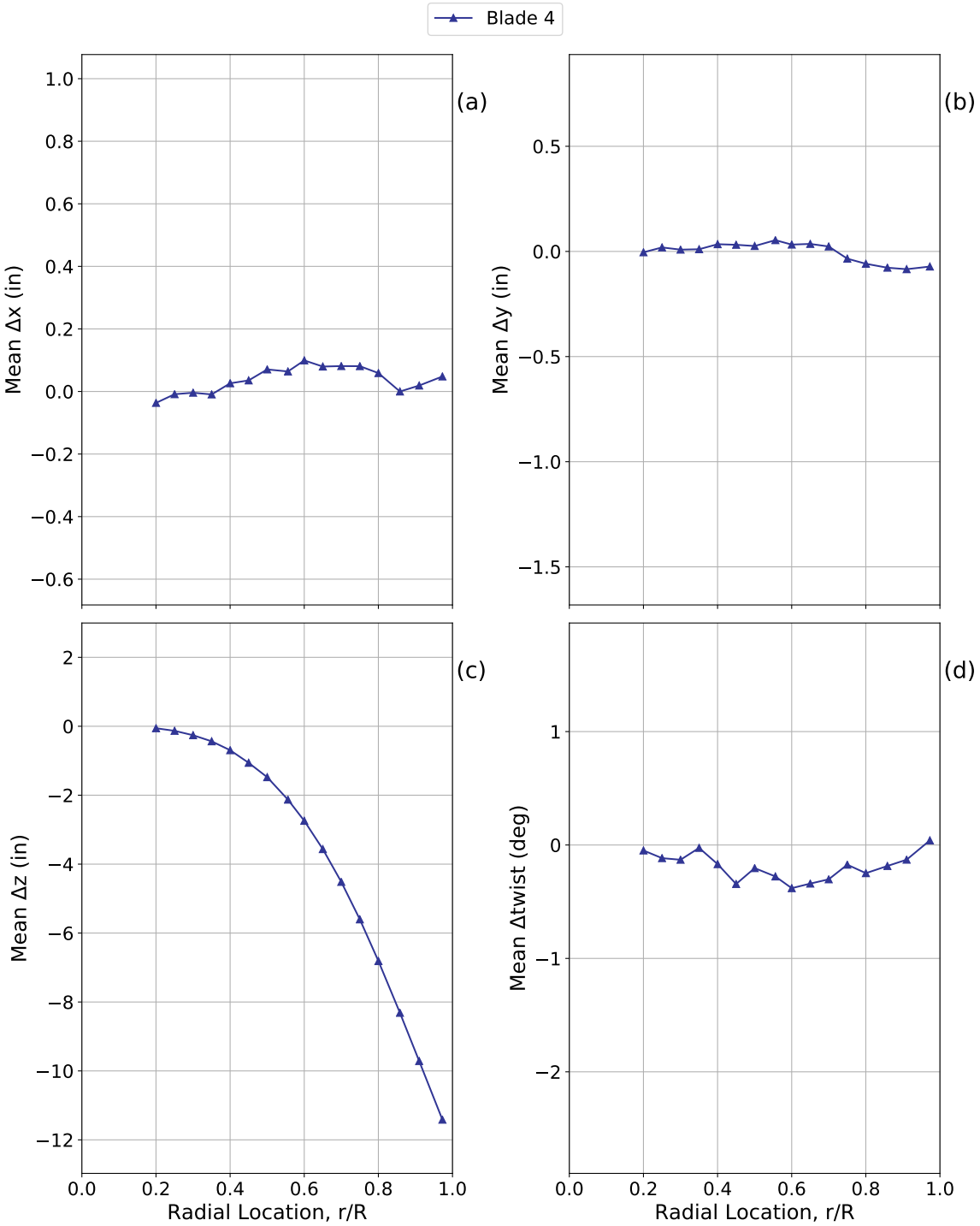


Figure 4.27-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0365	0.0018	-0.0041	0.0011	-0.0575	0.0017	-0.0484	0.0142
4	175.08	0.2502	-0.0087	0.0018	0.0190	0.0012	-0.1322	0.0046	-0.1160	0.0335
4	175.08	0.3001	-0.0040	0.0012	0.0085	0.0034	-0.2601	0.0076	-0.1302	0.0343
4	175.08	0.3502	-0.0094	0.0014	0.0104	0.0056	-0.4368	0.0119	-0.0256	0.0380
4	175.08	0.4002	0.0262	0.0011	0.0343	0.0082	-0.6953	0.0197	-0.1690	0.0431
4	175.08	0.4500	0.0354	0.0019	0.0316	0.0096	-1.0607	0.0245	-0.3440	0.0362
4	175.08	0.5001	0.0705	0.0013	0.0257	0.0120	-1.4780	0.0320	-0.2039	0.0446
4	175.08	0.5560	0.0640	0.0010	0.0536	0.0146	-2.1293	0.0360	-0.2775	0.0378
4	175.08	0.6001	0.0993	0.0019	0.0325	0.0160	-2.7434	0.0404	-0.3808	0.0424
4	175.08	0.6501	0.0797	0.0018	0.0357	0.0177	-3.5647	0.0452	-0.3403	0.0411
4	175.08	0.6999	0.0812	0.0022	0.0235	0.0189	-4.5155	0.0503	-0.3026	0.0401
4	175.08	0.7500	0.0809	0.0023	-0.0344	0.0204	-5.6031	0.0561	-0.1736	0.0420
4	175.08	0.8002	0.0588	0.0019	-0.0587	0.0222	-6.8135	0.0598	-0.2484	0.0460
4	175.08	0.8582	-0.0001	0.0026	-0.0774	0.0251	-8.3146	0.0682	-0.1851	0.0490
4	175.08	0.9101	0.0190	0.0027	-0.0845	0.0268	-9.7134	0.0743	-0.1296	0.0552
4	175.08	0.9728	0.0480	0.0029	-0.0719	0.0315	-11.4150	0.0829	0.0405	0.0363

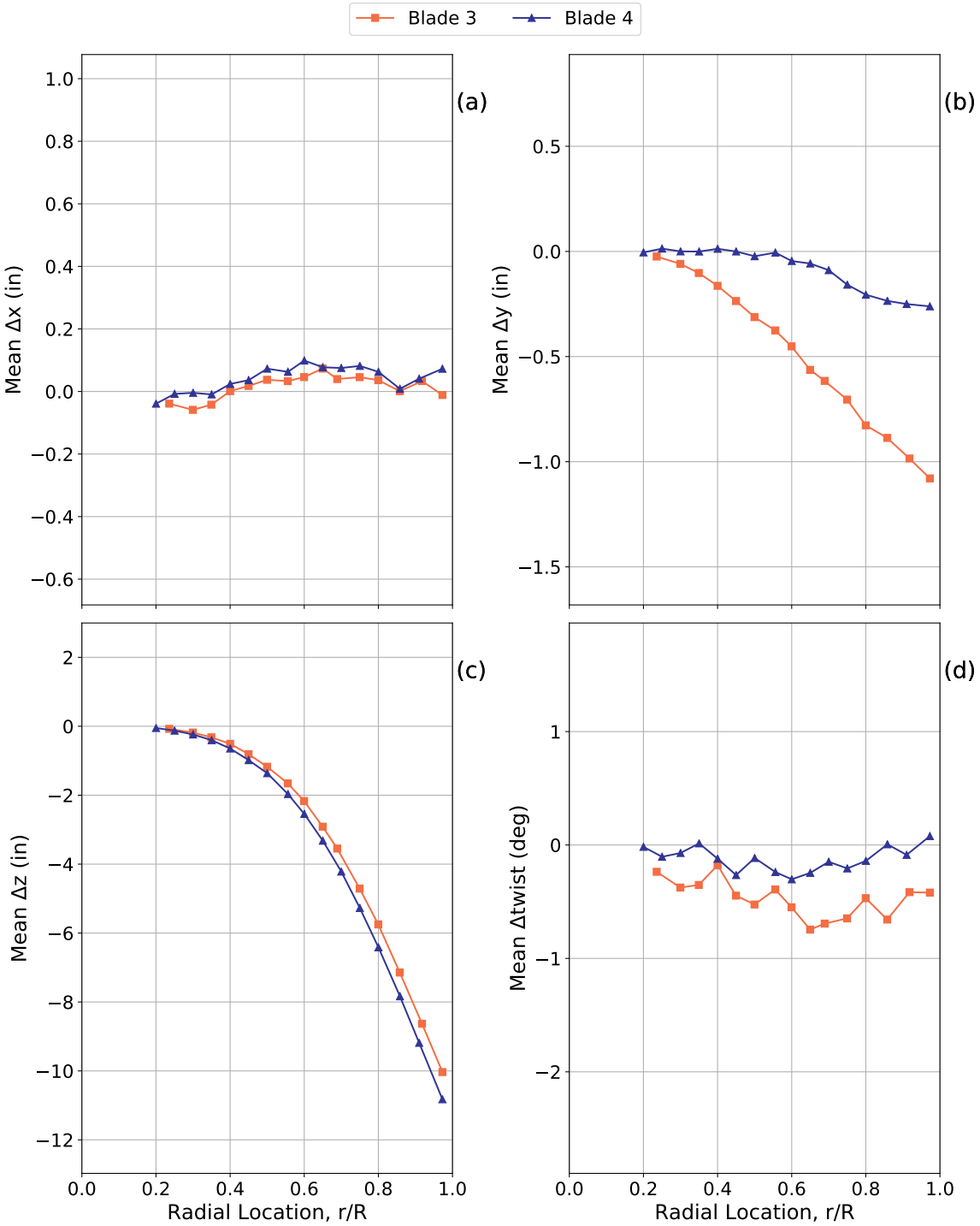


Figure 4.27-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0390	0.0014	-0.0244	0.0013	-0.0754	0.0035	-0.2362	0.0467
3	180.35	0.2995	-0.0587	0.0023	-0.0592	0.0031	-0.1813	0.0096	-0.3754	0.0756
3	180.35	0.3493	-0.0422	0.0023	-0.1026	0.0057	-0.3206	0.0148	-0.3525	0.0654
3	180.35	0.4000	0.0011	0.0018	-0.1636	0.0088	-0.5087	0.0246	-0.1779	0.0676
3	180.35	0.4497	0.0177	0.0019	-0.2359	0.0123	-0.8094	0.0313	-0.4466	0.0675
3	180.35	0.4997	0.0374	0.0024	-0.3125	0.0142	-1.1733	0.0393	-0.5245	0.0631
3	180.35	0.5556	0.0331	0.0023	-0.3757	0.0182	-1.6564	0.0478	-0.3920	0.0549
3	180.35	0.5995	0.0460	0.0026	-0.4514	0.0208	-2.1685	0.0529	-0.5491	0.0734
3	180.35	0.6498	0.0733	0.0027	-0.5633	0.0238	-2.9137	0.0598	-0.7461	0.0633
3	180.35	0.6890	0.0397	0.0031	-0.6157	0.0266	-3.5484	0.0659	-0.6931	0.0665
3	180.35	0.7495	0.0458	0.0033	-0.7047	0.0312	-4.7094	0.0749	-0.6472	0.0743
3	180.35	0.7998	0.0361	0.0040	-0.8271	0.0341	-5.7483	0.0817	-0.4688	0.0709
3	180.35	0.8577	0.0010	0.0047	-0.8868	0.0392	-7.1451	0.0883	-0.6574	0.0710
3	180.35	0.9178	0.0333	0.0047	-0.9847	0.0444	-8.6315	0.0980	-0.4159	0.0750
3	180.35	0.9729	-0.0112	0.0059	-1.0795	0.0478	-10.0324	0.1004	-0.4199	0.0794
4	180	0.2001	-0.0390	0.0020	-0.0048	0.0012	-0.0511	0.0015	-0.0163	0.0326
4	180	0.2502	-0.0077	0.0023	0.0134	0.0023	-0.1274	0.0069	-0.1040	0.0342
4	180	0.3001	-0.0043	0.0021	0.0001	0.0055	-0.2388	0.0078	-0.0705	0.0661
4	180	0.3502	-0.0094	0.0024	-0.0005	0.0080	-0.4044	0.0158	0.0142	0.0455
4	180	0.4002	0.0240	0.0017	0.0125	0.0132	-0.6465	0.0243	-0.1210	0.0495
4	180	0.4500	0.0363	0.0019	-0.0003	0.0157	-0.9834	0.0285	-0.2652	0.0565
4	180	0.5001	0.0728	0.0019	-0.0229	0.0184	-1.3621	0.0349	-0.1145	0.0493
4	180	0.5560	0.0628	0.0026	-0.0056	0.0218	-1.9667	0.0402	-0.2387	0.0687
4	180	0.6001	0.0989	0.0026	-0.0456	0.0257	-2.5438	0.0462	-0.3027	0.0579
4	180	0.6501	0.0774	0.0023	-0.0576	0.0312	-3.3207	0.0529	-0.2457	0.0528
4	180	0.6999	0.0751	0.0026	-0.0892	0.0342	-4.2168	0.0560	-0.1480	0.0612
4	180	0.7500	0.0817	0.0022	-0.1582	0.0388	-5.2739	0.0630	-0.2068	0.0511
4	180	0.8002	0.0627	0.0029	-0.2060	0.0439	-6.4154	0.0681	-0.1402	0.0567
4	180	0.8582	0.0084	0.0034	-0.2352	0.0503	-7.8346	0.0722	0.0062	0.0475
4	180	0.9101	0.0409	0.0032	-0.2502	0.0555	-9.1854	0.0784	-0.0872	0.0680
4	180	0.9728	0.0726	0.0050	-0.2613	0.0630	-10.8230	0.0842	0.0784	0.0633

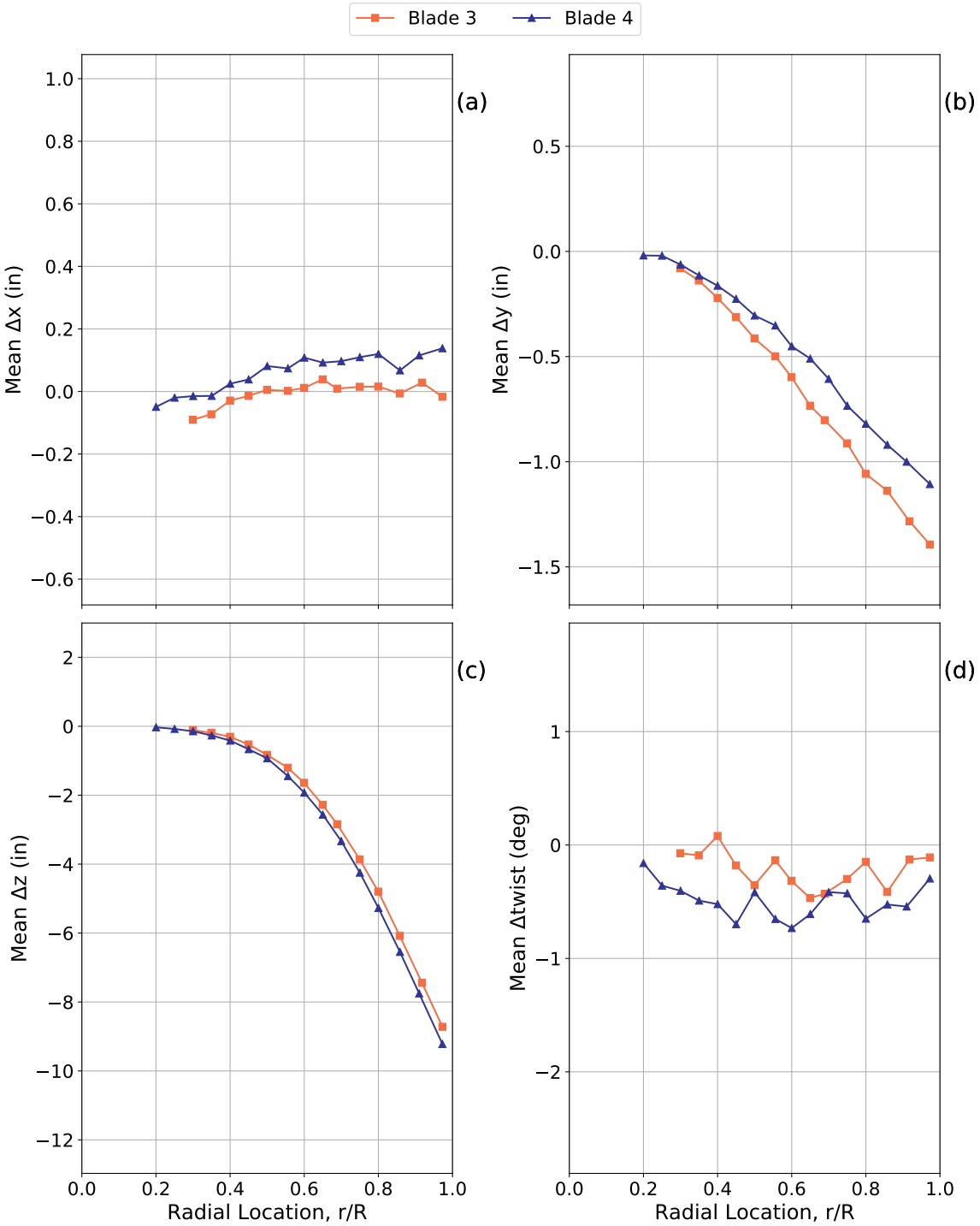


Figure 4.27-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.0903	0.0071	-0.0803	0.0151	-0.1098	0.0214	-0.0728	0.0638
3	184.92	0.3493	-0.0728	0.0081	-0.1385	0.0261	-0.1908	0.0366	-0.0919	0.0841
3	184.92	0.4000	-0.0291	0.0072	-0.2215	0.0418	-0.3064	0.0581	0.0793	0.0802
3	184.92	0.4497	-0.0140	0.0073	-0.3125	0.0547	-0.5275	0.0746	-0.1804	0.0955
3	184.92	0.4997	0.0052	0.0085	-0.4140	0.0681	-0.8296	0.0937	-0.3544	0.0763
3	184.92	0.5556	0.0020	0.0091	-0.4986	0.0831	-1.2045	0.1132	-0.1352	0.0829
3	184.92	0.5995	0.0114	0.0087	-0.5979	0.0950	-1.6419	0.1309	-0.3163	0.0907
3	184.92	0.6498	0.0385	0.0097	-0.7340	0.1091	-2.2814	0.1490	-0.4679	0.1103
3	184.92	0.6890	0.0091	0.0097	-0.8026	0.1201	-2.8427	0.1682	-0.4298	0.0883
3	184.92	0.7495	0.0150	0.0111	-0.9126	0.1373	-3.8627	0.1930	-0.3001	0.0956
3	184.92	0.7998	0.0156	0.0120	-1.0578	0.1520	-4.7977	0.2141	-0.1489	0.1005
3	184.92	0.8577	-0.0064	0.0133	-1.1384	0.1693	-6.0812	0.2360	-0.4135	0.1033
3	184.92	0.9178	0.0282	0.0147	-1.2833	0.1874	-7.4438	0.2619	-0.1281	0.0966
3	184.92	0.9729	-0.0169	0.0186	-1.3939	0.2019	-8.7195	0.2808	-0.1097	0.1065
4	184.92	0.2001	-0.0492	0.0011	-0.0193	0.0018	-0.0308	0.0034	-0.1599	0.0287
4	184.92	0.2502	-0.0199	0.0019	-0.0204	0.0027	-0.0776	0.0039	-0.3587	0.0461
4	184.92	0.3001	-0.0148	0.0019	-0.0628	0.0046	-0.1457	0.0095	-0.4041	0.0595
4	184.92	0.3502	-0.0142	0.0019	-0.1145	0.0088	-0.2678	0.0148	-0.4906	0.0473
4	184.92	0.4002	0.0248	0.0029	-0.1633	0.0119	-0.4171	0.0208	-0.5217	0.0588
4	184.92	0.4500	0.0384	0.0051	-0.2257	0.0158	-0.6664	0.0259	-0.6984	0.0544
4	184.92	0.5001	0.0813	0.0053	-0.3051	0.0206	-0.9307	0.0304	-0.4168	0.0611
4	184.92	0.5560	0.0738	0.0070	-0.3523	0.0253	-1.4479	0.0379	-0.6526	0.0486
4	184.92	0.6001	0.1081	0.0083	-0.4513	0.0301	-1.9262	0.0407	-0.7326	0.0582
4	184.92	0.6501	0.0923	0.0095	-0.5098	0.0340	-2.5653	0.0459	-0.6094	0.0457
4	184.92	0.6999	0.0968	0.0120	-0.6064	0.0387	-3.3344	0.0526	-0.4154	0.0779
4	184.92	0.7500	0.1096	0.0113	-0.7342	0.0432	-4.2490	0.0532	-0.4261	0.1070
4	184.92	0.8002	0.1200	0.0066	-0.8196	0.0361	-5.2736	0.0640	-0.6498	0.1553
4	184.92	0.8582	0.0673	0.0045	-0.9198	0.0355	-6.5473	0.0748	-0.5249	0.0788
4	184.92	0.9101	0.1152	0.0052	-1.0002	0.0392	-7.7529	0.0777	-0.5430	0.0789
4	184.92	0.9728	0.1381	0.0046	-1.1067	0.0451	-9.2193	0.0861	-0.2958	0.0742

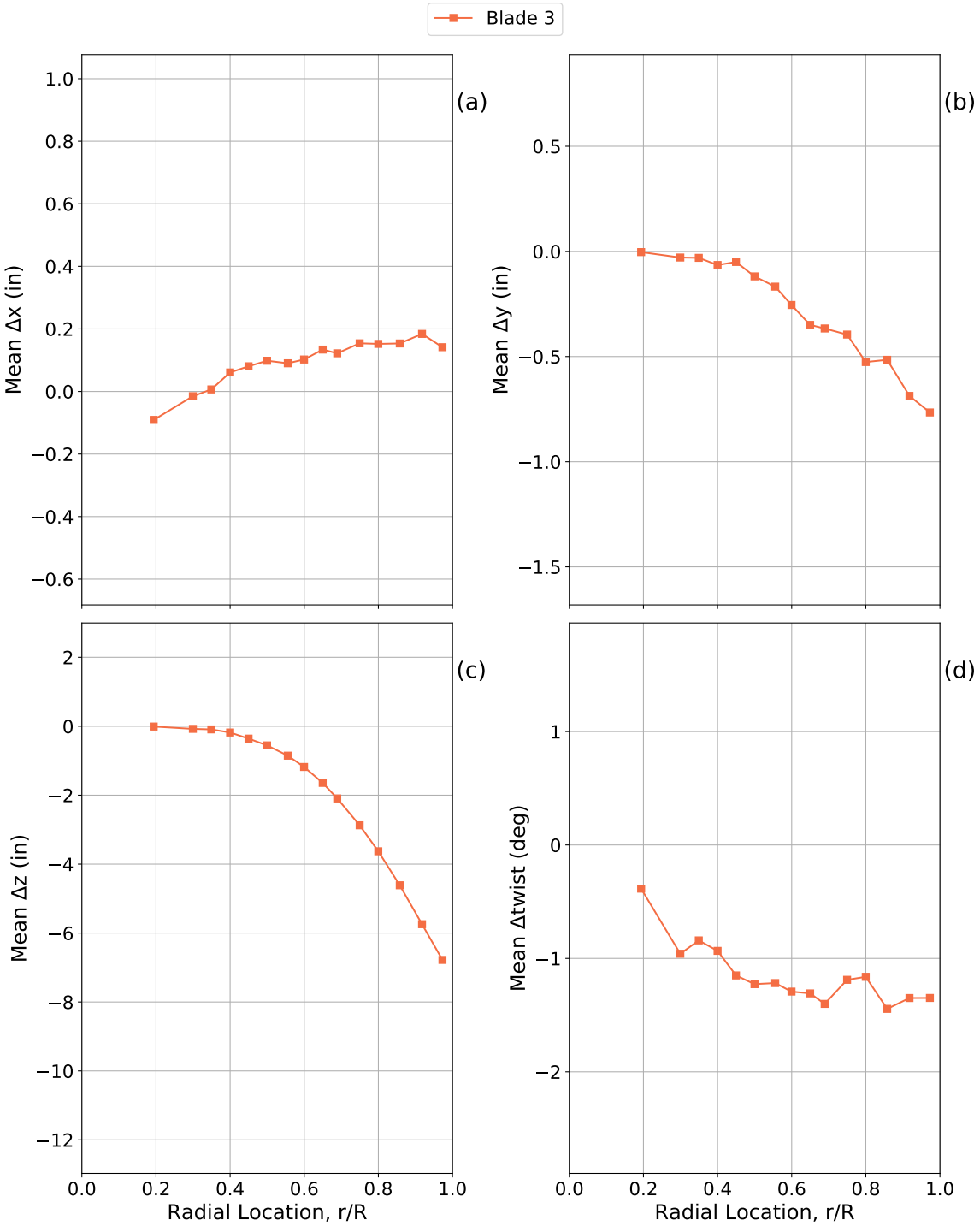


Figure 4.27-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0908	0.0074	-0.0033	0.0018	-0.0085	0.0039	-0.3852	0.0428
3	195.12	0.2995	-0.0151	0.0021	-0.0291	0.0101	-0.0764	0.0190	-0.9589	0.1057
3	195.12	0.3493	0.0066	0.0036	-0.0306	0.0156	-0.0917	0.0279	-0.8410	0.1103
3	195.12	0.4000	0.0608	0.0070	-0.0647	0.0258	-0.1816	0.0465	-0.9335	0.0816
3	195.12	0.4497	0.0805	0.0065	-0.0502	0.0311	-0.3588	0.0572	-1.1500	0.0888
3	195.12	0.4997	0.0982	0.0063	-0.1188	0.0386	-0.5553	0.0682	-1.2267	0.0807
3	195.12	0.5556	0.0901	0.0067	-0.1677	0.0471	-0.8532	0.0830	-1.2173	0.1070
3	195.12	0.5995	0.1022	0.0055	-0.2548	0.0528	-1.1814	0.0910	-1.2926	0.1046
3	195.12	0.6498	0.1339	0.0068	-0.3495	0.0632	-1.6431	0.1026	-1.3083	0.1213
3	195.12	0.6890	0.1220	0.0105	-0.3665	0.0705	-2.0941	0.1167	-1.4010	0.1029
3	195.12	0.7495	0.1540	0.0117	-0.3954	0.0799	-2.8733	0.1322	-1.1887	0.0940
3	195.12	0.7998	0.1521	0.0148	-0.5261	0.0893	-3.6272	0.1520	-1.1624	0.0754
3	195.12	0.8577	0.1535	0.0141	-0.5155	0.1089	-4.6141	0.1760	-1.4448	0.1302
3	195.12	0.9178	0.1841	0.0151	-0.6870	0.1203	-5.7431	0.1957	-1.3493	0.1272
3	195.12	0.9729	0.1415	0.0156	-0.7657	0.1300	-6.7793	0.2200	-1.3486	0.1344

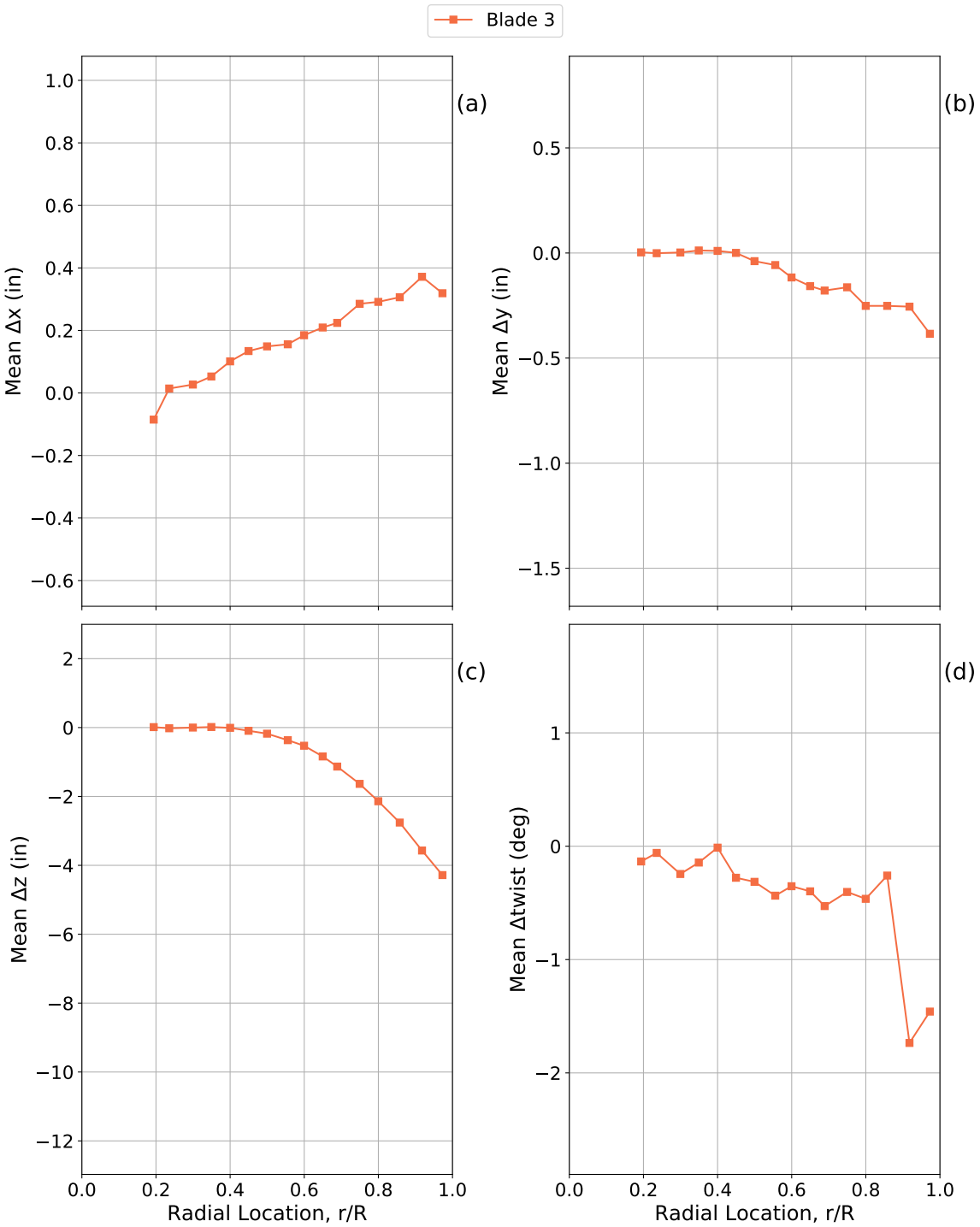


Figure 4.27-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0852	0.0012	0.0029	0.0008	0.0124	0.0015	-0.1344	0.0173
3	209.88	0.2357	0.0142	0.0006	-0.0009	0.0013	-0.0209	0.0026	-0.0591	0.0233
3	209.88	0.2995	0.0269	0.0010	0.0024	0.0023	-0.0007	0.0048	-0.2450	0.0349
3	209.88	0.3493	0.0527	0.0013	0.0120	0.0033	0.0154	0.0071	-0.1441	0.0310
3	209.88	0.4000	0.1011	0.0014	0.0099	0.0054	-0.0080	0.0113	-0.0126	0.0336
3	209.88	0.4497	0.1341	0.0070	0.0005	0.0214	-0.0937	0.0284	-0.2783	0.0242
3	209.88	0.4997	0.1490	0.0073	-0.0388	0.0243	-0.1775	0.0355	-0.3143	0.0306
3	209.88	0.5556	0.1557	0.0065	-0.0574	0.0255	-0.3668	0.0384	-0.4362	0.0351
3	209.88	0.5995	0.1847	0.0050	-0.1164	0.0275	-0.5278	0.0429	-0.3530	0.0375
3	209.88	0.6498	0.2094	0.0046	-0.1576	0.0294	-0.8391	0.0490	-0.3981	0.0347
3	209.88	0.6890	0.2242	0.0037	-0.1787	0.0304	-1.1327	0.0530	-0.5281	0.0331
3	209.88	0.7495	0.2852	0.0025	-0.1632	0.0337	-1.6347	0.0591	-0.4035	0.0330
3	209.88	0.7998	0.2914	0.0029	-0.2516	0.0354	-2.1392	0.0653	-0.4640	0.0371
3	209.88	0.8577	0.3063	0.0080	-0.2516	0.0373	-2.7584	0.0688	-0.2589	0.0766
3	209.88	0.9178	0.3716	0.0069	-0.2553	0.0398	-3.5698	0.0735	-1.7355	0.1041
3	209.88	0.9729	0.3190	0.0080	-0.3844	0.0440	-4.2832	0.0734	-1.4589	0.0864

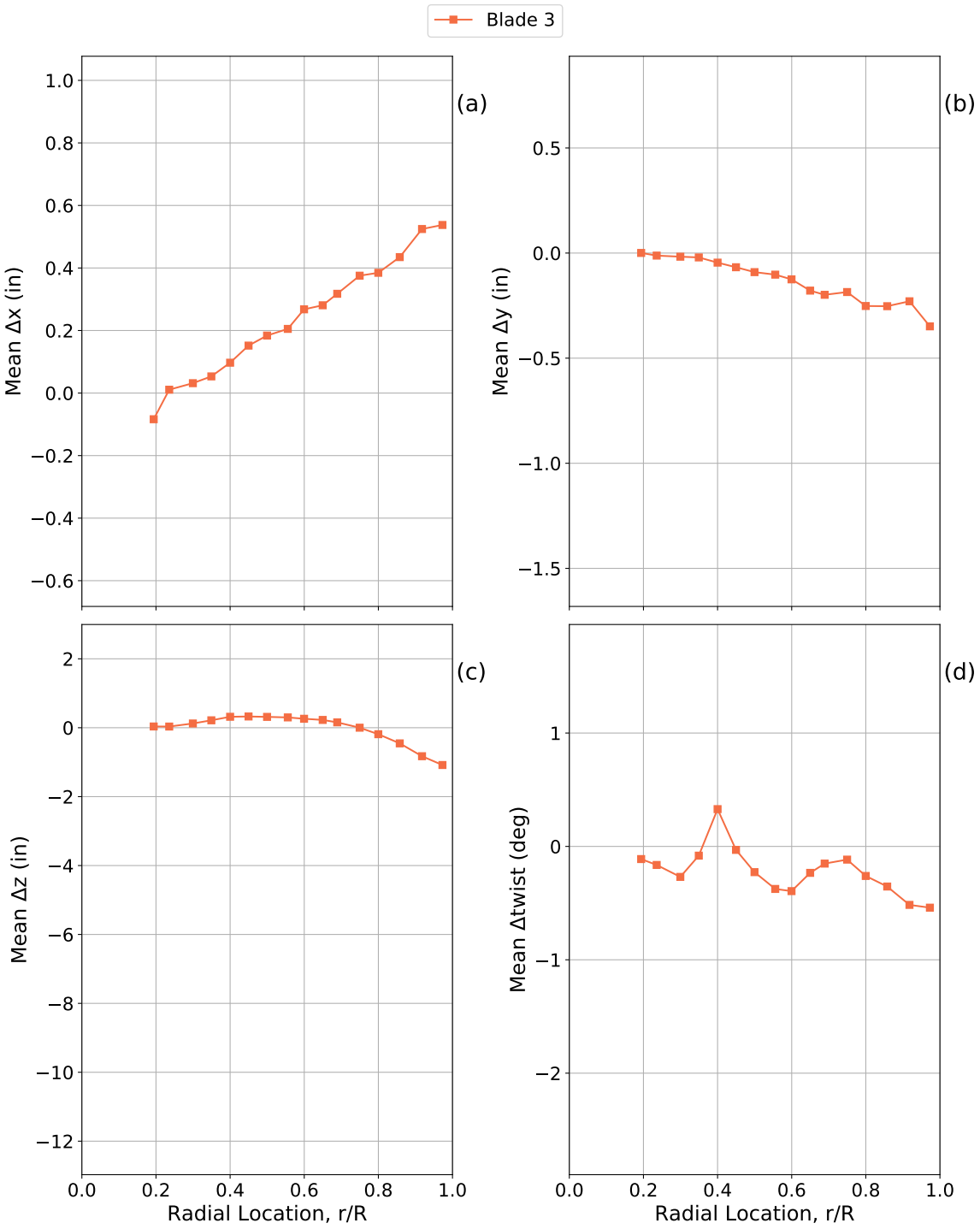


Figure 4.27-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0837	0.0010	0.0005	0.0007	0.0362	0.0017	-0.1116	0.0153
3	225	0.2357	0.0108	0.0009	-0.0121	0.0007	0.0342	0.0026	-0.1636	0.0186
3	225	0.2995	0.0316	0.0012	-0.0173	0.0022	0.1230	0.0058	-0.2688	0.0322
3	225	0.3493	0.0533	0.0011	-0.0208	0.0035	0.2155	0.0106	-0.0814	0.0278
3	225	0.4000	0.0971	0.0011	-0.0455	0.0053	0.3179	0.0155	0.3289	0.0184
3	225	0.4497	0.1518	0.0016	-0.0675	0.0073	0.3261	0.0190	-0.0306	0.0253
3	225	0.4997	0.1839	0.0015	-0.0907	0.0094	0.3149	0.0235	-0.2270	0.0208
3	225	0.5556	0.2052	0.0016	-0.1027	0.0105	0.2993	0.0259	-0.3751	0.0217
3	225	0.5995	0.2678	0.0006	-0.1251	0.0120	0.2603	0.0278	-0.3943	0.0305
3	225	0.6498	0.2807	0.0019	-0.1787	0.0146	0.2260	0.0324	-0.2333	0.0262
3	225	0.6890	0.3175	0.0014	-0.1986	0.0160	0.1559	0.0356	-0.1515	0.0228
3	225	0.7495	0.3754	0.0022	-0.1855	0.0186	0.0009	0.0392	-0.1164	0.0166
3	225	0.7998	0.3846	0.0026	-0.2519	0.0211	-0.1881	0.0430	-0.2605	0.0152
3	225	0.8577	0.4348	0.0024	-0.2528	0.0230	-0.4541	0.0479	-0.3538	0.0426
3	225	0.9178	0.5246	0.0013	-0.2294	0.0262	-0.8267	0.0502	-0.5157	0.0632
3	225	0.9729	0.5376	0.0032	-0.3487	0.0300	-1.0820	0.0602	-0.5402	0.0709

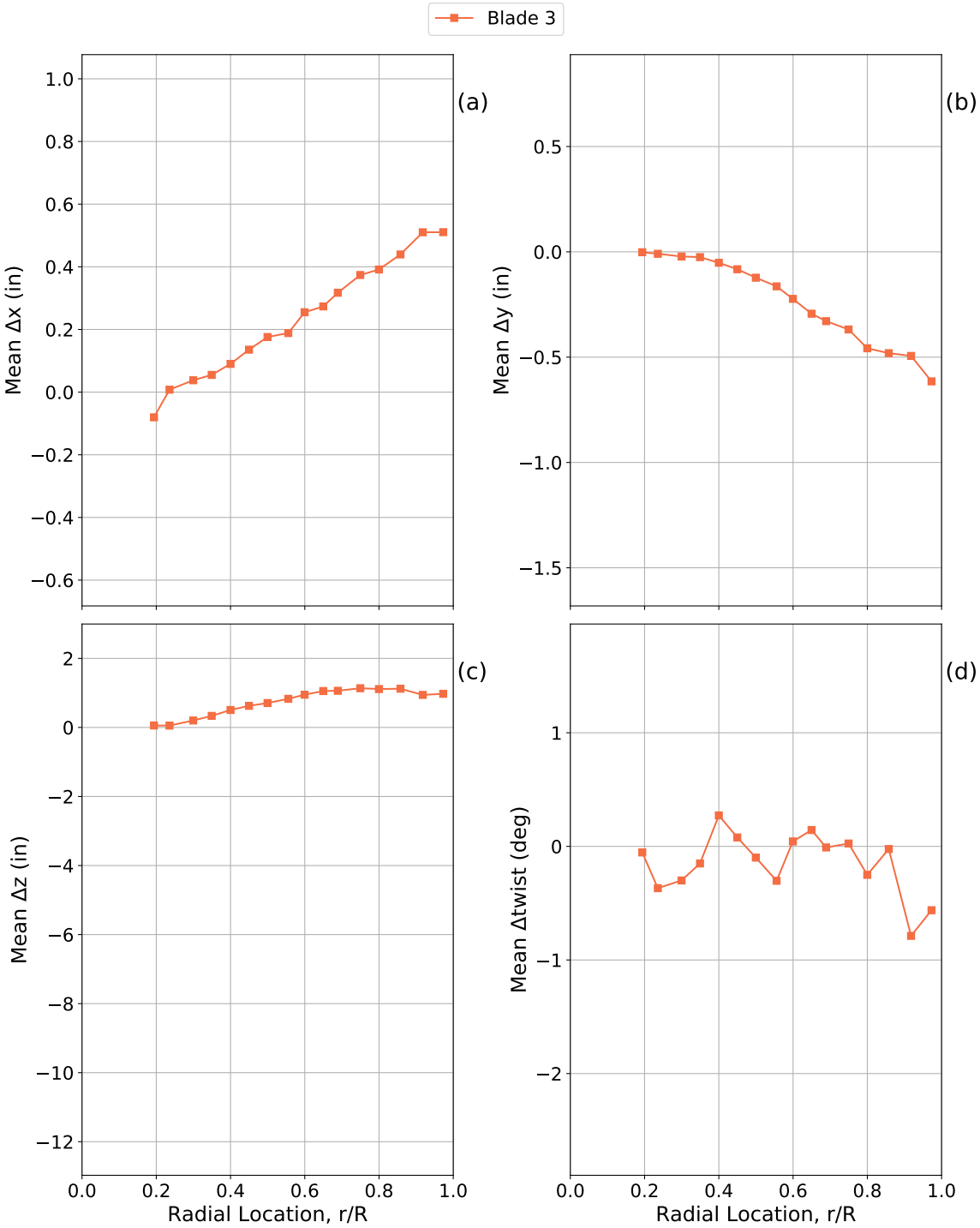


Figure 4.27-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0804	0.0019	-0.0019	0.0011	0.0574	0.0026	-0.0533	0.0162
3	240.12	0.2357	0.0078	0.0011	-0.0093	0.0013	0.0539	0.0026	-0.3678	0.0421
3	240.12	0.2995	0.0379	0.0010	-0.0221	0.0034	0.2011	0.0070	-0.3000	0.0481
3	240.12	0.3493	0.0550	0.0012	-0.0251	0.0061	0.3353	0.0116	-0.1505	0.0447
3	240.12	0.4000	0.0901	0.0009	-0.0519	0.0089	0.5061	0.0167	0.2726	0.0500
3	240.12	0.4497	0.1355	0.0008	-0.0826	0.0111	0.6256	0.0202	0.0785	0.0481
3	240.12	0.4997	0.1759	0.0008	-0.1228	0.0135	0.7069	0.0252	-0.0988	0.0368
3	240.12	0.5556	0.1885	0.0016	-0.1638	0.0162	0.8295	0.0302	-0.3029	0.0330
3	240.12	0.5995	0.2549	0.0023	-0.2233	0.0188	0.9486	0.0336	0.0434	0.0455
3	240.12	0.6498	0.2735	0.0016	-0.2938	0.0208	1.0541	0.0379	0.1438	0.0416
3	240.12	0.6890	0.3172	0.0020	-0.3291	0.0235	1.0626	0.0424	-0.0096	0.0443
3	240.12	0.7495	0.3738	0.0021	-0.3685	0.0269	1.1363	0.0500	0.0252	0.0424
3	240.12	0.7998	0.3914	0.0020	-0.4579	0.0297	1.1121	0.0566	-0.2507	0.0498
3	240.12	0.8577	0.4394	0.0020	-0.4811	0.0326	1.1220	0.0638	-0.0231	0.0427
3	240.12	0.9178	0.5102	0.0022	-0.4942	0.0359	0.9427	0.0693	-0.7877	0.0422
3	240.12	0.9729	0.5105	0.0029	-0.6150	0.0382	0.9743	0.0777	-0.5620	0.0428

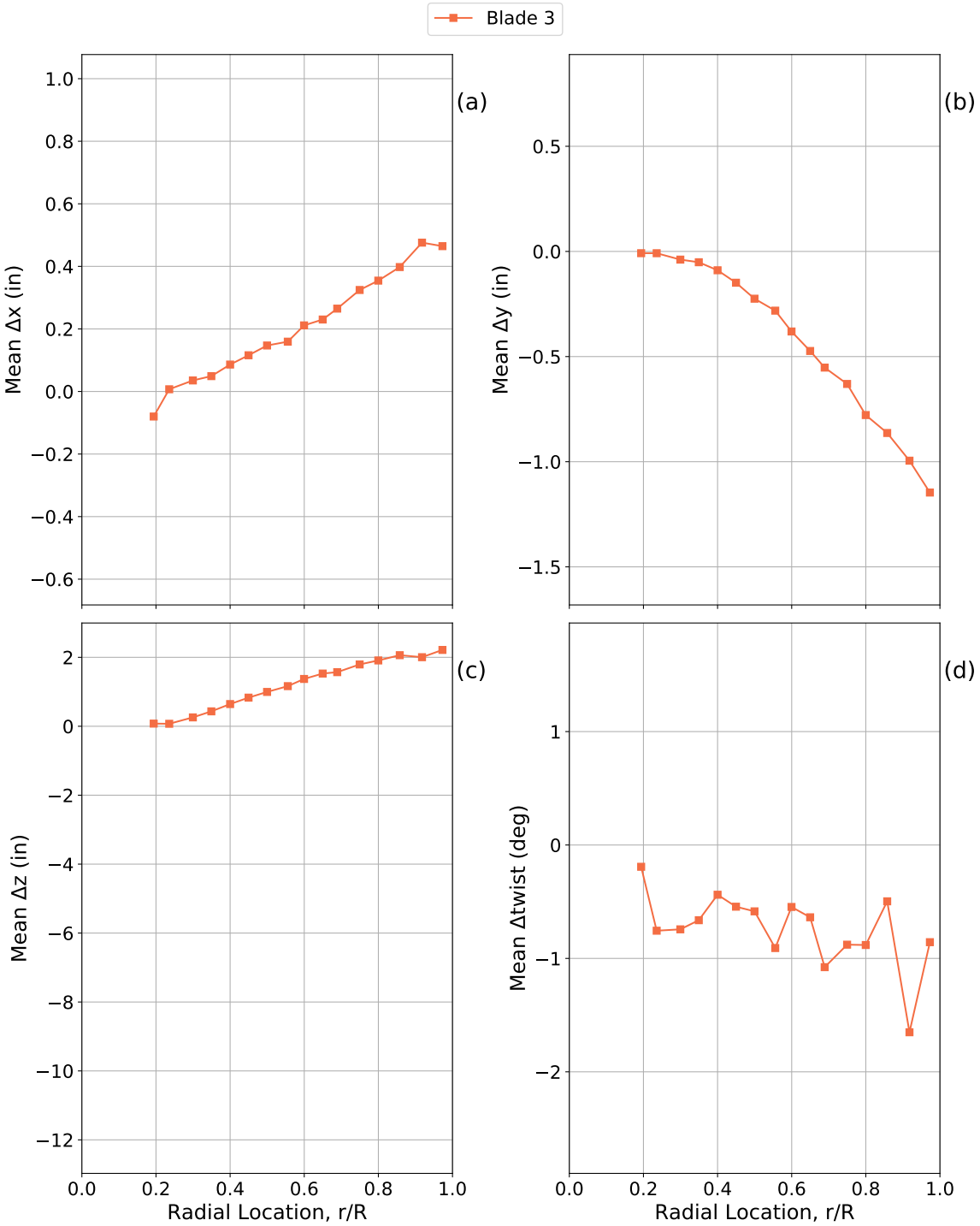


Figure 4.27-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0801	0.0039	-0.0084	0.0017	0.0771	0.0055	-0.1921	0.0327
3	254.88	0.2357	0.0071	0.0011	-0.0085	0.0014	0.0722	0.0054	-0.7558	0.0777
3	254.88	0.2995	0.0353	0.0009	-0.0389	0.0050	0.2576	0.0152	-0.7436	0.0903
3	254.88	0.3493	0.0491	0.0010	-0.0514	0.0090	0.4326	0.0253	-0.6631	0.0873
3	254.88	0.4000	0.0861	0.0020	-0.0896	0.0128	0.6440	0.0362	-0.4386	0.0804
3	254.88	0.4497	0.1158	0.0022	-0.1488	0.0169	0.8308	0.0464	-0.5440	0.0768
3	254.88	0.4997	0.1470	0.0023	-0.2248	0.0203	0.9960	0.0576	-0.5850	0.0739
3	254.88	0.5556	0.1593	0.0020	-0.2816	0.0241	1.1642	0.0692	-0.9085	0.0796
3	254.88	0.5995	0.2113	0.0025	-0.3807	0.0271	1.3729	0.0797	-0.5463	0.0777
3	254.88	0.6498	0.2301	0.0026	-0.4734	0.0310	1.5296	0.0899	-0.6374	0.0760
3	254.88	0.6890	0.2649	0.0023	-0.5524	0.0334	1.5698	0.0981	-1.0771	0.0745
3	254.88	0.7495	0.3245	0.0027	-0.6302	0.0377	1.7940	0.1114	-0.8788	0.0760
3	254.88	0.7998	0.3544	0.0029	-0.7781	0.0414	1.9097	0.1204	-0.8818	0.0805
3	254.88	0.8577	0.3978	0.0032	-0.8634	0.0463	2.0622	0.1305	-0.4966	0.0899
3	254.88	0.9178	0.4759	0.0037	-0.9951	0.0499	2.0043	0.1450	-1.6511	0.0859
3	254.88	0.9729	0.4646	0.0040	-1.1466	0.0546	2.2148	0.1557	-0.8568	0.0959

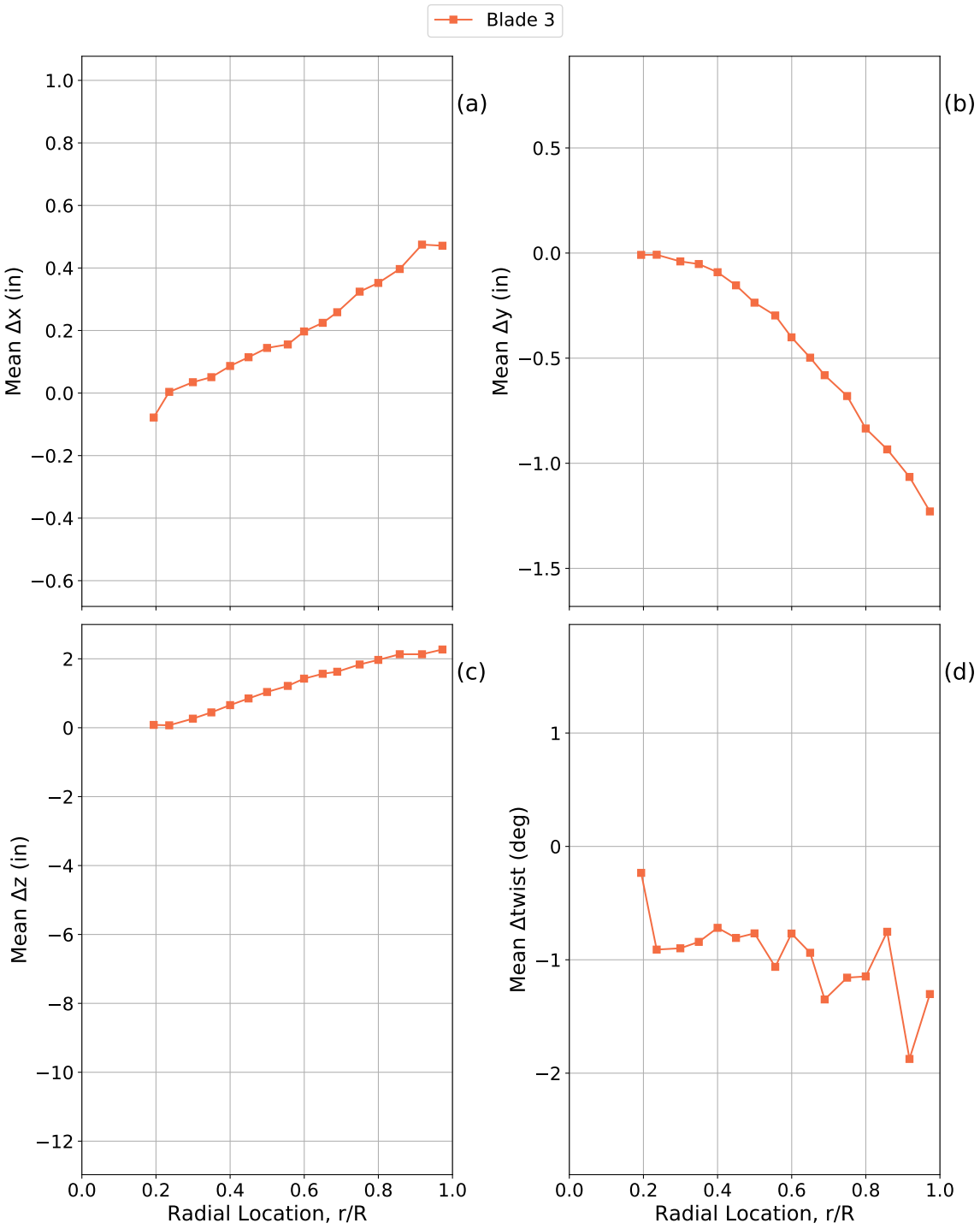


Figure 4.27-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0782	0.0061	-0.0087	0.0022	0.0820	0.0073	-0.2333	0.0292
3	260.16	0.2357	0.0038	0.0018	-0.0081	0.0012	0.0706	0.0054	-0.9099	0.0847
3	260.16	0.2995	0.0347	0.0013	-0.0398	0.0060	0.2638	0.0194	-0.8986	0.0905
3	260.16	0.3493	0.0508	0.0009	-0.0523	0.0107	0.4450	0.0315	-0.8419	0.0877
3	260.16	0.4000	0.0866	0.0013	-0.0912	0.0151	0.6559	0.0447	-0.7182	0.0863
3	260.16	0.4497	0.1146	0.0012	-0.1536	0.0192	0.8500	0.0553	-0.8071	0.0966
3	260.16	0.4997	0.1443	0.0018	-0.2361	0.0238	1.0374	0.0692	-0.7670	0.0921
3	260.16	0.5556	0.1554	0.0019	-0.2970	0.0288	1.2136	0.0837	-1.0623	0.0947
3	260.16	0.5995	0.1970	0.0015	-0.4009	0.0328	1.4249	0.0960	-0.7686	0.0888
3	260.16	0.6498	0.2246	0.0031	-0.4976	0.0372	1.5650	0.1118	-0.9382	0.0930
3	260.16	0.6890	0.2585	0.0029	-0.5811	0.0421	1.6251	0.1224	-1.3496	0.0842
3	260.16	0.7495	0.3243	0.0030	-0.6802	0.0481	1.8359	0.1377	-1.1575	0.0907
3	260.16	0.7998	0.3522	0.0033	-0.8346	0.0533	1.9687	0.1511	-1.1468	0.0855
3	260.16	0.8577	0.3967	0.0043	-0.9340	0.0585	2.1331	0.1666	-0.7529	0.0848
3	260.16	0.9178	0.4748	0.0039	-1.0650	0.0641	2.1325	0.1819	-1.8745	0.0864
3	260.16	0.9729	0.4712	0.0059	-1.2292	0.0709	2.2704	0.1912	-1.3024	0.1084

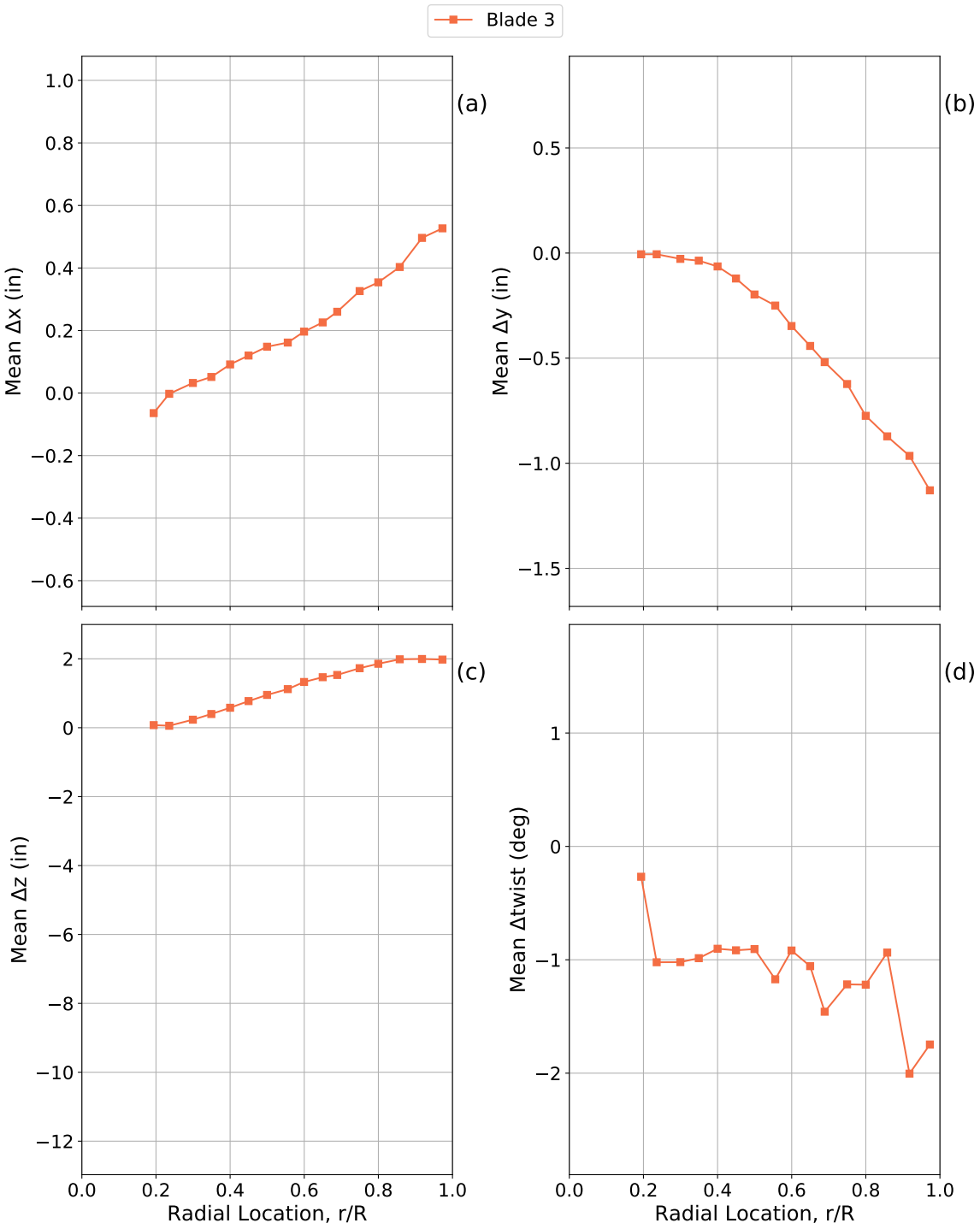


Figure 4.27-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0641	0.0086	-0.0058	0.0021	0.0752	0.0107	-0.2675	0.0501
3	265.08	0.2357	-0.0024	0.0028	-0.0058	0.0015	0.0573	0.0083	-1.0216	0.1473
3	265.08	0.2995	0.0323	0.0026	-0.0277	0.0064	0.2333	0.0304	-1.0207	0.1623
3	265.08	0.3493	0.0515	0.0023	-0.0362	0.0116	0.3979	0.0492	-0.9858	0.1687
3	265.08	0.4000	0.0916	0.0016	-0.0637	0.0167	0.5797	0.0713	-0.9025	0.1622
3	265.08	0.4497	0.1200	0.0018	-0.1211	0.0212	0.7729	0.0919	-0.9162	0.1661
3	265.08	0.4997	0.1482	0.0020	-0.1971	0.0257	0.9520	0.1146	-0.9054	0.1649
3	265.08	0.5556	0.1615	0.0023	-0.2497	0.0325	1.1207	0.1394	-1.1720	0.1643
3	265.08	0.5995	0.1965	0.0024	-0.3471	0.0368	1.3276	0.1613	-0.9181	0.1627
3	265.08	0.6498	0.2259	0.0027	-0.4419	0.0421	1.4663	0.1855	-1.0562	0.1593
3	265.08	0.6890	0.2600	0.0034	-0.5190	0.0470	1.5315	0.2036	-1.4580	0.1646
3	265.08	0.7495	0.3261	0.0041	-0.6230	0.0536	1.7278	0.2315	-1.2168	0.1698
3	265.08	0.7998	0.3541	0.0042	-0.7743	0.0594	1.8565	0.2559	-1.2196	0.1642
3	265.08	0.8577	0.4031	0.0041	-0.8720	0.0669	1.9863	0.2838	-0.9363	0.1596
3	265.08	0.9178	0.4963	0.0047	-0.9648	0.0741	1.9950	0.3139	-2.0042	0.1517
3	265.08	0.9729	0.5268	0.0073	-1.1287	0.0810	1.9783	0.3406	-1.7473	0.1458

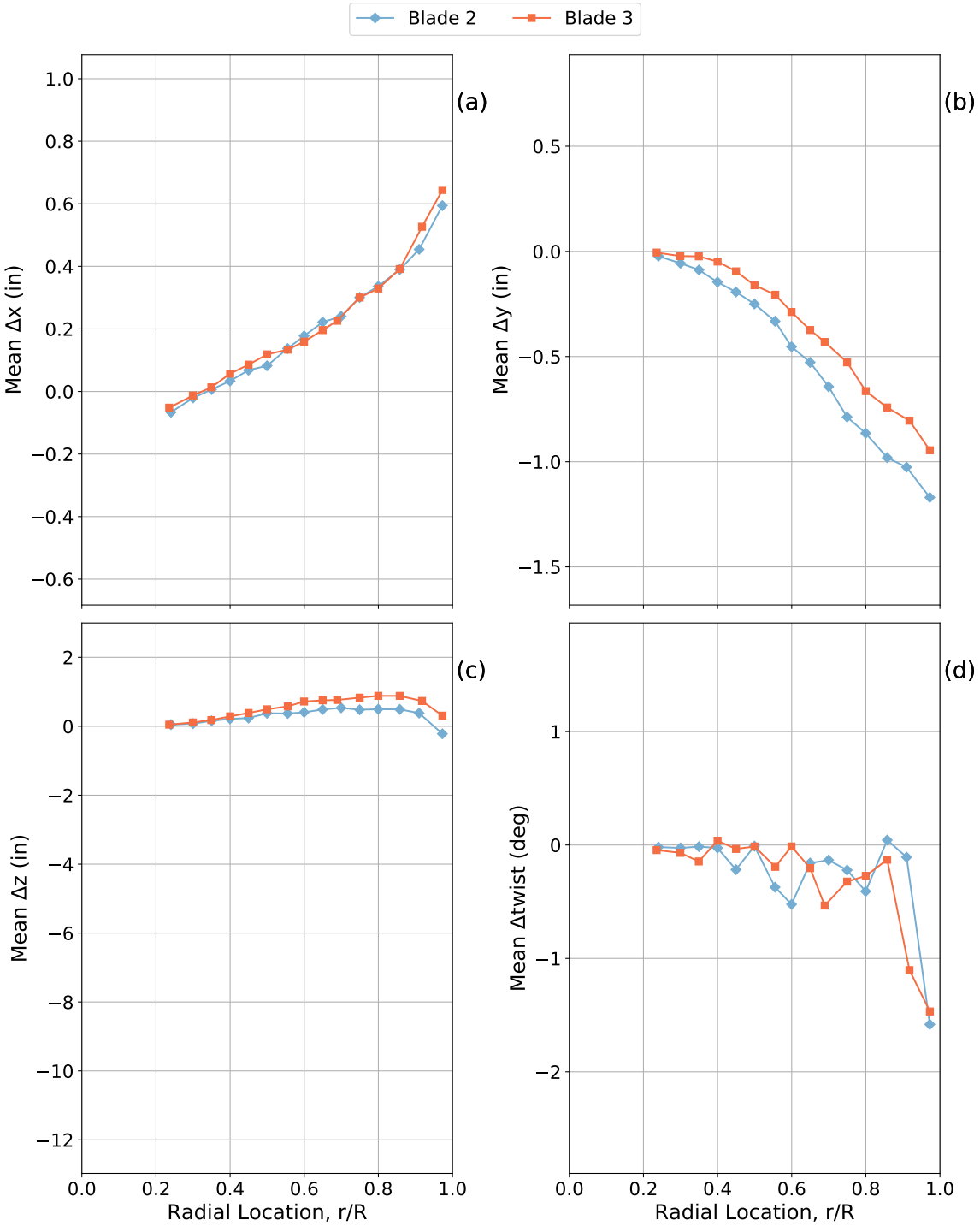


Figure 4.27-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2405	-0.0663	0.0029	-0.0228	0.0022	0.0493	0.0145	-0.0187	0.1392
2	270.35	0.2999	-0.0207	0.0016	-0.0564	0.0045	0.0748	0.0268	-0.0257	0.2150
2	270.35	0.3498	0.0062	0.0015	-0.0882	0.0083	0.1588	0.0502	-0.0147	0.2004
2	270.35	0.3998	0.0335	0.0012	-0.1457	0.0126	0.2154	0.0738	-0.0260	0.2050
2	270.35	0.4496	0.0681	0.0017	-0.1930	0.0168	0.2393	0.0958	-0.2168	0.2026
2	270.35	0.4995	0.0821	0.0024	-0.2499	0.0201	0.3780	0.1174	-0.0098	0.2081
2	270.35	0.5551	0.1373	0.0017	-0.3322	0.0251	0.3714	0.1435	-0.3725	0.2006
2	270.35	0.5996	0.1777	0.0018	-0.4534	0.0287	0.4049	0.1637	-0.5231	0.1972
2	270.35	0.6497	0.2216	0.0019	-0.5277	0.0321	0.4889	0.1875	-0.1588	0.1985
2	270.35	0.6996	0.2402	0.0017	-0.6433	0.0361	0.5356	0.2113	-0.1331	0.1990
2	270.35	0.7495	0.3005	0.0021	-0.7875	0.0404	0.4806	0.2342	-0.2210	0.2028
2	270.35	0.7996	0.3360	0.0028	-0.8646	0.0435	0.4965	0.2599	-0.4088	0.1988
2	270.35	0.8578	0.3897	0.0029	-0.9810	0.0485	0.4908	0.2852	0.0436	0.2002
2	270.35	0.9100	0.4543	0.0031	-1.0259	0.0526	0.3831	0.3134	-0.1073	0.1834
2	270.35	0.9727	0.5941	0.0045	-1.1699	0.0590	-0.2183	0.3417	-1.5817	0.1899
3	270	0.2357	-0.0517	0.0022	-0.0054	0.0014	0.0473	0.0042	-0.0447	0.0626
3	270	0.2995	-0.0129	0.0015	-0.0222	0.0029	0.1111	0.0099	-0.0691	0.1004
3	270	0.3493	0.0132	0.0014	-0.0234	0.0057	0.1805	0.0151	-0.1450	0.1073
3	270	0.4000	0.0570	0.0016	-0.0482	0.0085	0.2880	0.0243	0.0376	0.1182
3	270	0.4497	0.0857	0.0026	-0.0949	0.0112	0.3868	0.0316	-0.0345	0.1074
3	270	0.4997	0.1185	0.0026	-0.1606	0.0145	0.4927	0.0383	-0.0135	0.1059
3	270	0.5556	0.1337	0.0025	-0.2062	0.0170	0.5787	0.0460	-0.1923	0.1073
3	270	0.5995	0.1594	0.0030	-0.2880	0.0196	0.7192	0.0533	-0.0132	0.1038
3	270	0.6498	0.1963	0.0019	-0.3737	0.0219	0.7530	0.0584	-0.2036	0.1079
3	270	0.6890	0.2261	0.0023	-0.4304	0.0245	0.7644	0.0662	-0.5339	0.1015
3	270	0.7495	0.3002	0.0020	-0.5275	0.0277	0.8315	0.0747	-0.3228	0.1204
3	270	0.7998	0.3292	0.0019	-0.6642	0.0312	0.8828	0.0852	-0.2719	0.1091
3	270	0.8577	0.3914	0.0022	-0.7421	0.0339	0.8820	0.0961	-0.1291	0.1285
3	270	0.9178	0.5265	0.0031	-0.8047	0.0387	0.7344	0.1049	-1.1031	0.1167
3	270	0.9729	0.6441	0.0035	-0.9456	0.0414	0.3085	0.1232	-1.4677	0.1207

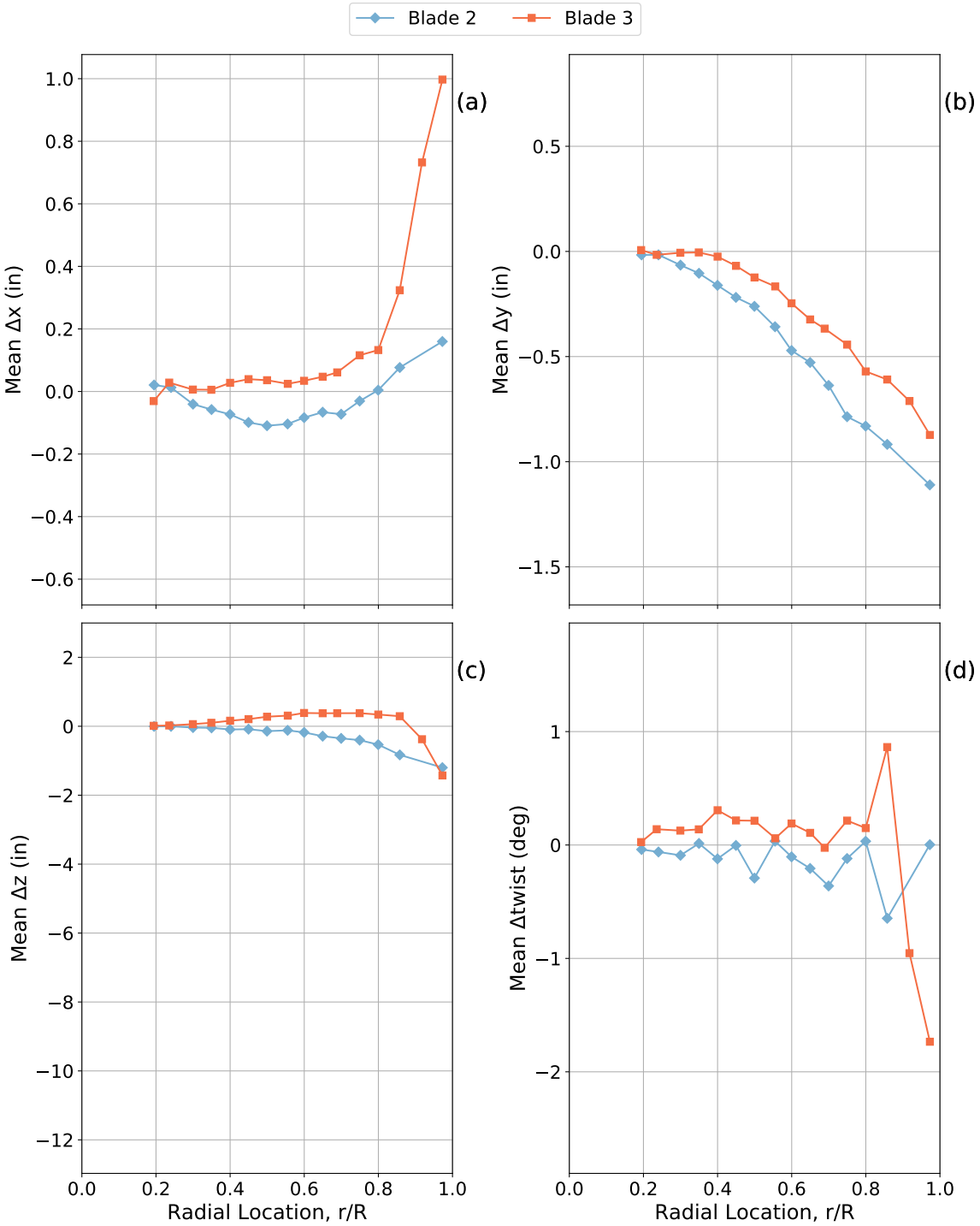


Figure 4.27-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0207	0.0017	-0.0165	0.0011	-0.0030	0.0030	-0.0397	0.0113
2	274.92	0.2405	0.0128	0.0011	-0.0162	0.0021	-0.0014	0.0074	-0.0612	0.0289
2	274.92	0.2999	-0.0405	0.0007	-0.0651	0.0048	-0.0378	0.0145	-0.0911	0.0242
2	274.92	0.3498	-0.0578	0.0012	-0.1039	0.0081	-0.0466	0.0214	0.0137	0.0397
2	274.92	0.3998	-0.0732	0.0021	-0.1613	0.0127	-0.0931	0.0363	-0.1222	0.0274
2	274.92	0.4496	-0.0990	0.0026	-0.2186	0.0159	-0.0847	0.0465	-0.0036	0.0391
2	274.92	0.4995	-0.1095	0.0022	-0.2611	0.0201	-0.1419	0.0617	-0.2917	0.0381
2	274.92	0.5551	-0.1039	0.0028	-0.3582	0.0247	-0.1186	0.0764	0.0342	0.0481
2	274.92	0.5996	-0.0836	0.0025	-0.4712	0.0283	-0.1783	0.0883	-0.1043	0.0547
2	274.92	0.6497	-0.0662	0.0031	-0.5281	0.0329	-0.2883	0.1035	-0.2068	0.0493
2	274.92	0.6996	-0.0726	0.0020	-0.6372	0.0366	-0.3513	0.1179	-0.3612	0.0755
2	274.92	0.7495	-0.0306	0.0052	-0.7860	0.0416	-0.4022	0.1301	-0.1192	0.0543
2	274.92	0.7996	0.0043	0.0066	-0.8307	0.0453	-0.5328	0.1330	0.0331	0.1091
2	274.92	0.8578	0.0766	0.0086	-0.9175	0.0515	-0.8300	0.1575	-0.6464	0.1298
2	274.92	0.9727	0.1598	0.0232	-1.1103	0.0642	-1.1997	0.2120	0.0029	0.3504
3	274.92	0.1938	-0.0307	0.0022	0.0063	0.0013	0.0134	0.0028	0.0256	0.0343
3	274.92	0.2357	0.0284	0.0018	-0.0162	0.0023	0.0225	0.0053	0.1391	0.0608
3	274.92	0.2995	0.0061	0.0009	-0.0063	0.0031	0.0614	0.0078	0.1268	0.0857
3	274.92	0.3493	0.0055	0.0010	-0.0048	0.0055	0.1007	0.0139	0.1379	0.0836
3	274.92	0.4000	0.0277	0.0021	-0.0248	0.0082	0.1604	0.0207	0.3065	0.0812
3	274.92	0.4497	0.0394	0.0022	-0.0685	0.0105	0.2067	0.0256	0.2164	0.0906
3	274.92	0.4997	0.0360	0.0021	-0.1239	0.0128	0.2770	0.0320	0.2140	0.0863
3	274.92	0.5556	0.0245	0.0015	-0.1665	0.0160	0.3087	0.0396	0.0593	0.0784
3	274.92	0.5995	0.0342	0.0031	-0.2466	0.0189	0.3851	0.0479	0.1895	0.0846
3	274.92	0.6498	0.0472	0.0020	-0.3235	0.0232	0.3777	0.0555	0.1070	0.0906
3	274.92	0.6890	0.0610	0.0039	-0.3671	0.0236	0.3784	0.0624	-0.0245	0.0908
3	274.92	0.7495	0.1158	0.0029	-0.4432	0.0275	0.3803	0.0691	0.2152	0.0845
3	274.92	0.7998	0.1325	0.0051	-0.5707	0.0312	0.3402	0.0796	0.1492	0.0841
3	274.92	0.8577	0.3237	0.0065	-0.6091	0.0352	0.2917	0.0837	0.8632	0.0899
3	274.92	0.9178	0.7323	0.0040	-0.7113	0.0337	-0.3763	0.0933	-0.9537	0.1492
3	274.92	0.9729	0.9972	0.0057	-0.8728	0.0462	-1.4272	0.1113	-1.7346	0.2231

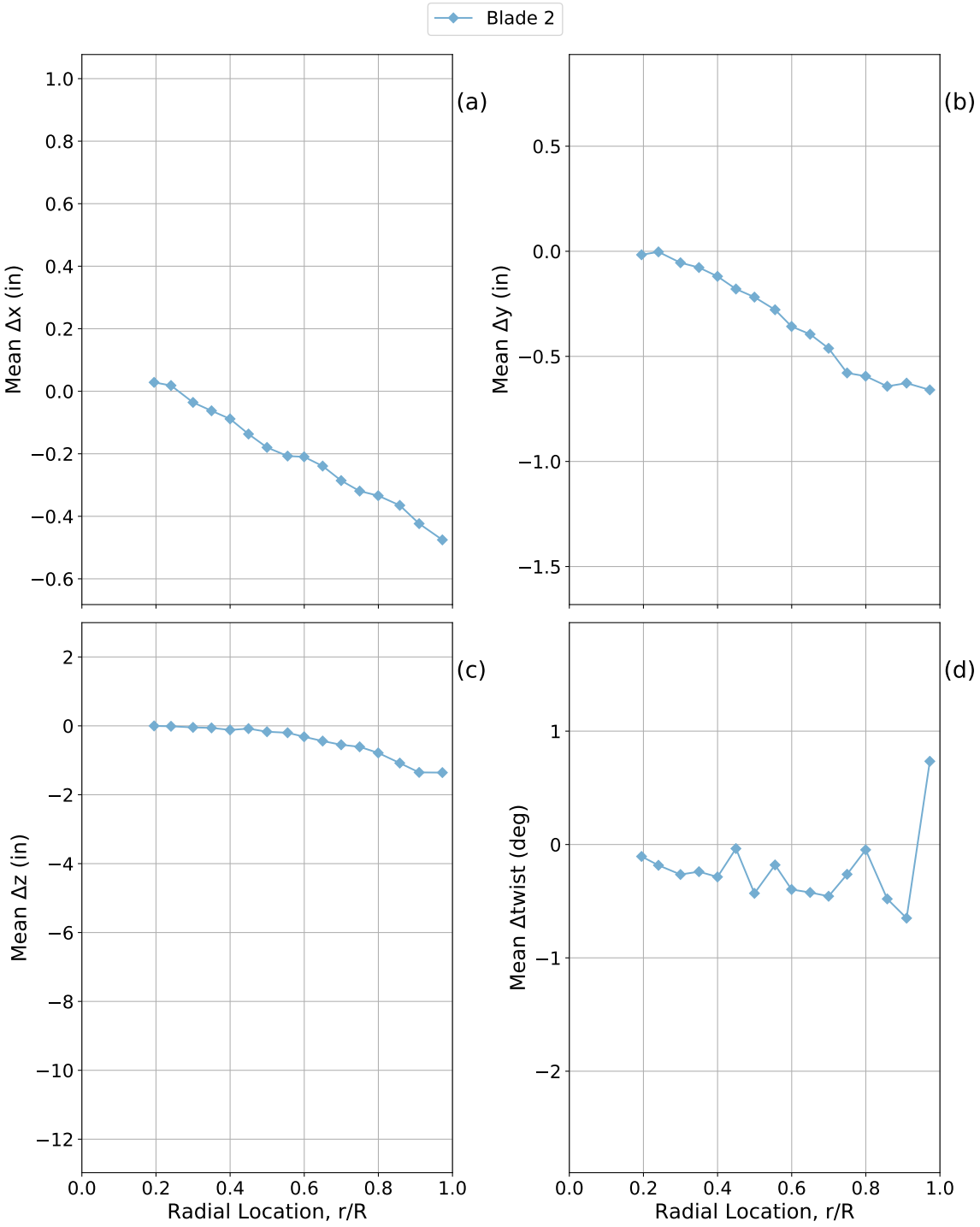


Figure 4.27-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-31. 285° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0284	0.0018	-0.0166	0.0008	-0.0021	0.0027	-0.1054	0.0163
2	285.12	0.2405	0.0184	0.0009	-0.0028	0.0024	-0.0126	0.0056	-0.1834	0.0296
2	285.12	0.2999	-0.0357	0.0011	-0.0546	0.0044	-0.0452	0.0103	-0.2646	0.0339
2	285.12	0.3498	-0.0625	0.0013	-0.0773	0.0069	-0.0595	0.0172	-0.2397	0.0284
2	285.12	0.3998	-0.0884	0.0022	-0.1194	0.0118	-0.1186	0.0266	-0.2861	0.0232
2	285.12	0.4496	-0.1369	0.0024	-0.1795	0.0124	-0.0808	0.0314	-0.0358	0.0350
2	285.12	0.4995	-0.1797	0.0024	-0.2181	0.0146	-0.1711	0.0402	-0.4308	0.0263
2	285.12	0.5551	-0.2073	0.0033	-0.2782	0.0184	-0.2002	0.0405	-0.1803	0.0664
2	285.12	0.5996	-0.2098	0.0028	-0.3577	0.0211	-0.3176	0.0480	-0.3967	0.0439
2	285.12	0.6497	-0.2393	0.0039	-0.3948	0.0243	-0.4415	0.0546	-0.4233	0.0582
2	285.12	0.6996	-0.2858	0.0033	-0.4617	0.0276	-0.5495	0.0600	-0.4566	0.0390
2	285.12	0.7495	-0.3193	0.0035	-0.5790	0.0311	-0.6092	0.0693	-0.2629	0.0347
2	285.12	0.7996	-0.3341	0.0030	-0.5944	0.0347	-0.7858	0.0727	-0.0469	0.0430
2	285.12	0.8578	-0.3650	0.0039	-0.6425	0.0391	-1.0809	0.0762	-0.4800	0.0619
2	285.12	0.9100	-0.4235	0.0045	-0.6273	0.0423	-1.3523	0.0839	-0.6498	0.0899
2	285.12	0.9727	-0.4754	0.0130	-0.6595	0.0460	-1.3572	0.1078	0.7343	0.2046

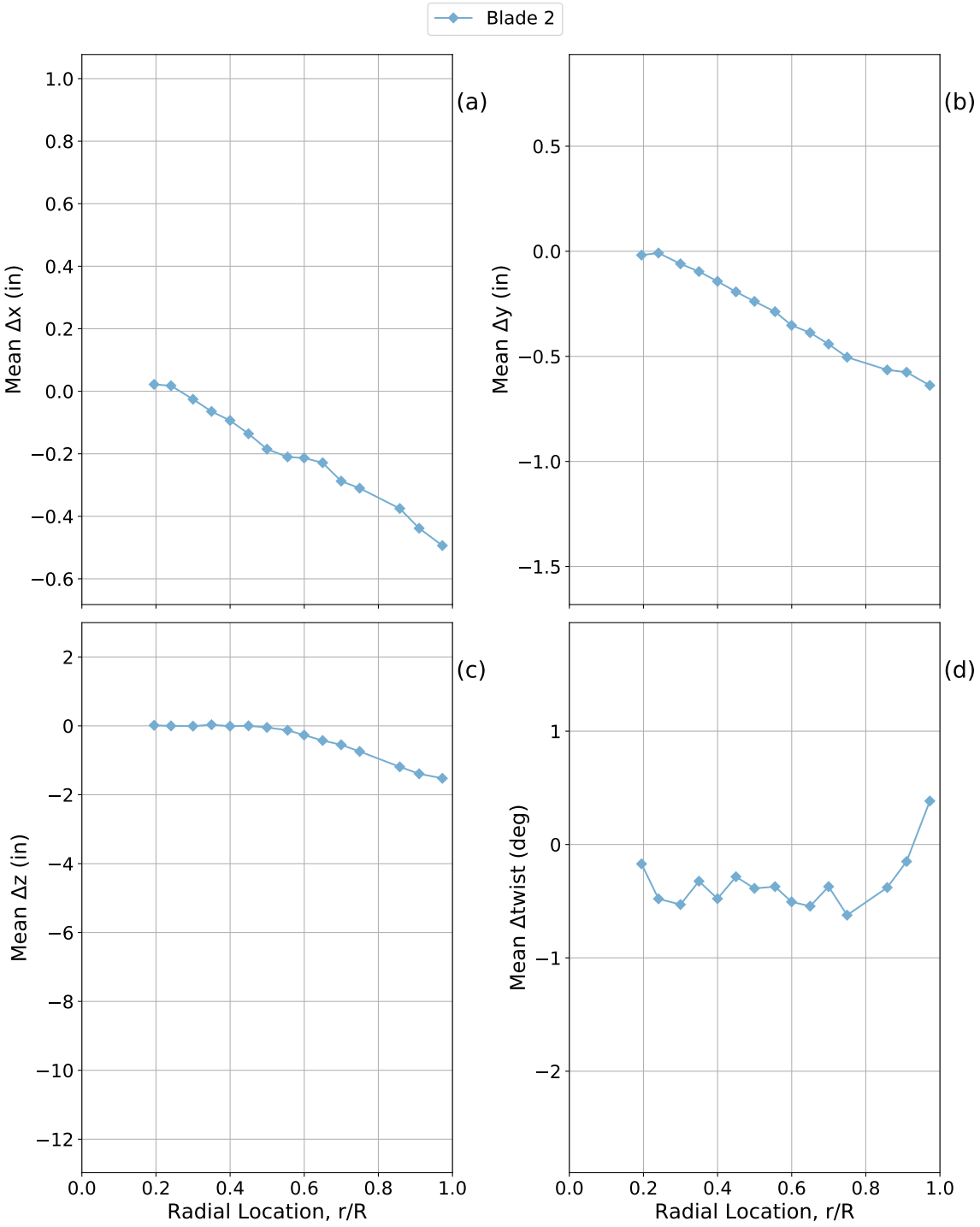


Figure 4.27-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0219	0.0010	-0.0182	0.0008	0.0153	0.0038	-0.1710	0.0446
2	299.88	0.2405	0.0176	0.0011	-0.0082	0.0027	-0.0015	0.0102	-0.4790	0.0426
2	299.88	0.2999	-0.0256	0.0014	-0.0598	0.0044	-0.0082	0.0154	-0.5298	0.0899
2	299.88	0.3498	-0.0646	0.0023	-0.0965	0.0076	0.0325	0.0303	-0.3238	0.0592
2	299.88	0.3998	-0.0935	0.0027	-0.1429	0.0124	-0.0097	0.0443	-0.4782	0.0453
2	299.88	0.4496	-0.1359	0.0025	-0.1929	0.0137	0.0012	0.0515	-0.2842	0.0802
2	299.88	0.4995	-0.1852	0.0028	-0.2384	0.0148	-0.0469	0.0619	-0.3871	0.0789
2	299.88	0.5551	-0.2102	0.0023	-0.2874	0.0194	-0.1282	0.0767	-0.3717	0.0472
2	299.88	0.5996	-0.2135	0.0026	-0.3524	0.0214	-0.2676	0.0867	-0.5058	0.0444
2	299.88	0.6497	-0.2287	0.0028	-0.3873	0.0240	-0.4256	0.0980	-0.5443	0.0590
2	299.88	0.6996	-0.2875	0.0025	-0.4417	0.0269	-0.5497	0.1115	-0.3715	0.0548
2	299.88	0.7495	-0.3101	0.0038	-0.5042	0.0299	-0.7439	0.1239	-0.6232	0.0611
2	299.88	0.8578	-0.3752	0.0034	-0.5644	0.0374	-1.1906	0.1576	-0.3797	0.0668
2	299.88	0.9100	-0.4383	0.0020	-0.5753	0.0408	-1.3921	0.1760	-0.1501	0.0652
2	299.88	0.9727	-0.4936	0.0029	-0.6381	0.0450	-1.5234	0.1939	0.3838	0.0797

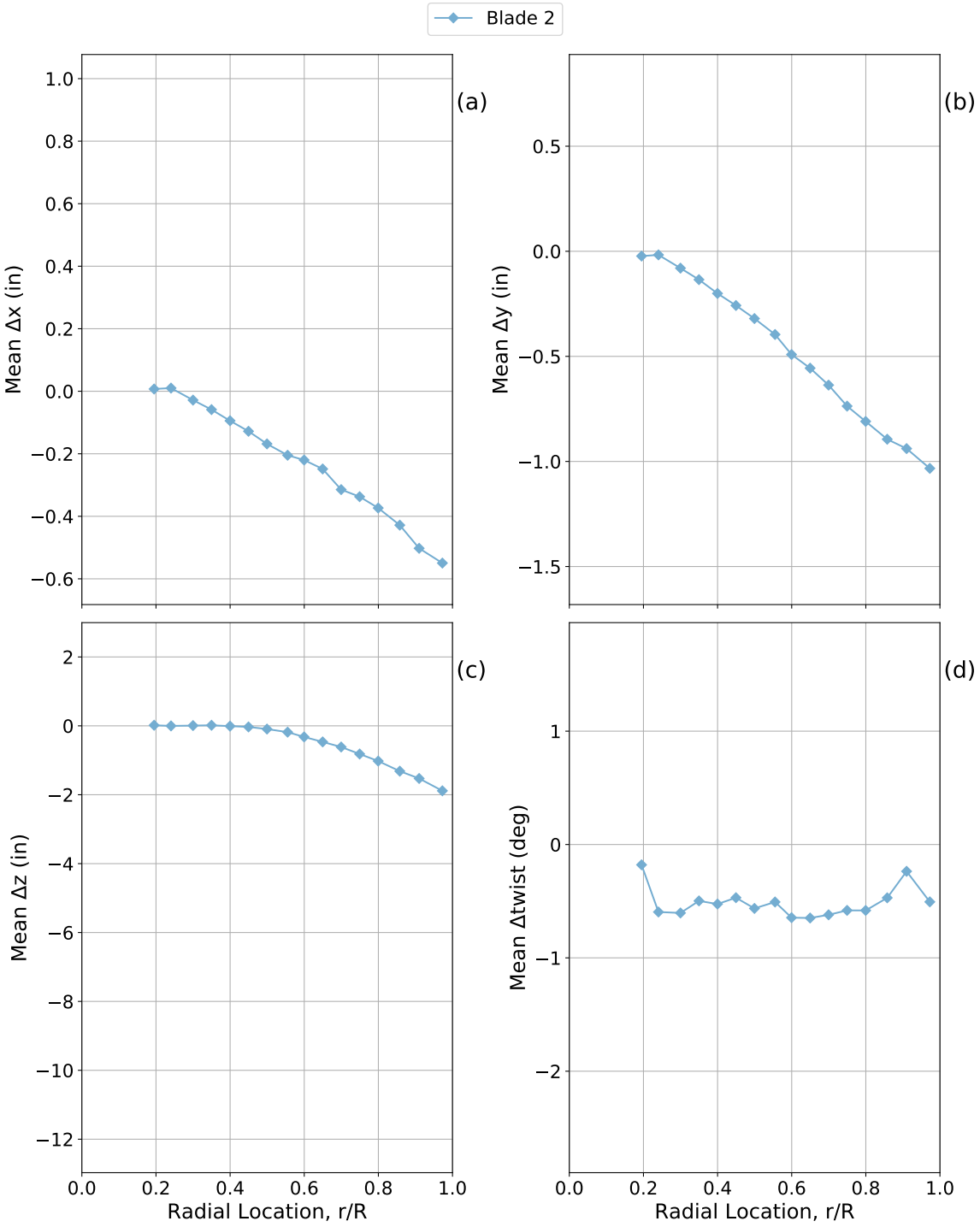


Figure 4.27-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0072	0.0016	-0.0228	0.0006	0.0173	0.0016	-0.1791	0.0302
2	315	0.2405	0.0102	0.0008	-0.0172	0.0018	-0.0017	0.0057	-0.5953	0.0326
2	315	0.2999	-0.0283	0.0018	-0.0803	0.0038	0.0077	0.0099	-0.6039	0.0645
2	315	0.3498	-0.0587	0.0013	-0.1349	0.0051	0.0167	0.0134	-0.4975	0.0346
2	315	0.3998	-0.0944	0.0034	-0.2007	0.0093	-0.0083	0.0241	-0.5254	0.0551
2	315	0.4496	-0.1280	0.0018	-0.2579	0.0102	-0.0312	0.0244	-0.4693	0.0332
2	315	0.4995	-0.1684	0.0029	-0.3201	0.0141	-0.0934	0.0332	-0.5639	0.0505
2	315	0.5551	-0.2047	0.0019	-0.3959	0.0163	-0.1830	0.0417	-0.5071	0.0538
2	315	0.5996	-0.2200	0.0027	-0.4913	0.0182	-0.3216	0.0484	-0.6453	0.0508
2	315	0.6497	-0.2486	0.0023	-0.5561	0.0212	-0.4662	0.0538	-0.6484	0.0430
2	315	0.6996	-0.3146	0.0025	-0.6368	0.0237	-0.6138	0.0607	-0.6202	0.0377
2	315	0.7495	-0.3373	0.0021	-0.7368	0.0270	-0.8177	0.0689	-0.5813	0.0535
2	315	0.7996	-0.3735	0.0026	-0.8096	0.0298	-1.0223	0.0759	-0.5818	0.0555
2	315	0.8578	-0.4283	0.0020	-0.8944	0.0337	-1.3160	0.0832	-0.4705	0.0389
2	315	0.9100	-0.5024	0.0027	-0.9389	0.0370	-1.5277	0.0891	-0.2365	0.0484
2	315	0.9727	-0.5496	0.0032	-1.0331	0.0405	-1.8863	0.1023	-0.5060	0.0433

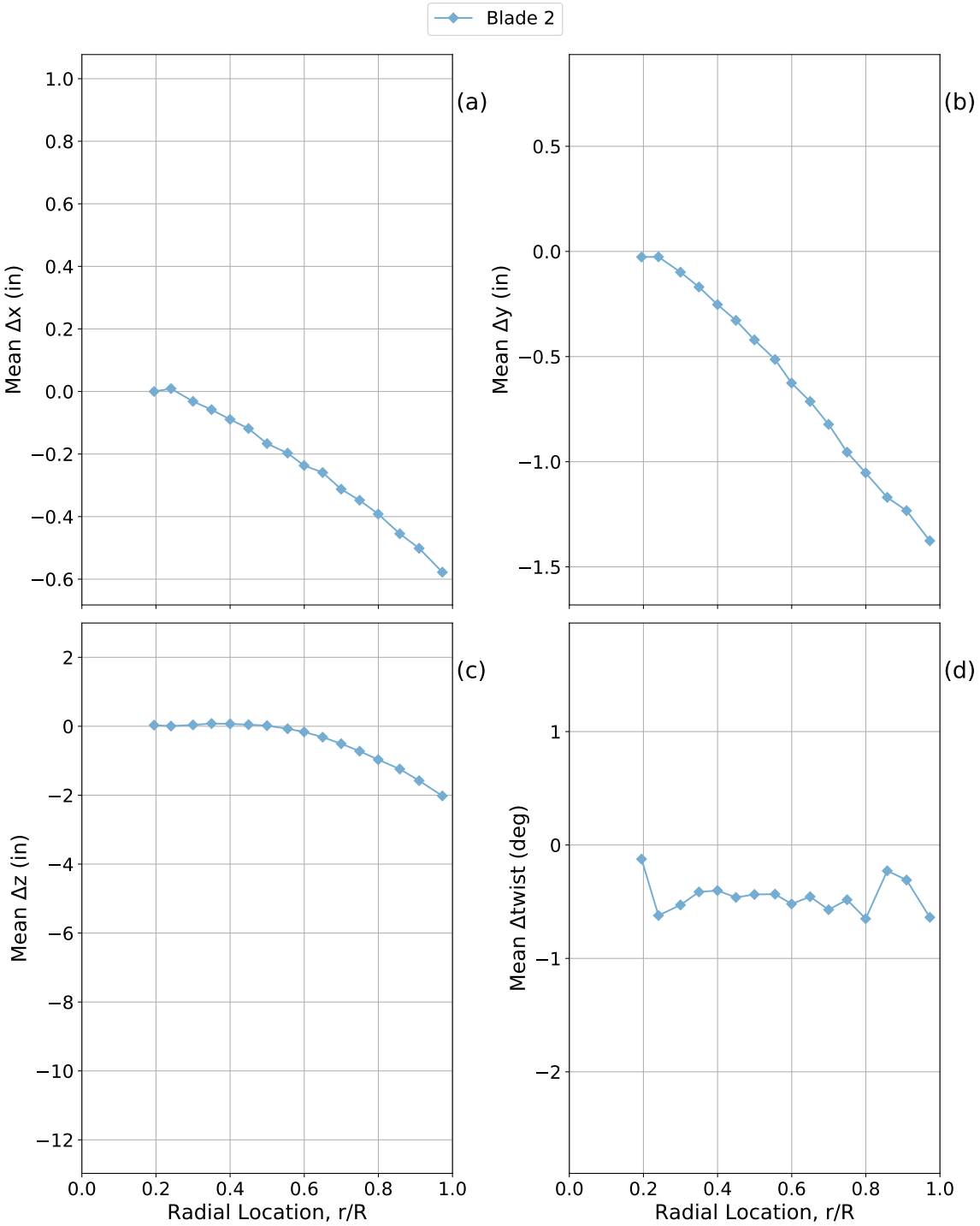


Figure 4.27-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	-0.0000	0.0013	-0.0267	0.0007	0.0305	0.0020	-0.1241	0.0154
2	330.12	0.2405	0.0091	0.0010	-0.0257	0.0014	0.0060	0.0052	-0.6217	0.0241
2	330.12	0.2999	-0.0317	0.0014	-0.0986	0.0027	0.0385	0.0127	-0.5288	0.0330
2	330.12	0.3498	-0.0581	0.0028	-0.1692	0.0042	0.0793	0.0135	-0.4139	0.0292
2	330.12	0.3998	-0.0892	0.0024	-0.2528	0.0067	0.0705	0.0279	-0.4018	0.0361
2	330.12	0.4496	-0.1185	0.0017	-0.3280	0.0073	0.0467	0.0313	-0.4622	0.0434
2	330.12	0.4995	-0.1666	0.0019	-0.4207	0.0090	0.0180	0.0331	-0.4362	0.0461
2	330.12	0.5551	-0.1971	0.0017	-0.5138	0.0118	-0.0722	0.0352	-0.4335	0.0345
2	330.12	0.5996	-0.2367	0.0015	-0.6259	0.0135	-0.1639	0.0376	-0.5197	0.0384
2	330.12	0.6497	-0.2591	0.0025	-0.7135	0.0149	-0.3171	0.0404	-0.4556	0.0414
2	330.12	0.6996	-0.3124	0.0022	-0.8224	0.0171	-0.5068	0.0452	-0.5707	0.0284
2	330.12	0.7495	-0.3478	0.0023	-0.9545	0.0177	-0.7236	0.0504	-0.4831	0.0414
2	330.12	0.7996	-0.3919	0.0022	-1.0530	0.0195	-0.9698	0.0551	-0.6501	0.0347
2	330.12	0.8578	-0.4548	0.0017	-1.1697	0.0214	-1.2410	0.0622	-0.2275	0.0491
2	330.12	0.9100	-0.5014	0.0018	-1.2328	0.0225	-1.5786	0.0630	-0.3092	0.0378
2	330.12	0.9727	-0.5777	0.0025	-1.3761	0.0249	-2.0214	0.0654	-0.6380	0.0374

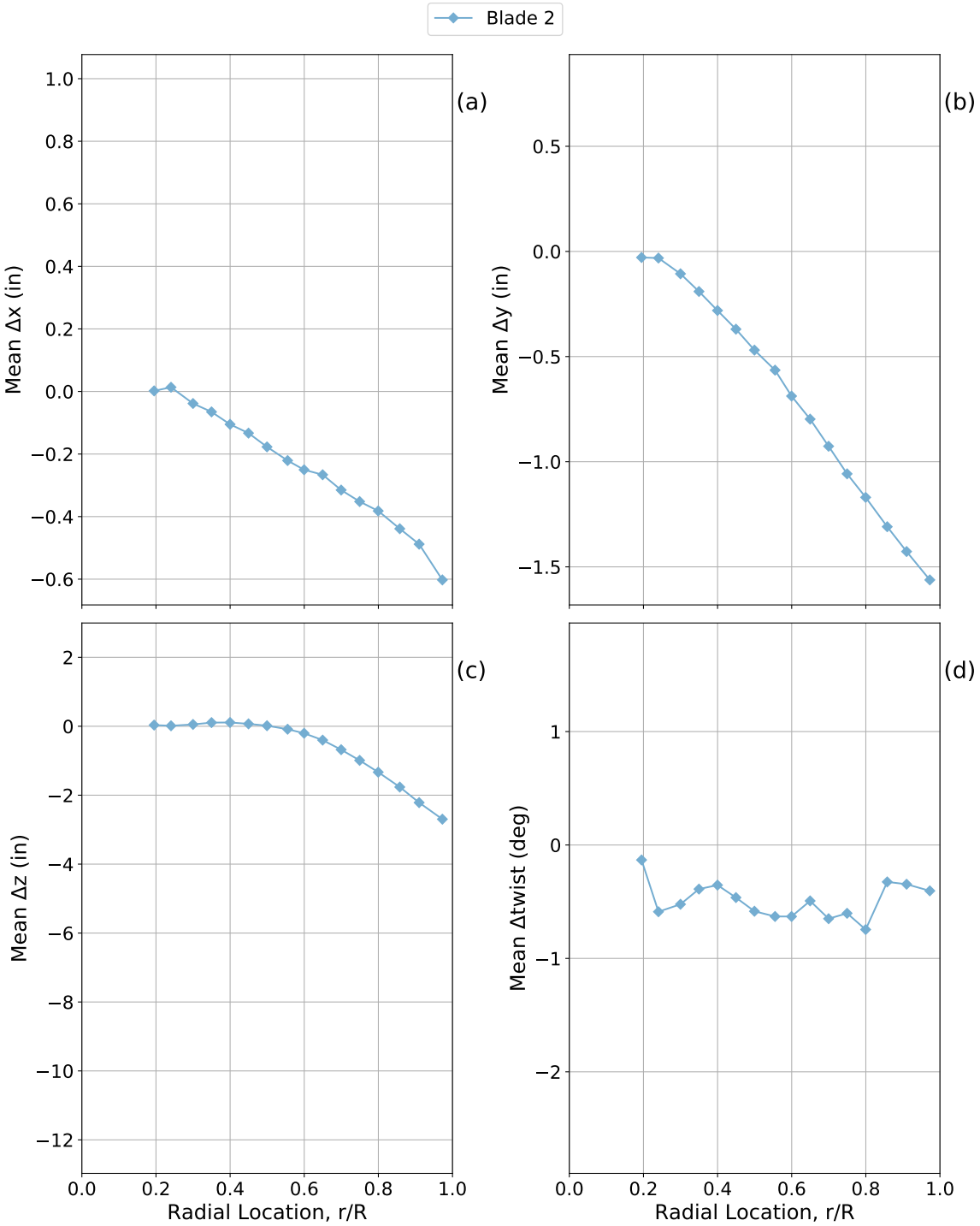


Figure 4.27-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	0.0019	0.0028	-0.0288	0.0009	0.0346	0.0036	-0.1320	0.0157
2	344.88	0.2405	0.0135	0.0024	-0.0315	0.0012	0.0138	0.0035	-0.5885	0.0515
2	344.88	0.2999	-0.0384	0.0018	-0.1063	0.0027	0.0530	0.0093	-0.5225	0.0468
2	344.88	0.3498	-0.0652	0.0015	-0.1905	0.0036	0.1061	0.0154	-0.3887	0.0414
2	344.88	0.3998	-0.1050	0.0021	-0.2810	0.0059	0.1096	0.0214	-0.3537	0.0588
2	344.88	0.4496	-0.1331	0.0021	-0.3698	0.0070	0.0698	0.0300	-0.4635	0.0518
2	344.88	0.4995	-0.1771	0.0021	-0.4693	0.0093	0.0160	0.0377	-0.5843	0.0466
2	344.88	0.5551	-0.2208	0.0020	-0.5646	0.0111	-0.0855	0.0453	-0.6302	0.0540
2	344.88	0.5996	-0.2503	0.0026	-0.6879	0.0125	-0.2027	0.0510	-0.6303	0.0499
2	344.88	0.6497	-0.2662	0.0027	-0.7975	0.0144	-0.4017	0.0575	-0.4929	0.0474
2	344.88	0.6996	-0.3151	0.0025	-0.9265	0.0161	-0.6796	0.0656	-0.6498	0.0478
2	344.88	0.7495	-0.3519	0.0025	-1.0577	0.0183	-0.9902	0.0693	-0.6023	0.0449
2	344.88	0.7996	-0.3819	0.0021	-1.1696	0.0209	-1.3321	0.0757	-0.7455	0.0385
2	344.88	0.8578	-0.4388	0.0028	-1.3092	0.0236	-1.7638	0.0847	-0.3255	0.0483
2	344.88	0.9100	-0.4881	0.0023	-1.4271	0.0253	-2.2150	0.0940	-0.3459	0.0478
2	344.88	0.9727	-0.6024	0.0027	-1.5621	0.0284	-2.6961	0.1024	-0.4043	0.0481

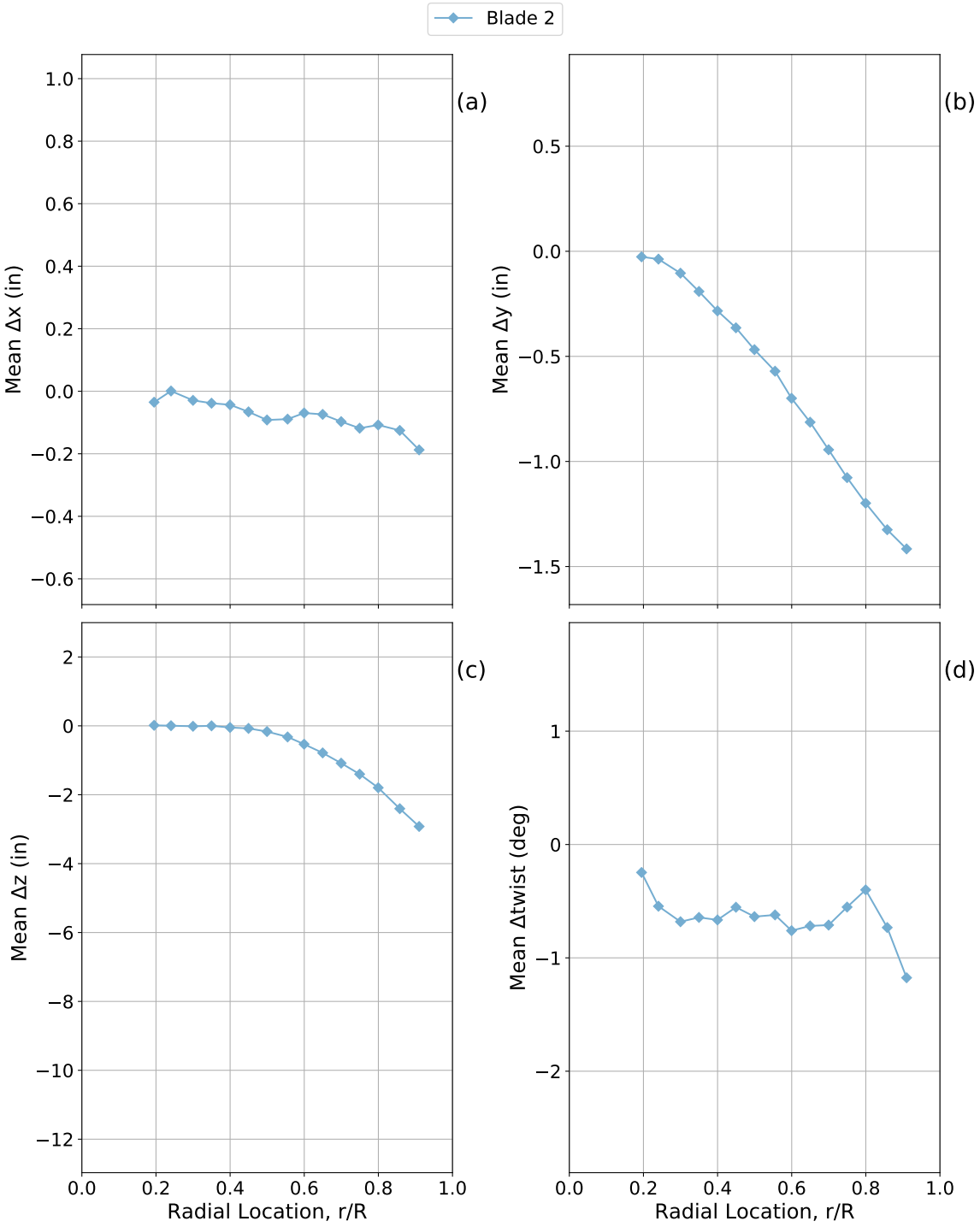


Figure 4.27-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0350	0.0023	-0.0264	0.0008	0.0151	0.0026	-0.2466	0.0264
2	350.16	0.2405	0.0008	0.0015	-0.0373	0.0016	0.0042	0.0037	-0.5445	0.0469
2	350.16	0.2999	-0.0291	0.0021	-0.1042	0.0030	-0.0124	0.0080	-0.6812	0.0651
2	350.16	0.3498	-0.0382	0.0026	-0.1912	0.0055	0.0003	0.0141	-0.6433	0.0512
2	350.16	0.3998	-0.0432	0.0031	-0.2837	0.0083	-0.0478	0.0202	-0.6653	0.0478
2	350.16	0.4496	-0.0659	0.0047	-0.3641	0.0119	-0.0746	0.0258	-0.5533	0.0554
2	350.16	0.4995	-0.0919	0.0039	-0.4681	0.0143	-0.1656	0.0278	-0.6365	0.0555
2	350.16	0.5551	-0.0892	0.0055	-0.5706	0.0164	-0.3225	0.0364	-0.6212	0.0644
2	350.16	0.5996	-0.0695	0.0060	-0.6996	0.0197	-0.5323	0.0398	-0.7601	0.0654
2	350.16	0.6497	-0.0740	0.0086	-0.8133	0.0233	-0.7856	0.0462	-0.7183	0.0612
2	350.16	0.6996	-0.0972	0.0108	-0.9443	0.0254	-1.0834	0.0493	-0.7108	0.0915
2	350.16	0.7495	-0.1182	0.0110	-1.0772	0.0283	-1.4025	0.0541	-0.5520	0.0394
2	350.16	0.7996	-0.1078	0.0103	-1.1985	0.0299	-1.7968	0.0592	-0.4000	0.1237
2	350.16	0.8578	-0.1253	0.0171	-1.3250	0.0348	-2.4050	0.0728	-0.7327	0.1895
2	350.16	0.9100	-0.1875	0.0343	-1.4162	0.0386	-2.9213	0.0863	-1.1756	0.3623

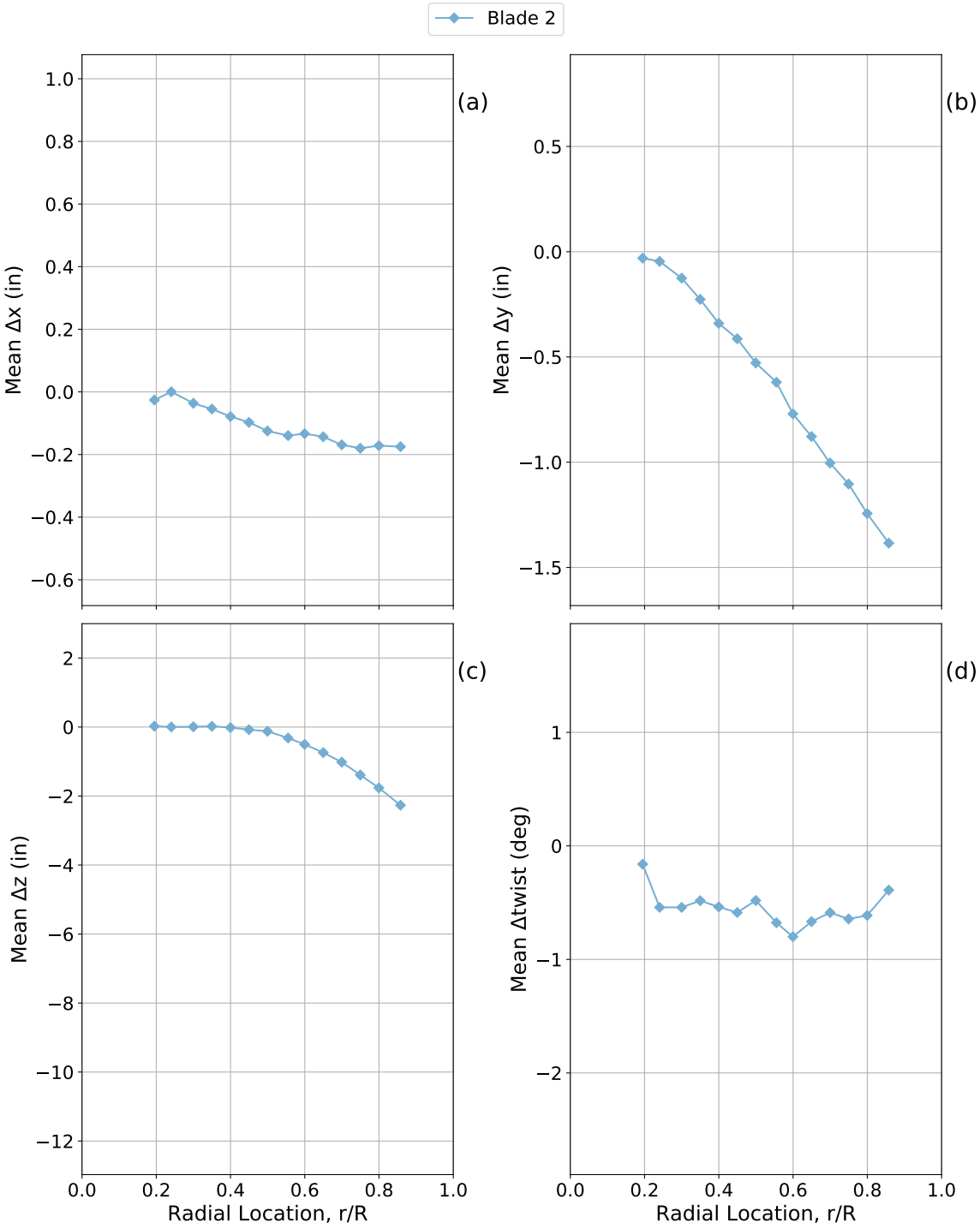


Figure 4.27-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Table 4.27-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 7. BD run 39, points 5951 to 5961.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0260	0.0021	-0.0307	0.0015	0.0233	0.0047	-0.1612	0.0255
2	355.08	0.2405	0.0004	0.0022	-0.0461	0.0041	0.0032	0.0071	-0.5416	0.0662
2	355.08	0.2999	-0.0364	0.0016	-0.1256	0.0073	0.0072	0.0147	-0.5417	0.0711
2	355.08	0.3498	-0.0547	0.0029	-0.2267	0.0125	0.0220	0.0258	-0.4827	0.0579
2	355.08	0.3998	-0.0787	0.0038	-0.3405	0.0202	-0.0159	0.0372	-0.5375	0.0596
2	355.08	0.4496	-0.0973	0.0046	-0.4136	0.0245	-0.0754	0.0459	-0.5869	0.0618
2	355.08	0.4995	-0.1248	0.0061	-0.5285	0.0322	-0.1239	0.0587	-0.4811	0.0474
2	355.08	0.5551	-0.1396	0.0071	-0.6202	0.0386	-0.3185	0.0705	-0.6767	0.0517
2	355.08	0.5996	-0.1334	0.0083	-0.7705	0.0441	-0.5026	0.0815	-0.8003	0.0577
2	355.08	0.6497	-0.1433	0.0103	-0.8780	0.0510	-0.7407	0.0942	-0.6670	0.0544
2	355.08	0.6996	-0.1690	0.0110	-1.0039	0.0574	-1.0164	0.1038	-0.5877	0.0728
2	355.08	0.7495	-0.1801	0.0117	-1.1037	0.0661	-1.3903	0.1161	-0.6437	0.0651
2	355.08	0.7996	-0.1717	0.0138	-1.2439	0.0718	-1.7640	0.1275	-0.6126	0.0714
2	355.08	0.8578	-0.1749	0.0174	-1.3844	0.0807	-2.2654	0.1346	-0.3893	0.1070

4.28 Run 83, Point 77

4.28.1 Pitch, Flap, and Lag

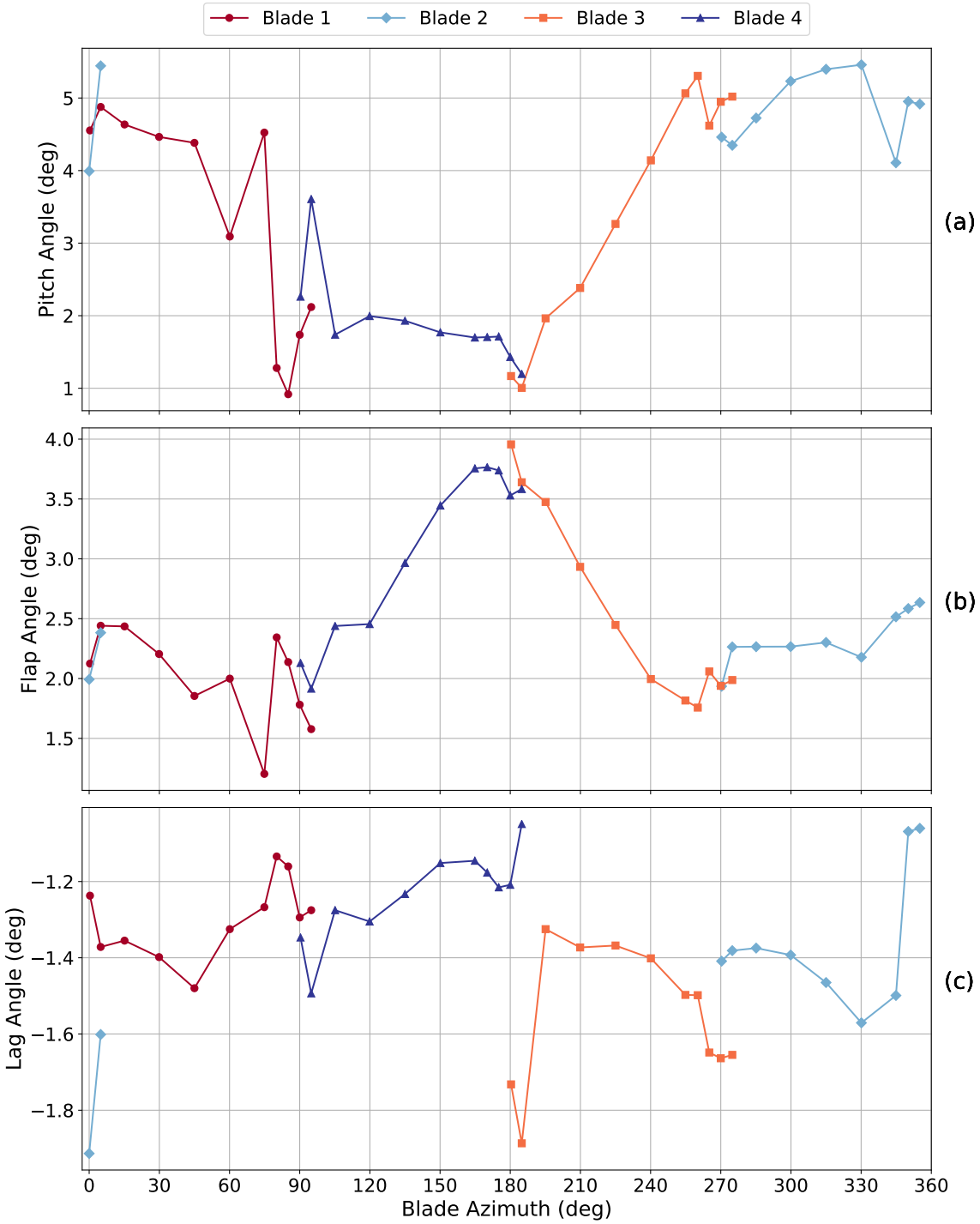


Figure 4.28-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	3.9919	1.9924	-1.9136	0.0724	0.0312	0.0199
0.35	1	4.5532	2.1248	-1.2371	0.1003	0.0168	0.0202
4.92	1	4.8770	2.4411	-1.3717	0.1437	0.0538	0.0295
4.92	2	5.4429	2.3829	-1.6013	0.1308	0.0594	0.0380
15.12	1	4.6352	2.4355	-1.3550	0.0591	0.0301	0.0226
29.88	1	4.4640	2.2048	-1.3983	0.0994	0.0367	0.0254
45	1	4.3820	1.8543	-1.4799	0.0892	0.0526	0.0303
60.12	1	3.0910	1.9993	-1.3249	0.1065	0.0403	0.0228
74.88	1	4.5234	1.2034	-1.2673	0.2868	0.0918	0.0395
80.16	1	1.2793	2.3437	-1.1342	0.1046	0.0465	0.0256
85.08	1	0.9175	2.1374	-1.1604	0.1616	0.0587	0.0207
90	1	1.7362	1.7814	-1.2943	0.0905	0.0517	0.0288
90.35	4	2.2615	2.1297	-1.3469	0.1165	0.0156	0.0171
94.92	1	2.1193	1.5772	-1.2752	0.0978	0.0417	0.0257
94.92	4	3.6068	1.9152	-1.4935	0.1917	0.0229	0.0115
105.12	4	1.7383	2.4389	-1.2752	0.0228	0.0207	0.0110
119.88	4	1.9947	2.4549	-1.3049	0.0269	0.0136	0.0075
135	4	1.9303	2.9654	-1.2328	0.0257	0.0172	0.0159
150.12	4	1.7700	3.4452	-1.1515	0.0301	0.0232	0.0158
164.88	4	1.6986	3.7555	-1.1455	0.0350	0.0289	0.0152
170.16	4	1.7051	3.7657	-1.1765	0.0580	0.0364	0.0210
175.08	4	1.7122	3.7385	-1.2153	0.0384	0.0219	0.0209
180	4	1.4305	3.5294	-1.2086	0.0204	0.0292	0.0211
180.35	3	1.1680	3.9562	-1.7322	0.0887	0.0380	0.0228
184.92	3	1.0050	3.6399	-1.8868	0.1105	0.1194	0.0260
184.92	4	1.1966	3.5830	-1.0491	0.0534	0.0867	0.0784
195.12	3	1.9636	3.4750	-1.3249	0.0940	0.0486	0.0250
209.88	3	2.3822	2.9329	-1.3729	0.0251	0.0166	0.0129
225	3	3.2643	2.4478	-1.3679	0.0401	0.0201	0.0139
240.12	3	4.1405	1.9957	-1.4015	0.0340	0.0154	0.0138
254.88	3	5.0640	1.8164	-1.4975	0.0837	0.0377	0.0209
260.16	3	5.3049	1.7571	-1.4982	0.1494	0.0633	0.0161
265.08	3	4.6187	2.0591	-1.6486	0.1155	0.0523	0.0201
270	3	4.9485	1.9392	-1.6637	0.2048	0.0694	0.0307
270.35	2	4.4608	1.9353	-1.4089	0.2727	0.0759	0.0301
274.92	2	4.3480	2.2642	-1.3813	0.0253	0.0142	0.0113
274.92	3	5.0192	1.9874	-1.6548	0.2516	0.1107	0.0291
285.12	2	4.7240	2.2660	-1.3746	0.0361	0.0145	0.0144
299.88	2	5.2317	2.2667	-1.3928	0.0315	0.0313	0.0079
315	2	5.3961	2.3015	-1.4650	0.0402	0.0145	0.0120
330.12	2	5.4582	2.1778	-1.5707	0.0273	0.0127	0.0046
344.88	2	4.1071	2.5155	-1.4990	0.0701	0.0233	0.0161
350.16	2	4.9524	2.5846	-1.0687	0.0746	0.0551	0.0247
355.08	2	4.9174	2.6350	-1.0604	0.1529	0.1131	0.0341

4.28.2 Spanwise Elastic Deformations

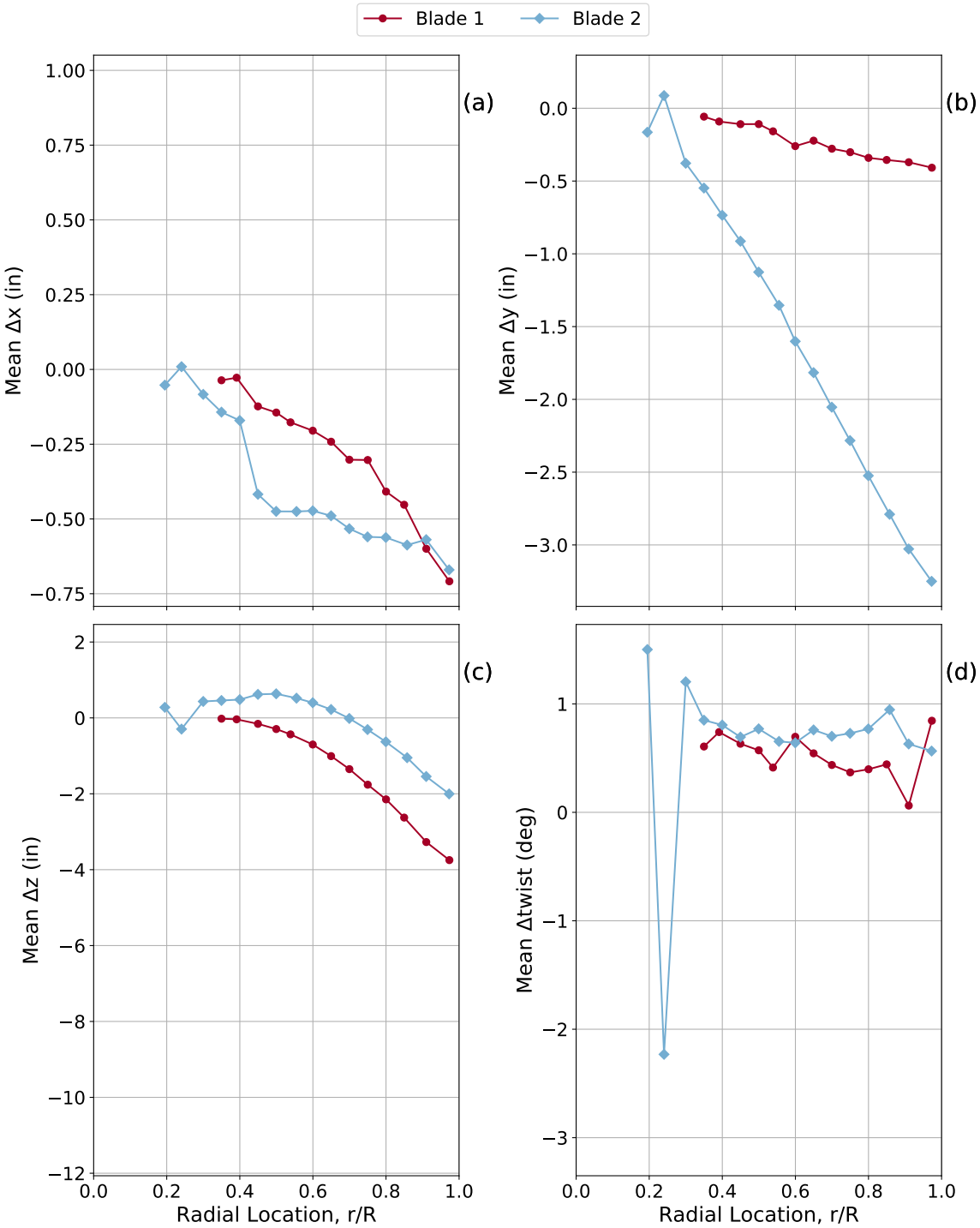


Figure 4.28-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.3498	-0.0363	0.0026	-0.0576	0.0048	-0.0211	0.0105	0.6068	0.0865
1	0.35	0.3913	-0.0276	0.0034	-0.0912	0.0076	-0.0377	0.0165	0.7400	0.1055
1	0.35	0.4496	-0.1236	0.0099	-0.1092	0.0129	-0.1564	0.0158	0.6324	0.0948
1	0.35	0.4997	-0.1442	0.0101	-0.1088	0.0150	-0.2935	0.0213	0.5720	0.1033
1	0.35	0.5387	-0.1769	0.0110	-0.1584	0.0175	-0.4339	0.0249	0.4129	0.1195
1	0.35	0.5996	-0.2048	0.0106	-0.2601	0.0200	-0.7016	0.0275	0.6965	0.1133
1	0.35	0.6498	-0.2417	0.0122	-0.2225	0.0234	-1.0071	0.0319	0.5440	0.1076
1	0.35	0.6998	-0.3019	0.0149	-0.2779	0.0265	-1.3497	0.0402	0.4367	0.1238
1	0.35	0.7500	-0.3029	0.0157	-0.3018	0.0385	-1.7599	0.0618	0.3684	0.1958
1	0.35	0.8001	-0.4085	0.0207	-0.3408	0.0335	-2.1470	0.0537	0.3971	0.1489
1	0.35	0.8497	-0.4525	0.0217	-0.3551	0.0387	-2.6271	0.0641	0.4424	0.1095
1	0.35	0.9102	-0.5996	0.0240	-0.3708	0.0442	-3.2722	0.0739	0.0622	0.1710
1	0.35	0.9734	-0.7085	0.0262	-0.4083	0.0532	-3.7477	0.0847	0.8446	0.1324
2	0	0.1949	-0.0524	0.0026	-0.1647	0.0019	0.2785	0.0059	1.5012	0.0377
2	0	0.2405	0.0092	0.0010	0.0872	0.0041	-0.2948	0.0080	-2.2315	0.0645
2	0	0.2999	-0.0834	0.0010	-0.3778	0.0039	0.4335	0.0145	1.2037	0.0709
2	0	0.3498	-0.1428	0.0016	-0.5482	0.0062	0.4589	0.0254	0.8498	0.0609
2	0	0.3998	-0.1707	0.0029	-0.7353	0.0099	0.4824	0.0345	0.8048	0.0677
2	0	0.4496	-0.4175	0.0079	-0.9134	0.0198	0.6201	0.0456	0.6941	0.0697
2	0	0.4995	-0.4747	0.0072	-1.1257	0.0227	0.6352	0.0531	0.7699	0.0640
2	0	0.5551	-0.4750	0.0071	-1.3538	0.0279	0.5201	0.0622	0.6540	0.0773
2	0	0.5996	-0.4728	0.0076	-1.6013	0.0310	0.4001	0.0689	0.6410	0.0716
2	0	0.6497	-0.4894	0.0066	-1.8163	0.0346	0.2217	0.0775	0.7599	0.0769
2	0	0.6996	-0.5326	0.0049	-2.0537	0.0367	-0.0145	0.0849	0.7011	0.0796
2	0	0.7495	-0.5599	0.0057	-2.2832	0.0399	-0.3074	0.0938	0.7283	0.0804
2	0	0.7996	-0.5619	0.0035	-2.5244	0.0427	-0.6294	0.1042	0.7693	0.0729
2	0	0.8578	-0.5872	0.0040	-2.7895	0.0464	-1.0491	0.1146	0.9467	0.0996
2	0	0.9100	-0.5692	0.0597	-3.0278	0.0461	-1.5438	0.1480	0.6304	0.3113
2	0	0.9727	-0.6701	0.0365	-3.2500	0.0515	-2.0031	0.1380	0.5652	0.2172

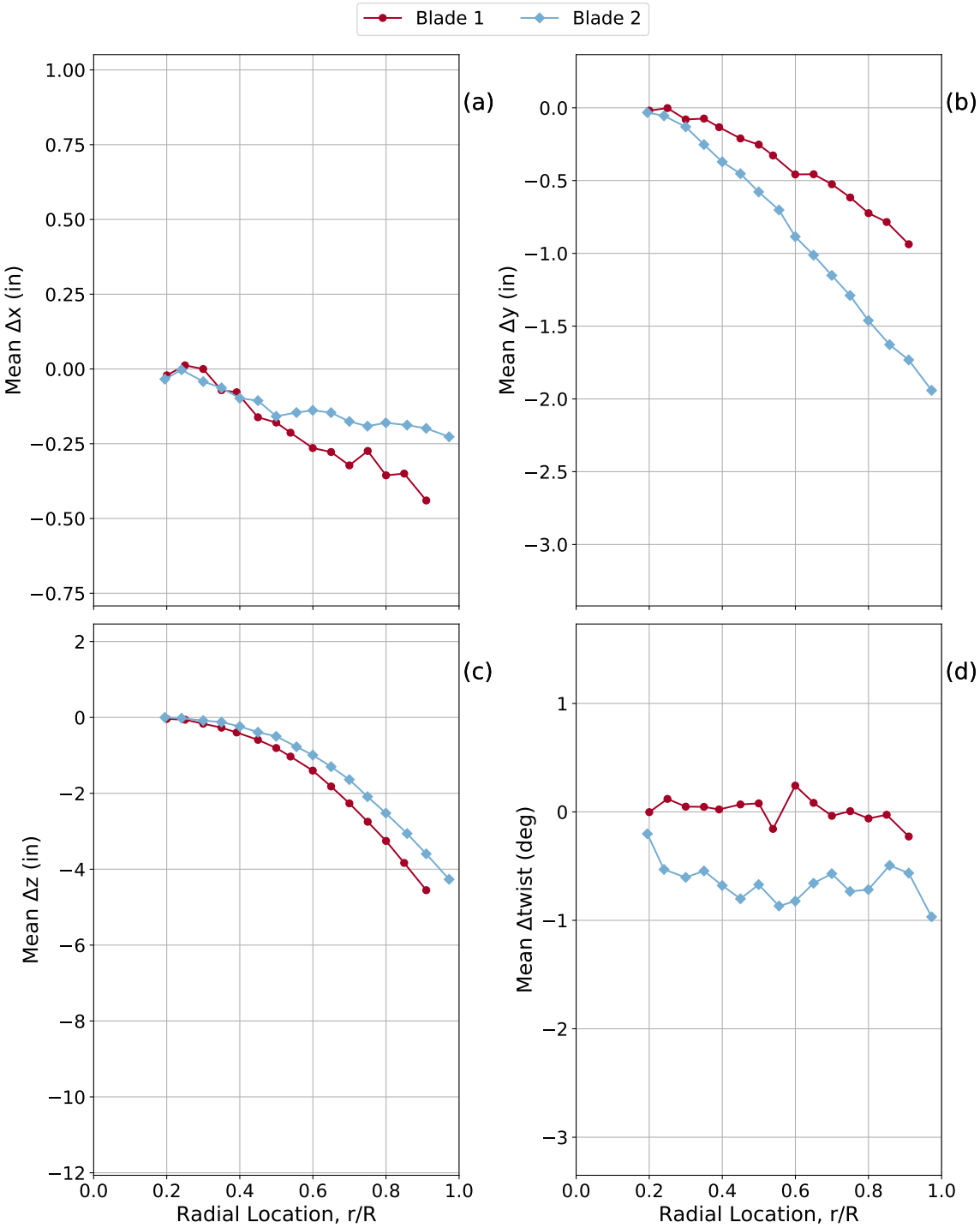


Figure 4.28-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0213	0.0040	-0.0193	0.0034	-0.0375	0.0079	-0.0026	0.0635
1	4.92	0.2499	0.0121	0.0017	-0.0019	0.0031	-0.0595	0.0093	0.1196	0.1402
1	4.92	0.2998	-0.0001	0.0031	-0.0801	0.0120	-0.1651	0.0252	0.0484	0.1559
1	4.92	0.3498	-0.0710	0.0026	-0.0740	0.0159	-0.2692	0.0389	0.0463	0.1585
1	4.92	0.3913	-0.0778	0.0026	-0.1335	0.0235	-0.3959	0.0539	0.0225	0.1446
1	4.92	0.4496	-0.1615	0.0030	-0.2106	0.0311	-0.5900	0.0733	0.0685	0.1450
1	4.92	0.4997	-0.1791	0.0031	-0.2529	0.0376	-0.8053	0.0894	0.0784	0.1400
1	4.92	0.5387	-0.2131	0.0026	-0.3274	0.0431	-1.0308	0.1008	-0.1570	0.1465
1	4.92	0.5996	-0.2644	0.0028	-0.4576	0.0521	-1.4009	0.1219	0.2418	0.1464
1	4.92	0.6498	-0.2777	0.0030	-0.4564	0.0607	-1.8186	0.1403	0.0832	0.1442
1	4.92	0.6998	-0.3224	0.0045	-0.5253	0.0692	-2.2645	0.1595	-0.0367	0.1402
1	4.92	0.7500	-0.2742	0.0050	-0.6162	0.0760	-2.7496	0.1758	0.0067	0.1368
1	4.92	0.8001	-0.3557	0.0039	-0.7239	0.0848	-3.2548	0.1923	-0.0609	0.1713
1	4.92	0.8497	-0.3498	0.0033	-0.7846	0.0948	-3.8335	0.2105	-0.0267	0.1352
1	4.92	0.9102	-0.4397	0.0062	-0.9373	0.1103	-4.5528	0.2336	-0.2270	0.1759
2	4.92	0.1949	-0.0340	0.0075	-0.0324	0.0029	0.0005	0.0086	-0.2025	0.0470
2	4.92	0.2405	-0.0029	0.0027	-0.0550	0.0039	-0.0202	0.0098	-0.5309	0.1231
2	4.92	0.2999	-0.0422	0.0036	-0.1311	0.0109	-0.0819	0.0243	-0.6042	0.1322
2	4.92	0.3498	-0.0630	0.0030	-0.2528	0.0183	-0.1224	0.0401	-0.5445	0.1335
2	4.92	0.3998	-0.0979	0.0044	-0.3713	0.0278	-0.2383	0.0573	-0.6790	0.1276
2	4.92	0.4496	-0.1059	0.0071	-0.4529	0.0356	-0.3888	0.0719	-0.8015	0.1286
2	4.92	0.4995	-0.1582	0.0069	-0.5779	0.0434	-0.4973	0.0855	-0.6706	0.1386
2	4.92	0.5551	-0.1457	0.0097	-0.7020	0.0532	-0.7726	0.1016	-0.8678	0.1474
2	4.92	0.5996	-0.1383	0.0088	-0.8854	0.0605	-0.9916	0.1195	-0.8229	0.1188
2	4.92	0.6497	-0.1461	0.0103	-1.0121	0.0665	-1.2980	0.1339	-0.6578	0.1271
2	4.92	0.6996	-0.1755	0.0104	-1.1516	0.0747	-1.6378	0.1499	-0.5699	0.1289
2	4.92	0.7495	-0.1913	0.0121	-1.2892	0.0835	-2.0888	0.1646	-0.7335	0.1423
2	4.92	0.7996	-0.1799	0.0141	-1.4614	0.0922	-2.5214	0.1849	-0.7169	0.1319
2	4.92	0.8578	-0.1877	0.0144	-1.6274	0.1019	-3.0611	0.2024	-0.4937	0.1365
2	4.92	0.9100	-0.1986	0.0193	-1.7323	0.1112	-3.5953	0.2222	-0.5644	0.1336
2	4.92	0.9727	-0.2268	0.0206	-1.9414	0.1214	-4.2670	0.2436	-0.9679	0.1640

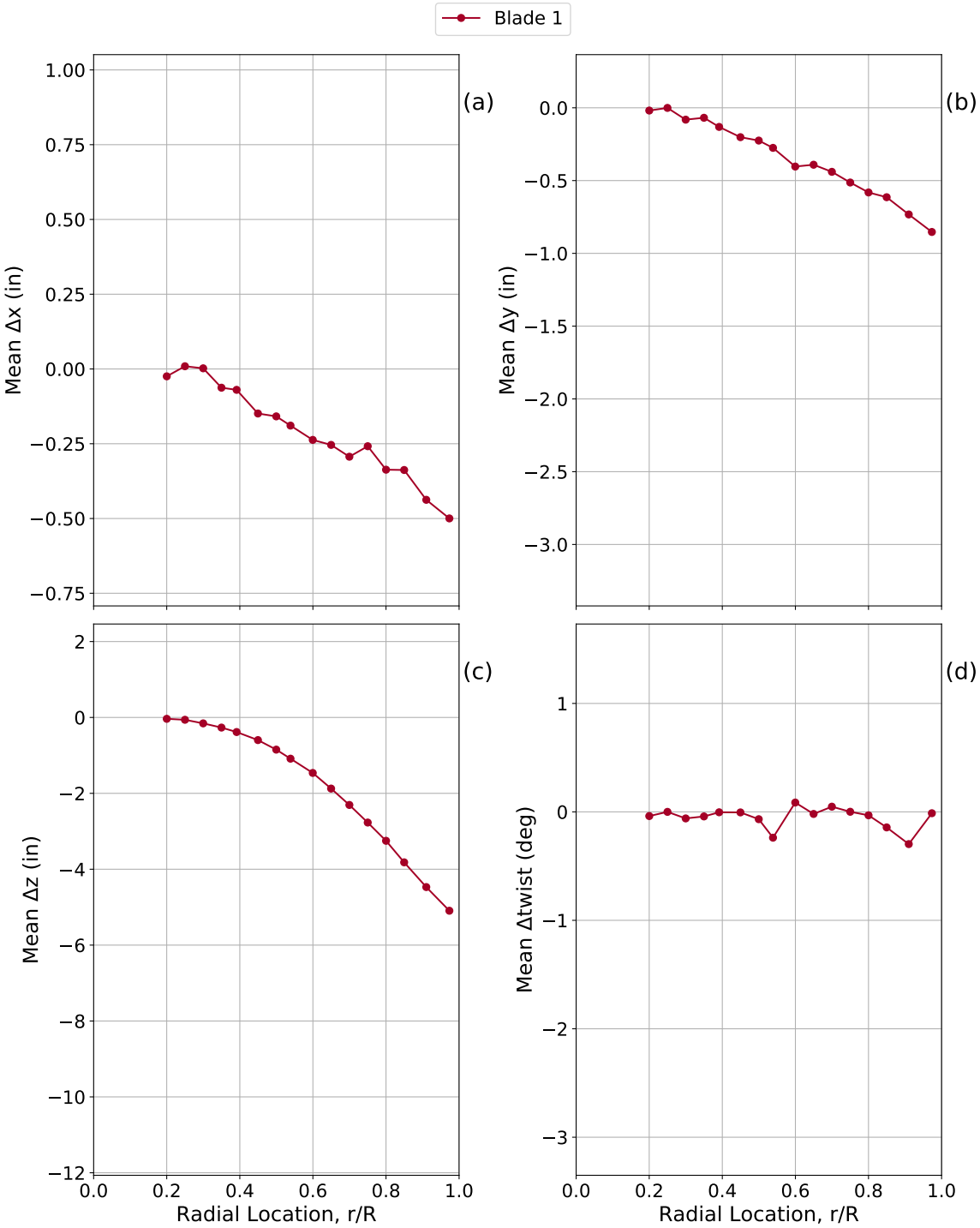


Figure 4.28-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	-0.0246	0.0046	-0.0188	0.0022	-0.0363	0.0042	-0.0386	0.0350
1	15.12	0.2499	0.0091	0.0033	-0.0007	0.0031	-0.0614	0.0052	0.0000	0.0692
1	15.12	0.2998	0.0022	0.0027	-0.0814	0.0069	-0.1561	0.0135	-0.0603	0.0810
1	15.12	0.3498	-0.0626	0.0026	-0.0685	0.0119	-0.2669	0.0205	-0.0420	0.0651
1	15.12	0.3913	-0.0698	0.0023	-0.1313	0.0160	-0.3845	0.0284	-0.0037	0.0730
1	15.12	0.4496	-0.1489	0.0033	-0.2018	0.0209	-0.5967	0.0380	-0.0049	0.0686
1	15.12	0.4997	-0.1585	0.0034	-0.2251	0.0258	-0.8482	0.0483	-0.0674	0.0736
1	15.12	0.5387	-0.1893	0.0047	-0.2752	0.0292	-1.0865	0.0515	-0.2380	0.0749
1	15.12	0.5996	-0.2372	0.0041	-0.4036	0.0347	-1.4625	0.0623	0.0861	0.0656
1	15.12	0.6498	-0.2539	0.0043	-0.3911	0.0398	-1.8744	0.0716	-0.0191	0.0621
1	15.12	0.6998	-0.2934	0.0043	-0.4399	0.0459	-2.3064	0.0822	0.0480	0.0735
1	15.12	0.7500	-0.2583	0.0049	-0.5133	0.0518	-2.7699	0.0933	0.0010	0.0611
1	15.12	0.8001	-0.3368	0.0044	-0.5816	0.0567	-3.2510	0.1003	-0.0316	0.0706
1	15.12	0.8497	-0.3378	0.0048	-0.6143	0.0613	-3.8186	0.1060	-0.1431	0.0745
1	15.12	0.9102	-0.4375	0.0059	-0.7327	0.0718	-4.4703	0.1201	-0.2970	0.0711
1	15.12	0.9734	-0.4997	0.0087	-0.8530	0.0795	-5.0942	0.1337	-0.0124	0.0860

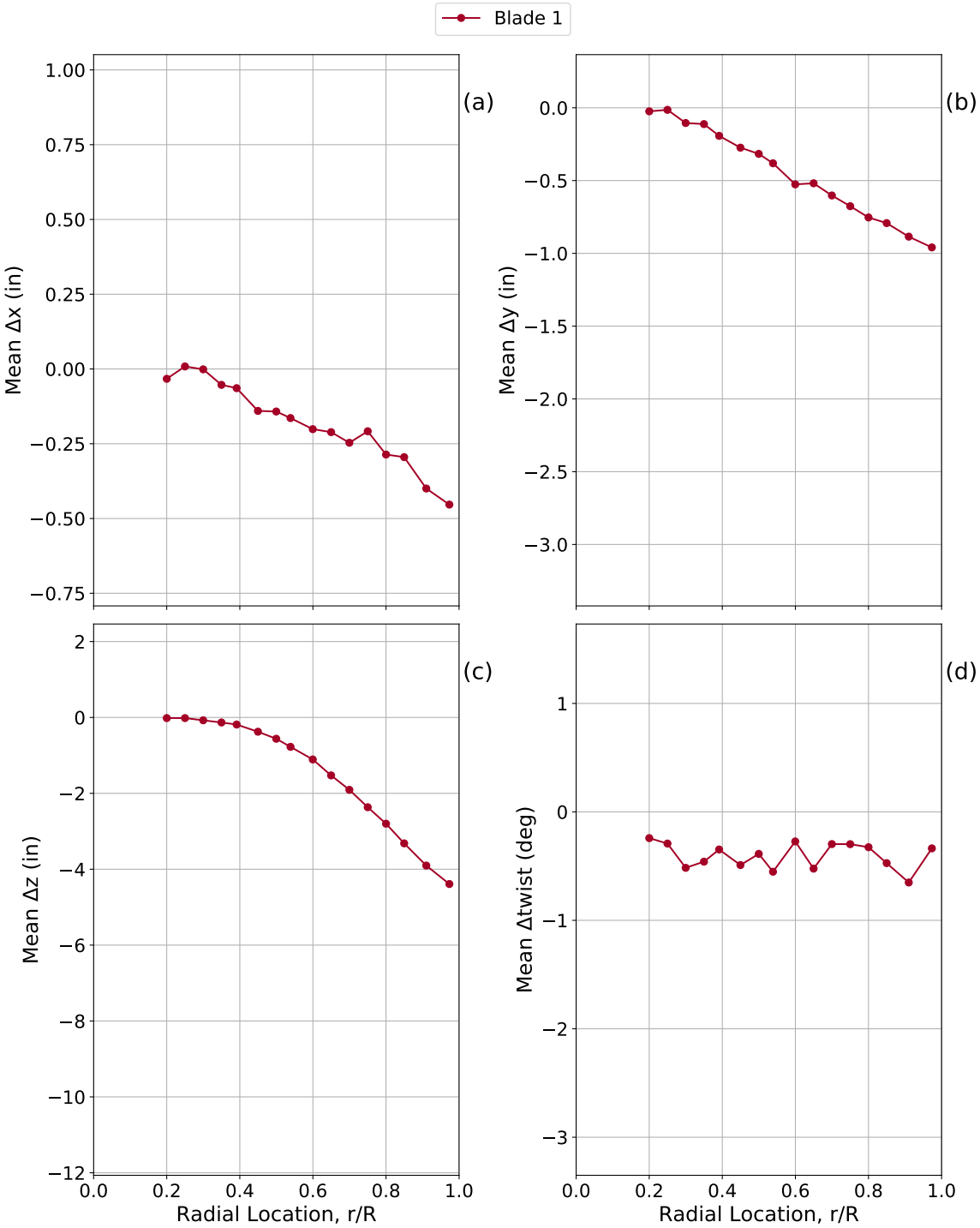


Figure 4.28-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0329	0.0035	-0.0242	0.0018	-0.0168	0.0052	-0.2419	0.0413
1	29.88	0.2499	0.0085	0.0028	-0.0140	0.0022	-0.0168	0.0078	-0.2921	0.0984
1	29.88	0.2998	-0.0012	0.0025	-0.1045	0.0056	-0.0751	0.0162	-0.5160	0.1016
1	29.88	0.3498	-0.0531	0.0032	-0.1119	0.0102	-0.1330	0.0259	-0.4590	0.1006
1	29.88	0.3913	-0.0641	0.0024	-0.1926	0.0131	-0.1868	0.0357	-0.3470	0.0941
1	29.88	0.4496	-0.1402	0.0036	-0.2738	0.0176	-0.3764	0.0474	-0.4904	0.0957
1	29.88	0.4997	-0.1422	0.0036	-0.3164	0.0215	-0.5618	0.0583	-0.3872	0.0903
1	29.88	0.5387	-0.1641	0.0041	-0.3811	0.0249	-0.7744	0.0679	-0.5519	0.0909
1	29.88	0.5996	-0.2012	0.0032	-0.5259	0.0303	-1.1074	0.0819	-0.2727	0.0961
1	29.88	0.6498	-0.2112	0.0034	-0.5186	0.0353	-1.5276	0.0963	-0.5232	0.0895
1	29.88	0.6998	-0.2467	0.0030	-0.6023	0.0398	-1.9076	0.1093	-0.2970	0.0878
1	29.88	0.7500	-0.2083	0.0028	-0.6760	0.0451	-2.3661	0.1220	-0.2976	0.0977
1	29.88	0.8001	-0.2861	0.0038	-0.7534	0.0505	-2.8005	0.1323	-0.3257	0.0918
1	29.88	0.8497	-0.2948	0.0036	-0.7921	0.0551	-3.3186	0.1432	-0.4725	0.0988
1	29.88	0.9102	-0.3997	0.0034	-0.8852	0.0624	-3.9036	0.1561	-0.6512	0.1024
1	29.88	0.9734	-0.4535	0.0038	-0.9592	0.0684	-4.3897	0.1684	-0.3365	0.1046

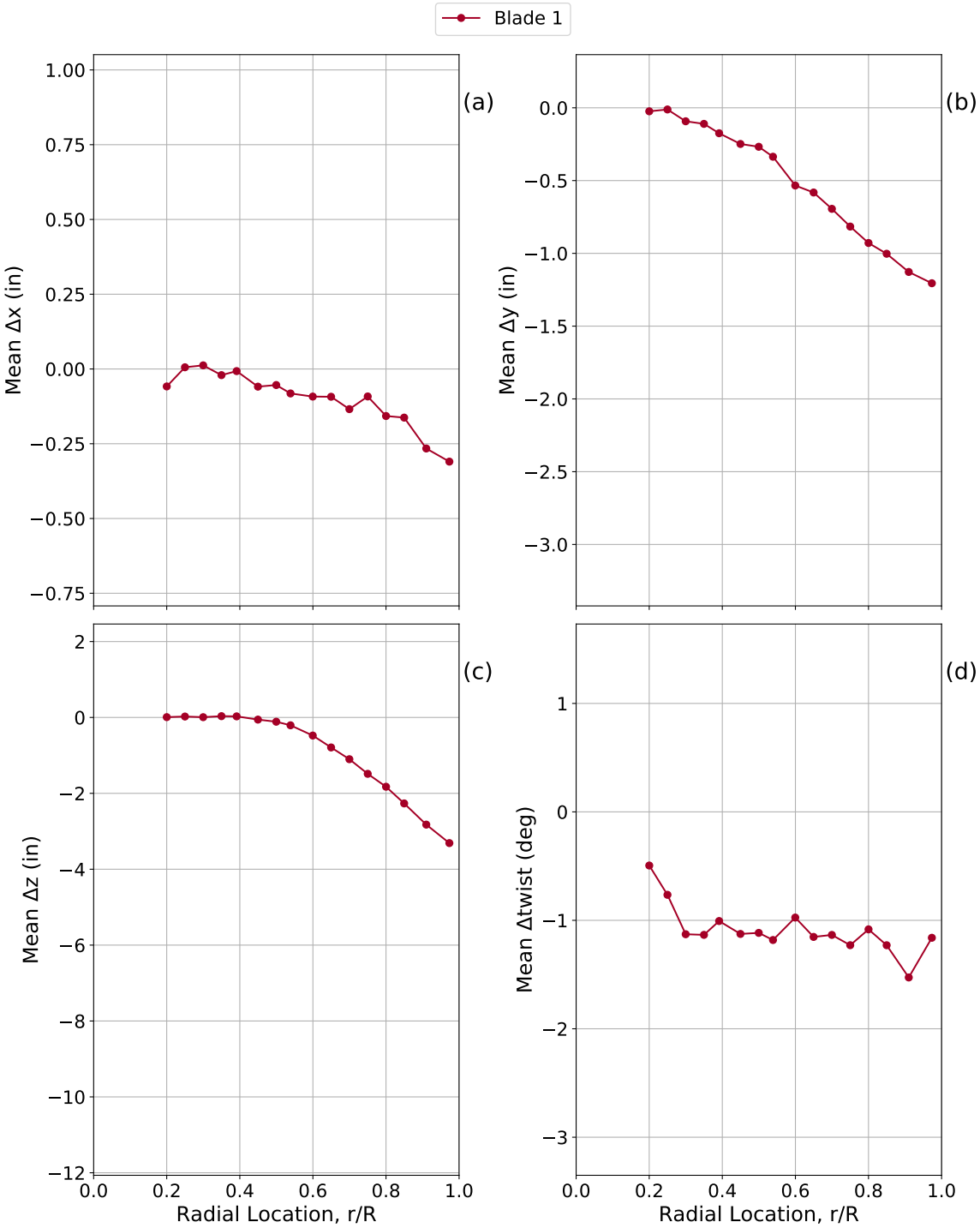


Figure 4.28-6. 45° azimuth, spanwise blade deformations,
(a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0584	0.0029	-0.0240	0.0024	0.0082	0.0071	-0.4946	0.0299
1	45	0.2499	0.0057	0.0018	-0.0115	0.0034	0.0241	0.0091	-0.7647	0.0912
1	45	0.2998	0.0121	0.0018	-0.0926	0.0090	0.0071	0.0239	-1.1282	0.0839
1	45	0.3498	-0.0206	0.0019	-0.1104	0.0148	0.0339	0.0366	-1.1340	0.0894
1	45	0.3913	-0.0071	0.0028	-0.1748	0.0211	0.0285	0.0519	-1.0065	0.0849
1	45	0.4496	-0.0591	0.0053	-0.2484	0.0243	-0.0568	0.0678	-1.1255	0.1356
1	45	0.4997	-0.0537	0.0039	-0.2677	0.0283	-0.1125	0.0761	-1.1158	0.0934
1	45	0.5387	-0.0818	0.0053	-0.3362	0.0328	-0.2069	0.0866	-1.1815	0.1054
1	45	0.5996	-0.0923	0.0029	-0.5339	0.0345	-0.4768	0.1167	-0.9744	0.1025
1	45	0.6498	-0.0929	0.0031	-0.5819	0.0407	-0.7907	0.1325	-1.1530	0.0949
1	45	0.6998	-0.1343	0.0033	-0.6941	0.0466	-1.1005	0.1464	-1.1345	0.1033
1	45	0.7500	-0.0919	0.0036	-0.8159	0.0536	-1.4859	0.1606	-1.2293	0.1068
1	45	0.8001	-0.1573	0.0036	-0.9288	0.0593	-1.8260	0.1755	-1.0833	0.1009
1	45	0.8497	-0.1626	0.0037	-1.0027	0.0660	-2.2660	0.1906	-1.2296	0.1115
1	45	0.9102	-0.2659	0.0037	-1.1278	0.0739	-2.8242	0.2107	-1.5269	0.1067
1	45	0.9734	-0.3098	0.0041	-1.2053	0.0823	-3.3114	0.2289	-1.1609	0.1109

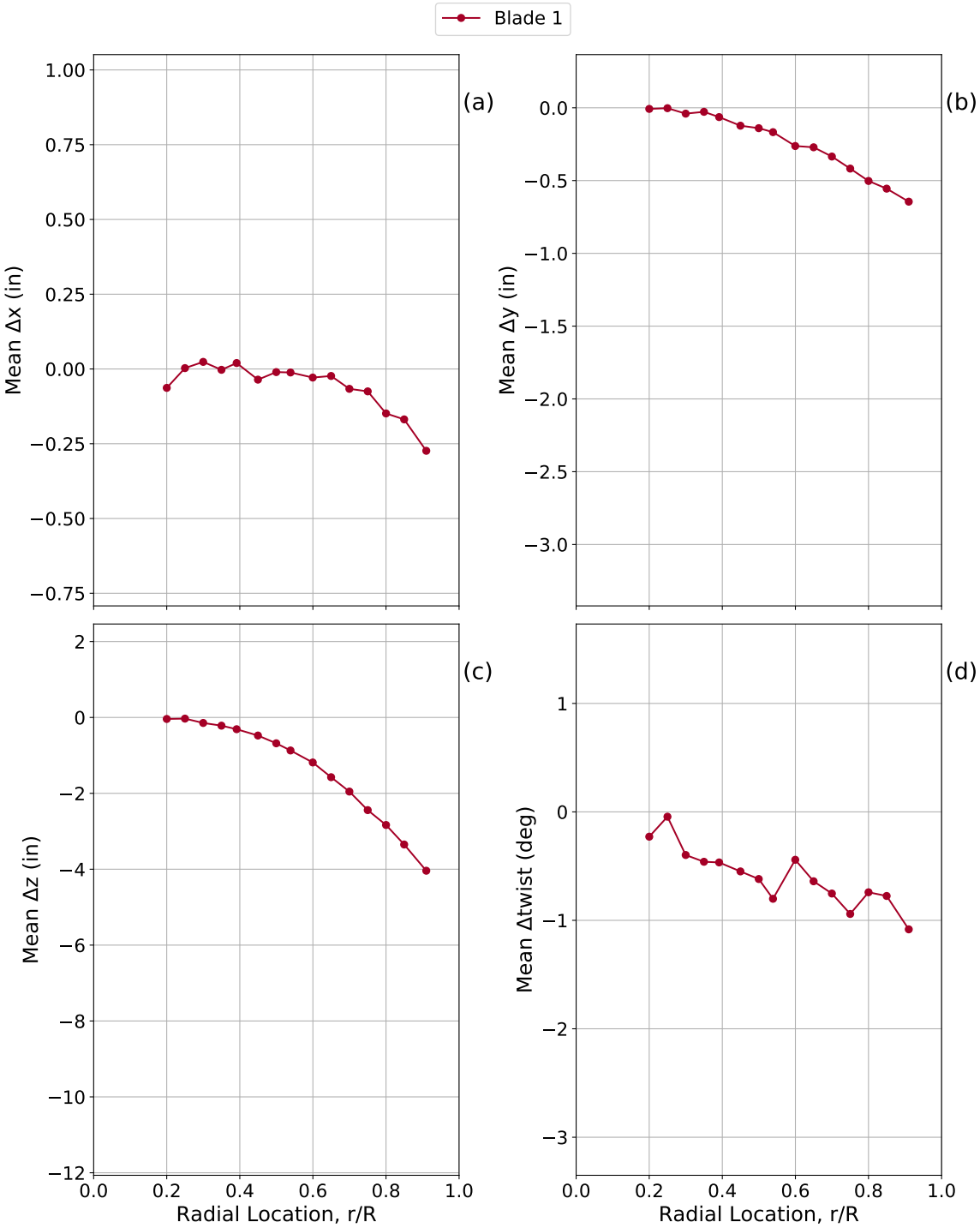


Figure 4.28-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0632	0.0023	-0.0075	0.0021	-0.0400	0.0054	-0.2287	0.0385
1	60.12	0.2499	0.0029	0.0011	-0.0026	0.0020	-0.0308	0.0067	-0.0445	0.0983
1	60.12	0.2998	0.0237	0.0010	-0.0401	0.0072	-0.1451	0.0173	-0.3976	0.1001
1	60.12	0.3498	-0.0028	0.0014	-0.0276	0.0115	-0.2166	0.0288	-0.4600	0.0982
1	60.12	0.3913	0.0199	0.0019	-0.0638	0.0157	-0.3101	0.0391	-0.4661	0.0892
1	60.12	0.4496	-0.0357	0.0037	-0.1229	0.0223	-0.4765	0.0549	-0.5490	0.0756
1	60.12	0.4997	-0.0104	0.0045	-0.1400	0.0278	-0.6814	0.0627	-0.6191	0.1393
1	60.12	0.5387	-0.0117	0.0073	-0.1673	0.0280	-0.8704	0.0691	-0.8014	0.1051
1	60.12	0.5996	-0.0287	0.0092	-0.2625	0.0325	-1.1868	0.0765	-0.4417	0.1021
1	60.12	0.6498	-0.0234	0.0092	-0.2713	0.0386	-1.5748	0.0875	-0.6399	0.0941
1	60.12	0.6998	-0.0664	0.0073	-0.3348	0.0444	-1.9534	0.0981	-0.7528	0.1067
1	60.12	0.7500	-0.0749	0.0025	-0.4176	0.0430	-2.4425	0.1245	-0.9412	0.1028
1	60.12	0.8001	-0.1487	0.0026	-0.5026	0.0477	-2.8342	0.1348	-0.7413	0.0974
1	60.12	0.8497	-0.1686	0.0022	-0.5554	0.0533	-3.3485	0.1436	-0.7754	0.1100
1	60.12	0.9102	-0.2736	0.0019	-0.6448	0.0600	-4.0396	0.1566	-1.0831	0.1129

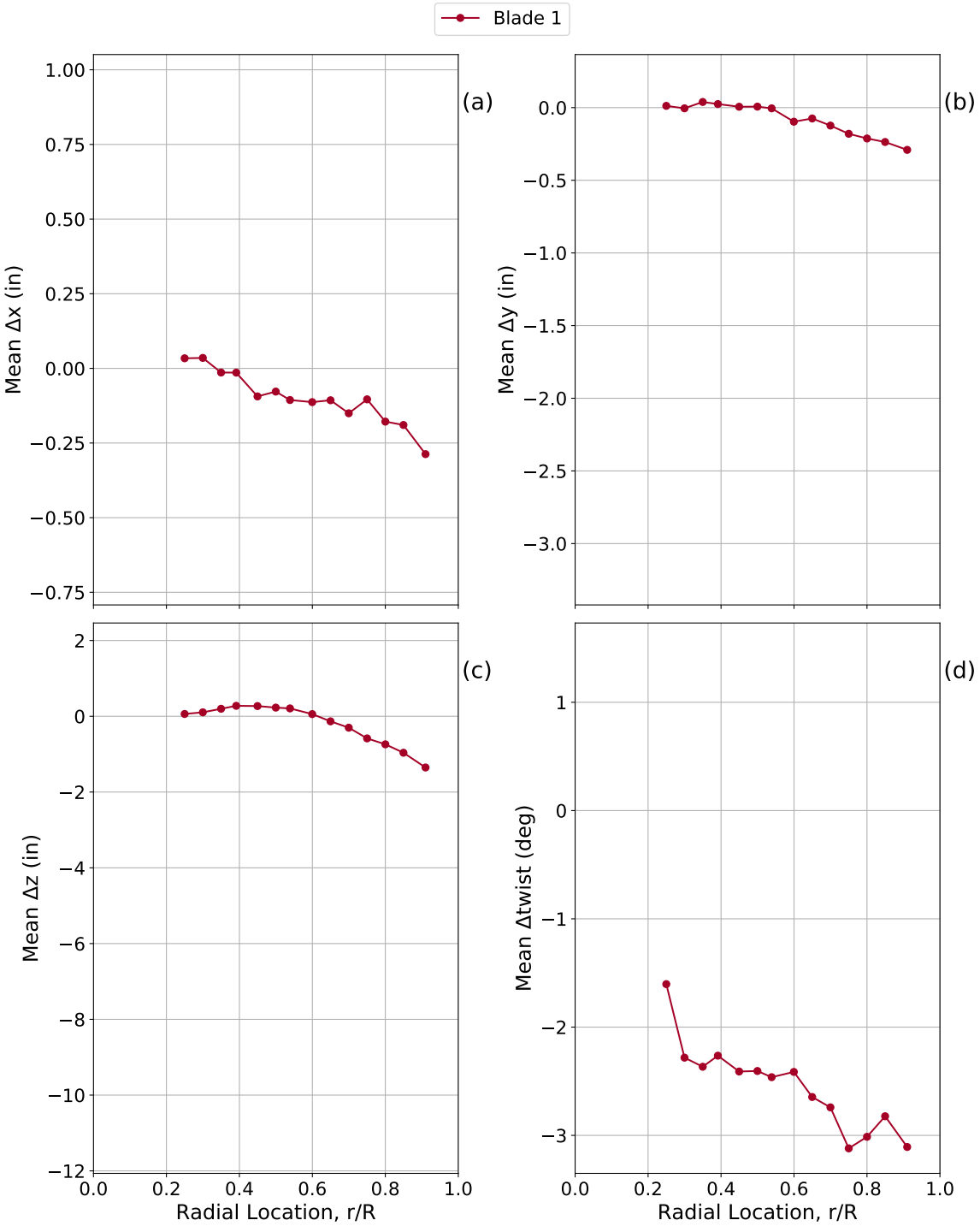


Figure 4.28-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2499	0.0338	0.0077	0.0122	0.0059	0.0609	0.0204	-1.6030	0.2053
1	74.88	0.2998	0.0350	0.0029	-0.0048	0.0118	0.1043	0.0354	-2.2821	0.2905
1	74.88	0.3498	-0.0139	0.0045	0.0389	0.0199	0.1979	0.0623	-2.3661	0.2862
1	74.88	0.3913	-0.0142	0.0034	0.0246	0.0294	0.2760	0.0879	-2.2639	0.2763
1	74.88	0.4496	-0.0939	0.0043	0.0060	0.0397	0.2699	0.1178	-2.4102	0.2881
1	74.88	0.4997	-0.0777	0.0046	0.0069	0.0497	0.2289	0.1411	-2.4054	0.2759
1	74.88	0.5387	-0.1060	0.0055	-0.0049	0.0562	0.2078	0.1590	-2.4625	0.2787
1	74.88	0.5996	-0.1130	0.0052	-0.0968	0.0688	0.0577	0.1908	-2.4139	0.2767
1	74.88	0.6498	-0.1068	0.0050	-0.0746	0.0796	-0.1334	0.2138	-2.6455	0.2849
1	74.88	0.6998	-0.1504	0.0048	-0.1234	0.0902	-0.3013	0.2383	-2.7413	0.2844
1	74.88	0.7500	-0.1037	0.0048	-0.1801	0.1009	-0.5839	0.2630	-3.1199	0.2773
1	74.88	0.8001	-0.1783	0.0046	-0.2123	0.1109	-0.7403	0.2870	-3.0133	0.2862
1	74.88	0.8497	-0.1896	0.0043	-0.2365	0.1219	-0.9625	0.3123	-2.8233	0.2888
1	74.88	0.9102	-0.2872	0.0044	-0.2907	0.1360	-1.3518	0.3392	-3.1071	0.2845

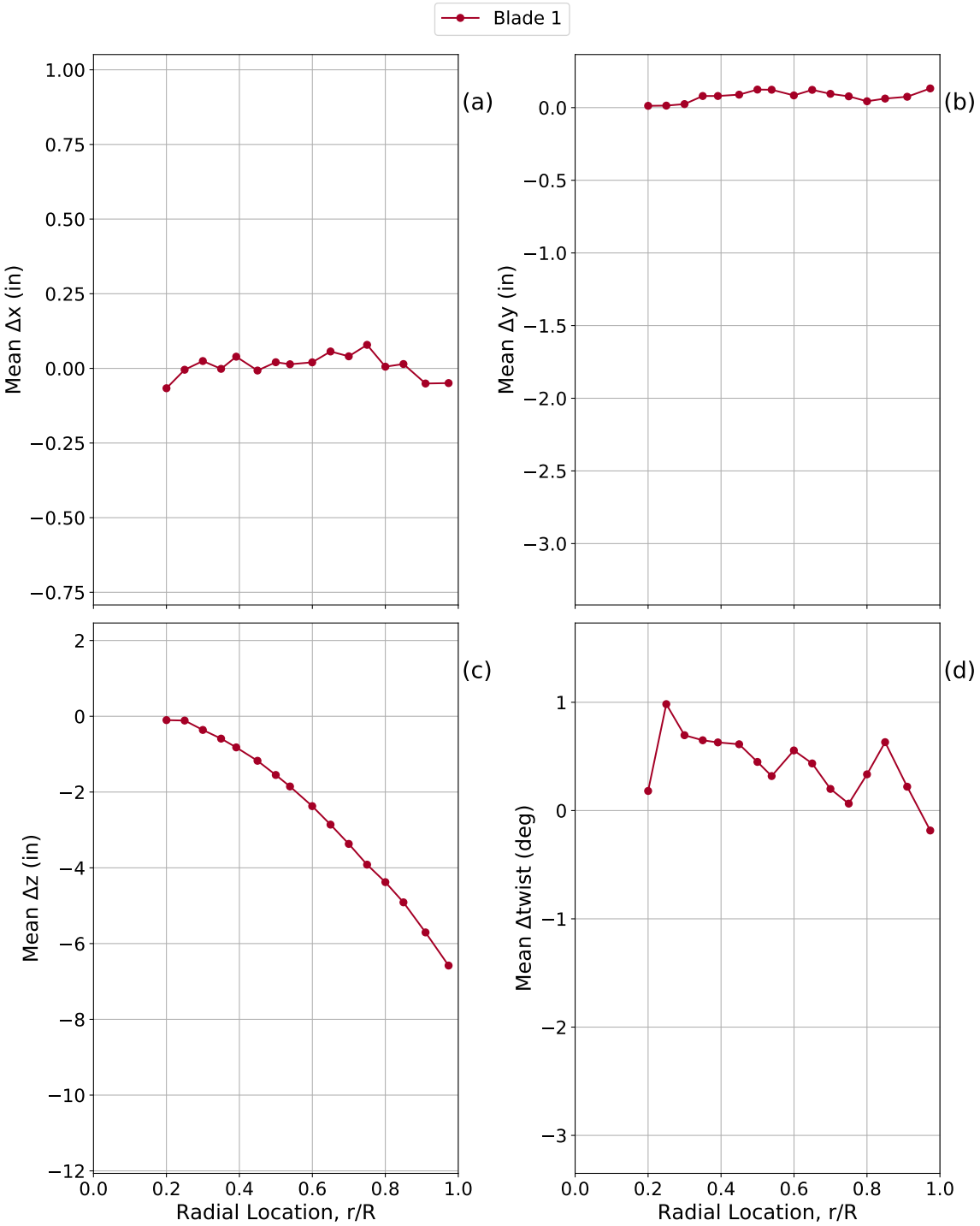


Figure 4.28-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0666	0.0041	0.0124	0.0038	-0.1013	0.0077	0.1810	0.0518
1	80.16	0.2499	-0.0046	0.0024	0.0138	0.0034	-0.1127	0.0065	0.9830	0.1025
1	80.16	0.2998	0.0246	0.0016	0.0243	0.0106	-0.3609	0.0207	0.6958	0.1060
1	80.16	0.3498	-0.0016	0.0028	0.0800	0.0170	-0.5895	0.0317	0.6492	0.1003
1	80.16	0.3913	0.0392	0.0024	0.0801	0.0219	-0.8210	0.0401	0.6294	0.1038
1	80.16	0.4496	-0.0072	0.0033	0.0892	0.0286	-1.1746	0.0529	0.6124	0.1106
1	80.16	0.4997	0.0206	0.0033	0.1242	0.0349	-1.5493	0.0624	0.4492	0.1152
1	80.16	0.5387	0.0138	0.0038	0.1231	0.0409	-1.8529	0.0731	0.3186	0.1341
1	80.16	0.5996	0.0202	0.0034	0.0841	0.0466	-2.3720	0.0830	0.5553	0.1039
1	80.16	0.6498	0.0566	0.0049	0.1223	0.0509	-2.8600	0.0975	0.4352	0.1151
1	80.16	0.6998	0.0404	0.0067	0.0949	0.0584	-3.3690	0.1135	0.1999	0.1651
1	80.16	0.7500	0.0788	0.0099	0.0777	0.0649	-3.9168	0.1222	0.0642	0.1757
1	80.16	0.8001	0.0057	0.0110	0.0438	0.0715	-4.3783	0.1115	0.3347	0.1122
1	80.16	0.8497	0.0145	0.0078	0.0623	0.0766	-4.9117	0.1186	0.6316	0.1205
1	80.16	0.9102	-0.0507	0.0038	0.0748	0.0817	-5.7060	0.1334	0.2202	0.1039
1	80.16	0.9734	-0.0493	0.0062	0.1321	0.0883	-6.5803	0.1497	-0.1842	0.1122

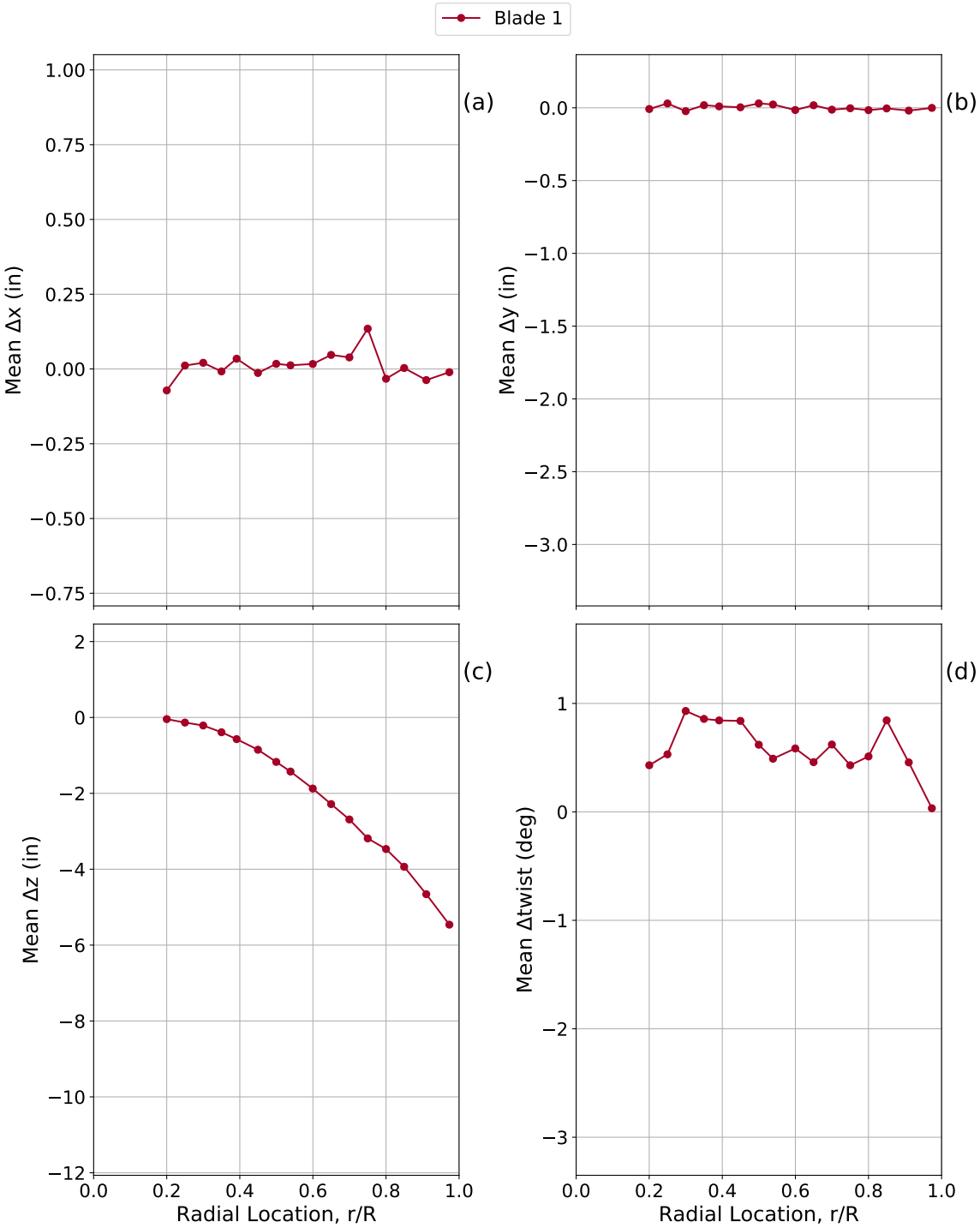


Figure 4.28-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0717	0.0059	-0.0084	0.0016	-0.0442	0.0024	0.4300	0.0840
1	85.08	0.2499	0.0114	0.0032	0.0298	0.0076	-0.1351	0.0146	0.5306	0.0654
1	85.08	0.2998	0.0207	0.0029	-0.0231	0.0077	-0.2121	0.0094	0.9303	0.1651
1	85.08	0.3498	-0.0082	0.0031	0.0180	0.0163	-0.3903	0.0227	0.8572	0.1752
1	85.08	0.3913	0.0343	0.0037	0.0098	0.0237	-0.5713	0.0353	0.8433	0.1473
1	85.08	0.4496	-0.0133	0.0038	0.0035	0.0326	-0.8511	0.0474	0.8389	0.1668
1	85.08	0.4997	0.0172	0.0047	0.0302	0.0415	-1.1717	0.0605	0.6191	0.1612
1	85.08	0.5387	0.0123	0.0036	0.0228	0.0492	-1.4260	0.0714	0.4901	0.1549
1	85.08	0.5996	0.0167	0.0046	-0.0153	0.0594	-1.8744	0.0893	0.5849	0.1402
1	85.08	0.6498	0.0470	0.0047	0.0175	0.0666	-2.2837	0.1011	0.4584	0.1671
1	85.08	0.6998	0.0387	0.0081	-0.0129	0.0762	-2.6889	0.1128	0.6210	0.1793
1	85.08	0.7500	0.1348	0.0077	-0.0031	0.0867	-3.1880	0.1304	0.4299	0.1566
1	85.08	0.8001	-0.0327	0.0154	-0.0160	0.1126	-3.4677	0.0872	0.5113	0.1596
1	85.08	0.8497	0.0032	0.0094	-0.0043	0.1224	-3.9353	0.0995	0.8439	0.1465
1	85.08	0.9102	-0.0371	0.0030	-0.0191	0.1353	-4.6575	0.1117	0.4562	0.1542
1	85.08	0.9734	-0.0107	0.0110	-0.0007	0.1449	-5.4610	0.1292	0.0333	0.1632

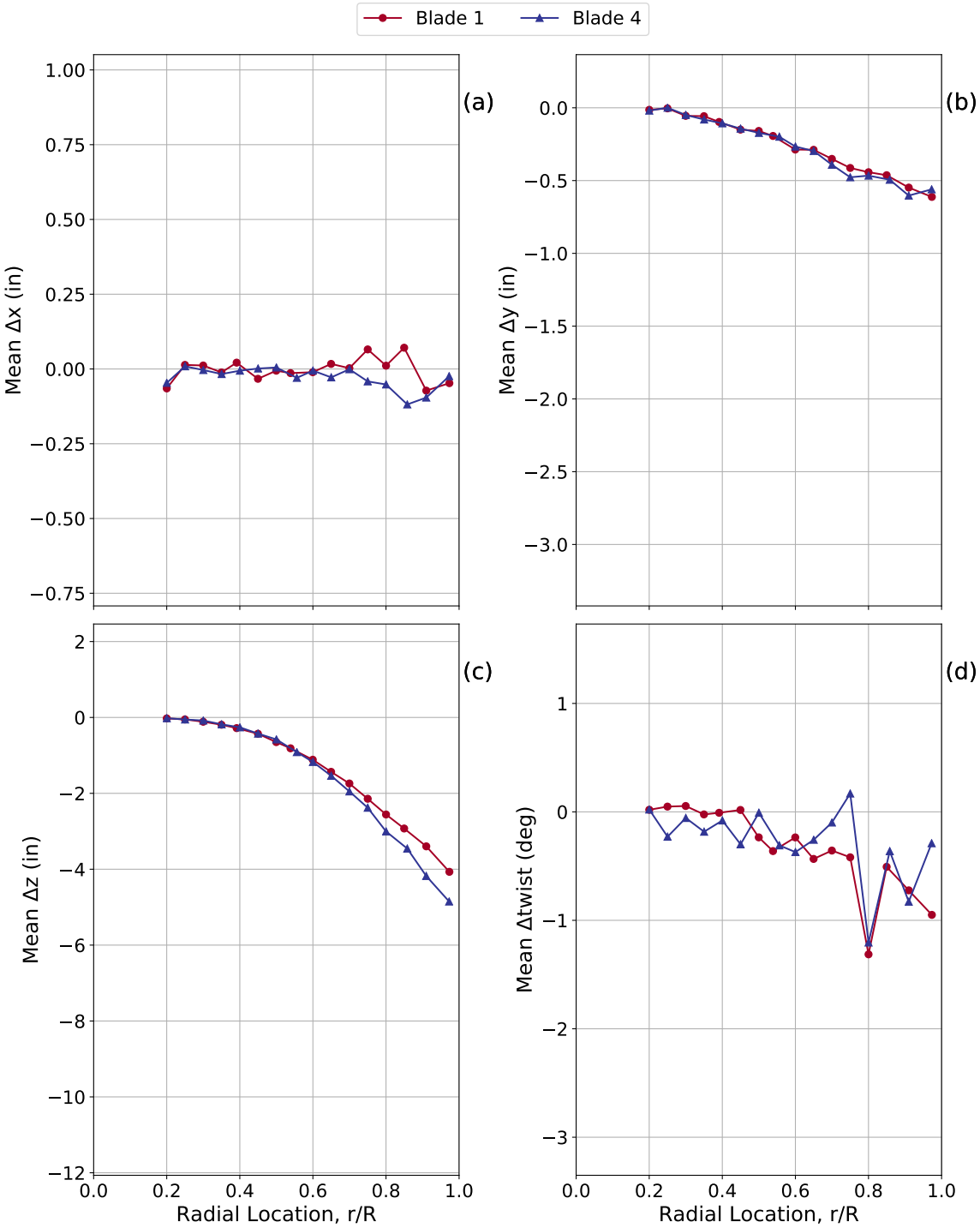


Figure 4.28-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0650	0.0057	-0.0139	0.0022	-0.0258	0.0046	0.0193	0.0659
1	90	0.2499	0.0136	0.0052	-0.0038	0.0056	-0.0519	0.0144	0.0486	0.0654
1	90	0.2998	0.0116	0.0032	-0.0553	0.0068	-0.1135	0.0148	0.0542	0.1289
1	90	0.3498	-0.0115	0.0042	-0.0575	0.0144	-0.1923	0.0356	-0.0234	0.1106
1	90	0.3913	0.0212	0.0029	-0.0972	0.0191	-0.2813	0.0455	-0.0084	0.0915
1	90	0.4496	-0.0329	0.0028	-0.1498	0.0259	-0.4302	0.0583	0.0176	0.0996
1	90	0.4997	-0.0057	0.0029	-0.1590	0.0316	-0.6498	0.0711	-0.2350	0.0881
1	90	0.5387	-0.0138	0.0036	-0.1934	0.0362	-0.8131	0.0812	-0.3615	0.0887
1	90	0.5996	-0.0108	0.0021	-0.2868	0.0431	-1.1142	0.0944	-0.2355	0.1017
1	90	0.6498	0.0170	0.0028	-0.2886	0.0489	-1.4333	0.1051	-0.4339	0.1083
1	90	0.6998	0.0026	0.0029	-0.3510	0.0555	-1.7404	0.1183	-0.3566	0.1046
1	90	0.7500	0.0654	0.0072	-0.4133	0.0554	-2.1434	0.1315	-0.4189	0.0821
1	90	0.8001	0.0110	0.0050	-0.4425	0.0669	-2.5575	0.1422	-1.3136	0.1398
1	90	0.8497	0.0711	0.0072	-0.4631	0.0749	-2.9270	0.1499	-0.5067	0.1463
1	90	0.9102	-0.0724	0.0036	-0.5482	0.0802	-3.3971	0.1791	-0.7236	0.0809
1	90	0.9734	-0.0474	0.0028	-0.6121	0.0881	-4.0685	0.2000	-0.9496	0.0624
4	90.35	0.2001	-0.0465	0.0034	-0.0194	0.0006	-0.0206	0.0021	0.0216	0.0558
4	90.35	0.2502	0.0089	0.0022	0.0005	0.0020	-0.0541	0.0061	-0.2291	0.0798
4	90.35	0.3001	-0.0036	0.0017	-0.0494	0.0018	-0.0811	0.0073	-0.0563	0.1233
4	90.35	0.3502	-0.0170	0.0023	-0.0806	0.0028	-0.1820	0.0125	-0.1830	0.0897
4	90.35	0.4002	-0.0057	0.0034	-0.1068	0.0049	-0.2607	0.0189	-0.0793	0.1165
4	90.35	0.4500	0.0015	0.0040	-0.1431	0.0062	-0.4261	0.0219	-0.2992	0.1144
4	90.35	0.5001	0.0050	0.0035	-0.1725	0.0083	-0.5795	0.0270	-0.0082	0.1052
4	90.35	0.5560	-0.0297	0.0027	-0.1987	0.0104	-0.9138	0.0320	-0.3089	0.1102
4	90.35	0.6001	-0.0056	0.0030	-0.2664	0.0120	-1.1735	0.0391	-0.3707	0.1081
4	90.35	0.6501	-0.0281	0.0035	-0.2966	0.0144	-1.5380	0.0433	-0.2574	0.1047
4	90.35	0.6999	-0.0009	0.0031	-0.3913	0.0162	-1.9500	0.0482	-0.0981	0.1212
4	90.35	0.7500	-0.0416	0.0051	-0.4773	0.0182	-2.3799	0.0548	0.1691	0.1212
4	90.35	0.8002	-0.0518	0.0040	-0.4660	0.0218	-3.0043	0.0703	-1.2047	0.1514
4	90.35	0.8582	-0.1186	0.0033	-0.4944	0.0303	-3.4559	0.0642	-0.3623	0.0977
4	90.35	0.9101	-0.0957	0.0028	-0.6031	0.0330	-4.1786	0.0660	-0.8282	0.1172
4	90.35	0.9728	-0.0242	0.0032	-0.5603	0.0353	-4.8517	0.0741	-0.2893	0.1246

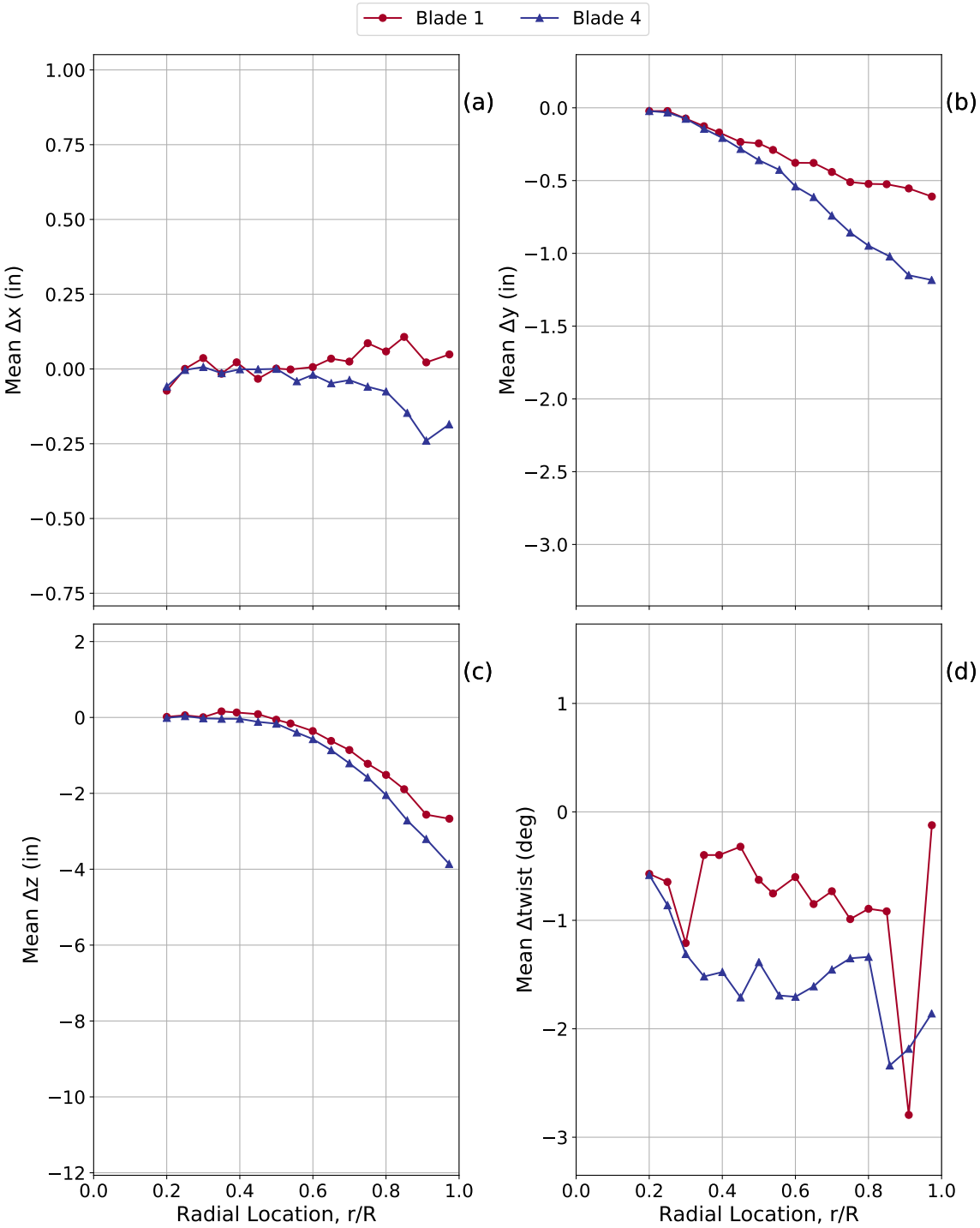


Figure 4.28-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0726	0.0028	-0.0223	0.0025	0.0152	0.0071	-0.5716	0.0902
1	94.92	0.2499	0.0005	0.0031	-0.0222	0.0032	0.0573	0.0153	-0.6464	0.0955
1	94.92	0.2998	0.0364	0.0042	-0.0738	0.0087	0.0067	0.0252	-1.2098	0.1880
1	94.92	0.3498	-0.0158	0.0060	-0.1266	0.0152	0.1593	0.0502	-0.3981	0.1134
1	94.92	0.3913	0.0223	0.0100	-0.1696	0.0202	0.1308	0.0662	-0.3980	0.0886
1	94.92	0.4496	-0.0328	0.0096	-0.2348	0.0230	0.0865	0.0791	-0.3212	0.1037
1	94.92	0.4997	0.0014	0.0096	-0.2442	0.0251	-0.0597	0.0927	-0.6268	0.1015
1	94.92	0.5387	-0.0016	0.0080	-0.2894	0.0270	-0.1600	0.1028	-0.7525	0.0944
1	94.92	0.5996	0.0063	0.0068	-0.3781	0.0298	-0.3585	0.1168	-0.6011	0.1030
1	94.92	0.6498	0.0345	0.0053	-0.3788	0.0318	-0.6183	0.1298	-0.8502	0.0970
1	94.92	0.6998	0.0247	0.0042	-0.4409	0.0361	-0.8586	0.1420	-0.7316	0.0955
1	94.92	0.7500	0.0862	0.0038	-0.5103	0.0512	-1.2211	0.1587	-0.9888	0.0854
1	94.92	0.8001	0.0587	0.0052	-0.5227	0.0425	-1.5142	0.1646	-0.8935	0.1463
1	94.92	0.8497	0.1072	0.0060	-0.5251	0.0483	-1.8913	0.1825	-0.9169	0.1115
1	94.92	0.9102	0.0220	0.0096	-0.5541	0.0454	-2.5620	0.1729	-2.7945	0.5684
1	94.92	0.9734	0.0487	0.0159	-0.6098	0.0482	-2.6694	0.3097	-0.1228	0.3587
4	94.92	0.2001	-0.0588	0.0062	-0.0222	0.0018	-0.0116	0.0035	-0.5824	0.0855
4	94.92	0.2502	-0.0033	0.0027	-0.0323	0.0035	0.0345	0.0110	-0.8613	0.1458
4	94.92	0.3001	0.0065	0.0029	-0.0754	0.0065	-0.0229	0.0118	-1.3113	0.1952
4	94.92	0.3502	-0.0141	0.0028	-0.1444	0.0105	-0.0355	0.0212	-1.5181	0.1662
4	94.92	0.4002	-0.0011	0.0044	-0.2069	0.0156	-0.0363	0.0312	-1.4768	0.1948
4	94.92	0.4500	-0.0011	0.0031	-0.2826	0.0180	-0.1159	0.0415	-1.7111	0.1599
4	94.92	0.5001	0.0003	0.0038	-0.3600	0.0225	-0.1650	0.0443	-1.3856	0.1904
4	94.92	0.5560	-0.0411	0.0039	-0.4263	0.0256	-0.3980	0.0560	-1.6933	0.1748
4	94.92	0.6001	-0.0192	0.0052	-0.5402	0.0315	-0.5713	0.0636	-1.7050	0.1889
4	94.92	0.6501	-0.0477	0.0064	-0.6135	0.0351	-0.8629	0.0704	-1.6090	0.1915
4	94.92	0.6999	-0.0372	0.0068	-0.7409	0.0403	-1.2092	0.0808	-1.4547	0.1888
4	94.92	0.7500	-0.0594	0.0097	-0.8574	0.0441	-1.5835	0.0909	-1.3502	0.1793
4	94.92	0.8002	-0.0752	0.0162	-0.9475	0.0500	-2.0453	0.0970	-1.3371	0.2165
4	94.92	0.8582	-0.1469	0.0131	-1.0213	0.0576	-2.7156	0.1287	-2.3384	0.2819
4	94.92	0.9101	-0.2398	0.0078	-1.1503	0.0789	-3.2046	0.0993	-2.1847	0.1825
4	94.92	0.9728	-0.1853	0.0088	-1.1831	0.0873	-3.8627	0.1079	-1.8592	0.1888

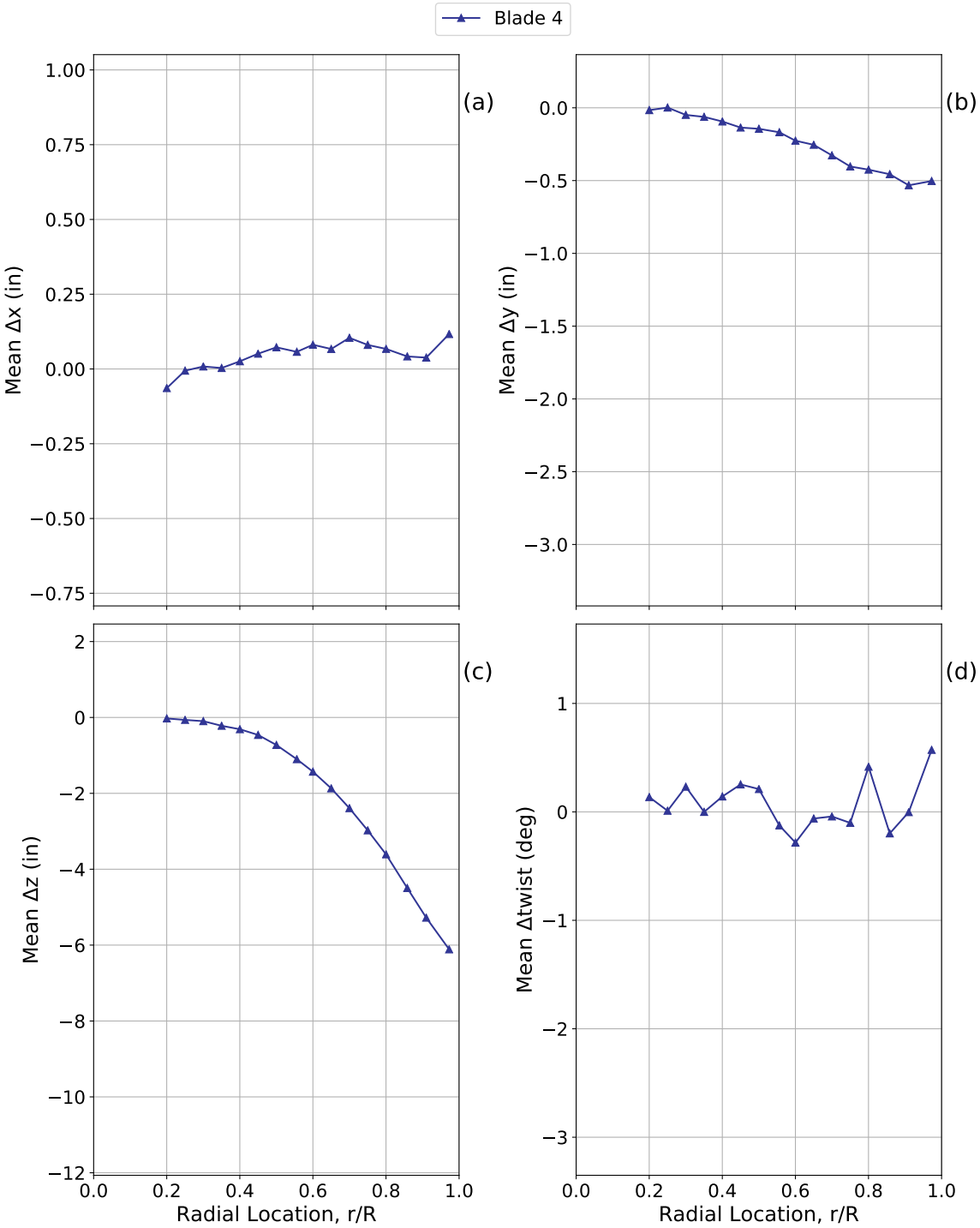


Figure 4.28-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0640	0.0009	-0.0161	0.0004	-0.0267	0.0017	0.1362	0.0111
4	105.12	0.2502	-0.0057	0.0007	0.0015	0.0008	-0.0647	0.0032	0.0102	0.0237
4	105.12	0.3001	0.0083	0.0010	-0.0488	0.0012	-0.0980	0.0062	0.2318	0.0242
4	105.12	0.3502	0.0032	0.0009	-0.0624	0.0025	-0.2200	0.0101	-0.0005	0.0220
4	105.12	0.4002	0.0257	0.0011	-0.0942	0.0035	-0.3109	0.0156	0.1419	0.0244
4	105.12	0.4500	0.0511	0.0012	-0.1358	0.0044	-0.4612	0.0188	0.2529	0.0281
4	105.12	0.5001	0.0724	0.0016	-0.1443	0.0055	-0.7257	0.0220	0.2103	0.0255
4	105.12	0.5560	0.0573	0.0024	-0.1680	0.0068	-1.1008	0.0273	-0.1251	0.0318
4	105.12	0.6001	0.0810	0.0022	-0.2260	0.0078	-1.4298	0.0301	-0.2835	0.0353
4	105.12	0.6501	0.0668	0.0021	-0.2543	0.0095	-1.8693	0.0339	-0.0615	0.0267
4	105.12	0.6999	0.1041	0.0024	-0.3269	0.0110	-2.3917	0.0376	-0.0423	0.0236
4	105.12	0.7500	0.0804	0.0036	-0.4032	0.0217	-2.9767	0.0399	-0.1015	0.0695
4	105.12	0.8002	0.0671	0.0026	-0.4250	0.0146	-3.6090	0.0405	0.4160	0.0383
4	105.12	0.8582	0.0419	0.0033	-0.4564	0.0173	-4.4963	0.0470	-0.1986	0.0602
4	105.12	0.9101	0.0380	0.0038	-0.5324	0.0195	-5.2774	0.0488	-0.0026	0.0582
4	105.12	0.9728	0.1167	0.0066	-0.5031	0.0230	-6.1124	0.0491	0.5716	0.0872

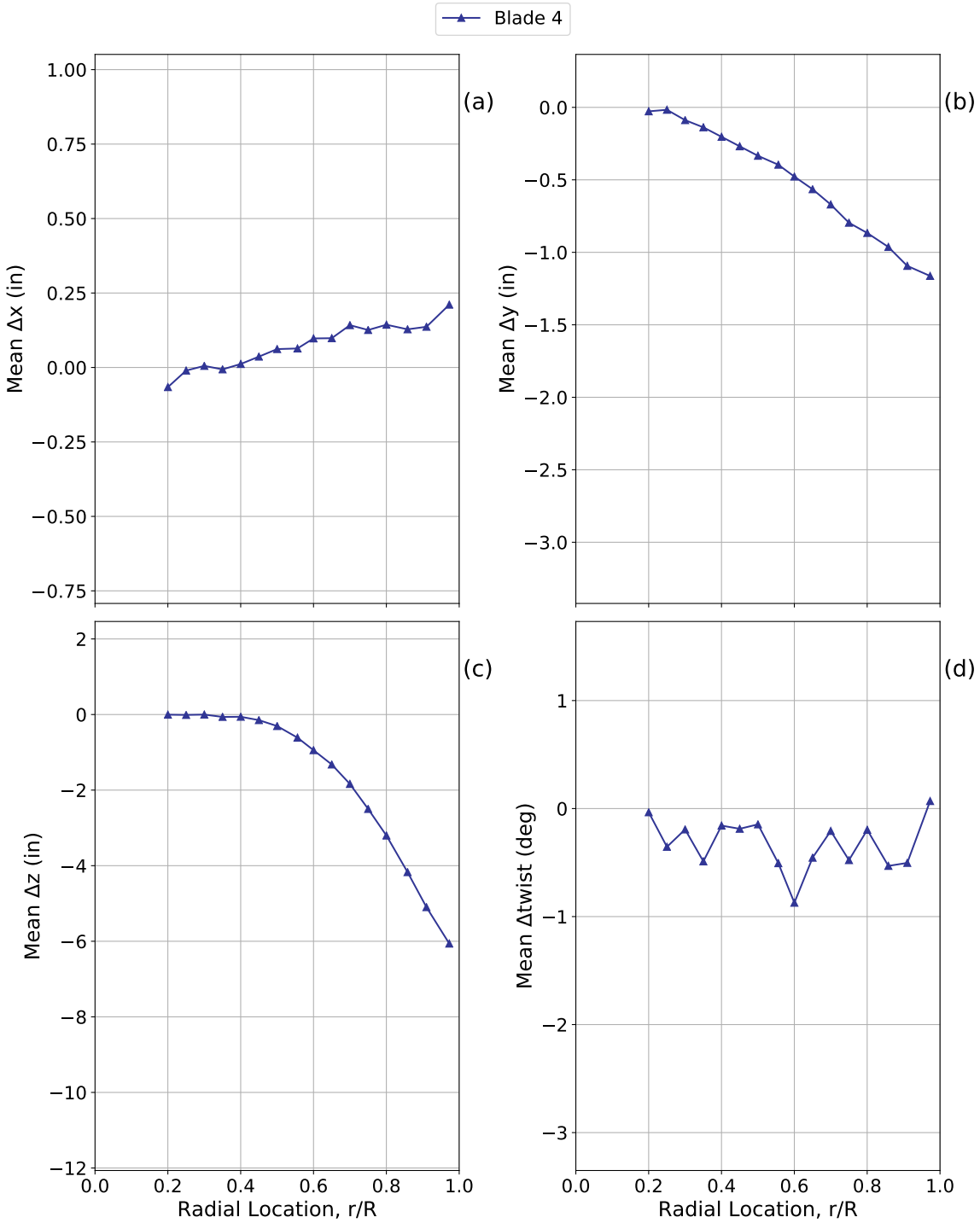


Figure 4.28-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-14. 120° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0660	0.0005	-0.0274	0.0004	-0.0045	0.0012	-0.0344	0.0116
4	119.88	0.2502	-0.0104	0.0007	-0.0168	0.0010	-0.0108	0.0019	-0.3543	0.0269
4	119.88	0.3001	0.0053	0.0009	-0.0882	0.0018	-0.0017	0.0038	-0.1935	0.0288
4	119.88	0.3502	-0.0064	0.0008	-0.1378	0.0031	-0.0633	0.0065	-0.4891	0.0299
4	119.88	0.4002	0.0117	0.0009	-0.2033	0.0048	-0.0597	0.0095	-0.1578	0.0269
4	119.88	0.4500	0.0364	0.0014	-0.2687	0.0059	-0.1484	0.0124	-0.1872	0.0254
4	119.88	0.5001	0.0617	0.0013	-0.3341	0.0074	-0.3053	0.0150	-0.1464	0.0271
4	119.88	0.5560	0.0638	0.0011	-0.3958	0.0087	-0.6127	0.0191	-0.5059	0.0235
4	119.88	0.6001	0.0975	0.0019	-0.4776	0.0106	-0.9443	0.0220	-0.8720	0.0248
4	119.88	0.6501	0.0983	0.0016	-0.5648	0.0118	-1.3227	0.0249	-0.4552	0.0331
4	119.88	0.6999	0.1420	0.0021	-0.6702	0.0136	-1.8377	0.0289	-0.2074	0.0314
4	119.88	0.7500	0.1258	0.0024	-0.7961	0.0160	-2.4992	0.0341	-0.4774	0.0246
4	119.88	0.8002	0.1435	0.0024	-0.8666	0.0180	-3.2031	0.0371	-0.1970	0.0351
4	119.88	0.8582	0.1281	0.0023	-0.9632	0.0209	-4.1714	0.0434	-0.5309	0.0348
4	119.88	0.9101	0.1366	0.0028	-1.0937	0.0229	-5.0979	0.0472	-0.5031	0.0524
4	119.88	0.9728	0.2108	0.0033	-1.1630	0.0252	-6.0621	0.0586	0.0694	0.0368

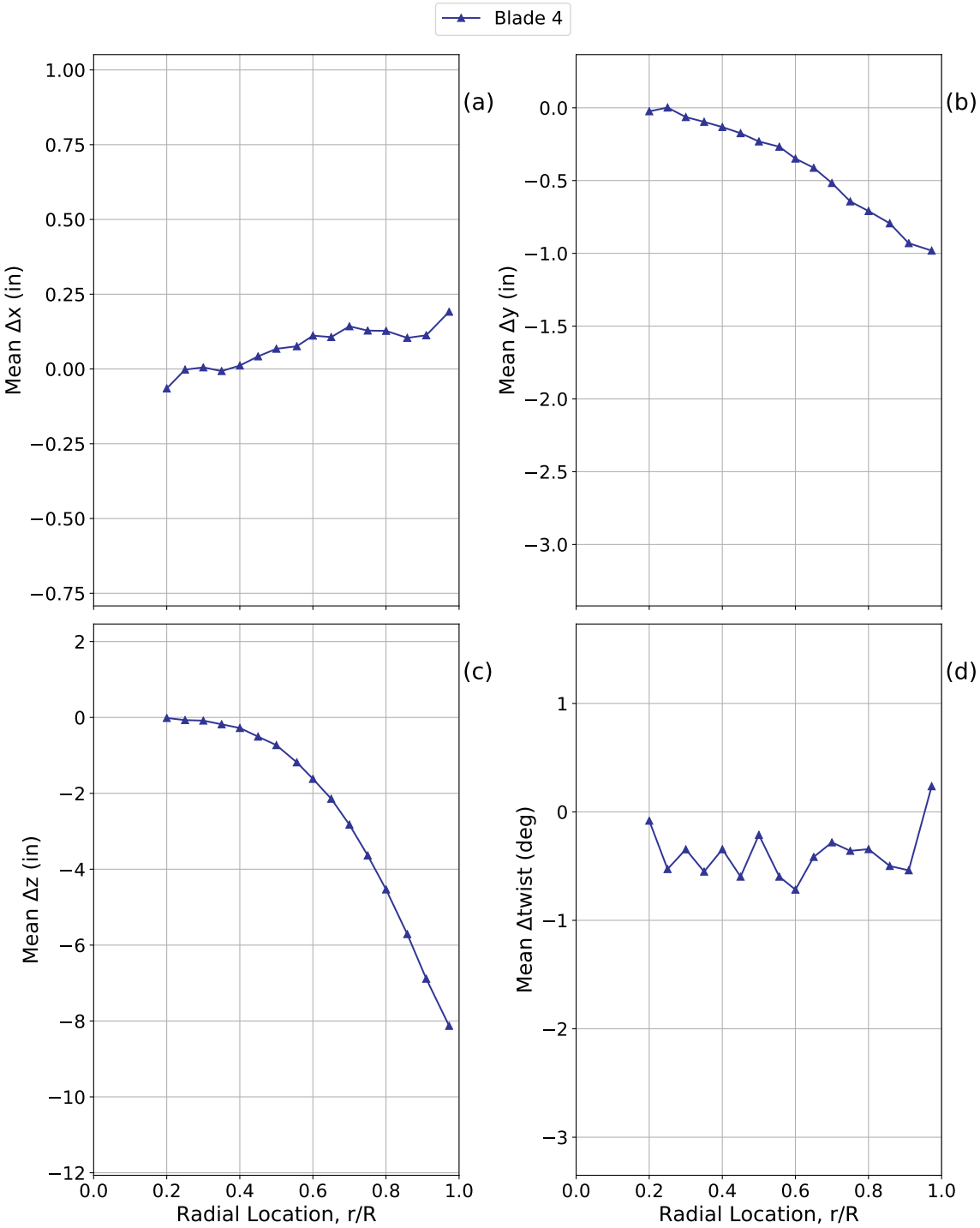


Figure 4.28-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0651	0.0007	-0.0240	0.0003	-0.0145	0.0021	-0.0813	0.0130
4	135	0.2502	-0.0022	0.0011	0.0016	0.0010	-0.0701	0.0025	-0.5274	0.0324
4	135	0.3001	0.0053	0.0006	-0.0638	0.0015	-0.0838	0.0065	-0.3458	0.0338
4	135	0.3502	-0.0070	0.0008	-0.0966	0.0027	-0.1807	0.0112	-0.5511	0.0351
4	135	0.4002	0.0115	0.0010	-0.1324	0.0042	-0.2788	0.0163	-0.3451	0.0284
4	135	0.4500	0.0421	0.0012	-0.1746	0.0054	-0.5060	0.0195	-0.5975	0.0290
4	135	0.5001	0.0675	0.0012	-0.2313	0.0066	-0.7309	0.0222	-0.2122	0.0308
4	135	0.5560	0.0759	0.0012	-0.2676	0.0080	-1.1838	0.0254	-0.5977	0.0319
4	135	0.6001	0.1115	0.0012	-0.3490	0.0093	-1.6195	0.0280	-0.7173	0.0269
4	135	0.6501	0.1066	0.0014	-0.4123	0.0106	-2.1440	0.0303	-0.4156	0.0324
4	135	0.6999	0.1427	0.0012	-0.5170	0.0119	-2.8268	0.0335	-0.2815	0.0283
4	135	0.7500	0.1283	0.0015	-0.6432	0.0132	-3.6380	0.0354	-0.3593	0.0354
4	135	0.8002	0.1274	0.0020	-0.7097	0.0149	-4.5340	0.0408	-0.3438	0.0380
4	135	0.8582	0.1040	0.0031	-0.7939	0.0170	-5.7102	0.0479	-0.4990	0.0299
4	135	0.9101	0.1126	0.0029	-0.9302	0.0182	-6.8863	0.0551	-0.5389	0.0350
4	135	0.9728	0.1914	0.0034	-0.9815	0.0200	-8.1282	0.0646	0.2360	0.0390

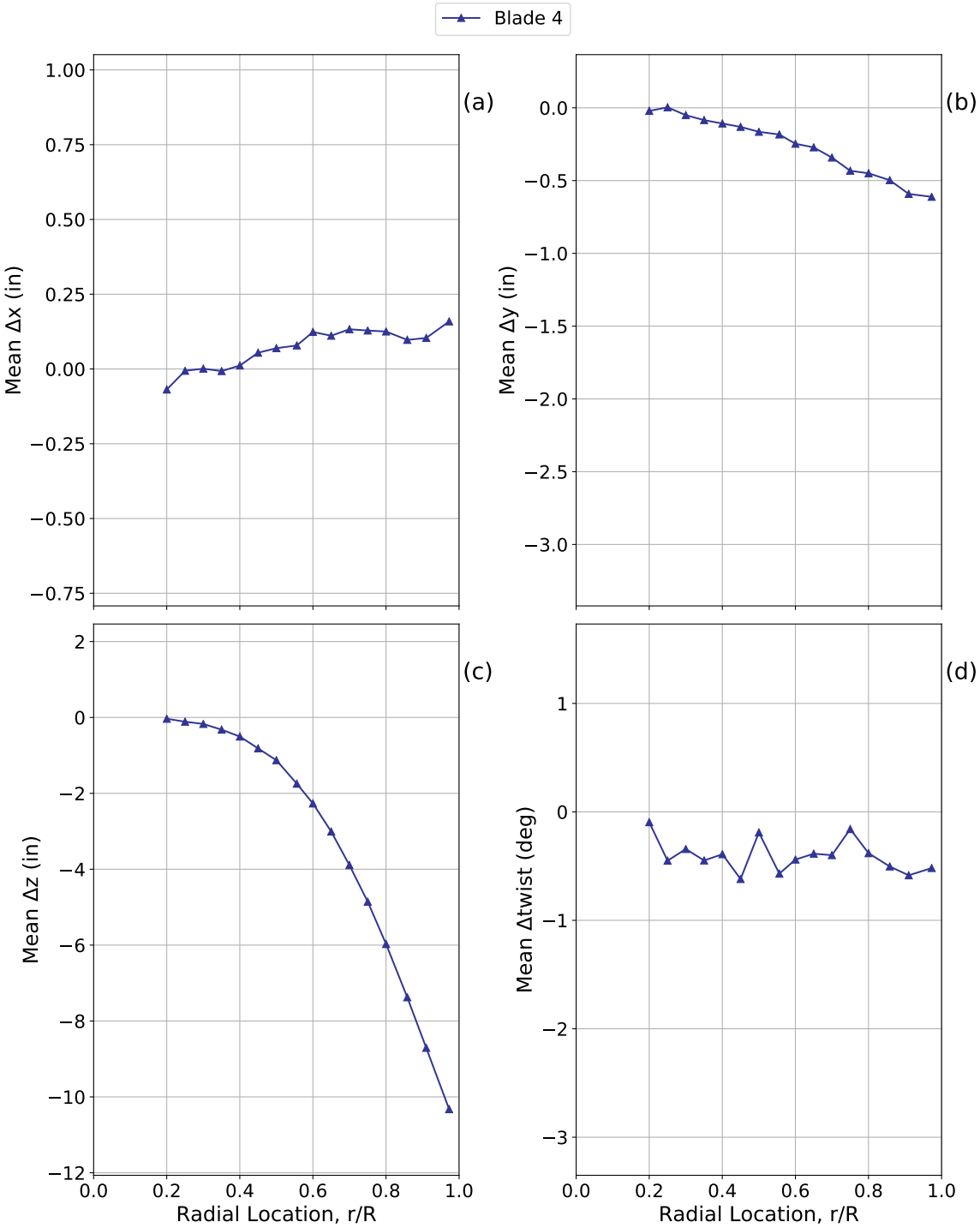


Figure 4.28-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-16. 150° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0688	0.0008	-0.0213	0.0006	-0.0350	0.0012	-0.0956	0.0122
4	150.12	0.2502	-0.0061	0.0011	0.0032	0.0014	-0.1125	0.0026	-0.4503	0.0184
4	150.12	0.3001	0.0010	0.0007	-0.0505	0.0020	-0.1713	0.0043	-0.3426	0.0261
4	150.12	0.3502	-0.0071	0.0007	-0.0847	0.0039	-0.3220	0.0073	-0.4483	0.0229
4	150.12	0.4002	0.0116	0.0012	-0.1080	0.0058	-0.5040	0.0110	-0.3906	0.0199
4	150.12	0.4500	0.0543	0.0012	-0.1312	0.0078	-0.8159	0.0139	-0.6194	0.0247
4	150.12	0.5001	0.0695	0.0011	-0.1650	0.0094	-1.1282	0.0174	-0.1899	0.0261
4	150.12	0.5560	0.0786	0.0013	-0.1834	0.0122	-1.7466	0.0205	-0.5699	0.0302
4	150.12	0.6001	0.1237	0.0009	-0.2470	0.0148	-2.2675	0.0236	-0.4400	0.0259
4	150.12	0.6501	0.1111	0.0010	-0.2720	0.0174	-3.0087	0.0272	-0.3857	0.0326
4	150.12	0.6999	0.1328	0.0014	-0.3419	0.0205	-3.8919	0.0321	-0.3992	0.0255
4	150.12	0.7500	0.1285	0.0016	-0.4325	0.0241	-4.8570	0.0345	-0.1586	0.0355
4	150.12	0.8002	0.1252	0.0020	-0.4501	0.0282	-5.9723	0.0391	-0.3811	0.0329
4	150.12	0.8582	0.0972	0.0017	-0.4973	0.0328	-7.3759	0.0418	-0.5036	0.0329
4	150.12	0.9101	0.1037	0.0024	-0.5919	0.0369	-8.7081	0.0449	-0.5851	0.0332
4	150.12	0.9728	0.1589	0.0024	-0.6116	0.0428	-10.3251	0.0460	-0.5180	0.0378

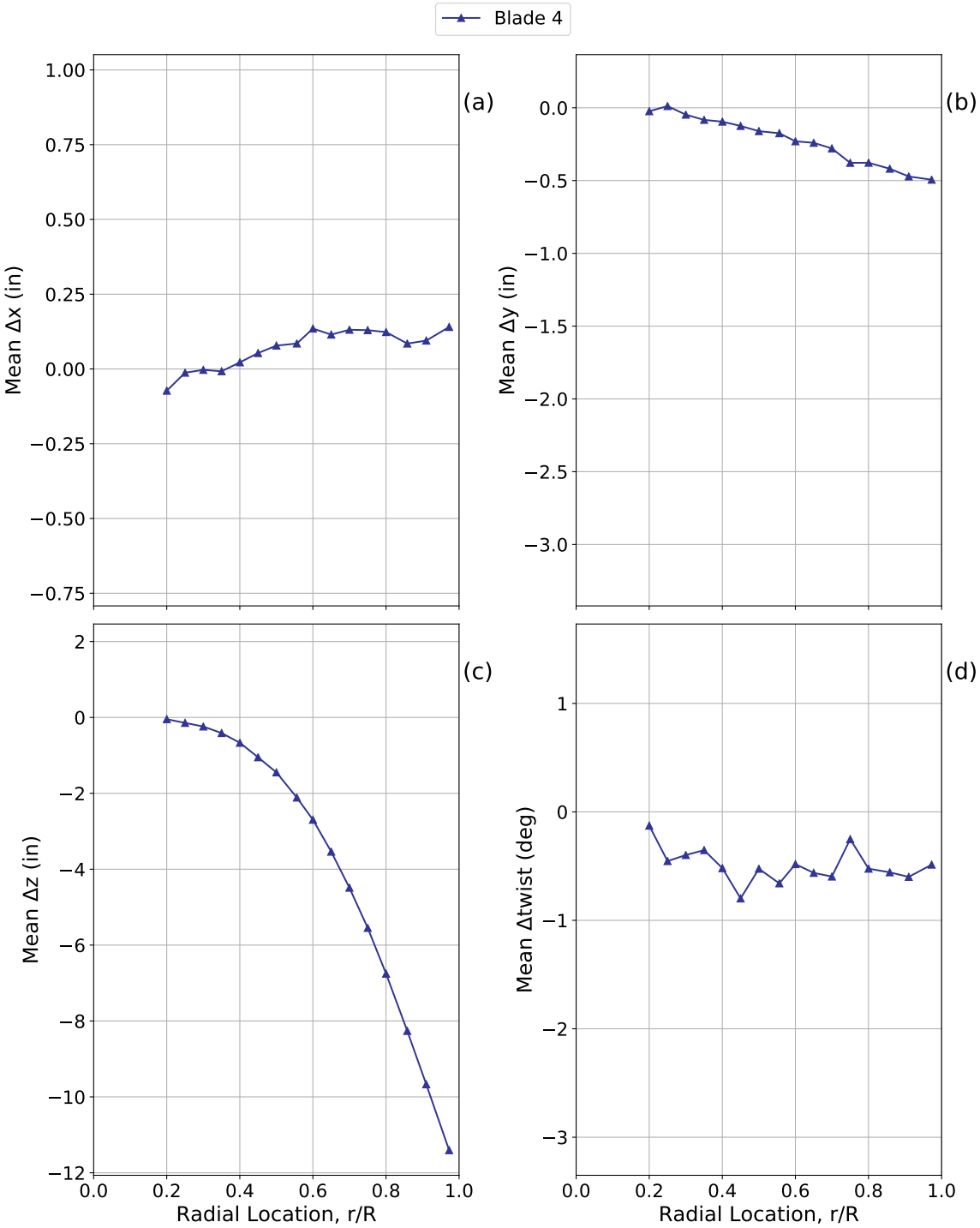


Figure 4.28-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0728	0.0013	-0.0237	0.0007	-0.0468	0.0021	-0.1275	0.0144
4	164.88	0.2502	-0.0125	0.0014	0.0117	0.0012	-0.1436	0.0024	-0.4540	0.0383
4	164.88	0.3001	-0.0031	0.0011	-0.0472	0.0026	-0.2396	0.0063	-0.3981	0.0363
4	164.88	0.3502	-0.0077	0.0010	-0.0831	0.0043	-0.4124	0.0095	-0.3529	0.0344
4	164.88	0.4002	0.0222	0.0012	-0.0953	0.0066	-0.6679	0.0139	-0.5192	0.0415
4	164.88	0.4500	0.0531	0.0009	-0.1247	0.0089	-1.0507	0.0161	-0.7982	0.0429
4	164.88	0.5001	0.0781	0.0013	-0.1604	0.0107	-1.4480	0.0216	-0.5245	0.0381
4	164.88	0.5560	0.0851	0.0013	-0.1749	0.0133	-2.1118	0.0257	-0.6593	0.0407
4	164.88	0.6001	0.1351	0.0017	-0.2302	0.0159	-2.6966	0.0287	-0.4820	0.0422
4	164.88	0.6501	0.1149	0.0016	-0.2406	0.0185	-3.5385	0.0345	-0.5626	0.0398
4	164.88	0.6999	0.1311	0.0020	-0.2793	0.0216	-4.4885	0.0398	-0.5965	0.0341
4	164.88	0.7500	0.1297	0.0022	-0.3782	0.0242	-5.5470	0.0443	-0.2517	0.0378
4	164.88	0.8002	0.1234	0.0031	-0.3776	0.0276	-6.7533	0.0492	-0.5239	0.0521
4	164.88	0.8582	0.0849	0.0031	-0.4187	0.0309	-8.2617	0.0561	-0.5574	0.0449
4	164.88	0.9101	0.0948	0.0032	-0.4718	0.0345	-9.6683	0.0620	-0.5997	0.0439
4	164.88	0.9728	0.1404	0.0041	-0.4940	0.0378	-11.4059	0.0705	-0.4867	0.0482

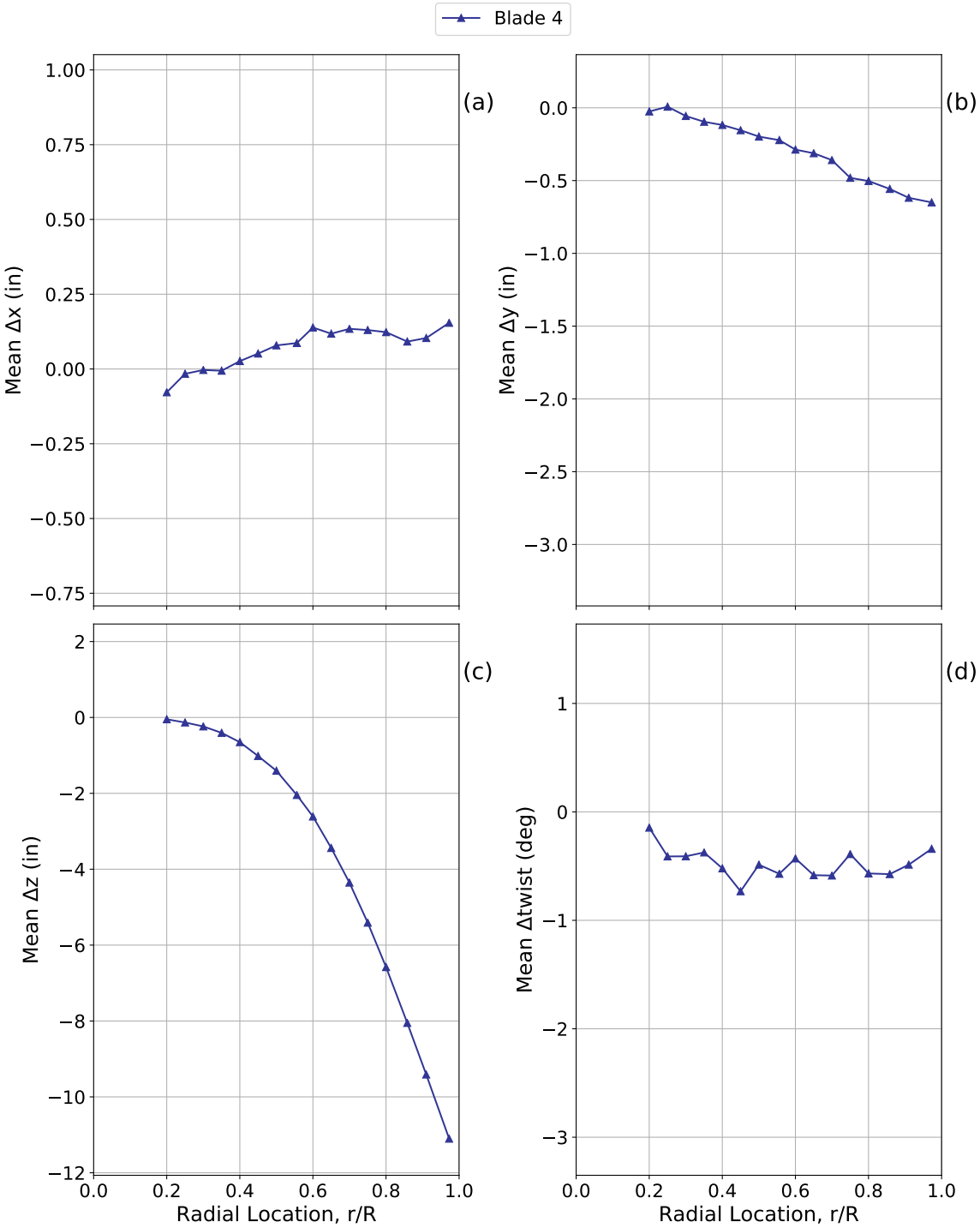


Figure 4.28-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0780	0.0010	-0.0254	0.0010	-0.0489	0.0023	-0.1458	0.0206
4	170.16	0.2502	-0.0162	0.0022	0.0075	0.0022	-0.1330	0.0046	-0.4108	0.0441
4	170.16	0.3001	-0.0034	0.0014	-0.0565	0.0036	-0.2369	0.0090	-0.4098	0.0502
4	170.16	0.3502	-0.0059	0.0020	-0.0962	0.0061	-0.4067	0.0144	-0.3743	0.0521
4	170.16	0.4002	0.0263	0.0014	-0.1181	0.0095	-0.6521	0.0228	-0.5210	0.0473
4	170.16	0.4500	0.0515	0.0013	-0.1543	0.0117	-1.0169	0.0291	-0.7323	0.0478
4	170.16	0.5001	0.0788	0.0018	-0.1979	0.0137	-1.4052	0.0354	-0.4870	0.0593
4	170.16	0.5560	0.0867	0.0014	-0.2222	0.0163	-2.0444	0.0432	-0.5710	0.0422
4	170.16	0.6001	0.1386	0.0025	-0.2873	0.0189	-2.6122	0.0486	-0.4295	0.0498
4	170.16	0.6501	0.1180	0.0026	-0.3123	0.0217	-3.4409	0.0555	-0.5840	0.0458
4	170.16	0.6999	0.1342	0.0031	-0.3593	0.0246	-4.3538	0.0623	-0.5872	0.0487
4	170.16	0.7500	0.1302	0.0038	-0.4812	0.0277	-5.4089	0.0699	-0.3893	0.0525
4	170.16	0.8002	0.1231	0.0042	-0.5032	0.0307	-6.5803	0.0775	-0.5679	0.0576
4	170.16	0.8582	0.0916	0.0050	-0.5576	0.0347	-8.0507	0.0854	-0.5742	0.0563
4	170.16	0.9101	0.1035	0.0055	-0.6183	0.0383	-9.4114	0.0938	-0.4870	0.0552
4	170.16	0.9728	0.1543	0.0061	-0.6500	0.0439	-11.1018	0.1012	-0.3408	0.0516

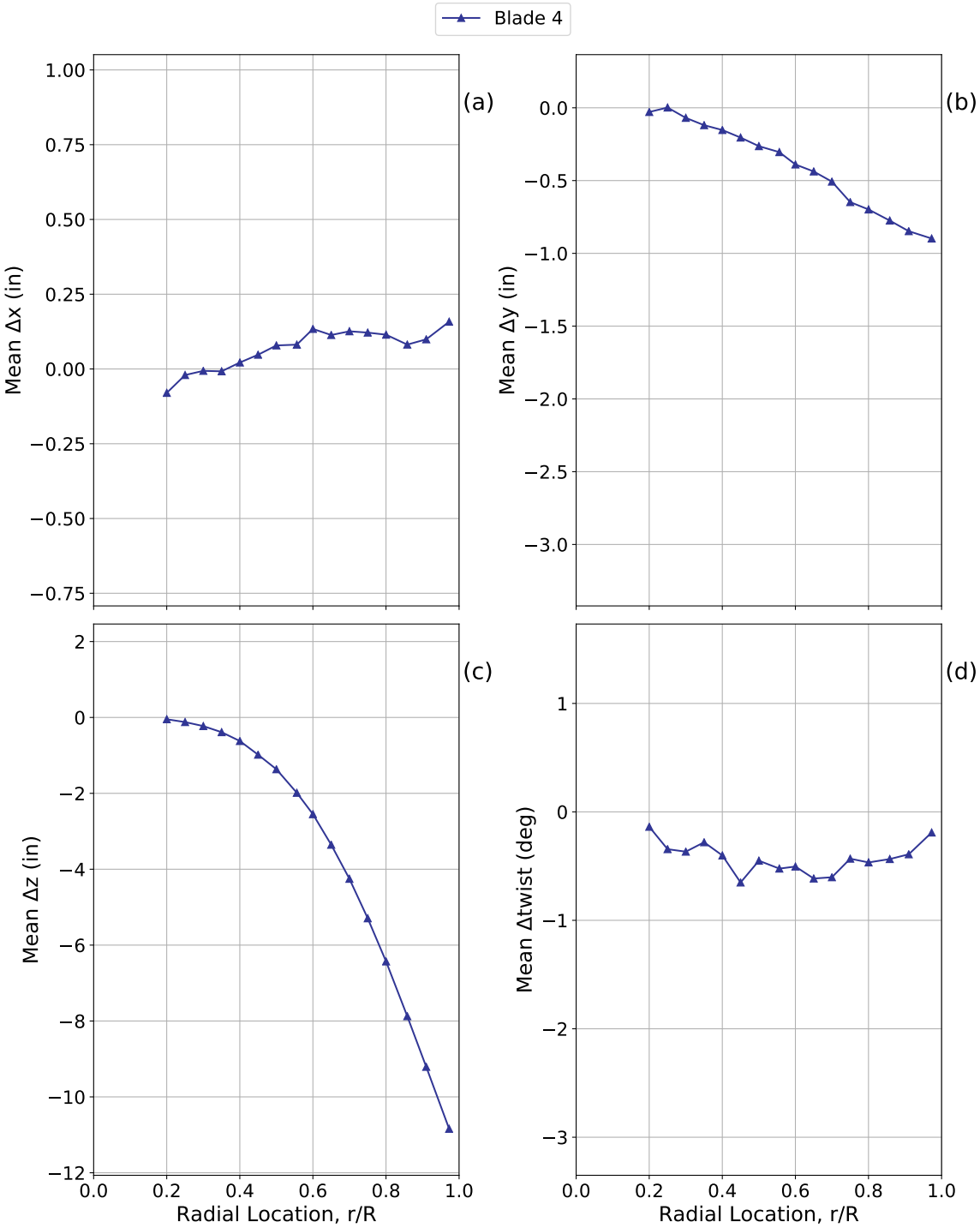


Figure 4.28-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0800	0.0010	-0.0288	0.0008	-0.0480	0.0030	-0.1376	0.0183
4	175.08	0.2502	-0.0203	0.0022	0.0017	0.0019	-0.1219	0.0031	-0.3439	0.0377
4	175.08	0.3001	-0.0063	0.0018	-0.0692	0.0029	-0.2280	0.0082	-0.3669	0.0397
4	175.08	0.3502	-0.0078	0.0022	-0.1195	0.0058	-0.3887	0.0138	-0.2803	0.0270
4	175.08	0.4002	0.0216	0.0017	-0.1528	0.0085	-0.6218	0.0189	-0.4019	0.0347
4	175.08	0.4500	0.0476	0.0021	-0.2046	0.0096	-0.9820	0.0229	-0.6512	0.0347
4	175.08	0.5001	0.0787	0.0021	-0.2636	0.0115	-1.3654	0.0264	-0.4502	0.0339
4	175.08	0.5560	0.0813	0.0023	-0.3046	0.0139	-1.9865	0.0305	-0.5231	0.0292
4	175.08	0.6001	0.1339	0.0027	-0.3895	0.0151	-2.5504	0.0333	-0.5041	0.0397
4	175.08	0.6501	0.1135	0.0022	-0.4375	0.0180	-3.3554	0.0399	-0.6146	0.0340
4	175.08	0.6999	0.1260	0.0025	-0.5072	0.0201	-4.2530	0.0428	-0.6027	0.0340
4	175.08	0.7500	0.1216	0.0032	-0.6480	0.0219	-5.2939	0.0485	-0.4317	0.0334
4	175.08	0.8002	0.1146	0.0033	-0.6986	0.0241	-6.4314	0.0534	-0.4662	0.0337
4	175.08	0.8582	0.0815	0.0036	-0.7748	0.0267	-7.8739	0.0597	-0.4351	0.0484
4	175.08	0.9101	0.0991	0.0050	-0.8476	0.0291	-9.2087	0.0661	-0.3912	0.0495
4	175.08	0.9728	0.1580	0.0058	-0.8981	0.0324	-10.8418	0.0771	-0.1905	0.0380

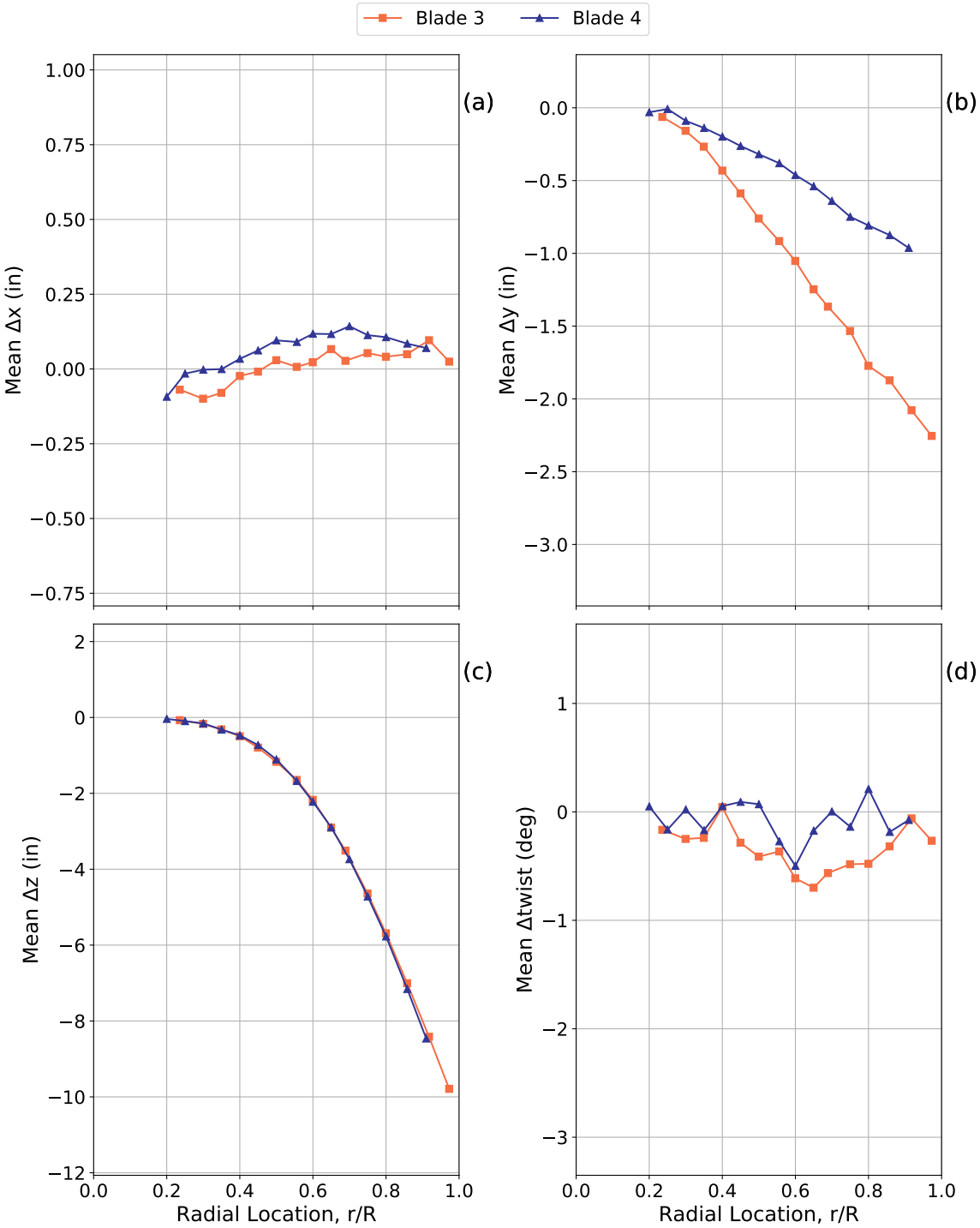


Figure 4.28-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0693	0.0021	-0.0629	0.0021	-0.0715	0.0046	-0.1653	0.0526
3	180.35	0.2995	-0.0993	0.0027	-0.1580	0.0044	-0.1698	0.0096	-0.2496	0.0853
3	180.35	0.3493	-0.0798	0.0028	-0.2666	0.0089	-0.3153	0.0177	-0.2400	0.0944
3	180.35	0.4000	-0.0234	0.0024	-0.4312	0.0132	-0.4952	0.0267	0.0442	0.0928
3	180.35	0.4497	-0.0089	0.0031	-0.5879	0.0156	-0.7946	0.0358	-0.2846	0.0876
3	180.35	0.4997	0.0293	0.0031	-0.7606	0.0189	-1.1691	0.0447	-0.4126	0.0949
3	180.35	0.5556	0.0071	0.0033	-0.9157	0.0234	-1.6458	0.0554	-0.3650	0.0831
3	180.35	0.5995	0.0225	0.0038	-1.0520	0.0272	-2.1708	0.0608	-0.6122	0.0895
3	180.35	0.6498	0.0663	0.0037	-1.2473	0.0315	-2.9039	0.0688	-0.6992	0.0975
3	180.35	0.6890	0.0273	0.0033	-1.3663	0.0347	-3.5105	0.0764	-0.5640	0.0889
3	180.35	0.7495	0.0530	0.0041	-1.5334	0.0401	-4.6400	0.0844	-0.4828	0.0937
3	180.35	0.7998	0.0409	0.0036	-1.7727	0.0451	-5.6873	0.0894	-0.4787	0.0988
3	180.35	0.8577	0.0493	0.0044	-1.8725	0.0501	-7.0043	0.1003	-0.3184	0.0736
3	180.35	0.9178	0.0962	0.0049	-2.0779	0.0561	-8.4155	0.1082	-0.0598	0.0860
3	180.35	0.9729	0.0246	0.0056	-2.2542	0.0612	-9.7881	0.1146	-0.2663	0.0969
4	180	0.2001	-0.0930	0.0033	-0.0305	0.0008	-0.0385	0.0020	0.0500	0.0072
4	180	0.2502	-0.0154	0.0008	-0.0086	0.0010	-0.0973	0.0045	-0.1627	0.0195
4	180	0.3001	-0.0025	0.0018	-0.0898	0.0026	-0.1572	0.0097	0.0220	0.0173
4	180	0.3502	-0.0005	0.0029	-0.1387	0.0048	-0.3211	0.0138	-0.1686	0.0244
4	180	0.4002	0.0340	0.0043	-0.1982	0.0068	-0.4741	0.0235	0.0532	0.0238
4	180	0.4500	0.0619	0.0049	-0.2625	0.0090	-0.7280	0.0271	0.0921	0.0244
4	180	0.5001	0.0956	0.0053	-0.3190	0.0117	-1.1067	0.0334	0.0704	0.0378
4	180	0.5560	0.0903	0.0047	-0.3809	0.0142	-1.6758	0.0369	-0.2716	0.0338
4	180	0.6001	0.1177	0.0052	-0.4615	0.0163	-2.2224	0.0408	-0.4978	0.0195
4	180	0.6501	0.1167	0.0058	-0.5392	0.0195	-2.8976	0.0452	-0.1735	0.0342
4	180	0.6999	0.1430	0.0070	-0.6397	0.0221	-3.7360	0.0482	0.0036	0.0346
4	180	0.7500	0.1131	0.0083	-0.7489	0.0258	-4.7194	0.0488	-0.1373	0.0592
4	180	0.8002	0.1063	0.0118	-0.8086	0.0275	-5.7731	0.0597	0.2111	0.0549
4	180	0.8582	0.0847	0.0205	-0.8750	0.0349	-7.1572	0.0596	-0.1849	0.0858
4	180	0.9101	0.0700	0.0236	-0.9628	0.0393	-8.4625	0.0657	-0.0750	0.0976

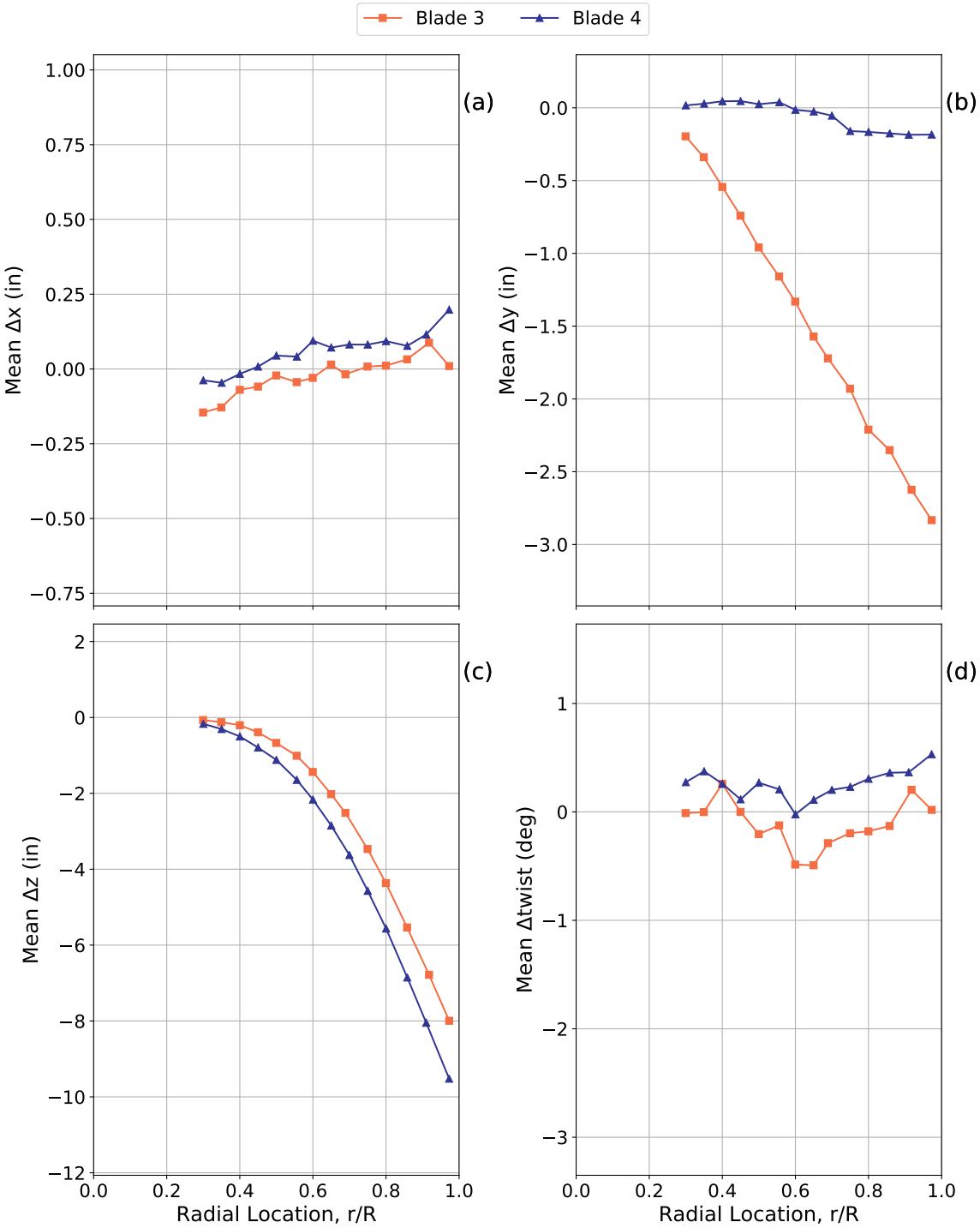


Figure 4.28-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.2995	-0.1454	0.0048	-0.1960	0.0088	-0.0684	0.0391	-0.0113	0.0903
3	184.92	0.3493	-0.1288	0.0057	-0.3394	0.0152	-0.1241	0.0663	-0.0020	0.1196
3	184.92	0.4000	-0.0697	0.0044	-0.5438	0.0245	-0.2043	0.1048	0.2586	0.1065
3	184.92	0.4497	-0.0589	0.0051	-0.7413	0.0322	-0.3912	0.1347	-0.0003	0.1132
3	184.92	0.4997	-0.0217	0.0063	-0.9595	0.0401	-0.6717	0.1661	-0.2049	0.1122
3	184.92	0.5556	-0.0440	0.0062	-1.1590	0.0493	-1.0102	0.2043	-0.1245	0.1143
3	184.92	0.5995	-0.0297	0.0063	-1.3312	0.0568	-1.4364	0.2298	-0.4857	0.1184
3	184.92	0.6498	0.0147	0.0085	-1.5716	0.0644	-2.0208	0.2627	-0.4923	0.1067
3	184.92	0.6890	-0.0178	0.0083	-1.7213	0.0726	-2.5157	0.2902	-0.2884	0.1052
3	184.92	0.7495	0.0080	0.0091	-1.9299	0.0840	-3.4657	0.3299	-0.1967	0.1064
3	184.92	0.7998	0.0111	0.0113	-2.2112	0.0938	-4.3654	0.3624	-0.1793	0.1128
3	184.92	0.8577	0.0322	0.0130	-2.3517	0.1061	-5.5351	0.3996	-0.1304	0.1077
3	184.92	0.9178	0.0880	0.0154	-2.6244	0.1172	-6.7816	0.4386	0.2033	0.0997
3	184.92	0.9729	0.0098	0.0172	-2.8329	0.1293	-7.9938	0.4731	0.0186	0.1373
4	184.92	0.3001	-0.0378	0.0077	0.0163	0.0246	-0.1686	0.0280	0.2737	0.0525
4	184.92	0.3502	-0.0462	0.0110	0.0283	0.0428	-0.3070	0.0495	0.3739	0.0702
4	184.92	0.4002	-0.0164	0.0098	0.0449	0.0680	-0.5017	0.0798	0.2590	0.0564
4	184.92	0.4500	0.0079	0.0085	0.0461	0.0900	-0.7941	0.1051	0.1154	0.0634
4	184.92	0.5001	0.0447	0.0091	0.0248	0.1122	-1.1194	0.1319	0.2686	0.0666
4	184.92	0.5560	0.0413	0.0090	0.0381	0.1365	-1.6463	0.1612	0.2071	0.0538
4	184.92	0.6001	0.0944	0.0096	-0.0139	0.1566	-2.1655	0.1795	-0.0225	0.0786
4	184.92	0.6501	0.0716	0.0100	-0.0255	0.1775	-2.8496	0.2059	0.1111	0.0604
4	184.92	0.6999	0.0817	0.0104	-0.0540	0.1996	-3.6266	0.2311	0.2028	0.0619
4	184.92	0.7500	0.0815	0.0115	-0.1597	0.2220	-4.5709	0.2539	0.2304	0.0773
4	184.92	0.8002	0.0930	0.0117	-0.1659	0.2437	-5.5634	0.2851	0.3050	0.0450
4	184.92	0.8582	0.0772	0.0133	-0.1760	0.2702	-6.8535	0.3116	0.3608	0.0811
4	184.92	0.9101	0.1152	0.0140	-0.1853	0.2941	-8.0468	0.3413	0.3650	0.0966
4	184.92	0.9728	0.1982	0.0185	-0.1841	0.3223	-9.5211	0.3762	0.5314	0.0857

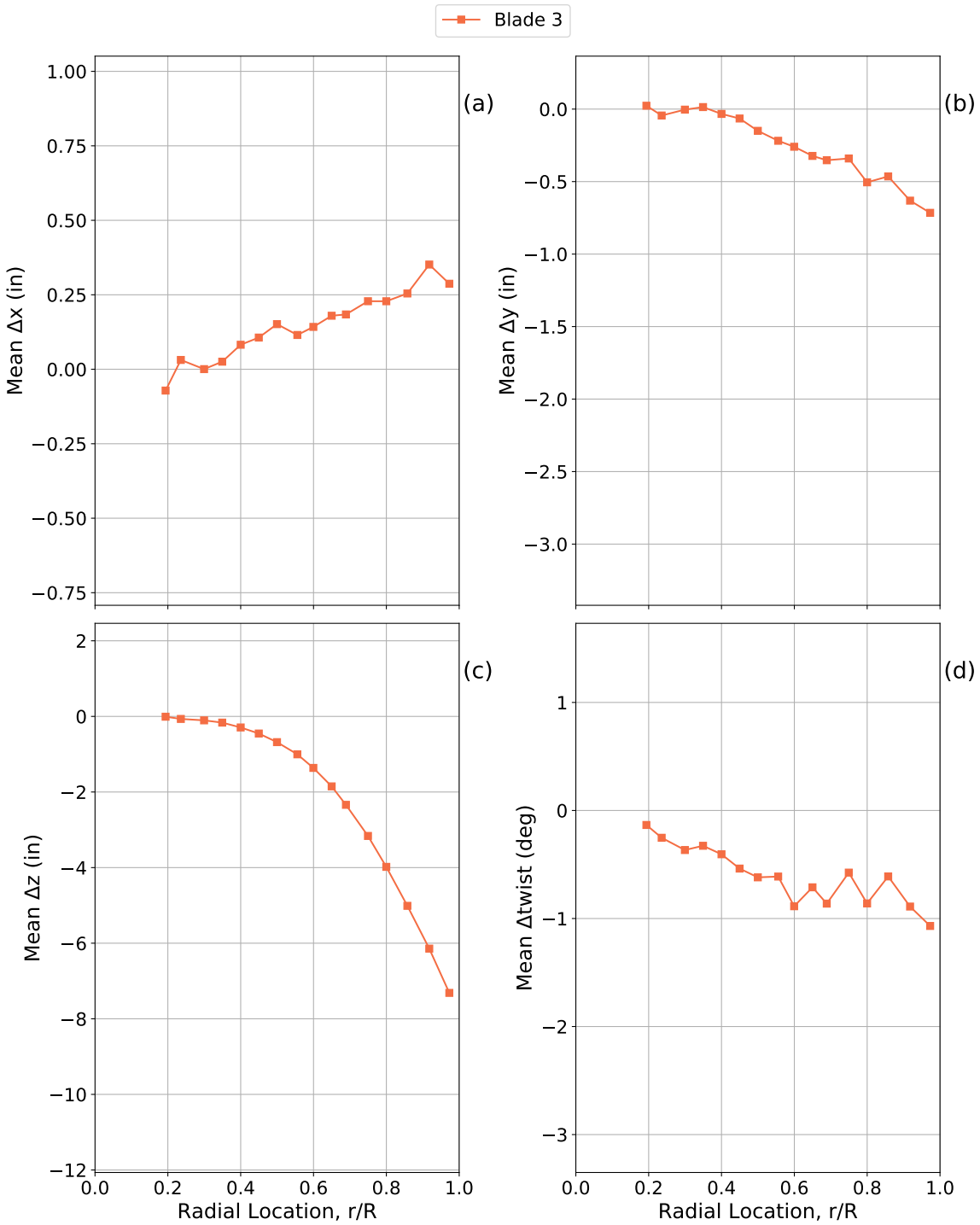


Figure 4.28-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0715	0.0053	0.0232	0.0035	-0.0081	0.0076	-0.1343	0.0362
3	195.12	0.2357	0.0313	0.0036	-0.0442	0.0042	-0.0669	0.0060	-0.2527	0.0881
3	195.12	0.2995	0.0005	0.0029	-0.0037	0.0103	-0.1044	0.0199	-0.3661	0.0951
3	195.12	0.3493	0.0255	0.0038	0.0139	0.0194	-0.1641	0.0352	-0.3268	0.0835
3	195.12	0.4000	0.0823	0.0047	-0.0332	0.0278	-0.2925	0.0492	-0.4054	0.1007
3	195.12	0.4497	0.1064	0.0068	-0.0649	0.0325	-0.4528	0.0597	-0.5378	0.0846
3	195.12	0.4997	0.1515	0.0056	-0.1499	0.0388	-0.6809	0.0723	-0.6190	0.0886
3	195.12	0.5556	0.1151	0.0072	-0.2185	0.0472	-1.0033	0.0887	-0.6117	0.1014
3	195.12	0.5995	0.1422	0.0101	-0.2597	0.0541	-1.3626	0.0969	-0.8865	0.0766
3	195.12	0.6498	0.1797	0.0148	-0.3229	0.0640	-1.8514	0.1164	-0.7113	0.1482
3	195.12	0.6890	0.1840	0.0135	-0.3526	0.0653	-2.3395	0.1170	-0.8621	0.1060
3	195.12	0.7495	0.2284	0.0147	-0.3406	0.0749	-3.1626	0.1384	-0.5752	0.1052
3	195.12	0.7998	0.2283	0.0180	-0.5049	0.0813	-3.9805	0.1474	-0.8605	0.0929
3	195.12	0.8577	0.2544	0.0213	-0.4643	0.0904	-5.0115	0.1593	-0.6105	0.1269
3	195.12	0.9178	0.3515	0.0250	-0.6313	0.0987	-6.1435	0.1787	-0.8894	0.1060
3	195.12	0.9729	0.2871	0.0311	-0.7154	0.1099	-7.3148	0.2096	-1.0689	0.1258

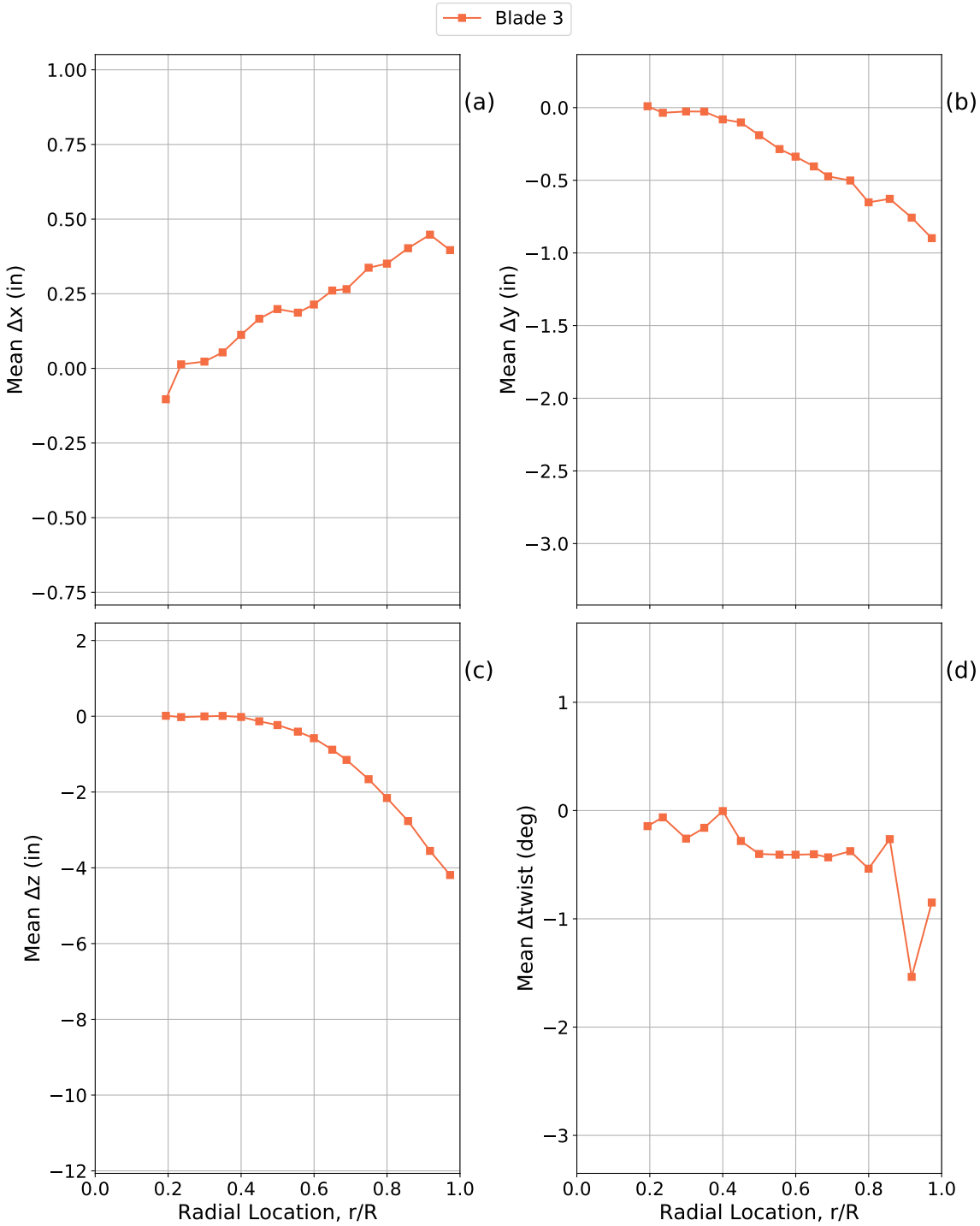


Figure 4.28-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.1035	0.0014	0.0096	0.0011	0.0130	0.0020	-0.1439	0.0143
3	209.88	0.2357	0.0134	0.0009	-0.0355	0.0016	-0.0213	0.0026	-0.0627	0.0234
3	209.88	0.2995	0.0226	0.0005	-0.0263	0.0030	-0.0032	0.0064	-0.2592	0.0297
3	209.88	0.3493	0.0535	0.0010	-0.0273	0.0053	0.0094	0.0096	-0.1593	0.0256
3	209.88	0.4000	0.1122	0.0012	-0.0810	0.0077	-0.0189	0.0149	-0.0047	0.0308
3	209.88	0.4497	0.1663	0.0058	-0.1018	0.0143	-0.1325	0.0215	-0.2812	0.0273
3	209.88	0.4997	0.1986	0.0049	-0.1897	0.0162	-0.2320	0.0264	-0.4010	0.0197
3	209.88	0.5556	0.1866	0.0048	-0.2852	0.0182	-0.4054	0.0324	-0.4075	0.0293
3	209.88	0.5995	0.2138	0.0042	-0.3373	0.0197	-0.5790	0.0368	-0.4078	0.0311
3	209.88	0.6498	0.2607	0.0033	-0.4045	0.0204	-0.8816	0.0390	-0.4036	0.0302
3	209.88	0.6890	0.2654	0.0030	-0.4730	0.0217	-1.1517	0.0439	-0.4322	0.0255
3	209.88	0.7495	0.3371	0.0019	-0.5016	0.0243	-1.6611	0.0478	-0.3751	0.0360
3	209.88	0.7998	0.3508	0.0018	-0.6516	0.0268	-2.1582	0.0499	-0.5371	0.0299
3	209.88	0.8577	0.4025	0.0052	-0.6280	0.0357	-2.7657	0.0616	-0.2639	0.1710
3	209.88	0.9178	0.4478	0.0077	-0.7571	0.0320	-3.5540	0.0591	-1.5364	0.0413
3	209.88	0.9729	0.3960	0.0096	-0.8984	0.0341	-4.1905	0.0702	-0.8497	0.1417

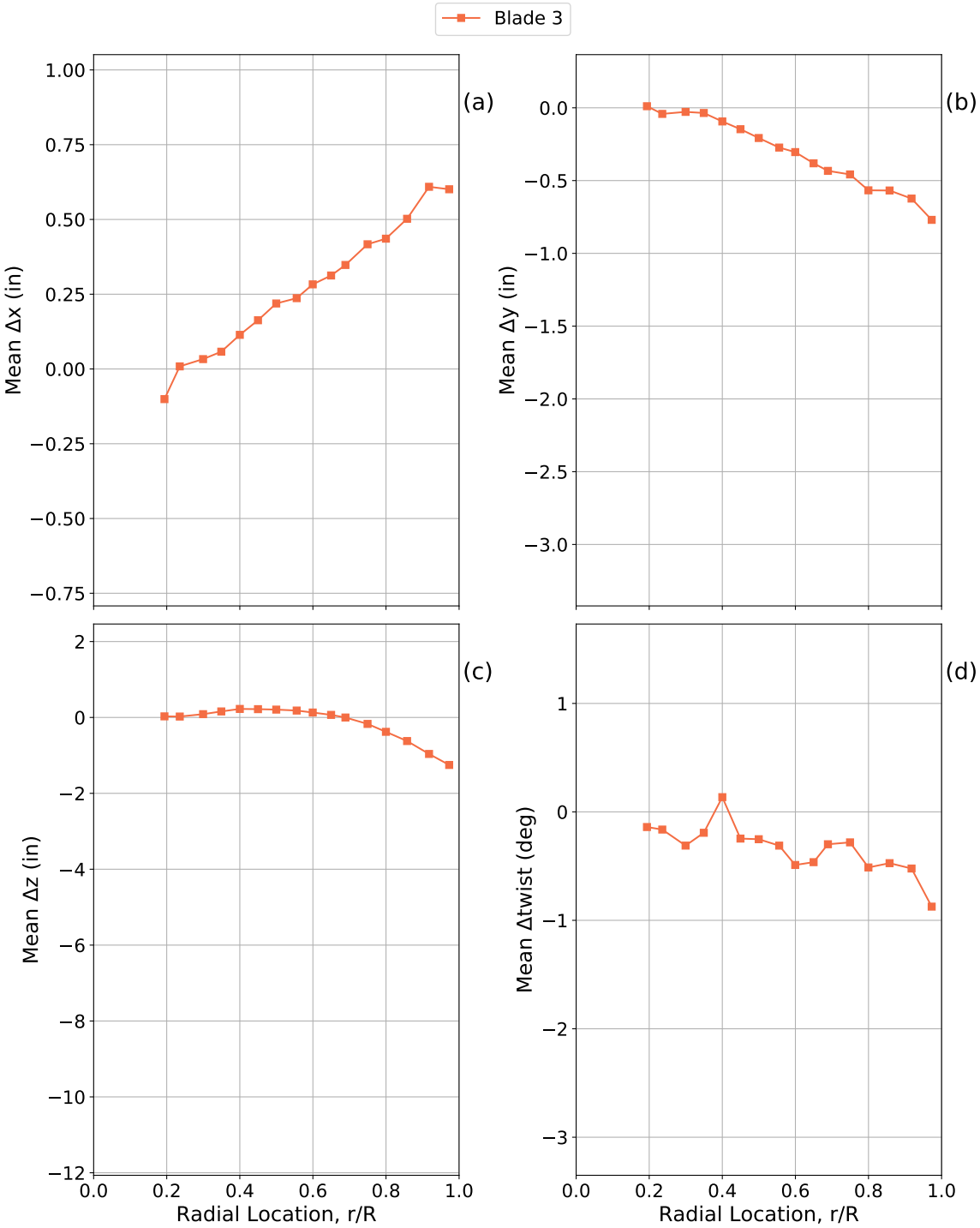


Figure 4.28-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.1008	0.0007	0.0109	0.0008	0.0286	0.0023	-0.1397	0.0210
3	225	0.2357	0.0087	0.0008	-0.0419	0.0011	0.0241	0.0033	-0.1630	0.0325
3	225	0.2995	0.0330	0.0008	-0.0280	0.0022	0.0865	0.0066	-0.3109	0.0492
3	225	0.3493	0.0578	0.0006	-0.0356	0.0034	0.1583	0.0122	-0.1927	0.0319
3	225	0.4000	0.1141	0.0008	-0.0938	0.0053	0.2245	0.0172	0.1357	0.0434
3	225	0.4497	0.1629	0.0014	-0.1471	0.0072	0.2186	0.0208	-0.2462	0.0353
3	225	0.4997	0.2190	0.0014	-0.2075	0.0084	0.2068	0.0229	-0.2522	0.0437
3	225	0.5556	0.2368	0.0015	-0.2732	0.0098	0.1819	0.0283	-0.3112	0.0424
3	225	0.5995	0.2829	0.0015	-0.3043	0.0112	0.1299	0.0289	-0.4897	0.0564
3	225	0.6498	0.3126	0.0018	-0.3812	0.0124	0.0676	0.0340	-0.4636	0.0518
3	225	0.6890	0.3478	0.0017	-0.4333	0.0137	-0.0017	0.0349	-0.2985	0.0476
3	225	0.7495	0.4170	0.0020	-0.4577	0.0159	-0.1705	0.0397	-0.2812	0.0316
3	225	0.7998	0.4357	0.0019	-0.5669	0.0179	-0.3789	0.0413	-0.5125	0.0424
3	225	0.8577	0.5022	0.0032	-0.5681	0.0205	-0.6218	0.0459	-0.4728	0.0624
3	225	0.9178	0.6092	0.0031	-0.6236	0.0236	-0.9621	0.0518	-0.5223	0.0809
3	225	0.9729	0.6009	0.0033	-0.7698	0.0231	-1.2520	0.0564	-0.8737	0.0825

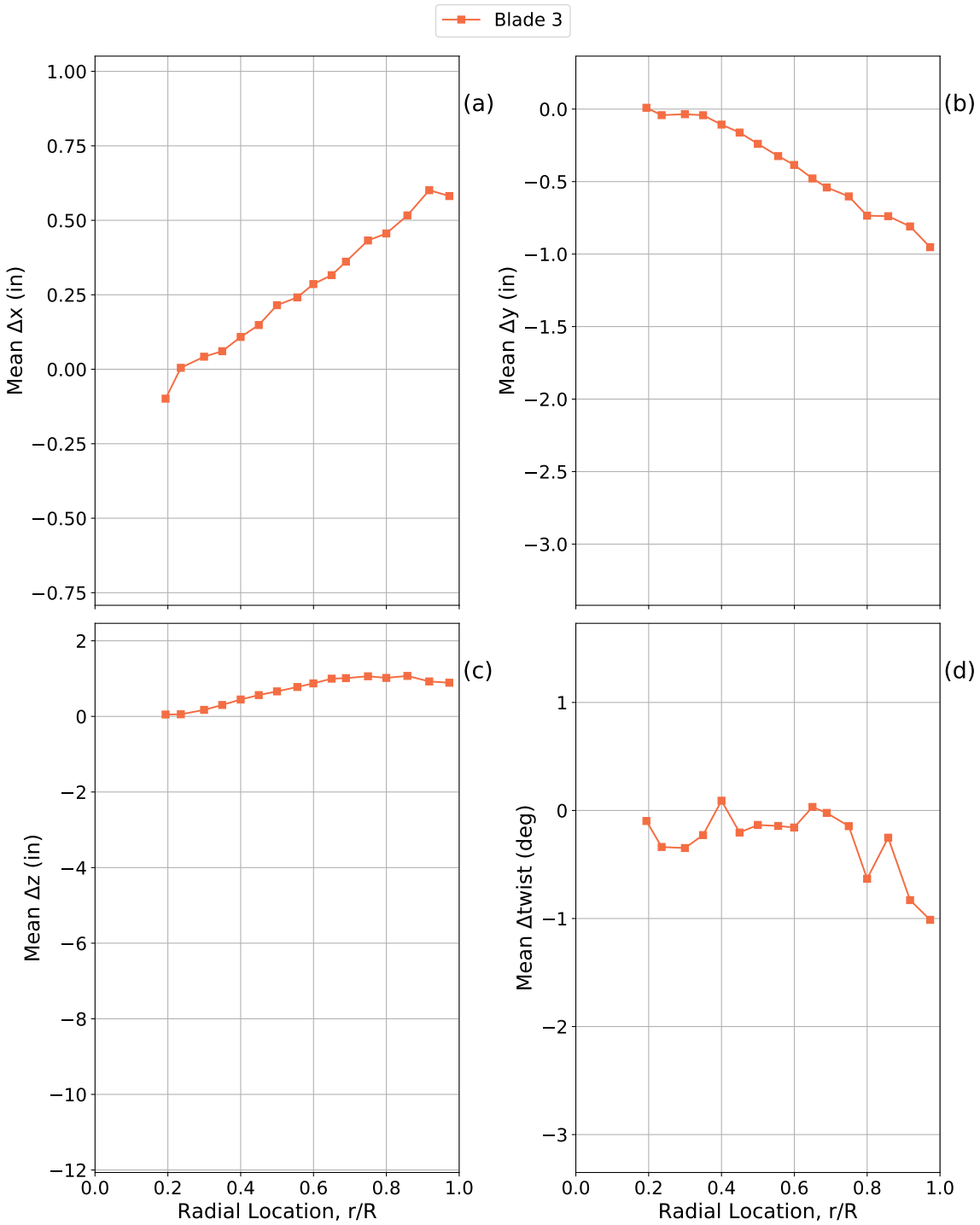


Figure 4.28-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0986	0.0013	0.0091	0.0009	0.0500	0.0022	-0.0975	0.0126
3	240.12	0.2357	0.0049	0.0007	-0.0418	0.0007	0.0556	0.0021	-0.3381	0.0359
3	240.12	0.2995	0.0422	0.0010	-0.0351	0.0024	0.1725	0.0062	-0.3476	0.0353
3	240.12	0.3493	0.0607	0.0008	-0.0423	0.0041	0.3021	0.0092	-0.2279	0.0365
3	240.12	0.4000	0.1085	0.0012	-0.1069	0.0059	0.4469	0.0139	0.0904	0.0367
3	240.12	0.4497	0.1485	0.0010	-0.1616	0.0077	0.5643	0.0181	-0.2042	0.0352
3	240.12	0.4997	0.2152	0.0016	-0.2395	0.0096	0.6622	0.0219	-0.1341	0.0302
3	240.12	0.5556	0.2413	0.0017	-0.3241	0.0120	0.7783	0.0268	-0.1433	0.0336
3	240.12	0.5995	0.2860	0.0019	-0.3850	0.0138	0.8733	0.0286	-0.1576	0.0379
3	240.12	0.6498	0.3159	0.0012	-0.4783	0.0162	0.9985	0.0345	0.0325	0.0378
3	240.12	0.6890	0.3611	0.0009	-0.5405	0.0177	1.0125	0.0351	-0.0225	0.0481
3	240.12	0.7495	0.4323	0.0025	-0.6022	0.0218	1.0621	0.0409	-0.1450	0.0425
3	240.12	0.7998	0.4558	0.0020	-0.7350	0.0238	1.0187	0.0467	-0.6324	0.0279
3	240.12	0.8577	0.5164	0.0023	-0.7385	0.0274	1.0710	0.0501	-0.2518	0.0508
3	240.12	0.9178	0.6011	0.0030	-0.8092	0.0314	0.9253	0.0558	-0.8297	0.0367
3	240.12	0.9729	0.5814	0.0033	-0.9520	0.0344	0.8910	0.0650	-1.0124	0.0457

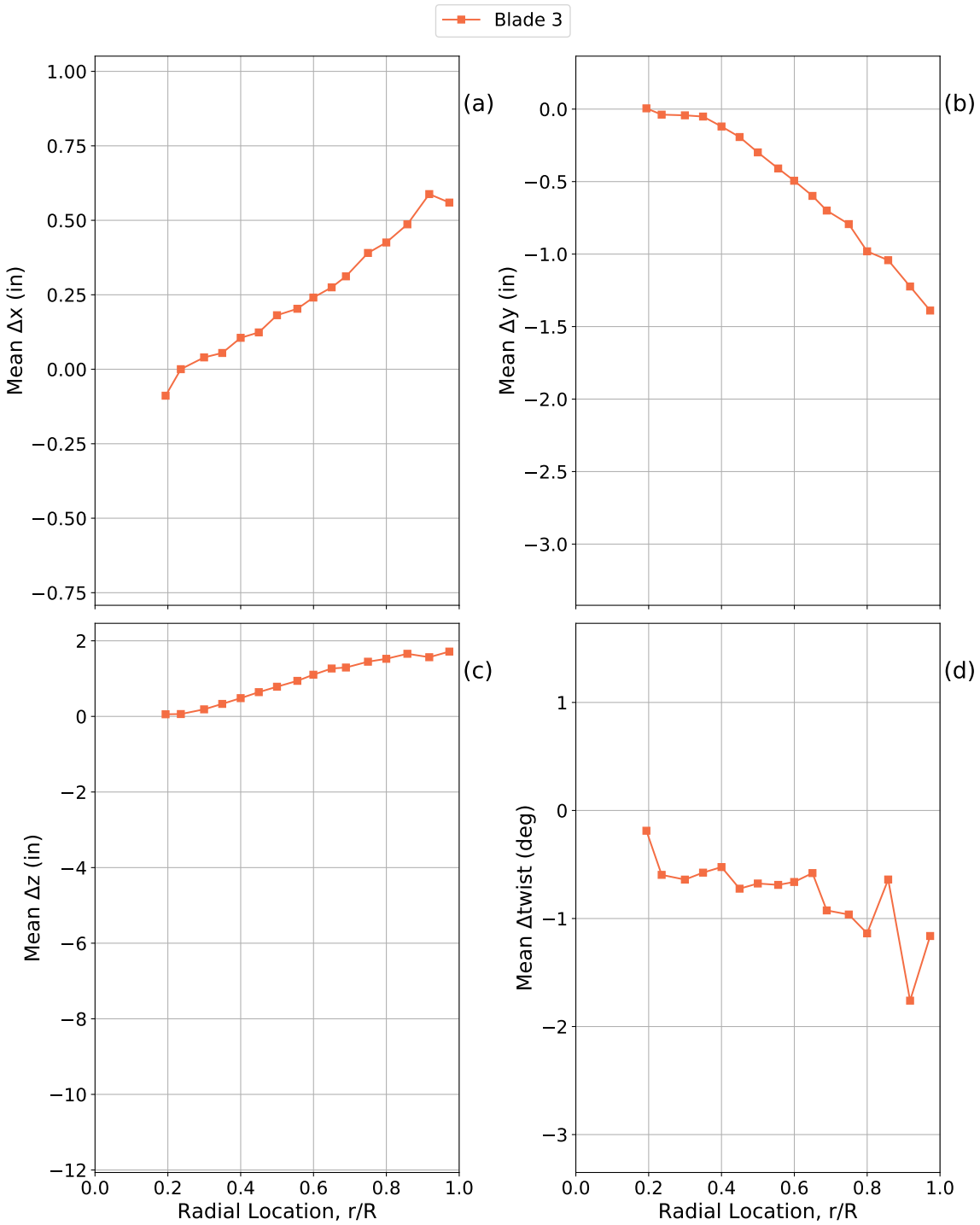


Figure 4.28-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0887	0.0032	0.0052	0.0016	0.0562	0.0061	-0.1876	0.0209
3	254.88	0.2357	0.0003	0.0012	-0.0382	0.0011	0.0623	0.0031	-0.5960	0.0780
3	254.88	0.2995	0.0398	0.0010	-0.0430	0.0038	0.1867	0.0147	-0.6399	0.0746
3	254.88	0.3493	0.0547	0.0011	-0.0514	0.0073	0.3307	0.0253	-0.5754	0.0676
3	254.88	0.4000	0.1056	0.0015	-0.1200	0.0098	0.4831	0.0343	-0.5237	0.0737
3	254.88	0.4497	0.1237	0.0014	-0.1927	0.0126	0.6417	0.0441	-0.7239	0.0767
3	254.88	0.4997	0.1814	0.0017	-0.2985	0.0159	0.7852	0.0542	-0.6760	0.0781
3	254.88	0.5556	0.2031	0.0016	-0.4095	0.0193	0.9406	0.0651	-0.6888	0.0778
3	254.88	0.5995	0.2407	0.0023	-0.4941	0.0226	1.1028	0.0734	-0.6619	0.0780
3	254.88	0.6498	0.2750	0.0022	-0.5987	0.0260	1.2676	0.0814	-0.5796	0.0831
3	254.88	0.6890	0.3119	0.0028	-0.6997	0.0285	1.2932	0.0889	-0.9251	0.0814
3	254.88	0.7495	0.3904	0.0028	-0.7931	0.0344	1.4474	0.1005	-0.9632	0.0771
3	254.88	0.7998	0.4256	0.0028	-0.9809	0.0375	1.5241	0.1097	-1.1374	0.0918
3	254.88	0.8577	0.4865	0.0036	-1.0421	0.0438	1.6567	0.1228	-0.6391	0.0719
3	254.88	0.9178	0.5880	0.0039	-1.2234	0.0493	1.5660	0.1320	-1.7602	0.0821
3	254.88	0.9729	0.5596	0.0056	-1.3893	0.0528	1.7149	0.1474	-1.1620	0.0920

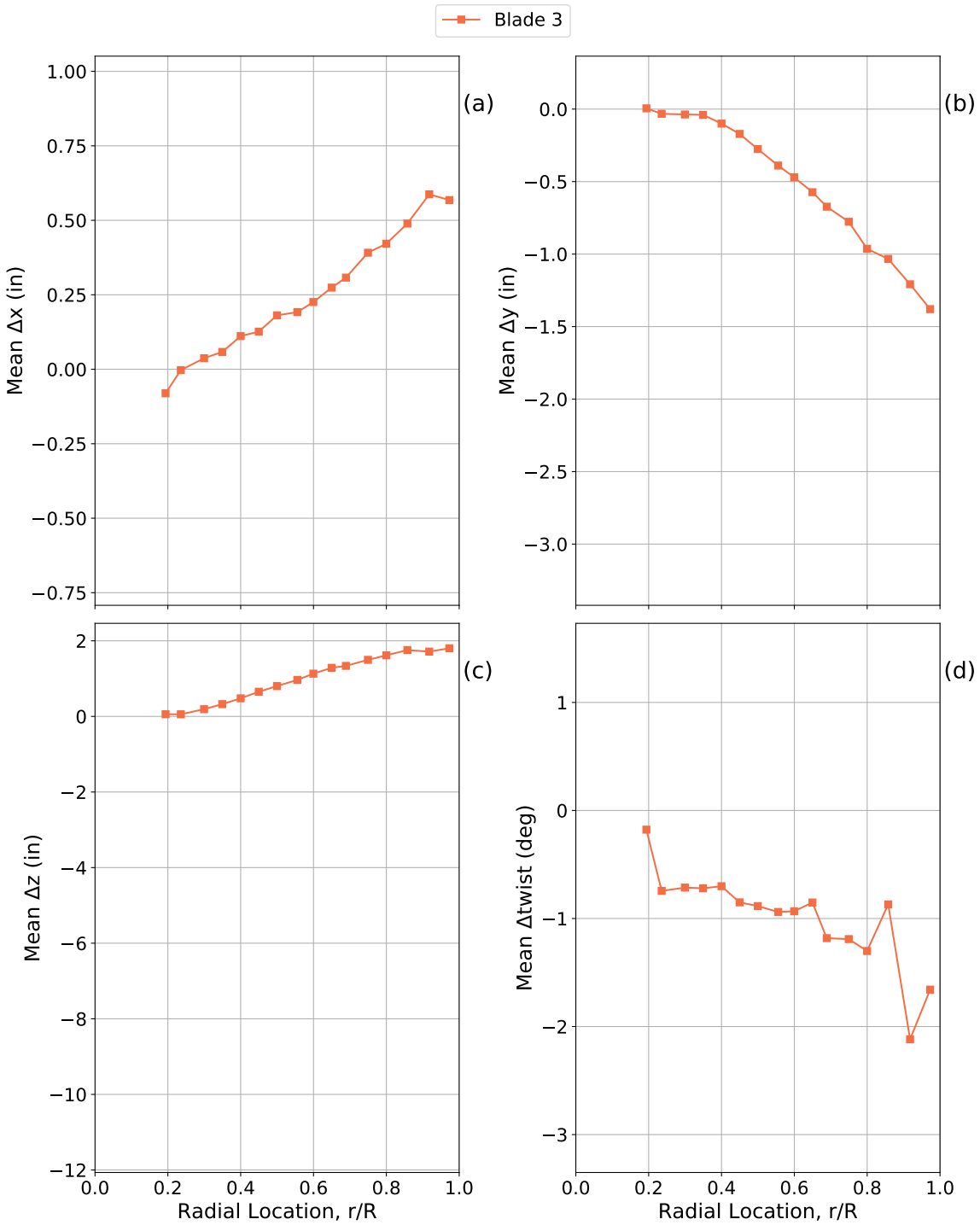


Figure 4.28-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0806	0.0082	0.0052	0.0024	0.0581	0.0102	-0.1776	0.0507
3	260.16	0.2357	-0.0029	0.0020	-0.0324	0.0014	0.0554	0.0064	-0.7445	0.1505
3	260.16	0.2995	0.0370	0.0019	-0.0370	0.0063	0.1905	0.0256	-0.7141	0.1627
3	260.16	0.3493	0.0581	0.0021	-0.0397	0.0113	0.3241	0.0436	-0.7203	0.1495
3	260.16	0.4000	0.1113	0.0025	-0.1000	0.0159	0.4783	0.0602	-0.7009	0.1561
3	260.16	0.4497	0.1263	0.0026	-0.1713	0.0206	0.6526	0.0789	-0.8504	0.1423
3	260.16	0.4997	0.1810	0.0030	-0.2754	0.0252	0.8018	0.0939	-0.8854	0.1502
3	260.16	0.5556	0.1918	0.0031	-0.3894	0.0300	0.9653	0.1129	-0.9392	0.1519
3	260.16	0.5995	0.2256	0.0034	-0.4705	0.0341	1.1308	0.1278	-0.9331	0.1489
3	260.16	0.6498	0.2741	0.0033	-0.5730	0.0383	1.2851	0.1451	-0.8520	0.1464
3	260.16	0.6890	0.3077	0.0038	-0.6730	0.0423	1.3368	0.1587	-1.1818	0.1482
3	260.16	0.7495	0.3913	0.0038	-0.7772	0.0467	1.4961	0.1814	-1.1906	0.1408
3	260.16	0.7998	0.4214	0.0045	-0.9636	0.0513	1.6156	0.1987	-1.3007	0.1447
3	260.16	0.8577	0.4891	0.0040	-1.0333	0.0556	1.7542	0.2186	-0.8693	0.1371
3	260.16	0.9178	0.5872	0.0050	-1.2081	0.0618	1.7140	0.2341	-2.1179	0.1753
3	260.16	0.9729	0.5680	0.0067	-1.3796	0.0666	1.8020	0.2549	-1.6587	0.1466

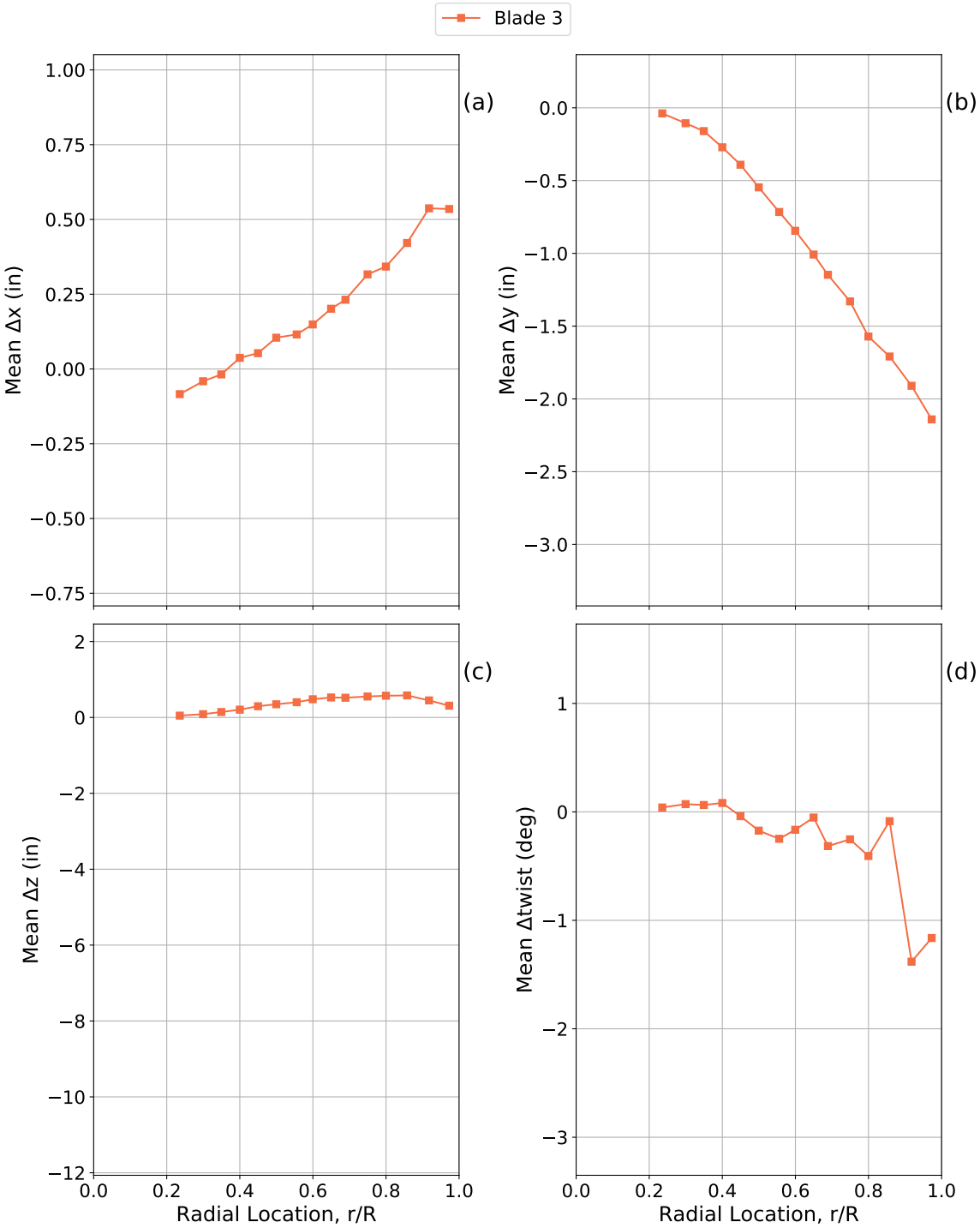


Figure 4.28-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.0841	0.0025	-0.0383	0.0015	0.0482	0.0084	0.0405	0.0835
3	265.08	0.2995	-0.0411	0.0020	-0.1060	0.0037	0.0862	0.0172	0.0715	0.1344
3	265.08	0.3493	-0.0182	0.0015	-0.1600	0.0063	0.1427	0.0310	0.0634	0.1199
3	265.08	0.4000	0.0373	0.0017	-0.2714	0.0100	0.2053	0.0464	0.0820	0.1192
3	265.08	0.4497	0.0528	0.0021	-0.3910	0.0117	0.2958	0.0586	-0.0401	0.1207
3	265.08	0.4997	0.1046	0.0020	-0.5466	0.0141	0.3470	0.0721	-0.1732	0.1123
3	265.08	0.5556	0.1156	0.0018	-0.7157	0.0176	0.4010	0.0872	-0.2483	0.1064
3	265.08	0.5995	0.1489	0.0015	-0.8450	0.0196	0.4796	0.0995	-0.1651	0.1108
3	265.08	0.6498	0.2014	0.0019	-1.0081	0.0221	0.5261	0.1149	-0.0521	0.1104
3	265.08	0.6890	0.2315	0.0017	-1.1475	0.0249	0.5205	0.1239	-0.3151	0.1212
3	265.08	0.7495	0.3164	0.0019	-1.3299	0.0277	0.5518	0.1418	-0.2532	0.1156
3	265.08	0.7998	0.3424	0.0021	-1.5716	0.0314	0.5726	0.1556	-0.4068	0.1197
3	265.08	0.8577	0.4213	0.0022	-1.7086	0.0356	0.5805	0.1728	-0.0855	0.1180
3	265.08	0.9178	0.5372	0.0037	-1.9098	0.0385	0.4488	0.1876	-1.3812	0.1217
3	265.08	0.9729	0.5349	0.0053	-2.1407	0.0424	0.3096	0.1999	-1.1631	0.1481

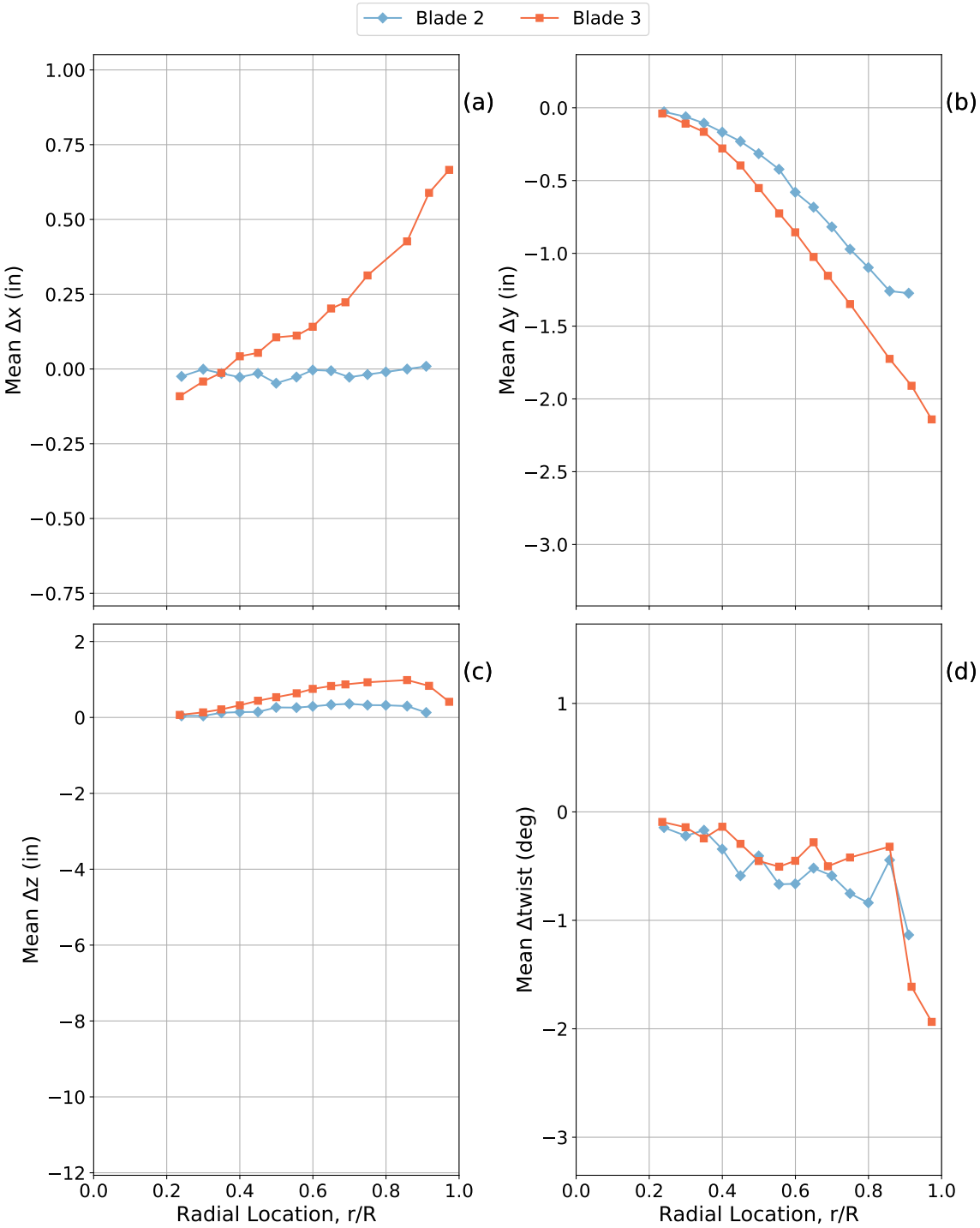


Figure 4.28-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2405	-0.0249	0.0053	-0.0276	0.0030	0.0414	0.0134	-0.1446	0.1681
2	270.35	0.2999	-0.0008	0.0020	-0.0615	0.0060	0.0409	0.0246	-0.2208	0.2599
2	270.35	0.3498	-0.0151	0.0024	-0.1059	0.0112	0.1231	0.0453	-0.1694	0.2515
2	270.35	0.3998	-0.0274	0.0013	-0.1674	0.0169	0.1410	0.0665	-0.3434	0.2526
2	270.35	0.4496	-0.0148	0.0020	-0.2307	0.0221	0.1454	0.0846	-0.5889	0.2613
2	270.35	0.4995	-0.0477	0.0018	-0.3151	0.0274	0.2640	0.1068	-0.4062	0.2566
2	270.35	0.5551	-0.0270	0.0021	-0.4221	0.0338	0.2593	0.1270	-0.6675	0.2700
2	270.35	0.5996	-0.0036	0.0021	-0.5801	0.0391	0.2917	0.1462	-0.6633	0.2630
2	270.35	0.6497	-0.0059	0.0023	-0.6828	0.0454	0.3362	0.1666	-0.5185	0.2586
2	270.35	0.6996	-0.0275	0.0019	-0.8181	0.0509	0.3596	0.1854	-0.5887	0.2693
2	270.35	0.7495	-0.0186	0.0033	-0.9716	0.0578	0.3255	0.2078	-0.7526	0.2564
2	270.35	0.7996	-0.0099	0.0025	-1.0975	0.0640	0.3207	0.2273	-0.8386	0.2651
2	270.35	0.8578	-0.0003	0.0027	-1.2592	0.0727	0.2991	0.2514	-0.4444	0.2584
2	270.35	0.9100	0.0089	0.0044	-1.2738	0.0777	0.1295	0.2680	-1.1347	0.3091
3	270	0.2357	-0.0912	0.0057	-0.0395	0.0025	0.0675	0.0137	-0.0926	0.1311
3	270	0.2995	-0.0419	0.0013	-0.1087	0.0056	0.1343	0.0259	-0.1418	0.2102
3	270	0.3493	-0.0129	0.0019	-0.1652	0.0102	0.2123	0.0477	-0.2447	0.1897
3	270	0.4000	0.0424	0.0020	-0.2792	0.0157	0.3204	0.0694	-0.1371	0.1832
3	270	0.4497	0.0540	0.0022	-0.3961	0.0194	0.4403	0.0883	-0.2948	0.1974
3	270	0.4997	0.1058	0.0021	-0.5513	0.0249	0.5335	0.1114	-0.4530	0.1843
3	270	0.5556	0.1116	0.0022	-0.7255	0.0300	0.6369	0.1340	-0.5053	0.1871
3	270	0.5995	0.1411	0.0028	-0.8553	0.0343	0.7527	0.1517	-0.4509	0.1880
3	270	0.6498	0.2022	0.0033	-1.0248	0.0380	0.8285	0.1722	-0.2805	0.1993
3	270	0.6890	0.2229	0.0032	-1.1541	0.0422	0.8708	0.1891	-0.5017	0.1950
3	270	0.7495	0.3128	0.0033	-1.3482	0.0490	0.9269	0.2148	-0.4205	0.1892
3	270	0.8577	0.4267	0.0049	-1.7249	0.0604	0.9850	0.2586	-0.3212	0.1952
3	270	0.9178	0.5889	0.0043	-1.9096	0.0645	0.8324	0.2894	-1.6124	0.1788
3	270	0.9729	0.6657	0.0056	-2.1408	0.0717	0.4122	0.3142	-1.9363	0.1774

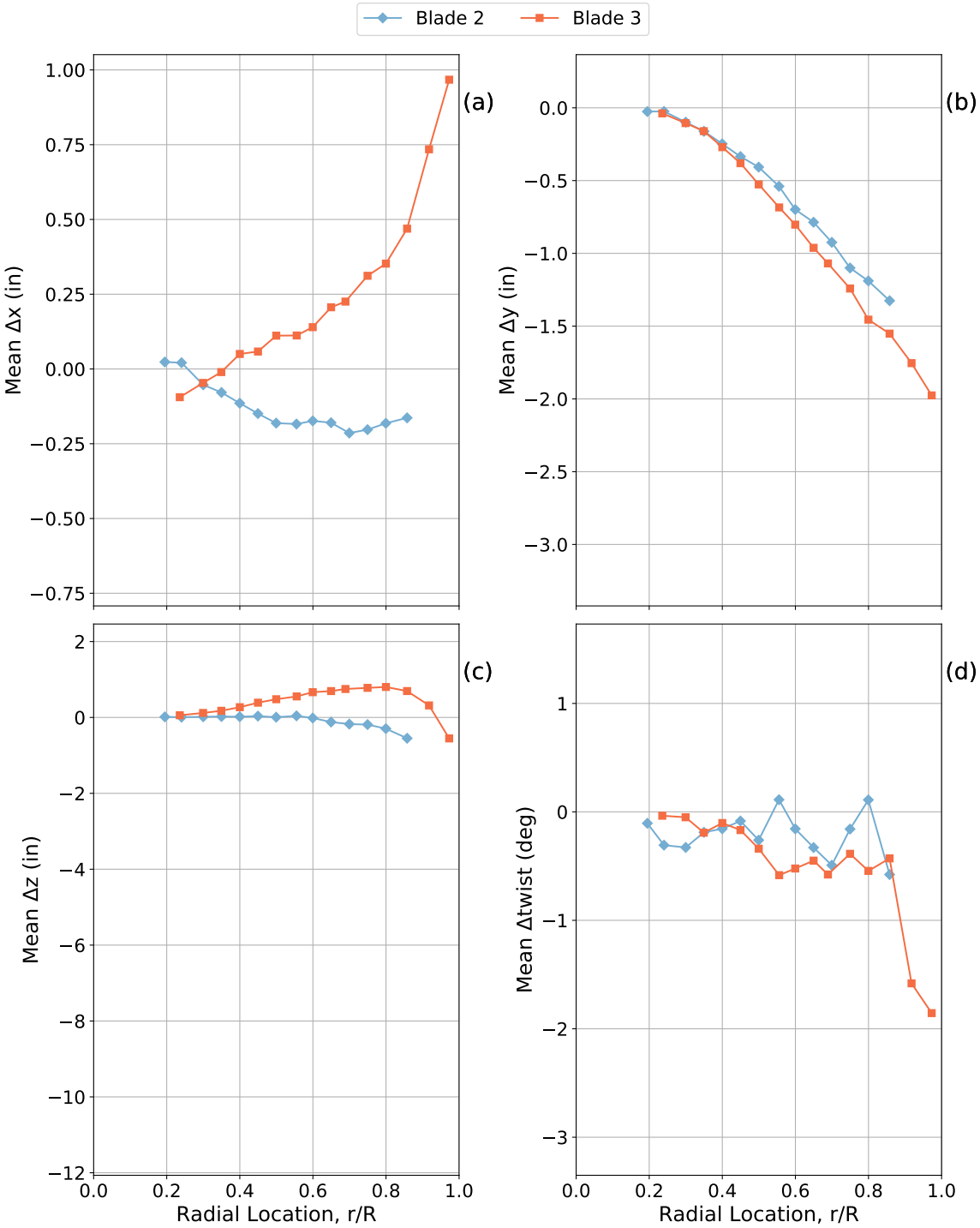


Figure 4.28-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0233	0.0011	-0.0257	0.0005	0.0147	0.0013	-0.1053	0.0173
2	274.92	0.2405	0.0209	0.0015	-0.0250	0.0016	0.0068	0.0036	-0.3069	0.0218
2	274.92	0.2999	-0.0530	0.0009	-0.0989	0.0025	0.0181	0.0051	-0.3282	0.0369
2	274.92	0.3498	-0.0786	0.0012	-0.1617	0.0045	0.0241	0.0093	-0.1882	0.0260
2	274.92	0.3998	-0.1144	0.0013	-0.2478	0.0071	0.0191	0.0143	-0.1560	0.0313
2	274.92	0.4496	-0.1491	0.0016	-0.3350	0.0082	0.0360	0.0161	-0.0843	0.0391
2	274.92	0.4995	-0.1811	0.0020	-0.4074	0.0101	0.0066	0.0205	-0.2605	0.0559
2	274.92	0.5551	-0.1840	0.0015	-0.5393	0.0118	0.0423	0.0231	0.1124	0.0590
2	274.92	0.5996	-0.1736	0.0024	-0.6989	0.0140	-0.0145	0.0313	-0.1564	0.0421
2	274.92	0.6497	-0.1797	0.0035	-0.7861	0.0164	-0.1212	0.0380	-0.3290	0.0673
2	274.92	0.6996	-0.2142	0.0023	-0.9243	0.0193	-0.1748	0.0459	-0.4918	0.0754
2	274.92	0.7495	-0.2029	0.0038	-1.1004	0.0214	-0.1879	0.0628	-0.1586	0.1257
2	274.92	0.7996	-0.1815	0.0067	-1.1894	0.0234	-0.2950	0.0543	0.1107	0.1698
2	274.92	0.8578	-0.1635	0.0069	-1.3254	0.0270	-0.5489	0.0733	-0.5780	0.1922
3	274.92	0.2357	-0.0944	0.0072	-0.0384	0.0026	0.0578	0.0192	-0.0355	0.1592
3	274.92	0.2995	-0.0466	0.0040	-0.1050	0.0051	0.1185	0.0365	-0.0496	0.2552
3	274.92	0.3493	-0.0103	0.0036	-0.1604	0.0105	0.1758	0.0679	-0.1917	0.2378
3	274.92	0.4000	0.0502	0.0023	-0.2705	0.0154	0.2704	0.0991	-0.1028	0.2418
3	274.92	0.4497	0.0584	0.0038	-0.3807	0.0206	0.3891	0.1294	-0.1680	0.2465
3	274.92	0.4997	0.1114	0.0040	-0.5264	0.0250	0.4800	0.1590	-0.3393	0.2433
3	274.92	0.5556	0.1120	0.0044	-0.6844	0.0313	0.5541	0.1926	-0.5836	0.2412
3	274.92	0.5995	0.1398	0.0041	-0.8026	0.0353	0.6656	0.2157	-0.5221	0.2634
3	274.92	0.6498	0.2063	0.0046	-0.9619	0.0407	0.6949	0.2533	-0.4496	0.2428
3	274.92	0.6890	0.2253	0.0046	-1.0690	0.0457	0.7497	0.2741	-0.5774	0.2560
3	274.92	0.7495	0.3116	0.0047	-1.2416	0.0526	0.7796	0.3144	-0.3867	0.2488
3	274.92	0.7998	0.3523	0.0054	-1.4554	0.0592	0.8032	0.3481	-0.5442	0.2497
3	274.92	0.8577	0.4692	0.0070	-1.5515	0.0637	0.6955	0.3854	-0.4287	0.2799
3	274.92	0.9178	0.7346	0.0097	-1.7543	0.0744	0.3174	0.4276	-1.5811	0.2691
3	274.92	0.9729	0.9673	0.0196	-1.9758	0.0839	-0.5527	0.5472	-1.8553	0.5108

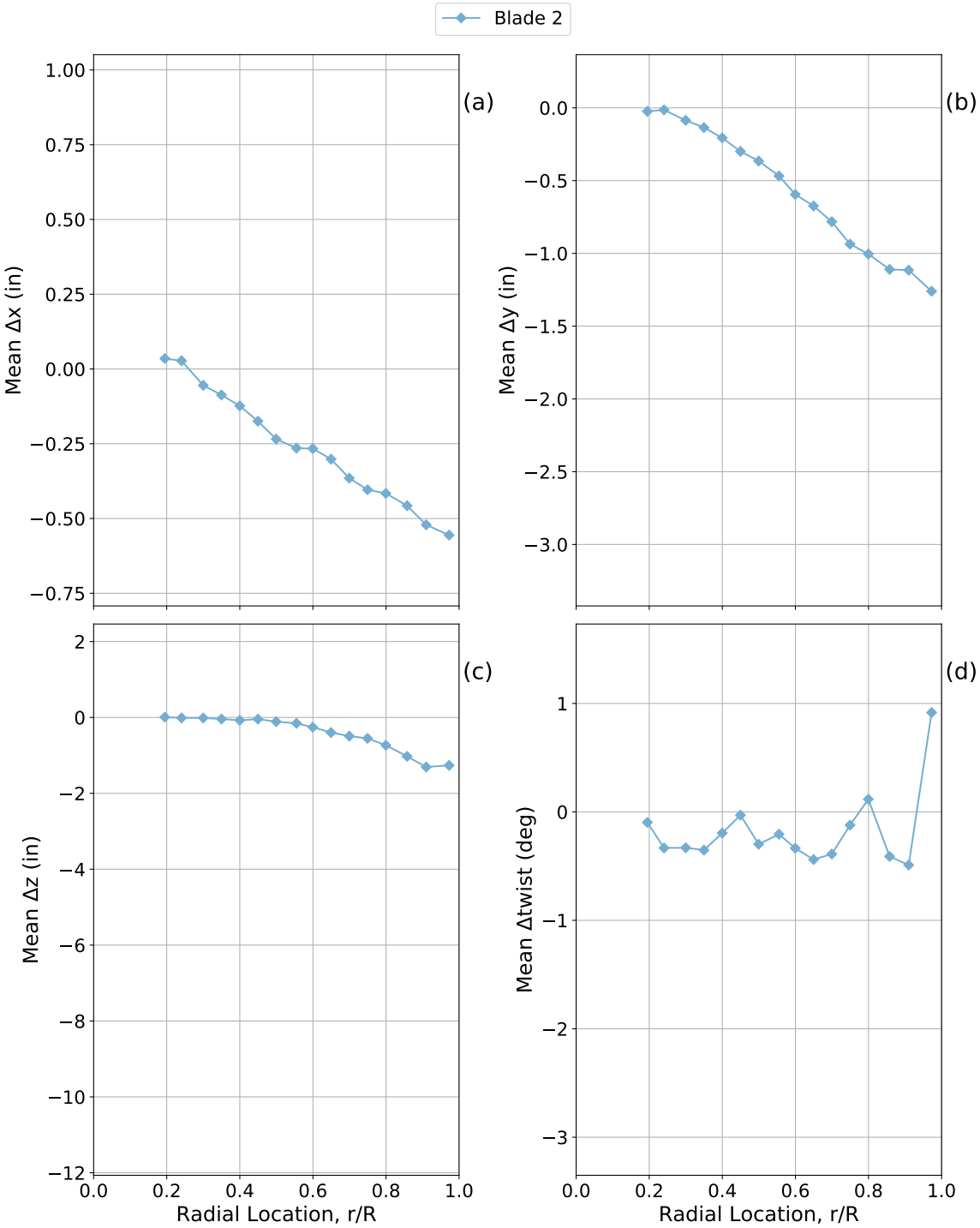


Figure 4.28-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0349	0.0016	-0.0244	0.0009	0.0075	0.0026	-0.0971	0.0147
2	285.12	0.2405	0.0274	0.0015	-0.0143	0.0014	-0.0122	0.0025	-0.3328	0.0411
2	285.12	0.2999	-0.0548	0.0011	-0.0864	0.0045	-0.0131	0.0072	-0.3308	0.0422
2	285.12	0.3498	-0.0869	0.0009	-0.1356	0.0053	-0.0411	0.0122	-0.3525	0.0441
2	285.12	0.3998	-0.1235	0.0012	-0.2064	0.0096	-0.0755	0.0170	-0.1956	0.0300
2	285.12	0.4496	-0.1746	0.0019	-0.2996	0.0114	-0.0439	0.0208	-0.0300	0.0465
2	285.12	0.4995	-0.2345	0.0016	-0.3656	0.0149	-0.1105	0.0248	-0.2982	0.0460
2	285.12	0.5551	-0.2646	0.0021	-0.4683	0.0180	-0.1550	0.0337	-0.2059	0.0560
2	285.12	0.5996	-0.2663	0.0021	-0.5952	0.0206	-0.2565	0.0362	-0.3354	0.0393
2	285.12	0.6497	-0.3017	0.0030	-0.6743	0.0249	-0.3989	0.0437	-0.4394	0.0470
2	285.12	0.6996	-0.3651	0.0022	-0.7826	0.0277	-0.4917	0.0399	-0.3885	0.0810
2	285.12	0.7495	-0.4038	0.0056	-0.9365	0.0321	-0.5513	0.0519	-0.1221	0.0737
2	285.12	0.7996	-0.4161	0.0035	-1.0045	0.0356	-0.7323	0.0556	0.1167	0.0611
2	285.12	0.8578	-0.4573	0.0052	-1.1102	0.0398	-1.0258	0.0598	-0.4106	0.0864
2	285.12	0.9100	-0.5211	0.0046	-1.1155	0.0465	-1.3066	0.0745	-0.4904	0.1102
2	285.12	0.9727	-0.5556	0.0188	-1.2604	0.0640	-1.2624	0.1400	0.9162	0.4545

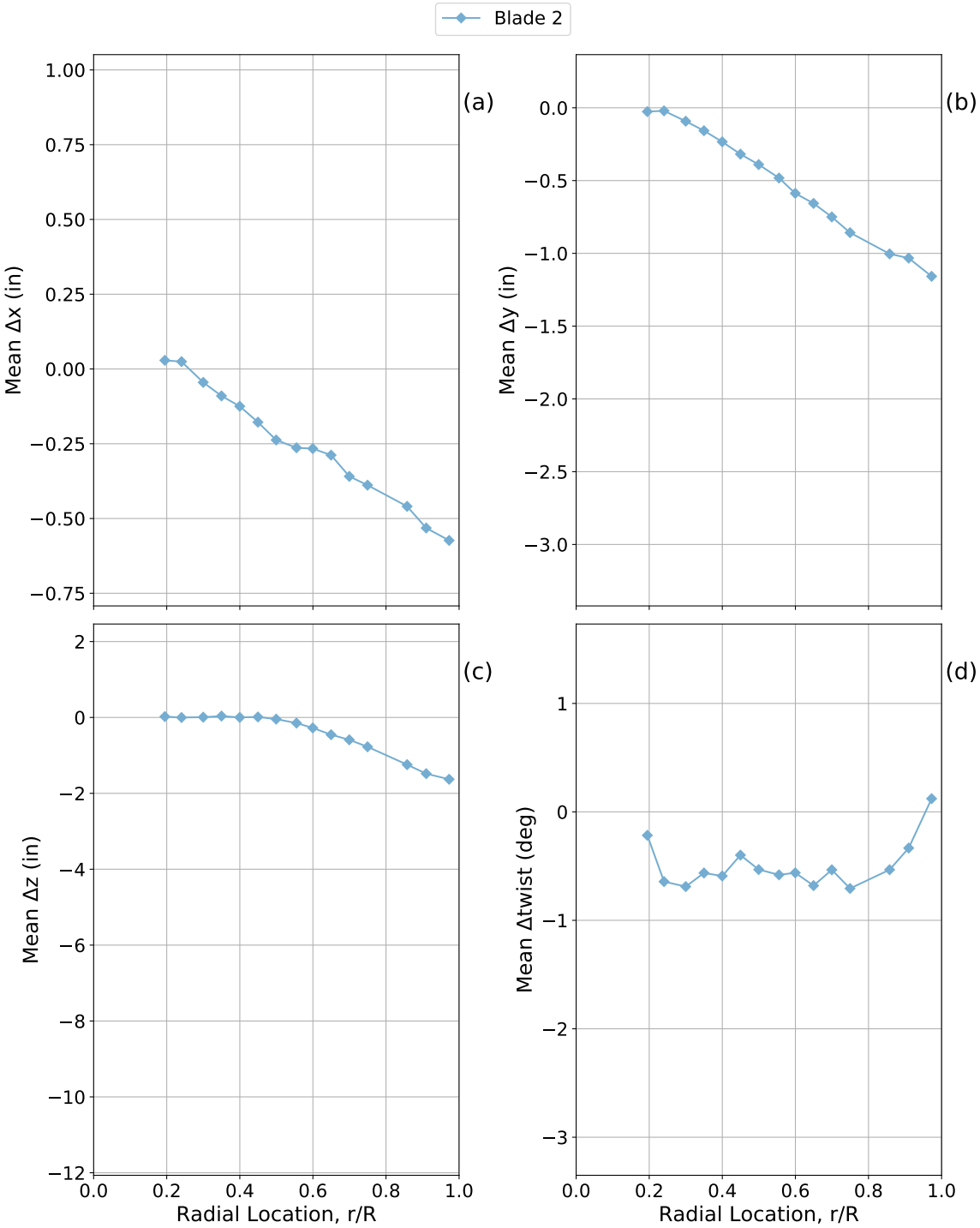


Figure 4.28-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0288	0.0008	-0.0260	0.0004	0.0224	0.0018	-0.2164	0.0200
2	299.88	0.2405	0.0246	0.0011	-0.0209	0.0017	-0.0017	0.0053	-0.6429	0.0242
2	299.88	0.2999	-0.0448	0.0007	-0.0923	0.0027	0.0071	0.0097	-0.6890	0.0425
2	299.88	0.3498	-0.0901	0.0008	-0.1574	0.0042	0.0369	0.0139	-0.5633	0.0318
2	299.88	0.3998	-0.1247	0.0025	-0.2336	0.0074	0.0011	0.0239	-0.5913	0.0344
2	299.88	0.4496	-0.1779	0.0017	-0.3184	0.0077	0.0130	0.0258	-0.3987	0.0334
2	299.88	0.4995	-0.2375	0.0015	-0.3899	0.0089	-0.0441	0.0336	-0.5319	0.0251
2	299.88	0.5551	-0.2635	0.0017	-0.4822	0.0102	-0.1478	0.0423	-0.5805	0.0374
2	299.88	0.5996	-0.2663	0.0016	-0.5877	0.0119	-0.2760	0.0495	-0.5618	0.0410
2	299.88	0.6497	-0.2881	0.0019	-0.6567	0.0131	-0.4544	0.0585	-0.6799	0.0399
2	299.88	0.6996	-0.3592	0.0012	-0.7498	0.0155	-0.5891	0.0686	-0.5342	0.0330
2	299.88	0.7495	-0.3885	0.0015	-0.8577	0.0181	-0.7740	0.0802	-0.7063	0.0367
2	299.88	0.8578	-0.4594	0.0015	-1.0036	0.0226	-1.2436	0.1087	-0.5334	0.0375
2	299.88	0.9100	-0.5318	0.0019	-1.0326	0.0262	-1.4822	0.1286	-0.3337	0.0479
2	299.88	0.9727	-0.5733	0.0038	-1.1579	0.0296	-1.6295	0.1543	0.1218	0.0470

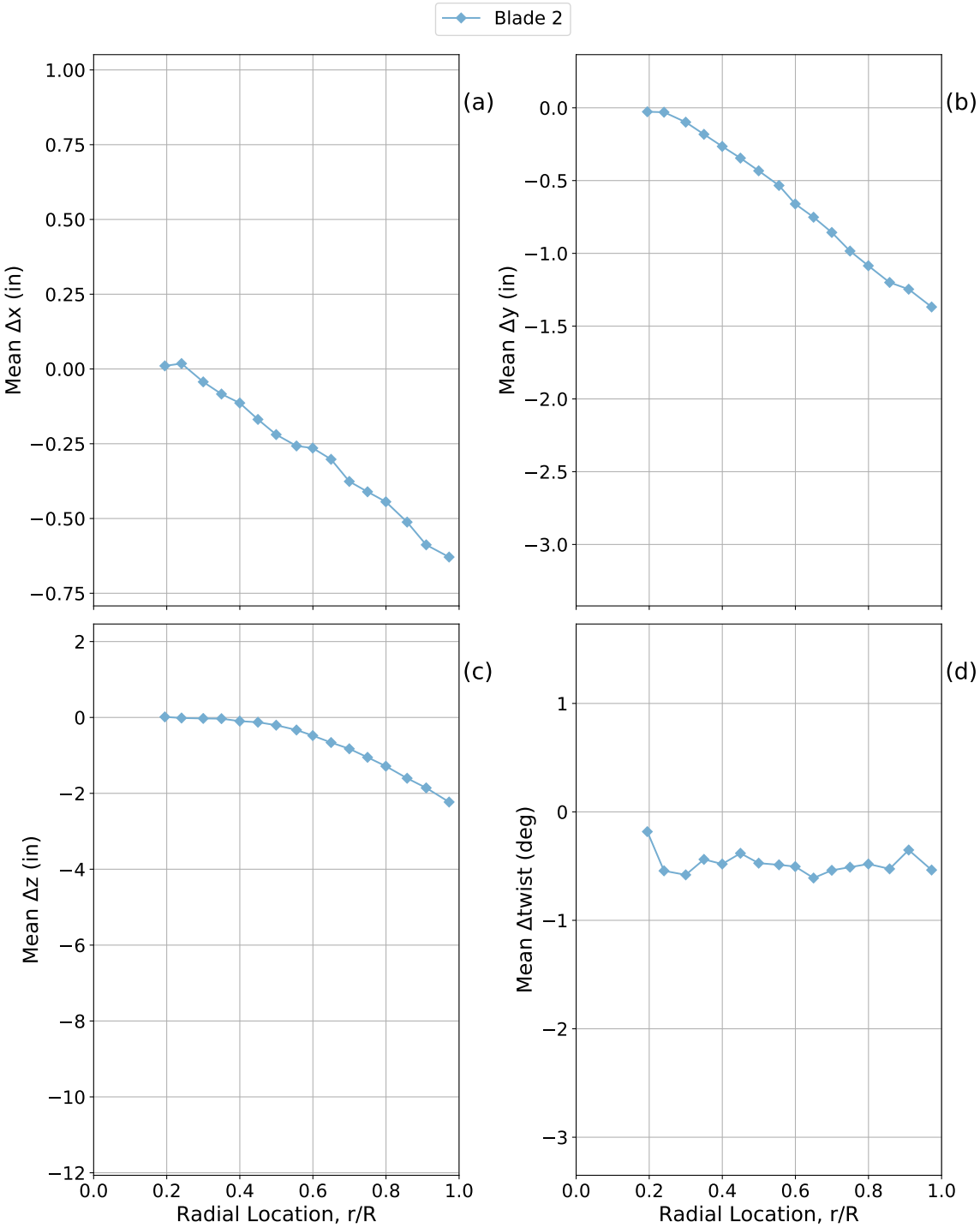


Figure 4.28-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0104	0.0010	-0.0272	0.0006	0.0140	0.0017	-0.1823	0.0243
2	315	0.2405	0.0181	0.0009	-0.0303	0.0005	-0.0147	0.0051	-0.5437	0.0306
2	315	0.2999	-0.0432	0.0014	-0.0987	0.0018	-0.0261	0.0073	-0.5807	0.0513
2	315	0.3498	-0.0838	0.0010	-0.1822	0.0034	-0.0319	0.0126	-0.4381	0.0412
2	315	0.3998	-0.1138	0.0019	-0.2653	0.0046	-0.0975	0.0201	-0.4809	0.0418
2	315	0.4496	-0.1687	0.0018	-0.3456	0.0054	-0.1259	0.0219	-0.3818	0.0500
2	315	0.4995	-0.2194	0.0019	-0.4328	0.0069	-0.2043	0.0248	-0.4728	0.0578
2	315	0.5551	-0.2574	0.0018	-0.5337	0.0087	-0.3304	0.0324	-0.4881	0.0474
2	315	0.5996	-0.2645	0.0013	-0.6607	0.0103	-0.4783	0.0371	-0.5043	0.0489
2	315	0.6497	-0.3021	0.0013	-0.7517	0.0130	-0.6614	0.0442	-0.6099	0.0437
2	315	0.6996	-0.3761	0.0012	-0.8565	0.0155	-0.8259	0.0494	-0.5387	0.0407
2	315	0.7495	-0.4106	0.0016	-0.9842	0.0182	-1.0509	0.0532	-0.5099	0.0507
2	315	0.7996	-0.4441	0.0019	-1.0852	0.0213	-1.2848	0.0592	-0.4806	0.0473
2	315	0.8578	-0.5120	0.0021	-1.1999	0.0244	-1.6026	0.0649	-0.5256	0.0424
2	315	0.9100	-0.5881	0.0024	-1.2465	0.0277	-1.8567	0.0689	-0.3515	0.0435
2	315	0.9727	-0.6289	0.0036	-1.3683	0.0313	-2.2290	0.0738	-0.5360	0.0488

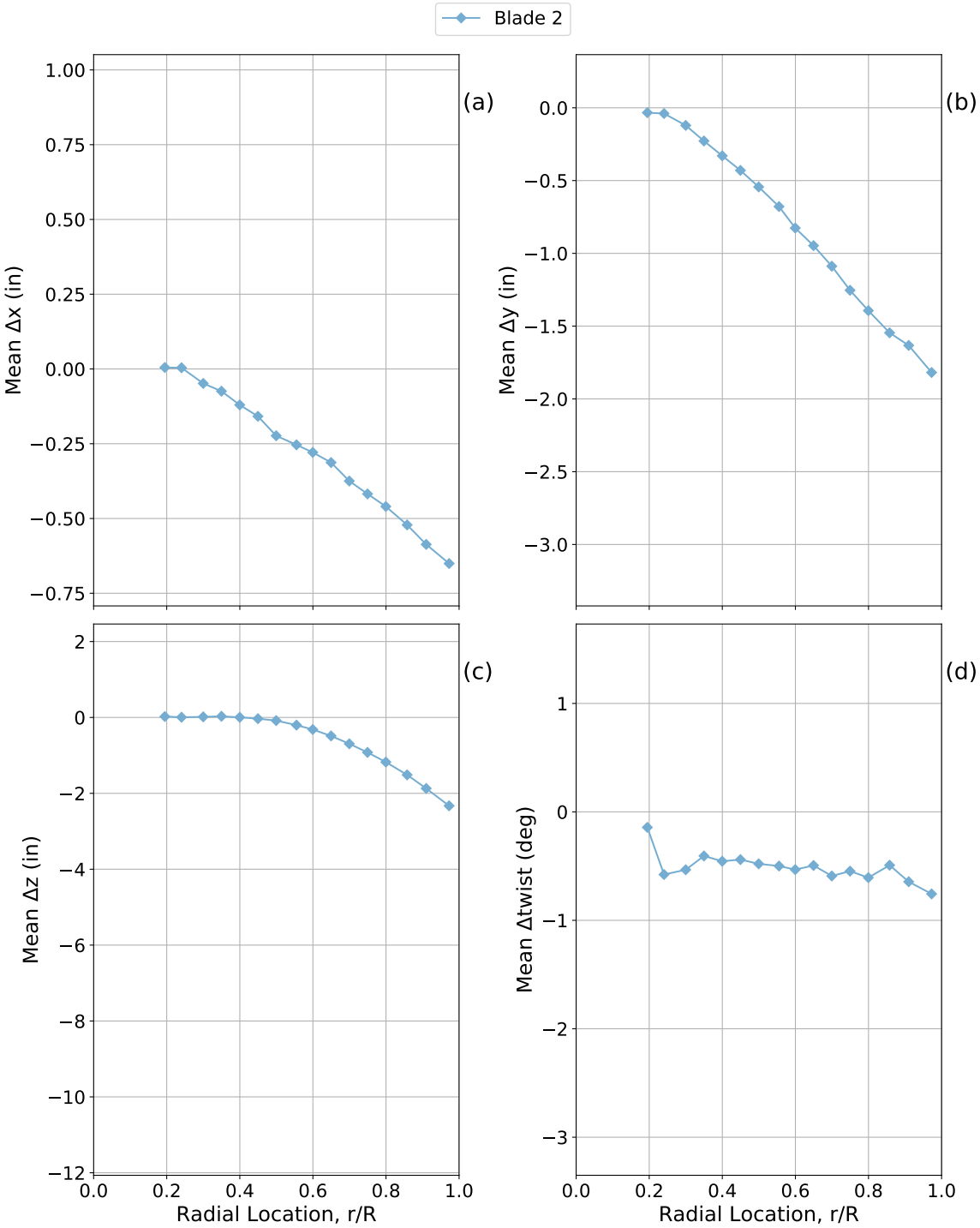


Figure 4.28-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0049	0.0016	-0.0334	0.0005	0.0239	0.0019	-0.1428	0.0149
2	330.12	0.2405	0.0041	0.0011	-0.0393	0.0017	0.0054	0.0034	-0.5777	0.0223
2	330.12	0.2999	-0.0483	0.0012	-0.1209	0.0030	0.0158	0.0067	-0.5337	0.0334
2	330.12	0.3498	-0.0743	0.0012	-0.2280	0.0039	0.0301	0.0119	-0.4064	0.0257
2	330.12	0.3998	-0.1202	0.0014	-0.3298	0.0072	0.0030	0.0176	-0.4552	0.0278
2	330.12	0.4496	-0.1583	0.0022	-0.4301	0.0071	-0.0325	0.0166	-0.4401	0.0454
2	330.12	0.4995	-0.2233	0.0019	-0.5436	0.0091	-0.0830	0.0231	-0.4789	0.0308
2	330.12	0.5551	-0.2536	0.0024	-0.6783	0.0099	-0.2021	0.0261	-0.4993	0.0336
2	330.12	0.5996	-0.2790	0.0021	-0.8260	0.0119	-0.3176	0.0304	-0.5323	0.0267
2	330.12	0.6497	-0.3128	0.0022	-0.9471	0.0128	-0.4874	0.0316	-0.4941	0.0347
2	330.12	0.6996	-0.3747	0.0020	-1.0882	0.0142	-0.6942	0.0335	-0.5911	0.0296
2	330.12	0.7495	-0.4178	0.0027	-1.2537	0.0166	-0.9214	0.0387	-0.5466	0.0272
2	330.12	0.7996	-0.4598	0.0026	-1.3934	0.0195	-1.1760	0.0409	-0.6065	0.0303
2	330.12	0.8578	-0.5214	0.0032	-1.5458	0.0220	-1.5134	0.0459	-0.4918	0.0231
2	330.12	0.9100	-0.5866	0.0025	-1.6326	0.0249	-1.8708	0.0510	-0.6441	0.0231
2	330.12	0.9727	-0.6505	0.0041	-1.8185	0.0287	-2.3284	0.0557	-0.7563	0.0240

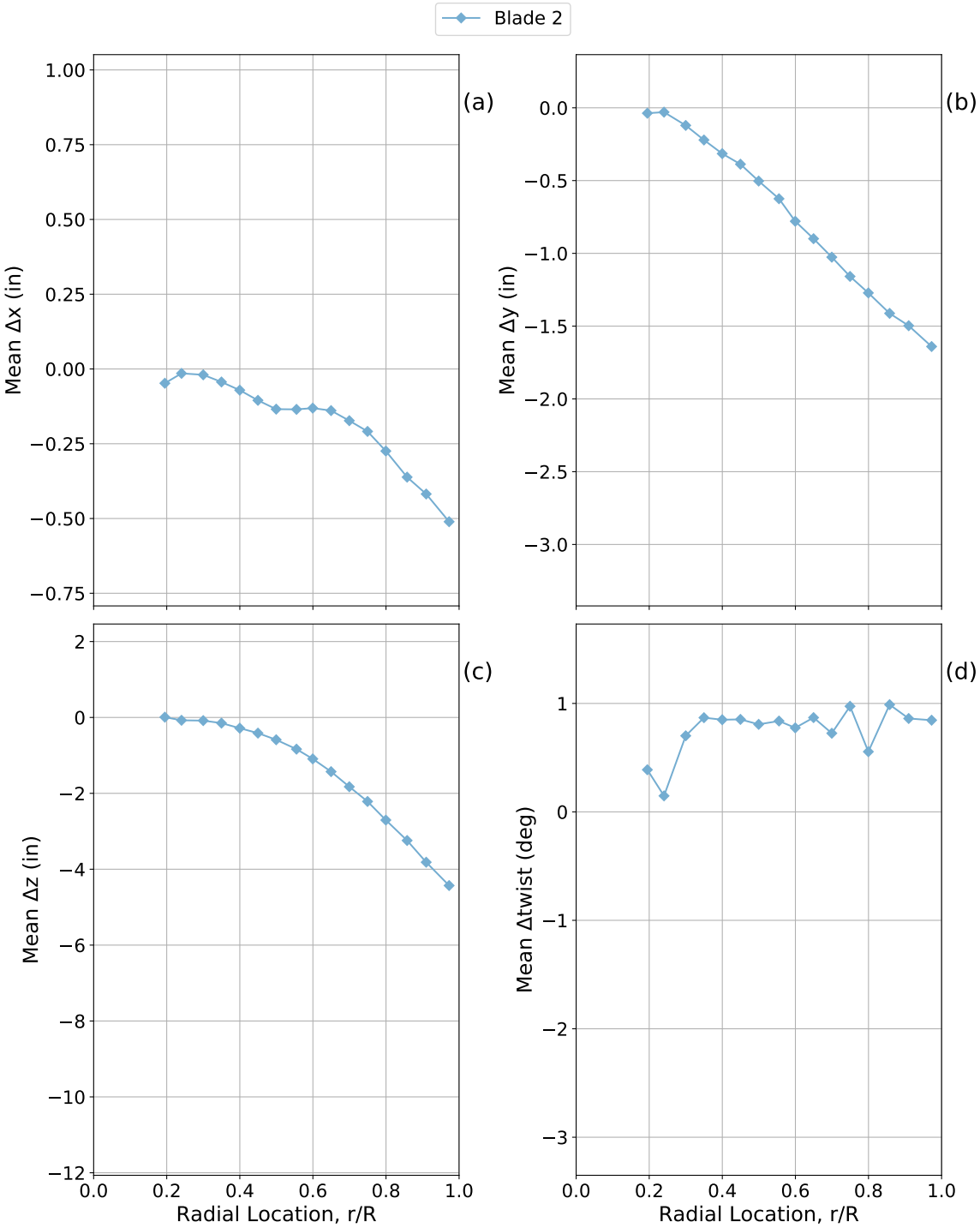


Figure 4.28-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.051$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0477	0.0021	-0.0372	0.0010	0.0072	0.0031	0.3884	0.0301
2	344.88	0.2405	-0.0147	0.0013	-0.0298	0.0020	-0.0752	0.0057	0.1476	0.0555
2	344.88	0.2999	-0.0195	0.0008	-0.1210	0.0037	-0.0833	0.0104	0.7016	0.0734
2	344.88	0.3498	-0.0435	0.0012	-0.2211	0.0072	-0.1495	0.0179	0.8686	0.0676
2	344.88	0.3998	-0.0709	0.0019	-0.3149	0.0105	-0.2827	0.0268	0.8497	0.0686
2	344.88	0.4496	-0.1049	0.0050	-0.3875	0.0145	-0.4130	0.0347	0.8528	0.0645
2	344.88	0.4995	-0.1344	0.0018	-0.5032	0.0179	-0.5879	0.0421	0.8071	0.0661
2	344.88	0.5551	-0.1351	0.0025	-0.6248	0.0220	-0.8357	0.0475	0.8379	0.0879
2	344.88	0.5996	-0.1309	0.0028	-0.7796	0.0260	-1.0923	0.0566	0.7749	0.0595
2	344.88	0.6497	-0.1392	0.0034	-0.8993	0.0301	-1.4283	0.0651	0.8694	0.0593
2	344.88	0.6996	-0.1729	0.0029	-1.0262	0.0352	-1.8263	0.0698	0.7250	0.0832
2	344.88	0.7495	-0.2088	0.0053	-1.1585	0.0378	-2.2147	0.0794	0.9738	0.0825
2	344.88	0.7996	-0.2744	0.0064	-1.2718	0.0448	-2.7050	0.0849	0.5550	0.1206
2	344.88	0.8578	-0.3617	0.0052	-1.4123	0.0518	-3.2430	0.0863	0.9888	0.0678
2	344.88	0.9100	-0.4181	0.0050	-1.4971	0.0567	-3.8153	0.0924	0.8611	0.0669
2	344.88	0.9727	-0.5107	0.0051	-1.6401	0.0626	-4.4300	0.1019	0.8453	0.0733

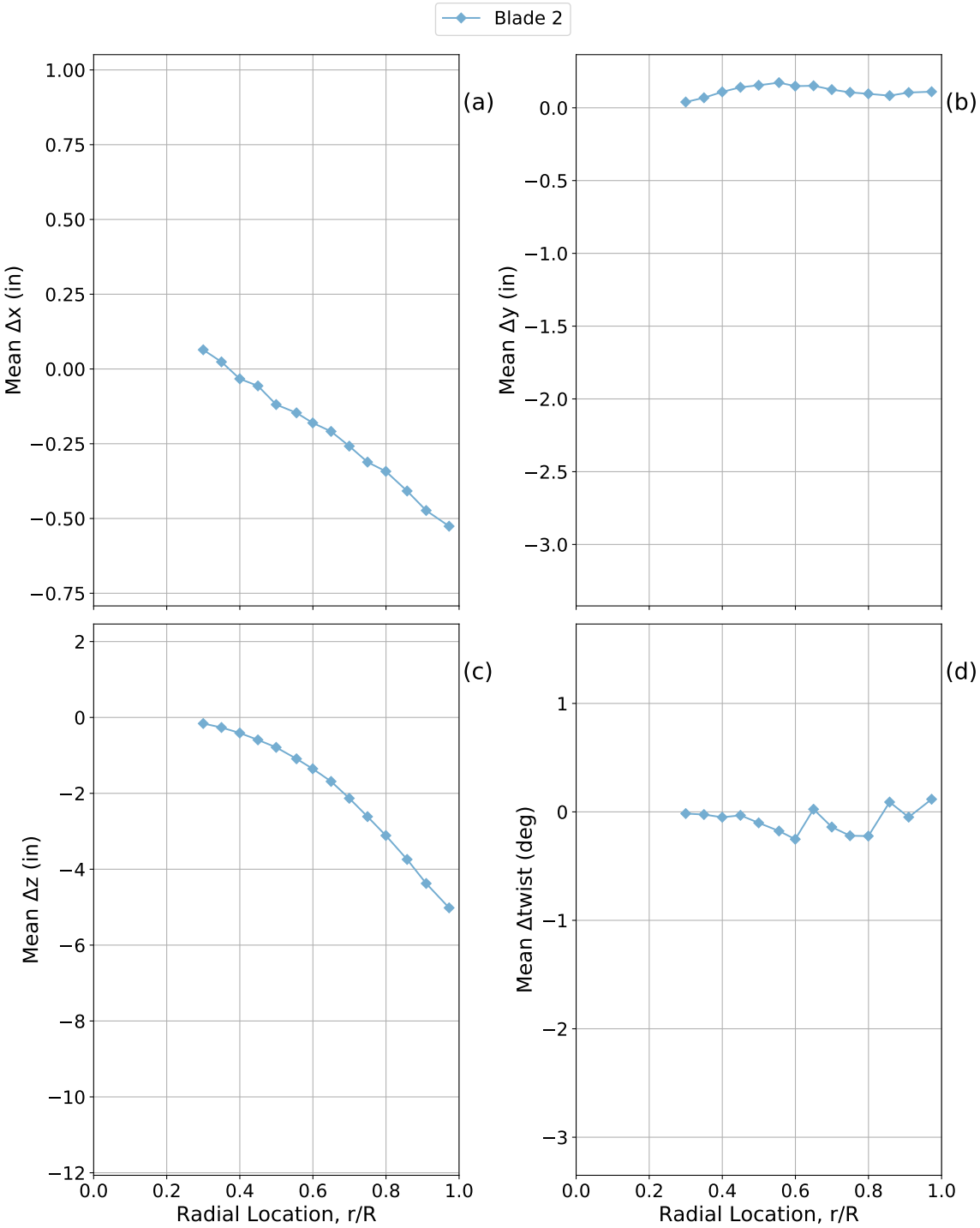


Figure 4.28-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.2999	0.0641	0.0042	0.0398	0.0087	-0.1597	0.0121	-0.0155	0.0558
2	350.16	0.3498	0.0237	0.0051	0.0689	0.0150	-0.2650	0.0214	-0.0245	0.0739
2	350.16	0.3998	-0.0329	0.0047	0.1094	0.0237	-0.4098	0.0345	-0.0497	0.0824
2	350.16	0.4496	-0.0566	0.0044	0.1409	0.0313	-0.5913	0.0497	-0.0321	0.0702
2	350.16	0.4995	-0.1190	0.0051	0.1547	0.0390	-0.7886	0.0630	-0.1012	0.0625
2	350.16	0.5551	-0.1467	0.0049	0.1729	0.0479	-1.0900	0.0796	-0.1764	0.0699
2	350.16	0.5996	-0.1804	0.0051	0.1489	0.0551	-1.3531	0.0931	-0.2521	0.0622
2	350.16	0.6497	-0.2088	0.0056	0.1513	0.0625	-1.6868	0.1056	0.0243	0.0814
2	350.16	0.6996	-0.2581	0.0054	0.1251	0.0708	-2.1314	0.1235	-0.1398	0.0496
2	350.16	0.7495	-0.3114	0.0058	0.1060	0.0790	-2.6140	0.1356	-0.2200	0.0663
2	350.16	0.7996	-0.3424	0.0067	0.0961	0.0873	-3.1126	0.1497	-0.2232	0.0635
2	350.16	0.8578	-0.4080	0.0074	0.0834	0.0972	-3.7421	0.1643	0.0903	0.0870
2	350.16	0.9100	-0.4733	0.0066	0.1049	0.1056	-4.3755	0.1803	-0.0487	0.0793
2	350.16	0.9727	-0.5258	0.0094	0.1106	0.1163	-5.0178	0.2001	0.1165	0.0727

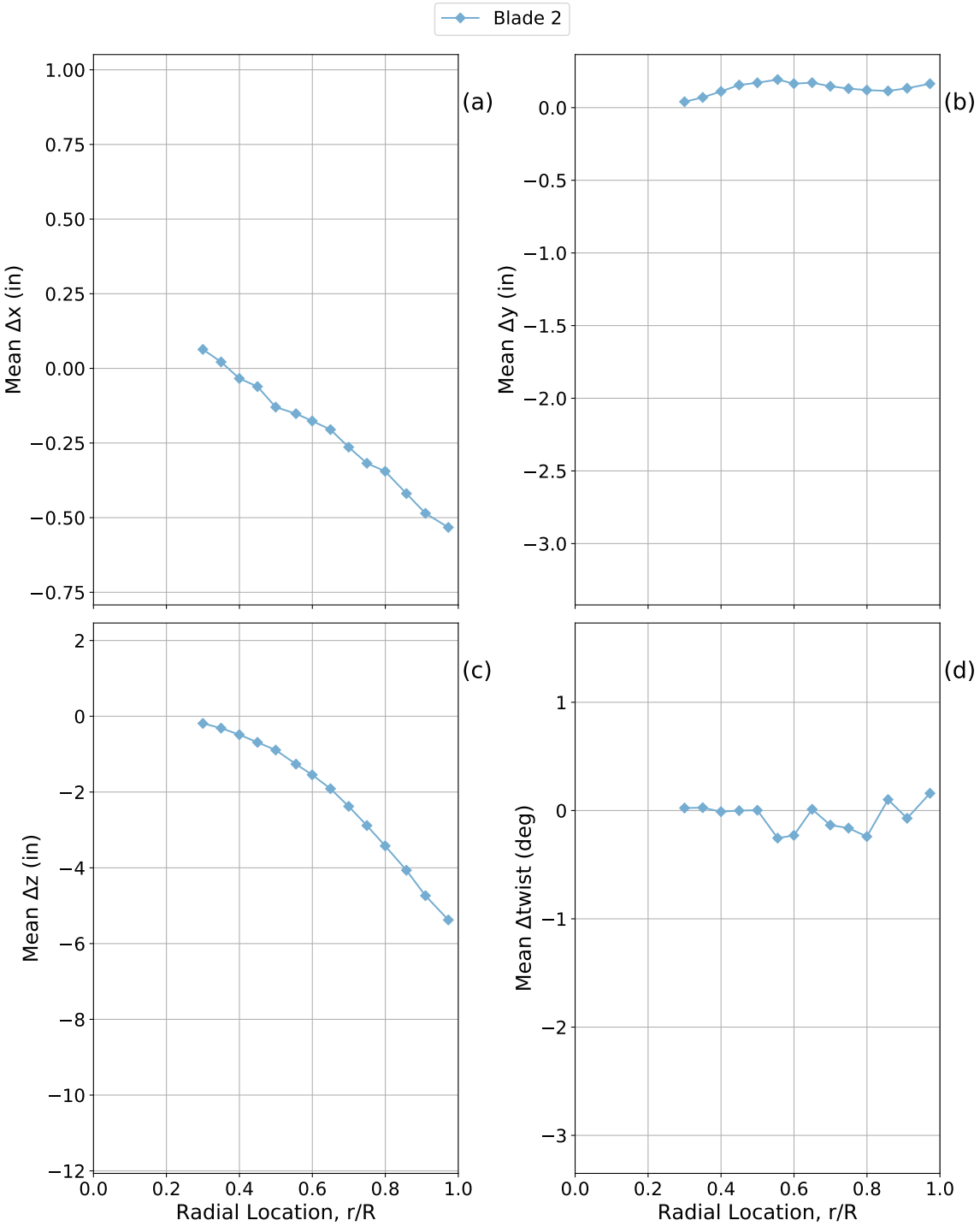


Figure 4.28-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.051, μ = 0.15, α = -0° NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Table 4.28-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.051, μ = 0.15, α = -0°
NFAC run 83, point 77. BD run 39, points 6057 to 6067.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.2999	0.0635	0.0059	0.0404	0.0081	-0.1885	0.0326	0.0233	0.1178
2	355.08	0.3498	0.0215	0.0072	0.0701	0.0139	-0.3135	0.0568	0.0264	0.1561
2	355.08	0.3998	-0.0338	0.0069	0.1114	0.0219	-0.4856	0.0906	-0.0102	0.1473
2	355.08	0.4496	-0.0610	0.0068	0.1557	0.0282	-0.6884	0.1225	-0.0007	0.1427
2	355.08	0.4995	-0.1298	0.0082	0.1710	0.0357	-0.8918	0.1508	0.0031	0.1461
2	355.08	0.5551	-0.1518	0.0081	0.1931	0.0436	-1.2633	0.1846	-0.2548	0.1570
2	355.08	0.5996	-0.1762	0.0089	0.1650	0.0503	-1.5464	0.2101	-0.2294	0.1503
2	355.08	0.6497	-0.2051	0.0096	0.1716	0.0573	-1.9122	0.2393	0.0117	0.1506
2	355.08	0.6996	-0.2640	0.0105	0.1470	0.0648	-2.3782	0.2692	-0.1344	0.1536
2	355.08	0.7495	-0.3178	0.0104	0.1310	0.0717	-2.8849	0.3013	-0.1623	0.1481
2	355.08	0.7996	-0.3447	0.0113	0.1206	0.0793	-3.4219	0.3296	-0.2404	0.1574
2	355.08	0.8578	-0.4193	0.0130	0.1148	0.0871	-4.0647	0.3661	0.1014	0.1479
2	355.08	0.9100	-0.4855	0.0129	0.1334	0.0959	-4.7363	0.3959	-0.0716	0.1556
2	355.08	0.9727	-0.5326	0.0153	0.1643	0.1049	-5.3754	0.4320	0.1593	0.1610

4.29 Run 85, Point 15

4.29.1 Pitch, Flap, and Lag

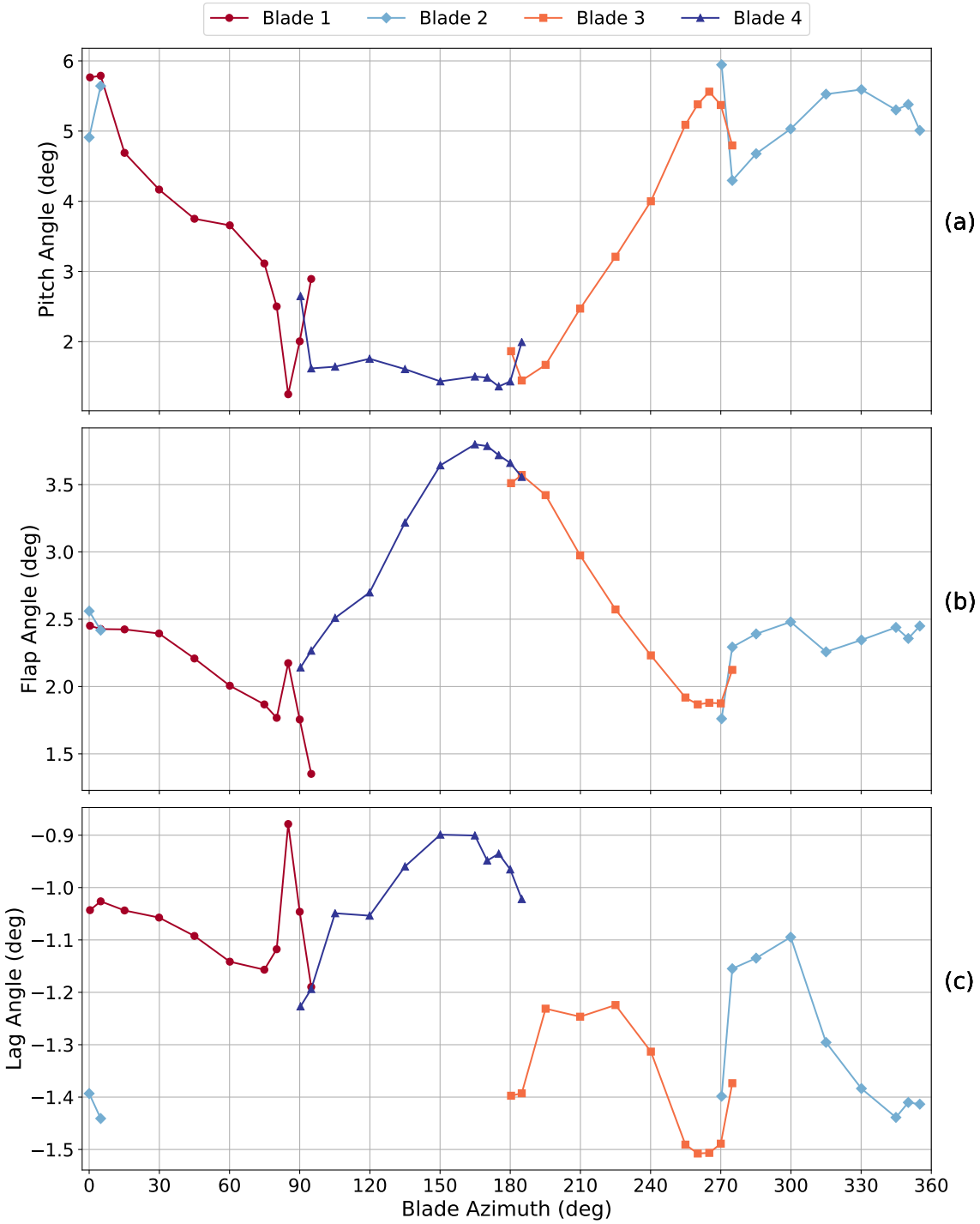


Figure 4.29-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.9102	2.5602	-1.3932	0.0588	0.0291	0.0225
0.35	1	5.7653	2.4515	-1.0431	0.0644	0.0298	0.0250
4.92	1	5.7884	2.4268	-1.0263	0.0924	0.0439	0.0244
4.92	2	5.6431	2.4183	-1.4409	0.1113	0.0502	0.0283
15.12	1	4.6900	2.4243	-1.0437	0.0297	0.0246	0.0193
29.88	1	4.1671	2.3937	-1.0573	0.0256	0.0315	0.0194
45	1	3.7508	2.2082	-1.0924	0.0357	0.0116	0.0171
60.12	1	3.6575	2.0061	-1.1415	0.0527	0.0182	0.0151
74.88	1	3.1139	1.8671	-1.1568	0.2010	0.0773	0.0282
80.16	1	2.5016	1.7675	-1.1177	0.1556	0.0663	0.0391
85.08	1	1.2510	2.1736	-0.8787	0.1173	0.0500	0.0278
90	1	2.0052	1.7550	-1.0462	0.0730	0.0376	0.0230
90.35	4	2.6483	2.1414	-1.2269	0.0851	0.0547	0.0224
94.92	1	2.8931	1.3513	-1.1897	0.1231	0.0546	0.0325
94.92	4	1.6191	2.2660	-1.1937	0.0396	0.0226	0.0181
105.12	4	1.6434	2.5093	-1.0490	0.0255	0.0173	0.0294
119.88	4	1.7563	2.6987	-1.0537	0.0178	0.0144	0.0151
135	4	1.6086	3.2173	-0.9598	0.0196	0.0239	0.0169
150.12	4	1.4344	3.6427	-0.8990	0.0258	0.0304	0.0148
164.88	4	1.5033	3.7983	-0.9006	0.0215	0.0334	0.0149
170.16	4	1.4875	3.7858	-0.9485	0.0162	0.0140	0.0103
175.08	4	1.3622	3.7181	-0.9354	0.0239	0.0179	0.0122
180	4	1.4335	3.6606	-0.9654	0.0266	0.0212	0.0175
180.35	3	1.8643	3.5103	-1.3974	0.0225	0.0286	0.0238
184.92	3	1.4468	3.5713	-1.3927	0.0395	0.0222	0.0245
184.92	4	1.9944	3.5565	-1.0220	0.0261	0.0213	0.0333
195.12	3	1.6694	3.4216	-1.2312	0.0267	0.0253	0.0189
209.88	3	2.4713	2.9740	-1.2465	0.0250	0.0213	0.0227
225	3	3.2104	2.5724	-1.2243	0.0212	0.0284	0.0128
240.12	3	4.0005	2.2312	-1.3132	0.0327	0.0233	0.0260
254.88	3	5.0893	1.9183	-1.4907	0.0562	0.0287	0.0275
260.16	3	5.3817	1.8673	-1.5077	0.0537	0.0268	0.0207
265.08	3	5.5617	1.8790	-1.5065	0.1081	0.0470	0.0181
270	3	5.3714	1.8748	-1.4889	0.1101	0.0502	0.0467
270.35	2	5.9451	1.7610	-1.3984	0.1313	0.0386	0.0185
274.92	2	4.2966	2.2932	-1.1549	0.0472	0.0173	0.0096
274.92	3	4.7959	2.1236	-1.3735	0.0292	0.0239	0.0110
285.12	2	4.6780	2.3907	-1.1347	0.0312	0.0306	0.0168
299.88	2	5.0309	2.4800	-1.0946	0.0414	0.0216	0.0236
315	2	5.5262	2.2577	-1.2956	0.0455	0.0376	0.0184
330.12	2	5.5921	2.3456	-1.3837	0.0402	0.0155	0.0182
344.88	2	5.3018	2.4390	-1.4388	0.0405	0.0321	0.0193
350.16	2	5.3795	2.3570	-1.4102	0.0417	0.0265	0.0153
355.08	2	5.0090	2.4492	-1.4135	0.0818	0.0215	0.0181

4.29.2 Spanwise Elastic Deformations

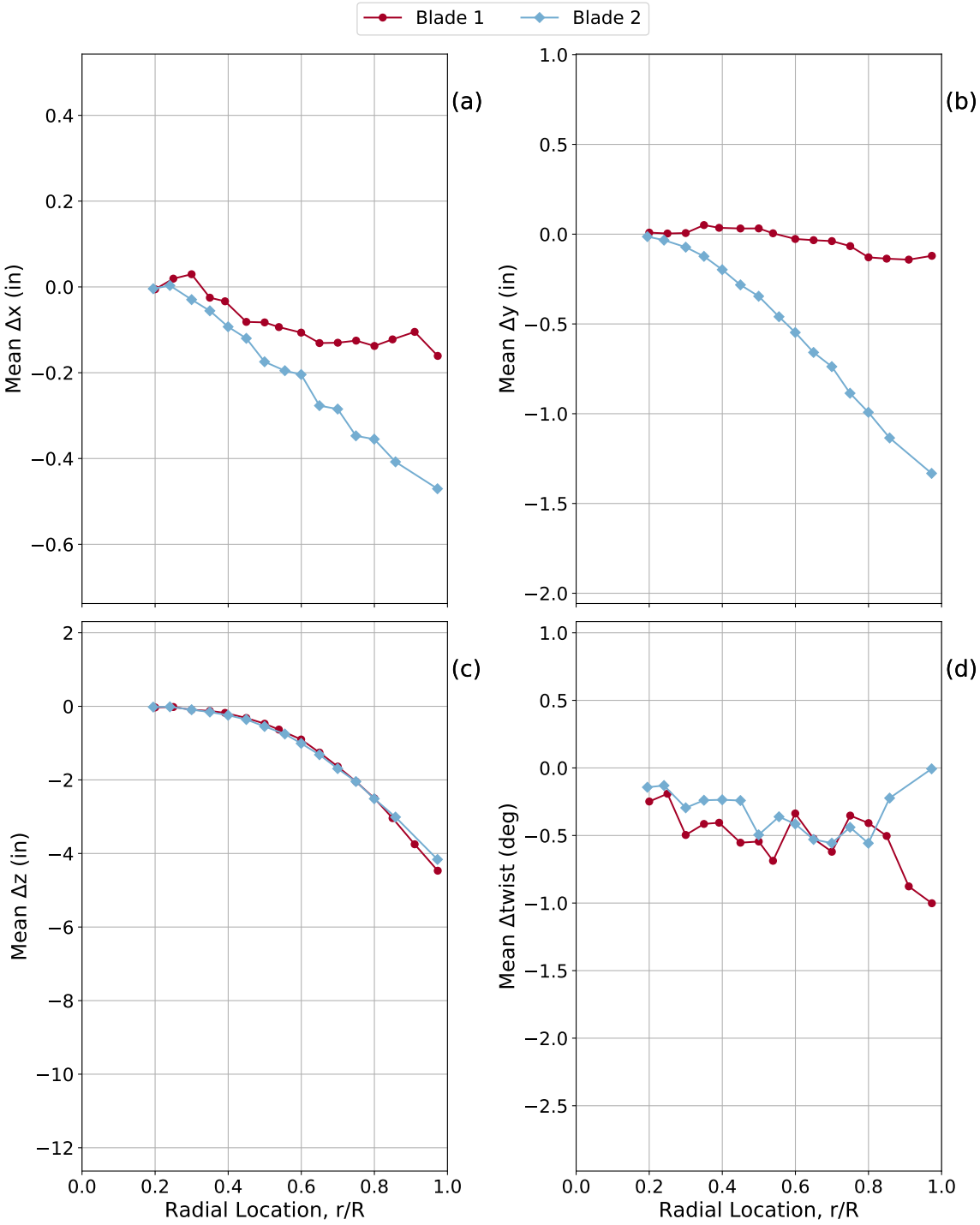


Figure 4.29-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	-0.0054	0.0025	0.0085	0.0009	-0.0298	0.0034	-0.2485	0.0253
1	0.35	0.2499	0.0193	0.0011	0.0037	0.0025	-0.0187	0.0038	-0.1910	0.0627
1	0.35	0.2998	0.0296	0.0016	0.0062	0.0044	-0.0936	0.0125	-0.4961	0.0626
1	0.35	0.3498	-0.0251	0.0017	0.0506	0.0062	-0.1247	0.0157	-0.4146	0.0792
1	0.35	0.3913	-0.0335	0.0028	0.0353	0.0101	-0.1784	0.0239	-0.4055	0.0693
1	0.35	0.4496	-0.0815	0.0043	0.0316	0.0141	-0.3173	0.0308	-0.5533	0.0698
1	0.35	0.4997	-0.0827	0.0057	0.0320	0.0147	-0.4723	0.0346	-0.5446	0.0844
1	0.35	0.5387	-0.0936	0.0074	0.0049	0.0196	-0.6319	0.0419	-0.6874	0.0650
1	0.35	0.5996	-0.1065	0.0100	-0.0268	0.0235	-0.9019	0.0466	-0.3370	0.0747
1	0.35	0.6498	-0.1309	0.0113	-0.0335	0.0266	-1.2565	0.0483	-0.5243	0.0864
1	0.35	0.6998	-0.1301	0.0134	-0.0387	0.0332	-1.6378	0.0624	-0.6203	0.0646
1	0.35	0.7500	-0.1252	0.0174	-0.0666	0.0361	-2.0476	0.0619	-0.3526	0.0639
1	0.35	0.8001	-0.1376	0.0179	-0.1291	0.0404	-2.5015	0.0659	-0.4083	0.0856
1	0.35	0.8497	-0.1223	0.0203	-0.1365	0.0436	-3.0393	0.0709	-0.5035	0.0735
1	0.35	0.9102	-0.1048	0.0203	-0.1419	0.0521	-3.7501	0.0753	-0.8767	0.1192
1	0.35	0.9734	-0.1608	0.0249	-0.1206	0.0525	-4.4685	0.0833	-1.0015	0.0728
2	0	0.1949	-0.0042	0.0048	-0.0136	0.0023	-0.0201	0.0035	-0.1431	0.0305
2	0	0.2405	0.0033	0.0010	-0.0334	0.0019	-0.0138	0.0057	-0.1303	0.0558
2	0	0.2999	-0.0296	0.0010	-0.0725	0.0070	-0.0920	0.0117	-0.2952	0.0735
2	0	0.3498	-0.0557	0.0015	-0.1236	0.0124	-0.1551	0.0217	-0.2392	0.0499
2	0	0.3998	-0.0929	0.0018	-0.1979	0.0175	-0.2430	0.0311	-0.2357	0.0501
2	0	0.4496	-0.1199	0.0015	-0.2825	0.0235	-0.3589	0.0412	-0.2412	0.0449
2	0	0.4995	-0.1745	0.0016	-0.3459	0.0271	-0.5474	0.0472	-0.4951	0.0653
2	0	0.5551	-0.1953	0.0018	-0.4599	0.0313	-0.7530	0.0600	-0.3613	0.0637
2	0	0.5996	-0.2042	0.0020	-0.5476	0.0379	-1.0080	0.0695	-0.4148	0.0498
2	0	0.6497	-0.2768	0.0019	-0.6587	0.0408	-1.3156	0.0766	-0.5292	0.0622
2	0	0.6996	-0.2847	0.0017	-0.7377	0.0480	-1.6933	0.0864	-0.5568	0.0819
2	0	0.7495	-0.3472	0.0024	-0.8860	0.0518	-2.0449	0.0952	-0.4394	0.0693
2	0	0.7996	-0.3549	0.0028	-0.9922	0.0582	-2.5119	0.1024	-0.5574	0.0744
2	0	0.8578	-0.4078	0.0032	-1.1349	0.0680	-3.0110	0.1147	-0.2233	0.0735
2	0	0.9727	-0.4705	0.0055	-1.3324	0.0752	-4.1624	0.1223	-0.0067	0.1462

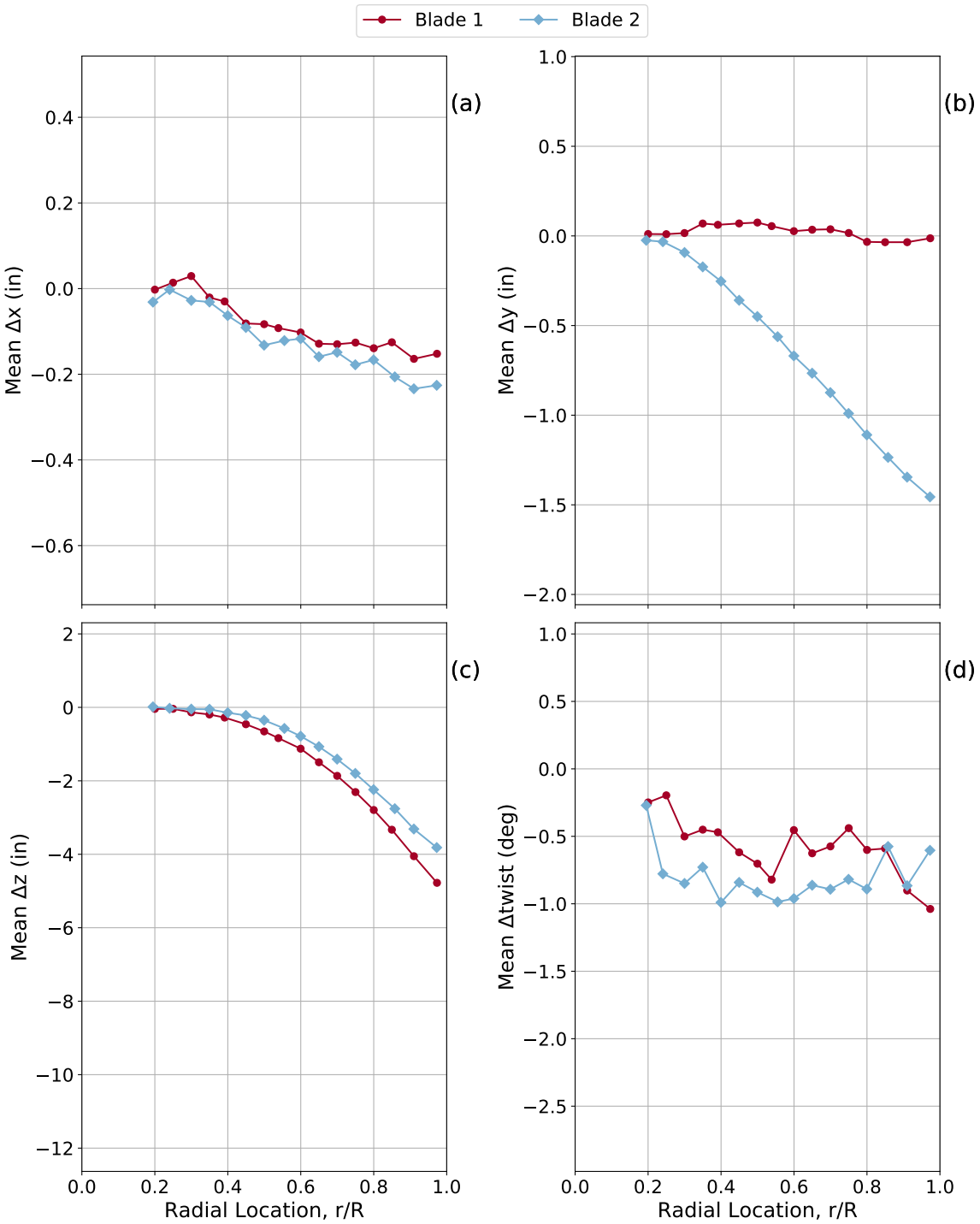


Figure 4.29-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	-0.0024	0.0051	0.0106	0.0025	-0.0410	0.0066	-0.2486	0.0389
1	4.92	0.2499	0.0138	0.0020	0.0097	0.0051	-0.0397	0.0122	-0.1961	0.0996
1	4.92	0.2998	0.0293	0.0024	0.0159	0.0105	-0.1355	0.0225	-0.5009	0.1006
1	4.92	0.3498	-0.0208	0.0046	0.0691	0.0174	-0.1941	0.0362	-0.4505	0.0877
1	4.92	0.3913	-0.0300	0.0081	0.0619	0.0256	-0.2780	0.0519	-0.4699	0.0976
1	4.92	0.4496	-0.0814	0.0105	0.0696	0.0324	-0.4593	0.0627	-0.6183	0.0860
1	4.92	0.4997	-0.0831	0.0128	0.0746	0.0395	-0.6549	0.0808	-0.7029	0.0927
1	4.92	0.5387	-0.0922	0.0134	0.0546	0.0438	-0.8377	0.0890	-0.8210	0.0903
1	4.92	0.5996	-0.1025	0.0161	0.0266	0.0522	-1.1253	0.1086	-0.4537	0.0891
1	4.92	0.6498	-0.1287	0.0172	0.0346	0.0585	-1.4948	0.1239	-0.6257	0.0875
1	4.92	0.6998	-0.1299	0.0185	0.0370	0.0655	-1.8649	0.1387	-0.5746	0.0909
1	4.92	0.7500	-0.1261	0.0189	0.0162	0.0737	-2.3062	0.1547	-0.4393	0.0917
1	4.92	0.8001	-0.1392	0.0184	-0.0332	0.0809	-2.7945	0.1671	-0.6007	0.0790
1	4.92	0.8497	-0.1253	0.0187	-0.0351	0.0857	-3.3313	0.1783	-0.5904	0.0920
1	4.92	0.9102	-0.1640	0.0170	-0.0350	0.0908	-4.0525	0.1932	-0.9016	0.0972
1	4.92	0.9734	-0.1521	0.0164	-0.0131	0.0987	-4.7771	0.2099	-1.0381	0.0912
2	4.92	0.1949	-0.0315	0.0050	-0.0245	0.0025	0.0135	0.0081	-0.2702	0.0333
2	4.92	0.2405	-0.0023	0.0018	-0.0324	0.0031	-0.0259	0.0073	-0.7779	0.1094
2	4.92	0.2999	-0.0276	0.0017	-0.0926	0.0098	-0.0475	0.0242	-0.8493	0.1095
2	4.92	0.3498	-0.0313	0.0018	-0.1728	0.0163	-0.0519	0.0390	-0.7288	0.1097
2	4.92	0.3998	-0.0631	0.0028	-0.2530	0.0250	-0.1463	0.0562	-0.9900	0.1062
2	4.92	0.4496	-0.0908	0.0032	-0.3590	0.0320	-0.2199	0.0714	-0.8414	0.1073
2	4.92	0.4995	-0.1321	0.0039	-0.4498	0.0382	-0.3501	0.0844	-0.9140	0.1296
2	4.92	0.5551	-0.1214	0.0048	-0.5623	0.0471	-0.5744	0.1042	-0.9858	0.1132
2	4.92	0.5996	-0.1170	0.0050	-0.6692	0.0535	-0.7849	0.1178	-0.9610	0.1266
2	4.92	0.6497	-0.1590	0.0055	-0.7657	0.0597	-1.0696	0.1337	-0.8623	0.1181
2	4.92	0.6996	-0.1487	0.0061	-0.8742	0.0673	-1.4101	0.1506	-0.8924	0.1145
2	4.92	0.7495	-0.1778	0.0079	-0.9904	0.0731	-1.7985	0.1664	-0.8188	0.1135
2	4.92	0.7996	-0.1664	0.0103	-1.1099	0.0792	-2.2408	0.1785	-0.8910	0.1168
2	4.92	0.8578	-0.2061	0.0122	-1.2355	0.0879	-2.7588	0.1981	-0.5755	0.0997
2	4.92	0.9100	-0.2339	0.0138	-1.3455	0.0948	-3.3124	0.2106	-0.8658	0.1135
2	4.92	0.9727	-0.2258	0.0180	-1.4559	0.1032	-3.8169	0.2257	-0.6038	0.1258

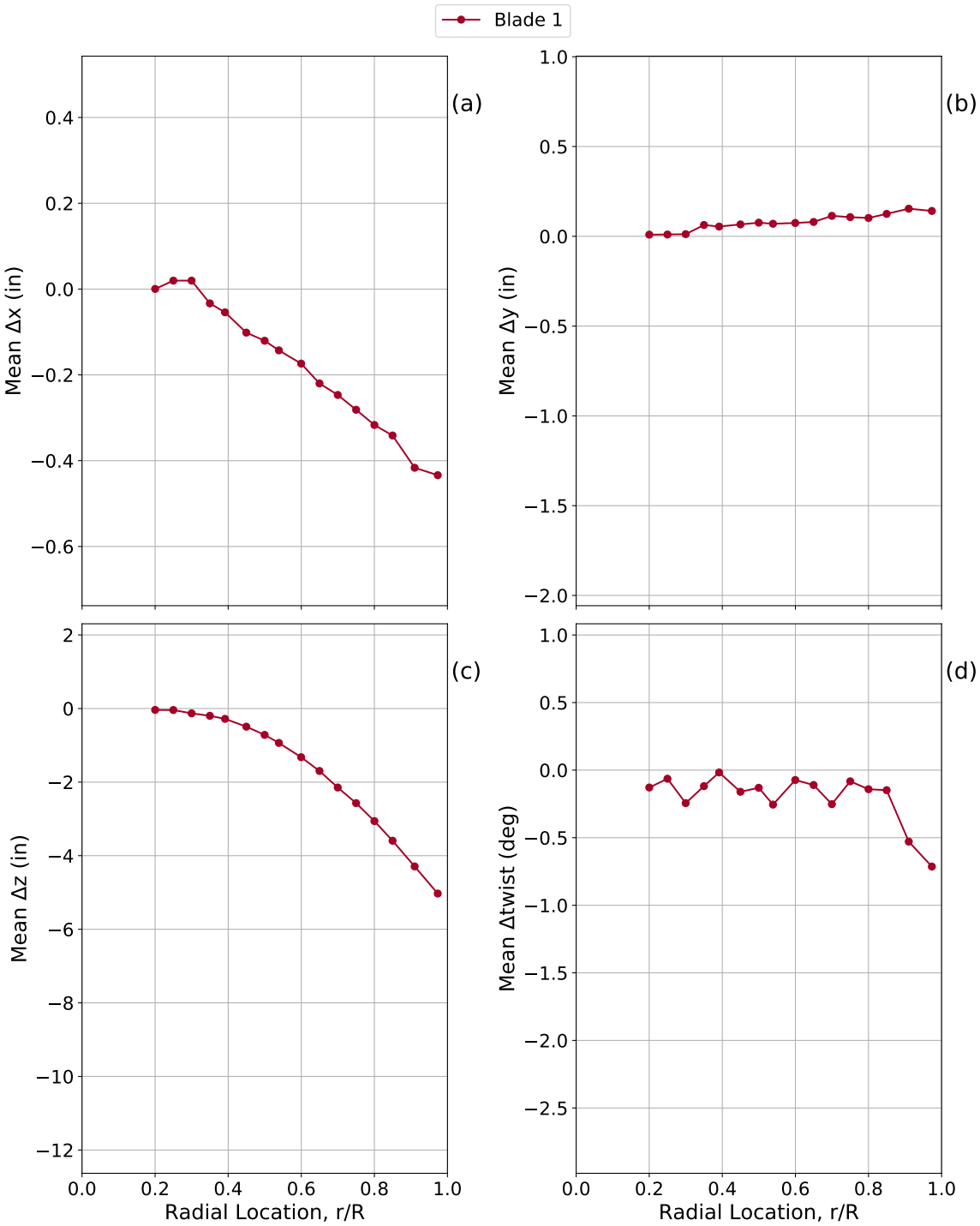


Figure 4.29-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0003	0.0024	0.0092	0.0009	-0.0383	0.0025	-0.1286	0.0213
1	15.12	0.2499	0.0197	0.0015	0.0100	0.0025	-0.0412	0.0073	-0.0636	0.0307
1	15.12	0.2998	0.0197	0.0015	0.0120	0.0037	-0.1310	0.0105	-0.2442	0.0414
1	15.12	0.3498	-0.0333	0.0018	0.0630	0.0062	-0.1980	0.0184	-0.1184	0.0310
1	15.12	0.3913	-0.0542	0.0016	0.0542	0.0092	-0.2812	0.0270	-0.0171	0.0442
1	15.12	0.4496	-0.1015	0.0019	0.0662	0.0129	-0.4931	0.0372	-0.1603	0.0319
1	15.12	0.4997	-0.1204	0.0020	0.0759	0.0165	-0.7166	0.0468	-0.1306	0.0322
1	15.12	0.5387	-0.1429	0.0024	0.0698	0.0186	-0.9352	0.0547	-0.2550	0.0351
1	15.12	0.5996	-0.1737	0.0023	0.0742	0.0225	-1.3233	0.0638	-0.0730	0.0392
1	15.12	0.6498	-0.2199	0.0022	0.0799	0.0257	-1.6975	0.0720	-0.1102	0.0415
1	15.12	0.6998	-0.2468	0.0021	0.1138	0.0287	-2.1474	0.0809	-0.2519	0.0334
1	15.12	0.7500	-0.2813	0.0022	0.1068	0.0319	-2.5718	0.0877	-0.0827	0.0397
1	15.12	0.8001	-0.3168	0.0024	0.1020	0.0350	-3.0602	0.0924	-0.1412	0.0465
1	15.12	0.8497	-0.3413	0.0023	0.1249	0.0379	-3.5936	0.0984	-0.1486	0.0387
1	15.12	0.9102	-0.4165	0.0014	0.1539	0.0413	-4.2924	0.1033	-0.5289	0.0501
1	15.12	0.9734	-0.4338	0.0023	0.1412	0.0456	-5.0296	0.1124	-0.7136	0.0327

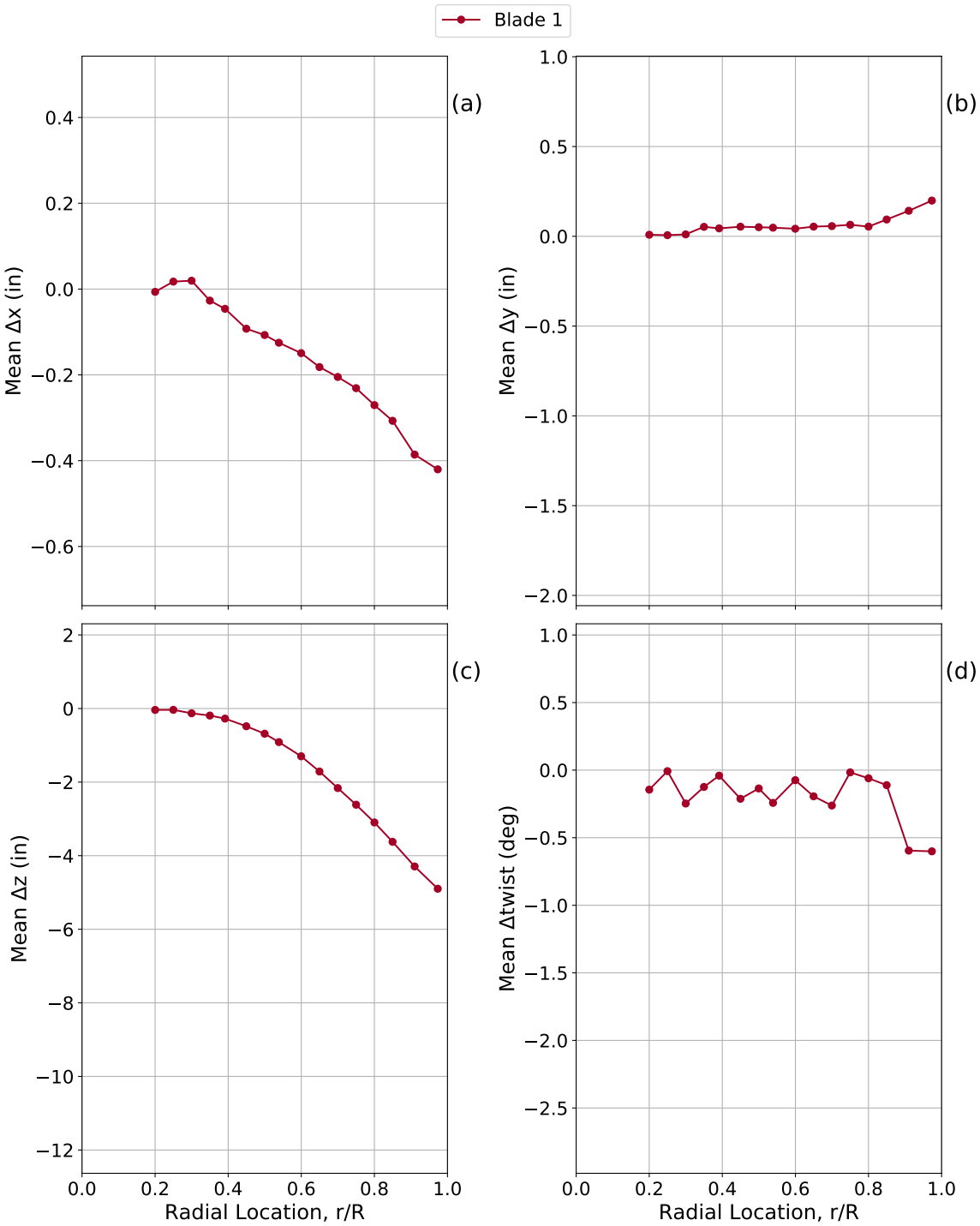


Figure 4.29-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0064	0.0028	0.0086	0.0011	-0.0378	0.0032	-0.1443	0.0198
1	29.88	0.2499	0.0174	0.0020	0.0062	0.0015	-0.0359	0.0051	-0.0076	0.0405
1	29.88	0.2998	0.0195	0.0010	0.0108	0.0029	-0.1299	0.0095	-0.2471	0.0413
1	29.88	0.3498	-0.0269	0.0013	0.0527	0.0052	-0.1913	0.0170	-0.1243	0.0267
1	29.88	0.3913	-0.0460	0.0012	0.0441	0.0066	-0.2736	0.0226	-0.0410	0.0321
1	29.88	0.4496	-0.0924	0.0014	0.0534	0.0088	-0.4822	0.0328	-0.2120	0.0322
1	29.88	0.4997	-0.1071	0.0016	0.0507	0.0110	-0.6851	0.0424	-0.1355	0.0327
1	29.88	0.5387	-0.1251	0.0019	0.0480	0.0125	-0.9129	0.0495	-0.2424	0.0264
1	29.88	0.5996	-0.1493	0.0023	0.0421	0.0148	-1.2981	0.0603	-0.0744	0.0287
1	29.88	0.6498	-0.1818	0.0025	0.0539	0.0174	-1.7123	0.0690	-0.1938	0.0280
1	29.88	0.6998	-0.2049	0.0022	0.0568	0.0196	-2.1623	0.0778	-0.2619	0.0428
1	29.88	0.7500	-0.2310	0.0026	0.0641	0.0227	-2.6149	0.0865	-0.0165	0.0290
1	29.88	0.8001	-0.2705	0.0031	0.0541	0.0255	-3.0972	0.0950	-0.0604	0.0316
1	29.88	0.8497	-0.3070	0.0031	0.0935	0.0277	-3.6231	0.1066	-0.1112	0.0300
1	29.88	0.9102	-0.3858	0.0034	0.1421	0.0315	-4.2930	0.1249	-0.5955	0.0346
1	29.88	0.9734	-0.4202	0.0043	0.1988	0.0346	-4.8982	0.1438	-0.6009	0.0400

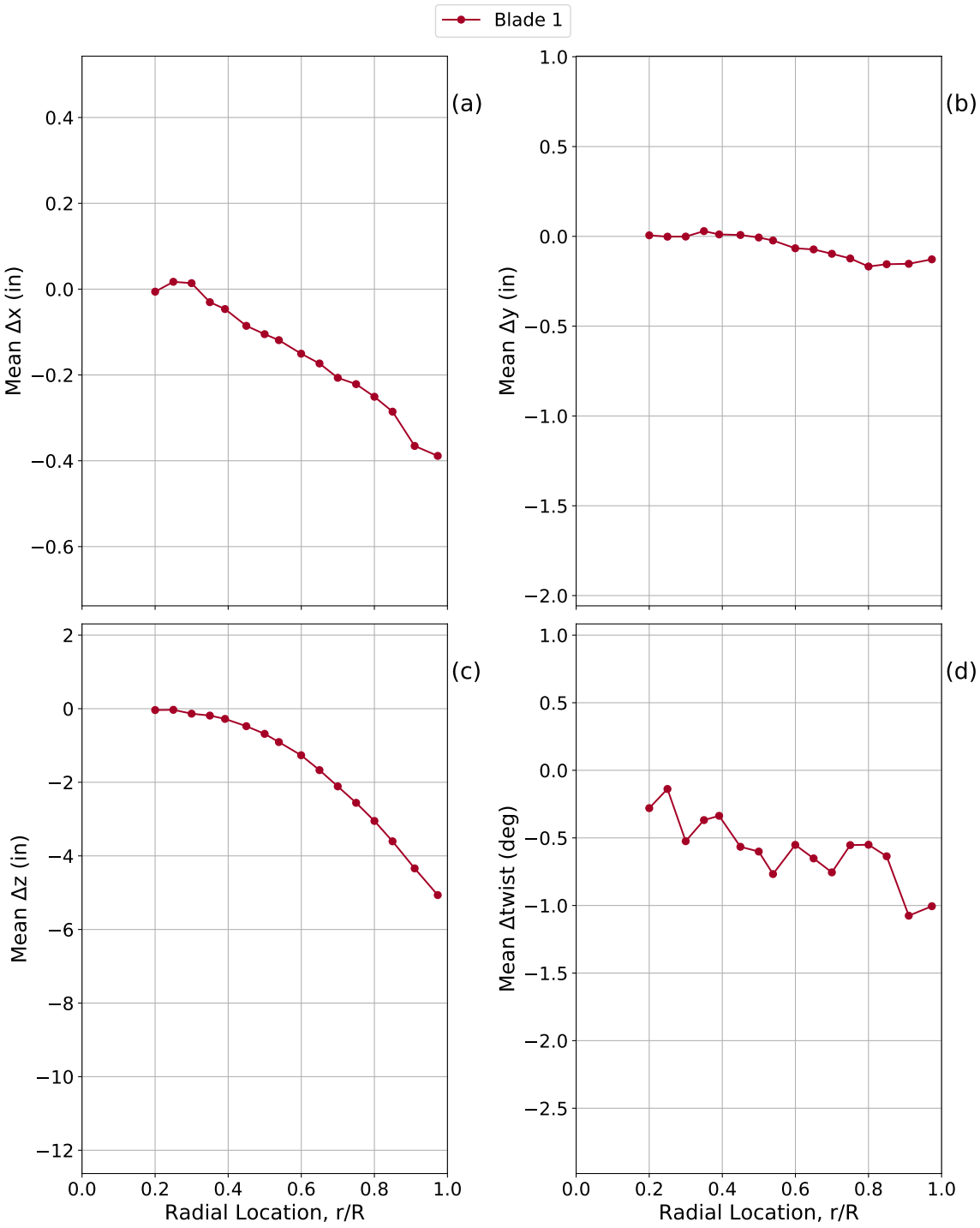


Figure 4.29-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-6. 45° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0059	0.0017	0.0059	0.0008	-0.0372	0.0016	-0.2798	0.0230
1	45	0.2499	0.0171	0.0022	-0.0017	0.0011	-0.0310	0.0039	-0.1380	0.0367
1	45	0.2998	0.0139	0.0020	-0.0012	0.0025	-0.1356	0.0045	-0.5244	0.0496
1	45	0.3498	-0.0304	0.0026	0.0292	0.0040	-0.1872	0.0080	-0.3683	0.0443
1	45	0.3913	-0.0464	0.0026	0.0107	0.0053	-0.2777	0.0105	-0.3367	0.0522
1	45	0.4496	-0.0855	0.0029	0.0077	0.0073	-0.4758	0.0130	-0.5658	0.0582
1	45	0.4997	-0.1049	0.0031	-0.0064	0.0101	-0.6839	0.0201	-0.6010	0.0537
1	45	0.5387	-0.1189	0.0027	-0.0230	0.0111	-0.9069	0.0209	-0.7676	0.0468
1	45	0.5996	-0.1504	0.0030	-0.0664	0.0142	-1.2658	0.0243	-0.5516	0.0557
1	45	0.6498	-0.1732	0.0032	-0.0727	0.0162	-1.6696	0.0257	-0.6518	0.0541
1	45	0.6998	-0.2066	0.0033	-0.0970	0.0196	-2.1114	0.0292	-0.7550	0.0553
1	45	0.7500	-0.2214	0.0032	-0.1231	0.0224	-2.5580	0.0335	-0.5532	0.0561
1	45	0.8001	-0.2508	0.0033	-0.1678	0.0238	-3.0507	0.0344	-0.5507	0.0542
1	45	0.8497	-0.2855	0.0028	-0.1552	0.0271	-3.6042	0.0398	-0.6360	0.0590
1	45	0.9102	-0.3654	0.0026	-0.1528	0.0302	-4.3398	0.0463	-1.0754	0.0546
1	45	0.9734	-0.3886	0.0031	-0.1280	0.0332	-5.0647	0.0575	-1.0054	0.0457

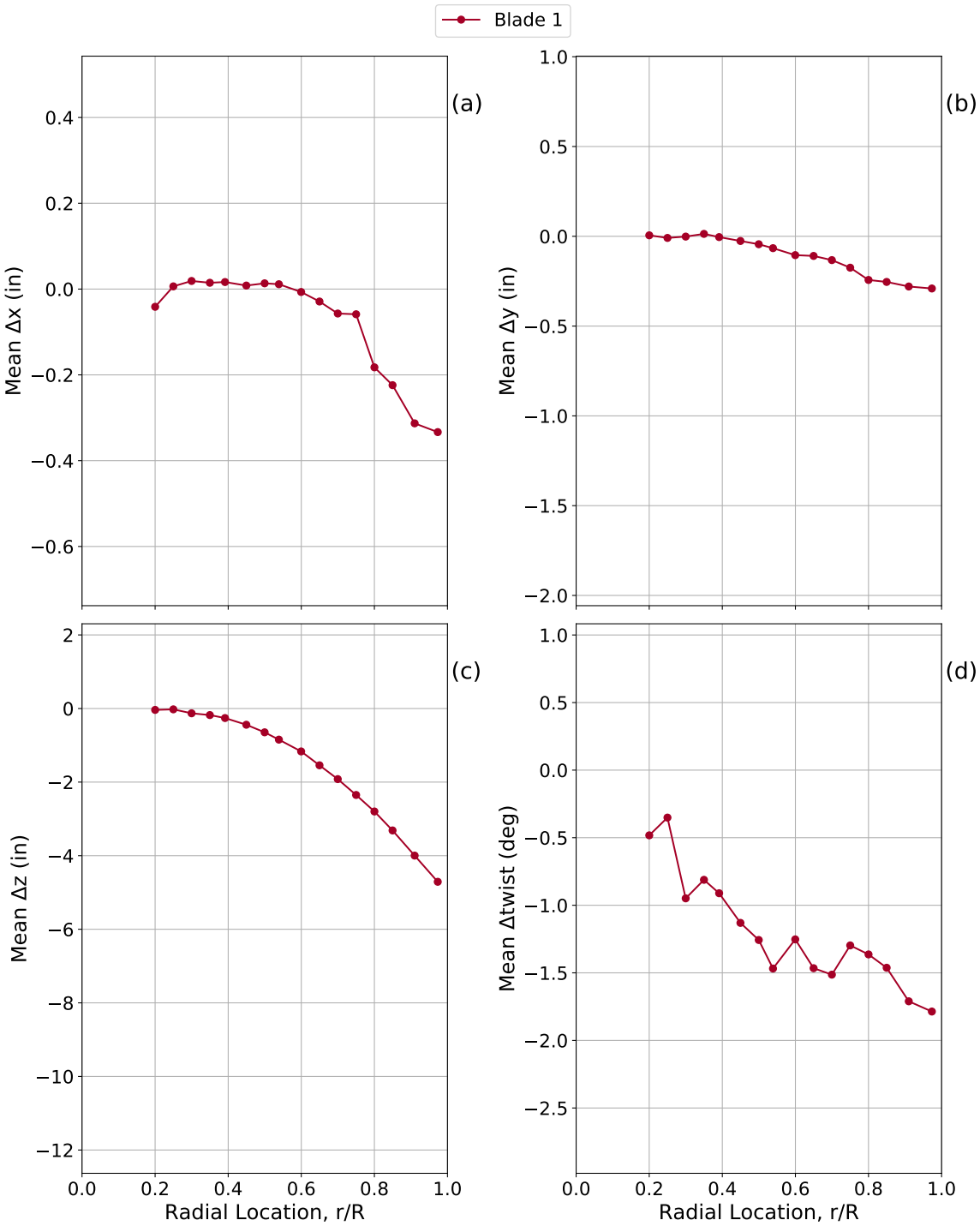


Figure 4.29-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0413	0.0023	0.0055	0.0007	-0.0375	0.0019	-0.4825	0.0237
1	60.12	0.2499	0.0063	0.0010	-0.0090	0.0012	-0.0227	0.0044	-0.3512	0.0463
1	60.12	0.2998	0.0189	0.0015	-0.0016	0.0021	-0.1299	0.0057	-0.9488	0.0551
1	60.12	0.3498	0.0147	0.0018	0.0135	0.0039	-0.1778	0.0124	-0.8117	0.0453
1	60.12	0.3913	0.0164	0.0019	-0.0044	0.0052	-0.2589	0.0156	-0.9109	0.0498
1	60.12	0.4496	0.0082	0.0023	-0.0260	0.0065	-0.4410	0.0201	-1.1303	0.0514
1	60.12	0.4997	0.0134	0.0025	-0.0442	0.0082	-0.6468	0.0250	-1.2569	0.0505
1	60.12	0.5387	0.0113	0.0029	-0.0661	0.0087	-0.8457	0.0295	-1.4681	0.0457
1	60.12	0.5996	-0.0068	0.0031	-0.1049	0.0103	-1.1663	0.0347	-1.2524	0.0565
1	60.12	0.6498	-0.0290	0.0044	-0.1093	0.0114	-1.5433	0.0378	-1.4656	0.0537
1	60.12	0.6998	-0.0570	0.0052	-0.1326	0.0124	-1.9190	0.0437	-1.5133	0.0480
1	60.12	0.7500	-0.0587	0.0065	-0.1748	0.0137	-2.3498	0.0448	-1.2970	0.0641
1	60.12	0.8001	-0.1824	0.0079	-0.2432	0.0270	-2.7987	0.0616	-1.3637	0.0627
1	60.12	0.8497	-0.2240	0.0077	-0.2541	0.0291	-3.3141	0.0638	-1.4623	0.0600
1	60.12	0.9102	-0.3130	0.0076	-0.2796	0.0320	-3.9975	0.0668	-1.7106	0.0596
1	60.12	0.9734	-0.3334	0.0073	-0.2906	0.0346	-4.7096	0.0726	-1.7863	0.0615

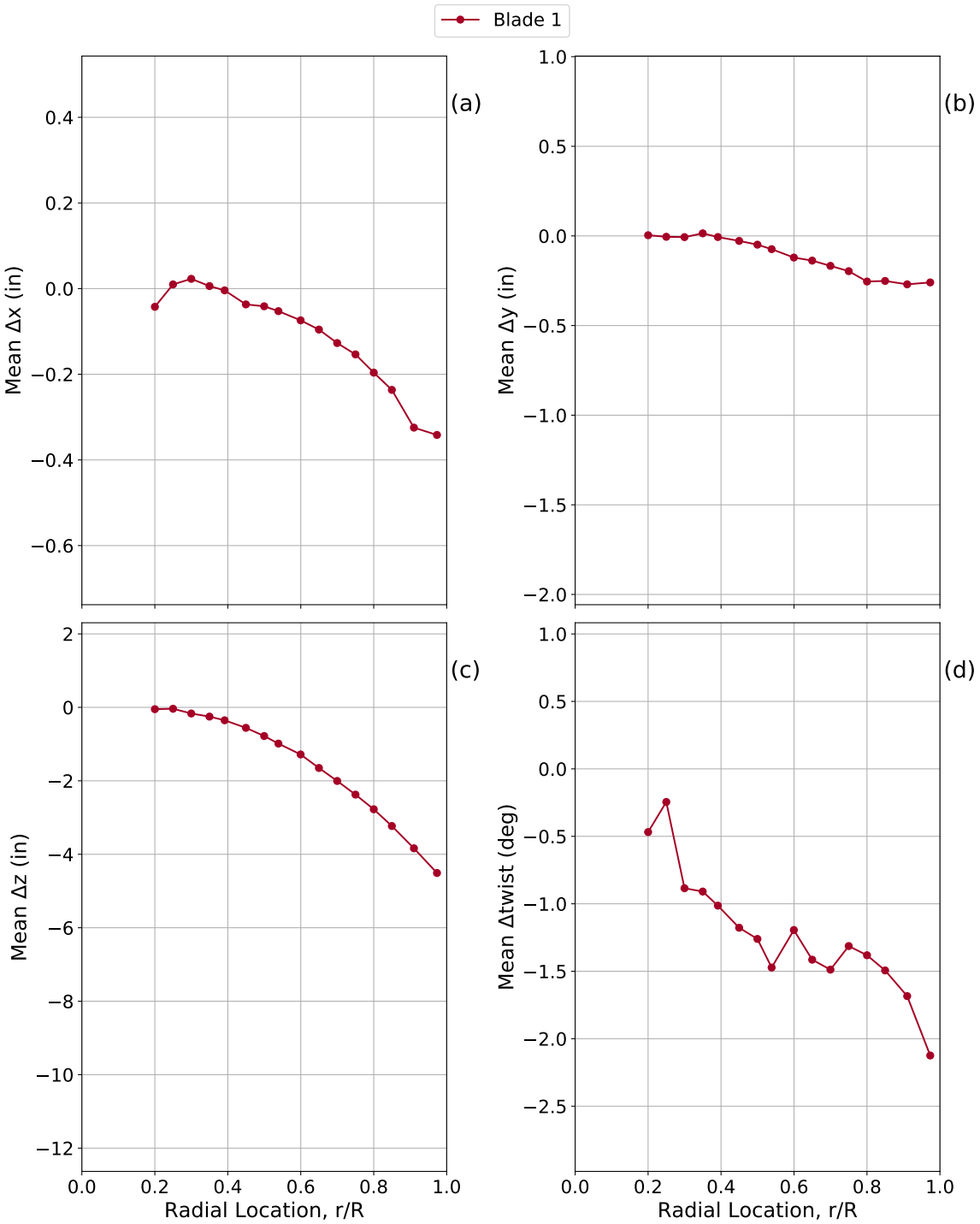


Figure 4.29-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-8. 75° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0425	0.0059	0.0039	0.0030	-0.0496	0.0096	-0.4683	0.0787
1	74.88	0.2499	0.0098	0.0024	-0.0049	0.0038	-0.0376	0.0126	-0.2452	0.1842
1	74.88	0.2998	0.0228	0.0028	-0.0067	0.0103	-0.1670	0.0300	-0.8846	0.2014
1	74.88	0.3498	0.0059	0.0025	0.0144	0.0176	-0.2517	0.0548	-0.9093	0.1808
1	74.88	0.3913	-0.0041	0.0030	-0.0063	0.0239	-0.3521	0.0715	-1.0135	0.1897
1	74.88	0.4496	-0.0369	0.0031	-0.0279	0.0323	-0.5577	0.0964	-1.1775	0.1994
1	74.88	0.4997	-0.0413	0.0034	-0.0488	0.0398	-0.7804	0.1179	-1.2605	0.2030
1	74.88	0.5387	-0.0526	0.0044	-0.0739	0.0458	-0.9860	0.1359	-1.4726	0.1966
1	74.88	0.5996	-0.0741	0.0045	-0.1207	0.0550	-1.2822	0.1615	-1.1945	0.2050
1	74.88	0.6498	-0.0957	0.0052	-0.1377	0.0636	-1.6500	0.1838	-1.4143	0.1995
1	74.88	0.6998	-0.1271	0.0047	-0.1671	0.0719	-2.0034	0.2068	-1.4880	0.1930
1	74.88	0.7500	-0.1536	0.0042	-0.1966	0.0802	-2.3752	0.2281	-1.3133	0.1981
1	74.88	0.8001	-0.1962	0.0046	-0.2544	0.0891	-2.7749	0.2500	-1.3813	0.2051
1	74.88	0.8497	-0.2365	0.0052	-0.2512	0.0983	-3.2300	0.2716	-1.4938	0.1977
1	74.88	0.9102	-0.3246	0.0060	-0.2701	0.1102	-3.8370	0.2975	-1.6842	0.1929
1	74.88	0.9734	-0.3417	0.0067	-0.2594	0.1224	-4.5091	0.3227	-2.1245	0.2010

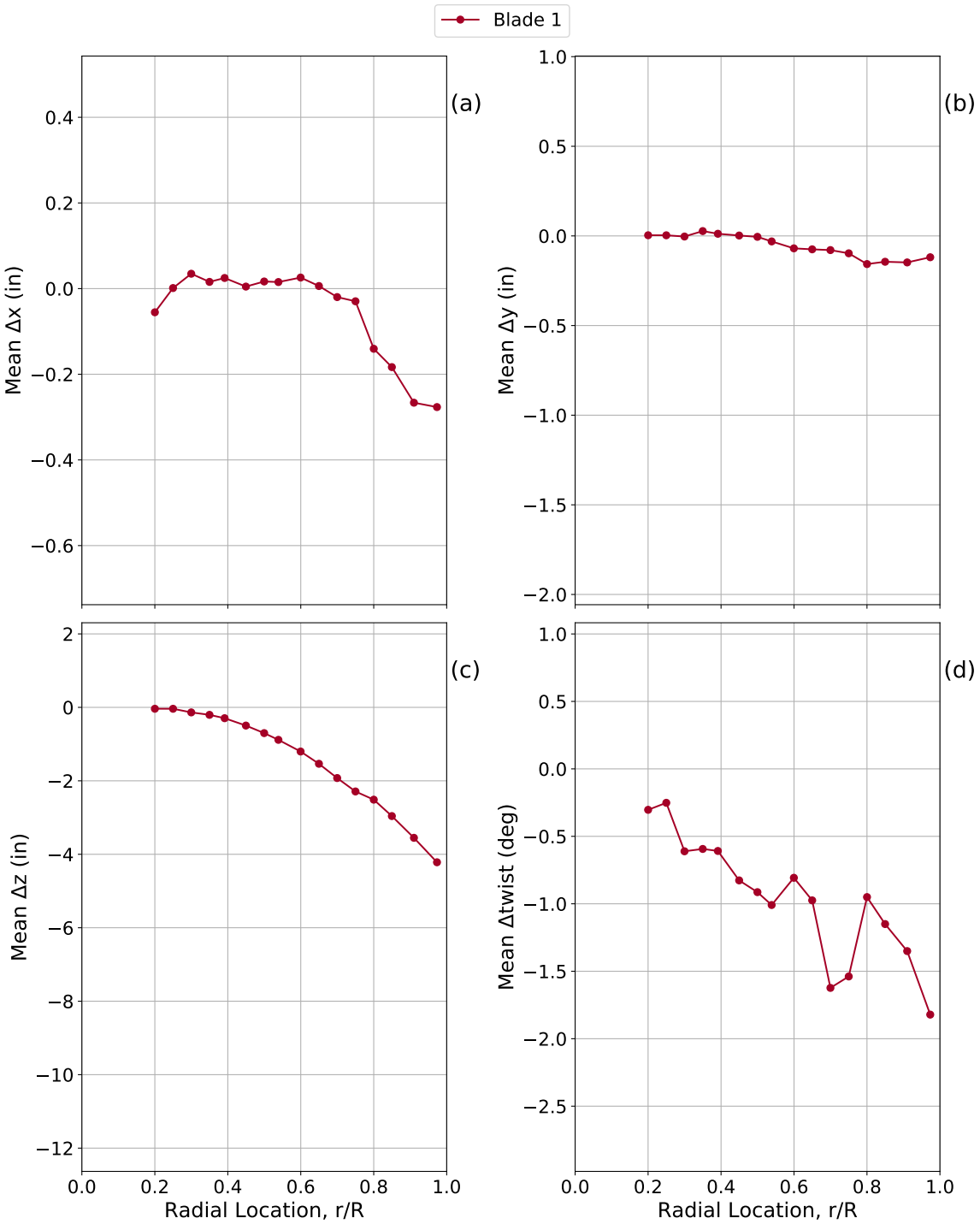


Figure 4.29-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-9. 80° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0553	0.0049	0.0037	0.0046	-0.0376	0.0100	-0.3035	0.0523
1	80.16	0.2499	0.0013	0.0018	0.0035	0.0033	-0.0384	0.0079	-0.2515	0.1675
1	80.16	0.2998	0.0347	0.0028	-0.0034	0.0152	-0.1374	0.0307	-0.6108	0.1506
1	80.16	0.3498	0.0157	0.0017	0.0270	0.0227	-0.2034	0.0470	-0.5935	0.1609
1	80.16	0.3913	0.0248	0.0022	0.0120	0.0315	-0.2953	0.0638	-0.6084	0.1568
1	80.16	0.4496	0.0047	0.0033	0.0022	0.0425	-0.4956	0.0843	-0.8266	0.1579
1	80.16	0.4997	0.0166	0.0040	-0.0051	0.0521	-0.7008	0.1021	-0.9137	0.1567
1	80.16	0.5387	0.0153	0.0052	-0.0307	0.0594	-0.8844	0.1167	-1.0090	0.1553
1	80.16	0.5996	0.0258	0.0049	-0.0694	0.0719	-1.2023	0.1373	-0.8072	0.1504
1	80.16	0.6498	0.0060	0.0056	-0.0748	0.0816	-1.5361	0.1533	-0.9746	0.1545
1	80.16	0.6998	-0.0198	0.0036	-0.0791	0.0917	-1.9244	0.1689	-1.6233	0.2409
1	80.16	0.7500	-0.0296	0.0039	-0.0970	0.1023	-2.2897	0.1830	-1.5385	0.2517
1	80.16	0.8001	-0.1405	0.0033	-0.1570	0.1120	-2.5132	0.2150	-0.9503	0.1473
1	80.16	0.8497	-0.1833	0.0039	-0.1442	0.1223	-2.9594	0.2325	-1.1502	0.1485
1	80.16	0.9102	-0.2664	0.0039	-0.1479	0.1352	-3.5517	0.2535	-1.3504	0.1483
1	80.16	0.9734	-0.2766	0.0044	-0.1190	0.1489	-4.2172	0.2759	-1.8213	0.1546

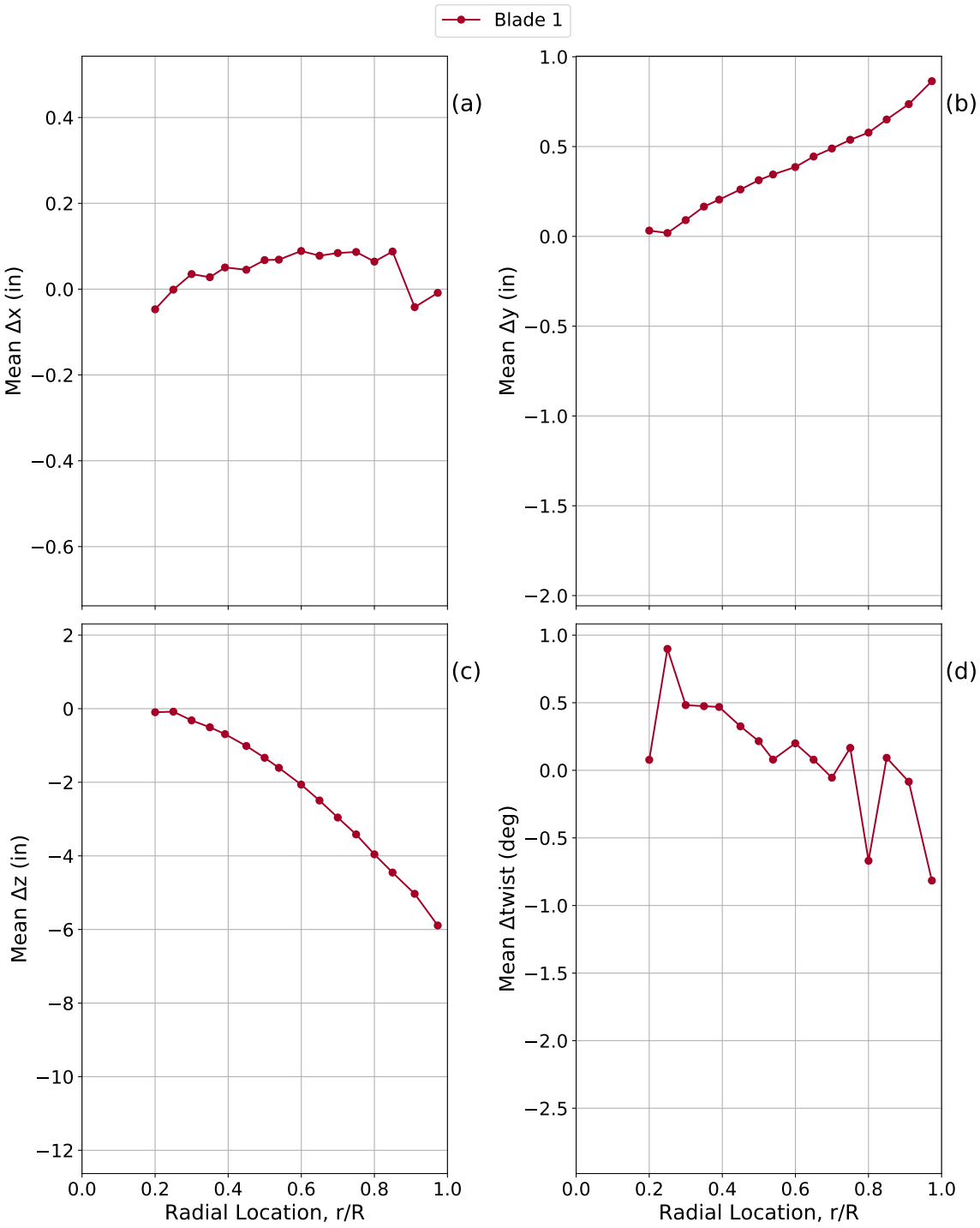


Figure 4.29-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0470	0.0036	0.0321	0.0031	-0.0963	0.0061	0.0776	0.0455
1	85.08	0.2499	-0.0012	0.0017	0.0186	0.0037	-0.0813	0.0067	0.8981	0.1184
1	85.08	0.2998	0.0351	0.0017	0.0904	0.0107	-0.3176	0.0207	0.4823	0.1154
1	85.08	0.3498	0.0278	0.0018	0.1657	0.0179	-0.5054	0.0325	0.4746	0.1196
1	85.08	0.3913	0.0505	0.0018	0.2045	0.0244	-0.6914	0.0451	0.4686	0.1155
1	85.08	0.4496	0.0452	0.0022	0.2610	0.0336	-1.0132	0.0589	0.3253	0.1221
1	85.08	0.4997	0.0677	0.0023	0.3127	0.0425	-1.3339	0.0721	0.2156	0.1101
1	85.08	0.5387	0.0687	0.0023	0.3445	0.0499	-1.6072	0.0808	0.0791	0.1120
1	85.08	0.5996	0.0889	0.0024	0.3858	0.0610	-2.0624	0.0962	0.1997	0.1158
1	85.08	0.6498	0.0779	0.0021	0.4445	0.0705	-2.4950	0.1072	0.0787	0.1185
1	85.08	0.6998	0.0842	0.0021	0.4891	0.0804	-2.9577	0.1203	-0.0547	0.1134
1	85.08	0.7500	0.0866	0.0037	0.5376	0.0904	-3.4159	0.1314	0.1659	0.1302
1	85.08	0.8001	0.0642	0.0024	0.5778	0.1054	-3.9583	0.1577	-0.6691	0.1319
1	85.08	0.8497	0.0877	0.0046	0.6506	0.1099	-4.4524	0.1588	0.0924	0.1418
1	85.08	0.9102	-0.0419	0.0026	0.7362	0.1320	-5.0302	0.1495	-0.0840	0.1196
1	85.08	0.9734	-0.0087	0.0073	0.8641	0.1445	-5.8911	0.1666	-0.8156	0.1192

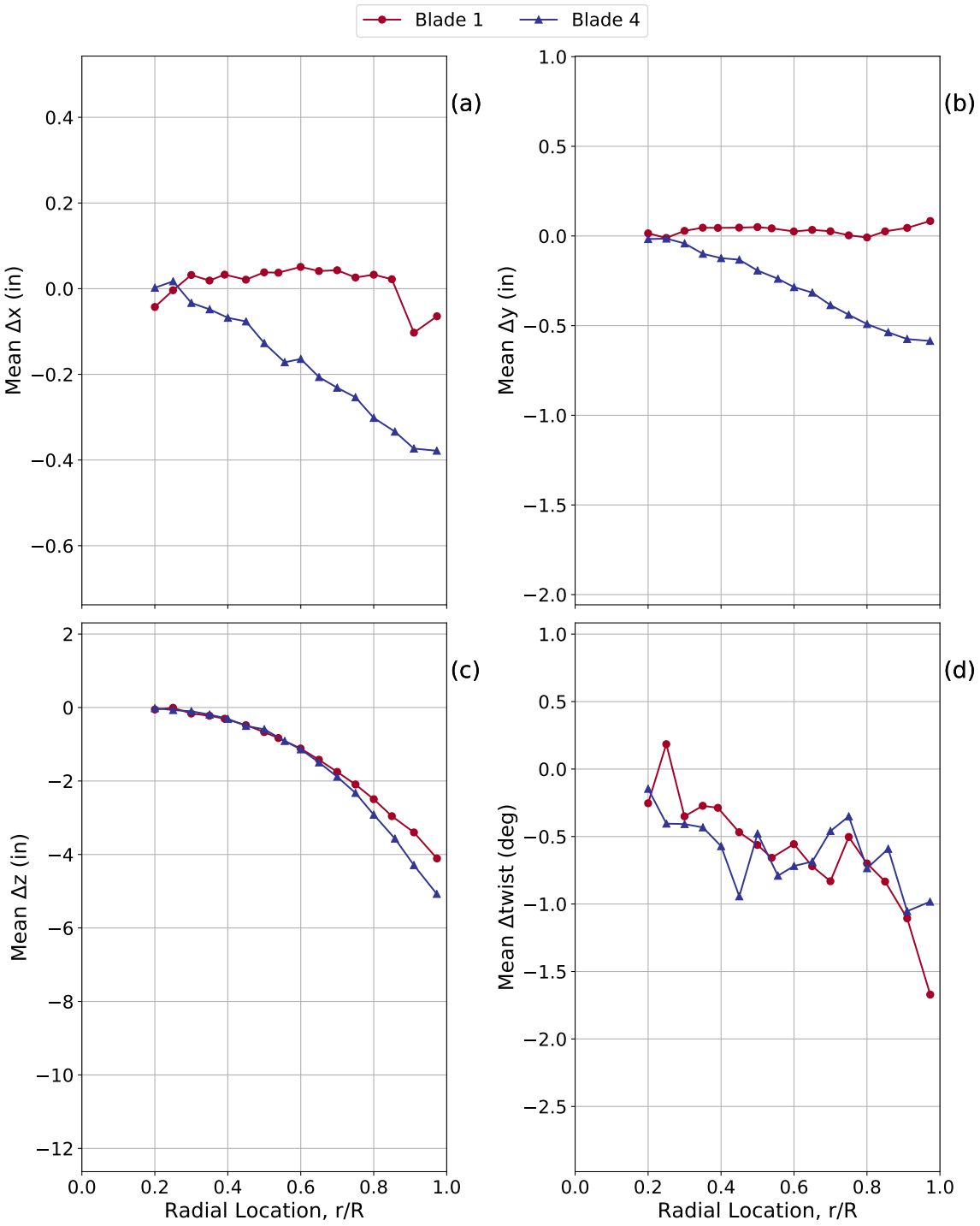


Figure 4.29-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0427	0.0030	0.0147	0.0014	-0.0544	0.0035	-0.2532	0.0460
1	90	0.2499	-0.0037	0.0038	-0.0109	0.0040	-0.0069	0.0103	0.1843	0.0616
1	90	0.2998	0.0319	0.0024	0.0285	0.0047	-0.1641	0.0124	-0.3504	0.0955
1	90	0.3498	0.0189	0.0024	0.0460	0.0097	-0.2229	0.0254	-0.2723	0.0780
1	90	0.3913	0.0328	0.0025	0.0451	0.0132	-0.3049	0.0347	-0.2872	0.0712
1	90	0.4496	0.0210	0.0032	0.0465	0.0175	-0.4793	0.0444	-0.4679	0.0776
1	90	0.4997	0.0381	0.0024	0.0495	0.0218	-0.6687	0.0561	-0.5625	0.0699
1	90	0.5387	0.0373	0.0028	0.0426	0.0250	-0.8309	0.0626	-0.6576	0.0753
1	90	0.5996	0.0508	0.0022	0.0252	0.0304	-1.1148	0.0763	-0.5563	0.0701
1	90	0.6498	0.0412	0.0028	0.0340	0.0351	-1.4208	0.0863	-0.7200	0.0691
1	90	0.6998	0.0430	0.0025	0.0262	0.0398	-1.7521	0.0961	-0.8312	0.0707
1	90	0.7500	0.0261	0.0047	0.0036	0.0411	-2.0941	0.1028	-0.5033	0.0671
1	90	0.8001	0.0326	0.0049	-0.0083	0.0479	-2.4957	0.1134	-0.6998	0.0791
1	90	0.8497	0.0221	0.0049	0.0257	0.0523	-2.9565	0.1243	-0.8337	0.0889
1	90	0.9102	-0.1027	0.0032	0.0451	0.0560	-3.3990	0.1368	-1.1063	0.0737
1	90	0.9734	-0.0644	0.0034	0.0834	0.0617	-4.1085	0.1505	-1.6712	0.0705
4	90.35	0.2001	0.0021	0.0048	-0.0171	0.0017	-0.0172	0.0079	-0.1465	0.0456
4	90.35	0.2502	0.0172	0.0064	-0.0147	0.0027	-0.0694	0.0120	-0.4044	0.1084
4	90.35	0.3001	-0.0333	0.0041	-0.0416	0.0045	-0.1016	0.0239	-0.4078	0.0922
4	90.35	0.3502	-0.0483	0.0034	-0.0994	0.0063	-0.1922	0.0392	-0.4324	0.0777
4	90.35	0.4002	-0.0680	0.0034	-0.1236	0.0096	-0.3083	0.0578	-0.5716	0.0734
4	90.35	0.4500	-0.0765	0.0037	-0.1324	0.0104	-0.5004	0.0641	-0.9431	0.0847
4	90.35	0.5001	-0.1272	0.0027	-0.1929	0.0137	-0.5933	0.0808	-0.4791	0.0781
4	90.35	0.5560	-0.1718	0.0030	-0.2388	0.0172	-0.9107	0.0977	-0.7905	0.0754
4	90.35	0.6001	-0.1641	0.0025	-0.2853	0.0195	-1.1397	0.1080	-0.7182	0.0761
4	90.35	0.6501	-0.2064	0.0037	-0.3159	0.0233	-1.4949	0.1200	-0.6860	0.0814
4	90.35	0.6999	-0.2313	0.0037	-0.3857	0.0265	-1.8856	0.1312	-0.4595	0.0891
4	90.35	0.7500	-0.2536	0.0034	-0.4395	0.0297	-2.3253	0.1462	-0.3505	0.0806
4	90.35	0.8002	-0.3017	0.0043	-0.4913	0.0329	-2.9189	0.1594	-0.7350	0.0788
4	90.35	0.8582	-0.3338	0.0046	-0.5374	0.0369	-3.5678	0.1775	-0.5911	0.0813
4	90.35	0.9101	-0.3733	0.0041	-0.5750	0.0404	-4.2908	0.1949	-1.0534	0.0851
4	90.35	0.9728	-0.3783	0.0049	-0.5854	0.0454	-5.0735	0.2181	-0.9829	0.0787

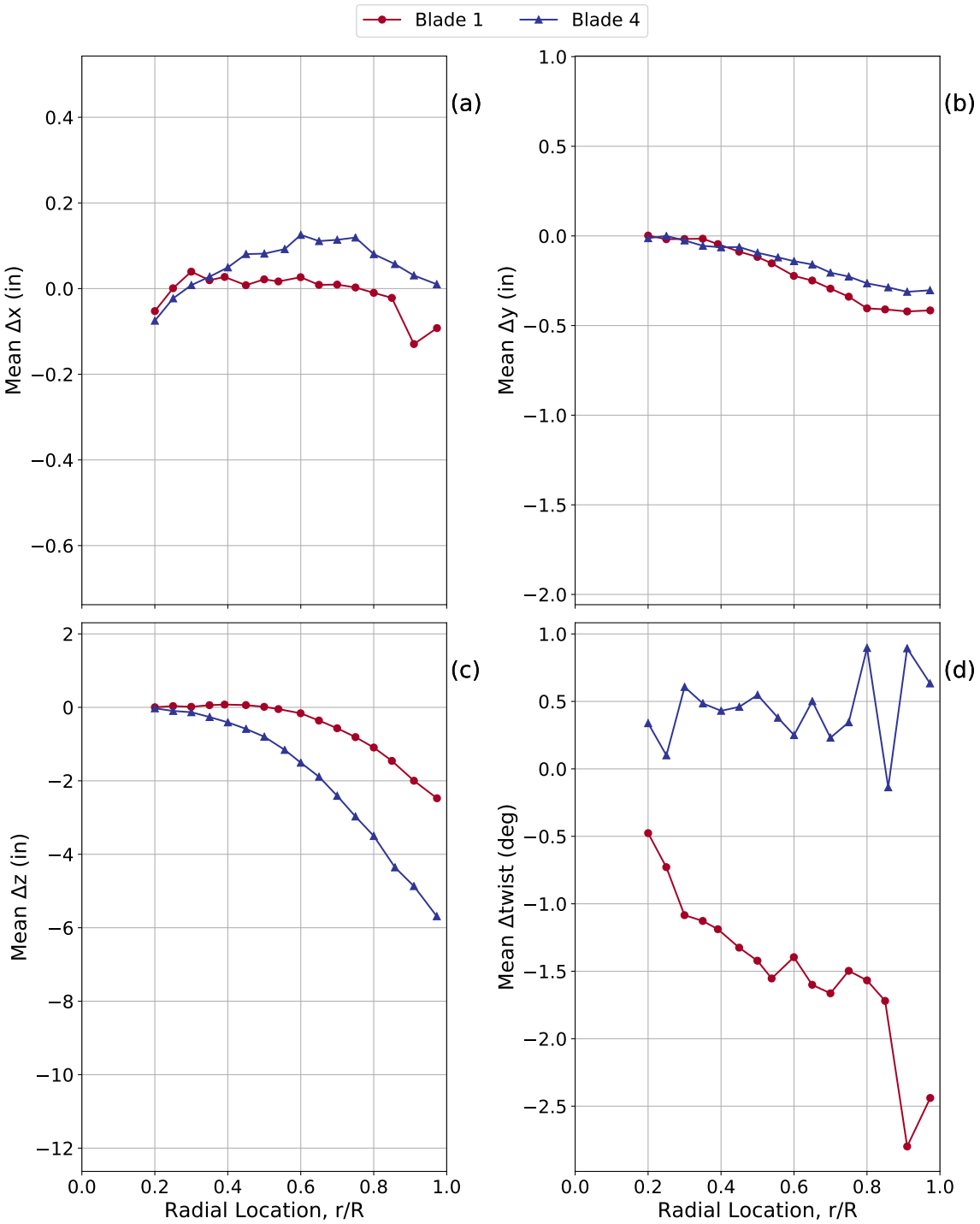


Figure 4.29-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0525	0.0075	0.0019	0.0037	0.0025	0.0079	-0.4763	0.0724
1	94.92	0.2499	0.0008	0.0073	-0.0183	0.0065	0.0344	0.0151	-0.7284	0.1046
1	94.92	0.2998	0.0396	0.0051	-0.0171	0.0113	0.0148	0.0229	-1.0842	0.1543
1	94.92	0.3498	0.0196	0.0047	-0.0155	0.0218	0.0599	0.0470	-1.1270	0.1252
1	94.92	0.3913	0.0272	0.0040	-0.0457	0.0280	0.0762	0.0594	-1.1884	0.1189
1	94.92	0.4496	0.0079	0.0038	-0.0877	0.0369	0.0621	0.0782	-1.3251	0.1191
1	94.92	0.4997	0.0216	0.0038	-0.1172	0.0439	0.0142	0.0926	-1.4219	0.1170
1	94.92	0.5387	0.0167	0.0041	-0.1530	0.0504	-0.0466	0.1053	-1.5535	0.1218
1	94.92	0.5996	0.0266	0.0039	-0.2230	0.0595	-0.1610	0.1227	-1.3956	0.1293
1	94.92	0.6498	0.0088	0.0040	-0.2488	0.0683	-0.3584	0.1398	-1.6004	0.1181
1	94.92	0.6998	0.0094	0.0036	-0.2939	0.0757	-0.5688	0.1547	-1.6636	0.1211
1	94.92	0.7500	0.0026	0.0043	-0.3391	0.0838	-0.8103	0.1712	-1.4970	0.1105
1	94.92	0.8001	-0.0099	0.0049	-0.4041	0.0922	-1.0936	0.1843	-1.5676	0.1272
1	94.92	0.8497	-0.0217	0.0064	-0.4099	0.1015	-1.4565	0.2005	-1.7198	0.1187
1	94.92	0.9102	-0.1295	0.0070	-0.4213	0.1129	-1.9973	0.2295	-2.7985	0.1270
1	94.92	0.9734	-0.0922	0.0097	-0.4155	0.1233	-2.4751	0.2414	-2.4390	0.1272
4	94.92	0.2001	-0.0750	0.0018	-0.0126	0.0014	-0.0265	0.0024	0.3386	0.0201
4	94.92	0.2502	-0.0228	0.0011	-0.0003	0.0030	-0.0978	0.0054	0.1003	0.0401
4	94.92	0.3001	0.0081	0.0016	-0.0253	0.0055	-0.1325	0.0092	0.6072	0.0478
4	94.92	0.3502	0.0278	0.0027	-0.0553	0.0101	-0.2639	0.0162	0.4848	0.0417
4	94.92	0.4002	0.0495	0.0036	-0.0636	0.0153	-0.4082	0.0247	0.4303	0.0370
4	94.92	0.4500	0.0806	0.0038	-0.0620	0.0179	-0.5866	0.0290	0.4596	0.0468
4	94.92	0.5001	0.0816	0.0044	-0.0940	0.0215	-0.7999	0.0345	0.5477	0.0345
4	94.92	0.5560	0.0922	0.0051	-0.1197	0.0247	-1.1579	0.0398	0.3790	0.0419
4	94.92	0.6001	0.1255	0.0059	-0.1408	0.0279	-1.5065	0.0454	0.2502	0.0496
4	94.92	0.6501	0.1109	0.0071	-0.1595	0.0311	-1.8900	0.0530	0.5016	0.0352
4	94.92	0.6999	0.1139	0.0090	-0.2049	0.0345	-2.4090	0.0579	0.2310	0.0400
4	94.92	0.7500	0.1192	0.0151	-0.2267	0.0384	-2.9713	0.0704	0.3453	0.0856
4	94.92	0.8002	0.0804	0.0149	-0.2645	0.0428	-3.5027	0.0780	0.8964	0.0408
4	94.92	0.8582	0.0572	0.0173	-0.2871	0.0479	-4.3566	0.0914	-0.1365	0.0866
4	94.92	0.9101	0.0307	0.0211	-0.3117	0.0523	-4.8661	0.1078	0.8935	0.1212
4	94.92	0.9728	0.0101	0.0273	-0.3032	0.0628	-5.6873	0.1163	0.6336	0.1195

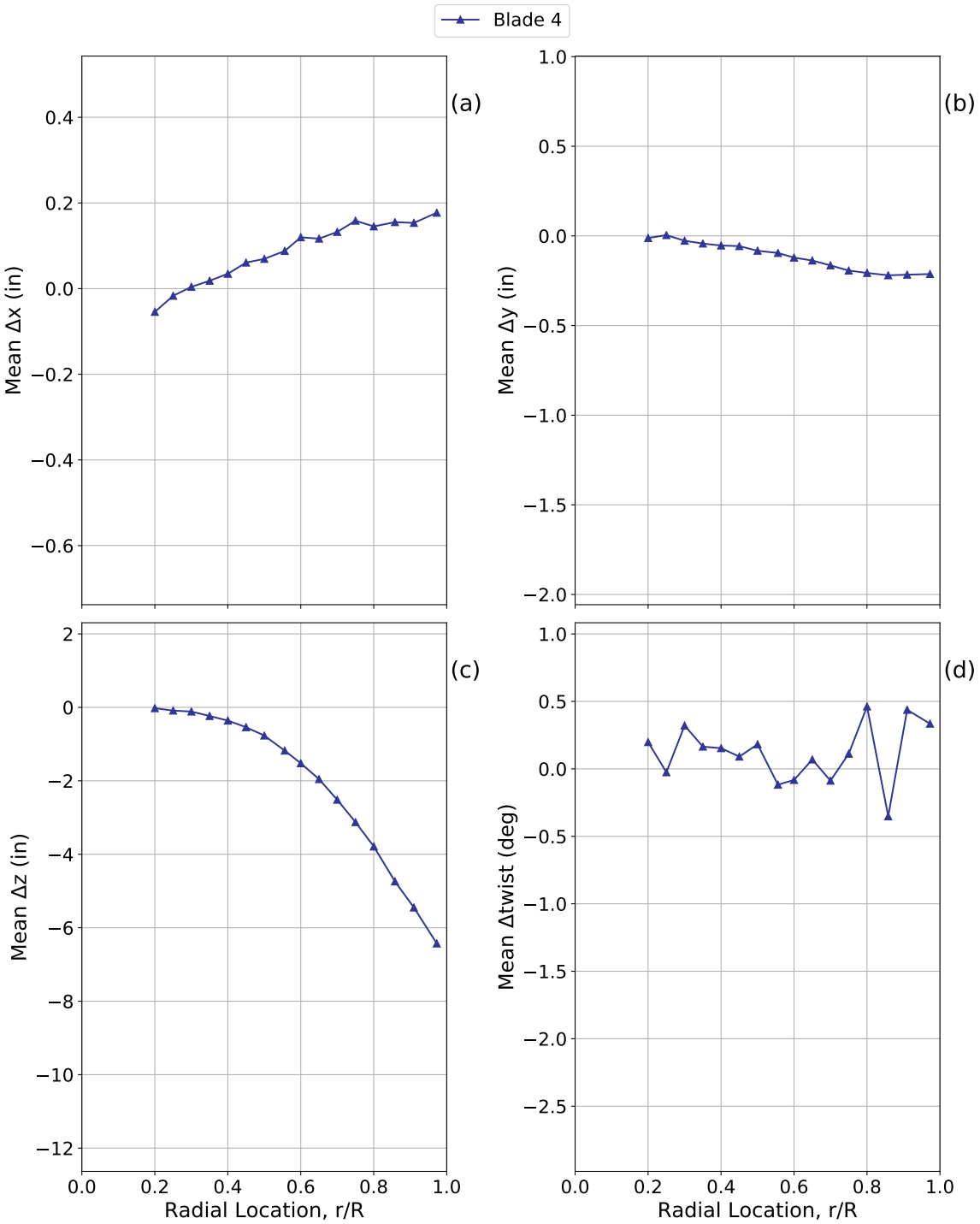


Figure 4.29-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0543	0.0011	-0.0118	0.0007	-0.0231	0.0014	0.1984	0.0145
4	105.12	0.2502	-0.0168	0.0007	0.0045	0.0018	-0.0878	0.0033	-0.0254	0.0236
4	105.12	0.3001	0.0041	0.0007	-0.0270	0.0033	-0.1143	0.0060	0.3213	0.0328
4	105.12	0.3502	0.0183	0.0008	-0.0426	0.0054	-0.2355	0.0092	0.1648	0.0242
4	105.12	0.4002	0.0346	0.0010	-0.0536	0.0088	-0.3603	0.0152	0.1532	0.0328
4	105.12	0.4500	0.0607	0.0016	-0.0568	0.0114	-0.5405	0.0213	0.0909	0.0359
4	105.12	0.5001	0.0694	0.0014	-0.0828	0.0133	-0.7681	0.0264	0.1818	0.0218
4	105.12	0.5560	0.0879	0.0018	-0.0952	0.0162	-1.1778	0.0313	-0.1174	0.0399
4	105.12	0.6001	0.1198	0.0019	-0.1210	0.0194	-1.5226	0.0369	-0.0823	0.0284
4	105.12	0.6501	0.1166	0.0012	-0.1374	0.0223	-1.9544	0.0430	0.0693	0.0251
4	105.12	0.6999	0.1323	0.0015	-0.1644	0.0248	-2.5150	0.0471	-0.0876	0.0266
4	105.12	0.7500	0.1585	0.0017	-0.1935	0.0286	-3.1245	0.0520	0.1120	0.0331
4	105.12	0.8002	0.1452	0.0017	-0.2066	0.0319	-3.7879	0.0560	0.4623	0.0191
4	105.12	0.8582	0.1552	0.0021	-0.2197	0.0360	-4.7395	0.0600	-0.3519	0.0234
4	105.12	0.9101	0.1534	0.0017	-0.2164	0.0398	-5.4502	0.0657	0.4377	0.0396
4	105.12	0.9728	0.1771	0.0033	-0.2127	0.0441	-6.4287	0.0735	0.3349	0.0331

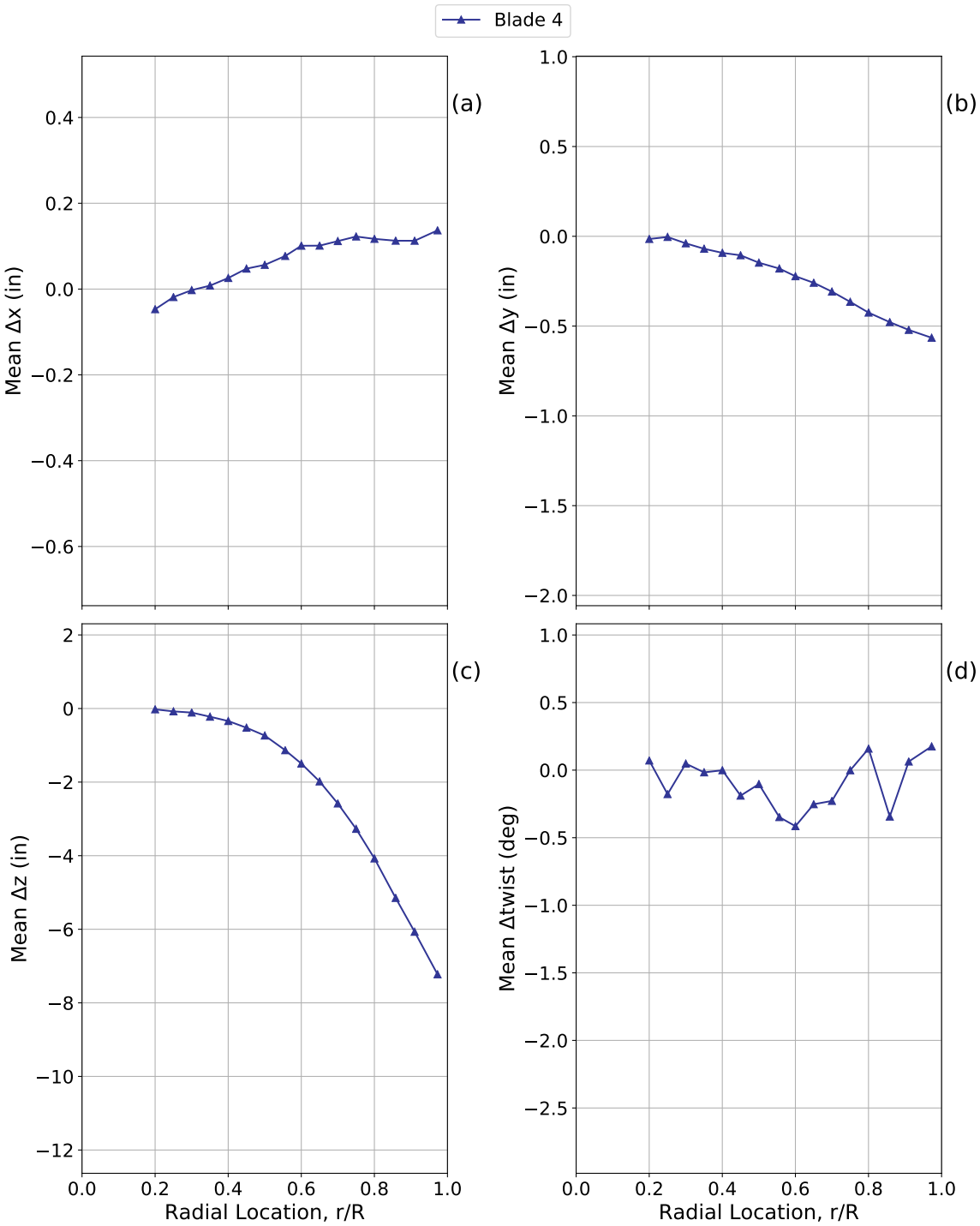


Figure 4.29-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0470	0.0007	-0.0150	0.0004	-0.0230	0.0014	0.0711	0.0109
4	119.88	0.2502	-0.0187	0.0009	-0.0038	0.0011	-0.0778	0.0045	-0.1778	0.0180
4	119.88	0.3001	-0.0025	0.0006	-0.0393	0.0020	-0.1103	0.0084	0.0481	0.0243
4	119.88	0.3502	0.0080	0.0011	-0.0695	0.0029	-0.2230	0.0120	-0.0166	0.0166
4	119.88	0.4002	0.0258	0.0016	-0.0923	0.0050	-0.3406	0.0213	-0.0010	0.0288
4	119.88	0.4500	0.0476	0.0019	-0.1058	0.0053	-0.5226	0.0254	-0.1889	0.0245
4	119.88	0.5001	0.0564	0.0018	-0.1471	0.0067	-0.7350	0.0284	-0.1035	0.0246
4	119.88	0.5560	0.0771	0.0016	-0.1797	0.0081	-1.1337	0.0384	-0.3477	0.0348
4	119.88	0.6001	0.1010	0.0022	-0.2225	0.0097	-1.4973	0.0438	-0.4148	0.0312
4	119.88	0.6501	0.1012	0.0029	-0.2590	0.0114	-1.9829	0.0486	-0.2523	0.0307
4	119.88	0.6999	0.1118	0.0029	-0.3080	0.0133	-2.5817	0.0546	-0.2280	0.0290
4	119.88	0.7500	0.1225	0.0024	-0.3652	0.0153	-3.2713	0.0604	-0.0014	0.0277
4	119.88	0.8002	0.1170	0.0026	-0.4251	0.0179	-4.0761	0.0696	0.1590	0.0334
4	119.88	0.8582	0.1127	0.0029	-0.4781	0.0200	-5.1496	0.0785	-0.3440	0.0315
4	119.88	0.9101	0.1126	0.0035	-0.5214	0.0223	-6.0691	0.0906	0.0633	0.0265
4	119.88	0.9728	0.1368	0.0047	-0.5651	0.0252	-7.2254	0.1047	0.1755	0.0283

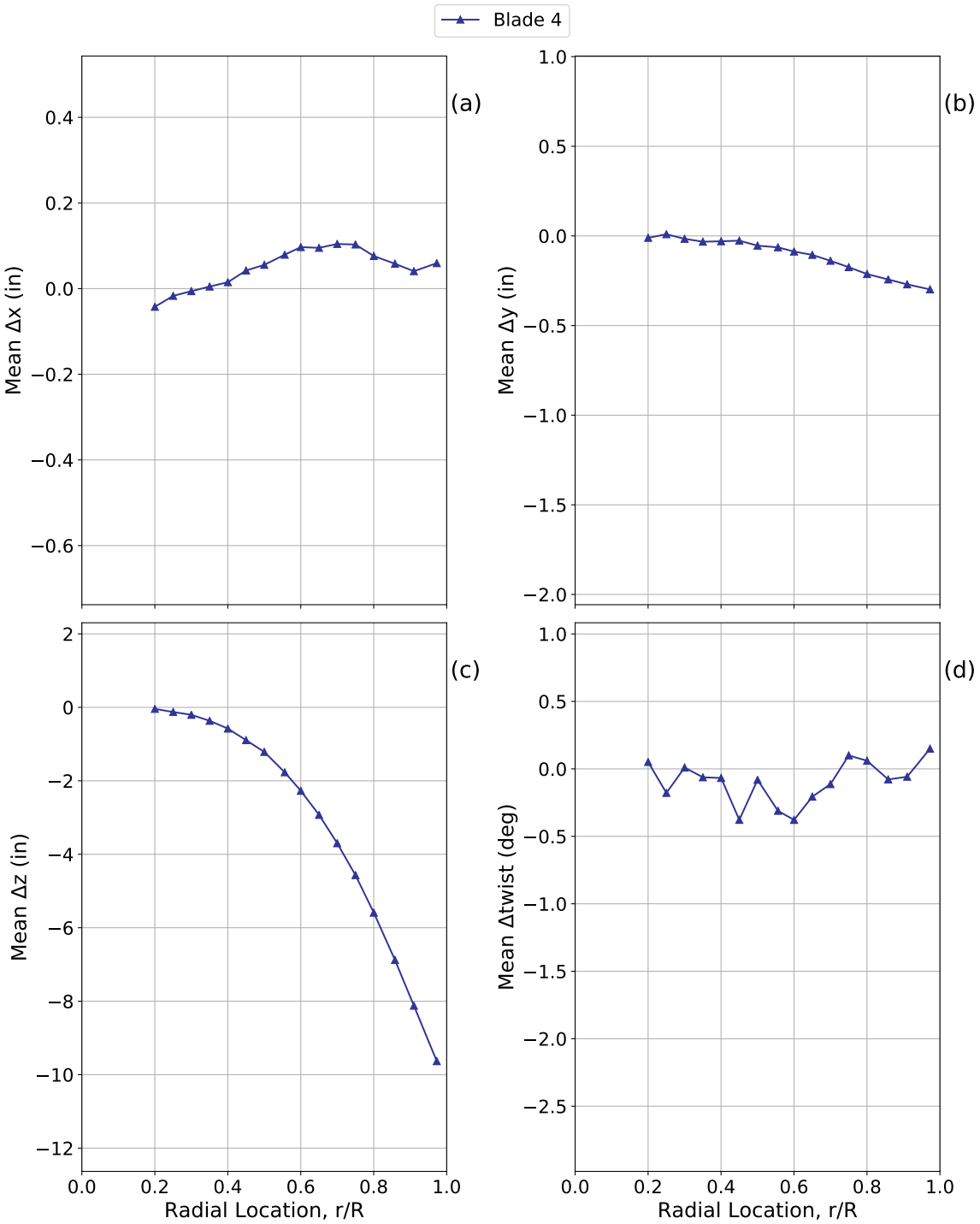


Figure 4.29-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-15. 135° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0425	0.0005	-0.0108	0.0003	-0.0419	0.0008	0.0510	0.0080
4	135	0.2502	-0.0170	0.0005	0.0094	0.0006	-0.1263	0.0031	-0.1784	0.0183
4	135	0.3001	-0.0060	0.0007	-0.0163	0.0011	-0.2029	0.0042	0.0098	0.0191
4	135	0.3502	0.0047	0.0009	-0.0323	0.0015	-0.3658	0.0063	-0.0625	0.0129
4	135	0.4002	0.0149	0.0006	-0.0300	0.0025	-0.5787	0.0110	-0.0676	0.0298
4	135	0.4500	0.0422	0.0007	-0.0265	0.0038	-0.8936	0.0131	-0.3780	0.0196
4	135	0.5001	0.0555	0.0011	-0.0544	0.0047	-1.2136	0.0134	-0.0811	0.0193
4	135	0.5560	0.0791	0.0014	-0.0637	0.0063	-1.7683	0.0158	-0.3110	0.0224
4	135	0.6001	0.0968	0.0013	-0.0873	0.0076	-2.2718	0.0160	-0.3782	0.0246
4	135	0.6501	0.0952	0.0016	-0.1059	0.0090	-2.9270	0.0209	-0.2060	0.0353
4	135	0.6999	0.1042	0.0018	-0.1388	0.0107	-3.6992	0.0231	-0.1132	0.0333
4	135	0.7500	0.1029	0.0020	-0.1744	0.0123	-4.5687	0.0258	0.0996	0.0322
4	135	0.8002	0.0760	0.0022	-0.2128	0.0142	-5.5900	0.0311	0.0600	0.0291
4	135	0.8582	0.0580	0.0027	-0.2429	0.0164	-6.8781	0.0373	-0.0784	0.0222
4	135	0.9101	0.0406	0.0026	-0.2703	0.0181	-8.1224	0.0420	-0.0585	0.0252
4	135	0.9728	0.0594	0.0034	-0.2983	0.0204	-9.6326	0.0492	0.1497	0.0236

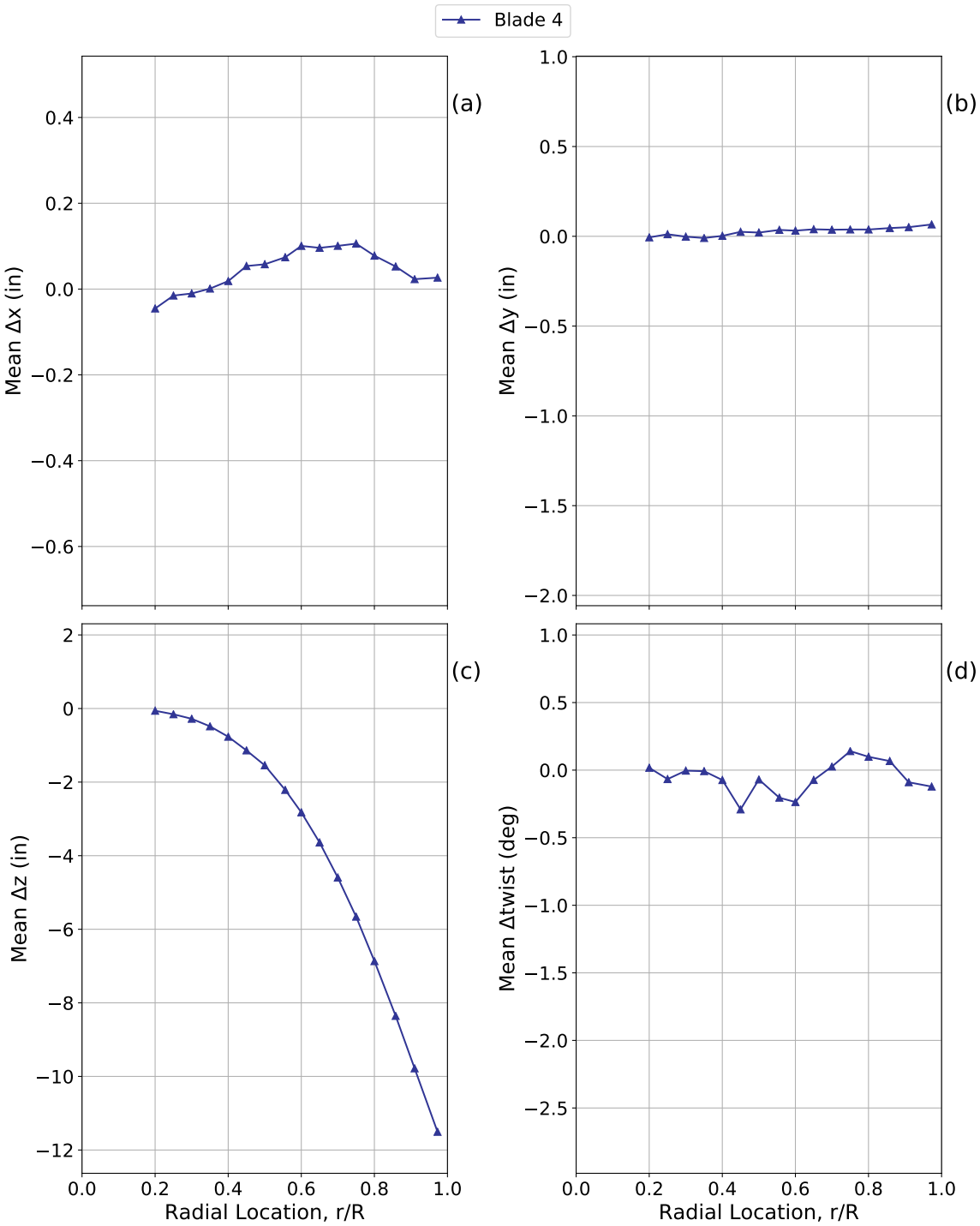


Figure 4.29-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0453	0.0009	-0.0061	0.0006	-0.0606	0.0011	0.0172	0.0136
4	150.12	0.2502	-0.0152	0.0009	0.0114	0.0015	-0.1561	0.0030	-0.0665	0.0164
4	150.12	0.3001	-0.0103	0.0007	-0.0021	0.0028	-0.2795	0.0034	-0.0041	0.0284
4	150.12	0.3502	0.0011	0.0006	-0.0095	0.0047	-0.4847	0.0083	-0.0077	0.0249
4	150.12	0.4002	0.0186	0.0012	0.0024	0.0075	-0.7679	0.0114	-0.0735	0.0246
4	150.12	0.4500	0.0537	0.0013	0.0249	0.0080	-1.1390	0.0160	-0.2907	0.0234
4	150.12	0.5001	0.0578	0.0012	0.0208	0.0107	-1.5450	0.0220	-0.0694	0.0265
4	150.12	0.5560	0.0741	0.0012	0.0355	0.0128	-2.2129	0.0245	-0.2041	0.0351
4	150.12	0.6001	0.1006	0.0013	0.0315	0.0143	-2.8231	0.0312	-0.2363	0.0295
4	150.12	0.6501	0.0961	0.0020	0.0391	0.0168	-3.6427	0.0371	-0.0729	0.0339
4	150.12	0.6999	0.1007	0.0025	0.0366	0.0197	-4.5944	0.0427	0.0264	0.0286
4	150.12	0.7500	0.1059	0.0022	0.0379	0.0233	-5.6586	0.0504	0.1406	0.0381
4	150.12	0.8002	0.0778	0.0036	0.0378	0.0262	-6.8672	0.0561	0.0985	0.0348
4	150.12	0.8582	0.0526	0.0030	0.0458	0.0305	-8.3551	0.0626	0.0671	0.0250
4	150.12	0.9101	0.0231	0.0038	0.0508	0.0341	-9.7812	0.0680	-0.0898	0.0231
4	150.12	0.9728	0.0266	0.0040	0.0659	0.0383	-11.5063	0.0727	-0.1218	0.0275

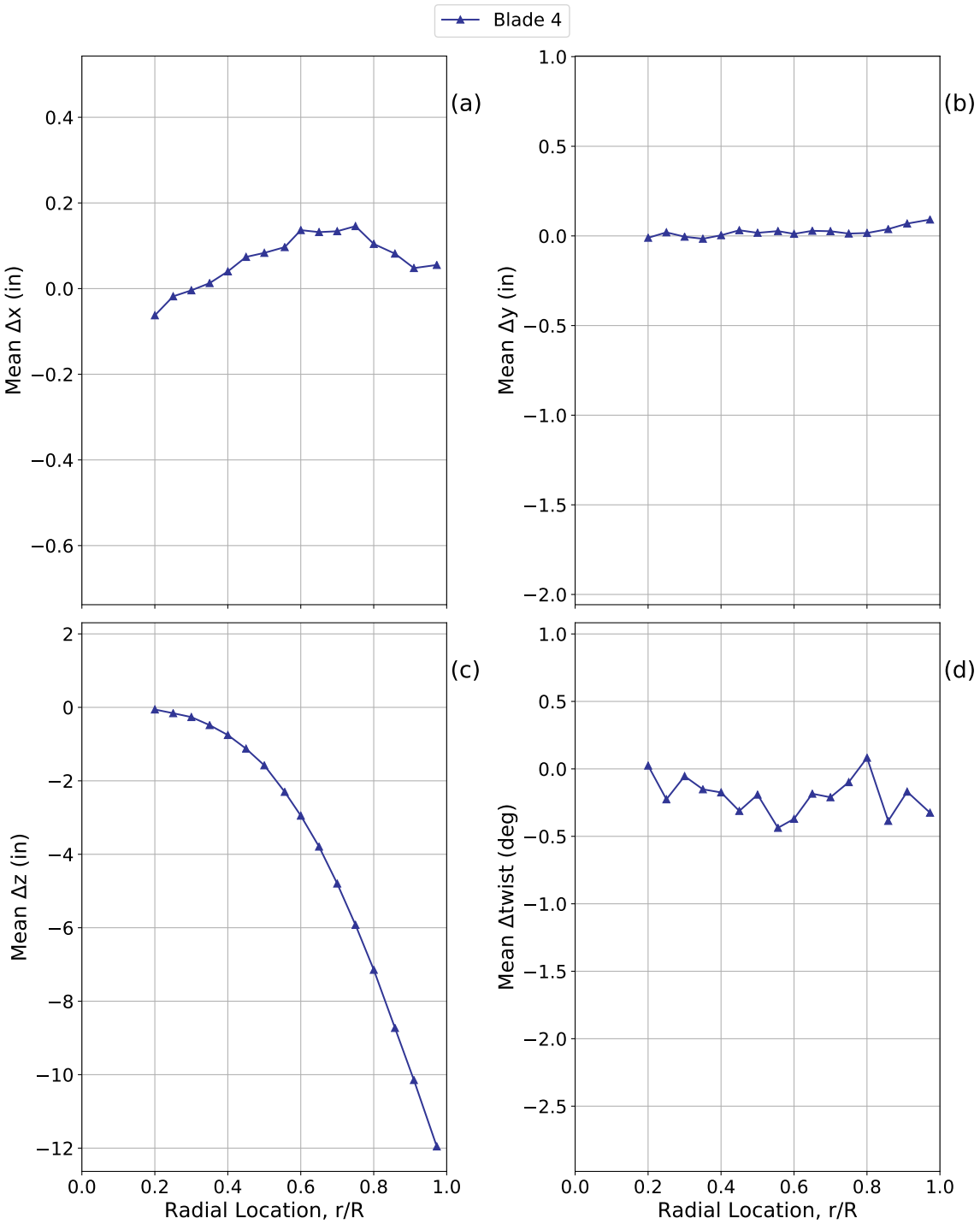


Figure 4.29-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0624	0.0010	-0.0105	0.0004	-0.0580	0.0013	0.0240	0.0091
4	164.88	0.2502	-0.0181	0.0008	0.0198	0.0011	-0.1594	0.0029	-0.2259	0.0112
4	164.88	0.3001	-0.0041	0.0008	-0.0045	0.0021	-0.2650	0.0060	-0.0542	0.0188
4	164.88	0.3502	0.0128	0.0009	-0.0159	0.0028	-0.4838	0.0089	-0.1515	0.0263
4	164.88	0.4002	0.0401	0.0016	0.0036	0.0048	-0.7540	0.0148	-0.1748	0.0190
4	164.88	0.4500	0.0739	0.0019	0.0316	0.0070	-1.1246	0.0200	-0.3121	0.0199
4	164.88	0.5001	0.0834	0.0028	0.0173	0.0100	-1.5786	0.0251	-0.1911	0.0266
4	164.88	0.5560	0.0968	0.0046	0.0268	0.0107	-2.3015	0.0268	-0.4373	0.0386
4	164.88	0.6001	0.1365	0.0060	0.0114	0.0122	-2.9493	0.0290	-0.3706	0.0225
4	164.88	0.6501	0.1319	0.0078	0.0284	0.0132	-3.7921	0.0323	-0.1842	0.0226
4	164.88	0.6999	0.1339	0.0097	0.0262	0.0163	-4.7976	0.0353	-0.2106	0.0242
4	164.88	0.7500	0.1458	0.0133	0.0130	0.0176	-5.9236	0.0394	-0.0986	0.0309
4	164.88	0.8002	0.1042	0.0186	0.0162	0.0201	-7.1462	0.0470	0.0823	0.0679
4	164.88	0.8582	0.0816	0.0152	0.0379	0.0258	-8.7286	0.0578	-0.3857	0.2487
4	164.88	0.9101	0.0479	0.0040	0.0687	0.0462	-10.1466	0.0852	-0.1692	0.0285
4	164.88	0.9728	0.0552	0.0049	0.0912	0.0505	-11.9543	0.0987	-0.3251	0.0272

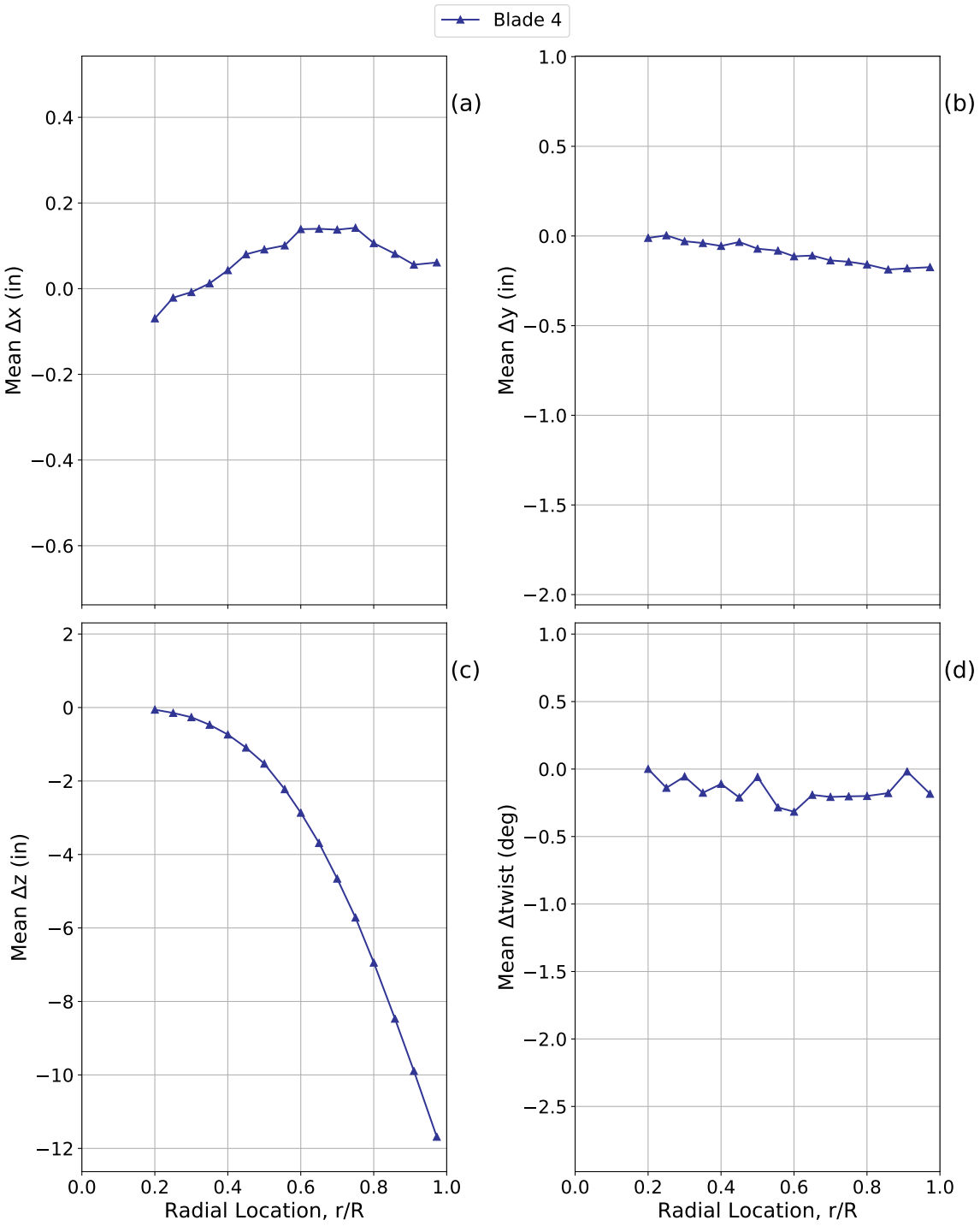


Figure 4.29-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0694	0.0019	-0.0109	0.0008	-0.0587	0.0012	0.0009	0.0087
4	170.16	0.2502	-0.0210	0.0012	0.0034	0.0017	-0.1473	0.0030	-0.1393	0.0134
4	170.16	0.3001	-0.0081	0.0009	-0.0295	0.0037	-0.2643	0.0048	-0.0553	0.0187
4	170.16	0.3502	0.0124	0.0019	-0.0395	0.0040	-0.4702	0.0088	-0.1758	0.0258
4	170.16	0.4002	0.0431	0.0028	-0.0557	0.0078	-0.7353	0.0134	-0.1100	0.0157
4	170.16	0.4500	0.0802	0.0038	-0.0335	0.0106	-1.0918	0.0159	-0.2105	0.0214
4	170.16	0.5001	0.0915	0.0043	-0.0711	0.0123	-1.5282	0.0206	-0.0596	0.0266
4	170.16	0.5560	0.1008	0.0063	-0.0820	0.0151	-2.2242	0.0228	-0.2841	0.0436
4	170.16	0.6001	0.1389	0.0065	-0.1137	0.0164	-2.8644	0.0286	-0.3162	0.0363
4	170.16	0.6501	0.1397	0.0087	-0.1093	0.0176	-3.6890	0.0315	-0.1914	0.0442
4	170.16	0.6999	0.1377	0.0112	-0.1364	0.0191	-4.6586	0.0339	-0.2068	0.0803
4	170.16	0.7500	0.1420	0.0054	-0.1438	0.0343	-5.7179	0.0602	-0.2023	0.0298
4	170.16	0.8002	0.1062	0.0055	-0.1591	0.0372	-6.9435	0.0656	-0.1998	0.0252
4	170.16	0.8582	0.0813	0.0061	-0.1871	0.0407	-8.4697	0.0698	-0.1783	0.0250
4	170.16	0.9101	0.0559	0.0058	-0.1805	0.0442	-9.8915	0.0738	-0.0180	0.0281
4	170.16	0.9728	0.0611	0.0062	-0.1740	0.0476	-11.6841	0.0784	-0.1834	0.0283

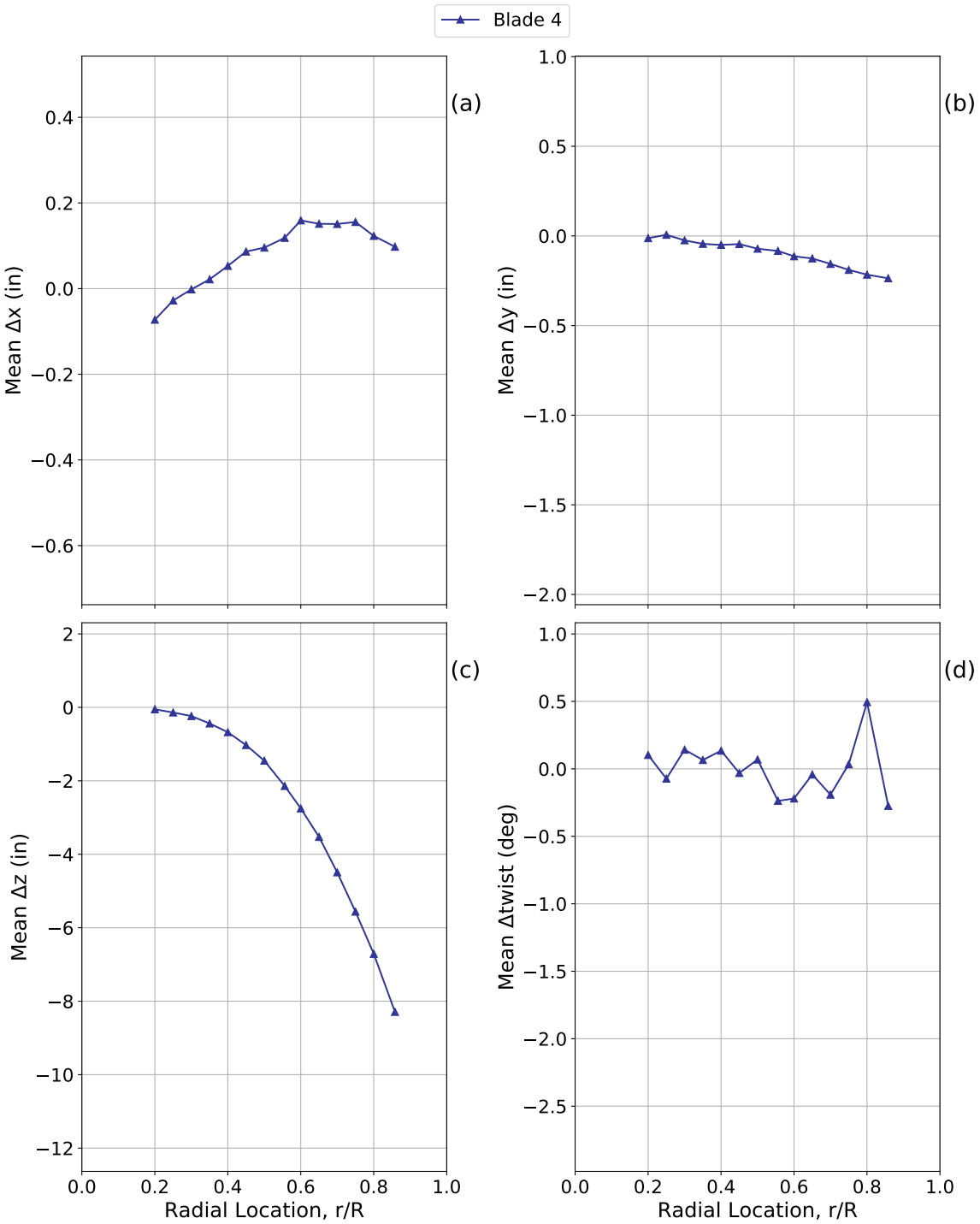


Figure 4.29-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-19. 175° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0727	0.0031	-0.0126	0.0004	-0.0540	0.0015	0.1030	0.0093
4	175.08	0.2502	-0.0277	0.0012	0.0062	0.0011	-0.1398	0.0030	-0.0728	0.0255
4	175.08	0.3001	-0.0019	0.0011	-0.0247	0.0022	-0.2374	0.0053	0.1420	0.0243
4	175.08	0.3502	0.0216	0.0024	-0.0444	0.0029	-0.4394	0.0094	0.0656	0.0212
4	175.08	0.4002	0.0530	0.0026	-0.0503	0.0053	-0.6766	0.0143	0.1347	0.0254
4	175.08	0.4500	0.0864	0.0034	-0.0457	0.0065	-1.0271	0.0189	-0.0306	0.0264
4	175.08	0.5001	0.0957	0.0044	-0.0715	0.0090	-1.4526	0.0259	0.0689	0.0315
4	175.08	0.5560	0.1184	0.0046	-0.0838	0.0109	-2.1412	0.0304	-0.2374	0.0251
4	175.08	0.6001	0.1592	0.0063	-0.1138	0.0132	-2.7525	0.0374	-0.2199	0.0235
4	175.08	0.6501	0.1513	0.0065	-0.1257	0.0158	-3.5283	0.0427	-0.0420	0.0233
4	175.08	0.6999	0.1508	0.0086	-0.1562	0.0200	-4.4924	0.0471	-0.1913	0.0403
4	175.08	0.7500	0.1555	0.0092	-0.1895	0.0228	-5.5623	0.0550	0.0341	0.0266
4	175.08	0.8002	0.1230	0.0112	-0.2162	0.0264	-6.7126	0.0600	0.4943	0.0332
4	175.08	0.8582	0.0977	0.0134	-0.2364	0.0321	-8.2914	0.0692	-0.2747	0.0516

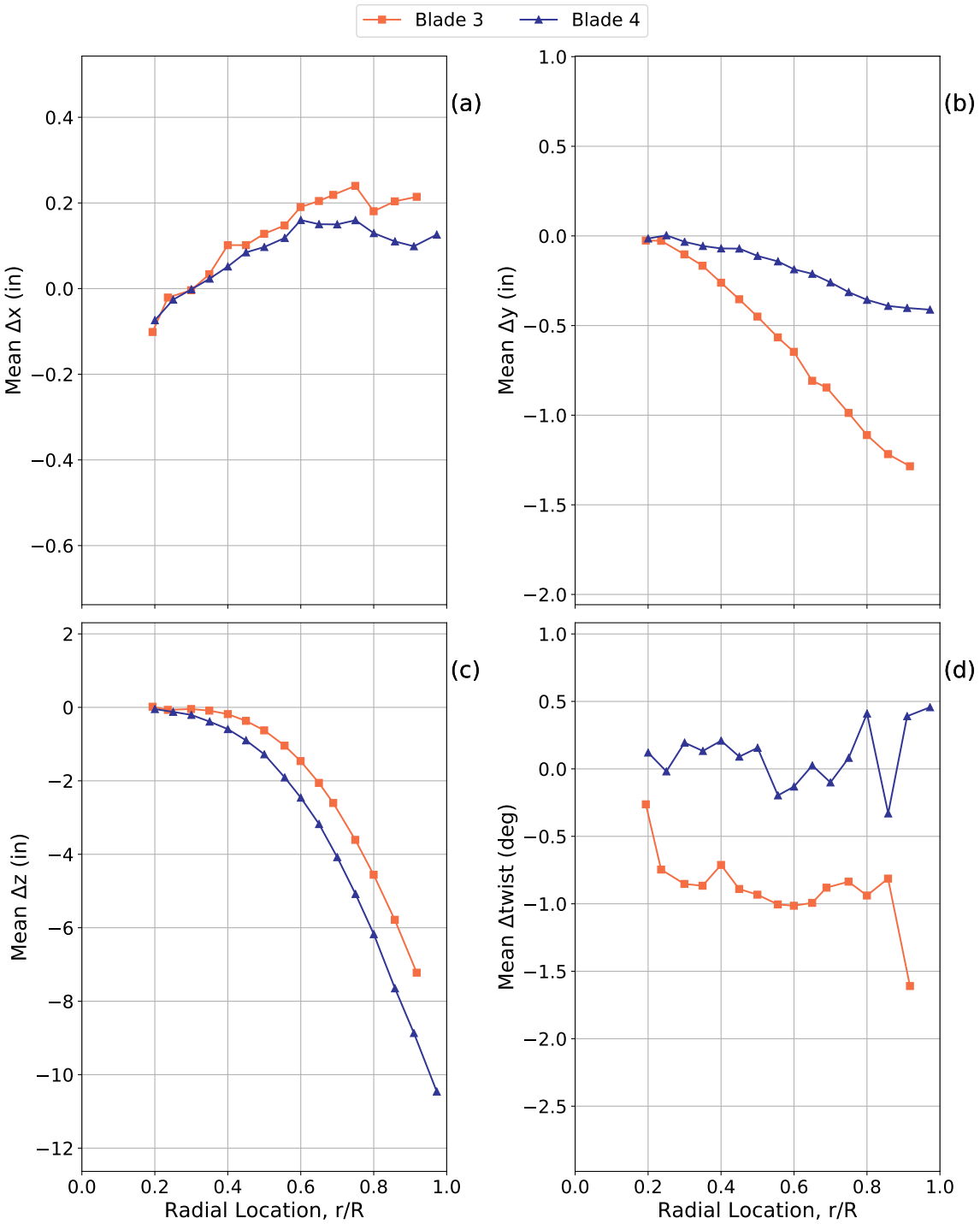


Figure 4.29-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.1013	0.0013	-0.0259	0.0011	0.0173	0.0019	-0.2628	0.0099
3	180.35	0.2357	-0.0209	0.0016	-0.0271	0.0018	-0.0685	0.0016	-0.7462	0.0293
3	180.35	0.2995	-0.0038	0.0018	-0.1030	0.0048	-0.0450	0.0053	-0.8528	0.0289
3	180.35	0.3493	0.0336	0.0015	-0.1664	0.0078	-0.0892	0.0088	-0.8661	0.0320
3	180.35	0.4000	0.1015	0.0028	-0.2609	0.0124	-0.1832	0.0127	-0.7120	0.0373
3	180.35	0.4497	0.1015	0.0039	-0.3534	0.0149	-0.3674	0.0167	-0.8903	0.0356
3	180.35	0.4997	0.1279	0.0046	-0.4499	0.0188	-0.6264	0.0195	-0.9324	0.0409
3	180.35	0.5556	0.1474	0.0057	-0.5660	0.0239	-1.0420	0.0243	-1.0047	0.0386
3	180.35	0.5995	0.1904	0.0073	-0.6466	0.0260	-1.4623	0.0284	-1.0144	0.0465
3	180.35	0.6498	0.2045	0.0079	-0.8080	0.0303	-2.0568	0.0296	-0.9931	0.0570
3	180.35	0.6890	0.2188	0.0091	-0.8456	0.0323	-2.6032	0.0324	-0.8804	0.0624
3	180.35	0.7495	0.2399	0.0100	-0.9873	0.0382	-3.6079	0.0355	-0.8361	0.0606
3	180.35	0.7998	0.1806	0.0134	-1.1107	0.0418	-4.5571	0.0409	-0.9387	0.0479
3	180.35	0.8577	0.2037	0.0080	-1.2172	0.0359	-5.7842	0.0475	-0.8131	0.0615
3	180.35	0.9178	0.2143	0.0062	-1.2848	0.0393	-7.2226	0.0519	-1.6096	0.0733
4	180	0.2001	-0.0739	0.0034	-0.0145	0.0006	-0.0473	0.0012	0.1207	0.0125
4	180	0.2502	-0.0258	0.0011	0.0034	0.0011	-0.1231	0.0030	-0.0189	0.0197
4	180	0.3001	-0.0018	0.0011	-0.0329	0.0023	-0.2056	0.0051	0.1941	0.0275
4	180	0.3502	0.0232	0.0029	-0.0563	0.0036	-0.3880	0.0079	0.1326	0.0269
4	180	0.4002	0.0516	0.0038	-0.0699	0.0059	-0.5930	0.0131	0.2088	0.0248
4	180	0.4500	0.0846	0.0042	-0.0708	0.0084	-0.8988	0.0169	0.0905	0.0266
4	180	0.5001	0.0971	0.0050	-0.1117	0.0102	-1.2785	0.0194	0.1560	0.0332
4	180	0.5560	0.1182	0.0043	-0.1422	0.0134	-1.9078	0.0240	-0.1967	0.0310
4	180	0.6001	0.1600	0.0038	-0.1864	0.0153	-2.4588	0.0270	-0.1311	0.0309
4	180	0.6501	0.1503	0.0038	-0.2115	0.0175	-3.1781	0.0326	0.0254	0.0225
4	180	0.6999	0.1499	0.0043	-0.2591	0.0199	-4.0783	0.0381	-0.1006	0.0236
4	180	0.7500	0.1596	0.0051	-0.3138	0.0221	-5.0814	0.0447	0.0815	0.0225
4	180	0.8002	0.1294	0.0079	-0.3568	0.0249	-6.1757	0.0496	0.4100	0.0344
4	180	0.8582	0.1101	0.0099	-0.3906	0.0287	-7.6506	0.0573	-0.3304	0.0258
4	180	0.9101	0.0988	0.0125	-0.4020	0.0319	-8.8671	0.0646	0.3902	0.0341
4	180	0.9728	0.1260	0.0168	-0.4114	0.0354	-10.4603	0.0696	0.4569	0.0854

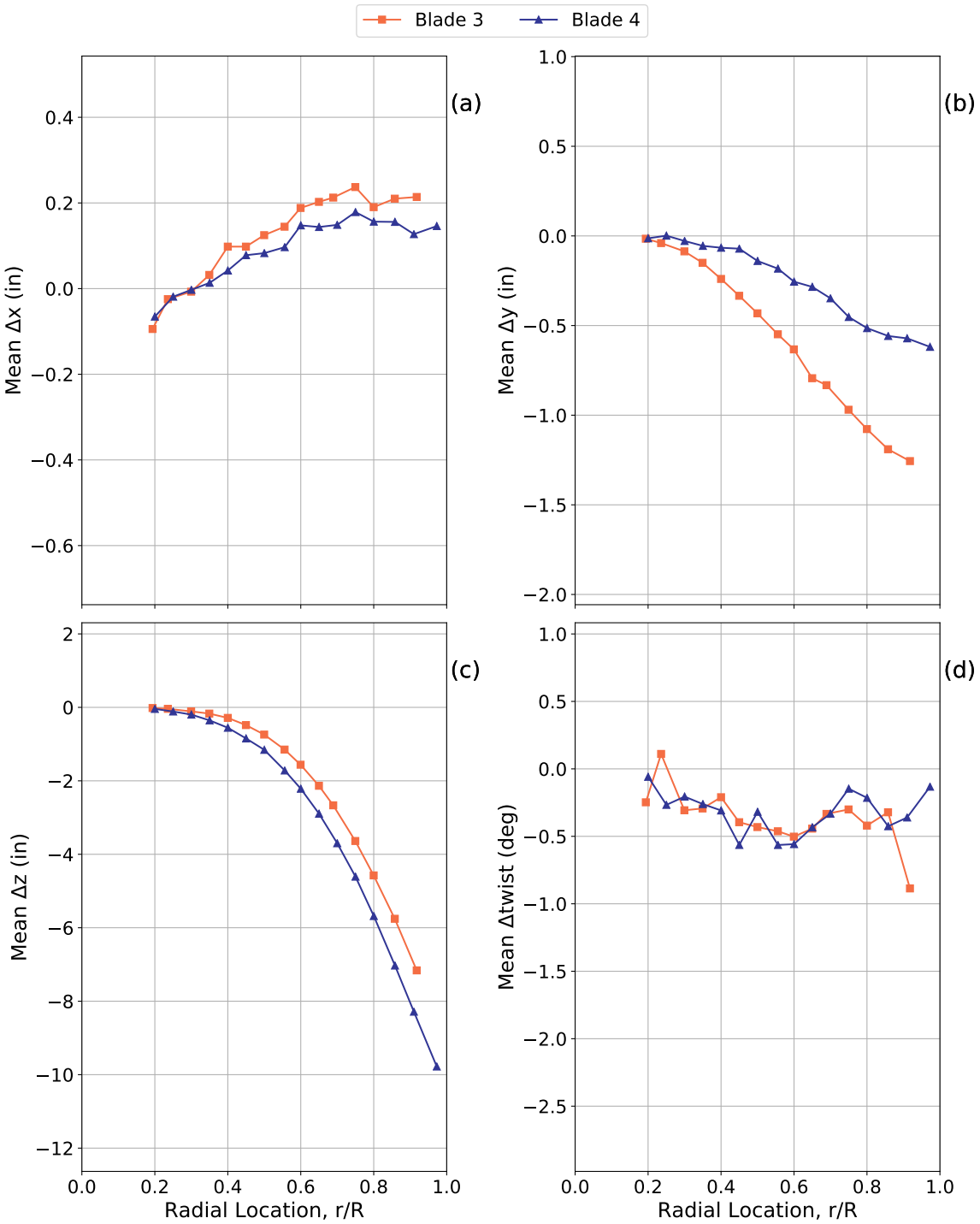


Figure 4.29-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0943	0.0047	-0.0156	0.0020	-0.0183	0.0020	-0.2478	0.0237
3	184.92	0.2357	-0.0246	0.0020	-0.0399	0.0027	-0.0397	0.0049	0.1107	0.0318
3	184.92	0.2995	-0.0072	0.0017	-0.0862	0.0072	-0.1092	0.0064	-0.3069	0.0390
3	184.92	0.3493	0.0319	0.0018	-0.1500	0.0131	-0.1699	0.0123	-0.2935	0.0366
3	184.92	0.4000	0.0980	0.0030	-0.2399	0.0195	-0.2869	0.0185	-0.2100	0.0376
3	184.92	0.4497	0.0980	0.0034	-0.3339	0.0258	-0.4823	0.0237	-0.3953	0.0407
3	184.92	0.4997	0.1248	0.0042	-0.4318	0.0310	-0.7411	0.0309	-0.4314	0.0395
3	184.92	0.5556	0.1445	0.0051	-0.5487	0.0388	-1.1498	0.0381	-0.4624	0.0347
3	184.92	0.5995	0.1883	0.0045	-0.6329	0.0445	-1.5615	0.0434	-0.5023	0.0463
3	184.92	0.6498	0.2025	0.0053	-0.7937	0.0530	-2.1343	0.0480	-0.4427	0.0640
3	184.92	0.6890	0.2125	0.0063	-0.8326	0.0585	-2.6668	0.0540	-0.3338	0.0625
3	184.92	0.7495	0.2371	0.0054	-0.9696	0.0674	-3.6379	0.0634	-0.3007	0.0508
3	184.92	0.7998	0.1902	0.0059	-1.0774	0.0735	-4.5751	0.0692	-0.4204	0.0700
3	184.92	0.8577	0.2100	0.0040	-1.1900	0.0755	-5.7557	0.0753	-0.3216	0.0514
3	184.92	0.9178	0.2139	0.0026	-1.2560	0.0847	-7.1607	0.0845	-0.8860	0.0404
4	184.92	0.2001	-0.0654	0.0055	-0.0134	0.0020	-0.0427	0.0026	-0.0590	0.0150
4	184.92	0.2502	-0.0189	0.0019	0.0014	0.0036	-0.1128	0.0040	-0.2669	0.0374
4	184.92	0.3001	-0.0029	0.0012	-0.0283	0.0076	-0.1974	0.0090	-0.2055	0.0351
4	184.92	0.3502	0.0135	0.0022	-0.0556	0.0127	-0.3546	0.0132	-0.2611	0.0374
4	184.92	0.4002	0.0422	0.0038	-0.0660	0.0196	-0.5558	0.0206	-0.3084	0.0253
4	184.92	0.4500	0.0780	0.0062	-0.0712	0.0249	-0.8460	0.0230	-0.5640	0.0361
4	184.92	0.5001	0.0828	0.0075	-0.1399	0.0306	-1.1568	0.0293	-0.3185	0.0348
4	184.92	0.5560	0.0967	0.0094	-0.1826	0.0368	-1.7187	0.0333	-0.5643	0.0402
4	184.92	0.6001	0.1476	0.0102	-0.2553	0.0424	-2.2156	0.0386	-0.5578	0.0318
4	184.92	0.6501	0.1438	0.0122	-0.2844	0.0467	-2.8961	0.0410	-0.4331	0.0441
4	184.92	0.6999	0.1488	0.0131	-0.3481	0.0533	-3.6993	0.0476	-0.3320	0.0379
4	184.92	0.7500	0.1786	0.0140	-0.4524	0.0595	-4.6096	0.0502	-0.1471	0.0504
4	184.92	0.8002	0.1563	0.0145	-0.5144	0.0677	-5.6814	0.0568	-0.2148	0.0425
4	184.92	0.8582	0.1557	0.0147	-0.5583	0.0770	-7.0294	0.0611	-0.4253	0.0495
4	184.92	0.9101	0.1271	0.0162	-0.5714	0.0860	-8.2860	0.0707	-0.3603	0.0388
4	184.92	0.9728	0.1460	0.0133	-0.6190	0.0980	-9.7788	0.0739	-0.1322	0.0490

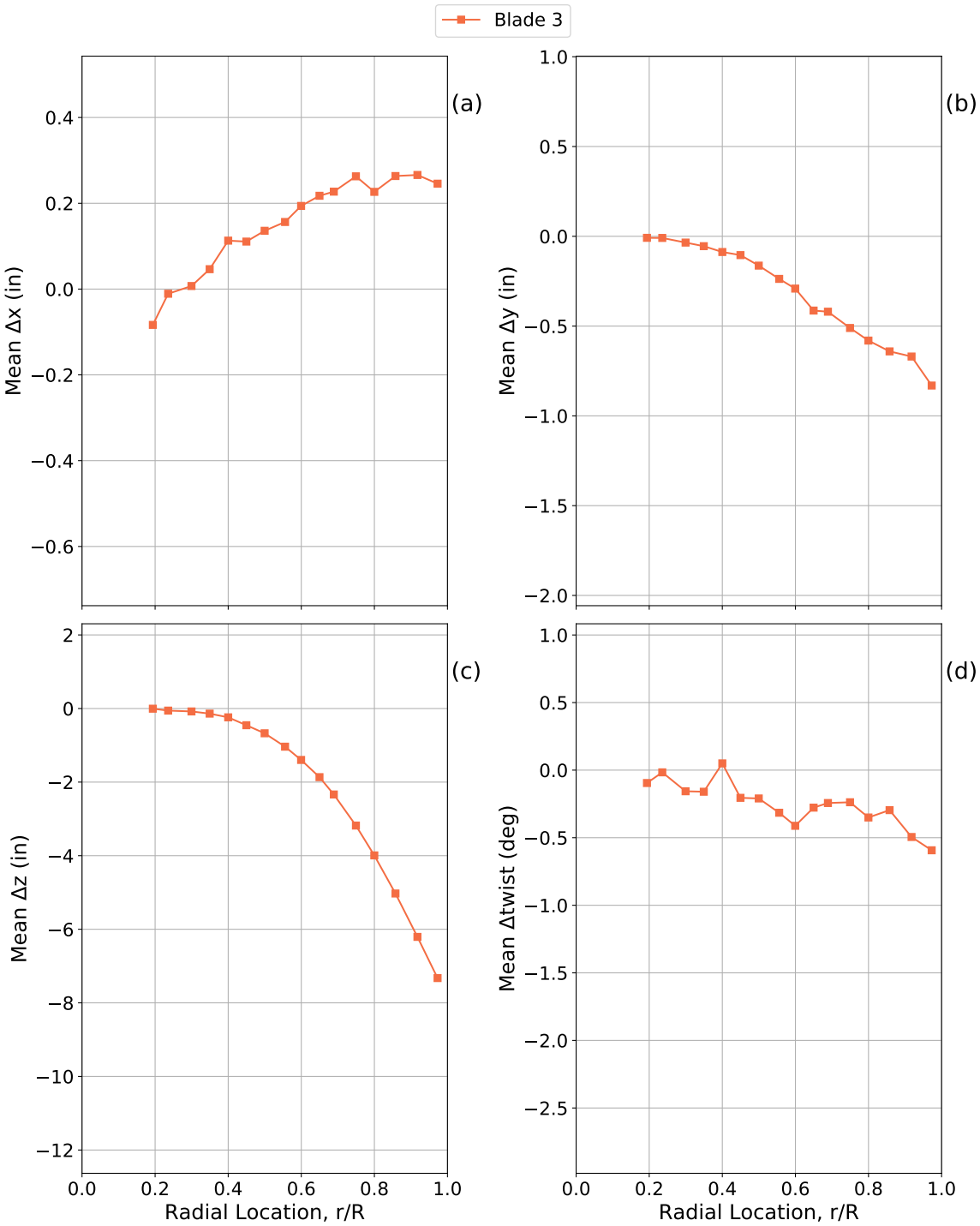


Figure 4.29-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0835	0.0006	-0.0085	0.0007	-0.0045	0.0013	-0.0954	0.0136
3	195.12	0.2357	-0.0109	0.0007	-0.0091	0.0011	-0.0566	0.0028	-0.0164	0.0201
3	195.12	0.2995	0.0071	0.0008	-0.0349	0.0032	-0.0795	0.0060	-0.1563	0.0281
3	195.12	0.3493	0.0464	0.0009	-0.0550	0.0043	-0.1389	0.0077	-0.1598	0.0257
3	195.12	0.4000	0.1129	0.0013	-0.0874	0.0075	-0.2398	0.0140	0.0500	0.0279
3	195.12	0.4497	0.1107	0.0110	-0.1048	0.0377	-0.4540	0.0358	-0.2049	0.0244
3	195.12	0.4997	0.1359	0.0106	-0.1633	0.0417	-0.6732	0.0422	-0.2096	0.0231
3	195.12	0.5556	0.1564	0.0104	-0.2372	0.0461	-1.0371	0.0516	-0.3153	0.0290
3	195.12	0.5995	0.1938	0.0098	-0.2912	0.0496	-1.3976	0.0588	-0.4120	0.0339
3	195.12	0.6498	0.2175	0.0086	-0.4136	0.0535	-1.8653	0.0666	-0.2775	0.0375
3	195.12	0.6890	0.2271	0.0078	-0.4199	0.0573	-2.3366	0.0728	-0.2433	0.0353
3	195.12	0.7495	0.2628	0.0063	-0.5106	0.0632	-3.1811	0.0829	-0.2377	0.0384
3	195.12	0.7998	0.2266	0.0061	-0.5807	0.0668	-3.9923	0.0888	-0.3504	0.0260
3	195.12	0.8577	0.2635	0.0066	-0.6409	0.0733	-5.0280	0.0987	-0.2959	0.0426
3	195.12	0.9178	0.2660	0.0068	-0.6695	0.0817	-6.2073	0.1054	-0.4948	0.1352
3	195.12	0.9729	0.2457	0.0045	-0.8311	0.0986	-7.3266	0.1359	-0.5931	0.0309

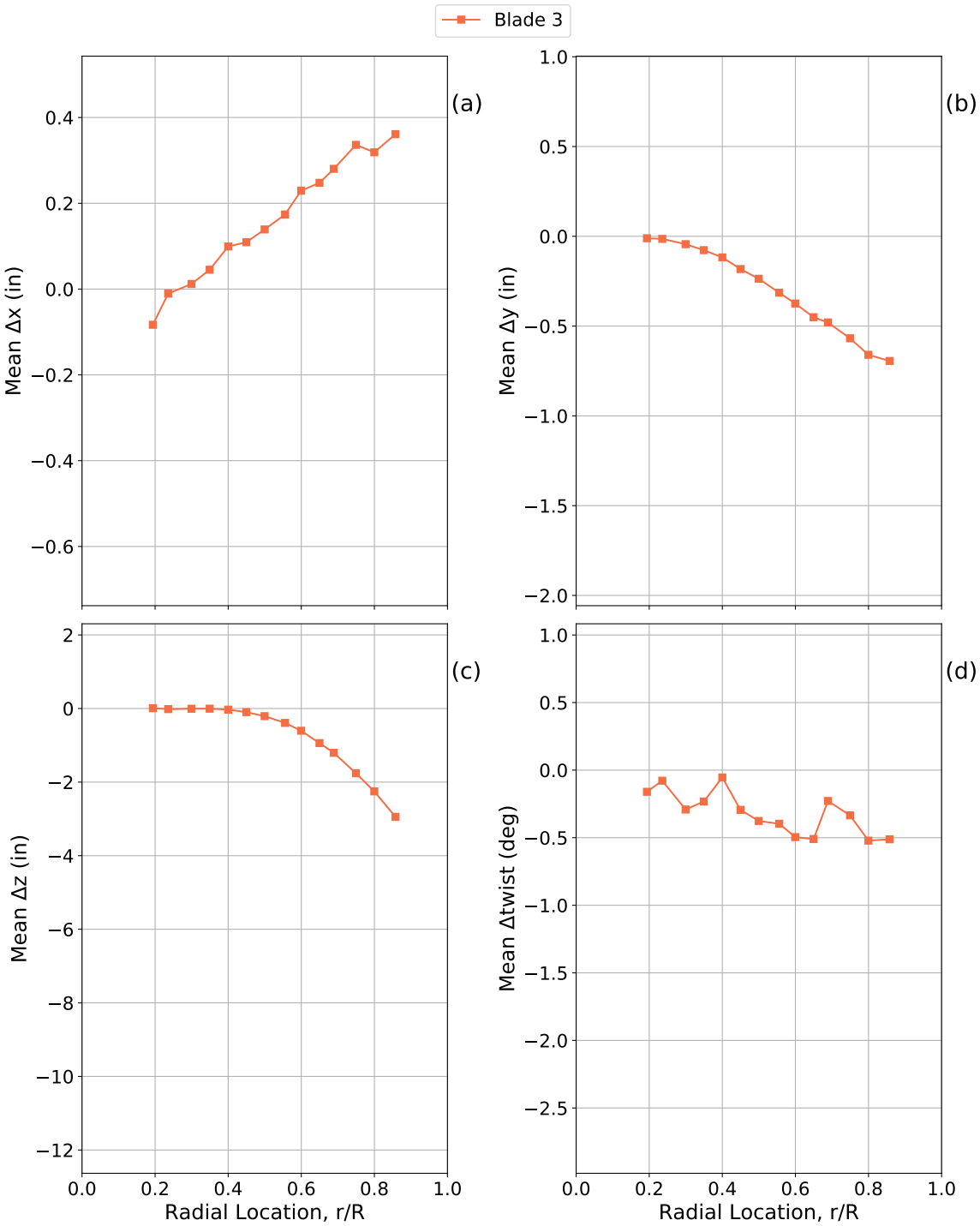


Figure 4.29-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0832	0.0005	-0.0109	0.0007	0.0096	0.0013	-0.1603	0.0134
3	209.88	0.2357	-0.0106	0.0006	-0.0144	0.0015	-0.0164	0.0032	-0.0782	0.0205
3	209.88	0.2995	0.0119	0.0006	-0.0438	0.0030	-0.0061	0.0057	-0.2914	0.0291
3	209.88	0.3493	0.0451	0.0010	-0.0771	0.0045	-0.0040	0.0085	-0.2326	0.0263
3	209.88	0.4000	0.0993	0.0013	-0.1175	0.0075	-0.0303	0.0140	-0.0542	0.0263
3	209.88	0.4497	0.1092	0.0012	-0.1823	0.0081	-0.0983	0.0149	-0.2941	0.0342
3	209.88	0.4997	0.1390	0.0011	-0.2365	0.0111	-0.2078	0.0213	-0.3761	0.0274
3	209.88	0.5556	0.1739	0.0010	-0.3141	0.0125	-0.3910	0.0247	-0.3970	0.0198
3	209.88	0.5995	0.2295	0.0011	-0.3743	0.0137	-0.6043	0.0291	-0.4956	0.0273
3	209.88	0.6498	0.2476	0.0010	-0.4507	0.0159	-0.9398	0.0345	-0.5100	0.0203
3	209.88	0.6890	0.2803	0.0012	-0.4799	0.0181	-1.2037	0.0384	-0.2282	0.0326
3	209.88	0.7495	0.3362	0.0017	-0.5680	0.0192	-1.7588	0.0418	-0.3349	0.0318
3	209.88	0.7998	0.3189	0.0019	-0.6599	0.0209	-2.2525	0.0459	-0.5216	0.0215
3	209.88	0.8577	0.3611	0.0023	-0.6943	0.0237	-2.9450	0.0537	-0.5117	0.0417

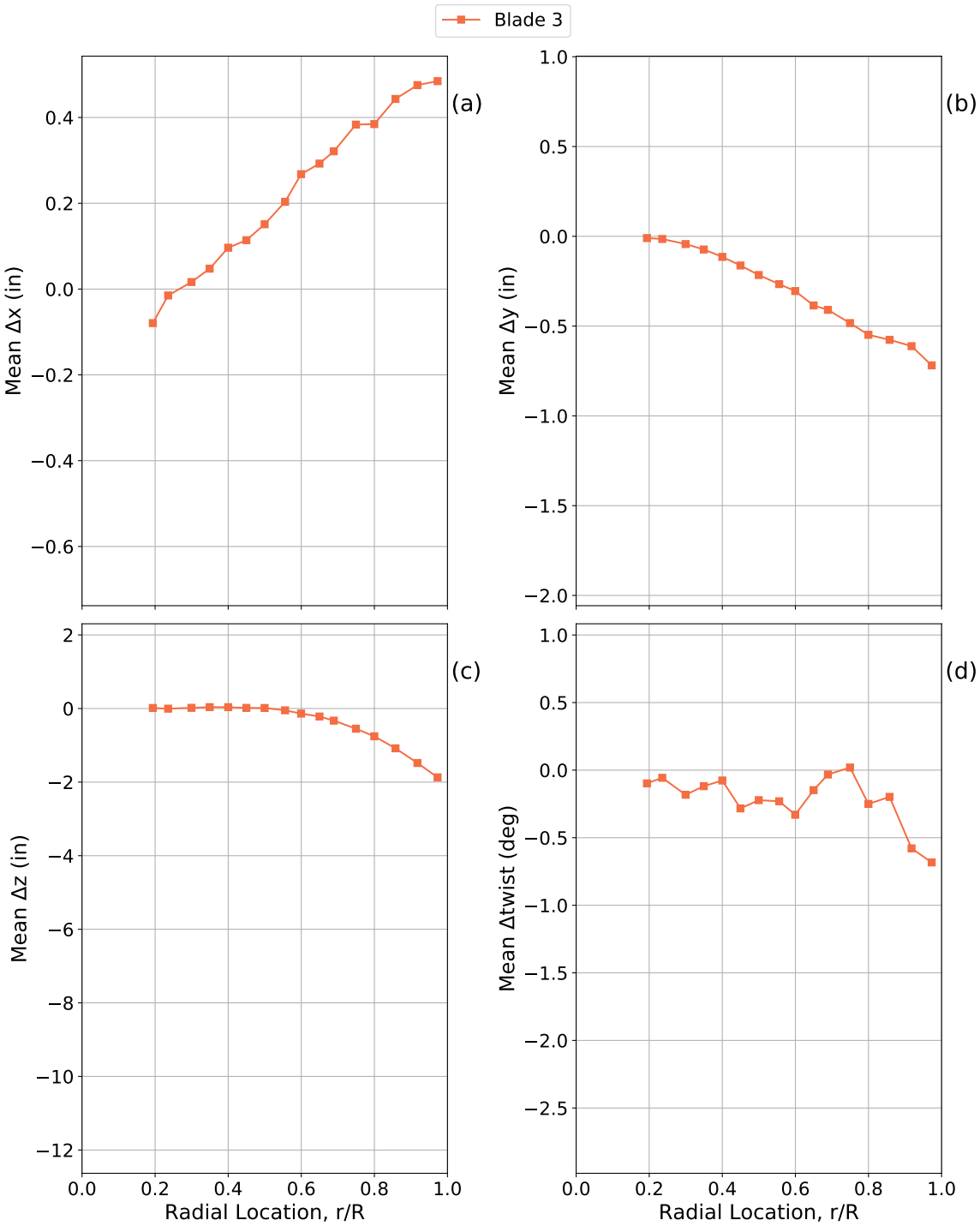


Figure 4.29-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0793	0.0008	-0.0099	0.0006	0.0140	0.0015	-0.0981	0.0150
3	225	0.2357	-0.0149	0.0007	-0.0149	0.0011	-0.0036	0.0037	-0.0569	0.0231
3	225	0.2995	0.0164	0.0011	-0.0432	0.0025	0.0186	0.0093	-0.1823	0.0351
3	225	0.3493	0.0476	0.0009	-0.0734	0.0045	0.0377	0.0113	-0.1187	0.0434
3	225	0.4000	0.0964	0.0010	-0.1147	0.0069	0.0371	0.0210	-0.0766	0.0273
3	225	0.4497	0.1139	0.0014	-0.1625	0.0077	0.0170	0.0238	-0.2832	0.0354
3	225	0.4997	0.1511	0.0007	-0.2156	0.0103	0.0139	0.0291	-0.2222	0.0364
3	225	0.5556	0.2034	0.0016	-0.2663	0.0138	-0.0483	0.0385	-0.2304	0.0290
3	225	0.5995	0.2679	0.0013	-0.3050	0.0140	-0.1383	0.0427	-0.3301	0.0296
3	225	0.6498	0.2925	0.0011	-0.3852	0.0143	-0.2170	0.0476	-0.1481	0.0332
3	225	0.6890	0.3212	0.0017	-0.4096	0.0172	-0.3289	0.0556	-0.0324	0.0308
3	225	0.7495	0.3834	0.0009	-0.4833	0.0188	-0.5488	0.0613	0.0192	0.0238
3	225	0.7998	0.3846	0.0015	-0.5485	0.0209	-0.7554	0.0677	-0.2502	0.0288
3	225	0.8577	0.4432	0.0018	-0.5765	0.0241	-1.0816	0.0743	-0.1980	0.0217
3	225	0.9178	0.4755	0.0014	-0.6118	0.0256	-1.4809	0.0800	-0.5789	0.0450
3	225	0.9729	0.4847	0.0016	-0.7188	0.0283	-1.8708	0.0879	-0.6829	0.0424

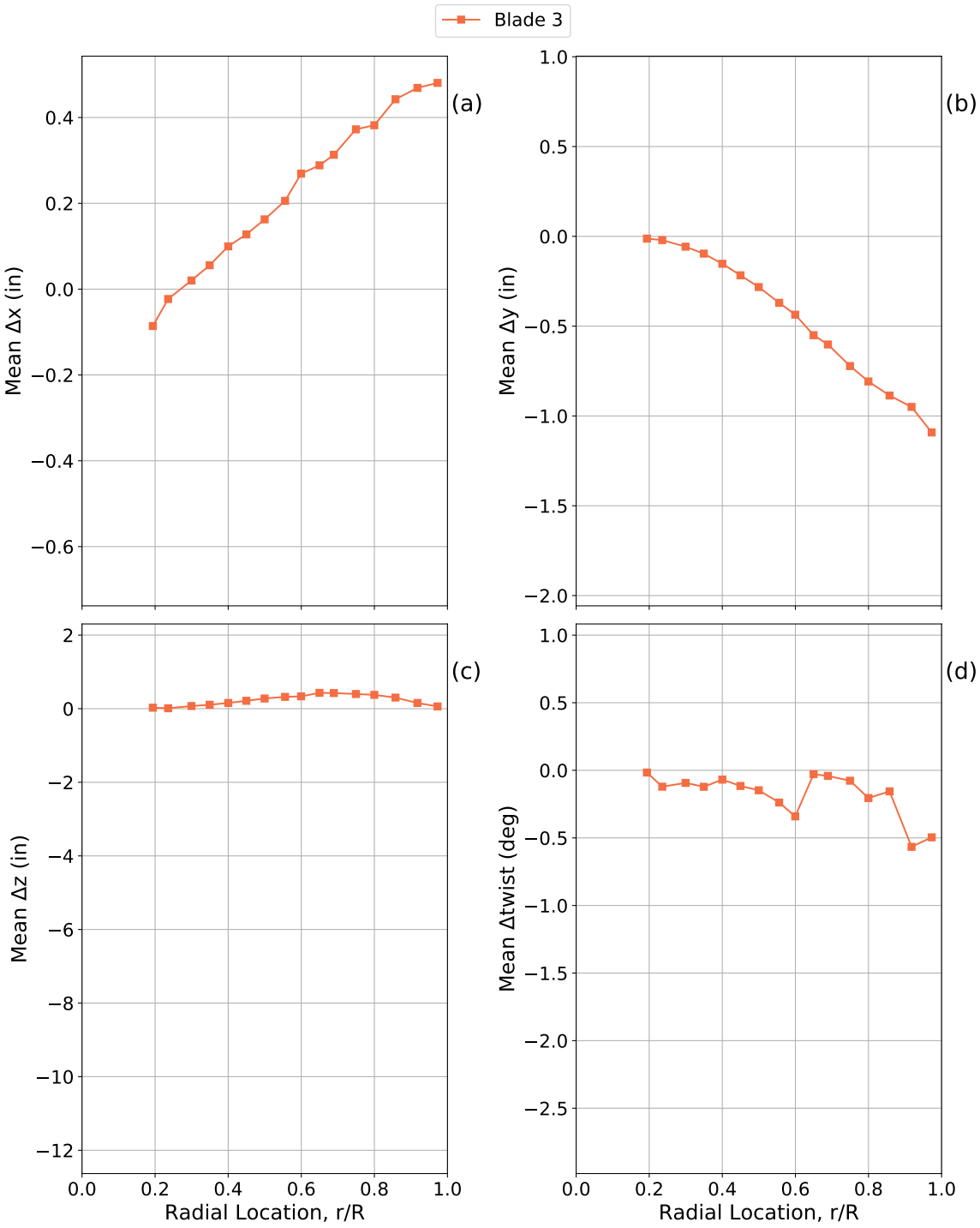


Figure 4.29-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0860	0.0008	-0.0124	0.0010	0.0264	0.0023	-0.0166	0.0165
3	240.12	0.2357	-0.0230	0.0008	-0.0209	0.0017	0.0115	0.0031	-0.1212	0.0344
3	240.12	0.2995	0.0202	0.0012	-0.0576	0.0041	0.0720	0.0062	-0.0930	0.0429
3	240.12	0.3493	0.0557	0.0018	-0.0962	0.0073	0.1064	0.0113	-0.1217	0.0327
3	240.12	0.4000	0.0997	0.0026	-0.1527	0.0112	0.1561	0.0160	-0.0688	0.0400
3	240.12	0.4497	0.1276	0.0021	-0.2168	0.0129	0.2146	0.0188	-0.1157	0.0420
3	240.12	0.4997	0.1626	0.0014	-0.2824	0.0160	0.2766	0.0231	-0.1477	0.0327
3	240.12	0.5556	0.2058	0.0028	-0.3699	0.0181	0.3212	0.0267	-0.2384	0.0411
3	240.12	0.5995	0.2692	0.0015	-0.4359	0.0210	0.3352	0.0287	-0.3408	0.0483
3	240.12	0.6498	0.2885	0.0023	-0.5503	0.0247	0.4300	0.0360	-0.0288	0.0525
3	240.12	0.6890	0.3131	0.0018	-0.6020	0.0281	0.4248	0.0398	-0.0415	0.0344
3	240.12	0.7495	0.3724	0.0015	-0.7220	0.0331	0.3989	0.0418	-0.0769	0.0466
3	240.12	0.7998	0.3820	0.0020	-0.8078	0.0359	0.3749	0.0450	-0.2052	0.0370
3	240.12	0.8577	0.4425	0.0019	-0.8862	0.0398	0.3017	0.0504	-0.1557	0.0357
3	240.12	0.9178	0.4690	0.0020	-0.9497	0.0436	0.1552	0.0532	-0.5660	0.0358
3	240.12	0.9729	0.4806	0.0032	-1.0918	0.0473	0.0613	0.0559	-0.4958	0.0465

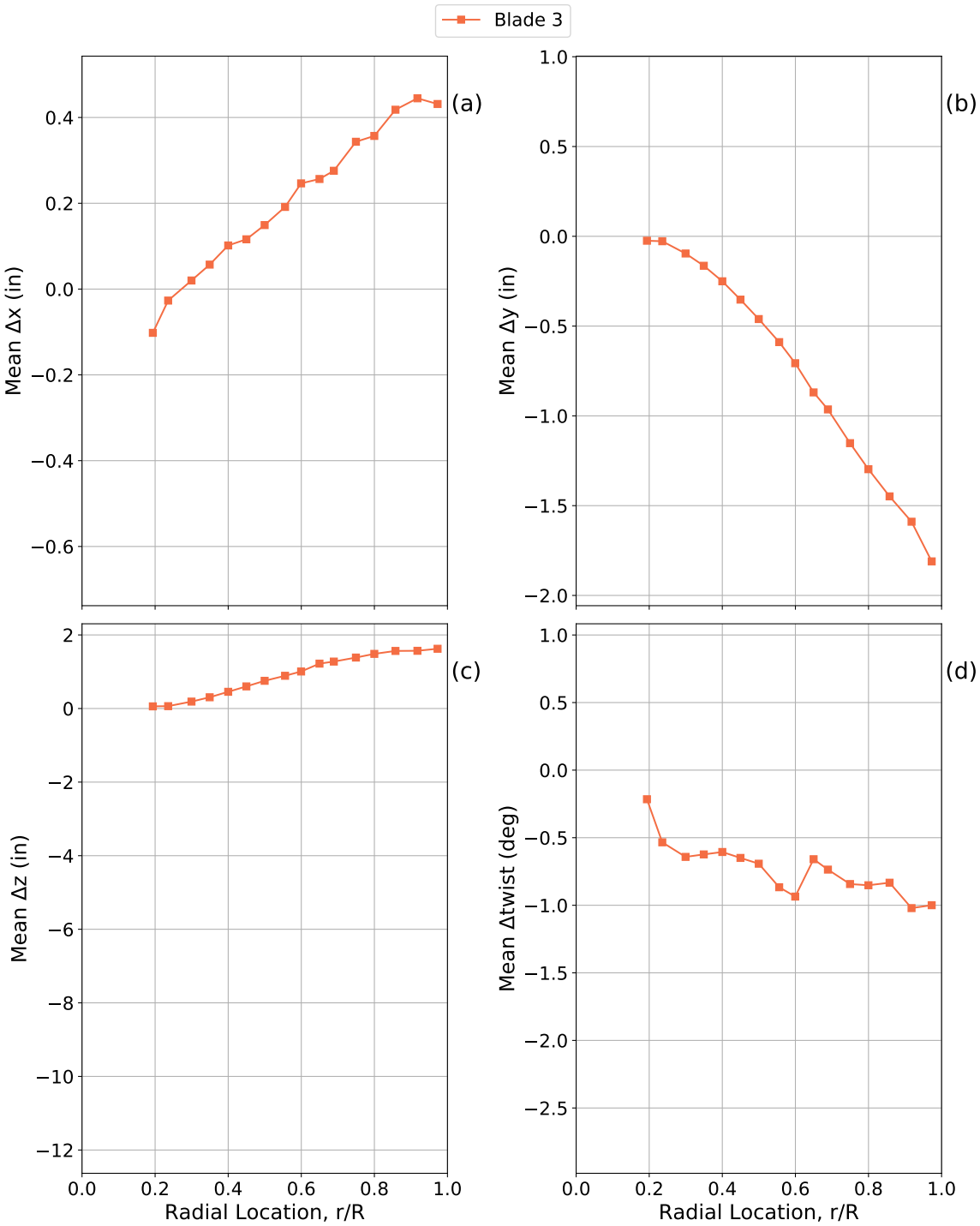


Figure 4.29-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.1020	0.0025	-0.0247	0.0009	0.0584	0.0026	-0.2154	0.0215
3	254.88	0.2357	-0.0268	0.0012	-0.0275	0.0012	0.0642	0.0037	-0.5342	0.0465
3	254.88	0.2995	0.0200	0.0013	-0.0958	0.0025	0.1882	0.0075	-0.6420	0.0562
3	254.88	0.3493	0.0570	0.0008	-0.1641	0.0044	0.3056	0.0128	-0.6237	0.0545
3	254.88	0.4000	0.1017	0.0009	-0.2506	0.0065	0.4546	0.0184	-0.6058	0.0559
3	254.88	0.4497	0.1160	0.0018	-0.3526	0.0076	0.6011	0.0228	-0.6497	0.0656
3	254.88	0.4997	0.1492	0.0022	-0.4609	0.0097	0.7533	0.0308	-0.6924	0.0512
3	254.88	0.5556	0.1915	0.0012	-0.5893	0.0119	0.8898	0.0332	-0.8665	0.0517
3	254.88	0.5995	0.2464	0.0011	-0.7068	0.0131	1.0063	0.0366	-0.9357	0.0661
3	254.88	0.6498	0.2566	0.0016	-0.8694	0.0157	1.2203	0.0433	-0.6592	0.0523
3	254.88	0.6890	0.2758	0.0014	-0.9642	0.0168	1.2760	0.0479	-0.7361	0.0471
3	254.88	0.7495	0.3434	0.0013	-1.1520	0.0191	1.3852	0.0562	-0.8429	0.0529
3	254.88	0.7998	0.3570	0.0014	-1.2971	0.0217	1.4855	0.0644	-0.8519	0.0547
3	254.88	0.8577	0.4181	0.0012	-1.4484	0.0246	1.5653	0.0739	-0.8330	0.0538
3	254.88	0.9178	0.4447	0.0017	-1.5895	0.0280	1.5689	0.0834	-1.0210	0.0600
3	254.88	0.9729	0.4314	0.0026	-1.8104	0.0308	1.6243	0.0921	-0.9995	0.0558

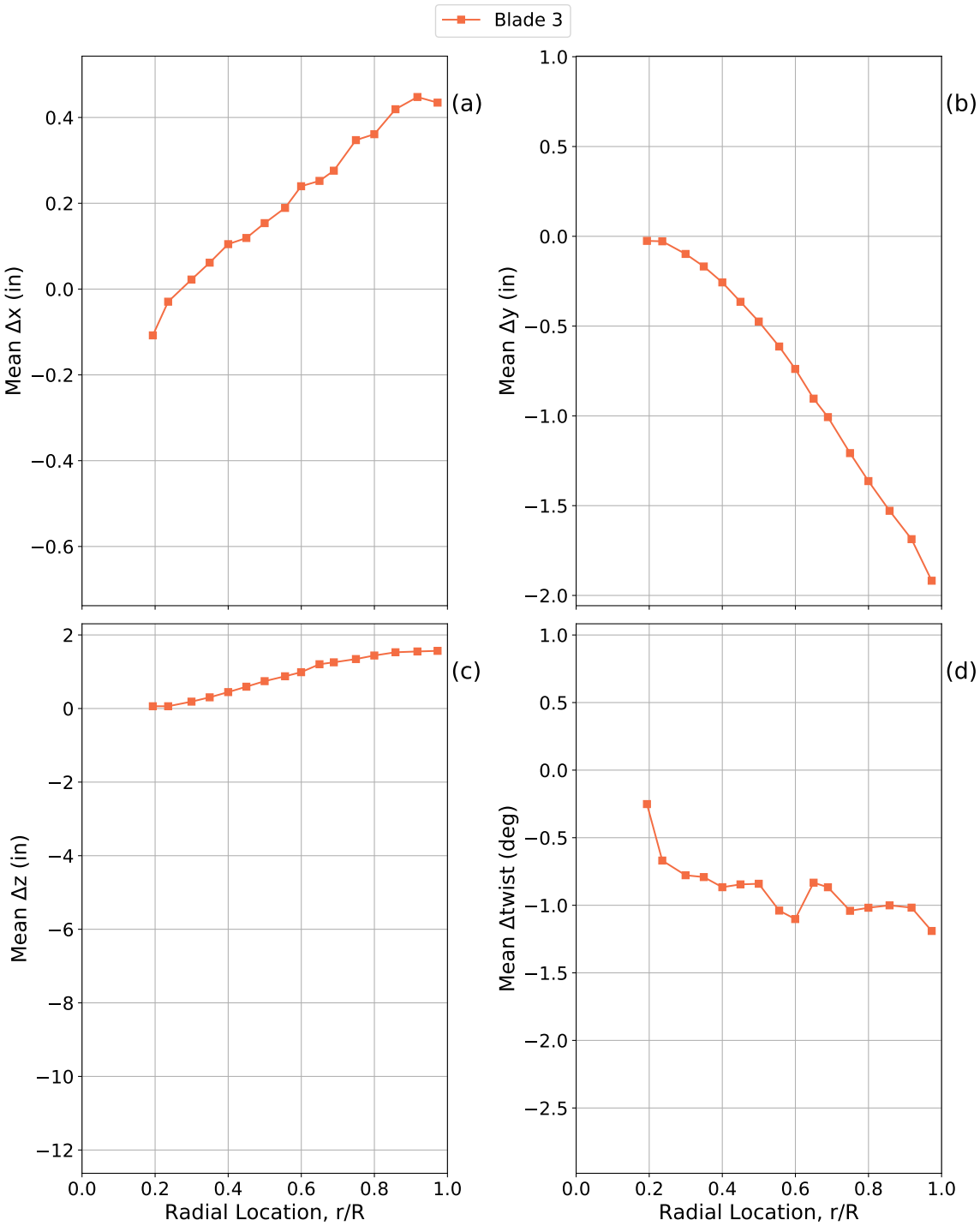


Figure 4.29-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-27. 260° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.1079	0.0029	-0.0255	0.0010	0.0613	0.0034	-0.2512	0.0264
3	260.16	0.2357	-0.0294	0.0017	-0.0279	0.0013	0.0614	0.0047	-0.6692	0.0435
3	260.16	0.2995	0.0222	0.0009	-0.0983	0.0028	0.1870	0.0105	-0.7778	0.0651
3	260.16	0.3493	0.0616	0.0010	-0.1681	0.0058	0.3042	0.0186	-0.7914	0.0547
3	260.16	0.4000	0.1047	0.0007	-0.2567	0.0081	0.4461	0.0269	-0.8663	0.0492
3	260.16	0.4497	0.1191	0.0011	-0.3647	0.0102	0.5931	0.0350	-0.8455	0.0571
3	260.16	0.4997	0.1537	0.0013	-0.4747	0.0128	0.7439	0.0422	-0.8408	0.0596
3	260.16	0.5556	0.1892	0.0015	-0.6138	0.0153	0.8761	0.0513	-1.0393	0.0560
3	260.16	0.5995	0.2397	0.0012	-0.7386	0.0161	0.9874	0.0593	-1.1020	0.0502
3	260.16	0.6498	0.2522	0.0010	-0.9041	0.0183	1.2035	0.0659	-0.8328	0.0528
3	260.16	0.6890	0.2760	0.0011	-1.0070	0.0195	1.2557	0.0719	-0.8666	0.0565
3	260.16	0.7495	0.3472	0.0014	-1.2075	0.0218	1.3443	0.0816	-1.0409	0.0515
3	260.16	0.7998	0.3610	0.0016	-1.3632	0.0239	1.4410	0.0892	-1.0182	0.0486
3	260.16	0.8577	0.4192	0.0016	-1.5286	0.0263	1.5289	0.0978	-1.0006	0.0587
3	260.16	0.9178	0.4477	0.0020	-1.6866	0.0293	1.5505	0.1064	-1.0175	0.0564
3	260.16	0.9729	0.4346	0.0028	-1.9180	0.0315	1.5675	0.1123	-1.1901	0.0541

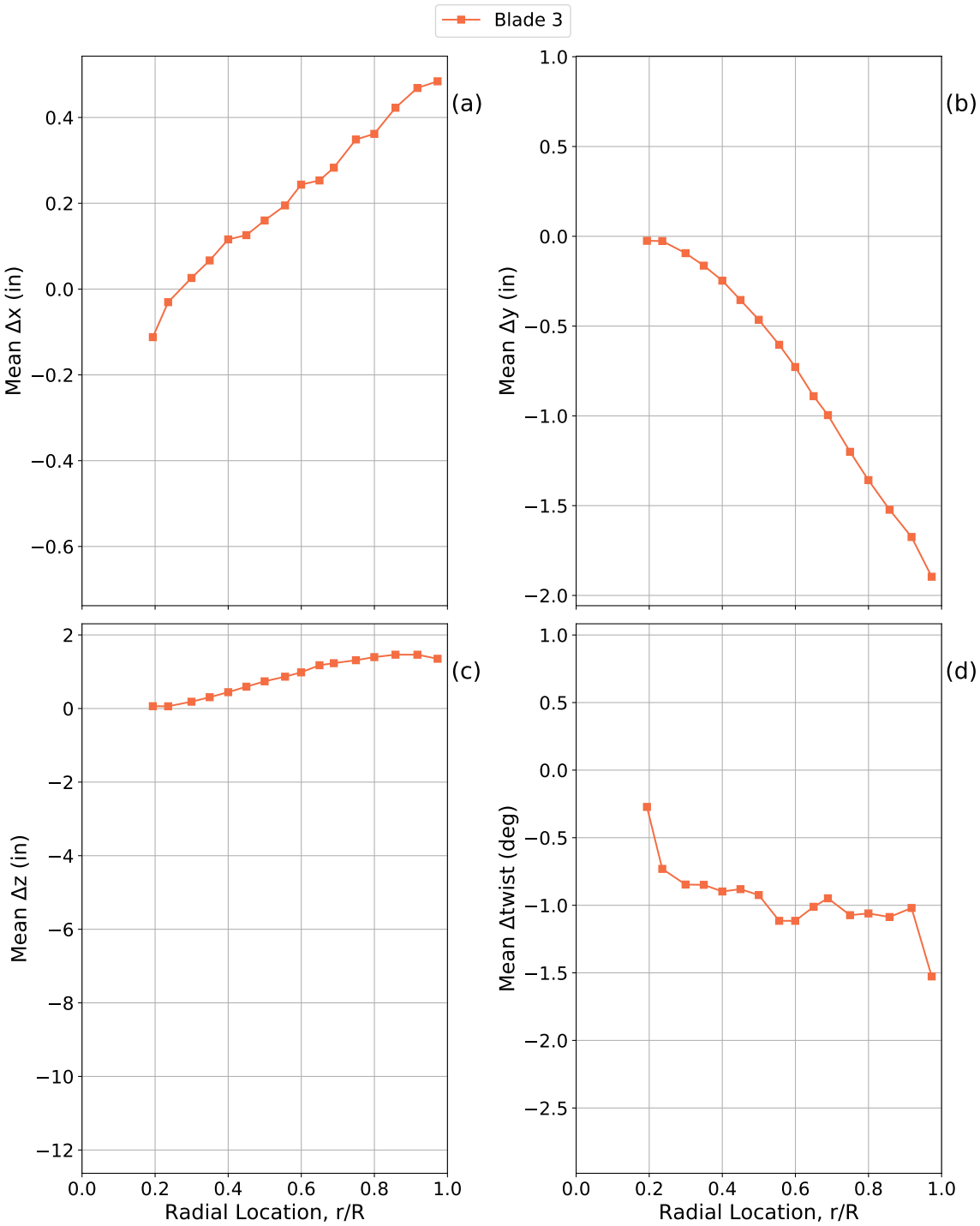


Figure 4.29-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.1121	0.0041	-0.0250	0.0016	0.0627	0.0073	-0.2722	0.0290
3	265.08	0.2357	-0.0305	0.0021	-0.0264	0.0012	0.0602	0.0057	-0.7308	0.1071
3	265.08	0.2995	0.0259	0.0012	-0.0939	0.0048	0.1851	0.0190	-0.8468	0.1045
3	265.08	0.3493	0.0667	0.0012	-0.1635	0.0079	0.3071	0.0314	-0.8487	0.1037
3	265.08	0.4000	0.1158	0.0023	-0.2469	0.0117	0.4438	0.0444	-0.8981	0.1019
3	265.08	0.4497	0.1257	0.0022	-0.3549	0.0137	0.5932	0.0527	-0.8806	0.1205
3	265.08	0.4997	0.1599	0.0019	-0.4650	0.0173	0.7391	0.0675	-0.9244	0.1019
3	265.08	0.5556	0.1949	0.0018	-0.6041	0.0198	0.8654	0.0823	-1.1151	0.1074
3	265.08	0.5995	0.2435	0.0019	-0.7280	0.0228	0.9829	0.0959	-1.1152	0.1010
3	265.08	0.6498	0.2532	0.0022	-0.8903	0.0252	1.1763	0.1082	-1.0114	0.1114
3	265.08	0.6890	0.2830	0.0023	-0.9957	0.0279	1.2323	0.1194	-0.9484	0.1122
3	265.08	0.7495	0.3487	0.0025	-1.2002	0.0319	1.3130	0.1394	-1.0732	0.1117
3	265.08	0.7998	0.3618	0.0025	-1.3578	0.0351	1.3969	0.1551	-1.0603	0.1155
3	265.08	0.8577	0.4227	0.0026	-1.5227	0.0392	1.4634	0.1759	-1.0868	0.1013
3	265.08	0.9178	0.4688	0.0031	-1.6746	0.0436	1.4629	0.1927	-1.0201	0.1172
3	265.08	0.9729	0.4843	0.0046	-1.8959	0.0479	1.3522	0.2096	-1.5264	0.1182

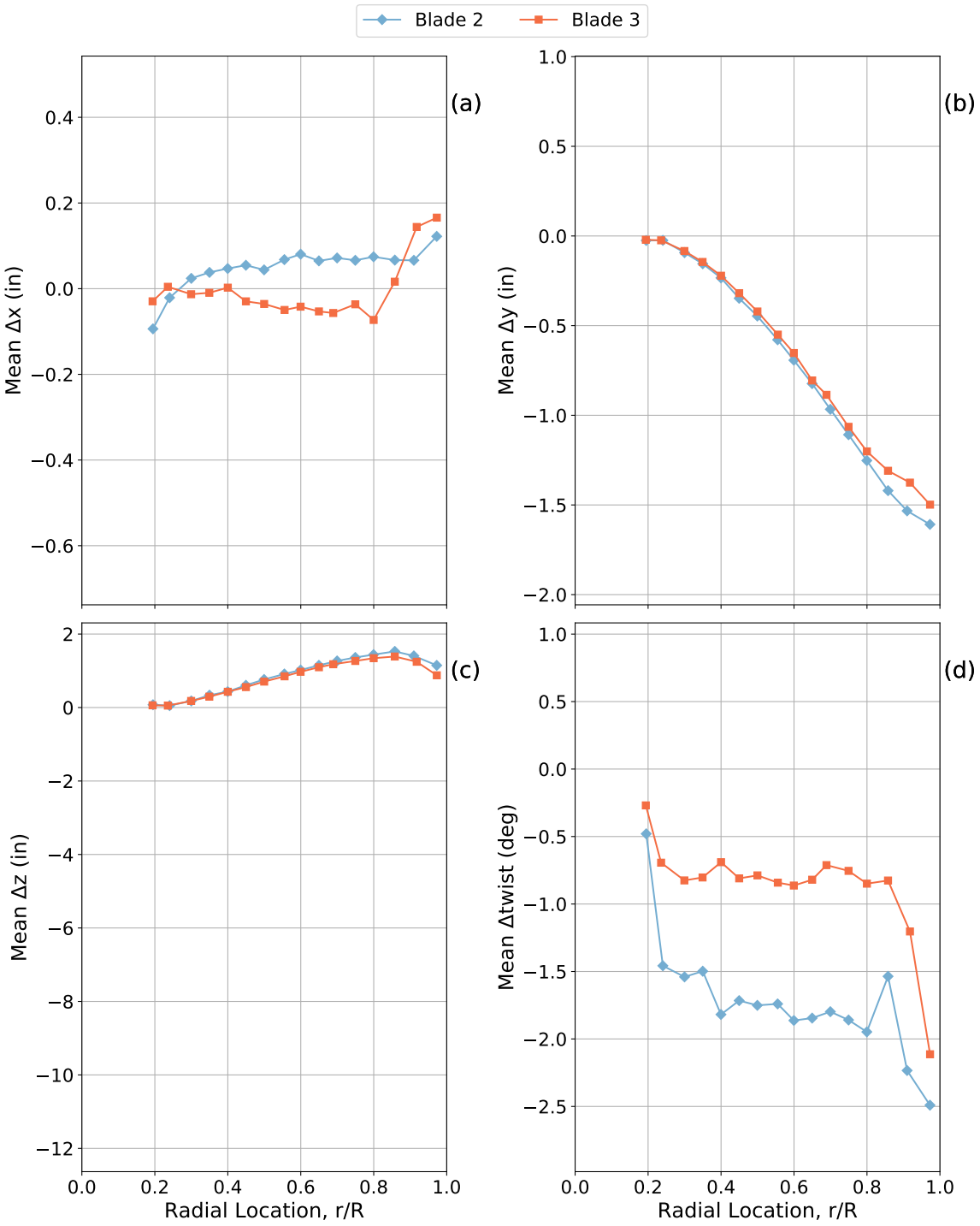


Figure 4.29-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0938	0.0047	-0.0251	0.0014	0.0755	0.0077	-0.4799	0.0417
2	270.35	0.2405	-0.0211	0.0021	-0.0244	0.0013	0.0520	0.0072	-1.4577	0.1213
2	270.35	0.2999	0.0241	0.0014	-0.0929	0.0047	0.1795	0.0207	-1.5401	0.1248
2	270.35	0.3498	0.0380	0.0016	-0.1550	0.0066	0.3361	0.0333	-1.4979	0.1296
2	270.35	0.3998	0.0470	0.0025	-0.2338	0.0103	0.4334	0.0470	-1.8186	0.1322
2	270.35	0.4496	0.0547	0.0020	-0.3476	0.0139	0.6054	0.0621	-1.7158	0.1165
2	270.35	0.4995	0.0439	0.0020	-0.4465	0.0176	0.7634	0.0737	-1.7509	0.1293
2	270.35	0.5551	0.0678	0.0016	-0.5789	0.0205	0.9130	0.0893	-1.7402	0.1189
2	270.35	0.5996	0.0805	0.0016	-0.6929	0.0236	1.0213	0.0970	-1.8632	0.1318
2	270.35	0.6497	0.0649	0.0014	-0.8235	0.0277	1.1487	0.1093	-1.8453	0.1215
2	270.35	0.6996	0.0717	0.0021	-0.9668	0.0320	1.2681	0.1182	-1.7978	0.1305
2	270.35	0.7495	0.0662	0.0025	-1.1083	0.0361	1.3625	0.1293	-1.8595	0.1251
2	270.35	0.7996	0.0744	0.0023	-1.2525	0.0406	1.4399	0.1402	-1.9476	0.1270
2	270.35	0.8578	0.0667	0.0022	-1.4204	0.0462	1.5278	0.1498	-1.5359	0.1326
2	270.35	0.9100	0.0662	0.0027	-1.5331	0.0514	1.4057	0.1614	-2.2337	0.1297
2	270.35	0.9727	0.1221	0.0042	-1.6085	0.0582	1.1471	0.1764	-2.4908	0.1199
3	270	0.1938	-0.0295	0.0097	-0.0212	0.0042	0.0603	0.0106	-0.2693	0.0266
3	270	0.2357	0.0044	0.0019	-0.0242	0.0012	0.0532	0.0039	-0.6939	0.1020
3	270	0.2995	-0.0130	0.0014	-0.0839	0.0119	0.1788	0.0255	-0.8252	0.0956
3	270	0.3493	-0.0096	0.0011	-0.1449	0.0197	0.2959	0.0409	-0.8033	0.0999
3	270	0.4000	0.0024	0.0011	-0.2217	0.0284	0.4288	0.0563	-0.6901	0.1004
3	270	0.4497	-0.0296	0.0015	-0.3189	0.0363	0.5565	0.0712	-0.8100	0.1025
3	270	0.4997	-0.0357	0.0015	-0.4211	0.0452	0.7059	0.0882	-0.7880	0.0960
3	270	0.5556	-0.0497	0.0015	-0.5501	0.0546	0.8494	0.1039	-0.8417	0.1000
3	270	0.5995	-0.0420	0.0017	-0.6527	0.0618	0.9725	0.1163	-0.8632	0.1055
3	270	0.6498	-0.0531	0.0021	-0.8057	0.0708	1.0965	0.1303	-0.8200	0.1114
3	270	0.6890	-0.0568	0.0036	-0.8859	0.0781	1.1778	0.1431	-0.7118	0.0980
3	270	0.7495	-0.0365	0.0033	-1.0644	0.0885	1.2674	0.1607	-0.7544	0.0999
3	270	0.7998	-0.0730	0.0039	-1.2014	0.0984	1.3429	0.1741	-0.8491	0.1130
3	270	0.8577	0.0163	0.0035	-1.3094	0.1086	1.3882	0.1957	-0.8260	0.0975
3	270	0.9178	0.1440	0.0031	-1.3755	0.1202	1.2456	0.2152	-1.2035	0.0991
3	270	0.9729	0.1658	0.0059	-1.4983	0.1317	0.8771	0.2359	-2.1134	0.1149

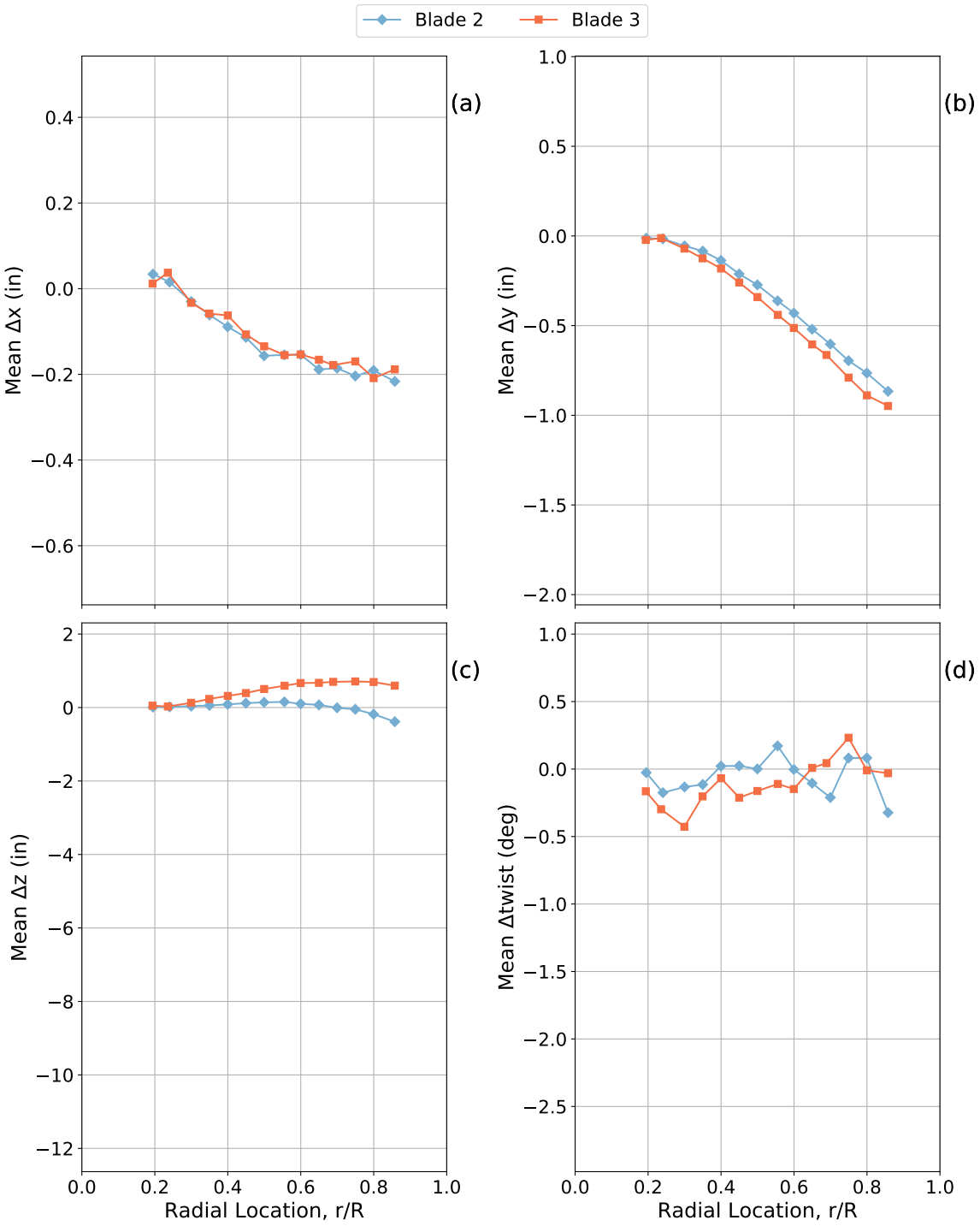


Figure 4.29-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0339	0.0005	-0.0124	0.0004	0.0115	0.0016	-0.0263	0.0400
2	274.92	0.2405	0.0153	0.0011	-0.0159	0.0014	0.0192	0.0040	-0.1750	0.0338
2	274.92	0.2999	-0.0301	0.0008	-0.0554	0.0024	0.0372	0.0087	-0.1329	0.0800
2	274.92	0.3498	-0.0613	0.0008	-0.0843	0.0036	0.0571	0.0092	-0.1145	0.0399
2	274.92	0.3998	-0.0890	0.0015	-0.1365	0.0059	0.0858	0.0173	0.0218	0.0495
2	274.92	0.4496	-0.1137	0.0014	-0.2119	0.0077	0.1196	0.0221	0.0237	0.0590
2	274.92	0.4995	-0.1567	0.0019	-0.2726	0.0102	0.1413	0.0273	0.0007	0.0573
2	274.92	0.5551	-0.1546	0.0020	-0.3619	0.0125	0.1530	0.0337	0.1715	0.0498
2	274.92	0.5996	-0.1539	0.0020	-0.4303	0.0150	0.1020	0.0411	-0.0028	0.0644
2	274.92	0.6497	-0.1885	0.0026	-0.5202	0.0178	0.0715	0.0445	-0.1052	0.0603
2	274.92	0.6996	-0.1857	0.0030	-0.6033	0.0212	-0.0070	0.0536	-0.2110	0.0676
2	274.92	0.7495	-0.2038	0.0018	-0.6956	0.0230	-0.0486	0.0643	0.0815	0.0682
2	274.92	0.7996	-0.1908	0.0036	-0.7646	0.0270	-0.1816	0.0686	0.0823	0.0548
2	274.92	0.8578	-0.2165	0.0033	-0.8663	0.0312	-0.3856	0.0818	-0.3232	0.1074
3	274.92	0.1938	0.0119	0.0021	-0.0221	0.0007	0.0511	0.0022	-0.1647	0.0173
3	274.92	0.2357	0.0373	0.0011	-0.0120	0.0012	0.0274	0.0032	-0.2981	0.0254
3	274.92	0.2995	-0.0329	0.0019	-0.0704	0.0029	0.1293	0.0073	-0.4278	0.0359
3	274.92	0.3493	-0.0581	0.0022	-0.1249	0.0049	0.2332	0.0123	-0.2028	0.0305
3	274.92	0.4000	-0.0625	0.0035	-0.1815	0.0077	0.3158	0.0186	-0.0681	0.0245
3	274.92	0.4497	-0.1068	0.0034	-0.2593	0.0088	0.3941	0.0241	-0.2121	0.0558
3	274.92	0.4997	-0.1346	0.0040	-0.3408	0.0113	0.5036	0.0269	-0.1625	0.0360
3	274.92	0.5556	-0.1550	0.0033	-0.4402	0.0127	0.5943	0.0323	-0.1103	0.0383
3	274.92	0.5995	-0.1535	0.0031	-0.5133	0.0143	0.6662	0.0362	-0.1479	0.0433
3	274.92	0.6498	-0.1659	0.0038	-0.6048	0.0166	0.6720	0.0403	0.0087	0.0425
3	274.92	0.6890	-0.1782	0.0032	-0.6637	0.0179	0.6990	0.0433	0.0438	0.0462
3	274.92	0.7495	-0.1698	0.0047	-0.7899	0.0206	0.7107	0.0489	0.2318	0.0504
3	274.92	0.7998	-0.2088	0.0055	-0.8888	0.0226	0.6942	0.0566	-0.0095	0.0690
3	274.92	0.8577	-0.1884	0.0063	-0.9481	0.0261	0.5954	0.0633	-0.0310	0.1037

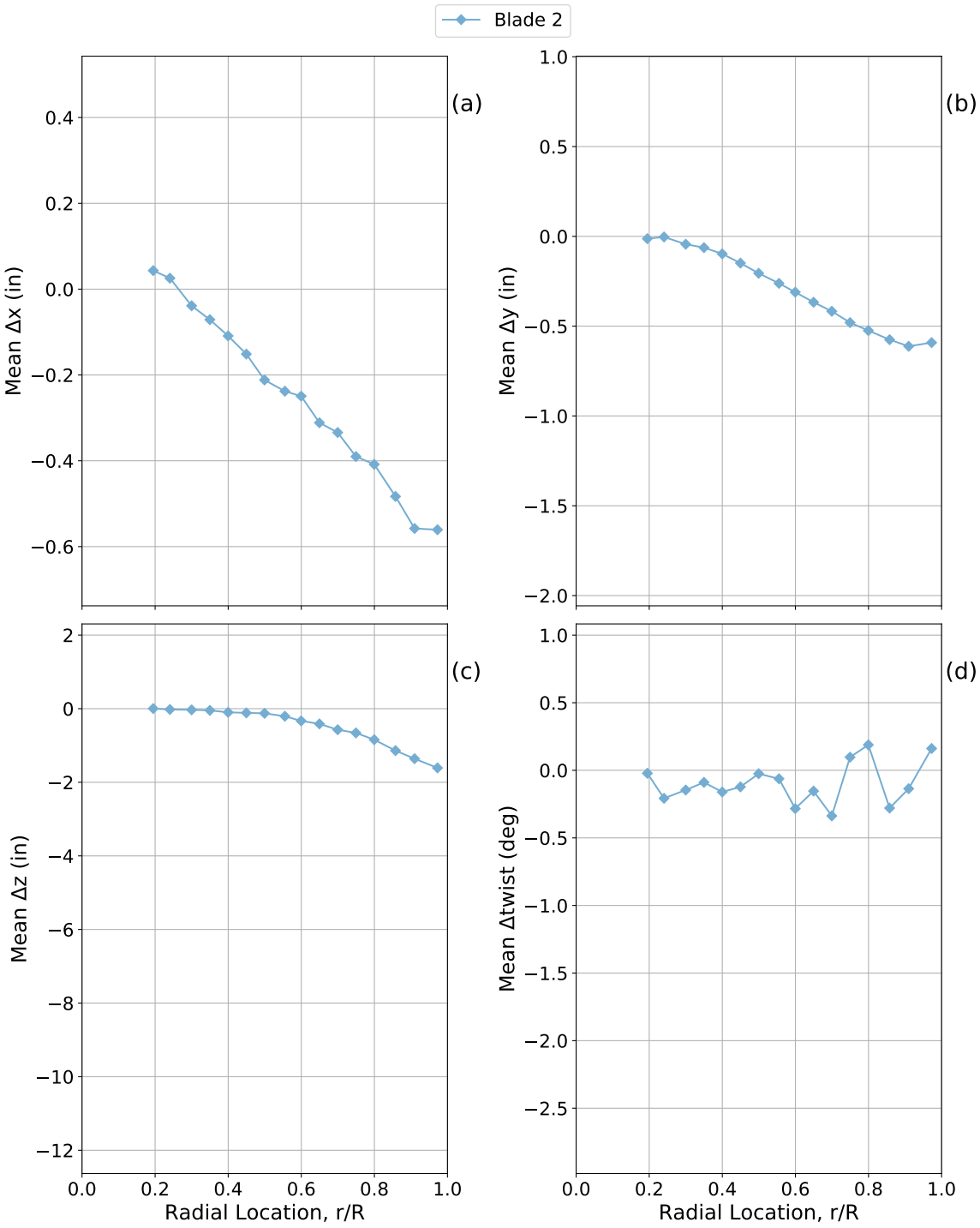


Figure 4.29-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0432	0.0015	-0.0130	0.0009	0.0034	0.0028	-0.0220	0.0150
2	285.12	0.2405	0.0255	0.0012	-0.0034	0.0026	-0.0219	0.0060	-0.2072	0.0305
2	285.12	0.2999	-0.0388	0.0008	-0.0438	0.0041	-0.0313	0.0137	-0.1457	0.0384
2	285.12	0.3498	-0.0711	0.0019	-0.0628	0.0063	-0.0469	0.0205	-0.0891	0.0476
2	285.12	0.3998	-0.1090	0.0013	-0.0974	0.0103	-0.0980	0.0343	-0.1605	0.0345
2	285.12	0.4496	-0.1513	0.0022	-0.1491	0.0137	-0.1142	0.0465	-0.1224	0.0556
2	285.12	0.4995	-0.2117	0.0023	-0.2056	0.0154	-0.1262	0.0522	-0.0251	0.0412
2	285.12	0.5551	-0.2379	0.0044	-0.2616	0.0191	-0.2059	0.0614	-0.0628	0.0329
2	285.12	0.5996	-0.2494	0.0030	-0.3107	0.0203	-0.3322	0.0729	-0.2835	0.0333
2	285.12	0.6497	-0.3114	0.0020	-0.3668	0.0242	-0.4131	0.0851	-0.1536	0.0327
2	285.12	0.6996	-0.3341	0.0025	-0.4171	0.0264	-0.5718	0.0948	-0.3372	0.0373
2	285.12	0.7495	-0.3901	0.0025	-0.4801	0.0291	-0.6584	0.1081	0.0971	0.0318
2	285.12	0.7996	-0.4083	0.0027	-0.5245	0.0333	-0.8429	0.1224	0.1883	0.0269
2	285.12	0.8578	-0.4831	0.0034	-0.5752	0.0369	-1.1394	0.1378	-0.2794	0.0475
2	285.12	0.9100	-0.5578	0.0029	-0.6121	0.0397	-1.3595	0.1497	-0.1359	0.0739
2	285.12	0.9727	-0.5607	0.0049	-0.5916	0.0435	-1.6091	0.1631	0.1614	0.0698

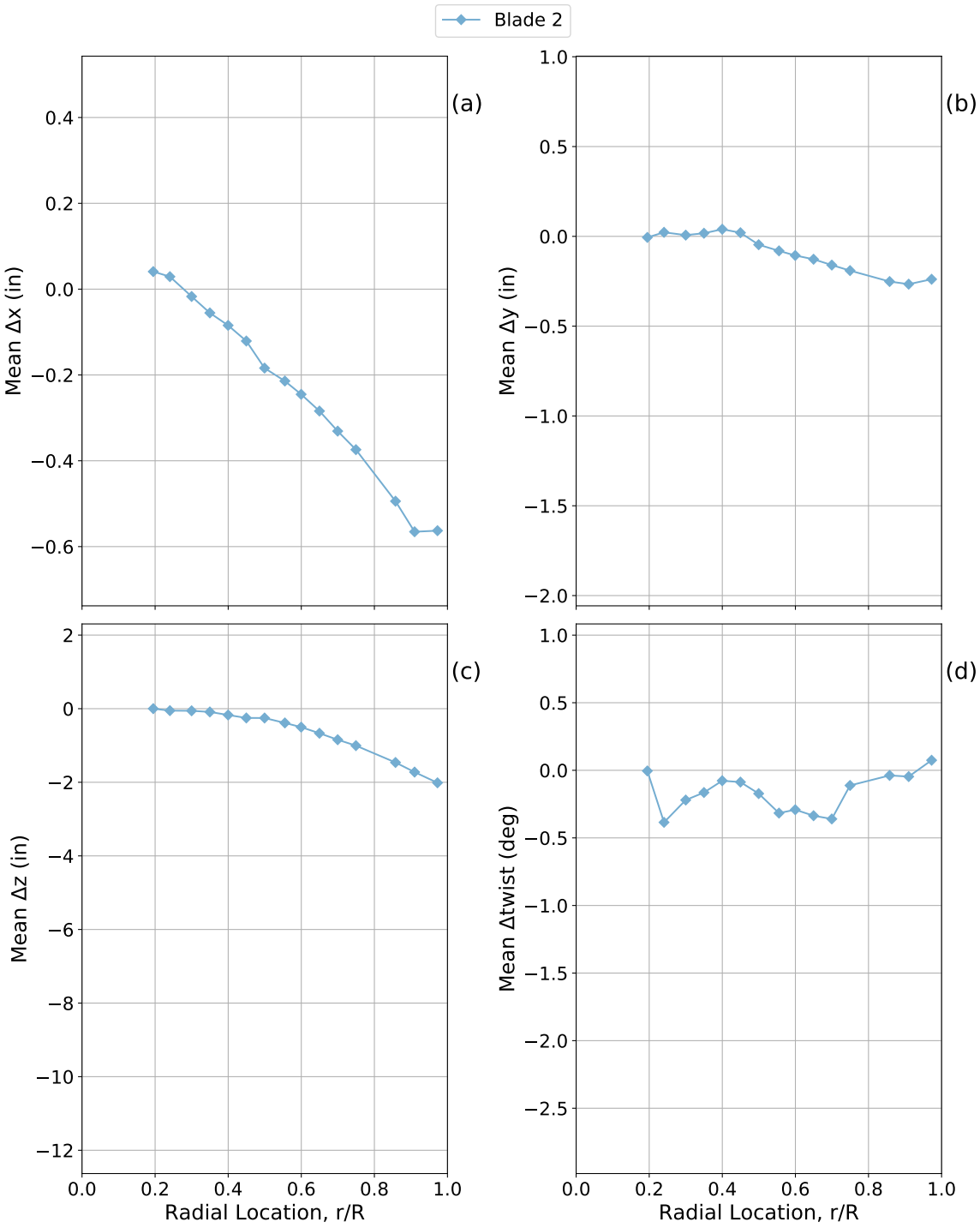


Figure 4.29-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0409	0.0023	-0.0059	0.0012	0.0009	0.0023	-0.0047	0.0409
2	299.88	0.2405	0.0291	0.0013	0.0224	0.0028	-0.0534	0.0056	-0.3850	0.0366
2	299.88	0.2999	-0.0171	0.0010	0.0069	0.0057	-0.0574	0.0077	-0.2200	0.0821
2	299.88	0.3498	-0.0554	0.0014	0.0173	0.0091	-0.0884	0.0125	-0.1643	0.0501
2	299.88	0.3998	-0.0845	0.0036	0.0396	0.0145	-0.1714	0.0184	-0.0771	0.0565
2	299.88	0.4496	-0.1209	0.0023	0.0202	0.0172	-0.2520	0.0237	-0.0871	0.0602
2	299.88	0.4995	-0.1840	0.0039	-0.0465	0.0169	-0.2529	0.0209	-0.1723	0.0418
2	299.88	0.5551	-0.2142	0.0028	-0.0808	0.0197	-0.3875	0.0288	-0.3165	0.0528
2	299.88	0.5996	-0.2451	0.0035	-0.1065	0.0207	-0.5013	0.0291	-0.2915	0.0517
2	299.88	0.6497	-0.2841	0.0033	-0.1275	0.0233	-0.6677	0.0325	-0.3359	0.0638
2	299.88	0.6996	-0.3309	0.0038	-0.1599	0.0266	-0.8437	0.0410	-0.3599	0.0604
2	299.88	0.7495	-0.3741	0.0027	-0.1907	0.0278	-1.0041	0.0457	-0.1120	0.0312
2	299.88	0.8578	-0.4942	0.0035	-0.2516	0.0358	-1.4620	0.0635	-0.0379	0.0473
2	299.88	0.9100	-0.5654	0.0033	-0.2662	0.0385	-1.7229	0.0730	-0.0464	0.0435
2	299.88	0.9727	-0.5629	0.0040	-0.2389	0.0415	-2.0145	0.0816	0.0745	0.0400

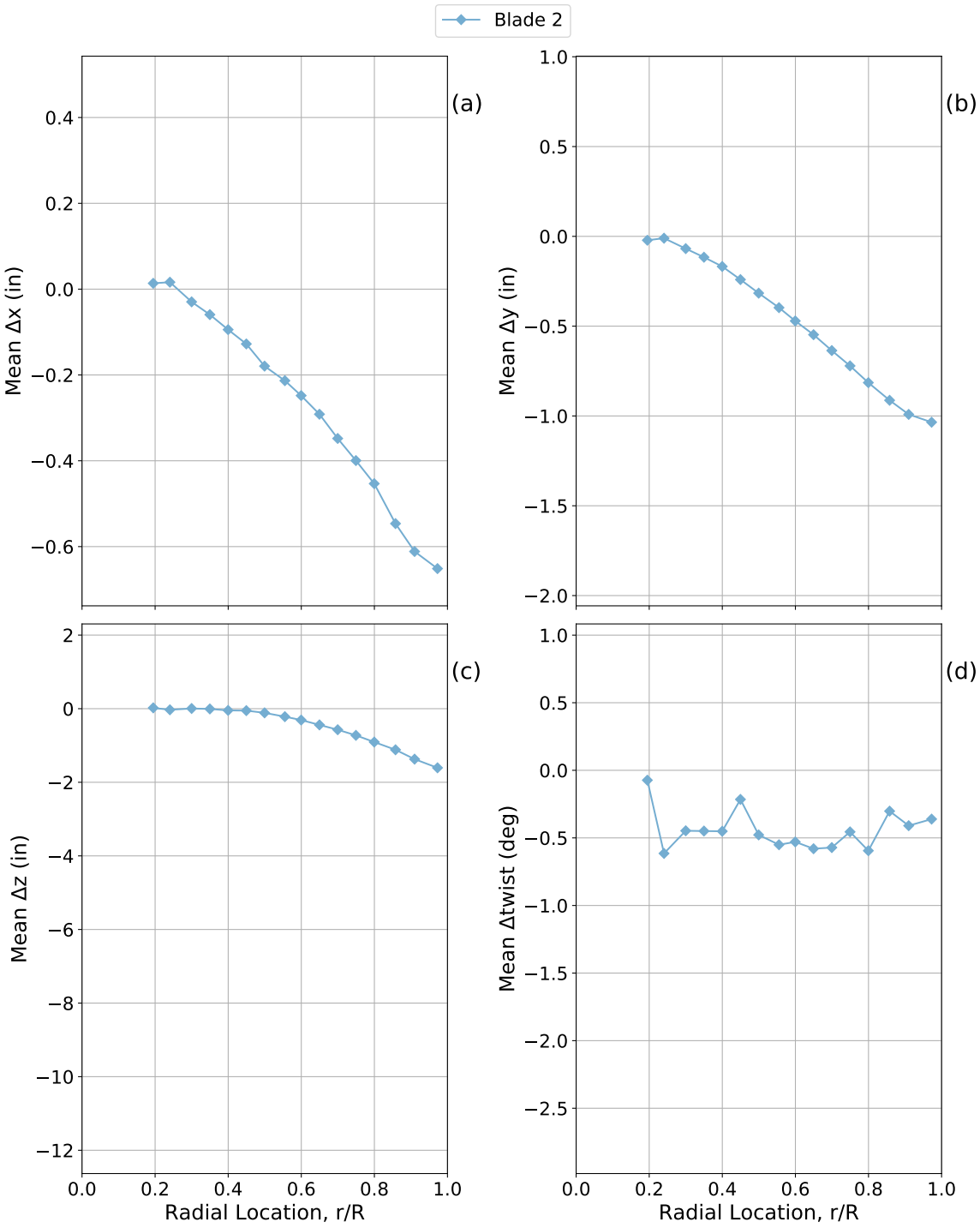


Figure 4.29-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0136	0.0014	-0.0216	0.0009	0.0221	0.0020	-0.0731	0.0297
2	315	0.2405	0.0162	0.0015	-0.0103	0.0020	-0.0300	0.0079	-0.6149	0.0335
2	315	0.2999	-0.0296	0.0014	-0.0683	0.0042	0.0052	0.0118	-0.4473	0.0620
2	315	0.3498	-0.0594	0.0014	-0.1162	0.0078	-0.0073	0.0177	-0.4493	0.0720
2	315	0.3998	-0.0944	0.0045	-0.1677	0.0118	-0.0464	0.0307	-0.4510	0.0743
2	315	0.4496	-0.1277	0.0030	-0.2407	0.0141	-0.0524	0.0343	-0.2153	0.0823
2	315	0.4995	-0.1794	0.0017	-0.3162	0.0182	-0.1132	0.0475	-0.4778	0.0446
2	315	0.5551	-0.2133	0.0034	-0.3970	0.0195	-0.2171	0.0531	-0.5507	0.0231
2	315	0.5996	-0.2481	0.0025	-0.4710	0.0224	-0.3084	0.0568	-0.5296	0.0559
2	315	0.6497	-0.2915	0.0027	-0.5475	0.0243	-0.4405	0.0658	-0.5801	0.0660
2	315	0.6996	-0.3480	0.0021	-0.6359	0.0279	-0.5720	0.0734	-0.5716	0.0684
2	315	0.7495	-0.3995	0.0018	-0.7211	0.0325	-0.7245	0.0827	-0.4554	0.0449
2	315	0.7996	-0.4533	0.0021	-0.8146	0.0345	-0.9065	0.0918	-0.5948	0.0412
2	315	0.8578	-0.5464	0.0020	-0.9128	0.0385	-1.1168	0.1049	-0.3020	0.0564
2	315	0.9100	-0.6114	0.0021	-0.9913	0.0420	-1.3711	0.1139	-0.4096	0.0482
2	315	0.9727	-0.6513	0.0024	-1.0349	0.0454	-1.6068	0.1313	-0.3610	0.0391

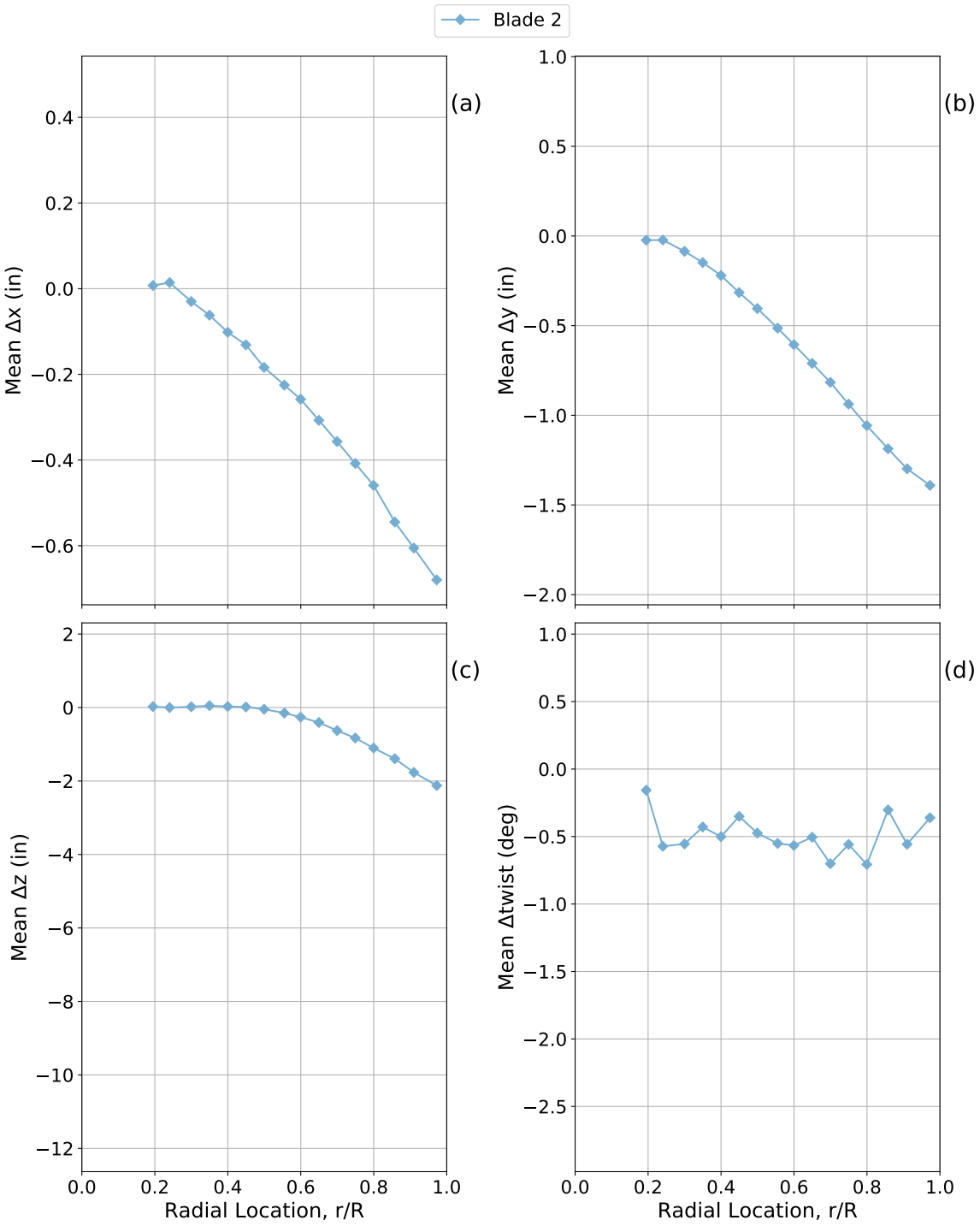


Figure 4.29-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-34. 330° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0074	0.0015	-0.0234	0.0006	0.0251	0.0021	-0.1569	0.0236
2	330.12	0.2405	0.0143	0.0019	-0.0225	0.0009	-0.0014	0.0045	-0.5722	0.0305
2	330.12	0.2999	-0.0300	0.0010	-0.0856	0.0024	0.0202	0.0097	-0.5550	0.0463
2	330.12	0.3498	-0.0619	0.0014	-0.1482	0.0035	0.0511	0.0138	-0.4292	0.0396
2	330.12	0.3998	-0.1017	0.0026	-0.2203	0.0057	0.0278	0.0229	-0.5013	0.0421
2	330.12	0.4496	-0.1311	0.0027	-0.3156	0.0055	0.0148	0.0245	-0.3505	0.0521
2	330.12	0.4995	-0.1838	0.0022	-0.4049	0.0068	-0.0457	0.0319	-0.4747	0.0520
2	330.12	0.5551	-0.2250	0.0023	-0.5139	0.0087	-0.1500	0.0407	-0.5512	0.0508
2	330.12	0.5996	-0.2581	0.0022	-0.6060	0.0089	-0.2623	0.0426	-0.5661	0.0418
2	330.12	0.6497	-0.3073	0.0026	-0.7103	0.0109	-0.4072	0.0486	-0.5051	0.0381
2	330.12	0.6996	-0.3569	0.0038	-0.8161	0.0126	-0.6281	0.0518	-0.7013	0.0765
2	330.12	0.7495	-0.4080	0.0025	-0.9378	0.0150	-0.8303	0.0627	-0.5585	0.0368
2	330.12	0.7996	-0.4591	0.0019	-1.0576	0.0168	-1.1022	0.0697	-0.7070	0.0440
2	330.12	0.8578	-0.5447	0.0021	-1.1867	0.0191	-1.3929	0.0781	-0.3029	0.0423
2	330.12	0.9100	-0.6054	0.0024	-1.2983	0.0206	-1.7658	0.0873	-0.5573	0.0409
2	330.12	0.9727	-0.6798	0.0027	-1.3908	0.0234	-2.1232	0.0992	-0.3611	0.0330

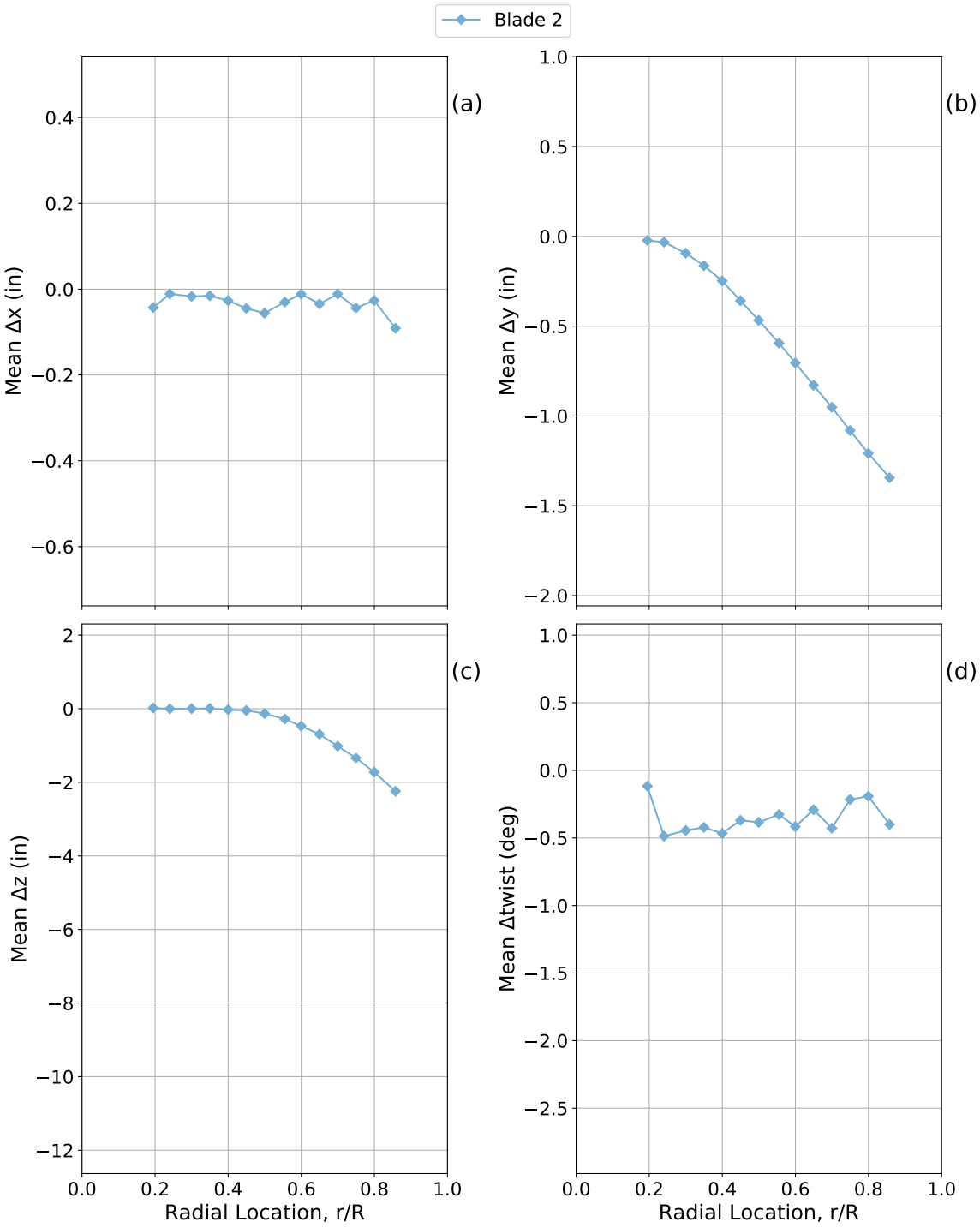


Figure 4.29-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0429	0.0036	-0.0229	0.0012	0.0178	0.0031	-0.1171	0.0183
2	344.88	0.2405	-0.0111	0.0017	-0.0322	0.0020	-0.0048	0.0036	-0.4870	0.0336
2	344.88	0.2999	-0.0169	0.0020	-0.0937	0.0049	0.0011	0.0076	-0.4447	0.0446
2	344.88	0.3498	-0.0154	0.0028	-0.1631	0.0084	0.0066	0.0168	-0.4216	0.0500
2	344.88	0.3998	-0.0267	0.0028	-0.2478	0.0130	-0.0286	0.0214	-0.4661	0.0358
2	344.88	0.4496	-0.0449	0.0035	-0.3584	0.0153	-0.0476	0.0250	-0.3695	0.0450
2	344.88	0.4995	-0.0561	0.0050	-0.4676	0.0204	-0.1332	0.0319	-0.3843	0.0442
2	344.88	0.5551	-0.0301	0.0047	-0.5947	0.0225	-0.2807	0.0384	-0.3267	0.0381
2	344.88	0.5996	-0.0114	0.0057	-0.7045	0.0262	-0.4724	0.0412	-0.4163	0.0550
2	344.88	0.6497	-0.0345	0.0061	-0.8297	0.0291	-0.6940	0.0475	-0.2915	0.0419
2	344.88	0.6996	-0.0112	0.0070	-0.9517	0.0334	-1.0170	0.0547	-0.4277	0.0395
2	344.88	0.7495	-0.0439	0.0068	-1.0811	0.0370	-1.3381	0.0610	-0.2158	0.0538
2	344.88	0.7996	-0.0264	0.0109	-1.2081	0.0409	-1.7223	0.0708	-0.1916	0.0579
2	344.88	0.8578	-0.0912	0.0096	-1.3441	0.0454	-2.2419	0.0725	-0.4000	0.1383

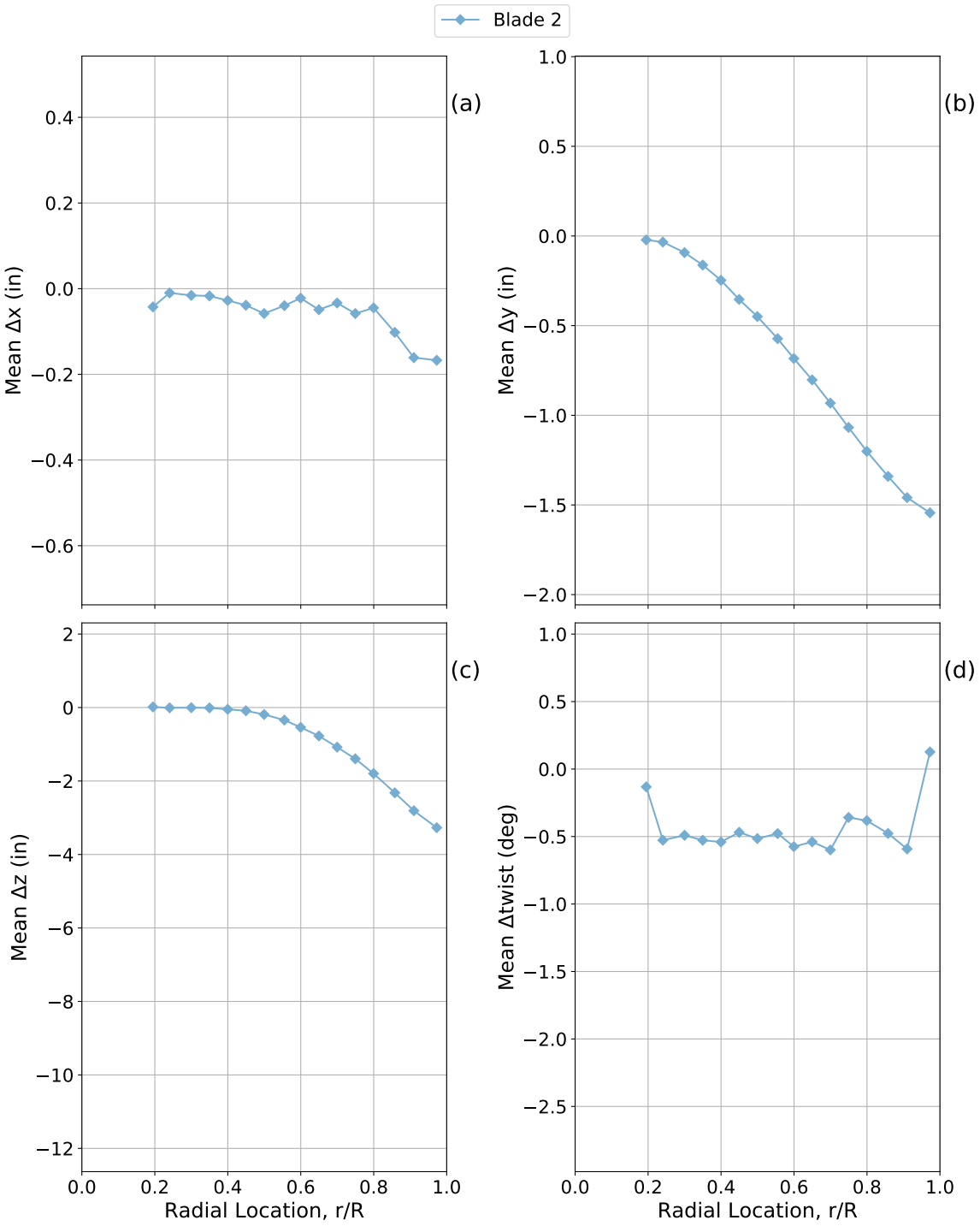


Figure 4.29-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0426	0.0031	-0.0220	0.0007	0.0158	0.0021	-0.1320	0.0212
2	350.16	0.2405	-0.0099	0.0019	-0.0338	0.0016	-0.0081	0.0035	-0.5271	0.0389
2	350.16	0.2999	-0.0157	0.0013	-0.0926	0.0025	-0.0045	0.0066	-0.4907	0.0532
2	350.16	0.3498	-0.0170	0.0025	-0.1621	0.0051	-0.0095	0.0117	-0.5277	0.0462
2	350.16	0.3998	-0.0276	0.0041	-0.2472	0.0074	-0.0486	0.0171	-0.5404	0.0378
2	350.16	0.4496	-0.0387	0.0056	-0.3539	0.0097	-0.0882	0.0218	-0.4686	0.0677
2	350.16	0.4995	-0.0580	0.0073	-0.4494	0.0131	-0.1889	0.0254	-0.5152	0.0532
2	350.16	0.5551	-0.0397	0.0092	-0.5727	0.0159	-0.3423	0.0301	-0.4780	0.0586
2	350.16	0.5996	-0.0221	0.0113	-0.6833	0.0182	-0.5388	0.0346	-0.5751	0.0522
2	350.16	0.6497	-0.0491	0.0121	-0.8027	0.0213	-0.7737	0.0396	-0.5394	0.0526
2	350.16	0.6996	-0.0334	0.0144	-0.9320	0.0236	-1.0786	0.0437	-0.5992	0.0409
2	350.16	0.7495	-0.0581	0.0173	-1.0678	0.0255	-1.3965	0.0453	-0.3584	0.0577
2	350.16	0.7996	-0.0448	0.0194	-1.2010	0.0278	-1.7975	0.0509	-0.3820	0.0589
2	350.16	0.8578	-0.1021	0.0209	-1.3408	0.0318	-2.3213	0.0562	-0.4770	0.0674
2	350.16	0.9100	-0.1610	0.0229	-1.4592	0.0341	-2.8087	0.0618	-0.5918	0.0835
2	350.16	0.9727	-0.1671	0.0303	-1.5439	0.0371	-3.2707	0.0822	0.1270	0.2434

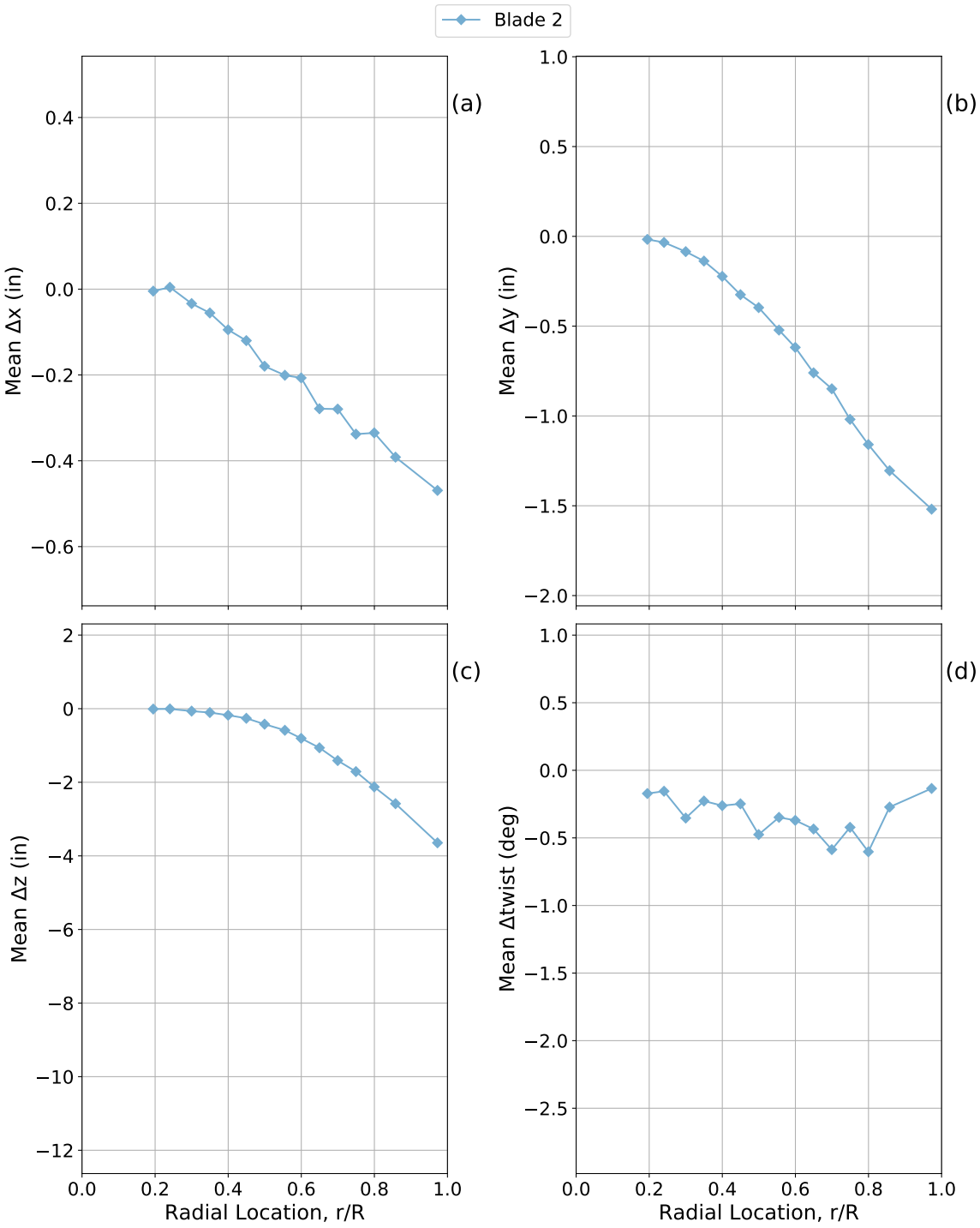


Figure 4.29-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Table 4.29-37. 355° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 15. BD run 40, points 6068 to 6078.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0046	0.0028	-0.0168	0.0011	-0.0104	0.0036	-0.1718	0.0247
2	355.08	0.2405	0.0044	0.0016	-0.0338	0.0035	-0.0064	0.0051	-0.1548	0.0949
2	355.08	0.2999	-0.0336	0.0018	-0.0851	0.0042	-0.0662	0.0103	-0.3534	0.0855
2	355.08	0.3498	-0.0555	0.0019	-0.1376	0.0089	-0.1053	0.0205	-0.2272	0.0753
2	355.08	0.3998	-0.0947	0.0024	-0.2228	0.0127	-0.1767	0.0278	-0.2615	0.0738
2	355.08	0.4496	-0.1200	0.0023	-0.3248	0.0153	-0.2608	0.0361	-0.2479	0.0627
2	355.08	0.4995	-0.1796	0.0025	-0.3966	0.0191	-0.4214	0.0449	-0.4754	0.0934
2	355.08	0.5551	-0.2007	0.0019	-0.5218	0.0208	-0.5867	0.0549	-0.3481	0.0815
2	355.08	0.5996	-0.2068	0.0025	-0.6183	0.0250	-0.8060	0.0612	-0.3702	0.0809
2	355.08	0.6497	-0.2787	0.0019	-0.7599	0.0282	-1.0626	0.0700	-0.4345	0.0691
2	355.08	0.6996	-0.2795	0.0028	-0.8487	0.0315	-1.4100	0.0772	-0.5867	0.0651
2	355.08	0.7495	-0.3379	0.0036	-1.0188	0.0357	-1.7094	0.0832	-0.4218	0.0537
2	355.08	0.7996	-0.3350	0.0037	-1.1591	0.0402	-2.1261	0.0845	-0.6026	0.1018
2	355.08	0.8578	-0.3915	0.0031	-1.3047	0.0400	-2.5813	0.0967	-0.2720	0.1121
2	355.08	0.9727	-0.4691	0.0091	-1.5190	0.0540	-3.6453	0.1128	-0.1343	0.1991

4.30 Run 85, Point 47

4.30.1 Pitch, Flap, and Lag

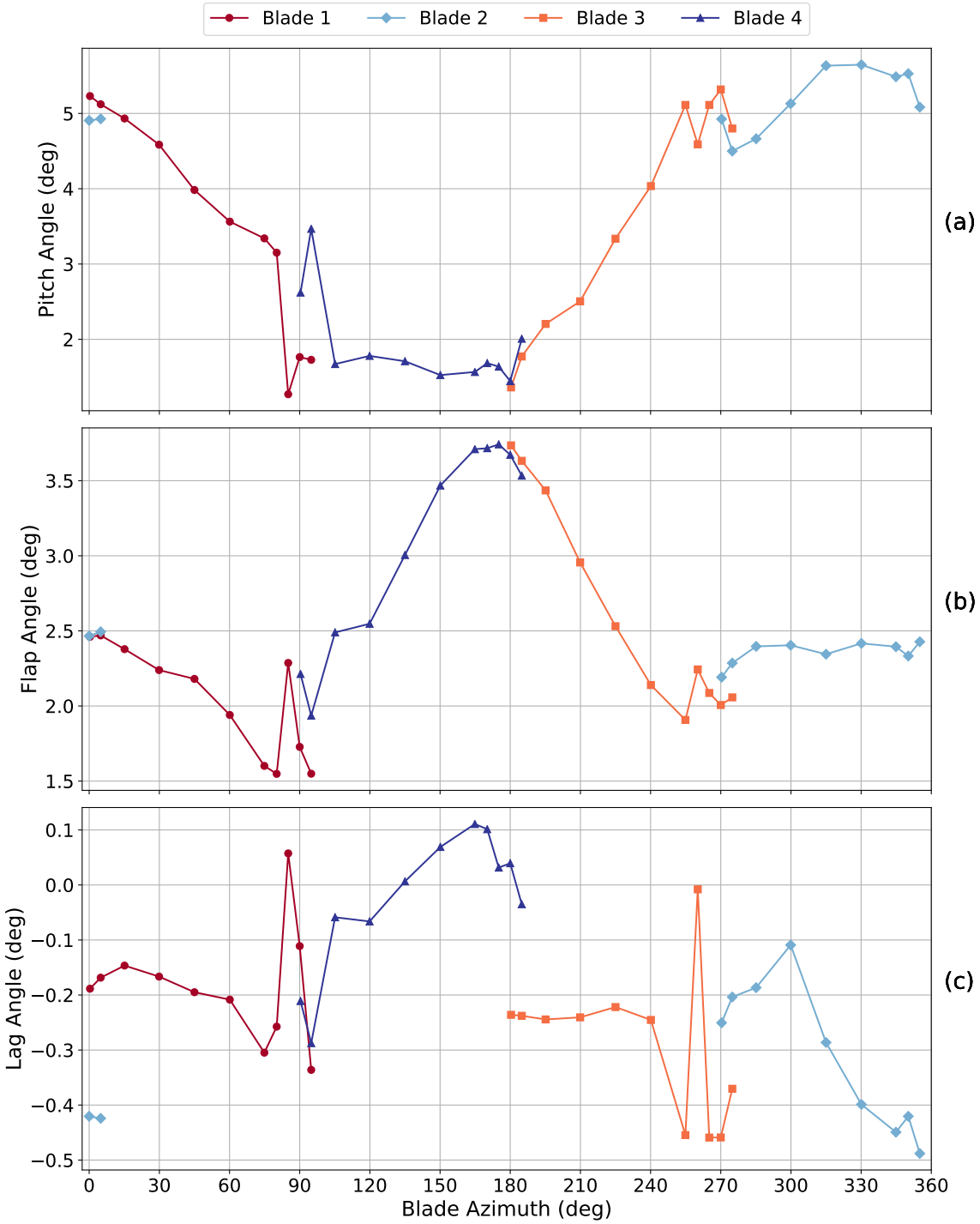


Figure 4.30-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.9067	2.4657	-0.4205	0.0983	0.0233	0.0241
0.35	1	5.2304	2.4606	-0.1885	0.1104	0.0456	0.0341
4.92	1	5.1216	2.4698	-0.1685	0.1069	0.0228	0.0233
4.92	2	4.9279	2.4941	-0.4242	0.0668	0.0386	0.0230
15.12	1	4.9327	2.3783	-0.1465	0.0751	0.0255	0.0155
29.88	1	4.5852	2.2390	-0.1665	0.0795	0.0342	0.0125
45	1	3.9832	2.1804	-0.1949	0.0812	0.0297	0.0168
60.12	1	3.5632	1.9401	-0.2084	0.0925	0.0262	0.0300
74.88	1	3.3409	1.6012	-0.3048	0.0568	0.0204	0.0230
80.16	1	3.1511	1.5480	-0.2575	0.0814	0.0344	0.0182
85.08	1	1.2708	2.2866	0.0574	0.1727	0.0722	0.0351
90	1	1.7643	1.7276	-0.1111	0.0856	0.0241	0.0119
90.35	4	2.6206	2.2131	-0.2110	0.0778	0.0366	0.0205
94.92	1	1.7280	1.5491	-0.3361	0.0684	0.0291	0.0226
94.92	4	3.4677	1.9359	-0.2875	0.1355	0.0288	0.0195
105.12	4	1.6716	2.4897	-0.0587	0.0390	0.0310	0.0082
119.88	4	1.7800	2.5473	-0.0663	0.0216	0.0169	0.0170
135	4	1.7088	3.0048	0.0065	0.0187	0.0206	0.0165
150.12	4	1.5252	3.4675	0.0691	0.0268	0.0233	0.0172
164.88	4	1.5663	3.7096	0.1108	0.0215	0.0155	0.0141
170.16	4	1.6838	3.7162	0.1014	0.0130	0.0173	0.0123
175.08	4	1.6371	3.7416	0.0316	0.0235	0.0183	0.0096
180	4	1.4447	3.6721	0.0395	0.0209	0.0209	0.0166
180.35	3	1.3614	3.7350	-0.2360	0.0241	0.0195	0.0135
184.92	3	1.7725	3.6323	-0.2378	0.0330	0.0250	0.0093
184.92	4	2.0074	3.5336	-0.0350	0.0304	0.0299	0.0171
195.12	3	2.2043	3.4352	-0.2444	0.0456	0.0238	0.0197
209.88	3	2.5047	2.9556	-0.2406	0.0335	0.0161	0.0336
225	3	3.3363	2.5311	-0.2219	0.0246	0.0203	0.0175
240.12	3	4.0350	2.1395	-0.2453	0.0233	0.0239	0.0124
254.88	3	5.1128	1.9070	-0.4546	0.0416	0.0207	0.0118
260.16	3	4.5896	2.2432	-0.0079	0.0211	0.0170	0.0147
265.08	3	5.1124	2.0866	-0.4591	0.0871	0.0258	0.0191
270	3	5.3183	2.0065	-0.4589	0.0817	0.0365	0.0139
270.35	2	4.9252	2.1916	-0.2505	0.0653	0.0287	0.0217
274.92	2	4.4996	2.2858	-0.2036	0.0429	0.0155	0.0146
274.92	3	4.7996	2.0573	-0.3704	0.0345	0.0328	0.0127
285.12	2	4.6635	2.3967	-0.1866	0.0428	0.0202	0.0126
299.88	2	5.1300	2.4042	-0.1091	0.0594	0.0357	0.0198
315	2	5.6344	2.3446	-0.2863	0.0423	0.0249	0.0254
330.12	2	5.6463	2.4168	-0.3989	0.0431	0.0175	0.0221
344.88	2	5.4868	2.3947	-0.4493	0.0290	0.0260	0.0124
350.16	2	5.5279	2.3326	-0.4205	0.0176	0.0187	0.0146
355.08	2	5.0832	2.4275	-0.4881	0.0941	0.0322	0.0221

4.30.2 Spanwise Elastic Deformations

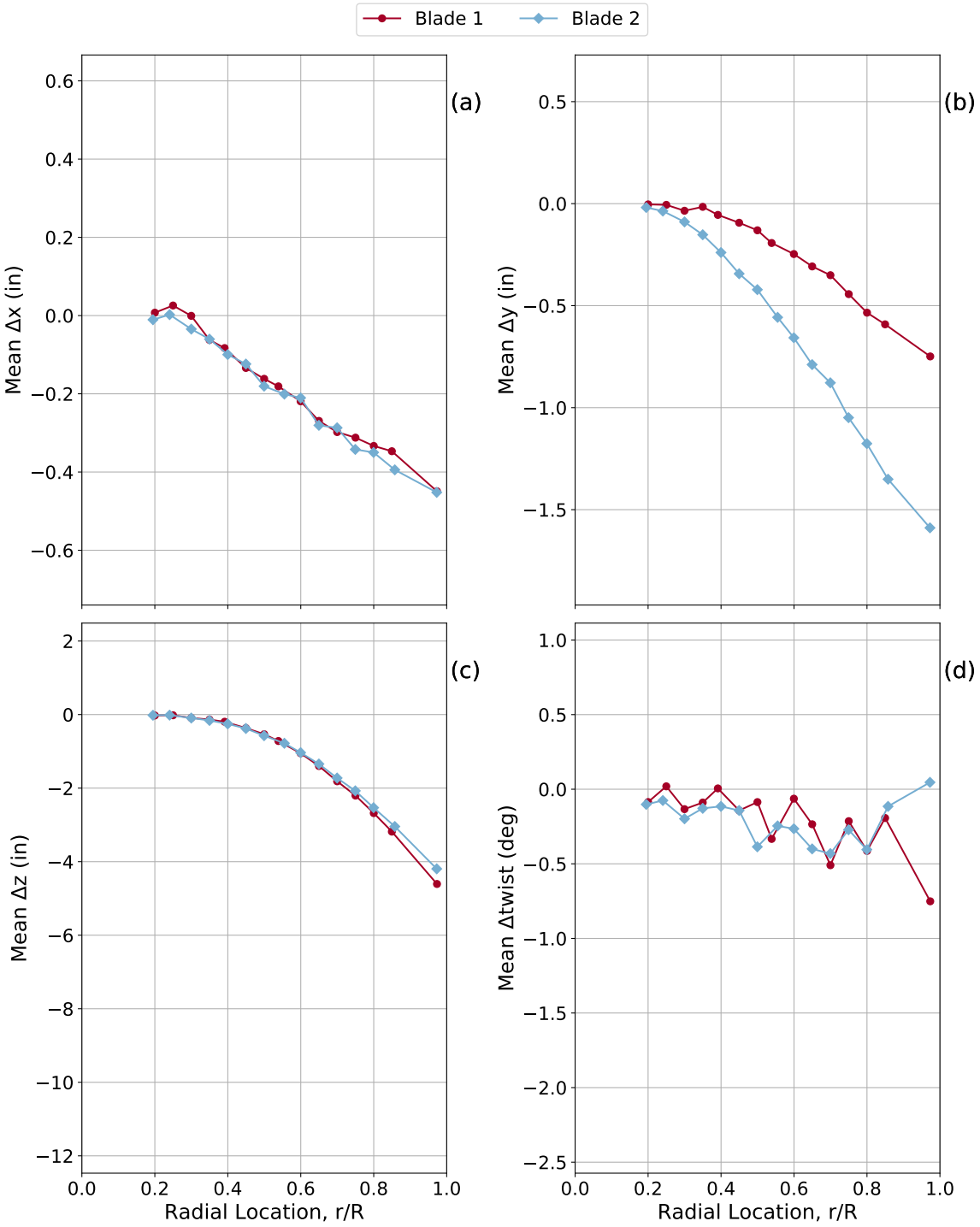


Figure 4.30-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$ NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0074	0.0043	-0.0036	0.0040	-0.0243	0.0082	-0.0859	0.0528
1	0.35	0.2499	0.0257	0.0020	-0.0059	0.0033	-0.0186	0.0067	0.0194	0.1117
1	0.35	0.2998	-0.0007	0.0022	-0.0348	0.0121	-0.0904	0.0217	-0.1336	0.1241
1	0.35	0.3498	-0.0622	0.0021	-0.0157	0.0205	-0.1358	0.0368	-0.0892	0.0973
1	0.35	0.3913	-0.0831	0.0018	-0.0552	0.0264	-0.1949	0.0459	0.0055	0.1018
1	0.35	0.4496	-0.1339	0.0025	-0.0936	0.0349	-0.3668	0.0604	-0.1427	0.1047
1	0.35	0.4997	-0.1617	0.0023	-0.1307	0.0406	-0.5345	0.0741	-0.0862	0.0909
1	0.35	0.5387	-0.1810	0.0021	-0.1929	0.0464	-0.7191	0.0824	-0.3331	0.1050
1	0.35	0.5996	-0.2192	0.0022	-0.2470	0.0548	-1.0527	0.0993	-0.0634	0.0958
1	0.35	0.6498	-0.2693	0.0029	-0.3077	0.0631	-1.3985	0.1115	-0.2349	0.1035
1	0.35	0.6998	-0.2978	0.0027	-0.3507	0.0695	-1.8145	0.1235	-0.5094	0.0973
1	0.35	0.7500	-0.3121	0.0020	-0.4435	0.0781	-2.2026	0.1351	-0.2141	0.1217
1	0.35	0.8001	-0.3333	0.0023	-0.5344	0.0865	-2.6797	0.1519	-0.4134	0.0953
1	0.35	0.8497	-0.3468	0.0031	-0.5916	0.0917	-3.1828	0.1633	-0.1929	0.1042
1	0.35	0.9734	-0.4492	0.0043	-0.7489	0.1132	-4.6067	0.2009	-0.7513	0.1097
2	0	0.1949	-0.0106	0.0047	-0.0189	0.0026	-0.0184	0.0034	-0.1018	0.0432
2	0	0.2405	0.0024	0.0017	-0.0363	0.0024	-0.0153	0.0060	-0.0756	0.0747
2	0	0.2999	-0.0346	0.0015	-0.0895	0.0077	-0.0940	0.0098	-0.1982	0.1042
2	0	0.3498	-0.0603	0.0016	-0.1524	0.0141	-0.1598	0.0196	-0.1281	0.0875
2	0	0.3998	-0.0997	0.0022	-0.2396	0.0197	-0.2538	0.0273	-0.1151	0.0851
2	0	0.4496	-0.1239	0.0026	-0.3435	0.0266	-0.3783	0.0336	-0.1425	0.0877
2	0	0.4995	-0.1805	0.0028	-0.4215	0.0324	-0.5746	0.0397	-0.3860	0.0939
2	0	0.5551	-0.2008	0.0028	-0.5573	0.0377	-0.7807	0.0496	-0.2458	0.0950
2	0	0.5996	-0.2104	0.0029	-0.6574	0.0434	-1.0349	0.0553	-0.2650	0.0879
2	0	0.6497	-0.2806	0.0022	-0.7890	0.0480	-1.3440	0.0601	-0.4000	0.0973
2	0	0.6996	-0.2869	0.0030	-0.8781	0.0546	-1.7253	0.0656	-0.4314	0.1071
2	0	0.7495	-0.3422	0.0025	-1.0490	0.0608	-2.0739	0.0739	-0.2717	0.0823
2	0	0.7996	-0.3499	0.0034	-1.1762	0.0687	-2.5322	0.0809	-0.4049	0.0949
2	0	0.8578	-0.3944	0.0051	-1.3508	0.0732	-3.0435	0.0837	-0.1150	0.1234
2	0	0.9727	-0.4520	0.0063	-1.5891	0.0862	-4.1952	0.0937	0.0462	0.0848

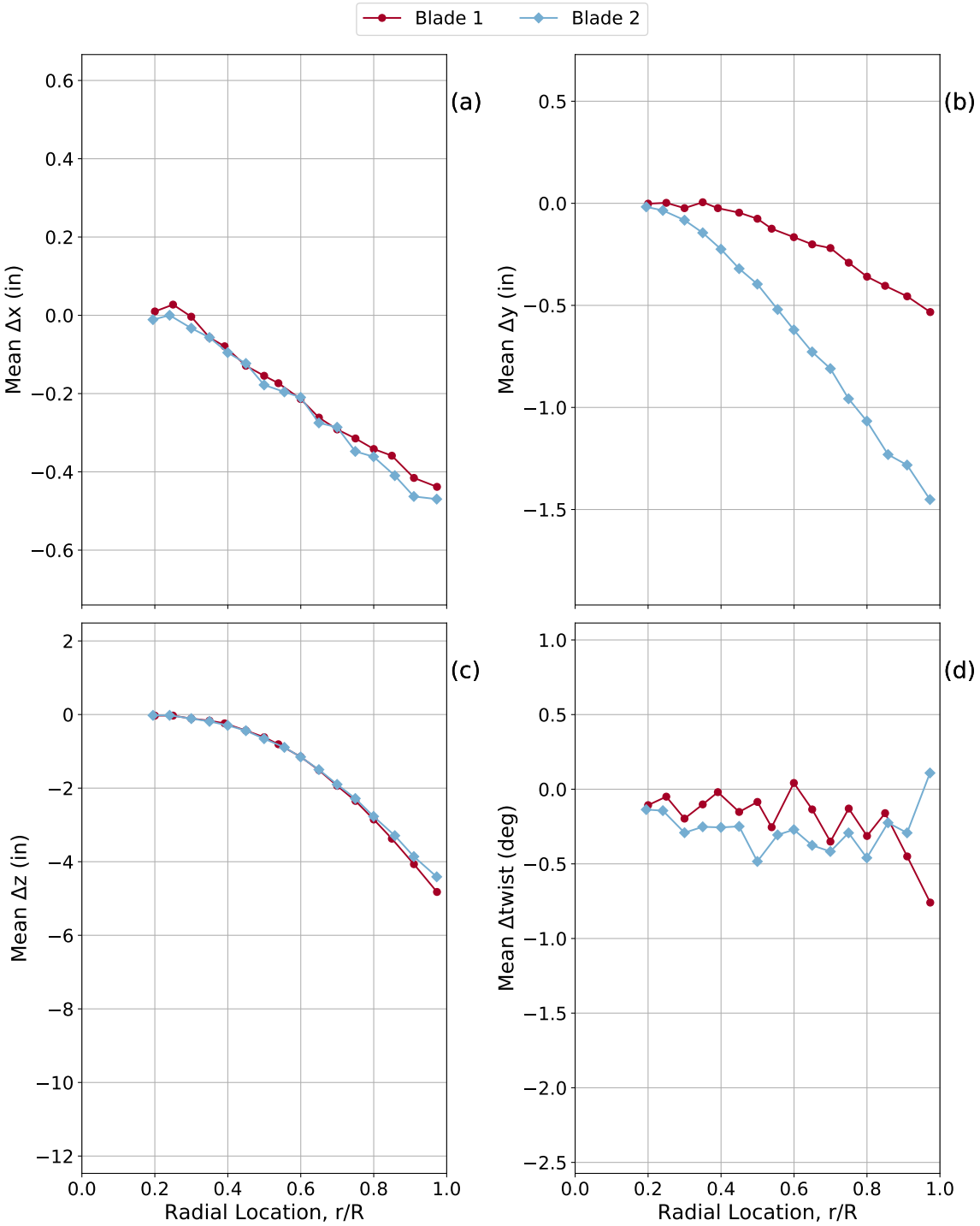


Figure 4.30-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-3. 5° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0098	0.0024	-0.0017	0.0018	-0.0295	0.0035	-0.1066	0.0557
1	4.92	0.2499	0.0273	0.0017	0.0023	0.0039	-0.0293	0.0088	-0.0498	0.0781
1	4.92	0.2998	-0.0036	0.0020	-0.0237	0.0061	-0.1095	0.0111	-0.1969	0.1202
1	4.92	0.3498	-0.0568	0.0018	0.0052	0.0094	-0.1667	0.0231	-0.1017	0.0920
1	4.92	0.3913	-0.0792	0.0019	-0.0238	0.0139	-0.2398	0.0305	-0.0194	0.1048
1	4.92	0.4496	-0.1289	0.0019	-0.0458	0.0181	-0.4355	0.0414	-0.1522	0.1061
1	4.92	0.4997	-0.1546	0.0017	-0.0756	0.0216	-0.6167	0.0509	-0.0852	0.1084
1	4.92	0.5387	-0.1735	0.0020	-0.1244	0.0251	-0.8081	0.0592	-0.2545	0.0957
1	4.92	0.5996	-0.2139	0.0015	-0.1659	0.0306	-1.1484	0.0698	0.0419	0.1096
1	4.92	0.6498	-0.2614	0.0023	-0.2011	0.0360	-1.5121	0.0777	-0.1353	0.1086
1	4.92	0.6998	-0.2916	0.0019	-0.2192	0.0413	-1.9369	0.0852	-0.3508	0.1197
1	4.92	0.7500	-0.3147	0.0019	-0.2910	0.0458	-2.3477	0.0956	-0.1295	0.1204
1	4.92	0.8001	-0.3417	0.0026	-0.3594	0.0535	-2.8527	0.1045	-0.3132	0.1170
1	4.92	0.8497	-0.3587	0.0028	-0.4042	0.0590	-3.3738	0.1105	-0.1603	0.1185
1	4.92	0.9102	-0.4155	0.0035	-0.4559	0.0689	-4.0672	0.1243	-0.4503	0.1270
1	4.92	0.9734	-0.4383	0.0030	-0.5328	0.0757	-4.8221	0.1372	-0.7593	0.0819
2	4.92	0.1949	-0.0111	0.0030	-0.0175	0.0012	-0.0225	0.0029	-0.1364	0.0282
2	4.92	0.2405	0.0001	0.0014	-0.0349	0.0018	-0.0218	0.0061	-0.1435	0.0618
2	4.92	0.2999	-0.0330	0.0011	-0.0826	0.0047	-0.1109	0.0101	-0.2913	0.0741
2	4.92	0.3498	-0.0567	0.0009	-0.1445	0.0074	-0.1868	0.0187	-0.2518	0.0604
2	4.92	0.3998	-0.0953	0.0015	-0.2248	0.0112	-0.2961	0.0271	-0.2558	0.0595
2	4.92	0.4496	-0.1231	0.0011	-0.3201	0.0145	-0.4393	0.0387	-0.2491	0.0560
2	4.92	0.4995	-0.1779	0.0011	-0.3959	0.0182	-0.6571	0.0472	-0.4840	0.0695
2	4.92	0.5551	-0.1957	0.0020	-0.5202	0.0220	-0.8922	0.0586	-0.3060	0.0581
2	4.92	0.5996	-0.2097	0.0018	-0.6200	0.0267	-1.1529	0.0672	-0.2707	0.0678
2	4.92	0.6497	-0.2750	0.0017	-0.7279	0.0289	-1.4972	0.0769	-0.3760	0.0721
2	4.92	0.6996	-0.2860	0.0015	-0.8097	0.0335	-1.8992	0.0875	-0.4173	0.0544
2	4.92	0.7495	-0.3478	0.0017	-0.9575	0.0374	-2.2822	0.0945	-0.2925	0.0693
2	4.92	0.7996	-0.3613	0.0027	-1.0669	0.0407	-2.7694	0.1029	-0.4599	0.0747
2	4.92	0.8578	-0.4097	0.0022	-1.2308	0.0466	-3.2918	0.1168	-0.2247	0.0672
2	4.92	0.9100	-0.4629	0.0041	-1.2822	0.0444	-3.8602	0.1299	-0.2924	0.1124
2	4.92	0.9727	-0.4696	0.0040	-1.4512	0.0539	-4.4107	0.1434	0.1088	0.0873

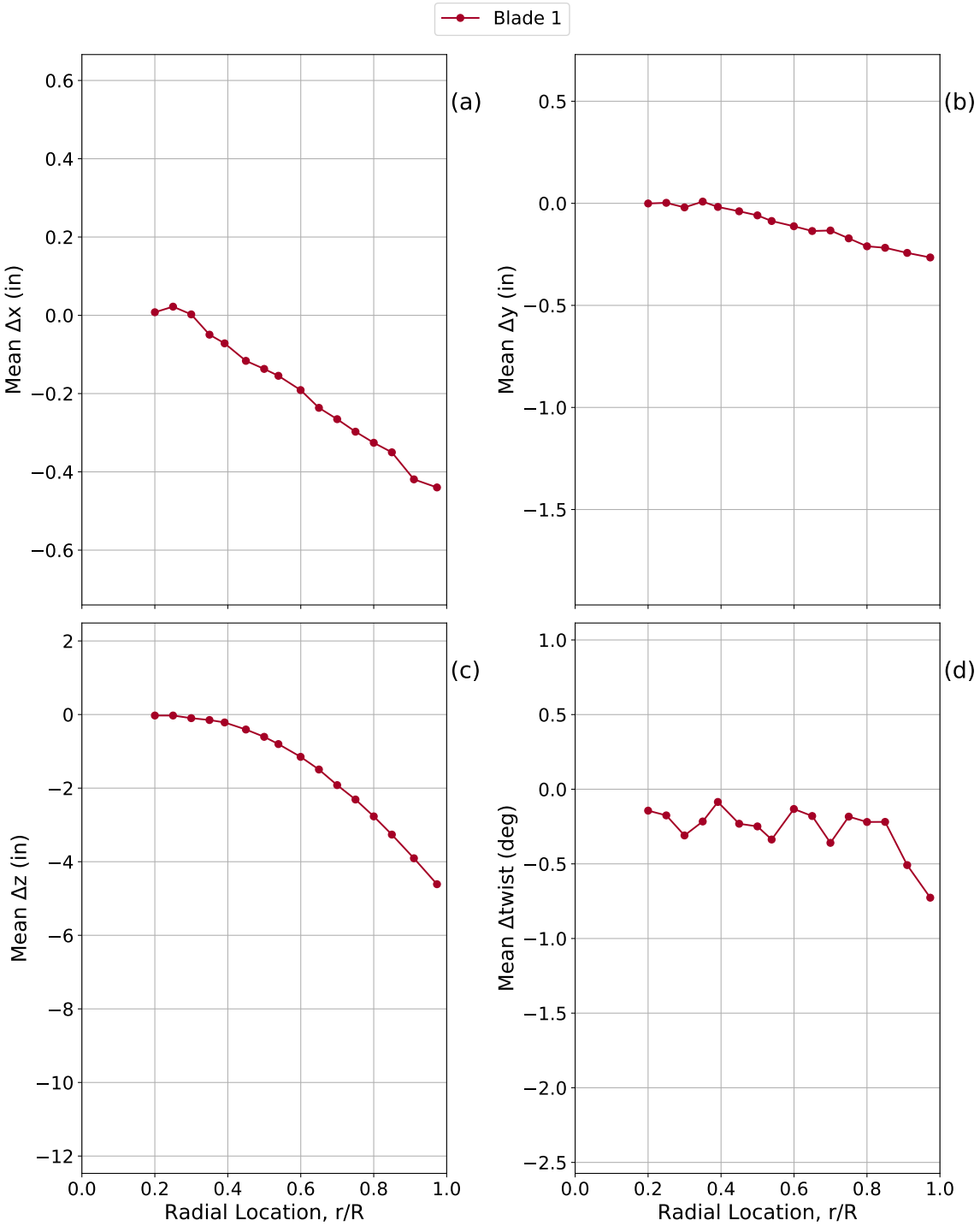


Figure 4.30-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-4. 15° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0078	0.0020	-0.0008	0.0015	-0.0266	0.0037	-0.1435	0.0330
1	15.12	0.2499	0.0221	0.0024	0.0024	0.0026	-0.0267	0.0037	-0.1753	0.0859
1	15.12	0.2998	0.0023	0.0019	-0.0200	0.0056	-0.0985	0.0097	-0.3096	0.0835
1	15.12	0.3498	-0.0495	0.0014	0.0084	0.0085	-0.1491	0.0154	-0.2161	0.0756
1	15.12	0.3913	-0.0717	0.0016	-0.0178	0.0124	-0.2151	0.0198	-0.0853	0.0726
1	15.12	0.4496	-0.1164	0.0018	-0.0391	0.0160	-0.4070	0.0264	-0.2312	0.0720
1	15.12	0.4997	-0.1370	0.0018	-0.0591	0.0188	-0.6057	0.0325	-0.2491	0.0693
1	15.12	0.5387	-0.1546	0.0018	-0.0867	0.0213	-0.8029	0.0382	-0.3369	0.0701
1	15.12	0.5996	-0.1911	0.0019	-0.1124	0.0255	-1.1501	0.0471	-0.1324	0.0730
1	15.12	0.6498	-0.2364	0.0016	-0.1357	0.0291	-1.4942	0.0535	-0.1795	0.0736
1	15.12	0.6998	-0.2654	0.0020	-0.1332	0.0328	-1.9186	0.0629	-0.3592	0.0709
1	15.12	0.7500	-0.2974	0.0016	-0.1717	0.0361	-2.3095	0.0705	-0.1836	0.0657
1	15.12	0.8001	-0.3257	0.0012	-0.2106	0.0404	-2.7683	0.0768	-0.2194	0.0796
1	15.12	0.8497	-0.3501	0.0019	-0.2179	0.0434	-3.2631	0.0811	-0.2188	0.0786
1	15.12	0.9102	-0.4192	0.0022	-0.2429	0.0472	-3.9065	0.0918	-0.5082	0.0834
1	15.12	0.9734	-0.4398	0.0027	-0.2653	0.0530	-4.6117	0.0989	-0.7265	0.0826

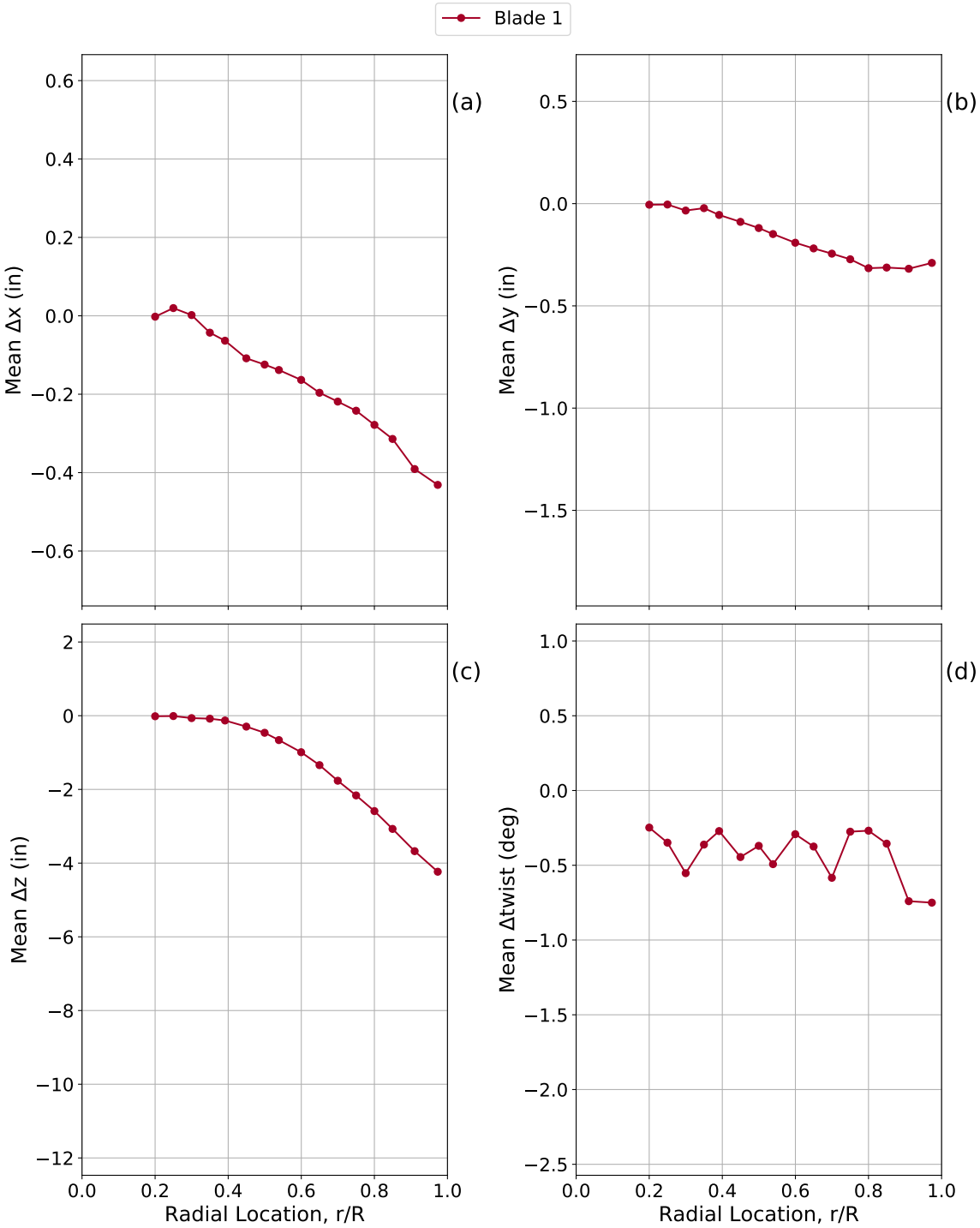


Figure 4.30-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-5. 30° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0022	0.0022	-0.0052	0.0008	-0.0149	0.0031	-0.2479	0.0343
1	29.88	0.2499	0.0197	0.0019	-0.0043	0.0019	-0.0095	0.0067	-0.3487	0.0641
1	29.88	0.2998	0.0019	0.0013	-0.0337	0.0033	-0.0654	0.0120	-0.5529	0.0813
1	29.88	0.3498	-0.0430	0.0017	-0.0221	0.0060	-0.0803	0.0204	-0.3617	0.0737
1	29.88	0.3913	-0.0635	0.0020	-0.0553	0.0085	-0.1302	0.0293	-0.2713	0.0679
1	29.88	0.4496	-0.1084	0.0024	-0.0891	0.0110	-0.2960	0.0385	-0.4451	0.0725
1	29.88	0.4997	-0.1244	0.0030	-0.1193	0.0131	-0.4634	0.0460	-0.3700	0.0735
1	29.88	0.5387	-0.1383	0.0027	-0.1487	0.0145	-0.6618	0.0530	-0.4925	0.0671
1	29.88	0.5996	-0.1635	0.0030	-0.1912	0.0177	-0.9908	0.0612	-0.2921	0.0656
1	29.88	0.6498	-0.1963	0.0029	-0.2190	0.0195	-1.3410	0.0693	-0.3748	0.0682
1	29.88	0.6998	-0.2188	0.0035	-0.2446	0.0228	-1.7645	0.0773	-0.5838	0.0709
1	29.88	0.7500	-0.2421	0.0028	-0.2721	0.0254	-2.1628	0.0836	-0.2753	0.0782
1	29.88	0.8001	-0.2782	0.0028	-0.3157	0.0278	-2.5884	0.0909	-0.2687	0.0737
1	29.88	0.8497	-0.3141	0.0033	-0.3126	0.0309	-3.0718	0.0986	-0.3553	0.0709
1	29.88	0.9102	-0.3909	0.0027	-0.3184	0.0347	-3.6756	0.1087	-0.7402	0.0818
1	29.88	0.9734	-0.4313	0.0036	-0.2898	0.0377	-4.2337	0.1224	-0.7500	0.0809

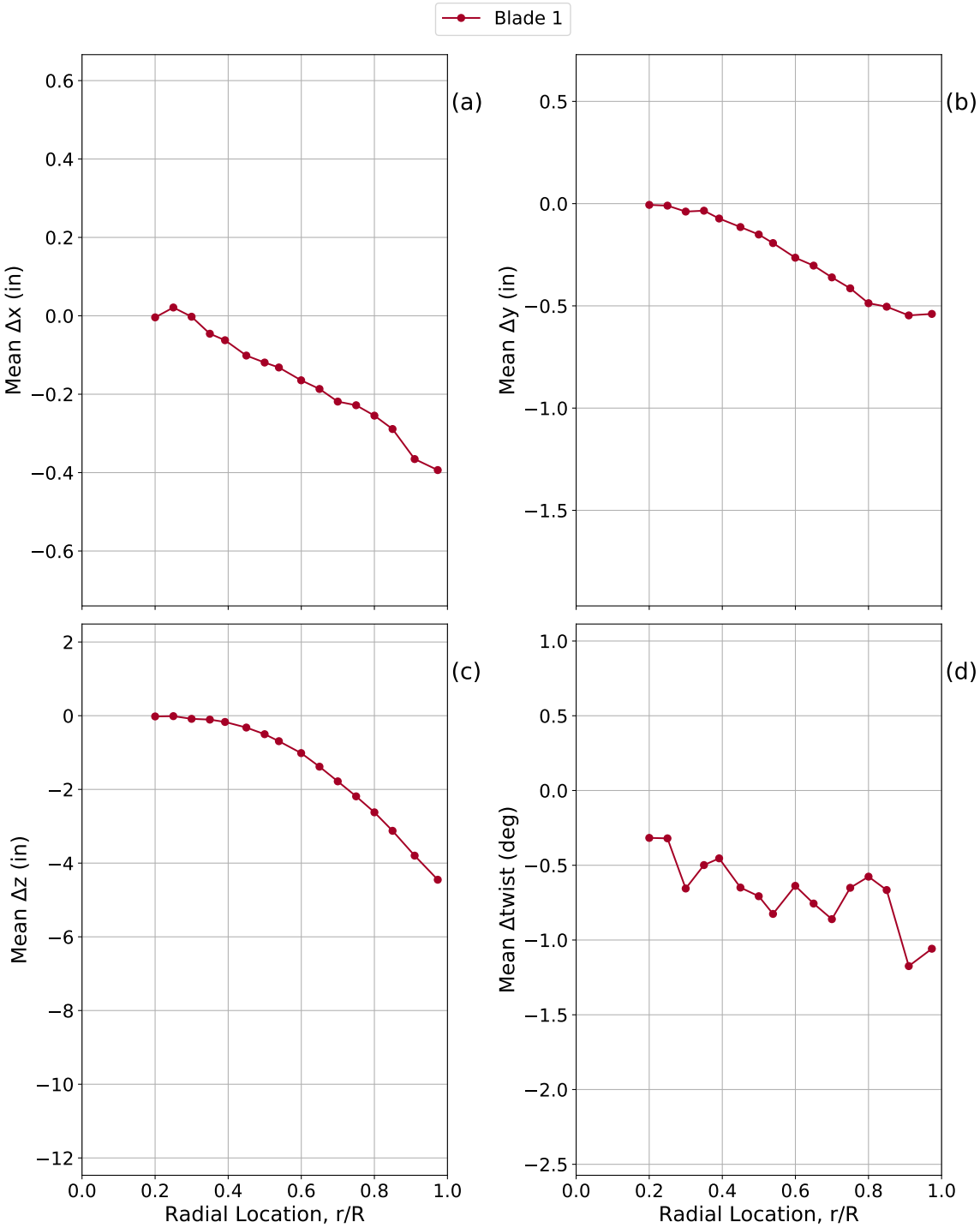


Figure 4.30-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0040	0.0022	-0.0061	0.0013	-0.0198	0.0036	-0.3169	0.0333
1	45	0.2499	0.0212	0.0012	-0.0098	0.0018	-0.0121	0.0047	-0.3199	0.0607
1	45	0.2998	-0.0023	0.0016	-0.0388	0.0042	-0.0854	0.0108	-0.6555	0.0783
1	45	0.3498	-0.0457	0.0017	-0.0345	0.0077	-0.1057	0.0197	-0.4987	0.0727
1	45	0.3913	-0.0623	0.0012	-0.0728	0.0101	-0.1697	0.0255	-0.4537	0.0796
1	45	0.4496	-0.1014	0.0012	-0.1145	0.0133	-0.3215	0.0353	-0.6491	0.0759
1	45	0.4997	-0.1192	0.0011	-0.1510	0.0159	-0.5018	0.0445	-0.7070	0.0748
1	45	0.5387	-0.1318	0.0011	-0.1929	0.0191	-0.6914	0.0513	-0.8254	0.0769
1	45	0.5996	-0.1645	0.0019	-0.2644	0.0230	-1.0148	0.0602	-0.6376	0.0849
1	45	0.6498	-0.1866	0.0018	-0.3031	0.0252	-1.3830	0.0687	-0.7560	0.0777
1	45	0.6998	-0.2188	0.0021	-0.3607	0.0285	-1.7815	0.0754	-0.8604	0.0792
1	45	0.7500	-0.2281	0.0017	-0.4142	0.0321	-2.1882	0.0839	-0.6507	0.0848
1	45	0.8001	-0.2547	0.0018	-0.4870	0.0365	-2.6221	0.0952	-0.5761	0.0767
1	45	0.8497	-0.2888	0.0021	-0.5041	0.0401	-3.1234	0.1052	-0.6657	0.0860
1	45	0.9102	-0.3654	0.0020	-0.5466	0.0444	-3.7971	0.1192	-1.1744	0.0871
1	45	0.9734	-0.3935	0.0029	-0.5394	0.0489	-4.4507	0.1374	-1.0582	0.0805

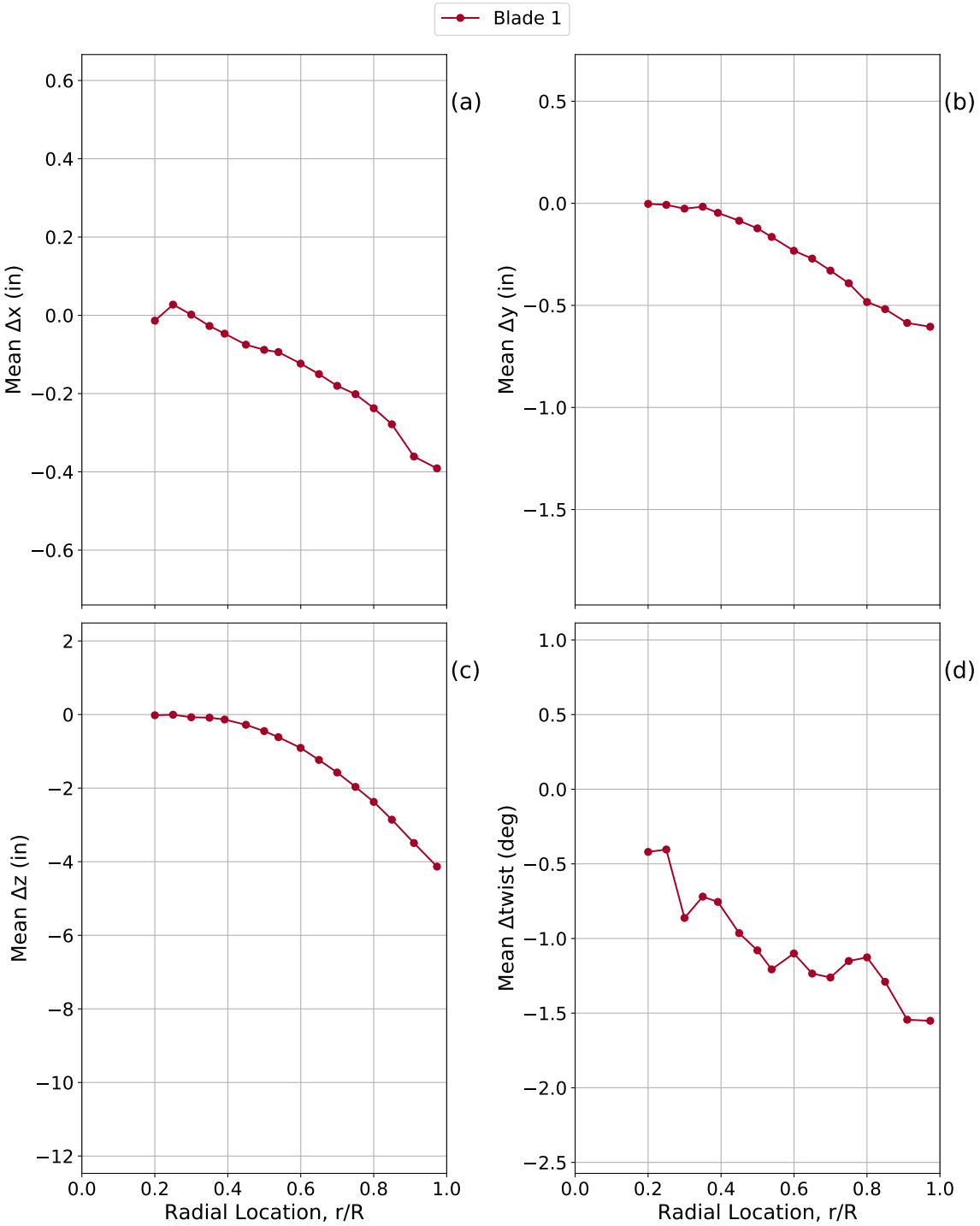


Figure 4.30-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-7. 60° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0138	0.0030	-0.0026	0.0020	-0.0191	0.0039	-0.4199	0.0344
1	60.12	0.2499	0.0273	0.0018	-0.0075	0.0031	-0.0049	0.0055	-0.4038	0.0725
1	60.12	0.2998	0.0017	0.0016	-0.0261	0.0074	-0.0737	0.0123	-0.8624	0.0820
1	60.12	0.3498	-0.0273	0.0009	-0.0167	0.0126	-0.0849	0.0199	-0.7195	0.0790
1	60.12	0.3913	-0.0469	0.0024	-0.0467	0.0175	-0.1353	0.0274	-0.7548	0.0723
1	60.12	0.4496	-0.0750	0.0031	-0.0855	0.0234	-0.2783	0.0366	-0.9641	0.0684
1	60.12	0.4997	-0.0883	0.0022	-0.1227	0.0283	-0.4494	0.0439	-1.0796	0.0813
1	60.12	0.5387	-0.0940	0.0027	-0.1647	0.0316	-0.6153	0.0507	-1.2068	0.0843
1	60.12	0.5996	-0.1234	0.0025	-0.2325	0.0375	-0.9067	0.0600	-1.1001	0.0861
1	60.12	0.6498	-0.1502	0.0019	-0.2708	0.0424	-1.2333	0.0687	-1.2349	0.0808
1	60.12	0.6998	-0.1802	0.0021	-0.3295	0.0478	-1.5754	0.0771	-1.2612	0.0814
1	60.12	0.7500	-0.2015	0.0030	-0.3916	0.0529	-1.9666	0.0830	-1.1508	0.0787
1	60.12	0.8001	-0.2375	0.0025	-0.4836	0.0577	-2.3746	0.0885	-1.1266	0.0849
1	60.12	0.8497	-0.2785	0.0027	-0.5184	0.0632	-2.8575	0.0940	-1.2901	0.0761
1	60.12	0.9102	-0.3608	0.0024	-0.5861	0.0687	-3.4918	0.0992	-1.5442	0.0772
1	60.12	0.9734	-0.3911	0.0031	-0.6048	0.0755	-4.1325	0.1061	-1.5513	0.0857

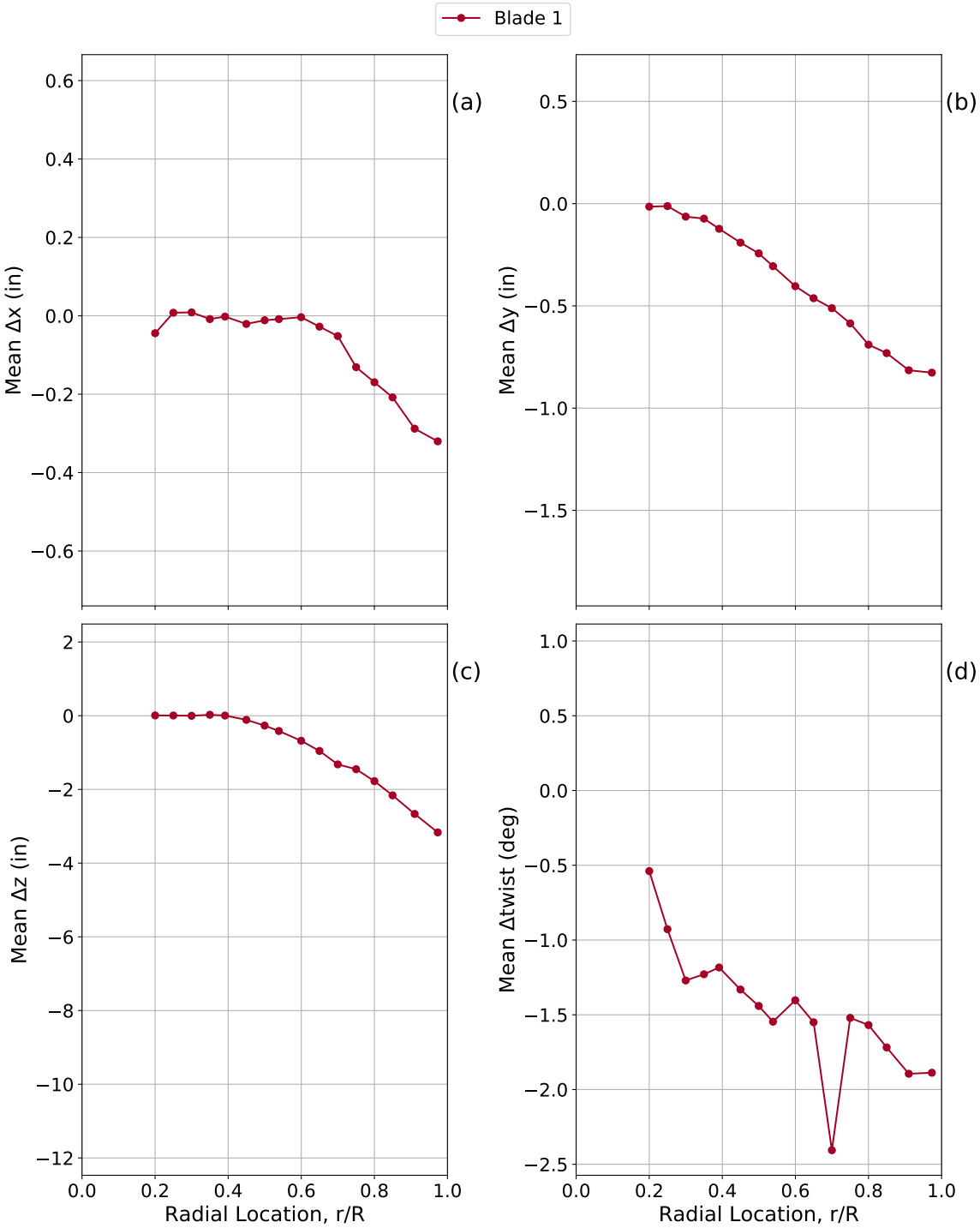


Figure 4.30-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0444	0.0024	-0.0146	0.0015	0.0075	0.0029	-0.5390	0.0280
1	74.88	0.2499	0.0078	0.0016	-0.0121	0.0027	0.0050	0.0066	-0.9277	0.0470
1	74.88	0.2998	0.0088	0.0013	-0.0636	0.0052	-0.0023	0.0096	-1.2704	0.0603
1	74.88	0.3498	-0.0083	0.0027	-0.0733	0.0083	0.0250	0.0175	-1.2290	0.0560
1	74.88	0.3913	-0.0020	0.0037	-0.1230	0.0119	0.0042	0.0241	-1.1836	0.0473
1	74.88	0.4496	-0.0208	0.0060	-0.1905	0.0159	-0.1122	0.0296	-1.3312	0.0569
1	74.88	0.4997	-0.0114	0.0077	-0.2432	0.0193	-0.2678	0.0367	-1.4411	0.0543
1	74.88	0.5387	-0.0084	0.0082	-0.3059	0.0230	-0.4156	0.0434	-1.5462	0.0449
1	74.88	0.5996	-0.0035	0.0105	-0.4038	0.0271	-0.6796	0.0497	-1.4029	0.0611
1	74.88	0.6498	-0.0277	0.0119	-0.4626	0.0309	-0.9566	0.0560	-1.5501	0.0462
1	74.88	0.6998	-0.0516	0.0076	-0.5112	0.0343	-1.3209	0.0663	-2.4059	0.2030
1	74.88	0.7500	-0.1310	0.0036	-0.5856	0.0415	-1.4517	0.0696	-1.5206	0.0637
1	74.88	0.8001	-0.1695	0.0042	-0.6897	0.0454	-1.7758	0.0757	-1.5688	0.0597
1	74.88	0.8497	-0.2080	0.0045	-0.7311	0.0491	-2.1609	0.0821	-1.7182	0.0647
1	74.88	0.9102	-0.2879	0.0041	-0.8148	0.0538	-2.6659	0.0913	-1.8945	0.0616
1	74.88	0.9734	-0.3202	0.0039	-0.8266	0.0587	-3.1670	0.1020	-1.8876	0.0611

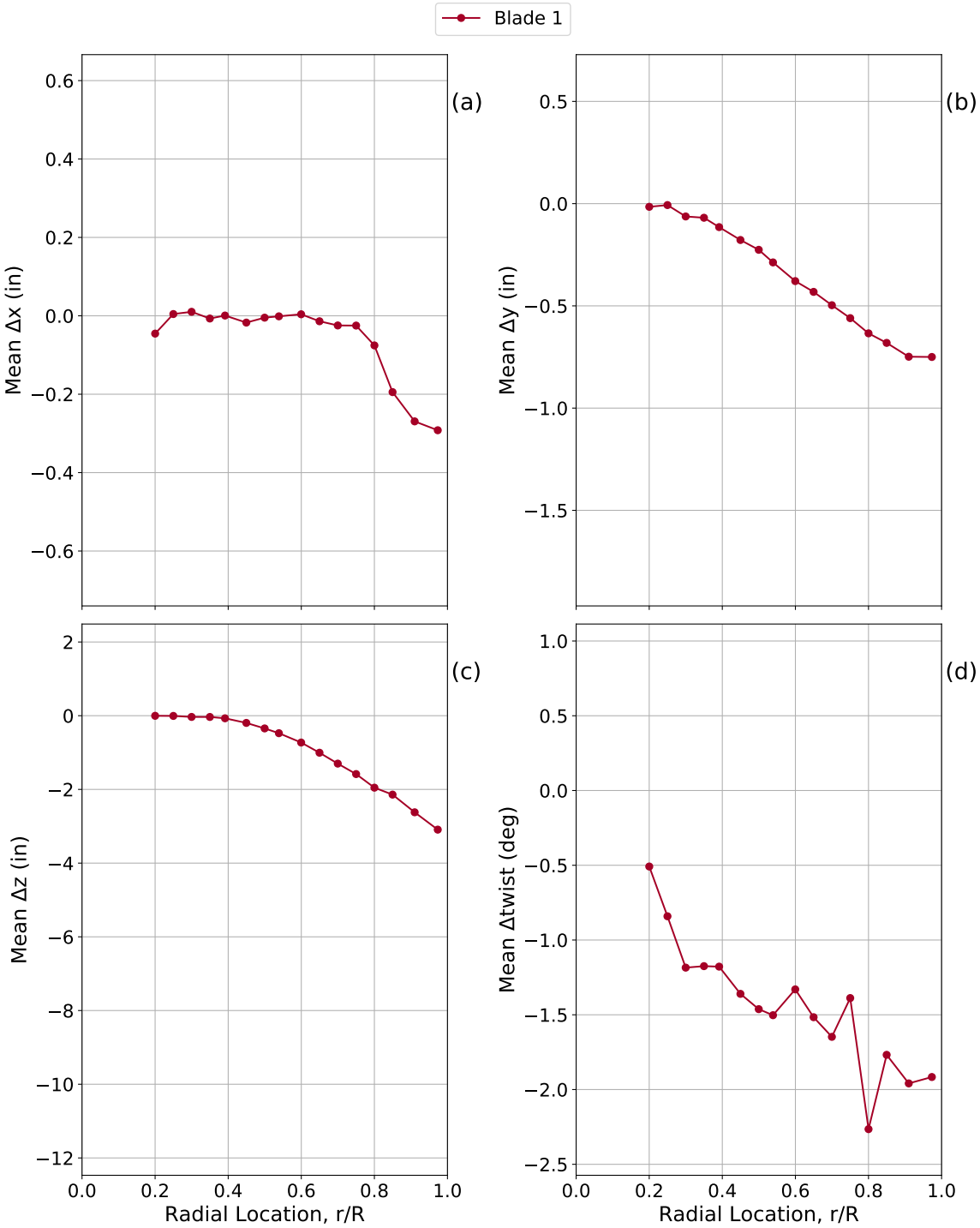


Figure 4.30-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0454	0.0020	-0.0155	0.0017	-0.0029	0.0036	-0.5083	0.0335
1	80.16	0.2499	0.0045	0.0019	-0.0070	0.0021	-0.0060	0.0057	-0.8411	0.0607
1	80.16	0.2998	0.0102	0.0017	-0.0627	0.0055	-0.0332	0.0127	-1.1846	0.0761
1	80.16	0.3498	-0.0069	0.0020	-0.0690	0.0084	-0.0341	0.0200	-1.1747	0.0824
1	80.16	0.3913	0.0007	0.0035	-0.1148	0.0116	-0.0702	0.0284	-1.1779	0.0835
1	80.16	0.4496	-0.0173	0.0044	-0.1778	0.0151	-0.1957	0.0394	-1.3600	0.0723
1	80.16	0.4997	-0.0047	0.0051	-0.2258	0.0191	-0.3452	0.0484	-1.4623	0.0797
1	80.16	0.5387	-0.0013	0.0063	-0.2874	0.0223	-0.4746	0.0561	-1.5028	0.0743
1	80.16	0.5996	0.0039	0.0069	-0.3788	0.0263	-0.7282	0.0690	-1.3301	0.0734
1	80.16	0.6498	-0.0139	0.0084	-0.4315	0.0307	-1.0046	0.0788	-1.5162	0.0786
1	80.16	0.6998	-0.0246	0.0099	-0.4967	0.0340	-1.2999	0.0900	-1.6475	0.0823
1	80.16	0.7500	-0.0249	0.0133	-0.5600	0.0362	-1.5837	0.1024	-1.3882	0.0761
1	80.16	0.8001	-0.0755	0.0107	-0.6343	0.0450	-1.9529	0.1237	-2.2648	0.2399
1	80.16	0.8497	-0.1946	0.0048	-0.6810	0.0621	-2.1411	0.0891	-1.7679	0.0808
1	80.16	0.9102	-0.2693	0.0048	-0.7487	0.0677	-2.6209	0.0972	-1.9589	0.0800
1	80.16	0.9734	-0.2919	0.0047	-0.7499	0.0733	-3.0916	0.1054	-1.9162	0.0814

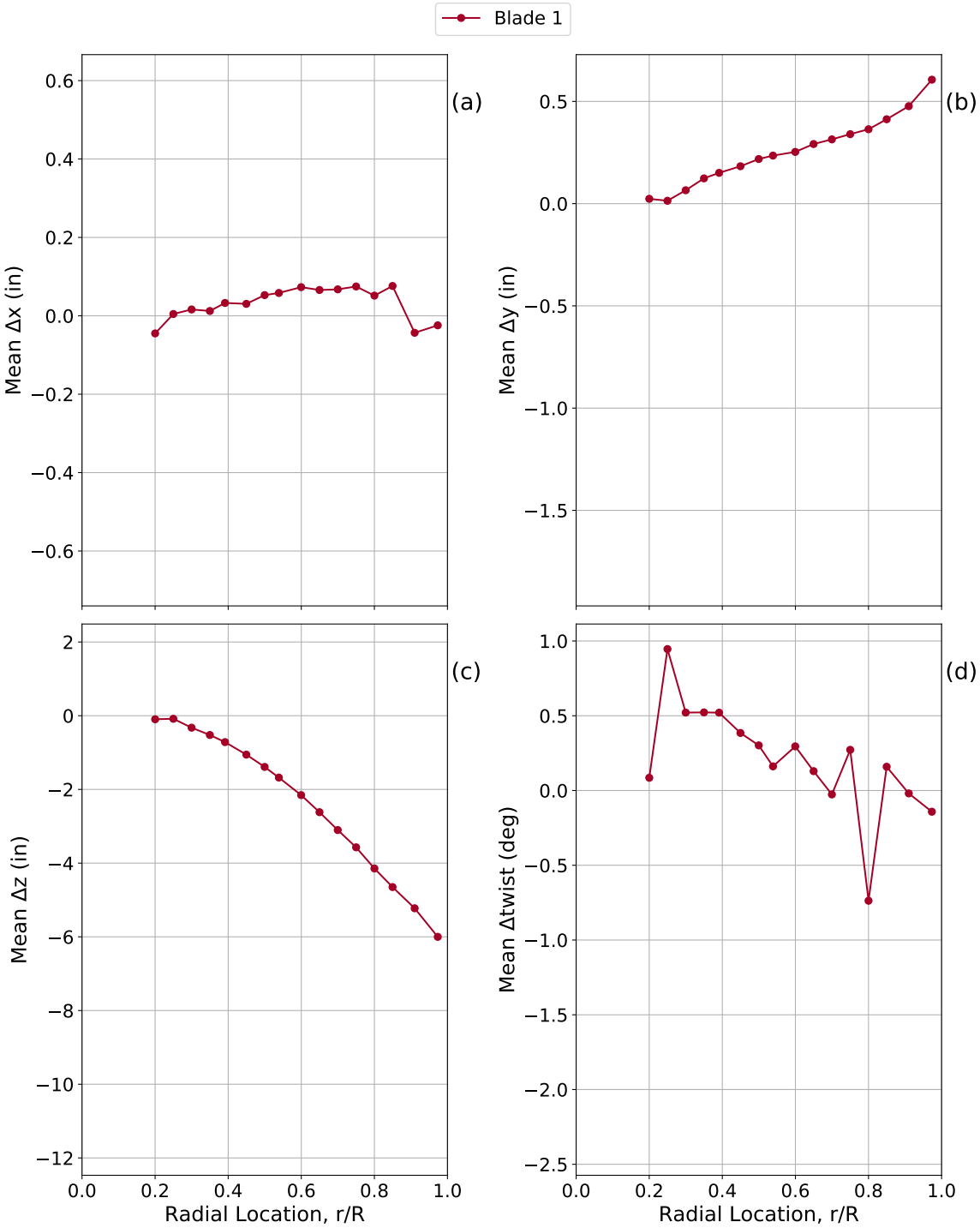


Figure 4.30-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-10. 85° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0449	0.0045	0.0236	0.0037	-0.0968	0.0076	0.0852	0.0696
1	85.08	0.2499	0.0046	0.0026	0.0140	0.0048	-0.0834	0.0086	0.9460	0.1656
1	85.08	0.2998	0.0162	0.0023	0.0655	0.0126	-0.3252	0.0252	0.5213	0.1794
1	85.08	0.3498	0.0123	0.0021	0.1236	0.0224	-0.5234	0.0443	0.5224	0.1671
1	85.08	0.3913	0.0328	0.0024	0.1506	0.0302	-0.7167	0.0591	0.5207	0.1689
1	85.08	0.4496	0.0305	0.0021	0.1829	0.0409	-1.0562	0.0799	0.3849	0.1715
1	85.08	0.4997	0.0528	0.0021	0.2183	0.0507	-1.3897	0.0980	0.3019	0.1698
1	85.08	0.5387	0.0583	0.0020	0.2349	0.0587	-1.6793	0.1128	0.1615	0.1649
1	85.08	0.5996	0.0731	0.0022	0.2530	0.0711	-2.1547	0.1350	0.2953	0.1694
1	85.08	0.6498	0.0658	0.0024	0.2915	0.0820	-2.6179	0.1536	0.1295	0.1742
1	85.08	0.6998	0.0675	0.0029	0.3143	0.0928	-3.1025	0.1703	-0.0262	0.1839
1	85.08	0.7500	0.0748	0.0051	0.3398	0.1041	-3.5716	0.1910	0.2722	0.1737
1	85.08	0.8001	0.0515	0.0034	0.3639	0.1254	-4.1455	0.2340	-0.7372	0.2694
1	85.08	0.8497	0.0761	0.0075	0.4127	0.1278	-4.6497	0.2200	0.1590	0.1912
1	85.08	0.9102	-0.0433	0.0041	0.4767	0.1624	-5.2256	0.1698	-0.0193	0.1802
1	85.08	0.9734	-0.0243	0.0116	0.6062	0.1732	-6.0011	0.1878	-0.1418	0.1745

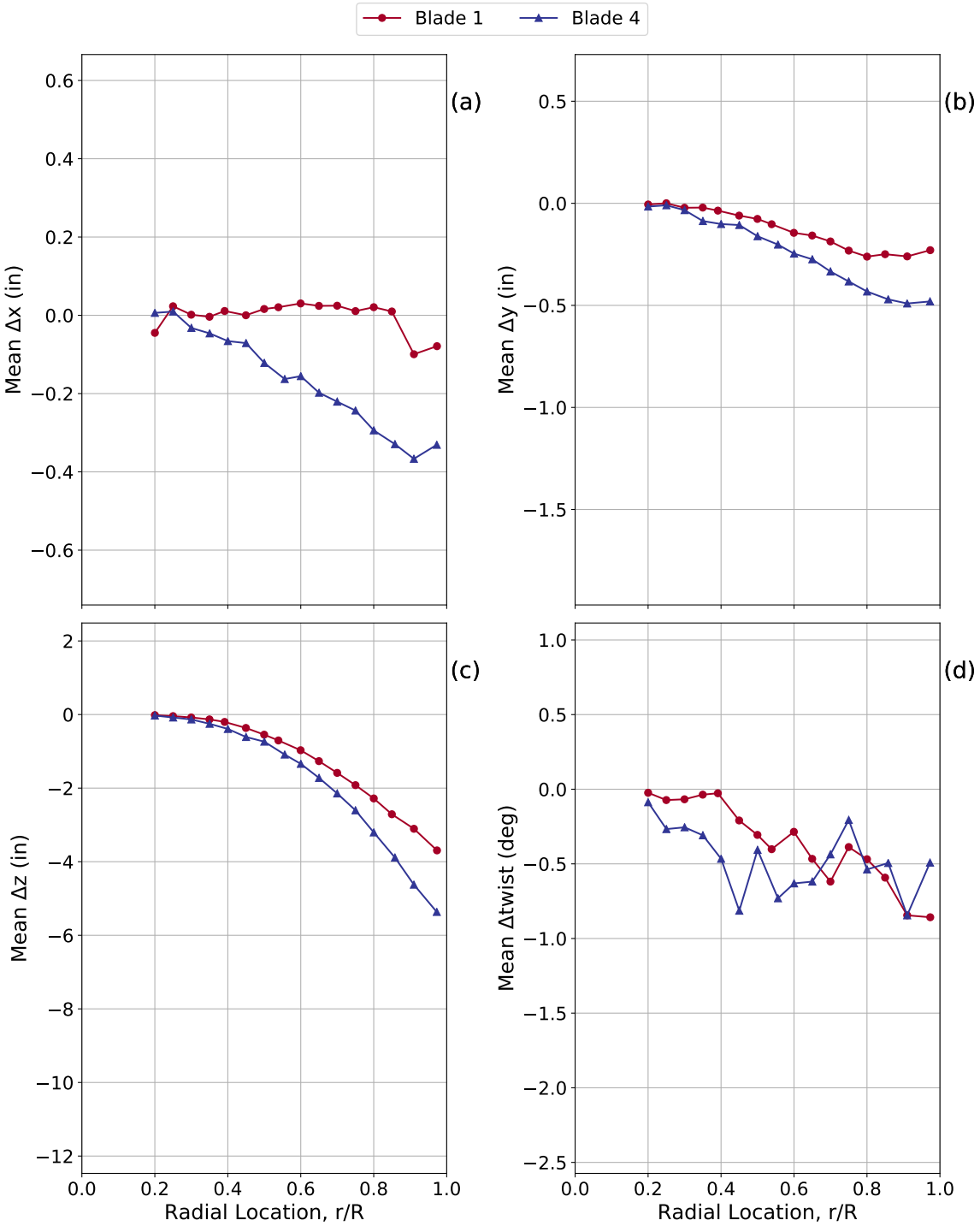


Figure 4.30-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-11. 90° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0449	0.0039	-0.0057	0.0012	-0.0158	0.0028	-0.0236	0.0375
1	90	0.2499	0.0231	0.0025	0.0003	0.0024	-0.0431	0.0060	-0.0726	0.0343
1	90	0.2998	0.0015	0.0024	-0.0218	0.0021	-0.0791	0.0063	-0.0674	0.0705
1	90	0.3498	-0.0038	0.0017	-0.0209	0.0045	-0.1323	0.0138	-0.0364	0.0924
1	90	0.3913	0.0110	0.0014	-0.0358	0.0055	-0.2010	0.0174	-0.0270	0.0826
1	90	0.4496	0.0001	0.0017	-0.0602	0.0079	-0.3647	0.0230	-0.2092	0.0754
1	90	0.4997	0.0161	0.0012	-0.0765	0.0097	-0.5465	0.0279	-0.3060	0.0823
1	90	0.5387	0.0206	0.0012	-0.1025	0.0117	-0.7043	0.0329	-0.4018	0.0756
1	90	0.5996	0.0303	0.0019	-0.1446	0.0148	-0.9700	0.0399	-0.2853	0.0819
1	90	0.6498	0.0241	0.0031	-0.1578	0.0178	-1.2662	0.0460	-0.4665	0.0892
1	90	0.6998	0.0245	0.0034	-0.1868	0.0209	-1.5857	0.0536	-0.6187	0.0807
1	90	0.7500	0.0107	0.0056	-0.2317	0.0170	-1.9192	0.0574	-0.3873	0.0952
1	90	0.8001	0.0207	0.0045	-0.2612	0.0269	-2.2809	0.0641	-0.4690	0.0740
1	90	0.8497	0.0098	0.0057	-0.2493	0.0313	-2.7101	0.0671	-0.5922	0.0729
1	90	0.9102	-0.0995	0.0026	-0.2601	0.0380	-3.1050	0.0710	-0.8447	0.0666
1	90	0.9734	-0.0789	0.0032	-0.2296	0.0414	-3.6927	0.0767	-0.8577	0.0635
4	90.35	0.2001	0.0062	0.0048	-0.0159	0.0021	-0.0279	0.0097	-0.0872	0.0441
4	90.35	0.2502	0.0095	0.0066	-0.0097	0.0018	-0.0808	0.0102	-0.2671	0.1149
4	90.35	0.3001	-0.0323	0.0035	-0.0335	0.0049	-0.1340	0.0233	-0.2551	0.0711
4	90.35	0.3502	-0.0462	0.0034	-0.0870	0.0064	-0.2522	0.0315	-0.3088	0.0803
4	90.35	0.4002	-0.0659	0.0031	-0.1016	0.0085	-0.3921	0.0433	-0.4661	0.0789
4	90.35	0.4500	-0.0711	0.0037	-0.1064	0.0097	-0.6106	0.0498	-0.8139	0.0715
4	90.35	0.5001	-0.1218	0.0027	-0.1614	0.0106	-0.7374	0.0592	-0.4067	0.0713
4	90.35	0.5560	-0.1629	0.0029	-0.2023	0.0127	-1.0883	0.0704	-0.7307	0.0625
4	90.35	0.6001	-0.1555	0.0031	-0.2465	0.0143	-1.3405	0.0780	-0.6309	0.0689
4	90.35	0.6501	-0.1979	0.0030	-0.2744	0.0159	-1.7232	0.0875	-0.6189	0.0724
4	90.35	0.6999	-0.2207	0.0025	-0.3341	0.0181	-2.1450	0.0958	-0.4365	0.0658
4	90.35	0.7500	-0.2434	0.0023	-0.3829	0.0203	-2.6038	0.1069	-0.2060	0.0702
4	90.35	0.8002	-0.2941	0.0026	-0.4321	0.0222	-3.2047	0.1138	-0.5375	0.0732
4	90.35	0.8582	-0.3293	0.0020	-0.4706	0.0252	-3.8886	0.1273	-0.4942	0.0656
4	90.35	0.9101	-0.3667	0.0025	-0.4907	0.0277	-4.6241	0.1361	-0.8449	0.0688
4	90.35	0.9728	-0.3309	0.0027	-0.4808	0.0312	-5.3653	0.1491	-0.4919	0.0753

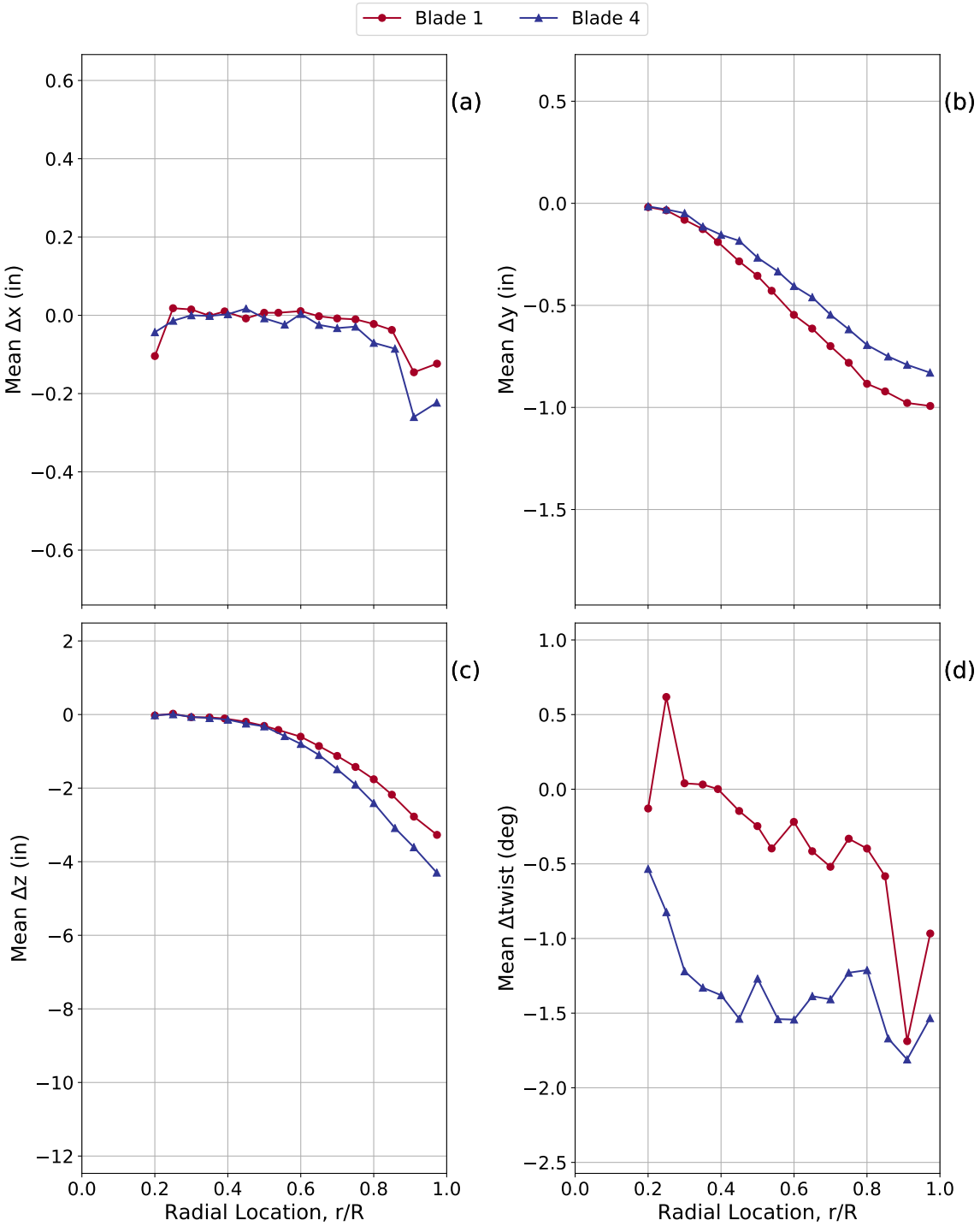


Figure 4.30-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-12. 95° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.1041	0.0030	-0.0189	0.0014	-0.0248	0.0018	-0.1292	0.0527
1	94.92	0.2499	0.0181	0.0030	-0.0343	0.0050	0.0219	0.0113	0.6180	0.0454
1	94.92	0.2998	0.0149	0.0032	-0.0808	0.0060	-0.0720	0.0097	0.0397	0.1006
1	94.92	0.3498	-0.0011	0.0034	-0.1263	0.0123	-0.0782	0.0221	0.0315	0.0710
1	94.92	0.3913	0.0100	0.0029	-0.1894	0.0172	-0.1079	0.0314	0.0010	0.0581
1	94.92	0.4496	-0.0080	0.0034	-0.2844	0.0223	-0.1966	0.0413	-0.1456	0.0642
1	94.92	0.4997	0.0065	0.0040	-0.3553	0.0272	-0.3089	0.0495	-0.2472	0.0643
1	94.92	0.5387	0.0065	0.0037	-0.4284	0.0308	-0.4204	0.0553	-0.3968	0.0644
1	94.92	0.5996	0.0106	0.0045	-0.5464	0.0373	-0.6022	0.0654	-0.2187	0.0675
1	94.92	0.6498	-0.0024	0.0051	-0.6136	0.0430	-0.8566	0.0748	-0.4152	0.0605
1	94.92	0.6998	-0.0080	0.0056	-0.6995	0.0489	-1.1251	0.0818	-0.5196	0.0755
1	94.92	0.7500	-0.0103	0.0076	-0.7812	0.0553	-1.4247	0.0911	-0.3315	0.0657
1	94.92	0.8001	-0.0222	0.0089	-0.8841	0.0618	-1.7596	0.1001	-0.3976	0.0602
1	94.92	0.8497	-0.0375	0.0106	-0.9214	0.0686	-2.1785	0.1100	-0.5829	0.0627
1	94.92	0.9102	-0.1456	0.0080	-0.9781	0.0786	-2.7744	0.1211	-1.6876	0.1475
1	94.92	0.9734	-0.1236	0.0139	-0.9928	0.0851	-3.2706	0.1322	-0.9666	0.0691
4	94.92	0.2001	-0.0432	0.0021	-0.0151	0.0009	-0.0192	0.0030	-0.5338	0.0643
4	94.92	0.2502	-0.0140	0.0025	-0.0301	0.0034	0.0061	0.0117	-0.8235	0.0860
4	94.92	0.3001	0.0000	0.0022	-0.0484	0.0036	-0.0627	0.0132	-1.2196	0.1372
4	94.92	0.3502	-0.0016	0.0020	-0.1138	0.0076	-0.0965	0.0247	-1.3296	0.1235
4	94.92	0.4002	0.0027	0.0031	-0.1545	0.0115	-0.1406	0.0387	-1.3800	0.1119
4	94.92	0.4500	0.0171	0.0041	-0.1838	0.0141	-0.2451	0.0450	-1.5380	0.1295
4	94.92	0.5001	-0.0077	0.0052	-0.2662	0.0177	-0.3223	0.0548	-1.2690	0.1300
4	94.92	0.5560	-0.0238	0.0069	-0.3340	0.0225	-0.5860	0.0664	-1.5401	0.1278
4	94.92	0.6001	0.0034	0.0079	-0.4054	0.0258	-0.7992	0.0749	-1.5431	0.1275
4	94.92	0.6501	-0.0245	0.0092	-0.4605	0.0300	-1.1002	0.0841	-1.3865	0.1283
4	94.92	0.6999	-0.0327	0.0108	-0.5456	0.0344	-1.4871	0.0949	-1.4075	0.1155
4	94.92	0.7500	-0.0290	0.0123	-0.6173	0.0387	-1.9040	0.1018	-1.2292	0.1291
4	94.92	0.8002	-0.0704	0.0147	-0.6940	0.0440	-2.4068	0.1116	-1.2120	0.1352
4	94.92	0.8582	-0.0854	0.0147	-0.7505	0.0510	-3.0854	0.1220	-1.6694	0.1340
4	94.92	0.9101	-0.2599	0.0062	-0.7913	0.0704	-3.6081	0.1280	-1.8105	0.1249
4	94.92	0.9728	-0.2232	0.0054	-0.8297	0.0773	-4.2969	0.1394	-1.5336	0.1275

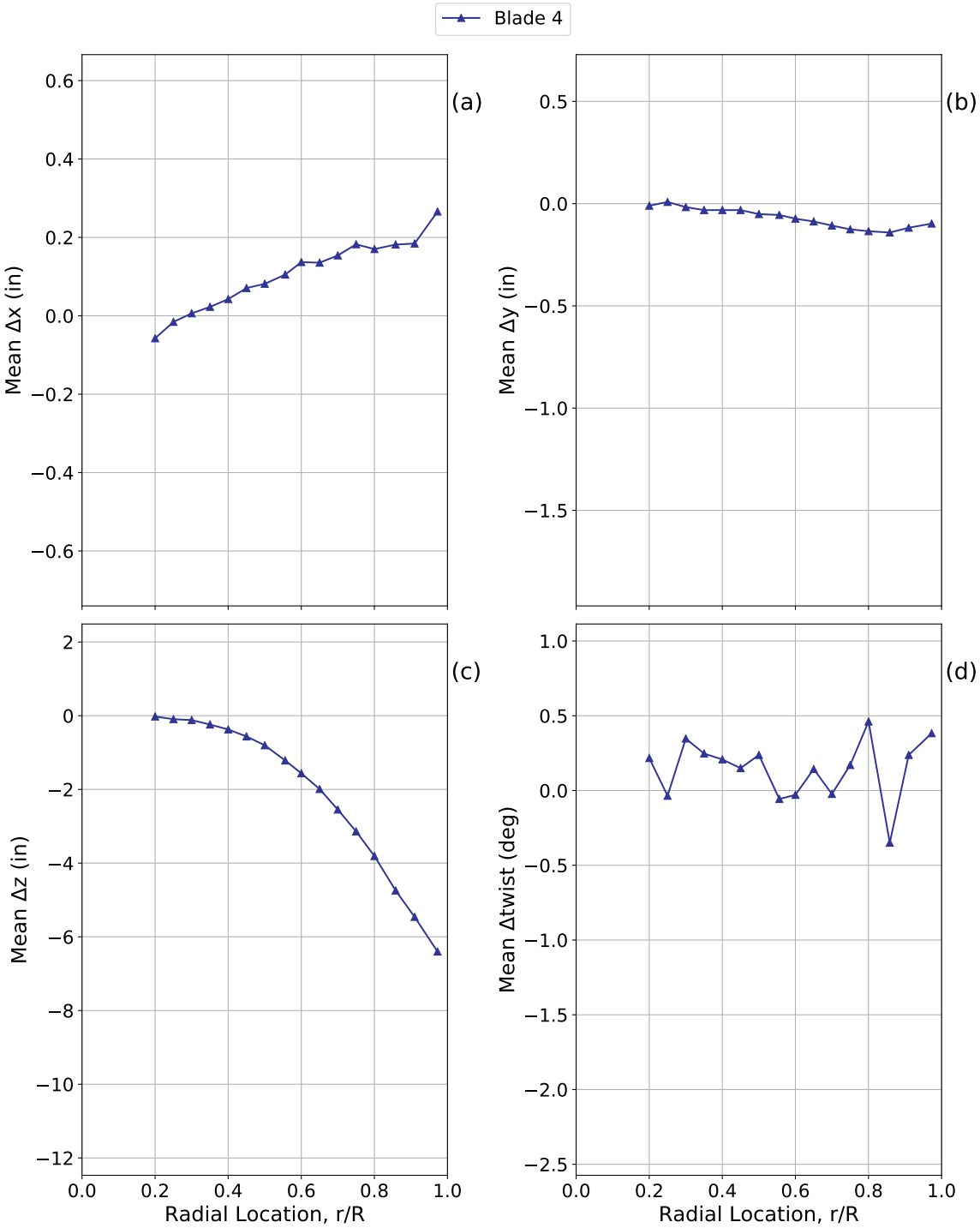


Figure 4.30-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-13. 105° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0574	0.0006	-0.0103	0.0005	-0.0223	0.0022	0.2169	0.0117
4	105.12	0.2502	-0.0155	0.0008	0.0082	0.0015	-0.0943	0.0038	-0.0354	0.0315
4	105.12	0.3001	0.0063	0.0006	-0.0170	0.0025	-0.1191	0.0086	0.3475	0.0311
4	105.12	0.3502	0.0227	0.0008	-0.0317	0.0035	-0.2396	0.0142	0.2471	0.0347
4	105.12	0.4002	0.0426	0.0009	-0.0316	0.0062	-0.3738	0.0220	0.2077	0.0294
4	105.12	0.4500	0.0707	0.0006	-0.0316	0.0074	-0.5637	0.0280	0.1494	0.0367
4	105.12	0.5001	0.0816	0.0011	-0.0512	0.0100	-0.8031	0.0369	0.2376	0.0299
4	105.12	0.5560	0.1051	0.0010	-0.0554	0.0129	-1.2160	0.0446	-0.0568	0.0355
4	105.12	0.6001	0.1369	0.0013	-0.0736	0.0146	-1.5634	0.0514	-0.0291	0.0341
4	105.12	0.6501	0.1355	0.0013	-0.0873	0.0169	-1.9906	0.0581	0.1437	0.0385
4	105.12	0.6999	0.1540	0.0017	-0.1073	0.0193	-2.5474	0.0648	-0.0233	0.0365
4	105.12	0.7500	0.1824	0.0017	-0.1258	0.0220	-3.1400	0.0701	0.1706	0.0361
4	105.12	0.8002	0.1702	0.0029	-0.1349	0.0250	-3.8094	0.0764	0.4612	0.0389
4	105.12	0.8582	0.1817	0.0023	-0.1413	0.0283	-4.7446	0.0829	-0.3495	0.0425
4	105.12	0.9101	0.1843	0.0033	-0.1179	0.0312	-5.4608	0.0907	0.2375	0.0417
4	105.12	0.9728	0.2659	0.0035	-0.0977	0.0354	-6.4012	0.1034	0.3830	0.0518

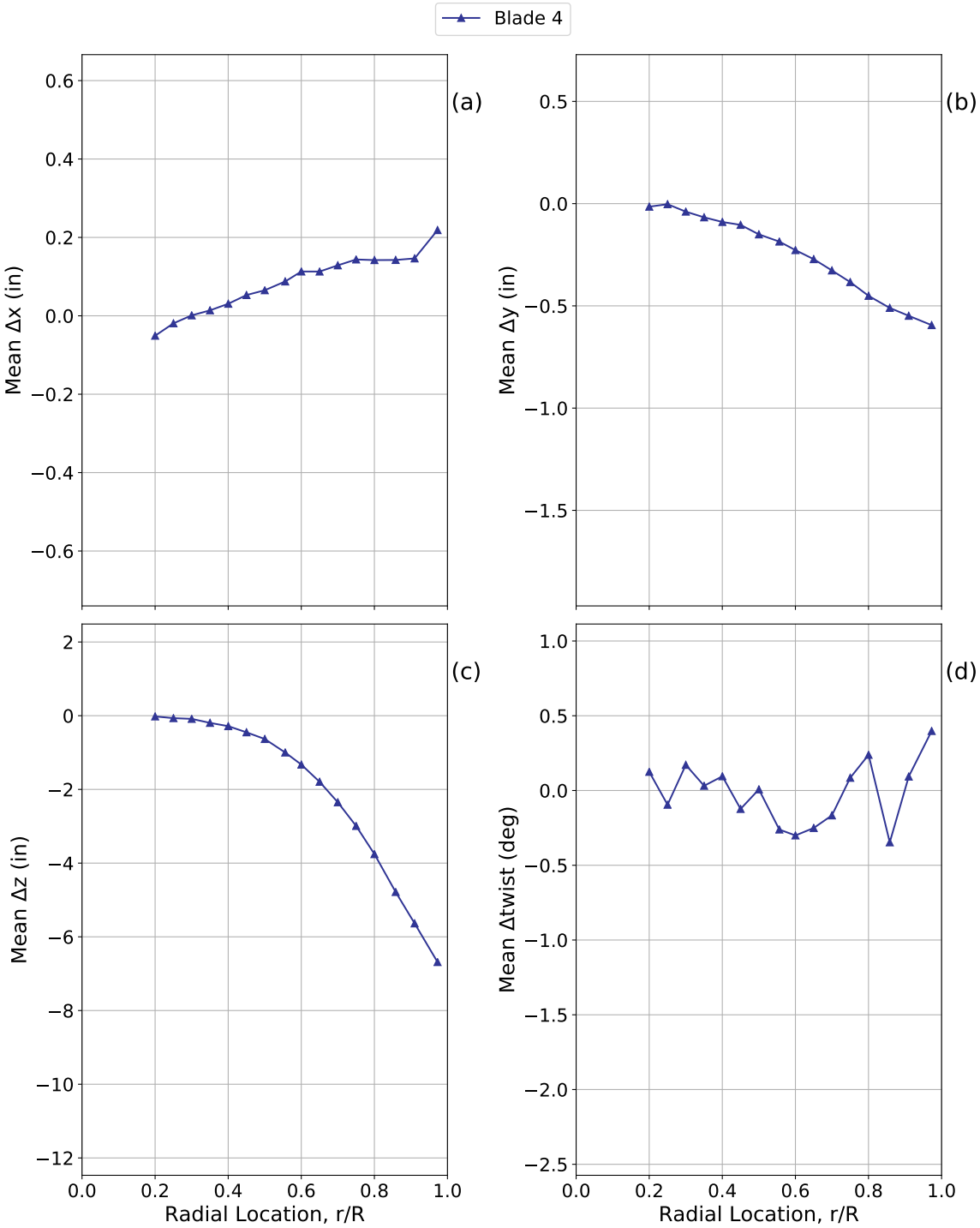


Figure 4.30-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0508	0.0007	-0.0149	0.0004	-0.0199	0.0012	0.1249	0.0139
4	119.88	0.2502	-0.0192	0.0007	-0.0028	0.0007	-0.0664	0.0023	-0.0952	0.0153
4	119.88	0.3001	0.0011	0.0006	-0.0392	0.0013	-0.0859	0.0042	0.1715	0.0271
4	119.88	0.3502	0.0139	0.0009	-0.0670	0.0025	-0.1949	0.0068	0.0314	0.0209
4	119.88	0.4002	0.0307	0.0010	-0.0897	0.0035	-0.2839	0.0104	0.0951	0.0222
4	119.88	0.4500	0.0529	0.0014	-0.1039	0.0044	-0.4510	0.0122	-0.1234	0.0239
4	119.88	0.5001	0.0652	0.0011	-0.1504	0.0058	-0.6326	0.0162	0.0075	0.0239
4	119.88	0.5560	0.0876	0.0012	-0.1856	0.0082	-0.9988	0.0206	-0.2610	0.0191
4	119.88	0.6001	0.1130	0.0013	-0.2274	0.0096	-1.3270	0.0246	-0.3005	0.0244
4	119.88	0.6501	0.1129	0.0014	-0.2716	0.0121	-1.7941	0.0298	-0.2507	0.0307
4	119.88	0.6999	0.1287	0.0016	-0.3267	0.0144	-2.3497	0.0327	-0.1664	0.0304
4	119.88	0.7500	0.1437	0.0018	-0.3837	0.0167	-2.9917	0.0349	0.0850	0.0288
4	119.88	0.8002	0.1421	0.0017	-0.4510	0.0196	-3.7567	0.0379	0.2387	0.0217
4	119.88	0.8582	0.1424	0.0017	-0.5100	0.0230	-4.7840	0.0425	-0.3467	0.0321
4	119.88	0.9101	0.1464	0.0022	-0.5486	0.0260	-5.6358	0.0471	0.0934	0.0244
4	119.88	0.9728	0.2186	0.0029	-0.5942	0.0298	-6.6851	0.0533	0.3981	0.0258

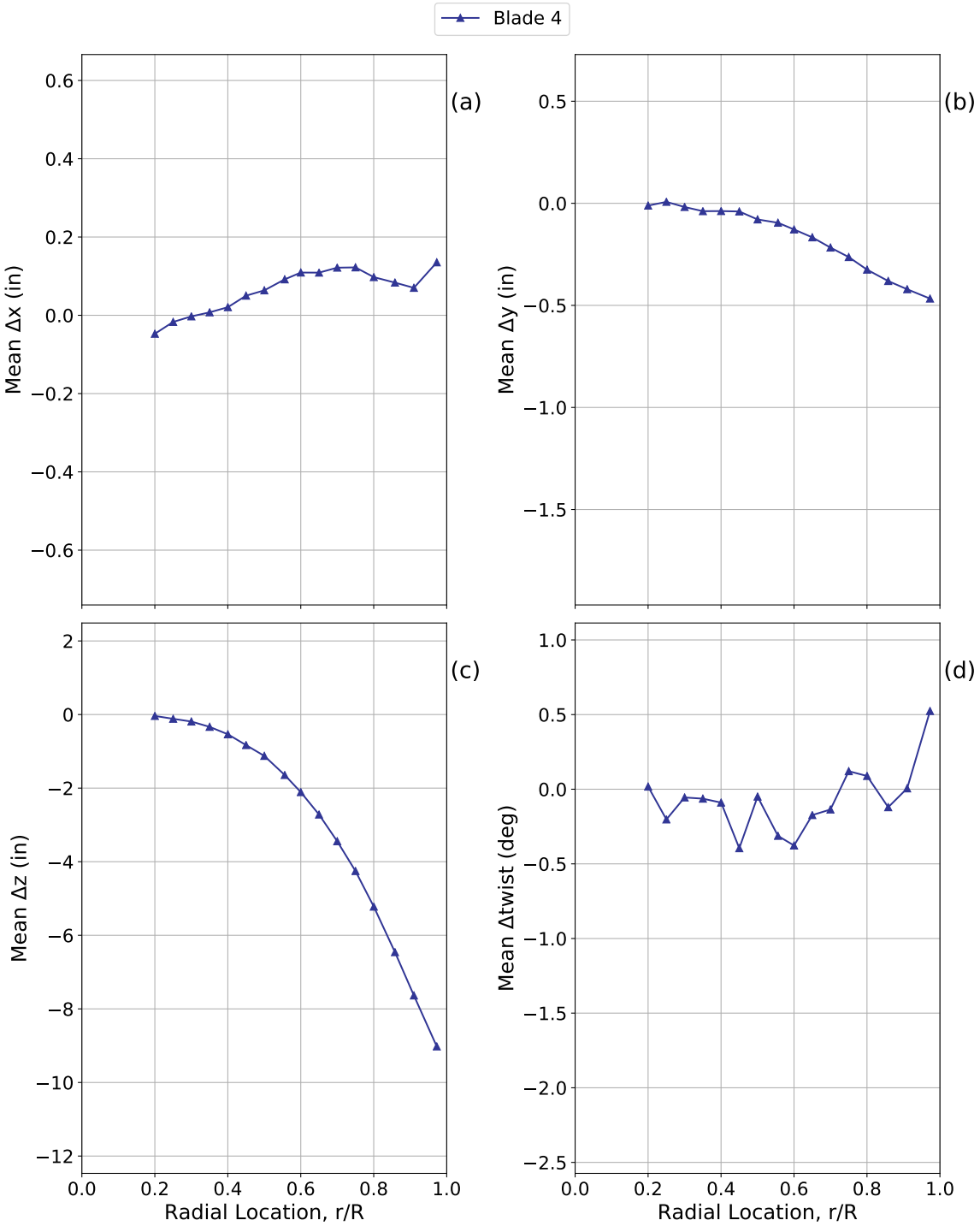


Figure 4.30-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0472	0.0005	-0.0113	0.0004	-0.0384	0.0007	0.0175	0.0123
4	135	0.2502	-0.0170	0.0006	0.0071	0.0009	-0.1159	0.0024	-0.2025	0.0132
4	135	0.3001	-0.0028	0.0007	-0.0181	0.0018	-0.1907	0.0028	-0.0552	0.0241
4	135	0.3502	0.0075	0.0007	-0.0386	0.0026	-0.3354	0.0058	-0.0633	0.0205
4	135	0.4002	0.0207	0.0009	-0.0381	0.0043	-0.5367	0.0085	-0.0897	0.0215
4	135	0.4500	0.0501	0.0010	-0.0400	0.0052	-0.8306	0.0101	-0.3953	0.0173
4	135	0.5001	0.0637	0.0011	-0.0791	0.0062	-1.1247	0.0134	-0.0495	0.0300
4	135	0.5560	0.0918	0.0016	-0.0953	0.0078	-1.6436	0.0159	-0.3125	0.0244
4	135	0.6001	0.1092	0.0016	-0.1282	0.0101	-2.1097	0.0185	-0.3770	0.0271
4	135	0.6501	0.1090	0.0024	-0.1668	0.0129	-2.7189	0.0200	-0.1732	0.0383
4	135	0.6999	0.1217	0.0022	-0.2169	0.0152	-3.4439	0.0229	-0.1359	0.0230
4	135	0.7500	0.1224	0.0024	-0.2634	0.0177	-4.2541	0.0270	0.1207	0.0215
4	135	0.8002	0.0975	0.0026	-0.3250	0.0204	-5.2216	0.0307	0.0887	0.0133
4	135	0.8582	0.0835	0.0031	-0.3808	0.0240	-6.4588	0.0367	-0.1207	0.0213
4	135	0.9101	0.0701	0.0032	-0.4210	0.0272	-7.6357	0.0417	0.0056	0.0229
4	135	0.9728	0.1353	0.0042	-0.4668	0.0310	-9.0210	0.0481	0.5240	0.0262

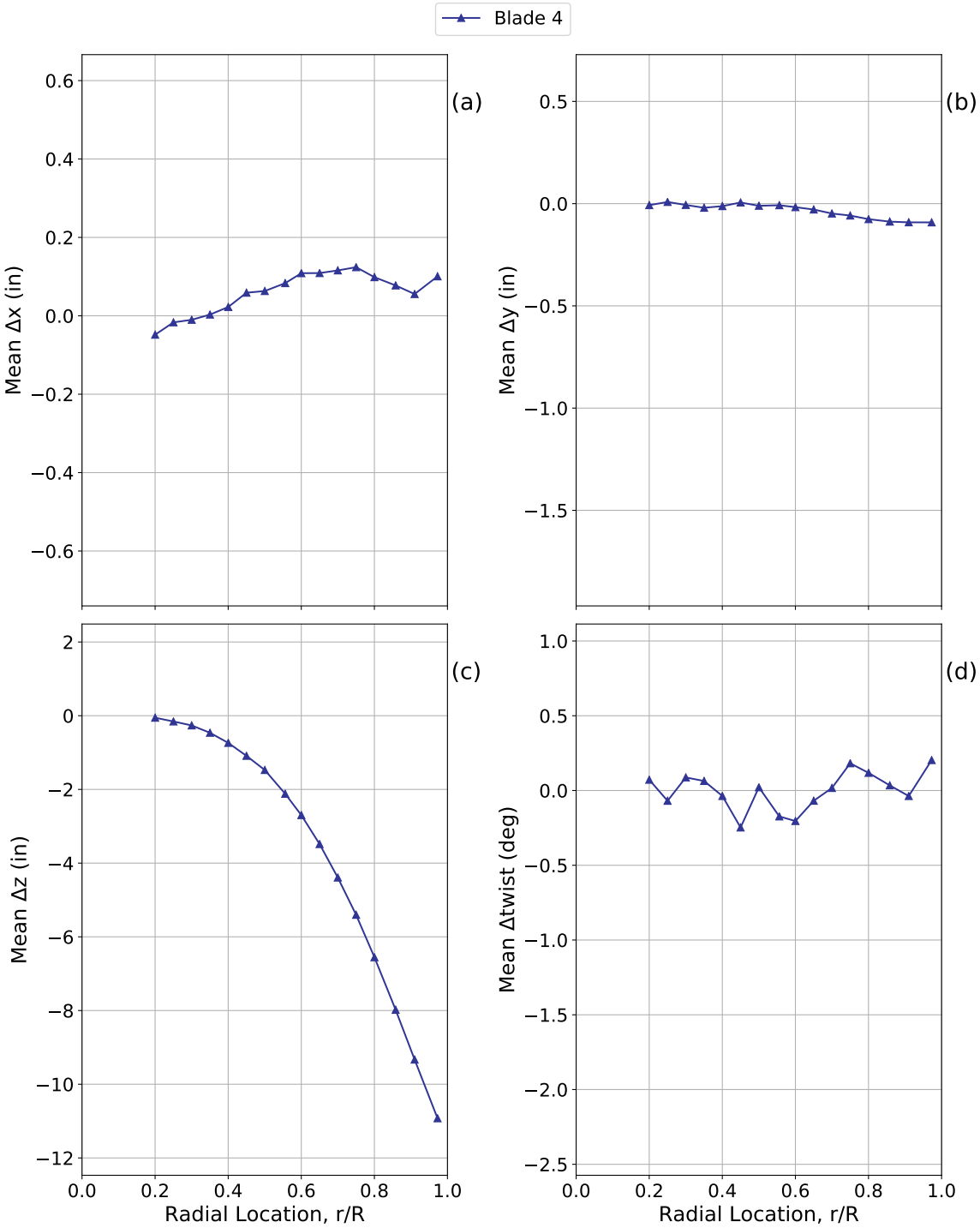


Figure 4.30-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0482	0.0009	-0.0074	0.0005	-0.0549	0.0016	0.0719	0.0131
4	150.12	0.2502	-0.0167	0.0014	0.0082	0.0015	-0.1566	0.0039	-0.0690	0.0269
4	150.12	0.3001	-0.0102	0.0010	-0.0065	0.0031	-0.2642	0.0079	0.0875	0.0308
4	150.12	0.3502	0.0031	0.0012	-0.0202	0.0037	-0.4636	0.0118	0.0636	0.0325
4	150.12	0.4002	0.0225	0.0012	-0.0122	0.0069	-0.7382	0.0199	-0.0369	0.0285
4	150.12	0.4500	0.0589	0.0017	0.0055	0.0071	-1.0896	0.0240	-0.2474	0.0464
4	150.12	0.5001	0.0632	0.0018	-0.0105	0.0091	-1.4736	0.0314	0.0215	0.0364
4	150.12	0.5560	0.0833	0.0018	-0.0079	0.0100	-2.1197	0.0366	-0.1734	0.0293
4	150.12	0.6001	0.1087	0.0022	-0.0173	0.0118	-2.6980	0.0415	-0.2041	0.0373
4	150.12	0.6501	0.1090	0.0027	-0.0288	0.0134	-3.4841	0.0475	-0.0686	0.0400
4	150.12	0.6999	0.1158	0.0032	-0.0483	0.0150	-4.3922	0.0532	0.0169	0.0357
4	150.12	0.7500	0.1240	0.0037	-0.0583	0.0180	-5.4038	0.0612	0.1821	0.0398
4	150.12	0.8002	0.0985	0.0042	-0.0759	0.0204	-6.5554	0.0695	0.1179	0.0317
4	150.12	0.8582	0.0774	0.0044	-0.0880	0.0238	-7.9813	0.0793	0.0343	0.0336
4	150.12	0.9101	0.0555	0.0046	-0.0914	0.0266	-9.3311	0.0871	-0.0371	0.0340
4	150.12	0.9728	0.1006	0.0060	-0.0917	0.0307	-10.9247	0.0973	0.2033	0.0446

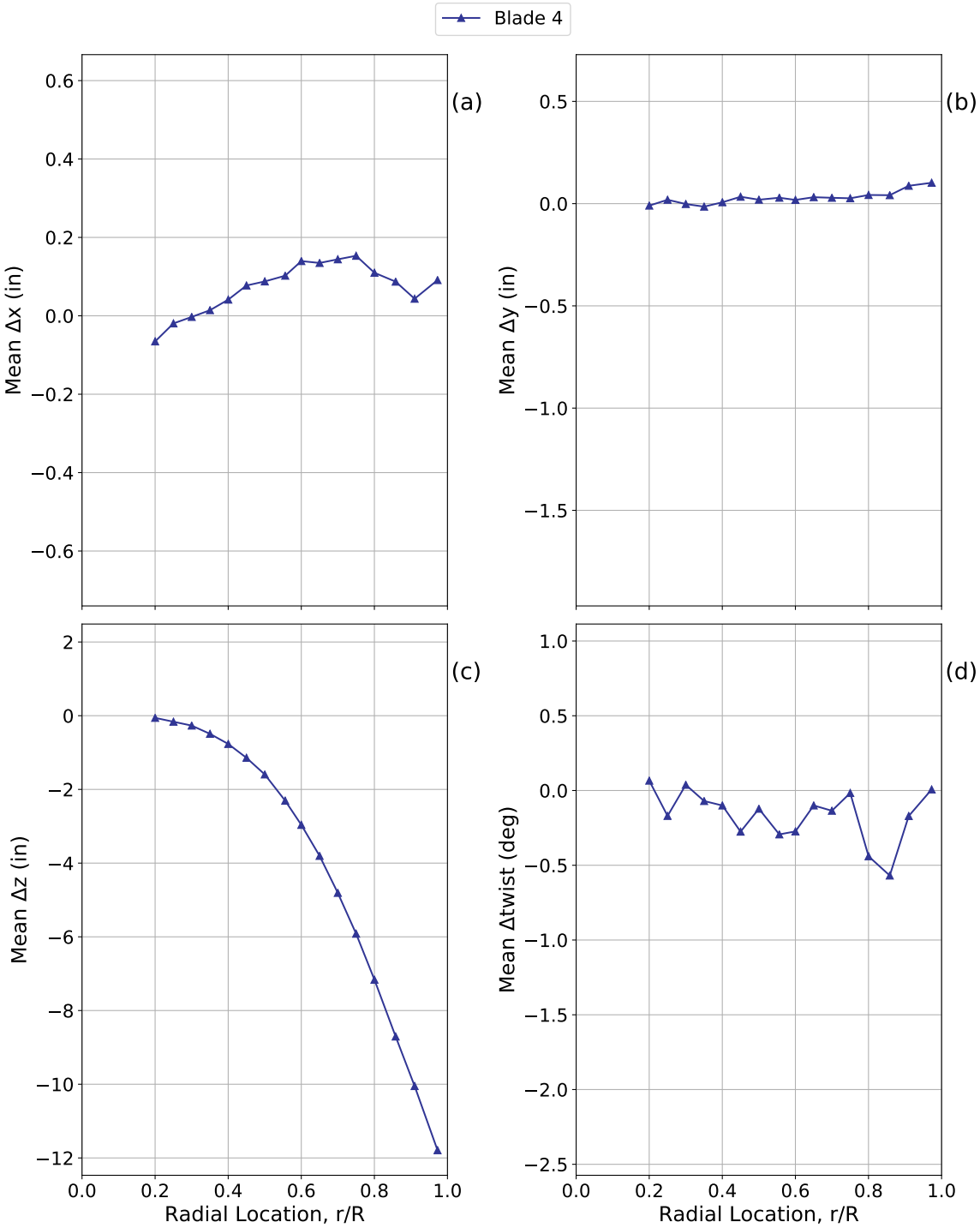


Figure 4.30-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-17. 165° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0653	0.0011	-0.0097	0.0008	-0.0586	0.0009	0.0658	0.0104
4	164.88	0.2502	-0.0194	0.0010	0.0189	0.0016	-0.1638	0.0026	-0.1700	0.0157
4	164.88	0.3001	-0.0029	0.0009	-0.0019	0.0033	-0.2683	0.0042	0.0381	0.0215
4	164.88	0.3502	0.0143	0.0010	-0.0147	0.0058	-0.4926	0.0057	-0.0703	0.0167
4	164.88	0.4002	0.0413	0.0013	0.0066	0.0089	-0.7670	0.0101	-0.1003	0.0170
4	164.88	0.4500	0.0773	0.0025	0.0337	0.0094	-1.1431	0.0122	-0.2753	0.0177
4	164.88	0.5001	0.0877	0.0030	0.0192	0.0121	-1.5942	0.0161	-0.1220	0.0275
4	164.88	0.5560	0.1023	0.0035	0.0289	0.0139	-2.3070	0.0186	-0.2935	0.0175
4	164.88	0.6001	0.1396	0.0046	0.0182	0.0161	-2.9630	0.0204	-0.2736	0.0234
4	164.88	0.6501	0.1348	0.0050	0.0315	0.0169	-3.8043	0.0237	-0.1000	0.0129
4	164.88	0.6999	0.1441	0.0065	0.0286	0.0190	-4.8082	0.0258	-0.1354	0.0275
4	164.88	0.7500	0.1531	0.0074	0.0262	0.0224	-5.9164	0.0288	-0.0167	0.0236
4	164.88	0.8002	0.1098	0.0059	0.0423	0.0272	-7.1649	0.0368	-0.4399	0.1733
4	164.88	0.8582	0.0871	0.0085	0.0413	0.0307	-8.7057	0.0383	-0.5688	0.1770
4	164.88	0.9101	0.0435	0.0025	0.0873	0.0415	-10.0500	0.0465	-0.1707	0.0227
4	164.88	0.9728	0.0911	0.0030	0.1020	0.0455	-11.7909	0.0527	0.0070	0.0198

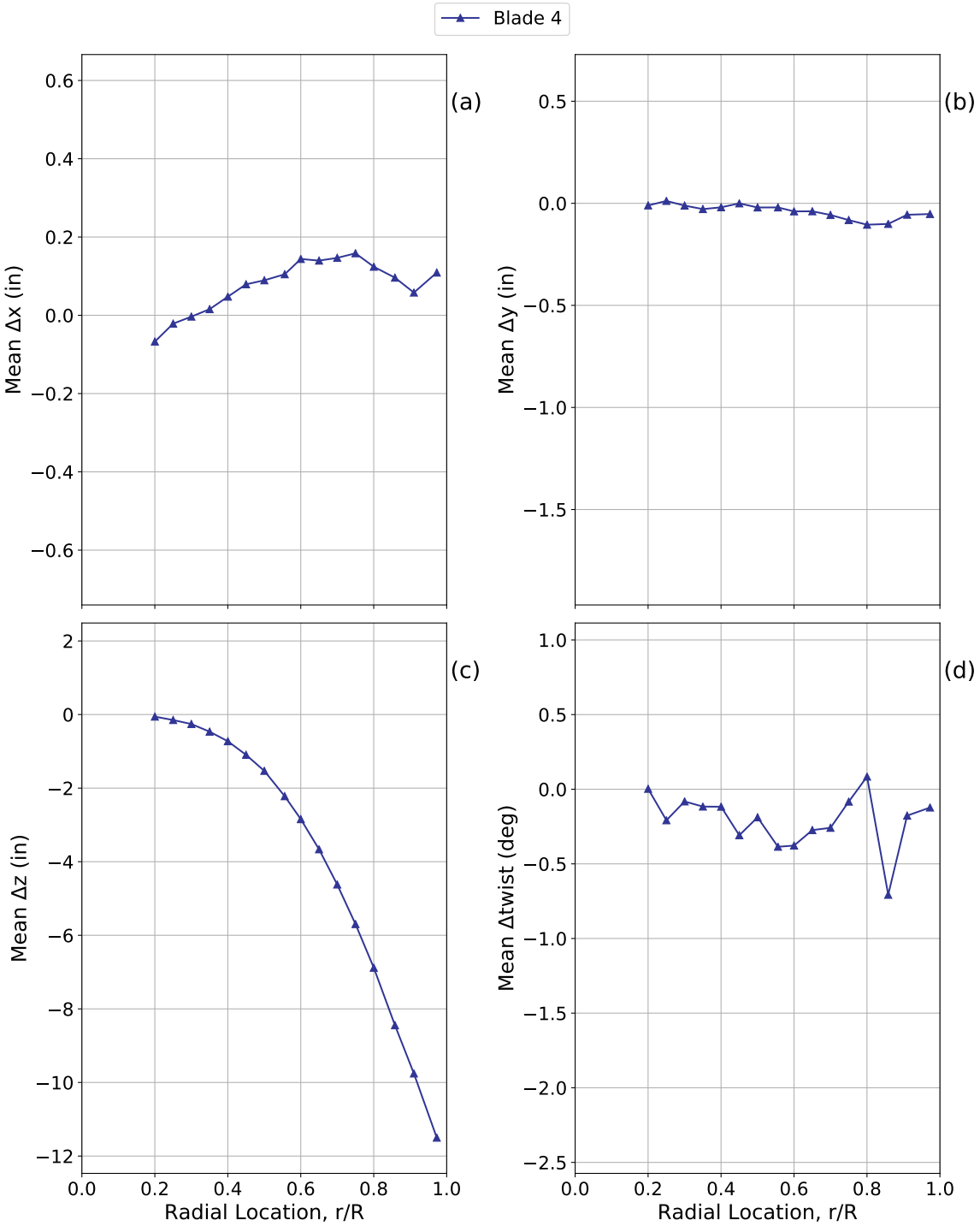


Figure 4.30-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-18. 170° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0672	0.0009	-0.0105	0.0004	-0.0573	0.0013	0.0026	0.0066
4	170.16	0.2502	-0.0214	0.0007	0.0116	0.0010	-0.1495	0.0017	-0.2082	0.0129
4	170.16	0.3001	-0.0034	0.0011	-0.0112	0.0017	-0.2585	0.0048	-0.0819	0.0120
4	170.16	0.3502	0.0156	0.0007	-0.0284	0.0026	-0.4661	0.0071	-0.1163	0.0130
4	170.16	0.4002	0.0476	0.0010	-0.0196	0.0043	-0.7268	0.0109	-0.1173	0.0160
4	170.16	0.4500	0.0791	0.0013	-0.0004	0.0059	-1.0955	0.0133	-0.3084	0.0122
4	170.16	0.5001	0.0894	0.0023	-0.0204	0.0069	-1.5315	0.0154	-0.1884	0.0153
4	170.16	0.5560	0.1048	0.0029	-0.0202	0.0090	-2.2200	0.0194	-0.3855	0.0127
4	170.16	0.6001	0.1439	0.0041	-0.0396	0.0105	-2.8447	0.0223	-0.3776	0.0146
4	170.16	0.6501	0.1397	0.0052	-0.0392	0.0120	-3.6632	0.0255	-0.2740	0.0265
4	170.16	0.6999	0.1467	0.0078	-0.0571	0.0130	-4.6203	0.0301	-0.2586	0.0224
4	170.16	0.7500	0.1584	0.0090	-0.0822	0.0150	-5.6962	0.0318	-0.0834	0.0242
4	170.16	0.8002	0.1240	0.0113	-0.1049	0.0172	-6.8829	0.0386	0.0843	0.0321
4	170.16	0.8582	0.0961	0.0106	-0.1010	0.0235	-8.4454	0.0486	-0.7073	0.2598
4	170.16	0.9101	0.0580	0.0049	-0.0561	0.0422	-9.7563	0.0723	-0.1770	0.0192
4	170.16	0.9728	0.1091	0.0055	-0.0526	0.0454	-11.5012	0.0839	-0.1228	0.0238

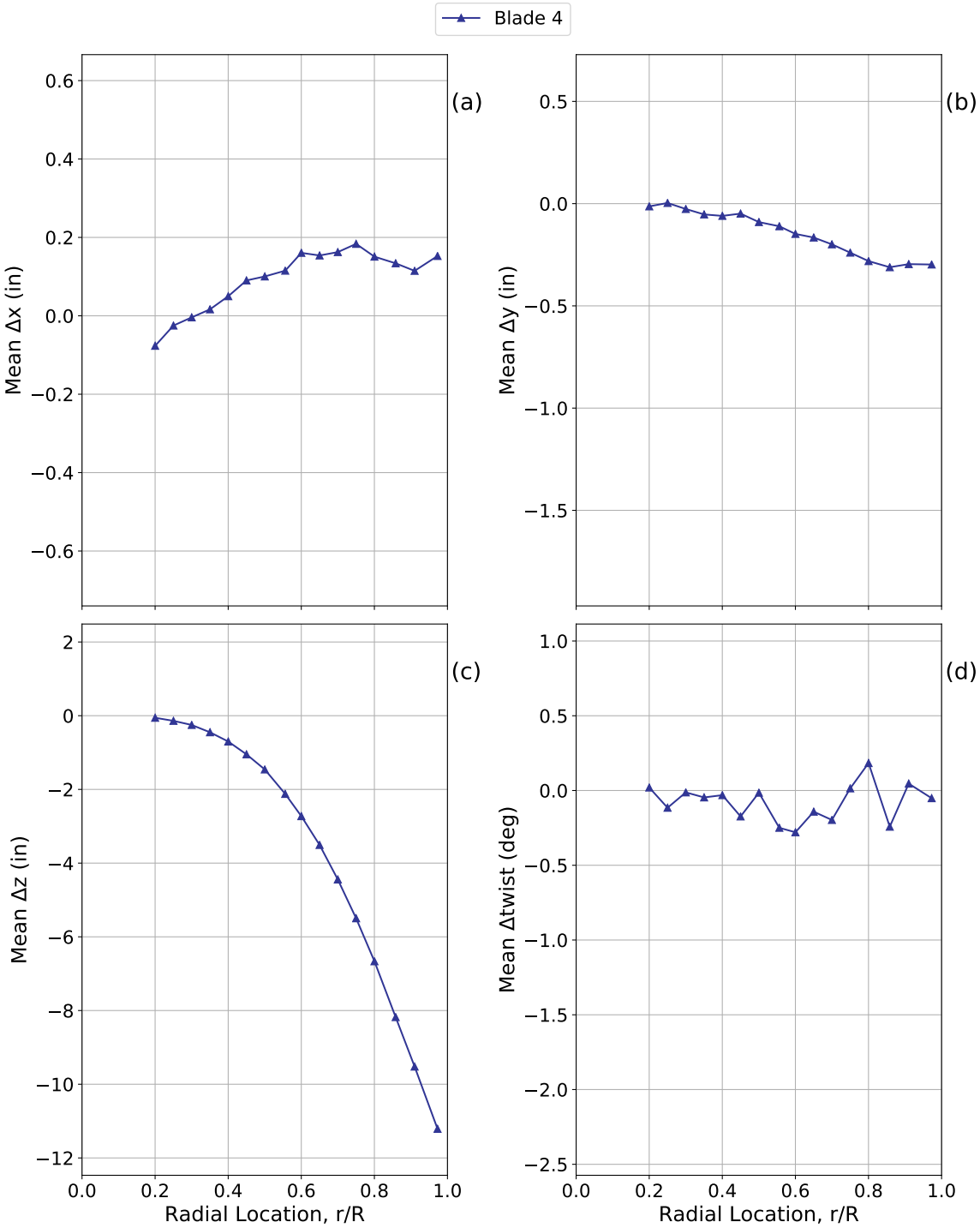


Figure 4.30-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0765	0.0007	-0.0134	0.0004	-0.0564	0.0008	0.0198	0.0162
4	175.08	0.2502	-0.0249	0.0007	0.0033	0.0013	-0.1397	0.0018	-0.1154	0.0215
4	175.08	0.3001	-0.0040	0.0008	-0.0262	0.0021	-0.2514	0.0034	-0.0126	0.0352
4	175.08	0.3502	0.0165	0.0010	-0.0528	0.0035	-0.4499	0.0050	-0.0462	0.0238
4	175.08	0.4002	0.0500	0.0021	-0.0599	0.0057	-0.7010	0.0082	-0.0311	0.0300
4	175.08	0.4500	0.0902	0.0031	-0.0488	0.0062	-1.0483	0.0101	-0.1735	0.0281
4	175.08	0.5001	0.1004	0.0040	-0.0902	0.0080	-1.4589	0.0115	-0.0148	0.0278
4	175.08	0.5560	0.1151	0.0057	-0.1107	0.0100	-2.1224	0.0147	-0.2495	0.0328
4	175.08	0.6001	0.1606	0.0069	-0.1481	0.0107	-2.7265	0.0164	-0.2793	0.0316
4	175.08	0.6501	0.1539	0.0091	-0.1658	0.0125	-3.5076	0.0187	-0.1416	0.0285
4	175.08	0.6999	0.1625	0.0092	-0.1991	0.0123	-4.4440	0.0196	-0.1970	0.0404
4	175.08	0.7500	0.1835	0.0026	-0.2397	0.0170	-5.4972	0.0228	0.0142	0.0245
4	175.08	0.8002	0.1509	0.0046	-0.2811	0.0199	-6.6645	0.0267	0.1836	0.0375
4	175.08	0.8582	0.1339	0.0069	-0.3110	0.0222	-8.1789	0.0308	-0.2422	0.0460
4	175.08	0.9101	0.1147	0.0114	-0.2958	0.0249	-9.5217	0.0406	0.0461	0.0330
4	175.08	0.9728	0.1526	0.0055	-0.2977	0.0643	-11.2108	0.0822	-0.0514	0.0373

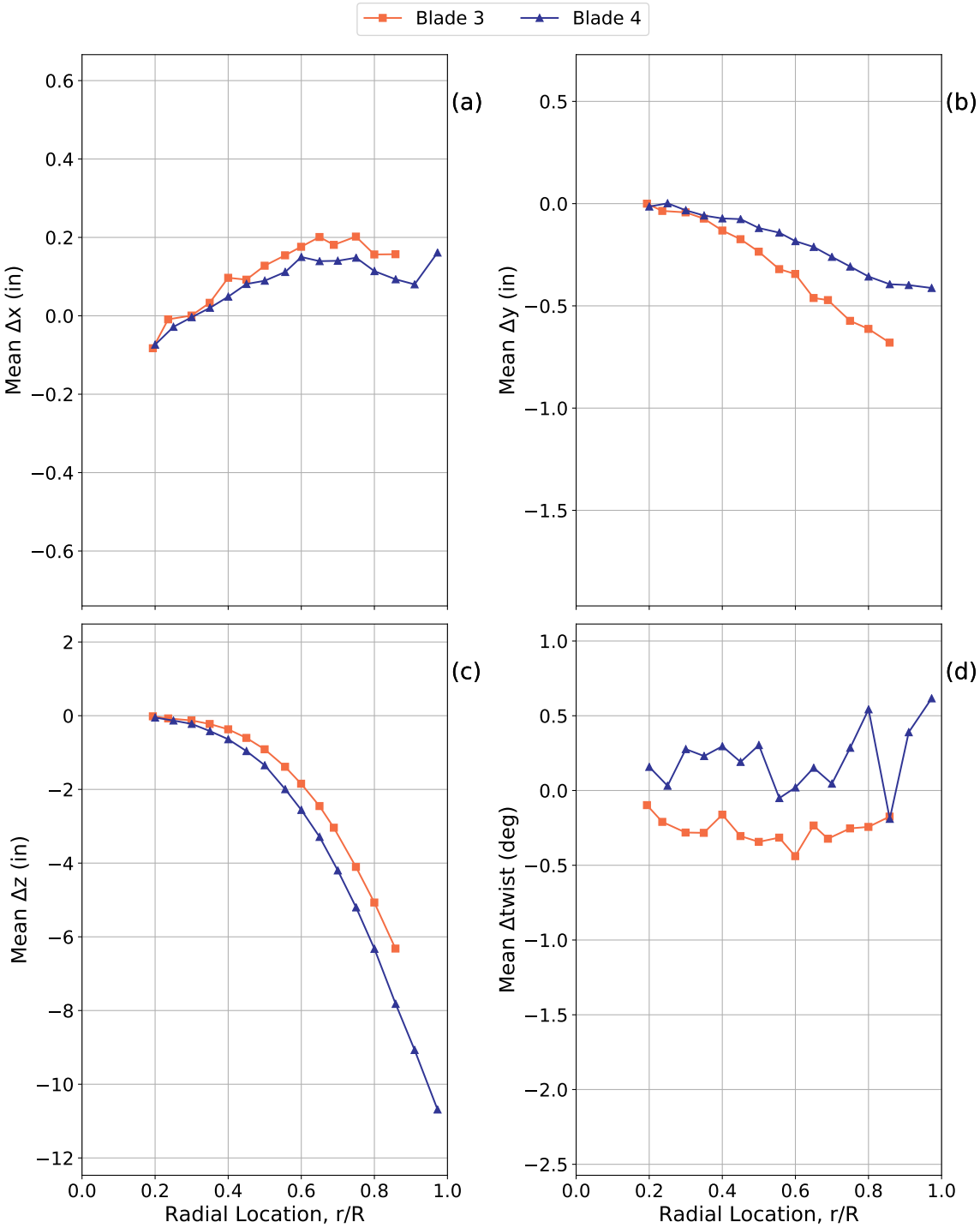


Figure 4.30-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-20. 180° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0827	0.0018	-0.0001	0.0006	-0.0169	0.0014	-0.0977	0.0105
3	180.35	0.2357	-0.0090	0.0014	-0.0356	0.0010	-0.0740	0.0024	-0.2098	0.0212
3	180.35	0.2995	0.0007	0.0010	-0.0427	0.0021	-0.1280	0.0052	-0.2811	0.0254
3	180.35	0.3493	0.0332	0.0020	-0.0731	0.0038	-0.2246	0.0078	-0.2831	0.0313
3	180.35	0.4000	0.0970	0.0026	-0.1315	0.0058	-0.3694	0.0125	-0.1615	0.0220
3	180.35	0.4497	0.0922	0.0038	-0.1739	0.0077	-0.6024	0.0146	-0.3046	0.0312
3	180.35	0.4997	0.1278	0.0044	-0.2349	0.0090	-0.9116	0.0182	-0.3434	0.0332
3	180.35	0.5556	0.1543	0.0046	-0.3203	0.0125	-1.3860	0.0209	-0.3151	0.0240
3	180.35	0.5995	0.1761	0.0060	-0.3438	0.0144	-1.8454	0.0232	-0.4390	0.0360
3	180.35	0.6498	0.2010	0.0062	-0.4615	0.0178	-2.4516	0.0242	-0.2341	0.0383
3	180.35	0.6890	0.1810	0.0071	-0.4717	0.0195	-3.0391	0.0265	-0.3224	0.0376
3	180.35	0.7495	0.2021	0.0084	-0.5732	0.0229	-4.1025	0.0307	-0.2534	0.0256
3	180.35	0.7998	0.1565	0.0100	-0.6126	0.0256	-5.0690	0.0322	-0.2434	0.0315
3	180.35	0.8577	0.1571	0.0103	-0.6797	0.0296	-6.3190	0.0351	-0.1744	0.0294
4	180	0.2001	-0.0736	0.0030	-0.0143	0.0007	-0.0515	0.0013	0.1578	0.0112
4	180	0.2502	-0.0282	0.0011	0.0016	0.0017	-0.1317	0.0022	0.0315	0.0174
4	180	0.3001	-0.0036	0.0007	-0.0325	0.0031	-0.2226	0.0038	0.2767	0.0216
4	180	0.3502	0.0204	0.0016	-0.0584	0.0046	-0.4187	0.0063	0.2304	0.0206
4	180	0.4002	0.0489	0.0027	-0.0724	0.0078	-0.6398	0.0093	0.2960	0.0186
4	180	0.4500	0.0811	0.0027	-0.0757	0.0094	-0.9610	0.0124	0.1911	0.0206
4	180	0.5001	0.0895	0.0034	-0.1194	0.0117	-1.3458	0.0166	0.3036	0.0236
4	180	0.5560	0.1117	0.0035	-0.1420	0.0138	-1.9949	0.0192	-0.0509	0.0241
4	180	0.6001	0.1500	0.0043	-0.1836	0.0160	-2.5578	0.0213	0.0203	0.0266
4	180	0.6501	0.1394	0.0054	-0.2119	0.0186	-3.2899	0.0241	0.1520	0.0281
4	180	0.6999	0.1403	0.0057	-0.2604	0.0210	-4.1992	0.0266	0.0455	0.0227
4	180	0.7500	0.1482	0.0079	-0.3079	0.0239	-5.2025	0.0307	0.2856	0.0325
4	180	0.8002	0.1139	0.0095	-0.3566	0.0273	-6.3266	0.0348	0.5429	0.0299
4	180	0.8582	0.0931	0.0124	-0.3942	0.0311	-7.8207	0.0353	-0.1897	0.0369
4	180	0.9101	0.0802	0.0146	-0.3983	0.0366	-9.0713	0.0399	0.3896	0.0421
4	180	0.9728	0.1613	0.0183	-0.4126	0.0407	-10.6864	0.0431	0.6163	0.0639

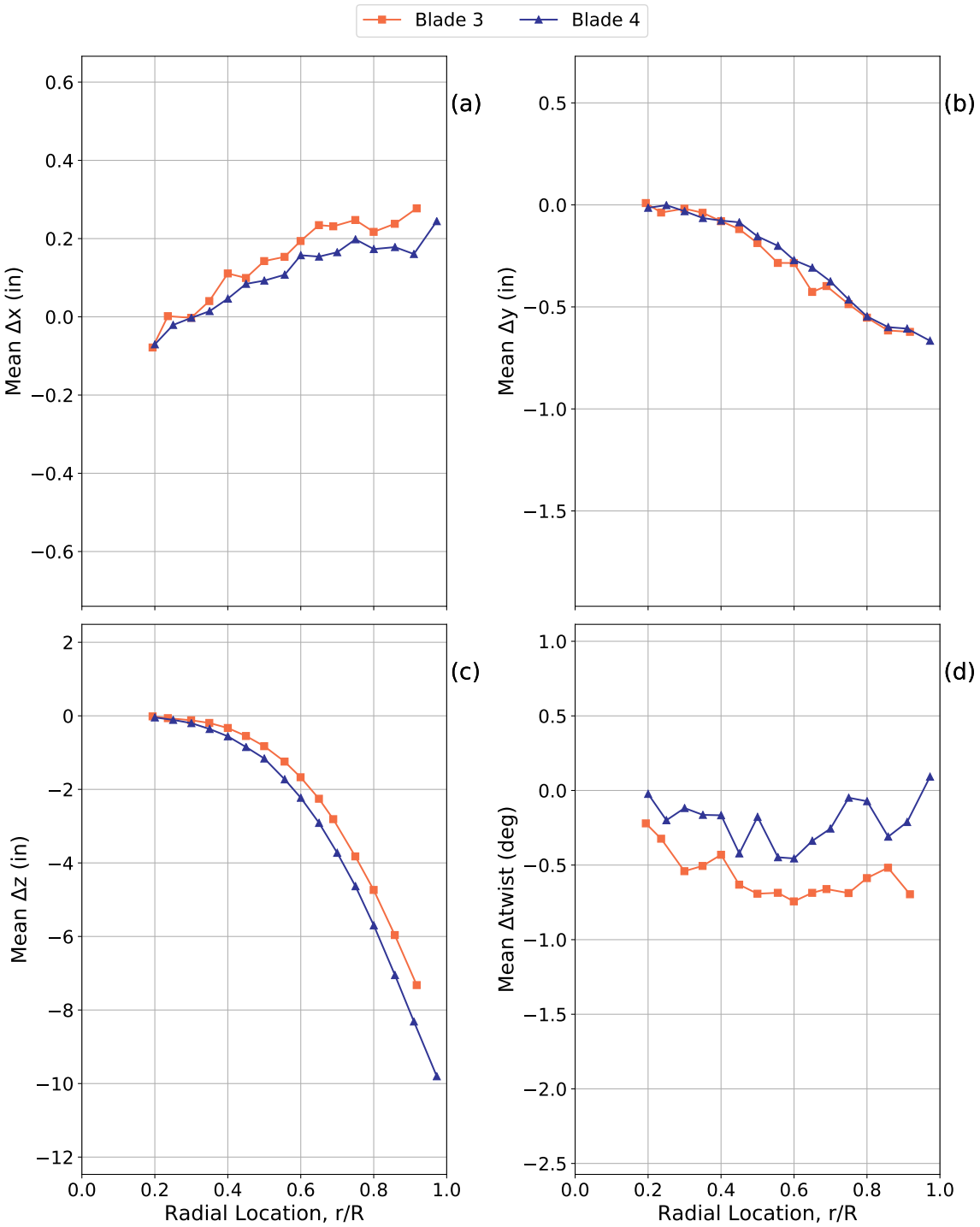


Figure 4.30-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-21. 185° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0784	0.0012	0.0090	0.0007	-0.0151	0.0017	-0.2205	0.0168
3	184.92	0.2357	0.0017	0.0009	-0.0374	0.0014	-0.0634	0.0037	-0.3233	0.0261
3	184.92	0.2995	-0.0025	0.0010	-0.0183	0.0023	-0.1205	0.0058	-0.5409	0.0386
3	184.92	0.3493	0.0403	0.0010	-0.0386	0.0042	-0.1931	0.0108	-0.5058	0.0339
3	184.92	0.4000	0.1109	0.0019	-0.0799	0.0063	-0.3310	0.0162	-0.4309	0.0349
3	184.92	0.4497	0.0993	0.0030	-0.1186	0.0072	-0.5480	0.0193	-0.6313	0.0416
3	184.92	0.4997	0.1425	0.0036	-0.1870	0.0082	-0.8249	0.0243	-0.6920	0.0304
3	184.92	0.5556	0.1533	0.0054	-0.2844	0.0091	-1.2443	0.0301	-0.6859	0.0355
3	184.92	0.5995	0.1938	0.0066	-0.2848	0.0125	-1.6699	0.0325	-0.7435	0.0484
3	184.92	0.6498	0.2344	0.0089	-0.4266	0.0143	-2.2544	0.0380	-0.6861	0.0453
3	184.92	0.6890	0.2314	0.0116	-0.3978	0.0161	-2.8098	0.0410	-0.6608	0.0429
3	184.92	0.7495	0.2475	0.0143	-0.4864	0.0231	-3.8226	0.0475	-0.6876	0.0386
3	184.92	0.7998	0.2172	0.0139	-0.5527	0.0259	-4.7348	0.0504	-0.5873	0.0539
3	184.92	0.8577	0.2378	0.0113	-0.6155	0.0255	-5.9615	0.0585	-0.5177	0.0502
3	184.92	0.9178	0.2773	0.0142	-0.6223	0.0292	-7.3221	0.0634	-0.6956	0.0408
4	184.92	0.2001	-0.0704	0.0023	-0.0143	0.0013	-0.0443	0.0024	-0.0230	0.0191
4	184.92	0.2502	-0.0208	0.0016	-0.0013	0.0020	-0.1104	0.0043	-0.1996	0.0266
4	184.92	0.3001	-0.0026	0.0009	-0.0310	0.0037	-0.1989	0.0072	-0.1179	0.0389
4	184.92	0.3502	0.0145	0.0024	-0.0645	0.0072	-0.3583	0.0134	-0.1636	0.0311
4	184.92	0.4002	0.0465	0.0038	-0.0770	0.0099	-0.5577	0.0189	-0.1663	0.0289
4	184.92	0.4500	0.0842	0.0041	-0.0853	0.0130	-0.8487	0.0244	-0.4220	0.0307
4	184.92	0.5001	0.0926	0.0054	-0.1544	0.0163	-1.1612	0.0286	-0.1774	0.0361
4	184.92	0.5560	0.1076	0.0080	-0.2008	0.0205	-1.7285	0.0358	-0.4477	0.0391
4	184.92	0.6001	0.1574	0.0104	-0.2708	0.0240	-2.2293	0.0418	-0.4558	0.0285
4	184.92	0.6501	0.1539	0.0127	-0.3077	0.0268	-2.9127	0.0441	-0.3378	0.0362
4	184.92	0.6999	0.1651	0.0162	-0.3751	0.0315	-3.7265	0.0505	-0.2556	0.0395
4	184.92	0.7500	0.1981	0.0196	-0.4642	0.0347	-4.6349	0.0564	-0.0487	0.0332
4	184.92	0.8002	0.1732	0.0235	-0.5467	0.0386	-5.6987	0.0623	-0.0721	0.0368
4	184.92	0.8582	0.1782	0.0277	-0.5992	0.0440	-7.0516	0.0699	-0.3099	0.0308
4	184.92	0.9101	0.1605	0.0323	-0.6065	0.0486	-8.3129	0.0748	-0.2116	0.0306
4	184.92	0.9728	0.2445	0.0387	-0.6660	0.0537	-9.8023	0.0823	0.0922	0.0370

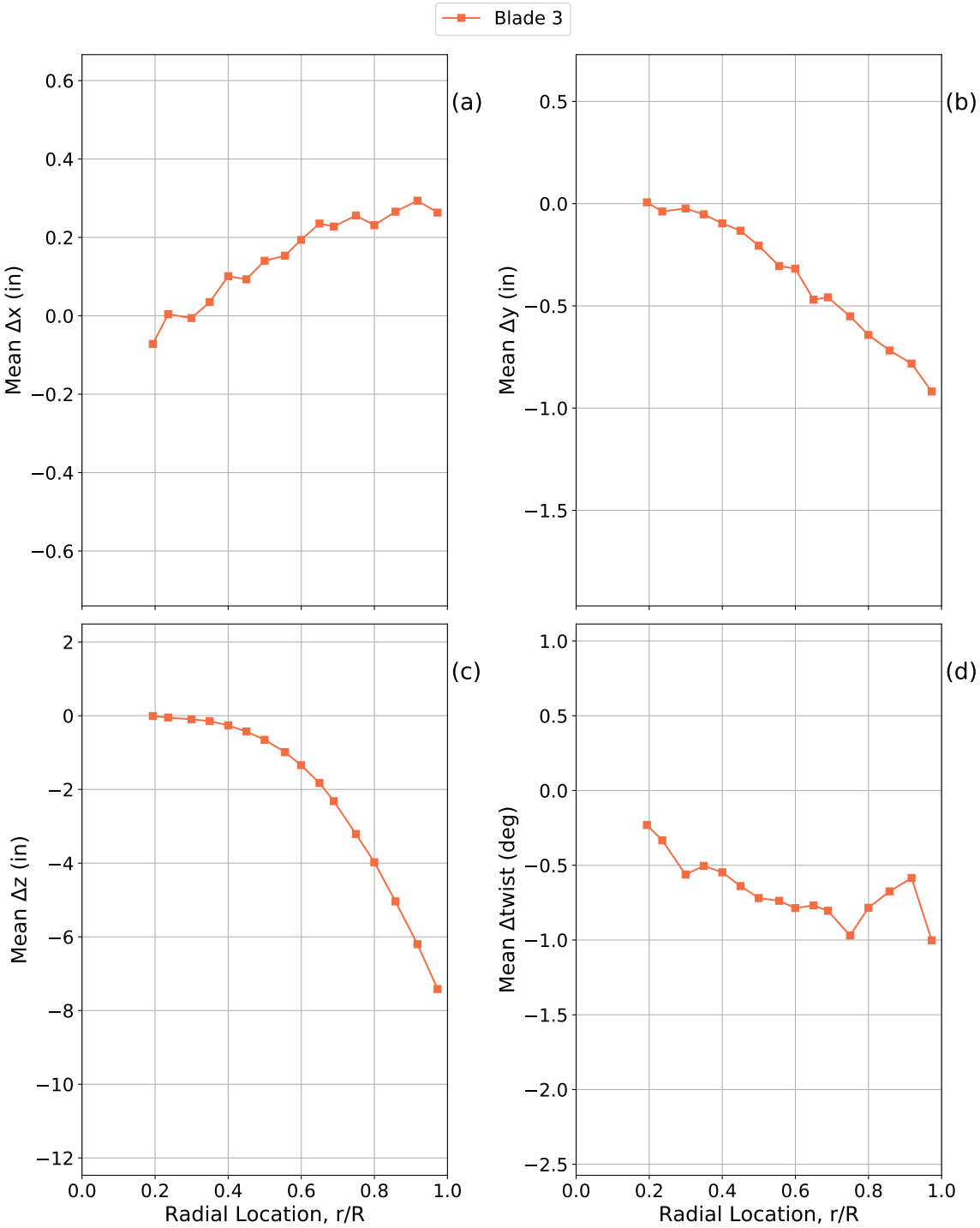


Figure 4.30-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-22. 195° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0716	0.0030	0.0066	0.0012	-0.0101	0.0022	-0.2310	0.0293
3	195.12	0.2357	0.0040	0.0024	-0.0385	0.0028	-0.0498	0.0043	-0.3332	0.0294
3	195.12	0.2995	-0.0057	0.0021	-0.0236	0.0045	-0.0979	0.0065	-0.5621	0.0551
3	195.12	0.3493	0.0349	0.0031	-0.0523	0.0085	-0.1462	0.0114	-0.5042	0.0427
3	195.12	0.4000	0.1011	0.0046	-0.0966	0.0131	-0.2625	0.0165	-0.5471	0.0408
3	195.12	0.4497	0.0931	0.0054	-0.1323	0.0173	-0.4290	0.0195	-0.6388	0.0460
3	195.12	0.4997	0.1404	0.0056	-0.2057	0.0201	-0.6536	0.0250	-0.7194	0.0424
3	195.12	0.5556	0.1535	0.0088	-0.3051	0.0258	-0.9886	0.0297	-0.7376	0.0433
3	195.12	0.5995	0.1937	0.0087	-0.3179	0.0297	-1.3436	0.0338	-0.7863	0.0487
3	195.12	0.6498	0.2354	0.0103	-0.4696	0.0343	-1.8248	0.0379	-0.7684	0.0470
3	195.12	0.6890	0.2277	0.0113	-0.4583	0.0384	-2.3185	0.0397	-0.8045	0.0419
3	195.12	0.7495	0.2558	0.0125	-0.5510	0.0427	-3.2122	0.0425	-0.9696	0.0596
3	195.12	0.7998	0.2312	0.0131	-0.6422	0.0483	-3.9759	0.0497	-0.7847	0.0376
3	195.12	0.8577	0.2656	0.0140	-0.7181	0.0554	-5.0397	0.0536	-0.6746	0.0451
3	195.12	0.9178	0.2937	0.0148	-0.7823	0.0604	-6.2011	0.0588	-0.5850	0.0540
3	195.12	0.9729	0.2633	0.0187	-0.9188	0.0671	-7.4164	0.0658	-1.0018	0.0459

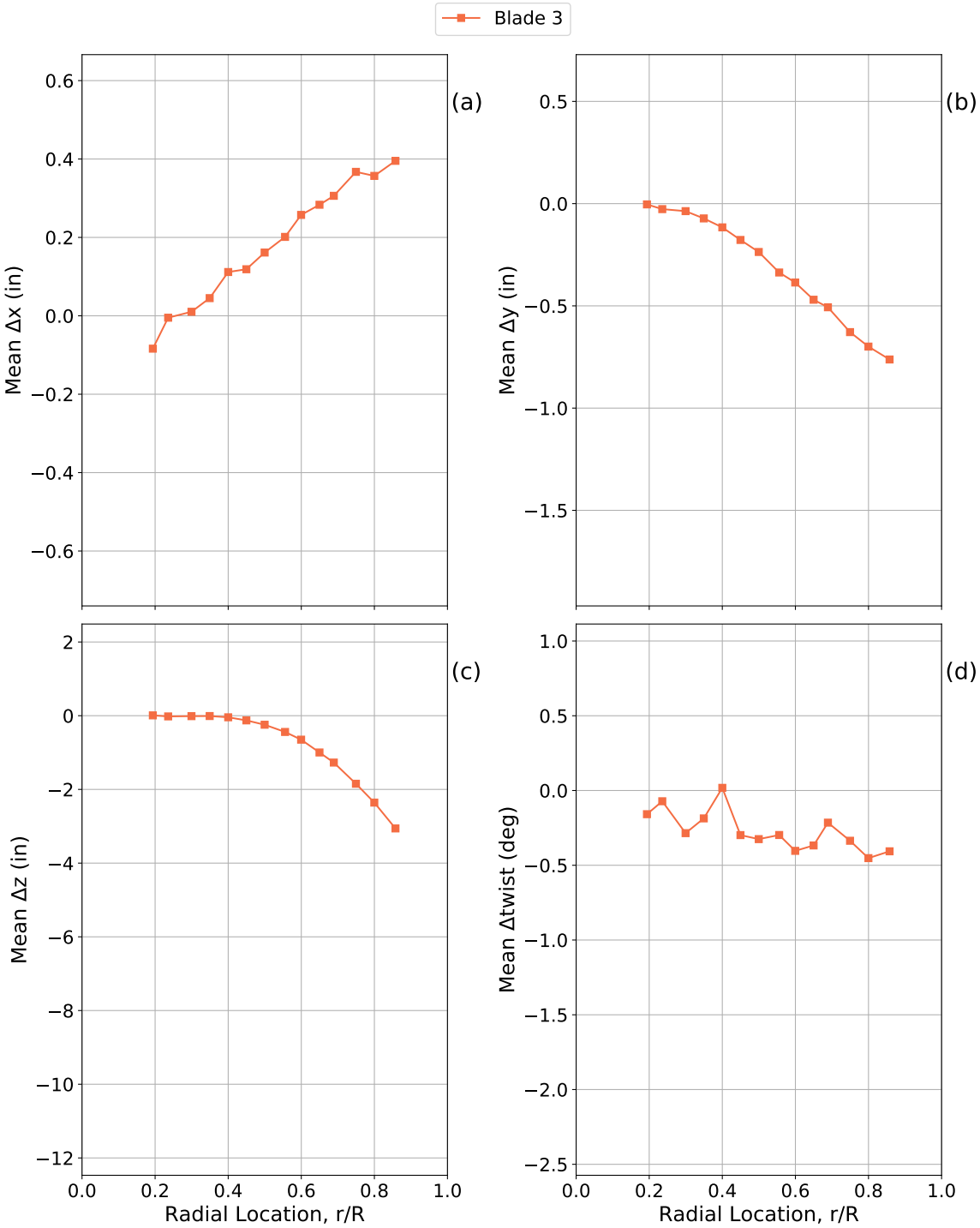


Figure 4.30-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-23. 210° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0838	0.0015	-0.0037	0.0007	0.0091	0.0013	-0.1583	0.0172
3	209.88	0.2357	-0.0048	0.0013	-0.0268	0.0028	-0.0191	0.0027	-0.0718	0.0168
3	209.88	0.2995	0.0103	0.0004	-0.0367	0.0049	-0.0122	0.0040	-0.2851	0.0336
3	209.88	0.3493	0.0451	0.0008	-0.0723	0.0072	-0.0092	0.0087	-0.1865	0.0285
3	209.88	0.4000	0.1117	0.0011	-0.1160	0.0130	-0.0429	0.0118	0.0178	0.0381
3	209.88	0.4497	0.1188	0.0014	-0.1776	0.0155	-0.1270	0.0145	-0.2982	0.0249
3	209.88	0.4997	0.1614	0.0014	-0.2364	0.0188	-0.2451	0.0148	-0.3251	0.0341
3	209.88	0.5556	0.2013	0.0012	-0.3368	0.0240	-0.4407	0.0187	-0.2976	0.0318
3	209.88	0.5995	0.2574	0.0016	-0.3857	0.0261	-0.6500	0.0195	-0.4036	0.0350
3	209.88	0.6498	0.2833	0.0018	-0.4700	0.0306	-0.9978	0.0228	-0.3674	0.0441
3	209.88	0.6890	0.3061	0.0018	-0.5068	0.0339	-1.2719	0.0260	-0.2149	0.0292
3	209.88	0.7495	0.3672	0.0015	-0.6283	0.0398	-1.8463	0.0292	-0.3360	0.0279
3	209.88	0.7998	0.3569	0.0020	-0.6991	0.0449	-2.3578	0.0327	-0.4522	0.0406
3	209.88	0.8577	0.3953	0.0033	-0.7622	0.0532	-3.0591	0.0341	-0.4066	0.0625

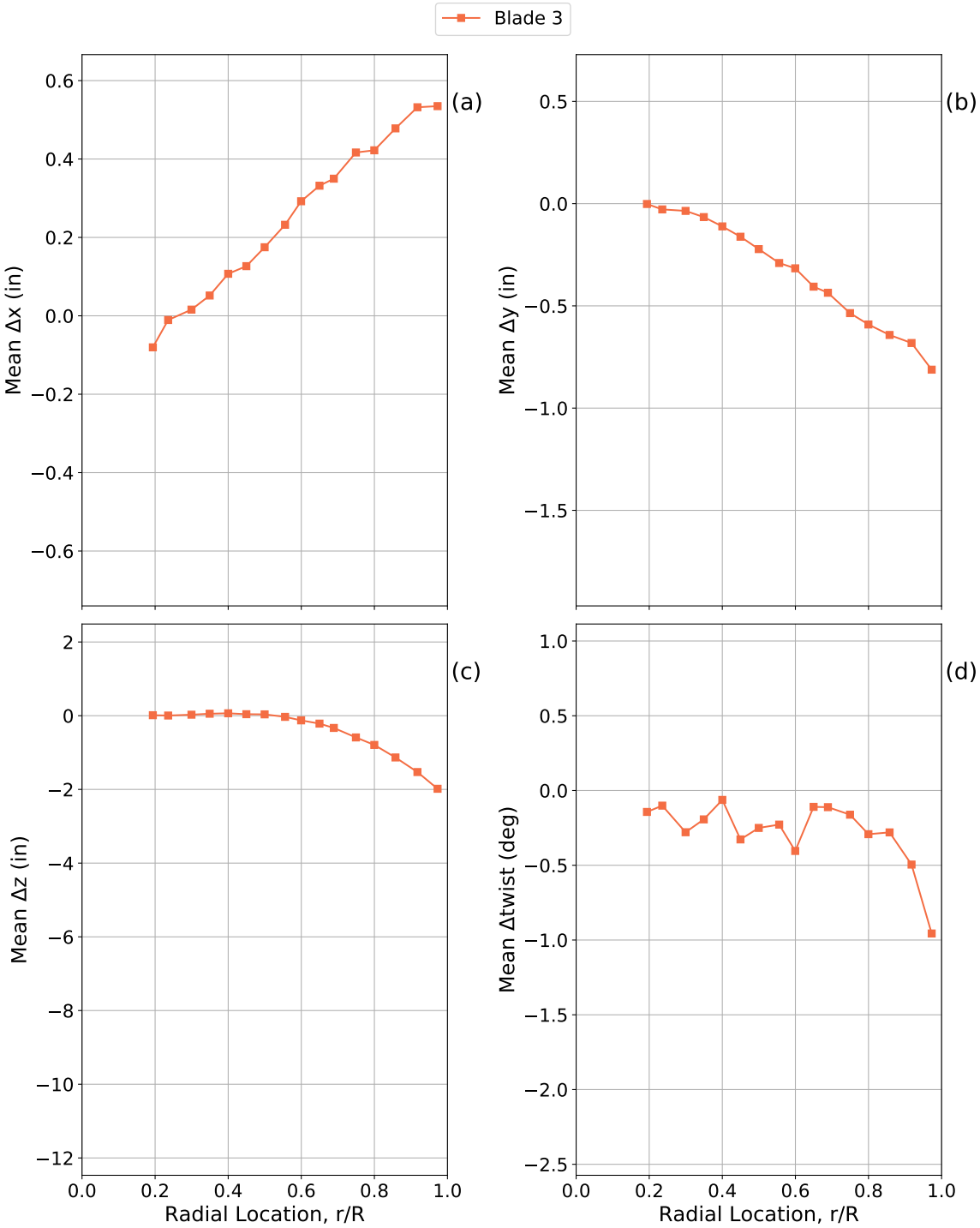


Figure 4.30-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-24. 225° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0804	0.0014	-0.0017	0.0005	0.0136	0.0012	-0.1433	0.0164
3	225	0.2357	-0.0107	0.0007	-0.0282	0.0010	0.0047	0.0027	-0.1011	0.0208
3	225	0.2995	0.0158	0.0010	-0.0354	0.0019	0.0272	0.0044	-0.2790	0.0368
3	225	0.3493	0.0518	0.0006	-0.0658	0.0034	0.0534	0.0088	-0.1931	0.0314
3	225	0.4000	0.1072	0.0009	-0.1113	0.0052	0.0653	0.0130	-0.0628	0.0255
3	225	0.4497	0.1267	0.0008	-0.1618	0.0069	0.0406	0.0156	-0.3271	0.0385
3	225	0.4997	0.1749	0.0011	-0.2223	0.0094	0.0364	0.0211	-0.2502	0.0238
3	225	0.5556	0.2322	0.0013	-0.2904	0.0121	-0.0316	0.0244	-0.2280	0.0335
3	225	0.5995	0.2922	0.0014	-0.3163	0.0147	-0.1266	0.0287	-0.4042	0.0355
3	225	0.6498	0.3319	0.0017	-0.4060	0.0177	-0.2148	0.0345	-0.1094	0.0569
3	225	0.6890	0.3498	0.0012	-0.4358	0.0195	-0.3319	0.0393	-0.1114	0.0568
3	225	0.7495	0.4166	0.0018	-0.5355	0.0240	-0.5897	0.0430	-0.1617	0.0368
3	225	0.7998	0.4222	0.0012	-0.5910	0.0275	-0.7932	0.0486	-0.2921	0.0447
3	225	0.8577	0.4781	0.0014	-0.6423	0.0316	-1.1331	0.0557	-0.2801	0.0518
3	225	0.9178	0.5320	0.0022	-0.6816	0.0366	-1.5290	0.0640	-0.4953	0.0420
3	225	0.9729	0.5348	0.0038	-0.8120	0.0409	-1.9830	0.0643	-0.9562	0.0509

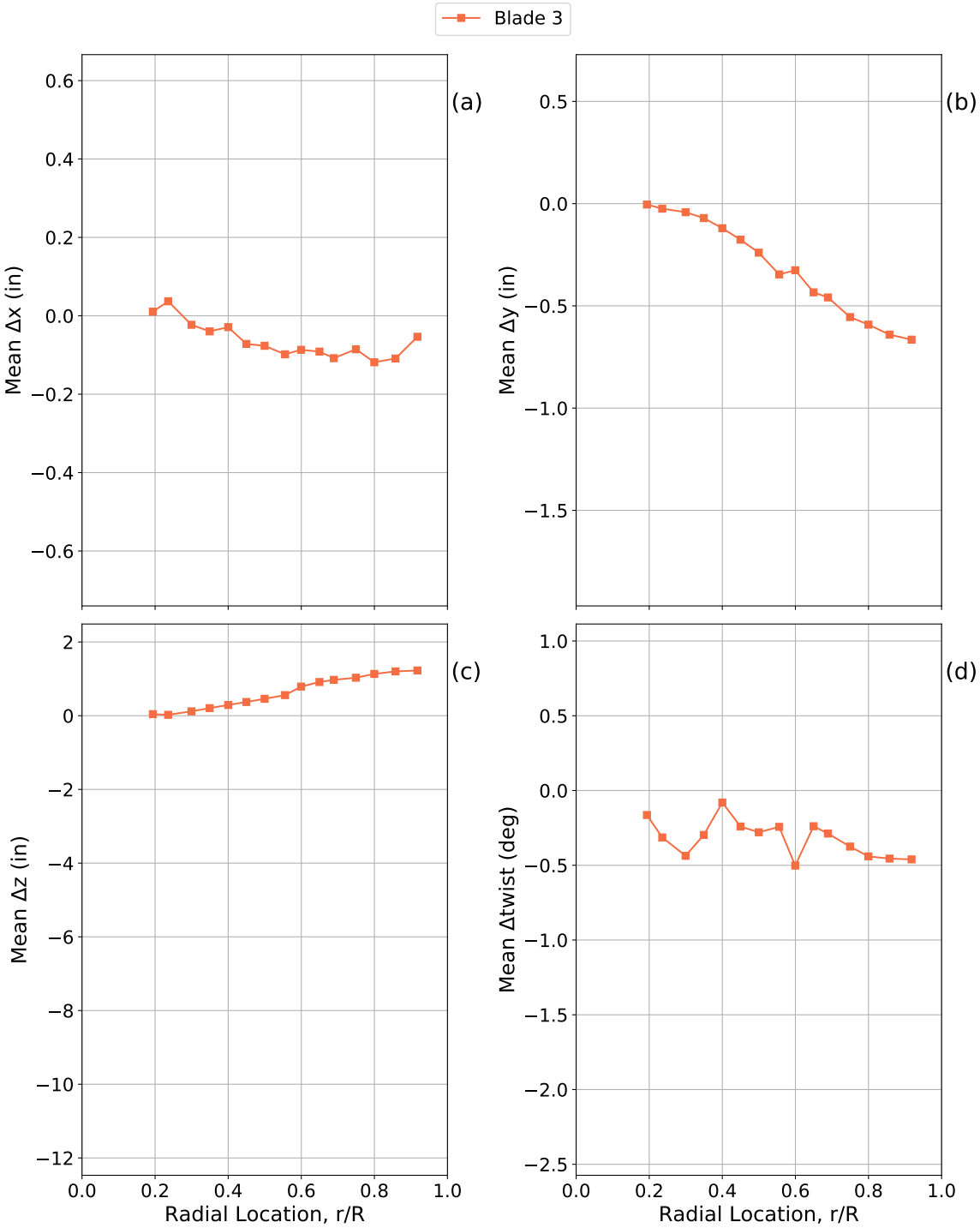


Figure 4.30-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-25. 240° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	0.0106	0.0016	-0.0043	0.0010	0.0419	0.0011	-0.1638	0.0104
3	240.12	0.2357	0.0370	0.0016	-0.0246	0.0019	0.0241	0.0021	-0.3140	0.0202
3	240.12	0.2995	-0.0229	0.0016	-0.0418	0.0044	0.1186	0.0046	-0.4366	0.0223
3	240.12	0.3493	-0.0397	0.0012	-0.0707	0.0082	0.2055	0.0071	-0.2972	0.0238
3	240.12	0.4000	-0.0289	0.0016	-0.1202	0.0125	0.2910	0.0119	-0.0802	0.0298
3	240.12	0.4497	-0.0718	0.0014	-0.1763	0.0134	0.3714	0.0143	-0.2407	0.0417
3	240.12	0.4997	-0.0765	0.0022	-0.2398	0.0167	0.4592	0.0194	-0.2794	0.0383
3	240.12	0.5556	-0.0982	0.0018	-0.3461	0.0199	0.5588	0.0262	-0.2430	0.0409
3	240.12	0.5995	-0.0867	0.0017	-0.3259	0.0217	0.7901	0.0289	-0.5020	0.0302
3	240.12	0.6498	-0.0913	0.0012	-0.4337	0.0257	0.9138	0.0316	-0.2389	0.0143
3	240.12	0.6890	-0.1081	0.0019	-0.4587	0.0287	0.9729	0.0356	-0.2877	0.0228
3	240.12	0.7495	-0.0853	0.0012	-0.5547	0.0323	1.0307	0.0384	-0.3750	0.0231
3	240.12	0.7998	-0.1185	0.0021	-0.5918	0.0361	1.1334	0.0442	-0.4407	0.0212
3	240.12	0.8577	-0.1089	0.0023	-0.6407	0.0412	1.2022	0.0491	-0.4554	0.0298
3	240.12	0.9178	-0.0535	0.0028	-0.6653	0.0450	1.2262	0.0601	-0.4607	0.0736

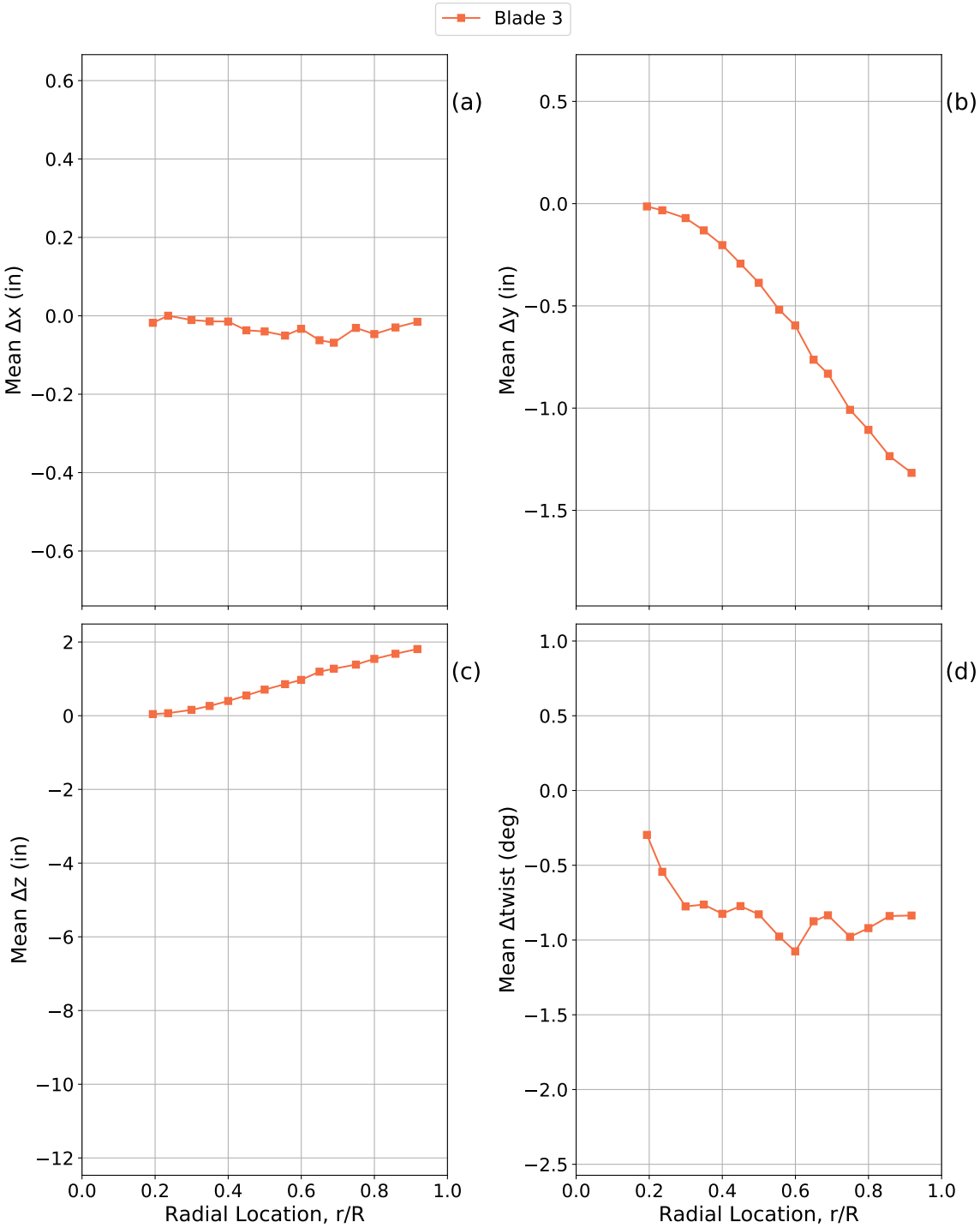


Figure 4.30-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-26. 255° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0178	0.0020	-0.0138	0.0008	0.0440	0.0022	-0.2970	0.0148
3	254.88	0.2357	0.0002	0.0012	-0.0326	0.0010	0.0683	0.0026	-0.5434	0.0346
3	254.88	0.2995	-0.0107	0.0008	-0.0707	0.0029	0.1582	0.0067	-0.7753	0.0398
3	254.88	0.3493	-0.0141	0.0007	-0.1309	0.0042	0.2645	0.0109	-0.7630	0.0372
3	254.88	0.4000	-0.0146	0.0009	-0.2029	0.0068	0.3989	0.0162	-0.8244	0.0383
3	254.88	0.4497	-0.0370	0.0017	-0.2935	0.0084	0.5491	0.0200	-0.7730	0.0404
3	254.88	0.4997	-0.0399	0.0016	-0.3872	0.0104	0.7077	0.0257	-0.8279	0.0443
3	254.88	0.5556	-0.0504	0.0010	-0.5190	0.0127	0.8557	0.0315	-0.9770	0.0474
3	254.88	0.5995	-0.0332	0.0011	-0.5958	0.0148	0.9717	0.0359	-1.0759	0.0384
3	254.88	0.6498	-0.0623	0.0013	-0.7633	0.0168	1.1941	0.0404	-0.8744	0.0337
3	254.88	0.6890	-0.0687	0.0017	-0.8316	0.0185	1.2757	0.0446	-0.8345	0.0328
3	254.88	0.7495	-0.0308	0.0022	-1.0084	0.0221	1.3865	0.0490	-0.9783	0.0391
3	254.88	0.7998	-0.0466	0.0017	-1.1063	0.0240	1.5416	0.0520	-0.9204	0.0393
3	254.88	0.8577	-0.0297	0.0019	-1.2350	0.0270	1.6803	0.0557	-0.8393	0.0386
3	254.88	0.9178	-0.0153	0.0023	-1.3167	0.0307	1.8080	0.0585	-0.8361	0.0506

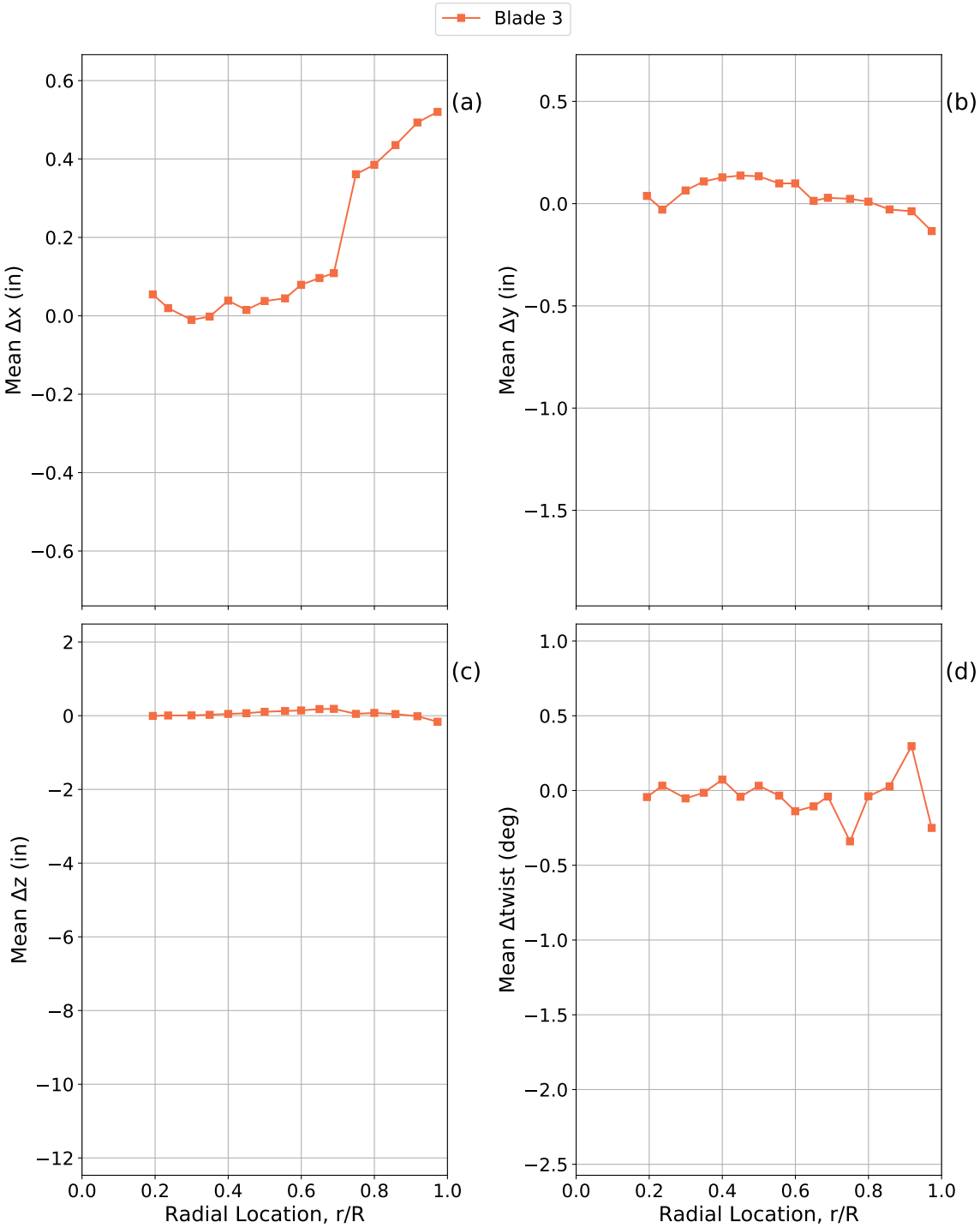


Figure 4.30-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	0.0546	0.0010	0.0378	0.0004	-0.0063	0.0010	-0.0437	0.0120
3	260.16	0.2357	0.0196	0.0007	-0.0293	0.0010	0.0060	0.0031	0.0321	0.0200
3	260.16	0.2995	-0.0103	0.0006	0.0646	0.0014	0.0084	0.0036	-0.0527	0.0236
3	260.16	0.3493	-0.0020	0.0006	0.1083	0.0029	0.0240	0.0075	-0.0149	0.0264
3	260.16	0.4000	0.0387	0.0008	0.1286	0.0043	0.0485	0.0112	0.0730	0.0219
3	260.16	0.4497	0.0150	0.0011	0.1373	0.0059	0.0674	0.0138	-0.0418	0.0253
3	260.16	0.4997	0.0377	0.0014	0.1339	0.0073	0.1070	0.0171	0.0317	0.0279
3	260.16	0.5556	0.0445	0.0014	0.0989	0.0089	0.1269	0.0200	-0.0343	0.0212
3	260.16	0.5995	0.0791	0.0014	0.0990	0.0108	0.1431	0.0216	-0.1387	0.0339
3	260.16	0.6498	0.0964	0.0016	0.0137	0.0132	0.1797	0.0268	-0.1057	0.0436
3	260.16	0.6890	0.1089	0.0024	0.0285	0.0158	0.1861	0.0276	-0.0406	0.0432
3	260.16	0.7495	0.3611	0.0013	0.0234	0.0179	0.0500	0.0311	-0.3401	0.0216
3	260.16	0.7998	0.3854	0.0012	0.0098	0.0206	0.0758	0.0359	-0.0383	0.0204
3	260.16	0.8577	0.4355	0.0014	-0.0285	0.0240	0.0441	0.0383	0.0274	0.0219
3	260.16	0.9178	0.4931	0.0013	-0.0372	0.0279	-0.0144	0.0424	0.2966	0.0253
3	260.16	0.9729	0.5202	0.0020	-0.1341	0.0313	-0.1640	0.0453	-0.2500	0.0304

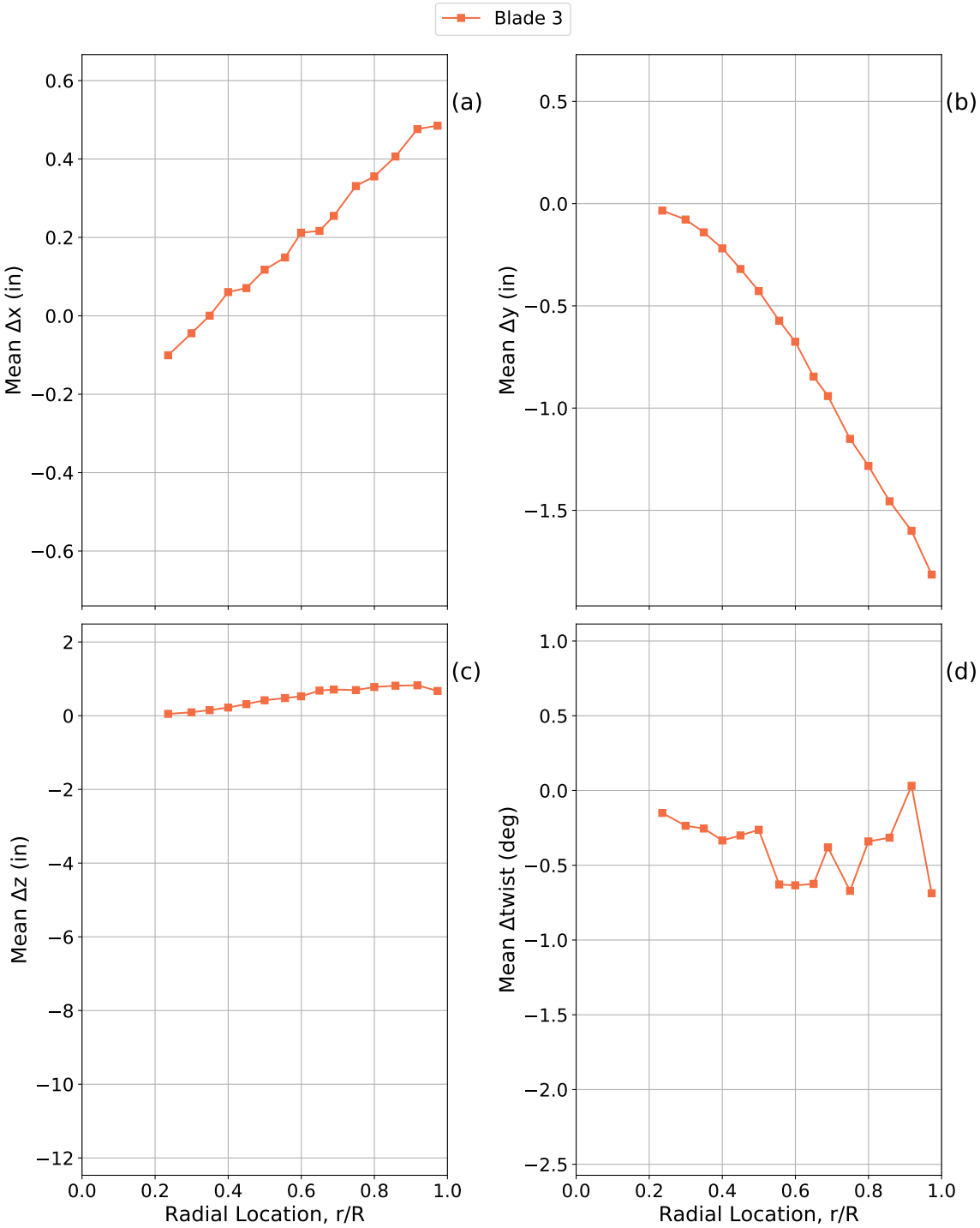


Figure 4.30-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-28. 265° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.2357	-0.1007	0.0018	-0.0339	0.0014	0.0497	0.0060	-0.1501	0.0513
3	265.08	0.2995	-0.0445	0.0012	-0.0777	0.0032	0.0922	0.0122	-0.2360	0.0823
3	265.08	0.3493	0.0004	0.0011	-0.1402	0.0057	0.1515	0.0212	-0.2541	0.0781
3	265.08	0.4000	0.0605	0.0018	-0.2188	0.0088	0.2215	0.0319	-0.3342	0.0797
3	265.08	0.4497	0.0707	0.0023	-0.3197	0.0110	0.3145	0.0406	-0.3005	0.0735
3	265.08	0.4997	0.1176	0.0025	-0.4274	0.0145	0.4185	0.0489	-0.2627	0.0807
3	265.08	0.5556	0.1488	0.0022	-0.5728	0.0182	0.4784	0.0602	-0.6284	0.0686
3	265.08	0.5995	0.2120	0.0027	-0.6755	0.0206	0.5258	0.0671	-0.6340	0.0815
3	265.08	0.6498	0.2165	0.0025	-0.8461	0.0244	0.6816	0.0752	-0.6246	0.0814
3	265.08	0.6890	0.2549	0.0024	-0.9409	0.0274	0.7104	0.0822	-0.3803	0.0812
3	265.08	0.7495	0.3310	0.0026	-1.1506	0.0324	0.6944	0.0914	-0.6710	0.0814
3	265.08	0.7998	0.3556	0.0029	-1.2827	0.0363	0.7791	0.0983	-0.3406	0.0879
3	265.08	0.8577	0.4063	0.0030	-1.4559	0.0410	0.8129	0.1056	-0.3154	0.0809
3	265.08	0.9178	0.4763	0.0032	-1.6002	0.0463	0.8256	0.1134	0.0315	0.0825
3	265.08	0.9729	0.4850	0.0051	-1.8141	0.0516	0.6709	0.1206	-0.6874	0.0817

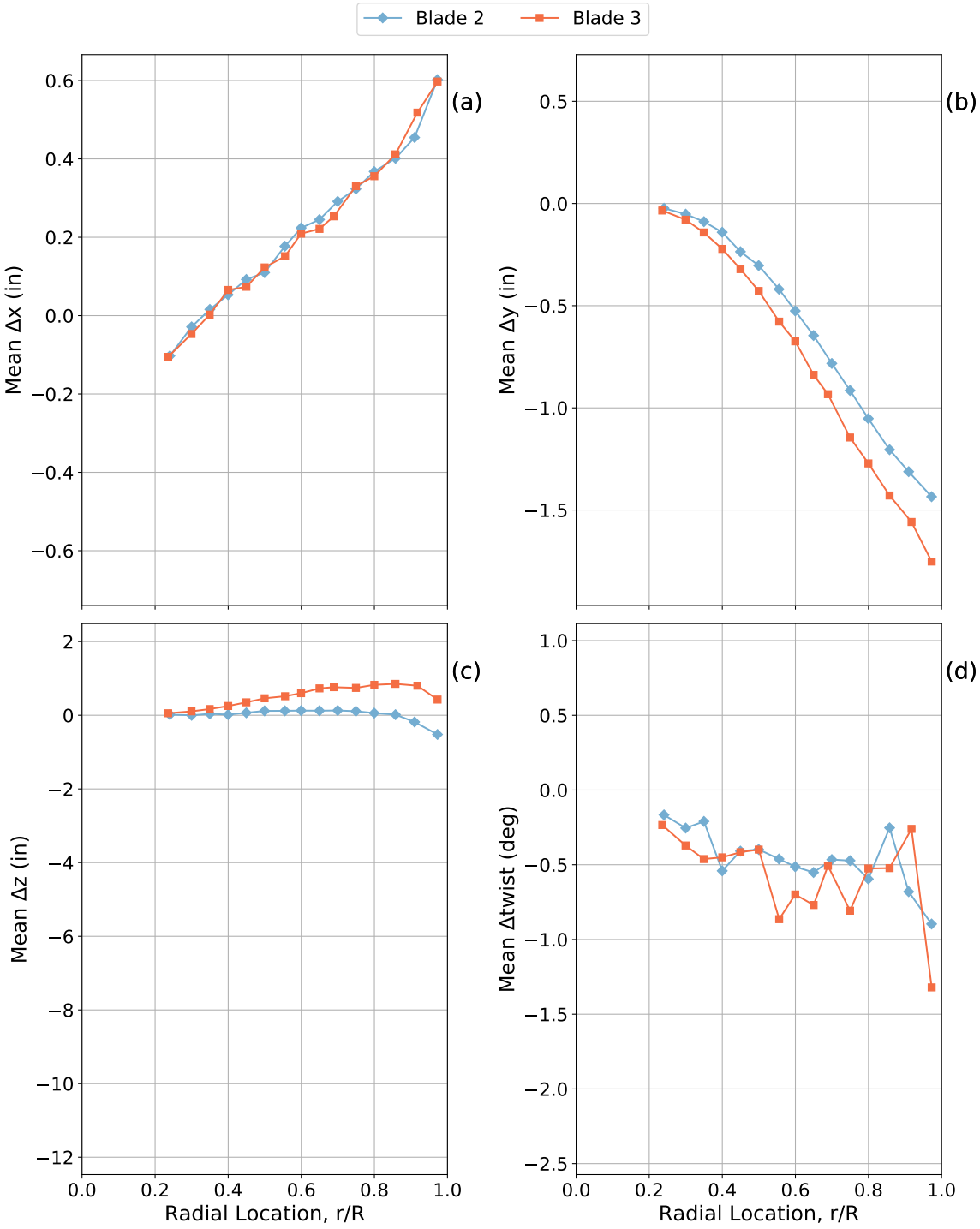


Figure 4.30-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-29. 270° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.2405	-0.1026	0.0023	-0.0232	0.0011	0.0185	0.0054	-0.1665	0.0483
2	270.35	0.2999	-0.0287	0.0009	-0.0520	0.0022	-0.0012	0.0090	-0.2544	0.0746
2	270.35	0.3498	0.0158	0.0017	-0.0887	0.0042	0.0388	0.0188	-0.2101	0.0620
2	270.35	0.3998	0.0531	0.0016	-0.1405	0.0062	0.0177	0.0263	-0.5407	0.0649
2	270.35	0.4496	0.0923	0.0010	-0.2357	0.0079	0.0672	0.0346	-0.4087	0.0588
2	270.35	0.4995	0.1097	0.0016	-0.3037	0.0098	0.1188	0.0412	-0.3976	0.0652
2	270.35	0.5551	0.1771	0.0013	-0.4195	0.0122	0.1207	0.0491	-0.4614	0.0598
2	270.35	0.5996	0.2239	0.0016	-0.5256	0.0135	0.1270	0.0542	-0.5132	0.0632
2	270.35	0.6497	0.2451	0.0017	-0.6460	0.0159	0.1238	0.0605	-0.5517	0.0642
2	270.35	0.6996	0.2915	0.0023	-0.7825	0.0178	0.1298	0.0671	-0.4652	0.0659
2	270.35	0.7495	0.3232	0.0023	-0.9148	0.0198	0.1102	0.0729	-0.4725	0.0657
2	270.35	0.7996	0.3676	0.0025	-1.0524	0.0222	0.0595	0.0795	-0.5955	0.0695
2	270.35	0.8578	0.4015	0.0023	-1.2048	0.0249	0.0172	0.0878	-0.2530	0.0646
2	270.35	0.9100	0.4546	0.0026	-1.3122	0.0277	-0.1815	0.0948	-0.6801	0.0627
2	270.35	0.9727	0.6023	0.0038	-1.4348	0.0313	-0.5208	0.1028	-0.8961	0.0743
3	270	0.2357	-0.1053	0.0018	-0.0342	0.0007	0.0548	0.0055	-0.2340	0.0573
3	270	0.2995	-0.0469	0.0010	-0.0793	0.0016	0.1065	0.0114	-0.3711	0.0921
3	270	0.3493	0.0026	0.0012	-0.1416	0.0030	0.1686	0.0202	-0.4619	0.0787
3	270	0.4000	0.0655	0.0015	-0.2222	0.0044	0.2520	0.0304	-0.4504	0.0854
3	270	0.4497	0.0736	0.0013	-0.3210	0.0052	0.3515	0.0382	-0.4158	0.0786
3	270	0.4997	0.1230	0.0018	-0.4281	0.0062	0.4609	0.0466	-0.3986	0.0781
3	270	0.5556	0.1516	0.0021	-0.5780	0.0081	0.5167	0.0547	-0.8640	0.0843
3	270	0.5995	0.2093	0.0026	-0.6744	0.0090	0.5998	0.0630	-0.6990	0.0832
3	270	0.6498	0.2214	0.0018	-0.8385	0.0111	0.7297	0.0719	-0.7692	0.0746
3	270	0.6890	0.2534	0.0019	-0.9331	0.0123	0.7624	0.0803	-0.5068	0.0768
3	270	0.7495	0.3306	0.0018	-1.1451	0.0146	0.7430	0.0902	-0.8073	0.0813
3	270	0.7998	0.3558	0.0022	-1.2719	0.0172	0.8262	0.1019	-0.5248	0.0781
3	270	0.8577	0.4116	0.0022	-1.4290	0.0198	0.8523	0.1138	-0.5224	0.0787
3	270	0.9178	0.5181	0.0019	-1.5585	0.0227	0.8027	0.1250	-0.2600	0.0806
3	270	0.9729	0.5974	0.0031	-1.7521	0.0263	0.4263	0.1375	-1.3206	0.0803

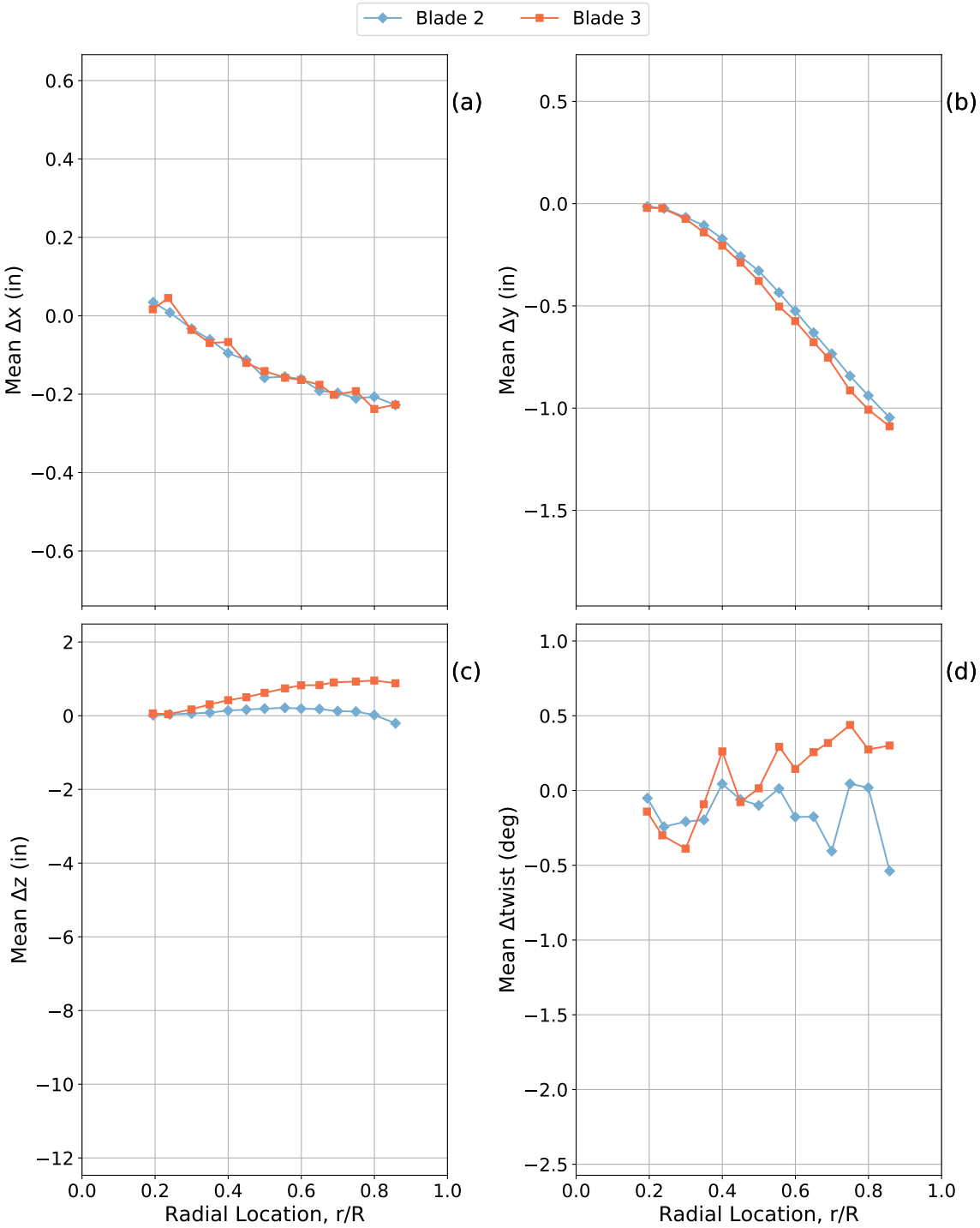


Figure 4.30-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-30. 275° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0347	0.0011	-0.0142	0.0003	0.0128	0.0018	-0.0511	0.0136
2	274.92	0.2405	0.0082	0.0006	-0.0229	0.0007	0.0364	0.0034	-0.2424	0.0446
2	274.92	0.2999	-0.0329	0.0006	-0.0675	0.0013	0.0585	0.0066	-0.2078	0.0449
2	274.92	0.3498	-0.0605	0.0011	-0.1064	0.0026	0.0842	0.0114	-0.1965	0.0463
2	274.92	0.3998	-0.0953	0.0025	-0.1719	0.0036	0.1401	0.0175	0.0441	0.0500
2	274.92	0.4496	-0.1126	0.0026	-0.2581	0.0045	0.1646	0.0214	-0.0604	0.0575
2	274.92	0.4995	-0.1580	0.0015	-0.3285	0.0063	0.1918	0.0277	-0.0996	0.0352
2	274.92	0.5551	-0.1552	0.0015	-0.4349	0.0072	0.2138	0.0315	0.0126	0.0350
2	274.92	0.5996	-0.1611	0.0012	-0.5253	0.0090	0.1904	0.0351	-0.1769	0.0593
2	274.92	0.6497	-0.1910	0.0017	-0.6310	0.0113	0.1804	0.0389	-0.1750	0.0801
2	274.92	0.6996	-0.1969	0.0016	-0.7345	0.0120	0.1248	0.0421	-0.4051	0.0447
2	274.92	0.7495	-0.2106	0.0021	-0.8431	0.0148	0.1131	0.0484	0.0449	0.0555
2	274.92	0.7996	-0.2064	0.0019	-0.9391	0.0176	0.0196	0.0563	0.0191	0.0718
2	274.92	0.8578	-0.2275	0.0031	-1.0464	0.0221	-0.2066	0.0649	-0.5386	0.0899
3	274.92	0.1938	0.0166	0.0013	-0.0203	0.0006	0.0633	0.0020	-0.1409	0.0217
3	274.92	0.2357	0.0454	0.0018	-0.0224	0.0022	0.0406	0.0058	-0.2999	0.0316
3	274.92	0.2995	-0.0360	0.0011	-0.0742	0.0041	0.1692	0.0099	-0.3887	0.0476
3	274.92	0.3493	-0.0692	0.0012	-0.1403	0.0059	0.3063	0.0133	-0.0917	0.0728
3	274.92	0.4000	-0.0668	0.0018	-0.2055	0.0109	0.4213	0.0241	0.2614	0.0519
3	274.92	0.4497	-0.1202	0.0032	-0.2882	0.0133	0.5010	0.0350	-0.0775	0.0300
3	274.92	0.4997	-0.1410	0.0019	-0.3783	0.0154	0.6214	0.0392	0.0147	0.0303
3	274.92	0.5556	-0.1579	0.0023	-0.5036	0.0178	0.7418	0.0462	0.2923	0.0477
3	274.92	0.5995	-0.1635	0.0027	-0.5745	0.0204	0.8249	0.0523	0.1446	0.0782
3	274.92	0.6498	-0.1760	0.0029	-0.6775	0.0234	0.8309	0.0603	0.2565	0.0407
3	274.92	0.6890	-0.2016	0.0041	-0.7529	0.0265	0.9040	0.0695	0.3178	0.0543
3	274.92	0.7495	-0.1922	0.0028	-0.9138	0.0291	0.9269	0.0727	0.4383	0.0570
3	274.92	0.7998	-0.2377	0.0030	-1.0077	0.0325	0.9547	0.0843	0.2743	0.0933
3	274.92	0.8577	-0.2268	0.0052	-1.0892	0.0365	0.8813	0.1018	0.3008	0.0880

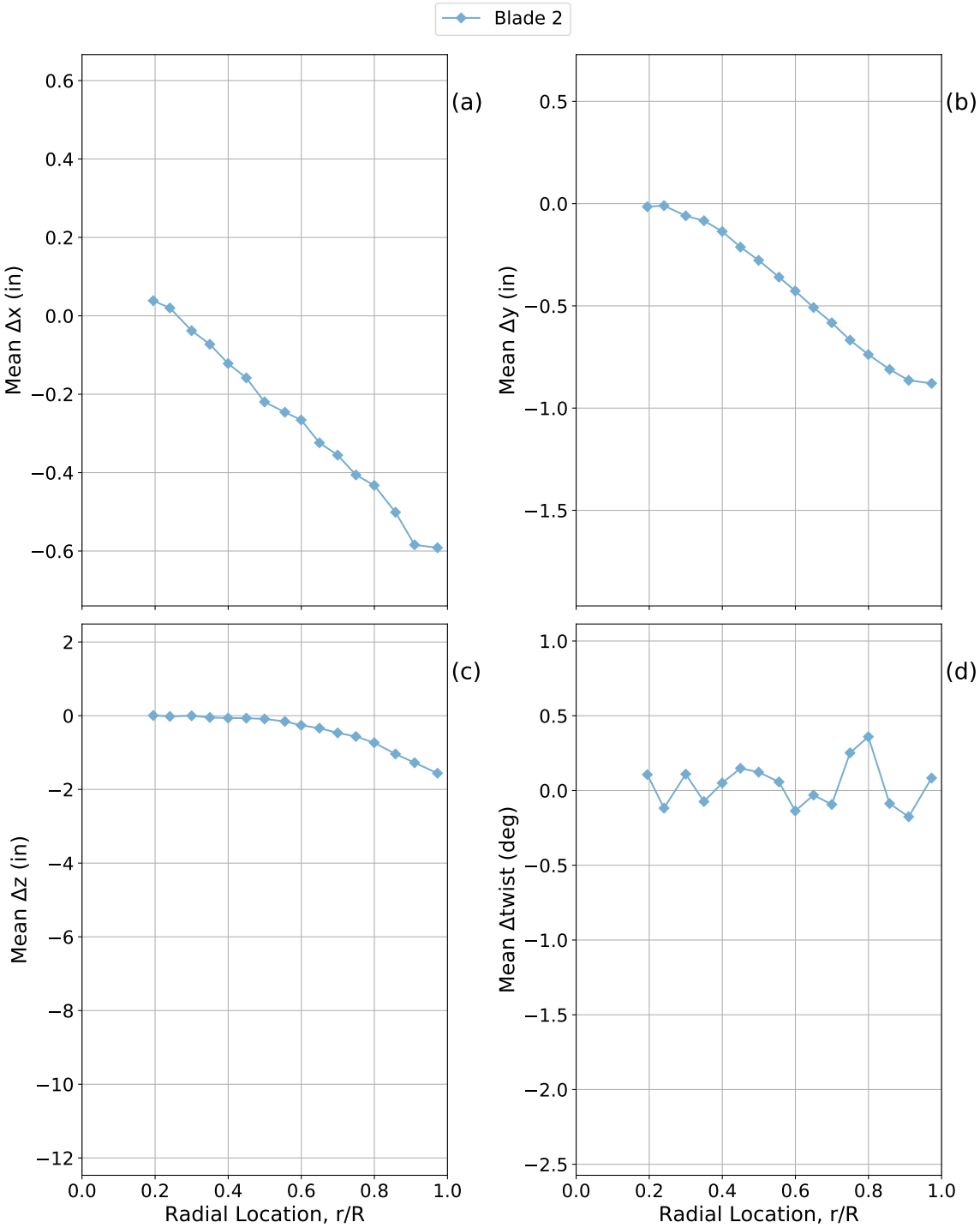


Figure 4.30-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0386	0.0008	-0.0151	0.0007	0.0057	0.0017	0.1062	0.0262
2	285.12	0.2405	0.0200	0.0009	-0.0100	0.0012	-0.0196	0.0037	-0.1177	0.0312
2	285.12	0.2999	-0.0380	0.0010	-0.0597	0.0019	-0.0018	0.0042	0.1096	0.0557
2	285.12	0.3498	-0.0726	0.0010	-0.0835	0.0039	-0.0482	0.0088	-0.0738	0.0588
2	285.12	0.3998	-0.1218	0.0017	-0.1360	0.0055	-0.0637	0.0113	0.0502	0.0508
2	285.12	0.4496	-0.1584	0.0009	-0.2125	0.0079	-0.0669	0.0172	0.1485	0.0516
2	285.12	0.4995	-0.2197	0.0011	-0.2772	0.0081	-0.0880	0.0195	0.1228	0.0346
2	285.12	0.5551	-0.2459	0.0018	-0.3596	0.0090	-0.1558	0.0216	0.0574	0.0443
2	285.12	0.5996	-0.2657	0.0022	-0.4270	0.0103	-0.2606	0.0243	-0.1366	0.0505
2	285.12	0.6497	-0.3240	0.0017	-0.5080	0.0117	-0.3380	0.0292	-0.0304	0.0307
2	285.12	0.6996	-0.3554	0.0024	-0.5826	0.0135	-0.4672	0.0306	-0.0936	0.0647
2	285.12	0.7495	-0.4059	0.0017	-0.6676	0.0147	-0.5648	0.0337	0.2519	0.0443
2	285.12	0.7996	-0.4326	0.0026	-0.7381	0.0163	-0.7329	0.0382	0.3595	0.0464
2	285.12	0.8578	-0.5011	0.0034	-0.8107	0.0180	-1.0384	0.0435	-0.0874	0.0564
2	285.12	0.9100	-0.5842	0.0035	-0.8641	0.0203	-1.2758	0.0486	-0.1756	0.0693
2	285.12	0.9727	-0.5916	0.0039	-0.8790	0.0221	-1.5609	0.0553	0.0835	0.0896

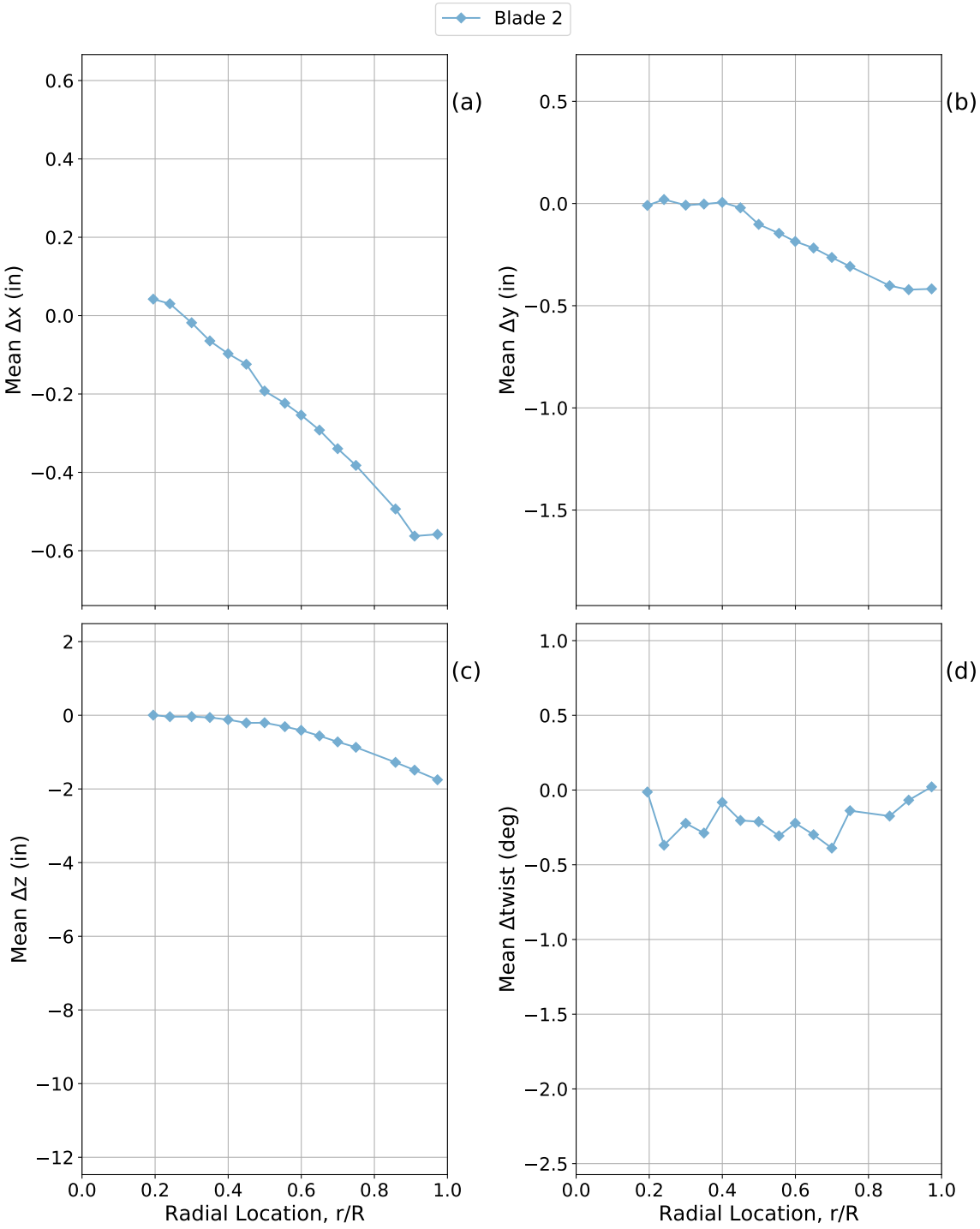


Figure 4.30-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-32. 300° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0421	0.0011	-0.0093	0.0009	0.0035	0.0033	-0.0130	0.0331
2	299.88	0.2405	0.0303	0.0017	0.0196	0.0028	-0.0386	0.0064	-0.3688	0.0378
2	299.88	0.2999	-0.0182	0.0019	-0.0082	0.0049	-0.0366	0.0116	-0.2226	0.0687
2	299.88	0.3498	-0.0646	0.0030	-0.0027	0.0086	-0.0597	0.0183	-0.2878	0.0663
2	299.88	0.3998	-0.0972	0.0021	0.0057	0.0138	-0.1189	0.0283	-0.0822	0.0837
2	299.88	0.4496	-0.1241	0.0033	-0.0210	0.0187	-0.2073	0.0372	-0.2035	0.0529
2	299.88	0.4995	-0.1924	0.0034	-0.1020	0.0185	-0.2030	0.0377	-0.2115	0.0445
2	299.88	0.5551	-0.2236	0.0030	-0.1458	0.0220	-0.3093	0.0462	-0.3067	0.0606
2	299.88	0.5996	-0.2539	0.0019	-0.1856	0.0254	-0.4076	0.0528	-0.2213	0.0582
2	299.88	0.6497	-0.2922	0.0020	-0.2177	0.0287	-0.5593	0.0616	-0.2986	0.0427
2	299.88	0.6996	-0.3396	0.0017	-0.2639	0.0333	-0.7223	0.0718	-0.3886	0.0380
2	299.88	0.7495	-0.3823	0.0019	-0.3079	0.0372	-0.8694	0.0792	-0.1381	0.0610
2	299.88	0.8578	-0.4935	0.0013	-0.4021	0.0474	-1.2781	0.0989	-0.1742	0.0418
2	299.88	0.9100	-0.5626	0.0015	-0.4215	0.0521	-1.4890	0.1077	-0.0676	0.0484
2	299.88	0.9727	-0.5582	0.0039	-0.4177	0.0582	-1.7508	0.1194	0.0213	0.0364

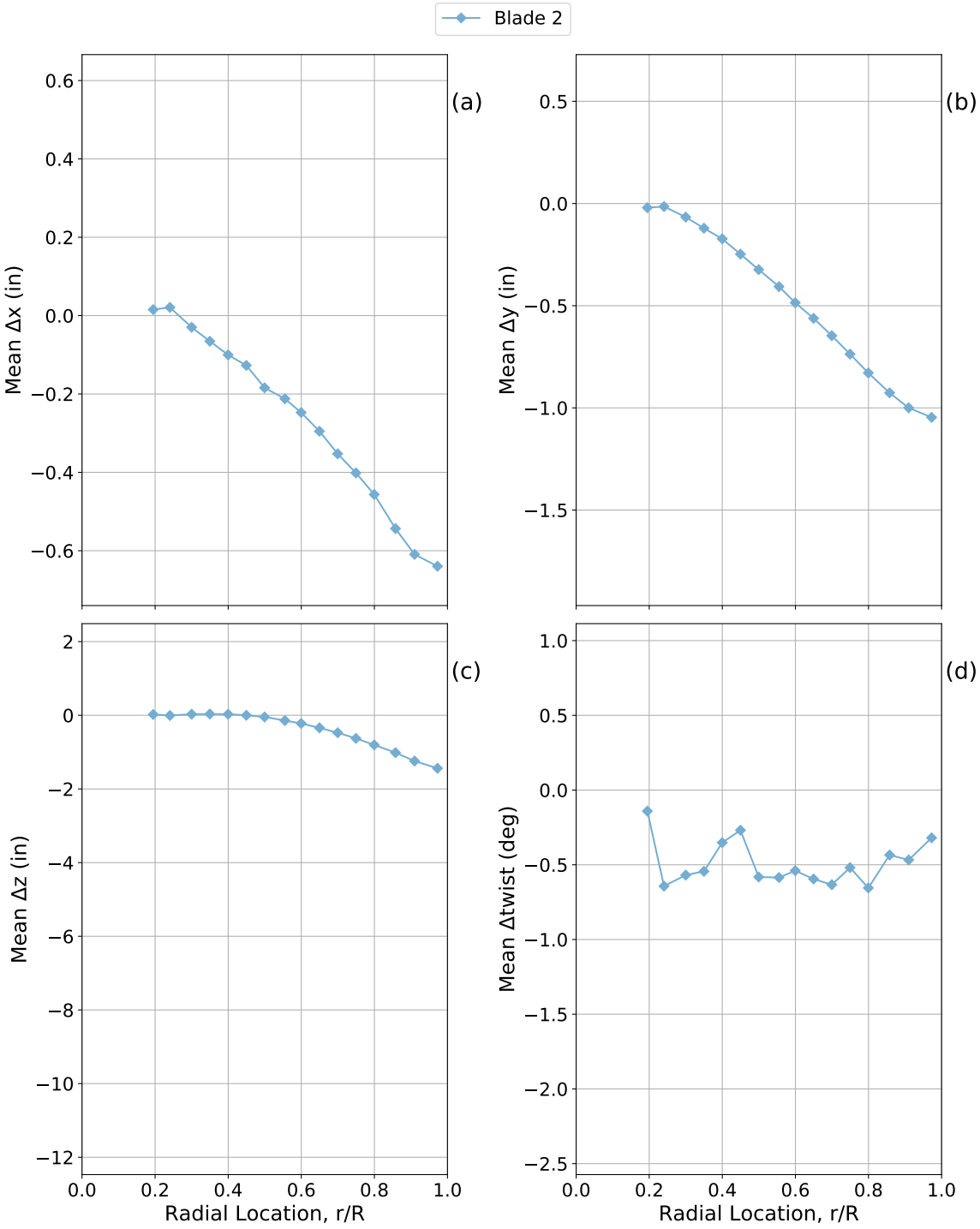


Figure 4.30-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-33. 315° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0154	0.0014	-0.0203	0.0008	0.0226	0.0012	-0.1409	0.0236
2	315	0.2405	0.0210	0.0017	-0.0149	0.0017	-0.0053	0.0061	-0.6429	0.0330
2	315	0.2999	-0.0297	0.0026	-0.0664	0.0044	0.0298	0.0093	-0.5691	0.0543
2	315	0.3498	-0.0654	0.0022	-0.1210	0.0062	0.0350	0.0116	-0.5439	0.0717
2	315	0.3998	-0.1003	0.0028	-0.1727	0.0108	0.0298	0.0224	-0.3518	0.0711
2	315	0.4496	-0.1270	0.0032	-0.2477	0.0127	-0.0000	0.0321	-0.2687	0.0508
2	315	0.4995	-0.1842	0.0025	-0.3234	0.0141	-0.0460	0.0397	-0.5819	0.0533
2	315	0.5551	-0.2121	0.0021	-0.4065	0.0166	-0.1432	0.0496	-0.5856	0.0538
2	315	0.5996	-0.2473	0.0019	-0.4855	0.0174	-0.2215	0.0582	-0.5395	0.0512
2	315	0.6497	-0.2951	0.0023	-0.5618	0.0212	-0.3415	0.0580	-0.5953	0.1014
2	315	0.6996	-0.3527	0.0023	-0.6469	0.0239	-0.4735	0.0730	-0.6334	0.0473
2	315	0.7495	-0.4015	0.0015	-0.7369	0.0269	-0.6261	0.0772	-0.5191	0.0637
2	315	0.7996	-0.4565	0.0023	-0.8291	0.0298	-0.8043	0.0870	-0.6550	0.0443
2	315	0.8578	-0.5435	0.0022	-0.9265	0.0328	-1.0147	0.0960	-0.4346	0.0413
2	315	0.9100	-0.6094	0.0020	-0.9999	0.0357	-1.2422	0.1031	-0.4675	0.0478
2	315	0.9727	-0.6397	0.0026	-1.0465	0.0390	-1.4388	0.1157	-0.3197	0.0486

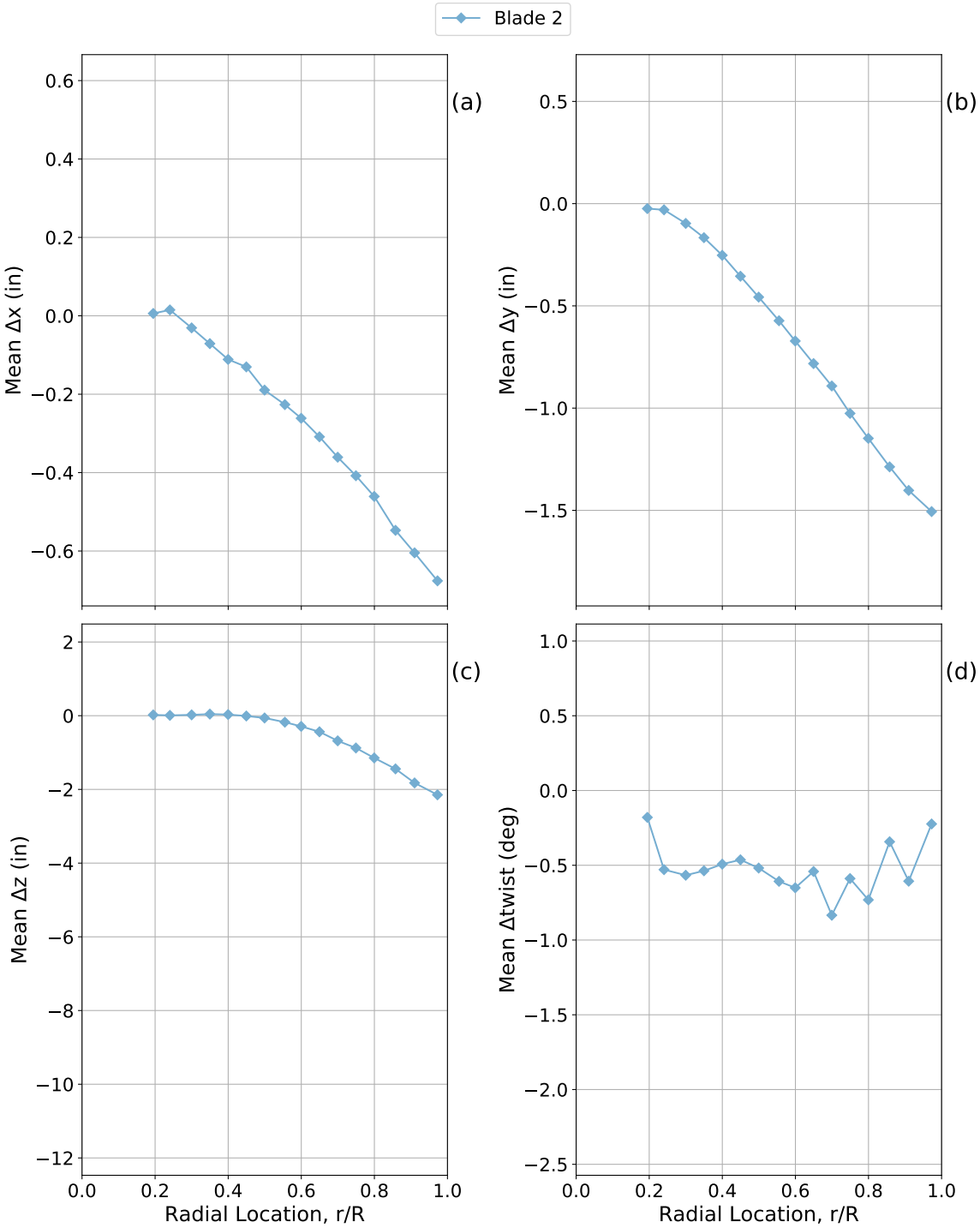


Figure 4.30-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0060	0.0015	-0.0242	0.0009	0.0215	0.0024	-0.1797	0.0308
2	330.12	0.2405	0.0150	0.0020	-0.0302	0.0018	0.0089	0.0042	-0.5292	0.0284
2	330.12	0.2999	-0.0308	0.0020	-0.0968	0.0038	0.0228	0.0110	-0.5666	0.0622
2	330.12	0.3498	-0.0710	0.0015	-0.1664	0.0068	0.0434	0.0158	-0.5370	0.0578
2	330.12	0.3998	-0.1113	0.0015	-0.2527	0.0105	0.0312	0.0262	-0.4926	0.1235
2	330.12	0.4496	-0.1303	0.0039	-0.3551	0.0105	-0.0081	0.0181	-0.4633	0.0349
2	330.12	0.4995	-0.1895	0.0030	-0.4572	0.0138	-0.0612	0.0289	-0.5185	0.0725
2	330.12	0.5551	-0.2265	0.0015	-0.5727	0.0161	-0.1758	0.0306	-0.6075	0.0413
2	330.12	0.5996	-0.2613	0.0020	-0.6719	0.0175	-0.2901	0.0330	-0.6506	0.0243
2	330.12	0.6497	-0.3086	0.0019	-0.7822	0.0221	-0.4364	0.0407	-0.5416	0.0533
2	330.12	0.6996	-0.3607	0.0031	-0.8918	0.0225	-0.6821	0.0422	-0.8342	0.1007
2	330.12	0.7495	-0.4079	0.0024	-1.0259	0.0261	-0.8758	0.0512	-0.5888	0.0212
2	330.12	0.7996	-0.4608	0.0014	-1.1480	0.0277	-1.1459	0.0585	-0.7314	0.0407
2	330.12	0.8578	-0.5472	0.0019	-1.2873	0.0312	-1.4431	0.0657	-0.3426	0.0440
2	330.12	0.9100	-0.6047	0.0013	-1.4027	0.0349	-1.8238	0.0727	-0.6065	0.0413
2	330.12	0.9727	-0.6761	0.0023	-1.5061	0.0377	-2.1472	0.0861	-0.2237	0.0550

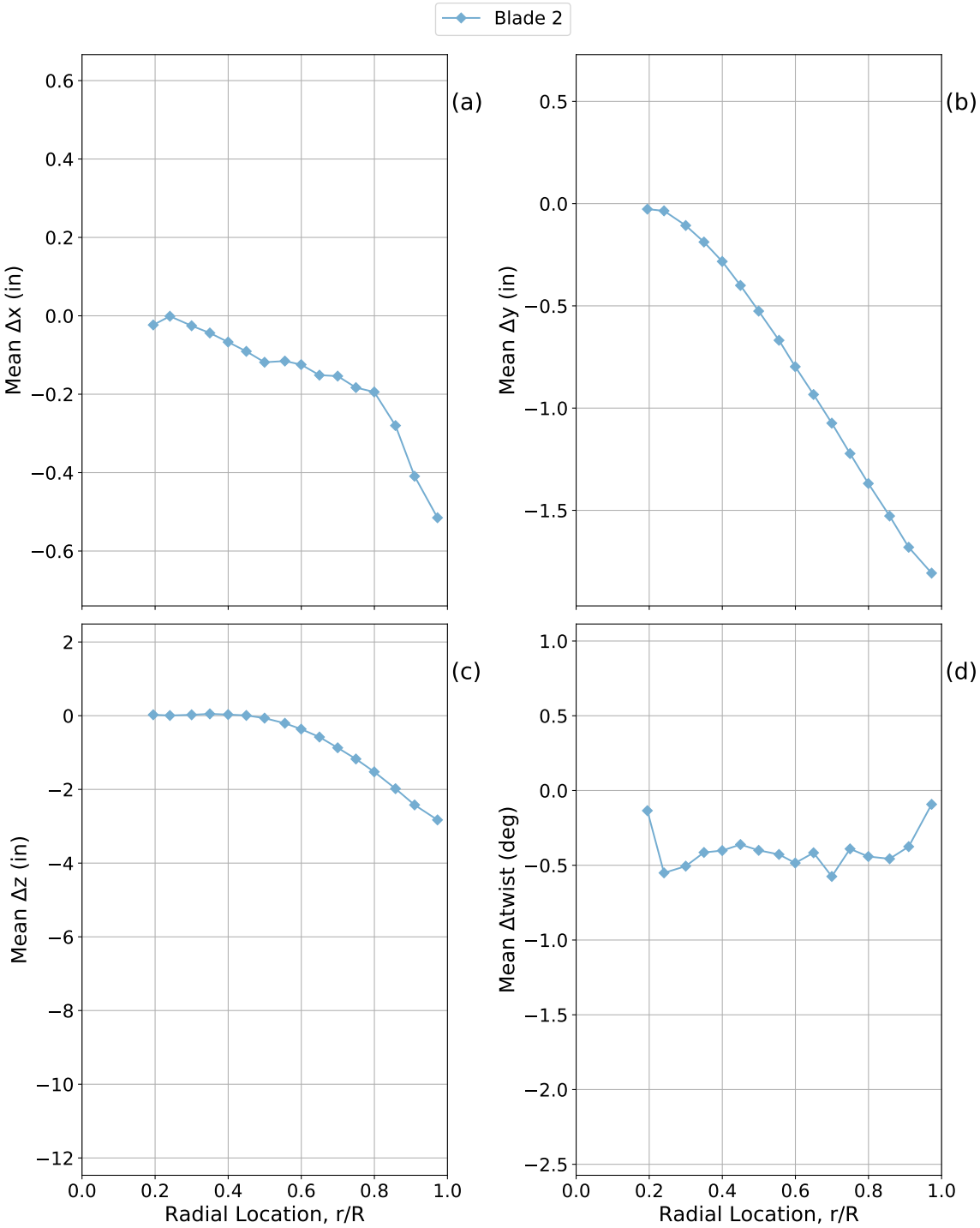


Figure 4.30-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-35. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0233	0.0013	-0.0269	0.0004	0.0254	0.0014	-0.1347	0.0126
2	344.88	0.2405	-0.0011	0.0009	-0.0353	0.0015	0.0058	0.0023	-0.5510	0.0188
2	344.88	0.2999	-0.0254	0.0006	-0.1069	0.0023	0.0244	0.0045	-0.5059	0.0295
2	344.88	0.3498	-0.0438	0.0010	-0.1877	0.0033	0.0490	0.0095	-0.4143	0.0254
2	344.88	0.3998	-0.0669	0.0017	-0.2828	0.0058	0.0310	0.0129	-0.4017	0.0268
2	344.88	0.4496	-0.0907	0.0033	-0.4001	0.0066	0.0072	0.0151	-0.3613	0.0319
2	344.88	0.4995	-0.1185	0.0025	-0.5256	0.0087	-0.0659	0.0184	-0.4001	0.0329
2	344.88	0.5551	-0.1154	0.0030	-0.6683	0.0105	-0.2052	0.0209	-0.4275	0.0267
2	344.88	0.5996	-0.1245	0.0033	-0.7974	0.0103	-0.3639	0.0203	-0.4849	0.0444
2	344.88	0.6497	-0.1514	0.0030	-0.9335	0.0121	-0.5791	0.0259	-0.4164	0.0318
2	344.88	0.6996	-0.1538	0.0053	-1.0737	0.0133	-0.8707	0.0247	-0.5748	0.0509
2	344.88	0.7495	-0.1831	0.0048	-1.2223	0.0150	-1.1746	0.0294	-0.3903	0.0336
2	344.88	0.7996	-0.1943	0.0057	-1.3687	0.0176	-1.5232	0.0360	-0.4416	0.0390
2	344.88	0.8578	-0.2800	0.0068	-1.5277	0.0199	-1.9804	0.0382	-0.4566	0.1383
2	344.88	0.9100	-0.4092	0.0045	-1.6807	0.0253	-2.4214	0.0453	-0.3754	0.0398
2	344.88	0.9727	-0.5151	0.0039	-1.8071	0.0277	-2.8277	0.0489	-0.0925	0.0299

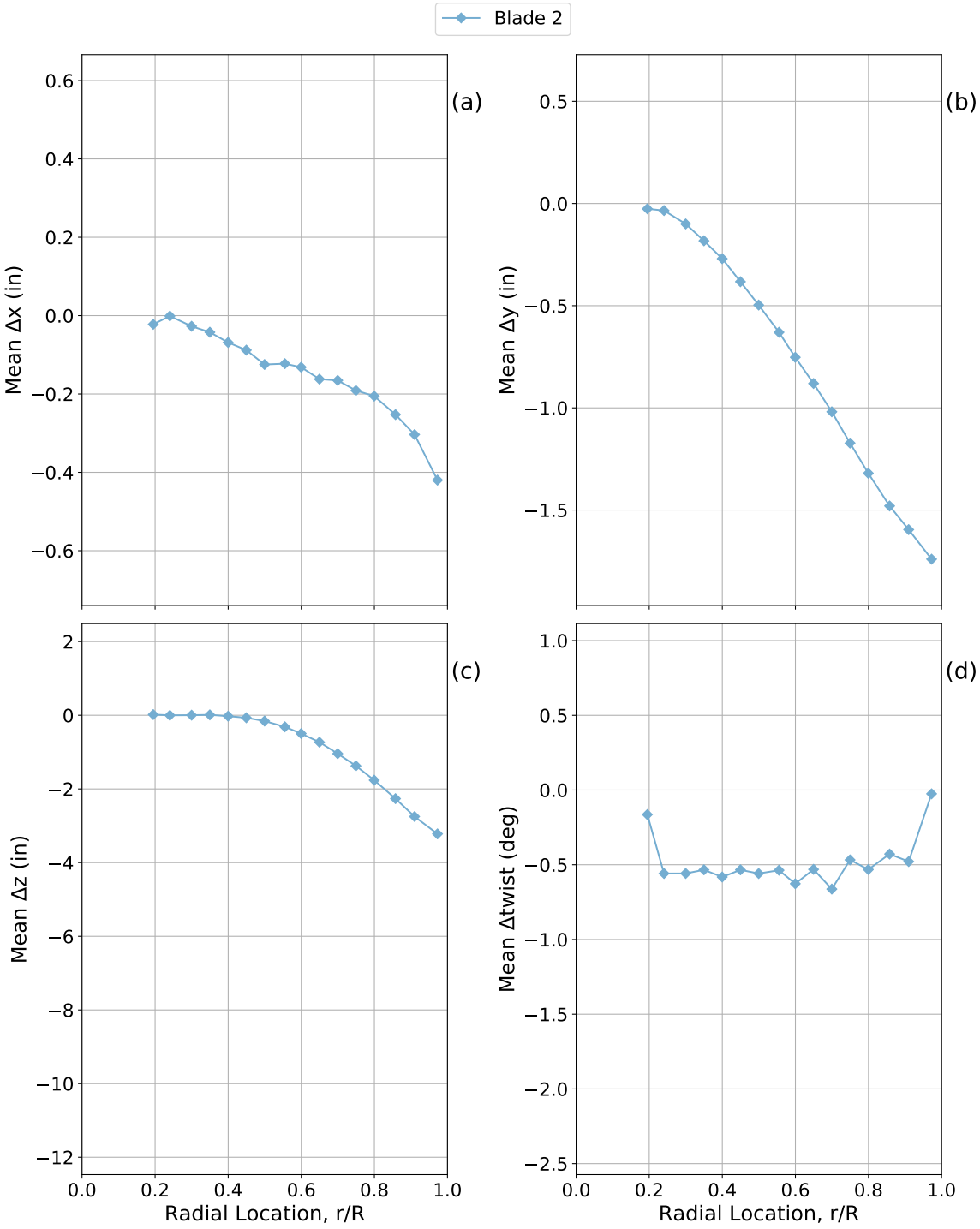


Figure 4.30-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-36. 350° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = -0°
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0222	0.0013	-0.0258	0.0007	0.0193	0.0022	-0.1642	0.0127
2	350.16	0.2405	-0.0010	0.0009	-0.0344	0.0011	-0.0013	0.0032	-0.5584	0.0227
2	350.16	0.2999	-0.0272	0.0009	-0.0999	0.0030	0.0031	0.0073	-0.5582	0.0277
2	350.16	0.3498	-0.0424	0.0013	-0.1824	0.0042	0.0114	0.0117	-0.5339	0.0227
2	350.16	0.3998	-0.0685	0.0013	-0.2700	0.0070	-0.0241	0.0176	-0.5820	0.0192
2	350.16	0.4496	-0.0881	0.0025	-0.3827	0.0092	-0.0677	0.0222	-0.5341	0.0241
2	350.16	0.4995	-0.1247	0.0028	-0.4969	0.0123	-0.1569	0.0268	-0.5586	0.0259
2	350.16	0.5551	-0.1226	0.0034	-0.6301	0.0149	-0.3140	0.0309	-0.5366	0.0218
2	350.16	0.5996	-0.1317	0.0033	-0.7526	0.0168	-0.4969	0.0350	-0.6270	0.0190
2	350.16	0.6497	-0.1621	0.0041	-0.8807	0.0191	-0.7305	0.0393	-0.5309	0.0266
2	350.16	0.6996	-0.1653	0.0043	-1.0192	0.0213	-1.0428	0.0440	-0.6628	0.0254
2	350.16	0.7495	-0.1911	0.0051	-1.1723	0.0226	-1.3736	0.0493	-0.4674	0.0304
2	350.16	0.7996	-0.2054	0.0059	-1.3202	0.0255	-1.7619	0.0546	-0.5320	0.0174
2	350.16	0.8578	-0.2526	0.0072	-1.4800	0.0249	-2.2641	0.0609	-0.4282	0.0484
2	350.16	0.9100	-0.3035	0.0099	-1.5958	0.0302	-2.7502	0.0701	-0.4785	0.0577
2	350.16	0.9727	-0.4198	0.0102	-1.7403	0.0389	-3.2204	0.1019	-0.0253	0.2554

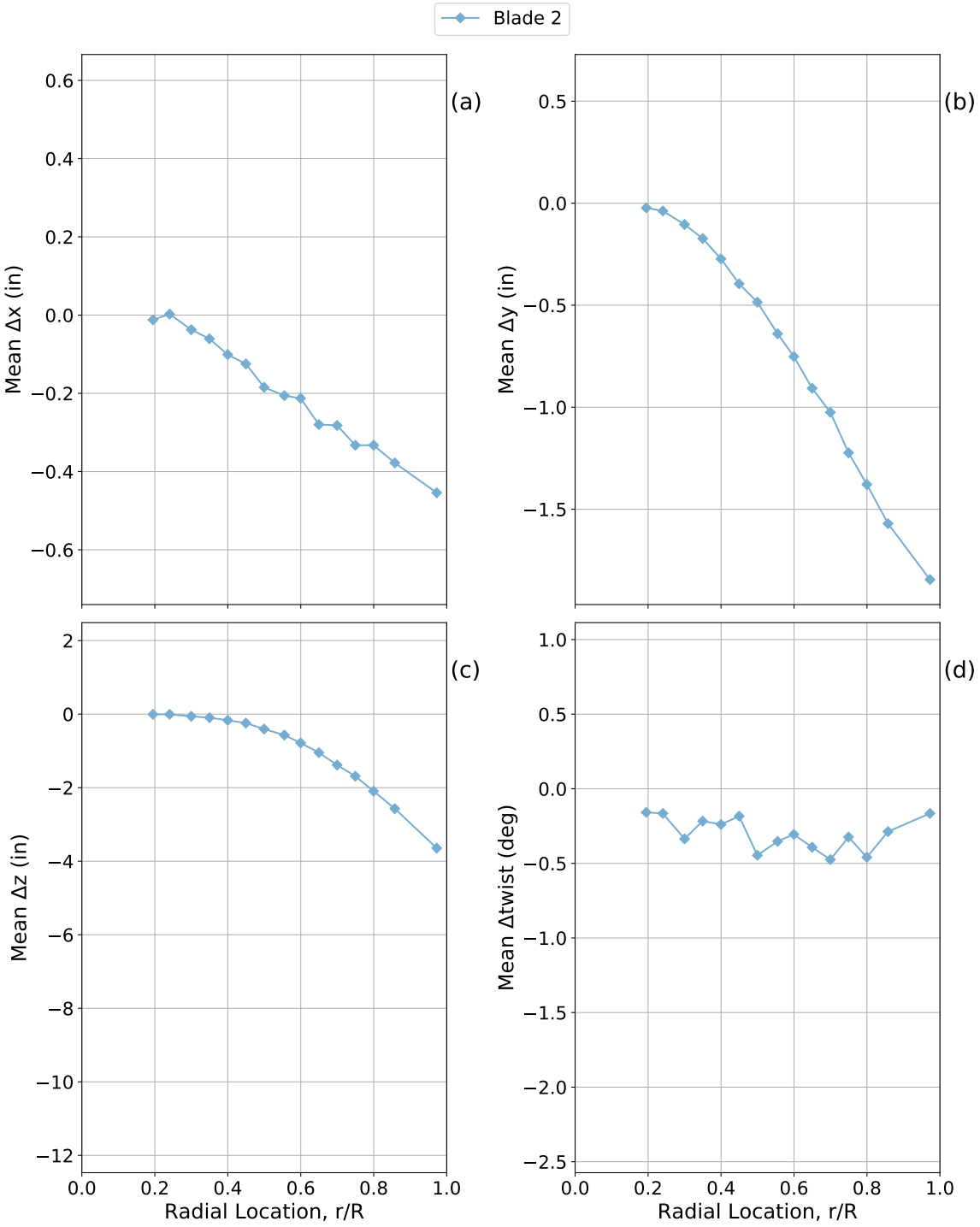


Figure 4.30-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. C_T/σ = 0.05, μ = 0.15, α = -0° NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Table 4.30-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = -0°$
NFAC run 85, point 47. BD run 40, points 6421 to 6431.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0122	0.0025	-0.0228	0.0021	-0.0056	0.0047	-0.1582	0.0437
2	355.08	0.2405	0.0026	0.0015	-0.0381	0.0037	-0.0053	0.0094	-0.1656	0.0931
2	355.08	0.2999	-0.0373	0.0015	-0.1043	0.0065	-0.0595	0.0136	-0.3358	0.1105
2	355.08	0.3498	-0.0606	0.0015	-0.1732	0.0105	-0.0958	0.0246	-0.2165	0.0793
2	355.08	0.3998	-0.1011	0.0009	-0.2729	0.0157	-0.1676	0.0358	-0.2392	0.0869
2	355.08	0.4496	-0.1247	0.0017	-0.3952	0.0185	-0.2436	0.0431	-0.1836	0.0834
2	355.08	0.4995	-0.1845	0.0021	-0.4854	0.0229	-0.4060	0.0503	-0.4458	0.0908
2	355.08	0.5551	-0.2058	0.0018	-0.6401	0.0280	-0.5701	0.0621	-0.3523	0.0908
2	355.08	0.5996	-0.2128	0.0030	-0.7518	0.0309	-0.7832	0.0676	-0.3058	0.0919
2	355.08	0.6497	-0.2798	0.0032	-0.9072	0.0347	-1.0477	0.0768	-0.3924	0.0871
2	355.08	0.6996	-0.2819	0.0019	-1.0250	0.0406	-1.3842	0.0855	-0.4747	0.0918
2	355.08	0.7495	-0.3327	0.0021	-1.2235	0.0453	-1.6873	0.0944	-0.3237	0.1175
2	355.08	0.7996	-0.3326	0.0024	-1.3786	0.0458	-2.0948	0.1018	-0.4591	0.1086
2	355.08	0.8578	-0.3778	0.0034	-1.5705	0.0527	-2.5701	0.1078	-0.2871	0.1133
2	355.08	0.9727	-0.4542	0.0080	-1.8449	0.0638	-3.6439	0.1387	-0.1651	0.1220

4.31 Run 98, Point 13

4.31.1 Pitch, Flap, and Lag

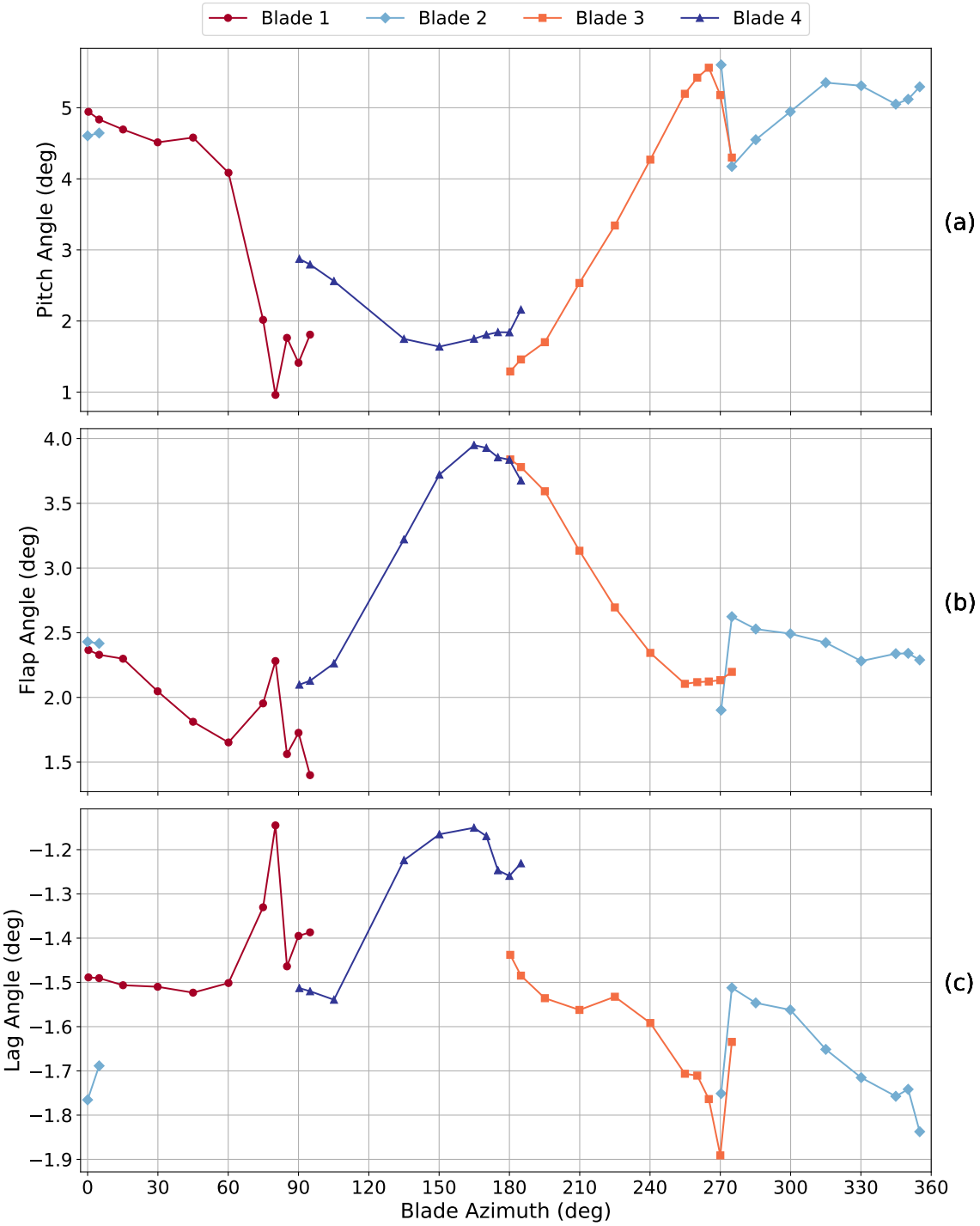


Figure 4.31-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
C_T/σ = 0.05, μ = 0.15, α = 0°
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.6050	2.4295	-1.7655	0.0940	0.0259	0.0265
0.35	1	4.9433	2.3661	-1.4887	0.1079	0.0474	0.0446
4.92	1	4.8350	2.3293	-1.4904	0.0788	0.0412	0.0337
4.92	2	4.6441	2.4170	-1.6886	0.0863	0.0368	0.0319
15.12	1	4.6940	2.2988	-1.5064	0.1053	0.0330	0.0250
29.88	1	4.5131	2.0471	-1.5099	0.0726	0.0306	0.0317
45	1	4.5800	1.8115	-1.5232	0.0614	0.0304	0.0269
60.12	1	4.0851	1.6521	-1.5014	0.1315	0.0427	0.0272
74.88	1	2.0159	1.9536	-1.3302	0.1237	0.0592	0.0247
80.16	1	0.9603	2.2810	-1.1451	0.1041	0.0506	0.0203
85.08	1	1.7627	1.5620	-1.4637	0.0250	0.0240	0.0205
90	1	1.4118	1.7263	-1.3949	0.0400	0.0377	0.0266
90.35	4	2.8730	2.0983	-1.5129	0.1751	0.0694	0.0213
94.92	1	1.8077	1.3991	-1.3868	0.0203	0.0117	0.0167
94.92	4	2.7949	2.1285	-1.5200	0.2556	0.0844	0.0194
105.12	4	2.5610	2.2626	-1.5392	0.4971	0.5173	0.0909
135	4	1.7477	3.2216	-1.2238	0.0136	0.0181	0.0220
150.12	4	1.6390	3.7213	-1.1653	0.0215	0.0144	0.0194
164.88	4	1.7489	3.9498	-1.1505	0.0218	0.0180	0.0336
170.16	4	1.8062	3.9283	-1.1694	0.0313	0.0175	0.0132
175.08	4	1.8423	3.8554	-1.2466	0.0373	0.0211	0.0305
180	4	1.8403	3.8365	-1.2593	0.0388	0.0200	0.0236
180.35	3	1.2901	3.8393	-1.4378	0.0378	0.0127	0.0221
184.92	3	1.4590	3.7799	-1.4847	0.0253	0.0168	0.0217
184.92	4	2.1590	3.6763	-1.2309	0.0517	0.0248	0.0179
195.12	3	1.7017	3.5931	-1.5357	0.0291	0.0104	0.0175
209.88	3	2.5344	3.1334	-1.5622	0.0264	0.0177	0.0220
225	3	3.3433	2.6954	-1.5324	0.0365	0.0136	0.0298
240.12	3	4.2697	2.3438	-1.5918	0.0303	0.0098	0.0143
254.88	3	5.1964	2.1048	-1.7065	0.0476	0.0152	0.0302
260.16	3	5.4231	2.1178	-1.7107	0.1001	0.0436	0.0279
265.08	3	5.5630	2.1227	-1.7637	0.0868	0.0364	0.0265
270	3	5.1781	2.1332	-1.8910	0.1517	0.0443	0.0351
270.35	2	5.6032	1.9016	-1.7512	0.1647	0.0709	0.0343
274.92	2	4.1737	2.6241	-1.5121	0.0182	0.0166	0.0200
274.92	3	4.2988	2.1971	-1.6345	0.0485	0.0189	0.0156
285.12	2	4.5503	2.5284	-1.5464	0.0453	0.0128	0.0242
299.88	2	4.9447	2.4920	-1.5621	0.0298	0.0193	0.0184
315	2	5.3529	2.4230	-1.6514	0.0325	0.0143	0.0244
330.12	2	5.3091	2.2809	-1.7153	0.0304	0.0202	0.0116
344.88	2	5.0498	2.3380	-1.7574	0.0333	0.0172	0.0168
350.16	2	5.1196	2.3405	-1.7416	0.0477	0.0224	0.0184
355.08	2	5.2945	2.2895	-1.8374	0.0552	0.0394	0.0206

4.31.2 Spanwise Elastic Deformations

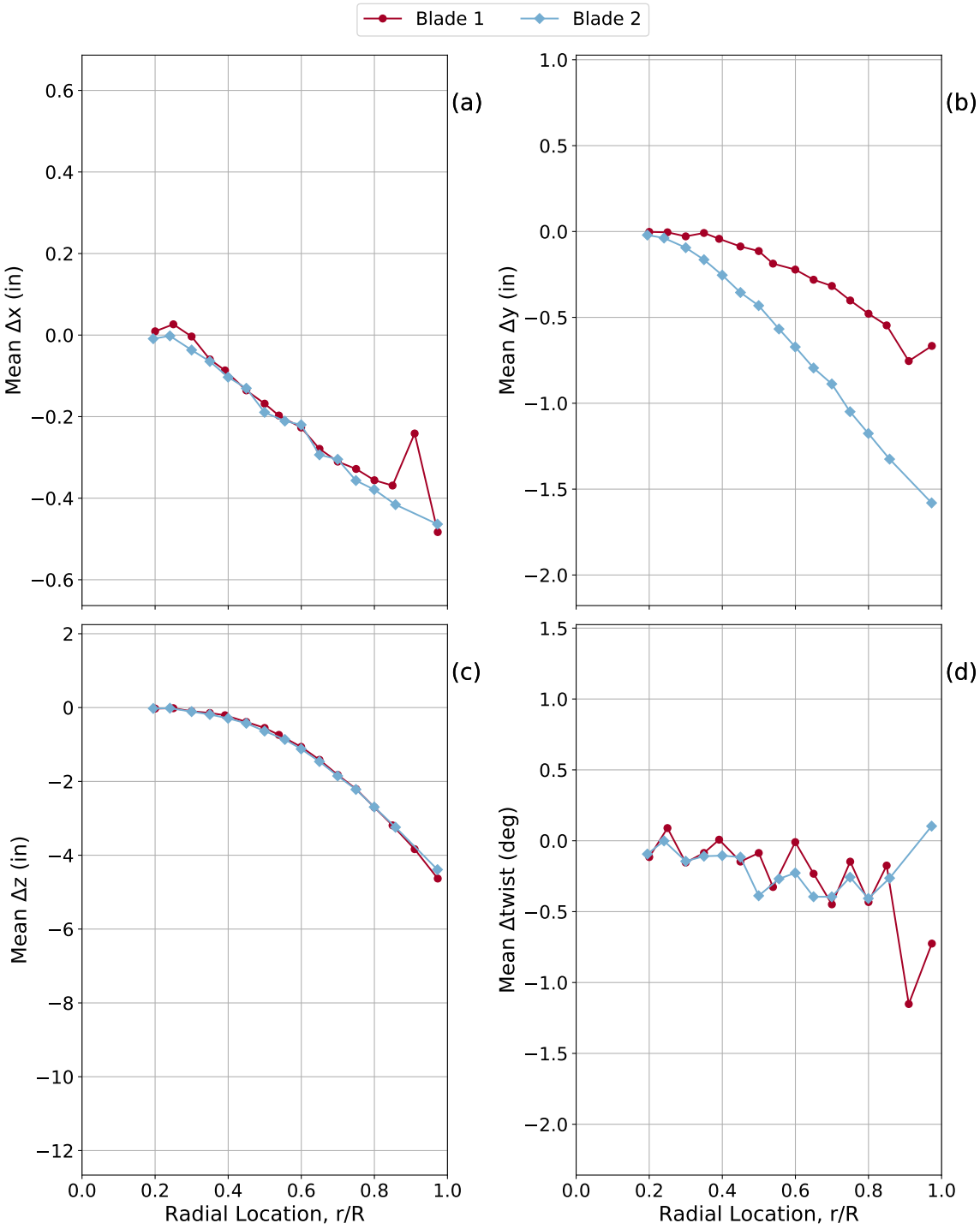


Figure 4.31-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-2. 0° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.2001	0.0092	0.0030	-0.0022	0.0024	-0.0278	0.0064	-0.1151	0.0615
1	0.35	0.2499	0.0264	0.0016	-0.0046	0.0051	-0.0177	0.0113	0.0896	0.0975
1	0.35	0.2998	-0.0035	0.0011	-0.0283	0.0086	-0.0984	0.0192	-0.1538	0.1305
1	0.35	0.3498	-0.0596	0.0030	-0.0085	0.0167	-0.1469	0.0354	-0.0860	0.1002
1	0.35	0.3913	-0.0866	0.0022	-0.0427	0.0223	-0.2079	0.0462	0.0076	0.0998
1	0.35	0.4496	-0.1356	0.0024	-0.0872	0.0290	-0.3881	0.0626	-0.1469	0.1081
1	0.35	0.4997	-0.1682	0.0028	-0.1139	0.0355	-0.5525	0.0748	-0.0861	0.1091
1	0.35	0.5387	-0.1973	0.0028	-0.1870	0.0398	-0.7394	0.0846	-0.3263	0.0983
1	0.35	0.5996	-0.2267	0.0032	-0.2217	0.0484	-1.0647	0.1010	-0.0095	0.0950
1	0.35	0.6498	-0.2790	0.0032	-0.2807	0.0556	-1.4157	0.1150	-0.2326	0.1040
1	0.35	0.6998	-0.3103	0.0031	-0.3171	0.0621	-1.8235	0.1300	-0.4486	0.1013
1	0.35	0.7500	-0.3283	0.0041	-0.4016	0.0695	-2.2077	0.1412	-0.1472	0.1223
1	0.35	0.8001	-0.3560	0.0034	-0.4786	0.0775	-2.7029	0.1604	-0.4323	0.1090
1	0.35	0.8497	-0.3690	0.0038	-0.5466	0.0844	-3.1917	0.1745	-0.1748	0.1183
1	0.35	0.9102	-0.2413	0.0533	-0.7542	0.1142	-3.8357	0.1865	-1.1517	0.3765
1	0.35	0.9734	-0.4831	0.0066	-0.6662	0.1065	-4.6313	0.2183	-0.7253	0.1437
2	0	0.1949	-0.0089	0.0045	-0.0207	0.0027	-0.0241	0.0038	-0.0938	0.0347
2	0	0.2405	-0.0020	0.0019	-0.0379	0.0027	-0.0172	0.0042	-0.0008	0.0866
2	0	0.2999	-0.0367	0.0012	-0.0942	0.0064	-0.1095	0.0091	-0.1443	0.0893
2	0	0.3498	-0.0646	0.0013	-0.1641	0.0106	-0.1883	0.0154	-0.1090	0.0832
2	0	0.3998	-0.1032	0.0013	-0.2543	0.0146	-0.2925	0.0203	-0.1049	0.0909
2	0	0.4496	-0.1304	0.0015	-0.3552	0.0201	-0.4266	0.0250	-0.1154	0.1016
2	0	0.4995	-0.1894	0.0018	-0.4315	0.0241	-0.6376	0.0304	-0.3880	0.1083
2	0	0.5551	-0.2109	0.0018	-0.5676	0.0298	-0.8645	0.0419	-0.2687	0.0896
2	0	0.5996	-0.2200	0.0013	-0.6721	0.0337	-1.1225	0.0482	-0.2269	0.0806
2	0	0.6497	-0.2937	0.0017	-0.7946	0.0376	-1.4626	0.0551	-0.3949	0.0972
2	0	0.6996	-0.3046	0.0023	-0.8876	0.0432	-1.8527	0.0632	-0.3953	0.1033
2	0	0.7495	-0.3567	0.0026	-1.0492	0.0468	-2.2184	0.0699	-0.2571	0.0926
2	0	0.7996	-0.3789	0.0023	-1.1759	0.0502	-2.6943	0.0763	-0.4069	0.0980
2	0	0.8578	-0.4158	0.0025	-1.3253	0.0592	-3.2420	0.0923	-0.2637	0.1414
2	0	0.9727	-0.4637	0.0082	-1.5803	0.0686	-4.3894	0.1086	0.1031	0.1265

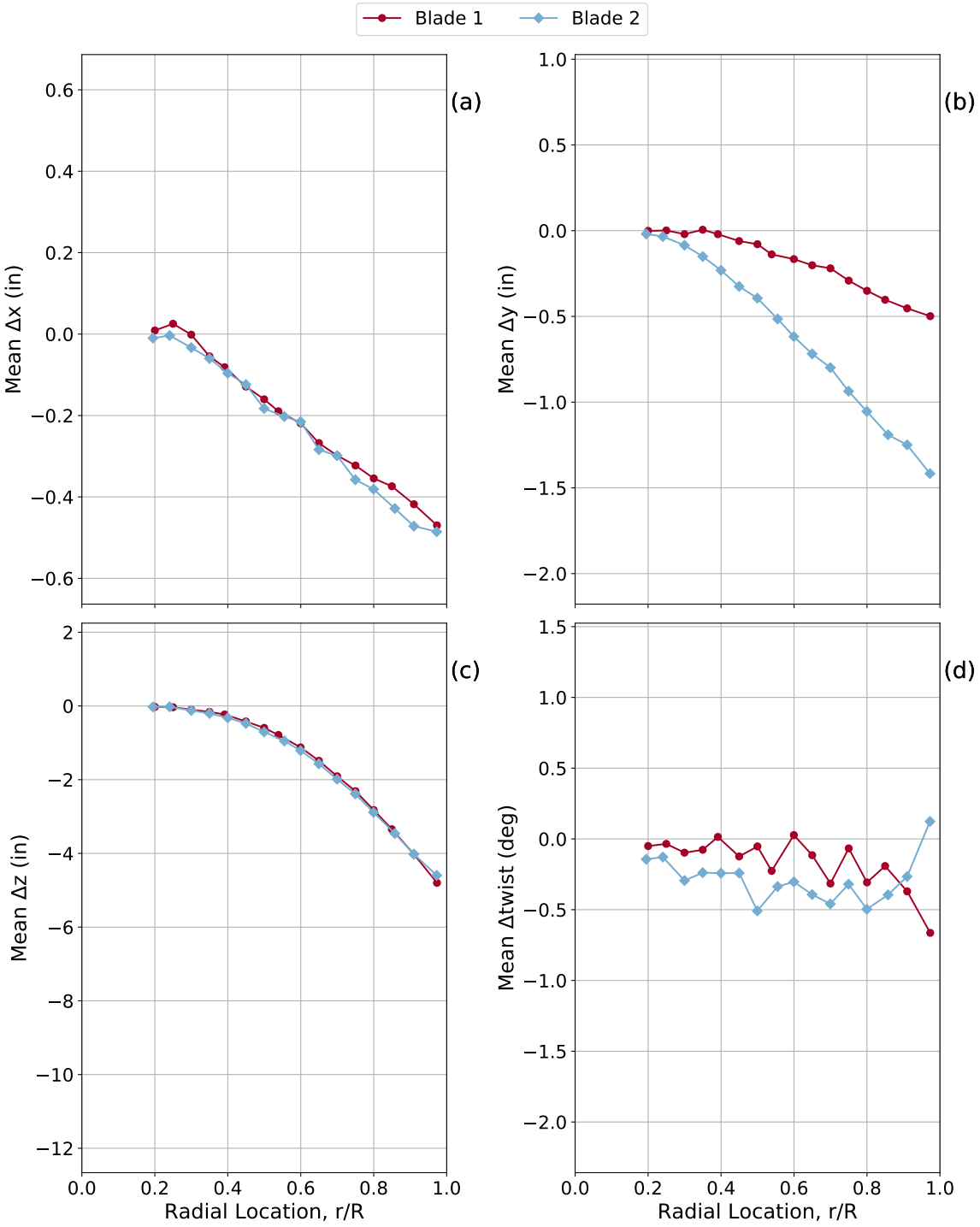


Figure 4.31-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0089	0.0040	-0.0010	0.0032	-0.0258	0.0059	-0.0503	0.0412
1	4.92	0.2499	0.0253	0.0021	0.0012	0.0053	-0.0346	0.0082	-0.0348	0.0873
1	4.92	0.2998	-0.0014	0.0016	-0.0202	0.0107	-0.0994	0.0182	-0.0970	0.0925
1	4.92	0.3498	-0.0547	0.0028	0.0054	0.0184	-0.1611	0.0285	-0.0767	0.0940
1	4.92	0.3913	-0.0814	0.0032	-0.0206	0.0252	-0.2303	0.0390	0.0144	0.0792
1	4.92	0.4496	-0.1289	0.0032	-0.0605	0.0330	-0.4207	0.0508	-0.1238	0.0781
1	4.92	0.4997	-0.1602	0.0031	-0.0789	0.0393	-0.5949	0.0610	-0.0529	0.0796
1	4.92	0.5387	-0.1896	0.0030	-0.1382	0.0452	-0.7874	0.0683	-0.2258	0.0895
1	4.92	0.5996	-0.2191	0.0027	-0.1659	0.0543	-1.1241	0.0825	0.0276	0.0710
1	4.92	0.6498	-0.2677	0.0038	-0.2016	0.0621	-1.4875	0.0915	-0.1147	0.0793
1	4.92	0.6998	-0.2984	0.0035	-0.2195	0.0702	-1.9083	0.1029	-0.3149	0.0882
1	4.92	0.7500	-0.3228	0.0035	-0.2912	0.0778	-2.3118	0.1130	-0.0666	0.0754
1	4.92	0.8001	-0.3545	0.0040	-0.3508	0.0855	-2.8247	0.1266	-0.3072	0.0931
1	4.92	0.8497	-0.3738	0.0033	-0.4029	0.0921	-3.3435	0.1364	-0.1913	0.0874
1	4.92	0.9102	-0.4180	0.0045	-0.4532	0.1022	-4.0239	0.1544	-0.3704	0.1286
1	4.92	0.9734	-0.4698	0.0058	-0.4985	0.1112	-4.7981	0.1660	-0.6637	0.1088
2	4.92	0.1949	-0.0098	0.0029	-0.0192	0.0016	-0.0265	0.0046	-0.1435	0.0324
2	4.92	0.2405	-0.0036	0.0021	-0.0341	0.0022	-0.0222	0.0045	-0.1280	0.0858
2	4.92	0.2999	-0.0332	0.0013	-0.0851	0.0036	-0.1228	0.0137	-0.2941	0.0891
2	4.92	0.3498	-0.0599	0.0018	-0.1508	0.0075	-0.2029	0.0231	-0.2385	0.0769
2	4.92	0.3998	-0.0960	0.0021	-0.2311	0.0097	-0.3209	0.0329	-0.2419	0.0757
2	4.92	0.4496	-0.1240	0.0014	-0.3250	0.0109	-0.4738	0.0433	-0.2409	0.0763
2	4.92	0.4995	-0.1828	0.0019	-0.3937	0.0139	-0.7038	0.0534	-0.5087	0.0852
2	4.92	0.5551	-0.2027	0.0020	-0.5150	0.0174	-0.9507	0.0674	-0.3366	0.0685
2	4.92	0.5996	-0.2151	0.0020	-0.6178	0.0184	-1.2123	0.0732	-0.3030	0.0757
2	4.92	0.6497	-0.2839	0.0023	-0.7184	0.0202	-1.5705	0.0817	-0.3929	0.0717
2	4.92	0.6996	-0.2987	0.0024	-0.7987	0.0231	-1.9870	0.0943	-0.4592	0.0800
2	4.92	0.7495	-0.3578	0.0027	-0.9363	0.0256	-2.3864	0.1025	-0.3198	0.0803
2	4.92	0.7996	-0.3810	0.0031	-1.0541	0.0285	-2.8880	0.1123	-0.4965	0.1059
2	4.92	0.8578	-0.4285	0.0031	-1.1903	0.0329	-3.4599	0.1222	-0.3949	0.1071
2	4.92	0.9100	-0.4717	0.0043	-1.2489	0.0440	-4.0214	0.1260	-0.2658	0.2545
2	4.92	0.9727	-0.4855	0.0062	-1.4168	0.0375	-4.5965	0.1537	0.1236	0.1060

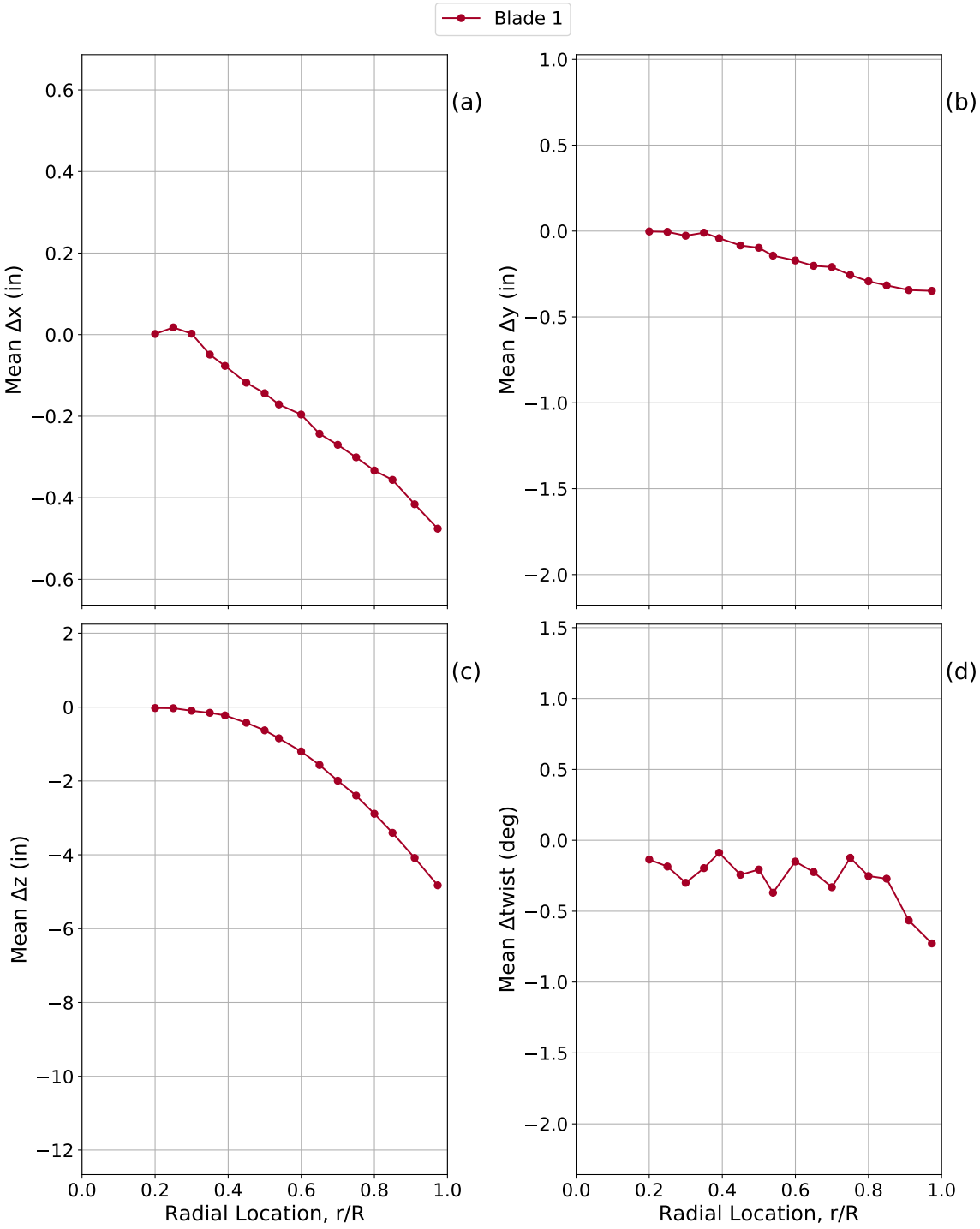


Figure 4.31-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0016	0.0041	-0.0023	0.0022	-0.0253	0.0043	-0.1358	0.0533
1	15.12	0.2499	0.0176	0.0017	-0.0047	0.0029	-0.0301	0.0072	-0.1850	0.0815
1	15.12	0.2998	0.0023	0.0014	-0.0270	0.0075	-0.0989	0.0133	-0.2997	0.1168
1	15.12	0.3498	-0.0489	0.0020	-0.0094	0.0132	-0.1547	0.0227	-0.1963	0.1008
1	15.12	0.3913	-0.0767	0.0029	-0.0416	0.0178	-0.2242	0.0305	-0.0877	0.1009
1	15.12	0.4496	-0.1179	0.0022	-0.0838	0.0231	-0.4250	0.0402	-0.2433	0.1082
1	15.12	0.4997	-0.1437	0.0024	-0.0973	0.0283	-0.6306	0.0495	-0.2063	0.1038
1	15.12	0.5387	-0.1712	0.0025	-0.1433	0.0318	-0.8453	0.0563	-0.3697	0.1083
1	15.12	0.5996	-0.1959	0.0024	-0.1714	0.0374	-1.2013	0.0693	-0.1500	0.1052
1	15.12	0.6498	-0.2431	0.0031	-0.2026	0.0423	-1.5680	0.0782	-0.2240	0.1108
1	15.12	0.6998	-0.2702	0.0027	-0.2098	0.0477	-1.9933	0.0880	-0.3310	0.1096
1	15.12	0.7500	-0.3009	0.0030	-0.2559	0.0524	-2.3973	0.0973	-0.1234	0.1014
1	15.12	0.8001	-0.3334	0.0030	-0.2930	0.0572	-2.8901	0.1076	-0.2523	0.1009
1	15.12	0.8497	-0.3562	0.0038	-0.3166	0.0620	-3.4055	0.1184	-0.2709	0.1119
1	15.12	0.9102	-0.4160	0.0049	-0.3438	0.0682	-4.0853	0.1370	-0.5647	0.1068
1	15.12	0.9734	-0.4758	0.0058	-0.3483	0.0730	-4.8267	0.1520	-0.7273	0.1233

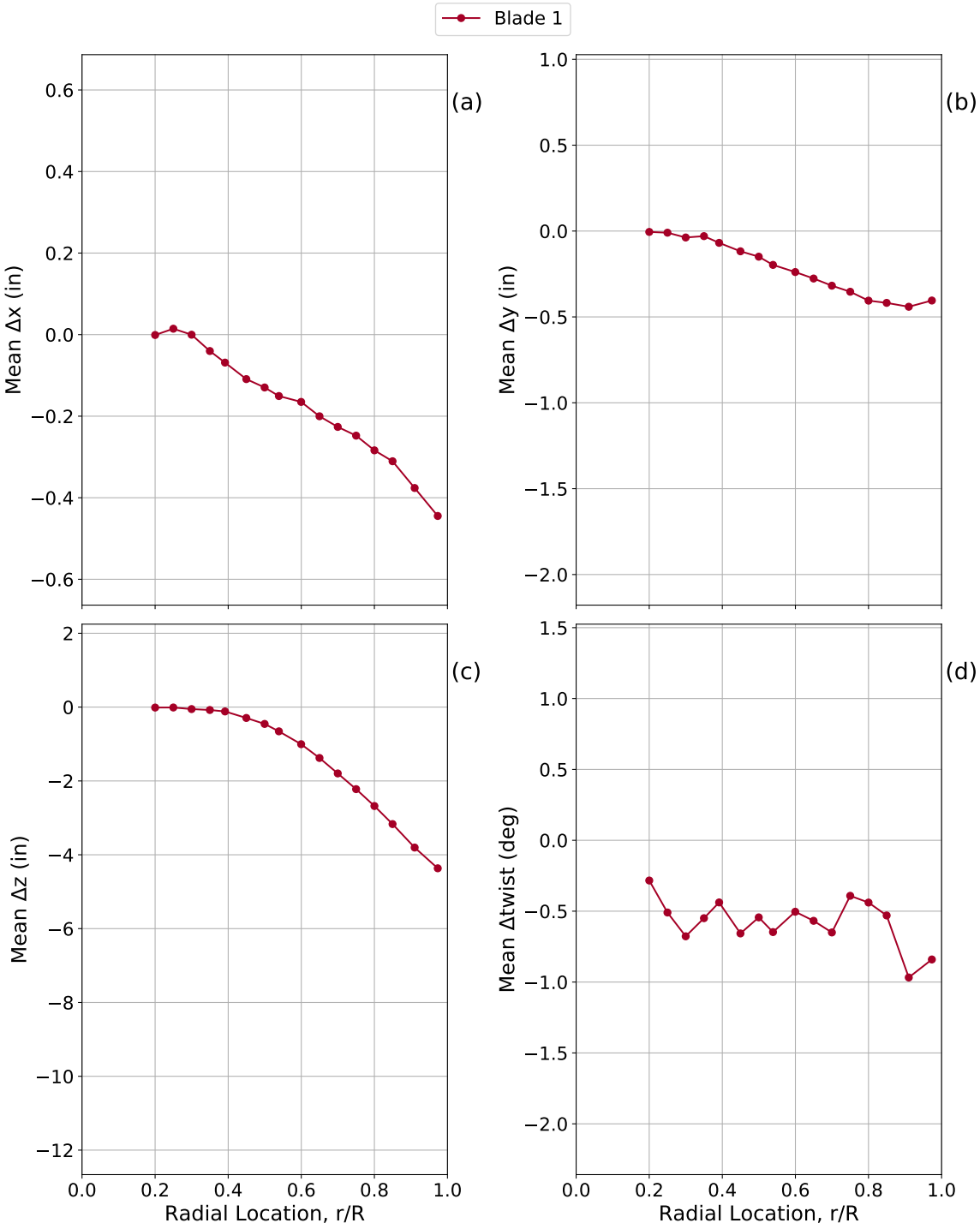


Figure 4.31-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0009	0.0024	-0.0051	0.0011	-0.0123	0.0044	-0.2837	0.0348
1	29.88	0.2499	0.0145	0.0035	-0.0096	0.0023	-0.0107	0.0059	-0.5094	0.0840
1	29.88	0.2998	-0.0002	0.0023	-0.0375	0.0043	-0.0535	0.0133	-0.6772	0.0834
1	29.88	0.3498	-0.0402	0.0020	-0.0296	0.0068	-0.0782	0.0220	-0.5494	0.0750
1	29.88	0.3913	-0.0686	0.0015	-0.0687	0.0101	-0.1176	0.0295	-0.4382	0.0800
1	29.88	0.4496	-0.1091	0.0019	-0.1179	0.0131	-0.2942	0.0394	-0.6570	0.0744
1	29.88	0.4997	-0.1296	0.0017	-0.1492	0.0158	-0.4555	0.0460	-0.5437	0.0756
1	29.88	0.5387	-0.1506	0.0016	-0.1971	0.0183	-0.6564	0.0536	-0.6474	0.0698
1	29.88	0.5996	-0.1650	0.0021	-0.2387	0.0217	-1.0048	0.0610	-0.5039	0.0771
1	29.88	0.6498	-0.2002	0.0024	-0.2764	0.0251	-1.3778	0.0683	-0.5679	0.0760
1	29.88	0.6998	-0.2263	0.0020	-0.3181	0.0282	-1.7966	0.0748	-0.6501	0.0790
1	29.88	0.7500	-0.2477	0.0019	-0.3534	0.0320	-2.2222	0.0836	-0.3915	0.0708
1	29.88	0.8001	-0.2838	0.0023	-0.4052	0.0357	-2.6792	0.0918	-0.4391	0.0705
1	29.88	0.8497	-0.3105	0.0019	-0.4182	0.0390	-3.1683	0.0987	-0.5302	0.0754
1	29.88	0.9102	-0.3761	0.0027	-0.4408	0.0438	-3.8038	0.1053	-0.9678	0.0834
1	29.88	0.9734	-0.4447	0.0037	-0.4045	0.0479	-4.3661	0.1104	-0.8407	0.0714

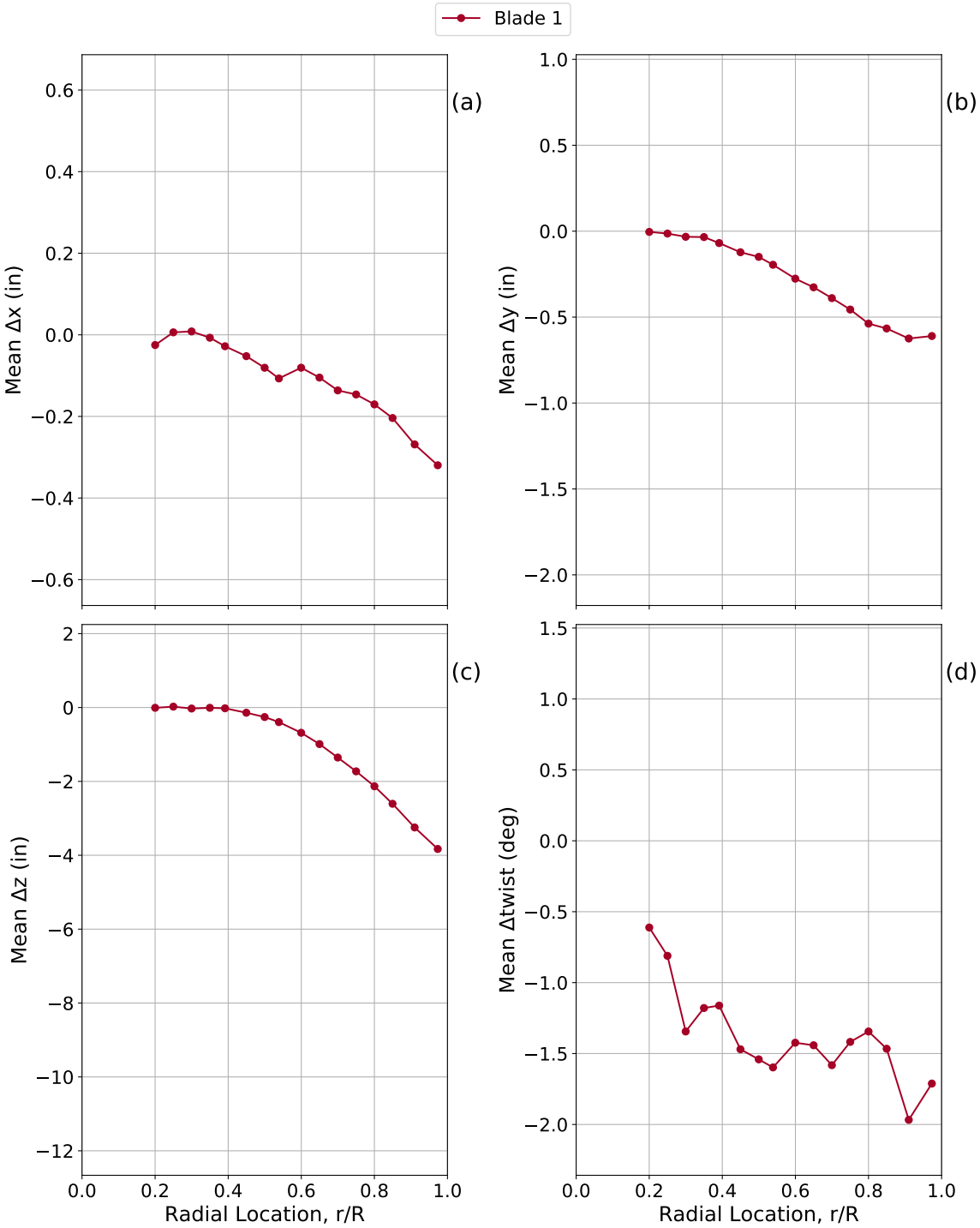


Figure 4.31-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0250	0.0026	-0.0042	0.0011	-0.0079	0.0038	-0.6115	0.0265
1	45	0.2499	0.0061	0.0014	-0.0138	0.0027	0.0238	0.0074	-0.8110	0.0583
1	45	0.2998	0.0083	0.0020	-0.0326	0.0042	-0.0273	0.0121	-1.3444	0.0617
1	45	0.3498	-0.0071	0.0024	-0.0343	0.0082	-0.0081	0.0224	-1.1790	0.0563
1	45	0.3913	-0.0280	0.0041	-0.0691	0.0113	-0.0212	0.0301	-1.1618	0.0550
1	45	0.4496	-0.0523	0.0047	-0.1225	0.0156	-0.1413	0.0422	-1.4700	0.0534
1	45	0.4997	-0.0807	0.0046	-0.1495	0.0198	-0.2575	0.0539	-1.5409	0.0561
1	45	0.5387	-0.1069	0.0039	-0.1954	0.0233	-0.3947	0.0610	-1.5978	0.0670
1	45	0.5996	-0.0806	0.0093	-0.2762	0.0381	-0.6838	0.0663	-1.4237	0.0642
1	45	0.6498	-0.1048	0.0092	-0.3266	0.0437	-0.9897	0.0779	-1.4416	0.0609
1	45	0.6998	-0.1362	0.0092	-0.3895	0.0485	-1.3539	0.0863	-1.5819	0.0624
1	45	0.7500	-0.1462	0.0096	-0.4560	0.0532	-1.7276	0.0957	-1.4180	0.0668
1	45	0.8001	-0.1705	0.0100	-0.5379	0.0573	-2.1320	0.1051	-1.3444	0.0705
1	45	0.8497	-0.2039	0.0094	-0.5662	0.0619	-2.6062	0.1163	-1.4661	0.0683
1	45	0.9102	-0.2686	0.0094	-0.6245	0.0673	-3.2468	0.1285	-1.9676	0.0782
1	45	0.9734	-0.3197	0.0101	-0.6101	0.0733	-3.8289	0.1451	-1.7116	0.0703

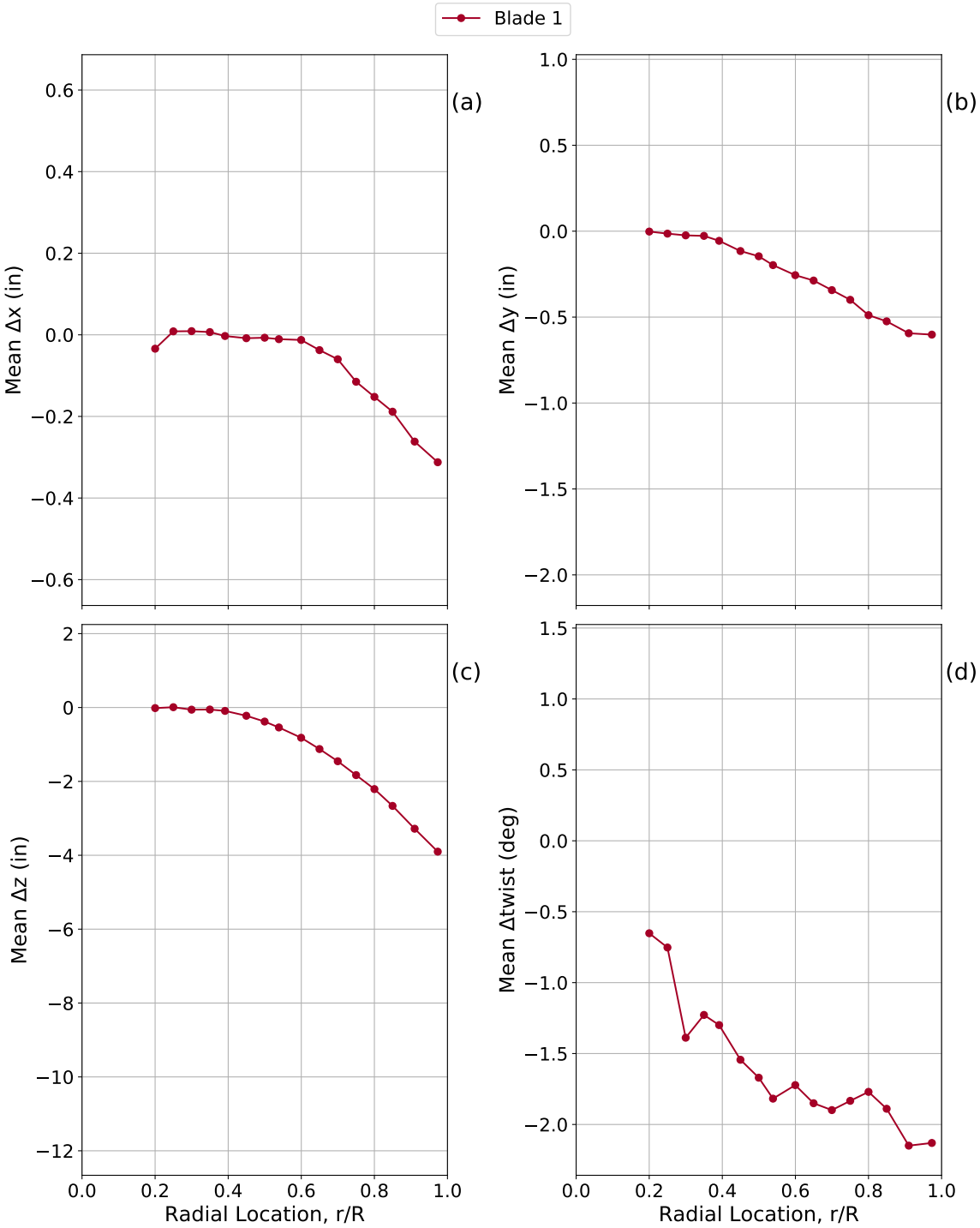


Figure 4.31-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0340	0.0048	-0.0022	0.0025	-0.0158	0.0068	-0.6519	0.0508
1	60.12	0.2499	0.0085	0.0018	-0.0142	0.0026	0.0086	0.0086	-0.7523	0.1087
1	60.12	0.2998	0.0090	0.0015	-0.0243	0.0080	-0.0582	0.0211	-1.3885	0.1255
1	60.12	0.3498	0.0067	0.0021	-0.0273	0.0143	-0.0547	0.0356	-1.2278	0.1173
1	60.12	0.3913	-0.0029	0.0027	-0.0561	0.0187	-0.0914	0.0475	-1.2992	0.1182
1	60.12	0.4496	-0.0083	0.0043	-0.1155	0.0250	-0.2232	0.0616	-1.5438	0.1207
1	60.12	0.4997	-0.0071	0.0046	-0.1460	0.0308	-0.3803	0.0730	-1.6702	0.1223
1	60.12	0.5387	-0.0106	0.0051	-0.1974	0.0347	-0.5400	0.0807	-1.8180	0.1284
1	60.12	0.5996	-0.0126	0.0051	-0.2559	0.0411	-0.8186	0.0947	-1.7225	0.1196
1	60.12	0.6498	-0.0375	0.0046	-0.2872	0.0466	-1.1242	0.1048	-1.8503	0.1183
1	60.12	0.6998	-0.0599	0.0055	-0.3430	0.0519	-1.4546	0.1168	-1.8987	0.1192
1	60.12	0.7500	-0.1150	0.0095	-0.3994	0.0613	-1.8297	0.1367	-1.8334	0.1208
1	60.12	0.8001	-0.1521	0.0092	-0.4887	0.0667	-2.2084	0.1516	-1.7701	0.1122
1	60.12	0.8497	-0.1884	0.0093	-0.5246	0.0727	-2.6636	0.1645	-1.8893	0.1181
1	60.12	0.9102	-0.2617	0.0096	-0.5940	0.0798	-3.2814	0.1857	-2.1493	0.1079
1	60.12	0.9734	-0.3123	0.0091	-0.6019	0.0868	-3.9016	0.2052	-2.1303	0.1089

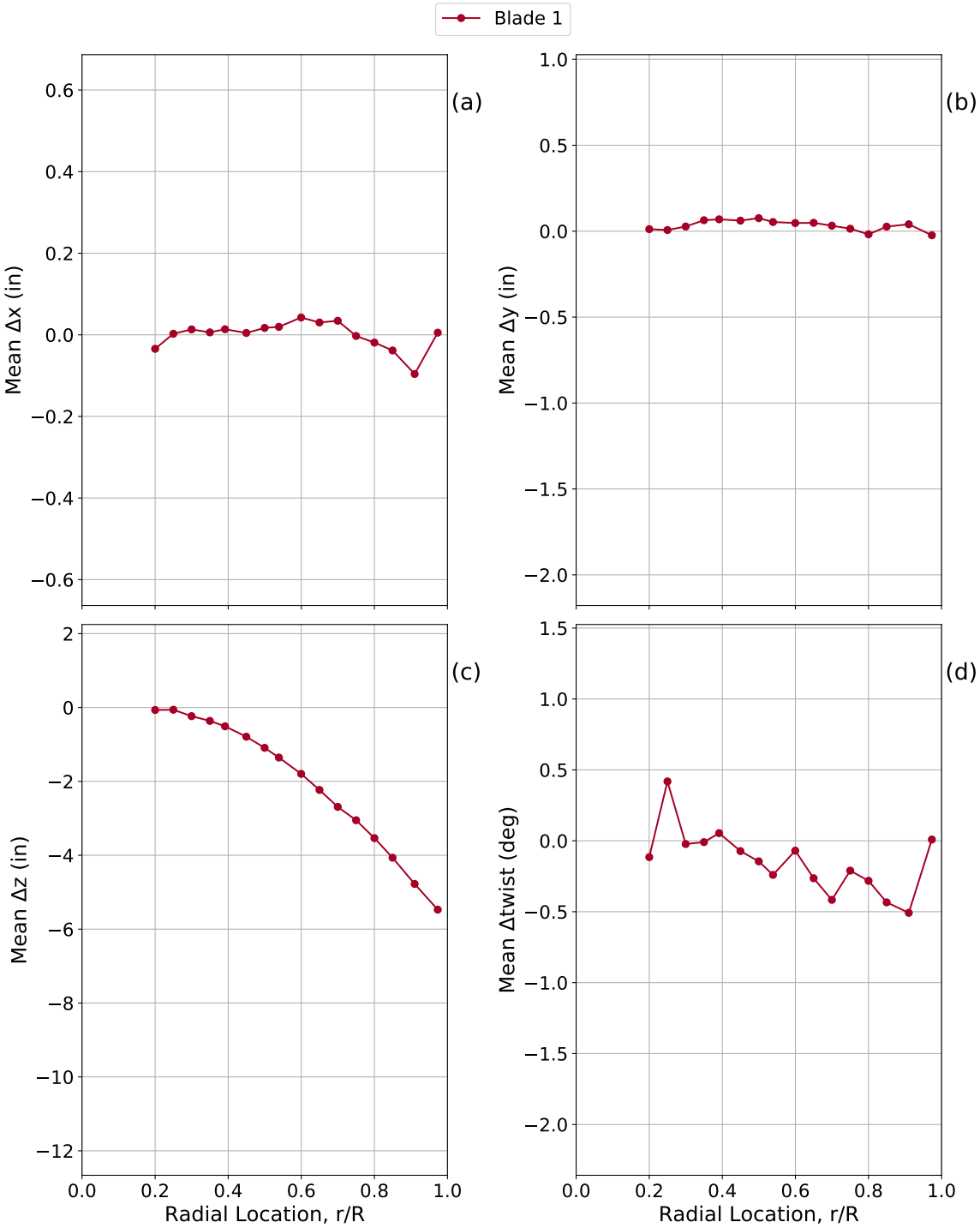


Figure 4.31-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0343	0.0039	0.0119	0.0023	-0.0669	0.0051	-0.1151	0.0474
1	74.88	0.2499	0.0026	0.0010	0.0066	0.0037	-0.0606	0.0077	0.4185	0.1136
1	74.88	0.2998	0.0133	0.0009	0.0272	0.0085	-0.2334	0.0192	-0.0228	0.1221
1	74.88	0.3498	0.0060	0.0024	0.0637	0.0150	-0.3624	0.0316	-0.0095	0.1223
1	74.88	0.3913	0.0137	0.0034	0.0691	0.0208	-0.5086	0.0448	0.0542	0.1193
1	74.88	0.4496	0.0046	0.0031	0.0614	0.0283	-0.7901	0.0598	-0.0726	0.1304
1	74.88	0.4997	0.0170	0.0033	0.0759	0.0354	-1.0907	0.0759	-0.1449	0.1187
1	74.88	0.5387	0.0195	0.0035	0.0533	0.0414	-1.3540	0.0872	-0.2404	0.1263
1	74.88	0.5996	0.0425	0.0043	0.0475	0.0506	-1.7956	0.1037	-0.0698	0.1275
1	74.88	0.6498	0.0302	0.0042	0.0487	0.0597	-2.2312	0.1209	-0.2640	0.1102
1	74.88	0.6998	0.0344	0.0060	0.0320	0.0673	-2.6901	0.1334	-0.4164	0.1084
1	74.88	0.7500	-0.0028	0.0220	0.0143	0.0638	-3.0515	0.1322	-0.2104	0.1049
1	74.88	0.8001	-0.0190	0.0211	-0.0182	0.0699	-3.5353	0.1432	-0.2822	0.1063
1	74.88	0.8497	-0.0383	0.0194	0.0265	0.0769	-4.0655	0.1538	-0.4339	0.1071
1	74.88	0.9102	-0.0960	0.0171	0.0403	0.0853	-4.7759	0.1663	-0.5078	0.1003
1	74.88	0.9734	0.0053	0.0153	-0.0239	0.0951	-5.4719	0.1784	0.0088	0.1010

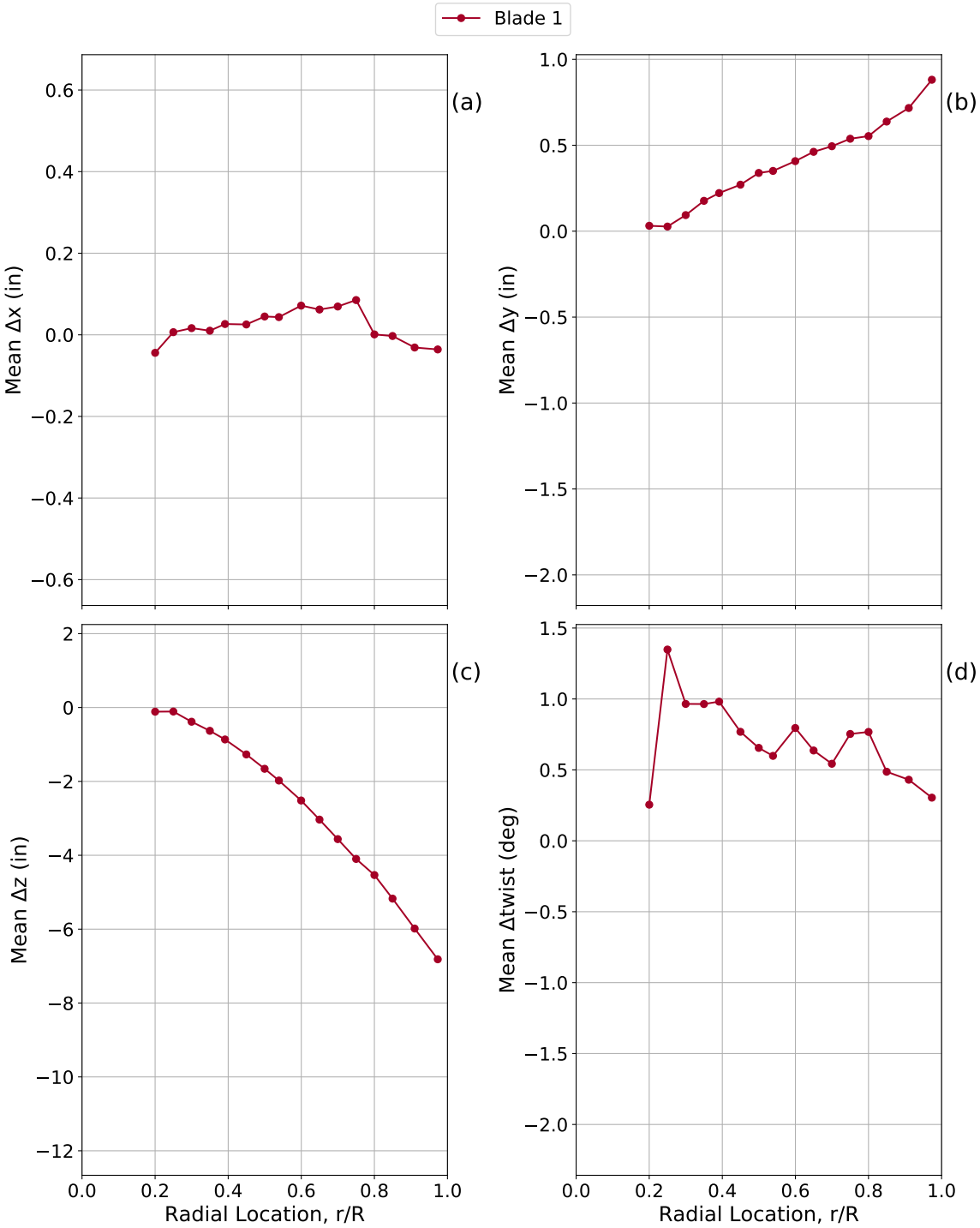


Figure 4.31-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0441	0.0028	0.0315	0.0026	-0.1126	0.0061	0.2545	0.0431
1	80.16	0.2499	0.0065	0.0026	0.0269	0.0028	-0.1088	0.0059	1.3483	0.1139
1	80.16	0.2998	0.0164	0.0019	0.0936	0.0086	-0.3850	0.0207	0.9650	0.1127
1	80.16	0.3498	0.0101	0.0035	0.1766	0.0143	-0.6307	0.0335	0.9642	0.1164
1	80.16	0.3913	0.0265	0.0041	0.2218	0.0194	-0.8651	0.0461	0.9813	0.1049
1	80.16	0.4496	0.0254	0.0048	0.2706	0.0266	-1.2703	0.0595	0.7684	0.1131
1	80.16	0.4997	0.0449	0.0045	0.3389	0.0321	-1.6586	0.0708	0.6551	0.1175
1	80.16	0.5387	0.0434	0.0052	0.3507	0.0369	-1.9767	0.0792	0.5987	0.1137
1	80.16	0.5996	0.0716	0.0047	0.4076	0.0437	-2.5175	0.0936	0.7952	0.1076
1	80.16	0.6498	0.0620	0.0048	0.4618	0.0498	-3.0346	0.1045	0.6367	0.1143
1	80.16	0.6998	0.0694	0.0059	0.4944	0.0546	-3.5624	0.1138	0.5430	0.1720
1	80.16	0.7500	0.0852	0.0052	0.5379	0.0620	-4.0989	0.1260	0.7532	0.1178
1	80.16	0.8001	0.0010	0.0153	0.5533	0.0731	-4.5350	0.1050	0.7675	0.1092
1	80.16	0.8497	-0.0029	0.0113	0.6379	0.0794	-5.1733	0.1140	0.4870	0.1141
1	80.16	0.9102	-0.0311	0.0056	0.7168	0.0860	-5.9833	0.1272	0.4305	0.1132
1	80.16	0.9734	-0.0358	0.0045	0.8813	0.0903	-6.8156	0.1352	0.3042	0.1223

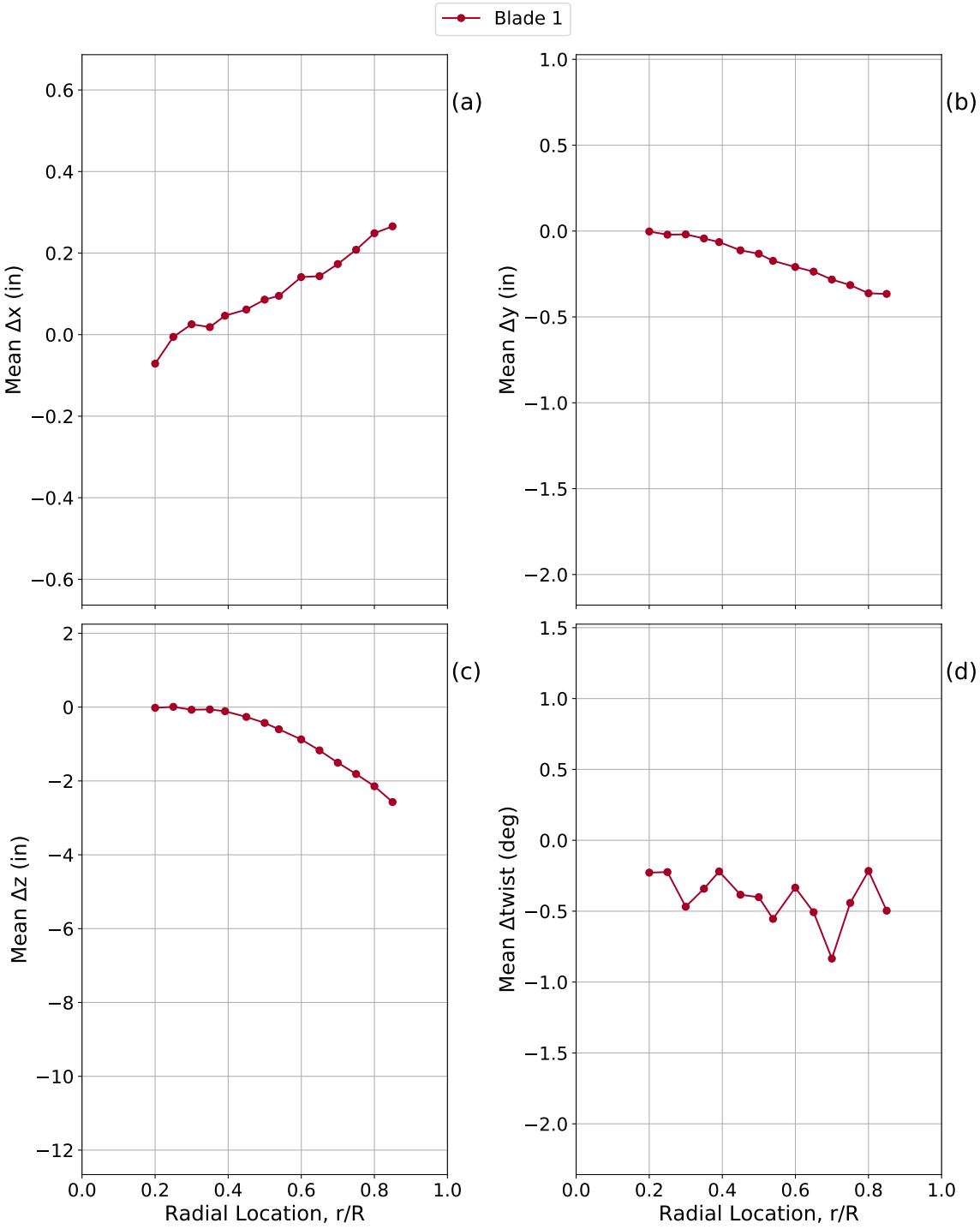


Figure 4.31-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0712	0.0016	-0.0026	0.0008	-0.0184	0.0025	-0.2280	0.0111
1	85.08	0.2499	-0.0055	0.0010	-0.0211	0.0018	0.0066	0.0045	-0.2241	0.0320
1	85.08	0.2998	0.0254	0.0011	-0.0194	0.0033	-0.0718	0.0100	-0.4686	0.0286
1	85.08	0.3498	0.0184	0.0009	-0.0432	0.0057	-0.0632	0.0158	-0.3417	0.0302
1	85.08	0.3913	0.0464	0.0011	-0.0642	0.0083	-0.1125	0.0231	-0.2197	0.0183
1	85.08	0.4496	0.0615	0.0011	-0.1121	0.0113	-0.2658	0.0304	-0.3839	0.0328
1	85.08	0.4997	0.0858	0.0018	-0.1321	0.0143	-0.4283	0.0373	-0.4011	0.0324
1	85.08	0.5387	0.0951	0.0024	-0.1734	0.0172	-0.6001	0.0428	-0.5545	0.0425
1	85.08	0.5996	0.1411	0.0018	-0.2092	0.0214	-0.8750	0.0536	-0.3341	0.0269
1	85.08	0.6498	0.1434	0.0033	-0.2362	0.0248	-1.1723	0.0616	-0.5072	0.0419
1	85.08	0.6998	0.1731	0.0034	-0.2822	0.0289	-1.5055	0.0669	-0.8344	0.0463
1	85.08	0.7500	0.2082	0.0037	-0.3148	0.0331	-1.8116	0.0728	-0.4417	0.0780
1	85.08	0.8001	0.2487	0.0096	-0.3623	0.0382	-2.1440	0.0756	-0.2161	0.1494
1	85.08	0.8497	0.2656	0.0059	-0.3659	0.0409	-2.5717	0.0752	-0.4963	0.1213

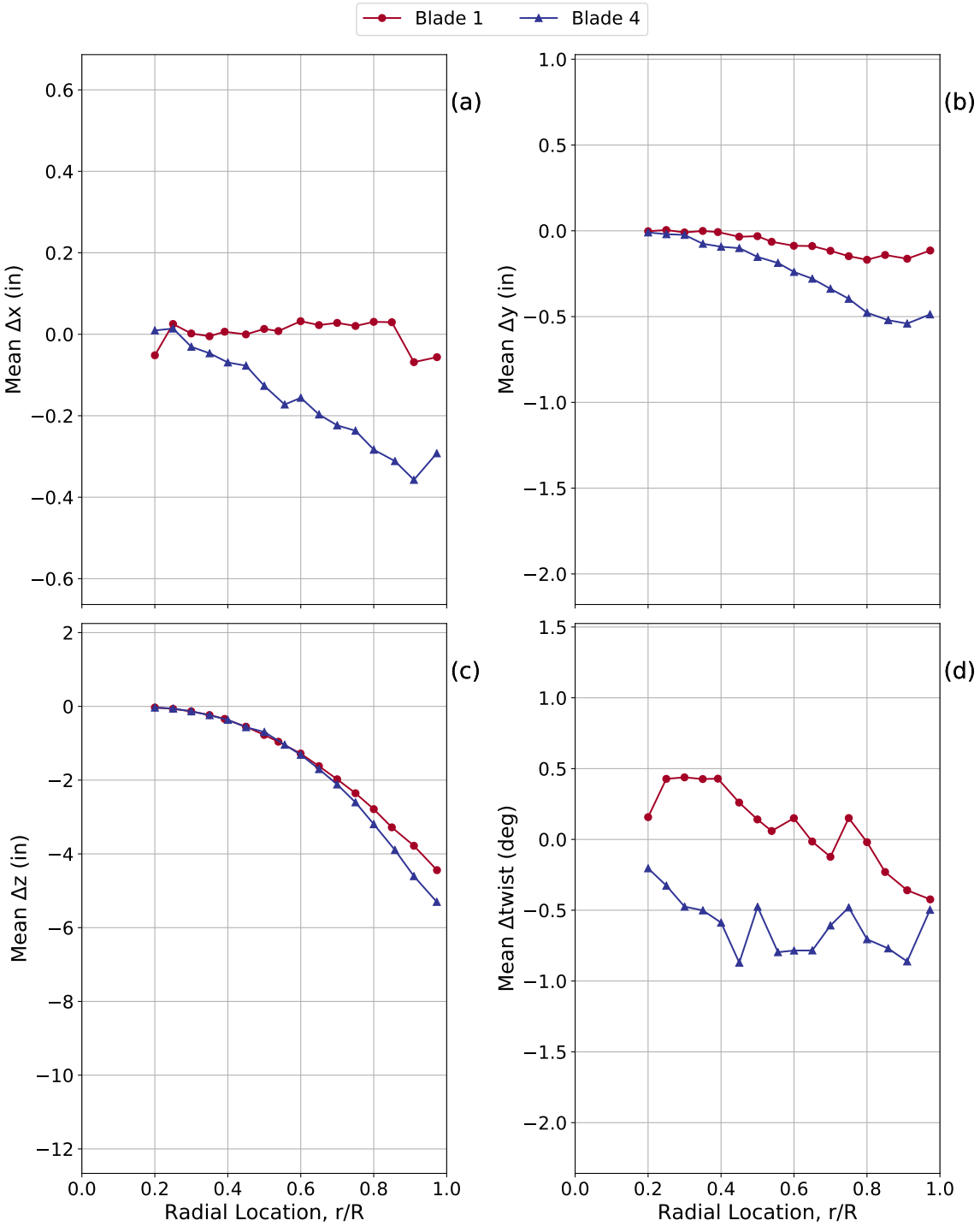


Figure 4.31-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0516	0.0046	-0.0024	0.0010	-0.0316	0.0026	0.1574	0.0384
1	90	0.2499	0.0252	0.0033	0.0045	0.0048	-0.0667	0.0098	0.4277	0.0441
1	90	0.2998	0.0020	0.0030	-0.0093	0.0042	-0.1351	0.0095	0.4383	0.0695
1	90	0.3498	-0.0049	0.0016	-0.0009	0.0109	-0.2354	0.0206	0.4264	0.0480
1	90	0.3913	0.0063	0.0022	-0.0073	0.0144	-0.3400	0.0279	0.4291	0.0401
1	90	0.4496	-0.0003	0.0021	-0.0346	0.0198	-0.5510	0.0357	0.2605	0.0417
1	90	0.4997	0.0131	0.0020	-0.0313	0.0243	-0.7746	0.0439	0.1411	0.0406
1	90	0.5387	0.0079	0.0023	-0.0639	0.0283	-0.9588	0.0487	0.0595	0.0481
1	90	0.5996	0.0321	0.0020	-0.0873	0.0337	-1.2797	0.0564	0.1501	0.0475
1	90	0.6498	0.0226	0.0026	-0.0889	0.0389	-1.6205	0.0657	-0.0148	0.0497
1	90	0.6998	0.0279	0.0031	-0.1165	0.0443	-1.9770	0.0735	-0.1230	0.0472
1	90	0.7500	0.0204	0.0061	-0.1479	0.0401	-2.3560	0.0835	0.1509	0.0432
1	90	0.8001	0.0305	0.0052	-0.1688	0.0553	-2.7866	0.0926	-0.0195	0.0519
1	90	0.8497	0.0296	0.0068	-0.1409	0.0598	-3.2806	0.0988	-0.2301	0.0473
1	90	0.9102	-0.0684	0.0024	-0.1628	0.0642	-3.7801	0.1054	-0.3592	0.0482
1	90	0.9734	-0.0562	0.0025	-0.1148	0.0701	-4.4411	0.1123	-0.4235	0.0510
4	90.35	0.2001	0.0094	0.0077	-0.0095	0.0035	-0.0329	0.0179	-0.2041	0.1044
4	90.35	0.2502	0.0140	0.0135	-0.0198	0.0042	-0.0600	0.0194	-0.3266	0.2105
4	90.35	0.3001	-0.0308	0.0073	-0.0239	0.0068	-0.1354	0.0416	-0.4748	0.1838
4	90.35	0.3502	-0.0467	0.0082	-0.0756	0.0105	-0.2392	0.0580	-0.5013	0.1813
4	90.35	0.4002	-0.0692	0.0082	-0.0929	0.0125	-0.3662	0.0786	-0.5879	0.1828
4	90.35	0.4500	-0.0772	0.0075	-0.1009	0.0154	-0.5654	0.0980	-0.8704	0.1690
4	90.35	0.5001	-0.1267	0.0084	-0.1523	0.0190	-0.6951	0.1147	-0.4760	0.1694
4	90.35	0.5560	-0.1725	0.0078	-0.1874	0.0221	-1.0407	0.1336	-0.7964	0.1829
4	90.35	0.6001	-0.1559	0.0083	-0.2398	0.0252	-1.3132	0.1501	-0.7846	0.1724
4	90.35	0.6501	-0.1969	0.0084	-0.2791	0.0282	-1.7021	0.1667	-0.7840	0.1674
4	90.35	0.6999	-0.2236	0.0084	-0.3380	0.0314	-2.1185	0.1833	-0.6077	0.1744
4	90.35	0.7500	-0.2368	0.0081	-0.3962	0.0354	-2.6030	0.1994	-0.4806	0.1709
4	90.35	0.8002	-0.2834	0.0088	-0.4776	0.0394	-3.1959	0.2173	-0.7052	0.1676
4	90.35	0.8582	-0.3114	0.0093	-0.5208	0.0442	-3.8951	0.2380	-0.7698	0.1642
4	90.35	0.9101	-0.3574	0.0092	-0.5408	0.0486	-4.6042	0.2581	-0.8616	0.1551
4	90.35	0.9728	-0.2922	0.0097	-0.4873	0.0534	-5.3012	0.2768	-0.4972	0.1713

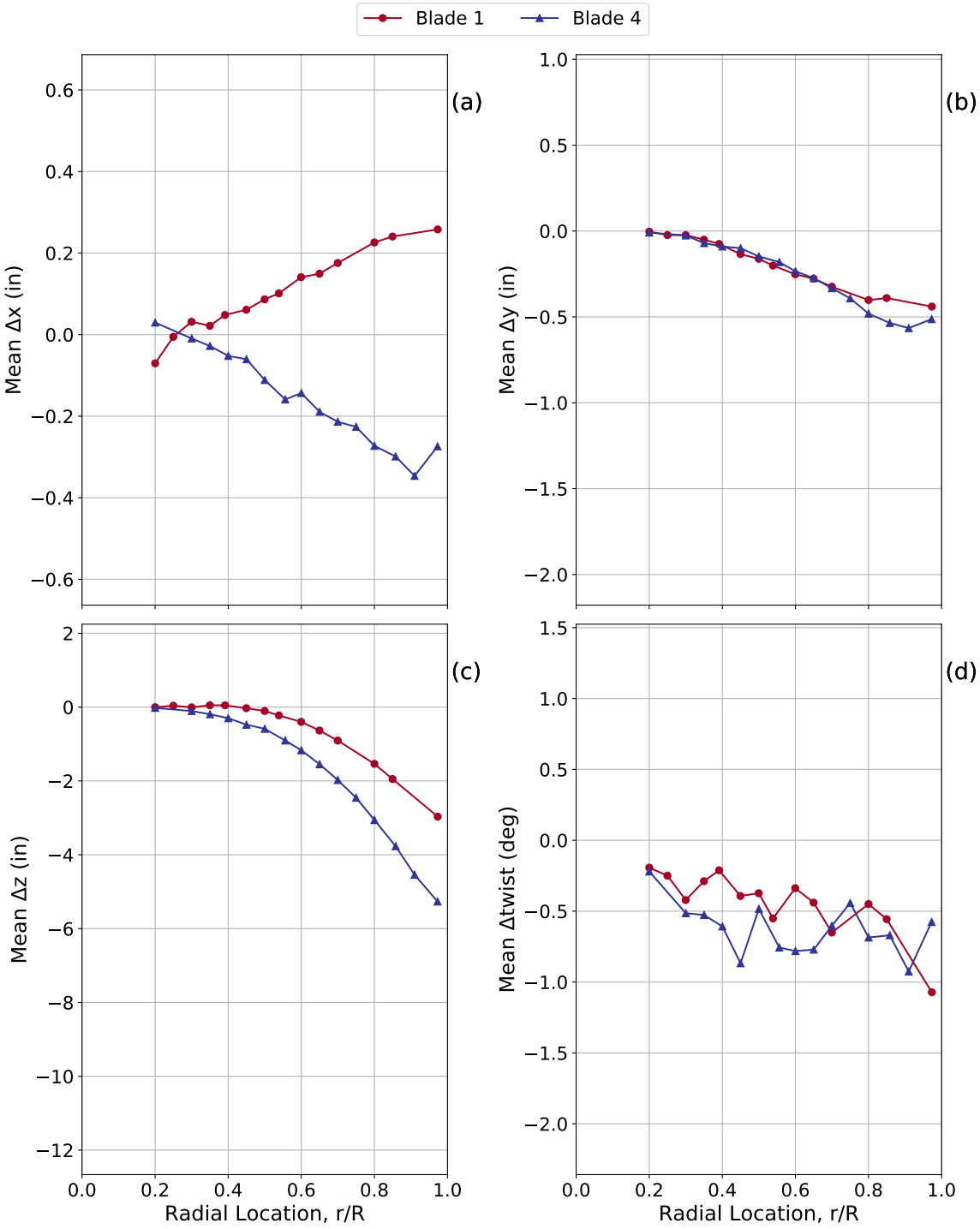


Figure 4.31-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0704	0.0013	-0.0034	0.0008	-0.0025	0.0014	-0.1931	0.0122
1	94.92	0.2499	-0.0054	0.0009	-0.0236	0.0017	0.0378	0.0030	-0.2494	0.0227
1	94.92	0.2998	0.0315	0.0011	-0.0235	0.0030	-0.0069	0.0051	-0.4214	0.0273
1	94.92	0.3498	0.0217	0.0012	-0.0503	0.0054	0.0495	0.0087	-0.2885	0.0223
1	94.92	0.3913	0.0482	0.0008	-0.0750	0.0075	0.0489	0.0124	-0.2114	0.0266
1	94.92	0.4496	0.0610	0.0013	-0.1342	0.0100	-0.0297	0.0170	-0.3929	0.0319
1	94.92	0.4997	0.0865	0.0018	-0.1618	0.0124	-0.1054	0.0197	-0.3732	0.0308
1	94.92	0.5387	0.1012	0.0017	-0.2011	0.0147	-0.2245	0.0241	-0.5510	0.0296
1	94.92	0.5996	0.1408	0.0019	-0.2517	0.0174	-0.4000	0.0279	-0.3377	0.0222
1	94.92	0.6498	0.1495	0.0020	-0.2771	0.0207	-0.6346	0.0326	-0.4394	0.0211
1	94.92	0.6998	0.1757	0.0016	-0.3242	0.0234	-0.9070	0.0383	-0.6508	0.0441
1	94.92	0.8001	0.2261	0.0038	-0.4018	0.0294	-1.5368	0.0438	-0.4495	0.0510
1	94.92	0.8497	0.2406	0.0035	-0.3901	0.0327	-1.9482	0.0462	-0.5562	0.0586
1	94.92	0.9734	0.2580	0.0028	-0.4398	0.0395	-2.9674	0.0663	-1.0720	0.0831
4	94.92	0.2001	0.0296	0.0070	-0.0092	0.0018	-0.0230	0.0088	-0.2198	0.1299
4	94.92	0.3001	-0.0095	0.0056	-0.0258	0.0067	-0.1067	0.0312	-0.5142	0.3008
4	94.92	0.3502	-0.0279	0.0029	-0.0703	0.0140	-0.1934	0.0621	-0.5270	0.2504
4	94.92	0.4002	-0.0521	0.0032	-0.0901	0.0201	-0.3013	0.0893	-0.6079	0.2446
4	94.92	0.4500	-0.0604	0.0033	-0.0995	0.0258	-0.4775	0.1130	-0.8672	0.2250
4	94.92	0.5001	-0.1113	0.0037	-0.1481	0.0315	-0.5886	0.1376	-0.4841	0.2196
4	94.92	0.5560	-0.1590	0.0021	-0.1810	0.0384	-0.9046	0.1569	-0.7567	0.2507
4	94.92	0.6001	-0.1434	0.0025	-0.2340	0.0442	-1.1700	0.1755	-0.7812	0.2506
4	94.92	0.6501	-0.1893	0.0028	-0.2745	0.0511	-1.5492	0.1998	-0.7713	0.2480
4	94.92	0.6999	-0.2138	0.0023	-0.3329	0.0585	-1.9757	0.2233	-0.6026	0.2425
4	94.92	0.7500	-0.2262	0.0025	-0.3917	0.0667	-2.4562	0.2494	-0.4419	0.2253
4	94.92	0.8002	-0.2728	0.0040	-0.4811	0.0747	-3.0594	0.2679	-0.6857	0.2451
4	94.92	0.8582	-0.2989	0.0040	-0.5351	0.0841	-3.7690	0.2902	-0.6698	0.2656
4	94.92	0.9101	-0.3465	0.0043	-0.5652	0.0932	-4.5427	0.3156	-0.9256	0.2446
4	94.92	0.9728	-0.2740	0.0044	-0.5128	0.1041	-5.2663	0.3416	-0.5760	0.2329

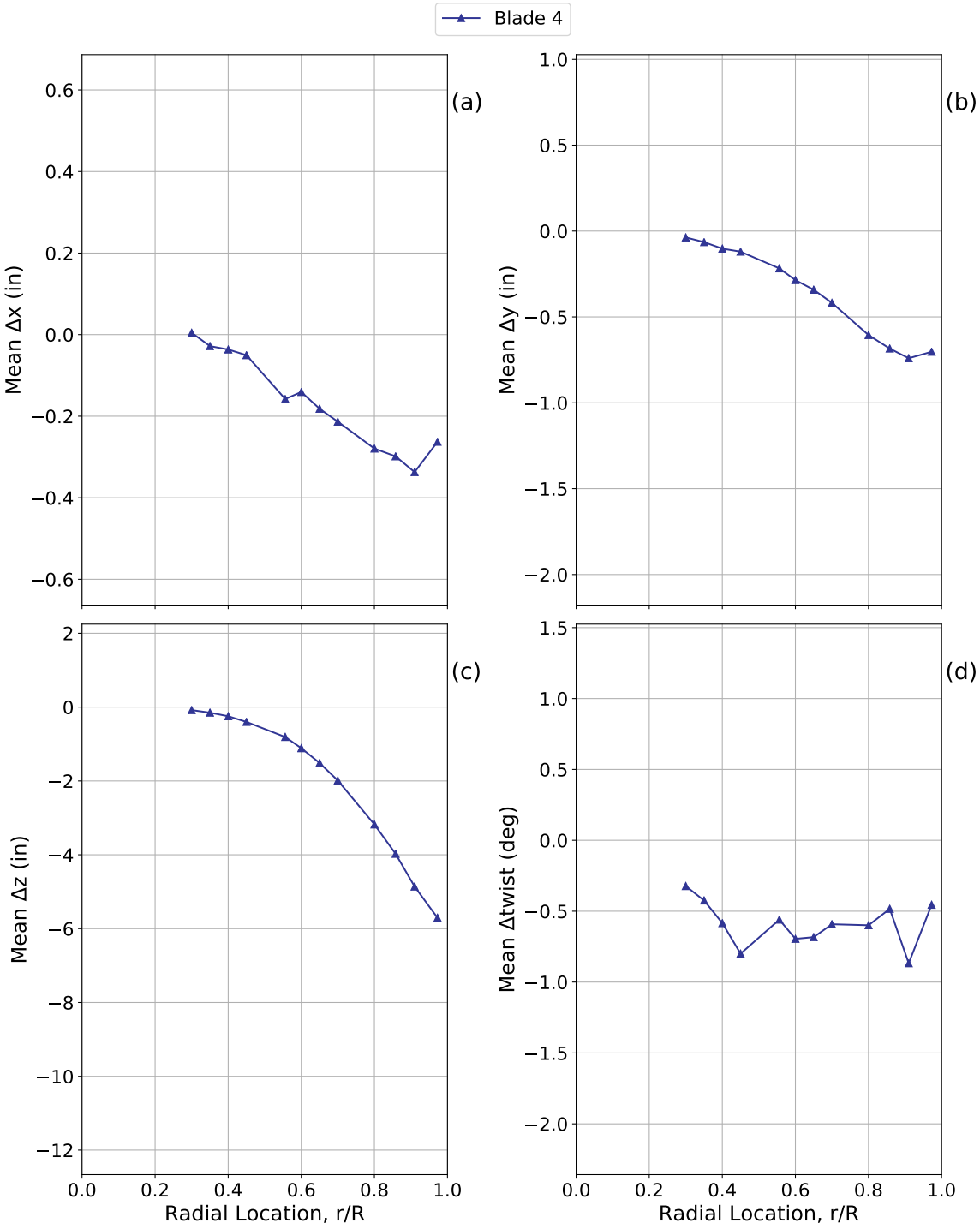


Figure 4.31-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.3001	0.0044	0.0151	-0.0373	0.0196	-0.0816	0.1572	-0.3229	0.3944
4	105.12	0.3502	-0.0282	0.0209	-0.0645	0.0341	-0.1507	0.2769	-0.4245	0.5248
4	105.12	0.4002	-0.0365	0.0168	-0.1024	0.0543	-0.2482	0.4444	-0.5844	0.4108
4	105.12	0.4500	-0.0504	0.0204	-0.1201	0.0721	-0.4013	0.5657	-0.7995	0.5019
4	105.12	0.5560	-0.1578	0.0229	-0.2175	0.1098	-0.8098	0.8640	-0.5597	0.5196
4	105.12	0.6001	-0.1407	0.0236	-0.2859	0.1265	-1.1140	0.9887	-0.6950	0.4760
4	105.12	0.6501	-0.1818	0.0268	-0.3419	0.1454	-1.5140	1.1294	-0.6829	0.4706
4	105.12	0.6999	-0.2134	0.0281	-0.4182	0.1650	-1.9875	1.2640	-0.5920	0.4791
4	105.12	0.8002	-0.2795	0.0366	-0.6057	0.2062	-3.1796	1.5417	-0.5992	0.4773
4	105.12	0.8582	-0.2985	0.0415	-0.6843	0.2308	-3.9750	1.7004	-0.4834	0.4752
4	105.12	0.9101	-0.3371	0.0466	-0.7405	0.2540	-4.8604	1.8413	-0.8671	0.4847
4	105.12	0.9728	-0.2629	0.0484	-0.7030	0.2818	-5.7069	2.0100	-0.4548	0.5040

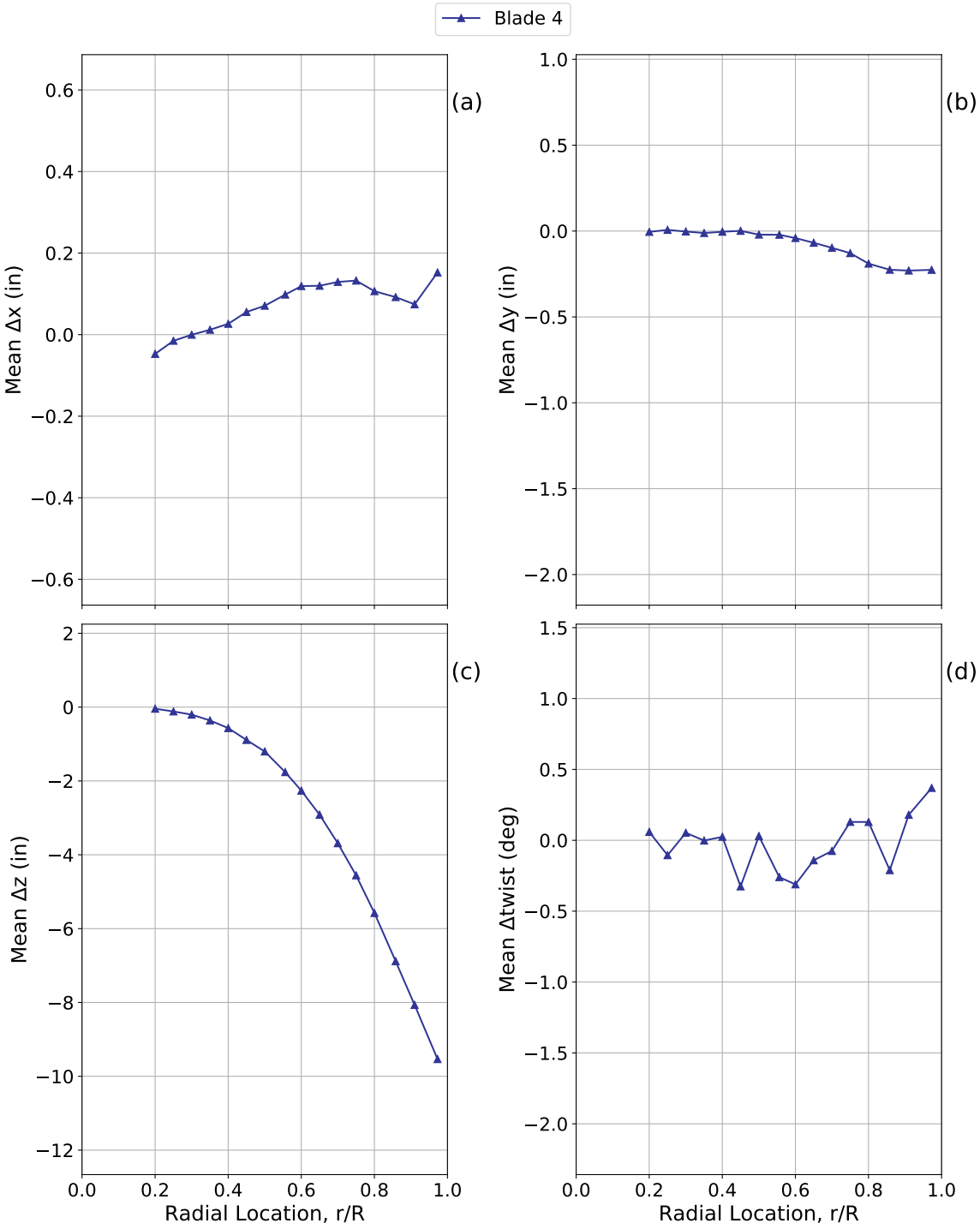


Figure 4.31-14. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-14. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0473	0.0005	-0.0049	0.0003	-0.0443	0.0010	0.0590	0.0114
4	135	0.2502	-0.0151	0.0010	0.0067	0.0006	-0.1183	0.0027	-0.1052	0.0230
4	135	0.3001	-0.0003	0.0006	-0.0028	0.0015	-0.2039	0.0049	0.0529	0.0250
4	135	0.3502	0.0119	0.0008	-0.0116	0.0021	-0.3616	0.0065	-0.0020	0.0168
4	135	0.4002	0.0265	0.0009	-0.0041	0.0033	-0.5691	0.0116	0.0245	0.0264
4	135	0.4500	0.0555	0.0016	0.0011	0.0050	-0.8905	0.0140	-0.3255	0.0257
4	135	0.5001	0.0708	0.0013	-0.0209	0.0060	-1.2029	0.0177	0.0299	0.0204
4	135	0.5560	0.0981	0.0012	-0.0217	0.0075	-1.7613	0.0215	-0.2600	0.0271
4	135	0.6001	0.1190	0.0018	-0.0409	0.0090	-2.2638	0.0244	-0.3109	0.0242
4	135	0.6501	0.1198	0.0021	-0.0683	0.0111	-2.9161	0.0281	-0.1412	0.0225
4	135	0.6999	0.1292	0.0018	-0.0977	0.0132	-3.6878	0.0306	-0.0754	0.0321
4	135	0.7500	0.1325	0.0020	-0.1287	0.0155	-4.5578	0.0325	0.1297	0.0267
4	135	0.8002	0.1065	0.0014	-0.1898	0.0176	-5.5777	0.0359	0.1290	0.0197
4	135	0.8582	0.0920	0.0021	-0.2255	0.0203	-6.8841	0.0395	-0.2108	0.0228
4	135	0.9101	0.0743	0.0028	-0.2302	0.0226	-8.0679	0.0424	0.1796	0.0196
4	135	0.9728	0.1524	0.0037	-0.2260	0.0259	-9.5344	0.0467	0.3693	0.0190

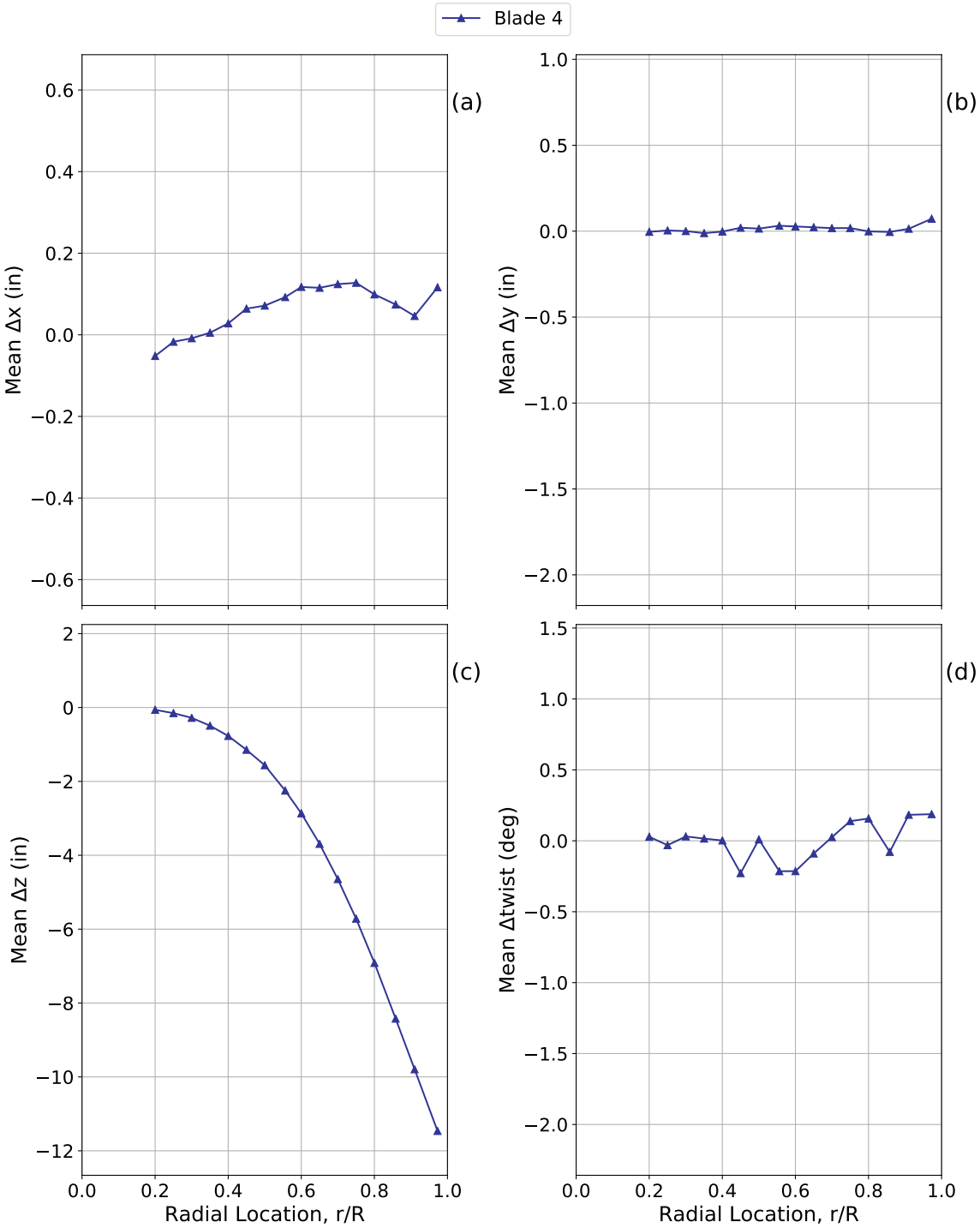


Figure 4.31-15. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-15. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0519	0.0010	-0.0038	0.0008	-0.0630	0.0015	0.0282	0.0103
4	150.12	0.2502	-0.0171	0.0009	0.0042	0.0022	-0.1528	0.0024	-0.0311	0.0169
4	150.12	0.3001	-0.0085	0.0011	0.0005	0.0039	-0.2799	0.0045	0.0305	0.0216
4	150.12	0.3502	0.0051	0.0010	-0.0115	0.0063	-0.4922	0.0077	0.0155	0.0207
4	150.12	0.4002	0.0280	0.0011	-0.0023	0.0105	-0.7706	0.0113	0.0021	0.0276
4	150.12	0.4500	0.0641	0.0012	0.0199	0.0108	-1.1454	0.0138	-0.2286	0.0209
4	150.12	0.5001	0.0715	0.0014	0.0150	0.0136	-1.5638	0.0173	0.0093	0.0297
4	150.12	0.5560	0.0924	0.0020	0.0317	0.0167	-2.2491	0.0204	-0.2147	0.0297
4	150.12	0.6001	0.1173	0.0021	0.0273	0.0195	-2.8655	0.0241	-0.2141	0.0302
4	150.12	0.6501	0.1152	0.0017	0.0227	0.0230	-3.6921	0.0286	-0.0900	0.0303
4	150.12	0.6999	0.1242	0.0029	0.0178	0.0265	-4.6458	0.0318	0.0254	0.0309
4	150.12	0.7500	0.1274	0.0022	0.0181	0.0295	-5.7176	0.0356	0.1388	0.0370
4	150.12	0.8002	0.0991	0.0022	-0.0012	0.0340	-6.9145	0.0410	0.1566	0.0340
4	150.12	0.8582	0.0742	0.0028	-0.0046	0.0382	-8.4237	0.0494	-0.0786	0.0285
4	150.12	0.9101	0.0461	0.0033	0.0139	0.0423	-9.7942	0.0537	0.1830	0.0388
4	150.12	0.9728	0.1164	0.0036	0.0723	0.0472	-11.4637	0.0642	0.1876	0.0324

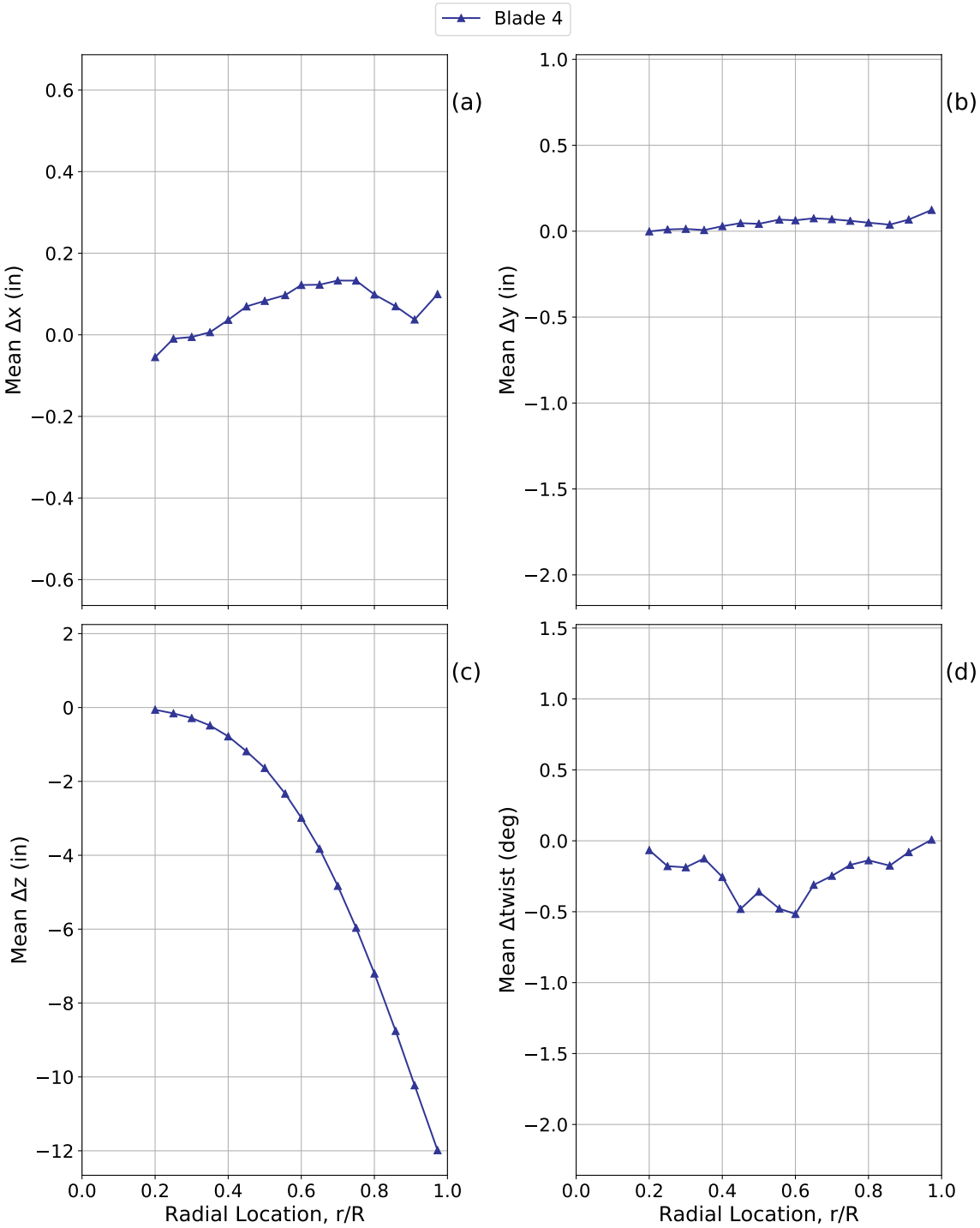


Figure 4.31-16. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-16. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0547	0.0008	-0.0015	0.0005	-0.0606	0.0012	-0.0661	0.0086
4	164.88	0.2502	-0.0094	0.0014	0.0101	0.0014	-0.1590	0.0028	-0.1790	0.0214
4	164.88	0.3001	-0.0054	0.0014	0.0132	0.0019	-0.2872	0.0039	-0.1872	0.0202
4	164.88	0.3502	0.0064	0.0005	0.0063	0.0032	-0.4872	0.0063	-0.1248	0.0168
4	164.88	0.4002	0.0366	0.0014	0.0290	0.0051	-0.7814	0.0102	-0.2555	0.0247
4	164.88	0.4500	0.0695	0.0019	0.0468	0.0057	-1.1859	0.0122	-0.4805	0.0214
4	164.88	0.5001	0.0831	0.0018	0.0427	0.0079	-1.6383	0.0137	-0.3594	0.0227
4	164.88	0.5560	0.0972	0.0014	0.0673	0.0081	-2.3326	0.0181	-0.4786	0.0240
4	164.88	0.6001	0.1221	0.0013	0.0632	0.0093	-2.9871	0.0230	-0.5160	0.0242
4	164.88	0.6501	0.1228	0.0015	0.0750	0.0101	-3.8263	0.0248	-0.3108	0.0196
4	164.88	0.6999	0.1330	0.0021	0.0696	0.0123	-4.8298	0.0273	-0.2471	0.0167
4	164.88	0.7500	0.1328	0.0017	0.0602	0.0137	-5.9635	0.0293	-0.1703	0.0206
4	164.88	0.8002	0.0987	0.0022	0.0494	0.0152	-7.2018	0.0320	-0.1378	0.0258
4	164.88	0.8582	0.0699	0.0020	0.0379	0.0172	-8.7560	0.0364	-0.1751	0.0182
4	164.88	0.9101	0.0374	0.0026	0.0675	0.0191	-10.2281	0.0443	-0.0802	0.0270
4	164.88	0.9728	0.0996	0.0035	0.1234	0.0219	-11.9853	0.0483	0.0077	0.0264

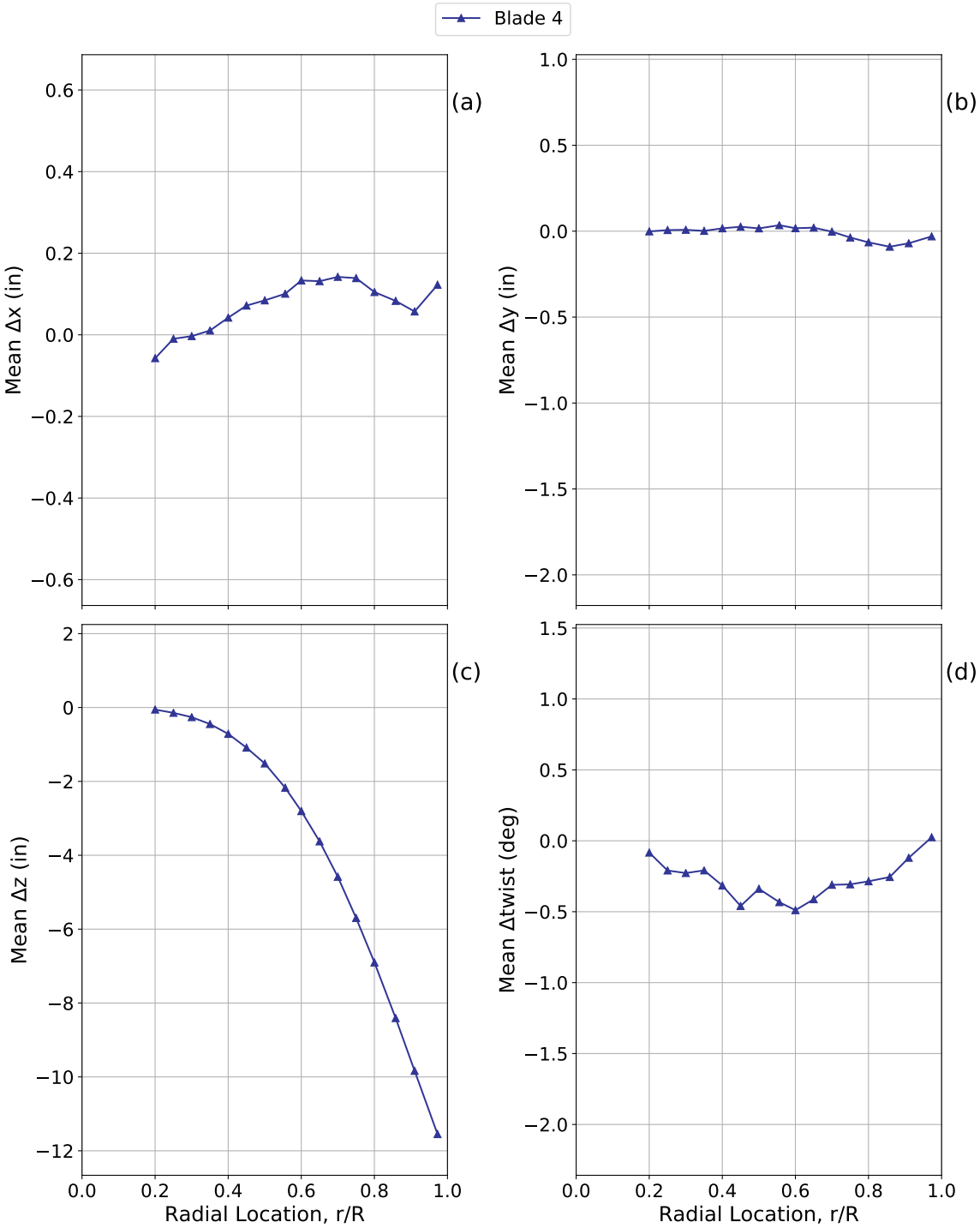


Figure 4.31-17. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-17. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0573	0.0010	-0.0014	0.0008	-0.0562	0.0015	-0.0835	0.0107
4	170.16	0.2502	-0.0097	0.0011	0.0064	0.0009	-0.1444	0.0031	-0.2095	0.0268
4	170.16	0.3001	-0.0033	0.0013	0.0079	0.0029	-0.2617	0.0052	-0.2276	0.0255
4	170.16	0.3502	0.0106	0.0009	0.0018	0.0040	-0.4483	0.0097	-0.2087	0.0167
4	170.16	0.4002	0.0421	0.0008	0.0166	0.0063	-0.7143	0.0143	-0.3155	0.0209
4	170.16	0.4500	0.0716	0.0014	0.0258	0.0068	-1.0869	0.0177	-0.4598	0.0248
4	170.16	0.5001	0.0844	0.0016	0.0163	0.0077	-1.5155	0.0226	-0.3386	0.0313
4	170.16	0.5560	0.1007	0.0020	0.0347	0.0104	-2.1723	0.0272	-0.4329	0.0257
4	170.16	0.6001	0.1332	0.0023	0.0172	0.0098	-2.8056	0.0307	-0.4893	0.0215
4	170.16	0.6501	0.1314	0.0021	0.0204	0.0107	-3.6251	0.0358	-0.4122	0.0253
4	170.16	0.6999	0.1420	0.0021	-0.0029	0.0125	-4.5828	0.0411	-0.3105	0.0291
4	170.16	0.7500	0.1389	0.0023	-0.0369	0.0142	-5.6980	0.0467	-0.3073	0.0268
4	170.16	0.8002	0.1048	0.0028	-0.0651	0.0164	-6.9028	0.0524	-0.2856	0.0293
4	170.16	0.8582	0.0831	0.0031	-0.0906	0.0191	-8.4086	0.0592	-0.2555	0.0227
4	170.16	0.9101	0.0572	0.0035	-0.0703	0.0211	-9.8359	0.0659	-0.1201	0.0290
4	170.16	0.9728	0.1226	0.0040	-0.0303	0.0237	-11.5483	0.0726	0.0247	0.0286

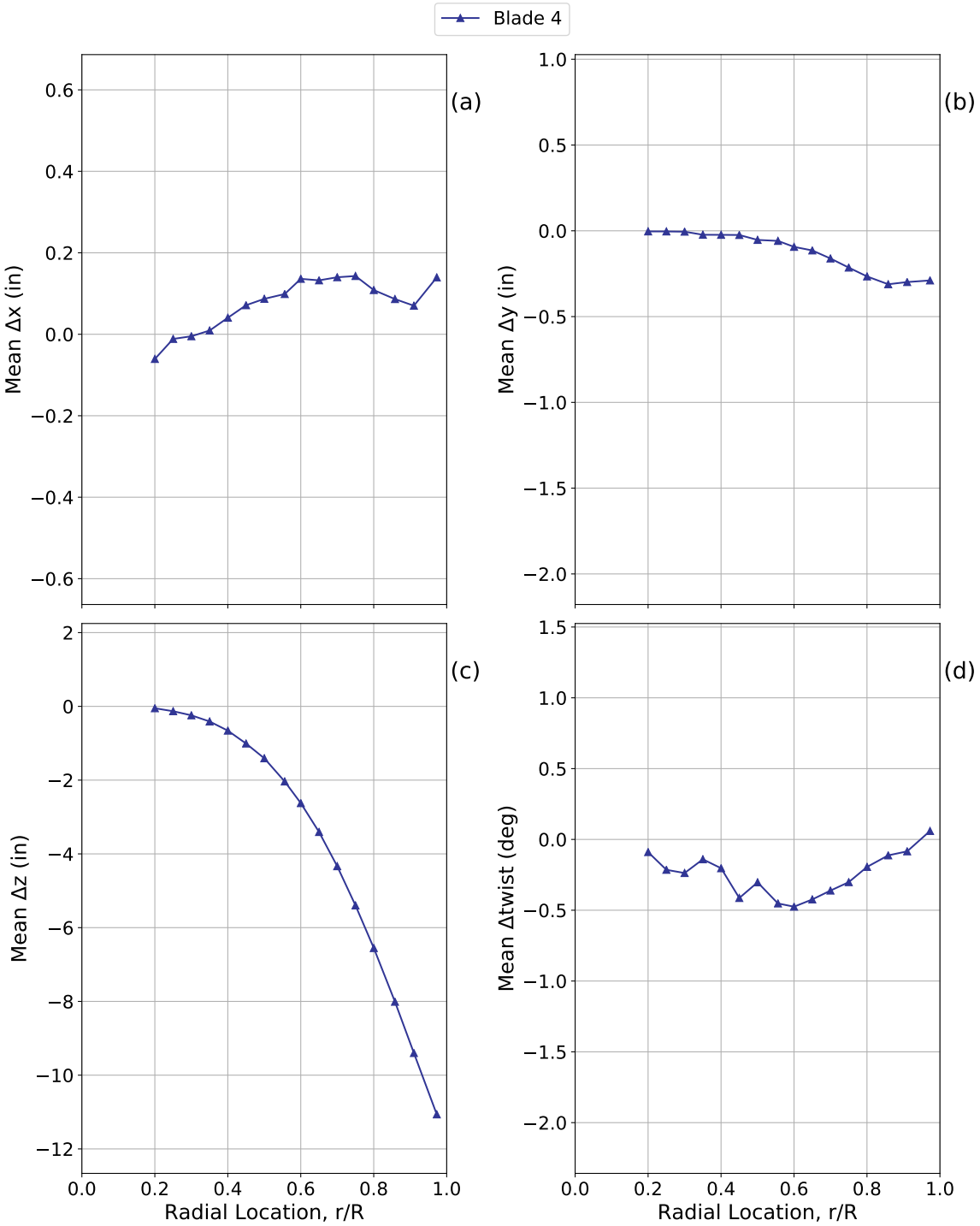


Figure 4.31-18. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-18. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0606	0.0012	-0.0036	0.0012	-0.0512	0.0017	-0.0896	0.0189
4	175.08	0.2502	-0.0114	0.0021	-0.0038	0.0019	-0.1317	0.0041	-0.2146	0.0233
4	175.08	0.3001	-0.0049	0.0024	-0.0050	0.0040	-0.2432	0.0059	-0.2374	0.0356
4	175.08	0.3502	0.0092	0.0011	-0.0231	0.0073	-0.4100	0.0084	-0.1403	0.0340
4	175.08	0.4002	0.0406	0.0014	-0.0235	0.0107	-0.6588	0.0142	-0.2036	0.0349
4	175.08	0.4500	0.0713	0.0017	-0.0244	0.0118	-1.0080	0.0175	-0.4137	0.0372
4	175.08	0.5001	0.0870	0.0017	-0.0531	0.0154	-1.4083	0.0216	-0.3030	0.0407
4	175.08	0.5560	0.0988	0.0019	-0.0589	0.0195	-2.0369	0.0243	-0.4522	0.0375
4	175.08	0.6001	0.1361	0.0023	-0.0936	0.0223	-2.6243	0.0248	-0.4750	0.0457
4	175.08	0.6501	0.1324	0.0026	-0.1144	0.0259	-3.4072	0.0300	-0.4238	0.0356
4	175.08	0.6999	0.1400	0.0033	-0.1614	0.0282	-4.3346	0.0337	-0.3613	0.0340
4	175.08	0.7500	0.1430	0.0032	-0.2144	0.0314	-5.3978	0.0370	-0.3018	0.0385
4	175.08	0.8002	0.1085	0.0038	-0.2660	0.0350	-6.5539	0.0410	-0.1942	0.0444
4	175.08	0.8582	0.0864	0.0049	-0.3115	0.0402	-8.0099	0.0497	-0.1126	0.0486
4	175.08	0.9101	0.0701	0.0050	-0.2987	0.0438	-9.3995	0.0584	-0.0843	0.0398
4	175.08	0.9728	0.1396	0.0064	-0.2893	0.0489	-11.0636	0.0686	0.0596	0.0404

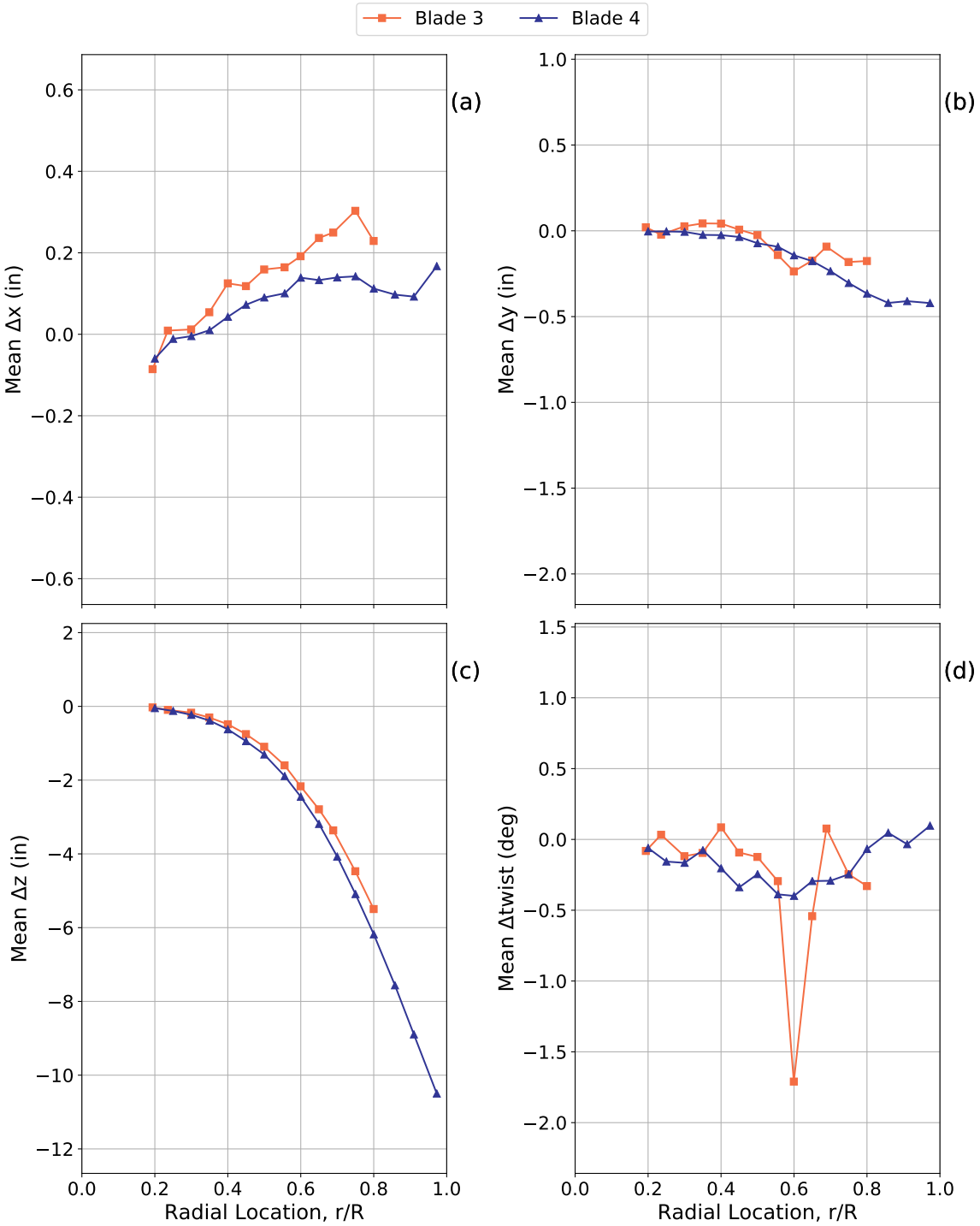


Figure 4.31-19. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-19. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.1938	-0.0856	0.0023	0.0205	0.0013	-0.0280	0.0018	-0.0813	0.0172
3	180.35	0.2357	0.0090	0.0015	-0.0224	0.0030	-0.0952	0.0039	0.0328	0.0382
3	180.35	0.2995	0.0119	0.0010	0.0262	0.0049	-0.1716	0.0077	-0.1184	0.0422
3	180.35	0.3493	0.0541	0.0014	0.0433	0.0087	-0.3012	0.0110	-0.0954	0.0434
3	180.35	0.4000	0.1250	0.0013	0.0421	0.0136	-0.4850	0.0189	0.0853	0.0278
3	180.35	0.4497	0.1182	0.0020	0.0067	0.0162	-0.7524	0.0213	-0.0925	0.0387
3	180.35	0.4997	0.1591	0.0022	-0.0251	0.0180	-1.0954	0.0265	-0.1238	0.0351
3	180.35	0.5556	0.1644	0.0026	-0.1410	0.0218	-1.5985	0.0314	-0.2944	0.0638
3	180.35	0.5995	0.1916	0.0033	-0.2365	0.0320	-2.1673	0.0399	-1.7101	0.1499
3	180.35	0.6498	0.2364	0.0027	-0.1734	0.0252	-2.7911	0.0398	-0.5421	0.0876
3	180.35	0.6890	0.2497	0.0030	-0.0921	0.0356	-3.3624	0.0452	0.0766	0.2257
3	180.35	0.7495	0.3031	0.0024	-0.1819	0.0478	-4.4700	0.0554	-0.2452	0.1523
3	180.35	0.7998	0.2291	0.0028	-0.1761	0.0444	-5.4956	0.0554	-0.3294	0.1088
4	180	0.2001	-0.0597	0.0011	-0.0038	0.0009	-0.0482	0.0034	-0.0608	0.0233
4	180	0.2502	-0.0113	0.0027	-0.0038	0.0014	-0.1241	0.0044	-0.1565	0.0323
4	180	0.3001	-0.0046	0.0014	-0.0059	0.0032	-0.2307	0.0098	-0.1654	0.0426
4	180	0.3502	0.0101	0.0010	-0.0238	0.0049	-0.3868	0.0168	-0.0758	0.0294
4	180	0.4002	0.0428	0.0013	-0.0251	0.0074	-0.6232	0.0238	-0.2040	0.0326
4	180	0.4500	0.0725	0.0012	-0.0360	0.0094	-0.9440	0.0302	-0.3378	0.0361
4	180	0.5001	0.0903	0.0013	-0.0725	0.0108	-1.3071	0.0354	-0.2450	0.0368
4	180	0.5560	0.1005	0.0017	-0.0930	0.0129	-1.8914	0.0442	-0.3879	0.0305
4	180	0.6001	0.1389	0.0016	-0.1430	0.0154	-2.4523	0.0479	-0.3988	0.0387
4	180	0.6501	0.1329	0.0019	-0.1767	0.0185	-3.1891	0.0529	-0.2941	0.0343
4	180	0.6999	0.1396	0.0021	-0.2352	0.0208	-4.0748	0.0609	-0.2919	0.0312
4	180	0.7500	0.1422	0.0023	-0.3043	0.0243	-5.0910	0.0648	-0.2464	0.0359
4	180	0.8002	0.1121	0.0028	-0.3659	0.0287	-6.1828	0.0711	-0.0677	0.0342
4	180	0.8582	0.0973	0.0031	-0.4204	0.0322	-7.5642	0.0772	0.0467	0.0255
4	180	0.9101	0.0924	0.0035	-0.4100	0.0357	-8.8959	0.0830	-0.0339	0.0346
4	180	0.9728	0.1672	0.0041	-0.4213	0.0422	-10.4995	0.0909	0.0968	0.0461

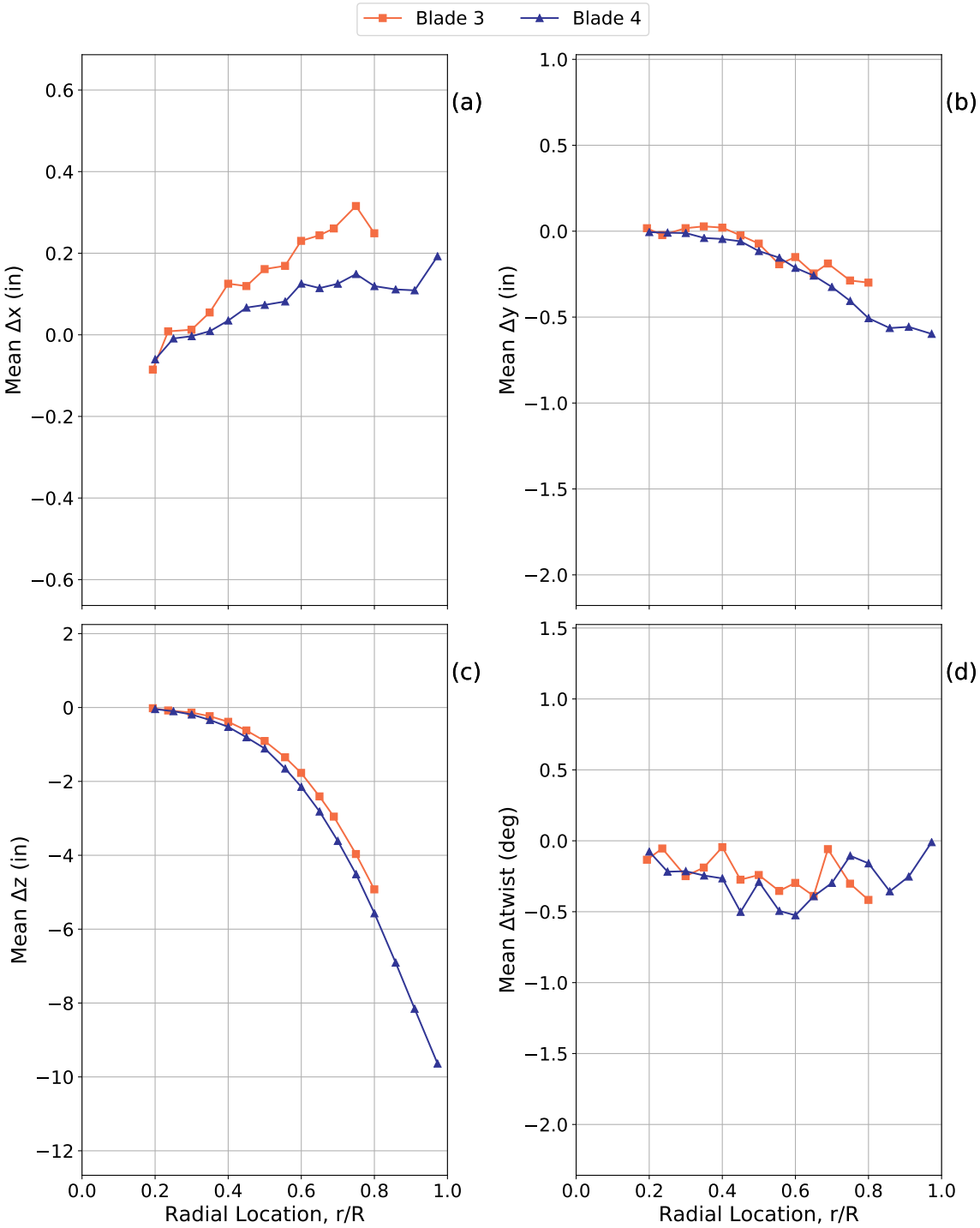


Figure 4.31-20. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-20. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0852	0.0017	0.0173	0.0016	-0.0191	0.0020	-0.1335	0.0153
3	184.92	0.2357	0.0085	0.0011	-0.0229	0.0019	-0.0800	0.0031	-0.0542	0.0280
3	184.92	0.2995	0.0125	0.0010	0.0176	0.0042	-0.1365	0.0055	-0.2492	0.0377
3	184.92	0.3493	0.0548	0.0008	0.0279	0.0072	-0.2346	0.0117	-0.1887	0.0374
3	184.92	0.4000	0.1253	0.0017	0.0208	0.0104	-0.3866	0.0158	-0.0447	0.0221
3	184.92	0.4497	0.1195	0.0012	-0.0244	0.0116	-0.6214	0.0206	-0.2742	0.0212
3	184.92	0.4997	0.1611	0.0018	-0.0722	0.0148	-0.9058	0.0218	-0.2412	0.0448
3	184.92	0.5556	0.1690	0.0012	-0.1924	0.0187	-1.3467	0.0273	-0.3535	0.0446
3	184.92	0.5995	0.2303	0.0014	-0.1506	0.0196	-1.7698	0.0311	-0.2969	0.0482
3	184.92	0.6498	0.2440	0.0030	-0.2460	0.0219	-2.4064	0.0386	-0.3886	0.0593
3	184.92	0.6890	0.2607	0.0023	-0.1881	0.0214	-2.9535	0.0378	-0.0588	0.0976
3	184.92	0.7495	0.3157	0.0026	-0.2870	0.0281	-3.9659	0.0533	-0.3022	0.0661
3	184.92	0.7998	0.2489	0.0022	-0.2992	0.0279	-4.9232	0.0440	-0.4167	0.1153
4	184.92	0.2001	-0.0603	0.0029	-0.0054	0.0009	-0.0431	0.0027	-0.0764	0.0278
4	184.92	0.2502	-0.0090	0.0019	-0.0090	0.0027	-0.1013	0.0049	-0.2179	0.0490
4	184.92	0.3001	-0.0034	0.0012	-0.0109	0.0035	-0.1904	0.0091	-0.2144	0.0622
4	184.92	0.3502	0.0091	0.0019	-0.0395	0.0069	-0.3378	0.0148	-0.2451	0.0600
4	184.92	0.4002	0.0350	0.0021	-0.0453	0.0106	-0.5262	0.0226	-0.2651	0.0449
4	184.92	0.4500	0.0667	0.0032	-0.0590	0.0133	-0.8066	0.0273	-0.5013	0.0465
4	184.92	0.5001	0.0733	0.0040	-0.1158	0.0157	-1.1103	0.0323	-0.2897	0.0547
4	184.92	0.5560	0.0817	0.0055	-0.1543	0.0192	-1.6539	0.0404	-0.4945	0.0425
4	184.92	0.6001	0.1255	0.0071	-0.2134	0.0215	-2.1492	0.0447	-0.5254	0.0449
4	184.92	0.6501	0.1145	0.0091	-0.2586	0.0246	-2.8172	0.0503	-0.3911	0.0483
4	184.92	0.6999	0.1252	0.0115	-0.3246	0.0279	-3.6133	0.0563	-0.2972	0.0440
4	184.92	0.7500	0.1489	0.0135	-0.4062	0.0302	-4.5146	0.0597	-0.1056	0.0533
4	184.92	0.8002	0.1193	0.0159	-0.5064	0.0343	-5.5714	0.0645	-0.1593	0.0639
4	184.92	0.8582	0.1113	0.0191	-0.5637	0.0391	-6.9067	0.0719	-0.3563	0.0485
4	184.92	0.9101	0.1090	0.0229	-0.5568	0.0426	-8.1552	0.0766	-0.2524	0.0618
4	184.92	0.9728	0.1925	0.0273	-0.5977	0.0482	-9.6395	0.0821	-0.0097	0.0601

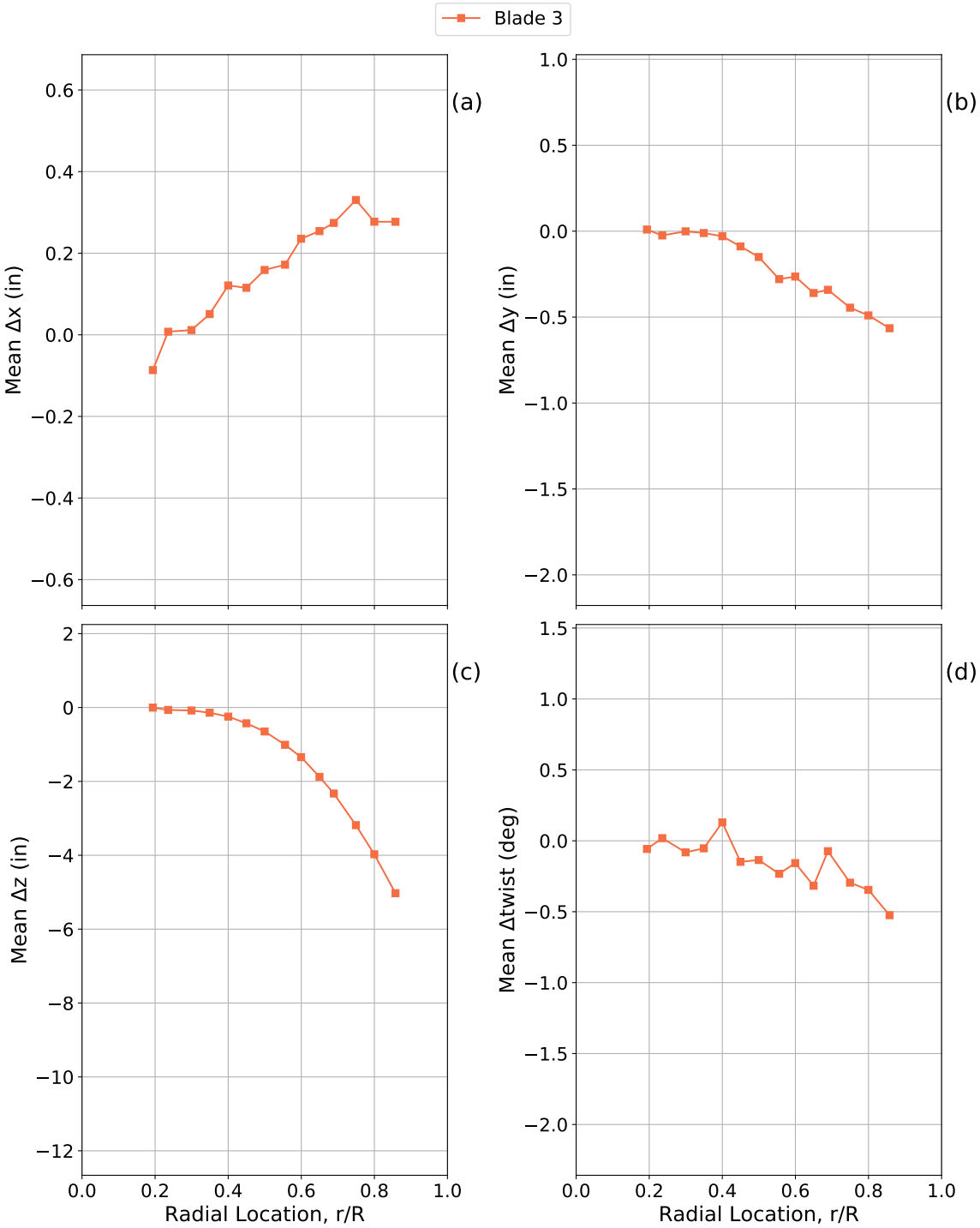


Figure 4.31-21. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-21. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0865	0.0013	0.0095	0.0008	-0.0023	0.0018	-0.0574	0.0119
3	195.12	0.2357	0.0076	0.0010	-0.0249	0.0016	-0.0662	0.0028	0.0185	0.0267
3	195.12	0.2995	0.0117	0.0010	-0.0010	0.0039	-0.0799	0.0058	-0.0813	0.0296
3	195.12	0.3493	0.0508	0.0009	-0.0108	0.0059	-0.1406	0.0100	-0.0533	0.0245
3	195.12	0.4000	0.1210	0.0014	-0.0294	0.0098	-0.2458	0.0149	0.1298	0.0226
3	195.12	0.4497	0.1152	0.0011	-0.0887	0.0121	-0.4271	0.0185	-0.1483	0.0272
3	195.12	0.4997	0.1590	0.0018	-0.1502	0.0157	-0.6491	0.0232	-0.1357	0.0302
3	195.12	0.5556	0.1718	0.0018	-0.2789	0.0183	-1.0089	0.0296	-0.2325	0.0350
3	195.12	0.5995	0.2356	0.0021	-0.2641	0.0204	-1.3431	0.0328	-0.1572	0.0212
3	195.12	0.6498	0.2542	0.0016	-0.3599	0.0244	-1.8767	0.0382	-0.3167	0.0346
3	195.12	0.6890	0.2743	0.0022	-0.3411	0.0267	-2.3286	0.0414	-0.0731	0.0497
3	195.12	0.7495	0.3305	0.0022	-0.4450	0.0305	-3.1849	0.0453	-0.2952	0.0351
3	195.12	0.7998	0.2772	0.0021	-0.4901	0.0318	-3.9740	0.0518	-0.3462	0.0456
3	195.12	0.8577	0.2770	0.0064	-0.5647	0.0417	-5.0262	0.0684	-0.5246	0.2639

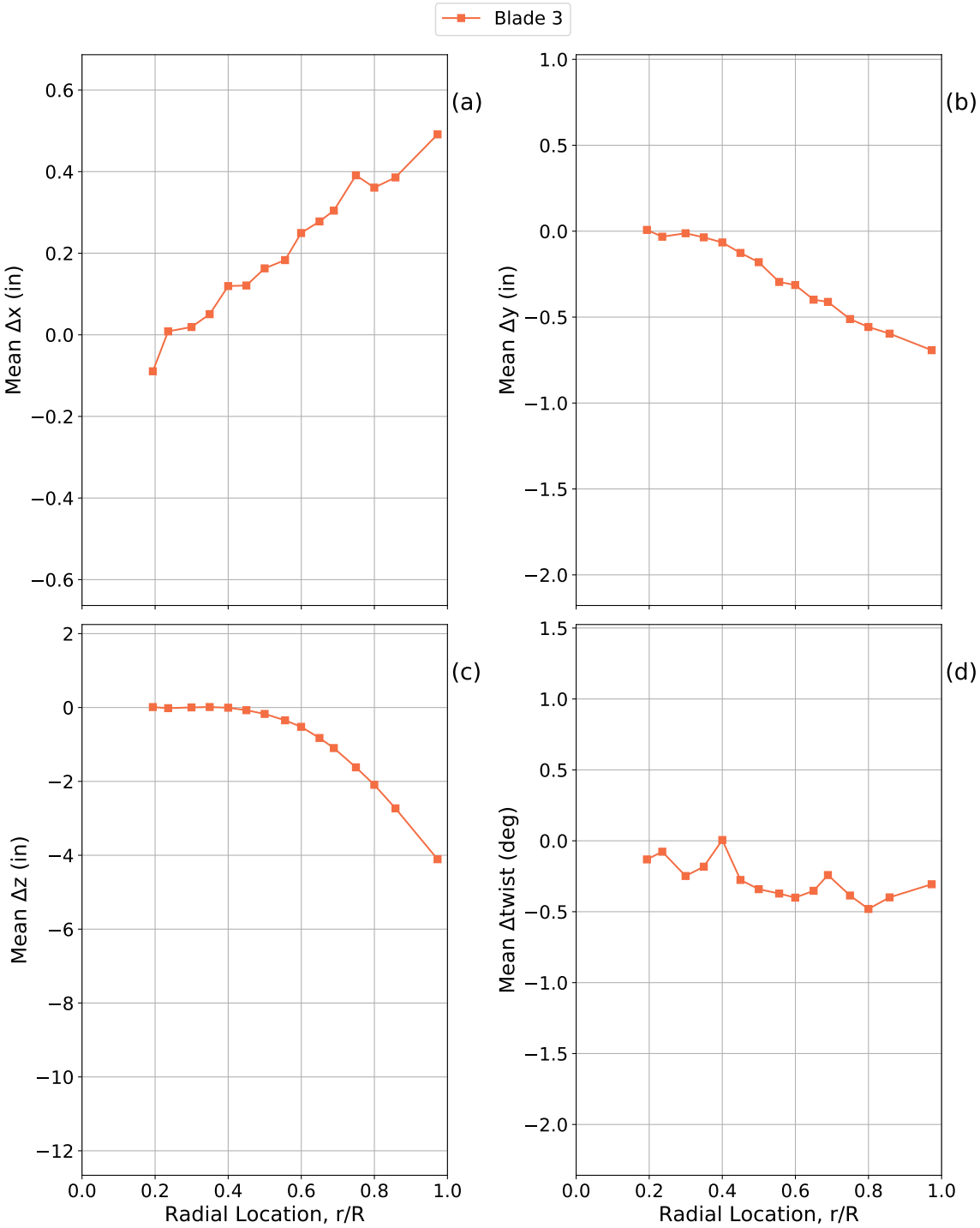


Figure 4.31-22. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-22. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0894	0.0011	0.0074	0.0010	0.0125	0.0018	-0.1314	0.0069
3	209.88	0.2357	0.0085	0.0007	-0.0321	0.0012	-0.0177	0.0021	-0.0770	0.0216
3	209.88	0.2995	0.0191	0.0009	-0.0120	0.0039	0.0031	0.0064	-0.2481	0.0199
3	209.88	0.3493	0.0506	0.0011	-0.0358	0.0055	0.0132	0.0082	-0.1826	0.0255
3	209.88	0.4000	0.1195	0.0010	-0.0656	0.0090	-0.0054	0.0137	0.0055	0.0244
3	209.88	0.4497	0.1209	0.0008	-0.1265	0.0097	-0.0725	0.0151	-0.2760	0.0268
3	209.88	0.4997	0.1629	0.0012	-0.1805	0.0124	-0.1735	0.0199	-0.3409	0.0271
3	209.88	0.5556	0.1831	0.0013	-0.2954	0.0145	-0.3464	0.0235	-0.3720	0.0266
3	209.88	0.5995	0.2495	0.0016	-0.3133	0.0163	-0.5227	0.0257	-0.4007	0.0317
3	209.88	0.6498	0.2779	0.0014	-0.3986	0.0184	-0.8251	0.0295	-0.3524	0.0284
3	209.88	0.6890	0.3044	0.0018	-0.4115	0.0211	-1.0977	0.0308	-0.2415	0.0344
3	209.88	0.7495	0.3910	0.0018	-0.5115	0.0247	-1.6193	0.0360	-0.3858	0.0276
3	209.88	0.7998	0.3608	0.0017	-0.5575	0.0282	-2.0926	0.0390	-0.4805	0.0334
3	209.88	0.8577	0.3858	0.0020	-0.5962	0.0308	-2.7307	0.0457	-0.3989	0.0681
3	209.88	0.9729	0.4913	0.0083	-0.6925	0.0426	-4.1068	0.0791	-0.3064	0.2468

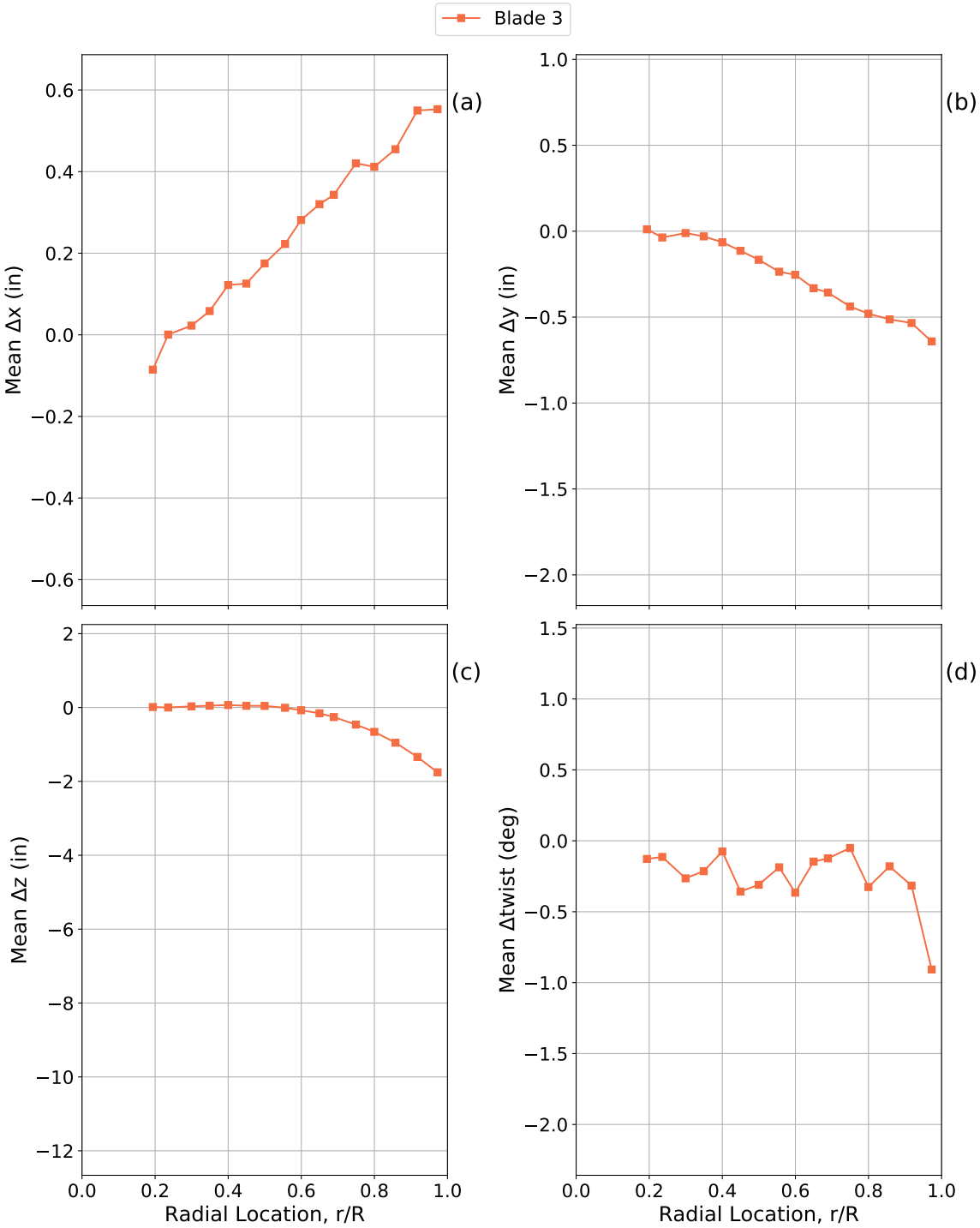


Figure 4.31-23. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-23. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0854	0.0009	0.0107	0.0007	0.0132	0.0018	-0.1281	0.0192
3	225	0.2357	0.0006	0.0005	-0.0366	0.0010	0.0004	0.0019	-0.1138	0.0297
3	225	0.2995	0.0226	0.0010	-0.0110	0.0032	0.0306	0.0069	-0.2648	0.0451
3	225	0.3493	0.0582	0.0009	-0.0302	0.0041	0.0493	0.0095	-0.2139	0.0415
3	225	0.4000	0.1221	0.0015	-0.0646	0.0072	0.0670	0.0156	-0.0753	0.0508
3	225	0.4497	0.1256	0.0010	-0.1139	0.0080	0.0467	0.0181	-0.3579	0.0457
3	225	0.4997	0.1749	0.0017	-0.1662	0.0096	0.0435	0.0193	-0.3099	0.0318
3	225	0.5556	0.2227	0.0009	-0.2359	0.0126	-0.0074	0.0242	-0.1869	0.0494
3	225	0.5995	0.2815	0.0012	-0.2536	0.0139	-0.0736	0.0273	-0.3654	0.0350
3	225	0.6498	0.3202	0.0012	-0.3319	0.0177	-0.1562	0.0321	-0.1467	0.0400
3	225	0.6890	0.3431	0.0014	-0.3572	0.0190	-0.2591	0.0339	-0.1239	0.0441
3	225	0.7495	0.4203	0.0014	-0.4382	0.0221	-0.4615	0.0375	-0.0507	0.0450
3	225	0.7998	0.4119	0.0013	-0.4801	0.0251	-0.6586	0.0401	-0.3259	0.0433
3	225	0.8577	0.4549	0.0013	-0.5131	0.0276	-0.9517	0.0444	-0.1801	0.0469
3	225	0.9178	0.5498	0.0021	-0.5344	0.0314	-1.3390	0.0482	-0.3160	0.0431
3	225	0.9729	0.5530	0.0034	-0.6414	0.0342	-1.7549	0.0579	-0.9076	0.0616

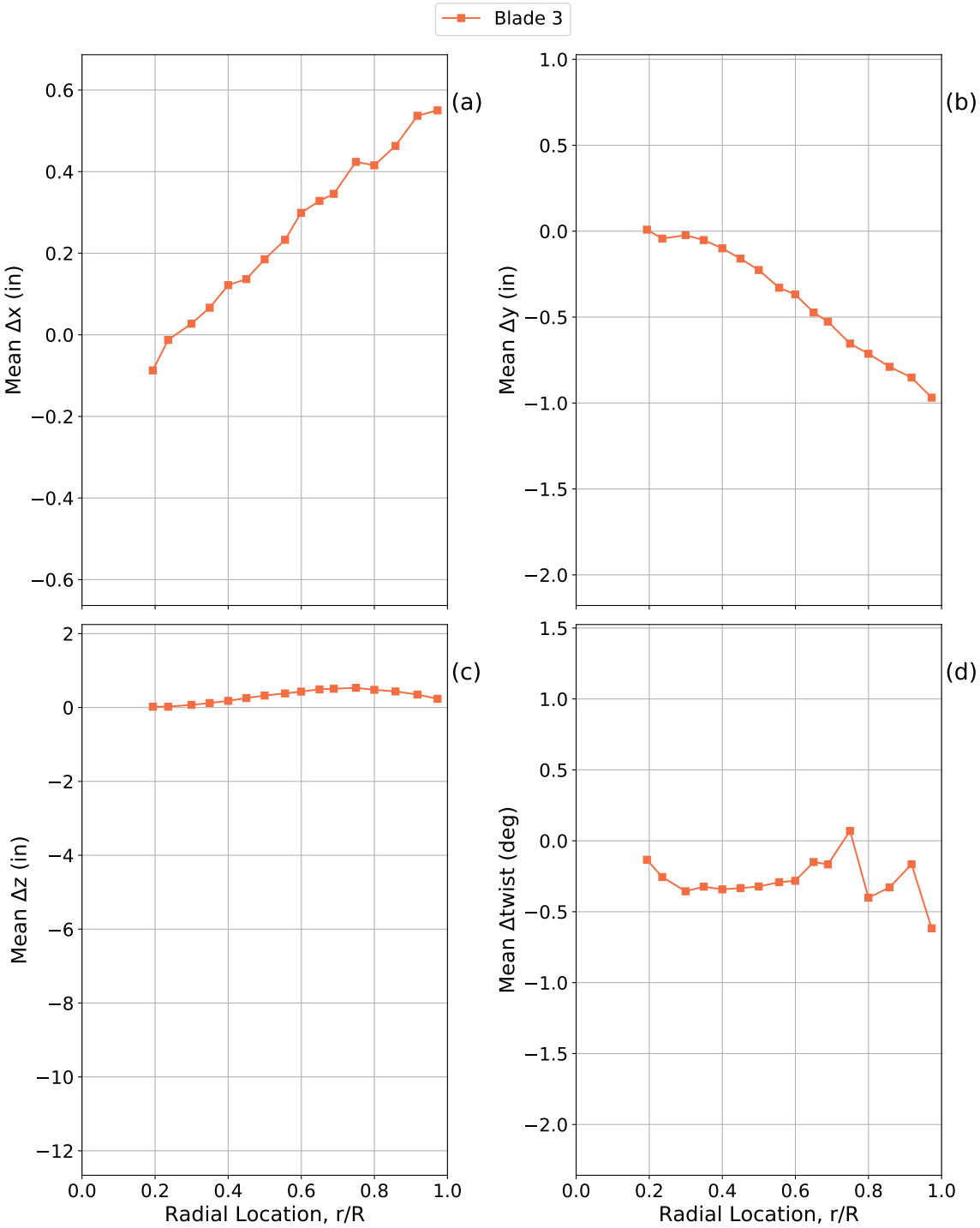


Figure 4.31-24. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-24. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0871	0.0010	0.0088	0.0006	0.0220	0.0014	-0.1337	0.0115
3	240.12	0.2357	-0.0124	0.0011	-0.0431	0.0012	0.0229	0.0022	-0.2556	0.0203
3	240.12	0.2995	0.0273	0.0007	-0.0234	0.0021	0.0725	0.0036	-0.3559	0.0262
3	240.12	0.3493	0.0665	0.0006	-0.0518	0.0037	0.1216	0.0073	-0.3234	0.0217
3	240.12	0.4000	0.1218	0.0011	-0.0998	0.0059	0.1803	0.0100	-0.3425	0.0304
3	240.12	0.4497	0.1366	0.0013	-0.1596	0.0064	0.2562	0.0153	-0.3334	0.0299
3	240.12	0.4997	0.1851	0.0018	-0.2260	0.0078	0.3241	0.0177	-0.3223	0.0274
3	240.12	0.5556	0.2329	0.0015	-0.3292	0.0087	0.3817	0.0217	-0.2917	0.0254
3	240.12	0.5995	0.2990	0.0021	-0.3678	0.0104	0.4309	0.0240	-0.2821	0.0245
3	240.12	0.6498	0.3283	0.0019	-0.4733	0.0117	0.4918	0.0263	-0.1499	0.0256
3	240.12	0.6890	0.3456	0.0016	-0.5263	0.0131	0.5074	0.0281	-0.1665	0.0258
3	240.12	0.7495	0.4238	0.0023	-0.6540	0.0157	0.5333	0.0317	0.0699	0.0284
3	240.12	0.7998	0.4155	0.0022	-0.7132	0.0182	0.4791	0.0344	-0.4014	0.0317
3	240.12	0.8577	0.4630	0.0020	-0.7892	0.0217	0.4352	0.0382	-0.3287	0.0325
3	240.12	0.9178	0.5369	0.0022	-0.8518	0.0254	0.3517	0.0427	-0.1652	0.0264
3	240.12	0.9729	0.5501	0.0030	-0.9686	0.0290	0.2361	0.0457	-0.6171	0.0368

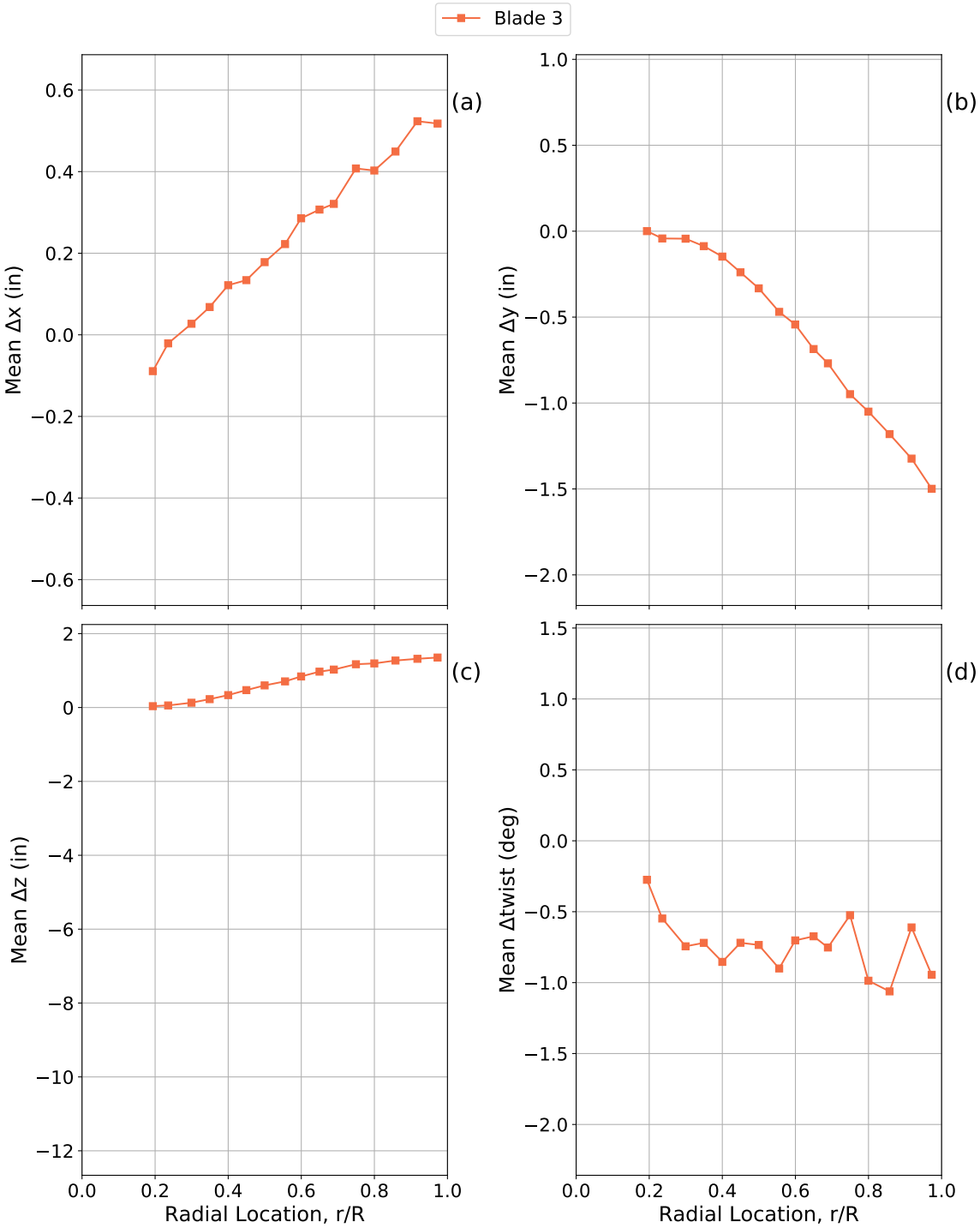


Figure 4.31-25. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-25. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0890	0.0021	0.0004	0.0006	0.0366	0.0025	-0.2749	0.0129
3	254.88	0.2357	-0.0209	0.0016	-0.0424	0.0016	0.0560	0.0037	-0.5478	0.0419
3	254.88	0.2995	0.0271	0.0013	-0.0437	0.0028	0.1299	0.0073	-0.7440	0.0354
3	254.88	0.3493	0.0681	0.0008	-0.0871	0.0050	0.2263	0.0111	-0.7196	0.0447
3	254.88	0.4000	0.1216	0.0012	-0.1478	0.0079	0.3360	0.0172	-0.8538	0.0413
3	254.88	0.4497	0.1340	0.0011	-0.2393	0.0095	0.4706	0.0190	-0.7190	0.0414
3	254.88	0.4997	0.1781	0.0016	-0.3326	0.0117	0.5985	0.0240	-0.7345	0.0489
3	254.88	0.5556	0.2224	0.0018	-0.4695	0.0140	0.7072	0.0289	-0.9002	0.0412
3	254.88	0.5995	0.2856	0.0022	-0.5430	0.0162	0.8406	0.0317	-0.7024	0.0411
3	254.88	0.6498	0.3070	0.0023	-0.6859	0.0184	0.9708	0.0365	-0.6733	0.0408
3	254.88	0.6890	0.3209	0.0024	-0.7690	0.0202	1.0271	0.0398	-0.7523	0.0421
3	254.88	0.7495	0.4077	0.0023	-0.9485	0.0234	1.1713	0.0443	-0.5247	0.0372
3	254.88	0.7998	0.4027	0.0026	-1.0500	0.0261	1.1936	0.0474	-0.9864	0.0417
3	254.88	0.8577	0.4492	0.0018	-1.1808	0.0291	1.2717	0.0521	-1.0618	0.0410
3	254.88	0.9178	0.5235	0.0021	-1.3233	0.0328	1.3188	0.0570	-0.6107	0.0452
3	254.88	0.9729	0.5178	0.0028	-1.4990	0.0368	1.3531	0.0614	-0.9447	0.0472

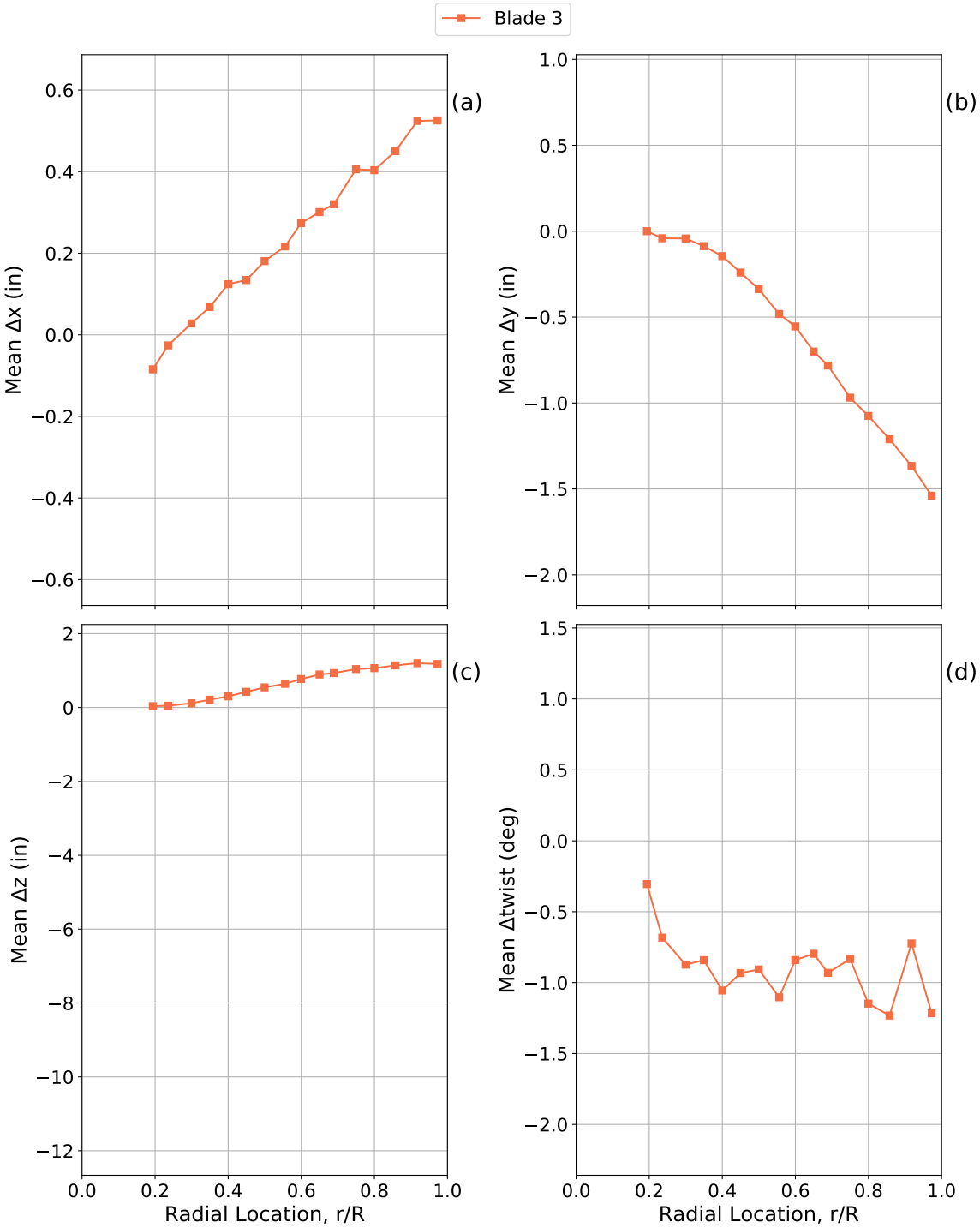


Figure 4.31-26. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-26. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0846	0.0052	-0.0000	0.0016	0.0364	0.0053	-0.3052	0.0382
3	260.16	0.2357	-0.0259	0.0015	-0.0410	0.0012	0.0485	0.0059	-0.6831	0.0842
3	260.16	0.2995	0.0279	0.0017	-0.0423	0.0046	0.1153	0.0154	-0.8735	0.1032
3	260.16	0.3493	0.0679	0.0015	-0.0870	0.0080	0.2111	0.0270	-0.8419	0.0925
3	260.16	0.4000	0.1242	0.0020	-0.1449	0.0116	0.3011	0.0382	-1.0558	0.0966
3	260.16	0.4497	0.1344	0.0019	-0.2407	0.0149	0.4254	0.0490	-0.9328	0.0936
3	260.16	0.4997	0.1808	0.0017	-0.3368	0.0178	0.5461	0.0593	-0.9076	0.0960
3	260.16	0.5556	0.2166	0.0020	-0.4819	0.0211	0.6407	0.0721	-1.1035	0.0953
3	260.16	0.5995	0.2740	0.0021	-0.5544	0.0241	0.7719	0.0825	-0.8412	0.0925
3	260.16	0.6498	0.3009	0.0021	-0.7003	0.0272	0.8936	0.0933	-0.7968	0.1075
3	260.16	0.6890	0.3201	0.0019	-0.7819	0.0295	0.9324	0.1031	-0.9316	0.0951
3	260.16	0.7495	0.4058	0.0019	-0.9687	0.0332	1.0410	0.1177	-0.8333	0.0922
3	260.16	0.7998	0.4036	0.0020	-1.0752	0.0364	1.0656	0.1304	-1.1485	0.0958
3	260.16	0.8577	0.4503	0.0026	-1.2106	0.0395	1.1402	0.1454	-1.2323	0.0907
3	260.16	0.9178	0.5243	0.0025	-1.3664	0.0428	1.2000	0.1621	-0.7242	0.0952
3	260.16	0.9729	0.5255	0.0037	-1.5393	0.0460	1.1780	0.1785	-1.2162	0.0947

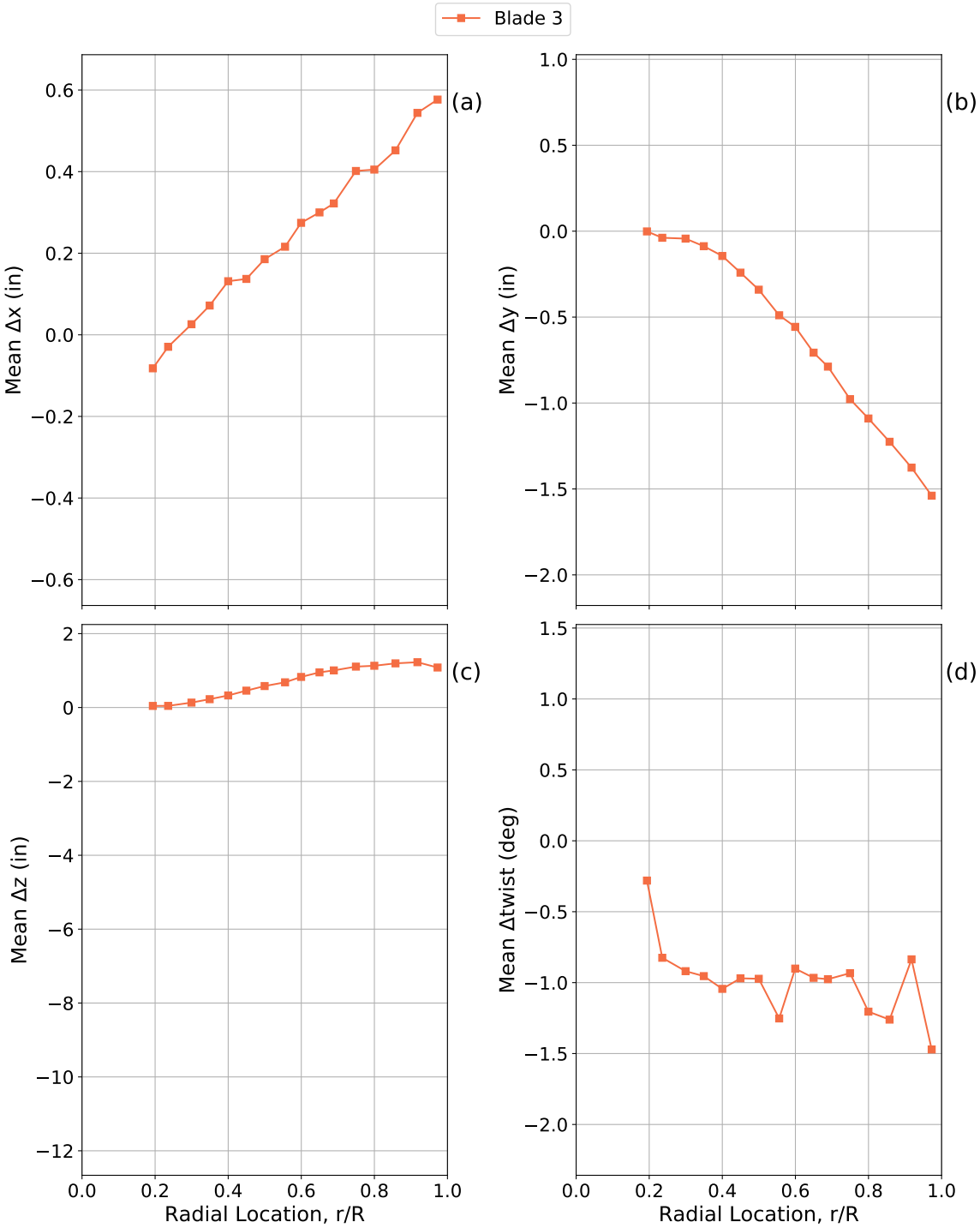


Figure 4.31-27. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-27. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0821	0.0037	-0.0014	0.0014	0.0433	0.0065	-0.2805	0.0263
3	265.08	0.2357	-0.0293	0.0018	-0.0383	0.0010	0.0444	0.0041	-0.8247	0.0891
3	265.08	0.2995	0.0259	0.0016	-0.0433	0.0039	0.1329	0.0162	-0.9192	0.0856
3	265.08	0.3493	0.0718	0.0019	-0.0874	0.0064	0.2254	0.0260	-0.9541	0.0813
3	265.08	0.4000	0.1314	0.0023	-0.1442	0.0093	0.3269	0.0363	-1.0440	0.0857
3	265.08	0.4497	0.1370	0.0030	-0.2412	0.0115	0.4566	0.0445	-0.9695	0.0986
3	265.08	0.4997	0.1854	0.0036	-0.3404	0.0143	0.5810	0.0558	-0.9729	0.0807
3	265.08	0.5556	0.2159	0.0029	-0.4893	0.0179	0.6823	0.0651	-1.2524	0.0926
3	265.08	0.5995	0.2745	0.0033	-0.5568	0.0208	0.8277	0.0729	-0.9011	0.0920
3	265.08	0.6498	0.3000	0.0035	-0.7069	0.0240	0.9514	0.0815	-0.9662	0.0880
3	265.08	0.6890	0.3220	0.0029	-0.7882	0.0267	1.0044	0.0881	-0.9758	0.0848
3	265.08	0.7495	0.4016	0.0034	-0.9774	0.0309	1.1068	0.0976	-0.9332	0.0853
3	265.08	0.7998	0.4050	0.0034	-1.0900	0.0350	1.1302	0.1057	-1.2045	0.0878
3	265.08	0.8577	0.4521	0.0033	-1.2254	0.0386	1.1955	0.1174	-1.2608	0.0925
3	265.08	0.9178	0.5440	0.0035	-1.3759	0.0441	1.2263	0.1282	-0.8358	0.0930
3	265.08	0.9729	0.5766	0.0045	-1.5392	0.0487	1.0826	0.1412	-1.4710	0.0878

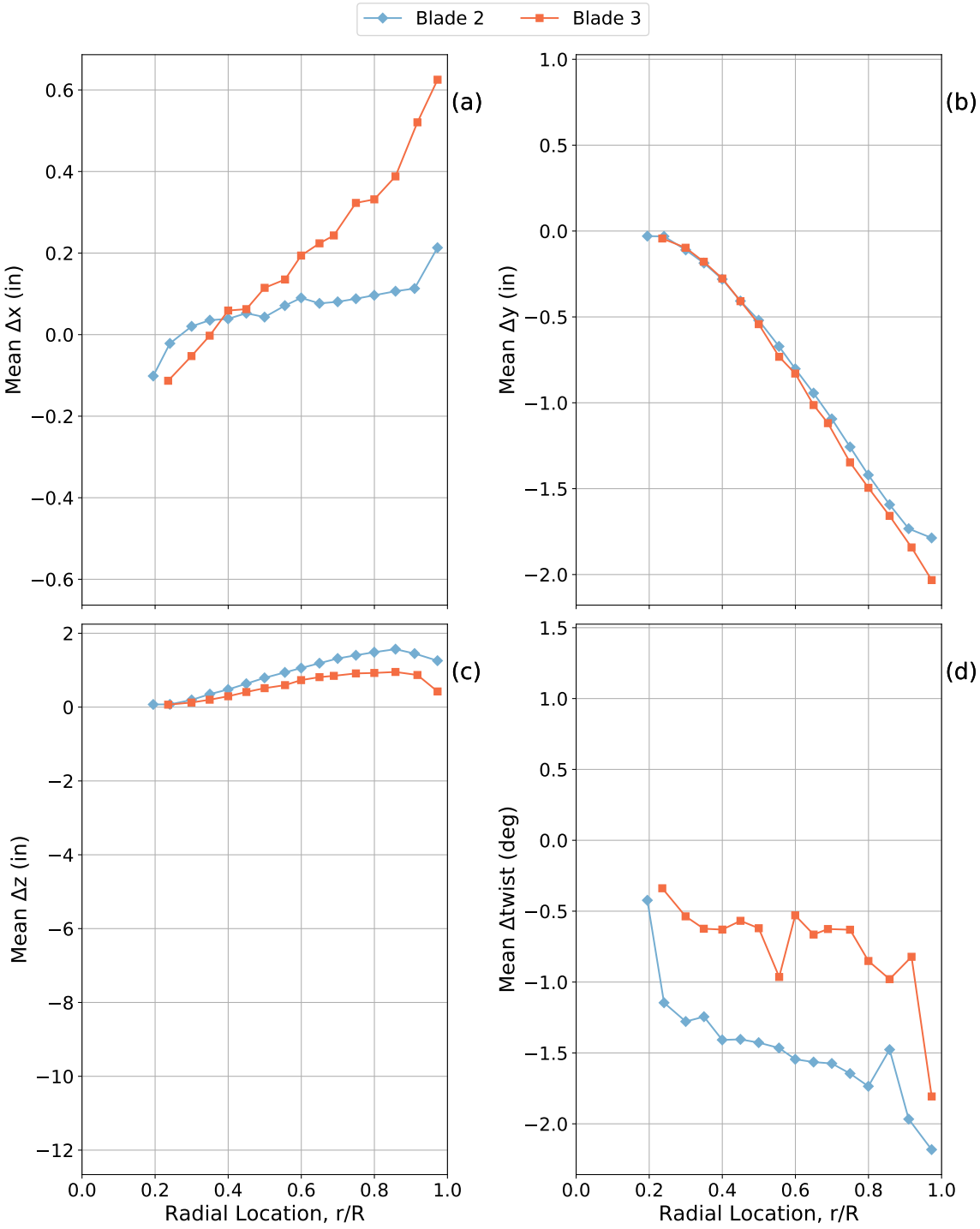


Figure 4.31-28. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-28. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.1015	0.0061	-0.0296	0.0022	0.0717	0.0117	-0.4230	0.0525
2	270.35	0.2405	-0.0216	0.0024	-0.0311	0.0014	0.0737	0.0086	-1.1459	0.1702
2	270.35	0.2999	0.0203	0.0010	-0.1100	0.0062	0.1943	0.0316	-1.2783	0.1673
2	270.35	0.3498	0.0354	0.0018	-0.1865	0.0102	0.3516	0.0516	-1.2445	0.1703
2	270.35	0.3998	0.0387	0.0015	-0.2803	0.0145	0.4779	0.0719	-1.4081	0.1674
2	270.35	0.4496	0.0525	0.0019	-0.4073	0.0186	0.6340	0.0928	-1.4043	0.1618
2	270.35	0.4995	0.0430	0.0021	-0.5197	0.0227	0.7924	0.1129	-1.4273	0.1489
2	270.35	0.5551	0.0711	0.0020	-0.6716	0.0268	0.9398	0.1324	-1.4651	0.1657
2	270.35	0.5996	0.0901	0.0022	-0.8023	0.0301	1.0577	0.1526	-1.5447	0.1588
2	270.35	0.6497	0.0766	0.0022	-0.9435	0.0337	1.1889	0.1743	-1.5643	0.1537
2	270.35	0.6996	0.0805	0.0024	-1.0938	0.0372	1.3169	0.1943	-1.5743	0.1655
2	270.35	0.7495	0.0880	0.0029	-1.2571	0.0414	1.4042	0.2183	-1.6453	0.1538
2	270.35	0.7996	0.0965	0.0026	-1.4205	0.0451	1.4870	0.2404	-1.7353	0.1538
2	270.35	0.8578	0.1064	0.0033	-1.5931	0.0498	1.5691	0.2679	-1.4764	0.1555
2	270.35	0.9100	0.1131	0.0033	-1.7330	0.0541	1.4503	0.2909	-1.9669	0.1558
2	270.35	0.9727	0.2132	0.0058	-1.7868	0.0602	1.2573	0.3154	-2.1818	0.1900
3	270	0.2357	-0.1131	0.0027	-0.0433	0.0020	0.0660	0.0093	-0.3383	0.0999
3	270	0.2995	-0.0526	0.0014	-0.0972	0.0041	0.1234	0.0163	-0.5365	0.1603
3	270	0.3493	-0.0026	0.0017	-0.1786	0.0082	0.2000	0.0319	-0.6238	0.1395
3	270	0.4000	0.0591	0.0023	-0.2764	0.0121	0.2936	0.0450	-0.6298	0.1485
3	270	0.4497	0.0625	0.0023	-0.4082	0.0149	0.4091	0.0567	-0.5678	0.1488
3	270	0.4997	0.1148	0.0027	-0.5422	0.0183	0.5129	0.0702	-0.6203	0.1459
3	270	0.5556	0.1352	0.0027	-0.7323	0.0222	0.5951	0.0862	-0.9642	0.1371
3	270	0.5995	0.1939	0.0025	-0.8297	0.0252	0.7312	0.0971	-0.5293	0.1415
3	270	0.6498	0.2239	0.0022	-1.0133	0.0284	0.8121	0.1112	-0.6648	0.1413
3	270	0.6890	0.2432	0.0022	-1.1186	0.0311	0.8468	0.1234	-0.6259	0.1389
3	270	0.7495	0.3230	0.0024	-1.3471	0.0351	0.9125	0.1424	-0.6307	0.1338
3	270	0.7998	0.3317	0.0026	-1.4949	0.0388	0.9251	0.1555	-0.8513	0.1407
3	270	0.8577	0.3880	0.0030	-1.6584	0.0426	0.9521	0.1711	-0.9795	0.1392
3	270	0.9178	0.5206	0.0031	-1.8422	0.0469	0.8696	0.1857	-0.8217	0.1558
3	270	0.9729	0.6252	0.0048	-2.0324	0.0517	0.4236	0.2021	-1.8070	0.1432

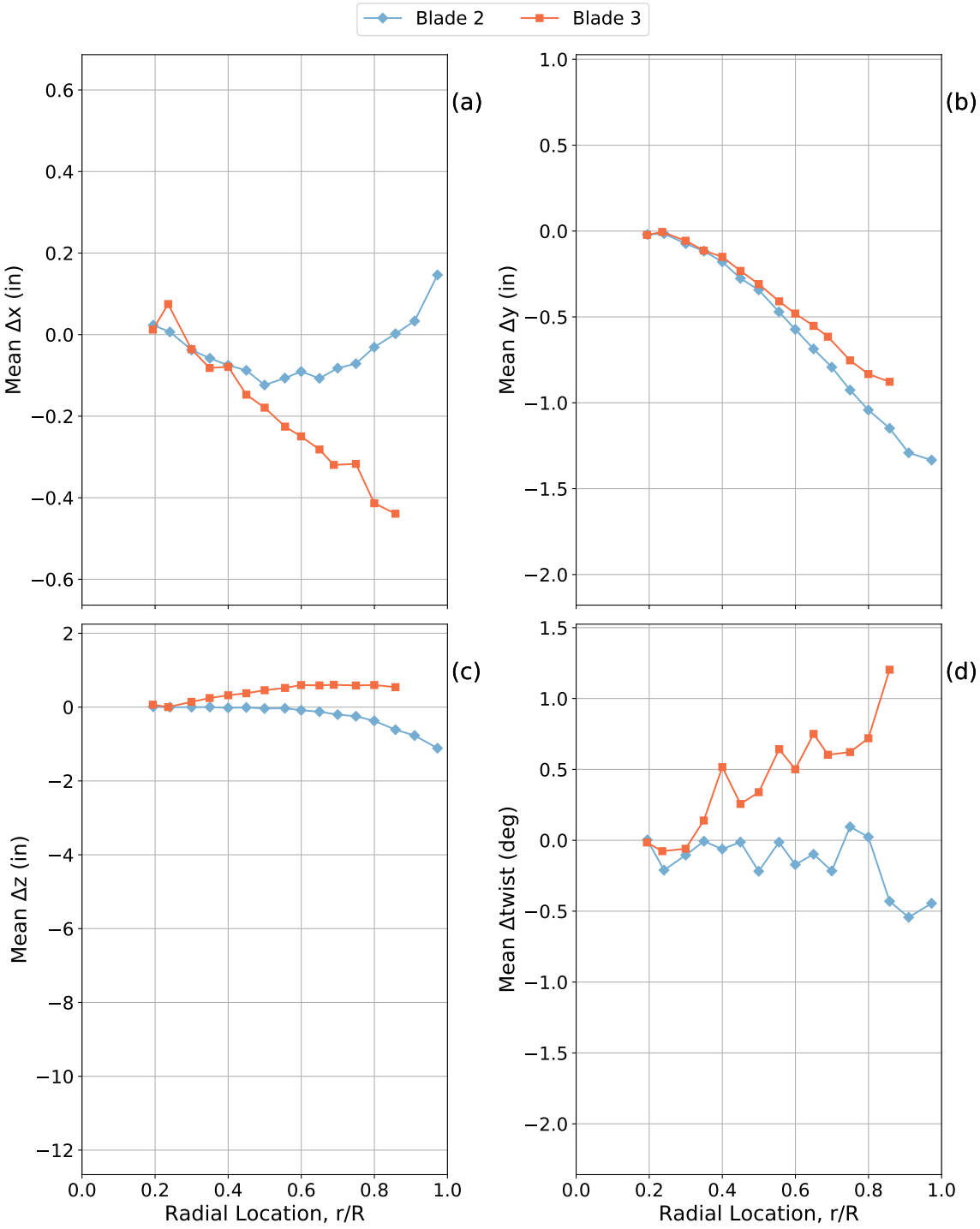


Figure 4.31-29. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-29. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0233	0.0011	-0.0199	0.0006	0.0094	0.0014	0.0028	0.0100
2	274.92	0.2405	0.0066	0.0003	-0.0153	0.0014	-0.0027	0.0043	-0.2106	0.0147
2	274.92	0.2999	-0.0376	0.0010	-0.0732	0.0025	-0.0010	0.0069	-0.1044	0.0187
2	274.92	0.3498	-0.0580	0.0009	-0.1172	0.0041	0.0010	0.0112	-0.0066	0.0225
2	274.92	0.3998	-0.0751	0.0016	-0.1789	0.0065	-0.0197	0.0185	-0.0621	0.0296
2	274.92	0.4496	-0.0876	0.0020	-0.2755	0.0075	-0.0094	0.0195	-0.0127	0.0410
2	274.92	0.4995	-0.1236	0.0018	-0.3425	0.0096	-0.0383	0.0256	-0.2184	0.0259
2	274.92	0.5551	-0.1066	0.0022	-0.4704	0.0124	-0.0328	0.0317	-0.0131	0.0367
2	274.92	0.5996	-0.0905	0.0018	-0.5725	0.0144	-0.0841	0.0377	-0.1715	0.0409
2	274.92	0.6497	-0.1072	0.0029	-0.6863	0.0168	-0.1241	0.0399	-0.0982	0.0447
2	274.92	0.6996	-0.0822	0.0025	-0.7926	0.0192	-0.2031	0.0414	-0.2160	0.0307
2	274.92	0.7495	-0.0712	0.0038	-0.9257	0.0220	-0.2485	0.0486	0.0955	0.0426
2	274.92	0.7996	-0.0309	0.0031	-1.0418	0.0241	-0.3714	0.0488	0.0234	0.0414
2	274.92	0.8578	0.0022	0.0039	-1.1484	0.0280	-0.6123	0.0569	-0.4305	0.1093
2	274.92	0.9100	0.0333	0.0082	-1.2913	0.0325	-0.7694	0.0589	-0.5432	0.1322
2	274.92	0.9727	0.1463	0.0092	-1.3334	0.0377	-1.1136	0.0747	-0.4447	0.2184
3	274.92	0.1938	0.0122	0.0020	-0.0224	0.0017	0.0648	0.0036	-0.0152	0.0269
3	274.92	0.2357	0.0749	0.0015	-0.0053	0.0022	0.0002	0.0041	-0.0767	0.0533
3	274.92	0.2995	-0.0359	0.0010	-0.0562	0.0073	0.1416	0.0115	-0.0595	0.0708
3	274.92	0.3493	-0.0818	0.0016	-0.1135	0.0111	0.2448	0.0179	0.1396	0.0616
3	274.92	0.4000	-0.0789	0.0020	-0.1501	0.0179	0.3201	0.0271	0.5167	0.0447
3	274.92	0.4497	-0.1473	0.0018	-0.2319	0.0221	0.3752	0.0321	0.2565	0.0501
3	274.92	0.4997	-0.1791	0.0019	-0.3090	0.0233	0.4565	0.0323	0.3395	0.0789
3	274.92	0.5556	-0.2256	0.0021	-0.4093	0.0280	0.5190	0.0381	0.6430	0.0666
3	274.92	0.5995	-0.2496	0.0032	-0.4804	0.0321	0.5967	0.0431	0.5013	0.0690
3	274.92	0.6498	-0.2817	0.0019	-0.5521	0.0356	0.5890	0.0486	0.7505	0.0672
3	274.92	0.6890	-0.3195	0.0017	-0.6153	0.0381	0.6041	0.0484	0.6036	0.0794
3	274.92	0.7495	-0.3171	0.0024	-0.7530	0.0415	0.5856	0.0572	0.6224	0.0400
3	274.92	0.7998	-0.4135	0.0042	-0.8327	0.0471	0.5976	0.0585	0.7199	0.0722
3	274.92	0.8577	-0.4392	0.0064	-0.8778	0.0478	0.5405	0.0729	1.2033	0.2071

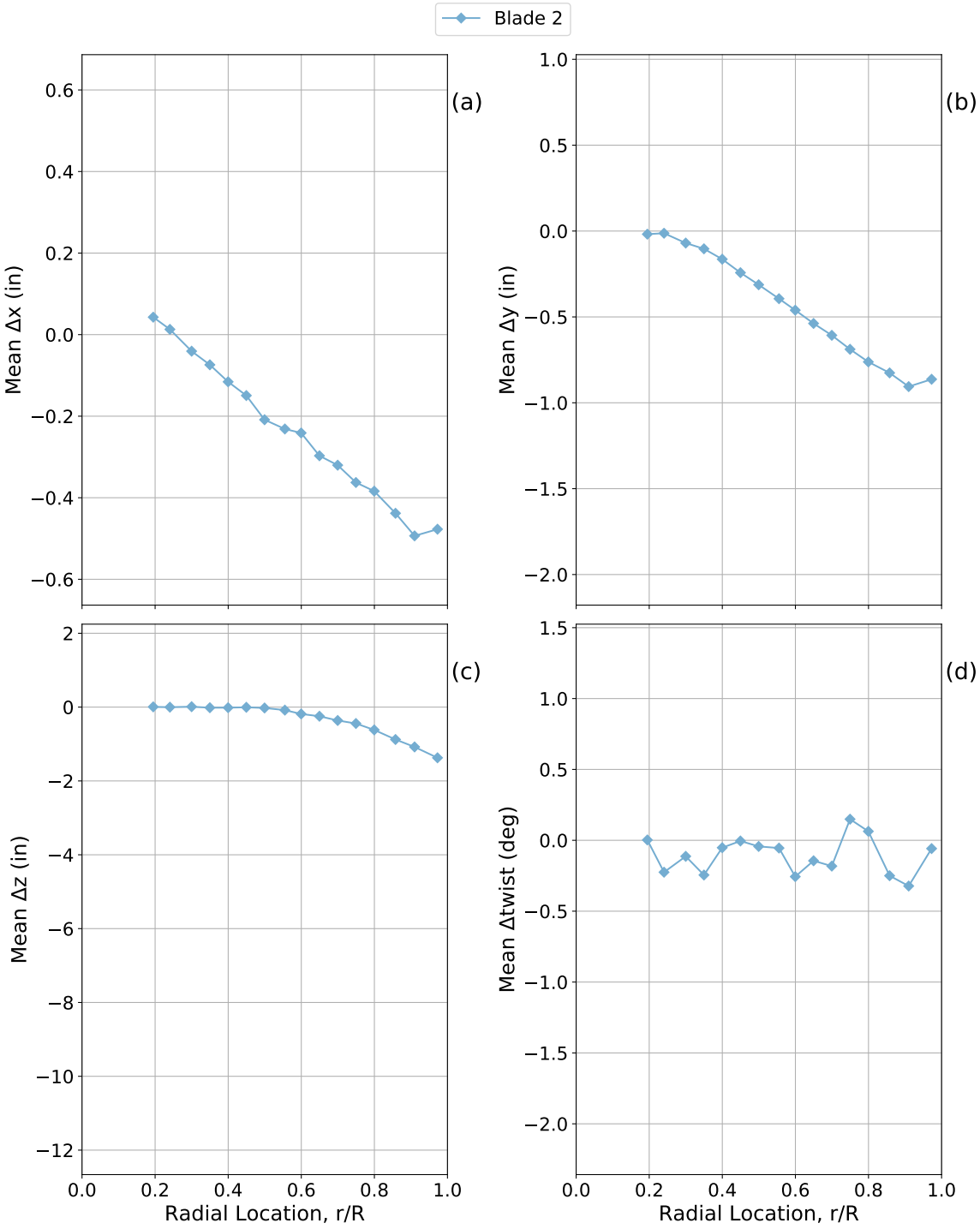


Figure 4.31-30. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-30. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0428	0.0012	-0.0182	0.0006	0.0067	0.0011	0.0025	0.0447
2	285.12	0.2405	0.0129	0.0013	-0.0127	0.0025	-0.0020	0.0056	-0.2251	0.0453
2	285.12	0.2999	-0.0406	0.0010	-0.0699	0.0033	0.0111	0.0112	-0.1131	0.0947
2	285.12	0.3498	-0.0740	0.0012	-0.1034	0.0037	-0.0164	0.0082	-0.2449	0.0549
2	285.12	0.3998	-0.1157	0.0022	-0.1639	0.0084	-0.0153	0.0220	-0.0521	0.0854
2	285.12	0.4496	-0.1494	0.0017	-0.2424	0.0092	-0.0052	0.0247	-0.0048	0.0300
2	285.12	0.4995	-0.2087	0.0023	-0.3127	0.0116	-0.0233	0.0272	-0.0432	0.0216
2	285.12	0.5551	-0.2314	0.0010	-0.3939	0.0142	-0.0813	0.0315	-0.0546	0.0473
2	285.12	0.5996	-0.2411	0.0029	-0.4607	0.0165	-0.1856	0.0349	-0.2563	0.0676
2	285.12	0.6497	-0.2971	0.0030	-0.5380	0.0191	-0.2474	0.0354	-0.1444	0.0420
2	285.12	0.6996	-0.3202	0.0030	-0.6071	0.0227	-0.3624	0.0414	-0.1821	0.0396
2	285.12	0.7495	-0.3626	0.0028	-0.6885	0.0264	-0.4442	0.0463	0.1490	0.0672
2	285.12	0.7996	-0.3839	0.0035	-0.7619	0.0296	-0.6179	0.0499	0.0632	0.0294
2	285.12	0.8578	-0.4381	0.0040	-0.8259	0.0344	-0.8773	0.0589	-0.2499	0.0552
2	285.12	0.9100	-0.4935	0.0027	-0.9057	0.0379	-1.0791	0.0632	-0.3225	0.0838
2	285.12	0.9727	-0.4772	0.0032	-0.8631	0.0404	-1.3731	0.0728	-0.0584	0.1004

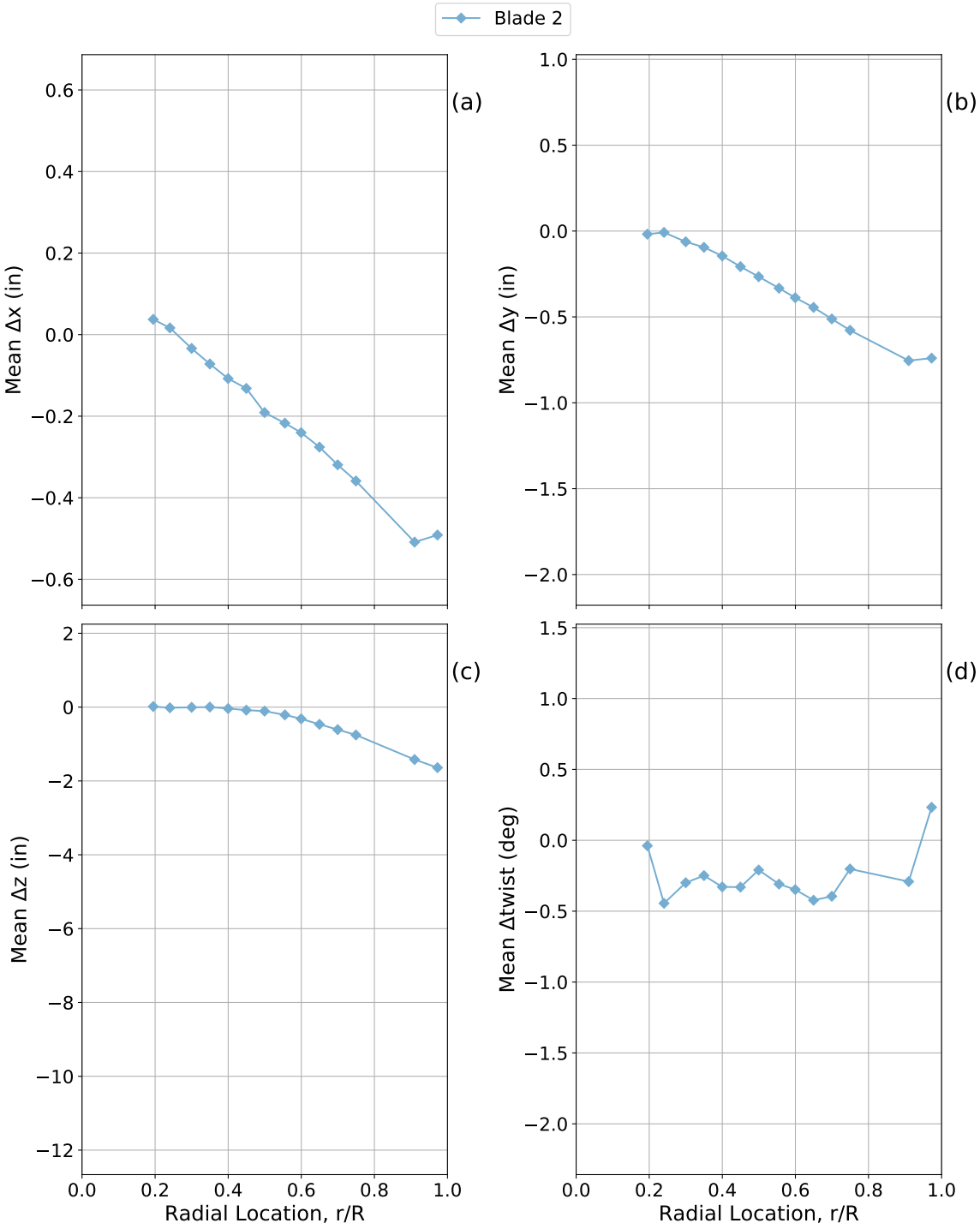


Figure 4.31-31. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-31. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0374	0.0016	-0.0181	0.0008	0.0156	0.0033	-0.0384	0.0133
2	299.88	0.2405	0.0165	0.0016	-0.0081	0.0030	-0.0181	0.0050	-0.4444	0.0370
2	299.88	0.2999	-0.0338	0.0015	-0.0625	0.0043	-0.0063	0.0128	-0.2993	0.0331
2	299.88	0.3498	-0.0720	0.0012	-0.0947	0.0085	0.0018	0.0196	-0.2488	0.0383
2	299.88	0.3998	-0.1078	0.0026	-0.1450	0.0131	-0.0393	0.0309	-0.3287	0.0559
2	299.88	0.4496	-0.1319	0.0026	-0.2071	0.0158	-0.0821	0.0370	-0.3303	0.0231
2	299.88	0.4995	-0.1910	0.0050	-0.2658	0.0194	-0.1087	0.0438	-0.2096	0.0443
2	299.88	0.5551	-0.2171	0.0023	-0.3327	0.0206	-0.2111	0.0480	-0.3089	0.0390
2	299.88	0.5996	-0.2403	0.0025	-0.3882	0.0220	-0.3175	0.0543	-0.3478	0.0278
2	299.88	0.6497	-0.2758	0.0024	-0.4445	0.0259	-0.4671	0.0641	-0.4229	0.0338
2	299.88	0.6996	-0.3193	0.0025	-0.5118	0.0287	-0.6095	0.0687	-0.3950	0.0339
2	299.88	0.7495	-0.3589	0.0033	-0.5777	0.0307	-0.7546	0.0743	-0.2023	0.0504
2	299.88	0.9100	-0.5088	0.0025	-0.7545	0.0414	-1.4205	0.1038	-0.2912	0.0361
2	299.88	0.9727	-0.4914	0.0030	-0.7401	0.0453	-1.6402	0.1133	0.2328	0.0312

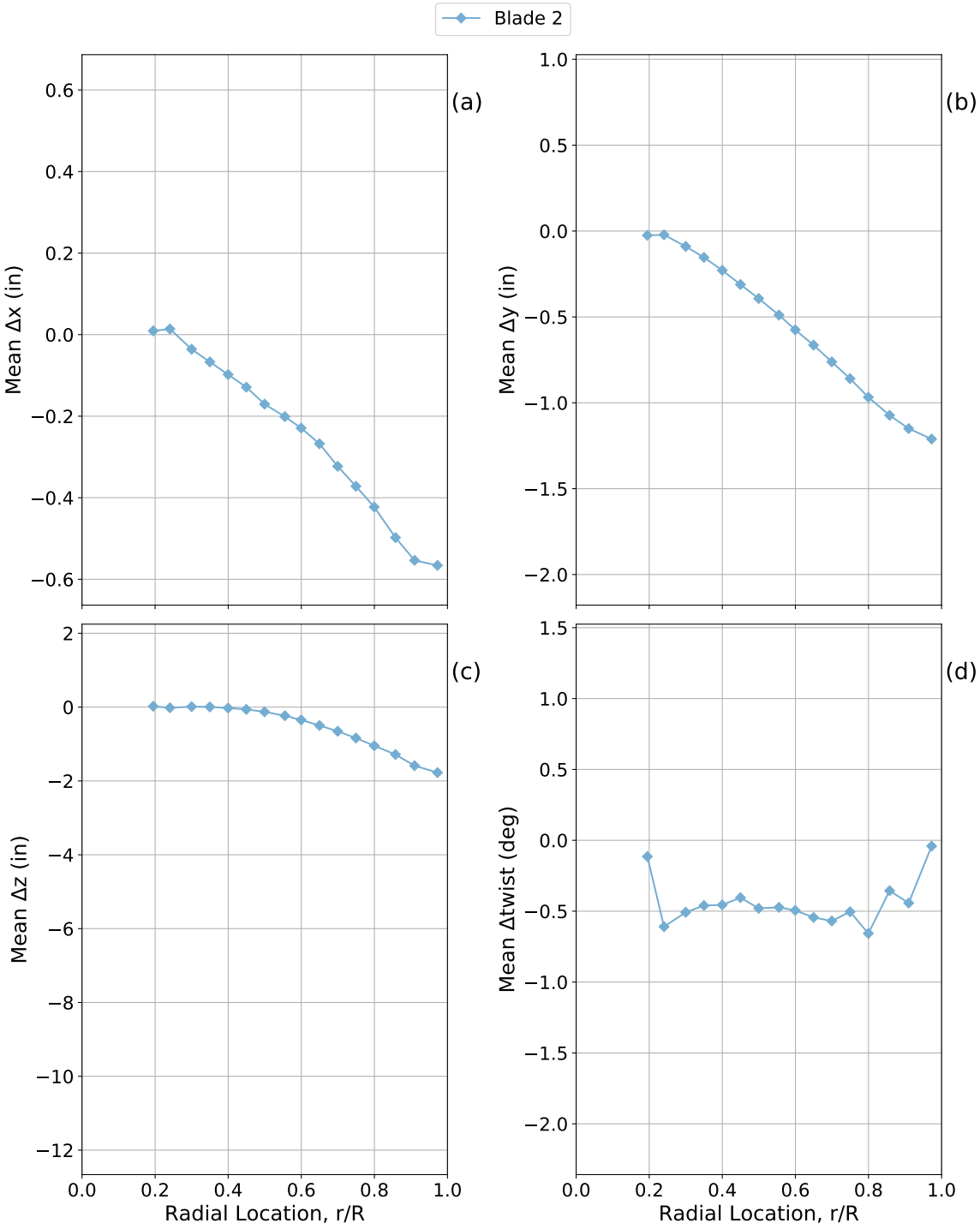


Figure 4.31-32. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-32. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0092	0.0019	-0.0250	0.0005	0.0227	0.0015	-0.1143	0.0196
2	315	0.2405	0.0139	0.0011	-0.0218	0.0018	-0.0174	0.0068	-0.6095	0.0262
2	315	0.2999	-0.0358	0.0018	-0.0898	0.0026	0.0125	0.0100	-0.5076	0.0433
2	315	0.3498	-0.0670	0.0029	-0.1539	0.0047	0.0048	0.0169	-0.4601	0.0468
2	315	0.3998	-0.0979	0.0017	-0.2286	0.0076	-0.0251	0.0284	-0.4557	0.0545
2	315	0.4496	-0.1289	0.0015	-0.3112	0.0093	-0.0625	0.0359	-0.4043	0.0549
2	315	0.4995	-0.1704	0.0016	-0.3927	0.0119	-0.1275	0.0391	-0.4799	0.0441
2	315	0.5551	-0.2012	0.0032	-0.4892	0.0131	-0.2341	0.0468	-0.4729	0.0345
2	315	0.5996	-0.2291	0.0037	-0.5751	0.0155	-0.3472	0.0523	-0.4945	0.0526
2	315	0.6497	-0.2676	0.0046	-0.6642	0.0183	-0.4978	0.0575	-0.5439	0.0546
2	315	0.6996	-0.3229	0.0016	-0.7617	0.0196	-0.6543	0.0649	-0.5694	0.0396
2	315	0.7495	-0.3718	0.0016	-0.8593	0.0228	-0.8385	0.0680	-0.5040	0.0327
2	315	0.7996	-0.4228	0.0021	-0.9674	0.0246	-1.0465	0.0714	-0.6571	0.0315
2	315	0.8578	-0.4978	0.0026	-1.0731	0.0278	-1.2845	0.0776	-0.3556	0.0378
2	315	0.9100	-0.5536	0.0021	-1.1501	0.0308	-1.5872	0.0844	-0.4425	0.0402
2	315	0.9727	-0.5660	0.0024	-1.2109	0.0338	-1.7737	0.0899	-0.0409	0.0488

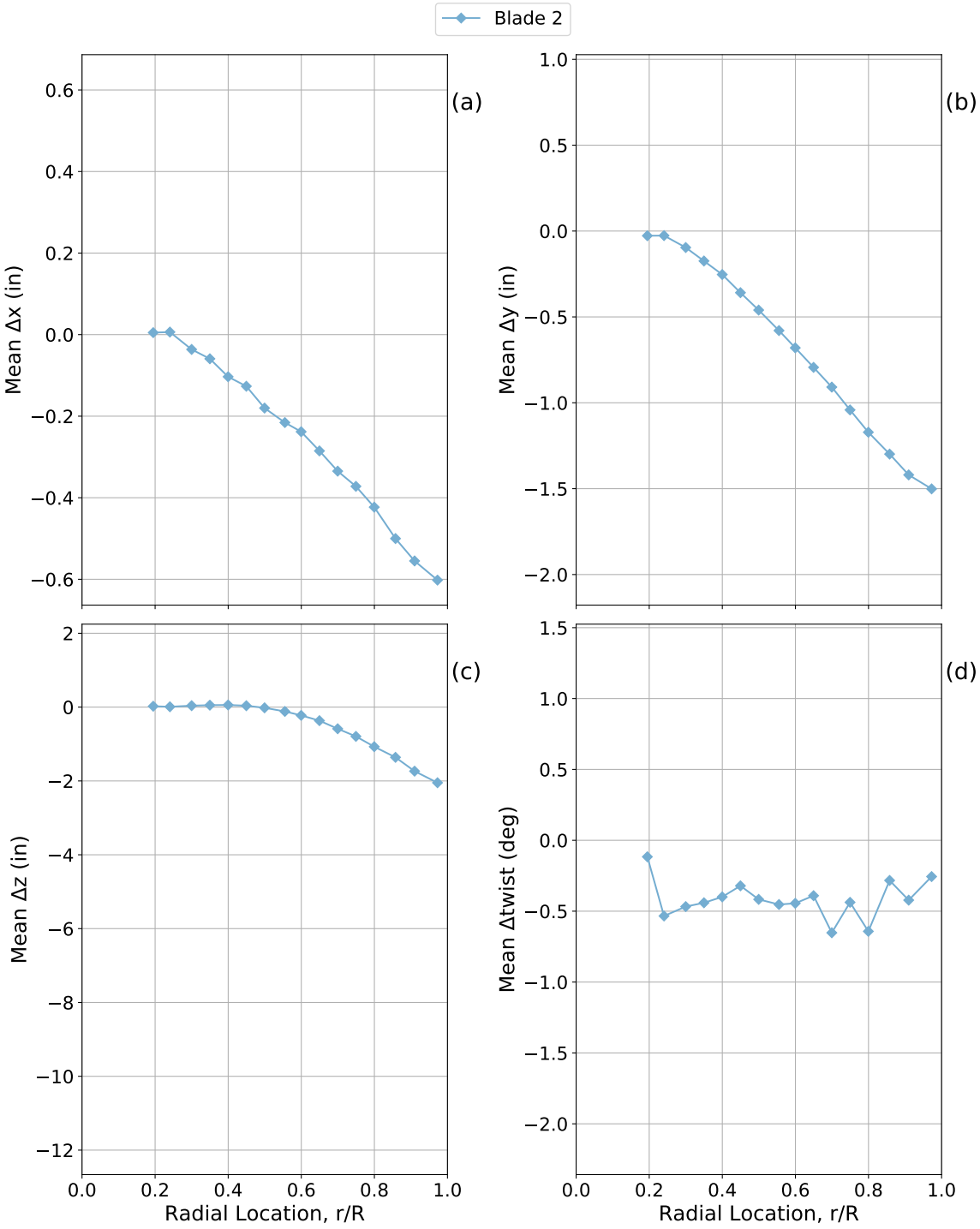


Figure 4.31-33. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-33. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0049	0.0015	-0.0273	0.0005	0.0238	0.0027	-0.1162	0.0156
2	330.12	0.2405	0.0063	0.0019	-0.0265	0.0010	0.0092	0.0035	-0.5339	0.0317
2	330.12	0.2999	-0.0363	0.0011	-0.0959	0.0024	0.0388	0.0090	-0.4676	0.0394
2	330.12	0.3498	-0.0592	0.0015	-0.1744	0.0039	0.0523	0.0148	-0.4408	0.0267
2	330.12	0.3998	-0.1033	0.0017	-0.2532	0.0062	0.0575	0.0220	-0.3992	0.0356
2	330.12	0.4496	-0.1266	0.0024	-0.3588	0.0064	0.0376	0.0276	-0.3211	0.0332
2	330.12	0.4995	-0.1801	0.0020	-0.4602	0.0083	-0.0191	0.0328	-0.4167	0.0391
2	330.12	0.5551	-0.2156	0.0030	-0.5795	0.0100	-0.1173	0.0384	-0.4529	0.0306
2	330.12	0.5996	-0.2381	0.0028	-0.6800	0.0103	-0.2242	0.0440	-0.4445	0.0309
2	330.12	0.6497	-0.2852	0.0036	-0.7937	0.0129	-0.3673	0.0483	-0.3906	0.0425
2	330.12	0.6996	-0.3348	0.0036	-0.9086	0.0167	-0.5865	0.0531	-0.6523	0.0530
2	330.12	0.7495	-0.3721	0.0034	-1.0416	0.0173	-0.7937	0.0567	-0.4375	0.0465
2	330.12	0.7996	-0.4231	0.0027	-1.1715	0.0197	-1.0721	0.0621	-0.6423	0.0351
2	330.12	0.8578	-0.5001	0.0028	-1.2986	0.0236	-1.3607	0.0666	-0.2831	0.0328
2	330.12	0.9100	-0.5550	0.0030	-1.4198	0.0266	-1.7353	0.0712	-0.4222	0.0403
2	330.12	0.9727	-0.6020	0.0037	-1.5012	0.0308	-2.0486	0.0779	-0.2559	0.0369

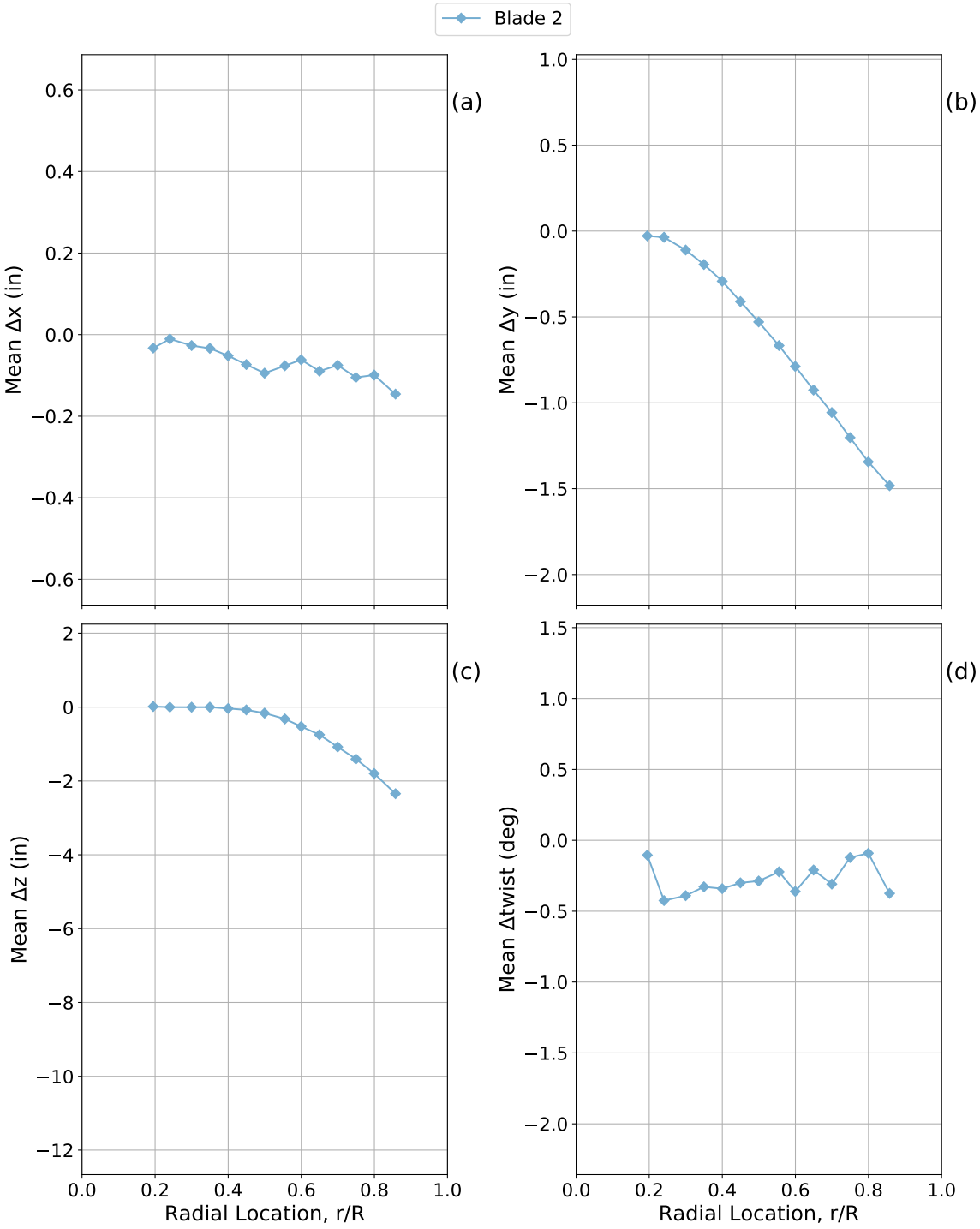


Figure 4.31-34. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-34. 345° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0330	0.0046	-0.0282	0.0006	0.0160	0.0023	-0.1047	0.0174
2	344.88	0.2405	-0.0106	0.0012	-0.0364	0.0014	-0.0010	0.0039	-0.4251	0.0333
2	344.88	0.2999	-0.0269	0.0021	-0.1104	0.0032	-0.0026	0.0078	-0.3903	0.0413
2	344.88	0.3498	-0.0336	0.0035	-0.1948	0.0042	-0.0013	0.0127	-0.3280	0.0344
2	344.88	0.3998	-0.0518	0.0046	-0.2923	0.0076	-0.0379	0.0194	-0.3411	0.0355
2	344.88	0.4496	-0.0734	0.0067	-0.4107	0.0091	-0.0762	0.0206	-0.3002	0.0412
2	344.88	0.4995	-0.0945	0.0056	-0.5293	0.0106	-0.1630	0.0277	-0.2871	0.0371
2	344.88	0.5551	-0.0763	0.0074	-0.6669	0.0140	-0.3208	0.0320	-0.2223	0.0366
2	344.88	0.5996	-0.0617	0.0071	-0.7881	0.0138	-0.5247	0.0333	-0.3605	0.0456
2	344.88	0.6497	-0.0896	0.0094	-0.9259	0.0173	-0.7494	0.0378	-0.2096	0.0552
2	344.88	0.6996	-0.0750	0.0106	-1.0565	0.0191	-1.0795	0.0401	-0.3089	0.0562
2	344.88	0.7495	-0.1050	0.0139	-1.2023	0.0202	-1.4063	0.0381	-0.1220	0.0634
2	344.88	0.7996	-0.0991	0.0181	-1.3441	0.0225	-1.7988	0.0425	-0.0913	0.1109
2	344.88	0.8578	-0.1457	0.0197	-1.4826	0.0243	-2.3455	0.0465	-0.3743	0.1522

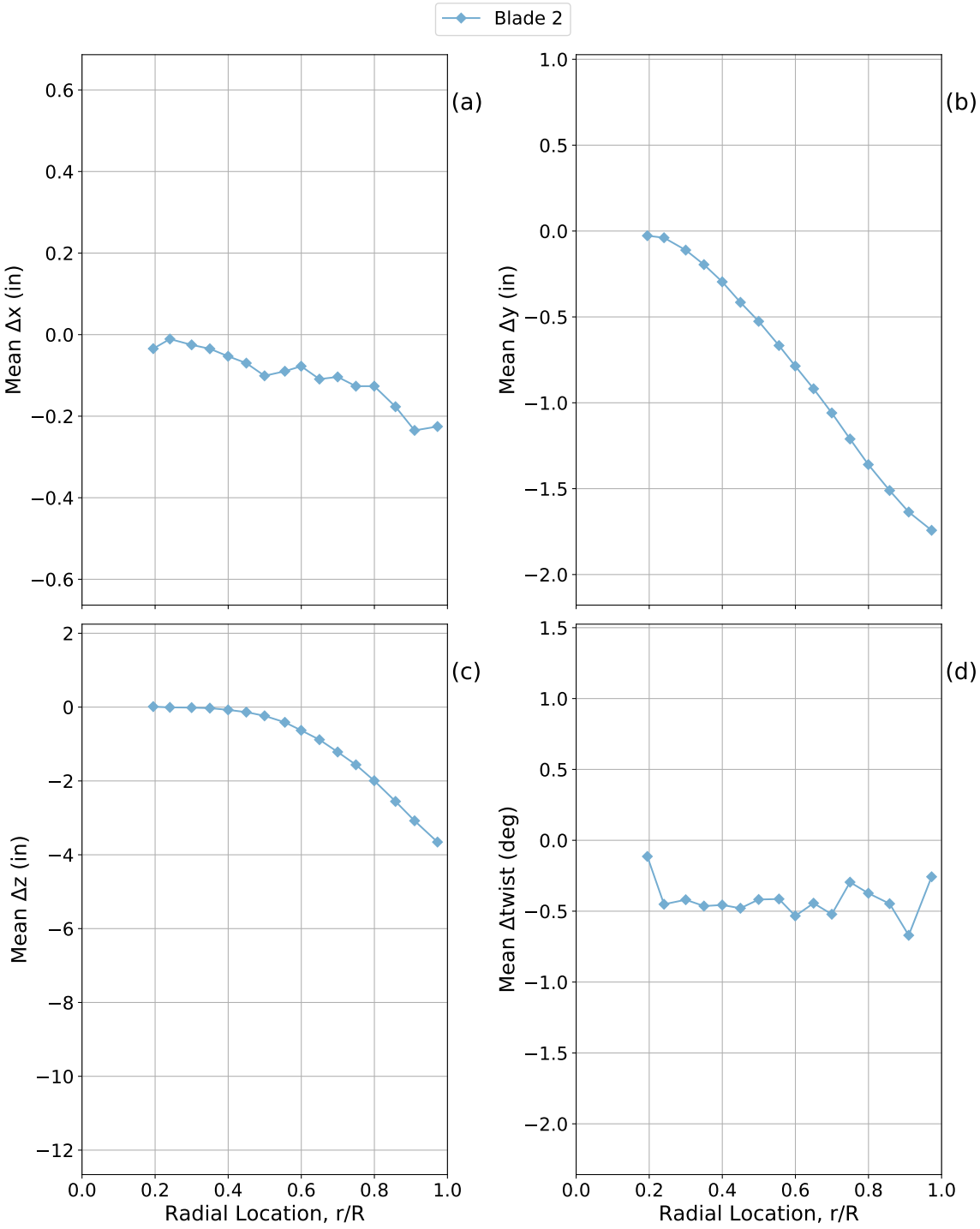


Figure 4.31-35. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-35. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0344	0.0049	-0.0272	0.0008	0.0130	0.0019	-0.1139	0.0180
2	350.16	0.2405	-0.0108	0.0021	-0.0390	0.0017	-0.0075	0.0038	-0.4512	0.0296
2	350.16	0.2999	-0.0251	0.0027	-0.1110	0.0036	-0.0141	0.0080	-0.4193	0.0419
2	350.16	0.3498	-0.0347	0.0042	-0.1954	0.0056	-0.0282	0.0114	-0.4638	0.0540
2	350.16	0.3998	-0.0531	0.0057	-0.2957	0.0093	-0.0750	0.0190	-0.4563	0.0459
2	350.16	0.4496	-0.0699	0.0069	-0.4152	0.0116	-0.1363	0.0192	-0.4793	0.0599
2	350.16	0.4995	-0.1010	0.0079	-0.5258	0.0135	-0.2362	0.0276	-0.4176	0.0441
2	350.16	0.5551	-0.0898	0.0096	-0.6667	0.0163	-0.4119	0.0343	-0.4141	0.0429
2	350.16	0.5996	-0.0775	0.0099	-0.7862	0.0195	-0.6299	0.0379	-0.5335	0.0464
2	350.16	0.6497	-0.1091	0.0100	-0.9183	0.0219	-0.8828	0.0428	-0.4436	0.0420
2	350.16	0.6996	-0.1037	0.0099	-1.0592	0.0248	-1.2156	0.0450	-0.5216	0.0674
2	350.16	0.7495	-0.1265	0.0106	-1.2108	0.0273	-1.5630	0.0513	-0.2953	0.0370
2	350.16	0.7996	-0.1264	0.0117	-1.3598	0.0300	-1.9941	0.0530	-0.3734	0.0594
2	350.16	0.8578	-0.1768	0.0137	-1.5108	0.0331	-2.5549	0.0615	-0.4472	0.0936
2	350.16	0.9100	-0.2349	0.0198	-1.6359	0.0360	-3.0796	0.0624	-0.6704	0.1113
2	350.16	0.9727	-0.2254	0.0378	-1.7425	0.0402	-3.6554	0.1510	-0.2573	0.7412

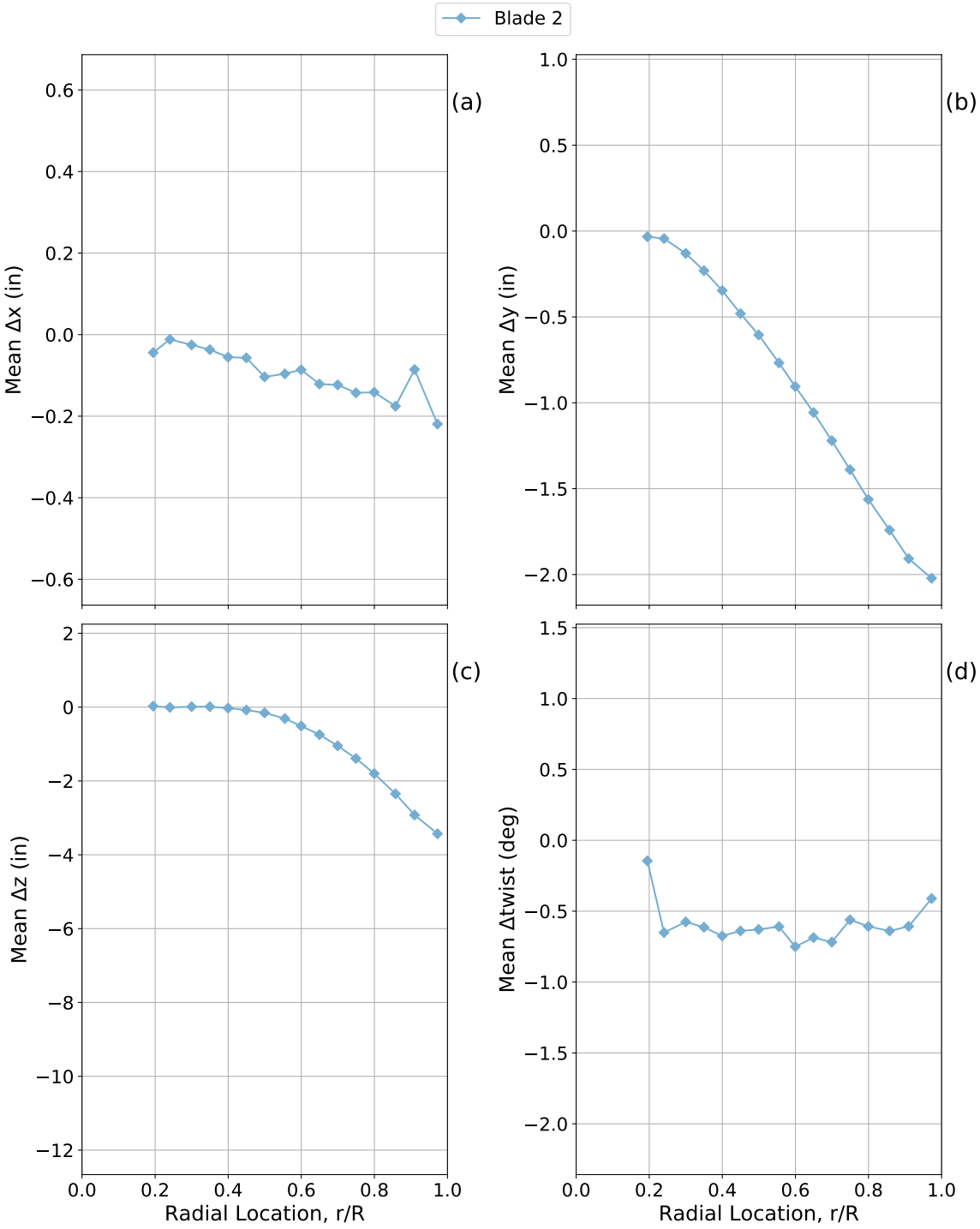


Figure 4.31-36. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Table 4.31-36. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 13. BD run 46, points 8407 to 8417.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0441	0.0067	-0.0330	0.0010	0.0260	0.0031	-0.1450	0.0167
2	355.08	0.2405	-0.0116	0.0027	-0.0440	0.0019	-0.0077	0.0039	-0.6508	0.0445
2	355.08	0.2999	-0.0253	0.0028	-0.1301	0.0046	0.0104	0.0091	-0.5756	0.0458
2	355.08	0.3498	-0.0368	0.0054	-0.2309	0.0079	0.0113	0.0137	-0.6133	0.0508
2	355.08	0.3998	-0.0552	0.0080	-0.3462	0.0122	-0.0280	0.0206	-0.6747	0.0589
2	355.08	0.4496	-0.0569	0.0075	-0.4808	0.0134	-0.0789	0.0236	-0.6395	0.0485
2	355.08	0.4995	-0.1036	0.0112	-0.6048	0.0173	-0.1560	0.0286	-0.6287	0.0468
2	355.08	0.5551	-0.0961	0.0104	-0.7678	0.0204	-0.3113	0.0333	-0.6088	0.0403
2	355.08	0.5996	-0.0862	0.0100	-0.9052	0.0225	-0.5124	0.0365	-0.7504	0.0456
2	355.08	0.6497	-0.1212	0.0099	-1.0568	0.0247	-0.7458	0.0426	-0.6864	0.0412
2	355.08	0.6996	-0.1232	0.0083	-1.2205	0.0274	-1.0486	0.0455	-0.7178	0.0467
2	355.08	0.7495	-0.1428	0.0066	-1.3893	0.0306	-1.3914	0.0495	-0.5608	0.0501
2	355.08	0.7996	-0.1413	0.0062	-1.5628	0.0360	-1.8013	0.0552	-0.6077	0.0418
2	355.08	0.8578	-0.1755	0.0077	-1.7414	0.0408	-2.3495	0.0604	-0.6393	0.0576
2	355.08	0.9100	-0.0856	0.0795	-1.9073	0.0443	-2.9224	0.0639	-0.6070	0.5087
2	355.08	0.9727	-0.2193	0.0287	-2.0214	0.0497	-3.4305	0.1002	-0.4108	0.2430

4.32 Run 98, Point 52

4.32.1 Pitch, Flap, and Lag

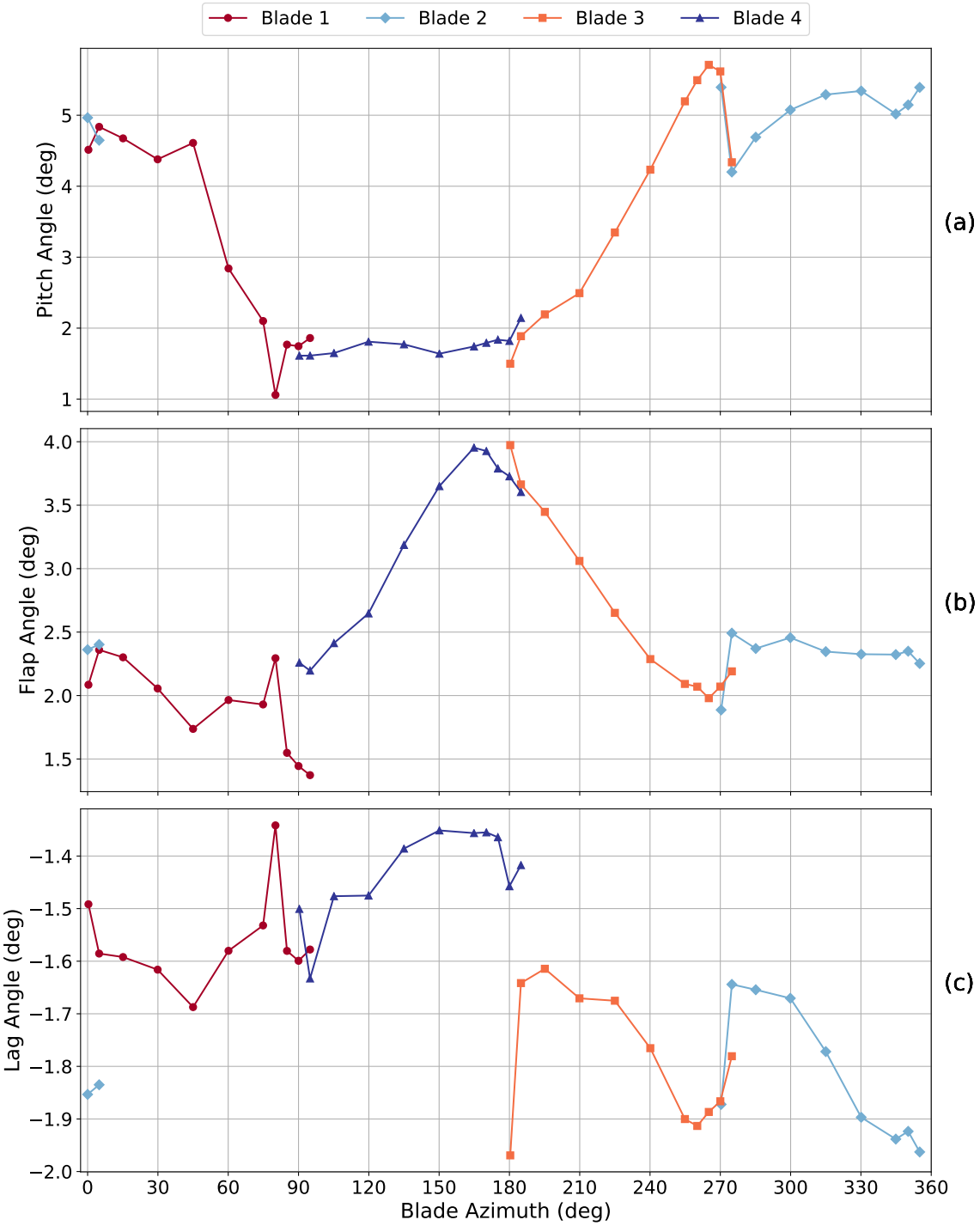


Figure 4.32-1. Blade pitch (a), flap (b), and lag (c) vs. blade azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-1. Pitch, flap, and lag vs azimuth.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Azimuth (deg)	Blade	Pitch (deg)	Flap (deg)	Lag (deg)	Pitch Std (deg)	Flap Std (deg)	Lag Std (deg)
0	2	4.9651	2.3614	-1.8533	0.0524	0.0286	0.0174
0.35	1	4.5134	2.0849	-1.4917	0.0901	0.0172	0.0077
4.92	1	4.8367	2.3598	-1.5855	0.1388	0.0475	0.0283
4.92	2	4.6473	2.4023	-1.8350	0.0610	0.0260	0.0144
15.12	1	4.6742	2.3013	-1.5921	0.0843	0.0336	0.0171
29.88	1	4.3787	2.0557	-1.6161	0.0882	0.0504	0.0228
45	1	4.6095	1.7373	-1.6873	0.0556	0.0376	0.0236
60.12	1	2.8415	1.9648	-1.5802	0.0759	0.0422	0.0252
74.88	1	2.1003	1.9297	-1.5320	0.0400	0.0245	0.0181
80.16	1	1.0594	2.2942	-1.3417	0.0857	0.0377	0.0161
85.08	1	1.7677	1.5485	-1.5804	0.0270	0.0157	0.0154
90	1	1.7454	1.4445	-1.5992	0.0219	0.0145	0.0122
90.35	4	1.6118	2.2587	-1.5006	0.0286	0.0195	0.0140
94.92	1	1.8604	1.3729	-1.5778	0.0201	0.0176	0.0135
94.92	4	1.6127	2.1965	-1.6329	0.0221	0.0203	0.0135
105.12	4	1.6483	2.4129	-1.4764	0.0223	0.0160	0.0184
119.88	4	1.8092	2.6471	-1.4752	0.0206	0.0119	0.0230
135	4	1.7714	3.1865	-1.3859	0.0212	0.0212	0.0126
150.12	4	1.6398	3.6498	-1.3513	0.0301	0.0205	0.0107
164.88	4	1.7415	3.9534	-1.3564	0.0313	0.0141	0.0134
170.16	4	1.7927	3.9263	-1.3550	0.0208	0.0163	0.0184
175.08	4	1.8367	3.7891	-1.3643	0.0316	0.0154	0.0163
180	4	1.8195	3.7272	-1.4575	0.0478	0.0276	0.0197
180.35	3	1.4982	3.9733	-1.9693	0.0299	0.0171	0.0145
184.92	3	1.8863	3.6634	-1.6416	0.0289	0.0425	0.0095
184.92	4	2.1436	3.6035	-1.4173	0.0443	0.0103	0.0185
195.12	3	2.1937	3.4472	-1.6144	0.0408	0.0227	0.0237
209.88	3	2.4932	3.0606	-1.6706	0.0335	0.0249	0.0195
225	3	3.3480	2.6516	-1.6752	0.0305	0.0134	0.0122
240.12	3	4.2328	2.2873	-1.7654	0.0406	0.0129	0.0202
254.88	3	5.1956	2.0916	-1.9002	0.0545	0.0269	0.0247
260.16	3	5.4939	2.0700	-1.9133	0.0493	0.0243	0.0196
265.08	3	5.7099	1.9794	-1.8867	0.0881	0.0486	0.0193
270	3	5.6176	2.0707	-1.8664	0.2089	0.0763	0.0279
270.35	2	5.3938	1.8869	-1.8723	0.1803	0.0656	0.0276
274.92	2	4.2002	2.4918	-1.6441	0.0306	0.0213	0.0119
274.92	3	4.3372	2.1906	-1.7807	0.0194	0.0314	0.0118
285.12	2	4.6908	2.3707	-1.6543	0.0329	0.0174	0.0192
299.88	2	5.0746	2.4560	-1.6705	0.0587	0.0324	0.0233
315	2	5.2911	2.3463	-1.7719	0.0365	0.0286	0.0126
330.12	2	5.3421	2.3258	-1.8969	0.0331	0.0236	0.0148
344.88	2	5.0180	2.3229	-1.9383	0.0328	0.0249	0.0207
350.16	2	5.1454	2.3494	-1.9236	0.0348	0.0289	0.0213
355.08	2	5.3922	2.2526	-1.9628	0.0492	0.0251	0.0221

4.32.2 Spanwise Elastic Deformations

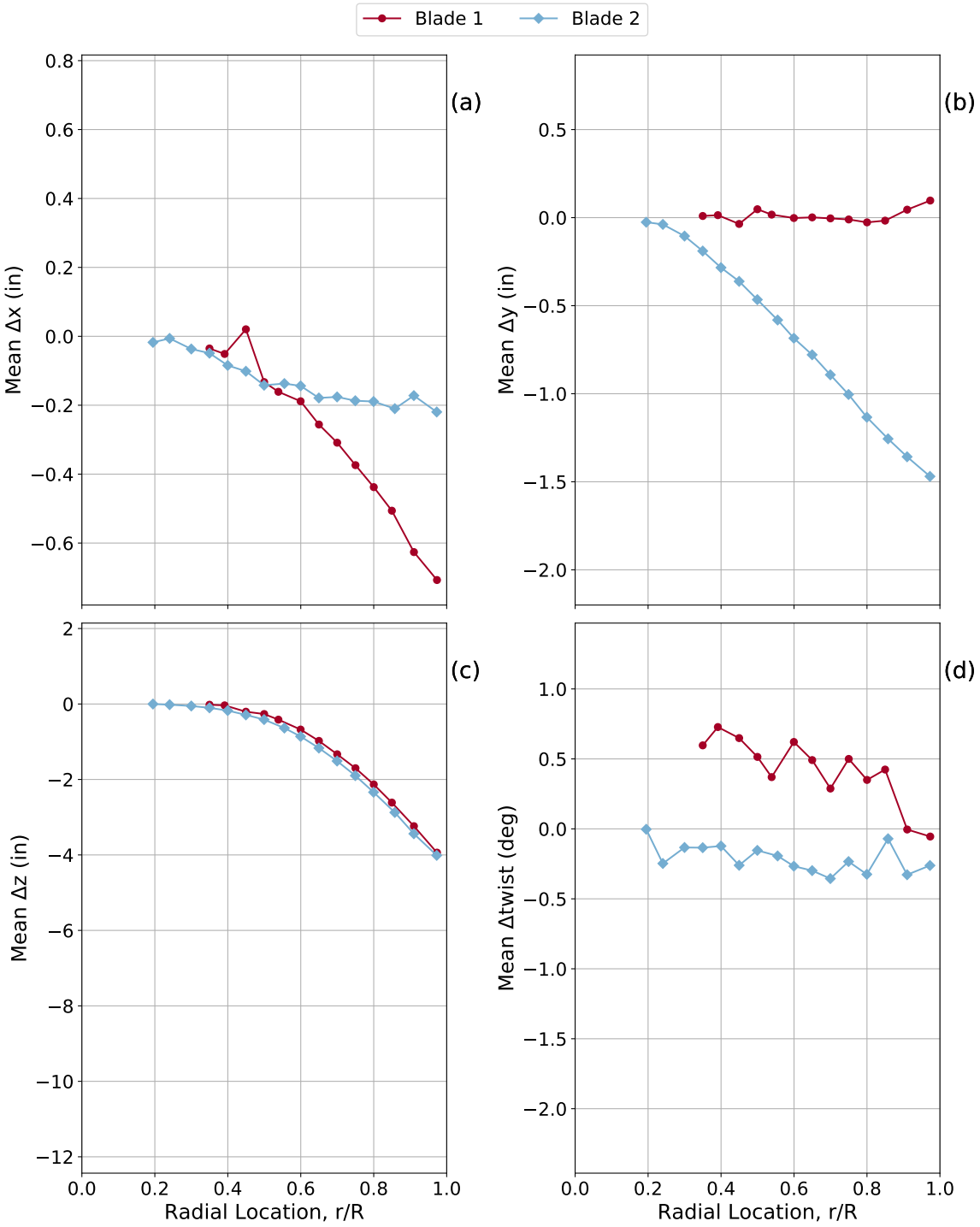


Figure 4.32-2. 0° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-2. 0° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = 0°
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	0.35	0.3498	-0.0353	0.0013	0.0094	0.0025	-0.0202	0.0051	0.5967	0.0736
1	0.35	0.3913	-0.0512	0.0020	0.0141	0.0040	-0.0362	0.0081	0.7276	0.0898
1	0.35	0.4496	0.0204	0.0039	-0.0358	0.0054	-0.2048	0.0077	0.6487	0.0845
1	0.35	0.4997	-0.1328	0.0176	0.0477	0.0219	-0.2663	0.0182	0.5143	0.0806
1	0.35	0.5387	-0.1610	0.0210	0.0171	0.0255	-0.4149	0.0211	0.3698	0.0815
1	0.35	0.5996	-0.1885	0.0255	-0.0022	0.0302	-0.6777	0.0243	0.6211	0.0818
1	0.35	0.6498	-0.2560	0.0293	0.0015	0.0360	-0.9784	0.0281	0.4916	0.0856
1	0.35	0.6998	-0.3087	0.0316	-0.0042	0.0405	-1.3325	0.0313	0.2882	0.0795
1	0.35	0.7500	-0.3739	0.0340	-0.0103	0.0461	-1.7020	0.0338	0.4998	0.0781
1	0.35	0.8001	-0.4377	0.0352	-0.0268	0.0505	-2.1326	0.0354	0.3498	0.0966
1	0.35	0.8497	-0.5061	0.0371	-0.0170	0.0567	-2.6128	0.0363	0.4239	0.0869
1	0.35	0.9102	-0.6262	0.0367	0.0453	0.0591	-3.2381	0.0453	-0.0045	0.1022
1	0.35	0.9734	-0.7073	0.0370	0.0971	0.0685	-3.9391	0.0481	-0.0549	0.0857
2	0	0.1949	-0.0176	0.0031	-0.0259	0.0016	-0.0011	0.0034	-0.0029	0.0248
2	0	0.2405	-0.0061	0.0021	-0.0384	0.0030	-0.0184	0.0043	-0.2474	0.0573
2	0	0.2999	-0.0368	0.0014	-0.1047	0.0044	-0.0533	0.0104	-0.1330	0.0687
2	0	0.3498	-0.0490	0.0018	-0.1896	0.0102	-0.1018	0.0190	-0.1345	0.0531
2	0	0.3998	-0.0845	0.0031	-0.2839	0.0136	-0.1749	0.0263	-0.1226	0.0555
2	0	0.4496	-0.1014	0.0049	-0.3619	0.0207	-0.2891	0.0341	-0.2604	0.0492
2	0	0.4995	-0.1420	0.0055	-0.4656	0.0256	-0.4129	0.0396	-0.1538	0.0771
2	0	0.5551	-0.1372	0.0070	-0.5814	0.0285	-0.6375	0.0486	-0.1935	0.0756
2	0	0.5996	-0.1439	0.0072	-0.6847	0.0340	-0.8608	0.0575	-0.2667	0.0546
2	0	0.6497	-0.1789	0.0087	-0.7788	0.0362	-1.1676	0.0644	-0.2984	0.0526
2	0	0.6996	-0.1759	0.0097	-0.8926	0.0408	-1.5116	0.0720	-0.3553	0.0547
2	0	0.7495	-0.1870	0.0118	-1.0042	0.0431	-1.8980	0.0826	-0.2337	0.0534
2	0	0.7996	-0.1892	0.0126	-1.1335	0.0458	-2.3382	0.0902	-0.3249	0.0539
2	0	0.8578	-0.2100	0.0166	-1.2561	0.0509	-2.8744	0.0993	-0.0706	0.0639
2	0	0.9100	-0.1721	0.0271	-1.3581	0.0528	-3.4385	0.1098	-0.3279	0.0542
2	0	0.9727	-0.2196	0.0219	-1.4694	0.0553	-4.0115	0.1197	-0.2617	0.0804

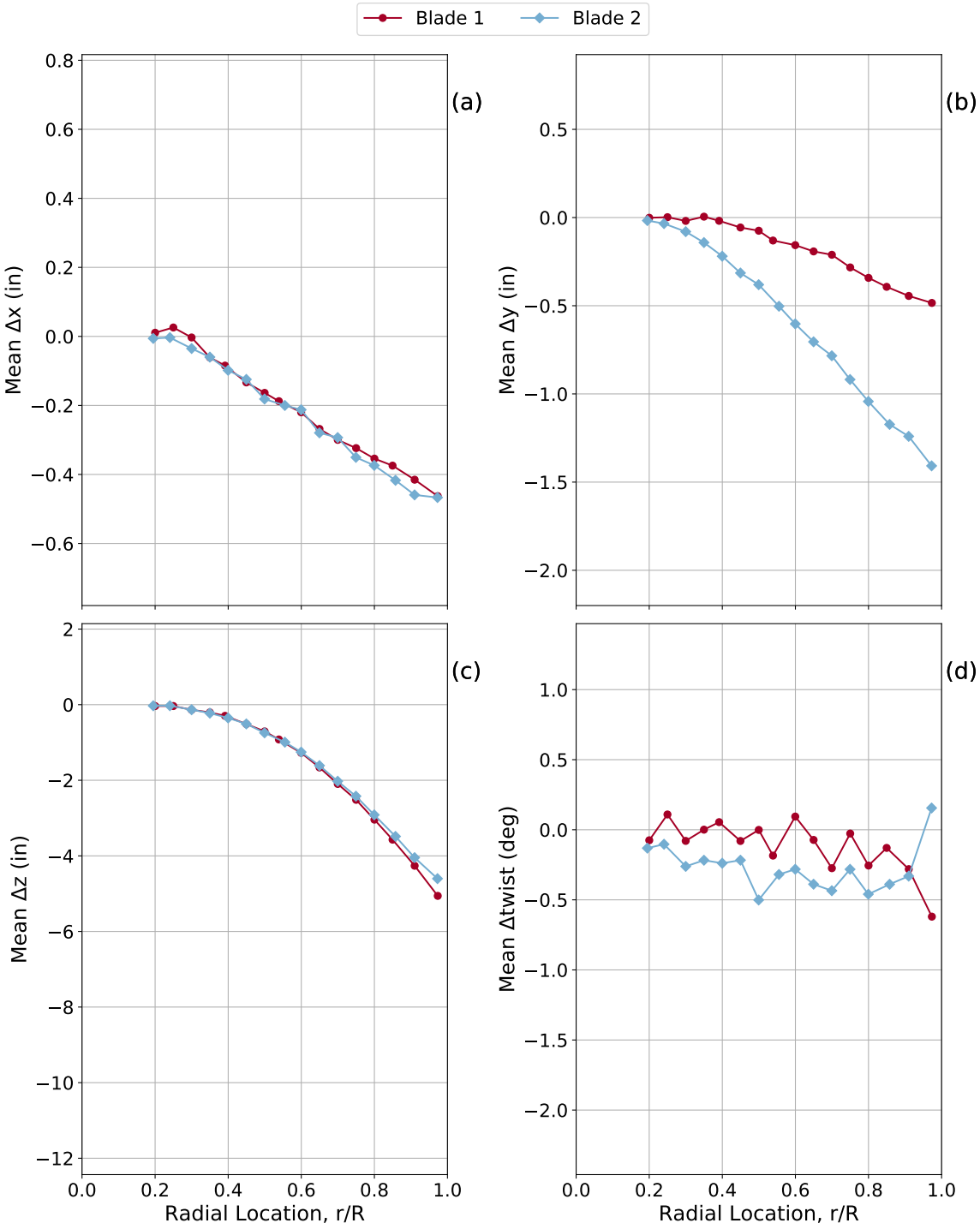


Figure 4.32-3. 5° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-3. 5° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	4.92	0.2001	0.0106	0.0030	-0.0013	0.0026	-0.0363	0.0052	-0.0751	0.0680
1	4.92	0.2499	0.0258	0.0025	0.0020	0.0043	-0.0361	0.0101	0.1091	0.1093
1	4.92	0.2998	-0.0031	0.0016	-0.0191	0.0087	-0.1354	0.0166	-0.0795	0.1452
1	4.92	0.3498	-0.0610	0.0020	0.0050	0.0168	-0.2041	0.0293	0.0007	0.1338
1	4.92	0.3913	-0.0846	0.0015	-0.0186	0.0217	-0.2953	0.0395	0.0544	0.1370
1	4.92	0.4496	-0.1333	0.0019	-0.0564	0.0290	-0.5123	0.0516	-0.0800	0.1468
1	4.92	0.4997	-0.1636	0.0021	-0.0748	0.0360	-0.7067	0.0642	-0.0011	0.1326
1	4.92	0.5387	-0.1877	0.0019	-0.1303	0.0417	-0.9205	0.0724	-0.1845	0.1390
1	4.92	0.5996	-0.2199	0.0020	-0.1565	0.0494	-1.2746	0.0862	0.0942	0.1412
1	4.92	0.6498	-0.2681	0.0021	-0.1920	0.0570	-1.6610	0.0957	-0.0725	0.1436
1	4.92	0.6998	-0.2998	0.0025	-0.2111	0.0641	-2.0972	0.1086	-0.2742	0.1351
1	4.92	0.7500	-0.3237	0.0018	-0.2828	0.0723	-2.5173	0.1199	-0.0270	0.1326
1	4.92	0.8001	-0.3541	0.0024	-0.3421	0.0793	-3.0416	0.1316	-0.2554	0.1270
1	4.92	0.8497	-0.3744	0.0029	-0.3928	0.0877	-3.5711	0.1445	-0.1294	0.1240
1	4.92	0.9102	-0.4152	0.0041	-0.4445	0.0968	-4.2618	0.1570	-0.2810	0.1404
1	4.92	0.9734	-0.4628	0.0040	-0.4841	0.1105	-5.0584	0.1710	-0.6199	0.1488
2	4.92	0.1949	-0.0059	0.0038	-0.0171	0.0015	-0.0292	0.0031	-0.1312	0.0247
2	4.92	0.2405	-0.0034	0.0008	-0.0343	0.0022	-0.0283	0.0041	-0.1033	0.0627
2	4.92	0.2999	-0.0351	0.0017	-0.0800	0.0050	-0.1336	0.0119	-0.2615	0.0666
2	4.92	0.3498	-0.0600	0.0014	-0.1418	0.0079	-0.2239	0.0176	-0.2174	0.0553
2	4.92	0.3998	-0.0983	0.0014	-0.2193	0.0119	-0.3515	0.0280	-0.2388	0.0511
2	4.92	0.4496	-0.1246	0.0015	-0.3145	0.0151	-0.5090	0.0345	-0.2171	0.0666
2	4.92	0.4995	-0.1814	0.0015	-0.3806	0.0183	-0.7453	0.0431	-0.5011	0.0598
2	4.92	0.5551	-0.2001	0.0022	-0.5030	0.0228	-0.9926	0.0493	-0.3189	0.0584
2	4.92	0.5996	-0.2125	0.0012	-0.6030	0.0251	-1.2538	0.0563	-0.2818	0.0695
2	4.92	0.6497	-0.2795	0.0025	-0.7046	0.0283	-1.6115	0.0655	-0.3885	0.0658
2	4.92	0.6996	-0.2931	0.0020	-0.7838	0.0305	-2.0255	0.0745	-0.4349	0.0695
2	4.92	0.7495	-0.3505	0.0023	-0.9184	0.0334	-2.4213	0.0810	-0.2821	0.0581
2	4.92	0.7996	-0.3738	0.0022	-1.0427	0.0363	-2.9158	0.0876	-0.4598	0.0595
2	4.92	0.8578	-0.4170	0.0033	-1.1729	0.0420	-3.4853	0.0966	-0.3890	0.0720
2	4.92	0.9100	-0.4592	0.0035	-1.2406	0.0452	-4.0465	0.0997	-0.3309	0.1500
2	4.92	0.9727	-0.4668	0.0087	-1.4079	0.0484	-4.6025	0.1040	0.1553	0.0740

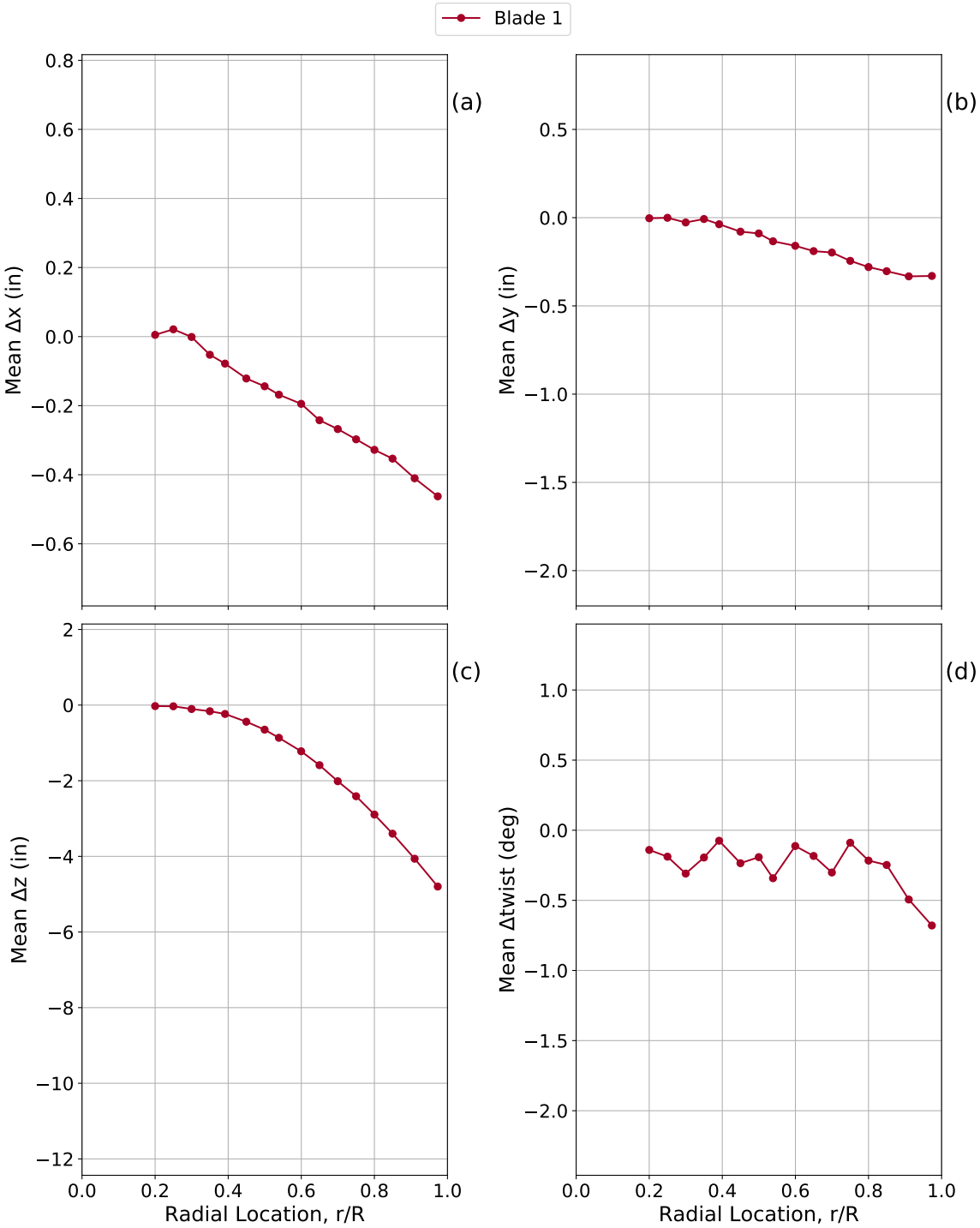


Figure 4.32-4. 15° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-4. 15° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	15.12	0.2001	0.0051	0.0044	-0.0033	0.0017	-0.0266	0.0049	-0.1405	0.0401
1	15.12	0.2499	0.0211	0.0014	-0.0008	0.0030	-0.0315	0.0072	-0.1884	0.0695
1	15.12	0.2998	-0.0011	0.0016	-0.0272	0.0064	-0.1034	0.0161	-0.3089	0.0879
1	15.12	0.3498	-0.0526	0.0013	-0.0077	0.0104	-0.1622	0.0273	-0.1945	0.0817
1	15.12	0.3913	-0.0782	0.0015	-0.0372	0.0150	-0.2344	0.0372	-0.0748	0.0800
1	15.12	0.4496	-0.1213	0.0020	-0.0792	0.0206	-0.4402	0.0503	-0.2351	0.0760
1	15.12	0.4997	-0.1439	0.0022	-0.0894	0.0257	-0.6497	0.0608	-0.1918	0.0844
1	15.12	0.5387	-0.1682	0.0022	-0.1338	0.0287	-0.8647	0.0686	-0.3421	0.0874
1	15.12	0.5996	-0.1947	0.0021	-0.1594	0.0345	-1.2212	0.0829	-0.1125	0.0765
1	15.12	0.6498	-0.2422	0.0026	-0.1895	0.0404	-1.5884	0.0944	-0.1834	0.0829
1	15.12	0.6998	-0.2678	0.0026	-0.1975	0.0455	-2.0131	0.1061	-0.3014	0.0752
1	15.12	0.7500	-0.2975	0.0028	-0.2447	0.0506	-2.4104	0.1151	-0.0891	0.0796
1	15.12	0.8001	-0.3279	0.0031	-0.2799	0.0566	-2.8943	0.1257	-0.2164	0.0749
1	15.12	0.8497	-0.3534	0.0034	-0.3033	0.0617	-3.4003	0.1360	-0.2476	0.0699
1	15.12	0.9102	-0.4103	0.0041	-0.3326	0.0697	-4.0623	0.1487	-0.4939	0.0882
1	15.12	0.9734	-0.4626	0.0048	-0.3303	0.0761	-4.7980	0.1683	-0.6792	0.0694

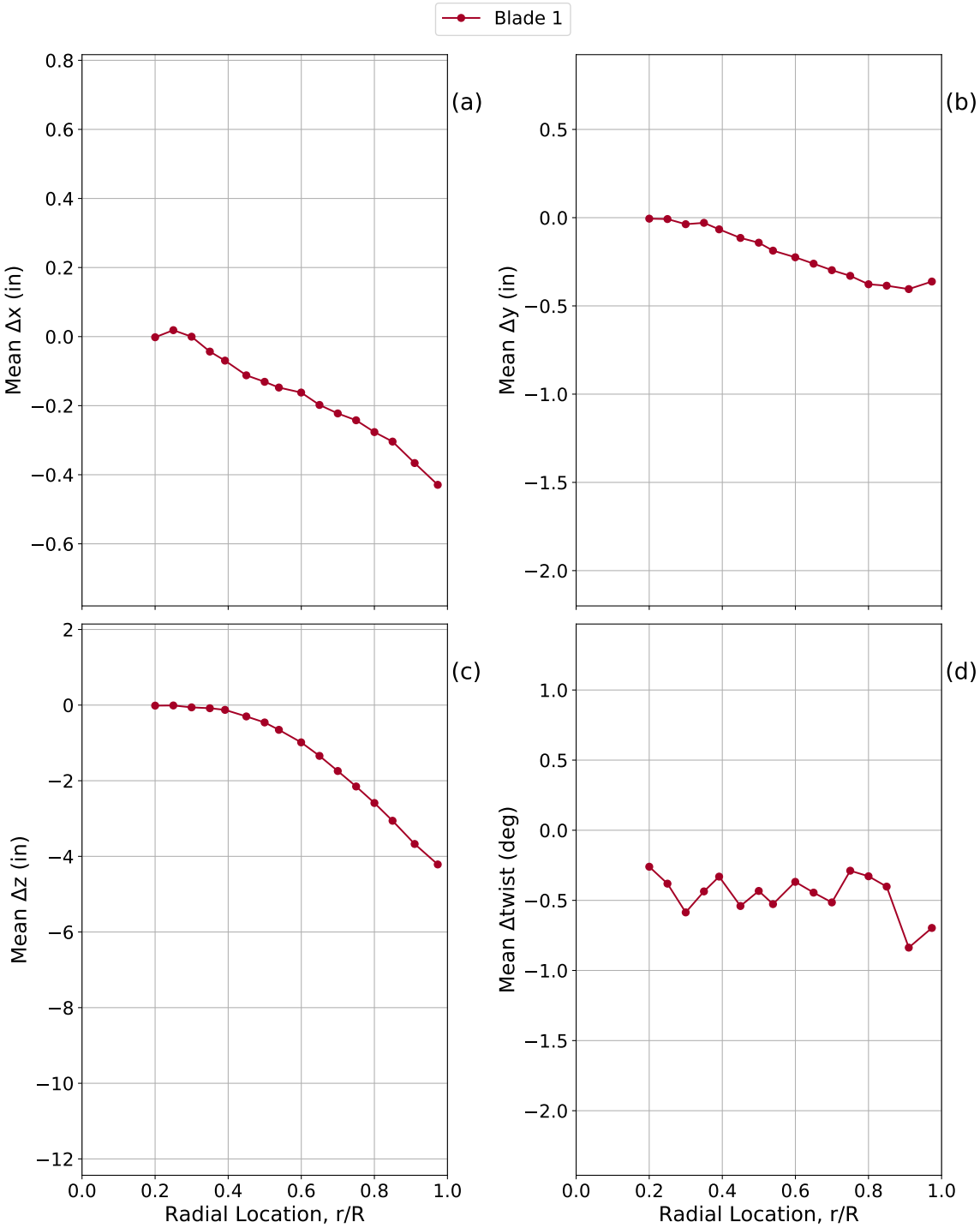


Figure 4.32-5. 30° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-5. 30° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	29.88	0.2001	-0.0019	0.0029	-0.0056	0.0018	-0.0142	0.0053	-0.2602	0.0413
1	29.88	0.2499	0.0186	0.0017	-0.0078	0.0010	-0.0099	0.0073	-0.3808	0.0669
1	29.88	0.2998	-0.0003	0.0020	-0.0370	0.0055	-0.0601	0.0157	-0.5859	0.0877
1	29.88	0.3498	-0.0434	0.0020	-0.0293	0.0086	-0.0827	0.0284	-0.4362	0.0675
1	29.88	0.3913	-0.0696	0.0023	-0.0662	0.0112	-0.1265	0.0371	-0.3307	0.0714
1	29.88	0.4496	-0.1121	0.0026	-0.1148	0.0147	-0.3000	0.0533	-0.5403	0.0746
1	29.88	0.4997	-0.1309	0.0029	-0.1418	0.0181	-0.4592	0.0658	-0.4328	0.0770
1	29.88	0.5387	-0.1475	0.0028	-0.1869	0.0208	-0.6541	0.0760	-0.5268	0.0841
1	29.88	0.5996	-0.1620	0.0027	-0.2245	0.0244	-0.9857	0.0916	-0.3680	0.0772
1	29.88	0.6498	-0.1979	0.0022	-0.2607	0.0274	-1.3433	0.1043	-0.4448	0.0799
1	29.88	0.6998	-0.2225	0.0029	-0.2976	0.0324	-1.7428	0.1175	-0.5146	0.0862
1	29.88	0.7500	-0.2423	0.0025	-0.3297	0.0352	-2.1522	0.1296	-0.2885	0.0824
1	29.88	0.8001	-0.2765	0.0028	-0.3773	0.0391	-2.5888	0.1405	-0.3282	0.0871
1	29.88	0.8497	-0.3040	0.0024	-0.3855	0.0431	-3.0584	0.1511	-0.4019	0.0860
1	29.88	0.9102	-0.3662	0.0028	-0.4047	0.0484	-3.6725	0.1647	-0.8370	0.0957
1	29.88	0.9734	-0.4292	0.0025	-0.3620	0.0537	-4.2139	0.1785	-0.6967	0.0800

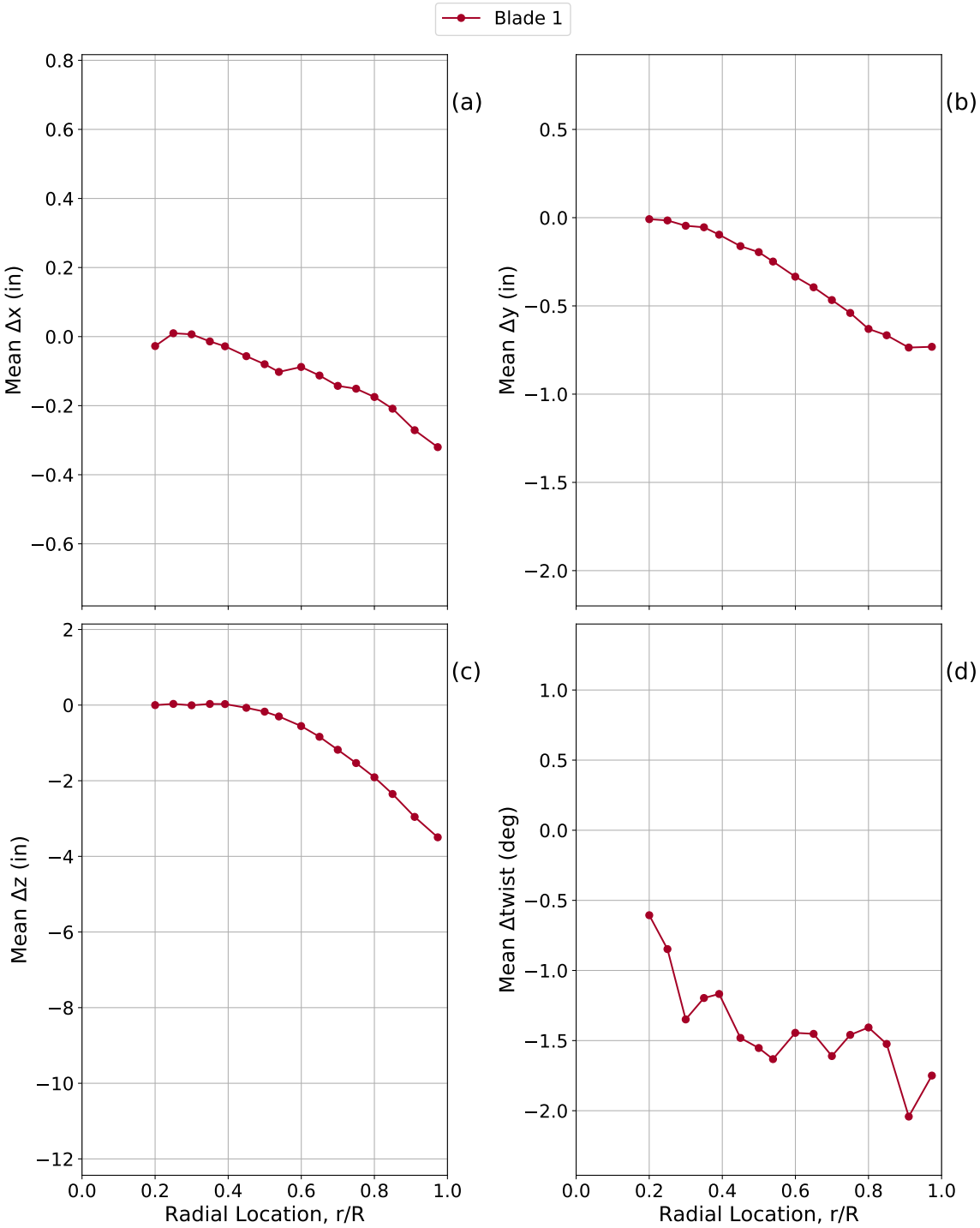


Figure 4.32-6. 45° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-6. 45° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	45	0.2001	-0.0274	0.0031	-0.0084	0.0015	-0.0001	0.0041	-0.6059	0.0224
1	45	0.2499	0.0097	0.0016	-0.0157	0.0029	0.0313	0.0066	-0.8476	0.0555
1	45	0.2998	0.0066	0.0013	-0.0459	0.0056	-0.0053	0.0138	-1.3490	0.0561
1	45	0.3498	-0.0140	0.0011	-0.0545	0.0099	0.0297	0.0221	-1.1963	0.0584
1	45	0.3913	-0.0281	0.0016	-0.0965	0.0140	0.0272	0.0310	-1.1675	0.0587
1	45	0.4496	-0.0567	0.0029	-0.1613	0.0189	-0.0717	0.0433	-1.4810	0.0595
1	45	0.4997	-0.0800	0.0026	-0.1953	0.0240	-0.1735	0.0549	-1.5529	0.0606
1	45	0.5387	-0.1023	0.0033	-0.2486	0.0279	-0.3008	0.0649	-1.6321	0.0534
1	45	0.5996	-0.0879	0.0061	-0.3344	0.0307	-0.5548	0.0885	-1.4447	0.0507
1	45	0.6498	-0.1127	0.0066	-0.3945	0.0356	-0.8382	0.1028	-1.4520	0.0484
1	45	0.6998	-0.1427	0.0063	-0.4668	0.0407	-1.1814	0.1150	-1.6103	0.0557
1	45	0.7500	-0.1509	0.0062	-0.5399	0.0466	-1.5329	0.1285	-1.4592	0.0590
1	45	0.8001	-0.1749	0.0064	-0.6304	0.0523	-1.9092	0.1439	-1.4065	0.0574
1	45	0.8497	-0.2088	0.0061	-0.6664	0.0577	-2.3509	0.1574	-1.5240	0.0591
1	45	0.9102	-0.2710	0.0058	-0.7360	0.0650	-2.9560	0.1757	-2.0417	0.0629
1	45	0.9734	-0.3201	0.0067	-0.7317	0.0724	-3.4961	0.1955	-1.7494	0.0598

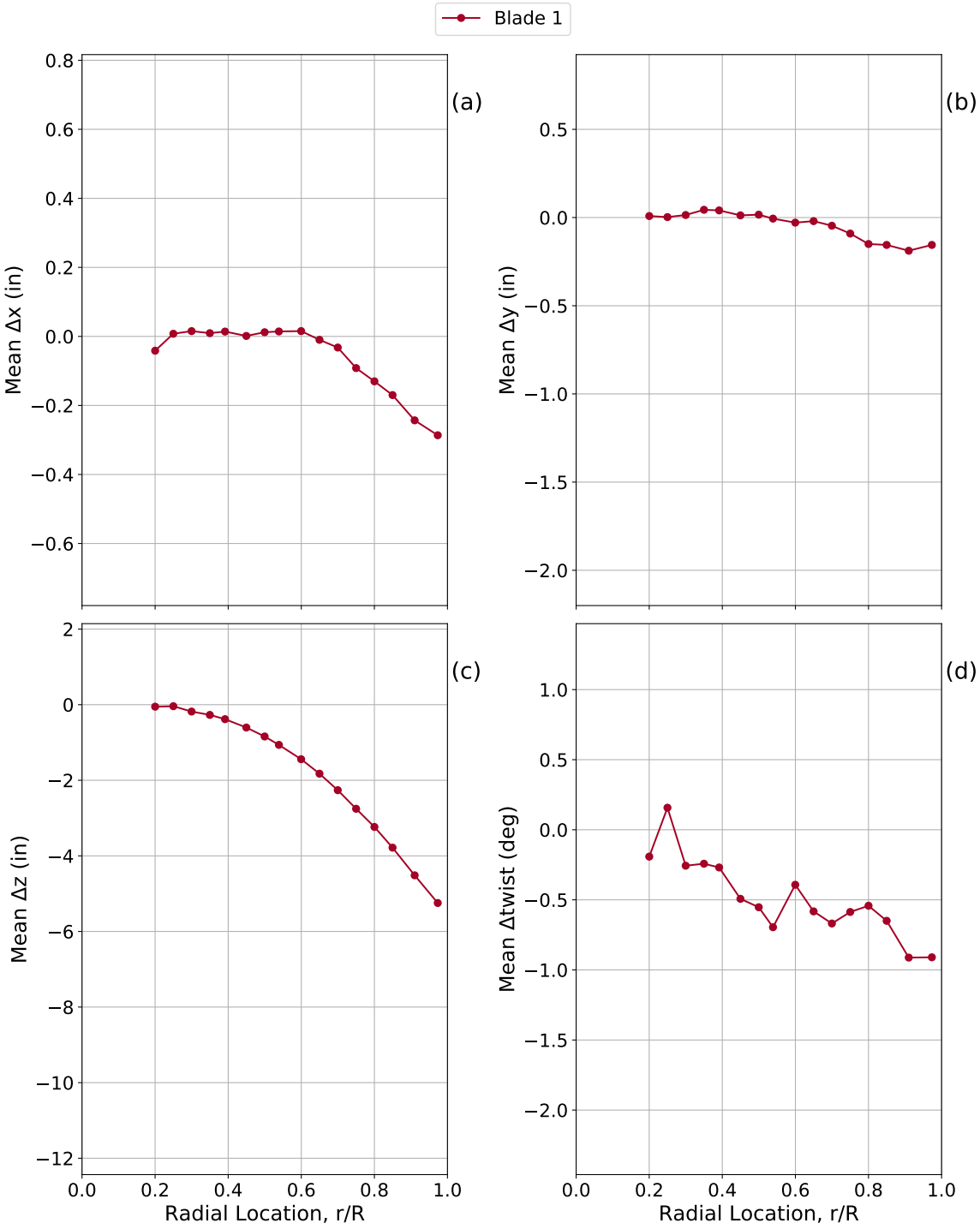


Figure 4.32-7. 60° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-7. 60° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	60.12	0.2001	-0.0414	0.0024	0.0085	0.0023	-0.0529	0.0052	-0.1916	0.0290
1	60.12	0.2499	0.0077	0.0013	0.0026	0.0031	-0.0408	0.0057	0.1573	0.0836
1	60.12	0.2998	0.0153	0.0012	0.0144	0.0082	-0.1822	0.0162	-0.2565	0.0802
1	60.12	0.3498	0.0094	0.0014	0.0439	0.0143	-0.2706	0.0280	-0.2423	0.0694
1	60.12	0.3913	0.0140	0.0021	0.0405	0.0195	-0.3833	0.0369	-0.2691	0.0767
1	60.12	0.4496	0.0013	0.0029	0.0124	0.0254	-0.6048	0.0479	-0.4928	0.0789
1	60.12	0.4997	0.0121	0.0036	0.0163	0.0324	-0.8412	0.0588	-0.5528	0.0755
1	60.12	0.5387	0.0143	0.0032	-0.0060	0.0361	-1.0634	0.0725	-0.6954	0.0686
1	60.12	0.5996	0.0154	0.0059	-0.0289	0.0445	-1.4430	0.0834	-0.3926	0.0649
1	60.12	0.6498	-0.0099	0.0098	-0.0203	0.0420	-1.8254	0.0726	-0.5824	0.0681
1	60.12	0.6998	-0.0323	0.0094	-0.0464	0.0474	-2.2621	0.0812	-0.6688	0.0660
1	60.12	0.7500	-0.0918	0.0040	-0.0908	0.0530	-2.7537	0.1018	-0.5866	0.0790
1	60.12	0.8001	-0.1302	0.0028	-0.1501	0.0591	-3.2345	0.1121	-0.5422	0.0697
1	60.12	0.8497	-0.1700	0.0030	-0.1553	0.0650	-3.7825	0.1236	-0.6497	0.0695
1	60.12	0.9102	-0.2432	0.0026	-0.1882	0.0732	-4.5144	0.1333	-0.9121	0.0726
1	60.12	0.9734	-0.2864	0.0032	-0.1552	0.0808	-5.2470	0.1469	-0.9099	0.0821

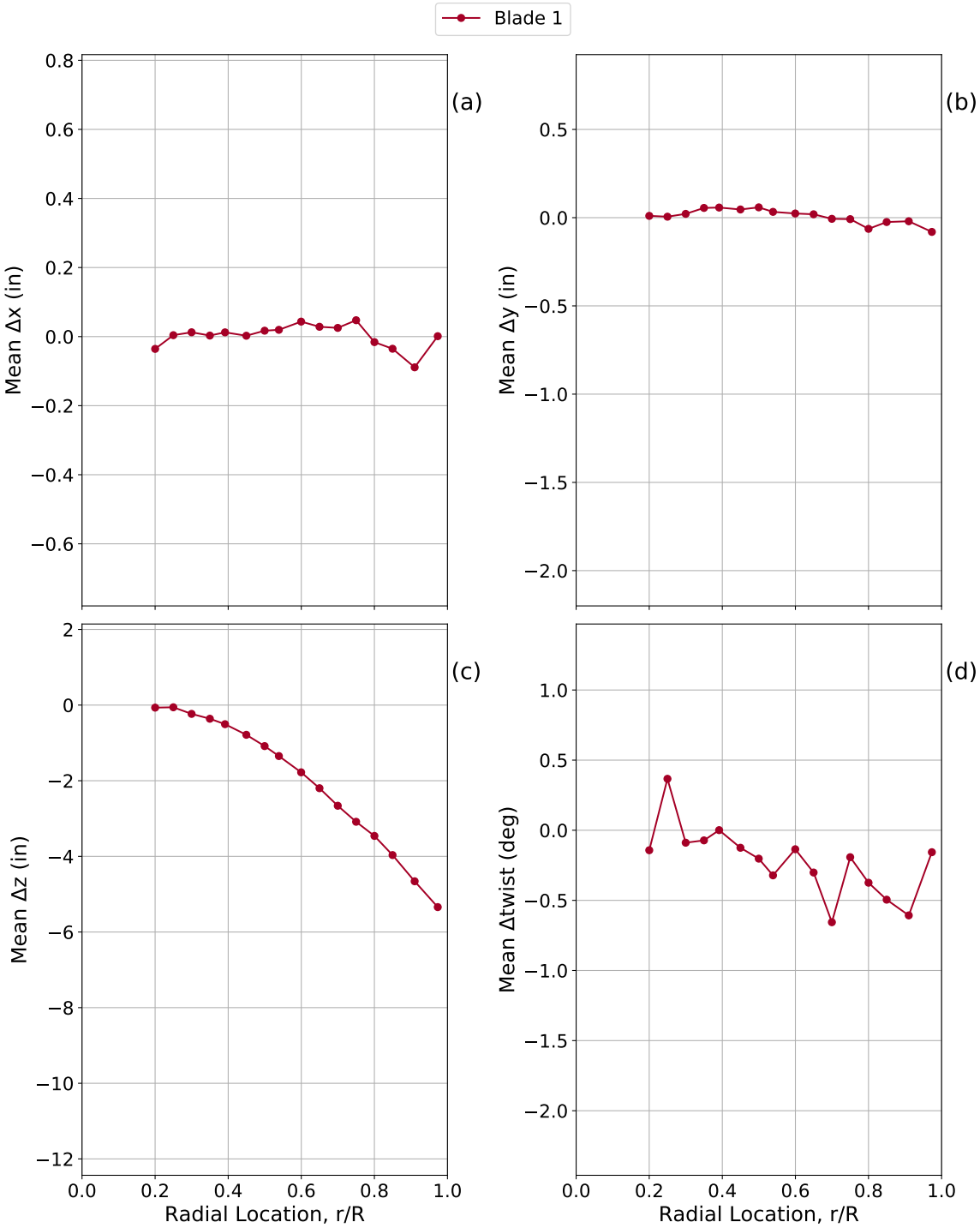


Figure 4.32-8. 75° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-8. 75° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	74.88	0.2001	-0.0356	0.0019	0.0102	0.0015	-0.0671	0.0036	-0.1426	0.0158
1	74.88	0.2499	0.0041	0.0011	0.0055	0.0017	-0.0581	0.0031	0.3668	0.0614
1	74.88	0.2998	0.0125	0.0012	0.0215	0.0043	-0.2325	0.0106	-0.0889	0.0373
1	74.88	0.3498	0.0030	0.0017	0.0552	0.0075	-0.3609	0.0140	-0.0723	0.0401
1	74.88	0.3913	0.0123	0.0018	0.0573	0.0096	-0.5048	0.0194	0.0007	0.0415
1	74.88	0.4496	0.0025	0.0022	0.0464	0.0129	-0.7856	0.0247	-0.1250	0.0469
1	74.88	0.4997	0.0171	0.0021	0.0584	0.0163	-1.0844	0.0325	-0.2026	0.0391
1	74.88	0.5387	0.0196	0.0028	0.0329	0.0189	-1.3477	0.0377	-0.3217	0.0440
1	74.88	0.5996	0.0434	0.0030	0.0236	0.0230	-1.7778	0.0473	-0.1355	0.0366
1	74.88	0.6498	0.0284	0.0034	0.0192	0.0258	-2.1979	0.0533	-0.3015	0.0426
1	74.88	0.6998	0.0252	0.0049	-0.0066	0.0296	-2.6618	0.0586	-0.6559	0.1188
1	74.88	0.7500	0.0474	0.0088	-0.0083	0.0350	-3.0855	0.0562	-0.1922	0.2093
1	74.88	0.8001	-0.0160	0.0061	-0.0634	0.0334	-3.4596	0.0771	-0.3742	0.0453
1	74.88	0.8497	-0.0352	0.0060	-0.0248	0.0372	-3.9660	0.0845	-0.4951	0.0522
1	74.88	0.9102	-0.0890	0.0067	-0.0204	0.0417	-4.6589	0.0944	-0.6072	0.0454
1	74.88	0.9734	0.0012	0.0077	-0.0807	0.0458	-5.3417	0.1038	-0.1566	0.0360

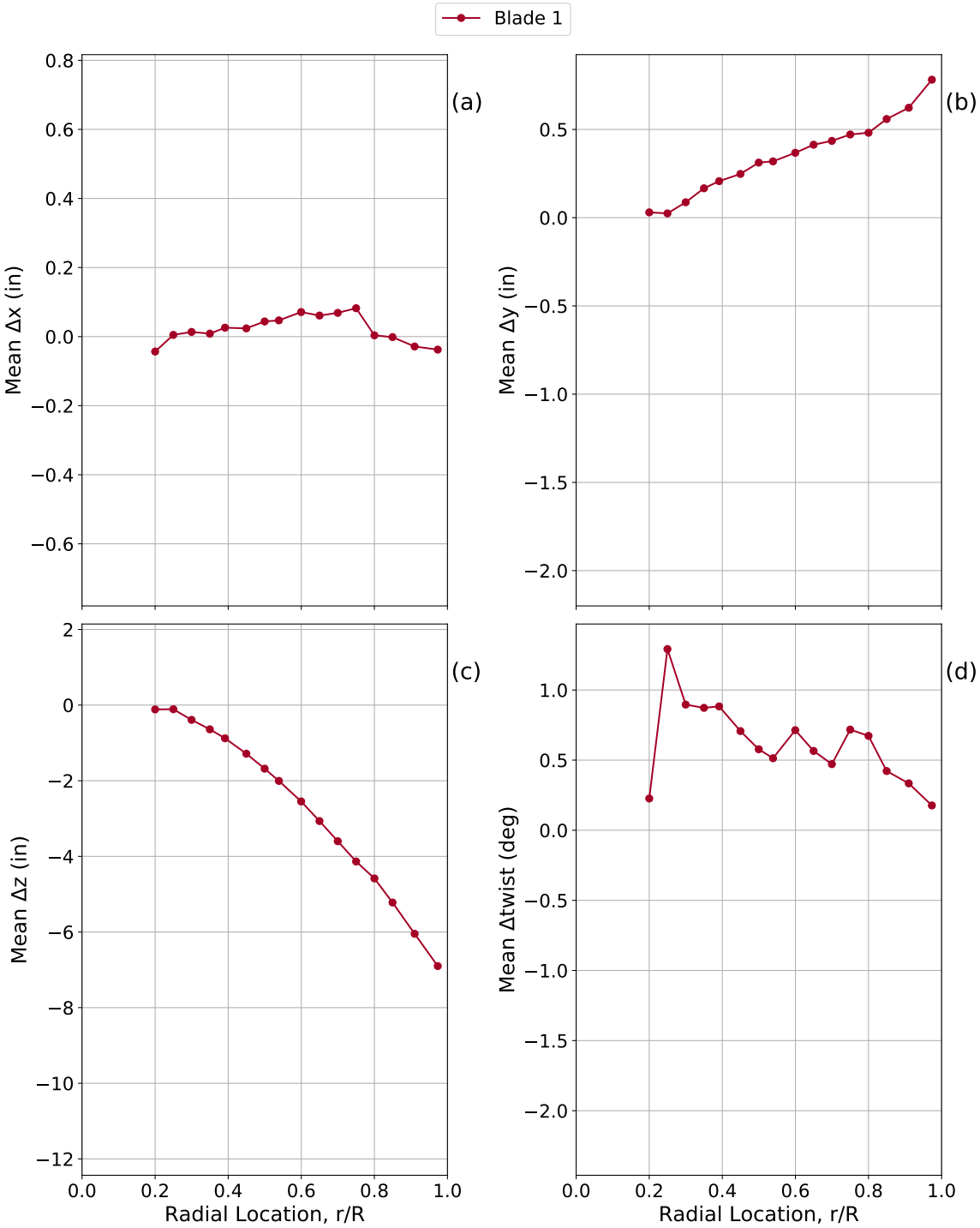


Figure 4.32-9. 80° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-9. 80° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	80.16	0.2001	-0.0433	0.0036	0.0300	0.0023	-0.1144	0.0034	0.2263	0.0410
1	80.16	0.2499	0.0049	0.0021	0.0242	0.0023	-0.1094	0.0042	1.2919	0.0683
1	80.16	0.2998	0.0135	0.0022	0.0872	0.0073	-0.3911	0.0105	0.8960	0.0898
1	80.16	0.3498	0.0085	0.0019	0.1664	0.0118	-0.6407	0.0177	0.8727	0.0832
1	80.16	0.3913	0.0258	0.0023	0.2068	0.0158	-0.8782	0.0234	0.8832	0.0866
1	80.16	0.4496	0.0238	0.0036	0.2478	0.0209	-1.2851	0.0325	0.7072	0.0817
1	80.16	0.4997	0.0438	0.0038	0.3120	0.0253	-1.6807	0.0393	0.5774	0.0856
1	80.16	0.5387	0.0470	0.0032	0.3190	0.0277	-2.0050	0.0435	0.5134	0.1074
1	80.16	0.5996	0.0711	0.0029	0.3675	0.0344	-2.5475	0.0539	0.7135	0.0948
1	80.16	0.6498	0.0609	0.0044	0.4133	0.0394	-3.0669	0.0639	0.5655	0.0831
1	80.16	0.6998	0.0687	0.0042	0.4351	0.0440	-3.5992	0.0742	0.4714	0.0908
1	80.16	0.7500	0.0822	0.0043	0.4713	0.0490	-4.1353	0.0797	0.7177	0.1163
1	80.16	0.8001	0.0037	0.0112	0.4812	0.0593	-4.5835	0.0860	0.6728	0.0832
1	80.16	0.8497	-0.0015	0.0075	0.5589	0.0647	-5.2204	0.0951	0.4221	0.0899
1	80.16	0.9102	-0.0287	0.0036	0.6227	0.0705	-6.0479	0.1051	0.3342	0.0911
1	80.16	0.9734	-0.0377	0.0048	0.7818	0.0757	-6.9007	0.1161	0.1769	0.0857

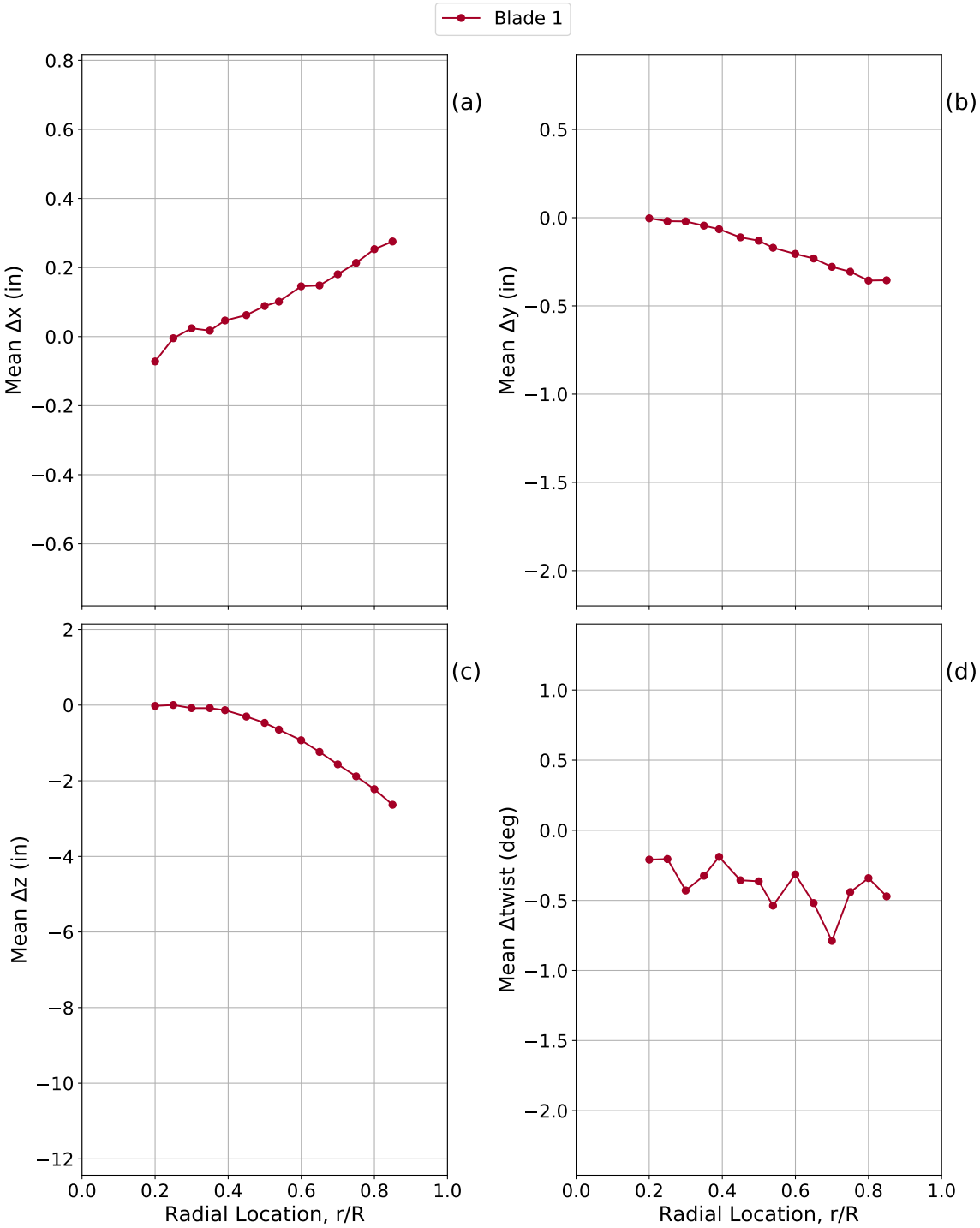


Figure 4.32-10. 85° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-10. 85° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	85.08	0.2001	-0.0720	0.0011	-0.0035	0.0004	-0.0210	0.0012	-0.2093	0.0203
1	85.08	0.2499	-0.0048	0.0009	-0.0196	0.0009	0.0030	0.0028	-0.2049	0.0335
1	85.08	0.2998	0.0240	0.0009	-0.0209	0.0013	-0.0801	0.0049	-0.4294	0.0460
1	85.08	0.3498	0.0172	0.0011	-0.0449	0.0024	-0.0802	0.0073	-0.3241	0.0358
1	85.08	0.3913	0.0466	0.0013	-0.0653	0.0034	-0.1340	0.0111	-0.1893	0.0297
1	85.08	0.4496	0.0622	0.0012	-0.1114	0.0049	-0.3019	0.0133	-0.3565	0.0401
1	85.08	0.4997	0.0886	0.0017	-0.1303	0.0062	-0.4702	0.0163	-0.3640	0.0303
1	85.08	0.5387	0.1012	0.0029	-0.1705	0.0074	-0.6491	0.0200	-0.5374	0.0409
1	85.08	0.5996	0.1457	0.0018	-0.2052	0.0097	-0.9299	0.0241	-0.3150	0.0348
1	85.08	0.6498	0.1482	0.0018	-0.2311	0.0116	-1.2378	0.0277	-0.5188	0.0430
1	85.08	0.6998	0.1805	0.0026	-0.2784	0.0140	-1.5668	0.0318	-0.7890	0.0742
1	85.08	0.7500	0.2136	0.0049	-0.3064	0.0169	-1.8832	0.0354	-0.4411	0.0526
1	85.08	0.8001	0.2532	0.0104	-0.3560	0.0169	-2.2229	0.0427	-0.3412	0.1335
1	85.08	0.8497	0.2755	0.0056	-0.3545	0.0215	-2.6347	0.0441	-0.4711	0.0989

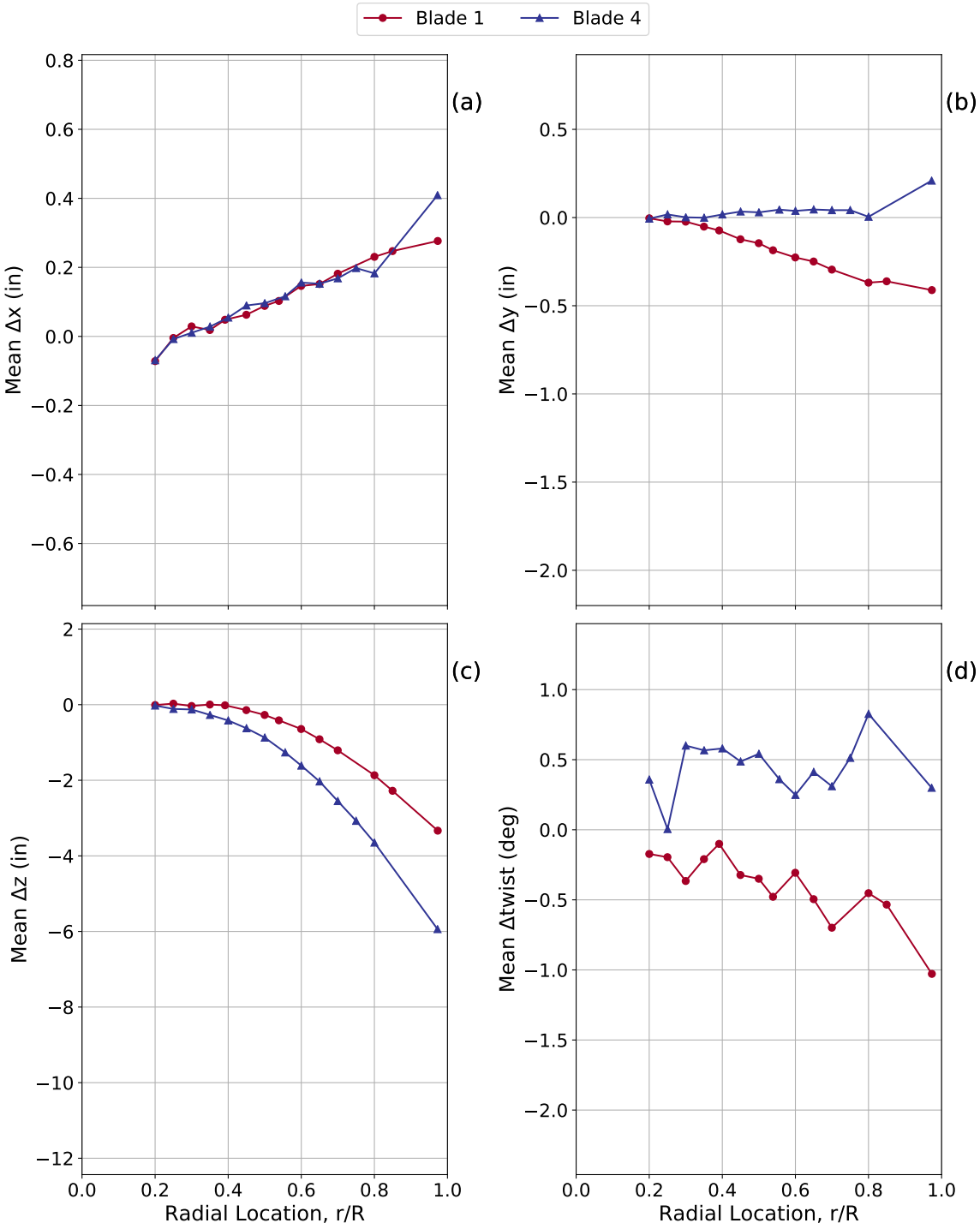


Figure 4.32-11. 90° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-11. 90° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	90	0.2001	-0.0716	0.0011	-0.0042	0.0004	-0.0097	0.0014	-0.1728	0.0103
1	90	0.2499	-0.0046	0.0010	-0.0219	0.0011	0.0270	0.0020	-0.1956	0.0273
1	90	0.2998	0.0290	0.0008	-0.0232	0.0018	-0.0346	0.0040	-0.3656	0.0251
1	90	0.3498	0.0185	0.0012	-0.0514	0.0033	0.0038	0.0076	-0.2096	0.0186
1	90	0.3913	0.0482	0.0011	-0.0733	0.0046	-0.0163	0.0095	-0.1008	0.0287
1	90	0.4496	0.0627	0.0010	-0.1232	0.0061	-0.1440	0.0132	-0.3228	0.0303
1	90	0.4997	0.0884	0.0012	-0.1455	0.0075	-0.2715	0.0157	-0.3496	0.0203
1	90	0.5387	0.1027	0.0014	-0.1855	0.0089	-0.4144	0.0183	-0.4783	0.0273
1	90	0.5996	0.1462	0.0014	-0.2263	0.0111	-0.6436	0.0220	-0.3068	0.0257
1	90	0.6498	0.1517	0.0022	-0.2493	0.0138	-0.9149	0.0238	-0.4952	0.0433
1	90	0.6998	0.1816	0.0018	-0.2952	0.0163	-1.2076	0.0274	-0.6989	0.0430
1	90	0.8001	0.2305	0.0033	-0.3692	0.0219	-1.8672	0.0357	-0.4524	0.0536
1	90	0.8497	0.2472	0.0035	-0.3615	0.0246	-2.2786	0.0390	-0.5342	0.0991
1	90	0.9734	0.2765	0.0073	-0.4114	0.0334	-3.3332	0.0626	-1.0282	0.1463
4	90.35	0.2001	-0.0691	0.0005	-0.0063	0.0005	-0.0236	0.0014	0.3580	0.0153
4	90.35	0.2502	-0.0077	0.0007	0.0175	0.0010	-0.1129	0.0035	0.0048	0.0176
4	90.35	0.3001	0.0106	0.0010	0.0013	0.0019	-0.1272	0.0049	0.6003	0.0301
4	90.35	0.3502	0.0283	0.0007	-0.0011	0.0031	-0.2721	0.0099	0.5667	0.0265
4	90.35	0.4002	0.0545	0.0006	0.0173	0.0048	-0.4186	0.0145	0.5801	0.0305
4	90.35	0.4500	0.0896	0.0010	0.0339	0.0057	-0.6244	0.0181	0.4868	0.0349
4	90.35	0.5001	0.0962	0.0019	0.0295	0.0074	-0.8713	0.0239	0.5418	0.0349
4	90.35	0.5560	0.1162	0.0019	0.0446	0.0090	-1.2642	0.0296	0.3606	0.0308
4	90.35	0.6001	0.1559	0.0017	0.0377	0.0108	-1.6132	0.0336	0.2484	0.0331
4	90.35	0.6501	0.1526	0.0022	0.0456	0.0125	-2.0320	0.0398	0.4124	0.0392
4	90.35	0.6999	0.1682	0.0024	0.0417	0.0144	-2.5510	0.0413	0.3104	0.0450
4	90.35	0.7500	0.1979	0.0024	0.0419	0.0161	-3.0741	0.0485	0.5128	0.0521
4	90.35	0.8002	0.1826	0.0033	0.0042	0.0181	-3.6496	0.0497	0.8266	0.1076
4	90.35	0.9728	0.4092	0.0154	0.2092	0.0290	-5.9390	0.1394	0.2993	0.2926

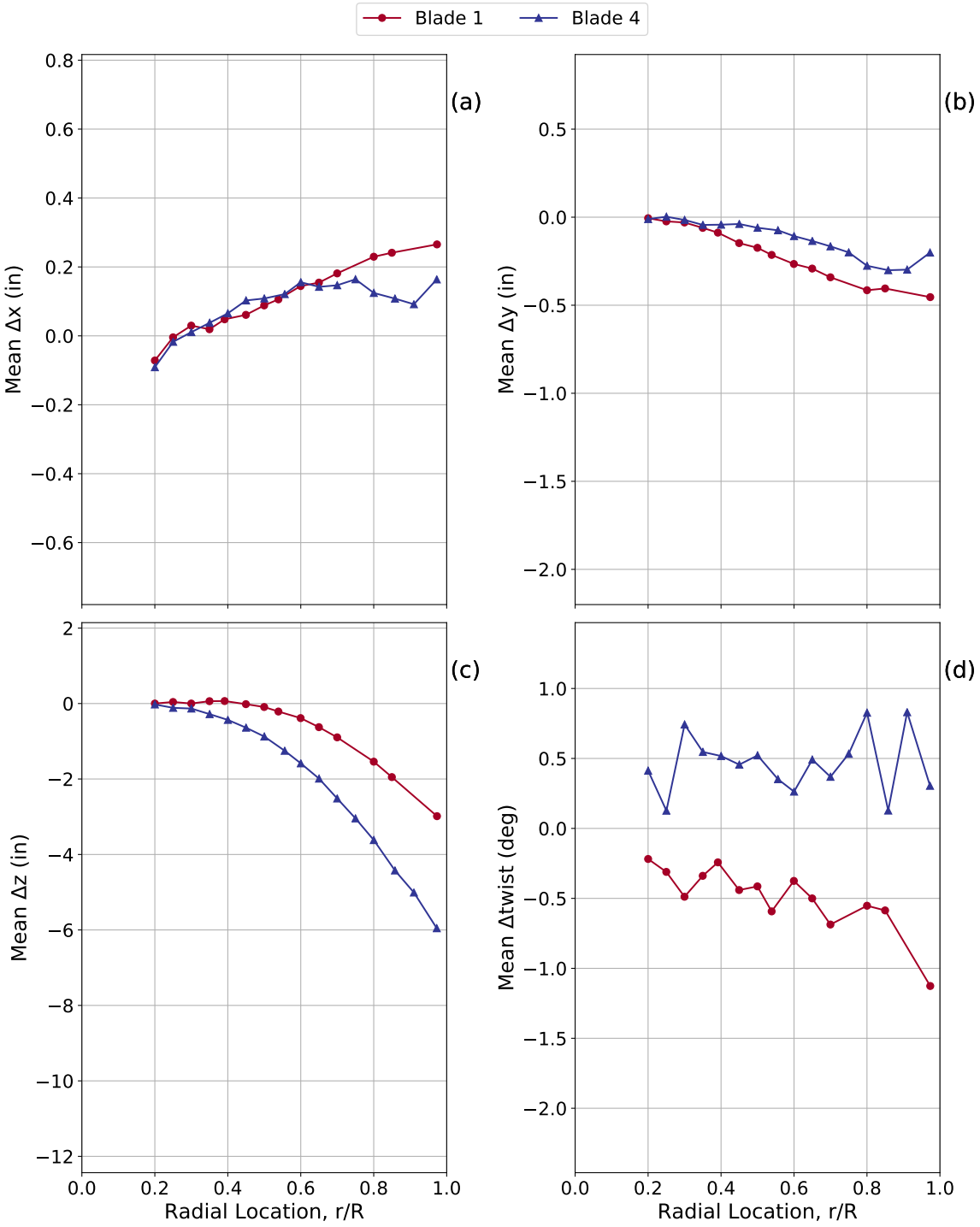


Figure 4.32-12. 95° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-12. 95° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
1	94.92	0.2001	-0.0715	0.0005	-0.0058	0.0004	-0.0002	0.0012	-0.2184	0.0098
1	94.92	0.2499	-0.0043	0.0007	-0.0238	0.0010	0.0410	0.0024	-0.3107	0.0205
1	94.92	0.2998	0.0297	0.0008	-0.0301	0.0013	0.0001	0.0051	-0.4883	0.0229
1	94.92	0.3498	0.0192	0.0008	-0.0607	0.0029	0.0625	0.0076	-0.3389	0.0229
1	94.92	0.3913	0.0480	0.0011	-0.0878	0.0036	0.0659	0.0116	-0.2425	0.0257
1	94.92	0.4496	0.0609	0.0014	-0.1471	0.0045	-0.0164	0.0155	-0.4405	0.0311
1	94.92	0.4997	0.0883	0.0011	-0.1739	0.0057	-0.0921	0.0192	-0.4143	0.0214
1	94.92	0.5387	0.1059	0.0016	-0.2142	0.0067	-0.2118	0.0207	-0.5930	0.0347
1	94.92	0.5996	0.1445	0.0009	-0.2657	0.0087	-0.3864	0.0233	-0.3752	0.0221
1	94.92	0.6498	0.1545	0.0015	-0.2918	0.0101	-0.6262	0.0249	-0.5002	0.0271
1	94.92	0.6998	0.1813	0.0019	-0.3414	0.0123	-0.8963	0.0258	-0.6869	0.0242
1	94.92	0.8001	0.2296	0.0023	-0.4149	0.0171	-1.5406	0.0263	-0.5527	0.0435
1	94.92	0.8497	0.2412	0.0029	-0.4048	0.0187	-1.9494	0.0315	-0.5860	0.0587
1	94.92	0.9734	0.2654	0.0055	-0.4540	0.0246	-2.9850	0.0483	-1.1262	0.1031
4	94.92	0.2001	-0.0910	0.0016	-0.0107	0.0008	-0.0246	0.0017	0.4127	0.0124
4	94.92	0.2502	-0.0173	0.0010	0.0025	0.0014	-0.1143	0.0036	0.1266	0.0194
4	94.92	0.3001	0.0108	0.0011	-0.0157	0.0032	-0.1330	0.0061	0.7425	0.0255
4	94.92	0.3502	0.0379	0.0013	-0.0440	0.0047	-0.2814	0.0106	0.5464	0.0327
4	94.92	0.4002	0.0654	0.0023	-0.0426	0.0076	-0.4340	0.0162	0.5171	0.0169
4	94.92	0.4500	0.1027	0.0023	-0.0387	0.0088	-0.6402	0.0205	0.4559	0.0217
4	94.92	0.5001	0.1085	0.0025	-0.0602	0.0099	-0.8747	0.0223	0.5217	0.0218
4	94.92	0.5560	0.1211	0.0043	-0.0745	0.0129	-1.2522	0.0270	0.3518	0.0233
4	94.92	0.6001	0.1556	0.0056	-0.1074	0.0141	-1.5855	0.0286	0.2629	0.0202
4	94.92	0.6501	0.1422	0.0075	-0.1351	0.0164	-1.9895	0.0312	0.4915	0.0278
4	94.92	0.6999	0.1468	0.0090	-0.1658	0.0187	-2.5166	0.0342	0.3686	0.0299
4	94.92	0.7500	0.1641	0.0109	-0.2000	0.0207	-3.0442	0.0320	0.5330	0.0388
4	94.92	0.8002	0.1245	0.0134	-0.2759	0.0237	-3.6189	0.0307	0.8269	0.0611
4	94.92	0.8582	0.1081	0.0179	-0.3012	0.0267	-4.4242	0.0328	0.1275	0.1407
4	94.92	0.9101	0.0917	0.0217	-0.2980	0.0303	-5.0080	0.0394	0.8303	0.1228
4	94.92	0.9728	0.1638	0.0265	-0.2011	0.0378	-5.9551	0.0556	0.3044	0.1677

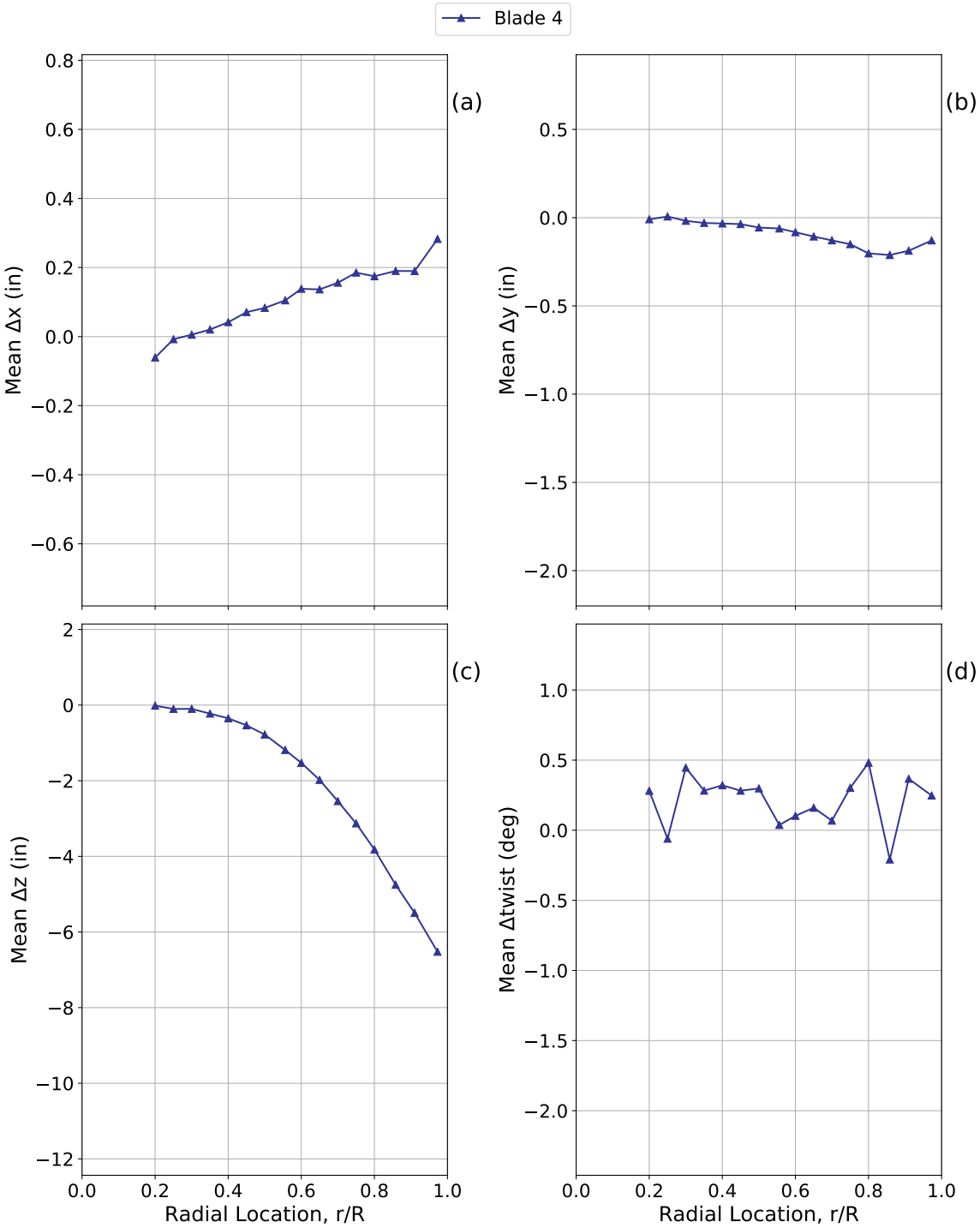


Figure 4.32-13. 105° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-13. 105° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	105.12	0.2001	-0.0607	0.0007	-0.0094	0.0004	-0.0155	0.0009	0.2811	0.0105
4	105.12	0.2502	-0.0077	0.0008	0.0066	0.0013	-0.1022	0.0025	-0.0605	0.0150
4	105.12	0.3001	0.0055	0.0008	-0.0179	0.0021	-0.1002	0.0040	0.4459	0.0226
4	105.12	0.3502	0.0204	0.0008	-0.0298	0.0037	-0.2261	0.0068	0.2821	0.0238
4	105.12	0.4002	0.0417	0.0007	-0.0331	0.0058	-0.3507	0.0108	0.3206	0.0214
4	105.12	0.4500	0.0707	0.0008	-0.0365	0.0072	-0.5358	0.0148	0.2819	0.0216
4	105.12	0.5001	0.0830	0.0010	-0.0560	0.0089	-0.7797	0.0200	0.2979	0.0251
4	105.12	0.5560	0.1049	0.0010	-0.0615	0.0120	-1.1886	0.0252	0.0373	0.0168
4	105.12	0.6001	0.1383	0.0009	-0.0825	0.0141	-1.5285	0.0292	0.1027	0.0222
4	105.12	0.6501	0.1366	0.0012	-0.1070	0.0167	-1.9798	0.0336	0.1603	0.0217
4	105.12	0.6999	0.1559	0.0012	-0.1287	0.0196	-2.5399	0.0389	0.0682	0.0273
4	105.12	0.7500	0.1852	0.0014	-0.1505	0.0228	-3.1286	0.0440	0.3023	0.0344
4	105.12	0.8002	0.1746	0.0016	-0.2024	0.0257	-3.8204	0.0480	0.4811	0.0340
4	105.12	0.8582	0.1901	0.0019	-0.2117	0.0297	-4.7506	0.0523	-0.2091	0.0357
4	105.12	0.9101	0.1897	0.0024	-0.1874	0.0334	-5.4956	0.0577	0.3668	0.0304
4	105.12	0.9728	0.2826	0.0026	-0.1291	0.0372	-6.5232	0.0666	0.2474	0.0569

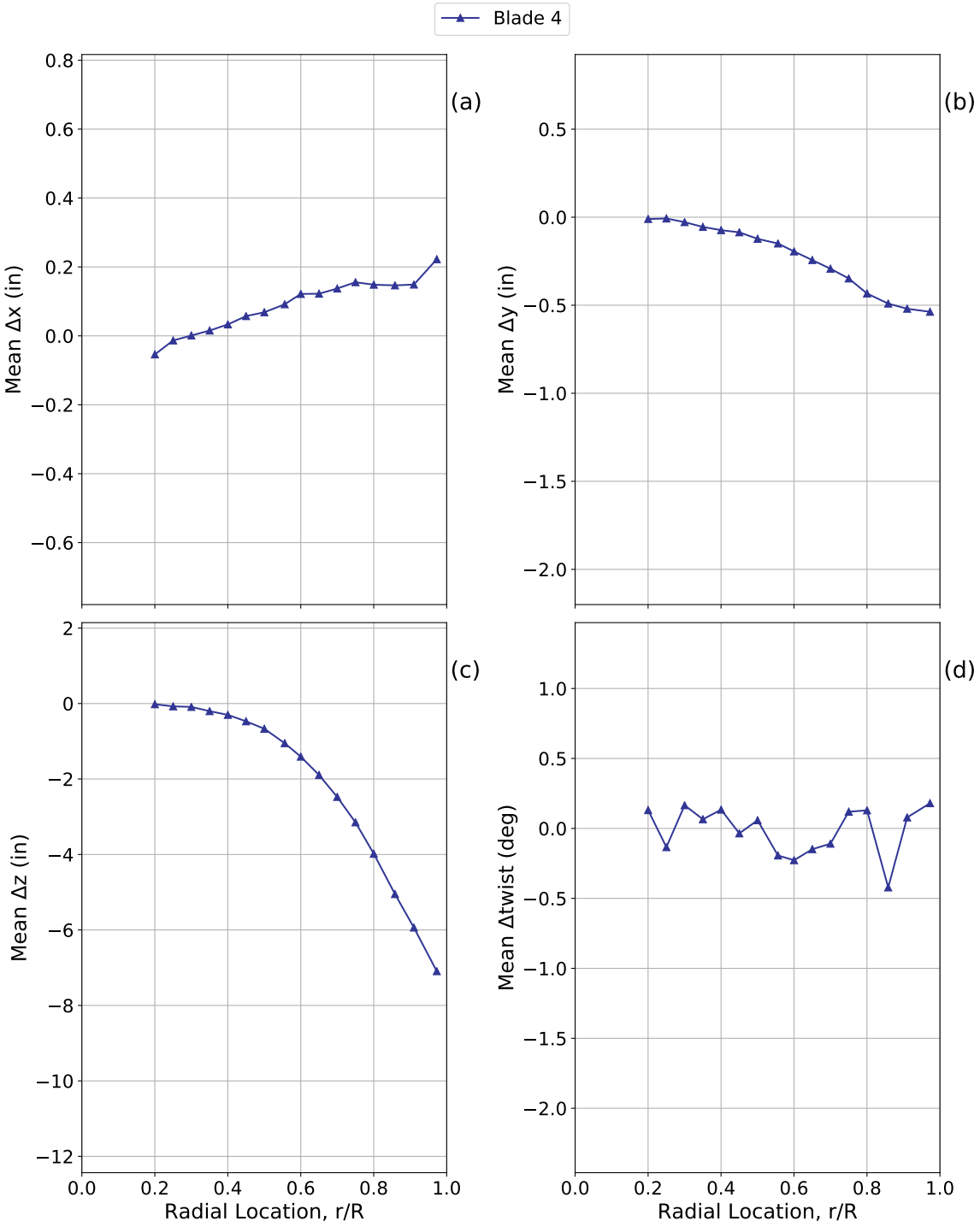


Figure 4.32-14. 120° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-14. 120° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	119.88	0.2001	-0.0539	0.0007	-0.0102	0.0007	-0.0186	0.0014	0.1306	0.0129
4	119.88	0.2502	-0.0134	0.0008	-0.0074	0.0012	-0.0754	0.0022	-0.1342	0.0213
4	119.88	0.3001	0.0010	0.0006	-0.0281	0.0026	-0.0901	0.0048	0.1655	0.0284
4	119.88	0.3502	0.0154	0.0011	-0.0554	0.0044	-0.2017	0.0080	0.0653	0.0234
4	119.88	0.4002	0.0332	0.0013	-0.0737	0.0067	-0.3009	0.0119	0.1338	0.0279
4	119.88	0.4500	0.0573	0.0007	-0.0860	0.0069	-0.4709	0.0138	-0.0356	0.0225
4	119.88	0.5001	0.0684	0.0011	-0.1229	0.0096	-0.6687	0.0190	0.0581	0.0166
4	119.88	0.5560	0.0916	0.0011	-0.1496	0.0114	-1.0517	0.0225	-0.1934	0.0247
4	119.88	0.6001	0.1216	0.0011	-0.1946	0.0136	-1.4088	0.0260	-0.2274	0.0183
4	119.88	0.6501	0.1223	0.0011	-0.2436	0.0165	-1.8945	0.0299	-0.1487	0.0289
4	119.88	0.6999	0.1373	0.0015	-0.2927	0.0191	-2.4757	0.0356	-0.1093	0.0209
4	119.88	0.7500	0.1556	0.0019	-0.3481	0.0217	-3.1492	0.0405	0.1191	0.0212
4	119.88	0.8002	0.1484	0.0023	-0.4335	0.0251	-3.9821	0.0449	0.1292	0.0182
4	119.88	0.8582	0.1465	0.0025	-0.4908	0.0288	-5.0500	0.0509	-0.4217	0.0240
4	119.88	0.9101	0.1488	0.0031	-0.5200	0.0318	-5.9373	0.0568	0.0783	0.0209
4	119.88	0.9728	0.2223	0.0041	-0.5373	0.0360	-7.0943	0.0660	0.1801	0.0212

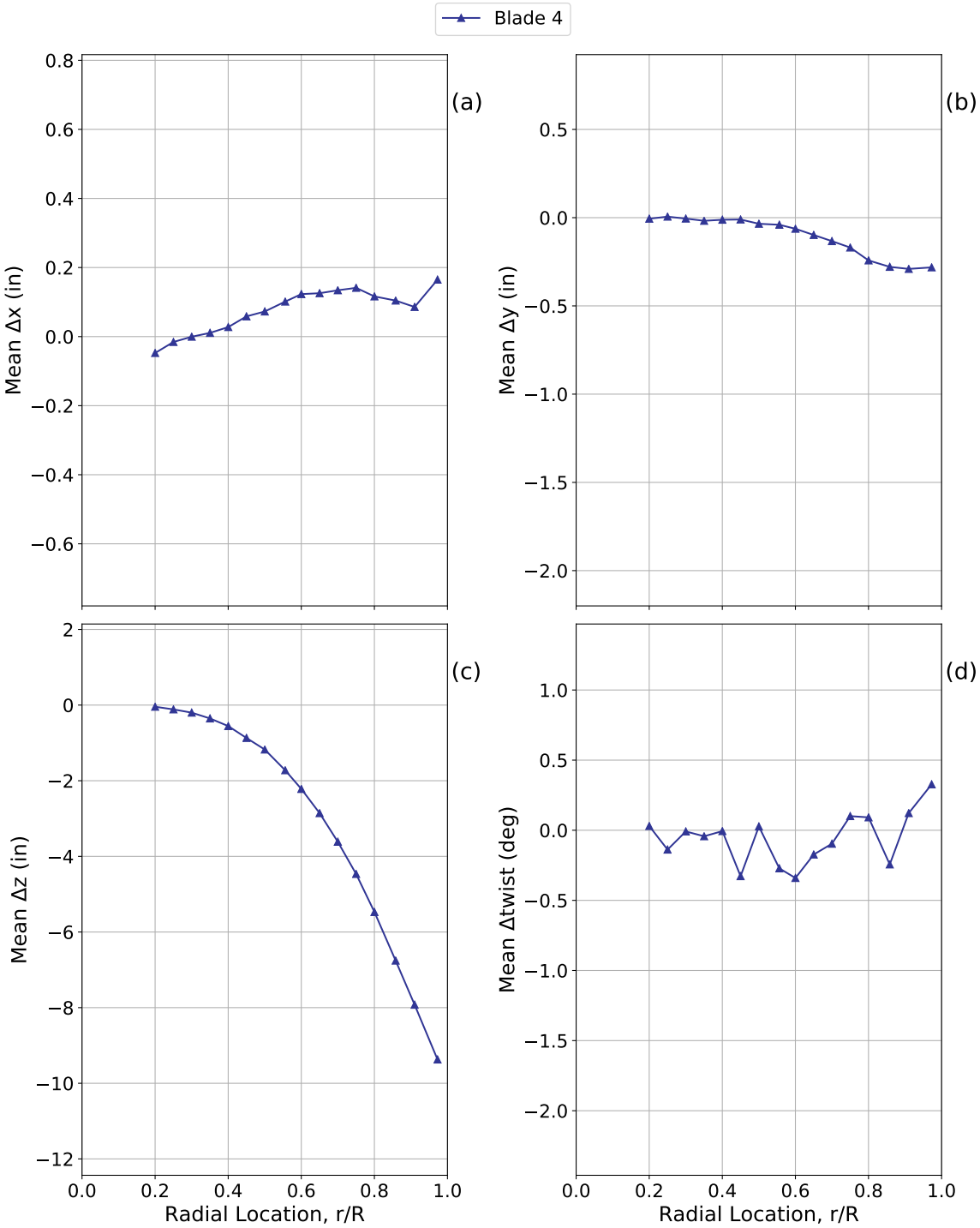


Figure 4.32-15. 135° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-15. 135° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	135	0.2001	-0.0475	0.0005	-0.0059	0.0005	-0.0438	0.0010	0.0300	0.0104
4	135	0.2502	-0.0156	0.0007	0.0057	0.0007	-0.1138	0.0026	-0.1382	0.0137
4	135	0.3001	-0.0004	0.0006	-0.0053	0.0019	-0.1999	0.0044	-0.0086	0.0206
4	135	0.3502	0.0107	0.0008	-0.0178	0.0031	-0.3533	0.0070	-0.0430	0.0185
4	135	0.4002	0.0276	0.0010	-0.0118	0.0046	-0.5556	0.0113	-0.0063	0.0216
4	135	0.4500	0.0585	0.0010	-0.0104	0.0056	-0.8693	0.0146	-0.3276	0.0212
4	135	0.5001	0.0727	0.0010	-0.0346	0.0078	-1.1755	0.0189	0.0269	0.0234
4	135	0.5560	0.1013	0.0009	-0.0402	0.0092	-1.7235	0.0253	-0.2719	0.0216
4	135	0.6001	0.1230	0.0008	-0.0630	0.0108	-2.2179	0.0291	-0.3405	0.0260
4	135	0.6501	0.1256	0.0010	-0.0981	0.0126	-2.8577	0.0332	-0.1732	0.0198
4	135	0.6999	0.1341	0.0008	-0.1330	0.0144	-3.6143	0.0408	-0.0963	0.0254
4	135	0.7500	0.1412	0.0019	-0.1693	0.0163	-4.4655	0.0469	0.1007	0.0256
4	135	0.8002	0.1163	0.0020	-0.2423	0.0178	-5.4724	0.0553	0.0918	0.0258
4	135	0.8582	0.1043	0.0028	-0.2788	0.0200	-6.7571	0.0671	-0.2438	0.0245
4	135	0.9101	0.0858	0.0038	-0.2904	0.0220	-7.9238	0.0791	0.1221	0.0247
4	135	0.9728	0.1649	0.0044	-0.2817	0.0248	-9.3716	0.0933	0.3274	0.0274

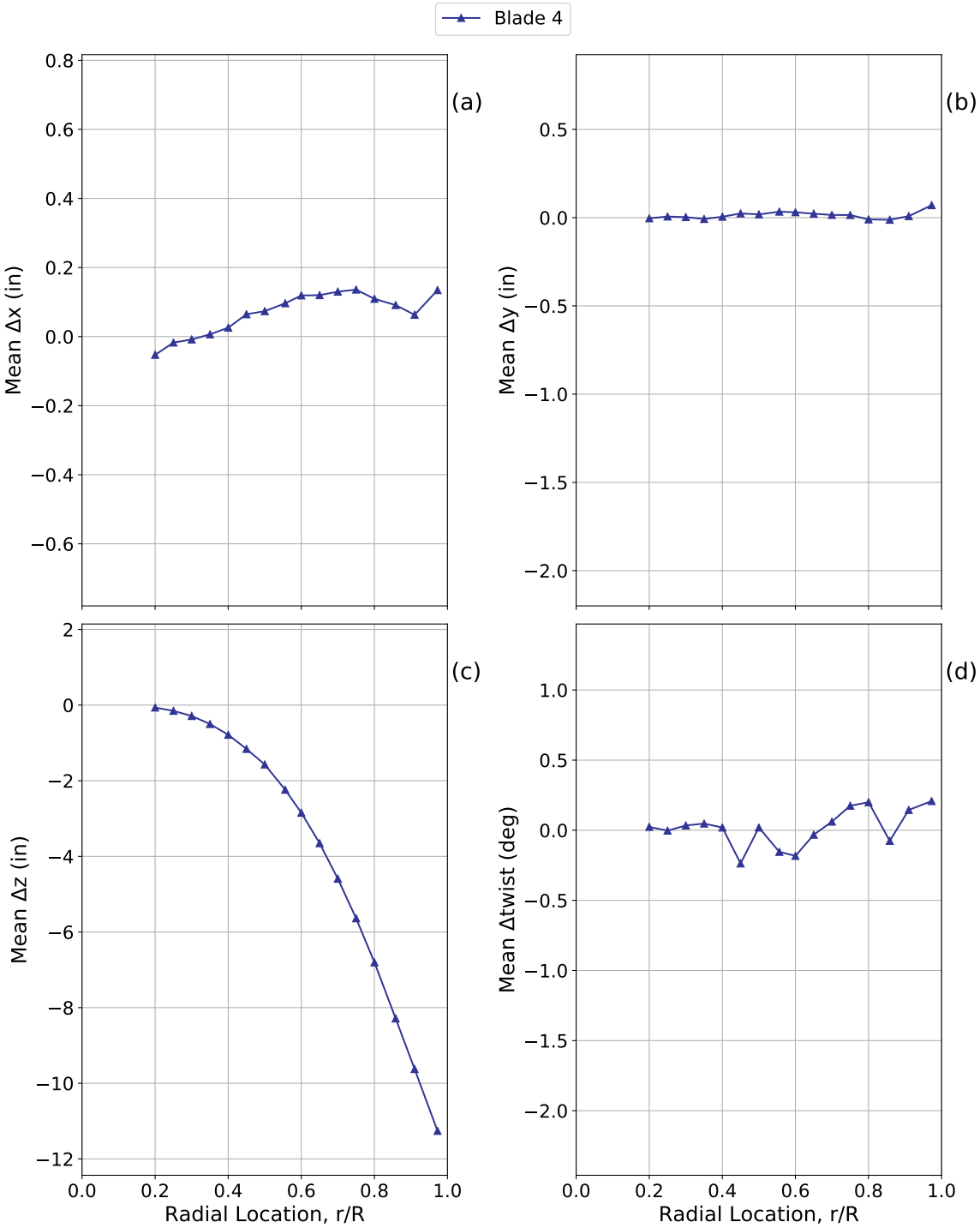


Figure 4.32-16. 150° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-16. 150° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	150.12	0.2001	-0.0528	0.0014	-0.0036	0.0006	-0.0654	0.0020	0.0237	0.0117
4	150.12	0.2502	-0.0174	0.0012	0.0064	0.0028	-0.1529	0.0028	-0.0029	0.0256
4	150.12	0.3001	-0.0083	0.0015	0.0031	0.0040	-0.2887	0.0084	0.0340	0.0272
4	150.12	0.3502	0.0065	0.0012	-0.0075	0.0066	-0.5008	0.0118	0.0475	0.0272
4	150.12	0.4002	0.0258	0.0010	0.0051	0.0114	-0.7859	0.0195	0.0192	0.0277
4	150.12	0.4500	0.0647	0.0014	0.0240	0.0109	-1.1596	0.0222	-0.2371	0.0284
4	150.12	0.5001	0.0736	0.0017	0.0185	0.0151	-1.5717	0.0290	0.0194	0.0370
4	150.12	0.5560	0.0964	0.0021	0.0339	0.0151	-2.2398	0.0347	-0.1543	0.0347
4	150.12	0.6001	0.1191	0.0022	0.0307	0.0168	-2.8475	0.0374	-0.1828	0.0389
4	150.12	0.6501	0.1199	0.0022	0.0224	0.0194	-3.6527	0.0418	-0.0323	0.0354
4	150.12	0.6999	0.1301	0.0027	0.0155	0.0219	-4.5905	0.0474	0.0611	0.0374
4	150.12	0.7500	0.1360	0.0022	0.0148	0.0234	-5.6388	0.0524	0.1746	0.0283
4	150.12	0.8002	0.1093	0.0032	-0.0100	0.0258	-6.8038	0.0557	0.1996	0.0316
4	150.12	0.8582	0.0912	0.0032	-0.0120	0.0287	-8.2870	0.0611	-0.0761	0.0363
4	150.12	0.9101	0.0630	0.0036	0.0084	0.0312	-9.6244	0.0662	0.1446	0.0380
4	150.12	0.9728	0.1346	0.0045	0.0706	0.0346	-11.2598	0.0717	0.2079	0.0364

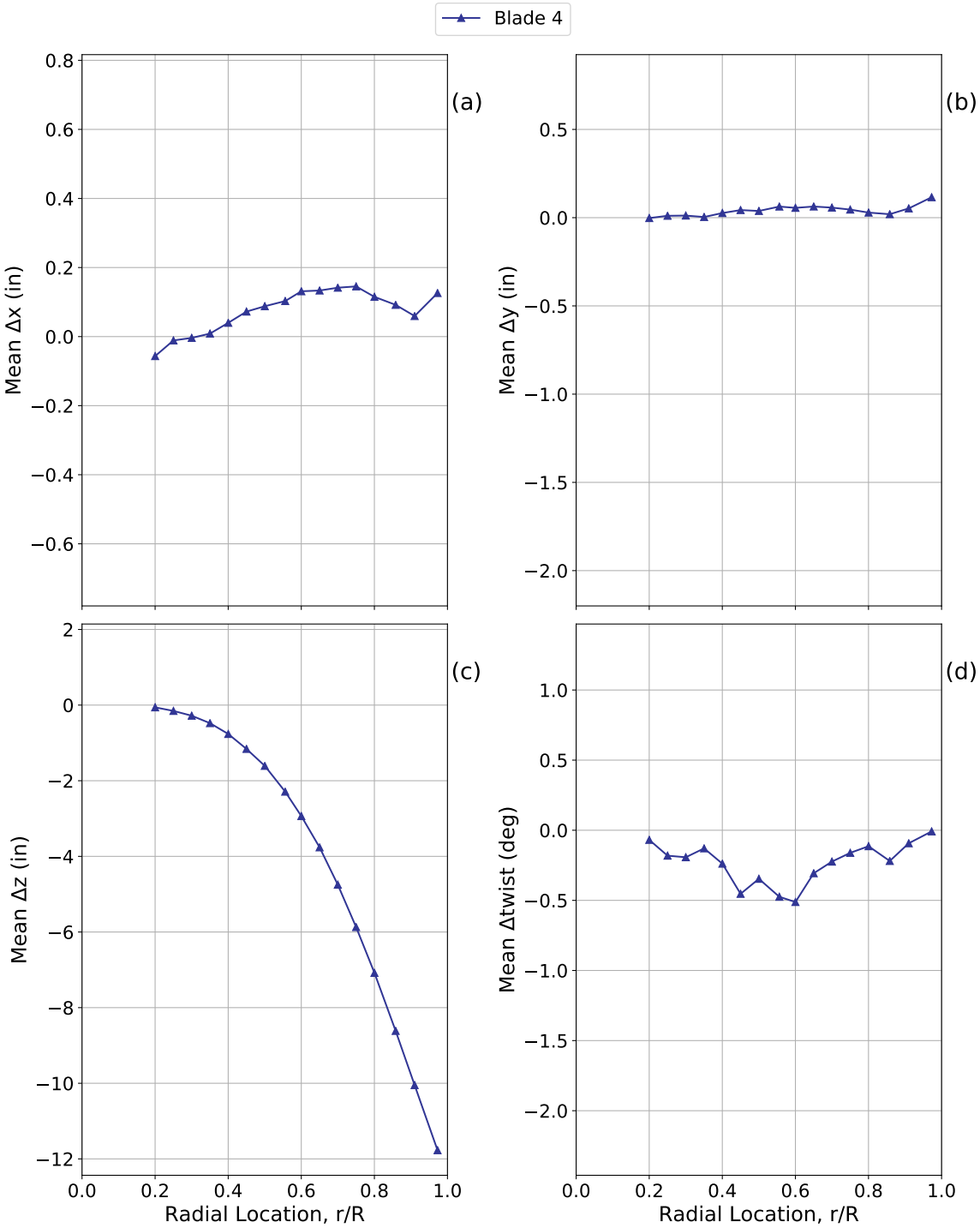


Figure 4.32-17. 165° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-17. 165° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	164.88	0.2001	-0.0565	0.0007	-0.0023	0.0007	-0.0599	0.0017	-0.0688	0.0159
4	164.88	0.2502	-0.0111	0.0013	0.0106	0.0014	-0.1543	0.0036	-0.1814	0.0270
4	164.88	0.3001	-0.0038	0.0010	0.0118	0.0028	-0.2809	0.0068	-0.1926	0.0339
4	164.88	0.3502	0.0087	0.0010	0.0037	0.0045	-0.4780	0.0103	-0.1294	0.0351
4	164.88	0.4002	0.0399	0.0012	0.0263	0.0072	-0.7640	0.0165	-0.2385	0.0334
4	164.88	0.4500	0.0724	0.0013	0.0430	0.0086	-1.1591	0.0217	-0.4536	0.0314
4	164.88	0.5001	0.0879	0.0013	0.0380	0.0124	-1.6071	0.0267	-0.3464	0.0286
4	164.88	0.5560	0.1029	0.0011	0.0628	0.0143	-2.2896	0.0325	-0.4745	0.0308
4	164.88	0.6001	0.1312	0.0012	0.0556	0.0160	-2.9359	0.0361	-0.5119	0.0308
4	164.88	0.6501	0.1334	0.0016	0.0631	0.0186	-3.7619	0.0418	-0.3069	0.0351
4	164.88	0.6999	0.1416	0.0014	0.0570	0.0225	-4.7495	0.0453	-0.2237	0.0371
4	164.88	0.7500	0.1453	0.0019	0.0457	0.0255	-5.8703	0.0517	-0.1613	0.0335
4	164.88	0.8002	0.1151	0.0019	0.0288	0.0287	-7.0815	0.0572	-0.1139	0.0309
4	164.88	0.8582	0.0919	0.0026	0.0196	0.0325	-8.6157	0.0642	-0.2193	0.0317
4	164.88	0.9101	0.0595	0.0026	0.0524	0.0362	-10.0490	0.0703	-0.0931	0.0408
4	164.88	0.9728	0.1261	0.0033	0.1157	0.0407	-11.7706	0.0774	-0.0083	0.0347

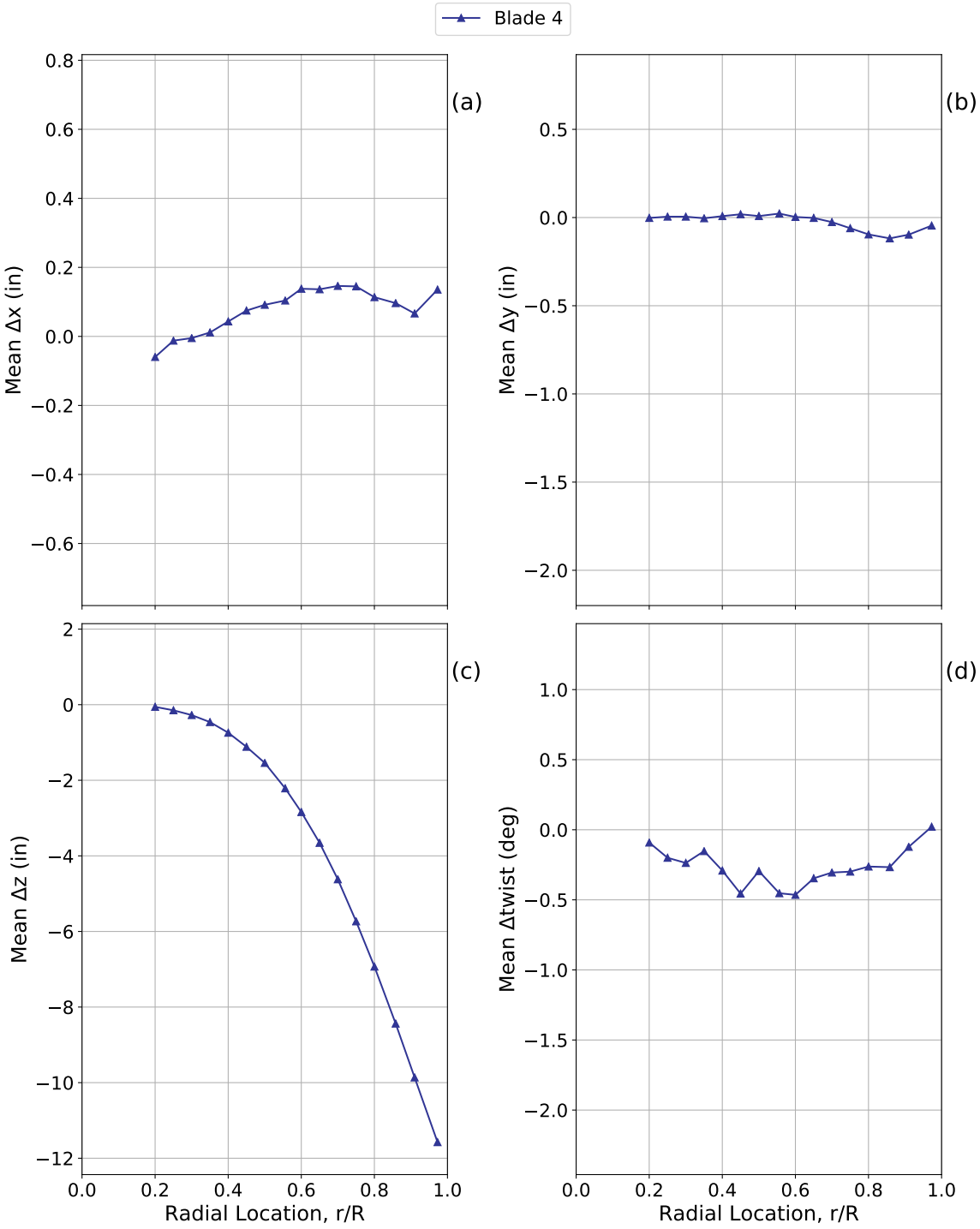


Figure 4.32-18. 170° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-18. 170° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	170.16	0.2001	-0.0596	0.0009	-0.0023	0.0006	-0.0580	0.0029	-0.0914	0.0154
4	170.16	0.2502	-0.0123	0.0018	0.0050	0.0020	-0.1487	0.0031	-0.2000	0.0266
4	170.16	0.3001	-0.0049	0.0010	0.0049	0.0038	-0.2755	0.0074	-0.2368	0.0275
4	170.16	0.3502	0.0114	0.0019	-0.0042	0.0051	-0.4610	0.0115	-0.1524	0.0224
4	170.16	0.4002	0.0433	0.0011	0.0080	0.0093	-0.7426	0.0161	-0.2916	0.0208
4	170.16	0.4500	0.0748	0.0013	0.0185	0.0109	-1.1153	0.0212	-0.4558	0.0255
4	170.16	0.5001	0.0915	0.0011	0.0084	0.0127	-1.5407	0.0271	-0.2952	0.0277
4	170.16	0.5560	0.1039	0.0018	0.0224	0.0158	-2.2140	0.0336	-0.4529	0.0189
4	170.16	0.6001	0.1380	0.0016	0.0032	0.0178	-2.8416	0.0380	-0.4645	0.0299
4	170.16	0.6501	0.1365	0.0018	-0.0023	0.0216	-3.6562	0.0428	-0.3463	0.0277
4	170.16	0.6999	0.1462	0.0017	-0.0259	0.0251	-4.6199	0.0446	-0.3053	0.0302
4	170.16	0.7500	0.1449	0.0022	-0.0606	0.0295	-5.7329	0.0494	-0.2988	0.0275
4	170.16	0.8002	0.1136	0.0022	-0.0958	0.0328	-6.9306	0.0526	-0.2626	0.0261
4	170.16	0.8582	0.0964	0.0026	-0.1182	0.0373	-8.4376	0.0576	-0.2669	0.0232
4	170.16	0.9101	0.0664	0.0032	-0.0970	0.0421	-9.8626	0.0640	-0.1220	0.0309
4	170.16	0.9728	0.1356	0.0046	-0.0457	0.0475	-11.5751	0.0727	0.0213	0.0276

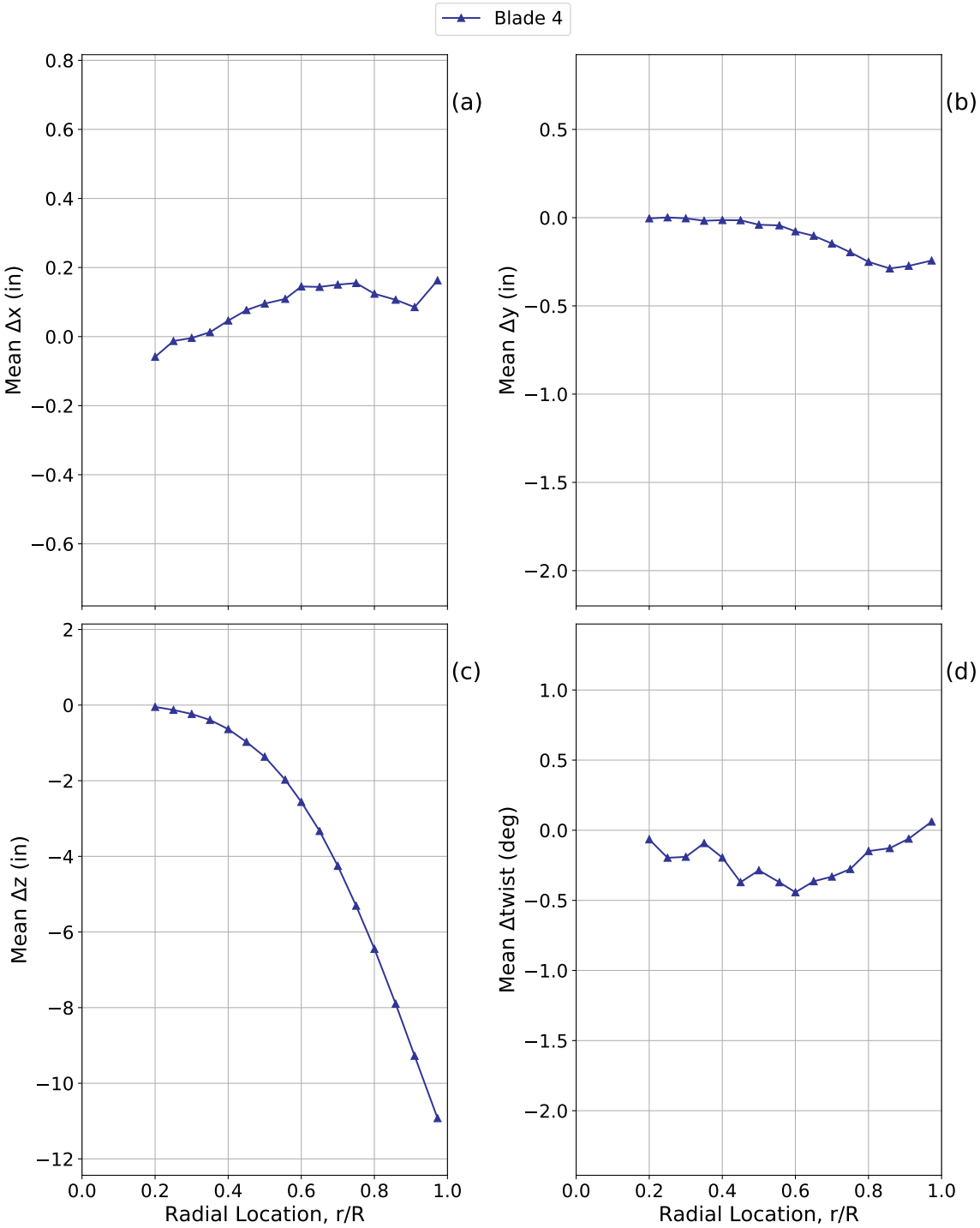


Figure 4.32-19. 175° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-19. 175° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
4	175.08	0.2001	-0.0586	0.0011	-0.0042	0.0008	-0.0486	0.0025	-0.0652	0.0221
4	175.08	0.2502	-0.0129	0.0016	0.0014	0.0015	-0.1280	0.0026	-0.1966	0.0377
4	175.08	0.3001	-0.0040	0.0016	-0.0038	0.0032	-0.2359	0.0067	-0.1897	0.0459
4	175.08	0.3502	0.0127	0.0011	-0.0176	0.0050	-0.3931	0.0115	-0.0920	0.0262
4	175.08	0.4002	0.0463	0.0009	-0.0138	0.0081	-0.6365	0.0156	-0.1952	0.0347
4	175.08	0.4500	0.0767	0.0013	-0.0148	0.0104	-0.9743	0.0196	-0.3707	0.0328
4	175.08	0.5001	0.0955	0.0013	-0.0401	0.0127	-1.3674	0.0241	-0.2857	0.0400
4	175.08	0.5560	0.1091	0.0014	-0.0438	0.0151	-1.9747	0.0283	-0.3711	0.0400
4	175.08	0.6001	0.1451	0.0014	-0.0776	0.0185	-2.5620	0.0293	-0.4426	0.0454
4	175.08	0.6501	0.1438	0.0017	-0.1029	0.0217	-3.3309	0.0355	-0.3640	0.0298
4	175.08	0.6999	0.1505	0.0014	-0.1468	0.0250	-4.2524	0.0387	-0.3311	0.0384
4	175.08	0.7500	0.1549	0.0021	-0.1960	0.0287	-5.3070	0.0436	-0.2769	0.0376
4	175.08	0.8002	0.1240	0.0019	-0.2505	0.0331	-6.4471	0.0486	-0.1488	0.0375
4	175.08	0.8582	0.1066	0.0021	-0.2879	0.0382	-7.8983	0.0544	-0.1279	0.0353
4	175.08	0.9101	0.0852	0.0023	-0.2731	0.0425	-9.2746	0.0599	-0.0606	0.0440
4	175.08	0.9728	0.1627	0.0036	-0.2432	0.0483	-10.9240	0.0646	0.0611	0.0450

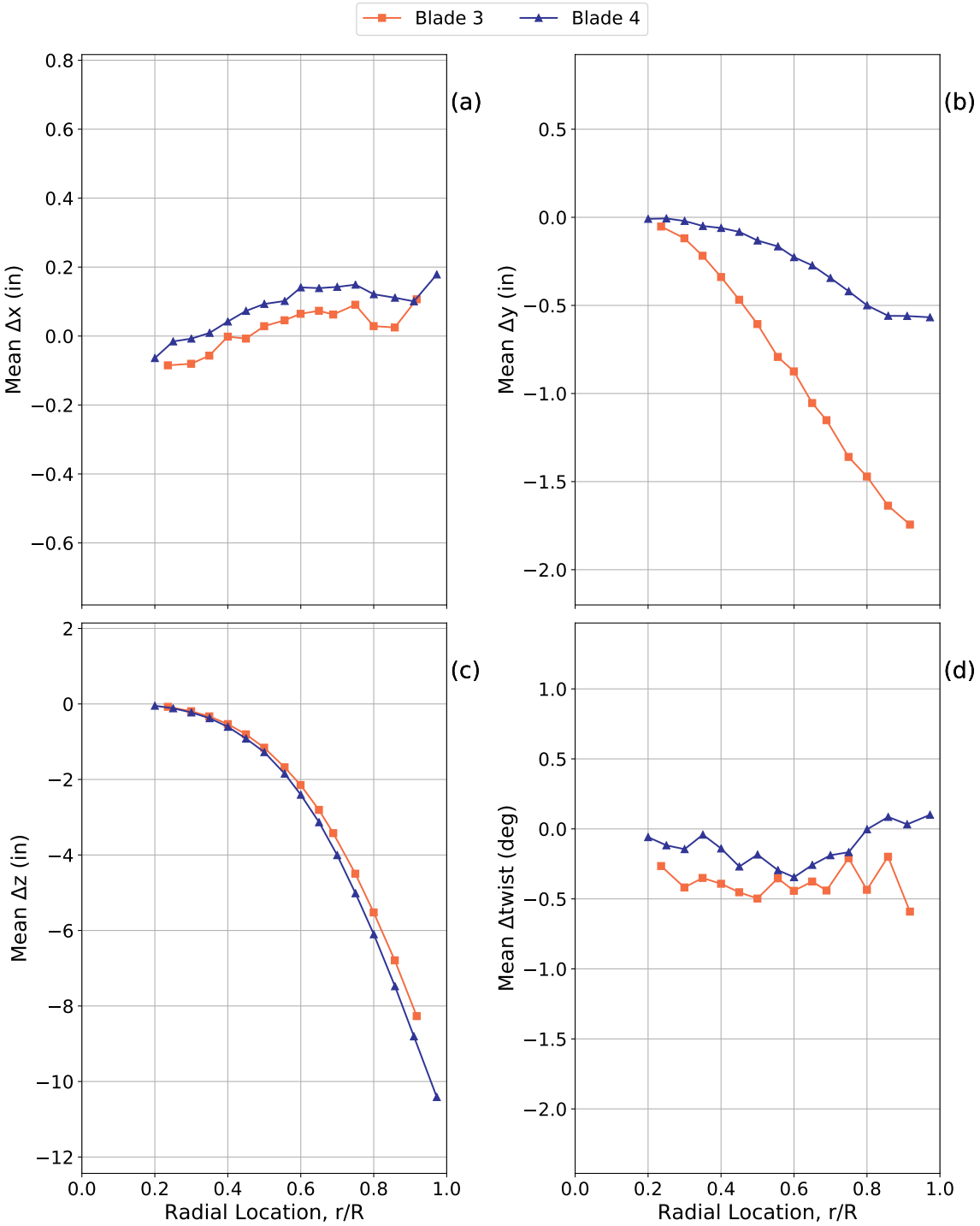


Figure 4.32-20. 180° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-20. 180° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	180.35	0.2357	-0.0849	0.0029	-0.0523	0.0014	-0.0755	0.0021	-0.2654	0.0207
3	180.35	0.2995	-0.0804	0.0014	-0.1190	0.0036	-0.1930	0.0049	-0.4182	0.0333
3	180.35	0.3493	-0.0568	0.0011	-0.2181	0.0059	-0.3290	0.0081	-0.3504	0.0295
3	180.35	0.4000	-0.0017	0.0015	-0.3389	0.0096	-0.5341	0.0126	-0.3920	0.0312
3	180.35	0.4497	-0.0074	0.0030	-0.4678	0.0115	-0.8049	0.0158	-0.4527	0.0286
3	180.35	0.4997	0.0286	0.0038	-0.6059	0.0155	-1.1589	0.0196	-0.4973	0.0239
3	180.35	0.5556	0.0457	0.0046	-0.7924	0.0186	-1.6772	0.0241	-0.3530	0.0230
3	180.35	0.5995	0.0645	0.0066	-0.8745	0.0217	-2.1472	0.0279	-0.4423	0.0243
3	180.35	0.6498	0.0733	0.0073	-1.0541	0.0251	-2.8057	0.0318	-0.3760	0.0250
3	180.35	0.6890	0.0624	0.0081	-1.1514	0.0274	-3.4215	0.0345	-0.4402	0.0350
3	180.35	0.7495	0.0908	0.0096	-1.3600	0.0312	-4.4956	0.0398	-0.2093	0.0246
3	180.35	0.7998	0.0288	0.0116	-1.4714	0.0353	-5.5219	0.0443	-0.4350	0.0225
3	180.35	0.8577	0.0249	0.0135	-1.6367	0.0396	-6.7912	0.0498	-0.1989	0.0447
3	180.35	0.9178	0.1066	0.0177	-1.7437	0.0443	-8.2678	0.0560	-0.5908	0.0977
4	180	0.2001	-0.0639	0.0016	-0.0088	0.0009	-0.0485	0.0023	-0.0589	0.0170
4	180	0.2502	-0.0156	0.0020	-0.0066	0.0018	-0.1158	0.0029	-0.1176	0.0500
4	180	0.3001	-0.0075	0.0021	-0.0207	0.0033	-0.2260	0.0089	-0.1448	0.0463
4	180	0.3502	0.0092	0.0023	-0.0494	0.0062	-0.3784	0.0122	-0.0415	0.0590
4	180	0.4002	0.0421	0.0018	-0.0606	0.0091	-0.6063	0.0197	-0.1402	0.0568
4	180	0.4500	0.0729	0.0021	-0.0826	0.0119	-0.9183	0.0265	-0.2690	0.0558
4	180	0.5001	0.0931	0.0028	-0.1318	0.0149	-1.2768	0.0329	-0.1837	0.0444
4	180	0.5560	0.1016	0.0029	-0.1653	0.0158	-1.8481	0.0398	-0.2951	0.0467
4	180	0.6001	0.1410	0.0026	-0.2263	0.0193	-2.4060	0.0441	-0.3450	0.0557
4	180	0.6501	0.1390	0.0031	-0.2731	0.0219	-3.1336	0.0496	-0.2575	0.0557
4	180	0.6999	0.1425	0.0032	-0.3445	0.0246	-4.0055	0.0555	-0.1883	0.0540
4	180	0.7500	0.1490	0.0033	-0.4200	0.0275	-5.0149	0.0616	-0.1663	0.0640
4	180	0.8002	0.1212	0.0036	-0.4997	0.0308	-6.1014	0.0670	-0.0034	0.0619
4	180	0.8582	0.1111	0.0045	-0.5592	0.0349	-7.4771	0.0742	0.0855	0.0591
4	180	0.9101	0.1006	0.0052	-0.5601	0.0386	-8.8049	0.0782	0.0323	0.0689
4	180	0.9728	0.1786	0.0062	-0.5676	0.0432	-10.4117	0.0892	0.1005	0.0650

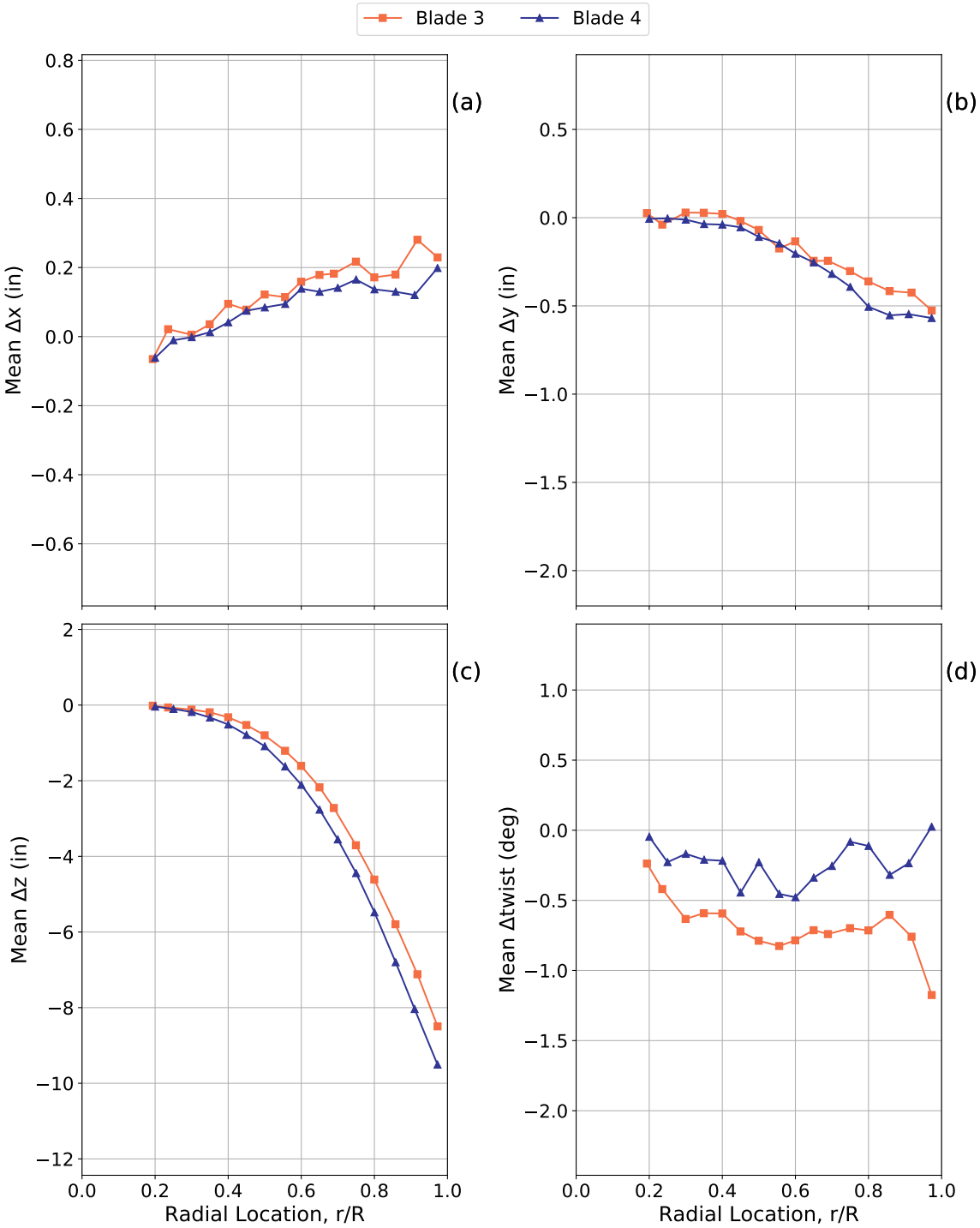


Figure 4.32-21. 185° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-21. 185° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	184.92	0.1938	-0.0651	0.0027	0.0256	0.0010	-0.0165	0.0027	-0.2377	0.0160
3	184.92	0.2357	0.0214	0.0020	-0.0393	0.0021	-0.0634	0.0041	-0.4195	0.0285
3	184.92	0.2995	0.0055	0.0015	0.0288	0.0038	-0.1190	0.0083	-0.6328	0.0303
3	184.92	0.3493	0.0356	0.0030	0.0278	0.0055	-0.1896	0.0136	-0.5916	0.0237
3	184.92	0.4000	0.0949	0.0045	0.0210	0.0093	-0.3224	0.0207	-0.5935	0.0219
3	184.92	0.4497	0.0780	0.0055	-0.0186	0.0101	-0.5274	0.0237	-0.7217	0.0306
3	184.92	0.4997	0.1219	0.0063	-0.0698	0.0130	-0.7981	0.0296	-0.7880	0.0274
3	184.92	0.5556	0.1144	0.0064	-0.1745	0.0152	-1.2082	0.0352	-0.8257	0.0259
3	184.92	0.5995	0.1589	0.0082	-0.1343	0.0175	-1.6077	0.0396	-0.7851	0.0295
3	184.92	0.6498	0.1786	0.0096	-0.2446	0.0211	-2.1735	0.0467	-0.7128	0.0284
3	184.92	0.6890	0.1822	0.0107	-0.2445	0.0235	-2.7216	0.0520	-0.7405	0.0283
3	184.92	0.7495	0.2171	0.0122	-0.3029	0.0264	-3.7052	0.0611	-0.6982	0.0183
3	184.92	0.7998	0.1716	0.0136	-0.3611	0.0282	-4.6144	0.0673	-0.7141	0.0253
3	184.92	0.8577	0.1796	0.0163	-0.4161	0.0310	-5.7953	0.0776	-0.6034	0.0261
3	184.92	0.9178	0.2804	0.0181	-0.4248	0.0336	-7.1187	0.0903	-0.7590	0.0379
3	184.92	0.9729	0.2293	0.0225	-0.5257	0.0382	-8.4948	0.0981	-1.1751	0.0810
4	184.92	0.2001	-0.0614	0.0037	-0.0064	0.0011	-0.0406	0.0018	-0.0467	0.0238
4	184.92	0.2502	-0.0106	0.0018	-0.0042	0.0024	-0.1027	0.0031	-0.2275	0.0439
4	184.92	0.3001	-0.0017	0.0012	-0.0114	0.0036	-0.1827	0.0042	-0.1685	0.0538
4	184.92	0.3502	0.0128	0.0022	-0.0363	0.0070	-0.3298	0.0098	-0.2101	0.0361
4	184.92	0.4002	0.0414	0.0032	-0.0394	0.0101	-0.5134	0.0120	-0.2173	0.0466
4	184.92	0.4500	0.0749	0.0044	-0.0545	0.0145	-0.7887	0.0142	-0.4443	0.0469
4	184.92	0.5001	0.0845	0.0063	-0.1090	0.0176	-1.0880	0.0179	-0.2288	0.0445
4	184.92	0.5560	0.0945	0.0082	-0.1460	0.0216	-1.6238	0.0216	-0.4545	0.0466
4	184.92	0.6001	0.1387	0.0106	-0.2042	0.0250	-2.1092	0.0247	-0.4777	0.0423
4	184.92	0.6501	0.1297	0.0128	-0.2537	0.0296	-2.7659	0.0270	-0.3380	0.0437
4	184.92	0.6999	0.1412	0.0141	-0.3183	0.0331	-3.5519	0.0310	-0.2547	0.0445
4	184.92	0.7500	0.1651	0.0154	-0.3919	0.0361	-4.4438	0.0345	-0.0824	0.0494
4	184.92	0.8002	0.1368	0.0173	-0.5054	0.0399	-5.4800	0.0402	-0.1121	0.0446
4	184.92	0.8582	0.1298	0.0190	-0.5534	0.0445	-6.8001	0.0466	-0.3181	0.0404
4	184.92	0.9101	0.1202	0.0230	-0.5469	0.0482	-8.0374	0.0493	-0.2354	0.0590
4	184.92	0.9728	0.1986	0.0258	-0.5687	0.0550	-9.5067	0.0606	0.0254	0.0359

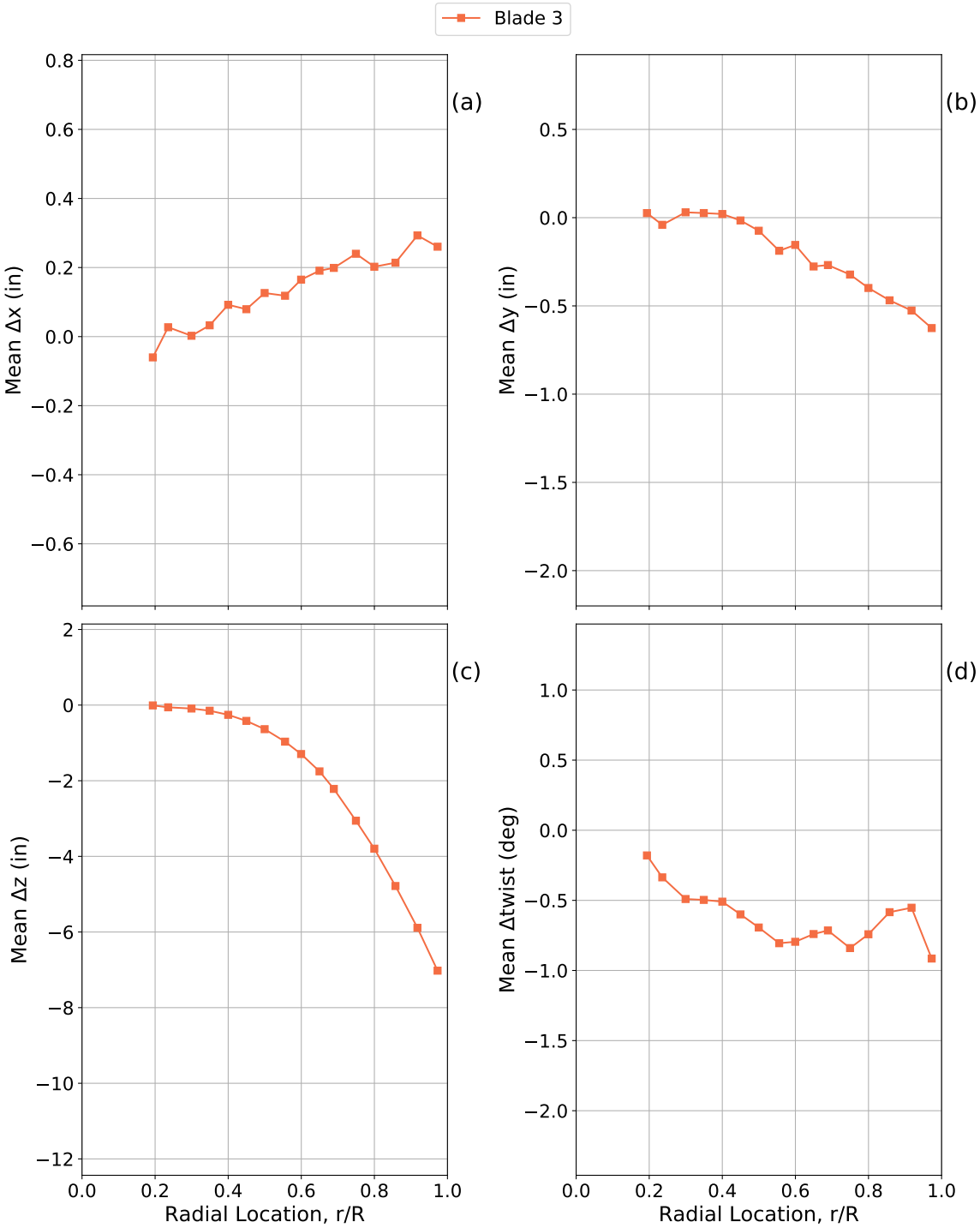


Figure 4.32-22. 195° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-22. 195° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	195.12	0.1938	-0.0602	0.0031	0.0260	0.0016	-0.0088	0.0023	-0.1796	0.0266
3	195.12	0.2357	0.0271	0.0035	-0.0406	0.0022	-0.0589	0.0039	-0.3360	0.0337
3	195.12	0.2995	0.0024	0.0023	0.0303	0.0053	-0.0911	0.0084	-0.4904	0.0573
3	195.12	0.3493	0.0327	0.0033	0.0261	0.0089	-0.1489	0.0096	-0.4967	0.0505
3	195.12	0.4000	0.0921	0.0049	0.0207	0.0133	-0.2574	0.0173	-0.5092	0.0561
3	195.12	0.4497	0.0793	0.0072	-0.0159	0.0170	-0.4179	0.0228	-0.6001	0.0412
3	195.12	0.4997	0.1262	0.0082	-0.0740	0.0218	-0.6369	0.0269	-0.6936	0.0455
3	195.12	0.5556	0.1183	0.0097	-0.1875	0.0274	-0.9669	0.0319	-0.8056	0.0452
3	195.12	0.5995	0.1649	0.0098	-0.1545	0.0304	-1.2943	0.0348	-0.7954	0.0595
3	195.12	0.6498	0.1908	0.0110	-0.2767	0.0356	-1.7523	0.0413	-0.7402	0.0693
3	195.12	0.6890	0.1989	0.0114	-0.2686	0.0387	-2.2162	0.0431	-0.7146	0.0440
3	195.12	0.7495	0.2399	0.0138	-0.3224	0.0467	-3.0570	0.0464	-0.8403	0.0617
3	195.12	0.7998	0.2023	0.0153	-0.3984	0.0505	-3.7970	0.0525	-0.7417	0.0532
3	195.12	0.8577	0.2140	0.0175	-0.4684	0.0606	-4.7838	0.0556	-0.5843	0.0617
3	195.12	0.9178	0.2930	0.0200	-0.5263	0.0660	-5.8890	0.0618	-0.5525	0.0491
3	195.12	0.9729	0.2603	0.0227	-0.6256	0.0737	-7.0223	0.0689	-0.9149	0.0395

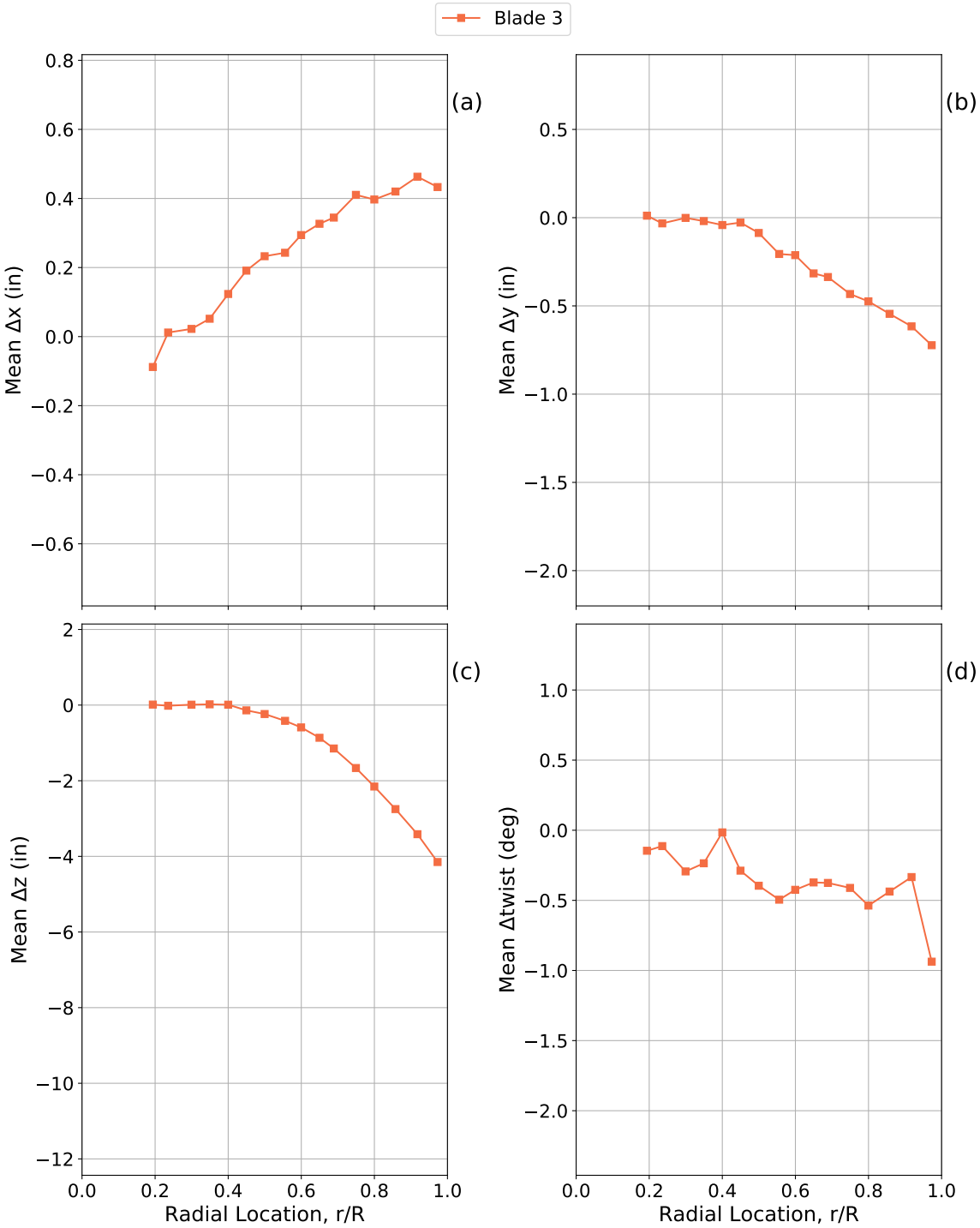


Figure 4.32-23. 210° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-23. 210° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	209.88	0.1938	-0.0880	0.0013	0.0113	0.0006	0.0135	0.0010	-0.1462	0.0201
3	209.88	0.2357	0.0118	0.0006	-0.0323	0.0016	-0.0170	0.0022	-0.1131	0.0275
3	209.88	0.2995	0.0223	0.0007	-0.0014	0.0025	0.0109	0.0037	-0.2937	0.0472
3	209.88	0.3493	0.0517	0.0011	-0.0194	0.0050	0.0201	0.0073	-0.2356	0.0360
3	209.88	0.4000	0.1234	0.0009	-0.0417	0.0076	0.0105	0.0102	-0.0153	0.0427
3	209.88	0.4497	0.1910	0.0100	-0.0278	0.0284	-0.1392	0.0357	-0.2882	0.0304
3	209.88	0.4997	0.2327	0.0103	-0.0867	0.0315	-0.2363	0.0406	-0.3956	0.0403
3	209.88	0.5556	0.2428	0.0090	-0.2058	0.0347	-0.4162	0.0464	-0.4952	0.0330
3	209.88	0.5995	0.2940	0.0080	-0.2124	0.0375	-0.5901	0.0530	-0.4249	0.0265
3	209.88	0.6498	0.3267	0.0057	-0.3158	0.0392	-0.8645	0.0567	-0.3722	0.0324
3	209.88	0.6890	0.3446	0.0044	-0.3364	0.0410	-1.1476	0.0615	-0.3757	0.0262
3	209.88	0.7495	0.4104	0.0020	-0.4326	0.0435	-1.6640	0.0696	-0.4112	0.0247
3	209.88	0.7998	0.3970	0.0025	-0.4742	0.0459	-2.1541	0.0760	-0.5371	0.0313
3	209.88	0.8577	0.4201	0.0055	-0.5449	0.0490	-2.7499	0.0858	-0.4372	0.0404
3	209.88	0.9178	0.4630	0.0092	-0.6159	0.0504	-3.4141	0.0869	-0.3340	0.1427
3	209.88	0.9729	0.4330	0.0130	-0.7227	0.0584	-4.1499	0.1031	-0.9371	0.0769

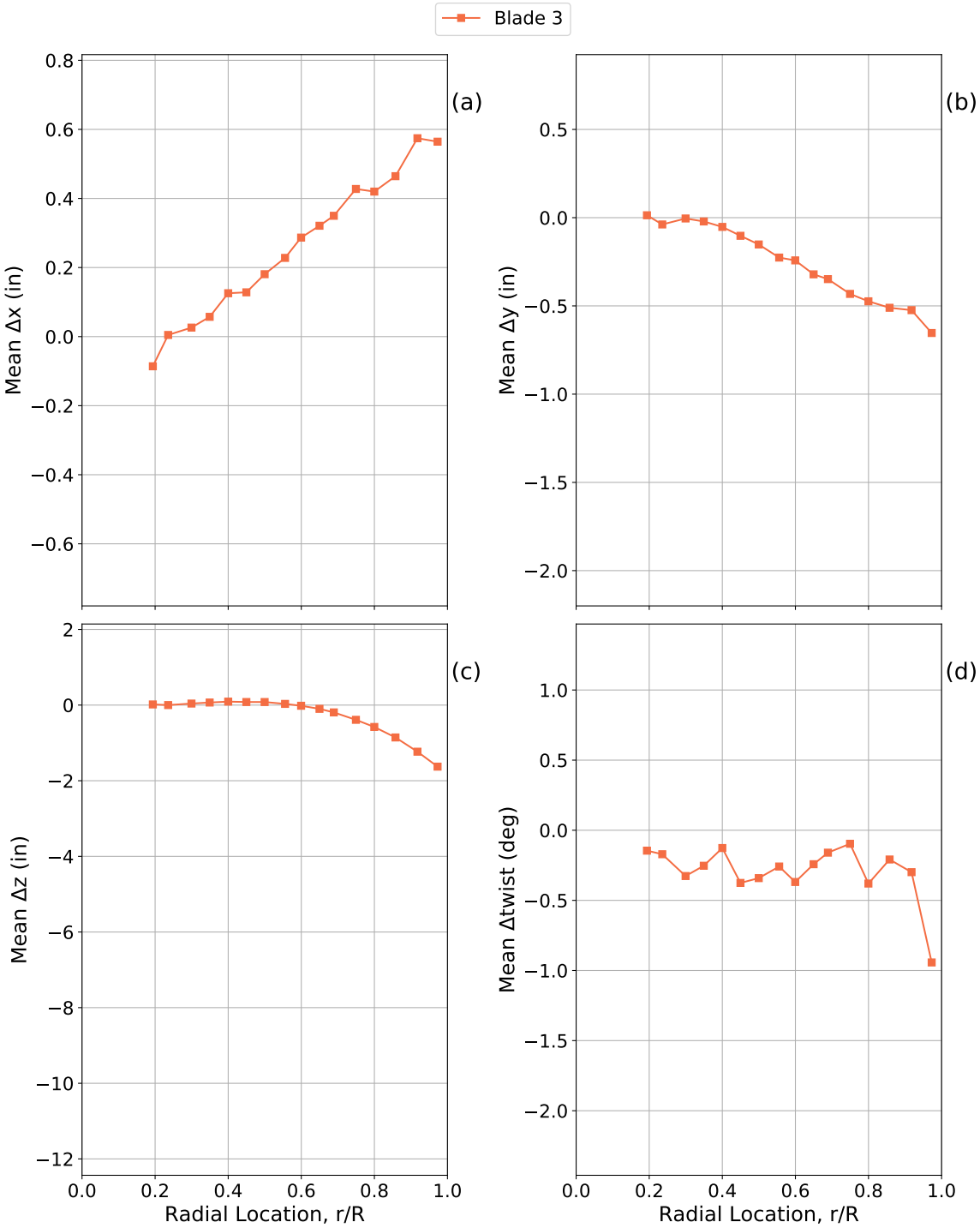


Figure 4.32-24. 225° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-24. 225° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	225	0.1938	-0.0860	0.0008	0.0136	0.0005	0.0172	0.0016	-0.1455	0.0159
3	225	0.2357	0.0047	0.0008	-0.0385	0.0008	0.0003	0.0021	-0.1711	0.0331
3	225	0.2995	0.0261	0.0007	-0.0046	0.0018	0.0405	0.0052	-0.3265	0.0420
3	225	0.3493	0.0572	0.0007	-0.0215	0.0031	0.0676	0.0086	-0.2532	0.0399
3	225	0.4000	0.1256	0.0012	-0.0524	0.0047	0.0915	0.0126	-0.1268	0.0333
3	225	0.4497	0.1282	0.0006	-0.1027	0.0061	0.0813	0.0153	-0.3757	0.0353
3	225	0.4997	0.1807	0.0011	-0.1519	0.0069	0.0809	0.0174	-0.3414	0.0367
3	225	0.5556	0.2279	0.0010	-0.2261	0.0084	0.0317	0.0196	-0.2587	0.0313
3	225	0.5995	0.2867	0.0008	-0.2421	0.0099	-0.0178	0.0220	-0.3690	0.0372
3	225	0.6498	0.3210	0.0016	-0.3211	0.0116	-0.0993	0.0235	-0.2423	0.0382
3	225	0.6890	0.3498	0.0012	-0.3482	0.0133	-0.1933	0.0257	-0.1599	0.0364
3	225	0.7495	0.4275	0.0014	-0.4320	0.0166	-0.3896	0.0298	-0.0964	0.0383
3	225	0.7998	0.4199	0.0015	-0.4739	0.0190	-0.5787	0.0336	-0.3802	0.0308
3	225	0.8577	0.4645	0.0020	-0.5105	0.0225	-0.8558	0.0371	-0.2086	0.0419
3	225	0.9178	0.5744	0.0180	-0.5241	0.0326	-1.2320	0.0415	-0.2990	0.1517
3	225	0.9729	0.5644	0.0026	-0.6535	0.0286	-1.6274	0.0508	-0.9427	0.0455

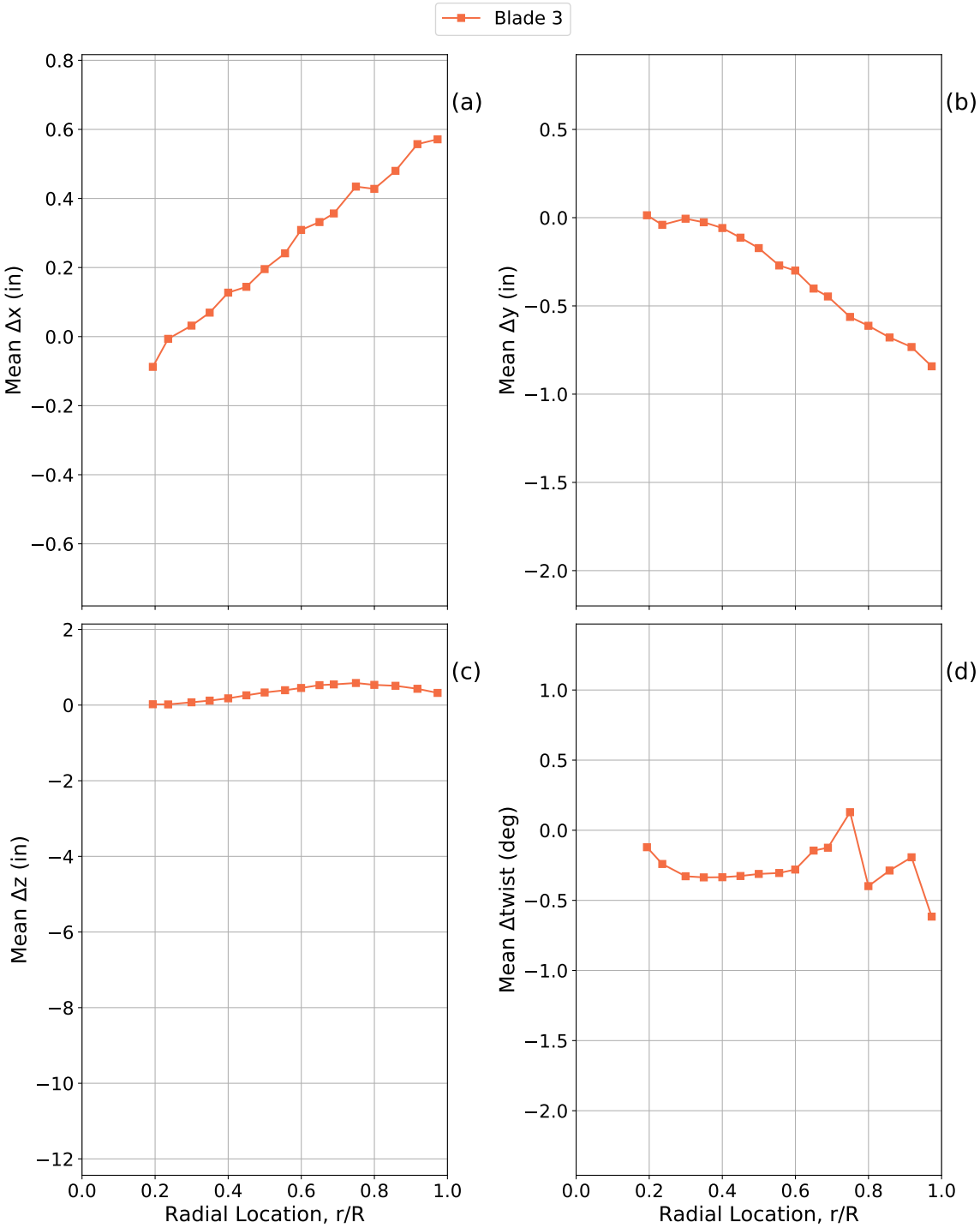


Figure 4.32-25. 240° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-25. 240° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	240.12	0.1938	-0.0876	0.0015	0.0136	0.0008	0.0223	0.0018	-0.1210	0.0155
3	240.12	0.2357	-0.0065	0.0008	-0.0405	0.0008	0.0177	0.0026	-0.2406	0.0304
3	240.12	0.2995	0.0318	0.0012	-0.0059	0.0024	0.0737	0.0052	-0.3281	0.0357
3	240.12	0.3493	0.0694	0.0011	-0.0261	0.0045	0.1185	0.0078	-0.3362	0.0365
3	240.12	0.4000	0.1273	0.0012	-0.0587	0.0063	0.1786	0.0122	-0.3350	0.0350
3	240.12	0.4497	0.1441	0.0013	-0.1133	0.0073	0.2582	0.0161	-0.3263	0.0285
3	240.12	0.4997	0.1955	0.0010	-0.1725	0.0097	0.3335	0.0194	-0.3117	0.0393
3	240.12	0.5556	0.2412	0.0012	-0.2709	0.0126	0.3932	0.0249	-0.3049	0.0331
3	240.12	0.5995	0.3088	0.0014	-0.2998	0.0150	0.4521	0.0291	-0.2803	0.0375
3	240.12	0.6498	0.3317	0.0018	-0.4018	0.0172	0.5272	0.0326	-0.1450	0.0414
3	240.12	0.6890	0.3566	0.0014	-0.4466	0.0188	0.5466	0.0356	-0.1246	0.0418
3	240.12	0.7495	0.4343	0.0019	-0.5625	0.0226	0.5840	0.0418	0.1286	0.0374
3	240.12	0.7998	0.4278	0.0018	-0.6126	0.0259	0.5346	0.0435	-0.3984	0.0300
3	240.12	0.8577	0.4799	0.0020	-0.6789	0.0302	0.5104	0.0473	-0.2873	0.0355
3	240.12	0.9178	0.5573	0.0020	-0.7330	0.0343	0.4311	0.0507	-0.1928	0.0381
3	240.12	0.9729	0.5713	0.0026	-0.8423	0.0385	0.3220	0.0559	-0.6158	0.0386

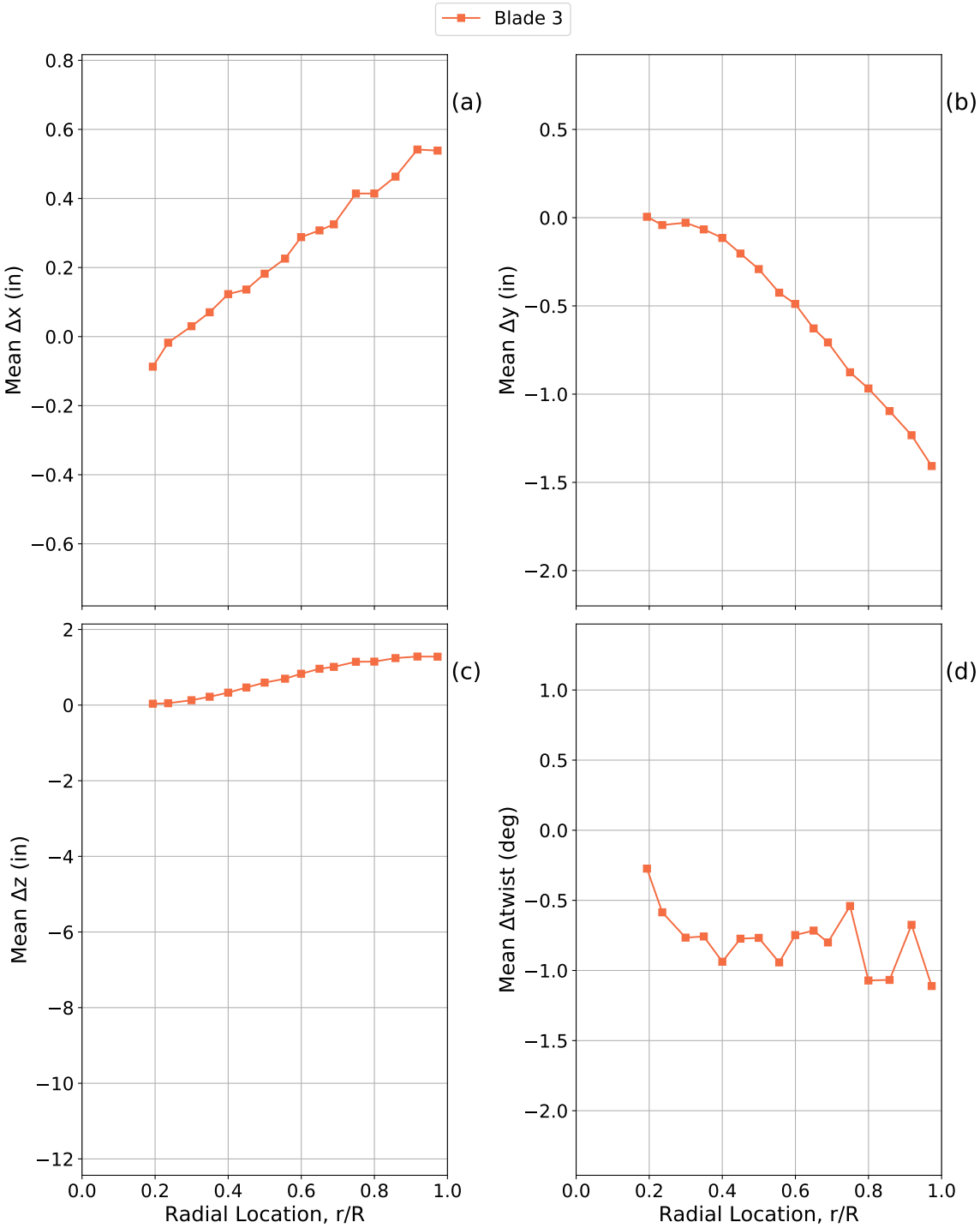


Figure 4.32-26. 255° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-26. 255° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	254.88	0.1938	-0.0871	0.0018	0.0050	0.0008	0.0369	0.0035	-0.2736	0.0164
3	254.88	0.2357	-0.0176	0.0010	-0.0417	0.0010	0.0494	0.0025	-0.5853	0.0457
3	254.88	0.2995	0.0300	0.0009	-0.0287	0.0026	0.1293	0.0093	-0.7656	0.0466
3	254.88	0.3493	0.0704	0.0007	-0.0664	0.0047	0.2204	0.0157	-0.7576	0.0335
3	254.88	0.4000	0.1230	0.0013	-0.1148	0.0069	0.3291	0.0220	-0.9376	0.0460
3	254.88	0.4497	0.1363	0.0018	-0.2033	0.0090	0.4651	0.0280	-0.7734	0.0409
3	254.88	0.4997	0.1821	0.0016	-0.2915	0.0109	0.5944	0.0326	-0.7675	0.0462
3	254.88	0.5556	0.2258	0.0024	-0.4250	0.0141	0.6974	0.0412	-0.9423	0.0504
3	254.88	0.5995	0.2880	0.0019	-0.4889	0.0165	0.8287	0.0472	-0.7475	0.0433
3	254.88	0.6498	0.3075	0.0024	-0.6276	0.0201	0.9603	0.0528	-0.7155	0.0438
3	254.88	0.6890	0.3250	0.0026	-0.7068	0.0223	1.0107	0.0566	-0.8001	0.0483
3	254.88	0.7495	0.4142	0.0026	-0.8762	0.0265	1.1457	0.0645	-0.5401	0.0400
3	254.88	0.7998	0.4144	0.0023	-0.9679	0.0306	1.1494	0.0702	-1.0713	0.0483
3	254.88	0.8577	0.4632	0.0024	-1.0959	0.0349	1.2425	0.0773	-1.0672	0.0447
3	254.88	0.9178	0.5417	0.0023	-1.2327	0.0398	1.2838	0.0850	-0.6744	0.0410
3	254.88	0.9729	0.5386	0.0039	-1.4074	0.0432	1.2805	0.0932	-1.1108	0.0470

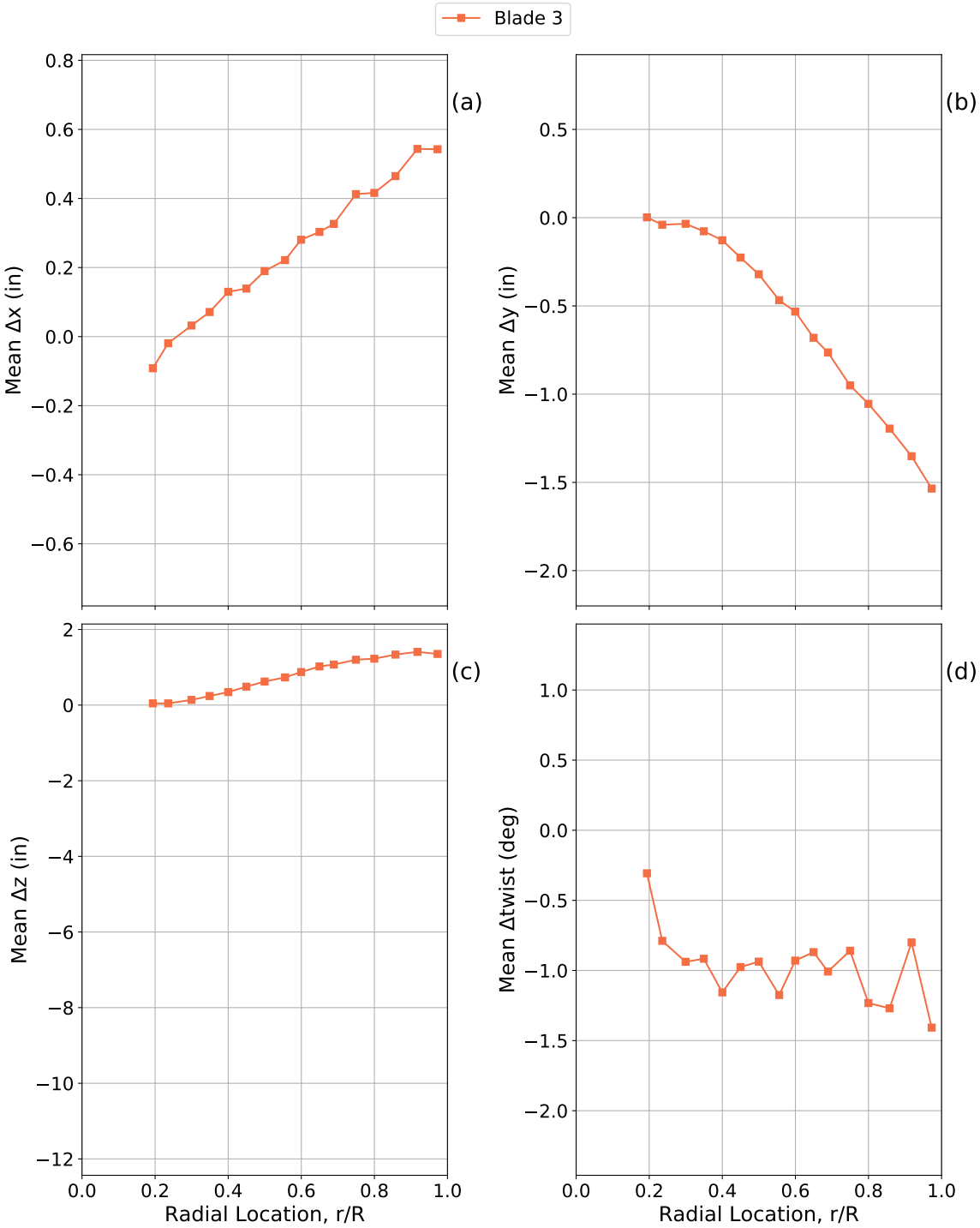


Figure 4.32-27. 260° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-27. 260° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	260.16	0.1938	-0.0917	0.0045	0.0018	0.0011	0.0452	0.0037	-0.3069	0.0230
3	260.16	0.2357	-0.0192	0.0018	-0.0401	0.0012	0.0452	0.0043	-0.7887	0.0512
3	260.16	0.2995	0.0320	0.0016	-0.0347	0.0028	0.1366	0.0092	-0.9383	0.0598
3	260.16	0.3493	0.0712	0.0013	-0.0772	0.0055	0.2401	0.0167	-0.9164	0.0506
3	260.16	0.4000	0.1297	0.0016	-0.1281	0.0075	0.3435	0.0231	-1.1563	0.0524
3	260.16	0.4497	0.1390	0.0014	-0.2260	0.0098	0.4872	0.0300	-0.9759	0.0493
3	260.16	0.4997	0.1897	0.0011	-0.3206	0.0116	0.6232	0.0369	-0.9369	0.0504
3	260.16	0.5556	0.2215	0.0014	-0.4676	0.0138	0.7322	0.0451	-1.1751	0.0432
3	260.16	0.5995	0.2805	0.0016	-0.5324	0.0150	0.8740	0.0507	-0.9295	0.0491
3	260.16	0.6498	0.3031	0.0016	-0.6808	0.0169	1.0219	0.0582	-0.8690	0.0442
3	260.16	0.6890	0.3263	0.0017	-0.7636	0.0181	1.0721	0.0635	-1.0079	0.0466
3	260.16	0.7495	0.4126	0.0018	-0.9504	0.0204	1.1989	0.0732	-0.8593	0.0461
3	260.16	0.7998	0.4162	0.0016	-1.0549	0.0217	1.2268	0.0816	-1.2322	0.0443
3	260.16	0.8577	0.4647	0.0020	-1.1953	0.0237	1.3352	0.0916	-1.2698	0.0442
3	260.16	0.9178	0.5434	0.0019	-1.3517	0.0258	1.4071	0.1037	-0.8001	0.0437
3	260.16	0.9729	0.5426	0.0027	-1.5349	0.0276	1.3521	0.1155	-1.4072	0.0458

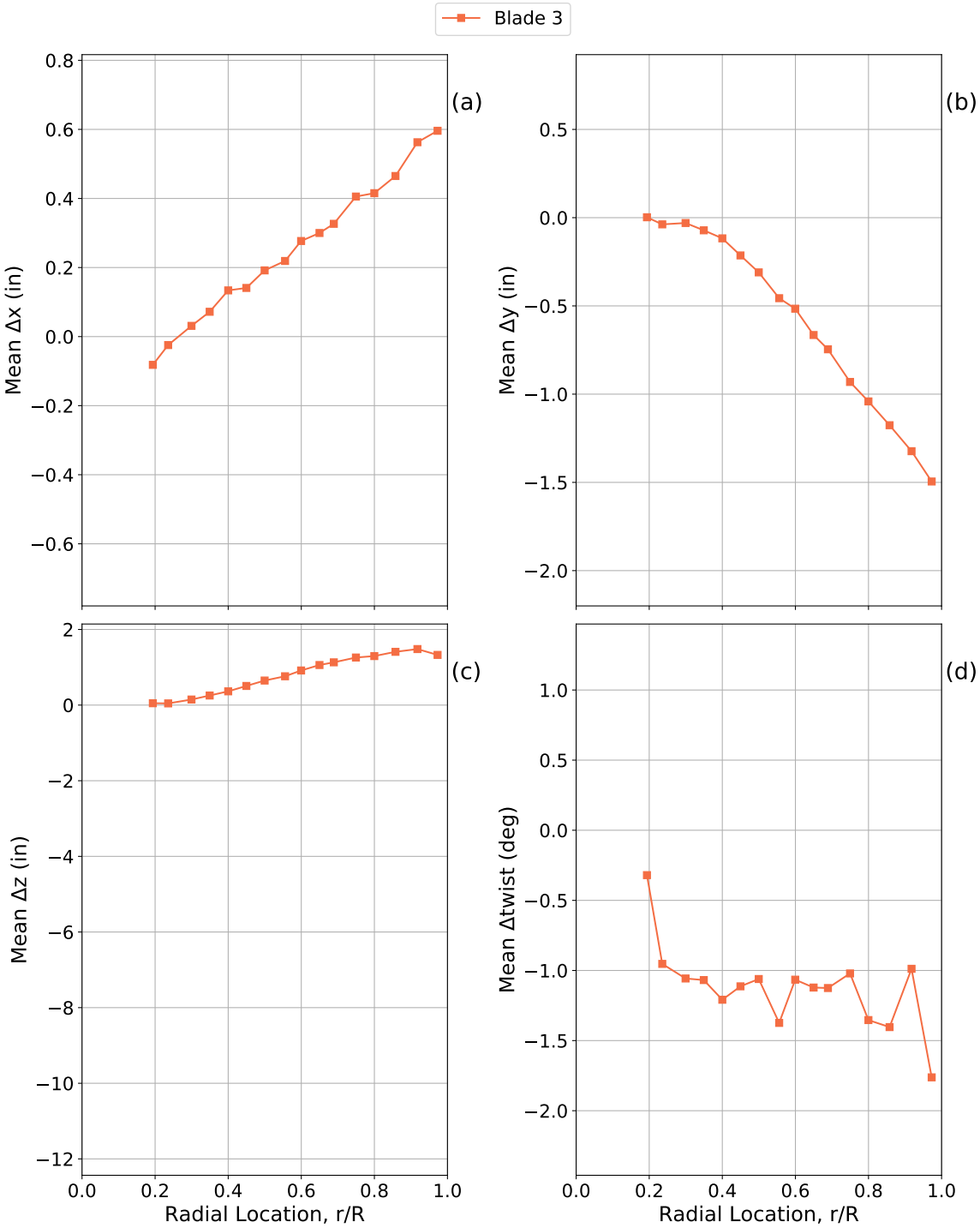


Figure 4.32-28. 265° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-28. 265° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
3	265.08	0.1938	-0.0818	0.0058	0.0023	0.0016	0.0491	0.0067	-0.3201	0.0234
3	265.08	0.2357	-0.0245	0.0023	-0.0380	0.0009	0.0446	0.0035	-0.9530	0.0870
3	265.08	0.2995	0.0311	0.0011	-0.0302	0.0037	0.1468	0.0158	-1.0571	0.0811
3	265.08	0.3493	0.0719	0.0013	-0.0717	0.0069	0.2535	0.0269	-1.0683	0.0809
3	265.08	0.4000	0.1338	0.0015	-0.1172	0.0091	0.3636	0.0364	-1.2086	0.0846
3	265.08	0.4497	0.1409	0.0016	-0.2140	0.0116	0.5060	0.0471	-1.1131	0.0766
3	265.08	0.4997	0.1917	0.0015	-0.3101	0.0143	0.6491	0.0573	-1.0609	0.0794
3	265.08	0.5556	0.2190	0.0014	-0.4563	0.0173	0.7620	0.0674	-1.3738	0.0881
3	265.08	0.5995	0.2768	0.0011	-0.5158	0.0195	0.9149	0.0772	-1.0656	0.0857
3	265.08	0.6498	0.3000	0.0014	-0.6649	0.0225	1.0595	0.0878	-1.1217	0.0852
3	265.08	0.6890	0.3266	0.0015	-0.7458	0.0250	1.1304	0.0960	-1.1252	0.0860
3	265.08	0.7495	0.4055	0.0015	-0.9309	0.0284	1.2577	0.1090	-1.0211	0.0875
3	265.08	0.7998	0.4153	0.0018	-1.0412	0.0317	1.2959	0.1199	-1.3537	0.0906
3	265.08	0.8577	0.4650	0.0021	-1.1761	0.0353	1.4085	0.1324	-1.4037	0.0845
3	265.08	0.9178	0.5628	0.0019	-1.3232	0.0396	1.4812	0.1449	-0.9880	0.0957
3	265.08	0.9729	0.5960	0.0027	-1.4950	0.0431	1.3269	0.1578	-1.7621	0.0988

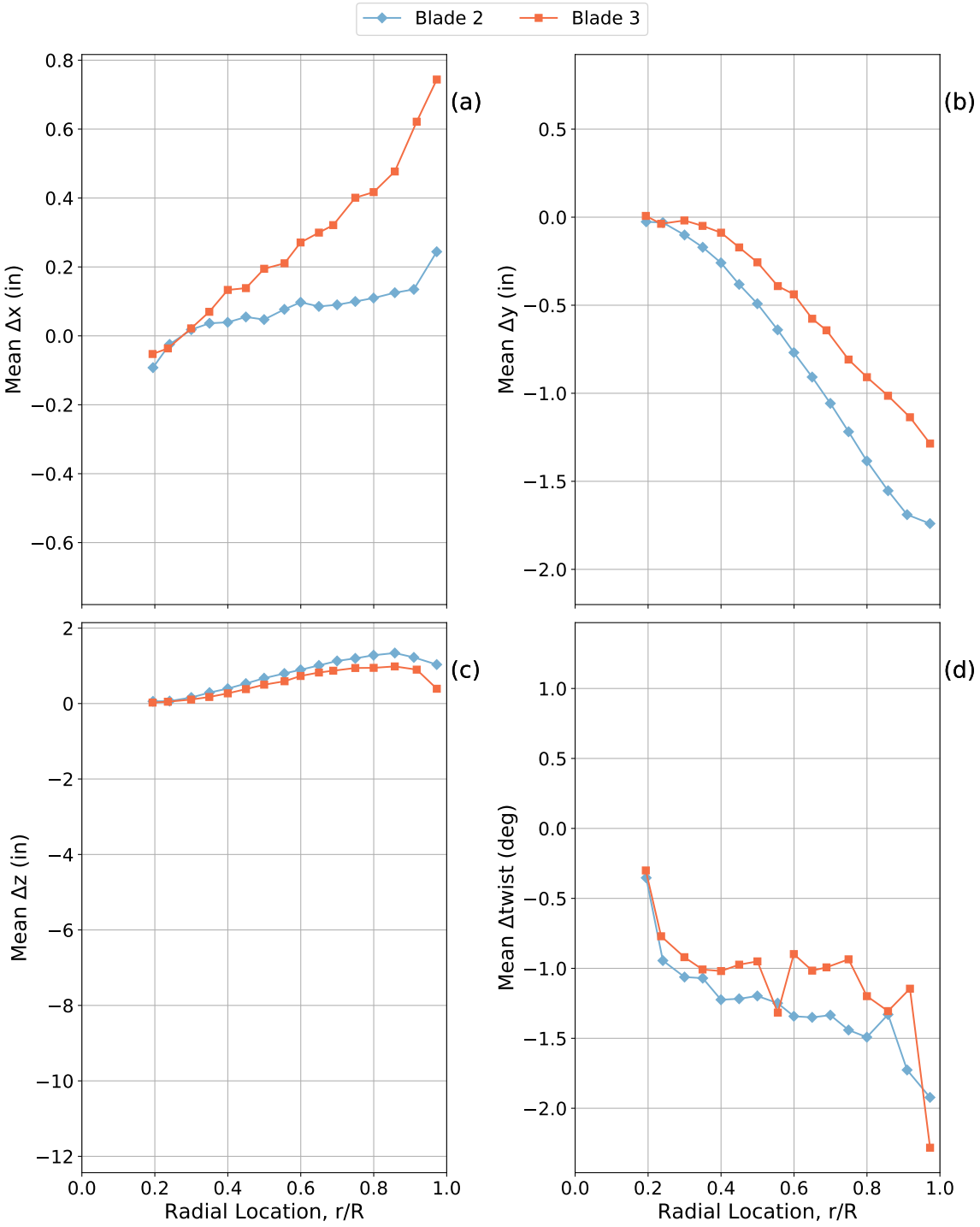


Figure 4.32-29. 270° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-29. 270° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	270.35	0.1949	-0.0923	0.0063	-0.0261	0.0016	0.0576	0.0092	-0.3532	0.0605
2	270.35	0.2405	-0.0247	0.0011	-0.0307	0.0018	0.0647	0.0100	-0.9447	0.1589
2	270.35	0.2999	0.0180	0.0023	-0.1010	0.0053	0.1596	0.0269	-1.0623	0.1781
2	270.35	0.3498	0.0365	0.0022	-0.1709	0.0096	0.2897	0.0461	-1.0702	0.1775
2	270.35	0.3998	0.0393	0.0017	-0.2592	0.0138	0.3960	0.0653	-1.2244	0.1801
2	270.35	0.4496	0.0548	0.0020	-0.3817	0.0172	0.5296	0.0839	-1.2176	0.1740
2	270.35	0.4995	0.0473	0.0020	-0.4914	0.0215	0.6719	0.1036	-1.1974	0.1617
2	270.35	0.5551	0.0769	0.0021	-0.6397	0.0258	0.7959	0.1244	-1.2488	0.1696
2	270.35	0.5996	0.0974	0.0026	-0.7689	0.0289	0.8948	0.1420	-1.3426	0.1692
2	270.35	0.6497	0.0854	0.0023	-0.9079	0.0324	1.0102	0.1615	-1.3504	0.1707
2	270.35	0.6996	0.0901	0.0023	-1.0574	0.0358	1.1282	0.1815	-1.3346	0.1692
2	270.35	0.7495	0.0997	0.0028	-1.2183	0.0392	1.1970	0.2017	-1.4410	0.1673
2	270.35	0.7996	0.1097	0.0025	-1.3845	0.0433	1.2802	0.2226	-1.4920	0.1651
2	270.35	0.8578	0.1252	0.0027	-1.5535	0.0475	1.3385	0.2461	-1.3301	0.1664
2	270.35	0.9100	0.1348	0.0031	-1.6893	0.0520	1.2231	0.2650	-1.7262	0.1840
2	270.35	0.9727	0.2442	0.0052	-1.7400	0.0585	1.0332	0.2928	-1.9225	0.2001
3	270	0.1938	-0.0527	0.0125	0.0072	0.0021	0.0256	0.0104	-0.3004	0.0612
3	270	0.2357	-0.0364	0.0045	-0.0376	0.0010	0.0480	0.0085	-0.7708	0.1866
3	270	0.2995	0.0217	0.0037	-0.0187	0.0059	0.1047	0.0295	-0.9203	0.1994
3	270	0.3493	0.0698	0.0034	-0.0494	0.0094	0.1737	0.0465	-1.0083	0.2094
3	270	0.4000	0.1333	0.0041	-0.0880	0.0137	0.2694	0.0683	-1.0193	0.2031
3	270	0.4497	0.1385	0.0042	-0.1717	0.0173	0.3816	0.0873	-0.9737	0.1947
3	270	0.4997	0.1947	0.0038	-0.2565	0.0217	0.4992	0.1070	-0.9503	0.2007
3	270	0.5556	0.2106	0.0040	-0.3913	0.0262	0.5904	0.1295	-1.3163	0.2018
3	270	0.5995	0.2710	0.0037	-0.4381	0.0295	0.7305	0.1488	-0.8982	0.1929
3	270	0.6498	0.2996	0.0039	-0.5768	0.0334	0.8219	0.1694	-1.0163	0.1985
3	270	0.6890	0.3214	0.0039	-0.6423	0.0367	0.8696	0.1855	-0.9931	0.2039
3	270	0.7495	0.4009	0.0039	-0.8085	0.0413	0.9418	0.2114	-0.9356	0.2016
3	270	0.7998	0.4171	0.0045	-0.9086	0.0460	0.9457	0.2341	-1.1989	0.2046
3	270	0.8577	0.4770	0.0039	-1.0142	0.0500	0.9833	0.2589	-1.3056	0.2042
3	270	0.9178	0.6215	0.0045	-1.1361	0.0562	0.8983	0.2852	-1.1454	0.2024
3	270	0.9729	0.7439	0.0057	-1.2857	0.0621	0.3919	0.3079	-2.2818	0.2275

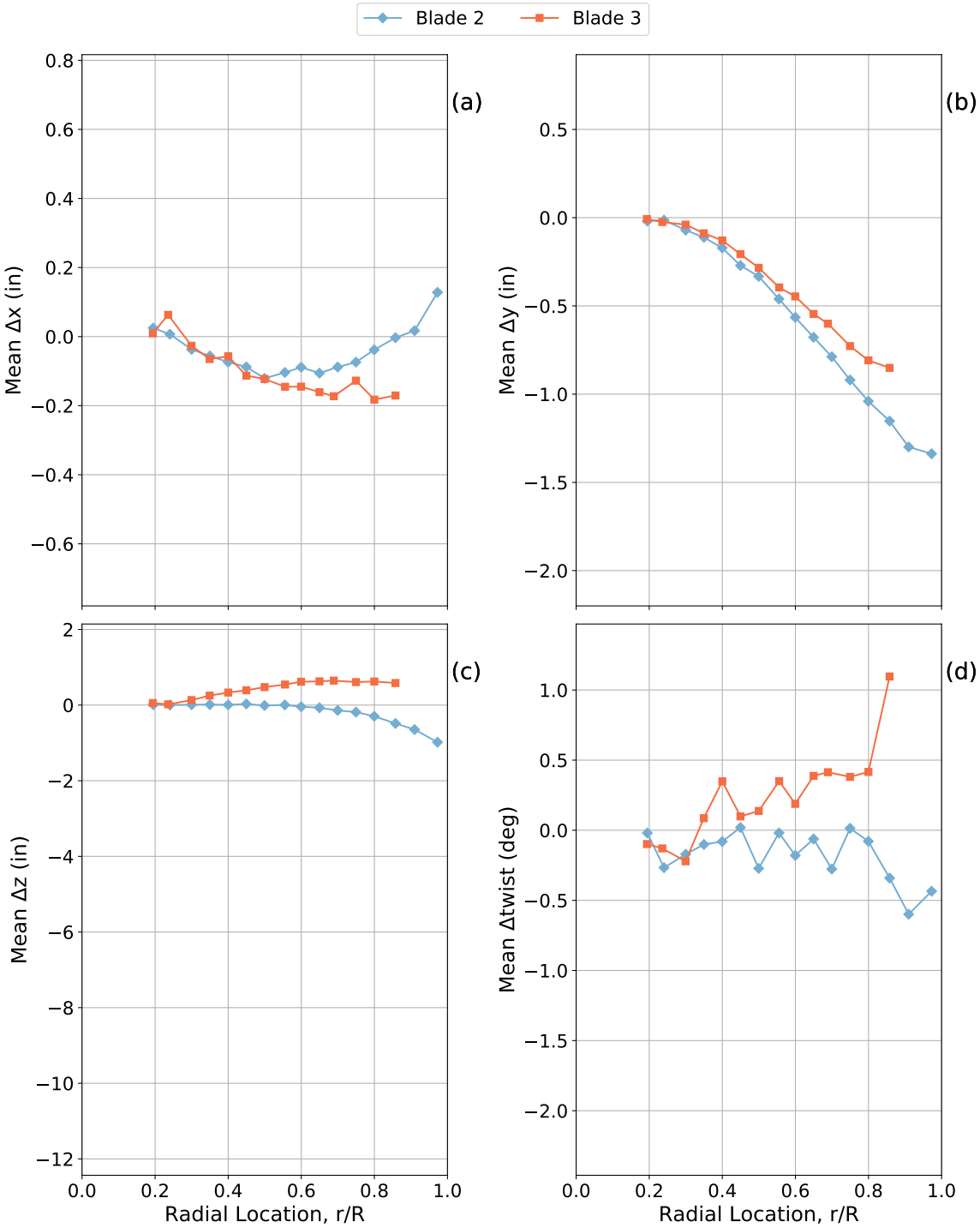


Figure 4.32-30. 275° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-30. 275° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	274.92	0.1949	0.0248	0.0011	-0.0192	0.0006	0.0104	0.0017	-0.0198	0.0132
2	274.92	0.2405	0.0068	0.0006	-0.0142	0.0009	0.0020	0.0024	-0.2666	0.0294
2	274.92	0.2999	-0.0372	0.0009	-0.0707	0.0029	0.0103	0.0065	-0.1713	0.0333
2	274.92	0.3498	-0.0561	0.0006	-0.1117	0.0039	0.0135	0.0084	-0.1013	0.0326
2	274.92	0.3998	-0.0739	0.0012	-0.1714	0.0066	0.0064	0.0142	-0.0809	0.0415
2	274.92	0.4496	-0.0877	0.0017	-0.2713	0.0078	0.0305	0.0174	0.0195	0.0353
2	274.92	0.4995	-0.1209	0.0017	-0.3326	0.0109	-0.0117	0.0223	-0.2721	0.0385
2	274.92	0.5551	-0.1040	0.0021	-0.4609	0.0127	0.0045	0.0257	-0.0190	0.0429
2	274.92	0.5996	-0.0887	0.0013	-0.5649	0.0150	-0.0435	0.0301	-0.1797	0.0441
2	274.92	0.6497	-0.1058	0.0017	-0.6778	0.0182	-0.0705	0.0348	-0.0623	0.0521
2	274.92	0.6996	-0.0882	0.0026	-0.7881	0.0211	-0.1408	0.0413	-0.2768	0.0564
2	274.92	0.7495	-0.0740	0.0027	-0.9199	0.0242	-0.1852	0.0450	0.0136	0.0496
2	274.92	0.7996	-0.0382	0.0030	-1.0402	0.0272	-0.2955	0.0544	-0.0791	0.0572
2	274.92	0.8578	-0.0032	0.0050	-1.1527	0.0326	-0.4860	0.0639	-0.3408	0.1084
2	274.92	0.9100	0.0172	0.0113	-1.2994	0.0332	-0.6473	0.0650	-0.5989	0.4240
2	274.92	0.9727	0.1281	0.0102	-1.3378	0.0391	-0.9815	0.0765	-0.4349	0.1783
3	274.92	0.1938	0.0094	0.0037	-0.0075	0.0007	0.0547	0.0018	-0.0985	0.0142
3	274.92	0.2357	0.0630	0.0023	-0.0247	0.0016	0.0200	0.0044	-0.1295	0.0196
3	274.92	0.2995	-0.0265	0.0026	-0.0395	0.0027	0.1320	0.0078	-0.2215	0.0288
3	274.92	0.3493	-0.0650	0.0016	-0.0885	0.0059	0.2508	0.0126	0.0861	0.0237
3	274.92	0.4000	-0.0570	0.0029	-0.1291	0.0083	0.3313	0.0202	0.3488	0.0128
3	274.92	0.4497	-0.1130	0.0034	-0.2067	0.0098	0.3921	0.0265	0.0986	0.0573
3	274.92	0.4997	-0.1228	0.0043	-0.2842	0.0104	0.4746	0.0234	0.1374	0.0224
3	274.92	0.5556	-0.1453	0.0027	-0.3955	0.0130	0.5433	0.0338	0.3501	0.0229
3	274.92	0.5995	-0.1448	0.0028	-0.4463	0.0138	0.6173	0.0328	0.1883	0.0513
3	274.92	0.6498	-0.1609	0.0033	-0.5458	0.0162	0.6280	0.0448	0.3874	0.0297
3	274.92	0.6890	-0.1728	0.0032	-0.6007	0.0181	0.6474	0.0498	0.4139	0.0427
3	274.92	0.7495	-0.1275	0.0050	-0.7276	0.0198	0.6080	0.0555	0.3805	0.0329
3	274.92	0.7998	-0.1824	0.0066	-0.8085	0.0203	0.6241	0.0593	0.4159	0.0510
3	274.92	0.8577	-0.1705	0.0112	-0.8511	0.0241	0.5832	0.0762	1.0963	0.1860

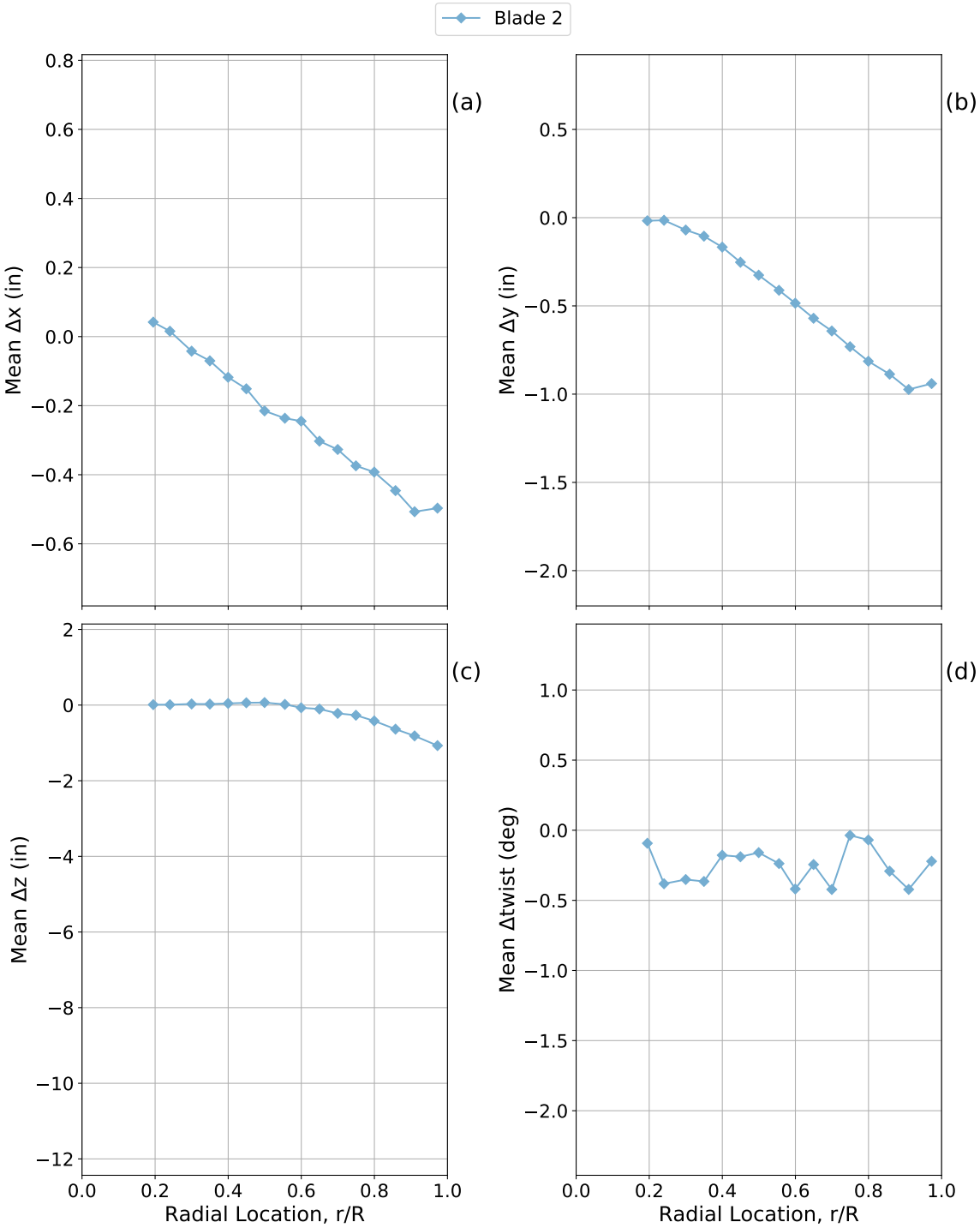


Figure 4.32-31. 285° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-31. 285° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	285.12	0.1949	0.0419	0.0012	-0.0175	0.0006	0.0112	0.0015	-0.0930	0.0163
2	285.12	0.2405	0.0156	0.0012	-0.0148	0.0012	0.0104	0.0049	-0.3816	0.0241
2	285.12	0.2999	-0.0422	0.0012	-0.0699	0.0034	0.0296	0.0080	-0.3513	0.0348
2	285.12	0.3498	-0.0702	0.0023	-0.1050	0.0048	0.0261	0.0123	-0.3652	0.0576
2	285.12	0.3998	-0.1178	0.0013	-0.1669	0.0082	0.0443	0.0207	-0.1781	0.0310
2	285.12	0.4496	-0.1512	0.0018	-0.2527	0.0099	0.0608	0.0284	-0.1891	0.0338
2	285.12	0.4995	-0.2152	0.0022	-0.3258	0.0130	0.0666	0.0307	-0.1596	0.0551
2	285.12	0.5551	-0.2364	0.0015	-0.4115	0.0173	0.0180	0.0408	-0.2377	0.0400
2	285.12	0.5996	-0.2448	0.0024	-0.4847	0.0204	-0.0705	0.0488	-0.4190	0.0293
2	285.12	0.6497	-0.3028	0.0015	-0.5701	0.0236	-0.1039	0.0546	-0.2444	0.0354
2	285.12	0.6996	-0.3269	0.0021	-0.6421	0.0277	-0.2194	0.0616	-0.4223	0.0438
2	285.12	0.7495	-0.3742	0.0024	-0.7311	0.0313	-0.2686	0.0711	-0.0365	0.0489
2	285.12	0.7996	-0.3923	0.0020	-0.8136	0.0351	-0.4192	0.0802	-0.0693	0.0411
2	285.12	0.8578	-0.4460	0.0032	-0.8870	0.0401	-0.6366	0.0853	-0.2917	0.0567
2	285.12	0.9100	-0.5071	0.0031	-0.9735	0.0435	-0.8147	0.0904	-0.4220	0.0366
2	285.12	0.9727	-0.4968	0.0047	-0.9402	0.0487	-1.0714	0.1048	-0.2215	0.0803

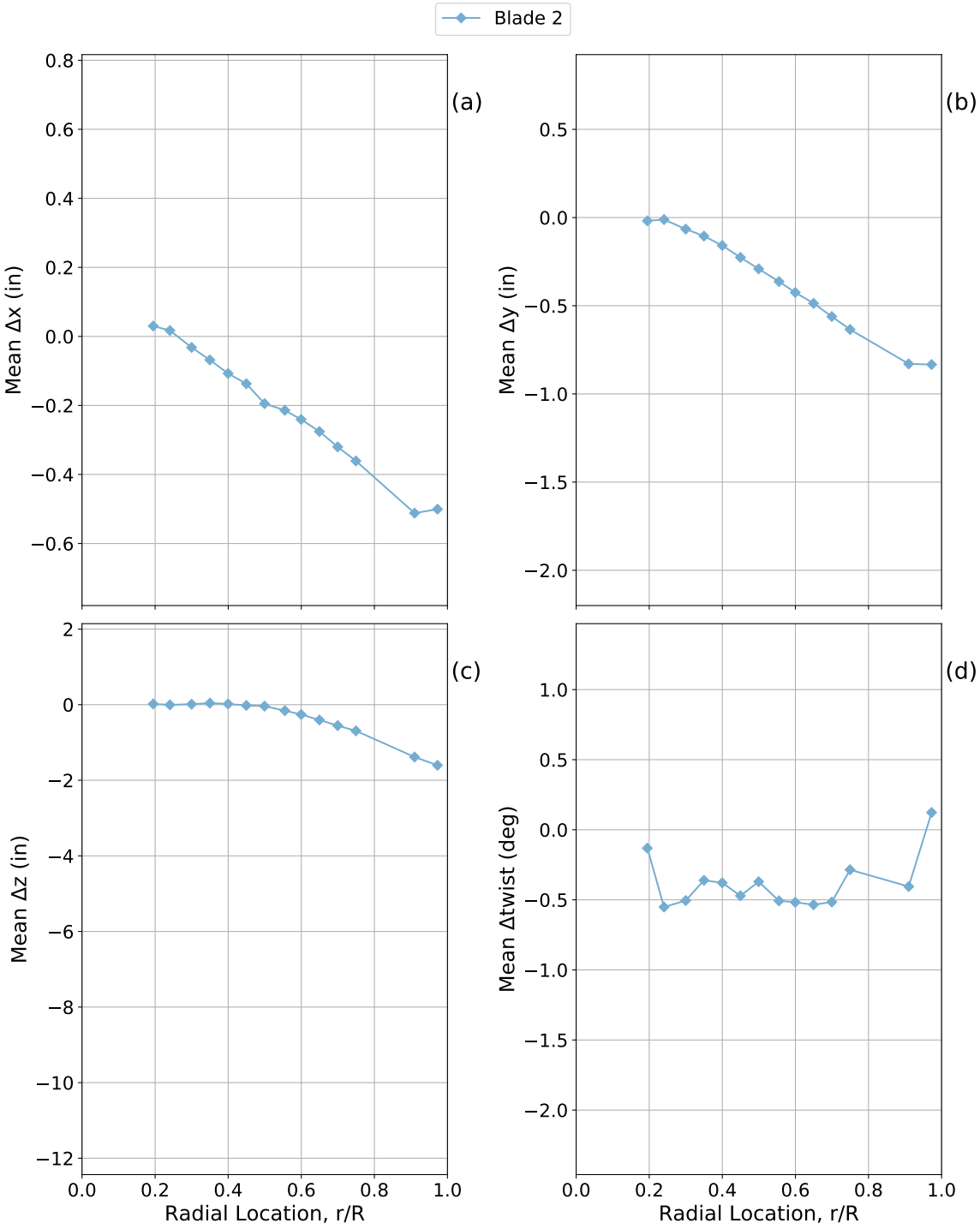


Figure 4.32-32. 300° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-32. 300° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	299.88	0.1949	0.0300	0.0019	-0.0188	0.0006	0.0199	0.0032	-0.1313	0.0356
2	299.88	0.2405	0.0170	0.0016	-0.0114	0.0019	-0.0045	0.0041	-0.5515	0.0690
2	299.88	0.2999	-0.0320	0.0021	-0.0656	0.0036	0.0135	0.0076	-0.5053	0.0919
2	299.88	0.3498	-0.0682	0.0032	-0.1052	0.0047	0.0412	0.0201	-0.3607	0.0464
2	299.88	0.3998	-0.1074	0.0026	-0.1585	0.0089	0.0193	0.0234	-0.3783	0.0905
2	299.88	0.4496	-0.1372	0.0027	-0.2259	0.0104	-0.0195	0.0271	-0.4710	0.0874
2	299.88	0.4995	-0.1948	0.0039	-0.2912	0.0150	-0.0390	0.0394	-0.3704	0.0581
2	299.88	0.5551	-0.2142	0.0029	-0.3630	0.0175	-0.1588	0.0455	-0.5071	0.0694
2	299.88	0.5996	-0.2407	0.0029	-0.4249	0.0198	-0.2583	0.0512	-0.5175	0.0609
2	299.88	0.6497	-0.2756	0.0027	-0.4865	0.0220	-0.4046	0.0587	-0.5347	0.0489
2	299.88	0.6996	-0.3201	0.0025	-0.5612	0.0247	-0.5530	0.0671	-0.5159	0.0643
2	299.88	0.7495	-0.3609	0.0024	-0.6345	0.0275	-0.6924	0.0711	-0.2854	0.0692
2	299.88	0.9100	-0.5120	0.0027	-0.8296	0.0370	-1.3845	0.1004	-0.4050	0.0720
2	299.88	0.9727	-0.5007	0.0036	-0.8335	0.0405	-1.6026	0.1198	0.1231	0.0550

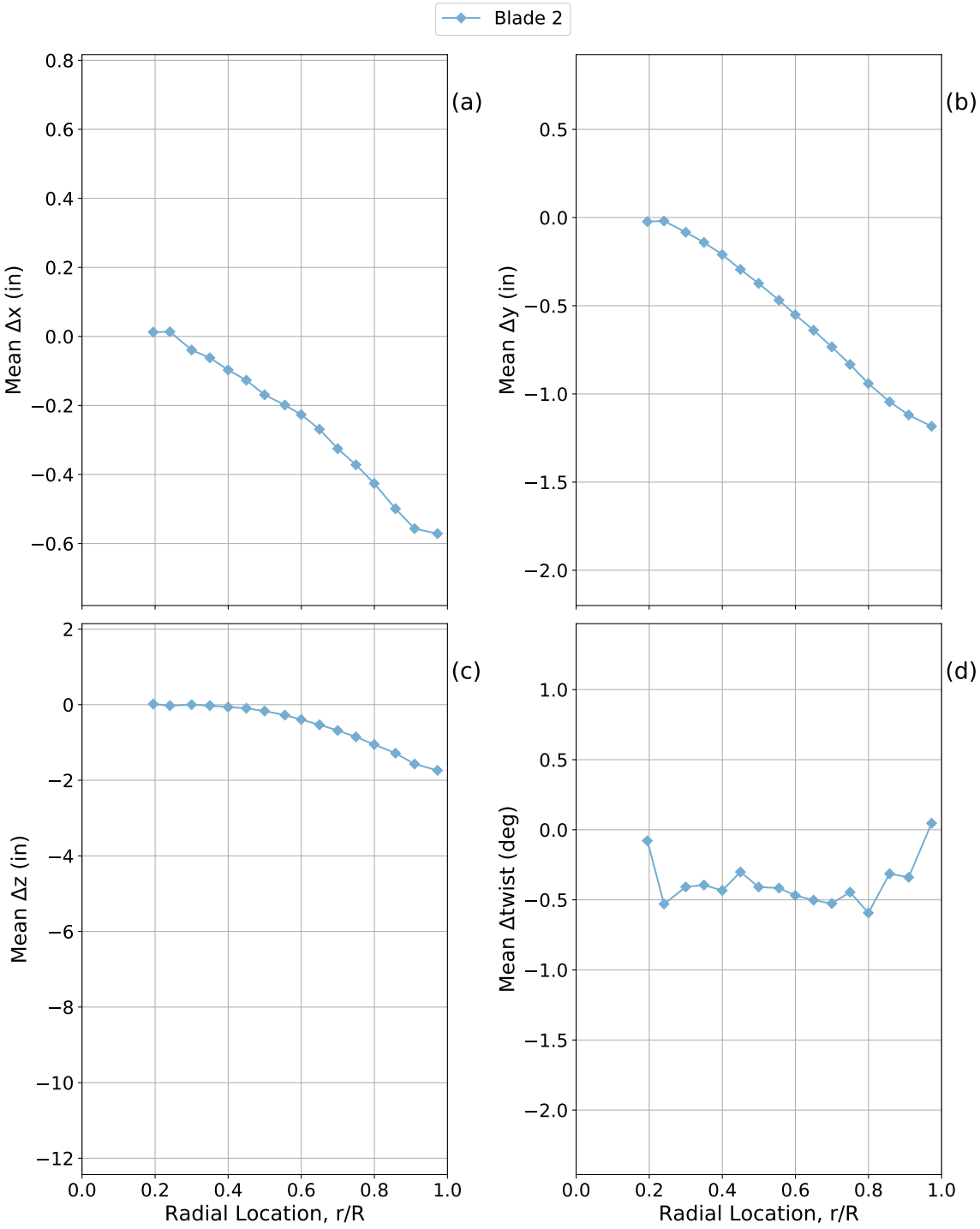


Figure 4.32-33. 315° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-33. 315° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	315	0.1949	0.0123	0.0015	-0.0232	0.0008	0.0181	0.0021	-0.0784	0.0227
2	315	0.2405	0.0134	0.0015	-0.0195	0.0010	-0.0250	0.0083	-0.5296	0.0257
2	315	0.2999	-0.0395	0.0019	-0.0831	0.0031	-0.0006	0.0130	-0.4082	0.0482
2	315	0.3498	-0.0620	0.0021	-0.1410	0.0047	-0.0242	0.0244	-0.3941	0.0292
2	315	0.3998	-0.0972	0.0032	-0.2101	0.0074	-0.0632	0.0385	-0.4331	0.0897
2	315	0.4496	-0.1270	0.0023	-0.2941	0.0078	-0.0956	0.0395	-0.3016	0.0382
2	315	0.4995	-0.1692	0.0025	-0.3737	0.0096	-0.1675	0.0433	-0.4083	0.0466
2	315	0.5551	-0.1990	0.0013	-0.4689	0.0117	-0.2752	0.0528	-0.4164	0.0579
2	315	0.5996	-0.2266	0.0022	-0.5510	0.0129	-0.3921	0.0608	-0.4687	0.0492
2	315	0.6497	-0.2691	0.0022	-0.6391	0.0155	-0.5319	0.0676	-0.5022	0.0571
2	315	0.6996	-0.3252	0.0019	-0.7334	0.0169	-0.6820	0.0787	-0.5262	0.0291
2	315	0.7495	-0.3720	0.0014	-0.8327	0.0195	-0.8527	0.0888	-0.4449	0.0404
2	315	0.7996	-0.4261	0.0016	-0.9413	0.0220	-1.0533	0.1001	-0.5935	0.0391
2	315	0.8578	-0.4992	0.0019	-1.0447	0.0247	-1.2842	0.1138	-0.3137	0.0369
2	315	0.9100	-0.5569	0.0021	-1.1195	0.0276	-1.5702	0.1250	-0.3392	0.0396
2	315	0.9727	-0.5716	0.0031	-1.1838	0.0311	-1.7373	0.1394	0.0469	0.0377

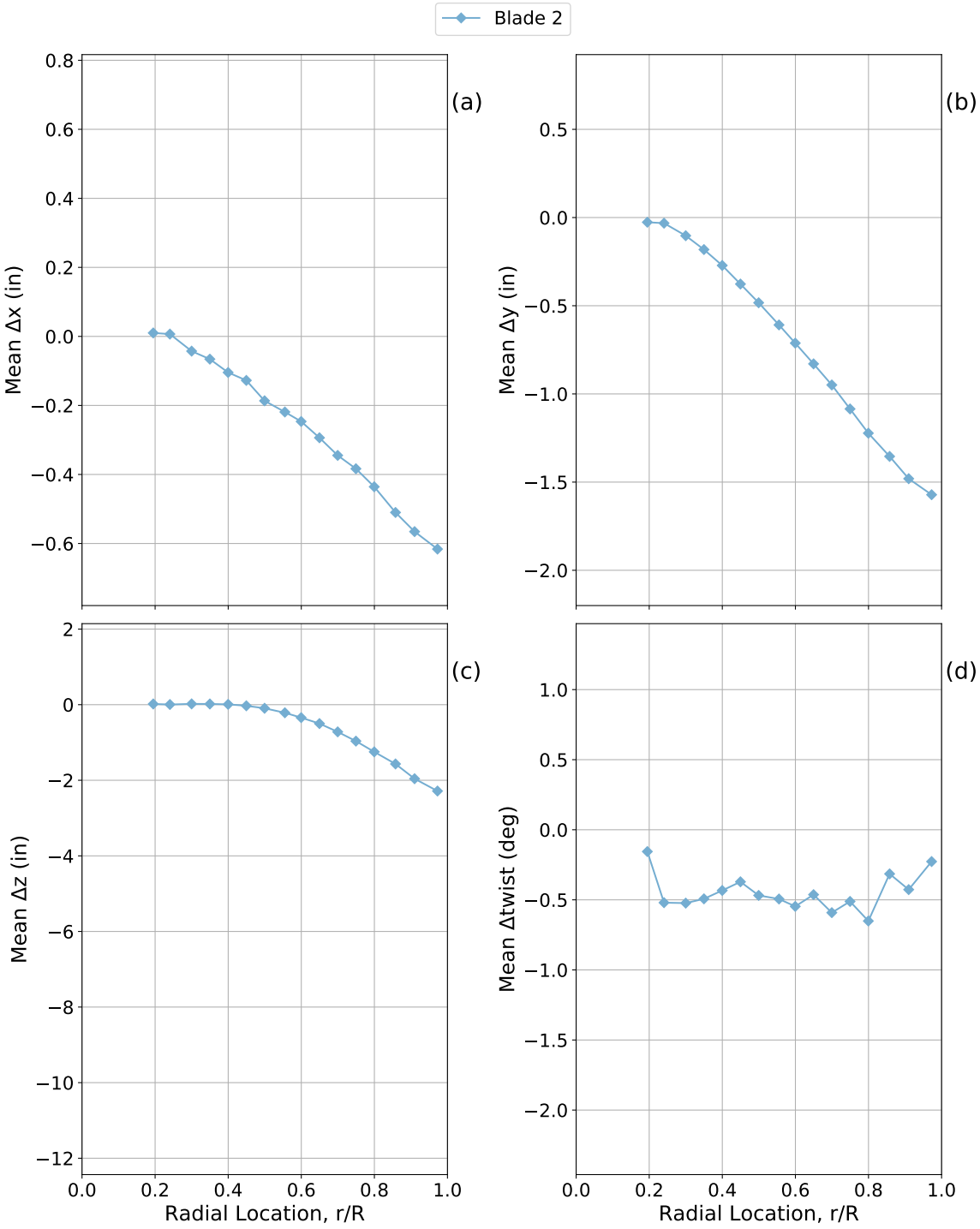


Figure 4.32-34. 330° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-34. 330° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	330.12	0.1949	0.0100	0.0012	-0.0266	0.0007	0.0189	0.0018	-0.1555	0.0140
2	330.12	0.2405	0.0067	0.0011	-0.0320	0.0012	0.0042	0.0029	-0.5202	0.0287
2	330.12	0.2999	-0.0427	0.0018	-0.1030	0.0031	0.0210	0.0061	-0.5234	0.0336
2	330.12	0.3498	-0.0659	0.0024	-0.1815	0.0046	0.0185	0.0092	-0.4929	0.0319
2	330.12	0.3998	-0.1045	0.0025	-0.2717	0.0074	0.0087	0.0144	-0.4332	0.0563
2	330.12	0.4496	-0.1275	0.0034	-0.3771	0.0077	-0.0294	0.0151	-0.3713	0.0355
2	330.12	0.4995	-0.1866	0.0029	-0.4832	0.0104	-0.0950	0.0178	-0.4684	0.0344
2	330.12	0.5551	-0.2190	0.0037	-0.6088	0.0124	-0.2139	0.0220	-0.4940	0.0366
2	330.12	0.5996	-0.2465	0.0038	-0.7121	0.0139	-0.3429	0.0232	-0.5468	0.0378
2	330.12	0.6497	-0.2937	0.0040	-0.8296	0.0171	-0.4998	0.0262	-0.4630	0.0420
2	330.12	0.6996	-0.3448	0.0033	-0.9492	0.0173	-0.7190	0.0345	-0.5915	0.0553
2	330.12	0.7495	-0.3834	0.0031	-1.0852	0.0210	-0.9639	0.0286	-0.5114	0.0414
2	330.12	0.7996	-0.4357	0.0034	-1.2227	0.0217	-1.2481	0.0329	-0.6510	0.0323
2	330.12	0.8578	-0.5101	0.0025	-1.3544	0.0244	-1.5683	0.0392	-0.3147	0.0340
2	330.12	0.9100	-0.5656	0.0027	-1.4806	0.0274	-1.9592	0.0438	-0.4270	0.0333
2	330.12	0.9727	-0.6162	0.0032	-1.5716	0.0301	-2.2849	0.0493	-0.2268	0.0319

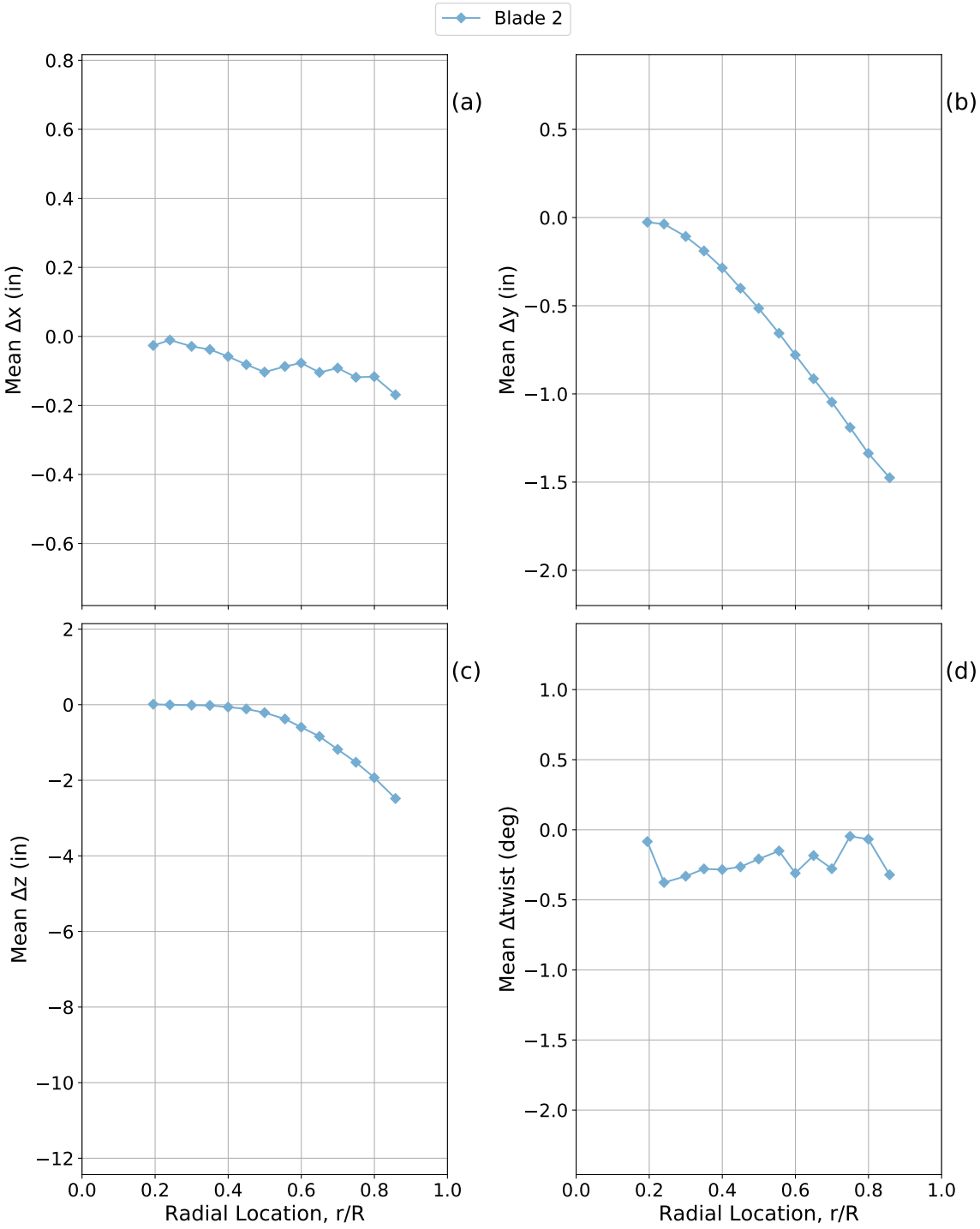


Figure 4.32-35. 345° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-35. 345° azimuth - spanwise blade deformations.
C_T/σ = 0.05, μ = 0.15, α = 0°
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	344.88	0.1949	-0.0263	0.0042	-0.0267	0.0012	0.0124	0.0024	-0.0841	0.0153
2	344.88	0.2405	-0.0106	0.0016	-0.0368	0.0012	-0.0038	0.0019	-0.3764	0.0292
2	344.88	0.2999	-0.0289	0.0016	-0.1074	0.0040	-0.0129	0.0074	-0.3314	0.0354
2	344.88	0.3498	-0.0379	0.0029	-0.1894	0.0068	-0.0196	0.0099	-0.2793	0.0283
2	344.88	0.3998	-0.0583	0.0040	-0.2857	0.0100	-0.0632	0.0153	-0.2841	0.0348
2	344.88	0.4496	-0.0817	0.0062	-0.4008	0.0124	-0.1131	0.0178	-0.2644	0.0429
2	344.88	0.4995	-0.1034	0.0063	-0.5145	0.0157	-0.2110	0.0221	-0.2087	0.0441
2	344.88	0.5551	-0.0871	0.0057	-0.6561	0.0177	-0.3784	0.0248	-0.1509	0.0402
2	344.88	0.5996	-0.0770	0.0064	-0.7791	0.0217	-0.5953	0.0313	-0.3097	0.0556
2	344.88	0.6497	-0.1043	0.0082	-0.9140	0.0248	-0.8407	0.0363	-0.1841	0.0505
2	344.88	0.6996	-0.0917	0.0068	-1.0462	0.0271	-1.1837	0.0422	-0.2781	0.0524
2	344.88	0.7495	-0.1184	0.0106	-1.1901	0.0301	-1.5239	0.0477	-0.0465	0.0526
2	344.88	0.7996	-0.1167	0.0091	-1.3371	0.0341	-1.9310	0.0558	-0.0674	0.0760
2	344.88	0.8578	-0.1691	0.0160	-1.4753	0.0391	-2.4825	0.0557	-0.3212	0.1755

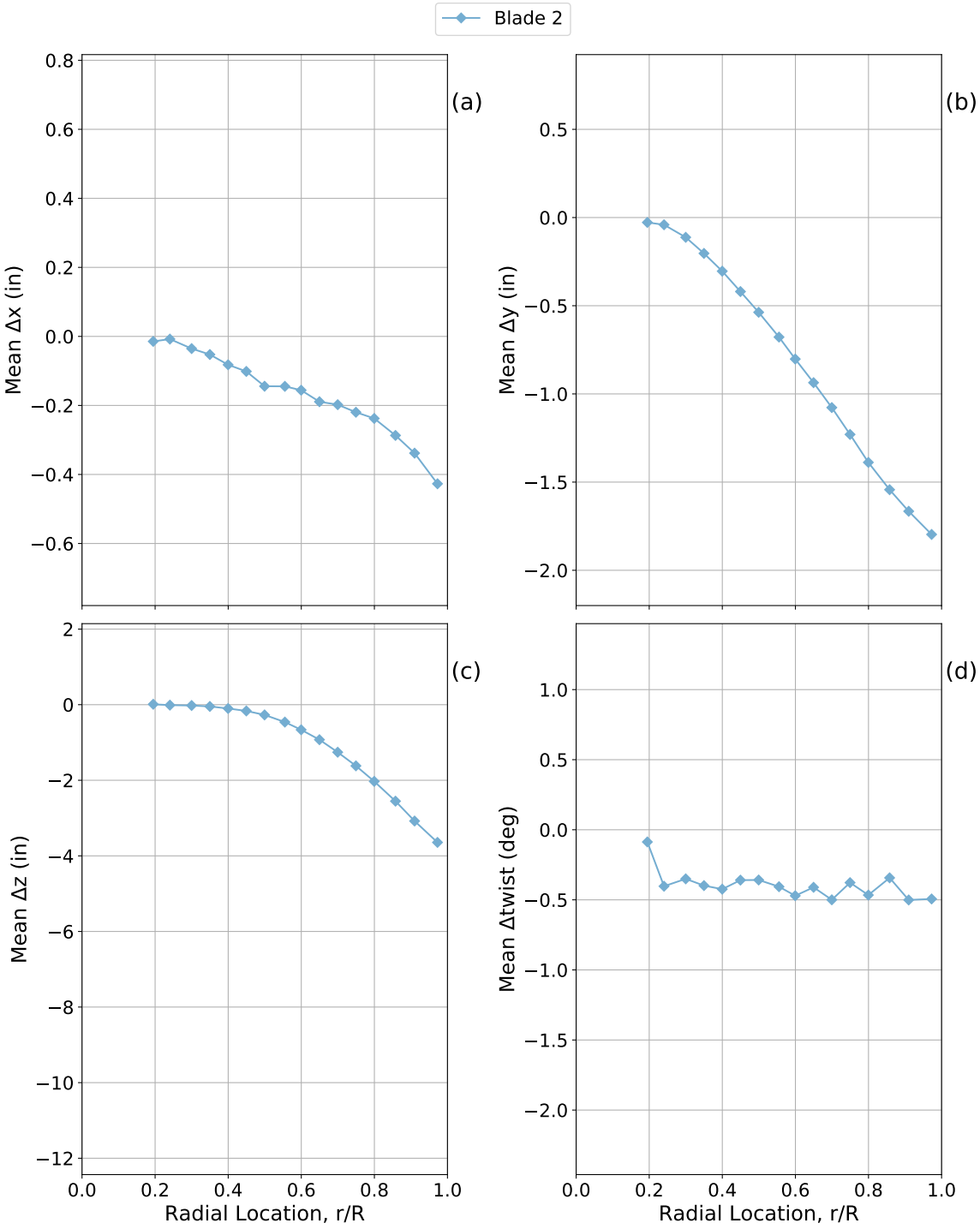


Figure 4.32-36. 350° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-36. 350° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	350.16	0.1949	-0.0145	0.0016	-0.0278	0.0009	0.0112	0.0018	-0.0869	0.0165
2	350.16	0.2405	-0.0078	0.0013	-0.0409	0.0016	-0.0119	0.0044	-0.4030	0.0236
2	350.16	0.2999	-0.0353	0.0010	-0.1121	0.0038	-0.0221	0.0063	-0.3502	0.0345
2	350.16	0.3498	-0.0525	0.0014	-0.2033	0.0056	-0.0467	0.0113	-0.3985	0.0336
2	350.16	0.3998	-0.0822	0.0019	-0.3041	0.0093	-0.1010	0.0172	-0.4239	0.0325
2	350.16	0.4496	-0.1015	0.0022	-0.4197	0.0123	-0.1653	0.0235	-0.3595	0.0322
2	350.16	0.4995	-0.1444	0.0027	-0.5373	0.0152	-0.2705	0.0272	-0.3583	0.0320
2	350.16	0.5551	-0.1447	0.0036	-0.6778	0.0185	-0.4603	0.0345	-0.4062	0.0436
2	350.16	0.5996	-0.1559	0.0040	-0.8023	0.0199	-0.6639	0.0409	-0.4708	0.0394
2	350.16	0.6497	-0.1893	0.0055	-0.9362	0.0229	-0.9264	0.0466	-0.4105	0.0416
2	350.16	0.6996	-0.1978	0.0057	-1.0774	0.0260	-1.2577	0.0504	-0.4997	0.0422
2	350.16	0.7495	-0.2197	0.0069	-1.2298	0.0292	-1.6183	0.0562	-0.3773	0.0345
2	350.16	0.7996	-0.2377	0.0085	-1.3883	0.0324	-2.0295	0.0601	-0.4659	0.0372
2	350.16	0.8578	-0.2869	0.0103	-1.5431	0.0358	-2.5528	0.0625	-0.3430	0.0503
2	350.16	0.9100	-0.3383	0.0117	-1.6654	0.0386	-3.0783	0.0717	-0.5008	0.0627
2	350.16	0.9727	-0.4270	0.0138	-1.7967	0.0506	-3.6441	0.1053	-0.4938	0.3583

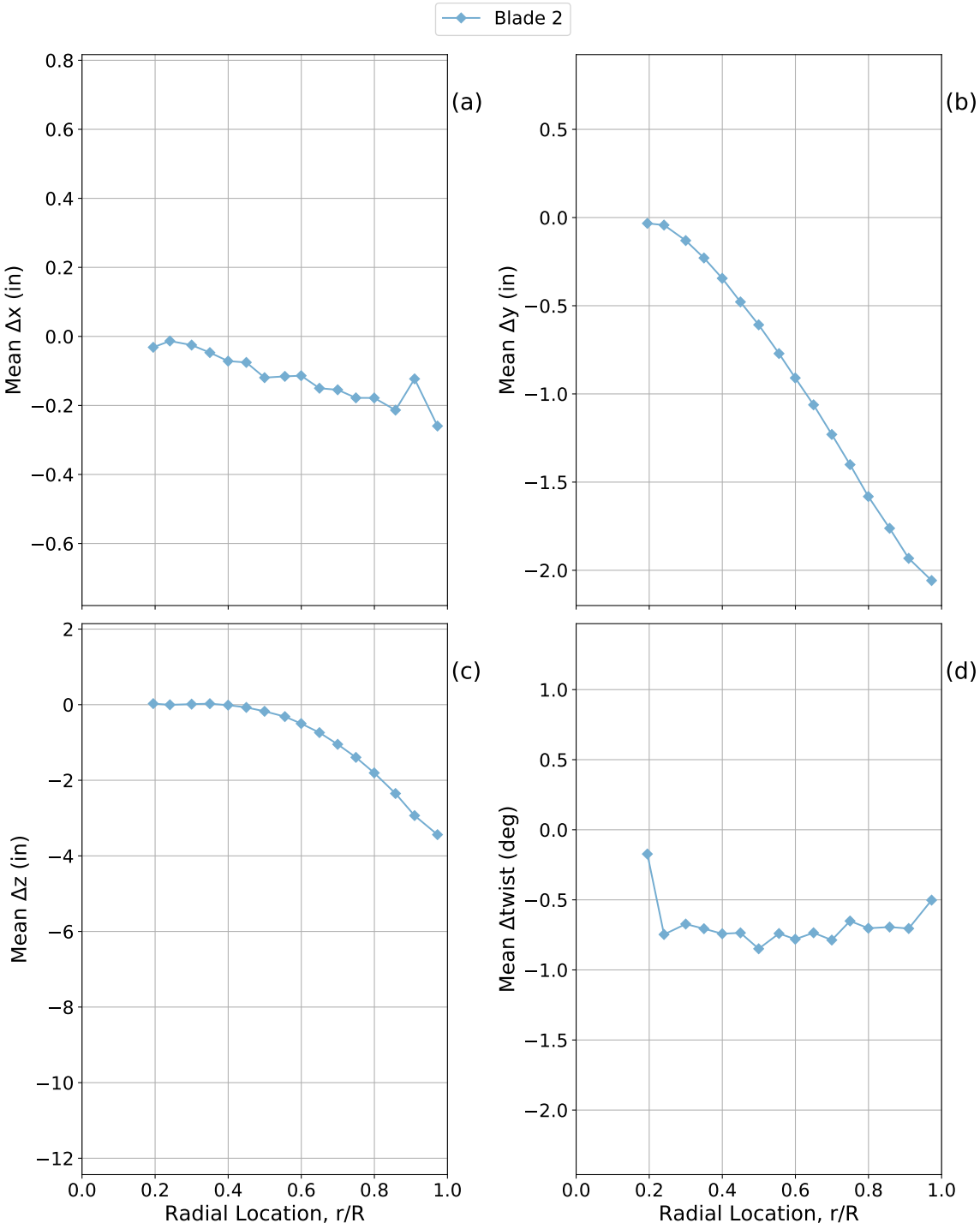


Figure 4.32-37. 355° azimuth, spanwise blade deformations, (a) mean Δx, (b) mean Δy, (c) mean Δz, (d) mean Δtwist. $C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$ NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Table 4.32-37. 355° azimuth - spanwise blade deformations.
$C_T/\sigma = 0.05$, $\mu = 0.15$, $\alpha = 0°$
NFAC run 98, point 52. BD run 46, points 8825 to 8835.

Blade	Azimuth (deg)	r/R	Delta X Mean (in.)	Delta X Std (in.)	Delta Y Mean (in.)	Delta Y Std (in.)	Delta Z Mean (in.)	Delta Z Std (in.)	Delta Twist Mean (deg)	Delta Twist Std (deg)
2	355.08	0.1949	-0.0316	0.0048	-0.0331	0.0014	0.0276	0.0029	-0.1730	0.0180
2	355.08	0.2405	-0.0133	0.0020	-0.0427	0.0025	-0.0030	0.0042	-0.7471	0.0449
2	355.08	0.2999	-0.0251	0.0012	-0.1305	0.0053	0.0139	0.0091	-0.6727	0.0496
2	355.08	0.3498	-0.0469	0.0028	-0.2292	0.0086	0.0257	0.0139	-0.7059	0.0558
2	355.08	0.3998	-0.0716	0.0034	-0.3447	0.0135	-0.0120	0.0213	-0.7420	0.0528
2	355.08	0.4496	-0.0754	0.0060	-0.4785	0.0179	-0.0727	0.0279	-0.7356	0.0614
2	355.08	0.4995	-0.1195	0.0058	-0.6083	0.0207	-0.1754	0.0309	-0.8492	0.0555
2	355.08	0.5551	-0.1158	0.0062	-0.7712	0.0245	-0.3157	0.0349	-0.7402	0.0663
2	355.08	0.5996	-0.1139	0.0061	-0.9094	0.0275	-0.4997	0.0418	-0.7810	0.0580
2	355.08	0.6497	-0.1502	0.0073	-1.0619	0.0311	-0.7394	0.0486	-0.7351	0.0548
2	355.08	0.6996	-0.1547	0.0069	-1.2299	0.0340	-1.0491	0.0544	-0.7870	0.0574
2	355.08	0.7495	-0.1781	0.0075	-1.4009	0.0381	-1.3940	0.0586	-0.6510	0.0488
2	355.08	0.7996	-0.1783	0.0087	-1.5818	0.0417	-1.8051	0.0640	-0.7027	0.0310
2	355.08	0.8578	-0.2136	0.0085	-1.7619	0.0448	-2.3504	0.0667	-0.6942	0.0679
2	355.08	0.9100	-0.1230	0.0574	-1.9323	0.0498	-2.9343	0.0786	-0.7046	0.2862
2	355.08	0.9727	-0.2597	0.0221	-2.0580	0.0498	-3.4388	0.1049	-0.5021	0.1697

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14. ABSTRACT

Blade displacement measurements using multi-camera photogrammetry techniques were acquired for a full-scale UH-60A rotor, tested in the National Full-Scale Aerodynamics Complex (NFAC) 40- by 80-Foot Wind Tunnel. The measurements, acquired over the full rotor azimuth, encompassed a range of test conditions that included advance ratios from 0.15 to 1.0, thrust coefficient to rotor solidity ratios from 0.01 to 0.13, and rotor shaft angles from -10.0 to 8.0 degrees. The objective was to measure the blade displacements and deformations of the four rotor blades and provide a benchmark blade displacement database to be used in the development and validation of rotorcraft prediction techniques. The blade displacement measurement methodology, system development, and data analysis techniques are presented. Sample results are shown based on the final set of camera calibrations, data reduction procedures, and estimated corrections that account for registration errors due to blade elasticity.

15. SUBJECT TERMS
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